



## Basic Information on Personal Hearing Assistance Devices for Church Use



The majority of churches in the Virginia Conference with hearing assistance devices have Williams Sound System or Telex equipment. Prices vary according to the package purchased. A basic set generally ranges from \$600 - \$1000. A program grant can be requested from the Commission on Disabilities to assist with the purchase. Contact the Disabilities Office at (804) 521-1153 or (800) 768-6040 ext. 153 to request a grant application or download the application from the Virginia Conference website ([www.vaumc.org](http://www.vaumc.org) , “Ministries,” “Disabilities”).

### Williams Sound System

The *Personal PA Value Pack System* provides the best value. This system is used at Annual Conference in Virginia Beach and Hampton. For information, you can contact the Williams Sound Corporation at:

<http://www.williamssound.com/>

(800) 843-3544

(952) 943-2252

Fax: (952) 943-2174

Dealers of Williams Sound System equipment recommended for our area are:

Hear Central (888) 430-4327

Potomac Technology (800) 433-2838

Marilyn Electronics (800) 622-9558

### Telex Systems

Basic systems include the *Telex Sound Enhancement System* and the *Telex Portable Sound Enhancement System*. A Telex system is used at Annual Conference in Roanoke.

Dealers of Telex systems include:

Kingdom Tapes, CDs, and Electronics

<http://www.kingdom.com/>

(570) 662-7515

Fax: (570) 662-3875

Harris Communications

<http://www.harriscomm.com/>

(800) 825-6758

Fax: (952) 906-1099

*The Disabilities Office has a Williams and a Telex system available for loan to churches for a trial period of no more than 3 weeks. Conference events have priority since the systems are used at those activities. Churches will be responsible for shipping or delivery of the system*

### **Information from the Hearing Loss Association of America on Hearing Assistance Systems:**

**FM Systems** work like a miniature radio station. The transmitter has a microphone and sends FM waves to a receiver. In the United States special frequencies are set aside for users of FM systems so that there is no interference from outside FM transmissions.

Not all FM systems are compatible with one another as there are different frequencies or 'channels' that the systems can send or receive. This works out nicely, when there are two hard of hearing children in the same school. If both children were using the same FM channel, one may pick up the 'broadcast' of the wrong classroom. In many systems today the channel can be changed on the transmitter or receiver.

There are also smaller transmitters available. One company (Phonak) has made receiver small enough to fit inside certain models of their behind-the-ear hearing aids. Here is an example of one type of transmitter. The device is smaller than most cell phones.

#### **Some advantages of FM systems include:**

- An FM system is generally very easy to set up and highly portable.
- A person is free to move around and even walk to different rooms and can still receive the broadcast. Because FM systems are durable and portable, they are most often used in educational settings for children with hearing loss.
- An FM system can be used with a very broad range of hearing loss.
- FM systems can be used indoors or outdoors.

#### **Some disadvantages of FM include:**

- Privacy may be an issue as an FM 'broadcast' can easily be "tapped". This is an important consideration for courtrooms.
- Privacy may also be an issue when multiple personal FM systems are being used in groups such as meetings for people with hearing loss.
- Multiple FM receiver units are expensive, may require a lot of maintenance (with batteries) and can be difficult to store.

**Induction Loops or Induction Technology** were originally designed for use at schools for the Deaf. Induction loop technology by magnetic induction is a basic principle of electronics. How does induction work? First an electrical current is amplified and passed through a loop of wire. As a result a magnetic field is generated around the area of the wire. The magnetic field that is created varies in direct proportion to the strength and frequency of the signal (or sound) being transmitted. If another wire is placed within the range of the field of the first wire, an identical electrical current is produced in it. The second current can be amplified and converted into an exact duplicate of the original sound signal.

People also take advantage of this technology by connecting ‘neckloops’ to telephones, music players, and televisions to hear sound without using headphones. With neckloops, an induction loop is placed around the neck and the sound is delivered directly to the telecoils through induction. There are also, portable ‘3D’ loops which can be placed on top of counters to serve people with hearing loss. The back of the device has a microphone which faces the person without hearing loss behind the counter. The induction loop faces the person with hearing loss on the opposite side of the counter. The person with hearing loss only needs to turn on his or her telecoils to benefit from the system.

**Some advantages of inductions loops include:**

- People with telecoils in their hearing aids do not need to use receivers.
- It is accessible to people who do not use hearing aids or have hearing aids without telecoils (an induction receiver unit must be purchased with appropriate attachments such as headphones or ear buds).
- This is a lower cost and lower maintenance system as less equipment needs to be purchased.
- It is easier to use than other systems.
- Loops may be portable.
- It can work in transient situations such as ticket counters, car interiors, and drive through windows.

**Some disadvantages of induction loops include:**

- It may not work well with hearing aids that have weak telecoils (an audiologist may be able to adjust the telecoils).
- Not all hearing aids have telecoils.
- Loops may have dead spots, or spots within the loop that are not as strong.
- Two loops placed near each other may “leak” sound.

An **Infrared System** uses invisible beams of light (this is the same technology used by your remote control). Infrared light waves are transmitted by an array of LED’s (light emitting diodes) that are located on a panel. The receivers have a detector that senses the infrared light and converts the signal to sound.

**Some advantages of an IR system include:**

- Privacy, the transmission of IR is confined within the walls of a room.
- Some experts believe that IR produces the best sound quality.

**Some disadvantages of an IR system include:**

- The lack of portability, IR systems require a high level of electrical output and need to be plugged in.
- IR systems generally work best in darker environments, as too much light can interfere with the system (they do not work well outdoors during the daytime as the largest source of IR in our solar system, the Sun, causes interference).
- Shadows or blockages of either the transmitter or receiver can interfere or cut out transmission (this is why it is sometimes referred to as the ‘remote control’ of assistive technology, like a television remote control the transmitter and receiver must be facing one another with no major impedances).

