

DSAM Digital Service Activation Meter Family

Home Certification and Network Service Meter



Key Benefits

- **Improve workforce efficiency by enabling technicians to perform complete maintenance and quality verification tests on the spot — one person with one instrument**
- **Shorten troubleshooting time with unique, innovative features, options and accessories that accelerate diagnosis and fault location**
- **Increase return on investment of test equipment by covering the widest range of cable-industry technologies with a single instrument**
- **Maximize uptime with dependable, high-quality, purpose-built JDSU instruments and services**

Applications

- Full DOCSIS 3.0 performance testing, up to 8 downstream by 4 upstream bonded carriers
- QAM carrier-signal quality analysis and troubleshooting
- Return-path ingress troubleshooting
- Service-quality verification
- Simple Home Certification reporting
- Legacy testing—DOCSIS 1.X and 2.0
- Non-invasive forward and reverse sweeping
- Digital and analog video testing
- Customer Ethernet service testing

As an essential tool for cable technicians, the DSAM is a work-horse relied upon by more cable technical personnel than any other meter. With an ever-expanding range of test capability, the DSAM continues to meet the needs of the technologically evolving marketplace by applying innovative measurement techniques to improve technician productivity. The analyzer's simple user interface enables technicians to perform a wide range of tests quickly, verifying performance or quickly getting to the root cause of problems—from headend to outside plant to home network.

The DSAM can be tailored to meet the specific needs of individual cable technicians with models, features, and options to improve productivity at every level. The new DSAM models build upon the powerful features that are already the cornerstone of these units, including non-invasive forward and reverse sweep, Home Certification™, PathTrak™ Field View™, and more. Some of the latest features include:

DOCSIS® 3.0 performance testing — Quickly and efficiently test bonded channel performance, signal levels, modulation error ratio (MER) (including headroom), bit error rate (BER), and throughput to full range with 8 downstream by 4 upstream channels.

Field View QAM — Technicians see upstream carrier-impairments dashboard at field test points to accelerate fault diagnosis and determine root causes. They can also quickly verify fixes with a real-time view of headend quality of signals transmitted from a field test point.

SmartID™ — Advanced coax probes enable extremely quick, comprehensive home network qualification and troubleshooting, eliminating repeat truck rolls and making troubleshooting less costly and more effective.

WiFi — This option enables verification of WiFi network strength and connectivity in addition to communication of test data.

2

Features

DSAM Detailed Feature Matrix

Feature	Model				
	2000	2300	3300	6300	
Analog and Digital Carrier Level Verification	Analog video and audio power levels	✓	✓	✓	✓
	Digital power level	✓	✓	✓	✓
	Tilt (1 to 12 channels)	✓	✓	✓	✓
	Mini-scan (1 to 12 channels)	✓	✓	✓	✓
	Full-scan (1 to 999 channels)	✓	✓	✓	✓
	Analog carrier-to-noise	✓	✓	✓	✓
	Hum	✓	✓	✓	✓
	SmartScan™	Opt	Opt	✓	✓
	Spectrum analyzer with auto pre-amp	Opt	Opt	✓	✓
Digital Carrier Quality (QAM Carriers)	MER/EVM measurements	✓	✓	✓	✓
	Pre- and post-FEC BER (64, 128, 256)	✓	✓	✓	✓
	BER for deep interleave (128,4 or 128,5)	✓	✓	✓	✓
	Constellation (64, 128, 256)	Opt	Opt	✓	✓
	Digital Quality Index™ (DQI)	Opt	✓	✓	✓
	AGC stress	Opt	✓	✓	✓
	Errored/severely errored seconds	Opt	✓	✓	✓
	QAM Ingress	Opt	Opt	Opt	Opt
Upstream Physical Verification	Return loopback				✓
	Local upstream spectrum for ingress check	✓	✓	✓	✓
	Return QAM generator	Opt	Opt	✓	✓
	Spectrum analyzer w/auto pre-amp	Opt	Opt	✓	✓
	Field View of the PathTrak return spectrum	Opt	Opt	Opt	Opt
	Field View QAM of PathTrak MACTrack	Opt	Opt	Opt	Opt
DOCSIS/EuroDcscis Testing	DOCSIS 2.0/1.1/1.0 testing 1 downstream x 1 upstream	✓	✓	✓	✓
	DOCSIS 3.0 bonded carrier testing 8 downstream x 4 upstream	Opt	Opt	Opt	Opt
	Downstream MER/EVM, pre- and post-FEC BER	✓	✓	✓	✓
	Dynamic DOCSIS range and registration	✓	✓	✓	✓
	Cable modem configuration file verification	✓	✓	✓	✓
	Upstream channel selection	✓	✓	✓	✓
	Upstream transmit level and headroom	✓	✓	✓	✓
	Cable modem and CPE MAC cloning	✓	✓	✓	✓
	CableLabs-issued certificates	✓	✓	✓	✓
	IPv6 compatibility — cable modem	✓	✓	✓	✓
Dual MAC/BPI+ certificates	✓	✓	✓	✓	

3

Features (Continued)

DSAM Detailed Feature Matrix		Model			
	Feature	2000	2300	3300	6300
DOCSIS/EuroDocsis Service Tests	Packet loss	Opt	✓	✓	✓
	Throughput — upstream and downstream (up to DOCSIS 3.0 rates)	Opt	✓	✓	✓
	Ping	Opt	✓	✓	✓
	VoIPCheck — voice over IP testing (MOS, packet loss, jitter, delay)	Opt	Opt	Opt	Opt
Ethernet Testing	Throughput — (DOCSIS 2.0 rates)	Opt	Opt	✓	✓
	Packet loss	Opt	Opt	✓	✓
	Ping	Opt	Opt	✓	✓
	View CM diagnostics page	✓	✓	✓	✓
	Gig-E option throughput — (DOCSIS 3.0 rates) up to 400 Mbps down	Opt	Opt	Opt	Opt
RF Network Verification	Forward Sweepless Sweep™	Opt	Opt	Opt	✓
	Reverse alignment				✓
	Forward (downstream) sweep				Opt
	Reverse (upstream) sweep				Opt
	Return loopback				✓
HFC Network Verification	Scheduled autotest	✓	✓	✓	✓
	Proof test	✓	✓	✓	✓
Home Network Verification	IP tests via 10/100/1000 Ethernet jack	Opt	Opt	✓	✓
	Ingress resistance test (IRT)	✓	✓	✓	✓
	Fault location using FDR feature in LST-1700 remote transmitter	✓	✓	✓	✓
	Test point compensation	✓	✓	✓	✓
	SmartID advanced coax probe support*	✓	✓	✓	✓
	WiFi support (USB)*	Opt	Opt	Opt	Opt
Autotest	Home certification	Opt	Opt	Opt	Opt
	Video autotest	✓	✓	✓	✓
	Cable modem autotest	✓	✓	✓	✓
	Combination autotest (video and cable modem)	✓	✓	✓	✓
	Proof of performance (scheduled autotest)	✓	✓	✓	✓
	Web browser	Opt	Opt	Opt	Opt
Miscellaneous	RF, WiFi, or Ethernet synchronization with TPP	✓	✓	✓	✓
	Secure Sync™ — RF Synchronization through firewalls	✓	✓	✓	✓
	Optical power meter support (USB) MP-60A and MP-80A*	✓	✓	✓	✓

*This firmware option requires the purchase of a separate, additional hardware accessory.

Specifications

Analog-level measurement

Signal types	CW, video, and audio (NTSC, PAL, and SECAM)
Frequency range	4 to 1,000 MHz
Accuracy	±10 ppm at 25°C (77°F) 10 kHz tuning resolution
Measurement range	1 –40 to +60 dBmV (typical)
Resolution	0.1 dB
Resolution bandwidth	280 kHz
Accuracy ³	±1.5 dB typical at 25°C (77°F)

Carrier-to-noise

30 to 45 dB ±2 dB
45 to 48 dB ±3 dB
Input at >0 dBmV (up to 750 MHz)
Input at >6 dBmV (750–1,000 MHz)

Hum

Accuracy up to 5% hum	±0.8%
From 5 to 10%	±1.0%

Digital-level measurement

Modulation types	QPSK, QAM (DVB/ACTS)
Range ²	–40 to +50 dBmV (typical)
Resolution	0.1 dB
Accuracy ³	±2.0 dB typical at 25°C (77°F)

Downstream QAM demodulation

Modulation type	64, 128, and 256 QAM, ITU-T J.83 (Annex A, B, or C selectable at time of order, factory installed hardware)
Input range (lock range) ⁴	–15 to +50 dBmV total integrated power from:
	57–1,000 MHz (42 MHz diplexer 6 MHz channel spacing)
	83–1,000 MHz (65 MHz diplexer 6 MHz channel spacing)
	108–1,000 MHz (85 MHz diplexer 6 MHz channel spacing)
	58–1,000 MHz (42 MHz diplexer 8 MHz channel spacing)
	84–1,000 MHz (65 MHz diplexer 8 MHz channel spacing)
	109–1,000 MHz (85 MHz diplexer 8 MHz channel spacing)
50 kHz tuning resolution	
BER ⁵ pre and post FEC	10 ^{–4} to 10 ^{–9}
MER ²	
Range 64 QAM	21 to 45 dB ⁴
Accuracy	± 2 dB (Up to 40 dB typical) ²
Range 128 QAM	25 to 45 dB ⁴
Accuracy	±2 dB (Up to 40 dB typical) ²
Range 256 QAM	28 to 45 dB ⁴
Accuracy	± 2 dB (Up to 40 dB typical) ²
Symbol rate	
Annex A	5.057 to 6.952 MSPS for 64, 128, and 256 QAM
Annex B	5.057 MSPS for 64 QAM and 5.361 MSPS for 256 QAM
Annex C	5.274 MSPS for 64 QAM, and 5.361 MSPS for 256 QAM

DOCSIS testing

Support for operating in DOCSIS 1.0, 1.1, 2.0, or 3.0 modes
Compliant with CableLabs® Specifications for DOCSIS 1.0, 1.1, 2.0, and 3.0
CableLabs-compliant BPI+ root-chained certificates pre-installed
EuroCableLabs® certificates available

Downstream testing

Support for channel bonding of 8 downstream carriers	
Throughput testing	up to 304 Mbps (6 MHz carriers) and 400 Mbps (8 MHz carriers) ⁵

Upstream testing

Support for channel bonding of 4 upstream carriers	
Throughput testing	up to 120 Mbps ⁵
Upstream transmit range and Diplexer crossover (DOCSIS modes only)	
5 to 42 MHz 42/88 MHz (min. downstream DOCSIS center freq. 91 MHz)	
5 to 65 MHz 65/96 MHz (min. downstream DOCSIS center freq. 100 MHz)	
5 to 85 MHz 85/111 MHz (min. downstream DOCSIS center freq. 111 MHz)	
Upstream modulation QPSK, 16 QAM, 32 QAM, and 64 QAM as instructed by CMTS transmitter	+52 dBmV with 64 QAM, +55 dBmV with 16 QAM, and +58 dBmV with QPSK
output at 25°C (77°F) maximum (typical for a single transmit channel)	

Upstream spectrum (ingress scan)

Spans	4 to 42 MHz, 4 to 65 MHz, 4 to 85 MHz, 4 to 110 MHz (option)
Sweep rate	<2 s
Display scaling and range	1, 2, 5, and 10 dB/division; 6 vertical divisions freq. 91 MHz
Resolution bandwidth	280 kHz
Sensitivity ²	–45 to +60 dBmV (typical)

Downstream spectrum (forward scan) (optional)

Frequency range	4 to 1000 MHz
Sweep rate	<2.5 s (display)
Display scaling and range	1, 2, 5 and 10 dB/division; 6 vertical divisions
Resolution bandwidth	30 or 280 kHz
Span	10 or 50 MHz
Sensitivity	–35 to 60 dBmV (typical)
Low-pass filter (matches Diplexer frequency)	
Reverse path sensitivity (with low-pass filter on)	–45 to +60 dBmV (typical)
Sensitivity ²	–45 to +60 dBmV (typical)

Constellation (optional)

Modulation type	64, 128, and 256 QAM
Constellation points	2,000, 4,000, 8,000, 16,000, 32,000, or 64,000

Return QAM generator

Signal modulations	16 QAM, 64 QAM
Symbol rates (MSPS)	1.28, 2.56, 5.12 modes only)
Frequency range	5–42 MHz, 5–65 MHz, 5–85 MHz
Supported levels	8.0–58.0 dBmV 2.0, and 3.0

DSAM sweep specifications (optional)

Forward sweep	Requires SDA-5500 (SDA-compatible mode)
Reverse sweep and reverse alignment	Requires SDA-5500 (Single reverse) or SDA-5510 (Multiple reverse) (SDA-compatible mode)
Sweep modes	Frequency range 5–1,000 MHz forward 5–65 MHz reverse
Display span	user-definable
Display scale/range	6 vertical divisions 1, 2, 5, or 10 dB/division
Sweep pulse-occupied bandwidth	30 kHz
Stability	±0.5 dB, normalized (dependent upon stability of referenced carriers)
Sweep rate	~1 s (78 channels, including scrambled and digital signal types)

Return loopback/ sweep/alignment

Frequency range	5–65 MHz
Transmit level	8–55 dBmV

Standards compliance

Shock and vibration	5 Gs at 2 Hz to 5 kHz
Transportation packaging I.S.T.A.	Procedures 1C and 1G
Drop	IEC 61010
Handle stress	IEC 61010
Water resistance	MIL-STD-810F
Safety emissions	EN 55022, CE, FCC
Safety immunity	EN 61000, CE, FCC

General

Display	320 x 240 pixels, TFT color
Second language options	Chinese, French, German, Hungarian, Japanese, Korean, Portuguese, Polish, or Spanish
Dimensions with battery (W x H x D) (without QAM HW option)	12 x 25 x 10.8 cm (4.75 x 9.75 x 4.25 in)
Dimensions with battery (W x H x D) (with QAM HW option)	12 x 25 x 12.1 cm (4.75 x 9.75 x 4.75 in)
Weight without battery (without QAM HW option)	1.2 kg (2 lb, 10 oz)
Weight without battery (with QAM HW option)	1.4 kg (3 lb, 0 oz)
Battery weight	0.6 kg (1 lb, 6 oz)
Storage and operating temperature range	–20 to +50°C (–4 to +122°F)

Notes

- Total integrated power, detectable range.
- MER Typical defined as identical QAM carriers at +5 dBmV with no adjacent analog carrier.
- Accuracy for analog levels between –20 to +55 dBmV. Accuracy for digital levels between –20 to +50 dBmV. Additional uncertainty of ±1.0 dB from 4 to 15 MHz. Additional uncertainty of ±0.5 dB across –20 to +50°C.
- MER Range declines as input levels decrease. Expected MER Range at MIN LOCK Level of –15 dBmV is >30 dB MER.
- Stated throughput is the max theoretical capability. Actual performance may vary.

5

Ordering Information

Pre-Configured Packages*

Packages for the Americas or 42-MHz Return Path

Part Number	Description	Notes/Ordering Information
DSAM-D2TECH1PKG-42	Fulfillment Tech/Installer Package, DSAM 2000 with DOCSIS 2.0 w/ 42 MHz diplexer, software upgradeable to DOCSIS 3.0. Includes high-capacity battery (standard) as well as browser and VoIP Check options.	Does not include DOCSIS 3.0 SW option or DSAM-DPERFOPT, which must be separately, or order TECH2 Package.
DSAM-D3TECH1PKG-42	Fulfillment Tech/Installer Package, DSAM 2000 with DOCSIS 3.0 w/ 42 MHz diplexer. Includes high-capacity battery (standard) as well as browser and VoIP Check options.	Includes DOCSIS 3.0 SW option as well as browser and VoIP Check. Does not include DSAM-DPERFOPT, which must be ordered separately, or order TECH2 Package.
DSAM-D3TECH2PKG-42	Fulfillment Tech Package, DSAM 2300 with DOCSIS 3.0 w/ 42 MHz diplexer. Includes DQI and high-capacity battery (standard) as well as SmartScan, browser and VoIP Check options.	Includes DOCSIS 3.0 SW option and DQI, ES/SES, and AGC Stress, as well as browser and VoIP Check. Does not include QAM ingress, order Tech4 Package if QAM ingress is needed.
DSAM-D3TECH3PKG-42	Service Tech Package, DSAM 3300 with DOCSIS 3.0 w/ 42 MHz diplexer. Includes DQI, SmartScan, and high-capacity battery (standard) as well as browser and VoIP Check options.	Includes DOCSIS 3.0 SW option and DQI, ES/SES, and AGC Stress, as well as browser and VoIP Check. Does not include QAM ingress, order Tech4 Package if QAM ingress is needed.
DSAM-D3TECH4PKG-42	Maintenance Tech Package, DSAM 3300 with DOCSIS 3.0 w/ 42 MHz diplexer. Includes DQI, SmartScan, and high-capacity battery (standard) as well as QAM Ingress, browser and VoIP Check.	Includes DOCSIS 3.0 SW option, QAM Ingress, DQI, ES/SES, and AGC Stress, as well as browser, VoIP Check, and SmartScan.
DSAM-D3SWPPKG-42	Sweep Tech Package, DSAM-6300 with DOCSIS 3.0 w/ 42 MHz diplexer. Includes DQI, SmartScan, Return Loopback, Return Alignment, and Sweepless Sweep (standard). Package includes Forward Sweep, Reverse Sweep, QAM Ingress, browser, and VoIP Check.	Includes DOCSIS 3.0 SW option, QAM Ingress, DQI, ES/SES, and AGC Stress, as well as browser, VoIP Check and SmartScan, and Forward and Reverse Sweep.

Packages for Europe, Asia, or Systems with 65-MHz Return Path

Part Number	Description	Notes/Ordering Information
DSAM-D2TECH1PKG-65	Fulfillment Tech/Installer Package, DSAM 2000 with DOCSIS 2.0 w/ 65 MHz diplexer; software upgradeable to DOCSIS 3.0. Includes high-capacity battery (standard). Package includes browser and VoIP Check options.	Does not include DOCSIS 3.0 SW option. Includes browser and VoIP Check. Does not include DSAM-DPERFOPT, which must be ordered separately, or order TECH2 Package.
DSAM-D3TECH1PKG-65	Fulfillment Tech/Installer Package, DSAM 2000 with DOCSIS 3.0 w/ 65 MHz diplexer. Includes high-capacity battery (standard). Package includes browser and VoIP Check options.	Includes DOCSIS 3.0 SW option as well as browser and VoIP Check. Does not include DSAM-DPERFOPT, which must be ordered separately, or order TECH2 Package.
DSAM-D3TECH2PKG-65	Fulfillment Tech Package, DSAM 2300 with DOCSIS 3.0 w/65 MHz diplexer. Includes DQI + SmartScan and high-capacity battery (standard). Package includes browser and VoIP Check options.	Includes DOCSIS 3.0 SW option as well as DQI, ES/SES, and AGC Stress, as well as browser and VoIP Check. Does not include QAM Ingress, order Tech4 Package if QAM ingress is needed.
DSAM-D3TECH3PKG-65	Service Tech Package, DSAM 3300 with DOCSIS 3.0 w/ 65 MHz diplexer. Includes DQI, SmartScan and high-capacity battery (standard). Package includes browser and VoIP Check options.	Includes DOCSIS 3.0 SW option as well as DQI, ES/SES, and AGC Stress, as well as browser and VoIP Check. Does not include QAM Ingress, order Tech4 Package if QAM ingress is needed.
DSAM-D3TECH4PKG-65	Maintenance Tech Package, DSAM 3300 with DOCSIS 3.0 w/ 65 MHz diplexer. Includes DQI, SmartScan and high-capacity battery (standard). Package includes QAM Ingress, browser, and VoIP Check.	Includes DOCSIS 3.0 SW option as well as QAM Ingress, DQI, ES/SES, and AGC Stress, as well as browser, VoIP Check and SmartScan.
DSAM-D3SWPPKG-65	Sweep Tech Package, DSAM-6300 with DOCSIS 3.0 w/ 65 MHz diplexer. Includes DQI, SmartScan, Return Loopback, Return Alignment, and Sweepless Sweep (standard). Package includes Forward Sweep, Reverse Sweep, QAM Ingress, browser, and VoIP Check.	Includes DOCSIS 3.0 SW option as well as QAM Ingress, DQI, ES/SES, and AGC Stress, browser, VoIP Check, SmartScan, Forward Sweep, and Reverse Sweep.

*Additional hardware and software can be added to any of these packages. JDSU recommends that you work with your sales contact to build the DSAM for your needs. Packages have been created for convenience and savings to simplify the ordering process and to bundle multiple popular features. Additional options are available to add to the pre-configured packages. These packages have factory-configured hardware that cannot be substituted or modified.

6

Ordering Information

DSAM mainframes

Part Number	Description
DSAM-2000	Install/fulfillment technician DOCSIS and signal level meter ¹
DSAM-2300	Service technician DOCSIS and signal level meter ¹
DSAM-3300	Maintenance/service technician DOCSIS signal level meter ¹
DSAM-6300	Sweep technician DOCSIS, sweep, and signal level meter ¹
DOCSIS 3.0 and return path diplexer (choose only one—mutually exclusive)	
DSAM-D3DIPLEX-42	42 MHz DOCSIS 3.0 diplexer ²
DSAM-D3DIPLEX-65	65 MHz DOCSIS 3.0 diplexer ²
DSAM-D3DIPLEX-85	85 MHz DOCSIS 3.0 diplexer ²
Mainframe option—QAM hardware option—provides additional hardware required to allow QAM Ingress option	
DSAM-QAMHWOPT-A	QAM ingress option hardware – 8 MHz ³
DSAM-QAMHWOPT-B	QAM ingress option hardware – 6 MHz ³

1. DOCSIS 3.0 hardware ready; requires ordering DSAM-D3-SWOPT to enable DOCSIS 3.0 mode and bonded carrier testing.
2. Must choose one diplex frequency to match return path.
3. Optional hardware that provides QAM Ingress. Requires ordering software option to enable this hardware option.

7

Ordering Information (Continued)

Options

Part Number	Description	Part Number	Description
DSAM-D3-SWOPT	DOCSIS 3.0 bonded testing ¹	1019-00-1563	Reverse sweep ⁸
DSAM-DPERFOPT	DOCSIS Performance option—provides registration, throughput, packet loss, and ping through DOCSIS RF connection ²	1019-00-1641	Sweepless sweep ⁹
DSAM-EDIGOPT	Enhanced digital set (DQI, ES/SES, AGC stress) ²	1019-00-1455	Substitute 75-ohm BNC connector
DSAM-BASICETHOPT	Basic Ethernet option (10/100T) up to DOCSIS 2.0 speeds ³	DSAM-WIFI-PKG	DSAM WiFi software option and compatible USB WiFi adapter ⁵
DSAM-D3GIGE-OPT	Gigabit Ethernet option (10/100/1000T)—enables Gig-E port with throughput beyond DOCSIS 3.0 speeds ⁴	MP-60A	USB optical power meter with accessories ¹⁰
1019-00-1491	Integrated web browser ⁵	MP-80A	MP-80 - USB optical power meter - high power with accessories ¹⁰
1019-00-1556	VoIP Check ⁵	SMARTID_1PC	SmartID qty 1 - additional or replacement probe ¹¹
1019-00-1495	Field View with return signal generator ⁵	SMARTID_2PCS_STARTERKIT	SmartID 2 pack and starter kit ¹²
1019-00-1499	Field View without return signal generator ⁵	SMARTID_3PCS_STARTERKIT	SmartID 3 pack and starter kit ¹²
DSAM-FVQAM	DSAM Field View QAM option ⁵	SMARTID_4PCS_STARTERKIT	SmartID 4 pack and starter kit ¹²
DSAM-SA-OPT	Downstream spectrum analyzer ³	SMARTID_5PCS_STARTERKIT	SmartID 5 pack and starter kit ¹²
DSAM-CONST-OPT	Constellation ³	SMARTID_6PCS_STARTERKIT	SmartID 6 pack and starter kit ¹²
1019-00-1516	Downstream spectrum analyzer and Constellation package ³	SMARTID_ACC_KIT	SmartID accessory kit - SmartID carrying case and USB cable
DSAM-SMARTSCANOPT	SmartScan™—channel deviation and tilt detection ³	SMARTID-USBCABLE	SmartID to DSAM USB cable
1019-00-1513	Home certification ⁵	DSAMWE6300	Extended hardware warranty 1 year DSAM-6300 ¹³
1019-00-1599	Return QAM generator (QPSK, QAM16, QAM64) ³	DSAMWE3300	Extended hardware warranty 1 year DSAM-3300
DSAM-QING-OPT	QAM Ingress software option ⁶	DSAMWE2300	Extended hardware warranty 1 year DSAM-2300 ¹³
1019-00-1567	Forward sweep ⁸	DSAMX5XX-EW	Extended hardware warranty 1 year DSAM-2000 ¹³

1. Optional on all 2000, 2300, 3300, 6300 DSAM models; meters without this option will operate only as DOCSIS 2.0.

2. Optional on DSAM-2000; included on 2300, 3300, 6300.

3. Optional on DSAM-2000 and 2300; included on 3300 and 6300.

4. Optional on all 2000, 2300, 3300, 6300 DSAM models; requires purchase of basic Ethernet on DSAM-2000 and 2300 before adding DSAM-D3GIGE-OPT.

5. Optional on all meters.

6. Must order QAM hardware option to order this; QAM hardware option is included on DSAM-6300.

7. Must also order QAM hardware option on DSAM-3300; included on 6300.

8. Optional on DSAM-6300 only.

9. Included on DSAM-6300; optional on all other models.

10. Available accessory for all meters.

11. Probes available for use with all meters; DSAM v4.0 and higher firmware required.

12. Available for use with all meters; DSAM v4.0 and higher firmware required.

13. Available only for unit specified.

Ordering Information (Continued)
Second-language option

Part Number	Description
DSAM3LANGJP	Second language Japanese
DSAM3LANGPOL	Second language Polish
DSAM3LANGKOR	Second language Korean
DSAM3LANGFRA	Second language French
DSAM3LANGSPAN	Second language Spanish
DSAM3LANGCHN	Second language Chinese
DSAM3LANGGER	Second language German
DSAM3LANGHUN	Second language Hungarian
DSAM3LANGBRZPORG	Second language Portuguese

Included accessories

EZ-charge high-capacity li-ion battery
Universal power supply
Power cord (choose one)
One replaceable lens
12V DC in-vehicle adapter
Shoulder strap
Protective case

Power cord options (choose one)

Part Number	Description
6011-80-0002	Power cord—Continental Europe
6011-80-0006	Power cord—North America
6011-80-0009	Power cord—United Kingdom
6011-80-0013	Power cord—Italy
6011-80-0014	Power cord—Australia
6011-80-0015	Power cord—Switzerland
6011-80-0019	Power cord—India/South Africa
6049-01-1000	Power cord—Japan

Optional accessories/parts

Part Number	Description
1019-00-1564	Spare/replacement EZ-charge high-capacity battery
DSAM_PWR_SUP	Spare/replacement AC/DC universal power supply
1019-00-1366	Stand hook w/nylon web straps
1019-00-1426	Set of 5 snap-in replaceable lenses
1019-00-1520	Large soft case for meter and accessories
1019-00-1603	DSAM 25-pack of F connectors

Test & Measurement Regional Sales

NORTH AMERICA TEL: 1 866 228 3762 FAX: +1 301 353 9216	LATIN AMERICA TEL: +1 954 688 5660 FAX: +1 954 345 4668	ASIA PACIFIC TEL: +852 2892 0990 FAX: +852 2892 0770	EMEA TEL: +49 7121 86 2222 FAX: +49 7121 86 1222	www.jdsu.com/test
---	--	---	---	--