FREQUENCY DEVICES™, INC.

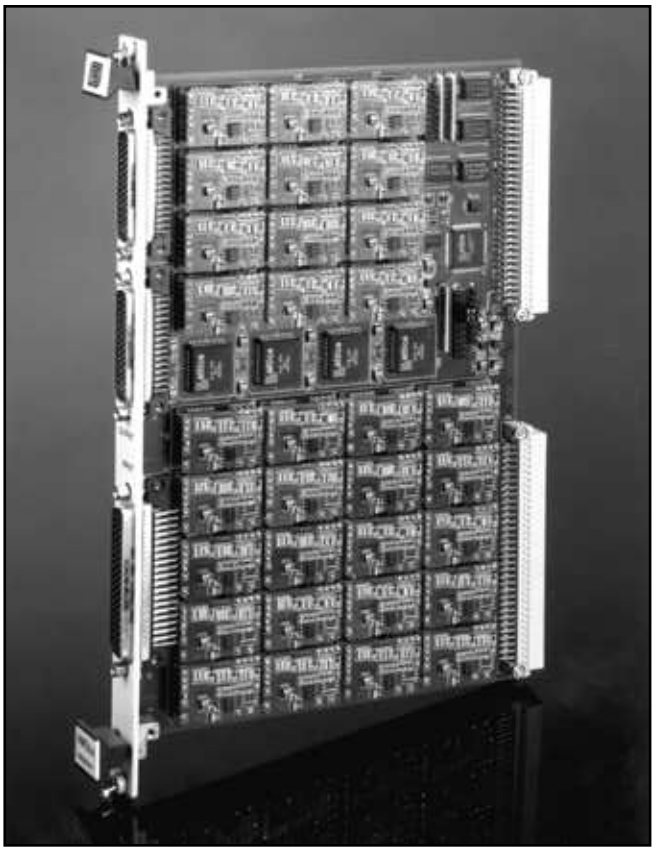
Model VM2.0PAFF

Programmable Amplifiers with Fixed Frequency Filters >100 kHz to 2.0 MHz VME Board

32 Channel

Description

Frequency Devices' Model VM2.0PAFF comprises a family of VMEbus amplifier/filter boards offering software programmable differential amplifiers combined with precision 4-pole Butterworth or Bessel linear analog filters in a single width B-size (6U) VME form factor. VM2.0PAFF boards provide simultaneous access to 32, DC-coupled wideband signals while providing programmable gain from –12dB to +36dB in 6dB steps and fixed frequency filters with corner frequencies from >100 kHz to 2.0 MHz. VM2.0PAFF 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.



Features/Benefits:

- Simultaneous access over 32 channels offers a low cost, versatile and convenient way to provide amplification and filtering.
- Three active read/write registers provide programming and set-up verification.
- Phase match of ±2.0° and gain accuracy of ±0.1dB provides precision performance solutions to design engineers, system integrators and OEM's.
- Four pole Butterworth or Bessel transfer functions with broad range of corner frequencies to meet a wide range of applications
- 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

AMPLIFIER/FILTER OPTIONS

PGAB5-2.0	-12 dB to +36 dB in 6 dB steps Butterworth 4-pole, >100 kHz to 2.0 MHz
PGAL5-2.0	-12 dB to +36 dB in 6 dB steps Bessel 4-pole, >100 kHz to 2.0 MHz

Ordering Information

8, 16, or 32 **Channels**

Optional

A- AC Coupled Input

VM2.0PAFF-32 – PGAL5-2.0-1.75 MHz-A

-3 dB Corner Frequency

e.g.>100kHz to 2.0 MHz

25 Locust St, Haverhill, Massachusetts 01830 • Tel: 800/252-7074, 978/374-0761 • FAX: 978/521-1839
e-mail: sales@freqdev.com • Web Address: http://www.freqdev.com

FREQUENCY DEVICES™, INC.

Model VM2.0PAFF

WIdeband Programmable Gain Amplifier with Fixed Frequency Filter

Specifications

(@ 25°C and rated power Input)

32 CHANNEL VME SIGNAL CONDITIONING BOARD

Analog Input	
1. Impedance	1 MΩ//22 pF
2. Maximum Input	20V pk-pk each leg
3. Linear Input Range	±8V pk
4. AC Couple (Optional Fixed Freq.)	20 Hz to 1.0 kHz
5. CMRR	≥ 50 dB, DC to 100 kHz ≥ 40 dB, DC to 2 MHz
Analog Output	
6. Impendance	1.0Ω typ., 10Ω max.
7. Offset Voltage	25 mV typ., 50 mV max.
8. Linear Operating Range	±4V into 500Ω
9. Offset Temp. Coeff.	±(5 + 100/G) μV/°C max.
Filter Characteristics	
10. Anti-Alias Filtering	Fixed frequency 4-pole low-pass Butterworth or Bessel
11. Cut-off Frequency fc (-3dB)	>100 kHz to 2.0 MHz
12. Amplitude Match*	±0.2 dB @ DC
13. Phase Match*	2.0° max. @ fc
14. Noise Voltage Density, RTI	25nV/√Hz@ 1 kHz
15. Distortion (2 V pk-pk)	≤ -60 dB to 100 kHz ≤ -50 dB, 100 kHz to 2.0 MHz
Gain	
16. Gain Programming (G)	0.25X to 64X in factors of 2:1 (before filtering) 32 channels programmed over VMEbus with read-back
17. Gain Accuracy @ DC	±0.1 dB max.
VMEbus	
18. Interface	A16/D16, D08 (EO), Slave
19. Registers	Three active R/W registers in 64 byte blocks
Power Supply	
20. From VME Backplane	+5V – 1.0A max. ±12 – 0.7A max. each
Environmental	
21. Operating Temp.	0°C to +70°C
22. Storage Temp.	-25°C to +85°C
23. Humidity	0-95% non-condensing
Mechanical	
24. Card Size	VMEbus 6U single slot 9.17 x 6.3 inches, (233 x 160 mm)
25. No. of Input Channels	32 – DC coupled
26. No. of Output Channels	32 Single ended – DC coupled, Two groups of 16
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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