

TX01/03-203FL
TX01/03-702FL-D



20 kW TV ANALOGUE TRANSMITTER
7 kW TV (DVB-T/T2) DIGITAL TRANSMITTER
Liquid Cooled

General information

The series TX01-203FL & TX03-203FL belongs to the High Power product family of TV Transmitter fully solid state technology, Liquid Cooled.

The family, available for the VHF Band, is designed for a wide range of TV broadcast standards. These include analogue TV standards (B/G, D/K, M/N, I), colour coding standards (SECAM, PAL, NTSC), (FM mono, IRT dual-sound/stereo and NICAM), digital TV standards (DVB-T, DVB-T2, ATSC).



The compact design of 3.0 kW_{psync} output power Module amplifiers allows the arrangement of up to 8 Modules in one 19 inches rack

Transmitter Model	BAND	Output Power Capability		
		Analogue	DVB-T-T2-H	ATSC
TX01/03-203FL-D	VHF		7.0 kW _{rms}	10 kW _{rms}
TX01/03-203FL	VHF	20 kW peak sync +1.0 kW mono sound or 1000+200 W dual sound		

Key Features

- **BROADBAND** frequency synthesizer, without any other tuning or alignment.
- **Analog** emission according to the standard.
- **Digital TV standard** available DVB-T, DVB-T2, DVB-H, ATSC.
- **SFN** capability Suitable for single-frequency networks (SFN) and multi frequency networks (MFN).
- **Digital Adaptive Precorrector** allows high performances and stability without any alignment or manual intervention during maintenance routine.
- **Seamless** input switching.
- **LD-MOS** technology, reliability and high linearity.
- **Redundancy**, up to 8x 3 kW_{psync} RF power amplifiers.
- **Hot pluggable** RF power amplifiers.
- **Easy maintenance:** pluggable Modules, easy substitution of Power Supplies of Amplifier module.
- **Low MTTR:** 10 minutes maximum for any replacement unit.
- **Passive Reserve (1+1); (N+1)** Redundancy configuration capability.
- **High Tolerance** of Mains voltage fluctuation ($\pm 15\%$) accepted by the transmitter.
- **Remote Operation** compliant to IEC 864-1 rule.
- **Remote transmitter monitoring** and control via HTTP interface (Option).
- **Liquid Cooling System** fully integrated in the external unit.
- **Very low acoustic noise** -62dBA.
- **Very low heat room dissipation** less than 2000 W.

Technical Specifications Analog TV (ATV)

RF

- Frequency range VHF B1 (47 to 88 MHz) B3 (170 to 240 MHz)
- Output power 20 kW peak sync
- Vision/Sound power ratio 10/1 single sound
20/1/0.2 dual sound
- Vision – Sound amplification Common
- Standards B, G, K, I, M, N
- Modulation class C3F, F3E (Analog)
- Sound transmission FM single-sound; NICAM 728 (option)
- Harmonic emission ≤ 1 mW
- Spurious emission ≤ 1 mW
- Intermodulation products from
- Vision and sound ≤ 60 dB

VISION

- Video input BNC 75 Ω connector
- Nominal input level 1 Vpp \pm 6dB

SOUND

- Nominal input level (\pm 50kHz dev.) -10 to +6 dBm
- Input impedance 600 Ω balanced (or ≥ 5 k Ω)
- Pre-emphasis 50 μ S (75 μ S on request)

Transmission characteristics

- Sideband spectrum response according to the standard
- Amplitude-frequency response according to the standard

Power consumption

- (cooling system included) ≤ 45 kW

Technical Specifications Digital TV (DTV)

RF

- Frequency range VHF B1 (47 to 88 MHz) B3 (170 to 240 MHz)
- Output power 7.0 kW rms
- Modulation COFDM
- Standard DVB-T, DVB-T2, DVB-H
- Carrier Modulation QPSK, 16QAM, 64QAM, 256QAM
(normal or rotated)
- Transmission Mode..... 1k, 2k, 4k, 8k, 8k Extended, 16k,
16k Extended, 32k, 32k Extended
- Harmonic emission ≤ 60 dB without exceed 20 mW
- Spurious emission ≤ 1 mW
- Frequency stability ± 200 Hz / 6 months
 ± 0.2 Hz / day with GPS

- GPS receiver (option)..... 10 MHz, 1V/50Ω, BNC
1 PPS, BNC

Input Signals

- Inputs 4 DVB-ASI
- Data format 188 bytes (RS decoder)
Packets Mode
- GPS RF signal for receiver (option)

Transmission Characteristics

- Standard coding and modulation according to EN300744,
EN 302755, TS102 831, T2MI

Quality Data

- SNR > 37 dB
- MER > 35 dB
- Shoulder attenuation > 38 dB (typ 42dB)
- Out of band emission compliant with spectral mask to ETSI 300744

REMOTE CONTROL

- Parallel interface ≤ IEC standard 864-1
start, stop, standby, alarms, status, interlock
other on request (Full control and management)

Power consumption

- (cooling system included) ≤ 25 kW

GENERAL (ATV and DTV)

- Voltage power supply 3 x 380 VAC ±15%
3 x 400 VAC ±15%
50 – 60 Hz ± 5%
- Power factor ≥ 0.9
- Cooling forced air
- Acoustic noise ≤ 65 dBa
- Dimensions 602 x 2000 H x 1200 mm
- Weight TX : 500 kg approx. ; Cooling rack : 50 kg
- Temperature operating range ≤ 0 to 45°C
- Altitude ≤ up to 2.500 meters (≥ 2.500 m with additional
cooling system)

How to Order (others version on request):

150728-FA

VHF B1 TX01-203FL – 20 kW ATV
VHF B1 TX01-702FL-D – 7.0 kW rms DTV

VHF B3 TX01-203FL – 20 kW ATV
VHF B3 TX01-702FL-D – 7.0 kW rms DTV

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