FREQUENCY DEVICES™, INC.

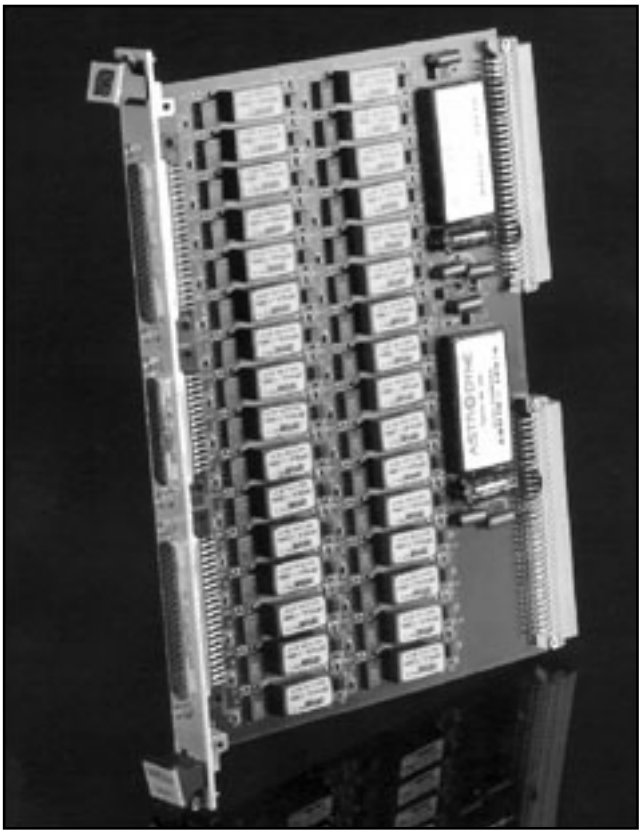
# Model VM32FF

## 32 Channel

## Fixed Frequency VME Filter Board

### Description

Frequency Devices model VM32FF comprises a family of VMEbus filter boards offering 32 channels of fixed frequency, linear analog filtering in a single width B-sized (6U) form factor. VM32FF boards receive up to 32 high level differential signal inputs through a shielded front panel connector and provide signal buffering and unity gain for each channel (optional - customer specified gain). Boards may be configured with 2-pole D72 or 4-pole D74 filters from 1.0 Hz to 100.0 kHz, and with high-pass or low-pass (anti-alias) transfer functions allowing user to externally cascade filters into band-pass configurations. Each channel provides low harmonic distortion and wide signal-to-noise ratio to 12 bit resolution.



### Features/Benefits:

- Simultaneous access over 32 channels offers a low cost, versatile and convenient way to provide amplification and filtering.
- Interchannel crosstalk <-80 dB provides precision performance solutions to design engineers, system integrators and OEM's.
- 2- and 4-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:

- Industrial process control
- Engine test and simulation
- Acoustic, vibration analysis & control
- Satellite and telecommunications
- Automatic test equipment (ATE)
- Aerospace, navigation & sonar
- Automotive test cells

### LOW-PASS FILTER OPTIONS

| | |
|---|---|
| 2-pole | D72, DP72 |
| 4-pole | D74, DP74 |

### HIGH-PASS FILTER OPTIONS

| | |
|---|---|
| 2-pole | D72 |
| 4-pole | D74 |

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## Specifications

(@ 25°C and rated Power Input)

## Fixed Frequency VME Filter Board

**32 CHANNEL VME SIGNAL CONDITIONING BOARD**

| | |
|---|---|
| **Analog Input** | |
| 1. Impedance | 1 GΩ//15pF |
| 2. Maximum Input | ±10V pk linear |
| 3. Over Voltage Protection | ±60 V |
| 4. Common Mode Rejection | 75 dB min. @ 60 Hz |
| **Analog Output** | |
| 5. Impedance | 0.1Ω typ., 1.0Ω max |
| 6. Linear Operating Range | ±10V pk |
| 7. Channel to Channel Crosstalk | <-80 dB @ 10 kHz |
| 8. Maximum Current | ±2.0mA |
| 9. Offset Voltage | ±10mV max. |
| 10. Offset Temp. Coeff. | 20 µV/°C |
| 11. Short Circuit Protection | Short to Ground |
| 12. Peak Distortion @ 1 kHz, 3.54 Vrms | 80dBc max. |
| 13. In-band Spectral Noise, Gain of X500 | 230nV/$\sqrt{\text{Hz}}$ |
| **Filter Characteristics** | |
| 14. See D72 or D74 Series Specifications | |
| 15. Cut-off Frequency fc (-3dB) | Fixed frequency from 1 Hz to 100 kHz |
| **Gain** | |
| 16. Nominal Gain | 1X |
| 17. Accuracy | ± 1.0% |
| (optional) | 10X, 100X, 1000X, Contact factory for other gain options |
| **Power Supply** | |
| 18. From VME Backplane | +12V and -12V, ±5%, 0.9A max. each, no load |
| 19. Isolation | Analog ground may be isolated from VME and chassis ground by jumper |
| **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 - DC coupled Two groups of 16 |
| 25. No. of Output Channels | 32 Single Ended - DC coupled |
| 26. Mating Connectors | Input: Female high denisty 62-pin D-sub<br>Output: Male high density 44-pin D-sub |
| 27. Weight | 1.5 LB2., (681 grams) |

### Ordering Information

**VM32FF-32-D74L4B-100 kHz - 100**

- 8, 16 or 32 **Channels**
- **Filter Type and Corner Frequency**: D72, DP72, D74, DP74
- **Optional Gain**: 10, 100, 1000





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