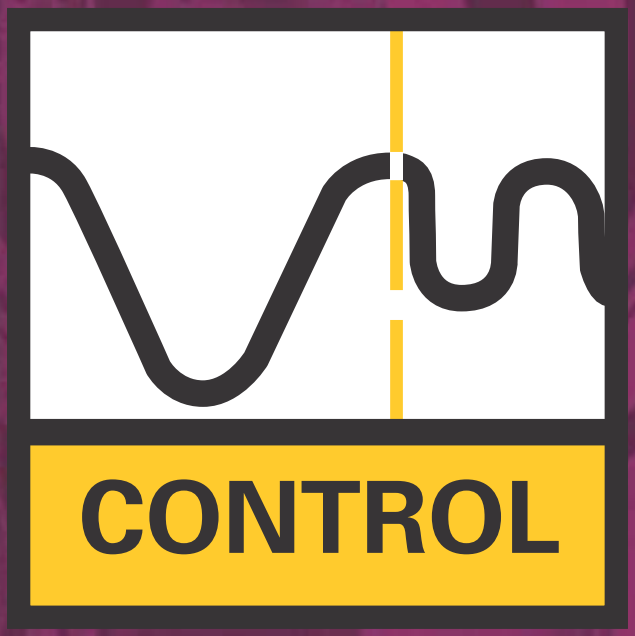
Vibra-Sonic Control



Customized Sound Masking Systems

Acoustics in the Work Environment

Providing an acoustically balanced work environment benefits employees directly, significantly improving overall productivity. However, it is often the least considered aspect in workspace design. For those wishing to be proactive, there are three critical acoustical issues that must be addressed: Ambient Sound Level, Speech Privacy, and Sound Transmission Paths.

Ambient Sound Level – Every office has a level of background 'noise' that is directly related to the type of work being performed. The most distracting and counter-productive sounds are those associated with people talking, mechanical systems, and intermittent sounds such as ringing telephones, photocopiers and other random 'noises'.

Speech Privacy – This is the most critical issue in any office environment. If speech is intelligible, employees feel extremely restricted in their communications over the phone or with colleagues in their own workspace. Normal levels of speech should be unintelligible over 15 feet in open areas, and between closed offices.

Sound Transmission Paths – There are four distinct sound transmission paths;

a) Direct Path – unimpeded between a sound source and the receiver.

b) Impeded Direct Path – from source through a barrier(s) to the receiver.

c) Reflected Path – where sound bounces off surfaces from source to the receiver.

d) Diffracted Path – where sound 'bends' around elements in the space to the receiver.

Knowing how sound travels, three basic remedial techniques can maximize speech privacy in office environments: Absorption, Blocking, and Masking.

Acoustics in the Work Environment *(Cont'd)*

Sound Absorption – materials that reduce the reflection of sound by presenting 'soft', porous surfaces to the sound source. The liberal use of ceiling tiles with a high absorption coefficient, fabric covered furnishings, open area partitions and carpets will reduce the ambient sound level as well as speech intelligibility over distance.

Sound Blocking – materials that are dense and solid reflect sound back towards the source and significantly reduce the amount of sound getting to a receiver. Open area partitions require a dense material core with absorptive material on both sides.

Sound Masking – a means of raising the ambient sound level by introducing low- level sound. It has a spectrum that broadly covers speech frequencies and is contoured to the human ear's sensitivity to voice frequencies. Hence, it renders distracting conversations less intelligible while those directly involved in the conversation have a sense of privacy.

It is important to use all three of the above noted materials and systems in order to control the acoustic environment in the workplace. This is particularly important in 'open landscape' designs and where office walls do not go fully up to the structural ceiling. The construction and height of area partitions, selection of acoustical ceiling tile, or the quality and flexibility of a Sound Masking System can mean the difference between success and failure in achieving an acoustically 'friendly' environment. As a result, **a systems approach**, involving Acousticians, End Users, Facility Managers, Architects, Designers, Contractors and Manufacturers is highly recommended. Discussions should include the possible acoustic impact of the building's mechanical systems, appropriate layout of the space, placement of room elements, materials of construction and the integration of **an effective Sound Masking System.**

Vibra-Sonic Centralized
Sound Masking Systems

Specifically tailored analog or digital masking system consisting of a pink noise generator(s), an amplifier(s) and an equalizer(s), rack mounted at one or more central locations. The system introduces an electronically generated, broadband, voice-masking sound spectrum throughout the work environment through speakers installed above the ceiling tiles, below the raised flooring or integrated within specific acoustical ceiling tiles.

Features include:

- Global Volume Control
- Local Volume Adjustment at Each Speaker
- Centralized and Zoned Equalization
- Simple Reconfiguring if Required

Versatile:

Every System is tailored to meet site-specific requirements with options such as:

- Analog - Manual Spectrum Control
- Digital Signal Processing - (DSP) Control
- Multi-Zone Control - from a single location(s)
- Multi-Floor Control - from a single location(s)
- Speakers for Plenum Installations
- Speakers integrated within Specific Ceiling Tiles
- Speakers for Raised Floor Applications
- Programmable Ramp-Timing

Multi-Functional:

Through a single system of speakers:

- Sound Masking
- Zoned & Global Paging with Clarity
- Background Music
- Sound Signals - Doorbell Chimes
- Anti-Bugging
- Single or Multiple Function per Zone

De-Centralized
Spectra® Sound Masking Systems

- Speaker Integrated Audio System consisting of Master and Slave Speakers. A pink noise generator, amplifier and filter are installed within each Master Speaker and electronically produce a unique sound spectrum similar to that of softly blowing air
- One Master Speaker can control up to 2 Slave Speakers or perform alone as a single speaker system
- It is the only sound masking system with E-sound technology
- Spectrum Contour and Volume can be controlled down to an area of 225 sq ft
- Global Volume Control available with the addition of one Central Volume Control Master speaker per zone
- Paging and Music provided with simple wiring and equipment additions
- Programmable Ramp-Timing available
- Low Energy Consumption
- Maintenance Free
- **10 Year Unconditional Warranty on all Components**
- Easy to install, modify or move

New computer generated digital noise source

Vibra-Sonic Control

Work Area Noise Issues

A pleasant and secure Acoustical Environment within an office is critical. Today, however, walls are being replaced by partial height partitions or built to the underside of acoustic ceilings so noise and speech travel more freely. The inconsistency of this noise is unpleasant and causes discomfort, distraction and annoyance. It has been concluded, through environmental studies, that inconsistent sounds and noise affect the way we feel, behave and perform various functions. "Overheard conversations" are the "worst distractions" and lead to the most common complaint - lack of speech privacy.

Individual Voume Adjustment at Every Speaker

Customized Sound Masking

The Sound Solution for Problems with Speech Privacy and Noise Distraction

Balancing the Acoustics In Varying Work Environments

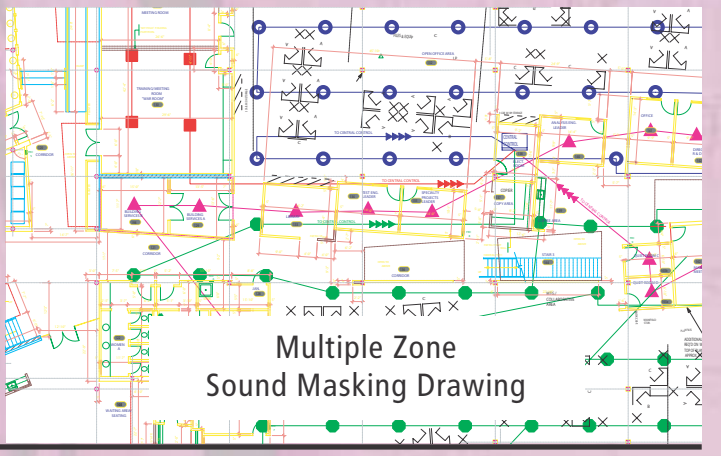
- High Density Floor Plates
- Closed Offices
- Open Office Landscapes
- Meeting/Conference Rooms
- Interview/Treatment Rooms
- Libraries/Classrooms
- Call Centers/Trading Areas
- Medical Facilities/Courthouses
- Folding Door/Acoustic Trac Wall Applications

Vibra-Sonic Sound Systems Integrate Well with Most Ceiling Types

Acoustic/Drywall
Open/High
Pods/Clouds

Creating an Acoustically Comfortable Environment

Sound Masking is an acoustical technique designed to reduce voice intelligibility, thereby increasing speech privacy. To achieve this, an electronic, broad-band sound spectrum is generated and introduced into the area of concern through speakers installed on a 15 foot grid pattern to ensure a homogeneous distribution of the masking sound. This subtle rise in the ambient background sound level makes most office and outdoor generated noises less noticeable and renders speech unintelligible. Increased productivity offsets the initial cost of the system.



Multiple Zone
Sound Masking Drawing

Partial Client List, Coast-to-Coast

- Coral Energy
- Bow Valley College
- x-wave
- Spielo Gaming
- CIBC Branches
- Calgary Health Region
- Alberta Infrastructure
- Saskatchewan Project Mgt.
- SaskTel
- Royal Bank
- Devry Institute of Technology
- Arthur Anderson
- Calgary Chiropractic Clinic
- Wescast Industries
- Language Studies Canada
- Deloitte & Touche
- Syngenta
- Community Savings
- MacMillan Bloedal
- IBM Canada
- Mount Royal College
- U of C Student & Academic Services
- PetroCanada
- TransCanada
- Stantec Contracting
- Business Development Bank of Canada

DSP

True Digital Sound Masking

Quality Sound – 100% Digital Processing, High Interference Immunity

Flexible – Re-Wire and Reconfigure Components On-Screen

Expandable – Add New Zones and Paging Without Purchasing New Equipment

Secure – Password Protected Digital Processor, No External Adjustments

Space Saver – Reduces Sound Equipment Components, Requires Fewer Rack Spaces

Vibra-Sonic Control

"Over 22 Years of Successfully Solving Acoustical Issues For Clients". Always Aware of, and Adapting to "New Technology"

Sound Masking, Vibration Control, Noise Control Materials & Products, Industrial & Commercial Silencers

Vibra-Sonic Sound Masking

Customized for Specific

- *Facilities*
- *Requirements*
- *Expectations*

Vibra-Sonic Control

CONTROL

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