



## Issue 86 - NAB 2011 Special

### HIGHLIGHTS

- ▶ Consolidator™
- ▶ StationView™
- ▶ ECP Video Quality Index™

### SEE US HERE

- ➔ NAB 2011  
April 11-14, Las Vegas  
Booth SU7813

## Pixelmetrix Brings Clarity to Network Monitoring *See It All @ NAB*

Pixelmetrix will spotlight its latest arsenal of Test, Measurement and Monitoring solutions at NAB 2011, Las Vegas. The new array of innovations are targeted at IPTV, terrestrial, satellite and cable market players in a relentless quest for superior service delivery.

Stars at this year's show are:

- Consolidator™ – **Enterprise Grade Network Monitoring Platform**
- StationView™ – **Simple Effective Monitoring**
- Video Quality Index™ – **Quality Measurement Tool** on Electronic Couch Potato™ (ECP)

Also to be featured are the **8PSK/DVB-S2 Test, Measurement & Monitoring** with the DVStation-211, **Transport Stream Archiving & Disaster Recovery** with DVStor<sup>2</sup>, **IP Traffic Monitoring** with DVStation-IP<sup>3</sup>, **Cost-Effective MPEG-TS Analysis** with DVStation-Mini<sup>2</sup> TSP Lite, as well as **ATSC DTV Terrestrial Monitoring** with DVStation-Mini<sup>2</sup> VSB.

Visit us at booth SU7813 for on-site demos and explore the world's most comprehensive broadcast network monitoring solutions vital to your business!

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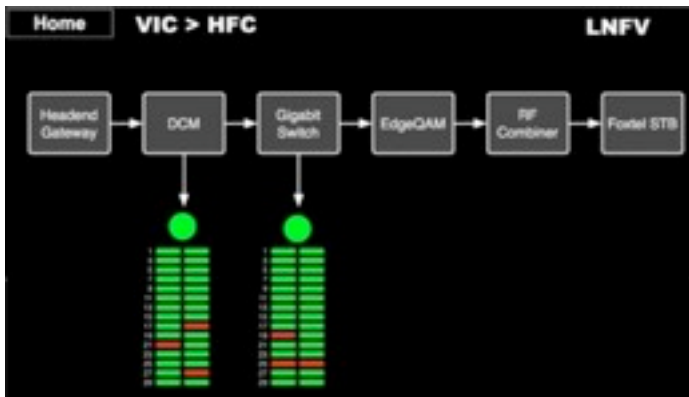
# Introducing Consolidator™

## New Generation Network Monitoring Solution

Growing revenues and reducing expenses are evergreen aspirations of any business, yet issues such as impaired Quality of Service (QoS), service disruption and fall in perceived Quality of Experience (QoE) turn customers away. To stay ahead of the competition, it is paramount to pinpoint and resolve these issues quickly. The challenge is managing the complexity of a modern network and maintaining happy subscribers.



Pixelmetrix **Consolidator™**, a scalable enterprise grade network management system, is the ultimate end-to-end solution for digital television broadcasters to centrally monitor their broadcast operation performance in real time.



Consolidator provides centralized access to all data and visibility to key fault and performance information from up to a thousand Pixelmetrix probes in a distributed content delivery network. It tracks all probes in real time with a combination of push notifications and information pull mechanisms, enabling faster response time for fault resolution and improving QoS.

Role-specific views for monitoring information also contributes to facilitating faster response time. As Consolidator continuously aggregates performance and fault information from available Pixelmetrix probes, it presents the appropriate level of detail for different personnel groups/subscribers. While engineers can look at the status of monitoring

probes, support teams can view service delivery status, and management teams can monitor overall network performance.

### Distributed Monitoring

- Centralized configuration
- Centralized access to all data

### Scalability

- Tested with 100,000 monitored devices and servers
- Tested with 1,000,000 availability and performance checks
- Processing of thousands of availability and performance checks per second

### Real-time Monitoring

- Performance monitoring
- Availability monitoring
- Integrity monitoring
- Flexible notification conditions
- Alerting users
- Logging

### Remote Monitoring

- Monitoring of remote services
- Support for SNMP v1 and v2c
- SNMP traps

## Flexible

- Platform Independent
- Open Architecture
- Modular
- East to set up
- Configurable

## Standards based

- Web-based, platform independent
- SQL
- SNMP
- Cross Platform

## Low Cost of Ownership

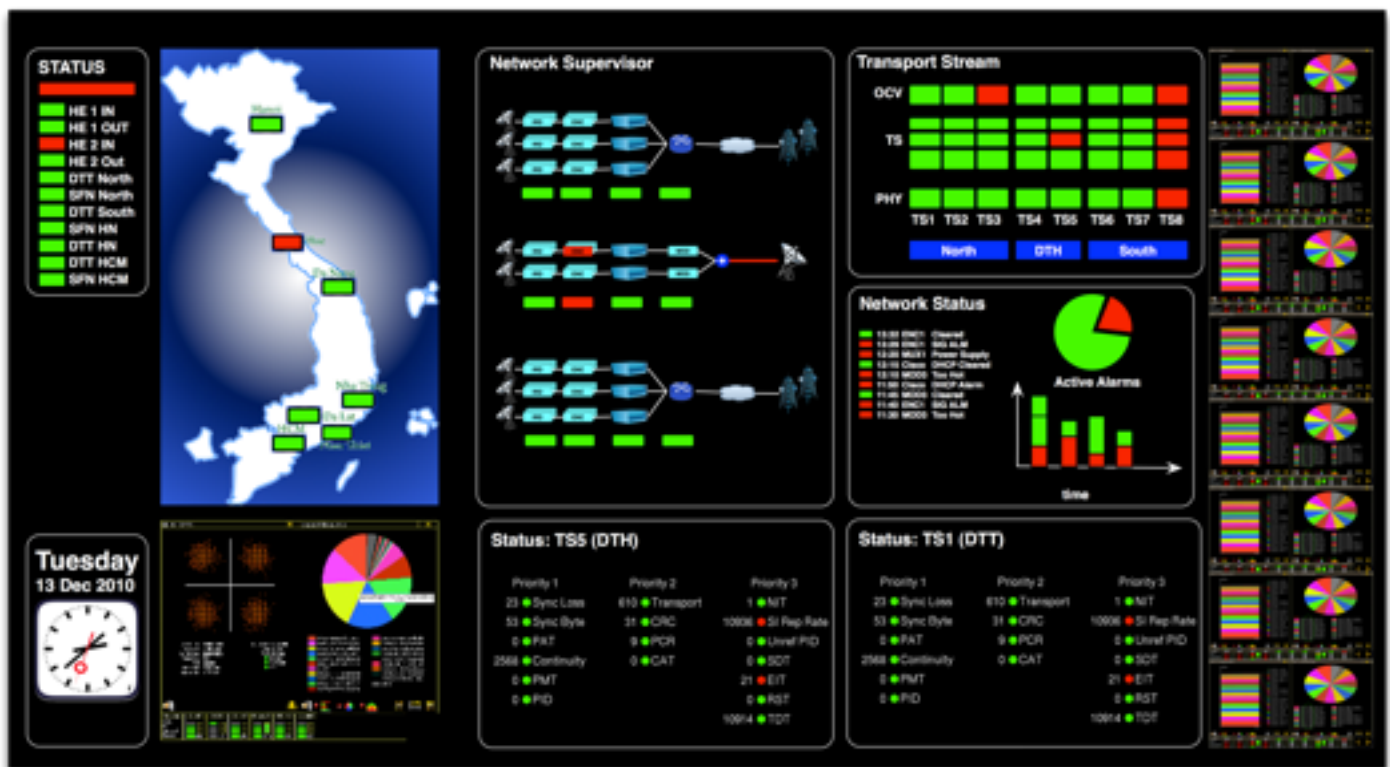
- Extensible Solutions
- Add capability as needed
- New drivers free with active maintenance

Consolidator optimizes operational efficiency at the same time. With configurable representation of monitored data, operators can reach conclusions and take action before customers are affected.

A clear understanding of the causes of the problem ultimately results in less time spent on resolving them. This translates into minimizing truck rolls, resulting in reduced OPEX and lower maintenance costs.

Finally, optimize your past and future investment with Consolidator. Its SNMP interface enables the system to be integrated with any Pixelmetrix equipment. Its open standards based architecture means that it can also be expanded to provide control and monitoring of virtually any modern broadcast, telecom or IT equipment.

So, consolidate your network health, service visibility and fault management on one platform: Consolidator.





# Max Monitoring on a Mini Scale StationView™ for Simple, Effective & Affordable Monitoring

Keeping subscribers satisfied entails constant vigilance of video quality and instant resolution of any glitch. In today's digital media landscape, the complexity only compounds.

Pixelmetrix launches **StationView™** to help television operators manage the growing complexity with Simple, Effective Monitoring – utilizing the power and flexibility of SNMP without the complexity and hassle of heavy network management systems.



Perfect for remote transmitter monitoring, StationView consolidates alarms and status from up to 15 remotely located DVStation probes into a concise dashboard showing RF status, TS bandwidth alarms, transport stream health and service/content verification results. Audio and Video status is also summarized for each service.

To simplify deployment, StationView is packaged in a convenient ready-to-go appliance. Like your WiFi router, simply plug in the power and Ethernet, input the IP addresses of your probes, and you are ready to go!

Small yet robust, StationView offers maximum efficiency on a miniature scale.

The dashboard displays monitoring for four sites: North TX Site, South TX Site, East TX Site, and West TX Site. Each site has a color-coded status indicator (red for North and East, green for South and West) and a set of 'In' and 'Out' status lights. The dashboard also shows a top status bar with various icons (RF, TS, OCV) and a row of colored status indicators. Below the site headers, there are video thumbnails for services: WTVA, HD 5, Comm, and Backup. Each thumbnail includes a speaker icon for audio status. The Comm service for the North TX Site shows a red speaker icon, indicating an audio issue.

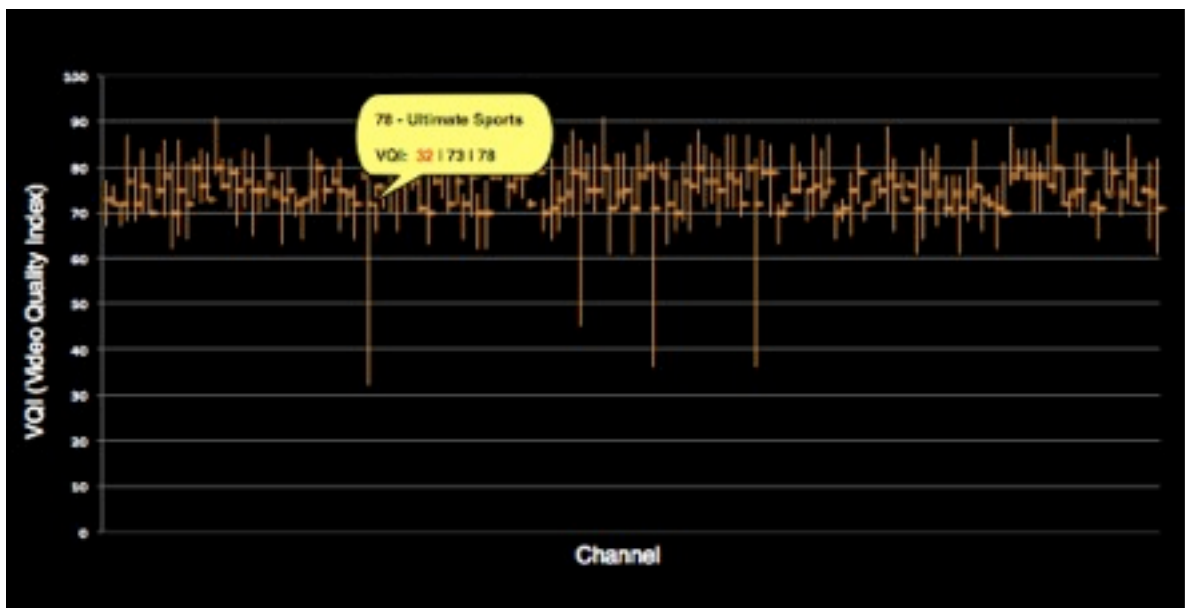


## A Close-Up Reality of Video Quality *Electronic Couch Potato™ Integrates Video Quality Index™*

Television operators are keen in measuring video picture quality from end user's perspective, yet most solutions in the market tend to concentrate on the quality of service delivered over a network.

Unlike traditional service analysis, the Electronic Couch Potato™ (ECP) evaluates signals ready to be consumed by a subscriber. By connecting after a STB, it emulates an end user changing channels on the STB via a built-in infrared transmitter. The ECP then provides feedback on various service quality parameters to a central site.

Pixelmetrix is set to debut its latest exciting feature for the ECP – the **Video Quality Index™ (VQI)**.



Adding to the existing suite of ECP audio/video base tests, VQI is a quality measurement tool that provides real-time evaluation of video quality that end users experience.

Video quality hinges on the presence of error in the image display. In this new ECP application, impairments that impact the end user's experience of quality are quickly identified to allow corrective action. As the end user is continuously changing the channel, the ECP assigns each clip a Video Quality Index (VQI) from 1 to 100, which represents the quality of the picture. The VQI measurement, employing a non-reference and non-codec-specific algorithm, incorporates parameters such as blockiness, blurriness and packet loss artifacts and combines them to a single, integrated metric.

For instance, the test duration can be set to measure each channel quality over a sample of 10 minutes as well as obtaining a value for the measurement every 10 seconds or once every second during that period. In case of any disruption during the event, the operator can catch the particular single moment out of several hours. Results are consolidated across all channels and all remote sites – making it easy to identify when and where video quality issues strike.

Enhanced with VQI, the Electronic Couch Potato is poised to transform viewer experience.



## 8PSK/DVB-S2 Test, Measurement & Monitoring: DVStation-211

In order to improve the efficiency of their satellite transponders, operators need reliable monitoring systems to help them achieve their objectives.

Pixelmetrix introduces DVStation-211, a multi-port, multi-layer monitoring system uniquely designed for 8PSK/DVB-S2 test and measurement.



DVB-S2 ALSF (Advanced Satellite Line Interface) is a multi-standard solution for the monitoring of digital satellite transmission. It supports DVB-S2, DVB-DSNG and DVB-S modulation of MPEG-2 transport streams.

Together with DVB-S2 ALSF, not only does the DVStation-211 allow operators to monitor their satellite transmissions just before they uplink the signal at their headend/transmission center, the DVStation-211 can also help ensure adequate quality and coverage area in the satellite transmission footprint.

Moreover, the DVStation-211 enables operators to reach the optimum Signal to Noise Ratio (SNR) in order to achieve the best power utilization on their satellites. As there is inherently no in-band back-channel to ensure quality, the DVStation-211 will verify the reliability of all satellite transmissions from Ku-band spot beams to C-band wide beams.

With an accurate front-end and transport stream analysis technology, the DVStation-211 delivers the most promising 8PSK/DVB-S2 monitoring solution to satellite operators.

## Effective Disaster Recovery Strategy: DVStor<sup>2</sup>

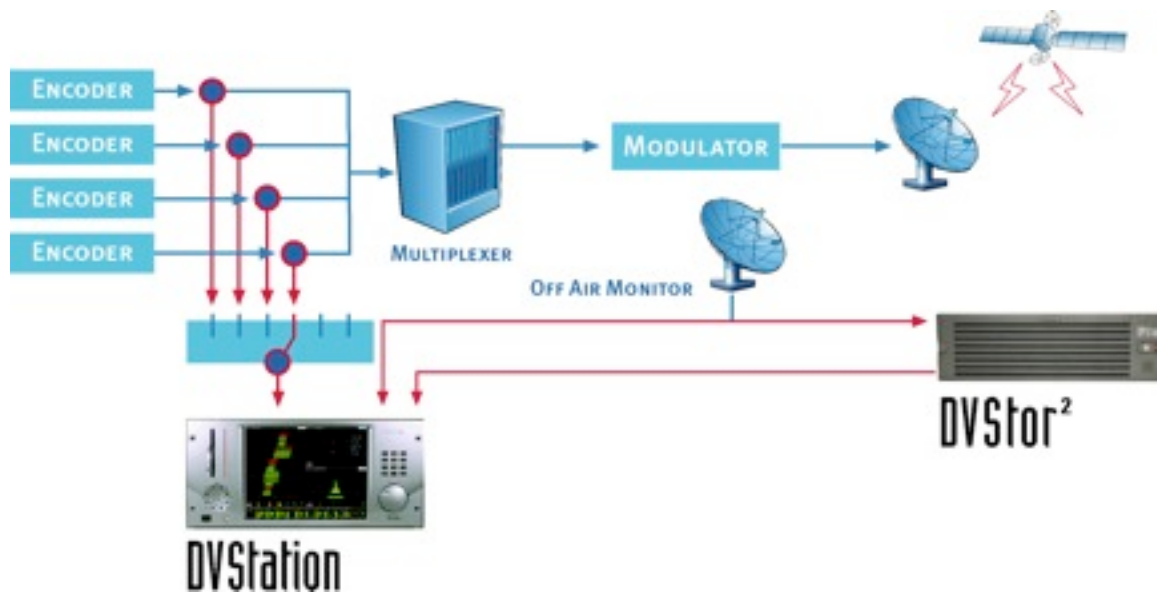
Pixelmetrix DVStor<sup>2</sup> is the ultimate disaster recovery strategy that offers highly scalable, stable compliance recording with hot standby redundant switchover and a flexible, fail-safe architecture.

Continually recording and analyzing transport streams, the DVStor<sup>2</sup> can automatically play out archived content upon detecting an input failure. Transport streams are modified on the fly to ensure that neither the viewers nor the downstream equipment can discern between a live transmission and a recorded version.

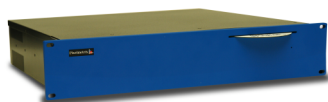
By providing a full recall of all content, captions and metadata, the DVStor<sup>2</sup> can archive the entire transport stream for up to 90 days in full resolution and exactly as broadcasted, allowing engineers to troubleshoot in detail even long after the error has occurred.

Available in capacities ranging from 1TB to 48TB, the DVStor<sup>2</sup> ensures a model for every possible appreciation. With support for Direct Attached Storage (DAS), the storage capacity can even be boosted up to 120TB, which is the one of the highest storage densities in the industry. This means storing media in excess of a year without the need for human intervention.

In essence, the DVStor<sup>2</sup> offers maximum protection of the archived content. Given a secure, fail-safe RAID-6 redundancy with hot-swappable spare hard disks and dual-redundant power supplies, the DVStor<sup>2</sup> is the perfect fit for disaster recovery as well as transport stream recording and playout.



## IP Traffic Monitoring: DVStation-IP<sup>3</sup>



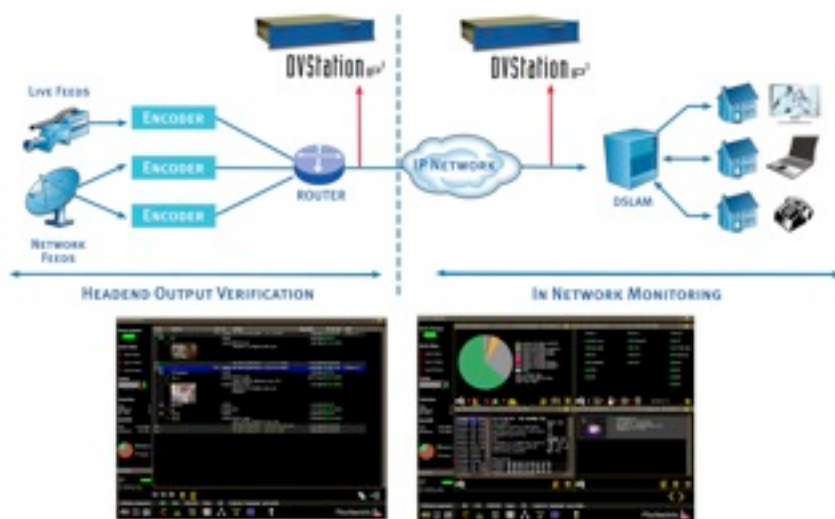
The DVStation-IP<sup>3</sup> is an effective transport stream monitoring tool for modern IP transmission headends.

Providing MPEG-2 transport stream analysis and monitoring over an IP connection via a 10, 100 and 1000 Mbps Ethernet port, the DVStation-IP<sup>3</sup> can be set to sniff out video traffic on any set of IP address pairs and perform extensive transport stream and IP analysis.

Its compelling features include H.264 SD and HD video support as well as video over IP monitoring with in-depth, real-time monitoring of physical, transport stream and content layer.

Furthermore, the 2RU rack mount DVStation-IP<sup>3</sup> offers remote control and automation as well as Media Delivery Index on all services for packet loss and jitter measurements along with video presence, freeze frame or blackout displays.

In addition, Remote Service View (RSV) enables service providers to visually validate Quality of Experience at remote sites by real-time streaming to a central monitoring console over the IP network.



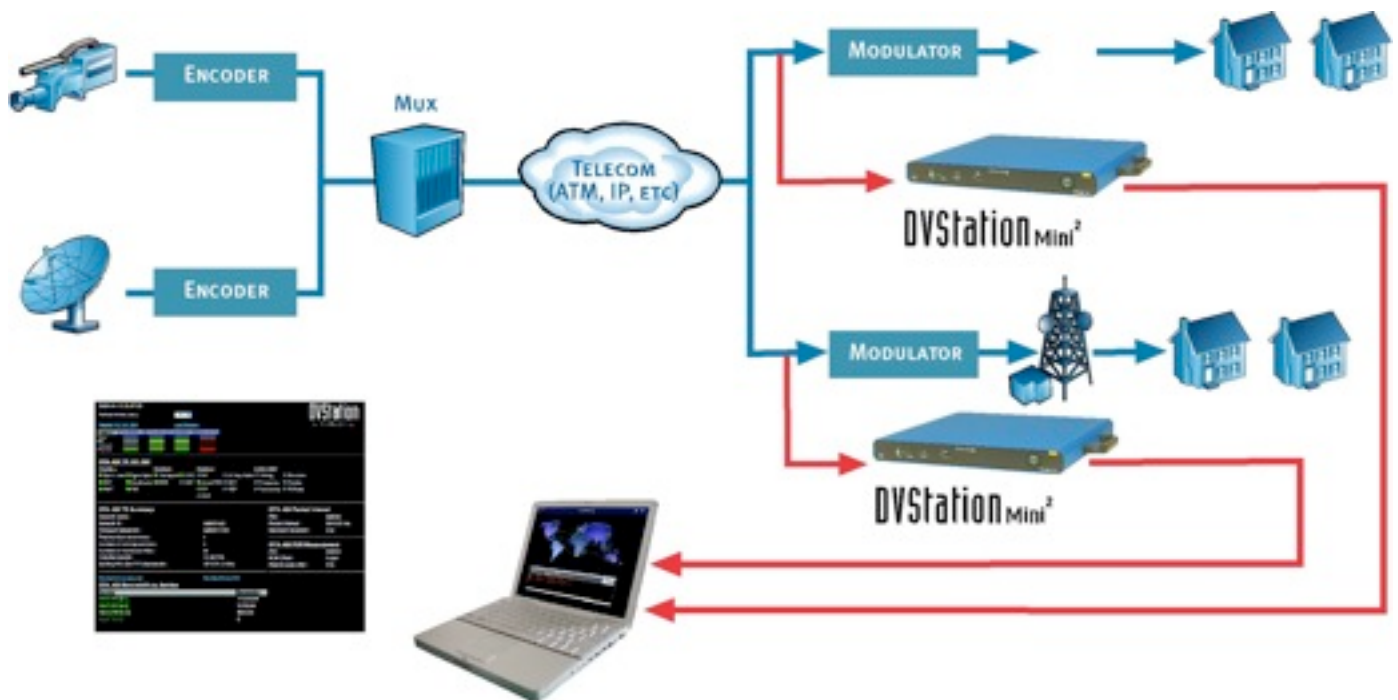
## Cost-effective MPEG-TS Monitoring: DVStation-Mini<sup>2</sup> TSP Lite

For terrestrial operators, DVStation-Mini<sup>2</sup> TSP Lite is a flexible and compact transmitter ingress monitoring solution with in-depth transport stream analysis. For small-scale content providers, DVStation-Mini<sup>2</sup> TSP Lite can verify service level agreements, ensuring validity of feed for all transmissions.

The DVStation-Mini<sup>2</sup> TSP Lite checks for erroneous content on with On-Air Content Validation (OCV), identifying discrepancies between the expected baseline and actual broadcast content. OCV covers missing services, extra services, incorrect service names, loss of subtitles, wrong language or incorrect age rating.

With a wide support of video encoding standards, particularly H.264 SD and HD video streams, the DVStation-Mini<sup>2</sup> TSP Lite allows capturing a segment of the live transmission for later analysis. Just as it is vital to test the compliance of signals before it is aired, broadcasters could use post-analysis to prevent similar errors from repeating in the future.

As a self-contained solution, DVStation-Mini<sup>2</sup> TSP Lite eliminates the need for additional hardware, allowing terrestrial operators and cable content providers to optimize service quality at an affordable cost.





## ATSC DTV Terrestrial Monitoring: DVStation-Mini<sup>2</sup> VSB

The DVStation-Mini<sup>2</sup> VSB is an end-to-end preventive monitoring solution specifically for ATSC DTV terrestrial broadcast networks.

This solution encompasses both 8VSB modulation quality monitoring as well as transport stream analysis. Between the two input ports it hosts, the RF input is where the signal demodulation can be performed. As for transport stream analysis, it can be carried out on RF and ASI/SMPT-310 input ports simultaneously.

A combination of real-time signal measurements with user-configurable alarm thresholds and rich graphical displays make this probe the ideal operational monitoring and troubleshooting tool.

Alarms and remote access are incorporated to offer operators more flexibility. User-definable alarms allow RF, modulation and transport stream parameters to be monitored unattended by triggering actions, while multi-user remote access is available for all configuration parameters and SNMP NMS.



Another feature is the real-time transport stream monitoring. Tests include transport stream health check, bandwidth of service and individual PIDs, PCR jitter, automatic On-Air Content Validation, EIT display monitoring and stream capture.

The DVStation-Mini<sup>2</sup> VSB shares its DNA with the DVStation family and is extendable through easy software updates. Protect your monitoring investment by getting regular software updates that bring new features and functionality to an already powerful probe.

Simple, reliable and affordable, the DVStation-Mini<sup>2</sup> VSB lets you spot errors without delay.