



Model:

FS11USB2 – Secure Videobar Diode

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INTRODUCTION

Modern videobars 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, videobar, and all peripheral devices are powered OFF before connecting to the diode.
- Connect Peripherals to the Diode
- Connect the videobar to the Secure Videobar Diode via the USB C port labeled 'VIDEOBAR.'
- 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)

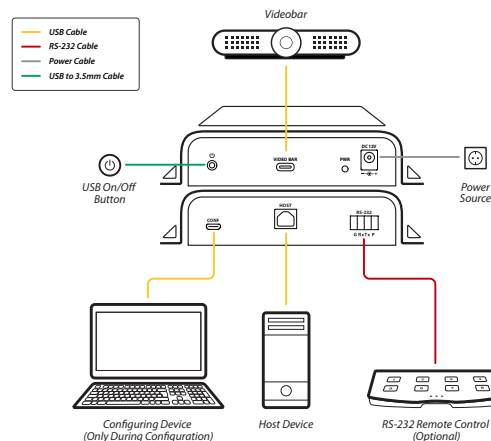
Power ON the Network

- Power ON the videobar.
- 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



The Videobar Diode keeps the camera, microphone, and speaker channels closed until they are opened manually. Pressing the connected USB On/Off button will open the channels for a session lasting 10 minutes. 1 minute before the end of the session, 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 session.

Note: The duration of a session, 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.

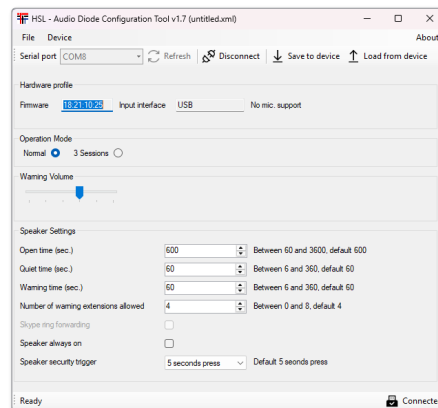
CONFIGURATION


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**.


CONFIGURATION

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 360, 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 360, 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.

CONFIGURATION

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 will begin sending keepalive messages, indicating it is ready to receive commands.

The Videobar Diode has two operating modes for entering RS-232 commands into its sequence:

Standard Mode:

In Standard Mode, the Videobar Diode operates normally. Commands open and close the speaker, microphone, and camera channels simultaneously.

Note: When in Demo Mode, entering a Standard Mode command closes all open channels and switches the Diode to Standard Mode.

#ALIVE 1 Open the media channels if closed; extend the session if the channels are already open

#ALIVE 0 Close the media channels

At the end of each command, enter **<cr>** to perform a carriage return that ends the command line.

Demo Mode:

In Demo Mode, the speaker, microphone, and camera channels remain open until they are manually closed. Rather than being controlled simultaneously, the channels can be opened and closed individually.

Note: When in Standard Mode, entering a Demo Mode command closes all open channels and switches the Diode to Demo Mode.

#DEMO_SPK 1 Open the speaker channel

#DEMO_SPK 0 Close the speaker channel

#DEMO_MIC 1 Open the microphone channel

#DEMO_MIC 0 Close the microphone channel

#DEMO_CAM 1 Open the camera channel

#DEMO_CAM 0 Close the camera channel

At the end of each command, enter **<cr>** to perform a carriage return that ends the command line.

Note: While in Demo Mode, the video and sound may briefly flicker after opening or closing the microphone, speaker, or camera channels. In addition, the keepalive sequence will read **0** even if some channels are open.

CONFIGURATION

Example Sequence

- #ALIVE_1** Open all channels (the LED will turn on)
- #DEMO_SPK 1** Close all channels, switch to Demo Mode, and open the speaker channel
- #DEMO_CAM 1** Open the camera channel
- #DEMO_MIC 1** Open the microphone channel
- #DEMO_CAM 0** Close the camera channel
- #DEMO_MIC 0** Close the microphone channel
- #ALIVE_0** Close all channels, switch to Standard Mode

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