

WaveCAST Assistive Listening System

- A. Furnish and install a WiFi wireless assistive listening system for use by the hearing impaired. The assistive listening system (ALS) shall be capable of broadcasting via WiFi to up to 45 users in unicast mode. A multicast mode option must also be available for larger numbers of users with broadcast capability limited only by network capacity.

A1. Transmitter

The transmitter unit shall provide a combined 3-pin XLR / TRS audio input that allows for connection to either a balanced or unbalanced line level analog audio source or a balanced or unbalanced microphone with selectable phantom power. The unit shall be offered with an optional Dante audio input. The unit shall provide a 10/100 Base-T Ethernet port to stream audio to the network and broadcast audio over an existing or new WiFi wireless network. The unit shall provide an unbalanced line level program audio output and an unbalanced phono headset jack for monitoring program audio. The unit shall provide a web control interface that allows user to configure and manage the unit including channel naming and channel security controls. The unit shall employ a DSP (Digital Sound Processor) with an adjustable 0 - 50 dB audio input gain in 1dB increments, automatic gain control, audio signal limiters, high and low pass filtering, and an adjustable-range audio compressor control in order to optimize hearing assistance for hearing loss, music for high-fidelity playback, and voice for maximum speech intelligibility through custom presets. The unit shall employ an ADC (analog to digital converter) that provides a 16-bit, 48 kHz digital stream. The unit shall have a signal-to-noise ratio of 67 dB or greater and shall have an audio frequency response of 31 Hz - 16 kHz, ± 3 dB and shall have a THD (total harmonic distortion) of less than 0.25% @ 1 kHz. The unit shall incorporate front panel buttons to control the unit via menus on a built-in OLED display, an audio input level indicator, and input overload indication.

A2. Receiver

- a) The receiver shall be a WiFi-enabled smartphone or tablet with dedicated listening app downloaded from iOS or Android app stores. App will allow user to access available audio streams and adjust volume on their device.
- b) Additionally, a dedicated WiFi receiver with embedded listening app shall be available to comply with legal assistive listening requirements. The system WiFi receiver shall have a signal-to-noise ratio of 67 dB or greater and shall have an audio frequency response of 31 Hz - 16 kHz (± 3 dB). The device shall employ a DSP to reduce background noise. The device shall incorporate a setup button for configuration and shall incorporate a channel button that displays a list of available channels. The device shall have a multi-functional full color LCD touch display that allows user to choose a channel from a list of active channels, control and mute the volume and indicates battery status, channel and WiFi connection status. The device shall have the option of being lanyard worn. The device shall have the option of connecting a neck loop that sends optimized audio signals directly to hearing aids and cochlear implants equipped with telecoils. When connected to the dedicated WiFi receiver the neck loop shall have a magnetic field strength of 1.7 A/m (25 mW input @ 1000 Hz) 6" above the center of the loop. The device shall have a USB connector used for charging and firmware upgrades. The device shall incorporate automatic battery charging circuitry and use a Lithium-Ion battery. The device shall be compatible with a multi-slot charger. The device shall have a battery life of 6 hours under normal conditions and charge time of two hours.

Williams AV, LLC products are specified.

B. Furnish and install the following:

1. Williams AV WaveCAST WF T5 Base WiFi Transmitter (qty: 1ea.)
2. Williams AV RPK 005 Rack Mount Kit (Qty: 1 ea.)
3. Williams AV WaveCAST WF R1 WiFi Receiver with EAR 022 Earphone, USB cable and single charging power block (Qty: 1 each or as needed, see note*)
4. Williams AV CCS 062 BK Receiver Skin with Lanyard / Wrist Strap (Qty: 1 each or as needed, see note*)
5. Williams AV CHG 404 WF 4-Slot Charger for WF R1 WiFi Receivers (Qty: 1 each or as needed, see note*)
6. Williams AV NKL 001 S Neck Loop, 8-16 Ω , 20-20 kHz, 118 dB @ 1 kHz (Qty: 1 each or as needed, see note*)
7. Williams AV IDP 008 ADA Wall Plaque (Qty: 1ea.)

*The Americans with Disabilities Act (ADA) 2010 ADA Standards requires public facilities to provide auditory assistance devices:

<http://www.ada.gov/regs2010/2010ADAStandards/2010ADAStandards.pdf> (Section 706: Assistive Listening Systems)

Summary of Global Disability Legislation:

https://www.williamssound.com/resources/files/Global_summary_of_disability_leg.pdf

ADA Table 219.3 & IBC Table 1108.2.7.1 Receivers for Assistive Listening Systems

Capacity of Seating in Assembly Area	Minimum Number of Required Receivers	Minimum Number of Required Receivers Required to be Hearing-aid Compatible
50 or less	2	2
51 to 200	2, plus 1 per 25 seats over 50 seats ₁	2
201 to 500	2, plus 1 per 25 seats over 50 seats ₁	1 per 4 receivers ₁
501 to 1000	20, plus 1 per 33 seats over 500 seats ₁	1 per 4 receivers ₁
1001 to 2000	35, plus 1 per 50 seats over 1000 seats ₁	1 per 4 receivers ₁
2001 and over	55 plus 1 per 100 seats over 2000 seats ₁	1 per 4 receivers ₁

ADA Compliance Calculator: www.williamsav.com/ada-calculator

1 or fraction thereof

IBC Compliance Calculator: <https://www.williamssound.com/ibc-calculator>

Contact Williams AV for customized quote to accommodate area:

(952) 943-2252 | info@williamsav.com | www.williamsav.com

*Consultant Specs are available in Microsoft Word format. Call Williams AV.