Boulder
Since 1984

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866 Integrated

ABOUT

About Boulder Amplifiers, Inc.

Boulder was founded in 1984 and is the last high-performance audio manufacturer operating in North America to still perform all of its own design, engineering and manufacturing in-house. While this form of production may be more costly than outsourcing, the resulting quality control and reliability of the finished products are never compromised.

In 2016, Boulder moved into a new, purpose-built production facility to increase manufacturing efficiency and offer space for expansion to meet the needs of future growth.

THANK YOU

Congratulations and thank you for selecting the Boulder 866 Integrated for your high-performance sound system. We are certain it will provide you with many years of listening pleasure.

The 866 represents the concerted efforts of numerous Boulder designers, engineers, and technicians working to bring you the best audio playback components in the world. Please take a few minutes to read through this instruction manual prior to using your 866. This will help you understand the many functions and capabilities of the preamplifier. It will also allow you to maximize the convenience and performance for which it was engineered.

Your Boulder 866 Integrated has undergone extensive laboratory tests for safety, functionality and technical excellence. In addition, it has been individually subjected to rigorous listening trials in our sound room utilizing a wide range of musical material. No product ever leaves our factory until we are totally satisfied that it achieves its full potential.

Table of Contents

INTRODUCTION

The 866 Integrated embodies years of development and is one of the most advanced integrated amplifiers available. Here are some of the features that set the 866 apart from the competition:

Analog Features:

- Boulder volume attenuator.
- Three pairs of balanced inputs on XLR connectors.
- Fully-balanced audio input path.
- Low contact resistance output binding posts.
- Low power-consumption Standby mode

Digital Features:

- Boulder digital conversion system.
- Ethernet, USB Memory device, AES3, Toslink digital input connections.
- Roon™ endpoint compatibility.

Operational Features:

- Large, full-color, 7-inch LCD touch screen front panel display.
- Display shows: input source, volume, mute, setup and now playing screen.
- Sophisticated software updates when connected to the Internet.
- Configuration capabilities.
- Boulder Control app for Android and Apple devices.
- IP control with two-way communication for external control systems.
- HTML Control and Setup page for access to additional customizable features.

INTRODUCTION

Unpacking and Care

The 866 Integrated is heavy and features finely finished casework. Please use care when unpacking, lifting, and installing the integrated amplifier to avoid personal injury or damage to the casework and furniture. The 866 weighs 54 lbs. (25 kg). If possible, two people should unpack and place it into position.

Be sure to save all packing materials! The 866 is shipped in a foam wrap to protect the preamplifier's fine finish. Try not to damage this wrap in the event that the unit must be transported elsewhere in the future.

Before You Start

You should have received a large, heavy box. The pieces included inside the box are:

1. 866 Integrated
2. Quick Start Guide
3. Power cord

If any of these pieces are missing or damaged, please contact your authorized Boulder dealer immediately before continuing with the installation.

INTRODUCTION

How to Clean the Casework

If the 866 must be cleaned, use only a soft, lint-free cloth moistened with plain water.

Never use any type of chemical cleaner unless recommended by your dealer or the Boulder factory.

Do not use bleach! Bleach will remove the anodized surface of the casework.

Never use any type of abrasive to clean the casework.

If you have any questions, please contact your authorized Boulder dealer.

INTRODUCTION

Placement and Installation

Your Boulder 866 Integrated is designed to reduce the effects that external magnetic fields and radio frequencies (RF) have on its circuitry. While placement is not critical, known magnetic fields should be avoided whenever possible.

Because it is heavy, the 866 must be placed on a sturdy, stable surface.

Do not place in an enclosed rack without ventilation. The 866 must have at least 3 inches (8 cm) of airspace around the chassis for proper cooling and airflow.

Be sure to leave access to the AC mains and interconnect cables when installing the integrated preamplifier. Depending on how easy it is to access the back panel of the 866, it may be wise to pre-install the power and interconnect cables before placement.

CONNECTIONS

Connecting the Analog Inputs

To get started listening, you only need to connect sources to the 866 as you would any other integrated amplifier. Please take note of the following:

The 866 can be connected to many different types of analog sources and will provide excellent sound quality for each. To fully realize the sonic potential of your 866 Integrated, use balanced cable connections whenever possible. Balanced cables minimize interference from magnetic and RF sources.

Connect each analog source to one of the three inputs provided on the rear panel of the 866. Later, you will be able to program each input with the source's name and photo (please see **Input Settings** on page 6-31), so you may want to make a list of each source as you connect them.
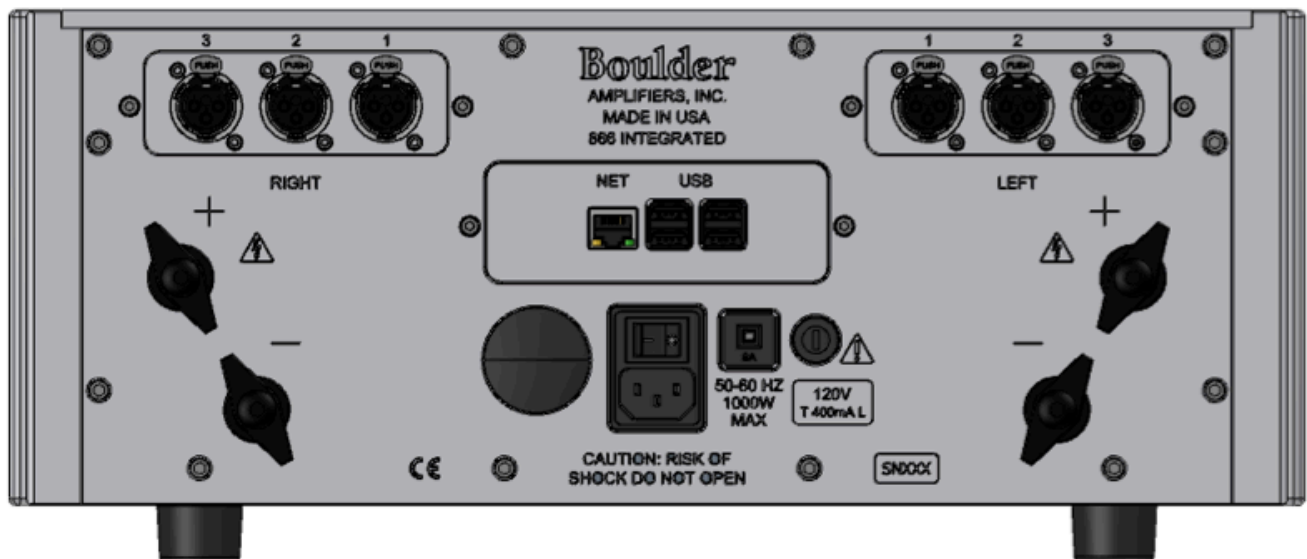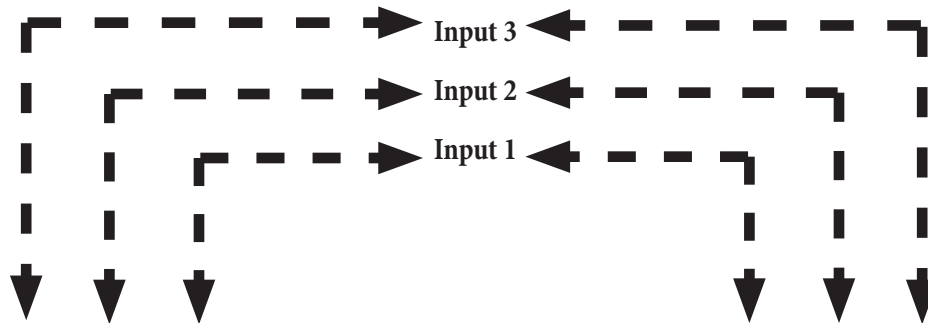
CONNECTIONS

Connecting to an Unbalanced Analog Source

Although the inputs are all of the 3-pin XLR type, an unbalanced source can easily be accommodated by using a special cable. This cable has an RCA type connector on the source end and a 3-pin XLR connector for the input on the 866 Integrated end.

The negative input (pin 3) should be wired to ground only at the RCA shell. This brings the inverted input reference of the 866 to the unbalanced source ground, thus reducing ground loops.

Another option for connecting unbalanced sources is the Boulder ABL2 input adapter. It converts a balanced input into an RCA input at the rear of the 866. Like the above cable, the negative input of the 866 is connected to the ground of the RCA connector. However, this negative side will then share the shield wire with the chassis ground and will not have the best hum rejection.

UNBALANCED INPUT CABLE

2-POS INPUT
3-NEG INPUT
1-GROUND
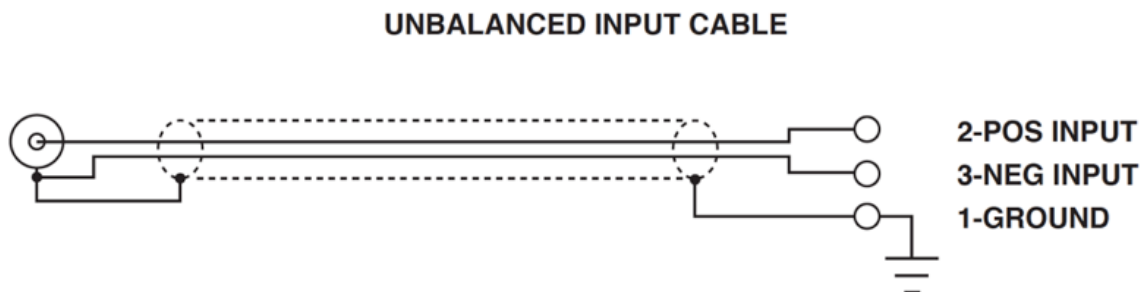
CONNECTIONS

Connecting the Digital Inputs:

The analog + Digital version of the 866 includes digital inputs. Please take note of the following:

The 866 can be connected to many different types of digital sources and will provide excellent sound quality for each. The 866 includes digital input connections for Toslink (optical), AES3 via 3-pin XLR (convertible to S/PDIF on RCA), USB Memory Devices and Ethernet/ Network audio. The 866 is also a Roon endpoint, which enables it to stream from multiple audio subscription services.

Connect each digital source to one of the digital inputs provided on the rear panel of the 866. Later, you will be able to program each input with the source's name and photo (please see **Input Settings** on page 6-31), so you may want to make a list of each source as you connect them.

NOTE: A NAS hard drive connected to the USB inputs must be self-powered. The USB input connections on the 866 cannot provide enough power for a NAS hard drive.

CONNECTIONS

Connection to AC Mains

Your 866 Integrated is supplied with an AC mains power cord appropriate for the location where it was purchased.

Connect the AC power cord to the Master AC Power Switch connection on the rear panel of the 866 as shown and plug the other end into AC mains.

NOTE: We reccomend before starting your 866 to make all your audio connections.

NOTE: Double check voltage and make sure its appropriate for what you're plugging your 866 into. (100V, 120V, 240V)

CONNECTIONS

When connecting various sources, make a list of what component is connected to each input so that you do not forget the order in which they are connected. You will then be able to name the inputs on the front panel display with the Boulder Control app. This list will be very helpful at that time.

Connections from sources such as a phono preamplifier, tuner, or cable/satellite receiver can be made to the analog input connections. Sources such as a DVD player, CD transport, music server, or NAS drive can be made to the digital input connections.

The Ethernet connections are for network streaming via a UPnP/DLNA media server, Roon interfacing and streaming, and Internet access to program input names or download software updates for the 866. The Ethernet jack should be connected to a network with an active Internet feed.

CONNECTIONS

Connecting the 866 to a Home Network

In order for the 866 to stream from media subscription services and download software updates, you will need to connect it to a network with an active Internet connection. If an update is available, the 866 will notfy you when you come out of standby.

With the 866 turned OFF, connect a network cable between the 866 and your network router or switch. Use the RJ-45 Ethernet connector marked **NET** on the rear panel of the 866.

Turn on the 866 and allow it to boot up. It will go into Standby when boot-up is complete. Turn the 866 **ON** from the front panel with the standby button.

Connect the mobile device or tablet or device to the same network via WiFi and open the Boulder Control app.

Once out of standby, your home network is now connected to your 866 and ready to be controlled by the Boulder Control app, Roon app or UPnP apps.

If you are having problems with your network setup, please contact your authorized Boulder dealer.

CONNECTIONS

Controlling the 866 with Mobile Device or Tablet

THE 866 CAN EASILY BE CONTROLLED VIA A MOBILE DEVICE AS LONG AS THE 866 AND THE MOBILE DEVICE ARE ON THE SAME NETWORK.

To connect the mobile device and control the 866, follow these instructions:

     1. Using a wired connection, connect the 866 to a network and then turn it **ON** via the AC mains master switch on the rear panel.

     2. Connect the Apple or Android device to the same network.

     3. In the upper-left corner of the 866's front panel display, there will be a settings icon (3 Stacked lines) Touch this icon on the front panel. The dropdown menu will say "Settings" press that and then the display will show the setting options.

     4.Press "System Settings" which will pull up more options. (See page 6-35) From those options press "Network Settings." The screen will pull up the 866 QR code.

     5.Touch the **camera** icon on the Boulder Control app on your mobile device. This will activate the mobile device's camera.

     6. Center the 866's QR code in the Boulder Control app camera screen. When the QR code is properly centered, the app will automatically use the information from the QR code to find the 866.

     7. The 866's IP address will then appear on the app under the words "Server URL" and the button marked "**GO**" will turn **BLUE**. Press the **GO** button and the app will connect to the 866 through your network. The app display will then change to the main control screen.

If you are having problems with your network setup, please contact your authorized Boulder dealer.

(NEXT PAGE WITH VISUAL REPRESENTATION)

CONNECTIONS

Connectiong the 866 to a Home Network
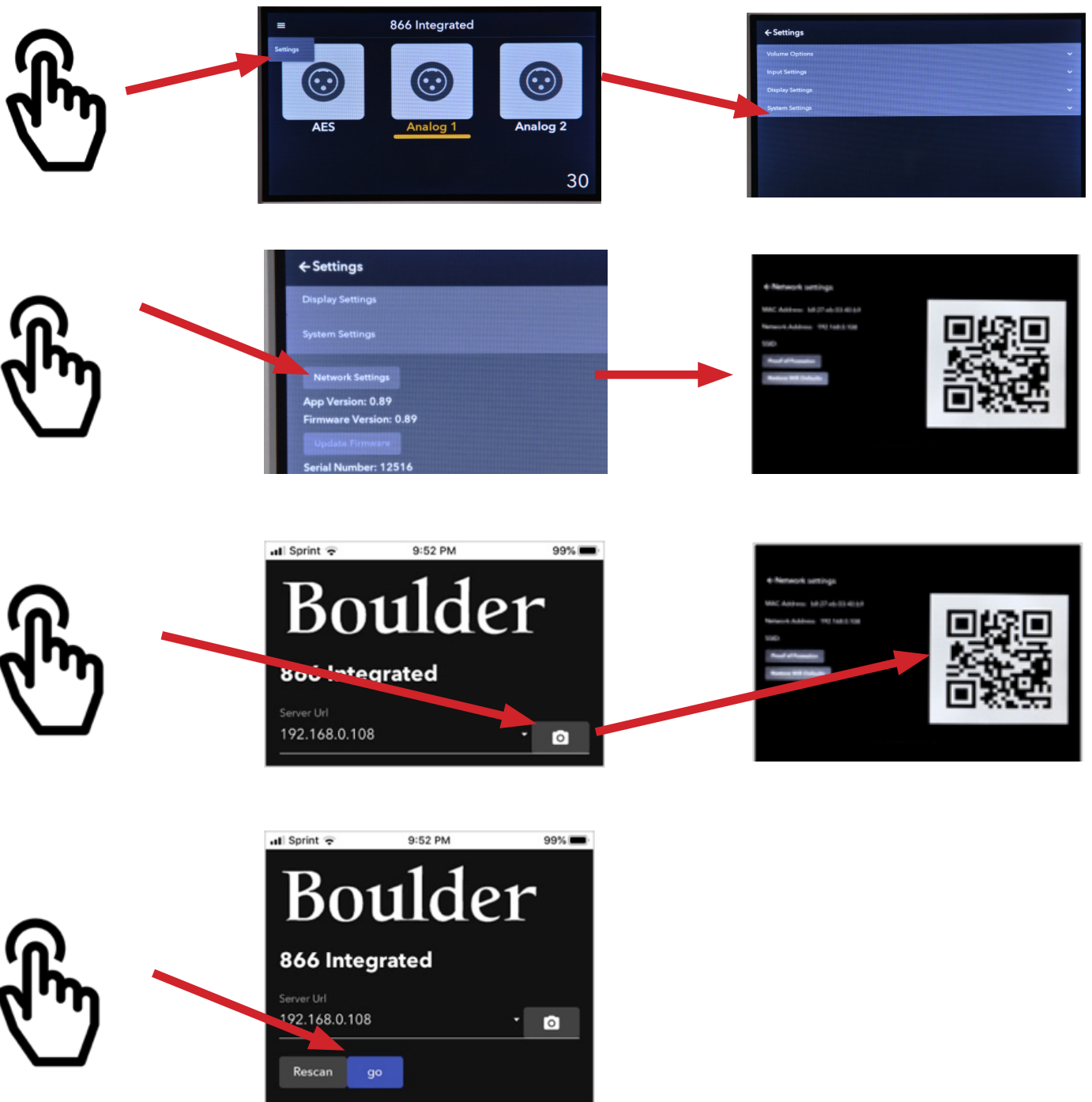
CONNECTIONS

Connecting a Mobile Device to the 866's Internal Network

It is possible to connect a mobile device or tablet directly to the 866 if you do not have a home network available. Distance from the 866 for control may be slightly limited and the 866 will not be able to recieve updates.

NOTE: For network connection you will need a mobile device or tablet that is running the Boulder Control app and *INTERNAL WIFI WONT WORK WHEN AN ETHERNET CONNECTION IS PRESENT IN THE 866.*

Turn on the 866 and allow it to boot up. It will go into Standby when boot-up is complete. Turn the 866 **ON** from the front panel.

Connect the mobile device or tablet to the "**BoulderAmplifiers**-([**serial number**])" network via WiFi and then open the Boulder Control app.

The 866's IP address will then appear on the app under the words "**Server URL**" and the button marked "**GO**" will turn **BLUE**. Press the **GO** button and the app will connect to the 866.

NOTE: The 866 features its own wifi network. However we strongly reccomend to use a wired conection if possible. This will provide the most stable connection. If you must use 866 in wifi mode control will be limited.

NOTE: If you are having problems connecting to your internal wifi, please contact your authorized Boulder dealer.

CONNECTIONS

Connecting the 866 Internal Network to Home Network

First, start by making sure **no ethernet** is plugged into the unit becuase that disables the 866's internal network.

Next, go to the settings on your mobile device. Go to wifi and connect to the 866. In the wifi dropdown it should read Boulder Amplifiers-(*Serial number of unit*).

Then, on your mobile device open up the Boulder controller app, near the bottom there is a button for "Setup wireless network." Press that.

This should bring up a brief screen on the app that says "currently connected to scanning"

Once the 866 is connected the app will ask for "Proof of Possesion, Your Wifi (Home Network), and Password (Home Network password)

Selecting, proof of posession will pull up a QR code on the display and your mobile device can use the camera to recognize the code. Or below the QR code on the display you will find the code and manually enter it into the app on your mobile device.

Note: Proof of Possesion is also found in system settings of the 866 in the network settings tab.

Select the wifi you wish to conect the 866 with and enter the password for your wifi.

Note: Make sure the password you enter is correct, especially with capital letters and symbols, on Apple products the app will try to capitalize the first letter.

Once all three are entered, a screen will tell you to switch to the home network from the internal network of the 866. The 866 will boot down into standby since it is switching networks, take it out of standby and you should be connected to your home network.

Note: If these steps dont work. Try again after going to network settings and restore wifi defaults. If you still cannot connect, contact your local dealer.

(Visual display next page)

CONNECTIONS

Boulder

Server Url
10.1.10.132

Rescan go

Setup Wireless Network

← Wireless Network Setup

Let's connect your Boulder Device to your wifi.

Step 1: Remove any ethernet cable connected to your Boulder Device. Restart your Device.

Step 2: Connect your phone to the WiFi named BoulderAmplifiers-<serial number>

Currently connected to Scanning ... .

← Wireless Network Setup

Now that we have joined the Boulder Device's network we need to enter in your Proof of Posession. Your Device will display the Proof of Posession on its screen. Take a picture of the QR code on the Front Panel.

Proof of Posession *

Your WiFi *

Password

Join network

Proof of Posession

Or for manual entry: XXXXXXXX=

← Wireless Network Setup

Now that we have joined the Boulder Device's network we need to enter in your Proof of Posession. Your Device will display the Proof of Posession on its screen. Take a picture of the QR code on the Front Panel.

Proof of Posession *

Your WiFi *

Password

Join network

← Wireless Network Setup

Please change your phone's connection to **Home Network**

Currently connected to **(Home Network)**

Scanning for your Boulder Device

OPERATION

Front Panel Controls and Screen Modes

The 866 features a full-color touch-screen LCD display and four buttons on the right-hand side of the front panel. The display and buttons will control or adjust different functions of the 866.

The four buttons on the front panel of the 866 are (L to R) **Volume Down, Volume Up, Mute,** and **Standby.**
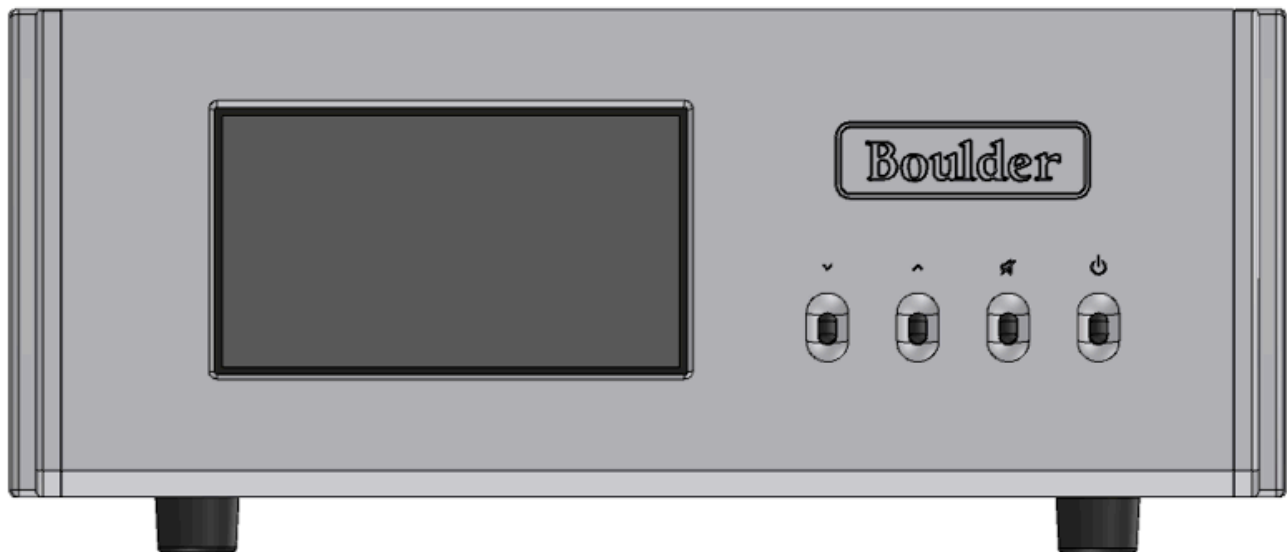
OPERATION

Front Panel Buttons

When the display is showing the Home Screen, the buttons will control the Volume, Mute and Standby modes of the 866 and the touch screen will be used to select inputs. When the 866 is in the Setup mode, the touch screen will be used to adjust programmable features of the 866's operation.

Pressing the **Volume Up** button will **increase** the volume and an indication such as "**45.0**" will appear in the Volume portion of the display. At this point you should hear music from the system.

Pressing the **Volume Down** button will **decrease** the volume.

Pressing the **Mute** button will attenuate the volume by a programmable level (please see **Settings: Mute Level** on page 27).

Pressing the **Standby** button will turn ON or place the 866 in Standby.

CAUTION: THE VOLUME CONTROL MUST BE ADJUSTED CAREFULLY, AS IT HAS THE ABILITY TO GET LOUD VERY QUICKLY.

WARNING: IF THE SELECTED INPUT IS PROGRAMMED FOR "THEATER MODE," THE VOLUME CONTROL WILL HAVE NO EFFECT. VOLUME CAN ONLY BE CONTROLLED BY THE SURROUND SOUND PROCESSOR.
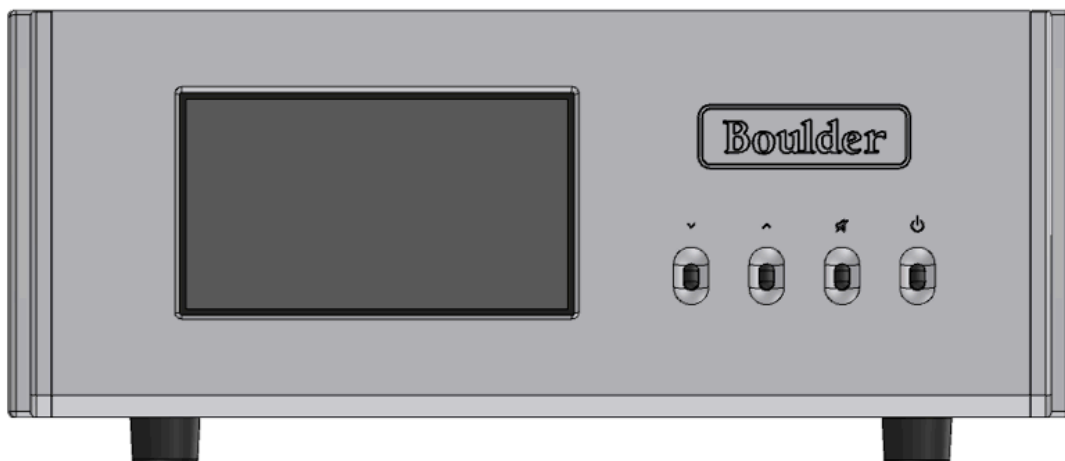
OPERATION

The 866 has a large, full-color display located on the left-hand side of the front panel. There are four buttons to control **Volume Up, Volume Down, Mute,** and **Standby** located on the right-hand side of the front panel.
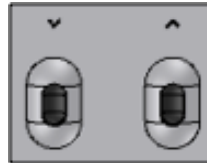
Volume

Pressing the **Volume Up** or **Volume Down** button will change the output volume level of the 866. The 866's volume can be displayed two ways, 100 steps from 0 to 100, or in decibels from -100 to 0. The default mode is from 0 to 100. (Please see **Volume Options: Volume Type** on page 6-25)

In 0 to 100 mode, the Volume portion of the display will show "**0**" to indicate infinite attenuation, or no output. The volume range maximum indication is "**100**."

In decibel mode, the Volume portion of the display will show "**-100**" to indicate infinite attenuation, or no output. The volume range maximum indication is "**0**" to indicate no attenuation.

The volume can be adjusted in 100 equal steps.

Pressing the Volume Up button will increase the volume and the indicator in the bottom right portion of the display will change to show the selected volume level. At this point you should hear music from the system.

Pressing the Volume Down button will decrease the volume.

The Volume function will continue to operate in Mute mode as long as the volume is decreased. Pressing the Volume Down button will decrease the volume setting even though the output will remain muted.

Pressing the Volume Up button will immediately bring the 866 out of Mute mode.

The function of the Mute button will always remain the same, regardless of screen mode.

OPERATION

Mute

It is possible to Mute the 866's outputs so that they are reduced by a preprogrammed level.

The Mute feature allows for temporary volume reduction without losing the original volume setting. For example, engaging the Mute function will attenuate the output to a level suitable for conversation. This level of attenuation can be adjusted in the Setup menu. The default Mute level is -20. (Please see Settings: Mute Level on page 6-28)

Pressing the Mute button will immediately attenuate the output and the front panel display will show this icon:
Pressing the Mute button will immediately return the output to the original volume level and the front panel display will show only the volume setting.

NOTE: The Mute output level is relative to the normal listening level. Therefore, if the Mute level is set to -60.0 dB, the volume will be decreased by an additional 60 dB from its current level when "Mute" is engaged.

OPERATION

Standby

Pressing the Standby button will put the 866 into Standby mode. This will turn OFF all circuits except for the logic necessary to wake it up again.

NOTE: Because the 866 greatly reduces power consumption when in Standby mode, it is only necessary to place the unit in Standby when not in use. You do not need to turn the 866 off via the Master AC Switch on the rear panel of the preamplifier. The 866 was designed for years of operation in this manner and no damage to the unit will occur.

OPERATION

## Touch-Screen Functions: Home Screen

Input Selection

The Analog + digital 866 has three analog inputs and multiple optional digital inputs. Each of these inputs can be selected by pressing the display icon that corresponds with the input you wish to select. You can scroll through the available inputs by swiping your fingertip left or right across the input icons.

To select an input, touch one of the input icons on the front panel. The name of the selected input will be shown as **amber** and underlined below the icon on the Home Screen display and the input signal will be routed to the main outputs. For example, if analog 1 is chosen, "**Analog 1**" will show below the analog 1 icon.

If you wish to custom program an input, please see **Input Settings** on page 6-30.

NOTE: There will be a slight delay when switching from one source to another. This is necessary to allow the circuitry to adjust to the new input source and sync the app and front panel display.
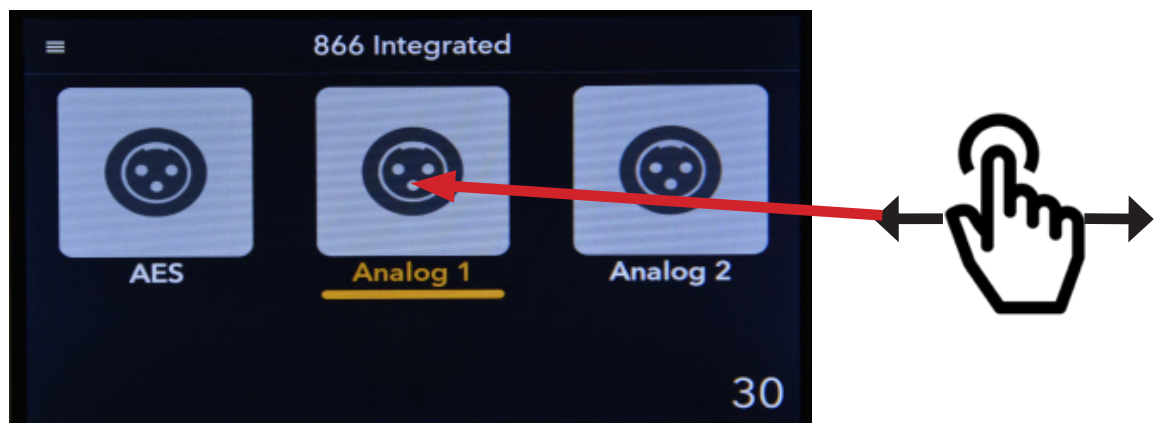
OPERATION

Setup

Pressing the Setup icon will change the display from the Home Screen to the Setup Screen. When the Setup Screen is shown, the setup menu will be shown and additional features can be accessed by touching each item in the menu.

To access Setup options that may not be visible when options are open, use the up and down arrows on the front panel touch screen.

Volume Options

The Volume Options drop-down menu for the 866 can be accessed by touching the Volume Options button on the front panel display. Four setup variables for the volume control can be programmed: Volume Type, Max Volume, Volume Default, and Mute Level.

Volume Type

Volume Type refers to the way the volume is indicated on the front panel. There are two options for Volume Type: Show in decibels and Show 0 to 100.

Show in decibels will show the actual output of the 866 in 100 steps of decibel attenuation from -100 (100 dB of attenuation from maximum output) to 0 (no attenuation from maximum output). This is useful if you wish to know the actual level of attenuation for the 866 while it is in use. Volume readings will be indicated by a negative number, for example -47. This indicates 47 decibels of attenuation from maximum output.

Show 0 to 100 will show the volume in 100 equal steps from 0 (no output) to 100 (maximum output).

The factory default Volume Type setting for the 866 is Show 0 to 100.
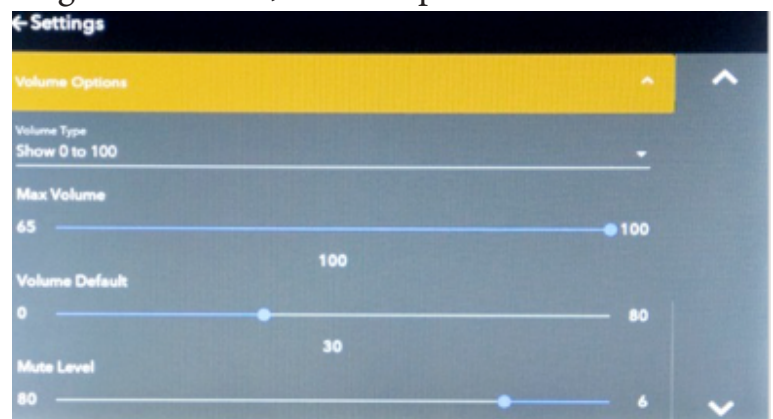
OPERATION

Max Volume

The Max Volume setting allows you to limit the maximum volume output setting. This is useful if you have children who may press the volume buttons or if you wish to set a maximum level so that it is not possible to damage your audio system by accidentally raising the volume to high.

To set the Max Volume level, touch the point on the Max Volume slider where you wish to set the maximum allowable volume. The dot on the slider will then move to that point.

Touching the slider towards the **right-hand** end of the slider will set a **higher** maximum allowable volume.

Touching the slider towards the **left-hand** end of the slider will set a **lower** maximum allowable volume.

The number below the center of the slider indicates where the Max Volume adjustment is set.

The factory default Max Volume setting for the 866 is **100** or **0**, depending on whether **0** to **100** or **Show in Decibels** is selected.
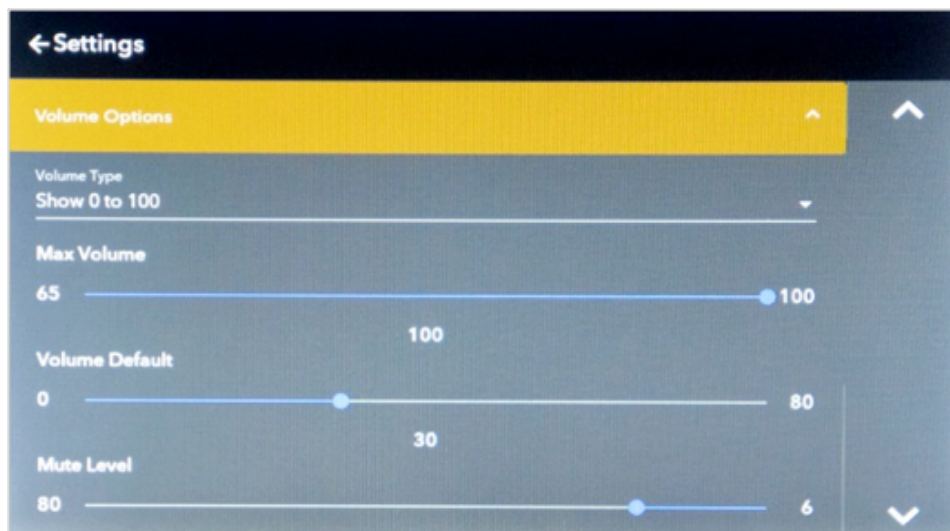
OPERATION

Mute Level

The volume of the 866 can be temporarily reduced when pressing the mute button or icon. The **Mute Level** setting allows you to set the level of attenuation when the 866 is placed in Mute mode, from a minimum of 6 dB of attenuation to a maximum of 80 dB of attenuation. For example, you may prefer to have the volume set just low enough to carry on a conversation but still have the music audible when the Mute function is engaged, or you may wish to have the output nearly silenced when the Mute function is engaged.

To set the Mute Level, touch the point on the Mute Level slider for the number of volume steps that you wish to have the volume drop when you press the Mute button. The dot on the slider will then move to that point.

Touching the slider towards the **right-hand** end of the slider will set a **higher** Mute Level volume setting.

Touching the slider towards the **left-hand** end will set a **lower** Mute Level setting.

Touching the slider at the **farthest-left** point will mean that the 866 will be nearly **silent** when the Mute function is engaged.

The number below the center of the slider indicates the level of Mute Level attenuation.

The factory default Mute Level setting for the 866 is **20**.

NOTE: The Volume function will continue to work in Mute mode as long as the volume is decreased. When in Mute mode, pressing the Volume Down button will decrease the volume setting even though the output will remain muted. Pressing the Volume Up button will immediately bring the 866 out of Mute mode.
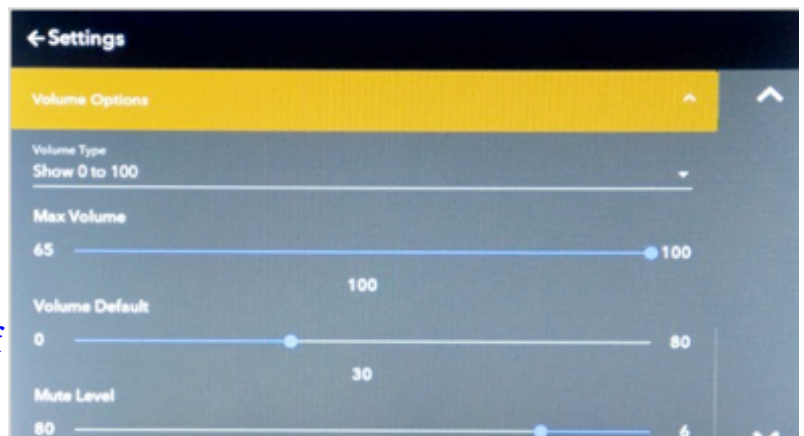
OPERATION

Input Settings

The Input Settings drop-down menu for the 866 can be accessed by touching the Input Settings button on the front panel display. Setup variables for three or six inputs can be programmed, depending on whether your 866 has analog-only or analog and digital inputs: Network, Optical, AES, and Analog 1, 2, and 3.
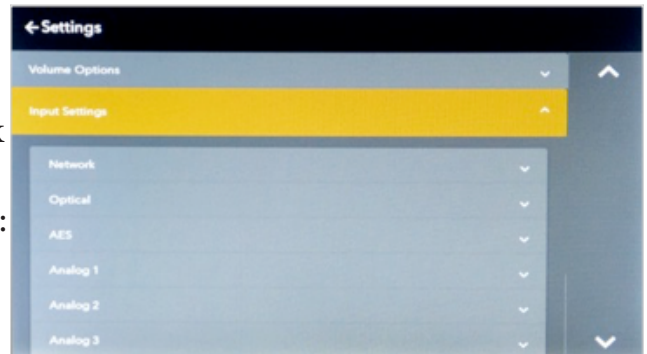
Each input input can be adjusted for **Input Trim**, **Theater Mode**, and **Input Image**.
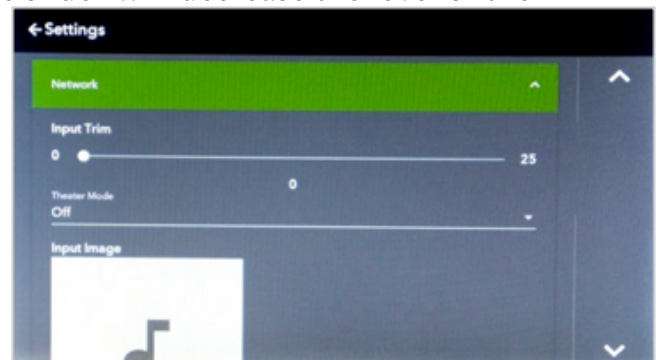
Input Trim

Any of the 866's inputs can be programmed to unity gain. Input Trim allows you to reduce the volume of a selected input relative to all others so that they can be matched to the same level. For example, this can be useful when trying to match the level of a phono preamplifier with low output to a digital source with high output. The level can be trimmed so that there is no difference in output when switching between the two sources.

The level of Input Trim is indicated in dB (decibels). Trim level adjustments are made in -0.5 dB steps for a total of -25.0 dB. The default trim level for each input is 0.0 dB.

Touching the slider towards the right-hand end of the slider will decrease the level of the selected input relative to the other inputs.

Touching the slider towards the left-hand end will increase the level of the selected input relative to the other inputs.

The number below the center of the slider indicates where the Input Trim adjustment is set.

The factory default Input Trim setting for the 866 is 0.
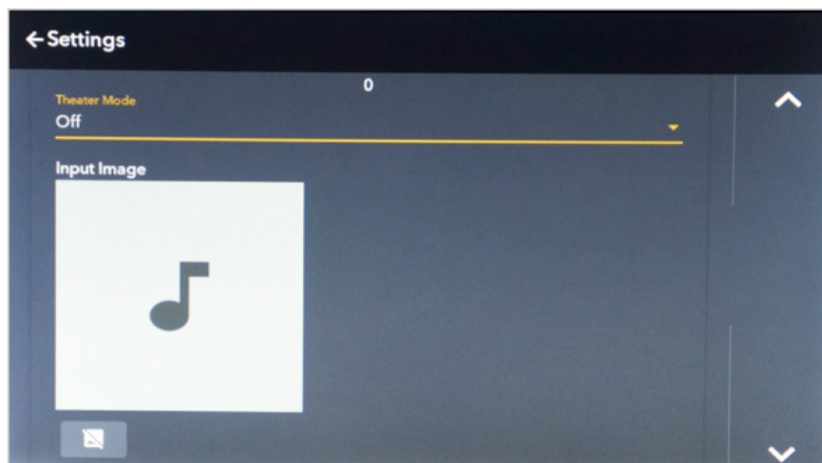
OPERATION

Theater Mode

WARNING: Theater Mode should be used with extreme caution, as there is no way to control the volume of the 866 while in Theater Mode! If it is programmed for an input that does not have externally controlled volume, damage to speakers or other components may occur!

Any of the 866's inputs can be programmed to the equvilant unity gain. This is called Theater Mode. The purpose of Theater Mode is to allow the 866 to be used in home cinema systems where the master volume control will be in the surround sound processor. When an input has been programmed for Theater Mode, the volume controls will be disabled and the volume level **must** be controlled by the surround sound processor. Unity gain volume level will be shown by the front panel Volume indicator.

To set an input to Theater Mode, touch the **Theater Mode Slider** and a drop-down list showing "On" or "Off" will appear. Touch the **On** selection. The input will now be set to the equivilant of unity gain or Theater Mode. (95 on the 0-100 scale, and -5 on the decibls scale)

To return the input to normal operation, touch the Theater Mode Slider and a drop-down list showing "On" or "Off" will appear. Touch the Off selection. The input will now be set to normal operation.

The factory default Theater Mode setting for the 866 is **Off**.
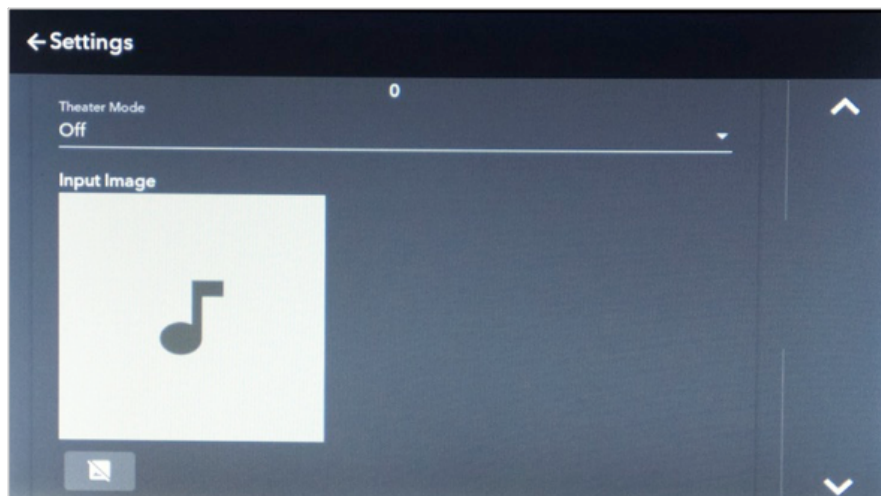
OPERATION

Input Image

Custom images can be programmed for each input using the Boulder Control app and a mobile device with a camera. For example, you may wish to insert a photo of your turntable for an analog input icon on the front panel. The Input Image indicator will show this image if it has been loaded from the Boulder Control app. If no image has been loaded, a generic icon will be shown.

Directly below the input image is the Clear Image button. To clear the input image, press this button. This will delete the input image and return the input icon to the factory default.

You must use the Boulder Control app to install input images. This cannot be accomplished by the 866 alone.

NOTE: If the input image has been cleared, it cannot be recovered from the front panel settings. The image must be reloaded or a new image must be loaded from the Boulder app.

NOTE: We reccomend using an Android device for taking photos. This is because with Apple products even the lowest resolution for images can slow down the input switching operation. The more photos the more likely it will slow input switching.

OPERATION

Display Settings

The Display Settings drop-down menu for the 866 can be accessed by touching the **Display Settings** button on the front panel display.

The brightness of the display can be adjusted. The **Display Settings** determines the brightness of the display, from 10% (minimum brightness) to 100% (full brightness).

The number on the slider indicates the display's brightness as a percentage of maximum. For example, a setting of "75" indicates the display's brightness is 75% of maximum.

When the brightness is set to low levels, the screen will temporarily go to a slightly brighter setting for five seconds when any button on the front panel or the Boulder Control app is pressed. The display will then return to the desired brightness. This ensures that if a function is changed, it will be noticed whether intentional or not.

Touching the slider towards the **right-hand** end of the slider will **increase** the brightness of the 866's front panel display.

Touching the slider towards the **left-hand** end will **decrease** the brightness of the 866's front panel display.

The factory default Display Brightness setting for the 866 is 100.

NOTE: The front panel display can only be turned 90% off and cannot be completely turned off. There is no comprimise in preformance from having the display on.
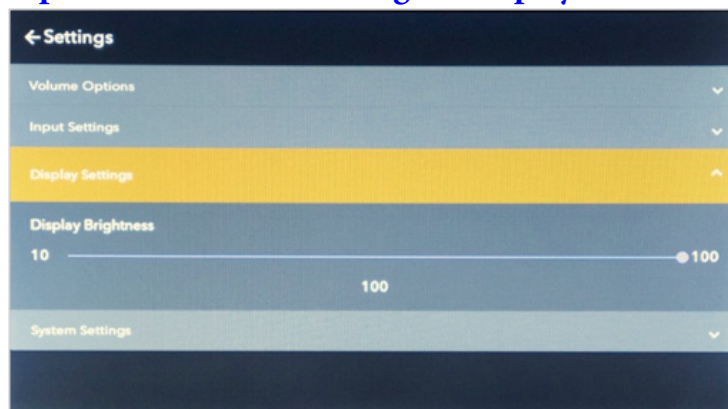
OPERATION

System Settings

The System Settings drop-down menu for the 866 can be accessed by touching the System Settings button on the front panel display. The System Settings are used to adjust or monitor all of the internal functions of the 866. The following settings can be checked or adjusted from the System Settings menu: **Network Settings**, **App Version**, **Firmware Version**, **Update Firmware**, **Serial Number**, **Reset Factory Defaults**, and **Reset Input Defaults**.

Network Settings

The Network Settings menu will provide you with all network information for the 866 as well as allow you to connect to a wireless network.

The following network information is displayed in the Network Settings menu:

MAC Address:
Network Address:
SSID: BoulderAmplifiers-(serial number)

The following buttons are also present in the Network Settings menu: **Proof of Possession** and **Restore Wifi Defaults**.

Proof of Possession is necessary to connect the 866 to a wireless WiFi network. To connect the 866 to a wireless WiFi network, please see page 5-17.

Restore WiFi Defaults will erase all memorized WiFi passwords and networks. The Restore WiFi Defaults functions should always be used when the 866 will be moved to a new location with a different network or when possession of the unit will transfer.
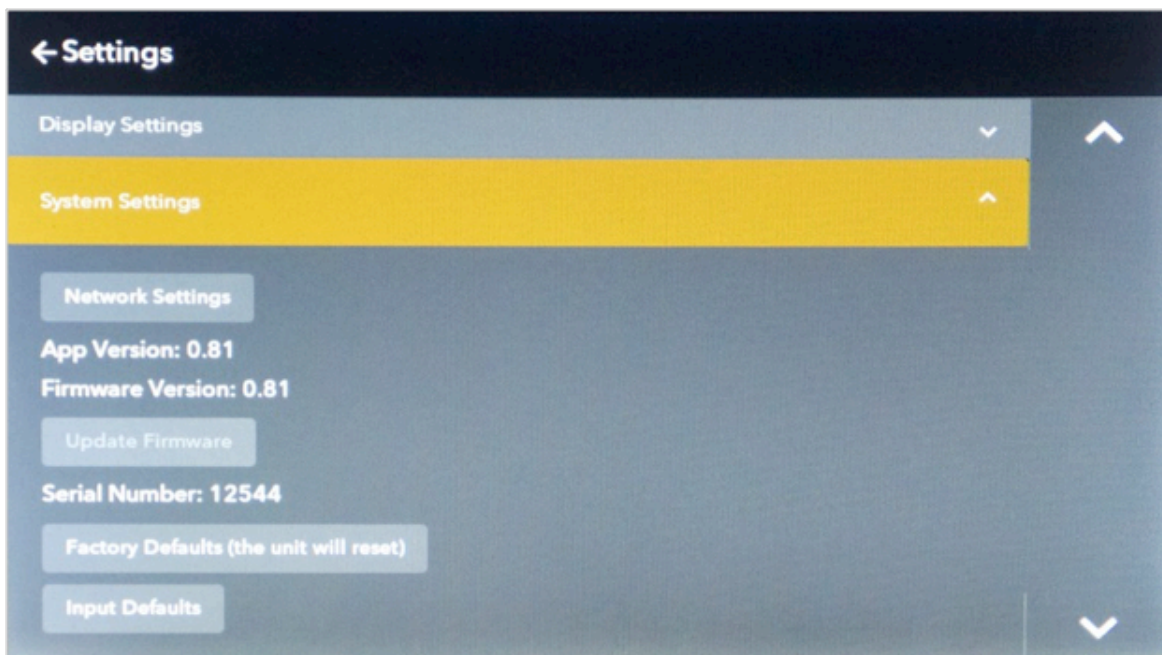
OPERATION

App Version:
The App Version indicator shows the revision of the 866's front panel control software.

Firmware Version:

The Firmware Version indicator shows the revision of the 866's main operating software.

Serial Number:

The 866's serial number will be displayed here.

OPERATION

Factory Defaults

The **Factory Defaults** button will restore all parameters of the 866 to the original factory settings, including all custom settings and programmed functions.

When the Factory Defaults button is pressed, a pop-up window will appear on the 866's front panel display that will ask, "**Are you sure you wish to set Factory Defaults (the unit will reset)**?"

If you wish to restore the Factor Defaults, press the **Yes** button. A new pop-up window will appear on the front panel display that will notify you that the unit is resetting. After a short time, the 866 will reboot and all options will be returned to their original factory settings.

If you do not wish to restore the Factory Defaults, press the **No** button.
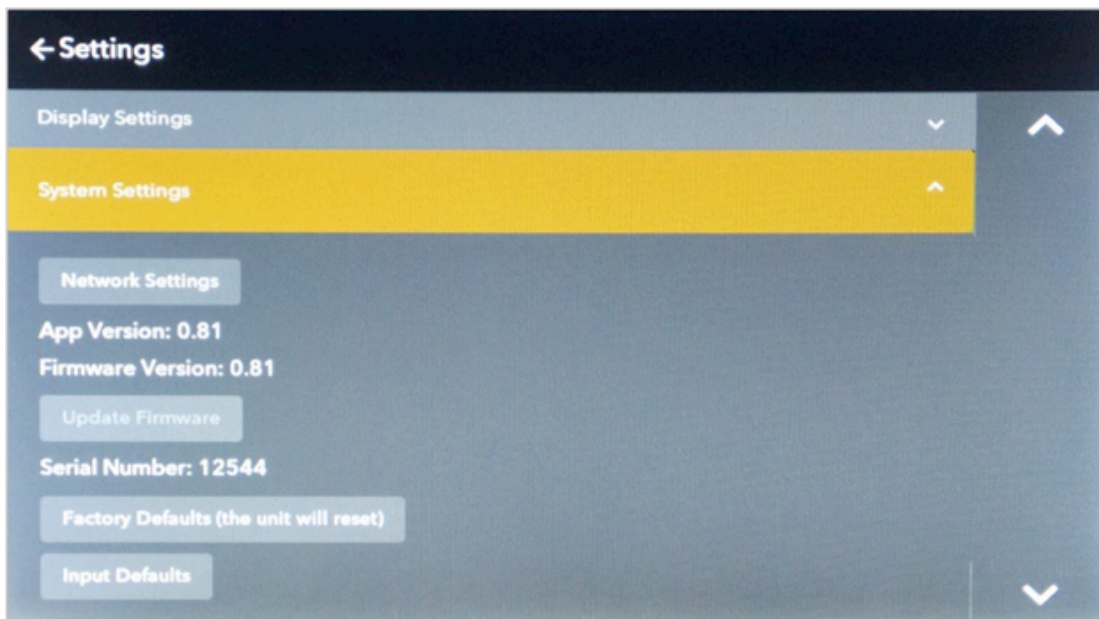
OPERATION

Input Defaults

The **Input Defaults** button will return all input option settings, including input icon photos, to their original factory settings only but will **not** change any of the other optional settings for the unit.

If you wish to restore the Input Defaults, press the **Yes** button. A new pop-up window will appear on the front panel display that will ask, "**Are you sure you wish to set the Input Defaults**?" To reset the 866's inputs to their original factory settings, press the **Yes** button.

If you do not wish to restore the Input Defaults, press the **No** button.
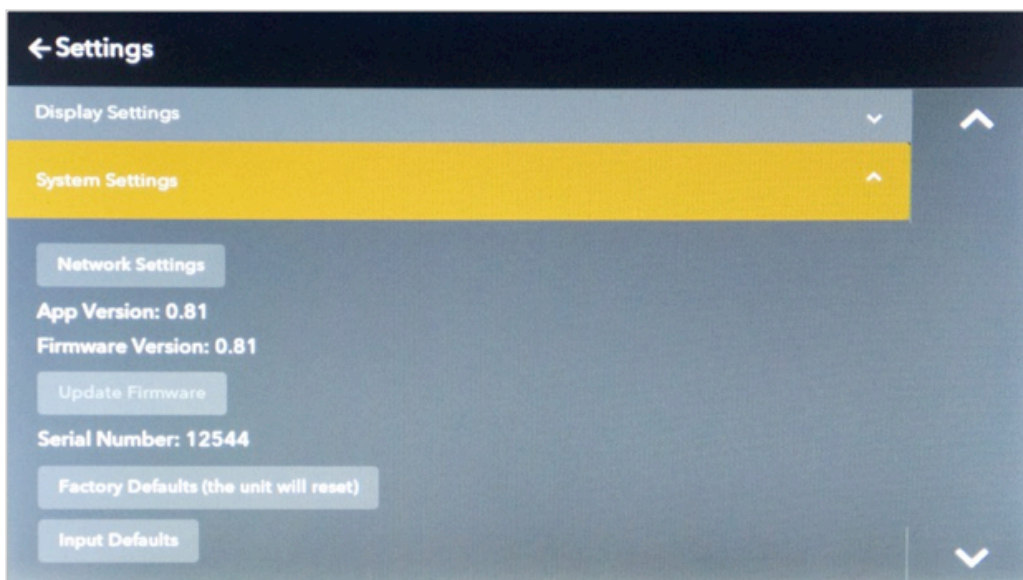
OPERATION

Updating the Firmware of the 866

You can update the firmware of the 866 Via ethernet on input homescreen.

To update the 866 using ethernet first you must make sure the ethernet cable is connected and the unit is turned off or in standby.

Once the unit is on and out of standby and there is an update available, a green clock logo will appear in the top right corner of the 866's display.

If you press the clock logo, it will prompt you to update. Once confirmed the update will begin.

NOTE: If the 866 is connected to ethernet and there is an update available but there is no clock in the top right of the display: Go into the settings of the 866. Under system settings there is a button to update firmware. Once the button is pressed an update will begin.

NOTE: If you live in an area without internet, polietly ask your dealer to send a USB stick that has the update. Once the USB is inserted into the back of the 866, the green clock logo will appear in the top right corner should appear to prompt you for an update.

If you are having issues getting your 866 to update contact your local dealer.

ROON

What is Roon?

Roon is a subscription based music streaming platform and app. That takes music from other streaming platforms such as Tidal and Apple Music and combines it with your own personal library to play through one app. It organizes and refines your music files making it easy for the listener to enjoy their entire library of music from one device. The music quality is top notch and has a bit perfect play back of lossy and lossless files including DSD and PCM. It creates a personalized listening experiance and a pathway to to find new music with an interface that is built around the listener and easy to use.

Connecting to Roon on 866

Firstly, download the Roon app to your mobile device, tablet or laptop.

Once installed and the setup for Roon is complete, open the app.

Look to the bottom right of the screen on the playback bar and make sure the "Zone" (what Roon will play through) is selected on your 866. If unnamed it will show your 866's serial number.

Once your zone is selected on your 866, hit the music you want to listen to, press play and enjoy.

Using Boulder Control App with Roon

Connecting your device to the Boulder Control app while using Roon means you have full control of the functions of the 866 from your mobile device and allowing you to navigate Roon as a control point. (See page 5-15 /5-16 on how to connect to Boulder Control app)

UPNP OPERATION

What is UPnP?

UPnP stands for universal plug and play which is a streaming funtion that enables the user to stream and access media from their home network to their devices through a control point.

How to Use UPnP with the 866

On your network or NAS, where your music resides you can use the Boulder Control app or a 3rd party UPnP app such as M-Connect, Bubble UPnP, JRiver to stream music through the 866.

UpnP can also be used with self powered USB-A type connectors.

To begin UPnP playback use your preffered app (control point) to connect to the 866.

Use the control point to browse your library, once a song is selected the 866 will automatically switch to the Network input regardless to what input the 866 was on and start playing the song that was selected.

Once the music starts playing the display will show metadata, album artwork, which server is being played and navigation options. Such as play/pause, skip forward, skip backwards.

Using Boulder Controller app with UPnP

The Boulder Control app also will display album art, metadata. It will also allow for browsing your library, playlist creation and access to the functions and settings of the 866.

PROGRAMMING

Web Based Programming

Though it is not necessary to use any of the web based programming functions, you may find them helpful in setting up and personalizing your 866.

All web based programming is accomplished by accessing the 866 HTML page while the unit is powered up and connected to a live computer network. Once the page is accessed, the various programming functions can be viewed, changed, and saved.

To access the 866's HTML page, you will need a computer that is connected to the same network as the 866 to enter the 866's network address into a web browser.

To find the 866's network address, press the **Setup** icon on the front panel, then press the **System Settings** button in the Settings menu, followed by the **Network Settings** button. You will see a list of information about the 866, including:

MAC Address:
Network Address:
SSID: BoulderAmplifiers-(serial number)

Network Address: If the 866 is attached to an active network, the network address of the unit will be indicated here. This number should be entered in the address bar of a web browser to access the 866's web based programming page. The HTML page will then load onto your computer.

PROGRAMMING

Boulder Net

This is helpful to system integrators who are using Boulder products in integrated systems.

Boulder Net is a control system unique to modern Boulder products. For detailed information about Boulder Net, please consult your authorized Boulder dealer or see the Boulder Net manual. Further information can also be found at *www.boulderamp.com*.

APPENDIX

Technical Specifications

Continuous Power, 8 Ohms	200W
Peak Power, 8 Ohms	250W
Continuous Power, 4 Ohms	400W
Peak Power, 4 Ohms	400W
Peak Power, 2 Ohms	700W
Balanced Analog Inputs	3 pairs balanced analog via 3-pin XLR
Optional Digital Inputs	Ethernet, USB-A x 4, Toslink, AES3
Outputs	0.25" (6 mm) binding posts
Distortion, THD	0.01%
Equivalent Input Noise (EIN), 20 kHz	2 μV
Input Impedance	100kΩ Balanced
Frequency Response, 20 Hz to 20 kHz	+0.00, -0.04 dB
Frequency Response, -3 dB	0.015 Hz & 150 kHz
Maximum Analog Gain	40.4 dB
Volume Range	100 dB
Volume Steps, 1.0 dB	± 0.01 dB
Power Requirements	100V, 120V, 240V, 50 - 60 Hz (country specific configured)
Power Consumption	1000W Maximum

Note: All measurments taken at 120V

APPENDIX

Weights and Dimensions

866 Integrated Chassis: 17" W x 15.4" D x 7.25" H
                 (54 lbs.)

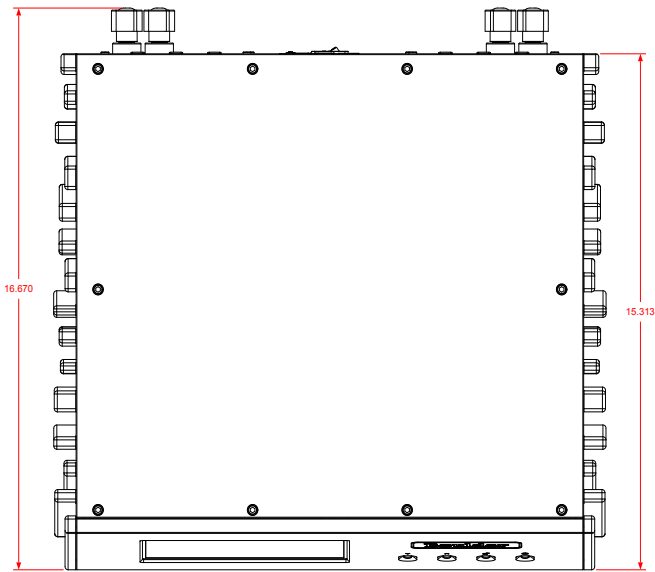   44 cm W x 39 cm D x 19 cm H
                 (24.5 kg)

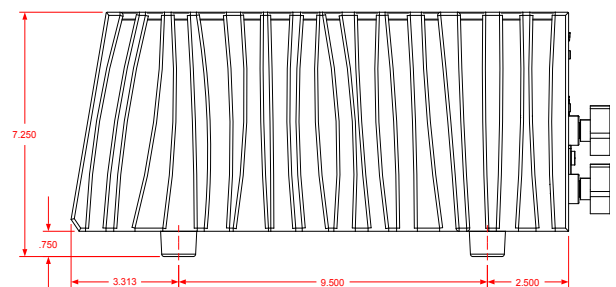**Shipping:**   24" W x 23" D x 14" H
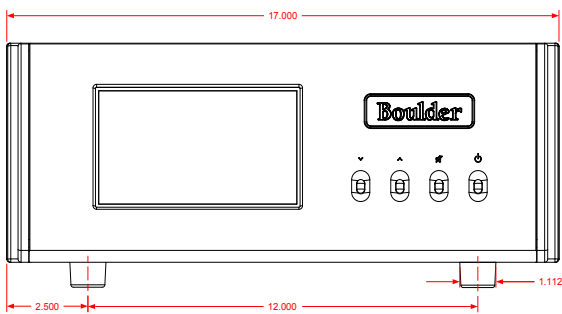   (64 lbs.)

                 61 cm W x 59 cm H x 36 cm H
                 (29 kg)

APPENDIX

866 Integrated Dimensions

16.670

15.313

BOULDER
866 INTEGRATED
DIMENSIONS

17.000

2.500

12.000

1.112

7.250

.750

3.313

9.500

2.500

APPENDIX

Troubleshooting

Sympton	Cause	Remedy
No Power Indication	Master AC Power Switch on rear panel is not ON	Turn on Master AC Power Switch
	Amplifier is not plugged in	Connect power cord to AC mains outlet
	Amplifier circuit breaker is tripped	Reset amplifier circuit breaker
	Home circuit breaker is tripped	Reset home circuit breaker
	Low line voltage	Have line voltage checked
	Defective power cable	Have power cable tested or replaced
Power Indication but No Sound From One Channel	No signal from one channel of source	Check source controls, cables and connection
	No signal out of amplifier	Check cables and connections from amplifier
No Response to App	Amplifier is not connected to network	Connect amplifier to network
	Mobile device is on a different network than amplifier	Connect amplifier and mobile device to the same network
	Amplifier is unable to receive WiFi signals	Move amplifier to a better location or use wired network connection

APPENDIX

Notes:

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