

FM Solutions

25W to 250W LPFM Transmitters

LARCAN LPFM Transmitter Series

FM-100LD / 100W FM Transmitter



FM-100LD
100W LDMOS Stereo Exciter

NEW LPFM Transmitter Series – Your Best in FM Solutions

The FM-100LD 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 100W, using innovative LDMOS amplifier technology.

The FM-100LD 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-100LD includes an agile PLL synthesizer with local and remote frequency control making it suitable for N+1 operation.

The FM-100LD has an optional digital “stereo encoder” which includes an integrated audio limiter. The audio inputs utilize professional balanced line XLR's.

The FM-100LD 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 2U lightweight, rack mount, forced air-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-100LD (100W 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 > 100W
 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 160VA
 DC power input +24V battery 5.4A (optional)

ENVIRONMENTAL

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

PHYSICAL

Dimensions (inches) 19W x 18.9D x 3.48H (2U)
 Weight 24.5 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)

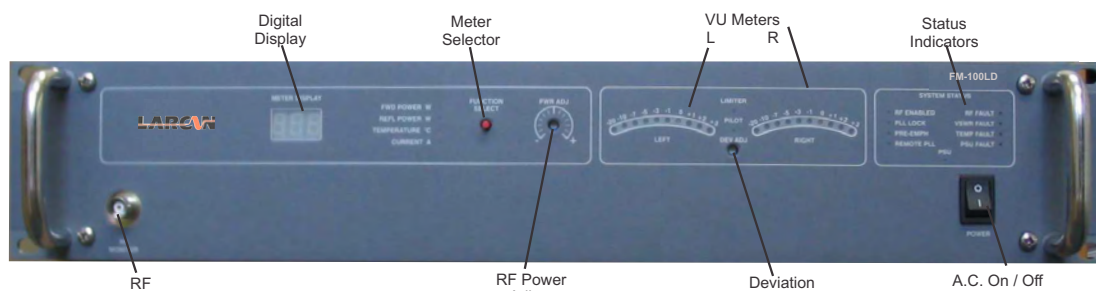
AF amplitude response +/-0.2dB (30Hz to 15kHz)
 Stereo separation >60dB 30Hz to 15kHz (decoded)
 Mono/Stereo crosstalk >50dB (30Hz to 15kHz)
 Stereo distortion <0.1% (30Hz to 15kHz)
 Stereo S/N ratio >75dB (30Hz to 20kHz)
 Input impedance 600 ohm balanced (XLR)
 Deviation sensitivity +6dBm for +/-40kHz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

STEREO LIMITER (Option 1)

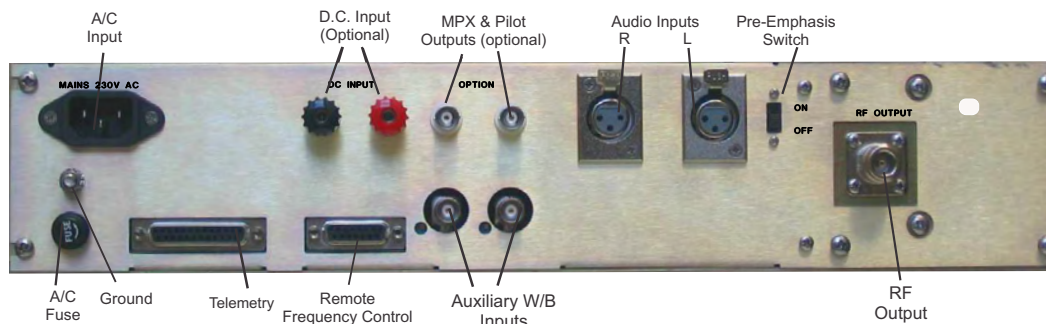
Audio limiter sensitivity 10dBm nom. for 68kHz deviation
 Attack time < 2mS for increased 10dB I/P step
 Decay time >80mS for decreased 10dB I/P step
 Limiter distortion < 0.25% (10dB into limiting)
 Limiter threshold Internally adjustable

STANDARDS

Complies with ITU Recommendation BS.450-3
 FCC certification



FM-100LD FRONT PANEL CONTROLS AND INDICATORS



FM-100LD REAR PANEL CONNECTIONS