

Sencore VP401, VP403

VideoPro Multimedia Video Generator

HDCP Test option

HDCP Background

High-Bandwidth Digital Content Protection (HDCP) is a standard developed by Intel, designed to protect digital video and audio signals transmitted over DVI or HDMI connections between two HDCP-enabled devices. To protect copyright holders (movie studios, etc.) from having their digital signal content copied and shared, the HDCP standard provides for the secure, encrypted transmission of digital signals.

The source device (such as a DVD player or HDTV tuner) encrypts a digital signal using the HDCP standard, then sends that signal over the DVI or HDMI link to the receiving device (HDTV, etc.), along with a unique secret device key. The receiving device responds to the source device with its own matching device key. The source device checks the returned device key for authenticity. Once authentication is established, the transmitter encrypts the data and sends it to the receiver for decryption. The receiving device then decodes the signal using HDCP and uses the signal as it is allowed. If the source device does not receive an authentic device key from the receiving device, the transmitter blanks its output signal. This authentication process is repeated every couple of seconds during the signal transmission.

VideoPro HDCP Test Option

An HDCP test option is available for the Sencore VideoPro Multimedia Video Generators. This option allows the VideoPro to test the HDCP operating capabilities of the DVI/HDMI input on HDCP-enabled video displays.

The HDCP test option can be installed on VP401 and VP403 VideoPro video generators at the factory only. The test shows up on the VideoPro “Test” menu, as “HDCP.”

- When you run the VP40x HDCP test on a video display with functioning HDCP, the video blanks until the keys authenticate. The video then comes back on and remains stable as the test cycle repeats every couple of seconds. This is accompanied by a “Pass” indication on the VP40x menu display.
- When you run the VP40x HDCP test on a video display without functioning HDCP, the video blanks during the first test cycle, comes back on momentarily, blanks during the second test cycle, comes back on, etc. This is accompanied by a “Fail” indication on the VP40x menu display.

VideoPro HDCP Test Operation

1. Connect the VP401 or VP403 VESA/HDTV output to a DVI HDCP-compatible display (or to a HDMI HDCP-compatible display, through a DVI to HDMI adapter cable).
2. In the VP40x SIGNAL TYPE menu, select “HDTV/SDTV-DVI” or “VESA/Mac-DVI”.
3. In the FORMAT menu, select an appropriate signal resolution for the display under test.
4. In the TEST menu, select “HDCP.”
5. In the “HDCP Test” screen, press the “Start” button to begin the HDCP test.
 - The Status display indicates if there is no monitor connected, the results of the HDCP handshake test (Pass/Fail), and the number of cycles the repeated HDCP handshake tests continue to pass. Generally, once the first cycle passes, you can consider the test complete. The repeated test cycles can be used to assure long-term reliability of the receiver’s HDCP operation.
 - If the test fails, the VideoPro also indicates the code for the part of the key authentication process that failed.

Note: In the OPTIONS menu there is a “HotPlug: On/Off” selection. This modifies the DVI HDCP test to either employ or not employ HotPlug detection. HotPlug detection allows you to disconnect and reconnect a HotPlug-compatible display and automatically resume the HDCP connection and testing.

- If the HotPlug option is enabled, you can disconnect the display while the test is running, and reconnect the display, or another display. If the connected display is HotPlug-compatible, the HDCP test will automatically reset and resume.