AudioControl®

Director M4800 / M6400 / D4600

Control4 Driver User Guide

Driver developed by

JANUS
TECHNOLOGY

Contents

Introduction

This driver has been designed to provide two-way control of AudioControl Director M4800, M6400 and D4600 network amplifiers, via TCP/IP.   This has been tested with firmware version 0.1.16_NCB RA.
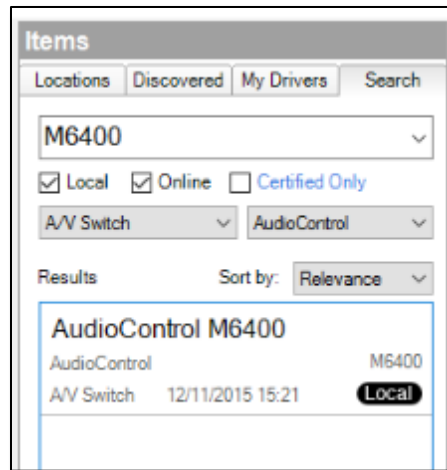
AudioControl Configuration

It is recommended that the AudioControl system be installed, configured and tested by a suitably qualified engineer, according to AudioControl documentation, prior to integration with this driver.   Some additional, specific configuration is required to ensure correct operation of the driver.

The amplifier should ideally be configured with a static IP address in the same range as the Control4 system:

1. Enter the IP address of the amp into the web browser of a computer connected to the same network, to display the web interface.
2. Choose the **Device Configuration** tab.
3. Enter your static IP address information and click **Save Settings**.

Driver Installation

Copy the file "amplifier_ip_audiocontrol_[m|d]*xx*00.c4i" from the zip package to your Control4 driver location (by default this is Documents\Control4\Drivers). Open Composer and choose the **Search** tab from the **Items** pane.
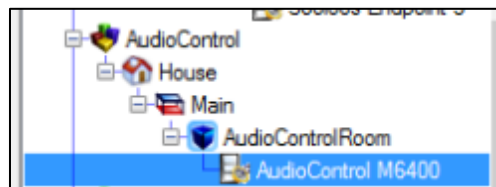

Figure 1: Driver Search

The driver can be found under:

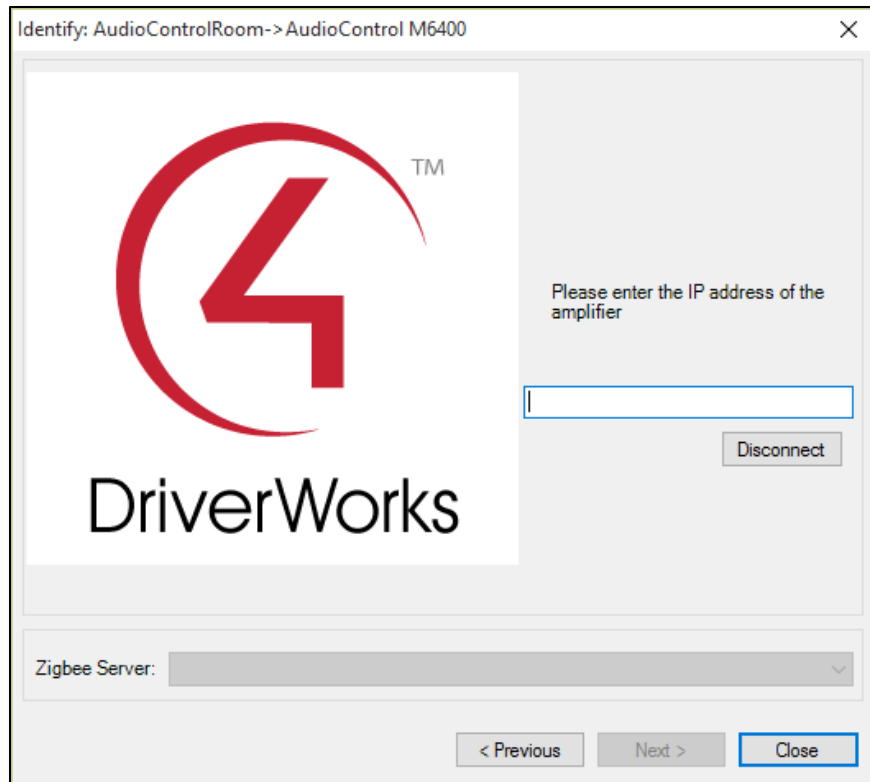Device Type: A/V Switch
Manufacturer: AudioControl

Add the driver entitled "AudioControl M6400" into your project.

Figure 2: Driver

Driver Configuration

It is first necessary to create connections for the new driver; chose the **Connections** pane in Composer, and then select the **Network** tab. Double click on the *AudioControl* device in the **IP Network Connections** list and enter the amplifier's IP address:

Figure 3: Driver Network Connection

Next connect up the inputs, outputs and room control connections as appropriate. Note that for the D-series drivers, there are multiple sub-devices. The bus inputs can be found on the Bus A and Bus B sub-devices and the local input, output and room control connections for each zone on the sub-device for that zone. Any connections with names in square brackets, e.g. **[Zone 1 Bus A In]** are managed internally by the driver and should not be changed.

Now that the connections are established the driver properties should be populated with information from the AudioControl amplifier; choose **System Design** and select the driver:

Properties

Advanced Properties

Properties	Documentation	Lua

Driver Version	0
Device model	D4600
Port	23
Operational Status	Ready for commands
Control4 Zone 1 controls AudioControl	Zone 1
Control4 Zone 2 controls AudioControl	Zone 2
Control4 Zone 3 controls AudioControl	Zone 3
Control4 Zone 4 controls AudioControl	Zone 4
Control4 Zone 5 controls AudioControl	Zone 5
Control4 Zone 6 controls AudioControl	Zone 6
Control4 Zone 7 controls AudioControl	Zone 7
Control4 Zone 8 controls AudioControl	Zone 8
Debug Mode	Print
Debug Subsystems	
Debug Level	0

Figure 4: Driver Properties

The following properties are available, some of which are user editable:

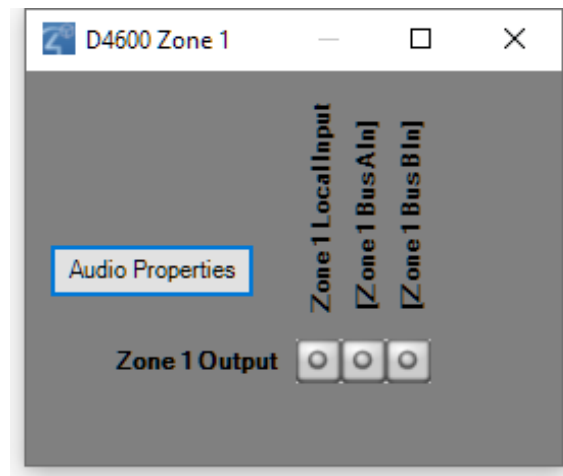| Setting	Description
Driver Version	Reports the release version of the driver
Model	The device model being used
Port	Specify the port number used to communicate with the amplifier (default 23)
Operational Status	Reports the current connection status
Control4 Zone X controls AudioControl Y	Control 4 zones can be mapped to either AudioControl zones, or to AudioControl groups. See an explanation below.
Debug Mode	For support use only
Debug Subsystems	For support use only
Debug Level	For support use only

Table 1: Driver Properties

D-series specifics

There are effectively 3 inputs for each zone for the D-series:
- Local
- Bus A
- Bus B

"Local" means that the output will be connected to the input for that zone. E.g. Zone 1 input to Zone 1 output, Zone 2 input to Zone 2 output. **In the D-series it is impossible to connect Zone 1 input to Zone 2 output**.

This is represented by the D-series driver having a different structure to the M-series, with separate sub-devices: two that represent the two shared bus inputs and then one for each zone, each with its own individual local input. To test the switching for a particular zone, double-click on the sub-device for that zone in Composer and a test switching panel will be shown for that zone:

Figure 5: D-series local zone

This also has an implication for grouping. If zones 1-3 are in group 1 and then group 1 is switched to local input, all the zones will switch to their respective local inputs. It is the responsibility of the installer to ensure that the same input device is connected to each of these local inputs if the intention is that all the zones should be playing the same source.
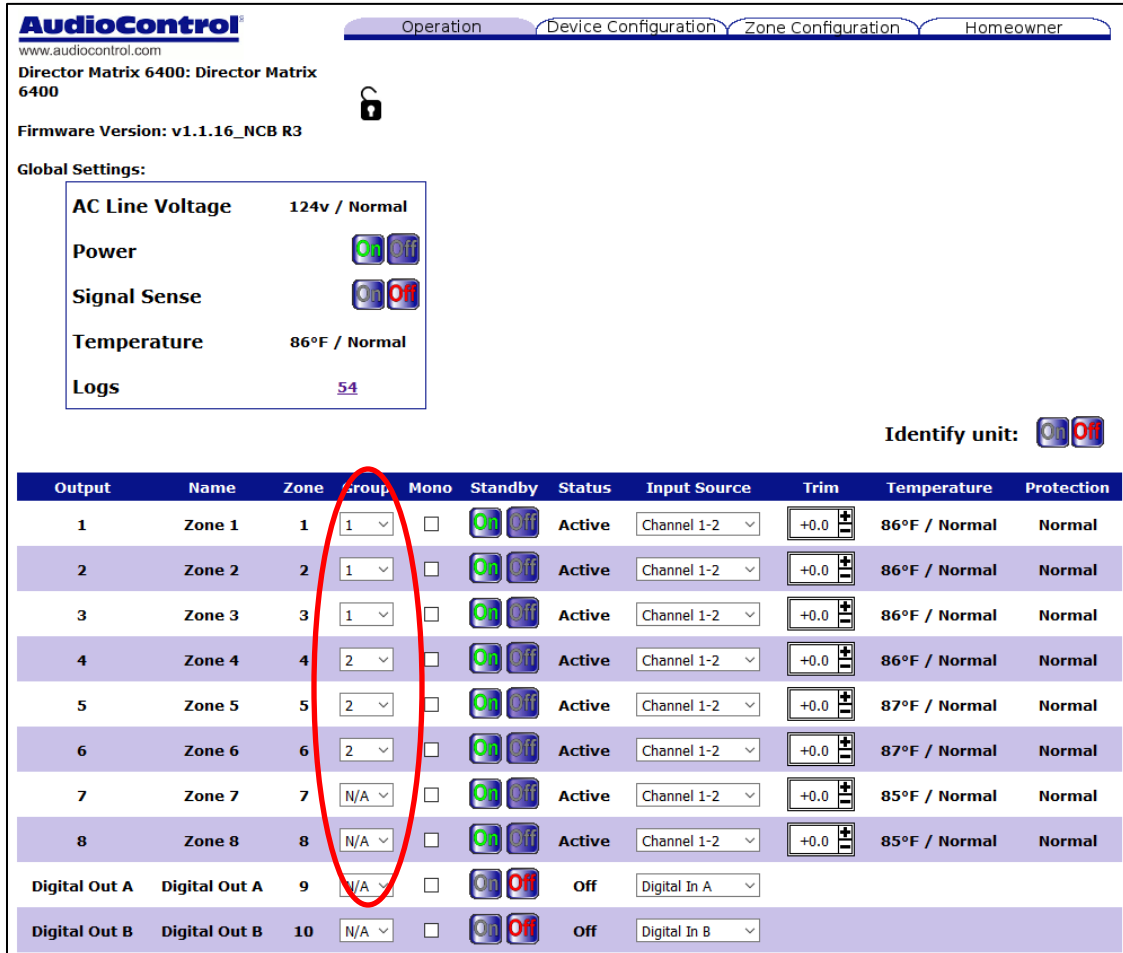
Zone to Group mapping

By default, each Control4 Zone will control the AudioControl Zone that corresponds to it, i.e. C4Z1 controls ACZ1, C4Z2 controls ACZ2, etc. However, it is possible that you have multiple outputs in a single room, and therefore would want to group those outputs. In this example we will consider the following set up:

Kitchen	Lounge	Gym	Bedroom
One output	Three outputs	Three outputs	One output

In this setup, we'd want the lounge and gym to be grouped with the kitchen and bedroom remaining as separate zones.

The first thing we'd need to do is to set up the M6400 zones using its web interface.
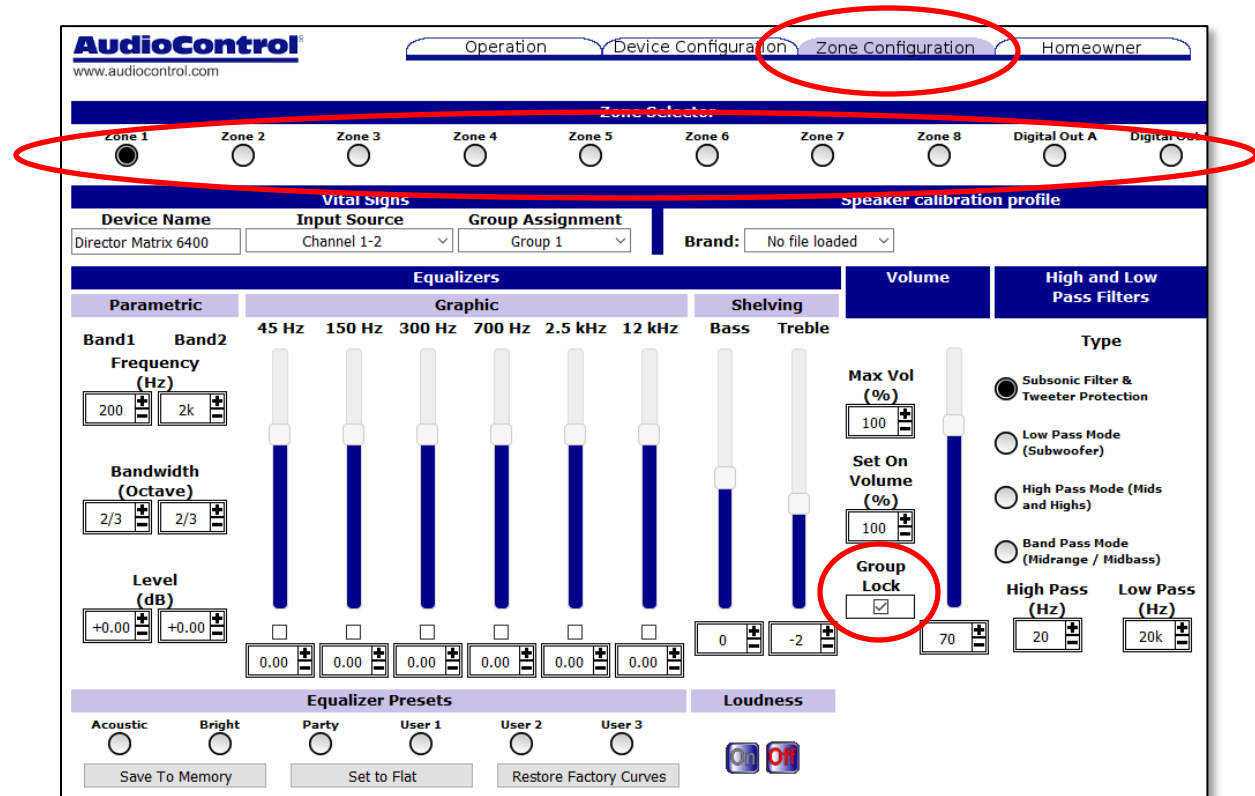

Figure 6: AudioControl web setup (M6400)

So in this scenario
- Zones 1-3 will be the Lounge
- Zones 4-6 will be the Gym
- Zone 7 will be the Kitchen
- Zone 8 will be the Bedroom

Note that grouping for digital zones is not officially supported by this driver.

Once you have set the groups, you must set the Group Lock option for each zone which is part of a group. This is done on the Zone Configuration tab:

Figure 7: Group locking on web interface

PLEASE NOTE: *If you do not set the Group Lock feature, then group volume commands will not work.* If an C4 zone is set as an AudioControl group (in the properties), this means that you will not be able to adjust volume for that group.

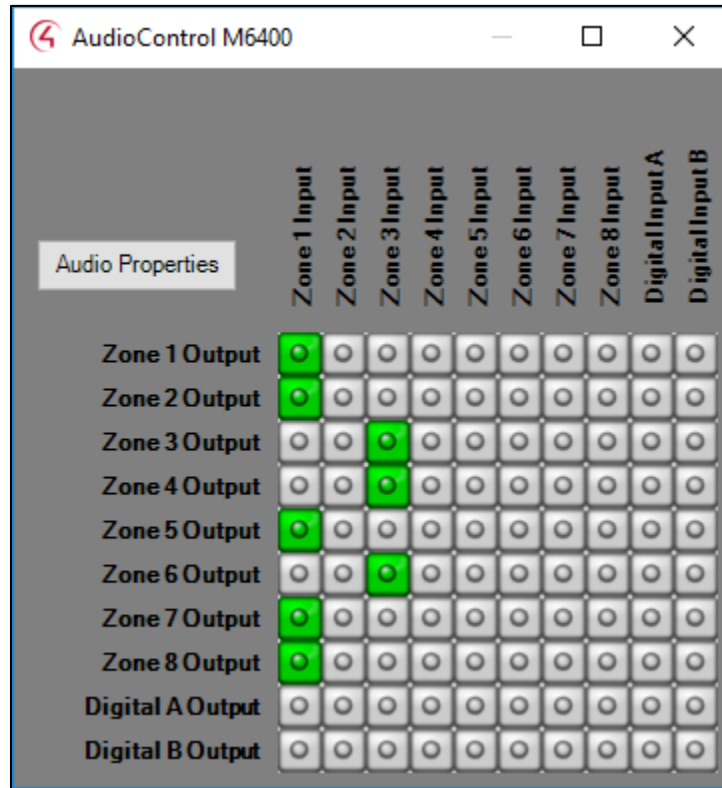We would then set up the driver zone mapping as follows:

Figure 8: Group setup in Composer

You would then set up your connections in C4 something like this:

Control & Audio Video Connections				
AudioControl M6400				
Name	Type	Connection	Input/Output	Connected To
Audio/Video Outputs				
Zone 1 Output	Audio	STEREO	Output	Lounge->Audio INPUT
Zone 2 Output	Audio	STEREO	Output	Gym->Audio INPUT
Zone 3 Output	Audio	STEREO	Output	
Zone 4 Output	Audio	STEREO	Output	
Zone 5 Output	Audio	STEREO	Output	
Zone 6 Output	Audio	STEREO	Output	
Zone 7 Output	Audio	STEREO	Output	Kitchen->Audio INPUT
Zone 8 Output	Audio	STEREO	Output	Bedroom->Audio INPUT
Digital A Output	Audio	DIGITAL_COAX	Output	
Digital B Output	Audio	DIGITAL_COAX	Output	
Room Control				
Zone 1 Audio End-Point	RoomControl	AUDIO_SELECTION	Output	Lounge->Audio End-Point 1
Zone 1 Audio End-Point	RoomControl	AUDIO_VOLUME	Output	Lounge->Audio Volume 1
Zone 2 Audio End-Point	RoomControl	AUDIO_SELECTION	Output	Gym->Audio End-Point 1
Zone 2 Audio End-Point	RoomControl	AUDIO_VOLUME	Output	Gym->Video Volume 1
Zone 3 Audio End-Point	RoomControl	AUDIO_SELECTION	Output	
Zone 3 Audio End-Point	RoomControl	AUDIO_VOLUME	Output	
Zone 4 Audio End-Point	RoomControl	AUDIO_SELECTION	Output	
Zone 4 Audio End-Point	RoomControl	AUDIO_VOLUME	Output	
Zone 5 Audio End-Point	RoomControl	AUDIO_SELECTION	Output	
Zone 5 Audio End-Point	RoomControl	AUDIO_VOLUME	Output	
Zone 6 Audio End-Point	RoomControl	AUDIO_SELECTION	Output	
Zone 6 Audio End-Point	RoomControl	AUDIO_VOLUME	Output	
Zone 7 Audio End-Point	RoomControl	AUDIO_SELECTION	Output	Kitchen->Audio End-Point 1
Zone 7 Audio End-Point	RoomControl	AUDIO_VOLUME	Output	Kitchen->Audio Volume 1
Zone 8 Audio End-Point	RoomControl	AUDIO_SELECTION	Output	Bedroom->Audio End-Point 1
Zone 8 Audio End-Point	RoomControl	AUDIO_VOLUME	Output	Bedroom->Audio Volume 1
Digital A Audio End-Point	RoomControl	AUDIO_SELECTION	Output	
Digital A Audio End-Point	RoomControl	AUDIO_VOLUME	Output	
Digital B Audio End-Point	RoomControl	AUDIO_SELECTION	Output	
Digital B Audio End-Point	RoomControl	AUDIO_VOLUME	Output	

Figure 9: Connections

Control 4 zones 3-6 will be unused, as the grouping means that Control 4 zones 1-2 will control them.

You can then double click on the M6400 in System Design view to show the test panel:

Figure 10: Test panel for grouping

Switching C4 zone 1 will switch AudioControl zones 1-3
Switching C4 zone 2 will switch AudioControl zones 4-6
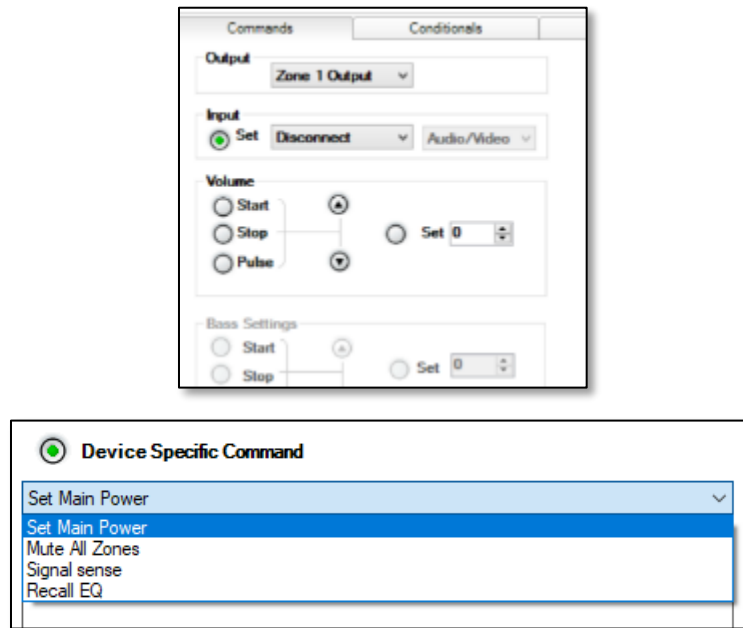Switching C4 zones 3-6 will be non-functional, as they are part of a group. You can ignore any feedback that they give. In the above picture, C4 output zones 3, 4 and 6 appear to be connected to AC input zone 3 and C4 output zone 5 appears to be connected to AC input zone 1, but **this is false feedback** and should be ignored.
Switching C4 zone 7 will switch AudioControl zone 7
Switching C4 zone 8 will switch AudioControl zone 8

Driver Commands

The driver features a number of commands used for control. Choose the **Programming** pane and select the driver in the **Device Actions** window:
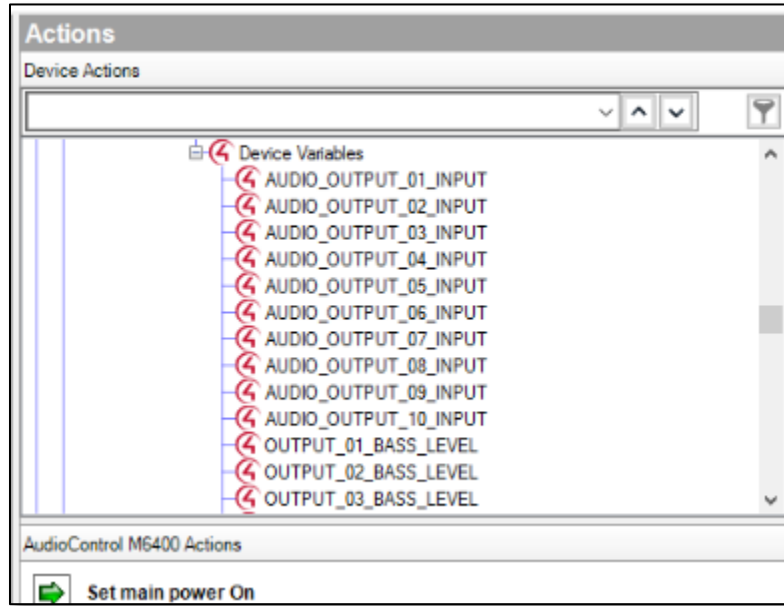

Figure 11: Driver Commands

The driver contains the usual commands found in amplifier drivers, including discrete input selection as well as the ability to raise, lower, and set volume. Additionally exposed are some Device Specific Commands; these can be seen in the drop down box in Figure 5.

Command	Description
Set Main Power	Turns the main power on or off
Mute All Zones	Mutes or unmutes all zones
Signal sense	Turns signal sense on or off
Recall EQ	Recalls an equalizer preset for a specific C4 zone (note, not for an AudioControl zone)

Driver Variables

The driver features a number of variables for each zone, which provide feedback from the system.

Figure 12: Driver Variables

Variable	Description
AUDIO_OUTPUT_*xx*_INPUT	The current input selected for zone *xx*
OUTPUT_*xx*_BASS_LEVEL	The current bass level for zone *xx*
OUTPUT_*xx*_TREBLE_LEVEL	The current treble level for zone *xx*
OUTPUT_*xx*_LOUDNESS	The current loudness state for zone *xx*
OUTPUT_*xx*_MUTE	The current mute status for zone *xx*
OUTPUT_*xx*_VOLUME_LEVEL	The current level for volume *xx*

Table 2: Driver Variables