

## User's Guide

Control® 47C/T

Control® 47LP

Control® 47HC

Control® 45C/T

Control® 42C

Control® 40CS/T



Rev D

Product Description .....	1
Product Feature Identification.....	2
Control 40 Series Preparation .....	3
Control 40 Series Installation .....	4
Wiring Instructions .....	5-6
Grilles, Maintenance & Contacting JBL.....	7
Specifications.....	8-10

# PRODUCT DESCRIPTION

**JBL**

PROFESSIONAL

Control® Contractor 40 Series is a line of premium, in-ceiling, specialty loudspeakers that combine outstanding pattern control and consistent coverage with superior sonic performance. Featuring JBL's proprietary conical Radiation Boundary Integrator® (RBI™) technology, adapted from the groundbreaking VerTec® Series of line array loudspeakers, the Control 40 series includes five models. Built on over 60 years of JBL loudspeaker design experience, the Control Contractor 40 Series delivers outstanding performance and reliability housed in an elegant industrial design.



Control 47C/T features extended bass performance with a wide 120° of coverage that allows fewer speakers to cover a large space. Ideal for a wide variety of applications, the Control 47C/T is perfect for settings ranging from restaurant and retail to large casinos and beyond.



Control 47LP is a low-profile model intended for locations with limited above-ceiling clearance (only 5.6 inches deep) and is built on the same platform as the Control 47C/T. The system features the same great sonic character and wide 120° of coverage.



Control 47HC features a narrow 75° coverage pattern, ideal for use in highly reverberant spaces and high ceiling applications. This focused pattern helps minimize sound reflecting off of room surfaces as well as time arrival anomalies from adjacent loudspeakers, resulting in improved speech intelligibility. The Control 47HC features the same sonic character as the Control 47C/T and is ideal for busy transit centers, large convention center spaces or anywhere requiring a narrow coverage ceiling loudspeaker.



Control 45C/T is the smallest full-range Control 40 Series model, featuring wide bandwidth and smooth frequency response with a wide, even 120° of coverage, eliminating hot spots that traditional in-ceiling co-ax speakers can cause, and allowing fewer speakers to cover a large space. The Control 45C/T is ideal for a wide variety of applications where a smaller size, smooth response, and even coverage are desired.



Control 42C is an ultra-compact, mid-high range in-ceiling satellite loudspeaker designed for use with the Control 40CS/T in-ceiling subwoofer. When combined with the Control 40CS/T, the Control 42C offers an extremely natural sounding and powerful subwoofer-satellite system that is perfect for applications requiring wide bandwidth and superior sonic performance with minimal visual impact.



Control 40CS/T is a direct radiating, high impact, 8" subwoofer with a built-in passive crossover network enabling the Control 40CS/T to be used as part of a subwoofer-satellite system. When combined with the Control 42C, the Control 40CS/T offers an extremely natural sounding and powerful subwoofer-satellite system that is perfect for applications requiring wide bandwidth and superior sonic performance with minimal visual impact. The Control 40CS/T can also be used via an active crossover design with the rest of the Control Contractor in-ceiling line for superior bass response and can be operated from a 70V / 100V distributed line or in direct 8Ω mode.

*Shown with included grilles removed.*

# PRODUCT FEATURE IDENTIFICATION

(Control 47C/T Shown)

Suspension Tabs  
(Control 47C/T & 47HC models only)

Integrated Back Can

Input Connectors  
(located inside terminal well)

Two-Landing Dog Ear

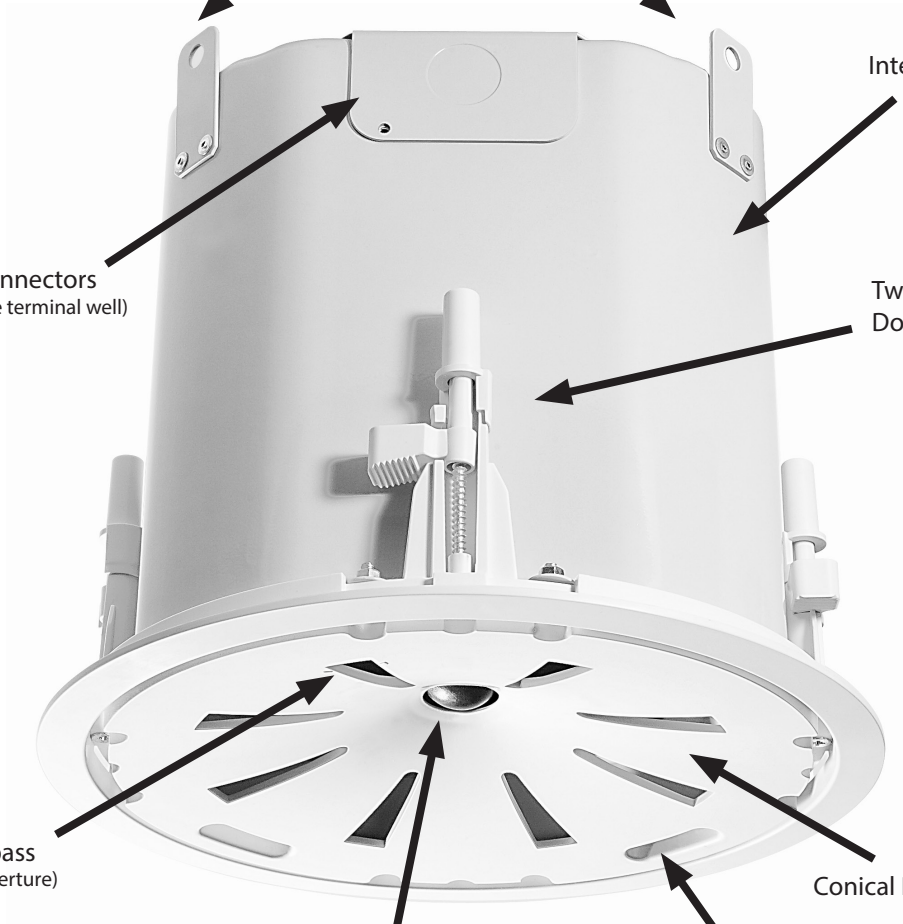
Transformer Tap / Bypass  
(located inside waveguide aperture)

Conical RBI® Waveguide

*Shown with included grille removed.*

Tweeter

Tuning Port



# CONTROL 40 SERIES PREPARATION

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The installation of the Control Contractor 40 Series in-ceiling loudspeakers can be accomplished, if necessary, without requiring access above the ceiling. Bracketry for use with either suspended ceilings or sheetrock ceilings is included (see below for additional details on the Control 42C). The loudspeaker is held securely in place via mounting ears which lock into place. Inputs are attached to a removable locking connector (included) which can be prewired before installing the loudspeaker for ultra-fast snap-on installation.

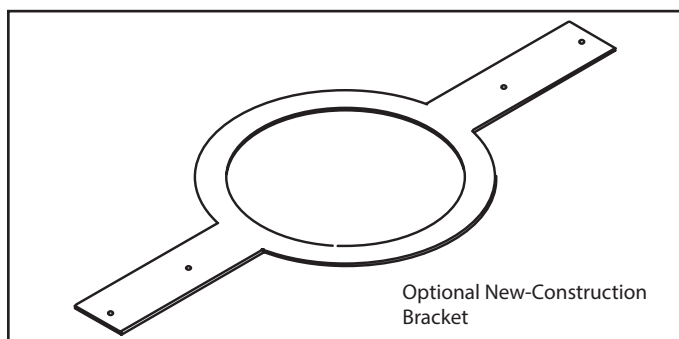
The lightweight Control 42C (0.7 kg / 1.6 lbs) includes a C-ring but does NOT include tile rails. In the event that tile rails are required, they are available as an optional accessory (MTC-Rail).

## OPTIONAL PRE-INSTALLATION BRACKETS

IN MOST CASES, NO BRACKETS OTHER THAN THE ONES INCLUDED WITH YOUR SPEAKER ARE REQUIRED. Everything needed for most installations of these loudspeakers is provided with your Control Contractor 40 Series in-ceiling loudspeakers.

Installation into sheet rock (typically gypsum board) can be facilitated by the use of JBL's optional preinstallation brackets before the sheetrock is installed. The preinstallation bracket provides a bracket to which wiring can be tied behind the sheetrock and it can function as a cutout template when many cutouts are to be made in a production-line style installation. Two types of pre-installation brackets are available from JBL Professional as optional accessories:

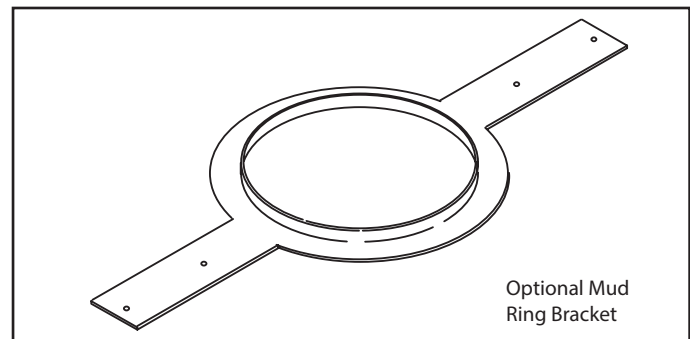
1) The optional NEW-CONSTRUCTION BRACKETS (available options and listed below) are made of flat sheet metal, with wings to attach to the building structure. Holes are drilled for nails or screws at 16 inches (406 mm) and 24 inches (610 mm) on-center. Additional holes can be drilled by the installer at other spacings up to a maximum of 24-3/4 inches (630 mm) apart. Sheet rock installs over the bracket, and the bracket provides a template for blind cutout of the hole in the sheet rock. The sheet rock is typically cut with a router-type cutting tool, using the bracket ring as a cutout guide.



## Available New Construction Brackets

- MTC-42NC for the Control 42C
- MTC-26NC for the Control 45C/T
- MTC-47NC for the Control 47C/T & Control 47LP
- MTC-19NC for the Control 47HC & Control 40 CS/T

2) The optional MUD-RING BRACKET (available options and listed below) contains a circular offset, forming an edge guide for sheet rock plastering. The bracket has wings that attach to the building structure. Sheet rock is typically pre-cut, then the sheet rock hole can be plastered (or "mudded") up to the ring to create a seamless cutout.



## Available Mud-Ring Brackets

- MTC-42MR for the Control 42C
- MTC-26MR for the Control 45C/T
- MTC-47MR for the Control 47C/T & Control 47LP
- MTC-19MR for the Control 47HC & Control 40 CS/T

## USING INCLUDED C-BRACKET WITH SHEETROCK

For many installations, the INCLUDED C-shaped backing plate provides adequate reinforcement to the ceiling material, spreading out the clamping force from the tab clamps.

## CUTOUT SIZES

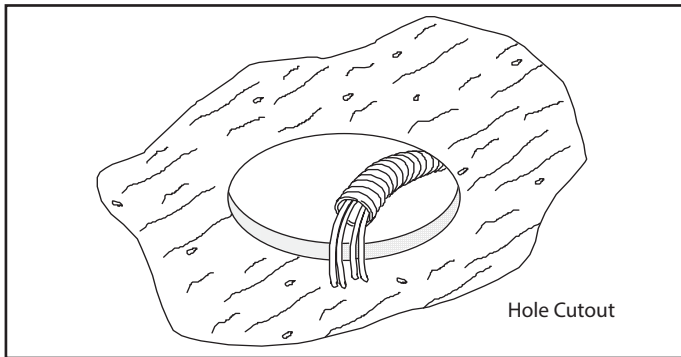
Packaged with the speakers are cardboard cutout templates for scribing the cutout hole onto your ceiling surface. The cutout size diameters for the Control Contractor 40 Series are listed on the following page.

# CONTROL 40 SERIES INSTALLATION

The installation system has been designed so that the entire installation can be accomplished from beneath the ceiling, for instances when access above the tile is not possible or practical. However, in some cases it may be easier with removable ceiling tiles to access from both the top and bottom of the ceiling tile during various phases of the installation.

**Step 1 – Cut the Hole.** Cutout the hole size either by tracing the cardboard cutout template or with a circular cutter set to the cutout sizes listed below and pull the wiring through the cutout hole.

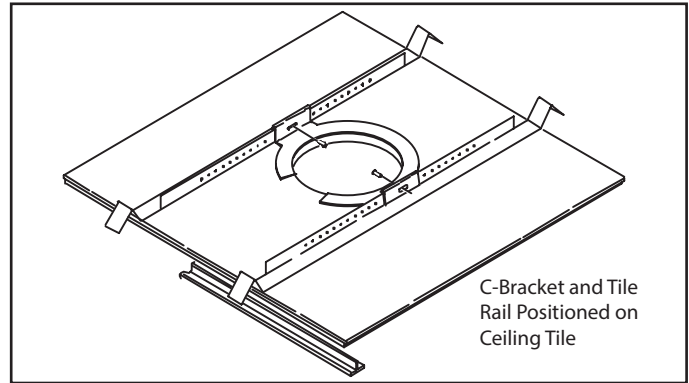
Control 42C:	4.1 inches (104 mm)
Control 45C/T:	8.8 inches (220 mm)
Control 47C/T:	11.1 inches (282 mm)
Control 47LP:	11.1 inches (282 mm)
Control 47HC:	12.1 inches (307 mm)
Control 40CS/T:	12.1 inches (307 mm)



**Step 2 – Insert Backing Hardware Through the Hole.** Packaged with the speakers are two types of backing hardware – a C-shaped backing-plate bracket and two tile rails (except for the lightweight Control 42C which does NOT include tile rails).

**Suspended Ceilings –** Insert the C-plate through the hole cut in the ceiling tile. Place the C-plate around the hole with the tabs pointing upwards enabling the C-plate to lie flat on the tile. Insert the tile rails through the cut hole in the ceiling tile. Snap the two rails into the two tabs in the C-plate and align the rails so that the ends extend OVER the T-channel grid on the side of the tile. Secure the rails onto the C-bracket tabs by inserting a screw through each tab into the rail. This can all be accomplished from below the ceiling tile, if necessary.

For safety when installing in suspended ceiling tiles, utilize all included brackets. Note that the lightweight Control 42C includes a C-ring only, which may be all that is required for some applications. If the application calls for tile rails, they are available separately as part number MTC-RAIL.



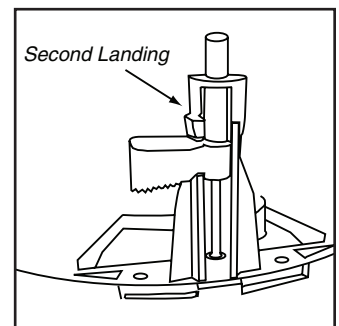
**Tile Rails:** The tile rails are designed to fit either standard 24-inch wide tiles or 600-mm wide tiles. The tile rail pieces do NOT physically attach to the T-grid struts. Instead, the inverted-V shape at the ends of the rails sit OVER the T-grid strut. During normal operation, the rails are supported by the edge of the tile. In the unlikely event that the tile comes out or falls apart, the ends of the support rails are designed to catch onto the T-grid, providing secure support to hold the loudspeaker assembly in place.

**Vibration Reduction:** These loudspeakers can generate substantial vibration, which can cause buzzing of the ceiling materials or structure. Depending on the character of the ceiling tile and structure, the installer might need to place neoprene or other dampening material under the tile rails or the edges of the tiles to address rattles from the ceiling materials.

**Cutout Placement:** The tile rails are pre-punched with attachment holes along their length. Placement is not limited to the center of the tile as is the case with many other tile rail support systems.

**Non-Suspended Ceiling Types –** The C-bracket can be optionally used by itself to shore up the ceiling material and to spread out the clamping force from the tab clamps. Insert the C-plate through the cut hole in the ceiling and place it on the back side of the hole before inserting the speaker.

**Two Landing Dog-Ears –** All Control 40 Series Loudspeakers (except the Control 42C) are equipped with a two-landing dog ear suspension system enabling them to be used with ceiling tiles that are up to 70 mm (2.75 inches) thick. If using Control 40 loudspeakers with ceiling tiles that are greater than 54 mm (2.125 inches) thick, start with the dog ear in the second (top) landing to ensure clearance and ease of installation.

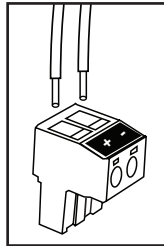


# WIRING INSTRUCTIONS



Control Contractor 40 Series in-ceiling loudspeakers include Euroblock locking input connectors that allow the system to be “pre-wired”.

Connecting the Wiring to the Euroblock -- Connect the wiring to the removable locking connector that is INCLUDED with the speaker by stripping the insulation back about 5 mm (about 3/16 inch), inserting the bare end of wire into the connector and screwing down the hold-down screw until tight using a small flatblade screwdriver. Tighten any unused screws to avoid vibration. Using terminal block connectors allows the system to be pre-wired before final installation of the product.

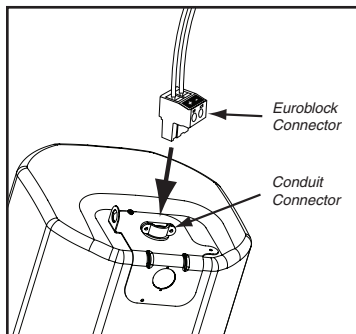


2-pin Connector

When wiring Control Contractor 40 Series loudspeakers, always use proper electrical wiring practices in accordance with your area’s building codes and regulations.

Connecting the Input Terminal Block on Control Contractor 40 Series Loudspeakers -- The input terminal cover on all Control Contractor 40 Series are fitted with a conduit connector for securing wiring conduit to and from the unit. To wire the unit:

1. Loosen the screw on top of the input terminal cover and then remove (and save) the input terminal cover screw on the side of the can.
2. Swing open the input terminal cover and remove the euroblock connector.
3. Insert the bare ends of wire into the Euroblock connector and secure the wires with the hold-down screws. (see Connecting the Wiring to the Euroblock)

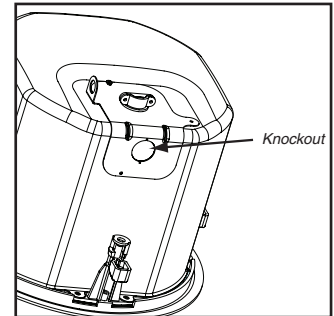


4. Loosen the conduit connector on the input terminal cover and insert the wired euroblock connector through the conduit connector opening. Connect the euroblock to the matching receptacle.

5. Close the input terminal cover and tighten the terminal cover screws.

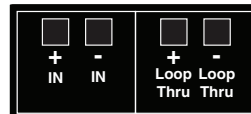
6. Allowing sufficient strain relief slack for the input wiring and re-tighten the conduit connector on the terminal cover.

*NOTE: The input terminal cover on Control Contractor 40 Series loudspeakers includes a .75 in (19 mm) knockout for an additional conduit clamp. This knockout point can be used in addition to the conduit connector located on the top of the can and is useful for wiring loop-thru runs or when access is limited on the top of the can.*

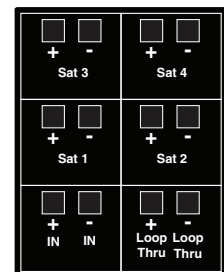


Guide to Connection Pins on Control 40 Loudspeakers -- There are two (2) removable locking input connectors with two (2) terminals on each for the Control 42C, Control 47C/T, Control 47LP and Control 47HC and six (6) terminals on the Control 40CS/T. The pin functions are listed on the label located on the can.

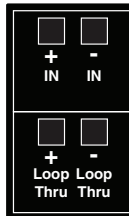
Control 42C:



Control 40CS/T:



Control 45C/T, 47C/T, LP & HC:



To wire Control 40 Series loudspeakers simply connect the positive wire to the “+” pin and connect the negative wire to the “-” pin. The “IN” pins are paralleled to the “LOOP THRU” pins (+ and - respectively) inside the loudspeaker. The “Loop Thru” pins allow a parallel connection to an additional loudspeaker.

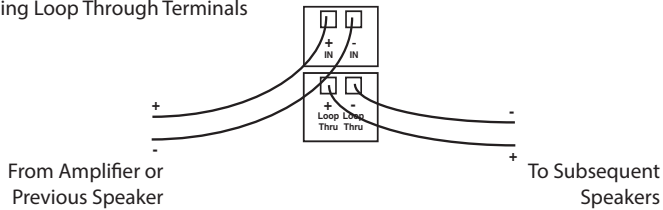
To select the operating mode or desired output tap of the loudspeaker, simply rotate the tap selector switch located on the front of the baffle to the desired setting.

*Note: Both 70V/(100V) connections and low impedance connections are made via the same input pins. When using the transformer tap selections, be sure that the power amplifier is set on 70V/(100V) mode and the leads feeding the system are connected to 70V/(100V) outputs on the amplifier.*

## Hookup Schemes for Subsequent Speakers

Using Loop-Through Terminals -- By connecting the wire pair of a subsequent speakers to the "Loop Thru" on the Control 40 Series Loudspeakers all subsequent speakers will be disconnected when this speaker's connector is disconnected during troubleshooting. This can be useful as a way to isolate problems to a section of the distributed line while leaving the wires attached to the connector.

Using Loop Through Terminals



## Hookup Schemes for Subwoofer-Satellite Systems Using Control 40CS/T & Control 42C Loudspeakers

The Control 40CS/T subwoofer features a built-in crossover network designed for use with the Control 42C Ultra-Compact Satellite loudspeakers. Two or four Control 42C satellite loudspeakers can be used with the Control 40CS/T to create an extremely natural sounding and powerful subwoofer-satellite system that is perfect for applications requiring wide bandwidth and superior sonic performance with minimal visual impact. Using four Control 42C satellite loudspeakers with a Control 40CS/T will offer approximately twice the area coverage of a system using only two Control 42C satellite loudspeakers.

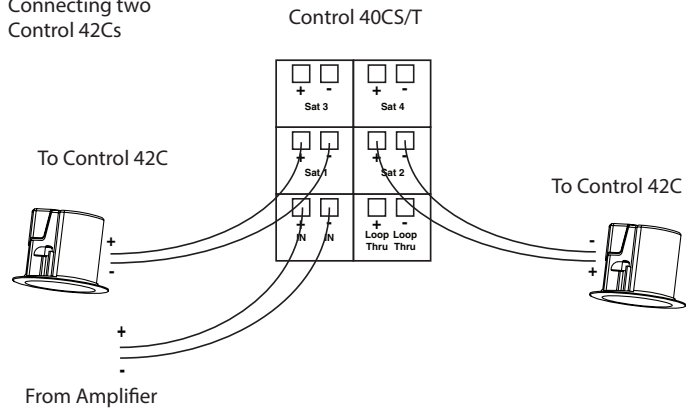
The Control 40CS/T and Control 42C Sub-Sat system can be driven either via a 70V/(100V) distributed line or in low impedance direct mode. Like the rest of the Control 40 Series, 70V/(100V) and low impedance connections are made via the same input connector on the Control 40CS/T. The Control 42C Satellites are then connected to satellite output connectors located on the Control 40CS/T. With the Transformer Tap/Bypass switch set to the bypass/8Ω low impedance mode, the Control 40CS/T subwoofer itself presents an 8Ω load on your amplifier, and a two satellite system also creates an 8Ω load on your amplifier, whereas a four satellite system creates a 4Ω load.

Choose whichever of the following hookup patterns best accommodates your installation. All satellite speakers must terminate at the Control 40CS/T subwoofer.

## Connecting the Control42C Satellite to the Control 40CS/T Subwoofer

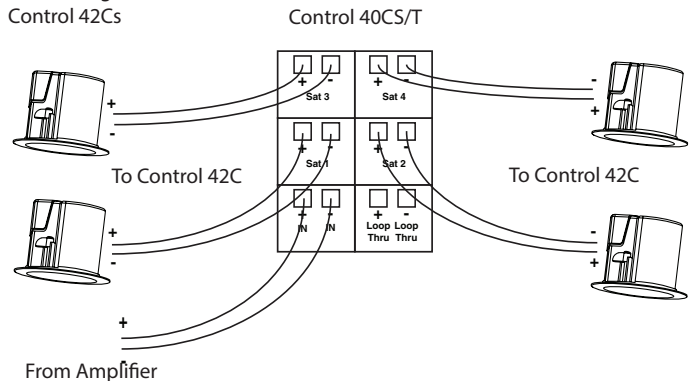
Satellite Home Run to Subwoofer -- There are four satellite output connectors on the Control 40CS/T. If using only two Control 42C satellites, connect each loudspeaker to a single output connector as shown in the diagram below; one Control 42C in "Sat 1" and the second Control 42C to "Sat 2" ONLY. "Sat 3" and "Sat 4" connectors should not be used.

Connecting two Control 42Cs



If using four Control 42C satellites, connect each loudspeaker to a single output connector as shown in the diagram below, one Control 42C to "Sat 1", the second Control 42C to "Sat 2", the third Control 42C to "Sat 3", the fourth Control 42C to "Sat 4."

Connecting four Control 42Cs



Use only either two or four satellite loudspeakers as described in the recommended configurations. Do not use one or three satellite speakers, or it could result in uneven sound levels and / or damage to your sound system.



## PAINTING CONTROL CONTRACTOR 40 SERIES LOUDSPEAKERS

The trim ring and grille of Control Contractor 40 Series loudspeakers can be painted to match almost any decor. The speaker's polystyrene rim accepts almost any type of latex or oil based paint.

For best results, the following procedure is recommended:

1. Clean the rim and grille with a light solvent such as mineral spirits by rubbing the item with a lightly dampened cloth. Do not use abrasives such as sandpaper or steel wool, nor should you use gasoline, kerosene, acetone, MEK, paint thinner, harsh detergents or other chemicals. Use of these cleaners may result in permanent damage to the enclosure.

2. After cleaning, apply two or more thin coats of either latex or oil-based paints. Latex paint will adhere better if an oil-based primer is used first. Application can be made by rolling, brushing or spraying.

Painting the Speaker Along With the Ceiling – Insert the clear plastic paint shield into the front of the speaker to mask the drivers and internal baffle, paint the speaker, then remove the shield.

Painting the Grille – Painting the grille requires removal of the grille logo prior to painting (it is held on with light adhesive -- the logo should be stuck back onto the grille after painting, making sure it is located in the exact center of the grille).

The backing to the grille is glued in place so that it can't interfere with the movement of the woofer cone. Leave the grille backing in place. Spray or brush the grille lightly using thinned paint. Make sure the spray is light enough so that when the grille is held up to the light, light can still be seen through the grille holes (which means that sound can also get through). Spray only the front of the grille, not the back. It is sometimes useful to spray pressurized air from the back of the grille while the paint is still wet to ensure that the backing is not clogged. Using a roller for the paint is discouraged because the backing may become clogged with paint and poor sound quality may result. However, using a very short-napped roller can be made to work.

Maintenance -- No maintenance is required when assembled in accordance with the instructions and wiring guidelines described in this manual.

## CONTACTING JBL PROFESSIONAL

These products are designed and backed by JBL Professional, the world leader in professional sound reinforcement. For complete warranty information, to order replacement parts or to ask for clarifications to this manual, contact JBL Professional.

Within the United States:

Applications Department, JBL Professional  
8500 Balboa Blvd., PO Box 2200  
Northridge, CA 91329 USA

In the USA you may call Monday through Friday 8:00am to 5:00pm Pacific Coast Time (800) 894-8850.

Outside the USA:

Contact the JBL Professional Distributor in your country.

A list of JBL Professional Distributors and US Service Centers can be obtained from the JBL Professional website at: [www.jblpro.com](http://www.jblpro.com)

**Control 47C/T:**

- Frequency Range (-10 dB)<sup>1</sup>: 55 Hz - 20 kHz
- Frequency Response (± 3 dB)<sup>1</sup>: 75 Hz - 17 kHz
- Power Capacity<sup>2</sup>: 150 Watts Continuous Program Power  
75 Watts Continuous Pink Noise
- Nominal Sensitivity (2.83V/1m)<sup>1</sup>: 91 dB
- Nominal Coverage Angle<sup>3</sup>: 120° conical coverage
- Directivity Factor (Q)<sup>3</sup>: 6.5
- Directivity Index (DI)<sup>3</sup>: 7.9dB
- Rated Maximum SPL: 110 dB @ 1 m (3.3 ft) average, 116 dB peak
- Rated Impedance: 8 Ω (in bypass mode)
- Transformer Taps: 60W 30W, 15W, (& 7.5W @ 70V)
- LF Driver: 165mm (6.5 in) with polypropylene cone, butyl rubber surround, copper-clad coil, vented aluminum former.
- HF Driver: 25mm (1 in) soft dome w/ dampening, ferrofluid-cooled.
- Input Connectors: Two removeable locking 2-pin connectors with screw-down terminals.  
Max wire 12 AWG (2.5 mm). Key: 1) + in, 2) - in, A) + loop thru, B) - loop thru
- Knockouts: Two (top and side)
- Safety Agency: Suitable for use in air handling spaces per UL1480, UL2043, CUL, NFPA90, NFPA70A, and in accordance with the requirements of IEC60849/EN60849
- Dimensions: Ø 305 mm (12.0 in) diameter x 359 mm (10.2 in) mounting depth
- Cutout Size: 282 mm (11.1 in)
- Ceiling Thickness Range: Accommodates tiles / drywall up to 70 mm (2.75 inches) thick
- Net Weight: 5 kg (11 lbs)
- Included Accessories: Press-in grille, C-ring support backing plate, 2 tile support rails, knockout strain relief, cutout template, paint shield



S7232  
15CM  
General Signaling Equipment  
Speaker

**Control 47LP:**

- Frequency Range (-10 dB)<sup>1</sup>: 68 Hz - 20 kHz
- Frequency Response (± 3 dB)<sup>1</sup>: 100 Hz - 17 kHz
- Power Capacity<sup>2</sup>: 150 Watts Continuous Program Power  
75 Watts Continuous Pink Noise
- Nominal Sensitivity (2.83V/1m)<sup>1</sup>: 91 dB
- Nominal Coverage Angle<sup>3</sup>: 120° conical coverage
- Directivity Factor (Q)<sup>3</sup>: 6.7
- Directivity Index (DI)<sup>3</sup>: 7.9dB
- Rated Maximum SPL: 110 dB @ 1 m (3.3 ft) average, 116 dB peak
- Rated Impedance: 8 Ω (in bypass mode)
- Transformer Taps: 60W 30W, 15W, (& 7.5W @ 70V)
- LF Driver: 165mm (6.5 in) with polypropylene cone, butyl rubber surround, copper-clad coil, vented aluminum former.
- HF Driver: 25mm (1 in) soft dome w/ dampening, ferrofluid-cooled.
- Input Connectors: Two removeable locking 2-pin connectors with screw-down terminals.  
Max wire 12 AWG (2.5 mm). Key: 1) + in, 2) - in, A) + loop thru, B) - loop thru
- Knockouts: Two (top and side)
- Safety Agency: Suitable for use in air handling spaces per UL1480, UL2043, CUL, NFPA90, NFPA70A, and in accordance with the requirements of IEC60849/EN60849
- Dimensions: Ø 305 mm (12.0 in) diameter x 142 mm (5.6 in) mounting depth
- Cutout Size: 282 mm (11.1 in)
- Ceiling Thickness Range: Accommodates tiles / drywall up to 70 mm (2.75 inches) thick
- Net Weight: 4.3 kg (9.5 lbs)
- Included Accessories: Press-in grille, C-ring support backing plate, 2 tile support rails, knockout strain relief, cutout template, paint shield

# SPECIFICATIONS

**JBL**

PROFESSIONAL

**Control 47HC:**

Frequency Range (-10 dB)<sup>1</sup>: 55 Hz - 17 kHz  
Frequency Response ( $\pm 3$  dB)<sup>1</sup>: 70 Hz - 14 kHz  
Power Capacity<sup>2</sup>: 150 Watts Continuous Program Power  
75 Watts Continuous Pink Noise

Nominal Sensitivity (2.83V/1m)<sup>1</sup>: 93 dB

Nominal Coverage Angle<sup>3</sup>: 75° conical coverage

Directivity Factor (Q)<sup>3</sup>: 10.2

Directivity Index (DI)<sup>3</sup>: 12.0dB

Rated Maximum SPL: 112 dB @ 1 m (3.3 ft) average, 114 dB peak

Rated Impedance: 6.6 $\Omega$  (in bypass mode)

Transformer Taps: 60W 30W, 15W, (& 7.5W @ 70V)

LF Driver: 165mm (6.5 in) with polypropylene cone, butyl rubber surround, copper-clad coil, vented aluminum former.

HF Driver: 25mm (1 in) soft dome w/ dampening, ferrofluid-cooled.

Input Connectors: Two removeable locking 2-pin connectors with screw-down terminals.  
Max wire 12 AWG (2.5 mm). Key: 1) + in, 2) - in, A) + loop thru, B) - loop thru

Knockouts: Two (top and side)

Safety Agency: Suitable for use in air handling spaces per UL1480, UL2043, CUL, NFPA90, NFPA70A, and in accordance with the requirements of IEC60849/EN60849

Dimensions:  $\varnothing$  346 mm (13.6 in) diameter x 353 mm (13.9 in) mounting depth

Cutout Size: 307 mm (12.1 in)

Ceiling Thickness Range: Accommodates tiles / drywall up to 70 mm (2.75 inches) thick

Net Weight: 6.4 kg (14 lbs)

Included Accessories: Press-in grille, C-ring support backing plate, 2 tile support rails, knockout strain relief, cutout template, paint shield



S7232

15CM

General Signaling Equipment  
Speaker**Control 45C/T:**

Frequency Range (-10 dB)<sup>1</sup>: 55 Hz - 20 kHz  
Frequency Response ( $\pm 3$  dB)<sup>1</sup>: 80 Hz - 17 kHz  
Power Capacity<sup>2</sup>: 150 Watts Continuous Program Power  
75 Watts Continuous Pink Noise

Nominal Sensitivity (2.83V/1m)<sup>1</sup>: 88 dB

Nominal Coverage Angle<sup>3</sup>: 120° conical coverage

Directivity Factor (Q)<sup>3</sup>: 5.6

Directivity Index (DI)<sup>3</sup>: 7.3 dB

Rated Maximum SPL: 107 dB @ 1 m (3.3 ft) average, 113 dB peak

Rated Impedance: 8 $\Omega$  (in bypass mode)

Transformer Taps: 60W 30W, 15W, (& 7.5W @ 70V)

Driver: 130mm (5.25 in) with polypropylene-coated paper cone, butyl rubber surround, 25 mm (1 in) copper voice coil, vented fiberglass resin former.

HF Driver: 20mm (0.75 in) soft dome w/ dampening, ferrofluid-cooled, aluminum former.

Input Connectors: Two removeable locking 2-pin connectors with screw-down terminals.  
Max wire 12 AWG (2.5 mm). Key: 1) + in, 2) - in, A) + loop thru, B) - loop thru

Knockouts: Two (top and side)

Safety Agency: Suitable for use in air handling spaces per UL1480, UL2043, CUL, NFPA90, NFPA70A, and in accordance with the requirements of IEC60849/EN60849

Dimensions:  $\varnothing$  250 mm (9.9 in) diameter x 239 mm (9.4 in) mounting depth

Cutout Size: 220 mm (8.8 in)

Ceiling Thickness Range: Accommodates tiles / drywall up to 70 mm (2.75 inches) thick

Net Weight: 3.9 kg (8.5lbs)

Included Accessories: Press-in grille, C-ring support backing plate, 2 tile support rails, knockout strain relief, cutout template, paint shield



# SPECIFICATIONS



S7232  
15CM  
General Signaling Equipment  
Speaker

## Control 42C:

- Frequency Range (-10 dB)<sup>1</sup>: 140 Hz - 20 kHz
- Frequency Response ( $\pm 3$  dB)<sup>1</sup>: 180 Hz - 17 kHz
- Power Capacity<sup>2</sup>: 30 Watts Continuous Program Power  
15 Watts Continuous Pink Noise
- Nominal Sensitivity (2.83V/1m)<sup>1</sup>: 82 dB
- Nominal Coverage Angle<sup>3</sup>: 160° conical coverage
- Directivity Factor (Q)<sup>3</sup>: 6.6
- Directivity Index (DI)<sup>3</sup>: 6.8dB
- Rated Maximum SPL: 94 dB @ 1 m (3.3 ft) average, 100 dB peak
- Rated Impedance: 16 $\Omega$
- Driver: 60mm (2.5 in) mid-high
- Input Connectors: Two removeable locking 2-pin connectors with screw-down terminals.  
Max wire 12 AWG (2.5 mm). Key: 1) + in, 2) - in, A) + loop thru, B) - loop thru
- Knockouts: Two (top and side)
- Safety Agency: Suitable for use in air handling spaces per UL1480, UL2043, CUL, NFPA90, NFPA70A, and in accordance with the requirements of IEC60849/EN60849
- Dimensions:  $\varnothing$  127 mm (5.0 in) diameter x 97 mm (3.8 in) mounting depth
- Cutout Size: 104 mm (4.1 in)
- Ceiling Thickness Range: Accommodates tiles / drywall up to 27 mm (1.06 inches) thick
- Net Weight: 0.7 kg (1.6 lbs)
- Included Accessories: Press-in grille, C-ring support backing plate, knockout strain relief, cutout template, paint shield

## Control 40CS/T:

- Frequency Range (-10 dB)<sup>1</sup>: 30 Hz - 300 Hz
- Frequency Response ( $\pm 3$  dB)<sup>1</sup>: 50 Hz - 180 Hz
- Power Capacity<sup>2</sup>: 200 Watts Continuous Program Power  
100 Watts Continuous Pink Noise
- Nominal Sensitivity (2.83V/1m)<sup>1</sup>: 95 dB (near corner), 89 dB (center of ceiling)
- Rated Maximum SPL: 109 dB @ 1 m (3.3 ft) average, 115 dB peak (center of ceiling)
- Rated Impedance: 7  $\Omega$  (in bypass mode)
- Transformer Taps: 80W 40W, 20W, (& 10W @ 70V)
- Driver: 200mm (8 in) with polypropylene cone, butyl rubber surround, copper-clad coil, vented aluminum former.
- Input Connectors: Six removeable locking 2-pin connectors with screw-down terminals.  
Max wire 12 AWG (2.5 mm). Key: 1) + in, 2) - in, A) + loop thru, B) - loop thru  
Satellite Key: Sat 1 - Satellite 1, Sat 2 - Satellite 2, Sat 3 - Satellite 3, Sat 4 - Satellite 4,
- Knockouts: Two (top and side)
- Safety Agency: Suitable for use in air handling spaces per UL1480, UL2043, CUL, NFPA90, NFPA70A, and in accordance with the requirements of IEC60849/EN60849
- Dimensions:  $\varnothing$  346 mm (13.6 in) diameter x 346 mm (13.6 in) mounting depth
- Cutout Size: 307 mm (12.1 in)
- Ceiling Thickness Range: Accommodates tiles / drywall up to 70 mm (2.75 inches) thick
- Net Weight: 8.1 kg (17.9 lbs)
- Included Accessories: Press-in grille, C-ring support backing plate, 2 tile support rails, knockout strain relief, cutout template, paint shield

## Optional Control 40 Series Accessories:

- MTC-RAIL Tile Rails, for use with Control 42C
- MTC-42NC New Construction Bracket, for use with Control 42C
- MTC-42MR Mud Ring Construction Bracket, for use with Control 42C
- MTC-26NC New Construction Bracket, for use with Control 45C/T
- MTC-26MR Mud Ring Construction Bracket, for use with Control 45C/T
- MTC-47NC New Construction Bracket, for use with Control 47C/T & Control 47LP
- MTC-47MR Mud Ring Construction Bracket, for use with Control 47C/T & Control 47LP
- MTC-19NC New Construction Bracket, for use with Control 47HC & Control 40CS/T
- MTC-19MR Mud Ring Construction Bracket, for use with Control 47HC & Control 40CS/T

<sup>1</sup> In half space (in ceiling)

<sup>2</sup> IEC standard, full bandwidth pink noise with 6 dB crest factor

<sup>3</sup> Average 1 kHz to 16 kHz

JBL continually engages in research related to product improvement. Changes introduced into existing products without notice are an expression of that philosophy.

