



The Dataman 531 is a single channel arbitrary waveform generator with USB 2.0 connectivity. The 531 is built to meet the demands of development labs and field engineers for advanced PC based arbitrary waveform generation.

Dataman 531 is a small, fast and powerful arbitrary waveform generator offering multiple operating modes and sampling rates of up to 100 megasamples per second. Comprehensive software combined with high stability and fast sampling rates give the 531 features normally found on more expensive equipment.

Hardware

General

- USB 2.0/1.1 compatible interface
- Fast low level output
- High level output (up to 50 Vpp)
- 12 bit DA converter
- Maximum sampling rate: 100 MS/s
- Powered from USB (*external power supply is required for high level operation only)

Outputs

- Number of channels: 1
- Number of outputs: 2, low and high level (L and H)
- Max. output voltage, output L, no load:
 - 4.5 V to 4.5 V (9 Vpp) attenuator set to 0 dB
 - 450 mV to 450 mV (900 mVpp) attenuator set to -20 dB
- Max. output voltage, output H, no load: -25 V to 25 V (50 Vpp)
- Recommended range of output voltage setting, output L, no load:
 - 800 mVpp to 9 Vpp attenuator set to 0 dB
 - 80 mVpp to 900 mVpp attenuator set to -20 dB
- Recommended range of output voltage setting, output H, no load: 4.6 Vpp to 50 Vpp
- Output voltage setting step, output L, no load:

- USB powered - no additional power supply is required*
- Fast low level output
- High level output (up to 50 Vpp)
- 12 bit DA converter
- 100 MS/s maximum sampling rate
- Multiple Operating Modes
- 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

less than 2.5 mV (attenuator set to 0 dB)
less than 250 uV (attenuator set to -20 dB)

- Output voltage setting step, output H, no load: less than 13 mV
- Output voltage setting accuracy:
Output L: $\pm 2\%$ from the actual value in recommended range up to 10 MHz
Output H: $\pm 2.5\%$ from actual value in recommended range up to 100 kHz
 $\pm 5\%$ from 100 kHz to 200 kHz
- Output voltage shift range, output L, no load:
 ± 1.5 V attenuator set to 0 dB
 ± 150 mV attenuator set to -20 dB
- Output voltage shift range, output H, no load: ± 8 V
- Shift setting accuracy, output L: $\pm 1.5\%$ from whole range
- Shift setting accuracy, output H: $\pm 2\%$ from whole range
- Output resistance, output L: 50 Ohm
- Output resistance, output H: 600 Ohm
- Output resistance accuracy, output L:
 $\pm 1.5\%$ attenuator set to 0 dB
 $\pm 2\%$, -0.5% , attenuator set to -20 dB
- Output resistance accuracy, output H: $\pm 1.5\%$
- Filter: Settable to 20 MHz, 40 MHz or off
- Output pulse edge length, output L: less than 10 ns, filter off
- Output pulse edge length, output H: less than 2.5 us
- Short circuit protection: Unlimited

Waveform Generation

- Waveform memory length: 8192 samples in standard mode, maximum 16384 samples in arbitrary mode
- Frequency setting step: less than 0.003% from actual value
- Frequency accuracy: 0.01% from actual value
- Maximum output update rate: 100 000 000 samples/s
- Output waveform period length: 2 mHz to 50 MHz (the period consists of two points, when the output frequency is between 25 MHz to 50 MHz)
- Modes of operation: Periodic, single or triggered

Synchro

- Trigger input: 3.3 V CMOS compatible
- Trigger input threshold voltage: about 1.6 V
- Trigger input maximum input range: -10 V to +13 V
- Trigger output: 3.3 V CMOS compatible

Software

User Interface

The included software allows complete control of the device from a PC and contains standard features expected in modern arbitrary waveform generators (AWG).

- All basic controls are easily accessible directly from the main window making waveform generation similar to that of a stand-alone device.
- Most parameters can be set by dragging items on the main screen such as Vpp, Vrms and Vavg.
- Waveforms can be created/edited by integrated editors.

- The standard waveform creator allows you to create standard waveforms such as Sine, Saw, Triangle, Square or noise and alter their parameters.
- The math editor allows you to describe the waveform (whole or part) by the mathematic expression
- The freeform editor allows you to edit the shape of the waveform by drawing it on the screen.
- The data can be imported from third-party software through ASCII format. Import from the ASCII (with configurable format) is available for this purpose.

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.

Optional software is available: 530 Development kit allows you to write your own application using the device.

Package Includes

- **Dataman 531 Arbitrary Waveform Generator**
Dimensions: 182 x 111 x 39 mm (7.1 x 4.3 x 1.5 inches)
Weight: 0.5 Kg (1.1 lbs)
Operating voltage: 480 mA
Power consumption: max. 1.2 W active
- Switching Power Adapter
Operating voltage: 10-18 V DC / max. 0.5 A
Power consumption: max. 2.25 W active
- Moulded USB Cable
- User manual
- Software

Optional Accessories

- Patchcords
- BNC adapters
- 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 531 arbitrary waveform generator
- Life-Time Technical Support - 531 technical support is available free via our website and telephone helpdesk for life
- Life-Time Software Updates - 531 software updates are available free via our website for life

*Applies to orders from UK/US offices only



www.dataman.com

IN THE UK...

Dataman Programmers Ltd.
Unit 2 Newton Hall, Dorchester
Road, Maiden Newton, Dorset
DT2 0BD, UK
Tel (01300) 320719
Fax (01300) 321012

IN THE US...

Dataman Inc.
215 East Michigan Avenue
Orange City, Florida 32763 USA
Tel (386) 774-7785
Fax (386) 774-7796

Available from...