

Phillips Scientific

Quad/Octal Fast Risetime Amplifier

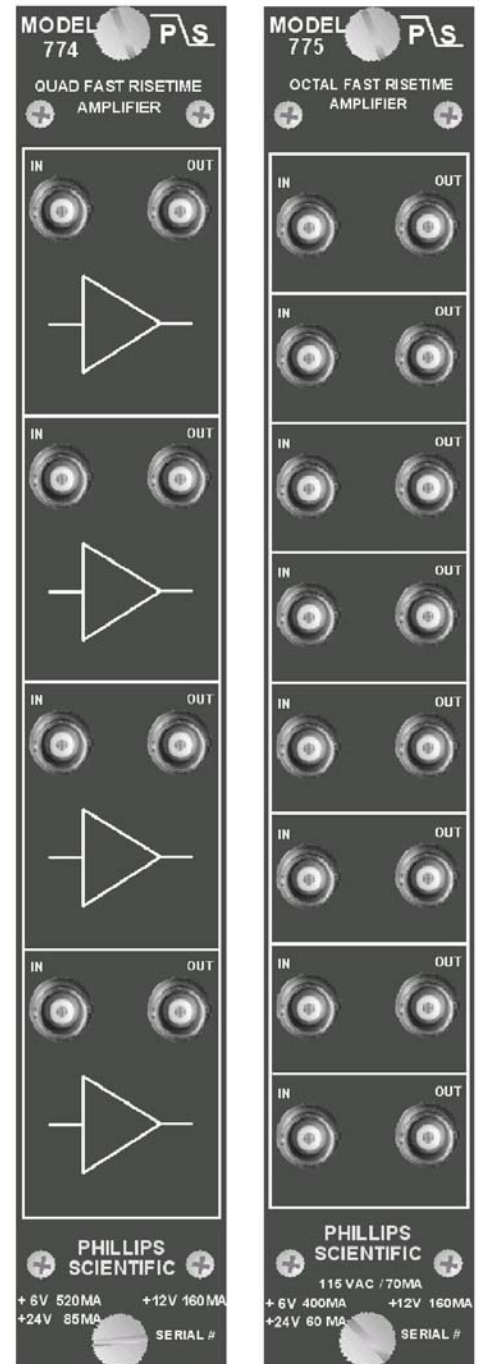
NIM MODEL 774 775

FEATURES

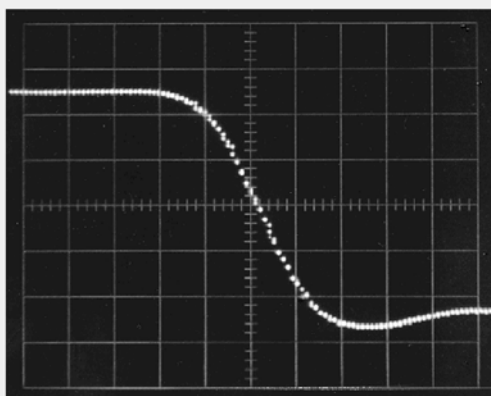
- * Ideal for Fast Solid State and Channel Plate Detectors
- * 774 Quad Preamplifier - Gains 5, 10, 20 or 50
- * 775 Octal Preamplifier - Gains 5, 10, 20 or 50
- * Wideband Performance - 100 KHz to 1.8 GHz
- * Bipolar Operation
- * Low Pulse Distortion
- * Low Noise Performance

DESCRIPTION

The model 774/775 is a fast risetime, bipolar preamplifier intended for use with fast Solid State and Channel Plate Detectors. The model 774 has four channels with standard fixed voltage gains of 5, 10, 20 or 50 available. The model 775 has eight channels with fixed gains of 5, 10, 20 or 50. Both models are packaged in a single width NIM module, and both models are bipolar, capable of amplifying positive or negative signals making them useful for most detector types or beam pick-off schemes. The amplifier design exhibits low distortion and excellent stability. However, unused channels should be terminated to guarantee stability. The inputs are 50 ohm impedance, and the outputs are designed to operate into a 50 ohm load. Both the inputs and outputs are protected for reliable operation. Cascading of channels makes it possible to achieve gains as high as 400, but not recommended for units with individual amplifier gains above 20.



NEGATIVE STEP RESPONSE



Phillips Scientific

"A THEORY DEVELOPMENT COMPANY"

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SPECIFICATION

Input : One per channel; AC Coupled, Impedance 50 ohms; Input protected with back to back diodes. Unused inputs should be 50 ohm terminated for optimal performance..

Output : One; AC Coupled, Drives ± 2 Volts across single 50 ohm load. Unused outputs should be 50 ohm terminated for optimal performance

Voltage Gain :	5 or 10	20 or 50
Bandwidth (3db) :	100 KHz to 1.8 GHz	100 KHz to 1.5 GHz
Risetime :	180 pSec	220 pSec
Insertion Delay :	Typically 1.0 nSec	Typically 1.5 nSec

Wideband Noise : Less than 40 μ Volts RMS referred to input, for gains of 10. Less than 70 μ Volts RMS for gains of 5, 20 and 50.

Power Supply Requirements :	<u>774 Gains 5 or 10</u>	<u>774 Gains 20 or 50</u>
	+ 6 V @ 380 mA +12 V @ 100 mA	+ 6 V @ 520 mA + 12 V @ 160 mA
	<u>775 Gains 5 or 10</u>	<u>775 Gains 20 or 50</u>
	+ 6 V @ 400 mA +12 V @ 130 mA	+ 6 V @ 400 mA +12 V @ 160 mA 110 VAC @ 40 mA

* **Note:** For this configuration +6 Volts exceeds power supply current for a single width NIM module. When a full bin of twelve modules is required, a high powered NIM power supply is recommended.

Operating Temp. : 0 °C to 60 °C ambient.

Connector Type : SMA female or BNC female. (Specify when ordering)

Packaging : Standard single width NIM module in accordance with TID-20893 and Section ND-524.

Ordering Information : Please specify **Model**, **Connector** and **Gain** type when ordering.
(e.g., Part Number **774 - S - 20**)

Model: **774** or 775.

Connector: **S**MA, (B for BNC).

Voltage Gain: 5, 10, **20**, 50.

11/09