

Review of Augmentative and Alternative Communication Devices

Prepared by Carol Doles, Dysphonia International Eastern Regional Coordinator

AMPLIFIED COMMUNICATION

Portable Voice Amplifier

A portable voice amplifier is a compact solution for increasing the volume of your voice. The device uses a microphone, amplifier, and speaker. Microphones can be a headset, lapel mic, or hand-held. Both wired and wireless options are available. Speakers are small and can be worn on a belt, armband, lanyard, or an article of clothing. Wireless speakers can also be placed near the speaker if desired.

Pros | Portability, inexpensive options, adjustable volume, flexible options for different activities

Cons | Feedback if microphone is too close to speaker, wired headsets may be awkward to use, wireless headsets may have noticeable lag time

Links for comparison articles:

[Top 10 Best Voice Amplifiers in 2024 Reviews | Buyer's Guide](#)

[Best Voice Amplifiers - Chicago Tribune](#)

[5 Best Voice Amplifiers of 2024 - Review and Buying Guide Electronics Hub](#)

Links for devices that were evaluated:

[Shidu Portable Voice Amplifier with Microphone Headset](#) \$34

[WinBridge Bluetooth Voice Amplifier with Bluetooth Microphone Headset](#) \$40



Microphone App for Mobile Device

A microphone app on a smartphone or other device is a portable, ever-ready solution to amplify your voice. The smartphone/device provides the microphone used to amplify the voice. If desired, an external microphone can be plugged into the phone and used as a microphone. The phone can be connected to a speaker by a wire or through Bluetooth. Multiple paid and free apps are available.

Pros | Portability, low cost, flexibility to connect to different speaker systems, could be used as an intercom

Cons | Feedback when the phone/microphone is too close to the speaker

Links for microphone app and Bluetooth speaker that were evaluated:

[Microphone - Von Bruno](#)

[OontZ Angle 3 - Bluetooth Portable Speaker](#) \$25



Please Note: Dysphonia International does not endorse or recommend specific products but rather provides this information to inform and help support people with spasmodic dysphonia and related voice conditions.

Special thanks to Carol Doles for testing and assembling this information. Carol has adductor spasmodic dysphonia and serves as the Eastern Regional Coordinator for Dysphonia International.

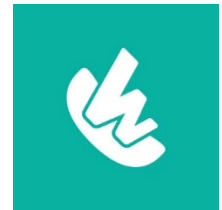
Whispp App

Whispp is an innovative speech-to-speech AI software to assist individuals with voice disorders. Whispp is an app for iOS and Android devices. It uses audio-to-audio based AI to convert whispered speech into a natural voice without delay. You can use this app to repeat words or phrases in-person or during phone and video calls.

Pros | Real time, user can whisper to speak, user can bank and use a healthy voice, user can choose from a library of voices

Cons | Fee to make calls (monthly or annual subscription and cost for exceeding allotted minutes per month)

Link: [Whispp Communication App](#)



Also to consider for Amplified Communication

Personal megaphone or sound system (microphone, amplifier, speaker)

ALTERNATIVE COMMUNICATION

UbiDuo 3

The UbiDuo 3 is a communication device that allows for simultaneous, text-based communication. The device has two units that transport and store together. The users type conversations in real time.

Pros | Real time communication, portable, eliminates communication barriers, can be used in multiple settings, can be eligible for insurance coverage

Con | Cost (if not covered by insurance)

Link: [SCOMM UbiDuo 3](#)



Real-Time Text (RTT)

Real-time text lets you use text to communicate during a phone or video call. RTT works with TTY and doesn't require any additional accessories. If your device supports external devices, a Bluetooth keyboard can be added.

Pros | RTT can be selected as desired, user can switch back-and-forth with a voice call, built-in feature on many devices, real time conversations, includes an audio stream that can be muted if desired, produces a transcript of the call

Cons | Texting may be difficult for some users, requires both parties have devices with RTT feature available

Links: [Real Time Text Built-in Accessibility Feature iOS](#) [Real Time Text Built-in Accessibility Feature - Android](#)

Real-Time Text for Amazon Alexa/Echo

Real-time text (RTT) lets you use text to communicate during a video call. If your device supports external devices, a Bluetooth keyboard can be added.

Pros | No additional equipment is needed, text appears in real time on both parties' screens, callers can use a Bluetooth-connected keyboard

Cons | Must have the Echo device with a screen

Link: [How to use Real Time Text During Alexa Calls and Drop Ins](#)

Accessibility Features for Amazon Alexa

Tap to Alexa allows you to interact with Alexa by touch instead of speaking.

Adaptive Listening for Alexa gives you more time to finish speaking.

Enable *Drop In* to use Alexa like an intercom and have a conversation with someone in another area.

Use *Announcements* to broadcast a quick message.

Real Time Text (RTT) is a feature that adds a live, real-time chat feed during Alexa calls and Drop Ins on the Amazon Echo Show device. RTT allows you to type text that displays on the screen character by character during an Alexa call or drop in.

Pros | Can communicate easily from a distance, can type messages, adjustable interaction time

Cons | Must have required device with app

Links:

[Accessibility for Alexa](#)

[Alexa Drop In and Announcements](#)

[What is Tap to Alexa?](#)

[Real Time Text - Accessibility Settings and Echo Show](#)

[Adaptive Listening for Alexa](#)

[What is Real Time Text \(RTT\) on Alexa?](#)

Accessibility Features for Siri (Apple)

Siri Pause Time: Set how long Siri waits for you to finish speaking with Siri Pause Time. You can also adjust how fast Siri speaks and whether or not Siri responds aloud or in text.

Type to Siri: Type instead of speak to Siri. To make a request, activate Siri, then interact with Siri using the keyboard and text field.

Siri as an Intercom (with Home): You can use Siri or the Home app to send an intercom message. Intercom messages are sent to every HomePod speaker in the Home and every device with Intercom notifications turned on.

Pros | Allows more time to interact, enables interaction without speaking

Cons | Requires some tech savvy to configure and use

Links: [Siri Pause Time](#)

[How to use Type to Siri on your iOS](#)

[Using HomePod as an Intercom \(Siri\)](#)

Video Relay Service (VRS)

VRS allows a person who uses American Sign Language to place phone calls by signing instead of typing. The communication assistant relays the conversation back and forth between the parties – in sign language with the VRS user and by voice to the person being called.

Pros | Conversations flow in near real time, information is kept confidential, no fee for caller

Cons | Is not required by the FCC, but is offered by several TRS providers

Link: [Video Relay Services - FCC](#)

Also to consider for Alternative Communication

Communication boards and books, electronic Augmentative and Alternative Communication (AAC) devices, texting, email, sign language, gestures, handwritten (LCD tablets, pen/paper)

TEXT-TO-SPEECH & SIGN-TO-SPEECH

Personal Voice with Live Speech (iOS)

With Personal Voice, you can create a synthesized voice that sounds like your own to communicate with family and friends. Use your Personal Voice to type to speak in FaceTime and phone calls, assistive communication apps, and in-person conversations.

Record 150 different phrases. Live Speech uses the recorded voice to generate and speak what you type. The goal is to offer a voice that mimics your own for times when you are unable to speak yourself.

Pros | Can be used in TTS/phone/FaceTime calls, voice sounds very close in words and brief phrases, can copy and paste text into text box or save and use phrases, external Bluetooth keyboard may be used to make communication easier and quicker, use to communicate to voice activated devices

Cons | Personal voice sounded “robotic” when saying a long passage, takes a dedicated block of time to set up

Links: [Personal Voice iOS](#) [Live Speech iOS](#) [Personal Voice with Live Speech](#)

BrightSign Glove

The BrightSign glove is a communication aid that translates any sign into spoken language.

Pros: Real time or delayed options, portable, supports any sign language, may develop and use your own signs, can create libraries with commonly used words and phrases, translates into 30 languages, voice recognition technology lets you read the other side of the conversation too, in any language you choose, over 450 voice choices, options for speed and tone, a small Bluetooth speaker can be attached to clothing or lanyard

Cons | Cost, requires a smart device and app

Links: [BrightSign Glove - US Distributor](#) [BrightSign Glove - International Distributor](#)



Teletypewriter (TTY)

A TTY user types a message to a communication assistant. A communications assistant reads the TTY user's typed response to the person being called, and relays any communication back to the caller. Then, the communication assistant types your follow up response for the TTY user to read.

Pros | Available to anyone with a voice disorder, information is kept confidential, no fee for caller, built-in accessibility feature on many devices

Cons | Slight delays while the messages are being communicated by the third party

Links: [iOS Built-in TTY Accessibility Feature](#) [TRS Explained](#) [TRS Terminology](#)

Also to consider for Text-to-Speech and Sign-to-Speech

Text-to-speech (TTS) software and applications, read aloud software and devices (screen readers and document readers), audiobooks/online videos

VERBAL COMMUNICATION USING TELECOMMUNICATION DEVICES

Noise Canceling Bluetooth Microphone (phone and computer)

Noise canceling microphones greatly reduce/cancel background noises.

Pros | Blocks out background noises for the listener on the other end of a call, may be used with a mobile phone and/or a computer, variety of headset styles, depending on headset style, may also come with noise canceling headphones

Cons | Needs recharging, battery life, placement of mic in relation to mouth can affect outcome



Links for headset evaluated and explanations of technology:

[Plantronics Voyager 5200 Bluetooth Over-the-Ear Headset](#) This is one example of a Bluetooth headset with noise canceling microphone. Note: the link is for the headset only and does not include the charge case. \$99

[Review for Poly Voyager 5200 Headset Advisor](#) This video explains noise cancelation microphones and demonstrates how they work.

[Active Noise Cancellation \(ANC\) vs Microphone Noise Cancellation](#) This video is a great description of the two types of noise cancelation, but it is a review for a product not evaluated.

Tour Guide System

The tour guide systems typically involve a transmitter/microphone device (used by the tour guide) along with multiple receiver/headset devices (used by tour participants). The system can be used by persons with voice disorders to communicate with one or more people. The person with the voice disorder wears a small transmitter on a lanyard around the neck and uses a headset, lapel, or hand-held microphone. Listeners wear a small receiver on a lanyard around the neck and use a headset or earbuds.



Pros | Background noises are greatly reduced, allows for communication with intended listeners, two-way systems are also available, variety of options for microphones and listening devices

Cons | A device must be worn, need extra receivers if there are several listeners

Link for individual sales:

Company: [Implecho Audio Communication Solutions](#)

Contact Person: Sam Friederick at sfriederick@implecho.com

Device Evaluated: [Mini 900 MHZ Digital Portable Transmitter and Receiver](#)

This company offered a free demo for its products. They also offer different options for microphones and listening devices. Alternatively, you could choose to use your own microphone/ear buds/etc. They were great to work with and the product worked well. Cost varies with choice of microphone and listening device. Approximate cost for standard version is \$650.

Telephone Relay Service (TRS): Speech-to-Speech (STS)

Speech-to-Speech (STS) is a form of the Telecommunications Relay service (TRS) that enables persons with a speech disability to make telephone calls using their own voice or assistive voice device. The speech-to-speech user speaks to a communication assistant who is specially trained in understanding a variety of voice disorders. The communication assistant will revoice the words of the user to the person being called. No special telephone is needed.

Pros | Available for anyone with a voice disorder, available 24 hours a day, seven days a week, no special equipment is needed, information is kept confidential, no fee for caller

Cons | Slight delays while the messages are being communicated by the third party

Links: [Sorenson Communication Call Assistance Program](#)

[Speech to Speech Relay Service - FCC](#)

Also to consider for Verbal Communication with Telecommunication Devices

Whispp App or walkie-talkies