

MCM CUSTOM AUDIO

In-Ceiling Speaker Installation Manual

Model #50-14020



Single Point Stereo Speaker Systems

The idea behind this is simple. Many rooms are too small to effectively place a left and right speaker in the ceiling. This is especially typical in entryways, guest and half bathrooms, hallways, closets and stairways. Initially, the only option was to squeeze in two speakers, limit sound to one channel, or deal with a separate mono zone for those areas.

The answer to this situation is the MCM Custom Audio model #50-14020 Single Point Stereo Speaker. This

innovative concept includes a dual voice coil 6½" woofer, and two side-by-side tweeters, each with independent crossover circuits. To the audio system, this speaker appears as independent left and right speakers, yet to the eye, it is a single speaker.

These speakers may be added to the distributed audio system with no concerns for loss of separation throughout the remainder of the system.

General Features

- 6½" polypropylene cone woofer with rubber surround
- Dual ½" polymer dome tweeters
- Dual crossovers
- Two pairs of color coded push terminals

Specifications

- Power Capacity: 50W RMS/peak per channel
- Frequency Response: 35Hz~20KHz
- Nominal Impedance: 8Ω per channel
- SPL: 91dB W/M

Warranty

MCM Custom Audio products are warranted against manufacturer defects for a period of 12 months from the original date of purchase. This warranty is limited to manufacturer defects, in either materials or workmanship. MCM Electronics, or any other worldwide divisions of Premier Farnell PLC, are not responsible for any consequential or inconsequential damage to any other component, structure or the cost of installation or removal of said items.

For questions or specific information regarding warranty replacement or repair, contact:

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Installation

Speaker Placement

Careful consideration should be made when determining the desired location of the speaker pair. As this Model #50-14020 is referred to as a ceiling speaker, this is the intended mounting location. However, there is no electronic or physical reason these cannot be mounted in other locations, such as walls. However, careful consideration should be given to appearance in these situations.

As noted above, this single speaker provides output for both the left and right channel, so much greater flexibility is available with regards to proper placement. This speaker may be located anywhere in a given room, however it is recommended that it not be placed less than 2' from any corner. In areas such as hallways, where length exceeds 12', two speakers should be considered.

It is important to note that more speakers in a given listening area do not necessarily equate to higher sound levels. With more speakers, the desired listening level for a given area is attained with lower output from each speaker. This creates a much more pleasant listening environment as the sound source can be uniformly heard through the entire room, regardless of location and with less interference with sounds such as conversation.

Speaker Wire

It is important that good quality wire is used in the installation. Installed speakers generally have much longer wire runs than normal home theater speakers, hence heavier gauge wire is recommended. **Note:** There are numerous manufacturers in the market offering "high-end" esoteric speaker wire, with claims of exotic materials and superior performance. Truthfully, this type of product has been found to provide little or no benefit to installations of this type. Good quality 14AWG CL3 rated in-wall wire, available at MCM Electronics, provides outstanding performance in this application.

When running this cable, a few simple guidelines must be followed

- All speakers should be home-run. That is, wire should be run directly from each speaker, back to the sound source
- Speaker wire should be kept away from AC wiring to prevent noise. If AC wiring and speaker wire must cross paths, it is best to have them cross at a 90° angle, minimizing the common surface area between the two
- Speaker wire and AC lines should **NEVER** pass through the same hole in studs or joists

Part 1

Installation

1. A stud finder such as MCM #22-10895 is highly recommended. This device will not only accurately locate both edges of the stud, but will provide a warning of nearby electrical wiring.
2. When deciding on a final location to install ceiling speakers, extreme care should be taken to ensure that obstructions do not exist, such as air ducts, plumbing and electrical wiring.
3. Locate the studs in the ceiling between which the speaker will be mounted. Using a pencil, mark a spot directly in the center of the two studs
4. Locate the round cardboard mounting template, included with the speaker, and using a tape measure, determine its exact center point.
5. Poke a small hole in the template, and place the template on the ceiling, lining up the hole with the spot marked on the ceiling. Lightly trace the outer circumference of the template with a pencil.
6. Using a wallboard saw, similar to MCM #22-7597, cut around this circumference. This type of saw is especially useful, as its rigid design and sharp point allow it to "plunge" into the wall with no need to drill a pilot hole.
7. Slowly remove the round section of drywall from the ceiling, taking care not to allow too much insulation to fall (in attic installations).

Part 2

1. Remove the front grille from the speaker to be installed. This is most easily accomplished by rotating the plastic mounting clips outward, and pressing them towards the front speaker frame. This will cause the screw heads, behind the grill, to push the grill out from inside. In some cases, it may be necessary to gently pry the grill from the front. This may be done with a small knife blade or micro size flat blade screwdriver. In this case, extreme care should be taken not to damage the plastic frame around the grill.
2. Rotate the four mounting clips so they are flat against the side of the rear speaker enclosure. If necessary, loosen the four mounting screws, from the front of the speaker, to allow these clips to rotate freely within their bracket.
3. Attach the speaker wire to the (-) and (+) connections on the rear of the enclosure. Take care to observe correct polarity.
4. Fully insert the speaker into the ceiling hole and begin to tighten the four mounting screws. Care should be taken when tightening these screws. Make sure the screwdriver is secure in the head of the screw and does not slip out and damage the speaker cone.
5. As screws are tightened, the plastic mounting clips will rotate clockwise and draw in against the inside of the wallboard. If using a drill to tighten screws, tighten all four until the speaker frame just makes contact with the ceiling. From there, it is best to use a hand screwdriver to fully tighten. This will prevent breakage of the plastic mounting clips.
6. In a cross pattern, (i.e. left, right, then up, down) tighten all four screws, by hand, until the speaker frame is snug against the ceiling. Take care not to over-tighten as this may damage the mounting clips or the mounting frame.
7. Once all screws are tightened, the grill may be reinstalled on the front of the speaker.
8. The other end of the speaker wire is now ready for connection to the sound source