

TX02-103FC



10kW VHF FM TRANSMITTER
Single driver configuration
Front Door Air Intake System

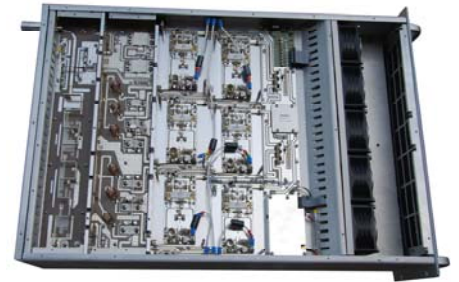
General information

The series belongs to the High Power VHF product family of FM Radio Transmitters fully solid state technology air cooled.

The **TX02** high power family is operating in the Band II or Band I (OIRT) for FM stereo sound broadcasting, with 10kW output power capability with optional dual exciter and 1+1 logic and with advanced control unit , with full remote control capability.

The equipment is fully compliant with the personnel safety requirements as specified in EC 215.

The transmitters have been designed to offer to the customer high performances, high reliability and great simplicity in their operation and maintenance procedures.



Compact design technology allows 5kW output power amplifier in only 19" drawer four units high with 3 AC/DC switching power supplies and 6 RF block of 1,2kW each

Key Features (referred to 10kW output)

- **BROADBAND** frequency synthesizer, without any other tuning or alignment.
- **MONOPHONIC & STEREPHONIC** according to the CCIR rec. 450-2 standard.
- **RDS & SCA** subcarriers input capability
- **HI-FI quality** modulated signal, with low residual noise and distortion.
- **AES-EBU digital interface** (Option)
- **RDS encoder** (Option)
- **RF Signal** free from spurious and harmonic signals
- **LD-MOS** last generation in order to have wide band, reliability, and high efficiency.
- **Redundant 2 x 5kW** RF amplifiers modules
- **Dual Drive ; 1+1 ; N+1** Redundancy configuration capability
- **High Tolerance** mains voltage ($\pm 20\%$) is accepted by the transmitter
- **Mains Protection System** by means of Surge Arrester System (option)
- **Remote Operation** compliant to IEC 864-1 rule (all option are available)
- **Control System** with full micro controlled adjustment , including fault finding
- **PROTECTION AND CONTROL SYSTEMS**
 - Block against emission on spurious frequencies
 - Reflected power
 - Modulation limiter
- **High Capacity Air cooling system** fully integrated
- **Compact design** up to 10kW in one 19" 36U Rack with 2 Amplifier modules

TECHNICAL SPECIFICATIONS

GENERAL

• Frequency range	87.5 to 108 MHz
• Class of emission	F3E (Monophonic) ; F8E (Stereophonic)
• Stereo system	According to C.C.I.R. rec.450-2
• Frequency deviation	±75 kHz nominal
• Frequency control	Built-in Frequency Synthesiser
• Resolution	10 kHz step programmable
• Frequency stability	±500 Hz / 6 months
• Output power	10kW
• Harmonic emission	≤ 70 dBc
• Spurious emission	≤ 90 dBc
• Residual AM noise level	≤ 60 dB
• Synchronous AM	≤ 50 dB
• RF output impedance	50 Ω (1-5/8")

ENVIRONMENTAL

• Operating temperature	0°C to +45°C (others on request)
• Relative humidity	20% to 90% non-condensing
• Altitude	up to 2500 m.

PROGRAM INPUT

• Mono/Stereo	L & R program input
• Connector	XLR type
• Impedance	600 Ohm balanced (others selectable)
• Level	-4 to +12dBm
• Preemphasis	50 or 75µs selectable
• Audio frequency response	40 to 15000 ±0.3dB
• 19 kHz suppression	≥ 50 dB
• RDS and AUX	Subcarrier program input
• Connector	BNC
• Impedance	≥ 2 kΩ unbalanced
• Frequency range	67 to 100 kHz
• Nominal input level	-10dBm (±7.5 kHz deviation)

TRANSMISSION CHARACTERISTICS

Mono operation ±75 kHz deviation

• Total harmonic distortion	≤ 0.1%
• Intermodulation	≤ 60 dB
• Signal to noise unweighted	≥ 80 dB
• Signal to noise weighted (CCIR 468-3)	≥ 78 dB

Stereo operation ±75 kHz deviation

• Total harmonic distortion	≤ 0.1%
• Intermodulation	≤ 60 dB
• Signal to noise unweighted	≥ 75 dB
• Signal to noise weighted (CCIR 468-3)	≥ 72 dB
• Crosstalk L & R (40 to 15000 Hz)	≥ 50 dB
• 38 kHz subcarrier suppression	≥ 50 dB
• Attenuation above 53 kHz	≥ 50 dB

METERING

The following parameters can be read on front display

- Forward power (FWD)
- Reflected power (REF)
- DC Supply voltage
- Frequency (active channel)
- Frequency (stored channels 1 to 6)
- Mono and stereo sensitivity (0,25 dB step)
- Programmed output power
- MPX peak modulation
- L & R peak level
- RDS, SCA, Aux, MPX external modulation
- Programmed audio parameters: +L / -L ; +R / -R ; L / R on/off ; 50 / 75µsec Pre-emphasis ; Limiter on/off, Input Impedance Z=10kΩ/ 600Ω
- Alarm status
- Memory status
- Internal voltage
- Serial Number

REMOTE CONTROL

Parallel interface: start, stop, standby, alarms, status, interlock, recall memory
WEB interface: TCP/IP Telemetry (option)

GENERAL

Voltage power supply: 3x380 VAC ±15% ; 3x220 VAC ±15% (others on request)
Frequency: 50-60Hz ±5%
Power consumption: 15kW (cooling system included)
Power factor: ≥ 0.9
Cooling: forced air
Dimensions: 600 x 1100 x 1800h mm
Weight: 160 kg

OPTION

Digital audio Input: AES-EBU facilities XLR balanced (S/PDIF)
RDS: RDS simple coder programmable via PC
OIRT Version: band of frequency 65.80 to 74.00 MHz

How to Order (others version on request):

TX02-103F-01 – Single Drive, Analog Exciter
TX02-103F-02 – Dual Drive, Analog Exciter
TX02-103F-03 – Single Drive, Digital Exciter
TX02-103F-04 – Dual Drive, Digital Exciter

Intech S.r.l. : Via B. Pontecorvo 11 (Via Tiburtina Km 18,200) – 00012 Guidonia (RM) – Italy
e-mail: info@intech-srl.com – Tel: +39.0774.379237 / +39.0774.357200 ; Fax: +39.0774.375545