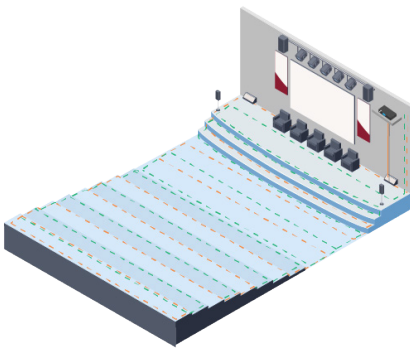


7 SITE SURVEY CONSIDERATIONS FOR A HEARING LOOP SYSTEM

A thorough site survey is essential for evaluating the viability and performance of a hearing (induction) loop system in any environment. It ensures the best audio signal for T-coil-enabled hearing aids or cochlear implants. This guide offers seven key considerations for systems integrators and installers to ensure the induction loop's functionality and efficiency.

1 ELECTROMAGNETIC BACKGROUND NOISE

Testing for background noise is key to ensure an induction loop will be an effective assistive listening solution. Use a field strength meter ([Williams AV model PLM FSMP](#)), to measure noise levels across the loop's coverage area to identify any localized magnetic background noise. Make sure all relevant equipment in the space is turned on during testing. This helps get accurate noise readings in the space.



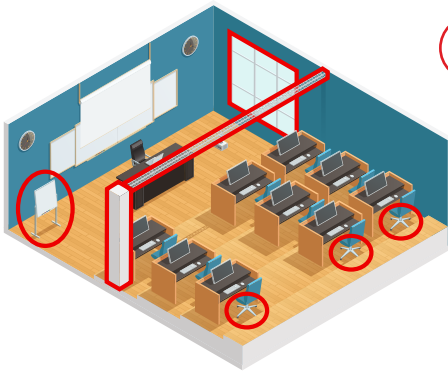
2 FIELD OF COVERAGE

When conducting a site survey, consider how much coverage is required in the area, often referred to as the volume of use. Ask the venue where visitors are most likely to need coverage and assess potential space constraints, such as tiered seating, adjacent spaces to be looped, the type of floor or surface where the loop will be installed, and the overall size of the area. This information helps designers suggest a loop layout that delivers an optimal experience.

3 OVERSPILL

When installing multiple looped areas in a venue, it's important to check for overspill to keep the audio within designated spaces. Low-spill phased array designs are a smart choice for minimizing the potential for overlapping audio transmission (overspill) between adjacent looped areas. Minimizing overlapping audio also ensures clear sound for a better listening experience.



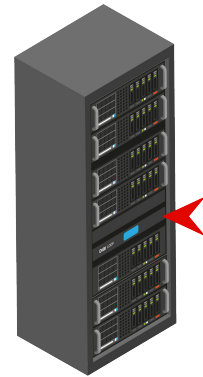


4 METAL LOSS

Metal objects, such as window frames, rebar in concrete, and metal furniture, can interfere with the hearing loop system's audio delivery. These objects can absorb and dissipate the electromagnetic field generated by the induction loop wire. This absorption results in a loss of audio signal and/or reduced audio performance. Be sure to thoroughly explore the area to be looped, identifying potential sources of metal loss, and addressing these issues during the design stage prior to installation.

5 LOCATION OF MOUNTED AMPLIFIER

Accessibility is key when deciding where to put the amplifier. Opt for a spot where adjustments can be easily made. Usually, amplifiers are set up with other audio/video equipment for convenient audio source connections. If you're rack mounting, check the amplifier's spec sheet for heat ratings (BTUs) to ensure proper airflow. Keep in mind that it's best to avoid putting amplifiers in the same room as listeners since they can get noisy due to fans.



6 WIRING CONSIDERATIONS

In hearing loop systems, the wire looping around the room is crucial. It carries the audio signal via an electromagnetic field created by a hidden wire. Picking the right wire for your venue is essential. Consider factors like flooring type and the amplifier's output load when selecting wire for a hearing loop system.

For under floor installations like carpet, wood, or tiles, flat copper foil tape is best. It's held in place with adhesive tape. If you need to bury the wire in concrete, use a single conductor or Direct Burial Cable (DBC). DBC is designed to resist the corrosive effects of concrete, providing added protection to the wire.

Keep in mind the amplifier's load specification when choosing wire. Longer runs may require thicker wire to stay within limits. And remember, the lead wire from the amplifier adds to the load.

Bonus tip: In large venues, it's crucial to consider the wire's DC resistance. This factor helps determine the number of amplifiers needed. For Williams AV amps, aim for a DC resistance of 0.5 - 3.0 ohms.



7

AUDIO SOURCE

Loop systems work well for a variety of audio sources, including music, prerecorded programs, and live presentations. But remember, the quality of the source audio is crucial. If there's noise in the source audio, it'll be transmitted through the loop. When choosing a microphone for live presentations, consider whether the presenter will be stationary or moving. Some microphones might pick up too much background noise, which delivers a poor listening experience.

Check out our Source Audio Requirements with the Induction Loop System Design Guide to assist you in choosing the best microphone and/or audio source for your looped environment.

When considering the audio source for the looped space, ask these questions: How and where will I access the audio source? What types of connections do I need? Is it digital, line level, microphones, or 70V distributed audio?



A complete site survey is a crucial first step when designing a hearing loop system. The seven site survey steps outlined in this guide will provide you with a solid foundation for your project. And the Williams AV team is here to support you every step of the way.

SUPPORT

Discover unparalleled support with Williams AV Tech Blue Design and Support Services Team. Our dedicated induction loop experts are committed to delivering top-notch technical assistance with induction loop survey and implementation. The Tech Blue team provides initial hearing loop design and coverage modeling as a complimentary service in anticipation of a Williams AV induction loop purchase. To request your complementary loop design, complete the [Hearing Loop Design Request form](#). Contact techblue@williamsav.com for induction loop support.

HEARING LOOP ESSENTIALS SERIES

Visit [WilliamsAV.com](https://www.williamsav.com) to discover a range of induction loop resources, providing comprehensive support for all your hearing loop needs from site evaluation to venue loop support.