# C-Bus®

## CLIPSAL®
by Schneider Electric

## C-Bus Multi Room Audio Matrix Switcher

multi room audio

## Matrix Switcher 560884/2 & 560884/2E

The C-Bus Multi-Room Audio (MRA) System Matrix Switcher provides the ability to take inputs (known as sources) and direct them to amplifiers (known as zones) as desired. The Matrix Switcher also includes a number of internal sources that can be output to zones.  All user control of the Matrix Switcher is through the C-Bus system, where it's also possible to adjust the volume, bass, treble as well as select and control sources. The control is provided by C-Bus devices such as wall switches, DLT switches, touchscreens and Wiser Home Control. C-Bus is connected to the Matrix Switcher through RJ45 sockets (2) located on the rear of the unit.

Four analogue stereo inputs are provided to take the line-level audio feed from Audio/Visual (A/V) devices through RCA sockets on the rear of the unit. A separate optical (digital) connection is also provided so that devices such as a DVD player can be connected to the system, with a loop through to other equipment such as an A/V receiver.

Two mono audio inputs are provided for broadcasting audio messages to all zones simultaneously for instances where intercom or public address announcements may be desired. On-board storage support for up to four sound files that can be used as doorbells, triggered from C-Bus events is also supported.
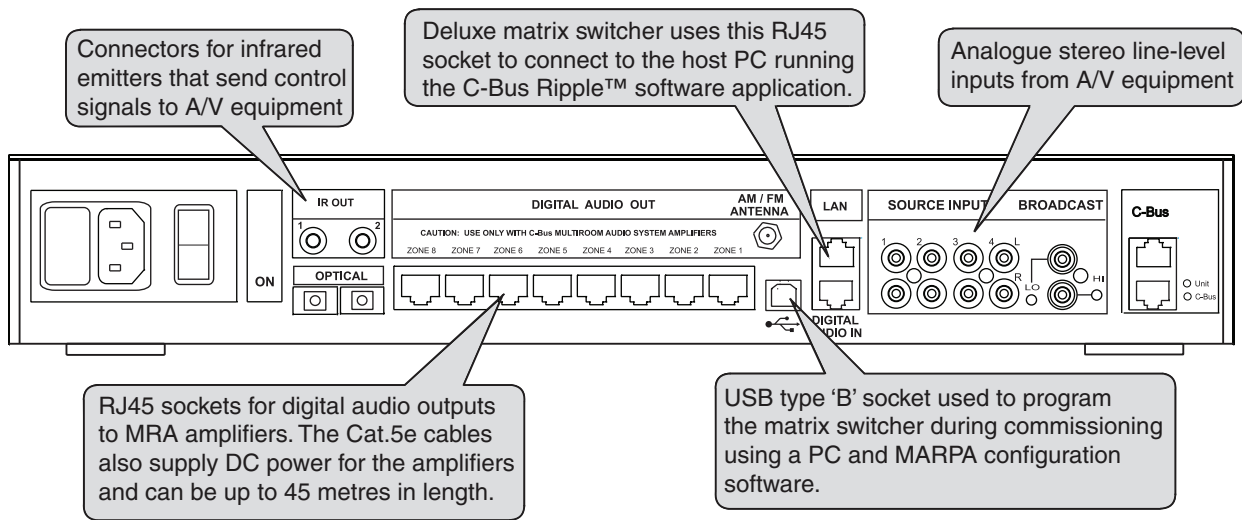
The Matrix Switcher supports the connection of an Audio Distribution Unit (Cat. # 560011) should an additional stereo line-level input be required. Note the Audio Distribution Unit will also require a power supply. All sources connected to the system have individual preamp gain adjustment to ensure consistent volume levels across sources.

Audio distribution from the matrix switcher is performed using a category 5 cable that can be up to 45 metres in length while also providing power to the amplifiers as well as a return path for reticulated infrared signals.

The Deluxe model of the matrix switcher, includes a Local Area Network (LAN) connection on the rear panel that supports an MP3 streaming feature that is used with the C-Bus Ripple MP3 streaming software.  Digital MP3 music can be streamed directly from the host computer running the software, to the matrix switcher while the control of the stream (play, pause stop etc), can be controlled through C-Bus.  C-Bus Ripple also includes the ability to configure Internet radio stations that can be streamed to the matrix switcher.  Should no zone be listening to an MP3 or Internet radio, the stream will be paused to conserve bandwidth, or in the case of the Internet stream, download data. The Standard matrix switcher does not support MP3 streaming, but may be upgraded at a later stage.

The front panel of the matrix switcher includes a quick connection option for user convenience. The Deluxe model of the matrix switcher also includes a USB connection for attaching USB drives that contain MP3 files.  The MP3 track information is extracted and broadcast onto C-Bus for display on touchscreens while the track navigation can be controlled using the transport control feature (play, pause, next track etc) over C-Bus. The front panel also supports an Auxiliary input socket that can accommodate 3.5mm stereo connection from the headphone output of devices such as a personal MP3 players.
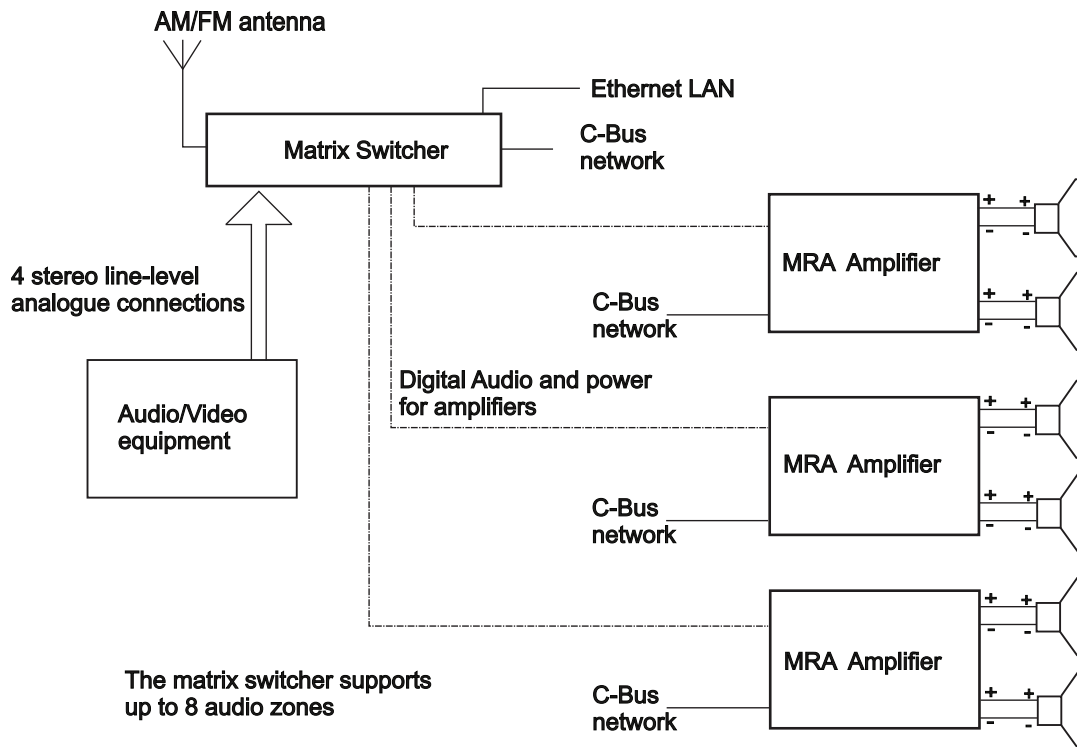
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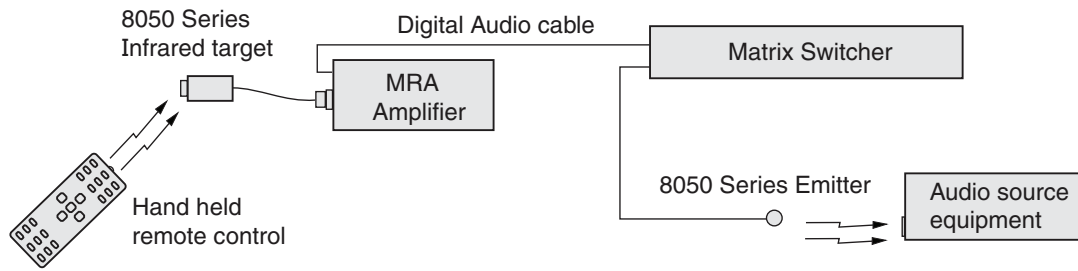# C-Bus® Multi Room Audio Matrix Switcher 560884/2 & 560884/2E

Connectors for infrared emitters that send control signals to A/V equipment

Deluxe matrix switcher uses this RJ45 socket to connect to the host PC running the C-Bus Ripple™ software application.

Analogue stereo line-level inputs from A/V equipment

IR OUT
DIGITAL AUDIO OUT
AM / FM ANTENNA
LAN
SOURCE INPUT
BROADCAST
C-Bus

1    2

ON

CAUTION: USE ONLY WITH C-Bus MULTIROOM AUDIO SYSTEM AMPLIFIERS
ZONE 8   ZONE 7   ZONE 6   ZONE 5   ZONE 4   ZONE 3   ZONE 2   ZONE 1

OPTICAL

1  2  3  4  L
R  LO  HI

DIGITAL AUDIO IN

○ Unit
○ C-Bus

RJ45 sockets for digital audio outputs to MRA amplifiers. The Cat.5e cables also supply DC power for the amplifiers and can be up to 45 metres in length.

USB type 'B' socket used to program the matrix switcher during commissioning using a PC and MARPA configuration software.

The matrix switcher has the optional capability of announcing the name of an input source whenever the source is selected. This annunciation is broadcast through the speakers in the zone when the input source changes.

The matrix switcher includes dual internal AM/FM tuners with the ability to configure up to 16 shared preset stations that can be individually selected. The station ID of the selected radio station, is broadcast onto C-Bus for display on devices such as touch screens and DLT switches.

The station list can be cycled through by the user or a desired station can be selected instantly by a preset number. Station selection can also be included in scenes, which is convenient for morning wakeup scenarios. The front display of the matrix switcher reports the station ID, frequency and signal strength of both tuners. The antenna connection for both AM and FM is through a single coaxial connection on the rear of the matrix switcher.

AM/FM antenna

Ethernet LAN

Matrix Switcher

C-Bus network

4 stereo line-level analogue connections

MRA Amplifier

C-Bus network

Digital Audio and power for amplifiers

Audio/Video equipment

MRA Amplifier

C-Bus network

The matrix switcher supports up to 8 audio zones

MRA Amplifier

C-Bus network

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# C-Bus® Multi Room Audio  Matrix Switcher 560884/2 & 560884/2E



8050 Series
Infrared target

Digital Audio cable

Matrix Switcher

MRA
Amplifier

Hand held
remote control
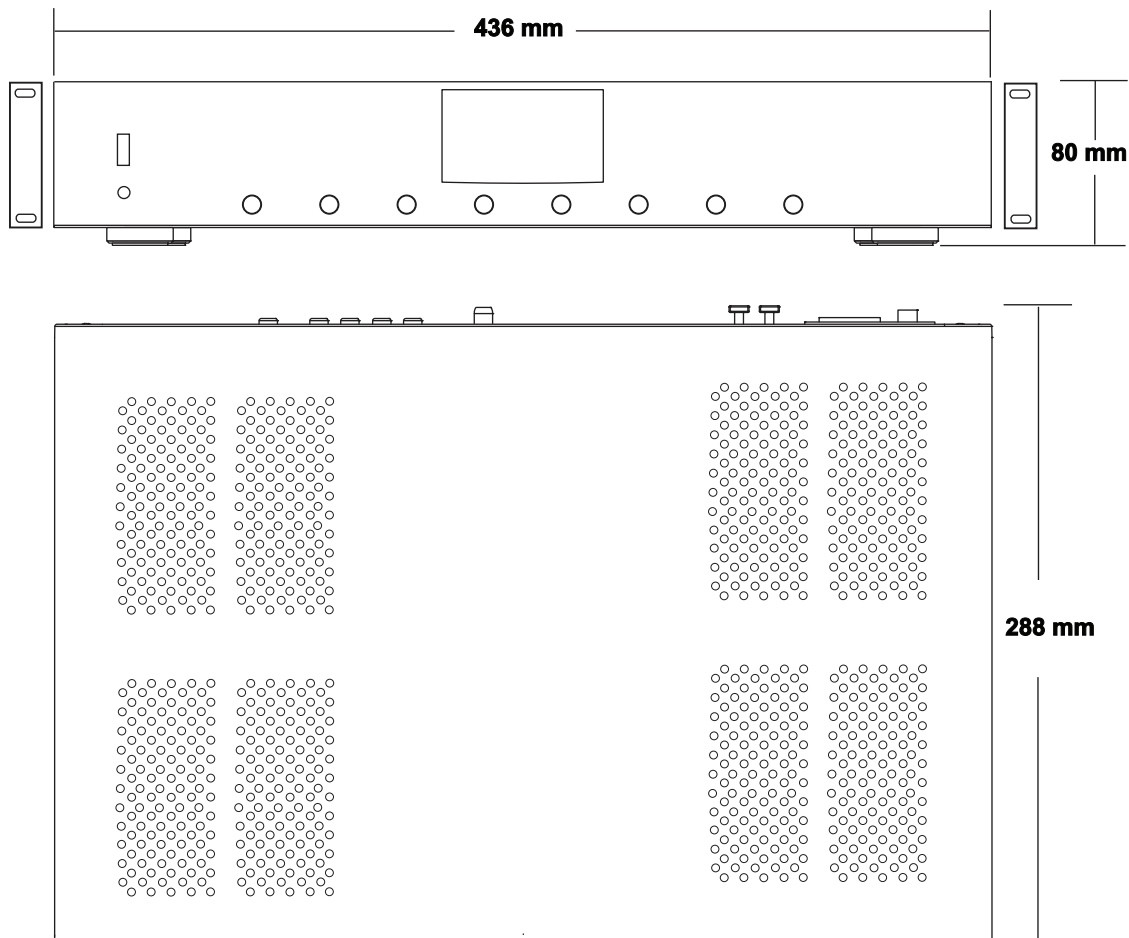
8050 Series Emitter

Audio source
equipment

Note:  The digital audio and power cable provides the infrared
signal path from the amplifier to the matrix switcher.

The matrix switcher supports both Infrared (IR) reticulation and IR blasting through the dual emitter ports located on the rear of the unit.  IR Reticulation is when remote signals received by an amplifier are sent back to the matrix switcher and can be blasted out of the emitter ports so that remote control extension can be achieved from remote locations.

IR blasting allows for learned IR codes to be loaded into the matrix switcher so that commands can be triggered by C-Bus events, to send IR commands.

The matrix switcher is designed to be installed in a location where audio/visual equipment is installed such as an A/V cabinet or an equipment rack. The black anodised finish of the matrix switcher ensures it matches with other equipment while the standard width makes it perfect for installation into an equipment rack with the supplied rack mounting ears.



436 mm

80 mm

288 mm

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# C-Bus® Multi Room Audio  Matrix Switcher 560884/2 & 560884/2E

## Electrical Specifications

| Parameter | Description |
|---|---|
| Catalogue numbers | Standard Matrix Switcher:  560884/2<br>Deluxe Matrix Switcher (with streaming): 560884/2E |
| Supply voltage | 100 - 240 V a.c. |
| Mains frequency range | 47 - 63 Hz |
| Mains connnection | IEC connection socket |
| AC impedance | 47 K$\Omega$ |
| Power consumption | 220 W maximum |
| C-Bus supply voltage | 15 to 36 V d.c. |
| C-Bus sink current | 22 mA. Does not provide power for the C-Bus network. |
| Network clock and burden | Software selectable |
| C-Bus connections | 2 x RJ45 sockets |
| Source input signal level | 2.8 V p-p maximum (47 k$\Omega$) |
| A/D conversion | 16-bit PCM |
| Local Area Network (LAN) | Single RJ45 (deluxe model only) |
| Infrared Emitter connection | 2 x 3.5 mm sockets for infrared emitters |
| Digital Zone Output | 8 x zone connections - RJ45 sockets |
| Source inputs (back) | 4 x Line-level stereo analogue - RCA connections<br>1 x Optical (digital) loop through -Toslink<br>1 x Digital - RJ45<br>2 x Priority broadcast (1 high, 1 low) - RCA connections |
| Source inputs (front) | AUX 1 x headphone level 3.5 mm stereo socket<br>USB drive connection (deluxe model only) - USB type A |
| Tuners | Dual analogue radio tuner - AM (520 - 1710 kHz)<br>FM (76 - 108 MHz) Up to 16 preset stations |
| Antenna connection | Single F-type connection |
| Operating temperature | 0 to 40º C (32 to 104º F) |
| Operating Humidity | 10 to 90% RH, non-condensing |
| Dimensions | 436 W x 288 D x 80 H (2 RU high for rack mount |
| Weight | 6 kg (13.3 lb) |
| Includes | 1 x Matrix Switcher<br>1 x pair of rack mount ears and screws<br>1 x 2 metre IEC mains connection lead<br>1 x 1.5 metre Ethernet lead (deluxe model only)<br>1 x programming lead (USB A male to USB B male)<br>1 x Installation Instructions<br>1 x User's Guide |

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