

## MOT 20 A

The digital TV modulator **MOT 20 A** can be used as an analog and digital transmitter. This device has an analog output power of 20W ps, a digital output power of 5W rms in DVB-T/T2 and ISDBT, and 8W 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.
- Compatible with PAL, NTSC, DVB-T/H, DVB-T2, ISDB-T/TB and ATSC modulations.
- With Re-Multiplexer/BTS Adapter and Layer Combiner for ISDB-TB.
- Lineal, non-lineal and adaptive pre-correction.
- On-board high stability GPS receiver.
- Flexible input interfaces.
- MFN and SFN modes.
- SNMP, web interface and LC display indicator.

### GENERAL CHARACTERISTICS

<b>ANALOG OUTPUT POWER</b>	20W ps
<b>DIGITAL OUTPUT POWER DVB-T/T2, ISDBT-TB</b>	5W rms
<b>DIGITAL OUTPUT POWER ATSC</b>	8W rms
<b>MER</b>	>36dB for any output power
<b>FREQUENCY AGILITY</b>	Bands IV-V
<b>FREQUENCY STABILITY</b>	2*10 <sup>-8</sup> @10MHz long period
<b>RF OUTPUT CONNECTOR</b>	N(F), 50 Ohm
<b>POWER SUPPLY</b>	Single phase 100-240V, 50/60Hz
<b>AVERAGE CONSUMPTION</b>	220V
<b>DIMENSIONS</b>	One standard rack unit of 19"
<b>CONTROL</b>	Front panel, web interface, SNMP and GPIO
<b>OPERATING TEMPERATURE</b>	-5 to +45°C
<b>MAXIMUM RELATIVE HUMIDITY</b>	95% without condensation
<b>APPROXIMATE WEIGHT</b>	7Kg

**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 Switch seamless between ASI inputs. 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 Block Short or Normal (DVB-T2) DVB-T: Reed-Solomon (204, 188) 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). 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)

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<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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