

DIGITAL STORAGE OSCILLOSCOPE/MULTIMETER POWERFUL 100 MHZ BANDWIDTH

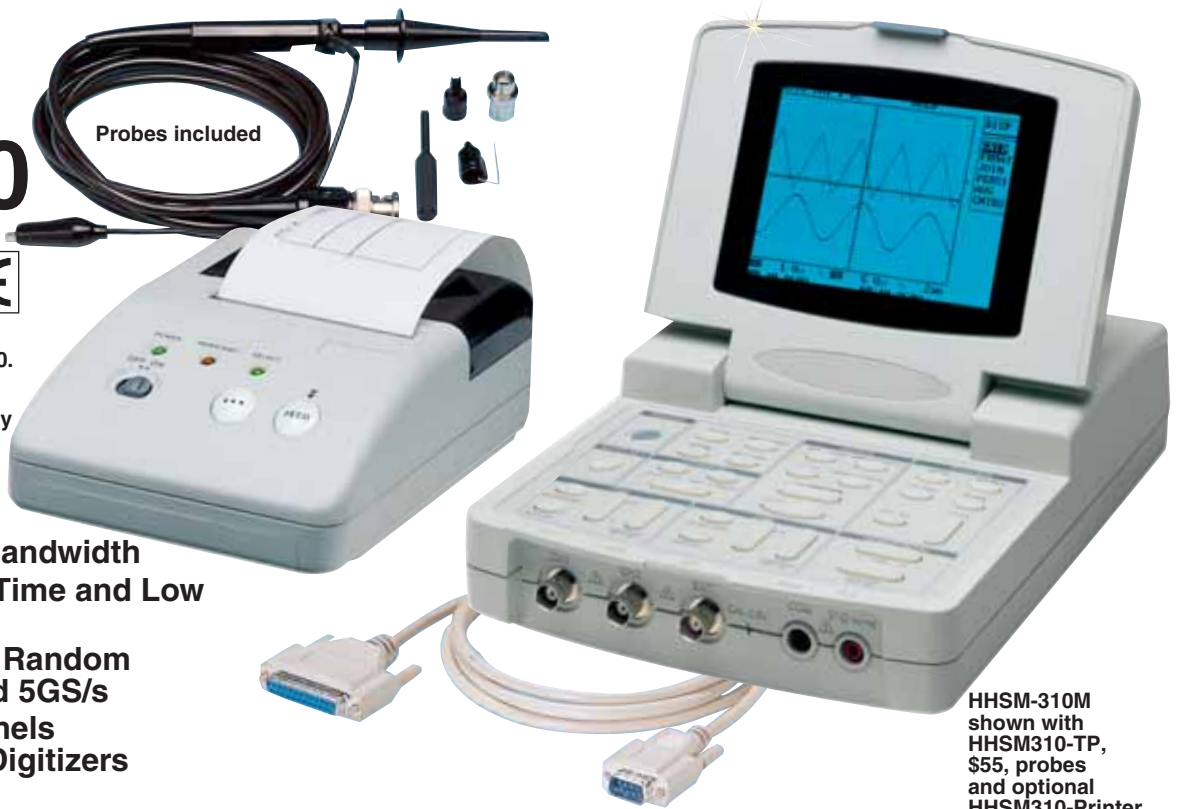
HHSM-310M
\$1560

Probes included



HHSM310-Printer
sold separately, \$800.

Cable sold separately
as part of
HHSM-310-SW
software, \$79.



HHSM-310M
shown with
HHSM310-TP,
\$55, probes
and optional
HHSM310-Printer,
\$800.

- ✓ 100 MHz Bandwidth
- ✓ Fast Rise Time and Low Overshoot
- ✓ Repetitive Random Interleaved 5GS/s
- ✓ Two Channels and Dual Digitizers
- ✓ Low Drift and Internal Noise
- ✓ Excellent Internal Noise Reduction
- ✓ External Trigger
- ✓ Built-In 33/4 (4000 counts) Digital Multimeter with Auto or Manual Range
- ✓ Roll Mode
- ✓ Pre-trigger Up to 10 Div
- ✓ Extra Bright Backlit LCD Display
- ✓ Independently Floating Isolated Scope and DMM for Safety
- ✓ Automatic Optimized Panel Setting and Tracking According to Input Signal
- ✓ Automatic Measurements
- ✓ Arithmetic Function
- ✓ RS232C Programmability/Communications
- ✓ Rechargeable Ni-Cd Battery and External AC Adaptor

- ✓ Direct Hardcopy Through RS232C
- ✓ Hands-free Design and Optional Deluxe Soft Carrying Case
- ✓ Hands-Free Automatic Test

The HHSM-310M has measurement capabilities beyond conventional portable instrumentation. Powerful 100 MHz, 2-channel bandwidth, 4000 count digital multimeter and its unique folding design are ideal for design and service applications. RS232C programmability (optional HHSM310-SW) combines high performance and excellent value.

HHSM-310M comes complete with built-in rechargeable battery, AC adaptor, test leads and 2 oscilloscope probe kits.

Specifications

Vertical Axis

Resolution: 8 bits
Sensitivity: 1mV/div ~ 5V/div
(1-2-5 sequence, 12 steps)

Accuracy:

3% (5% for 1mV, 2mV)

Bandwidth: DC-100MHz (-3dB)

Low Frequency Limit in AC

Couple: 10 Hz

Input Channel: CH1, CH2

Input Impedance:

1MΩ/approx. 25pF

Mode: CH1, CH2 turned on or off independently

Max. Safe Input Volts:

42Vpk (DC + AC peak at 1 KHz)

Horizontal Axis

Max. Sample Rate: Real time

25 MS/s (simultaneous on

2 channels); Repetitive 5GS/s

(simultaneous on 2 channels)

Acquisition Memory:

2 K words/CH

Sweep Time

Equivalent Sample:

5ns/div~2μs/div

Real Time Sample:

5ns/div~0.5s/div

Roll Mode: 1s/div~5s/div

Timebase Error: 1%

Pre-Trigger: Max. 10 div

Trigger

Source: CH1, CH2, EXT

Mode: Auto, Norm, TV-V, TV-H

Couple: DC, AC, HFrej, LFrej

Slope: + or -

Level: Manual setting
or automatic 50% setting

Sensitivity

Trigger	Frequency	Sensitivity	
		5mV-5V/div	1m,2mV/div
CH1	DC-10 MHz	0.5 div	2.5 mVp-p
CH2	10-100 MHz	1.5 div	7.5 mVp-p
EXT	DC-100 MHz	0.1 Vp-p	

TV Trigger: Sync section:

1.0 div or more, negative

AC Cut-off Freq.:

Approx. 10Hz (-3dB)

HF/LF Cut-off Freq.:

Approx. 50kHz (-3dB)

Auto Lower Freq.: Approx. 30Hz

Menu

Display: 13 cm (5") STN LCD (CCFL backlight), 320 x 240 pixel 10div (H) x 8div (V); 25 x 25 dots/div(V), grid (full, quad, board) interpolation (sine, linear) dot join on/off, persistence, X-Y horizontal mag/alt mag

Save/Recall:

Average (exponential 2-256); save/recall max. 10 waveforms and set-up clear waveform set-up

Math

Parameter: Amplitude (p-p, rms, average), frequency, period, pulse width (positive, negative) duty cycle

Arithmetic:

Addition, subtraction, inversion

Utility: Probe (X1, X10) LCD

contrast dec/inc, RS-232C

Cursor: ΔV, ΔT, 1/ΔT reference, track

Auto Set-Up & Tracking:

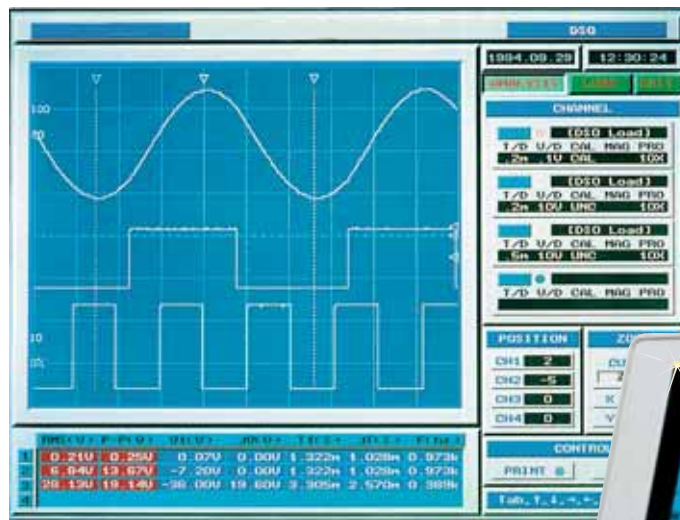
The front panel settings are automatically performed so that the optimum waveform is displayed for an input signal.

Freq: 20 Hz to 20 MHz, duty: 20~80%; amplitude: 10 mV~50 V (20 mV or more for 20 to 100 Hz)

Hold/Run: Hold mode is used to stop the updating of the waveform, run mode to update repeatedly

Hardcopy: Hardcopy through RS-232C interface

Resume: The setup data before power off and all the displayed information is retained. At power on these data are displayed and used as setup data



HHSM310 shown with screen shot from HHSM310-SW software kit.

DMM

Digit: 3% (4000 counts)

Others: Diode test, continuity test, min, max, relative, hold

Calibration Out

Frequency: 1 kHz ± 20% Output

Voltage: 0.5V ± 30%

Power Supply

Exclusive AC adaptor; built-in battery; rated external input voltage: 12 V; power consumption for external power input: 1A (typ)

Power Consumption: 12W (typ)

Built-in Battery: Ni-Cd battery; automatically rechargeable (voltage drop is automatically detected)

Operation: 80 min. (typ)

Recharge Time:

15 hours (typ) at power off; 30 hours (typ) at power on

AC/DC Voltage

Range	400mV	4V	40V	400V
Resolution	0.1mV	1mV	10mV	100mV

Resistance

Range	400	4k	40V	400K	4M
Resolution	0.1	1	10	100	1K



Ambient Condition:

10 to 35°C when automatic calibration is performed within the range of 25±5°C

Operation: 0 to 40°C, 45 to 80%

Storage: -10 to 60°C, 35 to 85%

Dimensions:

180 W x 67 H x 255 mm D
(7 x 3 x 10")

Weight: 2.0 kg (4 lb)

OMEGACARESM extended warranty program is available for models shown on this page. Ask your sales representative for full details when placing an order. OMEGACARESM covers parts, labor and equivalent loaners.

AVAILABLE FOR FAST DELIVERY!

To Order (Specify Model Number)

Model No.	Price	Description
HHSM-310M	\$1560	Digital storage oscilloscope/multimeter
Accessories		
HHSM310-SW	\$79	Software kit (cable, s/w, manual)
HHSM310-CC	55	Soft carrying case
HHSM310-TP	55	Spare set of oscilloscope probes (2)
HHSM310-Printer	800	RS-232 printer

HHSM-310M comes complete with built-in rechargeable battery, AC adaptor, test lead set, 2 oscilloscope probe kits and complete operator's manual.

Ordering Examples: HHSM-310M oscilloscope/multimeter, plus HHSM310-SW, software kit, plus HHSM310-Printer, RS-232 printer, \$1560 + 79 + 800 = \$2439.

OCW-3 OMEGACARESM extends standard 1-year warranty to a total of 4 (\$350), \$1560 + 350 = \$1910.



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