

SYNAPSE Series

High Performances Analogue
FM Stereo Modulator
Output Power Ranges 30W, 50W



- HIGH PERFORMANCE: TOP QUALITY AT REASONABLE PRICE
- NOMINAL RF OUTPUT POWER: 30W, 50W, 100W, 150W, 300W
- COMPACT SIZE: ONLY ONE 19" RACK UNIT CABINET
- VERY LOW SIGNAL/NOISE: TYP. 80 dB
- HIGH STEREO SEPARATION: TYP. 65 dB
- LOW DISTORTION: THD, IMD & TIM TYP. 0,05%.
- TOTAL SPECTRAL PURITY: > -100 dBc SPURIOUS, > - 75 dBc HARMONICS
- REMOTE CONTROL: DB9 TELEMETRY PORT
- FULL – RANGE POWER SUPPLY: 90-260 VAC MAINS VOLTAGE
- COMPLIANT WITH ALL THE STANDARD: ETSI – CCIR - FCC.

Options

- DIGITAL STEREO CODER: SUPERIOR STEREO QUALITY
- FULL FEATURES RDS/RBDS CODER: EASY PROGRAMMABLE BY PC
- OIRT and JPN: FREQUENCY BAND VERSION
- LPFM ODE STATION: FCC IDENTIFICATIONS CODE

TX-BS Series is a compact and cost-effective FM Exciter featuring outstanding performance specifically designed for budget applications, both as low power stand-alone transmitter and as driver for low and medium power transmitters. The output power can be adjusted from 0 to 50W and it is housed into an ultra-compact cabinet of only one unit height. **TX-BS Series** is available in JPN and OIRT frequencies.

For best final price, the **TX-BS Series** is available in two versions: MONO/MPX and STEREO. The Stereo Coder can be easily upgraded on site at any time, even after the first installation.

To meet all the customer needs, **TX-BS Series** allows the possibility to be upgraded with useful options like RDS, AES/EBU Digital audio Input, TCP/IP WEB Remote Control and Encoder and FCC station coding.

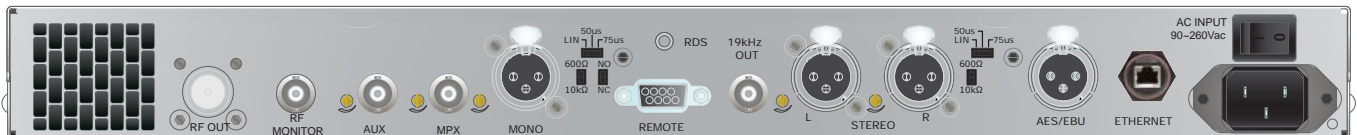
The **TX-BS Series's** integrated CPU card allows the monitoring of a large number of parameters.

The user friendly menu is available on a clear LCD display; it allows the setting of all the working parameters and the monitoring of the operating figures.

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1. RF OUT
2. RF Monitor
3. AUX Input
4. MPX Input
5. MONO Input
6. IMPEDANCE Audio Setting
7. Interlock
8. Remote Connectors
9. 19 kHz Output (Optional)
10. Left (Optional)
11. Right (Optional)
12. IMPEDANCE Audio Setting
13. Preenphasys setting
14. AC Mains
15. Audio mode
16. RDS Programming (OPTIONAL)

RF Output. N (50 Ohm) type connector
 RF Output Monitor. BNC (50 Ohm) , female.
 RDS/SCA Input. BNC female connector.
 Unbalanced Input. BNC female
 Analog Audio Input
 600 / 10K
 NO. NC
 1 DB9 for remote control.
 19 kHz Pilot Output. BNC female connector.
 Stereo Analog Audio Input
 Analog Audio Input
 600/10K
 Lin / 50uS / 75uS
 AC Main Source. VDE Mains socket.
 Lin / 50uS / 75uS
 Plug Jack st 3.2mm

TECHNICAL CHARACTERISTICS

GENERAL

Power Output: 50 W adjustable from front panel.
RF Output Impedance: 50 ohm.
RF Output Connector: "N" type.
Monitor RF: -46 dBc, BNC connector
VSWR: 1.5:1 Maximum with automatic fold-back at higher VSWR
Frequency Range: 87.5 ÷ 108.00 MHz, on request 66 ÷ 74 MHz (OIRT), 76 ÷ 90 MHz (JPN) Programmable in 10 KHz steps.
Frequency Stability: ±1 ppm from -5 to 50°C.
Frequency Control: Synthesizer μ processor control.
Type of Modulation: Direct frequency modulation of carrier frequency, F3E stereo and mono.
Lock in Time: Typ. 4 second.
Off Lock Attenuation: ≥ -60 dBc.
Modulation Capability: ±150 KHz.
Modulation Mode: Mono, Stereo, Multiplex, Aux.
Preemphasis: Flat/50/75 μ s selectable internal jumper.
Asynchronous AM S/N Ratio: -80 dB below reference carrier with 100% AM modulation @ 400 Hz, without FM modulation.
Synchronous AM S/N Ratio: -65 dB below reference carrier with 100% AM modulation @ 400 Hz with FM modulation ±75 KHz @ 400 Hz.
RF Harmonics: Exceeds EBU/CCIR/FCC requirements.
RF Spurious: Exceeds ETSI/CCIR/FCC requirements.

MONAURAL OPERATION

Audio Input Impedance: 600 ohm balanced, 10 Kohms unbalanced.
Audio Input Level: -3 to +9 dBm.
Input Connector: XLR female.
Audio Frequency Response: ±0.1 dB, 30 Hz to 15 KHz.
Total Harmonic Distortion + Noise: 0.05% @ 400 Hz
Intermodulation Distortion: 0.05%, 1 KHz/1.3 KHz, 1:1 ratio
Transient Interm. Dist.: 0,05%, 2.96 KHz square wave and 14 KHz sine wave.
Distortion: 0.05%, 2.96KHz square wave and 14 KHz sine wave.
FM S/N Ratio: -82 dB RMS, -80 dB at ±75 KHz dev., 50 μ s de-emphasis, weighted.

MULTIPLEX OPERATION

Composite Input Impedance: 1.2 Kohm unbalanced.
Composite Input Level: +6 to +12 dBm
Input Connector: BNC female.
Composite Amplitude Response: ±0.2 dB, 30 Hz to 100 KHz.
Total Harmonic Distortion + Noise: 0.05% @ 400 Hz
Intermodulation Distortion: 30 Hz to 15 kHz * 0.05% @ 400 Hz
Transient Interm. Dist.: 0,05%, 2.96 KHz square wave and 14 KHz sine wave.
FM S/N Ratio: -83 dB RMS detector, -80 dB AT ±75 KHz dev., 50 μ s de-emphasis, weighted.

STEREO OPERATION

Audio Input Impedance: 600 ohm balanced, 10 Kohm unbalanced.
Audio Input Level: -3 to +9 dBm.
Input Connector: XLR female. Audio Frequency Response: ±0.1 dB, 30 Hz to 15 KHz.
Total Harmonic Distortion + Noise: 0.05% @ 400 Hz
Intermodulation Distortion: 0.05%, 1 KHz/1.3 KHz, 1:1 ratio
Transient Interm. Dist.: 0,05%, 2.96 KHz square wave and 14 KHz sine wave.
FM S/N Ratio: -73 dB RMS, -71 dB at ±75 KHz dev., 50 μ s de-emphasis, weighted.
Stereo Separation: 30÷80 Hz ≥ -50 dB, 80Hz÷15 KHz ≥ -60 dB (Typ. 65 dB).
Crosstalk attenuation: Main to Sub -50 dB 30 Hz to 15 KHz
(typ. -55 dB 100 Hz to 8 KHz).
38 KHz Suppression: ≥ -65 dB
(typ. -80 dB).
Pilot Frequency: 19 KHz ± 1 Hz
Output Pilot: 1 Vpp., BNC female
Audio Filter Attenuation: ≥ -44 dB @ 19 KHz, > -27 dB 20 KHz to 100 KHz.
Modes: Stereo, Mono

AUXILIARY INPUT

Input Impedance: 3 Kohm.
Input Level: -3 to +6 dBm.
Frequency Response: ±0.2 dB, 40 KHz to 100 KHz.
Input Connector: BNC female. Most SCA, RDS, AUX, performance parameters are determined primarily by the generator used.

TELEMERTY CONNECTOR

DB9: female connector back panel for remote connections.

OPTIONS

DIGITAL STEREO CODERY
RDS/RBDS CODER PROGRAMMABLE BY PC
OIRT & JPN VERSION
LPFM CODE STATION

ELECTRICAL

AC Input Power: 90÷260 VAC 50/60 HZ single phase.
Cooling: Forced air with internal long life brushless ball bearing fan.
Acoustic noise: < -56 dBa @ 1 m.

ENVIRONMENTAL

Operating temperature: -10°C to +50°C.
Max Operating Altitude: 3000 mt asl.
Relative Humidity Range: 0 to 95% non condensing.

PHYSICAL DIMENSION

Mounting: Standard 19" chassis 1 U rack.
W: 485 mm. x D: 405 mm. x H: 44 mm.
Weight: ~ 4,0 Kg