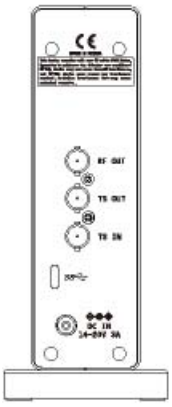
TELEVIEW

TVB599A (Ver 3)

Premium USB DTV Modulator



TVB599A Rear

Overview

The Premium USB digital streaming DTV modulator can play MPEG stream from hard disk and DVB-ASI/SMPTE-310M input into on-air signal. The output can be industry standard 55~2150MHz selectable RF signal. On board synthesizer can generate stable and accurate symbol clock and tuning frequency. The transport stream can be supplied through USB3.0 interface and DVB-ASI/SMPTE-310M input.

Features

- **Transport stream from hard drive thru USB3.0 interface and DVB-ASI/SMPTE-310M input**
- **DVB-ASI, SMPTE-310M output for monitoring**
- **On board VHF/UHF/L-BAND RF output up-converter**
- **Programmable RF output level (0.1dB step)**
- **Superposition white noise over modulated signal and control the output C/N ratio**
- **SDK for Windows 2000/XP(32/64bit)/Vista(32/64bit)/7(32/64bit)/8(32/64bit) WDM and Linux**
- **CMMB, DVB-T/DVB-H, ATSC 8VSB, QAM(DVB-C & USA-QAM), DVB-S/DVB-S2, T-DMB, ISDB-T, ISDB-S, DTMB, ATSC-M/H, DVB-T2, DVB-C2, DVB-S2X modulation option available**
- **Free 0dBm amplifier option**

Module Specifications

Transport Stream Input From hard disk thru USB3.0 **Bit Rate** Up to 160Mbits/s **ASI/ SMPTE-310M Input/Output** Connector: 75ohm BNC **RF Output** Connector: 75ohm BNC Freq: VHF/UHF 55~2150MHz in 1 Hz steps	Level: Programmable RF output level (0.1 dB steps from 0 to -60dBm) Freq accuracy: Within 3ppm accuracy Phase noise <-90dBc/Hz @ 10KHz **USB Interface** USB 3.0 high speed compliant **Physical/Environmental** HxWxL: 170mm x 70mm x 240mm	**Driver** Windows2000/XP(32/64bit)/Vista(32/64bit)/7(32/64bit)/8(32/64bit) WDM and Linux **Application Software** Teleview made GUI **Operating Condition** Temperature: 0~45˚C Humidity: 10% ~ 90%, Non-condensing

DVB-T/H Option Specifications

Standard ETSI EN300744 v1-4-1 compliant Non-hierarchical single program mode **Punctured Code Rate** 1/2, 2/3, 3/4, 5/6, 7/8 selectable **Constellation** QPSK, 16-QAM, 64-QAM	**Transmission Mode** 2K/4K/8K mode selectable 4K mode only for DVB-H **Guard Interval** 1/4, 1/8, 1/16, 1/32 selectable	**In-depth Interleaving** Only for DVB-H **Bandwidth** 5/6/7/8 MHz mode selectable 5 MHz only for DVB-H

8VSB Option Specifications

Standard ATSC A.53 Part 2: 8VSB compatible		

QAM Option Specifications

Standard ITU-T J.83 Annex A/C and B compliant	**Constellation** Annex A/C: 16-QAM, 32-QAM, 64-QAM, 128-QAM,256-QAM	Annex B: 64-QAM, 256-QAM

QPSK Option Specifications

Standard ETSI EN 300421 (DVB-S) compliant	**Code Rate** 1/2, 2/3, 3/4, 5/6, 7/8	**Symbol Rate** 1~45 M symbols/s **DC Blocking Voltage** 50V max

DVB-S2 Option Specifications

Standard ETS 302 307 broadcast services compliant **LDPC Code** 1/4, 1/3, 2/5, 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, and 9/10 supports	**Modulation Mode** QPSK, 8PSK, 16APSK, 32APSK **Baseband Shaping Filter** Roll-off 0.20, 0.25, 0.35, none selectable	**Symbol Rate** 1~45 M symbols/s **DC Blocking Voltage** 50V max **Support MIS (multi input stream)** Supports up to four streams

T-DMB Option Specifications

Standard ETS 300401, ETS300799 compliant **Transmission Mode** DAB transmission modes I, II, III, IV	- Transmission mode automatically selected from the ETI stream	Supports ETI(NI, G.703), ETI(NA, G.704)5592 and ETI(NA, G.704)5376 file format *T-DMB modulation from TS input is not supported

ISDB-T Option Specifications

Standard ARIB STD-B31 v1.6 compliant **Mode** Mode I, Mode II, Mode III **Code Rate** 1/2, 2/3, 3/4, 5/6, 7/8 selectable **Mapping** DQPSK, QPSK, 16QAM, 64 QAM	**Guard Interval** 1/4, 1/8, 1/16, 1/32 **Time Interleaving Length** Mode I - 0, 4, 8, 16 Mode II - 0, 2, 4, 8 Mode III - 0, 1, 2, 4	**The Number of Segment** 1 / 13 Segment **Support TMCC Information and Generation** (ISDB-T information and IIP) *ISDB-T modulation from DVB-ASI input is supported

ISDB-S Option Specifications

Standard ARIB STD-B20 v3 compliant **FEC** inner:Trellis, convolutional coders outer:RS(204,188)	**Modulation** TC8PSK, QPSK, BPSK (hierarchical) **Code Rate** 1/2, 2/3, 3/4, 5/6, 7/8 selectable	*ISDB-S modulation from DVB-ASI input is not supported *Supports framed TS with TMCC (1~8 TS have totally 48 slots can be selected)

DTMB Option Specifications

Standard GB20600-2006 compliant **Number of Carrier** 1 or 3780 sub-carriers selectable **Frame Length** 4200, 4335, 4725 symbols	**Constellation** 4QAM-NR, 4QAM, 16QAM, 32QAM, 64QAM **Code Rate** 0.4, 0.6, 0.8	**Time Interleaving Length** 240, 720 symbols **Bandwidth** 8MHz

CMMB Option Specifications

Standard GY/T 220.1-2006 compliant **Constellation** BPSK, QPSK, 16QAM	**Subcarrier** 4096/8MHz	*CMMB modulation from DVB-ASI input is not supported *CMMB stream should have control information table (CMCT)

ATSC-M/H Option Specifications

Standard ATSC A/153 Part2 compliant	*Supports captured file play, live from external ATSC-M/H MUX through ASI-SMPTE-310M input	

DVB-T2 Option Specifications

Standard ETSI EN302 755 compliant **MISO/SISO** SISO/MISO Tx1, Tx2 **FFT Size** 1K, 2K, 4K, 8K, 16K, 32K (normal and extended) **Guard Interval** 1/4, 1/8, 1/16, 1/32, 1/128, 19/128, 19/256 **PAPR** None **L1 Modulation** BPSK, QPSK, 16QAM, 64QAM **Pilot Pattern** PP1 ~ PP8	**The Number of RF (TFS)** Single **FEF** FEF-Null **The Number of PLP** Single PLP, Multi PLP(8 PLPs) **PLP Code Rate** 1/2, 3/5, 2/3, 3/4, 4/5, 5/6 **PLP Modulation** QPSK, 16QAM, 64QAM, 256QAM **Constellation Rotation** Supports at QPSK, 16QAM, 64QAM, 256QAM	**PLP FEC Type** 16K, 64K **Frame Interval** '1' **Time Interleaving Length** '0'~'255' **Time Interleaving Type** '0', Frame Interval(I_Jump)=1 **Bandwidth** 1.7/5/6/7/8 MHz mode selectable *L1 post scrambling is supported *T2-Lite is supported *DVB-T2 modulation from DVB-ASI input is supported *Supports T2MI multiplexed stream

DVB-C2 Option Specifications

Standard ETSI EN302 769 compliant **L1 TI Mode** NONE, BEST FIT, 4 Symbols, 8 Symbols **Guard Interval** 1/64, 1/128 **Data Slice Type** TYPE1, TYPE2 **Time Interleaving Depth** `00'	**FEC Header Type** ROBUST, HEM **BBHeader Format** NORMAL, HEM **The Number of PLP** Single PLP, Multi PLP (10PLPs) **PLP Code Rate** 2/3, 3/4, 4/5, 5/6, 8/9, 9/10 **PLP Modulation*** 16QAM, 64QAM, 256QAM, 1024QAM,4096QAM	**PLP FEC Type** 16K, 64K **Bandwidth** 6/7/8 MHz mode selectable *256QAM,1024QAM,4096QAM configurations could have some post LDPC errors *DVB-C2 modulation from DVB-ASI input is supported

DVB-S2X Option Specifications

Standard ETS 302 307-2 broadcast services compliant (excluding VCM, Channel Bonding, GSE-High Efficiency Mode) **LDPC Code** 1/4, 1/3, 2/5, 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10, 13/45, 9/20, 11/20, 23/36, 25/36, 13/18, 5/9, 26/45, 28/45, 7/9, 77/90, 8/15, 32/45, and 11/15 supports	**Modulation Mode** QPSK, 8PSK, 8APSK-L, 16APSK, 16APSK-L, 32APSK, 32APSK-L **Baseband Shaping Filter** Roll-off 0.05, 0.10, 0.15, 0.20, 0.25, 0.35, none selectable	**Symbol Rate** 1~45 M symbols/s **DC Blocking Voltage** 50V max **Support MIS (multi input stream)** Supports up to four streams

Multi VSB Option Specifications

Standard ATSC A.53 part 2: 8VSB compatible **Channel** Supports up to Quad VSB	* Multiple VSB have consecutive channels only operating simultaneously * VSB modulation from DVB-ASI input is supported with 1st channel only	

Multi QAM(J.83B) Option Specifications

Standard ITU-T J.83 Annex B compliant **Constellation** Annex B: 64-QAM, 256-QAM **Channel** Supports up to Quad QAM(J.83B)	* Multiple QAM(J.83B) have consecutive channels only operating simultaneously * All channels should have same constellation mapping (64QAM, 256QAM)	* QAM(J.83B) modulation from DVB-ASI input is supported with 1st channel only

Multi DVB-T Option Specifications

Standard ETSI EN300744 v1-4-1 compliant Non-hierarchical single program mode **Punctured Code Rate** 1/2, 2/3, 3/4, 5/6, 7/8 selectable **Constellation** QPSK, 16-QAM, 64-QAM	**Transmission Mode** 2K/4K/8K mode selectable **Guard Interval** 1/4, 1/8, 1/16, 1/32 selectable **Bandwidth** 6/7/8 MHz mode selectable **Channel** Supports up to Quad DVB-T	* Multiple DVB-T have consecutive channels only operating simultaneously * All channels should have same bandwidth (6, 7 or 8 MHz) * DVB-T modulation from DVB-ASI input is supported with 1st channel only