

## HIGH EFFICIENCY 4KW HOT PLUG FM TRANSMITTER EM 4000 HE HOT PLUG

The 4KW FM transmitter **EM 4000 HE HOT PLUG** has been created by OMB the center of development for high efficiency transmitters with hot plug modules. It consists of two FMA 2000 HE power amplifiers with >73% efficiency (they can be externally used as 2KW amplifiers) and the EM 25 DIG PLUS transmitter. This high efficiency 4KW amplifier has an approximate consumption of 5450VA, so it pays for itself in a short period of time due to its low consumption. This transmitter can be supplied with the following options:

- Stereo generator
- RDS
- Web server/SNMP telemetry
- AES/EBU digital audio input



### MAIN ADVANTAGES

- Typical AC efficiency >73% and typical RF efficiency of 80%.
- Two hot plug and hot swap amplifying units, each one has two amplifying modules of 1.200W with robust LDMOS transistors of the latest technology.
- Switched power supplies of the amplifier are hot removable and interchangeable.
- Power supplies connected in parallel to each amplifying module.
- TFT screen and touch keyboard to control and to visualize operation parameters.
- Memory recording of events.
- Speed control of cooling fans according to temperature of power modules so as to optimize consumption and to decrease acoustic contamination.
- Advanced protection against antenna mismatches without transmission cuts and fast protection in case of excessive reflected power and/or excessive input power.
- Analog telemetry, digital remote control and telemetry RS232, remote control by opened/closed contacts.
- Low pass filter, Mains EMI filter and internal single-phase transient suppressor.
- Automatic power reduction at night when used in combination with the EM 25 DIG PLUS transmitter.
- Automatic power reduction in case of high temperature, the equipment returns automatically to its rated power value when the temperature reaches back an average value.
- Automatic power reduction in case of excessive reflected power.
- Automatic voltage control for efficiency optimization.

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**GENERAL CHARACTERISTICS**

<b>AMPLIFIER FMA 4000 HE</b>	
<b>FREQUENCY RANGE</b>	87.5-108MHz
<b>INPUT RETURN LOSS</b>	-20dB
<b>INPUT POWER</b>	25W
<b>OUTPUT POWER</b>	4KW nominal, manual and automatic adjustable
<b>TOTAL AC EFFICIENCY</b>	>73% typical
<b>RF EFFICIENCY</b>	80% typical
<b>COOLING</b>	Forced air, speed control of fans
<b>HARMONICS LEVEL</b>	-80dBc
<b>INPUT/OUTPUT IMPEDANCE</b>	50Ω
<b>RF INPUT CONNECTOR</b>	N(F)
<b>RF OUTPUT CONNECTOR</b>	EIA 1+5/8"
<b>RF MONITOR CONNECTOR</b>	BNC(F)
<b>POWER SUPPLY</b>	230VAC ±15% → 195 ÷ 265VAC, 50/60Hz Three-phase 380VAC ±15%
<b>CONSUMPTION</b>	5450VA
<b>PROTECTIONS</b>	Reflected power, forward power, overdrive, and overcurrent in power modules. Smart temperature protection. Ultra-fast protection against reflected and input power. Real time registration of events. Exciter's inhibition
<b>TELEMETRY AND REMOTE CONTROL</b>	Analog telemetry (direct and reflected power measurements). Digital telemetry and remote control RS232. Remote control by opened/closed contacts. SNMP/IP optional.
<b>OPERATION TEMPERATURE</b>	-5 to +40°C
<b>WEIGHT</b>	160kg approx.
<b>DIMENSIONS</b>	138x59x90cm



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<b>EXCITER EM 25 DIG PLUS</b>	
<b>FREQUENCY RANGE</b>	87.5-108MHz
<b>FM MODULATION</b>	75KHz (adjustable) peak deviation. Mono 180kF3E and Stereo 256kF3E
<b>AUDIO/MPX INPUT LEVEL</b>	-3.5 @ +12.5dBm @ 75KHz deviation
<b>AUDIO INPUT CONNECTORS</b>	XLR(F) * 2 – Analog Input XLR (F) * 1 – AES/EBU Input BCN(F) * 2 – MPX/SCA Input
<b>AES/EBU INPUT</b>	> 110 Ω, level set by software (range -20 a 0dBFS), AES 16, 24, 32 bits, till 192 kHz
<b>AUXILIARY CHANNEL (RDS/SCA) INPUT LEVEL</b>	7.5KHz deviation: -12.5 to 3.5dBm and 2KHz deviation: -24 to -8dBm
<b>AUX. CHANNEL INPUT IMPEDANCE</b>	10kOhm
<b>MODULATION DISTORTION</b>	7.5KHz deviation: <0.05%, 0.02% typical; 2KHz deviation: <0.2%, 0.05% typical
<b>S/N MONO RATIO</b>	30 to 20000Hz: >76dB, 86dB typical, CCIR: >75dB, 81dB typical
<b>S/N STEREO RATIO</b>	30 to 20000Hz: >72dB, 77dB typical, CCIR: >68dB, 72dB typical
<b>AUDIO CHANNELS BANDWIDTH</b>	30 to 15000Hz ±0.1dB
<b>PRE-EMPHASIS TIME CONSTANT</b>	Selectable, 25/50/75 microseconds
<b>RF NOMINAL OUTPUT POWER</b>	25W
<b>TUNING STEPS OF TRANSMITTER</b>	10/100KHz
<b>ALC OUTPUT POWER STABILITY</b>	±3%
<b>SPURIOUS AND HARMONIC EMISSIONS</b>	<80dBc
<b>RF OUTPUT IMPEDANCE</b>	50Ω
<b>RF INPUT POWER CONNECTOR</b>	N
<b>RF SAMPLING CONNECTOR</b>	BNC
<b>POWER SUPPLY</b>	110-230Vac ±15% 50-60Hz
<b>CONSUMPTION</b>	96VA (25W)
<b>OPERATION TEMPERATURE RANGE</b>	0 to 40°C recommended, -10 to 55°C max.
<b>RELATIVE HUMIDITY</b>	Up to 95% without condensation
<b>DIMENSIONS</b>	484x300x90mm, 2 standard rack units of 19"
<b>WEIGHT</b>	7Kg

*\* The images and/or technical specifications are subject to change without previous notice.*

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