AMPLIFIERS • TRANSMITTERS • ANTENNAS • ACCESSORIES

ELETTRONIKA SRL

Environmental Management System UNI EN ISO 14001 N° IT-24436

Quality Certified Firm UNI EN ISO 9001 N° 5199/01

The ***TXVP2500*** is composed by:

1. Power Control
2. Amplifier Control
3. **VEGA** TV Transmitter
4. ***AVTV/1500ST*** VHF TV Amplifier

2,5kW OUTPUT POWER

MOSFET Technology TV Transmitter

TXVP2500

The **TXVP2500** belongs to the High Power VHF products family of Television Transmitters fully in solid state technology.
The **TXVP2500** series represents the 2.5kW TV Transmitters operating in the III Band for Common amplification process of the Audio and Video carriers. This Transmitters family has been designed to offer to the customers high performances, high reliability and great simplicity in their operation and maintenance procedures.
The Audio and Video signal processing is provided for all TV Standards and all types of Audio applications (Mono & Dual sound - NICAM) together with colour systems such as PAL - NTSC - SECAM. Thanks to the amplitude and phase pre-correction circuit, it is possible to cancel the distortions in the output stage, thus cutting down the operating costs. The RF transposition in the driver is carried out by a synthesizer with various possibilities of accuracy and stability as well as precision offset locked by internal or external frequency reference.
The RF amplifier is made up by two RF modules installed in a power rack, the modules are dedicated for the Vision and Sound carriers common amplification. The amplifiers employ solid state MOSFET technology in order to obtain wide band, reliability, and high efficiency. Each RF module has a built-in switching-mode power supply unit, self-protected against overcurrents and overvoltages, as well as overtemperature and VSWR for RF parameters. The cooling system is fully contained into the transmitter. The control unit provides full management of the transmitter without the presence of the operator, the system includes a central controller and several peripheral units installed in each RF module and rack. The control device includes a fault-finding system to detect equipment malfunctions and locate the faulty subassembly which needs to be replaced. The interlock circuit is independent on the software and remains always operational whether the computer control is present or not. The operator interface is made by a high resolution LCD graphic display and a simple keyboard, the menu is very friendly and easy to use.
The Control Unit can be fully controlled in REMOTE mode via link or via modem in RS232 or other interface. The equipment design allows the soft degradation (RF power loss) for several transistors faults.

TECHNICAL SPECIFICATIONS

RF SECTION

Frequency range	170 - 230MHz
Output power	2.5kW PEP
Vision / Sound power ratio	10/1 single sound - 20/1/0.2 dual sound
Out stage technology	Solid State MOSFET
Vision / Sound amplification	Common
Standards	G, I, K, M
Sound transmission	FM single sound - Dual sound coding IRT - NICAM 728
Harmonics and spurious emission	In compliance with CCIR rec.
Intermodulation products from vision and sound	50dB
Frequency stability	2.5ppm (option 0.05ppm)

VISION SECTION

Video input	BNC 75 connector
Nominal input level	1Vpp ± 6dB
Return loss	30dB
DC Restoration	Clamped to the blanking level without affecting the burst
White limiter	At 90% picture signal without affecting the chrominance

Transmission characteristics

Sideband spectrum response	According to the standard
Amplitude-frequency response	According to the standard
Group delay variation without receiver precorrection and TV demodulator in flat	± 35ns
Non-linearity distortion (10 to 75% mod.)	5%
Differential gain (10 to 75% mod.)	5%
Differential phase (10 to 75% mod.)	5°
Signal-to-random-noise ratio (weighed 0.2 to 5MHz)	60dB
Blanking level variation	2%
2T k factor	2%

SOUND SECTION

Nominal input level (± 50kHz dev.)	-10 to +8dBm
Input impedance	600 balanced
Pre-emphasis	50 s

Transmission characteristics

Amplitude-frequency response	40 to 15000Hz ± 0.5dB
Total harmonic distortion	0.5%
FM Signal-to-noise ratio (referred to ± 50kHz dev. f = 400Hz)	60dB (weighed)
AM Signal-to-noise ratio	50dB (referred to 100%)
AM Synchronous modulation	40dB (referred to 100%)

REMOTE CONTROL

Parallel interface	On/Off, Alarms, Interlock
Serial interface	RS232 (Full monitoring and management)

GENERAL

Power supply voltage	3x380VAC, ±10% (other on request)
Frequency	50-60Hz, ± 5%
Temperature operating range	0 to 45°C
Altitude	Up to 2,500 meters (2,500m with additional cooling system)
Power consumption (cooling system included)	7kVA (black level)
Power factor	0.9
Cooling	Forced air
Dimensions	Rack 19"-28U

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