

Using a Digital Modulation (DM) System

How does a DM system work?

While DM systems may have a different physical appearance, they all function in a very similar manner. The teacher wears a *microphone* and *transmitter* that sends their voice to receivers attached to the students' hearing aids/cochlear implants.

DM systems are designed to overcome the negative effects of distance and competing noise by bringing the speaker's voice directly into the student's ear. The use of a DM system will allow students to use their energy to learn rather than trying so hard to listen in the classroom environment. The use of a DM system will likely improve the level of fatigue experienced by the end of the school day.

When should the DM system be used?

DM systems should be used any time that the student with hearing loss is listening to learn or communicate. This would include all teacher lectures, instructions/introductions, peers, announcements, substitutes, guest speakers, Smartboard videos, field trips, assemblies, etc. DM systems can also be used during any home or extracurricular activities when hard of hearing students may be distracted or at risk for limited attention.

How do I use the DM system?

To ensure that the DM system is working, you will need to perform a functional check each day. It is best if the functional check is completed on one hearing aid at a time. For example, have the student turn one hearing aid off, complete the check and then repeat for the other hearing aid.

1. From a distance and without the student seeing your lips, ask an open-ended question or give a task through the microphone (e.g., "What did you have for breakfast? "Put your hand on your head.") If they respond appropriately this suggests communication between the transmitter and at least one receiver. If no/inappropriate response:
2. Open and close the hearing aid battery door. Wait 6–8 seconds for the hearing aid to "load". Repeat Step 1. If no/inappropriate response:
3. Replace the hearing aid battery. While there may be enough battery voltage remaining to power the hearing aid, there may not enough to power the receiver as well. Students should always keep extra hearing aids batteries at school. Repeat Step 1. If no/inappropriate response:
4. You might need to 'connect' or 'sync' the transmitter with the receiver(s). How to do this is dependent on the make/model of DM system. Check with an audiologist or consult the user guide. Once connected, repeat Step 1.
5. If there is still no DM signal, be aware that your student will be struggling to access your speech. Try to position yourself very close to the student throughout the day. Write a note home to the family about the malfunctioning equipment.



Key Points

On/Off and Mute

- The *on/off* switch and the *mute* button are typically the only two buttons you will use. The mute switch is either on the top of the transmitter or under the screen. Familiarize yourself with their location on the transmitter and how to use them.
- It is recommended that the DM system be turned ON at the start of the day and only turned OFF at the end of the school day. Use the MUTE function at all other times (even over lunch hour).
- Remember to “unmute” the microphone when you are starting to speak (if not turned back on within 15 minutes, some models will vibrate as a reminder).

Microphone Placement

The placement of the lapel microphone will strongly impact how well your student accesses verbal instructions. Please wear the transmitter as medially as possible, at the STERNUM LEVEL, with the microphone pointing UPWARD. Scarves and jewelry are discouraged, as rubbing or clanking sounds will be transmitted directly into your student’s ear.

Repeat/Paraphrase

Your student with hearing loss is unlikely to hear peer questions, answers or comments. Therefore, during class discussion or questioning the class, be sure to paraphrase peer questions, answers and comments. This allows the hard of hearing student equal access to these critical learning opportunities.

Peer Use of DM

Peers are encouraged to use the DM system during activities such as partner work, calendar, show and tell, book reports, presentations, reading aloud, etc.

Use with Computers

The DM system can be plugged into a computer or any device that has a headphone symbol. You will need a 3.5–3.5 stereo audio cord (one comes with each DM system). This will allow your student appropriate auditory access to activities such as computer-based teaching, listening centers, MP3 players, iPad, etc. Be sure to mute the microphone so that your student doesn’t hear the extraneous sounds around them.

Use with Smart Boards

The DM system will also need to be used for Smart Board audio activities. This will require consultation between the Educational Audiologist and school district to identify the most appropriate connection.

**Please Note: Students’ personal amplification should only be connected during auxiliary audio activities
- NOT during teacher instruction unless specified by an Educational Audiologist.**

Information Gathered from

Speech-Language & Audiology Canada. (n.d.). Facts at your fingertips.

Retrieved from https://www.sac-oac.ca/sites/default/files/resources/May%20Month%20Tips_AUD-EN_proof.pdf

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Hear. Speak. Connect.