

# BSE2K-LD1

## 2kW FM TRANSMITTER



BSE2K-LD1  
2kW FM Transmitter in 15U cabinet

The BSE2K-LD1 is a compact solid state 2kW VHF FM stereo Transmitter, providing exceptional RF and audio performance with an R.F. output in excess of 2kW. Designed for the range 2kW RF output Power.

The BSE2K-LD1 utilizes proven technology with the EX1-12D 12W stereo exciter, AL4-2000LD RF amplifier with dual built-in power supply units.

The BSE2K-LD1 is based on a single AL4-2000LD RF Amplifier. The amplifier includes 4 parallel LDMOS amplifier stages, combined to provide 2kW RF Output. The unit includes a single built-in SMPS rated at 3kW with PFC control and efficiencies of > 90%.

An optional ESU-1 switching unit and EX1-12D exciter are used when a dual exciter configuration is required and provides automatic switching to the standby exciter.

### Features

- o Digital Meter display (for accurate power measurement)
- o Excellent stereo audio performance
- o Single or Dual exciter operation (dual is optional)
- o LDMOS RF Amplifier technology
- o Built-in transient suppression module (optional)
- o W/B and RDS/SCA auxiliary I/P (standard)
- o Built-in forced air cooling system
- o Operation into cavity input or star point combiner
- o VSWR Fold-back and retry for maximum operational availability.
- o RDS option built into Exciter.

Can be supplied as modules Only.

### Optional Configurations

Dual exciter with auto change-over unit

Single or dual FM Relay receiver

Single or dual UHF link Receiver

15U, 20U or 30U cabinet size

Remote monitoring Interface (GSM) Optional



2kW FM Transmitter Consisting of EX1-12D  
12W Stereo Exciter and AL4-2000LD 2kW RF Amplifier  
Modules

# 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	> 2kW
RF spurious/harmonics	< -70dBc
Asynchronous AM	< -60dB
Synchronous AM	< -50dB
RF output connector	7/8" EIA flange 50 Ohm
RF monitor connector	BNC (female) 50 ohm
Max VSWR	1.5:1 (factory Set)

### POWER SUPPLY

AC power input	230V A.C.
AC Frequency	47Hz to 63Hz
Mains variation	+/-15%
Consumption	2700W (nominal) for 2kW O/P

### ENVIRONMENTAL

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

### PHYSICAL

Dimensions (mm)	600W x 800D x 770H (15U) 600W x 800D x 1105H (20U)
Modules	Exciter 1U, RF Amplifier 4U
Weight	90 - 110kg

### 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)

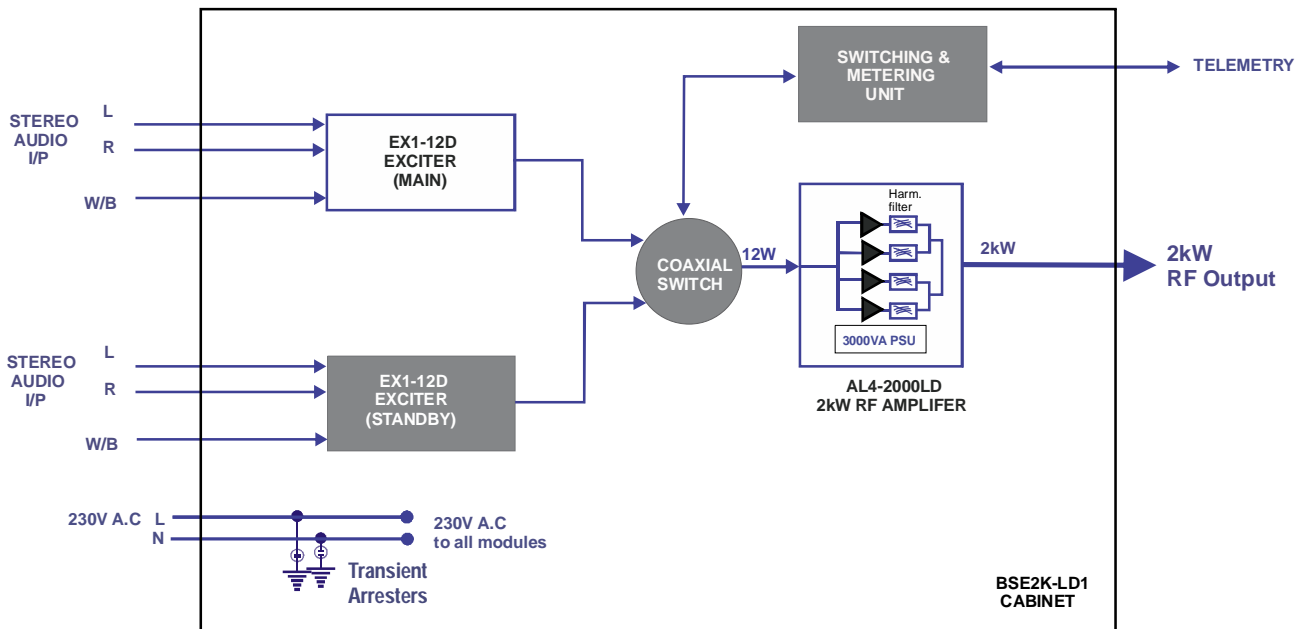
Audio limiter sensitivity	10dBm nom. for 68kHz deviation
Attack time	< 2mS for increased 10dB I/P step
Decay time	>80mS for decreased 10dB I/P step
Limiter distortion	< 0.25% (10dB into limiting)
Limiter threshold	Internally adjustable

### RDS ENCODER

Internally fitted Option	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. FCC Certified for the USA market.



OPTIONAL

## BSE2K-LD1 2kW FM STEREO SOLID STATE TRANSMITTER