

INSTRUCTION MANUAL

HDMI Cable Tester



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REV1.0

DESCRIPTION

The NF622 HDMI Cable Tester is designed for professional HDMI installations. This portable device allows installers to quickly test, troubleshoot, and verify HDMI (high definition multimedia interface) cables. NF622 is designed to test wire circuit state of HDMI cables with Type A & C connectors conforming to 1.0, 1.1, 1.2, 1.2a, 1.3, 1.3a, 1.3b, 1.3c, 1.4, 1.4a Category 1 and Category 2 cables. Equipped with 3 test modes, Automatically fast/slow scan **or** manual test for step by step, this tool can either test the conductors in straight · short · open · crossover in all RGB conductors.

SAFETY INFORMATION

Safety is essential in the use and maintenance of equipment. This instruction manual and any markings on the tool provide information for avoiding hazards and unsafe practices related to the use of this tool. Observe all of the safety information provided.

Warnings

- **Do not connect tester to a live circuit as it may damage the unit.**
- It is easy to damage this tester with charged HDMI lines.

Caution

- Read all instructions in this manual before using this tester. Failure to do so may result in damage to the tester or injury to the user.
- Do not drop or get the unit wet. Do not expose tester to extreme humidity or direct sunlight.

- Do not use this tester with its case open, or with parts removed. Doing so may damage the tester and/or injure the user.
- Repairs and maintenance must only be carried out by qualified service personnel or qualified electricians/technicians who know the dangers.
- Follow the recommendations of any Trade Organizations or Regulatory Agencies whose scope encompasses the use of this tester or injury to the user.
- Remove the battery when the tester not in use for longer than a month. Chemical leakage from the battery could damage the tester.
- Please use batteries according to the specification; otherwise it may result in damage to equipment.

CONTENTS

Your NF622 HDMI Cable Tester contains the following

1. 1 x Master unit.
2. 1 x Remote unit.
3. 1 x Pouch bag.
4. Users' Manual.

FEATURES:

The NF622 HDMI cable tester allows the fast and accurate verification both HDMI type A and Type C cables, mapping continuity and proper configuration and displays 19 pins and shield connection status on both main and remote unit.

For HDMI cables Type A, C

Test all HDMI cables with Type A to A, A to C and C to C connectors, especially for fragile, easily damaged HDMI patch cord and in-wall HDMI cables.

Loopback function

Design with loopback function allows test HDMI type A to A, A to C on main unit.

3 Test Modes

- Fast continuity scans for testing all conductors' status in a cable.
- Slow continuity scans for testing all conductors' status in a cable.
- Manual test for step by step scan detecting of individual conductors' situation.

HDMI Cable Mapping

Automatically detect wiring on HDMI type A or type C condition in straight、short、open、crossover in pin #1~#19 and Shield conductor.

Troubleshooting

Quickly troubleshoot and verify HDTV installation and DIY termination in the field.

SPECIFICATIONS:

- **Cables Tested:**HDMI cables with Type A & C connectors conforming to 1.0, 1.1, 1.2, 1.2a, 1.3, 1.3a, 1.3b, 1.3c, 1.4, 1.4a Category 1 and Category 2 cables.
- **Support test** (main unit and remote unit):
19 pin-to-pin wire map and shielding detection.
- **Test interface of Master unit:**
HDMI (type A) ×1 pcs, Mini HDMI (type C) ×1 pcs.
- **Test interface of Remote unit:**
HDMI (type A) ×1pcs, Mini HDMI (type C) ×1 pcs.
- **Cable length:**Under 50 meters.
- **Test Mode:**
Automatically fast scan · Automatically Slow scan.
- **Displays:**
19 LEDs and shield LED on both main and remote unit.
- **Beeper indication.**
- **Low battery indication:**Under 6.0V
- **Power source:**
DC 9V(NEAD 1604/6F22)×1 (not included)
- **Dimension:**
Main unit:103×66×27,Remote unit : 103×35×27 mm
- **Weight:**130g (not including battery)
- **Operating environment:**
32°F to 104°F (0°C to 40°C) < 80% RH
- **Storage environment:**
14°F to 122°F (-10°C to +50°C) < 70% RH

PRODUCT DIAGRAM(Fig 1)

1.LOOPBACK : Mini-HDMI (C Type)

This socket not only can be used on Master unit loopback test but also can be used on Master unit Mini-HDMI (C Type) with Remote unit Mini-HDMI (C Type) to perform scan test.

2.MAIN : HDMI (A Type)

3.LOOPBACK : HDMI (A Type)

4.Remote unit : HDMI (A Type)

5.Remote unit : Mini-HDMI (C Type)

6.Switch : MASTER/OFF/REMOTE

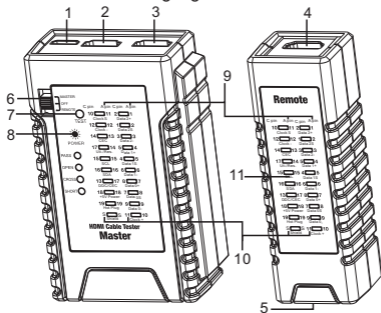
7.TEST : Automatic fast/slow scan or manual test for step by step.

8.Power and low battery indication.

9.HDMI (A Type) Pin number.

10.Mini-HDMI (C Type) Pin number.

11.LED for indicating signal situation.

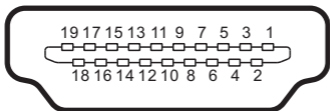


Master Unit Fig 1 Remote Unit

HDMI Cable Wire / Pin And Signal Description:

HDMI (A)Pin #	MINI-HDMI (C)Pin #	Pin Assignment	Signal Description
1	2	Data 2+	TMDS Red Data Plus
2	1	Data 2S	TMDS Red Data Shield
3	3	Data 2-	TMDS Red Data Minus
4	5	Data 1+	TMDS Green Data Plus
5	4	Data 1S	TMDS Green Data Shield
6	6	Data 1-	TMDS Green Data Minus
7	8	Data 0+	TMDS Blue Data Plus
8	7	Data 0S	TMDS Blue Data Shield
9	9	Data 0-	TMDS Blue Data Minus
10	11	Clock +	TMDS Clock Plus
11	10	Clock S	TMDS Clock Shield
12	12	Clock -	TMDS Clock Minus
13	14	CEC	Consumer Electronics Control
14	17	Reserved	Utility/Reserved
15	15	SCL	Serial Clock
16	16	SDA	Serial Data
17	13	DDC/CEC	Data shield for the display data channel and consumer electronics control
18	18	+5V Power	+5V Power
19	19	Hot Plug	Hot Plug Detect
S	S	Shield	Shield

Corresponding to the Pins Definition of the HDMI cables(Fig 2)



OPERATION

⚠ Note

- When all LEDs are lighted all LEDs will decrease brightness.
- Master unit shorted pins LED will be brighter than others when shorted 2 pins above that is correct.
- Shield LED will light up after #1~19 LEDs light up in sequence on any testing mode. If the HDMI cable has a shield, the Shield LED will light up, if without shield the LED will be unlighted. Power off :

Power off:

Slide upper left switch to "OFF" , " POWER" LED will go out and the unit will no longer work when pushing the "TEST" button.

Master unit loop continuity scan testing function

Note

When performing master unit scan test, sequence of LEDs light up as below. LED#1 (Data 2+)→ LED#10 (Clock +)→ LED#S (Shield)→ LED#11 (Clock S).

※ Insert one of A type connector of cable to Master unit LOOPBACK (A Type) socket and insert the other one to Master unit MAIN (A Type) socket for test HDMI cable A type to A type.

※ Insert A type connector of cable to Master unit LOOPBACK (A Type) socket and insert C type connector of cable to Master unit Mini-HDMI (C Type) for test HDMI cable A type to Mini-HDMI (C Type).

1. Slide upper left switch to “MASTER” then “POWER” LED lights up, Master unit #1~19 and “Shield” LEDs will all light up with a long beep sound then all LEDs are off except “POWER” LED for saving power and the unit is ready for testing.

2. Push “TEST” button to perform master unit continuity scan test, it will continually scan 1~19 pin and shield conductor, Master unit #1~19 and Shield LEDs will light up in sequence fast, finally master unit LED will indicate testing result with sound as below. The testing result will keep 5 second then all LEDs are off except “POWER” LED for saving power. Press “TEST” button again for test.

3. Master unit scan test result with beep sound as below.

● **Straight:** With a long “beep” sound: Meaning 1~19pin and S pin all straight connected. **(Fig 3.)**

● **Open:** with a short “beep” sound ◦ No connected pins LED are off. Example: Test HDMI (A Type) to HDMI (A Type) cable that pin #2, #5, #8 and #11 are not connected , or test HDMI (A Type) to Mini-HDMI (C Type) cable that pin #1 、 #4 、 #7 、 #10 are not connected. **(Fig 4.)**

● **Short:** With three short “beep” sound. Shorted pins LED will light up at same time. Example: Test HDMI (A Type) to HDMI (A Type) cable that pin #4 、 #5 、 #6 are shorted or test HDMI (A Type) to Mini-HDMI (C Type) cable that pin #4 、 #5 、 #6 are shorted. **(Fig 5.)**

● **Crossover:** With two short “beep” sound. Crossed pins LED will light on at same time. Example: Test HDMI (A Type) to HDMI (A Type) cable that pin #13 crossed with pin #17 and pin #14 crossed with pin #19, or test HDMI (A Type) to Mini-HDMI (C Type) cable that pin #14 crossed with pin #13 and pin #17 crossed with pin #19. **(Fig 6.)**

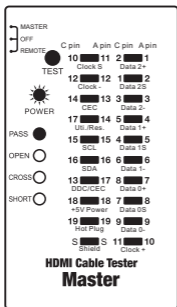


Fig 3 . Straight

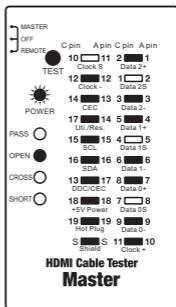


Fig 4 . Open

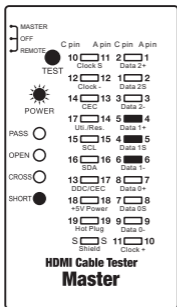


Fig 5 . Short

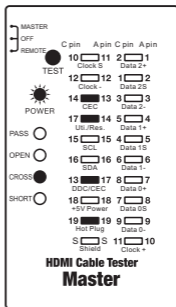


Fig 6 . Crossover

Master unit with Remote unit automatic testing function

※ Insert one of A type connector of cable to Master unit MAIN (A Type) socket and insert the other one to Remote unit A Type connector for test HDMI cable A type to A type.

※ Insert A type connector to Master unit LOOPBACK (A Type) and insert C type connector to Remote unit Mini-HDMI (C Type) for test HDMI cable A type to Mini-HDMI (C Type).

※ Insert one of C type connectors of cable to Master unit Mini-HDMI (C Type) socket and insert the other one to Remote unite (C Type) socket for test HDMI cable Mini-HDMI (C Type) to Mini-HDMI (C Type) socket.

1. Slide upper left switch to "REMOTE" then "POWER" LED lights up. Master unit #1~19 and "Shield" LEDs will all light up with a long beep sound then Master unit and Remote unit both #1~19 and "Shield" LEDs will indicate tested result. Testing result will keep 12 seconds then all of LED are off except "POWER" LED for saving power.

2. Press "TEST" button then Master unit and Remote unit both #1~19 and "Shield" LEDs will indicate tested result. Testing result will keep 12 seconds then all LEDs are off except "POWER" LED for saving power.

1. LED indicates test result as below:

● **Straight:** Master unit and Remote unit both testing pin #1~19 and "Shield" LEDs are all lighted up. (Fig 7.)

- **Open:** Master unit and Remote unit both no connected pins LEDs are off. (Fig 8.)

- **Short:** Master unit testing short pin LEDs brighter than others. Remote unit shorted pins LEDs are off. (Fig 9.)

- **Crossover:** It can't be tested on this mode.

Master unit with Remote unit slow continuity scan testing function:

1. Press "TEST" button during LED indicate automatic testing result or Press twice "TEST" button before LED off for perform automatic testing, it will continually scan #1~#19 pin and shield conductor. Master unit and Remote unit both #1~19 and Shield LEDs will light up in sequence very slow and sustained repeated automatic scan.

2.LED indicate testing result as below :

- **Straight:** Master unit and Remote unit both testing pins #1~19 and Shield LEDs are all lighted up in sequence. (Fig 7.)

- **Open:** Master unit and Remote unit both LEDs are off when scan to no connected pins, others LEDs are all lighted up in sequence. Example : Test HDMI (A Type) to HDMI (A Type) cable that pin #2 、 #5 、 #8 、 #11 are not connected, or test HDMI (A Type) to Mini-HDMI (C Type) cable that pin #1 、 #4 、 #7 、 #10 are not connected, or test Mini-HDMI (C Type) to Mini-HDMI (C Type) cable that pin #1 、 #4 、 #7 、 #10 are not connected. (Fig 8.)

● **Short:** Master unit LED brighter than others and Remote unit LED off when scan to shorted pins, Master unit and Remote unit both LED are all lighted up in sequence, Example : Test HDMI (A Type) to HDMI (A Type) cable that pin #4 、 #5 、 #6 are shorted, or test HDMI (A Type) to Mini-HDMI (C Type) cable that pin #4 、 #5 、 #6 are shorted, or test Mini-HDMI (C Type) to Mini-HDMI (C Type) cable that pin #4 、 #5 、 #6 are shorted. **(Fig 9.)**

Crossover: Master unit LEDs light up in sequence and Remote unit LEDs light up sequence by crossed pins, Example : test HDMI (A Type) to HDMI (A Type) cable that pin #13 with pin#17 are crossed and pin #14 with pin #19 are crossed, or test HDMI (A Type) to Mini-HDMI (C Type) cable pin #14 with pin #13 and pin #17 with pin #19 are crossed, or test Mini-HDMI (C Type) to Mini-HDMI (C Type) cable pin #14 with pin #13 are crossed and pin #17 crossed with #19 are crossed. **(Fig 10.)**

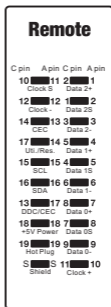
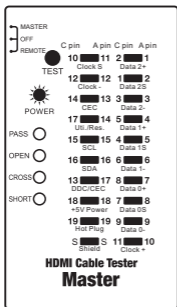


Fig 7 . Straight

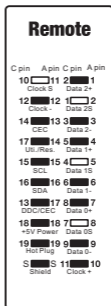
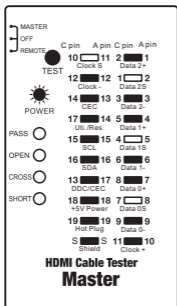


Fig 8 . Open

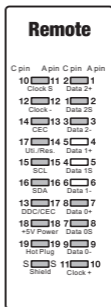
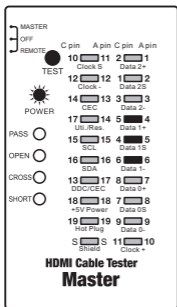


Fig 9 . Short

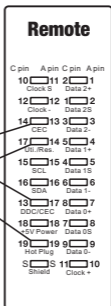
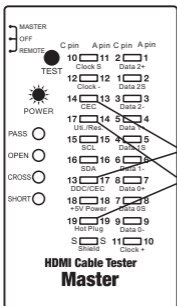


Fig 10 . Crossover

Master unit with Remote unit fast continuity scan testing function:

1. Press "TEST" button during the slow continuity scan testing, or press three times "TEST" button after the automatic testing LEDs are off : It will fast scan pin 1~19pin and Shield , Master unit and Remote unit both #1~19 and Shield LEDs will light up in sequence fast and sustained repeated automatic scan.
2. The test result please refer to the slow continuity scan testing function. **(Fig 7. ~ Fig 10.)**

Master unit with Remote unit manual scan testing function:

1. Press "TEST" button for three seconds until pin #1 LED lights up, pin #2 ~ 19pin + Shield LEDs light up step by step sequentially after pressing "TEST" button and sustained repeating.
2. The test result please refer to the slow continuity scan testing function. **(Fig 7. ~ Fig 10.)**
3. Press "TEST" button three seconds again then go back to automatic testing mode.

BATTERY LIFE AND REPLACEMENT:

Caution

- To avoid unreliable test results, replace the battery as soon as the low battery indication appears.

Warnings

- To avoid possible electric shock or personal injury, turn off the master unit and disconnect all test leads before replacing the battery.

Battery Status:When "POWER/LOW BATT."

LED is flashing on the master unit, it means the battery voltage is under 6.0V which couldn't power the device on. Please replace the battery as the following step:

- 1.Turn off the master unit and disconnect all test leads before replacing the battery.
- 2.Properly replace the battery into the battery case.
- 3.Use only a DC 9V(NEAD 1604/6F22) battery.

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