# MOT 14000 MULTICAST

The digital TV transmitter **MOT 14000 MULTICAST** can be used as an analog and digital transmitter. This device has an analog output power of 14KW ps, a digital output power of 5KW rms in DVB-T/T2 and ISDBT, and 6.5KW rms in ATSC. It can be configured with different input interfaces and it is suitable for DVB-T/H, DVB-T2, ISDB-T/TB and ATSC standards, in addition of PAL and NTSC on its analog version. It includes 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.

## GENERAL CHARACTERISTICS

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|---|---|
| **ANALOG OUTPUT POWER** | 14KW ps |
| **DIGITAL OUTPUT POWER DVB-T/T2, ISDBT-TB** | 5KW rms |
| **DIGITAL OUTPUT POWER ATSC** | 6.5KW rms |
| **FREQUENCY AGILITY** | Bands III-IV-V |
| **FREQUENCY RESOLUTION** | 1Hz |
| **PRECORRECTION** | Adaptative |
| **RF CONNECTION** | EIA 3", 50 Ohm |
| **POWER SUPPLY** | Single phase 220-240V±15%, 50/60Hz<br>Three phase 208-400V |
| **AVERAGE CONSUMPTION** | Up to 40% efficiency in digital |
| **DIMENSIONS** | Standard rack unit of 19" |
| **CONTROL** | TFT touchscreen, web GUI, SNMP y GPIO |
| **OPERATING TEMPERATURE** | -5 to 40°C |
| **MAXIMUM RELATIVE HUMIDITY** | 90% without condensation |
| **NUMBER OF MODULES** | Eight |



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# MODULATOR

| | |
|---|---|
| **DVB-T/-H/-T2** | |
| **STANDARD** | EN300744, EN302304, EN302755, TS101191, TS102773 (T2-MI), TS102034 |
| **INPUTS** | 4xASI BNC(F), 75 Ohm o 2xASI BNC(F), 75 Ohm & 2xRJ45 TS oIP 10/100/1000<br>Switch seamless between ASI inputs.<br>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<br>Block Short or Normal (DVB-T2)<br>DVB-T: Reed-Solomon (204, 188)<br>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).<br>Rotated and non rotated (DVB-T2) |
| **MISO PROCESSING** | Supported |
| **ISDB-TB** | |
| **STANDARD** | ABNT NBR 15601, ABNT NBR 15603 |
| **INPUTS** | 4xASI TS/BTS BNC (F),<br>75 Ohm o 2xASI TS/BTS BNC (F), 75 Ohm & 2xRJ45 TS/BTS oIP 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** | Fully supported |
| **PARTIAL RECEPTION** | Supported |
| **ATSC** | |
| **STANDARD** | A/53, A/110 |
| **INPUTS** | 4 x ASI / SMPTE-310M BNC (f), 75 Ohm or<br>2 x ASI / SMPTE-310M, 75 Ohm and 2 x RJ45 oIP 10/100/1000 |
| **MODULATION** | 8-VSB |
| **INPUT BIT RATE** | 19.39 Mbit/s |
| **BANDWIDTH** | 6 MHz |
| **MAX PROCESSING DELAY** | Up to 1 second (programmable) |
| **ANALOG** | |
| **STANDARD** | B, G, D, K, M, N, I |
| **INPUTS** | Video BNC(F), 75 Ohm, 2*audio Tini-QG “Mini XLR”, 6 Pin (M), 600 Ohm |
| **COLOUR SYSTEM** | PAL, NTSC |



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## GPS

| | |
|---|---|
| **INPUT CONNECTOR** | N(F), 50 Ohm |
| **INPUT MONITOR/OUTPUT 10MHz** | BNC(F), 75 Ohm |
| **INPUT MONITOR/OUTPUT PPS** | BNC(F), 75 Ohm |
| **PHASE NOISE** | -140dBc/Hz @ 10kHz<br>-150dBc/Hz @ 100kHz |
| **STABILITY** | 1e-12 / 24 H with disciplined OCXO |
| **HOLD-OVER STABILITY** | 5µs after 5 hours (optional 1µs after 24 hours) |

## OPTIONS

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|---|---|
| **OPTION 1** | GPS/GLONASS integrated receiver |
| **OPTION 2** | 26dB LNA GPS antenna kit including mounting kit and 25 metres of coaxial cable |
| **OPTION 3** | Additional input board, 4x ASI |
| **OPTION 4** | Additional input board, 2x ASI+2x GbE |
| **OPTION 5** | Additional input board, RF in |
| **OPTION 6** | Software upgrade for ISDB-Tb Remux/Layer Combiner/TS to BTS (188 to 204 byte) converter |
| **OPTION 7** | Dual-cast software option, adds DVB-T modulation |
| **OPTION 8** | Dual-cast software option, adds DVB-T2 modulation |
| **OPTION 9** | Dual-cast software option, adds ISDB-T modulation |
| **OPTION 10** | Dual-cast software option, adds ATSC modulation |
| **OPTION 11** | Dual-cast software option, adds PAL modulation |
| **OPTION 12** | Dual-cast software option, adds NTSC or PAL-M modulation |

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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