

FM Solutions

25W to 250W LPFM Transmitters

LARCAN LPFM Transmitter Series

FM-25D / 25W FM Transmitter



FM-25D
25W Stereo Exciter

NEW LPFM Transmitter Series – Your Best in FM Solutions

The FM-25D solid state VHF FM Exciter/transmitter is a compact, versatile and economical unit. The unit provides exceptional stereo audio performance with an R.F. output in excess of 25W.

The FM-25D includes a digital display for metered parameters and unique VU meters for modulation monitoring. This is achieved by an integrated "stereo decoder".
(This eliminates the need for program interface metering).

The FM-25D includes an agile PLL synthesizer with local and remote frequency control making it suitable for N+1 operation.

The FM-25D has an optional digital "stereo encoder" which includes an integrated audio limiter. The audio inputs utilize professional balanced line XLR's.

The FM-25D includes a wideband composite input and an auxiliary input for RDS/SCA.
Optional RDS Encoder fitted.

Features:

- Stereo decoded audio signal VU meter (L & R)
- Integrated Stereo Encoder and audio limiter (option 1)
- Wideband (MPX), SCA / RDS auxiliary I/P (standard)
- Compact 1U lightweight, rack mount, convection cooled
- A.C. 230 / 115V and D.C. (+24V) operation
- Wideband operation (100kHz baseband)
- Digital Display for Metered Parameters
- Optional internal fitted RDS Encoder

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LARCAN FM-25D (25W FM Transmitter)

TECHNICAL SPECIFICATIONS



PARAMETER

RF SPECIFICATION

Frequency range	87.5 to 108 MHz
Modulation type	F3E and F8E (direct carrier)
Frequency synthesizer	PLL with Local/Remote control
Frequency increments	100 kHz
Frequency stability	2ppm
RF output power	> 25W
RF spurious/harmonics	< -70dBc
Asynchronous AM	< -60dB
Synchronous AM	< -50dB
RF output connector	N-Type (female) 50 Ohm
RF monitor connector	BNC (female) 50 ohm
Max VSWR	2.5:1 (adjustable)

POWER SUPPLY

AC power input	115V/230V (via internal Switch)
AC Frequency	47Hz to 63Hz
Mains variation	+/-15%
Consumption	60VA
DC power input	+24V battery 2.2A (optional)

ENVIRONMENTAL

Operating temperature	-10 to +45 °C
Operating altitude	<2800 metres
Humidity	<90% (non condensing)

PHYSICAL

Dimensions (inches)	19W x 18.9D x 1.75H (1U)
Weight	17.6 Lbs

TELEMETRY

Alarms (voltage free)	Forward, Reflected, Temp, PSU
Command inputs	Mono/Stereo, RF enable
DC Outputs	Forward, Reflected, +12V (jig)

PARAMETER

COMPOSITE SPECIFICATION

W/B amplitude response	+/- 0.2dB (30Hz to 100kHz)
W/B stereo separation	>60dB (typical 67dB) 30Hz to 15kHz (decoded)
W/B stereo crosstalk	>50dB (30Hz to 15kHz) L+R into L-R
Total harmonic distortion	<0.1% (Typical 0.035%) 30Hz to 15kHz (decoded)
FM S/N ratio (stereo)	>75dB (30Hz to 15kHz)
I/P impedance	10k ohm unbalanced
Deviation sensitivity	3.5V p-p (adjustable)

STEREO OPERATION (with 50uS de-emphasis)

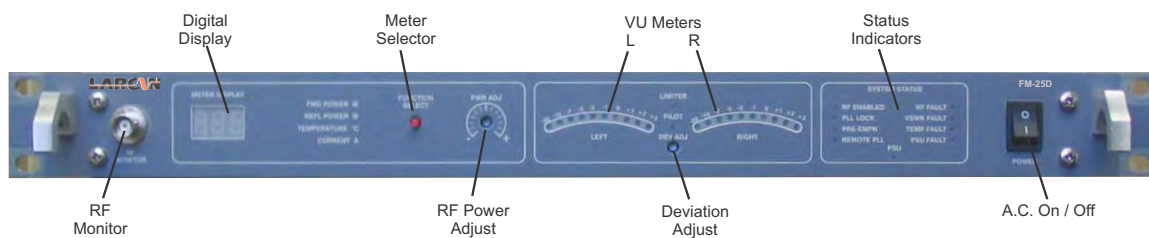
AF amplitude response	+/-0.2dB (30Hz to 15kHz)
Stereo separation	>60dB 30Hz to 15kHz (decoded)
Mono/Stereo crosstalk	>50dB (30Hz to 15kHz)
Stereo distortion	<0.1% (30Hz to 15kHz)
Stereo S/N ratio	>75dB (30Hz to 20kHz)
Input impedance	600 ohm balanced (XLR)
Deviation sensitivity	+6dBm for +/-40kHz deviation (adj)
Pre-emphasis	50 or 75uS (internal link)

STEREO LIMITER (Option 1)

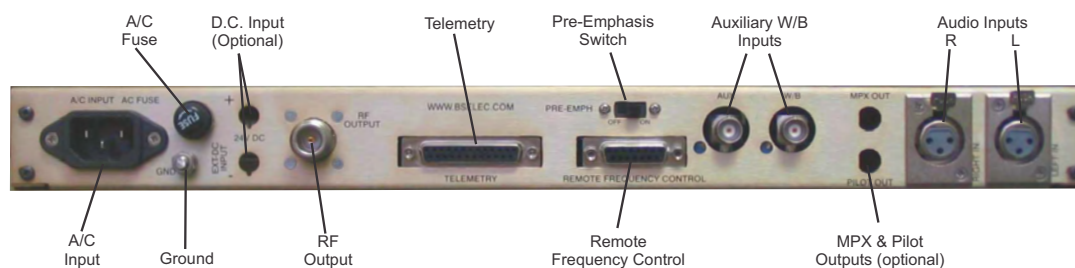
Audio limiter sensitivity	10dBm nom. for 68kHz deviation
Attack time	< 2mS for increased 10dB I/P step
Decay time	>80mS for decreased 10dB I/P step
Limiter distortion	< 0.25% (10dB into limiting)
Limiter threshold	Internally adjustable

STANDARDS

Complies with ITU Recommendation BS.450-3
FCC certification



FM-25D FRONT PANEL CONTROLS AND INDICATORS



FM-25D REAR PANEL CONNECTIONS