

# MOD6500

ISDB-T and ISDB-Tb Modulator



**MOD6500** ISDB-T modulator / ISDB-TB modulator is developed to adapt to the terrestrial digital television in Japan, Brazil, Argentina and other South American countries. The modulator's channel encoding and modulation mode is fully compliant with ARIB STD-B31 standard. This ISDB-T modulator / ISDB-TB modulator accepts TS-ASI and TS over IP inputs so that it can be easily interfaced with other existing transmission equipment including digital TV broadcast ird8 channel, HD/SD One Seg ISDB-T Encoder, ISDB-T Transmitter for digital TV broadcasting equipment, can be used for MFN as well as SFN of ISDB-T digital TV broadcasting equipment applications.

To improve the output performance of the transmitter, our ISDB-T modulator / ISDB-TB modulator also simultaneously supports adaptive linear and nonlinear digital pre-distortion, layered transmission and three transmission modes. Further more, the ISDB-T modulator / ISDB-TB modulator can be upgraded and controlled through network system. It is extensively used in the setting up of ISDB-T digital broadcasting network, and production and test of set-top box.

The MOD6500 ISDB-T/Tb modulator of digital TV broadcasting equipment is characterized by a high RF and MER performance and by its unique ability to optimize the performance of any third party power amplifier being utilized together with the modulator.

SNMP Client, this feature allows remote control of the MOD6500 in accordance with the SNMP protocol (Get, Set and SNMP traps). This remote control feature is intended for systems solutions where it is desired to integrate the control of a range of SNMP compliant equipment in a common management system.

The ISDB-T/Tb modulator provides a versatile, robust and unsurpassed performance solution for integration and manufacturing of high quality ISDB-T/Tb transmitters. The integration of the ISDB-T modulator into any ISDB-T transmitter system, is an easy process.

It will provide full support during this process which will only be necessary to do once in life, since Chixun's OEM hardware platforms are always backwards compatible with previous versions.

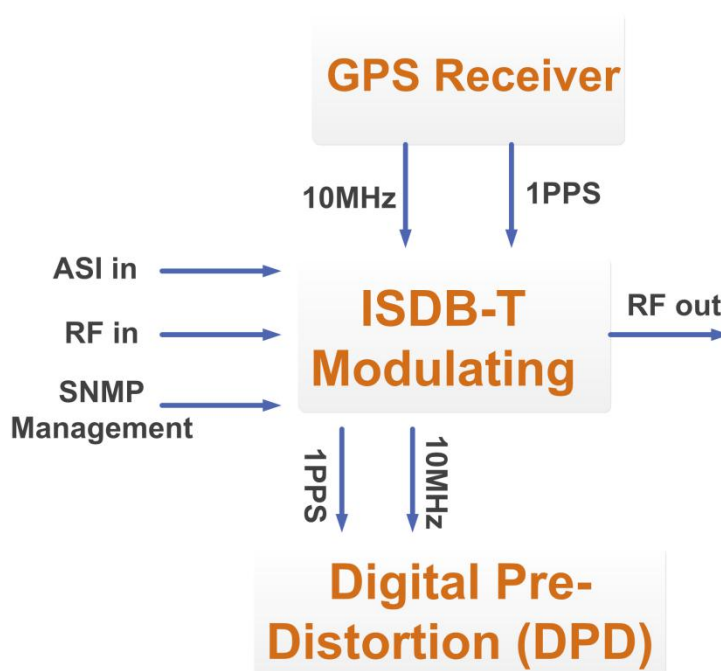
## Features

- Fully complying with ISDB-T (ARIB STD-B31) and ISDB-TB standard
- 4 ASI in, 1 RF in, 10MHz reference clock and 1PPS in
- Layered transmission with A, A+B, A+B+C hierarchy modes
- TS input(one Layer only) and ISDB-T BTS input(up to 3 Layers)
- Three transmission modes: Mode1 (2k), Mode2 (4k), Mode3 (8k)
- Extensive transmitted signal quality measurements (MER, SNR, Spectrum, etc.)
- Supports adaptive linear digital pre-distortion (DPD)
- Supports adaptive non-linear digital pre-distortion (DPD)
- MFN and SFN supported
- MER≥42db
- RF output range: 30~960MHz with 1Hz step
- Constant temperature crystal oscillating and excellent frequency stability (reach up to 0.1ppm)
- LCD display, keyboard
- SNMP remote control, and software upgrades

## Application

- MFN/SFN synchronized transmissions
- ISDB-T/Tb digital TV broadcast
  - Regional TV distribution
- MFN/SFN synchronized transmissions

## Principle Chart



## TECHNICAL SPECIFICATIONS

## Input

4 ASI input	BNC (F), 75 Ω, hot backup
1 external GPS clock	BNC (F), 50 Ω, 10MHz
1 PPS input for SFN	BNC (F), 50 Ω
1 RF input for DPD	-25dbm ~ +5dbm

## RF output

Connector	N Type, 50Ω Impedance
RF range	30 ~ 960MHz, 1Hz stepping
Output level	-26dbm ~ +3dbm, 0.1db stepping
MER	≥ 42db
Spectrum invert	Normal, Invert
RF output level	-25dbm ~ 3dbm
RF Level Offset	-2.0dbm ~ 2.0dbm
Net Mode	TS, BTS-MFN, BTS-SFN

## Modulation

Standard	ARIB STD-B31
Transmission mode(FFT)	Mode1 (2k), mode2 (4k) mode3 (8k)
Constellation	DQPSK, QPSK, 16QAM, 64QAM
External coding	RS (204, 188)
FEC rate	1/2, 2/3, 3/4, 5/6, 7/8
Guard interval	1/4, 1/8, 1/16, 1/32
REF Clock Select	Inner, Exter, Auto
Hierarchical Mode	up to 3 layers

## Time domain Interlacing

mode 1	0, 4, 8, 16
mode 2	0, 2, 4, 8
mode 3	0, 1, 2, 4
Bandwidth	6MHz, 7MHz, 8MHz

## Non-linear DPD

over 10db ACPR improvement  
(normally)

## linear DPD

over 10db non-flatness adjustment  
(normally)

## Control

LCD display/keyboard  
SNMP net management  
Supporting software upgrading  
through network

## Environment

Consumption	35W
Power supply	AC 100V ~ 240V
Frequency	50/60Hz
Operation Temperature	0 ~ 45°C
Storage Temperature	-20 ~ 80°C
Relative Humidity	max. 95%
Dimensions	440mm×414mm×44.5mm
Weight	4.9kg