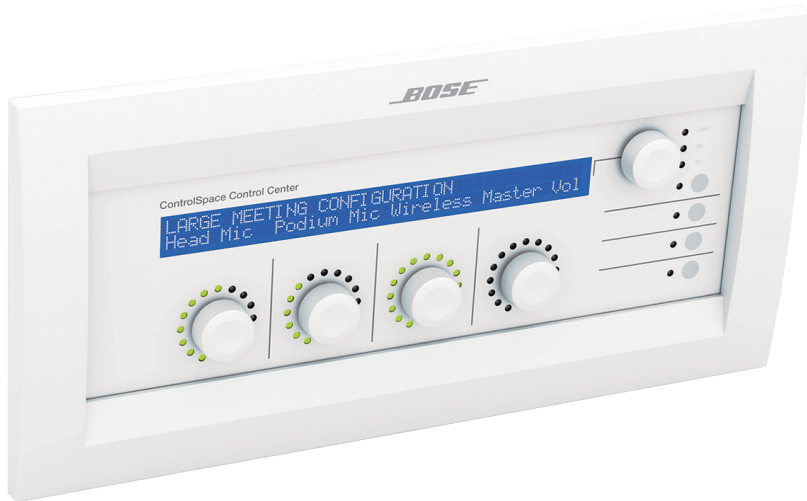**BOSE**

PROFESSIONAL

ControlSpace CC-64
Control Center

Safety Instructions

&

Install Guide

Important Safety Instructions

For the intended audience

This guide has been written for professional installers of sound systems.

1. Read these instructions – for all components before using this product.

2. Keep these instructions – for future reference.

3. Heed all warnings – on the product and in the installer's guide.

4. Follow all instructions.

5. Do not use this apparatus near water or moisture.

6. Clean only with a dry cloth – and as directed by Bose Professional.

7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.

8. Do not install near any heat sources, such as radiators, heat registers, stoves or other apparatus (including amplifiers) that produce heat.

9. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way such as: power-supply cord or plug is damaged; liquid has been spilled or objects have fallen into the apparatus; the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped. Do not attempt to service this product yourself. Opening or removing covers may expose you to dangerous voltages or other hazards. Please call Bose Professional to be referred to an authorized service center near you.

10. Do not let objects or liquids enter the product – as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock.

11. See product enclosure for safety related markings.

12. Only use attachments/accessories specified by the manufacturer.

Information about products that generate electrical noise

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, this 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, you are encouraged to try to correct the interference by one or more of the following measures:

Important Safety Instructions

- Reorient or relocate the receiving antenna.

- Increase the separation between the equipment and receiver.

- Connect the equipment to an outlet on a different circuit than the one to which the receiver is connected.

- Consult the dealer or an experienced radio/TV technician for help.

Note: *Unauthorized modification of the equipment could void the user's authority to operate this equipment.*

This product complies with the Canadian ICES-003 Class B specifications.

The information furnished in this install guide does not include all of the details of design, production, or variations of the equipment. Nor does it cover every possible situation which may arise during installation, operation, or maintenance. If you need assistance beyond the scope of this user's guide, please contact our Customer Service department.

Caution

Check local regulations before installing the ControlSpace™ CC-64 control center. The building code may require professional installation by a skilled technician or licensed contractor. Regional electrical codes may require similar qualifications for wiring the system. This product must be used with a Class 2 power supply.

Please read this install guide

The CC-64 control center is engineered to provide customized on-site controls for ControlSpace sound systems. Please read this guide to help you install and use your control center correctly.

Regulatory information

C€ This product conforms to all applicable EU directive requirements. The complete Declaration of Conformity can be found at **www.Bose.com/compliance**.

UK CA This product conforms to all applicable Electromagnetic Compatibility Regulations 2016 and all other applicable UK regulations. The complete declaration of conformity can be found at: **www.Bose.com/compliance**

An example of this equipment has been tested and found to comply with the following International Standards for Electromagnetic Compatibility:

Radiated Emissions (EU) EN55103-1
Immunity (EU) EN55103-2
Radiated Emissions (USA): FCC part 15 Class B
This Class B device meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Introduction

The Bose Professional ControlSpace CC-64 control center is an elegant, programmable, networked controller that provides users with a simple and logical interface to their ControlSpace system. Because the controller is completely programmable, you can customize the ControlSpace system, making only certain controls available, and simplifying user interaction with the system.

The CC-64 provides four rotary encoders with circular LED arrays for a user-friendly method of managing gain settings or scene selections. A fifth encoder provides control over programmed "scenes" or presets. Four bank switch buttons redefine the four Gain/Selector control knobs, providing quick access for up to 16 system gain controls or selectors. A large, 2-line by 40-character backlit LCD provides the user with the names of the system elements they are controlling (gains, presets, etc.).

Using custom programming, the CC-64 can manage a variety of system elements, including audio sources, scene selection settings, and specific system configurations. Each gain control can be ganged so that a single control can be mapped to as many as sixteen system gains. The CC-64 also supports a "custom mode" – intended for installers, not end users – in which any parameter in the system can be viewed and changed using the LCD display and control knobs.

The CC-64 is a 10Base-T Ethernet device. Up to sixteen CC-64s can be used per ControlSpace system.

Introduction

Features

- 2-line by 40-character backlit LCD

- Sixteen Gain/Selector controls (four banks of four)

    – Four rotary encoders for changing the gain level or selecting scenes/sources

    – Each encoder includes a 15-segment LED array for indicating the control's current level or state

    – The encoders feature push buttons for muting gain controls or making selections

    – Ten character descriptions of the gain controls appear on the LCD above the encoder

- Four bank switch buttons with label area

- Lock function in software prevents local changes

- 10Base-T Ethernet network based

- Sixteen CC-64s per ControlSpace™ system

- Power over Ethernet cable or separate cable

- LEDs for status, link and network transmit/receive

- Fits standard 5-gang electrical box

Importer Information

Limited Warranty

Your product is covered by a limited warranty. Visit **BoseProfessional.com/Warranty** for warranty details.

Front Panel
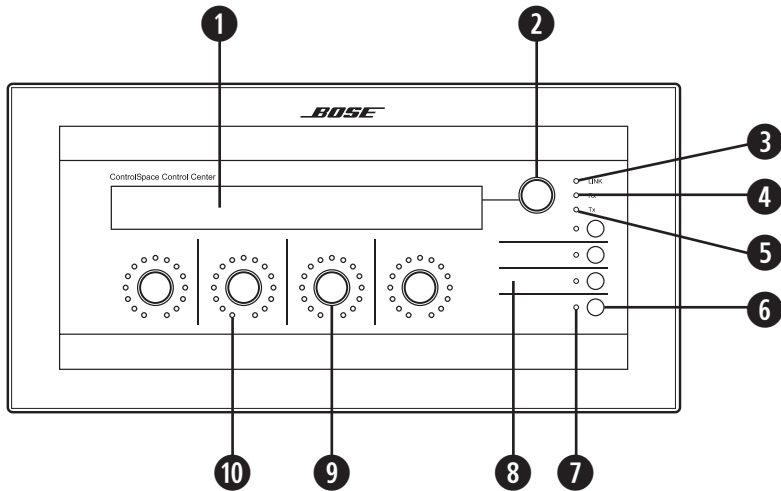
Functions

1. **LCD**

2. **Preset/Scene selector**
   Rotate to view presets. Push to select.
   Push and hold for 5 seconds to enter Custom mode.

3. **Network link indicator**

4. **Network receive indicator**

5. **Network transmit indicator**

6. **Bank select buttons (4)**
   Press to select one of four bank controls

7. **Bank select indicators (4)**
   |Indicates the currently selected bank

8. **Bank select label area**
   1.25" (31.75 mm) x .35" (9 mm) area for custom labels.
   Accepts standard 3/8" (9 mm) label stock.

9. **Gain/Selector control knob**
   Rotary encoder (no stops). Push to mute.

10. **Gain/Selector level indicators (15 levels/selections)**

Installation

Quick Start

What you will need:

- The following items are needed for most installations:
- 5-gang electrical wall box
- UTP Cat-5 cable terminated with RJ45 plugs (standard Ethernet wiring)
- Ethernet hub
- Power supply (not included with the CC-64)

⚠️ **WARNING:** *The product must be connected to a limited-power (<240VA) power supply.*

Step 1: Wiring

Run a Cat-5 cable from a hub or router to the CC-64 location. Run a separate, 2-conductor power cable from the power supply location to the CC-64. In some cases, power can be provided over the Cat-5 cable.

Step 2: Install a mounting box if necessary

The CC-64 can be installed in a rack or podium, and can be wall-mounted. For wall-mount applications, a standard North American 5-gang electrical box is recommended.

Step 3: Connect wires

Connect the Ethernet cable to the CC-64's network jack (RJ45) and connect the PC, ESP-88 and control center to the same hub or router. Connect the power cable to the control center's power plug (or, if using power over the Cat-5, remove the back box and move the jumpers to the appropriate position). Insert the unit into the electrical box and attach using the provided screws.

Step 4: Run the ControlSpace™ Designer software

You must run the ControlSpace™ Designer software to configure the CC-64. You must also have a ControlSpace Engineered Sound Processor (ESP-88) connected for the control center to work. See the ControlSpace Designer software user's guide for more information.

CAUTION: *The building code may require professional installation by a skilled technician or licensed contractor.*

Connections

Installing the wall box

We recommend steel, 5-gang, masonry boxes for wall-mounting. Install the wall box so that it is flush or just below the surface of the finished wall. Select a place that is convenient for users. We suggest mounting the unit at eye level for optimal LCD viewing angle.

CAUTION: *Do not install the control center in a box that has AC power (mains).*

CAUTION: *Do not place the power or network cables in the same conduit with the mains wire unless you are sure that special regulatory insulation requirements have been met. Consult your local electrical regulatory agency for further information.*

Wiring the control center

The CC-64 uses standard 10Base-T Ethernet wiring such as unshielded Cat-5 cable. If using only one control center and one ESP-88, you can wire the control center directly to the ESP-88 with a crossover cable. However, for programming you will need a hub and standard Ethernet cables so that the PC, ESP-88, and control center can be connected at the same time.

Power supply

The CC-64 requires a minimum of 300mA at 15V. For convenience and consistency, we recommend locating the power supply in an equipment area with the network connection.

The CC-64 can get power over the network cable, from a local power supply, or from a remotely located power supply with a separate run of cable. The required cable AWG is dependent on the length of the run – the longer the run, the higher the voltage drop in the cable and the lower the required cable AWG.

Use the ControlSpace™ accessory power supply or other suitable supply. Individual country requirements are:

• North America: Power supplies used in North America must be NRTL listed and/or CSA certified Class 2 supplies, as appropriate.

• Europe: Power supplies used in Europe must be in compliance with EN/IEC62368-1.

• Japan: Power supplies used in Japan must be in compliance with DENAN Law and have the PSE mark.

CAUTION: *Never use more than one power supply on the same wire. This could cause slight differences in voltage that could short circuit currents and damage the power supplies and/or the CC-64 control center.*
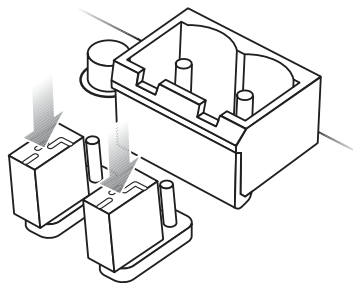
Connections

Changing the power input jumpers

Power can be supplied directly to the 2-terminal Phoenix connector or over the Ethernet cable. By default, the CC-64 is configured for power from the power connector. If you choose power over the Ethernet cable, remove the four screws on the rear cover and move the two jumpers as shown below.
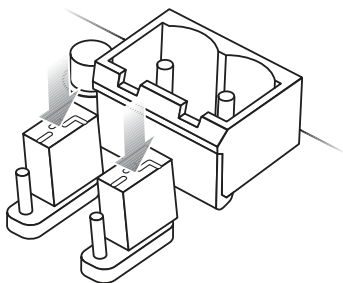
Power from power
connector setting
(Default)

Power from Ethernet
connector setting

Power-over-Ethernet wiring

The following table lists the pin-outs for the RJ45 plug (on the cable) that is to be used with the CC-64.

RJ45 Plug Wiring

RJ45 Plug	Color	Function
1	WHITE/orange	Transmit Data+
2	ORANGE/white	Transmit Data–
3	WHITE/green	Receive Data+
4	BLUE/white	Power (optional)
5	WHITE/blue	Power (optional)
6	GREEN/white	Receive Data–
7	WHITE/brown	Ground (optional)
8	BROWN/white	Ground (optional)

Connections

Wiring a power supply to the RJ45 plug

The diagram below illustrates how to connect a power supply to inject power over the Ethernet connection. Connect the ground wire from the supply to the BROWN/white and WHITE/brown wires of the Cat-5 cable. Connect the power wire from the supply to the BLUE/white and WHITE/blue wires of the Cat-5 cable.

CAUTION: Cut the brown and blue pair wires when connecting power to the CC-64 over the Ethernet connection. Connecting power over the Ethernet cable to other devices such as routers may cause damage to that equipment.
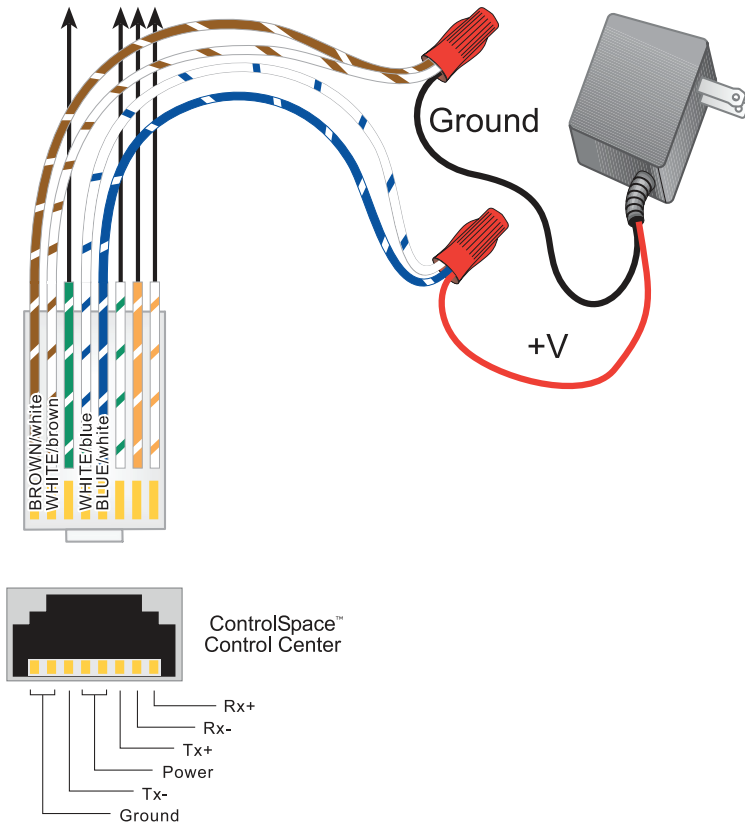
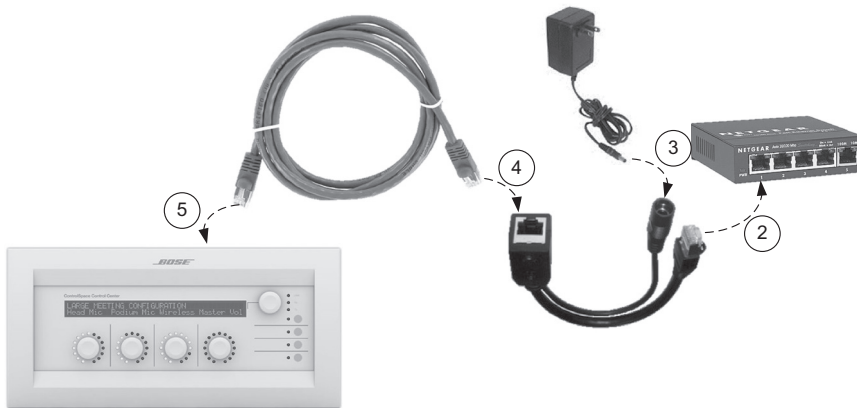# Connections

Using the power-over-Cat-5 adapter

The Bose Professional ControlSpace CC-64 now ships with a power-over-Cat-5 adapter.

Using the enclosed adapter eliminates the need to splice the Cat-5 cable to connect a power supply as shown on page 10.

To use the enclosed power-over-Cat-5 adapter:

1. Move jumpers to the **Power from Ethernet** setting as shown on page 9.

2. Connect the RJ45 plug on the adapter to the Ethernet switch.

3. Connect the power supply to the coaxial connector on the adapter.

4. Connect one end of a Cat-5 cable to the RJ45 input on the adapter.

5. Connect the other end of the Cat-5 cable to the RJ45 jack on the CC-64.

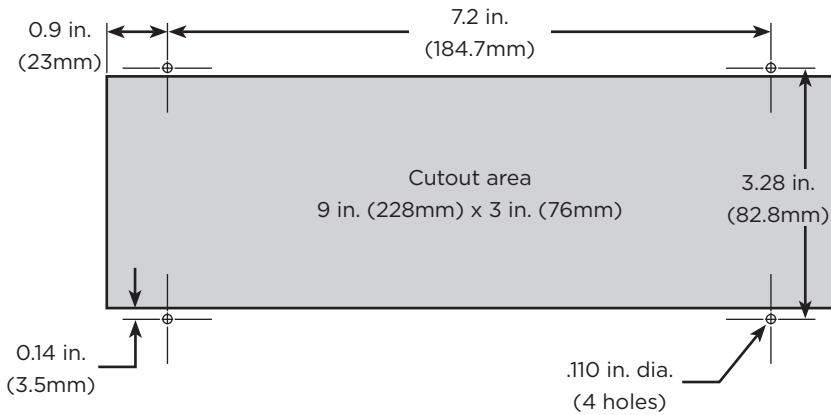Make all connections before plugging in the adapter power supply and powering on the Ethernet switch.

Troubleshooting

No power	• Ensure that power supply is wired correctly and plugged in. • Verify that the supply is DC and provides at least 300mA at 15V. • If supplying power over the Ethernet, check that jumpers behind the back panel are in the correct position. • If using the power-over-Cat-5 adapter, verify that the RJ45 plug on the adapter is connected to the Ethernet switch and not to the CC-64.
Screen is blank	• Press a button to see if backlight comes on. (The backlight turns off after a period of inactivity.)
No response when Selector or Gain/ Selector control knobs are adjusted	• Check that the Selector or Gain/Selector parameters have been programmed using the Designer software. Refer to the Designer software user's guide for more information. • Check that the control has been linked (in the Designer software) to signal processing blocks in the ESP-88. • Ensure that the CC-64 address matches the address of the device you programmed in Designer. • Check that the new design was downloaded to the hardware from the Designer software.
LEDs do not change when knob is turned	• Check that the device is connected to an ESP-88 (directly, with crossover cable or via a hub with straight-through cable). • Check that the Link LED is on. (The Link LED will be on if connected to another Ethernet device and using the correct cable.) • The CC-64 may not be programmed. Use the Designer software to "map" a signal-processing object to a Gain/Selector control. • The ESP-88 may not be powered or connected to the same Ethernet hub.
Power on, but no sound	• Check that the system is not muted. • Check that other components (sources and amps) are not muted, and are wired correctly.
Cannot "find" the device in Creator	• Verify that an ESP-88 has been added to your design. • Verify that the ESP-88 "finds" the CC-64 (look for the CC-64 in the Properties window and be sure it corresponds with the address you set on the CC-64.

Reference

Mounting cutout

To mount the CC-64 in a blank rack panel, podium or other location where an electrical box is not practical, use the dimensions below as a guide for creating a cutout.
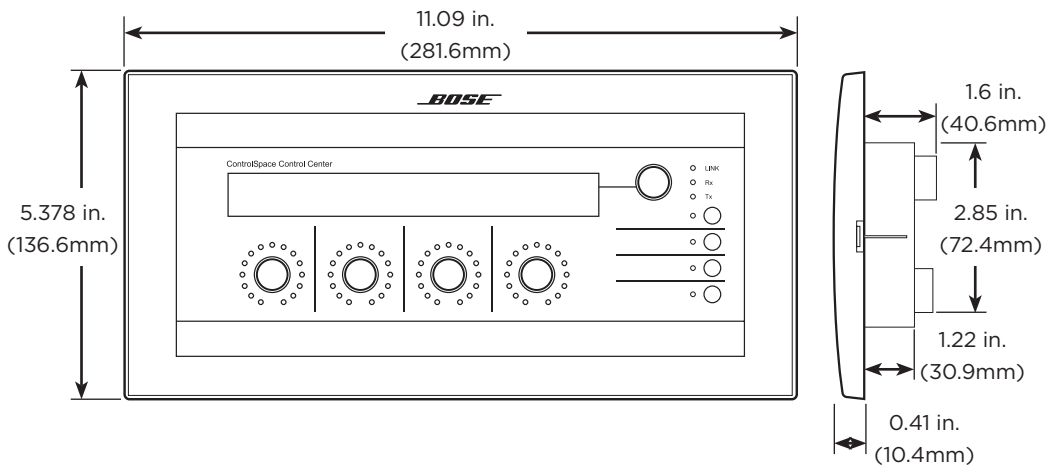

0.9 in. (23mm)

7.2 in. (184.7mm)

Cutout area
9 in. (228mm) x 3 in. (76mm)

3.28 in. (82.8mm)

0.14 in. (3.5mm)

.110 in. dia. (4 holes)

Power supply requirements

Input voltage range: 15 to 24VDC

Current requirements: 300mA (@9VDC) - 300mA (@23VDC)

Dimensions

11.09 in. (281.6mm)

5.378 in. (136.6mm)

ControlSpace Control Center

LINK
Rx
Tx

1.6 in. (40.6mm)

2.85 in. (72.4mm)

1.22 in. (30.9mm)

0.41 in. (10.4mm)

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