



Open and Closed Area Sound Masking in a Large Office Featuring ASP-MG24



ASP-MG24

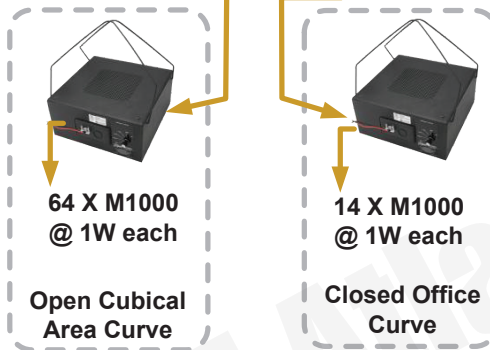
Note:  
Use Pink-Noise settings in the generator for Drop-In Ceiling applications



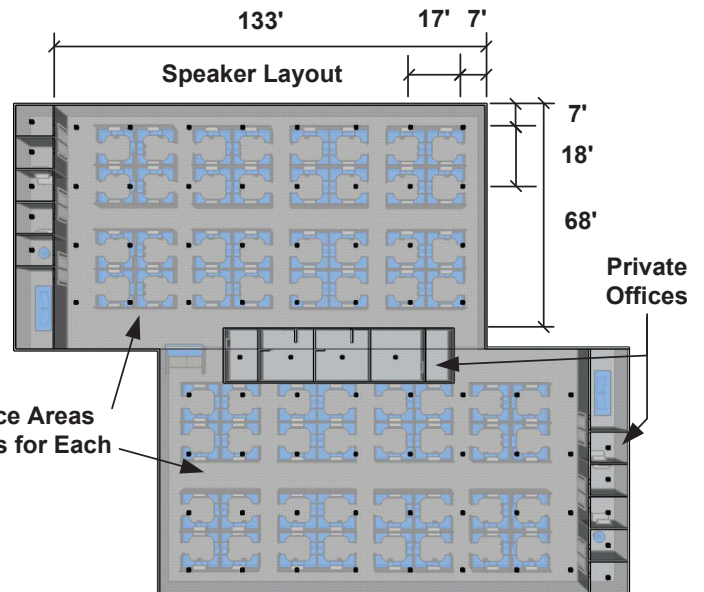
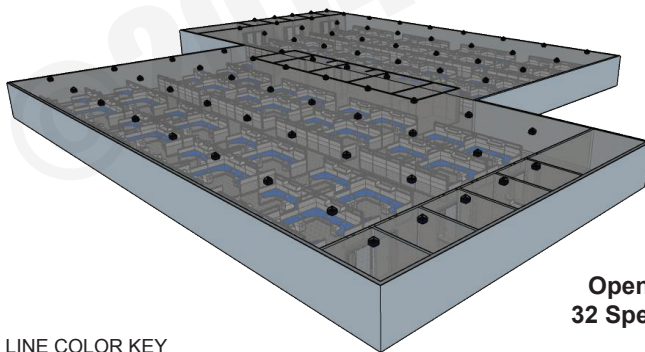
Note:  
Use PA702-RMK Rack Kit for Side-by-Side 1U Mounting



E408-100-RM X 3  
With ATPLATE-052



- Conditions in this design:
- The masking speakers are hung above a suspended ceiling
  - The plenum depth is between 1 and 3 feet
  - The suspended ceiling is mineral tiles
  - There are no sound absorption materials in the ceiling plenum
  - The suspended ceiling height is lower than 12 feet



LINE COLOR KEY

Red	LINE LEVEL AUDIO SIGNAL
Orange	LOUDSPEAKER LEVEL
Yellow	CONTROL / NETWORK SIGNAL
Green	MIC LEVEL AUDIO SIGNAL
Blue	VIDEO
Purple	GROUND
Black	120V

This is a design concept and is not meant to be a fully engineered system design. Contact Atlas Sound for system design help.



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**Overview:**

A sound masking system is a distributed audio sound system that emits a low-level non-distracting masking noise (similar to pink noise) typically tailored to reduce far-field speech intelligibility and thereby improving speech privacy. It is also effectively used to reduce distracting adjacent office noise, traffic or other unwanted noise to improve the work environment. Every space has it's own acoustic signature thereby requiring a specific sound masking noise curve to be tuned for the desired curved in a given space. This example illustrates a large office with two identical open space cubical layouts and several closed offices. Different masking noise curves and levels need to be set-up for the two types of acoustical spaces. See Atlas Sound "MaskingSpectra.doc" on atlassound.com for specific guidance on open and closed office masking curve settings.

**Application Example Description:**

In this example, the ASP-MG24 (4-channel masking processor) is deployed to provide the two different filter curves necessary for the open cubical and closed office spaces. The two open cubical areas feature a PA1001G amplifier powering thirty-two (32) M1000 speakers, tapped at 1-Watt each, for a total of sixty-four (64) speakers with a master level set by an E408-100 (stepped) volume control. The closed offices use a PA1001G amplifier powering fourteen (14) M1000 speakers, tapped at 1-watt each, with a master level set by an E408-100 (stepped) volume control. The M1000 speakers are suspended above the ceiling tiles in the plenum space.

**Benefits:**

- Cost Effective Speech Privacy
- Improved Work Environment
- Increased Productivity

**Application Example Notes:**

1. Install design physical assumptions:
  - The suspended ceiling is mineral tile.
  - The plenum depth is between 1 and 3 feet.
  - There are no absorption materials in the ceiling plenum.
  - The suspended ceiling height is lower than 12 feet.
2. See Atlas Sound "MaskingSpectra.doc" for guidance on open and closed office masking curves.
  - Set system EQ - Bandpass filters for (Low-Cut) HP = 100Hz; (High-Cut) LP = 8kHz
  - Walk the space with an RTA and adjust dB levels of each frequency to match curve settings on chart (in MaskingSpectra.doc) in space.
  - Typical levels are from 42dB to 46dB.
  - Some offices may need to ease into the level setting over a few days to allow employee's to adjust without noticing the change. Do this by adjusting the level pot one step at a time until the desired 42dB or more needed is reached.
  - For an Auto Scheduler Level Control see: Atlas ASP-MG24TDB

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