



## NIM Model 628 Weighted Fan-In/Fan-Out Provides Octal Summing with Selectable Coefficients

- \* 8 Channels/#1 NIM
- \* Low Noise < 300 uV rms
- \* Fast Risetime <3 nsec
- \* AC Coupled for Simplicity and Economy
- \* Linear Fan In
- \* Linear Fan Out

The Model 628 provides 8 channels of linear fan-in with user-selectable coefficients. Each channel of the Model 628 provides 8 inputs and 2 outputs. The outputs are designed to drive a 50 Ohm cable. The unit features low output noise < 300 uV rms and a wide dynamic range of + 1 00 mV to - 2 V. The unit has been designed to provide economical fan-in of fast analog signals and is particularly useful in fast analog-based high level trigger systems. By proper choice of the input weighting coefficients, the output can be of direct physical significance. e.g., proportional to the transverse momentum. Each channel of the Model 628 provides eight inputs and two outputs via LEMO-type connectors. The input weighting coefficients are user-selected by two socketed resistors located within the module. These are accessed via a side panel. Coefficients are factory set to 1 .

The Model 628 is packaged in a standard NIM #1 module and utilizes sufficiently low power to allow use in a modern NIM power chassis.

### SPECIFICATIONS

NIM Model 628

WEIGHTED FAN-IN/FAN-OUT

#### INPUT PROPERTIES

Inputs: 8 per channel. LEMO-type connectors. Input impedance 50 Ohm +/-1%.

Alternate value may be user selected.

Reflections: < 5% for 1 V input signals of 3 nsec risetime.

Protection: Protected against damage by pulses of up to 100 V and 1 usec durat

Weighting Coefficients: Two socketed resistors per channel, called Rs (in serie 50 Ohm resistor) and R, (parallel) as supplied, R, = 0 Ohm and Rp=Inf.  
50 12

Weighting coefficient:  $50 / (R_s + 50)$

Input impedance:  $((R_s + 50 \text{ Ohm}) R_p) / (R_s + 50 \text{ Ohm} + R_p)$

#### OUTPUT PROPERTIES

Outputs: Two per Channel. Suitable for driving 50 Ohm load. LEMO-type connecto

Outputs ac-coupled via 47 uF capacitor.

Rise and Falltimes: < 3 nsec.

Overshoot: < 1 0 %.

Noise: < 300 uV rms.

Linear Ranges: + 100 mV to - 2 V into 50 Ohm

Linearity: +/-0.5% over the linear range

#### GENERAL

Channels: 8

Packaging: In RF-shielded NIM #1 module (AEC Report #TID-20893); LEMO-type connectors.

Current Requirements: +6V@ 100mA

-6 V @ 55 mA

+ 12 V @ 70 mA

SPECIFICATIONS SUBJECT TO CHANGE

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[Up to a higher level directory](#) || [For more information](#)