Guide to DSI's

-- Hardwired Amplification Digital Signal Conditioners and Accessories





Better signals mean better data

The 7700 Platform has a unique sampling mechanism employing a combination of sampling rate and span to provide optimal resolution for many applications:

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

DSI's 7700 digital signal conditioners and accessories accelerate your research by delivering better resolution of data using the latest Digital Signal Processors. Our signal conditioners filter the data, eliminating inaccuracies and signal offsets, preventing issues that often arise from analog components.

By using the 7700 Platform with Ponemah Analysis Software you achieve stable, accurate and robust data acquisition and analysis routinely performed in physiology, pharmacology and toxicology laboratories.

DSI 7700 State-of-the-Art Digital Technology offers:

- Easy Graphical User Interface (GUI) setup
- 16 bit resolution
- Less noise, less drift, better stability
- Universal input for multiple physiological signals
- Low cost per channel
- Compact design with flexible application-specific signal conditioner modules available
 (2, 6, and 13 slot chassis available)
- Synchronization of your hardwired data directly with DSI implanatable telemetry data
- CFR21 Part 11 compliance all data and changes saved in a configuration file and audit log
- USB interface to workstation



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Model	13-7715-59 Universal XE
Description	All-purpose or "Universal" input for physiological signals. Handles a wide variety of signals such as biopotential signals, pulmonary pressure and flow signals, blood pressure and flow signals, temperature signals, isolated tissue and a variety of pressure or tension measurement.
# Channels	4
Type of Coupling	AC/DC/Gnd
Maximum Rate	100K Samples/Second per channel
Excitation Voltage	2.5, 5, 7.5VDC ±1%, and 10VDC ±5% @ 15mA, OFF
Digitizer	Per Channel
Options/Accessories	Three lead ECG cable and assorted lead wires; YSI 700 Series temperature probe; Isolated / Defibrillation protected ECG Probe, General Purpose Probe; BD Medical P23, and disposable pressure transducers; Headstage amplifiers and a variety of other transducers, equipment and cabling.
Signal Characteristics	
Input Impedance	10M Ohm
Range	Bipolar: ±25µV to ±5V Full Scale. Unipolar: 0-50μV to 0-5V Full Scale
Maximum Input (Max without damage)	±20VDC or AC Peak
Analog Bandwidth	DC-5KHz
Input Suppression	
Zero Suppression	Span ±5V - ±200mV: ±5V Span ±200mV - ±0.2mV: ±0.5V Less than 0.2mV: ±0.05V
Programmable Filters	
Low Pass	Selectable settings of: 10, 30, 100, 300, 1000, 3000, 5000Hz, and OFF
High Pass	Single-pole Bessel with selectable settings of: DC, 0.05, 0.1, 1.0, 3.0, 30, and 100Hz
Accuracy Specifications	
Gain Accuracy, % of FS	<±0.5% in mV range
Offset Accuracy, % of FS	<±0.4% in mV range at FS
Linearity, % of FS	
Noise % of FS	<10µV Typical with 1kHz filter at Max Gain
Common Mode Voltage	±5V
Common Mode Rejection	>60dB
Crosstalk (60Hz)	<80dB

^{*}BNC Interfaces are offered for 4 or 32 high level analog signals For further flexibility, DSI also offers an assortment of Cable Kits









13-7715-70 Digital Communication Module

Designed specifically for use with the Validyne DP-45 and DP-250 Differential Pressure Transducers for accurate pulmonary pressure, volume and flow measurements.

Validyne DP45 and DP250 series

Differential Pressure Transducers.

>10M Ohm

<45dB

Up to 32 input channels available with the ability to select uni-polar, bi-polar, single-ended or differential measurements.

*Cable kits offered

Standard laboratory BNC connections easily allow high level signals to be brought into Ponemah for association with other signals.

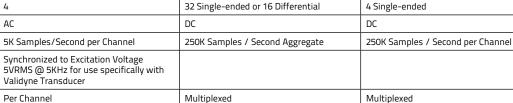
*Cable kits offered

100K Ohm

>80dB

<60dB

Provides a communication link with the external BIO12 POD and the Multi-Lead ECG POD. Delivers an ECG sync pulse using standard TTL logic when used with the Multi-Lead ECG POD.



Input terminal box with BNCs for

100K Ohm

connection to most laboratory equipment.

BNC cable kits for connection to most laboratory equipment.



13-7770-BIO12 12 Channel Isolated Biopotential Pod

Satisfy a wide variety of biopotential applications including Langendorff preparations, isolated heart preparations and open-chested models where electrograms or other biopotentials are monitored.

- 12 differential pairs
- Input Range: 40uV to 40mV Full Scale
- Input Impedance: >10M Ohm



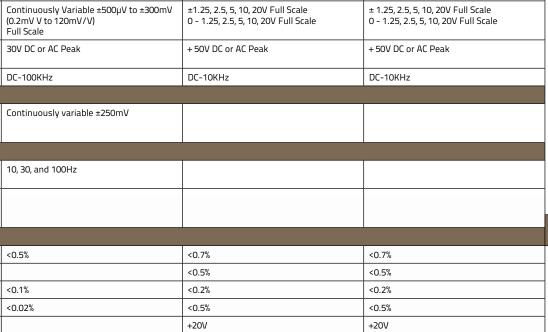
 Low Pass filter settings: 100, 300, 1,000Hz High Pass filter fixed at: 0.05Hz
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13-7770-ECG12 Multi-Lead **ECG Pod**

Accurately conditions up to twelve simultaneous surface ECG leads using a standard industry 10-lead cable with various attachments.

- ECG presentations: Lead I, II, III,
- aVR, aVL, aVF, 6V-leads
- Selectable high fidelity filtering from 0.05 500Hz
- Patient isolation
- Defibrillation protected with baseline reset
- Leads off detection
- TTL output for QRS pulse to trigger external equipment



generated from existing laboratory equipment into the data acquisition system. to connect most laboratory equipment.

>80dB

<60dB

Hardwired Amplification Accessories

Hardwired Sensors



Sensors available for blood pressure, differential pressure, force, biopotential, and temperature measurements.



ACQ-7700

The ACQ-7700 2-Slot Acquisition Interface is a low cost solution designed specifically to interface to the Ponemah Physiology Platform. The modular design allows the user to easily expand the number of available acquisition channels to a maximum of 64, through the installation of 7700 series signal conditioner modules.

The smaller, portable, and rugged chassis is perfect for laboratories that conduct acute studies using a few test subjects at a time. When combined with the Multi-Lead ECG POD, a 10-lead patient ECG cable, and the Digital Communication Module (DCOM), researchers have a portable ECG System capable of conditioning up to 12 simultaneous surface ECG leads (Lead I, II, III, aVR, aVL, aVF, and 6 V leads).

To learn more about DSI's hardware amplification digital signal conditioners and accessories please contact our North American, European or Asia Pacific sales representatives.

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