Technical Information

Inputs:
Type: 8x analogue (up to 16), unbalanced and electronically balanced, line-level
Connectors: RCA and 3 pin Euro block
Sensitivity: -30dBu to +14dBu
Impedance: 50K Ohms
Input clip level: +14dBU
Digital resolution: 24-Bit

Outputs:
Type: 8x analogue, unbalanced and electronically balanced, line-level
Connectors: RCA and 3 pin Euro block
Impedance: 150 Ohms
Maximum output level: 18dBu Balanced, 12dBu Unbalanced
Bass/Treble control: +/-12dBu, in steps of 1 dB
Digital resolution: 24-Bit

Signal Processing:
Type: 48-bit floating point, Digital Signal Processors
Sampling Rate: 96 kHz
Audio Latency: <1ms
Delay: 10ms, in steps of 0.05ms

Frequency response:
20 Hz to 20 kHz (+0dB,-0.3dB)

THD:
<0.007% (A-weighted, 0dBu in/0dBU out)
Channel separation:
>103 dB @ 1kHz, 0dBu

Signal-to-noise ratio:
>100dB, A-weighted,
THD <0.02%, balanced in/out
>100dB, A-weighted,
THD<0.02%, unbalanced in/out

Components in main rack:

ControlSpace™ AMS-8 Twin Input Card (CS-TIC):
Dual line-level input card, with RCA and 3 pin Euro block connector per input

Twin Output Card (CS-TOC):
Dual line-level output card, with RCA and 3 pin Euro block connector per output.

RS232/GPIO Card:
RS232 port: D-Sub (Female), 9 pin.
GPIO: 8x contact closure, 9 pin Mini-DIN for message and room combining activation

RS485 Card:
RS485 (high speed): two 3-pin Euro blocks
RS485 (low speed): two 3-pin Euro blocks

Memory Card:
4Mbit

LCD Display:
240x64 pixels, with backlight

Fusing:
160mA fast-blow (230V)

ACCESSORIES

ControlSpace™ AMS-8 Wall Controller (CS-WC):

Features:
> LCD-display with backlight and 2x12 characters
> Display shows selected source and volume step
> Source names can be changed with Live Installer Software
> Maximum volume level can be set using the Live Installer Software
> Off indicator
> Infrared receiver
> Other cover plates available

Communication:
RS485, 2x 3 pin screw terminal. Maximum distance 600m (with recommended cable), 120 ohm termination.

ControlSpace™ AMS-8 Remote Control (CS-RC):

IR Remote control to control ControlSpace™ AMS-8 Wall controller.

ControlSpace™ AMS-8 Local Input Module (CS-LIM):

Features:
> line-level input
> mic-level input
> gain adjustment for microphone (32 to 66dB)

Line output connector:
Balanced line-level, 3 pin screw terminal.

ControlSpace™ AMS-8 Paging Panel (CS-PP):

Features:
> 16 buttons, programmable for one or more zones
> select all button
> de-select all button
> talk button
> 4 message buttons (to be used with message storage card)
> flush mount option

Line output connector:
Balanced line-level, 3 pin screw terminal.

Communication:
RS485, 3 pin screw terminal. Maximum distance 600m (with recommended cable), 120 ohm termination.

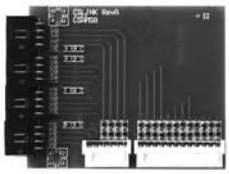
ControlSpace™ AMS-8 Message Storage Card (CS-MSC):

To store up to 120 pre-recorded messages and/or other audio files
> 40 messages can be activated by the Paging Panel
> 40 messages can be activated by the event scheduler
> 40 messages can be activated by GPI contacts
PC-Software to record and manage messages for installer and end-user included.

ControlSpace™ AMS-8 PC Kit:

Includes Ethernet card and Privileged User Software. Allows the installer to configure and commission the system from within each individual zone. Allows the end-user remote control of: source selection, volume, room combining, scheduled events, paging, messaging and tuner preset selection. May replace physical wall controllers and paging panels.

ControlSpace™ AMS-8 Audio Link Card:

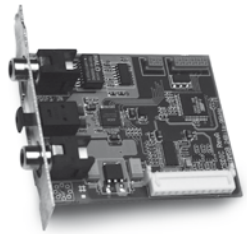


16 line-level outputs to connect to second AMS-8 system rack, using optional AMS-8 audio link cable set.

ControlSpace™ AMS-8 Twin Input Card (CS-TIC):

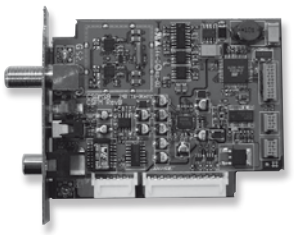
To be used as 2 mono or 1 stereo analogue input.

ControlSpace™ AMS-8 Digital Input Card (CS-DIC):



To be used as a stereo digital input (optical and coaxial) or to link the Digital audio signal from the Message Storage Card or Twin Tuner Card to a slave rack.

ControlSpace™ AMS-8 Twin Tuner Card (CS-TTC):



To add 2 mono tuners or 1 stereo tuner as a source into a ControlSpace™ AMS-8 system. Enables remote control over Station preset; with RDS station ID. Contains analogue and digital output to link to slave rack. Consider combined use with PC-Kit.

ControlSpace™ AMS-8 Serial Code Interface (CS-SCI):

The Serial Code Interface converts serial codes, send from or to external control devices.

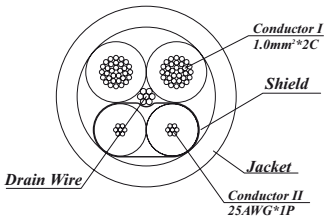
ControlSpace™ AMS-8 RS485 (CS-HUB):

RS485 Hub allows star-networking or doubling the maximum distance from 600m to 1200m between ControlSpace™ AMS-8 and hardware user interfaces.

ControlSpace™ AMS-8 Power supply:

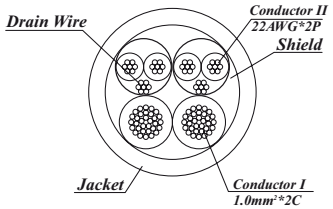
24Vdc, 2.7A stabilized. Use to power CS-WC, CS-LIM, CS-PP, CS-SCI and CS-HUB.

ControlSpace™ AMS-8 CS-WC/PP cable:



Cable to connect ControlSpace™ AMS-8 Wall Controller, Paging Panel and R485 Hub to ControlSpace™ AMS-8

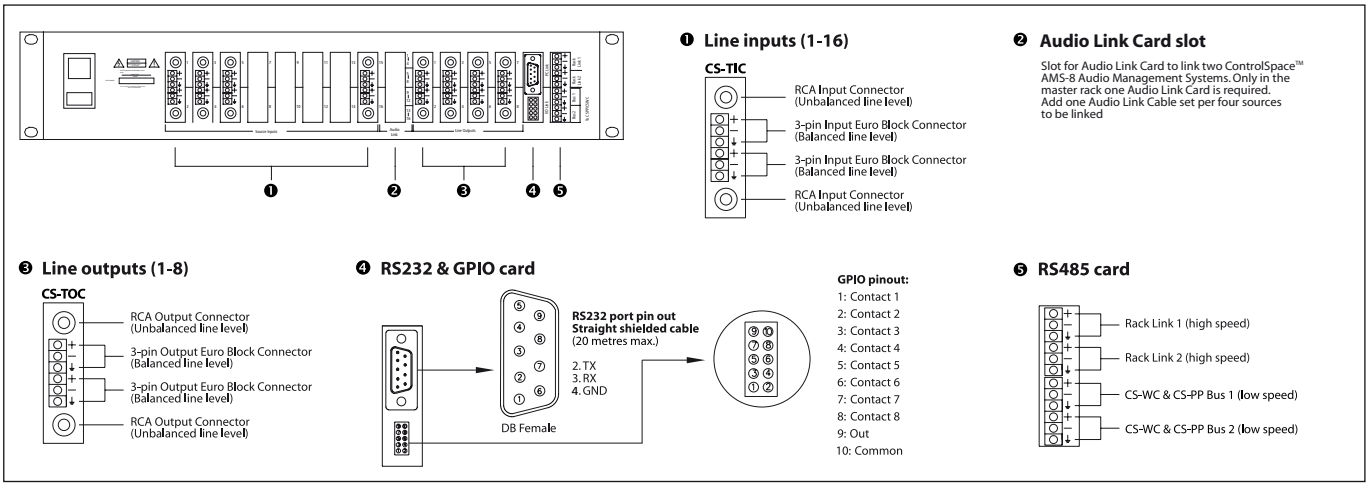
ControlSpace™ AMS-8 CS-LIM cable:



Cable to connect ControlSpace™ AMS-8 Local Input Module to ControlSpace™ AMS-8

Specifications:

ControlSpace™	Power Supply	Power Consumption	Size (HxWxD in mm)	Weight
AMS-8	90-264 Volt AC (47-63 Hz)	37 Watt maximum	88 x 485 x 285	4,5 kg
CS-WC	12-24 Volt DC	0.7 Watt maximum	80 x 115 x 48	0,12 kg
CS-LIM	24 Volt DC	1.5 Watt maximum	80 x 115 x 48	0,12 kg
CS-PP	12-24 Volt DC	1.7 Watt maximum	43 x 210 x 212	1,5 kg
CS-SCI	24 Volt DC	1.2 Watt maximum	60 x 105 x 115	0,2 kg
CS-HUB	24 Volt DC	1.2 Watt maximum	60 x 105 x 115	0,2 kg



General description

The Bose ControlSpace™ AMS-8 Audio Management System is an integrated 8x8 digital sound processor which allows easy and flexible management of multi-room audio, message and paging distribution into mono or stereo zones.

AMS-8 Live Installer Software, included with each unit, makes it easy to configure and service the AMS-8 system. Optional are privileged user software and single user software to control the AMS-8 via Ethernet. To control the AMS-8 or change its system settings, the navigation buttons and LCD-display can be used. The wall controller can be used to control a single zone, but also to change some of the system settings for a single zone wherein the wall controller is placed. Local input modules can be placed in any room. This allows a local source (like line or mic) to become available in that room only, or in all rooms. Serial codes will be available to control the AMS-8 by Crestron, AMX or other control systems. External contact closures can be used to activate the room combine presets (automatic room combining) and the message router.

An internal exchangeable memory card stores all system settings, source and room names.

With capacity for 8 (up to 16) mono or 4 (up to 8) stereo source inputs, AMS-8 provides the inputs needed for most (business) music installations, up to 80 zones (AMS link cards and cables are required).

As a single component, the AMS-8 provides the processing and control features required for 1 up to 8 mono (1 up to 4 stereo) zone business music installations.
These features include:

> Messaging (requires optional Message Storage Card)
> Paging
> Room combining (manual/auto)
> Event scheduling
> Loudspeaker EQ for Bose speaker products, or 16 Band Graphic Equalization
> Dynamic EQ
> Room Equalization (bass/treble)
> Signal routing
> System Diagnostics
> Serial control (requires optional Serial Code Interface)
> Digital Audio inputs (requires optional Digital Input Card)
> FM-tuner (requires optional Twin Tuner Card)

ControlSpace™ AMS-8 architects' and engineers' specifications

The system shall use digital signal processing, running at a 96 kHz sample rate. The frequency response shall be from 20 Hz to 20 kHz (0dB,- 0.3dB). The signal-to-noise ratio shall be greater than 100dB A- weighted.
The total harmonic distortion shall be smaller than 0.007% A-weighted. The channel separation shall be greater than 103dB at 1kHz. The system shall have 8 analogue inputs, both unbalanced and electronically balanced.
The number of inputs shall be expandable up to 16. The system shall have 8 analogue outputs, both unbalanced and electronically balanced. The AMS-8 system shall be expandable up to 80 outputs.

The maximum input level shall be +14dBu and the maximum output level shall be +18dBu. Both inputs and outputs shall have a digital resolution of 24-Bit.

Each unit shall include RS232, RS485 and general purpose inputs and outputs. A 4Mbit memory module shall store all system settings.

Programming of the unit shall be possible by using the navigation buttons and LCD-display on the system rack itself or by using the PC Live Installer Software or by using the wall controller to program a single zone (limited settings).
The system shall allow separate control of source selection and volume setting on a wall controller displaying the actual settings.
The system shall allow local input of mic or line sources in specific rooms, which may be made available in that room or in all rooms.

The system shall run the following algorithm and controls:
> Input gain
> Source selection
> Signal routing
> Event Scheduling
> Dynamic EQ
> Room EQ (Bass & Treble)
> Loudspeaker EQ for Bose speaker products or 16 Band Graphic EQ
> Output level control
> Room combining (manual/auto)
> Messaging
> Paging
> System Diagnostics
> Serial Control

The system shall be the ControlSpace™ AMS-8 Audio Management System II from Bose.

Regulatory information

The Bose ControlSpace™ AMS-8 Audio Management System complies with the following regulations: EN-55103-1, EN-55103-2 and EN-60065 6th edition for CE marking.

Warranty information

The Bose ControlSpace™ AMS-8 Audio Management System is covered by a 5-year, transferable limited warranty.

BOSE® ControlSpace™ AMS-8 Live Installer Software

ControlSpace™ AMS-8 Live Installer Software from Bose makes it easy to configure the AMS-8 system, using a Windows PC. The Live Installer Software is a copyrighted application in Sound System Software from Bose. A copy of the AMS-8 Live Installer Software is included in the box with each AMS-8 system.

Features and control settings

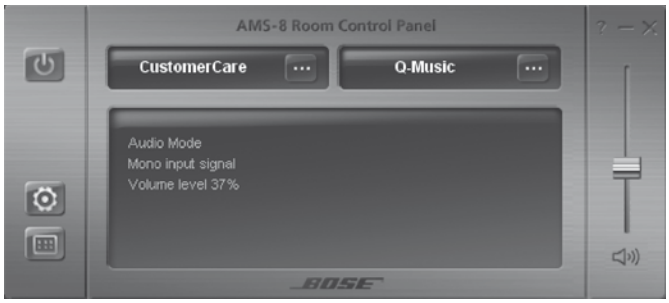
> Input gain
> Input type
> Mono/Stereo selection
> Source selection
> Signal routing
> Event scheduling
> Dynamic EQ
> Room EQ (Bass & Treble)
> Loudspeaker EQ for Bose® speaker products /16 Bands Graphic EQ
> Output level control
> Output limiting
> Room combining
> Massaging/Contact closure settings
> Paging/Key-settings
> System Diagnostics
> Date & Time settings
> Password settings
> Factory settings
> Tuner Setup
> Firmware upgrade

System requirements for AMS Live Installer Software:

> Hardware
– Minimum 1GHz Pentium based PC
– 56MB free RAM
– CD-ROM player
– 50MB free internal hard disk space
– Operating system(s) Windows 2000, Windows XP and higher
> Display
– 1024x768 resolution (recommended minimum)
– 16 bit colour (32-bit recommended)

For further information, contact Bose Professional Systems Division.

BOSE® ControlSpace™ AMS-8 Privileged User Software



ControlSpace™ AMS-8 system Privileged User Software from Bose makes it easy to control the AMS-8 system, using a Windows PC. The Priviliged User Software is a copyrighted application in Sound System Software from Bose. A copy of the AMS-8 Privileged User Software is included in the box with each AMS-8 system.

Features and control settings

> Paging Panel
  – Paging
  – Message activation
> Room Control Panel
  – Source control
  – Volume control
> Presets & Events Panel
  – to activate Event scheduling presets
  – to activate Room Combining presets

System requirements for Privileged User Software:

> Hardware
  – Minimum 1GHz Pentium based PC
  – 256MB free RAM
– CD-ROM player
– 50MB free internal hard disk space
– Operating system(s) Windows 2000, Windows XP and higher
> Display
  – 1024x768 resolution (recommended minimum)
  – 16 bit colour (32-bit recommended)

For further information, contact Bose Professional Systems Division.

BOSE® ControlSpace™ AMS-8 Digital Paging Panel

The Digital Paging Panel will automatically adjust to the configured number of paging zones and groups of paging zones.