

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-UL-UB-UR | pdab        | oabc   |      |                  |                          |                  | 0      |           |              |        |
| RF-UL-UB-DF | pdau        | oabd   |      |                  |                          |                  | 0      |           |              |        |
| RF-UL-UB-RU | pdam        | oabg   |      |                  |                          |                  | 0      |           |              |        |
| RF-UL-UB-FU | pdaí        | oabh   |      |                  |                          |                  | 0      |           |              |        |
| RF-UL-UB-FL | pdal        | oabi   |      |                  |                          |                  | 0      |           |              |        |
| RF-UL-UB-LF | pdaf        | oabj   |      |                  |                          |                  | 0      |           | P            |        |
| RF-UL-UB-LB | p dah       | oabk   |      |                  |                          |                  | 0      |           |              |        |
| RF-UL-UB-BL | pdar        | oabl   |      |                  |                          |                  | 0      |           | F            |        |
| RF-UL-UB-BR | pdat        | oabm   |      |                  |                          |                  | 0      |           |              |        |
| RF-UL-UB-RB | pdan        | oabn   |      |                  |                          |                  | 0      |           |              |        |
| RF-UL-UB-FR | pdaj        | oabp   |      |                  |                          |                  | 0      |           |              |        |
| RF-UL-UB-LD | pdag        | oabq   |      |                  |                          |                  | 0      |           | L            |        |
| RF-UL-UB-RD | pdao        | oabs   |      |                  |                          |                  | 0      |           | O            |        |
| RF-UL-UB-DL | pdax        | oabt   |      |                  |                          |                  | 0      |           | A            |        |
| RF-UL-UB-DB | pdaw        | oabu   |      |                  |                          |                  | 0      |           |              |        |
| RF-UL-UB-DR | pdav        | oabv   |      |                  |                          |                  | 0      |           |              |        |
| RF-UL-UR-UB | pdba        | oacb   |      |                  |                          |                  | 0      |           |              |        |
| RF-UL-UR-DF | pdbu        | oacd   |      |                  |                          |                  | 0      |           |              |        |
| RF-UL-UR-BU | pdbq        | oacf   |      |                  |                          |                  | 0      |           |              |        |
| RF-UL-UR-FL | pdbl        | oaci   |      |                  |                          |                  | 0      |           | C            |        |
| RF-UL-UR-LF | pdbf        | oacj   |      |                  |                          |                  | 0      |           |              |        |
| RF-UL-UR-LB | pdbh        | oack   |      |                  |                          |                  | 0      |           |              |        |

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|------------|-------------|--------|------|-------------------|------------------------------|------------------|--------|-----------|--------------|--------|
|            | RF-UL-UR-BL | pdbr   | oacl |                   |                              |                  | 0      |           |              |        |
|            | RF-UL-UR-BR | pdbt   | oacm |                   |                              |                  | 0      |           |              |        |
|            | RF-UL-UR-RB | pdbn   | oacn |                   |                              |                  | 0      |           |              |        |
|            | RF-UL-UR-LD | pdbg   | oacq |                   |                              |                  | 0      |           | L            |        |
|            | RF-UL-UR-RD | pdbo   | oacs |                   |                              |                  | 0      |           |              |        |
|            | RF-UL-UR-DL | pdbx   | oact |                   |                              |                  | 0      |           | P            |        |
|            | RF-UL-UR-DB | pdbw   | oacu |                   |                              |                  | 0      |           |              |        |
|            | RF-UL-UR-DR | pdbv   | oacv |                   |                              |                  | 0      |           |              |        |
|            | RF-UL-UR-FD | pdkb   | oacx | olaj akbk bmkb mk | r2 U R U R' U' R' U' r' U r' |                  | 14     |           |              |        |
|            | RF-UL-DF-BU | pduq   | oadf | jxan amc xk       | R F2 U M' U M U2 F2 R'       |                  | 9      |           |              |        |
|            | RF-UL-DF-RU | pdum   | oadg |                   |                              |                  | 0      |           |              |        |
|            | RF-UL-DF-FL | pdui   | oadi |                   |                              |                  | 0      |           |              |        |
|            | RF-UL-DF-LF | pduf   | oadj |                   |                              |                  | 0      |           |              |        |
|            | RF-UL-DF-LB | pduh   | oadk |                   |                              |                  | 0      |           |              |        |
|            | RF-UL-DF-BL | pdur   | oadl |                   |                              |                  | 0      |           |              |        |
|            | RF-UL-DF-BR | pdui   | oadm |                   |                              |                  | 0      |           |              |        |
|            | RF-UL-DF-LD | pduq   | oadq |                   |                              |                  | 0      |           |              |        |
|            | RF-UL-DF-BD | pdui   | oadr | gfnw mvfh         | L D2 M' F' M F D2 L'         |                  | 8      |           |              |        |
|            | RF-UL-DF-RD | pduo   | oads |                   |                              |                  | 0      |           |              | A      |
|            | RF-UL-DF-DL | pdux   | oadt |                   |                              |                  | 0      |           |              |        |
|            | RF-UL-DF-DR | pduv   | oadv |                   |                              |                  | 0      |           |              |        |
|            | RF-UL-LU-RB | pden   | oaen |                   |                              |                  | 0      |           |              |        |

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|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-UL-BU-UR | pdqb        | oafc   |      |                  |                          |                  | 0      |           |              |        |
| RF-UL-BU-DF | pdqu        | oafd   |      |                  |                          |                  | 0      |           |              |        |
| RF-UL-BU-RU | pdqm        | oafg   |      |                  |                          |                  | 0      |           |              |        |
| RF-UL-BU-FU | pdqi        | oafh   |      |                  |                          |                  | 0      |           |              |        |
| RF-UL-BU-FL | pdql        | oafi   |      |                  |                          |                  | 0      |           |              |        |
| RF-UL-BU-LF | pdqf        | oafj   |      |                  |                          |                  | 0      |           |              |        |
| RF-UL-BU-LB | pdqh        | oafk   |      |                  |                          |                  | 0      |           |              |        |
| RF-UL-BU-BR | pdqt        | oafm   |      |                  |                          |                  | 0      |           |              |        |
| RF-UL-BU-RB | pdqn        | oafn   |      |                  |                          |                  | 0      |           |              |        |
| RF-UL-BU-LD | pdqg        | oafq   |      |                  |                          |                  | 0      |           |              |        |
| RF-UL-BU-BD | pdqs        | oafr   |      |                  |                          |                  | 0      |           |              |        |
| RF-UL-BU-DL | pdqx        | oaft   |      |                  |                          |                  | 0      |           |              |        |
| RF-UL-BU-DB | pdqw        | oafu   |      |                  |                          |                  | 0      |           |              |        |
| RF-UL-RU-UB | pdma        | oagb   |      |                  |                          |                  | 0      |           |              |        |
| RF-UL-RU-DF | pdmu        | oagd   |      |                  |                          |                  | 0      |           |              |        |
| RF-UL-RU-BU | pdmq        | oagf   |      |                  |                          |                  | 0      |           | P            |        |
| RF-UL-RU-FL | pdmI        | oagi   |      |                  |                          |                  | 0      |           |              |        |
| RF-UL-RU-LF | pdmf        | oagj   |      |                  |                          |                  | 0      |           |              |        |
| RF-UL-RU-LB | pdimh       | oagk   |      |                  |                          |                  | 0      |           |              |        |
| RF-UL-RU-BL | pdmr        | oagl   |      |                  |                          |                  | 0      |           | P            |        |
| RF-UL-RU-BR | pdmI        | oagm   |      |                  |                          |                  | 0      |           |              |        |
| RF-UL-RU-RB | pdmn        | oagn   |      |                  |                          |                  | 0      |           |              |        |

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|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-UL-RU-FR | pdmj        | oagp   |      |                  |                          |                  |        | 0         |              |        |
| RF-UL-RU-DL | pdmx        | oagt   |      |                  |                          |                  |        | 0         |              |        |
| RF-UL-FU-UB | pdia        | oahb   |      |                  |                          |                  |        | 0         |              |        |
| RF-UL-FU-UR | pdib        | oahc   |      |                  |                          |                  |        | 0         |              |        |
| RF-UL-FU-BU | pdiq        | oahf   |      |                  |                          |                  |        | 0         |              |        |
| RF-UL-FU-RU | pdim        | oahg   |      |                  |                          |                  |        | 0         |              |        |
| RF-UL-FU-FL | pdil        | oahi   |      |                  |                          |                  |        | 0         |              |        |
| RF-UL-FU-LF | pdif        | oahj   |      |                  |                          |                  |        | 0         |              |        |
| RF-UL-FU-LB | pdih        | oahk   |      |                  |                          |                  |        | 0         |              |        |
| RF-UL-FU-LD | pdig        | oahq   |      |                  |                          |                  |        | 0         |              |        |
| RF-UL-FU-BD | pdis        | oahr   |      |                  |                          |                  |        | 0         |              |        |
| RF-UL-FU-RD | pdio        | oahs   |      |                  |                          |                  |        | 0         |              |        |
| RF-UL-FU-DB | pdiw        | oahu   |      |                  |                          |                  |        | 0         |              |        |
| RF-UL-FU-DR | pdiv        | oahv   |      |                  |                          |                  |        | 0         |              |        |
| RF-UL-FL-UB | pdla        | oaib   |      |                  |                          |                  |        | 0         |              |        |
| RF-UL-FL-UR | pdlb        | oaic   |      |                  |                          |                  |        | 0         |              |        |
| RF-UL-FL-DF | pdlu        | oaid   |      |                  |                          |                  |        | 0         |              |        |
| RF-UL-FL-BU | pdlq        | oaif   |      |                  |                          |                  |        | 0         |              |        |
| RF-UL-FL-RU | pdlm        | oaig   |      |                  |                          |                  |        | 0         |              |        |
| RF-UL-FL-FU | pdlj        | oaih   |      |                  |                          |                  |        | 0         |              |        |
| RF-UL-FL-LB | pdlh        | oaik   |      |                  |                          |                  |        | 0         |              |        |
| RF-UL-FL-BL | pdlr        | oail   |      |                  |                          |                  |        | 0         |              |        |

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|---|-------------|--------|------|------------------|-------------------------------|------------------|--------|-----------|--------------|--------|
|   | RF-UL-FL-BR | pdlt   | oaim |                  |                               |                  | 0      |           |              |        |
|   | RF-UL-FL-RB | pdln   | oain |                  |                               |                  | 0      |           |              |        |
|   | RF-UL-FL-FR | pdlj   | oaip |                  |                               |                  | 0      |           |              |        |
|   | RF-UL-FL-LD | pdlg   | oaiq |                  |                               |                  | 0      |           |              |        |
|   | RF-UL-FL-BD | pdls   | oair |                  |                               |                  | 0      |           |              |        |
|   | RF-UL-FL-RD | pdlo   | oais |                  |                               |                  | 0      |           |              |        |
|   | RF-UL-FL-DL | pdlx   | oait |                  |                               |                  | 0      |           |              |        |
|   | RF-UL-FL-DB | pdlw   | oaiu |                  |                               |                  | 0      |           |              |        |
|   | RF-UL-FL-DR | pdlv   | oaiv |                  |                               |                  | 0      |           |              |        |
|   | RF-UL-LF-UB | pdfa   | oajb |                  |                               |                  | 0      |           |              |        |
|   | RF-UL-LF-UR | pdfb   | oajc |                  |                               |                  | 0      |           |              |        |
|   | RF-UL-LF-DF | pdfu   | oajd |                  |                               |                  | 0      |           |              |        |
|   | RF-UL-LF-BU | pdfq   | oajf |                  |                               |                  | 0      |           |              |        |
|   | RF-UL-LF-RU | pdfm   | oajg |                  |                               |                  | 0      |           |              |        |
|   | RF-UL-LF-LB | pdfh   | oajk |                  |                               |                  | 0      |           |              |        |
|   | RF-UL-LF-BL | pdfr   | oajl |                  |                               |                  | 0      |           |              |        |
|   | RF-UL-LF-BR | pdft   | oajm |                  |                               |                  | 0      |           |              |        |
|  | RF-UL-LF-RB | pdfn   | oajn | uapj qskt bu     | S2 U E R E' S R' S' U' S2     |                  | 10     |           |              |        |
|  | RF-UL-LF-LD | pdfg   | oajq | jagb thsg ahbk   | R U L U' S' L' S L U L' U' R' |                  | 12     |           |              |        |
|   | RF-UL-LF-BD | pdfs   | oajr |                  |                               |                  | 0      |           |              |        |
|   | RF-UL-LF-RD | pdfo   | oajs |                  |                               |                  | 0      |           |              |        |
|   | RF-UL-LF-DL | pdfx   | oajt |                  |                               |                  | 0      |           |              |        |

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|------------|-------------|--------|------|------------------|--------------------------|----------------------------|--------|-----------|--------------|--------|
|            | RF-UL-LF-DB | pdfw   | oaju |                  |                          |                            | 0      |           |              |        |
|            | RF-UL-LB-UB | pdha   | oakb |                  |                          |                            | 0      |           |              |        |
|            | RF-UL-LB-UR | pdhb   | oakc |                  |                          |                            | 0      |           |              |        |
|            | RF-UL-LB-DF | pdhu   | oakd |                  |                          |                            | 0      |           | P            |        |
|            | RF-UL-LB-LU | pdhe   | oake |                  |                          |                            | 0      |           | O            |        |
|            | RF-UL-LB-RU | pdhm   | oakg |                  |                          |                            | 0      |           |              |        |
|            | RF-UL-LB-FU | pdhi   | oakh |                  |                          |                            | 0      |           |              |        |
|            | RF-UL-LB-FL | pdhl   | oaki |                  |                          |                            | 0      |           |              |        |
|            | RF-UL-LB-LF | pdhf   | oakj |                  |                          |                            | 0      |           |              |        |
|            | RF-UL-LB-BR | pdht   | oakm |                  |                          |                            | 0      |           |              |        |
|            | RF-UL-LB-RB | pdhn   | oakn |                  |                          |                            | 0      |           | L            |        |
|            | RF-UL-LB-LD | pdhg   | oakq | ahbg qgpi agb    |                          | U L' U' L E' L E L2 U L U' | 11     |           |              |        |
|            | RF-UL-LB-BD | pdhs   | oakr |                  |                          |                            | 0      |           |              |        |
|            | RF-UL-LB-RD | pdho   | oaks |                  |                          |                            | 0      |           | O            |        |
|            | RF-UL-LB-DL | pdhx   | oakt |                  |                          |                            | 0      |           | O            |        |
|            | RF-UL-BL-UB | pdra   | oalb |                  |                          |                            | 0      |           |              |        |
|            | RF-UL-BL-UR | pdrv   | oalc |                  |                          |                            | 0      |           |              |        |
|            | RF-UL-BL-BU | pdrq   | oalf |                  |                          |                            | 0      |           |              |        |
|            | RF-UL-BL-RU | pdrm   | oalg | gxam wnvb xh     |                          | L F2 U M F' M' F U' F2 L'  | 10     |           | O            |        |
|            | RF-UL-BL-FL | pdrl   | oali |                  |                          |                            | 0      |           |              |        |
|            | RF-UL-BL-LF | pdrf   | oalj |                  |                          |                            | 0      |           |              |        |
|            | RF-UL-BL-BR | pdrt   | oalm |                  |                          |                            | 0      |           |              |        |

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|-------------|-------------|--------|-------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
| RF-UL-BL-RB | pdrn        |        | oaln  |                  |                          |                  | 0      |           |              |        |
| RF-UL-BL-LD | pdrv        |        | oalq  |                  |                          |                  | 0      |           |              |        |
| RF-UL-BL-BD | pdrs        |        | oalr  |                  |                          |                  | 0      |           |              |        |
| RF-UL-BL-RD | pdro        |        | oals  |                  |                          |                  | 0      |           |              |        |
| RF-UL-BL-DL | pdrx        |        | oalt  |                  |                          |                  | 0      |           |              |        |
| RF-UL-BL-DB | pdrv        |        | oalu  |                  |                          |                  | 0      |           |              |        |
| RF-UL-BR-UR | pdtb        |        | oamc  |                  |                          |                  | 0      |           |              |        |
| RF-UL-BR-BU | pdtq        |        | oamf  |                  |                          |                  | 0      |           |              |        |
| RF-UL-BR-LF | pdtf        |        | oamj  |                  |                          |                  | 0      |           |              |        |
| RF-UL-BR-BL | pdtr        |        | oaml  |                  |                          |                  | 0      |           |              |        |
| RF-UL-BR-LD | pdtg        |        | oamq  |                  |                          |                  | 0      |           |              |        |
| RF-UL-BR-BD | pdts        |        | oamr  |                  |                          |                  | 0      |           |              |        |
| RF-UL-BR-DL | pdtx        |        | oamt  |                  |                          |                  | 0      |           |              |        |
| RF-UL-RB-UB | pdna        |        | oanb  |                  |                          |                  | 0      |           |              |        |
| RF-UL-RB-UR | pdnb        |        | oanc  |                  |                          |                  | 0      |           |              |        |
| RF-UL-RB-BU | pdnq        |        | oanf  |                  |                          |                  | 0      |           |              |        |
| RF-UL-RB-RU | pdnm        |        | oang  |                  |                          |                  | 0      |           |              |        |
| RF-UL-RB-FU | pdni        |        | oanh  |                  |                          |                  | 0      |           |              |        |
| RF-UL-RB-FL | pdnl        |        | oani  |                  |                          |                  | 0      |           |              |        |
| RF-UL-RB-LF | pdnf        |        | oanj  |                  |                          |                  | 0      |           |              |        |
| RF-UL-RB-LB | pdnh        |        | oank  |                  |                          |                  | 0      |           |              |        |
| RF-UL-RB-BL | pdnr        |        | oanyl |                  |                          |                  | 0      |           |              |        |

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|------------|-------------|--------|------|------------------|----------------------------|------------------|--------|-----------|--------------|--------|
|            | RF-UL-RB-LD | pdng   | oanq |                  |                            |                  | 0      |           |              |        |
|            | RF-UL-RB-BD | pdns   | oanr |                  |                            |                  | 0      |           |              |        |
|            | RF-UL-RB-RD | pdno   | oans |                  |                            |                  | 0      |           |              |        |
|            | RF-UL-RB-DB | pdnw   | oanu |                  |                            |                  | 0      |           |              |        |
|            | RF-UL-RB-DR | pdnv   | oanv |                  |                            |                  | 0      |           |              |        |
|            | RF-UL-RB-FD | pdnk   | oanx | gwqw pxh         | L F' E' F' E F2 L'         |                  | 7      |           |              |        |
|            | RF-UL-FR-UB | pdja   | oapb |                  |                            |                  | 0      |           |              |        |
|            | RF-UL-FR-BU | pdjq   | oapf |                  |                            |                  | 0      |           |              |        |
|            | RF-UL-LD-UB | pdga   | oaqb |                  |                            |                  | 0      |           |              |        |
|            | RF-UL-LD-BU | pdgq   | oaqf | kfls atbl fj     | R' D2 R2 S U S' U' R2 D2 R |                  | 10     |           |              |        |
|            | RF-UL-LD-RU | pdgm   | oaqq |                  |                            |                  | 0      |           |              |        |
|            | RF-UL-LD-LF | pdgf   | oaqj |                  |                            |                  | 0      |           |              |        |
|            | RF-UL-LD-LB | pdgh   | oaqk |                  |                            |                  | 0      |           |              |        |
|            | RF-UL-LD-BL | pdgr   | oaql |                  |                            |                  | 0      |           |              |        |
|            | RF-UL-LD-BR | pdgt   | oaqm | wgag phbq hv     | F' L U L E L' U' E' L' F   |                  | 10     |           |              |        |
|            | RF-UL-LD-DB | pdgw   | oaqu |                  |                            |                  | 0      |           |              |        |
|            | RF-UL-LD-FD | pdgk   | oaqx | gvpw qh          | L F E F' E' L'             |                  | 6      |           |              |        |
|            | RF-UL-BD-UB | pdsa   | oarb |                  |                            |                  | 0      |           |              |        |
|            | RF-UL-BD-UR | pdsb   | oarc |                  |                            |                  | 0      |           |              |        |
|            | RF-UL-BD-DF | pdsu   | oard |                  |                            |                  | 0      |           |              | P      |
|            | RF-UL-BD-RU | pdsm   | oarg |                  |                            |                  | 0      |           |              |        |
|            | RF-UL-BD-FU | pdsi   | oarh |                  |                            |                  | 0      |           |              |        |

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|------------|-------------|--------|------|------------------|------------------------------|------------------|--------|-----------|--------------|--------|
|            | RF-UL-BD-LF | pdsf   | oarj | dgqa gphb he     | D L u L E L' U' L' D'        |                  | 10     |           |              |        |
|            | RF-UL-BD-LB | pdsh   | oark |                  |                              |                  | 0      |           |              |        |
|            | RF-UL-BD-BL | pdsr   | oarl |                  |                              |                  | 0      |           |              |        |
|            | RF-UL-BD-FR | pdsj   | oarp |                  |                              |                  | 0      |           |              |        |
|            | RF-UL-BD-RD | pdso   | oars |                  |                              |                  | 0      |           | 0            |        |
|            | RF-UL-BD-DL | pdsx   | oart |                  |                              |                  | 0      |           | P            |        |
|            | RF-UL-BD-DR | pdsv   | oarv |                  |                              |                  | 0      |           |              |        |
|            | RF-UL-RD-UB | pdoa   | oasb | lsbt akas btk    | R2 S U' S' U R' U S U' S' R' |                  | 11     |           |              |        |
|            | RF-UL-RD-UR | pdob   | oasc |                  |                              |                  | 0      |           |              |        |
|            | RF-UL-RD-DF | pdou   | oasd |                  |                              |                  | 0      |           |              |        |
|            | RF-UL-RD-BU | pdoq   | oASF |                  |                              |                  | 0      |           |              |        |
|            | RF-UL-RD-RU | pdom   | oASg |                  |                              |                  | 0      |           |              |        |
|            | RF-UL-RD-FU | pdoi   | oash |                  |                              |                  | 0      |           |              |        |
|            | RF-UL-RD-FL | pdol   | oasi |                  |                              |                  | 0      |           | 0            |        |
|            | RF-UL-RD-LF | pdof   | oasj |                  |                              |                  | 0      |           |              |        |
|            | RF-UL-RD-LB | pdoh   | oask |                  |                              |                  | 0      |           |              |        |
|            | RF-UL-RD-BL | pdor   | oasl |                  |                              |                  | 0      |           |              |        |
|            | RF-UL-RD-BR | pdot   | oasm |                  |                              |                  | 0      |           |              |        |
|            | RF-UL-RD-RB | pdon   | oasn | laja tasc kbl    | R2 U R U S' U S U2 R' U' R2  |                  | 11     |           |              |        |
|            | RF-UL-RD-LD | pdog   | oasq |                  |                              |                  | 0      |           |              |        |
|            | RF-UL-RD-BD | pdos   | oasr | fgvp wqhf        | D2 L F E F' E' L' D2         |                  | 8      |           |              |        |
|            | RF-UL-RD-BD | pdos   | oasr |                  |                              |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)   | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|------|------------------|----------------------------|------------------|--------|-----------|--------------|--------|
|   | RF-UL-RD-DL | pdox   | oast |                  |                            |                  | 0      |           |              |        |
|   | RF-UL-RD-DB | pdow   | oasu |                  |                            |                  | 0      |           |              |        |
|   | RF-UL-RD-DB | pdow   | oasu |                  |                            |                  | 0      |           |              |        |
|   | RF-UL-DL-UB | pdxa   | oatb |                  |                            |                  | 0      |           |              |        |
|   | RF-UL-DL-UR | pdxb   | oatc |                  |                            |                  | 0      |           |              |        |
|   | RF-UL-DL-DF | pdxu   | oatd |                  |                            |                  | 0      |           |              |        |
|   | RF-UL-DL-BU | pdxq   | oatf |                  |                            |                  | 0      |           |              |        |
|   | RF-UL-DL-FU | pdxj   | oath |                  |                            |                  | 0      |           | L            |        |
|   | RF-UL-DL-FL | pdxl   | oati |                  |                            |                  | 0      |           |              |        |
|   | RF-UL-DL-LF | pdfx   | oatj |                  |                            |                  | 0      |           |              |        |
|   | RF-UL-DL-LB | pdxh   | oatk |                  |                            |                  | 0      |           |              |        |
|   | RF-UL-DL-BL | pdxr   | oatl |                  |                            |                  | 0      |           |              |        |
|   | RF-UL-DL-BR | pdxt   | oatm |                  |                            |                  | 0      |           | A            |        |
|   | RF-UL-DL-RB | pdxn   | oatn |                  |                            |                  | 0      |           |              |        |
|   | RF-UL-DL-BD | pdxs   | oatr |                  |                            |                  | 0      |           |              |        |
|   | RF-UL-DL-RD | pdxo   | oats |                  |                            |                  | 0      |           | O            |        |
|   | RF-UL-DL-DB | pdxw   | oatu |                  |                            |                  | 0      |           | C            |        |
|   | RF-UL-DB-UB | pdwa   | oaub |                  |                            |                  | 0      |           |              |        |
|   | RF-UL-DB-UR | pdwb   | oauc |                  |                            |                  | 0      |           |              |        |
|  | RF-UL-DB-BU | pdwq   | oauf | mkbe nase tfj    | r' U' D' M' U S D' S' D2 R |                  | 11     |           | L            |        |
|   | RF-UL-DB-RU | pdwm   | oaug |                  |                            |                  | 0      |           |              |        |
|   | RF-UL-DB-FU | pdwi   | oauh |                  |                            |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-UL-DB-FL | pdwl        | aaaa   | oauj |                  |                          |                  |        | 0         |              |        |
| RF-UL-DB-LF | pdwf        | aaaa   | oauj |                  |                          |                  |        | 0         |              |        |
| RF-UL-DB-LB | pdwh        | aaaa   | oauk |                  |                          |                  |        | 0         |              |        |
| RF-UL-DB-BL | pdwr        | aaaa   | oaui |                  |                          |                  |        | 0         |              |        |
| RF-UL-DB-BR | pdwt        | aaaa   | oaum |                  |                          |                  |        | 0         |              |        |
| RF-UL-DB-RB | pdwn        | aaaa   | oaun |                  |                          |                  |        | 0         |              |        |
| RF-UL-DB-RD | pdwo        | aaaa   | oaus |                  |                          |                  |        | 0         |              |        |
| RF-UL-DB-DR | pdwv        | aaaa   | oauv |                  |                          |                  |        | 0         |              |        |
| RF-UL-DR-DF | pdvu        | aaaa   | oavd |                  |                          |                  |        | 0         |              |        |
| RF-UL-DR-BU | pdvq        | aaaa   | oavf |                  |                          |                  |        | 0         |              |        |
| RF-UL-DR-RU | pdvm        | aaaa   | oavg |                  |                          |                  |        | 0         |              |        |
| RF-UL-DR-FU | pdvi        | aaaa   | oavh |                  |                          |                  |        | 0         |              |        |
| RF-UL-DR-LB | pdvh        | aaaa   | oavk |                  |                          |                  |        | 0         |              |        |
| RF-UL-DR-BL | pdvr        | aaaa   | oavl |                  |                          |                  |        | 0         |              |        |
| RF-UL-DR-BR | pdvt        | aaaa   | oavm |                  |                          |                  |        | 0         |              |        |
| RF-UL-DR-RB | pdvn        | aaaa   | oavn |                  |                          |                  |        | 0         |              |        |
| RF-UL-DR-BD | pdvs        | aaaa   | oavr |                  |                          |                  |        | 0         |              | L      |
| RF-UL-DR-DB | pdvw        | aaaa   | oavu |                  |                          |                  |        | 0         |              |        |
| RF-UB-UL-UR | padb        | obac   |      |                  |                          |                  |        | 0         |              |        |
| RF-UB-UL-DF | padu        | obad   |      |                  |                          |                  |        | 0         |              |        |
| RF-UB-UL-BU | padq        | obaf   |      |                  |                          |                  |        | 0         |              |        |
| RF-UB-UL-RU | padm        | obag   |      |                  |                          |                  |        | 0         |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)  | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|------|------------------|---------------------------|------------------|--------|-----------|--------------|--------|
|   | RF-UB-UL-FL | padl   | obai |                  |                           |                  | 0      |           |              |        |
|   | RF-UB-UL-LF | padf   | obaj |                  |                           |                  | 0      |           |              |        |
|    | RF-UB-UL-LB | padh   | obak | ubsj tqka pu     | S2 U' S R S' E' R' U E S2 |                  | 10     |           |              |        |
|   | RF-UB-UL-BL | padr   | obal |                  |                           |                  | 0      |           |              |        |
|   | RF-UB-UL-BR | padt   | obam |                  |                           |                  | 0      |           |              | P      |
|   | RF-UB-UL-RB | padn   | oban |                  |                           |                  | 0      |           |              |        |
|   | RF-UB-UL-LD | padg   | obaq |                  |                           |                  | 0      |           |              |        |
|   | RF-UB-UL-BD | pads   | obar |                  |                           |                  | 0      |           |              |        |
|   | RF-UB-UL-RD | pado   | obas |                  |                           |                  | 0      |           |              |        |
|   | RF-UB-UL-DL | padx   | obat |                  |                           |                  | 0      |           |              |        |
|   | RF-UB-UL-DB | padw   | obau |                  |                           |                  | 0      |           |              |        |
|   | RF-UB-UL-DR | padv   | obav |                  |                           |                  | 0      |           |              |        |
|  | RF-UB-UR-UL | pabd   | obca | obvm xmvo ao     | M2 U' F M F2 M F M2 U M2  |                  | 10     |           |              |        |
|   | RF-UB-UR-LU | pabe   | obce |                  |                           |                  | 0      |           |              |        |
|   | RF-UB-UR-LF | pabf   | obcj |                  |                           |                  | 0      |           |              |        |
|   | RF-UB-UR-BL | pabr   | obcl |                  |                           |                  | 0      |           |              |        |
|   | RF-UB-UR-BR | pabt   | obcm |                  |                           |                  | 0      |           |              |        |
|   | RF-UB-UR-RB | pabn   | obcn |                  |                           |                  | 0      |           |              | A      |
|   | RF-UB-UR-LD | pabg   | obcq |                  |                           |                  | 0      |           |              |        |
|   | RF-UB-UR-RD | pabo   | obcs |                  |                           |                  | 0      |           |              |        |
|   | RF-UB-UR-DL | pabx   | obct |                  |                           |                  | 0      |           |              | O      |
|   | RF-UB-UR-DR | pabv   | obcv |                  |                           |                  | 0      |           |              |        |

| UF Diagram   | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)      | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|--|-------------|--------|------|------------------|-------------------------------|------------------|--------|-----------|--------------|--------|
|  | RF-UB-DF-UL | paud   | obda |                  |                               |                  | 0      |           |              |        |
|  | RF-UB-DF-LU | paue   | obde |                  |                               |                  | 0      |           |              |        |
|  | RF-UB-DF-RU | paum   | obdg |                  |                               |                  | 0      |           |              |        |
|  | RF-UB-DF-FL | paul   | obdi |                  |                               |                  | 0      |           |              |        |
|  | RF-UB-DF-LF | pauf   | obdj |                  |                               |                  | 0      |           |              |        |
|   | RF-UB-DF-LB | pauh   | obdk | qmvn qwr         | E' M F M' E' F' E2            |                  | 7      |           | 0            |        |
|  | RF-UB-DF-BR | paut   | obdm |                  |                               |                  | 0      |           |              |        |
|  | RF-UB-DF-LD | paug   | obdq |                  |                               |                  | 0      |           |              |        |
|  | RF-UB-DF-BD | paus   | obdr |                  |                               |                  | 0      |           |              |        |
|  | RF-UB-DF-RD | pauo   | obds | kakd ksjt ejbj   | R' U R' D R' S R S' D' R U' R |                  | 12     |           |              |        |
|  | RF-UB-DF-DL | paux   | obdt |                  |                               |                  | 0      |           |              |        |
|  | RF-UB-LU-UR | paeb   | obec |                  |                               |                  | 0      |           |              |        |
|  | RF-UB-LU-DF | paeu   | obed |                  |                               |                  | 0      |           | F            |        |
|  | RF-UB-LU-BU | paeq   | obef |                  |                               |                  | 0      |           |              |        |
|  | RF-UB-LU-RU | paem   | obeg |                  |                               |                  | 0      |           | 0            |        |
|  | RF-UB-LU-FU | paei   | obeh |                  |                               |                  | 0      |           |              |        |
|  | RF-UB-LU-FL | pael   | obei |                  |                               |                  | 0      |           |              |        |
|  | RF-UB-LU-LF | paf    | obej |                  |                               |                  | 0      |           |              |        |
|  | RF-UB-LU-RB | paen   | oben |                  |                               |                  | 0      |           |              |        |
|  | RF-UB-LU-BD | paes   | ober |                  |                               |                  | 0      |           |              |        |
|  | RF-UB-LU-RD | paoe   | obes |                  |                               |                  | 0      |           | P            |        |
|  | RF-UB-LU-DL | paex   | obet |                  |                               |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-UB-LU-DB | paew        |        | obeu |                  |                          |                  |        | 0         |              |        |
| RF-UB-LU-DR | paev        |        | obev |                  |                          |                  |        | 0         |              |        |
| RF-UB-BU-UR | paqb        |        | obfc |                  |                          |                  |        | 0         |              | 0      |
| RF-UB-BU-LU | paqe        |        | obfe |                  |                          |                  |        | 0         |              |        |
| RF-UB-BU-BR | paqt        |        | obfm |                  |                          |                  |        | 0         |              |        |
| RF-UB-BU-BD | paqs        |        | obfr |                  |                          |                  |        | 0         |              |        |
| RF-UB-BU-DL | paqx        |        | obft |                  |                          |                  |        | 0         |              |        |
| RF-UB-BU-DB | paqw        |        | obfu |                  |                          |                  |        | 0         |              |        |
| RF-UB-RU-UL | pamd        |        | obga |                  |                          |                  |        | 0         |              |        |
| RF-UB-RU-DF | pamu        |        | obgd |                  |                          |                  |        | 0         |              |        |
| RF-UB-RU-FL | paml        |        | obgi |                  |                          |                  |        | 0         |              |        |
| RF-UB-RU-LF | pamf        |        | obgj |                  |                          |                  |        | 0         |              |        |
| RF-UB-RU-LB | pamh        |        | obgk |                  |                          |                  |        | 0         |              |        |
| RF-UB-RU-BL | pamr        |        | obgl |                  |                          |                  |        | 0         |              |        |
| RF-UB-RU-BR | pamt        |        | obgm |                  |                          |                  |        | 0         |              |        |
| RF-UB-RU-RB | pamn        |        | obgn |                  |                          |                  |        | 0         |              |        |
| RF-UB-RU-LD | pamg        |        | obgq |                  |                          |                  |        | 0         |              |        |
| RF-UB-RU-BD | pams        |        | obgr |                  |                          |                  |        | 0         |              | 0      |
| RF-UB-RU-RD | pamo        |        | obgs |                  |                          |                  |        | 0         |              |        |
| RF-UB-RU-DL | pamx        |        | obgt |                  |                          |                  |        | 0         |              |        |
| RF-UB-RU-DR | pamv        |        | obgv |                  |                          |                  |        | 0         |              |        |
| RF-UB-FU-UL | paid        |        | obha |                  |                          |                  |        | 0         |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-UB-FU-UR | paib        |        | obhc |                  |                          |                  |        | 0         |              |        |
| RF-UB-FU-LU | paie        |        | obhe |                  |                          |                  |        | 0         |              |        |
| RF-UB-FU-RU | paim        |        | obhg |                  |                          |                  |        | 0         |              |        |
| RF-UB-FU-FL | pail        |        | obhi |                  |                          |                  |        | 0         |              | P      |
| RF-UB-FU-RB | pain        |        | obhn |                  |                          |                  |        | 0         |              |        |
| RF-UB-FU-LD | paig        |        | obhq |                  |                          |                  |        | 0         |              |        |
| RF-UB-FU-RD | paio        |        | obhs |                  |                          |                  |        | 0         |              |        |
| RF-UB-FU-DB | paiw        |        | obhu |                  |                          |                  |        | 0         |              |        |
| RF-UB-FU-DR | paiv        |        | obhv |                  |                          |                  |        | 0         |              |        |
| RF-UB-FL-UL | pald        |        | obia |                  |                          |                  |        | 0         |              | O      |
| RF-UB-FL-UR | palb        |        | obic |                  |                          |                  |        | 0         |              |        |
| RF-UB-FL-DF | palu        |        | obid |                  |                          |                  |        | 0         |              | O      |
| RF-UB-FL-LU | pale        |        | obie |                  |                          |                  |        | 0         |              |        |
| RF-UB-FL-BU | palq        |        | obif |                  |                          |                  |        | 0         |              |        |
| RF-UB-FL-RU | palm        |        | obig |                  |                          |                  |        | 0         |              | P      |
| RF-UB-FL-FU | pali        |        | obih |                  |                          |                  |        | 0         |              |        |
| RF-UB-FL-LB | palh        |        | obik |                  |                          |                  |        | 0         |              | A      |
| RF-UB-FL-BL | palr        |        | obil |                  |                          |                  |        | 0         |              |        |
| RF-UB-FL-BR | palt        |        | obim |                  |                          |                  |        | 0         |              |        |
| RF-UB-FL-RB | paln        |        | obin |                  |                          |                  |        | 0         |              | P      |
| RF-UB-FL-LD | palg        |        | obiq |                  |                          |                  |        | 0         |              | O      |
| RF-UB-FL-BD | pals        |        | obir |                  |                          |                  |        | 0         |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)      | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|------|------------------|-------------------------------|------------------|--------|-----------|--------------|--------|
|   |             |        |      |                  |                               |                  |        | 0         |              |        |
|   | RF-UB-FL-DL | palex  | obit |                  |                               |                  |        | 0         |              |        |
|   | RF-UB-FL-DB | palw   | obiu |                  |                               |                  |        | 0         |              |        |
|   | RF-UB-FL-DR | palv   | obiv |                  |                               |                  |        | 0         |              |        |
|   | RF-UB-LF-UL | pafd   | obja |                  |                               |                  |        | 0         |              |        |
|   | RF-UB-LF-UR | pafb   | objc |                  |                               |                  |        | 0         |              | A      |
|   | RF-UB-LF-DF | pafu   | objd |                  |                               |                  |        | 0         |              |        |
|   | RF-UB-LF-LU | pafe   | obje |                  |                               |                  |        | 0         |              | A      |
|   | RF-UB-LF-RU | pafm   | objg |                  |                               |                  |        | 0         |              |        |
|   | RF-UB-LF-FU | pafi   | objh |                  |                               |                  |        | 0         |              | L      |
|   | RF-UB-LF-LB | pafh   | objk |                  |                               |                  |        | 0         |              |        |
|   | RF-UB-LF-BL | pafr   | objl |                  |                               |                  |        | 0         |              |        |
|   | RF-UB-LF-BR | paft   | objm |                  |                               |                  |        | 0         |              |        |
|  | RF-UB-LF-RB | pafn   | objn | pakq lsjt lb     | U E R' E' R2 S R S' R2 U'     |                  | 10     |           | 0            |        |
|  | RF-UB-LF-LD | pafg   | objq | gbjt kaha jskb   | L U' R S' R' U L' U R S R' U' |                  | 12     |           | 0            |        |
|   | RF-UB-LF-BD | pafs   | objr |                  |                               |                  |        | 0         |              |        |
|   | RF-UB-LF-RD | pafo   | objs |                  |                               |                  |        | 0         |              |        |
|   | RF-UB-LF-DL | pafx   | objt |                  |                               |                  |        | 0         |              | 0      |
|   | RF-UB-LF-DB | pafw   | obju |                  |                               |                  |        | 0         |              | L      |
|   | RF-UB-LF-DR | pafv   | objv |                  |                               |                  |        | 0         |              |        |
|   | RF-UB-LB-UR | pahb   | obkc |                  |                               |                  |        | 0         |              |        |
|   | RF-UB-LB-DF | pahu   | obkd |                  |                               |                  |        | 0         |              |        |
|   | RF-UB-LB-LU | pahe   | obke |                  |                               |                  |        | 0         |              |        |

| UF Diagram | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)   | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|--------|------|------------------|----------------------------|------------------|--------|-----------|--------------|--------|
|            |             |        |      |                  |                            |                  |        | 0         |              |        |
|            | RF-UB-LB-RU | pahm   | obkg |                  |                            |                  |        | 0         |              |        |
|            | RF-UB-LB-FL | pahl   | obki |                  |                            |                  |        | 0         |              |        |
|            | RF-UB-LB-LF | pahf   | obkj |                  |                            |                  |        | 0         |              |        |
|            | RF-UB-LB-RB | pahn   | obkn |                  |                            |                  |        | 0         |              |        |
|            | RF-UB-LB-LD | pahg   | obkq |                  |                            |                  |        | 0         |              |        |
|            | RF-UB-LB-BD | pahs   | obkr |                  |                            |                  |        | 0         |              | P      |
|            | RF-UB-LB-RD | paho   | obks |                  |                            |                  |        | 0         |              |        |
|            | RF-UB-LB-DL | pahx   | obkt |                  |                            |                  |        | 0         |              |        |
|            | RF-UB-LB-DB | pahw   | obku |                  |                            |                  |        | 0         |              |        |
|            | RF-UB-LB-DR | pahv   | obkv | qajp sktb        | u R E S R' S' U'           |                  |        | 8         |              |        |
|            | RF-UB-BL-UL | pard   | obla |                  |                            |                  |        | 0         |              |        |
|            | RF-UB-BL-UR | parb   | oblc |                  |                            |                  |        | 0         |              | A      |
|            | RF-UB-BL-LU | pare   | oble |                  |                            |                  |        | 0         |              | A      |
|            | RF-UB-BL-RU | parm   | oblq | nwga manc hvm    | M' F' L U M U M' U2 L' F M |                  |        | 11        |              | O      |
|            | RF-UB-BL-FU | pari   | oblh |                  |                            |                  |        | 0         |              |        |
|            | RF-UB-BL-FL | parl   | obli |                  |                            |                  |        | 0         |              | A      |
|            | RF-UB-BL-LF | parf   | oblj |                  |                            |                  |        | 0         |              | O      |
|            | RF-UB-BL-BR | part   | oblm |                  |                            |                  |        | 0         |              |        |
|            | RF-UB-BL-RB | parn   | oblq | hbls kuks ag     | L' U' R2 S R' S2 R' S U L  |                  |        | 10        |              |        |
|            | RF-UB-BL-LD | parg   | oblq |                  |                            |                  |        | 0         |              | O      |
|            | RF-UB-BL-BD | pars   | oblq |                  |                            |                  |        | 0         |              |        |
|            | RF-UB-BL-DL | parx   | oblt |                  |                            |                  |        | 0         |              |        |

| UF Diagram   | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)      | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|--|-------------|--------|------|------------------|-------------------------------|------------------|--------|-----------|--------------|--------|
|  | RF-UB-BL-DR | parv   | oblv |                  |                               |                  | 0      |           |              |        |
|  | RF-UB-BR-UL | patd   | obma |                  |                               |                  | 0      |           | P            |        |
|  | RF-UB-BR-UR | patb   | obmc |                  |                               |                  | 0      |           |              |        |
|  | RF-UB-BR-LU | pate   | obme |                  |                               |                  | 0      |           | A            |        |
|  | RF-UB-BR-BU | patq   | obmf |                  |                               |                  | 0      |           |              |        |
|  | RF-UB-BR-RU | patm   | obmg |                  |                               |                  | 0      |           |              |        |
|  | RF-UB-BR-FL | patl   | obmi |                  |                               |                  | 0      |           |              |        |
|  | RF-UB-BR-LF | patf   | obmj |                  |                               |                  | 0      |           |              |        |
|  | RF-UB-BR-LD | patg   | obmq |                  |                               |                  | 0      |           |              |        |
|  | RF-UB-BR-RD | pato   | obms | kgsd nejb tahp   | R' L S D M' D' R U' S' U L' E |                  | 12     |           |              |        |
|  | RF-UB-BR-DL | patx   | obmt |                  |                               |                  | 0      |           |              |        |
|  | RF-UB-BR-DB | patw   | obmu |                  |                               |                  | 0      |           | O            |        |
|  | RF-UB-BR-DR | patv   | obmv |                  |                               |                  | 0      |           | A            |        |
|  | RF-UB-RB-UR | panb   | obnc |                  |                               |                  | 0      |           |              |        |
|  | RF-UB-RB-LU | pane   | obne |                  |                               |                  | 0      |           |              |        |
|  | RF-UB-RB-RU | panm   | obng |                  |                               |                  | 0      |           |              |        |
|  | RF-UB-RB-LF | panf   | obnj |                  |                               |                  | 0      |           |              |        |
|  | RF-UB-RB-LD | pang   | obnq |                  |                               |                  | 0      |           |              |        |
|  | RF-UB-RB-RD | pano   | obns |                  |                               |                  | 0      |           | A            |        |
|  | RF-UB-RB-DL | panx   | obnt |                  |                               |                  | 0      |           |              |        |
|  | RF-UB-RB-DB | panw   | obnu |                  |                               |                  | 0      |           |              |        |
|  | RF-UB-FR-DF | paju   | obpd |                  |                               |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note      | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|------|------------------|--------------------------|-----------------------|--------|-----------|--------------|--------|
|   | RF-UB-LD-UL | pagd   | obqa |                  |                          |                       |        | 0         |              |        |
|   | RF-UB-LD-UR | pagb   | obqc |                  |                          |                       |        | 0         |              |        |
|   | RF-UB-LD-DF | pagu   | obqd |                  |                          |                       |        | 0         |              |        |
|   | RF-UB-LD-LU | page   | obqe |                  |                          |                       |        | 0         |              |        |
|   | RF-UB-LD-RU | pagm   | obqg |                  |                          |                       |        | 0         |              |        |
|   | RF-UB-LD-FU | pagi   | obqh |                  |                          |                       |        | 0         |              |        |
|   | RF-UB-LD-FL | pagl   | obqi |                  |                          |                       |        | 0         |              |        |
|    | RF-UB-LD-LF | pagf   | obqj | vnja msbt kw     |                          | F r U M S U' S' R' F' |        | 10        |              |        |
|   | RF-UB-LD-LB | pagh   | obqk |                  |                          |                       |        | 0         |              |        |
|   | RF-UB-LD-BL | pagr   | obql |                  |                          |                       |        | 0         |              |        |
|   | RF-UB-LD-BR | pagt   | obqm |                  |                          |                       |        | 0         |              |        |
|   | RF-UB-LD-RB | pagn   | obqn |                  |                          |                       |        | 0         |              |        |
|   | RF-UB-LD-BD | pags   | obqr |                  |                          |                       |        | 0         |              |        |
|  | RF-UB-LD-RD | pago   | obqs |                  |                          |                       |        | 0         |              |        |
|   | RF-UB-LD-DB | pagw   | obqu | njdn set ko      |                          | r D M' S D' S' R' M2  |        | 9         |              |        |
|   | RF-UB-LD-DR | pagv   | obqv |                  |                          |                       |        | 0         |              |        |
|   | RF-UB-BD-UR | pasb   | obrc |                  |                          |                       |        | 0         |              |        |
|   | RF-UB-BD-LU | pase   | obre |                  |                          |                       |        | 0         |              |        |
|   | RF-UB-BD-RU | pasm   | obrg |                  |                          |                       |        | 0         |              |        |
|   | RF-UB-BD-FL | pasl   | obri |                  |                          |                       |        | 0         |              |        |
|   | RF-UB-BD-LF | pasf   | obrj |                  |                          |                       |        | 0         |              |        |
|   | RF-UB-BD-BR | past   | obrm |                  |                          |                       |        | 0         |              |        |

| UF Diagram | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)  | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|--------|------|------------------|---------------------------|------------------|--------|-----------|--------------|--------|
|            | RF-UB-BD-RB | pasn   | obrn |                  |                           |                  | 0      |           |              |        |
|            | RF-UB-BD-LD | pasg   | obrq |                  |                           |                  | 0      |           | 0            |        |
|            | RF-UB-BD-DL | pasx   | obrt |                  |                           |                  | 0      |           |              |        |
|            | RF-UB-RD-UL | paod   | obsa |                  |                           |                  | 0      |           |              |        |
|            | RF-UB-RD-UR | paob   | obsc |                  |                           |                  | 0      |           |              |        |
|            | RF-UB-RD-DF | paou   | obsd |                  |                           |                  | 0      |           |              |        |
|            | RF-UB-RD-RU | paom   | obsg | xakv qwpj bx     | F2 U R' F E' F' E R U' F2 |                  | 10     |           |              |        |
|            | RF-UB-RD-FU | paoi   | obsh |                  |                           |                  | 0      |           |              |        |
|            | RF-UB-RD-FL | paol   | obsi |                  |                           |                  | 0      |           | 0            |        |
|            | RF-UB-RD-LF | paof   | obsj |                  |                           |                  | 0      |           |              |        |
|            | RF-UB-RD-LB | paoh   | obsk |                  |                           |                  | 0      |           |              |        |
|            | RF-UB-RD-BL | paor   | obsl |                  |                           |                  | 0      |           | A            |        |
|            | RF-UB-RD-BR | paot   | obsm |                  |                           |                  | 0      |           |              |        |
|            | RF-UB-RD-RB | paon   | obsn | ajck sjtc kb     | U R U2 R' S R S' U2 R' U' |                  | 10     |           | A            |        |
|            | RF-UB-RD-LD | paog   | obsq |                  |                           |                  | 0      |           |              |        |
|            | RF-UB-RD-BD | paos   | obsr |                  |                           |                  | 0      |           | A            |        |
|            | RF-UB-RD-DL | paox   | obst |                  |                           |                  | 0      |           | L            |        |
|            | RF-UB-RD-DB | paow   | obsu |                  |                           |                  | 0      |           |              |        |
|            | RF-UB-DL-UL | paxd   | obta |                  |                           |                  | 0      |           |              |        |
|            | RF-UB-DL-DF | paxu   | obtd |                  |                           |                  | 0      |           |              |        |
|            | RF-UB-DL-RU | paxm   | obtg |                  |                           |                  | 0      |           | 0            |        |
|            | RF-UB-DL-FU | paxi   | obth |                  |                           |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-UB-DL-LB | paxh        | obtk   |      |                  |                          |                  | 0      |           |              |        |
| RF-UB-DL-BL | paxr        | obtl   |      |                  |                          |                  | 0      |           |              |        |
| RF-UB-DL-BR | paxt        | obtm   |      |                  |                          |                  | 0      |           | L            |        |
| RF-UB-DL-BD | paxs        | obtr   |      |                  |                          |                  | 0      |           |              |        |
| RF-UB-DL-RD | paxo        | obts   |      |                  |                          |                  | 0      |           |              |        |
| RF-UB-DL-DB | paxw        | obtu   |      |                  |                          |                  | 0      |           | O            |        |
| RF-UB-DL-DR | paxv        | obtv   |      |                  |                          |                  | 0      |           |              |        |
| RF-UB-DB-UR | pawb        | obuc   |      |                  |                          |                  | 0      |           |              |        |
| RF-UB-DB-LU | pawe        | obue   |      |                  |                          |                  | 0      |           |              |        |
| RF-UB-DB-BU | pawq        | obuf   |      |                  |                          |                  | 0      |           |              |        |
| RF-UB-DB-RU | pawm        | obug   |      |                  |                          |                  | 0      |           |              |        |
| RF-UB-DB-FL | pawl        | obui   |      |                  |                          |                  | 0      |           |              |        |
| RF-UB-DB-LF | pawf        | obuj   |      |                  |                          |                  | 0      |           |              |        |
| RF-UB-DB-LB | pawh        | obuk   |      |                  |                          |                  | 0      |           |              |        |
| RF-UB-DB-BL | pawr        | obul   |      |                  |                          |                  | 0      |           |              |        |
| RF-UB-DB-LD | pawg        | obuq   |      |                  |                          |                  | 0      |           |              |        |
| RF-UB-DB-DL | pawx        | obut   |      |                  |                          |                  | 0      |           |              |        |
| RF-UB-DR-UL | pavd        | obva   |      |                  |                          |                  | 0      |           |              |        |
| RF-UB-DR-FL | pavl        | obvi   |      |                  |                          |                  | 0      |           | F            |        |
| RF-UB-DR-LF | pavf        | obvj   |      |                  |                          |                  | 0      |           | A            |        |
| RF-UB-DR-LB | pavh        | obvk   |      |                  |                          |                  | 0      |           | P            |        |
| RF-UB-DR-BL | pavr        | obvl   |      |                  |                          |                  | 0      |           | A            |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)    | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|------|------------------|-----------------------------|------------------|--------|-----------|--------------|--------|
|   |             |        |      |                  |                             |                  |        | 0         |              | P      |
| RF-UB-DR-BR   | pavt        | obvm   |      |                  |                             |                  | 0      |           |              | P      |
| RF-UB-DR-RB   | pavn        | obvn   |      |                  |                             |                  | 0      |           |              | P      |
| RF-UR-UL-UB   | pbda        | ocab   |      |                  |                             |                  | 0      |           |              |        |
| RF-UR-UL-DF   | pbdu        | ocad   |      |                  |                             |                  | 0      |           |              |        |
| RF-UR-UL-FU   | pbdi        | ocah   |      |                  |                             |                  | 0      |           |              |        |
| RF-UR-UL-FL   | pbdl        | ocai   |      |                  |                             |                  | 0      |           |              |        |
| RF-UR-UL-LF   | pbdfl       | ocaj   |      |                  |                             |                  | 0      |           |              |        |
| RF-UR-UL-LB   | pbdh        | ocak   |      |                  |                             |                  | 0      |           |              |        |
| RF-UR-UL-BL   | pbdr        | ocal   |      |                  |                             |                  | 0      |           |              |        |
| RF-UR-UL-BR   | pbdt        | ocam   |      |                  |                             |                  | 0      |           |              | A      |
| RF-UR-UL-RB   | pbdn        | ocan   |      |                  |                             |                  | 0      |           |              |        |
| RF-UR-UL-FR   | pbdj        | ocap   |      |                  |                             |                  | 0      |           |              |        |
| RF-UR-UL-LD   | pbdg        | ocaq   |      |                  |                             |                  | 0      |           |              |        |
| RF-UR-UL-BD   | pbds        | ocar   |      |                  |                             |                  | 0      |           |              | P      |
| RF-UR-UL-RD   | pbdo        | ocas   |      |                  |                             |                  | 0      |           |              |        |
| RF-UR-UL-DL   | pbdx        | ocat   |      |                  |                             |                  | 0      |           |              |        |
|  | RF-UR-UB-UL | pbad   | ocba | xnhb gamb kvjx   | F2 I' U' L U M U' R' F R F2 |                  | 12     |           |              |        |
|   | RF-UR-UB-DF | pbau   | ocbd |                  |                             |                  | 0      |           |              |        |
|   | RF-UR-UB-LU | pbae   | ocbe |                  |                             |                  | 0      |           |              |        |
|   | RF-UR-UB-LB | pbah   | ocbk |                  |                             |                  | 0      |           |              |        |
|   | RF-UR-UB-BL | pbar   | ocbl |                  |                             |                  | 0      |           |              |        |
|   | RF-UR-UB-BR | pbat   | ocbm |                  |                             |                  | 0      |           |              |        |

| UF Diagram | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)       | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|--------|------|------------------|--------------------------------|------------------|--------|-----------|--------------|--------|
|            | RF-UR-UB-RB | pban   | ocbn |                  |                                |                  | 0      |           |              |        |
|            | RF-UR-UB-LD | pbag   | ocbq |                  |                                |                  | 0      |           |              |        |
|            | RF-UR-UB-BD | pbas   | ocbr |                  |                                |                  | 0      |           |              |        |
|            | RF-UR-UB-RD | pbao   | ocbs |                  |                                |                  | 0      |           |              |        |
|            | RF-UR-UB-DL | pbax   | ocbt |                  |                                |                  | 0      |           |              | A      |
|            | RF-UR-UB-DB | pbaw   | ocbu |                  |                                |                  | 0      |           |              |        |
|            | RF-UR-UB-DR | pbav   | ocbv |                  |                                |                  | 0      |           |              |        |
|            | RF-UR-DF-UL | pbud   | ocda |                  |                                |                  | 0      |           |              |        |
|            | RF-UR-DF-LF | pbuf   | ocdj | tkbk vqwp jajs   | S' R' U' R' F E' F' E R U R S  |                  | 12     |           |              |        |
|            | RF-UR-DF-BL | pbur   | ocdl |                  |                                |                  | 0      |           |              |        |
|            | RF-UR-DF-BR | pbut   | ocdm |                  |                                |                  | 0      |           |              |        |
|            | RF-UR-DF-LD | pbug   | ocdq |                  |                                |                  | 0      |           |              |        |
|            | RF-UR-DF-BD | pbus   | ocdr |                  |                                |                  | 0      |           |              |        |
|            | RF-UR-DF-RD | pbuo   | ocds | kbwl vawe xdjv   | R' U' F' R2 F U F' D' F2 D R F |                  | 12     |           |              |        |
|            | RF-UR-DF-DL | pbux   | ocdt |                  |                                |                  | 0      |           |              |        |
|            | RF-UR-DF-DR | pbuv   | ocdv | vjax qvpv bkw    | F R U F2 E' F E F U' R' F'     |                  | 11     |           |              |        |
|            | RF-UR-LU-UB | pbea   | oceb |                  |                                |                  | 0      |           |              |        |
|            | RF-UR-LU-DF | pbeu   | oced |                  |                                |                  | 0      |           |              |        |
|            | RF-UR-LU-BU | pbeq   | ocef |                  |                                |                  | 0      |           |              |        |
|            | RF-UR-LU-FU | pbei   | oceh |                  |                                |                  | 0      |           |              |        |
|            | RF-UR-LU-FL | pbel   | ocei |                  |                                |                  | 0      |           |              |        |
|            | RF-UR-LU-LF | pbef   | ocej |                  |                                |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-UR-LU-BR | pbet        | ocem   |      |                  |                          |                  | 0      |           |              |        |
| RF-UR-LU-RB | pben        | ocen   |      |                  |                          |                  | 0      |           | 0            |        |
| RF-UR-LU-LD | pbeg        | oceq   |      |                  |                          |                  | 0      |           |              |        |
| RF-UR-LU-BD | pbes        | ocer   |      |                  |                          |                  | 0      |           |              |        |
| RF-UR-LU-DL | pbex        | ocet   |      |                  |                          |                  | 0      |           | 0            |        |
| RF-UR-LU-DR | pbev        | ocev   |      |                  |                          |                  | 0      |           |              |        |
| RF-UR-BU-DF | pbqu        | ocfd   |      |                  |                          |                  | 0      |           |              |        |
| RF-UR-BU-LU | pbqe        | ocfe   |      |                  |                          |                  | 0      |           |              |        |
| RF-UR-BU-FU | pbqi        | ocfh   |      |                  |                          |                  | 0      |           |              |        |
| RF-UR-BU-FL | pbql        | ocfi   |      |                  |                          |                  | 0      |           |              |        |
| RF-UR-BU-LB | pbqh        | ocfk   |      |                  |                          |                  | 0      |           | 0            |        |
| RF-UR-BU-BL | pbqr        | ocfl   |      |                  |                          |                  | 0      |           |              |        |
| RF-UR-BU-BR | pbqt        | ocfm   |      |                  |                          |                  | 0      |           |              |        |
| RF-UR-BU-RB | pbqn        | ocfn   |      |                  |                          |                  | 0      |           |              |        |
| RF-UR-BU-LD | pbqg        | ocfq   |      |                  |                          |                  | 0      |           | A            |        |
| RF-UR-BU-BD | pbqs        | ocfr   |      |                  |                          |                  | 0      |           |              |        |
| RF-UR-BU-DL | pbqx        | ocft   |      |                  |                          |                  | 0      |           | 0            |        |
| RF-UR-BU-DB | pbqw        | ocfu   |      |                  |                          |                  | 0      |           |              |        |
| RF-UR-RU-LB | pbmh        | ocgk   |      |                  |                          |                  | 0      |           |              |        |
| RF-UR-FU-UL | pbid        | ocha   |      |                  |                          |                  | 0      |           |              |        |
| RF-UR-FU-LU | pbie        | oche   |      |                  |                          |                  | 0      |           |              |        |
| RF-UR-FU-BU | pbiq        | ochf   |      |                  |                          |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)    | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|------|------------------|-----------------------------|------------------|--------|-----------|--------------|--------|
|   | RF-UR-FU-FL | pbil   | ochi |                  |                             |                  | 0      |           |              |        |
|   | RF-UR-FU-LF | pbif   | ochj |                  |                             |                  | 0      |           |              |        |
|   | RF-UR-FU-LB | pbih   | ochk |                  |                             |                  | 0      |           |              |        |
|   | RF-UR-FU-BL | pbir   | ochl |                  |                             |                  | 0      |           |              |        |
|   | RF-UR-FL-DF | pblu   | ocid |                  |                             |                  | 0      |           |              |        |
|   | RF-UR-FL-FU | pqli   | ocih |                  |                             |                  | 0      |           |              |        |
|   | RF-UR-FL-LD | pblg   | ociq |                  |                             |                  | 0      |           |              |        |
|   | RF-UR-FL-BD | pbls   | ocir |                  |                             |                  | 0      |           |              |        |
|   | RF-UR-FL-DL | pblx   | ocit |                  |                             |                  | 0      |           |              |        |
|   | RF-UR-FL-DB | pblw   | ociu |                  |                             |                  | 0      |           |              |        |
|   | RF-UR-FL-DR | pblv   | ociv |                  |                             |                  | 0      |           |              |        |
|   | RF-UR-LF-UL | pbfd   | ocja |                  |                             |                  | 0      |           |              |        |
|   | RF-UR-LF-UB | pbfa   | ocjb |                  |                             |                  | 0      |           |              |        |
|   | RF-UR-LF-DF | pbfu   | ocjd |                  |                             |                  | 0      |           |              |        |
|   | RF-UR-LF-LU | pbfe   | ocje |                  |                             |                  | 0      |           |              |        |
|   | RF-UR-LF-BU | pbfq   | ocjf |                  |                             |                  | 0      |           |              |        |
|   | RF-UR-LF-FU | pbfj   | ocjh |                  |                             |                  | 0      |           |              |        |
|   | RF-UR-LF-LB | pbfh   | ocjk |                  |                             |                  | 0      |           |              |        |
|   | RF-UR-LF-BL | pbfm   | ocjl |                  |                             |                  | 0      |           |              |        |
|   | RF-UR-LF-BR | pbfz   | ocjm |                  |                             |                  | 0      |           |              |        |
|  | RF-UR-LF-RB | pbfn   | ocjn | plaj qlsj tbl    | E R2 U R E' R2 S R S' U' R2 |                  | 11     |           |              |        |
|   | RF-UR-LF-LD | pbfq   | ocjq |                  |                             |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)     | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|------|------------------|------------------------------|------------------|--------|-----------|--------------|--------|
|   | RF-UR-LF-BD | pbfs   | ocjr |                  |                              |                  | 0      |           |              |        |
|   | RF-UR-LF-RD | pbfo   | ocjs |                  |                              |                  | 0      |           |              |        |
|   | RF-UR-LF-DL | pbfx   | ocjt |                  |                              |                  | 0      |           |              |        |
|   | RF-UR-LF-DB | pbfw   | ocju |                  |                              |                  | 0      |           | 0            |        |
|   | RF-UR-LF-DR | pbfv   | ocjv |                  |                              |                  | 0      |           |              |        |
|   | RF-UR-LB-UL | pbhd   | ocka |                  |                              |                  | 0      |           |              |        |
|   | RF-UR-LB-UB | pbha   | ockb |                  |                              |                  | 0      |           |              |        |
|   | RF-UR-LB-DF | pbhu   | ockd |                  |                              |                  | 0      |           |              |        |
|   | RF-UR-LB-LU | pbhe   | ocke |                  |                              |                  | 0      |           |              |        |
|   | RF-UR-LB-BU | pbhq   | ockf |                  |                              |                  | 0      |           |              |        |
|   | RF-UR-LB-FU | pbhi   | ockh |                  |                              |                  | 0      |           |              |        |
|   | RF-UR-LB-FL | pbhl   | ocki |                  |                              |                  | 0      |           |              |        |
|   | RF-UR-LB-LF | pbhf   | ockj |                  |                              |                  | 0      |           |              |        |
|   | RF-UR-LB-BR | pbht   | ockm |                  |                              |                  | 0      |           |              | P      |
|   | RF-UR-LB-RB | pbhn   | ockn |                  |                              |                  | 0      |           |              |        |
|  | RF-UR-LB-LD | pbhg   | ockq | ahag qhbi phb    | U L' U L E' L' U' L2 E L' U' |                  | 11     |           |              |        |
|   | RF-UR-LB-RD | pbho   | ocks |                  |                              |                  | 0      |           | 0            |        |
|   | RF-UR-LB-DL | pbhx   | ockt |                  |                              |                  | 0      |           |              |        |
|  | RF-UR-LB-DB | pbhw   | ocku | vbpmp wrmp vaw   | F u' M F' E2 M E F U F'      |                  | 11     |           |              |        |
|   | RF-UR-LB-DR | pbhv   | ockv |                  |                              |                  | 0      |           |              |        |
|   | RF-UR-BL-UL | pbrd   | ocla |                  |                              |                  | 0      |           | 0            |        |
|   | RF-UR-BL-UB | pbra   | oclb |                  |                              |                  | 0      |           |              | A      |

| UF Diagram  | Cube Target | Speffz | aaaa  | Yo Notation (UF) | Singmaster Notation (UF)      | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|-------|------------------|-------------------------------|------------------|--------|-----------|--------------|--------|
|   | RF-UR-BL-DF | pbru   | ocld  |                  |                               |                  | 0      |           |              |        |
|   | RF-UR-BL-LU | pbre   | ocle  |                  |                               |                  | 0      |           | L            |        |
|   | RF-UR-BL-BU | pbrq   | oclf  |                  |                               |                  | 0      |           |              |        |
|   | RF-UR-BL-FU | p bri  | ocl h |                  |                               |                  | 0      |           |              |        |
|   | RF-UR-BL-FL | p brl  | ocli  |                  |                               |                  | 0      |           |              |        |
|   | RF-UR-BL-LF | p brf  | ocl j |                  |                               |                  | 0      |           |              |        |
|   | RF-UR-BL-BR | p brt  | ocl m |                  |                               |                  | 0      |           |              |        |
|   | RF-UR-BL-RB | p brn  | ocl n |                  |                               |                  | 0      |           |              |        |
|    | RF-UR-BL-LD | p brg  | ocl q | agta gqhb pshb   | U L S' U L E' L' u' S L' U'   |                  | 12     |           |              |        |
|   | RF-UR-BL-BD | p brs  | ocl r |                  |                               |                  | 0      |           | F            |        |
|  | RF-UR-BL-RD | p bro  | ocl s |                  |                               |                  | 0      |           | O            |        |
|  | RF-UR-BL-DL | p brx  | ocl t | fwjq kwkp jxf    | D2 F' R E' R' F' R' E R F2 D2 |                  | 11     |           | O            |        |
|   | RF-UR-BL-DR | p brv  | ocl v |                  |                               |                  | 0      |           |              |        |
|   | RF-UR-BR-UL | p btd  | ocma  |                  |                               |                  | 0      |           |              |        |
|   | RF-UR-BR-UB | p bta  | ocmb  |                  |                               |                  | 0      |           |              |        |
|   | RF-UR-BR-DF | p btu  | ocmd  |                  |                               |                  | 0      |           |              |        |
|   | RF-UR-BR-LU | p bte  | ocme  |                  |                               |                  | 0      |           |              |        |
|   | RF-UR-BR-BU | p btq  | ocmf  |                  |                               |                  | 0      |           |              |        |
|   | RF-UR-BR-FU | p bti  | ocmh  |                  |                               |                  | 0      |           |              |        |
|   | RF-UR-BR-FL | p btl  | ocmi  |                  |                               |                  | 0      |           |              |        |
|   | RF-UR-BR-LF | p btf  | ocmj  |                  |                               |                  | 0      |           |              |        |
|   | RF-UR-BR-LB | p bth  | ocmk  |                  |                               |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)    | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|------|------------------|-----------------------------|------------------|--------|-----------|--------------|--------|
|   |             |        |      |                  |                             |                  |        | 0         |              |        |
|   | RF-UR-BR-BL | pbtr   | ocml |                  |                             |                  |        | 0         |              |        |
|  | RF-UR-BR-LD | pbtg   | ocmq |                  |                             |                  |        | 0         |              |        |
|   | RF-UR-BR-RD | pbto   | ocms | rgeo ambm dhr    | E2 L D' M2 U M U' M D L' E2 |                  |        | 11        |              |        |
|   | RF-UR-BR-DL | pbtx   | ocmt |                  |                             |                  |        | 0         |              |        |
|   | RF-UR-BR-DB | pbtw   | ocmu |                  |                             |                  |        | 0         |              |        |
|   | RF-UR-BR-DR | pbtv   | ocmv |                  |                             |                  |        | 0         |              |        |
|   | RF-UR-RB-UL | pbnd   | ocna |                  |                             |                  |        | 0         |              |        |
|   | RF-UR-RB-UB | pbna   | ocnb |                  |                             |                  |        | 0         |              |        |
|   | RF-UR-RB-DF | pbnu   | ocnd |                  |                             |                  |        | 0         |              |        |
|   | RF-UR-RB-LU | pbne   | ocne |                  |                             |                  |        | 0         |              |        |
|   | RF-UR-RB-BU | pbnq   | ocnf |                  |                             |                  |        | 0         |              |        |
|   | RF-UR-RB-FL | pbnl   | ocni |                  |                             |                  |        | 0         |              |        |
|   | RF-UR-RB-LF | pbnf   | ocnj |                  |                             |                  |        | 0         |              |        |
|   | RF-UR-RB-LD | pbng   | ocnq |                  |                             |                  |        | 0         |              |        |
|   | RF-UR-RB-RD | pbno   | ocns |                  |                             |                  |        | 0         |              |        |
|   | RF-UR-RB-DL | pbnx   | ocnt |                  |                             |                  |        | 0         |              |        |
|   | RF-UR-RB-DR | pbnv   | ocnv |                  |                             |                  |        | 0         |              |        |
|   | RF-UR-FR-DB | pbjw   | ocpu |                  |                             |                  |        | 0         |              |        |
|   | RF-UR-LD-UL | pbgd   | ocqa |                  |                             |                  |        | 0         |              |        |
|   | RF-UR-LD-UB | pbga   | ocqb |                  |                             |                  |        | 0         |              |        |
|   | RF-UR-LD-DF | pbgu   | ocqd |                  |                             |                  |        | 0         |              |        |
|   | RF-UR-LD-LU | pbge   | ocqe |                  |                             |                  |        | 0         |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-UR-LD-BU | pbgq        | ocqf   |      |                  |                          |                  |        | 0         |              |        |
| RF-UR-LD-FL | pbgI        | ocqi   |      |                  |                          |                  |        | 0         |              |        |
| RF-UR-LD-LF | pbgf        | ocqj   |      |                  |                          |                  |        | 0         |              |        |
| RF-UR-LD-LB | pbgH        | ocqk   |      |                  |                          |                  |        | 0         |              |        |
| RF-UR-LD-BL | pbgR        | ocql   |      |                  |                          |                  |        | 0         |              |        |
| RF-UR-LD-BR | pbgT        | ocqm   |      |                  |                          |                  |        | 0         |              |        |
| RF-UR-LD-RB | pbgN        | ocqn   |      |                  |                          |                  |        | 0         |              |        |
| RF-UR-LD-RD | pbgO        | ocqs   |      |                  |                          |                  |        | 0         |              |        |
| RF-UR-LD-DB | pbgW        | ocqu   |      |                  |                          |                  |        | 0         |              |        |
| RF-UR-LD-DR | pbgV        | ocqv   |      |                  |                          |                  |        | 0         |              |        |
| RF-UR-BD-UL | pbsd        | ocra   |      |                  |                          |                  |        | 0         |              |        |
| RF-UR-BD-UB | pbsa        | ocrb   |      |                  |                          |                  |        | 0         |              |        |
| RF-UR-BD-LU | pbsE        | ocre   |      |                  |                          |                  |        | 0         |              |        |
| RF-UR-BD-BU | pbsq        | ocrf   |      |                  |                          |                  |        | 0         |              |        |
| RF-UR-BD-FU | pbsi        | ocrh   |      |                  |                          |                  |        | 0         |              |        |
| RF-UR-BD-FL | pbsl        | ocri   |      |                  |                          |                  |        | 0         |              |        |
| RF-UR-BD-LF | pbsf        | ocrj   |      |                  |                          |                  |        | 0         |              |        |
| RF-UR-BD-BL | pbsr        | ocrl   |      |                  |                          |                  |        | 0         |              |        |
| RF-UR-BD-BR | pbst        | ocrm   |      |                  |                          |                  |        | 0         |              |        |
| RF-UR-BD-RB | pbsn        | ocrn   |      |                  |                          |                  |        | 0         |              |        |
| RF-UR-BD-LD | pbsg        | ocrq   |      |                  |                          |                  |        | 0         |              |        |
| RF-UR-BD-RD | pbsO        | ocrs   |      |                  |                          |                  |        | 0         |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-UR-BD-DL | pbsx        | ocrt   |      |                  |                          |                  | 0      |           |              |        |
| RF-UR-BD-DR | pbsv        | ocrv   |      |                  |                          |                  | 0      |           |              |        |
| RF-UR-RD-UL | pbod        | ocsa   |      |                  |                          |                  | 0      |           |              |        |
| RF-UR-RD-DF | pbou        | ocsd   |      |                  |                          |                  | 0      |           |              |        |
| RF-UR-RD-LU | pboe        | ocse   |      |                  |                          |                  | 0      |           |              |        |
| RF-UR-RD-FL | pbol        | ocsi   |      |                  |                          |                  | 0      |           |              |        |
| RF-UR-RD-LB | pboh        | ocsk   |      |                  |                          |                  | 0      |           | 0            |        |
| RF-UR-RD-BR | pbot        | ocsm   |      |                  |                          |                  | 0      |           |              |        |
| RF-UR-RD-RB | pbon        | ocsn   |      |                  |                          |                  | 0      |           |              |        |
| RF-UR-RD-LD | pboq        | ocsq   |      |                  |                          |                  | 0      |           | 0            |        |
| RF-UR-RD-BD | pbos        | ocsr   |      |                  |                          |                  | 0      |           |              |        |
| RF-UR-RD-DL | pbox        | ocst   |      |                  |                          |                  | 0      |           |              |        |
| RF-UR-RD-DB | pbow        | ocsu   |      |                  |                          |                  | 0      |           |              |        |
| RF-UR-DL-UL | pbxd        | octa   |      |                  |                          |                  | 0      |           |              |        |
| RF-UR-DL-UB | pbxa        | octb   |      |                  |                          |                  | 0      |           |              |        |
| RF-UR-DL-DF | pbxu        | octd   |      |                  |                          |                  | 0      |           |              |        |
| RF-UR-DL-LU | pbxe        | octe   |      |                  |                          |                  | 0      |           | L            |        |
| RF-UR-DL-BU | pbxq        | octf   |      |                  |                          |                  | 0      |           |              |        |
| RF-UR-DL-FU | pbxi        | octh   |      |                  |                          |                  | 0      |           |              |        |
| RF-UR-DL-LF | pbxf        | octj   |      |                  |                          |                  | 0      |           |              |        |
| RF-UR-DL-LB | pbxh        | octk   |      |                  |                          |                  | 0      |           |              |        |
| RF-UR-DL-BL | pbxr        | octl   |      |                  |                          |                  | 0      |           | L            |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-UR-DL-BR | pbxt        | aaaa   |      |                  |                          |                  |        | 0         |              |        |
| RF-UR-DL-RB | pbxn        | octm   |      |                  |                          |                  |        | 0         |              |        |
| RF-UR-DL-FR | pbxj        | octp   |      |                  |                          |                  |        | 0         |              | 0      |
| RF-UR-DL-BD | pbxs        | octr   |      |                  |                          |                  |        | 0         |              |        |
| RF-UR-DL-RD | pbxo        | octs   |      |                  |                          |                  |        | 0         |              |        |
| RF-UR-DL-DB | pbxw        | octu   |      |                  |                          |                  |        | 0         |              |        |
| RF-UR-DB-UL | pbwd        | ocua   |      |                  |                          |                  |        | 0         |              |        |
| RF-UR-DB-UB | pbwa        | ocub   |      |                  |                          |                  |        | 0         |              |        |
| RF-UR-DB-DF | pbwu        | ocud   |      |                  |                          |                  |        | 0         |              |        |
| RF-UR-DB-LU | pbwe        | ocue   |      |                  |                          |                  |        | 0         |              |        |
| RF-UR-DB-BU | pbwq        | ocuf   |      |                  |                          |                  |        | 0         |              |        |
| RF-UR-DB-FU | pbwi        | ocuh   |      |                  |                          |                  |        | 0         |              |        |
| RF-UR-DB-FL | pbwl        | ocii   |      |                  |                          |                  |        | 0         |              |        |
| RF-UR-DB-LF | pbwf        | ocuj   |      |                  |                          |                  |        | 0         |              |        |
| RF-UR-DB-LB | pbwh        | ocuk   |      |                  |                          |                  |        | 0         |              |        |
| RF-UR-DB-BL | pbwr        | ocul   |      |                  |                          |                  |        | 0         |              |        |
| RF-UR-DB-BR | pbwt        | ocum   |      |                  |                          |                  |        | 0         |              |        |
| RF-UR-DB-RB | pbwn        | ocun   |      |                  |                          |                  |        | 0         |              |        |
| RF-UR-DB-LD | pbwg        | ocuq   |      |                  |                          |                  |        | 0         |              |        |
| RF-UR-DB-BD | pbws        | ocur   |      |                  |                          |                  |        | 0         |              | A      |
| RF-UR-DB-RD | pbwo        | ocus   |      |                  |                          |                  |        | 0         |              |        |
| RF-UR-DB-DL | pbwx        | ocut   |      |                  |                          |                  |        | 0         |              |        |

| UF Diagram | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)         | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|--------|------|------------------|----------------------------------|------------------|--------|-----------|--------------|--------|
|            |             |        |      |                  |                                  |                  |        | 0         |              |        |
|            | RF-UR-DB-DR | pbwv   | ocuv |                  |                                  |                  |        | 0         |              |        |
|            | RF-UR-DR-UL | pbvd   | ocva | jija ksjb slt    | R S' R U R' S R U' S R2 S'       |                  |        | 11        |              |        |
|            | RF-UR-DR-UB | pbva   | ocvb | btcs qbjp lqjp   | U' S' U2 S E' U' R E R2 E' R E   |                  |        | 12        |              |        |
|            | RF-UR-DR-DF | pbvu   | ocvd |                  |                                  |                  |        | 0         |              |        |
|            | RF-UR-DR-LU | pbve   | ocve | jija tcta uksk   | R S' R U S' U2 S' U S2 R' S R'   |                  |        | 12        |              |        |
|            | RF-UR-DR-BU | pbvq   | ocvf | anwt asbv mb     | U M' f' U S U' F M U'            |                  |        | 10        |              |        |
|            | RF-UR-DR-FL | pbvl   | ocvi | qhtc sbgp hbg    | E' L' S' U2 S U' L E L' U' L     |                  |        | 11        |              |        |
|            | RF-UR-DR-LF | pbvf   | ocvj | qgub scsb hp     | E' L S2 U' S U2 S U' L' E        |                  |        | 10        |              |        |
|            | RF-UR-DR-LB | pbvh   | ocvk | csjt pkaj rkpa   | U2 S R S' E R' U R E2 R' E U     |                  |        | 12        |              |        |
|            | RF-UR-DR-BL | pbvr   | ocvl | wkpj wkrl pkx    | F' R' E R F' R' E2 R2 E R' F2    |                  |        | 11        |              |        |
|            | RF-UR-DR-BR | pbvt   | ocvm | rjqk bjrl qjb rc | E2 R E' R' U' R E2 R2 E' R U' u2 |                  |        | 13        |              |        |
|            | RF-UR-DR-RB | pbvn   | ocvn | akvc sktj cwjb   | U R' F U2 S R' S' R U2 F' R U'   |                  |        | 12        |              |        |
|            | RF-UR-DR-LD | pbvg   | ocvq | ceoj anbn kcd    | U2 D' M2 R U M' U' M' R' U2 D    |                  |        | 11        |              |        |
|            | RF-UR-DR-BD | pbvs   | ocvr | skej sqqi pvgu   | S R' D' R S L E' L2 E F L S2     |                  |        | 12        |              |        |
|            | RF-UR-DR-DL | pbvx   | ocvt | tlse vqxp vdl    | S' R2 S D' F E' F2 E F D R2      |                  |        | 11        |              |        |
|            | RF-UR-DR-DB | pbvw   | ocvu | agwn jvmw kvhb   | U L F' r F M F' R' F L' U'       |                  |        | 12        |              |        |
|            | RF-DF-UL-FL | pudl   | odai |                  |                                  |                  |        | 0         |              |        |
|            | RF-DF-UL-LF | pudf   | odaj |                  |                                  |                  |        | 0         |              |        |
|            | RF-DF-UL-LB | pudh   | odak |                  |                                  |                  |        | 0         |              |        |
|            | RF-DF-UL-BL | pudr   | odal |                  |                                  |                  |        | 0         |              |        |
|            | RF-DF-UL-RB | pudn   | odan |                  |                                  |                  |        | 0         |              |        |
|            | RF-DF-UL-BD | puds   | odar |                  |                                  |                  |        | 0         |              |        |

| UF Diagram | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)   | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|--------|------|------------------|----------------------------|------------------|--------|-----------|--------------|--------|
|            | RF-DF-UL-DB | pudw   | odau |                  |                            |                  | 0      |           |              |        |
|            | RF-DF-UL-DR | pudv   | odav |                  |                            |                  | 0      |           |              |        |
|            | RF-DF-UB-UL | puad   | odba | pnjt asmb kq     | E r S' U S M U' R' E'      |                  | 10     |           | A            |        |
|            | RF-DF-UB-LU | puae   | odbe |                  |                            |                  | 0      |           | 0            |        |
|            | RF-DF-UB-RU | puam   | odbg |                  |                            |                  | 0      |           |              |        |
|            | RF-DF-UB-FL | pual   | odbi |                  |                            |                  | 0      |           |              |        |
|            | RF-DF-UB-LF | puaf   | odbj |                  |                            |                  | 0      |           |              |        |
|            | RF-DF-UB-LB | puah   | odbk | vmpw qn          | F M E F' E' M'             |                  | 6      |           | 0            |        |
|            | RF-DF-UB-BR | puat   | odbm |                  |                            |                  | 0      |           |              |        |
|            | RF-DF-UB-RB | puan   | odbn |                  |                            |                  | 0      |           |              |        |
|            | RF-DF-UB-LD | puag   | odbq |                  |                            |                  | 0      |           |              |        |
|            | RF-DF-UB-RD | puao   | odbs |                  |                            |                  | 0      |           |              |        |
|            | RF-DF-UB-DL | puax   | odbt |                  |                            |                  | 0      |           | L            |        |
|            | RF-DF-UB-DB | puaw   | odbu |                  |                            |                  | 0      |           |              |        |
|            | RF-DF-UR-UL | pubd   | odca | gqhb ncjs mkb    | L E' L' U' M' U2 R S r' U' |                  | 11     |           |              |        |
|            | RF-DF-UR-UB | puba   | odcb |                  |                            |                  | 0      |           |              |        |
|            | RF-DF-UR-LU | pube   | odce |                  |                            |                  | 0      |           | 0            |        |
|            | RF-DF-UR-BU | pubq   | odcf |                  |                            |                  | 0      |           |              |        |
|            | RF-DF-UR-FL | publ   | odci |                  |                            |                  | 0      |           |              |        |
|            | RF-DF-UR-LF | pubf   | odcj | ekev nwmd jd     | D' R' D' F M' F' M D R D   |                  | 10     |           |              |        |
|            | RF-DF-UR-LB | pubh   | odck |                  |                            |                  | 0      |           |              |        |
|            | RF-DF-UR-BL | pubr   | odcl |                  |                            |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|   | RF-DF-UR-BR | pubt   | odcm |                  |                          |                  | 0      |           |              |        |
|   | RF-DF-UR-RB | pubn   | odcn |                  |                          |                  | 0      |           |              |        |
|   | RF-DF-UR-LD | pubg   | odcq |                  |                          |                  | 0      |           |              |        |
|   | RF-DF-UR-BD | pubs   | odcr |                  |                          |                  | 0      |           | 0            |        |
|   | RF-DF-UR-RD | pubo   | odcs |                  |                          |                  | 0      |           |              |        |
|    | RF-DF-UR-DL | pubx   | odct | vhbv mwna gw     | F L' U' F M F' M' U L F' |                  | 10     |           | 0            |        |
|   | RF-DF-LU-UB | puea   | odeb |                  |                          |                  | 0      |           |              |        |
|   | RF-DF-LU-UR | pueb   | odec |                  |                          |                  | 0      |           |              |        |
|   | RF-DF-LU-BU | pueq   | odef |                  |                          |                  | 0      |           |              |        |
|   | RF-DF-LU-BR | puet   | odem |                  |                          |                  | 0      |           | 0            |        |
|   | RF-DF-LU-RB | puen   | oden |                  |                          |                  | 0      |           |              |        |
|   | RF-DF-LU-BD | pues   | oder |                  |                          |                  | 0      |           | F            |        |
|   | RF-DF-LU-RD | pueo   | odes |                  |                          |                  | 0      |           |              |        |
|  | RF-DF-LU-DL | puex   | odet |                  |                          |                  | 0      |           | P            |        |
|  | RF-DF-LU-DB | puew   | odeu | ktes mdnj        | R' S' D' S M D r         |                  | 8      |           |              |        |
|   | RF-DF-BU-UL | puqd   | odfa |                  |                          |                  | 0      |           | P            |        |
|   | RF-DF-BU-UR | puqb   | odfc |                  |                          |                  | 0      |           | O            |        |
|   | RF-DF-BU-LU | puqe   | odfe |                  |                          |                  | 0      |           | F            |        |
|   | RF-DF-BU-FL | puql   | odfi |                  |                          |                  | 0      |           |              |        |
|   | RF-DF-BU-LF | puqf   | odfj |                  |                          |                  | 0      |           |              |        |
|   | RF-DF-BU-LB | puqh   | odfk |                  |                          |                  | 0      |           | A            |        |
|   | RF-DF-BU-BR | puqt   | odfm |                  |                          |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-DF-BU-BD | puqs        |        | odfr |                  |                          |                  |        | 0         |              |        |
| RF-DF-BU-RD | puqo        |        | odfs |                  |                          |                  |        | 0         |              | L      |
| RF-DF-BU-DB | puqw        |        | odfu |                  |                          |                  |        | 0         |              | L      |
| RF-DF-BU-DR | puqv        |        | odfv |                  |                          |                  |        | 0         |              |        |
| RF-DF-RU-UL | pumd        |        | odga |                  |                          |                  |        | 0         |              |        |
| RF-DF-RU-UB | puma        |        | odgb |                  |                          |                  |        | 0         |              |        |
| RF-DF-RU-LU | pume        |        | odge |                  |                          |                  |        | 0         |              | L      |
| RF-DF-RU-BU | pumq        |        | odgf |                  |                          |                  |        | 0         |              | P      |
| RF-DF-RU-FL | puml        |        | odgi |                  |                          |                  |        | 0         |              |        |
| RF-DF-RU-LF | pumf        |        | odgj |                  |                          |                  |        | 0         |              |        |
| RF-DF-RU-LB | pumh        |        | odgk |                  |                          |                  |        | 0         |              |        |
| RF-DF-RU-BL | pumr        |        | odgl |                  |                          |                  |        | 0         |              |        |
| RF-DF-RU-BR | pumt        |        | odgm |                  |                          |                  |        | 0         |              |        |
| RF-DF-RU-RB | pumn        |        | odgn |                  |                          |                  |        | 0         |              |        |
| RF-DF-RU-LD | pumg        |        | odgq |                  |                          |                  |        | 0         |              |        |
| RF-DF-RU-BD | pums        |        | odgr |                  |                          |                  |        | 0         |              |        |
| RF-DF-RU-RD | pumo        |        | odgs |                  |                          |                  |        | 0         |              |        |
| RF-DF-RU-DL | pumx        |        | odgt |                  |                          |                  |        | 0         |              |        |
| RF-DF-RU-DB | pumw        |        | odgu |                  |                          |                  |        | 0         |              |        |
| RF-DF-RU-DR | pumv        |        | odgv |                  |                          |                  |        | 0         |              |        |
| RF-DF-FU-RD | puio        |        | odhs |                  |                          |                  |        | 0         |              |        |
| RF-DF-FU-DR | puiv        |        | odhv |                  |                          |                  |        | 0         |              | P      |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)      | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|------|------------------|-------------------------------|------------------|--------|-----------|--------------|--------|
|   |             |        |      |                  |                               |                  |        | 0         |              |        |
|   | RF-DF-FL-UL | puld   | odia |                  |                               |                  |        | 0         |              | P      |
|  | RF-DF-FL-UB | pula   | odib | vjvj bkwk bvaw   | F R F R U' R' F' R' U' F U F' |                  |        | 12        |              |        |
|   | RF-DF-FL-UR | pulb   | odic |                  |                               |                  |        | 0         |              |        |
|   | RF-DF-FL-LU | pule   | odie |                  |                               |                  |        | 0         |              |        |
|   | RF-DF-FL-BU | pulq   | odif |                  |                               |                  |        | 0         |              |        |
|   | RF-DF-FL-RU | pulm   | odig |                  |                               |                  |        | 0         |              |        |
|   | RF-DF-FL-LB | pulh   | odik |                  |                               |                  |        | 0         |              |        |
|   | RF-DF-FL-BL | pulr   | odil |                  |                               |                  |        | 0         |              |        |
|   | RF-DF-FL-BR | pult   | odim |                  |                               |                  |        | 0         |              |        |
|   | RF-DF-FL-RB | puln   | odin |                  |                               |                  |        | 0         |              | P      |
|   | RF-DF-FL-LD | pulg   | odiq |                  |                               |                  |        | 0         |              |        |
|   | RF-DF-FL-BD | puls   | odir |                  |                               |                  |        | 0         |              |        |
|   | RF-DF-FL-RD | pulo   | odis |                  |                               |                  |        | 0         |              |        |
|   | RF-DF-FL-DL | pulx   | odit |                  |                               |                  |        | 0         |              |        |
|   | RF-DF-FL-DB | pulw   | odiu |                  |                               |                  |        | 0         |              |        |
|   | RF-DF-FL-DR | pulv   | odiv |                  |                               |                  |        | 0         |              |        |
|   | RF-DF-LF-UL | pufd   | odja |                  |                               |                  |        | 0         |              |        |
|   | RF-DF-LF-UB | pufa   | odjb |                  |                               |                  |        | 0         |              | A      |
|   | RF-DF-LF-UR | pufb   | odjc |                  |                               |                  |        | 0         |              |        |
|   | RF-DF-LF-LU | pufe   | odje |                  |                               |                  |        | 0         |              |        |
|   | RF-DF-LF-BU | pufq   | odjf |                  |                               |                  |        | 0         |              |        |
|   | RF-DF-LF-RU | pufm   | odjg |                  |                               |                  |        | 0         |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
| RF-DF-LF-LB | pufh        |        | odjk |                  |                          |                  | 0      |           |              | A      |
| RF-DF-LF-BL | pufr        |        | odjl |                  |                          |                  | 0      |           |              |        |
| RF-DF-LF-BR | puft        |        | odjm |                  |                          |                  | 0      |           |              |        |
| RF-DF-LF-RB | pufn        |        | odjn |                  |                          |                  | 0      |           |              |        |
| RF-DF-LF-LD | pufg        |        | odjq |                  |                          |                  | 0      |           |              |        |
| RF-DF-LF-BD | pufs        |        | odjr |                  |                          |                  | 0      |           |              |        |
| RF-DF-LF-RD | pufo        |        | odjs |                  |                          |                  | 0      |           |              |        |
| RF-DF-LF-DB | pufw        |        | odju |                  |                          |                  | 0      |           |              | A      |
| RF-DF-LF-DR | pufv        |        | odjv |                  |                          |                  | 0      |           |              |        |
| RF-DF-LB-UL | puhd        |        | odka |                  |                          |                  | 0      |           |              |        |
| RF-DF-LB-UB | puha        |        | odkb |                  |                          |                  | 0      |           |              |        |
| RF-DF-LB-UR | puhb        |        | odkc |                  |                          |                  | 0      |           |              |        |
| RF-DF-LB-LU | puhe        |        | odke |                  |                          |                  | 0      |           |              |        |
| RF-DF-LB-RU | puhm        |        | odkg |                  |                          |                  | 0      |           |              |        |
| RF-DF-LB-FL | puhl        |        | odki |                  |                          |                  | 0      |           |              | F      |
| RF-DF-LB-LF | puhf        |        | odkj |                  |                          |                  | 0      |           |              |        |
| RF-DF-LB-RB | puhn        |        | odkn |                  |                          |                  | 0      |           |              |        |
| RF-DF-LB-LD | puhg        |        | odkq |                  |                          |                  | 0      |           |              |        |
| RF-DF-LB-BD | puhs        |        | odkr |                  |                          |                  | 0      |           |              |        |
| RF-DF-LB-RD | puho        |        | odks |                  |                          |                  | 0      |           |              | F      |
| RF-DF-LB-DL | puhx        |        | odkt |                  |                          |                  | 0      |           |              | O      |
| RF-DF-LB-DB | puhw        |        | odku |                  |                          |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-DF-LB-DR | puhv        | odkv   |      |                  |                          |                  | 0      |           |              |        |
| RF-DF-BL-UL | purd        | odla   |      |                  |                          |                  | 0      |           |              |        |
| RF-DF-BL-UB | pura        | odlb   |      |                  |                          |                  | 0      |           |              |        |
| RF-DF-BL-UR | purb        | odlc   |      |                  |                          |                  | 0      |           | P            |        |
| RF-DF-BL-LU | pure        | odle   |      |                  |                          |                  | 0      |           |              |        |
| RF-DF-BL-BU | purq        | odlf   |      |                  |                          |                  | 0      |           | A            |        |
| RF-DF-BL-RU | purm        | odlg   |      |                  |                          |                  | 0      |           |              |        |
| RF-DF-BL-FL | purl        | odli   |      |                  |                          |                  | 0      |           | F            |        |
| RF-DF-BL-LF | purf        | odlj   |      |                  |                          |                  | 0      |           |              |        |
| RF-DF-BL-BR | purt        | odlm   |      |                  |                          |                  | 0      |           |              |        |
| RF-DF-BL-RB | purn        | odln   |      |                  |                          |                  | 0      |           |              |        |
| RF-DF-BL-LD | purg        | odlq   |      |                  |                          |                  | 0      |           |              |        |
| RF-DF-BL-BD | purs        | odlr   |      |                  |                          |                  | 0      |           |              |        |
| RF-DF-BL-RD | puro        | odls   |      |                  |                          |                  | 0      |           | F            |        |
| RF-DF-BL-DL | purx        | odlt   |      |                  |                          |                  | 0      |           | C            |        |
| RF-DF-BL-DB | purw        | odlu   |      |                  |                          |                  | 0      |           |              |        |
| RF-DF-BL-DR | purv        | odlv   |      |                  |                          |                  | 0      |           | F            |        |
| RF-DF-BR-UL | putd        | odma   |      |                  |                          |                  | 0      |           |              |        |
| RF-DF-BR-UB | puta        | odmb   |      |                  |                          |                  | 0      |           | P            |        |
| RF-DF-BR-UR | putb        | odmc   |      |                  |                          |                  | 0      |           |              |        |
| RF-DF-BR-LU | pute        | odme   |      |                  |                          |                  | 0      |           |              |        |
| RF-DF-BR-BU | putq        | odmf   |      |                  |                          |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-DF-BR-RU | putm        | odmg   |      |                  |                          |                  | 0      |           |              |        |
| RF-DF-BR-FL | putl        | odmi   |      |                  |                          |                  | 0      |           |              |        |
| RF-DF-BR-LF | putf        | odmj   |      |                  |                          |                  | 0      |           |              |        |
| RF-DF-BR-LB | puth        | odmk   |      |                  |                          |                  | 0      |           | F            |        |
| RF-DF-BR-BL | putr        | odml   |      |                  |                          |                  | 0      |           |              |        |
| RF-DF-BR-FR | putj        | odmp   |      |                  |                          |                  | 0      |           |              |        |
| RF-DF-BR-LD | putg        | odmq   |      |                  |                          |                  | 0      |           | C            |        |
| RF-DF-BR-RD | puto        | odms   |      |                  |                          |                  | 0      |           |              |        |
| RF-DF-BR-DL | putx        | odmt   |      |                  |                          |                  | 0      |           |              |        |
| RF-DF-RB-UL | pund        | odna   |      |                  |                          |                  | 0      |           | A            |        |
| RF-DF-RB-UB | puna        | odnb   |      |                  |                          |                  | 0      |           | O            |        |
| RF-DF-RB-UR | punb        | odnc   |      |                  |                          |                  | 0      |           |              |        |
| RF-DF-RB-LU | pune        | odne   |      |                  |                          |                  | 0      |           |              |        |
| RF-DF-RB-BU | punq        | odnf   |      |                  |                          |                  | 0      |           | F            |        |
| RF-DF-RB-RU | punm        | odng   |      |                  |                          |                  | 0      |           |              |        |
| RF-DF-RB-FL | punl        | odni   |      |                  |                          |                  | 0      |           | O            |        |
| RF-DF-RB-LF | punf        | odnj   |      |                  |                          |                  | 0      |           |              |        |
| RF-DF-RB-LB | punh        | odnk   |      |                  |                          |                  | 0      |           |              |        |
| RF-DF-RB-BL | punr        | odnl   |      |                  |                          |                  | 0      |           | O            |        |
| RF-DF-RB-FR | punj        | odnp   |      |                  |                          |                  | 0      |           |              |        |
| RF-DF-RB-LD | pung        | odnq   |      |                  |                          |                  | 0      |           |              |        |
| RF-DF-RB-RD | puno        | odns   |      |                  |                          |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        |           |              |        |
| RF-DF-RB-DL | punx        |        | odnt |                  |                          |                  | 0      |           |              | 0      |
| RF-DF-RB-DB | punw        |        | odnu |                  |                          |                  | 0      |           |              |        |
| RF-DF-RB-DR | punv        |        | odnv |                  |                          |                  | 0      |           |              |        |
| RF-DF-FR-UB | puja        |        | odpb |                  |                          |                  | 0      |           |              | C      |
| RF-DF-FR-UR | pujb        |        | odpc |                  |                          |                  | 0      |           |              |        |
| RF-DF-FR-BU | pujq        |        | odpf |                  |                          |                  | 0      |           |              |        |
| RF-DF-FR-BL | pujr        |        | odpl |                  |                          |                  | 0      |           |              | P      |
| RF-DF-FR-BD | pujs        |        | odpr |                  |                          |                  | 0      |           |              | P      |
| RF-DF-LD-UL | pugd        |        | odqa |                  |                          |                  | 0      |           |              |        |
| RF-DF-LD-UB | puga        |        | odqb |                  |                          |                  | 0      |           |              | P      |
| RF-DF-LD-UR | pugb        |        | odqc |                  |                          |                  | 0      |           |              |        |
| RF-DF-LD-BU | pugg        |        | odqf |                  |                          |                  | 0      |           |              |        |
| RF-DF-LD-RU | pugm        |        | odqg |                  |                          |                  | 0      |           |              |        |
| RF-DF-LD-FL | pugl        |        | odqi |                  |                          |                  | 0      |           |              |        |
| RF-DF-LD-LF | pugf        |        | odqj |                  |                          |                  | 0      |           |              |        |
| RF-DF-LD-LB | pugh        |        | odqk |                  |                          |                  | 0      |           |              |        |
| RF-DF-LD-BL | pugr        |        | odql |                  |                          |                  | 0      |           |              |        |
| RF-DF-LD-BR | pugt        |        | odqm |                  |                          |                  | 0      |           |              |        |
| RF-DF-LD-RB | pugn        |        | odqn |                  |                          |                  | 0      |           |              |        |
| RF-DF-LD-BD | pugs        |        | odqr |                  |                          |                  | 0      |           |              |        |
| RF-DF-LD-RD | pugo        |        | odqs |                  |                          |                  | 0      |           |              |        |
| RF-DF-LD-DB | pugw        |        | odqu |                  |                          |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa  | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|-------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |       |                  |                          |                  |        | 0         |              |        |
| RF-DF-LD-DR | pugv        |        | odqv  |                  |                          |                  |        | 0         |              |        |
| RF-DF-BD-UL | pusd        |        | odra  |                  |                          |                  |        | 0         |              |        |
| RF-DF-BD-UB | pusa        |        | odrb  |                  |                          |                  |        | 0         |              | P      |
| RF-DF-BD-UR | pushb       |        | odrc  |                  |                          |                  |        | 0         |              |        |
| RF-DF-BD-LU | puse        |        | odre  |                  |                          |                  |        | 0         |              |        |
| RF-DF-BD-BU | pusq        |        | odrf  |                  |                          |                  |        | 0         |              |        |
| RF-DF-BD-RU | pusm        |        | odrg  |                  |                          |                  |        | 0         |              |        |
| RF-DF-BD-FL | pusl        |        | odri  |                  |                          |                  |        | 0         |              |        |
| RF-DF-BD-LF | pusf        |        | odrj  |                  |                          |                  |        | 0         |              |        |
| RF-DF-BD-BL | pusr        |        | odrl  |                  |                          |                  |        | 0         |              |        |
| RF-DF-BD-BR | pushr       |        | odrm  |                  |                          |                  |        | 0         |              |        |
| RF-DF-BD-RD | puso        |        | odrs  |                  |                          |                  |        | 0         |              |        |
| RF-DF-BD-DL | pusx        |        | odrt  |                  |                          |                  |        | 0         |              | O      |
| RF-DF-RD-UL | puod        |        | odsaa |                  |                          |                  |        | 0         |              |        |
| RF-DF-RD-UB | puoa        |        | odsba |                  |                          |                  |        | 0         |              |        |
| RF-DF-RD-UR | puob        |        | odsc  |                  |                          |                  |        | 0         |              | O      |
| RF-DF-RD-LU | puoe        |        | odse  |                  |                          |                  |        | 0         |              | A      |
| RF-DF-RD-BU | puoq        |        | odsf  |                  |                          |                  |        | 0         |              | C      |
| RF-DF-RD-FL | puol        |        | odsi  |                  |                          |                  |        | 0         |              | A      |
| RF-DF-RD-LF | puof        |        | odsj  |                  |                          |                  |        | 0         |              |        |
| RF-DF-RD-LB | puoh        |        | odsk  |                  |                          |                  |        | 0         |              |        |
| RF-DF-RD-BR | puot        |        | odsm  |                  |                          |                  |        | 0         |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)     | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|------|------------------|------------------------------|------------------|--------|-----------|--------------|--------|
|   | RF-DF-RD-RB | puon   | odsn |                  |                              |                  | 0      |           |              |        |
|   | RF-DF-RD-FR | puoj   | odsp |                  |                              |                  | 0      |           |              |        |
|   | RF-DF-RD-LD | puog   | odsq |                  |                              |                  | 0      |           | L            |        |
|   | RF-DF-RD-BD | puos   | odsr |                  |                              |                  | 0      |           |              |        |
|   | RF-DF-DL-UL | pxud   | odta |                  |                              |                  | 0      |           |              |        |
|   | RF-DF-DL-UR | pxub   | odtc |                  |                              |                  | 0      |           |              |        |
|  | RF-DF-DL-LU | pxue   | odte | sajc nbmb kbt    | S U R U2 M' U' M U' R' U' S' |                  | 11     |           |              |        |
|   | RF-DF-DL-LB | pxuh   | odtk |                  |                              |                  | 0      |           |              |        |
|   | RF-DF-DL-BL | pxur   | odtl |                  |                              |                  | 0      |           | A            |        |
|   | RF-DF-DL-RD | pxuo   | odts |                  |                              |                  | 0      |           |              |        |
|   | RF-DF-DL-DB | pxuw   | odtu |                  |                              |                  | 0      |           |              |        |
|   | RF-DF-DL-DR | pxuv   | odtv |                  |                              |                  | 0      |           |              |        |
|   | RF-DF-DB-UL | puwd   | odua |                  |                              |                  | 0      |           |              |        |
|   | RF-DF-DB-UR | puwb   | oduc |                  |                              |                  | 0      |           |              |        |
|   | RF-DF-DB-LU | puwe   | odue |                  |                              |                  | 0      |           |              |        |
|   | RF-DF-DB-BU | puwq   | oduf |                  |                              |                  | 0      |           | L            |        |
|   | RF-DF-DB-RU | puwm   | odug |                  |                              |                  | 0      |           |              |        |
|   | RF-DF-DB-FL | puwl   | odui |                  |                              |                  | 0      |           |              |        |
|   | RF-DF-DB-LF | puwf   | oduj |                  |                              |                  | 0      |           |              |        |
|   | RF-DF-DB-LB | puwh   | oduk |                  |                              |                  | 0      |           |              |        |
|   | RF-DF-DB-RD | puwo   | odus |                  |                              |                  | 0      |           |              |        |
|   | RF-DF-DB-DL | puwx   | odut |                  |                              |                  | 0      |           |              |        |

| UF Diagram | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)   | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|--------|------|------------------|----------------------------|------------------|--------|-----------|--------------|--------|
|            | RF-DF-DB-DR | puwv   | oduv |                  |                            |                  | 0      |           |              |        |
|            | RF-DF-DR-UL | puvd   | odva |                  |                            |                  | 0      |           |              |        |
|            | RF-DF-DR-UB | puva   | odvb |                  |                            |                  | 0      |           |              |        |
|            | RF-DF-DR-LU | puve   | odve |                  |                            |                  | 0      |           |              |        |
|            | RF-DF-DR-BU | puvq   | odvf |                  |                            |                  | 0      |           |              |        |
|            | RF-DF-DR-FL | puvl   | odvi |                  |                            |                  | 0      |           |              |        |
|            | RF-DF-DR-LF | puvf   | odvj |                  |                            |                  | 0      |           | 0            |        |
|            | RF-DF-DR-LB | puvh   | odvk |                  |                            |                  | 0      |           |              |        |
|            | RF-DF-DR-BR | puvt   | odvm |                  |                            |                  | 0      |           |              |        |
|            | RF-DF-DR-RB | puvn   | odvn |                  |                            |                  | 0      |           | A            |        |
|            | RF-DF-DR-DL | puvx   | odvt |                  |                            |                  | 0      |           |              |        |
|            | RF-LU-UB-DF | peau   | oebd | jcnb mcna mk     | R U2 M' U' M U2 M' U r'    |                  | 10     |           |              |        |
|            | RF-LU-UB-FL | peal   | oebi |                  |                            |                  | 0      |           |              |        |
|            | RF-LU-UB-LB | peah   | oebk |                  |                            |                  | 0      |           |              |        |
|            | RF-LU-UB-BL | pear   | oebl |                  |                            |                  | 0      |           |              |        |
|            | RF-LU-UB-BR | peat   | oebm | jatb scta sak    | R U S' U' S U2 S' U S U R' |                  | 11     |           |              |        |
|            | RF-LU-UB-LD | peag   | oebq |                  |                            |                  | 0      |           | 0            |        |
|            | RF-LU-UB-DL | peax   | oebt |                  |                            |                  | 0      |           |              |        |
|            | RF-LU-UR-UB | peba   | oeqb |                  |                            |                  | 0      |           |              |        |
|            | RF-LU-UR-DF | pebu   | oeqd |                  |                            |                  | 0      |           | 0            |        |
|            | RF-LU-UR-BU | pebq   | oeqc |                  |                            |                  | 0      |           |              |        |
|            | RF-LU-UR-FL | pebl   | oeqi |                  |                            |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-LU-UR-LF | pebf        |        | oecj |                  |                          |                  |        | 0         |              |        |
| RF-LU-UR-BL | pebr        |        | oecl |                  |                          |                  |        | 0         |              |        |
| RF-LU-UR-BR | pebt        |        | oecm |                  |                          |                  |        | 0         |              |        |
| RF-LU-UR-RB | pebn        |        | oecn |                  |                          |                  |        | 0         |              |        |
| RF-LU-UR-LD | pebg        |        | oecq |                  |                          |                  |        | 0         |              |        |
| RF-LU-UR-BD | pebs        |        | oeqr |                  |                          |                  |        | 0         |              |        |
| RF-LU-UR-RD | pebo        |        | oeqs |                  |                          |                  |        | 0         |              |        |
| RF-LU-UR-DL | pebx        |        | oeqt |                  |                          |                  |        | 0         |              |        |
| RF-LU-UR-DB | pebw        |        | oequ |                  |                          |                  |        | 0         |              |        |
| RF-LU-UR-DR | pebv        |        | oeqv |                  |                          |                  |        | 0         |              | 0      |
| RF-LU-DF-BL | peur        |        | oedl |                  |                          |                  |        | 0         |              | 0      |
| RF-LU-DF-RB | peun        |        | oedn |                  |                          |                  |        | 0         |              |        |
| RF-LU-DF-LD | peug        |        | oedq |                  |                          |                  |        | 0         |              |        |
| RF-LU-DF-BD | peus        |        | oedr |                  |                          |                  |        | 0         |              |        |
| RF-LU-DF-RD | peuo        |        | oeds |                  |                          |                  |        | 0         |              |        |
| RF-LU-DF-DL | peux        |        | oedt |                  |                          |                  |        | 0         |              |        |
| RF-LU-DF-DR | peuv        |        | oedv |                  |                          |                  |        | 0         |              | 0      |
| RF-LU-BU-UR | peqb        |        | oefc |                  |                          |                  |        | 0         |              |        |
| RF-LU-BU-DF | pequ        |        | oefd |                  |                          |                  |        | 0         |              | 0      |
| RF-LU-BU-RU | peqm        |        | oefg |                  |                          |                  |        | 0         |              |        |
| RF-LU-BU-FU | peqj        |        | oefh |                  |                          |                  |        | 0         |              |        |
| RF-LU-BU-FL | peqj        |        | oefi |                  |                          |                  |        | 0         |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)        | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|------|------------------|---------------------------------|------------------|--------|-----------|--------------|--------|
|   |             |        |      |                  |                                 |                  |        |           |              |        |
|   | RF-LU-BU-LF | peqf   | oefj |                  |                                 |                  |        | 0         |              |        |
|  | RF-LU-BU-LB | peqh   | oefk | nhrg bhri amb ha | I' E2 L U' L' E2 L2 U M U' L' U |                  |        | 13        |              |        |
|   | RF-LU-BU-BL | peqr   | oefl |                  |                                 |                  |        | 0         |              | 0      |
|   | RF-LU-BU-BR | peqt   | oefm |                  |                                 |                  |        | 0         |              | 0      |
|   | RF-LU-BU-RB | peqn   | oefn |                  |                                 |                  |        | 0         |              |        |
|   | RF-LU-BU-FR | peqj   | oefp |                  |                                 |                  |        | 0         |              |        |
|   | RF-LU-BU-BD | peqs   | oefr |                  |                                 |                  |        | 0         |              |        |
|   | RF-LU-BU-RD | peqo   | oefs |                  |                                 |                  |        | 0         |              |        |
|   | RF-LU-BU-DR | peqv   | oefv |                  |                                 |                  |        | 0         |              | 0      |
|   | RF-LU-RU-UB | pema   | oegb |                  |                                 |                  |        | 0         |              | 0      |
|   | RF-LU-RU-BU | pemq   | oegf |                  |                                 |                  |        | 0         |              |        |
|   | RF-LU-RU-FL | peml   | oegi |                  |                                 |                  |        | 0         |              |        |
|   | RF-LU-RU-LF | pemf   | oegj |                  |                                 |                  |        | 0         |              |        |
|   | RF-LU-RU-LB | pemh   | oegk |                  |                                 |                  |        | 0         |              |        |
|   | RF-LU-RU-BL | pemr   | oegl |                  |                                 |                  |        | 0         |              | 0      |
|   | RF-LU-RU-BR | pemt   | oegm |                  |                                 |                  |        | 0         |              |        |
|   | RF-LU-RU-RB | pemn   | oegn |                  |                                 |                  |        | 0         |              | 0      |
|   | RF-LU-RU-LD | pemg   | oegq |                  |                                 |                  |        | 0         |              |        |
|   | RF-LU-RU-RD | pemo   | oegs |                  |                                 |                  |        | 0         |              |        |
|   | RF-LU-RU-DL | pemx   | oegt |                  |                                 |                  |        | 0         |              |        |
|   | RF-LU-FU-BD | peis   | oehr |                  |                                 |                  |        | 0         |              |        |
|   | RF-LU-FU-DL | peix   | oeht |                  |                                 |                  |        | 0         |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-LU-FL-UB | pela        |        | oeib |                  |                          |                  |        | 0         |              |        |
| RF-LU-FL-UR | pelb        |        | oeic |                  |                          |                  |        | 0         |              |        |
| RF-LU-FL-DF | pelu        |        | oeid |                  |                          |                  |        | 0         |              |        |
| RF-LU-FL-BU | pelq        |        | oeif |                  |                          |                  |        | 0         |              |        |
| RF-LU-FL-RU | pelm        |        | oeig |                  |                          |                  |        | 0         |              |        |
| RF-LU-FL-FU | peli        |        | oeih |                  |                          |                  |        | 0         |              |        |
| RF-LU-FL-LB | pelh        |        | oeik |                  |                          |                  |        | 0         |              |        |
| RF-LU-FL-BL | pelr        |        | oeil |                  |                          |                  |        | 0         |              |        |
| RF-LU-FL-BR | pelt        |        | oeim |                  |                          |                  |        | 0         |              |        |
| RF-LU-FL-RB | peln        |        | oein |                  |                          |                  |        | 0         |              |        |
| RF-LU-FL-LD | pelg        |        | oeiq |                  |                          |                  |        | 0         |              |        |
| RF-LU-FL-BD | pels        |        | oeir |                  |                          |                  |        | 0         |              |        |
| RF-LU-FL-RD | peло        |        | oeis |                  |                          |                  |        | 0         |              | 0      |
| RF-LU-FL-DL | pelx        |        | oeit |                  |                          |                  |        | 0         |              |        |
| RF-LU-FL-DB | pelw        |        | oeiu |                  |                          |                  |        | 0         |              |        |
| RF-LU-FL-DR | pelv        |        | oeiv |                  |                          |                  |        | 0         |              |        |
| RF-LU-LF-UB | pefa        |        | oejb |                  |                          |                  |        | 0         |              |        |
| RF-LU-LF-UR | pefb        |        | oejc |                  |                          |                  |        | 0         |              |        |
| RF-LU-LF-BU | pefq        |        | oejf |                  |                          |                  |        | 0         |              |        |
| RF-LU-LF-RU | pefm        |        | oejg |                  |                          |                  |        | 0         |              |        |
| RF-LU-LF-LB | pefh        |        | oejk |                  |                          |                  |        | 0         |              | 0      |
| RF-LU-LF-BL | pefr        |        | oejl |                  |                          |                  |        | 0         |              | 0      |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-LU-LF-BR | peft        |        | oejm |                  |                          |                  |        | 0         |              |        |
| RF-LU-LF-RB | pefn        |        | oejn |                  |                          |                  |        | 0         |              |        |
| RF-LU-LF-LD | pefg        |        | oejq |                  |                          |                  |        | 0         |              |        |
| RF-LU-LF-RD | pefo        |        | oejs |                  |                          |                  |        | 0         |              |        |
| RF-LU-LF-DL | pefx        |        | oejt |                  |                          |                  |        | 0         | 0            |        |
| RF-LU-LF-DR | pefv        |        | oejv |                  |                          |                  |        | 0         |              |        |
| RF-LU-LB-UB | peha        |        | oekb |                  |                          |                  |        | 0         |              |        |
| RF-LU-LB-UR | pehb        |        | oekc |                  |                          |                  |        | 0         |              |        |
| RF-LU-LB-BU | pehq        |        | oekf |                  |                          |                  |        | 0         | 0            |        |
| RF-LU-LB-FL | pehl        |        | oeki |                  |                          |                  |        | 0         |              |        |
| RF-LU-LB-BR | peht        |        | oekm |                  |                          |                  |        | 0         |              |        |
| RF-LU-LB-RB | pehn        |        | oekn |                  |                          |                  |        | 0         |              |        |
| RF-LU-LB-LD | pehg        |        | oekq |                  |                          |                  |        | 0         |              |        |
| RF-LU-BL-UB | pera        |        | oelb |                  |                          |                  |        | 0         |              |        |
| RF-LU-BL-BU | perq        |        | oelf |                  |                          |                  |        | 0         |              |        |
| RF-LU-BL-RU | perm        |        | oelg |                  |                          |                  |        | 0         |              |        |
| RF-LU-BL-FL | perl        |        | oeli |                  |                          |                  |        | 0         |              |        |
| RF-LU-BL-LF | perf        |        | oelj |                  |                          |                  |        | 0         | 0            |        |
| RF-LU-BL-LD | perg        |        | oelq |                  |                          |                  |        | 0         |              |        |
| RF-LU-BL-BD | pers        |        | oelr |                  |                          |                  |        | 0         |              |        |
| RF-LU-BL-RD | pero        |        | oels |                  |                          |                  |        | 0         |              |        |
| RF-LU-BL-DB | perw        |        | oelu |                  |                          |                  |        | 0         |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|   | RF-LU-BL-DR | perv   | oelv |                  |                          |                  | 0      |           |              |        |
|   | RF-LU-BR-UB | peta   | oemb |                  |                          |                  | 0      |           |              |        |
|   | RF-LU-BR-DF | petu   | oemd |                  |                          |                  | 0      |           |              |        |
|   | RF-LU-BR-BU | petq   | oemf |                  |                          |                  | 0      |           |              |        |
|   | RF-LU-BR-FU | peti   | oemh |                  |                          |                  | 0      |           | 0            |        |
|   | RF-LU-BR-FL | petl   | oemi |                  |                          |                  | 0      |           | 0            |        |
|   | RF-LU-BR-LF | petf   | oemj |                  |                          |                  | 0      |           |              |        |
|   | RF-LU-BR-LB | peth   | oemk |                  |                          |                  | 0      |           |              |        |
|   | RF-LU-BR-BD | pets   | oemr |                  |                          |                  | 0      |           |              |        |
|   | RF-LU-BR-DB | petw   | oemu |                  |                          |                  | 0      |           |              |        |
|   | RF-LU-RB-UB | pena   | oenb |                  |                          |                  | 0      |           |              |        |
|   | RF-LU-RB-UR | penb   | oenc |                  |                          |                  | 0      |           |              |        |
|   | RF-LU-RB-DF | penu   | oend |                  |                          |                  | 0      |           |              |        |
|   | RF-LU-RB-BU | penq   | oenf |                  |                          |                  | 0      |           |              |        |
|   | RF-LU-RB-FU | peni   | oenh |                  |                          |                  | 0      |           |              |        |
|   | RF-LU-RB-LB | penh   | oenk |                  |                          |                  | 0      |           |              |        |
|  | RF-LU-RB-LD | peng   | oenq | ktbs csb tj      | R' S' U' S U2 S U' S' R  |                  | 9      |           |              |        |
|   | RF-LU-RB-DL | penx   | oent |                  |                          |                  | 0      |           |              |        |
|   | RF-LU-FR-UL | pejd   | oepa |                  |                          |                  | 0      |           | L            |        |
|   | RF-LU-FR-BU | pejq   | oepf |                  |                          |                  | 0      |           |              |        |
|   | RF-LU-FR-LD | pejg   | oepq |                  |                          |                  | 0      |           |              |        |
|   | RF-LU-FR-DL | pejx   | oept |                  |                          |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-LU-LD-UR | pegb        |        | oeqc |                  |                          |                  |        | 0         |              |        |
| RF-LU-LD-RU | pegm        |        | oeqq |                  |                          |                  |        | 0         |              |        |
| RF-LU-LD-FL | pegl        |        | oeqi |                  |                          |                  |        | 0         |              |        |
| RF-LU-LD-BR | pegt        |        | oeqm |                  |                          |                  |        | 0         |              |        |
| RF-LU-LD-RB | pegn        |        | oeqn |                  |                          |                  |        | 0         |              |        |
| RF-LU-LD-BD | pegs        |        | oeqr |                  |                          |                  |        | 0         |              |        |
| RF-LU-LD-DR | pegv        |        | oeqv |                  |                          |                  |        | 0         |              |        |
| RF-LU-BD-UR | pesb        |        | oerc |                  |                          |                  |        | 0         |              |        |
| RF-LU-BD-RU | pesm        |        | oerg |                  |                          |                  |        | 0         |              | 0      |
| RF-LU-BD-FU | pesi        |        | oerh |                  |                          |                  |        | 0         |              |        |
| RF-LU-BD-FL | pesl        |        | oeri |                  |                          |                  |        | 0         |              | 0      |
| RF-LU-BD-BL | pesr        |        | oerl |                  |                          |                  |        | 0         |              |        |
| RF-LU-BD-RB | pesn        |        | oern |                  |                          |                  |        | 0         |              |        |
| RF-LU-BD-LD | pesg        |        | oerq |                  |                          |                  |        | 0         |              |        |
| RF-LU-BD-RD | peso        |        | oers |                  |                          |                  |        | 0         |              |        |
| RF-LU-BD-DL | pesx        |        | oert |                  |                          |                  |        | 0         |              |        |
| RF-LU-RD-UR | peob        |        | oesc |                  |                          |                  |        | 0         |              |        |
| RF-LU-RD-BU | peoq        |        | oesf |                  |                          |                  |        | 0         |              |        |
| RF-LU-RD-FU | peoi        |        | oesh |                  |                          |                  |        | 0         |              | L      |
| RF-LU-RD-FL | peol        |        | oesi |                  |                          |                  |        | 0         |              |        |
| RF-LU-RD-LB | peoh        |        | oesk |                  |                          |                  |        | 0         |              |        |
| RF-LU-RD-BL | peor        |        | oesl |                  |                          |                  |        | 0         |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa  | Yo Notation (UF) | Singmaster Notation (UF)  | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|-------|------------------|---------------------------|------------------|--------|-----------|--------------|--------|
|   | RF-LU-RD-BR | peot   | oesm  |                  |                           |                  | 0      |           |              |        |
|   | RF-LU-RD-RB | peon   | oesn  |                  |                           |                  | 0      |           |              |        |
|   | RF-LU-RD-FR | peoj   | oesp  |                  |                           |                  | 0      |           |              |        |
|   | RF-LU-RD-LD | peog   | oesq  |                  |                           |                  | 0      |           |              |        |
|   | RF-LU-RD-DL | peox   | oest  |                  |                           |                  | 0      |           |              |        |
|   | RF-LU-RD-DB | peow   | oesu  |                  |                           |                  | 0      |           |              | A      |
|   | RF-LU-DL-UB | pexa   | oetb  |                  |                           |                  | 0      |           |              | O      |
|   | RF-LU-DL-UR | pexb   | oetc  |                  |                           |                  | 0      |           |              |        |
|   | RF-LU-DL-BU | pexq   | oetf  |                  |                           |                  | 0      |           |              |        |
|   | RF-LU-DL-RU | pexm   | oetg  | nwis atbi vm     | M' F' L2 S U S' U' L2 F M |                  | 10     |           |              |        |
|   | RF-LU-DL-FL | pexl   | oeti  |                  |                           |                  | 0      |           |              | C      |
|   | RF-LU-DL-LF | pexf   | oetj  |                  |                           |                  | 0      |           |              |        |
|   | RF-LU-DL-LB | pexh   | oetk  |                  |                           |                  | 0      |           |              | O      |
|   | RF-LU-DL-BL | pexr   | oetyl |                  |                           |                  | 0      |           |              |        |
|  | RF-LU-DL-BR | pext   | oetm  |                  |                           |                  | 0      |           |              |        |
|  | RF-LU-DL-RB | pexn   | oetn  | ajsk bvkt jw     | U R S R' U' F R' S' R F'  |                  | 10     |           |              |        |
|   | RF-LU-DL-BD | pexs   | oetr  |                  |                           |                  | 0      |           |              |        |
|   | RF-LU-DL-RD | pexo   | oets  |                  |                           |                  | 0      |           |              | A      |
|   | RF-LU-DL-DB | pexw   | oetu  |                  |                           |                  | 0      |           |              |        |
|   | RF-LU-DL-DR | pexv   | oetv  |                  |                           |                  | 0      |           |              | O      |
|   | RF-LU-DB-UL | pewd   | oeua  |                  |                           |                  | 0      |           |              |        |
|   | RF-LU-DB-UB | pewa   | oeub  |                  |                           |                  | 0      |           |              |        |

| UF Diagram | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)      | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|--------|------|------------------|-------------------------------|------------------|--------|-----------|--------------|--------|
|            | RF-LU-DB-UR | pewb   | oeuc |                  |                               |                  | 0      |           |              |        |
|            | RF-LU-DB-BU | pewq   | oeuf |                  |                               |                  | 0      |           |              |        |
|            | RF-LU-DB-RU | pewm   | oeug |                  |                               |                  | 0      |           | 0            |        |
|            | RF-LU-DB-FL | pewl   | oeui |                  |                               |                  | 0      |           |              |        |
|            | RF-LU-DB-LF | pewf   | oeuj |                  |                               |                  | 0      |           |              |        |
|            | RF-LU-DB-LB | pewh   | oeuk |                  |                               |                  | 0      |           | 0            |        |
|            | RF-LU-DB-BL | pewr   | oeul | vbiw nwmx iaw    | F U' L2 F' M' F' M F2 L2 U F' |                  | 11     |           |              |        |
|            | RF-LU-DB-BR | pewt   | oeum |                  |                               |                  | 0      |           |              |        |
|            | RF-LU-DB-RB | pewn   | oeun |                  |                               |                  | 0      |           |              |        |
|            | RF-LU-DB-LD | pewg   | oeuq |                  |                               |                  | 0      |           |              |        |
|            | RF-LU-DB-RD | pewo   | oeus |                  |                               |                  | 0      |           |              |        |
|            | RF-LU-DB-DL | pewx   | oeut |                  |                               |                  | 0      |           |              |        |
|            | RF-LU-DB-DR | pewv   | oeuv |                  |                               |                  | 0      |           |              |        |
|            | RF-LU-DR-UL | pevd   | oeva |                  |                               |                  | 0      |           |              |        |
|            | RF-LU-DR-DF | pevu   | oevd |                  |                               |                  | 0      |           |              |        |
|            | RF-LU-DR-BU | pevq   | oevf |                  |                               |                  | 0      |           |              |        |
|            | RF-LU-DR-FL | pevl   | oevi |                  |                               |                  | 0      |           |              |        |
|            | RF-LU-DR-DB | pevw   | oevu |                  |                               |                  | 0      |           |              |        |
|            | RF-BU-UL-UB | pqda   | ofab |                  |                               |                  | 0      |           |              |        |
|            | RF-BU-UL-DF | pqdu   | ofad |                  |                               |                  | 0      |           |              |        |
|            | RF-BU-UL-RB | pqdn   | ofan |                  |                               |                  | 0      |           |              |        |
|            | RF-BU-UL-FR | pqdj   | ofap |                  |                               |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)       | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|------|------------------|--------------------------------|------------------|--------|-----------|--------------|--------|
|   |             |        |      |                  |                                |                  |        |           |              |        |
|   | RF-BU-UL-LD | pqdg   | ofaq |                  |                                |                  |        | 0         |              |        |
|    | RF-BU-UL-DL | pqdx   | ofat | jbsb tasb tck    | R U' S U' S' U S U' S' U2 R'   |                  |        | 11        |              |        |
|   | RF-BU-UB-LF | pqaf   | ofbj |                  |                                |                  |        | 0         |              | A      |
|    | RF-BU-UR-UL | pqbd   | ofca | vnja makb whc ga | F r U M U R' U' F' L' U2 L U   |                  |        | 13        |              | O      |
|   | RF-BU-UR-DF | pqbu   | ofcd |                  |                                |                  |        | 0         |              |        |
|   | RF-BU-UR-LU | pqbe   | ofce |                  |                                |                  |        | 0         |              |        |
|   | RF-BU-UR-FU | pqbi   | ofch |                  |                                |                  |        | 0         |              |        |
|   | RF-BU-UR-FL | pqbl   | ofci |                  |                                |                  |        | 0         |              |        |
|   | RF-BU-UR-LF | pqbf   | ofcj |                  |                                |                  |        | 0         |              |        |
|   | RF-BU-UR-LB | pqbh   | ofck |                  |                                |                  |        | 0         |              |        |
|   | RF-BU-UR-BR | pqbt   | ofcm |                  |                                |                  |        | 0         |              |        |
|   | RF-BU-UR-RB | pqbn   | ofcn |                  |                                |                  |        | 0         |              | O      |
|   | RF-BU-UR-LD | pqbg   | ofcq |                  |                                |                  |        | 0         |              |        |
|   | RF-BU-UR-BD | pqbs   | ofcr |                  |                                |                  |        | 0         |              |        |
|   | RF-BU-UR-RD | pqbo   | ofcs |                  |                                |                  |        | 0         |              | A      |
|   | RF-BU-UR-DL | pqbx   | ofct |                  |                                |                  |        | 0         |              | A      |
|   | RF-BU-UR-DB | pqbw   | ofcu |                  |                                |                  |        | 0         |              |        |
|  | RF-BU-UR-DR | pqbv   | ofcv | sals lbwb tavt   | S U R2 S R2 U' F' U' S' U F S' |                  |        | 12        |              | O      |
|   | RF-BU-DF-LU | pque   | ofde |                  |                                |                  |        | 0         |              |        |
|   | RF-BU-DF-BR | pqut   | ofdm |                  |                                |                  |        | 0         |              | L      |
|   | RF-BU-DF-LD | pqug   | ofdq |                  |                                |                  |        | 0         |              | A      |
|   | RF-BU-DF-RD | pquo   | ofds |                  |                                |                  |        | 0         |              | O      |

| UF Diagram | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)     | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|--------|------|------------------|------------------------------|------------------|--------|-----------|--------------|--------|
|            | RF-BU-DF-DB | pquw   | ofdu |                  |                              |                  | 0      |           |              |        |
|            | RF-BU-LU-UB | pqea   | ofeb |                  |                              |                  | 0      |           |              |        |
|            | RF-BU-LU-UR | pqeb   | ofec |                  |                              |                  | 0      |           |              |        |
|            | RF-BU-LU-DF | pqeu   | ofed |                  |                              |                  | 0      |           |              |        |
|            | RF-BU-LU-FL | pqel   | ofei |                  |                              |                  | 0      |           |              |        |
|            | RF-BU-LU-LB | pqeh   | ofek |                  |                              |                  | 0      |           |              |        |
|            | RF-BU-LU-RB | pqen   | ofen |                  |                              |                  | 0      |           |              |        |
|            | RF-BU-LU-LD | pqeg   | ofeq | njsh agat mbkw   | r S L' U L U S' M U' R' F'   |                  | 12     |           |              |        |
|            | RF-BU-LU-BD | pqes   | ofer |                  |                              |                  | 0      |           | A            |        |
|            | RF-BU-LU-RD | pqeo   | ofes |                  |                              |                  | 0      |           |              |        |
|            | RF-BU-LU-DB | pqew   | ofeu | xmwa nbwb nam    | F2 M F' U M' U' F' U' M' U M |                  | 11     |           |              |        |
|            | RF-BU-LU-DR | pqev   | ofev |                  |                              |                  | 0      |           |              |        |
|            | RF-BU-RU-UL | pqmd   | ofga |                  |                              |                  | 0      |           |              |        |
|            | RF-BU-RU-UB | pqma   | ofgb |                  |                              |                  | 0      |           |              |        |
|            | RF-BU-RU-LU | pqme   | ofge |                  |                              |                  | 0      |           |              |        |
|            | RF-BU-RU-FU | pqmi   | ofgh |                  |                              |                  | 0      |           |              |        |
|            | RF-BU-RU-FL | pqml   | ofgi |                  |                              |                  | 0      |           |              |        |
|            | RF-BU-RU-LF | pqmf   | ofgj |                  |                              |                  | 0      |           |              |        |
|            | RF-BU-RU-RB | pqmn   | ofgn |                  |                              |                  | 0      |           |              |        |
|            | RF-BU-RU-LD | pqmg   | ofgq |                  |                              |                  | 0      |           |              |        |
|            | RF-BU-RU-RD | pqmo   | ofgs | wkbk wkav jax    | F' R' U' R' F' R' U F R U F2 |                  | 11     |           |              |        |
|            | RF-BU-RU-DL | pqmx   | ofgt |                  |                              |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-BU-RU-DR | pqmv        | ofgv   |      |                  |                          |                  | 0      |           |              |        |
| RF-BU-FU-FL | pqlil       | ofhi   |      |                  |                          |                  | 0      |           |              |        |
| RF-BU-FU-LF | pqif        | ofhj   |      |                  |                          |                  | 0      |           |              |        |
| RF-BU-FU-BD | pqis        | ofhr   |      |                  |                          |                  | 0      |           |              | A      |
| RF-BU-FU-RD | pqio        | ofhs   |      |                  |                          |                  | 0      |           |              |        |
| RF-BU-FU-DL | pqix        | ofht   |      |                  |                          |                  | 0      |           |              |        |
| RF-BU-FL-UL | pqld        | ofia   |      |                  |                          |                  | 0      |           |              |        |
| RF-BU-FL-UR | pqlb        | ofic   |      |                  |                          |                  | 0      |           |              | O      |
| RF-BU-FL-LU | pqle        | ofie   |      |                  |                          |                  | 0      |           |              | P      |
| RF-BU-FL-RU | pqlm        | ofig   |      |                  |                          |                  | 0      |           |              |        |
| RF-BU-FL-FU | pqli        | ofih   |      |                  |                          |                  | 0      |           |              |        |
| RF-BU-FL-RB | pqln        | ofin   |      |                  |                          |                  | 0      |           |              |        |
| RF-BU-FL-LD | pqlg        | ofiq   |      |                  |                          |                  | 0      |           |              | O      |
| RF-BU-FL-RD | pqlo        | ofis   |      |                  |                          |                  | 0      |           |              |        |
| RF-BU-FL-DL | pqlx        | ofit   |      |                  |                          |                  | 0      |           |              |        |
| RF-BU-FL-DR | pqlv        | ofiv   |      |                  |                          |                  | 0      |           |              |        |
| RF-BU-LF-UB | pqfa        | ofjb   |      |                  |                          |                  | 0      |           |              |        |
| RF-BU-LF-RU | pqfm        | ofjg   |      |                  |                          |                  | 0      |           |              |        |
| RF-BU-LF-LB | pqfh        | ofjk   |      |                  |                          |                  | 0      |           |              |        |
| RF-BU-LF-BL | pqfr        | ofjl   |      |                  |                          |                  | 0      |           |              | O      |
| RF-BU-LF-RB | pqfn        | ofjn   |      |                  |                          |                  | 0      |           |              |        |
| RF-BU-LF-RD | pqfo        | ofjs   |      |                  |                          |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-BU-LF-DB | pqfw        | ofju   |      |                  |                          |                  | 0      |           |              |        |
| RF-BU-LF-DR | pqfv        | ofjv   |      |                  |                          |                  | 0      |           |              |        |
| RF-BU-LB-RU | pqhm        | ofkg   |      |                  |                          |                  | 0      |           |              |        |
| RF-BU-LB-BR | pqht        | ofkm   |      |                  |                          |                  | 0      |           |              |        |
| RF-BU-LB-RB | pqhn        | ofkn   |      |                  |                          |                  | 0      |           |              |        |
| RF-BU-LB-BD | pqhs        | ofkr   |      |                  |                          |                  | 0      |           | A            |        |
| RF-BU-LB-DL | pqhx        | ofkt   |      |                  |                          |                  | 0      |           |              |        |
| RF-BU-LB-DR | pqhv        | ofkv   |      |                  |                          |                  | 0      |           | O            |        |
| RF-BU-BL-LU | pqre        | ofle   |      |                  |                          |                  | 0      |           |              |        |
| RF-BU-BL-LF | pqrf        | oflj   |      |                  |                          |                  | 0      |           |              |        |
| RF-BU-BL-BR | pqrt        | oflm   |      |                  |                          |                  | 0      |           |              |        |
| RF-BU-BL-BD | pqrs        | oflr   |      |                  |                          |                  | 0      |           |              |        |
| RF-BU-BL-DB | pqrw        | oflu   |      |                  |                          |                  | 0      |           |              |        |
| RF-BU-BL-DR | pqrw        | oflv   |      |                  |                          |                  | 0      |           |              |        |
| RF-BU-BR-UL | pqtd        | ofma   |      |                  |                          |                  | 0      |           |              |        |
| RF-BU-BR-UR | pqtb        | ofmc   |      |                  |                          |                  | 0      |           |              |        |
| RF-BU-BR-DF | pqtu        | ofmd   |      |                  |                          |                  | 0      |           |              |        |
| RF-BU-BR-RU | pqtu        | ofmg   |      |                  |                          |                  | 0      |           | O            |        |
| RF-BU-BR-FL | pqlt        | ofmi   |      |                  |                          |                  | 0      |           |              |        |
| RF-BU-BR-LF | pqtf        | ofmj   |      |                  |                          |                  | 0      |           |              |        |
| RF-BU-BR-LB | pqth        | ofmk   |      |                  |                          |                  | 0      |           |              |        |
| RF-BU-BR-BL | pqtr        | ofml   |      |                  |                          |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-BU-BR-LD | pqtg        | ofmq   |      |                  |                          |                  | 0      |           |              |        |
| RF-BU-BR-RD | pqto        | ofms   |      |                  |                          |                  | 0      |           |              |        |
| RF-BU-BR-DB | pqtw        | ofmu   |      |                  |                          |                  | 0      |           |              |        |
| RF-BU-RB-UR | pqnb        | ofnc   |      |                  |                          |                  | 0      |           |              |        |
| RF-BU-RB-RU | pqnm        | ofng   |      |                  |                          |                  | 0      |           |              |        |
| RF-BU-RB-FU | pqni        | ofnh   |      |                  |                          |                  | 0      |           |              |        |
| RF-BU-RB-LD | pqng        | ofnq   |      |                  |                          |                  | 0      |           |              |        |
| RF-BU-RB-BD | pqns        | ofnr   |      |                  |                          |                  | 0      |           |              |        |
| RF-BU-RB-DR | pqnv        | ofnv   |      |                  |                          |                  | 0      |           |              |        |
| RF-BU-FR-UL | pqjd        | ofpa   |      |                  |                          |                  | 0      |           | 0            |        |
| RF-BU-LD-UL | pqgd        | ofqa   |      |                  |                          |                  | 0      |           |              |        |
| RF-BU-LD-DF | pqgu        | ofqd   |      |                  |                          |                  | 0      |           |              |        |
| RF-BU-LD-LU | pqge        | ofqe   |      |                  |                          |                  | 0      |           |              |        |
| RF-BU-LD-RU | pqgm        | ofqg   |      |                  |                          |                  | 0      |           |              |        |
| RF-BU-LD-FU | pqgi        | ofqh   |      |                  |                          |                  | 0      |           |              |        |
| RF-BU-LD-FL | pqgl        | ofqi   |      |                  |                          |                  | 0      |           |              |        |
| RF-BU-LD-LF | pqgf        | ofqj   |      |                  |                          |                  | 0      |           |              |        |
| RF-BU-LD-BR | pqgt        | ofqm   |      |                  |                          |                  | 0      |           |              |        |
| RF-BU-LD-BD | pqgs        | ofqr   |      |                  |                          |                  | 0      |           | F            |        |
| RF-BU-LD-DB | pqgw        | ofqu   |      |                  |                          |                  | 0      |           |              |        |
| RF-BU-BD-DF | pqsu        | ofrd   |      |                  |                          |                  | 0      |           |              | A      |
| RF-BU-BD-LU | pqse        | ofre   |      |                  |                          |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        |           |              |        |
| RF-BU-BD-RU | pqsm        |        | ofrg |                  |                          |                  | 0      |           |              | A      |
| RF-BU-BD-FU | pqsi        |        | ofrh |                  |                          |                  | 0      |           |              |        |
| RF-BU-BD-FL | pqsl        |        | ofri |                  |                          |                  | 0      |           |              |        |
| RF-BU-BD-LF | pqsf        |        | ofrj |                  |                          |                  | 0      |           |              |        |
| RF-BU-BD-BR | pqst        |        | ofrm |                  |                          |                  | 0      |           |              |        |
| RF-BU-BD-RB | pqsn        |        | ofrn |                  |                          |                  | 0      |           |              |        |
| RF-BU-BD-DL | pqsx        |        | ofrt |                  |                          |                  | 0      |           |              |        |
| RF-BU-BD-DB | pqsw        |        | ofru |                  |                          |                  | 0      |           |              |        |
| RF-BU-BD-DR | pqsv        |        | ofrv |                  |                          |                  | 0      |           |              |        |
| RF-BU-RD-UL | pqod        |        | ofsa |                  |                          |                  | 0      |           |              |        |
| RF-BU-RD-UR | pqob        |        | ofsc |                  |                          |                  | 0      |           |              |        |
| RF-BU-RD-DF | pqou        |        | ofsd |                  |                          |                  | 0      |           |              |        |
| RF-BU-RD-LU | pqoe        |        | ofse |                  |                          |                  | 0      |           |              |        |
| RF-BU-RD-FU | pqoi        |        | ofsh |                  |                          |                  | 0      |           |              |        |
| RF-BU-RD-BL | pqor        |        | ofsl |                  |                          |                  | 0      |           |              |        |
| RF-BU-RD-BR | pqot        |        | ofsm |                  |                          |                  | 0      |           |              |        |
| RF-BU-RD-RB | pqon        |        | ofsn |                  |                          |                  | 0      |           |              |        |
| RF-BU-RD-FR | pqoj        |        | ofsp |                  |                          |                  | 0      |           |              |        |
| RF-BU-RD-LD | pqog        |        | ofsq |                  |                          |                  | 0      |           |              |        |
| RF-BU-RD-BD | pqos        |        | ofsr |                  |                          |                  | 0      |           |              |        |
| RF-BU-RD-DL | pqox        |        | ofst |                  |                          |                  | 0      |           |              |        |
| RF-BU-RD-DB | pqow        |        | ofsu |                  |                          |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-BU-DL-UR | pqxb        |        | oftc |                  |                          |                  |        | 0         |              |        |
| RF-BU-DL-DF | pqxu        |        | oftd |                  |                          |                  |        | 0         |              |        |
| RF-BU-DL-LU | pqxe        |        | ofte |                  |                          |                  |        | 0         |              |        |
| RF-BU-DL-RU | pqxm        |        | oftg |                  |                          |                  |        | 0         |              |        |
| RF-BU-DL-FU | pqxi        |        | ofth |                  |                          |                  |        | 0         |              |        |
| RF-BU-DL-FL | pqxl        |        | ofti |                  |                          |                  |        | 0         |              |        |
| RF-BU-DL-LB | pqxh        |        | oftk |                  |                          |                  |        | 0         |              |        |
| RF-BU-DL-BL | pqxr        |        | oftl |                  |                          |                  |        | 0         |              |        |
| RF-BU-DL-BR | pqxt        |        | oftm |                  |                          |                  |        | 0         |              |        |
| RF-BU-DL-RB | pqxn        |        | oftn |                  |                          |                  |        | 0         |              | L      |
| RF-BU-DL-FR | pqxj        |        | oftp |                  |                          |                  |        | 0         |              |        |
| RF-BU-DL-BD | pqxs        |        | oftr |                  |                          |                  |        | 0         |              |        |
| RF-BU-DL-DB | pqxw        |        | oftu |                  |                          |                  |        | 0         |              |        |
| RF-BU-DB-UL | pqwd        |        | ofua |                  |                          |                  |        | 0         |              |        |
| RF-BU-DB-LU | pqwe        |        | ofue |                  |                          |                  |        | 0         |              |        |
| RF-BU-DB-RU | pqwm        |        | ofug |                  |                          |                  |        | 0         |              |        |
| RF-BU-DB-FU | pqwi        |        | ofuh |                  |                          |                  |        | 0         |              |        |
| RF-BU-DB-FL | pqwl        |        | ofui |                  |                          |                  |        | 0         |              |        |
| RF-BU-DB-LF | pqwf        |        | ofuj |                  |                          |                  |        | 0         |              |        |
| RF-BU-DB-BR | pqwt        |        | ofum |                  |                          |                  |        | 0         |              |        |
| RF-BU-DB-RB | pqwn        |        | ofun |                  |                          |                  |        | 0         |              |        |
| RF-BU-DB-LD | pqwg        |        | ofuq |                  |                          |                  |        | 0         |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-BU-DB-RD | pqwo        |        | ofus |                  |                          |                  |        | 0         |              |        |
| RF-BU-DB-DR | pqwv        |        | ofuv |                  |                          |                  |        | 0         |              |        |
| RF-BU-DR-UL | pqvd        |        | ofva |                  |                          |                  |        | 0         |              |        |
| RF-BU-DR-UR | pqvb        |        | ofvc |                  |                          |                  |        | 0         |              |        |
| RF-BU-DR-DF | pqvu        |        | ofvd |                  |                          |                  |        | 0         |              |        |
| RF-BU-DR-LU | pqve        |        | ofve |                  |                          |                  |        | 0         |              |        |
| RF-BU-DR-RU | pqvm        |        | ofvg |                  |                          |                  |        | 0         |              |        |
| RF-BU-DR-LF | pqvf        |        | ofvj |                  |                          |                  |        | 0         |              |        |
| RF-BU-DR-LB | pqvh        |        | ofvk |                  |                          |                  |        | 0         |              |        |
| RF-BU-DR-BL | pqvr        |        | ofvl |                  |                          |                  |        | 0         |              |        |
| RF-BU-DR-BR | pqvt        |        | ofvm |                  |                          |                  |        | 0         |              |        |
| RF-RU-UL-UB | pmda        |        | ogab |                  |                          |                  |        | 0         |              |        |
| RF-RU-UL-DF | pmdu        |        | ogad |                  |                          |                  |        | 0         |              |        |
| RF-RU-UL-BU | pmdq        |        | ogaf |                  |                          |                  |        | 0         |              |        |
| RF-RU-UL-FU | pmdi        |        | ogah |                  |                          |                  |        | 0         |              |        |
| RF-RU-UL-FL | pmdl        |        | ogai |                  |                          |                  |        | 0         |              |        |
| RF-RU-UL-LF | pmdf        |        | ogaj |                  |                          |                  |        | 0         |              |        |
| RF-RU-UL-LB | pmdh        |        | ogak |                  |                          |                  |        | 0         |              |        |
| RF-RU-UL-BL | pmdr        |        | ogal |                  |                          |                  |        | 0         |              |        |
| RF-RU-UL-BR | pmdt        |        | ogam |                  |                          |                  |        | 0         |              |        |
| RF-RU-UL-RB | pmdn        |        | ogan |                  |                          |                  |        | 0         |              |        |
| RF-RU-UL-FR | pmdj        |        | ogap |                  |                          |                  |        | 0         |              |        |

| UF Diagram | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)  | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|--------|------|------------------|---------------------------|------------------|--------|-----------|--------------|--------|
|            |             |        |      |                  |                           |                  |        |           |              |        |
|            | RF-RU-UL-LD | pmdg   | ogaq |                  |                           |                  |        | 0         |              |        |
|            | RF-RU-UL-BD | pmgs   | ogar | ajam bknb        | U R U M U' R' M' U'       |                  |        | 8         |              |        |
|            | RF-RU-UL-RD | pmgo   | ogas |                  |                           |                  |        | 0         |              |        |
|            | RF-RU-UL-DL | pmgd   | ogat |                  |                           |                  |        | 0         |              |        |
|            | RF-RU-UL-DR | pmdv   | ogav |                  |                           |                  |        | 0         |              |        |
|            | RF-RU-UB-UL | pmad   | ogba | ojet dkds eo     | M2 R D' S' D R' D S D' M2 |                  |        | 10        |              |        |
|            | RF-RU-UB-DF | pmau   | ogbd |                  |                           |                  |        | 0         |              |        |
|            | RF-RU-UB-FU | pmai   | ogbh |                  |                           |                  |        | 0         |              |        |
|            | RF-RU-UB-LB | pmah   | ogbk |                  |                           |                  |        | 0         |              |        |
|            | RF-RU-UB-BL | pmar   | ogbl |                  |                           |                  |        | 0         |              |        |
|            | RF-RU-UB-BR | pmat   | ogbm |                  |                           |                  |        | 0         |              |        |
|            | RF-RU-UB-LD | pmag   | ogbq |                  |                           |                  |        | 0         |              |        |
|            | RF-RU-UB-RD | pmao   | ogbs |                  |                           |                  |        | 0         |              |        |
|            | RF-RU-UB-DL | pmax   | ogbt |                  |                           |                  |        | 0         |              |        |
|            | RF-RU-UB-DR | pmav   | ogbv |                  |                           |                  |        | 0         |              |        |
|            | RF-RU-UR-RB | pmbn   | ogcn |                  |                           |                  |        | 0         |              |        |
|            | RF-RU-DF-UL | pmud   | ogda |                  |                           |                  |        | 0         |              |        |
|            | RF-RU-DF-UB | pmua   | ogdb |                  |                           |                  |        | 0         |              |        |
|            | RF-RU-DF-LU | pmue   | ogde |                  |                           |                  |        | 0         |              |        |
|            | RF-RU-DF-BU | pmuq   | ogdf |                  |                           |                  |        | 0         |              |        |
|            | RF-RU-DF-FL | pmul   | ogdi |                  |                           |                  |        | 0         |              |        |
|            | RF-RU-DF-LF | pmuf   | ogdj |                  |                           |                  |        | 0         |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-DF-LB | pmuh        | ogdk   |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-DF-BL | pmur        | ogdl   |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-DF-RB | pmun        | ogdn   |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-DF-BD | pmus        | ogdr   |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-DF-DR | pmuv        | ogdv   |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-LU-UB | pmea        | ogeb   |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-LU-BU | pmeq        | ogef   |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-LU-FU | pmei        | ogeh   |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-LU-FL | pmel        | ogeи   |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-LU-LF | pmeф        | ogej   |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-LU-BL | pmer        | ogel   |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-LU-BR | pmet        | ogem   |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-LU-RB | pmen        | ogen   |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-LU-LD | pmeg        | ogeq   |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-LU-BD | pmes        | oger   |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-LU-RD | pmeo        | oges   |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-LU-DL | pmax        | oget   |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-LU-DB | pmew        | ogeу   |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-LU-DR | pnev        | ogeв   |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-BU-UL | pmqd        | ogfa   |      |                  |                          |                  |        | 0         |              | P      |
| RF-RU-BU-UR | pmqb        | ogfc   |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-BU-LU | pmqe        | ogfe   |      |                  |                          |                  |        | 0         |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-BU-FU | pmqi        | ogfh   |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-BU-FL | pmql        | ogfi   |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-BU-LF | pmqf        | ogfj   |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-BU-LB | pmqh        | ogfk   |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-BU-BL | pmqr        | ogfl   |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-BU-BR | pmqt        | ogfm   |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-BU-RB | pmqn        | ogfn   |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-BU-FR | pmqj        | ogfp   |      |                  |                          |                  |        | 0         |              | 0      |
| RF-RU-BU-BD | pmqs        | ogfr   |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-BU-DB | pmqw        | ogfu   |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-BU-DR | pmqv        | ogfv   |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-FU-UB | pmia        | oghb   |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-FU-BU | pmiq        | oghf   |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-FU-FL | pmil        | oghi   |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-FU-BL | pmir        | oghl   |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-FU-DB | pmiw        | oghu   |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-FU-DR | pmiv        | oghv   |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-FL-UB | pmla        | ogib   |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-FL-DF | pmlu        | ogid   |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-FL-BU | pmlq        | ogif   |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-FL-FU | pqli        | ogih   |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-FL-BL | pmlr        | ogil   |      |                  |                          |                  |        | 0         |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)  | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|------|------------------|---------------------------|------------------|--------|-----------|--------------|--------|
|   | RF-RU-FL-LD | pmlg   | ogiq |                  |                           |                  | 0      |           |              |        |
|   | RF-RU-FL-BD | pmls   | ogir |                  |                           |                  | 0      |           |              |        |
|   | RF-RU-FL-DR | pmlv   | ogiv |                  |                           |                  | 0      |           |              |        |
|   | RF-RU-LF-UB | pmfa   | ogjb |                  |                           |                  | 0      |           |              |        |
|   | RF-RU-LF-DF | pmfu   | ogjd |                  |                           |                  | 0      |           |              |        |
|   | RF-RU-LF-LU | pmfe   | ogje |                  |                           |                  | 0      |           |              |        |
|   | RF-RU-LF-BU | pmfq   | ogjf |                  |                           |                  | 0      |           |              | P      |
|   | RF-RU-LF-FU | pmfi   | ogjh |                  |                           |                  | 0      |           |              |        |
|    | RF-RU-LF-LB | pmfh   | ogjk | sblp krka pt     | S U' R2 E R' E2 R' U E S' |                  | 10     |           |              |        |
|   | RF-RU-LF-BL | pmfr   | ogjl |                  |                           |                  | 0      |           |              |        |
|   | RF-RU-LF-BR | pmft   | ogjm |                  |                           |                  | 0      |           |              |        |
|   | RF-RU-LF-RB | pmfn   | ogjn |                  |                           |                  | 0      |           |              | O      |
|  | RF-RU-LF-BD | pmfs   | ogjr |                  |                           |                  | 0      |           |              |        |
|   | RF-RU-LF-RD | pmfo   | ogjs | cvtb snam wc     | U2 F S' U' S M' U M F' U2 |                  | 10     |           |              |        |
|   | RF-RU-LF-DL | pmfx   | ogjt |                  |                           |                  | 0      |           |              |        |
|   | RF-RU-LF-DB | pmfw   | ogju |                  |                           |                  | 0      |           |              |        |
|   | RF-RU-LF-DR | pmfv   | ogjv |                  |                           |                  | 0      |           |              |        |
|   | RF-RU-LB-UL | pmhd   | ogka |                  |                           |                  | 0      |           |              |        |
|   | RF-RU-LB-UB | pmha   | ogkb |                  |                           |                  | 0      |           |              |        |
|   | RF-RU-LB-UR | pmhb   | ogkc |                  |                           |                  | 0      |           |              |        |
|   | RF-RU-LB-LU | pmhe   | ogke |                  |                           |                  | 0      |           |              |        |
|   | RF-RU-LB-BU | pmhq   | ogkf |                  |                           |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-LB-FL | pmhl        | ogki   |      |                  |                          |                  | 0      |           |              |        |
| RF-RU-LB-LF | pmhf        | ogkj   |      |                  |                          |                  | 0      |           |              |        |
| RF-RU-LB-BD | pmhs        | ogkr   |      |                  |                          |                  | 0      |           |              |        |
| RF-RU-LB-RD | pmho        | ogks   |      |                  |                          |                  | 0      |           |              |        |
| RF-RU-LB-DR | pmhv        | ogkv   |      |                  |                          |                  | 0      |           |              |        |
| RF-RU-BL-UL | pmrd        | ogla   |      |                  |                          |                  | 0      |           |              |        |
| RF-RU-BL-UB | pmra        | oglb   |      |                  |                          |                  | 0      |           |              |        |
| RF-RU-BL-DF | pmru        | ogld   |      |                  |                          |                  | 0      |           |              |        |
| RF-RU-BL-LU | pmre        | ogle   |      |                  |                          |                  | 0      |           |              |        |
| RF-RU-BL-BU | pmrq        | oglf   |      |                  |                          |                  | 0      |           |              |        |
| RF-RU-BL-FU | pmri        | oglh   |      |                  |                          |                  | 0      |           |              |        |
| RF-RU-BL-FL | pmrl        | ogli   |      |                  |                          |                  | 0      |           | 0            |        |
| RF-RU-BL-LF | pmrf        | oglj   |      |                  |                          |                  | 0      |           |              |        |
| RF-RU-BL-BR | pmrt        | oglm   |      |                  |                          |                  | 0      |           |              |        |
| RF-RU-BL-RB | pmrn        | ogln   |      |                  |                          |                  | 0      |           |              |        |
| RF-RU-BL-LD | pmrg        | oglq   |      |                  |                          |                  | 0      |           |              |        |
| RF-RU-BL-BD | pmrs        | oglr   |      |                  |                          |                  | 0      |           | P            |        |
| RF-RU-BL-RD | pmro        | ogls   |      |                  |                          |                  | 0      |           | O            |        |
| RF-RU-BL-DL | pmrx        | oglt   |      |                  |                          |                  | 0      |           |              |        |
| RF-RU-BL-DB | pmrw        | oglu   |      |                  |                          |                  | 0      |           |              |        |
| RF-RU-BL-DR | pmrv        | oglv   |      |                  |                          |                  | 0      |           |              |        |
| RF-RU-BR-UL | pmtd        | ogma   |      |                  |                          |                  | 0      |           |              |        |

| UF Diagram | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)       | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|--------|------|------------------|--------------------------------|------------------|--------|-----------|--------------|--------|
|            |             |        |      |                  |                                |                  |        | 0         |              |        |
|            | RF-RU-BR-UB | pmta   | ogmb |                  |                                |                  |        | 0         |              |        |
|            | RF-RU-BR-DF | pmtu   | ogmd |                  |                                |                  |        | 0         |              |        |
|            | RF-RU-BR-LU | pmte   | ogme |                  |                                |                  |        | 0         |              |        |
|            | RF-RU-BR-BU | pmtq   | ogmf |                  |                                |                  |        | 0         |              |        |
|            | RF-RU-BR-FU | pmti   | ogmh |                  |                                |                  |        | 0         |              |        |
|            | RF-RU-BR-FL | pmtl   | ogmi |                  |                                |                  |        | 0         |              |        |
|            | RF-RU-BR-LF | pmtf   | ogmj |                  |                                |                  |        | 0         |              |        |
|            | RF-RU-BR-LB | pmth   | ogmk |                  |                                |                  |        | 0         |              |        |
|            | RF-RU-BR-BL | pmtr   | ogml | wqvj vpjr krwk   | F' E' F R F E R E2 R' E2 F' R' |                  |        | 12        |              |        |
|            | RF-RU-BR-FR | pmtj   | ogmp |                  |                                |                  |        | 0         |              |        |
|            | RF-RU-BR-LD | pmtg   | ogmq |                  |                                |                  |        | 0         |              |        |
|            | RF-RU-BR-RD | pmtos  | ogms |                  |                                |                  |        | 0         |              |        |
|            | RF-RU-BR-DL | pmtx   | ogmt |                  |                                |                  |        | 0         |              |        |
|            | RF-RU-BR-DR | pmtv   | ogmv |                  |                                |                  |        | 0         |              |        |
|            | RF-RU-RB-UL | pmnd   | ogna |                  |                                |                  |        | 0         |              |        |
|            | RF-RU-RB-DF | pmnu   | ognd |                  |                                |                  |        | 0         |              |        |
|            | RF-RU-RB-LU | pmne   | ogne |                  |                                |                  |        | 0         |              |        |
|            | RF-RU-RB-FL | pmnl   | ogni |                  |                                |                  |        | 0         |              | O      |
|            | RF-RU-RB-LF | pmnf   | ognj |                  |                                |                  |        | 0         |              | C      |
|            | RF-RU-RB-LB | pmnh   | ognk |                  |                                |                  |        | 0         |              |        |
|            | RF-RU-RB-BL | pmnr   | ognl |                  |                                |                  |        | 0         |              |        |
|            | RF-RU-RB-RD | pmno   | ogns |                  |                                |                  |        | 0         |              |        |

| UF Diagram  | Cube Target  | Speffz       | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|--------------|--------------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |              |              |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-LD-UL | pmgd         | ogqa         |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-LD-UB | pmga         | ogqb         |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-LD-LU | pmge         | ogqe         |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-LD-BU | pmgq         | ogqf         |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-LD-FU | pmgi         | ogqh         |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-LD-FL | pmgl         | ogqi         |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-LD-LF | pmgf         | ogqj         |      |                  |                          |                  |        | 0         | 0            |        |
| RF-RU-LD-LB | pmgh         | ogqk         |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-LD-BR | pmgt         | ogqm         |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-LD-RB | pmgn         | ogqn         |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-LD-RD | pmgo         | ogqs         |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-LD-DR | pmgv         | ogqv         |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-BD-UL | pmsd         | ogra         |      |                  |                          |                  |        | 0         | 0            |        |
| RF-RU-BD-UB | pmsa         | ogr <b>b</b> |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-BD-LU | pmse         | ogre         |      |                  |                          |                  |        | 0         | 0            |        |
| RF-RU-BD-BU | pmsq         | ogr <b>f</b> |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-BD-FL | pmsl         | ogri         |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-BD-LF | pmsf         | ogr <b>j</b> |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-BD-LB | pmsh         | ogr <b>k</b> |      |                  |                          |                  |        | 0         |              | L      |
| RF-RU-BD-BL | pmsr         | ogr <b>l</b> |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-BD-BR | pms <i>t</i> | ogr <b>m</b> |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-BD-RB | pmsn         | ogr <b>n</b> |      |                  |                          |                  |        | 0         |              |        |

| UF Diagram | Cube Target | Speffz | aaaa  | Yo Notation (UF) | Singmaster Notation (UF)        | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|--------|-------|------------------|---------------------------------|------------------|--------|-----------|--------------|--------|
|            | RF-RU-BD-LD | pmsg   | ogrq  |                  |                                 |                  | 0      |           |              |        |
|            | RF-RU-BD-RD | pmso   | ogrs  |                  |                                 |                  | 0      |           |              | P      |
|            | RF-RU-BD-DL | pmsx   | ogrt  |                  |                                 |                  | 0      |           |              |        |
|            | RF-RU-BD-DR | pmsv   | ogrsv |                  |                                 |                  | 0      |           |              |        |
|            | RF-RU-RD-UL | pmmod  | ogsa  | dtdg vpwq hese   | D S' D L F E F' E' L' D' S D'   |                  | 12     |           |              | O      |
|            | RF-RU-RD-UB | pmoa   | ogsba |                  |                                 |                  | 0      |           |              |        |
|            | RF-RU-RD-DF | pmou   | ogsd  |                  |                                 |                  | 0      |           |              |        |
|            | RF-RU-RD-LU | pmoe   | ogse  | vkuj wkuk slt    | F R' S2 R F' R' S2 R' S R2 S'   |                  | 11     |           |              |        |
|            | RF-RU-RD-BU | pmoq   | ogsf  |                  |                                 |                  | 0      |           |              |        |
|            | RF-RU-RD-FU | pmoi   | ogsh  |                  |                                 |                  | 0      |           |              |        |
|            | RF-RU-RD-FL | pmol   | ogsi  |                  |                                 |                  | 0      |           |              |        |
|            | RF-RU-RD-LF | pmof   | ogsj  |                  |                                 |                  | 0      |           |              |        |
|            | RF-RU-RD-LB | pmoh   | ogsk  |                  |                                 |                  | 0      |           |              |        |
|            | RF-RU-RD-BL | pmor   | ogsl  |                  |                                 |                  | 0      |           |              |        |
|            | RF-RU-RD-BR | pmot   | ogsm  | rwkr jvbj rkra   | E2 F' R' E2 R F U' R E2 R' E2 U |                  | 12     |           |              |        |
|            | RF-RU-RD-RB | pmom   | ogsn  | rkrv pxpv jr     | E2 R' E2 F E F2 E F R E2        |                  | 10     |           |              | P      |
|            | RF-RU-RD-LD | pmog   | ogsq  |                  |                                 |                  | 0      |           |              |        |
|            | RF-RU-RD-BD | pmos   | ogsr  |                  |                                 |                  | 0      |           |              |        |
|            | RF-RU-RD-DL | pmox   | ogst  |                  |                                 |                  | 0      |           |              |        |
|            | RF-RU-RD-DB | pmow   | ogsu  |                  |                                 |                  | 0      |           |              |        |
|            | RF-RU-RD-FD | pmok   | ogsx  |                  |                                 |                  | 0      |           |              | A      |
|            | RF-RU-DL-UL | pmxd   | ogta  | tksk tlaj skb    | S' R' S R' S' R2 U R S R' U'    |                  | 11     |           |              | P      |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-RU-DL-UB | pmxa        | ogtb   |      |                  |                          |                  | 0      |           |              |        |
| RF-RU-DL-DF | pmxu        | ogtd   |      |                  |                          |                  | 0      |           |              |        |
| RF-RU-DL-LU | pmxe        | ogte   |      |                  |                          |                  | 0      |           |              |        |
| RF-RU-DL-BU | pmxq        | ogtf   |      |                  |                          |                  | 0      |           |              |        |
| RF-RU-DL-FU | pmxi        | ogth   |      |                  |                          |                  | 0      |           |              |        |
| RF-RU-DL-FL | pmxl        | ogti   |      |                  |                          |                  | 0      |           |              |        |
| RF-RU-DL-LF | pmxf        | ogtj   |      |                  |                          |                  | 0      |           |              |        |
| RF-RU-DL-LB | pmxh        | ogtk   |      |                  |                          |                  | 0      |           |              |        |
| RF-RU-DL-BL | pmxr        | ogtl   |      |                  |                          |                  | 0      |           | A            |        |
| RF-RU-DL-BR | pmxt        | ogtm   |      |                  |                          |                  | 0      |           |              |        |
| RF-RU-DL-RB | pmxn        | ogtn   |      |                  |                          |                  | 0      |           | P            |        |
| RF-RU-DL-RD | pmxo        | ogts   |      |                  |                          |                  | 0      |           |              |        |
| RF-RU-DL-DB | pmxw        | ogtu   |      |                  |                          |                  | 0      |           |              |        |
| RF-RU-DL-DR | pmxv        | ogtv   |      |                  |                          |                  | 0      |           | O            |        |
| RF-RU-DB-UB | pmwa        | ogub   |      |                  |                          |                  | 0      |           |              |        |
| RF-RU-DB-DF | pmwu        | ogud   |      |                  |                          |                  | 0      |           |              |        |
| RF-RU-DB-LU | pmwe        | ogue   |      |                  |                          |                  | 0      |           |              |        |
| RF-RU-DB-BU | pmwq        | oguf   |      |                  |                          |                  | 0      |           |              |        |
| RF-RU-DB-FU | pmwi        | oguh   |      |                  |                          |                  | 0      |           |              |        |
| RF-RU-DB-FL | pmwl        | ogui   |      |                  |                          |                  | 0      |           |              |        |
| RF-RU-DB-LF | pmwf        | oguj   |      |                  |                          |                  | 0      |           |              |        |
| RF-RU-DB-BL | pmwr        | ogul   |      |                  |                          |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)     | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|------|------------------|------------------------------|------------------|--------|-----------|--------------|--------|
|   |             |        |      |                  |                              |                  |        | 0         |              |        |
|   | RF-RU-DB-RB | pmwn   | ogun |                  |                              |                  |        | 0         |              |        |
|   | RF-RU-DB-LD | pmwg   | oguq |                  |                              |                  |        | 0         |              |        |
|   | RF-RU-DB-RD | pmwo   | ogus |                  |                              |                  |        | 0         |              | 0      |
|   | RF-RU-DB-DL | pmwx   | ogut |                  |                              |                  |        | 0         |              |        |
|   | RF-RU-DB-DR | pmwv   | oguv |                  |                              |                  |        | 0         |              |        |
|   | RF-RU-DR-UL | pmvd   | ogva |                  |                              |                  |        | 0         |              |        |
|   | RF-RU-DR-UB | pmva   | ogvb |                  |                              |                  |        | 0         |              |        |
|   | RF-RU-DR-DF | pmvu   | ogvd |                  |                              |                  |        | 0         |              |        |
|   | RF-RU-DR-LU | pmve   | ogve |                  |                              |                  |        | 0         |              |        |
|   | RF-RU-DR-BU | pmvq   | ogvf |                  |                              |                  |        | 0         |              |        |
|   | RF-RU-DR-FU | pmvi   | ogvh |                  |                              |                  |        | 0         |              |        |
|   | RF-RU-DR-FL | pmvl   | ogvi |                  |                              |                  |        | 0         |              |        |
|   | RF-RU-DR-LF | pmvf   | ogvj |                  |                              |                  |        | 0         |              | 0      |
|   | RF-RU-DR-LB | pmvh   | ogvk |                  |                              |                  |        | 0         |              |        |
|  | RF-RU-DR-BL | pmvr   | ogvl | wqwq jqkr vpv    | F' E' F' E' R E' R' E2 F E F |                  |        | 11        |              |        |
|   | RF-RU-DR-BR | pmvt   | ogvm |                  |                              |                  |        | 0         |              |        |
|   | RF-RU-DR-RB | pmvn   | ogvn |                  |                              |                  |        | 0         |              |        |
|   | RF-RU-DR-LD | pmvg   | ogvq |                  |                              |                  |        | 0         |              | A      |
|   | RF-RU-DR-BD | pmvs   | ogvr |                  |                              |                  |        | 0         |              |        |
|   | RF-RU-DR-DL | pmvx   | ogvt |                  |                              |                  |        | 0         |              |        |
|  | RF-RU-DR-DB | pmvw   | ogvu |                  |                              |                  |        | 0         |              |        |
|   | RF-RU-FD-DL | pmkx   | ogxt | vhav mwnb gw     | F L' U F M F' M' U' L F'     |                  |        | 10        |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-FU-UL-UR | pidb        |        | ohac |                  |                          |                  |        | 0         |              |        |
| RF-FU-UL-BU | pidq        |        | ohaf |                  |                          |                  |        | 0         |              |        |
| RF-FU-UL-FL | pidl        |        | ohai |                  |                          |                  |        | 0         |              |        |
| RF-FU-UL-LF | pidf        |        | ohaj |                  |                          |                  |        | 0         |              |        |
| RF-FU-UL-LB | pidh        |        | ohak |                  |                          |                  |        | 0         |              |        |
| RF-FU-UL-BL | pidr        |        | ohal |                  |                          |                  |        | 0         |              |        |
| RF-FU-UL-BR | pidt        |        | oham |                  |                          |                  |        | 0         |              |        |
| RF-FU-UL-RB | pidn        |        | ohan |                  |                          |                  |        | 0         |              | L      |
| RF-FU-UL-LD | pidg        |        | ohaq |                  |                          |                  |        | 0         |              |        |
| RF-FU-UL-BD | pids        |        | ohar |                  |                          |                  |        | 0         |              | O      |
| RF-FU-UL-RD | pido        |        | ohas |                  |                          |                  |        | 0         |              |        |
| RF-FU-UL-DL | pidx        |        | ohat |                  |                          |                  |        | 0         |              |        |
| RF-FU-UL-DB | pidw        |        | ohau |                  |                          |                  |        | 0         |              | A      |
| RF-FU-UL-DR | pidv        |        | ohav |                  |                          |                  |        | 0         |              | A      |
| RF-FU-UB-UL | piad        |        | ohba |                  |                          |                  |        | 0         |              |        |
| RF-FU-UB-RU | piam        |        | ohbg |                  |                          |                  |        | 0         |              |        |
| RF-FU-UB-FL | pial        |        | ohbi |                  |                          |                  |        | 0         |              |        |
| RF-FU-UB-LF | piaf        |        | ohbj |                  |                          |                  |        | 0         |              |        |
| RF-FU-UB-LD | piag        |        | ohbq |                  |                          |                  |        | 0         |              |        |
| RF-FU-UB-DL | piax        |        | ohbt |                  |                          |                  |        | 0         |              | A      |
| RF-FU-UB-DR | piav        |        | ohbv |                  |                          |                  |        | 0         |              |        |
| RF-FU-UR-UB | piba        |        | ohcb |                  |                          |                  |        | 0         |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-FU-UR-LU | pibe        |        | ohce |                  |                          |                  |        | 0         |              |        |
| RF-FU-UR-BU | pibq        |        | ohcf |                  |                          |                  |        | 0         |              |        |
| RF-FU-UR-LF | pibf        |        | ohcj |                  |                          |                  |        | 0         |              |        |
| RF-FU-UR-BL | pibr        |        | ohcl |                  |                          |                  |        | 0         |              |        |
| RF-FU-UR-BR | pibt        |        | ohcm |                  |                          |                  |        | 0         |              | A      |
| RF-FU-UR-RB | pibn        |        | ohcn |                  |                          |                  |        | 0         |              |        |
| RF-FU-UR-BD | pibs        |        | ohcr |                  |                          |                  |        | 0         |              |        |
| RF-FU-UR-RD | pibo        |        | ohcs |                  |                          |                  |        | 0         |              |        |
| RF-FU-UR-DL | pibx        |        | ohct |                  |                          |                  |        | 0         |              |        |
| RF-FU-UR-DR | pibv        |        | ohcv |                  |                          |                  |        | 0         |              |        |
| RF-FU-DF-BU | piuq        |        | ohdf |                  |                          |                  |        | 0         |              |        |
| RF-FU-LU-UB | piea        |        | oheb |                  |                          |                  |        | 0         |              |        |
| RF-FU-LU-UR | pieb        |        | ohec |                  |                          |                  |        | 0         |              |        |
| RF-FU-LU-RU | piem        |        | oheg |                  |                          |                  |        | 0         |              |        |
| RF-FU-LU-FL | piel        |        | ohei |                  |                          |                  |        | 0         |              |        |
| RF-FU-LU-LF | pief        |        | ohej |                  |                          |                  |        | 0         |              |        |
| RF-FU-LU-BR | piet        |        | ohem |                  |                          |                  |        | 0         |              |        |
| RF-FU-LU-RB | pien        |        | ohen |                  |                          |                  |        | 0         |              |        |
| RF-FU-LU-LD | pieg        |        | oheq |                  |                          |                  |        | 0         |              |        |
| RF-FU-LU-BD | pies        |        | oher |                  |                          |                  |        | 0         |              |        |
| RF-FU-LU-RD | pieo        |        | ohes |                  |                          |                  |        | 0         |              |        |
| RF-FU-LU-DL | piex        |        | ohet |                  |                          |                  |        | 0         |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-FU-LU-DB | piew        |        | oheu |                  |                          |                  |        | 0         |              |        |
| RF-FU-LU-DR | piev        |        | ohev |                  |                          |                  |        | 0         |              |        |
| RF-FU-BU-UR | piqb        |        | ohfc |                  |                          |                  |        | 0         |              |        |
| RF-FU-BU-DF | piqu        |        | ohfd |                  |                          |                  |        | 0         |              |        |
| RF-FU-BU-LU | piqe        |        | ohfe |                  |                          |                  |        | 0         |              |        |
| RF-FU-BU-FL | piql        |        | ohfi |                  |                          |                  |        | 0         |              |        |
| RF-FU-BU-LD | piqq        |        | ohfq |                  |                          |                  |        | 0         |              |        |
| RF-FU-BU-RD | piqo        |        | ohfs |                  |                          |                  |        | 0         |              |        |
| RF-FU-BU-DR | piqv        |        | ohfv |                  |                          |                  |        | 0         |              |        |
| RF-FU-RU-UL | pimd        |        | ohga |                  |                          |                  |        | 0         |              |        |
| RF-FU-RU-DF | pimu        |        | ohgd |                  |                          |                  |        | 0         |              |        |
| RF-FU-RU-LU | pime        |        | ohge |                  |                          |                  |        | 0         |              |        |
| RF-FU-RU-FL | piml        |        | ohgi |                  |                          |                  |        | 0         |              |        |
| RF-FU-RU-LF | pimf        |        | ohgj |                  |                          |                  |        | 0         |              |        |
| RF-FU-RU-LB | pimh        |        | ohgk |                  |                          |                  |        | 0         |              | O      |
| RF-FU-RU-BL | pimr        |        | ohgl |                  |                          |                  |        | 0         |              |        |
| RF-FU-FL-UL | pild        |        | ohia |                  |                          |                  |        | 0         |              | C      |
| RF-FU-FL-LU | pile        |        | ohie |                  |                          |                  |        | 0         |              |        |
| RF-FU-FL-BU | pilq        |        | ohif |                  |                          |                  |        | 0         |              | L      |
| RF-FU-FL-RU | pilm        |        | ohig |                  |                          |                  |        | 0         |              |        |
| RF-FU-FL-BL | pilr        |        | ohil |                  |                          |                  |        | 0         |              |        |
| RF-FU-FL-BR | pilt        |        | ohim |                  |                          |                  |        | 0         |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-FU-FL-LD | pilg        | ohiq   |      |                  |                          |                  |        | 0         |              |        |
| RF-FU-FL-BD | pils        | ohir   |      |                  |                          |                  |        | 0         |              |        |
| RF-FU-FL-RD | pilo        | ohis   |      |                  |                          |                  |        | 0         |              |        |
| RF-FU-FL-DL | pilx        | ohit   |      |                  |                          |                  |        | 0         |              |        |
| RF-FU-FL-DR | pilv        | ohiv   |      |                  |                          |                  |        | 0         |              |        |
| RF-FU-LF-UL | pifd        | ohja   |      |                  |                          |                  |        | 0         |              | P      |
| RF-FU-LF-LU | pife        | ohje   |      |                  |                          |                  |        | 0         |              | L      |
| RF-FU-LF-BL | pifr        | ohjl   |      |                  |                          |                  |        | 0         |              |        |
| RF-FU-LF-RB | pifn        | ohjn   |      |                  |                          |                  |        | 0         |              |        |
| RF-FU-LF-LD | pifg        | ohjq   |      |                  |                          |                  |        | 0         |              |        |
| RF-FU-LF-BD | pifs        | ohjr   |      |                  |                          |                  |        | 0         |              | O      |
| RF-FU-LF-RD | pifo        | ohjs   |      |                  |                          |                  |        | 0         |              |        |
| RF-FU-LF-DL | pifx        | ohjt   |      |                  |                          |                  |        | 0         |              |        |
| RF-FU-LF-DB | pifw        | ohju   |      |                  |                          |                  |        | 0         |              |        |
| RF-FU-LB-UL | pihd        | ohka   |      |                  |                          |                  |        | 0         |              |        |
| RF-FU-LB-LU | pihe        | ohke   |      |                  |                          |                  |        | 0         |              |        |
| RF-FU-LB-FL | pihl        | ohki   |      |                  |                          |                  |        | 0         |              |        |
| RF-FU-LB-BR | piht        | ohkm   |      |                  |                          |                  |        | 0         |              |        |
| RF-FU-LB-RB | pihn        | ohkn   |      |                  |                          |                  |        | 0         |              |        |
| RF-FU-LB-RD | piho        | ohks   |      |                  |                          |                  |        | 0         |              |        |
| RF-FU-LB-DB | pihw        | ohku   |      |                  |                          |                  |        | 0         |              |        |
| RF-FU-BL-UL | pird        | ohla   |      |                  |                          |                  |        | 0         |              | A      |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              | C      |
| RF-FU-BL-UB | pira        |        | ohlb |                  |                          |                  | 0      |           |              |        |
| RF-FU-BL-DF | piru        |        | ohld |                  |                          |                  | 0      |           |              | O      |
| RF-FU-BL-BU | pirq        |        | ohlf |                  |                          |                  | 0      |           |              |        |
| RF-FU-BL-RU | pirm        |        | ohlg |                  |                          |                  | 0      |           |              |        |
| RF-FU-BL-FL | pirl        |        | ohli |                  |                          |                  | 0      |           |              | O      |
| RF-FU-BL-BR | pirt        |        | ohlm |                  |                          |                  | 0      |           |              |        |
| RF-FU-BL-RB | pirn        |        | ohln |                  |                          |                  | 0      |           |              |        |
| RF-FU-BL-DB | pirw        |        | ohlu |                  |                          |                  | 0      |           |              |        |
| RF-FU-BR-UL | pitd        |        | ohma |                  |                          |                  | 0      |           |              |        |
| RF-FU-BR-UB | pita        |        | ohmb |                  |                          |                  | 0      |           |              |        |
| RF-FU-BR-UR | pitb        |        | ohmc |                  |                          |                  | 0      |           |              | F      |
| RF-FU-BR-LU | pite        |        | ohme |                  |                          |                  | 0      |           |              | P      |
| RF-FU-BR-BU | pitq        |        | ohmf |                  |                          |                  | 0      |           |              |        |
| RF-FU-BR-RU | pitm        |        | ohmg |                  |                          |                  | 0      |           |              | L      |
| RF-FU-BR-LF | pitf        |        | ohmj |                  |                          |                  | 0      |           |              |        |
| RF-FU-BR-LB | pith        |        | ohmk |                  |                          |                  | 0      |           |              |        |
| RF-FU-BR-BD | pits        |        | ohmr |                  |                          |                  | 0      |           |              |        |
| RF-FU-BR-RD | pito        |        | ohms |                  |                          |                  | 0      |           |              | O      |
| RF-FU-BR-DB | pitw        |        | ohmu |                  |                          |                  | 0      |           |              |        |
| RF-FU-BR-DR | pitv        |        | ohmv |                  |                          |                  | 0      |           |              | A      |
| RF-FU-RB-UL | pind        |        | ohna |                  |                          |                  | 0      |           |              |        |
| RF-FU-RB-FL | pinl        |        | ohni |                  |                          |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-FU-RB-LB | pinh        |        | ohnk |                  |                          |                  |        | 0         |              |        |
| RF-FU-RB-RD | pino        |        | ohns |                  |                          |                  |        | 0         |              |        |
| RF-FU-FR-BR | pijt        |        | ohpm |                  |                          |                  |        | 0         |              | A      |
| RF-FU-LD-UR | pigb        |        | ohqc |                  |                          |                  |        | 0         |              |        |
| RF-FU-LD-RU | pigm        |        | ohqg |                  |                          |                  |        | 0         |              |        |
| RF-FU-LD-LF | pigf        |        | ohqj |                  |                          |                  |        | 0         |              |        |
| RF-FU-LD-BL | pigr        |        | ohql |                  |                          |                  |        | 0         |              |        |
| RF-FU-LD-BD | pigs        |        | ohqr |                  |                          |                  |        | 0         |              |        |
| RF-FU-BD-UL | pisd        |        | ohra |                  |                          |                  |        | 0         |              |        |
| RF-FU-BD-UB | pisa        |        | ohrb |                  |                          |                  |        | 0         |              |        |
| RF-FU-BD-UR | pisb        |        | ohrc |                  |                          |                  |        | 0         |              |        |
| RF-FU-BD-LU | pise        |        | ohre |                  |                          |                  |        | 0         |              |        |
| RF-FU-BD-BU | pisq        |        | ohrf |                  |                          |                  |        | 0         |              |        |
| RF-FU-BD-RU | pism        |        | ohrg |                  |                          |                  |        | 0         |              |        |
| RF-FU-BD-FL | pisl        |        | ohri |                  |                          |                  |        | 0         |              |        |
| RF-FU-BD-LF | pisf        |        | ohrj |                  |                          |                  |        | 0         |              |        |
| RF-FU-BD-LB | pish        |        | ohrk |                  |                          |                  |        | 0         |              | A      |
| RF-FU-BD-BL | pisr        |        | ohrl |                  |                          |                  |        | 0         |              | A      |
| RF-FU-BD-BR | pist        |        | ohrm |                  |                          |                  |        | 0         |              |        |
| RF-FU-BD-RB | pisn        |        | ohrn |                  |                          |                  |        | 0         |              |        |
| RF-FU-BD-LD | pisg        |        | ohrq |                  |                          |                  |        | 0         |              |        |
| RF-FU-BD-RD | piso        |        | ohrs |                  |                          |                  |        | 0         |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-FU-BD-DL | pisx        |        | ohrt |                  |                          |                  |        | 0         |              |        |
| RF-FU-BD-DR | pisv        |        | ohrv |                  |                          |                  |        | 0         |              |        |
| RF-FU-RD-UL | piod        |        | ohsa |                  |                          |                  |        | 0         |              |        |
| RF-FU-RD-UR | piob        |        | ohsc |                  |                          |                  |        | 0         |              |        |
| RF-FU-RD-LU | pioe        |        | ohse |                  |                          |                  |        | 0         |              |        |
| RF-FU-RD-RU | piom        |        | ohsg |                  |                          |                  |        | 0         |              |        |
| RF-FU-RD-LF | piof        |        | ohsj |                  |                          |                  |        | 0         |              |        |
| RF-FU-RD-BR | piot        |        | ohsm |                  |                          |                  |        | 0         |              |        |
| RF-FU-RD-RB | pion        |        | ohsn |                  |                          |                  |        | 0         |              |        |
| RF-FU-RD-BD | pios        |        | ohsr |                  |                          |                  |        | 0         |              |        |
| RF-FU-DL-UL | pixd        |        | ohta |                  |                          |                  |        | 0         |              |        |
| RF-FU-DL-UB | pixa        |        | ohtb |                  |                          |                  |        | 0         |              |        |
| RF-FU-DL-LU | pixe        |        | ohte |                  |                          |                  |        | 0         |              |        |
| RF-FU-DL-FL | pixl        |        | ohti |                  |                          |                  |        | 0         |              | A      |
| RF-FU-DL-BL | pixr        |        | ohtl |                  |                          |                  |        | 0         |              |        |
| RF-FU-DL-BD | pixs        |        | ohtr |                  |                          |                  |        | 0         |              |        |
| RF-FU-DL-DB | pixw        |        | ohtu |                  |                          |                  |        | 0         |              |        |
| RF-FU-DB-UL | piwd        |        | ohua |                  |                          |                  |        | 0         |              |        |
| RF-FU-DB-UR | piwb        |        | ohuc |                  |                          |                  |        | 0         |              |        |
| RF-FU-DB-LU | piwe        |        | ohue |                  |                          |                  |        | 0         |              | F      |
| RF-FU-DB-BU | piwq        |        | ohuf |                  |                          |                  |        | 0         |              |        |
| RF-FU-DB-RU | piwm        |        | ohug |                  |                          |                  |        | 0         |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)     | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|------|------------------|------------------------------|------------------|--------|-----------|--------------|--------|
|   | RF-FU-DB-LF | piwf   | ohuj |                  |                              |                  | 0      |           |              |        |
|   | RF-FU-DB-LB | piwh   | ohuk |                  |                              |                  | 0      |           |              |        |
|   | RF-FU-DB-BL | piwr   | ohul |                  |                              |                  | 0      |           |              |        |
|   | RF-FU-DB-BR | piwt   | ohum |                  |                              |                  | 0      |           |              |        |
|   | RF-FU-DR-BR | pivt   | ohvm |                  |                              |                  | 0      |           |              |        |
|   | RF-FU-DR-RB | pivn   | ohvn |                  |                              |                  | 0      |           |              |        |
|   | RF-FU-DR-FR | pivj   | ohvp |                  |                              |                  | 0      |           |              |        |
|   | RF-FU-DR-DB | pivw   | ohvu |                  |                              |                  | 0      |           |              |        |
|   | RF-FL-UL-UB | plda   | oiab |                  |                              |                  | 0      |           |              |        |
|   | RF-FL-UL-UR | pldb   | oiac |                  |                              |                  | 0      |           |              |        |
|   | RF-FL-UL-BU | pldq   | oiaf |                  |                              |                  | 0      |           |              |        |
|   | RF-FL-UL-RU | pldm   | oiag |                  |                              |                  | 0      |           |              |        |
|   | RF-FL-UL-FU | pldi   | oiah |                  |                              |                  | 0      |           |              | P      |
|  | RF-FL-UL-LB | pldh   | oiak | ukrj quag phb    | S2 R' E2 R E' S2 U L E L' U' |                  | 11     |           |              |        |
|   | RF-FL-UL-BL | pldr   | oial |                  |                              |                  | 0      |           |              |        |
|   | RF-FL-UL-BR | pldt   | oiam |                  |                              |                  | 0      |           |              |        |
|   | RF-FL-UL-BR | pldt   | oiam |                  |                              |                  | 0      |           |              |        |
|   | RF-FL-UL-LD | pldg   | oiaq |                  |                              |                  | 0      |           |              |        |
|   | RF-FL-UL-BD | plds   | oiar |                  |                              |                  | 0      |           |              |        |
|   | RF-FL-UL-DL | pldx   | oiat |                  |                              |                  | 0      |           |              |        |
|   | RF-FL-UL-DB | pldw   | oiau |                  |                              |                  | 0      |           |              |        |
|   | RF-FL-UL-DR | pldv   | oiav |                  |                              |                  | 0      |           |              |        |

| UF Diagram | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)      | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|--------|------|------------------|-------------------------------|------------------|--------|-----------|--------------|--------|
|            | RF-FL-UB-UL | plad   | oiba | vnja mbkw        | F r U M U' R' F'              |                  | 8      |           | A            |        |
|            | RF-FL-UB-UR | plab   | oibc |                  |                               |                  | 0      |           |              |        |
|            | RF-FL-UB-DF | plau   | oibd |                  |                               |                  | 0      |           |              |        |
|            | RF-FL-UB-LU | plae   | oibe |                  |                               |                  | 0      |           |              |        |
|            | RF-FL-UB-RU | plam   | oibg |                  |                               |                  | 0      |           |              |        |
|            | RF-FL-UB-FU | plai   | oibh |                  |                               |                  | 0      |           |              |        |
|            | RF-FL-UB-LB | plah   | oibk |                  |                               |                  | 0      |           |              |        |
|            | RF-FL-UB-BL | plar   | oibl |                  |                               |                  | 0      |           | 0            |        |
|            | RF-FL-UB-BR | plat   | oibm |                  |                               |                  | 0      |           | 0            |        |
|            | RF-FL-UB-BD | plas   | oibr |                  |                               |                  | 0      |           | 0            |        |
|            | RF-FL-UB-RD | plao   | oibs |                  |                               |                  | 0      |           | 0            |        |
|            | RF-FL-UB-DL | plax   | oibt | vhvm wgnw        | F L' F M F' L M' F'           |                  | 8      |           |              |        |
|            | RF-FL-UB-DB | plaw   | oibu |                  |                               |                  | 0      |           |              |        |
|            | RF-FL-UB-FD | plak   | oibx | xmw nw           | F2 M F' M' F'                 |                  | 5      |           | 0            |        |
|            | RF-FL-UR-UL | plbd   | oica | vjak bnaj mbkw   | F R U R' U' M' U R M U' R' F' |                  | 12     |           |              |        |
|            | RF-FL-UR-DF | plbu   | oicd |                  |                               |                  | 0      |           |              |        |
|            | RF-FL-UR-LU | plbe   | oice |                  |                               |                  | 0      |           | A            |        |
|            | RF-FL-UR-BU | plbq   | oicf |                  |                               |                  | 0      |           | 0            |        |
|            | RF-FL-UR-BR | plbt   | oicm |                  |                               |                  | 0      |           |              |        |
|            | RF-FL-UR-RB | plbn   | oicn |                  |                               |                  | 0      |           |              |        |
|            | RF-FL-UR-LD | plbg   | oicq |                  |                               |                  | 0      |           |              |        |
|            | RF-FL-UR-BD | plbs   | oicr |                  |                               |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              | A      |
| RF-FL-UR-DL | plbx        |        | oict |                  |                          |                  | 0      |           |              |        |
| RF-FL-UR-DR | plbv        |        | oicv |                  |                          |                  | 0      |           |              | O      |
| RF-FL-DF-UL | plud        |        | oida |                  |                          |                  | 0      |           |              |        |
| RF-FL-DF-UR | plub        |        | oidc |                  |                          |                  | 0      |           |              |        |
| RF-FL-DF-BU | pluq        |        | oidf |                  |                          |                  | 0      |           |              |        |
| RF-FL-DF-RU | plum        |        | oidg |                  |                          |                  | 0      |           |              |        |
| RF-FL-DF-LB | pluh        |        | oidk |                  |                          |                  | 0      |           |              | A      |
| RF-FL-DF-BR | plut        |        | oidm |                  |                          |                  | 0      |           |              | O      |
| RF-FL-DF-LD | plug        |        | oidq |                  |                          |                  | 0      |           |              |        |
| RF-FL-DF-BD | plus        |        | oidr |                  |                          |                  | 0      |           |              |        |
| RF-FL-DF-RD | pluo        |        | oids |                  |                          |                  | 0      |           |              | O      |
| RF-FL-DF-DB | pluw        |        | oidu |                  |                          |                  | 0      |           |              |        |
| RF-FL-LU-UB | plea        |        | oieb |                  |                          |                  | 0      |           |              | O      |
| RF-FL-LU-DF | pleu        |        | oied |                  |                          |                  | 0      |           |              |        |
| RF-FL-LU-BU | pleq        |        | oief |                  |                          |                  | 0      |           |              | O      |
| RF-FL-LU-LB | pleh        |        | oiek |                  |                          |                  | 0      |           |              |        |
| RF-FL-LU-BL | pler        |        | oiel |                  |                          |                  | 0      |           |              | O      |
| RF-FL-LU-LD | pleg        |        | oieq |                  |                          |                  | 0      |           |              |        |
| RF-FL-LU-RD | pleo        |        | oies |                  |                          |                  | 0      |           |              |        |
| RF-FL-LU-DB | plew        |        | oieu |                  |                          |                  | 0      |           |              |        |
| RF-FL-LU-DR | plev        |        | oiev |                  |                          |                  | 0      |           |              |        |
| RF-FL-BU-DF | plqu        |        | oifd |                  |                          |                  | 0      |           |              | O      |

| UF Diagram | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|            |             |        |      |                  |                          |                  |        |           |              |        |
|            | RF-FL-BU-LU | plqe   | oife |                  |                          |                  | 0      |           |              | F      |
|            | RF-FL-BU-RU | plqm   | oifg |                  |                          |                  | 0      |           |              | O      |
|            | RF-FL-BU-FU | plqi   | oifh |                  |                          |                  | 0      |           |              | O      |
|            | RF-FL-BU-RB | plqn   | oifn |                  |                          |                  | 0      |           |              |        |
|            | RF-FL-BU-LD | plqg   | oifq |                  |                          |                  | 0      |           |              | P      |
|            | RF-FL-BU-DL | plqx   | oift |                  |                          |                  | 0      |           |              | O      |
|            | RF-FL-RU-UL | plmd   | oiga |                  |                          |                  | 0      |           |              |        |
|            | RF-FL-RU-UB | plma   | oigb |                  |                          |                  | 0      |           |              | O      |
|            | RF-FL-RU-UR | plmb   | oigc |                  |                          |                  | 0      |           |              |        |
|            | RF-FL-RU-DF | plmu   | oigd |                  |                          |                  | 0      |           |              |        |
|            | RF-FL-RU-LU | plme   | oige |                  |                          |                  | 0      |           |              |        |
|            | RF-FL-RU-BU | plmq   | oigf |                  |                          |                  | 0      |           |              | P      |
|            | RF-FL-RU-LB | plmh   | oigk |                  |                          |                  | 0      |           |              |        |
|            | RF-FL-RU-BL | plmr   | oigl |                  |                          |                  | 0      |           |              | P      |
|            | RF-FL-RU-BR | plmt   | oigm |                  |                          |                  | 0      |           |              | O      |
|            | RF-FL-RU-RB | plmn   | oign |                  |                          |                  | 0      |           |              | O      |
|            | RF-FL-RU-LD | plmg   | oigq |                  |                          |                  | 0      |           |              | P      |
|            | RF-FL-RU-BD | plms   | oigr |                  |                          |                  | 0      |           |              |        |
|            | RF-FL-RU-RD | plmo   | oigs |                  |                          |                  | 0      |           |              | O      |
|            | RF-FL-RU-DL | plmx   | oigt |                  |                          |                  | 0      |           |              |        |
|            | RF-FL-RU-DB | plmw   | oigu |                  |                          |                  | 0      |           |              | O      |
|            | RF-FL-RU-DR | plmv   | oigv |                  |                          |                  | 0      |           |              | A      |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|   |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-FL-FU-UR   | plib        | oihc   |      |                  |                          |                  |        | 0         |              |        |
| RF-FL-FU-LU   | plie        | oihe   |      |                  |                          |                  |        | 0         |              |        |
| RF-FL-FU-BU   | pliq        | oihf   |      |                  |                          |                  |        | 0         |              |        |
| RF-FL-FU-LD   | plig        | oihq   |      |                  |                          |                  |        | 0         |              |        |
| RF-FL-FU-BD   | plis        | oihr   |      |                  |                          |                  |        | 0         |              |        |
| RF-FL-FU-RD   | plio        | oihs   |      |                  |                          |                  |        | 0         |              |        |
| RF-FL-LB-UL   | plhd        | oika   |      |                  |                          |                  |        | 0         |              |        |
| RF-FL-LB-DF   | plhu        | oikd   |      |                  |                          |                  |        | 0         |              |        |
| RF-FL-LB-LU   | plhe        | oike   |      |                  |                          |                  |        | 0         |              |        |
| RF-FL-LB-BU   | plhq        | oikf   |      |                  |                          |                  |        | 0         |              |        |
| RF-FL-LB-RU   | plhm        | oikg   |      |                  |                          |                  |        | 0         |              |        |
| RF-FL-LB-FU   | plhi        | oikh   |      |                  |                          |                  |        | 0         |              |        |
| RF-FL-LB-BR   | plht        | oikm   |      |                  |                          |                  |        | 0         |              |        |
| RF-FL-LB-RB   | plhn        | oikn   |      |                  |                          |                  |        | 0         |              |        |
| RF-FL-LB-LD   | plhg        | oikq   |      |                  |                          |                  |        | 0         |              |        |
| RF-FL-LB-BD   | plhs        | oikr   |      |                  |                          |                  |        | 0         |              |        |
| RF-FL-LB-RD   | plho        | oiks   |      |                  |                          |                  |        | 0         |              |        |
|  | RF-FL-LB-FD | plhk   | oikx | vpwq             | F E F' E'                |                  |        | 4         |              |        |
| RF-FL-BL-UL   | plrd        | oila   |      |                  |                          |                  |        | 0         |              |        |
| RF-FL-BL-UB   | plra        | oilb   |      |                  |                          |                  |        | 0         | 0            |        |
| RF-FL-BL-UR   | plrb        | oilc   |      |                  |                          |                  |        | 0         |              |        |
| RF-FL-BL-LU   | plre        | oile   |      |                  |                          |                  |        | 0         |              |        |

| UF Diagram | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)          | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|--------|------|------------------|-----------------------------------|------------------|--------|-----------|--------------|--------|
|            | RF-FL-BL-BU | plrq   | oilf |                  |                                   |                  | 0      |           |              |        |
|            | RF-FL-BL-RU | plrm   | oilg |                  |                                   |                  | 0      |           |              |        |
|            | RF-FL-BL-RB | plrn   | oiln |                  |                                   |                  | 0      |           |              |        |
|            | RF-FL-BL-RD | plro   | oils |                  |                                   |                  | 0      |           | 0            |        |
|            | RF-FL-BL-DB | plrw   | oilu |                  |                                   |                  | 0      |           |              |        |
|            | RF-FL-BR-UL | pltd   | oima |                  |                                   |                  | 0      |           |              |        |
|            | RF-FL-BR-UB | plta   | oimb | rwiw mwnq xivq   | E2 F' L2 F' M F' M' E' F2 L2 F E' |                  | 12     |           |              |        |
|            | RF-FL-BR-RU | pltm   | oimg | mvht gwnr kpj    | M F L' S' L F' M' E2 R' E R       |                  | 11     |           | 0            |        |
|            | RF-FL-BR-LB | plth   | oimk |                  |                                   |                  | 0      |           |              |        |
|            | RF-FL-BR-LD | pltg   | oimq |                  |                                   |                  | 0      |           |              |        |
|            | RF-FL-BR-DB | pltw   | oimu |                  |                                   |                  | 0      |           |              |        |
|            | RF-FL-RB-UL | plnd   | oina |                  |                                   |                  | 0      |           |              |        |
|            | RF-FL-RB-UB | plna   | oinb |                  |                                   |                  | 0      |           |              |        |
|            | RF-FL-RB-DF | plnu   | oind |                  |                                   |                  | 0      |           |              |        |
|            | RF-FL-RB-LU | pline  | oine |                  |                                   |                  | 0      |           |              |        |
|            | RF-FL-RB-BU | plnq   | oinf |                  |                                   |                  | 0      |           |              |        |
|            | RF-FL-RB-RU | plnm   | oing |                  |                                   |                  | 0      |           |              |        |
|            | RF-FL-RB-FU | plni   | oinh |                  |                                   |                  | 0      |           |              |        |
|            | RF-FL-RB-LB | plnh   | oink |                  |                                   |                  | 0      |           |              |        |
|            | RF-FL-RB-BL | plnr   | oinl |                  |                                   |                  | 0      |           |              |        |
|            | RF-FL-RB-LD | plng   | oinq |                  |                                   |                  | 0      |           |              |        |
|            | RF-FL-RB-RD | plno   | oins |                  |                                   |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|   | RF-FL-RB-DL | plnx   | oint |                  |                          |                  | 0      |           |              | 0      |
|   | RF-FL-RB-DB | plnw   | oinu |                  |                          |                  | 0      |           |              |        |
|   | RF-FL-RB-DR | plnv   | oinv |                  |                          |                  | 0      |           |              |        |
|  | RF-FL-RB-FD | plnk   | oinx | wqw px           | F' E' F' E F2            |                  | 5      |           |              |        |
|   | RF-FL-FR-UB | plja   | oipb |                  |                          |                  | 0      |           |              |        |
|   | RF-FL-FR-BD | pljs   | oipr |                  |                          |                  | 0      |           |              |        |
|   | RF-FL-LD-UL | plgd   | oiqa |                  |                          |                  | 0      |           |              |        |
|   | RF-FL-LD-DF | plgu   | oiqd |                  |                          |                  | 0      |           |              | 0      |
|   | RF-FL-LD-RU | plgm   | oiqg |                  |                          |                  | 0      |           | A            |        |
|   | RF-FL-LD-LB | plgh   | oiqk |                  |                          |                  | 0      |           | 0            |        |
|   | RF-FL-LD-BL | plgr   | oiql |                  |                          |                  | 0      |           |              |        |
|   | RF-FL-LD-BD | plgs   | oiqr |                  |                          |                  | 0      |           |              |        |
|   | RF-FL-LD-RD | plgo   | oiqs |                  |                          |                  | 0      |           | A            |        |
|   | RF-FL-BD-UL | plsd   | oira |                  |                          |                  | 0      |           |              |        |
|   | RF-FL-BD-UB | plsa   | oirb |                  |                          |                  | 0      |           | A            |        |
|   | RF-FL-BD-UR | plsb   | oirc |                  |                          |                  | 0      |           |              |        |
|   | RF-FL-BD-DF | plsu   | oird |                  |                          |                  | 0      |           |              |        |
|   | RF-FL-BD-LU | plse   | oire |                  |                          |                  | 0      |           | O            |        |
|   | RF-FL-BD-BU | plsq   | oирf |                  |                          |                  | 0      |           |              |        |
|   | RF-FL-BD-RU | plsm   | oирg |                  |                          |                  | 0      |           |              |        |
|   | RF-FL-BD-FU | plsi   | oирh |                  |                          |                  | 0      |           |              |        |
|   | RF-FL-BD-LB | plsh   | oирk |                  |                          |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)     | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|------|------------------|------------------------------|------------------|--------|-----------|--------------|--------|
|   | RF-FL-BD-BL | plsr   | oirl |                  |                              |                  | 0      |           |              |        |
|   | RF-FL-BD-BR | plst   | oirm |                  |                              |                  | 0      |           |              |        |
|   | RF-FL-BD-RB | plsn   | oирн |                  |                              |                  | 0      |           |              |        |
|   | RF-FL-BD-FR | plsj   | oирр |                  |                              |                  | 0      |           |              |        |
|   | RF-FL-BD-LD | plsg   | oирq |                  |                              |                  | 0      |           |              |        |
|   | RF-FL-BD-RD | plso   | oирs |                  |                              |                  | 0      |           |              |        |
|   | RF-FL-BD-DL | plsx   | oирt |                  |                              |                  | 0      |           |              |        |
|   | RF-FL-BD-DR | plsv   | oирv |                  |                              |                  | 0      |           | P            |        |
|   | RF-FL-RD-UL | plod   | oisa |                  |                              |                  | 0      |           |              |        |
|   | RF-FL-RD-UB | ploa   | oisb |                  |                              |                  | 0      |           |              |        |
|   | RF-FL-RD-UR | plob   | oisc |                  |                              |                  | 0      |           |              |        |
|   | RF-FL-RD-DF | plou   | oisd |                  |                              |                  | 0      |           |              |        |
|   | RF-FL-RD-LU | ploe   | oise |                  |                              |                  | 0      |           |              |        |
|   | RF-FL-RD-RU | plom   | oisg |                  |                              |                  | 0      |           |              |        |
|   | RF-FL-RD-FU | ploi   | oish |                  |                              |                  | 0      |           |              |        |
|   | RF-FL-RD-BL | plor   | oisl |                  |                              |                  | 0      |           |              |        |
|  | RF-FL-RD-RB | plon   | oisn | kema nwmx bnd    | R' D' M U M' F' M F2 U' M' D |                  | 11     |           |              |        |
|   | RF-FL-RD-FR | ploj   | oisp |                  |                              |                  | 0      |           |              |        |
|   | RF-FL-RD-BD | plos   | oisr |                  |                              |                  | 0      |           |              |        |
|   | RF-FL-DL-UL | plxd   | oita |                  |                              |                  | 0      |           |              |        |
|   | RF-FL-DL-UR | plxb   | oitc |                  |                              |                  | 0      |           |              |        |
|   | RF-FL-DL-DF | plxu   | oitd |                  |                              |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)  | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|------|------------------|---------------------------|------------------|--------|-----------|--------------|--------|
|   | RF-FL-DL-RU | plxm   | oitg |                  |                           |                  | 0      |           |              |        |
|   | RF-FL-DL-FU | plxi   | oith |                  |                           |                  | 0      |           |              |        |
|   | RF-FL-DL-BL | plxr   | oil  |                  |                           |                  | 0      |           |              |        |
|    | RF-FL-DL-BR | plxt   | oitm | ewlv nwlm vd     | D' F' R2 F M' F' R2 M F D |                  | 10     |           |              |        |
|   | RF-FL-DL-RB | plxn   | oitn |                  |                           |                  | 0      |           |              |        |
|   | RF-FL-DL-FR | plxj   | oitp |                  |                           |                  | 0      |           |              |        |
|   | RF-FL-DL-BD | plxs   | oitr |                  |                           |                  | 0      |           |              |        |
|   | RF-FL-DB-DF | plwu   | oiud |                  |                           |                  | 0      |           |              |        |
|   | RF-FL-DB-LU | plwe   | oiue |                  |                           |                  | 0      |           |              |        |
|   | RF-FL-DB-BU | plwq   | oiuf |                  |                           |                  | 0      |           |              |        |
|   | RF-FL-DB-RU | plwm   | oiug |                  |                           |                  | 0      |           |              |        |
|   | RF-FL-DB-FU | plwi   | oiuh |                  |                           |                  | 0      |           |              |        |
|   | RF-FL-DB-LB | plwh   | oiuk |                  |                           |                  | 0      |           |              |        |
|   | RF-FL-DB-BL | plwr   | oiul |                  |                           |                  | 0      |           |              |        |
|   | RF-FL-DB-RB | plwn   | oiun |                  |                           |                  | 0      |           |              |        |
|   | RF-FL-DB-FR | plwj   | oiup |                  |                           |                  | 0      |           |              |        |
|  | RF-FL-DB-LD | plwg   | oiuq | wtmg dneh sv     | f' I D M' D' L' f         |                  | 10     |           |              |        |
|   | RF-FL-DB-RD | plwo   | oius |                  |                           |                  | 0      |           | 0            |        |
|   | RF-FL-DR-UL | plvd   | oiva |                  |                           |                  | 0      |           |              |        |
|   | RF-FL-DR-UB | plva   | oivb |                  |                           |                  | 0      |           |              |        |
|   | RF-FL-DR-DF | plvu   | oivd |                  |                           |                  | 0      |           |              |        |
|   | RF-FL-DR-RU | plvm   | oivg |                  |                           |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|   | RF-FL-DR-BR | plvt   | oivm |                  |                          |                  | 0      |           |              |        |
|   | RF-FL-DR-LD | plvg   | oivq |                  |                          |                  | 0      |           |              |        |
|   | RF-FL-DR-BD | plvs   | oivr |                  |                          |                  | 0      |           |              |        |
|   | RF-FL-FD-UL | plkd   | oixa |                  |                          |                  | 0      |           |              | P      |
|   | RF-LF-UL-UB | pfda   | ojab |                  |                          |                  | 0      |           |              |        |
|   | RF-LF-UL-UR | pfdb   | ojac |                  |                          |                  | 0      |           |              |        |
|   | RF-LF-UL-DF | pfdu   | ojad |                  |                          |                  | 0      |           |              |        |
|   | RF-LF-UL-RU | pfdm   | ojag |                  |                          |                  | 0      |           |              |        |
|   | RF-LF-UL-LB | pfdh   | ojak |                  |                          |                  | 0      |           |              | A      |
|   | RF-LF-UL-BL | pfdr   | ojal |                  |                          |                  | 0      |           |              |        |
|   | RF-LF-UL-BR | pfdt   | ojam |                  |                          |                  | 0      |           |              |        |
|   | RF-LF-UL-RB | pfdn   | ojan |                  |                          |                  | 0      |           |              |        |
|   | RF-LF-UL-LD | pfdg   | ojaq |                  |                          |                  | 0      |           |              |        |
|   | RF-LF-UL-RD | pfdo   | ojas |                  |                          |                  | 0      |           |              | O      |
|   | RF-LF-UL-DL | pfdx   | ojat |                  |                          |                  | 0      |           |              |        |
|   | RF-LF-UL-DB | pfdw   | ojau |                  |                          |                  | 0      |           |              |        |
|   | RF-LF-UL-DR | pfdv   | ojav |                  |                          |                  | 0      |           |              | P      |
|  | RF-LF-UB-UL | pfad   | ojba | vmgp hxnv jtk    | F I E L' F2 M' F R S' R' |                  | 11     |           |              |        |
|   | RF-LF-UB-UR | pfab   | ojbc |                  |                          |                  | 0      |           |              |        |
|   | RF-LF-UB-DF | pfau   | ojbd |                  |                          |                  | 0      |           |              |        |
|   | RF-LF-UB-LU | pfae   | ojbe |                  |                          |                  | 0      |           |              |        |
|   | RF-LF-UB-RU | pfam   | objg |                  |                          |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)       | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|------|------------------|--------------------------------|------------------|--------|-----------|--------------|--------|
|   | RF-LF-UB-FU | pfaι   | ojbh |                  |                                |                  | 0      |           |              |        |
|   | RF-LF-UB-LB | pfaհ   | ojbk |                  |                                |                  | 0      |           |              |        |
|   | RF-LF-UB-BL | pfaր   | ojbl |                  |                                |                  | 0      |           |              |        |
|   | RF-LF-UB-BR | pfaտ   | ojbm |                  |                                |                  | 0      |           |              |        |
|   | RF-LF-UB-RB | pfaն   | ojbn |                  |                                |                  | 0      |           |              |        |
|   | RF-LF-UB-LD | pfaգ   | ojbq |                  |                                |                  | 0      |           |              |        |
|   | RF-LF-UB-BD | pfaս   | ojbr |                  |                                |                  | 0      |           |              |        |
|   | RF-LF-UB-RD | pfaօ   | ojbs |                  |                                |                  | 0      |           |              |        |
|   | RF-LF-UB-DL | pfaչ   | ojbt |                  |                                |                  | 0      |           |              |        |
|   | RF-LF-UB-DB | pfaւ   | ojbu |                  |                                |                  | 0      |           |              |        |
|   | RF-LF-UB-DR | pfaվ   | ojbv |                  |                                |                  | 0      |           |              |        |
|  | RF-LF-UR-UL | pfbդ   | ojca | kvlx kvaj bvkb   | R' F R2 F2 R' F U R U' F R' U' |                  | 12     |           |              |        |
|   | RF-LF-UR-UB | pfbա   | ojcb |                  |                                |                  | 0      |           |              |        |
|   | RF-LF-UR-BL | pfbր   | ojcl |                  |                                |                  | 0      |           |              |        |
|   | RF-LF-UR-LD | pfbգ   | ojcq |                  |                                |                  | 0      |           |              |        |
|   | RF-LF-UR-BD | pfbս   | ojcr |                  |                                |                  | 0      |           |              |        |
|   | RF-LF-UR-DR | pfbվ   | ojcv |                  |                                |                  | 0      |           |              |        |
|   | RF-LF-DF-UL | pfdս   | ojda |                  |                                |                  | 0      |           |              |        |
|   | RF-LF-DF-UB | pfaս   | ojdb |                  |                                |                  | 0      |           |              |        |
|   | RF-LF-DF-LU | pfeս   | ojde |                  |                                |                  | 0      |           |              |        |
|   | RF-LF-DF-RU | pfmս   | ojdg |                  |                                |                  | 0      |           |              |        |
|   | RF-LF-DF-BL | pfur   | ojdl |                  |                                |                  | 0      |           |              |        |

| UF Diagram | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)       | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|--------|------|------------------|--------------------------------|------------------|--------|-----------|--------------|--------|
|            | RF-LF-DF-RB | pfun   | ojdn |                  |                                |                  |        | 0         |              |        |
|            | RF-LF-DF-BD | pfus   | ojdr |                  |                                |                  |        | 0         |              |        |
|            | RF-LF-DF-RD | pfuo   | ojds |                  |                                |                  |        | 0         |              |        |
|            | RF-LF-DF-DB | pfuw   | ojdu |                  |                                |                  |        | 0         |              |        |
|            | RF-LF-DF-DR | pfuv   | ojdv |                  |                                |                  |        | 0         |              |        |
|            | RF-LF-LU-UB | pfea   | ojeb |                  |                                |                  |        | 0         |              |        |
|            | RF-LF-LU-UR | pfeb   | ojec |                  |                                |                  |        | 0         |              |        |
|            | RF-LF-LU-DF | pfeu   | ojed | rrvw hwrv gr     | E2 F E2 F' L' F' E2 F L E2     |                  |        | 10        |              | A      |
|            | RF-LF-LU-BU | pfeq   | ojef |                  |                                |                  |        | 0         |              |        |
|            | RF-LF-LU-RU | pfem   | ojeg |                  |                                |                  |        | 0         |              |        |
|            | RF-LF-LU-LB | pfeh   | ojek | hdve sahb gt     | L' D F D' S U L' U' L S'       |                  |        | 10        |              |        |
|            | RF-LF-LU-BL | pfer   | ojel | ahbx hseg dtxg   | U L' U' F2 L' S D' L D S' F2 L |                  |        | 12        |              |        |
|            | RF-LF-LU-BR | pfet   | ojem | wivp wgwq vgv    | F' L2 F E F' L F' E' F L F     |                  |        | 11        |              |        |
|            | RF-LF-LU-RB | pfen   | ojen | akvb tbsc wjb    | U R' F U' S' U' S U2 F' R U'   |                  |        | 11        |              |        |
|            | RF-LF-LU-LD | pfeq   | ojeq |                  |                                |                  |        | 0         |              |        |
|            | RF-LF-LU-BD | pfes   | ojer | scvm wawn vat    | S U2 F M F' U F' M' F U S'     |                  |        | 11        |              |        |
|            | RF-LF-LU-RD | pfeo   | ojes | ajwc nbmb vkb    | U R F' U2 M' U' M U' F R' U'   |                  |        | 11        |              |        |
|            | RF-LF-LU-DB | pfew   | ojeu | cuvw kwov jc     | U2 F M2 F' R' F' M2 F R U2     |                  |        | 10        |              |        |
|            | RF-LF-LU-DR | pfev   | ojev | wbjw qwpox kav   | F' U' R F' E' F' E F2 R' U F   |                  |        | 11        |              |        |
|            | RF-LF-BU-UL | pfqd   | ojfa |                  |                                |                  |        | 0         |              |        |
|            | RF-LF-BU-UR | pfqb   | ojfc |                  |                                |                  |        | 0         |              |        |
|            | RF-LF-BU-DF | pfqu   | ojfd |                  |                                |                  |        | 0         |              |        |

| UF Diagram | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)    | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|--------|------|------------------|-----------------------------|------------------|--------|-----------|--------------|--------|
|            | RF-LF-BU-LU | pfqe   | ojfe |                  |                             |                  | 0      |           |              |        |
|            | RF-LF-BU-RU | pfqm   | ojfg |                  |                             |                  | 0      |           |              |        |
|            | RF-LF-BU-LB | pfqh   | ojfk |                  |                             |                  | 0      |           |              |        |
|            | RF-LF-BU-BL | pfqr   | ojfl |                  |                             |                  | 0      |           |              |        |
|            | RF-LF-BU-BR | pfqt   | ojfm |                  |                             |                  | 0      |           |              |        |
|            | RF-LF-BU-RB | pfqn   | ojfn | v lvq xpmv lwn   | F R2 F E' F2 E M F R2 F' M' |                  | 11     |           |              | A      |
|            | RF-LF-BU-LD | pfqg   | ojfq |                  |                             |                  | 0      |           |              |        |
|            | RF-LF-BU-BD | pfqs   | ojfr |                  |                             |                  | 0      |           |              |        |
|            | RF-LF-BU-RD | pfqo   | ojfs |                  |                             |                  | 0      |           |              |        |
|            | RF-LF-BU-DL | pfqx   | ojft |                  |                             |                  | 0      |           |              |        |
|            | RF-LF-BU-DB | pfqw   | ojfu |                  |                             |                  | 0      |           |              |        |
|            | RF-LF-BU-DR | pfqv   | ojfv |                  |                             |                  | 0      |           |              |        |
|            | RF-LF-RU-UB | pfma   | ojgb |                  |                             |                  | 0      |           |              |        |
|            | RF-LF-RU-DF | pfmu   | ojgd |                  |                             |                  | 0      |           |              |        |
|            | RF-LF-RU-BU | pfmq   | ojgf |                  |                             |                  | 0      |           |              |        |
|            | RF-LF-RU-BR | pfmt   | ojgm | lbkp jqkp jqal   | R2 U' R' E R E' R' E R u R2 |                  | 12     |           |              |        |
|            | RF-LF-RU-LD | pfmg   | ojgq |                  |                             |                  | 0      |           |              |        |
|            | RF-LF-RU-DB | pfmw   | ojgu |                  |                             |                  | 0      |           |              |        |
|            | RF-LF-FU-UL | pfid   | ojha |                  |                             |                  | 0      |           |              | P      |
|            | RF-LF-FU-UB | pfia   | ojhb |                  |                             |                  | 0      |           |              |        |
|            | RF-LF-FU-UR | pfib   | ojhc |                  |                             |                  | 0      |           |              |        |
|            | RF-LF-FU-LU | pfie   | ojhe |                  |                             |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-LF-FU-BU | pfiq        |        | ojhf |                  |                          |                  |        | 0         |              |        |
| RF-LF-FU-RU | pfim        |        | ojhg |                  |                          |                  |        | 0         |              |        |
| RF-LF-FU-LB | pfih        |        | ojhk |                  |                          |                  |        | 0         |              |        |
| RF-LF-FU-BL | pfir        |        | ojhl |                  |                          |                  |        | 0         |              |        |
| RF-LF-FU-BR | pfit        |        | ojhm |                  |                          |                  |        | 0         |              |        |
| RF-LF-FU-RB | pfin        |        | ojhn |                  |                          |                  |        | 0         |              |        |
| RF-LF-FU-BD | pfis        |        | ojhr |                  |                          |                  |        | 0         |              |        |
| RF-LF-FU-RD | pfo         |        | ojhs |                  |                          |                  |        | 0         |              |        |
| RF-LF-FU-DB | pfiw        |        | ojhu |                  |                          |                  |        | 0         |              | P      |
| RF-LF-FU-DR | pfiw        |        | ojhv |                  |                          |                  |        | 0         |              |        |
| RF-LF-LB-UL | pfhd        |        | ojka |                  |                          |                  |        | 0         |              |        |
| RF-LF-LB-UB | pfha        |        | ojkb |                  |                          |                  |        | 0         |              |        |
| RF-LF-LB-UR | pfhb        |        | ojkc |                  |                          |                  |        | 0         |              |        |
| RF-LF-LB-DF | pfhu        |        | ojkd |                  |                          |                  |        | 0         |              |        |
| RF-LF-LB-LU | pfhe        |        | ojke |                  |                          |                  |        | 0         |              |        |
| RF-LF-LB-RU | pfhm        |        | ojkg |                  |                          |                  |        | 0         |              |        |
| RF-LF-LB-FU | pffi        |        | ojkh |                  |                          |                  |        | 0         |              |        |
| RF-LF-LB-BR | pfht        |        | ojkm |                  |                          |                  |        | 0         |              |        |
| RF-LF-LB-RB | pfhn        |        | ojkn |                  |                          |                  |        | 0         |              |        |
| RF-LF-LB-LD | pfhg        |        | ojkq |                  |                          |                  |        | 0         |              |        |
| RF-LF-LB-BD | pfhs        |        | ojkr |                  |                          |                  |        | 0         |              | P      |
| RF-LF-LB-RD | pfho        |        | ojks |                  |                          |                  |        | 0         |              | A      |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              | 0      |
| RF-LF-LB-DL | pfhx        |        | ojkt |                  |                          |                  |        | 0         |              | 0      |
| RF-LF-LB-DR | pfhv        |        | ojkv |                  |                          |                  |        | 0         |              | 0      |
| RF-LF-BL-UL | pfrd        |        | ojla |                  |                          |                  |        | 0         |              | 0      |
| RF-LF-BL-UR | pfrb        |        | ojlc |                  |                          |                  |        | 0         |              | 0      |
| RF-LF-BL-LU | pfre        |        | ojle |                  |                          |                  |        | 0         |              | 0      |
| RF-LF-BL-RU | pfrm        |        | ojlg |                  |                          |                  |        | 0         |              | 0      |
| RF-LF-BL-BR | pfrt        |        | ojlm |                  |                          |                  |        | 0         |              | 0      |
| RF-LF-BL-RB | pfrn        |        | ojln |                  |                          |                  |        | 0         |              | 0      |
| RF-LF-BL-BD | pfrs        |        | ojlr |                  |                          |                  |        | 0         |              | 0      |
| RF-LF-BL-RD | pfrq        |        | ojls |                  |                          |                  |        | 0         |              | 0      |
| RF-LF-BR-UL | pftd        |        | ojma |                  |                          |                  |        | 0         |              | 0      |
| RF-LF-BR-UB | pfta        |        | ojmb |                  |                          |                  |        | 0         |              | 0      |
| RF-LF-BR-UR | pftb        |        | ojmc |                  |                          |                  |        | 0         |              | 0      |
| RF-LF-BR-DF | pftu        |        | ojmd |                  |                          |                  |        | 0         |              | 0      |
| RF-LF-BR-LU | pfte        |        | ojme |                  |                          |                  |        | 0         |              | 0      |
| RF-LF-BR-BU | pftq        |        | ojmf |                  |                          |                  |        | 0         |              | 0      |
| RF-LF-BR-RU | pftm        |        | ojmg |                  |                          |                  |        | 0         |              | 0      |
| RF-LF-BR-FU | pfti        |        | ojmh |                  |                          |                  |        | 0         |              | 0      |
| RF-LF-BR-LB | pftb        |        | ojmk |                  |                          |                  |        | 0         |              | 0      |
| RF-LF-BR-BL | pptr        |        | ojml |                  |                          |                  |        | 0         |              | 0      |
| RF-LF-BR-LD | pftg        |        | ojmq |                  |                          |                  |        | 0         |              | 0      |
| RF-LF-BR-BD | pfts        |        | ojmr |                  |                          |                  |        | 0         |              | 0      |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)     | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|------|------------------|------------------------------|------------------|--------|-----------|--------------|--------|
|   | RF-LF-BR-RD | pfto   | ojms |                  |                              |                  | 0      |           |              |        |
|   | RF-LF-BR-DL | pftx   | ojmt |                  |                              |                  | 0      |           |              |        |
|   | RF-LF-BR-DB | pftw   | ojmu |                  |                              |                  | 0      |           |              |        |
|   | RF-LF-RB-UL | pfnd   | ojna |                  |                              |                  | 0      |           |              |        |
|   | RF-LF-RB-UB | pfna   | ojnb |                  |                              |                  | 0      |           |              |        |
|  | RF-LF-RB-UR | pfnb   | ojnc | gckt jbj s kbh   | L U2 R' S' R U' R S R' U' L' |                  | 11     |           |              |        |
|   | RF-LF-RB-LU | pfne   | ojne |                  |                              |                  | 0      |           |              |        |
|   | RF-LF-RB-BU | pfnq   | ojnf |                  |                              |                  | 0      |           |              |        |
|   | RF-LF-RB-RU | pfnm   | ojng |                  |                              |                  | 0      |           |              |        |
|   | RF-LF-RB-FU | pfni   | ojnh |                  |                              |                  | 0      |           |              |        |
|   | RF-LF-RB-LB | pfnh   | ojnk |                  |                              |                  | 0      |           |              |        |
|   | RF-LF-RB-BL | pfnr   | ojnl |                  |                              |                  | 0      |           |              |        |
|   | RF-LF-RB-LD | pfng   | ojnq |                  |                              |                  | 0      |           |              |        |
|   | RF-LF-RB-BD | pfns   | ojnr |                  |                              |                  | 0      |           |              |        |
|   | RF-LF-RB-RD | pfno   | ojns |                  |                              |                  | 0      |           |              |        |
|   | RF-LF-RB-DL | pfnx   | ojnt |                  |                              |                  | 0      |           | 0            |        |
|   | RF-LF-RB-DB | pfnw   | ojnu |                  |                              |                  | 0      |           |              |        |
|   | RF-LF-RB-DR | pfnv   | ojnv |                  |                              |                  | 0      |           |              |        |
|   | RF-LF-LD-UL | pfgd   | ojqa |                  |                              |                  | 0      |           |              |        |
|   | RF-LF-LD-UB | pfga   | ojqb |                  |                              |                  | 0      |           |              |        |
|   | RF-LF-LD-UR | pfgb   | ojqc |                  |                              |                  | 0      |           |              |        |
|   | RF-LF-LD-DF | pfgu   | ojqd |                  |                              |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-LF-LD-LU | pfge        | ojqe   |      |                  |                          |                  |        | 0         |              |        |
| RF-LF-LD-BU | pfgq        | ojqf   |      |                  |                          |                  |        | 0         |              |        |
| RF-LF-LD-RU | pfgm        | ojqg   |      |                  |                          |                  |        | 0         |              |        |
| RF-LF-LD-LB | pfgb        | ojqk   |      |                  |                          |                  |        | 0         |              |        |
| RF-LF-LD-BL | pfgt        | ojql   |      |                  |                          |                  |        | 0         |              |        |
| RF-LF-LD-BR | pfgt        | ojqm   |      |                  |                          |                  |        | 0         |              |        |
| RF-LF-LD-RB | pfgn        | ojqn   |      |                  |                          |                  |        | 0         |              |        |
| RF-LF-LD-BD | pfgs        | ojqr   |      |                  |                          |                  |        | 0         |              |        |
| RF-LF-LD-RD | pfgo        | ojqs   |      |                  |                          |                  |        | 0         |              |        |
| RF-LF-LD-DR | pfgv        | ojqv   |      |                  |                          |                  |        | 0         |              |        |
| RF-LF-BD-UL | pfsd        | ojra   |      |                  |                          |                  |        | 0         |              |        |
| RF-LF-BD-UB | pfsa        | ojrb   |      |                  |                          |                  |        | 0         |              |        |
| RF-LF-BD-DF | pfsu        | ojrd   |      |                  |                          |                  |        | 0         |              |        |
| RF-LF-BD-LU | pfse        | ojre   |      |                  |                          |                  |        | 0         |              |        |
| RF-LF-BD-RU | p fsm       | ojrg   |      |                  |                          |                  |        | 0         |              |        |
| RF-LF-BD-FU | pfsi        | ojrh   |      |                  |                          |                  |        | 0         |              |        |
| RF-LF-BD-LB | pfsb        | ojrk   |      |                  |                          |                  |        | 0         |              |        |
| RF-LF-BD-BL | pfsr        | ojrl   |      |                  |                          |                  |        | 0         |              |        |
| RF-LF-BD-BR | pfst        | ojrm   |      |                  |                          |                  |        | 0         |              |        |
| RF-LF-BD-RB | pfsn        | ojrn   |      |                  |                          |                  |        | 0         |              |        |
| RF-LF-BD-LD | pfsq        | ojrq   |      |                  |                          |                  |        | 0         |              |        |
| RF-LF-BD-RD | pfsq        | ojrs   |      |                  |                          |                  |        | 0         |              |        |

| UF Diagram | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)   | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|--------|------|------------------|----------------------------|------------------|--------|-----------|--------------|--------|
|            | RF-LF-BD-DR | pfsv   | ojrv |                  |                            |                  | 0      |           |              |        |
|            | RF-LF-RD-UL | pfod   | ojsa |                  |                            |                  | 0      |           |              |        |
|            | RF-LF-RD-UB | pfoa   | ojsb |                  |                            |                  | 0      |           |              |        |
|            | RF-LF-RD-DF | pfov   | ojsd |                  |                            |                  | 0      |           |              |        |
|            | RF-LF-RD-BR | pftot  | ojsm |                  |                            |                  | 0      |           |              |        |
|            | RF-LF-RD-RB | pfon   | ojsn | nqal pjrj brm    | M' u R2 E R E2 R U' E2 M   |                  | 11     |           |              |        |
|            | RF-LF-RD-LD | pfrag  | ojsq |                  |                            |                  | 0      |           |              |        |
|            | RF-LF-RD-BD | pfos   | ojsr |                  |                            |                  | 0      |           |              |        |
|            | RF-LF-DL-UL | pfxd   | ojta |                  |                            |                  | 0      |           |              |        |
|            | RF-LF-DL-UB | pxfa   | ojtb |                  |                            |                  | 0      |           |              |        |
|            | RF-LF-DL-UR | pxfb   | ojtc |                  |                            |                  | 0      |           |              |        |
|            | RF-LF-DL-DF | pxfu   | ojtd |                  |                            |                  | 0      |           |              |        |
|            | RF-LF-DL-LU | pxfe   | ojte |                  |                            |                  | 0      |           |              |        |
|            | RF-LF-DL-BU | pxfq   | ojtf |                  |                            |                  | 0      |           |              |        |
|            | RF-LF-DL-RU | pxfm   | ojtg |                  |                            |                  | 0      |           |              |        |
|            | RF-LF-DL-FU | pxfi   | ojth |                  |                            |                  | 0      |           |              |        |
|            | RF-LF-DL-RB | pxfn   | ojtn | asjp sjtq ltb    | U S R E S R S' E' R2 S' U' |                  | 11     |           |              |        |
|            | RF-LF-DL-BD | pxfs   | ojtr |                  |                            |                  | 0      |           |              |        |
|            | RF-LF-DL-RD | pxfo   | ojts |                  |                            |                  | 0      |           |              |        |
|            | RF-LF-DL-DB | pxfw   | ojtu |                  |                            |                  | 0      |           |              |        |
|            | RF-LF-DB-UL | pfwd   | ojua |                  |                            |                  | 0      |           |              |        |
|            | RF-LF-DB-RU | pfwm   | ojug |                  |                            |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-LF-DB-BR | pfwt        | ojum   |      |                  |                          |                  |        | 0         |              |        |
| RF-LF-DB-RB | pfwn        | ojun   |      |                  |                          |                  |        | 0         |              |        |
| RF-LF-DB-LD | pfwg        | ojuq   |      |                  |                          |                  |        | 0         |              |        |
| RF-LF-DB-DL | pfwx        | ojut   |      |                  |                          |                  |        | 0         |              |        |
| RF-LF-DR-UB | pfva        | ojvb   |      |                  |                          |                  |        | 0         |              |        |
| RF-LF-DR-DF | pfvu        | ojvd   |      |                  |                          |                  |        | 0         |              |        |
| RF-LF-DR-BU | pfvq        | ojvf   |      |                  |                          |                  |        | 0         |              |        |
| RF-LF-DR-RU | pfvm        | ojvg   |      |                  |                          |                  |        | 0         |              |        |
| RF-LF-DR-RB | pfvn        | ojvn   |      |                  |                          |                  |        | 0         |              |        |
| RF-LF-DR-BD | pfvs        | ojvr   |      |                  |                          |                  |        | 0         |              |        |
| RF-LB-UL-UB | phda        | okab   |      |                  |                          |                  |        | 0         |              |        |
| RF-LB-UL-UR | phdb        | okac   |      |                  |                          |                  |        | 0         | L            |        |
| RF-LB-UL-DF | phdu        | okad   |      |                  |                          |                  |        | 0         | A            |        |
| RF-LB-UL-BU | phdq        | okaf   |      |                  |                          |                  |        | 0         |              |        |
| RF-LB-UL-RU | phdm        | okag   |      |                  |                          |                  |        | 0         |              |        |
| RF-LB-UL-FU | phdi        | okah   |      |                  |                          |                  |        | 0         |              |        |
| RF-LB-UL-FL | phdl        | okai   |      |                  |                          |                  |        | 0         |              |        |
| RF-LB-UL-LF | phdf        | okaj   |      |                  |                          |                  |        | 0         |              |        |
| RF-LB-UL-BR | phdt        | okam   |      |                  |                          |                  |        | 0         |              |        |
| RF-LB-UL-RB | phdn        | okan   |      |                  |                          |                  |        | 0         |              |        |
| RF-LB-UL-FR | phdj        | okap   |      |                  |                          |                  |        | 0         |              |        |
| RF-LB-UL-LD | phdg        | okaq   |      |                  |                          |                  |        | 0         |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|   | RF-LB-UL-BD | phds   | okar |                  |                          |                  | 0      |           |              |        |
|   | RF-LB-UL-RD | phdo   | okas |                  |                          |                  | 0      |           | 0            |        |
|   | RF-LB-UL-DB | phdw   | okau |                  |                          |                  | 0      |           |              |        |
|   | RF-LB-UL-DR | phdv   | okav |                  |                          |                  | 0      |           |              |        |
|    | RF-LB-UB-UL | phad   | okba | pvjb task wq     | E F R U' S' U S R' F' E' |                  | 10     |           | A            |        |
|   | RF-LB-UB-UR | phab   | okbc |                  |                          |                  | 0      |           |              |        |
|   | RF-LB-UB-RU | pham   | okbg |                  |                          |                  | 0      |           |              |        |
|   | RF-LB-UB-FU | phai   | okbh |                  |                          |                  | 0      |           |              |        |
|   | RF-LB-UB-FL | phal   | okbi |                  |                          |                  | 0      |           |              |        |
|   | RF-LB-UB-LF | phaf   | okbj |                  |                          |                  | 0      |           |              |        |
|   | RF-LB-UB-RB | phan   | okbn |                  |                          |                  | 0      |           |              |        |
|   | RF-LB-UB-BD | phas   | okbr |                  |                          |                  | 0      |           |              |        |
|   | RF-LB-UB-RD | phao   | okbs |                  |                          |                  | 0      |           |              |        |
|   | RF-LB-UB-DL | phax   | okbt |                  |                          |                  | 0      |           | A            |        |
|  | RF-LB-UB-DB | phaw   | okbu |                  |                          |                  | 0      |           |              |        |
|   | RF-LB-UR-UL | phbd   | okca | vgbv mwna hw     | F L U' F M F' M' U L' F' |                  | 10     |           |              |        |
|   | RF-LB-UR-UB | phba   | okcb |                  |                          |                  | 0      |           |              |        |
|   | RF-LB-UR-DF | phbu   | okcd |                  |                          |                  | 0      |           |              |        |
|   | RF-LB-UR-LU | phbe   | okce |                  |                          |                  | 0      |           |              |        |
|   | RF-LB-UR-BU | phbq   | okcf |                  |                          |                  | 0      |           |              |        |
|   | RF-LB-UR-FU | phbi   | okch |                  |                          |                  | 0      |           |              |        |
|   | RF-LB-UR-FL | phbl   | okci |                  |                          |                  | 0      |           |              |        |

| UF Diagram | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|            | RF-LB-UR-LF | phbf   | okcj |                  |                          |                  | 0      |           |              |        |
|            | RF-LB-UR-BR | phbt   | okcm |                  |                          |                  | 0      |           |              |        |
|            | RF-LB-UR-RB | phbn   | okcn |                  |                          |                  | 0      |           |              | F      |
|            | RF-LB-UR-LD | phbg   | okcq | jawg phqv bk     | R U F' L E L' E' F U' R' |                  | 10     |           |              |        |
|            | RF-LB-UR-RD | phbo   | okcs |                  |                          |                  | 0      |           |              |        |
|            | RF-LB-UR-DR | phbv   | okcv |                  |                          |                  | 0      |           |              |        |
|            | RF-LB-DF-UL | phud   | okda |                  |                          |                  | 0      |           |              | L      |
|            | RF-LB-DF-UR | phub   | okdc |                  |                          |                  | 0      |           |              |        |
|            | RF-LB-DF-LU | phue   | okde |                  |                          |                  | 0      |           |              | A      |
|            | RF-LB-DF-BU | phuq   | okdf |                  |                          |                  | 0      |           |              |        |
|            | RF-LB-DF-RU | phum   | okdg |                  |                          |                  | 0      |           |              | F      |
|            | RF-LB-DF-FL | phul   | okdi |                  |                          |                  | 0      |           |              |        |
|            | RF-LB-DF-LF | phuf   | okdj |                  |                          |                  | 0      |           |              |        |
|            | RF-LB-DF-BR | phut   | okdm |                  |                          |                  | 0      |           |              |        |
|            | RF-LB-DF-RB | phun   | okdn |                  |                          |                  | 0      |           |              | A      |
|            | RF-LB-DF-LD | phug   | okdq |                  |                          |                  | 0      |           |              | A      |
|            | RF-LB-DF-BD | phus   | okdr |                  |                          |                  | 0      |           |              | O      |
|            | RF-LB-DF-RD | phuo   | okds |                  |                          |                  | 0      |           |              |        |
|            | RF-LB-DF-DL | phux   | okdt |                  |                          |                  | 0      |           |              | L      |
|            | RF-LB-DF-DB | phuw   | okdu |                  |                          |                  | 0      |           |              | A      |
|            | RF-LB-DF-DR | phuv   | okdv |                  |                          |                  | 0      |           |              |        |
|            | RF-LB-LU-UB | phea   | okeb |                  |                          |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-LB-LU-UR | pheb        |        | okec |                  |                          |                  |        | 0         |              |        |
| RF-LB-LU-DF | pheu        |        | oked |                  |                          |                  |        | 0         |              | A      |
| RF-LB-LU-BU | pheq        |        | okef |                  |                          |                  |        | 0         |              |        |
| RF-LB-LU-RU | phem        |        | okeg |                  |                          |                  |        | 0         |              |        |
| RF-LB-LU-FU | phei        |        | okeh |                  |                          |                  |        | 0         |              |        |
| RF-LB-LU-FL | phel        |        | okei |                  |                          |                  |        | 0         |              | P      |
| RF-LB-LU-BR | phet        |        | okem |                  |                          |                  |        | 0         |              |        |
| RF-LB-LU-RB | phen        |        | oken |                  |                          |                  |        | 0         |              |        |
| RF-LB-LU-RD | pheo        |        | okes |                  |                          |                  |        | 0         |              |        |
| RF-LB-LU-DR | phev        |        | okev |                  |                          |                  |        | 0         |              |        |
| RF-LB-BU-RU | phqm        |        | okfg |                  |                          |                  |        | 0         |              | A      |
| RF-LB-BU-FL | phql        |        | okfi |                  |                          |                  |        | 0         |              | L      |
| RF-LB-BU-LF | phqf        |        | okfj |                  |                          |                  |        | 0         |              |        |
| RF-LB-BU-RB | phqn        |        | okfn |                  |                          |                  |        | 0         |              |        |
| RF-LB-BU-LD | phqg        |        | okfq |                  |                          |                  |        | 0         |              | A      |
| RF-LB-BU-RD | phqo        |        | okfs |                  |                          |                  |        | 0         |              |        |
| RF-LB-BU-DB | phqw        |        | okfu |                  |                          |                  |        | 0         |              |        |
| RF-LB-RU-UL | phmd        |        | okga |                  |                          |                  |        | 0         |              | A      |
| RF-LB-RU-UB | phma        |        | okgb |                  |                          |                  |        | 0         |              |        |
| RF-LB-RU-DF | phmu        |        | okgd |                  |                          |                  |        | 0         |              | F      |
| RF-LB-RU-LU | phme        |        | okge |                  |                          |                  |        | 0         |              |        |
| RF-LB-RU-BU | phmq        |        | okgf |                  |                          |                  |        | 0         |              |        |

| UF Diagram | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)      | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|--------|------|------------------|-------------------------------|------------------|--------|-----------|--------------|--------|
|            | RF-LB-RU-FU | phmi   | okgh |                  |                               |                  | 0      |           |              |        |
|            | RF-LB-RU-FL | phml   | okgi |                  |                               |                  | 0      |           |              |        |
|            | RF-LB-RU-LF | phmf   | okgj |                  |                               |                  | 0      |           |              |        |
|            | RF-LB-RU-BR | phmt   | okgm | kwbg shah tgvj   | R' F' U' L S L' U L' S' L F R |                  | 12     |           |              | P      |
|            | RF-LB-RU-RB | phmn   | okgn |                  |                               |                  | 0      |           |              |        |
|            | RF-LB-RU-BD | phms   | okgr |                  |                               |                  | 0      |           | O            |        |
|            | RF-LB-RU-DB | phmw   | okgu |                  |                               |                  | 0      |           | L            |        |
|            | RF-LB-RU-DR | phmv   | okgv |                  |                               |                  | 0      |           |              |        |
|            | RF-LB-FU-UL | phid   | okha |                  |                               |                  | 0      |           | C            |        |
|            | RF-LB-FU-UR | phib   | okhc |                  |                               |                  | 0      |           |              |        |
|            | RF-LB-FU-LU | phie   | okhe |                  |                               |                  | 0      |           |              |        |
|            | RF-LB-FU-RU | phim   | okhg |                  |                               |                  | 0      |           |              |        |
|            | RF-LB-FU-FL | phil   | okhi |                  |                               |                  | 0      |           | L            |        |
|            | RF-LB-FU-LF | phif   | okhj |                  |                               |                  | 0      |           |              |        |
|            | RF-LB-FU-BR | phit   | okhm |                  |                               |                  | 0      |           |              |        |
|            | RF-LB-FU-BD | phis   | okhr |                  |                               |                  | 0      |           | A            |        |
|            | RF-LB-FU-RD | phio   | okhs |                  |                               |                  | 0      |           |              |        |
|            | RF-LB-FU-DB | phiw   | okhu |                  |                               |                  | 0      |           | A            |        |
|            | RF-LB-FL-UL | phld   | okia |                  |                               |                  | 0      |           |              |        |
|            | RF-LB-FL-UB | phla   | okib |                  |                               |                  | 0      |           |              |        |
|            | RF-LB-FL-LU | phle   | okie |                  |                               |                  | 0      |           | O            |        |
|            | RF-LB-FL-BU | phlq   | okif |                  |                               |                  | 0      |           | A            |        |

| UF Diagram | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|            | RF-LB-FL-FU | phli   | okih |                  |                          |                  | 0      |           |              |        |
|            | RF-LB-FL-BR | phlt   | okim |                  |                          |                  | 0      |           |              |        |
|            | RF-LB-FL-RB | phln   | okin |                  |                          |                  | 0      |           |              |        |
|            | RF-LB-FL-LD | phlg   | okiq |                  |                          |                  | 0      |           | A            |        |
|            | RF-LB-FL-BD | phls   | okir |                  |                          |                  | 0      |           |              |        |
|            | RF-LB-FL-RD | phlo   | okis |                  |                          |                  | 0      |           |              |        |
|            | RF-LB-FL-DL | phlx   | okit |                  |                          |                  | 0      |           |              |        |
|            | RF-LB-FL-DB | phlw   | okiu |                  |                          |                  | 0      |           |              |        |
|            | RF-LB-FL-DR | phlv   | okiv |                  |                          |                  | 0      |           |              |        |
|            | RF-LB-LF-UL | phfd   | okja |                  |                          |                  | 0      |           |              |        |
|            | RF-LB-LF-UB | phfa   | okjb |                  |                          |                  | 0      |           | A            |        |
|            | RF-LB-LF-UR | phfb   | okjc |                  |                          |                  | 0      |           |              |        |
|            | RF-LB-LF-LU | phfe   | okje |                  |                          |                  | 0      |           |              |        |
|            | RF-LB-LF-BU | phfq   | okjf |                  |                          |                  | 0      |           | A            |        |
|            | RF-LB-LF-RU | phfm   | okjg | vhtg pwqq sh     | F L' S' L E F' E' L S L' |                  | 10     |           |              |        |
|            | RF-LB-LF-FU | phfi   | okjh |                  |                          |                  | 0      |           |              |        |
|            | RF-LB-LF-BR | phft   | okjm |                  |                          |                  | 0      |           | A            |        |
|            | RF-LB-LF-RB | phfn   | okjn |                  |                          |                  | 0      |           |              |        |
|            | RF-LB-LF-LD | phfg   | okjq |                  |                          |                  | 0      |           |              |        |
|            | RF-LB-LF-DL | phfx   | okjt |                  |                          |                  | 0      |           |              |        |
|            | RF-LB-LF-DB | phfw   | okju |                  |                          |                  | 0      |           |              |        |
|            | RF-LB-LF-DR | phfv   | okjv |                  |                          |                  | 0      |           |              |        |

| UF Diagram | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)       | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|--------|------|------------------|--------------------------------|------------------|--------|-----------|--------------|--------|
|            | RF-LB-BL-UL | phrd   | okla |                  |                                |                  | 0      |           |              | A      |
|            | RF-LB-BR-UL | phtd   | okma |                  |                                |                  | 0      |           |              | C      |
|            | RF-LB-BR-UB | phta   | okmb |                  |                                |                  | 0      |           |              |        |
|            | RF-LB-BR-UR | phtb   | okmc | ovrj pkrw jqkq   | E F E2 R E R' E2 F' R E' R' E' |                  | 12     |           |              |        |
|            | RF-LB-BR-DF | phtu   | okmd |                  |                                |                  | 0      |           |              |        |
|            | RF-LB-BR-LU | phte   | okme |                  |                                |                  | 0      |           |              | A      |
|            | RF-LB-BR-BU | phtq   | okmf |                  |                                |                  | 0      |           |              |        |
|            | RF-LB-BR-RU | phtm   | okmg |                  |                                |                  | 0      |           |              | A      |
|            | RF-LB-BR-FU | phti   | okmh |                  |                                |                  | 0      |           |              |        |
|            | RF-LB-BR-FL | phtl   | okmi |                  |                                |                  | 0      |           |              |        |
|            | RF-LB-BR-LF | phtf   | okmj |                  |                                |                  | 0      |           |              |        |
|            | RF-LB-BR-DB | phtw   | okmu |                  |                                |                  | 0      |           |              | O      |
|            | RF-LB-BR-DR | phtv   | okmv |                  |                                |                  | 0      |           |              | A      |
|            | RF-LB-RB-UL | phnd   | okna |                  |                                |                  | 0      |           |              | P      |
|            | RF-LB-RB-UB | phna   | oknb | xqmw lnql rw     | F2 E' M F' R2 M' E' R2 E2 F'   |                  | 10     |           |              |        |
|            | RF-LB-RB-RU | phnm   | okng |                  |                                |                  | 0      |           |              |        |
|            | RF-LB-RB-FL | phnl   | okni |                  |                                |                  | 0      |           |              |        |
|            | RF-LB-RB-LF | phnf   | oknj |                  |                                |                  | 0      |           |              |        |
|            | RF-LB-RB-LD | phng   | oknq |                  |                                |                  | 0      |           |              |        |
|            | RF-LB-RB-BD | phns   | oknr |                  |                                |                  | 0      |           |              |        |
|            | RF-LB-RB-DR | phnv   | oknv |                  |                                |                  | 0      |           |              |        |
|            | RF-LB-FR-DB | phjw   | okpu |                  |                                |                  | 0      |           |              | A      |

| UF Diagram | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)       | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|--------|------|------------------|--------------------------------|------------------|--------|-----------|--------------|--------|
|            | RF-LB-LD-UL | phgd   | okqa | vgbp wqva hw     | F L u' F' E' F U L' F'         |                  | 10     |           |              |        |
|            | RF-LB-LD-UB | phga   | okqb | vbgb pwqv ahaw   | F U' L U' E F' E' F U L' U F'  |                  | 12     |           | O            |        |
|            | RF-LB-LD-UR | phgb   | okqc | jwht hphq hsvk   | R F' L' S' L' E L' E' L' f R'  |                  | 12     |           |              |        |
|            | RF-LB-LD-LU | phge   | okqe | jvch tqgp scwk   | R F U2 L' S' E' L E S U2 F' R' |                  | 12     |           |              |        |
|            | RF-LB-LD-BU | phgq   | okqf |                  |                                |                  | 0      |           |              |        |
|            | RF-LB-LD-RU | phgm   | okqg | jwqt jsqk rvk    | R F' E' S' R S E' R' E2 F R'   |                  | 11     |           |              |        |
|            | RF-LB-LD-FU | phgi   | okqh |                  |                                |                  | 0      |           |              |        |
|            | RF-LB-LD-FL | phgl   | okqi |                  |                                |                  | 0      |           |              |        |
|            | RF-LB-LD-BD | phgs   | okqr | gfvb pwqv awfh   | L D2 F u' F' E' F U F' D2 L'   |                  | 12     |           | A            |        |
|            | RF-LB-LD-DR | phgv   | okqv | qvdn ewaj pskb   | E' F D M' D' F' U R E S R' U'  |                  | 12     |           |              |        |
|            | RF-LB-BD-UB | phsa   | okrb |                  |                                |                  | 0      |           |              |        |
|            | RF-LB-BD-UR | phsb   | okrc |                  |                                |                  | 0      |           |              |        |
|            | RF-LB-BD-BU | phsq   | okrf |                  |                                |                  | 0      |           |              |        |
|            | RF-LB-BD-FL | phsl   | okri |                  |                                |                  | 0      |           |              |        |
|            | RF-LB-BD-LF | phsf   | okrj |                  |                                |                  | 0      |           |              |        |
|            | RF-LB-BD-BR | phst   | okrm |                  |                                |                  | 0      |           |              |        |
|            | RF-LB-BD-RB | phsn   | okrn |                  |                                |                  | 0      |           | A            |        |
|            | RF-LB-BD-FR | phsj   | okrp |                  |                                |                  | 0      |           |              |        |
|            | RF-LB-BD-LD | phsg   | okrq |                  |                                |                  | 0      |           |              |        |
|            | RF-LB-BD-RD | phso   | okrs |                  |                                |                  | 0      |           |              |        |
|            | RF-LB-BD-DL | phsx   | okrt |                  |                                |                  | 0      |           |              |        |
|            | RF-LB-RD-UL | phod   | oksa |                  |                                |                  | 0      |           | F            |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)       | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|------|------------------|--------------------------------|------------------|--------|-----------|--------------|--------|
|   |             |        |      |                  |                                |                  |        | 0         |              |        |
|   | RF-LB-RD-UB | phoa   | oksb |                  |                                |                  |        | 0         |              |        |
|   | RF-LB-RD-LU | phoe   | okse |                  |                                |                  |        | 0         |              |        |
|   | RF-LB-RD-BU | phoq   | oksf |                  |                                |                  |        | 0         |              |        |
|   | RF-LB-RD-FL | phol   | oksi |                  |                                |                  |        | 0         |              |        |
|   | RF-LB-RD-BR | phot   | oksm |                  |                                |                  |        | 0         |              |        |
|   | RF-LB-RD-RB | phon   | oksn |                  |                                |                  |        | 0         |              |        |
|   | RF-LB-RD-LD | phog   | oksq |                  |                                |                  |        | 0         |              |        |
|   | RF-LB-RD-DL | phox   | okst |                  |                                |                  |        | 0         |              | A      |
|   | RF-LB-DL-UL | phxd   | okta |                  |                                |                  |        | 0         |              |        |
|   | RF-LB-DL-UB | phxa   | oktb |                  |                                |                  |        | 0         |              |        |
|   | RF-LB-DL-UR | phxb   | oktc |                  |                                |                  |        | 0         |              | A      |
|   | RF-LB-DL-LU | phxe   | okte |                  |                                |                  |        | 0         |              |        |
|  | RF-LB-DL-FL | phxl   | okti | jpke nwmv djqk   | R E R' D' M' F' M F D R E' R'  |                  | 12     |           |              |        |
|   | RF-LB-DL-BR | phxt   | oktm |                  |                                |                  |        | 0         |              |        |
|   | RF-LB-DL-RB | phxn   | oktn |                  |                                |                  |        | 0         |              |        |
|   | RF-LB-DL-BD | phxs   | oktr |                  |                                |                  |        | 0         |              |        |
|   | RF-LB-DL-RD | phxo   | okts |                  |                                |                  |        | 0         |              |        |
|   | RF-LB-DB-UR | phwb   | okuc |                  |                                |                  |        | 0         |              | O      |
|  | RF-LB-DB-LD | phwg   | okuq | svbp nwmq vawt   | f u' M' F' M E' F U f          |                  | 12     |           |              | A      |
|   | RF-LB-DB-RD | phwo   | okus |                  |                                |                  |        | 0         |              |        |
|   | RF-LB-DB-DL | phwx   | okut |                  |                                |                  |        | 0         |              |        |
|  | RF-LB-DR-UL | phvd   | okva | agvl bnal mwrb   | U L F R2 U' M' U R2 M F' L' U' |                  | 12     |           |              | L      |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|   | RF-LB-DR-UR | phvb   | okvc |                  |                          |                  | 0      |           |              |        |
|   | RF-LB-DR-LU | phve   | okve |                  |                          |                  | 0      |           |              |        |
|   | RF-LB-DR-BU | phvq   | okvf |                  |                          |                  | 0      |           |              |        |
|   | RF-LB-DR-FU | phvi   | okvh |                  |                          |                  | 0      |           |              |        |
|   | RF-LB-DR-BR | phvt   | okvm |                  |                          |                  | 0      |           |              |        |
|   | RF-LB-DR-RB | phvn   | okvn |                  |                          |                  | 0      |           |              |        |
|   | RF-LB-DR-BD | phvs   | okvr |                  |                          |                  | 0      |           |              |        |
|   | RF-LB-DR-DL | phvx   | okvt |                  |                          |                  | 0      |           | L            |        |
|  | RF-LB-DR-DB | phvw   | okvu | wtmk pvqm wjo sv | f' r' E F E' M F' R M2 f |                  | 13     |           |              |        |
|   | RF-BL-UL-UR | prdb   | olac |                  |                          |                  | 0      |           |              |        |
|   | RF-BL-UL-DF | prdu   | olad |                  |                          |                  | 0      |           |              |        |
|   | RF-BL-UL-BU | prdq   | olaf |                  |                          |                  | 0      |           |              |        |
|   | RF-BL-UL-RU | prdm   | olag |                  |                          |                  | 0      |           |              |        |
|   | RF-BL-UL-FU | prdi   | olah |                  |                          |                  | 0      |           | F            |        |
|   | RF-BL-UL-FL | prdl   | olai |                  |                          |                  | 0      |           |              |        |
|   | RF-BL-UL-LF | prdf   | olaj |                  |                          |                  | 0      |           |              |        |
|   | RF-BL-UL-LB | prdh   | olak |                  |                          |                  | 0      |           | F            |        |
|   | RF-BL-UL-RB | prdn   | olan |                  |                          |                  | 0      |           |              |        |
|   | RF-BL-UL-LD | prdg   | olaq |                  |                          |                  | 0      |           | O            |        |
|   | RF-BL-UL-BD | prds   | olar |                  |                          |                  | 0      |           | O            |        |
|   | RF-BL-UL-DB | prdw   | olau |                  |                          |                  | 0      |           | L            |        |
|   | RF-BL-UL-DR | prdv   | olav |                  |                          |                  | 0      |           |              |        |

| UF Diagram | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)        | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|--------|------|------------------|---------------------------------|------------------|--------|-----------|--------------|--------|
|            | RF-BL-UB-UL | prad   | olba | ivmk dmej owi    | L2 F r' D M D' R M2 F' L2       |                  | 11     |           |              |        |
|            | RF-BL-UB-LU | prae   | olbe |                  |                                 |                  | 0      |           |              |        |
|            | RF-BL-UB-BU | praq   | olbf |                  |                                 |                  | 0      |           | 0            |        |
|            | RF-BL-UB-RU | pram   | olbg |                  |                                 |                  | 0      |           |              |        |
|            | RF-BL-UB-FU | prai   | olbh |                  |                                 |                  | 0      |           |              |        |
|            | RF-BL-UB-FL | pral   | olbi | njga iamb hkwi   | r L U L2 U M U' L' R' F' L2     |                  | 12     |           |              |        |
|            | RF-BL-UB-LF | praf   | olbj |                  |                                 |                  | 0      |           | 0            |        |
|            | RF-BL-UB-BR | prat   | olbm |                  |                                 |                  | 0      |           | 0            |        |
|            | RF-BL-UB-RB | pran   | olbn |                  |                                 |                  | 0      |           |              |        |
|            | RF-BL-UB-FR | praj   | olbp |                  |                                 |                  | 0      |           |              |        |
|            | RF-BL-UB-LD | prag   | olbq |                  |                                 |                  | 0      |           |              |        |
|            | RF-BL-UB-BD | pras   | olbr |                  |                                 |                  | 0      |           |              |        |
|            | RF-BL-UB-RD | prao   | olbs | eixm wnw id      | D' L2 F2 M F' M' F' L2 D        |                  | 9      |           |              |        |
|            | RF-BL-UB-DL | prax   | olbt |                  |                                 |                  | 0      |           |              |        |
|            | RF-BL-UR-UL | prbd   | olca | ovga obhb oawc   | M2 F L U M2 U' L' U' M2 U F' M2 |                  | 12     |           |              |        |
|            | RF-BL-UR-UB | prba   | olcb |                  |                                 |                  | 0      |           | 0            |        |
|            | RF-BL-UR-DF | prbu   | olcd |                  |                                 |                  | 0      |           |              |        |
|            | RF-BL-UR-LU | prbe   | olce |                  |                                 |                  | 0      |           |              |        |
|            | RF-BL-UR-BU | prbq   | olcf |                  |                                 |                  | 0      |           |              |        |
|            | RF-BL-UR-FU | prbi   | olch |                  |                                 |                  | 0      |           |              |        |
|            | RF-BL-UR-FL | prbl   | olci |                  |                                 |                  | 0      |           |              |        |
|            | RF-BL-UR-LF | prbf   | olcj |                  |                                 |                  | 0      |           |              |        |

| UF Diagram | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)      | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|--------|------|------------------|-------------------------------|------------------|--------|-----------|--------------|--------|
|            | RF-BL-UR-BR | prbt   | olcm |                  |                               |                  | 0      |           |              |        |
|            | RF-BL-UR-RB | prbn   | olcn |                  |                               |                  | 0      |           |              |        |
|            | RF-BL-UR-LD | prbg   | olcq |                  |                               |                  | 0      |           |              |        |
|            | RF-BL-UR-BD | prbs   | olcr |                  |                               |                  | 0      |           |              |        |
|            | RF-BL-UR-RD | prbo   | olcs |                  |                               |                  | 0      |           |              |        |
|            | RF-BL-UR-DL | prbx   | olct | skbv qkpj wajt   | S R' U' F E' R' E R F' U R S' |                  | 12     |           |              |        |
|            | RF-BL-UR-DB | prbw   | olcu |                  |                               |                  | 0      |           |              |        |
|            | RF-BL-DF-UL | prud   | olda |                  |                               |                  | 0      |           |              |        |
|            | RF-BL-DF-UR | prub   | oldc |                  |                               |                  | 0      |           |              |        |
|            | RF-BL-DF-LU | prue   | olde |                  |                               |                  | 0      |           |              |        |
|            | RF-BL-DF-RU | prum   | oldg |                  |                               |                  | 0      |           |              |        |
|            | RF-BL-DF-FL | prul   | oldi |                  |                               |                  | 0      |           |              |        |
|            | RF-BL-DF-LF | pruf   | oldj |                  |                               |                  | 0      |           |              |        |
|            | RF-BL-DF-BR | prut   | oldm |                  |                               |                  | 0      |           |              |        |
|            | RF-BL-DF-RB | prun   | oldn |                  |                               |                  | 0      |           |              |        |
|            | RF-BL-DF-LD | prug   | oldq |                  |                               |                  | 0      |           |              |        |
|            | RF-BL-DF-BD | prus   | oldr |                  |                               |                  | 0      |           |              | P      |
|            | RF-BL-DF-RD | pruo   | olds |                  |                               |                  | 0      |           |              |        |
|            | RF-BL-DF-DL | prux   | oldt |                  |                               |                  | 0      |           |              | O      |
|            | RF-BL-DF-DB | pruw   | oldu |                  |                               |                  | 0      |           |              |        |
|            | RF-BL-DF-DR | pruv   | oldv |                  |                               |                  | 0      |           |              |        |
|            | RF-BL-LU-UB | prea   | oleb |                  |                               |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-BL-LU-UR | preb        | olec   |      |                  |                          |                  | 0      |           |              |        |
| RF-BL-LU-DF | preu        | oled   |      |                  |                          |                  | 0      |           | O            |        |
| RF-BL-LU-RU | prem        | oleg   |      |                  |                          |                  | 0      |           | P            |        |
| RF-BL-LU-FU | prei        | oleh   |      |                  |                          |                  | 0      |           |              |        |
| RF-BL-LU-FL | prel        | olei   |      |                  |                          |                  | 0      |           |              |        |
| RF-BL-LU-LF | pref        | olej   |      |                  |                          |                  | 0      |           |              |        |
| RF-BL-LU-BR | pret        | olem   |      |                  |                          |                  | 0      |           |              |        |
| RF-BL-LU-LD | preg        | oleq   |      |                  |                          |                  | 0      |           |              |        |
| RF-BL-LU-BD | pres        | oler   |      |                  |                          |                  | 0      |           |              |        |
| RF-BL-LU-RD | preo        | oles   |      |                  |                          |                  | 0      |           | F            |        |
| RF-BL-LU-DL | prex        | olet   |      |                  |                          |                  | 0      |           |              |        |
| RF-BL-LU-DB | prew        | oleu   |      |                  |                          |                  | 0      |           |              |        |
| RF-BL-LU-DR | prev        | olev   |      |                  |                          |                  | 0      |           |              |        |
| RF-BL-BU-UL | prqd        | olfa   |      |                  |                          |                  | 0      |           | O            |        |
| RF-BL-BU-UR | prqb        | olfc   |      |                  |                          |                  | 0      |           | O            |        |
| RF-BL-BU-DF | prqu        | olfd   |      |                  |                          |                  | 0      |           | O            |        |
| RF-BL-BU-LU | prqe        | olfe   |      |                  |                          |                  | 0      |           |              |        |
| RF-BL-BU-RU | prqm        | olfg   |      |                  |                          |                  | 0      |           |              |        |
| RF-BL-BU-FU | prqi        | olfh   |      |                  |                          |                  | 0      |           | O            |        |
| RF-BL-BU-FL | prql        | olfi   |      |                  |                          |                  | 0      |           |              |        |
| RF-BL-BU-LF | prqf        | olfj   |      |                  |                          |                  | 0      |           |              |        |
| RF-BL-BU-BR | prqt        | olfm   |      |                  |                          |                  | 0      |           |              |        |

| UF Diagram | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)     | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|--------|------|------------------|------------------------------|------------------|--------|-----------|--------------|--------|
|            | RF-BL-BU-RB | prqn   | olfn |                  |                              |                  | 0      |           |              |        |
|            | RF-BL-BU-BD | prqs   | olfr |                  |                              |                  | 0      |           |              | P      |
|            | RF-BL-BU-RD | prqo   | olfs |                  |                              |                  | 0      |           |              |        |
|            | RF-BL-BU-DL | prqx   | olft |                  |                              |                  | 0      |           |              |        |
|            | RF-BL-BU-DB | prqw   | olfu |                  |                              |                  | 0      |           |              |        |
|            | RF-BL-BU-DR | prqv   | olfv |                  |                              |                  | 0      |           |              |        |
|            | RF-BL-RU-UL | prmd   | olga |                  |                              |                  | 0      |           |              | P      |
|            | RF-BL-RU-UB | prma   | olgb |                  |                              |                  | 0      |           |              |        |
|            | RF-BL-RU-LU | prme   | olge | idve hbhb gah    | L2 D F D' L' U' L' U' L U L' |                  | 11     |           |              |        |
|            | RF-BL-RU-BU | prmq   | olgf |                  |                              |                  | 0      |           |              |        |
|            | RF-BL-RU-FL | prml   | olgi |                  |                              |                  | 0      |           |              |        |
|            | RF-BL-RU-LF | prmf   | olgj |                  |                              |                  | 0      |           |              |        |
|            | RF-BL-RU-BR | prmt   | olgm | vpwj vrjp kwk    | F E F' R F E2 R E R' F' R'   |                  | 11     |           |              |        |
|            | RF-BL-RU-RB | prmn   | olgn |                  |                              |                  | 0      |           |              |        |
|            | RF-BL-RU-FR | prmj   | olgp |                  |                              |                  | 0      |           |              | O      |
|            | RF-BL-RU-LD | prmg   | olqq |                  |                              |                  | 0      |           |              | P      |
|            | RF-BL-RU-BD | prms   | olgr |                  |                              |                  | 0      |           |              | O      |
|            | RF-BL-RU-RD | prmo   | olgs |                  |                              |                  | 0      |           |              | O      |
|            | RF-BL-RU-DL | prmx   | olgt |                  |                              |                  | 0      |           |              |        |
|            | RF-BL-RU-DB | prmw   | olgu |                  |                              |                  | 0      |           |              |        |
|            | RF-BL-RU-DR | prmv   | olgv |                  |                              |                  | 0      |           |              | A      |
|            | RF-BL-FU-UB | pria   | olhb |                  |                              |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)  | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|------|------------------|---------------------------|------------------|--------|-----------|--------------|--------|
|   |             |        |      |                  |                           |                  |        | 0         |              |        |
|   | RF-BL-FU-UR | prib   | olhc |                  |                           |                  |        | 0         |              |        |
|   | RF-BL-FU-LU | prie   | olhe |                  |                           |                  |        | 0         |              |        |
|   | RF-BL-FU-FL | pril   | olhi |                  |                           |                  |        | 0         |              |        |
|   | RF-BL-FU-LF | prif   | olhj |                  |                           |                  |        | 0         |              |        |
|   | RF-BL-FU-BD | pris   | olhr |                  |                           |                  |        | 0         |              |        |
|   | RF-BL-FU-RD | prio   | olhs |                  |                           |                  |        | 0         |              |        |
|   | RF-BL-FU-DL | prix   | olht |                  |                           |                  |        | 0         |              |        |
|   | RF-BL-FL-UL | prid   | olia |                  |                           |                  |        | 0         |              |        |
|   | RF-BL-FL-UB | prla   | olib |                  |                           |                  |        | 0         |              |        |
|   | RF-BL-FL-DF | prlu   | olid |                  |                           |                  |        | 0         |              |        |
|   | RF-BL-FL-LU | prle   | olie |                  |                           |                  |        | 0         |              | P      |
|   | RF-BL-FL-BU | prlq   | olif |                  |                           |                  |        | 0         |              |        |
|   | RF-BL-FL-RU | prlm   | olig |                  |                           |                  |        | 0         |              |        |
|   | RF-BL-FL-FU | prli   | olih |                  |                           |                  |        | 0         |              |        |
|   | RF-BL-FL-LB | prlh   | olik |                  |                           |                  |        | 0         |              |        |
|   | RF-BL-FL-BR | prlt   | olim |                  |                           |                  |        | 0         |              |        |
|  | RF-BL-FL-RB | prln   | olin | bkqk rkq ka      | U' R' E' R' E2 R' E' R' U |                  |        | 9         |              |        |
|   | RF-BL-FL-FR | prlj   | olip |                  |                           |                  |        | 0         |              |        |
|   | RF-BL-FL-LD | prlg   | oliq |                  |                           |                  |        | 0         |              |        |
|   | RF-BL-FL-BD | prls   | olir |                  |                           |                  |        | 0         |              |        |
|   | RF-BL-FL-RD | prlo   | olis |                  |                           |                  |        | 0         |              |        |
|   | RF-BL-FL-DL | prlx   | olit |                  |                           |                  |        | 0         |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|   | RF-BL-FL-DB | prlw   | oliu |                  |                          |                  | 0      |           |              |        |
|   | RF-BL-FL-FD | prlk   | olix |                  |                          |                  | 0      |           | 0            |        |
|   | RF-BL-LF-UL | prfd   | olja |                  |                          |                  | 0      |           |              |        |
|   | RF-BL-LF-UB | prfa   | oljb |                  |                          |                  | 0      |           |              |        |
|   | RF-BL-LF-UR | prfb   | oljc |                  |                          |                  | 0      |           |              |        |
|   | RF-BL-LF-DF | prfu   | oljd |                  |                          |                  | 0      |           |              |        |
|   | RF-BL-LF-LU | prfe   | olje |                  |                          |                  | 0      |           |              |        |
|   | RF-BL-LF-FU | prfi   | oljh |                  |                          |                  | 0      |           |              |        |
|   | RF-BL-LF-BR | prft   | oljm |                  |                          |                  | 0      |           |              |        |
|   | RF-BL-LF-RB | prfn   | oljn |                  |                          |                  | 0      |           | 0            |        |
|   | RF-BL-LF-FR | prfj   | oljp |                  |                          |                  | 0      |           |              |        |
|   | RF-BL-LF-LD | prfg   | oljq |                  |                          |                  | 0      |           |              |        |
|   | RF-BL-LF-DL | prfx   | oljt |                  |                          |                  | 0      |           |              |        |
|  | RF-BL-LF-DB | prfw   | olju | pvqw nvmp wq     | E F E' F' M' F M E F' E' |                  | 10     |           | 0            |        |
|   | RF-BL-LF-DR | prfv   | oljv |                  |                          |                  | 0      |           |              |        |
|   | RF-BL-BR-UL | prt d  | olma |                  |                          |                  | 0      |           |              |        |
|   | RF-BL-BR-UB | prta   | olmb |                  |                          |                  | 0      |           |              |        |
|   | RF-BL-BR-LU | prte   | olme |                  |                          |                  | 0      |           |              |        |
|   | RF-BL-BR-BU | prtq   | olmf |                  |                          |                  | 0      |           |              |        |
|   | RF-BL-BR-FL | prt l  | olmi |                  |                          |                  | 0      |           |              |        |
|   | RF-BL-BR-LF | prt f  | olmj |                  |                          |                  | 0      |           |              |        |
|   | RF-BL-BR-LD | prt g  | olmq |                  |                          |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-BL-BR-DL | prtx        |        | olmt |                  |                          |                  | 0      |           |              | A      |
| RF-BL-BR-DB | prt w       |        | olmu |                  |                          |                  | 0      |           |              |        |
| RF-BL-RB-UL | prnd        |        | olna |                  |                          |                  | 0      |           |              |        |
| RF-BL-RB-UR | prnb        |        | olnc |                  |                          |                  | 0      |           |              |        |
| RF-BL-RB-DF | prnu        |        | olnd |                  |                          |                  | 0      |           |              |        |
| RF-BL-RB-LU | prne        |        | olne |                  |                          |                  | 0      |           |              |        |
| RF-BL-RB-RU | prnm        |        | olng |                  |                          |                  | 0      |           |              |        |
| RF-BL-RB-FU | prni        |        | olnh |                  |                          |                  | 0      |           |              |        |
| RF-BL-RB-FL | prnl        |        | olni |                  |                          |                  | 0      |           |              |        |
| RF-BL-RB-LF | prnf        |        | olnj |                  |                          |                  | 0      |           |              |        |
| RF-BL-RB-BD | prns        |        | olnr |                  |                          |                  | 0      |           |              |        |
| RF-BL-RB-RD | prno        |        | olns |                  |                          |                  | 0      |           |              |        |
| RF-BL-RB-DB | prnw        |        | olnu |                  |                          |                  | 0      |           |              |        |
| RF-BL-RB-DR | prnv        |        | olnv |                  |                          |                  | 0      |           |              |        |
| RF-BL-FR-LD | prjg        |        | olpq |                  |                          |                  | 0      |           |              | A      |
| RF-BL-FR-DL | prjx        |        | olpt |                  |                          |                  | 0      |           |              | O      |
| RF-BL-LD-UL | prgd        |        | olqa |                  |                          |                  | 0      |           |              |        |
| RF-BL-LD-UB | prga        |        | olqb |                  |                          |                  | 0      |           |              |        |
| RF-BL-LD-UR | prgb        |        | olqc |                  |                          |                  | 0      |           |              |        |
| RF-BL-LD-DF | prgu        |        | olqd |                  |                          |                  | 0      |           |              |        |
| RF-BL-LD-LU | prge        |        | olqe |                  |                          |                  | 0      |           |              | O      |
| RF-BL-LD-FU | prgi        |        | olqh |                  |                          |                  | 0      |           |              |        |

| UF Diagram | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)       | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|--------|------|------------------|--------------------------------|------------------|--------|-----------|--------------|--------|
|            | RF-BL-LD-FL | prgl   | olqi |                  |                                |                  | 0      |           |              |        |
|            | RF-BL-LD-LF | prgf   | olqj |                  |                                |                  | 0      |           |              |        |
|            | RF-BL-LD-BR | prgt   | olqm |                  |                                |                  | 0      |           |              |        |
|            | RF-BL-LD-RB | prgn   | olqn |                  |                                |                  | 0      |           |              |        |
|            | RF-BL-LD-BD | prgs   | olqr |                  |                                |                  | 0      |           |              | A      |
|            | RF-BL-LD-DB | prgw   | olqu |                  |                                |                  | 0      |           |              |        |
|            | RF-BL-LD-DR | prgv   | olqv | p vau jsks bwq   | E F U S2 R S R' S U' F' E'     |                  | 11     |           |              |        |
|            | RF-BL-BD-UL | prsd   | olra |                  |                                |                  | 0      |           |              |        |
|            | RF-BL-BD-UB | prsa   | olrb |                  |                                |                  | 0      |           |              |        |
|            | RF-BL-BD-UR | prsb   | olrc |                  |                                |                  | 0      |           |              | P      |
|            | RF-BL-BD-LU | prse   | olre |                  |                                |                  | 0      |           |              |        |
|            | RF-BL-BD-BU | prsq   | olrf | k gel bnah kvm   | R' L D' R2 U' M' U L' R' F M   |                  | 11     |           |              |        |
|            | RF-BL-BD-RU | prsm   | olrg |                  |                                |                  | 0      |           |              |        |
|            | RF-BL-BD-FU | prsi   | olrh |                  |                                |                  | 0      |           |              |        |
|            | RF-BL-BD-FL | prsl   | olri |                  |                                |                  | 0      |           |              |        |
|            | RF-BL-BD-LF | prsf   | olrj |                  |                                |                  | 0      |           |              |        |
|            | RF-BL-BD-BR | prst   | olrm |                  |                                |                  | 0      |           |              |        |
|            | RF-BL-BD-RB | prsn   | olrn | r cwn vriv nwic  | u2 F' M' F E2 L2 F M' F' L2 U2 |                  | 12     |           |              |        |
|            | RF-BL-BD-LD | prsg   | olrq |                  |                                |                  | 0      |           |              |        |
|            | RF-BL-BD-RD | prso   | olrs |                  |                                |                  | 0      |           |              |        |
|            | RF-BL-BD-DL | prsx   | olrt |                  |                                |                  | 0      |           |              |        |
|            | RF-BL-BD-DR | prsv   | olrv |                  |                                |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)  | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|------|------------------|---------------------------|------------------|--------|-----------|--------------|--------|
|   | RF-BL-RD-UL | prod   | olsa |                  |                           |                  | 0      |           |              |        |
|   | RF-BL-RD-UB | proa   | olsb |                  |                           |                  | 0      |           |              |        |
|   | RF-BL-RD-UR | prob   | olsc |                  |                           |                  | 0      |           |              |        |
|   | RF-BL-RD-LU | proe   | olse |                  |                           |                  | 0      |           |              |        |
|   | RF-BL-RD-BU | proq   | olsf |                  |                           |                  | 0      |           |              |        |
|   | RF-BL-RD-RU | prom   | olsg |                  |                           |                  | 0      |           |              |        |
|   | RF-BL-RD-FU | roi    | olsh |                  |                           |                  | 0      |           |              |        |
|   | RF-BL-RD-FL | rol    | olsi |                  |                           |                  | 0      |           |              |        |
|   | RF-BL-RD-LF | prof   | olsj |                  |                           |                  | 0      |           |              |        |
|   | RF-BL-RD-BR | prot   | olsm |                  |                           |                  | 0      |           |              |        |
|   | RF-BL-RD-RB | pron   | olsn |                  |                           |                  | 0      |           | P            |        |
|   | RF-BL-RD-LD | prog   | olsq |                  |                           |                  | 0      |           | A            |        |
|   | RF-BL-RD-BD | pros   | olsr |                  |                           |                  | 0      |           | F            |        |
|   | RF-BL-RD-DL | prox   | olst |                  |                           |                  | 0      |           |              |        |
|  | RF-BL-RD-DB | prow   | olsu | wmgd ndtd sdhv   | F' I D M' D S' D S D L' F |                  | 12     |           |              |        |
|   | RF-BL-DL-UL | prxd   | olta |                  |                           |                  | 0      |           |              |        |
|   | RF-BL-DL-UB | prxa   | oltb |                  |                           |                  | 0      |           |              |        |
|   | RF-BL-DL-UR | prxb   | oltc |                  |                           |                  | 0      |           | O            |        |
|   | RF-BL-DL-DF | prxu   | oldt |                  |                           |                  | 0      |           |              |        |
|   | RF-BL-DL-LU | prxe   | olte |                  |                           |                  | 0      |           |              |        |
|   | RF-BL-DL-BU | prxq   | oltf |                  |                           |                  | 0      |           | O            |        |
|   | RF-BL-DL-RU | prxm   | oltg |                  |                           |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa  | Yo Notation (UF) | Singmaster Notation (UF)      | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|-------|------------------|-------------------------------|------------------|--------|-----------|--------------|--------|
|   | RF-BL-DL-FU | prxi   | olth  |                  |                               |                  | 0      |           |              |        |
|    | RF-BL-DL-FL | prxl   | olti  | axqg rhxg qhb    | U F2 E' L E2 L' F2 L E' L' U' |                  | 11     |           |              |        |
|   | RF-BL-DL-LF | prxf   | oltj  |                  |                               |                  | 0      |           |              |        |
|   | RF-BL-DL-RB | prxn   | oltn  |                  |                               |                  | 0      |           |              |        |
|   | RF-BL-DL-FR | prxj   | oltp  |                  |                               |                  | 0      |           |              |        |
|   | RF-BL-DL-BD | prxs   | oltr  |                  |                               |                  | 0      |           |              |        |
|   | RF-BL-DL-RD | prxo   | olts  |                  |                               |                  | 0      |           |              |        |
|   | RF-BL-DL-DB | prxw   | oltu  |                  |                               |                  | 0      |           |              |        |
|   | RF-BL-DL-DR | prxv   | oltv  |                  |                               |                  | 0      |           | 0            |        |
|   | RF-BL-DB-RU | prwm   | olug  |                  |                               |                  | 0      |           |              |        |
|   | RF-BL-DB-FL | prwl   | olui  |                  |                               |                  | 0      |           |              |        |
|   | RF-BL-DB-LF | prwf   | oluj  |                  |                               |                  | 0      |           |              |        |
|   | RF-BL-DB-BR | prwt   | olum  |                  |                               |                  | 0      |           |              |        |
|   | RF-BL-DB-RB | prwn   | olun  |                  |                               |                  | 0      |           |              |        |
|  | RF-BL-DB-LD | prwg   | oluq  | mkth sdnt egsj   | r' S' L' S D M' S' D' L S R   |                  | 12     |           |              |        |
|   | RF-BL-DB-RD | prwo   | olus  |                  |                               |                  | 0      |           |              |        |
|  | RF-BL-DB-DL | prwx   | olut  | kbhw sdte vga j  | R' U' L' F' S D S' D' F L U R |                  | 12     |           |              |        |
|   | RF-BL-DB-DR | prvv   | oluv  |                  |                               |                  | 0      |           |              |        |
|  | RF-BL-DR-UL | prvd   | olva  | wbj wkvk pjav    | F' U' F' R E' R' F R' E R U F |                  | 12     |           | F            |        |
|   | RF-BL-DR-UB | prva   | olvb  |                  |                               |                  | 0      |           |              |        |
|  | RF-BL-DR-UR | prvb   | olv c | wjql rjwk qjx    | F' R E' R2 E2 R F' R' E' R F2 |                  | 11     |           | 0            |        |
|   | RF-BL-DR-DF | prvu   | olv d |                  |                               |                  | 0      |           | 0            |        |

| UF Diagram  | Cube Target | Speffz | aaaa  | Yo Notation (UF) | Singmaster Notation (UF)      | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|-------|------------------|-------------------------------|------------------|--------|-----------|--------------|--------|
|   | RF-BL-DR-LU | prve   | olve  |                  |                               |                  | 0      |           |              |        |
|   | RF-BL-DR-BU | prvq   | olvf  |                  |                               |                  | 0      |           |              |        |
|   | RF-BL-DR-RU | prvm   | olvg  |                  |                               |                  | 0      |           |              |        |
|   | RF-BL-DR-FL | prvl   | olvi  |                  |                               |                  | 0      |           |              |        |
|   | RF-BL-DR-LF | prvf   | olvj  |                  |                               |                  | 0      |           | 0            |        |
|   | RF-BL-DR-BR | prvt   | olvm  |                  |                               |                  | 0      |           |              |        |
|   | RF-BL-DR-RB | prvn   | olvn  |                  |                               |                  | 0      |           | 0            |        |
|   | RF-BL-DR-LD | prvg   | olvq  |                  |                               |                  | 0      |           |              |        |
|   | RF-BL-DR-BD | prvs   | olvr  |                  |                               |                  | 0      |           | P            |        |
|   | RF-BL-DR-DL | prvx   | olvtr |                  |                               |                  | 0      |           |              |        |
|  | RF-BL-DR-DB | prvw   | olvu  | bwga tmbn shva   | U' F' L U S' M U' M' S L' F U |                  | 12     |           |              |        |
|   | RF-BR-UL-UB | ptda   | omab  |                  |                               |                  | 0      |           |              |        |
|   | RF-BR-UL-UR | ptdb   | omac  |                  |                               |                  | 0      |           | C            |        |
|   | RF-BR-UL-DF | ptdu   | omad  |                  |                               |                  | 0      |           |              |        |
|   | RF-BR-UL-RU | ptdm   | omag  |                  |                               |                  | 0      |           |              |        |
|   | RF-BR-UL-FL | ptdl   | omai  |                  |                               |                  | 0      |           | L            |        |
|   | RF-BR-UL-LF | ptdf   | omaj  |                  |                               |                  | 0      |           |              |        |
|   | RF-BR-UL-LB | ptdh   | omak  |                  |                               |                  | 0      |           |              |        |
|   | RF-BR-UL-BL | ptdr   | omal  |                  |                               |                  | 0      |           |              |        |
|   | RF-BR-UL-RB | ptdn   | oman  |                  |                               |                  | 0      |           | C            |        |
|   | RF-BR-UL-BD | ptds   | omar  |                  |                               |                  | 0      |           | P            |        |
|   | RF-BR-UL-RD | ptdo   | omas  |                  |                               |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
| RF-BR-UL-DL | ptdx        | omat   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-UL-DB | ptdw        | omau   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-UL-DR | ptdv        | omav   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-UB-UR | ptab        | ombc   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-UB-LU | ptae        | ombe   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-UB-RU | ptam        | ombg   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-UB-FU | ptai        | ombh   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-UB-LF | ptaf        | ombj   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-UB-BL | ptar        | ombl   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-UB-RD | ptao        | ombs   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-UB-DB | ptaw        | ombu   |      |                  |                          |                  | 0      |           | 0            |        |
| RF-BR-UB-DR | ptav        | ombv   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-UR-UL | ptbd        | omca   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-UR-DF | ptbu        | omcd   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-UR-LU | ptbe        | omce   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-UR-BU | ptbq        | omcf   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-UR-FU | ptbi        | omch   |      |                  |                          |                  | 0      |           | 0            |        |
| RF-BR-UR-LB | ptbh        | omck   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-UR-BL | ptbr        | omcl   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-UR-LD | ptbg        | omcq   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-UR-BD | ptbs        | omcr   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-UR-RD | ptbo        | omcs   |      |                  |                          |                  | 0      |           |              |        |

| UF Diagram | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)        | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|--------|------|------------------|---------------------------------|------------------|--------|-----------|--------------|--------|
|            | RF-BR-UR-DL | ptbx   | omct | jtkajcta uakb    | R' S' R' U R U2 S' U S2 U R' U' |                  | 12     |           |              |        |
|            | RF-BR-UR-DR | ptbv   | omcv |                  |                                 |                  | 0      |           |              |        |
|            | RF-BR-DF-UR | ptub   | omdc |                  |                                 |                  | 0      |           |              |        |
|            | RF-BR-DF-LU | ptue   | omde |                  |                                 |                  | 0      |           |              |        |
|            | RF-BR-DF-FL | ptul   | omdi |                  |                                 |                  | 0      |           |              |        |
|            | RF-BR-DF-LF | ptuf   | omdj |                  |                                 |                  | 0      |           |              |        |
|            | RF-BR-DF-BL | ptur   | omdl |                  |                                 |                  | 0      |           |              |        |
|            | RF-BR-DF-LD | ptug   | omdq |                  |                                 |                  | 0      |           |              |        |
|            | RF-BR-DF-RD | ptuo   | omds |                  |                                 |                  | 0      |           |              |        |
|            | RF-BR-DF-DL | ptux   | omdt |                  |                                 |                  | 0      |           |              |        |
|            | RF-BR-DF-DB | ptuw   | omdu |                  |                                 |                  | 0      |           |              |        |
|            | RF-BR-DF-DR | ptuv   | omdv |                  |                                 |                  | 0      |           |              |        |
|            | RF-BR-LU-UB | ptea   | omeb |                  |                                 |                  | 0      |           |              |        |
|            | RF-BR-LU-UR | pteb   | omec |                  |                                 |                  | 0      |           |              |        |
|            | RF-BR-LU-DF | pteu   | omed |                  |                                 |                  | 0      |           |              |        |
|            | RF-BR-LU-BU | pteq   | omef |                  |                                 |                  | 0      |           |              |        |
|            | RF-BR-LU-RU | ptem   | omeg |                  |                                 |                  | 0      |           | L            |        |
|            | RF-BR-LU-FL | ptel   | omei |                  |                                 |                  | 0      |           |              |        |
|            | RF-BR-LU-LF | ptef   | omej |                  |                                 |                  | 0      |           |              |        |
|            | RF-BR-LU-BL | pter   | omel |                  |                                 |                  | 0      |           |              |        |
|            | RF-BR-LU-RB | pten   | omen |                  |                                 |                  | 0      |           |              | A      |
|            | RF-BR-LU-LD | pteg   | omeq | kbiasbsiaj       | R' U' L2 U S' U' S L2 U R       |                  | 10     |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-BR-LU-RD | pteo        | omes   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-LU-DB | ptew        | omeu   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-LU-DR | ptev        | omev   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-BU-UL | ptqd        | omfa   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-BU-UR | ptqb        | omfc   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-BU-DF | ptqu        | omfd   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-BU-LU | ptqe        | omfe   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-BU-RU | ptqm        | omfg   |      |                  |                          |                  | 0      |           | L            |        |
| RF-BR-BU-FL | ptql        | omfi   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-BU-LF | ptqf        | omfj   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-BU-LB | ptqh        | omfk   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-BU-BL | ptqr        | omfl   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-BU-LD | ptqg        | omfq   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-BU-BD | ptqs        | omfr   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-BU-RD | ptqo        | omfs   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-BU-DL | ptqx        | omft   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-BU-DB | ptqw        | omfu   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-BU-DR | ptqv        | omfv   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-RU-UL | ptmd        | omga   |      |                  |                          |                  | 0      |           |              | L      |
| RF-BR-RU-UB | ptma        | omgb   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-RU-DF | ptmu        | omgd   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-RU-BU | ptmq        | omgf   |      |                  |                          |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-BR-RU-FL | ptml        | omgi   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-RU-LF | ptmf        | omgj   |      |                  |                          |                  | 0      |           | L            |        |
| RF-BR-RU-LB | ptmh        | omgk   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-RU-BL | ptmr        | omgl   |      |                  |                          |                  | 0      |           | O            |        |
| RF-BR-RU-LD | ptmg        | omgq   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-RU-BD | ptms        | omgr   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-RU-RD | ptmo        | omgs   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-RU-DL | ptmx        | omgt   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-RU-DB | ptmw        | omgu   |      |                  |                          |                  | 0      |           | O            |        |
| RF-BR-RU-DR | ptmv        | omgv   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-FU-FL | ptil        | omhi   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-FU-LF | ptif        | omhj   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-FU-RB | ptin        | omhn   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-FU-FR | ptij        | omhp   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-FU-BD | ptis        | omhr   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-FL-UL | ptld        | omia   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-FL-UB | ptla        | omib   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-FL-UR | ptlb        | omic   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-FL-LU | ptle        | omie   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-FL-BU | ptlq        | omif   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-FL-RU | ptlm        | omig   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-FL-FU | ptli        | omih   |      |                  |                          |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-BR-FL-LB | ptlh        | omik   |      |                  |                          |                  |        | 0         |              |        |
| RF-BR-FL-BL | ptlr        | omil   |      |                  |                          |                  |        | 0         |              |        |
| RF-BR-FL-LD | ptlg        | omiq   |      |                  |                          |                  |        | 0         |              |        |
| RF-BR-FL-BD | ptls        | omir   |      |                  |                          |                  |        | 0         |              |        |
| RF-BR-FL-RD | ptlo        | omis   |      |                  |                          |                  |        | 0         | L            |        |
| RF-BR-FL-DL | ptlx        | omit   |      |                  |                          |                  |        | 0         | A            |        |
| RF-BR-FL-DB | ptlw        | omiu   |      |                  |                          |                  |        | 0         |              |        |
| RF-BR-FL-DR | ptlv        | omiv   |      |                  |                          |                  |        | 0         |              |        |
| RF-BR-LF-UL | ptfd        | omja   |      |                  |                          |                  |        | 0         |              |        |
| RF-BR-LF-UB | ptfa        | omjb   |      |                  |                          |                  |        | 0         |              |        |
| RF-BR-LF-UR | ptfb        | omjc   |      |                  |                          |                  |        | 0         |              |        |
| RF-BR-LF-DF | ptfu        | omjd   |      |                  |                          |                  |        | 0         |              |        |
| RF-BR-LF-LU | ptfe        | omje   |      |                  |                          |                  |        | 0         |              |        |
| RF-BR-LF-BU | ptfq        | omjf   |      |                  |                          |                  |        | 0         |              |        |
| RF-BR-LF-RU | ptfm        | omjg   |      |                  |                          |                  |        | 0         |              |        |
| RF-BR-LF-FU | ptfi        | omjh   |      |                  |                          |                  |        | 0         |              |        |
| RF-BR-LF-LB | ptfh        | omjk   |      |                  |                          |                  |        | 0         |              |        |
| RF-BR-LF-BL | ptfr        | omjl   |      |                  |                          |                  |        | 0         |              |        |
| RF-BR-LF-LD | ptfg        | omjq   |      |                  |                          |                  |        | 0         | L            |        |
| RF-BR-LF-BD | ptfs        | omjr   |      |                  |                          |                  |        | 0         |              |        |
| RF-BR-LF-RD | ptfo        | omjs   |      |                  |                          |                  |        | 0         |              |        |
| RF-BR-LF-DL | ptfx        | omjt   |      |                  |                          |                  |        | 0         |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|   |             |        |      |                  |                          |                  |        | 0         |              | 0      |
|   | RF-BR-LF-DB | ptfw   | omju |                  |                          |                  |        | 0         |              |        |
|   | RF-BR-LF-DR | ptfv   | omjv |                  |                          |                  |        | 0         |              |        |
|   | RF-BR-LB-UL | pthd   | omka |                  |                          |                  |        | 0         |              | A      |
|   | RF-BR-LB-UB | ptha   | omkb |                  |                          |                  |        | 0         |              |        |
|   | RF-BR-LB-UR | pthb   | omkc |                  |                          |                  |        | 0         |              |        |
|   | RF-BR-LB-LU | pthe   | omke |                  |                          |                  |        | 0         |              |        |
|   | RF-BR-LB-BU | pthq   | omkf |                  |                          |                  |        | 0         |              |        |
|   | RF-BR-LB-FL | pthl   | omki |                  |                          |                  |        | 0         |              |        |
|   | RF-BR-LB-LF | pthf   | omkj |                  |                          |                  |        | 0         |              |        |
|   | RF-BR-LB-LD | pthg   | omkq |                  |                          |                  |        | 0         |              |        |
|   | RF-BR-LB-BD | pths   | omkr |                  |                          |                  |        | 0         |              | P      |
|   | RF-BR-LB-RD | ptho   | omks |                  |                          |                  |        | 0         |              |        |
|   | RF-BR-LB-DL | pthx   | omkt |                  |                          |                  |        | 0         |              |        |
|   | RF-BR-LB-DB | pthw   | omku |                  |                          |                  |        | 0         |              |        |
|  | RF-BR-LB-DR | pthv   | omkv | kvqj pkwj        | R' F E' R E R' F' R      |                  |        | 8         |              |        |
|   | RF-BR-BL-UL | ptrd   | omla |                  |                          |                  |        | 0         |              |        |
|   | RF-BR-BL-UB | ptra   | omlb |                  |                          |                  |        | 0         |              |        |
|   | RF-BR-BL-UR | ptrb   | omlc |                  |                          |                  |        | 0         |              |        |
|   | RF-BR-BL-LU | ptre   | omle |                  |                          |                  |        | 0         |              |        |
|   | RF-BR-BL-BU | ptrq   | omlf |                  |                          |                  |        | 0         |              |        |
|   | RF-BR-BL-RU | ptrm   | omlg |                  |                          |                  |        | 0         |              | O      |
|   | RF-BR-BL-FL | ptrl   | omli |                  |                          |                  |        | 0         |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
| RF-BR-BL-LF | ptrf        | omlj   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-BL-FR | ptrj        | omlp   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-BL-LD | ptrg        | omlq   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-BL-RD | ptro        | omls   |      |                  |                          |                  | 0      |           | 0            |        |
| RF-BR-BL-DL | ptrx        | omlt   |      |                  |                          |                  | 0      |           | 0            |        |
| RF-BR-BL-DB | ptrw        | omlu   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-BL-DR | ptrv        | omlv   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-FR-LD | ptjg        | ompq   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-FR-DB | ptjw        | ompu   |      |                  |                          |                  | 0      |           | P            |        |
| RF-BR-LD-UL | ptgd        | omqa   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-LD-UR | ptgb        | omqc   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-LD-DF | ptgu        | omqd   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-LD-LU | ptge        | omqe   |      |                  |                          |                  | 0      |           | A            |        |
| RF-BR-LD-RU | ptgm        | omqg   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-LD-FU | ptgi        | omqh   |      |                  |                          |                  | 0      |           | A            |        |
| RF-BR-LD-FL | ptgl        | omqi   |      |                  |                          |                  | 0      |           | A            |        |
| RF-BR-LD-LF | ptgf        | omqj   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-LD-LB | ptgh        | omqk   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-LD-RD | ptgo        | omqs   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-LD-DB | ptgw        | omqu   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-BD-UL | ptsd        | omra   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-BD-UB | ptsd        | omrb   |      |                  |                          |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-BR-BD-LU | ptse        |        | omre |                  |                          |                  |        | 0         |              |        |
| RF-BR-BD-FU | ptsi        |        | omrh |                  |                          |                  |        | 0         |              |        |
| RF-BR-BD-LB | ptsh        |        | omrk |                  |                          |                  |        | 0         |              |        |
| RF-BR-BD-RD | ptso        |        | omrs |                  |                          |                  |        | 0         |              |        |
| RF-BR-RD-UL | ptod        |        | omsa |                  |                          |                  |        | 0         |              |        |
| RF-BR-RD-UB | ptoaa       |        | omsb |                  |                          |                  |        | 0         |              |        |
| RF-BR-RD-UR | ptob        |        | omsc |                  |                          |                  |        | 0         |              |        |
| RF-BR-RD-DF | ptou        |        | omsd |                  |                          |                  |        | 0         |              |        |
| RF-BR-RD-LU | ptoe        |        | omse |                  |                          |                  |        | 0         |              |        |
| RF-BR-RD-BU | ptoq        |        | omsf |                  |                          |                  |        | 0         |              |        |
| RF-BR-RD-RU | ptom        |        | omsg |                  |                          |                  |        | 0         |              |        |
| RF-BR-RD-FL | ptol        |        | omsi |                  |                          |                  |        | 0         |              |        |
| RF-BR-RD-LF | ptof        |        | omsj |                  |                          |                  |        | 0         |              |        |
| RF-BR-RD-LB | ptoh        |        | omsk |                  |                          |                  |        | 0         |              |        |
| RF-BR-RD-BL | ptor        |        | omsl |                  |                          |                  |        | 0         |              |        |
| RF-BR-RD-LD | ptog        |        | omsq |                  |                          |                  |        | 0         |              |        |
| RF-BR-RD-BD | ptos        |        | omsr |                  |                          |                  |        | 0         |              |        |
| RF-BR-RD-DL | ptox        |        | omst |                  |                          |                  |        | 0         |              |        |
| RF-BR-RD-DB | ptow        |        | omsu |                  |                          |                  |        | 0         |              |        |
| RF-BR-DL-UL | ptxd        |        | omta |                  |                          |                  |        | 0         |              |        |
| RF-BR-DL-UB | ptxa        |        | omtb |                  |                          |                  |        | 0         |              |        |
| RF-BR-DL-UR | ptxb        |        | omtc |                  |                          |                  |        | 0         |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-BR-DL-DF | ptxu        | omtd   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-DL-LU | ptxe        | omte   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-DL-BU | ptxq        | omtf   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-DL-RU | ptxm        | omtg   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-DL-FU | ptxi        | omth   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-DL-FL | ptxl        | omti   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-DL-LF | ptxf        | omtj   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-DL-LB | ptxh        | omtk   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-DL-BL | ptxr        | omtl   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-DL-FR | ptxj        | omtp   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-DL-BD | ptxs        | omtr   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-DL-RD | ptxo        | omts   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-DL-DB | ptxw        | omtu   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-DL-DR | ptxv        | omtv   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-DB-UL | ptwd        | omua   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-DB-UR | ptwb        | omuc   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-DB-DF | ptwu        | omud   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-DB-LU | ptwe        | omue   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-DB-BU | ptwq        | omuf   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-DB-RU | ptwm        | omug   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-DB-FL | ptwl        | omui   |      |                  |                          |                  | 0      |           |              |        |
| RF-BR-DB-LF | ptwf        | omuj   |      |                  |                          |                  | 0      |           |              |        |

| UF Diagram | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)     | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|--------|------|------------------|------------------------------|------------------|--------|-----------|--------------|--------|
|            |             |        |      |                  |                              |                  |        | 0         |              |        |
|            | RF-BR-DB-LB | ptwh   | omuk |                  |                              |                  |        | 0         |              |        |
|            | RF-BR-DB-BL | ptwr   | omul |                  |                              |                  |        | 0         |              |        |
|            | RF-BR-DB-LD | ptwg   | omuq | odhv qwpq eo     | M2 D L' F E' F' E L D' M2    |                  |        | 10        |              |        |
|            | RF-BR-DB-RD | ptwo   | omus |                  |                              |                  |        | 0         |              |        |
|            | RF-BR-DB-DL | ptwx   | omut |                  |                              |                  |        | 0         |              |        |
|            | RF-BR-DB-DR | ptwv   | omuv | cmbi sjtj anc    | U2 M U' R2 S R S' R U M' U2  |                  |        | 11        |              |        |
|            | RF-BR-DR-UL | ptvd   | omva | ajwb tasv kb     | U R F' U' S' U f R' U'       |                  |        | 10        |              |        |
|            | RF-BR-DR-UB | ptva   | omvb |                  |                              |                  |        | 0         |              |        |
|            | RF-BR-DR-UR | ptvb   | omvc | akvl sktk wjb    | U R' F R2 S R' S' R' F' R U' |                  |        | 11        |              |        |
|            | RF-BR-DR-DF | ptvu   | omvd |                  |                              |                  |        | 0         |              | L      |
|            | RF-BR-DR-LU | ptve   | omve |                  |                              |                  |        | 0         |              |        |
|            | RF-BR-DR-BU | ptvq   | omvf |                  |                              |                  |        | 0         |              |        |
|            | RF-BR-DR-RU | ptvm   | omvg |                  |                              |                  |        | 0         |              | O      |
|            | RF-BR-DR-FU | ptvi   | omvh |                  |                              |                  |        | 0         |              | L      |
|            | RF-BR-DR-FL | ptvl   | omvi |                  |                              |                  |        | 0         |              | O      |
|            | RF-BR-DR-LF | ptvf   | omvj |                  |                              |                  |        | 0         |              |        |
|            | RF-BR-DR-LB | ptvh   | omvk |                  |                              |                  |        | 0         |              |        |
|            | RF-BR-DR-BL | ptvr   | omvl |                  |                              |                  |        | 0         |              |        |
|            | RF-BR-DR-LD | ptvg   | omvq |                  |                              |                  |        | 0         |              | O      |
|            | RF-BR-DR-BD | ptvs   | omvr |                  |                              |                  |        | 0         |              |        |
|            | RF-BR-DR-DL | ptvx   | omvt |                  |                              |                  |        | 0         |              | A      |
|            | RF-BR-DR-DB | ptvw   | omvu |                  |                              |                  |        | 0         |              |        |

| UF Diagram | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)           | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|--------|------|------------------|------------------------------------|------------------|--------|-----------|--------------|--------|
|            | RF-BR-FD-LU | ptke   | omxe | jamd tmen snbk   | R U M D S' M D' M' S M' U' R'      |                  | 12     |           |              |        |
|            | RF-RB-UL-UB | pnda   | onab | ktka jska lclc   | R' S' R' U R S R' U R2 U2 R2 U2    |                  | 12     |           | A            |        |
|            | RF-RB-UL-UR | pndb   | onac | tlvk ujwj ujs    | S' R2 F R' S2 R F' R S2 R S        |                  | 11     |           |              |        |
|            | RF-RB-UL-DF | pndu   | onad |                  |                                    |                  | 0      |           |              |        |
|            | RF-RB-UL-BU | pndq   | onaf | kalc tbsb lbj    | R' U R2 U2 S' U' S U' R2 U' R      |                  | 11     |           |              |        |
|            | RF-RB-UL-RU | pndm   | onag | jakt jbtl sjt    | R U R' S' R U' S' R2 S R S         |                  | 11     |           |              |        |
|            | RF-RB-UL-FL | pndl   | onai | kakp jtas cjq    | R' U R' E R S' U S U2 R E'         |                  | 11     |           |              |        |
|            | RF-RB-UL-LF | pndf   | onaj | iqag rmkw njqq   | L2 u L E2 r' F' r L E'             |                  | 12     |           |              |        |
|            | RF-RB-UL-LB | pndh   | onak |                  |                                    |                  | 0      |           |              |        |
|            | RF-RB-UL-BL | pndr   | onal |                  |                                    |                  | 0      |           | A            |        |
|            | RF-RB-UL-BR | pndt   | onam |                  |                                    |                  | 0      |           | C            |        |
|            | RF-RB-UL-FR | pndj   | onap |                  |                                    |                  | 0      |           |              |        |
|            | RF-RB-UL-LD | pndg   | onaq | kals btal bj     | R' U R2 S U' S' U R2 U' R          |                  | 10     |           | L            |        |
|            | RF-RB-UL-BD | pnds   | onar | kala mbnl bj     | R' U R2 U M U' M' R2 U' R          |                  | 10     |           | L            |        |
|            | RF-RB-UL-RD | pndo   | onas | btks jbjt ksc    | U' S' R' S R U' R S' R' S U2       |                  | 11     |           |              |        |
|            | RF-RB-UL-DL | pndx   | onat | ktja ktlu kb     | R' S' R U R' S' R2 S2 R' U'        |                  | 10     |           |              |        |
|            | RF-RB-UL-DB | pndw   | onau | vdsk uksl ew     | F D S R' S2 R' S R2 D' F'          |                  | 10     |           |              |        |
|            | RF-RB-UL-DR | pndv   | onav | fkul skaj skbf   | D2 R' S2 R2 S R' U R S R' U'<br>D2 |                  | 12     |           |              |        |
|            | RF-RB-UB-UR | pnab   | onbc |                  |                                    |                  | 0      |           | A            |        |
|            | RF-RB-UB-LU | pnae   | onbe |                  |                                    |                  | 0      |           |              |        |
|            | RF-RB-UB-RU | pnam   | onbg |                  |                                    |                  | 0      |           |              |        |
|            | RF-RB-UB-FU | pna    | onbh |                  |                                    |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)        | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|------|------------------|---------------------------------|------------------|--------|-----------|--------------|--------|
|   |             |        |      |                  |                                 |                  |        | 0         |              |        |
|   | RF-RB-UB-LF | pnaf   | onbj |                  |                                 |                  |        | 0         |              |        |
|    | RF-RB-UB-LB | pnah   | onbk | xoqn wnqw        | F2 M2 E' M' F' M' E' F'         |                  |        | 8         |              |        |
|   | RF-RB-UB-RD | pnao   | onbs |                  |                                 |                  |        | 0         |              |        |
|   | RF-RB-UB-DB | pnaw   | onbu |                  |                                 |                  |        | 0         |              |        |
|   | RF-RB-UR-UL | pnbd   | onca |                  |                                 |                  |        | 0         |              |        |
|   | RF-RB-UR-LU | pnbe   | once |                  |                                 |                  |        | 0         |              | A      |
|   | RF-RB-UR-FL | pnbl   | onci |                  |                                 |                  |        | 0         |              |        |
|   | RF-RB-UR-LF | pnbf   | oncj |                  |                                 |                  |        | 0         |              |        |
|   | RF-RB-UR-LB | pnbh   | onck |                  |                                 |                  |        | 0         |              |        |
|   | RF-RB-UR-BL | pnbr   | oncl |                  |                                 |                  |        | 0         |              |        |
|   | RF-RB-UR-BD | pnbs   | oncr |                  |                                 |                  |        | 0         |              |        |
|  | RF-RB-UR-DL | pnbx   | onct | cktj bktl ukb    | U2 R' S' R U' R' S' R2 S2 R' U' |                  |        | 11        |              |        |
|   | RF-RB-UR-DB | pnbw   | oncu |                  |                                 |                  |        | 0         |              |        |
|   | RF-RB-UR-DR | pnbv   | oncv |                  |                                 |                  |        | 0         |              |        |
|   | RF-RB-DF-UL | pnu'd  | onda |                  |                                 |                  |        | 0         |              |        |
|   | RF-RB-DF-UR | pnu'b  | ondc |                  |                                 |                  |        | 0         |              | O      |
|   | RF-RB-DF-LU | pnu'e  | onde |                  |                                 |                  |        | 0         |              |        |
|   | RF-RB-DF-BU | pnu'q  | ondf |                  |                                 |                  |        | 0         |              |        |
|   | RF-RB-DF-RU | pnum   | ondg |                  |                                 |                  |        | 0         |              |        |
|   | RF-RB-DF-FL | pnu'l  | ondi |                  |                                 |                  |        | 0         |              |        |
|   | RF-RB-DF-LF | pnu'f  | ondj |                  |                                 |                  |        | 0         |              |        |
|   | RF-RB-DF-LB | pnu'h  | ondk |                  |                                 |                  |        | 0         |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|   |             |        |      |                  |                          |                  |        |           |              |        |
| RF-RB-DF-BL   | p nur       |        | ondl |                  |                          |                  | 0      |           |              | A      |
| RF-RB-DF-LD   | p n ug      |        | ondq |                  |                          |                  | 0      |           |              |        |
| RF-RB-DF-RD   | p nu o      |        | onds |                  |                          |                  | 0      |           |              |        |
| RF-RB-DF-DR   | p nuv       |        | ondv |                  |                          |                  | 0      |           |              |        |
| RF-RB-LU-UB   | p ne a      |        | oneb |                  |                          |                  | 0      |           |              |        |
| RF-RB-LU-UR   | p neb       |        | onec |                  |                          |                  | 0      |           |              | O      |
| RF-RB-LU-BU   | p neq       |        | onef |                  |                          |                  | 0      |           |              |        |
| RF-RB-LU-RU   | p nem       |        | oneg |                  |                          |                  | 0      |           |              | O      |
| RF-RB-LU-FL   | p nel       |        | onei |                  |                          |                  | 0      |           |              |        |
| RF-RB-LU-LF   | p nef       |        | onej |                  |                          |                  | 0      |           |              | F      |
| RF-RB-LU-LB   | p neh       |        | onek |                  |                          |                  | 0      |           |              |        |
|  | RF-RB-LU-LD | p neg  | oneq | njuk bkuj am     | r S2 R' U' R' S2 R U M   |                  | 10     |           |              |        |
|   | RF-RB-LU-BD | p nes  | oner |                  |                          |                  | 0      |           |              |        |
|   | RF-RB-LU-DL | p nex  | onet |                  |                          |                  | 0      |           |              | A      |
|   | RF-RB-LU-DB | p new  | oneu |                  |                          |                  | 0      |           |              |        |
|   | RF-RB-BU-UR | p nqb  | onfc |                  |                          |                  | 0      |           |              |        |
|   | RF-RB-BU-DF | p nqu  | onfd |                  |                          |                  | 0      |           |              |        |
|   | RF-RB-BU-LU | p nqe  | onfe |                  |                          |                  | 0      |           |              |        |
|   | RF-RB-BU-RU | p nqm  | onfg |                  |                          |                  | 0      |           |              |        |
|   | RF-RB-BU-FU | p nqi  | onfh |                  |                          |                  | 0      |           |              |        |
|   | RF-RB-BU-FL | p nql  | onfi |                  |                          |                  | 0      |           |              | L      |
|   | RF-RB-BU-BL | p nqr  | onfl |                  |                          |                  | 0      |           |              |        |

| UF Diagram | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)          | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|--------|------|------------------|-----------------------------------|------------------|--------|-----------|--------------|--------|
|            |             |        |      |                  |                                   |                  |        |           |              |        |
|            | RF-RB-BU-LD | pnqg   | onfq |                  |                                   |                  | 0      |           |              |        |
|            | RF-RB-BU-BD | pnqs   | onfr |                  |                                   |                  | 0      |           |              |        |
|            | RF-RB-BU-RD | pnqo   | onfs |                  |                                   |                  | 0      |           |              | A      |
|            | RF-RB-BU-DB | pnqw   | onfu |                  |                                   |                  | 0      |           |              |        |
|            | RF-RB-RU-UL | pnmd   | onga | csat ksjb jtkc   | U2 S U S' R' S R U' R S' R' U2    |                  | 12     |           |              |        |
|            | RF-RB-RU-UB | pnma   | ongb | clck bsak btbl   | U2 R2 U2 R' U' S U R' U' S' U' R2 |                  | 12     |           |              |        |
|            | RF-RB-RU-DF | pnmu   | ongd | kevf xevj dkve   | R' D' F D2 F2 D' F R D R' F D'    |                  | 12     |           |              |        |
|            | RF-RB-RU-LU | pnme   | onge | lfvk ujwj ukfl   | R2 D2 F R' S2 R F' R S2 R' D2 R2  |                  | 12     |           |              |        |
|            | RF-RB-RU-BU | pnmq   | ongf | ketj bnah qvmg   | R' D' S' R U' M' U L' E' F I      |                  | 12     |           |              | 0      |
|            | RF-RB-RU-FL | pnml   | ongi | wnle wdmv lavb   | F' M' R2 D' F' D M F R2 U F U'    |                  | 12     |           |              |        |
|            | RF-RB-RU-LF | pnmf   | ongj | nwav bmdk ev     | M' F' U F U' M D R' D' F          |                  | 10     |           |              |        |
|            | RF-RB-RU-LB | pnmh   | ongk | kxjr kvkr jvj    | R' F2 R E2 R' F R' E2 R F R       |                  | 11     |           |              |        |
|            | RF-RB-RU-BL | pnmr   | ongl | kwkp jwjq kxj    | R' F' R' E R F' R E' R' F2 R      |                  | 11     |           |              |        |
|            | RF-RB-RU-FR | pnmj   | ongp |                  |                                   |                  | 0      |           |              |        |
|            | RF-RB-RU-LD | pnmg   | ongq | ncju kaku jam    | M' U2 R S2 R' U R' S2 R U M       |                  | 11     |           |              |        |
|            | RF-RB-RU-BD | pnms   | ongr | tkal ambn lbjs   | S' R' U R2 U M U' M' R2 U' R S    |                  | 12     |           |              |        |
|            | RF-RB-RU-RD | pnmo   | ongs | rwkr jvjr kr     | E2 F' R' E2 R F R E2 R' E2        |                  | 10     |           |              |        |
|            | RF-RB-RU-DL | pnmx   | ongt | nbks jbjt kcm    | M' U' R' S R U' R S' R' U2 M      |                  | 11     |           |              |        |
|            | RF-RB-RU-DB | pnmw   | ongu | vekf tjsk fjdw   | F D' R' D2 S' R S R' D2 R D F'    |                  | 12     |           |              |        |
|            | RF-RB-RU-DR | pnmv   | ongv | wjbk pjqa kv     | F' R U' R' E R u R' F             |                  | 10     |           |              |        |
|            | RF-RB-FU-UL | pnid   | onha |                  |                                   |                  | 0      |           |              |        |
|            | RF-RB-FU-UB | pnia   | onhb |                  |                                   |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)    | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|------|------------------|-----------------------------|------------------|--------|-----------|--------------|--------|
|   | RF-RB-FU-LU | pnie   | onhe |                  |                             |                  | 0      |           |              |        |
|   | RF-RB-FU-FL | pnil   | onhi |                  |                             |                  | 0      |           |              |        |
|   | RF-RB-FU-LD | pniq   | onhq |                  |                             |                  | 0      |           |              |        |
|   | RF-RB-FL-UL | pnild  | onia |                  |                             |                  | 0      |           |              |        |
|   | RF-RB-FL-UB | pnila  | onib |                  |                             |                  | 0      |           |              |        |
|   | RF-RB-FL-UR | pnlb   | onic |                  |                             |                  | 0      |           |              | A      |
|   | RF-RB-FL-DF | pnlu   | onid |                  |                             |                  | 0      |           |              | O      |
|  | RF-RB-FL-LU | pnle   | onie | gaiq hrhb qh     | L U L2 E' L' E2 L' U' E' L' |                  | 10     |           |              | F      |
|   | RF-RB-FL-RU | pnlm   | onig |                  |                             |                  | 0      |           |              |        |
|   | RF-RB-FL-FU | pnlj   | onih |                  |                             |                  | 0      |           |              |        |
|   | RF-RB-FL-LB | pnlh   | onik |                  |                             |                  | 0      |           |              |        |
|   | RF-RB-FL-BL | pnlr   | onil |                  |                             |                  | 0      |           |              |        |
|   | RF-RB-FL-FR | pnlj   | onip |                  |                             |                  | 0      |           |              |        |
|   | RF-RB-FL-LD | pnlg   | oniq |                  |                             |                  | 0      |           |              | O      |
|   | RF-RB-FL-BD | pnl s  | onir |                  |                             |                  | 0      |           |              |        |
|   | RF-RB-FL-RD | pnl o  | onis |                  |                             |                  | 0      |           |              |        |
|   | RF-RB-FL-DL | pnlx   | onit |                  |                             |                  | 0      |           |              | A      |
|   | RF-RB-FL-DB | pnlw   | oniu |                  |                             |                  | 0      |           |              |        |
|   | RF-RB-FL-DR | pnlv   | oniv |                  |                             |                  | 0      |           |              |        |
|   | RF-RB-LF-UL | pnf d  | onja |                  |                             |                  | 0      |           |              |        |
|   | RF-RB-LF-UB | pnf a  | onjb |                  |                             |                  | 0      |           |              | A      |
|   | RF-RB-LF-UR | pnf b  | onjc |                  |                             |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|   |             |        |      |                  |                          |                  |        | 0         |              |        |
|   | RF-RB-LF-LU | pnfe   | onje |                  |                          |                  |        | 0         |              |        |
|   | RF-RB-LF-BU | pnfq   | onjf |                  |                          |                  |        | 0         |              | C      |
|   | RF-RB-LF-RU | pnmf   | onjg |                  |                          |                  |        | 0         |              |        |
|  | RF-RB-LF-LB | pnhf   | onjk | wqxq vrx         | F' E' F2 E' F E2 F2      |                  |        | 7         |              | A      |
|   | RF-RB-LF-BL | pnfr   | onjl |                  |                          |                  |        | 0         |              | C      |
|   | RF-RB-LF-BD | pnsf   | onjr |                  |                          |                  |        | 0         |              |        |
|   | RF-RB-LF-DB | pnfw   | onju |                  |                          |                  |        | 0         |              |        |
|   | RF-RB-LF-DR | pnfv   | onjv |                  |                          |                  |        | 0         |              |        |
|   | RF-RB-LB-UL | pnhd   | onka |                  |                          |                  |        | 0         |              |        |
|   | RF-RB-LB-UB | pnha   | onkb |                  |                          |                  |        | 0         |              |        |
|   | RF-RB-LB-DF | pnhu   | onkd |                  |                          |                  |        | 0         |              |        |
|   | RF-RB-LB-LU | pnhe   | onke |                  |                          |                  |        | 0         |              |        |
|   | RF-RB-LB-BU | pnhq   | onkf |                  |                          |                  |        | 0         |              |        |
|   | RF-RB-LB-FL | pnhl   | onki |                  |                          |                  |        | 0         |              | O      |
|   | RF-RB-LB-LF | pnhf   | onkj |                  |                          |                  |        | 0         |              |        |
|   | RF-RB-LB-LD | pnhg   | onkq |                  |                          |                  |        | 0         |              | A      |
|   | RF-RB-BL-UL | pnrd   | onla |                  |                          |                  |        | 0         |              |        |
|   | RF-RB-BL-UR | pnrb   | onlc |                  |                          |                  |        | 0         |              | A      |
|   | RF-RB-BL-LU | pnre   | onle |                  |                          |                  |        | 0         |              | A      |
|   | RF-RB-BL-FU | pnri   | onlh |                  |                          |                  |        | 0         |              |        |
|   | RF-RB-BL-FL | pnrl   | onli |                  |                          |                  |        | 0         |              | F      |
|   | RF-RB-BL-LF | pnrf   | onlj |                  |                          |                  |        | 0         |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
| RF-RB-BL-LD | pnrq        |        | onlq |                  |                          |                  | 0      |           |              | A      |
| RF-RB-BL-RD | pnro        |        | onls |                  |                          |                  | 0      |           |              |        |
| RF-RB-BL-DL | pnrx        |        | onlt |                  |                          |                  | 0      |           |              |        |
| RF-RB-BL-DB | pnrw        |        | onlu |                  |                          |                  | 0      |           |              | C      |
| RF-RB-FR-UL | pnjd        |        | onpa |                  |                          |                  | 0      |           |              |        |
| RF-RB-FR-FU | pnji        |        | onph |                  |                          |                  | 0      |           |              |        |
| RF-RB-FR-LD | pnjg        |        | onpq |                  |                          |                  | 0      |           |              |        |
| RF-RB-LD-UL | pngd        |        | onqa |                  |                          |                  | 0      |           |              |        |
| RF-RB-LD-UB | pnga        |        | onqb |                  |                          |                  | 0      |           |              |        |
| RF-RB-LD-UR | pngb        |        | onqc |                  |                          |                  | 0      |           |              |        |
| RF-RB-LD-DF | pngu        |        | onqd |                  |                          |                  | 0      |           |              |        |
| RF-RB-LD-BU | pngq        |        | onqf |                  |                          |                  | 0      |           |              |        |
| RF-RB-LD-RU | pngm        |        | onqg |                  |                          |                  | 0      |           |              |        |
| RF-RB-LD-FU | pngi        |        | onqh |                  |                          |                  | 0      |           |              |        |
| RF-RB-LD-FL | pngl        |        | onqi |                  |                          |                  | 0      |           |              |        |
| RF-RB-LD-LF | pngf        |        | onqj |                  |                          |                  | 0      |           |              |        |
| RF-RB-LD-LB | pngh        |        | onqk |                  |                          |                  | 0      |           |              |        |
| RF-RB-LD-BL | pngr        |        | onql |                  |                          |                  | 0      |           |              | L      |
| RF-RB-LD-RD | pngo        |        | onqs |                  |                          |                  | 0      |           |              | L      |
| RF-RB-LD-DR | pngv        |        | onqv |                  |                          |                  | 0      |           |              |        |
| RF-RB-BD-UL | pnsd        |        | onra |                  |                          |                  | 0      |           |              |        |
| RF-RB-BD-UB | pnsa        |        | onrb |                  |                          |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)    | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|------|------------------|-----------------------------|------------------|--------|-----------|--------------|--------|
|   |             |        |      |                  |                             |                  |        | 0         |              |        |
| RF-RB-BD-DF   | pnsu        | onrd   |      |                  |                             |                  | 0      |           |              |        |
| RF-RB-BD-LU   | pnse        | onre   |      |                  |                             |                  | 0      |           | 0            |        |
| RF-RB-BD-BU   | pnsq        | onrf   |      |                  |                             |                  | 0      |           | 0            |        |
| RF-RB-BD-FL   | pnsl        | onri   |      |                  |                             |                  | 0      |           |              |        |
| RF-RB-BD-LF   | pnsf        | onrj   |      |                  |                             |                  | 0      |           |              |        |
| RF-RB-BD-LB   | pnsb        | onrk   |      |                  |                             |                  | 0      |           | 0            |        |
| RF-RB-BD-BL   | pnsr        | onrl   |      |                  |                             |                  | 0      |           | A            |        |
| RF-RB-BD-LD   | pnsq        | onrq   |      |                  |                             |                  | 0      |           |              |        |
| RF-RB-BD-RD   | pnsn        | onrs   |      |                  |                             |                  | 0      |           |              |        |
| RF-RB-BD-DL   | pnsx        | onrt   |      |                  |                             |                  | 0      |           | C            |        |
| RF-RB-BD-DR   | pnsv        | onrv   |      |                  |                             |                  | 0      |           |              |        |
| RF-RB-RD-DF   | pnoe        | onsd   |      |                  |                             |                  | 0      |           |              |        |
| RF-RB-RD-LU   | pnoe        | onse   |      |                  |                             |                  | 0      |           |              |        |
|  | RF-RB-RD-RU | pnom   | onsg | rwjr kvkr jr     | E2 F' R E2 R' F' R' E2 R E2 |                  | 10     |           |              |        |
| RF-RB-RD-LF   | pnof        | onsj   |      |                  |                             |                  | 0      |           |              |        |
| RF-RB-RD-LB   | pnoh        | onsk   |      |                  |                             |                  | 0      |           |              |        |
| RF-RB-RD-LD   | pnoq        | onsq   |      |                  |                             |                  | 0      |           |              |        |
| RF-RB-RD-BD   | pnos        | onsr   |      |                  |                             |                  | 0      |           |              |        |
| RF-RB-RD-DL   | pnox        | onst   |      |                  |                             |                  | 0      |           | A            |        |
| RF-RB-DL-UL   | pnxn        | onta   |      |                  |                             |                  | 0      |           |              |        |
| RF-RB-DL-UB   | pnxn        | ontb   |      |                  |                             |                  | 0      |           | A            |        |
| RF-RB-DL-LU   | pnxn        | onte   |      |                  |                             |                  | 0      |           |              |        |

| UF Diagram | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)        | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|--------|------|------------------|---------------------------------|------------------|--------|-----------|--------------|--------|
|            | RF-RB-DL-BU | pnxq   | ontf |                  |                                 |                  | 0      |           |              |        |
|            | RF-RB-DL-FL | pnxl   | onti |                  |                                 |                  | 0      |           |              |        |
|            | RF-RB-DL-LF | pnxf   | ontj |                  |                                 |                  | 0      |           |              |        |
|            | RF-RB-DL-LB | pnxh   | ontk |                  |                                 |                  | 0      |           |              |        |
|            | RF-RB-DL-RD | pnxo   | onts |                  |                                 |                  | 0      |           |              |        |
|            | RF-RB-DL-DR | pnxv   | ontv |                  |                                 |                  | 0      |           |              | A      |
|            | RF-RB-DB-DF | pnwu   | onud |                  |                                 |                  | 0      |           |              |        |
|            | RF-RB-DB-LU | pnwe   | onue |                  |                                 |                  | 0      |           |              |        |
|            | RF-RB-DB-BU | pnwq   | onuf |                  |                                 |                  | 0      |           |              |        |
|            | RF-RB-DB-LF | pnwf   | onuj |                  |                                 |                  | 0      |           |              |        |
|            | RF-RB-DB-LB | pnwh   | onuk |                  |                                 |                  | 0      |           |              |        |
|            | RF-RB-DB-LD | pnwg   | onuq | mkdn ctes cj     | r' D M' U2 S' D' S U2 R         |                  | 10     |           |              |        |
|            | RF-RB-DB-RD | pnwo   | onus |                  |                                 |                  | 0      |           |              | A      |
|            | RF-RB-DB-DR | pnwv   | onuv |                  |                                 |                  | 0      |           |              |        |
|            | RF-RB-DR-UL | pndv   | onva | ibtk sltj slai   | L2 U' S' R' S R2 S' R S R2 U L2 |                  | 12     |           |              |        |
|            | RF-RB-DR-UR | pnvb   | onvc |                  |                                 |                  | 0      |           |              |        |
|            | RF-RB-DR-LU | pnve   | onve |                  |                                 |                  | 0      |           |              |        |
|            | RF-RB-DR-BU | pnvq   | onvf |                  |                                 |                  | 0      |           |              |        |
|            | RF-RB-DR-RU | pnvm   | onvg |                  |                                 |                  | 0      |           |              |        |
|            | RF-RB-DR-FL | pnvl   | onvi |                  |                                 |                  | 0      |           |              |        |
|            | RF-RB-DR-LB | pnvh   | onvk |                  |                                 |                  | 0      |           |              |        |
|            | RF-RB-DR-DL | pnvx   | onvt | btks ltjs la     | U' S' R' S R2 S' R S R2 U       |                  | 10     |           |              | A      |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-RB-DR-DB | pnnw        | onvu   |      |                  |                          |                  | 0      |           |              |        |
| RF-FR-UL-LD | pjdg        | opaq   |      |                  |                          |                  | 0      |           | 0            |        |
| RF-FR-UL-DL | pjdx        | opat   |      |                  |                          |                  | 0      |           |              |        |
| RF-FR-DF-FU | pjui        | opdh   |      |                  |                          |                  | 0      |           | C            |        |
| RF-FR-LU-DF | pjeu        | oped   |      |                  |                          |                  | 0      |           |              |        |
| RF-FR-LU-RB | pjen        | open   |      |                  |                          |                  | 0      |           | A            |        |
| RF-FR-FL-FU | pjli        | opih   |      |                  |                          |                  | 0      |           |              |        |
| RF-FR-FL-RD | pjlo        | opis   |      |                  |                          |                  | 0      |           |              |        |
| RF-FR-BR-DF | pjtu        | opmd   |      |                  |                          |                  | 0      |           |              |        |
| RF-FR-BD-LU | pjse        | opre   |      |                  |                          |                  | 0      |           | F            |        |
| RF-LD-UL-UB | pgda        | oqab   |      |                  |                          |                  | 0      |           |              |        |
| RF-LD-UL-DF | pgdu        | oqad   |      |                  |                          |                  | 0      |           |              |        |
| RF-LD-UL-BU | pgdq        | oqaf   |      |                  |                          |                  | 0      |           |              |        |
| RF-LD-UL-FU | pgdi        | oqah   |      |                  |                          |                  | 0      |           |              |        |
| RF-LD-UL-FL | pgdl        | oqai   |      |                  |                          |                  | 0      |           |              |        |
| RF-LD-UL-LF | pgdf        | oqaj   |      |                  |                          |                  | 0      |           |              |        |
| RF-LD-UL-LB | pgdh        | oqak   |      |                  |                          |                  | 0      |           |              |        |
| RF-LD-UL-BL | pgdr        | oqal   |      |                  |                          |                  | 0      |           |              |        |
| RF-LD-UL-BR | pgdt        | oqam   |      |                  |                          |                  | 0      |           |              |        |
| RF-LD-UL-RB | pgdn        | oqan   |      |                  |                          |                  | 0      |           |              |        |
| RF-LD-UL-BD | pgds        | oqar   |      |                  |                          |                  | 0      |           |              |        |
| RF-LD-UL-RD | pgdo        | oqas   |      |                  |                          |                  | 0      |           | 0            |        |

| UF Diagram | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)     | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|--------|------|------------------|------------------------------|------------------|--------|-----------|--------------|--------|
|            |             |        |      |                  |                              |                  |        | 0         |              |        |
|            | RF-LD-UL-DR | pgdv   | oqav |                  |                              |                  |        | 0         |              |        |
|            | RF-LD-UB-UL | pgad   | oqba | tbpt asjd nekq   | S' u' S' U S R D M' D' R' E' |                  |        | 12        |              |        |
|            | RF-LD-UB-DF | pgau   | oqbd |                  |                              |                  |        | 0         |              |        |
|            | RF-LD-UB-LU | pgae   | oqbe |                  |                              |                  |        | 0         |              |        |
|            | RF-LD-UB-RU | pgam   | oqbг |                  |                              |                  |        | 0         |              |        |
|            | RF-LD-UB-FU | pgai   | oqbh |                  |                              |                  |        | 0         |              |        |
|            | RF-LD-UB-FL | pgal   | oqbi |                  |                              |                  |        | 0         |              |        |
|            | RF-LD-UB-LF | pgaf   | oqbj |                  |                              |                  |        | 0         |              |        |
|            | RF-LD-UB-LB | pgah   | oqbк |                  |                              |                  |        | 0         |              |        |
|            | RF-LD-UB-BL | pgar   | oqbl |                  |                              |                  |        | 0         |              |        |
|            | RF-LD-UB-BR | pgat   | oqbm |                  |                              |                  |        | 0         |              |        |
|            | RF-LD-UB-RB | pgan   | oqbn |                  |                              |                  |        | 0         |              |        |
|            | RF-LD-UB-RD | pgao   | oqbs |                  |                              |                  |        | 0         |              | A      |
|            | RF-LD-UB-DL | pgax   | oqbt |                  |                              |                  |        | 0         |              |        |
|            | RF-LD-UB-DR | pgav   | oqbv |                  |                              |                  |        | 0         |              |        |
|            | RF-LD-UR-UL | pgbd   | oqca |                  |                              |                  |        | 0         |              |        |
|            | RF-LD-UR-LU | pgbe   | oqce |                  |                              |                  |        | 0         |              |        |
|            | RF-LD-UR-BU | pgbq   | oqcf |                  |                              |                  |        | 0         |              |        |
|            | RF-LD-UR-LB | pgbh   | oqck |                  |                              |                  |        | 0         |              |        |
|            | RF-LD-UR-RD | pgbo   | oqcs |                  |                              |                  |        | 0         |              |        |
|            | RF-LD-UR-DL | pgbx   | oqct |                  |                              |                  |        | 0         |              |        |
|            | RF-LD-UR-DR | pgbv   | oqcv |                  |                              |                  |        | 0         |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-LD-DF-UL | pgud        | oqda   |      |                  |                          |                  |        | 0         |              |        |
| RF-LD-DF-UR | pgub        | oqdc   |      |                  |                          |                  |        | 0         |              |        |
| RF-LD-DF-LU | pgue        | oqde   |      |                  |                          |                  |        | 0         |              |        |
| RF-LD-DF-FL | pgul        | oqdi   |      |                  |                          |                  |        | 0         |              |        |
| RF-LD-DF-RB | pgun        | oqdn   |      |                  |                          |                  |        | 0         |              |        |
| RF-LD-DF-BD | pgus        | oqdr   |      |                  |                          |                  |        | 0         |              |        |
| RF-LD-DF-RD | pguo        | oqds   |      |                  |                          |                  |        | 0         |              |        |
| RF-LD-LU-UB | pgea        | oqeb   |      |                  |                          |                  |        | 0         |              |        |
| RF-LD-LU-UR | pgeb        | oqec   |      |                  |                          |                  |        | 0         |              |        |
| RF-LD-LU-DF | pgeu        | oqed   |      |                  |                          |                  |        | 0         |              |        |
| RF-LD-LU-BU | pgeq        | oqef   |      |                  |                          |                  |        | 0         |              |        |
| RF-LD-LU-RU | pgem        | oqeg   |      |                  |                          |                  |        | 0         |              |        |
| RF-LD-LU-FU | pgei        | oqeh   |      |                  |                          |                  |        | 0         |              |        |
| RF-LD-LU-FL | pgel        | oqei   |      |                  |                          |                  |        | 0         |              | 0      |
| RF-LD-LU-LF | pgef        | oqej   |      |                  |                          |                  |        | 0         |              |        |
| RF-LD-LU-LB | pgeh        | oqek   |      |                  |                          |                  |        | 0         |              |        |
| RF-LD-LU-BL | pger        | oqel   |      |                  |                          |                  |        | 0         |              |        |
| RF-LD-LU-BR | pget        | oqem   |      |                  |                          |                  |        | 0         |              |        |
| RF-LD-LU-RB | pgen        | oqen   |      |                  |                          |                  |        | 0         |              |        |
| RF-LD-LU-BD | pges        | oqer   |      |                  |                          |                  |        | 0         |              |        |
| RF-LD-LU-RD | pgeo        | oqes   |      |                  |                          |                  |        | 0         |              |        |
| RF-LD-LU-DB | pgew        | oqeu   |      |                  |                          |                  |        | 0         |              |        |

| UF Diagram | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)      | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|--------|------|------------------|-------------------------------|------------------|--------|-----------|--------------|--------|
|            | RF-LD-LU-DR | pgev   | oqev |                  |                               |                  | 0      |           |              |        |
|            | RF-LD-BU-UL | pgqd   | oqfa |                  |                               |                  | 0      |           |              |        |
|            | RF-LD-BU-RU | pgqm   | oqfg |                  |                               |                  | 0      |           |              |        |
|            | RF-LD-BU-LF | pgqf   | oqfj |                  |                               |                  | 0      |           |              |        |
|            | RF-LD-BU-BR | pgqt   | oqfm | ajrs rkbj asbk   | U R E2 S E2 R' U' R U S U' R' |                  | 12     |           |              |        |
|            | RF-LD-BU-RB | pgqn   | oqfn |                  |                               |                  | 0      |           |              |        |
|            | RF-LD-BU-FR | pgqj   | oqfp |                  |                               |                  | 0      |           |              |        |
|            | RF-LD-BU-RD | pgqo   | oqfs |                  |                               |                  | 0      |           |              |        |
|            | RF-LD-BU-DB | pgqw   | oqfu |                  |                               |                  | 0      |           |              |        |
|            | RF-LD-BU-DR | pgqv   | oqfv |                  |                               |                  | 0      |           |              |        |
|            | RF-LD-RU-UL | pgmd   | oqga |                  |                               |                  | 0      |           |              |        |
|            | RF-LD-RU-UB | pgma   | oqgb |                  |                               |                  | 0      |           |              |        |
|            | RF-LD-RU-DF | pgmu   | oqgd |                  |                               |                  | 0      |           |              | A      |
|            | RF-LD-RU-LU | pgme   | oqge |                  |                               |                  | 0      |           |              |        |
|            | RF-LD-RU-BU | pgmq   | oqgf |                  |                               |                  | 0      |           |              | P      |
|            | RF-LD-RU-FU | pgmi   | oqgh |                  |                               |                  | 0      |           |              |        |
|            | RF-LD-RU-FL | pgml   | oqgi |                  |                               |                  | 0      |           |              |        |
|            | RF-LD-RU-LF | pgmf   | oqgj |                  |                               |                  | 0      |           |              |        |
|            | RF-LD-RU-LB | pgmh   | oqgk |                  |                               |                  | 0      |           |              |        |
|            | RF-LD-RU-BR | pgmt   | oqgm |                  |                               |                  | 0      |           |              |        |
|            | RF-LD-RU-FR | pgmj   | oqgp |                  |                               |                  | 0      |           |              |        |
|            | RF-LD-RU-BD | pgms   | oqgr |                  |                               |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-LD-FU-UL | pgid        | oqha   |      |                  |                          |                  |        | 0         |              |        |
| RF-LD-FU-LB | pgih        | oqhk   |      |                  |                          |                  |        | 0         |              |        |
| RF-LD-FU-BL | pgir        | oqhl   |      |                  |                          |                  |        | 0         |              |        |
| RF-LD-FU-BD | pgis        | oqhr   |      |                  |                          |                  |        | 0         |              |        |
| RF-LD-FU-DR | pgiv        | oqhv   |      |                  |                          |                  |        | 0         |              |        |
| RF-LD-FL-DF | pglu        | oqid   |      |                  |                          |                  |        | 0         |              |        |
| RF-LD-FL-LU | pgle        | oqie   |      |                  |                          |                  |        | 0         |              |        |
| RF-LD-FL-RU | pglm        | oqig   |      |                  |                          |                  |        | 0         |              |        |
| RF-LD-FL-FU | pgli        | oqih   |      |                  |                          |                  |        | 0         |              |        |
| RF-LD-FL-BR | pglt        | oqim   |      |                  |                          |                  |        | 0         |              |        |
| RF-LD-FL-RB | pgln        | oqin   |      |                  |                          |                  |        | 0         |              |        |
| RF-LD-LF-UL | pgfd        | oqja   |      |                  |                          |                  |        | 0         |              |        |
| RF-LD-LF-UB | pgfa        | oqjb   |      |                  |                          |                  |        | 0         |              |        |
| RF-LD-LF-UR | pgfb        | oqjc   |      |                  |                          |                  |        | 0         |              |        |
| RF-LD-LF-DF | pgfu        | oqjd   |      |                  |                          |                  |        | 0         |              |        |
| RF-LD-LF-LU | pgfe        | oqje   |      |                  |                          |                  |        | 0         |              |        |
| RF-LD-LF-BU | pgfq        | oqjf   |      |                  |                          |                  |        | 0         |              |        |
| RF-LD-LF-RU | pgfm        | oqjg   |      |                  |                          |                  |        | 0         |              |        |
| RF-LD-LF-FU | pgfi        | oqjh   |      |                  |                          |                  |        | 0         |              |        |
| RF-LD-LF-BL | pgfr        | oqjl   |      |                  |                          |                  |        | 0         |              |        |
| RF-LD-LF-BR | pgft        | oqjm   |      |                  |                          |                  |        | 0         |              |        |
| RF-LD-LF-RD | pgfo        | oqjs   |      |                  |                          |                  |        | 0         |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa  | Yo Notation (UF) | Singmaster Notation (UF)      | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|-------|------------------|-------------------------------|------------------|--------|-----------|--------------|--------|
|   |             |        |       |                  |                               |                  |        | 0         |              |        |
| RF-LD-LB-UL   | pghd        | oqka   |       |                  |                               |                  |        | 0         |              |        |
| RF-LD-LB-UB   | pgha        | oqkb   |       |                  |                               |                  |        | 0         |              |        |
| RF-LD-LB-UR   | pghb        | oqkc   |       |                  |                               |                  |        | 0         |              |        |
| RF-LD-LB-LU   | pghe        | oqke   |       |                  |                               |                  |        | 0         |              |        |
| RF-LD-LB-RU   | pghm        | oqkg   |       |                  |                               |                  |        | 0         |              |        |
| RF-LD-LB-LF   | pghf        | oqkj   |       |                  |                               |                  |        | 0         |              |        |
| RF-LD-LB-BR   | pght        | oqkm   |       |                  |                               |                  |        | 0         |              |        |
| RF-LD-LB-RB   | pghn        | oqkn   |       |                  |                               |                  |        | 0         |              |        |
| RF-LD-LB-BD   | pghs        | oqkr   |       |                  |                               |                  |        | 0         |              |        |
| RF-LD-LB-RD   | pgho        | oqks   |       |                  |                               |                  |        | 0         |              |        |
| RF-LD-LB-DR   | pghv        | oqkv   |       |                  |                               |                  |        | 0         |              |        |
| RF-LD-BL-UL   | pgrd        | oqla   |       |                  |                               |                  |        | 0         |              |        |
| RF-LD-BL-UR   | pgrb        | oqlc   |       |                  |                               |                  |        | 0         |              |        |
|  | RF-LD-BL-LU | pgre   | oqle  | kqvk uktl wtpj   | R' E' F R' S2 R' S' R2 f' E R |                  |        | 12        |              |        |
|   | RF-LD-BL-BU | pgrq   | oqlf  |                  |                               |                  |        | 0         |              |        |
|   | RF-LD-BL-RU | pgrm   | oqlg  |                  |                               |                  |        | 0         | 0            |        |
|   | RF-LD-BL-FU | pgrl   | oqlih |                  |                               |                  |        | 0         |              | P      |
|   | RF-LD-BL-FL | pgrl   | oqli  |                  |                               |                  |        | 0         |              |        |
|   | RF-LD-BL-LF | pgrf   | oqlj  |                  |                               |                  |        | 0         |              |        |
|   | RF-LD-BL-BR | pgrt   | oqlm  |                  |                               |                  |        | 0         |              |        |
|   | RF-LD-BL-RB | pgrn   | oqln  |                  |                               |                  |        | 0         |              |        |
|   | RF-LD-BL-BD | pgrs   | oqlr  |                  |                               |                  |        | 0         |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-LD-BL-DL | pgrx        |        | oqlt |                  |                          |                  |        | 0         |              |        |
| RF-LD-BL-DB | pgrw        |        | oqlu |                  |                          |                  |        | 0         |              |        |
| RF-LD-BL-DR | pgrv        |        | oqlv |                  |                          |                  |        | 0         |              |        |
| RF-LD-BR-UL | pgtd        |        | oqma |                  |                          |                  |        | 0         |              |        |
| RF-LD-BR-UB | pgta        |        | oqmb |                  |                          |                  |        | 0         |              |        |
| RF-LD-BR-UR | pgtb        |        | oqmc |                  |                          |                  |        | 0         |              |        |
| RF-LD-BR-DF | pgtu        |        | oqmd |                  |                          |                  |        | 0         |              |        |
| RF-LD-BR-LU | pgte        |        | oqme |                  |                          |                  |        | 0         |              |        |
| RF-LD-BR-BU | pgtq        |        | oqmf |                  |                          |                  |        | 0         |              |        |
| RF-LD-BR-RU | pgtm        |        | oqmg |                  |                          |                  |        | 0         |              |        |
| RF-LD-BR-FL | pgtl        |        | oqmi |                  |                          |                  |        | 0         |              |        |
| RF-LD-BR-LF | pgtf        |        | oqmj |                  |                          |                  |        | 0         |              |        |
| RF-LD-BR-LB | pgth        |        | oqmk |                  |                          |                  |        | 0         |              |        |
| RF-LD-BR-BL | pgtr        |        | oqml |                  |                          |                  |        | 0         |              |        |
| RF-LD-BR-BD | pgts        |        | oqmr |                  |                          |                  |        | 0         |              |        |
| RF-LD-BR-RD | pgto        |        | oqms |                  |                          |                  |        | 0         |              | 0      |
| RF-LD-BR-DL | pgtx        |        | oqmt |                  |                          |                  |        | 0         |              |        |
| RF-LD-BR-DB | pgtw        |        | oqmu |                  |                          |                  |        | 0         |              |        |
| RF-LD-BR-DR | pgtv        |        | oqmv |                  |                          |                  |        | 0         |              |        |
| RF-LD-RB-UB | pgna        |        | oqnb |                  |                          |                  |        | 0         |              |        |
| RF-LD-RB-UR | pgnb        |        | oqnc |                  |                          |                  |        | 0         |              |        |
| RF-LD-RB-DF | pgnu        |        | oqnd |                  |                          |                  |        | 0         |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|   | RF-LD-RB-LU | pgne   | oqne |                  |                          |                  | 0      |           |              |        |
|   | RF-LD-RB-BU | pgnq   | oqnf |                  |                          |                  | 0      |           |              |        |
|   | RF-LD-RB-RU | pgnm   | oqng |                  |                          |                  | 0      |           |              |        |
|   | RF-LD-RB-LF | pgnf   | oqnj |                  |                          |                  | 0      |           |              |        |
|   | RF-LD-RB-LB | pgnh   | oqnk |                  |                          |                  | 0      |           |              |        |
|   | RF-LD-RB-BL | pgnr   | oqnl |                  |                          |                  | 0      |           |              |        |
|   | RF-LD-RB-BD | pgns   | oqnr |                  |                          |                  | 0      |           |              |        |
|   | RF-LD-RB-RD | pgno   | oqns |                  |                          |                  | 0      |           |              |        |
|   | RF-LD-RB-DB | pgnw   | oqnu |                  |                          |                  | 0      |           |              |        |
|   | RF-LD-RB-DR | pgnv   | oqnv |                  |                          |                  | 0      |           |              |        |
|   | RF-LD-FR-DF | pgju   | oqpd |                  |                          |                  | 0      |           |              |        |
|   | RF-LD-FR-RU | pgjm   | oqpg |                  |                          |                  | 0      |           | 0            |        |
|   | RF-LD-BD-UL | pgsd   | oqra |                  |                          |                  | 0      |           |              |        |
|   | RF-LD-BD-UB | pgsa   | oqrb |                  |                          |                  | 0      |           |              |        |
|   | RF-LD-BD-LU | pgse   | oqre |                  |                          |                  | 0      |           |              |        |
|   | RF-LD-BD-RU | pgsm   | oqrg |                  |                          |                  | 0      |           |              |        |
|   | RF-LD-BD-FU | pgsi   | oqrh |                  |                          |                  | 0      |           |              |        |
|   | RF-LD-BD-BL | pgsr   | oqlr |                  |                          |                  | 0      |           |              | A      |
|   | RF-LD-RD-UL | pgod   | oqsa |                  |                          |                  | 0      |           |              |        |
|   | RF-LD-RD-UB | pgoa   | oqsb |                  |                          |                  | 0      |           |              |        |
|  | RF-LD-RD-UR | pgob   | oqsc | segm wmvh dt     | S D' L M' F' M F L' D S' |                  | 10     |           |              |        |
|   | RF-LD-RD-DF | pgou   | oqsd |                  |                          |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)      | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|------|------------------|-------------------------------|------------------|--------|-----------|--------------|--------|
|   | RF-LD-RD-LU | pgoe   | oqse |                  |                               |                  | 0      |           |              |        |
|   | RF-LD-RD-BU | pgoq   | oqsf |                  |                               |                  | 0      |           |              |        |
|   | RF-LD-RD-RU | pgom   | oqsg |                  |                               |                  | 0      |           |              |        |
|   | RF-LD-RD-FU | pgoi   | oqsh |                  |                               |                  | 0      |           |              |        |
|   | RF-LD-RD-FL | pgol   | oqsi |                  |                               |                  | 0      |           |              |        |
|   | RF-LD-RD-BL | pgor   | oqsl |                  |                               |                  | 0      |           |              | A      |
|   | RF-LD-RD-BR | pgot   | oqsm |                  |                               |                  | 0      |           |              |        |
|    | RF-LD-RD-RB | pgon   | oqsn | nasc sjuk am     | M' U S U2 S R S2 R' U M       |                  | 10     |           |              |        |
|   | RF-LD-RD-BD | pgos   | oqsr |                  |                               |                  | 0      |           |              |        |
|  | RF-LD-RD-DB | pgow   | oqsu | cmkd oeje odnc   | U2 r' D M2 D' R D' M2 D M' U2 |                  | 12     |           |              |        |
|   | RF-LD-DL-UB | pgxa   | oqtb |                  |                               |                  | 0      |           |              |        |
|   | RF-LD-DL-RU | pgxm   | oqtg |                  |                               |                  | 0      |           |              |        |
|   | RF-LD-DL-LB | pgxh   | oqtk |                  |                               |                  | 0      |           |              |        |
|   | RF-LD-DL-BL | pgxr   | oqtl |                  |                               |                  | 0      |           |              |        |
|   | RF-LD-DB-UL | pgwd   | oqua |                  |                               |                  | 0      |           |              |        |
|   | RF-LD-DB-UR | pgwb   | oquc |                  |                               |                  | 0      |           |              |        |
|   | RF-LD-DB-FL | pgwl   | oqui |                  |                               |                  | 0      |           |              |        |
|   | RF-LD-DB-LF | pgwf   | oquj |                  |                               |                  | 0      |           |              |        |
|   | RF-LD-DB-LB | pgwh   | oquk |                  |                               |                  | 0      |           |              |        |
|   | RF-LD-DB-BL | pgwr   | oql  |                  |                               |                  | 0      |           |              |        |
|   | RF-LD-DB-BR | pgwt   | oqum |                  |                               |                  | 0      |           |              |        |
|   | RF-LD-DB-RD | pgwo   | oqus |                  |                               |                  | 0      |           |              |        |

| UF Diagram | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)       | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|--------|------|------------------|--------------------------------|------------------|--------|-----------|--------------|--------|
|            | RF-LD-DB-DR | pgwv   | oquv | xtgd hsex kejd   | F2 S' L D L' S D' F2 R' D' R D |                  | 12     |           |              |        |
|            | RF-LD-DR-UL | pgvd   | oqva |                  |                                |                  | 0      |           |              |        |
|            | RF-LD-DR-UB | pgva   | oqvb |                  |                                |                  | 0      |           |              |        |
|            | RF-LD-DR-UR | pgvb   | oqvc | wdkv nwjm ev     | F' D R' F M' F' R M D' F       |                  | 10     |           |              |        |
|            | RF-LD-DR-DF | pgvu   | oqvd |                  |                                |                  | 0      |           |              |        |
|            | RF-LD-DR-BU | pgvq   | oqvf |                  |                                |                  | 0      |           |              |        |
|            | RF-LD-DR-LB | pgvh   | oqvk | pvbt jska wq     | E F U' S' R S R' U F' E'       |                  | 10     |           |              |        |
|            | RF-LD-DR-RB | pgvn   | oqvn |                  |                                |                  | 0      |           |              |        |
|            | RF-LD-DR-BD | pgvs   | oqvr | uaja mbkn bu     | S2 U R U M U' R' M' U' S2      |                  | 10     |           |              |        |
|            | RF-LD-DR-DB | pgvw   | oqvu |                  |                                |                  | 0      |           |              |        |
|            | RF-BD-UL-UB | psda   | orab |                  |                                |                  | 0      |           |              |        |
|            | RF-BD-UL-UR | psdb   | orac |                  |                                |                  | 0      |           | 0            |        |
|            | RF-BD-UL-BU | psdq   | oraf |                  |                                |                  | 0      |           |              |        |
|            | RF-BD-UL-RU | psdm   | orag |                  |                                |                  | 0      |           | 0            |        |
|            | RF-BD-UL-LF | psdf   | oraj |                  |                                |                  | 0      |           |              |        |
|            | RF-BD-UL-LB | psdh   | orak |                  |                                |                  | 0      |           |              |        |
|            | RF-BD-UL-BL | psdr   | oral |                  |                                |                  | 0      |           | A            |        |
|            | RF-BD-UL-BR | psdt   | oram |                  |                                |                  | 0      |           | P            |        |
|            | RF-BD-UL-RB | psdn   | oran |                  |                                |                  | 0      |           | O            |        |
|            | RF-BD-UL-LD | psdg   | oraq |                  |                                |                  | 0      |           |              |        |
|            | RF-BD-UL-RD | psdo   | oras | aivd nemw ib     | U L2 F D M' D' M F' L2 U'      |                  | 10     |           |              |        |
|            | RF-BD-UL-DL | psdx   | orat |                  |                                |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)      | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|-------------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                               |                  |        |           |              |        |
| RF-BD-UB-UL | psad        | orba   | aaaa | anbn amva mbwb   | U M' U' M' U M F U M U' F' U' |                  | 12     |           |              |        |
| RF-BD-UB-UR | psab        | orbc   |      |                  |                               |                  | 0      |           |              |        |
| RF-BD-UB-LU | psae        | orbe   |      |                  |                               |                  | 0      |           | L            |        |
| RF-BD-UB-RU | psam        | orgbg  |      |                  |                               |                  | 0      |           |              |        |
| RF-BD-UB-FL | psal        | orbi   |      |                  |                               |                  | 0      |           | A            |        |
| RF-BD-UB-LF | psaf        | orbj   |      |                  |                               |                  | 0      |           |              |        |
| RF-BD-UB-BL | psar        | orbl   |      |                  |                               |                  | 0      |           |              |        |
| RF-BD-UB-BR | psat        | orbm   |      |                  |                               |                  | 0      |           |              |        |
| RF-BD-UB-DL | psax        | orbt   |      |                  |                               |                  | 0      |           | O            |        |
| RF-BD-UB-DR | psav        | orbv   |      |                  |                               |                  | 0      |           |              |        |
| RF-BD-UR-UL | psbd        | orca   |      |                  |                               |                  | 0      |           |              |        |
| RF-BD-UR-UB | psba        | orcba  |      |                  |                               |                  | 0      |           |              |        |
| RF-BD-UR-DF | psbu        | orcdb  |      |                  |                               |                  | 0      |           | O            |        |
| RF-BD-UR-LU | psbe        | orce   |      |                  |                               |                  | 0      |           |              |        |
| RF-BD-UR-LB | psbh        | orck   |      |                  |                               |                  | 0      |           | O            |        |
| RF-BD-UR-BL | psbr        | orcl   |      |                  |                               |                  | 0      |           | O            |        |
| RF-BD-UR-BR | psbt        | orcsm  |      |                  |                               |                  | 0      |           |              |        |
| RF-BD-UR-RB | psbn        | orcnn  |      |                  |                               |                  | 0      |           |              |        |
| RF-BD-UR-LD | psbg        | orcq   |      |                  |                               |                  | 0      |           | O            |        |
| RF-BD-UR-RD | psbo        | orcs   |      |                  |                               |                  | 0      |           | P            |        |
| RF-BD-UR-DL | psbx        | orct   |      |                  |                               |                  | 0      |           |              |        |
| RF-BD-DF-UL | psud        | orda   |      |                  |                               |                  | 0      |           | O            |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)      | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|------|------------------|-------------------------------|------------------|--------|-----------|--------------|--------|
|   |             |        |      |                  |                               |                  |        | 0         |              |        |
| RF-BD-DF-LU   | psue        | orde   |      |                  |                               |                  | 0      |           | A            |        |
| RF-BD-DF-RU   | psum        | ordg   |      |                  |                               |                  | 0      |           | O            |        |
| RF-BD-DF-FL   | psul        | ordi   |      |                  |                               |                  | 0      |           | A            |        |
| RF-BD-DF-LF   | psuf        | ordj   |      |                  |                               |                  | 0      |           |              |        |
| RF-BD-DF-LB   | psuh        | ordk   |      |                  |                               |                  | 0      |           | A            |        |
| RF-BD-DF-BL   | psur        | ordl   |      |                  |                               |                  | 0      |           | F            |        |
| RF-BD-DF-BR   | psut        | ordm   |      |                  |                               |                  | 0      |           |              |        |
| RF-BD-DF-RB   | psun        | ordn   |      |                  |                               |                  | 0      |           |              |        |
| RF-BD-DF-LD   | psug        | ordq   |      |                  |                               |                  | 0      |           |              |        |
| RF-BD-DF-RD   | psuo        | ords   |      |                  |                               |                  | 0      |           |              |        |
| RF-BD-DF-DB   | psuw        | ordu   |      |                  |                               |                  | 0      |           | A            |        |
| RF-BD-DF-DR   | psuv        | ordv   |      |                  |                               |                  | 0      |           | P            |        |
| RF-BD-LU-UR   | pseb        | orec   |      |                  |                               |                  | 0      |           |              |        |
| RF-BD-LU-BU   | pseq        | oref   |      |                  |                               |                  | 0      |           |              |        |
| RF-BD-LU-RU   | psem        | oreg   |      |                  |                               |                  | 0      |           |              |        |
| RF-BD-LU-FU   | psei        | oreh   |      |                  |                               |                  | 0      |           |              |        |
| RF-BD-LU-LF   | psef        | orej   |      |                  |                               |                  | 0      |           |              |        |
| RF-BD-LU-LB   | pseh        | orek   |      |                  |                               |                  | 0      |           | A            |        |
| RF-BD-LU-BL   | pser        | orel   |      |                  |                               |                  | 0      |           |              |        |
| RF-BD-LU-BR   | pset        | orem   |      |                  |                               |                  | 0      |           |              |        |
| RF-BD-LU-RB   | psen        | oren   |      |                  |                               |                  | 0      |           | O            |        |
|  | RF-BD-LU-LD | pseg   | oreq | vgpw nvmw qvhw   | F L E F' M' F M F' E' F L' F' |                  | 12     |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa    | Yo Notation (UF) | Singmaster Notation (UF)        | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|---------|------------------|---------------------------------|------------------|--------|-----------|--------------|--------|
|   | RF-BD-LU-RD | pseo   | ores    |                  |                                 |                  | 0      |           |              |        |
|   | RF-BD-LU-DL | psex   | oret    |                  |                                 |                  | 0      |           |              |        |
|   | RF-BD-LU-DB | psew   | oreu    |                  |                                 |                  | 0      |           | 0            |        |
|   | RF-BD-BU-UL | psqd   | orfa    |                  |                                 |                  | 0      |           |              |        |
|   | RF-BD-BU-DF | psqu   | orf d   |                  |                                 |                  | 0      |           |              |        |
|   | RF-BD-BU-LU | psqe   | orfe    |                  |                                 |                  | 0      |           | F            |        |
|   | RF-BD-BU-RU | psqm   | org f g |                  |                                 |                  | 0      |           | O            |        |
|   | RF-BD-BU-FL | psql   | orfi    |                  |                                 |                  | 0      |           | O            |        |
|   | RF-BD-BU-LF | psqf   | orf j   |                  |                                 |                  | 0      |           |              |        |
|   | RF-BD-BU-BR | psqt   | orf m   |                  |                                 |                  | 0      |           | O            |        |
|   | RF-BD-BU-FR | psqj   | orf p   |                  |                                 |                  | 0      |           |              |        |
|   | RF-BD-BU-LD | psqg   | orf q   |                  |                                 |                  | 0      |           |              |        |
|   | RF-BD-BU-DB | psqw   | orf u   |                  |                                 |                  | 0      |           |              |        |
|   | RF-BD-BU-DR | psqv   | orf v   |                  |                                 |                  | 0      |           |              |        |
|   | RF-BD-RU-UL | psmd   | org a   |                  |                                 |                  | 0      |           | O            |        |
|   | RF-BD-RU-UB | psma   | org b   |                  |                                 |                  | 0      |           |              |        |
|   | RF-BD-RU-LU | psme   | org e   |                  |                                 |                  | 0      |           | A            |        |
|   | RF-BD-RU-BU | psmq   | org f   |                  |                                 |                  | 0      |           | P            |        |
|   | RF-BD-RU-FL | psml   | org i   |                  |                                 |                  | 0      |           | A            |        |
|   | RF-BD-RU-LF | psmf   | org j   |                  |                                 |                  | 0      |           |              |        |
|  | RF-BD-RU-LB | psmh   | org k   | civm wewn vdic   | U2 L2 F M F' D' F' M' F D L2 U2 |                  | 12     |           |              |        |
|   | RF-BD-RU-BL | psmr   | org l   |                  |                                 |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)     | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|------|------------------|------------------------------|------------------|--------|-----------|--------------|--------|
|   | RF-BD-RU-BR | psmt   | orgm |                  |                              |                  | 0      |           |              |        |
|   | RF-BD-RU-RB | psmn   | orgn |                  |                              |                  | 0      |           | C            |        |
|   | RF-BD-RU-LD | psmg   | orgq |                  |                              |                  | 0      |           | A            |        |
|   | RF-BD-RU-RD | psmo   | orgs |                  |                              |                  | 0      |           | O            |        |
|   | RF-BD-RU-DL | psmx   | orgt |                  |                              |                  | 0      |           |              |        |
|   | RF-BD-FU-UR | psib   | orhc |                  |                              |                  | 0      |           |              |        |
|   | RF-BD-FU-LU | psie   | orhe |                  |                              |                  | 0      |           |              |        |
|   | RF-BD-FU-RU | psim   | orhg |                  |                              |                  | 0      |           |              |        |
|   | RF-BD-FU-FL | psil   | orhi |                  |                              |                  | 0      |           |              |        |
|   | RF-BD-FU-LF | psif   | orhj |                  |                              |                  | 0      |           |              |        |
|   | RF-BD-FU-LB | psi    | orhk |                  |                              |                  | 0      |           |              |        |
|   | RF-BD-FU-BL | psir   | orhl |                  |                              |                  | 0      |           |              |        |
|   | RF-BD-FU-BR | psit   | orhm |                  |                              |                  | 0      |           |              |        |
|   | RF-BD-FU-RB | psin   | orhn |                  |                              |                  | 0      |           |              |        |
|   | RF-BD-FU-FR | psij   | orhp |                  |                              |                  | 0      |           |              |        |
|   | RF-BD-FU-LD | psig   | orhq |                  |                              |                  | 0      |           |              |        |
|   | RF-BD-FU-RD | psio   | orhs |                  |                              |                  | 0      |           |              |        |
|   | RF-BD-FU-DL | psix   | orht |                  |                              |                  | 0      |           |              |        |
|   | RF-BD-FU-DR | psiv   | orhv |                  |                              |                  | 0      |           |              |        |
|  | RF-BD-FL-UL | psld   | oria | ovju dtet kwq    | E F R S2 D S' D' S' R' F' E' |                  | 11     |           | L            |        |
|   | RF-BD-FL-UB | psla   | orib |                  |                              |                  | 0      |           |              |        |
|   | RF-BD-FL-UR | pslb   | oric |                  |                              |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-BD-FL-LU | psle        |        | orie |                  |                          |                  |        | 0         |              |        |
| RF-BD-FL-BU | pslq        |        | orif |                  |                          |                  |        | 0         |              |        |
| RF-BD-FL-RU | pslm        |        | orig |                  |                          |                  |        | 0         |              |        |
| RF-BD-FL-LB | pslh        |        | orik |                  |                          |                  |        | 0         |              |        |
| RF-BD-FL-BL | pslr        |        | oril |                  |                          |                  |        | 0         |              | O      |
| RF-BD-FL-BR | pslt        |        | orim |                  |                          |                  |        | 0         |              | A      |
| RF-BD-FL-RB | psln        |        | orin |                  |                          |                  |        | 0         |              |        |
| RF-BD-FL-FR | pslj        |        | orip |                  |                          |                  |        | 0         |              |        |
| RF-BD-FL-LD | pslg        |        | oriq |                  |                          |                  |        | 0         |              |        |
| RF-BD-FL-RD | pslo        |        | oris |                  |                          |                  |        | 0         |              | C      |
| RF-BD-FL-DL | pslx        |        | orit |                  |                          |                  |        | 0         |              |        |
| RF-BD-LF-BU | psfq        |        | orjf |                  |                          |                  |        | 0         |              |        |
| RF-BD-LF-RU | psfm        |        | orjg |                  |                          |                  |        | 0         |              |        |
| RF-BD-LF-FU | psfi        |        | orjh |                  |                          |                  |        | 0         |              |        |
| RF-BD-LF-LB | psfh        |        | orjk |                  |                          |                  |        | 0         |              |        |
| RF-BD-LF-BL | psfr        |        | orjl |                  |                          |                  |        | 0         |              |        |
| RF-BD-LF-BR | psft        |        | orjm |                  |                          |                  |        | 0         |              |        |
| RF-BD-LF-RB | psfn        |        | orjn |                  |                          |                  |        | 0         |              |        |
| RF-BD-LF-LD | psfg        |        | orjq |                  |                          |                  |        | 0         |              |        |
| RF-BD-LF-RD | psfo        |        | orjs |                  |                          |                  |        | 0         |              |        |
| RF-BD-LF-DL | psfx        |        | orjt |                  |                          |                  |        | 0         |              |        |
| RF-BD-LB-UL | pshd        |        | orka |                  |                          |                  |        | 0         |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)       | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|------|------------------|--------------------------------|------------------|--------|-----------|--------------|--------|
|   | RF-BD-LB-UB | psha   | orkb |                  |                                |                  | 0      |           |              |        |
|   | RF-BD-LB-UR | pshb   | orkc |                  |                                |                  | 0      |           |              |        |
|   | RF-BD-LB-DF | pshu   | orkd |                  |                                |                  | 0      |           | 0            |        |
|   | RF-BD-LB-LU | pshe   | orke |                  |                                |                  | 0      |           |              |        |
|   | RF-BD-LB-RU | pshm   | orkg |                  |                                |                  | 0      |           | 0            |        |
|   | RF-BD-LB-FU | pshi   | orkh |                  |                                |                  | 0      |           |              |        |
|   | RF-BD-LB-FL | pshl   | orki |                  |                                |                  | 0      |           |              |        |
|   | RF-BD-LB-LF | pshf   | orkj |                  |                                |                  | 0      |           |              |        |
|   | RF-BD-LB-BR | psht   | orkm |                  |                                |                  | 0      |           |              |        |
|   | RF-BD-LB-RB | pshn   | orkn |                  |                                |                  | 0      |           |              |        |
|   | RF-BD-LB-LD | pshg   | orkq |                  |                                |                  | 0      |           |              |        |
|   | RF-BD-LB-RD | psho   | orks |                  |                                |                  | 0      |           |              |        |
|   | RF-BD-LB-DR | pshv   | orkv |                  |                                |                  | 0      |           | 0            |        |
|   | RF-BD-BL-UL | psrd   | orla |                  |                                |                  | 0      |           |              |        |
|   | RF-BD-BL-UB | psra   | orlb |                  |                                |                  | 0      |           | 0            |        |
|   | RF-BD-BL-UR | psrb   | orlc |                  |                                |                  | 0      |           |              |        |
|   | RF-BD-BL-DF | psru   | orld |                  |                                |                  | 0      |           |              |        |
|  | RF-BD-BL-LU | psre   | orle | lpwe shtg dvql   | R2 E F' D' S L' S' L D F E' R2 |                  | 12     |           |              |        |
|   | RF-BD-BL-RU | psrm   | orlg |                  |                                |                  | 0      |           |              |        |
|   | RF-BD-BL-FU | psri   | orlh |                  |                                |                  | 0      |           |              |        |
|   | RF-BD-BL-FL | psrl   | orli |                  |                                |                  | 0      |           |              |        |
|   | RF-BD-BL-LF | psrf   | orlj |                  |                                |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              | 0      |
| RF-BD-BL-BR | psrt        |        | orlm |                  |                          |                  |        | 0         |              |        |
| RF-BD-BL-RB | psrn        |        | orln |                  |                          |                  |        | 0         |              |        |
| RF-BD-BL-LD | psrg        |        | orlq |                  |                          |                  |        | 0         |              |        |
| RF-BD-BL-RD | psro        |        | orls |                  |                          |                  |        | 0         |              |        |
| RF-BD-BL-DB | psrw        |        | orlu |                  |                          |                  |        | 0         |              |        |
| RF-BD-BL-DR | psrv        |        | orlv |                  |                          |                  |        | 0         |              |        |
| RF-BD-BR-UL | pstd        |        | orma |                  |                          |                  |        | 0         |              | A      |
| RF-BD-BR-UB | psta        |        | ormb |                  |                          |                  |        | 0         |              |        |
| RF-BD-BR-UR | pstb        |        | ormc |                  |                          |                  |        | 0         |              |        |
| RF-BD-BR-LU | pste        |        | orme |                  |                          |                  |        | 0         |              |        |
| RF-BD-BR-BU | pstq        |        | ormf |                  |                          |                  |        | 0         |              |        |
| RF-BD-BR-RU | pstm        |        | ormg |                  |                          |                  |        | 0         |              |        |
| RF-BD-BR-FL | pstl        |        | ormi |                  |                          |                  |        | 0         |              |        |
| RF-BD-BR-LD | pstg        |        | ormq |                  |                          |                  |        | 0         |              |        |
| RF-BD-BR-RD | psto        |        | orms |                  |                          |                  |        | 0         |              |        |
| RF-BD-BR-DL | pstx        |        | ormt |                  |                          |                  |        | 0         |              | O      |
| RF-BD-BR-DB | pstw        |        | ormu |                  |                          |                  |        | 0         |              |        |
| RF-BD-BR-DR | pstv        |        | ormv |                  |                          |                  |        | 0         |              |        |
| RF-BD-RB-UL | psnd        |        | orna |                  |                          |                  |        | 0         |              |        |
| RF-BD-RB-UB | psna        |        | ornb |                  |                          |                  |        | 0         |              |        |
| RF-BD-RB-UR | psnb        |        | ornc |                  |                          |                  |        | 0         |              |        |
| RF-BD-RB-DF | psnu        |        | ornd |                  |                          |                  |        | 0         |              | P      |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-BD-RB-BU | psnq        |        | ornf |                  |                          |                  |        | 0         |              |        |
| RF-BD-RB-FU | psni        |        | ornh |                  |                          |                  |        | 0         |              | C      |
| RF-BD-RB-LF | psnf        |        | ornj |                  |                          |                  |        | 0         |              |        |
| RF-BD-RB-LB | psnh        |        | ornk |                  |                          |                  |        | 0         |              |        |
| RF-BD-RB-BL | psnr        |        | ornl |                  |                          |                  |        | 0         |              |        |
| RF-BD-RB-LD | psng        |        | ornq |                  |                          |                  |        | 0         |              |        |
| RF-BD-RB-RD | psno        |        | orns |                  |                          |                  |        | 0         |              |        |
| RF-BD-RB-DL | psnx        |        | ornt |                  |                          |                  |        | 0         |              |        |
| RF-BD-RB-DR | psnv        |        | ornv |                  |                          |                  |        | 0         |              |        |
| RF-BD-FR-UL | psjd        |        | orpa |                  |                          |                  |        | 0         |              |        |
| RF-BD-FR-UB | psja        |        | orpб |                  |                          |                  |        | 0         |              |        |
| RF-BD-FR-BL | psjr        |        | orpl |                  |                          |                  |        | 0         |              |        |
| RF-BD-FR-DL | psjx        |        | orpt |                  |                          |                  |        | 0         |              | O      |
| RF-BD-FR-DR | psjv        |        | orpв |                  |                          |                  |        | 0         |              |        |
| RF-BD-LD-UL | psgd        |        | orqa |                  |                          |                  |        | 0         |              |        |
| RF-BD-LD-UB | psga        |        | orqb |                  |                          |                  |        | 0         |              | O      |
| RF-BD-LD-UR | psgb        |        | orqc |                  |                          |                  |        | 0         |              |        |
| RF-BD-LD-DF | psgu        |        | orqd |                  |                          |                  |        | 0         |              |        |
| RF-BD-LD-LU | psge        |        | orqe |                  |                          |                  |        | 0         |              |        |
| RF-BD-LD-FU | psgi        |        | orqh |                  |                          |                  |        | 0         |              |        |
| RF-BD-LD-FL | psgl        |        | orqi |                  |                          |                  |        | 0         |              |        |
| RF-BD-LD-LF | psgf        |        | orqj |                  |                          |                  |        | 0         |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)  | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|------|------------------|---------------------------|------------------|--------|-----------|--------------|--------|
|   | RF-BD-LD-BL | psgr   | orql |                  |                           |                  | 0      |           |              |        |
|   | RF-BD-LD-BR | psgt   | orqm |                  |                           |                  | 0      |           | 0            |        |
|   | RF-BD-LD-RB | psgn   | orqn |                  |                           |                  | 0      |           |              |        |
|   | RF-BD-LD-FR | psgj   | orqp |                  |                           |                  | 0      |           |              |        |
|   | RF-BD-LD-RD | psgo   | orqs |                  |                           |                  | 0      |           | A            |        |
|   | RF-BD-LD-DR | psgv   | orqv |                  |                           |                  | 0      |           |              |        |
|   | RF-BD-RD-UL | psod   | orsa |                  |                           |                  | 0      |           |              |        |
|  | RF-BD-RD-UR | psob   | orsc | wkfq wpvf jv     | F' R' D2 E' F' E F D2 R F |                  | 10     |           |              |        |
|   | RF-BD-RD-DF | psou   | orsd |                  |                           |                  | 0      |           |              |        |
|   | RF-BD-RD-LU | psoe   | orse |                  |                           |                  | 0      |           | A            |        |
|   | RF-BD-RD-RU | psom   | orsg |                  |                           |                  | 0      |           |              |        |
|   | RF-BD-RD-FL | psol   | orsi |                  |                           |                  | 0      |           |              |        |
|   | RF-BD-RD-LF | psof   | orsj |                  |                           |                  | 0      |           |              |        |
|   | RF-BD-RD-LB | psoh   | orsk |                  |                           |                  | 0      |           |              |        |
|   | RF-BD-RD-BL | psor   | orsl |                  |                           |                  | 0      |           |              |        |
|   | RF-BD-RD-BR | psot   | orsm |                  |                           |                  | 0      |           |              |        |
|   | RF-BD-RD-RB | pson   | orsn |                  |                           |                  | 0      |           |              |        |
|   | RF-BD-RD-FR | psoj   | orsp |                  |                           |                  | 0      |           |              |        |
|   | RF-BD-RD-DL | psox   | orst |                  |                           |                  | 0      |           |              |        |
|   | RF-BD-RD-FD | psok   | orsx |                  |                           |                  | 0      |           | A            |        |
|   | RF-BD-DL-UL | psxd   | orta |                  |                           |                  | 0      |           |              |        |
|   | RF-BD-DL-UB | psxa   | ortb |                  |                           |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-BD-DL-UR | psxb        |        | ortc |                  |                          |                  |        | 0         |              |        |
| RF-BD-DL-DF | psxu        |        | ortd |                  |                          |                  |        | 0         |              |        |
| RF-BD-DL-LU | psxe        |        | orte |                  |                          |                  |        | 0         |              |        |
| RF-BD-DL-BU | psxq        |        | ortf |                  |                          |                  |        | 0         |              |        |
| RF-BD-DL-RU | psxm        |        | ortg |                  |                          |                  |        | 0         |              |        |
| RF-BD-DL-FU | psxi        |        | orth |                  |                          |                  |        | 0         |              |        |
| RF-BD-DL-FL | psxl        |        | orti |                  |                          |                  |        | 0         |              |        |
| RF-BD-DL-LF | psxf        |        | ortj |                  |                          |                  |        | 0         |              |        |
| RF-BD-DL-LB | psxh        |        | ortk |                  |                          |                  |        | 0         |              |        |
| RF-BD-DL-BL | psxr        |        | ortl |                  |                          |                  |        | 0         |              |        |
| RF-BD-DL-BR | psxt        |        | ortm |                  |                          |                  |        | 0         |              |        |
| RF-BD-DL-RB | psxn        |        | ortn |                  |                          |                  |        | 0         |              |        |
| RF-BD-DL-RD | psxo        |        | orts |                  |                          |                  |        | 0         |              |        |
| RF-BD-DL-DR | psxv        |        | ortv |                  |                          |                  |        | 0         |              |        |
| RF-BD-DB-UB | pswa        |        | orub |                  |                          |                  |        | 0         |              |        |
| RF-BD-DB-LU | pswe        |        | orue |                  |                          |                  |        | 0         |              |        |
| RF-BD-DB-LF | pswf        |        | oruj |                  |                          |                  |        | 0         |              |        |
| RF-BD-DR-UL | psvd        |        | orva |                  |                          |                  |        | 0         |              | L      |
| RF-BD-DR-UB | psva        |        | orvb |                  |                          |                  |        | 0         |              | L      |
| RF-BD-DR-UR | psvb        |        | orvc |                  |                          |                  |        | 0         |              |        |
| RF-BD-DR-DF | psvu        |        | orvd |                  |                          |                  |        | 0         |              |        |
| RF-BD-DR-LU | psve        |        | orve |                  |                          |                  |        | 0         |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)  | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|------|------------------|---------------------------|------------------|--------|-----------|--------------|--------|
|   | RF-BD-DR-BU | psvq   | orvf |                  |                           |                  | 0      |           |              |        |
|   | RF-BD-DR-RU | psvm   | orvg |                  |                           |                  | 0      |           |              |        |
|   | RF-BD-DR-FU | psvi   | orvh |                  |                           |                  | 0      |           |              |        |
|   | RF-BD-DR-FL | psvl   | orvi |                  |                           |                  | 0      |           |              |        |
|   | RF-BD-DR-LF | psvf   | orvj |                  |                           |                  | 0      |           |              |        |
|   | RF-BD-DR-LB | psvh   | orvk |                  |                           |                  | 0      |           |              |        |
|   | RF-BD-DR-BL | psvr   | orvl |                  |                           |                  | 0      |           |              |        |
|   | RF-BD-DR-BR | psvt   | orvm |                  |                           |                  | 0      |           |              |        |
|   | RF-BD-DR-RB | psvn   | orvn |                  |                           |                  | 0      |           |              |        |
|   | RF-BD-DR-LD | psvg   | orvq |                  |                           |                  | 0      |           |              |        |
|   | RF-BD-DR-DL | psvx   | orvt |                  |                           |                  | 0      |           |              | A      |
|   | RF-RD-UL-RU | podm   | osag |                  |                           |                  | 0      |           |              |        |
|   | RF-RD-UL-LF | podf   | osaj |                  |                           |                  | 0      |           |              |        |
|   | RF-RD-UL-LB | podh   | osak |                  |                           |                  | 0      |           |              |        |
|   | RF-RD-UL-BL | podr   | osal |                  |                           |                  | 0      |           |              |        |
|   | RF-RD-UL-BR | podt   | osam |                  |                           |                  | 0      |           |              | F      |
|   | RF-RD-UL-RB | podn   | osan |                  |                           |                  | 0      |           |              |        |
|   | RF-RD-UL-LD | podg   | osaq |                  |                           |                  | 0      |           |              |        |
|   | RF-RD-UL-DL | podx   | osat |                  |                           |                  | 0      |           |              | O      |
|   | RF-RD-UL-DB | podw   | osau |                  |                           |                  | 0      |           |              |        |
|  | RF-RD-UB-UL | poad   | osba | ikbs ajat bi     | L2 R' U' S U R U S' U' L2 |                  | 10     |           |              |        |
|   | RF-RD-UB-UR | poab   | osbc |                  |                           |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa      | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|-----------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |           |                  |                          |                  |        | 0         |              |        |
| RF-RD-UB-DF | poau        | osbd   |           |                  |                          |                  | 0      |           |              |        |
| RF-RD-UB-LU | poae        | osbe   |           |                  |                          |                  | 0      |           |              |        |
| RF-RD-UB-RU | poam        | osbg   |           |                  |                          |                  | 0      |           |              |        |
| RF-RD-UB-FU | poai        | osbh   |           |                  |                          |                  | 0      |           |              |        |
| RF-RD-UB-FL | poal        | osbi   |           |                  |                          |                  | 0      |           |              |        |
| RF-RD-UB-BL | poar        | osbl   |           |                  |                          |                  | 0      |           |              |        |
| RF-RD-UB-BD | poas        | osbr   |           |                  |                          |                  | 0      |           |              |        |
| RF-RD-UB-DL | poax        | osbt   | kbsa jatb |                  | R' U' S U R U S' U'      |                  | 8      |           |              |        |
| RF-RD-UB-DB | poaw        | osbu   |           |                  |                          |                  | 0      |           |              |        |
| RF-RD-UR-DF | pobu        | oscd   |           |                  |                          |                  | 0      |           |              |        |
| RF-RD-UR-BU | pobq        | oscf   |           |                  |                          |                  | 0      |           |              |        |
| RF-RD-UR-FU | pobi        | osch   |           |                  |                          |                  | 0      |           |              |        |
| RF-RD-UR-FL | pobl        | osci   |           |                  |                          |                  | 0      |           |              |        |
| RF-RD-UR-LF | pobf        | oscj   |           |                  |                          |                  | 0      |           |              |        |
| RF-RD-UR-LB | pobh        | osck   |           |                  |                          |                  | 0      |           |              |        |
| RF-RD-UR-BL | pobr        | oscl   |           |                  |                          |                  | 0      |           |              |        |
| RF-RD-UR-BR | pobt        | oscsm  |           |                  |                          |                  | 0      |           |              |        |
| RF-RD-UR-RB | pobn        | oscn   |           |                  |                          |                  | 0      |           |              |        |
| RF-RD-UR-LD | pobg        | oscq   |           |                  |                          |                  | 0      |           |              |        |
| RF-RD-UR-BD | pobs        | oscr   |           |                  |                          |                  | 0      |           | 0            |        |
| RF-RD-UR-DL | pobx        | osct   |           |                  |                          |                  | 0      |           |              |        |
| RF-RD-UR-DB | pobw        | oscu   |           |                  |                          |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)   | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|------|------------------|----------------------------|------------------|--------|-----------|--------------|--------|
|   | RF-RD-DF-UL | poud   | osda |                  |                            |                  | 0      |           |              |        |
|   | RF-RD-DF-UB | poua   | osdb |                  |                            |                  | 0      |           |              |        |
|   | RF-RD-DF-RB | poun   | osdn |                  |                            |                  | 0      |           |              |        |
|   | RF-RD-DF-LD | poug   | osdq |                  |                            |                  | 0      |           |              |        |
|   | RF-RD-DF-BD | pous   | osdr |                  |                            |                  | 0      |           |              |        |
|   | RF-RD-LU-UB | poea   | oseb |                  |                            |                  | 0      |           |              |        |
|   | RF-RD-LU-UR | poeb   | osec |                  |                            |                  | 0      |           |              |        |
|   | RF-RD-LU-BU | poeq   | osef |                  |                            |                  | 0      |           |              |        |
|   | RF-RD-LU-RU | poem   | oseg |                  |                            |                  | 0      |           |              |        |
|   | RF-RD-LU-FU | poei   | oseh |                  |                            |                  | 0      |           |              |        |
|   | RF-RD-LU-FL | poel   | osei |                  |                            |                  | 0      |           |              |        |
|   | RF-RD-LU-LF | poef   | osej |                  |                            |                  | 0      |           |              |        |
|   | RF-RD-LU-LB | poeh   | osek |                  |                            |                  | 0      |           |              |        |
|   | RF-RD-LU-BL | poer   | osel |                  |                            |                  | 0      |           |              |        |
|   | RF-RD-LU-BR | poet   | osem |                  |                            |                  | 0      |           |              |        |
|   | RF-RD-LU-RB | poen   | osen |                  |                            |                  | 0      |           |              |        |
|   | RF-RD-LU-FR | poej   | osep |                  |                            |                  | 0      |           |              |        |
|  | RF-RD-LU-LD | poeg   | oseq | kbvl tjsj waj    | R' U' F R2 S' R S R F' U R |                  | 11     |           |              |        |
|   | RF-RD-LU-BD | poes   | oser |                  |                            |                  | 0      |           |              |        |
|   | RF-RD-LU-DL | poex   | oset |                  |                            |                  | 0      |           |              |        |
|   | RF-RD-LU-DB | poew   | oseu |                  |                            |                  | 0      |           |              |        |
|   | RF-RD-BU-UL | poqd   | osfa |                  |                            |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-RD-BU-UR | poqb        | osfc   |      |                  |                          |                  |        | 0         |              |        |
| RF-RD-BU-DF | poqu        | osfd   |      |                  |                          |                  |        | 0         |              |        |
| RF-RD-BU-LU | poqe        | osfe   |      |                  |                          |                  |        | 0         |              |        |
| RF-RD-BU-RU | poqm        | osfg   |      |                  |                          |                  |        | 0         |              |        |
| RF-RD-BU-FL | poql        | osfi   |      |                  |                          |                  |        | 0         |              |        |
| RF-RD-BU-LF | poqf        | osfj   |      |                  |                          |                  |        | 0         |              |        |
| RF-RD-BU-LB | poqh        | osfk   |      |                  |                          |                  |        | 0         |              |        |
| RF-RD-BU-BL | poqr        | osfl   |      |                  |                          |                  |        | 0         |              |        |
| RF-RD-BU-BR | poqt        | osfm   |      |                  |                          |                  |        | 0         |              |        |
| RF-RD-BU-RB | poqn        | osfn   |      |                  |                          |                  |        | 0         |              |        |
| RF-RD-BU-FR | poqj        | osfp   |      |                  |                          |                  |        | 0         |              |        |
| RF-RD-BU-LD | poqg        | osfq   |      |                  |                          |                  |        | 0         |              |        |
| RF-RD-BU-BD | poqs        | osfr   |      |                  |                          |                  |        | 0         |              | 0      |
| RF-RD-BU-DL | poqx        | osft   |      |                  |                          |                  |        | 0         |              |        |
| RF-RD-BU-DB | poqw        | osfu   |      |                  |                          |                  |        | 0         |              |        |
| RF-RD-RU-UL | pomd        | osgaa  |      |                  |                          |                  |        | 0         |              |        |
| RF-RD-RU-UB | poma        | osgbb  |      |                  |                          |                  |        | 0         |              |        |
| RF-RD-RU-LU | pome        | osgge  |      |                  |                          |                  |        | 0         |              |        |
| RF-RD-RU-BU | pomq        | osgff  |      |                  |                          |                  |        | 0         |              | P      |
| RF-RD-RU-FU | pomi        | osggh  |      |                  |                          |                  |        | 0         |              |        |
| RF-RD-RU-FL | poml        | osgii  |      |                  |                          |                  |        | 0         |              |        |
| RF-RD-RU-LF | pomf        | osgjj  |      |                  |                          |                  |        | 0         |              |        |

| UF Diagram | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)       | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|--------|------|------------------|--------------------------------|------------------|--------|-----------|--------------|--------|
|            | RF-RD-RU-LB | pomh   | osgk | jqlb psaj bta    | R E' R2 u' S U R U' S' U       |                  | 11     |           |              |        |
|            | RF-RD-RU-BL | pomr   | osgl |                  |                                |                  | 0      |           |              | P      |
|            | RF-RD-RU-RB | pomn   | osgn | akvc sjtk cwjb   | U R' F U2 S R S' R' U2 F' R U' |                  | 12     |           |              |        |
|            | RF-RD-RU-LD | pomg   | osgq | uhvh tgpw qgt    | S2 L' F L' S' L E F' E' L S'   |                  | 11     |           |              | P      |
|            | RF-RD-RU-BD | poms   | osgr |                  |                                |                  | 0      |           |              |        |
|            | RF-RD-RU-DL | pomx   | osgt |                  |                                |                  | 0      |           |              |        |
|            | RF-RD-RU-DB | pomw   | osgu |                  |                                |                  | 0      |           |              |        |
|            | RF-RD-FU-UL | poid   | osha |                  |                                |                  | 0      |           |              | P      |
|            | RF-RD-FU-UB | poia   | oshb |                  |                                |                  | 0      |           |              |        |
|            | RF-RD-FU-FL | poil   | oshi |                  |                                |                  | 0      |           |              |        |
|            | RF-RD-FU-LB | poih   | oshk |                  |                                |                  | 0      |           |              |        |
|            | RF-RD-FU-BL | poir   | oshl |                  |                                |                  | 0      |           |              |        |
|            | RF-RD-FU-BD | pois   | oshr |                  |                                |                  | 0      |           |              |        |
|            | RF-RD-FU-DL | poix   | osht |                  |                                |                  | 0      |           |              |        |
|            | RF-RD-FL-UB | pola   | osib |                  |                                |                  | 0      |           |              |        |
|            | RF-RD-FL-UR | polb   | osic |                  |                                |                  | 0      |           |              |        |
|            | RF-RD-FL-DF | polu   | osid |                  |                                |                  | 0      |           |              |        |
|            | RF-RD-FL-BU | polq   | osif |                  |                                |                  | 0      |           |              |        |
|            | RF-RD-FL-RU | polm   | osig |                  |                                |                  | 0      |           |              |        |
|            | RF-RD-FL-BL | polr   | osil |                  |                                |                  | 0      |           |              |        |
|            | RF-RD-FL-BR | polt   | osim |                  |                                |                  | 0      |           |              |        |
|            | RF-RD-FL-RB | poln   | osin | mgwb jtk s avnh  | I F' U' R S' R' S U F I'       |                  | 12     |           |              |        |

| UF Diagram   | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)   | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|--|-------------|--------|------|------------------|----------------------------|------------------|--------|-----------|--------------|--------|
|  | RF-RD-FL-BD | pols   | osir |                  |                            |                  | 0      |           |              |        |
|  | RF-RD-FL-DB | polw   | osiu |                  |                            |                  | 0      |           |              |        |
|  | RF-RD-LF-UL | pofd   | osja |                  |                            |                  | 0      |           |              |        |
|  | RF-RD-LF-UB | pofa   | osjb |                  |                            |                  | 0      |           | 0            |        |
|  | RF-RD-LF-DF | pofu   | osjd |                  |                            |                  | 0      |           |              |        |
|  | RF-RD-LF-RU | pofm   | osjg |                  |                            |                  | 0      |           |              |        |
|  | RF-RD-LF-LB | pofh   | osjk |                  |                            |                  | 0      |           | C            |        |
|  | RF-RD-LF-BR | poft   | osjm |                  |                            |                  | 0      |           |              |        |
|  | RF-RD-LF-LD | pofg   | osjq |                  |                            |                  | 0      |           |              |        |
|  | RF-RD-LF-BD | pofs   | osjr | xnat bvbs amv    | F2 M' U S' U' F U' S U M F |                  | 11     |           |              |        |
|  | RF-RD-LB-UB | poha   | oskb |                  |                            |                  | 0      |           |              |        |
|  | RF-RD-LB-DF | pohu   | oskd |                  |                            |                  | 0      |           |              |        |
|  | RF-RD-LB-FL | pohl   | oski |                  |                            |                  | 0      |           |              |        |
|  | RF-RD-LB-LF | pohf   | oskj |                  |                            |                  | 0      |           |              |        |
|  | RF-RD-LB-RB | pohn   | oskn |                  |                            |                  | 0      |           |              |        |
|  | RF-RD-LB-BD | pozs   | oskr |                  |                            |                  | 0      |           |              |        |
|  | RF-RD-LB-DB | pohw   | osku |                  |                            |                  | 0      |           |              |        |
|  | RF-RD-BL-UL | pord   | osla |                  |                            |                  | 0      |           | C            |        |
|  | RF-RD-BL-LU | pore   | osle |                  |                            |                  | 0      |           |              |        |
|  | RF-RD-BL-BU | porq   | oslf |                  |                            |                  | 0      |           |              |        |
|  | RF-RD-BL-FL | porl   | osli |                  |                            |                  | 0      |           |              |        |
|  | RF-RD-BL-LF | porf   | oslj |                  |                            |                  | 0      |           |              |        |

| UF Diagram | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)     | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|--------|------|------------------|------------------------------|------------------|--------|-----------|--------------|--------|
|            | RF-RD-BL-BR | port   | oslm |                  |                              |                  | 0      |           | C            |        |
|            | RF-RD-BL-RB | porn   | osln |                  |                              |                  | 0      |           |              |        |
|            | RF-RD-BL-LD | porg   | oslq |                  |                              |                  | 0      |           |              |        |
|            | RF-RD-BL-BD | pors   | oslr | vmen ahtd sb     | F M D' M' U L' S' D S U'     |                  | 10     |           |              |        |
|            | RF-RD-BL-DL | porx   | oslt |                  |                              |                  | 0      |           |              |        |
|            | RF-RD-BL-DB | porw   | oslu |                  |                              |                  | 0      |           | C            |        |
|            | RF-RD-BR-UL | potd   | osma |                  |                              |                  | 0      |           | P            |        |
|            | RF-RD-BR-UB | pota   | osmb |                  |                              |                  | 0      |           |              |        |
|            | RF-RD-BR-UR | potb   | osmc |                  |                              |                  | 0      |           |              |        |
|            | RF-RD-BR-LU | pote   | osme |                  |                              |                  | 0      |           |              |        |
|            | RF-RD-BR-BU | potq   | osmf |                  |                              |                  | 0      |           |              |        |
|            | RF-RD-BR-RU | potm   | osmg |                  |                              |                  | 0      |           |              |        |
|            | RF-RD-BR-FU | poti   | osmh |                  |                              |                  | 0      |           |              |        |
|            | RF-RD-BR-FL | potl   | osmi |                  |                              |                  | 0      |           |              |        |
|            | RF-RD-BR-LF | potf   | osmj |                  |                              |                  | 0      |           |              |        |
|            | RF-RD-BR-LB | poth   | osmk |                  |                              |                  | 0      |           |              |        |
|            | RF-RD-BR-BL | potr   | osml | bkqk pjqk pla    | U' R' E' R' E R E' R' E R2 U |                  | 11     |           |              |        |
|            | RF-RD-BR-LD | potg   | osmq |                  |                              |                  | 0      |           |              |        |
|            | RF-RD-BR-BD | pots   | osmr |                  |                              |                  | 0      |           |              |        |
|            | RF-RD-BR-DL | potx   | osmt |                  |                              |                  | 0      |           |              |        |
|            | RF-RD-BR-DB | potw   | osmu |                  |                              |                  | 0      |           |              |        |
|            | RF-RD-RB-UL | pond   | osna | fktj ajsk fb     | D2 R' S' R U R S R' D2 U'    |                  | 10     |           |              |        |

| UF Diagram | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)     | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|--------|------|------------------|------------------------------|------------------|--------|-----------|--------------|--------|
|            | RF-RD-RB-UB | pona   | osnb |                  |                              |                  | 0      |           |              |        |
|            | RF-RD-RB-UR | ponb   | osnc |                  |                              |                  | 0      |           |              |        |
|            | RF-RD-RB-DF | ponu   | osnd |                  |                              |                  | 0      |           |              |        |
|            | RF-RD-RB-LU | pone   | osne |                  |                              |                  | 0      |           |              |        |
|            | RF-RD-RB-BU | ponq   | osnf |                  |                              |                  | 0      |           |              |        |
|            | RF-RD-RB-RU | ponm   | osng |                  |                              |                  | 0      |           |              |        |
|            | RF-RD-RB-FL | ponl   | osni |                  |                              |                  | 0      |           |              |        |
|            | RF-RD-RB-LF | ponf   | osnj |                  |                              |                  | 0      |           |              |        |
|            | RF-RD-RB-LB | ponh   | osnk |                  |                              |                  | 0      |           |              |        |
|            | RF-RD-RB-BL | ponr   | osnl |                  |                              |                  | 0      |           |              |        |
|            | RF-RD-RB-LD | pong   | osnq | kwkt pjqs vj     | R' F' R' S' E R E' f R       |                  | 10     |           |              |        |
|            | RF-RD-RB-BD | pons   | osnr |                  |                              |                  | 0      |           |              |        |
|            | RF-RD-RB-DL | ponx   | osnt |                  |                              |                  | 0      |           |              |        |
|            | RF-RD-RB-DB | ponw   | osnu |                  |                              |                  | 0      |           |              |        |
|            | RF-RD-FR-BU | pojq   | ospf |                  |                              |                  | 0      |           |              |        |
|            | RF-RD-FR-LD | pojg   | ospq |                  |                              |                  | 0      |           |              |        |
|            | RF-RD-LD-UL | pogd   | osqa |                  |                              |                  | 0      |           |              |        |
|            | RF-RD-LD-UB | poga   | osqb |                  |                              |                  | 0      |           |              |        |
|            | RF-RD-LD-UR | pogb   | osqc | kbsa jctb sbt    | R' U' S U R U2 S' U' S U' S' |                  | 11     |           |              |        |
|            | RF-RD-LD-DF | pogu   | osqd |                  |                              |                  | 0      |           |              |        |
|            | RF-RD-LD-BU | pogg   | osqf |                  |                              |                  | 0      |           |              |        |
|            | RF-RD-LD-RU | pogm   | osqg |                  |                              |                  | 0      |           |              |        |

| UF Diagram | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)        | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|--------|------|------------------|---------------------------------|------------------|--------|-----------|--------------|--------|
|            | RF-RD-LD-FL | pogl   | osqi |                  |                                 |                  | 0      |           |              |        |
|            | RF-RD-LD-LF | pogf   | osqj |                  |                                 |                  | 0      |           |              |        |
|            | RF-RD-LD-BL | pogr   | osql |                  |                                 |                  | 0      |           |              |        |
|            | RF-RD-LD-BR | pogt   | osqm |                  |                                 |                  | 0      |           |              |        |
|            | RF-RD-LD-RB | pogn   | osqn |                  |                                 |                  | 0      |           | 0            |        |
|            | RF-RD-LD-BD | pogs   | osqr |                  |                                 |                  | 0      |           |              |        |
|            | RF-RD-LD-DB | pogw   | osqu | cvnd mcme ncwc   | U2 F M' D M U2 M D' M' U2 F' U2 |                  | 12     |           |              |        |
|            | RF-RD-BD-UL | posd   | osra |                  |                                 |                  | 0      |           |              |        |
|            | RF-RD-BD-UR | posb   | osrc |                  |                                 |                  | 0      |           | P            |        |
|            | RF-RD-BD-LU | pose   | osre |                  |                                 |                  | 0      |           | A            |        |
|            | RF-RD-BD-FL | posl   | osri |                  |                                 |                  | 0      |           |              |        |
|            | RF-RD-BD-LF | posf   | osrj |                  |                                 |                  | 0      |           |              |        |
|            | RF-RD-BD-LB | posh   | osrk |                  |                                 |                  | 0      |           |              |        |
|            | RF-RD-BD-BL | posr   | osrl |                  |                                 |                  | 0      |           |              |        |
|            | RF-RD-BD-BR | post   | osrm |                  |                                 |                  | 0      |           |              |        |
|            | RF-RD-BD-LD | posg   | osrq |                  |                                 |                  | 0      |           |              |        |
|            | RF-RD-BD-DR | posv   | osrv |                  |                                 |                  | 0      |           |              |        |
|            | RF-RD-DL-UL | poxd   | osta |                  |                                 |                  | 0      |           |              |        |
|            | RF-RD-DL-UB | poxa   | ostb |                  |                                 |                  | 0      |           |              |        |
|            | RF-RD-DL-UR | poxb   | ostc |                  |                                 |                  | 0      |           |              |        |
|            | RF-RD-DL-DF | poxu   | ostd |                  |                                 |                  | 0      |           |              |        |
|            | RF-RD-DL-LU | poxe   | oste |                  |                                 |                  | 0      |           |              |        |

| UF Diagram | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)      | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|--------|------|------------------|-------------------------------|------------------|--------|-----------|--------------|--------|
|            | RF-RD-DL-BU | poxq   | ostf | katb jwas bv     | R' U S' U' R F' U S U' F      |                  | 10     |           |              |        |
|            | RF-RD-DL-RU | poxm   | ostg |                  |                               |                  | 0      |           |              |        |
|            | RF-RD-DL-FU | poxi   | osth |                  |                               |                  | 0      |           |              |        |
|            | RF-RD-DL-FL | poxl   | osti |                  |                               |                  | 0      |           |              |        |
|            | RF-RD-DL-LF | poxf   | ostj |                  |                               |                  | 0      |           |              |        |
|            | RF-RD-DL-LB | poxh   | ostk |                  |                               |                  | 0      |           |              |        |
|            | RF-RD-DL-BL | poxr   | ostl |                  |                               |                  | 0      |           |              |        |
|            | RF-RD-DL-BR | poxt   | ostm |                  |                               |                  | 0      |           |              |        |
|            | RF-RD-DL-RB | poxn   | ostn |                  |                               |                  | 0      |           |              |        |
|            | RF-RD-DL-BD | poxs   | ostr |                  |                               |                  | 0      |           |              |        |
|            | RF-RD-DB-UL | powd   | osua |                  |                               |                  | 0      |           |              |        |
|            | RF-RD-DB-UR | powb   | osuc |                  |                               |                  | 0      |           |              |        |
|            | RF-RD-DB-LU | powe   | osue |                  |                               |                  | 0      |           |              |        |
|            | RF-RD-DB-RU | powm   | osug |                  |                               |                  | 0      |           |              |        |
|            | RF-RD-DB-FL | powl   | osui |                  |                               |                  | 0      |           |              |        |
|            | RF-RD-DB-LF | powf   | osuj |                  |                               |                  | 0      |           |              |        |
|            | RF-RD-DB-LB | powh   | osuk |                  |                               |                  | 0      |           |              | P      |
|            | RF-RD-DB-BL | powr   | osul | bshw mend vgta   | U' S L' F' M D' M' D F L S' U |                  | 12     |           |              |        |
|            | RF-RD-DB-BR | powt   | osum |                  |                               |                  | 0      |           |              | F      |
|            | RF-RD-DB-RB | pown   | osun |                  |                               |                  | 0      |           |              | P      |
|            | RF-RD-DB-LD | powg   | osuq |                  |                               |                  | 0      |           |              |        |
|            | RF-RD-DB-DL | powx   | osut |                  |                               |                  | 0      |           |              |        |

| UF Diagram | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|            |             |        |      |                  |                          |                  |        | 0         |              |        |
|            | RF-RD-DB-DR | povv   | osuv |                  |                          |                  |        | 0         |              |        |
|            | RF-RD-DR-UL | povd   | osva |                  |                          |                  |        | 0         |              |        |
|            | RF-RD-DR-UB | pova   | osvb |                  |                          |                  |        | 0         |              |        |
|            | RF-RD-DR-UR | povb   | osvc |                  |                          |                  |        | 0         |              |        |
|            | RF-RD-DR-DF | povu   | osvd |                  |                          |                  |        | 0         |              |        |
|            | RF-RD-DR-LU | pove   | osve |                  |                          |                  |        | 0         |              |        |
|            | RF-RD-DR-BU | povq   | osvf |                  |                          |                  |        | 0         |              |        |
|            | RF-RD-DR-RU | povm   | osvg |                  |                          |                  |        | 0         |              |        |
|            | RF-RD-DR-FU | povi   | osvh |                  |                          |                  |        | 0         |              |        |
|            | RF-RD-DR-FL | povl   | osvi |                  |                          |                  |        | 0         |              |        |
|            | RF-RD-DR-LF | povf   | osvj |                  |                          |                  |        | 0         |              |        |
|            | RF-RD-DR-LB | povh   | osvk |                  |                          |                  |        | 0         |              |        |
|            | RF-RD-DR-BL | povr   | osvl |                  |                          |                  |        | 0         |              | 0      |
|            | RF-RD-DR-BR | povt   | osvm |                  |                          |                  |        | 0         |              |        |
|            | RF-RD-DR-RB | povn   | osvn |                  |                          |                  |        | 0         |              |        |
|            | RF-RD-DR-LD | povg   | osvq |                  |                          |                  |        | 0         |              |        |
|            | RF-RD-DR-BD | povs   | osvr |                  |                          |                  |        | 0         |              |        |
|            | RF-RD-DR-DL | povx   | osvt |                  |                          |                  |        | 0         |              |        |
|            | RF-RD-DR-DB | povw   | osvu |                  |                          |                  |        | 0         |              |        |
|            | RF-DL-UL-UB | pxda   | otab |                  |                          |                  |        | 0         |              |        |
|            | RF-DL-UL-UR | pxdb   | otac |                  |                          |                  |        | 0         |              |        |
|            | RF-DL-UL-DF | pxdu   | otad |                  |                          |                  |        | 0         |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-DL-UL-BU | pxdq        | otaf   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-UL-RU | pxdm        | otag   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-UL-FU | pxdi        | otah   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-UL-FL | pxdl        | otai   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-UL-LF | pxdf        | otaj   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-UL-LB | pxdh        | otak   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-UL-BL | pxdr        | otal   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-UL-BR | pxdt        | otam   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-UL-RB | pxdn        | otan   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-UL-FR | pxdj        | otap   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-UL-BD | pxds        | otar   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-UL-RD | pxdo        | otas   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-UL-DB | pxdw        | otau   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-UL-DR | pxdv        | otav   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-UB-UL | pxad        | otba   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-UB-UR | pxab        | otbc   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-UB-LU | pxae        | otbe   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-UB-RU | pxam        | otbg   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-UB-FU | pxai        | otbh   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-UB-FL | pxal        | otbi   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-UB-LF | pxaf        | otbj   |      |                  |                          |                  | 0      |           |              | 0      |
| RF-DL-UB-RB | pxan        | otbn   |      |                  |                          |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)       | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|------|------------------|--------------------------------|------------------|--------|-----------|--------------|--------|
|   | RF-DL-UB-FR | pxaj   | otbp |                  |                                |                  | 0      |           |              |        |
|   | RF-DL-UB-LD | pxag   | otbq |                  |                                |                  | 0      |           |              |        |
|   | RF-DL-UB-DR | pxav   | otbv |                  |                                |                  | 0      |           |              |        |
|   | RF-DL-UR-UL | pxbd   | otca |                  |                                |                  | 0      |           |              |        |
|   | RF-DL-UR-UB | pxba   | otcb |                  |                                |                  | 0      |           |              |        |
|   | RF-DL-UR-DF | pxbu   | otcd |                  |                                |                  | 0      |           |              |        |
|   | RF-DL-UR-LU | pxbe   | otce |                  |                                |                  | 0      |           |              |        |
|   | RF-DL-UR-BU | pxbq   | otcf |                  |                                |                  | 0      |           |              |        |
|   | RF-DL-UR-FL | pxbl   | otci |                  |                                |                  | 0      |           |              |        |
|   | RF-DL-UR-LF | pxbf   | otcj |                  |                                |                  | 0      |           |              |        |
|   | RF-DL-UR-LB | pxbh   | otck |                  |                                |                  | 0      |           | 0            |        |
|   | RF-DL-UR-BL | pxbr   | otcl |                  |                                |                  | 0      |           |              |        |
|  | RF-DL-UR-BR | pxbt   | otcm | agwl pwqv lvhb   | U L F' R2 E F' E' F R2 F L' U' |                  | 12     |           | 0            |        |
|   | RF-DL-UR-RB | pxbn   | otcn |                  |                                |                  | 0      |           |              |        |
|   | RF-DL-UR-BD | pxbs   | otcr |                  |                                |                  | 0      |           |              |        |
|   | RF-DL-UR-RD | pxbo   | otcs |                  |                                |                  | 0      |           |              |        |
|   | RF-DL-UR-DB | pxbw   | otcu |                  |                                |                  | 0      |           |              |        |
|   | RF-DL-UR-DR | pxbv   | otcv |                  |                                |                  | 0      |           |              |        |
|   | RF-DL-DF-UL | pxud   | otda |                  |                                |                  | 0      |           |              |        |
|   | RF-DL-DF-UR | pxub   | otdc |                  |                                |                  | 0      |           |              |        |
|   | RF-DL-DF-LU | pxue   | otde |                  |                                |                  | 0      |           |              |        |
|   | RF-DL-DF-BU | pxuq   | otdf |                  |                                |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)     | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|------|------------------|------------------------------|------------------|--------|-----------|--------------|--------|
|   | RF-DL-DF-LF | pxuf   | otdj |                  |                              |                  | 0      |           |              |        |
|   | RF-DL-DF-LB | pxuh   | otdk |                  |                              |                  | 0      |           |              |        |
|   | RF-DL-DF-BR | pxut   | otdm |                  |                              |                  | 0      |           |              |        |
|   | RF-DL-DF-BD | pxus   | otdr |                  |                              |                  | 0      |           |              |        |
|   | RF-DL-LU-UR | pxeb   | otec |                  |                              |                  | 0      |           |              |        |
|   | RF-DL-LU-BU | pxeq   | otef |                  |                              |                  | 0      |           |              |        |
|   | RF-DL-LU-RU | pxem   | oteg |                  |                              |                  | 0      |           |              |        |
|   | RF-DL-LU-FU | pxei   | oteh |                  |                              |                  | 0      |           |              |        |
|   | RF-DL-LU-LF | pxef   | otej |                  |                              |                  | 0      |           |              |        |
|   | RF-DL-LU-LB | pxeh   | otek |                  |                              |                  | 0      |           |              |        |
|   | RF-DL-LU-BL | pxer   | otel |                  |                              |                  | 0      |           |              |        |
|   | RF-DL-LU-BR | pxet   | otem |                  |                              |                  | 0      |           |              |        |
|   | RF-DL-LU-RB | pxen   | oten |                  |                              |                  | 0      |           |              |        |
|   | RF-DL-LU-FR | pxej   | otep |                  |                              |                  | 0      |           |              |        |
|  | RF-DL-LU-BD | pxes   | oter | hqgd agph eb     | L' E' L D U L E L' D' U'     |                  | 10     |           | 0            |        |
|   | RF-DL-LU-RD | pxeo   | otes |                  |                              |                  | 0      |           |              |        |
|   | RF-DL-LU-DB | pxew   | oteu |                  |                              |                  | 0      |           |              |        |
|   | RF-DL-LU-DR | pxev   | otev |                  |                              |                  | 0      |           |              |        |
|  | RF-DL-LU-FD | pxek   | otex | hvpw qg          | L' F E F' E' L               |                  | 6      |           |              |        |
|  | RF-DL-BU-UL | pxqd   | otfa | tdne wemd sv     | S' D M' D' F' D' M D f       |                  | 10     |           |              |        |
|  | RF-DL-BU-UR | pxqb   | otfc | bkuw atbt vja    | U' R' S2 F' U S' U' S' F R U |                  | 11     |           |              |        |
|  | RF-DL-BU-DF | pxqu   | otfd | ahax pwqw bgb    | U L' U F2 E F' E' F' U' L U' |                  | 11     |           |              |        |

| UF Diagram | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)         | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|--------|------|------------------|----------------------------------|------------------|--------|-----------|--------------|--------|
|            | RF-DL-BU-LU | pxqe   | otfe | eoja nbmb mam kd | D' M2 R U M' U' M U' M U r' D    |                  |        | 13        |              |        |
|            | RF-DL-BU-RU | pxqm   | otfg | lbjt ktju kal    | R2 U' R S' R' S' R S2 R' U R2    |                  |        | 11        |              |        |
|            | RF-DL-BU-FL | pxql   | otfi | nakw emdn vjbm   | M' U R' F' D' M D M' F R U' M    |                  |        | 12        |              |        |
|            | RF-DL-BU-LF | pxqf   | otfj | bptg qkph sjqa   | u' S' L E' R' E L' S R u         |                  |        | 12        |              |        |
|            | RF-DL-BU-LB | pxqh   | otfk | bksx gthx ja     | U' R' S F2 L S' L' F2 R U        |                  |        | 10        |              |        |
|            | RF-DL-BU-BL | pxqr   | otfl | xqhp jbtg skw    | F2 E' L' E R U' S' L S R' F'     |                  |        | 11        |              | A      |
|            | RF-DL-BU-BR | pxqt   | otfm | blsk tksc jtkb   | U' R2 S R' S' R' S U2 R S' R' U' |                  |        | 12        |              |        |
|            | RF-DL-BU-RB | pxqn   | otfn | ajpj tjcs cjqb   | U R E R S' R U2 S U2 R E' U'     |                  |        | 12        |              |        |
|            | RF-DL-BU-BD | pxqs   | otfr | bhqg cdgp hbe    | U' L' E' L U2 D L E L' U' D'     |                  |        | 11        |              |        |
|            | RF-DL-BU-RD | pxqo   | otfs | bktj tku ja      | U' R' S' R S' R' S2 R U          |                  |        | 9         |              |        |
|            | RF-DL-BU-DB | pxqw   | otfu | bkvd tesw ja     | U' R' F D S' D' S F' R U         |                  |        | 10        |              |        |
|            | RF-DL-BU-DR | pxqv   | otfv | akck tjsc jb     | U R' U2 R' S' R S U2 R U'        |                  |        | 10        |              |        |
|            | RF-DL-RU-UL | pxmd   | otga | ajas atc kb      | U R U S U S' U2 R' U'            |                  |        | 9         |              |        |
|            | RF-DL-RU-UB | pxma   | otgb |                  |                                  |                  |        | 0         |              |        |
|            | RF-DL-RU-LU | pxme   | otge | atak slsk ubsb   | U S' U R' S R2 S R' S2 U' S U'   |                  |        | 12        |              |        |
|            | RF-DL-RU-BU | pxmq   | otgf |                  |                                  |                  |        | 0         |              | P      |
|            | RF-DL-RU-FL | pxml   | otgi | chbv gbeg dhw    | U2 L' U' F L U' D' L D L' F'     |                  |        | 11        |              |        |
|            | RF-DL-RU-LF | pxmf   | otgj | lvbt awjb saj    | R2 F U' S' U F' R U' S U R       |                  |        | 11        |              |        |
|            | RF-DL-RU-LB | pxmh   | otgk | chqb gpha gc     | U2 L' E' U' L E L' U L U2        |                  |        | 10        |              |        |
|            | RF-DL-RU-BL | pxmr   | otgl | jwpc gqhc vk     | R F' E U2 L E' L' U2 F R'        |                  |        | 10        |              |        |
|            | RF-DL-RU-BR | pxmt   | otgm | kbka tjsk bjaj   | R' U' R' U S' R S R' U' R U R    |                  |        | 12        |              |        |
|            | RF-DL-RU-RB | pxmn   | otgn | adgx qwpw hbe    | U D L F2 E' F' E F' L' U' D'     |                  |        | 11        |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-DL-RU-FR | pxmj        | otgp   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-RU-BD | pxms        | otgr   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-RU-RD | pxmo        | otgs   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-RU-DB | pxmw        | otgu   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-RU-DR | pxmv        | otgv   |      |                  |                          |                  | 0      |           | 0            |        |
| RF-DL-FU-UL | pxid        | otha   |      |                  |                          |                  | 0      |           | 0            |        |
| RF-DL-FU-LU | pxie        | othe   |      |                  |                          |                  | 0      |           | P            |        |
| RF-DL-FU-RU | pxim        | othg   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-FU-LF | pxif        | othj   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-FU-BR | pxit        | othm   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-FU-RB | pxin        | othn   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-FU-BD | pxis        | othr   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-FU-RD | pxio        | oths   |      |                  |                          |                  | 0      |           | A            |        |
| RF-DL-FU-DB | pxiw        | othu   |      |                  |                          |                  | 0      |           | A            |        |
| RF-DL-FU-DR | pxiv        | othv   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-FL-UL | pxld        | otia   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-FL-UB | pxla        | otib   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-FL-UR | pxlb        | otic   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-FL-DF | pxlu        | otid   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-FL-LU | pxle        | otie   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-FL-BU | pxlq        | otif   |      |                  |                          |                  | 0      |           | L            |        |
| RF-DL-FL-RU | pxlm        | otig   |      |                  |                          |                  | 0      |           |              |        |

| UF Diagram | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|            | RF-DL-FL-FU | pxli   | otih |                  |                          |                  | 0      |           |              |        |
|            | RF-DL-FL-LB | pxlh   | otik |                  |                          |                  | 0      |           |              |        |
|            | RF-DL-FL-BL | pxlr   | otil |                  |                          |                  | 0      |           |              |        |
|            | RF-DL-FL-BR | pxlt   | otim |                  |                          |                  | 0      |           |              |        |
|            | RF-DL-FL-RB | pxln   | otin | kekw nvjm dj     | R' D' R' F' M' F R M D R |                  | 10     |           |              |        |
|            | RF-DL-FL-BD | pxls   | otir |                  |                          |                  | 0      |           |              |        |
|            | RF-DL-FL-RD | pxlo   | otis |                  |                          |                  | 0      |           | A            |        |
|            | RF-DL-FL-DB | pxlw   | otiu |                  |                          |                  | 0      |           | F            |        |
|            | RF-DL-FL-DR | pxlv   | otiv |                  |                          |                  | 0      |           |              |        |
|            | RF-DL-LF-UL | pxfd   | otja |                  |                          |                  | 0      |           |              |        |
|            | RF-DL-LF-UB | pxfa   | otjb |                  |                          |                  | 0      |           | A            |        |
|            | RF-DL-LF-UR | pxfb   | otjc |                  |                          |                  | 0      |           |              |        |
|            | RF-DL-LF-DF | pxfu   | otjd |                  |                          |                  | 0      |           |              |        |
|            | RF-DL-LF-LU | pxfe   | otje |                  |                          |                  | 0      |           |              |        |
|            | RF-DL-LF-BU | pxfq   | otjf |                  |                          |                  | 0      |           |              |        |
|            | RF-DL-LF-RU | pxfm   | otjg |                  |                          |                  | 0      |           |              |        |
|            | RF-DL-LF-FU | pxfi   | otjh |                  |                          |                  | 0      |           |              |        |
|            | RF-DL-LF-LB | pxfh   | otjk |                  |                          |                  | 0      |           |              |        |
|            | RF-DL-LF-BL | pxfr   | otjl |                  |                          |                  | 0      |           |              |        |
|            | RF-DL-LF-BR | pxft   | otjm |                  |                          |                  | 0      |           |              |        |
|            | RF-DL-LF-FR | pxfj   | otjp |                  |                          |                  | 0      |           |              |        |
|            | RF-DL-LF-BD | pxfs   | otjr |                  |                          |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
| RF-DL-LF-RD | pxfo        | otjs   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-LF-DB | pxfw        | otju   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-LF-DR | pxfv        | otjv   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-LB-UL | pxhd        | otka   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-LB-UB | pxha        | otkb   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-LB-UR | pxhb        | otkc   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-LB-DF | pxhu        | otkd   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-LB-LU | pxhe        | otke   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-LB-BU | pxhq        | otkf   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-LB-RU | pxhm        | otkg   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-LB-FL | pxhl        | otki   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-LB-LF | pxhf        | otkj   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-LB-BD | pxhs        | otkr   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-LB-RD | pxho        | otks   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-LB-DB | pxhw        | otku   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-LB-DR | pxhv        | otkv   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-BL-UL | pxrd        | otla   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-BL-UB | pxra        | otlb   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-BL-UR | pxrb        | otlc   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-BL-DF | pxru        | otld   |      |                  |                          |                  | 0      |           |              |        |
| RF-DL-BL-FL | pxrl        | otli   |      |                  |                          |                  | 0      |           | O            |        |
| RF-DL-BL-LF | pxrf        | otlj   |      |                  |                          |                  | 0      |           |              | A      |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)     | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|------|------------------|------------------------------|------------------|--------|-----------|--------------|--------|
|   |             |        |      |                  |                              |                  |        | 0         |              |        |
| RF-DL-BL-BR   | pxrt        | otlm   |      |                  |                              |                  | 0      |           |              |        |
| RF-DL-BL-RB   | pxrn        | otln   |      |                  |                              |                  | 0      |           |              | A      |
| RF-DL-BL-FR   | pxrj        | otlp   |      |                  |                              |                  | 0      |           |              |        |
| RF-DL-BL-BD   | pxrs        | otlr   |      |                  |                              |                  | 0      |           |              |        |
| RF-DL-BL-RD   | pxro        | otls   |      |                  |                              |                  | 0      |           |              |        |
| RF-DL-BL-DB   | pxrw        | otlu   |      |                  |                              |                  | 0      |           |              |        |
| RF-DL-BL-DR   | pxrv        | otlv   |      |                  |                              |                  | 0      |           |              |        |
| RF-DL-BR-UL   | pxtd        | otma   |      |                  |                              |                  | 0      |           |              |        |
| RF-DL-BR-UB   | pxta        | otmb   |      |                  |                              |                  | 0      |           |              |        |
| RF-DL-BR-UR   | pxtb        | otmc   |      |                  |                              |                  | 0      |           |              |        |
| RF-DL-BR-LU   | pxte        | otme   |      |                  |                              |                  | 0      |           |              |        |
| RF-DL-BR-BU   | pxtq        | otmf   |      |                  |                              |                  | 0      |           |              |        |
| RF-DL-BR-RU   | pxtm        | otmg   |      |                  |                              |                  | 0      |           |              |        |
| RF-DL-BR-FU   | pxti        | otmh   |      |                  |                              |                  | 0      |           |              |        |
| RF-DL-BR-FL   | pxtl        | otmi   |      |                  |                              |                  | 0      |           |              |        |
| RF-DL-BR-LF   | pxtf        | otmj   |      |                  |                              |                  | 0      |           |              |        |
| RF-DL-BR-LB   | pxth        | otmk   |      |                  |                              |                  | 0      |           |              |        |
|  | RF-DL-BR-BL | pxtr   | otml | qlpv jtkw ksk    | E' R2 E F R S' R' F' R' S R' |                  | 11     |           |              | 0      |
|   | RF-DL-BR-BD | pxts   | otmr |                  |                              |                  | 0      |           |              |        |
|   | RF-DL-BR-RD | pxto   | otms |                  |                              |                  | 0      |           |              |        |
|   | RF-DL-BR-DB | pxtw   | otmu |                  |                              |                  | 0      |           |              |        |
|   | RF-DL-BR-DR | pxtv   | otmv |                  |                              |                  | 0      |           |              |        |

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|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-DL-RB-UL | pxnd        | otna   |      |                  |                          |                  |        | 0         |              |        |
| RF-DL-RB-UB | pxna        | otnb   |      |                  |                          |                  |        | 0         |              |        |
| RF-DL-RB-UR | pxnb        | otnc   |      |                  |                          |                  |        | 0         |              |        |
| RF-DL-RB-FL | pxnl        | otni   |      |                  |                          |                  |        | 0         |              |        |
| RF-DL-RB-LF | pxnf        | otnj   |      |                  |                          |                  |        | 0         |              |        |
| RF-DL-RB-LB | pxnh        | otnk   |      |                  |                          |                  |        | 0         |              |        |
| RF-DL-RB-FR | pxnj        | otnp   |      |                  |                          |                  |        | 0         |              |        |
| RF-DL-RB-DB | pxnw        | otnu   |      |                  |                          |                  |        | 0         |              |        |
| RF-DL-FR-BU | pxjq        | otpf   |      |                  |                          |                  |        | 0         |              |        |
| RF-DL-LD-BL | pxgr        | otql   |      |                  |                          |                  |        | 0         |              |        |
| RF-DL-LD-BR | pxgt        | otqm   |      |                  |                          |                  |        | 0         |              |        |
| RF-DL-BD-UL | pxsd        | otra   |      |                  |                          |                  |        | 0         |              |        |
| RF-DL-BD-UB | pxsa        | otrb   |      |                  |                          |                  |        | 0         |              |        |
| RF-DL-BD-UR | pxsb        | otrc   |      |                  |                          |                  |        | 0         |              |        |
| RF-DL-BD-DF | pxsu        | otrd   |      |                  |                          |                  |        | 0         |              |        |
| RF-DL-BD-LU | pxse        | otre   |      |                  |                          |                  |        | 0         |              |        |
| RF-DL-BD-BU | pxsq        | otrf   |      |                  |                          |                  |        | 0         |              | 0      |
| RF-DL-BD-FU | pxsi        | otrh   |      |                  |                          |                  |        | 0         |              |        |
| RF-DL-BD-FL | pxsl        | otri   |      |                  |                          |                  |        | 0         |              |        |
| RF-DL-BD-LF | pxsf        | otrj   |      |                  |                          |                  |        | 0         |              |        |
| RF-DL-BD-LB | pxsh        | otrk   |      |                  |                          |                  |        | 0         |              |        |
| RF-DL-BD-BL | pxsr        | otrl   |      |                  |                          |                  |        | 0         |              |        |

| UF Diagram | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)       | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|--------|------|------------------|--------------------------------|------------------|--------|-----------|--------------|--------|
|            | RF-DL-BD-BR | pxst   | otrm |                  |                                |                  |        | 0         |              |        |
|            | RF-DL-BD-RB | pxsn   | otrn | odhx qwpw geo    | M2 D L' F2 E' F' E F' L D' M2  |                  |        | 11        |              |        |
|            | RF-DL-BD-RD | pxso   | otrs |                  |                                |                  |        | 0         |              |        |
|            | RF-DL-BD-DR | pxsv   | otrv |                  |                                |                  |        | 0         |              |        |
|            | -RF-DL-RD   | pxo    | ots  |                  |                                |                  |        | 0         |              |        |
|            | RF-DL-RD-UL | pxod   | otsa | ckaj tksb jc     | U2 R' U R S' R' S U' R U2      |                  |        | 10        |              |        |
|            | RF-DL-RD-UB | pxoa   | otsb | akcj tksc jb     | U R' U2 R S' R' S U2 R U'      |                  |        | 10        |              |        |
|            | RF-DL-RD-UR | pxob   | otsc | kbjt ksaj        | R' U' R S' R' S U R            |                  |        | 8         |              | A      |
|            | RF-DL-RD-DF | pxou   | otsd |                  |                                |                  |        | 0         |              |        |
|            | RF-DL-RD-LU | pxoe   | otse | kbvj tksw aj     | R' U' F R S' R' S F' U R       |                  |        | 10        |              |        |
|            | RF-DL-RD-BU | pxoq   | otsf | tkbs jtka js     | S' R' U' S R S' R' U R S       |                  |        | 10        |              |        |
|            | RF-DL-RD-RU | pxom   | otsg | akvc jtks cwjb   | U R' F U2 R S' R' S U2 F' R U' |                  |        | 12        |              |        |
|            | RF-DL-RD-FU | pxoi   | otsh |                  |                                |                  |        | 0         |              |        |
|            | RF-DL-RD-FL | pxol   | otsi | kbxj tksx aj     | R' U' F2 R S' R' S F2 U R      |                  |        | 10        |              |        |
|            | RF-DL-RD-LF | pxof   | otsj | tkbk pjqa js     | S' R' U' R' E R u R S          |                  |        | 10        |              |        |
|            | RF-DL-RD-LB | pxoh   | otsk |                  |                                |                  |        | 0         |              | 0      |
|            | RF-DL-RD-BL | pxor   | otsl |                  |                                |                  |        | 0         |              |        |
|            | RF-DL-RD-BR | pxot   | otsm | ajck ujcs ksb    | U R U2 R' S2 R U2 S R' S U'    |                  |        | 11        |              |        |
|            | RF-DL-RD-RB | pxon   | otsn | btck tjck uja    | U' S' U2 R' S' R U2 R' S2 R U  |                  |        | 11        |              |        |
|            | RF-DL-RD-FR | pxoj   | otsp |                  |                                |                  |        | 0         |              |        |
|            | RF-DL-RD-BD | pxos   | otsr | gxht esdg xh     | L F2 L' S' D' S D L F2 L'      |                  |        | 10        |              |        |
|            | RF-DL-RD-DB | pxow   | otsu | cmbt akas bnjc   | U2 M U' S' U R' U S U' r U2    |                  |        | 12        |              | O      |

| UF Diagram | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|            | RF-DL-DB-LU | pxwe   | otue |                  |                          |                  | 0      |           |              |        |
|            | RF-DL-DB-BU | pxwq   | otuf |                  |                          |                  | 0      |           |              |        |
|            | RF-DL-DB-LF | pxwf   | otuj | pmks dtne jq     | E r' S D S' M' D' R E'   |                  | 10     |           |              |        |
|            | RF-DL-DB-BL | pxwr   | otul |                  |                          |                  | 0      |           |              |        |
|            | RF-DL-DB-FR | pxwj   | otup |                  |                          |                  | 0      |           |              |        |
|            | RF-DL-DB-RD | pxwo   | otus |                  |                          |                  | 0      |           |              |        |
|            | RF-DL-DB-DR | pxwv   | otuv | mkej dneh vg     | r' D' R D M' D' L' F L   |                  | 10     |           |              |        |
|            | RF-DL-DB-FD | pxwk   | otux | kemd nj          | R' D' M D r              |                  | 6      |           |              |        |
|            | RF-DL-DR-UL | pxvd   | otva |                  |                          |                  | 0      |           |              |        |
|            | RF-DL-DR-UB | pxva   | otvb |                  |                          |                  | 0      |           |              |        |
|            | RF-DL-DR-UR | pxvb   | otvc |                  |                          |                  | 0      |           | L            |        |
|            | RF-DL-DR-DF | pxvu   | otvd |                  |                          |                  | 0      |           | L            |        |
|            | RF-DL-DR-LU | pxve   | otve |                  |                          |                  | 0      |           |              |        |
|            | RF-DL-DR-BU | pxvq   | otvf |                  |                          |                  | 0      |           |              |        |
|            | RF-DL-DR-LB | pxvh   | otvk |                  |                          |                  | 0      |           |              |        |
|            | RF-DL-DR-RB | pxvn   | otvn |                  |                          |                  | 0      |           |              |        |
|            | RF-DL-DR-BD | pxvs   | otvr |                  |                          |                  | 0      |           |              |        |
|            | RF-DL-DR-DB | pxvw   | otvu |                  |                          |                  | 0      |           |              |        |
|            | RF-DB-UL-UB | pwdz   | ouab |                  |                          |                  | 0      |           |              |        |
|            | RF-DB-UL-UR | pwdz   | ouac |                  |                          |                  | 0      |           |              |        |
|            | RF-DB-UL-DF | pwdz   | ouad |                  |                          |                  | 0      |           |              |        |
|            | RF-DB-UL-BU | pwdq   | ouaf |                  |                          |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)  | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|------|------------------|---------------------------|------------------|--------|-----------|--------------|--------|
|   | RF-DB-UL-RU | pwdm   | ouag |                  |                           |                  | 0      |           |              |        |
|   | RF-DB-UL-FL | pwdl   | ouai |                  |                           |                  | 0      |           |              |        |
|   | RF-DB-UL-LF | pwdf   | ouaj |                  |                           |                  | 0      |           |              |        |
|   | RF-DB-UL-LB | pwdh   | ouak |                  |                           |                  | 0      |           |              |        |
|   | RF-DB-UL-BL | pwdr   | oual |                  |                           |                  | 0      |           | C            |        |
|   | RF-DB-UL-BR | pwdt   | ouam |                  |                           |                  | 0      |           |              |        |
|   | RF-DB-UL-RB | pwdn   | ouan |                  |                           |                  | 0      |           |              |        |
|   | RF-DB-UL-RD | pwdo   | ouas |                  |                           |                  | 0      |           |              |        |
|   | RF-DB-UL-DL | pwdx   | ouat |                  |                           |                  | 0      |           |              |        |
|   | RF-DB-UL-DR | pwdv   | ouav |                  |                           |                  | 0      |           |              |        |
|   | RF-DB-UB-UR | pwab   | oubc |                  |                           |                  | 0      |           |              |        |
|  | RF-DB-UB-LU | pwae   | oube | hfvm pwqn fg     | L' D2 F M E F' E' M' D2 L |                  | 10     |           |              |        |
|   | RF-DB-UB-RU | pwam   | oubg |                  |                           |                  | 0      |           | O            |        |
|   | RF-DB-UB-FU | pwai   | oubh |                  |                           |                  | 0      |           |              |        |
|   | RF-DB-UB-FL | pwal   | oubi |                  |                           |                  | 0      |           |              |        |
|   | RF-DB-UB-LF | pwaf   | oubj |                  |                           |                  | 0      |           |              |        |
|   | RF-DB-UB-LB | pwah   | oubk |                  |                           |                  | 0      |           |              |        |
|   | RF-DB-UB-BL | pwar   | oubi |                  |                           |                  | 0      |           | F            |        |
|   | RF-DB-UB-LD | pwag   | oubq |                  |                           |                  | 0      |           |              |        |
|   | RF-DB-UB-RD | pwao   | oubu |                  |                           |                  | 0      |           |              |        |
|   | RF-DB-UB-DR | pwav   | oubv |                  |                           |                  | 0      |           |              |        |
|   | RF-DB-UR-UL | pwbd   | ouca |                  |                           |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|-------------|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|             |             |        |      |                  |                          |                  |        | 0         |              |        |
| RF-DB-UR-DF | pwbu        | oucd   |      |                  |                          |                  | 0      |           |              |        |
| RF-DB-UR-LU | pwbe        | ouce   |      |                  |                          |                  | 0      |           |              |        |
| RF-DB-UR-BU | pwbq        | oucf   |      |                  |                          |                  | 0      |           |              |        |
| RF-DB-UR-FU | pwbi        | ouch   |      |                  |                          |                  | 0      |           | F            |        |
| RF-DB-UR-LF | pwbf        | oucj   |      |                  |                          |                  | 0      |           |              |        |
| RF-DB-UR-LB | pwbh        | ouck   |      |                  |                          |                  | 0      |           |              |        |
| RF-DB-UR-BL | pwbr        | oucl   |      |                  |                          |                  | 0      |           |              |        |
| RF-DB-UR-BR | pwbt        | oucm   |      |                  |                          |                  | 0      |           |              |        |
| RF-DB-UR-RB | pwbn        | oucn   |      |                  |                          |                  | 0      |           |              |        |
| RF-DB-UR-LD | pwbg        | oucq   |      |                  |                          |                  | 0      |           |              |        |
| RF-DB-UR-DL | pwbx        | ouct   |      |                  |                          |                  | 0      |           |              |        |
| RF-DB-UR-DR | pwbv        | oucv   |      |                  |                          |                  | 0      |           |              |        |
| RF-DB-DF-UL | pwud        | ouda   |      |                  |                          |                  | 0      |           |              |        |
| RF-DB-DF-UB | pwua        | oudb   |      |                  |                          |                  | 0      |           |              |        |
| RF-DB-DF-UR | pwub        | oudc   |      |                  |                          |                  | 0      |           |              |        |
| RF-DB-DF-LU | pwue        | oude   |      |                  |                          |                  | 0      |           |              |        |
| RF-DB-DF-BU | pwuq        | oudf   |      |                  |                          |                  | 0      |           |              |        |
| RF-DB-DF-RU | pwum        | oudg   |      |                  |                          |                  | 0      |           | O            |        |
| RF-DB-DF-FL | pwul        | oudi   |      |                  |                          |                  | 0      |           |              |        |
| RF-DB-DF-LF | pwuf        | oudj   |      |                  |                          |                  | 0      |           |              |        |
| RF-DB-DF-LB | pwuh        | oudk   |      |                  |                          |                  | 0      |           |              |        |
| RF-DB-DF-BL | pwur        | oudl   |      |                  |                          |                  | 0      |           | O            |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF) | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|------|------------------|--------------------------|------------------|--------|-----------|--------------|--------|
|   | RF-DB-DF-BR | pwut   | oudm |                  |                          |                  | 0      |           |              |        |
|   | RF-DB-DF-RB | pwun   | oudn |                  |                          |                  | 0      |           |              |        |
|   | RF-DB-DF-LD | pwug   | oudq |                  |                          |                  | 0      |           |              |        |
|   | RF-DB-DF-RD | pwuo   | ouds |                  |                          |                  | 0      |           | F            |        |
|   | RF-DB-DF-DL | pwux   | oudt |                  |                          |                  | 0      |           | A            |        |
|   | RF-DB-DF-DR | pwuv   | oudv |                  |                          |                  | 0      |           |              |        |
|   | RF-DB-LU-UB | pwea   | oueb |                  |                          |                  | 0      |           |              |        |
|  | RF-DB-LU-UR | pweb   | ouec | amjb nakb        | U M R U' M' U R' U'      |                  | 8      |           |              |        |
|   | RF-DB-LU-DF | pweu   | oued |                  |                          |                  | 0      |           | A            |        |
|   | RF-DB-LU-BU | pweq   | ouef |                  |                          |                  | 0      |           | F            |        |
|   | RF-DB-LU-RU | pwem   | oueg |                  |                          |                  | 0      |           | O            |        |
|   | RF-DB-LU-FU | pwei   | oueh |                  |                          |                  | 0      |           |              |        |
|   | RF-DB-LU-FL | pwel   | ouei |                  |                          |                  | 0      |           |              |        |
|   | RF-DB-LU-LF | pwef   | ouej |                  |                          |                  | 0      |           |              |        |
|   | RF-DB-LU-LB | pweh   | ouek |                  |                          |                  | 0      |           |              |        |
|   | RF-DB-LU-BL | pwer   | ouel |                  |                          |                  | 0      |           |              |        |
|   | RF-DB-LU-BR | pwet   | ouem |                  |                          |                  | 0      |           |              |        |
|   | RF-DB-LU-RB | pwen   | ouen |                  |                          |                  | 0      |           |              |        |
|   | RF-DB-LU-FR | pwej   | ouep |                  |                          |                  | 0      |           |              |        |
|   | RF-DB-LU-LD | pweg   | oueq |                  |                          |                  | 0      |           |              |        |
|   | RF-DB-LU-RD | pweo   | oues |                  |                          |                  | 0      |           |              |        |
|   | RF-DB-LU-DL | pwex   | ouet |                  |                          |                  | 0      |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)  | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|------|------------------|---------------------------|------------------|--------|-----------|--------------|--------|
|   | RF-DB-LU-DR | pwev   | ouev |                  |                           |                  | 0      |           |              |        |
|   | RF-DB-BU-UL | pwqd   | oufa |                  |                           |                  | 0      |           |              |        |
|   | RF-DB-BU-UR | pwqb   | oufc |                  |                           |                  | 0      |           | 0            |        |
|   | RF-DB-BU-DF | pwqu   | oufd |                  |                           |                  | 0      |           |              |        |
|   | RF-DB-BU-LU | pwqe   | oufe |                  |                           |                  | 0      |           |              |        |
|   | RF-DB-BU-RU | pwqm   | oufg |                  |                           |                  | 0      |           |              |        |
|   | RF-DB-BU-FU | pwqi   | oufh |                  |                           |                  | 0      |           | 0            |        |
|   | RF-DB-BU-FL | pwql   | oufi |                  |                           |                  | 0      |           |              |        |
|   | RF-DB-BU-LF | pwqf   | oufj |                  |                           |                  | 0      |           |              |        |
|   | RF-DB-BU-LB | pwqh   | oufk |                  |                           |                  | 0      |           | F            |        |
|   | RF-DB-BU-BL | pwqr   | oufl |                  |                           |                  | 0      |           | 0            |        |
|   | RF-DB-BU-BR | pwqt   | oufm |                  |                           |                  | 0      |           |              |        |
|   | RF-DB-BU-RB | pwqn   | oufn |                  |                           |                  | 0      |           |              |        |
|   | RF-DB-BU-LD | pwqg   | oufq |                  |                           |                  | 0      |           |              |        |
|   | RF-DB-BU-BD | pwqs   | oufr |                  |                           |                  | 0      |           |              |        |
|   | RF-DB-BU-RD | pwqo   | oufs |                  |                           |                  | 0      |           |              |        |
|   | RF-DB-BU-DL | pwqx   | ouft |                  |                           |                  | 0      |           | 0            |        |
|   | RF-DB-BU-DB | pwqw   | oufu |                  |                           |                  | 0      |           |              |        |
|  | RF-DB-BU-DR | pwqv   | oufv | qwnj vnk ovp     | E' F' r F M' F' R' M2 F E |                  | 11     |           | 0            |        |
|   | RF-DB-RU-UL | pwmd   | ouga |                  |                           |                  | 0      |           |              |        |
|   | RF-DB-RU-UB | pwma   | ougb |                  |                           |                  | 0      |           |              |        |
|   | RF-DB-RU-LU | pwme   | ouge |                  |                           |                  | 0      |           |              |        |

| UF Diagram   | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)     | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|--|-------------|--------|------|------------------|------------------------------|------------------|--------|-----------|--------------|--------|
|  |             |        |      |                  |                              |                  |        | 0         |              |        |
|  | RF-DB-RU-BU | pwmq   | ougf |                  |                              |                  |        | 0         |              |        |
|  | RF-DB-RU-FU | pwmi   | ough |                  |                              |                  |        | 0         |              |        |
|  | RF-DB-RU-FL | pwml   | ougi |                  |                              |                  |        | 0         |              |        |
|  | RF-DB-RU-LB | pwmh   | ougk |                  |                              |                  |        | 0         |              |        |
|  | RF-DB-RU-BL | pwmr   | ougl |                  |                              |                  |        | 0         |              |        |
|  | RF-DB-RU-BR | pwmt   | ougm |                  |                              |                  |        | 0         |              |        |
|  | RF-DB-RU-RB | pwmn   | ougn |                  |                              |                  |        | 0         |              |        |
|  | RF-DB-RU-FR | pwmj   | ougp |                  |                              |                  |        | 0         |              |        |
|  | RF-DB-RU-RD | pwmo   | ougs |                  |                              |                  |        | 0         |              |        |
|  | RF-DB-RU-DL | pwmx   | ougt | dahx pwqw geb    | D U L' F2 E F' E' F' L D' U' |                  |        | 11        |              |        |
|  | RF-DB-RU-DR | pwmv   | ougv |                  |                              |                  |        | 0         |              |        |
|  | RF-DB-FU-UL | pwid   | ouha |                  |                              |                  |        | 0         |              |        |
|  | RF-DB-FU-UB | pwia   | ouhb |                  |                              |                  |        | 0         |              |        |
|  | RF-DB-FU-UR | pwib   | ouhc |                  |                              |                  |        | 0         |              |        |
|  | RF-DB-FU-RU | pwim   | ouhg |                  |                              |                  |        | 0         |              |        |
|  | RF-DB-FU-FL | pwil   | ouhi |                  |                              |                  |        | 0         |              |        |
|  | RF-DB-FU-LB | pwih   | ouhk |                  |                              |                  |        | 0         |              |        |
|  | RF-DB-FU-BL | pwir   | ouhl |                  |                              |                  |        | 0         |              |        |
|  | RF-DB-FU-BR | pwit   | ouhm |                  |                              |                  |        | 0         |              |        |
|  | RF-DB-FU-RD | pwio   | ouhs |                  |                              |                  |        | 0         |              |        |
|  | RF-DB-FU-DR | pwiv   | ouhv |                  |                              |                  |        | 0         |              |        |
|  | RF-DB-FL-UR | pwlb   | ouic |                  |                              |                  |        | 0         |              |        |

| UF Diagram | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)       | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|--------|------|------------------|--------------------------------|------------------|--------|-----------|--------------|--------|
|            | RF-DB-FL-DF | pwlu   | ouid |                  |                                |                  | 0      |           |              |        |
|            | RF-DB-FL-BU | pwlq   | ouif |                  |                                |                  | 0      |           |              | F      |
|            | RF-DB-FL-RU | pwlm   | ouig |                  |                                |                  | 0      |           |              |        |
|            | RF-DB-FL-BR | pwlt   | ouim |                  |                                |                  | 0      |           |              |        |
|            | RF-DB-FL-LD | pwlg   | ouiq | jblw ndme vlak   | R U' R2 F' M' D M D' F R2 U R' |                  | 12     |           |              |        |
|            | RF-DB-FL-RD | pwlo   | ouis |                  |                                |                  | 0      |           |              |        |
|            | RF-DB-LF-UL | pwfd   | ouja |                  |                                |                  | 0      |           |              |        |
|            | RF-DB-LF-UR | pwfb   | oujc |                  |                                |                  | 0      |           |              |        |
|            | RF-DB-LF-DF | pwfū   | oujd |                  |                                |                  | 0      |           |              |        |
|            | RF-DB-LF-LU | pwfe   | ouje |                  |                                |                  | 0      |           |              |        |
|            | RF-DB-LF-RU | pwfm   | oujg |                  |                                |                  | 0      |           |              | C      |
|            | RF-DB-LF-LB | pwfh   | oujk |                  |                                |                  | 0      |           |              |        |
|            | RF-DB-LF-BL | pwfr   | oujl |                  |                                |                  | 0      |           |              |        |
|            | RF-DB-LF-BR | pwft   | oujm |                  |                                |                  | 0      |           |              |        |
|            | RF-DB-LF-RB | pwfn   | oujn |                  |                                |                  | 0      |           |              | L      |
|            | RF-DB-LF-LD | pwfg   | oujq |                  |                                |                  | 0      |           |              |        |
|            | RF-DB-LF-RD | pwfo   | oujs |                  |                                |                  | 0      |           |              |        |
|            | RF-DB-LF-DL | pwfx   | oujt |                  |                                |                  | 0      |           |              |        |
|            | RF-DB-LF-DR | pwfv   | oujv |                  |                                |                  | 0      |           |              |        |
|            | RF-DB-LB-UL | pwhd   | ouka |                  |                                |                  | 0      |           |              | C      |
|            | RF-DB-LB-UB | pwha   | oukb |                  |                                |                  | 0      |           |              |        |
|            | RF-DB-LB-DF | pwhu   | oukd |                  |                                |                  | 0      |           |              |        |

| UF Diagram | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)   | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|--------|------|------------------|----------------------------|------------------|--------|-----------|--------------|--------|
|            |             |        |      |                  |                            |                  |        | 0         |              |        |
|            | RF-DB-LB-BU | pwhq   | oukf |                  |                            |                  |        | 0         |              |        |
|            | RF-DB-LB-FL | pwhl   | ouki |                  |                            |                  |        | 0         |              |        |
|            | RF-DB-LB-LF | pwhf   | oukj |                  |                            |                  |        | 0         |              |        |
|            | RF-DB-LB-BR | pwht   | oukm |                  |                            |                  |        | 0         |              |        |
|            | RF-DB-LB-RB | pwhn   | oukn |                  |                            |                  |        | 0         |              |        |
|            | RF-DB-LB-LD | pwhg   | oukq |                  |                            |                  |        | 0         |              |        |
|            | RF-DB-LB-RD | pwho   | ouks |                  |                            |                  |        | 0         |              |        |
|            | RF-DB-LB-DL | pwhx   | oukt |                  |                            |                  |        | 0         |              |        |
|            | RF-DB-BL-UL | pwrd   | oula |                  |                            |                  |        | 0         |              | 0      |
|            | RF-DB-BL-UB | pwra   | oulb | njpk xnvo vgsh   | r E R' F2 M' F M2 F L S L' |                  |        | 12        |              | 0      |
|            | RF-DB-BL-UR | pwrb   | oulc |                  |                            |                  |        | 0         |              |        |
|            | RF-DB-BL-LU | pvre   | oule |                  |                            |                  |        | 0         |              |        |
|            | RF-DB-BL-BU | pwrq   | oulf |                  |                            |                  |        | 0         |              |        |
|            | RF-DB-BL-FL | pwr1   | ouli |                  |                            |                  |        | 0         |              | P      |
|            | RF-DB-BL-LF | pwr1   | oulj |                  |                            |                  |        | 0         |              |        |
|            | RF-DB-BL-BR | pwr1   | oulm |                  |                            |                  |        | 0         |              |        |
|            | RF-DB-BL-RB | pwrn   | ouln |                  |                            |                  |        | 0         |              |        |
|            | RF-DB-BL-LD | pwrg   | oulq |                  |                            |                  |        | 0         |              |        |
|            | RF-DB-BL-RD | pwro   | ouls |                  |                            |                  |        | 0         |              |        |
|            | RF-DB-BL-DL | pwr1   | oult |                  |                            |                  |        | 0         |              |        |
|            | RF-DB-BL-DR | pwr1   | oulv |                  |                            |                  |        | 0         |              |        |
|            | RF-DB-BR-UL | pwt1   | ouma |                  |                            |                  |        | 0         |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)   | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|------|------------------|----------------------------|------------------|--------|-----------|--------------|--------|
|   |             |        |      |                  |                            |                  |        | 0         |              |        |
|   | RF-DB-BR-UB | pwta   | oumb |                  |                            |                  |        | 0         |              |        |
|   | RF-DB-BR-UR | pwtb   | oumc |                  |                            |                  |        | 0         |              |        |
|   | RF-DB-BR-DF | pwtu   | oumd |                  |                            |                  |        | 0         |              |        |
|   | RF-DB-BR-LU | pwte   | oume |                  |                            |                  |        | 0         |              |        |
|   | RF-DB-BR-BU | pwtq   | oumf |                  |                            |                  |        | 0         |              |        |
|   | RF-DB-BR-RU | pwtm   | oumg |                  |                            |                  |        | 0         |              |        |
|   | RF-DB-BR-FU | pwti   | oumh |                  |                            |                  |        | 0         |              |        |
|   | RF-DB-BR-FL | pwtl   | oumi |                  |                            |                  |        | 0         |              |        |
|   | RF-DB-BR-LF | pwtf   | oumj |                  |                            |                  |        | 0         |              |        |
|   | RF-DB-BR-LB | pwtb   | oumk |                  |                            |                  |        | 0         |              |        |
|   | RF-DB-BR-RD | pwtb   | oums |                  |                            |                  |        | 0         |              |        |
|   | RF-DB-BR-DL | pwtx   | oumt |                  |                            |                  |        | 0         |              |        |
|   | RF-DB-BR-DR | pwtv   | oumv |                  |                            |                  |        | 0         |              |        |
|   | RF-DB-RB-UL | pwnd   | ouna |                  |                            |                  |        | 0         |              | A      |
|   | RF-DB-RB-UB | pwna   | ounb |                  |                            |                  |        | 0         |              |        |
|   | RF-DB-RB-UR | pwnb   | ounc |                  |                            |                  |        | 0         |              | O      |
|   | RF-DB-RB-DF | pwnu   | ound |                  |                            |                  |        | 0         |              | C      |
|   | RF-DB-RB-BU | pwnq   | ounf |                  |                            |                  |        | 0         |              |        |
|   | RF-DB-RB-RU | pwnm   | oung |                  |                            |                  |        | 0         |              |        |
|   | RF-DB-RB-FU | pwni   | ounh |                  |                            |                  |        | 0         |              |        |
|  | RF-DB-RB-FL | pwnl   | ouni | qovp vqvn vnp    | E' M2 F E F E' F M' F M' E |                  |        | 11        |              |        |
|  | RF-DB-RB-LF | pwnf   | ounj | qnwm pv          | E' M' F' M E F             |                  |        | 6         |              |        |

| UF Diagram | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)      | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|--------|------|------------------|-------------------------------|------------------|--------|-----------|--------------|--------|
|            |             |        |      |                  |                               |                  |        | 0         |              |        |
|            | RF-DB-RB-BL | pwnr   | ounl |                  |                               |                  |        | 0         |              |        |
|            | RF-DB-RB-LD | pwng   | ounq |                  |                               |                  |        | 0         |              |        |
|            | RF-DB-RB-RD | pwno   | ouns |                  |                               |                  |        | 0         |              |        |
|            | RF-DB-RB-DR | pwnv   | ounv |                  |                               |                  |        | 0         |              |        |
|            | RF-DB-FR-UL | pwjd   | oupa |                  |                               |                  |        | 0         |              |        |
|            | RF-DB-FR-LB | pwjh   | oupk |                  |                               |                  |        | 0         |              |        |
|            | RF-DB-FR-BL | pwjr   | oupl |                  |                               |                  |        | 0         |              |        |
|            | RF-DB-LD-UL | pwgd   | ouqa |                  |                               |                  |        | 0         |              |        |
|            | RF-DB-LD-UB | pwga   | ouqb | kfnd odnj        | R' D2 M' D M2 D r             |                  | 8      |           | 0            |        |
|            | RF-DB-LD-UR | pwgb   | ouqc | iamj bnak bi     | L2 U M R U' M' U R' U' L2     |                  | 10     |           |              |        |
|            | RF-DB-LD-DF | pwgu   | ouqd |                  |                               |                  | 0      |           |              |        |
|            | RF-DB-LD-LU | pwge   | ouqe | odhp vqwg eo     | M2 D L' E F E' F' L D' M2     |                  | 10     |           |              |        |
|            | RF-DB-LD-BU | pwgq   | ouqf |                  |                               |                  | 0      |           |              |        |
|            | RF-DB-LD-RU | pwgm   | ouqg | kcwm dodm dvcj   | R' U2 F' M D M2 D M D2 F U2 R |                  | 12     |           |              |        |
|            | RF-DB-LD-FU | pwgi   | ouqh |                  |                               |                  | 0      |           |              |        |
|            | RF-DB-LD-FL | pwgl   | ouqi | hvgp kfmd njq    | L' F L E R' D2 M D r E'       |                  | 11     |           |              |        |
|            | RF-DB-LD-LF | pwgf   | ouqj | qktg ehsj pv     | E' R' S' L D' L' S R E F      |                  | 10     |           |              |        |
|            | RF-DB-LD-LB | pwgh   | ouqk | hvgr kfmd njr    | L' F L E2 R' D2 M D r E2      |                  | 11     |           |              |        |
|            | RF-DB-LD-BL | pwgr   | ouql | ktmg tasn bhsj   | R' S' I S' U S M' U' L' S R   |                  | 12     |           |              |        |
|            | RF-DB-LD-BR | pwgt   | ouqm | kdsd tdmd nj     | R' D S D S' D M D r           |                  | 10     |           |              |        |
|            | RF-DB-LD-RB | pwgn   | ouqn | nkbt nant nj     | M' R' U' S' M' U M' S' r      |                  | 10     |           |              |        |
|            | RF-DB-LD-FR | pwgj   | ouqp |                  |                               |                  | 0      |           |              |        |

| UF Diagram | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)        | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|--------|------|------------------|---------------------------------|------------------|--------|-----------|--------------|--------|
|            | RF-DB-LD-RD | pwggo  | ouqs | cmaj tlkj ubnc   | U2 M U R S' R2 S' R S2 U' M' U2 |                  | 12     |           |              |        |
|            | RF-DB-LD-DR | pwgqv  | ouqv | odmk endj eo     | M2 D r' D' M' D R D' M2         |                  | 10     |           |              |        |
|            | RF-DB-BD-DF | pwsu   | ourd |                  |                                 |                  | 0      |           |              |        |
|            | RF-DB-BD-FU | pwsı   | ourh |                  |                                 |                  | 0      |           |              |        |
|            | RF-DB-BD-RD | pwsıo  | ours |                  |                                 |                  | 0      |           | P            |        |
|            | RF-DB-RD-UL | pwoıd  | ousa |                  |                                 |                  | 0      |           | A            |        |
|            | RF-DB-RD-UB | pwoa   | ousb |                  |                                 |                  | 0      |           |              |        |
|            | RF-DB-RD-DF | pwoıu  | ousd |                  |                                 |                  | 0      |           | O            |        |
|            | RF-DB-RD-LU | pwoe   | ouse |                  |                                 |                  | 0      |           |              |        |
|            | RF-DB-RD-BU | pwoq   | ousf |                  |                                 |                  | 0      |           |              |        |
|            | RF-DB-RD-FU | pwoı   | oush |                  |                                 |                  | 0      |           |              |        |
|            | RF-DB-RD-FL | pwoł   | ousi |                  |                                 |                  | 0      |           |              |        |
|            | RF-DB-RD-LF | pwof   | ousj |                  |                                 |                  | 0      |           |              |        |
|            | RF-DB-RD-LB | pwoh   | ousk |                  |                                 |                  | 0      |           |              |        |
|            | RF-DB-RD-BL | pwor   | ousl |                  |                                 |                  | 0      |           |              |        |
|            | RF-DB-RD-BR | pwoıt  | ousm |                  |                                 |                  | 0      |           |              |        |
|            | RF-DB-RD-RB | pwon   | ousn |                  |                                 |                  | 0      |           |              |        |
|            | RF-DB-RD-FR | pwoj   | ousp |                  |                                 |                  | 0      |           |              |        |
|            | RF-DB-RD-LD | pwog   | ousq |                  |                                 |                  | 0      |           |              |        |
|            | RF-DB-RD-DL | pwox   | oust |                  |                                 |                  | 0      |           | A            |        |
|            | RF-DB-DL-UL | pwxd   | outa | nhwp wqxi wmvh   | I' F' E F' E' F2 L2 F' M F L'   |                  | 12     |           | A            |        |
|            | RF-DB-DL-UB | pwxa   | outb |                  |                                 |                  | 0      |           |              |        |

| UF Diagram | Cube Target | Speffz           | aaaa             | Yo Notation (UF) | Singmaster Notation (UF)       | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|------------------|------------------|------------------|--------------------------------|------------------|--------|-----------|--------------|--------|
|            |             |                  |                  |                  |                                |                  |        | 0         |              |        |
|            | RF-DB-DL-UR | pwx <sub>b</sub> | outc             |                  |                                |                  |        | 0         |              |        |
|            | RF-DB-DL-DF | pwx <sub>u</sub> | outd             |                  |                                |                  |        | 0         |              |        |
|            | RF-DB-DL-BU | pwx <sub>q</sub> | outf             | jbm s btan ak    | R U' M S U' S' U M' U R'       |                  |        | 10        |              |        |
|            | RF-DB-DL-RU | pwx <sub>m</sub> | outg             |                  |                                |                  |        | 0         |              |        |
|            | RF-DB-DL-FU | pwx <sub>i</sub> | outh             |                  |                                |                  |        | 0         |              | A      |
|            | RF-DB-DL-FL | pwx <sub>l</sub> | outi             | phwl nvmw lvq    | E L' F' R2 M' F M F' R2 F L E' |                  |        | 12        |              |        |
|            | RF-DB-DL-LF | pwx <sub>f</sub> | outj             |                  |                                |                  |        | 0         |              |        |
|            | RF-DB-DL-LB | pwx <sub>h</sub> | outk             |                  |                                |                  |        | 0         |              | A      |
|            | RF-DB-DL-BL | pwx <sub>r</sub> | outl             |                  |                                |                  |        | 0         |              | 0      |
|            | RF-DB-DL-BR | pwx <sub>t</sub> | outm             |                  |                                |                  |        | 0         |              |        |
|            | RF-DB-DL-RB | pwx <sub>n</sub> | outn             |                  |                                |                  |        | 0         |              |        |
|            | RF-DB-DL-BD | pwx <sub>s</sub> | outr             |                  |                                |                  |        | 0         |              | 0      |
|            | RF-DB-DL-RD | pwx <sub>o</sub> | outs             |                  |                                |                  |        | 0         |              | 0      |
|            | RF-DB-DL-DR | pwx <sub>v</sub> | outv             |                  |                                |                  |        | 0         |              |        |
|            | RF-DB-DR-UL | pwx <sub>d</sub> | ouva             |                  |                                |                  |        | 0         |              | 0      |
|            | RF-DB-DR-UB | pwx <sub>a</sub> | ouv <sub>b</sub> |                  |                                |                  |        | 0         |              |        |
|            | RF-DB-DR-UR | pwx <sub>b</sub> | ouv <sub>c</sub> | jvej tksd wk     | R F D' R S' R' S D F' R'       |                  |        | 10        |              |        |
|            | RF-DB-DR-DF | pwx <sub>u</sub> | ouv <sub>d</sub> |                  |                                |                  |        | 0         |              |        |
|            | RF-DB-DR-RU | pwx <sub>m</sub> | ouv <sub>g</sub> |                  |                                |                  |        | 0         |              |        |
|            | RF-DB-DR-FU | pwx <sub>i</sub> | ouv <sub>h</sub> |                  |                                |                  |        | 0         |              |        |
|            | RF-DB-DR-FL | pwx <sub>l</sub> | ouv <sub>i</sub> |                  |                                |                  |        | 0         |              |        |
|            | RF-DB-DR-LF | pwx <sub>f</sub> | ouv <sub>j</sub> |                  |                                |                  |        | 0         |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)      | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|------|------------------|-------------------------------|------------------|--------|-----------|--------------|--------|
|   | RF-DB-DR-LB | pwvh   | ouvk |                  |                               |                  | 0      |           |              |        |
|   | RF-DB-DR-BL | pwvr   | ouvl |                  |                               |                  | 0      |           | 0            |        |
|   | RF-DB-DR-BR | pwvt   | ouvm |                  |                               |                  | 0      |           |              |        |
|   | RF-DB-DR-RB | pwvn   | ouvn |                  |                               |                  | 0      |           |              |        |
|   | RF-DR-UL-UR | pvdb   | ovac |                  |                               |                  | 0      |           |              |        |
|   | RF-DR-UL-DF | pvdu   | ovad |                  |                               |                  | 0      |           |              |        |
|   | RF-DR-UL-FU | pvdi   | ovah |                  |                               |                  | 0      |           | 0            |        |
|   | RF-DR-UL-FL | pvdl   | ovai |                  |                               |                  | 0      |           |              |        |
|   | RF-DR-UL-LF | pvdf   | ovaj |                  |                               |                  | 0      |           |              |        |
|   | RF-DR-UL-LB | pvdh   | ovak |                  |                               |                  | 0      |           |              |        |
|   | RF-DR-UL-BL | pvdr   | oval |                  |                               |                  | 0      |           | 0            |        |
|   | RF-DR-UL-BR | pvdt   | ovam |                  |                               |                  | 0      |           |              |        |
|   | RF-DR-UL-RB | pvdn   | ovan |                  |                               |                  | 0      |           |              |        |
|   | RF-DR-UL-LD | pvdg   | ovaq |                  |                               |                  | 0      |           | L            |        |
|   | RF-DR-UL-BD | pvds   | ovar |                  |                               |                  | 0      |           | 0            |        |
|   | RF-DR-UL-DL | pvdx   | ovat |                  |                               |                  | 0      |           |              |        |
|   | RF-DR-UL-DB | pvdw   | ovau |                  |                               |                  | 0      |           |              |        |
|  | RF-DR-UB-UL | pvad   | ovba | ibtj tltj tai    | L2 U' S' R S' R2 S' R S' U L2 |                  | 11     |           |              |        |
|   | RF-DR-UB-LU | pvae   | ovbe |                  |                               |                  | 0      |           |              |        |
|   | RF-DR-UB-RU | pvam   | ovbg |                  |                               |                  | 0      |           |              |        |
|   | RF-DR-UB-FU | pvai   | ovbh |                  |                               |                  | 0      |           |              |        |
|  | RF-DR-UB-FL | pval   | ovbi | gbtj tltj tah    | L U' S' R S' R2 S' R S' U L'  |                  | 11     |           |              |        |

| UF Diagram  | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)       | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------|------|------------------|--------------------------------|------------------|--------|-----------|--------------|--------|
|   |             |        |      |                  |                                |                  |        | 0         |              | 0      |
|   | RF-DR-UB-LB | pvah   | ovbk |                  |                                |                  |        | 0         |              |        |
|   | RF-DR-UB-BL | pvar   | ovbl |                  |                                |                  |        | 0         |              |        |
|   | RF-DR-UB-BR | pvat   | ovbm |                  |                                |                  |        | 0         |              |        |
|   | RF-DR-UB-DL | pvax   | ovbt |                  |                                |                  |        | 0         |              |        |
|   | RF-DR-UB-DB | pvaw   | ovbu |                  |                                |                  |        | 0         |              |        |
|   | RF-DR-UR-LU | pvbe   | ovce |                  |                                |                  |        | 0         |              | A      |
|   | RF-DR-UR-FU | pvbi   | ovch |                  |                                |                  |        | 0         |              |        |
|    | RF-DR-UR-FL | pvbl   | ovci | qhag phat csg    | E' L' U L E L' U S' U2 S L     |                  |        | 11        |              |        |
|   | RF-DR-UR-LF | pvbf   | ovcj |                  |                                |                  |        | 0         |              |        |
|  | RF-DR-UR-BR | pvbt   | ovcm | jveu ahwg budw   | R F D' S2 U L' F' L U' S2 D F' |                  |        | 12        |              |        |
|   | RF-DR-UR-RB | pvbn   | ovcn |                  |                                |                  |        | 0         |              |        |
|   | RF-DR-UR-DL | pvbx   | ovct |                  |                                |                  |        | 0         |              |        |
|   | RF-DR-UR-DB | pvbw   | ovcu |                  |                                |                  |        | 0         |              |        |
|   | RF-DR-DF-UL | pvud   | ovda |                  |                                |                  |        | 0         |              |        |
|   | RF-DR-DF-LU | pvue   | ovde |                  |                                |                  |        | 0         |              |        |
|   | RF-DR-DF-LB | pvuh   | ovdk |                  |                                |                  |        | 0         |              | 0      |
|   | RF-DR-DF-BL | pvur   | ovdl |                  |                                |                  |        | 0         |              |        |
|   | RF-DR-DF-BD | pvus   | ovdr |                  |                                |                  |        | 0         |              |        |
|   | RF-DR-DF-DL | pvux   | ovdt |                  |                                |                  |        | 0         |              |        |
|   | RF-DR-DF-DB | pvuw   | ovdu |                  |                                |                  |        | 0         |              | A      |
|   | RF-DR-LU-UR | pveb   | ovec |                  |                                |                  |        | 0         |              |        |
|   | RF-DR-LU-RU | pvem   | oveg |                  |                                |                  |        | 0         |              |        |

| UF Diagram | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)  | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|--------|------|------------------|---------------------------|------------------|--------|-----------|--------------|--------|
|            | RF-DR-LU-BL | pver   | ovel |                  |                           |                  | 0      |           |              |        |
|            | RF-DR-LU-RB | pven   | oven |                  |                           |                  | 0      |           | 0            |        |
|            | RF-DR-LU-LD | pveg   | oveq |                  |                           |                  | 0      |           |              |        |
|            | RF-DR-LU-BD | pves   | over |                  |                           |                  | 0      |           | A            |        |
|            | RF-DR-LU-DL | pvex   | ovet |                  |                           |                  | 0      |           |              |        |
|            | RF-DR-BU-UR | pvqb   | ovfc | send wdme vt     | S D' M' D F' D M D' F S'  |                  | 10     |           |              |        |
|            | RF-DR-BU-DF | pvqu   | ovfd |                  |                           |                  | 0      |           |              |        |
|            | RF-DR-BU-FU | pvqi   | ovfh |                  |                           |                  | 0      |           |              |        |
|            | RF-DR-BU-FL | pvql   | ovfi |                  |                           |                  | 0      |           |              |        |
|            | RF-DR-BU-LF | pvqf   | ovfj |                  |                           |                  | 0      |           |              |        |
|            | RF-DR-BU-LB | pvqh   | ovfk |                  |                           |                  | 0      |           |              |        |
|            | RF-DR-BU-BR | pvqt   | ovfm |                  |                           |                  | 0      |           |              |        |
|            | RF-DR-BU-RB | pvqn   | ovfn |                  |                           |                  | 0      |           |              |        |
|            | RF-DR-BU-LD | pvqg   | ovfq | ajuk tjt kb      | U R S2 R' S' R S' R' U'   |                  | 9      |           |              |        |
|            | RF-DR-BU-RD | pvqo   | ovfs |                  |                           |                  | 0      |           |              |        |
|            | RF-DR-RU-UB | pvma   | ovgb |                  |                           |                  | 0      |           |              |        |
|            | RF-DR-RU-LU | pvme   | ovge |                  |                           |                  | 0      |           |              |        |
|            | RF-DR-RU-BU | pvmq   | ovgf |                  |                           |                  | 0      |           |              |        |
|            | RF-DR-RU-LB | pvmh   | ovgk |                  |                           |                  | 0      |           |              |        |
|            | RF-DR-RU-BL | pvmr   | ovgl |                  |                           |                  | 0      |           |              |        |
|            | RF-DR-RU-RB | pvmn   | ovgn |                  |                           |                  | 0      |           |              |        |
|            | RF-DR-RU-LD | pvmg   | ovgq | ujtk uajs kb     | S2 R S' R' S2 U R S R' U' |                  | 10     |           | P            |        |

| UF Diagram  | Cube Target | Speffz       | aaaa         | Yo Notation (UF) | Singmaster Notation (UF)         | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|---|-------------|--------------|--------------|------------------|----------------------------------|------------------|--------|-----------|--------------|--------|
|   | RF-DR-RU-BD | pvm <i>s</i> | ovgr         |                  |                                  |                  | 0      |           |              |        |
|   | RF-DR-RU-DL | pvm <i>x</i> | ovgt         |                  |                                  |                  | 0      |           |              |        |
|   | RF-DR-RU-DB | pvm <i>w</i> | ovgu         |                  |                                  |                  | 0      |           |              |        |
|   | RF-DR-FU-UL | pvid         | ovha         |                  |                                  |                  | 0      |           |              |        |
|   | RF-DR-FU-UB | pvia         | ovhb         |                  |                                  |                  | 0      |           |              |        |
|   | RF-DR-FU-UR | pvi <i>b</i> | ovhc         |                  |                                  |                  | 0      |           |              |        |
|   | RF-DR-FU-LU | pvie         | ovhe         |                  |                                  |                  | 0      |           |              |        |
|   | RF-DR-FU-BU | pvi <i>q</i> | ovhf         |                  |                                  |                  | 0      |           | 0            |        |
|   | RF-DR-FU-RU | pvim         | ovhg         |                  |                                  |                  | 0      |           |              |        |
|   | RF-DR-FU-LF | pvi <i>f</i> | ovhj         |                  |                                  |                  | 0      |           |              |        |
|   | RF-DR-FU-LB | pvi <i>h</i> | ovhk         |                  |                                  |                  | 0      |           |              |        |
|   | RF-DR-FU-RD | pvio         | ovhs         |                  |                                  |                  | 0      |           |              |        |
|   | RF-DR-FL-UL | pvi <i>d</i> | ovia         |                  |                                  |                  | 0      |           |              |        |
|   | RF-DR-FL-LU | pvi <i>e</i> | ovie         |                  |                                  |                  | 0      |           | L            |        |
|   | RF-DR-FL-BU | pvi <i>q</i> | ovif         |                  |                                  |                  | 0      |           |              |        |
|   | RF-DR-FL-FU | pvi <i>i</i> | ovi <i>h</i> |                  |                                  |                  | 0      |           |              |        |
|   | RF-DR-FL-BR | pvi <i>t</i> | ovim         |                  |                                  |                  | 0      |           |              |        |
|  | RF-DR-FL-RB | pvi <i>n</i> | ovin         | bkqk rkxq xka    | U' R' E' R' E2 R' F2 E' F2 R' U  |                  | 11     |           |              |        |
|  | RF-DR-FL-FR | pvi <i>j</i> | ovip         |                  |                                  |                  | 0      |           |              |        |
|   | RF-DR-FL-LD | pvi <i>g</i> | ovi <i>q</i> | qalh qgfj rkf lb | u R2 L' E' L D2 R E2 R' D2 R2 U' |                  | 13     |           |              |        |
|   | RF-DR-FL-DL | pvi <i>x</i> | ovit         |                  |                                  |                  | 0      |           |              |        |
|   | RF-DR-LF-UL | pvi <i>d</i> | ovja         |                  |                                  |                  | 0      |           | 0            |        |

| UF Diagram | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)          | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|--------|------|------------------|-----------------------------------|------------------|--------|-----------|--------------|--------|
|            | RF-DR-LF-UB | pvfa   | ovjb |                  |                                   |                  | 0      |           |              |        |
|            | RF-DR-LF-UR | pvfb   | ovjc |                  |                                   |                  | 0      |           |              |        |
|            | RF-DR-LF-DF | pvfu   | ovjd |                  |                                   |                  | 0      |           |              |        |
|            | RF-DR-LF-LU | pvfe   | ovje |                  |                                   |                  | 0      |           |              |        |
|            | RF-DR-LF-RU | pvfm   | ovjg |                  |                                   |                  | 0      |           | 0            |        |
|            | RF-DR-LF-FU | pvfi   | ovjh |                  |                                   |                  | 0      |           |              |        |
|            | RF-DR-LF-LB | pvfh   | ovjk |                  |                                   |                  | 0      |           |              |        |
|            | RF-DR-LF-BR | pvft   | ovjm |                  |                                   |                  | 0      |           |              |        |
|            | RF-DR-LF-RB | pvfn   | ovjn |                  |                                   |                  | 0      |           |              |        |
|            | RF-DR-LF-LD | pvfg   | ovjq |                  |                                   |                  | 0      |           |              |        |
|            | RF-DR-LF-BD | pvfs   | ovjr |                  |                                   |                  | 0      |           | 0            |        |
|            | RF-DR-LF-DL | pvfx   | ovjt |                  |                                   |                  | 0      |           |              |        |
|            | RF-DR-LF-DB | pvfw   | ovju | cvod mfmd wc     | U2 F M2 D M D2 M D F' U2          |                  | 10     |           |              |        |
|            | RF-DR-LB-UL | pvhd   | ovka | blwl qkrk qvla   | U' R2 F' R2 E' R' E2 R' E' F R2 U |                  | 12     |           |              |        |
|            | RF-DR-LB-UB | pvha   | ovkb | pvbj skta wq     | E F U' R S R' S' U F' E'          |                  | 10     |           |              |        |
|            | RF-DR-LB-UR | pvhb   | ovkc | kbxq jqkr xaj    | R' U' F2 E' R E' R' E2 F2 U R     |                  | 11     |           |              |        |
|            | RF-DR-LB-LU | pvhe   | ovke | kbwq jqkr vaj    | R' U' F' E' R E' R' E2 F U R      |                  | 11     |           |              |        |
|            | RF-DR-LB-BU | pvhq   | ovkf | kqbs ktjp aj     | R' E' U' S R' S' R E U R          |                  | 10     |           |              |        |
|            | RF-DR-LB-RU | pvhm   | ovkg | vkwb jqkp avjw   | F R' F' U' R E' R' E U F R F'     |                  | 12     |           |              |        |
|            | RF-DR-LB-FL | pvhl   | ovki | kqbj qkr aj      | R' E' U' R E' R' E2 U R           |                  | 9      |           |              |        |
|            | RF-DR-LB-LF | pvhf   | ovkj | qbkr kqla        | E' U' R' E2 R' E' R2 U            |                  | 8      |           |              |        |
|            | RF-DR-LB-BR | pvht   | ovkm | vkwj qkpv jw     | F R' F' R E' R' E F R F'          |                  | 10     |           |              |        |

| UF Diagram | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)     | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|--------|------|------------------|------------------------------|------------------|--------|-----------|--------------|--------|
|            | RF-DR-LB-RB | pvhn   | ovkn | alqj plsk tb     | U R2 E' R E R2 S R' S' U'    |                  | 10     |           |              |        |
|            | RF-DR-LB-LD | pvhg   | ovkq | qbkp ktks ka     | E' U' R' E R' S' R' S' R' U  |                  | 10     |           |              |        |
|            | RF-DR-LB-BD | pvhs   | ovkr | xhft dsd gx      | F2 L' D2 S' D S D L F2       |                  | 9      |           | A            |        |
|            | RF-DR-LB-DL | pvhx   | ovkt | btrh tqg qa      | U' S' E2 L' S' E' L u        |                  | 9      |           | 0            |        |
|            | RF-DR-LB-DB | pvhw   | ovku | pnwm pview rvd   | E M' F' M E F D' F' E2 F D   |                  | 11     |           |              |        |
|            | RF-DR-BL-UL | pvrn   | ovla |                  |                              |                  | 0      |           |              |        |
|            | RF-DR-BL-UB | pvra   | ovlb |                  |                              |                  | 0      |           |              |        |
|            | RF-DR-BL-UR | pvrb   | ovlc |                  |                              |                  | 0      |           |              |        |
|            | RF-DR-BL-LU | pvre   | ovle |                  |                              |                  | 0      |           |              |        |
|            | RF-DR-BL-BU | pvrq   | ovlf |                  |                              |                  | 0      |           | 0            |        |
|            | RF-DR-BL-RU | pvrn   | ovlg |                  |                              |                  | 0      |           | 0            |        |
|            | RF-DR-BL-FU | pvrn   | ovlh |                  |                              |                  | 0      |           |              |        |
|            | RF-DR-BL-FL | pvrn   | ovli |                  |                              |                  | 0      |           |              |        |
|            | RF-DR-BL-LF | pvrn   | ovlj |                  |                              |                  | 0      |           |              |        |
|            | RF-DR-BL-BR | pvrn   | ovlm |                  |                              |                  | 0      |           |              |        |
|            | RF-DR-BL-RB | pvrn   | ovln | atjt kjjp kub    | U S' R S' R' E' R E R' S2 U' |                  | 11     |           | A            |        |
|            | RF-DR-BL-LD | pvrn   | ovlq |                  |                              |                  | 0      |           |              |        |
|            | RF-DR-BL-DL | pvrn   | ovlt |                  |                              |                  | 0      |           |              |        |
|            | RF-DR-BR-UL | pvtb   | ovma |                  |                              |                  | 0      |           |              |        |
|            | RF-DR-BR-UR | pvtb   | ovmc |                  |                              |                  | 0      |           |              |        |
|            | RF-DR-BR-DF | pvtb   | ovmd |                  |                              |                  | 0      |           | 0            |        |
|            | RF-DR-BR-RU | pvtm   | ovmg |                  |                              |                  | 0      |           |              |        |

| UF Diagram | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)       | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|--------|------|------------------|--------------------------------|------------------|--------|-----------|--------------|--------|
|            | RF-DR-BR-FL | pvtl   | ovmi |                  |                                |                  | 0      |           |              |        |
|            | RF-DR-BR-LF | pvtf   | ovmj |                  |                                |                  | 0      |           |              | F      |
|            | RF-DR-BR-BL | pvtr   | ovml |                  |                                |                  | 0      |           |              |        |
|            | RF-DR-BR-BD | pvts   | ovmr | djax etdx sbke   | D R U F2 D' S' D F2 S U' R' D' |                  | 12     |           |              |        |
|            | RF-DR-BR-DL | pvtx   | ovmt |                  |                                |                  | 0      |           |              |        |
|            | RF-DR-BR-DB | pvtw   | ovmu |                  |                                |                  | 0      |           |              |        |
|            | RF-DR-RB-UL | pvnd   | ovna |                  |                                |                  | 0      |           |              |        |
|            | RF-DR-RB-UB | pvna   | ovnb |                  |                                |                  | 0      |           |              |        |
|            | RF-DR-RB-UR | pvnb   | ovnc |                  |                                |                  | 0      |           |              |        |
|            | RF-DR-RB-LU | pvne   | ovne |                  |                                |                  | 0      |           |              |        |
|            | RF-DR-RB-FU | pvni   | ovnh |                  |                                |                  | 0      |           |              |        |
|            | RF-DR-RB-FL | pvnl   | ovni |                  |                                |                  | 0      |           |              |        |
|            | RF-DR-RB-LF | pvnf   | ovnj |                  |                                |                  | 0      |           |              |        |
|            | RF-DR-RB-LB | pvnh   | ovnk |                  |                                |                  | 0      |           |              |        |
|            | RF-DR-RB-BL | pvnr   | ovnl |                  |                                |                  | 0      |           |              |        |
|            | RF-DR-RB-DB | pvnw   | ovnu |                  |                                |                  | 0      |           |              |        |
|            | RF-DR-LD-UL | pvgd   | ovqa |                  |                                |                  | 0      |           |              |        |
|            | RF-DR-LD-UB | pvga   | ovqb |                  |                                |                  | 0      |           |              |        |
|            | RF-DR-LD-UR | pvgb   | ovqc |                  |                                |                  | 0      |           |              |        |
|            | RF-DR-LD-DF | pvgu   | ovqd |                  |                                |                  | 0      |           |              |        |
|            | RF-DR-LD-LU | pvge   | ovqe | gbqk rkql ah     | L U' E' R' E2 R' E' R2 U L'    |                  | 10     |           |              |        |
|            | RF-DR-LD-LB | pvgh   | ovqk |                  |                                |                  | 0      |           |              |        |

| UF Diagram | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)         | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|--------|------|------------------|----------------------------------|------------------|--------|-----------|--------------|--------|
|            | RF-DR-LD-BL | pvgr   | ovql |                  |                                  |                  | 0      |           |              |        |
|            | RF-DR-LD-RB | pvgn   | ovqn |                  |                                  |                  | 0      |           |              |        |
|            | RF-DR-LD-DB | pvgw   | ovqu |                  |                                  |                  | 0      |           |              |        |
|            | RF-DR-BD-UL | pvsd   | ovra |                  |                                  |                  | 0      |           |              |        |
|            | RF-DR-BD-UR | pvsb   | ovrc |                  |                                  |                  | 0      |           |              |        |
|            | RF-DR-BD-LU | pvse   | ovre |                  |                                  |                  | 0      |           |              |        |
|            | RF-DR-BD-FL | pvsł   | ovri |                  |                                  |                  | 0      |           |              |        |
|            | RF-DR-BD-LF | pvsf   | ovrj |                  |                                  |                  | 0      |           |              |        |
|            | RF-DR-BD-RB | pvsn   | ovrn | dknb ntao tje    | D R' M' U' M' S' U M2 S' R D'    |                  | 11     |           |              | A      |
|            | RF-DR-BD-LD | pvsq   | ovrq |                  |                                  |                  | 0      |           |              |        |
|            | RF-DR-BD-DL | pvsx   | ovrt |                  |                                  |                  | 0      |           |              |        |
|            | RF-DR-DL-UL | pvxđ   | ovta |                  |                                  |                  | 0      |           |              |        |
|            | RF-DR-DL-UB | pvxa   | ovtb |                  |                                  |                  | 0      |           |              |        |
|            | RF-DR-DL-UR | pvxđ   | ovtc |                  |                                  |                  | 0      |           |              |        |
|            | RF-DR-DL-LU | pvxe   | ovte |                  |                                  |                  | 0      |           |              | A      |
|            | RF-DR-DL-BU | pvxq   | ovtf | ajuk tcjt ka     | U R S2 R' S' U2 R S' R' U        |                  | 10     |           |              |        |
|            | RF-DR-DL-RU | pvxm   | ovtg | ksij uajs kbi    | R' S L2 R S2 U R S R' U' L2      |                  | 11     |           |              |        |
|            | RF-DR-DL-FU | pvxi   | ovth |                  |                                  |                  | 0      |           |              |        |
|            | RF-DR-DL-FL | pvxł   | ovti |                  |                                  |                  | 0      |           |              |        |
|            | RF-DR-DL-BR | pvxt   | ovtm | wbta valt kukb   | F' U' S' U F U R2 S' R' S2 R' U' |                  | 12     |           |              | A      |
|            | RF-DR-DL-RB | pvxn   | ovtn |                  |                                  |                  | 0      |           |              |        |
|            | RF-DR-DL-DB | pvxw   | ovtu |                  |                                  |                  | 0      |           |              |        |

| UF Diagram | Cube Target | Speffz | aaaa | Yo Notation (UF) | Singmaster Notation (UF)          | Fingertrick note | A<br>I | Dril<br>I | 2 3-<br>Styl | P<br>A |
|------------|-------------|--------|------|------------------|-----------------------------------|------------------|--------|-----------|--------------|--------|
|            | RF-DR-DB-UL | pvwd   | ovua |                  |                                   |                  | 0      |           |              |        |
|            | RF-DR-DB-UB | pvwa   | ovub |                  |                                   |                  | 0      |           |              |        |
|            | RF-DR-DB-UR | pvwb   | ovuc |                  |                                   |                  | 0      |           |              |        |
|            | RF-DR-DB-DF | pvwu   | ovud |                  |                                   |                  | 0      |           |              |        |
|            | RF-DR-DB-LU | pvwe   | ovue |                  |                                   |                  | 0      |           |              |        |
|            | RF-DR-DB-BU | pvwq   | ovuf |                  |                                   |                  | 0      |           |              |        |
|            | RF-DR-DB-RU | pvwm   | ovug |                  |                                   |                  | 0      |           |              |        |
|            | RF-DR-DB-FL | pvwl   | ovui | bgwd smen vtha   | U' L F' D S M D' M' F S' L' U     |                  | 12     |           |              |        |
|            | RF-DR-DB-LF | pvwf   | ovuj | avdm tesn wb     | U F D M S' D' S M' F' U'          |                  | 10     |           |              |        |
|            | RF-DR-DB-LB | pvwh   | ovuk |                  |                                   |                  | 0      |           |              |        |
|            | RF-DR-DB-BL | pvwr   | ovul |                  |                                   |                  | 0      |           | 0            |        |
|            | RF-DR-DB-BR | pvwt   | ovum |                  |                                   |                  | 0      |           |              |        |
|            | RF-DR-DB-RB | pvwn   | ovun |                  |                                   |                  | 0      |           |              |        |
|            | RF-DR-DB-LD | pvwg   | ovuq |                  |                                   |                  | 0      |           |              |        |
|            | RF-DR-DB-DL | pvwx   | ovut |                  |                                   |                  | 0      |           |              |        |
|            | RF-DR-FD-DL | pkx    | oxxt |                  |                                   |                  | 0      |           | A            |        |
|            | RF-FD-LU-BD | pkes   | oxer |                  |                                   |                  | 0      |           | 0            |        |
|            | RF-FD-BU-FL | pkql   | oxfi | bjal wlcl wla ka | ' R U R2 F' R2 U2 R2 F' R2 U R' U |                  | 13     |           |              |        |
|            | RF-FD-RU-LB | pkmh   | oxgk | djql emav bnp    | D R E' R2 D' M U F U' M' E        |                  | 11     |           |              |        |
|            | RF-FD-BR-FL | pktl   | oxmi | qvpw qvpw        | E' F E F' E' F E F'               |                  | 8      |           |              |        |
|            | RF-FD-RD-RB | pkon   | oxsn |                  |                                   |                  | 0      |           | A            |        |