CableMaster 210 Manual

EN

- RJ45 port
- Large, backlit LCD display with all test information, including PASS/FAIL indication
- Very easy operation via dedicated function keys
- Display of cable faults
- Removable remote unit attached in the bottom
- Continuous Autotest capability
- Test of cables up to 304m in length
- Built in tone generator – can be used for cable tracking with a cable probe (Art.-No. 226007)
- Compact size
- Overvoltage protection up to 60V DC and 55V AC

TECHNICAL SPECIFICATIONS	
Size	120 x 67 x 28mm
Weight with Battery	120g
Power Supply	2 x 1.5V AAA Alkaline
Voltage protection	60V DC, 55V AC
Operating temperature	-10 – +50°C
Storage temperature	-20 – +60°C
Humidity	10% – 80%, non-condensing
Maximum cable length	300m
Wiremap	according to ISO11801, EN50173, TIA568
Test port	RJ45 port

CONTENT

WARNINGS

- To ensure safe operation and service of the tester, follow these instructions. Failure to observe these warnings can result in severe injury or death.
- The CableMaster 210 is designed for use on unenergized cabling systems. Connecting the CableMaster 210 to live AC power may damage it and pose a safety hazard for the user.
- Poorly terminated RJ plugs have the potential to damage the jack on the CableMaster 210. Visually inspect an RJ plug before inserting it into the tester. The contacts should always be recessed into the plastic housing of the plug. Plugging 6, 4 and 2-position plugs into the 8-position jack on the tester has the potential to damage the outer-most contacts of the jack unless the plug is specifically designed for that purpose.

DISPLAY AND SYMBOL DESCRIPTION

DISPLAY

The first and second line of the screen show the device status.

The third line of the screen shows the target state of the wiring with wires 1 to 8 and screen (shield).

The fourth line of the screen shows the actual state of the wiring.

TYPES OF ERRORS

NOTE: Colors of pair used in the following explanations are based on EIA/TIA 568 B color coding.

✘ **Test error**: When the tester finds a wiremap error in the structured cable, it displays this ERROR symbol together with the type of error described below and the pairs involved on the pinout in line 4 *(see wiremap test on page 3)*

Crossed wires: This is a typical error when building connectors, within a same pair for example when a wire connects pin 1 at the near end with pin 2 at the far end, and the other wire of the pair connects pin 2 at the near with pin 1 at the far end. The correct wiring would be pin 1 to pin 1 and pin 2 to pin 2. There are many possible crossed wires errors.

Crossed pairs: In this case it's the whole pair that has been crossed, for instance pins 1 and 2 on the near end are connected to pins 7 and 8 at the far end (in some cables the white-orange and orange colors of pair 1-2 are quite similar color than the white-brown and brown or pair 7-8).

Split Pair: This error is also called a double-crossed error, and occurs when a wire cross error is made at both ends of the cable, for example, if the white-orange wire, which should be connected to pin 1 at near and far end of the cable, is connected to pin 7 at both ends, and the white-brown wire, which should be connected to pin 7 at near and far end of the cable, is connected to pin 1 at both ends. This is a typical split pair because (again) white-orange and white-brown wires are quite similar in color in some cases.

Short circuit: This error indicates that the pins of a pair are connected to each other at some point along the cable.

Open circuit: This error indicates that the pair is cut or disconnected to the pins of the connectors at some point along the cable.

✔ **Test Pass**: Is displayed if there are no wiremap errors in the cable.

TEST STATUS SYMBOLS

Tone generation: This symbol is displayed on the screen when the Tone generation function is on. To enable Tone generation, the key on the right side needs to be pressed (fast press). If the press is sustained for more than 2 seconds, then the type and also the strength of the tone generated will change. If pressed longer then the different options will keep changing sequentially till released when the chosen option is reached.

✔ **Wiremap test**: This key on the left side is to run the wiremap test when pressed fast.

✔ **Continuous wiremap test**: Pressing for more than 2 seconds the key with the symbol on the left will enable a continuous test mode, indicated with the symbol when on. To disable press for over 2 seconds again.

Voltage warning: This symbol will be displayed on the tester when it detects voltage on the cable.

Low battery warning: This symbol will appear when it's running out of batteries.

1 **Number of remote connected**: This symbol will indicate the ID number of the wiremap remote device connected at the far end of the cable.

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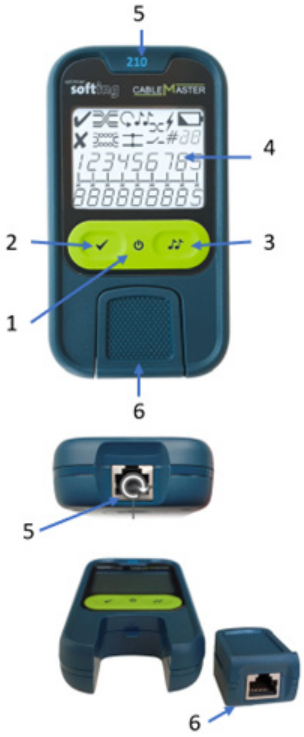
OPERATION INSTRUCTIONS



1 On/Off and backlight button
2 Run wiremap test
3 Run tone generation
4 Screen with/without backlight
5 RJ45 test port on CableMaster
6 RJ45 test port on wiremap remote

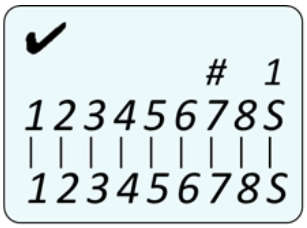
Turning on the unit:
Press button #1, if kept pressed for 3 seconds the backlight will turn on

Wire map test:
Connect the cable under test on to the RJ45 port on the tester (***5***), connect the remote end of the cable under test to the wiremap remote device (***6***), either directly or using patch cords, and press button ***2***. The third line on the screen will display the pins in order from 1 to 8 and the shield, the fourth line on the screen will display the pins on the remote side, if they all coincide it will display a pass symbol (✔), if there is an error it will display a fail symbol (✘) and the type of error identified, as described by the symbols above, and/or by the fail types listed below.

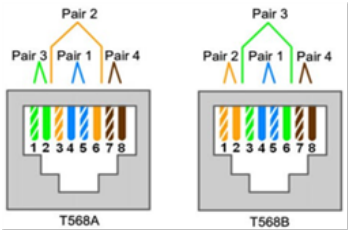
Generating a Tone on the RJ45 port of the tester (*5*):
Press the key ***3*** once and a tone will be generated, displaying on the third line of the screen on which pins it's been transmitted, and on the fourth line which type of tone.
Pressing alternatively button ***3*** it's possible to change the pins on which it's transmitted, and keeping button ***3*** pressed for 3 seconds will start scrolling through the different types of tones that can be selected.

WIRING AND DISPLAY EXAMPLES

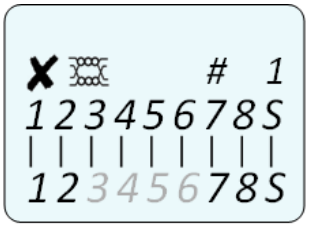
PROPERLY WIRED CABLE



T568B color coding of the pinout is electrically identical to T568A, but swaps the green and orange pairs, as shown in the figure below.

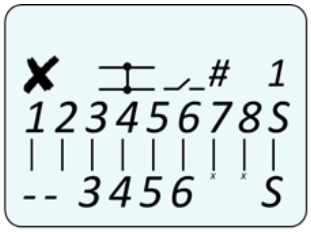


SPLIT PAIRS



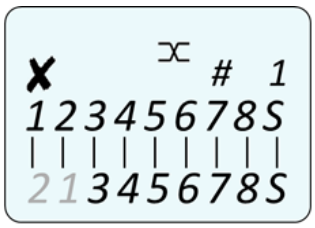
The screenshot on the left shows a split error on pairs 4-5 and 3-6, indicating there is an error with the ✘ symbol.
A common error is to swap the white wires that have a thin color line difficult to see, in this image pin 3 and pin 5 have been swapped at both ends, so the greyed numbers in the bottom will blink and the ⧖ will appear on the top indicating that there is a split error on pairs 4-5 and 3-6.

SHORT AND OPEN PAIRS



The screenshot on the left shows 2 errors that are common when the crimping of wires into the connectors hasn't been done correctly, indicating there is an error with the ✘ symbol.
Pair 1-2 is short, showing the test has failed with the ⊥ symbol on the top.
And pair 7-8 is open, also with the ⌐ symbol on the top.

CROSSED WIRES



The screenshot on the left shows pair 1-2 is crossed, indicating there is an error with the ✘ symbol, with the bottom pins greyed out, and the ⨯ symbol on the top.

MAINTANANCE

Cleaning
Turn instrument off and disconnect any cables. Clean the instrument by using a damp cloth.
Do not use abrasive cleaners or solvents.

Battery replacement
Remove single screw in the middle of the back of the CableMaster 200 with a #0 Phillips head screwdriver. Remove battery door.
Recycle exhaust batteries. Hitting the palm of your cupped hand with the back of the CableMaster 210 will usually dislodge the batteries from the compartment.
Acquire 2 x 1.5V AAA alcaline batteries (IEC LR44, ANSI/NEDA 1166A).
Insert batteries into battery compartment with the battery plus sign (+) in the direction of the plus sign on the case (the spring contact is negative, and the button contact is positive). Inserting the last battery in the middle of the stack is the easiest.
Replace battery door and screw, taking care not to over-tighten its LCD-Display.

Storage
Remove the batteries when the tester is not in use for a prolonged period. Do not expose to high temperatures or humidity. After a period of storage in extreme conditions exceeding the limits mentioned in the Specifications section, allow the instrument to return to normal operating conditions before using it.

Disposal / Recycle
Do not place equipment and accessories in the trash. Items must be properly disposed of in accordance with local regulations. Prior to disposal of this product, please contact Klein Tools for proper disposal options.

CUSTOMER SERVICE

CONTACTING SOFTING IT NETWORKS

For technical information and support please contact the Softing Office in your country. Please see below or go to **http://itnetworks.softing.com**.

WARRANTY

Softing IT Networks GmbH warrants that the product shall be free from defects in parts or workmanship for a period of 12 months from the date of purchase if used in accordance with Softing IT Networks GmbH operating specifications. THIS IS THE ONLY WARRANTY MADE BY Softing IT Networks GmbH AND IS EXPRESSLY MADE IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE. Should any parts or workmanship prove defective, Softing IT Networks GmbH will repair or replace at Softing IT Networks' option, at no cost to the Buyer except for shipping costs from the Buyer's location to Softing IT Networks. This is Buyer's SOLE AND EXCLUSIVE REMEDY under this Agreement. This warranty does not apply to products which have been subject to neglect, accident or improper use, or to units which have been altered or repaired by other than an authorized repair facility.
For European-Customers: Return of Equipment – To return a product to Softing IT Networks GmbH, first obtain a Return Authorization number from our Customer Service by calling +49-89-45656660. The RMA# must be clearly marked on the shipping label. To: Softing IT Networks GmbH Richard-Reitzner-Allee 6 85540 Haar Germany RMA-Nr. XXXXXX
For North American-Customers: Return of Equipment – To return a product to Softing inc, first obtain a Return Authorization number from our Customer Service by calling +1.865.251.5252. The RMA# must be clearly marked on the shipping label. To: Softing Inc. 7209 Chapman Highway Knoxville, TN 37920 USA RMA-Nr. XXXXXX
For Asia/Pacific-Customer: Return of Equipment - To return a product to Softing Singapore PTE LTD, first obtain a Return Authorization number from Our Customer Service by calling +65-6569-6019. The RA# must be clearly marked on the shipping label. To: SOFTING SINGAPORE PTE. LTD. 3 SCIENCE PARK DRIVE #03-09 THE FRANKLIN SINGAPORE SCIENCE PARK 1 SINGAPORE 118223 RMA# XXXXXXXX

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