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***Affordable
instrumentation
to suit
your needs!***

velleman[®]
INSTRUMENTS
A DIVISION OF VELLEMAN COMPONENTS

PCS500 DIGITAL STORAGE SCOPES FOR PC

MEASUREMENTS UP TO 50 MHz!

up to 1GHz sampling rate

OPTICALLY ISOLATED from computer

PCS100



The PCS500 and the PCS100 are digital storage oscilloscopes that uses a computer and its monitor to display waveforms. All standard oscilloscope functions are available in the supplied Windows programme. It works just like a normal oscilloscope with the difference that all operations can be performed with the mouse. Use the computer's parallel port for connection. The scope is completely optically isolated from the computer port. Any waveform displayed on the screen can be stored for later use in documents or for the comparison of waveforms.

- PCS500 :**
 Two separately digitised 50MHz channels with a sample rate up to 1GHz each.
PCS100 :
 One channel (12MHz) with a sample rate up to 32MHz.

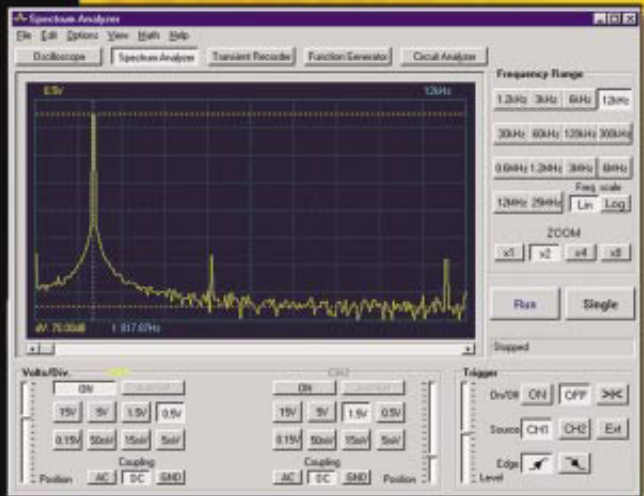
- ✓ Auto Setup function
- ✓ Input impedance : 1Mohm // 30pF
- ✓ Record and display of screens & data
- ✓ Max. input voltage : 100V (AC + DC)
- ✓ Input coupling : DC, AC and GND
- ✓ Supply voltage PCS500 : 9Vdc/1000mA
- ✓ Supply voltage PCS100 : 9Vdc/500mA
- ✓ Dimensions : 230 x 165 x 45mm
- ✓ Weight PCS500 : 490g
- ✓ Weight PCS100 : 400g
- ✓ Optional : bag (GIB) : PROBE60S insulated scope probe

- MINIMUM SYSTEM REQUIREMENTS :**
- IBM-compatible PC
 - Windows 95, 98, ME (Win2000 / XP or NT possible)
 - SVGA display card (min. 800x600 for Windows)
 - mouse
 - free printer port LTP1, LTP2 or LTP3
 - CD-ROM player

PCS500A / PCS100A : adapter incl.
 PCS500 / PCS100 : adapter not incl.

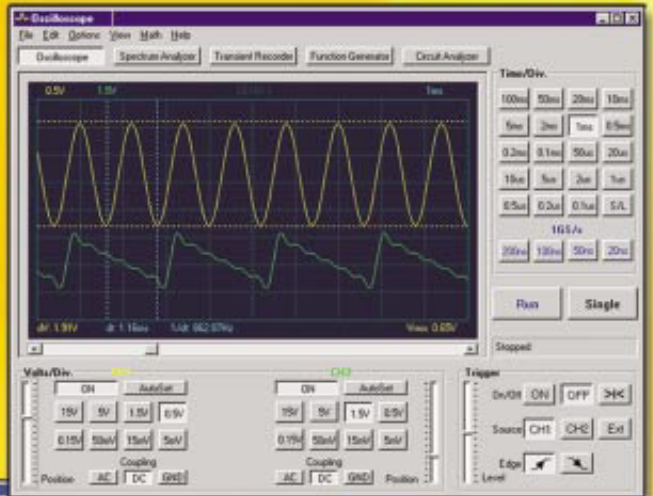
Check www.velleman.be for demos & updates

SPECTRUM ANALYSER



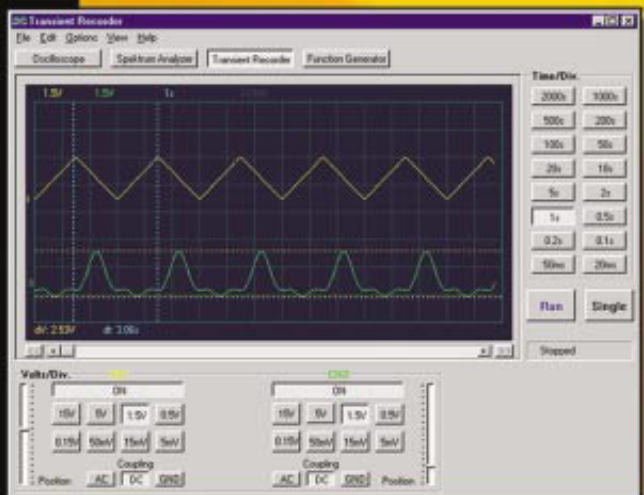
- frequency range PCS500 : till 25MHz / frequency range PCS100 : till 16MHz
- linear or logarithmic frequency scale
- operating principle : FFT (Fast Fourier Transform)
- FFT resolution : 2048 points
- zoom function
- markers for amplitude and frequency

OSCILLOSCOPE



- timebase PCS500 : 20ns to 100ms per division
- timebase PCS100 : 100ns to 100ms per division
- trigger source PCS500 : CH1, CH2, EXT or free run
- trigger edge : rising or falling
- trigger level : adjustable in steps of 1/2 division
- step interpolation : linear or smoothed
- markers for : voltage, frequency and time
- input sensitivity PCS500 : 5mV to 15V/ division
- input sensitivity PCS100 : 10mV to 3V/ division
- pre-trigger function (PCS500 only)
- true RMS read-out (only AC component)
- recording length : 4096 samples / channel
- sampling frequency PCS500 : real-time 50MHz
- sampling frequency PCS100 : real-time 32MHz
- sampling frequency PCS500 repetitive : 1 GHz (Equivalent Sampling Rate)

TRANSIENT RECORDER



- time scale : 20ms/div to 2000s/div
- max. recording time : 9.4hours/screen
- automatic data storage
- automatic recording for more than 1 year !
- max. number of samples : 100/s
- min. number of samples : 1 sample / 20s
- markers for time and amplitude
- zoom function
- recording and display of screens
- data format : ASCII



IBM, Microsoft, Windows and Windows NT are either registered trademarks or trademarks in the United States and/or other countries.

HPS10

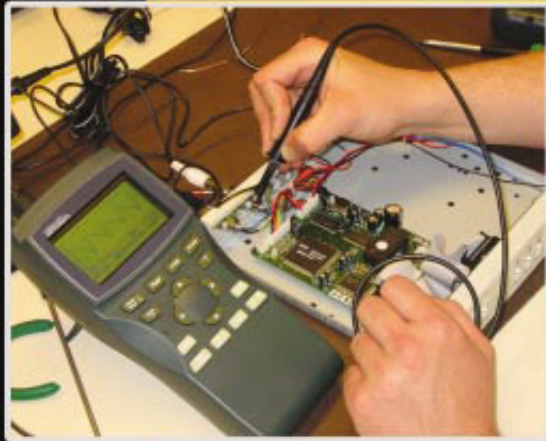
PERSONAL SCOPE

up to **10MHz**
sampling rate



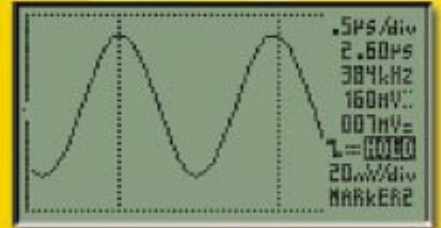
up to **2MHz**
analog
bandwidth

The Velleman PersonalScope is not a graphical multimeter but a complete portable oscilloscope at the size and the cost of a good multimeter. Its high sensitivity - down to 0,1mV - and extended scope functions make this unit ideal for hobby, service, automotive and development purposes. Because of its extreme value for money, the PersonalScope is well suited for educational use in schools and colleges. Suitable for measurements on audio equipment, mains voltage applications, digital signals, all kind of sensors, signal analysis in automotive applications, car stereo, etc... Its full auto setup function, makes measuring waveforms very easy.

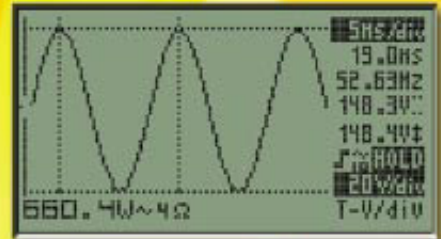


- ✓ 0,1mV sensitivity
 - ✓ 5mV to 20V/div in 12 steps
 - ✓ 200ns to 1hour/div time base in 32 steps
 - ✓ Full auto set up
 - ✓ Trigger mode : run, normal, once, roll, slope+/-
 - ✓ X and Y position signal shift
 - ✓ DVM readout with x10 option
 - ✓ Audio power calculation (rms and peak)
 - ✓ dBm, dBV, DC, rms ...measurements
 - ✓ Signal markers for Volt and Time
 - ✓ Frequency readout (through markers)
 - ✓ Recorder function (roll mode)
 - ✓ Signal storage (2 memories)
 - ✓ LCD 128x64 pixels
 - ✓ High contrast LCD
 - ✓ Up to 20h on alkaline batteries
 - ✓ Supply : 5 x AA Alkaline, Nicd or NiMH batteries (not incl.)
 - ✓ Includes battery charging circuit
- CONTAINS
- ✓ HPS10
 - ✓ user manual
 - ✓ insulated safety probe

5 DIFFERENT SCREEN MODES:



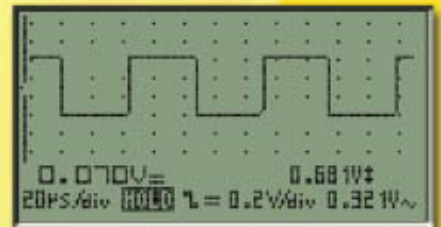
normal screen



normal screen with large dvm



wide screen



wide screen with dvm



wide screen with large dvm



BAGHPS

GIB

OPTION

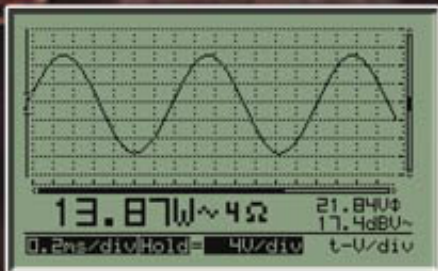
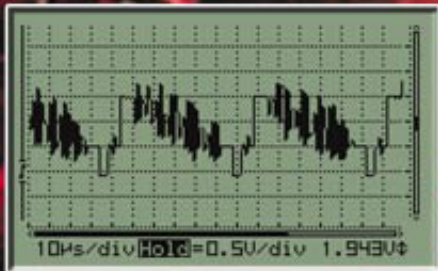
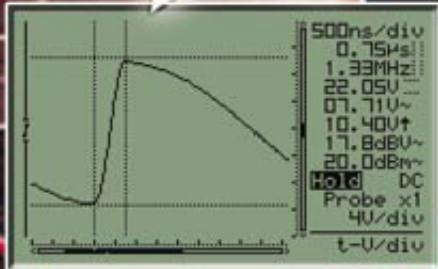
- ✓ mains adaptor [PS905] [PS905USA] for USA
- ✓ soft carry case [GIB]
- ✓ practical holster [BAGHPS]
- ✓ hardcase [CASEHPS]

HPS40

PERSONAL SCOPE

up to 40MHz sampling rate

Our goal with the HPS40 was to develop a user-friendly, feature-packed and genuinely "hand-held" oscilloscope. A number of characteristics were on our wish list: low noise, high sensitivity, modest weight, a backlit LCD and a choice between regular batteries or rechargeable ones. Furthermore, the scope also offers a selection of 5 different screen layouts. Both novices and professional users will admire the fast and fully automatic setup function, allowing them to perform measurements without physically touching the unit! Floating measurements are completely safe thanks to the battery-powered operation and the (included) fully insulated measuring probe. These features make the HPS40 indispensable to the professional user, service centres and even to the hobbyist.



LCD backlight

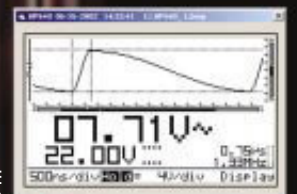
- 0,1 mV sensitivity
- 5mV to 20V/div in 12 steps
- 50ns to 1hour/div time base in 34 steps
- Full auto set up
- Adjustable trigger level
- X and Y position signal shift
- +27 DVM readout
- Audio power calculation (rms and peak) in 2, 4, 8, 16 & 32 ohm
- dBm, dBV, DC, rms ...measurements
- Signal markers for Volt and Time
- Frequency readout (through markers)
- Recorder function (roll mode)
- Signal storage (2 memories)
- High resolution LCD 192x112 pixels
- Data or bitmap download to PC

optically isolated RS232 output for PC

up to 12MHz analog bandwidth



EASY SET UP MENUS note the direct power calculation for audio loads



CONTAINS

- ✓ HPS40 unit
- ✓ Users manual
- ✓ Flexible carry protection holster
- ✓ Insulated, safety probe
- ✓ RS232 connection lead (to DB9)
- ✓ Handy hard protection carry case

OPTION

- ✓ mains adaptor PS905
- ✓ PS905USA for USA

SOFTWARE free download from our website

www.velleman.be

See the residual noise on 5 to 10 times higher priced competition

HPS40 impressive low noise, even on highest sensitivity

Screens and data can be transferred to a computer, through an optical isolated RS232 port. Even instant screen shots can be taken, while measuring! Two memories, signal markers, X+Y position shift and adjustable trigger level, make this scope complete. A roll/recorder function is also provided to make long time recordings, like power monitoring or battery charge/discharge curves.



Select your most suitable **VELLEMAN** scope



HANDHELD SCOPES



PC SCOPES



PCS100*

PCS500*

	HPS10	HPS40	PCS100*	PCS500*
Number of channels	1	1	1	2
Maximum sample rate	10MS/s	40MS/s	32MS/s	2 x 1GS/s
Maximum bandwidth	up to 2MHz	up to 12MHz	12MHz all ranges	50MHz all ranges
Real time sample rate (single shot event)	1MS/s	5MS/s	32MS/s	2 x 50MS/s
Number of screen layout modes	5	5	1	1
LCD screen / PC signal screen size (pixels)	128x64	192x112	apr. 520x295	apr. 520x295
LCD backlight		<input checked="" type="checkbox"/>	/	/
Memory length (bytes)	256	256	4096	2 x 4096
Sensitivity Vpp	0.1mV	0.1mV	0.3mV	0.1mV
Volt / div range and number of steps	5mV to 20V / 12steps	5mV to 20V / 12steps	10mV to 3V / 6 steps	5mV to 15V / 8 steps
Maximum visible voltage with X 10 probe	600VDC incl ACp	600VDC incl ACp	120VDC incl ACp	600VDC incl ACp
Fastest time / div	0.2µs	0.05µs	0.1µs	0.02µs
Slowest time / div in recorder or roll mode	3600s	3600s	2000s	2000s
Data or screen capture to computer		<input checked="" type="checkbox"/> RS232	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
PC software	/	Download only	PC-Lab2000 CD	PC-Lab2000 CD
Operation through computer (LPT port)			Optical isolated	Optical isolated
Screen memories	2	2	PC harddisk	PC harddisk
Stand alone operation (portable)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Standard oscilloscope probe compatible	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Recorder mode	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Spectrum analyser mode			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Bode plot option if used with PCG10 generator	/	/	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
X position and Y position shift	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
X 10 probe calculation option	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Adjustable trigger level		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
External trigger input				<input checked="" type="checkbox"/>
Pre trigger function				<input checked="" type="checkbox"/>
Zoom function for time/div			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Screen memory compare / recall	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
DVM with X10 probe option	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Auto set-up FULL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Auto set-up SEMI			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Dynamic screen (auto fit) for markers	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Signal markers (dt / dV / 1/dt)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Audio power calculation	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
dBm measurement	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
dBV measurement	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
AC only true rms measurement	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
AC + DC true rms measurement	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
DC measurement with zero reference set-up	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Mathematical functions CH1 +Ch2, Invert,,,				<input checked="" type="checkbox"/>
Auto power off option	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	/	/
Demo mode	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (software)	<input checked="" type="checkbox"/> (software)
Battery / rechargeable battery operation	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Low battery indication	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	/	/
Battery charge circuit	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	/	/
Holster included (BAGHPS)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	/	/
Case (GIB)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Oscilloscope probe included (PROBE60S)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Test lead included	/		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Blow moulded carrying case (CASEHPS)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	/	/

= Option = Yes / = not applicable

* Due to regular software updates, specifications or features can improve, check our website www.velleman.be

PCG10

0.1 MHz FUNCTION GENERATOR FOR PC

**optically isolated
from computer**

Frequency range from 0.01Hz to 1 MHz. Crystal-based stability. Low sine wave distortion. TTL-level synchronisation output. Stores up to 32K of waveform points. Standard waveforms: sine, square and triangle. Library of predefined waveforms included: noise, sweep,... Includes Windows™ '95/98/NT/2000 integrated software for the function generator and Velleman PC oscilloscopes. Extended bode plot option for use with the Velleman PC scopes. The user can create his own waveforms with the integrated signal wave editor. The PCG10 can be chained with Velleman PC oscilloscopes to the same PC printer port (LPT1, 2 or 3).

- ✓ Power supply : standard 12V DC adapter, 800mA (incl.)
- ✓ Direct digital wave synthesis (DDS), 32K wave table
- ✓ Remote control via RS232
- ✓ Frequency setting resolution : 0.01%
- ✓ Amplitude range : 100mVpp to 10Vpp @ 600ohm load
- ✓ Amplitude resolution : 0.4% of full scale
- ✓ Offset : from 0 to -5V or +5V max. (resolution 0.4% of full scale)
- ✓ Vertical resolution : 8 bits (0.4% of full scale)
- ✓ Maximum sample rate : 32MHz
- ✓ Typical sine wave distortion (THD) : < 0.08% (< 100KHz / 1V)
- ✓ Triangle wave linearity : 99% (0 to 100KHz)
- ✓ Output impedance : 50ohm
- ✓ Dimensions : 235 x 165 x 47mm



IN OPTION
✓ soft carry case [GIB]

PCG10A : adapter incl.
PCG10 : adapter not incl.

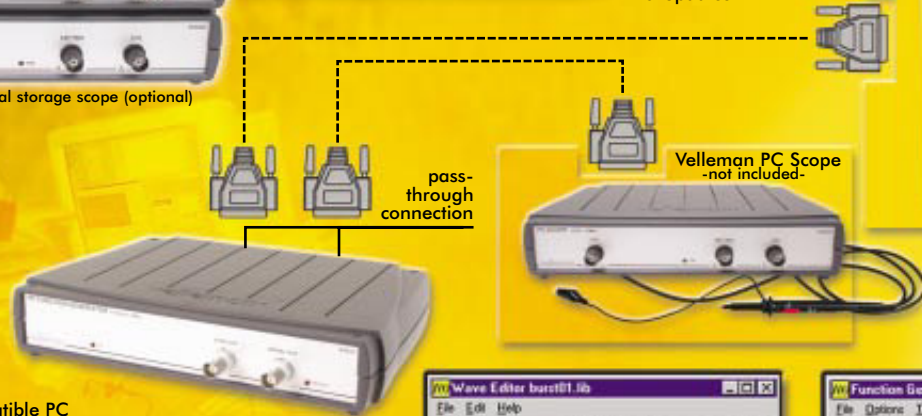
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PCS500 digital storage scope (optional)



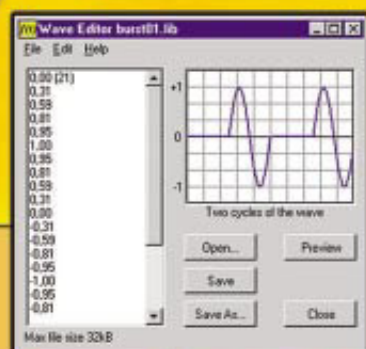
-not included-



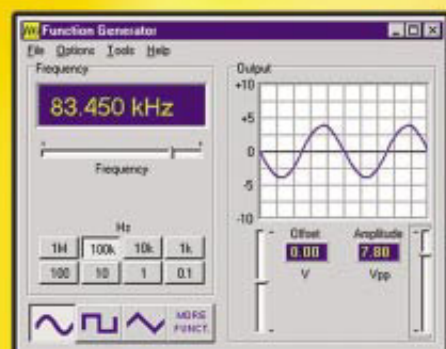
pass-through connection

Velleman PC Scope -not included-

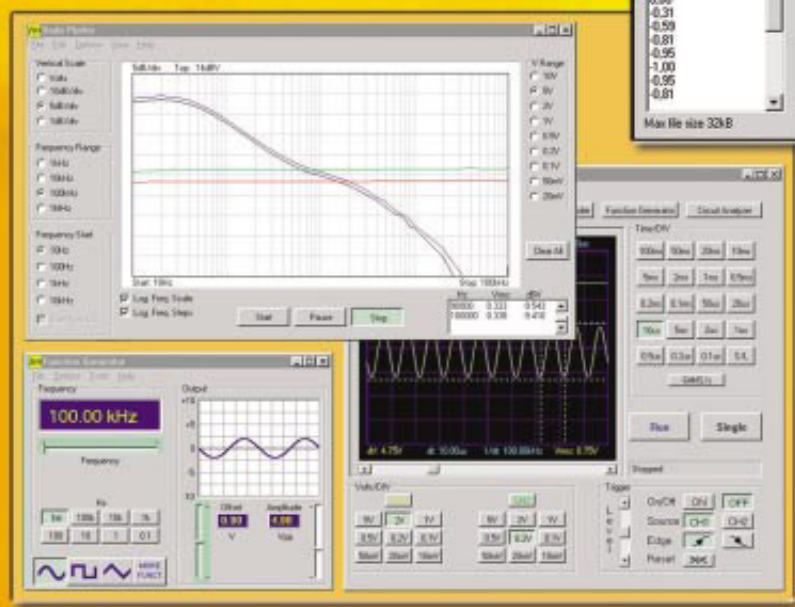
- MINIMUM SYSTEM REQUIREMENTS**
- IBM-compatible PC
 - Windows 95, 98, ME (Win2000 / XP or NT possible)
 - SVGA display card (min. 800x600 for Windows)
 - mouse
 - free printer port LTP1, LTP2 or LTP3
 - CD-ROM player



WAVE EDITING POSSIBILITY



FUNCTION GENERATOR SCREEN WITH SIGNAL PREVIEW



EXTENDED BODE PLOT POSSIBILITY FOR USE WITH THE VELLEMAN PC SCOPES (PCS100 OR PCS500)

Your Velleman distributor

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