DSI | Ponemah Digital Isolated Amplifier

Directly connnect and effortlessly collect ECG, EMG, EEG and other biopotentials.

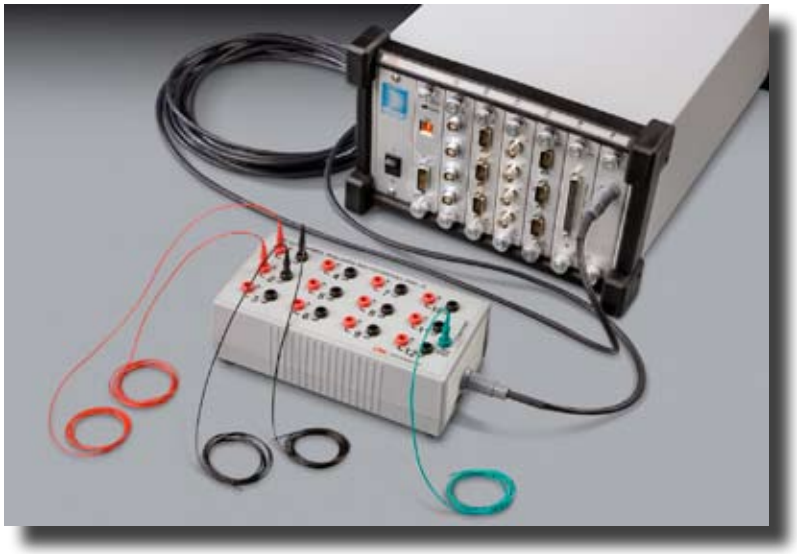
DSI's versatile isolated amplifier is designed to work with the DSI/Ponemah 7700 Series platform, allowing researchers to collect signals from a broad array of sources.

The 7700 platform provides optimal resolution for all applications such as:

- Cardiovascular
- Hemodynamic
- Respiratory
- Isolated Organ
- Central Nervous System

Communication occurs through a digital interface to communicate and update channel settings. Since the 7700 platform offers a digital interface, there is no corruption in the data stream. The channel settings are stored within the software and recalled via the software protocol. This design feature also helps prevent undesired changes to the signal conditioner since no knobs or switches are necessary on the signal conditioner itself, providing a high level of security and traceability. Also, since the settings are saved electronically, signal conditioner information can be recalled and reviewed after the study has been concluded.

The DSI/Ponemah Isolated Amplifier is designed specifically to work with signals from low level input voltages with full scale range from 40µV to 40mV. All channels can be independently configured. Each channel has a programmable eight-pole low pass filter.



Digital communication interface to DSI/Ponemah 7700 Platform.

The total functionality of each channel is controlled through the Ponemah data acquisition and analysis software platform. Combine DSI hardware with industry-leading Ponemah software for a robust, reliable and versatile platform trusted by scientists in physiology, pharmacology and toxicology laboratories worldwide.

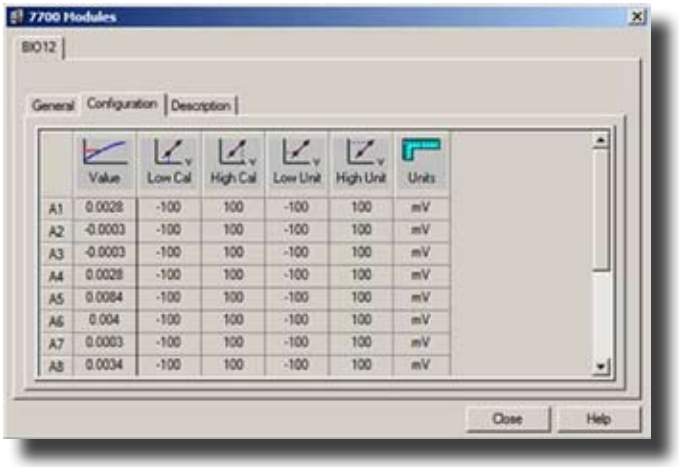
Isolated amplifier from DSI/Ponemah.

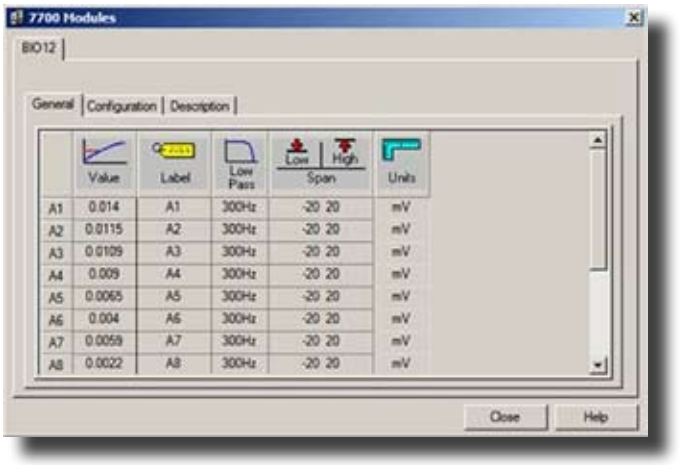
At the core of DSI's hardware platform are the DSI/Ponemah 7700 digital signal conditioners and accessories. A 7700 signal conditioner is a module that plugs into the 7700 chassis which provides power to the signal conditioner as well as provides a communication link to the workstation.

DSI delivers better resolution of data using the latest digital signal processing technology. 7700 signal conditioners filter data, eliminating inaccuracies and signal offsets—preventing issues that often arise from analog components. Each signal conditioner is designed for a specific application(s) and ranges in channel count from 3-32 channels per module making it a more cost effective choice for users.

Additional Features of the Isolated Amplifier

- Industry standard 1.5mm jacks
- Long link cable to the 7700 chassis allows the pod to be placed next to the subject
- Ponemah data can be read and processed by DSI Neuroscore software for advanced frequency analysis
- 12 differential pairs for collection of bio-potentials
- Ponemah software allows each channel to have independent spans and ranges allowing many types of signals to be collected at one time.





Specifications

Input Circuit (typical of each channel)

- Differential isolated balanced to ground
- Greater than 10MΩ each input to common at DC
- Maximum input ±30VDC
- Leakage < 10uA at 265 VRMS

Measurement Range

Linear Range: 40µV to 40mV full scale

Signal Conditioner Output

- A/D Converter: 16 BITS
- Sample Rate: 20kHz per channel maximum

12 Bio-potential Pod Accuracies

Filters:

- Selectable: 100Hz, 300Hz or 1000Hz Low pass.
- Eight-pole DSP based Bessel settings of: 100Hz, and 300Hz in conjunction with a hardware implemented five-pole Bessel filter at 1000Hz.
- Non-selectable: .05Hz High Pass (hardware implemented).
- Optional software filtering within Ponemah.

Common Mode: Less than -90dB

Crosstalk: Less than -60dB (measured at 36mVpk-pk 10 Hz with all channels set to same gain range)

Linearity: ±0.5% of full scale

Noise: Less than 20 uV pk-pk

Gain Error: Less than ±0.5% full scale

Zero Drift type: 0.01% of full scale per degree C

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