

\$3,495

## MODEL 1030

### Four Channel, 100 MHz Amplifier/Attenuator

#### FEATURES

- 4 Independent Channels
- 100 MHz Bandwidth
- Input range programmable from 50 mV to 50 V p-p FS
- $\pm 1/2$  Full Scale programmable offset
- Programmable ac or dc coupling
- 50  $\Omega$  or 1 M $\Omega$  programmable input impedance
- Single Width Module

#### DESCRIPTION

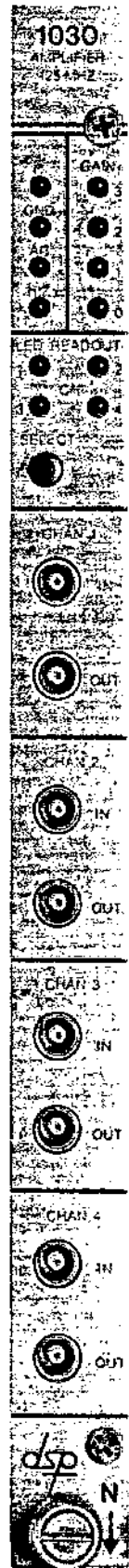
The DSP Technology Model 1030 includes 4 separately programmable, high speed, high quality, instrumentation amplifiers/attenuators. Housed in a single width CAMAC module, the 1030 is designed to compliment transient recorders and other data collection applications where bandwidths approaching 100 MHz are required.

Input sensitivity is individually programmable from  $\pm 25$  mV to  $\pm 25$  V full scale with gains from  $\times 0.01$  to  $\times 10$  in 1-2-5 step sequence. Individual offsets are programmable over the input range to accommodate bipolar and unipolar signals. Each input can be ac or dc coupled and grounded independently, providing maximum flexibility.

Input impedance can be individually selected either 50  $\Omega$  or 1 M $\Omega$  under program control. Recovery from a X2 overload to  $\pm 1$  LSB is within 50 ns.

The output for each channel is  $\pm 250$  mV into 50  $\Omega$ . Noise is less than 2 mV RMS RTO.

~~100x~~ ? 20x



### AMPLIFIER/ATTENUATOR INPUTS

**Channels:** 4 per Model 1030 Amplifier/Attenuator

**Impedance:** 50  $\Omega$  or 1 M $\Omega$  shunted by  $\leq 50$  pf, independently programmable for each channel.

**Sensitivity:**  $\pm 25$  mV to  $\pm 25$  V in 1-2-5 sequence, independently programmable for each channel. Accuracy is  $\pm 1\%$ .

**Coupling:** ac or dc, independently programmable for each channel

**Grounding:** Each signal input can be independently grounded under program control.

**Offset:**  $\pm 1/2$  full scale in 256 steps (8 bit DAC) with  $\pm 1\%$  accuracy. Offset is independent of gain setting and is independently programmable for each channel. The  $\pm 1/2$  full scale offset range accommodates bipolar, positive unipolar and negative unipolar operation.

#### Overvoltage Protection:

1 M $\Omega$  input:  
250 V for 1 V thru  $\pm 25$  V sensitivity  
50 V for  $\pm 25$  mV thru  $\pm 500$  mV sensitivity.

50  $\Omega$  input:  
 $\pm 8$  V

**Overdrive Recovery:** 50 ns to recover to within  $\pm 1$  LSB from  $\times 2$  overload.

### AMPLIFIER/ATTENUATOR OUTPUTS

**Number:** One for each of the four channels

**Impedance:** 50  $\Omega$

**Range:**  $\pm 250$  mV full scale into 50  $\Omega$

**Noise:**  $\leq 2$  mV RMS

#### BANDWIDTH

(for signal amplitudes up to full scale)

dc to  $\geq 100$  MHz (3 dB)

dc to  $\geq 75$  MHz (1 dB)

#### FRONT PANEL

**SELECT** (Channel number select):

A push button switch. The channel whose status is displayed by LEDs increments by one each time the button is pressed.

**LED READOUT** (4 Red LEDs)

Displays the channel selected by the SELECT switch.

**N** (Green LED) Lit indicates module addressed by computer.

**GND** (Red LED) Lit when the selected channel input is grounded.

**AC** (Red LED) Lit when the selected channel input is ac coupled.

**HIZ** (Red LED) Lit when the selected channel input impedance is 1 M $\Omega$

**GAIN** (4 Red LEDs) Lit in binary sequence to indicate the selected channel full scale range.

### PACKAGING

#1 width CAMAC Module

221 mm H, 18 mm W, 292 mm D\* (8.7" x 0.7" x 11.5")

\*Depth from front to rear panel. Rear connector is 13 mm (0.5"). In conformance with the CAMAC standard for RF shielded instrumentation modules (IEEE standard 583, European Esone Report #EUR4100e).

#### POWER

28 W

+ 6 V	2 A
- 6 V	1 A
+ 24 V	200 mA
- 24 V	200 mA

#### TEMPERATURE

0  $^{\circ}$ C to 35  $^{\circ}$ C (32  $^{\circ}$ F to 95  $^{\circ}$ F) ambient to operate within specifications (when installed in crate with enough air flow to hold maximum air exit temperature to 55  $^{\circ}$ C (131  $^{\circ}$ F).

### COMPUTER COMMAND SUMMARY

Function	Read	Write
Channel status (gain, coupling, input impedance, ground state)	F(0)A(0-3 is Ch 1-4)	F(16)A(0-3 is Ch 1-4)
Analog offset setting	F(0)A(4-7 is Ch 1-4)	A(4-7 is Ch 1-4)
Module ID number	F(3)a(0)	--