

IP Core Monitoring Probe

VB20



The VB20 IP core monitoring probe is a critical component of the VideoBRIDGE monitoring system and is useful for monitoring digital video that is carried across an IP infrastructure. This portable network service tool is ideal for pure IPTV networks and OTT delivery networks.

The ability to simultaneously monitor 260 IPTV services makes the VB20 probe an incredibly powerful tool for any network engineer. With optional add-on licenses, the VB20 can monitor OTT/ABR streams at master play-out or at the CDN origin server in all common streaming formats including Microsoft Smoothstream™, Apple HLS™, Adobe HDS™, MPEG-DASH and basic RTMP.

The monitoring of critical parameters such as loss distance measurements and detailed jitter values will give operators invaluable and precise feedback of network performance. With the patented MEDIAWINDOW™ historical data can be easily accessed for meaningful visualization of media flow in IP networks.

The power of confidence monitoring is further enhanced by continuous monitoring and alarming for vital parameters like bandwidth overflow/underflow, RTP errors and signal loss. Based on a highly sophisticated threshold template system alarm granularity can be set to reflect actual status with irrelevant alarms being effectively masked. The VB220 can also be expanded with ETR 101-290 capabilities for full transport stream fault detection. Finally, the unique FSM™ framework also allows checking and continuous monitoring of middleware and network services vital to customer QoE.

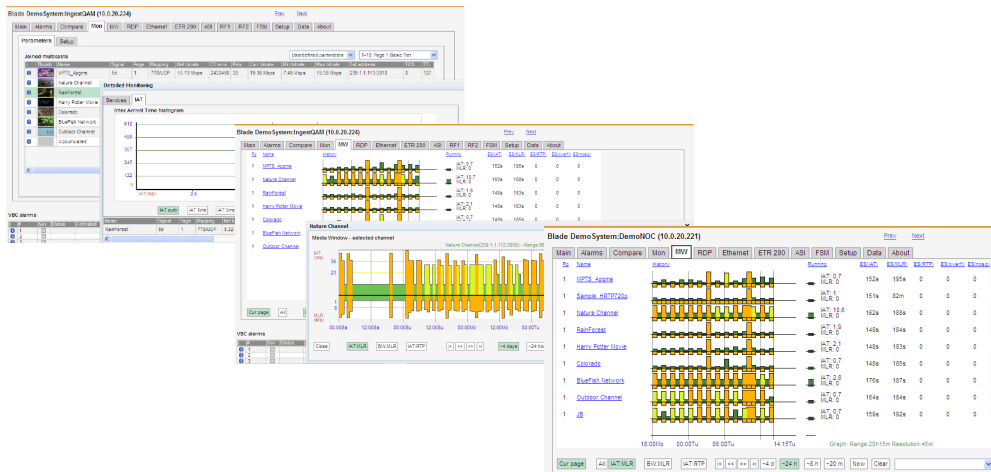
Each VB20 runs an HTTP server with the client as a web browser, so no need to install custom software on computers needing access to the measurement data. Users can pull results directly from the probe itself or connect via the VideoBRIDGE Controller server for advanced alarm correlation and filtering. SNMP traps and the Eii (External Integration Interface) XML API allow the probe to be easily integrated into any NMS or 3rd party system.

KEY FEATURES

- 10/100/1000-T RJ45 Management & Video ports
- SFP GigE video port
- 75 ohm BNC ASI input port
- USB Type-A connector for initial set
- Parallel and continuous monitoring of up to 260 IP unicasts/multicasts according to ETSI TS 102 034:
 - Monitor current/min/max UDP payload bitrate
 - Monitor current/min/max TS payload not counting NULL TS packets
 - Count number of IP packets
 - Source/destination IP address
 - Type-of-Service field (TOS/DSCP)
 - Time-to-Live field (TTL)
 - VLAN ID, if appropriate
 - Max/min/average IP packet Inter-Arrival time (IAT) for jitter analysis
 - TS Sync & Continuity Counter errors
 - Media Loss Rate - number of TS packets lost
 - Delay Factor - time between IP frames
 - Source/destination MAC address
 - RTP dropped/duplicate/out-of-order packets
 - RTP max/min hole size, hole separation
 - Forward Error Correction analysis (MPTE 2022 / COP3)
- MediaWindow™ visualization technology for trending packet loss, bandwidth and jitter over up to 4 days
- Thumbnail decoding of uni/multicast IP transport streams with audio bars and metadata
- Full Service Monitoring of up to 10 network devices via built-in ICMP and HTTP query agents
- Framework called RDP for relaying any IP multicast monitored to a different IP destination for further analysis
- Functionality for record 200MB of the whole or parts of any transport stream monitored (RDP framework)
- Automatic record trigger based on up to 3 configured alarm criteria with pre fill in order to catch fault
- Framework for automatic detection of present multicast/unicast streams
- Protocol hierarchy view with bandwidth and packet count statistics for video interface
- IGMPv2/v3 protocol logging and analysis framework
- Flexible template based alarming system to allow custom configuration of what parameters result in an alarm being generated on a per-TS level
- History graphs from last 4 days of NoSignal, CC-errors, RTP-drops, RTP-duplicates, RTP Out-of-order, Total interface bitrate, Monitored bitrate, Ethernet CRC frame errors
- One ETR290 engine automatically activated per RF/ASI input port on interface modules
- IEEE 802.1Q VLAN tagging support
- Microsoft mediaRoom X-bit RTP header extension support
- Alarm on changes to TOS/DSCP and TTL for detection of changes in network prioritization
- Time loss distance measurements according to RFC3357
- Alarm forwarding to 3rd party systems via SNMP TRAP via up to 3 unique destinations
- NTP client time synchronization according to RFC2030
- DHCP client support on management and video ports according to RFC2131
- Easy web-based software and license upgrade
- XML-based configuration save and retrieval via web

SPECIFICATIONS

IP Core Monitoring Probe VB20



IP MONITORING AND ANALYSIS

Real-time monitoring of up to 260 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

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

ETSI TR 101 290 OPTION FUNCTIONALITY

Full real-time ETSI TR 101 290 alarming and analysis (Pri 1, 2, 3), one transport stream per input monitored in parallel

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)

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

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 input: RJ-45

10/100/1000 Ethernet management: RJ-45

Optical IP video input: SFP Module

ASI input: 75Ω BNC, female

Initial setup port: USB Type A

AC power: IEC 320 connector

POWER SUPPLY REQUIREMENTS

Input voltage: 100 to 240V AC

Power required: 20 VA

Power dissipated: Maximum 20W

MECHANICAL SPECIFICATIONS

W x H x D: 11 x 1.5 x 8.7 in. (280 x 38 x 220mm)

Weight: 8 lbs (3.6 kg)