Sound Masking Design Guide

This 4 step guide will assist in determining the quantity and spacing of AtlasIED sound masking loudspeakers using the Z Series masking generators / amplifier.

Step 1. Identify the ceiling type and measurements

A. ACT (Acoustical Ceiling Tile) - Measurement from floor to ceiling grid and measurement from ceiling grid to deck above

B. Open Ceiling Plan - Measurement from floor to ceiling deck above

C. Open Ceiling Plan with Clouds - Measurement from floor to cloud and measurement from cloud to deck above

Step 2. Choose a masking loudspeaker

A. M1000 - www.atlasied.com/m1000
- Above ceiling mounting with plenum cavity depth greater than 12"
- Above ceiling "Clouds", mount the speakers in the cloud areas over cubicles

B. M1000R-W or M1000R (black finish) - www.atlasied.com/m1000r
- Spaces with no ceiling grid, open to the deck

C. M2000-LP - www.atlasied.com/m2000-lp
- Above ceiling mounting or in a cavity with depth less than 12"

Step 3. Calculate how many speakers are needed

A. Measure the areas to be covered to determine square footage. Multiply the length of the room by the width. For rooms that are "L" shaped or irregular, break the areas down into smaller sections, figure the square footage of each section, and then add them together for the total square footage.

B. Use the following speaker calculation. Be aware that the square footage number may include areas not to be treated with sound masking.

Above the ceiling grid - Take the square footage number and divide by 225. This will be the approximate number of M1000 loudspeakers needed. Speakers are to be no further than 15' apart. This rule also applies to the M2000-LP.

Open ceiling, no grid - For deck heights up to 15' high, take the square footage number and divide by 150. This will be the approximate number of M1000R-W loudspeakers needed. Speakers are to be 14' apart.

Deck heights 16' and above - Divide the square footage by 260. Use 16' spacing for the speakers.

Note: The distance between masking speakers is crucial to a successful masking system. Spacing too wide will reveal "hot spots" and uneven coverage. All masking speakers are to be configured in a square grid pattern. See sample layouts below.

Step 4. Choose masking generator / amplifier

A. Z2-B (2 zone masking generator) - www.atlasied.com/z2-b
- Channel 1 can power 30 M1000 loudspeakers when the 1W tap is selected (about 7000 sq ft)
- Channel 2 can power 30 M1000 loudspeakers when the 1W tap is selected (about 7000 sq ft)

Note: This can be a "mix" of M1000, M1000R-W and M2000-LP loudspeakers.

B. Z4-B (4 zone masking generator) - www.atlasied.com/z4-b
- Channel 1 can power 30 M1000 loudspeakers when the 1W tap is selected (about 7000 sq ft)
- Channel 2 can power 30 M1000 loudspeakers when the 1W tap is selected (about 7000 sq ft)
- Channel 3 can power 30 M1000 loudspeakers when the 1W tap is selected (about 7000 sq ft)
- Channel 4 can power 30 M1000 loudspeakers when the 1W tap is selected (about 7000 sq ft)

Note: This can be a "mix" of M1000, M1000R-W and M2000-LP loudspeakers.

Note: If paging is required, reduce the speaker count to 25 and area covered to 5600 sq ft.

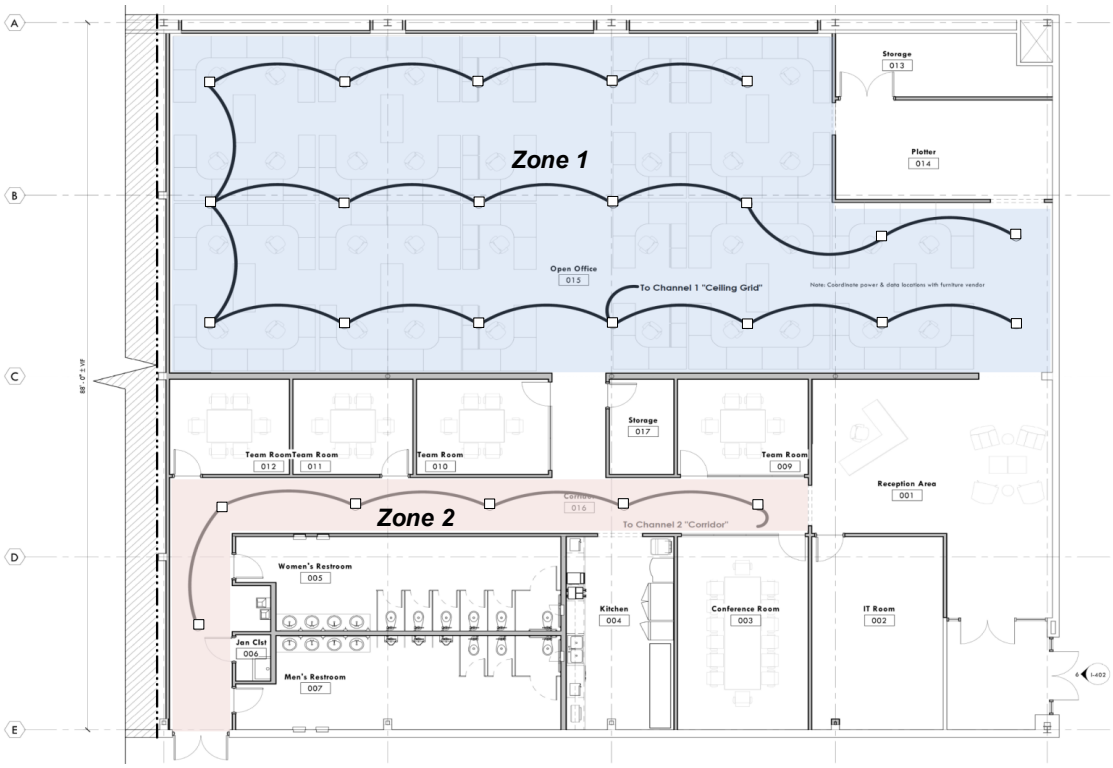
Installation Tips

Install the masking speakers in a square grid array. Tap all the speakers at 1W using the selector switch on the product. Wire all the speakers in a "daisy chain" fashion, bring the home run(s) back to the Z Series generator and connect to the speaker output(s) inside the unit. Using 18 gauge 2 conductor stranded speaker wiring will suffice for most speaker circuits.

Turn the system on, set the masking levels using the front panel menu selections or the phone app. A typical masking level for an open plan office is 47dBA. Tuning the masking system should be done when the space is ready and in "move-in condition". All furniture should be in place, the HVAC system is on, and the space is empty of occupants. Use a dedicated sound level meter or use phone app.

Remember that sound masking does not eliminate unwanted noise. It is meant to raise the background "noise" of the covered space slightly, and those distracting noises become unintelligible.

Z2 - 2 Zone Masking / Background Music



Z4 - 3 Zone Masking and 1 Zone Background Music