



# Implantable Wireless Programmable Dual Channel Neural Stimulation System

For Neuroscience Research Applications

## FEATURES

- Two External TTL Stimulation triggers available on USB Dongle
- Available with 2 channels, independently enabled and programmed
- 90-day package life
- Up to  $\pm 1\text{mA}$  output
- Drives electrodes with up to 20 k $\Omega$  resistance
- Headstage Weight: 8.3 grams
- Communicates data with StimWare® via USB dongle transceiver
- Up to 12 bits of current resolution
- Pulse width as short as 100 $\mu\text{s}$



USB Dongle Transceiver



Inductive powering cage



Implanted headstage



Top View



Side View

Implantable Headstage

## PRODUCT DETAILS

Triangle BioSystems International presents an implantable dual channel neural stimulation system that allows researchers to generate two separately customizable stimulation waveform patterns via a USB dongle transceiver. Alternatively, the two channels can be combined to achieve an even larger voltage differential. The complete system is comprised of an implantable stimulating headstage, inductive powering, a USB dongle transceiver, a silicone electrode connection kit and StimWare® pattern generation software. The StimWare® software interface allows the user direct control over the details of the uploaded stimulation pattern, including three tiers of nested patterns, on/off function and a manual pattern trigger option.

This implantable headstage unit can be implanted in a rat's peritoneal cavity using a minimally invasive surgical procedure. It has a 90-day package life. Additionally, this headstage can be used concurrently with our recording, tethered or multiplexed neural recording headstages.



# Stim Ware

## Pattern Generation Software

For Neuroscience Research Applications

IS-Series

### SOFTWARE FEATURES

In using StimWare™ for the dual channel wireless stimulator system, you are provided precise control over every aspect of your experiments. Just set the details of your signal in our user-friendly interface, then upload the pattern. It's that easy.

System control options include:

- » Initial Delay
- » Single Pulse Current and Duration
- » Train Pattern (Multiple Pulses)
- » Stimulus Pattern (Multiple Trains)
- » Remote Headstage on/off Control
- » Manual Pattern Triggering



### SYSTEM SPECIFICATIONS

PARAMETER	MIN	TYP	MAX	UNITS	NOTES
<b>Power Supply</b>					
Battery Life					
<b>Input Impedance Specs</b>					
8kΩ			±1	mA	Upto 100µs pulse width
80kΩ			±100	µA	Upto 100µs pulse width
1MΩ			±8	µA	Upto 100µs pulse width
<b>Headstage Mechanical Specs</b>					
Length		33		mm	Edge to edge (including connectors)
Width		27		mm	Edge to edge
Height		12		mm	Edge to edge
Weight		8.3		grams	With connector and dipped package
Temperature tolerance			1	degree C	Change of package surface temperature