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# Qt™ Room Control
# Installation and Operations Guide

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## Package Contents

QtRC Package contains:

- 1 - QtRC volume control
- 1 - White Decora® style wall plate
- 1 - Manual
- 1 - Set of white-tipped screws (2 pieces)
- 1 - White knob (installed)
- 1 - White Decora center plate

## Overview

The Qt Room Control (QtRC) can be used to adjust the sound masking level for an individual room or a space with 2-8 emitters. This wall-mounted volume control unit is designed to work with any of the Cambridge Sound Management (CSM) sound masking systems. It installs easily in new or existing construction and fits in most standard electrical boxes, including open back, low voltage brackets.

Since the QtRC is designed for a room of up to 8 emitters, a separate zone should be used in larger areas. The QtRC controlled room can be on its own run from the controller or part of a run to other areas. Several system layout options are shown on the following pages and, with each layout, a suggested usage model is described.

When using the QtRC, the CSM controller needs to supply enough power over each cable run for the emitters and the volume control unit. From the CSM controllers, a single cable run can support 60 emitters; however, an added QtRC reduces the number of emitters that can be supported, because each QtRC is treated as an emitter in the total for the run. The cable run can support a combination of up to 60 emitters and QtRCs. For example, if there are 30 rooms with 2 emitters in each room, or a total of 60 devices (2 x 30 emitters), then a single run of cable could be used. However, if a QtRC is also used in each room, changing the total to 90 devices (2 x 30 emitters + 30 QtRCs), then 2 cable runs would be required.

## Qt Room Control Volume Settings

The QtRC features a six position switch that adjusts the sound masking volume in approximately 2.5 dB increments. The volume will increase as the knob is rotated clockwise, with the maximum level at the 5 position as shown in Figure 5.1.

The minimum level will be achieved at position 0. Alternately, this position can be set at time of installation to turn off the sound masking entirely. This option is controlled by a slide switch on the QtRC assembly. See Figure 5.2. The “OFF” position is labeled on the circuit board. Slide the switch to marked “OFF” side to make position 0 turn the sound masking completely off. Slide the switch to the “Normal” position to make position 0 use the minimum level. This must be selected before installation into the wall.

We suggest that the QtRC knob be at position 5 (full clockwise) when the room’s sound level is being calibrated and set on the controller. This allows the user to use this system as calibrated or reduce the sound level down in 2.5 dB steps.

Alternatively the QtRC knob may be at position 3 when the room’s sound level is set on the controller. This option allows the user to adjust the sound level up or  down in 2.5 dB steps.

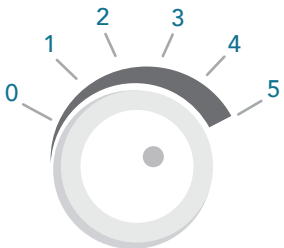


**Figure 5.1**

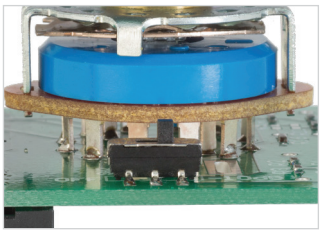

**Figure 5.2**

## Installing the Qt Room Control

The QtRC is designed to be installed in a single gang box or low voltage bracket. All power is supplied from the control module, so only CAT cables in and out are required. There are also no requirements for grounding since it is done over the CAT cables.


Figure 6.1

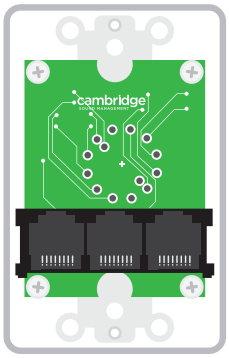


Figure 6.2

## Typical Installation Options

Sound masking is best used at a constant level so it is perceived as part of the building's environment. However, there are specific types of situations, such as in hospital rooms, offices, and conference rooms, where it is desirable to be able to adjust the masking level. In this situation, a cable can be brought to the room's QtRC and then connected to the emitters in the room, as discussed below. The QtRC will be able to decrease the power supplied to the emitters in the room, thus decreasing the perceived volume. The following sections and diagrams show the various layout options.

## Two Zone System

In the diagram below, Figure 7.1, the CSM controller has two or more zones.

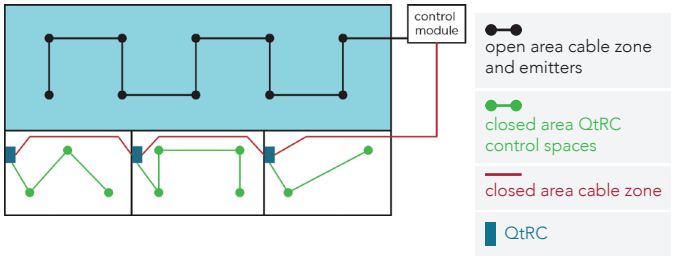


Figure 7.1

The cable run from the first zone (black) services the open area while the cable run in the second zone (red) services the 3 closed rooms. The first part of the second zone cable run connects to the first QtRC (blue box) at its built-in splitter (by the input jack labeled "In"). Next, the "Room" output jack on the first QtRC connects to a length of cable (green) to create a mini control area in the room with two emitters. Another length of cable (red) connects the "Out" output jack on the first QtRC to the "In" input jack on the QtRC to the next room, and so forth, until each of the three rooms in the second zone has its own QtRC (blue box) and set of emitters (on green cable). After installation, each room will have the same maximum volume while the emitters in each room can be turned down by each room's QtRC.

## One Zone System

The layout below is the optimal layout when using QtRCs. With the use of a QtRC, each room's occupant may choose sound masking levels at or below the calibrated level. It is recommended that this level be at 42 dB for a closed room, if calibration was done with the QtRC set to max (clockwise). Alternatively, by calibrating the rooms' sound masking to be correct with the QtRC at step 3, each room occupant will have the ability to raise or lower the sound masking level.

**NOTE:** Since each QtRC has a built-in splitter, there is no need for an extra splitter or cabling when implementing the layout shown in Figure 7.1.

The cable from the CSM controller reaches splitter #1. One cable (red) from the splitter connects to QtRC #1 (blue box) in the first room, while the other cable continues down the hallway (red). In the room, a cable (green) is run from the QtRC "Room" jack to the input port of the first emitter (red). Then a cable (green) is run from the output port of the first emitter to the input port of the next emitter (red). (Figure 9.1)

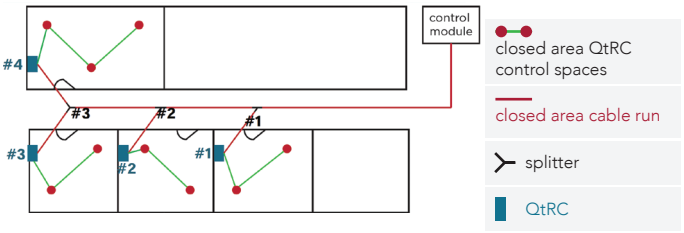


**Figure 9.1**

The cable that was extended down the hallway reaches a splitter that is used in the same way. A cable from splitter #2 goes to the next room, connects to QtRC #2 while another cable continues down the hallway. A multi-way splitter can be used as long as the maximum number of devices on a run doesn't exceed 60 (as shown with splitter #3 connecting to QtRC #3 and QtRC #4).

The layout in Figure 9.1 allows each room's occupant may choose sound masking levels at or below the calibrated level, recommended to be 42 dB for a closed room if calibration was done with the QtRC set to max (clockwise). Alternatively, by calibrating the rooms' sound masking to be correct with the QtRC at step 3, each room occupant will have the ability to raise or lower sound masking level.

## A Single Room

In the diagram shown below (Figure 10.1), the maximum volume for the room with an QtRC is the same as the volume of the emitters in the open area. The power supplied to all of the emitters in the open area is the same as the power supplied to the QtRC. The QtRC has the ability to reduce the power supplied to the emitters within the closed room. Since a closed room typically requires a lower sound masking level than an open area, with the use of a QtRC, a closed room can achieve this lower level by decreasing the maximum level. (Figure 10.1)

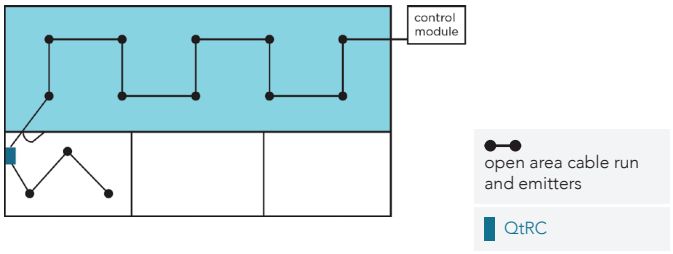


**Figure 10.1**

**NOTE:** Each QtRC's coverage zone may have a maximum of 8 emitters. The maximum number of rooms supported on a single run from the CSM controller is determined by ensuring that the total number of emitters and QtRCs does not exceed 60 devices.

## Warranty

The warrantor will, for a period of one (1) year, starting with the date of purchase, warrant that the Qt Room Control (the “device”) will be free of defects in materials and workmanship that interfere with its proper operation as a sound masking, paging and music distribution control system. During that period, the warrantor will, at its option, either (a) repair the device, with new or refurbished parts, or (b) replace the device with a new or refurbished device of equal functionality at no charge. The decision to repair or replace will be made by the warrantor.

The following terms apply to all. These warranty terms are extended only to the original purchaser of a new product. A purchase order or other proof of the original purchase date and purchaser is required for warranty service.

Obtaining warranty repairs

Please access and review on-line help resources for the product before requesting warranty service. If the product is still not functioning properly after making use of these resources, please contact Cambridge Sound Management for a return authorization number. All returns are to be prepaid.

The warrantor will pay return surface freight within the continental United States on warranty repairs. All customs and freight charges in excess of surface freight within the United States will be borne by the purchaser.

Warranty Limits and Exclusions

This warranty ONLY COVERS failures due to defects in materials or workmanship, and DOES NOT COVER normal wear and tear or cosmetic damage. THIS WARRANTY DOES NOT COVER USE OF THE SYSTEM WITH ANY OTHER EMITTER OR EMITTER MANUFACTURED BY ANY ENTITY, ORGANIZATION OR COMPANY OTHER THAN CAMBRIDGE SOUND MANAGEMENT, LLC, OR USE OF THE SYSTEM FOR ANY PURPOSE OTHER THAN SOUND MASKING AND/OR PAGING AND/OR MUSIC DISTRIBUTION.

THIS WARRANTY DOES NOT COVER THE USE OF ANYTHING OTHER THAN CAT-3 OR EQUIVALENT, 24 GAUGE CABLING. The warranty ALSO DOES NOT COVER damages that occurred in shipment, failures that are caused by products not supplied by the warrantor (e.g., replacement power supplies) or failures that result from accidents, misuse, abuse, neglect, mishandling, misapplication, alteration of any sort, installation, use as a system driver during emitter installation, set-up adjustments, mis-adjustment of controls, improper maintenance, power line surge, lightning damage, power surges, modification, rental use, service by anyone other than the warrantor or damage that is attributable to acts of God.

THERE ARE NO EXPRESS OR IMPLIED WARRANTIES EXCEPT AS LISTED UNDER “WARRANTY.” THE WARRANTOR IS NOT LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THE PRODUCT OR ARISING OUT OF ANY BREACH OF THIS WARRANTY. As an example, this specifically excludes damages for lost time, lost use of the system, cost of removal or reinstallation of the system or travel to and from the purchaser’s location. ALL EXPRESS AND IMPLIED

WARRANTIES ARE LIMITED TO THE PERIOD OF THE WARRANTY. This warranty provides specific legal rights, and there may be others that vary from state to state or in the country of compliant use. Therefore, certain additional exclusions may apply.