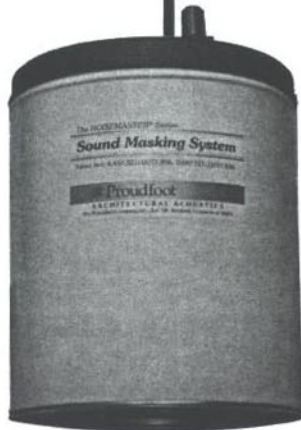


# The NOISEMASTER® Sound Masking System

Protected under U.S. Patent No. 4,450,321

## APPLICATIONS:

- Medical Offices
- Open & Closed Offices
- Conference Rooms
- Libraries
- Cluster-Core Workstations
- Anti-Bugging



# Proudfoot

## ARCHITECTURAL ACOUSTICS

Sweet's Catalog Ref. #9500/PRO • Thomas Register Catalog Ref. #53822003

With the increased use of systems furniture in the office environment, the importance of good acoustics is becoming a major consideration for architects, designers, and those who occupy office space.

Most offices don't meet acceptable acoustical standards, and because the total environment impacts on the efficiency of office workers it is important to design space that is conducive to a comfortable, productive office.

Consider a conventional open-plan office where partitions are used to create cubicles, or offices. When such a plan is implemented, it is easy to overlook the fact that sound can and will travel through, under, and over the partitions. To reduce the impact of this counter-productive interference, acoustical panels and sound absorptive ceiling tiles can be employed. But to fully counteract the effects of unwanted noise—and to create an environment where office productivity will foster—installation of a NOISEMASTER® Sound Masking System is recommended.

### NOISEMASTER® Sound Masking System characteristics:

- **ADVANCED** — "state of the art" solid state circuitry, digital masking source controlling up to 4,000 sq. ft.
- **FLEXIBLE** — speakers have separate volume controls
- **EFFICIENT** — speakers use less than one (1) watt of power to cover up to 250 sq. ft.
- **EASY TO INSTALL** — pre-cut wiring, quick disconnects, low voltage power supply 18 gauge wire needs no conduit
- **PAGING** — easily incorporated
- **TRANSFORMER** — located proximate to master control unit

Installing a NOISEMASTER® Sound Masking System results in the creation of comfortable sound levels and speech privacy in the office environment. The importance of speech privacy in the office is threefold:

1. Confidentiality may be important to the job;
2. Intrusion of conversation and other sound causes distraction and has an adverse impact on efficiency; and
3. Uncomfortable feelings ensue when business or private conversations are overheard.

Progressive businesses with an eye toward office productivity are installing NOISEMASTER® Sound Masking Systems in many applications where speech privacy is of primary concern. Consider the many ways a NOISEMASTER® Sound Masking System can work for you.

## NOISEMASTER®

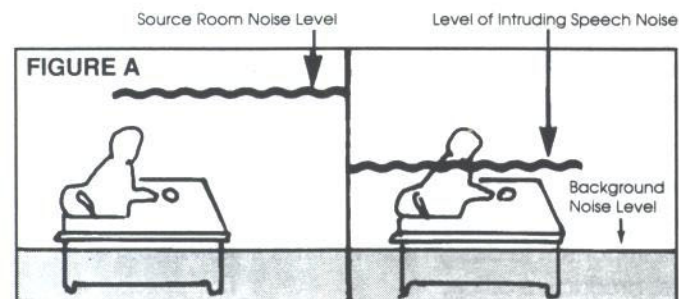
## Sound Control Products



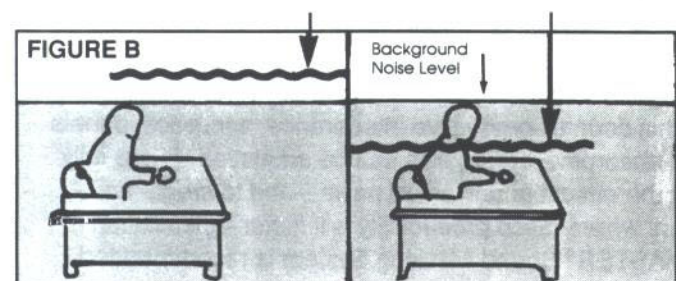
The Proudfoot Company, Inc.  
P.O. Box 338 • Botsford, CT 06404-0338  
Phone: (203) 459-0031 or 1-800-445-0034  
Fax: (203) 459-0033

## WHAT IS "SOUND MASKING"?

In any office there exists a variety of background noise, including speech noise emanating from adjacent office areas. This background speech noise directly affects the level of speech privacy available. It is important to note that "speech privacy" is defined as "hearing, but unable to understand, conversation from adjacent areas". Sound masking is an electronic process used to create speech privacy using controlled generation of sound. By generating specific frequencies of sound at various volumes in accordance with the specific conditions of the environment, a uniform blanket of sound is created at four feet above the floor (at or about ear level when sitting at a desk).



Refer to Figure A. Note how the level of intruding speech from the source room is greater than the background noise level in the office shown. In office environments where intruding speech noise levels are greater than existing background noise levels, speech privacy is poor, as conversation may be heard and understood by those outside the source room.

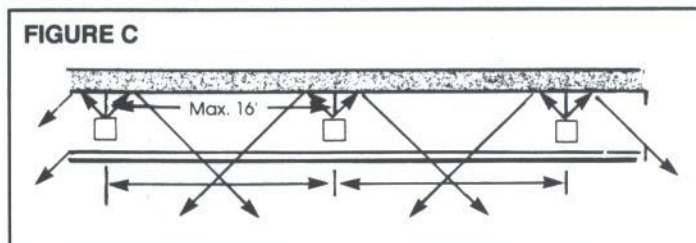


This situation is corrected in Figure B, where sound masking is employed. Note how the level of intruding speech remains constant with the previous example. However, in this case, sound masking is incorporated to raise the level of background noise in the office shown to a level greater than the intruding speech. Under these conditions, where background noise levels exceed intruding speech levels, office privacy is maintained, as adjacent conversations may be heard but not understood by people outside of the source room.

As a general rule in open plan offices, sound masking levels should be four (4) to eight (8) decibels (A scale) louder than the intruding speech from adjacent workstations, but never greater than 52 decibels (A scale). Sounds formed by heating, ventilating, and/or air conditioning—or background music—cannot function as or instead of sound masking, because all the frequencies in the spectrum (to 20 kHz) are present and of unequal amplitude. Sound masking is specifically tailored for speech frequencies of equal amplitude. However, background music and sound masking can work together (simultaneously) to create an acoustically correct and comfortable environment.

## INSTALLATION LOCATION

The Master Control Unit of the NOISEMASTER Sound Masking System is flush mounted to a vertical surface, typically adjacent to the transformer provided and one of the system's speakers. All speaker units are suspended in the plenum area above the drop ceiling, no more than 16' apart (see Figure C).



## IMPROVING OFFICE PRIVACY

In addition to electronic sound masking, acoustical ceiling tiles with a Noise Reduction Coefficient (NRC) of .70 or higher and properly installed partitions/sound barriers with a Sound Transmission Loss Characteristic (STC) of 21 or higher must be used to produce maximum levels of office privacy. The NOISEMASTER Sound Masking System will counteract diffracted noise (traveling under, over, or through partitions); the ceiling tile will absorb noise reflected upward; and the sound absorbent partitions will absorb noise following a direct path.

Call The Proudfoot Company toll-free for technical assistance in solving your noise control problems: 1-800-445-0034.

### NOISEMASTER® Sound Masking System specifications:

- **Master Control Unit:** Solid state digital random sound source  
Integral volume and spectrum adjustment  
Paging input circuitry  
16 watt output and 16 speaker support capability
- **Speaker Unit:** 3 watt speaker (4" square) contained in a 6" x 8" unit  
Unit has separate volume control and interconnects system to supply two other units
- **Transformer:** 120VAC primary; 24VAC secondary @ 40VA  
UL listed, class 2
- **Speaker Wire:** Two conductor 18 gauge wire per NEC spec. #725  
Pre-cut to 20' lengths with IDC quick connectors