

# Digidata 1550 Digitizer

## Molecular Devices



### Low-Noise Data Acquisition System for Electrophysiology

The Axon Digidata System is the most widely used for a wide variety of electrophysiology recordings including single-channel recordings, whole-cell voltage- and current-clamp recordings, intracellular sharp electrode recordings, extracellular field potential recordings in ion channel, neuroscience, nanopore, voltammetry studies in laboratories worldwide. The Digidata 1550 Digitizer further extends the precision and quality of the existing Axon Digitizer platform with enhanced performance in command voltage output control and sampling rate. It enables the recording of up to 8 cells simultaneously to study the function of neuronal networks in your neuroscience research. It also achieves high-resolution data acquisition by capturing more data points in less time in your ion channel research.

#### Features:

- 8 analog input channels to digitize acquired signals up to 500 kHz independently
- 8 analog output channels to send command voltage output independently
- 8 digital out channels to control the periphery equipment used in sophisticated experiments
- Independent analog-to-digital converters for each input channel ensure low crosstalk levels and high data acquisition rates.
- USB 2.0 connection allows operation on virtually any current PC computer running Microsoft Windows 7 (32-bit or 64-bit) Operating System, including laptops.
- 16-bit resolution data
- State-of-the-art signal-to-noise ratio
- All signal connectors on the front panel for ease of access and maintenance of the electrophysiology set-up
- Rack-mount case for tidy installation of all components in the electrophysiology set-up
- User guide written by scientific consultants, with the assistance of Axon Instruments staff, for straightforward start-up and as an in-depth referenc

#### Specifications

Analog Inputs	
Number of input channels	8 single-ended
Number of ADCs	8
Sampling rates	1 Hz - 500 kHz; Maximum aggregate throughput rate is 500 kHz x 8 input channels = 4 Megasamples/s

Resolution	16-bit
Input range	-10.000 V to +10.000 V
Input resistance	>1 MΩ
Gain value	1
<b>Analog Outputs</b>	
Number of channels	8
Number of DACs	8
Sampling rates	1 Hz - 500 kHz
Resolution	16-bit
Output range	-10.000 V to +10.000 V
Output impedance	< 0.5 Ω
Output short circuit to signal ground	25 mA
<b>Digital Outputs</b>	
Number of bits	8 (of 16) supported in software
SCOPE	Dedicated trigger output
Output driver	Advanced CMOS (AC) compatible
Output current	4 mA source, cable
Type	USB 2.0 braided
Length	3 meters
<b>Trigger Inputs</b>	
Input type	TTL compatible
TAG	Rising-edge sensitive
START	Rising-edge sensitive

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