# **New Driver Board Information**

Mux select pins to teensy pins

|  |  |
| --- | --- |
| **Mux Pin** | **Teensy Pin** |
| S0 | 38, A19 |
| S1 | 36, A17 |
| S2 | 35, A16 |
| S3 | 37, A18 |

Mux channel select

Enable LOW is grounded so is always enabled. Mosfet teensy pin for its group if low is enabled for listening and if high will ground the listening side of the transducer to allow for the transducer to output. For the mux select pins 0 = low, 1 = high.

Mux Data Sheet: <http://www.farnell.com/datasheets/2342172.pdf>

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S3** | **S2** | **S1** | **S0** | **Channel On** | **Transceiver #** | **Mosfet Teensy Pin** |
| 0 | 0 | 0 | 0 | Y0 to Z | 0 | 15, A1 |
| 0 | 0 | 0 | 1 | Y1 to Z | 1 |
| 0 | 0 | 1 | 0 | Y2 to Z | 2 |
| 0 | 0 | 1 | 1 | Y3 to Z | 3 |
| 0 | 1 | 0 | 0 | Y4 to Z | 4 | 14, A0 |
| 0 | 1 | 0 | 1 | Y5 to Z | 5 |
| 0 | 1 | 1 | 0 | Y6 to Z | 6 |
| 0 | 1 | 1 | 1 | Y7 to Z | 7 |
| 1 | 0 | 0 | 0 | Y8 to Z | 17 | 16, A2 |
| 1 | 0 | 0 | 1 | Y9 to Z | 18 |
| 1 | 0 | 1 | 0 | Y10 to Z | 19 |
| 1 | 0 | 1 | 1 | Y11 to Z | 20 |
| 1 | 1 | 0 | 0 | Y12 to Z | 21 | 28 |
| 1 | 1 | 0 | 1 | Y13 to Z | 22 |
| 1 | 1 | 1 | 0 | Y14 to Z | 23 |
| 1 | 1 | 1 | 1 | Y15 to Z | 24 |

Amplified signal from op-amp received on teensy pin

|  |
| --- |
| Teensy Pin |
| 39, A20 |

Direct FPGA To Teensy Connections

|  |  |
| --- | --- |
| Teensy Pin | FPGA Pin |
| 4 | 24 #RELOAD\_OUT (OUT) |
| 5 | 11 #OE\_IN (IN) |
| 6 | 15 #EXT\_SYNC (IN) |
| 7 | 18 #FPGA UART TX |
| 8 | 22 #FPGA UART RX |

Transducer numbers to FPGA pins

Transducer numbers correspond to the numbers printed on the speaker board and not to the labelling on the driver board eagle files as the drivers were rearranged and not renamed.

|  |  |  |
| --- | --- | --- |
| Transducer Numbers | FPGA PINS | Transceiver |
| 0 | 137 | YES |
| 1 | 139 | YES |
| 2 | 132 | YES |
| 3 | 134 | YES |
| 4 | 150 | YES |
| 5 | 152 | YES |
| 6 | 144 | YES |
| 7 | 146 | YES |
| 8 | 193 | - |
| 9 | 190 | - |
| 10 | 160 | - |
| 11 | 153 | - |
| 12 | 187 | - |
| 13 | 185 | - |
| 14 | 165 | - |
| 15 | 162 | - |
| 16 | 180 | - |
| 17 | 181 | YES |
| 18 | 179 | YES |
| 19 | 161 | YES |
| 20 | 163 | YES |
| 21 | 171 | YES |
| 22 | 177 | YES |
| 23 | 168 | YES |
| 24 | 172 | YES |
| 25 | 178 | - |
| 26 | 128 | - |
| 27 | 164 | - |
| 28 | 126 | - |
| 29 | 167 | - |
| 30 | 122 | - |
| 31 | 147 | - |
| 32 | 119 | - |
| 33 | 140 | - |
| 34 | 115 | - |
| 35 | 135 | - |
| 36 | 112 | - |
| 37 | 129 | - |
| 38 | 108 | - |
| 39 | 127 | - |
| 40 | 106 | - |
| 41 | 120 | - |
| 42 | 100 | - |
| 43 | 113 | - |
| 44 | 98 | - |
| 45 | 107 | - |
| 46 | 96 | - |
| 47 | 99 | - |
| 48 | 93 | - |
| 49 | 94 | - |
| 50 | 192 | - |
| 51 | 186 | - |
| 52 | 196 | - |
| 53 | 189 | - |
| 54 | 205 | - |
| 55 | 151 | - |
| 56 | 12 | - |
| 57 | 145 | - |
| 58 | 19 | - |
| 59 | 138 | - |
| 60 | 25 | - |
| 61 | 133 | - |
| 62 | 31 | - |
| 63 | 123 | - |
| 64 | 34 | - |
| 65 | 116 | - |
| 66 | 42 | - |
| 67 | 109 | - |
| 68 | 49 | - |
| 69 | 102 | - |
| 70 | 61 | - |
| 71 | 97 | - |
| 72 | 65 | - |
| 73 | 90 | - |
| 74 | 76 | - |
| 75 | 8 | - |
| 76 | 199 | - |
| 77 | 39 | - |
| 78 | 202 | - |
| 79 | 41 | - |
| 80 | 9 | - |
| 81 | 45 | - |
| 82 | 16 | - |
| 83 | 48 | - |
| 84 | 23 | - |
| 85 | 50 | - |
| 86 | 29 | - |
| 87 | 60 | - |
| 88 | 36 | - |
| 89 | 62 | - |
| 90 | 40 | - |
| 91 | 64 | - |
| 92 | 47 | - |
| 93 | 69 | - |
| 94 | 55 | - |
| 95 | 75 | - |
| 96 | 63 | - |
| 97 | 77 | - |
| 98 | 74 | - |
| 99 | 82 | - |