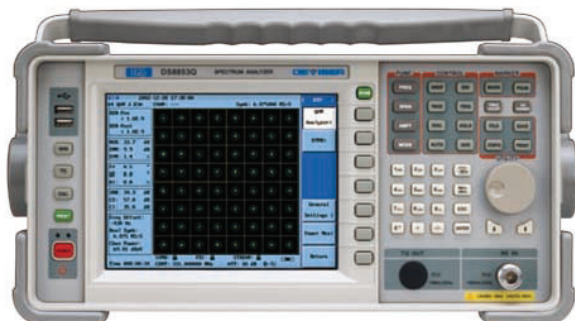


## DS8853/DS8831

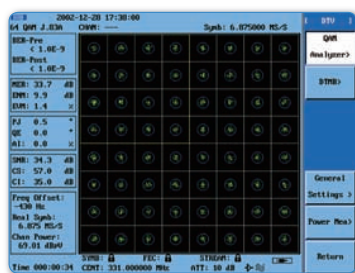
### Spectrum Analyzer



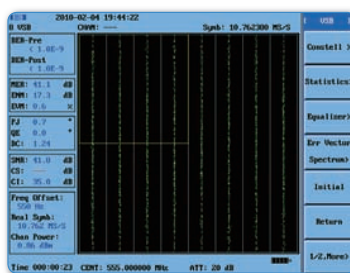
DS8853



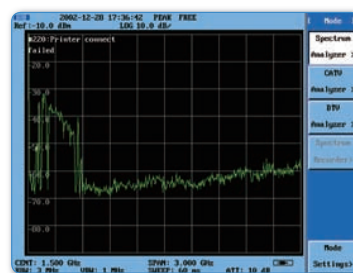
DS8831



QAM Constellation



VSB



Spectrum Analyzer

### Introduction

DS8853/8831 Series Spectrum Analyzer is portable analyzer, and can be used anywhere in HFC network for analyzing RF signals with a comprehensive scope of measurements, and also can be used in analyzing the systems of mobile communication, satellite intermediate frequency and so on.

From analysis of digitally modulated signals to test of distortion and noise parameters in the field, this spectrum analyzer is an

industry workhorse. The analyzer is specifically focused on the cable TV industry with application specific test features as well. Cable operators typically use the analyzers in the headend and as a tool for elite (high tier) technicians to use for in-depth testing and troubleshooting. They are also used for FCC proof of performance tests. The DS8853/DS8831 Series meet the precise testing needs of the customer and are the greatest assistant.

### Model Series: DS8853(3G)/DS8831(1G)

Type	Description
A	Standard Spectrum Analyzer 50Ω
B	Spectrum Analyzer 75Ωwith CATV
Q	Spectrum Analyzer with CATV, DVB-C
T	Spectrum Analyzer with CATV, DVB-C, DTMB
H	1U Rack

### Key Feature

- Portable design with DSP technology
- Design QAM analysis, spectrum analysis and CATV analysis in one unit
- QAM analysis: MER, BER, EVM, Constellation Diagram etc.
- Support QAM/ITU-T J.83 ANNEX A/B/C/D and QPSK, COFDM
- CATV analysis: CSO/CTB, C/N, HUM, DoM, LEVEL, Cross-Modulation, Auto and Limit Test etc.
- Video Analysis Function: Differential Phase/Gain, Chrominance-to-Luminance Delay Inequality
- Powerful Spectrum Analysis
- 7.5" color TFT LCD and USB, LAN Interface
- Remote control via LAN port

#### Specification

Model	DS8853 series	DS8831 series
Frequency Range	100kHz~3000MHz	1MHz~1000MHz
Resolution	1Hz	10Hz
Frequency Counter	1Hz Resolution	1Hz Resolution
Frequency Scan Range	0Hz(Zero Span), 1kHz~3000MHz	0Hz(Zero Span), 1kHz~1000MHz
Sweep Time	1mS~250S(Span ≥1kHz) 20 μS~250S(Span = 0Hz)	1mS~250S (Automatically or Manually)/ 20 μS~250S(Span = 0Hz)
Resolution Bandwidth	1kHz~3 MHz (1-3 Step)	1kHz~3 MHz (1-3 Step)
Phase Noise	< -120 dBc/Hz @ 100kHz offset (typical) < -100 dBc/Hz @ 10 kHz offset (typical)	< -90 dBc/Hz @ 10kHz (typical)
Display Average Noise Level(No Signal Input, 0dB Attenuation, Sampling Demodulation)	≤-98dBm, 1 MHz~3000MHz (Amplifier off) ≤-113dBm, 1 MHz~3000MHz (Amplifier on) (RBM=30kHz, VBW=100Hz)	Type A(50Ω): -115dBm Type B(75Ω): -113dBm (RBM=30kHz, VBW=100Hz, and with pre-amplifier open)
Maximum input	+30dBm (Peak Power/ Enter Attenuation15dB)	+20dBm
Level Accuracy	100 V DC ±1dB @+25±5°C(Typical)	
Resolution Bandwidth Switching Accuracy	±0.1dB (Typical)	
Level Range	0dB~55 dB	0dB~50 dB
Amplitude Range	20BμV~120dBμV	
Bandwidth Range	200kHz~200MHz	
MER	22 dB~40 dB(64/256QAM)	
Pre-post BER(In 1 Second)	2 x10-3~1 x10-9	
USB Port	USB1.1	
VGA Output	Standard VGA Output	
Lan Port	RJ45	
Parallel Port	25pin(D-SUB)	
Serial Port	Standard RS232, 9pin(D-SUB)	
Battery	14.8V / 8Ah Li-Ion Battery	14.8V / 6Ah Li-Ion Battery
Charging Time	About 6 hours	About 5 hours
Battery Life	>3 hours >2.5 hours(With Tracking Generator)	>3 hours >2.5 hours(With Tracking Generator)
Dimension(Width X Height X length)	360mm X 180mm X 360mm	360mm X 180mm X 350mm
Display	19cm (7.5 inches) TFT Colour LCD	16cm (6.4inches) TFT Colour LCD
Net Weight(WithBattery)	About 10 kg	About 9 kg
<b>Option</b>		
Tracking Generator	3000MHz Tracking Signal Source	1000MHz Tracking Signal Source
Workbench	PC management software	
Line Selection in CATV	Video Analysis including Differential Phase, Differential Gain, Chrominance-to-Luminance Delay Inequality and Row Triggering function in Spectrum	
ASI Output	√	X
MPEG- II	√	X
VSB	8VSB Demodulation	
Narrowband RBW	RBW to 300Hz/100H/30Hz; VBW to 1Hz	
Video output converter	Converting the VGA signal to composite video	

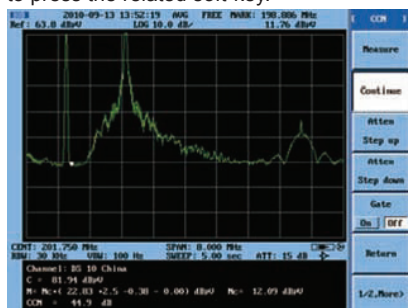
## DS8853/DS8831

### Spectrum Analyzer

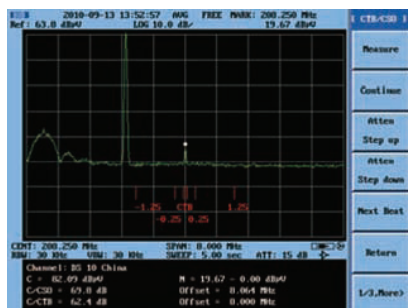
#### Automatic CATV testing

As far as single channel is concerned, DS8831Q enables the test of many key indexes, such as CSO/CTB, C/N, HUM, Audio Test, Leakage, and Modulation Depth.

With special advantages over CATV Analyzer, the CATV analyzing tool of DS8831Q collects real signals according to various measurement method, fully uses DSP technique and automates test procedures by one touch. As a result, the only thing operating engineer need to do is to press the related soft-key.



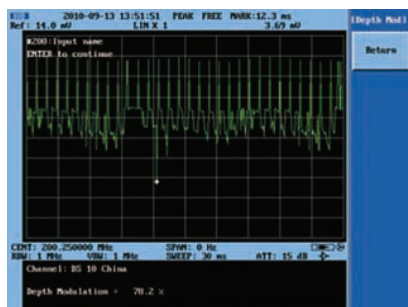
CCN



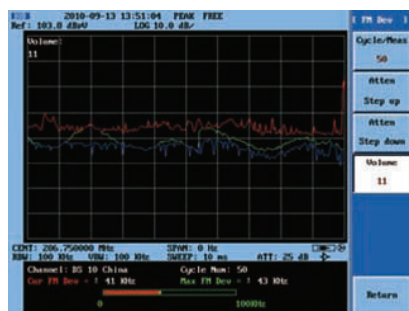
CTB/CSO

#### Video Modulation (AM) and Audio Modulation (FM) Real-time Testing

TV Video modulation depth is one of the most important modulation analysis indexes.



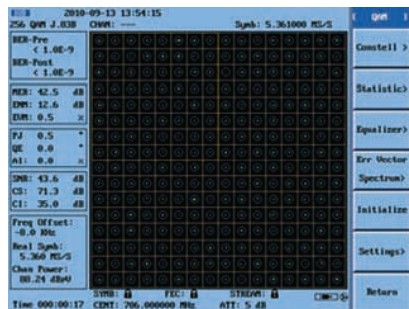
Sometimes, you notice an uncomfortable change of volume of TV while tuning the channel, which is resulted from the unsuitability audio deviation. The figure shows the FM deviation test on the model.



#### Professional digital TV and telecommunication signals analysis function.

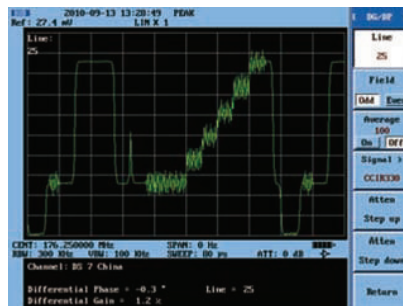
With CATV analysis and digital signal analysis tools, DS8831Q can measure QAM Constellation Diagram, BER, MER, EVM, Digital Channel Power, and C/N. The transmission quality can be detected at any time.

DS8831Q is capable with QAM and QPSK measurement with various bandwidth. It will become your most comprehensive and dependable analysis tool in Digital TV installation or maintenance.

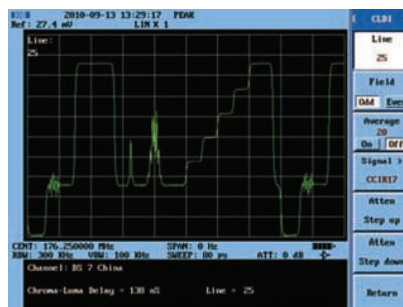


#### Video Analyzing Function

For Video test complying with national standard, DS8831Q supports the testing on Differential Phase/Gain, Chrominance-to-luminance Delay Inequality (CLDI) and etc.



Differential Phase/Gain



Chrom-Luma Delay

#### DS80050 Tracking Generator

Output signal level setting: User can set the output signal level of tracking generator manually according to the application need.

1. Amplitude calibration: User can calibrate output signal amplitude of tracking generator to make a more accurate test.
2. Normalization: By normalization, user can obtain more accuracy as canceling the insertion loss error of transmission test equipment.

Usually used to test amplifiers, filters, splitters and etc.

In the filter measurement, it is easy for user to take test of insertion loss, NdB bandwidth, out-of-band rejection and etc.

