Hearing Assist Devices

By JL Pelton

As we age our hearing slowly begins to decline. The hearing loss is gradual, but over time people start turning up the volume on the television and having trouble understanding conversations in a crowded room. Our dancers tell us they are having trouble hearing cues and music at dances and then ask for more volume. As cuers we need to know more about hearing loss and how we can help our dancers. You can find more information about hearing loss at the following websites: www.hearingloop.org and www.listentech.com

How we can help our dancers? On the dance floor, we can provide a hearing assist device. Hearing assist systems consist of two components: a transmitter and a receiver. The transmitter is a small radio type device. It broadcasts a FM signal with low power that will typically reach up to 1000 feet depending on the power of the unit. Most have several frequencies to choose from for use in multiple hall setups where one hall uses one frequency and the other hall a different frequency.

There are several different brands of both transmitters and receivers; however, this article will focus on the following two units: Williams Sound and Listen portable systems.

Transmitters – Williams Sound

In the Williams Sound line there are several options. The Williams Sound Personal PA® T27 transmitter shown is small, light weight, easy to set up and take down, and very easy to operate. It broadcasts up to 1000 feet, has 17 available channels and operates on 72-76 MHz.

On the front of the T27 transmitter you have a mic input, an LED marked audio level which indicates the unit is operating, an audio adjust "pot" which is adjusted by a screw driver, and up and down frequency controls. The dialed in frequency displays in the LED readout. You can lock in the set frequency if needed.

Height	1.3 in. (3.3 cm)	Length	6.1 in. (15.5 cm)
Width	4.1 in. (10.4 cm)	Weight:	7.8 oz. (221 g)

On the rear of the unit are the power input, a remote extended antenna output, and an RCA audio in connector. The antenna for the unit (approximately 6 to 9 inches in length) is screwed into the top of the unit.

Transmitters – Listen

In the Listen line there are two different transmitters for use in North America. One has 3 frequencies and the other has 16. European and Australian units use different frequencies.

Shown above is a LT-800-072-01 Listen system which can transmit about 1000 feet. This system has many more controls on the transmitter. For example,

Height	1.75 in. (4.5 cm)	Depth	9.13 in. (23.2 cm)
Width	8.50 in. (21.6 cm)	Weight	3.5 lbs. (1.6 kg) with Power Supply

you have input level adjustments, equalization controls, and additional audio inputs and outputs. The telescoping antenna is mounted on the top of the unit.

Receivers

The second part of the system is the receiver. Any receiver can be used with any transmitter. However, when selecting a receiver you must ensure it can receive the transmitted frequency that is used most often in the locations where it is to be used. The most common bandwidth frequency used in North America is 72 MHz with 72.9 MHz often the default setting when purchased.

Many receivers can receive many different frequencies, but some can only receive three or eight frequencies. Pictured below are two sample receivers that both have at least 16 frequencies available.

Williams Sound R37

Listen LR 400

Typically these receivers fit easily into a shirt pocket and usually come with belt clips. The volume control is located on the receiver.

Headsets

The dancer uses a headset (ear phones) to listen at the volume of their comfort level. Pictured below are typical ear phones that can be used with receivers. You can also use earbuds.

Williams Sound
Over Ear

Listen
Over Ear

Links for More Information

For information on units compatible in your country or for more detailed information, see:

- Williams Sound website: www.williamssound.com
- Listen website: www.listentech.com

Full Presentation Notes on Hearing Assistance Devices is available on the Roundalab website under the Roundalab Convention Presentations tab, Presenters Notes – Convention 2014.

Connecting a Hearing Assist Transmitter to Different Hilton Amplifiers

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The following instructions were written for the North Texas Callers' Association to provide instructions for callers and cuers to connect up their specific Hilton amplifier to the hearing assist systems being bought by the local square dance clubs.

You can connect the Hilton Tape Output on the amplifer directly to the transmitter input. The listener will hear both voice and music in the receiver, which is the same sound as that heard over the speakers.

It is often more desirable, however, to provide just the voice to the hearing assist device. Then the listener (dancer) hears only the cues in their ear piece while the music is heard normally through their other ear.

Listed below are various Hilton amplifiers with instructions on how to connect a hearing assist to the specific amplifier. Amplifiers are listed in alphabetical ascending order:

AC Series Amplifiers

AC-500 – Connect to the **Aux Voice Out**. You get both Mic #1 and Mic #2 voice "as is" with no Volume or Tone control.

AC-200 – Has no voice output.

AC-201 – Connect to the **Voice Tape Out**. On later models, you get both Mic #1 and Mic #2 voice "as is" with no Volume or Tone control. On earlier models, you get only Mic #1.

AC-205 – Connect to the **Voice Tape Out**. You get both Mic #1 and Mic #2 voice "as is" with no Volume or Tone control.

AC-300 – Has no voice output.

AC-300 A, B, C – Connect to **Tape Voice**. You get only Mic #1 voice "as is" with no Volume or Tone control.

Note: All AC series Hiltons can be easily modified to add a voice output jack to connect to both Mic #1 and Mic #2 with active volume and tone controls.

M and MA Series Amplifiers

M-75 – Has no voice output.

M-75 A, B, C – Connect to the **Tape Voice**. You get both Mic #1 and Mic #2 voice "as is" with no Volume or Tone control.

MA-150 – Connect to **Monitor Out**, and select "**Voice.**" You get all 4 Mics with Volume and Tone controls active, plus an output level control.

MA-220 – Connect to the two RCA phono jacks on the left side of the front edge panel. One is marked **Music Out** and the other **Voice Out**. You get all 4 Mics with Volume and Tone controls active, plus an output level control.