HDMI Protocol Analyzer
VA-1809A
Function and Application

ASTRODESIGN, Inc.

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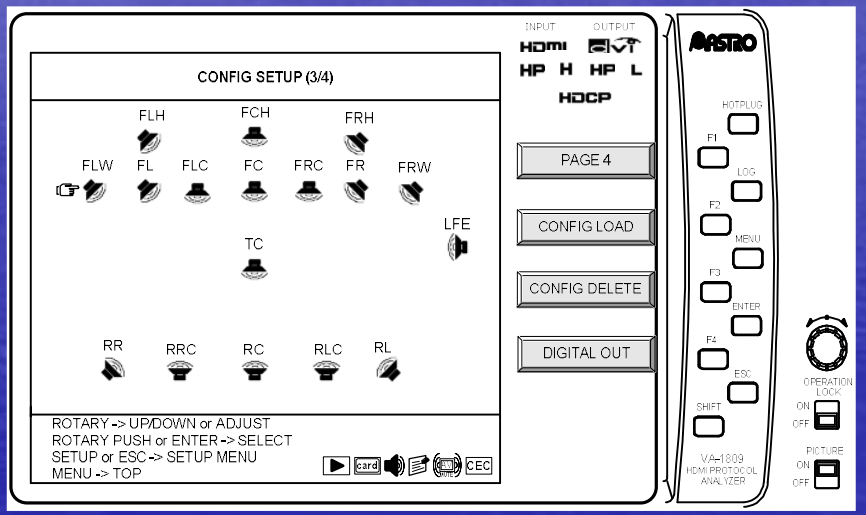
Portable Analyzer with 6.4 inch monitor and Audio output

Video display (6.4 inch TFT LCD/monitor output)

Overlay display of picture and text
Maximum 2000 × 1320 Video Memory
how the image by “Dot By Dot”

Audio output（L/R speaker）



Volume control, mute available
Simulates 5.1 channel audio setting

Portable size (about 5 Kg). Small display which supports HDMI input.

VA-1809A Main Feathers

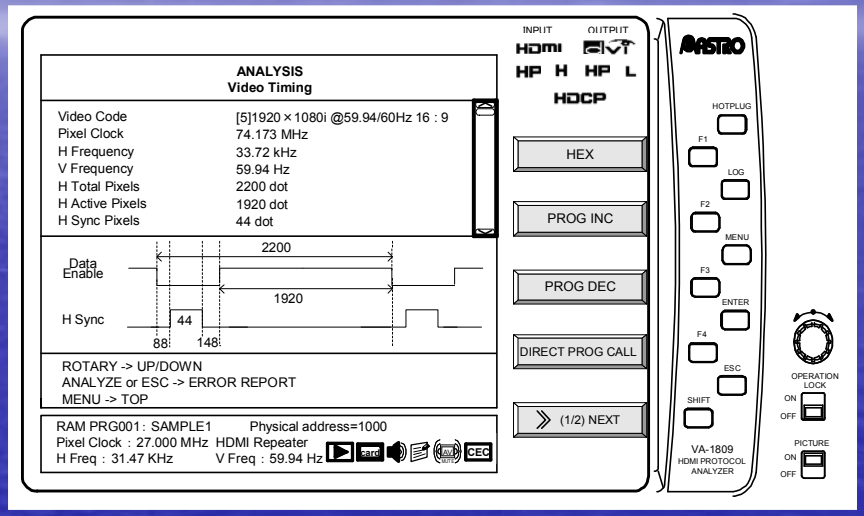
- HDMI Protocol Analysis
- Audio Analysis
- DDC Line Monitor
- HDCP Analysis
- CTS Function (HDMI, HDCP, CEC)
- Log Function
- Virtual Repeater Mode
- Lip-Sync Measurement
- Generate Config
- Colorimetry
- Utility Software
- CEC Function
- I2S Audio Output

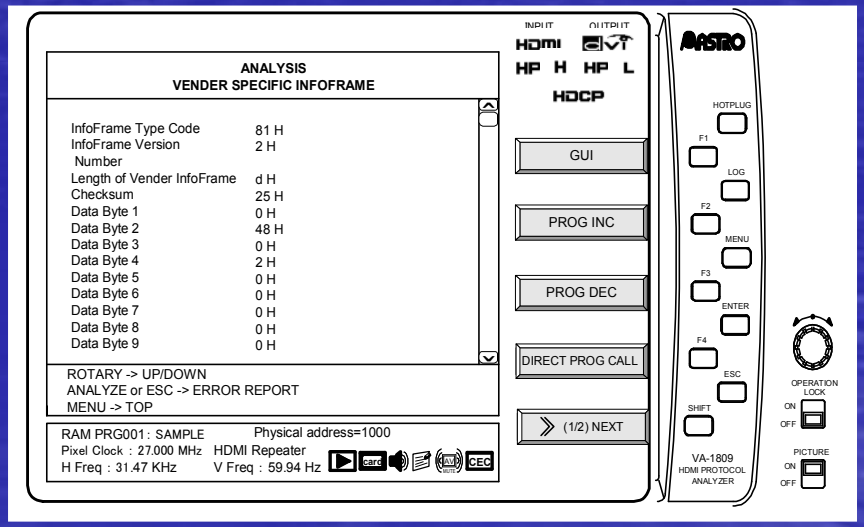
VA-1809A

HDMI Protocol Analysis (Video)

Analysis protocol of input HDMI signal and show the result

- Video timing
- AVI InforFrame
- SPD InforFrame
- MPEG InfoFrame
- ISRC1/ISRC2 Packet
- NTSC VBI InfoFrame
- General Control Packet



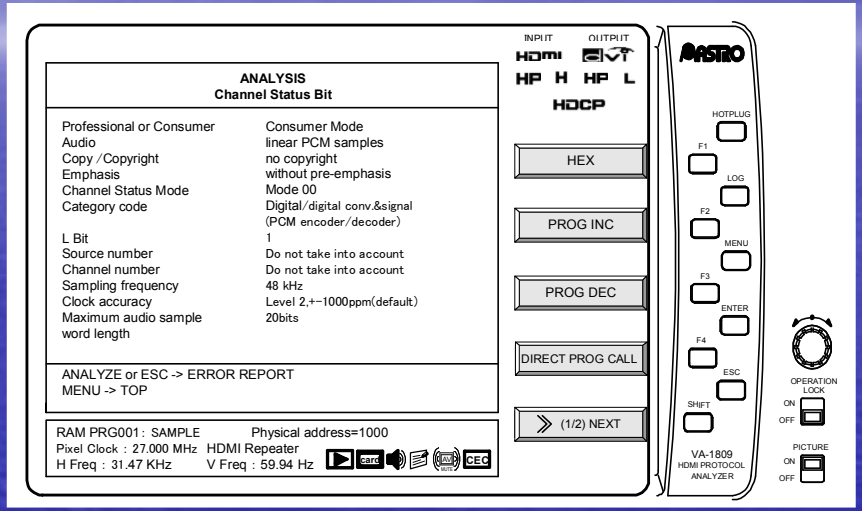


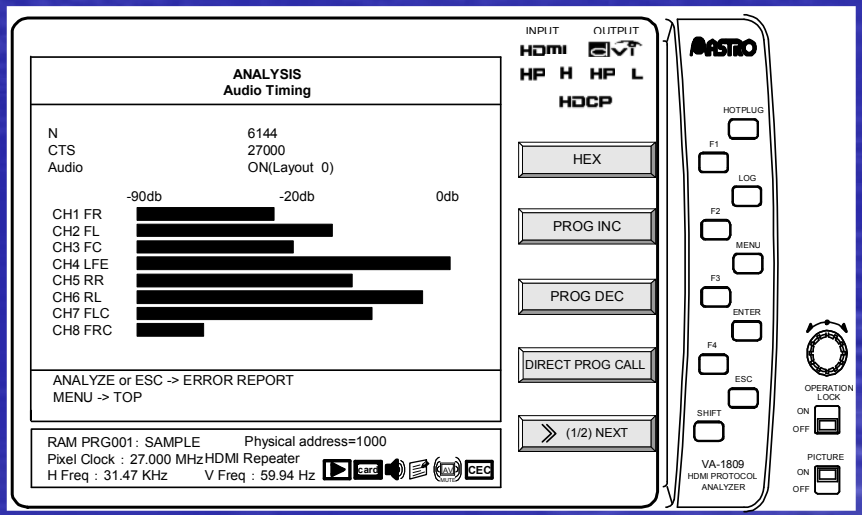
HDMI Protocol Analysis (Audio)

Analyze the protocol of the input HDMI signal and show the result

- **Audio InforFrame**
- **ACP Packet**
- **Channel Status Bit**
- **Audio Timing**

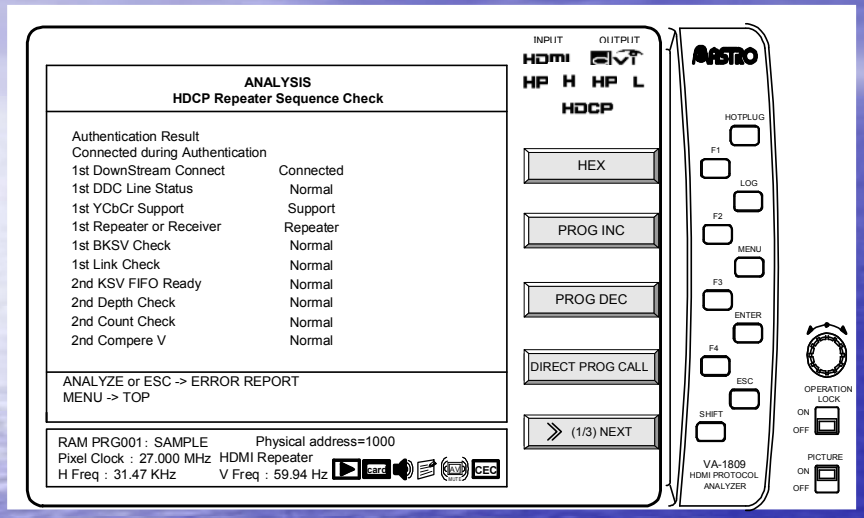
Analyze High Bit Rate Audio Header

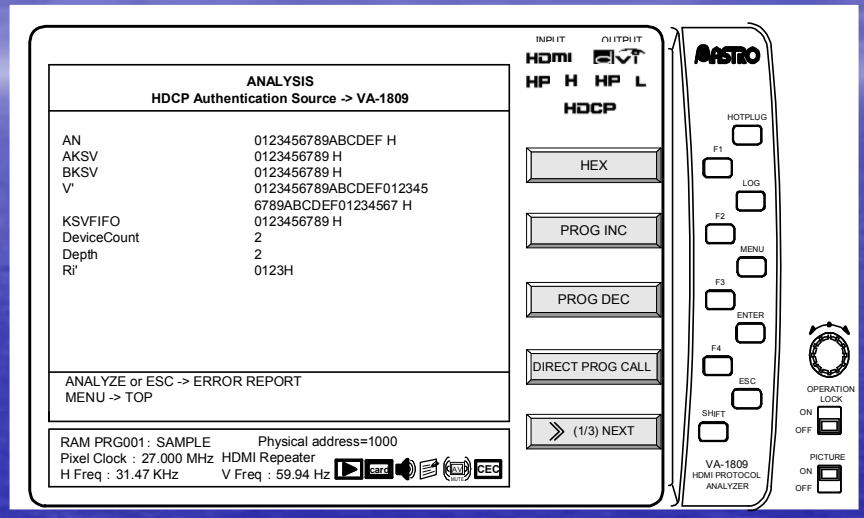


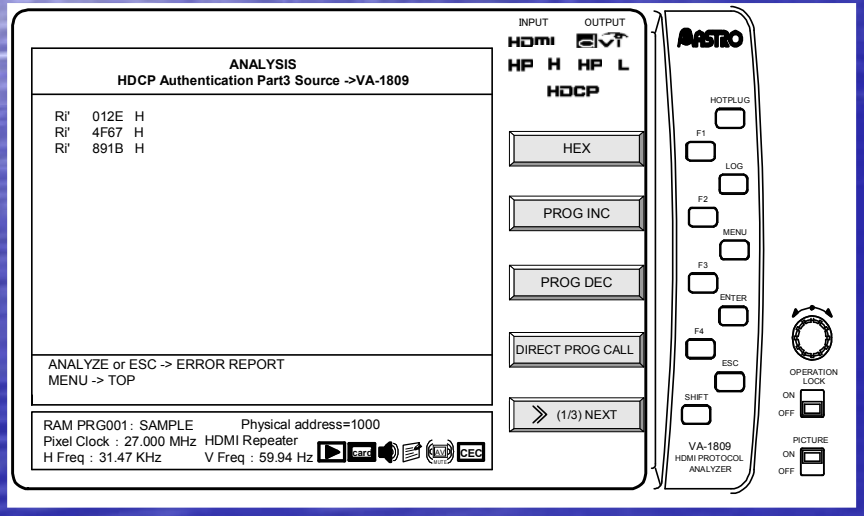


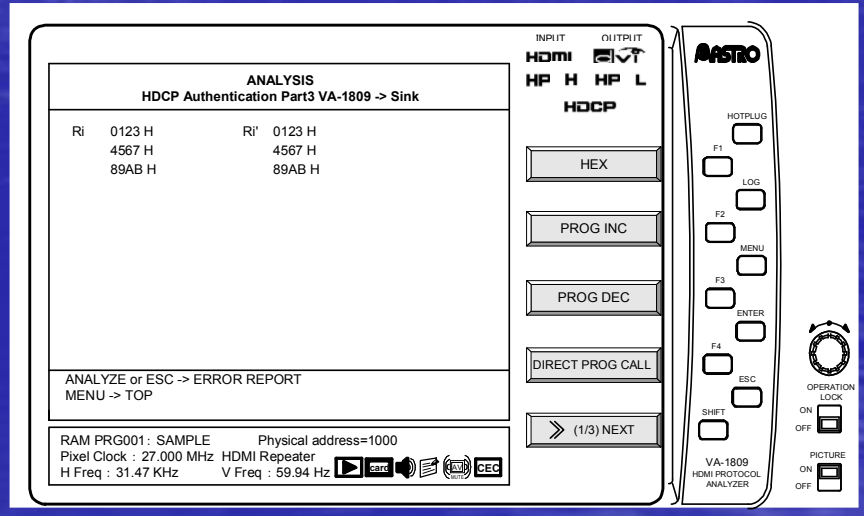
HDCP Analysis

Analysis display of input/output HDCP information by real time



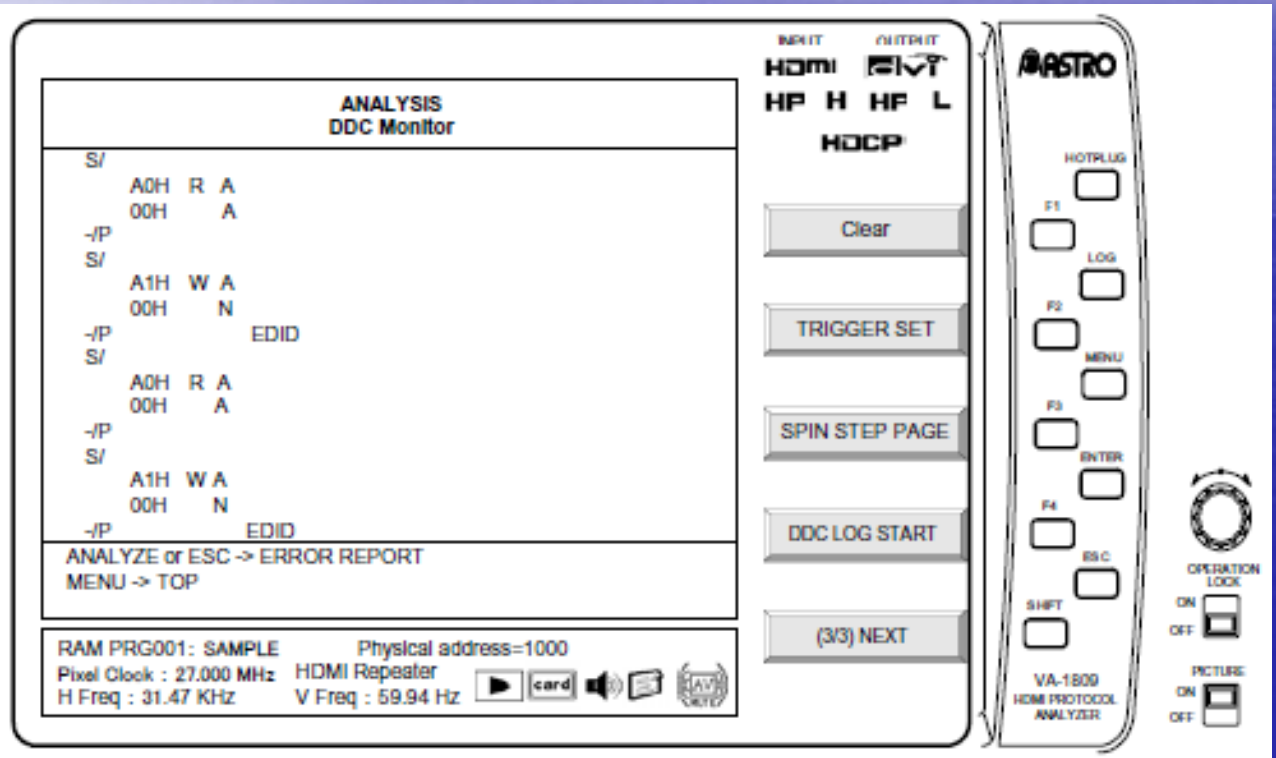






DDC Line Monitoring Function

Monitoring DDC Line. Display the result. Receive/send the data status. Check the source equipment. Send/receive the command in real time



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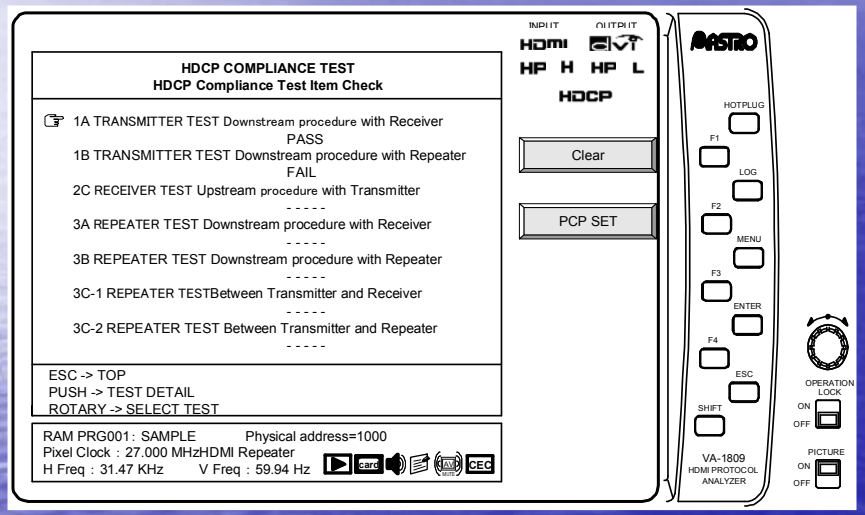
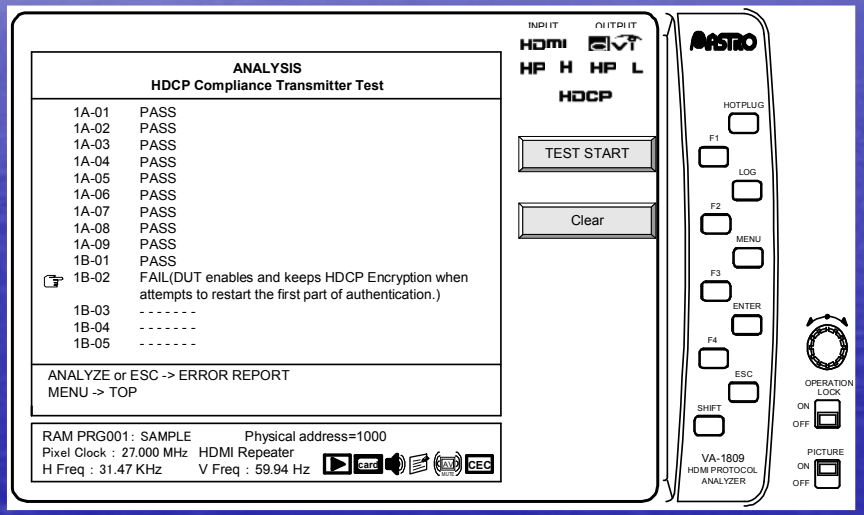
HDMI, HDCP and CEC CTS Function

Run protocol layer test clause for each CTS test item.
Show the result in the real time





- **Covers most of the protocol layer test clause of the HDMI CTS**
- **Covers most of the protocol layer test clause of the HDCP CTS**
- **Covers all protocol layer test clause of the CEC CTS**

Log Function

Analyzing, Recording, Printing the Log data
Log data available by UTILITY software and HTML
Set the log trigger and focus on target clause

[RESULT]
1A TRANSMITTER TEST Downstream procedure with Receiver

1B TRANSMITTER TEST Downstream procedure with Repeater
ERROR
2C RECEIVER TEST Upstream procedure with Transmitter

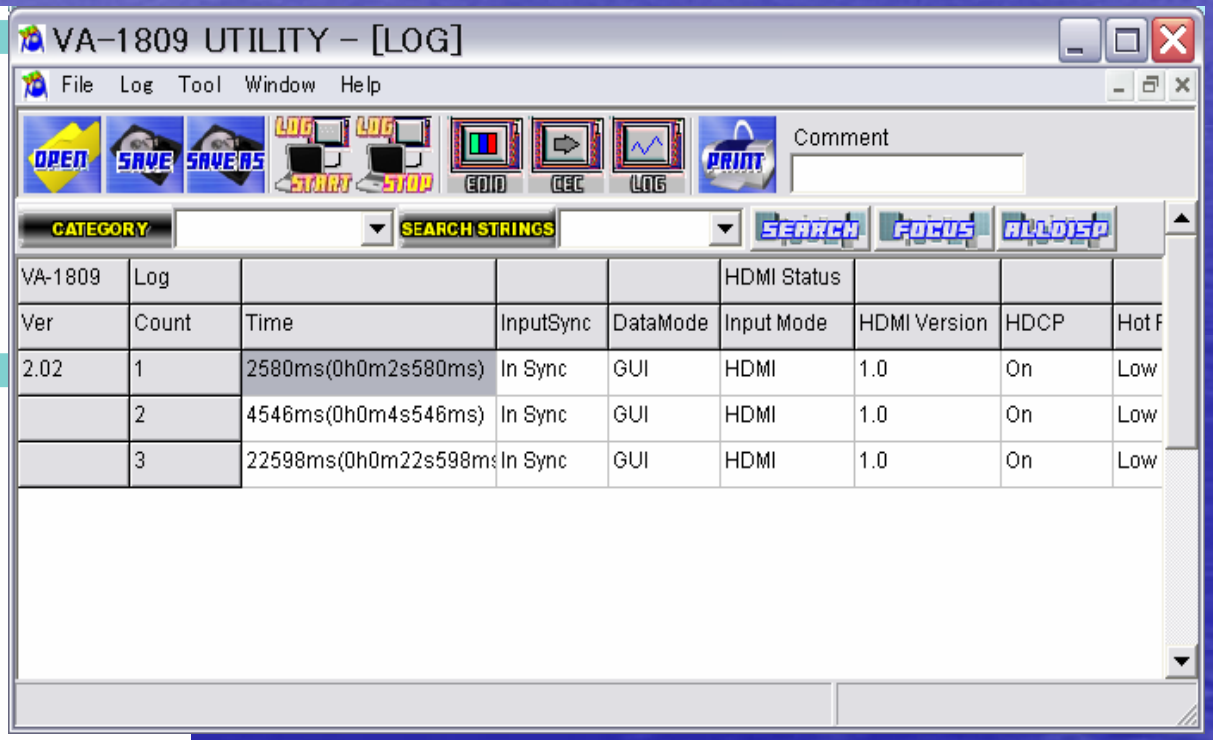
3A REPEATER TEST Downstream procedure with Receiver

3B REPEATER TEST Downstream procedure with Repeater

3C-1 REPEATER TEST Between Transmitter and Receiver

3C-2 REPEATER TEST Between Transmitter and Repeater

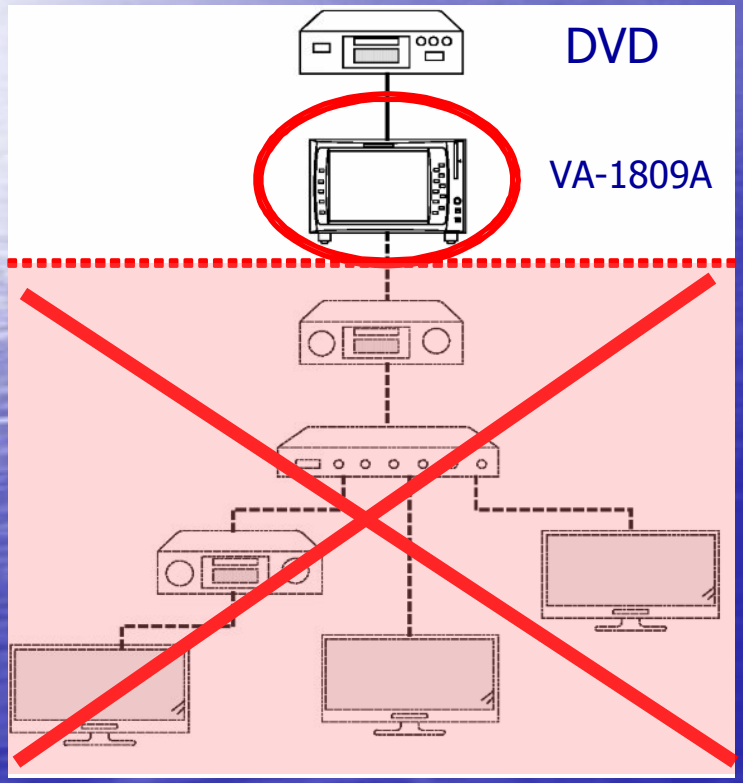
[ITEM RESULT]
1A TRANSMITTER TEST Downstream procedure with Receiver
1A - 01 = ----
1A - 02 = ----
1A - 03 = ----
1A - 04 = ----
1A - 05 = ----
1A - 06 = ----
1A - 07 = ----
1A - 09 = ----
1B TRANSMITTER TEST Downstream procedure with Repeater
1B - 01 = PASS
1B - 02 = PASS
1B - 03 = Not read Bcaps within 5sec after reading R0'
1B - 04 = ----
1B - 05 = ----
1B - 06 = ----
2C RECEIVER TEST Upstream procedure with Transmitter
2C - 01 = ----
2C - 02 = ----

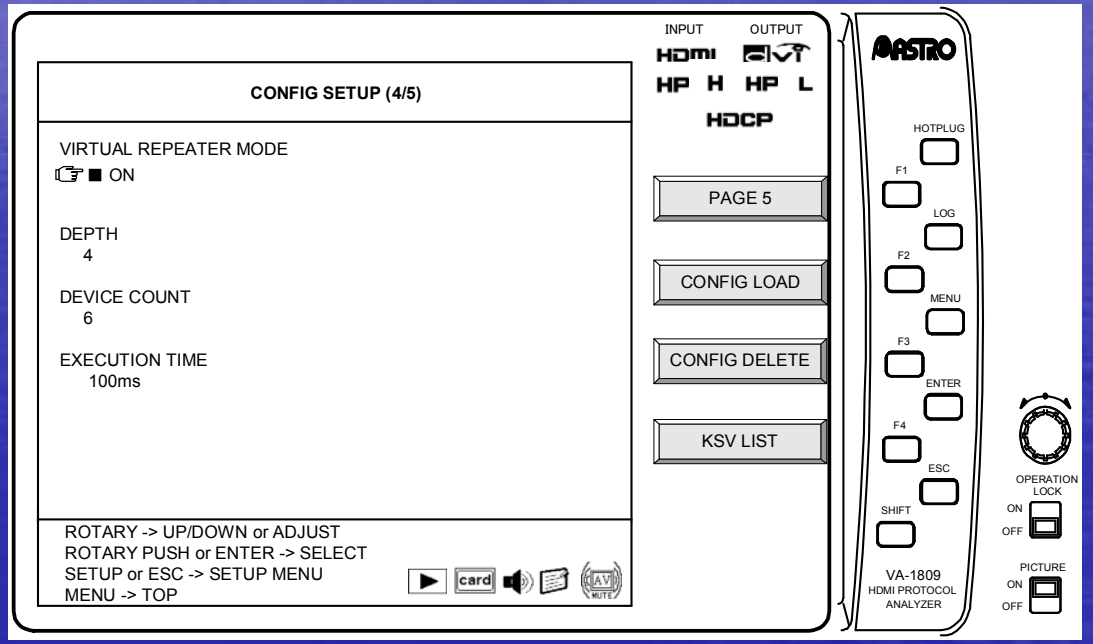


VA-1809	Log				HDMI Status			
Ver	Count	Time	InputSync	DataMode	Input Mode	HDMI Version	HDCP	Hot F
2.02	1	2580ms(0h0m2s580ms)	In Sync	GUI	HDMI	1.0	On	Low
	2	4546ms(0h0m4s546ms)	In Sync	GUI	HDMI	1.0	On	Low
	3	22598ms(0h0m22s598ms	In Sync	GUI	HDMI	1.0	On	Low

Virtual Repeater Mode

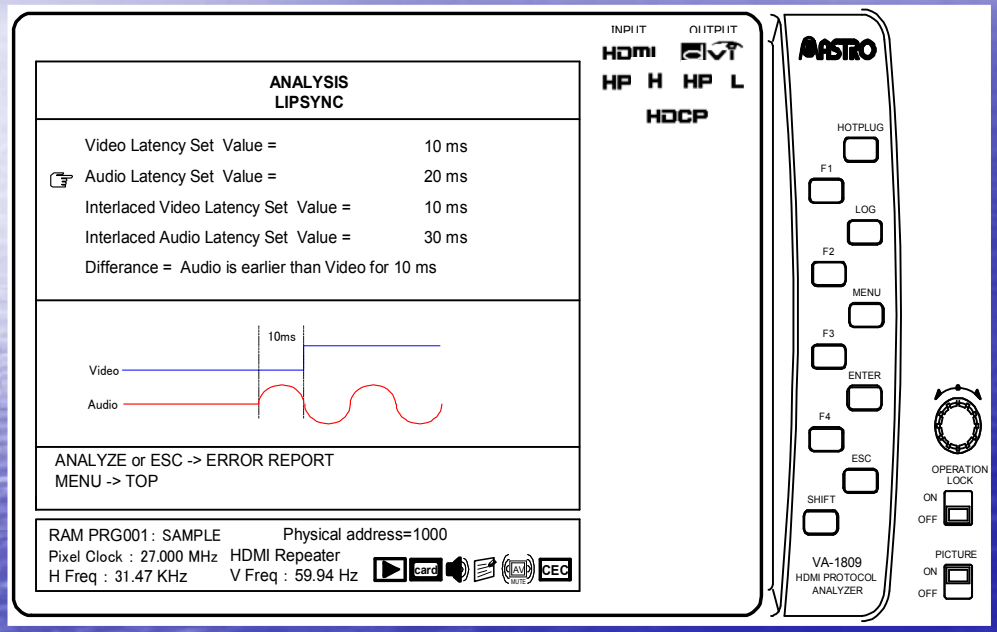
Simulates the connection of devices by using one set of VA-1809A
For HDCP response time testing. Emulates max 12 sets connection





Lip-Sync Measurement

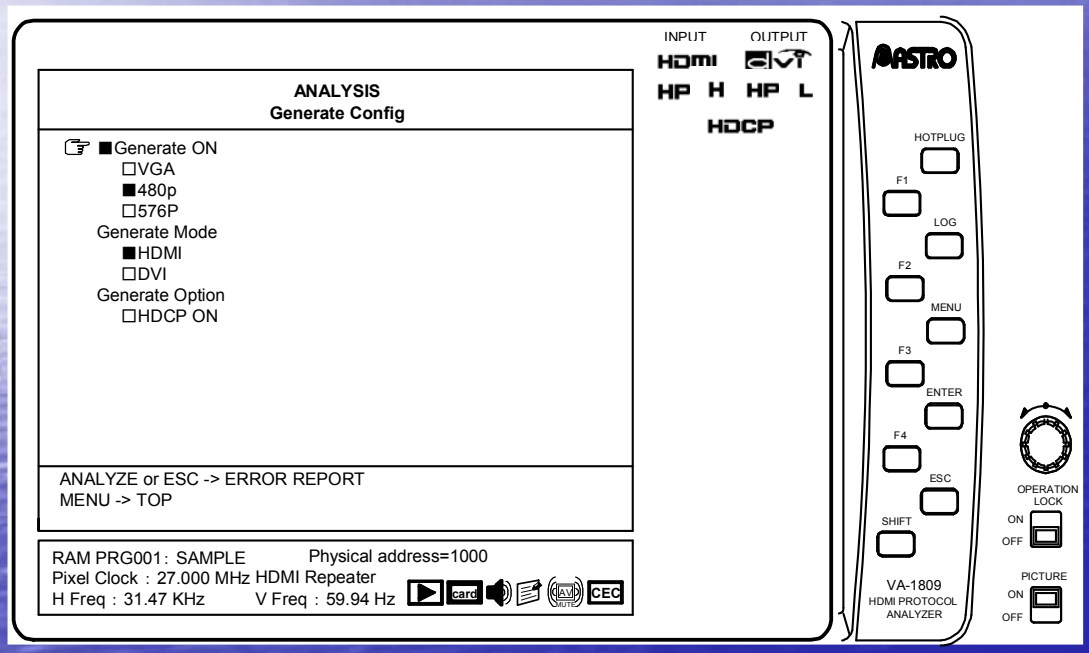
Measure the latency of input video and audio signals



Change the VA-1809A's EDID and check source device behavior

Color bar generator

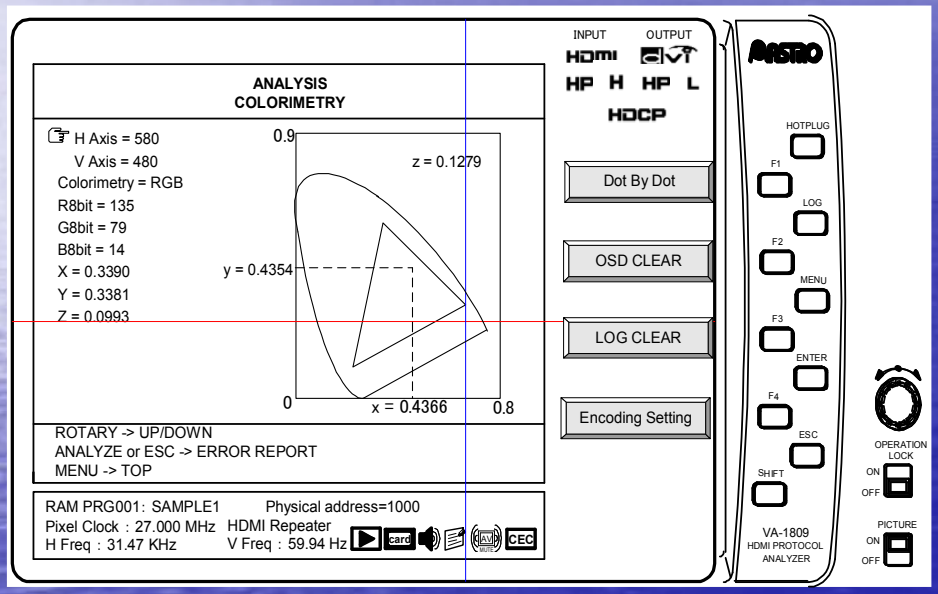
Generate color bar pattern to down stream



480p, 576p or VGA resolution can be selected in the factory.

Colorimetry (xvColor testing)

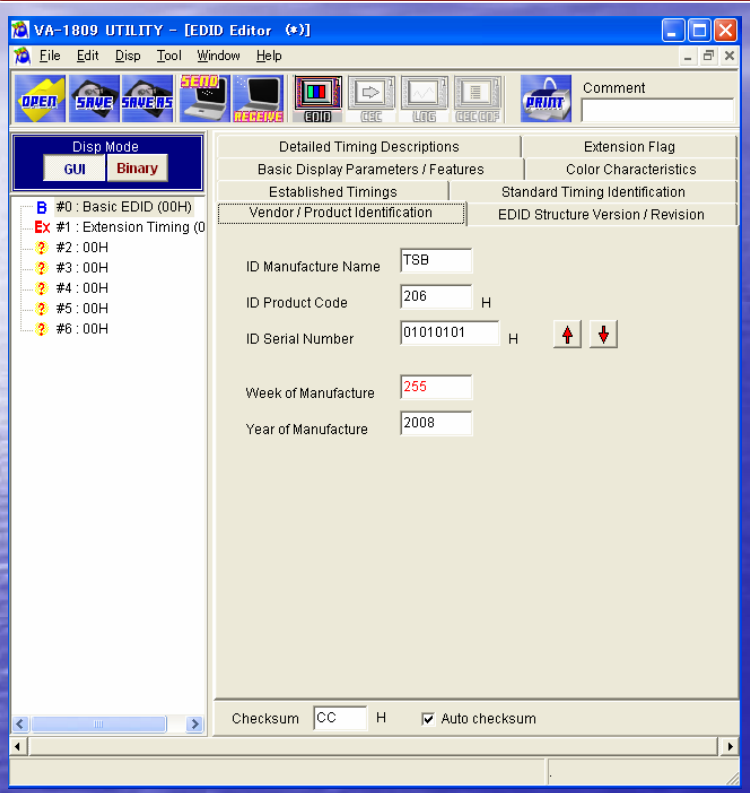
Analyze the color of each pixels

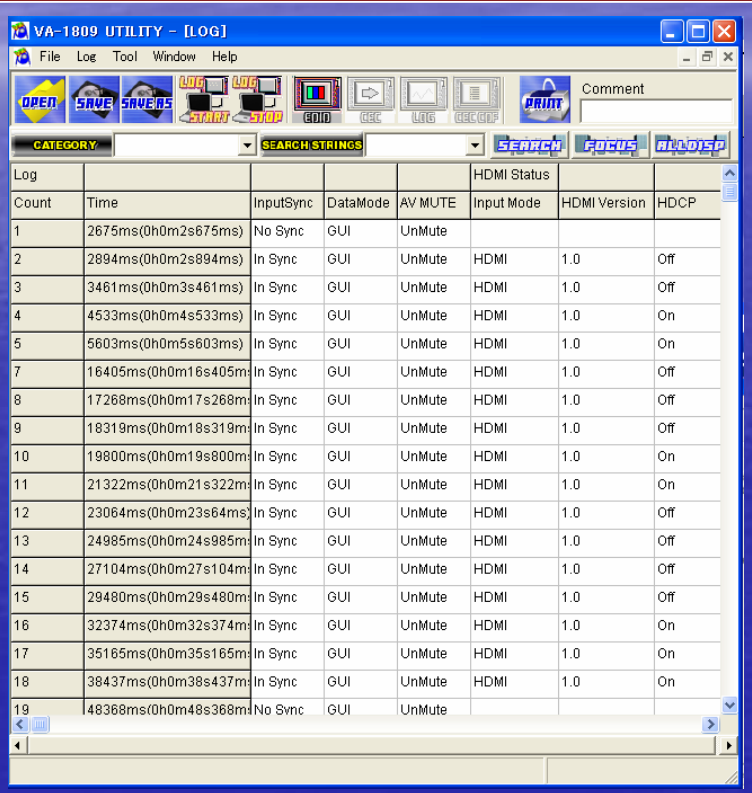


Analyze the color of the source device.
Analyze 8-12bit RGB, YCbCr signal limited and Full range (xvColor).
Set ON/OFF the YCbCr to RGB Encoring Gamma

Utility Software

Communicate and control the VA-1809A by PC via Ethernet and Serial port





Copy and edit the EDID

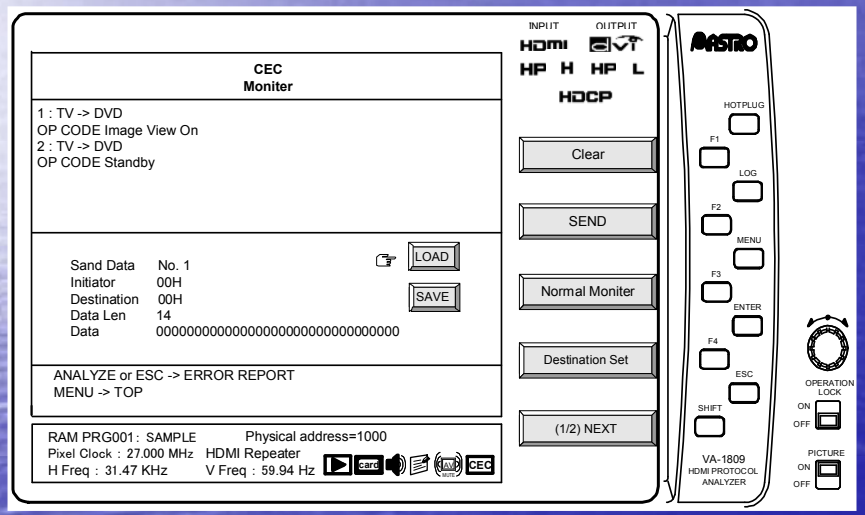
Edit CEC CDF

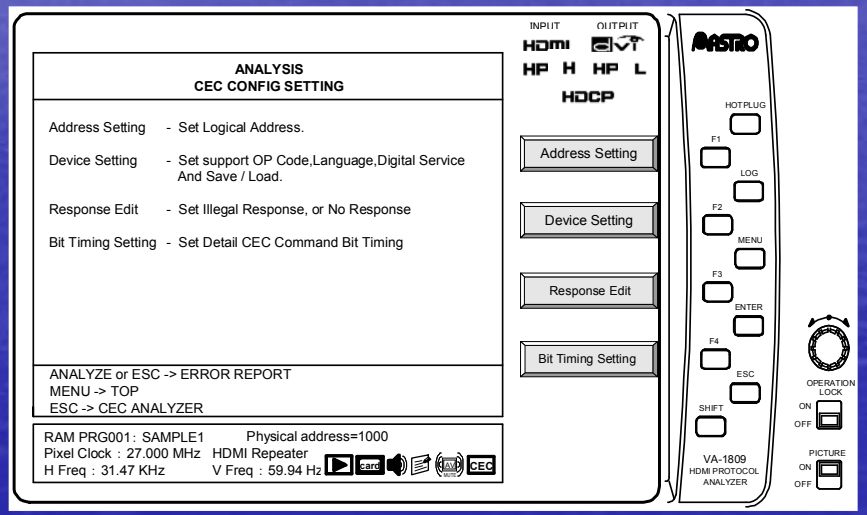
Monitor the CEC line and Send CEC command

Take a log directly from VA-1809A

CEC Function (Optional)

Monitor the CEC line and send the CEC command





Edit address setting, device setting, respond setting and Bit timing settings
Display the status by GUI and HEX

I2S Audio Output (Optional)

By adding the I2S digital output, it outputs the audio data and trigger

Output 4ch output Audio data via I2S
Set the trigger by outputting the trigger from I2S output

Thank you