# HD DIY Field Termination User Manual

For terminating HDMI ribbon wires

Thank you for purchasing the Luxi Electronics patented HD DIY (Do It Yourself) field termination products. If you are an experienced installer with the DIY products, you can just print out this first page with wire color coding picture for your reference. If you are new to the DIY products, please make sure you read through all the pages before performing the termination.

Making a new cable:

Luxi Electronics is the patent owner of these HDMI ribbon wires and the matching DIY connectors, and the only manufacturer of these products, thus the color coding is consistent and product compatibility is guaranteed. Just follow the instructions below.
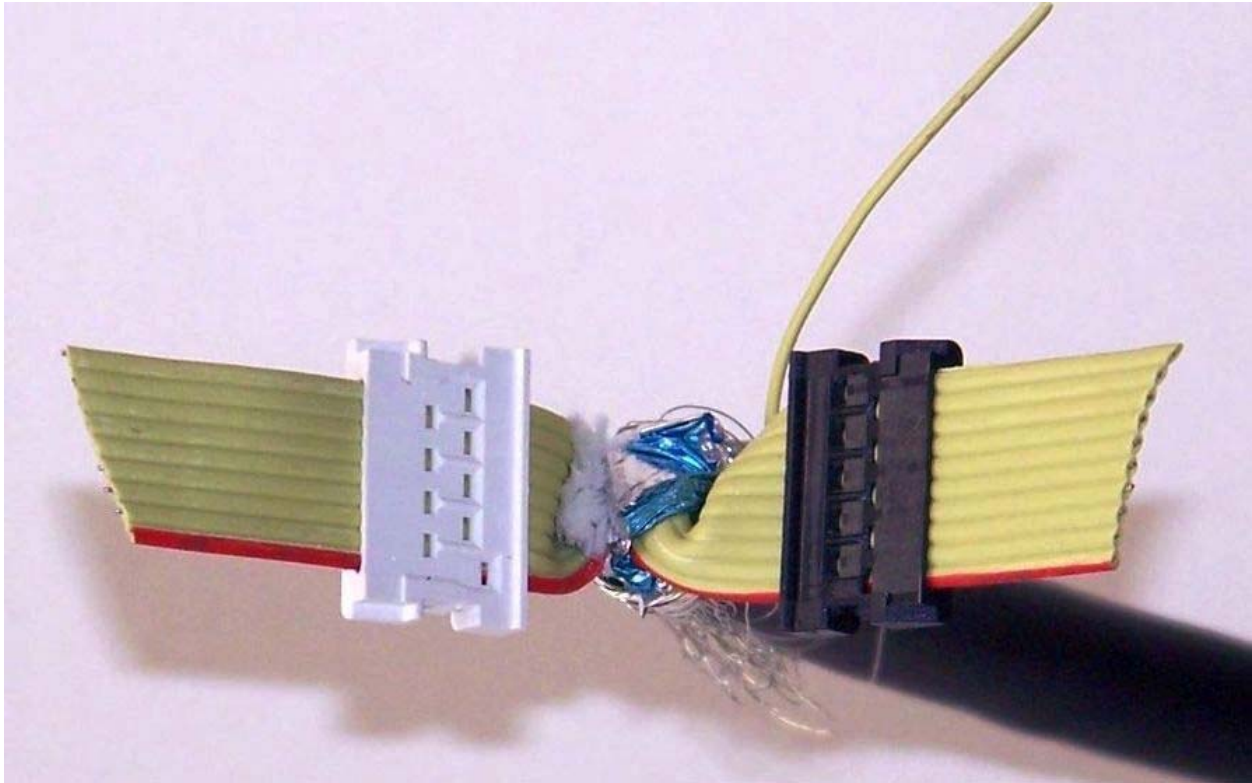

Repairing one end of an existing cable:

Since this HDMI ribbon wires are new, there should be no existing HDMI cables in the installations using the HDMI ribbon wires; thus the repair cannot be made by these DIY connectors for ribbon wires. Please refer to the Luxi HDMI DIY connectors for regular wires for repair purpose.

Identifying the components

First, make sure you have all the necessary parts for the field termination.
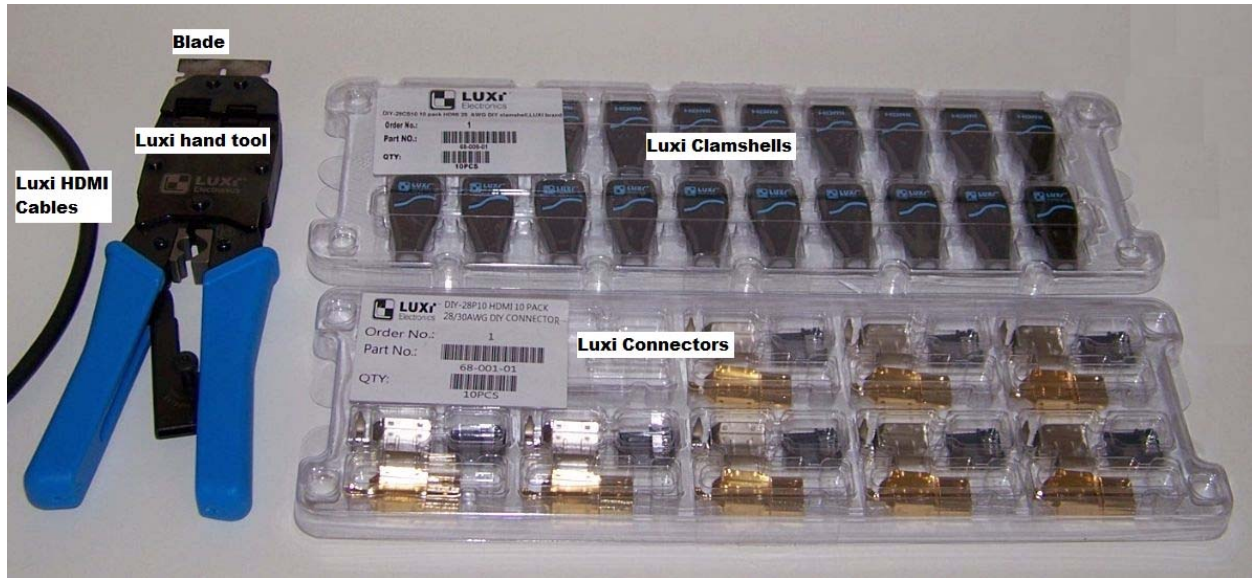
As shown in the picture above, you need the Luxi HDMI DIY connector components (5-piece) for ribbon cables, Luxi connector clamshell (2-piece), Luxi raw HDMI ribbon cables, a Luxi hand tool and a blade.

Be familiar with the component names as show below. HDMI connector has a wider side with 10 pins and a narrower side with 9 pins. We call the wider side the top side. For the two wire holders, the top wire holder is black, bottom on is white; the side with many slots is the inner side; this is the side which will be pushed onto the sharp pins of the connector core.
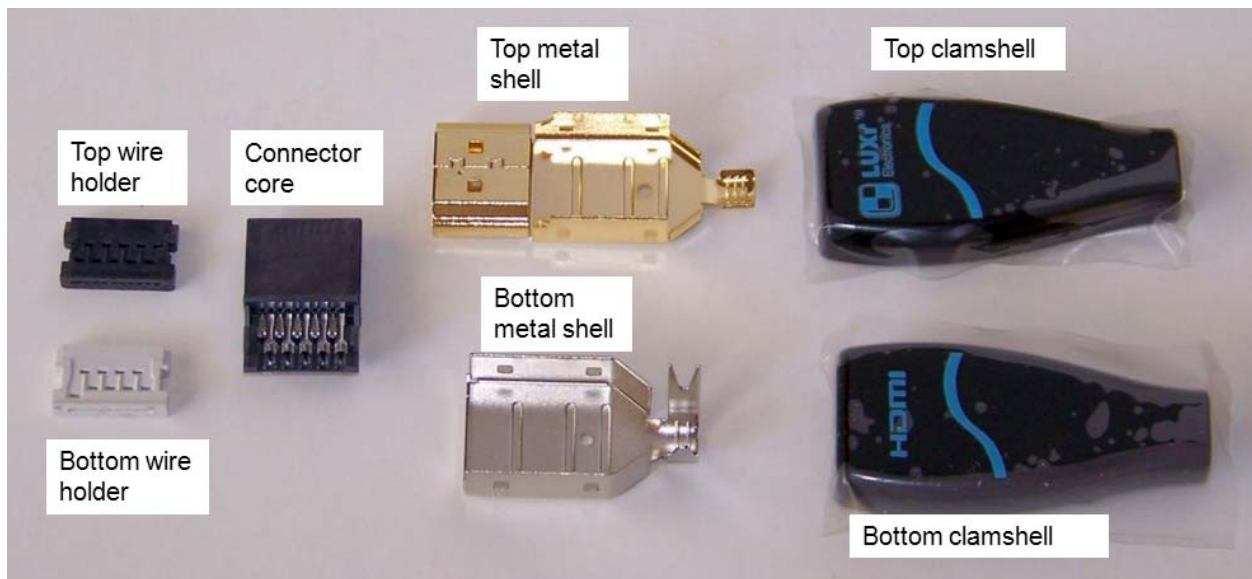
Step 1, wire preparations

1.1 Use a blade to cut around a circle of the HDMI cable overall jacket about 4 cm (1-1/2") from the end

1.4 Remove the overall aluminum foil; now the 2 ribbons inside the HDMI cable are exposed
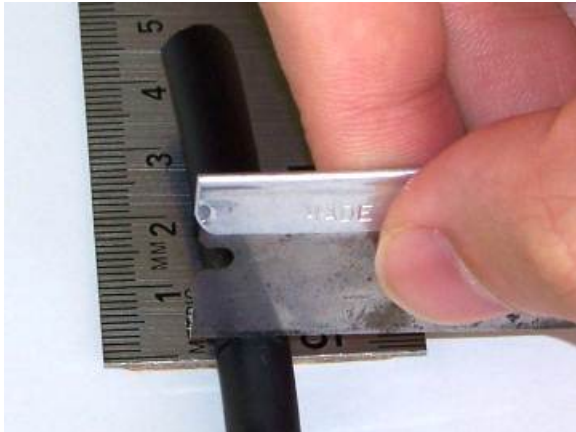
1.2 Use the blade to slice along the cable overall jacket then peel off the overall jacket

1.5 Un-twist the two ribbons, cut off the filler in the middle

1.3 Fold back the braids
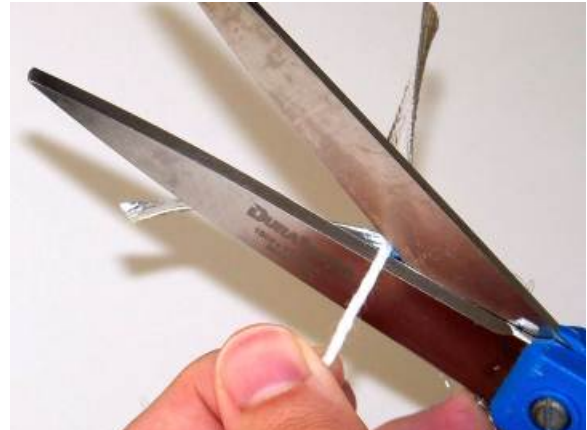
1.6 Make a clean angled cut of each ribbon

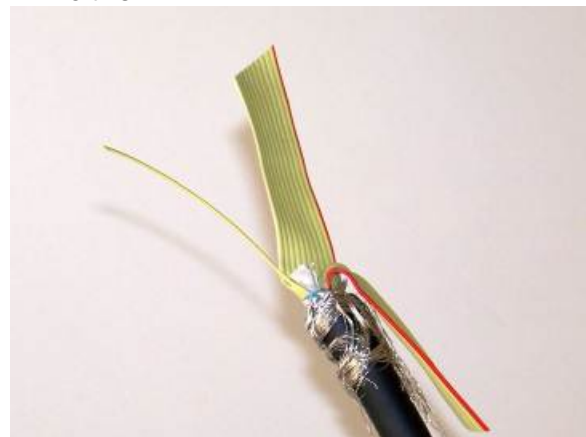1.7 Use the tip of the blade to lift a section of the aluminum foil on each ribbon

1.8 Peel off the aluminum foil from each ribbon

Here's how the ribbons look like now


Note: The newer ribbon wires changed the red stripes to black and wire stripes, for easy matching with black and white wire holders, respectively.

1.9 Carefully slice off the last wire on the opposite side from the red (or black) stripe on the wider ribbon

Like this

1.10   Strip it and wrap it around the ground braids
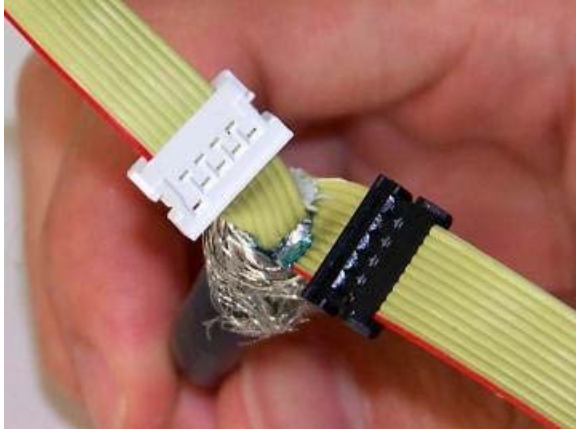
Step 2, ribbon threading

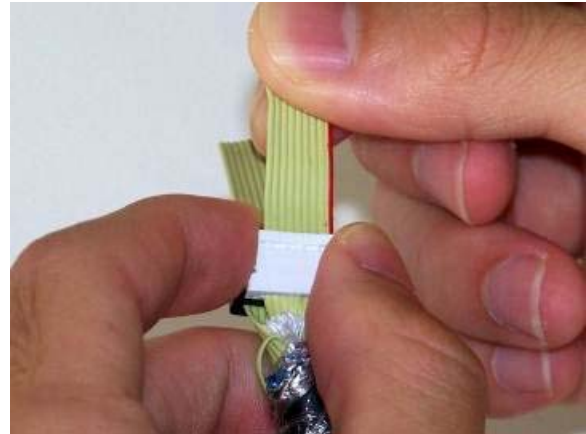2.1 First identify the embossed arrow on the outer side of each wire holder
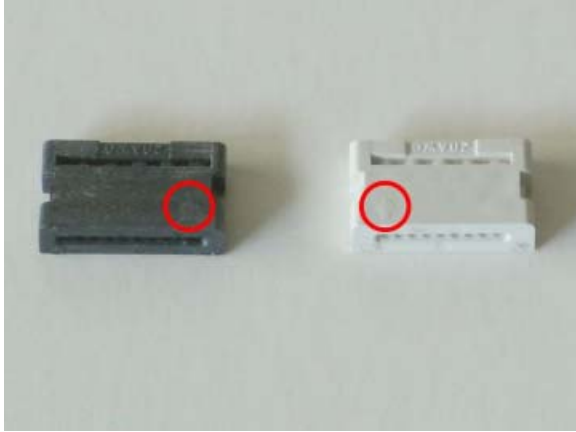
2.2 Slide top ribbon in the direction of the arrow with the red stripe line up with the arrow side
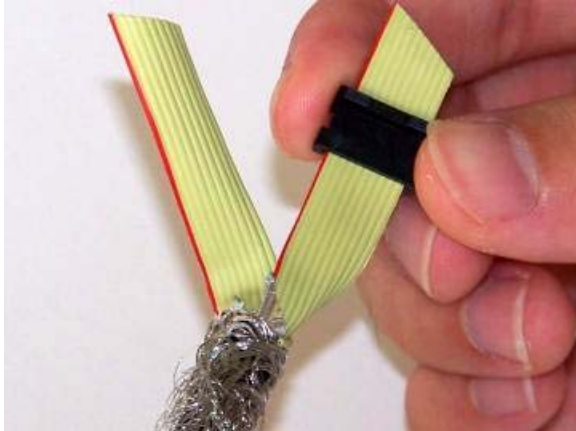
2.3 Do the same with the bottom ribbon

2.4 Important! Slide wire holders as far as they can go for best performance

2.5 Insert one wire holder all the way into No. 1 hole of the hand tool following the marked orientation and perform a pre-crimp; repeat for the other one
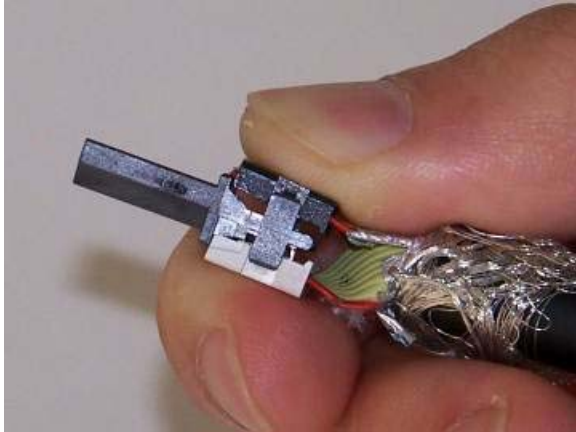

2.6 During the pre-crimp a recessed blade would cuts off the wires and a tiny slice of the wire holder; this is normal
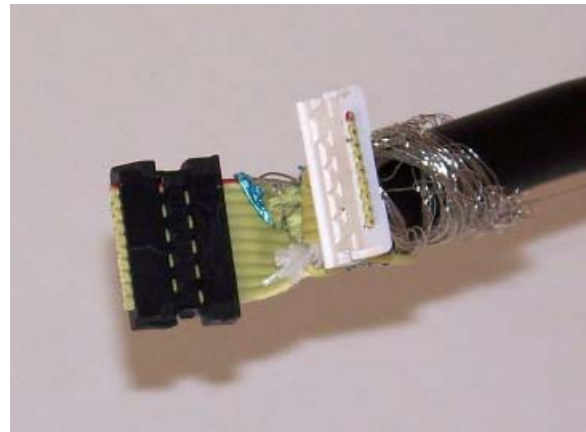
Step 3, final assembling

3.1 Pre-clip the top and bottom wire holders onto the connector core; you may have to twist one ribbon as much as 180 degree to make it facing the right way; this is normal

3.2 Insert the connector core with both wire holders all the way into No. 2 hole of the hand tool and perform crimp

3.3 Slide the connector core into the top metal shell, push up with your thumbnail until you hear or feel a click
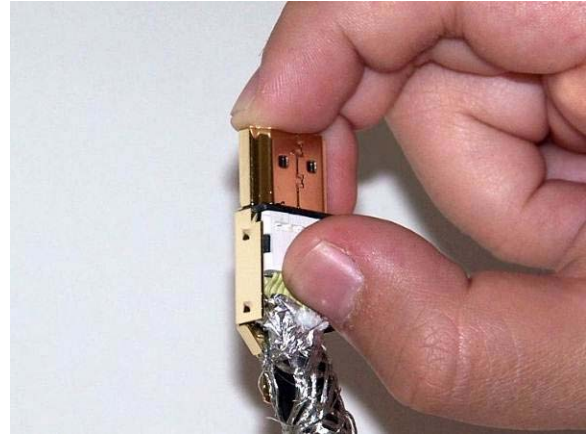
3.4 Place the bottom metal shell onto the top metal shell, line up the 4 notches, push together until you hear or feel clicks
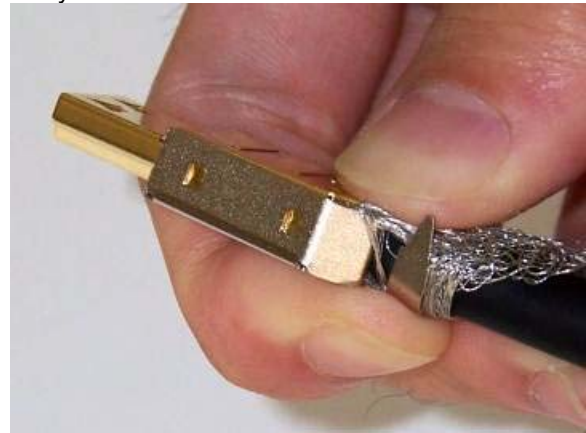
3.5 Use the finger tips to gently bend the strain relief tabs inward; be careful not to be cut
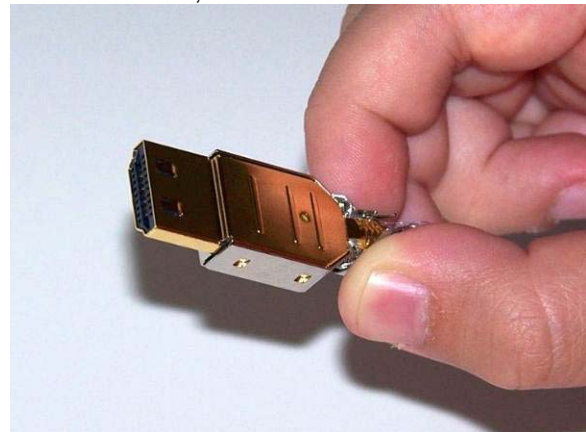
3.6 Use the hand tool's No. 3 dies to crimp the strain relief tabs onto the cable jacket with ground wires; make sure it's a tight crimp

3.7 Trim off the excessive drain wires

3.8 Place the metal shells into the bottom clamshell

3.9 Place the top clamshell onto the bottom clamshell and press them together until you hear or feel clicks

3.10   Peel of the plastic protection skin from the clamshells

Congratulations! You've just made a beautiful HDMI termination!

Testing

After finishing termination on both ends of the HDMI cable, use a Luxi HHT-200 HDMI continuity tester to test the cable and to make sure all pins are connected correctly.

If some pins get crossed or shorted, cut off the end with problem and re-terminate it.

Once pass the continuity test, connect the cable in the system to perform a signal test. If you see a normal picture on the screen and hear normal sound, the cable is good.

Max cable length

The max cable length depends on many factors such as the signal data rate (resolution), source device signal quality, TV sensitivity and the compatibility between them. As a rule of thumb, this DIY ribbon wires typically should work for up to 12 m (40') at 1080p signal rate. If the cable run is longer than 12 m (40') or you do not get a picture after the continuity test, insert a Luxi EHD-111 HDMI Extender at the TV end in between the cable and the TV to extend the distance. The max distance with extender is up to 28 m (93') with 1080p signal.
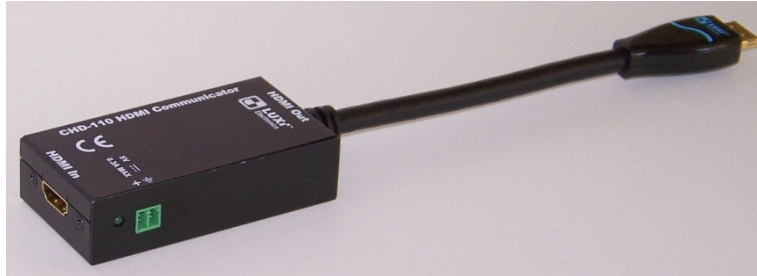
Troubleshooting

The Luxi DIY components are well designed and made. As long as the wires are inserted into the correct holes per the color coding on page 1, and drain wires are properly inserted to prevent sliding to the adjacent holes to create a potential short, and the wire slacks are reduced to minimum by sliding the wire holders as far as you can, the performance should be guaranteed by the design and better than the equivalent factory soldered HDMI cables.

If the terminated wires passed the HDMI tester test, all the connections in the system are secure and the all devices are powered up, but there's no picture or sound on the TV, try the simple steps below for troubleshooting:

1) Lower the source device (Blu-ray player, cable STB etc.) resolution to one step lower, e.g. from 1080p to 1080i; if the picture or sound comes out on the TV, then most likely the problem you had before was bandwidth/cable length related. Insert the Luxi HDMI Extender between the cable and the TV to fix the problem.

2) If after lowering the source device resolution and there's still no picture or sound on TV, then most likely the problem in the system is caused by the DDC line communication error (also known as handshaking or copyright errors). Insert a Luxi Communicator in between the cable and TV to fix the problem.

See the HDMI troubleshooting guide on Luxi website for more details.

Technical support

Please contact your distributor or directly to Luxi Electronics for technical support.

Re-order part numbers

You can re-order these parts from the authorized Luxi distributors

Part number	Model	Description
22-001-02	HD-28RD250	HDMI 28 AWG raw regular wire, 76 m/250'
22-001-03	HD-28RD500	HDMI 28 AWG raw regular wire, 152 m/500'
22-002-06	HD-30RB250	HDMI 30 AWG raw ribbon wire, 76 m/250'
22-002-07	HD-30RB500	HDMI 30 AWG raw ribbon wire, 152 m/500'
68-009-11	DIY-28DS10B	10 pack HDMI 28 AWG DIY connector for regular wire and clamshell bundle
68-010-01	DIY-30BS10	10 pack HDMI 30 AWG DIY connector for ribbon wire and clamshell bundle
68-011-01	DIY-28T	HDMI 28/30 AWG DIY hand tool
74-035-01	EHD-111	HDMI Extender, F-M pigtail, T-grip slim plug
74-006-01	CHD-110	HDMI Communicator, F-M pigtail, optional 5 V power supply not included
75-002-01	HHT-200	HDMI hand held tester with open and short test, one 9 V battery not included