

IZ2 STIMULATOR



This fast facts sheet provides basic reference information for the IZ2 Stimulator and related devices. See the System 3 Manual for more detailed information.

Status Light

- solid red not properly connected to base station or cannot sync
- solid green connected to RZ and operating in current mode
- solid green, slow red flash connected to RZ and operating in voltage mode

Stim Lights

- lit green indicated channel in use as a stimulus output
- lit red indicated channel is clipping (beyond +/- 10 V)

Battery Indicator Lights

- VA Positive Battery Pole
- VB Negative Battery Pole
- VC Logic Battery Level

Battery Status Lights

- 8 green fully charged
- 1 green, 7 unlit low voltage
- 1 flashing red low voltage - charge now!
- 8 green flashing charging in progress

The Stimulator is available with 32(IZ2-32), 64(IZ2-64), or 128(IZ2-128) channels. Power for stimulation is supplied by 200 and 400 Wh battery life (LZ48-200 and LZ48-400) Li-Poly battery packs, both capable of producing the same output voltage/current characteristics. The number of channels needed for stimulation determines power requirements.

Output

- Stimulus Output Voltage +/- 12 V
- Stimulus Output Current +/- 300 μ A up to 50 kOhm load

Power

- IZ2-128 should only be used with the LZ48-400
- IZ2-64 can be used with LZ48-200 or LZ48-400
- IZ2-32 can be used with LZ48-200 or LZ48-400

Programming Notes

Operation of the IZ2 Stimulator system is controlled via an RpvdsEx circuit that runs on the connected RZ base station. TDT recommends using the IZ2_Control macro (pictured below) in your control circuit. This macro simplifies control of stimulator signal outputs and bank monitoring.

Note: The label on the additional fiber optic port on the back of the RZ processor will indicate which DSP is used to control the IZ2. This is typically the last DSP on your RZ base station. The IZ2_Control macro must be assigned to this special DSP.



Selecting Voltage or Current Mode

The IZ2_Control macro should be included in all circuits. The Stimulation Mode setting on the Setup tab of the macro properties dialog box determines whether the IZ2 is configured to output in voltage mode or in current mode.

More Circuit Design for the IZ2

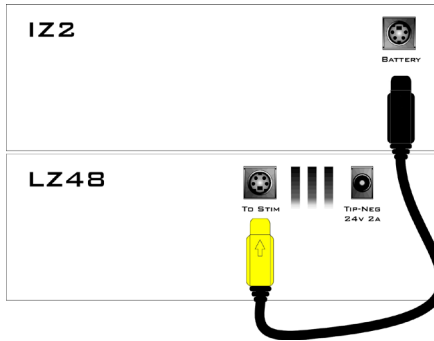
For more information of designing the stimulus circuit, setting multiple channels for stimulation, monitoring the stimulation, and real-time control of voltage/current mode; see the IZ2 Stimulator section of the System 3 Manual.



System Set-up

To connect the stimulator system hardware:

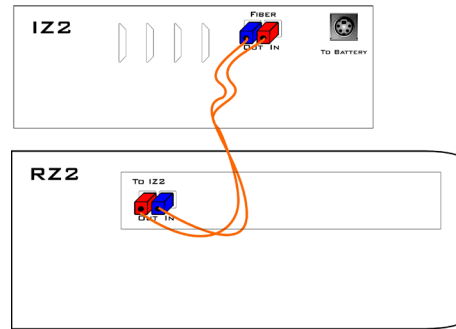
1. Setup and configure the rest of your system.
2. Connect the battery pack cable to the back panel of the stimulator via the connector labeled Battery, as shown in the diagram below.



Important! Make sure pins align with connector.

Warning!: Shorting the battery connection pins can cause damage to the device and injury to the user. Always use caution when handling or connecting the devices.

3. Connect the stimulator to the base station using the provided fiber optic cable.

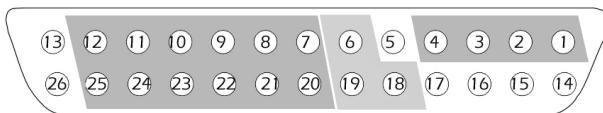


4. Connect the fiber optic cable from the IZ2 fiber optic port labeled Fiber to the fiber optic port labeled To IZ2 on the back side of the RZ. Be sure to note the difference in the two sides of the fiber optic cable connectors and ensure they are inserted with the correct side up.

5. Connect the IZ2's DB26 output connectors to the stimulating electrodes.

Mini-DB26 Connector Pinouts

Stim Outputs



Note: Do not attempt to make any custom connections to pins 6, 18, or 19. These pins are intended for TDT use only.

Pin	Channel	Pin	Channel
1	1	14	Digital Strobe
2	2	15	GND
3	3	16	GND
4	4	17	Digital Data
5	Digital Clock	18	HSD
6	HSD	19	HSD
7	5	20	6
8	7	21	8
9	9	22	10
10	11	23	12
11	13	24	14
12	15	25	16
13	+20 V	26	-20 V

Functional Design of the MicroStimulator System

