

TX 25/S TX 250/S “PLUS SERIES”

25 W – 250 W

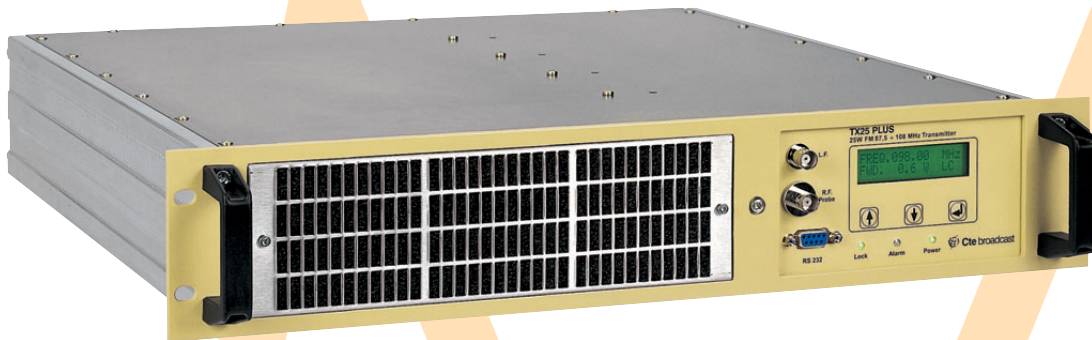
The TX 25/S PLUS and TX 250/S PLUS FM Exciter are designed to receive Audio signals Stereo Mono MPX, modulate them in FM and amplify the R.F.

The Exciter is equipped with a very innovative technology of Power

Supply with high performance «switching-mode mains direct» without mains transformer (Main supply from 80 to 265 Vac).

Major features include high insulation from mains, high efficiency and compliance with European norms EN61000-4-3.

In the FM Exciter an AGC audio circuit control is included which allows the modulation to be kept near to the maximum value allowed in compliance with CEPT/ERC 5401 E. The RF output specifications have been improved further obtaining values comparable to digital emitters. The FM Exciter can be controlled in local by PC or in remote by modem.



F662	TX25/S PLUS	25 W Stereo, Mono, MPX Transmitter
F663	TX250/S PLUS	250 W Stereo, Mono, MPX Transmitter

Technical data TX 25/S PLUS TX 250/S PLUS "PLUS SERIES"

FREQUENCY

Range	87,5 ÷ 108 MHz
Internal Setting mode	10 KHz steps
External Setting mode	10 KHz steps by remote control RS232-RS485
Generation	PLL synthesizer
Control	Microprocessor
Stability	± 300 Hz / 3months
Reference	TCXO 12,8 MHz
Nominal deviation	± 75 KHz
Stability of Frequency Deviation	± 2,5 % over 6 months
Variation of Sensitivity	± 1 dB (referred to 75 KHz Deviation) in all the frequency range

RF POWER

RF Connectors	Type N Female
Impedance	50 Ω output power
Output power	TX 25 PLUS - From 0 to 25 W TX 250 PLUS - From 0 to 250 W

RF OUTPUT SPECIFICATIONS

Harmonics suppression	< - 75 dBc
Spurious Emission	< - 90 dBc
Off Lock Attenuation	> 60 dBc
S/N RATIO (weighted)	> 73 dB (referred to ± 75 KHz)
THD	0,10%
VSWR	Less then 1,5:1

MONO MPX SPECIFICATIONS

Mono/MPX Impedance	600 Ω bal. or 10 KΩ unbal., XLR female Connector
Mono Level	From - 6 to + 12 dBm
MPX Level	- 6 dBm
Audio Filter Response (Mono)	> 30 dB (from 19 KHz to 100 KHz)
THD	< 0,2% From 40 Hz to 15 KHz
Suppression of 19 KHz	> 46 dB
RDS and SCA Impedance	10 KΩ unbal., BNC Connector (with 30 Hz to 100 KHz Filter)

STEREO SPECIFICATIONS

Left, and Right Impedance	600 Ω bal. or 10 KΩ unbal., XLR female Connector
Left, Right Level	From - 6 to + 12 dBm
Crosstalk	> 50 dB (@ 19 KHz)
THD on Encoded channels	< 0,3 % (from 0,4 Hz to 15 KHz)
Suppression of 38 KHz	> 50 dB
Spurious suppression outside band	According to ETSI 300-384
Sub Carrier Generation	Internal Cristal
Pilot Frequency	19 KHz ± 1 Hz
Pilot Tone level	Adjustable from 8% to 10%

DESIGN DATA

Type	Solid state direct FM frequency
Pre-emphasis	Flat or 75 or 50 ms
Audio frequency response	± 0,2 dB (from 40 Hz to 15 KHz) (stereo) ± 0,3 dB (from 40 Hz to 100 KHz) (MPX)
Unbalance rejection	> 40 dB
Modulation	Type: Direct VCO frequency modulation F3E/F8E Capability: Meets or exceeds all CE 99/ 05 R&ITE requirements

REMOTE CONTROL

Output Connector	RS 232 – PC connection (front panel) RS 485 (rear panel)	RS 232 – Amplifier connection (rear panel)
Input Connector	RS 485 (rear panel)	

STANDARDS SATISFIED

Electrical characteristics	EN 300-384
EMC characteristics	EN 301 489-11
Safety characteristic	EN 60215

TEMPERATURE

Nominal range	0° to 45° C
Operating range	- 5° to 45° C
Storage range	- 40° to 60° C
Maximum relative Humidity	90% non condensing
Max Operating Altitude	2500 mt. a.s.l.

AC POWER REQUIREMENT

	From 80 to 265 Vac, single phase; Direct Mains Switching Mode
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CONSUMPTION	TX 25 PLUS Approx. < 75 VA	TX 250 PLUS Approx. < 350 VA
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DIMENSIONS AND WEIGHT

Rack	(2 U) - 8,8 H x 44,8 W x 50 D cm.
Weight	TX 25 PLUS 15 Kg TX 250 PLUS 20 Kg.
Package	Wooden Case: 17 H x 68 W x 60 D cm.
Total weight of the equipment	TX 25 PLUS 17 Kg. (package included) TX 250 PLUS 22 Kg. (package included)

COOLING	TX 25 PLUS 1 blower 220 V ac TX 250 PLUS 2 blower 220 V ac
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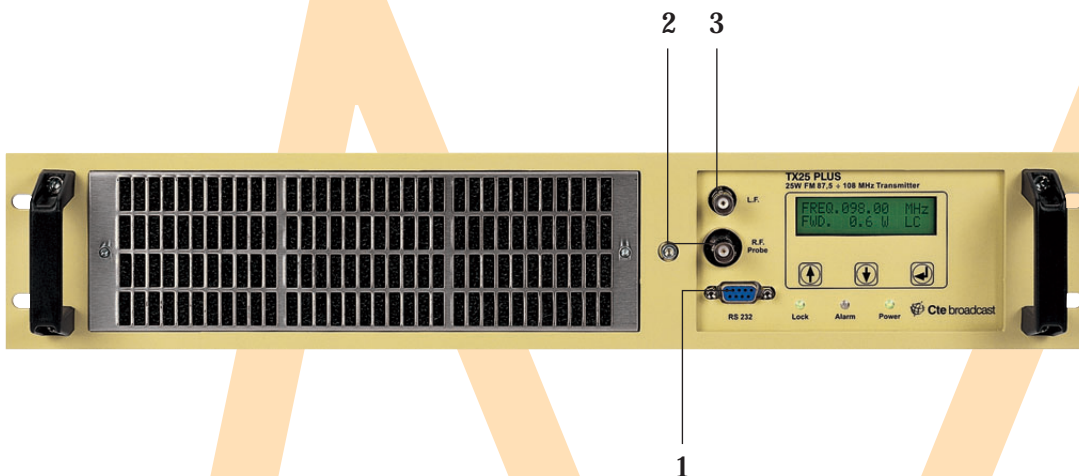
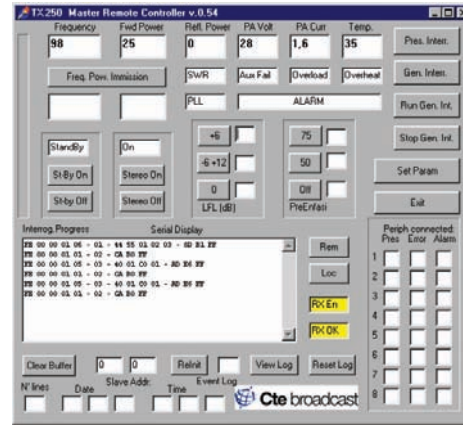
TX 25/S TX 250/S “PLUS SERIES”

25 W – 250 W

The TX 25/S PLUS is a completely solid state and wide band FM Exciter, covers the power range up to 25 W.

The power device used to obtain 25 W is the PHILIPS BLF 245.

In TX 250 PLUS FM Exciter we have added a power amplifier module composed by a power device PHILIPS 278 that allows 250 W output power to be obtained.

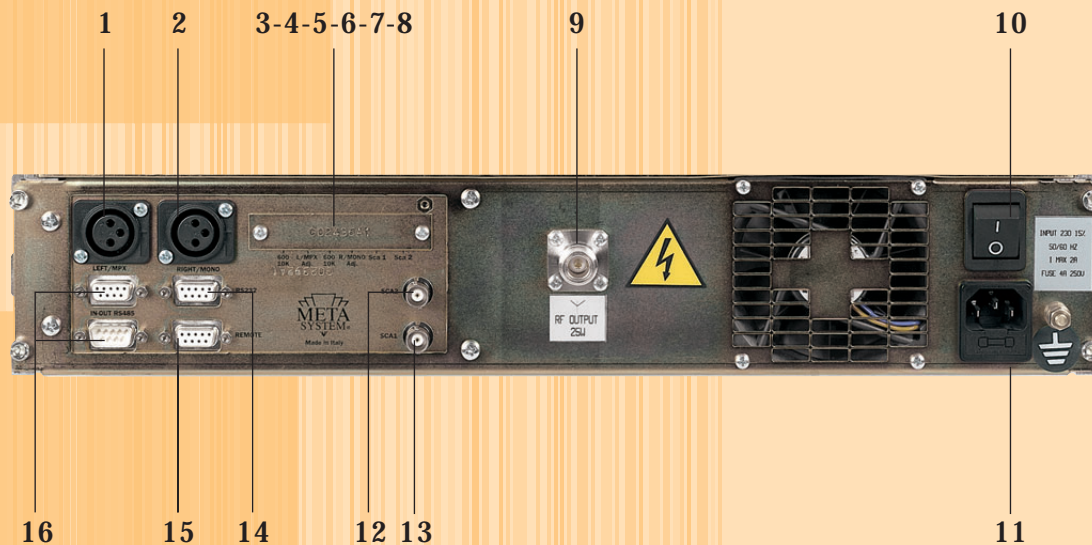


Description of connectors

A total of 19 connectors are available in the FM transmitter 3 of them are located in the front panel and the other 16 are located in the rear panel.

Front panel connections

1. The RS232-type connector is an auxiliary RS232
2. The connector marked with RF probe is a -40 dB output coming from the RF Filter Unit suitable for linear RF measurements in the 87,5 to 108 MHz frequency range.
3. The connector marked with L.F. is a low frequency output coming from AGC output.



Rear panel connections

1. Left - MPX external input.
2. Right - Mono external input.
3. Left MPX input impedance switch 600 Ohm or 10KOhm
4. Right-Mono input impedance switch 600 Ohm or 10KOhm
5. Left- MPX level adjustment from -6 dBm to $+12$ dBm
6. Right-Mono level adjustment from -6 dBm to $+12$ dBm
7. SCA1 sub-carrier input level adjustment from 10% to 90% of the value.
8. SCA2 sub-carrier input level adjustment from 10% to 90% of the value.
9. RF output N type female connector.
10. AC Mains power switch. Allows to switch ON/OFF the whole amplifier.
11. AC power input plug IEC type 90-265V 50-60Hz.
12. SCA1 input sub-carrier 1.
13. SCA2 input sub-carrier 2.
14. RS232 DB9 female connector to connect to a GSM module supplied by us in order to send an alarm SMS in case of transmitter breakdown.
15. DB9 female connector designed for several remote controls and service.
16. RS485 In/Out DB9 male-female connector designed for parallel connection of more amplifiers.

BLOCK DIAGRAM TX 25 PLUS

