DS2460Q
QAM Analysis Meter

Key Benefits

- Comprehensive tool for installation and maintenance of cable networks
- Fast spectrum analysis, 5~1220 MHz
- 5~1052MHz (Analog TV), 46~1052MHz (Digital TV)
- Digital TV measurements include: Average Power, MER, BER, BER Statistics, Constellation
- Analog TV measurements include: Level, V/A, HUM, C/N
- Auto-generates and saves up to 20 custom channel plans from a cable drop
- Auto test with pass/fail limits speeds up tests and simplifies results interpretation
- Client-based Toolbox management software for quick unit configuration
- USB Micro 2.0 port for PC data transfer
- Ethernet port for Ping function
- Optical Power Measurement and VFL (Visual Fault Location) available by option

Overview

The DS2460Q is a is a multi-functional instrument that supports digital QAM and analog signals in CATV networks. It is the ideal tool for initial network installations, service, and troubleshooting tasks. The ruggedized design includes an outer chassis protector, while the icon-based GUI features programmable preset pass/fail limits. The easy-flowing menus are designed for increased efficiency and productivity for all levels of technicians.

Other features - including return path & forward spectrum scan, 12 favorite tilt frequencies, AC line voltage test, HUM and DC voltage measurements, combined with complete data logging and management software - make the DS2460Q a versatile tool for cable installations.

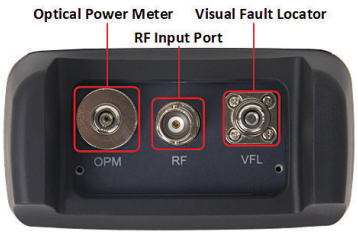
MER, Pre-Post BER measurements, and statistics features allow quick verification of loose connections, generally related to pixelated pictures or slow DS internet data flow. The digital measurement functions also help identify mismatches caused by open coaxial lines or impedance mismatch.


External Rubber Casing for Enhanced Durability
2.8"
320x240
TFT LCD
Multi-
function
Keys
Enter
Button
Home and
ESC/Cancel
Keys
Alpha-
Numeric
Keypad
Power On/Off
Charging Indicator
Secondary Function
Key and Indicator


DEVISER
DS2460Q QAM Analysis Meter
DC 15V/0.9A
S/N:
http://www.deviserinstruments.com
WARNING
Battery Compartment-Field Replaceable Battery


DC Adapter


LAN
Micro USB


Optical Power Meter
Visual Fault Locator
RF Input Port
OPM
RF
VFL

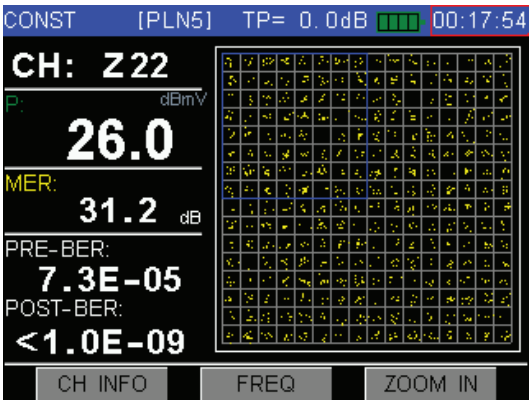


Figure 1: MER, Pre-BER, Post-BER & Constellation

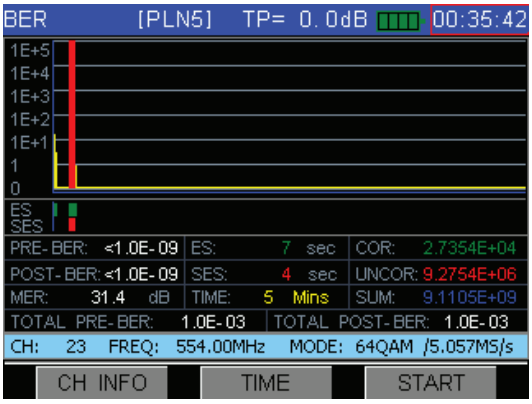


Figure 2: BER

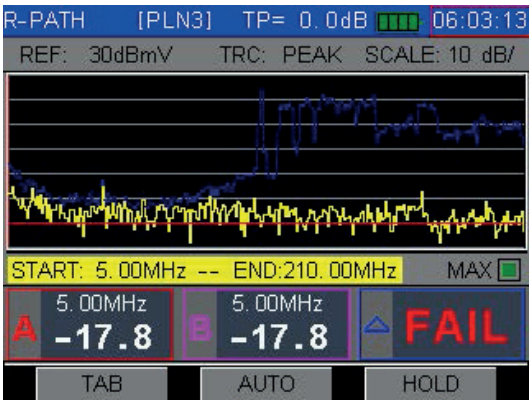


Figure 3: Return Path Spectrum (5~210MHz)

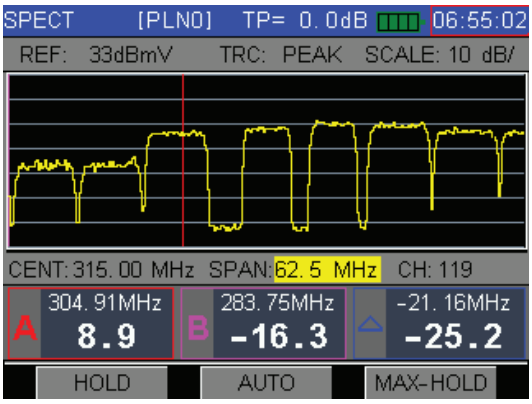


Figure 4: Channel Scan

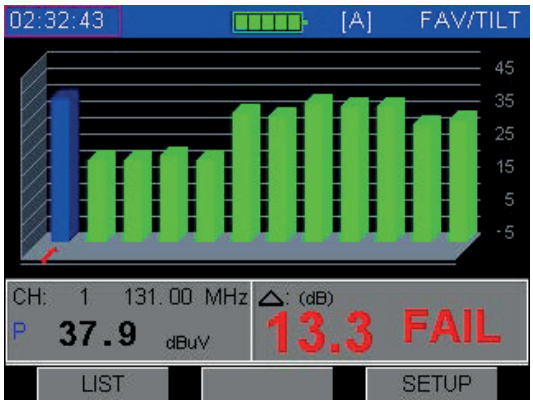


Figure 5: Tilt (Max 12 Channels)

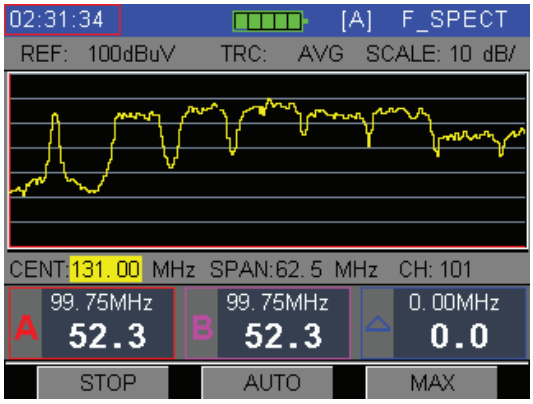


Figure 6: Forward Spectrum

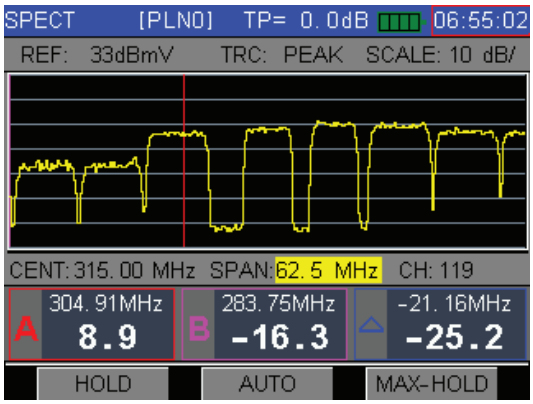


Figure 7: Normal Spectrum Analysis

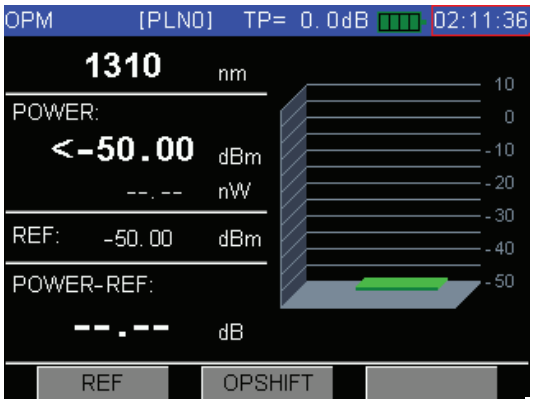


Figure 8: Optical Power Meter Function

Up to 20 Stored Channel Plans

For technicians and contractors who work in multiple HFC networks, having a choice of different channel plans is a must. The DS2460Q can learn a selection of up to twenty (20) different channel plans. When connected to an RF drop, the DS2460Q learns analog/digital channels and custom frequencies through the built-in automated channel plan learning tool - or downloads them via Deviser's Toolbox PC software. The user can select up to 12 channels in each of the 20 user-defined plans and assign them to a favorite tilt/channel plan.

QAM Analysis & Channel Measurements

The DS2460Q measures and analyzes channel powe
Pre-Post BER, including constellation display. It is con
with 16/32/64/128/256 QAM modulation, and can al
power measurements for QPSK and COFDM digital c

Spectrum Analysis & Measureme

The DS2460Q offers three distinct spectrum analysis m
normal, fast, and return path. Fast spectrum analysis allows technicians to view a frequency range of 5~1220MHz; while normal spectrum analysis optimizes amplitude accuracy at a lower sweep speed. For troubleshooting upstream problems, the unit can display frequency spans of 5~65 MHz, providing an additional tool to technicians dealing with upstream data signals. All modes have access to the Marker and Max Hold features, making it easy to capture and analyze transient anomalies.

Full Spectrum Scans & Marker Feature

The DS2460Q can scan 160 channels, allowing users to quickly and efficiently measure flatness and amplitude of the HFC network. Using markers, technicians can quickly identify mismatch-related anomalies caused by poor grounding or damaged transmission lines.

HUM Measurement

The HUM measurement helps technicians identify and trouble-shoot anomalies that may result from defective capacitors, faulty line splitters, or overloaded couplers (caused by weather conditions or excessive current). Both 60 & 120 Hz tests are performed @400Hz LPF measurements.

Auto Diagnostic User-defined Limit Test

The auto test simplifies the technician's work by displaying pass/fail results. End users can set limits on Power Level, MER, Pre-Post BER, Spectrum Analysis, Tilt, and HUM measurements. With the simple Save function, the technician no longer must manually record results, saving more time for installations and
s in a day. In addition, measurement data is saved
ensure performance accountability for each
nd to reduce the need to return to previously

nagement - Test Data Storage

Multiple test data files can be saved and stored as analog carriers or frequencies, QAM carriers or digital frequencies, channel scan, tilt, frequency spectrum measurements, and/or HUM. Results are saved to the File Directory by timestamp. Records can be uploaded to a PC via the Toolbox software for report generation, printing, and analysis.

Voltage Measurement

The DS2460Q measures battery voltage, trunk, & distribution line voltage of the cable system, accurately identifying AC or DC anomalies. The smart power management system enables approximately 5 hours' continuous operation from battery on a full charge.

Specifications

Normal Spectrum Analysis	
Frequency Range	45 MHz ~ 1052 MHz
Span	2.5 MHz; 6.25 MHz; 12.5 MHz; 25 MHz; 62.5 MHz; Full Span
Fast Spectrum Analysis	
Frequency Range	5MHz ~ 1220MHz
Span	12.5MHz, 25MHz, 62.5MHz, Full Span
Return path Spectrum Analysis	
Frequency Range	5~210MHz
Channel Scan	
Number of Channels	160 channels max
Scale	1,2,5,10dB/div
Zoom	1X,2X,3X,4X,5X five levels
Analog TV Measurement	
Supported Standards	PAL, NTSC and FM Radio (Single Frequency)
Level Measurement	Range: -30dBmV to +60dBmV; Accuracy: ±2dB; Resolution: 0.1dB
Frequency	Range: 5M-1052M ; Accuracy: ±50ppm; Resolution: 10KHz
Resolution Bandwidth	280KHz
C/N	>50dB
HUM Measurement Range	2% to 5%
Digital TV	
Power Level	Range: -30dBmV to +60dBmV; Accuracy: ±2dB; Resolution: 0.1dB
Frequency	Range: 46MHz to 1052MHz; Accuracy: ±2dB; Resolution: 0.1dB
Supported Standards	ITU-T J.83 Annex A, B and C
QAM Demodulation Type	Annex A: QAM 16/32/64/128/256, Annex B&C: QAM64/256
Interleave Depth	128x1~128x4(J.83B);12x17(J.83A/C)
Symbol Rate Range	4MS/sec to 7MS/sec
MER	41dB; Accuracy±2dB
BER	1E-3 to 1E-9
Constellation Display Mode	64/256 QAM with zoom capability
Line Voltage Measurement	
Range	0V to 100V (AC/DC) with accuracy ±2V
Optical Power Measurement	
Accuracy	±0.23dB(±5%)
Detector Type	InGaAs 300μm
Range	-50dBm ~ +27dBm
Linearity	0.07dB/10dB
Resolution	0.01dBm, mW, μW, nW
Wavelength	850 nm, 980 nm, 1300 nm, 1310nm, 1490 nm, 1550nm, 1610 nm
Interface	FC\SC\ST Universal Connector Interface Adapter
VFL (Visual Fault Location)	
Output Power	10mW
Output Wavelenght	650±10nm
Safety Standard	IEC 60825-1: 2007
Interface	FC/PC
Miscellaneous	
RF Input	75Ω
USB	USB Micro B 2.0
Ethernet	10/100M
Display	2.8" 320x240 TFT LCD
AC/DC Adapter	AC 100V to 240V 50-60Hz ,DC 15V/0.9A
Battery	7.4V 2.5Ah Lithium Battery
Charge Time/ Working Time	5 hours / >5hours
Dimension (W×H×L)	200mm × 106mm×54mm (7.9" x 4.2" x 2.1")
Weight	About 600 grams (1.3 lbs)
Work/ Storage Temperature	-10 ~ +40°C/-20 ~ +70°C