

BELAR FM STEREO MODULATION MONITOR

FMM-2



DESCRIPTION

The Belar Model FMM-2 FM Modulation Monitor is a precision wideband, all solid state FM monitor, designed to measure the total modulation characteristics of monaural as well as multiplexed FM transmitters. The Model FMM-2 is also used as a low distortion and low noise FM demodulator to drive the companion stereo and SCA monitors, as well as providing audio outputs for aural monitoring and proof of performance measurements.

The Model FMM-2 has set new standards in totally accurate measurement techniques. Utilizing such advanced design features as an ultra-linear digital discriminator, an almost distortionless and absolutely flat baseband signal is produced to ensure precise stereo and SCA decoding.

In addition to the normal FCC defined semi-peak metering, the FMM-2 incorporates a sample- hold peak modulation meter circuit, independent of modulation polarity, to allow the meter to respond accurately to program peaks.

FEATURES

- Ultra-linear digital discriminator
- Digitally selectable peak indicator, adjustable in 1% increments from 1 to 199%, independent of modulation polarity
- Built-in voltmeter for AM and FM noise measurements
- Carrier alarm with front panel indicator
- Two wide-band outputs
- True peak or semi-peak metering
- Separate fixed 100% modulation indicator
- High visibility rear-illuminated meter

SPECIFICATIONS

Frequency Range 88 to 108 MHz std.
Crystal Controlled-Specify Frequency
RF Input 1 to 10 volts rms, 50 ohms,
BNC connector

Modulation Metering:

Deviation Indication 100% @ ± 75 kHz,
0 to 133% range
Accuracy $\pm 2\%$ @ all modulation levels
Characteristics selectable: peak (sample-hold)
or semi-peak

Noise Measurement:

FM Noise Range -50 dB to -70 dB
AM Noise Range -50 dB to -70 dB

Test Function:

Calibrate Provides internal std.
deviation reference
Zero Provides zero deviation for s/n
RF Level Calibrates AM noise function and
carrier alarm reference level
Carrier Alarm Indicator adjusted for 90%
carrier level

Outputs:

Stereo Monitor Wideband, 1.5 V rms @ 1 k
ohm unbalanced
SCA Monitor Wideband, 1.5 V rms @ 1 k
ohm unbalanced
Audio, (Program) .. + 10 dBm, 600 ohms, balanced
Audio, (Test) 5 V rms, 10k ohms, unbalanced

Audio Output Specifications

Frequency Response +0.25 dB
Harmonic Distortion 0.01 % max
Intermodulation Distortion ... 0.01% max (SMPTE)
Signal-to-Noise Ratio 90 dB, min

Remote Outputs

Carrier Level Alarm Provides "open collector"
output, capable of sinking 20 ma @ 15 vdc
Meter, 100% Peak Indicator,
Adj. Peak Indicator For interface to Model
MP-8 Remote Meter Panel (opt)

Dimensions 5 $\frac{1}{4}$ "H x 10 $\frac{1}{2}$ "D x 19"W
(EIA Rack Mount)

Power Requirements 12 watts, 115/230 VAC,
50/60 Hz

Shipping Weight 12 lbs



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Where Accuracy Counts . . . Count on Belar

Manufactured in the U.S.A.