

# Troubleshooting HDMI Adapters

## Quick Guide



100-0085-XX HDMI to SDI Adapter  
100-0086-XX SDI to HDMI Adapter

### Document Information

Summary: Instructions and recommendations for troubleshooting HDMI adapters.

Revision: 002-0047-01 Rev A HDMI Adapter Troubleshooting

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### 1. Required Tools

Before executing this Quick Guide, the following tools are required.

- Service Bulletin 4 or later must be applied to all LRU's.
- One of the following LRU's in the AVDS System:
  - HDMI Input Adapter (HIA)
  - HDMI Output Adapter (HOA)

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Reference the **HDMI Adapter Installation Manual** and/or **AVDS Client User Guide** for information on installation and user instructions.

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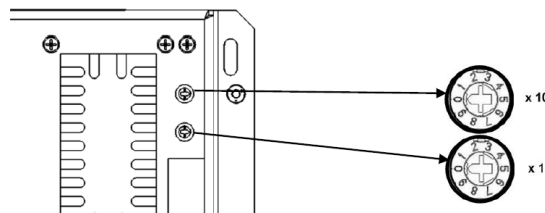
### 2. Software Verification

Verify the system has the latest software. To do so, follow the Verify System Software section of the latest approved Service Bulletin.

### 3. LRU Addressing

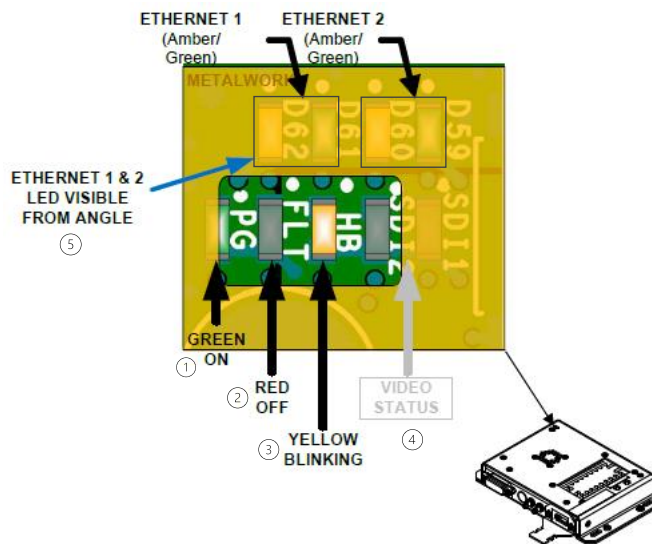
The LRU address switches can be accessed through holes in the top cover of the enclosure. Verify addressing has been physically set. These addresses must match the configuration in the system. Refer to manual for setting rotary switches.

- For more information on setting Secondary LRU address via the Client, navigate to [www.ia.support.com](http://www.ia.support.com) → Tech Tips → Device Address Override.
- In the scenario where the LRU address is changed, power off the LRU, change the address, power on, and allow a couple minutes for LRU to initialize its address.



#### 4. Adapter LED Indicators

1. Green – Power Good: The LRU has proper power and internal rail ok.
2. Red – Power Bad: The LRU either has improper power or internal rail failed.
3. Amber (pulsing) – Heartbeat: The internal processor is functioning.
4. Green (pulsing) – LED will turn on when HDMI Input video is supplied. (HIA Only)
5. Amber & Green – Ethernet connection is made.



#### 5. Device Connectivity

Once the PC is connected to the system via maintenance port or directly into an RJ45 port on the AVDS Node and the LRU is not showing **Online** in the Node Status Window. Open up the “Command Prompt” application on the connected PC and ping the desired LRU IP address. Default IP address are listed below, values may be overridden in the configuration file, verify LRU IP address in the hardware section on the config file if connection can not be made.

- Base HIA IP address = 10.1.0.100
- Base HOA IP address = 10.2.0.100
- Example: HIA 22, IP Address: 10.1.0.122
- Insert in Command Prompt “ping 10.1.0.122”
- Command Prompt will return packet statistics on packets Sent, Received, and Lost. See image below.

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Command Prompt
Microsoft Windows [Version 10.0.19044.2130]
(c) Microsoft Corporation. All rights reserved.

C:\Users\iause>ping 10.1.0.122

Pinging 10.1.0.122 with 32 bytes of data:
Reply from 10.1.0.122: bytes=32 time=24ms TTL=255
Reply from 10.1.0.122: bytes=32 time=2ms TTL=255
Reply from 10.1.0.122: bytes=32 time=2ms TTL=255
Reply from 10.1.0.122: bytes=32 time=2ms TTL=255

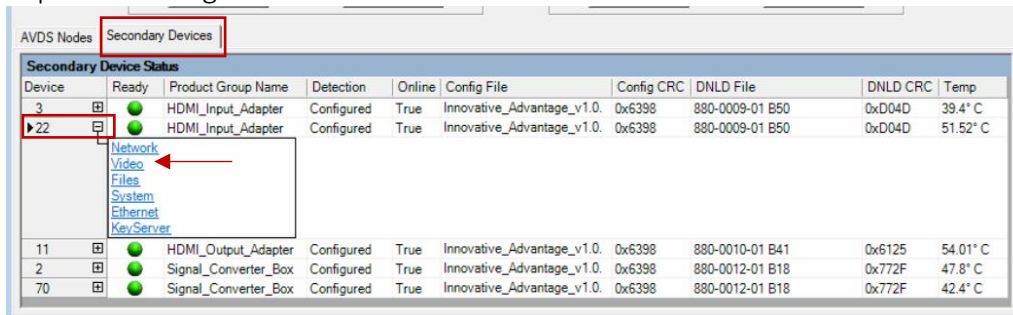
Ping statistics for 10.1.0.122:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 2ms, Maximum = 24ms, Average = 7ms
    
```

- If no packet loss occurs, verify LRU IP address is unique to itself and not addressed the same as another LRU in the system.
- If lost packets occur, ensure the following troubleshooting steps:
  - o LRU has power and powered on.
  - o Verify ethernet LED indicators are on. See Section 4. Adapter LED Indicators.
  - o Swap out cable connection for bad cabling. Connector J1 is used for input power, Ethernet, and GPIO connections. For more information see Installation Manual.

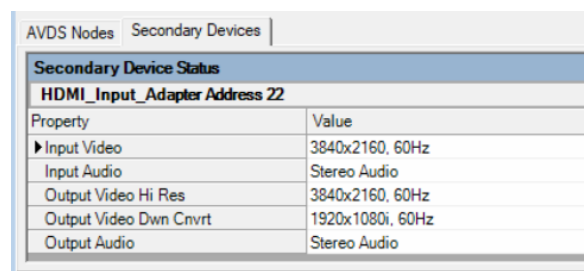
## 6. HDMI Cabling

For all HDMI cable troubleshooting, HDMI cable must be directly inserted into the LRU itself. Do not troubleshoot cabling through HDMI aux port or HDMI-USB adapters. The individual cables and signals should conform to the HDMI 1.4 specification for HD signals and HDMI 2.0 for 4K signals.

- Insert desired HDMI cable into the LRU directly with a known good source. (Ie: ROKU)
- Navigate to Node Status Window → Secondary Devices.
- Expand the + sign of the LRU and select **Video**.



- Verify Input Video and/or Input Audio has provided a value. See image below.

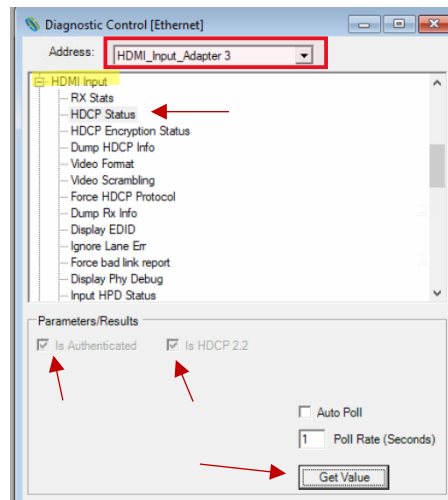


- If the LRU value is showing No Video Present or No Audio Present, ensure the following troubleshooting steps:
  - o Source is powered on. Swap to a known good source.
  - o Change HDMI cabling.

## 7. HDCP Authentication

The HDMI Input/Output Adapter supports HDCP 2.2 and HDCP 1.4.

- To verify HDCP authentication navigate to Advanced → Diagnostic Control.
- Select the desired LRU in the drop-down menu.
- On the menu scroll to **HDMI Input/Output** and select **HDCP Status**.
- Select **Get Value**.



- If HDCP is not authenticated swap out HDMI cabling.
- If HDCP errors continue to occur, contact technical support for further troubleshooting.

## 8. AVDS TPG Signal

To test wiring installation from AVDS to Monitor without connected sources, the AVDS Node has a built-in test pattern generator. For more information on adding a TPG channel to the aircraft configuration file, go to [www.ia.support.com](http://www.ia.support.com) → Tech Tips → AVDS Test Pattern Generator.

- Navigate to **Control** tab → **Zone Control**.
- Select the **Video Control** tab.
- In the **Video Input Ch** drop-down menu select the desired TPG channel from the Node the HDMI adapter is connected to.
- Select **Set Video Data**. By selecting this TPG channel, the AVDS Client is overriding CMS and sending the TPG out to all output channels. If the TPG channel is seen on the monitors it is likely the wiring from AVDS to sinks checks out.

## 9. Video Blinking

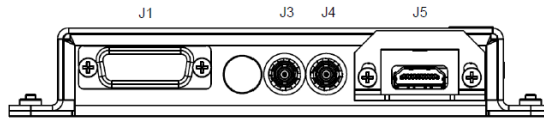
In the scenario where video is blinking on one or all monitors this is likely due to bad cabling, or a source issue. Verify SDI and HDMI cabling are seated correctly in their correct ports.

- Change out SDI or HDMI cabling.
- Verify source settings. Change out the source to a known good source.
- Contact IA for additional troubleshooting if issue continues.

### 10. No signal or 'Snow' on Monitors

In the scenario where the monitor is showing No Signal or 'Snow' on HD sinks only the SDI output cables are incorrectly installed. Verify SDI outputs.

- J3 is HD SDI Output
- J4 is 4K UHD SDI Output



### 11. Routes Table

Route Status window can be opened by navigating to the **Diagnostics** tab → **Routes**. This table lists all inputs and output blocks in the configuration, the status of each and the detecting audio / video format. By double clicking one of the routes, the route status grid displays the route path.

- Input channels on the right and Output channels on the left.
- The route path shows the path of the audio and video signals through the system and gives the status along the way.

For additional support, please contact Innovative Advantage at:

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