



The Dataman 524 is a dual channel oscilloscope with 120 MHz bandwidth and USB 2.0 connectivity. The 524 advanced PC based oscilloscope is built to meet the demands of development labs and field engineers.

Dataman 524 is a small, fast and powerful oscilloscope offering real time sampling rates of up to 100 megasamples per second and equivalent sampling rates of up to 10 gigasamples per second. Comprehensive software combined with high sampling rates and large onboard sample buffer give the 524 features normally found on more expensive equipment.

Hardware

General

- USB 2.0/1.1 compatible interface
- Dual channel with external trigger
- 120 MHz bandwidth
- Deflection factor: 10 mV/div to 5 V/div in 1-2-5 sequence
- Maximum real time sampling rate: 100 MS/s
- Maximum equivalent sampling rate: 10 GS/s
- Internal sample buffer: 8,000 per channel
- Powered from USB (no batteries or additional power supply required)

Vertical Deflection System

- No. of horizontal divisions: 8
- No. of samples per division: 32
- Deflection factor range: 10mV/div to 5V/div in 1-2-5 sequence
- Accuracy: +- 2% of current value + 1 pixel
- Resolution: 8 bits (0,39%)
- Frequency response (-3dB): DC: 0-120MHz, AC: 1.2Hz-120MHz
- Step response rise time: max. 2.9 ns

- USB powered - no additional power supply is required
- Dual channel with external trigger
- 120 MHz bandwidth
- 100 MS/s real time sampling rate
- 10 GS/s equivalent sampling rate
- 8,000 sample buffer per channel
- Hi-speed USB 2.0 connectivity allowing fast and easy connection to PC's and laptops
- Comprehensive 2 years parts and labour warranty
- Free life-time software updates

- Channel isolation: min. -60 dB
- Resistance: 1 MOhm +5 %, -2 %
- Input resistance inaccuracy adjustment: Digital for absolute accuracy +- 2% of current voltage + 1 pixel
- Capacitance: 30 pF +- 2pF
- Zero setting accuracy: +- 2% of the screen
- Maximum input voltage: +- 200V at 100kHz or less

Triggering

- System type: Dual level
- Trigger source for primary level: selectable Channel A, Channel B or external trigger input
- Trigger source for secondary level: selectable Channel A, Channel B or external trigger input
- Threshold setting: Channel A and Channel B on the whole display range. External fixed on about 1.5V
- Slope selection: Leading or trailing edge independently on each source
- Minimum trigger pulse period: 5 ns
- Minimum trigger pulse length: 2.5 ns
- Maximum voltage on external trigger input: -10V to +13V at 20kHz or less
- Adjustments: Digital filter with ability of setting the valid pulse length up to 131072*Ts for each level and counter of valid triggering events settable from 1 to 32768 for each level. HOLD-OFF settable up to 131072*Ts with selectable AUTO mode, to sample proper amount of data before trigger. (Ts – actual real time sampling period)

Data Acquisition System

- No. of horizontal divisions: 10
- No. of samples per division: 50
- Mode of operation: Sampling before and after trigger with continual selection of the trigger position
- Record length: 8192 samples per channel
- Time base range in 1:1 mode: 5 ns/d to 100 ms/d in 1-2-5 sequence
- Time base range using different ZOOM modes: 500 ps/d to 1.6 s/d
- Time base accuracy: 0.01 % to 100ns/d, 0.5 % for 50ns/d to 5 ns/d
- Real time sampling frequency: 1kHz to 100MHz
- Equivalent sampling frequency: 1kHz to 10GHz
- Display range with respect to trigger event: 8190 samples before and 63000 samples after trig. event in length of 8192 samples

Probe Compensation Generator

- Output connector: BNC, together with External trigger input
- Output impedance: 1 kOhm to parallel with 10nF and approx. 50 Ohm serial
- Output waveform: Pulse with 1:1 duty cycle
- Frequency: 1465Hz
- Output voltage (no load): 3.3V +- 5%

Software

User Interface

The included software allows complete control of the device from a PC and contains standard features expected in modern digital storage oscilloscopes (DSO) such as hold acquisition process, hold-off, zoom. In addition the software offers saving/loading of waveforms for future use, export to clipboard, printing of results and scope settings.

- All basic oscilloscope controls are easily accessible directly from the main window making measurement similar to that of a stand-alone device.
- Most parameters can be set by dragging items on the main screen such as vertical shift by dragging waveform or after trigger amount by dragging trigger mark. Other controls such as timebase up/down can be controlled by configurable hotkey. You can use two horizontal and two vertical cursors to perform any measurements on the waveform.
- The software can automatically calculate 19 waveform parameters and the fourier transformation can be used for analysis of the frequency domain.
- Software automatically determines the waveform period and transforms just one period of the waveform. Alternatively, if manual mode is activated, you can select the data to be transformed. You can use inverse fourier transformation to simulate the waveform transition through a simple filter. The XY mode (Lissajous figures) is also included.
- The software offers several export options:
 - Internal Dataman format which can be opened in the software for comparison with measured data
 - ASCII file with options to configure format
 - Image with options to customise appearance and format
- Measured data and protocol can be printed with options available to customise the layout.

In order to keep the device functions up to date, the latest version of the software is always available on our website free of charge and runs in demonstration mode if no device is connected to the PC.

Two optional software packages are available: 520 Development kit, which allows you to write your own application using the device and the 520 Roll mode, which turns the oscilloscope into a data logger.

Package Includes

- **Dataman 524 120MHz Oscilloscope**
Dimensions: 182 x 111 x 39mm (7.1 x 4.3 x 1.5inches)
Weight: 0.5Kg (1.1lbs)
Operating voltage: USB1.1: 350mA / USB2.0: 450mA
Power consumption: max. 2.25W active
- Moulded USB Cable
- User manual
- Software

Optional Accessories

- Probes
- Data logging software
- Development kits

Warranty and Support

- 30 day money back guarantee* - If you don't like it, send it back
- Two year guarantee - Two years parts and labour warranty, on the 524 120MHz oscilloscope
- Life-Time Technical Support - 524 technical support is available free via our website and telephone helpdesk for life
- Life-Time Software Updates - 524 software updates are available free via our website for life

*Applies to orders from UK/US offices only



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