

Quantum Data Inc. 780 Series Handheld Test Instruments Overview of Applications



Quantum Data 780 Series

Model 780

780 Handheld Test Instrument – Interfaces / Options



780 Front Edge



**780 Rear Edge
without optional ACA board**



**780 Rear Edge
with optional ACA board**

780 Handheld Test Instrument – Interfaces / Options

Interfaces:

- HDMI Tx & Rx ports – 165MHz pixel rate.
- VGA output port - RGB and component YCbCr up to 80MHz pixel rate.
- Digital audio – SPDIF/Optical.

Standard Features:

- 4.3 inch touch screen – 480 x 272 resolution.
- Battery-power, convenient size.
- Format and test pattern library, add custom bitmaps.
- Command line control via USB serial.
- Software upgradable.

Options:

- Network Analyzer – Test HDMI protocols and timing on source and sink devices.
- Cable Test – Test HDMI cables and distribution networks.
- Test pattern packs – ISF, THX China Resolution
- Auxiliary Channel Analyzer (emulation) – Monitor HDCP, EDID transactions, hot plug events and CEC messages with source or sink DUT.
- Auxiliary Channel Analyzer (passive) – Monitor HDCP, EDID transactions, hot plug events and CEC messages between multiple source or sink DUTs.

Quantum Data 780 Series

Model 780A

780A Handheld Test Instrument – Interfaces / Options



780A Front Edge



**780A Rear Edge
without optional ACA board**



**780A Rear Edge
with optional ACA board**

780A Handheld Test Instrument – Interfaces / Options

Interfaces:

- HDMI Tx & Rx ports – 300MHz pixel rate.
- VGA output port - RGB and component YCbCr up to 80MHz pixel rate.
- Digital audio – SPDIF/Optical.

Standard Features:

- 4.3 inch touch screen – 480 x 272 resolution.
- Battery-power, convenient size.
- Format and test pattern library, add custom bitmaps.
- Headphone jack and speakers.
- Command line control via USB serial.
- Software upgradable.

Options:

- Network Analyzer – Test HDMI protocols and timing on source and sink devices.
- Cable Test – Test HDMI cables and HDMI / HDBaseT distribution networks.
- Test pattern packs – ISF, THX China Resolution.
- Auxiliary Channel Analyzer (emulation) – Monitor HDCP, EDID transactions, hot plug events and CEC messages with source or sink DUT.
- Auxiliary Channel Analyzer (passive ACA board) – Monitor HDCP, EDID transactions, hot plug events and CEC messages between multiple source or sink DUTs.

Quantum Data 780 Series

Model 780B

780B Video Generator / Analyzer – Interfaces / Options



780B Front Edge



**780B Rear Edge
without optional ACA board**



780B Front Edge



**780B Rear Edge
with optional ACA board**

780B Video Generator / Analyzer – Interfaces / Options

Interfaces:

- HDMI Tx & Rx ports – 300MHz pixel rate.
- VGA output port - RGB and component YCbCr up to 80MHz pixel rate.
- Digital audio – SPDIF/Optical.

Standard Features:

- 7 inch touch screen – 800 x 480 resolution.
- Battery-power, convenient size.
- Format and test pattern library, add custom bitmaps.
- Real time status bar.
- Headphone jack and speakers.
- Command line control via RS-232 or USB serial.
- Software upgradable.

Options:

- Cable Test – Test HDMI cables and HDMI / HDBaseT distribution networks.
- Test pattern packs – ISF, THX China Resolution.
- Auxiliary Channel Analyzer (emulation) – Monitor HDCP, EDID transactions, hot plug events and CEC messages with source or sink DUT.
- Auxiliary Channel Analyzer (passive ACA board) – Monitor HDCP, EDID transactions, hot plug events and CEC messages between multiple source or sink DUTs.

Quantum Data 780 Series

Model 780C

780C Multi-Interface Interop Tester – Interfaces / Options



780C Rear Edge

780C Multi-Interface Interop Tester – Interfaces / Options

Interfaces:

- HDMI Tx & Rx ports – 300MHz pixel rate.
- HDBaseT Tx & Rx ports – 300MHz pixel rate.
- 3G-SDI Tx & Rx ports – 2.97Gb/s data rate.
- VGA output port - RGB and YCbCr up to 80MHz pixel rate.
- Digital audio – SPDIF/Optical.

Standard Features:

- 7 inch touch screen – 800 x 480 resolution. Convenient size.
- Format and test pattern library, add custom bitmaps.
- Real time status bar.
- Headphone jack and speakers.
- Command line control via RS-232 or USB serial.
- Software upgradable.

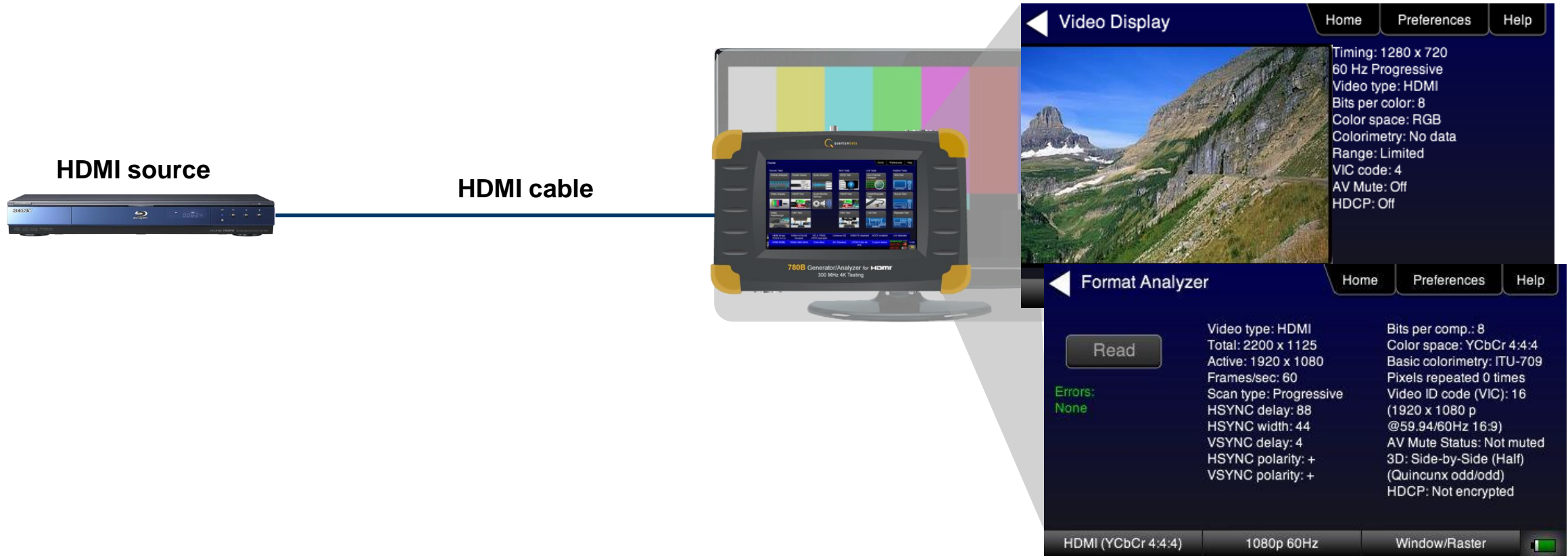
Options:

- Cable Test – Test HDMI cables and distribution networks.
- Test pattern packs – ISF, THX China Resolution.
- Auxiliary Channel Analyzer (passive & emulation) – Monitor HDCP, EDID transactions, hot plug events and CEC messages between source and sink DUTs.

Applications - HDMI

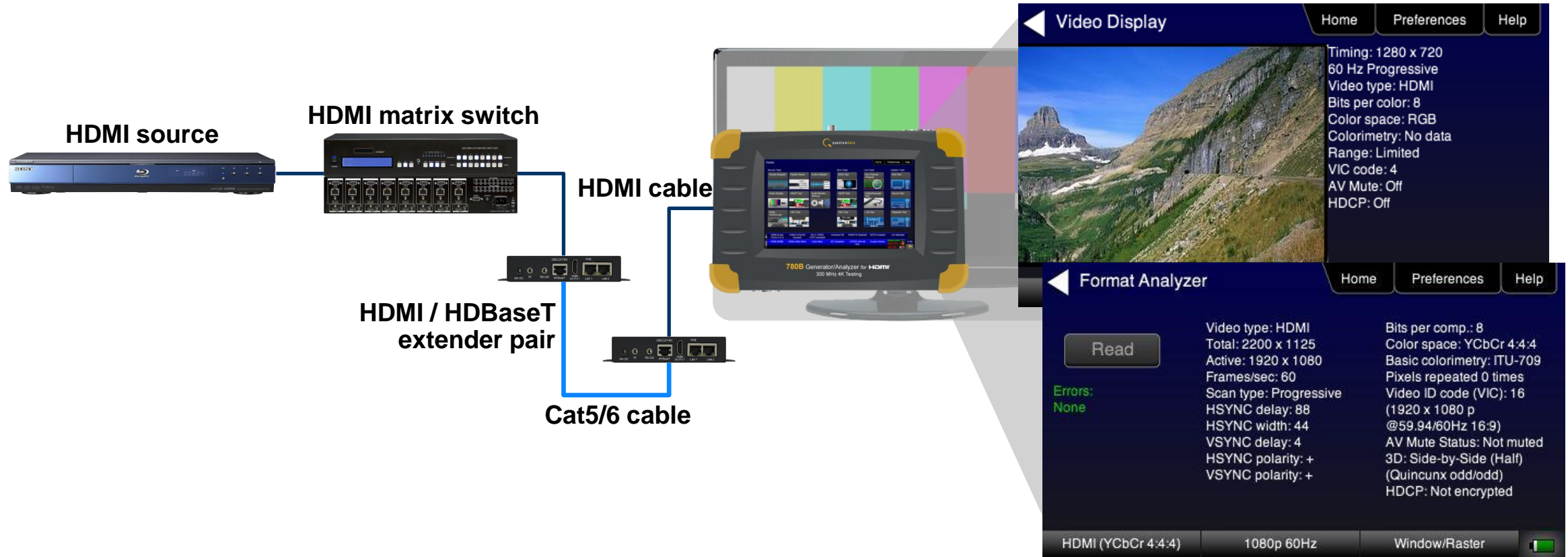
780 Sample Application – HDMI Source Testing

- HDMI Source Testing (780, 780A, 780B, 780C)
 - Verify video and timing and video parameters of an HDMI source device.



780 Sample Application – HDMI Source Testing

- HDMI Source Testing (780, 780A, 780B, 780C)
 - Verify video, video parameters and timing of an HDMI upstream distribution network.



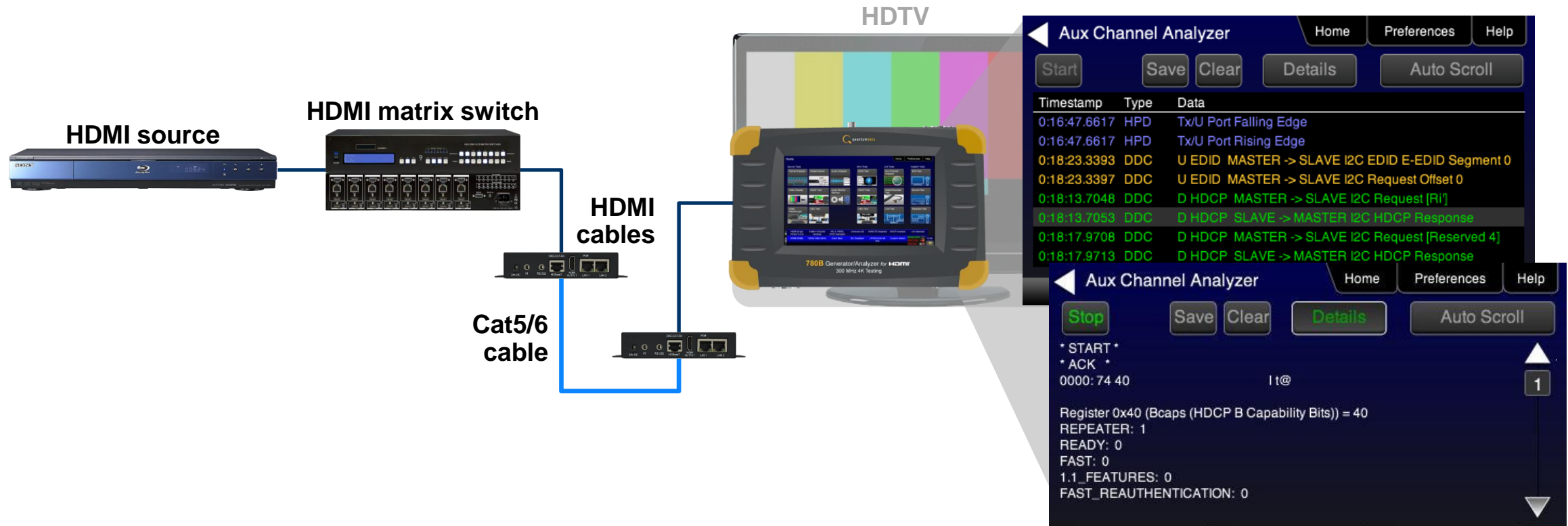
780 Sample Application – HDMI Source Testing

- HDMI Source Testing (780, 780A, 780B, 780C)
 - Verify audio (and video) and audio metadata of an HDMI audio source device.



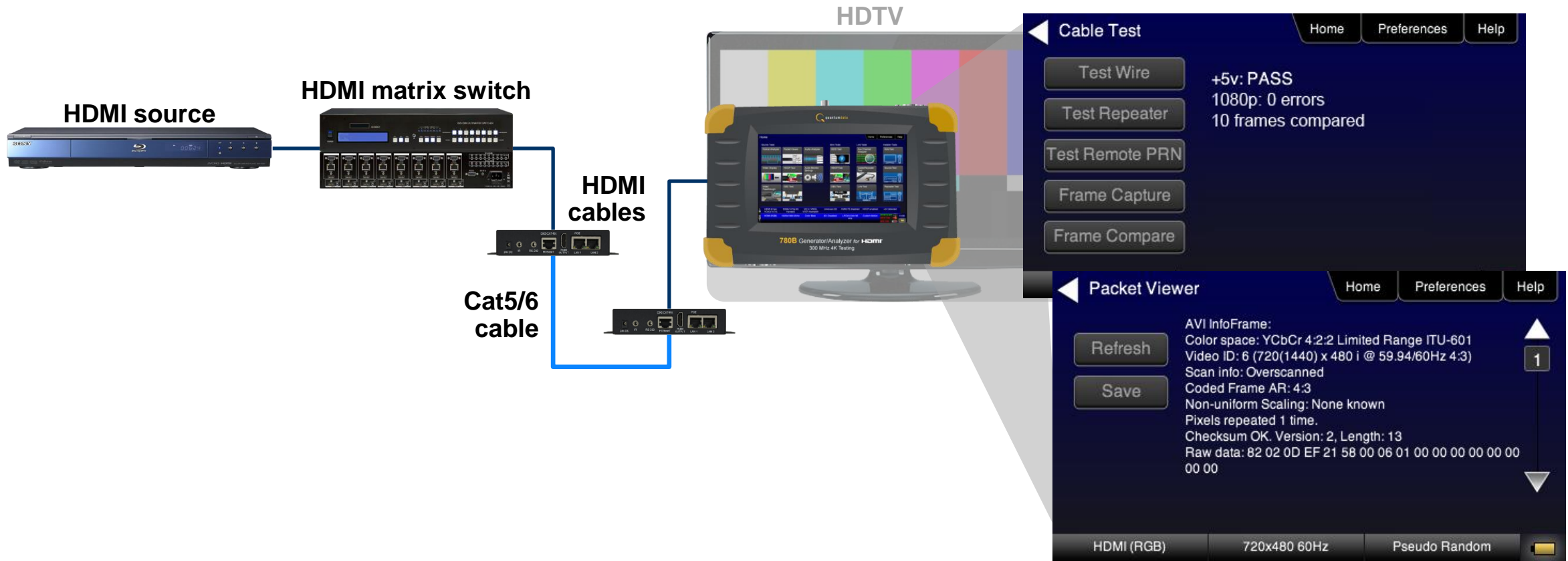
780 Sample Application – HDMI Distribution Network

- HDMI Source Testing (780, 780A, 780B, 780C)
 - Monitor DDC (HDCP & EDID) and hot plug events of an HDMI source device or upstream distribution network.



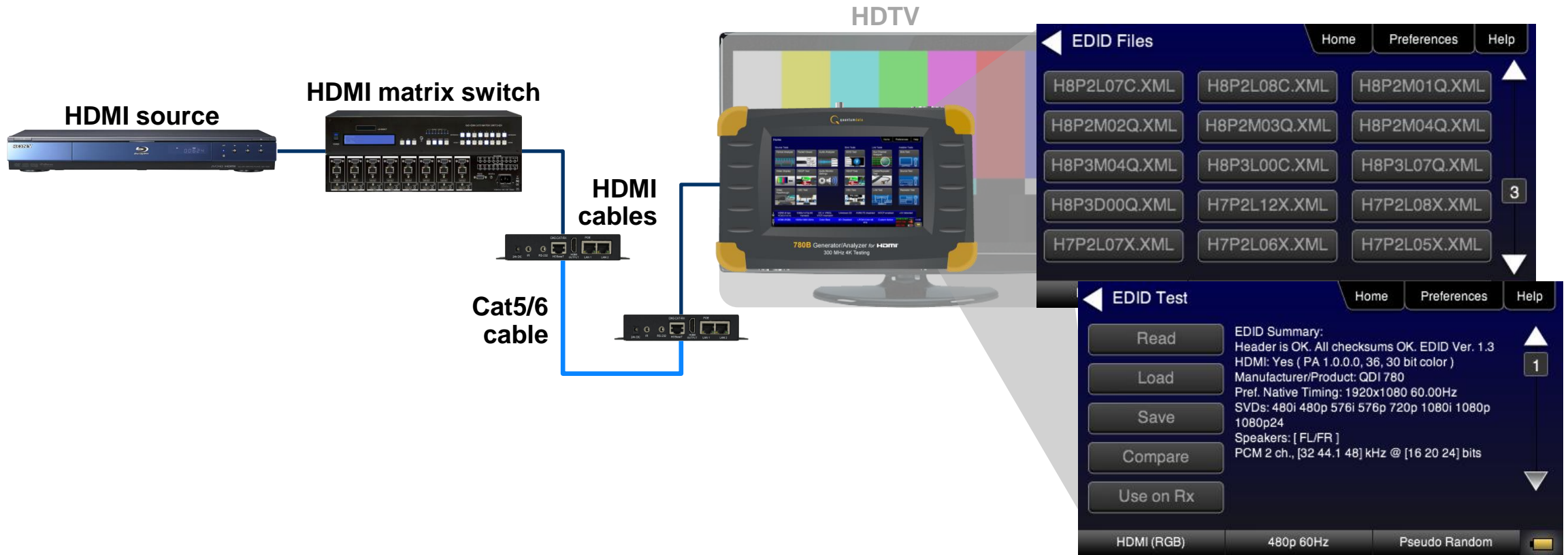
780 Sample Application – HDMI Distribution Network

- HDMI Source Testing (780, 780A, 780B, 780C)
 - Check for pixel errors and view metadata packets on an upstream HDMI / HDBaseT distribution network.



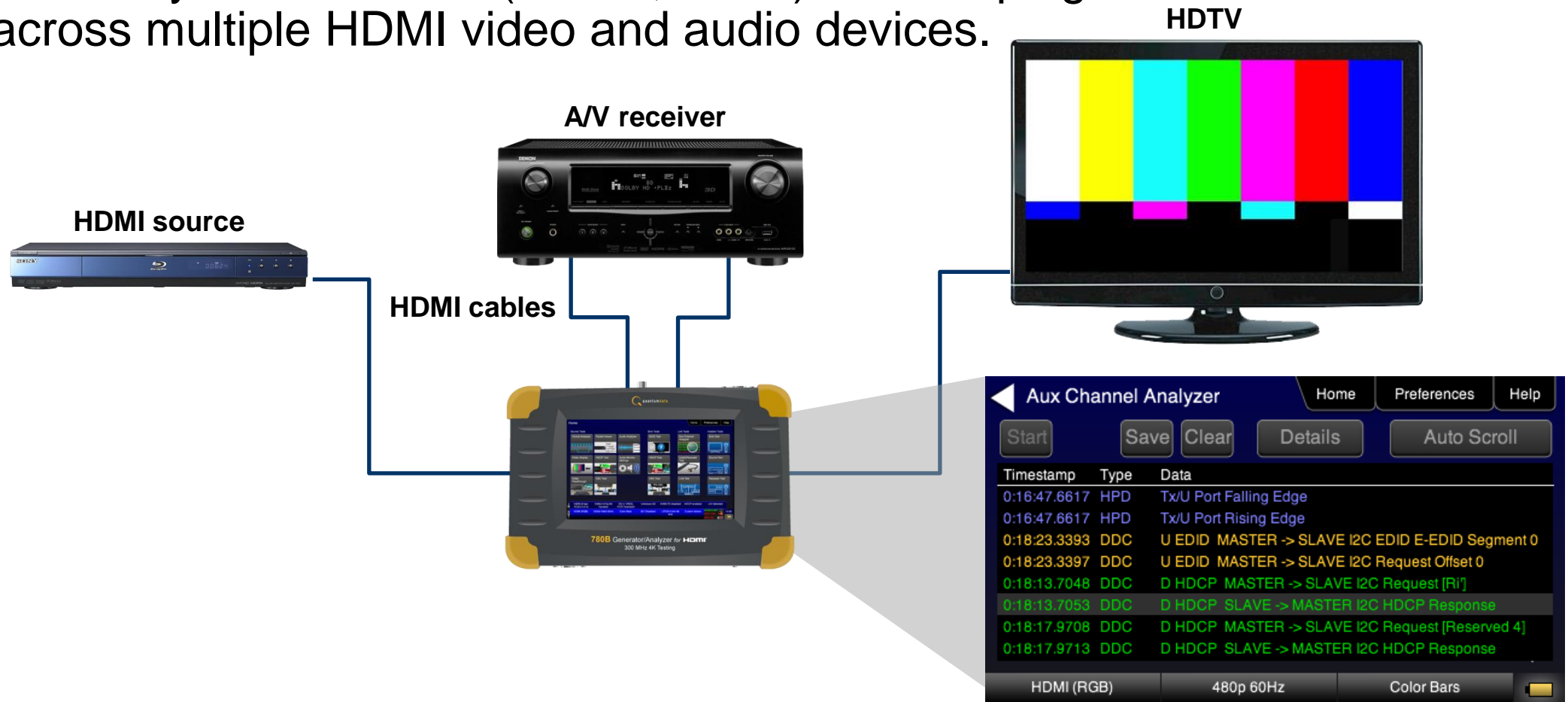
780 Sample Application – HDMI Network EDID Test

- HDMI Source Testing (780, 780A, 780B, 780C)
 - Verify HDMI source or distribution network's handling of various HDMI EDIDs.



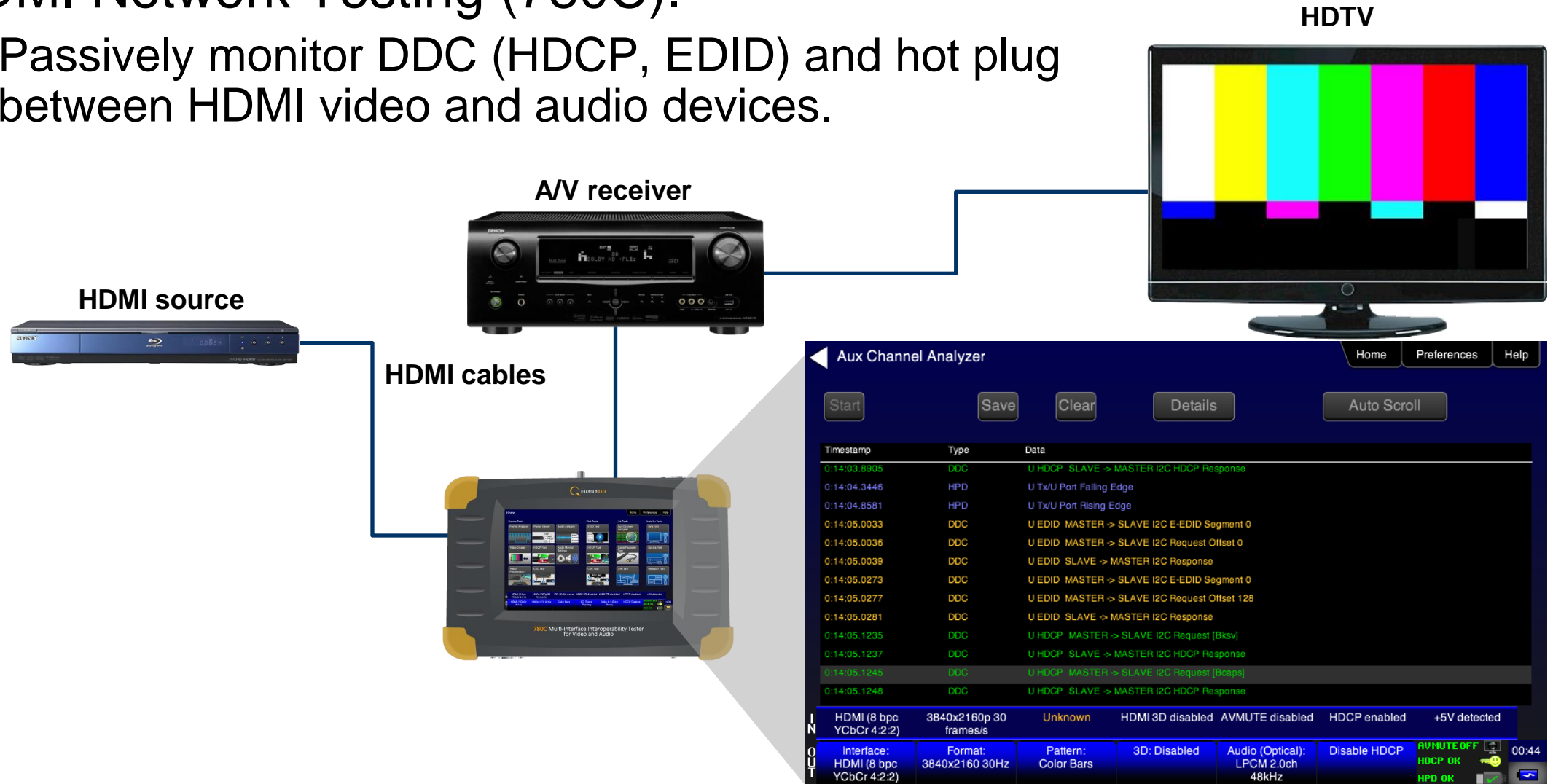
780 Sample Application – HDMI Network Testing

- HDMI Network Testing (780, 780A, 780B)
 - Passively monitor DDC (HDCP, EDID) and hot plug across multiple HDMI video and audio devices.



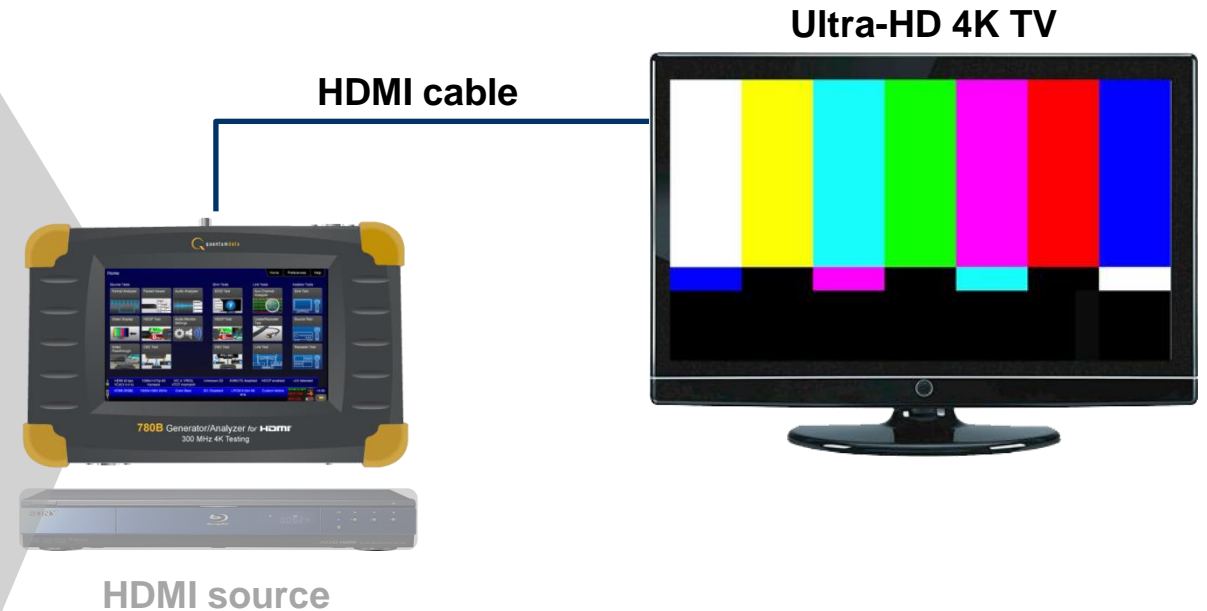
780 Sample Application – HDMI Network Testing

- HDMI Network Testing (780C).
 - Passively monitor DDC (HDCP, EDID) and hot plug between HDMI video and audio devices.



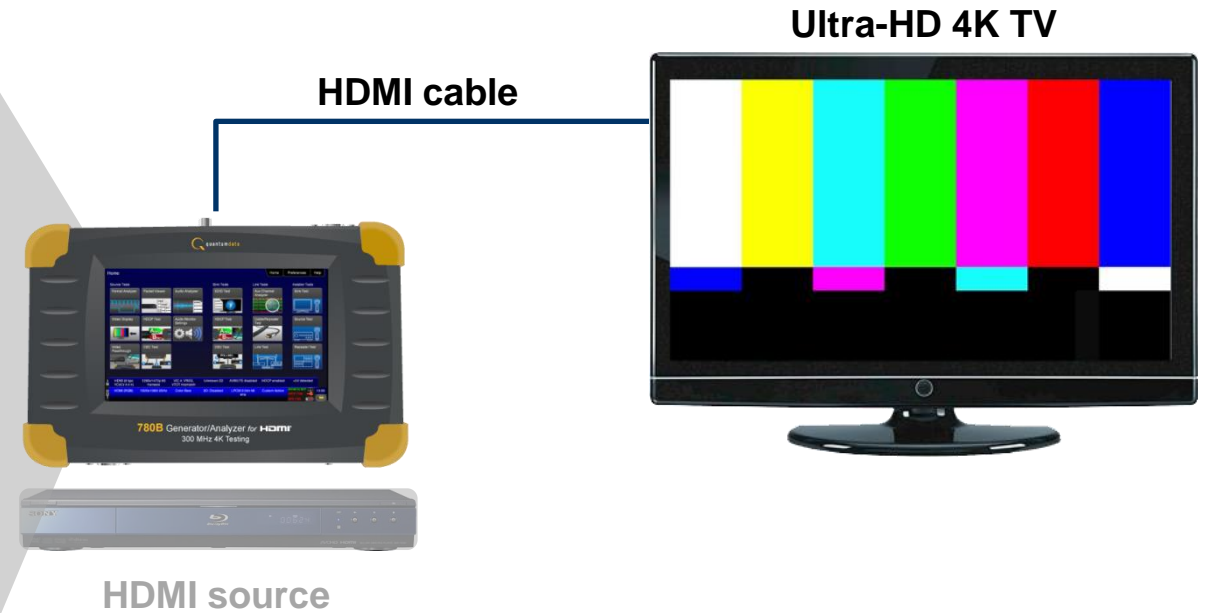
780 Sample Application – HDMI Sink Testing

- HDMI Sink Testing (780, 780A, 780B, 780C)
 - Basic video functional test of an HDMI sink device.
 - Supports 4K formats and HDMI 2.0 4:2:0 pixel encoding (780A, 780B, 780C).



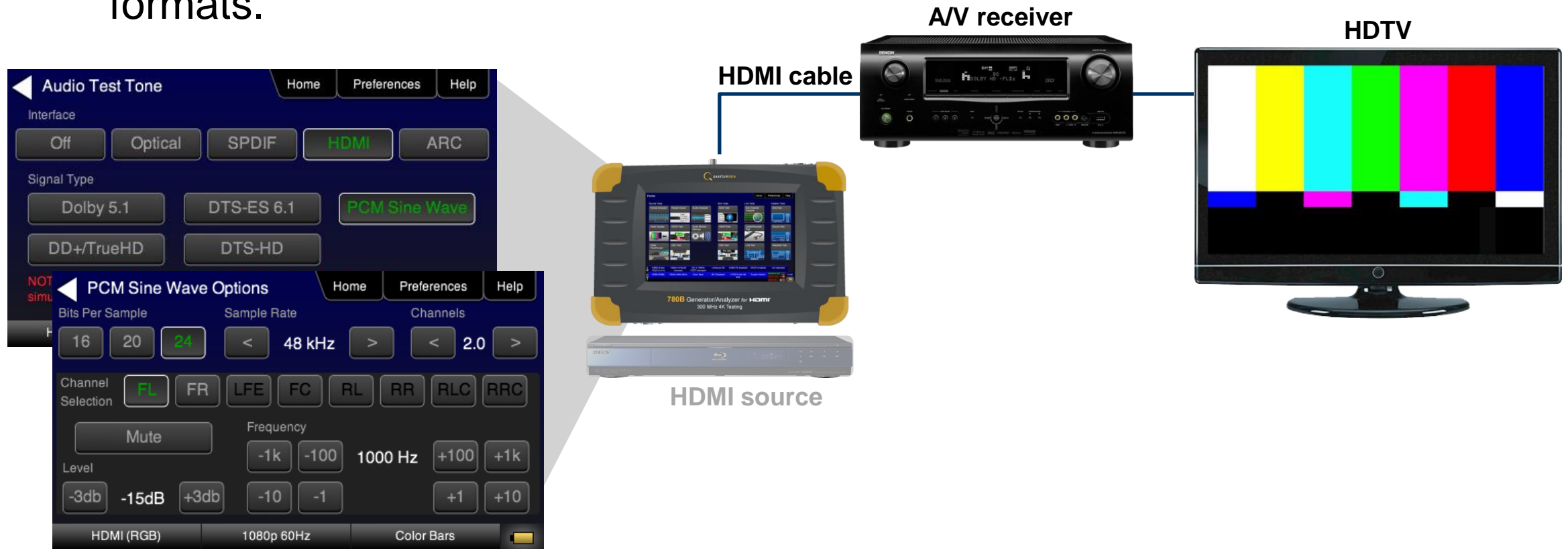
780 Sample Application – HDMI Sink Testing

- HDMI Sink Testing (780, 780A, 780B, 780C)
 - Basic video functional test of an HDMI sink device.
 - Provides library of standard test patterns.



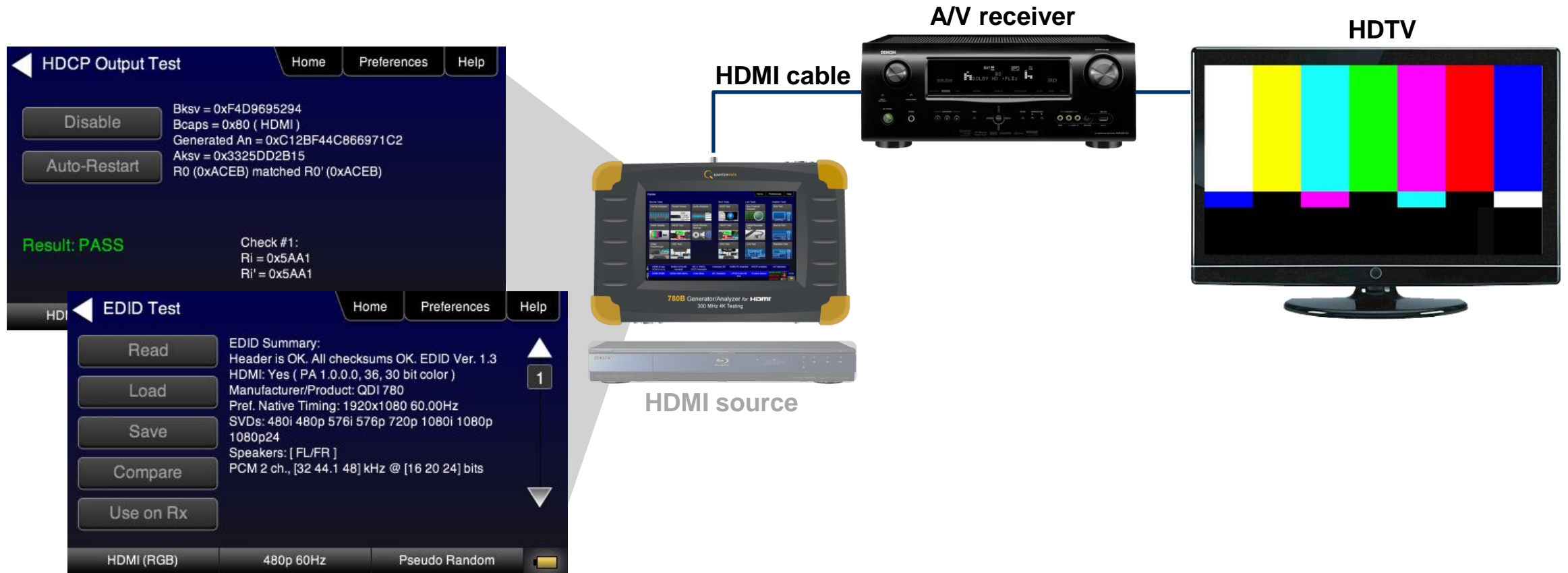
780 Sample Application – HDMI Sink Testing

- HDMI Sink Testing (780, 780A, 780B, 780C)
 - Audio functional test of an HDMI audio rendering sink device.
 - Supports uncompressed LPCM and Dolby or DTS compressed formats.



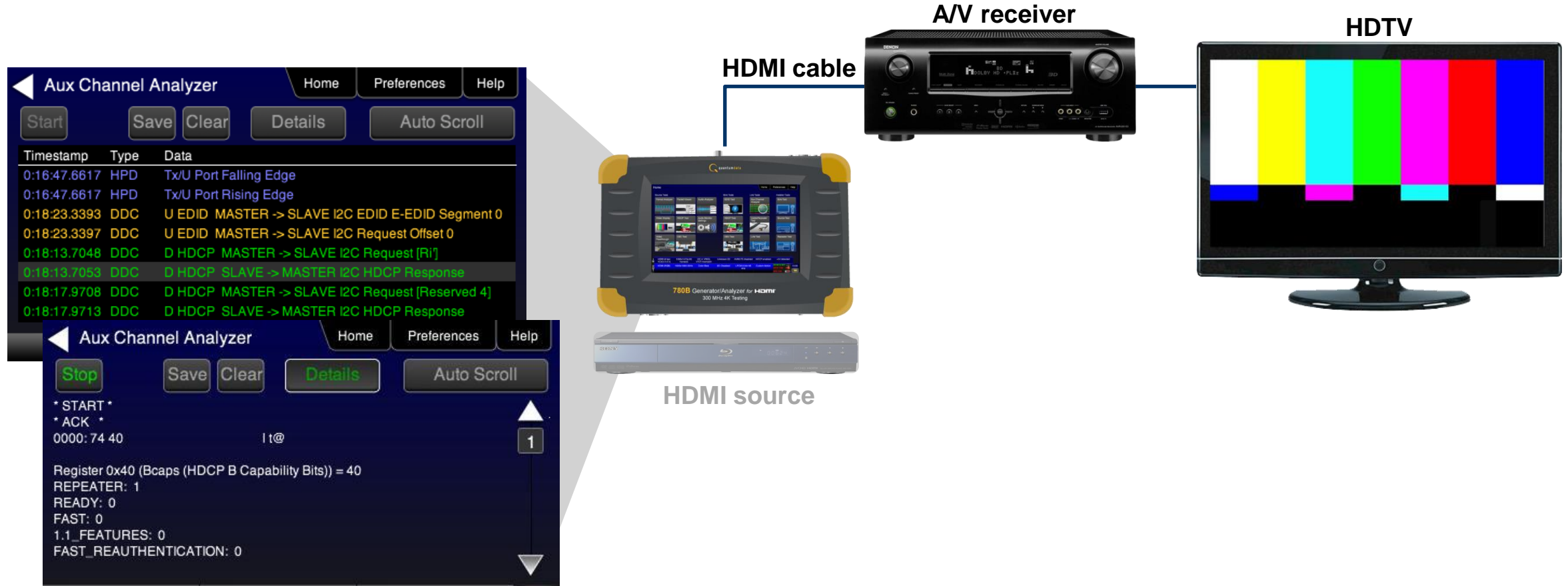
780 Sample Application – HDMI Sink Testing

- HDMI Sink Testing (780, 780A, 780B, 780C)
 - Basic protocol functional test of an HDMI sink device.
 - Test HDCP authentication and verify EDID.



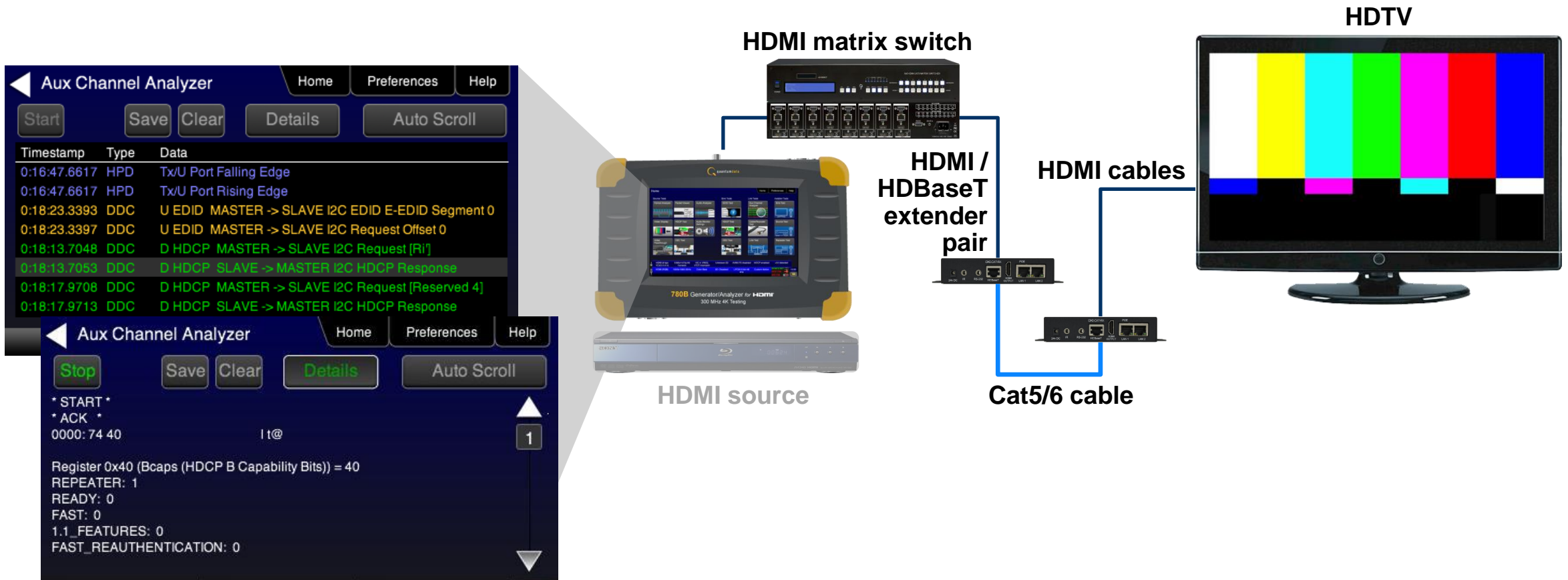
780 Sample Application – HDMI Sink Testing

- HDMI Sink Testing (780, 780A, 780B, 780C)
 - Monitor DDC (HDCP & EDID) and hot plug events with an HDMI sink device.



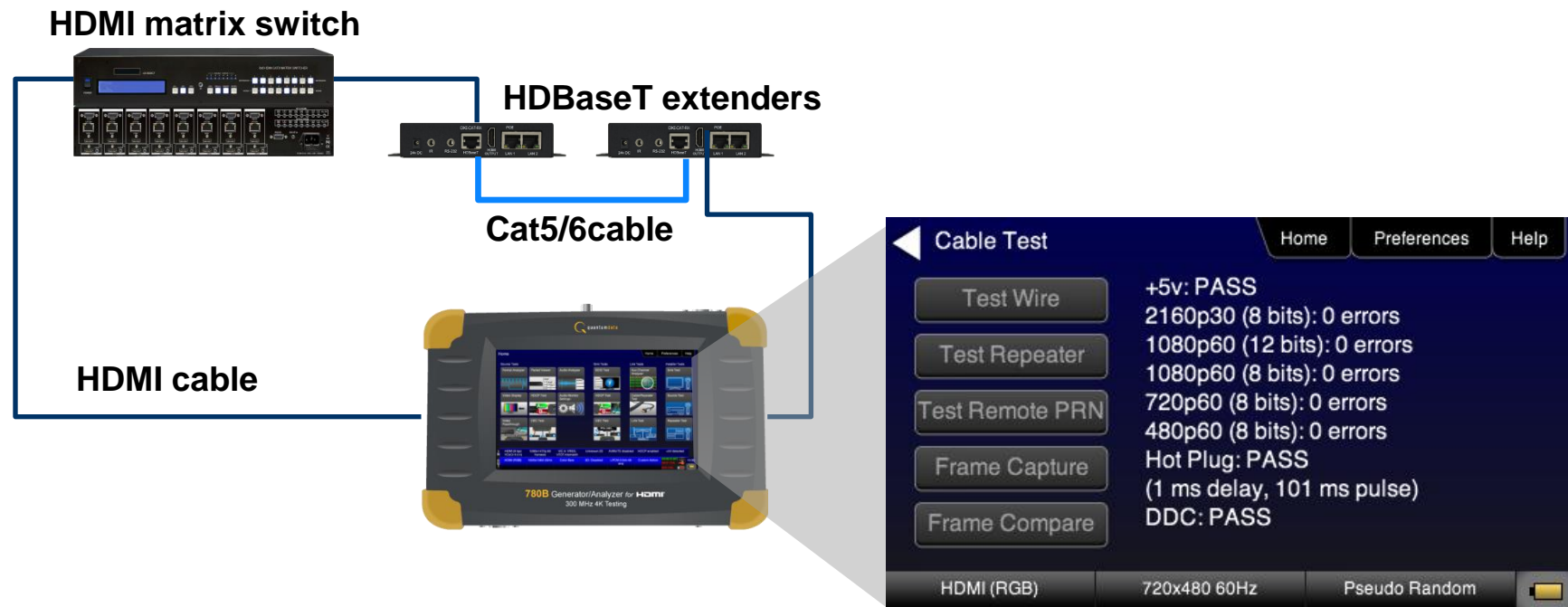
780 Sample Application – HDMI Sink Testing

- HDMI Sink Testing (780, 780A, 780B, 780C)
 - Monitor DDC (HDCP & EDID) and hot plug events with an HDMI sink device or downstream distribution network.



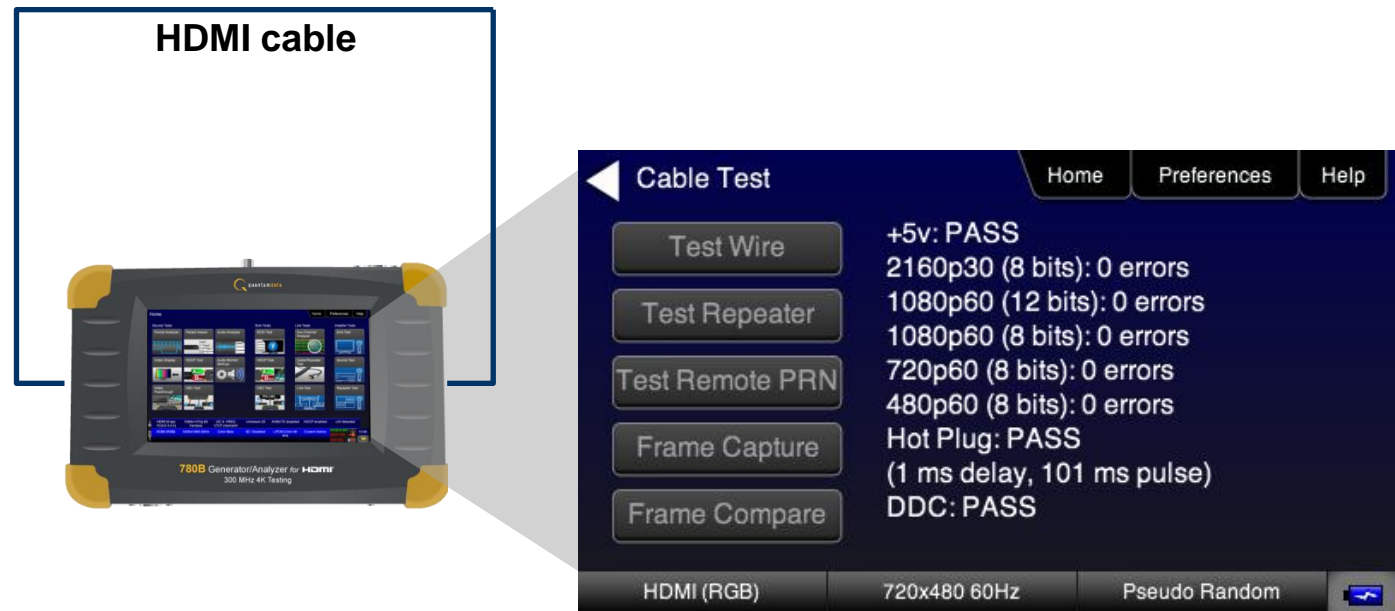
780 Sample Application – HDMI Distribution Network

- HDMI Distribution Network Testing (780, 780A, 780B, 780C)
 - Check for pixel errors on an HDMI / HDBaseT distribution network.



780 Sample Application – HDMI Cable Test

- HDMI Cable Testing (780, 780A, 780B, 780C)
 - Check for pixel errors on an HDMI cable.



Applications - HDBaseT

780 Sample Application – HDBaseT Device Testing

- HDBaseT Sink Testing (780C)
 - Basic video functional test of an HDBaseT sink device.
 - Supports 4K formats.



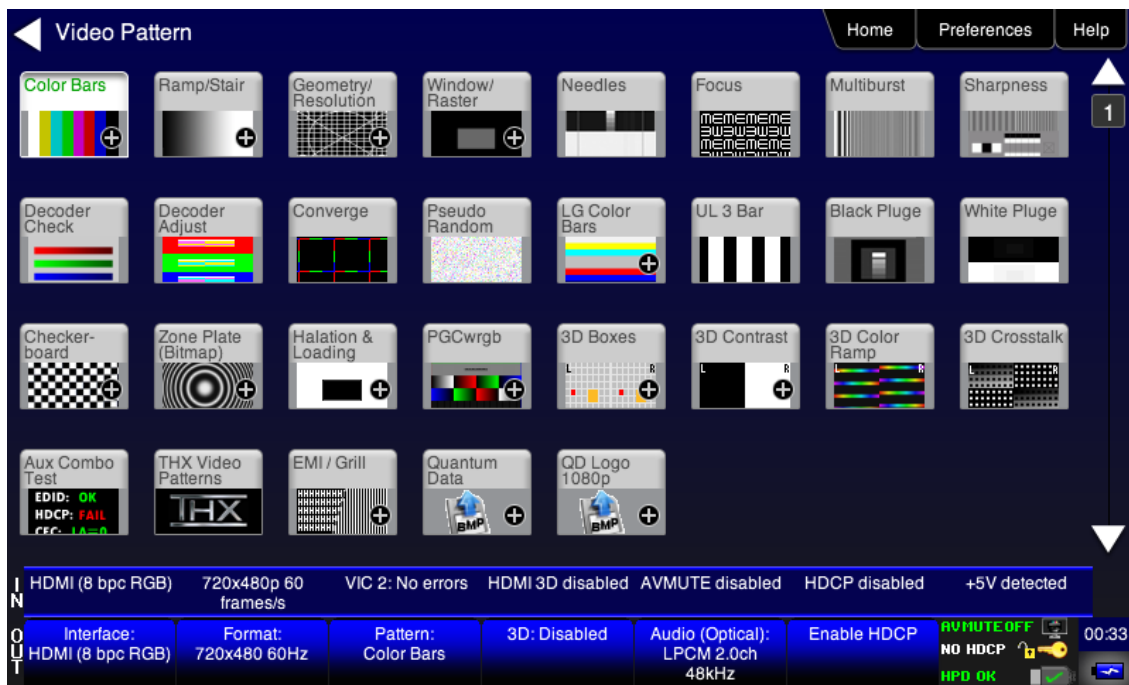
HDBaseT
Cat5/6 cable

HDBaseT Projector



780 Sample Application – HDBaseT Device Testing

- HDBaseT Sink Testing (780C)
 - Basic video functional test of an HDBaseT sink device.
 - Provides library of standard test patterns.



HDBaseT
Cat5/6 cable

HDBaseT Projector



780 Sample Application – HDBaseT Device Testing

- HDBaseT Device Testing (780C)
 - Monitor DDC (HDCP & EDID) and hot plug events with an HDBaseT device connected to an HDMI sink.

Aux Channel Analyzer

Home Preferences Help

Start Save Clear Details Auto Scroll

Timestamp	Type	Data
0:14:03.8905	DDC	U HDCP SLAVE -> MASTER I2C HDCP Response
0:14:04.3446	HPD	U Tx/U Port Falling Edge
0:14:04.8581	HPD	U Tx/U Port Rising Edge
0:14:05.0033	DDC	U EDID MASTER -> SLAVE I2C E-EDID Segment 0
0:14:05.0036	DDC	U EDID MASTER -> SLAVE I2C Request Offset 0
0:14:05.0039	DDC	U EDID SLAVE -> MASTER I2C Response
0:14:05.0273	DDC	U EDID MASTER -> SLAVE I2C E-EDID Segment 0
0:14:05.0277	DDC	U EDID MASTER -> SLAVE I2C Request Offset 128
0:14:05.0281	DDC	U EDID SLAVE -> MASTER I2C Response
0:14:05.1235	DDC	U HDCP MASTER -> SLAVE I2C Request [Bksv]
0:14:05.1237	DDC	U HDCP SLAVE -> MASTER I2C HDCP Response
0:14:05.1245	DDC	U HDCP MASTER -> SLAVE I2C Request [Bcaps]
0:14:05.1248	DDC	U HDCP SLAVE -> MASTER I2C HDCP Response

IN

HDMI (8 bpc YCbCr 4:2:2)	3840x2160p 30 frames/s	Unknown	HDMI 3D disabled	AVMUTE disabled	HDCP enabled	+5V detected
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OUTPUT

Interface: HDMI (8 bpc YCbCr 4:2:2)	Format: 3840x2160 30Hz	Pattern: Color Bars	3D: Disabled	Audio (Optical): LPCM 2.0ch 48kHz	Disable HDCP	AVMUTE OFF	00:44
						HDCP OK	
						HPD OK	



HDBaseT Cat5/6 cable

HDBaseT Projector



780 Sample Application – HDBaseT Device Testing

- HDBaseT Device Testing (780C)
 - Monitor DDC (HDCP & EDID) and hot plug events with an HDBaseT device connected to an HDTV.

Aux Channel Analyzer

Start Save Clear Details Auto Scroll

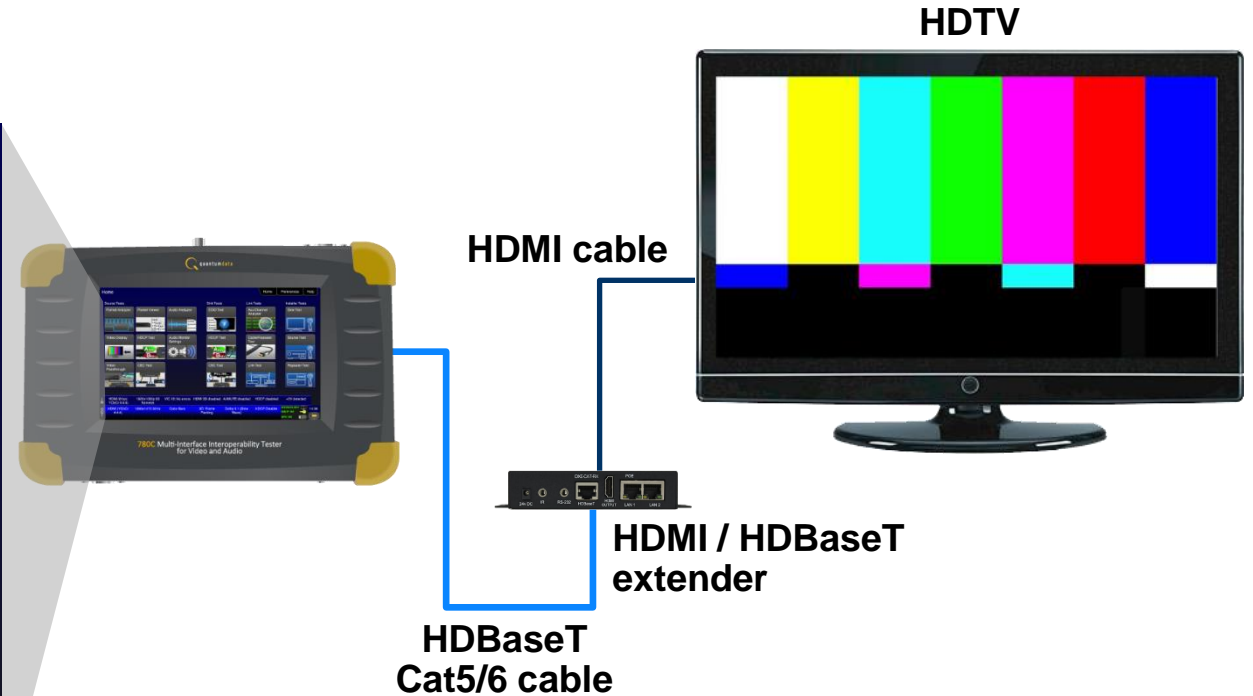
Timestamp	Type	Data
0:14:03.8905	DDC	U HDCP SLAVE -> MASTER I2C HDCP Response
0:14:04.3446	HPD	U TxU Port Falling Edge
0:14:04.8581	HPD	U TxU Port Rising Edge
0:14:05.0033	DDC	U EDID MASTER -> SLAVE I2C E-EDID Segment 0
0:14:05.0036	DDC	U EDID MASTER -> SLAVE I2C Request Offset 0
0:14:05.0039	DDC	U EDID SLAVE -> MASTER I2C Response
0:14:05.0273	DDC	U EDID MASTER -> SLAVE I2C E-EDID Segment 0
0:14:05.0277	DDC	U EDID MASTER -> SLAVE I2C Request Offset 128
0:14:05.0281	DDC	U EDID SLAVE -> MASTER I2C Response
0:14:05.1235	DDC	U HDCP MASTER -> SLAVE I2C Request [Bksv]
0:14:05.1237	DDC	U HDCP SLAVE -> MASTER I2C HDCP Response
0:14:05.1245	DDC	U HDCP MASTER -> SLAVE I2C Request [Bcaps]
0:14:05.1248	DDC	U HDCP SLAVE -> MASTER I2C HDCP Response

IN

HDMI (8 bpc YCbCr 4:2:2)	3840x2160p 30 frames/s	Unknown	HDMI 3D disabled	AVMUTE disabled	HDCP enabled	+5V detected
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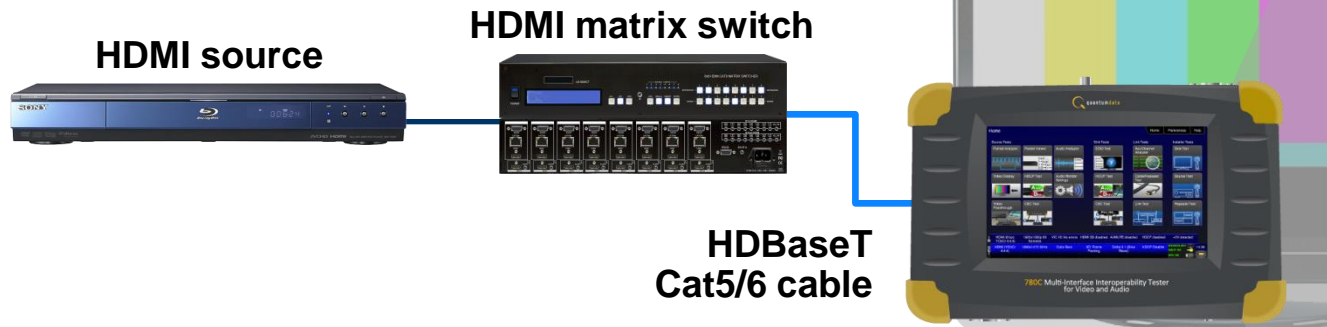
OUT

Interface: HDMI (8 bpc YCbCr 4:2:2)	Format: 3840x2160 30Hz	Pattern: Color Bars	3D: Disabled	Audio (Optical): LPCM 2.0ch 48kHz	Disable HDCP	AVMUTE OFF	00:44
						HDCP OK	
						HPD OK	



780 Sample Application – HDBaseT Device Testing

- HDBaseT Device Testing (780C)
 - Verify video and timing from an HDBaseT device through an upstream distribution network.



Video Display

Timing: 1280 x 720
60 Hz Progressive
Video type: HDMI
Bits per color: 8
Color space: RGB
Colorimetry: No data
Range: Limited
VIC code: 4
AV Mute: Off
HDCP: Off

Format Analyzer

Read

Errors: None

Video type: HDMI
Total: 858 x 525
Active: 720 x 480
Frames/sec: 60.0
Scan type: Progressive
HSYNC delay: 16
HSYNC width: 62
VSYNC delay: 9
VSYNC width: 6
HSYNC polarity: -
VSYNC polarity: -

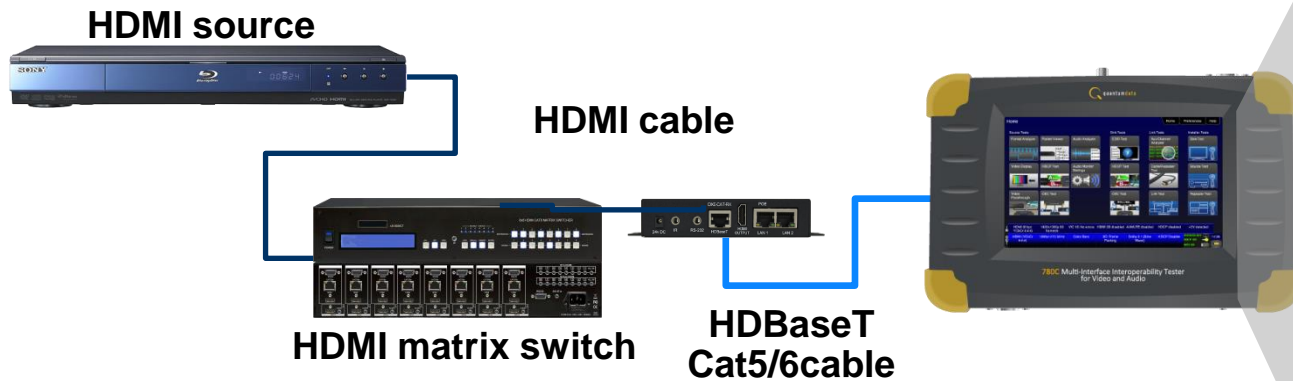
Bits per comp.: 8
Color space: RGB
Colorimetry: No data
Pixels repeated 0 times
Video ID code (VIC): 2
(720 x 480 p @59.94/60Hz 4:3)
AV Mute Status: Not muted
HDCP: Not encrypted

HDMI (8 bpc RGB) 720x480p 60 frames/s VIC 2: No errors HDMI 3D disabled AVMUTE disabled HDCP disabled +5V detected

Interface: HDMI (8 bpc RGB) Format: 720x480 60Hz Pattern: Color Bars 3D: Disabled Audio (Optical): LPCM 2.0ch 48kHz Enable HDCP AV MUTE OFF NO HDCP HPD OK 00:34

780 Sample Application – HDBaseT Device Testing

- HDBaseT Device Testing (780C)
 - Verifying HDCP authentication on an HDBaseT device through an upstream distribution network.



Aux Channel Analyzer

Start Save Clear Details Auto Scroll

Timestamp	Type	Data
0:14:03.8905	DDC	U HDCP SLAVE -> MASTER I2C HDCP Response
0:14:04.3446	HPD	U Tx/U Port Falling Edge
0:14:04.8581	HPD	U Tx/U Port Rising Edge
0:14:05.0033	DDC	U EDID MASTER -> SLAVE I2C E-EDID Segment 0
0:14:05.0036	DDC	U EDID MASTER -> SLAVE I2C Request Offset 0
0:14:05.0039	DDC	U EDID SLAVE -> MASTER I2C Response
0:14:05.0273	DDC	U EDID MASTER -> SLAVE I2C E-EDID Segment 0
0:14:05.0277	DDC	U EDID MASTER -> SLAVE I2C Request Offset 128
0:14:05.0281	DDC	U EDID SLAVE -> MASTER I2C Response
0:14:05.1235	DDC	U HDCP MASTER -> SLAVE I2C Request [Bksv]
0:14:05.1237	DDC	U HDCP SLAVE -> MASTER I2C HDCP Response
0:14:05.1246	DDC	U HDCP MASTER -> SLAVE I2C Request [Bcaps]
0:14:05.1248	DDC	U HDCP SLAVE -> MASTER I2C HDCP Response

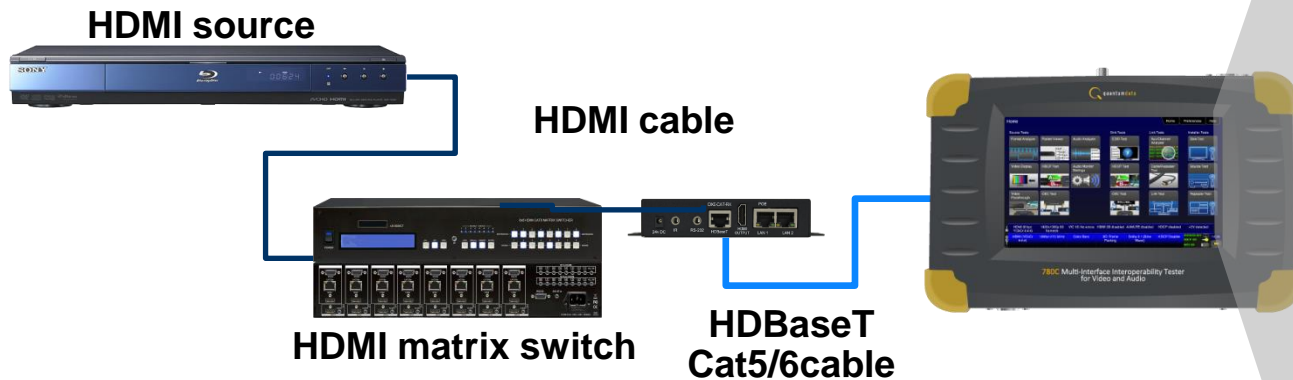
I N
O U T

HDMI (8 bpc YCbCr 4:2:2)	3840x2160p 30 frames/s	Unknown	HDMI 3D disabled	AVMUTE disabled	HDCP enabled	+5V detected
Interface: HDMI (8 bpc YCbCr 4:2:2)	Format: 3840x2160 30Hz	Pattern: Color Bars	3D: Disabled	Audio (Optical): LPCM 2.0ch 48kHz	Disable HDCP	AVMUTE OFF HDCP OK HPD OK

00:44

780 Sample Application – HDBaseT Device Testing

- HDBaseT Device Testing (780C)
 - Check for pixel errors and view packets on an HDBaseT device through a distribution network.




The image shows two screenshots of the 780C software interface. The top screenshot is the **Cable Test** screen, which displays test results for a wire: **+5v: PASS**, **1920 x 1080p: 0 errors**, and **10 frames compared.** It includes buttons for **Test Wire**, **Test Repeater**, **Test Remote PRN**, **Frame Capture**, and **Frame Compare**. The bottom screenshot is the **Packet Viewer** screen, showing **AVI InfoFrame** details: **Color space: RGB Default Range**, **Video ID: 16 (1920 x 1080 p @ 59.94/60Hz 16:9)**, **Coded Frame AR: 16:9**, **Non-uniform Scaling: None known**, **Checksum OK. Version: 2, Length: 13**, and **Raw data: 82 02 0D 09 00 28 00 10 00 00 00 9E 08 00 00 81 07**. It has **Refresh** and **Save** buttons. A status bar at the bottom of the interface shows: **HDMI (8 bpc RGB) 1920x2205p 60 frames/s VIC 16: No errors HDMI 3D: Frame packing AVMUTE disabled HDCP disabled +5V detected**. A detailed status bar at the very bottom shows: **Interface: HDMI (8 bpc RGB) Format: 1920x2205 60Hz Pattern: Color Bars 3D: Frame Packing Audio (Optical): LPCM 2.0ch 48kHz Enable HDCP AVMUTE OFF NO HDCP HPD OK** and a timer at **00:38**.

Sample Applications – HDBaseT Cat5/6 Cable Test

- HDBaseT Cable Testing (780C)
 - Check for pixel errors on an HDBaseT Cat5/6 cable.

HDBaseT Cat5/6 cable



Cable Test

Test Wire
Test Repeater
Test Remote PRN
Frame Capture
Frame Compare

+5v: **PASS**
2160p30 (8 bits): **0 errors**
1080p60 (12 bits): **0 errors**
1080p60 (8 bits): **0 errors**
720p60 (8 bits): **0 errors**
480p60 (8 bits): **0 errors**
Hot Plug: **FAIL**
(Never saw low HPD)
CEC: **Rx FAIL, Tx FAIL**
DDC: **FAIL (EDID read failed)**

HDBaseT Tx local info:
FW version 13072110 (2013/11/21)
Operation Mode: HDBaseT
Cable is too short to estimate length
HDBaseT Tx remote info:
HDBT device connected to Tx: VS100RX
FW version 13072100 (2013/11/21)
Signal Quality: -23db, -23db, -23db, -22db
Operation Mode: HDBaseT
Cable is too short to estimate length
HDBaseT Rx local info:
FW version 13072100 (2013/11/21)
Signal Quality: -22db, -22db, -23db, -22db
Operation Mode: HDBaseT
Cable is too short to estimate length
HDBaseT Rx remote info:
HDBT device connected to Rx: VS100TX
FW version 13072110 (2013/11/21)
Operation Mode: HDBaseT
Cable is too short to estimate length

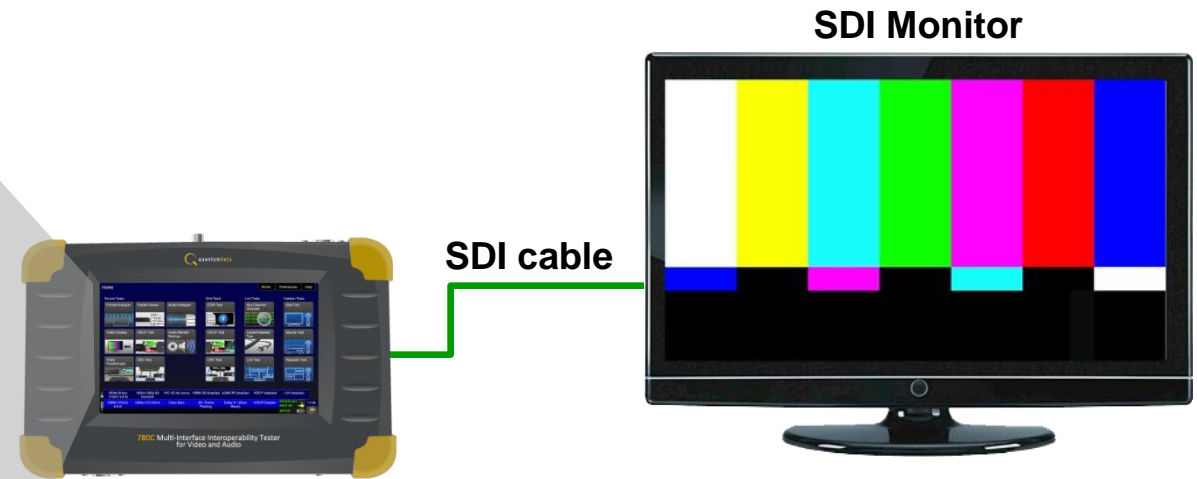
HDBaseT (8 bpc RGB)	720x480p 60 frames/s	VIC 2: No errors	HDMI 3D disabled	AVMUTE disabled	HDCP disabled	+5V detected
Interface: HDBaseT (8 bpc RGB)	Format: 720x480 60Hz	Pattern: Pseudo Random	3D: Disabled	Audio (Optical): LPCM 2.0ch 48kHz	Enable HDCP	AVMUTE OFF NO HDCP HPD OK

02:03

Applications - SDI

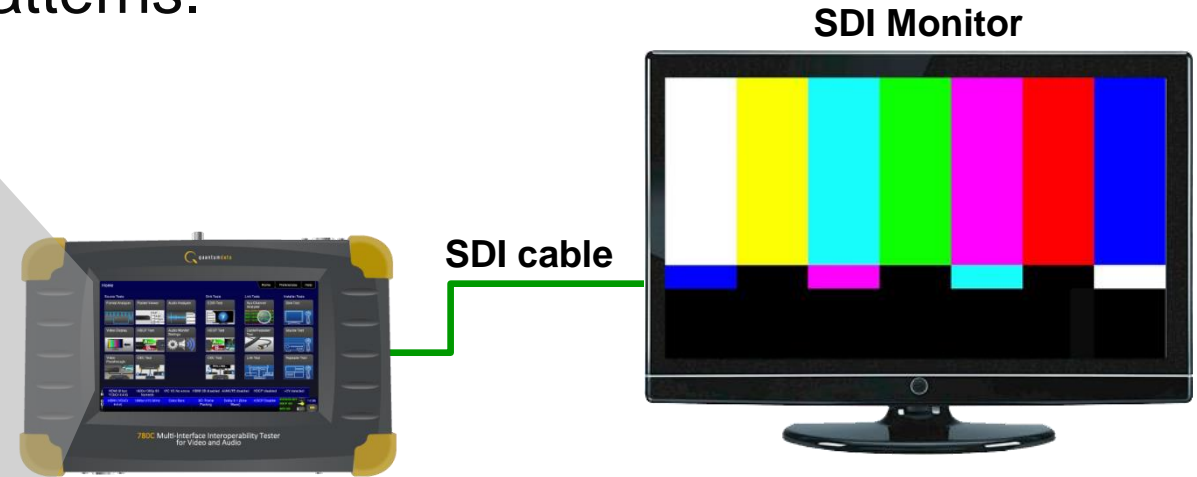
780C Sample Application – SDI Device Testing

- SDI Sink Device Testing (780C)
 - Test video on an SDI display device.



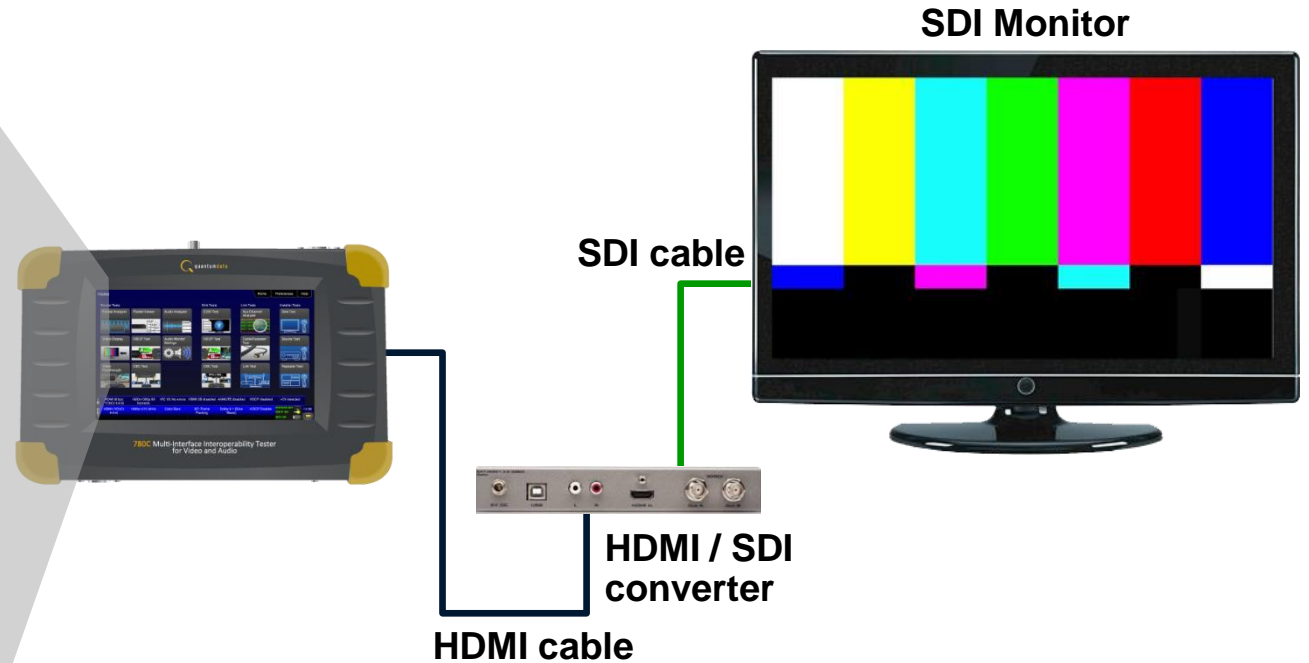
780C Sample Application – SDI Device Testing

- SDI Sink Device Testing (780C)
 - Test video on an SDI display device.
 - Supports library of standard test patterns.



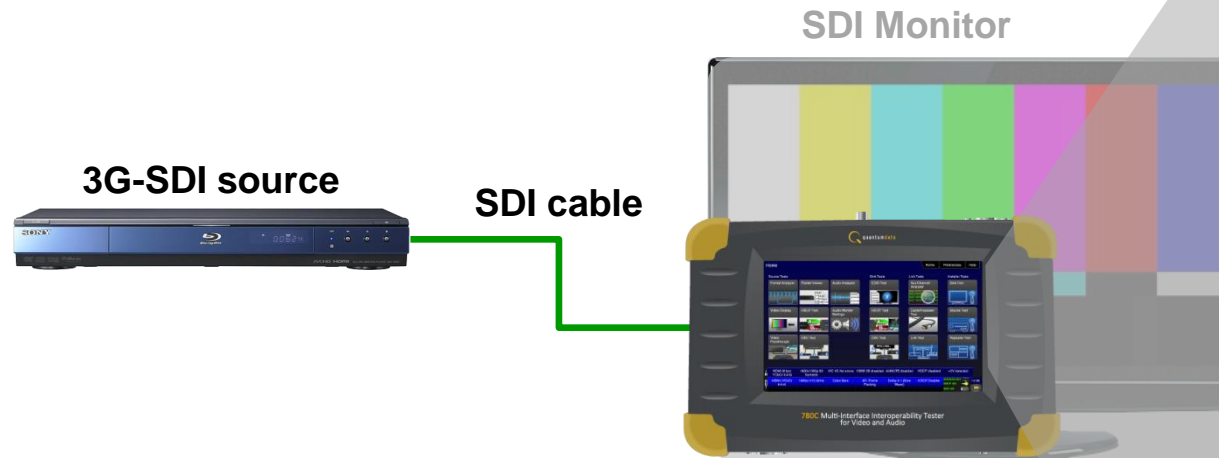
780C Sample Application – SDI Device Testing

- SDI Device Testing (780C)
 - Test video on an HDMI to SDI converter device.



780C Sample Application – SDI Device Testing

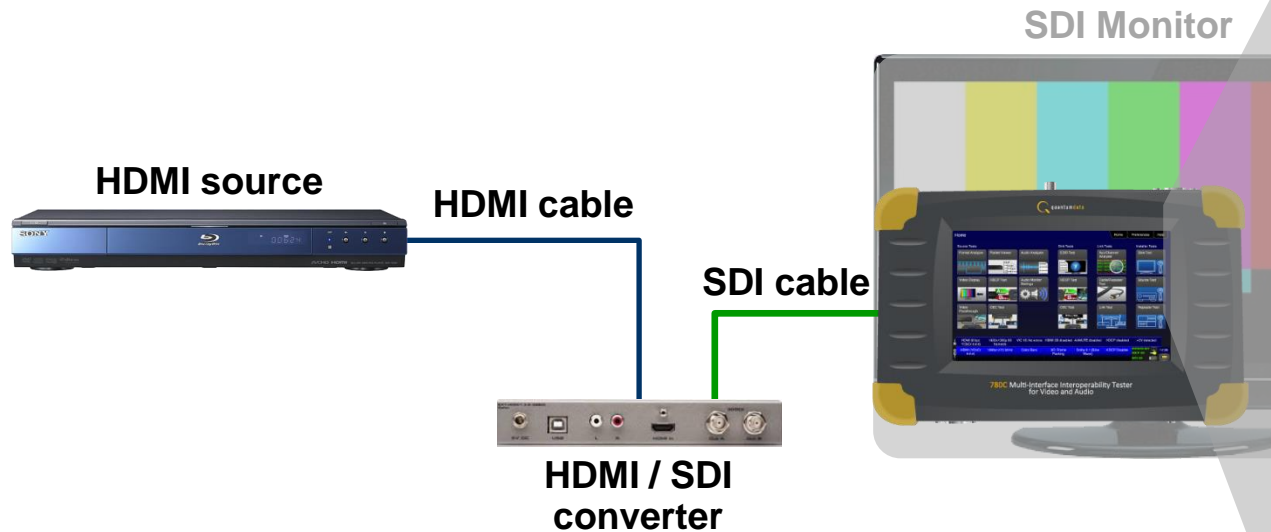
- SDI Source Device Testing (780C)
 - Verify video and timing from an SDI source device.



The screenshot shows the 780C interface with two main panels: 'Video Display' and 'Format Analyzer'. The 'Video Display' panel shows a landscape image and technical details: Timing: 1280 x 720, 60 frames/sec, Progressive, Video type: HDMI, Color space: YCbCr 4:2:2, Colorimetry: ITU-709, Range: Limited, VIC code: 4, AV Mute: Disabled. The 'Format Analyzer' panel shows a 'Read' button, 'Errors: None', and detailed video parameters: Video type: HDMI, Total: 2200 x 1125, Active: 1920 x 1080, Frames/sec: 60.5 (121.1 fields), Scan type: Interlaced, HSYNC delay: 88, HSYNC width: 44, VSYNC delay: 2, VSYNC width: 5, HSYNC polarity: +, VSYNC polarity: +, Color space: YCbCr 4:2:2, Colorimetry: ITU-709, Pixels repeated 0 times, Video ID code (VIC): 46 (1920 x 1080 i @119.88/120Hz 16:9), AV Mute Status: Not muted, HDCP: Not encrypted. At the bottom, a status bar shows: IN: HDMI (8 bpc YCbCr 4:2:2), 1920x1080i 60 frames/s, VIC 46: No errors, HDMI 3D disabled, AVMUTE disabled, HDCP disabled, +5V detected; OUT: Interface: HDMI (8 bpc YCbCr 4:2:2), Format: 1920x1080i 60Hz, Pattern: Color Bars, 3D: Disabled, Audio (Optical): LPCM 2.0ch 48kHz, Enable HDCP, NO HDCP, AV MUTE OFF, HPD OK, 00:43.

780C Sample Application – SDI Device Testing

- SDI Device Testing (780C)
 - Verify video and timing through HDMI to SDI converter device.

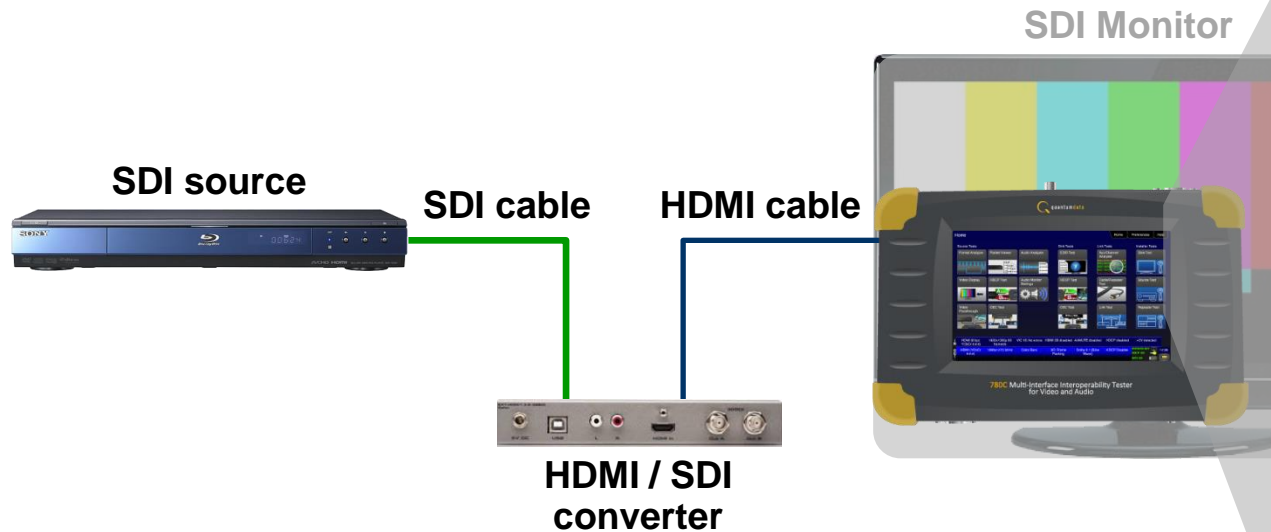


The screenshot shows the software interface of the 780C Multi-Interface Interoperability Tester. It is divided into two main sections: 'Video Display' and 'Format Analyzer'. The 'Video Display' section shows a landscape image and technical specifications: Timing: 1280 x 720, 60 frames/sec, Progressive, Video type: HDMI, Color space: YCbCr 4:2:2, Colorimetry: ITU-709, Range: Limited, VIC code: 4. The 'Format Analyzer' section shows a 'Read' button and detailed video format information: Video type: HDMI, Total: 2200 x 1125, Active: 1920 x 1080, Frames/sec: 60.5 (121.1 fields), Scan type: Interlaced, HSYNC delay: 88, HSYNC width: 44, VSYNC delay: 2, VSYNC width: 5, HSYNC polarity: +, VSYNC polarity: +. The interface also includes a status bar at the bottom with various indicators and a clock.

IN	OUTPUT
HDMI (8 bpc YCbCr 4:2:2)	1920x1080i 60 frames/s
VIC 46: No errors	HDMI 3D disabled
AVMUTE disabled	HDCP disabled
+5V detected	
Interface: HDMI (8 bpc YCbCr 4:2:2)	Format: 1920x1080i 60Hz
Pattern: Color Bars	3D: Disabled
Audio (Optical): LPCM 2.0ch 48kHz	Enable HDCP
AVMUTE OFF	NO HDCP
HPD OK	00:43

780C Sample Application – SDI Device Testing

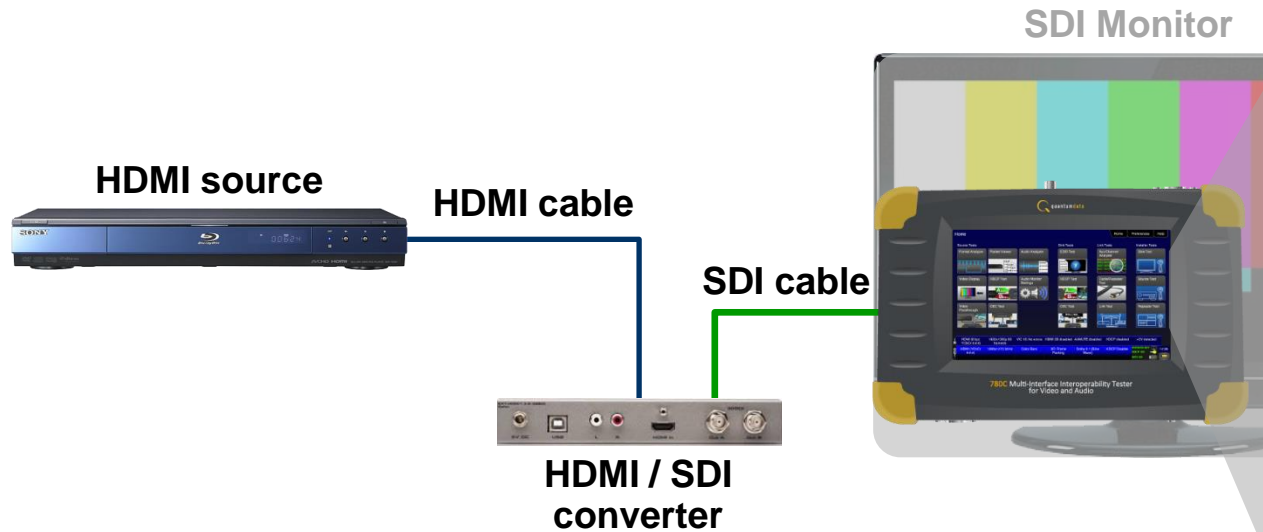
- SDI Device Testing (780C)
 - Verify video, video parameters and timing through SDI to HDMI converter device.



The screenshot shows the software interface of the 780C Multi-Interface Interoperability Tester. It features two main panels: 'Video Display' and 'Format Analyzer'. The 'Video Display' panel shows a landscape image and its parameters: Timing: 1280 x 720, 60 frames/sec, Progressive, Video type: HDMI, Color space: YCbCr 4:2:2, Colorimetry: ITU-709, Range: Limited, and VIC code: 4. The 'Format Analyzer' panel shows a 'Read' button, 'Errors: None', and detailed video parameters: Video type: HDMI, Total: 2200 x 1125, Active: 1920 x 1080, Frames/sec: 60.5 (121.1 fields), Scan type: Interlaced, HSYNC delay: 88, HSYNC width: 44, VSYNC delay: 2, VSYNC width: 5, HSYNC polarity: +, and VSYNC polarity: +. A status bar at the bottom displays: HDMI (8 bpc YCbCr 4:2:2), 1920x1080i 60 frames/s, VIC 46: No errors, HDMI 3D disabled, AVMUTE disabled, HDCP disabled, +5V detected, Interface: HDMI (8 bpc YCbCr 4:2:2), Format: 1920x1080i 60Hz, Pattern: Color Bars, 3D: Disabled, Audio (Optical): LPCM 2.0ch 48kHz, Enable HDCP, AV MUTE OFF, NO HDCP, HPD OK, and 00:43.

780C Sample Application – SDI Device Testing

- SDI Device Testing (780C)
 - Check for pixel errors on HDMI to SDI converter.



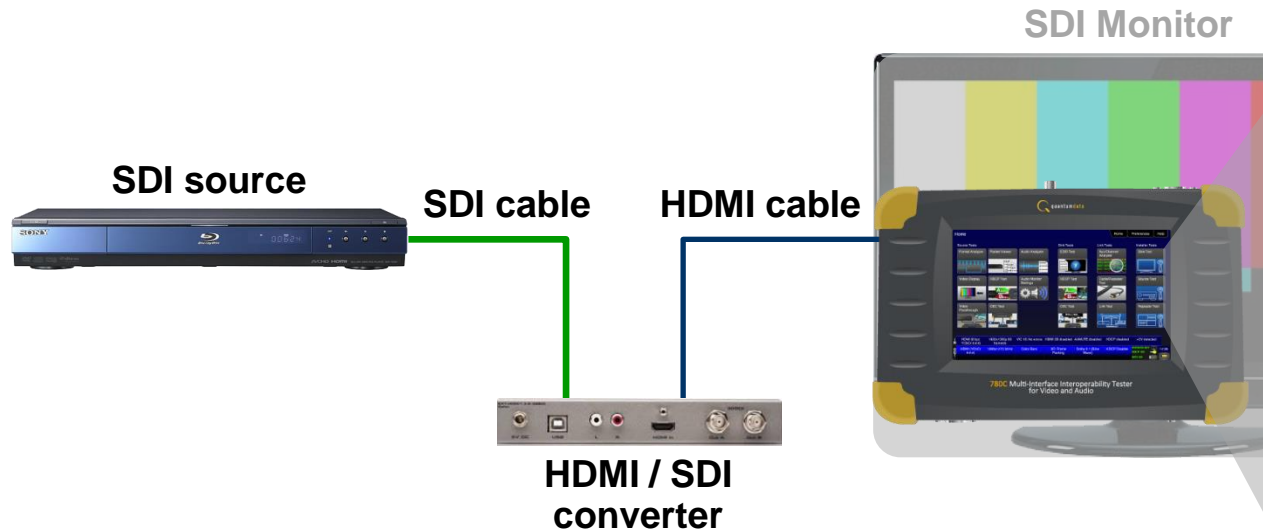
The screenshot shows the **Cable Test** interface. It includes a navigation menu with **Home**, **Preferences**, and **Help**. The main area contains several test buttons: **Test Wire**, **Test Repeater**, **Test Remote PRN**, **Frame Capture**, and **Frame Compare**. Test results are displayed on the right: **+5v: PASS**, **1920 x 1080p: 0 errors**, and **10 frames compared.**

HDMI (8 bpc RGB)	1920x1080p 60 frames/s	VIC 16: No errors	HDMI 3D disabled	AVMUTE disabled	HDCP disabled	+5V detected
Interface: HDMI (8 bpc RGB)	Format: 1920x1080 60Hz	Pattern: Color Bars	3D: Disabled	Audio (Optical): LPCM 2.0ch 48kHz	Enable HDCP	AVMUTE OFF NO HDCP HPD OK

00:36

780C Sample Application – SDI Device Testing

- SDI Device Testing (780C)
 - Check for pixel errors on SDI to HDMI converter.



The screenshot shows the 'Cable Test' software interface. The main display area contains several buttons: 'Test Wire', 'Test Repeater', 'Test Remote PRN', 'Frame Capture', and 'Frame Compare'. To the right of these buttons, the test results are displayed: '+5v: PASS', '1920 x 1080p: 0 errors', and '10 frames compared.' At the bottom, a status bar provides detailed test parameters: 'HDMI (8 bpc RGB)', '1920x1080p 60 frames/s', 'VIC 16: No errors', 'HDMI 3D disabled', 'AVMUTE disabled', 'HDCP disabled', and '+5V detected'. A secondary status bar at the very bottom shows 'Interface: HDMI (8 bpc RGB)', 'Format: 1920x1080 60Hz', 'Pattern: Color Bars', '3D: Disabled', 'Audio (Optical): LPCM 2.0ch 48kHz', 'Enable HDCP', 'AVMUTE OFF', 'NO HDCP', 'HPD OK', and a timer at '00:36'.