

MCM CUSTOM AUDIO

Installation Manual

In-Ceiling Speaker Pairs

Model 50-14000, 50-14005
50-14010, 50-14015



General Features

- Polypropylene cone woofer
- Rubber surround
- 1/2" polymer dome tweeter
- Color coded push terminal strips

Specifications				
Model	50-14000	50-14005	50-14010	50-14015
Woofer Size	4"	5.25"	6.5"	8"
Tweeter	1/2" polymer	1/2" polymer	1/2" polymer	1/2" polymer
Crossover	HP capacitor	6dB/octave	6dB/octave	6dB/octave
Power Capacity (RMS/Peak)	20W/30W each	25W/50W each	30W/60W each	40W/80W each
Frequency Response	50Hz~20KHz	45Hz~20KHz	45Hz~20KHz	30Hz~20KHz
Nominal Impedance	8ohm	8ohm	8ohm	8ohm
SPL (W/M)	88dB	89dB	89dB	90dB
Dimensions				
Overall Frame Diameter	6.73"	7.95"	9.02"	10.71"
Required Cutout	5.39"	6.49"	7.60"	9.29"
Mounting Depth	2.45"	2.56"	2.91"	3.03"

Warranty

MCM Custom Audio and Stellar Labs products are warranted, by MCM Electronics, against manufacturer defects for a period of two years 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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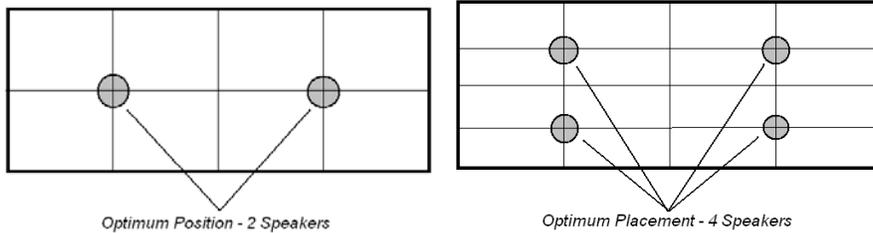
Speaker Placement

Careful consideration should be made when determining the desired location of the speaker pair. As these are referred to as ceiling speakers, this is the intended mounting location. However, there is no electronic or physical reason these cannot be mounted in other locations. Note that careful consideration should be given to appearance in these situations.

Following are some typical guidelines that should be followed when determining the optimum placement for speakers in a given environment. Note that these are guidelines. Aesthetics, light fixtures, ceiling fans and similar items will also require consideration, and should be considered equally important to the recommendations below.

Given a typical rectangular room, the ideal ceiling placement for these speakers is depicted below. When installing a single pair of speakers in a given room, bisect the room in both the long and short dimensions. This will provide an exact center point. Then along the long length, bisect each half. Where each of these bisected lines cross the center point, is the optimum speaker location.

When installing four speakers, bisect each short half one additional time. As depicted below, the room will be divided into 16 equal rectangles. Place the speakers as shown.



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 manufactures 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 16AWG CL2 rated in-wall wire, available from 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

Installation

1. For this type of installation, a stud finder such as MCM #22-9346 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 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 wall between which the speaker will be mounted. Using a pencil, mark a spot directly in the center of the two studs
4. Locate the 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 wall, lining up the hole with the spot marked on the ceiling. Using a level, make sure the template is level and plumb on the wall.
6. Trace the outer perimeter of the template with a pencil.
7. 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.
8. Remove the rectangular section of drywall from the wall.
9. 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.
10. When looking at the rear of the speaker, rotate the four mounting clips clockwise as far as they will go, so as not to obstruct the frame. If necessary, loosen the four mounting screws, from the front of the speaker, to allow these clips to rotate freely within their bracket.
11. Locate the green terminal strip on the rear of the speaker, connections marked (-) and (+). This is a two-part terminal strip, with the screw terminals being detachable from the PC board. Unplug the screw-connector portion of the strip, allowing easy access to the screws. Strip ¼" of insulation from the end of the speaker wire, insert into the terminal strip, and tighten the screws. Take care to observe correct polarity. Then plug the terminal strip back into the PC board on the rear of the speaker.
12. Fully insert the speaker into the wall opening 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.
13. 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.
14. Once all screws are tightened, the grill may be reinstalled on the front of the speaker.
15. The other end of the speaker wire is now ready for connection to the sound source