NETmapper User Manual

Introduction

Thank you for purchasing Hobbes' new generation tester, the NETmapper. It is a hand-held multifunctional network-testing device that supports On-Line (Active Network) and Off-Line (Cable) Test. As an On-Line Test, it operates ping network device with IP address, and as an Off-Line Test (Cable Test), it functions as a cable checker.

With an integrated Tone Generator and Port Finder, it makes it a multiple function tester. The Netmapper is a useful device for all professional network administrators to quickly verify network connectivity and obtain essential information from the entire network for troubleshooting.

Features

- On-Line Test: Displays the Ethernet port status, Ping default router, Ping DNS Server and Ping user defined device, etc.
- Off-Line Test: Wire map test, Twisted mapping test, Cable length test, Tone generator and Port finder
- Wire map for open, short, reversed, cross, split, mis-wire, and shield continuity
- Wire map results are displayed in a pin-to-pin format
- Indicates the serial number of remote for identification in wire map test
- One RJ45 ports on main unit for cable map test without remote
- Measures twisted pair length (Cat5, Cat5E and Cat6) without remotes
- With self-calibrating ability for non-standard cables (length test), for an increase in measuring accuracy
- Uses both measurement (meter and feet) standards for cable length display
- Incorporates Port Finder function: locate corresponding socket on hub/switch
- The Tone Generator function sends 1K Hz tone on all pins with 4 special tonalities
- Large LCD display
- Battery low indicator and auto shut off function

Specifications

- Display: 128 * 64 Dot Matrix LCD
- Connector Type: RJ45
- Accuracy: ± 2m less than 10m (± 6.56 feet in less than 32.81 feet)
  ± 5% over 10m (32.81 feet)
- Test range for cable length: 1-300m (3 – 984 feet)
- Split pairs detection: minimum 1m (3 feet)
- Tone Generator: 1 KHz
- Operating Temperature: 0°C – 50°C (32°F – 122°F)
- Storage Temperature: -30°C – 50°C (-22°F – 122°F)
- Humidity: 10% - 90%
- Weight: 115 g
- Dimensions: Meter 120 * 80 * 33mm / Remote 44 * 32 * 28.5mm

- Power source: 4 * AAA

Key definition

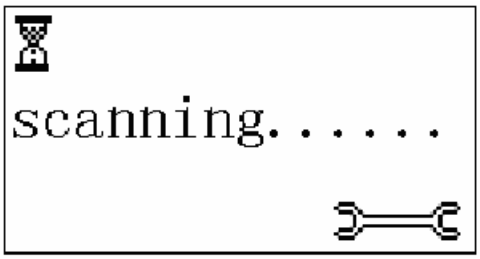
ON/OFF key: Powers system on/off
Up key: Shift cursor up
Down key: Shift cursor down
Enter key: Execute the operation selected by the cursor

Default Configuration

In order to perform properly, user should set up the Configuration menu (“Configure host” menu and “Configure length” menu) prior to use. When executing “ping” and calibrating parameters for non-standard cable length test, user must do the configuration.

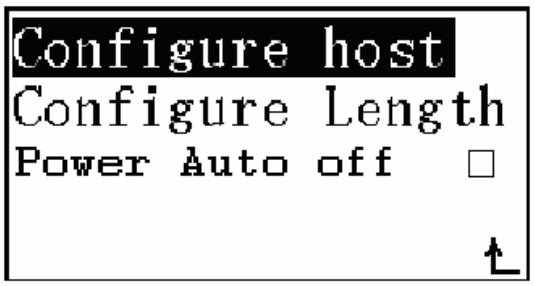
Follow the steps to configure the device

1. Turn on the NETmapper with its RJ45 port is bare
2. The device will scan its RJ45 port status

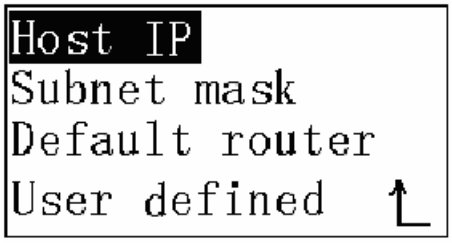


3. When cable is not connected to NETMapper

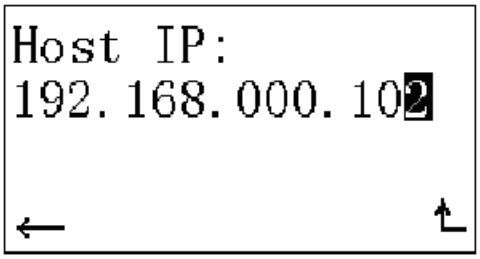
4. During the scanning, press the “Enter” button to enter “Configure” menu



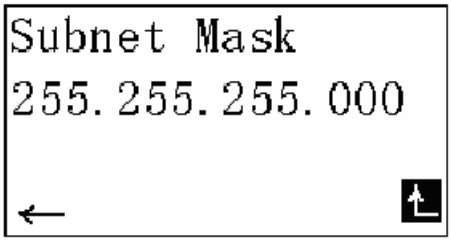
5. “Configure host” menu has four configurations. They are configuring **Host IP**, **Subnet Mask**, **Default Router**, and **User Defined** device for ping function.



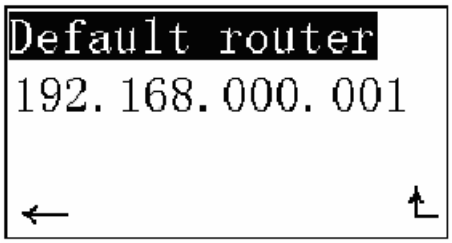
“Configure Host IP” menu



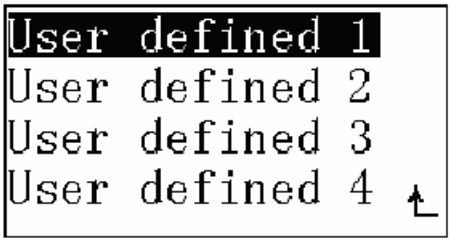
“Configure subnet mask” menu

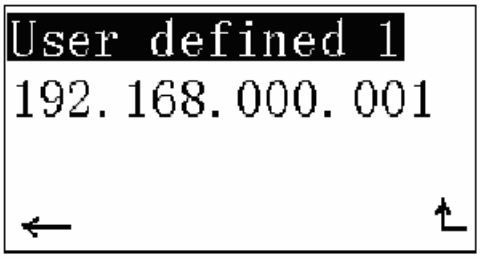


“Configure default router” menu



“Configure User Defined” menu





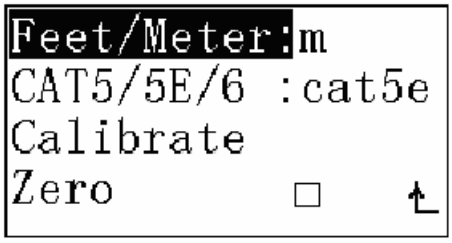
In these configuration menus:

A. Press Enter key to begin editing the corresponding address when highlighting Host IP (Subnet Mask/ Default Router/ User Defined)

B. Press Enter key to return to previous menu when highlighting “Enter” icon

C. Press Enter key to increment each digit and press “Up” or “Down” key to shift the cursor when editing the address.

6. “Configure Length” menu has four options.

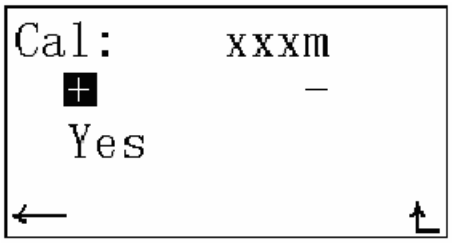


A. On “Feet/Meter” option, press Enter key to select Meter (m) or Feet (ft)

B. The “Cat5/Cat5e/6” option denotes the device is using corresponding default calibrating parameter for testing standard Cat5/Cat5e or Cat6 cable length

C. The “Calibrate” menu

In order to increase measuring accuracy in cable length test, the setup is used to adjust calibrating parameters for non-standard cables.

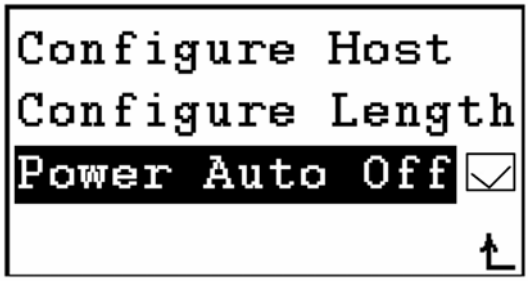


- “Cal: xx M” ------- It is the cable length supplied by NETmapper when using default parameter
- “+” and “–” are used to change the Cal—value, increase or decrease.
- “Yes” is used to save the setting.

- “Enter” cursor is used to go back to the return to previous menu
- the Cal value is 10m at least

D. The “Zero” option is used for rectify the device for cable length test.

7. “Power Auto off” menu allows users to turn on/off the auto shut off function



Manual operation

Turn on the NETmapper, the device will scan its RJ45 port status.

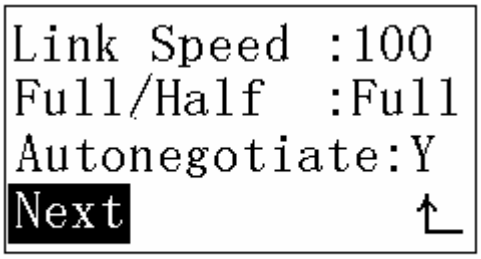
If the unit is connected to an active Ethernet port, it will begin the On-Line test

If the unit is connected to a cable, it will begin Off-Line test

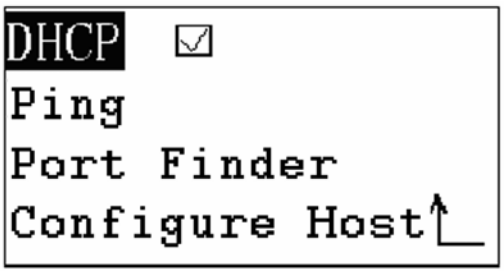
Else it goes on scanning.

On line test

When NETmapper is connected to an active Ethernet device, it displays the Ethernet port status: link speed, full/half duplex, and whether it can support Auto Negotiation



Enter the “Next” menu, has four options: DHCP, Ping, Port Finder and Configure host



A. DHCP ON/OFF

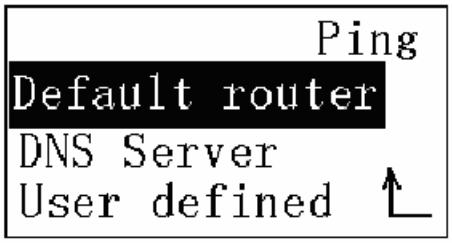
If DHCP is ON, the device can get IP Address from server automatically.

Note: Manual IP Address configuration will be ignored until you turn off DHCP

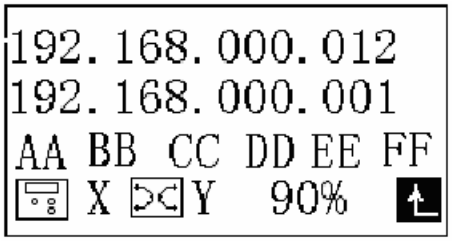
If DHCP is OFF, user must configure the device's IP Address manually.

B. "Ping" menu

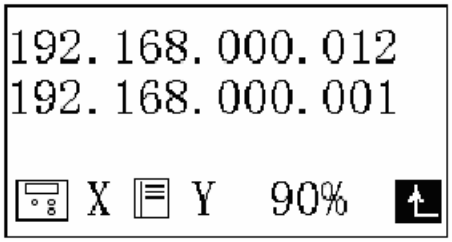
The device can ping: Default Router, DNS Server and User-defined device (four devices at most)



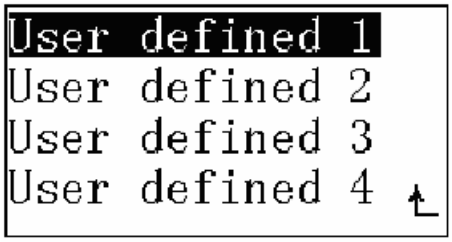
"Ping default router" menu

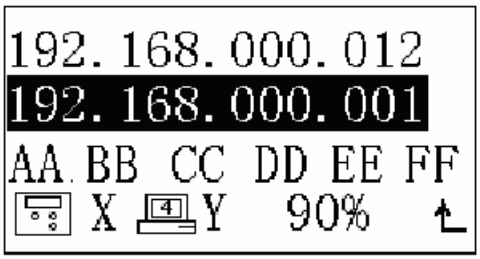


"Ping DNS Server" menu



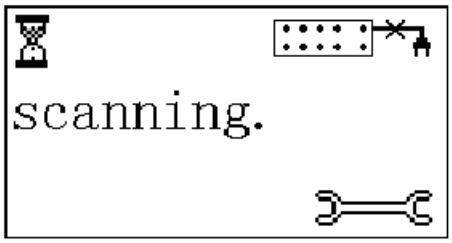
"Ping user defined device" menu



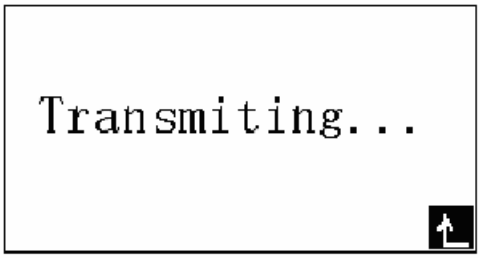


Ping results:
The first line is host (device) IP address
The second line is Default Router/DNS Server/User-defined device IP address
The third line is Default Router/DNS Server/User-defined device Mac address
X is the number of packages host send
Y is the number of packages the Default Router/DNS Server/User-defined device received
X% is the packets ratio of send to receive

If the device is connecting an inactive Ethernet device, the LCD will display an icon for indication.



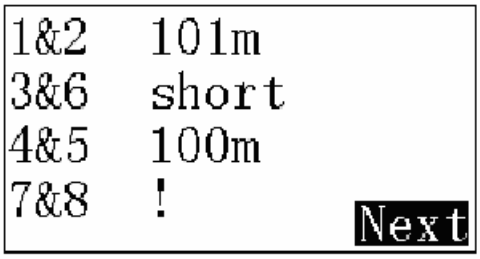
"**Port Finder**" menu
Port finder is a distinctive feature that Professionals recommend. It's used to identify the correct port the cable is using. The correspondent port's LINK LED will blink once the device sends Ethernet fast link signals through the cable. With this attribute, cable labeling has just become so much easier.



NETmapper sends fast link signals until Enter key is pressed.

Off line test
When connecting a network cable, the LCD displays the cable's single end test result: cable length, short status, and cable fault.

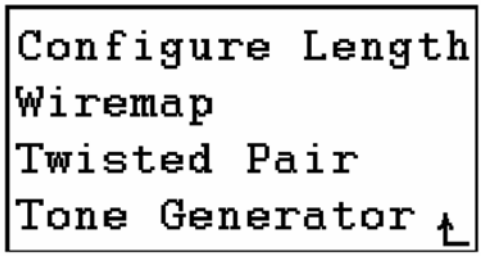
"Off line test" menu



“XX” m indicates the pair’s length
“short” indicates a short pair
“!” indicates a problem pair.

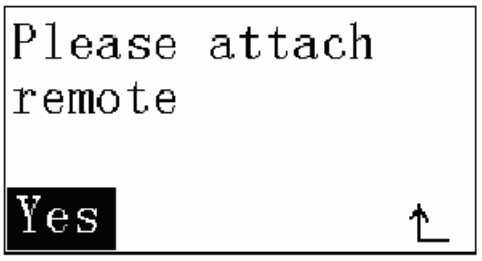
User may use the above menu to test cable length. Before testing, the user should setup the style of cable to be tested in “Configuration Length” menu.
For standard twisted cable, user should setup “Configuration Length” → “Cat5/Cat5e/Cat6”
For non-standard twisted cable, user should calibrate parameter by using a criterion cable first. It is operated by “Configuration Length”→”Calibrate” menu

Enter the “Next” menu; there are four options.

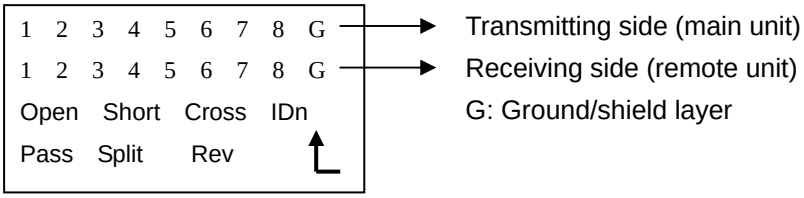


Wiremap

Connect one end of tested cable to NETmapper’s main unit, and the other to the remote.



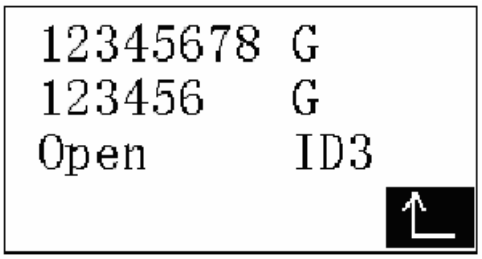
NETmapper displays cable map results by pin-to-pin. If there are shorts with shields layer, the device will automatically display it first



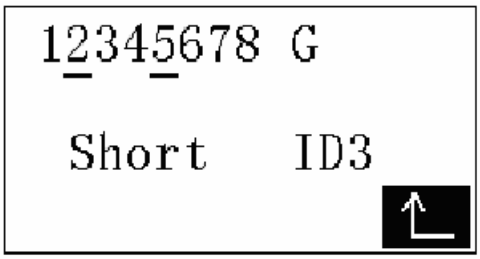
IDn: The number of remote identification unit.

N=1, 2, 3, 4

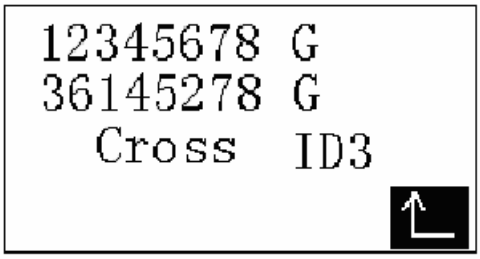
The following explains the Wiremap results in details:



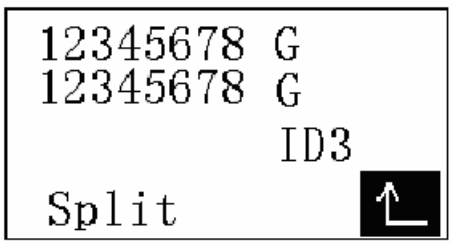
Pin7 and Pin8 are open.



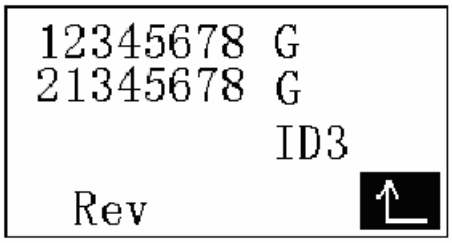
Pin2 and Pin5 are short.



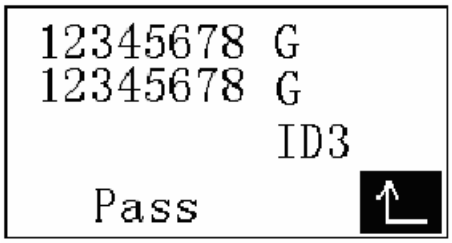
Pair1, 2 and Pair3, 6 are cross



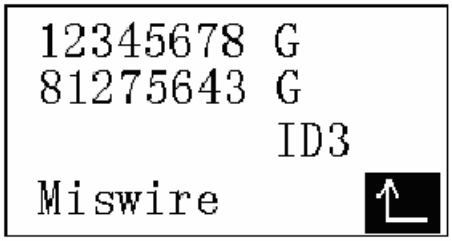
Pair1, 2 and Pair3, 6 are split.



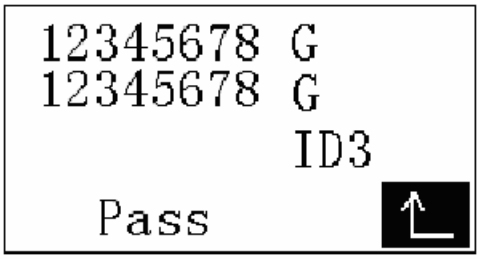
Pin1 and Pin2 are reversed



All pins are ok



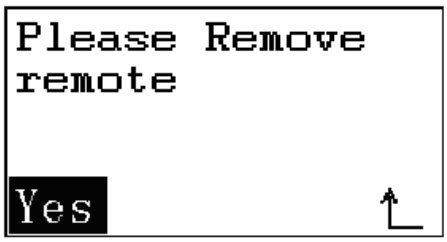
Pins are miswire.
It can also indicate the remotes identification unit number attached to the far end of the subject cable.



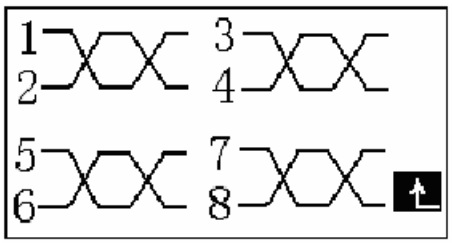
The remote identification unit number is 3.

Twisted Pair

The cable's twisted status can be analyzed and shown as map by selecting the "Twisted Pair" option. In the mode, remote unit should be removed from the end of the cable; otherwise test result will be inaccurate.



Warning will be displayed for unplugging the remote unit.

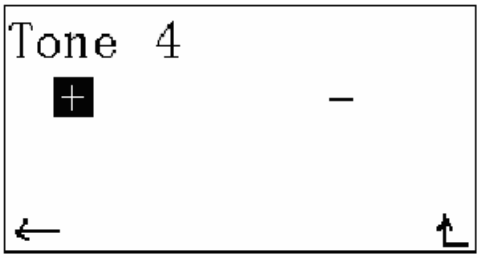


Split on pair 2 & 3

If the cable is shorter than 1 meter, the device can not identify the twisted status, it will display a warning message “Can not detect cable less than 1m”.

Tone Generator menu

At 1 KHz frequency, the device emits an audio signal to a cable - User can trace the cable by the corresponding cable tracer (a tone will be generated on all pins with 4 distinct tonalities). Press Enter key to select different tonality.



Low battery

It is recommended to check the battery conditions before use. Low battery will lead to inaccurate test results.