quantumdata

780B VIDEO GENERATOR/ANALYZER Test 4K Ultra HD HDMI 2.0 devices @ 50/60Hz



(Note: Above image shown with optional 4-port board to support ACA passive monitoring.)

The 780B Video Generator/Analyzer is a portable multimedia generator and analyzer that enables you to conduct quick verification tests of all your HDMI® Products—source, sinks, repeaters, distribution devices—on-site or in an R&D lab. The instrument's features a larger color touch screen display—7 inches at 800 x 480 resolution—for greater convenience in viewing the results of analysis tests such as Auxiliary Channel Analyzer traces. The 780B also features a status bar providing at-a-glance real time status for the HDMI Tx and Rx ports. The 780B builds on the 780A instrument and adds the following capabilities:

- 300MHz HDMI Tx & Rx ports

- NEW! Test 4K Ultra HD HDMI 2.0 devices at 50/60Hz with 4:2:0 pixel encoding, EDID feature enhancements and 21:9 formats.
- View full scaled captured video frames by panning even 4K resolutions.
- Headphone jack for monitoring incoming LPCM audio.
- RS-232 port for command line control.
- Emulate HDMI 1.4 ARC Tx to test ARC Rx on A/V receiver.

- NEW! Auto EDID test option.

TESTING HDMI SINK DEVICES

The 780B is equipped with an HDMI output port for testing HDMI sink devices. You can test and calibrate the video on your high definition TVs with a variety of resolutions and standard 2D or 3D test patterns as well as custom patterns from THX® and ISF®. You can also verify hot plug, EDID and HDCP and CEC messaging on HDMI sink devices.

ANALYZING HDMI SOURCE DEVICES

The 780B is also equipped with an HDMI input port for verifying HDMI source devices. The HDMI input port and built-in display enable you to verify the incoming video parameters and view the entire, unscaled video image—including 4K images by panning, even when encrypted with HDCP. You can also verify the incoming audio by examining the decoded IEC audio headers, audio infoframes and channel status blocks.

TESTING HDMI CABLES & DISTRIBUTION NETWORKS

Because the 780B has both an HDMI output and an HDMI input, you can test your HDMI cables and distribution systems (splitters, extenders and switches) with the Cable Test feature. You can prequalify cables and distribution systems prior to installation or once they are installed with the Frame Compare (Pixel Error) test feature.

MONITORING HDMI PROTOCOLS

With the Auxiliary Channel Analyzer (ACA) options, you can monitor the HDMI hot plug related events and DDC transactions (EDID and HDCP) between HDMI devices and the 780B while it is emulating a known-good HDMI source or sink. The second ACA option enables you to passively monitor the HDMI hot plug-related events and DDC transactions on three HDMI connected devices.

KEY FEATURES + BENEFITS

HDMI Output Port - Pattern Testing including 3D and Deep Color Up to 300MHz for testing on 4K Ultra HD HDMI 2.0 HDTVs at 50/60Hz.

HDMI Input Port - Analysis of HDMI sources

Up to 300MHz for testing on 4K Ultra HD HDMI 2.0 sources at 50/60Hz.

NEW! HDMI 2.0 Feature Testing

Test HDMI 2.0 compliant 4K Ultra HD devices at 50/60Hz with 4:2:0 pixel encoding, 21:9 format timings (up to 300 MHz) and EDID verification.

HDMI 3D Pattern Generation

Test Side-by-Side, Top/Bottom and Frame Packing 3D format structures.

Analog Component Video Output Pattern testing for analog component inputs on HDTVs.

Custom Formats and Bitmap Patterns

Create custom formats with Format Editor. Import bitmaps for pattern testing.

Test Pattern Scrolling

Animated test pattern for testing motion artifacts.

Multichannel Digital Audio

Verify audio-capable devices using multichannel audio over HDMI, SPDIF, and Optical outputs with various audio formats at sampling rates up to 192kHz. Test LPCM and Dolby and DTS compressed audio formats. Check HDMI ARC channel on A/V receivers.

Color Touch Screen - View Incoming Video

Large user friendly color touch screen enables you to operate the instrument and view incoming video and metadata from an HDMI source. View incoming video—scaled or unscaled, encrypted or unencrypted—even at resolutions up to 4K.

Real Time Status Bar

Real time dashboard provides at-a-glance status of HDMI input and output ports available on every screen.

Installer Test Utility

Diagnose HDMI interoperability problems with simplified test interface. Verify sources, sinks, repeaters with "one button" tests. Pass/fail results provided.

HDCP Sink Test

Verify that an HDMI display properly responds to HDCP content protection.

HDCP Source Test

Check max HDMI devices supported by source.

EDID Verification

Verify the HDMI display's EDID for checksum and header errors. View the display's entire EDID content. Compare two EDIDs. Run portions of the HDMI EDID compliance test.

HDMI Sink Emulator

Emulate an HDMI sink device to test EDID on HDMI source device; test a source response to a variety of stored EDIDs.

HDMI Source Video Testing

View the video timing data and video inforframe data from an HDMI source device including 3D metadata. View various data island packet contents.

HDMI Source Audio Testing

Verify incoming audio (format, sampling rate, bit depth) by viewing the decoded IEC audio headers, audio infoframes and channel status bits. Monitor audio through headphone jack.

Licensed Bitmap Images (optional)

Image packs w/ bitmap test images. Current pattern packs: THX $_{\ensuremath{\mbox{\scriptsize oh}}}$, China Res and ISF $_{\ensuremath{\mbox{\scriptsize oh}}}$.

HDMI Cable & Network Test (Cable & Link test option)

Prequalify or verify your HDMI cable and HDMI distribution network (extenders, splitters, switchers, etc) using a pseudo random noise test pattern or pixel error test with Frame Compare feature.

NEW! HDMI Auto EDID Test (optional)

Run automated test on HDMI source devices to verify proper handling with a variety of EDIDs including commercial EDIDs, custom EDIDs, test EDIDs that are known bad. The test checks the incoming video timing, video type, sampliing, VIC etc to determine if the EDID has been properly handled by the source. Test report is available.

Aux Channel Analyzer (ACA option)

Monitor the CEC HDMI hot plug related events and DDC transactions, EDID and HDCP, either while emulating a known-good HDMI device or while passively monitoring between multiple HDMI connected devices. **Note:** Passive monitoring requires optional hardware configuration.

Battery Powered

Rechargeable batteries provide untethered operation when needed. Can also be powered from AC through power adapter.

Command Line Control

Run automated tests through command line interface via USB or RS-232.

780B Video Generator/Analyzer

APPLICATION TESTS

Link Test

STANDARD FEATUR	RES	STANDARD FEATUR	RES (CONT)
Video Pattern testing		HDMI Source Video Testi	ng
Formats Number of formats	147 (including HDMI 2.0 21:9)		View the HDMI video timing and video inforframe data (in
Standards Deep Color	CEA-861F; VESA 1080p60 30/36 bit		3D metadata) from an HDMI device.
Patterns		HDMI Source Audio Test	ing
Number of patterns Gray levels	More than 40 patterns 256		View the audio format, samp Bit depth of the decoded aud
Imported bitmaps Imageshift	Fixed resolution 24 bit Scroll bitmap images		headers, audio infoframes, a status bits of an HDMI audio
HDMI 3D Testing		CEC Ping test	
Test pattern 3D Formats	3D bitmap test images and NEW rendered images Top & Bottom, Side-by-Side (half & full),	-	HDMI CEC source & sink dev Ping HDMI devices in a netw discover CEC devices.
3D FOIMALS	Frame Packing	HDCP Testing	
Audio Test Tones Test	Tone	HEOF Rooting	HDMI HDCP Sink Test Verifies DTV's and repeater's
Sound Pressure &	Pink Noise		of HDCP encrypted video.
Main Speaker	500-2kHz		HDMI Source Test
Frequency Response	20-20kHz		Check a sources max HDCP capabilities.
Speaker Distortion	Sine wave 63 Hz, 125Hz, 1kHz, 4kHz	EDID Testing	capabilities.
Early Reflections	Impulse	LDID losting	HDMI EDID Sink Test
Polarity of speaker wires	Polarity		View entire EDID contents an
Sound Convergence	Autotime Delay		for errors. Run portions of the
View incoming video			compliance test.
HDMI Source Test	View incoming video image and video		HDMI EDID Source Test
	metadata from HDMI source even when content is protected with HDCP.		Emulate any EDID and test a response. Store/Load EDIDs.
HDMI Installer Test Utility			
Туре	Function		
Source Test	HDCP, video, video timing		
Sink Test	Hot plug, EDID, HDCP, video, video type		
Repeater Test	Hot plug, EDID, HDCP, video, video type,		

Digital Audio (HDMI)

780B Video Generator/Analyzer

OPTIONAL FEATURES

		-
e timing data e data (including an HDMI source at, sampling rate, oded audio IEC	HDMI Cable & Link Test O HDMI Link (network) Test	btion Run pixel error and Frame Compare test on HDMI cable networks comprised of cables, extenders, repeaters, switches, processors, etc. Tests for pixel errors on video using pseudo random noise. Tests continuity of 5V, hot plug, CEC bus and DDC lines.
rames, and channel MI audio source. sink devices n a network to s.	HDMI Auto EDID Test	Run automated test on HDMI source devices to verify proper handling with a variety of EDIDs including commer- cial EDIDs, custom EDIDs, test EDIDs that are known bad. The test checks the incoming video timing, video type,
st epeater's handling <i>r</i> ideo.		sampling, VIC etc to determine if the EDID has been properly handled by the source.
1000.	Auxiliary Channel Analyzer C	Option
t HDCP device	1 - Emulation Monitoring	Monitor the CEC hot plug events and the DDC transactions during a connection sequence between the 780 and another HDMI device while emulating either a known-good HDMI source device, known-good display device, or both.
est	2 - Passive Monitoring (incl	udes option 1 - Emulation Monitoring)
nd test a source's d EDIDs.	Noto: Bonuiron on outro boo	Passively monitor the CEC 5V and hot plug events and the DDC transactions during a connection sequence between HDMI devices (source, repeater and display device). rd with four (4) additional HDMI ports.
		ru wiui iour (4) auditional moivil ports.
	Image Packs Option Images Packs	China Res Pattern Pack THX® Pattern Pack

SPECIFICATIONS Video/Audio Outputs HDMI / DVI Video Output

Connector type	(1) one HDMI Type A
TMDS protocols	HDMI, DVI
Number of links	single
Colorimetry	ITU-R BT.601-5;
	ITU-R BT.709-5
Color depth (HDMI)	24/30/36bit
	4:4:4 RGB/YCbCr
	16/20/24-bit 4:2:2
Color depth (DVI)	24-bits per pixel
	RGB 4:4:4
Encoding	RGB, YCbCr
Sampling modes	4:4:4; 4:2:2, 4:2:0 (per HDMI 2.0)
Pixel rate	300MHz
TMDS clock rate	3.00Gb/s
Timings	Up to 4K x 2K 30Hz or 60Hz with
	HDMI 2.0 4:2:0 pixel encoding
Scan types	Progressive, interlaced

video timing

video timing

Hot plug, EDID, HDCP, video, video type,

Analog Video - VGA & Component			
Connector type	VGA (HD15F) VGA-to-RCA adapter		
	provided		
Color encoding	RGB, YPbPr		
Pixel rate (MHz)	80 (pixel rep for higher resolutions)		
Sync types	Separate, composite		

HDMI Input (1) one HDMI Type A Connector type TMDS protocols HDMI, DVI Number of links single Pixel rate 300MHz 4:4:4; 4:2:2, 4:2:0 Sampling modes

Connector	(1) one HDMI Type A
Bits per sample	16, 20, 24
Sampling rates (kHz)	32.0, 44.1, 48, 88.2, 96, 176.4, 192
Audio stream types	
Programable LPCM (IEC 60958)	All sampling freq, up to 8 channel
Dolby Digital (IEC 61937)	Noise patterns, 5.1
Dolby Digital Plus (IEC 61937)	Sine wave clips 192kHz, 2.0, 5.1 & 7.1
Dolby TrueHD	High Bit Rate Audio
DTS-ES (IEC 61937)	Noise pattern 5.1
DTS-HD HRA (IEC 61937)	Sine wave clips 192kHz, 5.1 & 7.1
DTS Master Audio	High Bit Rate Audio
Digital Audio (SPDIF, OPTICA	L, HDMI ARC)
Connector	
SPDIF	RCA
OPTICAL	JIS FOS
HDMI IN (ARC)	HDMI Type A
Bits per sample	16, 20, 24
Sampling rates (kHz)	32, 44.1, 48, 88.2, 96, 176.4, 192
Audio stream types	
Programable LPCM (IEC 60958)	All sampling freq, up to 8 channel
Dolby Digital (IEC 61937)	Noise patterns, 5.1
DTS-ES (IEC 61937)	Noise pattern 51
Administration	
Firmware upgrade	In the field upgrade through USB.
Control	
USB peripheral	Download bitmaps, firmware upgrade
Command Line	USB, RS-232
User Interface – Touch Scree	an a
Screen size (active)	7" with 800(W) x 480(H)
Color	24 bit RGB
00101	LINCHOD

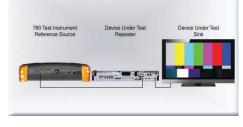
Environmental	
Humidity	30% to 80% RH non condensing
Operating temp	
Celsius	0 to 40
Fahrenheit	32 to 104
Regulatory	
RoHS	
Power	
DC	
Battery life	6AA NiMh batteries
Battery recharge	1 hour between charge
AC charger/converter	30 hours minimum charge
VAC	
Current (amps)	100 to 240
Frequency (Hz)	0.4 (max)
Power (VA)	47 to 63
	30
Weight	
LBS	
Kg	3.25 LBS
	1.47 Kg
Size (dimensions)	
Height	
inches	
cm	2.7
Width	6.98
inches	
cm	9.75
Depth	24.76
inches	
cm	6
	15.24

STANDARD TESTS

Video Pattern Testing – Test a DTV to ensure that it can render a video test pattern. Scroll a pattern to test for motion artifacts.

Configurations:





Step 2. Select Video Pattern

ome		Home	Preferences Help
Video Pattern	Audio Test Tone	Test Sink (Display/TV)	Test Source (DVD/STB)
3D Output	Aux Channel Analyzer	Cable/Repeater Test	Installer Tests
		3	
HDMI (RGB)	1080p 60	Hz W	hite Pluge

Step 3. Select Image



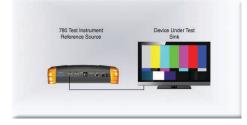
Operation: Step 1. Select Format

		Frame Rate		
480p	480i	23.976Hz	24Hz	25Hz
576p	576i	29.97Hz	30Hz	50Hz
720p		59.94Hz	60Hz	100Hz
1080p	1080i	119.88Hz	120Hz	200Hz
4Kx2K	4K SMPTE	239.76Hz	240Hz	

Step 4. Select Pattern Options

	з <u>н</u>	ome Pre	ferences	Help
Window	Raster			
-5 -1 1()0 +1 +5	R	G	В
IRE Label		С	M	Y
Off On			W	
HDMI (RGB)	1080p 60Hz	Windo	w/Raster	

3D Video Pattern Testing – Test a DTV to ensure that it can render a video test pattern. Configurations: Operation:



Step 2. Select 3D Test Options

Mode	Subtype	Left	Right
Side-by-Side (Half)	Horizont	al Odd	Od
Top-and-Bottom	Quincun	x Even	Eve
Frame Packing			
Off			

780 Test Instrument Reference Source Device Under Test Repeater Device Under Test Sink

Step 3. Select 3D Test pattern



Step 1. Select 3D Output



Audio Test Tones – Test an HDTV or A/V Receiver to ensure that it can render LPCM basic and multichannel audio and multichannel compressed audio and HDMI high bit rate audio formats.

Configurations:

Operation: Step 1. Select Audio Test Tones



Step 2, Select HDMI Audio Pattern DD+ 7.1

2. Select HDMI	Audio Patte	rn DD+ 7.1	Step 3. Select	Pattern Optio	ons
udio Pattern	Home	Preferences Help	Dolby Digital+	amples	Home Preferences Help
Off Optical	SPDIF	HDMI	DD+ 7.1 192		DD+5.1 192kHz
Dolby 5.1	DTS-ES 6.1	PCM Sine Wave	DD+ 2.0 192 Dolby TrueHD	kHz	
DD+/TrueHD	DTS-HD		TrueHD 1kHz 7.1	192kHz	TrueHD 2kHz 2.0 192kHz
FE: For non-PCM audio types ultaneously may cause unde		eo pattern			
HDMI (RGB) 4	80p 60Hz	Pseudo Random 🛛 🔲	HDMI (RGB)	480p 60Hz	Pseudo Random 🛛 📒

780 Test Ir

Viewing HDMI Video from Source – Test an HDMI source device directly or through a repeater. View incoming HDMI video including 3D video on the built-in display.

Configurations:

Device Under Test Repeater	780 Test Instrument Reference Source	Device Under Test Source	Device Under Test Repeater	780 Test Instrument Reference Source	780 Test Instrument Reference Source	Device Under Test Repeater
						1

Operation:

Step 1. Select Test Source (DVD/STB)



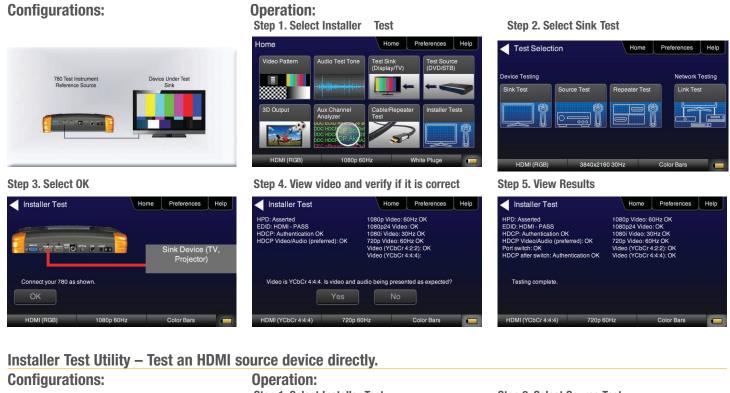


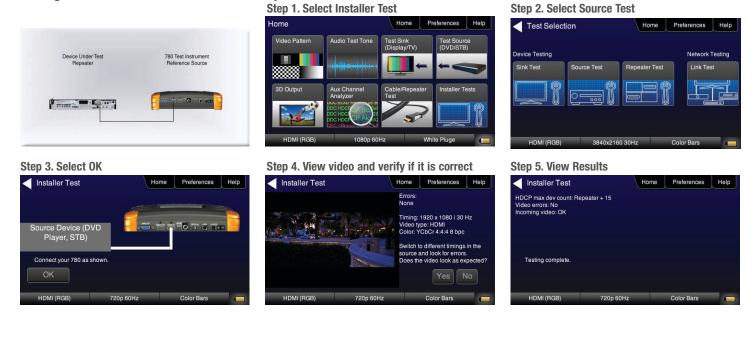
Step 3. Select Fullscreen or Detailed





Installer Test Utility – Test an HDMI sink device directly.





Installer Test Utility - Test an HDMI repeater device directly.

Device Under Test Repeater

Configurations:

780 Test Instrument Reference Source

. .

Operation: Step 1. Select Installer Test



Step 4. View video and verify if it is correct

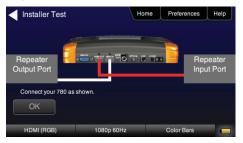
Home Preferences Help

1080p 50Hz Pseudo Random

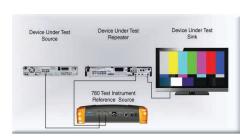
Step 2. Select Repeater Test



Step 3. Select OK



Installer Test Utility - Test HDMI Links. **Configurations:**



Step 3. Select OK



Operation:

HDMI (RGB)

Installer Test

D: Asserted ID: HDMI - PASS ID modified by repeater: Yes ing altered: No sees video without change: No ICP passthrough: No ICP: Authentication OK

Switch inputs on the device and then switch back



Step 4. View video and verify if it is correct



Step 2. Select Link Test

	'k Testing
Sink Test Source Test Repeater Test Link 1	rest

HDMI NETWORK ANALYZER FEATURES (OPTIONAL)

HDCP Testing – Run an HDCP functional test connected directly to an HDMI HDTV or through a repeater to verify that it can render HDCP protected video content.

Configurations:



Operation:

Step 1. Select Test Sink (DVD/STB)



Step 2. Select HDCP Test



Step 3. Select Enable and View results HDCP Output Test Home Preferences Help Bksv = 0x27C9DC256C Bcaps = 0x80 (HDMI) Generated An = 0x1B806474F2264C27 Aksv = 0xD2DC91A0E7 R0 (0xCD15) matched R0' (0xCD15)

1080p 60Hz

Color Bars

HDMI CEC Verification - Run an HDMI CEC verification test on an HDMI system. **Configurations:**

Device Under Test	780 Test Instrument	Device Under Test	Device Under Test	780 Test Instrument	780 Test Instrument	Device Under Test
Repeater	Reference Source	Source	Repeater	Reference Source	Reference Source	Repeater
				((), (), (), (), (), (), (), (), (), (), (

Operation:

Step 1. Select Test Sink (DVD/STB)



Step 2. Select CEC Test

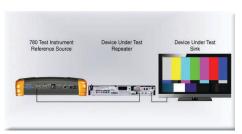


Step 3. View Results



HDMI Source and Repeater Video Test – Test an HDMI source device directly or through a repeater. Verify timing, AVI Infoframes and HDCP authentication for standard video, deep color and 3D.

Configurations:





Operation:

Sink Tests	l	Home P	references	Hel
EDID Test	HDCP Test	CEC Te	est	
		sv 🦛		

Step 3. View Results



HDMI Source Audio Test – Run an audio test on an HDMI source device or A/V receiver to verify audio headers, audio infoframe and channel status bits.

Configurations:

ument Device Under Test ource Source	Device Under Test 780 Test Instrum Repeater Reference Sour	rce Reference Source	e Repeater
			risponor
B			

Operation:

Step 1. Select Test Source (DVD/STB)



Step 2. Select Audio Analyzer

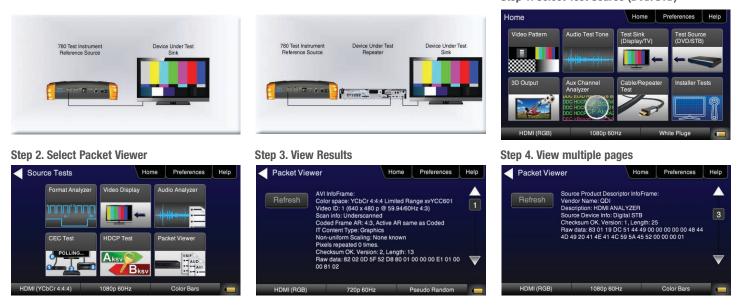


Step 3. View Results



Packet Viewer Test – View HDMI infoframe and selected data island metadata **Configurations:**

Operation: Step 1. Select Test Source (DVD/STB)



Testing Source's Response to an EDID – Provision 780's HDMI Input port with EDID from any display. Verify source responds properly to EDID. Load EDID from multiple stored EDIDs.

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υU		IUI	יוום	una.
	-			

780 Test Instrument Reference Source

780 Test Instrument Reference Source Device Under Test Source -0

Device Under Test

Step 2. Select EDID Test



Step 3. Verify EDID has been assigned

EDID Test	Н	ome	Preferences	Help
Read	EDID was successfully v	vritten 1	to the HDMI receiv	er. 📥
Load				1
Save				
Compare]			
Use on Rx				V
HDMI (RGB)	1080p 60Hz	F	seudo Random	

Step 3. Load EDID



Operation: Step 1. Select Test Sink (DVD/STB)



Step 3. Load an EDID to RX port

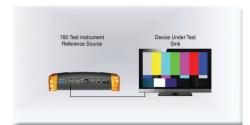
EDID Files	Hom	ne Preferences	Help
TV470.XML	AVR720.XML	TEST.XML	
TV1080P.XML	TV720P30.XML	TV1080~1.XML	
TV720P60.XML			
HDMI (RGB)	1080p 60Hz	Pseudo Random	

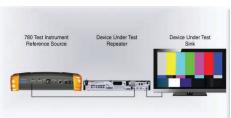
780B Video Generator/Analyzer

Step 1. Select Test Sink (DVD/STB)

EDID Sink Testing – Run an EDID functional test on an HDMI HDTV and/or an A/V receiver to verify EDID checksum, header, and HDMI video and audio support. View entire EDID contents. Run portions of the EDID compliance test

Configurations:





Home Home

Operation:



Step 2. Select EDID Test



Step 3. Select Read and View Results (Page 1)

Home Preferences Help EDID Summary: Header is OK. All checksums OK. EDID Ver. 1.3 HDMI: Yes (PA 1.0.0.0.36, 30 bit color) ManufacturerProduct: CDI 780 Prel. Native Timing: 1920x1080 60.00Hz SVDs: 4801480p 576i 576p 720p 1080i 1080p 1900c94 -+ ers: [RLC/RRC RL/RR FC LFE FL/FR] ch., [32 44.1 48 88.2 96 176.4 192] kHz @ [16 20 24] bits AC-38 ch., [32 44.1 48] kHz, max rate 640 kHz DTS 8 ch., [44.1 48] kHz, max rate 1536 kHz Dolby DD+ 8 ch., [44.1 48] kHz Ps

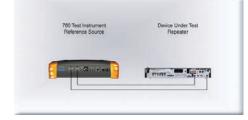
Step 4. View multiple pages (Page 25)

EDID Test	н	ome	Preferences	Help
Read	Test ID 8-2: EDID VESA - PASS	Structu	ıre	
Load				
Save				
Compare				25
Use on Rx				V
HDMI (RGB)	1080i 30Hz	F	Pseudo Random	

HDMI CABLE & LINK TEST (OPTIONAL)

HDMI Cable or HDMI Link Test – Run a pixel error test on an HDMI cable or an HDMI system with splitters, switches and extenders using pseudo random noise.

Configurations:



ice Under Test Device Under Test Exte Exten CATS 780 Test Int leference Sc

Operation: Step 1. Select Cable/Repeater Test



Step 2. Select Test Wire or Test Repeater



Step 3. View Results (Cable Test)

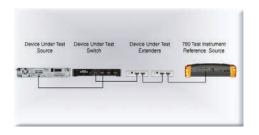


HDMI FRAME COMPARE TEST (OPTIONAL)

HDMI Frame Compare Test – Run a pixel error test on video frames.

Operation:

Configurations:



Step 1. Select Cable/Repeater Test Home Home Preferences Help Video Pattern Test Sink (Display/TV) Aux Channel 3D Output

Step 2. Select Frame Capture



Step 3. Select Frame Compare



Step 4. Select Frame Capture

	,paroai	Test Remote PRN	Ĵ		
		Frame Capture			
		Frame Compare]		
Op 60Hz	Pseudo Random 📰	HDMI (RGB)	480p 60Hz	Pseudo Random	

HDMI AUXILIARY CHANNEL ANALYZER TEST (EMULATION OPTION)

Emulation Monitoring – Monitor HDCP and EDID transactions and hot plug events while emulating either an HDMI source, HDMI sink or both an HDMI source and sink.

Configurations:

780 Test Instrument Device Under Test Device Under Test	Device Under Test	Device Under Test	780 Test Instrument	780 Test Instrument	Device Under Test
Reference Source Repeater Sink	Source	Repeater	Reference Source	Reference Source	Repeater
		ľ			

Operation:

Step 1. Select Aux Channel Analyzer



Step 4. View Details (Bcaps)



Step 2. Select Configuration: Capture Data

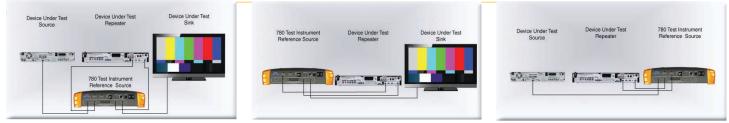


Step 3. View Results (Downstream)

Aux Ch	annel	Analyzer	Home	Preferences	Help
Start	Sa	ve Clear	Details	Auto Sci	roll
Timestamp	Туре	Data			
0:13:09.3417	DDC	D HDCP SLAVE	-> MASTER 120	CHDCP Response)
0:13:11.4768		D HDCP MAST	ER -> SLAVE I20	C Request [Ri']	
0:13:11.4773	DDC	D HDCP SLAVE	-> MASTER 120	CHDCP Response	
0:13:13.4956	HPD	Rx/D Port Falling	g Edge		
0:13:14.4609	DDC	D EDID MASTE	R -> SLAVE I2C	EDID E-EDID Seg	ment
0:13:14.4612	DDC	D EDID MASTE	R -> SLAVE I2C	Request Offset 0	
0:13:14.4617	DDC	D EDID SLAVE	-> MASTER I2C	Response	
HDMI (RC	GB)	480p 60	Hz	Color Bars	

HDMI AUXILIARY CHANNEL ANALYZER TEST (PASSIVE OPTION)

Passive Monitoring – Passively monitor hot plug-related events, HDCP and EDID transactions between HDMI connected devices.





Aux Chanr	nel Analyzer	Home	Preferences	Help
Stop	Save Clear	Details	Auto Sci	roll
* START *				
0000: 74 40	I t@			1
Register 0x40 (Bcaps (HDCP B Capability Bits)) = 40 REPEATER: 1 READY: 0 FAST: 0 1.1.FEATURES: 0				
FAST_REAUTHE	NTICATION: 0			$\mathbf{\nabla}$
HDMI (RGB)	480p 60)Hz	Color Bars	