



THE WORLD'S FIRST **AUDIO DIODE**

PREVENTS
INFORMATION LEAKAGE
THROUGH AUDIO PERIPHERALS



THE THREAT OF USING AUDIO PERIPHERALS

Leakage of a Secure Conversation

Eavesdropping through an unsecured network's audio devices:

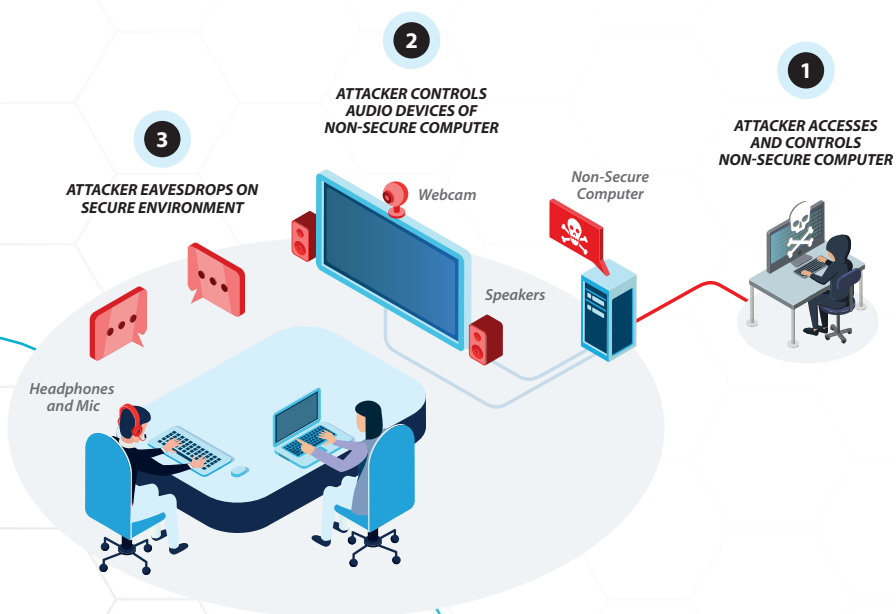
- With proper audio driver modifications, even low signals may be amplified and filtered to pick up the surrounding conversations.
- Any speaker can be easily transformed into a microphone by an attacker's malicious software.

Leakage of Secure Data

Implanting or capturing data from a PC:

Attackers can transfer data from secured to unsecured networks by broadcasting high-frequency signals from an external hacking device.

For example, data leakage through acoustic ultrasonic transmission.



THE SOLUTION:

HSL'S AUDIO DIODE

High Sec Lab's Audio Diode mitigates the risks of eavesdropping when using peripheral audio devices.

The new HSL Audio Diode family of products connects between a source (a PC usually) and an audio device (speaker/ headphone or microphone).

The Audio Diode prevents attackers from exploiting audio-data leakage.



PRODUCT FAMILY

SPECIFICATIONS

MODEL	FA10A-4	FA10B-4	FA10AO-4	FA10BO-4	FA10AM-4	FA10BM-4	FA10AC-4	FA10BC-4	FA10BB-4
FEATURES									
Input Interface (Host)	Analog	USB	Analog	USB	Analog	USB	Analog	USB	USB
Output Interface (Audio Device)	Analog	Analog	Analog	Analog	Analog	Analog	Analog	Analog	USB
Mic Support	✗	✗	✗	✗	✓	✓	✓	✓	✓
Always Open	✗	✗	✓	✓	✗	✗	✗	✗	✗
USB Output for Camera	✗	✗	✗	✗	✗	✗	✓	✓	✗
USB Output for Headset	✗	✗	✗	✗	✗	✗	✗	✗	✓
PHYSICAL									
Dim.	85 (W) x 65 (D) x 34 (H) mm / 3.1 (W) x 3.1 (D) x 2.4 (H) inch								
Weight	185 gr (0.41 lbs.)								
CERTIFICATION									
Security Cert.	Compliant with NIAP Common Criteria PP4.0 PSD Protection Profile				N/A				

THE AUDIO DIODES

SECURITY MECHANISM

Unidirectional Flow

The Audio Diode functions as a diode that forces audio signals from a PC to be unidirectional. This prevents hackers from manipulating a speaker/headphone to function as a microphone, for picking up surrounding conversations. On some models, a microphone is also enabled.

When a microphone is enabled, it does not change the unidirectional flow restriction on the product in any way. Also, the microphone is enabled only via the push-button control.

Low-Pass Filter

All sounds passing through the Audio Diode go through a low-pass filter that restricts the audio frequencies to the range compatible with the human ear. This prevents hackers from broadcasting high-frequency signals to an external hacking device.

Push-Button Control

- Has push buttons to activate the speaker/headphone and microphone (for models that do not support a microphone, this button does not exist).
- Configurable “ON” status (for example, to set how long the speaker remains open when conducting a Skype call). This time can be extended by pressing again at end of the set period to continue the conversation
- Uses a bi-color (green and red) LED to show ON/OFF status. The LED also flickers before disconnect.
- Detects a press-and-release as a single event, to prevent pressing and holding the button nonstop.



AUDIO DIODES HIGHLIGHTS

- **Prevents hackers from taking advantage of audio data leakage**

The diode blocks eavesdropping to surrounding conversations, by forcing unidirectional flow. It uses a low-pass filter to block high frequency signal attacks. It has push buttons to switch off access while users are away.

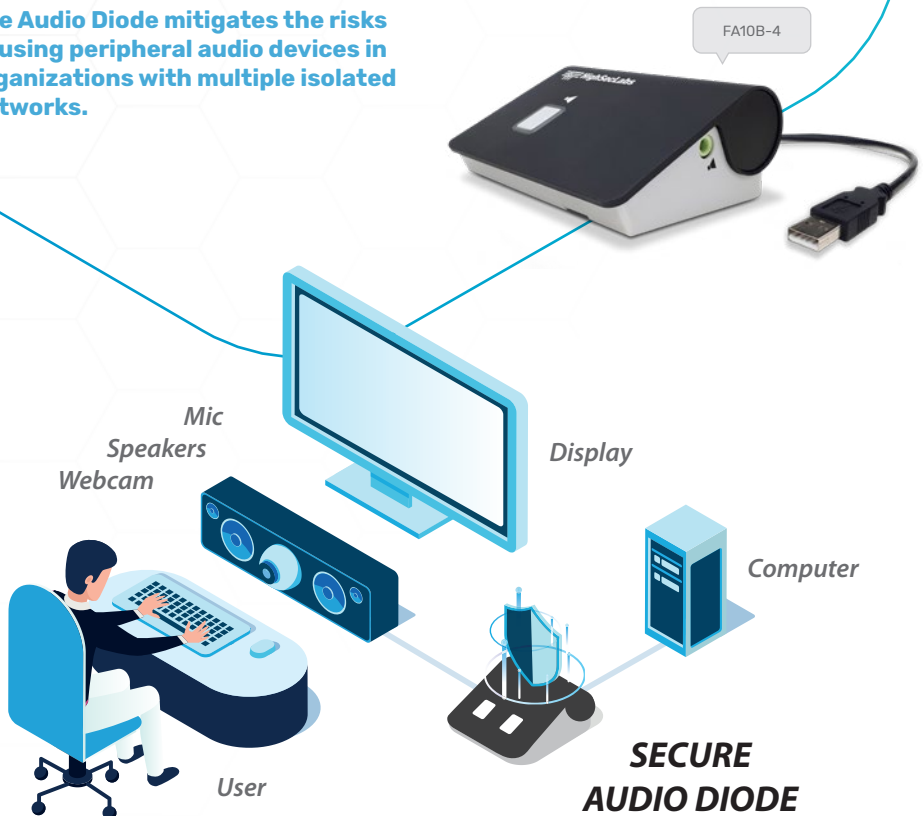
- **Small size**

The 85mm X 65mm X 34mm unit takes up little space on your desktop.

- **Easy to install and operate**

Quickly connects to the host PC and audio device. Users only need to click on the push button(s) to activate it.

The Audio Diode mitigates the risks of using peripheral audio devices in organizations with multiple isolated networks.



NEW RELEASE

FA10BB-4 – A USB audio diode, especially designed to protect and isolate USB headsets.

The FA10BB-4 has the same secure mechanism as other audio diodes:

- **Low pass filter**
- **Unidirectional audio flow**
- **Control via push buttons**

THE FA10BB-4 has a HW based isolation between a source PC and the diode, allowing users in a secure organization to share the audio diode (and USB headset) between different networks.



FA10BB-4

HIGH SEC LABS (HSL)

DEVELOPS HIGH-QUALITY CYBER-DEFENCE SOLUTIONS FOR PROTECTING NATIONAL ASSETS AND INFRASTRUCTURE IN THE FIELD OF NETWORK AND PERIPHERAL ISOLATION.



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