



# OPERATION MANUAL

***The Choice of Professionals®***

## Congratulations!

Your new M&K speaker system will give you years of unmatched enjoyment and excitement while listening to your favorite music and audio/video sources.

We encourage you to read this owner's manual,  
as there is a great deal of information provided here to help you achieve  
the best possible performance from your new speakers.

**If you have any questions about your speaker system, please contact your M&K dealer.**

**Additional information may also be obtained on our web site: [www.mksound.com](http://www.mksound.com).**

Serial Number:	
Date of Purchase:	
Dealer Name:	
Dealer Address:	
City/State/Zip:	
Country:	
Invoice Number:	

## 1. PLACEMENT OF YOUR SPEAKERS

Your M&K speakers can be installed in a wide variety of locations. Their compact size gives you great flexibility in installation. They can be placed on shelves, bookcases, or more permanently mounted using brackets, through direct attachment to a wall, or with a ceiling suspension system.

You can place the left and right speakers virtually anywhere in the room, but certain locations are better than others. In general, locate them away from obstructions that would interfere with the direct path of sound travelling from the speakers to your ears (such as walls, furniture, lighting, plants, etc.). Center channel speakers should be located close to the screen. (see Home Theater Usage on page 6). Your speakers will sound better when they are around ear height, or when angled towards your listening location.

For more detailed information on placement of your speakers, see Section 4 (page 4) and Appendix A.

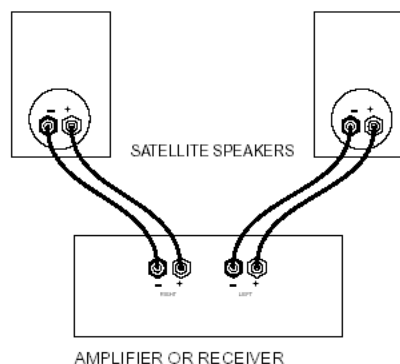
## 2. SPEAKER HOOK-UP

FIGURE 1

First, make sure the amplifier is turned OFF.

For each speaker, connect the Positive (+) lead from your amplifier or receiver to the RED (+) INPUT terminal and connect the Negative (-) lead from your amplifier or receiver to the BLACK (-) INPUT terminal.

See Figure 1.



## 3. OPTIMIZING SPEAKER PLACEMENT

The sound quality produced by your speakers can be significantly enhanced by careful attention to their placement. While we understand that you may not want to redesign your room to accommodate your speakers, coming as close as possible to the ideal placement will give you much better sound.

**Three factors are important in getting the best sound. They are:**

- A. Height (or angle).**
- B. Location away from room walls or reflecting surfaces.**
- C. Separation between Left and Right speakers.**

### A. HEIGHT (OR ANGLE)

Your M&K speakers will always deliver sound superior to conventional speakers, regardless of where you locate them. However, because they are designed for very fast and accurate transient response, they achieve even better sound quality, and the flattest frequency response when properly oriented relative to your ear.

Ideally, the tweeters should be at the same height from the floor as your ears, when you are sitting in your main listening position.

If you have the speakers mounted above or below this height, they sound their best when you angle the speakers so that the speakers are aimed at your ears when you are in the main listening position.

## B. LOCATION AWAY FROM REFLECTING SURFACES

Your speakers should be located, whenever practical, away from walls, the floor, furniture, or any other reflecting surfaces. Do the best you can. Objects close to the speaker will reflect sound, and this reflected sound arrives at your ear slightly later than the direct sound. This delay is very slight, so instead of hearing an echo, you hear a “blurred” sound with less clarity that is not as sharp and distinct as it should be. This time delay also affects frequency response and sonic imaging.

If the speakers are on a television set or shelves, locate them flush with the front edge, so there is no flat surface directly in front of them. If the speakers will sit close to walls or other large objects, leave as much space as possible between the speaker and the object.

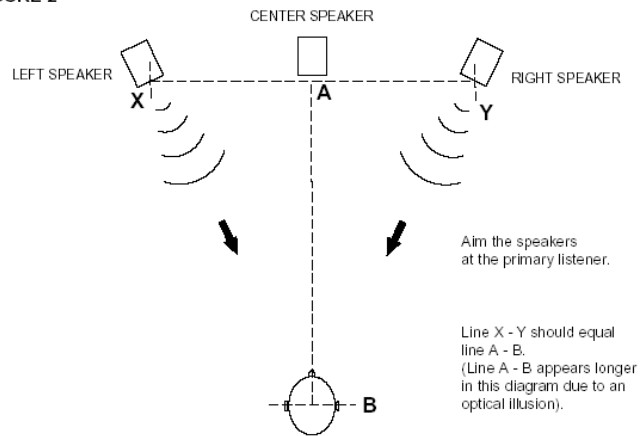
## C. SEPARATION BETWEEN LEFT AND RIGHT SPEAKERS

Here is a formula for achieving the ideal left to right stereo imaging. Think of a triangle formed by the locations of the Left and Right speakers and your listening position.

Ideally, the subtended angle formed should be between 45 and 50 degrees. Roughly, this means that the Left and Right speakers should be separated by about the same distance that you are sitting back from the speakers. In other words, if the distance from your listening position to the point directly between the speakers is 10 feet (6 meters), place the speakers so their centers are 10 feet apart. See Figure 2.

In Figure 2, the length of line A - B should be about the same as the length of line X - Y.

FIGURE 2



Try to follow the formula as close as you can. You can fine-tune the placement by listening to a source with an image (voice, solo instrument) centered between the speakers. When listening in stereo (no Center Channel speaker), move the speakers closer together or farther apart in small increments until you hear the sharpest and most cohesive image in the phantom center. You may also want to angle (or “toe-in”) the speakers slightly. This often improves the sharpness of the stereo image, reduces room colorations, and provides a wider seating area.

## 4. THE TRIPOLE® SURROUND SPEAKER

M&K’s exclusive Tripole® design offers a new level of performance not possible with conventional speakers by combining the performance advantages of two different types of speakers. Think of it as a dipole surround speaker that includes a very high quality direct radiating speaker in the same cabinet. As a Tripole®, the speaker can simultaneously produce a directional stereo image in the surround channels and an enveloping sound that wraps around the listener.

On the back of the speaker is a label with an arrow. To properly install the speakers to the sides of the listening position, make sure that the arrow printed on the back of each speaker is pointed at the front of your room.

The Tripole® design is also ideal for the back surround channel of a larger surround system. If you have such a system, we recommend using two Tripole® surround speakers to reproduce this format. To properly install the back surround speakers, make sure that the arrows on the back of the speakers are pointed at each other.

## 5. PLACEMENT OF THE TRIPOLE® SURROUND SPEAKER

*(See speaker placement diagrams in Appendix A in the back of this manual)*

M&K surround speakers are designed to be oriented with the front tweeter closest to the listeners. When the speaker is mounted above the listeners' heads, make certain that the tweeter on the front baffle is at the bottom. If the speaker is mounted below listeners' heads, the tweeter should be at the top.

Your Tripole speakers are designed to be used as surround speakers for current and future surround sound formats. The Tripole® surrounds will achieve excellent results in THX systems as well. Due to the Tripole® design, your surround speakers are less critical of placement than most speakers. They should be located high on the wall, to the sides of the listening position and/or behind the listening position. They can be mounted on the back wall of the room. The Tripole® design radiates sound to the front and the rear of the room in addition to directly at the listeners. When wall mounting is impractical or impossible, mounting the speakers on the ceiling can be an excellent solution.

### a. POSITION RELATIVE TO SEATING

For maximum enveloping quality, the surround speakers should be located directly to the left and to the right of the preferred seating position. See FIGURE 3 in Appendix A. If there are multiple rows of seats, then the surround speakers would then be located directly to the left and right of the geometric center of the listening area. See FIGURE 4 in Appendix A.

If your surround speakers cannot be located exactly to the left and right sides of the seating area, it is better for them to be located slightly towards the back of the room, or on the back/rear wall behind the listening position, rather than in the front of the room. See FIGURE 5 in Appendix A.

### b. HEIGHT

The surround speakers should be located relatively close to the ceiling. Placement above the listeners' heads is important, preferably with the cabinet's bottom at least two feet (60 cm) above a seated listener's head.

### c. WALL LOCATION

The surround speaker can be mounted on either the side walls or on the back wall. They can be flush on the wall, on shelves, on brackets, etc. The Tripole's® great flexibility makes it very forgiving of room placement that is less than optimum.

The Tripole® will give you a combination of an enveloping sound with directionality. You will hear directional effects, and even imaging when the recording has these qualities. Yet at the same time you will also hear a diffuse sound from the Dipole drivers mounted on the left and right cabinet baffles.

### d. USE OF MULTIPLE PAIRS OF SURROUNDS

Some surround processors and receivers have both side and rear surround channel outputs. Multiple speakers can make a dramatic improvement and provide a broader and deeper surround effect. When using multiple pairs of surround speakers, a symmetrical installation pattern works best. For example, one pair could be mounted on the back wall of the room, mounted equidistant from the back corners, with the other pair mounted on the side walls of the room, equidistant from the same back corners. See FIGURE 6 in Appendix A.

**When using two pairs of Tripoles®, make sure that the speakers on the back wall have their arrows labeled "Point Arrow At Screen" pointed towards the center of the back wall.**

### e. USE WITH BACK SURROUND CHANNEL(S)

When using Tripole speakers with a back surround channel, we strongly recommend using two speakers. These speakers should be mounted on the center area of the back wall of the room, symmetrical to the wall's center line. See FIGURE 6 in Appendix A. Follow your processor or receiver's instructions for proper calibration.

## 6. HOME THEATRE USAGE

### LEVEL-MATCHING

The factor most critical to achieving excellent Home Theatre performance is level-matching of all channels. This is even more important than timbre-matching. If your receiver/processor incorporates room correction and a microphone, level matching will automatically be performed as an integral part of room correction. If your receiver/processor does not include room correction, we strongly recommend that you purchase a good analog Sound Pressure Level meter or smartphone SPL meter app and use it to measure and balance the output of the speakers when playing the test tones generated by your processor or receiver.

Set the meter to the “C” weighting scale and “SLOW” response. Using your amplifier or receiver’s internal noise calibration test, set the levels so that all channels are equally loud. Using a meter is an objective way to be certain that your system is calibrated properly.

***WHENEVER POSSIBLE, DO NOT CALIBRATE LEVELS BY EAR!***

### TIMBRE-MATCHING

One of the most important factors in achieving excellent Home Theatre performance is timbre matching.

On film soundtracks, specific sounds are often moved from left to right or from front to back in the room. When the speakers reproducing these sounds have dissimilar characteristics, there will be an audible discontinuity when the sound shifts from one speaker to another.

Timbre-matched speakers have very similar tonal characteristics and sound, which come from three critical elements: similar or identical drivers; similar or identical crossovers; and similar or identical frequency response. In full M&K systems, these elements have been addressed. You can be assured that the system can achieve the full potential of multichannel sound.

When you have a multichannel system, speaker placement becomes extremely important, as you will be balancing multiple speakers at many different positions. The following guidelines are for a 5.1 channel system. If your system has additional channels (Dolby Atmos, DTS X, etc.), see the owner’s manual of your surround processor for placement instructions for the additional channels.

## 7. SATELLITE/SUBWOOFER PHASING TEST

In any system using a subwoofer separate from Main speakers, a phasing test must be performed to ensure good bass blending. This test ensures optimum sound in the critical bass frequencies where your Subwoofer and Main speakers overlap.

Play a familiar CD, Blu-ray or DVD with steady, consistent bass content through your system. Listen carefully to the “mid-bass” region of 75 - 125 Hz. This is the part of the spectrum where electric or string basses and drums predominate.

If your Subwoofer has a two-position PHASE switch on its back panel, move it either from (+) to (—) or vice versa. If your Subwoofer has a continuously adjustable PHASE knob (0 - 180 degrees), move it slowly throughout its range. Now listen to the same musical passage as you did earlier, concentrating on the mid-bass region. The setting that yields loudest bass at the listening position is the correct one.

You need to perform this test because when Main speakers are located separate from a Subwoofer, each speaker is at a different distance from your ear. In some cases, the difference will be just enough so that the output from the Subwoofer arrives out of phase with the output of the Satellites. When this happens, that critical mid-bass is actually cancelled. You should re-do this test any time you move your speakers.

If you want to experiment further, move the Main speakers either towards or away from your listening position, making changes in small increments. This will “focus” the system’s sound to its optimum. When you hear the best combination of stereo image localization and maximum impact and output in the mid-bass, you have the ideal location.

## **8. M&K SYSTEM SET-UP GUIDE**

### **The 5 Most Important Items In System Setup:**

- 1. Find the best location for the subwoofer for maximum output and flattest response (usually the corner closest to the listening position)**
- 2. Aim the front speakers (and the surrounds, if possible) for the flattest response and the best imaging**
- 3. Set all speakers to the Small setting for proper High-Pass and Low-Pass Filter operation to get the lowest distortion and maximum dynamic range**
- 4. Calibrate all speakers and the subwoofer to the identical level for proper imaging and balance**
- 5. Make sure all speakers are in phase for proper imaging and impact**

### ***SPECIAL NOTE:***

Please be aware that different brands may use different descriptions for the same function or sometimes similar descriptions for different functions! Because the terminology used in the owner’s manuals for your other components may vary from the terminology used here, you should always study the contents of all owner’s manuals carefully in order to ensure optimal system performance.

## Appendix A

### Speaker Placement Diagrams:

Figure 3 5.1 Surround Sound

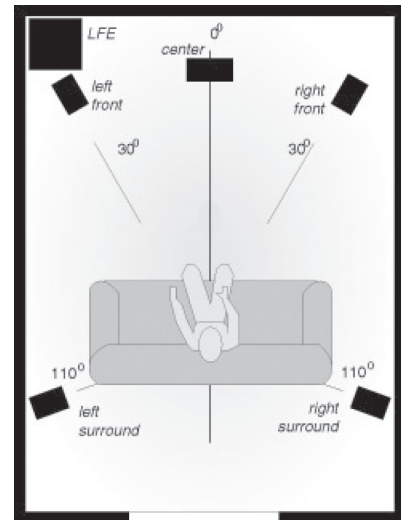


Figure 4 Side Wall Mounted Surrounds  
*The arrows on the rear of side surrounds must point to the front of the room.*

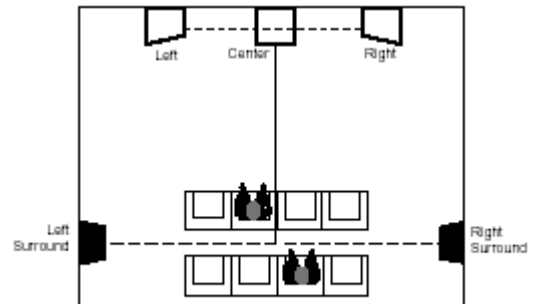


Figure 5 Back Wall Mounted Surrounds  
*The arrows on the rear of back surrounds must point to the center of the back wall.*

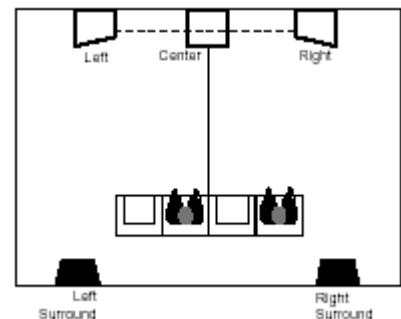
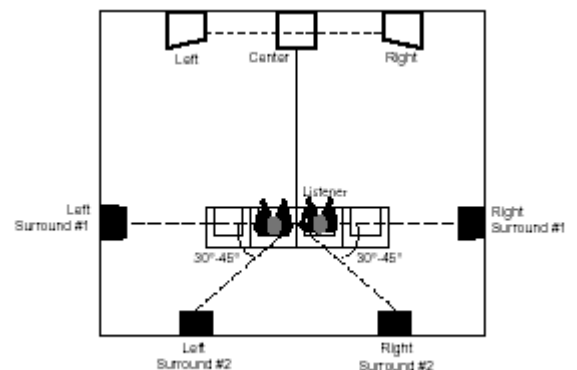


Figure 6 Multiple Surrounds

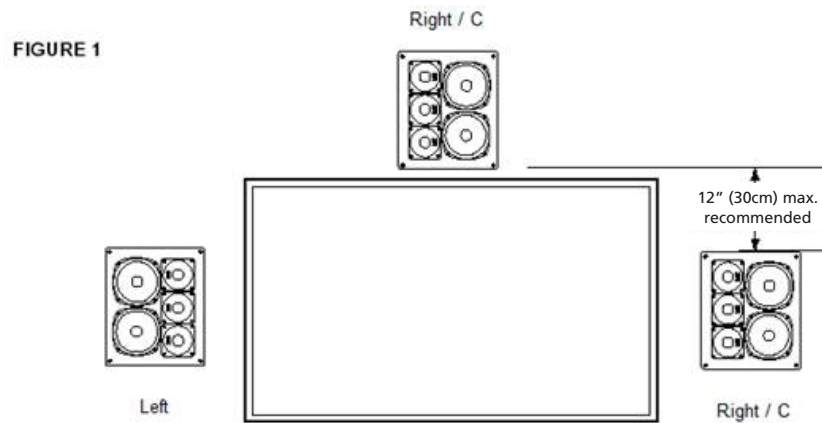




## Appendix B

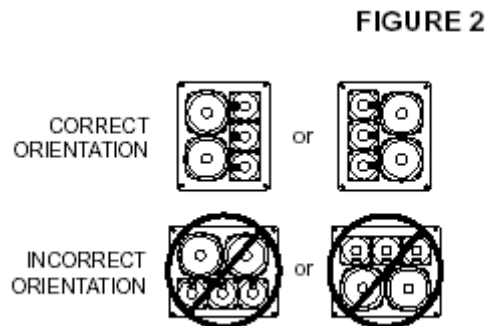
### Special notes on the M&K S150 and S300 Series:

Place your main speakers as shown in figure 1 below around a flat panel TV.  
You may also place your front three speakers (Left, Right/C) either all above or all below the screen (see options in figure 3 below.)

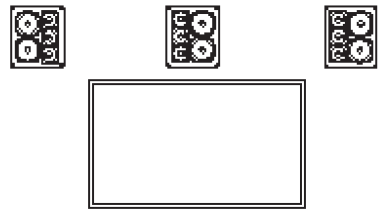


### Avoid turning your speakers on their sides (figure 2 below) as this will narrow the high frequency dispersion.

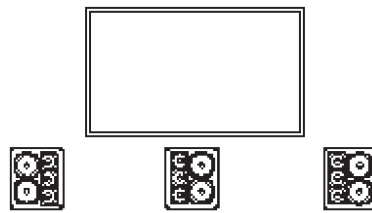
The performance of your speakers is dependent on their orientation. By controlling the vertical dispersion, we limit the amount of sound that would otherwise be reflected with a time delay from the floor and ceiling. This means the speakers should always be vertically oriented with tweeters vertically stacked (not next to each other). When vertical, the controlled dispersion is in the correct plane. If they are oriented horizontally (on their sides), listeners right or left of a direct line from the center of the speaker will hear a compromised sound quality, an irregular frequency response, as well as some other problems.



**Figure 3 Optional front speaker placement around a flat panel TV**



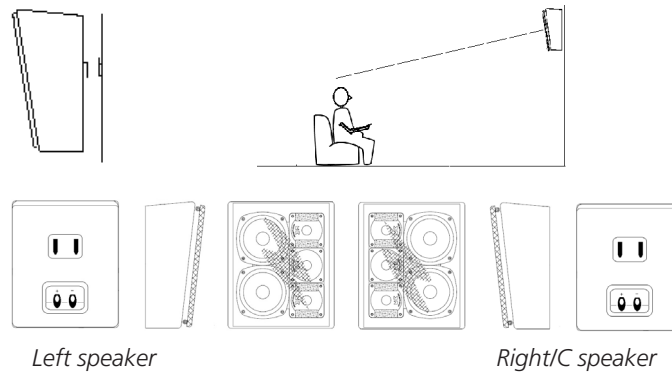
Speakers at or above listeners ear level.



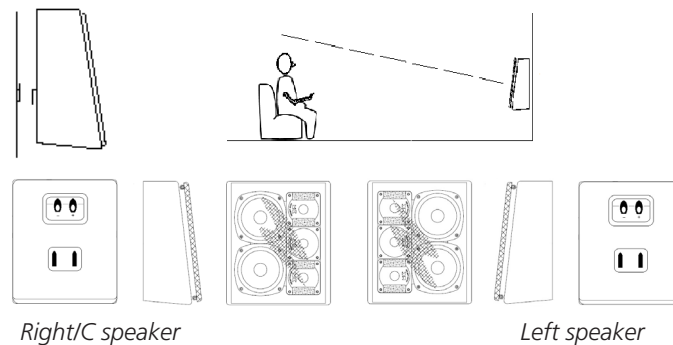
Speakers below listeners ear level.

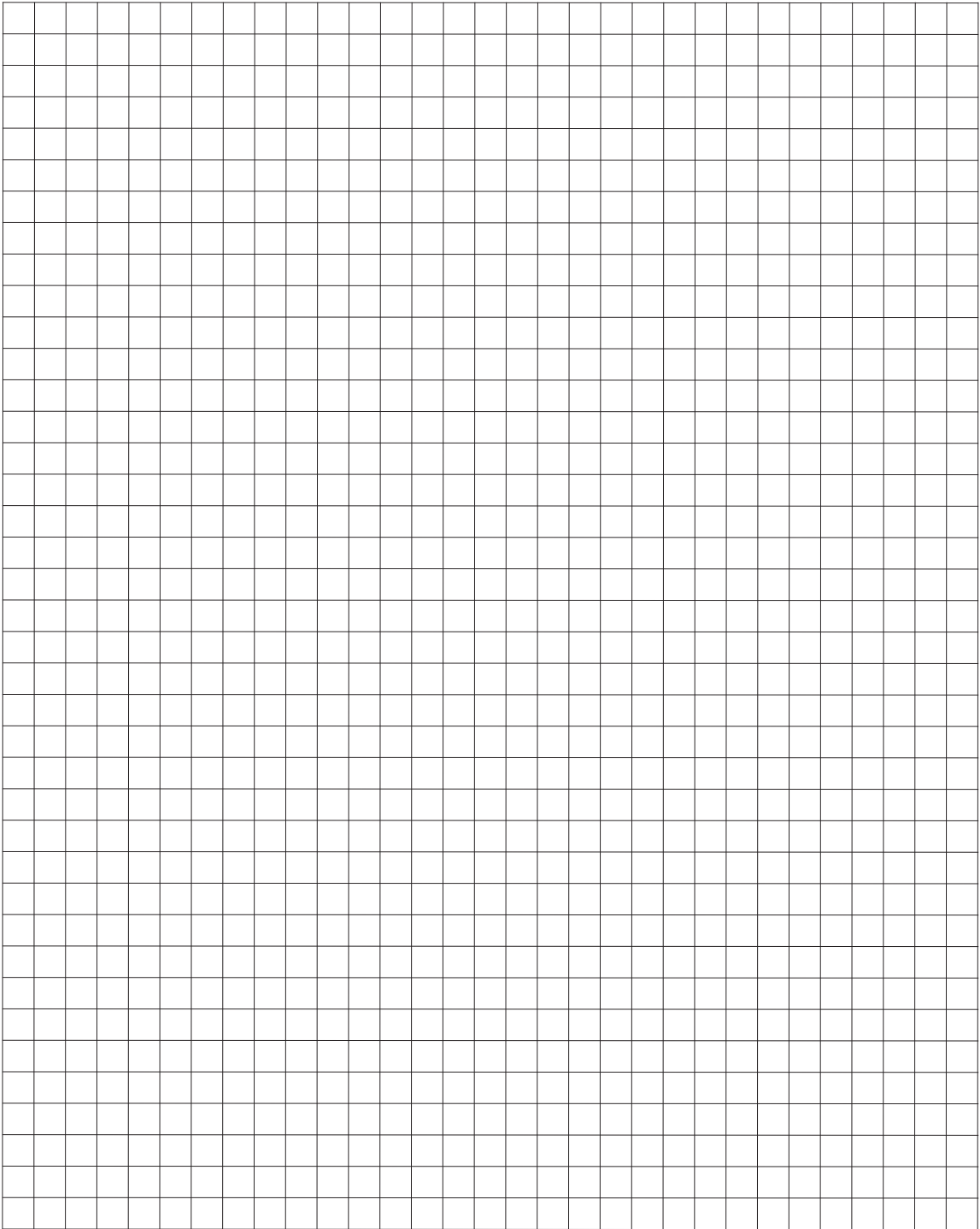
**Figure 4 Using flush mount brackets to mount the MP-150 or MP300 on the wall**

*The flush mount bracket is pre mounted on speakers for downward angled wall position.*



*When the speaker is used in upward angled wall position - rotate the flush mount bracket 180 degrees.*







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