MOD6510

ISDB-T and ISDB-Tb Modulator

ISDB-T

MOD6510 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, IP and TS over IP inputs so that it can be easily interfaced with other existing transmission equipment including digital TV broadcast IRD 8 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. It is extensively used in the setting up of ISDB-T digital broadcasting network, and production and test of set-top box.

The MOD6510 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.

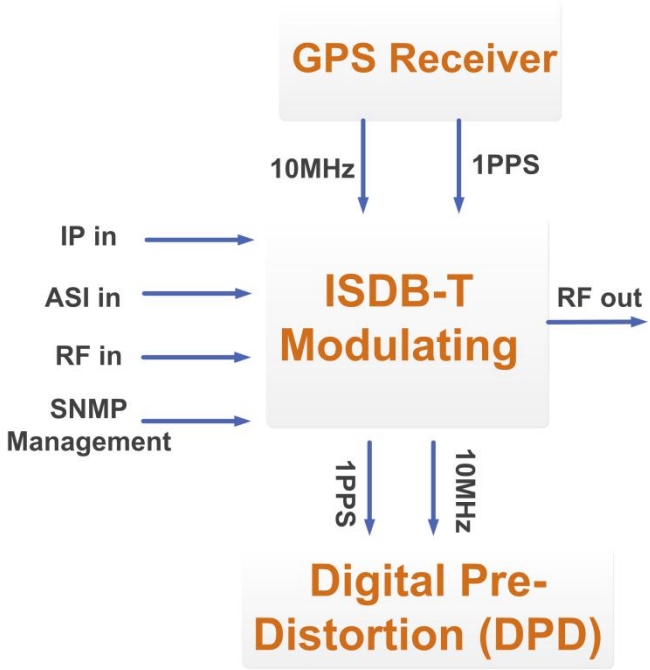
Features

- Fully complying with ISDB-T (ARIB STD-B31) and ISDB-TB standard
- 2 ASI in, 2*IP 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

2 ASI input	BNC (F), 75 Ω, hot backup
Dual IP input ports	one for hot backup over UDP/RTP, Unicast/Multicast, GE ports
1external GPS clock	BNC (F), 50 Ω, 10MHz
1PPS 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℃
Storage Temperature	-20 ~ 80℃
Relative Humidity	max. 95%
Dimensions	440mm×414mm×44.5mm
Weight	4.9kg

