The newest Americans with Disabilities Act (ADA) guidelines ratified on September 15, 2010 require full compliance by March 15, 2012. These guidelines replaced the 1990 Americans with Disabilities Act provisions for accessibility. Following are brief highlights of the changes to the ADA requirements for assistive listening systems, and some of the technologies to meet these guidelines.

For the past several years, audiovisual system designers have specified assistive listening systems (ALS) based on insufficient criteria established in the 1990 ADA listening guidelines. For example, if a venue had a permanently installed sound system, then 4% of the seating or people capacity had to be accessible to the hard of hearing. This was accomplished by installing an Assistive Listening Device (ALD) to help hard of hearing people better understand speech, music, and other sounds during a movie, performance, lecture or other event. In other words, a 1,000-seat venue was required to have 40 ALD receivers available. One of the catches of the previous guidelines was the “permanently installed sound system” phrase. If a venue didn’t have a permanent sound system, it was not necessarily required to provide an assistive listening system.

The new 2010 Guidelines adjust that language by stating:

"219.2 Required Systems. In each assembly area where audible communication is integral to the use of the space, an assistive listening system shall be provided.” This appears to be slightly at odds with the exception following:

“Exception: Other than in courtrooms, assistive listening systems shall not be required where audio amplification is not provided.”

One could debate the legal terms of integral communication and whether or not a sound system is provided, but what this means is that in any classroom where audio is being played back from a CD player, MP3 device or audio with DVD or computer video, it would appear that an ALD system is now required.

There are two other important changes to the 2010 ADA Guidelines. The first one is highly technical so I will only touch on it briefly. Section 706 discusses the definition of an Assistive Listening System as defined by the 2010 guidelines, as well as the requirements of the performance characteristics. For example, 706.4 states, “...the ALS shall be capable of providing a sound pressure level of 110dB minimum and 118dB maximum...” In an Advisory section, 706.1 General, states: “Selecting or specifying an effective assistive listening system for a large or complex venue requires the assistance from a professional sound engineer.”
The other important change in the current Guidelines has to do with the quantity of receivers needed for any given venue. No longer is 4% the rule (9% if the facility is located in the state of New York). The quantities are now dictated by capacity, as shown in Table 219.3 Receivers for Assistive Listening Systems, reproduced here:

<table>
<thead>
<tr>
<th>Capacity of Seating in Assembly Area</th>
<th>Minimum Number of Required Receivers</th>
<th>Minimum Number of Required Receivers Required to be Hearing-aid Compatible</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 or less</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>51 to 200</td>
<td>2, plus 1 per 25 seat over 50 seats¹</td>
<td>2</td>
</tr>
<tr>
<td>201 to 500</td>
<td>2, plus 1 per 25 seats over 50 seats¹</td>
<td>1 per 4 receivers¹</td>
</tr>
<tr>
<td>501 to 1000</td>
<td>20, plus 1 per 33 seats over 500 seats¹</td>
<td>1 per 4 receivers¹</td>
</tr>
<tr>
<td>1001 to 2000</td>
<td>35, plus 1 per 50 seats over 1000 seats¹</td>
<td>1 per 4 receivers¹</td>
</tr>
<tr>
<td>2001 and over</td>
<td>55, plus 1 per 100 seats over 2000 seats¹</td>
<td>1 per 4 receivers¹</td>
</tr>
</tbody>
</table>

¹ or fraction thereof

For your information, the major manufacturers of assistive listening system devices have published a calculator to clarify the number of receivers required. A list of manufacturers is provided at the end of this paper.

What types of systems are available to meet these Guidelines? Basically, there are three types of systems currently available:

1. RF (Radio Frequency) Technology
2. IR (Infrared) Technology
3. Induction Loop Technology.

Russ Gentner at Listen Technologies published a great summary comparing performance and costs of these three technologies. I urge you to take a look at it if you are unfamiliar with the aforementioned technologies. Basically, the type of system is based on several factors such as functionality and use, type of performance you require, and cost.

RF and IR systems generally have higher quality audio than a loop system, but the convenience factor for a loop system is really unmatched. For instance, if listeners have a hearing-aid with the “T-coil” setting, they may simply switch the hearing-aid to that setting to hear the induction loop audio.

However, with a loop system, there is only 1 channel of audio. This will not work in venues that commonly have more than one audio program being broadcast simultaneously. For example, many theaters have not only the program or speech audio on a channel, but they also provide a description channel for the visually impaired.

Security or privacy can also be a determining factor in the types of ALS deployed. IR is line-of-sight technology, and is therefore very secure. Induction loop can be secure if the loops are properly
designed. Again, the type of system performance needs will help determine the best solution for a venue.

Now that March 15, 2012 has passed, any new or soon-to-be-renovated space must comply with the 2010 ADA Guidelines.

2010 ADA Standards:  
http://www.ada.gov/2010ADAstandards_index.htm

Russ Gentner’s Article can be found here:  
http://www.listentech.com/blog/loop-fm-ir-comparison/#.Tx670o3AwD0.email

Calculators can be found at these manufacturers:  
http://www.listentech.com/ada-solutions

http://www.williamssound.com/ada-calculator

http://www.sennheiserusa.com/ada

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