

# Electroline

## DVM to the Rescue



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*Electroline supplies product used by HFC and FTTx network operators. The company's portfolio includes status monitoring transponders, hardened DOCSIS modems, return path noise mitigation tools, optical products for fiber deep and fiber-to-the-home, drop amplifiers, addressable taps, and remote control test point switches. Electroline specializes in hardened DOCSIS-based products.*

**C**able TV has gone through a rapid transition from analog to digital services. Cable operator staff responsible for maintaining network performance and service quality need help to locate QoS issues in a timely manner, preferably before the call center gets inundated with customers reporting service degradations or interruptions. Unfortunately, tools to help maintain the new technologies and services have lagged behind the need as services get deployed to continually generate incremental revenue streams.

There has been significant industry chatter about the next-generation access architecture and the forecast of growing content volume that cable operators will be delivering. The NGAA is a plan for the implementation of deployment efficiencies to enable the capacity and the management of the complete scope of equipment and services. In the article "NGAA — What It Is and How It Could Help MSOs" by Jorge Salinger in the summer 2011 issue of this publication, he substantiates the need for new tools: "The increase in digital offerings, such as significant growth in narrowcast, HD broadcast and broadband services, requires expansion of monitoring systems to maintain the same level of service quality."

Now Electroline is introducing to the industry the concept of monitoring both RF and MPEG transport stream data in the field with the new digital video and network monitor (DVM) downstream monitoring probe. Designed for installation at strategic locations in the coaxial portion of the HFC distribution network, where DOCSIS is implemented, the DVM provides continuous scanning of key performance indicators, essentially giving the operator an overall health check as well as tools to identify and proactively provide problem mitigation and resolution. DVM is an integral part of the network management structure and, as such, provides always-on, dependable locations for tracking serv-

ice level and performance delivered to the subscriber. All DVMs are remotely accessible for on-demand testing and to aid field staff in tracking down root causes of network issues.

Historical data is accumulated from the DVM by the management system so that trends can be spotted, enabling proactive resolution prior to the point at which a problem affects service. It can help the technical staff correlate an RF network event with customer trouble reports, or rule out the RF network and point to MPEG transport problems further back in the network.

The DVM uses DOCSIS 3.0 silicon as its core, to implement a hardened probe that can be installed indoors or outdoors. It can derive its

power from the coaxial plant like other line gear or it can source its power from utility line wall outlets. Installation in the field does not affect service as it can derive its RF input from a directional coupler, spare tap port or any test port from the headend to the subscriber premises. It can be temporarily located at a subscriber's premises to capture performance information on intermittent, particularly troublesome service issues. If you know a subscriber always has problems on certain transport streams, the DVM can be instructed to monitor each troubled channel on a full-time basis, logging anomalies as they occur.

Because a DVM can monitor many transport streams simultaneously (not just one or two), the cost per channel to monitor is very low. It is very affordable and cost-effective to deploy numerous probes throughout the distribution network. By applying a multi-DVM deployment strategy and using the network management infrastructure to synchronize multiple DVM devices, each channel in a service group can have a full-time monitor. This is key in tracing down sometimes fleeting network problems.

The DVM is a new arrow in the cable operator staff's quiver that will maximize subscribers' QoS.

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