

RZ2 Z-SERIES PROCESSOR



This fast fact sheet provides basic reference information for the RZ2 Z-Series Processor and related devices. *See the System 3 Manual for more detailed information.* **Note:** The RZ2 is available with two, four or eight processors.

When using a PZ Amp, connect all headstages before powering up to ensure all necessary banks of channels are powered up. The system will default to 64 channel mode if there is no headstage connected to an input in the lower four banks.

LCD Screen

The LCD screen shows information about each DSP, the optical PC interface, the PZ preamplifier and system I/O. A selection knob allows the user to highlight a section of the screen to display more detailed information. Rotate the selection knob to select a system component. Once the selection has been made, push the knob and expand the information view.

Selection Available Information

DSPs Component usage, memory usage and pipe source statistics for that processor

Interface Firmware version, MB data received/sent and transfer errors

Amp Amp model, number of channels and firmware version of connected PZ series amplifier

I/O Virtual indicator lights

Digital I/O (24 bits in banks A, B and C):

LED will light for an input bit or it will show the logic level for an output bit

Analog I/O (16 ch of A/D or D/A in banks D and E):

Lights will indicate the signal level, green when a signal is present and red if the signal is clipping

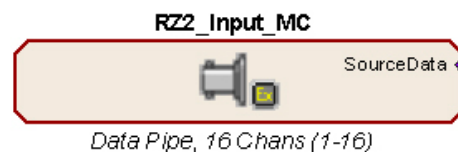
Amp lights for the legacy preamplifiers:

Flash when no amp is connected and will show the power or clipping status of the connected amplifiers

Analog Input/Output

The RZ2 is equipped with several different analog I/O capabilities. The RPvdsEx RZ2_Input_MC macro should be used to acquire data from various sources. It automatically applies the appropriate scale factors, conversions, and offsets. For custom circuit design, see the RPvdsEx Manual.

I/O	Description	Channels
Port D	Analog Input	1-8
Port E	Analog Output	9-16
High Speed Fiber Optic Port	PZ BioAmp Input	1 - 256
Legacy Amp-A	Medusa PreAmp Input	17-32
Legacy Amp-B	Medusa PreAmp Input	33-48



Digital Input/Output

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

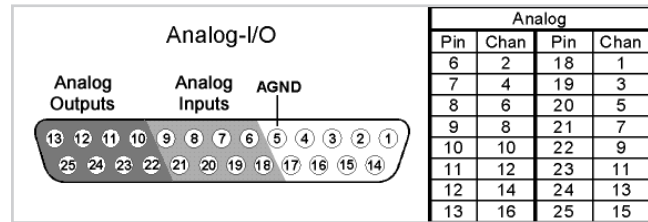
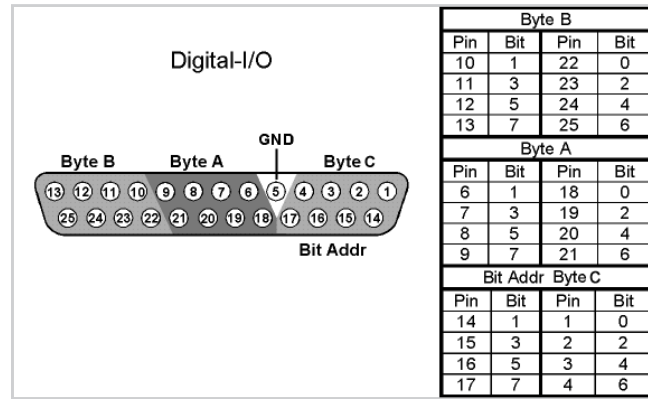
- Port A = bits 0 - 7 (byte addressable)
- Port B = bits 0 - 7 (byte addressable)
- Port C = bits 0 - 7 (bit addressable)

Digital I/O lines are accessed via the 25-pin connector on the front of the RZ2. 8-bits of bit addressable I/O and 8-bits of byte addressable I/O are also available from the front panel BNCs.

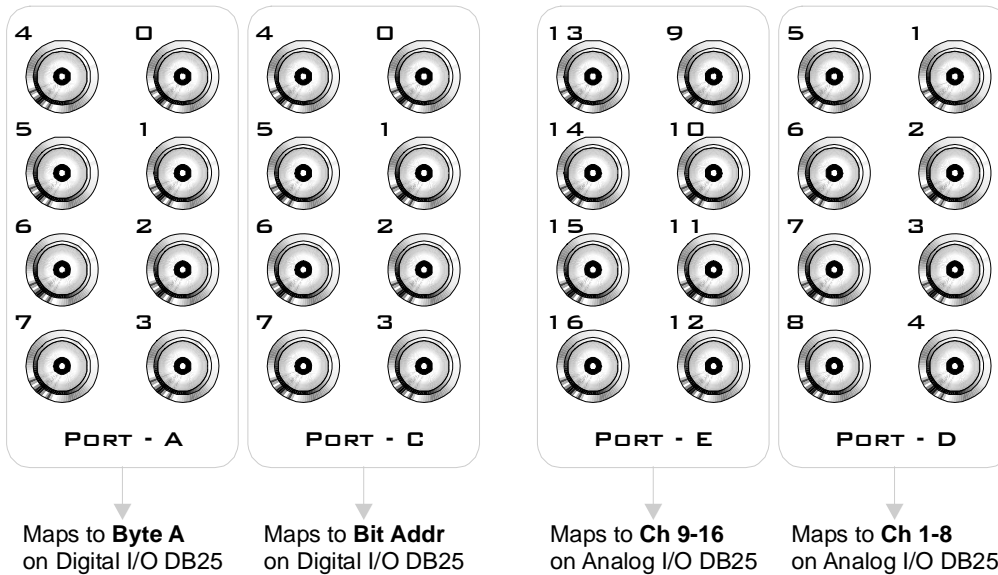
The data direction for the Digital I/O is configured using the RZ2_Control macro in RpvdsEx, allowing the data direction to be dynamic under circuit control.



DB25 Input/Output Connector Pinouts



BNC Channel Mapping



Please note channel numbering begins at the top right block of BNCs for each port and is printed on the face of the device.

Important RpvdsEx Programming Notes

When working with Z-Series devices the user should be aware of the following:

RZ2_Input_MC uses 'pipe-lining', which adds one sample of delay to some data transfers. For example, data passed between processor now has two cycles of delay instead of one cycle as with the RX devices.

The RZ2 supports a maximum of 126 zHop pairs.

When sampling at 50kHz:

- Max number of channels is reduced from 256 to 128.
- Only the first 128 BioAmp channels will be available
- Data Pipes will have a max of 128 channels

