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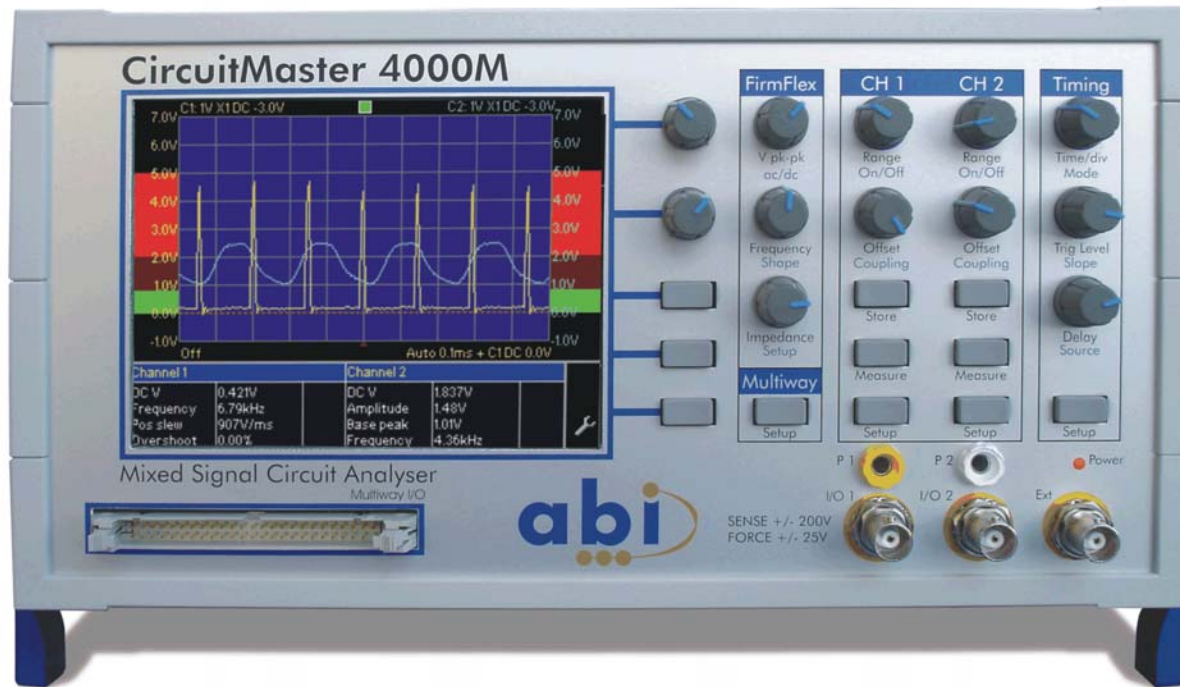
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presents



CIRCUITMASTER 4000M

Mixed Signal Circuit Analyser

Problem Statement

Today's technology now offers :

- Finer pitch ICs
- Higher pin count
- Smaller components
- Custom and more complex designs

Problem Statement

But with current test instruments :

- One instrument for each application
 - ☛ *Multimeter for DC, Oscilloscope for AC*
- Risk of damage during probing
 - ☛ *Probe and view / adjust instrument at the same time*
- Time wasting
 - ☛ *Pin counting, adjust instrument for each pin*
- Difficult to clip onto small ICs
 - ☛ *e.g.: TQFPs, with some pins inaccessible (e.g. BGA)*

CircuitMaster 4000M

What is it ?



The ABI CircuitMaster 4000M is :

- A complete test & measurement station
- Designed for analogue and digital signals
- Aimed at discrete components and complex circuitry
- Equipped with features for time and risk reduction

CircuitMaster 4000M

① Simple to use

➤ Instant ON

☛ *Switch ON and probe*

➤ Small footprint, stand alone unit

☛ *Fits on test bench, Easy to transport*

➤ USB link

☛ *Screenshot storage and upgrade via PC*

CircuitMaster 4000M

② One hand probing

- Footswitch and audio-visual indications
 - ☛ *Never take your eyes off the board*
- Pre-set circuit types
 - ☛ *Default settings to save time*
- Data storage
 - ☛ *Review and analyse data after measurement*

CircuitMaster 4000M

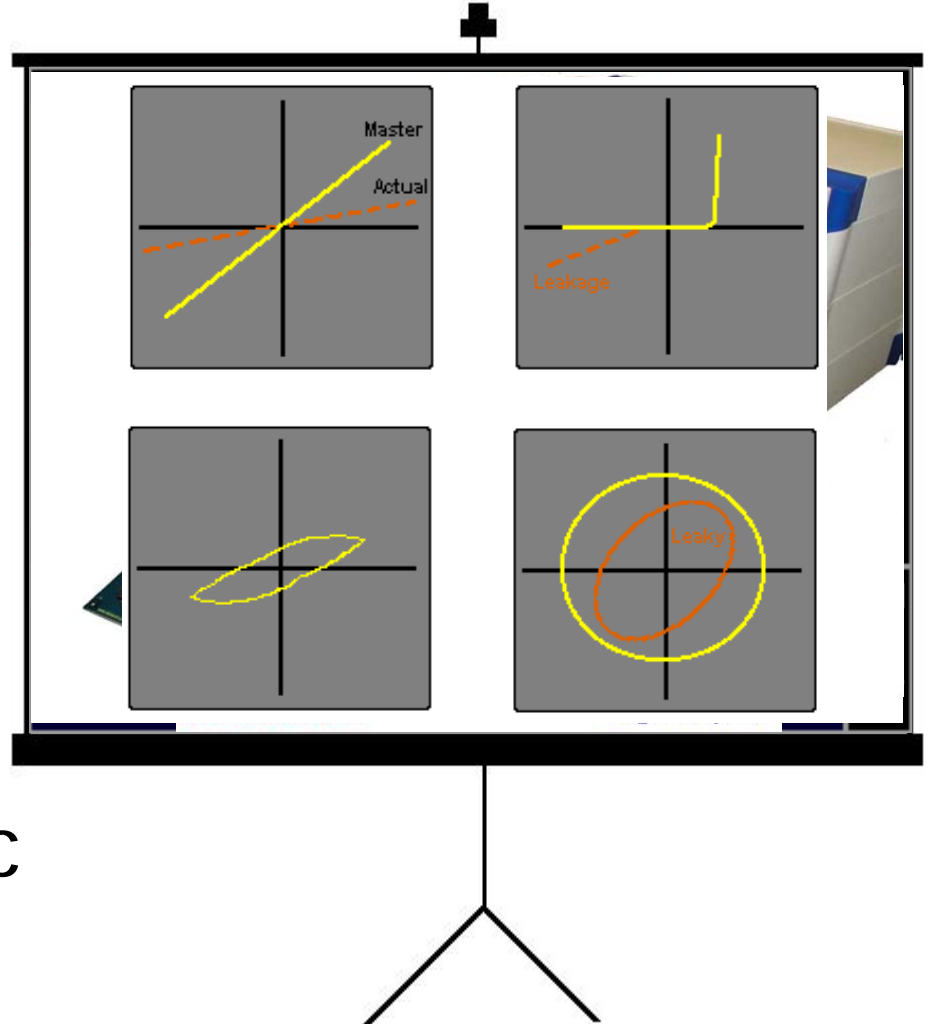
③ Complete Signal Analysis

- Automatic measurement
 - ☛ *32 selectable parameters*
- Comparison mask with tolerance
 - ☛ *Visual and numerical data comparison*
- Pass / Fail routine
 - ☛ *Suitable for all types of users*

CircuitMaster 4000M

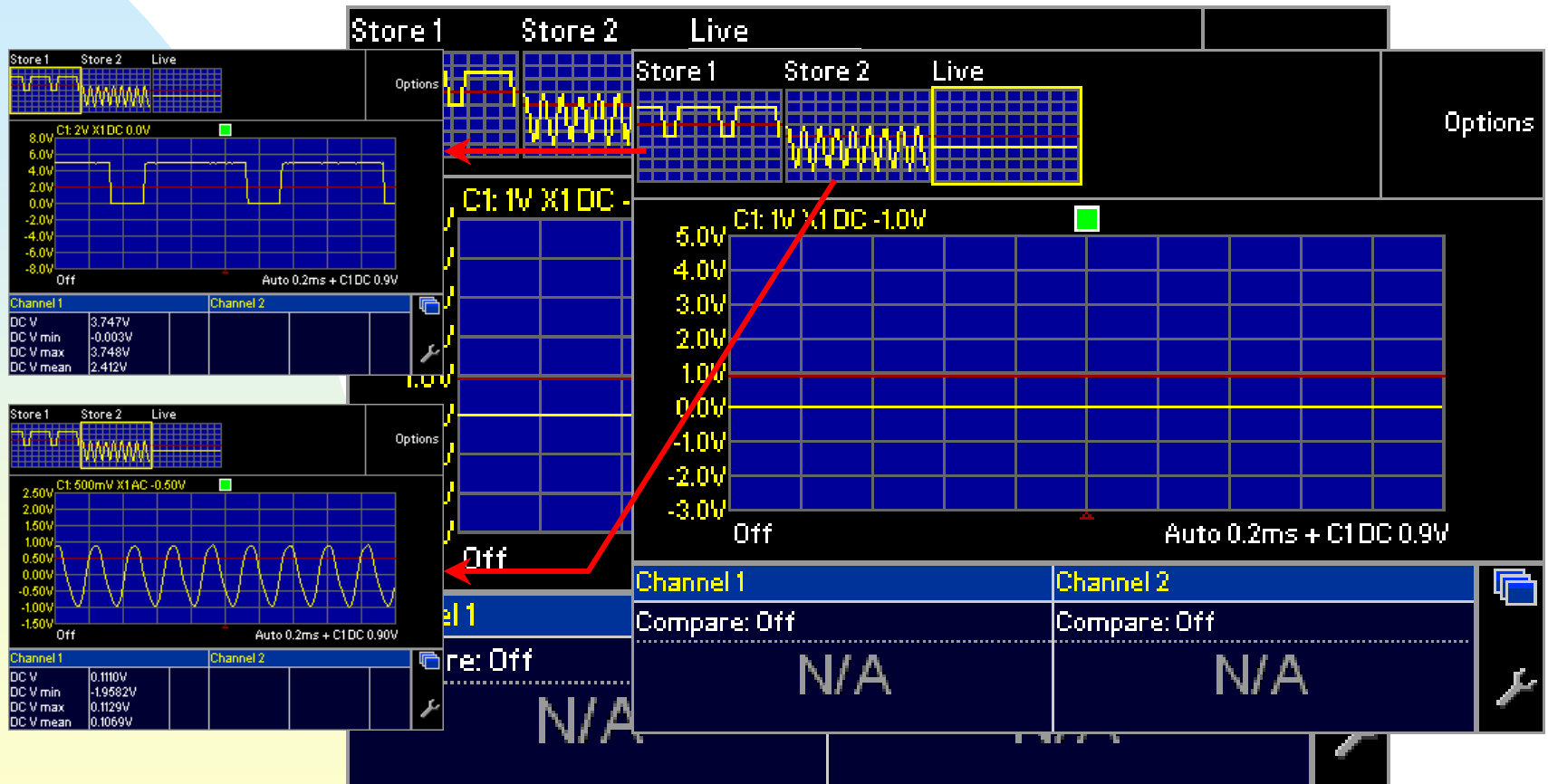
Main Features :

- Footswitch
- FirmFlex
- SignalTrack
- LogicView
- MultiWay I/O
- V-I Characteristic



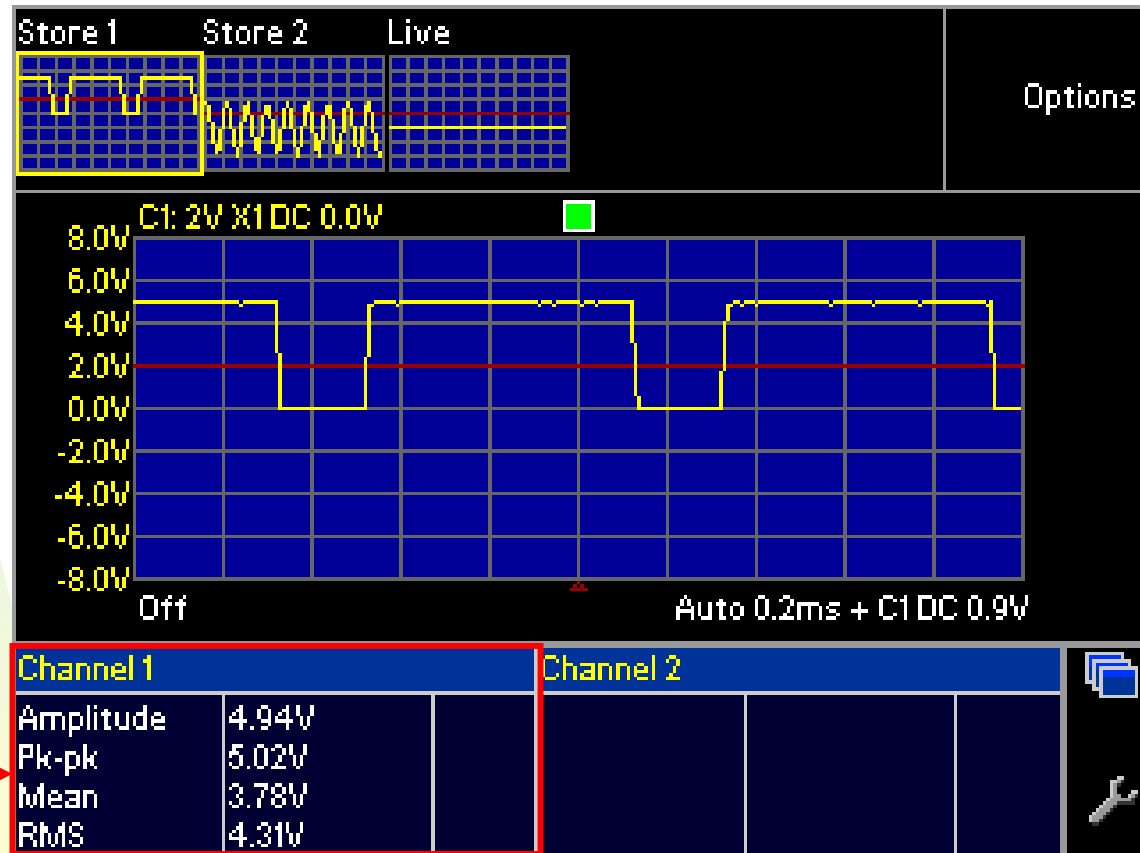
Footswitch

Up to 40 snapshots can be saved at the touch of a footstep. Each snapshot can be reviewed and analysed.



Footswitch

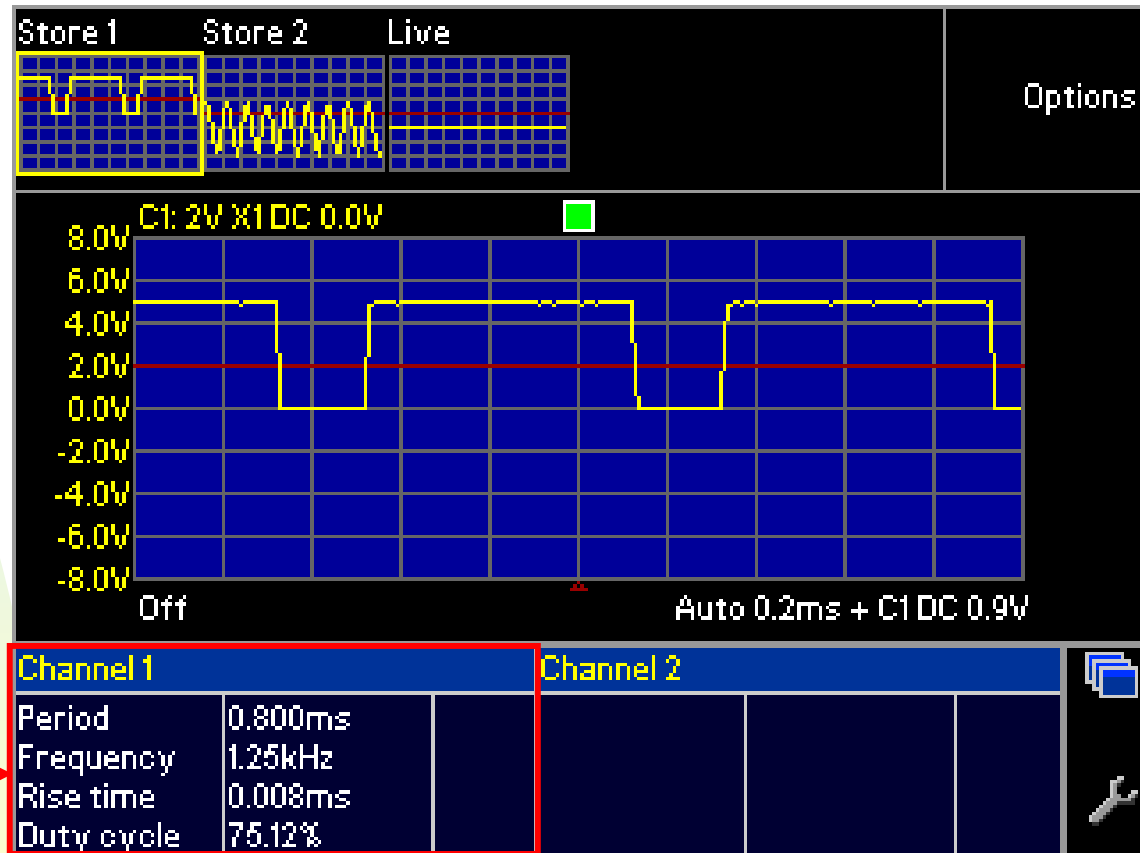
Each stored snapshot can be recalled and analysed.



Analysis →

Footswitch

Each stored snapshot can be recalled and analysed.

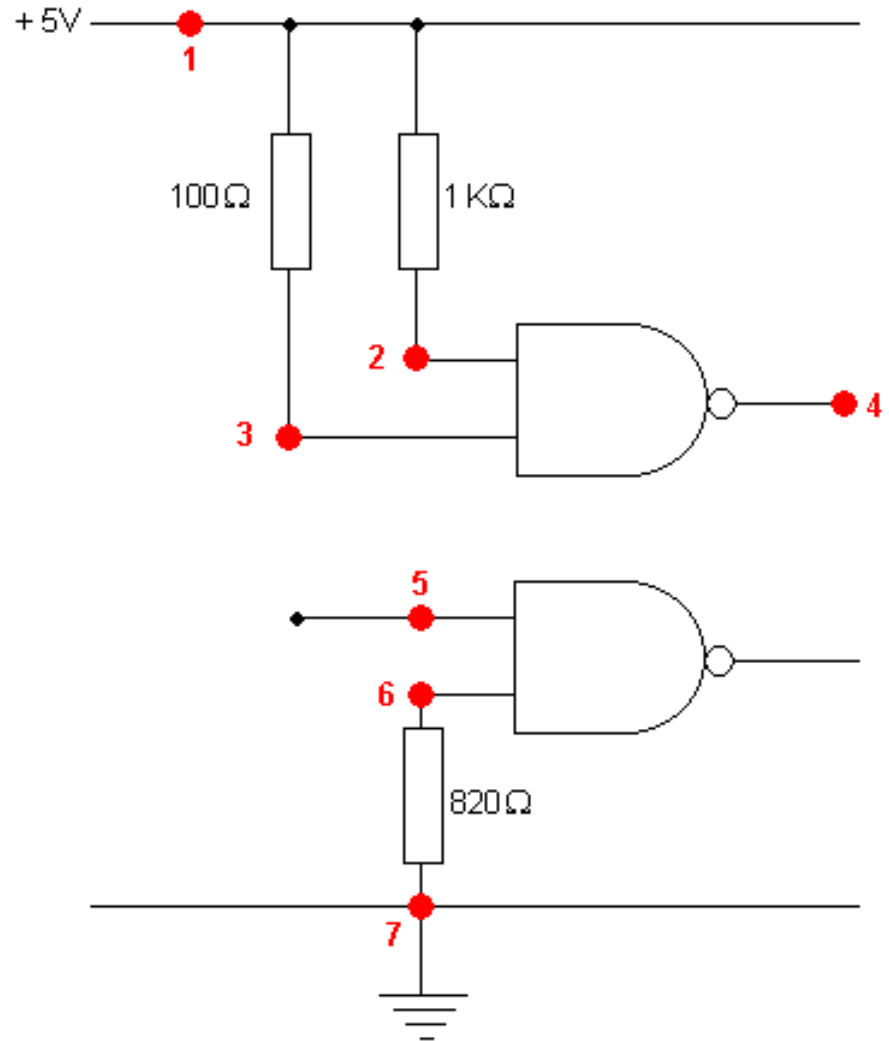


Analysis →

With a standard DVM :

- 1 is measured at 5 Volts
- 2 is measured at ~5 Volts
- 3 is measured at ~5 Volts
- 4 is measured at ~0 Volts
- 5 is unknown (floating)
- 6 is measured at ~0 Volts
- 7 is measured at 0 Volts

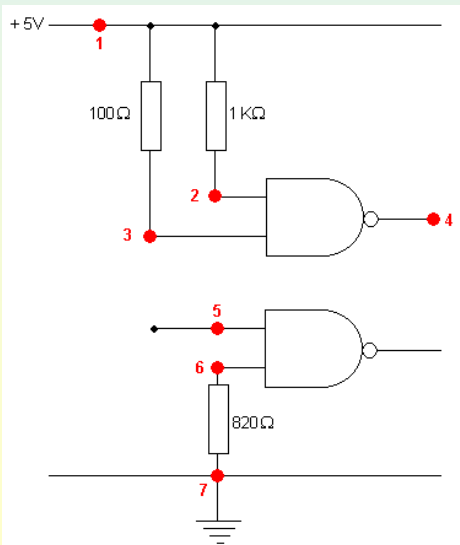
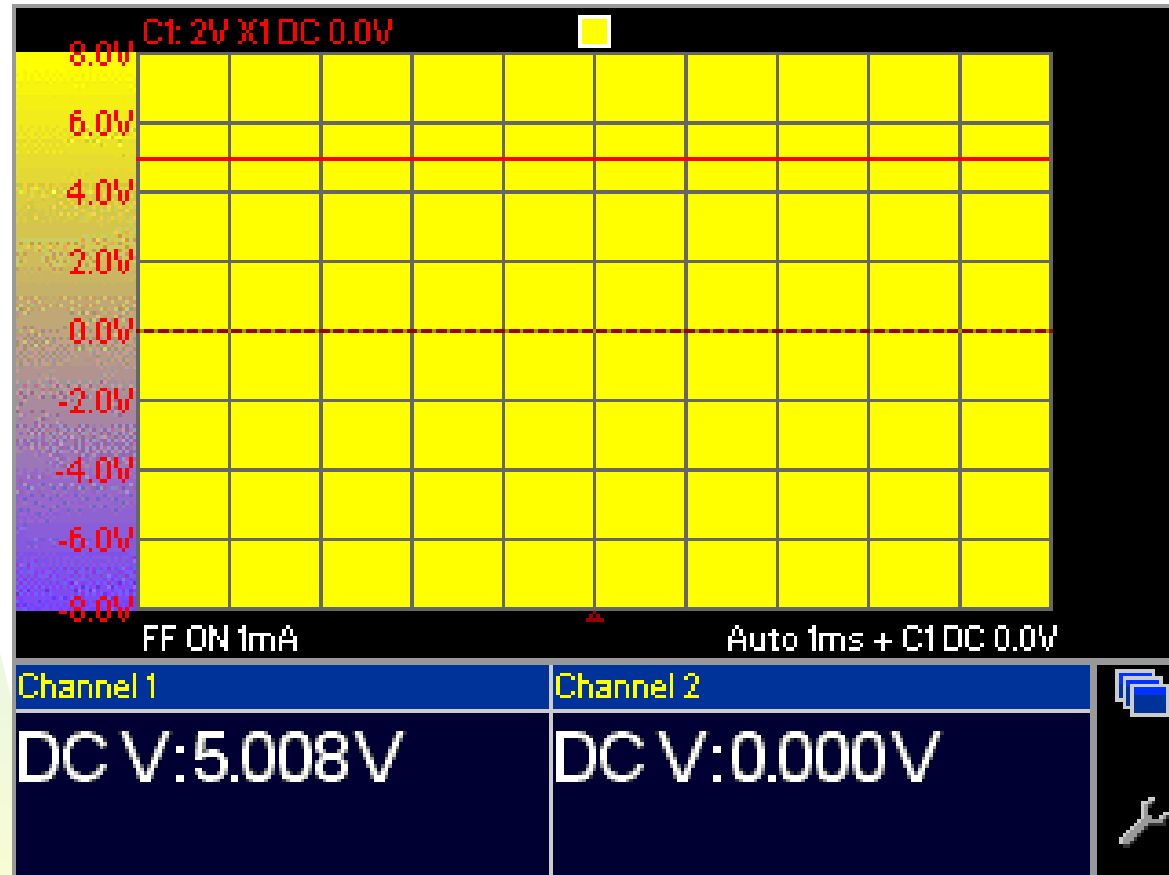
FirmFlex



FirmFlex

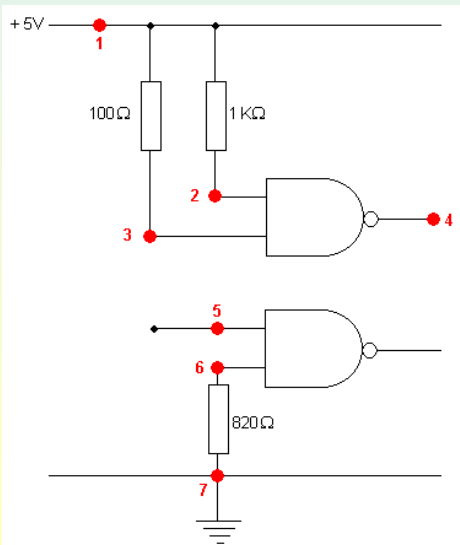
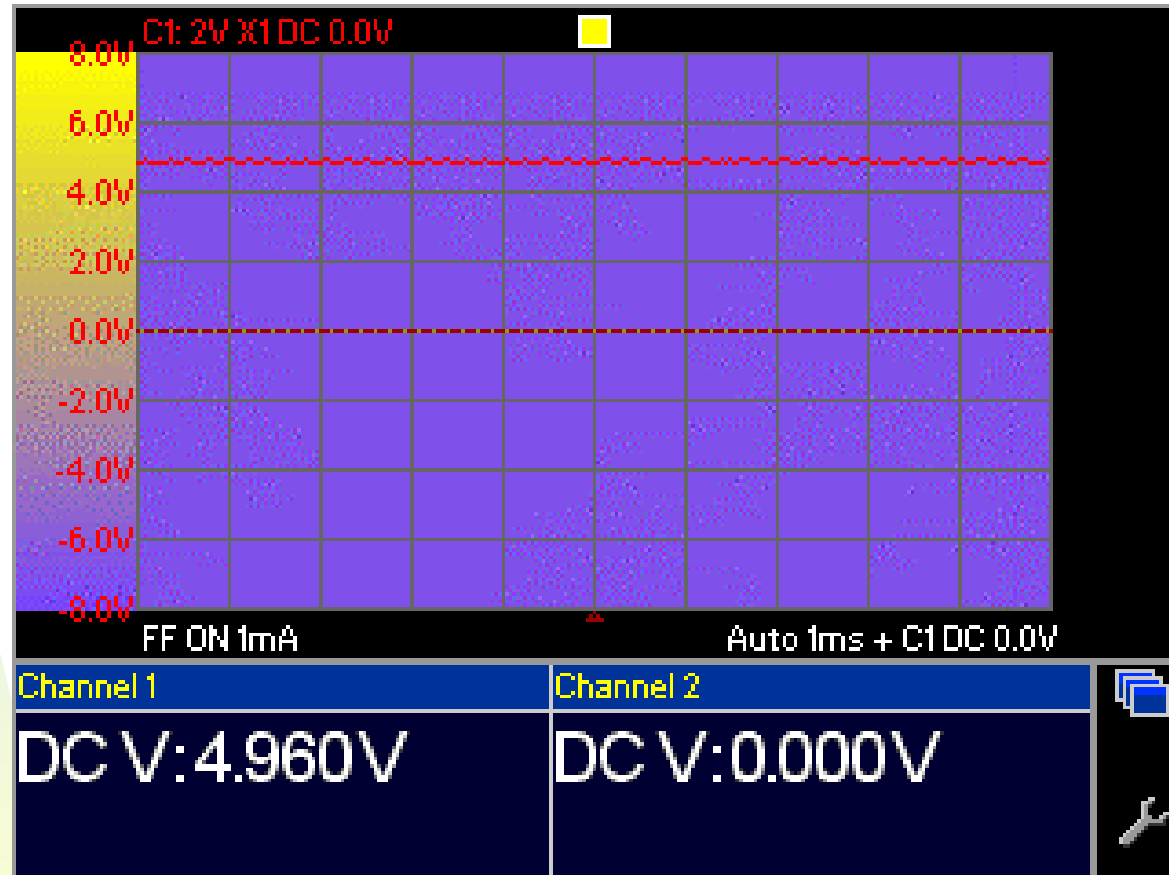
- Current test instruments DO NOT give any other information on the status of a test point.
- With **FirmFlex**, it is possible to **simultaneously** :
 - Measure the voltage accurately
 - Acquire the waveform
 - Measure the strength of the node

FirmFlex



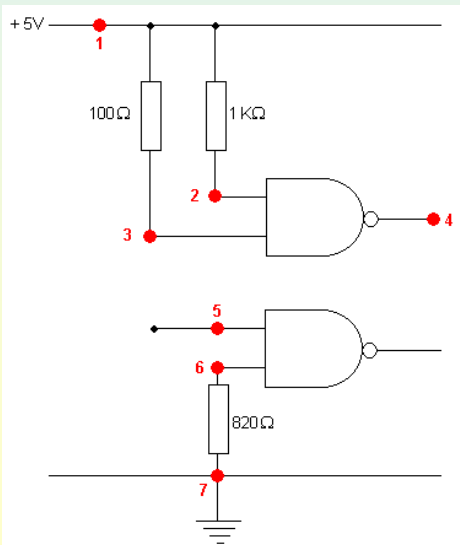
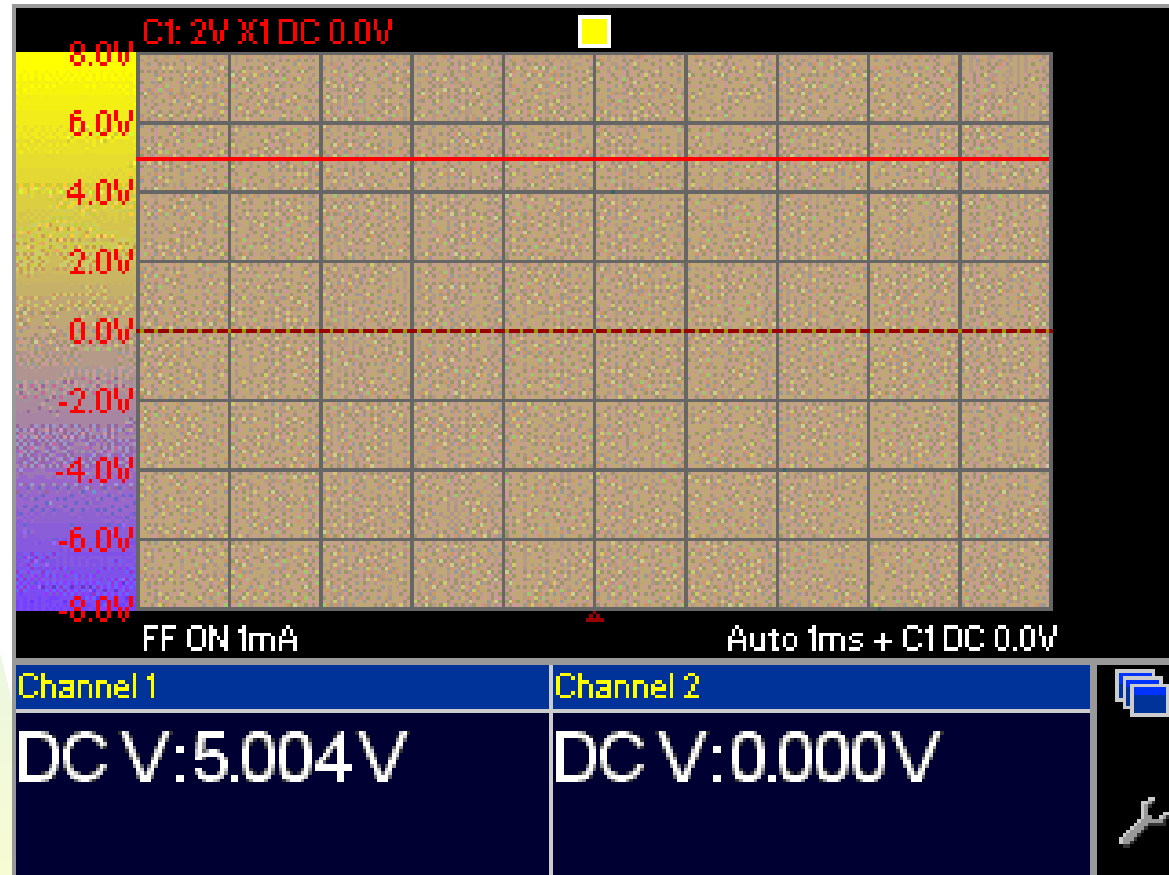
Test Point 1

FirmFlex



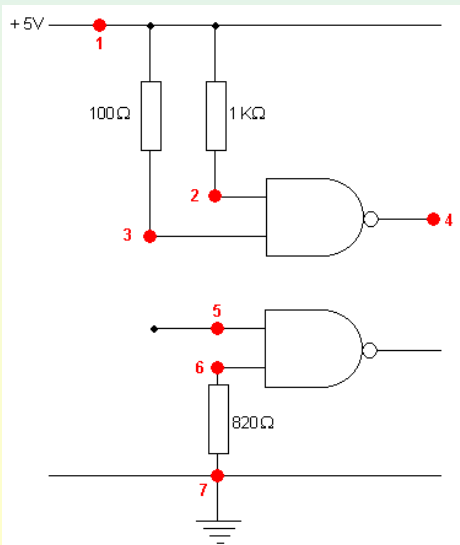
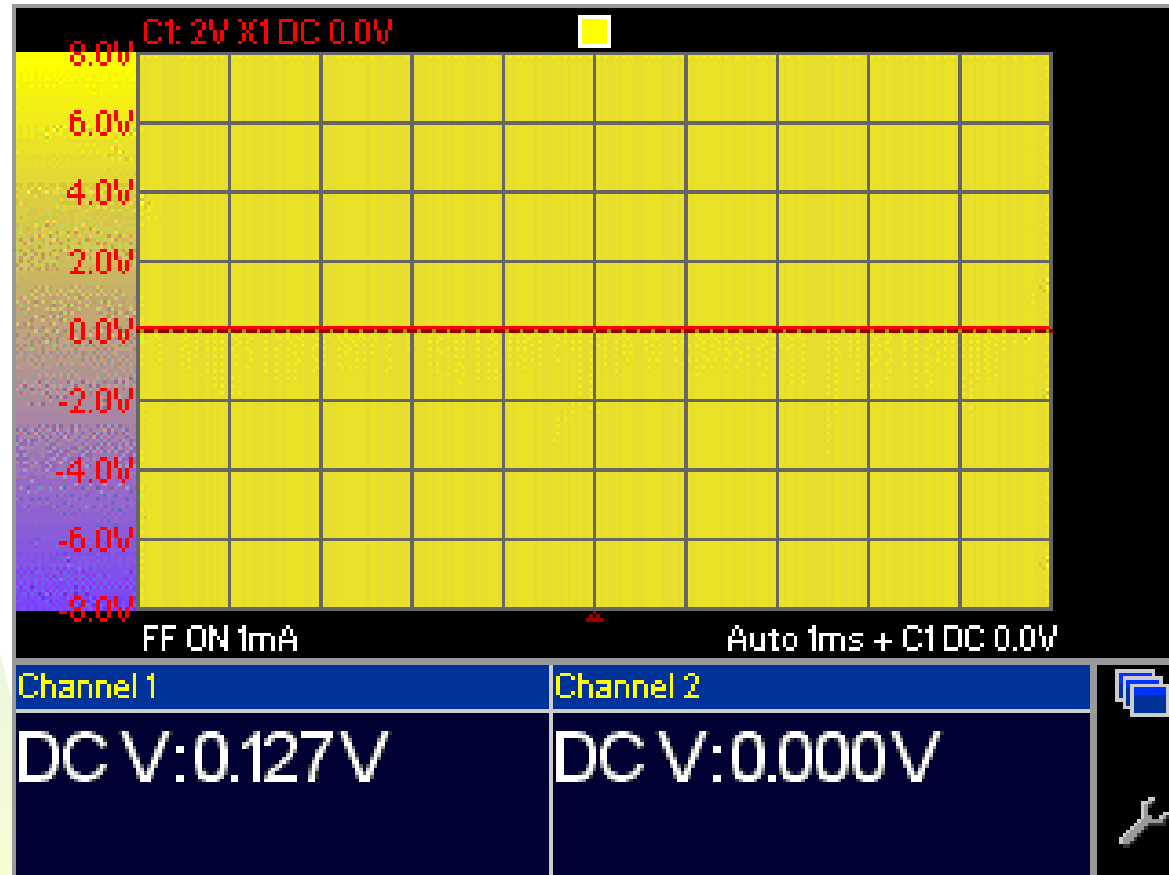
Test Point 2

FirmFlex



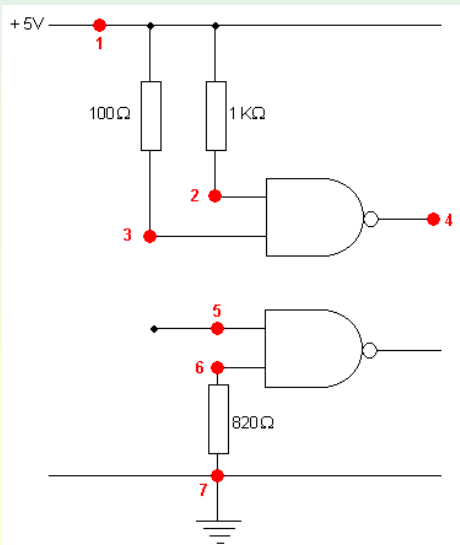
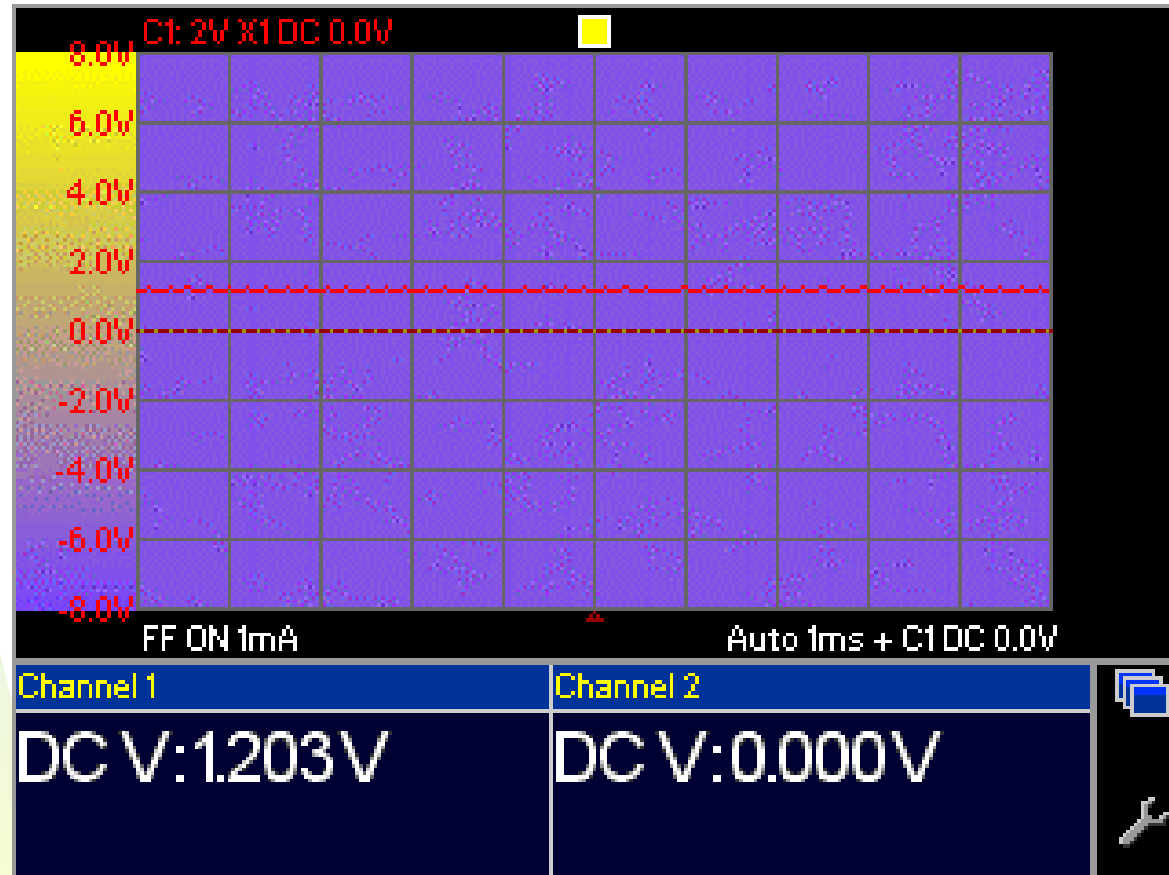
Test Point 3

FirmFlex



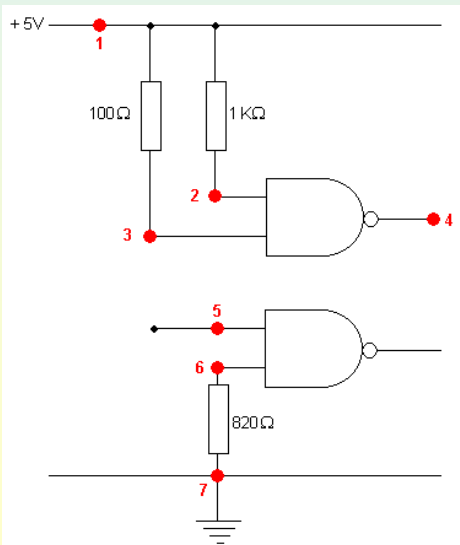
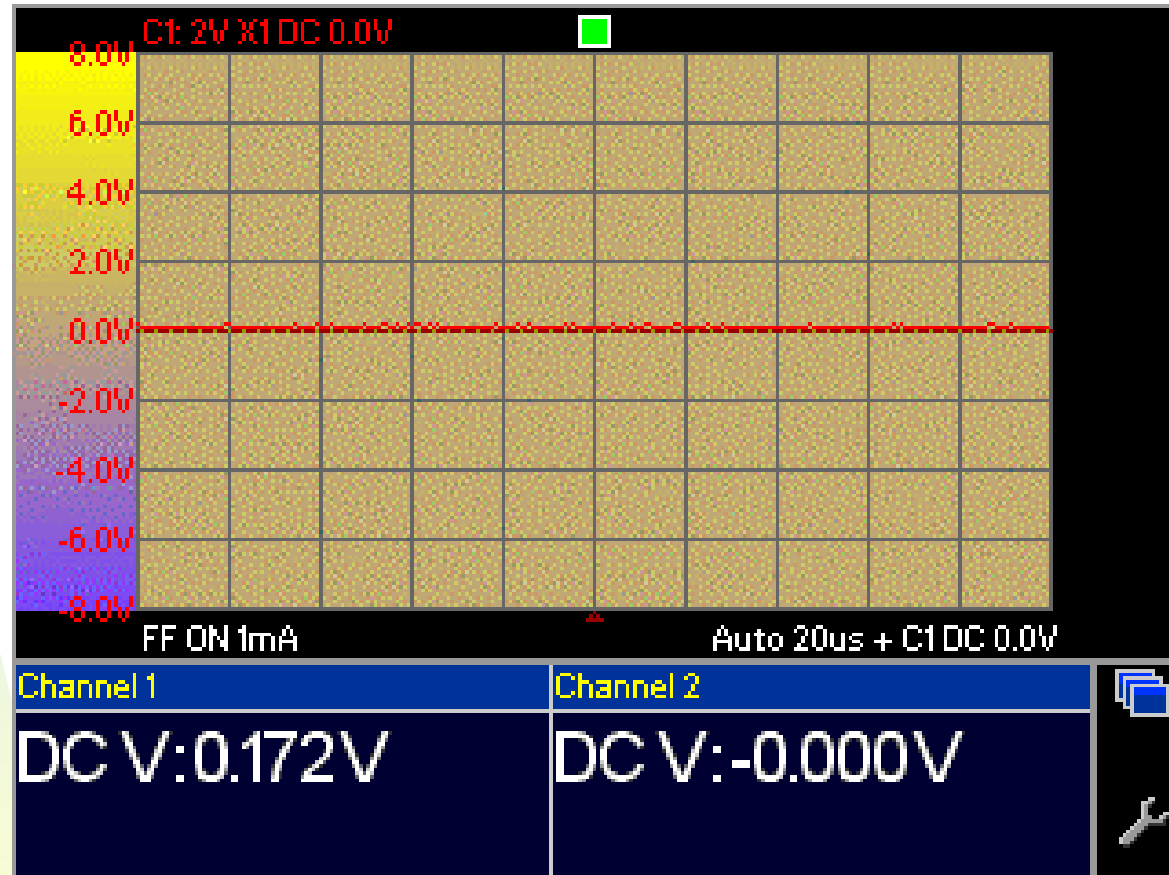
Test Point 4

FirmFlex



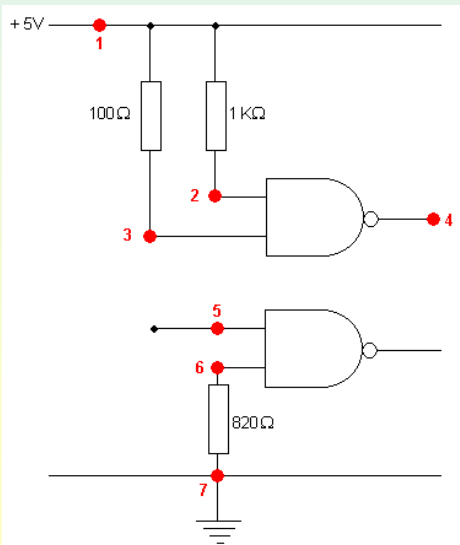
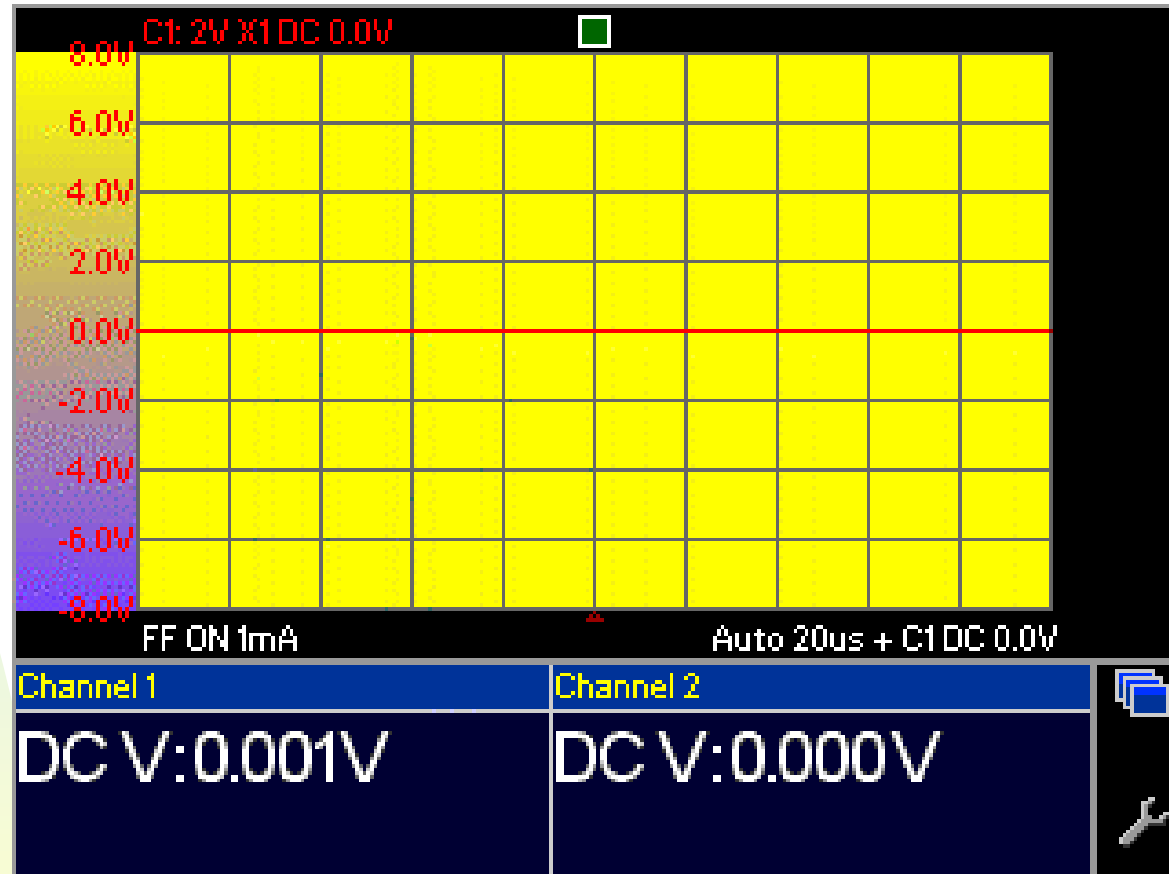
Test Point 5

FirmFlex



Test Point 6

FirmFlex



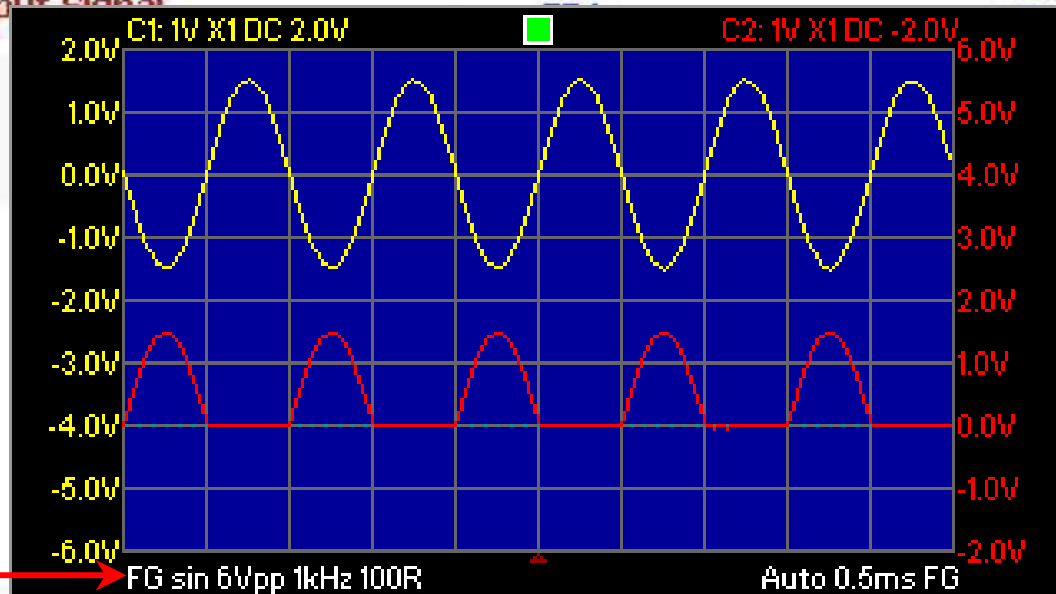
Test Point 7

SignalTrack

Inject a programmable signal into a circuit (CH1)
and measure a response at various points (CH2)

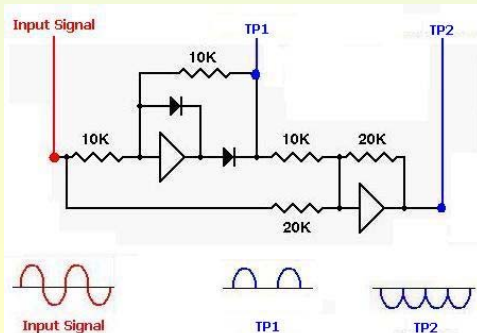
Stimulus Adjustments :

- Waveform
- Voltage
- Frequency
- Impedance



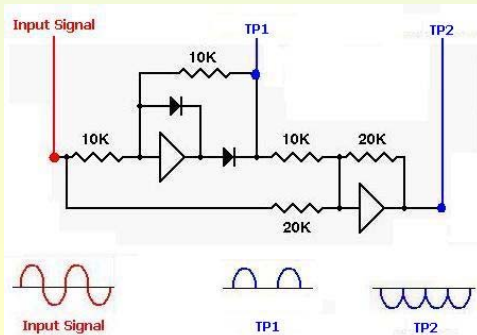
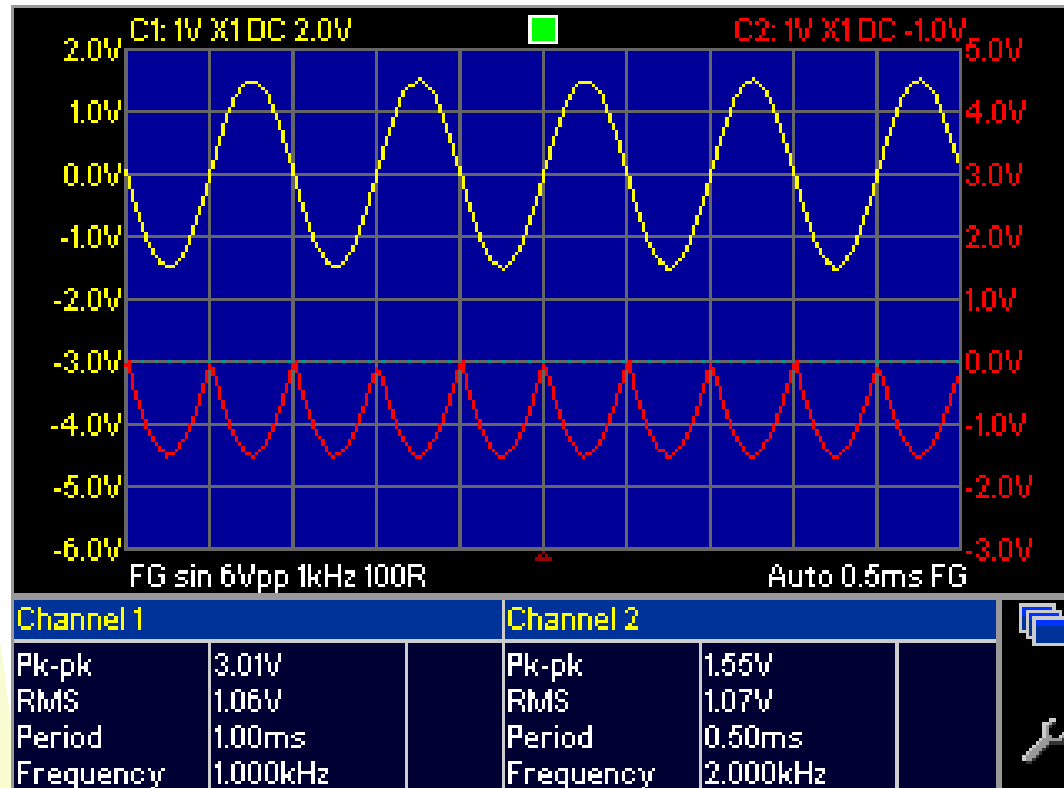
Channel 1		Channel 2	
Pk-pk	3.01V	Pk-pk	1.55V
RMS	1.06V	RMS	0.74V
Period	1.00ms	Period	1.00ms
Frequency	1.000kHz	Frequency	1.000kHz

TP 1



SignalTrack

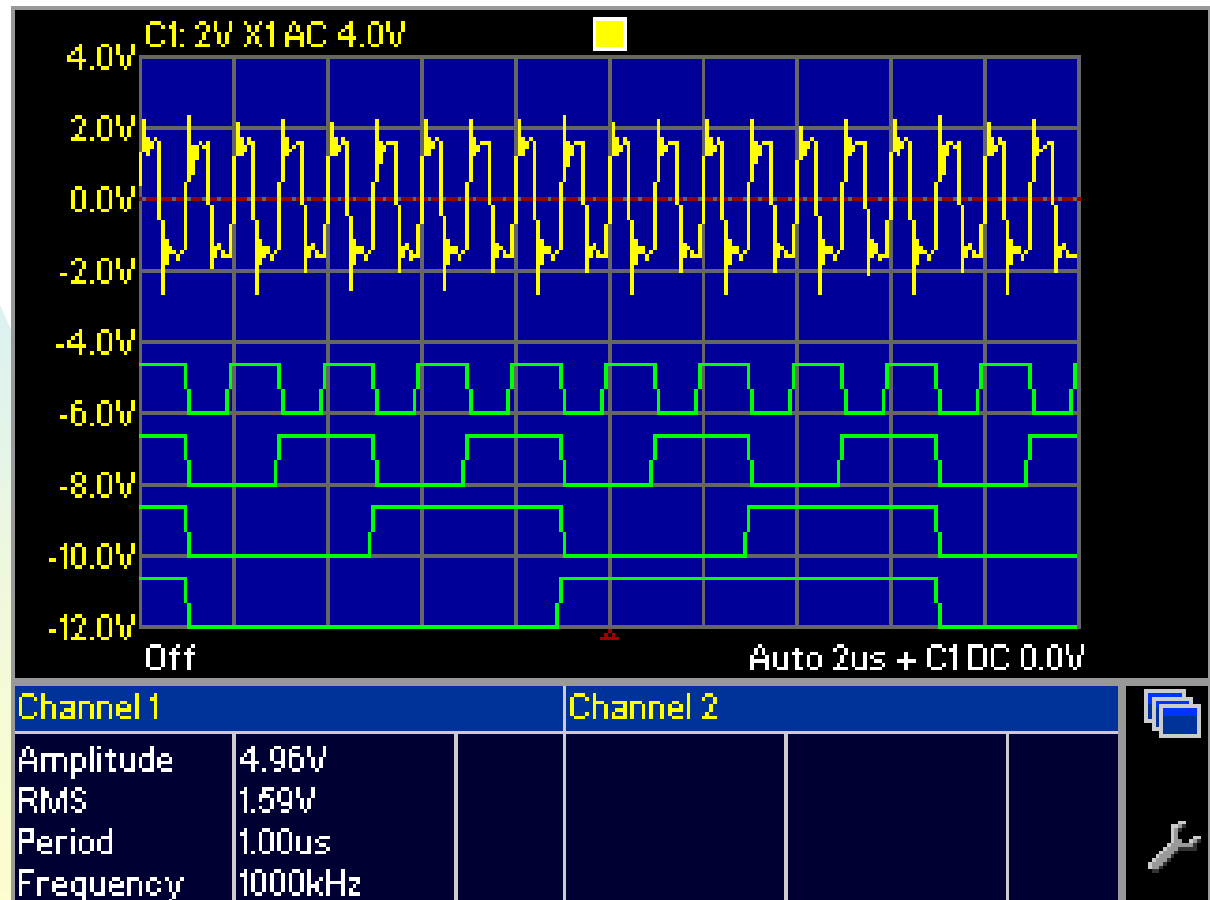
Inject a programmable signal into a circuit (CH1) and measure a response at various points (CH2)



TP 2

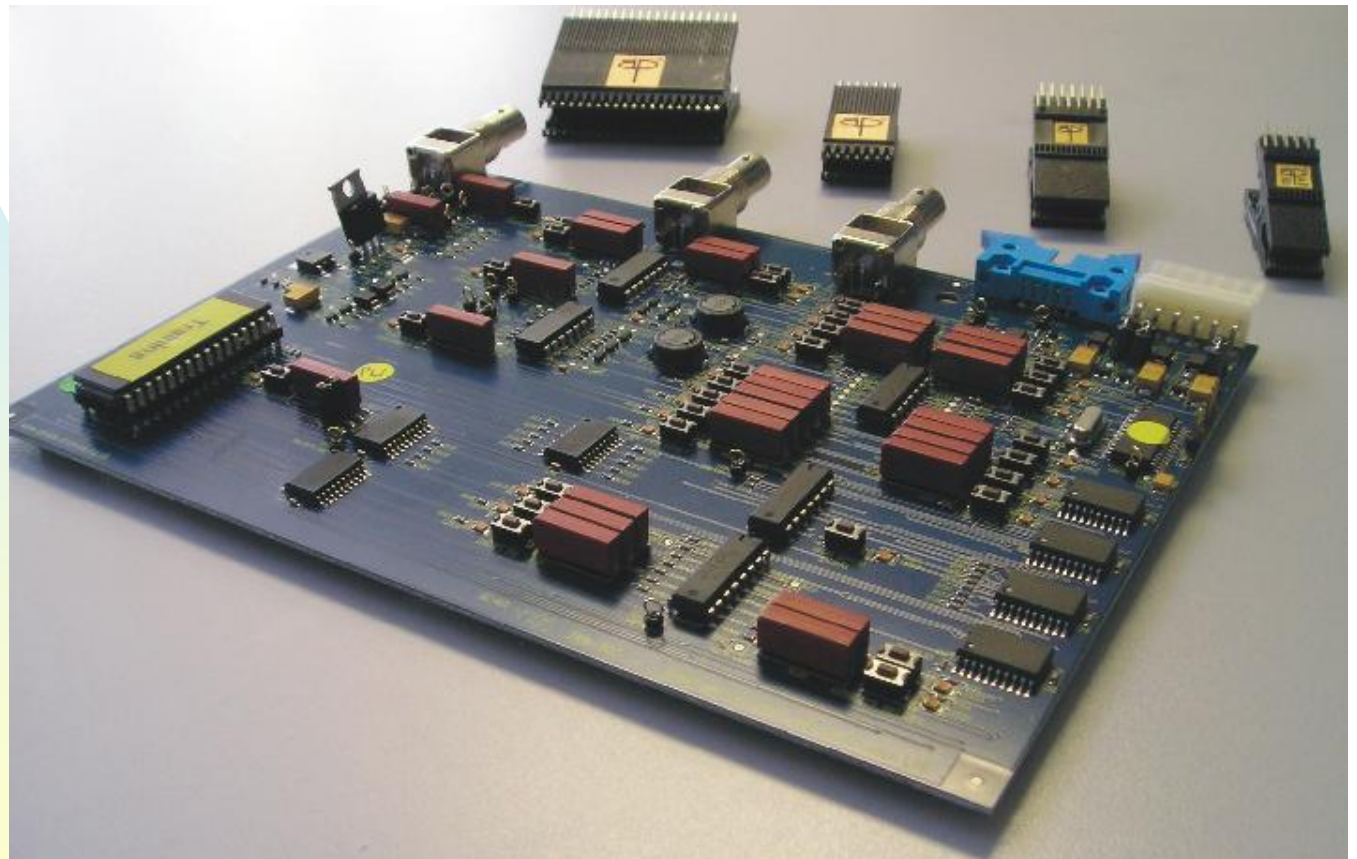
LogicView

Measure 2 analogue & 4 digital signals simultaneously.



MultiWay

Capture each pin of an IC using a test clip (40 way)

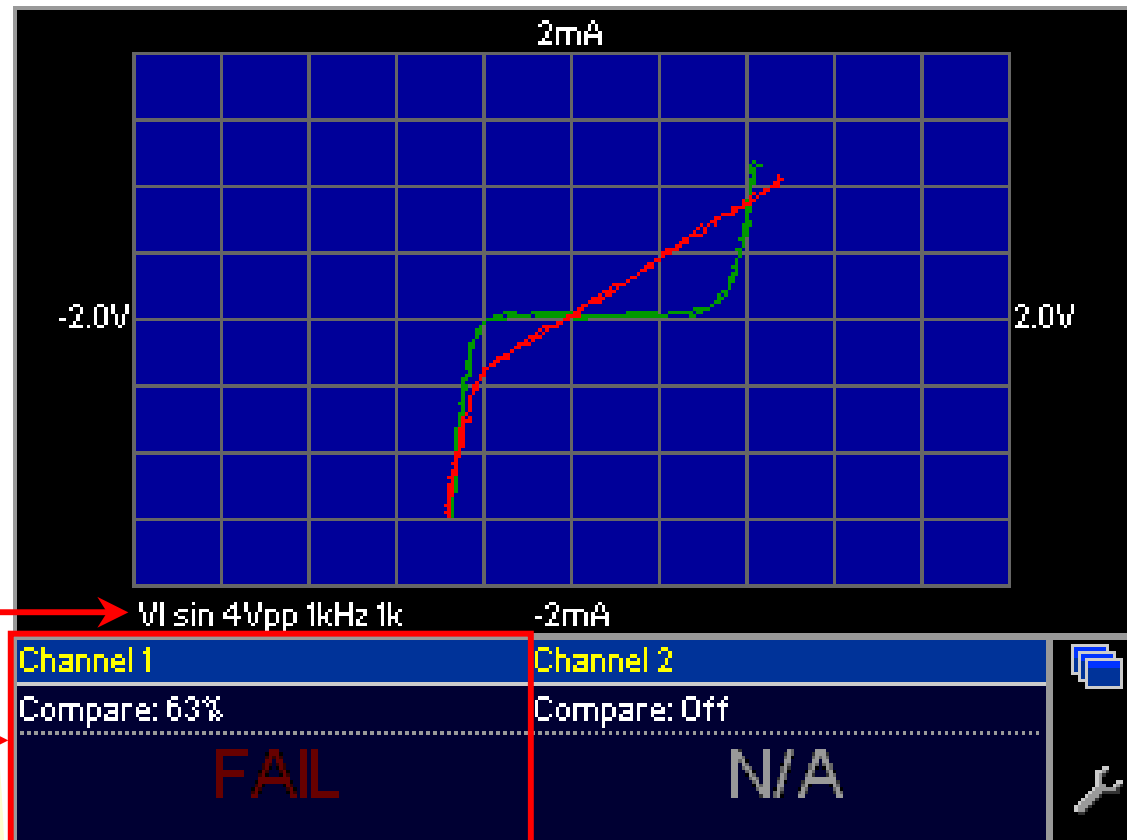


V-I Characteristic

Display the impedance characteristic of components and nodes using a fully adjustable stimulus.

Stimulus Adjustments :

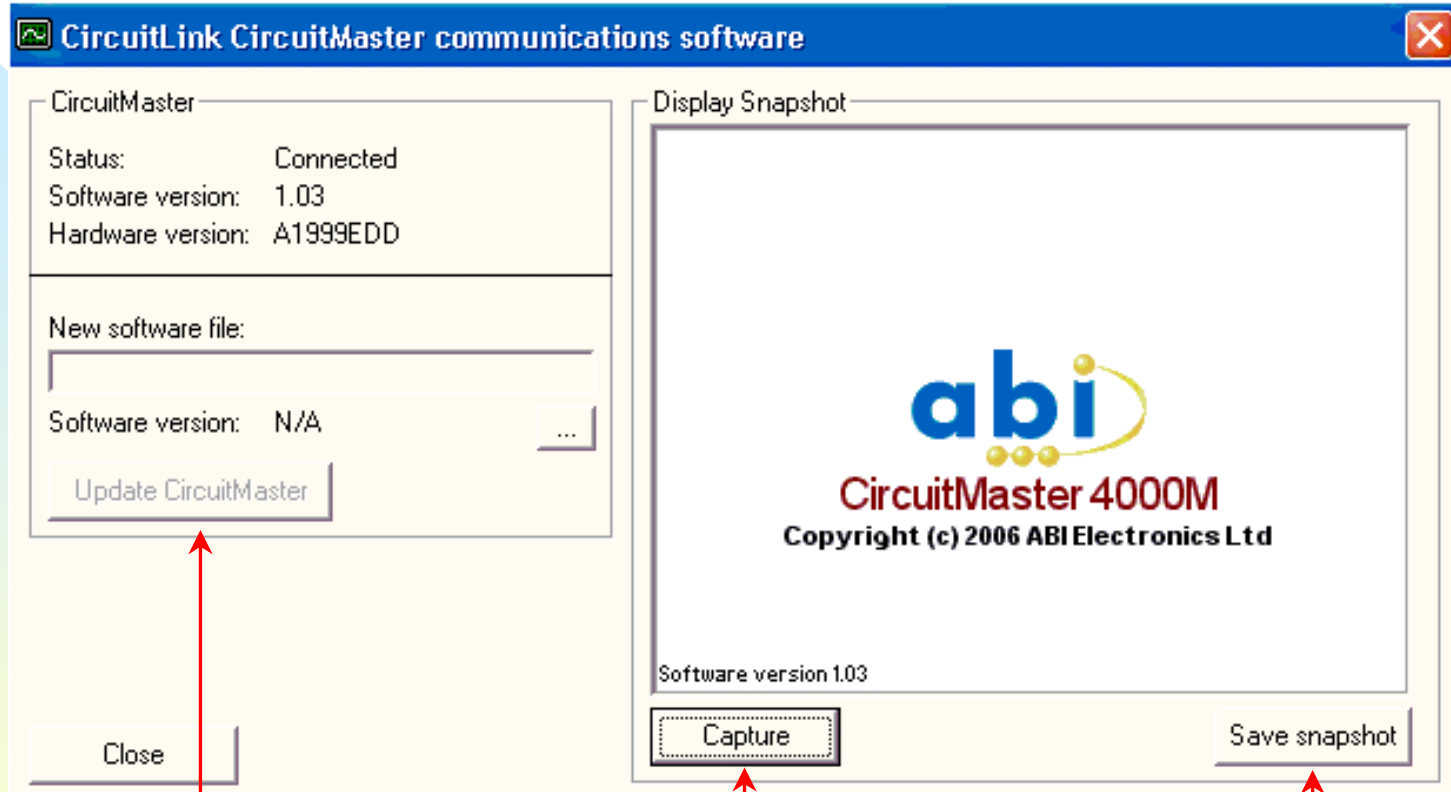
- Waveform
- Voltage
- Frequency
- Impedance



Comparison

CircuitLink

Connection to PC via USB Port



Update software

Capture and save snapshots

CircuitMaster 4000M

Technical Specifications :

- 2 main analogue I/O channels
- 40 channel MultiWay connector
- 4 LogicView digital input channels
- 2 + 2 pulse outputs
- External trigger input
- DC Voltage input +/- 200V with full auto ranging
- 100MHz DSO bandwidth
- Analysis against pre-set thresholds and target values
- Single shot sampling at 50MS/s, up to 25 GS/s in ERS Mode
- Automated waveform measurements and analysis
- Comparison with pre-set or stored waveforms

CircuitMaster 4000M

Applications in :

- EDUCATION
 - *Laboratory Work*
 - *Training*
 - *Projects*
- RESEARCH & DEVELOPMENT
 - *Design verification*
 - *Debugging*
 - *Prototyping*
- MANUFACTURING & MAINTENANCE
 - *Testing*
 - *Fault Finding*
 - *Repair*
- SYSTEM ENGINEERING
 - *Setting & Servicing*