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Network Cable Tester

Digital Multimeter

SPECIALIST



**LIFETIME
WARRANTY**

**2000
DISPLAY
COUNT**

**CAT III
600V**

**LAN
TESTER**

**DATA
HOLD**



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Network Cable Tester

Digital Multimeter User Manual

Thank you for purchasing this Network Cable Tester Digital Multimeter. This innovative combination LAN tester and multimeter is ideal for network installers or technicians. It allows for easy checking of cable integrity and measurement of AC & DC voltage and current, resistance and continuity. Cables can be checked for continuity, open circuits, short circuits and cross connects. Utilise the remote tester to check wall jacks or patch panels.

Please familiarise yourself with the functions of the multimeter before use. We recommend retaining this manual for ease of reference.

- Improper use of this meter can cause damage, shock, injury or death.
- Always remove the test leads before replacing the battery or fuses.
- Before using the meter, please inspect the condition of the test leads and the meter itself for any damage. If damage is present, please discontinue use.
- Do not measure voltage if the voltage on the terminals exceeds 1000V above earth ground.
- Use great care if voltages are greater than 30VAC RMS. Anything above this is considered a shock hazard.
- Do not apply voltage to the meter when the resistance is selected.
- Do not exceed the maximum limits of the input values shown in the specification tables on pages 9-11 of this manual.
- Remove the batteries from the meter if it will be unused for an extended period of time.

FUNCTIONS	
Max. Display	2000 Count
Basic Accuracy	0.5%
DC Voltage Range	200mV - 600V
AC Voltage Range	200mV - 600V
DC Current Range	2mA - 200mA
AC Current Range	2mA - 200mA
Resistance	200Ω - 20MΩ
Diode Test	Yes
Remote Terminator	Yes
LAN Tester	Yes
Base-T Test	Yes
Modular Cable Test	Yes
Coaxial Cable Test	Yes
Remote Test	Yes
Max Hold	Yes
Data Hold	Yes
Autoranging	Yes
Auto Power Off	Yes



The battery compartment is at the rear of the multimeter.

FUNCTIONS

LAN LED Display	Displays test results for sourcing end (Jack 1) and receiving end (Jack 2).
Remote Terminator	Uses a combination of LED lights to indicate results at receiving end.
Autoranging/ Manual	For use with the LAN testing function. The upper row of LEDs will start to scan in sequence if the Auto/Manual button is set on "Auto" mode. The LED for pin 1 will light up if the button is in manual mode.
Max Hold	To hold the highest measurement/reading on the screen of the multimeter: <ul style="list-style-type: none">• Press the MAX hold button. The meter will not change as the readings change.• Press the MAX hold button again to deactivate the function.
Hold Button	Press the "HOLD" button to lock readings as displayed on the screen. Press again to unlock.
Test Button	In manual mode, pressing the square "Test" button will advance testing to the next pin.
Mode	The MODE button helps you to move through various operations with various icons displayed on screen. It works in conjunction with the function switch to measure things like resistance, continuity, and AC/DC current measurements.
Multimeter LCD Display	Readings and measurements taken by the multimeter appear in this area.
On/Off Button	This is the LAN Tester Power Switch. Use it to switch between multimeter and LAN tester functionality.
Auto Power Off	The multimeter will automatically turn off after 15 minutes of inactivity.
Low Battery	BAT will appear on screen when battery power is low and the battery needs replacing.

Function Switch	Select a measurement range by turning the switch to the preferred option.
Input Jacks	<ul style="list-style-type: none">• V: positive input jack• COM: negative input jack

AC & DC VOLTAGE MEASUREMENT

Do not measure AC/DC voltages if a motor on the circuit is being switched on or off. Large voltage surges may occur that can damage the meter.

- 1) Insert the black test lead into the negative COM input jack.
- 2) Insert the red test lead into the positive V input jack.
- 3) Set the function switch to the VAC or VDC position.
- 4) Connect the test leads in parallel to the circuit under test.
- 5) Read the voltage measurement displayed on the LCD screen.

AC & DC CURRENT MEASUREMENT

Use the proper terminals, function and range for any current measurement.

- 1) Set the function switch:
 - For current measurements up to 2000 μ A AC/DC, set the function switch to the mA position.
 - If the range of the measured current is not known, select the higher range first, then move to the lower range if necessary.
- 2) Insert the black test lead into the negative COM input jack.
- 3) Insert the red test lead into the positive V input jack.
- 4) Press the mode button to select AC or DC measurement.
- 5) Remove power from the circuit under test, then open up the circuit at the point where you wish to measure current.
- 6) Touch the black test probe tip to the negative side of the circuit and touch the red test probe tip to the positive side.
- 7) Apply power to the circuit.
- 8) Read the measurements displayed on the screen.

DIODE TEST & CONTINUITY MEASUREMENT

To avoid electric shock, never measure continuity on circuits or wires that have voltage on them.

- 1) Insert the black test lead banana plug into the negative COM input jack.
- 2) Insert the red test lead banana plug into the positive V input jack.
- 3) Turn the function switch to the $\rightarrow \vdash \curvearrowright$ position.
- 4) To perform the diode test, press the mode button until $\rightarrow \vdash$ appears on the screen.
- 5) Touch the test probes to the diode under test. Forward voltage will indicate 0.4V to 0.7V. Reverse voltage will indicate OL. Shorted devices will display 0mV and an Open device will indicate OL in both polarities.
- 6) To measure continuity, press the mode button until \curvearrowright appears on the screen.
- 7) Touch the test probe tips to the circuit or wire you wish to test. If the resistance is less than approximately 150 Ω , an audible signal will sound. If the circuit is open, the display will indicate OL.

RESISTANCE MEASUREMENT

To avoid electric shock, disconnect power to the unit under test and discharge all capacitors before taking any resistance measurements. Remove the batteries and unplug the line cords.

- 1) Insert the black test lead banana plug into the negative COM input jack.
- 2) Insert the red test lead banana plug into the positive V input jack.
- 3) Turn the function switch to the Ω position.
- 4) Touch the test probe tips across the circuit or component under test so that the rest of the circuit will not interfere with the resistance reading.
- 5) For resistance tests, read the resistance on the LCD display.

10 BASE-T TEST

- 1) Plug one end of the tested cable into the transmitting RJ45 jack on the master unit and the other end of the cable into the remaining receiving RJ45 jack.
- 2) Slide power switch on. The upper row of LEDs will start to scan in sequence if the Auto/Manual button is set on "Auto" mode. The LED for pin 1 will light up if the button is in "Manual" mode.
- 3) Switch back and forth from Auto or Manual scanning mode by pressing the Auto/Manual button on the side of the master-testing unit.
- 4) Once both ends of the cable are plugged in properly, the second row of LEDs will illuminate according to the corresponding LEDs in the top row.
- 5) Read the results of the LED display for the pin configuration status of the tested cable. If you fail to read the results the first time in Auto mode, you may wait for the second LED scan, or simply switch to Manual mode for pin by pin testing. In Manual mode, pressing the square "Test" button will advance testing to the next pin.

RJ11 MODULAR CABLE TEST

Please follow directions for the UTP/STP Cable Test and refer to the sample test results on page 9 for the correct LED pin out display.

COAXIAL CABLE TEST

The center pin of BNC should be read on LED 2. As the coaxial cable has only two wires, we suggest you read the result of the LED scan using Manual mode.

REMOTE TEST

The LED display on the remote unit will scan in sequence, corresponding to the transmitting end of the master unit.

- 1) Plug one end of the tested cable to the transmitting RJ45 jack on the master unit and plug the other end into the remote terminator. If the tested cable is installed in a patch panel or wall plate, you may use the included patch cable to solve the connector gender problem.
- 2) Set the Auto/Manual switch to Auto mode for one-person testing.
- 3) Read the test results from the LED display on remote terminator.

SAMPLE TEST RESULTS

1 2 3 4 5 6 7 8 G

1) Continuity: Pin 2 has continuity

1 2 3 4 5 6 7 8 G

2) Open: Pin 2 is opened

1 2 3 4 5 6 7 8 G

3) Short: Pin 2 and Pin 3 are shorted

1 2 3 4 5 6 7 8 G

4) Miswire: Pin 3 and Pin 6 are miswired

MEASUREMENT SPECIFICATIONS

The following guide is based on an environmental temperature of 18-28°C and humidity <80%.

DC VOLTAGE

RANGE	ACCURACY
200mV	$\pm(0.5\% \text{ reading} + 3 \text{ digits})$
2V	$\pm(1.0\% \text{ reading} + 3 \text{ digits})$
20V	
200V	
600V	

AC VOLTAGE

RANGE	ACCURACY
2V	$\pm(1.0\% \text{ reading} + 5 \text{ digits})$
20V	
200V	$\pm(1.5\% \text{ reading} + 10 \text{ digits})$
600V	

DC CURRENT

RANGE	ACCURACY
200 μ A	$\pm(1.5\% \text{ reading} + 3 \text{ digits})$
2000 μ A	
20mA	$\pm(2.0\% \text{ reading} + 3 \text{ digits})$
200mA	

AC CURRENT

RANGE	ACCURACY
200 μ A	$\pm(1.8\% \text{ reading} + 8 \text{ digits})$
2000 μ A	
20mA	$\pm(2.5\% \text{ reading} + 8 \text{ digits})$
200mA	

RESISTANCE

RANGE	ACCURACY
200 Ω	$\pm(0.8\%$ reading + 5 digits)
2k Ω	$\pm(1.2\%$ reading + 3 digits)
20k Ω	
200k Ω	
2M Ω	$\pm(2.0\%$ reading + 5 digits)
20M Ω	$\pm(5.0\%$ reading + 8 digits)

MAINTENANCE

BATTERY INSTALLATION

To avoid false readings, replace the battery as soon as the low battery power indicator appears.

- 1) Turn power off and disconnect the test leads from the meter.
- 2) Open the rear battery cover with a screwdriver.
- 3) Remove the old battery and insert the new battery into the battery holder, observing the correct polarity.
- 4) Put the battery cover back in place and secure with the screws.

FUSE INSTALLATION

- 1) Turn the power off and disconnect the test leads from the meter.
- 2) Open the rear cover with a screwdriver.
- 3) Replace the fuse with a 0.2A/250V fast acting fuse.
- 4) Put the cover back in place and secure with the screws.

SPECIFICATIONS

Diode Test:	Test current of 1mA max, open circuit voltage 1.5V typical
Over Range:	OL is displayed
Input Impedance:	>7.5M Ω (VDC and VAC)
AC Voltage Bandwidth:	50-60Hz
Operating Temperature:	0°C~40°C
Storage Temperature:	-10°C~50°C
Operating Altitude:	2000m max
Power Supply:	1 x 9V Battery, 2 x AAA Batteries
Dimensions:	162(H) x 74.5(W) x 44(D)mm
Weight:	308g (including battery)

BOX CONTENTS

- 1 x Multimeter/Lan Tester
- 1 x Lan Testing Remote Terminator
- 1 x Test Leads
- 1 x 9V Battery
- 2 x AAA Batteries
- 1 x Carry Case
- 1 x User Manual

WARRANTY

This product is protected by a lifetime warranty (from the date of purchase) covering all product manufacturing defects/faults that may occur within this timeframe. This warranty does not cover damage caused by neglect, misuse, contamination, alteration, accident or abnormal conditions of operation or handling, including failures caused by use outside of the product's specifications, or the normal wear and tear of mechanical components.

In the event that you suspect your product is defective/faulty, cease using the product when the suspected defect/fault arises and return the product along with proof of purchase to the place of purchase or distributor for assessment. Distributor contact details are available on the last page of this manual.

If the assessment concludes that the product is indeed defective/faulty, the product will either be repaired or replaced at no cost to you.

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

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