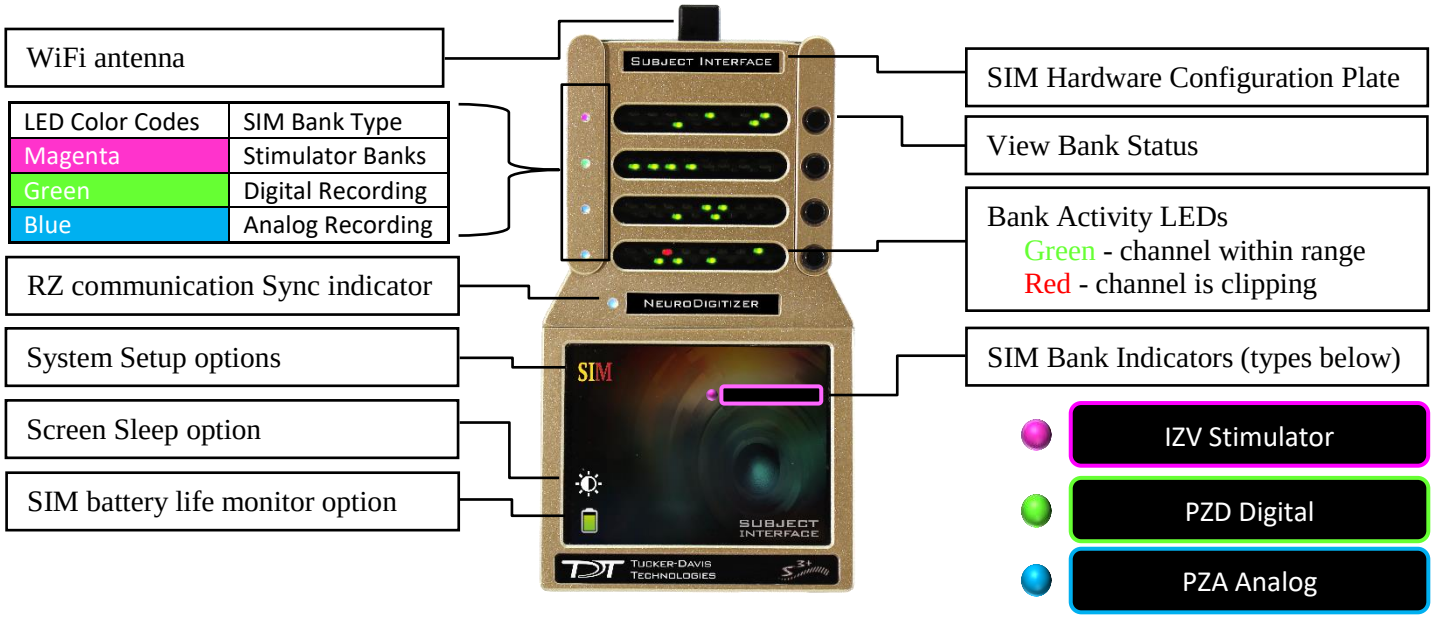
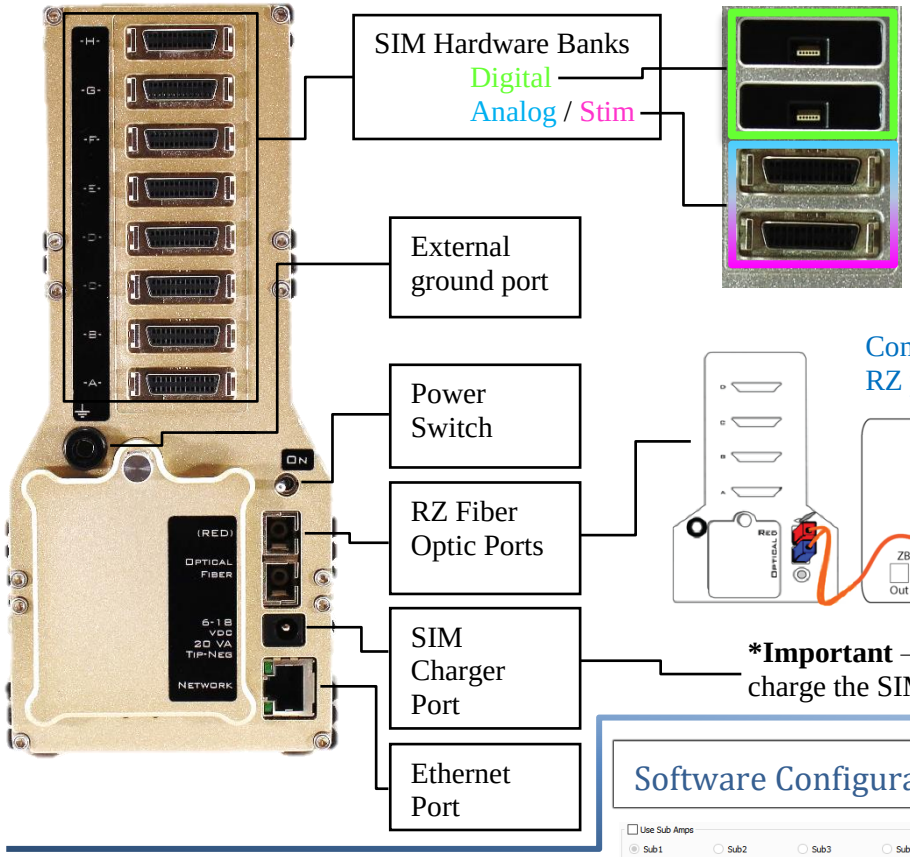
Fast Facts

The Subject Interface Module (SIM)

This fast fact sheet provides basic information for the SIM. See the System 3 Manual and Synapse Manual for more



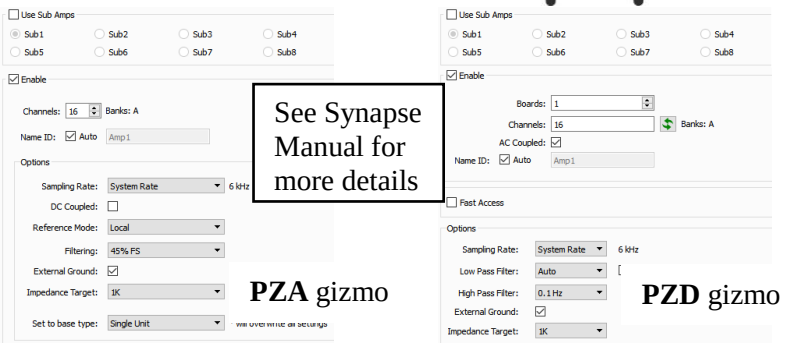


About SIM Banks – Analog recording and stimulation are organized into 16-channel banks. Digital recording banks can handle up to 128 channels each. Each bank is electrically isolated, so ground and reference channels are not inherently shared. Banks can be grouped into logical amplifiers to achieve shared GND or REF

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

***Important** – To avoid added electrical noise, do not charge the SIM during recording or stimulation

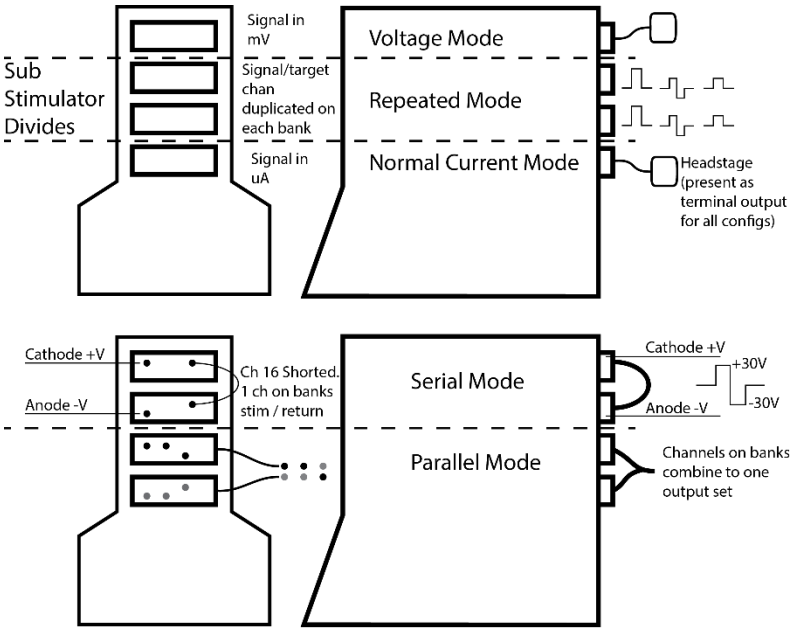
Software Configuration



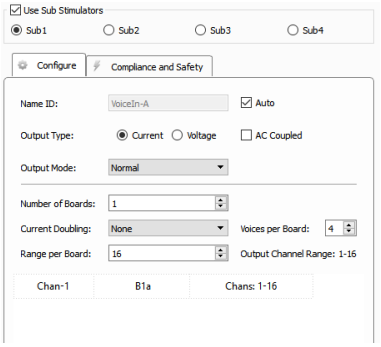
***Important** – Software configurations are intimately tied to the hardware setup of the device. SIM Sub Modules (IZV, PZD, PZA) will get **detected** in **Rig Editor** (menu → Edit Rig → Detect) of Synapse and gizmo options can be used accordingly.

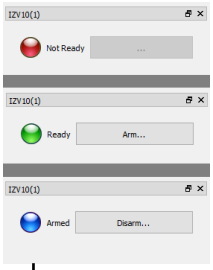
IZV **PZD** **PZA**

Stimulation Hardware/ Software Configurations

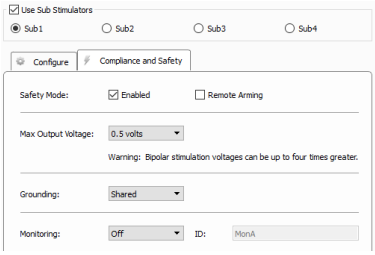


SIM Stimulator/ Output Configurations for Normal, Repeated, Serial, and Parallel Mode. Serial and Parallel mode require special harnessing to achieve output.





***Important** – Use Remote Arming to force user to arm manually from the touchscreen interface



See Synapse Manual for more details

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 Hz – 0.45*Fs (Fs = Sample Rate) AC Coupled: 0.4 Hz – 0.45*Fs
S/N (typical)	Single-Ended: 104 dB, Fs = 25 kHz, 300 Hz – 7000 Hz Differential: 116 dB, Fs = 750 Hz, 0.4 Hz – 300 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

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