

## MOT 4000 MULTICAST

The digital TV transmitter **MOT 4000 MULTICAST** can be used as an analog and digital transmitter. This device has an analog output power of 4KW ps, a digital output power of 1.4KW rms in DVB-T/T2 and ISDBT, and 1.7KW 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.
- With Re-Multiplexer/BTS Adapter and Layer Combiner 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

|  |  |
|--|--|
| <b>ANALOG OUTPUT POWER</b>                     | 4000W ps   |
| <b>DIGITAL OUTPUT POWER DVB-T/T2, ISDBT-TB</b> | 1400W rms  |
| <b>DIGITAL OUTPUT POWER ATSC</b>               | 1700W rms  |
| <b>MER</b>                                     | >36dB for any output power                             |
| <b>FREQUENCY AGILITY</b>                       | Bands III-IV-V   |
| <b>FREQUENCY STABILITY</b>                     | 2*10-8@10MHz long period                               |
| <b>RF OUTPUT CONNECTOR</b>                     | EIA 1+5/8", 50 Ohm                                     |
| <b>POWER SUPPLY</b>                            | Single phase 100-240V, 50/60Hz<br>Three phase 208-400V |
| <b>AVERAGE CONSUMPTION</b>                     | 8300VA efficiency up to 40%                            |
| <b>DIMENSIONS</b>                              | Twenty three standard rack units of 19"                |
| <b>CONTROL</b>                                 | Front panel, web interface, SNMP and GPIO              |
| <b>OPERATING TEMPERATURE</b>                   | -5 to +40°C  |
| <b>MAXIMUM RELATIVE HUMIDITY</b>               | 90% without condensation                               |
| <b>APPROXIMATE WEIGHT</b>                      | 306Kg  |
| <b>NUMBER OF MODULES</b>                       | Two  |

**MODULATOR**

| <b>DVB-T/-H/-T2</b>            |   |
|--------------------------------|---|
| <b>STANDARD</b>                | EN300744, EN302304, EN302755, TS101191, TS102773 (T2-MI), TS102034  |
| <b>INPUTS</b>                  | 4xASI BNC(F), 75 Ohm & 2xRJ45 TSoIP GBE<br>Switch seamless between ASI inputs.<br>Hierarchical and not hierarchical (DVB-T)                 |
| <b>FFT</b>                     | 1K (DVB-T2), 2K, 4K, 8K, 8K ext. (DVB-T2), 16K & 16K ext. (DVB-T2), 32K & 32K ext. (DVB-T2)   |
| <b>CODE RATE</b>               | 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 |
| <b>GUARD INTERVAL</b>          | 1/32, 1/16, 1/8, 1/4, 19/256 (DVB-T2), 19/128 (DVB-T2), 1/128 (DVB-T2)  |
| <b>CONSTELLATION</b>           | QPSK, 16QAM, 64QAM, 256QAM (DVB-T2).<br>Rotated and non rotated (DVB-T2)  |
| <b>MISO PROCESSING</b>         | Supported   |
| <b>ISDB-TB</b>                 |   |
| <b>STANDARD</b>                | ABNT NBR 15601, ABNT NBR 15603  |
| <b>INPUTS</b>                  | 4xASI TS/BTS BNC (F), 75 Ohm & 2xRJ45 TS/BTSoIP GBE   |
| <b>FFT</b>                     | Mode 1 (2K), Mode 2 (4K), Mode 3 (8K)   |
| <b>CODE RATE</b>               | 1/2, 2/3, 3/4, 5/6, 7/8   |
| <b>GUARD INTERVAL</b>          | 1/4, 1/8, 1/16, 1/32  |
| <b>HIERARCHICAL MODULATION</b> | Up to three layers  |
| <b>CONSTELLATION</b>           | QPSK, 16QAM, 64QAM  |
| <b>TIME INTERLEAVER</b>        | Supported   |
| <b>PARTIAL RECEPTION</b>       | Supported   |
| <b>ATSC</b>                    |   |
| <b>STANDARD</b>                | A/53, A/110   |
| <b>INPUTS</b>                  | 4xASI/SMPTE-310M BNC(H), 75Ohm & 2xRJ45 TSoIP GBE   |
| <b>MODULATION</b>              | 8-VSB   |
| <b>INPUT BIT RATE</b>          | 19.39 Mbit/s  |
| <b>BANDWIDTH</b>               | 6MHz  |
| <b>MAX PROCESSING DELAY</b>    | Up to 1 second (programmable)   |

| <b>ANALOG</b>                  |   |
|--------------------------------|---|
| <b>TV REGULATION</b>           | B, G, D, K, M, N, I1                            |
| <b>VIDEO INPUTS</b>            | CVBS, 4xSDI BNC(F), 75 Ohm                      |
| <b>AUDIO INPUTS</b>            | Balanced audio 600 Ohm mini XLR(M), SDI embeded |
| <b>COLOUR STANDARDS</b>        | PAL, NTSC                                       |
| <b>AUDIO STANDARDS</b>         | IRT dual sound, FM (-10dB)                      |
| <b>VIDEO INPUT</b>             | 0.5-1.5V  |
| <b>DIFFERENTIAL GAIN</b>       | ±3%   |
| <b>DIFFERENTIAL PHASE</b>      | ±3°   |
| <b>LOW FREQUENCY LINEARITY</b> | 8%  |
| <b>ICPM</b>                    | ±2"   |
| <b>S/N</b>                     | >60dB   |
| <b>K FACTOR</b>                | 2%  |
| <b>20T</b>                     | 3%  |
| <b>SPURIOUS AND HARMONICS</b>  | >60dB   |
| <b>CHANNEL INTERMODULATION</b> | >58dB   |
| <b>MODULATION CAPABILITY</b>   | ±120KHz   |
| <b>MONAURAL INPUT</b>          | Programmable 0-12dBm                            |
| <b>PRE-EMPHASIS</b>            | 50/70µs   |
| <b>FREQUENCY RESPONSE</b>      | ±0.5dB from 30Hz-15KHz                          |
| <b>HARMONIC DISTORTION</b>     | 0.5% from 30Hz-15KHz                            |
| <b>AM NOISE</b>                | 50dB from 30Hz-15KHz                            |
| <b>FM NOISE</b>                | 60dB with de-emphasis                           |
| <b>SYNCHRONOUS AM NOISE</b>    | >50dB   |

## GPS

|                                   |   |
|-----------------------------------|---|
| <b>INPUT CONNECTOR</b>            | TNC(F), 50 Ohm                                  |
| <b>INPUT/OUTPUT MONITOR 10MHz</b> | BNC(F), 75 Ohm                                  |
| <b>INPUT/OUTPUT MONITOR PPS</b>   | BNC(F), 75 Ohm                                  |
| <b>HOLD-OVER STABILITY</b>        | 5µs after 5 hours (optional 1µs 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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