RZ5 Z-Series Processor

WITH **Synapse**

*This fast fact sheet provides basic reference information for the RZ5 Z-Series Processor and related devices. See the System 3 Manual for more detailed information. **Note:** The RZ5 is available with one or two processors.*

Connecting the RZ5 to the Preamplifiers. The base station acquires digitized signals from a preamplifier over a fiber optic cable. Both ends of the cable are the same but the two sides of the connector are different. *See the illustration above to determine the correct way to make the connection.*
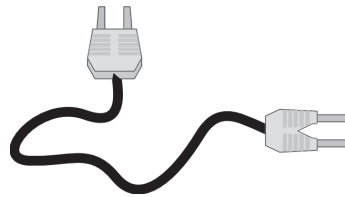
Fiber Optic Input Ports. The RZ5 is equipped with two fiber optic amp input ports. The channel numbers for each port begin at a fixed offset regardless of the number of channels available on the connected device.

Channels are numbered as follows:

Amp-A	17-32
Amp-B	33-48

In Synapse, Digital I/O and front panel analog input (ADC) and output (DAC) must be enabled and configured on the RZ5 Options pages.

Front Panel Display. Push and release the Mode button to manually change the display options or push and hold the button for one second then release to automatically cycle through them:
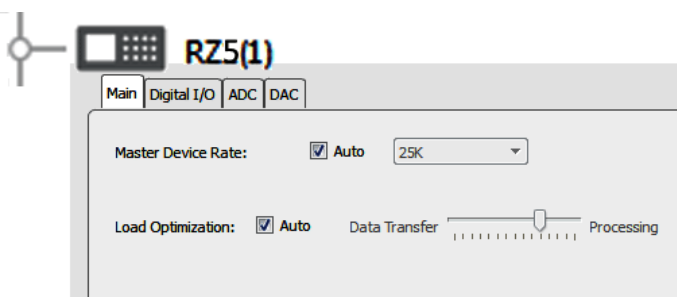
Cyc:	percentage of cycle usage
Bus%:	percentage of internal device's bus capacity used
I/O%:	percentage of data transfer capacity used
Opt:	connection (sync) status of amplifiers

The VFD screen may also report system status such as booting status (Reset).

Note: When burning new microcode or if the firmware on the RZ5 is blank, the VFD screen will report a cycle usage of 99% and the processor status lights will flash red.

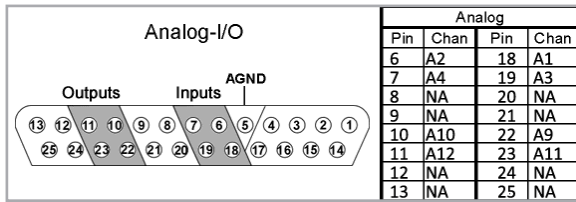| Pattern	DSP Status
Steady green	Device on
Flash red	DSP cycle usage > 99% or burning microcode

Onboard Analog I/O. Onboard analog I/O *channels are numbered as follows:*

ADC Inputs   1-4

DAC Outputs   9-12

Onboard Monitor Speaker. The speaker output is connected to DacOut channel 9.

DB25 Digital Input/Output Connector Pinouts

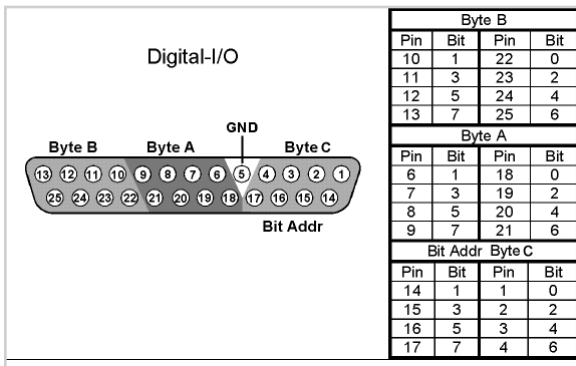| Analog			
Pin	Chan	Pin	Chan
6	A2	18	A1
7	A4	19	A3
8	NA	20	NA
9	NA	21	NA
10	A10	22	A9
11	A12	23	A11
12	NA	24	NA
13	NA	25	NA

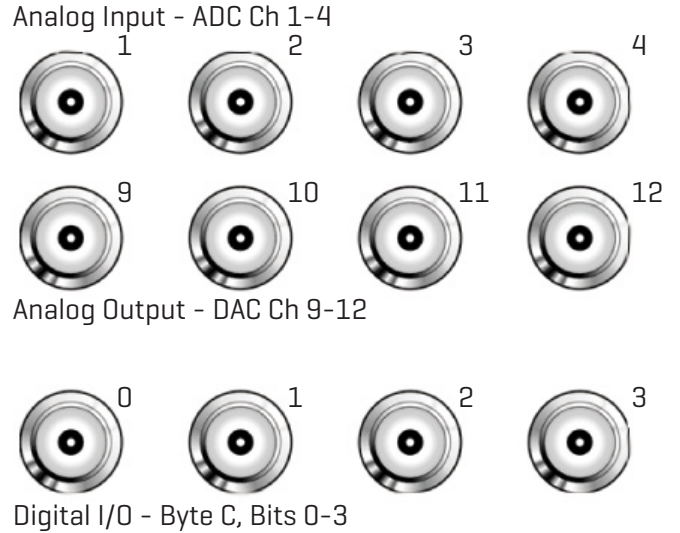**Digital Input/Output.** The digital I/O circuits include 24 bits of programmable I/O.

Byte A = bits 0 - 7 (byte addressable)
Byte B = bits 0 - 7 (byte addressable)
Byte C = bits 0 - 7 (bit addressable)

Digital I/O lines are accessed via the 25-pin connector on the front of the RZ5. Four bits of bit addressable I/O are also available from the front panel BNCs.

DB25 Digital Input/Output Connector Pinouts

Byte B			
Pin	Bit	Pin	Bit
10	1	22	0
11	3	23	2
12	5	24	4
13	7	25	6

Byte A			
Pin	Bit	Pin	Bit
6	1	18	0
7	3	19	2
8	5	20	4
9	7	21	6

Bit Addr Byte C			
Pin	Bit	Pin	Bit
14	1	1	0
15	3	2	2
16	5	3	4
17	7	4	6

BNC Channel Mapping

Analog Input - ADC Ch 1-4

Analog Output - DAC Ch 9-12

Digital I/O - Byte C, Bits 0-3

Fiber Optic Output (STIM) Port. The RZ5 output port labeled STIM is used to transfer signal data to the Stimulus Isolator's D/As or to control its 16 word addressable digital output bits.