



CONTEMPORARY RESEARCH'S QMOD-HDSC HDTV SCALER MODULATOR

By Virginia Rubey, December 2, 2010

If HD is the new standard, the Contemporary Research family of - SDI, -HDSC, and QMOD-HD Modulators is enabling more companies to live up to it. According to Dave Cooke, Chief Engineer at Illinois' Willow Creek Community Church, the WCCC's QMOD purchase marked their "first step" in the internal CATV system upgrade to Digital CATV. "The quality of the HD signal [is] better, especially in the shadows... [and] it was still far less expensive than ... most digital modulators," he says.

What makes the QMOD-HD Modulator a stand-out? "It was a much better product, and much easier to configure and set up than our other HD modulator," Cooke says. It also runs on the cable, not antenna side of RF, so for under \$2,400, the product's applicability to various AV products is impressive.

The QMOD-HDSC HDTV Scaler Modulator is an HD modulator specifically designed for digital signage integration. The onboard in-stream scaler ingests signage at PC resolution, converting the output to 1080i/720p video. In addition the scaler features up and down-scaling, zoom, shrink, and positioning.

Users can create their own on-site HDTV broadband distribution system using a variety of HD, SD, and AV sources. The unit distributes digital signage, satellite, cable, and media as HD digital cable channels over existing broadband wiring.

The engineers at WCCC are using a QMOD to display a Live webpage of their online cue sheet from a MacMini. "The QMOD handles this great," says Cooke, who also uses it to broadcast a 1080x1920 VGA signal from a computer. He says the modulator lets users display all the pixels from the VGA channel on an LCD screen. "Distributing this through our in-house CATV system to inexpensive LCD TVs is easy, and looks great."

Home Shopping Network uses the product for their campus-wide HD distribution feed.



Buffalo Wings & Rings, in Indianapolis, uses 10 QMOD-HD modulators to distribute 10 DirecTV channels.



PROS? CONS?

Dennis Trugurtha, Senior Manager of Broadcast Engineering at HSN, called the QMOD-SDI video quality “outstanding.” He noted the ease of inputting embedded audio into HD-SDI as a welcome feature, but cited the product’s inability to convert EIA708 closed captioning as a drawback.

The QMOD family’s newest member—the QMODHDSC HDTV Scaler Modulator—is dedicated to digital signage integration, but users can distribute digital signage, satellite, cable, and media as HD digital cable channels over existing broadband wiring with the product, which debuted in October.

QMOD-HD modulators transform HD VGA and Component, or SD composite/S-video sources into a QAM 1080i/720p/480p/480i cable channel. NTT pro-level encoding formats audio and video

with minimal artifacts and shadow noise, then the unit renders the stream into a QAM 256 or 64 channel, from 2-135. Each QMOD channel tunes with digital cable-ready receivers (like the CR 232-ATSC) for integration with existing broadband coax cabling systems with adjustable output to 29 dBmV. Users with standard displays or Contemporary Research HDTV tuners won’t need matrix routers or IP resources to tune in.

Using the modulator is as simple as the reasons to do so: the front control panel has a “setup” and “select” button with four navigation controls beside a front LCD display, so users won’t need a PC to make minor input, encoding, channel, resolution, and RF output adjustments. For installations requiring 30 or more channels, the modulator packs two units into a single 1U slot to conserve rack space.

Transitions are not always seamless. Users may need to filter out unwanted channels to avoid mixing in-house and OTA (on-the-air) channels, which could otherwise distribute simultaneously, and cause pixelization. While WCCC operates in the “hybrid CATV world” with both digital and analog modulators (for now), Cooke says, “We’ll continue to add QMODs, one at a time as our budget allows.”



key features

- Accepts 720p/1080i VGA, Component, or S-Video/Composite video
- Scales VGA/Component input to 1080i/720p, with image sizing and positioning
- Features a VGA Out for VGA input monitoring
- Presents 480p/480i video as full-screen image
- Employs pro-grade HD encoding by NTT that minimizes artifacts for motion video and signage “tickers”
- Merges audio with video from analog stereo, digital optical and coax inputs

- Creates a high-definition 720p/1080i MPEG-2 stream for broadcast
- Delivers a fully agile QAM 64/256 digital cable channel 2-135
- Amplifies for distribution over an on-site broadband cable system with adjustable output level to 29 dBmV, compatible with all cable format broadband systems
- Sets up with front-panel buttons and easy to use menus, including inputs, encoding, channel, and RF options.
- Integrates with RS-232 control and feedback with simple ASCII commands
- Powers up in less than four seconds, no OS overhead
- Saves power and rack space using efficient design, fan-free cooling, and compact enclosure
- Includes compact switching power supply
- Mounts in optional 1RU single (RK1) or dual (RK2) 19-inch rack kits
- Meets RoHS safety and California energy standards
- Visit crwww.com for more information

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