

Oasis Qt™ System Planning and Layout Guide

This guide will assist in planning an Oasis Qt™ sound masking system to permit ordering of appropriate hardware for the most common applications. Oasis Qt™ sound masking can be used for:

- **Open plan offices or other spaces with or without dropped ceilings**
- **Conventional closed offices and conference rooms.**
- **Hallways**

1. Planning Coverage for Open Office Areas

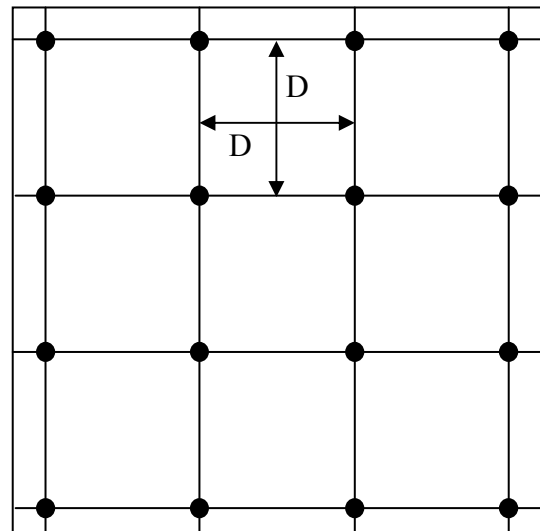
Generally: All contiguous areas within a common open area should be provided coverage.

Exception: Open areas subdivided by use, such as the waiting area in a pharmacy.

Planning the layout: Spacing should be on a square grid (see sketch below). Spacing dimensions should be according to the table below. Oasis Qt™ emitters can be moved up to 2' from these dimensions if planned locations interfere with existing ceiling elements such as HVAC diffusers, lighting, sprinkler heads, etc. Emitters should not be closer than 1.5' to vertical walls. Oasis Qt™ sound masking systems are not recommended for ceiling heights below 8'.

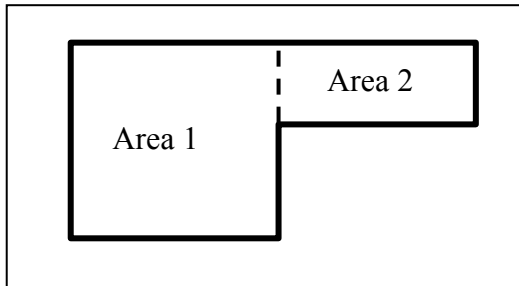
Table 1. Grid size vs. Ceiling Height

Ceiling Height (ft)	Emitter Spacing, D (ft)
8	8
8.5	10
9	10
10	10
12	12
Other Height	Call for details

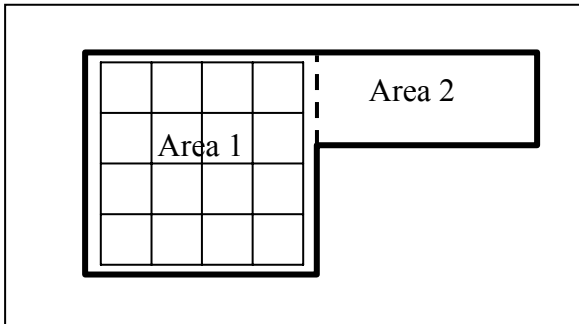


Detailed layout:

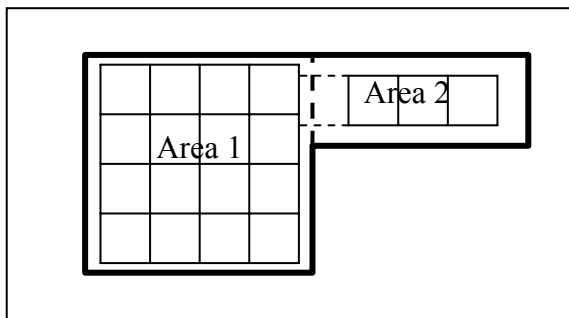
Divide the room into a set of rectangular areas, per example below.



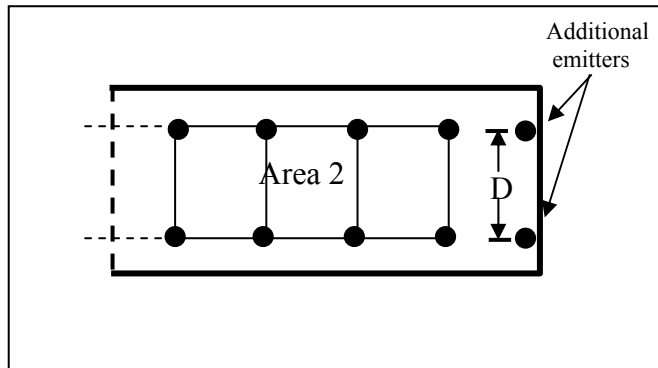
For the first area, center the grid such that the rows of emitters closest to each of two opposite walls is approximately the same distance from each wall.



Repeat the grid centering for each additional space, making sure that the grid is as continuous as possible between areas.



Note that if the spacing between a last row of emitters and an adjacent wall is more than one half the grid spacing, additional emitters should be placed in the tiles next to the wall. These emitters should also be spaced as close as possible to the planning grid spacing.



2. Planning Coverage for Enclosed Offices and Conference Rooms

The number of emitters recommended in closed offices or conference rooms is shown in the Table below. For enclosed areas larger than 600 sq. ft., use the layout rules for open offices.

Note that some consideration should be used when installing *Oasis Qt™* sound masking in Conference and Training Rooms, particularly larger ones over 300 sq. ft where individuals need to communicate effectively over some distance - or where teleconference activities are frequent. Background sound can interfere with some teleconference equipment and lead to feedback or ringing.

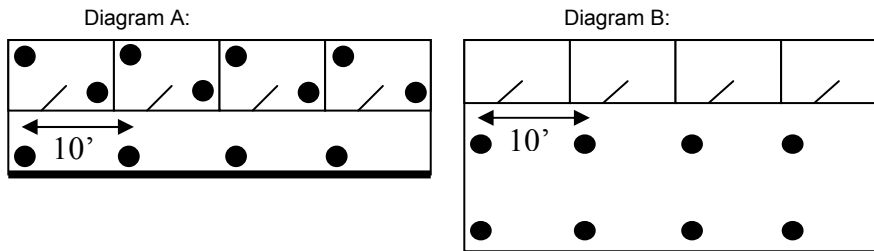
Enclosed Space Area (Sq. ft)	Number of Emitters	Recommended Examples
Up to 180	2	
180 - 255	3	
255 - 330	4	
330 - 420	5	
420 - 600	6	

3. Planning Coverage for Hallways

*Oasis Qt*TM emitters should be placed in hallways at approximately 10 foot intervals, with emitters at each end of the hallway. Emitters can be placed up to 5 feet from end walls and should be spaced 1 to 3 feet from a parallel wall.

Zoning of hallways depends on the level of privacy required.

When normal privacy is required, hallways may be part of an adjacent zone. For this scenario there are two possibilities.



When the hallway has walls on both sides (Diagram A) and adjacent closed offices are sound masked, the emitters can be run from the same control module as is used for the adjacent offices.

When one side of the hallway is open, and adjacent open areas are sound masked (Diagram B) the emitters can be run from the same control module as used for the adjacent open area.

When hallways are sound masked to ensure that conversations in adjacent offices are confidential, it is recommended that the hallway emitters are set up as a separate zone. Under these circumstances, the hallway zone can have a sound masking level higher than adjacent areas, providing the required increase in privacy, but with minimal impact on either adjacent private offices or open offices.

4. Ordering *Oasis Qt*TM Components

An *Oasis Qt*TM sound masking system requires emitters and controlling electronics. The number of emitters ordered is based on the open office area and on the requirement for closed offices.

Ordering Emitters for Open Office Areas: The number of emitters ordered depends on the grid size and the area to be covered. To determine the number, use the following formula or refer to the sample tables below. The recommendation is to order 3% extra emitters to ensure total coverage. Boxes of unused, unopened emitters may be returned to Cambridge Sound Management for a full refund.

$$\text{Number of emitters (N)} = 1.03 \times \left[\frac{\text{Open office area to be covered (A)}}{\text{Distance between emitters squared (D}^2\text{)}} \right]$$

Sample order sheet for a 10' Ceiling		
Open Office Area = A sq. ft.	# emitters required for 10' spacing = N	# controllers required & model
1,000	N = 1000/100 = 10	1 model SPS30
2,000	N = 2000/100 = 20	1 model SPS30
3,000	30	1 model SPS30
3,050	31	1 model SPS300
4,000	40	1 model SPS300
10,000	100	1 model SPS300
20,000	200	1 model SPS300
25,000	250	1 model SPS300

Sample order sheet for a 12' Ceiling		
Open Office Area = A sq. ft.	# emitters required for 12' spacing = N	# controllers required & model
1,000	N = 1000/144 = 7	1 model SPS30
2,000	N = 2000/144 = 14	1 model SPS30
3,000	21	1 model SPS30
3,050	22	1 model SPS30
4,000	28	1 model SPS30
4,320	30	1 model SPS30
10,000	70	1 model SPS300
20,000	140	1 model SPS300
25,000	174	1 model SPS300
36,000	250	1 model SPS300

Ordering Emitters for Closed Office Areas, Conference Rooms and Hallways:

The number of emitters required for closed offices, conference rooms and hallways is determined by summing the emitter requirements for individual spaces. Use the form provided. An example is provided below.

Number of Emitters Required for Closed Offices, Conference Rooms and Hallways					
A	B	C	D	E	F
Zone Number	Space Area (Sq. ft.)	Number of Spaces with this Area	Length of Hallway (ft)	Number of Emitters Required for this Area (from Table)	Total Number of Emitters Required for Spaces with this Area (C * E)
1	100	4		2	8
2	190	5		3	15
3	520	1		7	7
4		1	100	11	11
Total Number of Emitters					41

Ordering System Electronics:

The electronics, or controllers, that power the *Oasis Qt*TM speech privacy system emitters are available in two levels of power:

- The SPS-30 can power up to 30 emitters.
- The SPS-300 can power up to 300 emitters.

A separate controller should be provided for each area which requires different background sound levels, such as open and closed offices or different zones (e.g. departments) with different needs for levels of privacy. The number of controllers can be determined from the number of desired zones and the number of emitters required for each zone. Use the form attached for this calculation. An example is provided below. Note that in this example, we have shown that the hallway requires its own controller to achieve the system privacy goal.

Number of Controllers Required				
A	B	C	D	E
Zone Number	Area of Zone (Sq. ft.)	Number of Emitters in Zone	Number of SPS-30's Required for this Area	Number of SPS-300's Required for this Area
1	2,500	25	1	
2	18,328	184		1
3	Closed Offices	30	1	
4	Hallway	11	1	
Total Number of Controllers Required			3	1

Paging

The *Oasis Qt*[™] system may be used for voice paging, tone paging, or background music distribution in most office applications. Optional equipment must be ordered to enable this function. Contact Cambridge Sound Management at 617.349.3779 for detailed information and pricing on paging and background music distribution equipment.

Privacy Index

Installing an *Oasis Qt*[™] sound masking system in an open plan workspace will generally achieve Normal Speech Privacy – a privacy index of 80% or greater as defined by ASTM Standard E1130 – between adjacent workplaces in an open plan office facility. It will also generally achieve Confidential Privacy – a privacy index of 95% or greater as defined by ASTM Standard E1130 – in most conventional, fully enclosed offices or between closed offices and adjacent hallway spaces.

For additional information, or if you have any questions regarding planning and layout of the *Oasis Qt*[™] sound masking system, please contact:

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Cambridge Sound Management, LLC, located in Cambridge, MA, is the developer of *Qt Quiet technology*[™], a low-voltage distributed audio system for sound masking, paging background music distribution in the workplace. Our systems are sold direct and by select partners worldwide; they are deployed in over 7 million square feet of space. Installations range from modest home offices to spaces of unlimited size. Applications range from providing acoustical comfort in open workspaces to settings such as doctor's offices, where sound masking is used to assure confidential speech privacy.

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