

## 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.

### Front Panel Display

The front panel VFD Screen displays a variety of status indicators. Cycle through the options using the Mode button below the right side of the display. Push and release the button to manually change the display options or push and hold the button for one second then release to automatically cycle through each of the following display options:

- 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).

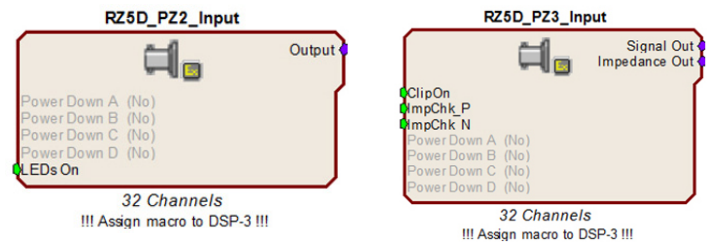
**Note:** When burning new microcode or if the firmware on the RZ5D is blank, the VFD screen will report a cycle usage of 99% and the processor status lights will flash red.

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

### Fiber Optic PZ Input Port

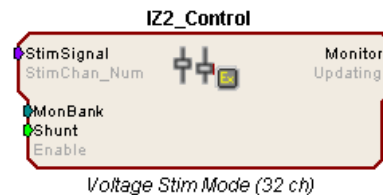
The RZ5D is equipped with a fiber optic port for digitized input from a PZ amplifier.

The RZ5D\_PZ2\_Input and RZ5D\_PZ3\_Input macros must be used to apply the appropriate scale factors and offsets when acquiring data. The macro must be assigned to DSP-3 in the RPvdsEx circuit.



### Fiber Optic IZ Output Port

The IZ output port is used to transfer signal data to the Stimulator's D/As. The IZ2\_Control macro is used to configure and control the Stimulator, see the TDT System 3 Manual for more information.



This macro must be placed on DSP-2.

For custom circuit design, see the RPvdsEx Manual.

### Onboard Analog I/O

Onboard analog I/O can be accessed using AdcIn and DacOut components.

Channels are numbered as follows:

ADC INPUTS      1-4  
 DAC OUTPUTS    9-12

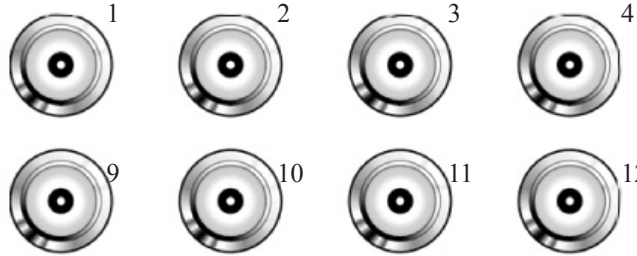
### Onboard Monitor Speaker

The speaker output is connected to DacOut channel 9.

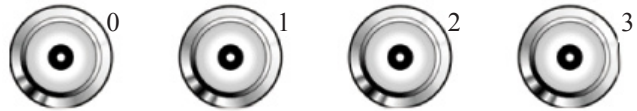
For custom circuit design, see the RPvdsEx Manual.

### BNC Channel Mapping

Analog Input - ADC Ch 1-4



Analog Output - DAC Ch 9-12



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

See the System 3 Manual for DB25 Analog Input/Output Connector Pinouts.

### Digital Input/Output

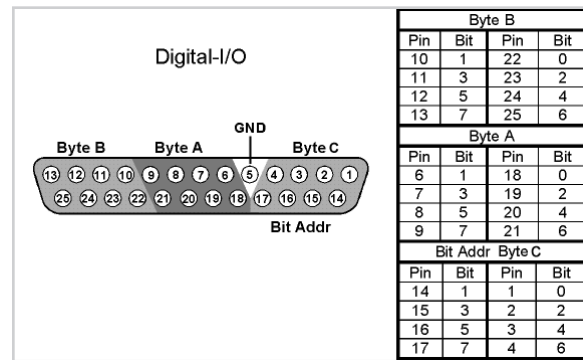
The digital I/O circuits include 24 bits of programmable I/O.

- 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 RZ5D. Four bits of bit addressable I/O are also available from the front panel BNCs.

The data direction for the Digital I/O is configured using the RZ5D\_Control macro in RPvdsEx, allowing the data direction to be dynamic under circuit control.

### DB25 Digital Input/Output Connector Pinouts



### RZ5D\_Control

