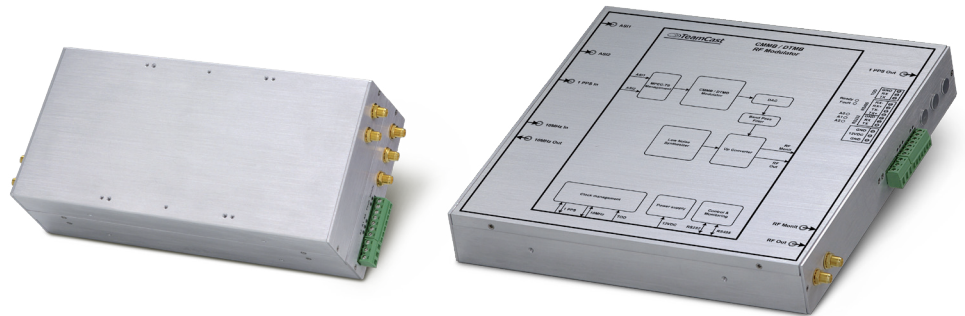


The high performance OEM modulator dedicated to Chinese TV applications for:

- CMMB and DTMB transmitters,
- Integrated test systems,
- R&D and laboratory experiment.

MCX-2000

CMMB/DTMB Modulator



Key features:

- Fully compliant with CMMB (STIMI technology)
- Fully compliant with DTMB (TDS-OFDM and Single Carrier signal waveforms)
- Stream input switching for redundancy
- MFN and SFN operating modes
- Secure and robust process in case of loss of reference signals in SFN
- Optional onboard GPS
- Very high modulation performance (RF stability, shoulder level, low phase noise)
- Linear and non-linear digital pre-correction circuits
- VHF and UHF models

Description

Get ready for the Chinese Terrestrial TV market! MCX-2000 is the most integrated and cost effective CMMB (China Mobile Multimedia Broadcasting) and DTMB (Digital Terrestrial Multimedia Broadcasting) modulator addressing the OEM market. It provides the opportunity for transmitter manufacturers as well as for system integrators to launch rapidly their own product range for the Chinese Mobile TV and Terrestrial DTV market segments.

Fastest Time to Market

As with all modules in the TEAMCAST product range, the MCX-2000 product consists of a compact and powerful unit, especially designed and developed for fast integration. The MCX-2000 integrates all the technology core required to perform high quality modulation. Designers can elect to manage the TEAMCAST module by using the open and simple serial protocol, or to develop their own GUI as required.

Performance & Reliability

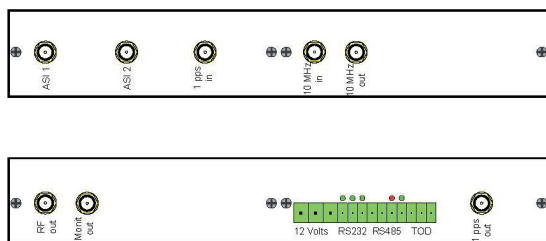
MCX-2000 modules include all the state-of-the art technological features for the Chinese Terrestrial Digital TV modulation (CMMB and DTMB). It provides designers with a best of class performance, providing a high MER value, excellent shoulder levels and lowest phase noise (compliant with SARFT requirements). 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 product fulfils both transmitter manufacturers' and system integrators' requirements producing reference test systems for the CMMB and DTMB standards.

MCX-2000

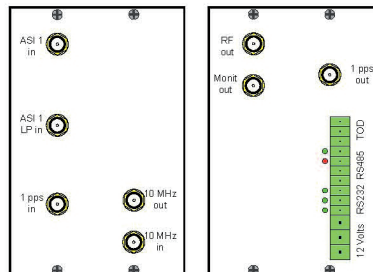
CMMB/DTMB Modulator

Connectors

MCX-2000 Size A



MCX-2000 Size B



Specifications¹

Standards

- o CMMB: GY/T 220.1-2006 and 220.2-2006
- o DTMB: GB20600-2006, GY/T 229.1-2008 (SIP)
- o ISO/IEC 13838-1, EN 50083-9 ASI

MPEG-TS Inputs

- o 2 x ASI inputs - SMA connectors - 75 Ω
- o 188 or 204 bytes format with Reed-Solomon decoder
- o Automatic input switching for redundancy

RF Outputs

- o VHF from 170 MHz to 240 MHz (0 dBm - 50 Ω)
- MCX-202x
- o UHF from 470 MHz to 860 MHz (0 dBm - 50 Ω)
- MCX-203x
- o Bandwidth: 2MHz or 8MHz
- o Low level (-20 dB) output available for monitoring

Clock and Synchronization

- o High quality internal clock with low phase noise
- o 10 MHz, 1PPS inputs
- o GPS TOD interface: serial RS-232
- o Onboard GPS (optional)

DTMB Modulation

- o TDS-OFDM and Single Carrier modulation
- o 4QAM-NR, 4QAM, 16QAM, 32QAM or 64QAM
- o Guard Interval: 1/9, 1/6 or 1/4
- o LDPC Code Rate: 0.4, 0.6 or 0.8

- o Time Interleaver: 240 or 720

- o TPS Signalling
- o MFN and SFN operating modes (with SIP process)
- o Bit rate adaptation and PCR restamping

CMMB Modulation

- o Mapping: BPSK, QPSK, 16QAM
- o Scrambling mode: 0, 1, 2, 3, 4, 5, 6, 7
- o FEC (LDPC): 1/2, 3/4
- o Outer interleave: Mode 1, Mode 2, Mode 3
- o Guard Interval: 1/8
- o Reed-Solomon: (240,240), (240,224), (240,192), (240,176)
- o MFN and SFN network operation (TOD messages)

Digital Pre-correction circuits

- o Linear pre-correction (2 x 32 points - Group Delay and Amplitude)
- o Non-linear pre-correction (2 x 32 points - AM/AM and AM/PM)
- o Adjustable Crest Factor (PAPR)

Control & Monitoring

- o RS-232 & RS-485 control ports with ASCII protocol

Physical

- o Single power supply voltage: 12 VDC
- o 220 x 220 x 35 mm (size A)
- o 220 x 110 x 70 mm (size B)
- o Temperature range: 0°C to 50°C

Ordering Information

xTTM-MCX0-2030

DTMB or CMMB Modulator - UHF output - Size A Module

¹ Specifications are not contractual and are subject to revision without notice.