Fast Facts

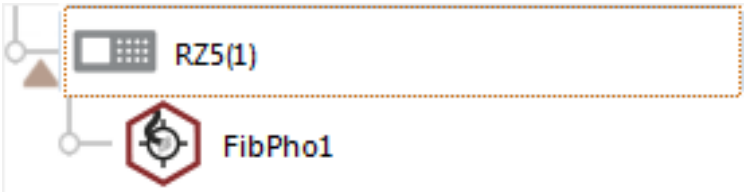
RZ5P Fiber Photometry Processor

WITH Synapse

This fast fact sheet provides basic reference information for the RZ5P Fiber Photometry Processor and related devices. See the System 3 Manual for more detailed information.

When using Synapse, configure the RZ5P as an RZ5 in the Rig. The appropriate scale factors, conversions, and offsets are applied automatically.

The RZ5P is typically used for Fiber Photometry. In Edit mode, simply add the fiber photometry gizmo to the processing tee.



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:

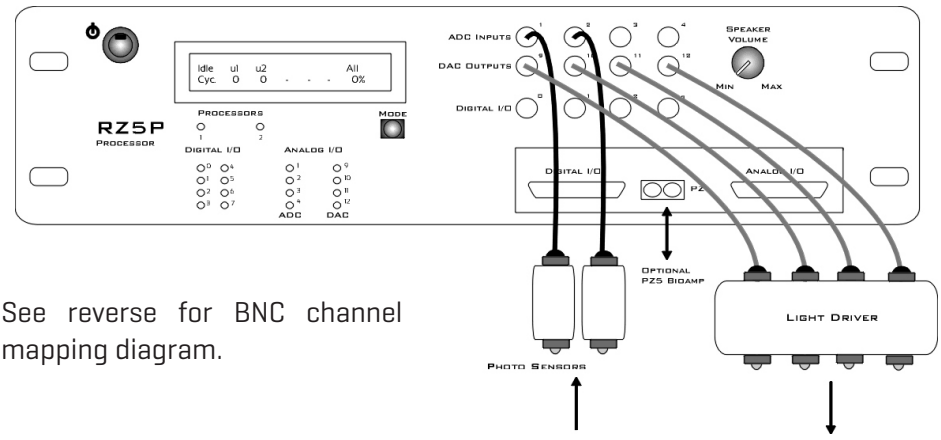
Cyc: percentage of cycle usage
Bus%: percentage of internal device's bus capacity used
I/O%: percentage of data transfer capacity used

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

Note: When burning new microcode or if the firmware on the RZ5P 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 Photometry Hardware Connections
When using the RZ5P for fiber photometry, connect photo sensors to ADC BNCs 1 and 2 and connect light drivers to DAC BNCs 9 - 12 on the processor's front panel.

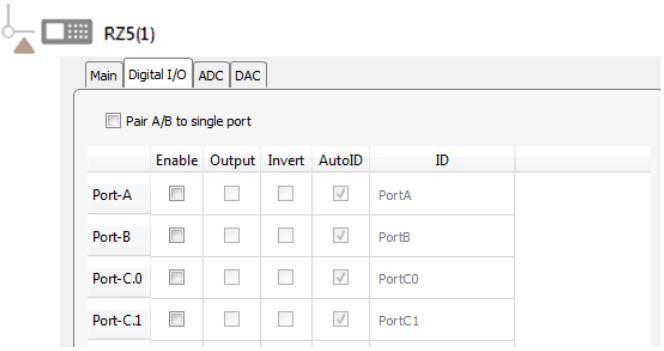


See reverse for BNC channel mapping diagram.

Fiber Optic PZ Input Port. The RZ5P is equipped with a fiber optic port for digitized input from a PZ amplifier or digital headstage manifold.

In Synapse, Digital I/O and front panel analog input (ADC) and output (DAC) must be enabled and configured on the RZ5P Options pages.

Important exception! Analog I/O is enabled automatically when using the Fiber Photometry gizmo.



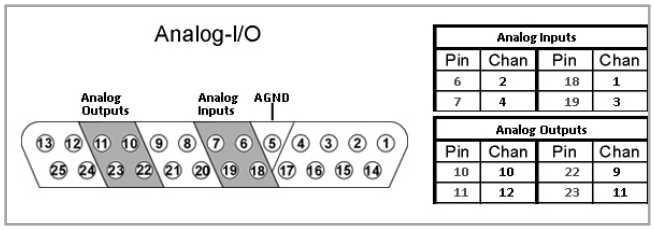
Onboard Analog I/O. Onboard analog I/O

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 Analog Input/Output Connector Pinouts

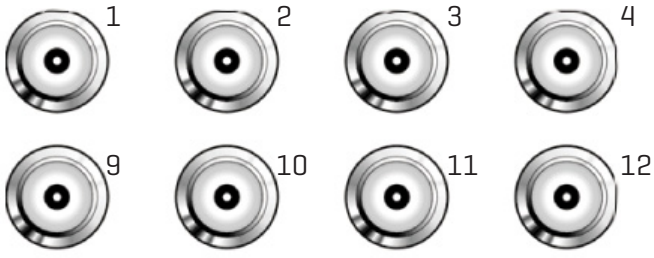


Analog Inputs			
Pin	Chan	Pin	Chan
6	2	18	1
7	4	19	3

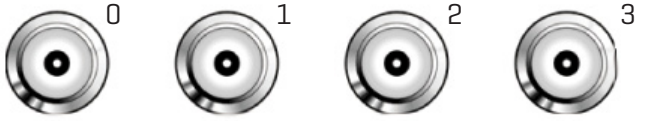
Analog Outputs			
Pin	Chan	Pin	Chan
10	10	22	9
11	12	23	11

BNC Channel Mapping

Analog Input - ADC Ch 1-4



Analog Output - DAC Ch 9-12



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

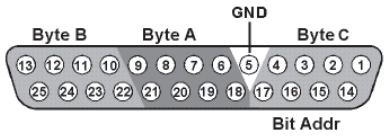
Digital Input/Output. The digital I/O circuits include 24 bits of programmable I/O.

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 RZ5P. 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 RZ5P Options.

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

Synapse Sold Separately

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