

# MIS-1000/MIS-2000

## ISDB-T/T<sub>B</sub> Modulator

A high performance OEM modulator dedicated to ISDB-T/T<sub>B</sub> applications for:

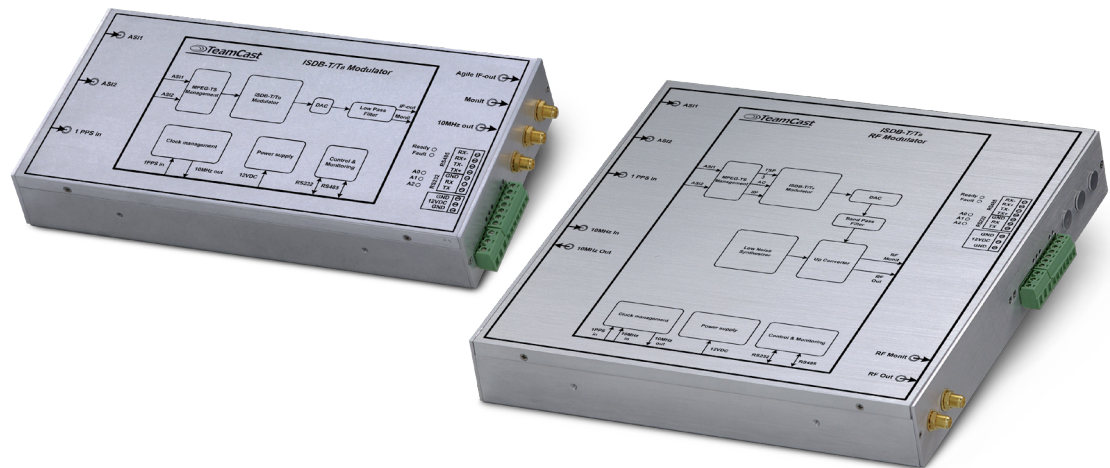
- ISDB-T/T<sub>B</sub> transmitters for Brazilian DTV
- Integrated test systems for ISDB-T/T<sub>B</sub>
- R&D experimentations

Cost effectiveness

Compact size

Fast time to market

High performance and reliability



### Key features :

- Configurable layered modulation
- Efficient TS input management for redundancy
- MFN and SFN operation
- Very high modulation performance
- Powerful linear and Non-Linear digital adaptive pre-correction
- Optional onboard GPS
- Compact size for easy OEM integration
- Single 12 VDC power supply

### Description

The MIS-1000/2000 is the most integrated and cost effective ISDB-T (Japanese DTV) and ISDB-T<sub>B</sub> (Brazilian DTV standard) modulator for addressing the OEM market. It provides the opportunity for transmitter manufacturers as well as for system integrators to launch their own product ranges addressing in particular the emergent digital TV market in Brazil.

### Fastest Time to Market

As with all TEAMCAST modules, the MIS-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 as required.

### Performance & Reliability

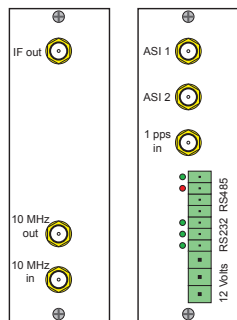
MIS-1000/2000 modules include all the state-of-the art technological features for ISDB-T/ISDB-T<sub>B</sub> modulation. They provide designers with a best of class performance, providing a high MER value, excellent shoulder levels and lowest phase noise. Simple to use linear and non-linear pre-correction circuits are incorporated to compensate for output filter and power amplifier characteristics. It fulfils both transmitter manufacturers' and system integrators' requirements producing reference test systems for the ISDB-T/T<sub>B</sub> standards.

# MIS-1000/MIS-2000

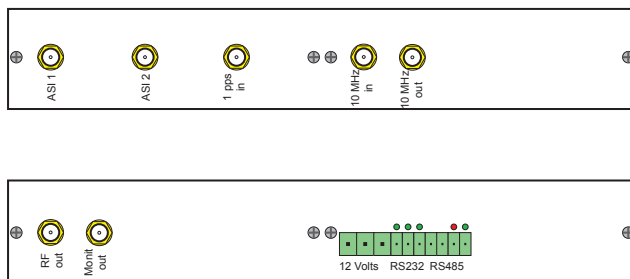
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### Connectors

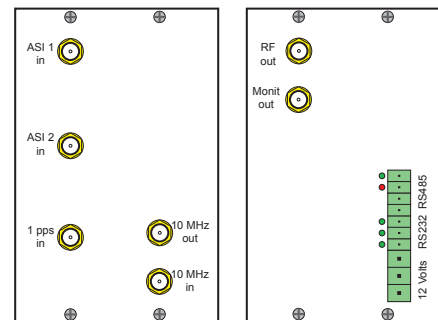
MIS-1000



MIS-2000 Size A



MIS-2000 Size B



### Specifications

#### Standards

- o ARIB STB-B31 and TR-B14

#### MPEG-TS Inputs

- o 2xASI inputs - SMA connectors
- o 204 and 188 bytes formats
- o Input Transport Stream Packet de-multiplexer
- o IIP packet management for SFN operating
- o Automatic input switching for redundancy

#### IF/RF Outputs

- o IF from 34 MHz to 45MHz (0 dBm - 50 Ω) - MIS-1340
- o RF from 30 MHz to 860 MHz (0 dBm - 50 Ω) - MIS-2010/2012
- o Low level (-20 dB) output available for monitoring

#### Clock & Synchronization

- o High quality internal clock
- o 10 MHz & 1 PPS
- o Onboard GPS (optional)

#### Modulation

- o Hierarchical modulation, up to 3 layers
- o FEC 1/2, 2/3, 3/4, 5/6, or 7/8
- o Time interleave from 0 to 16
- o Guard Interval: 1/4, 1/8, 1/16 or 1/32

- o Carrier spacing: 4 kHz, 2 kHz or 1 kHz
- o MFN and SFN network operation (IIP packets)
- o High performance MER (> 40 dB<sup>1</sup>)
- o Low shoulder levels (> 50 dB rejection<sup>1</sup>)

#### 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 supply voltage: 12 VDC
- o MIS-1000: 220 x 110 x 35 mm (size C)
- o MIS-2000: 220 x 220 x 35 mm (size A) or 220 x 110 x 70 mm (size B)
- o Operating temperature range: 0°C to 50°C

<sup>1</sup> IF performances

### Ordering Information

xTTM-MIS0-1340	ISDB-T/T <sub>B</sub> Modulator - IF output - Size C Module
xTTM-MIS0-2010	ISDB-T/T <sub>B</sub> Modulator - RF output - Size A Module
xTTM-MIS0-2012	ISDB-T/T <sub>B</sub> Modulator - RF output and onboard GPS - size A Module