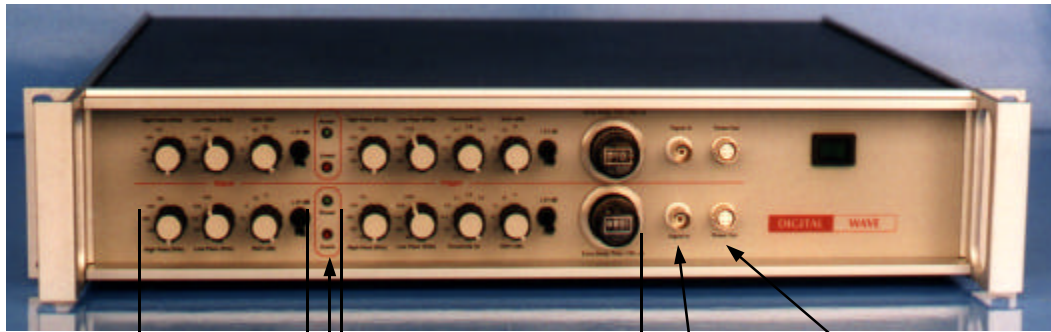

Filter Trigger Module (FTM)



Two Channel FTM

Acquisition Signal Conditioning

Trigger Signal Conditioning

LED Activity Indicators

Signal Input (BNC)

Power Connector for
Preampifier

Versatility

The FTM is a two channel receiver designed for acoustic emission signals. It contains the necessary analog electronics for amplification and filtering of the received signal, as well as threshold based triggering circuitry for output of TTL level signals for triggering data acquisition devices. The wide range of signal conditioning settings makes the FTM the perfect instrument for lab or field. If large channel systems are required, multiple FTM's can be daisy-chained together.

Dual Signal Trigger Path

Noise rejection is straightforward using the FTM's unique dual signal path architecture. Trigger settings are independent of the acquired signal settings, so noise sources, such as EMI and mechanical fretting, can be eliminated while still acquiring wideband data for waveform analysis.

Low Noise Electronics

The FTM is manufactured using low noise IC amplifiers and high-end electronic components for a low noise/cost effective system.

The FTM includes the following features:

- ◆ Bandwidth: 20 kHz - 4 MHz
- ◆ Nondistorting linear phase Bessel filters
- ◆ LED power and trigger indicators

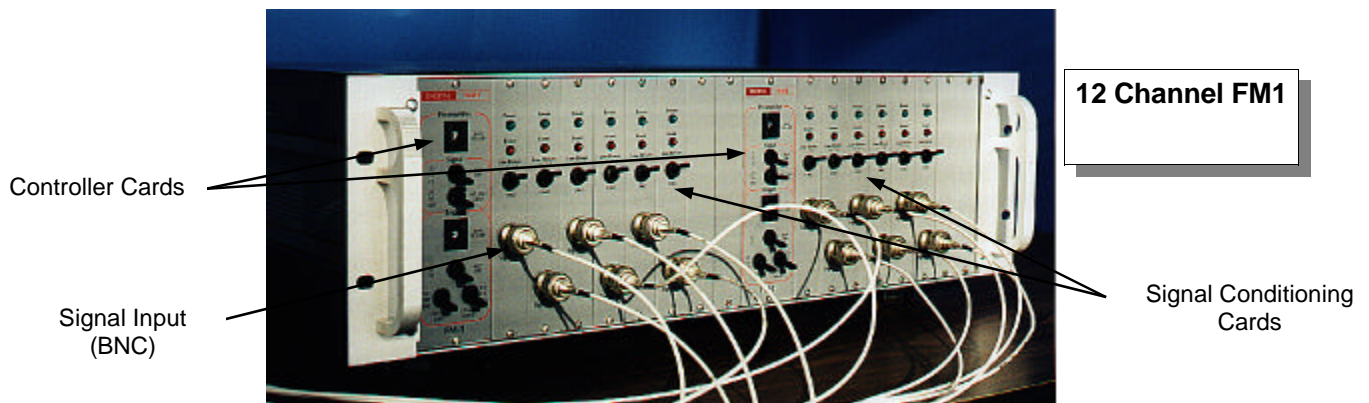
Acquisition Signal Conditioning

- ◆ Gain: 0 - 42 dB, in 3 dB increments
- ◆ Highpass Filters: Adjustable, 20, 50, 100, 300, 500 and 750 kHz settings
- ◆ Lowpass Filters: Adjustable, 100, 300, 500, 750, 1000 and 4000 kHz settings

Trigger Signal Conditioning

- ◆ Gain: 0 - 42 dB, in 3 dB increments
- ◆ Highpass Filters: Adjustable, 20, 50, 100, 300, 500 and 750 kHz settings
- ◆ Lowpass Filters: Adjustable, 100, 300, 500, 750, 1000 and 4000 kHz settings
- ◆ Adjustable Echo Delay Time: 40 μ s - 1000 ms

FM1 Field Module



Modularity

The FM1 is a modular acoustic emission receiver, enabling the user to easily add or remove signal conditioning channels. Controller cards are used to set system filtering and gain settings. Each controller card can control from 1 to 8 signal conditioning cards. The maximum number of channels for an FM1 is 20, for larger channel systems multiple FM1's can be daisy-chained together.

Line Driver Sensors

The FM1 can be used with DWC's phantom power preamplifiers, the PT-20 or the LD1000. It can also be used with integral preamplifier sensors. The integral preamplifier sensors eliminate the need for preamplifiers, and result in a higher signal-to-noise ratio.

System Features

The FM1 has a unique dual signal path incorporating a low noise design in a small footprint package.

The FM1 includes the following features:

- ◆ Bandwidth: 20 kHz - 5 MHz
- ◆ Nondistorting linear phase Bessel filters
- ◆ LED power and trigger indicators
- ◆ Preamplifier gain: 0 - 42 dB, in 6 dB increments

Acquisition Signal Conditioning

- ◆ Gain: 0, 12 and 24 dB settings
- ◆ Highpass Filters: Adjustable, 20, 50 and 100 kHz settings

Trigger Signal Conditioning

- ◆ Preamplifier gain: 0 - 42 dB, in 6 dB increments
- ◆ Highpass Filters: Adjustable, 50, 100, 300, kHz settings
- ◆ Lowpass Filters: Adjustable, 750, 1500 and 5000 kHz settings