

MOT MULTICAST LIQUID COOLED SERIES

The TV transmitters **MOT MULTICAST LIQUID COOLED** can be used as analog and digital transmitters and they can be configured with different input interfaces. They are suitable for DVB-T/H, DVB-T2, ISDB-T/TB and ATSC standards, in addition to PAL and NTSC on its analog version; they also include adaptive pre-correction and a high precision GPS receiver for SFN networks.



MAIN ADVANTAGES

- High efficiency wideband amplifiers technology.
- Embedded Re-Multiplexer/Layer Combiner/TS to BTS (188 to 204 byte) converter for ISDB-TB.
- Adaptive pre-correction.
- On-board high stability GPS receiver with battery.
- Flexible input interfaces.
- SNMP, web interface and touch screen display.
- Able to meet or exceed all the DTV International Broadcasters requirements.
- More robust and efficient, with a special low-loss design of matching and combining system, together with extremely high efficiency power supplies (over 96% efficiency).
- Compactness: Optimized heatsink and ultra-compact power supplies grant the minimum size of amplifier modules with air cooling systems and a greatly reduced size of the cooling system itself.
- Redundant system for pumping cooling liquid through double pump with switching operation, minimizing cooling leaks.
- **Hot-Swap** system for modules extraction.
- Compatible with ATSC 3.0.

GENERAL CHARACTERISTICS

PRECORRECTION	Lineal an non-lineal adaptive
MER	>36dB for any output power
FREQUENCY AGILITY	Bands I- III-IV-V
FREQUENCY STABILITY	2*10-8@10MHz long period
DIMENSIONS	Standard rack units of 19"
CONTROL	Front panel, web interface, SNMP and GPIO
OPERATING TEMPERATURE	-5 to +40°C
MAXIMUM RELATIVE HUMIDITY	90% without condensation

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MODELS

	DVB, ISDBT output power	ATSC output power	Analog output power	Working band	Nº modules	RF output CNC	Power supply
MOT 10000 MULTICAST LIQUID	5KW rms	6KW rms	10KW ps	IV-V	4	EIA 3+1/8"	Three-phase 208-400V
MOT 12000 MULTICAST LIQUID	6.2KW rms	7.5KW rms	12KW ps	IV-V	6	EIA 3+1/8"	Three-phase 208-400V
MOT 20000 MULTICAST LIQUID	10KW rms	12KW rms	20KW ps	IV-V	8	EIA 3+1/8"	Three-phase 208-400V
MOT 25000 MULTICAST LÍQUIDO	12.5KW rms	18KW rms	25KW ps	IV-V	12	EIA 4+1/2"	Three-phase 208-400V
MOT 30000 MULTICAST LIQUID	15KW rms	18KW rms	30KW ps	IV-V	12	EIA 4+1/2"	Three-phase 208-400V
MOT 40000 MULTICAST LIQUID	20KW rms	24KW rms	40KW ps	IV-V	16	EIA 4+1/2"	Three-phase 208-400V
MOT 60000 MULTICAST LIQUID	30KW rms	36KW rms	60KW ps	IV-V	24	EIA 4+1/2"	Three-phase 208-400V

**other powers or configurations under request.*

MODULATOR

	DVB-T/-H/-T2
STANDARD	EN300744, EN302304, EN302755, TS101191, TS102773 (T2-MI), TS102034
INPUTS	4xASI BNC(F) 75 Ohm, 2xRJ45 TSoIP 10/100/1000 Seamless switching between ASI inputs. Hierarchical and not hierarchical (DVB-T)
FFT	1K (DVB-T2), 2K, 4K, 8K, 8K ext. (DVB-T2), 16K & 16K ext. (DVB-T2), 32K & 32K ext. (DVB-T2)
CODE RATE	All modalities available according to the standard Block Short o Normal (DVB-T2) DVB-T: Reed-Solomon (204, 188) DVB-T2: BCH, LDPC
GUARD INTERVAL	1/32, 1/16, 1/8, 1/4, 19/256 (DVB-T2), 19/128 (DVB-T2), 1/128 (DVB-T2)
CONSTELLATION	QPSK, 16QAM, 64QAM, 256QAM (DVB-T2). Rotated and non rotated (DVB-T2)
MISO PROCESSING	Supported

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ISDB-TB	
STANDARD	ABNT NBR 15601, ABNT NBR 15603
INPUTS	4xASI TS/BTS BNC (F), 75 Ohm or 2xASI TS/BTS BNC (F), 75 Ohm & 2xRJ45 TS/BTSoIP 10/100/1000
FFT	Mode 1 (2K), Mode 2 (4K), Mode 3 (8K)
CODE RATE	1/2, 2/3, 3/4, 5/6, 7/8
GUARD INTERVAL	1/4, 1/8, 1/16, 1/32
HIERARCHICAL MODULATION	Up to three layers
CONSTELLATION	QPSK, 16QAM, 64QAM
TIME INTERLEAVER	Supported
PARTIAL RECEPTION	Supported
ATSC	
STANDARD	A/53, A/110
INPUTS	4 x ASI / SMPTE-310M BNC (F) 75 Ohm, 2 x RJ45 TSoIP 10/100/1000
MODULATION	8-VSB
INPUT BIT RATE	19.39 Mbit/s
BANDWIDTH	6MHz
MAX PROCESSING DELAY	Up to 1 second (programmable)
ANALOG	
TV REGULATION	B, G, D, K, M, N, I1
VIDEO INPUTS	CVBS, 4xSDI BNC(F), 75 Ohm
AUDIO INPUTS	Balanced audio 600 Ohm mini XLR(M), SDI embeded
COLOUR STANDARDS	PAL, NTSC
AUDIO STANDARDS	IRT dual sound, FM (-10dB)
VIDEO INPUT	0.5-1.5V
DIFFERENTIAL GAIN	±3%
DIFFERENTIAL PHASE	±3°
LOW FREQUENCY LINEARITY	8%
ICPM	±2"
S/N	>60dB
K FACTOR	2%
20T	3%
SPURIOUS AND HARMONICS	>60dB
CHANNEL INTERMODULATION	>58dB
MODULATION CAPABILITY	±120KHz
MONAURAL INPUT	Programmable 0-12dBm
PRE-EMPHASIS	50/70µs
FREQUENCY RESPONSE	±0.5dB from 30Hz-15KHz
HARMONIC DISTORTION	0.5% from 30Hz-15KHz
AM NOISE	50dB from 30Hz-15KHz

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GPS

INPUT CONNECTOR	TNC(F), 50 Ohm
INPUT/OUTPUT MONITOR 10MHz	BNC(F), 75 Ohm
INPUT/OUTPUT MONITOR PPS	BNC(F), 75 Ohm
HOLD-OVER STABILITY	5 μ s after 5 hours (optional 1 μ s after 24 hours)

NOTE: These transmitters have to be operated with suitable filters at the RF output, so as to meet the standards and limits for the suppression of out of band emissions.

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

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