TeamCast
Your team for Broadcast

CMMB Modulator

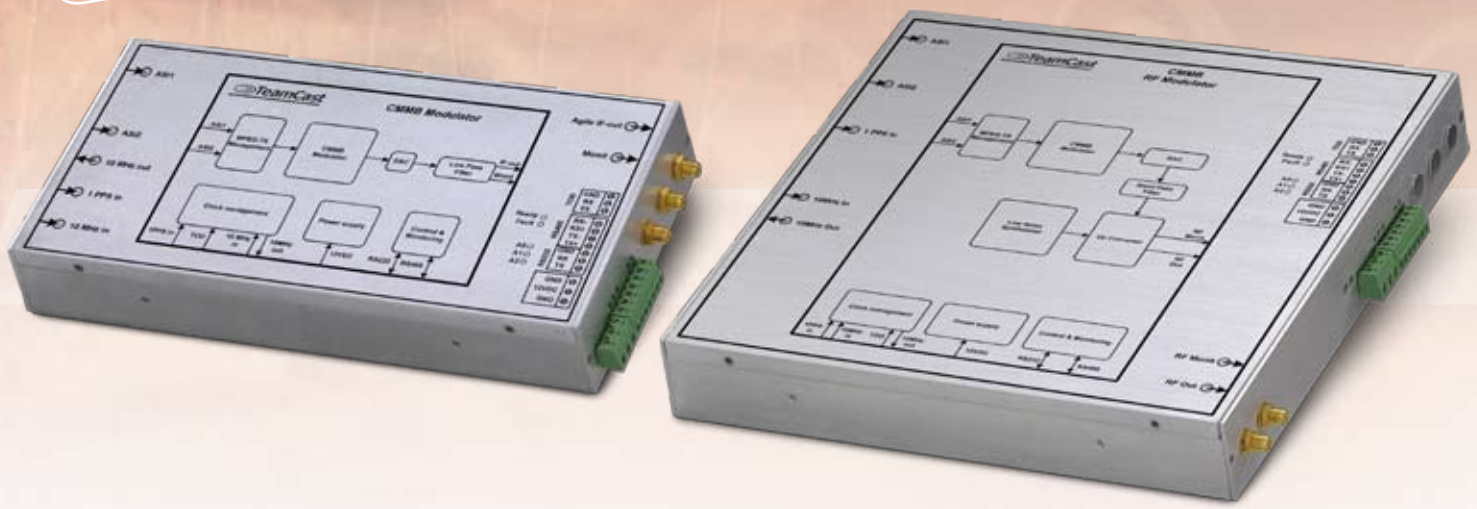
MMB-1000/MMB-2000:

Cost-effective solution
Fast time to market
High performance and reliability

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

- CMMB transmitters
- integrated test systems
- R&D laboratory experiment

Preliminary



Overall

Get ready for the Chinese Mobile Terrestrial TV market now!

MMB-1000/2000 is the most integrated and cost effective CMMB (China Mobile Multimedia Broadcasting) modulator for adressing 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 Mobile TV market.

Fastest Time to market

As with all modules in the TEAMCAST product ranges, the MMB-1000/2000 product consists of a compact and powerful unit, especially designed and developed for fast integration. The MMB-1000/2000 integrates all the technology core required to perform high quality modulation. Designers can elect to manage the TEAMCAST module by using the open and easy to use serial protocol, or to develop their own GUI as required.

Performance & Reliability

MMB-1000/2000 modules include all the state-of-the art technological features for digital Mobile TV modulation. It provides designers with a best of class performance, providing a high MER value, 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 product fulfils both transmitter manufacturers' and system integrators' requirements producing reference test systems for the new CMMB standard.

Key Features:

- Full compliant with CMMB (STIMI technology)
- Stream input switching for redundancy
- SFN operation based on TOD synchronisation
- Optional onboard GPS
- Very high modulation performance (RF stability, shoulder level, low phase noise)
- Linear and non-linear digital pre-correction circuits
- UHF and S-band models

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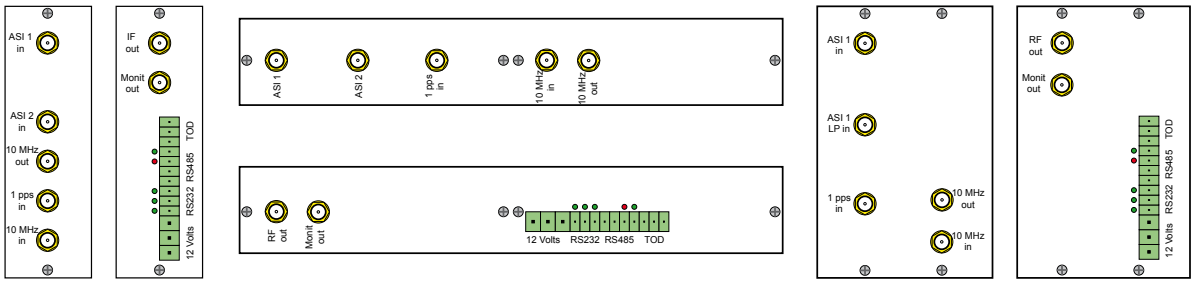
MMB-1000/MMB-2000

Connectors

MMB-1000 | MMB-2000 Size A | MMB -2000 Size B



Specifications

- **Standards**
  - o CMMB GY/T 220.1-2006 and 220.2-2006
  - 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 TOD message extraction for SFN operating
  - o Automatic input switching for redundancy
- **IF/RF Outputs**
  - o IF from 30 MHz to 45 MHz (0 dBm – 50 Ω) – MMB-1340
  - o UHF from 470 MHz to 860 MHz (0 dBm – 50 Ω) – MMB-203x
  - o S-band from 2635 MHz to 2660 MHz (-10 dBm – 50 Ω) – MMB-209x
  - o Bandwidth: 2MHz or 8MHz as required in CMMB standard
  - o Low level (-20 dB) output available for monitoring
  - o Shoulders > 50 dB, Spurious < -50 dBc
- **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)
- **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 (clipping)
- **Control & Monitoring**
  - o RS-232 & RS-485 control ports with ASCII protocol
- **Physical**
  - o Single power supply voltage: 12 VDC
  - o MMB-1000: 220 x 110 x 35 mm (size C)
  - o MMB-2000: 220 x 220 x 35 mm (size A) or 220 x 110 x 70 mm (size B)
  - o Temperature range: 0°C to 50°C

Ordering Information

TCM-MMB0-1340	CMMB modulator with IF 30-45 MHz output
TCM-MMB0-2030	CMMB modulator with UHF output
TCM-MMB0-2032	CMMB modulator with UHF output and onboard GPS
TCM-MMB0-2090	CMMB modulator with S-band 2635-2660 MHz output
TCM-MMB0-2092	CMMB modulator with S-band 2635-2660 MHz and onboard GPS

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