

# SOUND. THAT WORKS.™ IN HOSPITALS



Protect  
speech privacy,  
improve sleeping  
conditions and  
support delivery  
of a high level  
of care.

Noise is a well-documented problem in hospitals. Sources include patients, staff and visitors talking, as well as the cacophony produced by televisions, carts, doors, medical equipment, and mechanical systems.

These sounds can cause more than just irritation. A growing amount of research shows that noise actually harms patients by elevating their heart rate and blood pressure, as well as by increasing muscle tension and metabolism.

Noise also prevents patients from getting the rest they need for recovery. While it's not responsible for all disruptions, its contribution is significant. Sleep deprivation can cause agitation, delirium, decreased tolerance to pain, and suppressed immune response, which increases nursing calls and lengthens hospital stays.

But patients aren't the only ones affected. Noise also tires staff out and disrupts concentration, affecting workplace satisfaction and the quality of care they're able to provide.

Speech privacy is yet another acoustical concern. Conversations take place between caregivers, patients and their visitors—at administrative stations, in hallways and patient rooms. When they can overhear conversations occurring in adjacent areas, patients know others can hear their conversations as well, making them uncomfortable.

Patients also have a right to a level of auditory privacy. In some countries, such as the United States, this right has been officially recognized in government regulations.

Addressing these acoustical issues helps to create an environment that maintains privacy, promotes healing and supports the proficient delivery of care.

  
**LogiSon**®  
ACOUSTIC NETWORK

## The Quest for Silence

For many years, the typical approach to addressing acoustical problems in the healthcare field was to try to achieve the lowest possible volumes—particularly in and around patient rooms. Various methods were drawn into this ‘Quest for Silence,’ including high-spec walls, decentralized nursing stations and behavioral policies. However, noise control and speech privacy remained elusive goals. In fact, surveys show that noise continues to be one of the main reasons for patient dissatisfaction.

Although well-intentioned, part of the problem with this earlier approach is that it’s impossible to eliminate all noises from a busy, round-the-clock healthcare environment. Furthermore, the more silent one tries to make a space, the louder the remaining noises seem to occupants.

This phenomenon can be attributed to the fact that an effective acoustic environment relies on the provision of an appropriate background sound level and spectrum. Once established, it covers up any noises that are lower in volume and diminishes the impact of those that are higher. Without it, occupants can clearly hear conversations and noises—even those generated at a distance or relatively low in volume.

## The LogiSon® Solution

The LogiSon Acoustic Network distributes a soothing background sound throughout a facility. Although most often compared to softly blowing air, the sound is professionally tuned to an independently-proven masking spectrum that’s designed to cover speech and noise while remaining comfortable and unobtrusive.

This technology is easily installed in new and existing spaces, including reception, waiting and common areas, sleep labs, pharmacies, staff quarters and offices, laboratories, and exam rooms. It’s earned over twenty industry awards—four for healthcare applications—and its efficacy has been proven in many hundreds of millions of square feet worldwide.

Hospitals are also using the LogiSon Acoustic Network in patient rooms where it’s proven to improve patient satisfaction ratings for noise. The system is uniquely designed to provide local control in

### Design Guidelines

That’s why organizations such as the Facility Guidelines Institute (FGI) recommend the use of sound masking systems in healthcare applications and allow for a point-for-point exchange between the measure of isolation—the sound transmission class (STC)—and the background level (dBA), meeting the required privacy levels while reducing project costs.

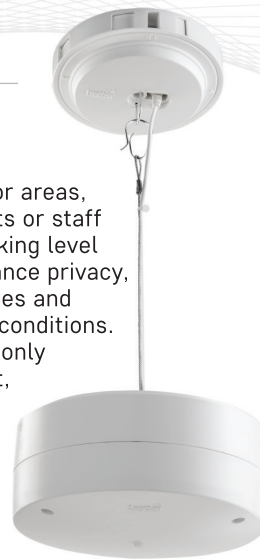
### Improved Sleeping Conditions

Furthermore, sound masking has been found to be a very effective method of improving the quality of patients’ sleep. Studies show that it shortens the amount of time it takes to fall asleep and helps reduce sleep disruption due to noise. In fact, in a study of ICU patients, quality of sleep improved by 42.7% when sound masking was used (Stachina et al., 2005). The technology’s success lies in its ability to decrease the magnitude of change between baseline and peak volumes. It’s typically the degree of change the patient experiences in the room, rather than a noise’s volume, that determines whether or not sleep disruptions occur.

individual rooms or areas, allowing occupants or staff to adjust the masking level as needed to enhance privacy, reduce disturbances and improve sleeping conditions. In this way, it not only increases comfort, but also patients’ sense of control over their environment.

The LogiSon Acoustic Network can also provide paging and background music functions where needed. Networked control allows changes to be made without re-opening the ceiling.

For more information about the system’s advanced features, see our brochure or contact your local LogiSon Representative.



## Case Study



### Memorial Medical Center Modesto, California • USA

Memorial Medical Center is affiliated with Sutter Health—a family of not-for-profit hospitals, physician organizations and other medical services that share resources and expertise to advance healthcare quality and access.

### Problem

Memorial was experiencing noise issues and decided to conduct a trial of the LogiSon Acoustic Network in semi-private and private patient rooms, as well as in their Cancer Center. An independent acoustical consultant was hired to quantify its impact. The rooms selected for testing included one directly across from the nurses’ station, one with a direct path of sound transmission from a medication dispenser and several off a main corridor. Their acoustical design was generally poor, with gypsum walls and ceilings and large glass windows. Only the Cancer Center rooms featured a suspended ceiling.

### Solution

Measured and subjective findings showed that the LogiSon Acoustic Network reduced speech intelligibility and the amount of disruption caused by conversation. Noise from the dispensing machine and other sources was far less noticeable. Overall, the difference between the masked and unmasked floors was dramatic. The nursing staff were very pleased with the results. The trial expanded into an installation that covers four floors of patient rooms and corridors. Post-installation surveys show a marked improvement in terms of patient satisfaction with noise levels.

## A Few of Our Hospital Clients

ABINGTON MEMORIAL HOSPITAL • BRANDON REGIONAL HEALTH • CHILDREN’S HEALTHCARE OF ATLANTA  
COMMUNITY HEALTH SYSTEMS • HAMAD HOSPITAL DOHA QATAR • KENT GENERAL HOSPITAL  
LATIFA HOSPITAL DUBAI • METHODIST LEBONHEUR HEALTHCARE • PRINCE OF WALES HOSPITAL  
SCOTTISH RITE HOSPITAL • SPENCER MUNICIPAL HOSPITAL • ST. MICHAEL’S HOSPITAL • YALE-NEW HAVEN HOSPITAL



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