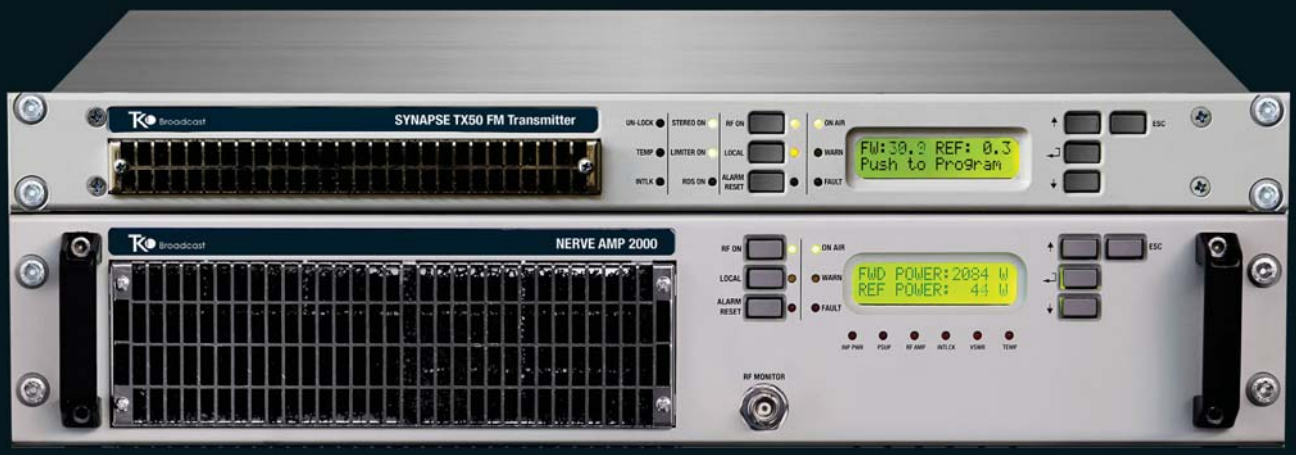
Broadcast

SENSOR TXU Series

High Efficiency FM Amplifier
UNION of SYNAPSE Exciter and CELL AMPLFIER
Output Power Ranges 600W, 1300W, 2500W



- DIRECT ACCESS KEY TO MAIN COMMANDS
- SMART NAVIGATION KEYS WITH ESC COMMAND
- OVERALL SATUS SHOW BY LEDS
- AIR FILTER STANDARD
- ANALOG AND DIGITAL READY FM AMPLIFIERS
- HD RADIO AND DRM COMPATIBILITY
- UP TO 80% OVERALL EFFICIENCY
- PLANAR ARCHITECTURE
- 65:1 VSWR TOLLERANT
- FULLY RF AND POWER SUPPLY REDUNDANT
- PLUG-IN POWER SUPPLY REPLACEABLE
- SENSE AMPLIFIERS NATURAL OUTCLASS GREEN TECHNOLOGIES
- HIGH EFFICIENCY LAST GENERATION LDMOS TECHNOLOGY UP TO 85%
- TOTAL SPECTRAL PURITY: > -100 DBC SPURIOUS, > - 84 DBC HARMONICS
- FULL RANGE POWER SUPPLY: 90-260 VAC MAINS VOLTAGE
- HIGHEST RF SIGNAL QUALITY
- REMOTE CONTROL BY TCP/IP: WEB + SNMP OF ALL SIGNAL PARAMETERS

Output power 1300W or 2500W using High Efficiency last LDMOS technology housed into an ultra-compact cabinet of only 2U height.
For any application SENSE Series is the ultimate solution that meets most demanding customer' requirements and guarantees professional features at affordable price.

HOT PLUG-IN POWER SUPPLY
Replace the power supply in ONE MINUTE 4 Steps
- Remove the front pannel
- Pull Off the sliding power supply
- Insert the new Power Supply
- Install the front pannel

OVERALL AMPLIFIER CHARACTERISTICS

Hardware and Software Protections

• Over and Under Voltage DC, Over and Under Voltage AC, RF and Power Supply Temperature, RF Coaxial Output Open or Short Circuit

• Capability of a long working time on Short/Open loads at all phase angles without any damage.

• Last generation 1400 W LDMOS, VSWR > 65:1 @ all Phase Angles, designed for enhanced ruggedness ISM applications and plasma generators.

• Integrated AC Mains filtering.

• Integrated lightning protection.

• Delayed energized of the system after Mains Power Blackout prevents against peaks and high variation voltages typical of this events.

• Soft controlled sequential start-up so to reduce the Inrush current during OFF to ON transition.

WEB/SNMP Telemetry and Remote Control

• Full Local or Remote control by by logon username and password.

• Remote control with Smartphones or Tablet.

• Host Logic and tele-measurement (TM, TC & TA).

• Remote control and monitoring via SNMP and/or WEB interface.

• With logbook or log file to record error or alarm message.

• Display of forward/reflection power value and reflection high alarm.

• TCP/IP, SNMP, GSM and PSTN TELEMETRY

Human Interface

• Each module is equipped with a logic controller that allows full control by a local operator.

• All transmitter and amplifier parameters required for diagnostics can be retrieved locally or remotely via standard (IP) protocol and standard software (web browser, SNMP).

• Multilingual user guidance.

• High Definition, high contrast Color Oled display.

• Quick set of thresholds for protections level. This set is based on assignment of three “flavors” or PERSONALITIES: Conservative (primary target = protect itself), Standard (balanced), Aggressive (primary target = transmission without interruptions).

TECHNICHAL CHARACTERISTICS

CELL Tech HIGH Efficiency.

• Output power on/off and adjustable from front panel and remotely.

• Overall Efficiency up to 80%.

When developing CELL Series, the main target was: Always on Air, Less than 7 kg (15 lbs) of modules-weight, Easy maintenance, Low consumption and High Efficiency

• RF Input Connector: N Type.

• RF Output Impedance: 50 ohm.

• RF Output Connector: 7/16 Type. (other on request).

• Monitor RF: -57 dBc, BNC connector.

• VSWR: 1.5:1 Maximum with automatic fold-back at higher VSWR.

• Very high efficiency (more than 75%.

• Last LDMOS technology for power modules.

• Ultra High RF efficiency (>80 % typ.) software optimized for each power level.

• Lowest weight and dimensions in the industry.

• Lower device heating.

• Lower room heating.

• Lower space occupied.

• Lower maintenance needed.

• Small dimensions and low weight, reduce transportation costs and simplifying the logistic.

• Longer Component Lifespan.

• Reduced Electricity Costs.

• Lower Maintenance Costs.

• Reduced Cooling Costs.

• Fewer Fans.

Electrical Characteristics

• Very high harmonics suppression (-90dB).

• Independent, individual APC (Automatic Power Control) circuit maintain a constant output power set.

• Frequency-response-compensated directional couplers and precision internal indicators.

• Distributed less binding Low Pass filter.

AC Input Power: 220/400 VAC ±15%, 50/60 HZ single phase

Power factor > 0.98.

Cooling: Forced air

ENVIRONMENTAL

Operating temperature: -10°C to +50°C.

Max Operating Altitude: 4000 mt.

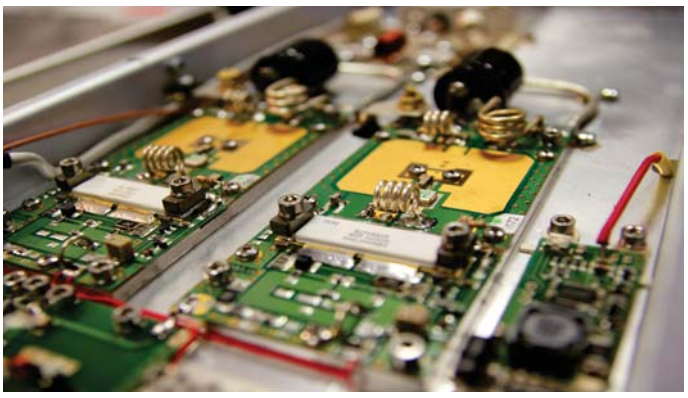
Relative Humidity Range: 0 to 95% non condensing.

PHYSICAL DIMENSIONS:

Mounting: Standard 19” chassis 2 U rack.

Size: 485 mm. W x 550 mm. D x 88 mm. H.

Weight: ~ 17 Kg.



OVERALL EXCITER CHARACTERISTICS

GENERAL

Power Output: 50 W adjustable from front panel.
RF Output Impedance: 50 ohm.
RF Output Connector: “N” type.
Monitor RF: -46 dBc, BNC connector
VSWR: 1.5:1 Maximum with automatic fold-back at higher VSWR
Frequency Range: 87.5 ÷ 108.00 MHz, on request 66 ÷ 74 MHz (OIRT), 76 ÷ 90 MHz (JPN) Programmable in 10 KHz steps.
Frequency Stability: ±1 ppm from -5 to 50°C.
Frequency Control: Synthesizer μprocessor control.
Type of Modulation: Direct frequency modulation of carrier frequency, F3E stereo and mono.
Lock in Time: Typ. 4 second.
Off Lock Attenuation: ≥ -60 dBc.
Modulation Capability: ±150 KHz.
Modulation Mode: Mono, Stereo, Multiplex, Aux.
Preemphasis: Flat/50/75μs selectable internal jumper.
Asynchronous AM S/N Ratio: -80 dB below reference carrier with 100% AM modulation @ 400 Hz, without FM modulation.
Synchronous AM S/N Ratio: -65 dB below reference carrier with 100% AM modulation @ 400 Hz with FM modulation ±75 KHz @ 400 Hz.
RF Harmonics: Exceeds EBU/CCIR/FCC requirements.
RF Spurious: Exceeds ETSI/CCIR/FCC requirements.

MONAURAL OPERATION

Audio Input Impedance: 600 ohm balanced, 10 Kohms unbalanced.
Audio Input Level: -3 to +9 dBm.
Input Connector: XLR female.
Audio Frequency Response: ±0.1 dB, 30 Hz to 15 KHz.
Total Harmonic Distortion + Noise: 0.05% @ 400 Hz
Intermodulation Distortion: 0.05%, 1 KHz/1.3 KHz, 1:1 ratio
Transient Interm. Dist.: 0,05%, 2.96 KHz square wave and 14 KHz sine wave.
Distortion: 0.05%, 2.96KHz square wave and 14 KHz sine wave.
FM S/N Ratio: -82 dB RMS, -80 dB at ±75 KHz dev., 50 μs de-emphasis, weighted.

MULTIPLEX OPERATION

Composite Input Impedance: 1.2 Kohm unbalanced.
Composite Input Level: +6 to +12 dBm
Input Connector: BNC female.
Composite Amplitude Response: ±0.2 dB, 30 Hz to 100 KHz.
Total Harmonic Distortion + Noise: 0.05% @ 400 Hz
Intermodulation Distortion: 30 Hz to 15 kHz * 0.05% @ 400 Hz
Transient Interm. Dist.: 0,05%, 2.96 KHz square wave and 14 KHz sine wave.
FM S/N Ratio: -83 dB RMS detector, -80 dB AT ±75 KHz dev., 50 μs de-emphasis, weighted.

STEREO OPERATION

Audio Input Impedance: 600 ohm balanced, 10 Kohm unbalanced.
Audio Input Level: -3 to +9 dBm.
Input Connector: XLR female.Audio Frequency Response: ±0.1 dB, 30 Hz to 15 KHz.

Total Harmonic Distortion + Noise: 0.05% @ 400 Hz
Intermodulation Distortion: 0.05%, 1 KHz/1.3 KHz, 1:1 ratio
Transient Interm. Dist.: 0,05%, 2.96 KHz square wave and 14 KHz sine wave.
FM S/N Ratio: -73 dB RMS, -71 dB at ±75 KHz dev., 50 μs de-emphasis, weighted.
Stereo Separation: 30÷80 Hz ≥ -50 dB, 80Hz÷15 KHz ≥ -60 dB (Typ. 65 dB).
Crosstalk attenuation: Main to Sub -50 dB 30 Hz to 15 KHz
(typ. -55 dB 100 Hz to 8 KHz).
38 KHz Suppression: ≥ -65 dB
(typ. -80 dB).
Pilot Frequency: 19 KHz ± 1 Hz
Output Pilot: 1 Vpp., BNC female
Audio Filter Attenuation: ≥ -44 dB @ 19 KHz, > -27 dB 20 KHz to 100 KHz.
Modes: Stereo, Mono

AUXILIARY INPUT

Input Impedance: 3 Kohm.
Input Level: -3 to +6 dBm.
Frequency Response: ±0.2 dB, 40 KHz to100 KHz.
Input Connector: BNC female. Most SCA, RDS, AUX, performance parameters
are determined primarily by the generator used.

TELEMERTY CONNECTOR

DB9: female connector back panel for remote connections.

OPTIONS

DIGITAL STEREO CODERY
RDS/RBDS CODER PROGRAMMABLE BY PC
OIRT & JPN VERSION
LPFM CODE STATION

ELECTRICAL

AC Input Power: 90÷260 VAC 50/60 HZ single phase.
Cooling: Forced air with internal long life brushless ball bearing fan.
Acoustic noise:< -56 dBa @ 1 m.

ENVIRONMENTAL

Operating temperature: -10°C to +50°C.
Max Operating Altitude: 3000 mt asl.
Relative Humidity Range: 0 to 95% non condensing.

PHYSICAL DIMENSION

Mounting: Standard 19” chassis 1 U rack.
W: 485 mm. x D: 405 mm. x H: 44 mm.
Weight: ~ 4,0 Kg