# THE WORLD'S FIRST
# AUDIO DIODE

## PREVENTS
**INFORMATION LEAKAGE**
THROUGH AUDIO PERIPHERALS


HighSecLabs
Highest Security Solutions

# THE THREAT OF USING AUDIO PERIPHERALS

## Leakage of a Secure Conversation

**Eavesdropping through an unsecured network's audio devices:**

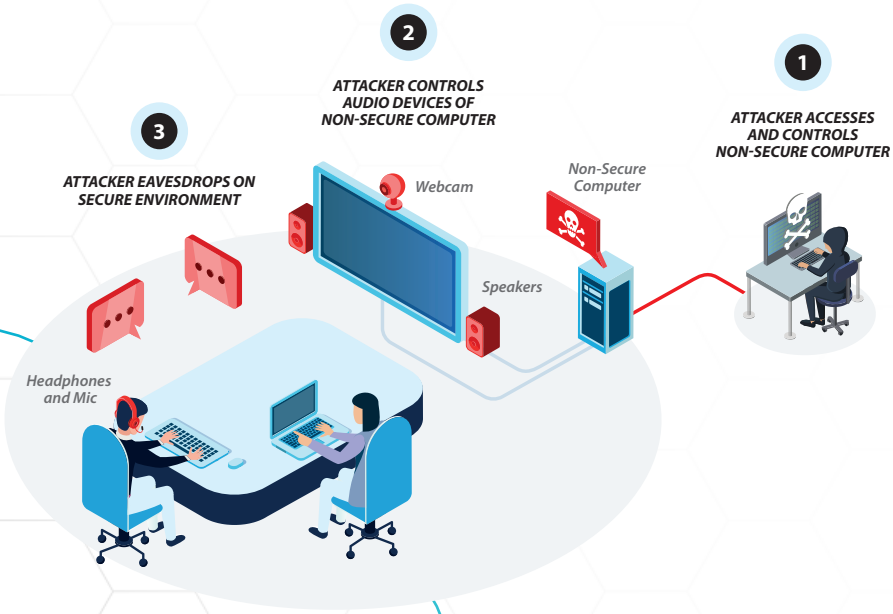
- With proper audio driver modifications, even low signals may be amplified and filtered to pick up the surrounding conversations.
- Any speaker can be easily transformed into a microphone by an attacker's malicious software.

## 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.

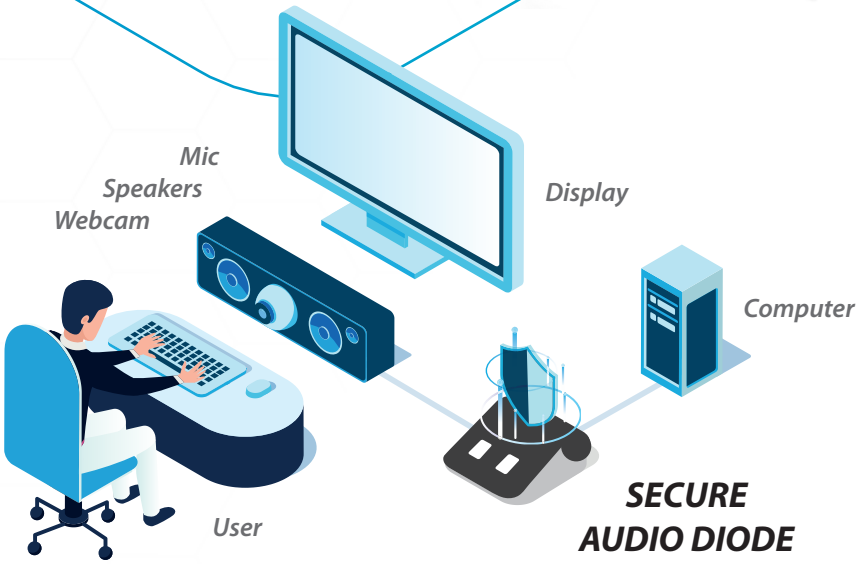
- **Small size**

  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

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**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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