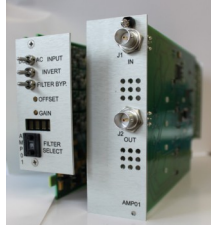




APOGEE LABS

2500-AMP01

AMPLIFIER MODULE with LOW PASS FILTERS and INVERTER



FEATURES

- Single BNC input with 75 Ω termination
- Single BNC output with 75 Ω drive capability
- Accepts analog or digital signals
- Switch selectable AC or DC coupling
- Independent offset and gain controls
- Switch selectable inversion
- Short circuit protection
- Filter bypass mode
- 16 selectable Low-Pass filters

OVERVIEW

The Apogee Labs 2500-AMP01 is a high performance module for amplifying Analog or Digital signals. The 2500-AMP01 accepts one (1) analog or digital signal with amplitudes from 100mVp-p to 5Vp-p. This module will support a maximum range of -5V to +5V with a maximum input without damage range of +/- 15V. Input termination is fixed at 75 Ω with coupling and inversion selectable via toggle switches.

The 2500-AMP01 provides a single BNC output capable of driving 75 Ω with short circuit protection. The output is DC coupled and has a maximum 5Vp-p level with a range of -2.5V to +2.5V. The Frequency Response is 1 KHz to 5 MHz (+/- 0.5dB) and 1 kHz to 10 MHz (+/- 3dB). Also included with the 2500-AMP01 are 5-pole Bessel type Low Pass Filters which support the following frequencies: 1KHz, 10KHz, 100KHz, 200KHz, 300KHz, 400KHz, 500KHz, 600KHz, 700KHz, 800KHz, 900KHz, 1.0MHz, 1.1MHz, 1.2MHz, 1.3MHz and 1.4Mhz. These filters are field changeable to different cutoff values, two filters per module.

The 2500-AMP01 requires two (2) slots in the AL2500 chassis. Offset and Gain control are accomplished with front panel potentiometers while coupling and inversion and filter bypass are done via toggle switch. Finally, filter selection is done using a 16 position pushbutton switch. A 4 digit DOT MATRIX display is provided to display the currently selected filter.

SPECIFICATIONS

INPUT

- One (1) input on BNC connector
- Analog or Digital input
- 75 Ω termination
- Switch selectable coupling
- Amplitude: 100mVp-p to 5Vp-p
- Max Range: -5V to +5V
- Max Input without damage: +/-15V

OUTPUT

- One (1) output on BNC connector
- 75 Ω drive capability; AC coupled
- Max output: 10Vp-p
- Max output range: -2.5V to +2.5V
- Frequency Response: 1kHz to 5Mhz (+/- 0.5 dB; 1kHz to 10Mhz (+/- 3dB)
- Short circuit protection

GENERAL

- 5 pole Bessel Type Low Pass
- Frequencies supported: 1kHz, 10kHz; 100kHz, 200kHz, 300kHz, 400kHz, 500kHz, 600kHz, 700kHz, 800kHz, 900kHz, 1.0MHz, 1.1MHz, 1.2Mhz, 1.3MHz, 1.4Mhz
- Field changeable to different cutoff values
- Requires two (2) chassis slots

ENVIRONMENT

- Operating temperature: 0 $^{\circ}$ C to +55 $^{\circ}$ C
- Storage temperature: -40 $^{\circ}$ C to +70 $^{\circ}$ C
- Humidity: up to 95% non-condensing

APPLICATION INFORMATION

The AMP01 is a selectable low pass filter module. Some applications include:

- Anti-aliasing - Removing the noise associated with distortion or artifact that results when the signal reconstructed from samples is different from the original continuous signal.
- Suppressing interference in telemetry communication systems at selectable frequencies such as FM-FM discriminators.