3500W DIGITAL FM TRANSMITTER
EM 3500 HE DDS

The 3500W fully digital FM transmitter **EM 3500 DDS** has been created by the OMB center of development for DDS technology. Thanks to its powerful core, crystal clear sound, accurate filtering procedures, audio processing and usage this device brings your experience to the next level. This 3500W DDS FM transmitter comes with a 4.3" touch screen display, allowing an easy configuration and simple access to functions setting, operating parameters and alarms detections. It also includes a wide mode AES/EBU (192kHz broadband sampling), audio backup and many more advanced features. Its high efficiency 3.5KW amplifier has an approximate consumption of 4900VA at 230Vac, so it pays for itself in a short period of time due to its low consumption.

MAIN ADVANTAGES

- Typical AC efficiency >73% and typical RF efficiency of 84%.
- Four amplifying modules of 1.200W with robust LDMOS transistors of the latest technology.
- Three independent switching power supplies connected in parallel to maintain the equipment working in case any of them fails.
- 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 load 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 50 DDS 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.
- Suitable for single frequency applications (SFN), audio limiter (ITU).
- Audio rescuer integrated, with programmable established time and all inputs priority (analog, digital and MPX).
- Programmable power reduction.
- Automatic voltage control for efficiency optimization.

OMB BROADCAST
www.omb.com

OMB EUROPA
C/ Paraguay 6, P.I. Centrovía
50198 La Muela
Zaragoza, España
europa@omb.com
comercial@omb.com

OMB AMÉRICA
3100NW 72nd. Ave. Unit 112
MIAMI, Florida 33122
USA
usa@omb.com

GENERAL CHARACTERISTICS

AMPLIFIER FMA 3500 HE	
FREQUENCY RANGE	87.5-108MHz
INPUT RETURN LOSS	-20dB
INPUT POWER	<25W
OUTPUT POWER	3.5KW nominal, manual and automatic adjustable
POWER GAIN	>21.3dB minimum
TOTAL AC EFFICIENCY	>73% typical
RF EFFICIENCY	84% typical
COOLING	Forced air, speed control of fans
HARMONICS LEVEL	-82dBc
INPUT/OUTPUT IMPEDANCE	50Ω
RF INPUT CONNECTOR	N(F)
RF OUTPUT CONNECTOR	7/16"or EIA 7/8" (under request)
RF MONITOR CONNECTOR	BNC(F)
POWER SUPPLY	230VAC ±15% → 195 ÷ 265VAC, 50/60Hz
CONSUMPTION	4900VA (@3000W output power)
PROTECTIONS	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
TELEMETRY AND REMOTE CONTROL	Analog telemetry (direct and reflected power measurements). Digital telemetry and remote control RS232. Remote control by opened/closed contacts
OPERATION TEMPERATURE	-5 to +40°C
WEIGHT	45Kg approx. (without rack)
DIMENSIONS	5 standard rack units of 19" (height), 650mm (depth)

EXCITER EM 50 DDS	
FREQUENCY RANGE	87.5-108MHz
TRANSMITTER TUNING STEPS	100KHz – fine tuning steps: 10Hz
FREQUENCY ERROR	<50Hz not synchronized, <1Hz synchronized
GPS SYNCHRONIZATION	10MHz/1PPS Internal/external with digital PLL
MODULATION TYPE	FM DDS, direct digital synthesis 256kF8E
AUDIO AND MPX/L/R INPUT LEVEL	From -10 to +10dBu @75KHz deviation, 0.1dB steps
AUXILIARY INPUT CHANNEL LEVEL	SCA: from -12 to +6dBu @7.5KHz deviation RDS: from -24 to -3dBu @2KHz deviation

OMB BROADCAST
www.omb.com

OMB EUROPA
C/ Paraguay 6, P.I. Centrovía
50198 La Muela
Zaragoza, España
europa@omb.com
comercial@omb.com

OMB AMÉRICA
3100NW 72nd. Ave. Unit 112
MIAMI, Florida 33122
USA
usa@omb.com

DIGITAL AUDIO INPUT	AES/EBU: from -6 to +12dBfs @75KHz deviation, 0.1dB steps
MODULATION DISTORTION	75KHz deviation: ≤0.02%
AUDIO BACKUP	µSD/USB: MP3 320kbps
S/N RATIO, MONO	30 to 20000Hz: >76dB, 83dB typical CCIR: >72dB, 76dB typical
S/N RATIO, STEREO	30 to 80000Hz: >72dB, 77dB typical CCIR: >68dB, 72dB typical
AUDIO CHANNELS FQ RESPONSE	30 to 15000Hz ±0.1dB
MPX INPUT FREQUENCY RESPONSE	30 to 100000Hz ±0.1dB
PRE-EMPHASIS TIME CONSTANT	0µS, 50µS (CCIR), 75µS (FCC)
DETACHED LF CHANNEL	MPX, L, R, AES/EBU, aux, SCA (all main plus reserve), SD memory, audio streaming
MODULATION DELAY	Digitally programmable from 0.1µs to >3s
STEREO CODING	According to ITU-R BS.450-3, pilot frequency
STEREO SEPARATION	>55dB
PILOT FREQUENCY	19kHz ±0.1Hz, adjustable level 0-12%
RDS GENERATOR	According EN62106 PI, PS, ECC, PTY, TP/TA, AF, MS, DI, CT
RATED RF OUTPUT POWER	50W
OUTPUT POWER ALC STABILITY	±3%
HARMONIC AND SPURIOUS EMISSIONS	<75dB (harmonic), <80dBc (spurious)
RF OUTPUT CONNECTOR	N(F)
MONITOR PORTS AND REMOTE CONTROL	Analog MPX on BNC, parallel control on subD9, RS232, RS485, 10/1000T serial ports, GSM, web server, SNMP
POWER SUPPLY	100-250Vac
CONSUMPTION	95W @50W
OPERATING TEMPERATURE RANGE	Suggested: 0 to +35◦C Extreme: -10 to +50◦C (55◦C max. with derating)
RELATIVE HUMIDITY	Up to 95% not condensing
DIMENSIONS AND WEIGHT	2RUs and 5.9kg
REFERENCE NORMS	ETSI EN 302 018 v2.1.1

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

OMB BROADCAST
www.omb.com

OMB EUROPA
C/ Paraguay 6, P.I. Centrovía
50198 La Muela
Zaragoza, España
europa@omb.com
comercial@omb.com

OMB AMÉRICA
3100NW 72nd. Ave. Unit 112
MIAMI, Florida 33122
USA
usa@omb.com