Quick Installation Guide
Secure Videobar Diode

Introduction

Modern video bars are sophisticated computers, equipped with cameras, speakers, microphones, and network connectivity. While this makes them a powerful component of an AV network, they have several vulnerabilities that can be exploited to eavesdrop on classified and sensitive conversations or to leak data between networks, even in secure rooms. HSL's Videobar Diode eliminates the threats of eavesdropping and data breaches with hardware-enforced security.

This guide provides instructions to install and operate an HSL Secure Videobar Diode.

Installation

Before Installation

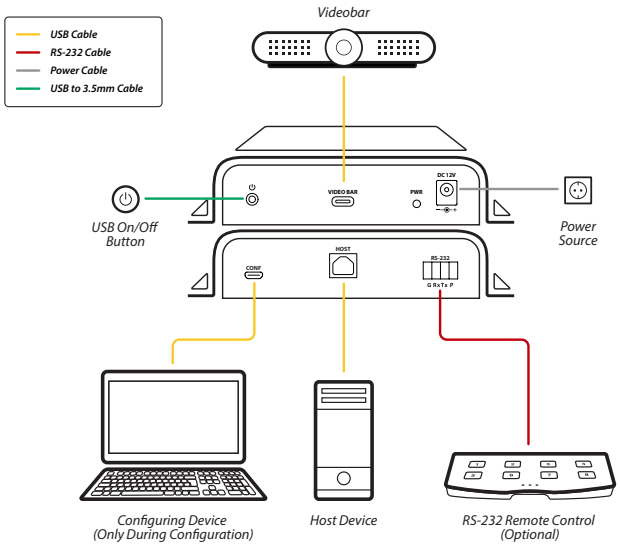
- Inspect the host computer, video bar, and all peripheral devices are powered OFF before connecting to the diode.

Connect Peripherals to the Diode

- Connect the video bar to the Secure Videobar Diode via the USB C port labeled 'VIDEO BAR.'
- Connect the USB On/Off button to the 3.5mm jack. The button's LED will flash once to indicate a successful connection, then turn off to indicate the video and audio channels are closed.
- Connect an RS-232 remote-control unit to the 4-pin serial block (optional)*.

Note: To use an RS-232 remote-control unit*, it must be connected before the Diode is powered ON.

* (This feature is coming soon)



Power ON the Network

- Power ON the video bar.
- Power ON the Videobar Diode by connecting the power source to the 12V DC port.

Connect the Host Computer

- Connect the host computer to the Videobar Diode via the USB B port labeled 'HOST.'

Note: The source computer must be connected after the Videobar Diode is powered ON.

Operation

By default, the Videobar Diode keeps the camera, microphone, and speaker channels closed. Pressing the connected USB On/Off button will open the channels for 10 minutes. 1 minute before the end of the 10-minute period, a beep will sound, and the button's LED will blink as a warning that the camera, microphone, and speaker channels are about to close. During that time, pressing the On/Off button for 3 seconds will extend the time the channels remain open.

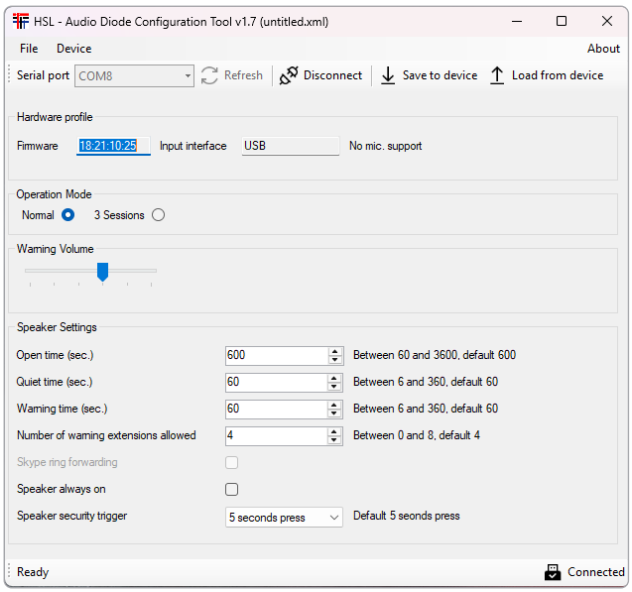
Note: The amount of time the camera, microphone, and speaker channels remain open, the duration of the warning period, the type of press needed for a time extension, and the number of extensions allowed can all be adjusted using the Media Diode Configuration Tool.

Configuration

- To configure the Videobar Diode's settings, download and install the HSL Media Diode Configuration Tool (v1.7) on a separate Windows computer. The Configuration Tool can be found here: Drivers & Tools – HighSecLabs
- Once installed, the icon will appear on the desktop.
- Connect the device to the Videobar Diode to the Mini USB port labeled "CONF."

Double-click the icon to open the Media Diode Configuration Tool.

Note: Enter the display settings on the configuration computer and ensure that the zoom is set to 100%, or the Configuration Tool window will not display all options.



- From the Serial Port drop-down menu, select the COM port connected to the Diode. This can be found on the computer's device manager.
  - If necessary, click the **Refresh** icon to detect connected COM ports.
- Click **Connect**.
- In the dialog box that appears, enter the password. By default, this password is **Admin1234**.

Set the following Diode parameters:

Parameter	Description
Firmware	Display the current firmware installed on the Diode.
Interface Input	Display the interface used to connect the Diode with the configuring device (USB).
Operation Mode	Select how many times the video and audio channels can be opened per session. Normal: Open Time can be extended up to 8 times per session. 3 Sessions: Open Time can only be extended a maximum of 3 times per session.
Warning Volume	The volume of the warning beep before the channel closes
Open Time (sec.)	Adjust how long the video and audio channels are open after pressing the button. (Between 60 and 3600, default 600)
Quiet Time (sec.)	Adjust how long the video and audio channels remain open if no audio has passed after pressing the button. (Between 60 and 3600, default 60) **Note:** The amount of Open Time must be greater than the amount of Quiet Time.
Warning Time (sec.)	Adjust how long before a warning notice signals the upcoming end of Open Time, allowing a time extension by pressing the button. (Between 60 and 3600, default 60)
Number of Warning Extensions Allowed	Adjust how many times Open Time can be extended during a session. (Between 0 and 8, default 4)
Speaker Always On	Enable or disable whether the speaker/ headphone is always open, ignoring the button (**Not recommended**).
Speaker Security Trigger	Select the type of button press to keep the video and audio channels open: a simple press, a double press, or a 5-second press (default).

After configuring the parameters, click the **Save to Device** icon to apply the new configuration to the Diode.

- To save the configuration as an XML file on the configuring device, click the File menu and select "**Save As**."
- To load a previously created XML file, click the **File** menu and select "**Open**," then select the desired file.

To load the saved parameters from the device, click the **Load from Device** icon .

Once the settings have been saved, click the **Disconnect** icon to disconnect the Diode from the configuring device's COM port, then disconnect the device from the Diode's Mini USB port.

Restart the Diode, then connect it to the source computer.

RS-232 Commands

The Videobar Diode can be operated using commands sent via RS-232.

Connect an RS-232 compatible device to the Videobar Diode via the 4-pin serial block. On this device, open a serial terminal program (e.g., PuTTY) and select the serial port connected to the Videobar Diode. Once connected, the Diode is ready to receive commands.

The Videobar Diode has two commands which can be entered into its Keepalive sequence:

#ALIVE1 Opens the Videobar channel if closed; extends the amount of open time if the channel is already open

#ALIVE0 Closes the Videobar channel

RS-232 Connection Parameters

To connect the Videobar Diode to a serial terminal program, select the corresponding COM Port and set the following parameters:

- Speed (baud): 115200
- Data Bits: 8
- Stop Bits: 1
- Parity: None
- Flow Control: None