

# Fast Facts

## RZ5D Z-Series Processor



This fast fact sheet provides basic reference information for the RZ5D Z-Series Processor and related devices. See the System 3 Manual for more detailed information.

**Fiber Optic PZ Input Port.** The RZ5D is equipped with a fiber optic port for digitized input from a PZ amplifier or digital headstage manifold.

**Fiber Optic IZ Output Port.** The IZ output port is used to transfer signal data to the Stimulator's D/As.

*In the Synapse Processing Tree, a stimulation gizmo must be added to the RZ5D to provide an input source for the IZ2 stimulator.*



When using Synapse the appropriate scale factors, conversions, and offsets are applied automatically.

If you're NOT using Synapse, see the *System 3 Manual* for important programming notes. For custom circuit design, see the *RPvdsEx Manual*.

**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

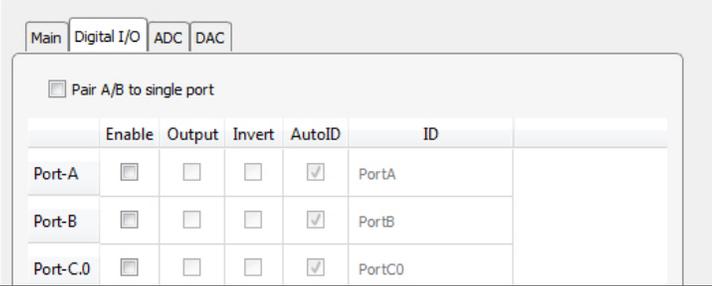
The VFD screen may also report system status such as booting status [Reset].

**Note:** When burning new microcode or if the firmware on the RZ5D 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



In Synapse, Digital I/O and front panel analog input (ADC) and output (DAC) must be enabled and configured on the RZ5D Options pages.



### 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.

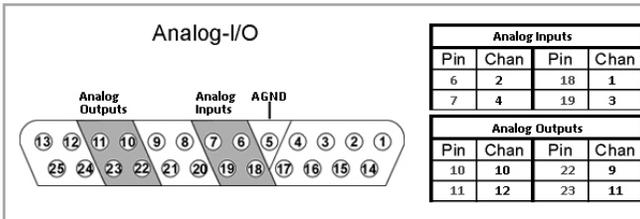
**Digital Input/Output.** The digital I/O circuits include 24 bits of programmable I/O.

- Byte A = bits 0 - 7 [byte addressable]
- Byte B = bits 8 - 15 [byte addressable]
- Byte C = bits 16 - 23 [bit addressable]

Digital I/O lines are accessed via the 25-pin connector on the front of the RZ5D. Four bits of bit addressable I/O are also available from the front panel BNCs.

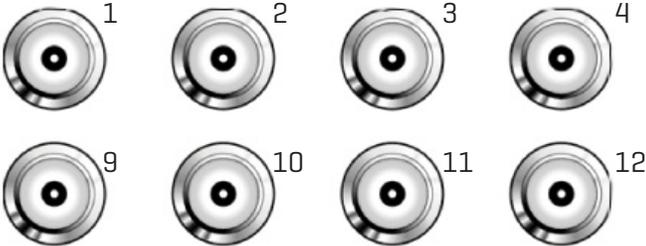
When using Synapse, the Digital I/O must be enabled in the Synapse RZ5D Options.

### DB25 Analog Input/Output Connector Pinouts

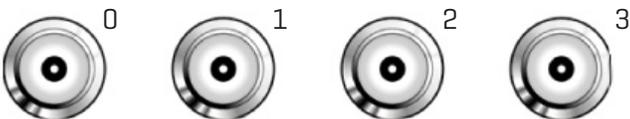


### BNC Channel Mapping

Analog Input - ADC Ch 1-4

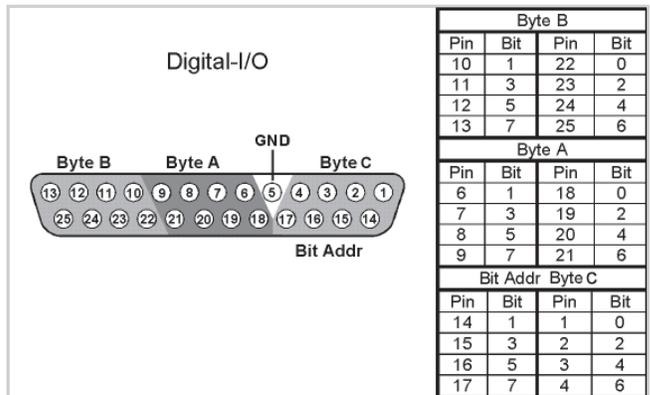


Analog Output - DAC Ch 9-12



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

### DB25 Digital Input/Output Connector Pinouts



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