

Phillips Scientific

16 Channel Variable Gain Amplifier

NIM
MODEL

778

FEATURES

- * Wideband - DC to 200 MHz
- * Variable Gains from 2 to 50
- * Low Noise Performance
- * Excellent DC and Gain Stability
- * 16 Channels in a Single Width NIM
- * Inputs and Outputs Protected

DESCRIPTION

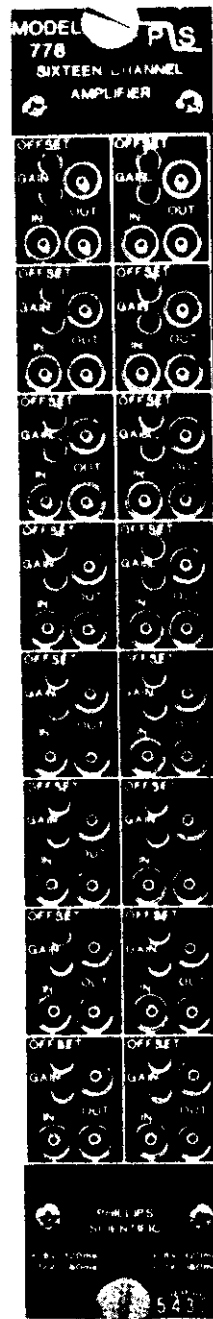
The Model 778 is a high performance, variable gain preamplifier with 16 channels in a single width NIM module. It is designed to directly operate with detectors producing negative output pulses from DC to over 200 MHz. Each channel has a front panel adjustment providing non-inverting gains from two to fifty and furnishing two outputs, each capable of driving 50 ohm loads.

INPUT CHARACTERISTICS

- Impedance : 50 ohms $\pm 2\%$, reflections less than $\pm 4\%$ for 2 nSec input risetimes.
- Protection : No damage to the input stage will result from transients of ± 100 Volts (± 2 amps) for 1 μ Sec or less duration.
- Wideband Noise : Less than 25 μ Volts RMS, referred to the input.
- Input Offset Voltage : Less than ± 300 μ Volts.
- Overdrive Recovery Time : Less than 15 nSec for a 1 Volt input.

OUTPUT CHARACTERISTICS

- Type : Two bridged; Voltage source output stage, each output capable of driving a 50 ohm load.
- Output Voltage Swing : Greater than -3 Volts across 25 ohm load. +.5 Volts across 50 ohm load. +.25 Volts across 25 ohm load.
- Output Protection : Outputs can be continuously shorted to ground without suffering damage.
- Offset Voltage : A front panel 15-turn potentiometer allows control of ± 10 mVolt referred to the input to compensate for offsets due to ground drops or source impedances other than 50 ohms.



GENERAL CHARACTERISTICS

Gain	:	Variable from 2 to 50, non-inverting.			
Stability	:	$\pm 10 \mu\text{Volts}/^\circ\text{C}$, referred to the input.			
Linearity	:	$\pm .15\%$ to -3 Volts, DC to 100 MHz.			
Bandwidth	:	DC to 200 MHz minimum, 3 db point.			
Risetime	:	Less than 1.8 nSec.			
Crosstalk	:	Greater than 60 db, DC to 100 MHz.			
Input/Output Delay	:	Typically 4.5 nSec.			
Power Supply Requirements	:	* +6 V @ 320 mA	+12 V @ 150 mA	+24	@ 85 mA
		* -6 V @ 320 mA	-12 V @ 150 mA	-24	@ 85 mA

* $\pm 6 \text{ V}$ requires more current than NIM standard. Phillips Scientific Model 102 NIM Power Supply is recommended for a full bin of 12 modules.