

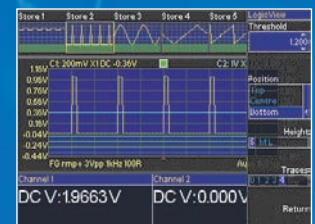
CircuitMaster 4000M

Precision Active Oscilloscope

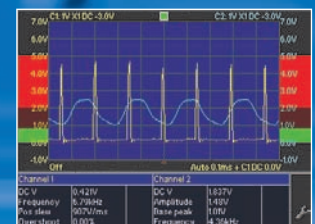


The **CircuitMaster 4000M** Precision Active Oscilloscope combines the power of a 100 MHz DSO, active signal generation and 0.1% accurate DC measurement to provide a wealth of circuit diagnostic.

- 100MHz digital storage oscilloscope
- 0.1% 24 bit digital DC voltmeter
- Active mode - DC and AC function generator
- Active output for node impedance analysis
- Multi-range 2 channel VI tester with pulse outputs
- 2 analogue channels + external trigger
- Multiway 40 channel signal multiplexer
- Automatic and cursor waveform measurements
- WaveStack signal acquisition memory
- Stored and live tolerance mask waveform comparison
- LogicView 4 channel variable threshold logic analyser
- USB interface for updates and waveform storage



Active Mode, WaveStack, LogicView, DVM



Logic thresholds showing mid level signal



VI test with comparison against stored curve

CircuitMaster 4000M Precision Active Oscilloscope

The CircuitMaster is a unique circuit test instrument, designed with two aims in mind:

- To simplify the safe probing of fine pitch PCBs
- To combine traditional and new test methods in one instrument

On fine pitch ICs and tiny components, probing component pins is difficult, and there is a constant risk of damage by shorting pins. With traditional instruments probing is “blind” while instrument controls are adjusted. The CircuitMaster uses full automatic ranging to eliminate adjustments during probing, so the operator can continuously view the pin. In addition the CircuitMaster combines several types of instrument, further reducing probing operations without reducing measured information.

- Multiplexed DSO, DVM, function generator, VI tester, FirmFlex tester
- Simultaneous DC voltage (0.1%) and AC waveform (100MHz) measurement
- DC and AC Function Generator to inject programmable signals.
- VI test for power off board diagnosis with flexible ranges for testing a wide range of circuits including configurable pulse outputs for checking gated devices (e.g. Triacs)
- Variable impedance active output for drive strength checking, allowing power-on detection of shorts, opens and damaged components
- Additional 40 channel MultiWay connector for automatically capturing multiple signals from a device or board without having to manually probe
- WaveStack for hands-free multiple waveform storage and review after probing
- LogicView adds 4 digital channels to 2 analogue channels for comprehensive mixed signal analysis
- USB interface for waveform saving and software updates
- Auto and cursor waveform analysis, including store and compare
- CircuitLink PC software for off line file storage and multiple save
- Comprehensive automatic measurements including voltage (e.g. amplitude, rms), time (e.g. frequency, rise time, slew rate), pulse (e.g. overshoot, duty cycle) calculations.

Technical Specifications

Supply voltage	230/240V AC or 110V AC (auto switch) 50/60Hz
Interfaces	USB, footswitch, BNC, MultiWay, 4mm
Display type	Colour LCD 320 x 240 pixel
DSO bandwidth	100MHz
DSO sample rate	50MS/s single shot, 250MS/s – 25GS/s in ERS mode
DSO resolution	10 bits maximum, 8 bits on 10mV/div and 20mV div ranges
Maximum input	+/-200V DC or peak AC, +/-25V in VI or FirmFlex mode, +/-12V LogicView and MultiWay inputs
AC accuracy	1% of full scale, 5% on 10mV and 20mV ranges
Channels	2 analogue, 4 digital, 40 way MultiWay, external trigger
Input impedance	1M // 50pF
Timebase	1ns/div to 2s/div in 1-2-5 sequence
Sensitivity	10mV/div to 10V/div in 1-2-5 sequence
Input coupling	DC, AC, ground
Trigger coupling	DC, AC, LF reject, HF reject from ch1, ch2, ext or FG (internal)
Trigger mode	Auto, normal, single shot
DVM resolution	24 bits (approx 0.1uV on 10mV/div, 162uV on 100V/div)
DVM accuracy	0.1% of range full scale +/-1LSB
Active output	-10V to +10V DC, 0.5Vpp to 50Vpp AC
Active frequency	10Hz to 100kHz in 1-2-5 sequence
Active waveforms	Sine, triangle, ramp, square, pulse
Active source resistance	100R to 1M in decade sequence
Pulse output	-10V to +10V in 0.1V steps
LogicView threshold	-4V to +4V in 0.1V steps

CircuitMaster 4000M includes the following items:

- Mains power lead UK and European
- 2x Oscilloscope Probes X10/X1
- MultiWay Cable Assembly which incorporates an integral LogicView IC pin clips
- 40 way 0.6" DIL test clip, 16 way 0.3" DIL test clip
- BNC to 4mm Adapter
- Red/ Black 4mm Probe Set
- USB cable
- Footswitch
- Operator's manual
- CD with PC CircuitLink software and drivers