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## RA2009 DIGITAL SIGNAL LEVEL METER



### Key Features

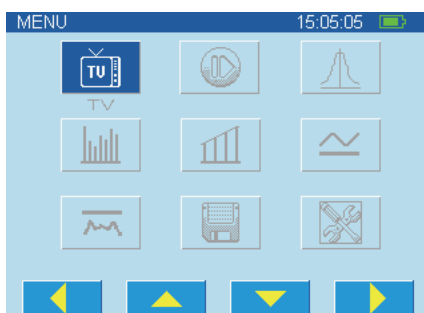
- 5MHz ~870MHz
- Large 320\*240 color LCD display with back light
- DVB analysis, MER, BER, Constellations, average power
- Single channel test and single frequency test, V/A, C/N, TILT, Trunk voltage,
- Full scan, single channel spectrum analysis, spectrum analysis of other range,
- Extended and flexible data storage, data logging, easy upload and download data via PC.
- More learned channel plans, changeable through PC
- Limit measurement and automated FCC proof of performance test.

RA2009 comes with a solution that can handle digital TV and maintain the analog spectrum, enable technicians to use it in the most demanding situations with a single, rugged instrument, wherever it is needed.

The new QAM View digital analysis option adds forward path digital signal testing that includes constellation, pre/post FEC BER, MER.

Analog signal measurements are addressed with standard features like RF signal level, full scan, TILT, in-service C/N, A/V and HUM, and FCC compliant autotesting.

The RA2009 is designed to provide ideal solution for cable TV network, to ensure that on-site technicians are fully equipped with the optimal equipment they need to make rapid and accurate analysis.



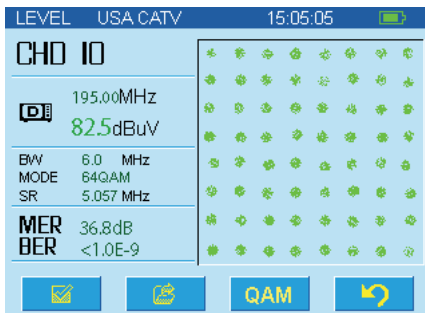
### • Performance LCD

The meter has a 320\*240 enlarged color LCD and the new screen graphics enhance readability and simplify operations.

### • Ideal for digital and analog network

Enables analysis and quality measurements of digital TV and analog TV. Enables easy preparation of networks for interactive services with a 5 to 870MHz fast, sensitive spectrum analyzer.

## RA2009 DIGITAL SIGNAL LEVEL METER



- Performance LCD

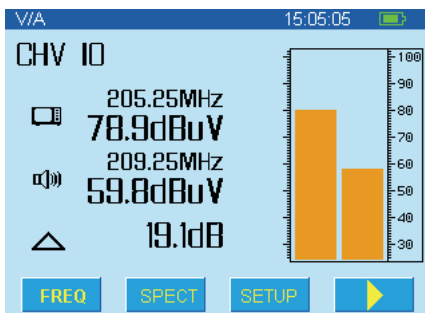
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- Ideal for digital and analog network

Enables analysis and quality measurements of digital TV and analog TV. Enables easy preparation of networks for interactive services with a 5 to 870MHz fast, sensitive spectrum analyzer.

- Digital measurement

The meter lets you take the direct measurement of QAM signals average power measurement, digital analysis option is available for forward path digital signal testing that includes pre/post FEC BER, MER, constellation.

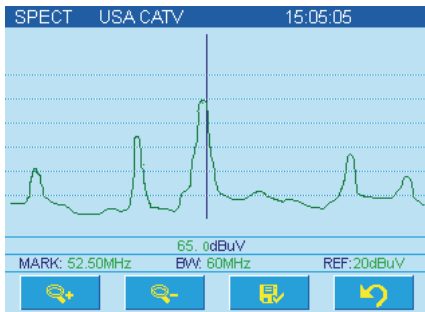


- Analog measurement

The meter can display all channels in a single view. Amplitude measurement is displayed individually, as a group, or as a full-span display. Direct channel input of channel numbers, simultaneously displays video carrier and audio carrier strength, and V/A measurement. Tilt measurement of 5-12 user definable channels. Carrier-to noise ratio measurement, trunk voltage measurement.

- Single channel spectrum

It features a single-channel spectrum mode which displays the presence of interfering beats in addition to carrier.



- Limit and auto measurement

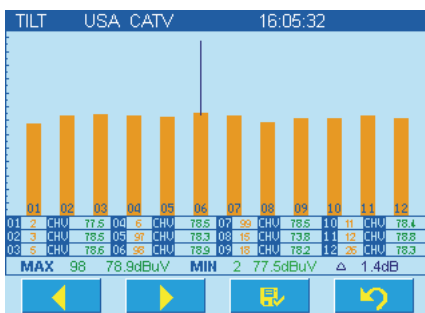
Limit measurement and automated FCC proof of performance test, Auto measurement

- More channel plans

Up to 10 learned channel plans, changeable through PC, also has 2 user defined channel plans, available to define the favorite channels from basic channel plan.

- Data logging

The meter can save files for level, spectrum, scan, limit test and auto-test measurements, these files can be recalled to view the recorded data via RS-232C port.



- Durable and compact

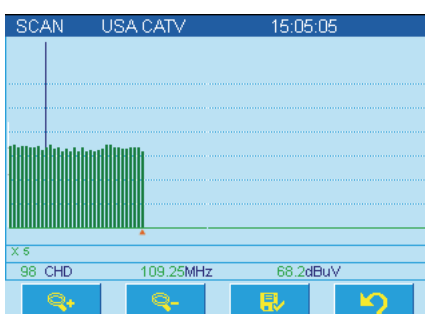
It's durable, simple to use in a wide range of conditions. The tough plastic shell and protective jacket make it highly resistant to damage from shock and impact.

- High performance batter

Battery-powered handheld model, Internal NiMH battery with included charger. Battery life: more than 5 hours

- Cost effective and efficient

Reduces testing and troubleshooting times for network analysis and qualification.



## 3 SPECIFICATIONS

### Digital Power (Channel Power) Measurement

Signal Types: QPSK, QAM, COMDF, random waveform

Accuracy:  $\pm 2\text{dB}$  ( $0^\circ\text{C} \sim 40^\circ\text{C}$ )

Resolution: 0.1dB

### QAM Analysis

Modulations type: 16/32/64/128/256QAM DVB-C;

ITU-TJ.83-AnnexA/AnnexB

Symbol Rate: 1.00Mbps ~7.00Mbps

Bandwidth: 6MHz~10MHz

Frequency tuner: 50 KHz

MER measurement range: 19~38dB $\pm 2\text{dB}$

BER Pre/post FEC measurement range: 10E-2 to 10E-8

### Frequency:

Range: 5MHz—870MHz

Accuracy:  $\pm 50\text{ppm}$  ( $20^\circ\text{C} \pm 5^\circ\text{C}$ )

Resolution: 10kHz

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Range: 5MHz—870MHz

Accuracy:  $\pm 50\text{ppm}$  ( $20^\circ\text{C} \pm 5^\circ\text{C}$ )

Resolution: 10kHz

### Channel Type:

Analog TV: TV

Digital TV: QAM, QPSK

FM channel: Single Frequency

### Level Measurement:

Range: 20dBuV—120dBuV

Accuracy: LEVEL ( $> 35\text{dBuV}$ )  $\pm 1.5\text{dB}$  ( $10^\circ\text{C}$  to  $30^\circ\text{C}$ )

SCAN  $\pm 2\text{dB}$  ( $10^\circ\text{C}$  to  $30^\circ\text{C}$ )

Resolution: 0.1dB

Input Impedance: 75ohm (unbalanced, BNC or F type connector)

Wave detection: peak value

### Channel Scan:

Number of Channels: 200 channels max.

Scanning speed: 4 channels / sec

Zoom: 1X, 2X, 4X three levels of magnification or full Channel Plan scan.

Memory: 100 Groups, each group store Max 200.

### Spectrum Analysis:

Bandwidth: Ranging between 10MHz, 25MHz, 50MHz,

## RA2009 DIGITAL SIGNAL LEVEL METER and full span.

### Carrier-Noise Ratio (C/N):

Input range: 70dBuV—105dBuV

Accuracy:  $\pm 2\text{dB}$  Resolution: 0.1dB

### Digital Channel (Average) Power:

Bandwidth: 0~9MHz

Center Frequency: 5MHz to 870MHz

Digital modulation: QAM, QPSK

### Tilt measurement:

Number of channels: 5~12

Resolution: 0.1dB

### Trunk Voltage measurement:

Input range: 0-100VAC

Accuracy:  $\pm 1.5\text{V}$  Resolution 0.1V

### Others:

#### Channel Plan:

Number of Channels: 200 channels max.

Number of Learned Channel Plan: 10 max, including 2 user defined.

#### Audio Output: Built-in speaker

Dimensions: 210mm X 95mm X 50mm

Gross Weight: 1.4kg Net Weight: 0.60kg

Display: 320 X 240 Color LCD with backlight

#### Power Supply:

Battery: 7.2V 1.6AH Ni-MH battery,

Charger: AC 100V-240V/50Hz

Working Time: Average 4-7 hours (full charged battery).

Charging Time: 5-10 hrs.

#### Start with RA2009, optional:

RA2009 5-870MHz

RA2009Q 5-870MHz with power measurement

RA2009C 5-870MHz with power measurement and MER, BER

RA2009D 5-870MHz with power measurement and MER, BER, Constellations.