



## LINEAR AND AMPLIFIER PRODUCTS, NIM AND SINGLE-CHANNEL UNITS

Model	Function	Rate MHz	# Of Chan	Voltage Gain	RMS Noise (Typ.)	# & Type Of Outputs	Special Features
740	LINEAR LOGIC FAN IN/OUT	DC to 250	4	1	400 $\mu$ V	6 Outputs 4 Non-Inv 2 Inverting	Linear summation of inputs
		Allows linear summing in nanoseconds of levels and pulses for easy formation of complex analog triggers.					
744	LINEAR GATE FAN IN/OUT	DC to 250	4	1	500 $\mu$ V	6 Outputs 4 Non-Inv 2 Inverting	Gated linear summation of inputs
		Four independent fast analog switches with linear fan in/out. Ideal for fast analog mux/demux analog gating.					
748	LINEAR/LOGIC FAN OUT	DC to 250	8	1	250 $\mu$ V	4 Non-Inv	$\pm$ 250 mV offset
		Analog fan out for fast detector signal to simultaneously drive discriminators, A/D converters, transient recorders & other data acquisition systems.					
770	FIXED GAIN AMPLIFIER	DC to 300	4	10	25 $\mu$ V	2 Bridged Non-Inv	$\pm$ 250 mV Offset
772		8					
Fast, low cost amplifier block. Channels can be cascaded for gains in excess of 500							
771	VARIABLE GAIN AMPLIFIER	DC to 300	4	1 to 10	Gain 10: 25 $\mu$ V Gain 1: 250 $\mu$ V	1 Output Non-Inv	$\pm$ 250 mV Offset
		General purpose fast pulse or CW amplifier. Ten position switch selects gains 1 to 10 with full bandwidth.					
774	PULSE AMPLIFIER	100 KHz to 1.8 GHz	4	Gain 5 or 10	40 $\mu$ V	1 Linear	Non-Inverting
				20, 50, 100			
775	PULSE AMPLIFIER	100 KHz to 1.8 GHz	8	Gain 5 or 10	40 $\mu$ V	1 Linear	Non-Inverting
				Gain 20 or 50			
776	PHOTO-MULTIPLIER PREAMP	DC to 275	16	Fixed 10	25 $\mu$ V	2 Non-Inv	Internal Offset ADJ.
777	VARIABLE GAIN PREAMP	DC to 200	8	Continuous 2 to 50	Gain 50: 25 $\mu$ V Gain 2: 100 $\mu$ V	2 Non-Inv	Front-Panel Offset ADJ.
					High performance octal photomultiplier preamp with adjustable gain. DC offset control via front panel.		
778	Sixteen Channel Version of the Model 777 in Single Width NIM; (See Model 777 specifications above).						
779	Thirty-two Channel Version of the Model 776 in Single Width NIM; (Same performance as Model 776 above)						
6931	DC-100 MHz Single Channel Bipolar Amplifier; 100X Voltage Gain. Noise less than 10 $\mu$ V RMS.						
6950	DC-300 MHz Single-Channel Bipolar Amplifier; 10X Voltage Gain, (See Model 770 for specs.)						
6954	100 KHz to 1.8 GHz Bipolar Preamplifier. Single Channel version of Model 774. Available with BNC or SMA connectors.						Gain 5 or 10
							Gain 20, 50, or 100
6955	20 MHz to 700 MHz Timing/Charge Pick-Off Preamplifier. Available with BNC or SMA connectors.						Gain 5 or 10
							Gain 20, 50, or 100
5010	Rotary Step Attenuator Variable from 0.1 to 1.0. Range DC to 1 GHz. Choice of LEMO or BNC connectors.					Single Channel	
804	Rotary Step Attenuator variable from 0.1 to 1.0. Range DC to 1 GHz. Choice of LEMO or BNC connectors.					Four Channel NIM	

### PRODUCT WARRANTY

All units manufactured by Phillips Scientific are guaranteed to be free from defects in materials and workmanship and to meet performance specifications for a period of one year from the date of shipment.

### CUSTOMER SERVICE

Phillips Scientific is committed to providing our customers with quality products, service, support and competitive prices. For additional information on these products or to learn more about modifications available to these products, contact us to discuss your exact requirements. We look forward to working with you.

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## DISCRIMINATORS, NIM AND SINGLE-CHANNEL UNITS

Model	Function	Rate MHz	# Of Chan	Variable Threshold	Variable Output Width	Updating Outputs	# & Type Of Outputs	Special Features
704	LEADING EDGE DISCRIMINATOR	300	4	-10mV to -1V	2nS to 50nS	Yes	6 Outputs 2 Pairs Bridged 2 Complement	Veto
		The fastest discriminator available. Ideal for fast solid state and microchannel plate detectors.						
705	LEADING EDGE DISCRIMINATOR	75	8	-10mV to -1V	6nS to 150nS	No	3 Outputs 1 Pair Bridged 1 Complement	Linear Summed Output
		A low cost, high performance discriminator without sacrificing features such as veto and linear summing.						
706	LEADING EDGE DISCRIMINATOR	100	16	-10mV to -1V	5nS to 150nS	No	2 Outputs 1 Pair Bridged	Fast Veto
		The only 16 channel discriminator available in a single-width NIM.						
708	LEADING EDGE DISCRIMINATOR	300	8	-10mV to -1V	2nS to 50nS	Yes	3 Outputs 1 Pair Bridged 1 Complement	Fast Veto
		Only Phillips Scientific offers this high rate performance octal 300 MHz discriminator.						
710	LEADING EDGE DISCRIMINATOR	150	8	-10mV to -1V	4nS to 150nS	Yes	1 Pair Bridged 1 Normal NIM 1 Complement	Linear Summed Output
		Versatile octal discriminator with four outputs per channel, individual thresholds and output width controls with veto & linear summed output.						
711	LEADING EDGE DISCRIMINATOR	150	6	-10mV to -1V	4nS to 1 µS	Yes	5 Outputs 2 Pairs Bridged 1 Complement	Burst Guard Mode
		General purpose discriminator, outputs to 1 µsec and features time-over-threshold operation.						
715	CONSTANT-FRACTION TIMING DISCRIMINATOR	100	5	-25mV to -1V	5nS to 150nS	No	3 Outputs 2 Normal NIM 1 Complement	Constant Fraction Timing
		Low cost five-channel timing discriminator with non-updating outputs, which insure accurate counting and time measurements to over 100 MHz.						
730	DE WINDOW DISCRIMINATOR	100	5	LLT = -10mV -1V ULT = -25mV -1V	5nS to 150nS	No	3 Outputs 2 Normal NIM 1 Complement	Leading Edge DE Window ARC Modes
		Five fast SCA's in a single-width NIM. Ideal for making prompt energy cuts for fast triggers.						
6816	16-Channel Amplifier/Discriminator Card, ECL Outputs. Drift Chamber/MWPC or Multi-anode MCP Front-End.							
6904	Single Channel 300 MHz Discriminator; (See Model 704 specs.)							
6908	Single Channel 300 MHz Amplifier/Discriminator; Similar to Model 6904 with -1mV to -100 mV Threshold.							
6915	Single Channel Constant-Fraction Timing Discriminator; (See Model 715 specs.)							
6930	Single-Channel Analyzer/Window Discriminator; (See Model 730 specs.)							

## NIM LOGIC UNITS

Model	Function	Rate MHz	# Of Chan	Logic Threshold	Variable Output Widths	Updating Outputs	# & Type Of Outputs	Special Features
726	LEVEL TRANSLATOR	150	16	NIM, TTL, ECL	Output = Input	No	1 TTL 1 Pair Bridged 1 DIFF ECL	Logical "OR"
752	TWO INPUT AND/OR LOGIC	150	4	NIM -500 mV	4nS to 1 µS	Yes	6 Outputs 2 Pairs Bridged 2 Complement	Common Veto
754	FOUR INPUT MAJORITY LOGIC	300	4	NIM -500 mV	2nS to 50nS	Yes	5 Outputs 2 Pairs Bridged 1 Complement	Veto/Chan Logic Fan-IN/OUT
755	FOUR INPUT MAJORITY LOGIC	150	4	NIM -500 mV	4nS to 1 µS	Yes	5 Outputs 2 Pairs Bridged 1 Complement	Veto/Chan Logic Fan-IN/OUT
756	FOUR INPUT MAJORITY LOGIC	<u>300</u> 150	4	NIM -500 mV	<u>Input Overlap Time</u> 4nS - 1 µS	<u>Overlap</u> Yes	5 Outputs 2 Pairs Bridged 1 Complement	Veto/Chan Overlap Outputs & Updating
757	MIXED LOGIC UNIT SWITCH SELECTED	150	8	TTL/NIM -500 mV +1.5 V	Overlap of Inputs	No	6 Outputs 2 Pairs Bridged 2 Complement	LED Set-Up Indication
758	TWO INPUT AND/OR LOGIC	150	8	NIM -500 mV	4nS to 150nS	Yes	3 Outputs 1 Pair Bridged 1 Complement	Common Veto

