



Atlona HDMI troubleshooting guide (KIT-HD1, KIT-PROHD2, KIT-PROHD3)

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HD800 Basic Operation

Typical usage of a HD800 is to allow users to diagnose specific resolution, video timing, EDID, and color space issues in any DVI or HDMI video system. It features an HDMI output as well as an HDMI pass through to easily switch between test patterns and content from any other digital sources, while also giving the ability to read the EDID from the input source and displaying it on the display. It can also perform a cable test on any HDMI cable.

(See illustrations)

USE #1



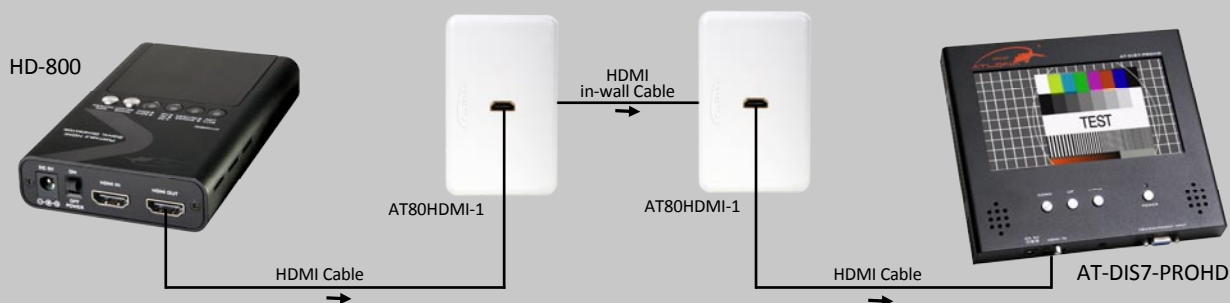
HDMI pass through to easily switch between test pattern and content from any other digital sources, while also giving the ability to read the EDID from the input source and displaying it on the display.

USE #2



HD800 can also perform a cable test on any HDMI cable.

USE #3



HD800 is to allow users to diagnose specific resolution, video timing, EDID, and color space issues in any DVI or HDMI video system.

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HD800 Basic Operation

USE #1 Operation

Cycle thru resolutions:

1. Insert HDMI cable to HD800 output , insert the other end to displays input
2. Turn on HD800
3. Press Timing/Select button, OSD menu will reveal forward/backward navigation for resolution settings
4. Within three seconds press Timing/Select button to scroll forward , or press Info/Pattern to scroll backwards through resolution options
5. 25 options available for video, VESA and 3D resolutions

Source and display EDID comparison:

1. Insert HDMI cable to source output, insert cable to HD800 input
2. Insert HDMI cable to HD800 output , insert the other end to displays input
3. Turn on HD800
4. Press Info/Pattern button to display side by side capabilities from OSD menu
5. Press button again to disable

USE #2 Operation

Cable integrity test:

1. Insert one end of the HDMI cable to HD800 input, insert the other end to the output
2. Turn on HD800
3. Press and hold Timing/Select button for 3 seconds then release to enable this function
4. If all LED's are solid, cable has passed the test. If all LED's are flashing, cable is NOT transferring signal properly and has failed the test.
5. Press and hold Timing/Select button for 3 seconds then release to disable this function

USE #3 Operation

Cycle thru Patterns (color bar, full screen purity, 3D, patterns):

1. Insert HDMI cable to HD800 output , insert the other end to displays input
2. Turn on HD800
3. Press Info/Pattern button
4. Within three seconds press Timing/Select button to scroll forward , or press Info/Pattern to scroll backwards through pattern options
5. To view all 19 options resolution MUST be set to 720p. Only 10 options available in all other resolutions.

Display EDID information:

1. Insert HDMI cable to HD800 output , insert the other end to displays input
2. Turn on HD800
3. Press Timing/Select button, OSD menu will reveal forward/backward navigation for resolution settings
4. Within three seconds press Timing/Select button to scroll forward , or press Info/Pattern to scroll backwards through resolution options
5. Select 720p (can only view EDID for display in this mode)
6. Wait till OSD menu disappears then Press Info/Pattern button
7. Within three seconds scroll forward or backward till you get to VESA Timing, scroll forward once more for Video Timing



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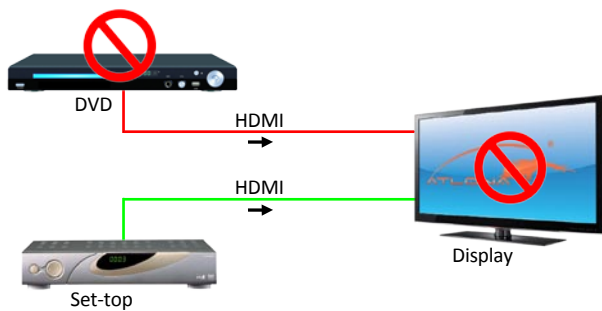
AT-HDSync Scenarios

Typical placement of an HDSync is between source and Display that is having HDMI troubleshooting issues. In a more bigger HDMI system (HDMI Matrix, multiple HDMI splitters/repeaters/switchers, AV Receivers, etc) Atlona recommends to still place HDSync directly after source as a pass-thru configuration.

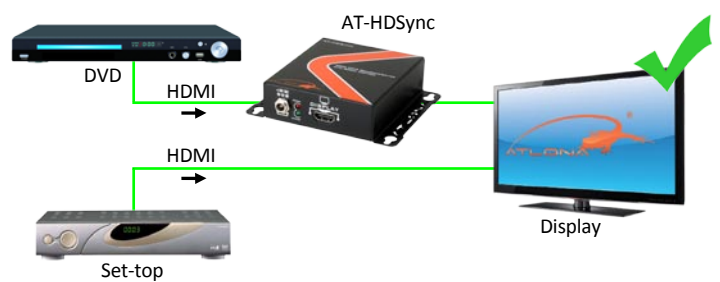
(See illustrations)

HDSync Between Source and Display

Challenge: No Picture from Source



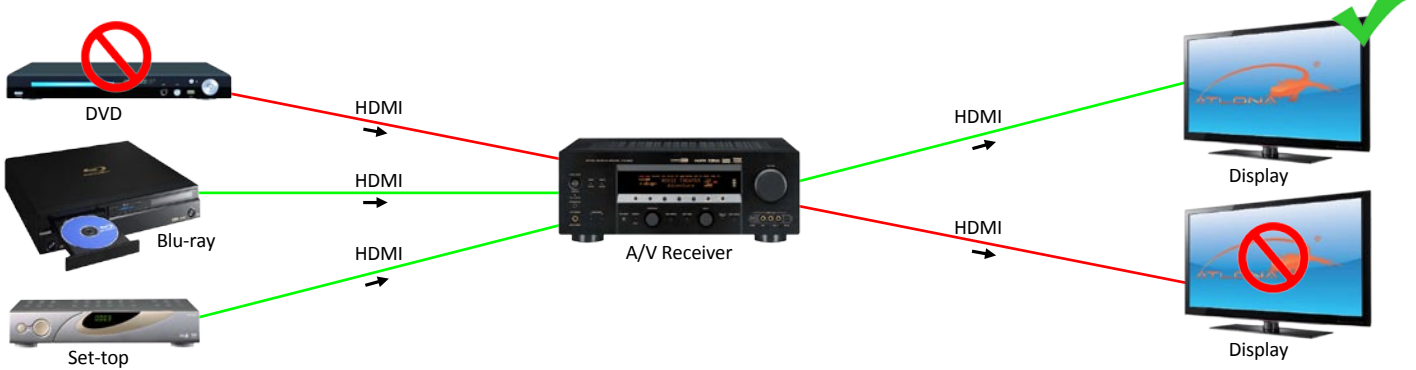
Solution: Place HDSync in-line to resolve EDID issue



HDSync in a bigger HDMI System

(HDMI Matrix, multiple HDMI splitters/repeaters/switchers, AV Receivers)

Problem: Source will not connect to 2nd display due to Sync error with EDID from 1st display



Solution: Place HDSync with recorded EDID recorded from Display #2 to enable source to work with Display #2



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HDSync Scenarios Explained

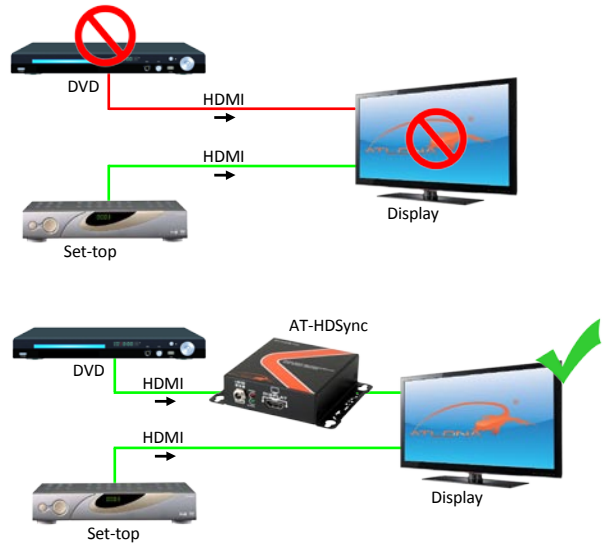
Troubleshooting Issue #1

Two or more sources hooked up to one display

Challenge: Customer connects both a Set-Top Box, and a DVD player to a Display, on two different inputs on TV. Set-top box always works, but DVD is constantly displaying “error” signal. Powering down temporary solves the issue, but as soon as customer switches from DVD to Set-top box and back again, error occurs.

Solution: HDSync. Root cause is the DVD player as a source. The DVD player must support a special function of HDCP called “HotPlug ON” in standby mode. If the source does not support it, the HDMI connection will be inactive and unable to re-handshake to TV.

Atlona’s HDSync maintains an always on, “HotPlug ON” connection with HDMI, thus keeping your connection live to the TV. When your input source says “no Sync,” think HDSync!

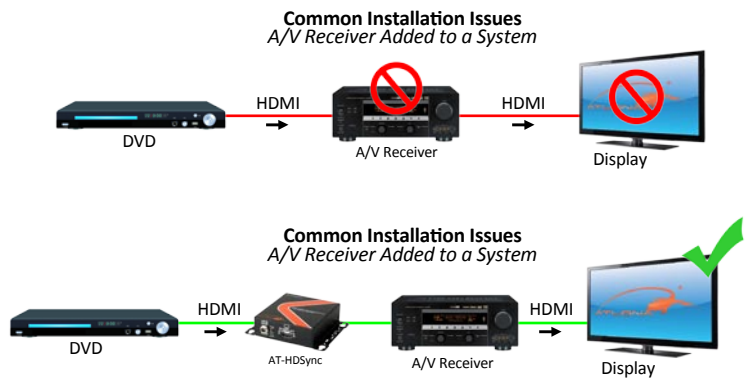


Troubleshooting Issue #2

A/V Repeater hooked up in-between source and TV

Challenge: Customer connects one Source (DVD, set-top box, etc) directly to a display with an HDMI cable, and it works! But as soon as something is introduced in the middle (A/V receiver, Matrix switch, splitter, etc), error occurs on TV in form of snow or no picture. The EDID of the Display is not correctly exchanged, so the error occurs.

Solution: Use an HDSync to re-capture the EDID of the display, and present it again to the source. Or use one of HDSync’s 6+ preset EDID’s to match your source content.



Troubleshooting Issue #3

Multiple sources hooked up to switcher/splitter/AV Receiver and to multiple TV's

Challenge: Customer connects multiple Sources (DVDs, set-top boxes, Blu-rays, etc) directly to a middle point (splitter, switcher, AV Receiver, etc) then is split/routed to multiple Displays! (Figure #1) System only works in a particular sequence or combination of sources and displays. Error is displayed on TV, or source, or both. Possible root problem: The EDID of the Display is not correctly exchanged, so the error occurs.

Solution: First use an HDSync in front of the source giving errors to block out all EDIDs in system in order to correct. (Figure #2) Try out the appropriate mode that matches your Equipment as found on Page 6 (HDMI 1.3 3D, HDMI 1.2 2ch, etc) If that doesn’t work, then Read the EDID manually from a HDMI monitor or projector as found on top of page 6. Once recorded, plug HDSync back in front of the source.

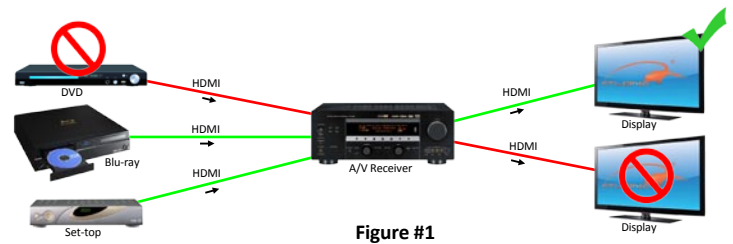


Figure #1

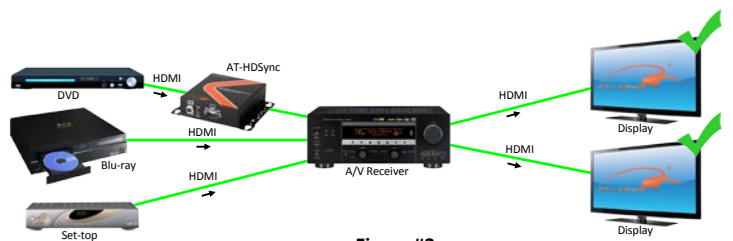


Figure #2

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Read the EDID manually from a HDMI monitor or projector

1. Connect the HDMI display device to the AT-HDSync via the DISPLAY port.
2. Plug in the 5V DC power supply unit.
3. Set AT-HDSync to MODE 6.
4. The EDID reading sequence is done when the green LED lights off.
5. Switch the rotary switch back to MODE 0-4 based on your system setting.

NOTE: DO NOT let the rotary arrow pass by Mode 5 which will erase the EDID just learned and restore the default EDID

HDSync Dial modes:

Mode 0 = [Video] – supports up to HDMI 1.3 output. [Audio] – supports up to 7.1ch output
Mode 1 = [Video] – supports up to HDMI 1.3 output. [Audio] – lock to stereo audio output
Mode 2 = [Video] – locks to HDMI 1.2 output. [Audio] – supports up to 7.1ch output
Mode 3 = [Video] – locks to HDMI 1.2 output. [Audio] – lock to stereo audio output
Mode 4 = [Video] – DVI display mode. [Audio] – no audio output
Mode 5 = [Safe Mode] – uses default EDID with video supported up to 1080p
Mode 6 = [Recording Mode] – Learning EDID from HDMI output manually
Mode 7 = [Serial Control Mode] – Control the AT-HDSync by software via RS-232



AT-DIS7-HD EDID Copy (not available on AT-DIS7-PROHD)

1. First connect IR Extension cable to AT-DIS7-HD.
2. For cloning EDID from an existing display, connect an HDMI cable from AT-DIS7-HD to one of the TV's HDMI inputs.
3. Pointing Remote control at IR Receiver, press "EDID Copy" on remote control. AT-DIS7-HD will display a message once EDID has been copied successfully. Unit can now be used as a portable version of an existing display!
4. You can also use one of the preset 7 EDIDs to emulate a generic display on AT-DIS7-HD. See chart below:

EDID1.3 1080P 2CH Select EDID of the HDMI monitor to HDMI 1.3 1080P video 2 channel audio

EDID1.3 1080P 6CH Select EDID of the HDMI monitor to HDMI 1.3 1080P video 6 channel audio

EDID1.3 1080P 8CH Select EDID of the HDMI monitor to HDMI 1.3 1080P video 8 channel audio

EDID1.2 1080P 2CH Select EDID of the HDMI monitor to HDMI 1.2 1080P video 2 channel audio

EDID1.3 1080I 2CH Select EDID of the HDMI monitor to HDMI1.3 1080I video 2 channel audio

EDID1.3 1080I 8CH Select EDID of the HDMI monitor to HDMI1.3 1080I video 8 channel audio

EDID1.2 1080I 2CH Select EDID of the HDMI monitor to HDMI1.2 1080I video 2 channel audio



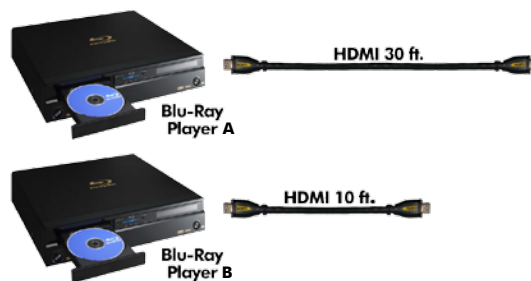
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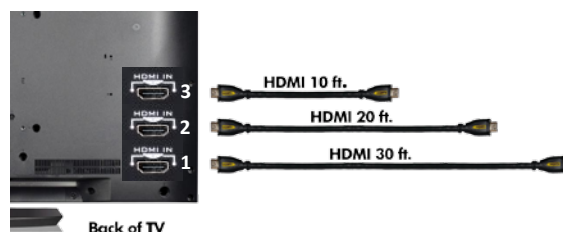
HDMI Installation Tips

1. The signal driving capability of sources, especially in Blu-ray players, can greatly vary from model to model. Know the limits of each component you specify and install.

If you have two Blu-ray players - even from the same manufacturer - one might be able to drive a 1080p signal 30 feet and another just 10 feet over cable of identical construction. You need to know what each component can do before you specify it and install it or you will be making return trips to the job site for troubleshooting and equipment replacement.



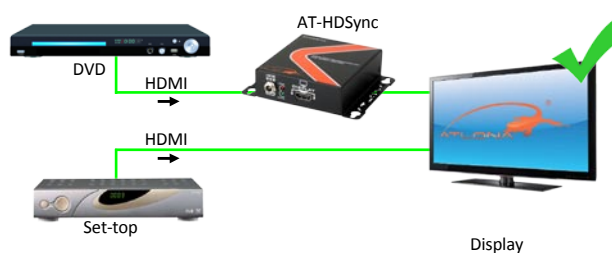
2. Not all HDMI inputs of a display are created equal. HDMI input #1 usually is backed by the best electronics. With the same source and the same 50 foot cable, you could conceivably get a picture on HDMI input #1 of a display and not on HDMI input #3. This is a probably a cost-savings technique by display manufacturers who are assuming that most applications of their product will be with a short cable connected directly from the source to the display.



3. Other than sources and displays, all devices used should provide re-clocking and equalization of HDMI signal. Everything that is used in the middle of the signal path - distribution amplifiers, A/V receivers, etc. - should have active re-clocking and equalization circuitry to rebuild the signal. Avoid passive devices for any runs beyond 30ft. Externally powered devices will provide reliable and repeatable results. There are too many variables with the 5-volt power from the source.



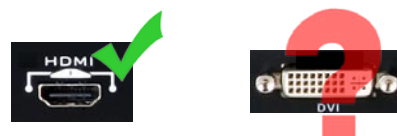
4. Be sure that you can pass that EDID information from the monitor to the source. If you can't because of system design, employ an EDID capture and emulation device (such as Atlona's HDSync) to ensure the source sees the correct EDID for the display being used. Don't incorporate any device in your signal path that does not allow EDID to pass unless you have accounted for it with an EDID capture and emulation solution in the system design and installation.



5. If you need to employ range extenders, be careful of range extenders that rely solely on the HDMI source for power. Externally powered devices will provide reliable and repeatable results. There are too many variables with the 5-volt power from the source.



6. Check HDCP compatibility of any DVI devices you will be using in the system. The HDMI standard calls for HDCP implementation, while DVI does not. Know if your DVI devices are HDCP capable or not.



Content written by Clint Hoffman and Tom Kopin, September 2010 issue of CEPro, "Tips for Installing HDMI, HDCP in Commercial Jobs"





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Atlona HDMI Test Kits

Atlona Custom Installation Testing Kits are designed to diagnose digital connectivity issues in AV systems. This complete tool suite allows residential, commercial integrators and installers the ability to diagnose 99% of all digital connectivity issues in moments, saving both time, labor profit dollars, and overhead.



	KIT-HD1	KIT-PROHD2	KIT-PROHD3
Signal Generator	AT-HD800	AT-HD800	AT-HD800
Monitor	AT-DIS7-HD	AT-DIS7-PROHD	AT-DIS7-PROHD
HDMI EDID Emulator	N/A	N/A	AT-HDSync
Monitor Battery	N/A	N/A	AT-BAT-DIS7PRO



AT-HD800	AT-DIS7-HD	AT-HDSYNC	AT-BAT-DIS7PRO	AT-DIS7-PROHD
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- Portable size and battery operated HDMI generator
- Supports 13 Testing Patterns which includes 6 x 3D, and over 20+ resolutions
- EDID Reading function, allows user to view display's capabilities (video + audio formats)
- HDMI in/HDMI for passthru EDID reading



- 7" HDMI testing panel
- Accepts TV resolutions up to 1080p and computer resolutions up to 1920x1200
- Built in speaker
- Adjustable Contrast and Brightness levels
- Selectable EDID Modes (including EDID Display Copy)



- HDMI 1.3c, DVI 1.0 and HDCP 1.1 compliant
- Built-in default EDID
- Able to read and store the EDID of monitors/projectors/TVs
- Prevent computers from deactivating inactive HDMI ports



- Portable battery for AT-DIS7-PROHD.
- Up to 5 hour Battery
- Comes in a leather case with all required adapters.



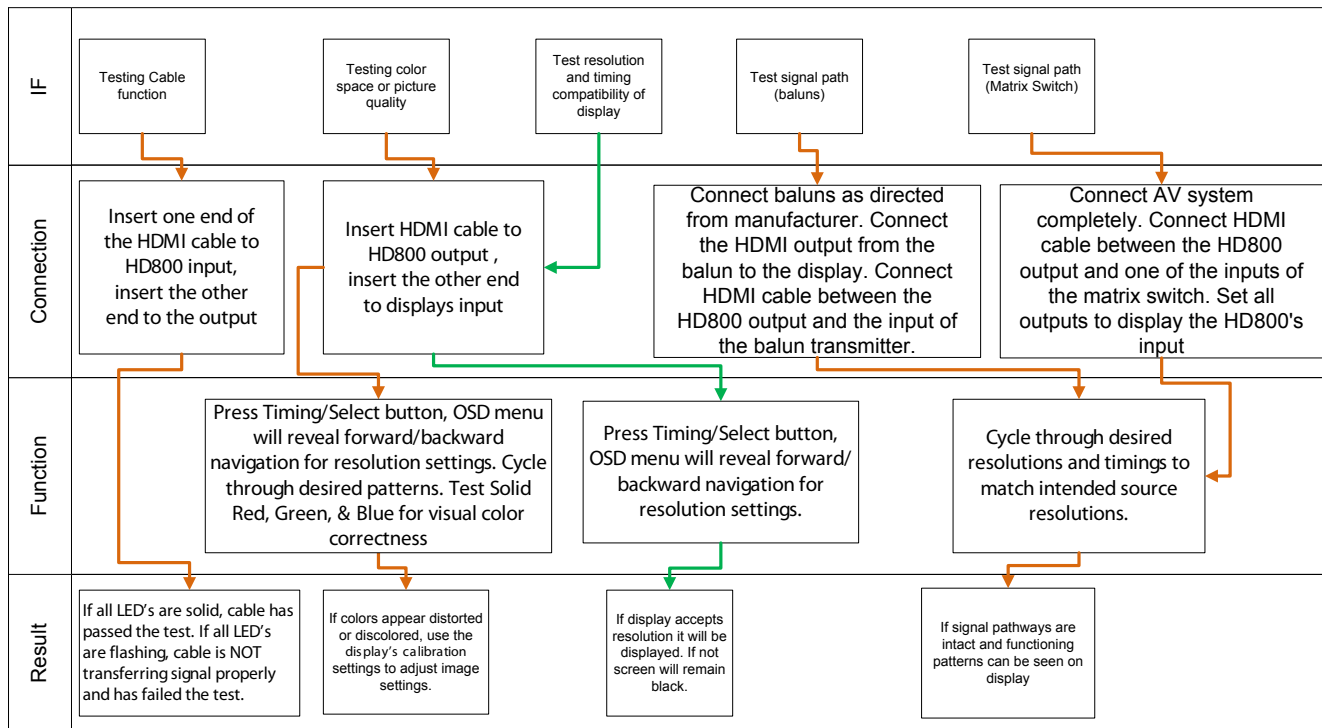
- 7" PRO HDMI, DVI, VGA and Component Video Testing Display (HDMI and HD15 inputs)
- Supports Resolutions from 480p to 1920x1200, with 3D testing feature
- HDCP Compliant, with display indicator
- Built-in Speakers



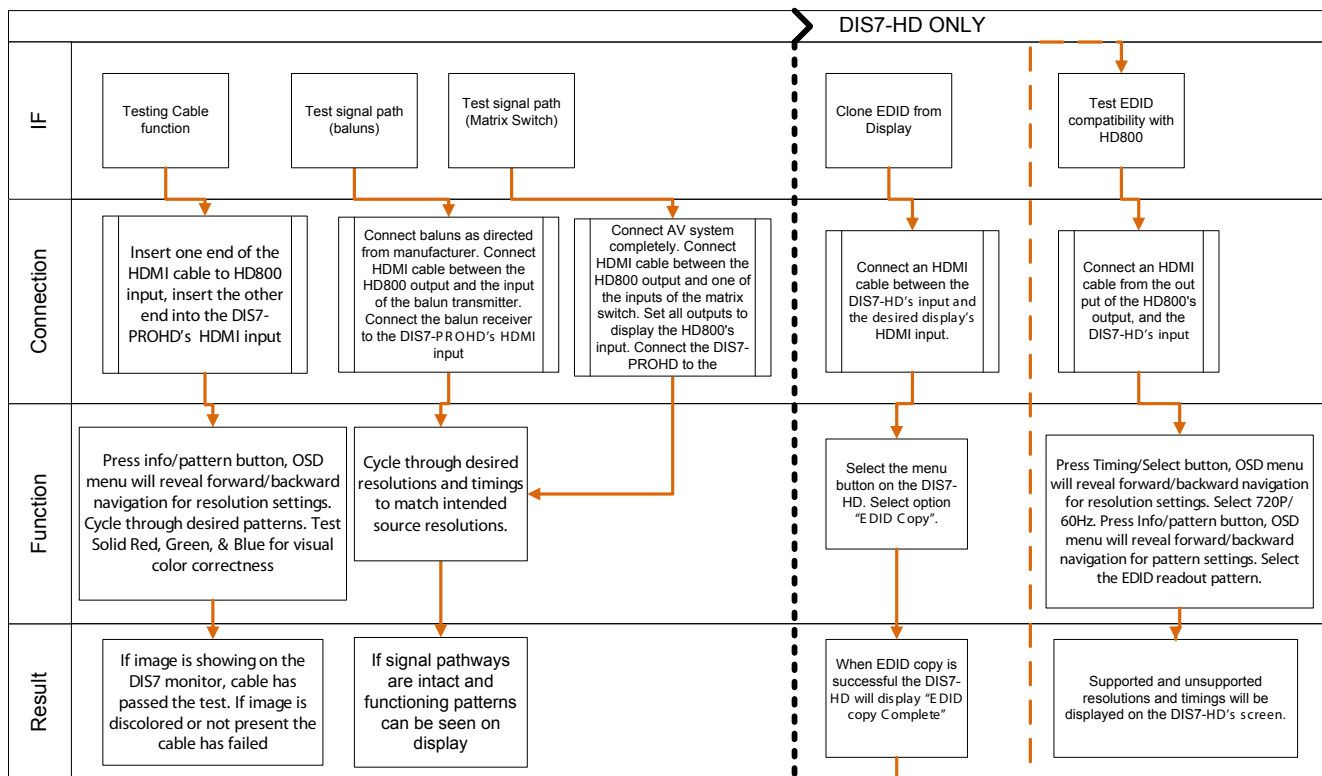
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Testing with HD800



Testing with DIS7-PROHD or DIS7-HD only



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HDSync modes

