HDG 2.0 Owner's Manual

Hand-Held HDMI 2.0 Ultra HD/4K HDR, HDCP 2.2, CEC

Test Pattern Generator & Analyzer

PureLink™

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TABLE OF CONTENTS

Manual version	Release date
1.0	4/12/2017

Chapter 1. Introduction

1.1 Safety Precautions

- All safety instructions should be read and understood before the unit is operated.
- The owner's manual and safety instructions should be retained for future reference.
- Unplug this unit from the wall outlet before cleaning. Do not use liquid or aerosol cleaners. Use a damp cloth only.
- Keep away from wet, magnetic, and flammable surfaces or substances.
- Always use the correct power supply (indicated on the product label) when operating this unit.
- This unit may be equipped with a 3 wire grounding-type plug - a plug having a third (grounding) pin. This pin will only fit in to a grounding type power outlet. If you are unable to insert the plug in to the outlet, contact your electrician to replace your obsolete outlet.
- Air vents should be kept clean and unobstructed at all times.
- Please refrain from using frayed power cords and damaged wall outlets.
- Do not place any heavy objects or equipment on top of the unit.

If you experience any malfunctioning of product or have any question as to operation of the product, please contact our customer service center.

PureLink™
Tel: 201.488.3232
Email: support@purelinkav.com

1.2 What's in the Box

Please make sure all of the following items are included in the package:

- 1 x HDG 2.0
- 1 x 5V/2A Power adapter
- 1 x 3.5mm to DB serial cable adapter
- 1 x Hard Carrying Case
- 1 x User manual

1.3 Product Introduction

The PureLink HDG 2.0 is a battery powered, professional quality performance portable multimedia generator that enables you to conduct pre-installation check, on-site verification testing, and calibration of your audio and video systems.

HDG 2.0 is also able to analyze HDMI signal in a full range of resolutions up to 4K@60Hz (4:4:4). The unit assists users in validating the capabilities and proper operation of the source devices.

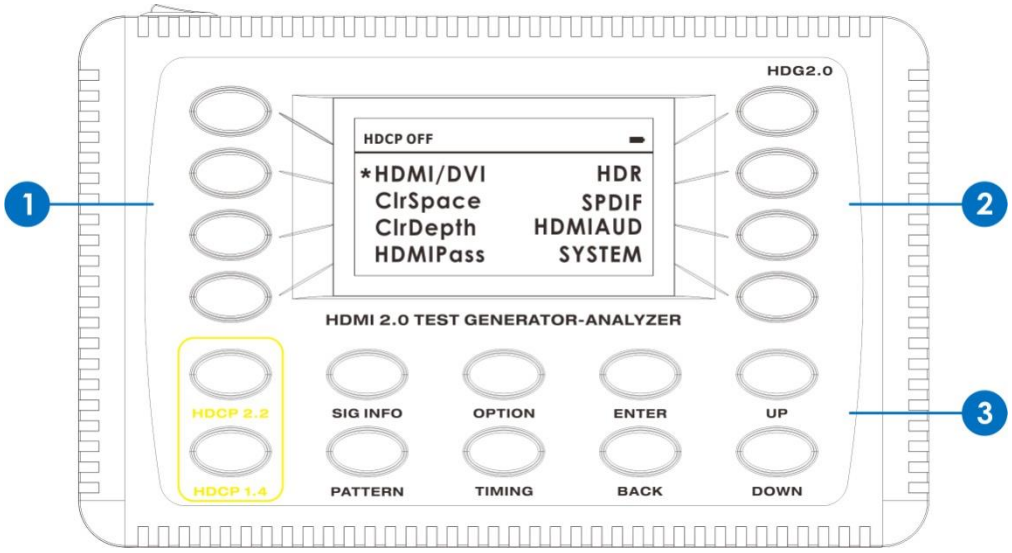
Two in one HDG 2.0 is your best companion for AV system troubleshooting, signal verification and system commissioning.

1.4 Features

- **Battery powered for portability.**
  Device is powered via internal battery or externally via an AC charger.
- **HDMI 2.0 Ultra HD/4K 50/60Hz 4:4:4 color format support**
- **Signal Path Analysis – Source and sink up to 18G HDMI signals**
- **HDR (High Dynamic Range) testing & analysis**
- **Three HDCP output option (HDCP 2.2, 1.4, and None)**
- **CEC compliance testing**
- **Analysis & Emulation of EDID data**
- **55 Video resolutions and 31 patterns**
- **Various color space testing (RGB/YCbCr444/YCbCr422/YCbCr420)**
- **Various color depth testing (24, 30, and 36 bit per pixel)**
- **External digital audio input & output**
- **BT2020 color representation**
- **Supports Dolby TrueHD, Dolby Digital Plus and DTS-HD Master Audio plus LPCM (up to 192kHz)**
- **DVI and DisplayPort support via HDMI ports with adapters (sold separately)**

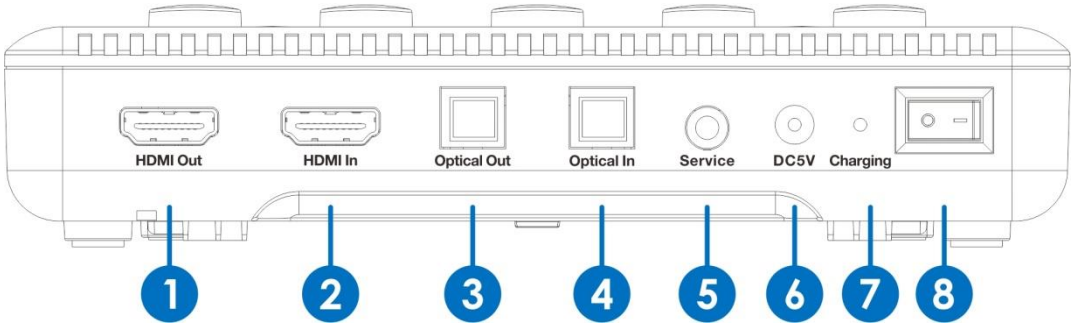
1.5 Product View and Connection Ports

Front Panel



1. **Left 4 buttons:** Select No.1 ~ 4 row of left screen correspondingly
2. **Right 4 buttons:** Select No.1 ~ 4 row of right screen correspondingly
3. **Function buttons**:
   HDCP 2.2: Enable HDCP 2.2 or No HDCP
   HDCP 1.4: Enable HDCP 1.4 or No HDCP)
   Sig Info: HDMI signal analyzing status
   Option: Parameter setting (HDMI mode, color space, color depth, HDMI bypass, HDR, SPDIF, HDMI audio and system)
   Pattern: Pattern menu selection
   Timing: Output timing menu selection
   Enter: Press to enter menu or confirm operation
   Back: Go back or Exit menu
   Up/Down: Scroll pages under pattern and timing menu.

Top Panel



1. HDMI Out: Connect to a HDMI display device such as TV or monitor

2. HDMI In: Connect to a HDMI source device such as Blu ray player

3. Optical Out: Connect to an audio receiver device such as audio amplifier

4. Optical In: Connect to an audio source device such as Blu ray player.

5. Service: Connect to PC RS-232 port via a 3.5mm to DB9 (Female) serial cable adapter.

6. DC 5V: Connect the 5V/2A adaptor in box to AC wall outlet for power charging

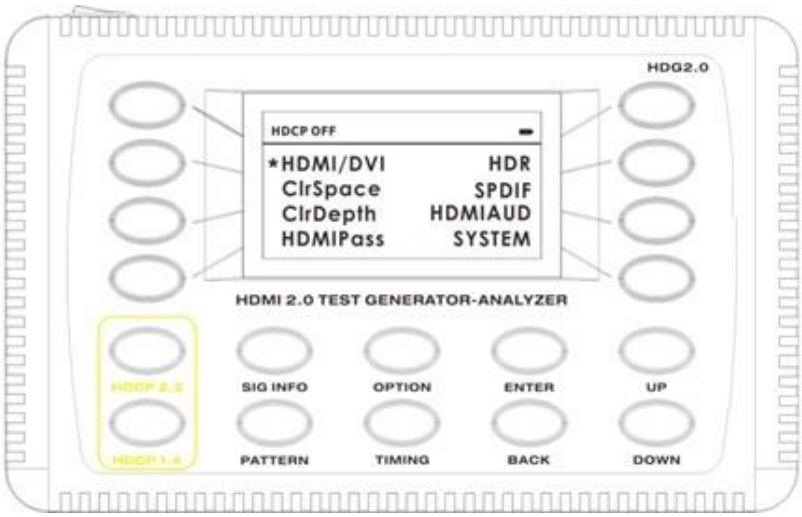
7. Charging: Battery charging indicator

8. ON/OFF Switch: Power on/off switch

1.6 Technical Specification

Technical	
HDMI Compliance	HDMI 2.0b
HDCP Compliance	HDCP 2.2
Video Bandwidth	18 Gbps
Video Resolutions	up to 4K@50/60Hz (YUV4:4:4)
Color Space	RGB, YCbCr 4:4:4, YCbCr 4:2:2
Color Depth	8-bit, 10-bit, 12-bit
HDMI Audio Formats	**Internal:** LPCM 2CH, 48kHz, 16bits **External SPDIF:** LPCM 2/5.1CH, Dolby Digital, DTS 5.1 **HDMI Pass-through:** LPCM 2/5.1/7.1CH, Dolby Digital, DTS 5.1, Dolby Digital+, Dolby TrueHD, DTS-HD Master Audio, Dolby Atmos, DTS:X
ESD Protection	Human body model — ±8kV (air-gap discharge) & ±4kV (contact discharge)
Connections	
Inputs	1x HDMI Type A [19-pin female] 1x SPDIF In [Optical] 1x RS-232 [3.5mm Mini-jack]
Outputs	1x HDMI Type A [19-pin female] 1x SPDIF Out [Optical]
Mechanical	
Dimensions (WxDxH)	6.5'' x 4.1'' x 1.5'' (165 x 103 x 37.4mm)
Weight	1 lbs (0.36 kg)
Power Supply	Input: AC100 - 240V 50/60Hz Output: DC 5V/2A (US/EU standards, CE/FCC/UL certified)
Power Consumption	2.5W
Operation Temperature	32 - 104°F / 0 - 40°C
Storage temperature	-4 - 140°F / -20 - 60°C
Relative Humidity	20 - 90% RH (no condensation)

Chapter 2. Operation Menu Guide

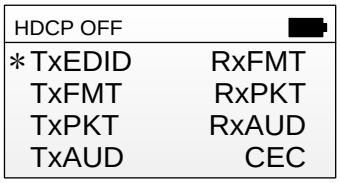


There are total 18 buttons on HDG 2.0 and this section will go over each button's function and usage.

- **Left 4 buttons:** Select No.1 ~ 4 row of left screen correspondingly
- **Right 4 buttons:** Select No.1 ~ 4 row of right screen correspondingly
- **Function buttons:**
  HDCP 2.2: Enable HDCP 2.2 or No HDCP
  HDCP 1.4: Enable HDCP 1.4 or No HDCP)
  Sig Info: HDMI signal analyzing status
  Option: Parameter setting (HDMI mode, color space, color depth, HDMI bypass, HDR, SPDIF, HDMI audio and system)
  Pattern: Pattern menu selection
  Timing: Output timing menu selection
- **Enter:** Press to enter menu or confirm operation
- **Back:** Go back or Exit menu
- **Up/Down:** Scroll pages under pattern and timing menu

2.1 Sig Info – Initial menu

Powering on the device will bring to the Sig info menu.

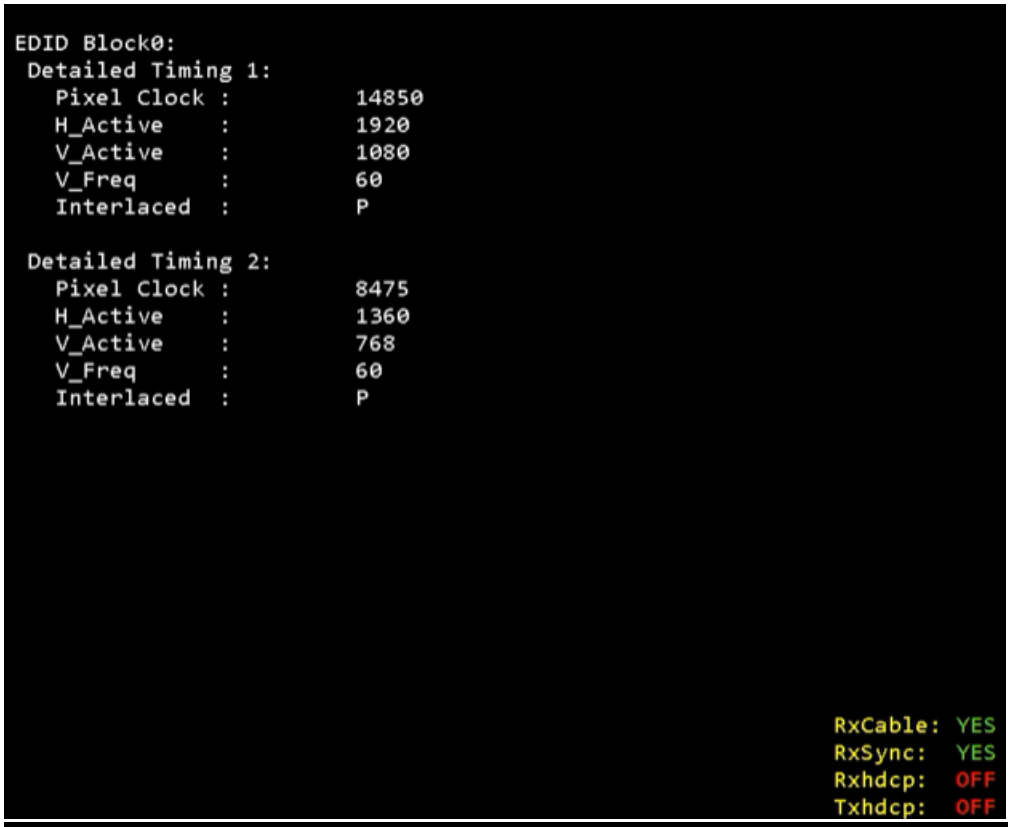


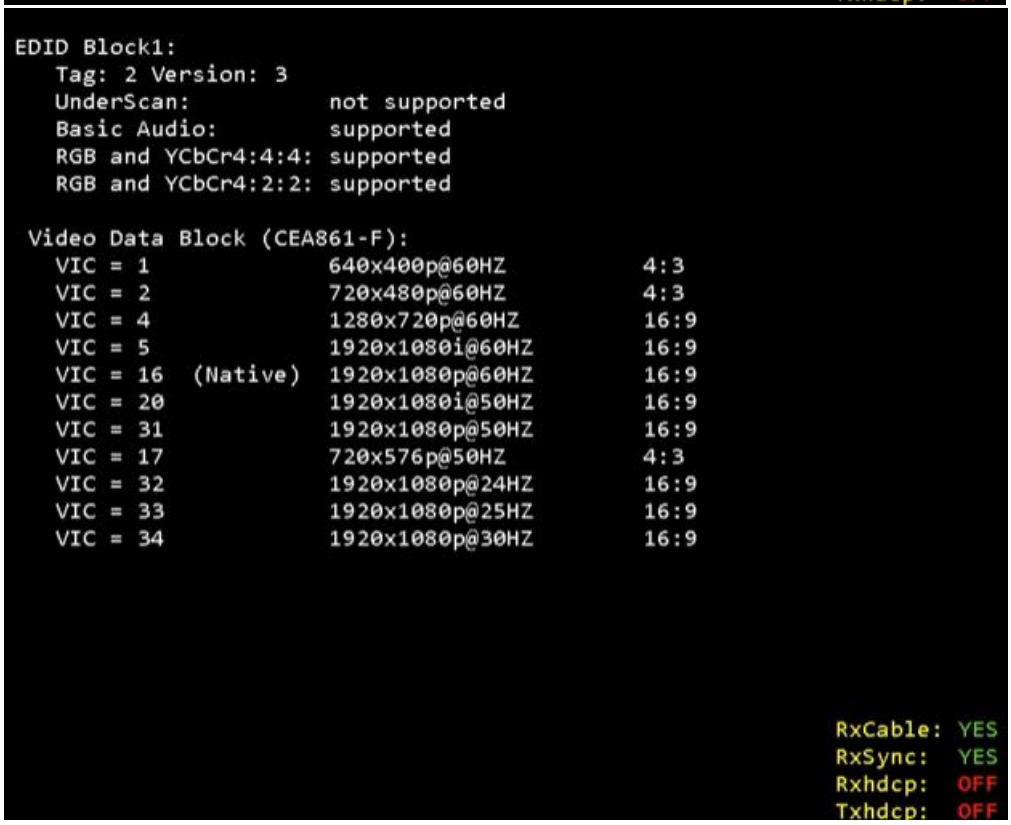
Tx EDID: Press Left no.1 button for Tx EDID.

It analyzes HDMI output connected downstream device's EDID, typically display, and display on the screen. Press Left no.1 button to scroll pages.

```
EDID Data:
 00:  00 FF FF FF FF FF FF 00 20 A3 30 00 01 00 00 00
 10:  23 14 01 03 80 73 41 78 0A CF 74 A3 57 4C B0 23
 20:  09 48 4C 21 08 00 81 C0 81 40 81 80 01 01 01 01
 30:  01 01 01 01 01 01 02 3A 80 18 71 38 2D 40 58 2C
 40:  45 00 80 88 42 00 00 1E 1B 21 50 A0 51 00 1E 30
 50:  48 88 35 00 44 4A 21 00 00 1C 00 00 00 FC 00 48
 60:  44 4D 49 20 20 20 0A 20 20 20 20 20 00 00 00 FD
 70:  00 32 4B 0F 45 0F 00 0A 20 20 20 20 20 20 01 6C
 80:  02 03 29 71 4B 01 02 04 05 90 14 1F 11 20 21 22
 90:  23 09 07 07 83 01 00 00 70 03 0C 00 10 00 38 3C
 A0:  20 A0 82 01 02 03 00 01 41 01 1D 80 D0 72 1C 16
 B0:  20 10 2C 25 80 C4 8E 21 00 00 9E 01 1D 80 18 71
 C0:  1C 16 20 58 2C 25 00 C4 8E 21 00 00 9E 01 1D 00
 D0:  72 51 D0 1E 20 6E 28 55 00 C4 8E 21 00 00 18 00
 E0:  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
 F0:  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 CC
PASS   ->   Block0 Hearder
PASS   ->   Block0 CheckSum
PASS   ->   Block1 CheckSum

Manufacture      :  HEC
Product Code     :  3000
Serial Number    :  00000001
Manufacture W/Y  :  35,2010
Physical Address :  1000
Model Name       :  HDMI                                  RxCable: YES
HDMI2.0 Supported:  NO                                    RxSync:  YES
HDR Supported    :  NO                                    Rxhdcp:  OFF
                                                          Txhdcp:  OFF
```

```
EDID Block0:
 Established Timings I (VESA):
   640 x 480 @ 60Hz
   800 x 400 @ 60Hz

 Established Timings II (VESA):
   1024 x 768 @ 60Hz

 Manufacturer's Timings (VESA):
     NONE

 Standard Timings (VESA):
   1280x720 @ 60HZ       16:9
   1280x960 @ 60HZ       4:3
   1280x1024 @ 60HZ      5:4









                                                          RxCable: YES
                                                          RxSync:  YES
                                                          Rxhdcp:  OFF
                                                          Txhdcp:  OFF
```


EDID Block0:
Detailed Timing 1:
Pixel Clock : 14850
H_Active : 1920
V_Active : 1080
V_Freq : 60
Interlaced : P
Detailed Timing 2:
Pixel Clock : 8475
H_Active : 1360
V_Active : 768
V_Freq : 60
Interlaced : P
RxCable: YES
RxSync: YES
Rxhdcp: OFF
Txhdcp: OFF

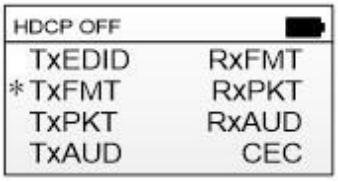

EDID Block1:
Tag: 2 Version: 3
UnderScan: not supported
Basic Audio: supported
RGB and YCbCr4:4:4: supported
RGB and YCbCr4:2:2: supported
Video Data Block (CEA861-F):
VIC = 1 640x400p@60HZ 4:3
VIC = 2 720x480p@60HZ 4:3
VIC = 4 1280x720p@60HZ 16:9
VIC = 5 1920x1080i@60HZ 16:9
VIC = 16 (Native) 1920x1080p@60HZ 16:9
VIC = 20 1920x1080i@50HZ 16:9
VIC = 31 1920x1080p@50HZ 16:9
VIC = 17 720x576p@50HZ 4:3
VIC = 32 1920x1080p@24HZ 16:9
VIC = 33 1920x1080p@25HZ 16:9
VIC = 34 1920x1080p@30HZ 16:9
RxCable: YES
RxSync: YES
Rxhdcp: OFF
Txhdcp: OFF

```
EDID Block1:
 Video Data Block (CEA861-F):
   VIC = 34            1920x1080p@30HZ        16:9

 Audio Data Block (CEA861-F):
   Linear PCM:    (2ch) 32k 44.1k 48k
                        16bit,20bit,24bit

 Speaker Data Block:
     FL/FR
```

RxCable: YES
RxSync: YES
Rxhdcp: OFF
Txhdcp: OFF

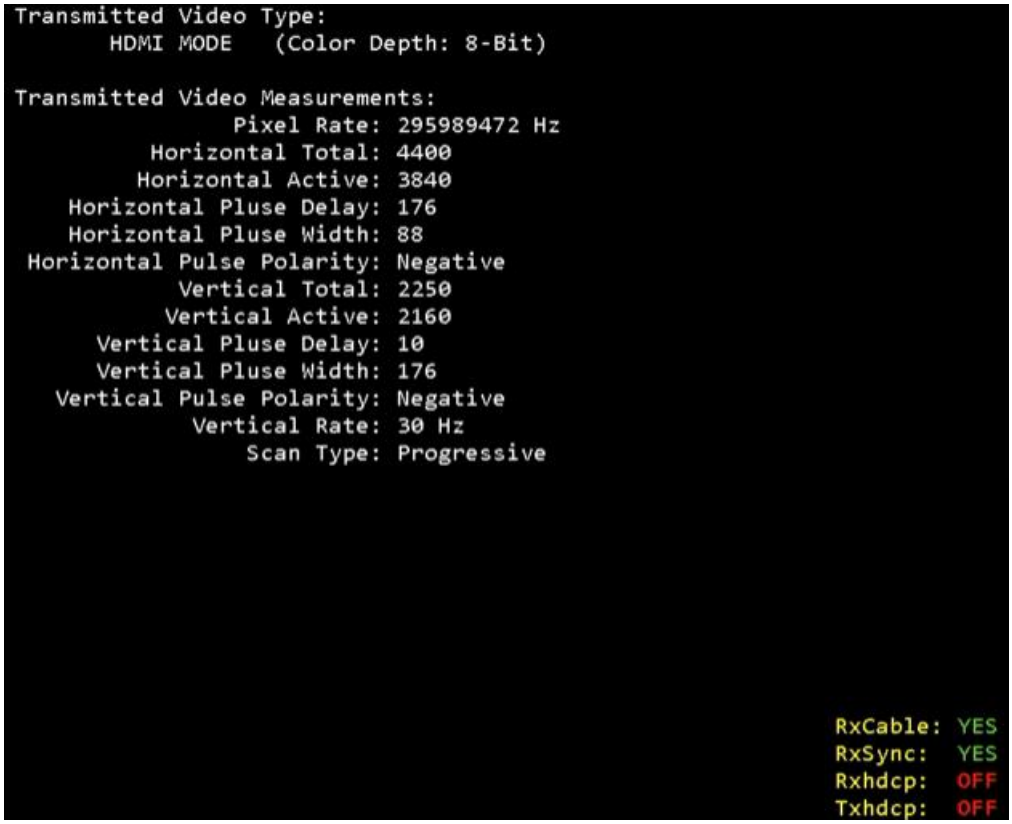
```
EDID Block1:
 Vendor Specific Data Block:
     CEC PA: 1000
     DC_Y444  DC_30bit DC_36bit
     TMDS clock: 300 MHz
     HDMI VIC: 4     3D VIC: 2
     3D: 3D_Stucture_ALL_15..0 is present AND 3D_Mask_15..0 not present

 Detailed Timing 1:
   Pixel Clock :         7425
   H_Active    :         1920
   V_Active    :         540
   V_Freq      :         50
   Interlaced  :         I

 Detailed Timing 2:
   Pixel Clock :         7425
   H_Active    :         1920
   V_Active    :         540
   V_Freq      :         60
   Interlaced  :         I

 Detailed Timing 3:
   Pixel Clock :         7425
   H_Active    :         1280
   V_Active    :         720
   V_Freq      :         60
   Interlaced  :         P
```

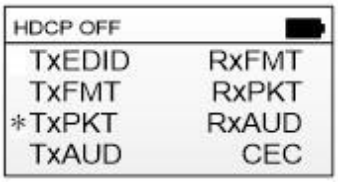
RxCable: YES
RxSync: YES
Rxhdcp: OFF
Txhdcp: OFF



Tx FMT: Press Left no.2 button for Tx FMT.

It displays current HDMI output signal format information including detailed resolution timing format, color depth, signal mode, etc.





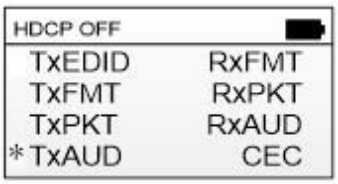
Tx PKT: Press Left no.3 button for Tx EDID.

It displays current HDMI output signal packet information including AVI/VSIF/HDR info frames, and output mode.

Press Left no.3 button to scroll pages.

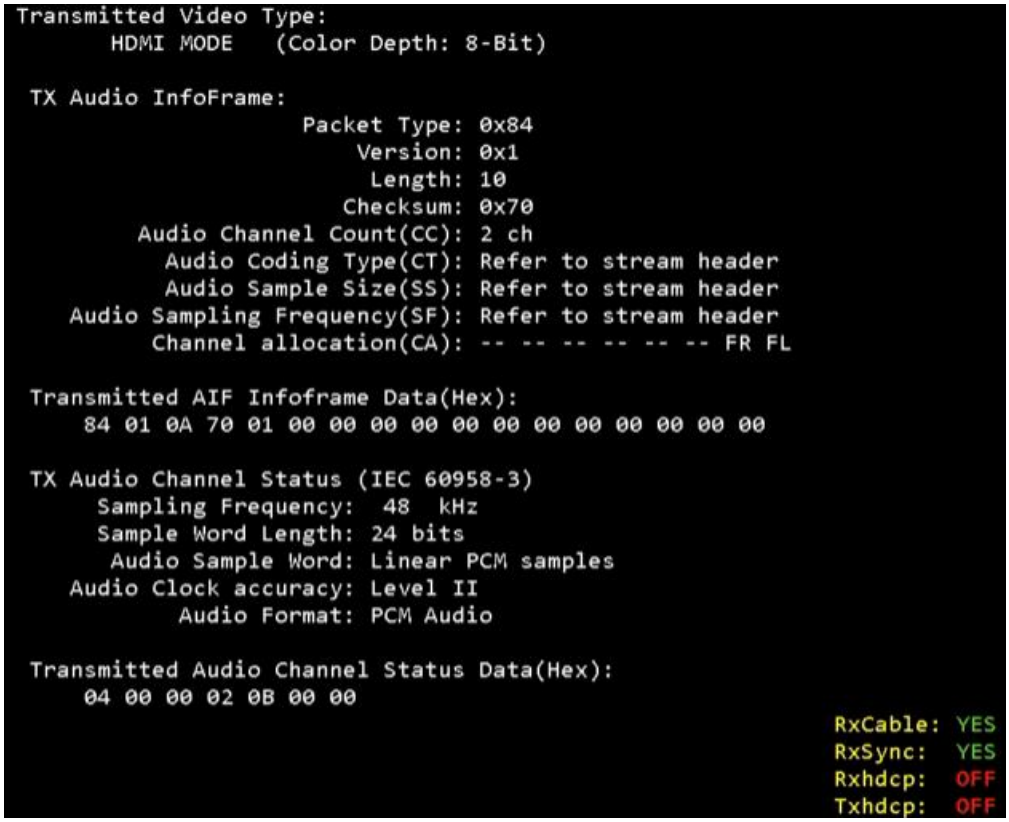
```
Transmitted Video Type:
       HDMI MODE   (Color Depth: 8-Bit)

Transmitted AVI Infoframe:
                Packet Type: 0x82
                    Version: 0x2
                     Length: 13
                   Checksum: 0xE7
           Scan information: Reserved
            Bar information: Vert. Bar Info present
  Active information present: No Active Information
              RGB or YCbCr: RGB
        Active aspect ratio: Sames As Pitcure Ratio
       Picture aspect ratio: No Data
                Colorimetry: ITU BT709
 Non-uniform picture scaling: No Known non-uniform Scaling
       Extended Colorimetry: xvYCC601
     RGB Quantization Range: Depends on Video Format
                 IT Content: IT content
   Video identification code: No Data             (VIC=0)
          Pixel repetition: 0

 Transmitted AVI Infoframe Data(Hex):
    82 02 0D E7 00 88 00 00 00 00 00 00 00 00 00 00


                                                          RxCable: YES
                                                          RxSync:  YES
                                                          Rxhdcp:  OFF
                                                          Txhdcp:  OFF
```

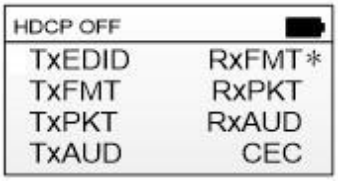
```
Transmitted Video Type:
       HDMI MODE   (Color Depth: 8-Bit)

Transmitted VSIF Infoframe:
                Packet Type: 0x81
                    Version: 0x01
                     Length: 5
                   Checksum: 0x49
       24bit IEEE Identifier: 0x000C03
           HDMI_Video_Format: Extend resolution format present
                   HDMI_VIC: 1 (3840x2160@30Hz)
              3D_Structure: No Data

Transmitted VSIF Infoframe Data(Hex):
    81 01 05 49 03 0C 00 20 01 00 00 00 00 00 00 00

Transmitted HDR Infoframe:
                Packet Type: 0x00
                    Version: 0x00
                     Length: 0
                       EOTF: No Data
 Static_Metadata_Descriptor: No Data

Transmitted HDR Infoframe Data(Hex):
   00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
   00 00 00 00 00 00 00 00 00 00 00 00 00


                                                          RxCable: YES
                                                          RxSync:  YES
                                                          Rxhdcp:  OFF
                                                          Txhdcp:  OFF
```



Tx AUD: Press Left no.4 button for Tx AUD.

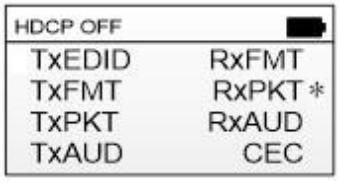
It displays current HDMI output signal's Audio info frame, audio channel status.





Rx FMT: Press Right no.1 button for Rx FMT.

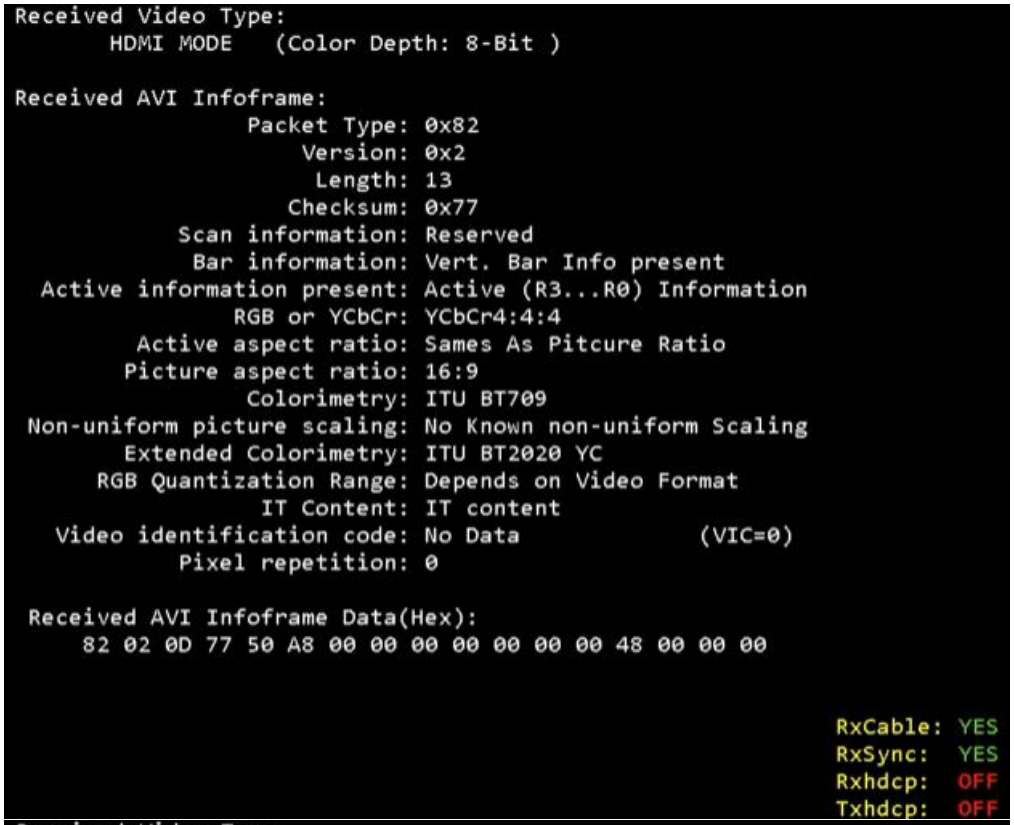
It analyzes HDMI input connected upstream device's HDMI signal information including signal mode, color depth and timing format.

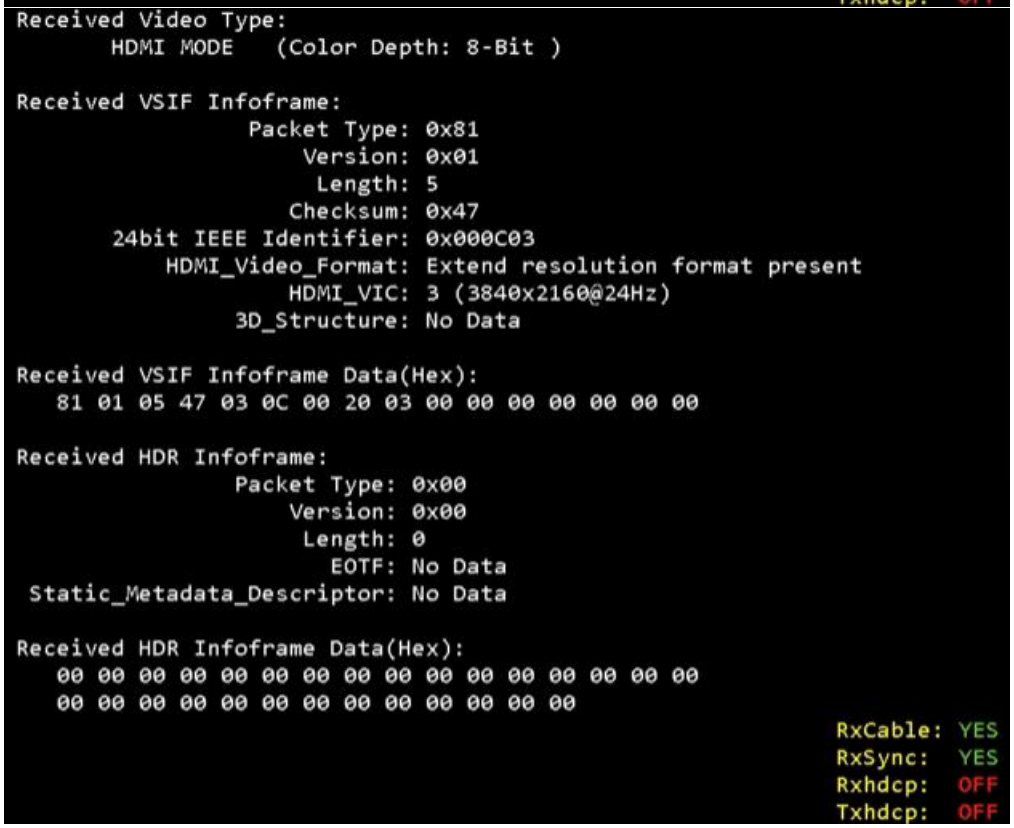


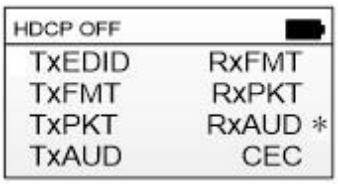
Rx PKT: Press Right no.2 button for Rx PKT.

It displays current HDMI input signal packet information including AVI/VSIF/HDR info frames, and video mode.

Press Right no.2 button to scroll pages.

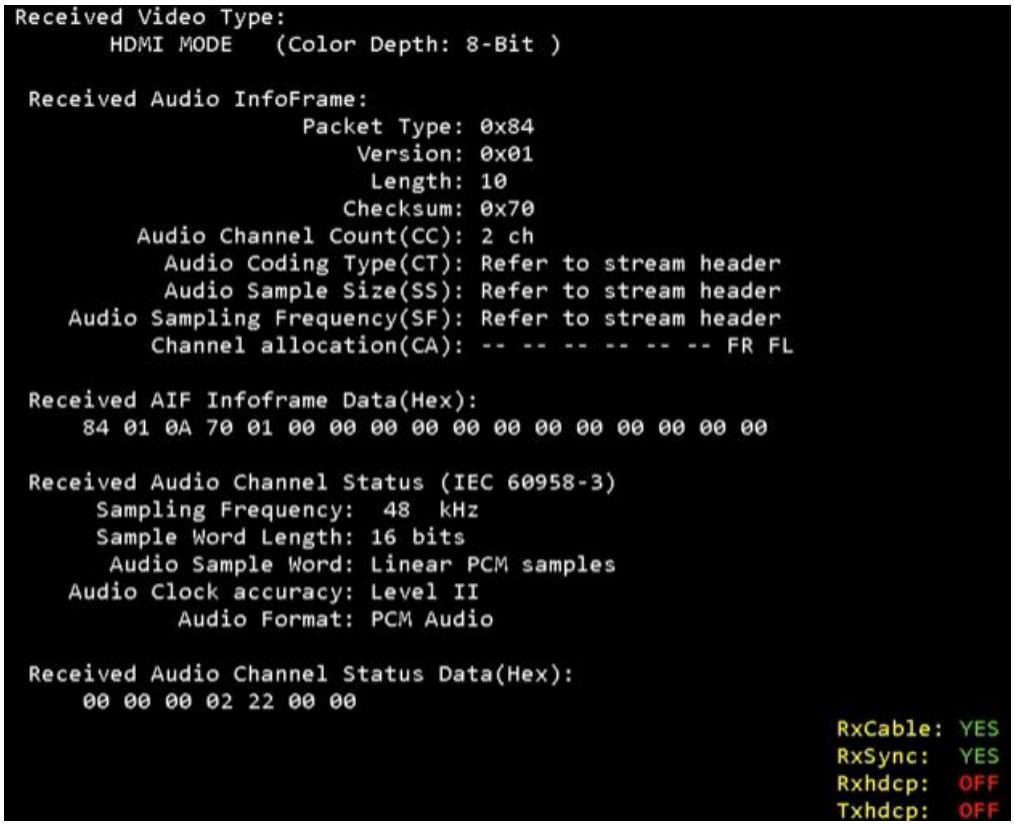

Received Video Type:
HDMI MODE (Color Depth: 8-Bit)
Received AVI Infoframe:
Packet Type: 0x82
Version: 0x2
Length: 13
Checksum: 0x77
Scan information: Reserved
Bar information: Vert. Bar Info present
Active information present: Active (R3...R0) Information
RGB or YCbCr: YCbCr4:4:4
Active aspect ratio: Sames As Pitcure Ratio
Picture aspect ratio: 16:9
Colorimetry: ITU BT709
Non-uniform picture scaling: No Known non-uniform Scaling
Extended Colorimetry: ITU BT2020 YC
RGB Quantization Range: Depends on Video Format
IT Content: IT content
Video identification code: No Data (VIC=0)
Pixel repetition: 0
Received AVI Infoframe Data(Hex):
82 02 0D 77 50 A8 00 00 00 00 00 00 00 48 00 00 00
RxCable: YES
RxSync: YES
Rxhdcp: OFF
Txhdcp: OFF

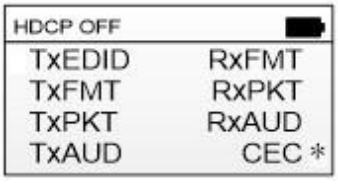

Received Video Type:
HDMI MODE (Color Depth: 8-Bit)
Received VSIF Infoframe:
Packet Type: 0x81
Version: 0x01
Length: 5
Checksum: 0x47
24bit IEEE Identifier: 0x000C03
HDMI_Video_Format: Extend resolution format present
HDMI_VIC: 3 (3840x2160@24Hz)
3D_Structure: No Data
Received VSIF Infoframe Data(Hex):
81 01 05 47 03 0C 00 20 03 00 00 00 00 00 00 00
Received HDR Infoframe:
Packet Type: 0x00
Version: 0x00
Length: 0
EOTF: No Data
Static_Metadata_Descriptor: No Data
Received HDR Infoframe Data(Hex):
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00
RxCable: YES
RxSync: YES
Rxhdcp: OFF
Txhdcp: OFF



Rx AUD: Press Right no.3 button for Rx AUD.

It displays current HDMI input signal's Audio info frame, audio channel status.





CEC: Press Right no.4 button for CEC.

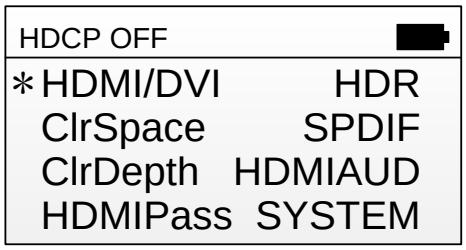
It sends out CEC signal to HDMI output connected downstream device to check all the devices on downstream support CEC communication.

2.2 Option

In option menu, user can select HDMI input and output, SPDIF input and output signal setting.

There are 8 sub menus under option menu.

- HDMI/DVI
- ClrSpace
- ClrDepth
- HDMIPass
- HDR
- SPDIF
- HDMIAUD
- SYSTEM



HDMI/DVI : Press Left no.1 button for HDMI/DVI

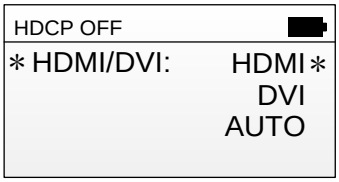
This menu is to select output video mode among HDMI, DVI, and Auto

Press Right no.1 button for HDMI

Press Right no.2 button for DVI

Press Right no.3 button for Auto

When Auto is selected, video mode will be determined by HDMI output connected downstream device.



Color Space : Press Left no.2 button for Color space.

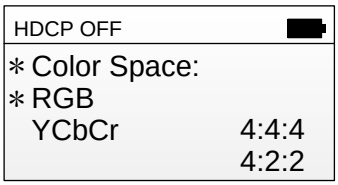
This menu is to select output video color space among RGB, YCbCr 4:4:4 and YCbCr 4:2:2.

* Please note that YCbCr 4:2:0 mode is listed in timing menu.

Press Left no.2 button for RGB

Press Left no.3 button and then Right no.3 button for YCbCr 4:4:4

Press Left no.3 button and then Right no.4 button for YCbCr 4:2:2



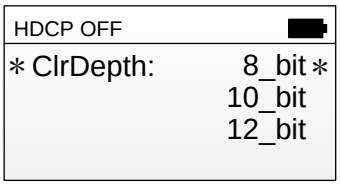
Color Depth : Press Left no.3 button for Color depth.

This menu is to select output video color depth among 8 bit, 10 bit and 12 bit.

Press Right no.1 button for 8 bit

Press Right no.2 button for 10 bit

Press Right no.3 button for 12 bit



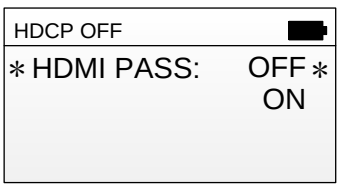
HDMI Pass through : Press Left no.4 button for HDMI pass through.

This menu is to enable/disable HDMI input and output pass through mode.

When it's on, HDMI input will pass through to HDMI output. When it's off, internal test pattern will output.

Press Right no.1 button for off – test pattern

Press Right no.2 button for on – HDMI pass through



HDR : Press Right no.1 button for HDR.

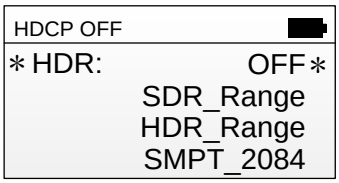
This menu is to select output video HDR option among HDR, SDR, SMPT 2084 and off.

Press Right no.1 button for off

Press Right no.2 button for SDR

Press Right no.3 button for HDR

Press Right no.4 button for SMPT 2084 includes OFF, SDR_Range, HDR_Range and SMPT_2084.



SPDIF : Press Right no.2 button for SPDIF.

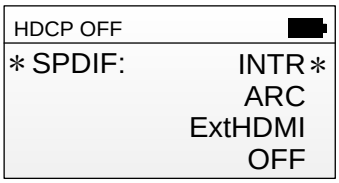
This menu is select audio source of SPDIF output among internal audio, ARC, Ext HDMI, and off.

Press Right no.1 button for INTR (internal audio)

Press Right no.2 button for ARC

Press Right no.3 button for Ext HDMI (HDMI input audio)

Press Right no.4 button for off.



HDMI AUD : Press Right no.3 button for HDMI AUD.

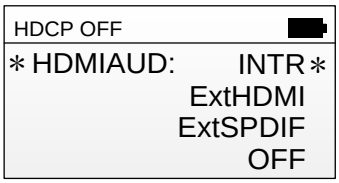
This menu is select audio source of HDMI output among internal audio, ARC, Ext HDMI, and off.

Press Right no.1 button for INTR (internal audio)

Press Right no.2 button for ARC

Press Right no.3 button for Ext HDMI (HDMI input audio)

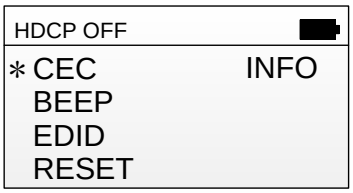
Press Right no.4 button for off.



SYSTEM : Press Right no.4 button for SYSTEM.

There are five sub menus under SYSTEM.

- CEC
- BEEP
- EDID
- RESET
- INFO

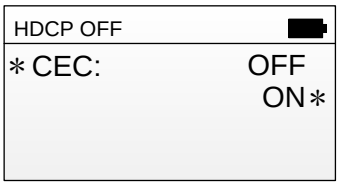


CEC : Press Left no.1 button for CEC.

This menu is to enable/disable CEC function.

Press Right no.1 button for off

Press Right no.2 button for on

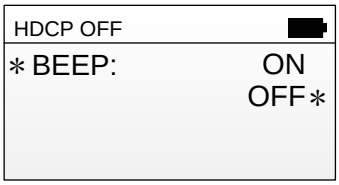


BEEP : Press Left no.2 button for BEEP.

This menu is to enable/disable button beep sound.

Press Right no.1 button for on

Press Right no.2 button for off



EDID : Press Left no.3 button for EDID.

This menu is to select EDID option among PASS, LOAD and SAVE.

Press Right no.1 button for pass

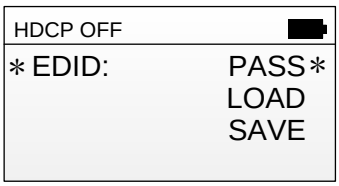
Press Right no.2 button for load

Press Right no.3 button for save

PASS means passing HDMI output connected device's EDID to HDMI input connected device directly.

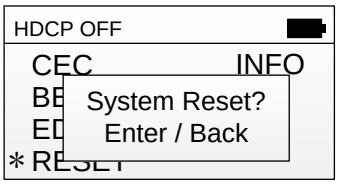
LOAD means loading EDID from MCU flash memory to HDMI input connected device.

SAVE means saving HDMI output connected device's EDID into MCU flash memory.



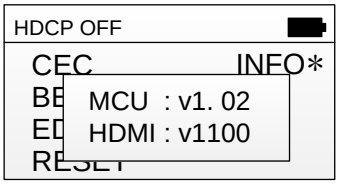
RESET : Press Left no.4 button for RESET.

This menu is to set the unit back to factory default setting.



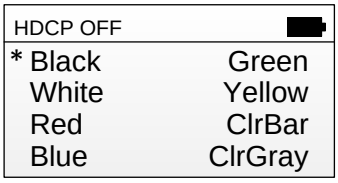
INFO : Press Right no.1 button for INFO.

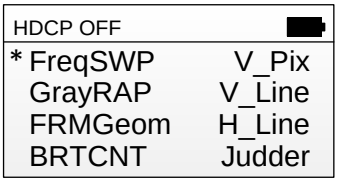
This menu is to check firmware version of the MCU and HDMI chipset.

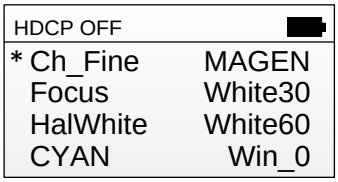


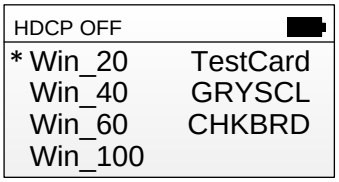
2.3 Pattern

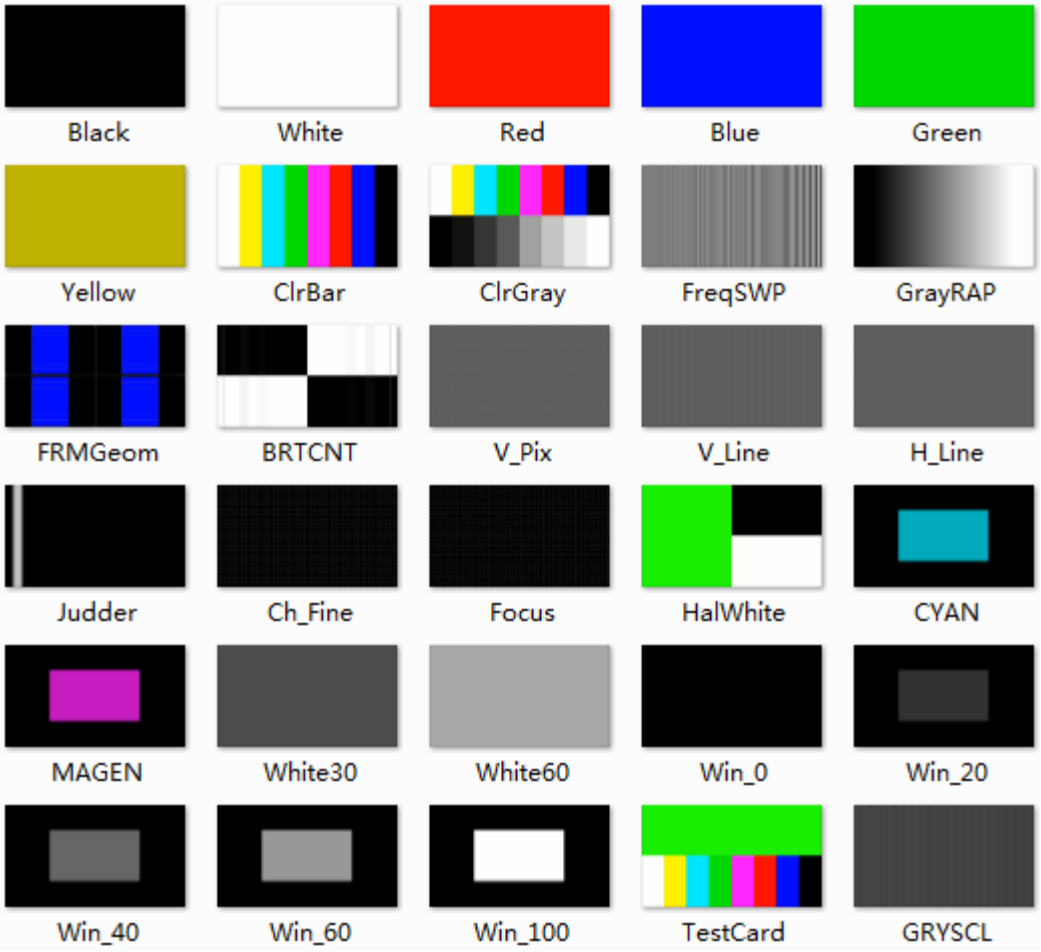
The HDG 2.0 contains the following 31 patterns.





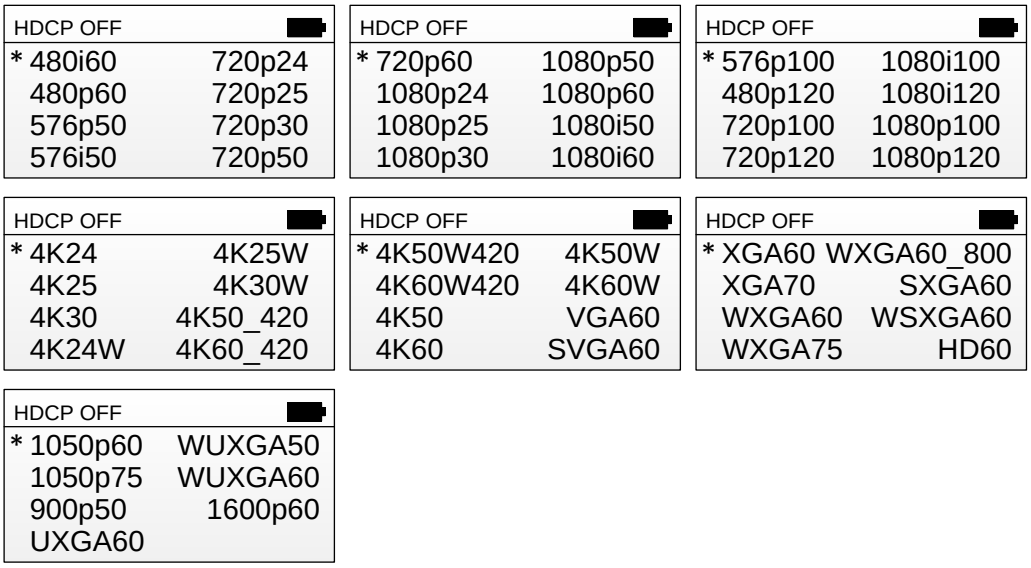






2.4 Timing List

The HDG 2.0 supports 55 different video output resolution timing.



Supported CEA Timings

Name	CEA VIC	Resolution	Name	CEA VIC	Resolution
480i60	6	1440x480i60	720p120	47	1280x720p120
480p60	2	720x480p60	1080i100	40	1920x1080i100
576p50	17	720x576p50	1080i120	46	1920x1080i120
576i50	21	1440x576i50	1080p100	64	1920x1080p100
720p24	60	1280x720p24	1080p120	63	1920x1080p120
720p25	61	1280x720p25	4K24	93	3840x2160p24
720p30	62	1280x720p30	4K25	94	3840x2160p25
720p50	19	1280x720p50	4K30	95	3840x2160p30
720p60	4	1280x720p60	4K24W	98	4096x2160p24
1080p24	32	1920x1080p24	4K25W	99	4096x2160p25
1080p25	33	1920x1080p25	4K30W	100	4096x2160p30
1080p30	34	1920x1080p30	4K50_420	96	3840x2160p50 (YCbCr420)
1080p50	31	1920x1080p50	4K60_420	97	3840x2160p60 (YCbCr420)
1080p60	16	1920x1080p60	4K50W420	101	4096x2160p50 (YCbCr420)
1080i50	20	1920x1080i50	4K60W420	102	4096x2160p60 (YCbCr420)
1080i60	5	1920x1080i60	4K50	96	3840x2160p50
576p100	42	720x576p100	4K60	97	3840x2160p60
480p120	48	720x480p120	4K50W	101	4096x2160p50
720p100	41	1280x720p100	4K60W	102	4096x2160p60

Supported VESA Timings

Name	CEA VIC	Resolution
VGA60	0	640x480p60
SVGA60	0	800x600p60

XGA60	0	1024x768p60
XGA70	0	1024x768p70
WXGA60	0	1280x768p60
WXGA75	0	1280x768p75
WXGA60_800	0	1280x800p60
SXGA60	0	1280x1024p60
WSXGA60	0	1360x768p60
HD60	0	1366x768p60
1050p60	0	1400x1050p60
1050p75	0	1400x1050p75
900p50	0	1440x900p50
UXGA60	0	1600x1200p60
WUXGA50	0	1920x1200p50
WUXGA60	0	1920x1200p60
1600p60	0	2560x1600p60

2.5 General HDMI Troubleshooting

Common issues for HDMI distributed system.

- No video (Black Screen, Out of range, etc)
- Intermittent signal drop
- Vertical or horizontal line on the image
- Magenta video
- Shifted image
- No audio

Issues examples:

Signal out of range message on the display

Possible cause: Display is receiving the signal that is not capable of

Troubleshooting using HDG 2.0 : Send out different resolutions and refresh rate to find out the displays Supported resolutions list

Resolution: Adjust resolution on the source or place a HDMI scaler before the display

Vertical line or sparkles

Possible cause: Bad cable or cable distance is too long

Troubleshooting using HDG 2.0 : Try to lower the output resolution to see if lowering the resolution fixes the issue

Resolution: Replace the cable, place an HDMI repeater, or use extension system

* PureLink's HDMI cable distance guide;

HDMI copper cable: max 30 ft at 1080p, 20 ft at 4K60 4:2:0, 15 ft at 4K60 4:4:4

HDMI repeater: max 132 ft at 1080p, 66 ft at 4K60 4:2:0, 33 ft at 4K60 4:4:4

Magenta Video

Possible cause: RGB and YCbCr Color mismatch

Troubleshooting using HDG 2.0 : Try to change video output color space

Resolution: Change video output setting on the video source, or change EDID setting on the devices in the Signal chain

Troubleshooting 101

- Use pre-qualified equipment
- Split the system (Upstream & downstream)
- Make a change one at a time
- Substitute with a known-good device
- Insure all devices are on the latest firmware
- Make sure all the devices in the system support HDCP 2.2 in a UHD/4K system

Chapter 3. Additional Information

3.1 Manufacturer's Warranty (3-Years)

PureLink warrants this HDG 2.0 Test pattern generator & analyzer to be free from defects in workmanship and materials, under normal use and service, for a period of three (3) year from the date of purchase from PureLink or its authorized resellers.

If the product does not operate as warranted during the applicable warranty period, PureLink shall, at its option and expense, execute one of the following as necessary:

1. Repair the defective product or part
2. Deliver to customer and equivalent product or part to replace the defective item
3. Refund to customer the purchase price paid for the defective product

All products that are replaced become the property of PureLink. Replacement products may be new or reconditioned. Repaired or replacement products or parts come with a 90-day warranty or the remainder of the warranty period. Dtrovision shall not be responsible for any software, firmware, information, or memory data loss of contained in, stored on, or integrated with any products returned to Dtrovision for repair under warranty.

3.2 Customer Service

Any customer service inquiries can be submitted electronically through the Q&A form on our website (www.purelinkav.com).

For immediate assistance please contact us at (201) 488-3232 to reach our customer care or tech support team.