

Description

This multifunctional instrument includes a 16 bit digital storage oscilloscope, a spectrum analyzer with FFT, a volt meter, a logic analyzer, a data logger and a digital switchbox with 24 I/O lines. Its robust metal housing and low power consumption make it the ideal device for rough, mobile applications with notebook or laptop PCs. New expanded MEphistoLab software and extensive online help is user friendly. Use in the field, laboratory or in classroom applications.

Multiple Functions

Oscilloscope: 2 channels, 2 MS/s. 1 MS/s per channel, 16 bit, up to 500 kHz bandwidth, Range 200 mV to 20 V. Time, spectrum and XY mode.

Volt meter: 2 channels, input range ± 100 mV, ± 1 V, ± 10 V. 16 bit. Pointer display (software). DC, AC true RMS.

Spectrum Analyzer: 2 channels, FFT (Fast Fourier Transformation)

Logic Analyzer: 16 channels, up to 100 kHz, CMOS level.

Digital I/O: 24 TTL lines, each line programmable as input/output. Expandable with optional accessory boxes with relays or opto-isolation.

Data Logger: Analog and digital data: Up to 100 kHz.

Two Versions

The Model UM202 adds all these function capabilities to any laptop or desktop Windows PC when connected to its USB2 port. The included Windows software provides soft panels for all of seven functions and makes it easy to save the data for other programs. Easy VEE and LabVIEW interfaces. UM202 works without external power supply and requires only very low power, 0.85 W, from the USB port.

The Model UM203 adds stand-alone data logging capability to the UM202. The UM203 logs analog as well as digital data on a SD card. Record rates up to 100 kS/s depending upon the SD card type. A 256 MB SD memory card is included with each unit. The module uses the latest settings which were made when last connected to a PC. Power in the standalone mode comes from an included external power supply. Measurements and data logging are started by inserting the SD card.



MEphisto Scope Front View

Software Support

The UM202 and UM203 include the complete MEphistoLab software for Windows with the following functions:

Scope, spectrum analyzer, FFT, volt meter, analog data logger, logic analyzer, digital I/O, and digital data logger.

MEphistoLab software supports Windows 2K and XP. Screen images are shown on page 2. The MEphistoLab software has user directions and measurement help information integrated directly into the software. User instructions are in English and German.

The UM202 and UM203 also includes VEE drivers, LabVIEW VIs and examples plus programming examples for C++ applications. Windows USB driver provided for Windows 98SE/Me/2K and XP.



MEphisto Scope Rear View

7 Measurement USB2 Portable Instrument

- Oscilloscope, Voltmeter, Spectrum Analyzer, Logic Analyzer, Digital IO and Data Logger in one small box.
The ideal instrument for portable data acquisition needs.
- On-line or Off-line data monitoring with Model UM203.
Save data to PC or to SD flash card.
- Multiple trigger functions: Threshold, edge, slope (dV/dt), external, and manual.
You select the way to capture data
- Very low power requirements.
Run from laptop USB port or from an external power supply.
- USB 2. and 1.1 compatible.
Use with any USB port.
- Rugged metal case.
To better handle portable use and transportation shocks.
- Easy to use Windows soft panels and VEE drivers.
No programming required.



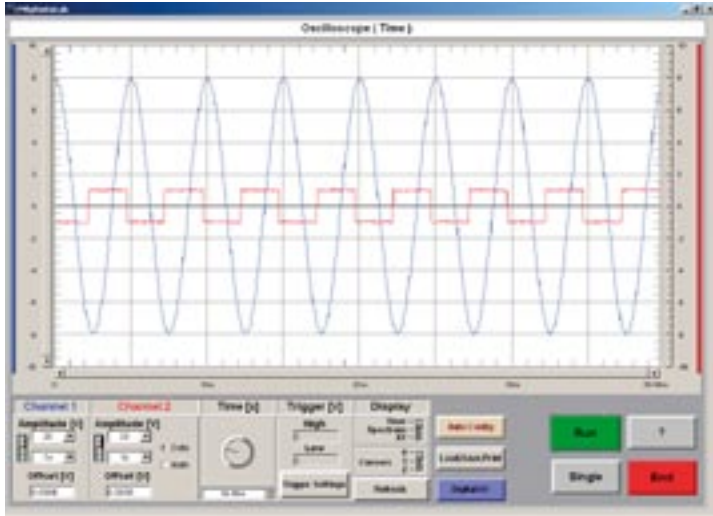
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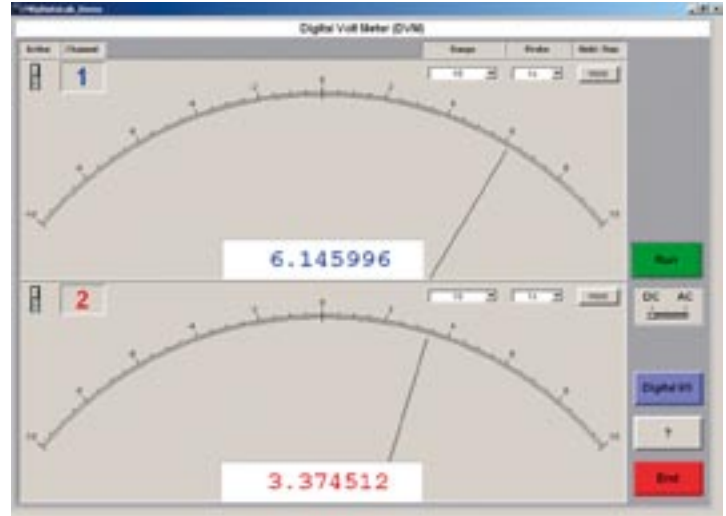
MEphistoScope Applications

The included MEphistoLab software for Windows provides the following instrument windows on your PC monitor: Oscilloscope, Voltmeter, Spectrum Analyzer FFT display, Logic Analyzer, Digital I/O, and Analog Data Logger. The Digital Data Logger window is not shown.

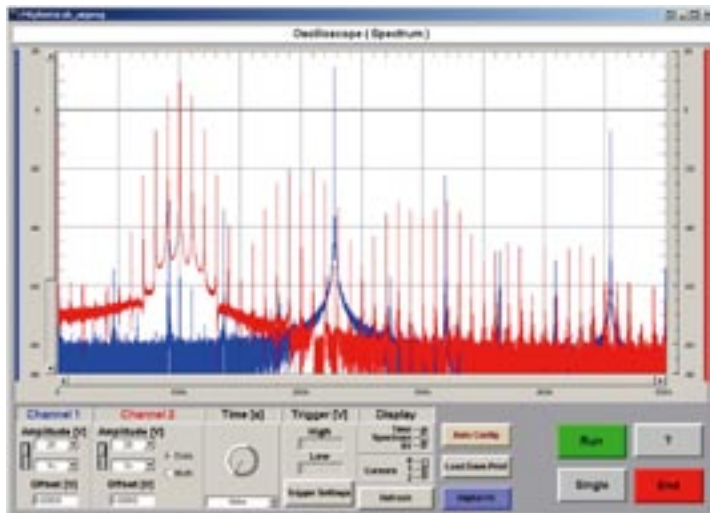
Voltmeter, Spectrum Analyzer FFT display, Logic Analyzer, Digital I/O, and Analog Data Logger. The Digital Data Logger window is not shown.



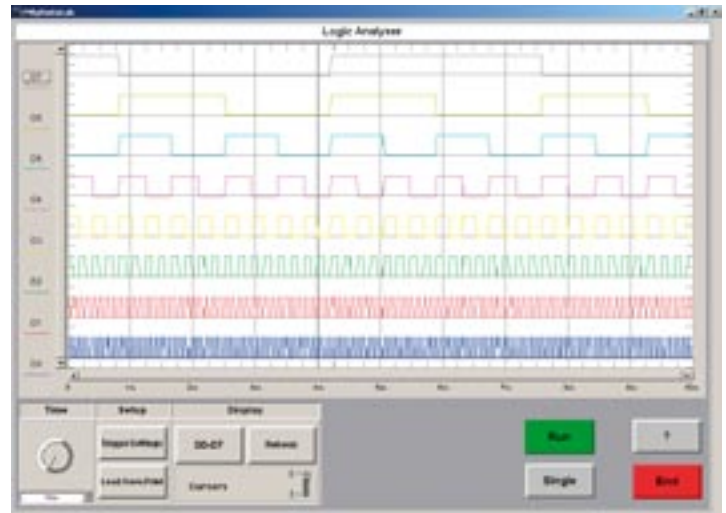
Oscilloscope Display



Voltmeter Display



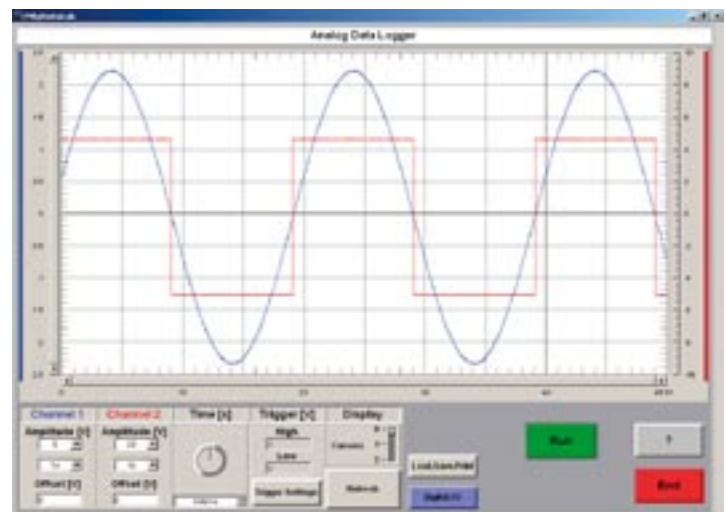
Spectrum Analyzer FFT Display



Logic Analyzer Display



Digital IO Display



Data Logger - Analog Data

MEphistoScope Applications

Why carry around multiple instruments when one small device will do so many things?



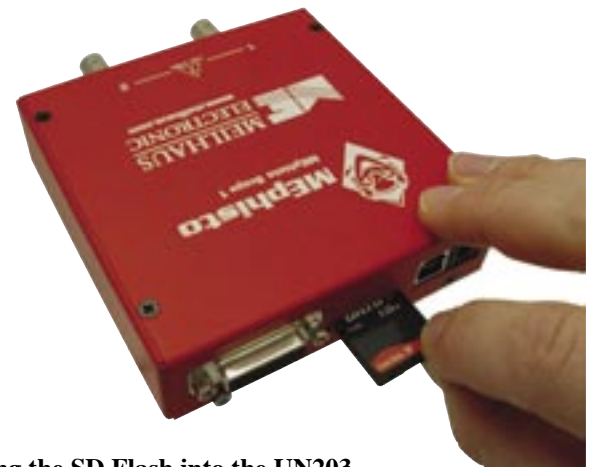
The MEphisto Scope includes 7 devices in one and is so compact, that you can hold it in one hand.

Try this with 7 conventional benchtop instruments!

Chosen DAQ & Test Product of the year in 2005 by the readers of the Germa magazine Elektronik!



ME-Probe LF Pair



Inserting the SD Flash into the UN203



UM202 or UM203 bundle in carrying case includes:

- UM202 or UM203 Module
- CD with software,
- 26-pin DA-sub mating connector
- USB cable
- pair of LF ME-Probes
- Transportation bag

UM203 bundle also includes the following additional items:

- Power adaptor
- 256 MB SD memory card
- SD card reader.

MephistoScope Specifications

Analog Inputs

Channels	2 (simultaneous),
Connectors	BNC
A/D resolution	16 bit, max. 500 kHz
Input range	± 100 mV to ± 10 V max.
Overload protection	± 300 VDC
Input impedance	850 k Ω (input cap. 14 pF)
Accuracy (25 °C)	
Voltage:	0.1% or 1 mV.
Time:	100 ppm
Memory	256 kS
Functions	Oscilloscope, volt meter, logger

Analog Inputs as oscilloscope/DSO

Sampling rate	2 MS/s (2 channels), 2x 1 MS/s (1 channel each, simultaneous sampling)
Input range	± 100 mV to ± 10 V
Analog bandwidth	(-3 dB) 2 MHz (no anti-aliasing filter)
Time base	1 μ s to 2.5 s
Trigger modes	Threshold, window, edge, dV/dt, external, manual, and delay

Analog Inputs as volt meter

(Pointer display in software)	
Sampling rate	2x 1 S/s
Input range	± 100 mV to ± 10 V
Analog bandwidth	(-3 dB) DC 40 kHz, true RMS 2.3 kHz
Analog inputs as analog data logger	
Sampling rate, analog bandwidth, input range, trigger modes, oscilloscope	
Time base	10 μ s to 2.5 s

Digital Inputs

Digital channels	
Number	24
Connector	26-pin hi-density DA female
Level	+5 V (CMOS).
Output current (25 °C)	
Sink	10 mA
Source	5 mA

Digital Inputs as digital inputs/outputs

Channels	24 discrete inputs/outputs. Each bit programmable as input or output. Outputs with read-back
Expansion	Relays or opto-isolation with ME-UB series (accessory)

Digital Inputs as logic analyzer

Channels	16: 8+8 simultaneous channels, 8 of them simultaneous trigger channels.
Voltages	5 V standard 1.8 V/3.3 V CMOS, 12 V/24 V with optional converter.
Sampling rate	100 kS/s
Overload protect.	+5.5 VDC/-0.5 VDC
Time base	10 μ s to 2.5 s
Trigger modes	Pattern (low/high, rising/falling edge, ignore) in any combination, simultaneous for 8 bit, manual, external, delay

Digital Inputs as digital data logger

Same as digital logic analyzer

General data

PC interface	USB 2.0 high-speed (USB 1.1 compatible) Requires a powered port.
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Compatible Driver Software

USB Driver	Windows 98SE/Me/2K and XP
MEphistoLab software for Windows 2000/XP	(includes VXE files, documentation and installer - Requires Agilent IO Libraries 14.0 or later.
Graphical Program Drivers	Agilent VEE VXE files LabVIEW VIs
Example Programs	C++

Physical

Power	+5 V at 170 mA from PC USB port (500 mA if digital IO is fully loaded)
Size	4.33 W in x 5.35 D in x 1.37 H in (110 W mm x 136 D mm x 35 H mm)
Weight	0.92 lb (.42 kg)
Material	Metal case
Connectors	Analog inputs-BNC female conn. Digital IO-26-pin DA female conn. USB-USB B type connector
Temperature	0 to + 70 °C (operation), -20 to + 85 °C (storage)
Relative humidity	20 to 55% (not condensing)

CE Certification

EMC Directive	89/336/EMC
Emission	EN 55022
Noise immunity	EN 50082-2C

Included Items

UM202 or UM203 Module in metal case
MEphistoLab software on CD-ROM
Mating 26-pin connector, USB cable

UM203 also gets AC Power Adapter and 256 MB SD card

ORDERING INFORMATION

	Part Number
MEphisto Scope UM202 16 bit, 7-in-1 multifunctional instrument for USB	ME-UM202
MEphisto Scope UM203 Module. UM202 plus power adapter and 256 MB SD Card	ME-UM203
Pair of modular probes x1/x10, Bandwidth 15/150 MHz, 47/15.5 pF, 1/10 M Ω . 600 V _p CAT I. BNC	ME-Probes-LF
UM202 complete bundel in a transportation bag	ME-UM202-T
UM203 complete bundel in a transportation bag	ME-UM203-T
Cable connects UM202 to 3 ME-UB boxes, 26-pin DA female to 3x 15-pin D-sub male	ME AK-DUB/UM202