

# VJ 30000 TE

## Main features

- Meets CCIR and FCC requirements.
- 80% efficiency reducing operating costs.
- BROADBAND SOLID STATE RF driver composed of: 30 W LCD exciter and 1 KW modular IPA needing virtually no maintenance.
- Tetrode neutralization not needed.
- Adjustable filament voltage, displayed on meter.
- Typically three to five years tetrode lifetime.
- Proportional VSWR fold-back.
- Power Supply on slide-out wheels.
- VSWR, grid current, plate current, temperature, safety interlocks, airflow failure, unbalanced A.C. protection circuits.
- Black-Box event history recorder memorizing functional parameters 1 minute before alarm events. RS232C and I2C interfaces.
- Front panel graphic display and flow diagram leds status help troubleshooting procedures.



## Maintenance

Improved access.  
Ease of maintenance.



*Broadcast*  
EQUIPMENT

## FM Tetrode Power Amplifier

### 87.5 - 108 MHz range

Black-Box event history recorder  
Built-in remote control capability  
Motorized tuning for input, plate and load, covering the entire 87.5-108 MHz range.



These specifications are subject to change without notice.

On the VJ 30000-TE front panel, by an user-friendly graphic interface, all the amplifier diagnostic and control capabilities are displayed. The settings that can be monitored and adjusted are the following:



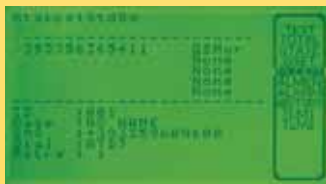
**Test menu** • Setting of the main working parameters of the transmitter.



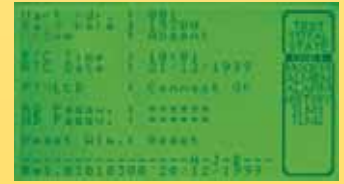
**Total menu** • The main working parameters (FWD and RFL of the tetrode amplifier and of the driver, VG1, VG2, IG1, IG2, Vfil, Ifil, Temp, etc.) are displayed.



**Status menu** • Displays the status of buttons and leds of the protections card situated on the front panel of the transmitter.



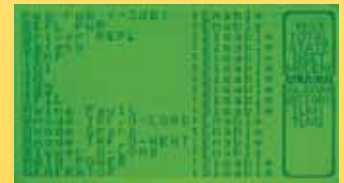
**General settings menu** • Displays communication settings, node number in the case of networking and Baud-rate. Setting of the audio alarm and the “read and write” passwords.



**Modem menu** • Setting of the name of the station and memorization of a set of 5 telephone numbers for the alarm messages.



**Alarm menu** • On/Off up to 16 types of alarms with the last 2 that can be used for customized operations.



**Alarm menu** • Alarms list managing up to 5 alarms with FIFO (First In First Out) logic.



**History menu** • Report of the main values memorized in the last minutes before the alarm.



**Telemetry menu** • Display of Telemetry Board readings, setting of Output Relays.



## Remote Control

The remote control is achieved through telephone line connected to a modem to RS232 port of the transmitter.

In case of failure, it sends alarm messages to the supervisory center.

With a GSM modem, SMS messages can be sent to preset telephone numbers.

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## Control

The control unit was designed to ensure maximum safety to the user and protection of the main components (tetrode, low-pass filter, power supply).

The ramp-up soft start, autorestart function, alarms handling and proportional VSWR foldback, provide maximum on-air reliability.

# Technical specifications

**TX 30000 TES/V6 - Stereo Transmitter composed of:  
VJ 30000 + PJ 1000 M + PTX 30 LCD/S**

## TETRODE POWER AMPLIFIER SECTION

### VJ 30000 TE

AC power source three-phase: 380-415 Vac, 50-60 Hz with neutral  
208-240 Vac, 50-60 Hz without neutral  
Frequency range: 87.5 – 108 MHz  
Output power: 30000 W  
R.F output connector: 3 1/8" EIA flange  
Output impedance: 50 Ohm  
R.F input connector: 7/8" EIA flange  
RF input impedance: 50 Ohm  
Input driver power: 1000 W

Power consumption: about 60000 VA  
Spurious & Harmonic suppression: meets or exceeds all FCC and CCIR requirements  
Cooling: forced cooling with filtered input air and output from the top of the cabinet (2 output ways)  
Operating temperature: from -10° C to 45° C  
Cabinet dimensions: 1930 mm (75.98") H  
1130 mm (44.48") W  
850 mm (33.46") D

## SOLID STATE DRIVER SECTION

### PJ 1000 M

AC power source three-phase: 100-130 Vac, 50-60 Hz  
198-250 Vac, 50-60 Hz  
Frequency range: 87.5 – 108 MHz  
Output power: 1000 W typically  
R.F output connector: 7/8" EIA flange  
Output impedance: 50 Ohm  
R.F input connector: N-type  
RF input impedance: 50 Ohm  
Input driver power: 20 W, typical 12 W  
Power consumption: about 2500 VA  
Spurious & Harmonic suppression: meets or exceeds all FCC and CCIR requirements  
Cooling: forced ventilation  
Operating temperature: from -10° C to 50° C  
Cabinet dimensions: 265 mm (10.43") H  
454 mm (11.87") W  
504 mm (19.84") D  
54 Kg approx.  
Weight:

## COMPOSITE OPERATION

Composite amplitude response: ±0.05 dB from 20 Hz to 53 KHz  
±0.2 dB from 53 kHz to 100 KHz  
87 dB (90 dB typical) below  
+75 KHz deviation at 400 Hz  
measured in a 20 Hz to 200 KHz  
with deenphasis (RMS)  
Composite FM S/N ratio:  
Composite total harmonic distortion: less than 0.02% (0.01% typical)  
Composite intermodulation distortion: 0.02% or less measured with a 1 KHz and a 1.3 KHz tones, 1:1 ratio, at 100% modulation  
Stereo separation: > 50 dB (60 dB typical)

## MONAURAL OPERATION

Audio frequency response: ±0.5 dB from 20 Hz to 15 KHz  
87 dB (90 dB typical) below  
+75 KHz deviation at 400 Hz  
measured in a 20 Hz to 20 KHz  
with 25-50-75 microsec  
deenphasis (RMS)  
Composite total harmonic distortion: less than 0.02% (0.01% typical)  
Composite intermodulation distortion: 0.02% or less measured with a 1 KHz and a 1.3 KHz tones, 1:1 ratio, at 100% modulation

## EXCITER SECTION

### PTX 30 LCD

## GENERAL SPECIFICATIONS

AC power requirement: 110-130V, 50-60%  
198-250V, 50-60%

Frequency range: 87.5 MHz to 108 MHz  
Rated output power: 0-30 W continuously variable (A L.C.)  
Frequency programmability: direct from front panel  
Frequency stability: ±1ppm from -10°C to 50°C  
Spurious & Harmonic suppression: meets or exceeds all FCC and CCIR requirements (typical 85dB)  
Modulation capability: meets or exceeds all FCC and CCIR requirements (typical 240kHz MPX or Mono 210 KHz Stereo)  
Asynchronous AM S/N ratio: 70 dB below reference carrier with 100% amplitude modulation at 400Hz.  
no de-emphasis no FM modulation  
Synchronous AM S/N ratio: 60 dB or better below reference carrier with 100% amplitude modulation at 400Hz. Without de-emphasis, FM modulation = +75KHz at 400Hz  
Transient intermodulation distortion: less than 0.1% (typical 0.05%) measured with a 3.18KHz square wave and a 15KHz sine wave at 100% modulation  
Power consumption: approx 120VA from AC  
R.F output connector: "N" type  
R.F output impedance: 50 Ohm  
Modulation type: direct carrier frequency modulation  
Ambient temperature range: -10°C to 50°C

## SCA INPUT

SCA input: 3 unbalanced  
SCA connectors: "BNC" type  
SCA input impedance: 10 KOhm  
SCA input levels: +10 to -20 dBm adjustable  
SCA amplitude response: ±0.2 dB, from 40 KHz to 100 KHz  
Crosstalk: 67 KHz SCA to main or to stereo channel: 65 dB  
92 KHz SCA to main or to stereo channel: 70 dB

## OUTPUT SIGNALS

Monitor MPX: 0 dBm at 75 KHz, minimum load 600 Ohm  
19 KHz Pilot tone: 1 Vpp, minimum load 4.7 KOhm  
R.F. output impedance: 50 Ohm  
R.F. test: -30 dB, 50 Ohm impedance

## SERIAL INTERFACE

Serial interface: RS232, DTE/DCE selectable  
Serial interface: RS485 (Optional), DTE/DCE selectable  
Serial connector: DB9 female type

CE 99/5/CE

These specifications are subject to change without notice.

## Hardware Highlights

The power supply is mounted on slide-out wheels in order to facilitate installation and maintenance operations.

