Control4™

Audio Matrix Switch Installation and Setup Guide

Supported Models

- C4-16S2-E-B Control4® Audio Matrix Switch

Box Contents

- Control4 Audio Matrix Switch
- IEC Power Cord
- *Audio Matrix Switch Installation and Setup Guide* (this document)

Important Safety Instructions

1. Read and keep these instructions.
2. Heed all warnings and follow all instructions for this product in this and other Control4® documents included with or related to this product.
3. Improper use of this product may result in potential electric shock.
4. Do not use this product near water.
5. Never spill liquid of any kind on this product.
6. Clean this product only with a damp or dry cloth. Do not use liquid cleaners or aerosol cleaners to clean the product.
7. Install this product according to the manufacturer's instructions.
8. Install this product according to the National Electrical Code ANSI/NFPA 70 and the prevailing local codes and requirements.
9. This product should be operated with the type of power indicated on the marked label. If you are not sure of the type of power available, consult your Control4 dealer or local power company.
10. Slots and openings on a cabinet rack, and components used with this product are provided for ventilation, reliable operation, and protection from overheating of the product. These slots and openings must not be blocked or covered.
11. This product should never be placed near or over a radiator or heat register, or in a built-in installation unless proper ventilation is provided.
12. Never push objects of any kind into this product through cabinet slots because they may touch dangerous voltage points or short out parts that could result in a fire or electric shock.
13. Only use the attachments and accessories included with this product or recommended by Control4.
14. Do not allow anything to rest on the power cord. Do not install or place this product where people will walk on the cord.
15. Do not use extension cords with any products in a Control4 system.
16. If applicable, unplug this product during lightning storms or when unused for long periods of time.
17. Do not exceed the maximum wire size (if specified) in this guide.
18. This product must be installed by qualified professionals only.
19. Do not attempt to service this product yourself except as noted in this guide. Opening or removing covers of internal components may expose you to dangerous voltage points or other risks.
20. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way; for example, a power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into this product, this product has been exposed to rain or moisture, this product does not operate normally, or this product has been dropped.

WARNING! Do not expose the apparatus to dripping or splashing. Do not place objects filled with liquids near the apparatus.

AVERTISSEMENT ! N'exposez pas l'appareil à l'égoutture ou à l'éclaboussement. Ne placez pas les objets remplis de liquides près de l'appareil.

WARNING! Setzen Sie den Apparat nicht Bratenfett oder dem Spritzen aus. Setzen Sie nicht die Gegenstände, die mit Flüssigkeiten nahe dem Apparat gefüllt werden.

WARNING! To reduce the risk of fire or electrical shock, do not expose this apparatus to rain or moisture.

AVERTISSEMENT ! Pour réduire le risque du feu ou de choc électrique, n'exposez pas cet appareil à la pluie ou à l'humidité.

WARNING! Um die Gefahr des Feuers oder des elektrischen Schlages zu verringern, setzen Sie diesen Apparat nicht Regen oder Feuchtigkeit aus.

IMPORTANT! Using this product in a manner other than outlined in this document voids your warranty. Further, Control4 is NOT liable for any damage incurred with the misuse of this product. See "Limited 2 Year Warranty."

IMPORTANT ! Employer ce produit en quelque sorte autre que décrit dans ce document vide votre garantie. De plus, Control4 n'est pas responsable d'aucun dommage encouru avec l'abus de ce produit. Voyez que « a limité la garantie de 2 ans. »

WICHTIG! Das Verwenden dieses Produktes in gewissem Sinne anders als umrissen in diesem Dokument hebt Ihre Garantie auf. Weiter ist Control4 NICHT für irgendeine Beschädigung verantwortlich, die mit der Fehlanwendung dieses Produktes genommen wird. Sehen Sie, daß „begrenzte eine 2 Jahr-Garantie."

WARNING! Equipment must be connected to a Mains socket outlet with a protective earthing connection.

ADVERTISSEMENT! L'équipement doit être relié à une sortie de douille de forces à un raccordement de mise à la terre protecteur.

WARNUNG! Ausrüstung muss an einen Hauptleitungseinfaßungsanschluß mit einem schützenden Erdunganschluß angeschlossen werden.

IMPORTANT! To avoid generating excessive heat, do not stack Speaker Points on top of each other or other equipment.

IMPORTANT ! Pour éviter de produire de la chaleur excessive, n'empilez pas les points de haut-parleur sur l'un l'autre ou tout autre équipement.

WICHTIG! Um übermäßige Hitze zu erzeugen zu vermeiden, stapeln Sie Lautsprecher-Punkte nicht auf einander oder andere Ausrüstung.
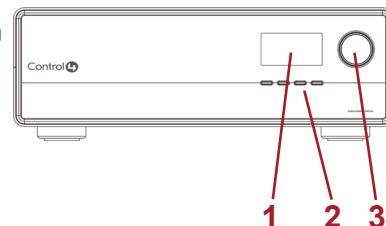
Features and Benefits

- Switches up to 16 input sources to up to 16 simultaneous output zones.
- Adjustable gain, treble, bass, and balance for each zone
- Audio sensing on inputs
- Device chassis is three standard rack units (RU) tall and rack mountable conforming to EIA 19" rack standards (5.25" x 17.34" x 14")
- Communicates with control devices via Ethernet 10/100 port and ZigBee (a wireless standard for mesh-networking).

Backlighting feature turns on with any button push or Select Dial push and stays lit for a preset time (default is 30 seconds).
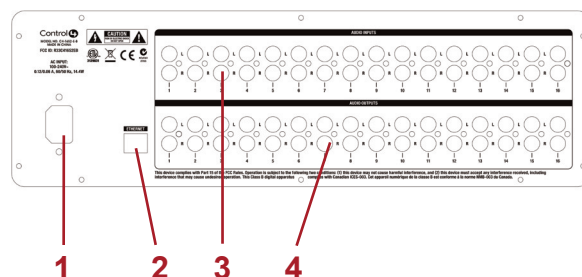
Front and Rear Panel Description

Front Panel

1. **Front Display**— For displaying or setting audio switch settings and navigating system menus.

2. **Buttons**— For choosing options or menus displayed in the front panel user interface.

3. **Select Dial**— For scrolling through and selecting screen elements or options displayed in the LCD.

Back Panel

1 Power Plug Port — For standard IEC cord (included). Supports universal AC input (100-240 VAC 50/60 Hz).

2

Ethernet — Ethernet RJ-45 port for a 10/100 MB Ethernet connection.

3 Audio In (Left-Right Pairs) 1-16 — RCA jacks for stereo channel input for up to 16 stereo analog sources.

4

Audio Out (Left-Right Pairs) 1-16 — RCA jacks for stereo channel line output for up to 16 amplifiers.

Product Specifications

Inputs	
# of Channels	16 L/R Stereo Pairs
Input Connectors	RCA Jacks
Input Impedance	10 kW typical
Nominal Input Level	-14 dBV
Maximum Input Level	+4 dBV
Outputs	
# of Channels	16 L/R Stereo Pairs
Output Connectors	RCA Jacks
Output Impedance	50 W typical
Nominal Output Level	-14 dBV
Maximum Output Level	+4 dBV
Zone (Output) Control	
Available Gain	Mute (-75 dB) to -40 to +8 dB
Treble	-12 to +12 dB, 2 dB steps, High Shelving EQ
Bass	-12 to +12 dB, 2 dB steps, Low Shelving EQ
Balance	L/R
Input Power Requirements	
Voltage	100-240V~
Frequency	50/60 Hz
Amps	0.12/0.06 Amps
Watts	14.4 Watts

Source Inputs

Each of the 16 signal sensing analog audio inputs (the RCA style ports) is labeled 1-16 for each individual source.

Audio Outputs

The system automatically creates generic source names displayed in the front of the device. To change these names, you must update your system using Composer Pro. For more information, refer to the documentation that shipped with your Control4 Controller or contact your Control4 Installer or Reseller.

Front Display

The best method of initially setting up system routing for the Audio Matrix Switch is using Composer Pro. You can also make adjustments from the front display.

The front display lets you set or change audio source routing and change zone settings for volume, bass, treble, and mute. The display also shows the current source and zone activity.

Set Up the Audio Matrix Switch

This device operates as part of the Control4 home system, which requires physical and logical connections to function as designed.

Essential setup tasks include:

1. Connect input and output devices
2. Connect to the network and power
3. Set up logical connections
4. Static IP modifications

This section describes, in general terms, how to set up physical connections required for the Audio Matrix Switch and all associated devices. Refer to any device-specific documentation for additional installation instructions.

To set up the logical connections required, refer to Control4 *Composer Pro User Guide* for details.

Connect Input and Output Devices

1. Connect audio source devices (such as CD Changers or players, tuners, iPods, or tape players) you want included in the system to the Audio In jacks.
2. Connect amplifiers or amplified speakers as needed to the Audio Out jacks.

Connect to the Network and Power

1. If you are using an Ethernet connection for the Audio Matrix Switch, plug the data cable from the home network connection into the Audio Matrix Switch RJ-45 port (labeled Ethernet) and the network port in your wall or at the network hub or switch.
2. Connect the power cord provided into the back of the Audio Matrix Switch and to the power outlet. When the power cord is connected, the Audio Matrix Switch should power up.

Set Up Logical Connections

Physical and logical connections are required in order to control, navigate, and use the Audio Matrix Switch as designed.

So far you have set up the physical connections for the Control4 Audio Matrix Switch. To complete the logical setup, trained installers must use a PC connected (and with Control4 Composer software installed) to the home network. If you are a trained Control4 installer, refer to the Control4 Composer Help file.

Network Configuration

To set the network configuration:

1 At the In to Out Assignments screen, press the **Network** button.

2 On the Network Configuration screen, choose an Ethernet or ZigBee network by rotating and pressing the Select dial.
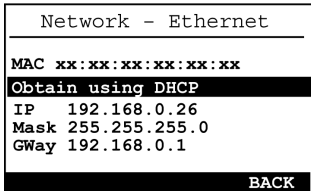
> **IMPORTANT!** When making logical connections in Composer, identify the device as the network type (Ethernet or Zigbee) that you choose on the device network configuration. To avoid unexpected behavior, do not identify the device as both network types.
>
> **IMPORTANT!** En établissant les rapports logiques dans le compositeur, identifiez le dispositif comme type de réseau (Ethernet ou Zigbee) ce vous choisissent sur la configuration réseau de dispositif. Pour éviter le comportement inattendu, n'identifiez pas le dispositif en tant que les deux types de réseau.
>
> **WICHTIG!** Wenn Sie logische Beziehungen im Komponisten herstellen, identifizierenen Sie die Vorrichtung als die Netzart (Ethernet oder Zigbee) diese Sie wählen auf der VorrichtungsNetzwerkkonfiguration. Um unerwartetes Verhalten zu vermeiden, identifizierenen Sie die Vorrichtung nicht als beide Netzarten.
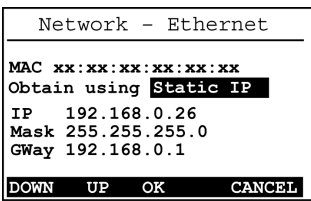
3 If the switch is set to use a ZigBee network, the EUID, Gateway, and ZigBee channel number are displayed. This screen has these menu options:

- **Identify**: When identifying the switch in Composer, press this button.
- **Back**: Returns to the Network Configuration screen.

4 If the switch is set to use an Ethernet network, the MAC address, method of obtaining a network IP address, the device's IP address, Subnet Mask, and Gateway are displayed.

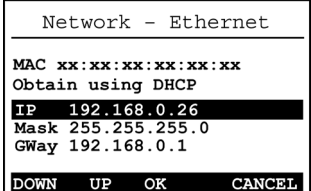The Audio Matrix Switch, by default, uses DHCP to obtain a network IP address.

```
    Network – Ethernet

MAC xx:xx:xx:xx:xx:xx
Obtain using DHCP
IP   192.168.0.26
Mask 255.255.255.0
GWay 192.168.0.1

                    BACK
```

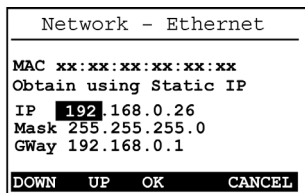If the local area network does not support DHCP, you can configure the switch to use a Static IP address instead:

a Press the **Select** dial to enter edit mode.

b Press the **Down** or **Up** button (or rotate the Select dial) to choose Static IP.

```
    Network – Ethernet

MAC xx:xx:xx:xx:xx:xx
Obtain using Static IP
IP   192.168.0.26
Mask 255.255.255.0
GWay 192.168.0.1

DOWN   UP   OK     CANCEL
```

a Press **OK** (or press the **Select** dial).

b Press **Save** (or press the Select dial).

5 Edit the IP, Mask, and Gateway fields for the Static IP network: Use the Select dial to select a line, and then press the dial.

```
    Network – Ethernet

MAC xx:xx:xx:xx:xx:xx
Obtain using DHCP
IP   192.168.0.26
Mask 255.255.255.0
GWay 192.168.0.1

DOWN   UP   OK     CANCEL
```

Use the Select dial to scroll the number up or down and edit as needed, and then press the Select dial to move to the next field within the number.

```
Network - Ethernet

MAC xx:xx:xx:xx:xx:xx
Obtain using Static IP
IP  192 .168.0.26
Mask 255.255.255.0
GWay 192.168.0.1

DOWN   UP   OK      CANCEL
```

6 When you're finished editing, press **Save**.

Use Audio Matrix Switch

This section introduces the user interface available to Audio Matrix Switch users and common system tasks you can perform with the Audio Matrix Switch from the front display.

Note: Following initial setup, you may never need to change settings on the Audio Matrix Switch manually. This device is managed by the Control4 system. The use of this section is completely optional.

This device assists in fulfilling a room-specific music request. To play music, use a Navigator available for the room to choose a specific music source or a device. That device may or may not need to make use of this switch.
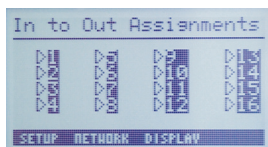
View Output Assignments

When you complete the physical and logical setup tasks, you can view or change setup configuration in the Audio Matrix Switch front display.

When you power up the Audio Matrix Switch, the following System Status screen appears momentarily.

```
Control 4

16 Channel Switch
    AVE-16AS
   ver 00.05.05
```

The System Status screen is then replaced by the In to Out Assignments screen.

```
In to Out Assignments

D1   D5   D9   D13
D2   D6   D10  D14
D3   D7   D11  D15
D4   D8   D12  D16

SETUP  NETWORK  DISPLAY
```

When you make an assignment, the screen displays the assignment. For example, Output 1 is mapped to Input 1.

```
In to Out Assignments

1 D1   D5   D9   D13
  D2   D6   D10  D14
  D3   D7   D11  D15
  D4   D8   D12  D16

SETUP  NETWORK  DISPLAY
```
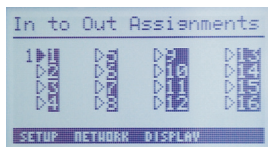
Manage Outputs

View Output Assignments

To view output assignments:

1 Ensure your Audio Matrix Switch is powered up and that the In to Out Assignments screen displays in the front display.

2 On the In to Out Assignments screen, view the current input-to-output assignments.

```
In to Out Assignments

1 D1   D5   D9   D13
  D2   D6   D10  D14
  D3   D7   D11  D15
  D4   D8   D12  D16

SETUP  NETWORK  DISPLAY
```

The screen consists of 16 output zones and any assigned input source. The shaded arrow indicates the Output currently selected.
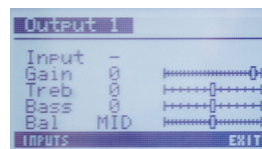
To explore these menu options, press the buttons on the front panel:

- **Setup**: Displays an output-specific screen. The most recent screen accessed is displayed by default, but you can choose to view a different output's setting by changing the Output number.
- **Network**: Displays the Network Configuration screen. From this screen, you can select Ethernet or Zigbee.
- **Display**: Displays the Display Configuration Screen.

Configure an Output

To change output source or settings:

1 On the Output to Input screen, press the **Setup** button to view the output settings of the default output screen (which is the last output screen accessed).

```
Output 1

Input  -
Gain   0    ═══════════╪═
Treb   0    ═══╪═══════
Bass   0    ═══╪═══════
Bal    MID  ═══════╪═══

INPUTS              EXIT
```
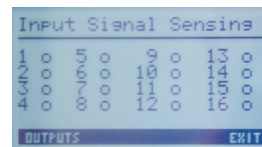
From the output screen, you can: (1) change to another output screen; (2) change the output settings on the screen; or (3) toggle to the Input Signal Sensing screen.

2 If the output-specific screen you want to view did not display, use the Select Dial to highlight and select the output number and then change it.

3 (Optional) Change settings for the current output using the supported ranges:

- **Input**: Displays the number of the currently assigned input source and any label given to the input source. You can change this setting to any available input sources.
- **Gain**: Supported range: Mute and -44 to +4 dB (default: 0 dB)
- **Treble**: Supported range: -12 to +12 dB (default: 0 dB)
- **Bass**: Supported range: -12 to +12 dB (default: 0 dB)
- **Balance**: Supported range: -50 to +50dB (default: 0 dB)

4 To toggle to view input signal sensing information, press the Inputs button.

5 To exit the screen, press the Exit button.

6 Rotate the Select Dial to highlight a setting.

7 Press the Select Dial to enter edit mode.

8 Rotate the dial to change the setting; then press the dial to Save the new setting and exit edit mode or, to exit without saving, use the Cancel button.

9 Press the Inputs button to go to the Input Signal Sensing screen, or press the Exit button to return to the Output to Input screen.

Check Signal Status

1 From the Output to Input screen, press the **Setup** button, and then press the **Inputs** button to access the Input Signal Sensing screen.

```
Input Signal Sensing

1 o   5 o   9 o   13 o
2 o   6 o   10 o  14 o
3 o   7 o   11 o  15 o
4 o   8 o   12 o  16 o

OUTPUTS              EXIT
```

2 On the Input Signal Sensing screen, a shaded circle appears by the device connection number of any input device with a signal present.
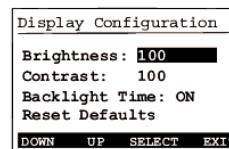
View Network Settings

To view network settings:

1 Press Network.

2 From the Network Configuration screen, select Ethernet or Zigbee.

3 To return to the Network Configuration screen, press Back.

Set Front Display Preferences

To set your viewing preferences for the front display:

1 On the Output to Input screen, press the **Display** button. The Display Configuration screen appears.

```
Display Configuration

Brightness:  100
Contrast:    100
Backlight Time: ON
Reset Defaults

DOWN   UP   SELECT   EXIT
```

Use the buttons and/or the **Select** dial to choose a setting to change: When you press the Select button (or press the dial), you enter edit mode.

In edit mode, use the buttons or Select dial to change the highlighted setting then press the OK button (or press the dial) to save the change and exit.

- **Brightness**: Supported range: 0 to 100
- **Contrast**: Supported range: 0 to 100
- **Backlight Timeout**: Supported settings are:
  - OFF (always off)
  - 1 to 90 seconds (default is 30 seconds)
  - ON (always on)
  - **Reset Defaults**: Restores factory defaults.

Regulatory Compliance

IMPORTANT! Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

North America

FCC/Industry Canada

FCC ID: R33C416S2EB / IC : R33C416S2EB

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This Class B digital apparatus complies with Canada ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Electrical Testing Laboratory (ETL)

This product has been tested by ETL and has been found to be in compliance with:UL 60065, CAN/CSA C22.2 No. 60065-03, IEC 60065, 7th Edition. "Audio, Video and Similar Electrical Apparatus — Safety Requirements"

ETL
INTERTEK
LISTED
c us
3129831

Australia/New Zealand

This product has been tested to the requirements of, and shown to be in compliance with, the following standards:

- AS/NZS 4771:2001 +A1 2003

N14161
Z703

Limited 2-Year Warranty

For complete warranty information, including details on consumer legal rights as well as warranty exclusions, visit www.control4.com/warranty.

Recycling

For information on recycling, please go to www.control4.com/recycling.

About this Document

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