



## 1000 watt FM Transmitter SWAP- 1000W

**Swap 1000W is a High Fidelity Stereo solid state FM Transmitter, with Natural Warm sound highlights that optimize the quality of your signal.**

**Options available:**

**TCP/IP Telemetry, Dynamic RDS Options**

Swap Series Exciter/Transmitters are a Family of stereo FM transmitters that guarantee superior transmission **quality and performance**.

Output power is adjustable from 30 W to 1200W. Swap Series transmitters utilize high efficiency LDMOS technology housed in an ultra-compact 2 RU .

Transmitter is available also in JPN and OIRT frequency plans.

SWAP can be used as ultra-compact standalone transmitter, or as well as an exciter driver for **high power transmitters** and N+1 systems.

SWAP is the ultimate solution for most demanding broadcast customers requirements at an affordable price.

- HIGH EFFICIENCY LAST GENERATION LDMOS TECHNOLOGY UP TO 80%
- Very LOW SIGNAL TO NOISE MORE THAN 90 DB v
- Very LOW DISTORTION and HIGH STEREO SEPARATION
- TOTAL SPECTRAL PURITY: > -100 DBC SPURIOUS, > - 84 DBC HARMONICS
- SEVEN SELECTABLE COMPLETE SET-UP: READY FOR USE IN 7+1 SYSTEM

- FULL- RANGE POWER SUPPLY: 90-260 VAC MAINS VOLTAGE
- COMPLIANT WITH ALL THE STANDARD: ETSI – CCIR - FCC.
- DIGITAL STEREO CODER: SUPERIOR STEREO QUALITY
- UP TO 75% LDMOS HIGH EFFICIENCY AMPLIFIERS
- EXTERNAL 10MHz and 1PPS SYNCHRONIZATION FOR USE ON SFN APPLICATIONS
- HIGHEST RF SIGNAL QUALITY
- PERFECT AUDIO FIDELITY
- REMOTE CONTROL BY TCP/IP: WEB + SNMP OF ALL SIGNAL PARAMETERS
- CLEAR CRISTAL AUDIO SOUND
- DYNAMIC RDS ENCODER with TMC Function HIGH EFFICIENCY LAST GENERATION LDMOS TECHNOLOGY UP TO 80%
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## **TECHNICAL CHARACTERISTICS SWAP EXCITER/TRANSMITTER 30W TO 1200W**

- Frequency Range: 87.5 ÷ 108.00 MHz, Programmable in 10 KHz steps
- On request 66 ÷ 74 MHz (OIRT), 76 ÷ 90 MHz (JPN) Bands.
- Frequency Stability: better than  $\pm 150$ Hz from -10 to +50°C
- Max deviation: +/-150kHz.
- Frequency Control: Synthesized Microprocessor control.
- Power Output: 30W, 50W, 100W, 150W, 300W, 600W, 1200W. Adjustable from 0W to maximum power.
- Output Impedance: 50 ohms.
- Display: forward/reflection power and modulation indicator
- Type of Modulation: Direct frequency modulation of carrier frequency, F3E Stereo with Subcarrier and Mono.
- Lock in Time: Typ. 4 second.
- Off Lock Attenuation:  $\geq -80$  dBc.

- Modulation Capability:  $\pm 150$  KHz.
- Modulation Mode: Mono, Stereo, Multiplex, SCA, RDS, Aux.
- Pre-emphasis: Flat(0)/50/75  $\mu$ s selectable from front panel.
- Asynchronous AM S/N Ratio: -60 dB below reference carrier with 100% AM modulation @ 400 Hz, without FM modulation.
- Synchronous AM S/N Ratio: -60 dB below reference carrier with 100% AM modulation @ 400 Hz with FM modulation  $\pm 75$  KHz @ 400 Hz.
- RF Harmonics: Exceeds ETSI/EBU/CCIR/FCC requirements. better than 84 dbc
- RF Spurious: Exceeds ETSI/EBU/CCIR/FCC requirements. better than 84 dbc
- Output Connectors: 30W to 600W N type connector, 1200W DIN 7/16 type connector
- Output power on/off and adjustable from front panel and remotely.
- Overall Efficiency up to 80%.
- Monitor RF: -60 dBc, BNC connector
- VSWR: 1.5:1 Maximum with automatic fold-back at higher VSWR

## MONAURAL OPERATION

- Audio Input Impedance: 600 ohm balanced, 15 Kohms unbalanced.
- Audio Input Level: -6 to +12 dBm. (Other range on request)
- Input Connector: XLR female.
- Audio Frequency Response:  $\pm 0.15$  dB, 30 Hz to 15 KHz.
- Total Harmonic Distortion + Noise: 0.03% @ 400 Hz
- Intermodulation Distortion: 0.03%, 1 KHz/1.3 KHz, 1:1 ratio
- Transient Intermodulation Distortion: 0.03%, 2.96KHz square wave and 14 KHz sine wave.
- FM S/N Ratio: -89 dB RMS detector, -85 dB below  $\pm 75$  KHz deviation, 50  $\mu$ s de-emphasis, weighted.

## MULTIPLEX OPERATION

- Composite Input Impedance: 5 Kohm unbalanced.
- Composite Input Level: 3.5Vp-p for  $\pm 75$ KHz deviation.
- Input Connector: BNC female.
- Composite Amplitude Response: :  $\leq \pm 0.1$ dB, from 30Hz to 53kHz
- Total Harmonic Distortion + Noise: 0.03% @ 400 Hz
- Intermodulation Distortion: 0.03%, 1 KHz/1.3 KHz, 1:1 ratio
- Transient Intermodulation Distortion: 0.03%, 2.96 KHz square wave and 14 KHz sine wave.
- FM S/N Ratio: -89 dB RMS detector, -85 dB below  $\pm 75$  KHz deviation, 50  $\mu$ s de-emphasis, weighted.

## STEREO OPERATION

- Audio Input Impedance: 600 ohm balanced, 15 Kohm unbalanced.
- Audio Input Level: -12 to +12 dBm.
- Input Connector: XLR female.
- Audio Frequency Response:  $\pm 0.15$  dB from 30 Hz to 15 KHz.
- Total Harmonic Distortion + Noise: 0,03% @ 400 Hz
- Intermodulation Distortion: 0,02%, 60Hz /7kHz 4:1 ratio +4dBu
- Transient Intermodulation Distortion: 0.03%, 2.96 KHz square wave and 14 KHz sine wave.
- FM S/N Ratio: -85 dB RMS detector, -82 dB below  $\pm 75$  KHz deviation, 50  $\mu$ s de-emphasis, weighted.
- Stereo Separation: 30÷80 Hz  $\geq -53$  dB, 80Hz÷15 KHz  $\geq -65$  dB (Typ. 70 dB).
- Crosstalk attenuation: Main to Sub -55 dB 30 Hz to 15 KHz
- 38 KHz Suppression:  $\geq -70$  dB (typ. -85 dB).
- Pilot Frequency: 19 KHz  $\pm 1$  Hz
- Phase Pilot:  $\pm 2^\circ$  adjustable
- Output Pilot: 1 Vpp., BNC female
- Audio Filter Attenuation:  $\geq -55$  dB @ 19 KHz,  $> -45$  dB 20 KHz to 100 KHz.
- Modes: Stereo, Mono L+R, Mono L, Mono R.

## AES/EBU OPERATION

- Input Level: -10dBfs to 0dBfs
- Input Connector: XLR female, optical TOS-LINK.
- Input Impedance: 110 ohm.
- Data Format: S/PDF, AES/EBU, IEC958, EIAJCP340/1201.
- D/A Converter: 24 bit.
- Sampling Frequency: from 32 to 96 KHz with automatic selection
- Stereo separation (crosstalk):  $\geq 50$ dB, 100Hz to 5kHz
- Amplitude response:  $\leq \pm 0.1$ dB, from 30Hz to 15kHz
- FM S/N Ratio: -85 dB below  $\pm 75$  KHz deviation, 50  $\mu$ s de-emphasis, weighted.