Fast Facts This fast fact sheet provides basic The Subject Interface Module (SIM) information for the SIM. See the System 3 Manual and Synapse Manual for more WiFi antenna SUBJECT INTERFACE SIM Hardware Configuration Plate LED Color Codes SIM Bank Type View Bank Status Stimulator Banks Magenta **Digital Recording Bank Activity LEDs** Blue Analog Recording Green - channel within range Red - channel is clipping RZ communication Sync indicator NEURODIGITIZER SIM Bank Indicators (types below) System Setup options SIN Screen Sleep option **IZV Stimulator** O. SIM battery life monitor option PZD Digital PZA Analog About SIM Banks - Analog recording SIM Hardware Banks and stimulation are organized into 16-Digital -Analog / Stim

channel banks. Digital recording banks can handle up to 128 channels each. Each bank is electrically isolated, so ground and reference channels are not inherently shared. Banks can be grouped into logical amplifiers to achieve shared GND or REF

*Important – To avoid added electrical noise, do not

Connecting the SIM to the back of your RZ processor, to the port labeled 'To SI'

charge the SIM during recording or stimulation

Software Configuration Use Sub Sub1 Sub2 Sub3 Sub4 Sub 1 Sub 5 Sub6 Sub: Enable See Synapse Channels: 16 🕏 Banks: A Manual for more details DC Coupled: Local Filtering: 45% FS PZA gizmo PZD gizmo 0.1 Hz arnal Groundse type: Single Unit will overwrite all securius adapce Target:

*Important – Software configurations are intimately tied to the hardware setup of the device. SIM Sub Modules (IZV, PZD, PZA) will get **detected** in **Rig Editor** (menu \rightarrow Edit Rig \rightarrow Detect) of Synapse and gizmo options can be used accordingly.

External

Power Switch

RZ Fiber Optic Ports

SIM

Port

Port

Charger

Ethernet

ground port





SIM Stimulator/ Output Configurations for Normal, Repeated, Serial, and Parallel Mode. Serial and Parallel mode require special harnessing to achieve output. **SIM Stimulator Synapse Configurations.** Use **Electrical Stim Driver** to send stim signals to the **IZV gizmo**. Set Normal, Repeated, Serial, and Parallel Mode in IZV gizmo. Serial and Parallel mode require special harnessing to achieve output.

Electrical Stimulation	
Stim Output Channels	16 per card
Stim Output Voices	4 per card
Stim Card Compliance	+/- 15 V*
	+/- 5 mA per voice, up to 3 kOhm load*
Stim Output Resolution	Voltage Mode: 100 uV
	Current Mode: 10 nA
DC Offset Current	Active channel: < 100 nA
	Open Channel < 1nA
Sample Rate	Up to 50 kHz
Analog Recording	
A/D	16 channels per card, hybrid A/D.
	Sample rate up to 50 kHz
Maximum Voltage In	+/- 500 mV
Frequency Response	DC Coupled: $0 \text{ Hz} - 0.45 \text{*Fs}$ (Fs = Sample Rate)
	AC Coupled: $0.4 \text{ Hz} - 0.45 \text{*Fs}$
S/N (typical)	Single-Ended: 104 dB, $Fs = 25 \text{ kHz}$, 300 Hz $- 7000 \text{ Hz}$
	Differential: 116 dB, $Fs = 750 \text{ Hz}$, 0.4 Hz $- 300 \text{ Hz}$
Input Impedance	AC Coupled: 100 kOhm
	DC Coupled 20 MOhm
Digital Recording	
Input	Up to 128 Intan-based digital channels per bank
Maximum Voltage In	+/- 5 mV
Frequency Response	0.1 Hz – 10 kHz
Battery	32 Amp-Hour. 8-10 hours to charge to 95% capacity, 14 hours to full charge.
	Battery life between charges dependent on # of active cards:
	2 active cards ~50 hr; 4 active cards ~35hr; 6 active cards ~27 hr; 8 active cards ~22 hrs
Charger	External 12 VDC, 2.5 A power supply, center negative

* Higher values can be obtained by combining voices and cards through harness and software configuration

