IP Distribution Monitoring Blade

VB120

OVERVIEW

The VB120 modular BROADCAST PROBE is designed for continuous digital TV monitoring. System scalability in terms of monitoring capacity, signal formats handled and functionality ensures a future-proof solution. The ability to continuously measure all your media services makes the VB120 invaluable for confidence monitoring.

The VB120 BROADCAST PROBE comprises a fully-fledged ETSI TR 101 290 monitoring engine used to monitor enabled inputs, one monitoring engine per input working in parallel. The basic VB120 monitors ASI and IP. DVB-T/T2, 8VSB, QAM and QPSK DVB-S/S2 demodulators are available. The VB120 performs Priority 1, 2 and 3 measurements. The monitoring engine may also be configured to check signal scrambling. PSI/SI and PSIP tables are analyzed and presented as table summary and hex dump, the latter enabling analysis of proprietary descriptors. Bitrates are measured at TS, service and PID level, and the ETSI TR 101 290 engine also monitors RF parameters for optional demodulator inputs.

The innovative RDP technology (Return Data Path) is one of the advanced features of the basic VB120, enabling easy re-routing of remote signals from regional locations into a central location for decryption and advanced signal analysis. RDP reduces the need for truck rolls and on-site visits by skilled and expensive engineers. The VB120 recording functionality allows alarm triggered recording from any enabled input.

The IP monitoring features optical and electrical Gigabit Ethernet interfaces for connection to the video segment. The VB120 has been designed to support all modern encapsulation standards including ISO/IEC13818-1 Transport Streams and MFRTP. The VB120 continuously measures signal loss, packet loss and packet jitter for up to 50 IP multicasts, these vital parameters being presented through a patented MediaWindow™. MediaWindow™ allows for current and historical data to be displayed in an intuitive and visual way for easy understanding of the media flows in the network.

Alarm handling is one of the main tasks of the VB120 BROADCAST PROBE, and all measurements are checked against user defined thresholds for alarm generation. A sophisticated threshold

template system gives the user full alarm handling control at probe, TS, service and PID level, ensuring that only relevant alarms are displayed.

Management and control for the basic VB120 is available through a separate 10/100 Mbps Ethernet interface, the IP-enabled VB120 may alternatively be managed in-band through the GigE video interface. Standalone access is achieved through the use of a standard web browser, avoiding the need for a dedicated client application. With SNMP trapping and XML export the VB120 IP-PROBE is easily integrated into existing NMS systems either directly or through the optional VideoBRIDGE Controller (VBC).

The VB120 is hosted in a 1RU 19" chassis, each 1"RU chassis capable of hosting up to 3 x VB120 modules, or any combination of the VB120 with six-port ASI (VB242), DVB-T-T2 (VB252), QAM/8VSB (VB262) and QPSK DVB-S/S2 (VB272) interfaces.

KEY FEATURES

- 1x 10/100/1000T Mbps Ethernet port
- 1x SFP GigE port
- 1x 10/100T Mbps Ethernet management port
- 1x ASI Input port and 1x ASI output port
- Built-in USB to RS232 converter
- Blade based hardware for use with rack mount chassis
- 3 blades can be placed in one 1"RU chassis
- Chassis with built-in 100-240V AC or -48V DC power supply
- Optional demodulator blades supported (QAM, DVB-S/S2, DVB-T/T2 and 8VSB)
- Full real-time ETSI TR 101 290 alarming and analysis (Pri 1, 2, 3) for 1 transport stream for each enabled input
- Configurable round-robin functionality for each ETSI TR 101 290 analysis engine
- Conforms to both DVB and ATSC specifications
- Table and descriptor parsing of PSI/SI and PSIP presented as table summary and full table breakdown (including hex dump)
- Bitrate monitoring and alarming (TS, service and PID level)
- Monitoring of vital CA parameters
- Compare view for comparison of transport streams and services across different interfaces
- Sophisticated threshold template system for detailed alarm handling control at transport stream, service and component level
- Monitoring of demodulator parameters (demodulator option)
- Alarm triggered recording of a multicast/unicast or selectable service from any enabled input
- RDP™ of transport stream or selected service from any enabled input
- OTT/ABR monitoring option features constant checking of HLS, Smooth Streaming, HDS, MPEG-DASH and RTMP Streams
- Searchable alarm lists
- Built-in web-based management with access control
- Intuitive GUI using patented visualization techniques for ease of system overview: microETR and MediaWindow
- Optional central management via VideoBRIDGE Controller server
- Eii™ External Integration Interface for easy integration into any 3rd party NMS system using well-documented SNMP or XML commands
- SNMP multi-destination trapping
- Compatible with Cisco™ VAMS/CMM
- NTP client functionality (RFC2030)
- DHCP client support (RFC2131)
- Remote software and license upgradable

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SPECIFICATIONS

IP Distribution Monitoring Blade VB120
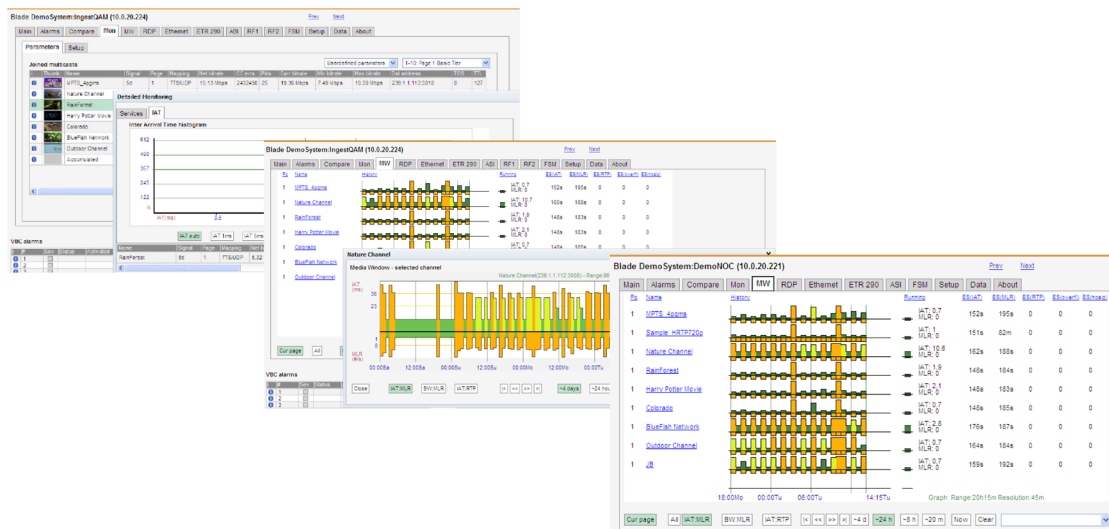
ENVIRONMENT SPECIFICATIONS

Operating temperature: 0˚C to 45˚C

Storage temperature: -20˚C to 70˚C

Operating humidity: 5% to 95% non-condensing

CONNECTOR SPECIFICATIONS

10/100/1000 Ethernet video: RJ-45

10/100 Ethernet management: RJ-45

Optical input: SFP module

ASI input: 75 ohm HD-BNC, female

ASI output: 75 ohm HD-BNC, female

Initial setup: USB Type A

POWER SUPPLY REQUIREMENTS

Input voltage: 100 to 240V AC

Power required: 2+ VA

Power dissipated: Maximum 50W

NETWORK SPECIFICATIONS

10/100/1000 BASE-T Ethernet (802.3u and 802.3ab)

SFP interface for optical networks

10/100 BASE-TX Ethernet management (802.3u)

MECHANICAL SPECIFICATIONS

Standard 19" 1RU rack-mount

W x H x D: 19 x 1.7 x 15.75 in. (483 x 43 x 400 mm)

Weight: 9.3 lbs. (4.2 kg) fully populated

IP MONITORING AND ANALYSIS

Real-time monitoring of up to 50 multicasts/unicasts

Monitors Transport Stream in IP according to ETSI TS 102 034

MediaWindow patented intuitive GUI for ease of system overview

Microsoft MediaRoom™ X-bit RTP header extension support

Compatible with Cisco™ VAMS/CMM

IGMPv2 and IGMPv3 SSM support

802.1Q VLAN tagging support and detection

IP MONITORING AND ANALYSIS (cont.)

Thumbnail decoding of MPEG2 and MPEG4 streams, SD and HD

Packet jitter and media loss measurements

Configurable alarm handling including severity level definitions

RTP dropped, duplicate and out-of-order measurements

Type of Service (TOS) and Time to Live (TTL) displaying

Time loss distance measurements (RFC3357)

FEC analysis (COP3)

MediaWindow™ visualization technology

ADVANCED ETHERNET TOOLS OPTION

FSM™ monitoring of middleware services

IGMP monitoring and logging

Advanced real-time IP protocol breakdown and analysis with individual bandwidth and frame size displaying

ADDITIONAL ETSI TR 101 290 MONITORING ENGINE OPTION

Full real-time ETSI TR 101 290 alarming and analysis (Pri 1, 2, 3) for additional Ethernet transport streams

ADDITIONAL IP-STREAMS (UP TO 50)

Real-time monitoring of IP multicasts/unicasts, can be upgraded to support 50 transport streams in parallel

DVB-T2 ENCAPSULATION MONITORING OPTION

T2-MI encapsulation breakdown and analysis

ETSI TR 101 290 analysis of outer and inner streams

TRAFFIC MODULE OPTION

Detailed traffic protocol breakdown

Traffic graphing

OTT/ABR MONITORING OPTION

Monitor up to 50 HLS, Smooth Streaming, HDS, MPEG-DASH and RTMP Streams

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