FREQUENCY DEVICES™, INC.

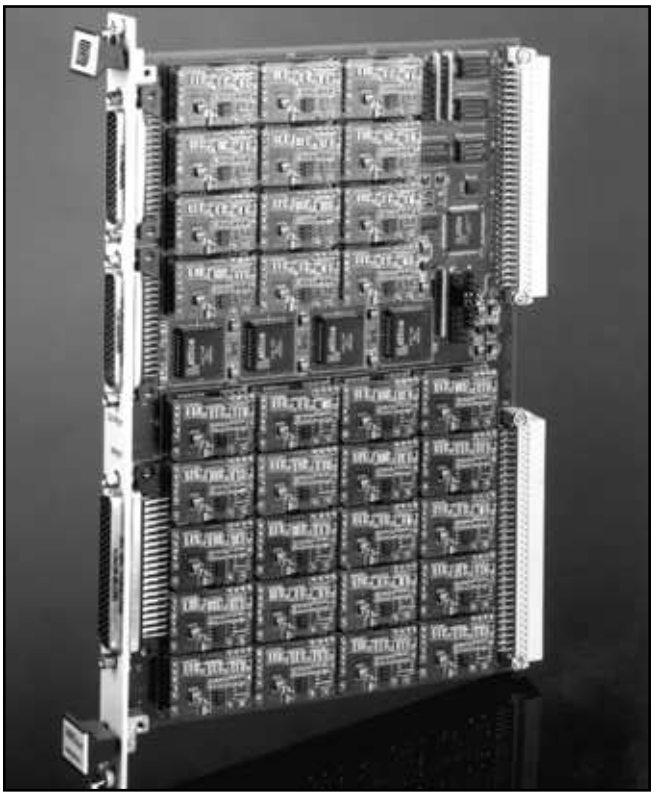
Model VM32PA

Programmable Amplifier VME Board

32 Channel

Description

Frequency Devices' Model VM32PA comprises a family of VMEbus amplifier boards offering software programmable differential amplifiers in a single width B-size (6U) VME form factor. VM32PA boards provide simultaneous access to 32, DC-coupled wideband signals while providing programmable gain from -12dB to +60dB, in 6dB steps for signal bandwidths from 100 Hz to 100 kHz. VM32PA boards may be configured with 8, 16 or 32 channels. The boards conform to VME revision C.1 as an A16/D16 Slave. Available options include AC coupled input and/or differential output.



Features/Benefits:

- Simultaneous access over 32 channels offers a low cost, versatile and convenient way to provide amplification.
- Three active read/write registers provide programming and set-up verification.
- Interchannel cross talk <-100 dB, phase match of 0.2° and gain accuracy of ±0.1 dB at DC provides precision performance solutions to design engineers, system integrators and OEM's.
- High channel count density without sacrificing performance maximizes chassis utilization.

Signal conditioning applications include:

- Sonar, navigation and aerospace
- Engine test and simulation
- Acoustic and vibration analysis
- Satellite and telecommunications
- Laboratory R & D
- Automatic test equipment (ATE)
- Industrial process control

GAIN AMPLIFIER

PGA5-100	-12 dB to +60 dB in 6 dB steps

Ordering Information

Channels
8, 16 or 32

Options
A - AC Coupled
D - Differential Output

VM32PA-8-PGA5-100-D

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Specifications

(@ 25°C and rated Power Input)

Programmable Amplifiers
VME Board

32 CHANNEL VME PROGRAMMABLE AMPLIFIER BOARD

Analog Input	
1. Impedance	1 MΩ//22pF
2. Maximum Input	± 15 V
3. AC Couple (Optional Fixed Freq.)	10 Hz to 1.0 kHz
Analog Output	
4. Impedance	1.0Ω typ., 10Ω max.
5. Linear Operating Range	±5V, Output clamped to ±9 V
6. Channel to Channel Crosstalk	<-100dB @ 1 kHz, <-90dB @ 20 kHz
7. Maximum Current	5.0mA
8. Offset Voltage	2mV RTI, NTE 40mV max.
9. Offset Temp. Coeff., RTI	±(5 +100/G) μV/°C max.
Amplifier Characteristics	
10. Signal Bandwidth (-3dB)	100kHz gain ≥6dB, 500kHz gain <6dB
11. Amplitude Match*	±0.1dB @ DC, linear to ±0.25dB at fc
12. Phase Match*	0.2° typ., 1° max. @ fc
13. Noise Voltage, RTI	20nV/√Hz @ 1 kHz, G=1,000
14. Distortion PGA5, G=1X	-83dB, 1 kHz single ended
@ 1VRMS Output, RL=2kΩ	-86dB, 1 kHz differential
Gain	
15. Gain Programming (G)	0.25X to 1024X in factors of 2:1 32 channels programmed over VMEbus with read-back
16. Gain Accuracy @ DC	±0.1dB max.
VMEbus	
17. Interface	A16/D16, D08 (EO), Slave
18. Registers	Three active R/W registers in 64 byte blocks
Power Supply	
19. From VME Backplane	+5V - 1.0A max. ±12 - 0.7A max.
Environmental	
20. Operating	0°C to +70°C
21. Storage	-25°C to +85°C
22. Humidity	0-95% non-condensing
Mechanical	
23. Card Size	VMEbus 6U single slot 9.17 x 6.3 inches, (233 x 160 mm)
24. No. of Input Channels	32 Differential
25. No. of Output Channels	32 Single Ended, Two groups of 16
26. Differential Output (Optional)	
27. Mating Connectors	Input: Male high density 78-pin D-sub, Quantity 1 Output: Female high density 44-pin D-sub, Quantity 2
28. Weight	1 LB., (454 grams)

* Any two channels set to same gain and loading

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