

# TouchTunes



# ANGELINA

## Installation and Setup Guide



## Disclaimer

**Document Part Number: 901072-001 Rev 01 September 2021**

### INSTALLATION AND SETUP GUIDE FOR TOUCHTUNES ANGELINA™ JUKEBOX

#### A. About this Guide

- This Installation and Setup Guide (the "Guide") is produced by TouchTunes Music Corporation on behalf of itself and its subsidiaries (collectively, "TouchTunes").
- The information contained in this Guide, including any product specifications, is subject to change without notice.
- TouchTunes assumes no responsibility or liability for any errors in this publication and makes no warranty of any kind with respect to the content of this Guide.
- No part of this Guide may be reproduced, transmitted, transcribed, stored in a retrieval system, adapted or translated into any language in any form, by any means, without TouchTunes' prior written permission.
- TouchTunes reserves the right to change the specifications of the hardware and software described in this Guide at any time and without prior notice.
- This Guide is furnished for informational purposes only, is subject to change without notice, and should not be construed as a commitment by TouchTunes.
- Changes may be periodically made to the information set forth in this Guide, which changes will be incorporated into new editions of this Guide.
- TouchTunes will not be held liable for any damages resulting from the use of this Guide or the product(s) described in this Guide.

TOUCHTUNES PROVIDES NO WARRANTY WITH REGARD TO THIS GUIDE OR ANY OTHER INFORMATION CONTAINED HEREIN AND HEREBY EXPRESSLY DISCLAIMS ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR ANY PARTICULAR PURPOSE WITH REGARD TO ANY OF THE FOREGOING. TOUCHTUNES ASSUMES NO LIABILITY FOR ANY DAMAGES INCURRED DIRECTLY OR INDIRECTLY FROM ANY TECHNICAL OR TYPOGRAPHICAL ERRORS OR OMISSIONS CONTAINED HEREIN OR FOR DISCREPANCIES BETWEEN THE PRODUCT AND THIS GUIDE. IN NO EVENT SHALL TOUCHTUNES BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL, SPECIAL, OR EXEMPLARY DAMAGES, WHETHER BASED ON TORT, CONTRACT OR OTHERWISE, ARISING OUT OF OR IN CONNECTION WITH THIS GUIDE OR ANY OTHER INFORMATION CONTAINED HEREIN OR THE USE THEREOF.

#### B. Trademarks

TouchTunes, the TouchTunes logo and Angelina are some of the trademarks or registered trademarks of TouchTunes in the United States, other countries, or both. Any third party company, product(s), brand and/or service names may be registered or unregistered trademarks or service marks of their respective owners and are hereby recognized.

Logos, trademarks, photography, illustrations, graphics, screenshots, videos, audios and text incorporated into TouchTunes' hard copy and online documents and publications are copyright protected by TouchTunes or its licensors. Downloading, web linking, screen capturing or copying these items in any manner for any use--other than personally viewing the original document in its entirety--are prohibited by copyright law, and written permission from TouchTunes must be obtained before any use of TouchTunes' copyrighted material.

C. Intellectual Property

All Intellectual Property (as defined below) owned by or which is otherwise the property of TouchTunes or its respective suppliers or licensors relating to Angelina, including accessories, parts or software relating thereto (the "Product"), is proprietary to TouchTunes and protected under Federal and State laws and international treaty provisions. "Intellectual Property" includes trademarks, service marks, logos, inventions (patentable or unpatentable), patents, trade secrets, copyrights, software, computer programs and related documentation and other works of authorship. You may not infringe or otherwise violate the rights secured by the Intellectual Property. Moreover, you agree that you will not (and will not attempt to) modify, prepare derivative works of, reverse engineer, decompile, disassemble or otherwise attempt to create source code from the software. No title or ownership in the Intellectual Property is transferred to you. All applicable rights of the Intellectual Property shall remain with TouchTunes.

D. Confidential Information

This Guide is copyrighted by TouchTunes and the contents are confidential information of TouchTunes. You may not disclose the information described herein without written authorization of TouchTunes.

E. Contact Information

While every effort was made to ensure that the information in this Guide is accurate and complete, we would appreciate it if you bring to our attention any errors or omissions or if you otherwise have any comments on this Guide or the products it describes to:

TouchTunes Music Corporation  
ATTN: Product Operations  
850 Third Ave, 15th Floor  
New York, NY 10022  
USA

© The Octave Music Group, Inc. (formerly known as TouchTunes Interactive Networks, Inc.) 2021

All rights reserved, including those to reproduce this Guide or parts thereof in any form without permission from TouchTunes.

# TouchTunes

# Contents

---

|          |   |           |
|----------|---|-----------|
| <b>1</b> | <b>Welcome</b>                                    | <b>9</b>  |
|          | Welcome .....                                     | 10        |
|          | About This Guide .....                            | 10        |
|          | Disclaimer and Important Safety Information ..... | 10        |
|          | Important Safety Instructions .....               | 10        |
|          | Contacting TouchTunes .....                       | 12        |
| <b>2</b> | <b>Introducing Angelina</b>                       | <b>13</b> |
|          | Introducing Angelina .....                        | 14        |
|          | Angelina Features Overview .....                  | 15        |
|          | External Features .....                           | 15        |
|          | Touchscreen Display .....                         | 16        |
|          | High Intensity Visualizer .....                   | 16        |
|          | Light Show .....                                  | 16        |
|          | Onboard Camera .....                              | 16        |
|          | Easy Maintenance Design .....                     | 16        |
|          | Amplification .....                               | 16        |
|          | Zone Management .....                             | 16        |
|          | Fan-less Design .....                             | 16        |
|          | Powerful CPU .....                                | 16        |
|          | High Capacity Storage .....                       | 16        |
|          | Bezel-less Front Panel .....                      | 17        |
|          | Redesigned Mounting Bracket .....                 | 17        |
|          | Wireless Broadband .....                          | 17        |
|          | Visual Components .....                           | 17        |
|          | Angelina Interior Components .....                | 18        |
|          | Computer .....                                    | 19        |
|          | I/O Board .....                                   | 20        |
|          | Amplifiers .....                                  | 21        |
|          | Remote Control .....                              | 22        |
|          | Cable Management Hardware .....                   | 22        |
|          | User Interface - Play More! .....                 | 23        |
|          | Visualizer .....                                  | 24        |

---

|   |           |
|---|-----------|
| Custom Music Programming (CMP) .....                          | 25        |
| Multi-Language Support .....                                  | 25        |
| <b>3 Preparing for Installation</b> .....                     | <b>27</b> |
| Checking Angelina Components .....                            | 28        |
| Setting Up a Broadband Connection .....                       | 30        |
| Preparing Tools and Materials for Installation .....          | 31        |
| <b>4 Installing Angelina</b> .....                            | <b>33</b> |
| Moving Angelina to its Mounting Location .....                | 34        |
| Unpacking Angelina .....                                      | 34        |
| Wall-Mounting Angelina .....                                  | 36        |
| Installing the Hard Drive .....                               | 42        |
| Connecting Angelina to the Wired Broadband Network .....      | 44        |
| Setting up TouchTunes Wireless Broadband (Optional) .....     | 45        |
| Connecting Speakers to Angelina .....                         | 46        |
| Connecting Power to Angelina .....                            | 48        |
| Activating the Angelina Screen .....                          | 48        |
| <b>5 Activating Angelina</b> .....                            | <b>49</b> |
| Powering on Angelina .....                                    | 50        |
| Configuring Angelina .....                                    | 50        |
| Calibrating the Touchscreen .....                             | 50        |
| Selecting Configuration Settings .....                        | 51        |
| Selecting Languages .....                                     | 52        |
| Choosing Angelina Settings .....                              | 53        |
| Choosing Calling Window and Connection Type .....             | 54        |
| Verifying the Configuration .....                             | 57        |
| Updating Software .....                                       | 59        |
| Installation Errors .....                                     | 61        |
| Corruption in the ID Chip or Hard Drive .....                 | 61        |
| Serious System Error .....                                    | 61        |
| <b>6 Setting up Angelina</b> .....                            | <b>63</b> |
| Opening the Operator Interface .....                          | 64        |
| Setting Up the Remote Control .....                           | 65        |
| Setting the Remote Control ID .....                           | 66        |
| Learning the Remote ID .....                                  | 67        |
| Remote Key Assignments and Functionality .....                | 68        |
| Enabling Bass Boost .....                                     | 69        |
| Connecting an External Audio Source .....                     | 70        |
| Requirements for Connecting to an External Audio Source ..... | 70        |

---

|  |            |
|--|------------|
| Connecting a Microphone .....                                  | 72         |
| Adjusting Touchscreen Brightness and Contrast .....            | 76         |
| Applying Filters and Credit Rules .....                        | 77         |
| Setting Lightshow Colors and Brightness .....                  | 78         |
| Setting Local Favorites Options .....                          | 81         |
| Setting Custom Music Programming (CMP) Levels .....            | 82         |
| Changing Languages .....                                       | 82         |
| Note About Applying Stickers to the Angelina Touchscreen ..... | 83         |
| <b>7 Service and Maintenance</b>                               | <b>85</b>  |
| Important Safety Instructions and Warranty Information .....   | 86         |
| About Angelina Maintenance .....                               | 86         |
| List of Angelina Field Replacement Unit (FRU) Kits .....       | 87         |
| Offline Diagnostic Tool .....                                  | 88         |
| Starting the ODT .....   | 88         |
| RAM Tests .....  | 88         |
| Hard Drive Tests .....   | 89         |
| <b>8 Bridging the Internal Amplifiers</b>                      | <b>91</b>  |
| Bridged Amplifiers Configuration .....                         | 92         |
| Bridging the Amplifiers .....                                  | 92         |
| Bridging Safety Considerations and Recommendations .....       | 94         |
| Troubleshooting Amplifier Bridging .....                       | 95         |
| <b>9 Zone Management</b>                                       | <b>97</b>  |
| About Zone Management .....                                    | 97         |
| Safety Considerations and Recommendations .....                | 98         |
| Zone Management on Tempo .....                                 | 98         |
| Activating New Zones .....                                     | 99         |
| Remote Control .....   | 101        |
| Overlay Decal .....  | 101        |
| Switching between Zone Sets .....                              | 101        |
| Auto-Revert .....  | 101        |
| Changing the Volume .....                                      | 101        |
| Synchronized Zone Volumes .....                                | 101        |
| Reverting .....  | 102        |
| Zone Management Examples .....                                 | 102        |
| A - Adding an Internally Amplified Zone .....                  | 102        |
| B - Adding an Externally Amplified Zone .....                  | 103        |
| C - Using All 6 Zones .....                                    | 104        |
| Real-World Situations with Solutions .....                     | 105        |
| Troubleshooting .....  | 106        |
| <b>10 Connection Diagram</b>                                   | <b>109</b> |
| <b>11 Acronyms</b>   | <b>113</b> |

---





## Welcome

---

This section introduces the newest TouchTunes jukebox, Angelina, provides important safety information, and describes how to get technical support.

### Topics

[Welcome](#)

[About This Guide](#)

[Disclaimer and Important Safety Information](#)

[Contacting TouchTunes](#)

## Welcome

Congratulations on your receipt of Angelina. Angelina's concept and appearance are designed to impress as well as attract patrons.

## About This Guide

This guide is intended for Operators of TouchTunes Angelina digital jukeboxes and their technicians, as well as TouchTunes technical support and field service personnel. It provides important information about the installation and setup of Angelina.

This guide applies to the following model:

- Angelina MP 700789-001

## Disclaimer and Important Safety Information

The Octave Music Group, Inc. (formerly known as TouchTunes Interactive Networks, Inc.) is not responsible for any damage resulting from the improper installation or connection of jukebox components or any other external equipment to your jukebox. TouchTunes is not responsible for any damage caused during shipment (except the shipment to the original purchaser) or any damage caused by:

- impacts, fluids, fire, flood, wind, earthquake, lightning or similar disaster
- unauthorized modifications, non-TouchTunes attachments or peripherals, improper use, environment, installation or electrical supply
- improper maintenance
- any other misuse, abuse, or mishandling

## Important Safety Instructions

Familiarize yourself with this important safety information before proceeding with product installation.

- 
- READ THESE INSTRUCTIONS.
  - KEEP THESE INSTRUCTIONS.
  - HEED ALL WARNINGS.
  - FOLLOW ALL INSTRUCTIONS.



The Lightning Flash with arrow head symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product enclosure that may be of sufficient magnitude to constitute a risk of shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

**WARNING:** Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

**WARNING:** TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE AND OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHOULD NOT BE PLACED ON THIS APPARATUS.

DO NOT USE THIS APPARATUS NEAR WATER.

**WARNING:** TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, THIS APPARATUS SHALL BE CONNECTED TO A MAINS SOCKET OUTLET WITH A PROTECTIVE EARTHING CONNECTION.

**WARNING:** The speaker output of this unit can exceed 10 Watts and could cause a shock injury. Connection to speakers should be performed by a skilled person in compliance with local building codes. Class 2 wiring is required for speaker cables. Use of external speakers outside the ratings stated at the speaker jack may result in a shock injury or damage to the unit, or equivalent.

**CAUTION:** Do not use the jukebox immediately after transferring the unit from a cold place to a warm place as condensation may have occurred on internal components. Wait for the unit to reach room temperature before using it.

**IMPORTANT:** See product enclosure for safety-related markings.

TO COMPLETELY DISCONNECT THIS APPARATUS FROM THE AC MAINS, DISCONNECT THE POWER SUPPLY CORD PLUG FROM THE AC RECEPTACLE.

THE MAINS PLUG OF THE POWER SUPPLY CORD OR APPLIANCE COUPLER SHALL REMAIN READILY ACCESSIBLE.

The Power Supply has no serviceable parts inside, please contact TouchTunes Customer Support for service.

Clean only with dry cloth.

Do not block any ventilation openings. Install in accordance with the manufacturers instructions.

Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

Only use attachments/accessories specified by the manufacturer.

Unplug this apparatus during lightning storms or when unused for long periods of time.

Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

**WARNING:** To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

To disconnect this apparatus unplug from the mains plug, access to the mains plug should be readily accessible after the installation.

#### **CAUTION**

Danger of explosion if battery is incorrectly replaced.

Replace only with the same or equivalent type.

Care should be taken when disposing of batteries to ensure there is no environmental impact. Refer to your federal guidelines for the proper disposal methods.

**WARNING:** Batteries (battery pack or batteries installed) shall not be exposed to excessive heat such as sunshine, fire, or the like.

Use only with the bracket specified by the manufacturer or sold with the apparatus.

**IMPORTANT:** Additional electrical and safety requirements appear on the Angelina product labels located inside the door near the locking mechanism and on the back of the jukebox.

**WARNING:** The console is not secured to the wall until the pivot latches are in the vertical (locked) position.

#### **WARNING**

To prevent injury, the apparatus must be securely attached to the wall in accordance with the installation instructions.

---

## Contacting TouchTunes

If you need help or have questions about this guide, call the TouchTunes 24/7 Service Hotline at 888-338-5853.

To help us assist you more effectively with problem reports, the following information may be required when contacting TouchTunes Technical Support:

- Jukebox model and ID
- Operator ID
- The serial number of any component you believe to be problematic
- The date/time of the problem
- Actions performed immediately before the problem occurred
- Any additional comments relevant to the problem

## Introducing Angelina

---

This section introduces the exterior, interior, and software features of the Angelina jukebox.

### Topics

[Introducing Angelina](#)

[Angelina Features Overview](#)

[Angelina Interior Components](#)

- [Computer](#)
- [I/O Board](#)
- [Amplifiers](#)

[Remote Control](#)

[Cable Management Hardware](#)

[User Interface - Play More!](#)

- [Visualizer](#)
- [Custom Music Programming \(CMP\)](#)
- [Multi-Language Support](#)

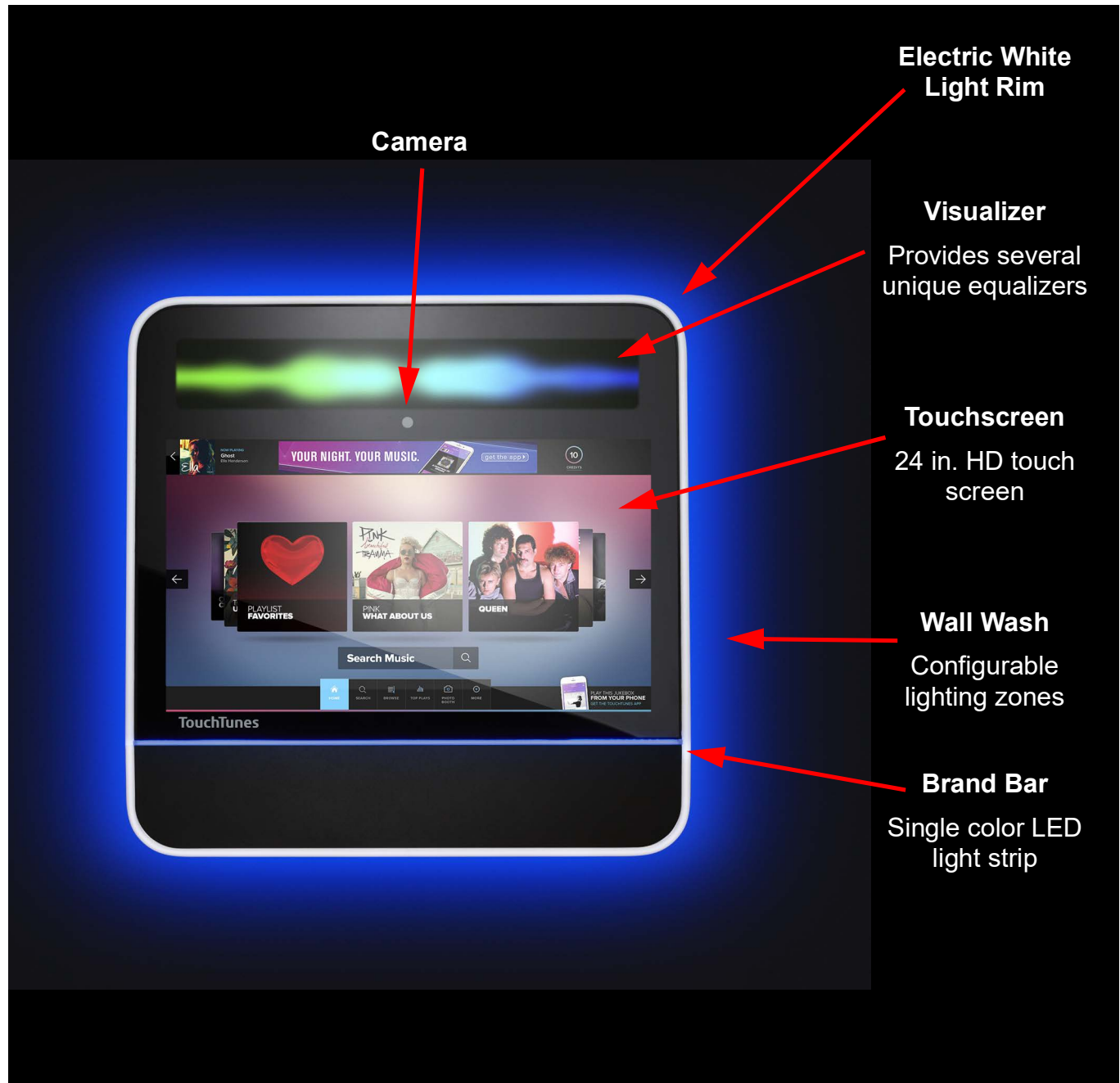
## Introducing Angelina

TouchTunes introduces a revolutionary next-generation entertainment platform, with features designed to enhance the customer experience and attract patrons. Angelina is more than just a jukebox. Angelina is a multimedia entertainment platform that enhances patrons' entertainment experience.



# Angelina Features Overview

## External Features



## Touchscreen Display

24-inch high definition (1920X1080) touchscreen with over 2 million pixels in 16:9 landscape orientation provides ample area to present rich content as well as enhance the music search and selection experience for patrons.

### NOTE

For patrons' optimal viewing angle and relaxed sight range, ensure that you adhere to the installation guidelines for wall-mounting Angelina. See [Wall-Mounting Angelina](#).

## High Intensity Visualizer

Separate from the user interface, the Visualizer above the touchscreen showcases the current music playing in different colors and patterns.

## Light Show

Multi-zone, 16-million color, high intensity light show offers high visibility in low light settings, and clearly identifies Angelina as an interactive device.

## Onboard Camera

A high definition still and video camera enables patrons to interact with mobile and web communities live from the venue.

## Easy Maintenance Design

The design of Angelina's Modular Hardware Platform provides for quick and easy maintenance of its core components.

## Amplification

Dual amplifiers with integrated power supply provide world class audio for two independently controllable zones. A third independently controllable zone can be used with external amplification. The amplifiers can be swapped out individually, when needed.

## Zone Management

Any of Angelina's 3 zones can be split to offer 2 mono zones which can then be controlled independently, for a total of up to 6 zones (4 internally-amplified). See [Zone Management](#).

## Fan-less Design

Angelina's cooling system is an industrial design that uses passive cooling, which greatly reduces noise and makes it a "green" out-of-home entertainment platform.

## Powerful CPU

Angelina's advanced 64-bit CPU provides great performance and graphics superior than any previous TouchTunes jukebox.

## High Capacity Storage

With a high-resilience 500-gigabyte hard drive, Angelina allows for the local storage of music and multimedia content.



## Bezel-less Front Panel

A modern and sleek industrial design conveying a single glass panel providing a distinctive and chic presentation.

## Redesigned Mounting Bracket

Angelina **cannot** be mounted on the same wall bracket used by any other TouchTunes jukebox. It has a new auto-locking design and its dimensions are specific for supporting Angelina. Similarly, Angelina's mounting bracket cannot be used for any other TouchTunes jukebox.

## Wireless Broadband

Wireless broadband enables operators to connect their jukeboxes to the Internet with a wireless high speed connection. This gives you:

- Real-time customer access to the entire TouchTunes catalog
- Access to custom playlists created by venue staff
- Fast data transfers and communications with the TouchTunes Tempo site (<https://tempo.touchtunes.com>), including music downloads, settings modifications and Network Diagnostic System (NDS)
- Improved song recommendation quality
- Expanded advertisement capabilities
- Support for the TouchTunes mobile app, which allows patrons to play songs from their mobile devices, without needing to walk up to the jukebox

## Visual Components

- RIM lights: electric white light show
- Reflective wall wash: 4 dimmable zones provide a colorful aura
- Visualizer: 16-million color display area for displaying lightshow that matches the music being played
- Brand bar: single-color LED light strip
- AC LED: red light that indicates that the AC power is connected when the jukebox is turned off (appears in the brand bar)
- Touchscreen monitor: a large (24-inch), HD monitor for displaying and selecting titles
- Camera: provides excellent low-light sensitivity and allows for patron interaction with others live from the venue

## Angelina Interior Components

The following figure shows the components on Angelina's Modular Hardware Platform.



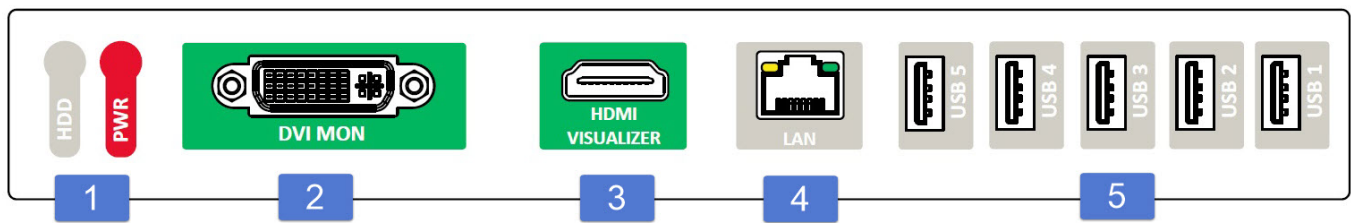
- 1 Computer
- 2 I/O Board
- 3 Power supply unit
- 4 Zone 2 amplifier
- 5 Zone 1 amplifier

## Computer

The central computer in the Angelina jukebox is a specially designed computer mounted inside Angelina that runs the unit. The computer contains a 500 gigabyte SATA hard drive and connectors for attaching peripherals.



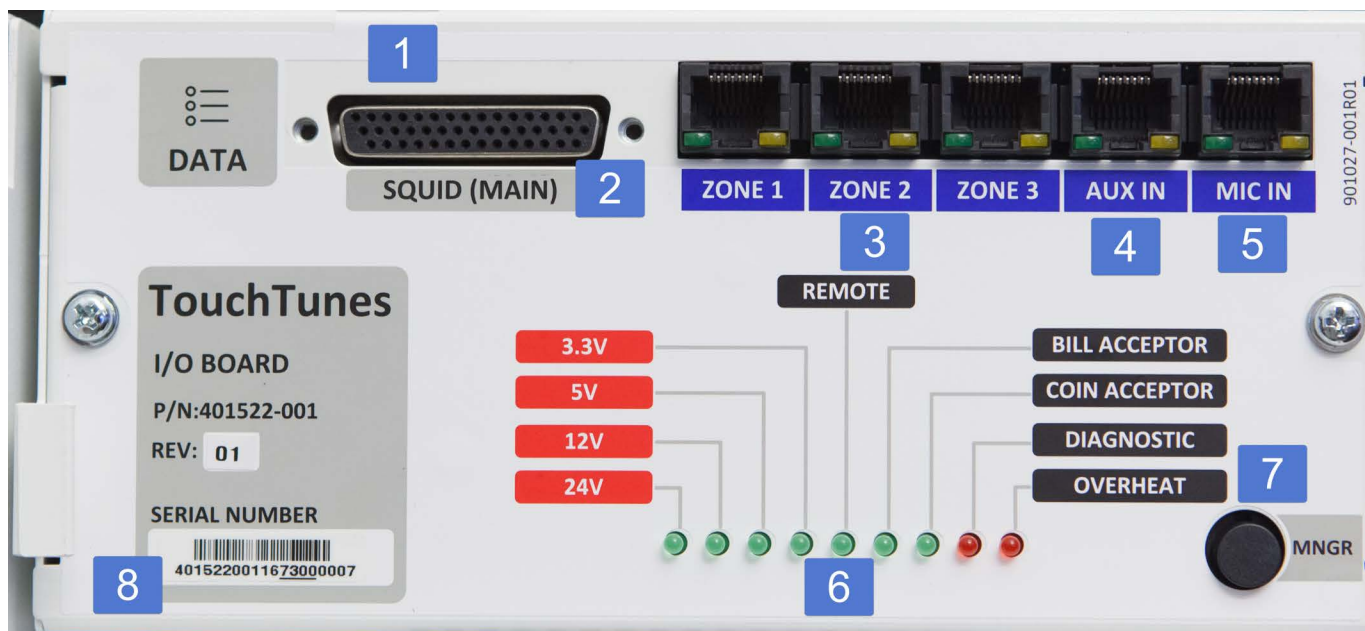
## Computer Panel



- 1 Status LEDs (Green = power, Yellow = hard drive activity)
- 2 DVI out
- 3 HDMI out
- 4 Ethernet (LAN port)
- 5 USB 3.0 ports (5)

## I/O Board

The I/O Board is an interface between the computer and Angelina's other components, providing controls and status indicators.

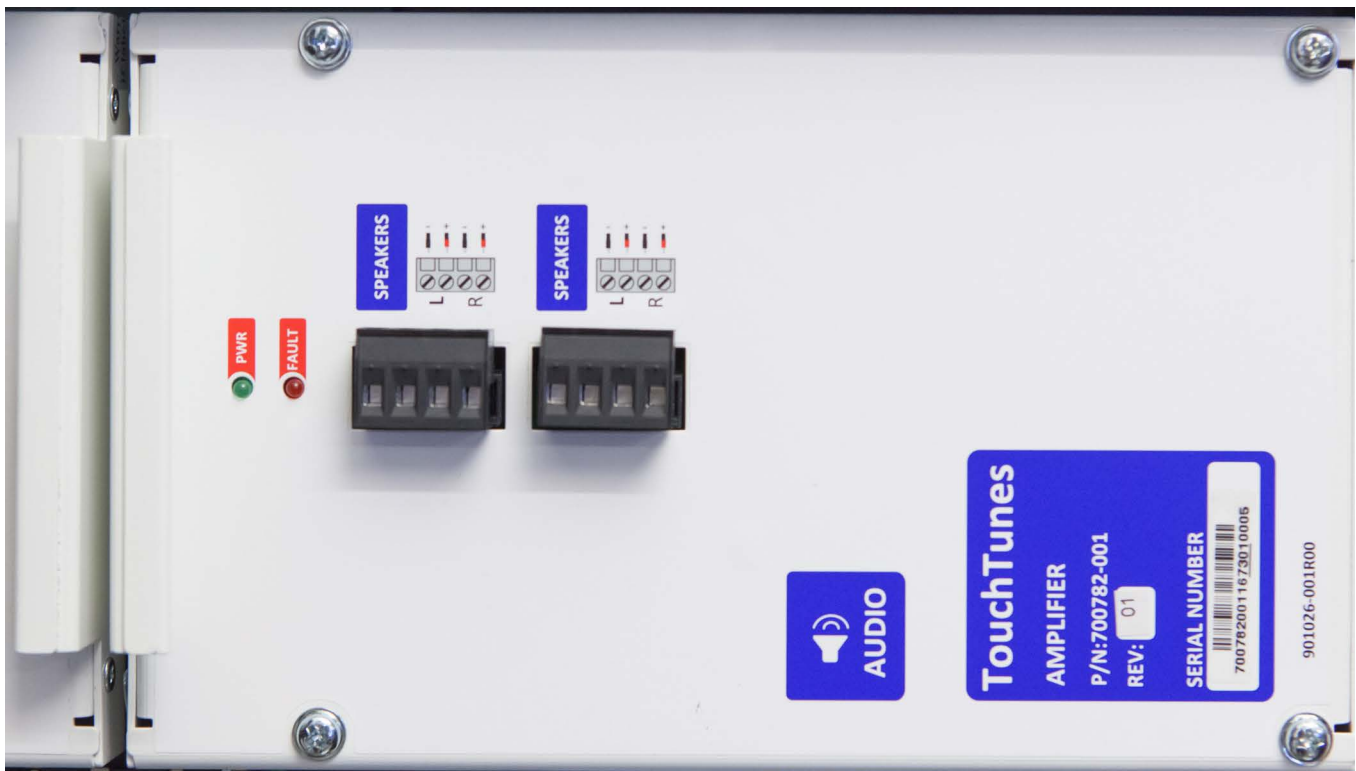


- 1 Wired remote (top of panel)
- 2 Squid (main)
- 3 Zones 1 through 3 audio

- 4 Aux input
- 5 Microphone input
- 6 Status LEDs
- 7 Manager button
- 8 Handle for easy removal of component

## Amplifiers

Angelina's two amplifiers are specially-designed with integrated power supply and each provides an independently controllable audio zone. Each amplifier has a handle that provides an easy way to remove the component when needed. The following shows the Zone 2 amplifier.



### Key Features

- Fully integrated audio power solution
- Rugged construction
- Thermal protection
- Over current protection
- Sound optimized soft clipping

## Remote Control

Angelina's wireless remote control is a single-frequency remote that transmits a 433.92 MHz and has these features:

- wide range and reliability
- light weight and robust
- long battery life
- integrated flash memory ensures that remote does not lose its ID when batteries drain
- membrane and plastic framing with resistance to liquids



The remote control is RF-based. This eliminates the need to point it directly at the jukebox when using it. It has a range of up to 200 feet depending on the obstructions between it and the unit. A rubber sleeve (P/N 401483-001), which makes the remote more water resistant, is available for order from TouchTunes, at an additional cost.

Angelina also supports a wired remote control, which is available as an option, at an additional cost.

## Cable Management Hardware

Angelina uses the following cable management hardware:



### Plastic Conduit

This tubing is used to contain multiple cables where they cross over the door hinge. This helps prevent cable pinching and fatigue when the door is opened and closed. The conduits are secured at both ends with a tool-free clip to keep the wires from becoming fatigued at the point of entry into the tubing.



### Cable clamps

Cable clamps provide easy cable routing during assembly and repair.



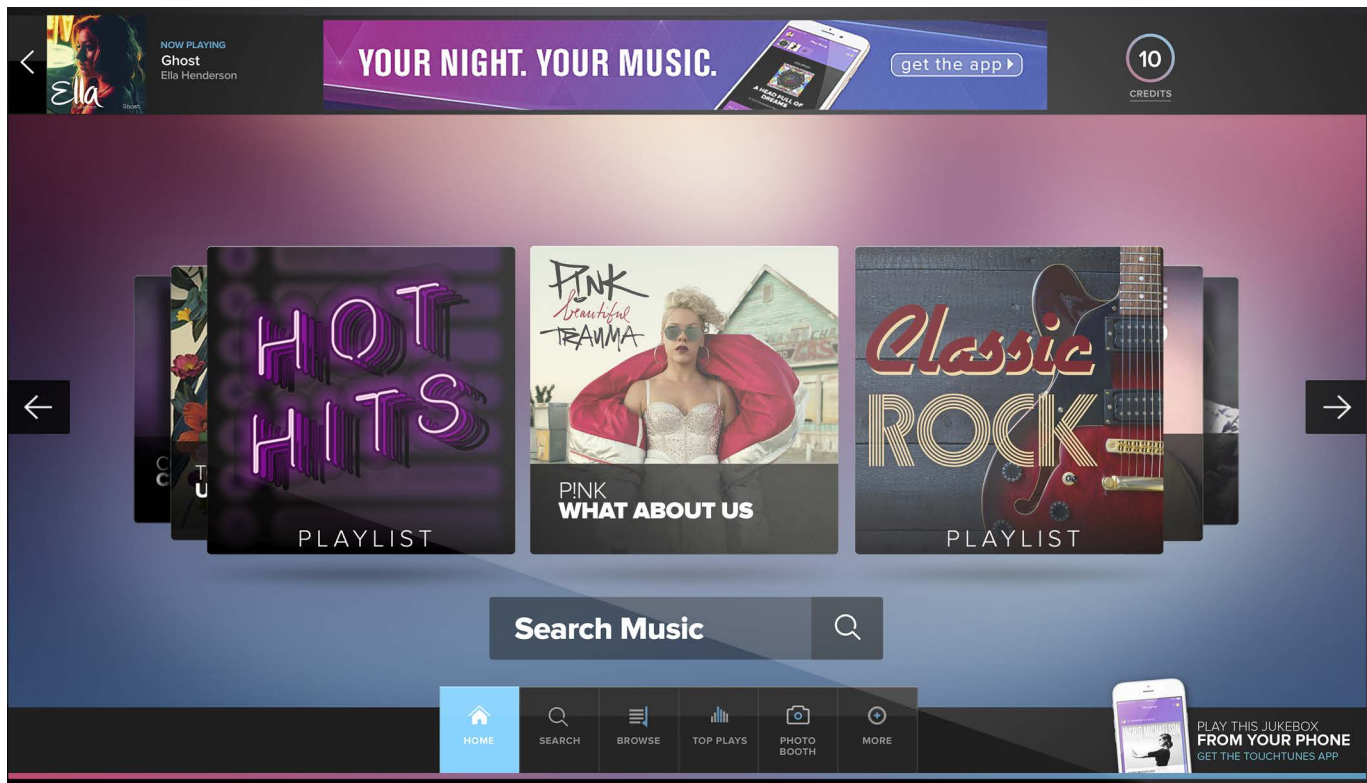
### Hook and loop, one-wrap cable ties

These reusable hook and loop cable ties are easy to take on and off and require no tools. Cable ties stickers (P/N 900490-001) are available for order from TouchTunes, at an additional cost.



## User Interface - Play More!

Angelina's user interface has an inviting layout that presents patrons with an attractive, entertaining, and user-friendly experience that invites them to **Play More!**



Evolving from TouchTunes' state of the art Jukebox Software architecture, the OpenStage 2 software platform comprises a user interface that includes the following features:

- [Visualizer](#)
- [Custom Music Programming \(CMP\)](#)
- [Multi-Language Support](#)

## Visualizer



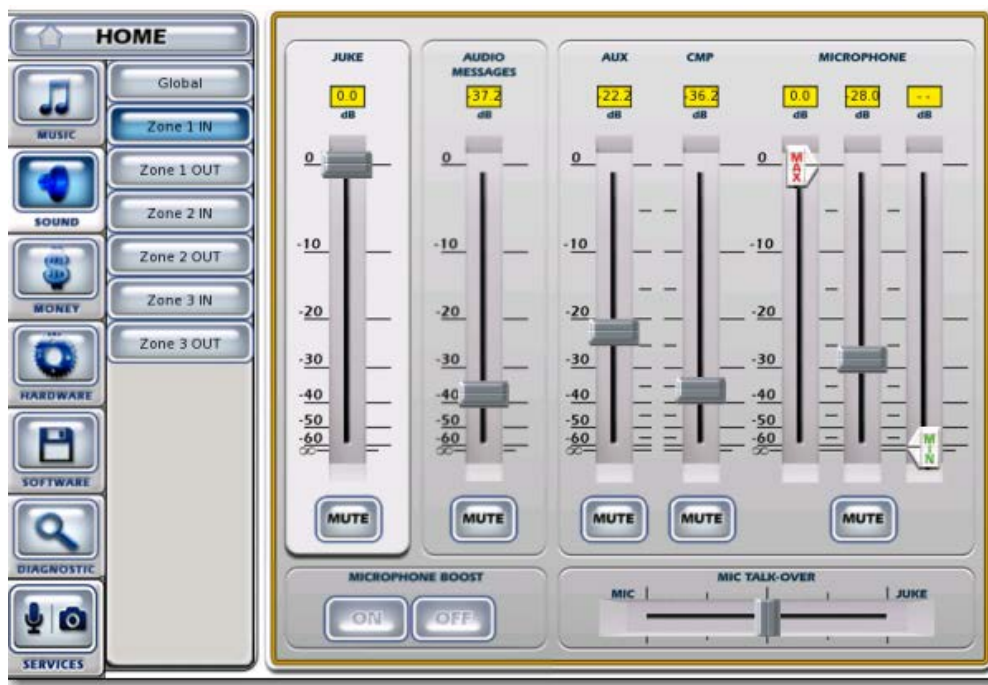
The top portion of the jukebox shows a graphic equalizer style presentation called the Visualizer. The Visualizer provides a huge call-out by being bright and present in the location and is designed to showcase the current music playing in different colors and patterns.

Setting the Visualizer display pattern and colors is done in the Operator interface.



## Custom Music Programming (CMP)

OpenStage 2 supports separate input and output volume levels for CMP, a.k.a. non-interactive background music. For instructions on how to set the levels, see [Setting Custom Music Programming \(CMP\) Levels](#).



Operators can adjust the CMP levels through the SOUND menu.

This feature gives Operators flexibility in controlling volume levels in different zones.

## Multi-Language Support

OpenStage 2 provides full user interface support in English, French and Spanish. Patrons can change the language on the interface during their session. The UI always resets to the default language when a new session starts.

To configure the language options, in the Operator interface, select a default language from **SOFTWARE > Languages** and reboot Angelina. For instructions on how to change the language options, see [Changing Languages](#).

### NOTE

Language options apply only to the user interface. English is used for the Operator interface menus.



## Preparing for Installation

---

This chapter explains how to prepare to install an Angelina jukebox for a location, including checking Angelina components and setting up communications connections.

### Topics

[Checking Angelina Components](#)

[Setting Up a Broadband Connection](#)

[Preparing Tools and Materials for Installation](#)

## Checking Angelina Components

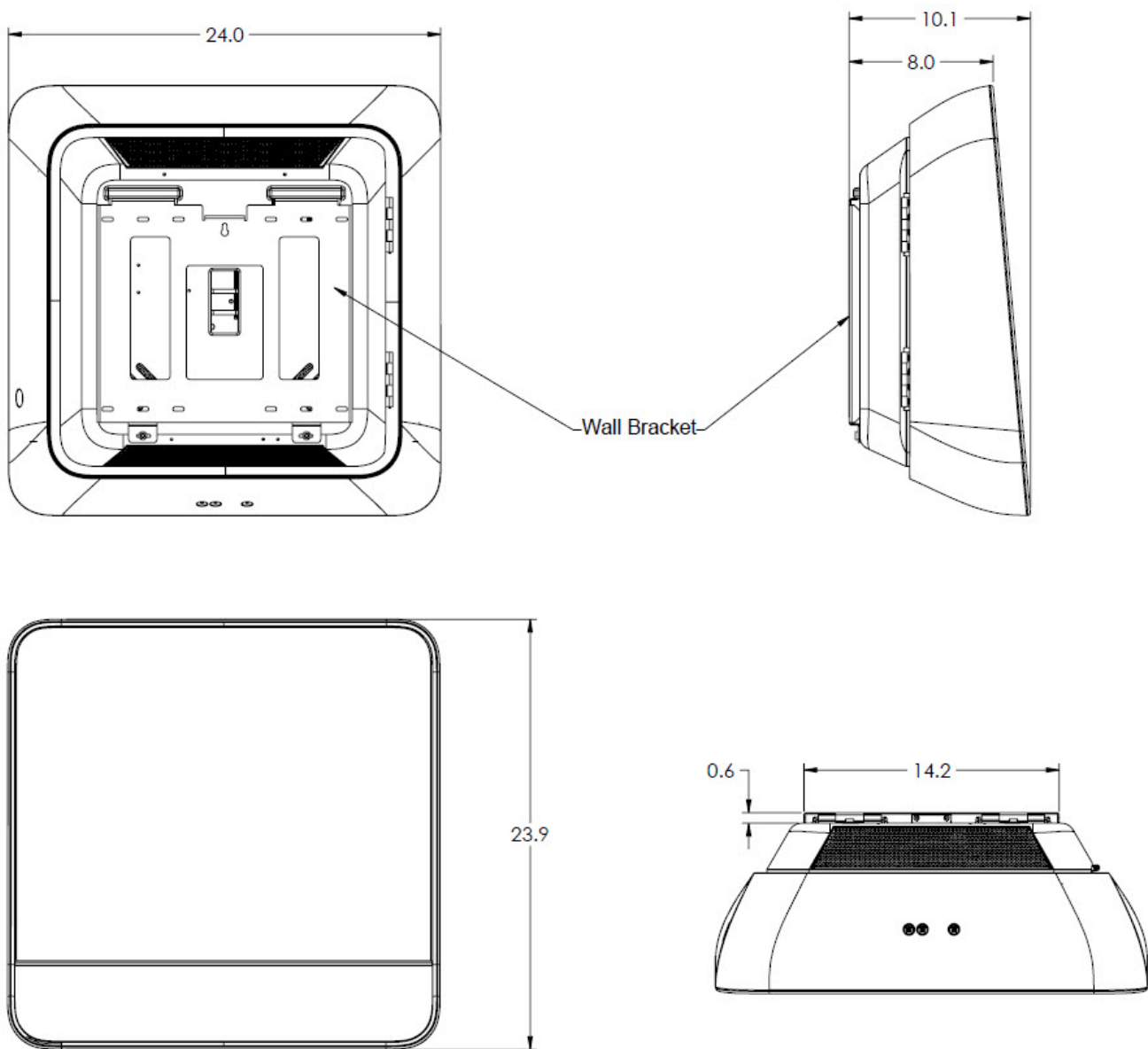
Angelina is delivered along hardware components and an Accessory kit. The hard drive (necessary for Angelina to function) is shipped with Angelina, but in separate packaging.

Before you install Angelina, ensure that you have received all hardware components and that both the hardware components and the items in the kit are in good condition.

These tables show the weight and dimensions of the Angelina jukebox.

| Angelina Weight                |                   |
|--------------------------------|-------------------|
| Jukebox                        | 73 lbs. (33.1 kg) |
| Wall bracket                   | 5 lbs. (2.26 kg)  |
| Packaging                      | 10 lbs. (4.53 kg) |
| Modular Hardware Platform only | 18 lbs. (8.16 kg) |

| Angelina Dimensions |                    |                    |                   |
|---------------------|--------------------|--------------------|-------------------|
|                     | Length             | Height             | Depth             |
| Jukebox             | 24 in. (60.96 cm)  | 23.9 in. (60.7 cm) | 10.1 in. (25.65)  |
| Packaging           | 27.7 in. (70.4 cm) | 27.8 in. (70.7 cm) | 14.96 in. (38 cm) |



#### Angelina dimensions

To check that you have all Angelina components:

1. Verify that you have received the following components for Angelina:

| Component Quantity | Component                | TouchTunes Part Number |
|--------------------|--------------------------|------------------------|
| 1                  | Angelina digital jukebox | 700789-001             |
| 1                  | Accessory kit            | 600287-001             |

2. Open the Accessory kit and verify that it contains the following components:

| Component Quantity | Component                       | Description  | TouchTunes Part Number |
|--------------------|---------------------------------|--|------------------------|
| 1                  | UPK, Remote Kit, SC33, 433MHz   | Remote control kit (includes bracket)                                | 600069-00x             |
| 2                  | Keys                            | Jukebox keys   | N/A                    |
| 1                  | LBL, CABLE FLAGS STD, 8.5 X 14" | Labels for cables  | 900490-001             |
| 1                  | PER, LINE-OUT INTERFACE         | Line-out box, converts line-level signal from balanced to unbalanced | 700168-00x             |
| 1                  | MAN, QUICKSTART GUIDE           | Angelina Quick Start Guide   | 901031-001             |
| 1                  | MAN, CONNECTION DIAGRAM         | Angelina Connection Diagram  | 901073-001             |
| 1                  | MAN, INSTALLATION GUIDE         | Angelina Installation and Setup Guide (this guide)                   | 901072-001             |

- The wall bracket comes in its own package and is included with Angelina (FRU Kit P/N 600260-001). Verify that the wall bracket package is included with Angelina and is in good condition.
- Check the condition of the hardware components in the Accessory kit items to ensure they are in good condition.
- Verify that you received the SATA hard drive (which is packaged separately from the jukebox).



**CAUTION:** Do not attempt installation if any hardware component or item in the parts kit is damaged. Contact your distributor or TouchTunes to report the damage immediately and request replacement parts.

## Setting Up a Broadband Connection

Angelina contacts the TouchTunes server over the Internet to perform the following tasks. These tasks are done on a continuous hourly basis and songs that patrons want to play are downloaded immediately.

- download any new songs chosen by the location owner or operator through the TouchTunes Tempo site (<https://tempo.touchtunes.com>)
- download the TouchTunes music catalog
- report the number of plays per song
- report daily income for the jukebox

Every morning (before normal hours of operation), Angelina downloads any new updates to the jukebox system software. The default maintenance window is between 4 AM and 7 AM. Operators can adjust this window via the TouchTunes Tempo site (<https://tempo.touchtunes.com>).



**IMPORTANT:** Angelina does not support dial-up Internet connections.

Angelina requires a broadband Internet connection. The broadband connection allows:

- Songs selected by patrons that are not on the hard drive are downloaded immediately, ahead of all other pending downloads
- Support for the TouchTunes Mobile application
- Change jukebox settings remotely, in real-time, via the TouchTunes Tempo site (<https://tempo.touchtunes.com>)

For all connections, ensure you use high-quality cable and make the cable run as short as possible to minimize potential problems due to line noise and interference.

**NOTE**

The broadband modem and router can be included in a single device, depending on the equipment used by the ISP and the networking setup for the location. Both the broadband modem and the router must be installed and configured properly for Internet access before you can set up a broadband connection for the jukebox.

## Preparing Tools and Materials for Installation

You require the following tools and materials to install Angelina. Ensure that you have all items at hand before beginning the installation.

- Phillips screwdriver
- Flat-head screwdriver
- Adjustable wrench for tightening bolts or nuts
- Drill and drill bits
- Wall anchors
- Additional flat telephone cable to connect the wired remote, if applicable
- Speaker wire

When setting up a broadband connection for Angelina, you may also require the following:

- a laptop computer with a network card and a web browser to test Internet connectivity
- pre-wired Cat 5 network cable (or cable, crimp tool, and RJ45 connectors) to connect the laptop and/or jukebox to the router. See [Connecting Angelina to the Wired Broadband Network](#).





## Installing Angelina

---

This chapter explains how to install Angelina, including setting up its hardware and connecting it to a broadband network.

### Topics

[Moving Angelina to its Mounting Location](#)

[Unpacking Angelina](#)

[Wall-Mounting Angelina](#)

[Installing the Hard Drive](#)

[Connecting Angelina to the Wired Broadband Network](#)

[Setting up TouchTunes Wireless Broadband \(Optional\)](#)

[Connecting Speakers to Angelina](#)

[Connecting Power to Angelina](#)

[Activating the Angelina Screen](#)

## Moving Angelina to its Mounting Location



**CAUTION:** The Angelina jukebox can cause injury if lifted incorrectly or by a single individual. TouchTunes strongly advises that **two** people be responsible for moving the jukebox at all times.



**IMPORTANT:** Move the unopened crate as close as possible to the intended mounting location and **enlist the help of an assistant** when moving it to that location.

**Do not, under any circumstances, drag the jukebox along the floor to its mounting location. Doing so can cause damage to its finish and, most importantly, to its wall wash.**



**CAUTION:** The Angelina jukebox represents a serious safety hazard if its mounting system should fail. Installation of the mounting system should be performed only by an experienced installer or licensed contractor who is familiar with standard rigging, mounting, and hanging practices as recognized by a licensed engineer or government agency in your area.

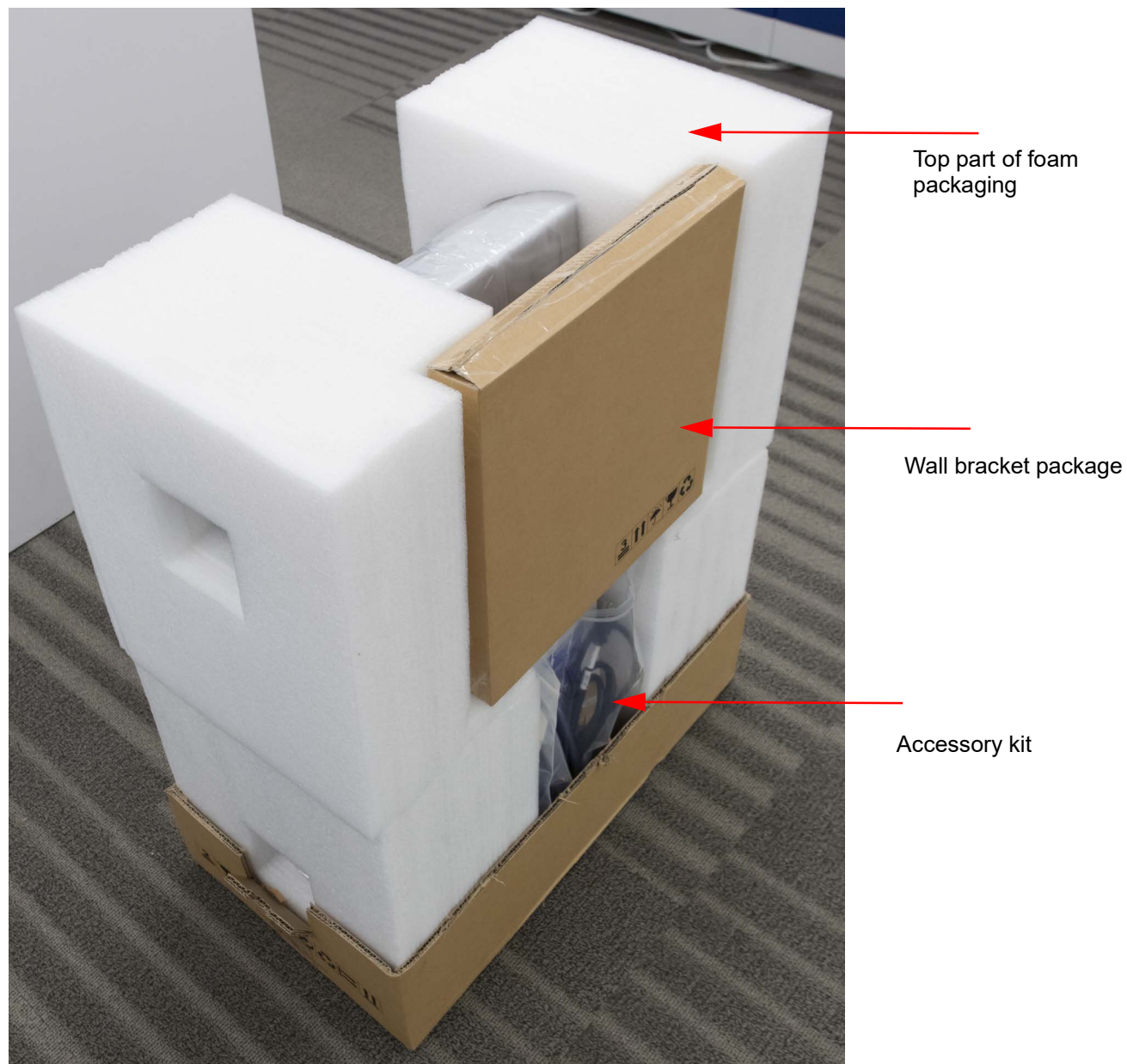
### NOTE

Locations where an Angelina jukebox is installed are required to comply with general Americans with Disabilities Act (ADA) guidelines, including those governing accessible routes and protruding objects. Because locations have different floor plans, TouchTunes does not address these issues in this guide.

## Unpacking Angelina

In this section, you remove Angelina from its packaging in preparation to wall mount the jukebox.

1. Remove the top cover.
2. Remove the wall bracket package and set it aside for the next procedure.
3. Remove the accessory kit.



#### *Packaging elements*

4. Remove the top halves of the foam packaging.
5. Open the top of the bag protecting Angelina and pull down until the back of the jukebox is fully uncovered.

## Wall-Mounting Angelina

In this section, you install Angelina, level it so it is stable and then open its case to access internal components.



**IMPORTANT:** TouchTunes has conducted extensive ergonomic studies to determine the optimal viewing height, viewing angle, and relaxed sight range for wall-mounting Angelina. To provide the best user experience for patrons, TouchTunes strongly recommends that you adhere to these guidelines for wall-mounting the unit.

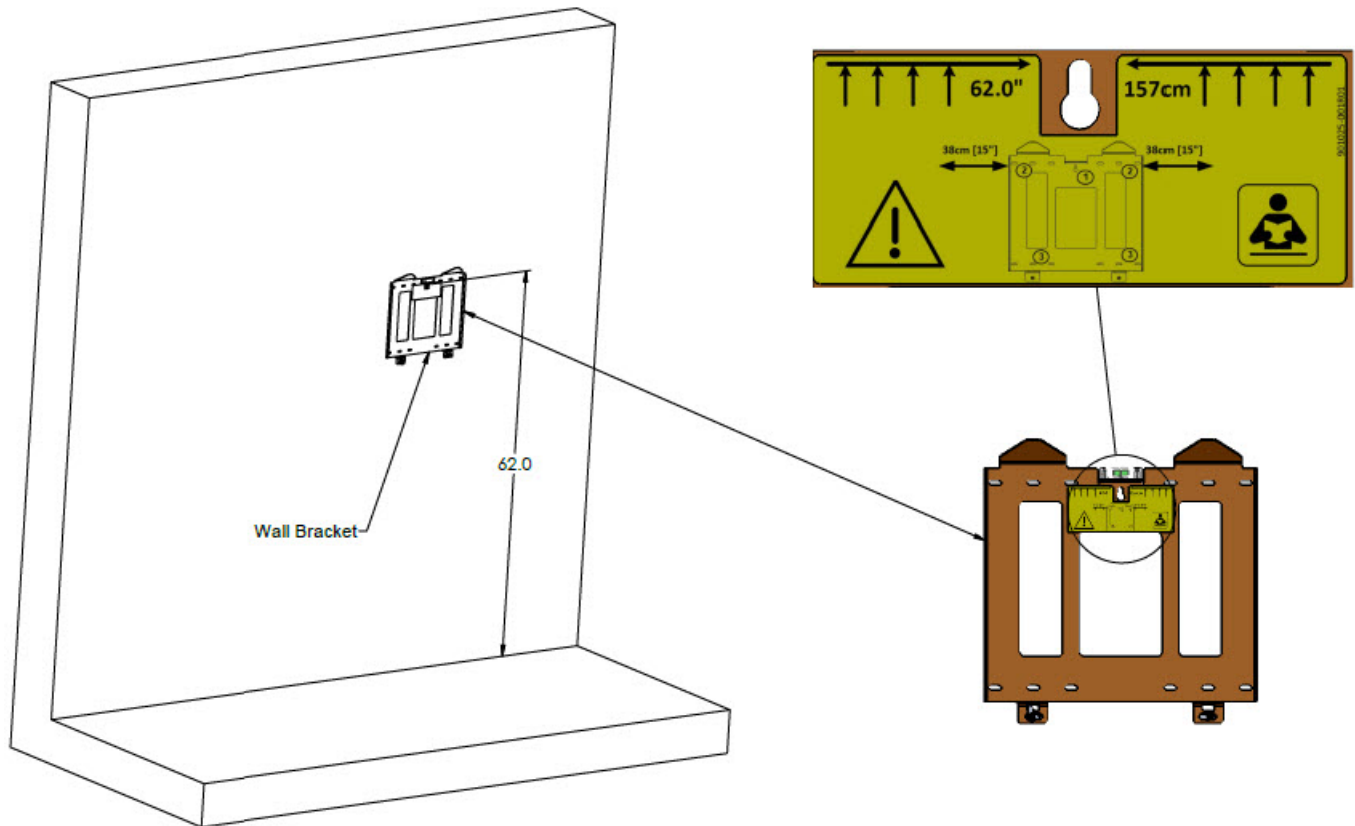
1. **Important:** When installing in a location where there is an intersecting wall to the left, allow at least 15 inches clearance between the wall and Angelina on either side to allow free movement of the door and prevent it from being damaged. **Never** install Angelina in a recessed area, as this will interfere with the natural airflow for cooling the unit.
2. TouchTunes recommends installing a sheet of plywood (16"W x 16"H x ½"D) behind the drywall directly behind the area for Angelina's wall bracket. This will ensure adequate support for the jukebox.
3. On the wall where Angelina is to be installed, measure 62 inches from the floor and mark the measurement. This measurement identifies where the top of the bracket will be located on the wall. The wall bracket for an Angelina jukebox is 14 1/8 inches wide, as measured from the line below the top flanges.



*Measuring 62 inches*

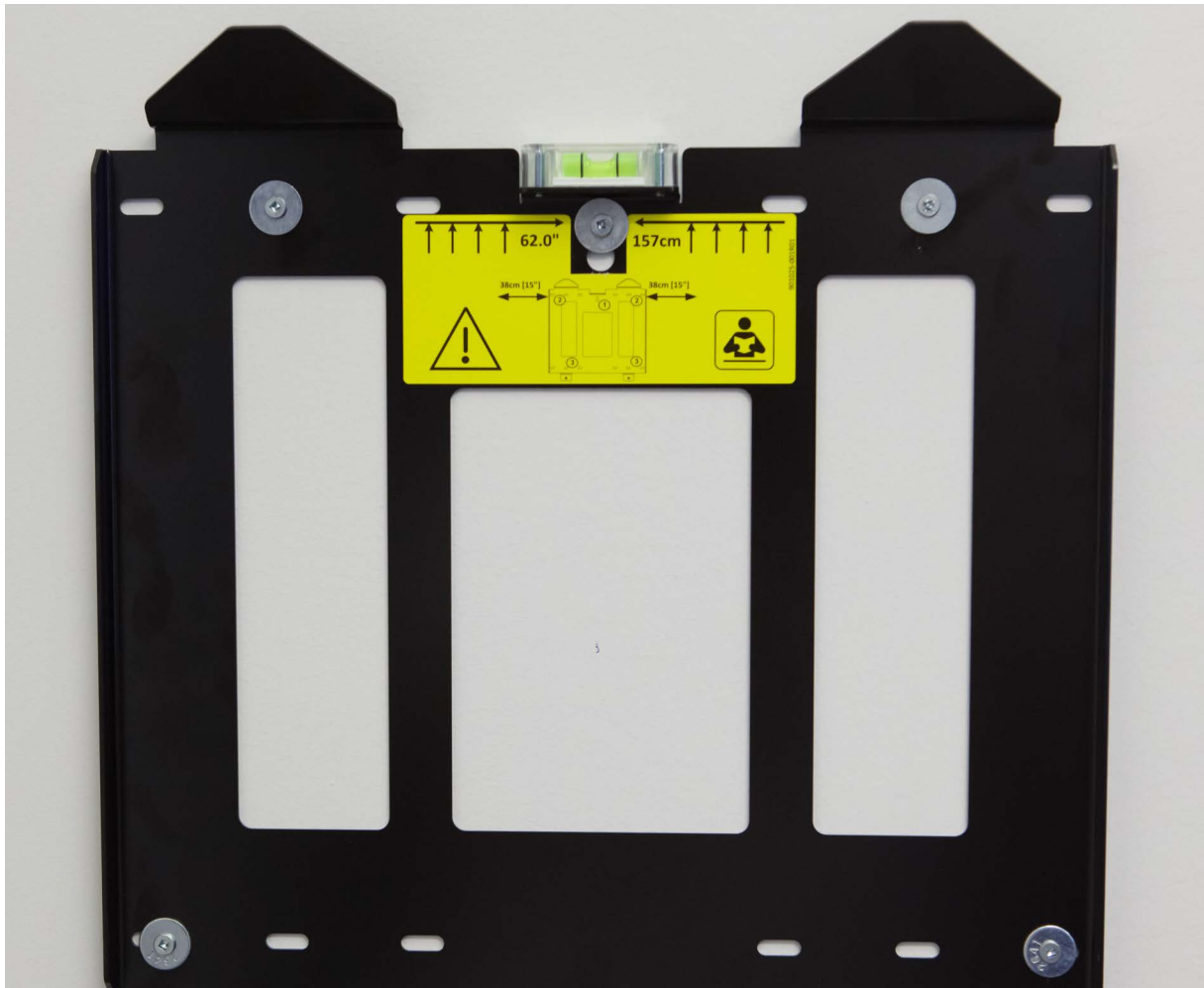
#### 4. Install the wall bracket.

- Install a screw on the wall, at 62 inches from the floor (as measured in the previous step), in the horizontal center of the area where you will install Angelina.
- With enough of the screw protruding from the wall, hang the wall bracket onto the screw using the center hole.



#### Wall bracket on wall

- Using the spirit level located on the top of the bracket, ensure that the bracket is level, then fasten it to the wall using screws and washers according to your local regulations ensuring that the wall bracket will be able to support Angelina's weight (73 lbs. [33.1 kg]). See the following figure for an example configuration of screws and washers.



*Bracket mounted on wall*

5. Cut an access hole in the drywall / plywood. This access hole is used to run the AC (C13 to 5-15P) cable, speaker wires, and network cable to the inside of the jukebox. Note that the AC cable comes pre-routed.

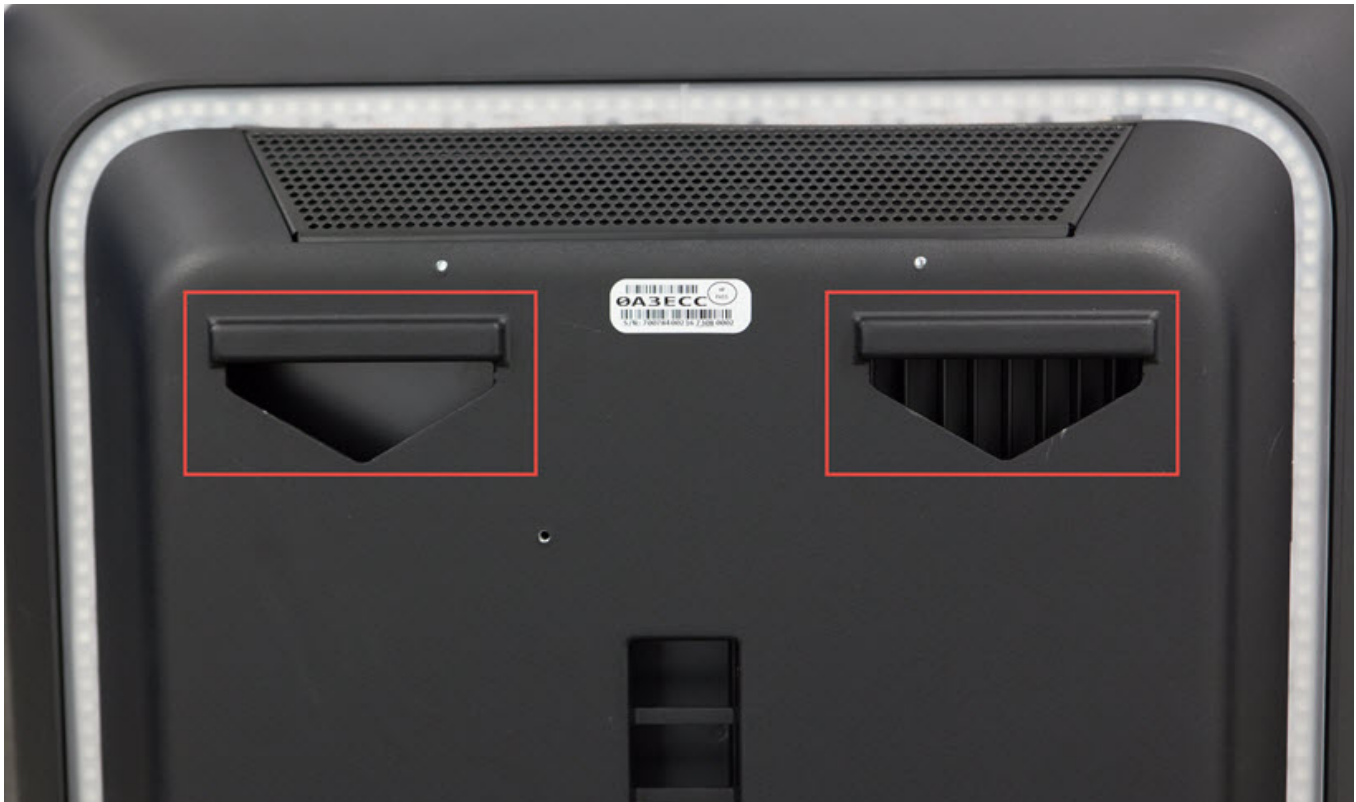
**NOTE**

Be certain to have all the required cables (AC cable, speaker wires, and network cable) installed and available during the time of installation.

**NOTE**

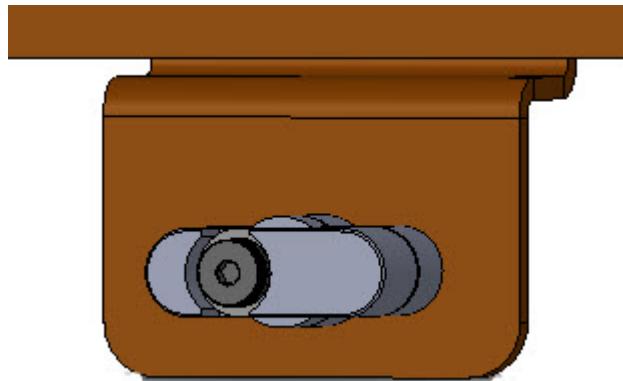
The jukebox's connection to the AC mains was designed for a detachable AC cable (C13 to 5-15P). Refer to your local electrical code for correct installation.

6. Identify the receptacles on the rear of the Angelina jukebox. The receptacles fit onto the flange hooks on the wall bracket.



*Receptacles on back of jukebox*

7. Make sure that the 2 pivot latches located at the bottom of the wall bracket are in the horizontal position.



*Pivot latch in horizontal position*

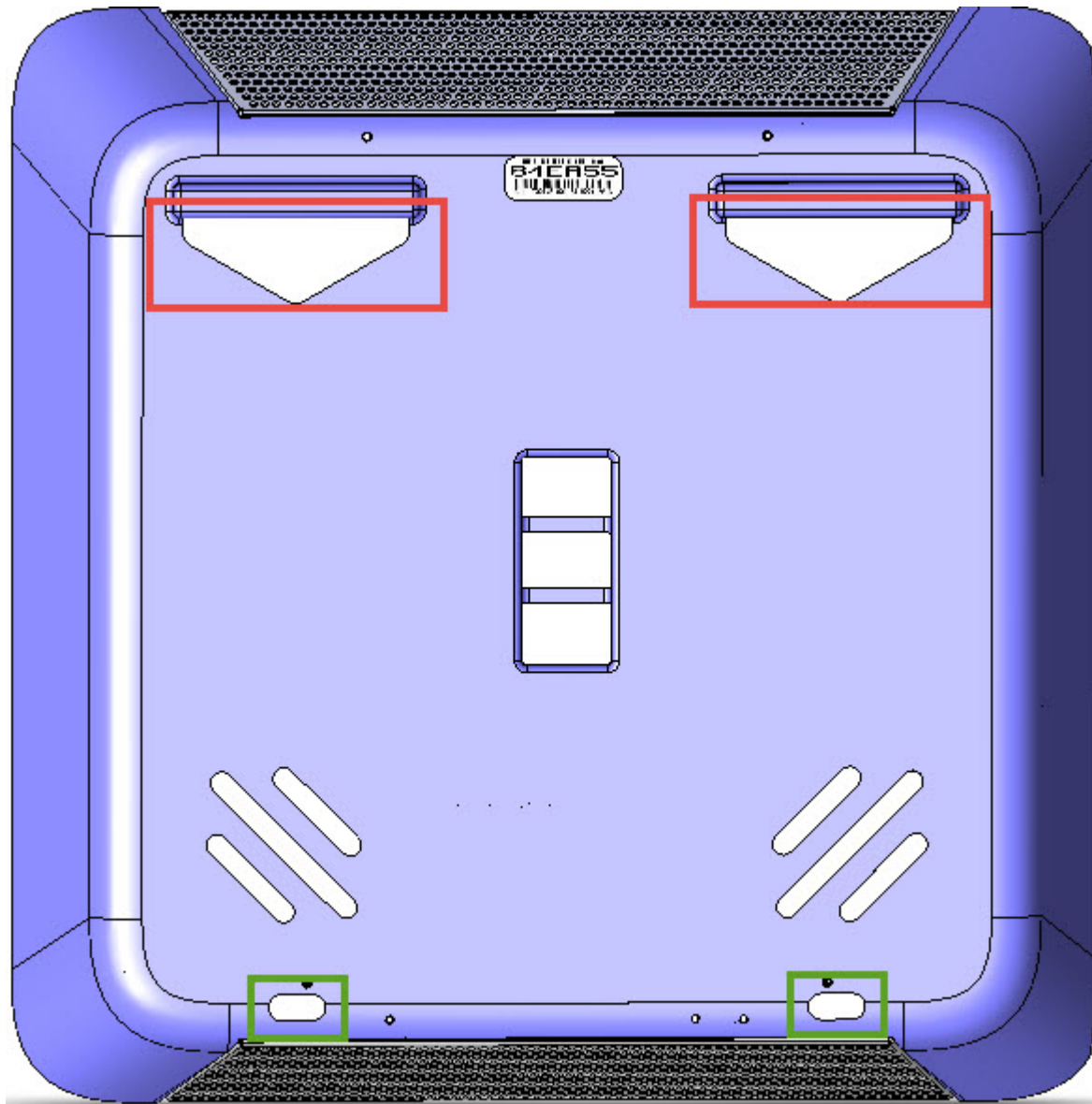


**CAUTION:** The Angelina jukebox can cause injury if lifted incorrectly or by a single individual. TouchTunes strongly advises that two people perform the following steps.

8. Using at least two people, lift the Angelina jukebox so that the top of the unit is slightly higher than the top of the wall bracket.



9. Align the receptacles (highlighted in red below) on Angelina with the flange hooks on the wall bracket ensuring that the pivot latches on the bottom of the wall bracket also align with the corresponding openings (highlighted in green below) on the back of the jukebox.



*Rear of jukebox*

10. Hang the Angelina jukebox on the wall bracket allowing the weight of the unit to set it into position.

**NOTE**

Angelina is designed with a cable channel that lets you route outside cables (such as for telecommunications) to internal jukebox components. A wire-strain relief bracket provides slack for cables inside Angelina and also covers the opening to the cable channel to keep dust out. In the following procedure, adjust this bracket to access the opening to the cable channel.

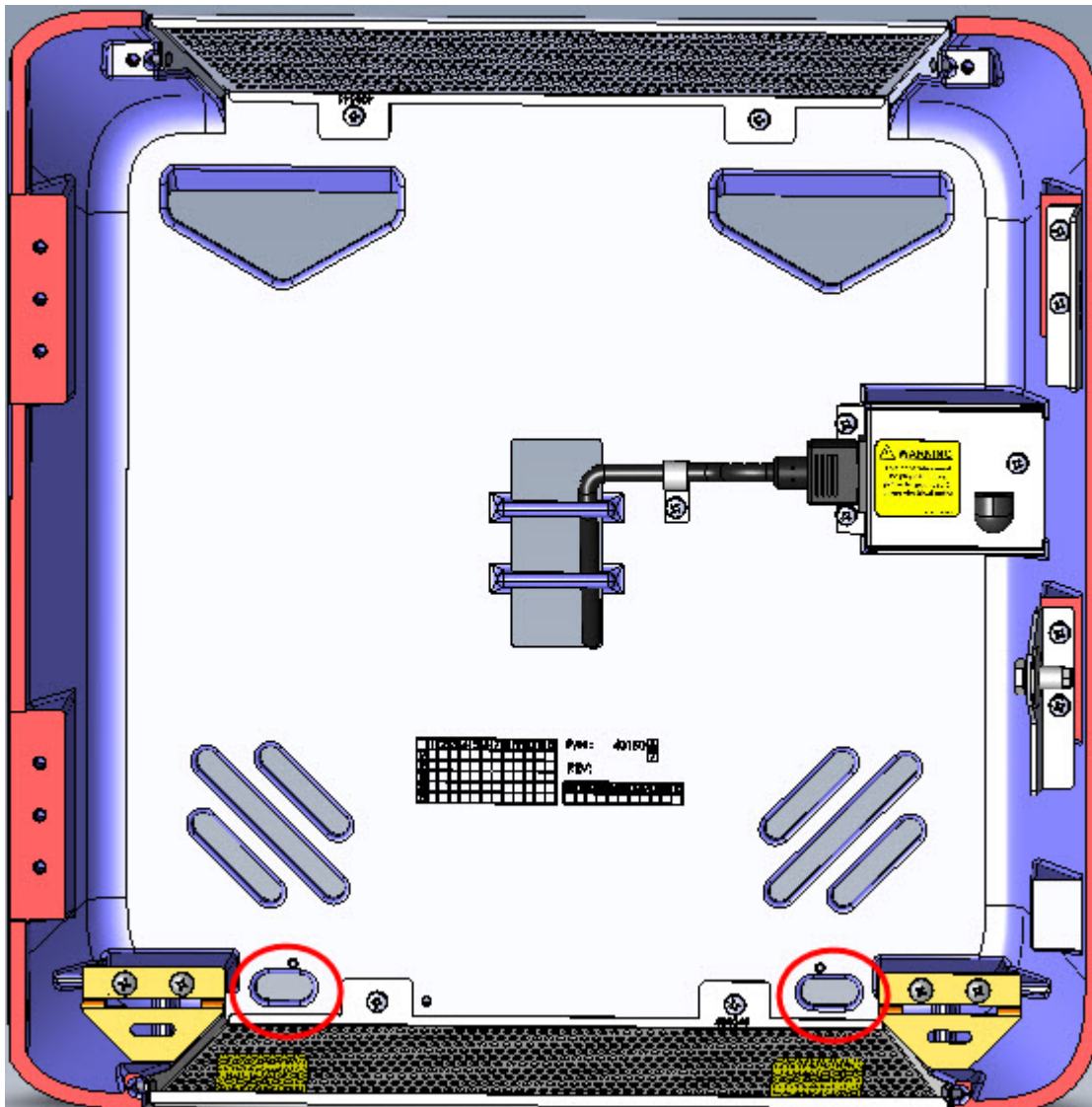
11. Locate the keys for Angelina. A new Angelina jukebox is shipped with two keys.
12. Unlock Angelina from the lock on the right side of the unit and then slowly swing open the Angelina door. Take care when the door is open as it is heavy and can pull down the jukebox until it has been secured to the wall bracket.



13. Turn the wall bracket pivot latches to the vertical (locked) position to completely secure the Angelina jukebox to the wall bracket. The location of the pivot latches are circled in red in the following figure.



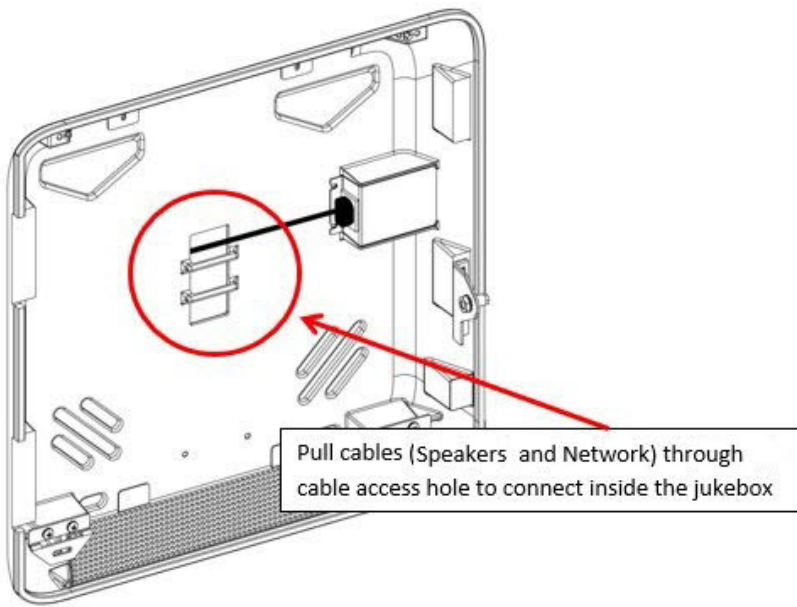
**CAUTION:** Angelina is **not** secure until the pivot latches from the wall bracket are in the vertical (locked) position.



*Angelina Inside View - Wall bracket pivot latch locations (Modular Hardware Platform removed)*



**IMPORTANT:** Route cables into and out of Angelina only through the provided cable channel openings. Do not route cables through any other openings in Angelina, such as air vents. Otherwise, it can overheat and shut itself down.



*Cables access channel*

14. Pull the speaker and network cables through the access hole to connect inside the jukebox.

## Installing the Hard Drive

Before you install the hard drive, familiarize yourself with the layout of the central computer in Angelina. See [Computer Panel](#) to identify the components and connections on the computer for Angelina.

### NOTE

Angelina uses a SATA hard drive with a red tray. Do **not** attempt to swap the Angelina hard drive with an IDE drive from another TouchTunes jukebox model, as you can incur damage to the jukebox.

### To install the hard drive:

1. Unlock and open Angelina.
2. Ground yourself by touching an exposed piece of metal in the Angelina case.
3. Ensure that the computer is powered OFF at the switch on the power supply.
4. Locate the hard drive for Angelina. The hard drive for a TouchTunes Angelina jukebox is contained in an enclosure. The hard drive and its enclosure are shipped separately from the main Angelina hardware. If the hard drive has not yet arrived at the location, contact TouchTunes or your distributor.
5. Align the hard drive enclosure with its slot on the left-side under-panel of the computer. The hard drive enclosure cannot be inserted in its slot until it is properly aligned.

6. Insert the hard drive enclosure into the slot and then gently push the enclosure in until it is completely seated.



*Inserting the hard drive*

7. Using your fingers, push in and then tighten the thumb screw (clockwise) on the hard drive tray until the thumb screw is **securely** tightened.



**CAUTION:** Using a screwdriver applies significantly more torque than hand-tightening. Do **not** over-tighten.



**WARNING:** Do not, under any circumstances, attempt to force the wrong type of hard drive into the HD slot of the Angelina computer. By doing so, you risk serious damage to the hard drive and the computer.


8. Test whether the hard drive is firmly seated by pulling out firmly on the handle of the hard drive tray. The hard drive is secured properly when:
- The thumb screw is completely compressed and covered by the cowl head of the thumbs screw, that is, the spring is not visible.
  - There is no gap between the edge of the hard drive tray and the computer.

- There is no play between the hard drive and the computer when you pull outward on the handle of the hard drive tray. If you detect any play in the hard drive tray, using a slot-head screwdriver, tighten the thumb screw firmly into the computer and test again until no play is detected.

## Connecting Angelina to the Wired Broadband Network

To connect Angelina to the wired broadband network:

1. Unlock and open Angelina.
2. Ensure that the strain-relief bracket is in the open position.
3. Locate the RJ45 Ethernet cable for the broadband connection. The cable used for a broadband connection is straight-wired Ethernet cable with RJ45 connectors at both ends. You can either purchase this cable from an electronics store or wire it yourself using this pinout guide.

| Wire color at near end | Pin at near end | Pin at far end | Wire color at far end | RJ45 Connector  |
|------------------------|-----------------|----------------|-----------------------|---|
| white + orange         | 1               | 1              | white + orange        |  |
| orange                 | 2               | 2              | orange                |   |
| white + green          | 3               | 3              | white + green         |   |
| blue                   | 4               | 4              | blue                  |   |
| white + blue           | 5               | 5              | white + blue          |   |
| green                  | 6               | 6              | green                 |   |
| white + brown          | 7               | 7              | white + brown         |   |
| brown                  | 8               | 8              | brown                 |   |

4. Connect either end of the cable to the broadband modem or router.
5. Route the free end of the cable into Angelina through the cable channel.

6. Connect the free end of the cable to the port labeled **LAN** at the top of the computer.



*Connecting Angelina to the network*

The physical connection from Angelina to the broadband network is now complete. You will later configure the communications settings for the broadband network so that Angelina can contact the TouchTunes server using this connection.

## Setting up TouchTunes Wireless Broadband (Optional)

TouchTunes Wireless Broadband enables operators to connect their jukeboxes to the Internet using a high-speed wireless connection.

All Angelina jukeboxes require a high-speed Internet service.

The TouchTunes Wireless Broadband hardware kit (part number [P/N] 700813-001) contains everything you will need to provide your Angelina jukebox with a wireless broadband Internet connection. This kit comes with its own installation guide (*Wireless Broadband Installation Guide (AT&T Beam)* P/N 901024-001) that will guide US operators through the proper steps for setting up a wireless broadband connection.

For Canadian operators, use the hardware kit P/N 700809-001 and *Wireless Broadband Installation Guide (Rogers)* P/N 900764-001.

## Connecting Speakers to Angelina

To connect external speakers to Angelina's amplifier, you must use the 4-pin Euroblock connector (P/N 100000-001).



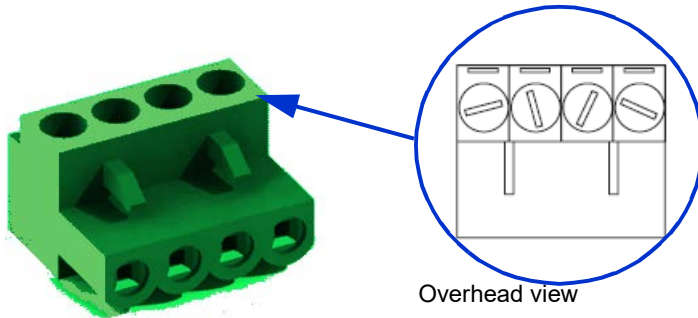
**WARNING:** The speaker output of this unit can exceed 10 Watts and could cause a shock injury. Connection to speakers should be performed by a skilled person in compliance with local building codes. Class 2 wiring is required for speaker cables. Use of external speakers outside the ratings stated at the speaker jack may result in a shock injury or damage to the unit, or equivalent.



**CAUTION:** Angelina's amplifiers are specifically designed for use with 4-ohm speakers. Using speakers of a lower impedance is not recommended. If 8-ohm speakers are to be used, they must be wired in parallel in order to enable the amplifier to provide its full power. If 8-ohm speakers are connected directly to the amplifier, only half the power is available.

### To connect speakers to Angelina:

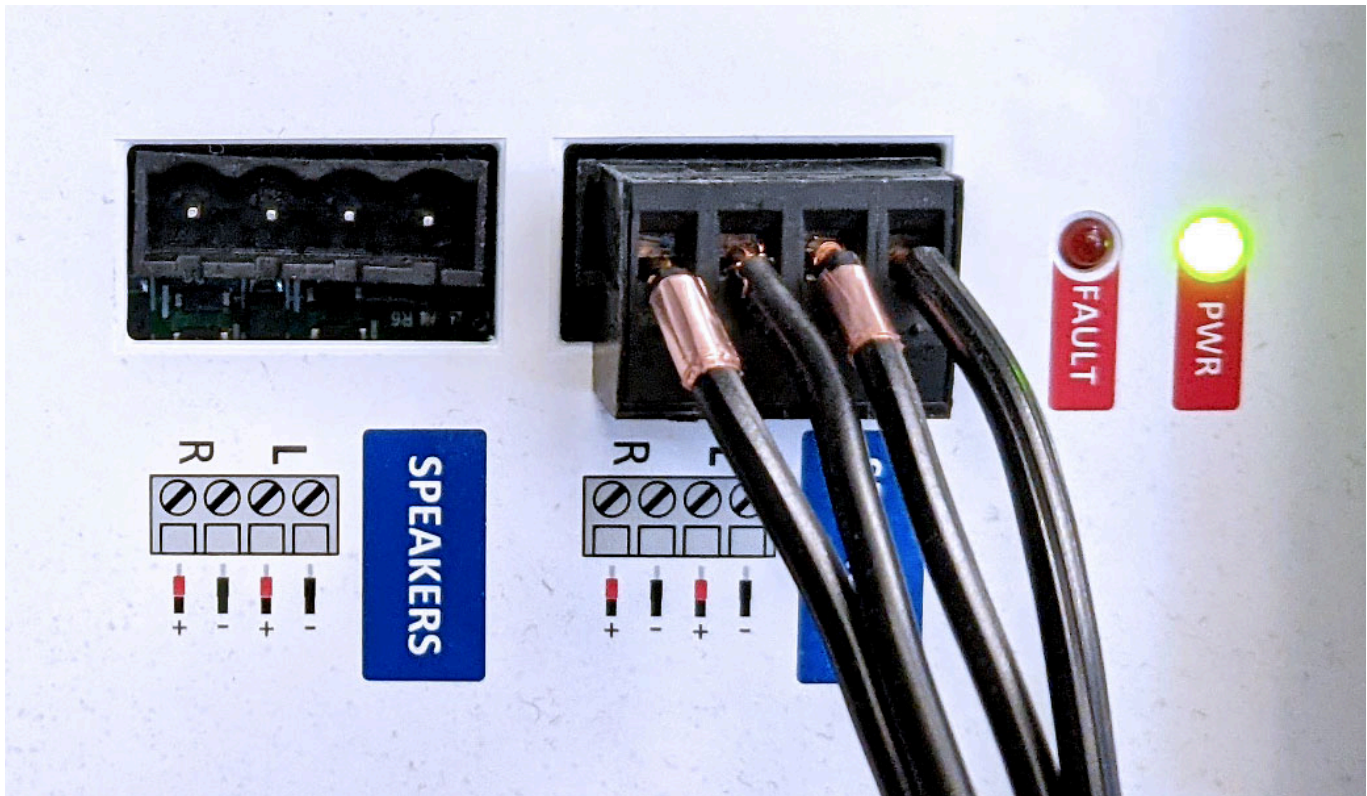
1. Prepare the speaker wires by stripping the ends of the 4 connector wires, exposing approximately 1/4" of wire.
2. Locate the supplied four-slot Euroblock connector.
3. Loosen the screws along the top of the connector using a flat-head screwdriver, if necessary.



*Euroblock terminals*



4. Wire the ends of the speaker wires to the Euroblock connector using the following figure as a guide.

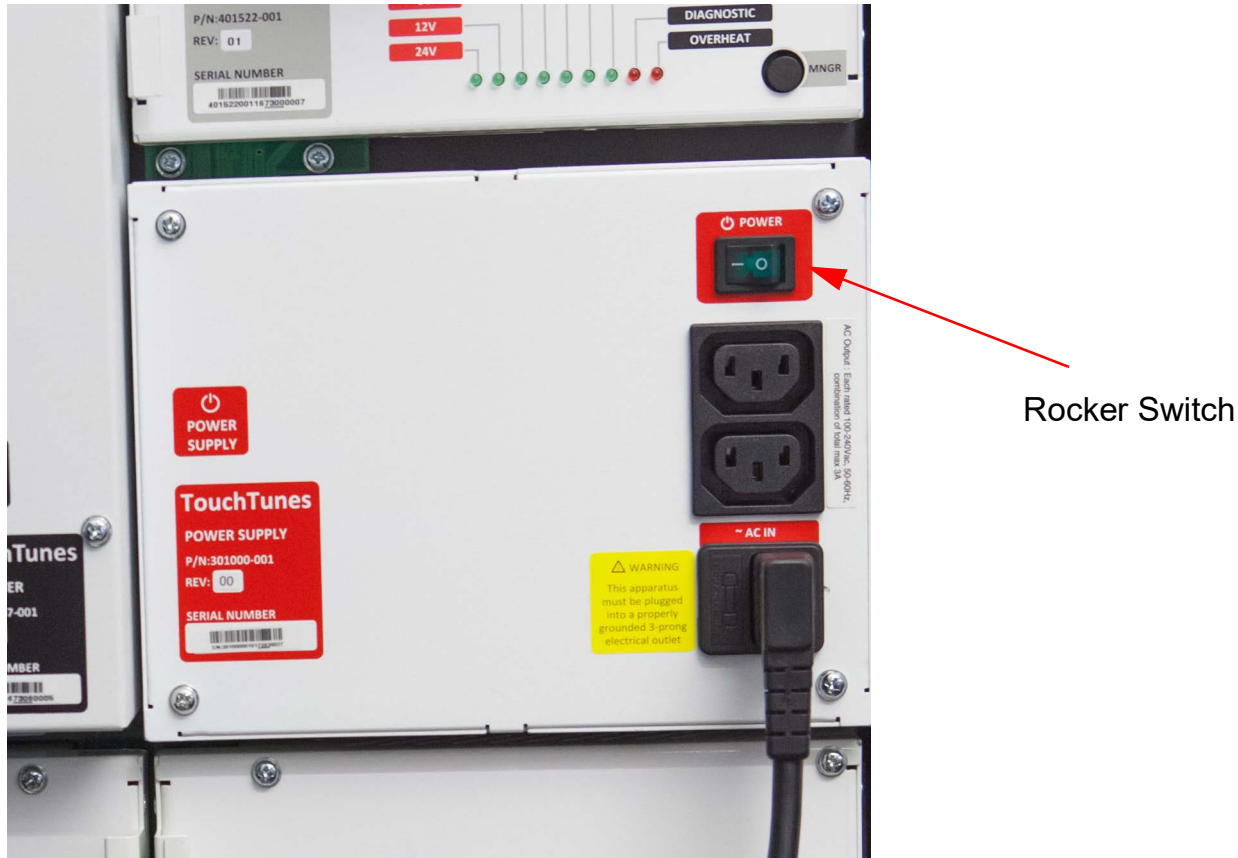


*Speaker wiring*

5. Using a flat-head screwdriver, tighten the screws of the slots to secure the speaker cable to the connector.
6. Attach the Euroblock connector to the connector on the Zone 1 or Zone 2 amplifier.
7. Route the free end of the cables out of Angelina through the cable channel.
8. Connect the other end of the cables to the speakers.
9. Ensure that positive terminals on the speaker (marked +) are connected to the positive output terminal on the amplifier and that negative terminals on the speaker (marked -) are connected to the negative output terminal on the amplifier. Incorrect connection can result in poor sound imaging and thin sound.

## Connecting Power to Angelina

1. Ensure that the AC power cord from the Power Supply Unit (PSU) is plugged into the power strip.
2. Run Angelina's AC power cord through the right cable channel, then connect its female end to the socket on the Power Bar, just below the rocker switch. Connect the AC power cord's other end to a properly grounded (3-prong) electrical outlet.
3. Set the rocker switch on the PSU to the ON position.



### Power supply unit

The Angelina computer powers up, checks the hardware components, and begins loading its system software.

## Activating the Angelina Screen

When you power up an Angelina jukebox for the first time, it automatically goes into *night mode*: the computer and other internal components of Angelina are running, but the touchscreen, amplifiers, and lights are disabled. Bring Angelina out of night mode and activate its screen before setting it up.

1. On the I/O Board, press the **MNGR** button. When you press this button, the touchscreen, lights, and amplifiers for Angelina are activated. You can now use the touchscreen to activate Angelina and configure its settings using the system software. Go to [Activating Angelina](#) to configure and initiate communications with the TouchTunes server and activate Angelina.



## Activating Angelina

---

This section describes how to activate Angelina after you have completed the hardware installation.

### Topics

[Powering on Angelina](#)

[Configuring Angelina](#)

- [Calibrating the Touchscreen](#)
- [Selecting Configuration Settings](#)
- [Selecting Languages](#)
- [Choosing Angelina Settings](#)
- [Choosing Calling Window and Connection Type](#)
- [Verifying the Configuration](#)

[Updating Software](#)

[Installation Errors](#)

- [Corruption in the ID Chip or Hard Drive](#)
- [Serious System Error](#)

## Powering on Angelina



**WARNING:** During these procedures, there can be periods when Angelina appears to not be responding. Booting the system with the new hard drive can take up to ten (10) minutes, and the screen can be blank for up to 90 seconds during the initialization procedure.

**Do not power down or attempt to reboot Angelina during this procedure, or you risk corrupting the hard drive and rendering it unusable.**

1. Power on the computer, as described in [Connecting Power to Angelina](#).
2. Power on Angelina, as described in [Activating the Angelina Screen](#). The OpenStage 2 splash screen appears showing that Angelina is starting the initialization process.

## Configuring Angelina

After Angelina is initialized, the Calibration screen appears.

### NOTE

If there is a corruption in Angelina's ID chip or other serious error, the Calibration screen does not appear and an error message appears. See [Serious System Error](#).

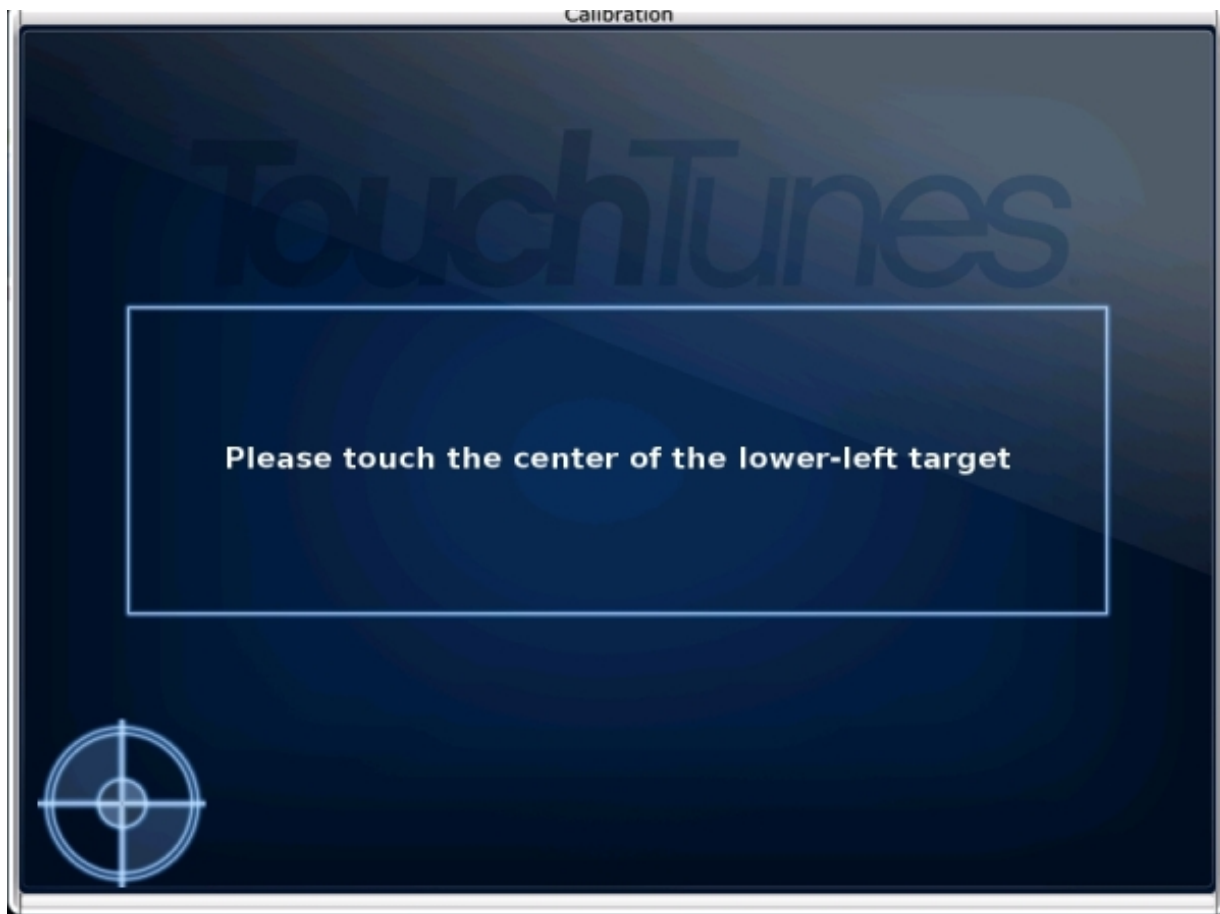
Configuring Angelina involves the following steps:

1. [Calibrating the Touchscreen](#)
2. [Selecting Configuration Settings](#)
3. [Selecting Languages](#)
4. [Choosing Angelina Settings](#)
5. [Choosing Calling Window and Connection Type](#)

### Calibrating the Touchscreen

1. Touch the center of the target that appears on the upper-left of the screen.
2. Touch the center of the target that appears on the lower-right of the screen.

3. Touch the center of the target that appears on the lower-left of the screen.



*Calibration screen*

The Settings screen appears.

## Selecting Configuration Settings

On the Settings screen, you select the source for settings. Settings include mixer levels, credit rules, the remote ID, and the other configurable options available from the Operator interface or from the TouchTunes Tempo site (<https://tempo.touchtunes.com>).

## Selecting Languages

From the Languages screen, select a primary (default) language and an optional second language for the customer interface.

OpenStage 2 provides full user interface support in English, French and Spanish. Patrons can change the language on the interface during their session. The UI resets to the default language when a new session starts.



*Languages screen*

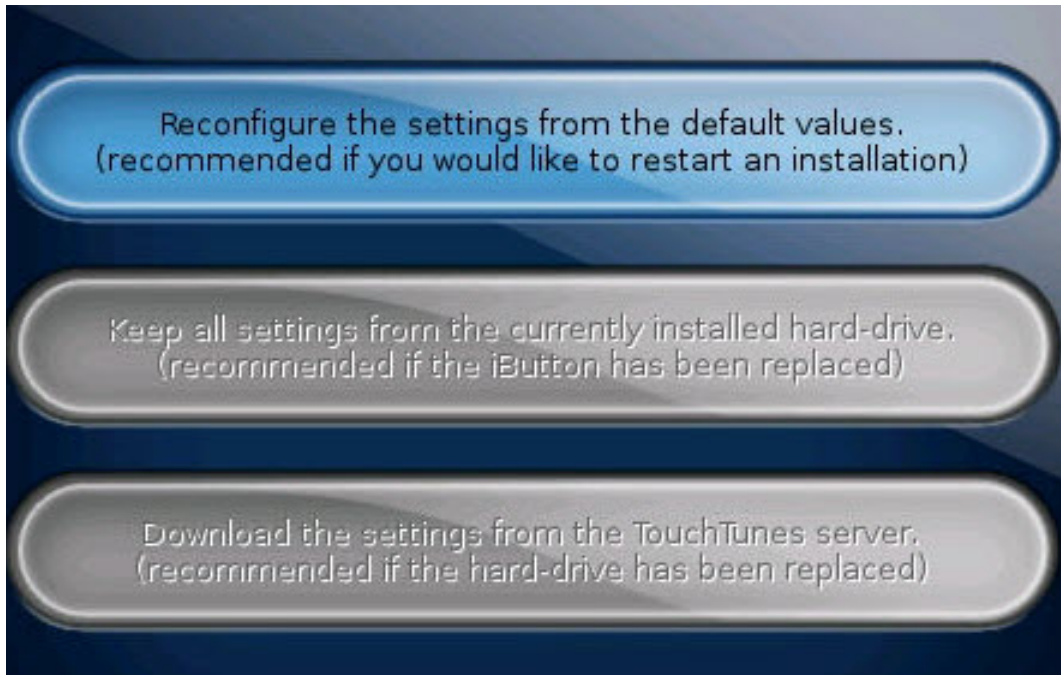
After the initial setup, you can change the languages at any time. To change the language options, in the Operator interface, select a default language from **Software > Languages** and reboot Angelina.

### NOTE

Language options apply only to the user interface. English is used for the Operator interface menus.

## Choosing Angelina Settings

1. Touch one of these selections.



### NOTE

On new Angelina jukeboxes, the only option available is the first one displayed. The others are for cases where the hard drive has been replaced, such as when migrating from previous-generation software. If an option is not available, it is grayed out and cannot be selected.

|  |  |
|--|--|
| <b>Reconfigure the settings from the default values</b>          | Resets the setting values to the factory defaults. If you are installing the software on a jukebox with a new ID chip and hard drive, this is the only option available.   |
| <b>Keep all settings from the currently installed hard drive</b> | Preserves the settings from the hard drive. Use this option if you replaced the ID chip, or if you are swapping in a hard drive onto which software has been previously installed. In both of these cases the jukebox detects a hardware change and can retrieve the settings from the hard drive. This option is not available if you have installed a new hard drive in the jukebox.                               |
| <b>Download the settings from the TouchTunes server</b>          | Retrieves the settings from the TouchTunes server. Use this option on a jukebox where the software has been previously installed, where the ID chip stays in place, but a new hard drive is swapped in. In this case, the jukebox retrieves the settings for the jukebox corresponding to the identification number in the ID chip. This option is not available if a new ID chip has been installed on the jukebox. |

2. Optional: Return to the Settings screen.  
If you chose the Keep all settings from the currently installed hard drive or download the settings from the TouchTunes server options in the Settings screen, the **BACK** button is available in the C screen that appears. You can touch the **BACK** button to return to the Settings screen. You can do this, for example, if you decide to reset the settings to the factory defaults instead of keeping the hard drive settings.

## Choosing Calling Window and Connection Type

After you choose the Angelina settings, the *Calling window and Connection type* screen appears. From here you select the nightly time range during which the jukebox communicates with the TouchTunes server and the type of connection the jukebox uses.

**ID's**

|              |                   |
|--------------|-------------------|
| JukeBox ID   | A1B2C3            |
| Computer ID  | AA-BB-CC-DD-EE-FF |
| Hard Disk ID | 0123456789        |

**Calling window**

Time of day to begin connection: [ + ] [ - ] [ 08 ] [ 00 ] [ + ] [ - ] [ 07 ] [ 00 ] [ + ] [ - ]

Time of day to end connection: [ + ] [ - ] [ 07 ] [ 00 ] [ + ] [ - ]

US/Eastern [ Config ]

**Connection type**

Broadband (selected)  
Dial up  
Wireless

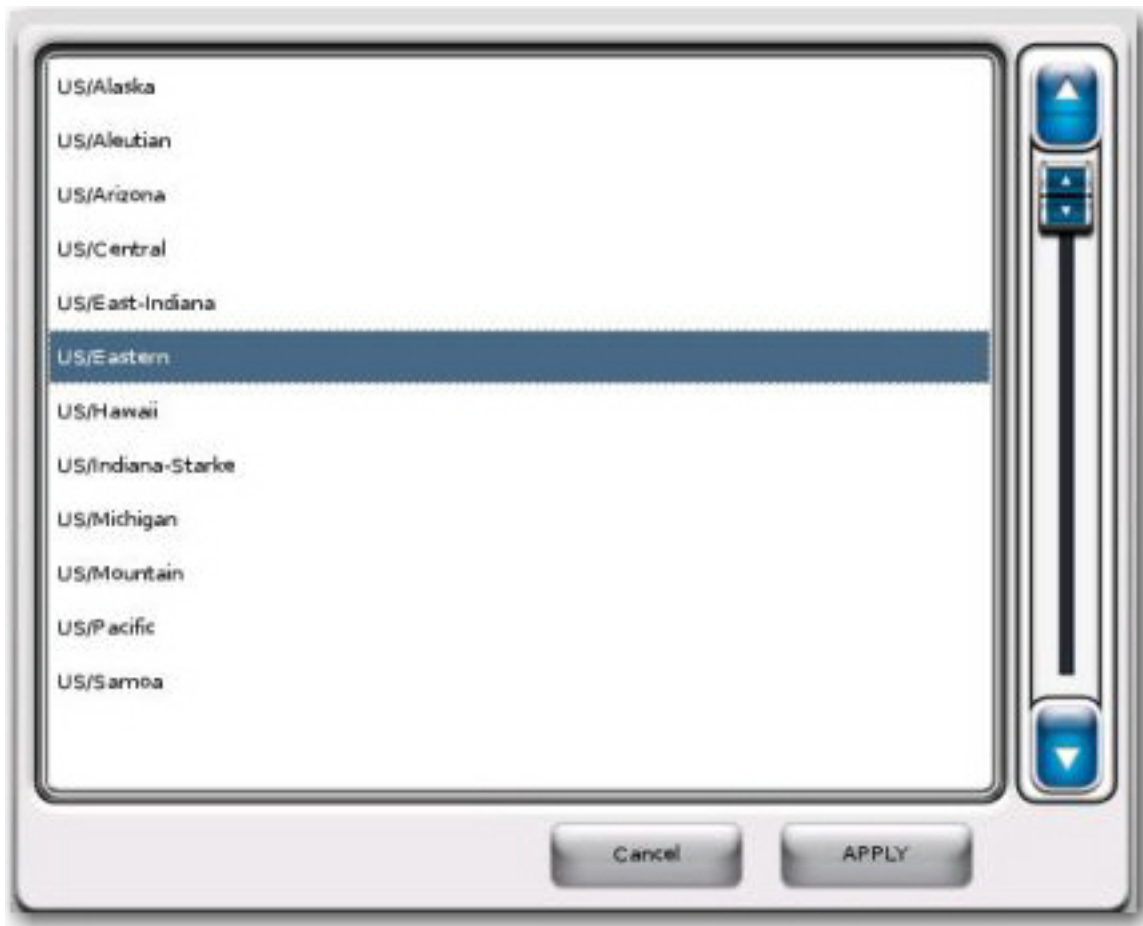
**Host Configuration**

|         |                 |            |
|---------|-----------------|------------|
| IP      | [ Input Field ] | [ Config ] |
| Gateway | [ Input Field ] | [ Config ] |
| DNS-1   | [ Input Field ] | [ Config ] |
| DNS-2   | [ Input Field ] | [ Config ] |
| Netmask | [ Input Field ] | [ Config ] |

*Calling window and Connection type screen*

Use the plus (+) and minus (-) buttons to set the starting and ending times for when the jukebox communicates with the TouchTunes server.

|  |   |
|--|---|
| <b>Time of day to begin connection</b> | Set this to one half hour after the last person leaves and locks the doors. The half hour gives you a buffer.   |
| <b>Time of day to end connection</b>   | Set this to one half hour before the earliest person arrives and enters the location.   |
| <b>Config</b>                          | If you want to specify the location's time zone, click this button to display the <a href="#">Time zone selection window</a> . Use the scrolling controls to move up and down through the list, touch a time zone to select it, and then press <b>APPLY</b> . |



*Time zone selection window*

With the Connection type controls, you choose the type of network connection for the jukebox. Depending on your selection, different settings appear in the lower area of the screen, enabling you to set the connection parameters.

**To choose a dynamic (DHCP) broadband connection:**

1. Select **DHCP** to obtain an IP address automatically from the ISP or the location's router.
2. Touch **Proceed to validation** at the upper right-hand area of the screen.

**To choose a static broadband connection:**

1. Select **Static** to assign a static IP address, and then enter the configuration parameters for the ISP. The screen refreshes, with all Config buttons enabled so that you can enter the required information.
2. Select the **Config** button associated with the **IP** field.
3. Using the keypad that appears, type in the static IP address supplied by the ISP.

**NOTE**

The pound (#), asterisk (\*), and minus (-) keys are used for entering dial-up information only, and are not used when entering data for a broadband connection.

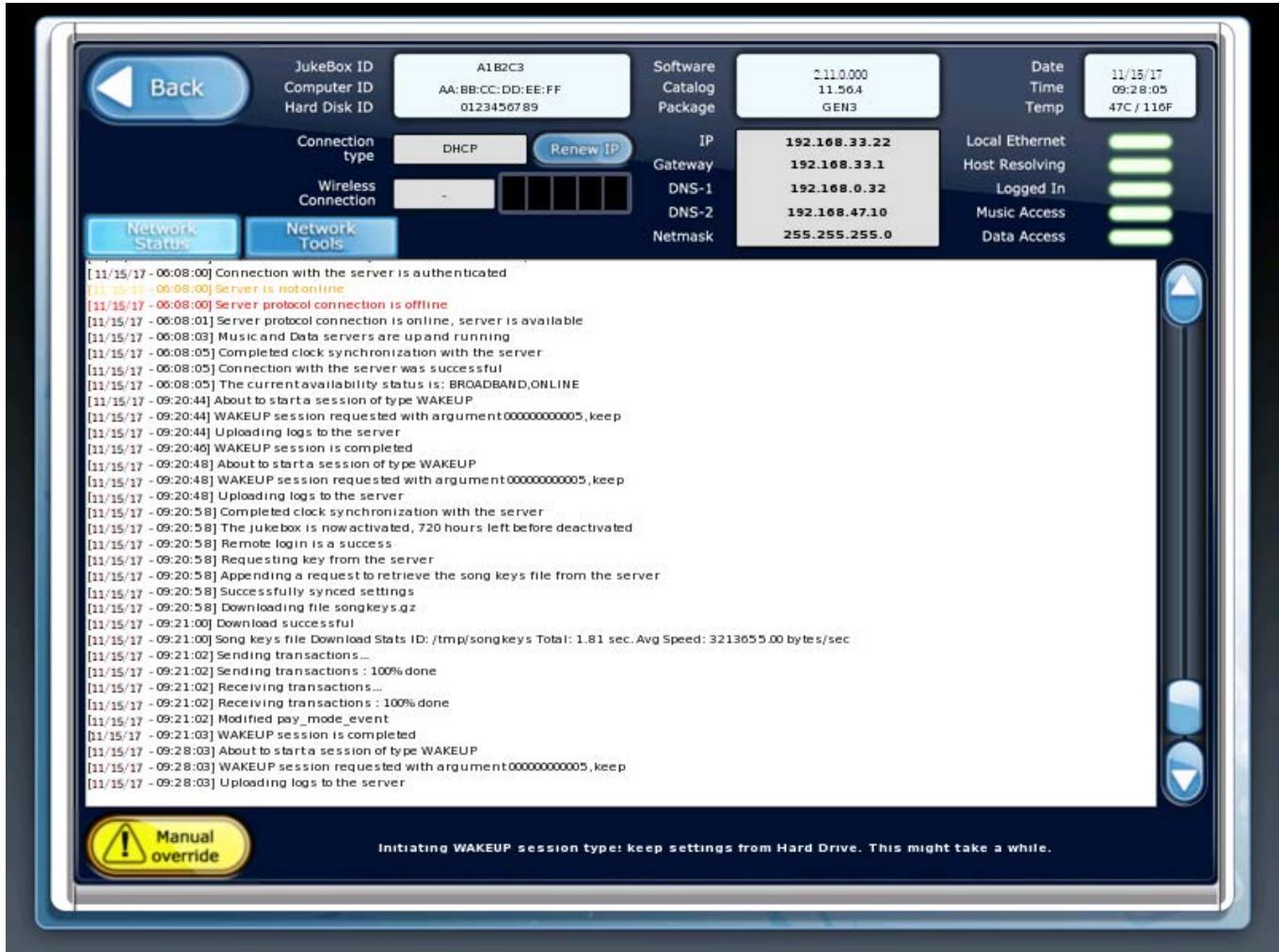
- Use the period (.) key to delimit the individual fields of the IP address.
  - If you make a mistake, use the **Del** key to erase the input, and then re-enter the correct information.
  - Use the **Clear** key to erase the entire contents of the IP address field.
  - Use the **Cancel** key to cancel the operation and return to the *Calling window and Connection type* screen.
4. When you are finished entering the IP address, press **Apply**.
  5. Enter the **Gateway**, **DNS-1**, **DNS-2**, and **Netmask** information supplied by the ISP by using the associated Config buttons and numeric keypad windows.
  6. After you enter information in all the required fields, touch **Proceed to validation** at the upper right-hand area of the *Calling window and Connection type* screen.



## Verifying the Configuration

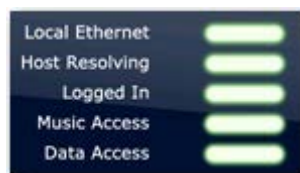
1. Watch the progress on the *Communication* screen.

The *Communication* screen shows the progress of the jukebox as it communicates with the TouchTunes server. The network status LEDs display each communication step, with corresponding information in the Activity messages.



*Communication screen*

2. Check the status of the Network status LEDs.



*Network status LEDs*

| LED            | Function   |
|----------------|--|
| Local Ethernet | Indicates whether an Ethernet cable is properly connected between the router/modem and the jukebox and if the jukebox is receiving a signal from it.   |
| Host Resolving | Indicates whether the jukebox is connected to the Internet.  |
| Logged In      | Indicates whether the jukebox is logged into the TouchTunes server. The jukebox must be able to log into the TouchTunes server to receive activation information and perform transactions such as returning daily sales information.   |
| Music Access   | Indicates whether the jukebox can access music from the TouchTunes server. The jukebox must have music access to download new songs.   |
| Data Access    | Indicates whether the jukebox can communicate with the TouchTunes server to receive updates from the TouchTunes Tempo site ( <a href="https://tempo.touchtunes.com">https://tempo.touchtunes.com</a> ). The jukebox must have data access to receive any new settings you may have made to it through the TouchTunes Tempo site. |

For installation and activation, the jukebox needs the Logged In, Music Access, and Data Access LED indicators to be green. There can be cases where one of the access types is offline. After activation, the jukebox functions if one of these is offline, but there can be temporary reduced functionality. For example, if there is maintenance being performed to the TouchTunes Dashboard on the TouchTunes server, data access can be offline. In this case, the jukebox can still receive new music, but any settings you make for it through the TouchTunes Dashboard are not registered on the jukebox until data access is restored.

### 3. Check the information in the Activity messages.

```
[11/15/17 - 06:08:00] Connection with the server is authenticated
[11/15/17 - 06:08:00] Server is notonline
[11/15/17 - 06:08:00] Server protocol connection is offline
[11/15/17 - 06:08:01] Server protocol connection is online, server is available
[11/15/17 - 06:08:03] Music and Data servers are up and running
[11/15/17 - 06:08:05] Completed clock synchronization with the server
[11/15/17 - 06:08:05] Connection with the server was successful
[11/15/17 - 06:08:05] The current availability status is: BROADBAND, ONLINE
[11/15/17 - 09:20:44] About to start a session of type WAKEUP
[11/15/17 - 09:20:44] WAKEUP session requested with argument 000000000005, keep
[11/15/17 - 09:20:44] Uploading logs to the server
[11/15/17 - 09:20:46] WAKEUP session is completed
[11/15/17 - 09:20:48] About to start a session of type WAKEUP
[11/15/17 - 09:20:48] WAKEUP session requested with argument 000000000005, keep
[11/15/17 - 09:20:48] Uploading logs to the server
[11/15/17 - 09:20:58] Completed clock synchronization with the server
[11/15/17 - 09:20:58] The jukebox is now activated, 720 hours left before deactivated
[11/15/17 - 09:20:58] Remote login is a success
[11/15/17 - 09:20:58] Requesting key from the server
[11/15/17 - 09:20:58] Appending a request to retrieve the song keys file from the server
[11/15/17 - 09:20:58] Successfully synced settings
[11/15/17 - 09:20:58] Downloading file songkeys.gz
[11/15/17 - 09:21:00] Download successful
[11/15/17 - 09:21:00] Song keys file Download Stats ID: /tmp/songkeys Total: 1.81 sec. Avg Speed: 3213655.00 bytes/sec
[11/15/17 - 09:21:02] Sending transactions...
[11/15/17 - 09:21:02] Sending transactions : 100% done
[11/15/17 - 09:21:02] Receiving transactions...
[11/15/17 - 09:21:02] Receiving transactions : 100% done
[11/15/17 - 09:21:02] Modified pay_mode_event
[11/15/17 - 09:21:03] WAKEUP session is completed
[11/15/17 - 09:28:03] About to start a session of type WAKEUP
[11/15/17 - 09:28:03] WAKEUP session requested with argument 000000000005, keep
[11/15/17 - 09:28:03] Uploading logs to the server
```

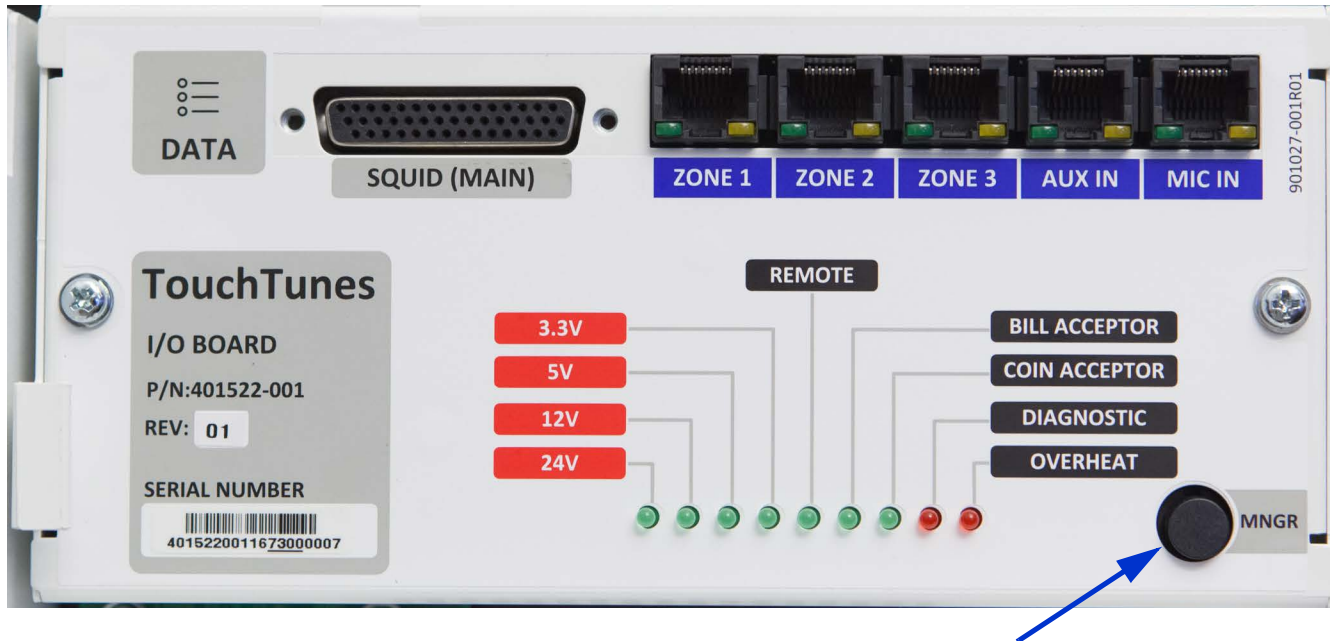
#### Communication screen - Activity messages

After Angelina is fully initialized, the Attract screen of the customer interface appears.

## Updating Software

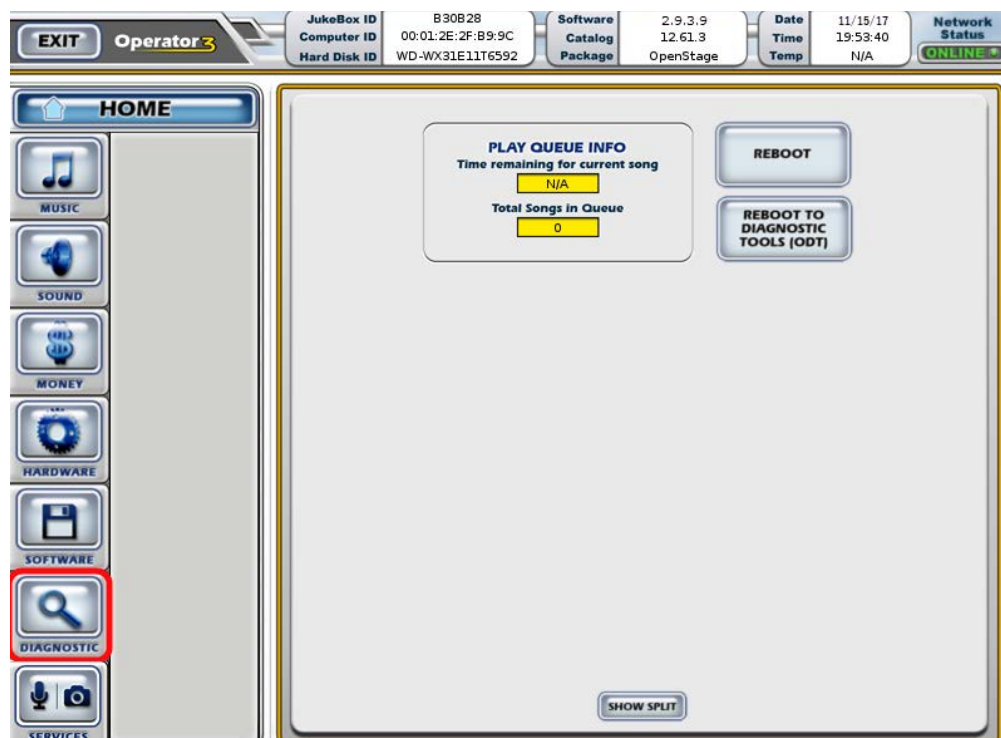
After you activate Angelina, TouchTunes recommends that you make sure that Angelina has the most up-to-date software.

1. Locate the Manager (**MNGR**) button on the I/O Board.



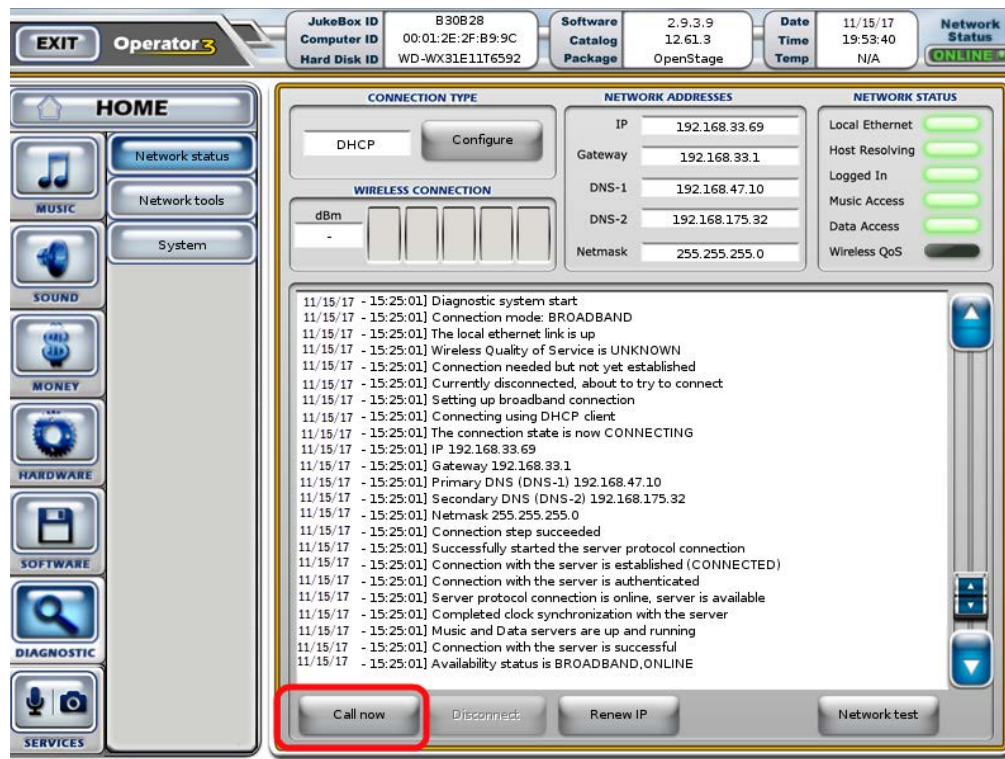
Manager button on I/O Board

- Press and release the **MNGR** button. The Operator interface main menu appears.



Operator interface main menu

- On the main menu, press the **DIAGNOSTIC** button.



Diagnostic menu - Network status screen

4. Touch the **Call now** button at the bottom of the menu. Angelina communicates with the TouchTunes server and downloads the most recent software build.

## Installation Errors

During installation, errors can occur if there is damage to the jukebox hardware or corruption to its software. This is rare under normal circumstances.

### Corruption in the ID Chip or Hard Drive

Corruption in the ID chip or hard drive can result in the jukebox being unable to play songs on the hard drive. In this case, the jukebox must download information from the TouchTunes server to fix the problem. When the jukebox is started, the Communication screen appears showing it is downloading the required file, and then boots into the Customer interface.

### Serious System Error

Under serious conditions such as major system problems with hardware or software, an error screen appears when the jukebox initializes saying that you should contact TouchTunes, as no other action can be taken. See [Contacting TouchTunes](#).



## Setting up Angelina

---

This section describes how to set up Angelina after you complete the hardware installation and software activation.

### Topics

[Opening the Operator Interface](#)

[Setting Up the Remote Control](#)

[Enabling Bass Boost](#)

[Connecting an External Audio Source](#)

[Connecting a Microphone](#)

[Adjusting Touchscreen Brightness and Contrast](#)

[Applying Filters and Credit Rules](#)

[Setting Lightshow Colors and Brightness](#)

[Setting Local Favorites Options](#)

[Setting Custom Music Programming \(CMP\) Levels](#)

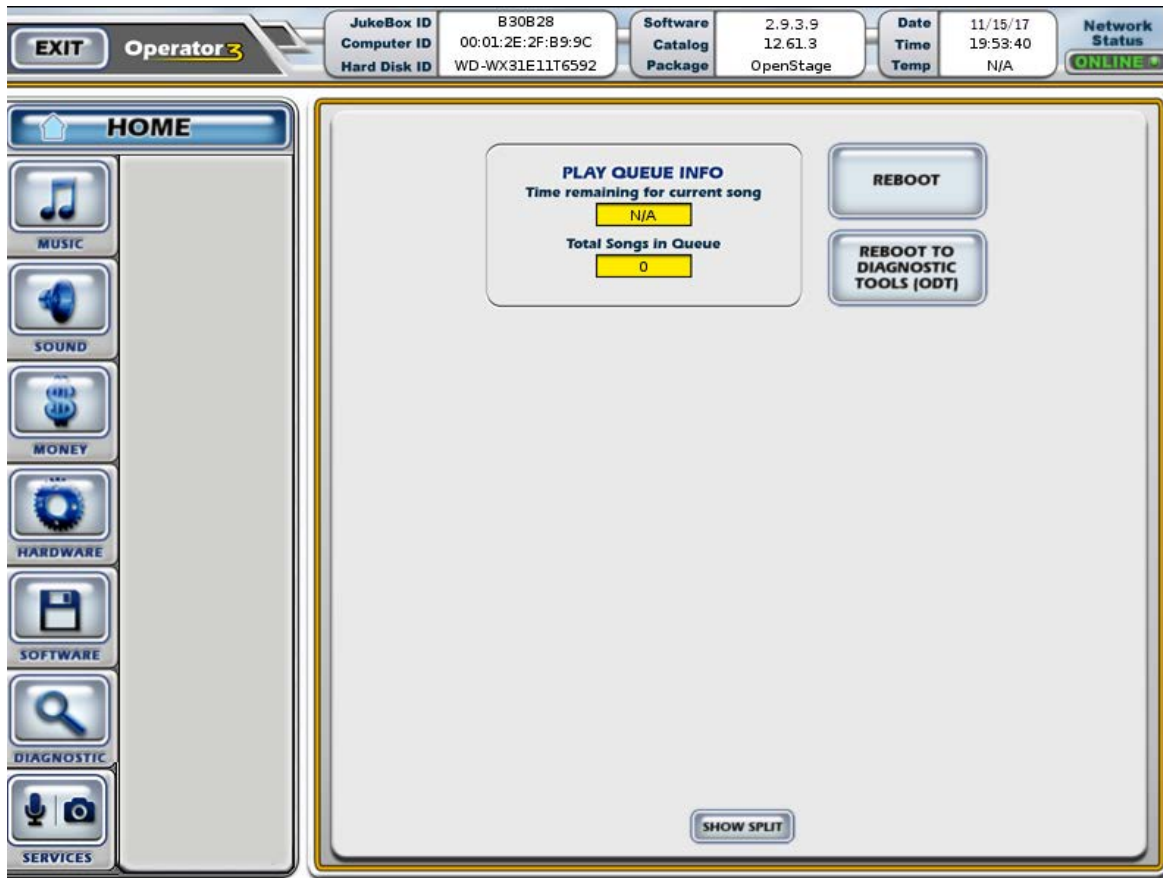
[Changing Languages](#)

[Note About Applying Stickers to the Angelina Touchscreen](#)



## Opening the Operator Interface

1. On the I/O Board, press and release the Manager (**MNGR**) button to display the Operator interface. A call-out to the Manager button is shown in the [Updating Software](#) section.



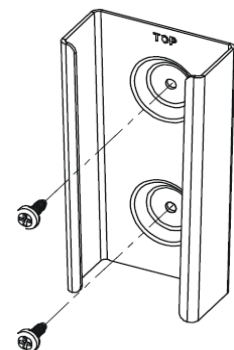
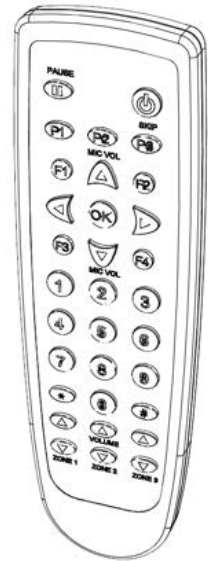
Operator interface



## Setting Up the Remote Control

The TouchTunes wireless remote control is a single-frequency remote that transmits a 433.92 MHz (FSK) signal.

The red indicator LED flashes when the remote transmits or is being programmed.



Use the mounting bracket to install the remote control on a wall for easy access. Fasten the bracket to the wall with two screws.

The remote control is RF-based, which eliminates the need to point it directly at the jukebox. It has a range of up to 200 feet depending on the obstructions between it and the jukebox. Concrete and metal are more of a barrier than wood or plaster. The remote control can also be affected by interference from other RF-based devices.

The remote control is powered by two 1.5V AAA batteries. Insert the batteries in the compartment on the back of the remote. Use only high-quality alkaline batteries.

## Setting the Remote Control ID

By default, the remote control ID is set to 000. To change it, do the following:

1. Press the **POWER** and **F4** keys at the same time and hold them down until the red indicator light blinks twice.

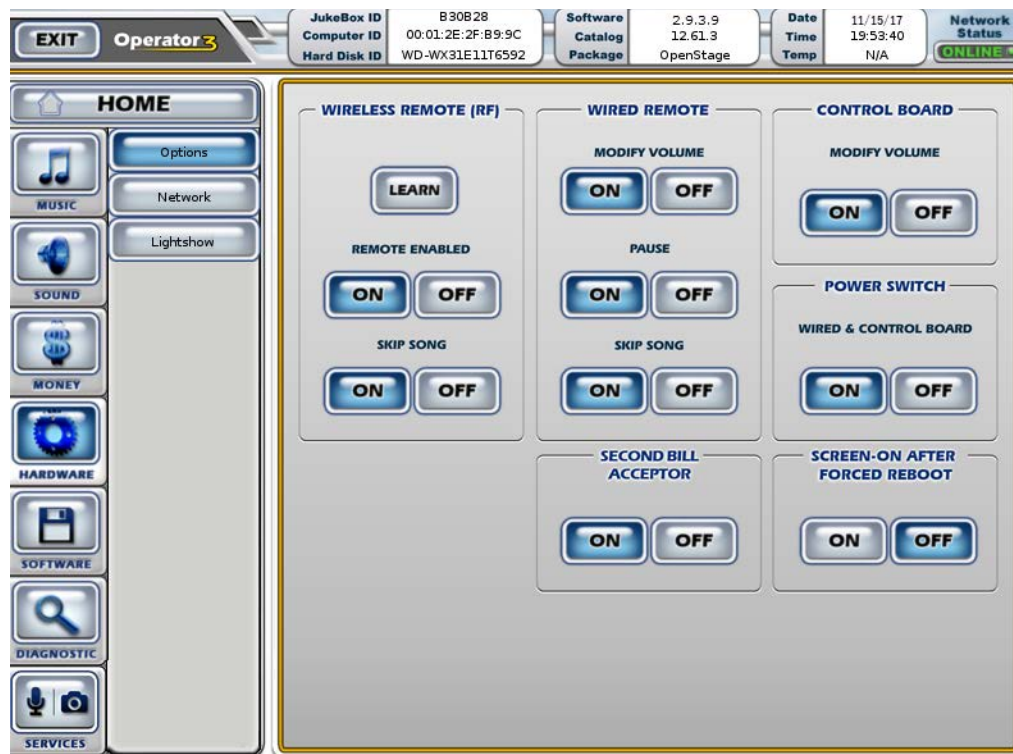


Press and hold the Power and F4 buttons to set the remote control ID

2. Enter the new three-digit code to use. The new code must be in the range 000 to 255.
3. The red indicator light lights up for three seconds to confirm your selection. If you enter an invalid code, the light blinks five times.
4. You must now make the jukebox learn the remote ID. Go to [Learning the Remote ID](#).

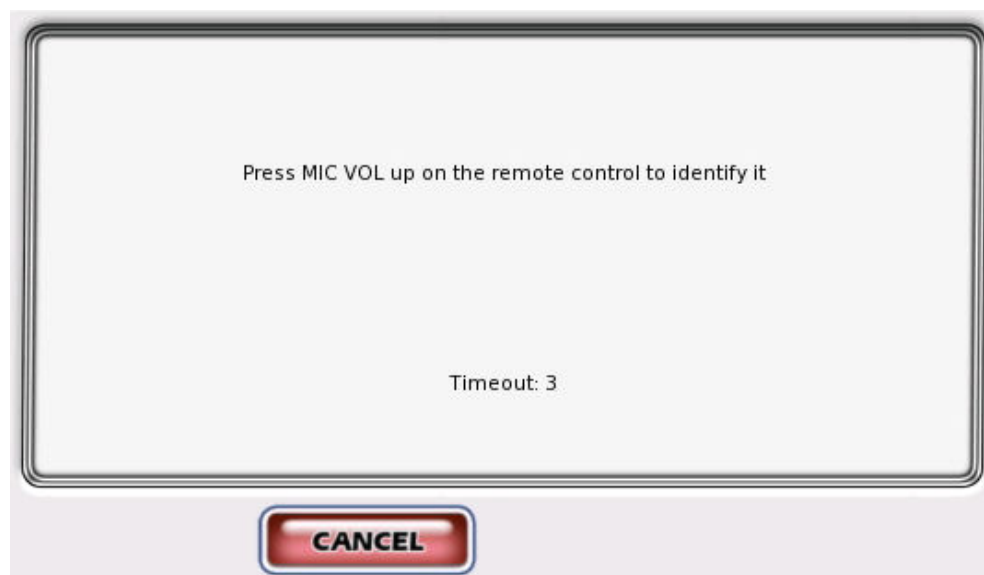
## Learning the Remote ID

1. On the Operator interface, touch **HARDWARE** to display the Hardware Options screen.



Hardware Options screen

2. Touch the **LEARN** button.
3. Watch the display. When prompted, press the **MIC VOL** up (▲) key on the remote control. The display shows a confirmation message and returns to the Options screen.



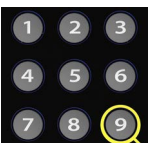




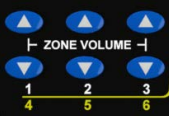

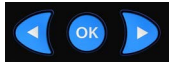


MIC VOL prompt

4. Test the remote by raising and lowering the jukebox volume as it is playing.

## Remote Key Assignments and Functionality

The keys on the remote are preprogrammed for the following functions.

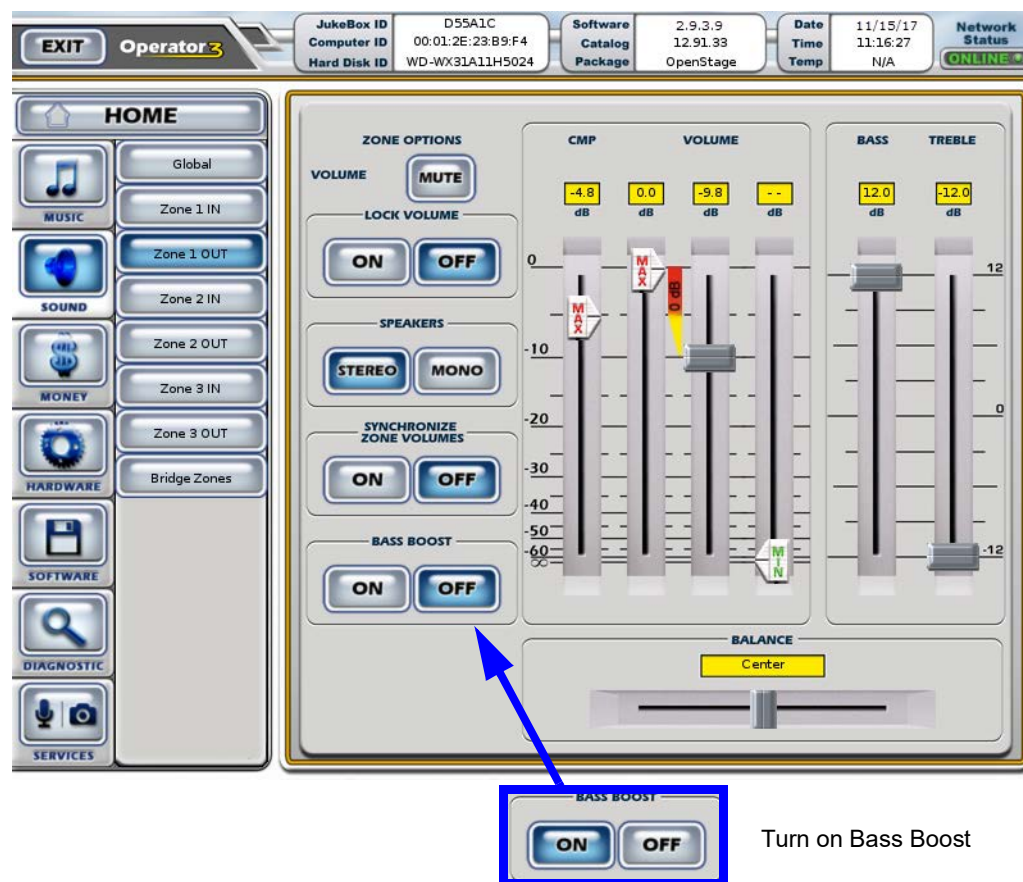
| Key                                | Function  |  |
|------------------------------------|---|--|
| Power                              |    | Press to turn the jukebox monitor and audio subsystem on or off. The jukebox computer remains on. Equivalent to pressing the Night Mode button on the jukebox (not available on all models).   |
| Pause                              |    | Pauses the jukebox.  |
| Numeric keys                       |    | Used to program the remote and for these optional features: <ul style="list-style-type: none"> <li>• 2 and 8 to change the CMP channel, and 5 to confirm the change</li> <li>• 9 to toggle between the volume controls of zones 1-2-3 (default) and 4-5-6</li> </ul>   |
| MIC VOL                            |    | Raises and lowers the volume of the microphone within the limits set on the Mixer Settings screen.   |
| P1                                 |    | Press and release this button to add a promotional credit to the jukebox (if available). Credits are deducted from the promotional credit pool. The Promo Credit feature can be enabled/disabled on the Credit Settings screen or through Tempo > Location > Settings > Money.   |
| P2                                 |  | Press to display an activation code used by Bar Rewards to register as a staff member for this venue and jukebox.  |
| P3/Skip                            |  | <p>Skip song: Quickly press and release this button to stop playing the current song and immediately skip forward to the next song in the queue. The skip song feature can be enabled/disabled on the System Settings screen or through Tempo &gt; Location &gt; Settings &gt; Jukebox &gt; Remote.</p> <p>Flush play queue: Press and hold this button for four seconds to flush the entire play queue.</p> |
| VOLUME<br>ZONE<br>1-2-3 /<br>4-5-6 |  | Raises and lowers the volume of the selected zone within the limits set on the Sound Mixer screen. Pressing 9 on the keypad will toggle volumes between Zones 1/2/3 and Zones 4/5/6 on OS2 jukeboxes   |
| F1, F2, F3, F4                     |  | For future use.  |
| Left-arrow,<br>right-arrow,<br>OK  |  | For future use.  |

## Enabling Bass Boost

Angelina's computer boasts DSP technology for improved audio quality, equalization, and noise reduction. The Bass Boost feature — individually controllable for all 3 audio zones — is by default turned off in the jukebox software and must be turned on through the Operator interface.

### To enable Bass Boost:

1. From the main menu of the Operator interface, select the **SOUND** menu, and then select **Zone 1 Out**.



Bass Boost setting

2. In the **Bass Boost** area, select **ON**. You can repeat this procedure to turn on Bass Boost for all connected audio zones.

**NOTE**

If one of your audio zones is connected to an external sound system with hardware equalization, “double equalizing” your audio signal using Bass Boost can yield unsatisfactory results.

If your external sound package is the TouchTunes PerforMax Quad sound system, which is equipped with an external EQ, turn Bass Boost off for best results.

## Connecting an External Audio Source

Angelina can accept input from an external audio device as long as the device has a line level stereo output (from 300mV to 1 V RMS). Most audio devices, such as tape decks, receivers, CD players, or radios have such an output.



**CAUTION:** The maximum input signal to Angelina must be 1 volt RMS. This is the standard for most audio devices. However, connecting variable audio outputs, such as the speaker outputs of an amplifier, can damage Angelina.

Angelina automatically switches to the external source under two conditions:

1. When Angelina is not in use. That is, no songs are playing and Angelina is not paused.
2. CMP (Custom Music Programming, also known as non-interactive background music) is not scheduled for the current time.

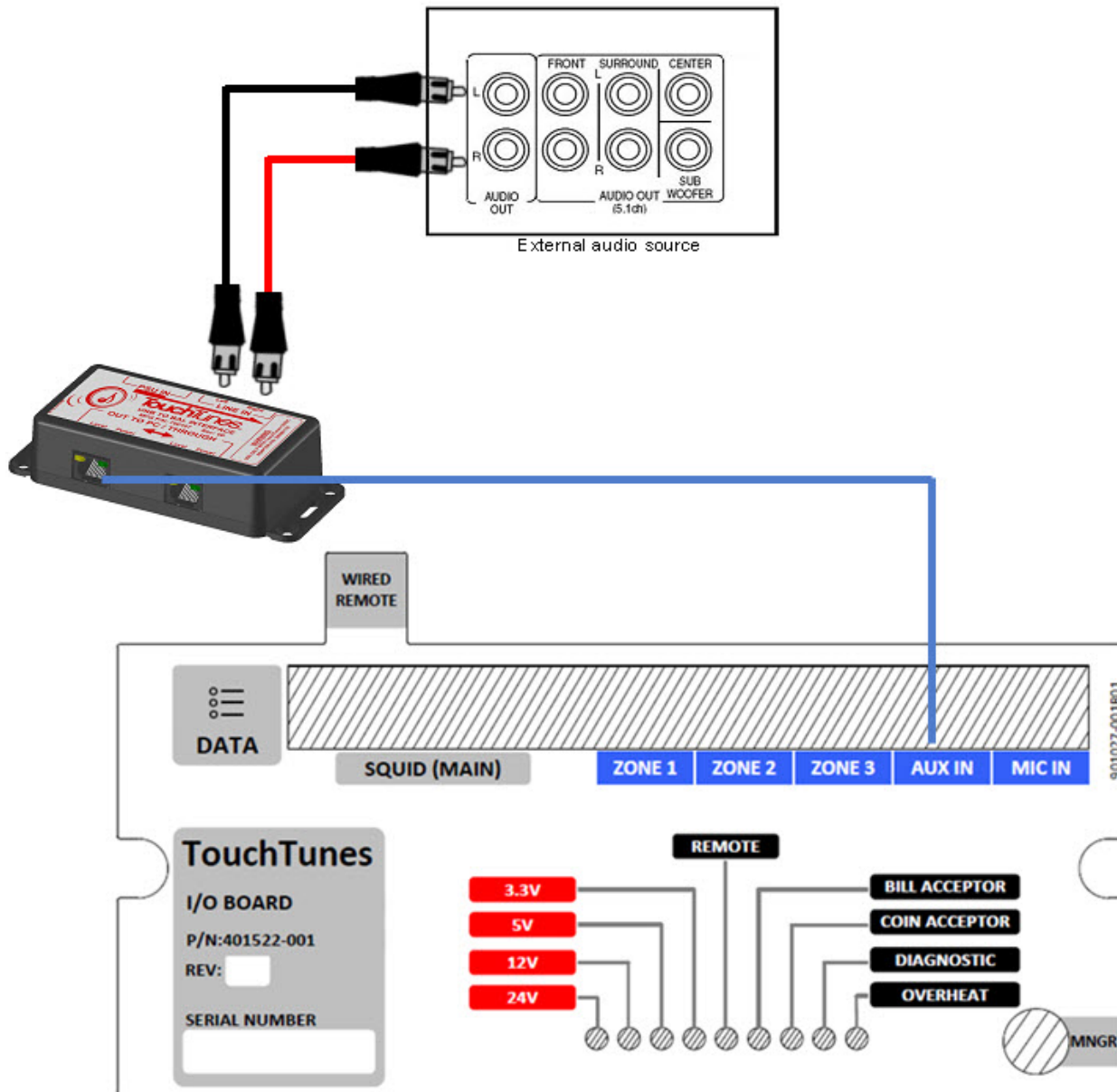
## Requirements for Connecting to an External Audio Source

|                       |   |
|-----------------------|---|
| <b>Cabling</b>        | Use standard Cat 5 cable.   |
| <b>RCA connectors</b> | Two RCA connectors (male) are required to connect the cable to the DI box. By convention, a red connector is used for the right channel and a white connector is used for the left channel. |
| <b>Location</b>       | Position the DI box as close as possible to the audio source.   |
| <b>Tie-wraps</b>      | You need tie-wraps to secure the wire on exit from Angelina.  |
| <b>Tools</b>          | You need tools to install the audio cabling and attach the RCA connectors to it.  |



### To connect an external audio source to Angelina:

To connect an external audio source to Angelina, use a line-input DI box (P/N 700167-001). Refer to the following figure when performing this procedure.



#### External audio connections

1. Connect the RCA connectors from one end of the audio cable to the left and right outputs on the external audio device.
2. Connect the other end of the audio cable to the left and right input RCA jacks on the DI box.
3. Connect one end of a Cat 5 cable to the RJ45 output connector on the DI box.
4. Open either of the cable access ports on the rear of Angelina.
5. Route the cable through the cable channel on the rear of the cabinet and then into Angelina.
6. Plug the other end of the Cat 5 cable into the port labeled **AUX IN** on the I/O Board.

7. Close the cable access channel.
8. Open the Operator interface and adjust the input gain for the auxiliary device.

**NOTE**

If you hear a humming noise after enabling the external audio device, it can be caused by a ground loop. Ground loops can occur when there is more than one path to the electrical ground. A quick way to solve the problem is to install a ground loop isolator on the audio cable that connects Angelina to the external audio device.

## Connecting a Microphone

A microphone can be connected to Angelina. Angelina automatically mutes the song that is currently playing when the talk button on the microphone is activated.

### Microphone Requirements

The microphone should be:

|                               |   |
|-------------------------------|---|
| <b>Balanced</b>               | Balanced microphones allow for longer cable lengths with less noise.  |
| <b>Low impedance</b>          | To keep noise to a minimum, a microphone with impedance less than 600 ohms is preferred. Microphones with greater impedance can pick up more noise. |
| <b>Dry contact (optional)</b> | This sends a signal to Angelina indicating that the microphone switch has been pressed.   |

TouchTunes recommends that you use a cardioid dynamic microphone. These microphones are low impedance (150 ohms).

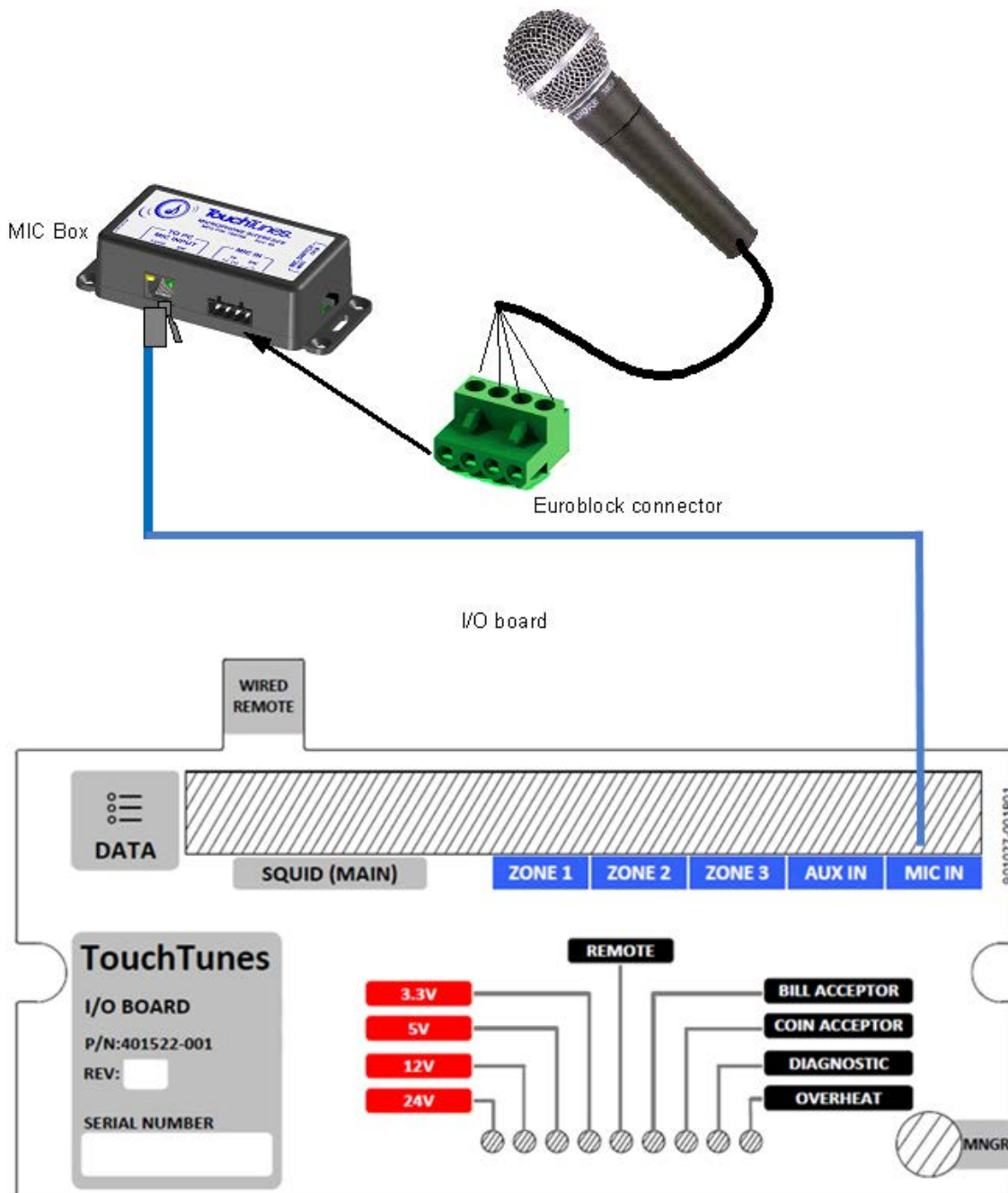
**NOTE**

Condenser and electric microphones will not work, as no DC (phantom) power is supplied.



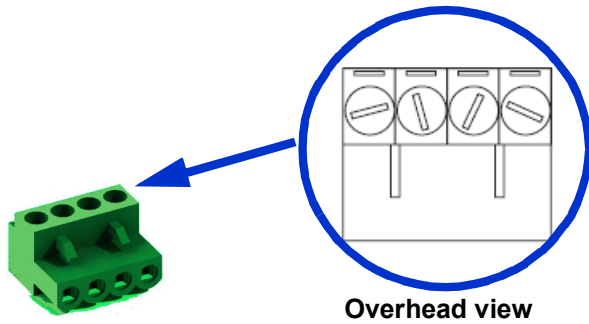
**To connect a microphone to Angelina:**

To connect a microphone to Angelina, you must use the MIC box (P/N 700166-001) and the 4-pin Euroblock connector (P/N 100000-001) supplied with the microphone kit (sold separately). Refer to the following figure when performing this procedure.

**Microphone connections**

1. Prepare the microphone cable by stripping the ends of the 4 connector wires, exposing approximately 1/4" of wire.
2. Locate the supplied four-slot Euroblock connector for the MIC box.

3. Loosen the screws along the top of the connector using a flat-head screwdriver, if necessary.



*Euroblock terminals*

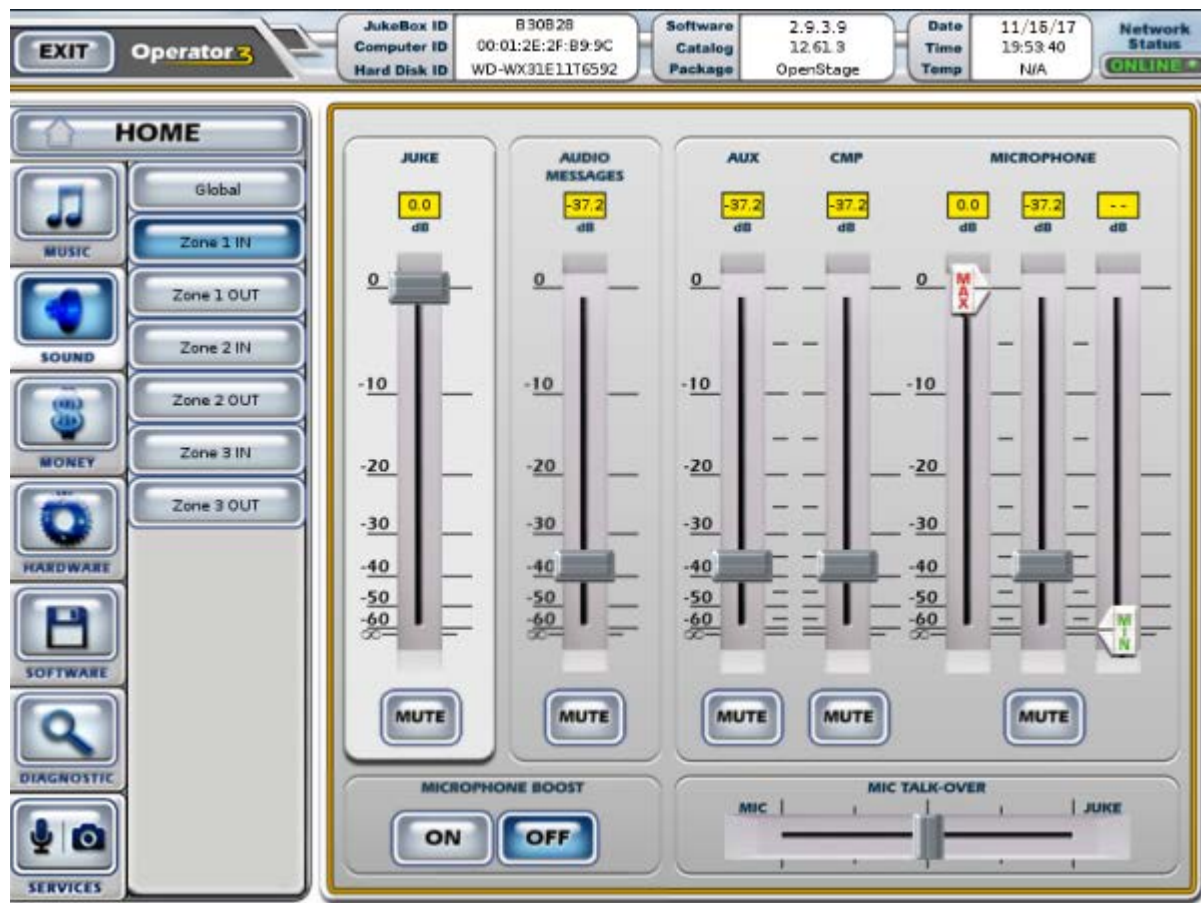
4. Wire the ends of the 4 microphone wires to the Euroblock connector using the legend on the DI box's label as a guide.



*Wiring legend*

5. Refer to the manufacturer's documentation for the microphone to determine color coding and wiring information.
6. Using a flat-head screwdriver, tighten the screws of the slots for the microphone to secure the speaker cable to the connector.
7. Attach the Euroblock connector to the connector labeled **MIC IN** on the MIC box.
8. Connect one end of a Cat 5 cable to the RJ45 output connector labeled **TO PC MIC INPUT** on the MIC box.
9. Open either of the cable access ports on the rear of Angelina.
10. Route the cable through the cable channel on the rear of the cabinet and then into Angelina.
11. Plug the other end of the Cat 5 cable into the port labeled **MIC IN** on the I/O Board.

12. Open the Operator interface and adjust the input gain for the microphone.



Mixer Input screen

NOTE

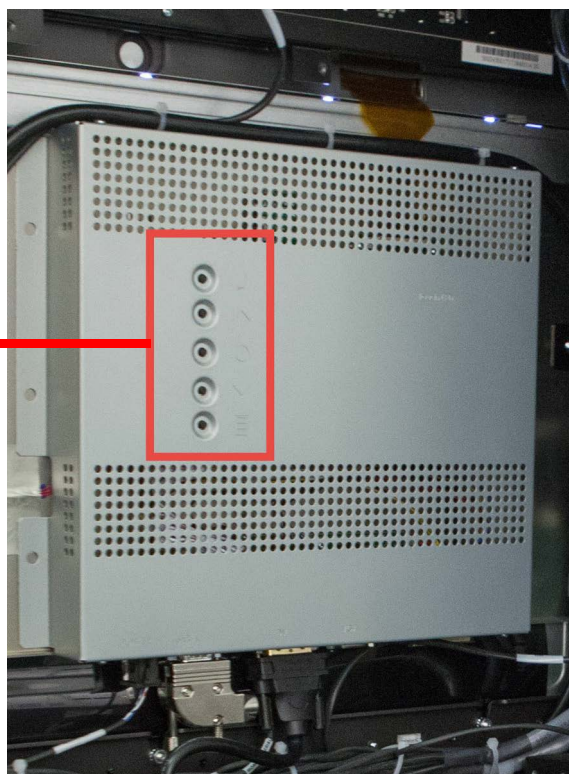
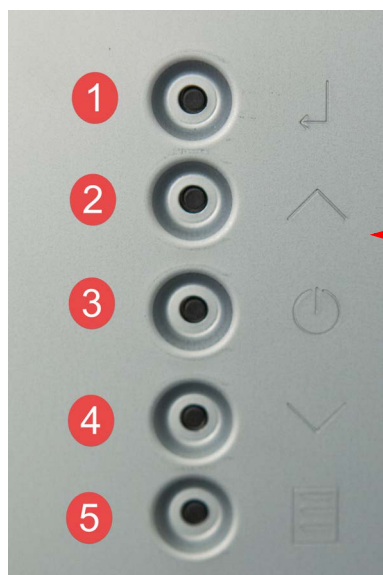
The Mixer Input screen includes a **MICROPHONE BOOST** section, which is independently controllable for the three audio zones. The default value is **OFF**. Adjust your microphone gain and boost settings as needed.

## Adjusting Touchscreen Brightness and Contrast

Angelina is shipped with touchscreen brightness and contrast settings configured to values that TouchTunes has found to be suitable for most installations, and will probably not require adjustment. However, optimum picture quality is affected by the lighting conditions in the venue, so some adjustment may be required to achieve the best results.

Angelina's touchscreen is equipped with On Screen Display (OSD) controls that let you change settings. Located on the back of the monitor are five buttons.

| Button | Control | Function  |
|--------|---------|---|
| 1      | ENTER   | Select the current choice in the OSD.   |
| 2      | UP      | Increases brightness.<br>While viewing OSD:<br>- Selects OSD choice counterclockwise.<br>- Increases the value of OSD adjustment choice |
| 3      | POWER   | Turns the monitor ON/OFF.   |
| 4      | DOWN    | Decreases brightness.<br>While viewing OSD:<br>- Selects OSD choice clockwise.<br>- Decreases the value of OSD adjustment choice.       |
| 5      | MENU    | Displays/exits the OSD menus.   |



OSD control buttons

**To adjust the brightness and contrast:**

1. Press the Menu button to display the OSD menu.
2. Press the **UP** button or **DOWN** button to toggle and the **ENTER** button to select the OSD sub-menus and functions.
3. When the function you want to change, such as brightness or contrast is shown, press the **ENTER** button.
4. To adjust the value of the function:
  - Press **UP** button to increase the value of an OSD control option.
  - Press the **DOWN** button to decrease the value of an OSD control option.

## Applying Filters and Credit Rules

**NOTE**

If you are replacing an older TouchTunes jukebox with an Angelina jukebox, you must manually apply any music filters and credit rules from the old jukebox to Angelina if you want such filters and rules to apply to Angelina.

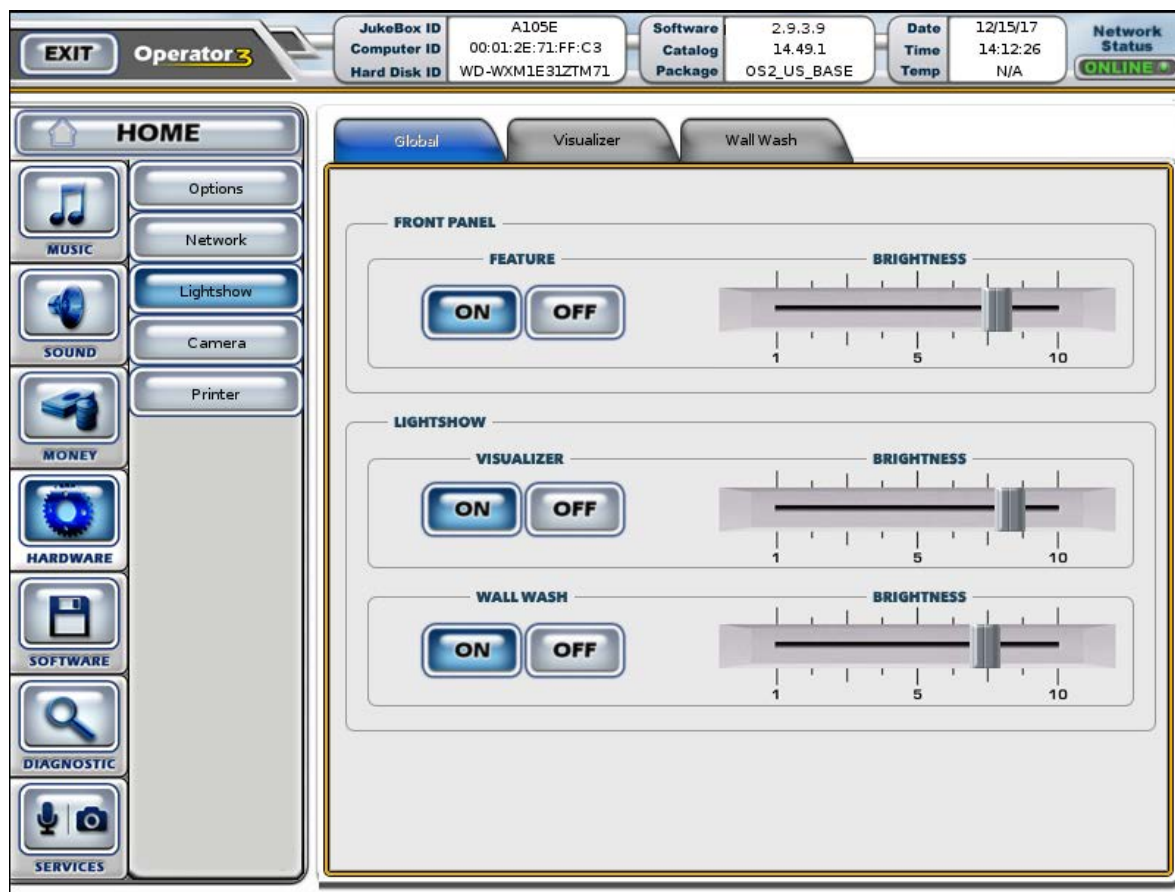
- To configure music filters, select the **MUSIC** menu in the Operator interface, and then press the **Filters** button.
- To configure credit rules, select the **MONEY** menu in the Operator interface, and then press the **Credit** rules button. Configure your settings as required.

## Setting Lightshow Colors and Brightness

The color and brightness of Angelina's front panel, wall wash, and Visualizer can be changed to better match a location's color scheme and lighting (or branding).

The settings associated with this functionality can be found within the Operator interface by navigating to **HARDWARE > Lightshow**.

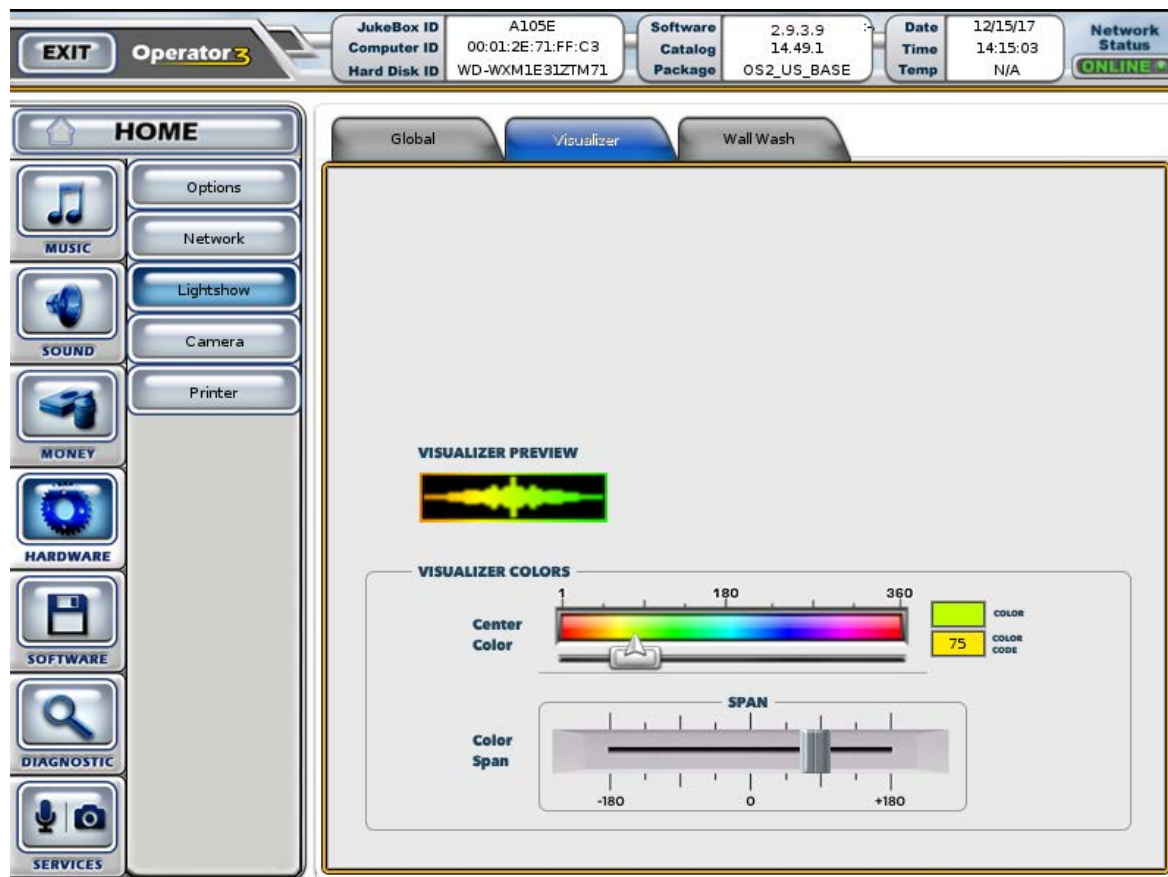
From this screen, you can turn features on/off and set the brightness of the front panel, Visualizer, and wall wash.



*Setting Brightness of Front Panel and Lightshow*



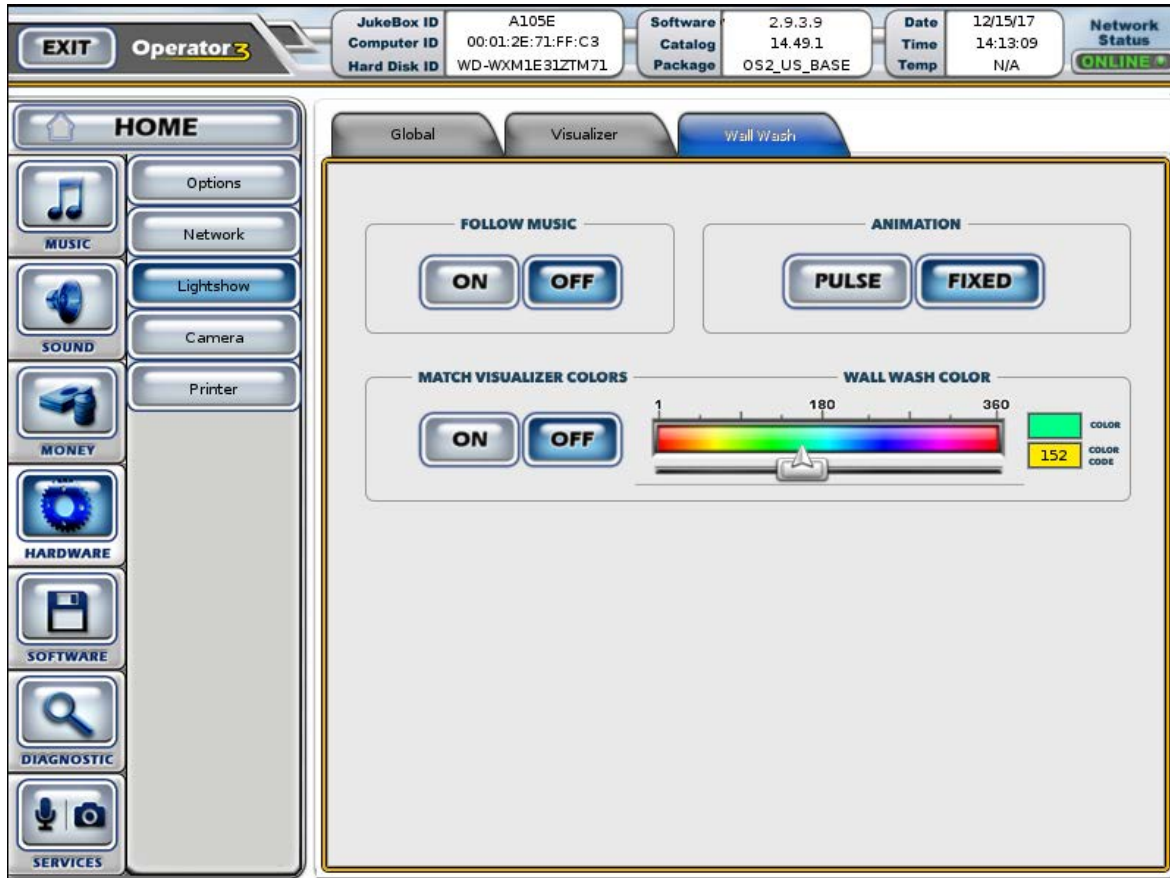
From this screen, you can set the Visualizer color and color span.



Setting Visualizer Color and Color Span

From this screen, you can

- Specify if the wall wash should follow the beat of the music
- Set the wall wash animation to “PULSE” or “FIXED”
- Specify for the wall wash to match the colors set for the Visualizer
- Specify the wall wash color (when MATCH VISUALIZER COLORS is set to “OFF”)

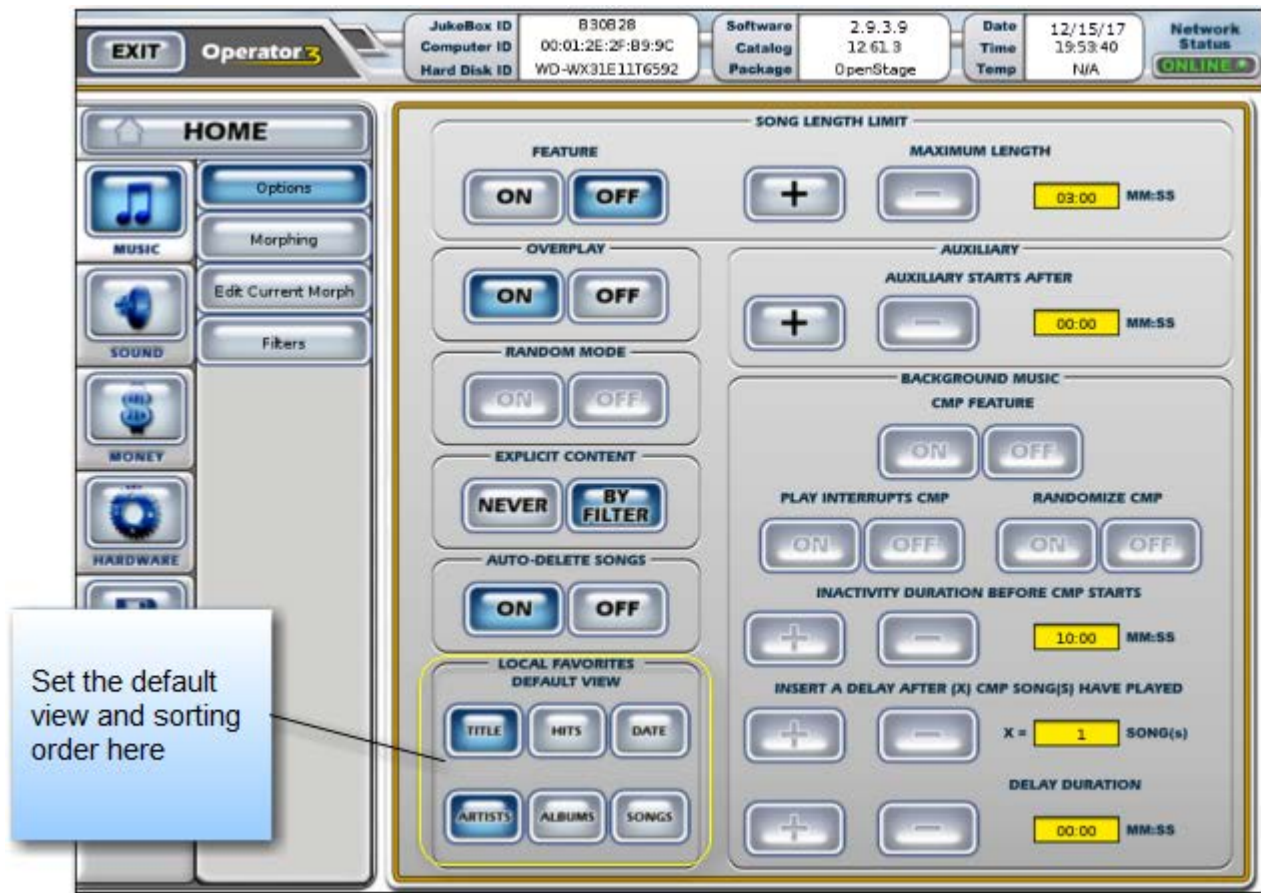


Wall Wash settings



## Setting Local Favorites Options

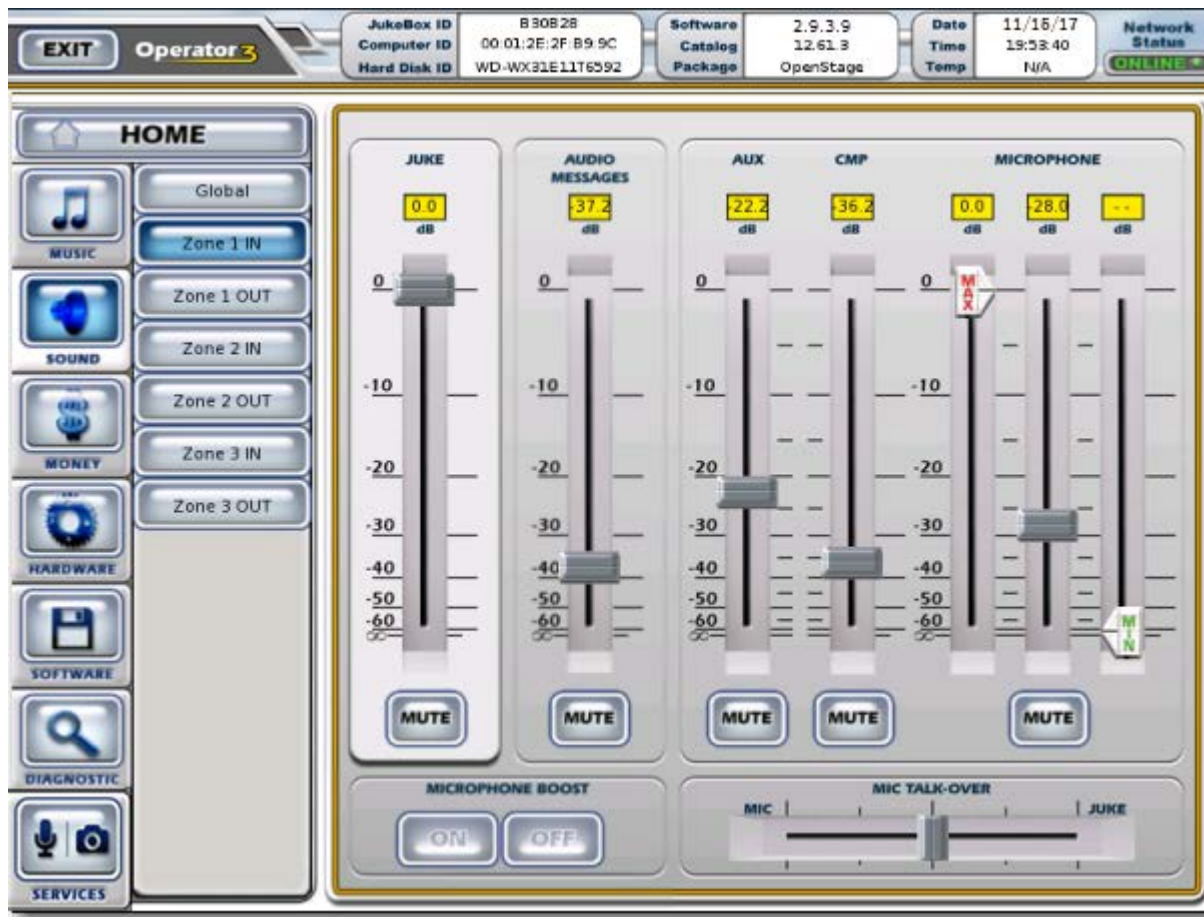
You can change the default view and sorting order of the Favorites from the Operator interface on the **MUSIC > Options** screen.



Setting Local Favorites

## Setting Custom Music Programming (CMP) Levels

You can adjust the input and output volume levels for [Custom Music Programming \(CMP\)](#), also called non-interactive background music. On the Operator screen, touch the **SOUND** menu and adjust the CMP levels for the zones in and out.



Setting CMP levels

## Changing Languages

When you activated Angelina, you selected a default language, but you can change your language selection any time. To change the language options, on the Operator interface, select a default language from **SOFTWARE > Languages** and then reboot Angelina.

### NOTE

Language options only apply to the user interface. English is used for the Operator interface menus.

OpenStage 2 provides full user interface support in English, French and Spanish. Patrons can change the language on the interface during their session. The UI resets to the default language when a new session starts.

## Note About Applying Stickers to the Angelina Touchscreen

The bezel-less design of the touchscreen means that the entire glass is touch-sensitive and must therefore be kept clear of objects that can interfere with patron interaction and the proper operation of the jukebox.



Never attach stickers, decals, or transfers (even partially) anywhere on the touchscreen glass or over the camera. Doing so can adversely affect the behavior of the jukebox.

If you must apply stickers of a promotional nature or with contact information, TouchTunes recommends that you affix them to the left or right side of the enclosure to preserve the aesthetics of the Angelina facade.

You can professionally display the location and your contact information on the Angelina screen by adding it to the Owner profile page and enabling the Owner Profile page to display from Angelina's Operator interface under **SOFTWARE > Location Info**.



## Service and Maintenance

---

This section has information to assist you with the service and maintenance of Angelina.

### Topics

[Important Safety Instructions and Warranty Information](#)

[About Angelina Maintenance](#)

[List of Angelina Field Replacement Unit \(FRU\) Kits](#)

[Offline Diagnostic Tool](#)

- [Starting the ODT](#)
- [RAM Tests](#)
- [Hard Drive Tests](#)

## Important Safety Instructions and Warranty Information

Before you service or replace parts in the Angelina jukebox, familiarize yourself with the following information.



**WARNING:** To prevent risk of electrical shock, do not attempt any replacement procedure without first shutting down Angelina and disconnecting all electrical power to the unit.



**IMPORTANT:** The major components in Angelina contain no user-serviceable parts. The computer, I/O Board, Power Supply Unit, and amplifiers have tamper-proof adhesive labels affixed to their exteriors. Do not attempt to open these components! By doing so, you void the warranty for the component.

### NOTE

For warranty returns, you must obtain a valid Return Authorization (RA) number from TouchTunes before shipping a defective unit back to TouchTunes.

## About Angelina Maintenance

TouchTunes provides many Field Replacement Unit (FRU) kits for replacing damaged components of the Angelina jukebox. Each FRU kit comes with its own guide that shows how to perform the replacement procedure.

In the next section, you will find a list of all the available FRUs you can purchase, and the associated document that shows you how to perform the procedure. All the listed documents are available for download from the TouchTunes Tempo site (<https://tempo.touchtunes.com>), making it possible to consult them before purchasing a FRU kit.

If you want to purchase one or more FRU kits, contact your TouchTunes Sales representative.

## List of Angelina Field Replacement Unit (FRU) Kits

The following table lists the kits that can be purchased to replace Angelina components, should they need replacing, along with the associated documents that explain how to perform the replacement procedure.

| FRU Kit P/N | FRU Kit Name                        | FRU Document Title                             | Document P/N |
|-------------|-------------------------------------|--|--------------|
| 600260-001  | UPK, FRU, WALL BRACKET              | Replacing Angelina's Wall Bracket              | 901043-001   |
| 600264-001  | UPK, FRU, MODULAR HARDWARE PLATFORM | Replacing Angelina's Modular Hardware Platform | 901044-001   |
| 600265-00x  | UPK, FRU, I/O BOARD                 | Replacing Angelina's I/O Board                 | 901045-001   |
| 600266-001  | UPK, FRU, POWER SUPPLY              | Replacing Angelina's PSU                       | 901046-001   |
| 600267-00x  | UPK, FRU, COMPUTER                  | Replacing Angelina's Computer                  | 901047-001   |
| 600268-001  | UPK, FRU, AMPLIFIER                 | Replacing Angelina's Amplifier                 | 901048-001   |
| 600269-001  | UPK, FRU, BACKPLANE                 | Replacing Angelina's Backplane                 | 901049-001   |
| 600270-00x  | UPK, FRU, MONITOR                   | Replacing Angelina's Monitor                   | 901050-001   |
| 600271-001  | UPK, FRU, VISUALIZER                | Replacing Angelina's Visualizer                | 901051-001   |
| 600272-00x  | UPK, FRU, TS GLASS, 24"             | Replacing Angelina's Touchscreen Glass         | 901069-001   |
| 600273-00x  | UPK, FRU, CAMERA ASY                | Replacing Angelina's Camera Assembly           | 901070-001   |
| 600277-001  | UPK, FRU, WALL WASH PCBA, PMT       | Replacing Angelina's Wall Wash PCBA            | 901079-001   |
| 600278-001  | UPK, FRU, LIGHT RIM PCBA, PMT       | Replacing Angelina's Light Rim PCBA            | 901080-001   |
| 600279-001  | UPK, FRU, BRANDBAR PCBA             | Replacing Angelina's Brand Bar PCBA            | 901052-001   |
| 600280-001  | UPK, FRU, LOCK ASY                  | Replacing Angelina's Lock Assembly             | 901053-001   |
| 600288-00x  | UPK, FRU, TS CTRL, 24"              | Replacing Angelina's Touchscreen Control Board | 901078-001   |

All the documents listed in the previous table are available for download from the TouchTunes Product & Warranty page, at <http://productwarranty.touchtunes.com>. You can find individual documents easily by searching for their part numbers (P/Ns) or by using relevant keywords. Documents are also available from the TouchTunes Tempo site (<https://tempo.touchtunes.com>).

# Offline Diagnostic Tool

You use the Offline Diagnostic Tool (ODT) to perform tests on all the basic hardware sub-systems of the Angelina jukebox to see if they are working properly.

The ODT provides a graphical user interface to perform tests on the following:

- RAM
- Hard drive
- Network loopback
- Buttons on the I/O Board and remotes (wireless and wired)
- Lightshow
- Sound

If a test fails, then the affected component may need to be replaced. Contact TouchTunes to purchase replacement units.

## Starting the ODT

The ODT is started by holding the Manager (**MNGR**) button for about 20 seconds on the I/O Board of the Angelina jukebox while it is initializing. You can also press the **REBOOT TO DIAGNOSTIC TOOLS (ODT)** button from the main menu of the Operator interface.

### To start the ODT:

1. From the Operator interface main menu, touch the **REBOOT TO DIAGNOSTIC TOOLS (ODT)** button.

The ODT Calibration screen appears.

#### NOTE

The ODT screen calibration does not affect calibration performed during software installation. It is only for the current session of the ODT.

2. Follow the on-screen prompts to complete calibration. The Offline Diagnostic Tool Main Menu appears.

Available hardware tests can be accessed from the ODT Main Menu. The steps to follow for the tests are self-explanatory and can be followed from the screen.

### To exit the ODT:

- Touch the **Exit** button in the ODT main menu.

The ODT is closed and the jukebox boots into the Customer interface.

## RAM Tests

This item tests the jukebox memory and requires a reboot of the jukebox.

The RAM test is more thorough the longer it runs. For example, if it only runs a few seconds, then the test verifies that the correct amount of RAM is installed. If you let the RAM test run for more than two hours, the system will run multiple passes of the RAM test to verify that the RAM is working correctly – you might run the test overnight for increased effectiveness.

If there are problems with the RAM, the computer must be replaced (purchase the FRU kit P/N 600267-00x).

#### NOTE

The RAM test takes a long time since all parts of the RAM are systematically checked in multiple ways. Each test pass increases the chance that existing errors will be found.



## Hard Drive Tests

Hard-drive tests use Self-Monitoring, Analysis and Reporting Technology (S.M.A.R.T.) to interface directly with the computer hard drive and indicate any problems.

These tests can help you see if a hard drive is about to fail. If there are problems with the hard drive, it may need to be replaced.

A short S.M.A.R.T. test is run on a random selection of sectors on the disk, while a long S.M.A.R.T. test is run on all sectors of the disk. The other options in the sub-menu provide information about past tests that were run, specifications about the disk, and how much memory is left on the hard drive.



## Bridging the Internal Amplifiers

---

Amplifier bridging enables Angelina's internal amplifiers to produce up to 475W per channel for a maximum of 950W.

**NOTE:** when an amplifier zone is bridged, the Zone Management options that normally allow it to be split will be disabled, as Bridging and Splitting are mutually-exclusive features.

### Topics

[Bridged Amplifiers Configuration](#)

[Bridging the Amplifiers](#)

[Bridging Safety Considerations and Recommendations](#)

[Troubleshooting Amplifier Bridging](#)

## Bridged Amplifiers Configuration

The configuration specified in the procedure that follows results in the following:

- Output is forced to mono.
- The outputs of Zones 1 and 2 can continue to be controlled individually.
- The output to the speakers is 475W per channel, at 4Ω.

You may choose to bridge only one zone, in which case the other zone will not be affected, and does not need to be rewired.

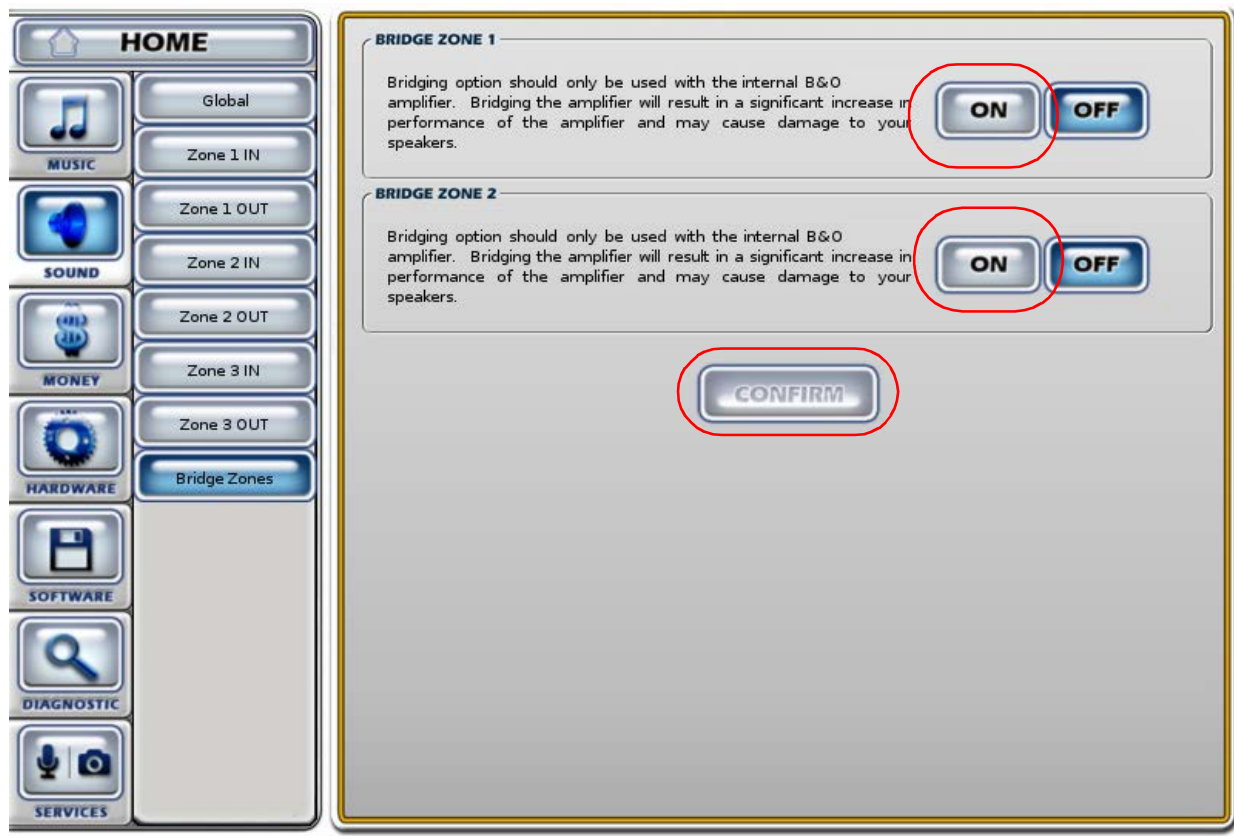


**WARNING:** If you elect not to bridge a zone, you must not enable bridging for that zone in the Operator interface. Turning the bridge feature on for a zone without rewiring it will cause a degradation of audio quality, and could also damage the speakers. For the same reasons, if you rewire a zone, you must also enable bridging for that zone in the Operator interface.

## Bridging the Amplifiers

1. Pause Angelina.
2. Unlock and open Angelina's door.
3. Disconnect the Euroblock connectors from the zone(s) you will be bridging.
4. Rewire the speaker cables going into the disconnected Euroblock connectors as follows:
  - One negative wire (usually black) into Right Positive (R+)
  - One positive wire (usually has a red jacket) into Left Positive (L+)
  - The other two terminals on the Euroblock are left empty
  - When bridging both Zone 1 and Zone 2, it is very important to wire both zones identically; not doing so can negatively affect audio quality, as the two zones would be out of phase
5. Re-connect the Euroblock connectors into the appropriate Zone 1 and Zone 2 amplifiers.
6. On the jukebox, launch the Operator interface.
7. Navigate to **SOUND > Zone X Out** (where X is the zone you are bridging) and change the following settings as required:
  - Set Balance to the middle.
  - Set Bass Boost to Off.
  - Set the volume to its lowest setting.

8. Next, go to **SOUND > Bridge Zones**.



#### Bridge Zones

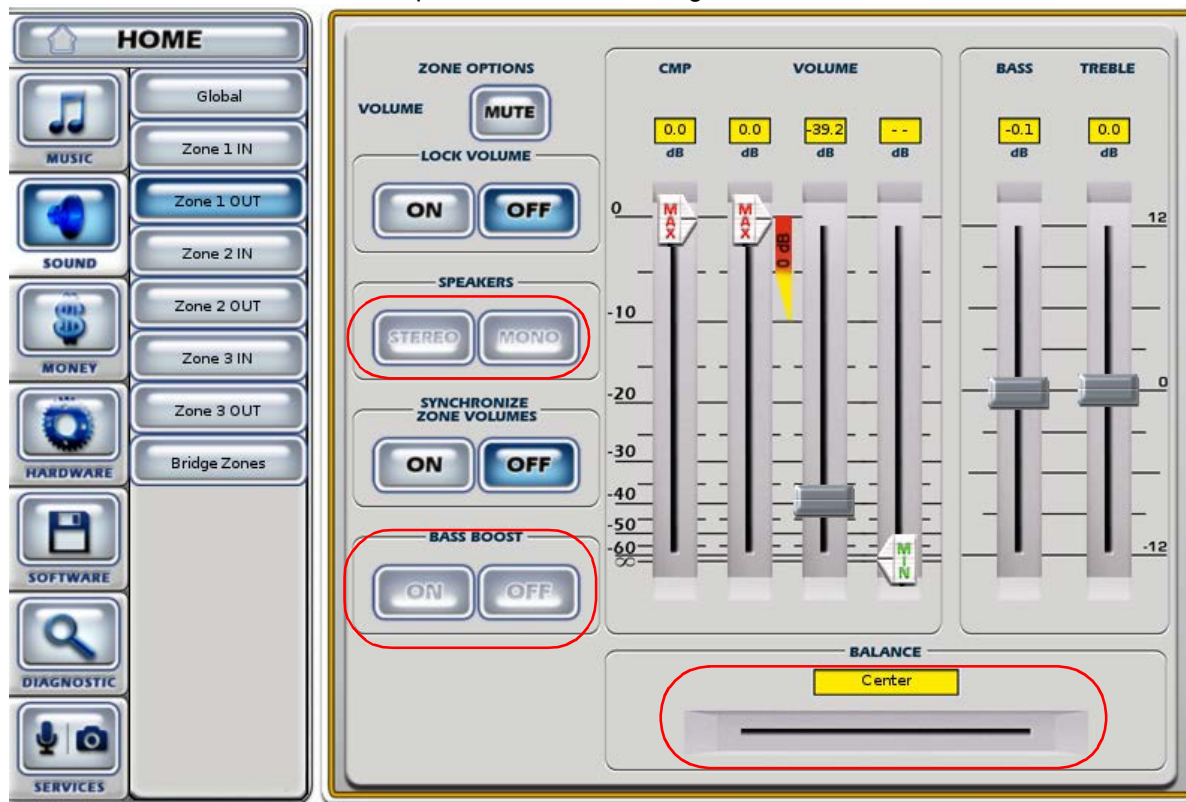
9. Turn on bridging **ONLY** for the zone(s) you rewired.
10. Touch the **CONFIRM** button to apply the change.
11. You will be prompted to confirm again.



#### Confirmation message

12. If CMP was already active on the jukebox, music should now be playing through the rewired speakers.
13. Queue up a few songs to help you adjust the volume levels.
14. Adjust the volume levels for the bridged zones.

You will notice that some of the output controls for the bridged zones are now disabled.



*SOUND - Zone x OUT Options*

Bridging forces a Zone to mono, so the mono/stereo and balance controls are now disabled. The Bass Boost control is also disabled, since the amplifier is now outputting significantly more power than it was previously.

## Bridging Safety Considerations and Recommendations



Before connecting speakers to the bridged amplifier, make sure the speakers are rated for at least 475W at 4Ω. Using speakers that are not appropriately rated could damage the speakers.



Bridging should only be used with Angelina's internal amplifiers. Attempting this with any other amplifier (including the ones offered by TouchTunes for other jukebox models) could cause degraded audio quality, and damage to the amplifier or the speakers.



While Bridged Mode is on, the “Through” connectors on the amplifier should not be used.

## Troubleshooting Amplifier Bridging

The following are solutions to issues you may face after rewiring the speakers and activating amplifier bridging.

| Problem   | Probable Causes   | Solution   |
|---|---|--|
| No sound at all   | <ul style="list-style-type: none"> <li>Certain connections were not made properly, preventing audio from being transmitted.</li> <li>Angelina’s internal amplifier(s) has gone into protection mode, due to an electrical problem (short-circuit, overload, etc).</li> <li>Angelina is paused, or volume is too low.</li> </ul> | <ul style="list-style-type: none"> <li>Review all connections, following the schematic at the beginning of this chapter.</li> <li>Review all wiring, then lower the output volume to its lowest setting, then slide it up slowly until you hear music again.</li> <li>Make sure Angelina is not paused, then raise the output volume slowly.</li> </ul>  |
| Degraded sound quality (no bass, distortion, abnormal artifacts)    | <ul style="list-style-type: none"> <li>The speakers wired to Zones 1 and 2 were not wired identically, and are out of phase.</li> <li>The speakers are not rated for 475W at 4Ω.</li> <li>Balance was not set to the middle before bridging was activated.</li> </ul>   | <ul style="list-style-type: none"> <li>Review the wiring between the amplifiers and the speakers. Make sure all speakers are wired the same (see step 4 in the <a href="#">Bridging the Amplifiers</a> procedure).</li> <li>If each zone outputs to a single speaker, check that the speaker is rated no lower than 4Ω. If outputting to multiple speakers, check that the ohms load on the circuit including all the speakers on a zone is no lower than 4Ω.</li> <li>Bring the volume down to its lowest level then deactivate bridging. After the reboot, set balance to the middle, then reactivate bridging. After the second reboot, raise the volume again to verify that the sound is ok.</li> </ul> |
| Volume too low, despite volume setting being at or close to maximum | <ul style="list-style-type: none"> <li>Speakers have impedance much higher than 4Ω.</li> <li>Problems with wiring (wires are not fully connected).</li> </ul>   | <ul style="list-style-type: none"> <li>Use different speakers or reconfigure speaker groupings (in the case where multiple speakers are connected to one zone output on the amplifiers).</li> <li>Disconnect, then re-connect each speaker wire in turn, making sure each wire makes a positive connection.</li> </ul>   |





## Zone Management

---

### About Zone Management

Zone Management settings allow you to split the three existing output zones, for a total of up to 6 mono output zones whose volumes can be managed independently. This allows venues to double their jukebox music coverage areas, offering further customization in-venue and an increased revenue opportunity.

**NOTE: When an amplified zone is split via Zone Management, its corresponding Bridging controls will be disabled, as Splitting and Bridging are two mutually-exclusive features.**

#### Topics

[About Zone Management](#)

[Safety Considerations and Recommendations](#)

[Activating New Zones](#)

[Remote Control](#)

[Reverting](#)

[Real-World Situations with Solutions](#)

[Troubleshooting](#)

## Safety Considerations and Recommendations



Before you proceed with activating any of the new zones, we recommend that you:

- Bring the volume down to a low, but still audible level on any zones you plan to impact
- Rewire the speakers according to your chosen zone configuration (see the [Real-World Situations with Solutions](#) section for more help on figuring out the wiring)



When rewiring speakers for new zone configurations, make sure that the impedance on both channels of each amplifier zone matches. Mismatched impedance on a particular zone could lead to audio quality degradation, abnormally low volume, or the amplifier shutting down to protect itself.



Lower all volumes before you rewire speakers, and rewire the speakers before you activate or deactivate the new zones. This will reduce the risk of causing the volume to suddenly get much louder on the affected speakers.



Make sure the polarity of all speakers matches to avoid phase issues, except where you have to intentionally flip the polarity to fix such an issue.



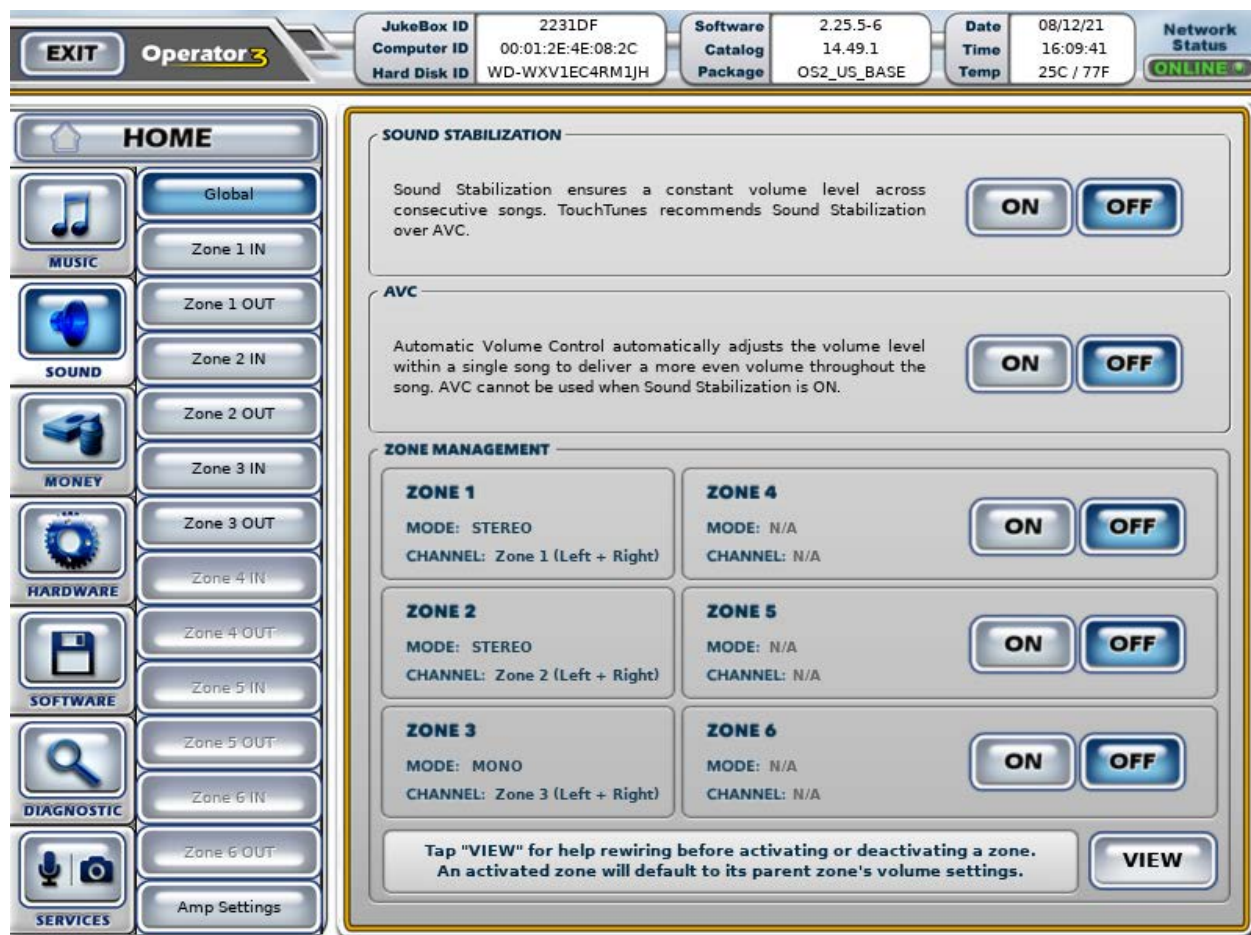
If you are moving a hard disk from a jukebox that has the Amplifier Bridging feature turned on, to a second jukebox that does not support bridging (such as Playdium), deactivate the bridging before taking the hard disk out. If the amp bridging setting gets copied over to the second jukebox, this will disable the zone management options for the zone where bridging was turned on, but the bridging option will not be accessible to turn it off.

## Zone Management on Tempo

Jukeboxes running software that supports Zone Management will show up on Tempo with 6 zones. Zones that are not activated on the jukebox will not be configurable on Tempo. The settings to activate or deactivate the extra zones will remain available only on the jukebox Operator screen.

# Activating New Zones

On the Operator screen, navigate to SOUND > Global to access the Zone Management settings. By default, the settings to turn on zones 4 to 6 turned off, but you can activate any or all of them here.



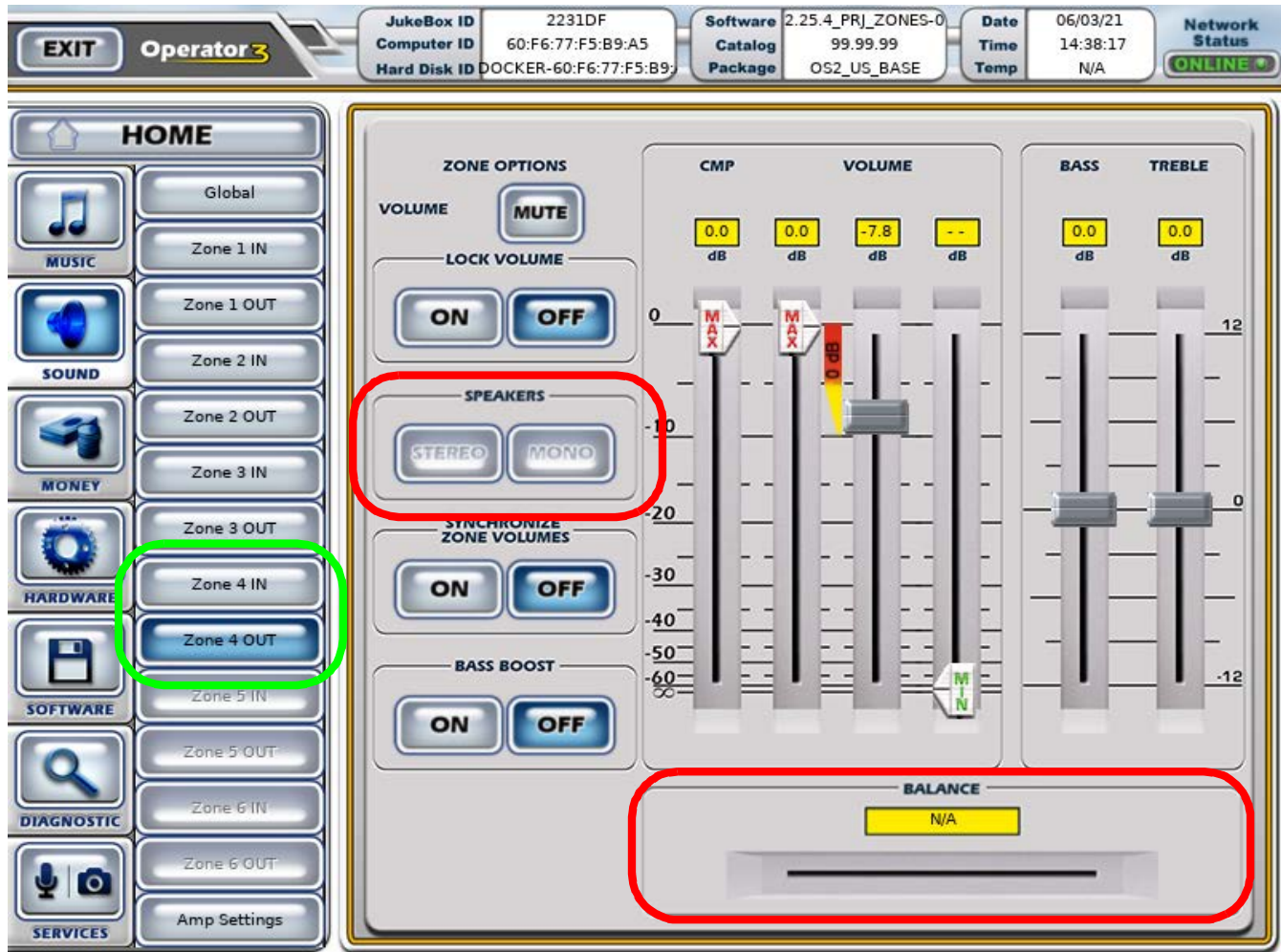
Any of the first 3 zones can be split into two independent mono zones.

You may also want to tap the VIEW button to bring up a speaker wiring diagram. The diagram makes it easier to figure out which outputs are tied to which zone when additional zones are activated.

Zones are split as follows:

| Activated Zone | Channels Used                                       |   |
|----------------|---|---|
| Zone 4         | Zone 1 <b>Left</b> channel<br>becomes <b>Zone 1</b> | Zone 1 <b>Right</b> channel<br>becomes <b>Zone 4</b>  |
| Zone 5         | Zone 2 <b>Left</b> channel<br>becomes <b>Zone 2</b> | Zone 2 <b>Right</b> channel<br>becomes <b>Zone 5</b>  |
| Zone 6         | Zone 3 <b>Left</b> channel<br>becomes <b>Zone 3</b> | Zone 3 <b>Right</b> channel b<br>ecomes <b>Zone 6</b> |

Once you activate Zones 4, 5 or 6, the IN and OUT sub-sections for that zone will be **enabled**, allowing you to adjust its audio settings independently of the zone from which it was split.



Split zones are forced to mono, so the mono/stereo and balance controls are **now disabled**. (Zones that are not split can still be set to either stereo or mono, as needed.)

**Note:** When activating a zone, all its associated volume and tone settings are copied from its “parent” zone. In other words, Zone 4, when activated, will have the same volume and tone settings as Zone 1.

**Note:** A single split zone will provide less power than using both channels of a zone that is not split. In other words, activating additional zones will not provide more volume than you would get from a full-volume zone that is not split.

**Note:** Zone splitting is incompatible with Amplifier Bridging. While a particular zone is bridged, its zone splitting controls will be disabled, and while a particular zone is split, its bridging controls will be disabled.

For more on amplifier bridging, see chapter 8: [Bridging the Internal Amplifiers](#)

## Remote Control

In order to allow you to control the volume of the new zones using your existing wireless remote control, we've added a way to toggle between controlling the volumes of zones 1 to 3 or 4 to 6.

### Overlay Decal

The overlay decal for your remote control indicates the controls involved with controlling the additional zones.

### Switching between Zone Sets

Press the '9' button on the remote control to toggle between controlling Zones 1 to 3, or Zones 4 to 6. The On-Screen Display (OSD) will display the text "ZONE 1-2-3 VOL" or "ZONE 4-5-6 VOL" for a moment.

# ZONE 4-5-6 VOL

When a zone is not split, the volume buttons control that zone regardless of the current zone set. For example, if zone 5 is not enabled, the zone 2/5 buttons will always change the volume of zone 2, even when you've pressed 9 to control the volumes of zones 4-5-6.

### Auto-Revert

If toggled to Zone Set 4-5-6 using the 9 key, after a few minutes, the volume zone set will automatically revert to 1-2-3. This is indicated on the LED Array or on-screen display by showing "ZONE 1-2-3 VOL".

### Changing the Volume

Pressing the volume up or down buttons on the remote for a particular zone will move the volume up or down accordingly for that zone, and at the same time, the OSD will indicate which zone is being changed and how its volume is changing.

The volume controls function differently if the Synchronize Volumes setting is ON.

### Synchronized Zone Volumes

When zone volumes are synchronized, all volumes change at once, regardless of which volume buttons are pressed. If at least one of the extra zones is activated, the 6-zone volume bars are displayed on the OSD, though any inactive zones won't be displayed.





## Reverting

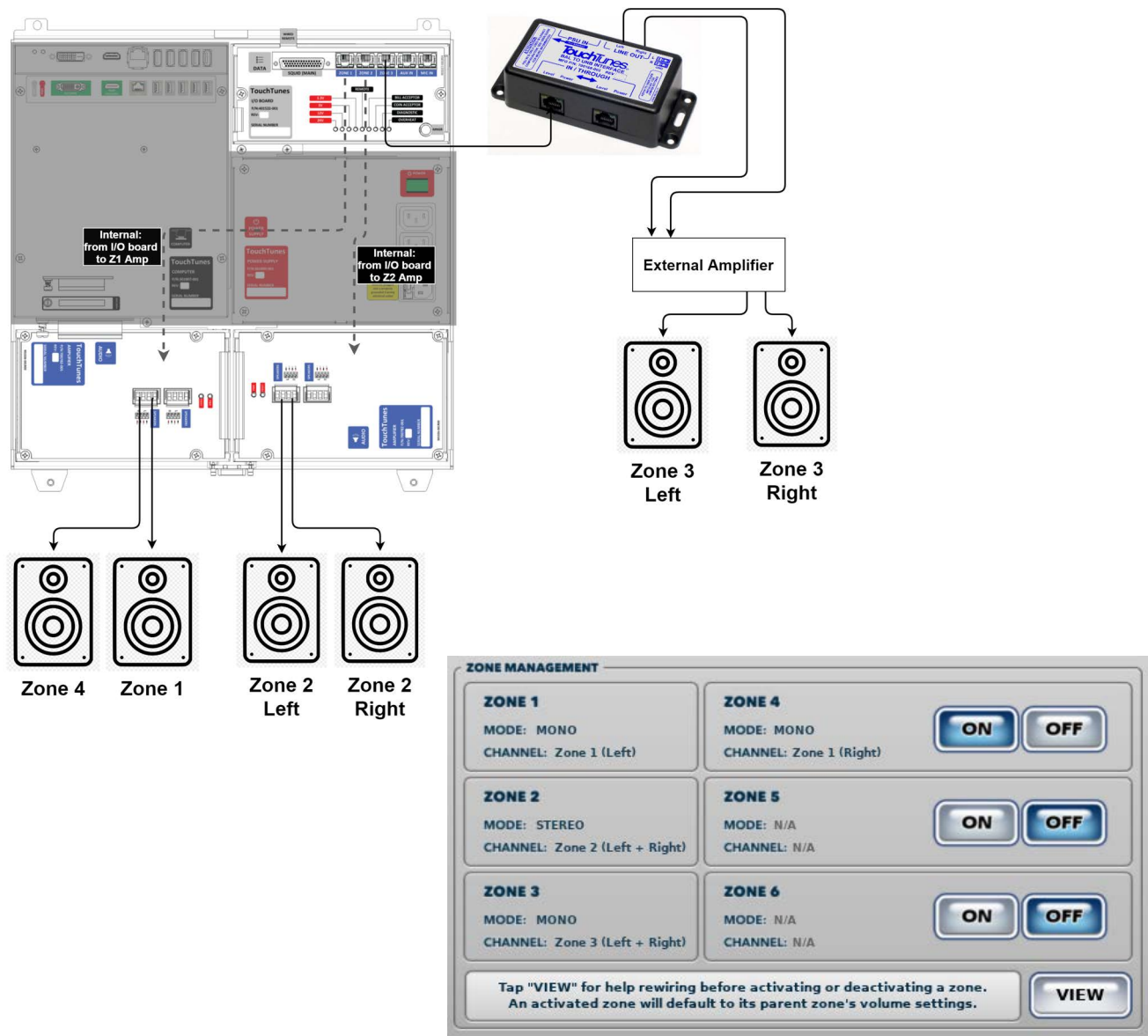
If you ever need to revert or disable zone 4, 5 or 6, remember to reduce the volume, then rewire the speakers appropriately before de-activating the zone.

## Zone Management Examples

Below are some common use cases for activating additional zones with wiring suggestions and diagrams. Your jukebox will show a wiring diagram when you press the VIEW button on the Sound > Global screen.

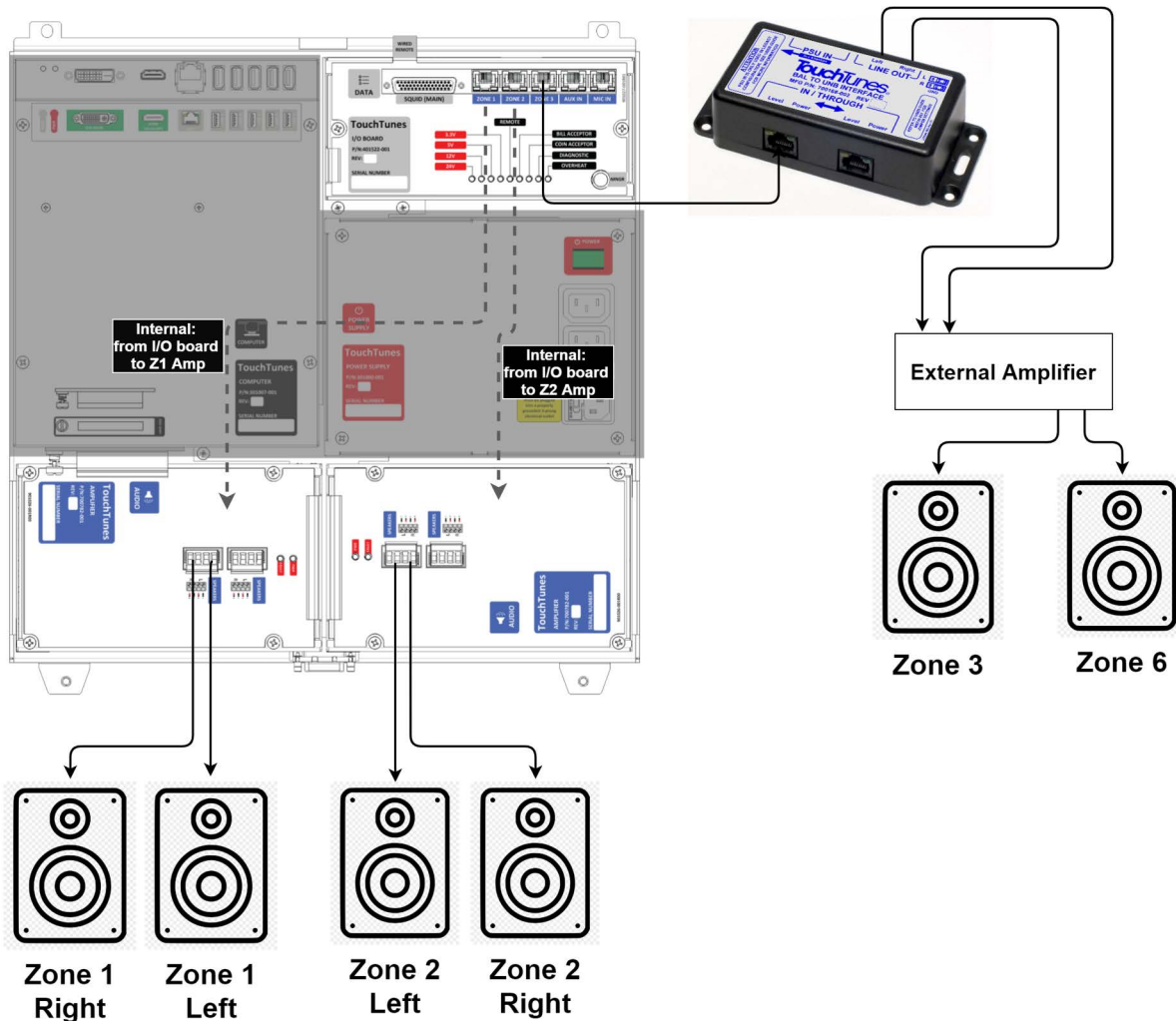
### A - Adding an Internally Amplified Zone

The jukebox’s internal amplifier normally powers up to 2 independent zones. If you need more zones powered by that internal amp, you can turn on Zone 4 or 5, which will effectively split Zone 1 or 2, and provide you with the extra zone you need.



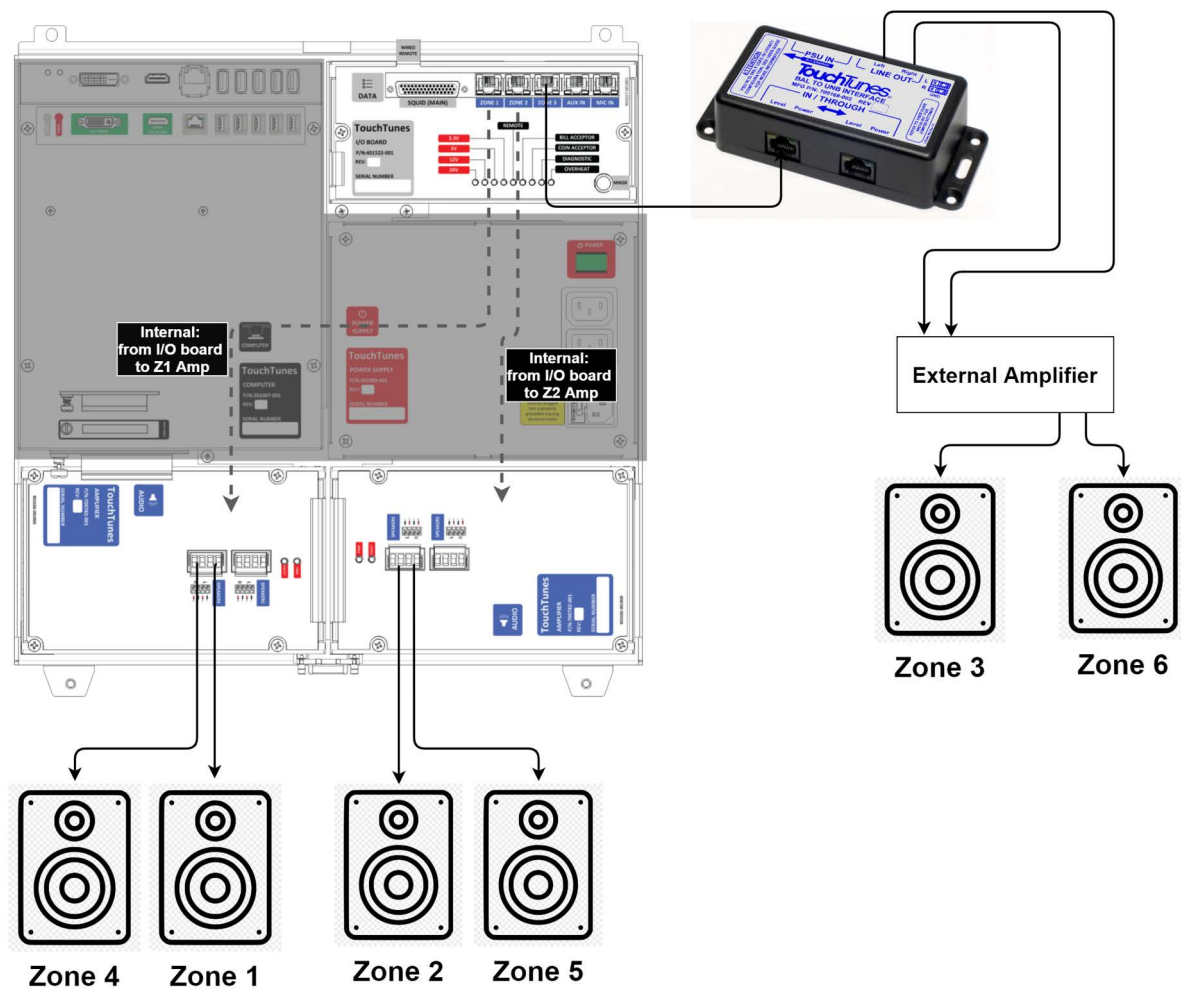
## B - Adding an Externally Amplified Zone

If a single channel on the jukebox's internal amplifier is not enough to power the speakers you plan to use for an additional zone, you may consider splitting Zone 3 (which is usually connected to an external amplifier) and running the resulting Zones 3 and 6 through to a more powerful external amplifier that fits your needs.



### C - Using All 6 Zones

When you need more direct control of the volume in many different places of the venue, you may consider turning on all the extra zones, which provides you with a total of 6 zones (with Zones 3 and 6 connected to an external amplifier.)





## Real-World Situations with Solutions

| Situation   | Zone Setup  | Description   |
|---|---|---|
| The bartender wants to control the volume of the speaker behind the bar separately from the others, so he can still hear orders when the place gets loud.   | Activate Zone 4<br>(see diagram A)                | Wire zone 4 (formerly zone 1 right channel) to the speaker behind the bar, leaving zone 1 (formerly zone 1 left channel) to power a different speaker in the venue, at an independent volume.   |
| <p>The venue has an open area covered by two speakers wired to zone 1, while zone 2 is wired with one speaker for an area with tables and chairs, and another speaker covering the pool tables area. The people at the pool tables are complaining that the music is too loud and distracting, but when the volume is lowered, the people at the tables complain they can't hear the songs they queued.</p> <p>I want to set their volumes separately, but I don't want to have to buy an external amp just to power the speaker in the pool tables area.</p> | Activate Zone 5<br>(see diagram A)                | Wire zone 2 (formerly zone 2 left channel) to the tables, and zone 5 (formerly zone 2 right channel) to the pool tables, and adjust their volumes accordingly.  |
| <p>The bar has added a patio area for the warmer months, and they want to hear the music there as well, but I'm already using all 3 zones on the jukebox.</p> <p>I need to be able to set the patio volume separately from the indoor volumes, because of the neighbors...</p>  | Activate Zone 4, 5 or 6<br>(see diagrams A and B) | <p>To save yourself some rewiring, figure out which zone currently has the speakers closest to the patio. If the speakers were using both channels from that zone, move those speakers to the Left channel, freeing the Right channel's wiring for the patio.</p> <p>Once you're all wired up, split the closest zone by activating the corresponding extra zone, and adjust the volumes as needed.</p> <p><b>Caution:</b> make sure the impedance on both channels of the split zone is the same. If the impedance is different, it could cause some audio quality issues, and might even lead to the amplifier shutting down.</p> |
| I'm installing a new jukebox in a venue that used to have a different jukebox with 4 independent zones, powered by the juke's internal amp.   | Activate Zones 4 and 5<br>(see diagram A)         | <p>Wire your four speaker zones to the internal amp's Zone 1 Left, Zone 1 Right, Zone 2 Left and Zone 2 Right, and then activate Zones 4 and 5.</p> <p>On the screen where you activate those zones, it will tell you what each zone is wired to (for example, Zone 4 will say its Channel is Zone 1 (Right)).</p> <p>With music playing, you can now adjust the volumes for each of these 4 zones.</p>   |

## Troubleshooting

Below are some solutions to issues you may face after rewiring your speakers and activating extra zones:

| Problem  | Probable Cause   | Solution  |
|--|--|---|
| Zone Management buttons are disabled                             | Amplifier Bridging is turned on  | You cannot use amplifier bridging and zone management together on the same zone. To use zone management, turn off amplifier bridging under Sound > Bridge Zones screen for the zone in question.  |
| No sound at all  | <p>Certain connections were not made properly, preventing audio from being transmitted</p> <p>Jukebox's internal amplifier has gone into protection mode, due to an electrical problem (short-circuit, overload, etc.)</p> <p>Jukebox is paused, or volume is too low</p>  | <p>Review all connections</p> <p>Lower the output volume to its lowest setting, then slide it up slowly until you hear music again</p> <p>Make sure jukebox is not paused</p>   |
| Degraded sound quality (no bass, distortion, abnormal artifacts) | <p>One or more speaker wires may not be properly connected</p> <p>If multiple speakers are connected to a single amplifier channel, the impedance of the speaker circuit maybe out of range for the amplifier (below 4Ω)</p> <p>Bass and treble settings may need adjustment, and Bass Boost setting may be wrong for this speaker configuration</p> | <p>Disconnect, then re-connect each speaker wire in turn, making sure each wire makes a positive connection, and that all the speakers are wired in phase, plus to plus, minus to minus.</p> <p>Use different speakers or reconfigure speaker groupings. In particular, when multiple speakers are connected to a single amplifier output channel, try keeping only one speaker connected to the channel. If that fixes the issue, the other speakers might be causing the problem, or the speaker circuit created by wiring the speakers together might have an impedance that is out of range for the amp. Rewire speakers from parallel to series to increase impedance. Aim for an impedance of about 4Ω for optimal results.</p> <p>Rewire the speaker circuit for an impedance load that is closer to 4Ω</p> <p>Some speakers might be out of phase with one another. First, verify the polarity of every speaker and every amp output connection (the label on the jukebox's amp indicates polarity). If the issue persists, try disconnecting each speaker in turn until the issue goes away – then, try inverting the polarity on the last speaker you disconnected.</p> |

| Problem   | Probable Cause  | Solution   |
|---|---|--|
| Volume too low, despite volume setting being at or close to maximum | <p>Problems with wiring (wires are not fully connected)</p> <p>Speakers have impedance much higher than 4Ω.</p> <p>The power of a single amplifier channel is not enough for the speaker(s) used or the size of the room.</p> | <p>Disconnect, then re-connect each speaker wire in turn, making sure each wire makes a positive connection.</p> <p>Use speakers rated with an impedance of 4Ω. Many speakers designed for home use are rated for 8Ω: those speakers will be quieter.</p> <p>If more than one speaker is connected to a single amplifier output channel, rewire the speaker circuit in parallel instead of series for a lower impedance load that is closer to 4Ω.</p> <p>Use more than one channel from the internal amplifier to power the speakers used for that room, add more speakers, or consider using an external amplifier that provides more power.</p> |



## Connection Diagram

This section contains a connection diagram that shows the connections between Angelina components, as well as those between Angelina and other external components such as the remote.

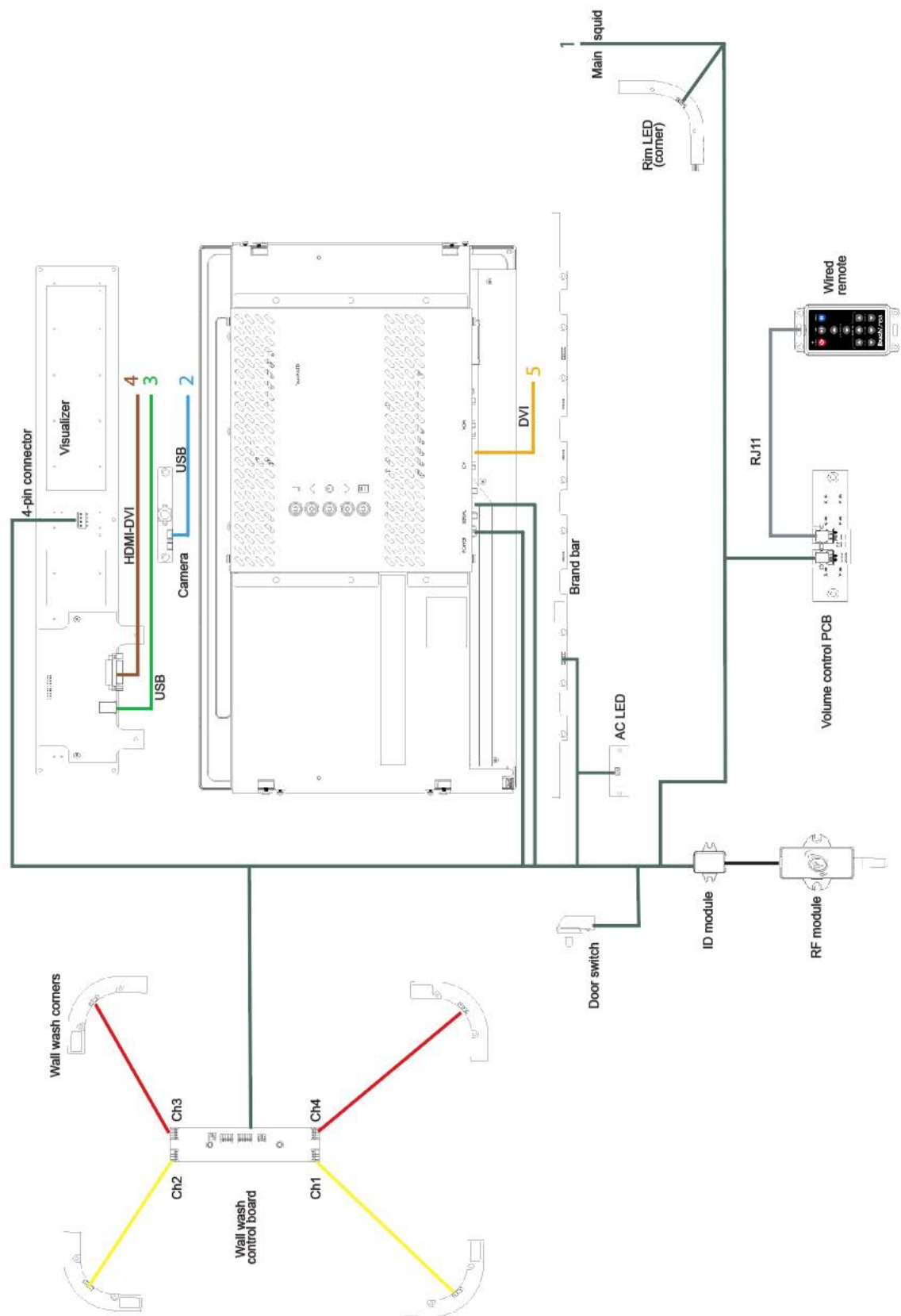
You can refer to this diagram while setting up the Angelina jukebox in a location, or as a post-installation check to ensure that all the components are connected correctly.

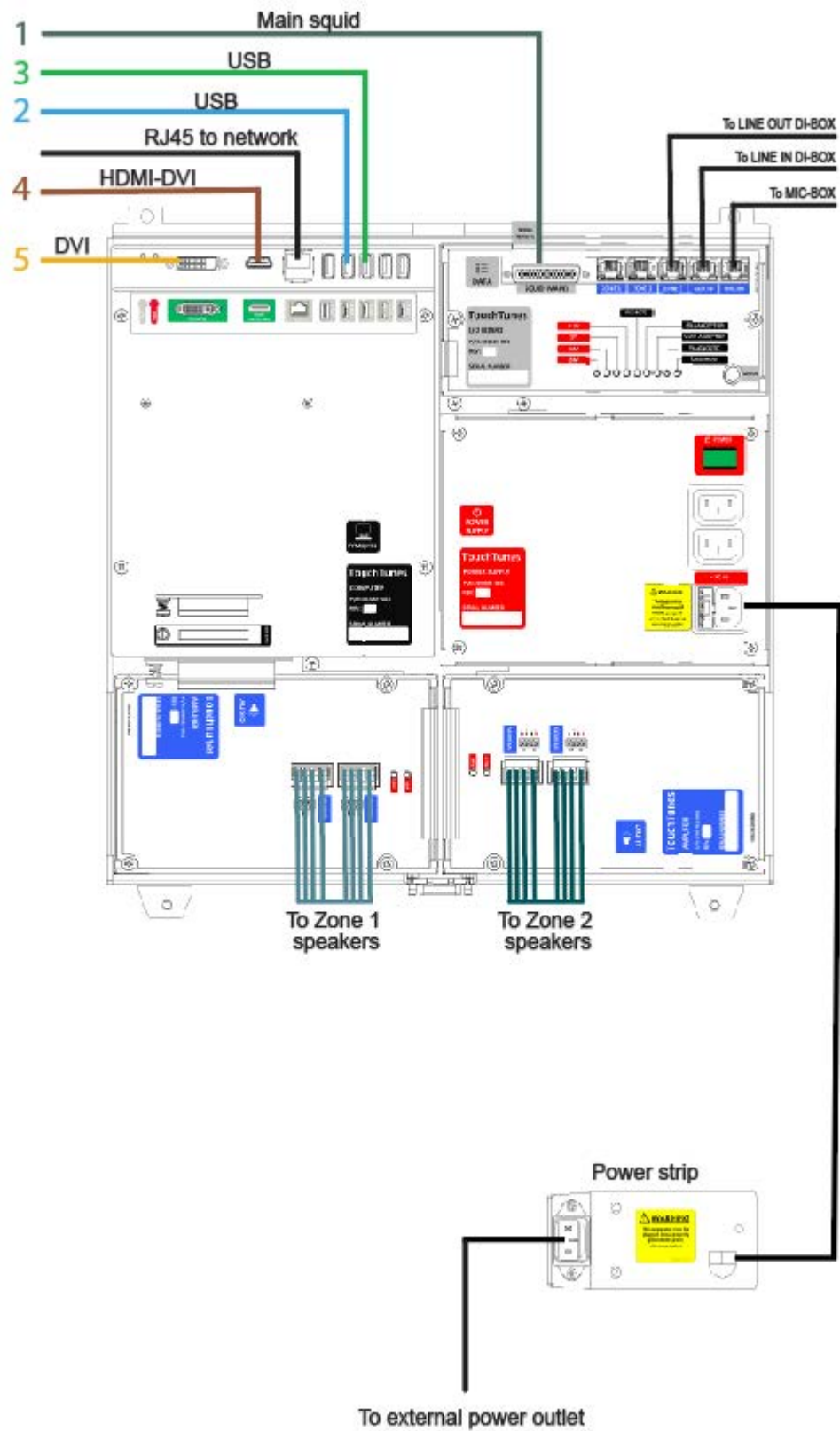
The following components are sold separately.

| Part Number | Component      |
|-------------|----------------|
| 700038-00x  | wired remote   |
| 700167-001  | line in box    |
| 700166-001  | microphone box |

### NOTE

The connection diagram is provided for instructive purposes only and is not drawn to scale. For enhanced clarity and detail, it is split across two pages.









## Acronyms

---

This section lists the acronyms and abbreviations found in this document along with their definitions.

| <b>Acronym /<br/>Abbreviation</b> | <b>Definition</b>                    |
|-----------------------------------|--------------------------------------|
| ADA                               | Americans with Disabilities Act      |
| ASY                               | Assembly                             |
| BRKT                              | Bracket                              |
| Cat                               | Category                             |
| CMP                               | Custom Music Programming             |
| CPU                               | Central Processing Unit              |
| CTRL                              | Control                              |
| DHCP                              | Dynamic Host Configuration Protocol  |
| DI                                | Direct Injection                     |
| DNS                               | Domain Name System                   |
| DSP                               | Digital Signal Processing            |
| DVI                               | Digital Video Interface              |
| ESD                               | Electrostatic Discharge              |
| F2P                               | Free to Patron                       |
| FRU                               | Field Replacement Unit               |
| FSK                               | Frequency-Shift Keying               |
| HAR                               | Hardware                             |
| HDMI                              | High Definition Multimedia Interface |
| I/O                               | Input/Output                         |
| IDE                               | Integrated Drive Electronics         |

| <b>Acronym /<br/>Abbreviation</b> | <b>Definition</b>                                  |
|-----------------------------------|--|
| ISP                               | Internet Service Provider                          |
| LBL                               | Label  |
| LED                               | Light Emitting Diode                               |
| LI                                | Line In  |
| MAN                               | Manual   |
| MIC                               | Microphone   |
| MNGR                              | Manager  |
| MON                               | Monitor  |
| NDS                               | Network Diagnostic System                          |
| ODT                               | Offline Diagnostic Tool                            |
| OSD                               | On Screen Display                                  |
| P/N                               | Part Number  |
| PCBA                              | Printed Circuit Board Assembly                     |
| PER                               | Peripheral   |
| PMT                               | Payment  |
| PSU                               | Power Supply Unit                                  |
| PWR                               | Power  |
| RA                                | Return Authorization                               |
| REV                               | Revision   |
| RF                                | Radio Frequency                                    |
| RJ                                | Registered Jack                                    |
| RMS                               | Root Mean Square                                   |
| SATA                              | Serial Advanced Technology Attachment              |
| S.M.A.R.T.                        | Self-Monitoring, Analysis and Reporting Technology |
| TS                                | Touch Screen                                       |
| UI                                | User Interface                                     |
| UPK                               | Upgrade Kit  |
| USB                               | Universal Serial Bus                               |
| VGA                               | Video Graphics Array                               |





---

|  |  |  |
|--|--|--|
| <b>The Octave Music Group, Inc.</b>                              | <b>The Octave Music Group, Inc.</b>                    | <b>Technical Support</b>   |
| 7250 Mile End, Suite 202<br>Montreal, Quebec,<br>Canada, H2R 3A4 | 850 Third Ave, 15th Floor<br>New York, NY 10022<br>USA | 888-338-5853<br><a href="http://www.touchtunes.com">www.touchtunes.com</a> |

---

# TouchTunes