

MOVE

| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
|----|----|------|----|-------------------------|----|---|---|------|---|------|---|--------------------|---|---|---|
| 0 | 0 | SIZE | | DESTINATION REGISTER | | | | MODE | | MODE | | SOURCE REGISTER | | | |

MOVEA

| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
|----|----|------|----|-------------------------|----|---|---|---|---|------|---|--------------------|---|---|---|
| 0 | 0 | SIZE | | DESTINATION REGISTER | | | 0 | 0 | 1 | MODE | | SOURCE REGISTER | | | |

MOVEM

| | | | | | | | | | | | | | | | |
|--------------------|----|----|----|----|----|---|---|---|------|-------------------|---|---|----------|---|---|
| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| 0 | 1 | 0 | 0 | 1 | dr | 0 | 0 | 1 | SIZE | EFFECTIVE ADDRESS | | | | | |
| | | | | | | | | | | MODE | | | REGISTER | | |
| REGISTER LIST MASK | | | | | | | | | | | | | | | |

ADD

| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
|----|----|----|----|----------|----|---|--------|---|---|---------------------------|---|----------|---|---|---|
| 1 | 1 | 0 | 1 | REGISTER | | | OPMODE | | | EFFECTIVE ADDRESS MODE | | REGISTER | | | |

ADDA

| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
|----|----|----|----|----------|----|---|--------|---|---|---------------------------|---|----------|---|---|---|
| 1 | 1 | 0 | 1 | REGISTER | | | OPMODE | | | EFFECTIVE ADDRESS MODE | | REGISTER | | | |

SUB

| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
|----|----|----|----|----------|----|---|--------|---|---|---------------------------|---|----------|---|---|---|
| 1 | 0 | 0 | 1 | REGISTER | | | OPMODE | | | EFFECTIVE ADDRESS MODE | | REGISTER | | | |

SUBQ

| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
|----|----|----|----|------|----|---|---|------|---|---------------------------|---|----------|---|---|---|
| 0 | 1 | 0 | 1 | DATA | | | 1 | SIZE | | EFFECTIVE ADDRESS MODE | | REGISTER | | | |

MULS

WORD

| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
|----|----|----|----|----------|----|---|---|---|---|---------------------------|---|----------|---|---|---|
| 1 | 1 | 0 | 0 | REGISTER | | | 1 | 1 | 1 | EFFECTIVE ADDRESS MODE | | REGISTER | | | |

DIVS, DIVSL

LONG

| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
|----|-------------|----|----|----|------|---|---|---|---|---------------------------|---|----------|-------------|---|---|
| 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | EFFECTIVE ADDRESS MODE | | REGISTER | | | |
| 0 | REGISTER Dq | | | 1 | SIZE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | REGISTER Dr | | |

DIVS, DIVSL

| WORD | | | | | | | | | | | | | | | |
|------|----|----|----|----------|----|---|---|---|---|-------------------|---|---|----------|---|---|
| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| 1 | 0 | 0 | 0 | REGISTER | | | 1 | 1 | 1 | EFFECTIVE ADDRESS | | | | | |
| | | | | | | | | | | MODE | | | REGISTER | | |

LEA

| | | | | | | | | | | | | | | | |
|----|----|----|----|----------|----|---|---|---|---|-------------------|---|---|----------|---|---|
| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| 0 | 1 | 0 | 0 | REGISTER | | | 1 | 1 | 1 | EFFECTIVE ADDRESS | | | | | |
| | | | | | | | | | | MODE | | | REGISTER | | |

ORI

| | | | | | | | | | | | | | | | |
|------------------|----|----|----|----|----|---|---|------|------|-------------------|---|----------|---|---|---|
| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | SIZE | | EFFECTIVE ADDRESS | | | | | |
| 16-BIT WORD DATA | | | | | | | | | MODE | | | REGISTER | | | |
| | | | | | | | | | | | | | | | |
| 32-BIT LONG DATA | | | | | | | | | | | | | | | |

OR

| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
|----|----|----|----|----------|----|---|--------|---|---|-------------------|---|----------|---|---|---|
| 1 | 0 | 0 | 0 | REGISTER | | | OPMODE | | | EFFECTIVE ADDRESS | | | | | |
| | | | | | | | | | | MODE | | REGISTER | | | |

NEG

| | | | | | | | | | | | | | | | |
|----|----|----|----|----|----|---|---|------|---|-------------------|---|---|----------|---|---|
| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | SIZE | | EFFECTIVE ADDRESS | | | | | |
| | | | | | | | | | | MODE | | | REGISTER | | |

EOR

| | | | | | | | | | | | | | | | |
|----|----|----|----|----------|----|---|--------|---|---|-------------------|---|---|----------|---|---|
| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| 1 | 0 | 1 | 1 | REGISTER | | | OPMODE | | | EFFECTIVE ADDRESS | | | | | |
| | | | | | | | | | | MODE | | | REGISTER | | |

LSL, LSR

| MEMORY SHIFT | | | | | | | | | | | | | | | |
|--------------|----|----|----|----|----|---|----|---|---|-------------------|---|---|----------|---|---|
| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| 1 | 1 | 1 | 0 | 0 | 0 | 1 | dr | 1 | 1 | EFFECTIVE ADDRESS | | | | | |
| | | | | | | | | | | MODE | | | REGISTER | | |

ASL, ASR

| MEMORY SHIFT | | | | | | | | | | | | | | | |
|--------------|----|----|----|----|----|---|----|---|---|-------------------|---|---|----------|---|---|
| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| 1 | 1 | 1 | 0 | 0 | 0 | 0 | dr | 1 | 1 | EFFECTIVE ADDRESS | | | | | |
| | | | | | | | | | | MODE | | | REGISTER | | |

ROL, ROR

| MEMORY ROTATE | | | | | | | | | | | | | | | |
|---------------|----|----|----|----|----|---|----|---|---|-------------------|---|---|----------|---|---|
| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| 1 | 1 | 1 | 0 | 0 | 1 | 1 | dr | 1 | 1 | EFFECTIVE ADDRESS | | | | | |
| | | | | | | | | | | MODE | | | REGISTER | | |

BCLR

| BIT NUMBER DYNAMIC, SPECIFIED IN A REGISTER | | | | | | | | | | | | | | | |
|---|----|----|----|----------|----|---|---|---|---|------|-------------------|---|----------|---|---|
| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| 0 | 0 | 0 | 0 | REGISTER | | | | 1 | 1 | 0 | EFFECTIVE ADDRESS | | | | |
| | | | | | | | | | | MODE | | | REGISTER | | |

CMP

| | | | | | | | | | | | | | | | |
|----|----|----|----|----------|----|---|--------|---|---|-------------------|---|---|----------|---|---|
| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| 1 | 0 | 1 | 1 | REGISTER | | | OPMODE | | | EFFECTIVE ADDRESS | | | | | |
| | | | | | | | | | | MODE | | | REGISTER | | |

CMPI

| | | | | | | | | | | | | | | | | | | | | | | |
|------------------|----|----|----|----|----|---|---|------|---|-------------------|----------|---|---|---|-----------------|--|--|--|--|--|--|--|
| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | | | | | | | |
| 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | SIZE | | EFFECTIVE ADDRESS | | | | | | | | | | | | |
| | | | | | | | | MODE | | | REGISTER | | | | | | | | | | | |
| 16-BIT WORD DATA | | | | | | | | | | | | | | | 8-BIT BYTE DATA | | | | | | | |
| 32-BIT LONG DATA | | | | | | | | | | | | | | | | | | | | | | |

Bcc

| | | | | | | | | | | | | | | | |
|--|----|----|----|-----------|----|---|---|--------------------|---|---|---|---|---|---|---|
| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| 0 | 1 | 1 | 0 | CONDITION | | | | 8-BIT DISPLACEMENT | | | | | | | |
| 16-BIT DISPLACEMENT IF 8-BIT DISPLACEMENT = \$00 | | | | | | | | | | | | | | | |
| 32-BIT DISPLACEMENT IF 8-BIT DISPLACEMENT = \$FF | | | | | | | | | | | | | | | |

BRA

| | | | | | | | | | | | | | | | |
|--|----|----|----|----|----|---|---|--------------------|---|---|---|---|---|---|---|
| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 8-BIT DISPLACEMENT | | | | | | | |
| 16-BIT DISPLACEMENT IF 8-BIT DISPLACEMENT = \$00 | | | | | | | | | | | | | | | |
| 32-BIT DISPLACEMENT IF 8-BIT DISPLACEMENT = \$FF | | | | | | | | | | | | | | | |

RTS

| | | | | | | | | | | | | | | | |
|----|----|----|----|----|----|---|---|---|---|---|---|---|---|---|---|
| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 1 |

JSR

| | | | | | | | | | | | | | | | |
|----|----|----|----|----|----|---|---|---|---|-------------------|---|---|----------|---|---|
| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | EFFECTIVE ADDRESS | | | | | |
| | | | | | | | | | | MODE | | | REGISTER | | |