

EX-1k-LD 1kW FM TRANSMITTER

The **EX-1k-LD** solid state VHF FM Transmitter is a new compact 3U, versatile and economical unit with an R.F. output in excess of 1kW, utilizing 1 x MRF1K50H 1500W LDMOS amplifiers, combined to provide 1kW O/P, with enough 'head-room' for high reliability in extreme temperature and VSWR conditions.

The **EX-1k-LD** includes a LED digital display showing the main parameters of the transmitter, to improve on-site monitoring, and studio style Left and Right VU meters for indication of the transmitted audio modulation levels, achieved by use of an integrated "stereo decoder".

The unit also provides exceptional stereo audio performance.

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

The **EX-1k-LD** has an optional digital "stereo encoder" which includes an integrated audio limiter (supplied as Option 1). The audio inputs utilize professional balanced line XLR's.

The **EX-1k-LD** includes a wideband composite input and auxiliary input for RDS/SCA, both with external rear panel adjustment, Internal RDS encoder factory Programmed (Option 2) .



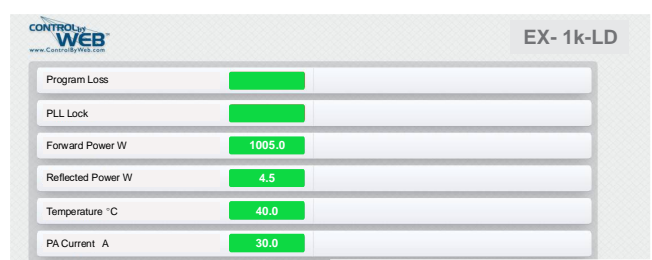
EX-1k-LD 1kW FM Transmitter

Features

- RF amplifier utilizing 1 x 1500W highly efficient, LDMOS device
- Modulation Monitoring with studio style L & R VU meters
- Integrated Stereo Encoder and audio limiter (option 1)
- Wideband (MPX), SCA / RDS auxiliary I/P (standard)
- 3U rack mount lightweight (12kg), Forced air cooled
- Internal RDS (option 2)
- IP SNMP or GSM monitoring external Interface (option 3)

OPTION 3: SNMP monitoring external Interface

The TCIP / SNMP remote monitoring function through RJ45 Ethernet connection on the rear of the transmitter, provides remote monitoring of various parameters via remote IP connectivity. See the example remote Dashboard below:



Remote Dashboard software screen screen example

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	> 1kW
RF spurious/harmonics	< -75dBc / -70dBc
Asynchronous AM	< -60dB
Synchronous AM	< -50dB
RF output connector	7/16" (female) 50 Ohm,
RF monitor connector	BNC (female) 50 ohm
Max VSWR	2:1 (Internally adjustable)

POWER SUPPLY

AC power input	180V to 264V @ 47-63Hz
Mains Connector	IEC C19 Male Plug 16A (Plug Supplied with Product)
SMPS Rating	1.6kW @ 93 % efficiency
Power Factor	>0.98
Consumption	1370VA Nominal

ENVIRONMENTAL

Operating temperature	-10 to +45 °C
Operating altitude	<3000 meters
Humidity	<90% (non condensing)

PHYSICAL

Dimensions (mm)	485W x 515D x 133H (3U)
Weight	12kg

TELEMETRY

Alarms (voltage free)	Forward, Reflected, Temp, PSU
Command inputs	Mono/Stereo, RF enable
IP SNMP (RJ45)	RF Forward, RF Reflected,
(Option 3)	Temp, Deviation + 2 x Alarms

PARAMETER

COMPOSITE SPECIFICATION

W/B amplitude response	+/- 0.15dB (30Hz to 100kHz)
W/B stereo separation	>60dB (30Hz to 15kHz)
W/B stereo crosstalk	>50dB (30Hz to 15kHz)
Total harmonic distortion	<0.1% (30Hz to 15kHz)
FM S/N ratio (stereo)	>75dB (30Hz to 15kHz)
I/P impedance	10k ohm unbalanced
Deviation sensitivity	3.5V p-p (adjustable)
Low pass Filter	>200kHz @ -12dB/Octave

STEREO OPERATION (with 50uS de-emphasis)

AF amplitude response	+/-0.15dB (30Hz to 15kHz)
Stereo separation	>60dB (30Hz to 15kHz)
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
Pre-emphasis	50 or 75uS (internal link)
38kHz suppression	>55dB

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

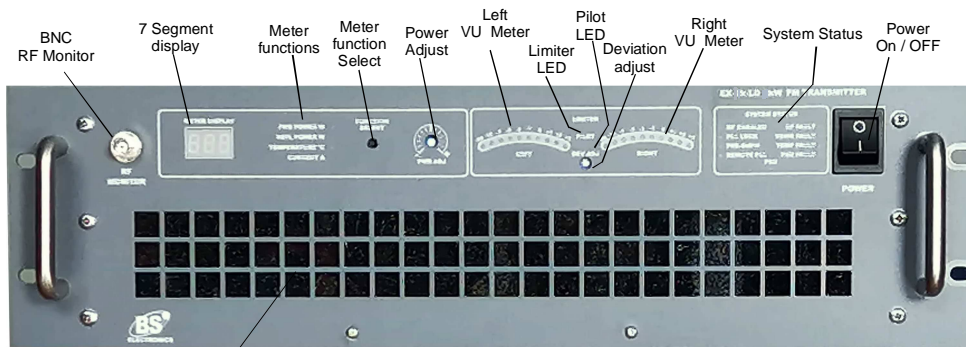
RDS ENCODER (Option 2)

Factory Programmed	PI, PS, AF only
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STANDARDS

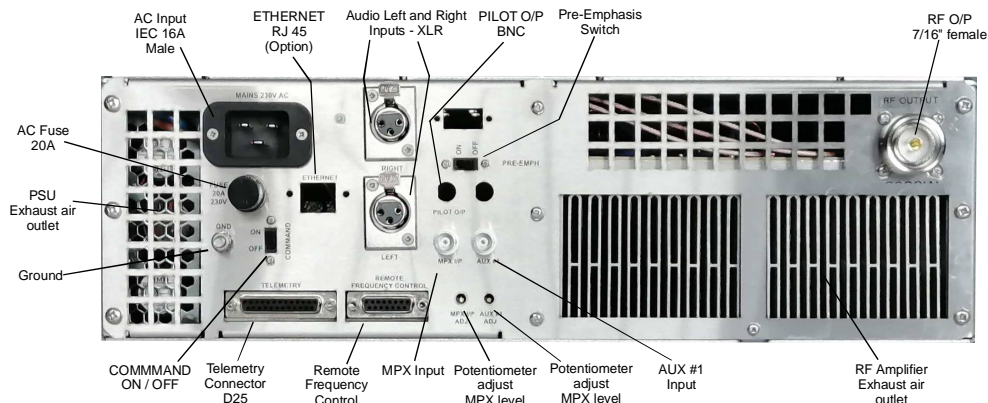
Complies with CCIR Recommendation BS.450-1 (1), 412-5 (3), 468-4 ETS 300, 384.

LDMOS Devices: 1 X MRF1K50H, each rated at 1500W.



Cooling air In-take

EX-1k-LD 1kW FM TRANSMITTER
FRONT PANEL



EX-1k-LD 1kW FM TRANSMITTER
REAR PANEL