



# Model VM32PAFF

## Programmable Amplifiers with Fixed Frequency Filters VME Board

### 32 Channel

#### Description

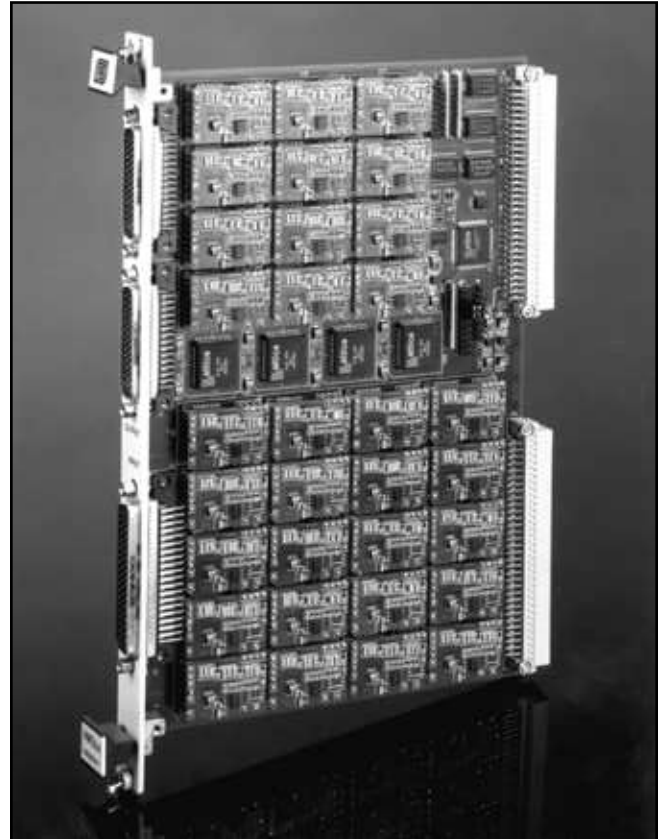
Frequency Devices' Model VM32PAFF comprises a family of VMEbus amplifier/filter boards offering software programmable differential amplifiers combined with precision 3-pole Butterworth or Bessel linear analog filters in a single width B-size (6U) VME form factor. VM32PAFF boards provide simultaneous access to 32, DC-coupled wideband signals while providing programmable gain from -12dB to +60dB, in 6dB steps. Fixed frequency filters are available with corner frequencies from 100 Hz to 100 kHz. VM32PAFF boards may be configured with 8, 16, 24 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 and filtering.
- Interchannel crosstalk <-90 dB provides precision performance solutions to design engineers, system integrators and OEM's.
- 3-pole Butterworth or Bessel transfer functions with a broad range of corner frequencies are offered 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



U.S. Selling Price (1-4)

VM32PAFF-8 . . . \$1,400.00  
 VM32PAFF-16 . . . 1,500.00  
 VM32PAFF-32 . . . 1,900.00

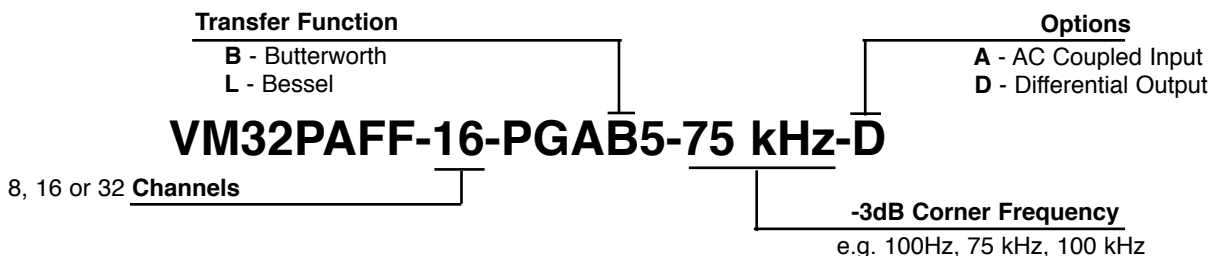
Orders for Export  
 Minimum Order Value \$150.00  
 Lead-Time: 6-8 weeks A.R.O

Add Price of PGA Modules  
 U.S. Selling Price + 20%  
 F.O.B. Haverhill, MA  
 Accept Visa, Mcard, Amex

#### AMPLIFIER/FILTER OPTIONS

PGAB5            -12 dB to +60 dB in 6 dB steps  
                     Butterworth 3-pole 100 Hz to 100 kHz  
 PGAL5            -12 dB to +60 dB in 6 dB steps  
                     Bessel 3-pole 100 Hz to 100 kHz

#### Ordering Information





# Model VM32PAFF

## Programmable Amplifiers with Fixed Frequency Filters VME Board

### Specifications

(@ 25°C and rated Power Input)

#### 32 CHANNEL VME SIGNAL CONDITIONING BOARD

##### Analog Input

1. Impedance 1 M $\Omega$ /22pF
2. Maximum Input  $\pm$ 15V
3. AC Couple (Optional) Fixed frequency @ 10 Hz

##### Analog Output

4. Impedance 1.0 $\Omega$  typ., 10 $\Omega$  max.
5. Linear Operating Range VM32PAFF  $\pm$ 5V linear operating range, Output clamped to  $\pm$ 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  $\pm$ (5 +100/G)  $\mu$ V/°C max.

##### Filter Characteristics

10. Anti-alias filtering 3-pole low-pass Butterworth or Bessel fixed frequency
11. Cut-off Frequency fc (-3dB) Fixed frequency from 100Hz to 100 kHz
12. Amplitude Match\*  $\pm$ 0.1dB @ DC, linear to  $\pm$ 0.25dB at fc
13. Phase Match\* 0.2° typ., 1° max. @ fc
14. Noise Voltage, RTI 20nV/ $\sqrt$ Hz @ 1 kHz, G=1,000
15. Distortion -83dB, 1 kHz single ended  
@ 1V<sub>RMS</sub> Output, R<sub>L</sub>=2k $\Omega$ , BW = 100 kHz -86dB, 1 kHz differential

##### Gain

16. Gain Programming (G) 0.25X to 1024X in factors of 2:1 (before filtering)  
32 channels programmed over VMEbus with read-back  
 $\pm$ 0.1dB max.

17. Gain Accuracy @ DC

##### 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.  
 $\pm$ 12 - 0.7A max.

##### Environmental

21. Operating 0°C to +70°C
22. Storage -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 Differential - DC coupled
26. No. of Output Channels 32 Single Ended - DC coupled, Two groups of 16
27. Differential Output (Optional)
28. Mating Connectors Input:Positronic ODD78M, Quantity 1  
Output:Positronic ODD44F, Quantity 2
29. Weight 1 LB., (454 grams)

\* Any two channels set to same gain and loading