

Infinium™ CT1 Controller & Transmitter Package

Bluetooth® Auracast™ Broadcast Audio System



Description

Infinium™ by Williams AV is a professional Bluetooth® Auracast™ broadcast audio solution that redefines assistive listening and real-time audio distribution. Designed for commercial AV environments, it delivers low-latency, high-fidelity audio to unlimited Auracast™ enabled devices—including hearing aids, cochlear implants, headphones, and Infinium™ receivers.

Ideal for lecture halls, transportation stations, theaters, and other large venues, the Infinium™ CT1 is a modular system with a discreet transmitter and a rack-mount-ready controller.

The controller integrates smoothly into AV networks, with an analog input and one Dante® input supporting

two Dante® channels. It supports stereo and mono transmission, and users can easily configure, monitor, and troubleshoot via the front panel or web interface.

The transmitter is engineered for effortless installation, requiring just a single CAT cable for power and audio. Its compact, low-profile design preserves room aesthetics without compromising performance, and a 100-meter (328 ft) broadcast range with Infinium™ receivers ensures reliable coverage while secure channel creation protects audio integrity.

With Infinium™, reliable coverage and seamless AV integration deliver professional-grade, inclusive audio for any space.

Features

- **Real-Time Management** – Configure and monitor at the controller or remotely via a web interface.
- **Seamless Transmitter Deployment** – A single CAT cable for both power and audio.
- **Versatile Transmitter Mounting** – Ceiling, wall, or podium installation with omnidirectional audio coverage
- **Multi-Device Compatibility** – Works with Auracast™ enabled hearing aids, cochlear implants, headsets, and Infinium™ handheld receivers
- **Dante® Integration** – Effortlessly connects with professional AV networks.

Applications

- Assistive/Augmented Listening
- Language Interpretation
- Audio Description

Markets

- Theater/Performing Arts
- Education - classrooms & lecture halls
- Transportation - airports, train stations
- Fitness Centers & Gyms

Infinium™ Controller – Smart System Management

Effortless local or remote management of your Infinium™ system.

- **Flexible Monitoring & Network Management** – Program and monitor in real-time directly at the controller or remotely via online access.
- **Integrated Dante® Connectivity** – Ensures seamless AV network integration.
- **Secure Channel Creation** – Provides controlled and reliable audio distribution.
- **Rack-Mount Ready** – Designed for professional installation and easy monitoring.



Infinium™ Transmitter – Discreet Form Factor

The Infinium™ transmitter delivers unmatched audio clarity in a compact design, integrating discreetly into any environment for exceptional broadcast performance.



- **Low-profile design** blends discreetly into any space, preserving room aesthetics without disruption.
- **Plug & Play Simplicity, Effortless Setup** – Single CAT cable delivers power and audio, simplifying setup.
- **100-meter (328 ft) broadcast range** with the Infinium™ receiver; range may vary for other devices
- **Compatible with Auracast™ enabled headphones, cochlear implants, and earphones** for versatile listening.
- **High-quality, Low-Latency Audio** – Supports stereo and mono transmission.

Infinium™ Receiver – Ergonomic, Intuitive Design

(Not included in Infinium CT1 Package)

Designed for ease of use, the Infinium™ receiver provides a superior listening experience with an intuitive interface.

- **Largest display in its class** for improved visibility and channel selection.
- **Ergonomic design** with a large display and easy access buttons with tactile feedback.
- **Balance control** for enhanced speech clarity
- **Secure or open audio modes** – Choose public or private broadcast channels.
- **Compatible with** neckloops, headphones, and earphones for versatile listening.
- **All-day power** with a rechargeable lithium-ion battery.
- **Convenient charging** via USB or multi-unit charging docks.



Specifications | Infinium CT1 Controller and Transmitter Package

System Components	• Controller • Transmitter • Ethernet Cable
Network Connection	• Ethernet with digital audio, control and PoE. • Supports direct or network connection with transmitter.

GENERAL	
Wireless Connection	Bluetooth Auracast™
Bluetooth Version	5.4 LE
Codec	LC3
Operating Frequencies	• 2400 to 2483.5 MHz • (ISM spectrum band)
Range	• Up to 328 ft (100 m) • in open space using the Infinium BA R1 Receiver
Latency (End to End)	• < 40 ms using Infinium BA-R1. Other receivers may vary
Channels	2 Mono, 1 Stereo
Channel Security	Open or Password protected
Encryption	AES128-CCM with 128 bit key

User Interfaces	• (1x) Hosted Web page via Ethernet Control Port • (1x) 3.12" High Resolution Front Panel OLED Display with push navigation and entry	DSP Programmable Audio Processor Functions	• Compression • High-pass Filter Frequency • Low-pass Filter Frequency • Audio Presets
Audio Input Types	• Mic In (Combination XLR & 1/4", Terminal Block) • Line In (Terminal Block x 2, Combination XLR & 1/4") • Dante (Dante Source)	Compression	Off, 1:1, 1.5:1, 2:1
Audio Output	(1x) 1/4" Headphone/Audio Output jack	High-pass Filter Frequency control	Adjustable Step functions
Sample rates	• 16 kHz (Auracast™ Standard) • 24 kHz (Auracast™ Standard) • 48 kHz (Auracast™ High)	Low-pass Filter Frequency control	Adjustable Step functions
Frequency Response (+/- 3 dB relative to 1 kHz)	40 Hz to 16 KHz	Audio Presets	Music, Voice, and Hearing Assistance

Specifications | Infinium CT1 Controller and Transmitter Package

CONTROLLER	
Dimensions	8.45" W x 5.75" D x 1.72"H (21.5 cm x 14.6 cm x 4.4 cm)
Weight	2.3 lbs (1.04 kg)
Color	Black
Installation Configurations	Rack Mount: Standard 19" Rack, one EIA rack space high, 1/2 space wide. 1–2 units can be mounted in a single rack space with optional RPK 005 (single) or RPK 006 (double) Rack Mount Kits Shelf: Can sit on shelf, table, podium, etc.
Temperature Range - Operating	+32° F to +122° F (0° C to 50° C)
Temperature Range - Storage	-4° F to +158° F (-20° C to 70° C)
Power Button	Push On/Push Off latching power button.
Ethernet Control Port	(1x) RJ-45 used for web UI, programming, and status display. Supports CAT 5e cable lengths up to 328 feet (100 meters); 10/100 Base-T
Front Panel Display	3.12" High Resolution OLED Direct Entry UI with button entry programming and status indicator selections.
Dante	(1x) RJ-45 jack
Power Supply	- Desktop Power Supply; - Input: 100-240 VAC, 50/60 Hz. - Output: 24 VDC, 750 mA, 18W. 2.5mm ID center positive barrel connector
PoE Power Out	PoE
Compliance Approvals	FCC, RoHS3, WEEE, Industry Canada/ISED, CE, UKCA, RCM, CB Scheme
Warranty	2-year parts and labor

TRANSMITTER	
Dimensions	4.7" W x 5.0" D x 1.19"H (11.9 cm x 12.7 cm x 3 cm)
Weight	0.4 lbs (0.18 kg)
Color	White
Installation Configurations	- Ceiling Mount - Wall Mount - Shelf
Temperature Range - Operating	+32° F to +122° F (0° C to 50° C)
Temperature Range - Storage	-4° F to +158° F (-20° C to 70° C)
Power	PoE (Input)
Connection	RJ-45 (1x) for audio, control and PoE
Power ON Indicator	Programmable LED
Transmitter Power Output	Programmable
Compliance Approvals	FCC, RoHS3, WEEE, Industry Canada/ISED, CE, UKCA, RCM, CB Scheme, Gitecki (Japan)
Warranty	2-year parts and labor

Cable	
Ethernet Cable	10' - CAT 5e Ethernet; 10/100 Base-T IEEE 802.3 compliant

NOTE: SPECIFICATIONS ARE SUBJECT TO CHANGE WITH OUT NOTICE

Infinium™ R1 Receiver

Bluetooth® Auracast™ Receiver for Infinium™ Systems



Description

Infinium™ is a professional Bluetooth® Auracast™ broadcast audio system designed for commercial AV environments. It delivers low-latency, high-fidelity audio to unlimited Auracast™ enabled devices, including hearing aids, cochlear implants, headphones, and Infinium™ receivers.

The ergonomically designed Infinium™ R1 handheld receiver features the industry's largest OLED display for clear visibility, easy access buttons with tactile feedback, and balance control to adjust audio delivery to the left and right ear to match a user's hearing

profile – enhancing speech clarity and intelligibility.

The Infinium™ R1 receiver supports both secure (private) and open (public) audio modes. The receiver's rechargeable lithium-ion battery ensures reliable, all-day operation and can be charged via USB or a multi-unit charging dock.

Venues using the complete Infinium™ system with receivers can achieve ADA compliance for assistive listening, providing an inclusive environment for people with hearing impairments.

Features

- **Large screen size** – Largest display in its class for improved visibility and intuitive channel selection.
- **Balance control** – Adjust audio settings for enhanced speech clarity and improved intelligibility.
- **Ergonomic design** – Comfortable handheld form with large, easy-access buttons with tactile feedback.
- **Flexible broadcast access** – Supports secure (private) and open (public) audio modes.
- **Versatile connectivity** – Compatible with neckloops, headphones, and earphones.
- **Extended battery life** – Rechargeable lithium-ion battery provides reliable, all-day operation.
- **Convenient charging options** – Supports USB charging and multi-unit charging docks.

Applications

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Infinium™ Receiver – Ergonomic, Intuitive Design

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- **Largest display** in its class for easier visibility and channel selection.
- **Ergonomic design** with a large display and easy access buttons with tactile feedback.
- **Balance control** for enhanced listening and audio intelligibility.
- **Secure or open audio modes** – Choose public or private broadcast channels.
- **Compatible with neckloops, headphones, and earphones** for versatile listening.
- **All-day power** with a rechargeable lithium-ion battery.
- **Convenient charging** via USB or multi-unit charging docks.



Available in Infinium™ systems or as single purchase.

Infinium™ is available in a base package that includes a controller and transmitter or as a system that includes the base package plus receivers, charging station, CAT cable, and signage.

Infinium™ Controller – Smart System Management

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- **Compatible with Auracast™ enabled headphones, cochlear implants, and earphones** for versatile listening.
- **High-quality, Low-Latency Audio** – Supports stereo and mono transmission.

Specifications | Infinium™ R1

Includes	• Receiver • Lithium Ion (Li-On) Rechargeable Battery • Belt Clip

GENERAL		AUDIO	
Wireless Connection	• Bluetooth Auracast™	Audio Output Power	• 35 mW max
Bluetooth Version	• 5.4 LE	Headphone Impedance	• 32 ohms
Codec	• LC3	Frequency Response (+/- 3 dB relative to 1 kHz)	• 16 kHz: 100 Hz to 7 kHz • 24 kHz: 100 Hz to 11 kHz • 48 kHz: 100 Hz to 16 kHz
Operating Frequencies	• 2400 to 2483.5 MHz	Total Harmonic Distortion	• < 1%, at 50% volume with 32 ohm load
Range	• Up to 328 ft (100 m) in open space using the Infinium BA R1 Receiver	Signal to Noise Ratio	• 75 dB
Channels	• Mono or Stereo	Receiver Sensitivity	• -99 dBm
Channel Security	• Open or Password protected		
Encryption	• AES128-CCM with 128 bit key		

PROGRAMMING AND STATUS	
Power ON Indicator	• Power Button with Programmable LED Indicator
Audio Assist User Controls	• Volume up/down • Balance Left/Right
Functional User Controls	• Power On/Off • Channel Selection • Display Brightness

Specifications | Infinium™ R1

Unit	
Dimensions	3.9" x 2.48" x 0.85" 99 x 63 x 21.6 mm
Dimensions with Belt Clip	3.9" x 2.48" x 1.19" 99 x 63 x 30.2 mm
Unit Weight	3.8 oz (107.7 g)
Shipping Weight	4.5 oz (127.6 g)
Color	Black
Battery Type	Lithium Ion (Li-ion) Camera Style Rechargeable Battery; Field Replaceable
Battery Size	3.7 Vdc, 1200 mAh
Battery Life	> 20 hours
Temperature Range - Operating	+14° F to +104° F (-10° C to 40° C)
Temperature Range - Storage	-4° F to +122° F (-20° C to +50° C)
Temperature Range - Charging	+41° F to +114° F (+5° C to 40° C)
Charging Connections	- Dual contacts for use with Infinium Drop In Chargers or - USB-C Connector
Button Controls	Power, Increment, Decrement, CH/BAL, Menu/Select
Display	- OLED display 1.38 x 0.69 in (35.1 x 17.5 mm) - Diagonal: 1.54" (39.2 mm)
Belt Clip	Removable
Audio Output	3.5 mm stereo jack for wired stereo or mono headphones, earphones or neckloops
Approvals	FCC, RoHS3, WEEE, Industry Canada/ISED, CE, UKCA, RCM, CB Scheme
Warranty	2-year parts and labor
USB-C Connection	- Power/change (5V @~500 mA) - Firmware Updates

ACCESSORIES	
Audio	- Headphones, Earphones and Neckloops - Stereo and Mono supported
Chargers	2-Bay Drop-in Charger 6-Bay Drop-in Charger - USB-C Single Charge Kit

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