

# MT2-2000/3000

## DVB-T/T2 Rack Modulator

**DVB-T2**<sup>®</sup>  
**DVB-T**<sup>®</sup>



### Key features:

- Dual DVB-T and DVB-T2 modulation
- Native redundant IP streaming inputs
- Advanced DVB-T2 features: MFN/SFN, Multi-PLP, SISO/MISO
- Onboard GPS
- Linear and Non-Linear Digital Pre-correction circuits
- Digital Adaptive Pre-correction (Option)
- Proven technology on commercial networks
- Ready-to-use solution

### Description

The MT2 product family is targeted to meet transmitter manufacturers' requirements for high quality DVB-T/T2 equipment for different applications. The product family addresses complementary network needs found in practice:

o to integrate a high-end DVB-T/T2 modulator with superior Digital Adaptive Pre-correction,

o to easily upgrade existing analog or DVB-T transmitters.

In this way, TeamCast continues to support its fundamental strategy to serve its customers with a comprehensive offering of different modulator types for applications worldwide.

### Fastest Time to market

The MT2 DVB-T/T2 Rack Modulator consists of a powerful ready-to-use solution, especially designed and developed for fast integration within transmitters as well as for stand-alone use. The product is controlled via a very simple protocol (over Serial or IP) and is delivered with a friendly control software suite.

### Proven DVB-T2 technology

With this second generation of DVB-T2 modulator, TeamCast confirms its technological leadership within this emergent and promising market. The MT2 design is the fruit of TeamCast's unique experience gained in participating in the DVB-T2 standard development, and TeamCast's extensive experience gained from the first commercial DVB-T2 network roll-outs. In particular, MT2 integrates all the mechanisms required to feed transmitter sites with ASI and/or IP streams in highly secure formats. MT2 modulator includes all the latest state-of-the-art technological features, and Broadcasters are able now to take full advantage of this second generation Terrestrial Digital TV technology, and deploy techniques such as SISO/MISO and Multi-PLP layered modulation.

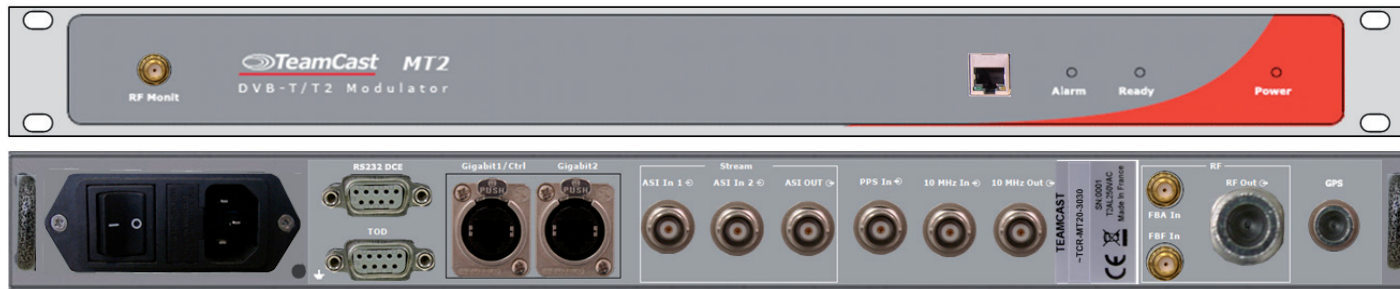
### MT2-3000 with Digital Adaptive Precorrection circuits

The MT2-3000 consists of high-end digital DVB-T2 modulator functions that feature the latest state-of-the-art Digital Adaptive Pre-correction (DAP) circuits. The innovative DAP algorithm, developed by TeamCast, enables clients to run DVB-T2 Digital Transmitters close to their saturation region, by adapting in real-time the power amplifiers' inherent non-linearities, as well as minimizing the often ignored "Memory Effects" of the amplifier circuitry.

# MT2-2000/3000

## DVB-T/T2 Rack Modulator

### Connectors



### Specifications<sup>1</sup>

- **Standards**
  - o DVB-T2: EN 302 755, TS 102 831, TS 102 773 (T2-MI)
  - o DVB-T: EN 300 744, TS 101 191
- **ASI Stream Interfaces**
  - o 2 x ASI input connectors - BNC 75 Ω
  - o 1 x ASI output connector - BNC 75 Ω
  - o 188/204 Bytes- 80 Mbps maxi. Packet/burst mode
- **Gigabit streaming inputs**
  - o 2 x 10/100/1000 base-T - RJ45
  - o Protocols: IP, RTP, UDP, IGMP (V2 & V3)
  - o VLAN ID (1 to 4094) - IEEE 802.1q
  - o TS encapsulation and FEC decoding: SMPTE-2022
- **RF Inputs and Outputs**
  - o RF output from 30 MHz up to 900 MHz, 0 dBm
    - N connector 50 Ω
  - o Bandwidths : 5 MHz, 6 MHz, 7 MHz and 8 MHz
  - o Low level (-20 dB) output available for monitoring
    - SMA connector 50 Ω
  - o 2 x RF feedback inputs for DAP: -15 dBm to 0 dBm
    - SMA connector 50 Ω - (MT2-3000)
- **Clock and Synchronization**
  - o High quality internal clock
  - o 10 MHz & 1 PPS input/output
  - o Optional Onboard GPS or GPS/Glonass
  - o Clock and time source redundancy management
  - o NTP synchronization
- **Control & Monitoring**
  - o 1 x 10/100/1000 base-T Ethernet port
  - o 1 x RS232 serial control port
  - o Delivered with control software suite
- **Stream process and modulation**
  - o Stream input redundancy management (primary & secondary)
  - o Transmission modes: MFN, SFN-SISO, SFN-MISO
  - o Modulation modes: System A, System B, Multi-PLP
  - o Constellation: QPSK, 16 QAM, 64 QAM, 256 QAM (normal or rotated)
  - o FFT: 1k, 2k, 4 k, 8k, Extended 8k, 16k, Extended 16k, 32k, Extended 32k
  - o Guard Intervals: 1/128, 1/32, 1/16, 19/256, 1/8, 19/128, 1/4
  - o FEC: 1/2, 3/5, 2/3, 3/4, 4/5, 5/6
  - o Adjustable Time Interleaving
  - o Test modes: PRBS, Sinus, Spectrum-Gap and Null Symbol insertion
- **Digital Adaptive Precorrection circuits (DAP) - MT2-3000**
  - o Dynamic 9 dB
  - o Linear DAP: Amplitude ±3 dB, Delay 0 to 3µs
  - o Non Linear DAP: Phase 180°
  - o Monitoring: right and left signal shoulder and DAP status
  - o Crest Factor Reduction (CFR) and Protection hard clipping
- **Digital Pre-correction - MT2-2000**
  - o Linear and Non-Linear pre-correction
  - o Signal Clipping (PAPR)
- **Physical**
  - o Dimensions: 376 x 483 x 44 mm
  - o Weight: 6.5 Kg
  - o Operating temperature range: 0°C to 50°C
  - o Power supply: 90 to 240VAC - 50 Hz - 42 W (MT2-2000) - 60 W (MT2-3000)

### Ordering Information

|                |  |
|----------------|--|
| xTTR-MT20-2012 | DVB-T/T2 Rack Modulator with RF output (UHF/VHF) and onboard GPS |
| xTTR-MT20-3010 | DVB-T/T2 Rack Modulator with RF output (UHF/VHF) and DAP         |

<sup>1</sup> Specifications are not contractual and are subject to revision without notice.