



DSAM Digital Services Activation Meter

Designed for your business

- All-in-one tester incorporating state-of-the-art DSP and DOCSIS® technologies to test cable modem service, digital video, analog video, and PacketCable™ VoIP (optional)
- Addresses the demands of IP testing with TruPacket™ suite of IP tests, both over RF and Ethernet interfaces
- Rugged lightweight design can withstand rain, cold, heat, hits, drops, and other accidental mishaps
- Wide range of configurations available to cover the fundamental needs of the installer (DSAM-1500), through the trouble shooting needs of the service tech (DSAM-2500 through -3600), and to the advanced performance test needs of the network maintenance tech (DSAM-3600 and -6000)
- Optional PC software platform provides advanced tool to manage test activities, maintain an accurate inventory of DSAM meters, and baseline performance of network and technician/contractor performance

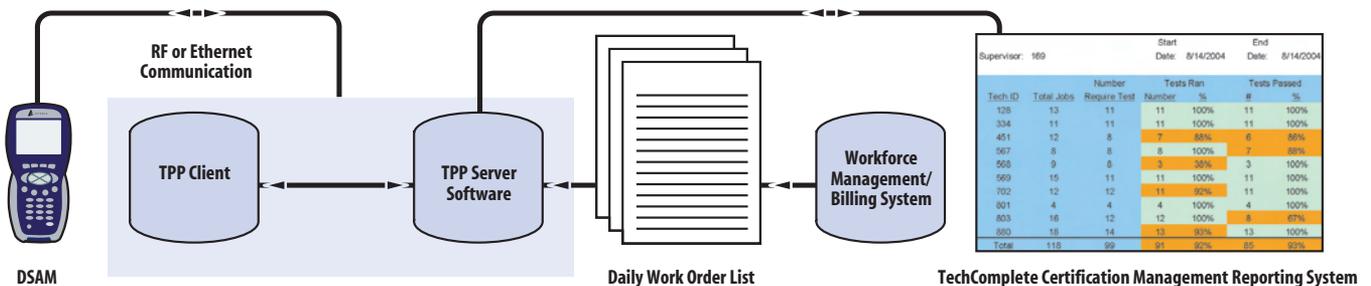
Simply being able to test complete digital and IP services is not enough in today's market. You need test equipment that empowers your field work force, improving productivity, efficiency, and customer satisfaction. Customers demand the highest levels of service and support. Service providers need to deploy services quicker and ensure quality installations the first time, every time.

The DSAM incorporates state-of-the-art DSP and DOCSIS technologies to test cable modem services, digital video analog video and PacketCable VoIP. With just one meter you can test virtually all of your services. There is no need for multiple meters or to change test equipment—even with VoIP services.

With the DSAM-1500 technicians can certify homes are “digital 2-way ready” during routine installations assuring customer “self installs” of HSD to be more reliable, therefore reducing future service calls. Network Maintenance techs can use the DSAM-6000 to perform both forward and reverse sweep performance tests as well as support troubled installation jobs with advanced digital and DOCSIS capabilities on the same meter. Test results can be archived at the test site over RF to a centrally located and security administrated server. This server can be accessed with a standard Web browser.

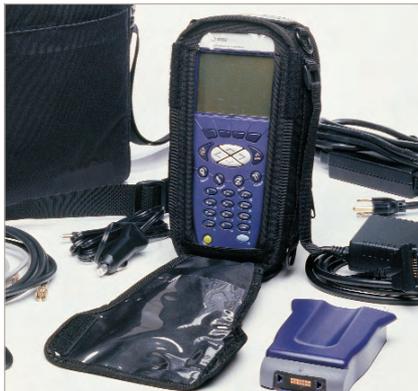
The DSAM’s automated test capability can be custom configured and protected by an administrator to assure specific tests are conducted the same way by all technicians. Results of the test may be saved for further analysis and archiving on a PC. Upgrading the meter can be as simple as downloading a file from the Web. Designed for use in conditions that your field workforce will encounter, the DSAM meters are rugged, reliable, and ready to use by even the less skilled technician. Reduce repeat calls by finding and fixing the problems the first time. Whether the problem is at the home or in the network, the DSAM can perform the tests needed to help identify and correct the problem, thus eliminating the need for future calls.

TechComplete Home Certification Testing Solution



Typical work force management process

Solutions that improve your bottom line



Improved Reporting

The TPP's unique synchronization process and structure also serves as a central repository for managing all of the valuable test data gathered in the field. Traditionally underutilized because of its difficulty to retrieve and store, test data, including sweep files, is easily maintained and retrieved. Retrieval is accomplished with the synch process from the instruments or by access with a standard browser to the Web interface of the TPP database. The TPP's robust database and unique file structure maintains all the test data in a single database that can be easily mined for value added reports.

Rugged and Reliable

JDSU understands your work environment and your need for rugged test equipment. The DSAM is built to withstand a four-foot drop on all sides, and it can withstand 75 mph wind driven rain at up to four inches of rain over a one hour period. What does this mean for you? Technicians love to use the DSAM. With its lightweight design and ergonomic body, technicians prefer to use the DSAM to other meters. Easy to understand and learn using onboard help system, technicians can quickly use the DSAM with minimal training.

Designed for your technicians

The DSAM family of meters is scaled to provide just the right collection of test tools needed for technicians to do their jobs. The DSAM-1500 provides the installation tech with a basic SLM that has both analog and digital capabilities. Analog video and audio levels as well as carrier-to-noise (C/N) measurements are included as well as digital average power level, MER, and pre- and post-FEC BER for digital QAM carriers. DOCSIS connectivity can be confirmed with a simple Two-Way test that includes upstream transmit level margin. Measurements may be configured into an autotest plan which requires just two button pushes for the technician to perform the same pass/fail test, the same way, at any location, using the latest channel plan and autotest administered to all meters by the TPP server.

Service organizations can perform the same measurements with the DSAM-2500 and -2600 and go further by troubleshooting DOCSIS connection and provisioning issues. If the DSAM-3500 or -3600 is selected, Ethernet testing is included as well as full downstream spectrum mode and a constellation view of QAM carriers. FEC BER and errored seconds and severely errored seconds measurements are made on deep interleave 256 QAM carriers with the DSAM-2600, 3600, and 6000 models

Maintenance organizations now welcome the DSAM-6000. This model combines all the DSAM functions with the forward and return path Stealth Sweep™ technology (Patent No. 5,585,842) used in the JDSU SDA products.

Because it uses the powerful Stealth Sweep technology, the DSAM-6000 can be used with existing SDA rack-mounted sweep gear, SDA-5500, and SDA-5510 located at headend and hub sites. Additionally, the DSAM-6000 meters can sweep side-by-side with SDA-5000 meters. Major network modifications are not required.

DSAM Detailed Feature Matrix

FEATURE	MODEL			
	DSAM -1500	DSAM -2500/-2600	DSAM -3500/-3600	DSAM -6000
Secure Sync™	HTTPS communication to TPP server behind the firewall			
	X	X	X	X
	Aural and visual levels			
	X	X	X	X
	Average digital power level			
Analog and Digital Carrier Level Verification (Carrier to Noise) 24 Hour Auto Test ⁽¹⁾	X	X	X	X
	Tilt (1 to 12 Channels)			
	X	X	X	X
	Mini-scan (1 to 12 Channels)			
	X	X	X	X
	Full-scan (1 to 999 Channels)			
	X	X	X	X
	Analog Carrier-to-noise			
	X	X	X	X
	Test Point Compensation			
X	X	X	X	
One Key Video Autotest				
X	X	X	X	
Hum ⁽⁴⁾				
X	X	X	X	
Downstream Spectrum				
Option	Option	X	X	
Digital QAM Carrier Quality (64, 256) DQI	Carrier Digital Quality Index™ (DQI) Score			
	X	X	X	X
	Pre and Post FEC BER (64, 128, 256)			
	X	X	X	X
	Constellation (64, 128, 256)			
	Option	Option	X	X
	Errored/severely errored seconds			
	X	X	X	
BER for Deep Interleave (128,4)				
	-2600 only	-3600 only	X	
QAM Ingress				
	-2600 only	-3600 only	X	
Home Network Verification	IP tests via Ethernet jack			
	X	X	X	X
	Ingress Resistance Test (IRT)			
	Fault Location using FDR feature in LST-1700 remote transmitter			
	X	X	X	X
Upstream Physical Verification	Upstream 2-way connectivity and level test with margins (DOCSIS® range results)			
	X	X	X	X
	Local Upstream Spectrum for ingress check			
	X	X	X	X
	Return QAM Generator (16 QAM upstream)			
Option	Option	X	X	
Field View of headend Upstream Spectrum				
Option	Option	Option	Option	
DOCSIS®/ EuroDocsis™ Cable Modem Service Verification Over RF	DOCSIS® downstream QAM performance (MER/EVM)			
	X	X	X	X
	Downstream Pre and Post FEC BER			
		X	X	X
	Dynamic DOCSIS® Range and Registration			
		X	X	X
	Cable Modem config file verification			
	X	X	X	
Internet access verification via Web Access Test				
	X	X	X	
Open Web Browser ⁽²⁾				
Option	Option	Option	Option	
Cable modem and CPE MAC cloning				
	X	X	X	
DOCSIS®/ EuroDocsis™ IP Service Tests Over RF	Roundtrip Packet Loss			
		X	X	X
	Specified US and DS Packet loss			
		X	X	X
	Specified US and DS Throughput			
		X	X	X
	Ping Testing			
	X	X	X	
VoIPCheck DOCSIS® VoIP Verification				
	Option	Option	Option	
PacketCable™ VoIP Testing ⁽³⁾				
Option	Option	Option	Option	
PC Emulation over Ethernet	Web Access test using subscriber cable modem			
		X	X	X
	Open Web Browser ⁽²⁾			
Option	Option	Option	Option	
View CM diagnostics page				
		X	X	
RF Network Verification Reverse Alignment ⁽¹⁾	Forward Sweepless Sweep			
			Option	X
	Reverse Alignment ⁽¹⁾			
				X
Forward (Downstream) Sweep				
			Option	
Reverse (Upstream) Sweep				
			Option	
Other available Options	Home Certification Testing			
	Option	Option	Option	Option
HFC Network Verification	Scheduled Autotest ⁽¹⁾			
	X	X	X	X
Proof Test ⁽¹⁾				
	X	X	X	X

Notes:

(1) Available soon via software update

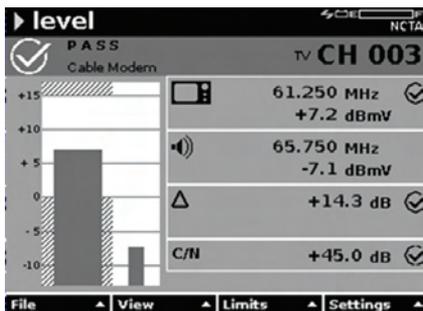
(2) Function integrated with JDSU TPP Field Data Management Software, a client/server based PC application software used to manage DSAM field meters and test data from a central location.

(3) VoIP available for North American PacketCable™ based systems. Contact Local JDSU office for compatibility and availability for specific systems.

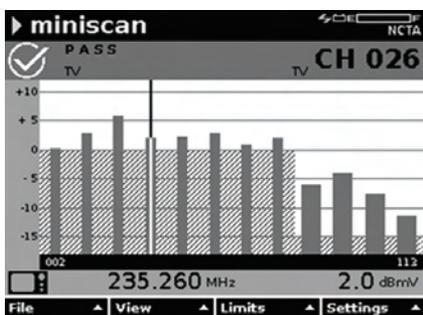
(4) C/N functional on all above models with new hardware as of v3.0 release.

Features

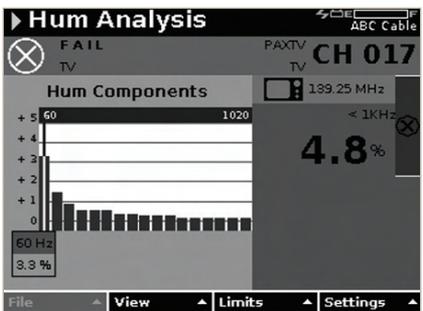
Refer to DSAM Features Matrix for feature inclusion on specific models



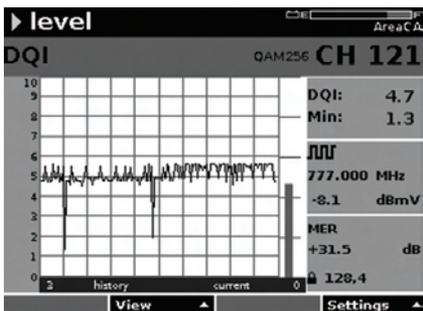
Level mode on an analog channel displays video and audio signal levels and their delta value. Carrier-to-Noise (C/N) ratio is also displayed.



Miniscan measures signal strength of up to 12 channels simultaneously.



Undesired electrical interference can appear on a video channel as one or two horizontal bars across the video screen. A Hum measurement reveals if any electrical interference is present on tested channel.



DQI will display intermittent, short duration impairments missed by MER and BER as well as steady state issues typically captured by MER and BER.

Signal level meter (SLM)

Traditional SLM test functions for analog video and audio levels as well as JDSU's extremely accurate digiCheck™ digital power level measurements are supported in the DSAM family. Furthermore, the ability to measure carrier-to-noise (C/N) on analog carriers comes standard. Also included are MER and pre- and post-FEC BER as well as errored seconds/severely errored seconds on 64/256 QAM digital video and DOCSIS carriers, allowing technicians to validate that digital services are received and have adequate margin and quality specifications. This includes deep interleave modulation (j=128, i=4) on models 2600, 3600, and 6000. The DSAM can analyze downstream carriers to a full 1GHz.

Miniscan and full scan modes

When measuring analog and digital as well as DOCSIS signals, technicians can see high- and low-frequency channels and verify how much level headroom remains when limits are activated. In miniscan mode, the DSAM monitors up to 12 channels at a time. In full scan mode DSAM monitors the entire channel plan, up to 999 channels. The results of both scans are displayed either as an easy-to-see bar graph or in an informative table.

Tilt mode

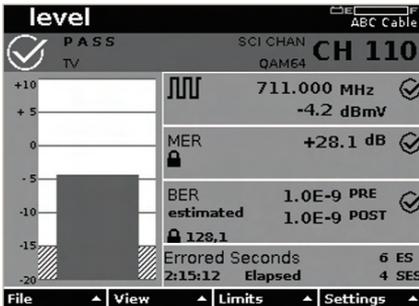
Tilt mode is used to check the forward tilt of the channel levels at the low and high ends of the frequency spectrum. The variances of the levels, which are displayed at the bottom of the DSAM screen, indicate distortion of the frequency spectrum. Based on these results, technicians know which equalizer pad to select that will provide optimum flatness at the end of the line.

Hum Analysis mode

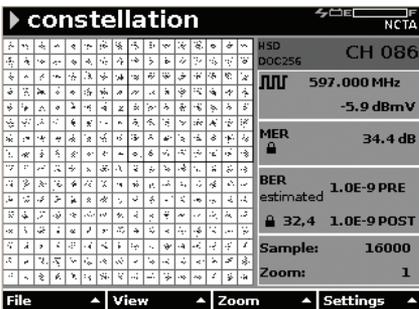
A hum measurement may be performed on a non-scrambled analog channel. Since the instrument is battery powered, the measurement is independent of ground loops and therefore is isolated from the line (mains). Severe hum is revealed on a TV as either single (60/50 Hz) or double (120/100 Hz) horizontal bars across the video screen. The hum display indicates the composite level of all frequency components below 1000 Hz as well as the fundamental hum frequency. The lower levels of adjacent frequencies as well as the fundamental are displayed across a frequency graph. This is valuable in determining the source of hum generation by displaying a telltale signature of the hum generating source (patent pending).

Digital Quality Index™ (DQI) Mode

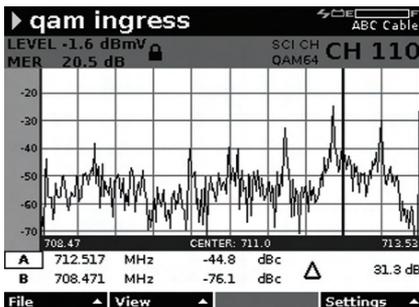
DQI is an indicator of the overall health of a QAM stream. This measurement does a great job tracking intermittent problems and is unique only to JDSU. It is represented by an easy to understand Index rating from "1" to "10" with ten being the highest quality. DQI also catches errors sometimes missed by BER and Errored Seconds measurements. It also displays a 90 second graphical history.



In the level mode on a digital channel the signal level and MER are measured, and the channel's BER and errored seconds are tracked.



A Constellation graph shows impairments on the network with patterns in the display. By identifying the pattern technicians can figure out what is the probable cause of the impairment.



QAM Ingress test allows the technician to see what is going on underneath a live digital carrier which is usually not viewable due to the presence of the "haystack"

BER Measurement

Bit error ratio (BER) helps to quickly detect impulse changes in the system by revealing when information is lost or corrupted at the bit layer. The DSAM measures BER by tracking the number of errored bits that are seen before forward error correction (FEC), known as pre-BER, and the number of bits that cannot be fixed by FEC, known as post-BER.

Errored Seconds and Severely Errored Seconds Measurement

For troubleshooting connections that are suspected of intermittent bit errors, the technician can use DSAM to capture the presence of errors that have occurred over a period of time. If an error has occurred during any second of elapsed time, the errored second field increments by one. One error or multiple errors in the same second is counted as one errored second. If more than 1 bit in 1 million received bits has errors occurring in the same second, the severely errored second register increments by one. The errored seconds fields are conveniently included in the standard digital level display. Deep interleave 256 QAM carriers require DSAM models 2600, 3600, or 6000 for measurement.

Constellation mode

There are various elements in a network that compromise digital video quality. The DSAM constellation mode displays patterns of data points on a graph, which are easily interpreted, enabling technicians to detect and quickly diagnose the source of digital video problems.

MER Measurement

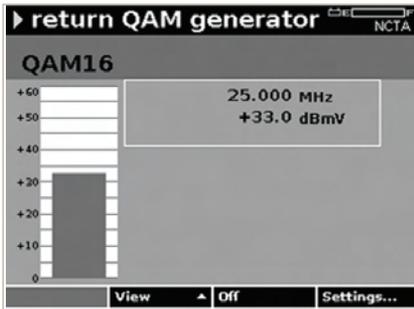
Modulation error ratio (MER) is the earliest indication of transmission quality degradation resulting from noise, ingress, and composite distortions. An expression of signal-to-noise ratio plus all other non-transient distortion signals, MER also shows phase and amplitude distortions that may have been passed from the headend. MER is the best overall quality measurement that can be performed on a digital QAM carrier. JDSU has perfected this valuable measurement by optimizing both custom hardware and proprietary software algorithms (US Patent Nos. 6,061,393; 6,233,274; 6,278,730 and 6,385,237). The result is accurate readings that far exceed those reported from customer premises equipment such as digital settops.

QAM Ingress Mode

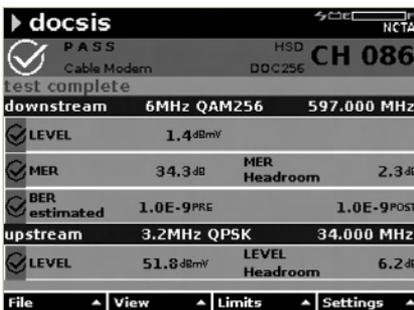
Detecting the presence of ingress within the digital tier of carriers on the downstream path is nearly impossible without turning off the service. The tightly spaced QAM carriers hide any visual presence of unwanted forward ingress such as CSO and CTB. An MER test will indicate that an issue exists but with the patented JDSU QAM Ingress mode on models 2600, 3600, and 6000, the technician can inspect what is actually going on beneath the digital "haystack" while still remaining in service (Patent No. US 6,385,237).

Applications

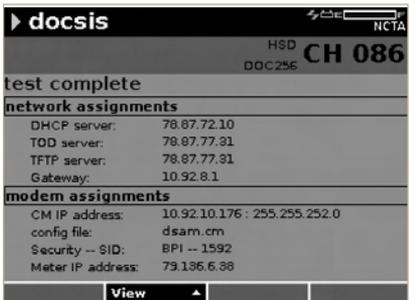
Refer to *DSAM Features Matrix for feature inclusion on specific models*



The Return QAM Generator enables operators to test and prove upstream network performance.



Using the range screen a technician is able to see what levels the DSAM's cable modem is reading and transmitting. This allows the tech to see how close the customer's cable modem would be to failing.



DSAM models 2500 and higher provide complete network parameters for a DOCSIS registration, including configuration file served and service identifier number (SID). Network security configuration may also be accommodated within the meter's configuration.

Return QAM Generator

Standard on the DSAM-3500, -3600, and -6000, the Return QAM Generator is a mobile 16 QAM transmitter. The ability to transmit a QAM-16 modulated signal back to the headend is helpful for proving line capabilities for future data and voice channels and for troubleshooting return path issues in the network. A continuous wave (CW) mode may also be configured.

Comprehensive analog and digital testing on the forward path

The DSAM architecture incorporates analog and digital testing into a single user interface. This allows the technician to select a specific channel or a scan of channels without having to differentiate between analog or digital video, DOCSIS high-speed data, or voice. The active channel plan functions as a meter configuration file as well as a channel lineup. An extensive selection of configuration elements establishes the type of tests that can be performed on a particular channel for each channel in the plan.

Also inherent within a given channel plan are autotest configurations for analog, digital, and DOCSIS services. Most configurations can be entered into the meter directly or through the JDSU Test Productivity Pack (TPP) client/server application software. Accessed via a PC, TPP manages channel plans and measurement files for a collection of DSAM meters. Networks with a history of multiple ownerships and diverse hardware architectures are not a problem for the DSAM. Supervisors can create multiple channel plans for a specified group of meters or one channel plan for the whole network. The channel plans can be deployed with plan parameters locked when needed. Specific plans are easily selected from Configure mode or, in many cases, directly from within a measurement mode. After selecting an active plan, a technician can check the top of the measurement screen to confirm that it is the correct plan. The channel plan name is included in saved measurement files for reference. Using the channel plan to configure an Autotest, multiple tests can be run in a short period of time with only two button presses.

DOCSIS service testing

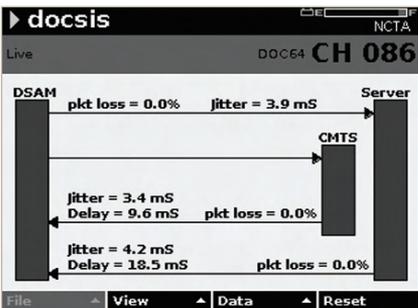
The DSAM has a built in cable modem capable of performing quick and accurate DOCSIS RF and IP testing. This eliminates the need for a test modem to verify cable modem connectivity or a computer to test the customer premises equipment connection.

Range and registration

The DSAM can range and register with the headend CMTS to establish the required configuration parameters and obtain a valid IP address on the network. The DSAM's range and registration test verifies that a specific portion of the line can support high-speed data transmission. Ranging results show how much margin remains before communications in both the up and down streams will become disabled. Registration results validate that the CMTS is distributing correct configuration files and IP addresses.

packet loss test			
packet loss			
	up	down	loop
sent			2804
lost	30	14	44
ratio (%)	1.069	0.499	1.569
upstream modulation			QAM-16
upstream SNR			34.6dB

A packet loss test shows how well the HFC transmits RTP data packets. Using TruPacket SNMP community strings the DSAM is able to view both the up and down stream packet losses separately as well as the SNR the CMTS is receiving.



VoIPCheck is a voice quality verification test that runs over the DSAM's cable modem DOCSIS connection. It allows for segmentation between HFC and IP issues by showing which side of the CMTS data impairments are present.

DOCSIS IP test

The DSAM performs IP tests, including packet loss, throughput and ping, over the DOCSIS layer. The displayed results indicate which problems need to be tracked down and fixed and those that should be reported as headend or IP troubles.

Voice over IP (VoIP) testing

The DSAM offers two tiers of VoIP testing options and a range of VoIP troubleshooting tools. One VoIP test option enables services to be validated over a DOCSIS connection (VoIPCheck™ Option). The other (TruVoice™ VoIP Option) is for networks that have deployed PacketCable™ VoIP.

VoIPCheck Option

With VoIPCheck, the DSAM can test VoIP services independent of the VoIP specification being used. VoIPCheck can segment RF issues from IP issues, helping to eliminate organizational finger pointing. Packet statistics, including packet loss, jitter, and delay, as well as call-quality results such as R-value and MOS, are displayed on the screen. With its in-depth results analysis capability, the DSAM can determine the source of call-quality problems, expediting the troubleshooting process.

TruVoice VoIP Option

The DSAM, with its built-in eMTA, can place calls as if they were from the CPE. This allows technicians to fully test the VoIP registration process and verify dial tones from the network. TruVoice™ VoIP Option enables the DSAM to measure packet statistics (packet loss, delay, and jitter) and call quality (R-value and MOS) while on an active phone call either placed or received with the DSAM's eMTA. Listening to the call, the technician can hear if there are any noticeable problems and review the diagnostics displayed on the DSAM's screen. The technician can call any phone number on any system and measure call-quality throughout the call's path to locate the problem source quickly and easily.

Forward and return path testing and maintenance

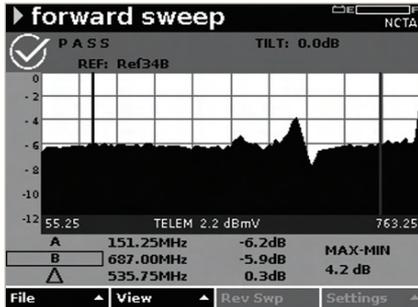
A cable plant is a two-way path of information, enabling communication between equipment. As a vital link between the CPE and the CMTS, the return path must be aligned and kept free of ingress and noise. With more digital services on the forward path, limiting noise and ingress becomes even more important because their effect may not be noticed until service has significantly degraded. The DSAM-6000 may be optioned to include the exclusive JDSU Stealth Sweep technology to test and maintain both the downstream forward path and upstream return path. This technology was first introduced to the market with the popular 3ST/3SR and SDA meters. Now DSAM includes the same patented technology (US Patents 5585842, 5867206, 6160991, 6278485, and 6961370). Its ability to sweep, along with conducting signal level and quality measurements, ingress testing, verifying forward path signals, and testing the level of ingress and noise, provide the optimal approach to maintaining both the return and forward path.

Applications

Refer to model matrix for feature inclusion on specific models

Sweepless Sweep® Mode

For fundamental alignment of the forward distribution network, the JDSU Sweepless Sweep mode provides an economical solution. This mode scans the entire forward spectrum, displaying all levels across all frequencies (as defined by meter configuration). The technician adjusts the reception of the node amplifier with this scan and then normalizes the display by saving a reference. The resultant display is a flat zero level trace. When the measurement point is moved to the output of the RF amplifier, any changes due to the amplifier will be displayed as a deviation (delta) from the reference display. The same reference is used as the technician moves down the cascade, thus providing an excellent tool to align succeeding amplifiers to compensate for the effects of each cable segment. To isolate the effects of headend changes in levels, or to align portions of the spectrum where there are no active carriers to reference, the forward sweep option should be considered.



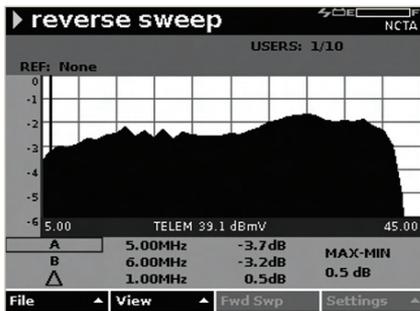
Forward sweep on the DSAM-6000 uses a unique referencing method to accurately reveal any problems in the system without interfering with any of the analog or digital carriers.

Forward Sweep Option

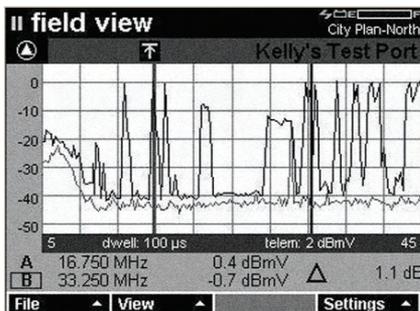
During a forward sweep, existing video carriers (analog, digital, or scrambled) are continuously referenced at the headend or hub site source, eliminating any possibility of interference to the subscriber services.

The DSAM-6000 offers fast forward sweep capabilities, especially in systems with numerous digital channels. By referencing 64, 128 and 256 QAM signal types, the DSAM-6000 removes any worries about subscriber interference and prevents sweep carriers from being injected into the guard bands. Referencing active carriers, instead of transmitting sweep signals over active carriers, allows the DSAM-6000 to sweep without degrading service quality.

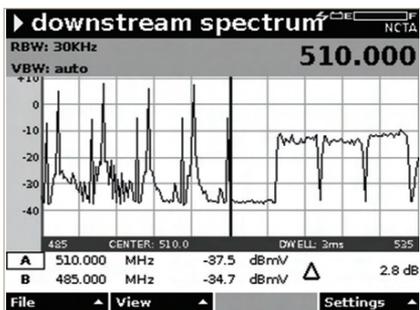
Where there are absent carriers the SDA-5500 headend transceiver inserts a sweep point to fill vacant spectrum frequencies. To remove effects of headend level drift, this instrument monitors the levels and transmits new reference information with every sweep. If the signal levels change in the headend, they will not affect the sweep response measurement.



Tight reverse sweep points are setup in the sweep plan to view better resolution of the entire return path. Helping to find mismatches or other problems heading back to the headend or hub site.



The optional FieldView capability greatly improves the success rate and efficiency in chasing down ingress on the return path. Field technicians can view the return spectrum as received by the JDSU PathTrak Return Path Monitoring System. Both the remote spectrum and the local spectrum view can be compared on the tech's meter.



Use the Downstream Spectrum to quickly look for missing video, audio, or digital channels. Visually check obvious impairments in the downstream or adjust center frequency, resolution bandwidth, and dwell time to look for ingress leaking back into the network.

Reverse Sweep Option

The return path can be problematic for two-way communications. It should be tended to as often or more than the forward path, and any impairments should promptly be fixed. One of the best procedures to preserving a clean return path is with an active reverse sweep maintenance plan. The DSAM-6000 has a built-in reverse sweep transmitter, removing the need for externally generated carriers. A reverse sweep can uncover mismatch problems revealed as standing waves or diplex filter roll-offs that can severely hamper the quality of services in the reverse band.

Headend Sweep Equipment

With the DSAM-6000, one person can perform forward (downstream) and reverse (upstream) path alignment simultaneously. For reverse testing with more than one field technician, the rack mounted Model SDA-5510 Headend Reverse Sweep Manager can perform reverse sweep on the same cluster of nodes for up to ten different technicians. The SDA-5500 transceiver used in conjunction with the model SDA-5510 receiver provides a full forward and reverse sweep alignment solution. The SDA-5510 can also stand alone in remote hub sites for dedicated reverse alignment applications.

FieldView™ Option

FieldView provides the communication between JDSU's PathTrak return path monitoring systems and field meters such as the DSAM. A JDSU HSM-1000 sends return spectrum measurements from PathTrak to the field meter, where the results are displayed on the DSAM's screen. By comparing local spectrum measurements to those from PathTrak, field technicians can quickly resolve return path ingress problems (US Patent No. 6,425,132).

Enhanced Downstream Spectrum

Technicians need to be able to see how the network is behaving and troubleshoot whether channels have shifted, have missing carriers, or are experiencing in-channel frequency response problems. Since most technicians do not require a fully featured and expensive spectrum analyzer, the DSAM, with its enhanced downstream spectrum, can help provide a technician with an "everyday" spectrum analyzer. It allows the user to choose between two resolution bandwidths (RBW) settings, 330 KHz or 30 KHz. Modify the amount of time spent measuring each frequency step, or dwell time of the analyzer, between 1 and 25 milliseconds. It also allows the user to see 4 MHz to 1 GHz, in 10 or 50 MHz steps, without switching test modes. Furthermore, if viewing the return path frequencies, the tech can turn on the internal low pass filter to eliminate noise caused by the higher frequencies, providing a cleaner upstream view.

TechComplete™ Test Productivity Pack

The TechComplete Test Productivity Pack software contains the essential tools needed to efficiently process trouble tickets and manage test meter inventory and staff. Test data, limit plans, and channel plans are consolidated and stored on a central database, ensuring that the correct data is accessed and the right tests are performed. The client server architecture makes it easy for field technicians to access the data remotely, review it, and use it in the field as reference for troubleshooting. Even sweep results can be uploaded for later review to track the health of the network. Roadblocks to ensuring quality of service, such as accessing incorrect channel plans and limit plans, are eliminated. This significantly decreases the number of call backs and unnecessary truck rolls. Additionally, meters can be synchronized any time they are connected to the RF plant or an active Ethernet connection.

TechComplete also helps managers communicate with their field staff. Test results can be immediately reviewed and experienced technicians at the hub can coach less-experienced field staff remotely, enabling more effective use of time and resources.

JDSU Service Packages

To ensure the highest levels of support for DSAM purchasers, JDSU offers service packages designed to provide the foundation for maximizing the features and usage of DSAM equipment. Packages include the following:

- Extended warranty of up to a total of five years
- Annual calibration, fully traceable to meet NIST standards
- Service ValuePaks that combine calibration and extended warranty into one economical package when accompanied with initial product purchase



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