



DESCRIPTION

The Belar **FMCS-1L** provides a complete solution for the Analog portions of the FM signal. The unit combines the features and functions of an RF amplifier, FM demod, stereo demod, RDS decoder, SCA decoder, and FFT spectrum analyzer in one product. Using state of the art DSP techniques all of **FMCS-1L** processing takes place in the digital domain, this results in FM analog performance that was previously not possible.

The Belar **FMCS-1L** All-in-One FM Modulation Monitor is a wideband FM monitor which meets the Federal Communications Commission requirements for measuring the total modulation characteristics of monaural as well as the stereo modulation characteristics of multiplexed FM transmitters. On board processing provides spectral analysis of the pre demodulation and post demodulation signals. Internally generated calibration signals permit checking monitor accuracy at any time. Ethernet/USB ports and a graphical user interface enable local or remote operation of the **FMCS-1L** via an external PC.

FEATURES

- Frequency Agile Antenna and High Level RF Inputs
- AM & Sync AM Noise Measurements
- Variable Bandwidth Digital IF Filtering with HD Carrier Suppression
- Digital FM Demodulation with 100 dB 75 μ s SNR
- Variable BW Composite Filtering
- Digital Stereo Demodulation with 90 dB L/R Separations
- Full Metering of Analog Peak and RMS Values
- RDS Injection and Data Decoding
- Two Digital SCA Decoders
- RF, Composite and Audio FFT Spectrum Analysis
- RJ - 45 Ethernet Interface with Remote PC Software

SPECIFICATIONS

RF Inputs

Frequency Range 87.3 to 108.1 MHz, Frequency Agile
 100 kHz Increments
 High Level Input 400 mVrms to 3.5 Vrms , 50 Ω , BNC Connector
 Antenna Input 100 μ V sensitivity, 75 Ω , F-Type Connector
 500 mVrms Maximum

Metering

Modulation (*Peak, Ave, Min*)
 Total, L, R, L+R, L-R 0 to 150%, 0.1% resolution
 Pilot 0 to 15.0%, 0.1% resolution
 RMS
 Total, L, R, L+R, L-R +3.0 to -120.0 dB, 0.1 dB resolution
 Flat & 50 μ s or 75 μ s
 AM Noise, Sync AM Noise 0.0 to -100.0 dB, 0.1 dB resolution
 Separation 0.0 to -120.0 dB, 0.1 dB
 Crosstalk 0.0 to -120.0 dB, 0.1 dB resolution

Indicators

Total Peak Modulation • L+R Presence • RF Presence • Pilot Presence • RDS Sync & Presence
 • SCA #1 Peak and Presence • SCA #2 Peak and Presence • AM Noise Limit • SYNC AM Noise Limit

Alarm Outputs

Relays (4 assignable) FORM C, 15-pin Female D-Sub Connector

Computer Interface

USB Port
 Ethernet 10/100 Base -T RJ-45 Jack

Packaging

Dimensions 19"x1.75"x14.5" (48.26x4.45x36.83 cm),
 1 EIA Rack Unit
 Power Requirements 40 Watts, 90-264V, 47 to 63 Hz
 Shipping Weight 10 lbs (4.5 kg)
 Shipping Carton 22"x18"x6" (55.9x45.7x15.2 cm)



Specifications are subject to change without prior notice.



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