

# DTMB Modulator

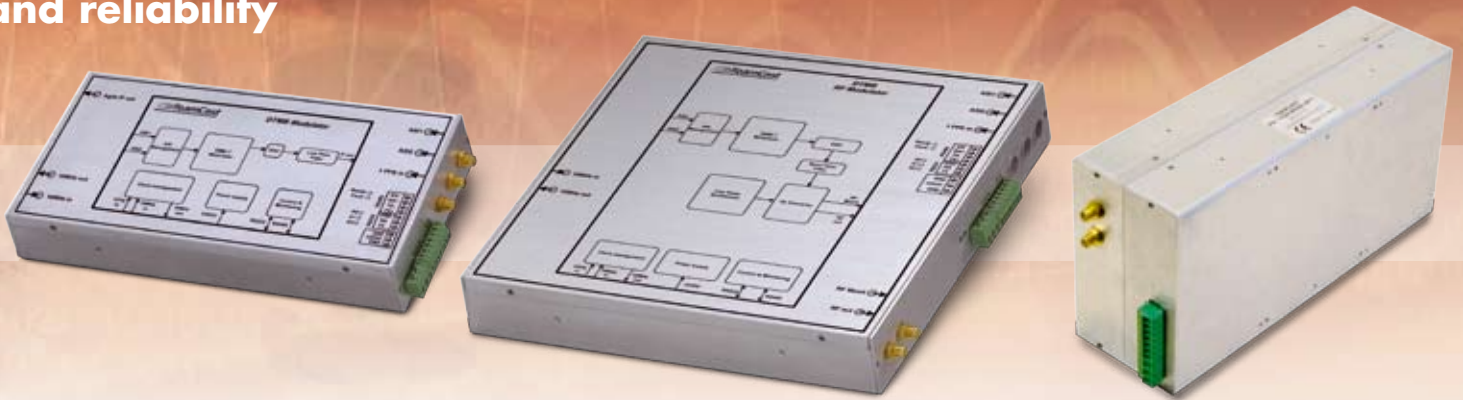
## MCN-1000/MCN-2000:

The high performance OEM modulator dedicated to Chinese digital TV applications for: DTMB transmitters, integrated test systems, R&D and laboratory experiment

**Cost-effective solution**

**Fast time to market**

**High performance  
and reliability**



## Description

Get ready for the Chinese Terrestrial DTV market now! The MCN-1000/2000 is the most integrated and cost effective DTMB modulator, for addressing the OEM market. It provides the opportunity for transmitter manufacturers as well as for system integrators to launch rapidly their own product ranges for the Chinese DTV market.

### Fastest Time to market

As with all TEAMCAST modules, the MCN-1000/2000 product consists of a compact and powerful unit especially designed and developed for fast integration. Designers can elect to manage the TEAMCAST module by using the open and easy to use serial protocol, or to develop their own GUI for control as required.

### Performance & Reliability

MCN-1000/2000 modules include all the state-of-the-art technological features for DTV modulation. They provide designers with a best of class performance, providing a high quality signal modulation with excellent shoulder levels and lowest phase noise. Easy to use linear and non-linear digital pre-correction circuits are incorporated to compensate for output filter and power amplifier characteristics, if required. The products fulfils both transmitter manufacturers' and system integrators' requirements producing reference test systems for the new DTMB standard.

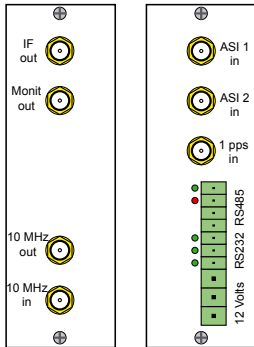
## Key Features

- Full compliant DTMB (TDS-OFDM and single carrier modes)
- MFN and SFN operation
- Built-in test mode for fast SFN tuning
- Optional onboard GPS
- Very high modulation performance (MER, IF and RF stability, shoulder level, low phase noise)
- Linear and Non-Linear digital pre-correction
- Agile RF or IF output
- Compact size for easy OEM integration
- Single 12V power supply

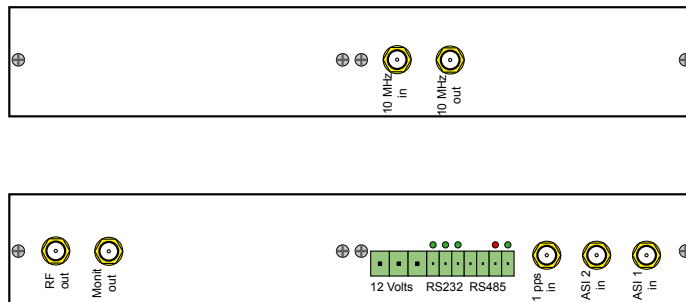
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## Connectors

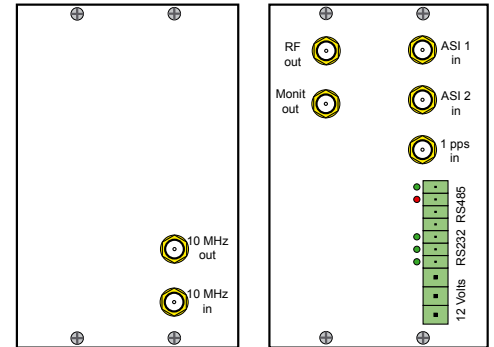
### MCN-1000



### MCN-2000 Size A



### MCN-2000 Size B



## Specifications

- **Standards**
  - GB20600-2006, ISO/IEC 13838-1, EN 50083-9.
  - OGY/T 229.1-2008 (SIP)
- **MPEG-TS Input**
  - 2 x ASI
  - 188/204 bytes, SIP processing
- **Output**
  - IF: From 30 MHz to 40 MHz (MCN-1340)
  - VHF/UHF: From 30 MHz to 860 MHz (MCN-2010)
  - 0 dBm – 50 Ohms (Attenuation from 0 dB to -10 dB)
  - VHF: From 170 MHz to 240 MHz (MCN-2020)
  - UHF: From 470 MHz to 860 MHz (MCN-2030)
  - Bandwidth: 8 MHz
  - MER > 45 dB (MCN-1000, predicted)
  - MER > 40 dB (MCN-2000, predicted)
  - Shoulders > 52 dB (MCN-1000)
  - > 50 dB (MCN-2000)
  - Spurious > 55 dB (MCN-1000)
  - > 50 dB (MCN-2000)
- **Clock and Synchronization**
  - High quality internal OCXO
  - 10 MHz & 1 PPS for SFN
  - Optional onboard GPS
  - Compliant Phase Noise (MCN-2020 & MCN-2030)
- **Modulation**
  - Single carrier & TDS-OFDM modulation
  - QPSK / 16 QAM / 32 QAM\* or 64 QAM
  - Guard Interval: 1/9, 1/7, or 1/4
- **FEC**
  - OUTER: BCH
  - INNER: LDPC code rates 0.4, 0.6 or 0.8
  - INNER Interleaving: Mode 0 (OFF), Mode 1 (48), Mode 2 (240) or Mode 3 (720)
- **Control & Monitoring**
  - RS-232C & RS-485
- **Physical**
  - Single supply voltage (12 V DC)
  - MCN-1000 : 220 x 110 x 35 mm
  - MCN-2000 size A: 220 x 220 x 35 mm
  - size B: 220 x 110 x 70 mm
  - Temperature range: 0°C to 50°C

## Ordering Information

TCM-MCN0-1340	Modulator with 30-40 MHz IF out
TCM-MCN0-1342	Modulator with 30-40 MHz IF out and onboard GPS
TCM-MCN0-2010	VHF/UHF Modulator
TCM-MCN0-2012	VHF/UHF Modulator and onboard GPS
TCM-MCN0-2020	VHF Modulator
TCM-MCN0-2030	UHF Modulator