



Simian Hardware Connector: Axia

Version 1.0

Manual

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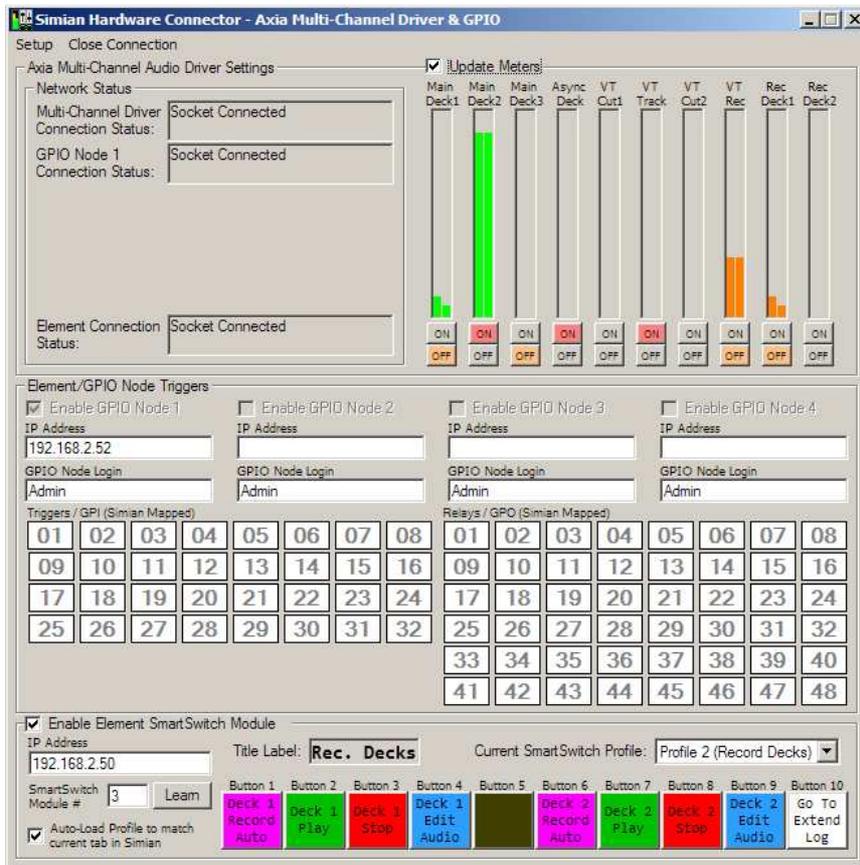
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Chapter 1: Overview

Simian Hardware Connectors are background utilities that allow tight integration with third-party hardware consoles and devices, such as Axia consoles, Axia GPIO Nodes, GatesAir Consoles, and more. By separating this functionality into a background utility structure, failures of the third party hardware or network connections won't affect Simian's core operation. Hardware Connectors can also be created for new hardware devices and updated without Simian needing to be updated or reinstalled in any way.

The **Axia Multi-Channel Driver & GPIO** hardware connector allows Simian to integrate with your Axia device ecosystem. This hardware connector communicates with the Axia Multi-Channel PC audio driver installed on the same machine it is running on to get GPIO (ON and OFF buttons on console channels) and meter information to and from an Axia Element console. It also can connect to up to four GPIO nodes (including the node built in to Studio Engines and stand-alone GPIO nodes). Integration with a SmartSwitch panel on Axia consoles is also included, allowing hardware controls which functionally "follow" what Simian is displaying on its user interface (go to the Voice Track Editor in Simian, the switch panel labels and functions switch automatically to the Voice Track controls...go to the Hot Key panel in Simian and the switch panel labels and functions switch to Hot Key triggers, and more).

To configure the Axia Multi-Channel Driver & GPIO hardware connector, you will need to know the network/IP topology and the administrator login information for each device you wish to connect to.

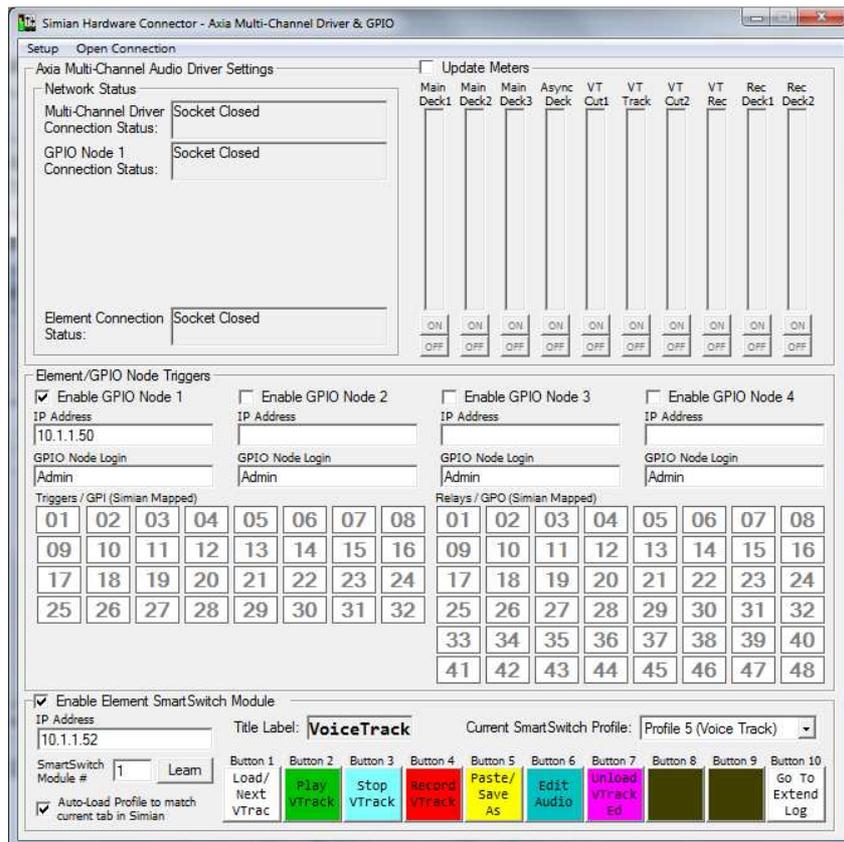


Figure 1.1: The Axia Hardware Connector

Chapter 2: Setup

The first step after installing the Axia Multi-Channel Driver & GPIO Hardware Connector is to configure Simian's Hardware Options to use the Axia hardware connector. The Simian user manual has a setup section on that process. Once you have configured Simian to use the Axia hardware connector, Simian will automatically start up the hardware connector (and automatically close it when Simian closes down). That means that you will need to leave Simian open for the steps in this manual.

The hardware connector starts minimized to the Windows System Tray (the area by the system clock that displays icons for background apps). To open the user interface, double-click on the hardware connector icon (as shown at right). The user interface, as shown in figure 1.1 will appear.



Figure 2.1

Configure Meters and Channel GPIO Assignments

The VU meters and Channel GPIO assignments are the settings for the hardware connector to communicate with Axia's Multi-Channel PC Audio Driver. For Axia, the channel on/off information (Channel GPIO) is included with the audio stream data. Because Simian's play decks can be set to use any play device available, including setting multiple decks to use the same play device, VU meter and start/stop functions can map from any play or record device to Simian's play/record decks. How you configure Simian's decks with regard to what play/record devices is an exercise in engineering that is beyond the scope of this manual. That being said, the most common setup is shown at right.

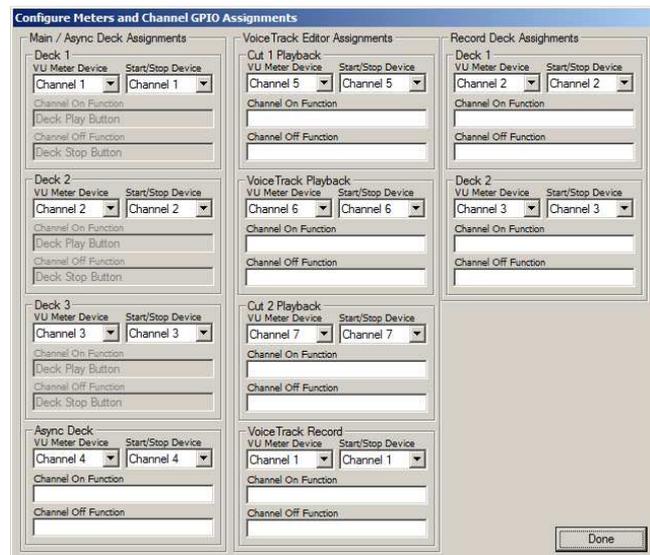


Figure 2.2

For each deck in Simian, select which channel is being used in Simian from the VU Meter Device and Start/Stop Device dropdowns. Also notice that there are fields for **Channel On Function** and **Channel Off Function**. The three main decks are configured to interface with the play deck **Play** and **Stop** button, which cannot be changed. All the other decks are not set to any particular function and can be set to any Simian macro, plus several hardware connector specific macros. Should you wish to set any of the macros, simply type into the available field the macro and any required meta variables for that macro into the available field. Once a macro is set, pressing the **On** or **Off** button on your Axia Element console channel that is set to use the multi-channel driver in question will activate the specified macro. This functionality is completely open ended, so your imagination is the limit.

Configure Multi-Channel Driver GPIO Sources

Each channel on the Axia Multi-Channel PC Audio Driver is associated with a play and record channel. Each channel uses the On/Of button GPIO functionality for either the play device, or the record device. Because of this, you must set the driver to have the channel GPIO be associated with the Axia PC Multi-Channel Driver channel. The Multi-Channel Driver GPIO Sources are usually set using command-line type text commands with a terminal program logged in to the driver via TCP/IP. The hardware connector simplifies this process by doing all the back-end communications for you. You are presented with a list of all the channels, with their descriptions and channel numbers (as set in the Axia ecosystem) and all you have to do is choose which Axia channel you want the Axia PC Multi-Channel Driver channel to interface with.

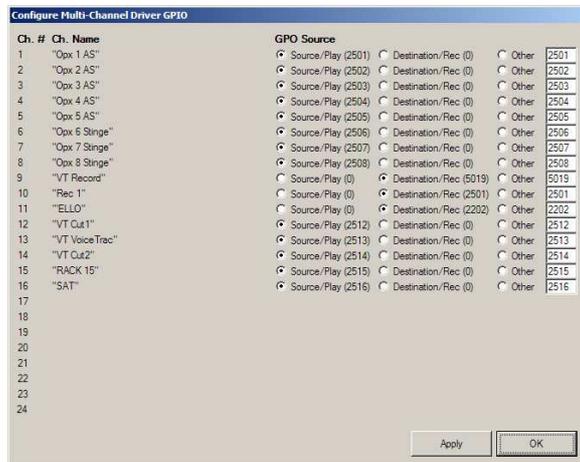


Figure 2.3

Configure GPIO Node Trigger Mapping

The Axia hardware connector has the ability to connect to up to 4 Axia GPIO nodes, each of which can have either 20 or 40 triggers and/or relays, depending on the node type. Simian on the other hand, supports up to 32 triggers and 48 relays. Because of this, you must map which Axia GPIO channels you want Simian to respond to or control.

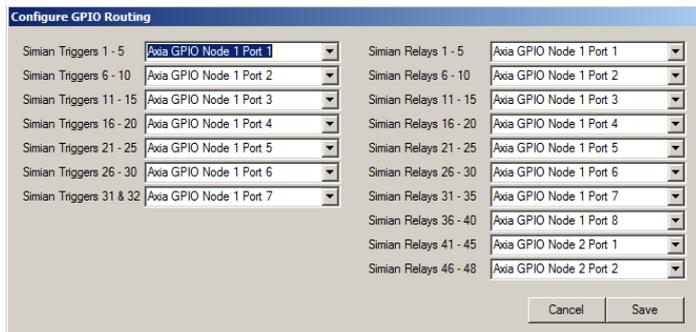


Figure 2.4

On the main hardware connector user interface, to enable an Axia GPIO Node connection, click on the **Enable GPIO Node** check box (as shown in Figure 1.1), then enter the IP address for your node and the password for admin access to the node (default is "Admin"). Next, go to the **Setup** menu and choose **GPIO Node Trigger Mapping** and the window shown in figure 2.x will appear, as shown above.

To configure the triggers and relays, simply click the dropdown that corresponds to the Simian trigger or relay and choose which Axia GPIO node and port you want that set of triggers or relays to respond. In Simian, relays are controlled the same way as a normal piece of hardware connected directly to Simian (the relay rack window and the RELAY macro), and triggers work exactly the same via trigger sets.

Configure Element SmartSwitch Mapping

Axia Element SmartSwitch Modules allow you to install a set of hardware buttons in place of a fader channel strip on your Axia Element console. Using the hardware connector's SmartSwitch interface, these hardware buttons can interact with Simian via these buttons. The buttons each contain a small LCD display with RGB LED backlighting. Depending on which function

Simian is set to—Extended Log, Hot Keys, Voice Track Editor, Record Decks, or Mixers—the buttons will automatically switch to a profile for that function. The communications are bi-directional, so you can also switch which function Simian is set to from the SmartSwitch buttons.

To enable the SmartSwitch integration, you will need to click on the **Enable Element SmartSwitch Module** check box as shown in Figure 1.1. Next, you will need to enter the IP address for your Element console.

Standard profiles are already configured for the most common functions you'd want to perform. They can be edited if you want to change the functionality of each button, the text the button displays, or the LED backlighting color for each button. To modify the button profiles, go to the **Setup** menu and choose **Element SmartSwitch Mapping**. The window shown in figure 2.5 will appear. You can select which profile you want to modify from the **Profile** dropdown. Next, you can change the title that is displayed at the top of the console's channel strip on the SmartSwitch module by typing your desired title text into the **Title Label** field.

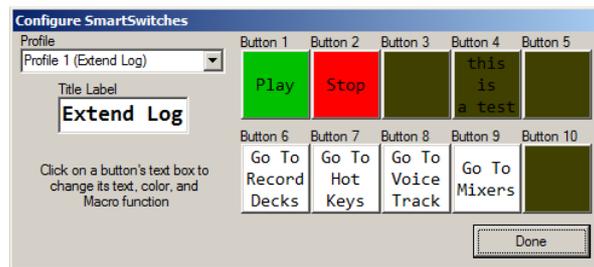


Figure 2.5

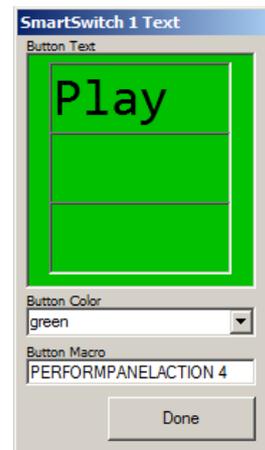


Figure 2.6

To modify a button, simply click on it in the window. The window shown in figure 2.6 will appear. The text on a SmartSwitch button can have up to three lines of text, each with 6 characters. Simply click into one of the three rectangles in the **Button Text** fields and type your desired text. You can set the LED backlight of the button by choosing from the available colors on the **Button Color** dropdown. The function the button will perform is determined by the macro entered into the **Button Macro** field. Any macro in Simian can be entered, along with several hardware connector specific macros.

Chapter 3: Usage

The hardware connector is automatically started by Simian, minimized to the Windows System Tray (the area by the system clock that displays icons for background apps), when Simian starts up. It is automatically closed when Simian is exited as well. Under normal operation (once the hardware connector is configured), the hardware connector runs in the background on your Simian system. You shouldn't need to even think about it.



Figure 3.1

If all is well, the system tray icon will periodically animate, showing the icon's faders and VU meter bouncing up and down.

If there is a connection or configuration error and the hardware connector is not working properly, the icon will display an **H** exclamation point with a red background. If you see this icon, double click on it to open the hardware connector's user interface and look at the status messages in the upper left corner of the main user interface (as shown in Figure 1.1) to see what the issue is. If the hardware is still connected, click on the **Close Connection** menu at the top of the user interface. Now you can correct the stated issue, and then reconnect the hardware connector to the Axia devices by clicking on the **Open Connection** menu option.

Chapter 4: Macros

The Simian Hardware Connector for Axia Multi-Channel Driver & GPIO has functions that utilize Simian Macros as well as hardware connector specific macros. This chapter is a listing of the hardware connector specific macros. Simian macros are covered in the Simian User Manual, so we won't re-hash those macros here. Below is a listing, with descriptions and examples, of all the hardware connector specific macros the Simian User Manual does not cover:

PERFORMPANELACTION (works from hardware connector)

The **PERFORMPANELACTION** macro allows the hardware connector to trigger the on-screen buttons on Simian's main user interface.

SYNTAX

PERFORMPANELACTION *Buttonid*

Buttonid is the index number of the button on the Simian user interface. The index numbers are as follows:

- 0-Go to Record Deck panel
- 1-Go to Hot Keys panel
- 2-Go to Voice Track Editor panel
- 3-Go to Mixer panel
- 4-Start/Play button press
- 5-Stop button press
- 6-Go to previous Hot Keys set (on Hot Keys Panel)
- 7-Go to next Hot Keys set (on Hot Keys Panel)
- 8-Automation Mode button press
- 9-Extend Program Log (hide Record/Hot Keys/Voice Track Editor/Mixer panels)

EXAMPLE

PERFORMEPPANELACTION *1*

Simian's main user interface will go to the Hot Keys panel

RECDECKBTN (works from hardware connector)

The **RECDECKBTN** macro allows the hardware connector to trigger the buttons on the record decks within Simian.

SYNTAX

RECDECKBTN *DeckNumber, Buttonid*

DeckNumber is "0" for deck 1, or "1" for deck 2, depending on which record deck you want to control.

Buttonid is the index for the button on the record deck you wish to trigger. The index numbers are as follows:

- 0-Save As button press
- 1-Edit Audio button press
- 2-Record Audio button press
- 3-Play Audio button press
- 4-Stop Record/Play Audio button press

EXAMPLE

RECDECKBTN 0, 4

This will cause record deck 1 to stop recording/playing, depending on if the record deck is actively recording or playing.

VTEDITBTN (works from hardware connector)

The VTEDITBTN macro allows the hardware connector to trigger the buttons on the Voice Track Editor within Simian.

SYNTAX

VTEDITBTN *Buttonid*

Buttonid is the index for the button on the Voice Track Editor you wish to trigger. The index numbers are as follows:

L-Load/Load Next Voice Track button press
0-Play Voice Track button press
1-Stop Voice Track button press
2-Record Voice Track button press
3-AutoSet Voice Track segue points button press
4-N/A
5-N/A
6-Paste/Save Voice Track button press
7-Edit Voice Track File Audio button press
8-N/A
9-Unload Voice Track Editor button press
H-Same as keyboard shortcut H
J-Same as keyboard shortcut J
K-Same as keyboard shortcut K
L-Same as keyboard shortcut L
S-Same as keyboard shortcut SPACEBAR

EXAMPLE

VTEDITBTN 0

Plays the currently loaded voice track, the same as pressing the play button on the Voice Track Editor's user interface.

CONNECTORMSG (works from Simian)

The CONNECTORMSG macro is used from within Simian's Program Log or Scheduled Events to send messages to the hardware connector. Use this macro to send messages to specific hardware devices that the hardware connector is connected to.

SYNTAX

CONNECTORMSG *Message*

Message is an open-ended field that forwards commands to the hardware connector. The hardware connector then can perform actions based on the message. In essence, this is a set of macros that the hardware connector for communications to its connected devices. Each open-ended message is preceded by a command to "steer" the message to any of the hardware devices connected to the hardware connector, followed by a space, then the command the hardware device would respond to. These command

messages are defined by Axia, and are their command line commands normally accessed via a terminal program logged in over TCP/IP. The "steering" commands are as follows.

DRVCMD-Forwards the text following the steering command to the Axia Multi-Channel PC Audio Driver.

NODCMD-Forwards the text following the steering command to the first Axia Node.

NO2CMD-Forwards the text following the steering command to the second Axia Node.

NO3CMD-Forwards the text following the steering command to the third Axia Node.

NO4CMD-Forwards the text following the steering command to the fourth Axia Node.

ELECMD-Forwards the text following the steering command to the Axia Element/Studio Engine.

EXAMPLE

```
CONNECTORMSG ELECMD SET MOD_USER#3.DISP TEXT="HELLO!"
```

This command will send the text AFTER the "ELECMD" (not including the space) to the Axia element. As determined by Axia's set of commands, this will set the text display on the third module to "HELLO!" (without the quotes). For all commands for Axia devices, consult the Axia user manual for the device connected.