

## VB20 RUGGEDISED PORTABLE PROBE

The VB20 is ideal for the network technician tasked with commissioning new installations in IP networks where video is being carried. The unit is aimed at giving a full overview of video related issues that normally are impossible or very difficult to spot using traditional networking tools.

Invaluable insight into network performance is gained by continuously monitoring important parameters such as packet jitter and MPEG packet loss due to lost or rearranged IP frames.

The MediaWindow™ historical timeline view offers trending over up to 4 days in a detailed and easy to understand manner. Whether establishing or modifying service settings on complex routers and switches, the VB20 facilitates the whole process.



Figure - The VB20 portable IP Probe with ASI input, 10/100/1000-T RJ45 management, 10/100/1000-T RJ45 video and SFP video port. 100-240VAC PSU is built-in. Unit is fanless and dissipates approximately 15W of power.

The ability to monitor continuously 260 IP unicast or multicast streams with all relevant measurements logged makes the portable VB20 invaluable for field use. Its ruggedised exterior and fan-less design make this probe the perfect fault-finding tool for the mobile engineer. With full support for both the MPEG-2 TS and MFRTP encapsulation standards and all current codecs, the VB20 is the tool of choice. This is an invaluable helpmate for any network engineer attempting multicast detection on multiple VLANs or in the process of IGMP tracking. Fault finding in complex IP networks just got a lot easier.

The power of confidence monitoring is further enhanced by continuous monitoring and alarming of parameters, bandwidth overflow/underflow and signal loss. Based on a highly sophisticated threshold template system alarm granularity can be set to reflect actual status, irrelevant alarms being effectively masked. The unique FSM™ framework also allows checking and continuous monitoring of middleware and network services vital to customer QoE.

Monitor OTT/ABR streams at master play-out or at CDN origin server in all common streaming formats using the OTT option. Streaming formats supported currently include Microsoft Smoothstream™, Apple HLS™, Adobe HDS™, MPEG-DASH and basic RTMP.

SNMP trapping and XML export enable the IP-Probes to be implemented in any NMS system (with alarm generation either directly from the probes themselves, or via the VBC server for advanced alarm correlation and filtering).

Each IP-Probe 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. Modern web techniques such as AJAX are used to facilitate advanced interface behaviour in a standard web browser without the need for any plug-ins.

### TECHNICAL FEATURES

- 10/100/1000-T RJ45 Management port with Link and Activity LED indicators
- 10/100/1000-T RJ45 video port with Link and Activity LED indicators
- SFP gigE video port with Link and Activity LED indicators
- 75 ohm BNC ASI input port with TS SYNC LED indicator
- 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 Continuity Counter errors
  - TS Sync errors
  - Media Loss Rate - number of TS packets lost
  - Delay Factor - time between IP frames
  - Source/destination MAC address
  - RTP dropped packets, duplicate packets, out-of-order packets
  - RTP max/min hole size, hole separation
  - Forward Error Correction analysis according to MPTE 2022 / COP3
- MediaWindow™ visualisation 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

### OPTIONS INCLUDED

AET

### SOFTWARE OPTIONS

ETR290 T2MI OTT SCTE35

### RELATED PRODUCTS

VBC

### TECHNOLOGIES

MediaWindow FSM microETR RDP Eli OTT

### 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

### CONNECTOR SPECIFICATIONS

10/100/1000-T GigE input: RJ-45

10/100-T Ethernet management: RJ-45

Optical input: SFP Module

ASI input: 75 ohms HD-BNC

RS232 port: USB Type A connector

AC power: IEC 320 connector

### POWER SUPPLY REQUIREMENTS

Input voltage: 100 to 240V AC

Power required: 15VA

Power dissipated: maximum 15W

### NETWORK SPECIFICATIONS

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

SFP interface for optical networks

10/100/1000-T Ethernet management (802.3u)

### MECHANICAL SPECIFICATIONS

W x H x D = 280 x 38 x 220 mm

Weight: 3.6 kg

### 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 55022/ CISPR 22 Class A, EN 55024/ 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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- 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 support 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

#### PRODUCT ORDERING CODE

VB20 Ruggedised portable IP-Probe w/Gbit electrical/optical inputs + ASI in. Built in AET

#### PRODUCT ORDERING CODES SOFTWARE

ETR290-OPT	ETSI TR 101 290. Licence for VB20/VB220 factory ordered
ETR290-UPGR	ETSI TR 101 290. Upgrade licence VB20/VB220
T2MI-OPT	DVB-T2MI Encapsulation Synchronisation monitoring option, factory ordered
T2MI-UPGR	DVB-T2MI Encapsulation Synchronisation monitoring option
OTT-ENG-OPT	1 engine w/active testing of 1 channel or 10 channels round robin (up to 5 engines or 50 channels round robin in total) factory ordered
OTT-ENG-UPGR	1 engine w/active testing of 1 channel or 10 channels round robin (up to 5 engines or 50 channels round robin in total)
SCTE35-OPT	SCTE35 Signaling Analysis and Logging. Licence for VB12/VB120 factory ordered - requires v5 sw and ETR Engine
SCTE35-UPGR	SCTE35 Signaling Analysis and Logging. Upgrade licence for VB12/VB120 - requires v5 sw and ETR Engine