

# What you need to know about student's hearing technology for classroom listening



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microphone ?  
battery door ?  
audioshoe ?  
?  
soundfield system

?  
receiver  
FM  
transmitter ?  
desktop system  
Ling sounds  
?

If only it were this easy.....



# There's A LOT to cover!

- Types of Equipment we have to offer our students
- Listening checks – why and how to do them
- Troubleshooting Equipment
- Miscellaneous questions answered



Why **DO**  
students with  
hearing loss need  
classroom hearing  
technology?

What are some  
benefits and  
limitations?

# Children with Hearing Loss Need ...hearing technology (personal or speaker systems)

- Any child in ANY situation with background noise
- Any child in ANY group situation
- Any child in ANY situation where they are receiving new information
- Any child in ANY situation where the speaker moves around the room
- Any child who has ANY distortion in their hearing
- Any child with a poorly developed language structure
- Any child who is listening in their second language

Why would some  
students with  
hearing loss  
**NOT**  
benefit from  
classroom hearing  
technology?



# “Kid reasons,” not hearing reasons

- Student refuses to wear hearing aids so an ear-level personal FM cannot be used
- History of “losing” or purposely damaging hearing devices
- Lack of tolerance to wearing equipment (autism spectrum, cognitive delay, etc)
- Student excels academically with hearing aids alone and refuses to use an FM system
- Systems challenges for sound field FM or using a desktop system in secondary school





# **TYPES OF EQUIPMENT**

**(the ones we have  
to offer, that is...)**



# Personal (ear level) technology



**FM receivers that attach to the student's hearing aid or cochlear implant**

# FM Receivers



**I Link Hearing Aid**  
(FM receiver built in)

M  
FM  
FM/M



**MyLink Neckloop receiver**  
worn with a hearing aid or  
CI (works with a hearing  
aid's or CI's telecoil  
setting)



**Phonak Extra  
Hearing Aid**  
hearing aid with  
FM receiver  
attached



**Oticon Safari** hearing aid  
with  
FM9 audio shoe and  
mlxi FM receiver

# Most Popular Brands of Hearing Aids for our kids:

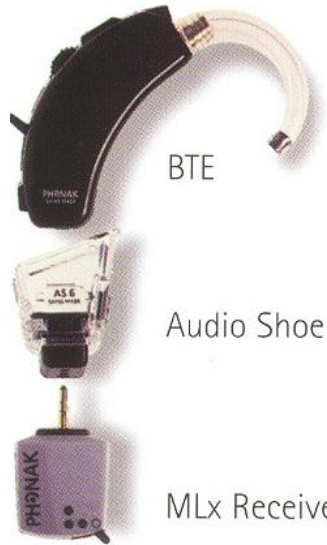
Phonak

Oticon

Siemens

Widex

# Different models of hearing aids need different kinds of audio shoes.



BTE

Audio Shoe

MLx Receiver

## AND,

# Most hearing aids need to be programmed for FM+Mic in order for the FM system to work.

# How do you know what kind of hearing aid a student has?



Most have a label somewhere on the hearing aid that tells you the make (brand) and model.

# If it's a Phonak, it's going to need a new battery door to accommodate the audio shoe!

- An audiologist will have to do this
- And, you'll need verbal permission from the parent first



# Types of Transmitters for ear level technology

Campus SX



EasyLink and EasyLink+



Inspiro



TX2

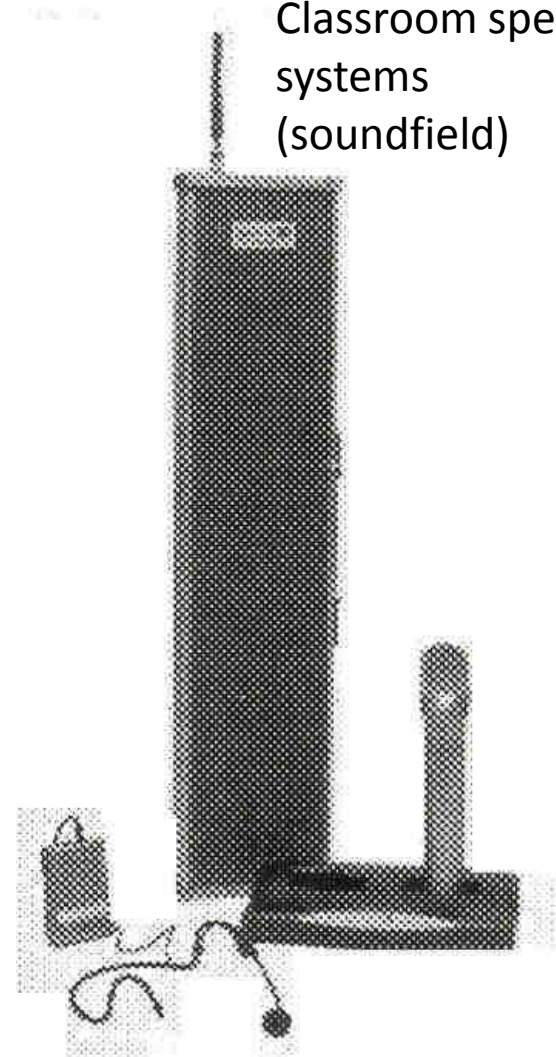


# Other types of classroom technology

Easy Listener and Amigos (for one student)



Classroom speaker systems (soundfield)



Desktop Tatable  
(for one-two students)







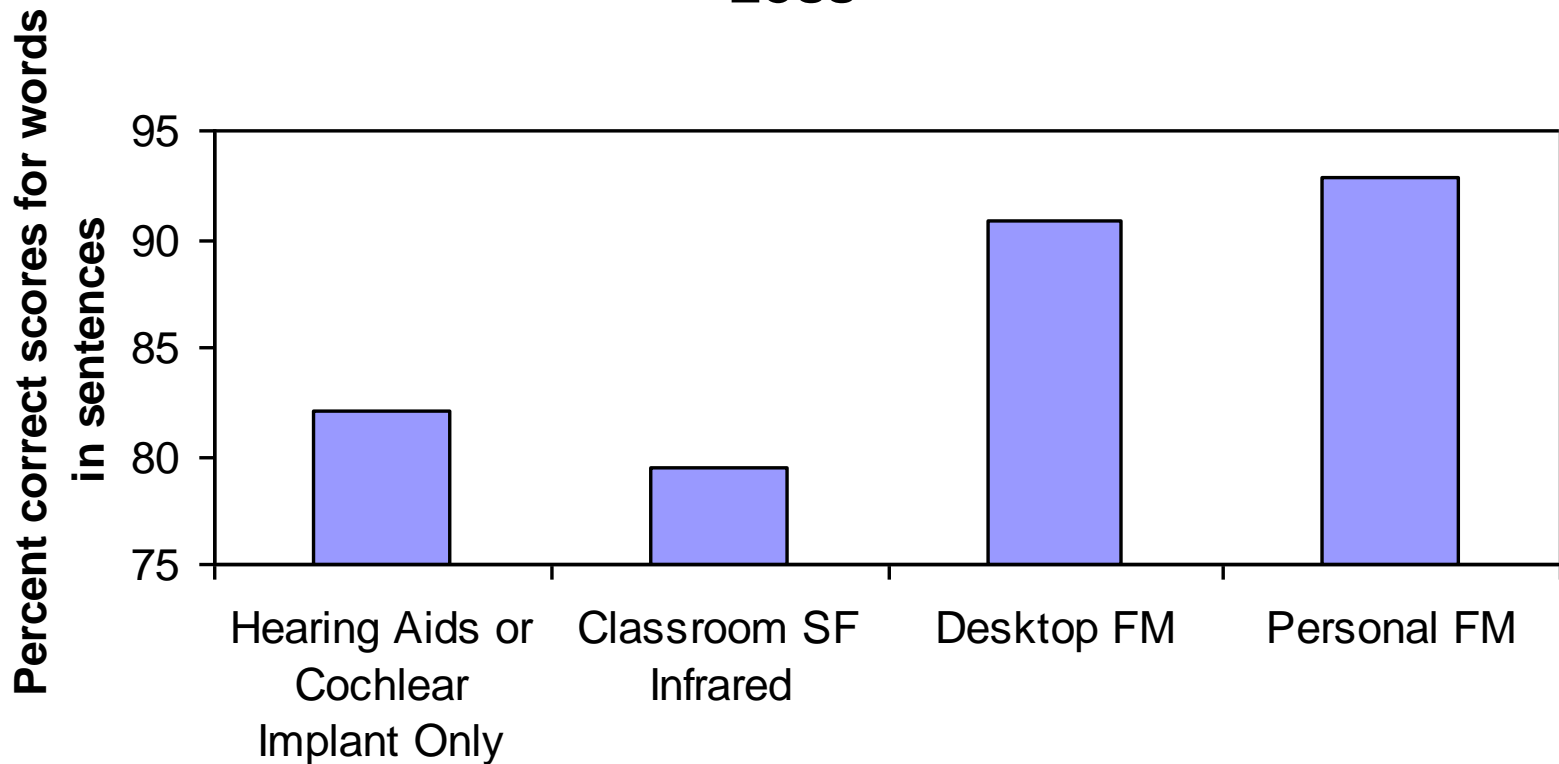
What is (usually) the most preferable kind of classroom hearing technology equipment to use?  
Why?



# Sizing up classroom hearing technology



**Speech Recognition of 28 Children with Hearing Loss**



# Distance from the teacher's mouth to the student's ear makes a big difference!

- The farther the student is from the desired speaker the more noise and reverberation will interfere with speech understanding.



VS



**So, if your student shows up  
with his first pair of hearing  
aids, or gets new hearing  
aids.....**



**What's the first question that  
should cross your mind?....**

# Would FM work for this student?



And,

Do I need to request anything  
different  
from the audiologists?

# Listening checks



# Why bother?

- Ensure that the speech signal the child is receiving is clear
- Alert you to malfunctioning equipment
- Properly functioning amplification is essential to the success of any student with hearing loss!

***Access denied is opportunity denied!***



Oh yeah....and it's the LAW!



\*IDEA, 34 CFR 300.303

\*Requires schools to “ensure that the hearing aids worn by children with hearing impairments...are functioning properly.”

\*HOWEVER.....

The law does not state the frequency with which monitoring should occur.



# Supplies Needed:

Batteries



Blower



Battery Tester



Stethoscope  
or listening tube



Wax pick

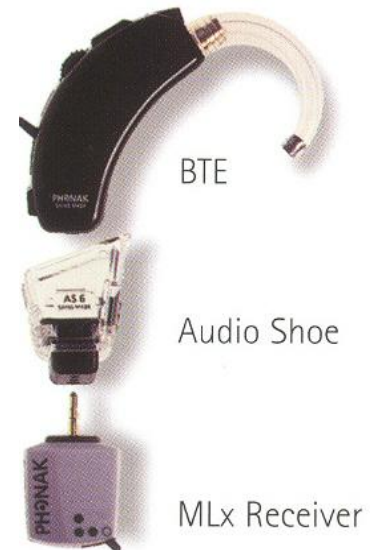




# Hearing Aid / FM Quick Check

## Each Morning

- The easiest, *quickest* way to check the equipment...  
...listen to the hearing aid with the earmold, the audioshoe and FM receiver (little cube with the 3 prongs) attached to it.
- Leave the transmitter(teacher's mic) turned off for this step



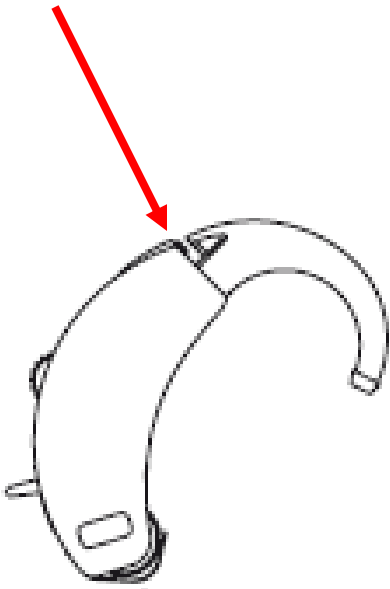
- Can you hear your voice when the FM mic is turned off? (if so, the aid is working)
- Can you hear your finger rub when the FM mic is turned on? (the FM is working)

(if no sound... change the battery... the battery may be powerful enough to run the hearing aid but not powerful enough to run the hearing aid AND the FM)

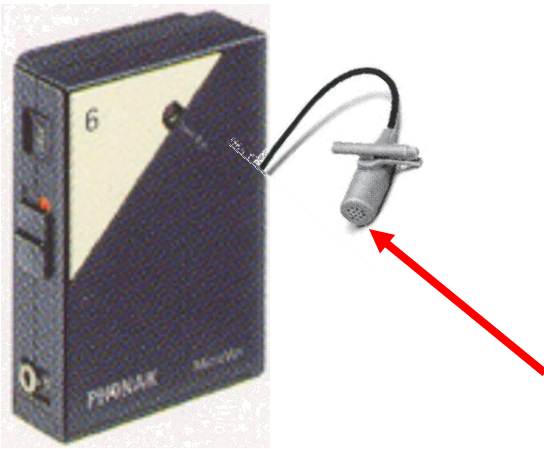
- Say the Ling six sounds... oo, aw, ee, sh, s, m
  - Do they sound clear?
  - You're done!



# Another Tip



**Can you hear your finger rub  
across the hearing aid's mic?  
(the aid is working)**



**Can you hear your finger rub  
across the FM mic?  
(the FM is working)**



# Troubleshooting



Does the hearing aid  
amplify sound when it's  
turned on?

Does the hearing aid  
sound as loud as you  
expect it to?

Does the hearing aid amplify  
sound consistently?  
(Does the sound cut in and out?)

Is the quality of the sound okay?  
Is there static or distortion?



# Does the hearing aid amplify sound when it's turned on?

If not –

- Make sure it's in the “on” position
- Check/Change the battery
- Look for blockage in the earmold or tubing



# Does the hearing aid sound as loud as you expect it to?

If not –

- Check/Change the battery
- Look for blockage in the earmold or tubing
- Listen to the hearing aid without the earmold





# Does the hearing aid amplify sound consistently? (Does the sound cut in and out?)

If not –

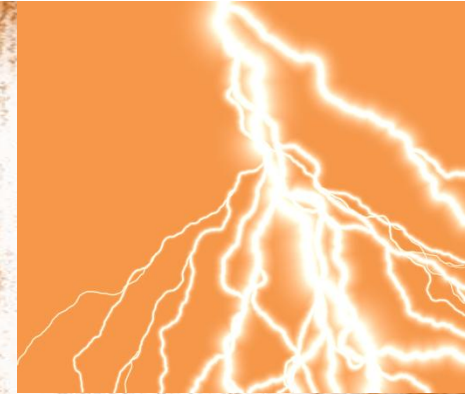
- Check/change the battery
- Check the battery compartment and FM contacts for corrosion



# Is the quality of the sound okay? Is there static or distortion?

If not –

- Check/change the battery
- Check the battery compartment and FM contacts for corrosion



**Listen to the hearing aid as you say  
the Ling sounds (ah, ee, oo, mm, sh, s)  
Do the they sound clear?**

If not –

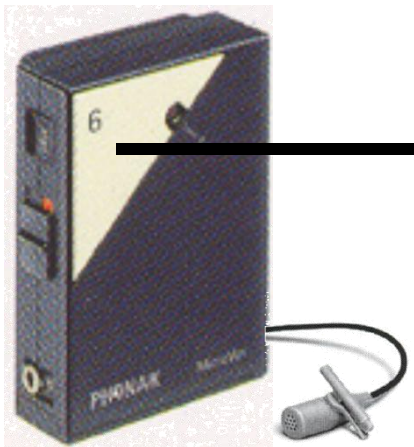


- Check/change the battery
- Check the battery compartment and FM contacts for corrosion

**It still doesn't work.....now what?**



# Is the transmitter on the right channel?



## And, is the battery fully charged?

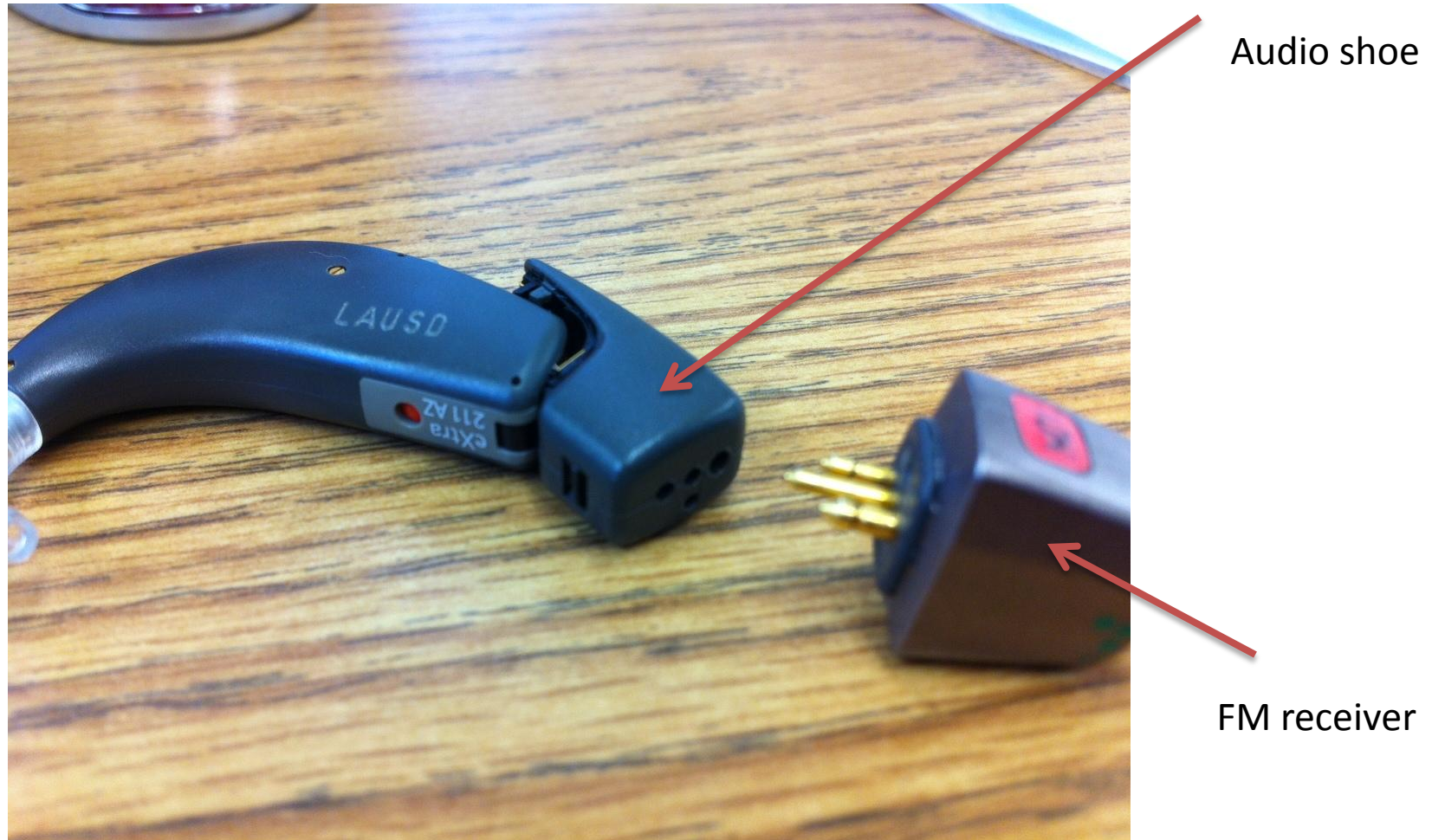
# Are the contacts on the audio shoe dirty or broken?



**Sometimes, the contacts have tiny bits of dust or grime**

**They can easily be cleaned by rubbing a pencil eraser over the contacts, or by cleaning with an alcohol prep pad**

# Are the FM receivers attached to the hearing aids?



(Remember to call each piece the right name)

- Is the toggle on the FM receiver in the correct position?
  - Put the MLX cube switch to the two dot position (FM + mic)
  - Turn on the FM mic (teacher's transmitter)
  - Rub your fingernail across the teacher's mic and *listen* for the FM to pick it up

FM + mic

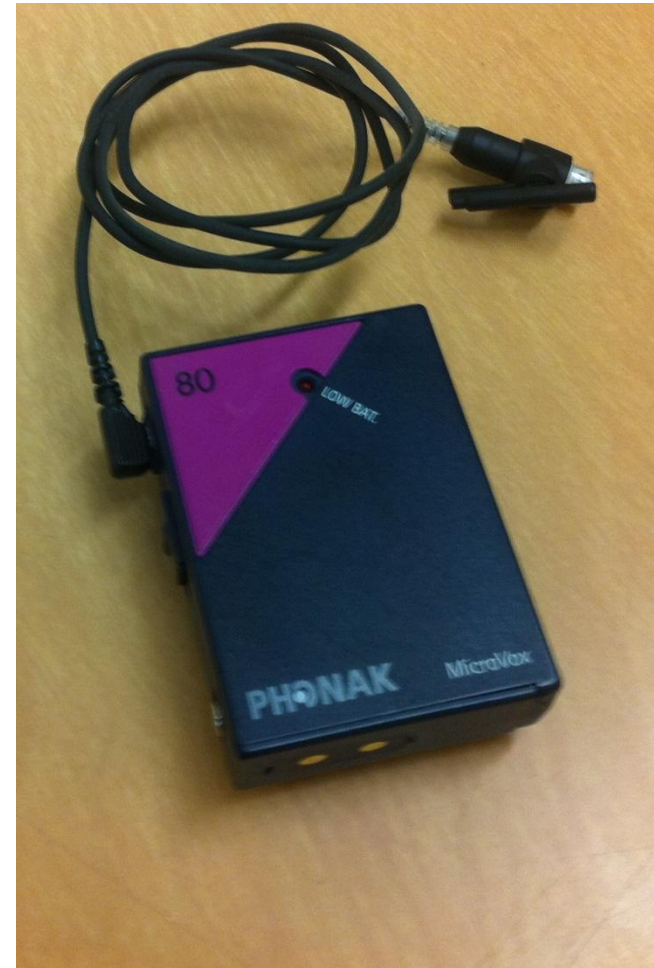
FM only

HA only (FM off)





Are the cords in good shape and plugged in completely?



And sometimes, it's just broken!!



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& Patty Klein, AuD for developing this  
presentation and sharing it with  
others!

- References:
- <http://www.txsha.org/pdf/Convention/2010Convention/Wickesberg,%20Jennifer%20-%20Do%20You%20Hear%20What%20I%20Hear%20A%20Hands%20on%20Tutorial.pdf>
- <https://successforkidswithhearingloss.com/resources-for-professionals/impact-on-listening-and-learning>