Contrary to conventional wisdom, far more speakers are damaged as a result of underpowering, than by overpowering. When a receiver runs out of power, it still tries to reproduce the musical signal by "clipping" the waveform. At loud volumes, this clipping introduces gross amounts of distortion to the speaker, eventually destroying it. If the sound from your in-wall speakers starts to sound distorted, turn down the volume.

Having plenty of reserve power will help your speakers reproduce dynamic contrasts and quick transients of music much more effectively. But you do have to exercise good judgement; too much power will also permanently damage a speaker. Again, if you hear distortion, turn the volume down.

Specifications

Model Number	CW65W
System	
Frequency Range	65 Hz - 20 kHz
Continuous Power Capacity	40W RMS
80W Peak	
Sensitivity	88 dB
Impendance / 70V Taps	8Ω
Coverage	120° H v 90° V (40 to 10 kHz)
Transducers	
Low Frequency	165 mm (6.5") Poly Cone Woofer
High Frequency	25mm (1") PEI Dome Tweeter
Physical	
Crossover Network	2nd order (12 dB/octave) high pass and low pass, with polyswitch protection for the tweeter
Suggested air cavity	28 - 56 liters 1.0 - 2.0 ft³
Dimensions	306 x 220 x 84 mm 12" x 8-11/16" x 3-5/16"
Cutout Size	271 x 185 mm 10-3/4" x 7-1/4"
Maximum Wall Thickness	32mm
Weight (each)	1.54 kg

5-Year Limited Warranty
See daytonaudio.com for details

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DAYTON AUDIO

CONTRACTOR SERIES

In-Wall Speaker

Models: CW65W   User Manual

Congratulations on the purchase of your Dayton Audio® Contractor Series In-Wall Speaker System. These speakers were manufactured with high quality components and engineered to deliver superior sound performance. Like many of the products sold by Dayton Audio®, these in-wall speakers were designed for ease of installation. Please read through the instructions completely before you begin your installation.

1) Parts Inventory
   Your In-Wall kit should include the following:
   • 1 pair of Dayton Audio® In-Wall Speakers with Grills
   • 1 pair of cardboard mounting/paint masking templates

2) Installation Tools
   You can install the Dayton Audio In-Wall speakers with the following tools:
   • Pencil   • #2 Phillips screwdriver
   • Masking tape   • Wire cutters & wire strippers
   • Drill & drill bits   • Small level**
   • Utility knife   • Stud finder**
   • Keyhole saw*
   ** Recommended for use if installing in plaster walls.*
   ** Optional tools to make the installation easier.

3) Speaker Location
   To achieve the best performance from your Dayton Audio® speakers, it is important to carefully select the location for installation.
   Your in-wall speakers should be installed 5 to 8 feet apart to ensure proper stereo imaging. If possible, mount each speaker the same distance from the corners on a common wall. Keep the speakers at least 2 feet away from the corners of the room to avoid overemphasized bass reproduction.
   The speakers should be located so that the tweeter height is at the same level, or slightly above the listener's ear. You must now decide whether the primary listening will be done standing or in a seated position. Remember, for the best stereo imaging, the listening position should be directly in-between the speakers with the tweeters at ear level.
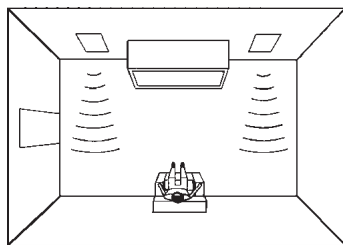
4) Speaker Installation
   Once you have selected the location for your speakers, you are now ready to install them.
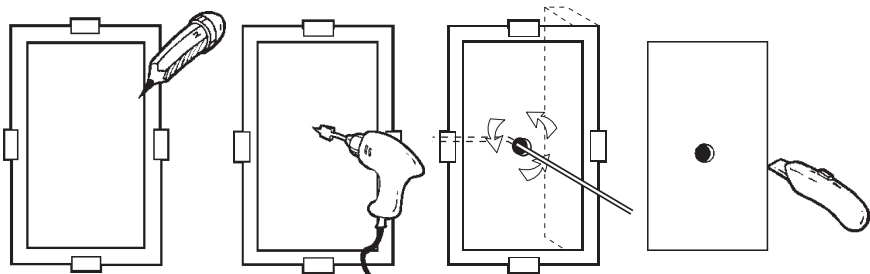
CAUTION: Be certain that there are no electrical wires, water pipes, or heating ducts in the planned installation area before you start drilling or cutting into the wall. If there is an electrical outlet nearby, turn off the circuit breaker to avoid possible injury.

   The in-wall speakers are designed to be mounted to the wall area between the studs. Once you have selected your location, the next step is to be sure you are between the studs. By tapping on the wall, you will hear a hollow sound when between two studs and a sharper, more solid sound when right on top of, or close to a stud. An easier, more accurate method for finding the location of wall studs is to use a stud finder.
   Once you have established that your chosen location is between two studs and that there are no obstructions in the wall, tape your speaker template to the wall and lightly trace around the inside opening with a pencil. To ensure that your speaker template is straight, you may want to use a level before you mark the wall.

   Drill a 1" hole in the center of the template outline. Next, using a piece of stiff wire (a coat hanger works well), bend it 8" from the end at a 90 degree angle. Insert the bent part of the coat hanger into the 1" hole and rotate the wire in a complete circle to check for obstructions. If the wire hits a stud on either side, reposition your template to the left or right and re-do the light pencil outline. Keep the pilot hole within the template outline.
   If the walls are made of drywall, simply cut the marked area with your utility knife. If your home has plaster walls, then you will need to drill pilot holes at the four corners of the template outline, and cut the speaker opening using a keyhole saw.
   Check the speaker opening by placing one of the speakers into the hole. The speaker should fit loosely into the hole.
   Repeat these steps for the other speaker.

5) Speaker Cable
   Don't compromise sound quality by using thin, inexpensive speaker wire, we recommend using a high quality oxygen free copper speaker cable. For runs less than 50 feet we recommend 16 gauge cable, and for longer runs we recommend 14 gauge or larger cable. Most municipalities require the use of CL2 rated speaker cable for installation in walls and ceilings. Leave enough speaker cable so you can stand comfortably on the floor or ladder while connecting the speaker cable to the speakers.

6) Speaker Connection
   Remove about 8" of the cable jacket to expose the inner conductors. Strip 1/4" of insulation from each conductor and connect to the speaker terminals. When connecting the wires to the speakers, be sure to observe proper polarity. Most CL2 rated speaker cable will have red and black conductors so you will connect the red wire to the red speaker terminal and the black wire to the black speaker terminal.

Clamps

7) Final Installation
   To install the speakers into the wall, remove the grills. This will give you access to the mounting screws. Turn the mounting clamps so they are positioned as in the illustration, this will allow the speakers to clear the hole for installation. Insert the speaker into the hole, and tighten the mounting screws. As you turn each screw, the mounting clamps will rotate outward to engage the wall material.
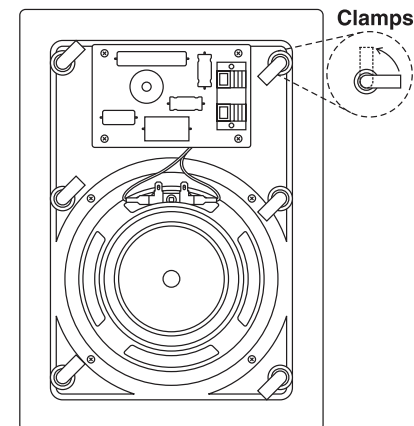
8) Painting Speakers
   If you choose to paint the speaker grill **Do not try to paint the grill while it is on the speaker.** The grill should always be painted separately. Do not apply heavy coats of paint that might block the perforations in the grill.

9) Troubleshooting
   Should your speakers not work properly, check the following:
   No sound from speakers:
   • Most stereo receivers have an A/B speaker selector switch. Make certain that this switch is in the proper position.
   • Mute feature is activated.
   One speaker is playing while the other is not:
   • Check the balance control on the receiver. Make sure it is centered.
   • Loose connection at either the receiver or the speaker. Double check connections.
   • Bad speaker cable. Replace suspect speaker wire.
   Receiver cuts on and off:
   • This could be caused by a short circuit between the positive and negative leads. Check the connections at the back of the receiver, and then at the speaker. Make sure that no strands of wire from one connector are touching the other connector.

10) Caring For Your In-Wall Speakers
   The two most common ways that in-wall speakers are permanently damaged:
   1) Not enough power at higher volumes.
   2) Too much power at higher volumes.