BRIDGE TECHNOLOGIES

BRIDGING TELECOMMUNCATIONS AND BROADCAST

DVB-T/T2 TERRESTRIAL RF INPUT MODULE

VB252 is a dual input DVB-T/T2 input interface module that enables monitoring of digital terrestrial transmissions. Two modules may be housed in a 1RU chassis together with a controlling VB120 or VB220 probe, providing high monitoring capacity occupying a minimum of rack space.

Figure - The 1RU Enhanced Chassis populated with one VB120 module controlling two VB252 DVB-T/T2 input modules giving a total of 4 independent RF inputs.

In addition to monitoring typical RF parameters, the monitoring solution optionally allows advanced analysis of the complex DVB-T MI protocol; signal integrity is verified layer by layer. The VB252 also support the T2 Lite standard with full analysis of T2 Lite transmissions. All this analysis functionality is complemented by the renowned Bridge Technologies ETSI TR 101 290 monitoring engine to ensure standards conformance at all levels.

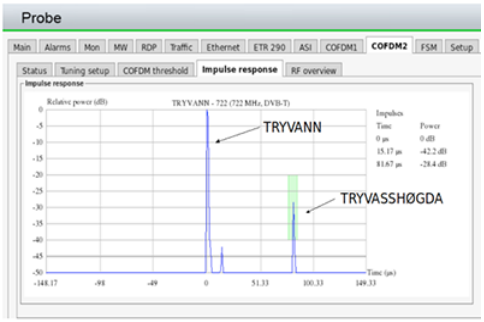

Figure - The Channel Impulse Response echo view useful for off-air monitoring and alarming in SFN fringe areas

In a typical DVB-T/T2 system transmitter sites are fed via IP infrastructure or via satellite distribution. The Bridge Technologies range of interfaces and interface modules make it easy to monitor the complete signal chain end-to-end.

The VB120/VB252 combination enables monitoring of up to 50 IP multicasts, thus monitoring IP network distribution together with DVB-T2 transmissions.

It is even possible to equip the monitoring chassis with a VB270 satellite interface module, which is valuable if combined IP and satellite distribution to transmitter sites is used.

Similarly the VB252 can be used with a VB242 ASI input module, enabling high density ASI and DVB-T/T2 monitoring.

The basic VB252 supports one COFDM RF input. The second input of the VB252 can be enabled by the customer via a software licencing option. This flexibility allows probe capacity to be tailored to individual system needs, and increase as a monitoring system is expanded to include more transport streams.

The Advanced RF Option adds impulse response graphing and analysis to the VB252, making it possible to check reflection conditions at the probe location. Configurable threshold limits determine when an alarm should be raised due to reflection changes in time or power.

Impulse response analysis results are presented as a user-friendly graphical GUI, facilitating reflection measurement interpretation. Licence upgrades are performed by entering a licence key in the regular probe GUI and they can therefore be done remotely.

TECHNICAL FEATURES

- Choice between 50 ohm female SMA (VB252-SMA) or 75 ohm female F-type connectors (VB252)
- 50 ohm female SMA 1-pulse-per-second GPS input for SFN Drift measurements
- 9-pin D-Type male connector for relay alarm indication
- One red/green LED TS sync indicator per RF input
- Supports DVB-T EN 300-744 and DVB-T2 EN-302-755
- Frequency range 43 - 1002 MHz
- Symbol rate range 0.7 - 7.2 Msym/s
- All versions of DVB-T2 supported: 1.1.1, 1.2.1 and 1.3.1
- DVB-T2 Base and DVB-T2 Lite profiles supported (1.3.1)
- Channel bandwidth: 1.7 (T2-Lite only), 5, 6, 7 and 8 MHz
- Round-robin capability across multiple PLPs within one frequency
- Capable of monitoring the following RF parameters:
- - Channel power RF level
- - Modulation Error Rate MER(PLP)
- - Signal to Noise Ratio SNR
- - Center Frequency Offset
- - Spectrum sense
- - 1PPS Input Lock
- - Pre Viterbi BER (DVB-T)
- - Pre Reed Solomon BER (DVB-T)
- - Pre LDPC BER (DVB-T2)
- - Pre BCH BER (DVB-T2)
- - Post BCH FER (DVB-T2)
- ? - Packet Error Rate
- ? - LDPC Iterations count
- DVB-T SFN Drift monitoring for measuring absolute transmission time of mega frame

OPTIONS

SECOND INPUT | ADVANCED RF | VB252-SMA | ETR290

RELATED PRODUCTS

VB120 | VB220

CHASSIS OPTION

ACC | DCC | EC | EC-DC

TECHNOLOGIES

Eii | RDP | microETR | DVB-T/T2

PHYSICAL AND ENVIRONMENTAL SPECIFICATIONS

Operating temperature: 0°C to 45°C

Storage temperature: -20°C to 70°C

Operation humidity: 5% to 95% non-condensing

POWER SUPPLY REQUIREMENTS

Input voltage: 100 to 240V AC

Power required: 15VA

Power dissipated: maximum 5W

COMPLIANCE AND SAFETY

Compliant to requirements for US and Canada. Designed for CSA approval. Bridge Technologies continuously improves on products and reserves the right to modify the specifications without prior notice.

EMC: EN 55022I CISPR 22 Class A, EN 55024I CISPR 24, EN 61000-3-2/ IEC 61000-3-2, EN 61000-3-3/ IEC 61000-3-3, 47 CFR, Class B **SAFETY**: EN 60950-1, IEC 60950-1 Edition 2.0

ENVIRONMENTAL COMPLIANCE POLICY

Bridge Technologies co as is committed to fulfilling all statutory environmental requirements in accordance with the WEEE scheme.

In order to prevent the generation of hazardous waste, Bridge Technologies undertakes the responsibility for taking back and recycling electrical and electronic equipment.

This will provide incentives to design electrical and electronic equipment in an environmentally more efficient way which takes waste management aspects fully into account.

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- DVB-T2 SFN Drift monitoring by measuring timing of T2MI frame versus received RF super frame
- Readout of TPS information (DVB-T)
- Readout of signalled L1 and PLP parameters (DVB-T2)
- Channel impulse Response diagram
- Constellation diagram
- SFN Drift monitoring for DVB-T
- SFN Drift monitoring for DVB-T2
- Extract and display over 30 signalled DVB-T2 L1 Pre information parameters
- Extract and display over 20 signalled DVB-T2 L1 PLP information parameters
- Extract and display 9 signalled DVB-T2 L1 Post information parameters

ADDITIONAL RF INPUT OPTION

- Enabling the second VB252 RF input
- Remote licence upgradeable

ADVANCED RF OPTION

- Constellation diagram
- Channel Impulse response diagram with advanced alarming capabilities
- Configurable alarm template to verify position of CIR echoes in both time and relative amplitude
- Supports alarming on up to 10 CIR echoes

RF SPECIFICATIONS

RF power level: -80 dBm to -20 dBm

- RF power level accuracy: +/- 1.5 dB

RF power level resolution: 1 dB

- Maximum SNR: > 38dB +/- 1.5dB
- Maximum MER: > 38dB +/- 1.5dB
- Carrier offset: < 15 ppm of tuning frequency
- SFN drift: 0 to 500ms
- SFN drift accuracy: +/- 2us

PRODUCT ORDERING CODES

VB252	DVB-T/T2 COFDM Demodulator interface blade single RF input - 75Ohm F-Connectors
VB252-SMA	DVB-T/T2 COFDM Demodulator interface blade single RF input - 50Ohm SMA Connectors
VB252RF-OPT	Additional RF input option for VB252/VB252-SMA card for a total of 2
VB252RF-UPGR	Advanced RF Option for VB252/VB252-SMA with Impulse Response graphing and alarming
VB252-ARF-OPT	Advanced RF Option for VB252/VB252-SMA with Impulse Response graphing and alarming, factory ordered
VB252-ARF-UPGR	Advanced RF Option for VB252/VB252-SMA, upgrade license