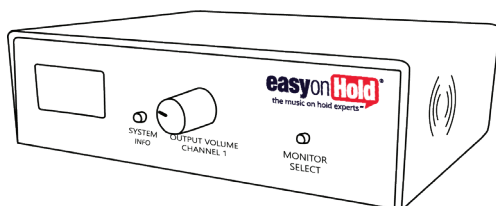# 2-Channel Business Audio System

For Easy On Hold® and Brandi Music
Phone-On-Hold and Background Music

USER GUIDE

Thanks for choosing Easy On Hold®, and the newest, most advanced business audio system available.

This guide will provide more than basic instructions. You'll learn helpful tips that will unlock many innovative performance features. For that reason, it is recommended that you review every page of this guide and keep it in a convenient place for future reference.

CONTENTS

IN THE BOX

A. Power Cable (6 feet / 2 meters. 5V 3.0 Amps)

B. Mounting Bracket

C. Knurled Screws (for attaching device to bracket)

D. 2-Channel Business Audio System

E. User Guide

F. RCA-to-RCA mono audio cable

G. RCA-to-3.5mm audio adapter

OPTIONAL ACCESSORIES

H. 6-foot Ethernet Cable (supplied for streaming audio users)

I. 3.5mm-to-dual-RCA audio cable (supplied for Brandi Music users)

QUICK SET-UP GUIDE

Plug Ethernet cable (provided) into Ethernet Port and connect to internet source.

Connect power cable to device, marked POWER IN; plug power adapter into a surge-protected outlet.

After approximately 20 seconds, the display will illuminate and begin to show information. A musical chime indicates successful start-up. Within one minute, the device will play content.

Connect audio cable between active output channel on device and phone system or amplifier; check volume.

PRODUCT TOUR

1.1 FRONT

DISPLAY
Shows system and
operational information

SYSTEM INFO BUTTON
Scroll through pages of
information on display

**MONITOR
SPEAKER**

CHANNEL 1 VOLUME
Changes volume of
Channel 1 Audio

MONITOR SELECT
Activates monitor
speaker; selects Channel
1 or Channel 2 Audio

MOUNTING SCREWS
Attaches device to
Mounting Bracket

1.2 BACK

POWER
Connects power
supply

**CH 1 SPEAKER
OUT**
600 Ohms RCA

CH 1 LINE OUT
8 Ohms RCA

**CH 2 SPEAKER
OUT**
600 Ohms RCA

3.5mm OUTPUT
8 Ohms STEREO

CH 2 LINE OUT
8 Ohms RCA

USB 2.0 PORTS
For USB memory
playback and
programming

ETHERNET
10/100 with LED
indicators

INSTALLATION

2.1 MOUNTING THE DEVICE

The included mounting bracket and screws may be used to mount the player to a wall in a position that allows easy viewing of the device display.
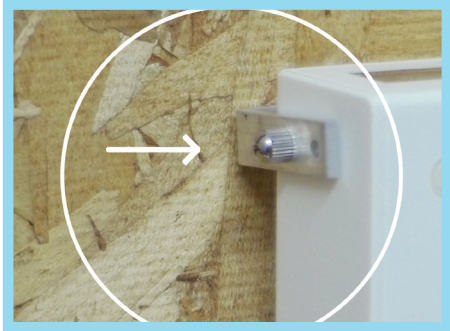

Attach the bracket to the wall.

Connect the device to the bracket using provided knurled screws.

2.2 STAND-OUT WALL MOUNTING

Shown: Stand-out wall mounting that allows the device to "swivel" for easy access.

The device may be mounted in a high position while still allowing easy access to controls and display.

2.3 SHELF MOUNTING

The device is equipped with rubber feet installed, for non-slip shelf mounting.

2.4 INTERNET AUDIO STREAM OPTION

This 2-Channel Business Audio System has been built to provide high quality, continuous audio via http mp3 internet stream. Stream configuration is typically done by Easy On Hold®. Wireless connectivity is available, but a wired internet connection is preferred and strongly recommended.

INTERNET CONNECTIVITY CHECKLIST

☐ **For wired connection:** Locate available port in router or switch.

☐ **For wireless connection:** Provide SSID and Password to Easy On Hold® for configuration. Device may be configured for private networks upon request. **(Note: Wi-Fi access point must be in close proximity to the streaming device.)**

☐ **If DHCP:** Router is able to hand out I.P. addresses from DHCP Pool.

☐ **If STATIC:** Provide the following information to Easy On Hold® for configuration: Unit I.P., Default Gateway, Network Mask, DNS Server 1, DNS Server 2.

☐ **Ports clear for traffic:** 80 (http), 443 (https), 53 (DNS), 123 (time).


2.5 DEVICE START-UP

1. Plug Ethernet cable (provided) into Ethernet Port and connect to internet source.

2. Connect power cable to device, marked POWER IN; plug power adapter into a surge-protected outlet.

3. After approximately 20 seconds, the display will illuminate and begin to show information.

4. A musical chime indicates successful start-up. Within one minute, the device will play content.

2.6 LOCAL FILE PLAYBACK OPTION (USB DRIVE)

If internet connectivity is not available or desired, the 2-Channel Business Audio System may be configured to play locally-stored audio files. The device is shipped with internal audio files that will play when there is no internet connection.

Alternatively, a **USB Flash Drive** may be used as a continous source of audio, using one of the USB ports on the device.
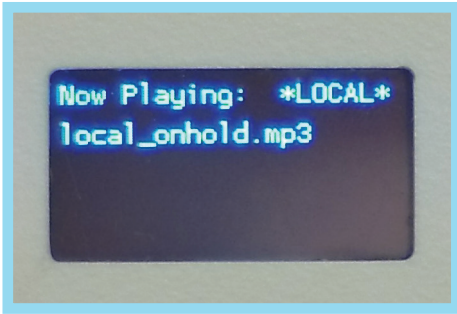
The display shows LOCAL audio files are being played.

- USB drive must be formatted with a FAT32 file system.
- Audio files must be .mp3, up to 320Kbps.
- Files may be named with or without spaces, but must end in .mp3.
- Files are played in alpha-numeric order and repeat continuously.
- Insert USB Drive with device powered off. USB drive is recognized during bootup.

NOTE: Only a USB FLASH memory stick device should be connected to the USB Port of the player. This USB memory device is used for direct playback of audio files or to load configuration files and media content into the player. The USB port should not be used for any other purposes.

2.7 MUSIC AND MESSAGE ON HOLD APPLICATION

Because the audio source requirements of phone systems and business background music systems vary, a choice of output types are provided.

- For a typical PBX phone on hold installation, choose the Line Out CH 1 RCA output. This provides a 600-Ohm monophonic (MONO) output.

- If there is not enough audio signal after raising the volume to maximum, use the Speaker Out CH 1 RCA output. This provides an 8-Ohm monophonic (MONO) output.

The connection to your phone system may be 3.5mm, RCA or punch-down block. Commonly-used adapters are shipped with the device. Easy On Hold® can provide the connector that works with your phone system. (See types of connectors on next page.)

TIP: To boost volume further and resolve any audible line noise or hum, an RCA-to-RCA isolating transformer adapter is available.

Output to phone system: Line Out CH 1 RCA.

Types of connectors.

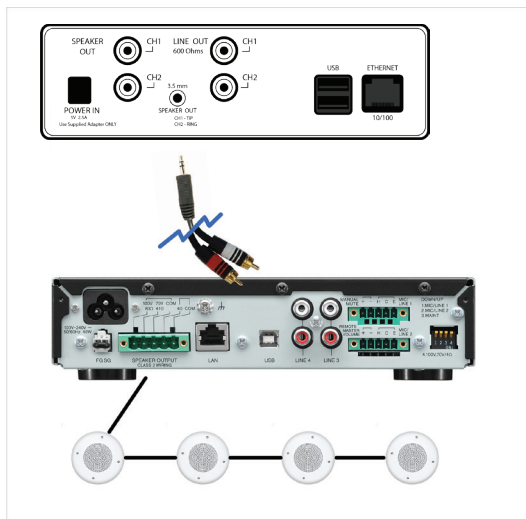## 2.8 OVERHEAD BACKGROUND MUSIC APPLICATION

The high-quality digital audio processing designed into the 2-Channel Business Audio System makes music (and optional messages) sound great in your business. The Brandi Music audio stream is provided in 192Kbps.

Unless otherwise requested, the Business Audio System combines the Left and Right channels of music from your Brandi Music stream to output mono audio on Channel 1.

A second mono audio stream can be provided on Channel 2.

Why is mono preferred for overhead background music?
Enjoying the benefits of stereophonic sound requires the listener to hear both the left and right audio channels. In a business or retail setting, the location and numbers of speakers usually make this impractical. Therefore, monophonic distribution is preferred.

Typical overhead/background music service audio connection: 3.5mm-to-dual-RCA cable.

2.9 2-CHANNEL AUDIO SETUP

This device is able to play two unique audio streams simultaneously. Talk to Easy On Hold® to have your custom URLs assigned to Channel 1 and Channel 2. Use the LINE OUT or SPEAKER OUT as described in 2.7 and 2.8, above.

For a STEREO application, your single Brandi Music URL can be programmed by Easy On Hold® to send LEFT Channel and RIGHT Channel source audio to CH-1 and CH-2. Message On Hold streams from Easy On Hold® are only available in mono.

OPERATION AND CONTROLS

3.1 DISPLAY - SCREEN ROTATION
During normal use, the display shows a rotation of five or (if Channel 2 in use) six screens.

1. Title Page, including Easy On Hold® support phone number
2. Now Playing on Channel 1: artist, track title
3. Now Playing on Channel 2: artist, track title (if configured)
4. Client Name and Device Serial Number
5. Connection Status
6. Current time and date (local)

3.2 SYSTEM INFO BUTTON

This button is used to select information pages shown on the display to help with configuration and diagnosis of the system. After a short delay, the unit will return to Screen Rotation Mode, as described in 3.1, above.

See the full list of SYSTEM INFORMATION PAGES in Appendix A, page 10.

3.3 VOLUME KNOB

The rotary volume knob adjusts the output level for Channel 1 on the RCA LINE OUT, RCA SPEAKER OUT and Channel 1 on the 3.5 mm SPEAKER OUT connectors.

> *NOTE: When Monitoring Channel 1 using MONITOR SELECT, changes in volume level will be heard on both the internal speaker and the phone system or audio system connected to Channel 1.*
>
> *NOTE: Channel 2 is a "fixed output" and cannot be controlled by the volume knob.*

3.4 FAILOVER ARCHITECTURE
When used as an internet-connected device, the Business Audio System will continuously monitor connectivity. In the event of a loss of internet service, the system will play pre-configured locally stored files. When connectivity is restored, the unit will automatically resume playing the internet stream.

3.5 CHANGING CONTENT

When using the device as a local audio player (USB drive audio files), see 2.6 of this guide, LOCAL FILE PLAYBACK OPTION. For use with streaming content, login to your account at https://easyonhold.com and/or https://brandimusic.com. A robust web application provides access to content management.

3.6 MONITOR SELECT BUTTON/MONITOR SPEAKER

Each press of the monitor select button will cycle through the following modes:

- Listen to Channel 1 on Monitor Speaker.
- Listen to Channel 2 on Monitor Speaker.
- Monitor Speaker off.

The display will briefly show the current monitor mode.

NOTE: Channel 2 is a "fixed output" and cannot be controlled by the volume knob.

ADVANCED OPERATIONS

4.1 CHANGE WIRED/WI-FI MODE

Wired connectivity for streaming mode is recommended, however Wi-Fi can also be used. To switch between Wired and Wi-Fi Modes, contact Easy On Hold® Support (support@ easyonhold.com). Configuration files are loaded through the USB Port or remotely.

4.2 REMOTE SYSTEM UPDATES

From time to time, it may be necessary to update the software in the Business Audio System. This can be done locally or remotely. As long as the device is able to connect to the update server, new versions of the software can be deployed. The device will automatically reboot to activate the new software, causing an interruption in audio playback of about 30 seconds. Updates are scheduled events and can happen at a time that is convenient to you.

4.3 SPECIAL OPERATIONS MENU

To enter the Special Operations Menu, press and hold both the SYSTEM INFO and MONITOR buttons for 5 seconds, then release. Once in the Special Operations Menu, use the System Info Button to step through several "pages" or "screens". When the display indicates a desired option, press the Monitor button to activate the displayed option.

The following options are avilable from Special Operations Menu:
- Shutdown – Activates safe shutdown process to make device ready to be unplugged.
- Volume Ch2 – Temporary volume for this power cycle only. Contact Easy On Hold® support to configure this level permanently.
- Volume Ch1 – Temporary volume for this power cycle only. Works in series with the front panel volume control to limit maximum level. Contact Easy On Hold® support to configure this level permanently.
- Play USB Only – Forces device to play audio from a connected USB drive only.
- Temporary DHCP – Forces device to try to get a DHCP IP address. Used when debugging network issues.
- Reboot – Immediately reboots the device.
- Exit – Returns device to previous normal play mode.

The Special Operations Menu will time out and return to normal play after 2 minutes.

PRODUCT SAFETY INFORMATION

Protect the unit against moisture, dirt and any kind of damage during transport, storage and operation.

Install in a clean, dry location.

When installing this product in a rack, control cabinet, or other area where dangerous voltages are present, always switch off the power supply to the cabinet or equipment.

Do not operate the unit outside the parameters specified in technical data. See Appendix B, page 11 in this guide.

Ensure that the product is properly installed and ventilated to prevent overheating.

Follow all applicable electrical safety standards, guidelines, specifications and regulations for installation, wiring and operations of this product.

Using excessive force with tools may damage the product or degrade its safety.

FCC INFORMATION

USA
This device has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

CANADA
This device has been tested and found to comply with the limits for a Class B digital apparatus, pursuant to Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

OPEN SOURCE SOFTWARE

The following open source software authors are acknowledged for their generous work. luma.oled, luma.core, PIL, RPi.GPIO, Mpv, pythonmpv.

Additional information about the product software is available on Easy on Hold's® website, located at: https://easyonhold.com/product-software/.

COMPLIANCE INFORMATION FOR THE RASPBERRY PI 3 MODEL B

This product contains a standard Raspberry Pi 3 Model B single board computer. This board has WiFi and Bluetooth radios.

USA
Raspberry Pi 3 Model B FCC IDENTIFIER: 2ABCB-RPI32
The antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter, except in accordance with FCC multi-transmitter product guidelines. This (WIFI DTS) device has 20 MHz bandwidth mode.

CANADA
Raspberry Pi 3 Model B IC CERTIFICATION No.: 20953-RPI32
This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes: (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

LIMITED WARRANTY

Easy On Hold® warrants the device hardware against defects in materials and workmanship under normal use for a period of five (5) years from the date of purchase ("Warranty Period") if used in accordance with the documentation provided with the device. If Easy On Hold® determines that the device's hardware is defective during the Warranty Period, Easy On Hold's® sole obligation, and your exclusive remedy, will be to either repair or replace the unit with either a new or rebuilt player, at its option. Important information about warranty returns and replacements is available at: https://easyonhold. com/purchase-policy/.

APPENDIX A: **SYSTEM INFORMATION PAGES**

Press SYSTEM INFO button to manually scroll through the following screens:

1. Title Page, including Easy On Hold® support phone number
2. Now Playing on Channel 1: artist, track title
3. Now Playing on Channel 2: artist, track title (if configured)
4. Client Name and Device Serial Number
5. Connection Status
6. Current time and date (local)
7. Network Settings – This page shows items useful for diagnosing network connectivity issues, including Internet Protocol Address (IP Address), Internet Gateway, Netmask, Ethernet MAC address. The IP address, Gateway and Netmask are either obtained via DHCP when that is mode configured, or configured statically during installation, using values provided by your network administrator. The ethernet MAC address is a fixed value, set during manufacturing.
8. Network Statistics – This page shows network Internet Protocol address, network errors and network packet counters. These are useful to show the network connection is operating correctly.
9. Network DNS Information – This page shows the Domain Name System (DNS) server addresses in use. These are typically allocated automatically by the DHCP server, or configured statically during installation, using values provided by your network administrator.
10. Time Information – Network Time Protocol information. Shows the server used to obtain the correct time and the currently configured time zone.
11. Device Statistics – This page shows: current temperature, maximum temperature (both in degrees Celsius), up-time since power on and total run-time for the unit (in hours). The unit should be operated in normal room temperature environment, between 10 and 30 degrees Celsius (50 and 86 °F).
12. Stream Position – Shows the current stream position in seconds. Useful for diagnosing that the network and stream playback are operating correctly.
13. Data Storage (Memory) – Shows space on internal storage partitions.
14. USB Information – Shows the available space on USB drive, if in use.
15. System Statistics – To assist in diagnosing system issues, this page shows a selection of internal statistics, including uptime, processor load, memory usage, disk usage and Ethernet / WiFi network usage.

APPENDIX B: **SPECIFICATIONS**

POWER SUPPLY	Length: 6 feet / 2 meters. 5V 3.0 Amps Only use provided adapter. Input 100V-240V AC
OUTPUTS	Line Out - RCA Speaker Out - RCA Speaker Out - 3.5mm "tip-ring-sleeve": Channel 1: Tip; Channel 2: Ring; Ground: Sleeve
NETWORK	RJ-45 10/100 Ethernet IEEE 802.3
WI-FI	2.4 GHZ BGN IEEE 802.11 Internal Antenna
INTERNET ACCESS	http: and https: Port 80 and Port 443 With network time configured: UDP Port 123
WEIGHT	1.2 Pounds / .54 Kg with packaging
SIZE	5.9 x 1.8 x 5.7 inches / 151 x 45 x 145 mm
OPERATING TEMPERATURE	0° C to 45° C / 32° to 113° F
STORAGE TEMPERATURE	-20° C to +70° C / -4° to 158° F
STREAM TYPE	http .mp3
BANDWIDTH CONSUMPTION	0.025 GB/hr @128Kbps / 0.13 GB/hr @ 192Kbps
SSH	Disabled; enabled upon request
I.P. ADDRESS	Static or DHCP
TIME SERVER	UDP Port 123; may be configured to custom time server
URL	streaming.easyonhold.com and/or streaming.brandimusic.com

Designed, engineered and built in Michigan, USA. Some parts imported.

easy on **Hold**®
the music on hold experts℠

easyonhold.com
1-888-798-4653 (HOLD)