



● MO-380

MFN/SFN ISDB-T/T_B Modulator (19" rack format)

ISDB-T/T_B

- ✓ ISDB-T/T_B modulation
- ✓ MFN and SFN
- ✓ Single output 30 to 900 MHz
- ✓ High output quality
- ✓ Easy OEM integration
- ✓ Digital Pre-correction
- ✓ Webserver for programming and control
- ✓ 10 MHz/IPPS external references
- ✓ Installation and maintenance tests modes
- ✓ IP FEC correction
- ✓ IP, UDP, RTP & IGMP compatibility

The **MO-380/381** is a **ISDB-T/T_B** modulator available in a standard 1U 19" rack case (MO-380) and also in an open frame chassis (MO-381) that can be used for MFN as well as SFN applications.

The modulator accepts TS-ASI and TS over IP inputs so that it can be easily interfaced with other existing transmission equipment. The modulator can be configured to generate any of the transmission modes listed in the **ISDB-T/T_B** standard.

● MO-381

MFN/SFN ISDB-T/T_B Modulator (OEM version)



ISDB-T/TB Modulator

Configuration > Input

Primary input selection	Secondary input selection
<input checked="" type="radio"/> ASI 1	<input type="radio"/> ASI 1
<input type="radio"/> ASI 2	<input checked="" type="radio"/> ASI 2
<input type="radio"/> IP	<input type="radio"/> IP

Input Modification

Null Packet Deletion Enable
PCR Restamping Enable

IP Input parameters

IP Multicast: 239.255.042.042
UDP Port: 01234
UDP/UDP/RTP: UDP RTP Auto
IGMP: Disabled IGMP.V2
Host IP: 192.168.001.010
Host IP Mask: 255.255.255.000
Host Gateway IP: 000.000.000.000
MAC Address: 68:66:13:70:00

Buttons:
load configuration from file save configuration to file load configuration from flash save configuration to flash

● Web server control

ISDB-T/TB Modulator

Monitoring

Clock Reference	State	TS Input	Primary	Secondary
10 MHz missing	●	TS packet length buffer overflow	100 D.	100 D.
10 MHz sync loss	●	buffer underflow	●	●
1pps reference missing	●	TS sync loss	●	●
1pps count error	●			

SFN

Selected TS in TS switching: **Prim. ASI 1**
SFN is ready
TS seamless switch ready
total delay too large
net delay margin too small



ISDB-T/T_B Modulator

MO-380 / MO-381

SPECIFICATIONS	MO-380	MO-381
INPUT STREAMS Interface TS mode (188-bytes packets) BTS mode Switching	2 x ASI (EN 102 773) 1 x IP (SMPTE-2022 – UDP, RTP and FEC) Layer A only Layers A, B and C Automatic and seamless between any two BTS inputs in SFN mode. Automatic in MFN mode. In both modes the switchover may be permanent or temporary	
RF OUTPUT Frequency Range Output level Return Loss Spectrum Polarity Harmonics and Spurious MER	30 to 900 MHz -20 dBm to -40 dBm > 20 dB Inverted / Normal > 60 dB > 44 dB	
SYNCHRONISATION MFN SFN	External or Internal 10 MHz External 10 MHz and 1 pps	
TRANSMISSION MODES Modes Guard Interval Code Rate Constellation Time Interleaving Others	Mode 1, Mode 2 and Mode 3 1/4, 1/8, 1/16 and 1/32 1/2, 2/3, 3/4, 5/6 and 7/8 DQPSK, QPSK, 16-QAM and 64-QAM I=0,4,8,16 (Mode 1), I=0,2,4,8 (Mode 2) and I=0,1,2,4 (Mode 3) Estimates of the primary and secondary TS network delay margins	
SFN DELAY INSERTION Local delay	Adjustable between -50,000.0 µs and +50,000.0 µs with 100-ns resolution	
TEST MODES PRBS Blank Carrier NULL first symbol Single RMS tone	Modulates 23-bit PRBS-filled NULL packets Carriers are blanked between two configurable values First symbol of every frame is zeroed Tone at central frequency with the same RMS power as the ISDB-T/T _B signal	
SIGNAL PREDISTORTION Crest Factor Reduction Range Resolution Non linear predistortion Number of points Table AM-AM Table AM-PM AM Resolution PM Resolution Linear predistortion Number of points Amplitude Correction Group Delay Correction Amplitude Resolution Group Delay Resolution	Enable/Disable 8 to 11 dB 0.1 dB Enable/Disable From 2 to 16. Linear interpolation Input Amplitude: -12 dB to +12 dB / Output Amplitude: -6 dB to +6 dB Input Amplitude: -12 dB to +12 dB / Output Phase: -30° to +30° 0.1 dB 0.1° Enable/Disable 72. Linear interpolation From -6 dB to +6 dB From -1500 to +1500 ns 0.01 dB 1 ns	
POWER SUPPLY	90 - 250 V AC @ 50 - 60 Hz Consumption 15 W	12 V DC 1.8 A
MECHANICAL FEATURES Dimensions Weight	482.6 (W.) x 44.4 (H.) x 381 (D.) mm 5.1 kg	116 (W.) x 61 (H.) x 258 (D.) mm 1.57 kg



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