



# GAO-SLM-101 High-performance Digital Signal Level Meter

Product ID **GAO-SLM-101**



GAOTek High Performance Signal Level Meter measures data of the CATV system with high-resolution color display. The accuracy of the data is guaranteed by the RF signal processing system and MCU technology. Using spectrum and channel scanning functions, network faults can be easily diagnosed and analyzed using this single instrument. It conducts measurements of digital-analog-mixed networks and also performs Tilt, C/N, Voltage and V/A tests. The meter also conducts MER and BER testing.

This digital meter accurately measures the average power of the DVB-C digital signal as well as the frequency power levels.

## APPLICATIONS

- Diagnosis and analysis of network faults
- Measurements of digital-analog mixed
- MER and BER Testing
- Tilt and C/N Tests
- Accurately measures the average power and frequency power levels of DVB-C digital signal
- V/A test and Voltage Test

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Within North America  
Anywhere Else

# GAO-SLM-101 High-performance Digital Signal Level Meter

## Product ID GAO-SLM-101

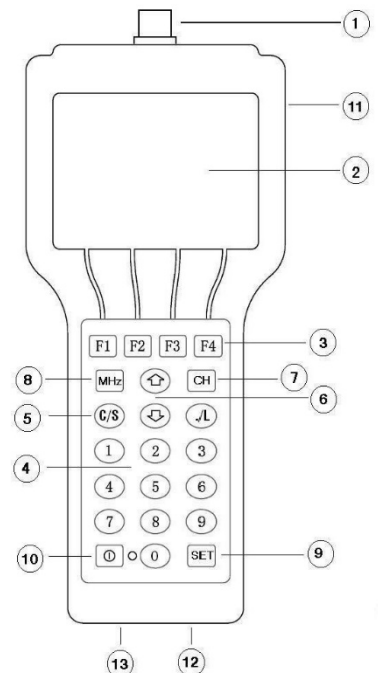
### KEY FEATURES

- ❑ Handheld design
- ❑ Channel spectrum scanning
- ❑ Spectrum analysis
- ❑ Limit test
- ❑ PC Toolbox Software (optional)
- ❑ USB and RS-232 interfaces
- ❑ Analog, Digital, FM and Dual channel measurement
- ❑ QAM 32, QAM 64, QAM 128, QAM 256(optional)/ITU-TJ.83 Annex A/B/C
- ❑ Automatic channel power, MER, BER tests
- ❑ Constellation diagram

### PRODUCT DESCRIPTION

#### Device & Key Overview

1. Radio Frequency Input Terminal
2. LCD (liquid crystal display) Screen
3. Function Keys
4. Number Keys
5. Multi-function Key
6. Up and Down Keys
7. Channel Key
8. Frequency Key
9. Setup Key
10. Power Key
11. Speaker
12. Charging Socket
13. RS232 Port



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### PRODUCT DESCRIPTION

Multi-function digital or analog signal analysis includes all pertinent channel and system-wide information. Large, easy-to-read display provides quick glance capability in dimly lit environments. High accuracy for all individual channel and system parameters including: spectrum, scan, tilt, carrier-to-noise, carrier level and line voltage measurements. Tilt measurement for simplified system balancing MER, BER, Test constellation graphic display for accurate digital signal analysis. Programmable power shut-off extends time between charges. High impact plastic case and leatherette-vinyl case protect unit during field use.



### Measurement and Operation

#### Start up

Press the Power Key. This will cause the instrument to generate a short buzzing sound and display its name and serial number.

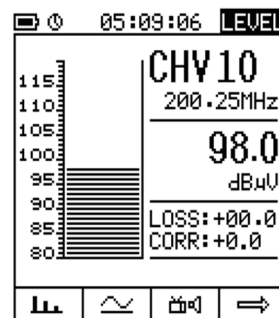
#### Channel Level Measurement

Single channel level measurement mode is displayed in Fig.

The 4 buttons at the bottom of the screen correspond to the Function Keys F1, F2, F3 and F4 respectively.

F1: Tilt Measurement F2: Frequency

F3: Video/Audio Carrier Level F4: Menu



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### Carrier Noise Ratio Measurement

In Level measurement mode Press F4 twice then F3 to enter slope-ratio measurement mode, refer to Fig.

#### Remarks:

1. This function is valid only when the signal input level is higher than 70 dB.
2. The signal-noise ratio is measured online, thus the measured result is used only as reference.



### System Settings

Press the SET Key to enter the System Settings menu as shown in Fig.2-11.

The four icons at the bottom of the screen have the corresponding Function Keys

F1: Up

F2: Down

F3: Enter

F4: Return

Press F1 or F2 to select the option desired and then press F3. Press F4 to exit System Settings.

### Channel plan

Select the Channel Plan option from the System Settings menu. Press F1 or F2 to select the desired channel and press F3 to confirm. Press F4 to return to the System Settings menu.

### Level unit

Select the Level Unit function from the System Settings menu. Press F1 or F2 to select the desired measurement unit, and then press F3 to confirm. Press F4 to return to the System Settings menu.

### Shutdown time

Select the Shutdown Time function in the System Settings menu. Press F1 or F2 to select the desired shutdown time, and then press F3 to confirm. Press F4 to return to System Settings menu.

There are four options for shutdown time: 5 Minutes, 10 Minutes, Always On.

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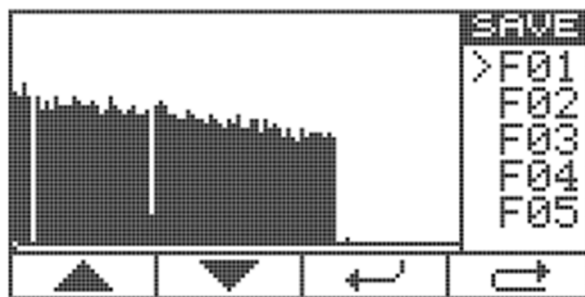
### Correct DB for Calibrating:

Over time measurement deviations may occur. The Correct DB function enables the user to adjust this measurement deviation using a standard instrument or standard signal source.

The center of the screen will display the signal level. At the bottom of the screen indicates the current modification level and operation status., + and - represent plus or minus of signal level modification. The box at front shows whether the current modification level has been saved. Press up or down button to change the channel or directly key in figure and press F3 button to change the channel. Press F1 and F2 button to adjust modification level.

### Storage of Signal Level Values

Press the SCAN key to enter the panoramic scanning status then Press the C\S key to display the picture as shown in Fig. The F1 and F2 keys are used to highlight the file number. F3 selects the highlighted selection. Scan results can be saved in the files, and up to 5 files can be stored in this meter.



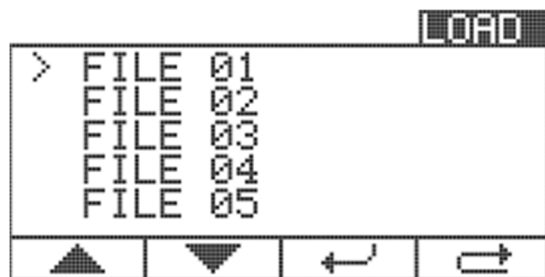
### Recalling Signal Level Files

Press the C\S function key in panoramic scanning status mode to display the file menu as shown in Fig. Press F1 or F2 to highlight the desired file and press F3 to select it.

### Power Supply for the Meter

The instrument is equipped with the automatic electricity-saving device, when there are no keyboard operations within the default 5 minutes shut down time the instrument automatically turns of.

Press the voltage measurement key to show the battery voltage.



When the meter needs to be charged it will generate an alarm. Only use the special purpose charger to charge the instrument. It takes approximately 8 hours to charge the batteries

# GAO-SLM-101 High-performance Digital Signal Level Meter

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### Technical Data

#### Channel/Frequency Index

Frequency scope: 48 MHz to 870 MHz

Frequency resolving power: 50 KHz

Measurement band width: >150KHz

#### Level measurement

Measurement scope: 30 dBuV to 120 dBuV

Measurement precision:  $\pm 1.5$  dB

Resolving power: 0.1 dB

Detection method: Peak value detection

Input impedance: 75  $\Omega$

#### Voltage measurement

Input scope: 0 to 80 V (AC/DC)

Measurement precision:  $\pm 2$ V

Resolving power: 1V

Note: the above-mentioned technical indexes are at a temperature of 25 C

#### Physical Characteristics

External Dimensions: 225 x 82 x 130 (mm)

Weight: <1Kg

Operating Temperature: -10 C to 45 C

Monitor: LCD (Liquid Crystal Display) with 128 x 64 figure lattice.

Sound: built-in speaker

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### Power source

Direct current supply: DC 7.2 V rechargeable battery

Alternative current supply: AC 220V/50Hz  $\pm 10\%$

Battery work time: continuous work  $> 8$  hours

Charging time:  $> 8$  hours (switch off)

### Included Items

Special use charging power source: Charger one piece

Radio frequency input change connector: Q9/F one piece

Instrument bag: one piece

## TECHNICAL SPECIFICATIONS

Frequency	5 MHz to 870 MHz
Signal Level Measurement Range	30 dB $\mu$ V to 120 dB $\mu$ V
Level Precision	$\pm 1.5$ dB
Spectrum Analysis Span	6.25 MHz, 12.5 MHz, 25 MHz, 62.5 MHz
Bandwidth	0.28 MHz to 9.99 MHz
Power Level Range	30 dBuV to 110 dBuV

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Accuracy	±1.5 dB
DC Supply	7.2 V rechargeable battery
AC Supply	AC110 V to 240 V at 50 Hz/60 Hz
Working Time	6 h

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