



3010 Preamplifier Instruction Manual

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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 3010 Preamplifier for your high-performance sound system. We are certain it will provide you with many years of listening pleasure.

The 3010 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 3010. 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 3010 Preamplifier 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.

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Introduction

Introduction

The 3010 embodies years of development and is the most advanced preamplifier available. Here are some of the features that set the 3010 apart from the competition:

Analog features:

- Separate left analog channel, right analog channel and digital power supplies in an outboard chassis.
- Fully-balanced Boulder volume control attenuator module in each audio chassis.
- Fully-balanced audio path utilizing ten Boulder 993SD dual gain stages per channel.
- Three pairs of balanced outputs for each channel, each configurable for parallel or independent use.

Operational features:

- Large, full-color, 14.9 inch, 1280 x 240 LCD front panel display.
- Display shows: input source, input trim, volume (dB), individual output blend, balance, configuration, polarity, soft, mute, options and setup.
- Automatic software updates when connected to the Internet.
- Comprehensive option and setup configurations.
- IP control with two-way communication for external control systems.
- HTML setup page for access to additional customizable features.

Introduction

Unpacking and Care

The 3010 system is very heavy. Please use care when lifting and installing the separate sections to avoid personal injury or damage to the casework and furniture.

The 3010 Preamplifier section weighs 78 lbs. (35.4 kg). If possible, use two people to unpack and move it into position.

The 3000 Power Supply section weighs 45 lbs. (20.4 kg) and is front-end heavy. If possible, use two people to unpack and move it into position.

Save all packing materials! Both the Preamplifier and Power Supply are shipped in a foam wrap to protect the fine finish of the casework. Try not to damage this wrap in case the unit must be transported elsewhere in the future.

Before You Start

The 3010 system comes in two assemblies that must be put in place and connected: the 3010 Preamplifier and the 3000 Power Supply. You should have received a large, heavy crate. The pieces included inside the crate are:

1. 3010 Preamplifier.
2. 3000 Power Supply.
3. Accessory Box #1, containing:
 - DC power cables (x 3).
 - AC power cable.
4. Accessory Box #2, containing:
 - Handheld IR Remote Control.
 - Hex Screwdriver for IR Remote Control.
 - Instruction Manual.
 - Lint-free Cleaning Cloth.

Introduction

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

How to Clean the Casework

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 3010 Preamp 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. Also, the preamp must have a visible line-of-sight from the intended listening position to the front panel. This is necessary for an IR remote control to function properly.

Because it is very heavy, the 3010 system must be placed on a sturdy, stable surface.

Do not place in an enclosed rack with no ventilation. Both the 3010 and 3000 must have at least 3 inches (8 cm) of airspace around their chassis for proper cooling and airflow.

The 3010 should be placed at least 10 inches (25.4 cm) away from the 3000. The 3010 should not be stacked directly on top of the 3000 to allow for proper ventilation of the power supply.

Be sure to leave access to the AC mains and DC power cables when installing. Depending on how easy it is to access the back panels of the 3010 and 3000, it may be wise to preinstall the cables on one component before installing.

Introduction

Connecting the 3000 Power Supply

Your Boulder 3010 Preamp is supplied with a Boulder 3000 Power Supply. Each of the four internal supplies is independent of the others. The front panel LED confirms the correct operation of all four internal power supplies.

Three power supply cables are provided for connecting the power supply to its matched preamplifier chassis. Two of these cables have 5-pin connectors and are used for connecting the left and right audio supplies. The third cable has 7-pin connectors and is used for the digital supply. Care must be taken not to confuse the cables, as any attempt to insert a cable in the wrong connector will result in damage.

Align the male and female connectors by making sure all pins are oriented with their corresponding sockets and then pressing the cable connector



7-Pin Digital DC
Power Connection

5-pin Right Analog
Power Connection

5-pin Left Analog
Power Connection

Introduction

into the rear panel connector. The cable can then be secured in place by rotating the locking ring clockwise until it ‘clicks’.

CAUTION: Connect and disconnect these cables *ONLY* after the power supply has been turned off for a minimum of one minute.

Connecting the Inputs

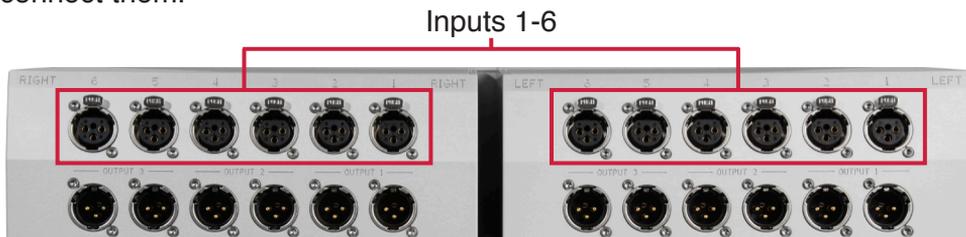
To get started listening, you only need to connect sources to the 3010 as you would any other preamplifier, and connect the power supply as on page 1-5, but you should take note of the following:

WARNING: The polished volume control is attractive and is optically controlled. It has no stops. It is very tempting to spin it. **DO THIS ONLY WITH THE POWER OFF!** The volume knob must be given respect as it can rotate quickly and has ability to raise the volume very fast. You should hear music by the time you have turned the volume up to -40.0 dB with a source connected and turned on. If not, do not continue to raise the volume until the problem is solved. Please see the troubleshooting section on page 6-4.

The 3010 can be connected to many different types of analog sources and will provide the ultimate in sound quality for each.

To fully realize the sonic potential of your 3010 Preamplifier, use balanced connections whenever possible. Balanced cables minimize interference from magnetic and RF sources.

Connect each source to one of the six inputs provided. Later, you will be able to program each input with the source’s name (see *HTML Programming: Setup on page 4-13*), so you may want to make a list as you connect them.



Introduction

Connecting to an Unbalanced Source

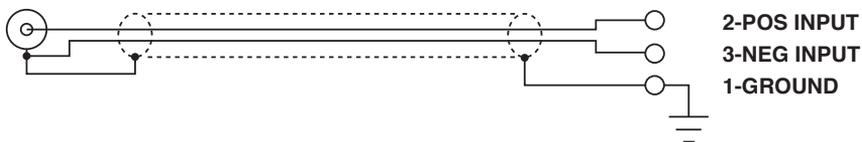
Although the inputs are all of the 3-pin XLR type, an unbalanced source can be connected by using a special cable. This cable has an RCA phono-type connector on the source end and a 3-pin XLR connector for the input on the 3010 Preamplifier end.

The negative input (pin 3) should be wired to ground only at the RCA phono connector. This brings the inverted input reference of the 3010 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 a RCA phono input at the rear of the 3010. Like the above cable, the negative input of the 3010 is connected to the ground of the RCA phono. 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



Introduction

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 screen later (see *HTML Programming: Setup* on page 4-13). This list will be very helpful at that time.



Connections from sources such as a CD player, DVD player, phono preamplifier, tuner, or cable/satellite receiver can be made to the analog input connections.

The Ethernet connections are for Internet access to provide updates to the 3010.

Introduction

Connecting the Outputs to a Balanced Power Amplifier

With your 3010 Preamplifier's balanced outputs driving the balanced input of a power amplifier, you can realize the sonic advantage of having short speaker cables and correspondingly longer interconnect (input) cables. With the low output impedance of the 3010, distances of more than 50 meters between preamplifier and power amplifier are practical.

The 3010 can support connections to more than one amplifier in more than one location. For a basic, single amplifier system, please follow these instructions:



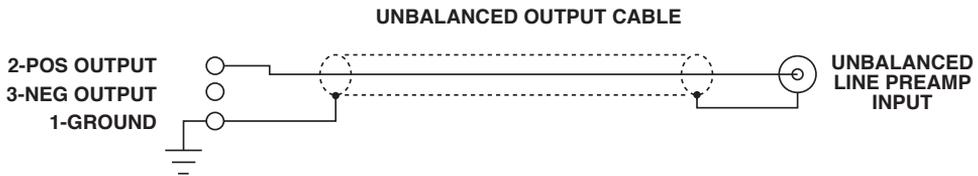
Connect the Left Analog and Right Analog MAIN OUTPUT interconnects from the 3010 to your amplifier. To maintain the best sound quality, Boulder recommends that balanced audio connections always be used.

Introduction

Connecting to an Unbalanced Power Amplifier

A special cable is required to make this connection. This cable connects pin 1 to the shield and pin 2 to the center pin of the RCA. It leaves the negative output (pin 3) unconnected.

Connecting the unused output pin (usually pin 3) to ground will cause excessive ground currents and degrade performance. Use an ohmmeter or continuity checker to determine how your cable is wired.



Polarity

Please note that the 3010 Preamplifier conforms to the standard of Pin 2 as high or “hot” for all analog balanced inputs and outputs. Because input and output polarities are handled through the Setup menu and the remote control, concern for polarity is unnecessary while connecting sources.

Introduction

Connecting to a Network:

In order for the 3010 to automatically download software updates, you will need to connect it to a network with an active Internet connection. This will allow the 3010 to download software updates as necessary and notify you when they are ready for installation.

Connect a network cable between the 3010 and your router. Use either Ethernet connector on the rear panel of the 3010; it does not matter which one you use.

It is possible to confirm that the 3010 is connected to a network. To do so, press the Setup button on the front panel Button Bar, then press the System Info button. System Information will be listed, including “IP Address:”. If an IP address is shown, then the 3010 is actively connected to a network.

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



Introduction

Connection to AC Mains

Your 3010 Preamplifier is supplied with a mains cord appropriate for the location where it was purchased.

The 3000 Power Supply is universal and automatically adjusts for the mains voltage. Simply plug it into any standard outlet. Exact voltage and frequency compatibility is stated in the specifications section (see page 6-1).

Connect the AC power cord to the Master AC Power Switch connection on the 3000 Power Supply as shown and plug it into your AC mains.

CAUTION: Do not turn on the 3000 until all DC power connections have been made. It is important to never connect or disconnect any of the DC power cables when the unit is powered ON or damage may occur, even when the 3010 is in Standby mode! Always turn the unit OFF from the rear panel of the 3000 Power Supply or disconnect the AC mains power cord before disconnecting any of the DC power cables.

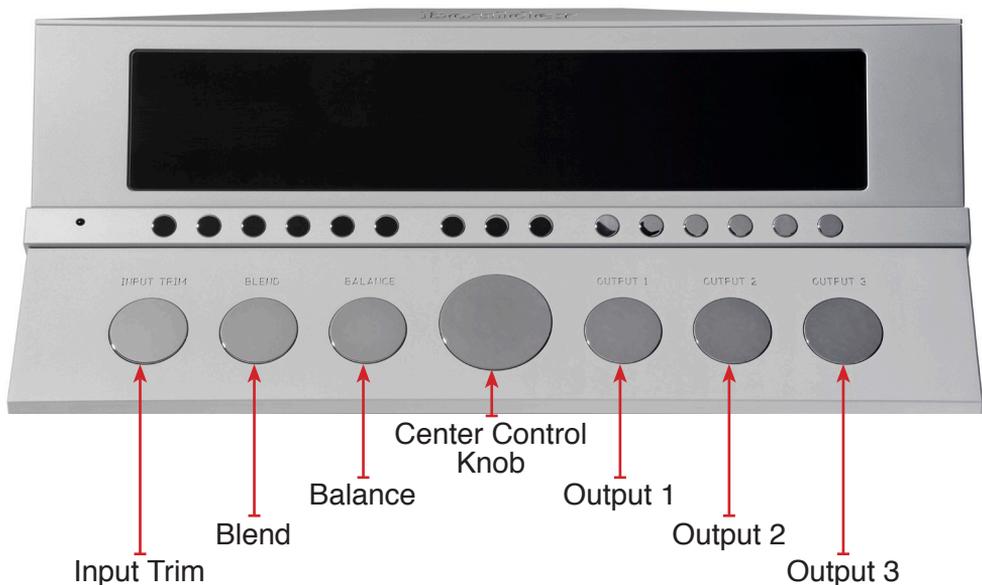


AC Mains
Connection

Operation

Front Panel Controls and Screen Modes

The 3010 features a large LCD display and seven large control knobs on the lower part of the front panel. The Center Control Knob will adjust different functions of the 3010, depending on the mode that the preamplifier is in.

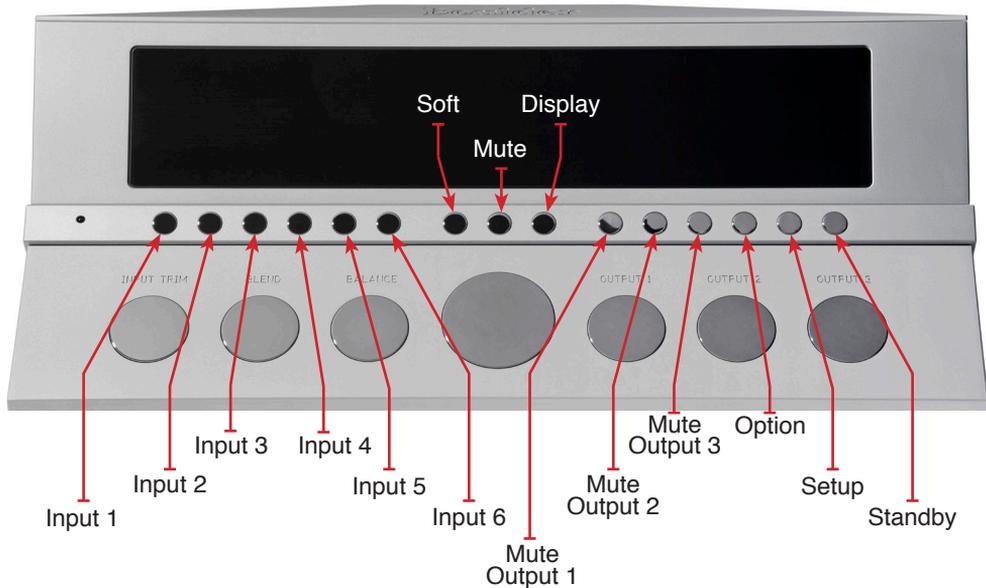


The 3010 also has 15 buttons on a Button Bar located between the display and the control knobs. Some of these buttons will align with various functions shown on the display. The unit will power on with the **Home Screen** displayed. Different screen modes can be selected using the **Option** and **Setup** buttons.

When Option or Setup modes are selected, some button functions will change since they will control different operations and some will need to be adjusted with the use of the **Center Control Knob**. Other button functions will remain the same if the button does not have a specific role within the selected mode.

Operation

Front Panel Knob Functions



Center Control Knob

When the display is showing the Home Screen, the **Center Control Knob** will control the **Volume** of the 3010. At other times, when the 3010 is in the Option or Setup modes, the Center Control Knob will adjust other features of the 3010's operation.

Because the precise feel of the Boulder 3010 volume control may differ from what you are used to, we recommend playing a source device so that an audio signal is fed to the 3010 before increasing the volume.

The **Volume** portion of the display will show **"INF"** to indicate infinite attenuation, or no output. Rotating the **Center Control Knob** to the right, or **clockwise**, 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.

Operation

Rotating the **Center Control Knob** to the **left**, or **counter-clockwise**, will **decrease** the volume.

NOTE: *The Scale and Volume Step resolution may be changed. Please see “Volume Scale and Resolution” in the Setup section of this manual on page 2-20.*

CAUTION: *The volume control must be adjusted carefully, as it has the ability to get loud very quickly. Never spin the Volume control knob while the 3010 is powered ON!*

WARNING: *If the selected input is programmed for “THEATER MODE,” the volume control will have no effect.*

NOTE: *The actual output level is the volume level indicated in addition to the programmed Input and Output level. Input and Output levels can be adjusted during Setup programming (see pages 4-6 and 4-7).*

Input Trim



The Input Trim Knob allows you to make adjustments to 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.

When Input Trim is adjusted for a particular input, the 3010 will remember the adjustment for each input and automatically change the Trim Level when that input is selected.

Trim Level adjustments are made in 0.1 dB steps for a total of 25.0 dB. The default trim level for each input is -6.0 dB, so the level for each input can be raised a total of 6.0 dB or attenuated an additional -19.0 dB.

To **increase** the level of an input relative to the others, turn the **Input Trim Knob** to the **right**, or **clockwise**.

Operation

To **decrease** the level of an input relative to the others, turn the **Input Trim Knob** to the **left**, or **counter-clockwise**.

Blend



The **Blend Knob** adjusts the 3010's output from wide stereo separation to mono output. This may be useful when listening to recordings with images that are hard-panned to one channel or when listening to monaural phono recordings.

The Blend control adjustment is divided into a total of **16** steps, from **Stereo** (full channel separation) to **Mono** (mono or no stereo separation). Each step increases the amount that the left and right channels merge. The default Blend level is **Stereo**.

To **increase** the level of Blend, turn the **Blend Knob** to the **right**, or **clockwise**.

To **decrease** the level of Blend, turn the **Blend Knob** to the **left**, or **counter-clockwise**.

Balance



To change the left-to-right level balance, rotate the **Balance Knob** on the front panel of the 3010. "**Center**" will show in the Balance portion of the display.

Turning the control to the **right**, or **clockwise**, will cause an indication such as "**L -5.5**" in the Balance display. This will attenuate the left channel -5.5 dB below the right channel, regardless of volume setting, making the right channel louder.

Turning the control to the **left**, or **counter-clockwise**, will cause an indication such as "**R -2.0 dB**" in the Balance display. This will attenuate the right channel -2.0 dB below the left channel, regardless of volume

Operation

setting, making the left channel louder.

The range of balance offset is limited to -20.0 dB. If the control is rotated further, the attenuated channel will be muted.

NOTE: *The actual balance setting is the balance indicated plus the programmed Input Balance Offset. Input Balance Offset is adjusted in Setup mode (see page 2-13).*

Outputs 1, 2, and 3

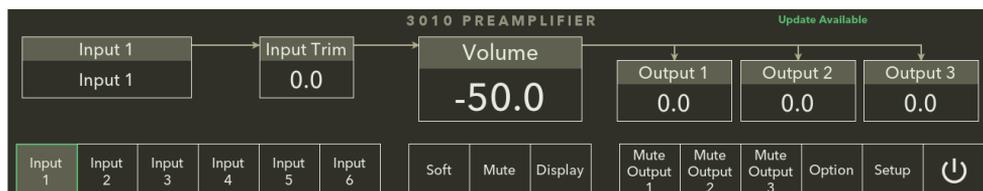
Output 1	Output 2	Output 3
0.0	0.0	0.0

The three knobs on the right-hand side of the front panel are the **Output 1**, **Output 2**, and **Output 3**. Rotating these knobs will adjust the level of output for each output. For example, this may be useful when trying to even out the frequency response of a loudspeaker in a bi- or tri-amplified system.

The **Output** controls have a step resolution of 0.5 dB and a total range of 106.0 dB, from -100.0 dB (-100.0 dB of attenuation) to +6.0 dB (+6.0 dB of gain).

Front Panel Button Functions: Home Screen

The 3010 has a large, centrally mounted Button Bar located between the display and control knobs. There are **15** buttons on this bar that will all correspond to various functions, depending on if the unit is showing the Home Screen, Option Screen, or Setup Screen.



Operation

Inputs 1 - 6



The 3010 has six inputs. Each of these inputs can be directly selected by pressing the button that corresponds with the input you wish to select.

To select an input, press one of the push buttons labeled **Input 1 through Input 6** on the front panel Button Bar. The name of the selected input will be shown in the Input Box in the upper left corner of the Home Screen display and the input signal will be routed to the main outputs. For example, if Input 1 is chosen, “**Input 1**” will show in the Input Box.

If you wish to program a custom name for any of the inputs, please see HTML Programming: Setup on page 4-13.

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.*

Soft

Soft The volume level of the 3010’s Main Outputs can be temporarily reduced for instances such as a short conversation or telephone call. To temporarily attenuate the volume, press the **Soft** button. Pressing the **Soft** button again will return the output level to the previous volume setting.

While in Soft mode, the level of all three Main Outputs on both channels will be reduced to the current volume setting plus the amount programmed into the Soft function.

The default level of attenuation when pressing the **Soft** button is **-20.0 dB**. To change the level of Soft attenuation, please see page 2-18 or 4-18.

Operation

Mute



To silence the 3010, press the **Mute** button. “**MUTED**” will show in the Volume Box on the Home Screen. Pressing the **Mute** button again will return the volume to the level prior to being muted. While muted, all outputs will be silenced.

The Volume function will continue to work in Mute mode as long as the volume is decreased. When in Mute mode, rotating the **Center Control Knob** to the **left** (counter-clockwise) will decrease the volume setting even though the output will remain muted. Rotating the **Center Control Knob** to the **right** (clockwise) will immediately bring the 3010 out of Mute mode.

The function of the **Mute** button in the center of the Button Bar will always remain the same, regardless of screen mode.

Display



The brightness of the display can be adjusted as well as turning the display completely off. The **Display** setting determines the brightness of the display, from 0% (off) to 100% (full brightness).

To change the brightness level, press the **Display** button. The display will show two boxes, one on the left reading **Display Brightness** and the other on the right side showing the level of display brightness. Rotate the **Center Control Knob** until the desired brightness is obtained.

The number in the display indicates the display’s brightness as a percentage of the maximum. For example, rotating the knob until “**75**” appears in the brightness box on the right side of the front panel display will reduce the display’s brightness by 25%.

Operation

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 remote control 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 inadvertent.

After several seconds of inactivity when adjusting the display brightness, the display will automatically return to the Home Screen. You may also return to the Home Screen by pressing any button on the front panel Button Bar.

Mute Output 1, 2, and 3

Output 1	Output 2	Output 3
0.0	MUTED	MUTED

The 3010 has three Main Outputs. Each Main Output can be muted individually by pressing the **Mute Output 1**, **Mute Output 2**, or **Mute Output 3** button on the Button Bar.

When muted, both channels of the selected output will be silenced.

Pressing the **Mute Output 1**, **Mute Output 2**, or **Mute Output 3** button again will return the volume to the level prior to being muted.

Option

Option Pressing the **Option** button will change the display from the Home Screen to the Option Screen. When the Option Screen is shown, the function of certain buttons will change and additional features can be accessed.

Setup

Setup Pressing the **Setup** button will change the display from the Home Screen to the Setup Screen. When the Setup Screen is shown, the function of certain buttons will change and the 3010's operation can be changed to your preferences.

Operation

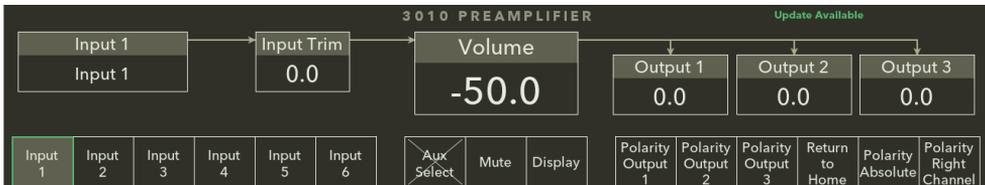
Standby



Pressing the **Standby** button will put the 3010 into Standby mode. This will turn OFF all circuits except for the logic necessary to wake it up again. Pressing any button on the front panel will also bring the 3010 out of Standby mode and power it ON.

NOTE: Because the 3010 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 3010 off via the Master AC switch on the rear panel of the 3000 Power Supply. The 3010 was designed for years of operation in this manner and no damage to the unit will occur.

Front Panel Control: Option Screen



The functions of eight of the 15 buttons on the Button Bar (**Input 1**, **Input 2**, **Input 3**, **Input 4**, **Input 5**, **Input 6**, **Mute** and **Display**) will remain the same when the display shows the Option Screen. The remaining buttons will have new functions as indicated below.

Aux Select



To select an input to route to the Auxiliary Output, press the **Aux Select** button while in **Option** mode, followed by the corresponding **Input** button for the input you wish to select.

The Auxiliary Output can also be set to follow the Main Outputs. See page 2-16 of the Setup section or page 4-19 of the Programming Section.

NOTE: If the Auxiliary Outputs are set to follow the selected input, it is not possible to adjust the Aux Select function and the Aux Select box will have an “X” through the indicator. To change the Auxiliary setup, please see page 2-16 of the Setup Section or page 4-19 of the Programming Section.

Operation

Polarity Output 1, 2, and 3

Polarity Output 1	Polarity Output 2	Polarity Output 3
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NOTE: Polarity is often referred to as “phase.” However, “phase” indicates any angle between two channels, from 0 to 360 degrees. The term “polarity” is used to indicate 180° phase change, or inversion, as available in the 3010 Preamplifier.

The 3010 has three Main Outputs. The polarity of each Main Output can be changed individually by pressing the **Polarity Output 1**, **Polarity Output 2**, or **Polarity Output 3** button on the Button Bar while in **Option** mode.

When the polarity of an output is inverted, it will affect both channels of the selected output and an inverted polarity icon () will appear in the corresponding Output Box.

To return to normal (non-inverted) polarity, press the **Polarity Output 1**, **Polarity Output 2**, or **Polarity Output 3** button again. Both channels of the selected output will no longer be inverted and the inverted polarity icon will disappear.

Return to Home



Pressing the **Return to Home** button will revert the display to the Home Screen mode and return all buttons to their Home Screen functions.

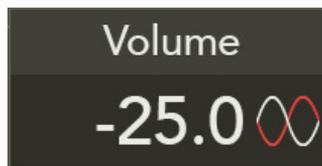
Operation

Polarity Absolute

Volume Box without Polarity Icon



Volume Box with Polarity Icon



NOTE: Polarity is often referred to as “phase.” However, “phase” indicates any angle between two channels, from 0 to 360 degrees. The term “polarity” is used to indicate 180° phase change, or inversion, as available in the 3010 Preamplifier.

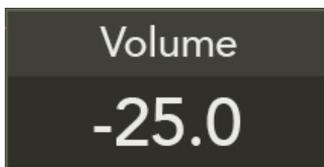
The polarity of all active Main Outputs can be changed simultaneously by pressing the **Polarity Absolute** button on the Button Bar while in **Option** mode.

When the polarity is inverted, it will affect both channels of all enabled outputs and an inverted polarity icon () will appear in the corresponding Output Box.

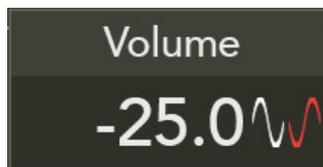
To return to normal (non-inverted) polarity, press the **Polarity Absolute** button again. Both channels of all outputs will no longer be inverted and the inverted polarity icon will disappear.

Polarity Right Channel

Volume Box without R Channel Icon



Volume Box with R Channel Icon



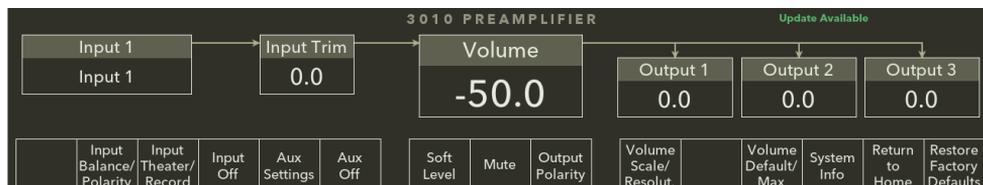
NOTE: Polarity is often referred to as “phase.” However, “phase” indicates any angle between two channels, from 0 to 360 degrees. The term “polarity” is used to indicate 180° phase change, or inversion, as available in the 3010 Preamplifier.

Operation

The polarity of only the right channel of all Main Outputs can be changed simultaneously by pressing the **Polarity Right Channel** button on the Button Bar while in **Option** mode and an inverted polarity icon () will appear in the corresponding output box. This can be useful when trying to determine if a speaker cable, interconnect cable, or phono leads may be wired incorrectly within the system.

To return to normal (non-inverted) polarity, press the **Polarity Right Channel** button again. The right channel of all outputs will no longer be inverted and the inverted polarity icon will disappear.

Front Panel Control: Setup Screen



The functions of all buttons on the Button Bar except for **Mute** will change when the **Setup** button is pressed.

If the Setup button is pressed but no activity takes place, the display will automatically revert to the Home Screen after 30 seconds.

See the following pages for an explanation of these buttons and their functions when the Setup screen is showing on the front panel display.

Input Balance/Polarity

To program Input Balance/Polarity, press the Input Balance/Polarity button while in Setup mode to adjust the balance and/or polarity of a specific input.

Input Balance

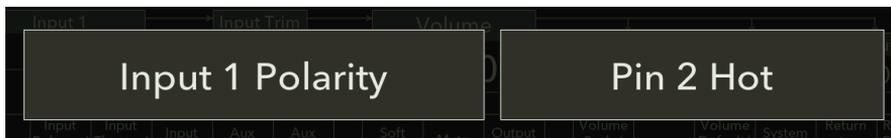


The screen will show a box reading **Input Balance** on the left side of the display and a box showing the Input Balance level on the right side of the screen. To adjust the Input Balance, rotate the **Center Control Knob** to the left or right until the desired balance offset is obtained as indicated in the display. A maximum of **12.0 dB** of offset may be programmed.

For example, rotate the Center Control Knob until “**R -2.0 dB**” shows in the display. The level of the right channel will be reduced by 2.0 dB for the selected input after you exit program mode.

After the desired balance is reached, or if no change is desired, press any button on the front panel. The display will now change to the Input Polarity screen.

Input Polarity



The screen will show a box reading **Input Polarity** on the left side of the display and a box showing the Input Polarity setting on the right side of the screen. To adjust the Input Polarity, rotate the **Center Control Knob** to the left or right until the desired Input Polarity is obtained as indicated in the display. The default polarity is **Pin 2 Hot** or non-inverting.

For example, rotate the Center Control Knob until “**Pin 3 Hot**” shows in the display. The polarity from the selected input will now be inverted to compensate for a source component that inverts polarity.

If you are unsure of the output polarity of your source components, please see their associated instruction manuals.

Operation

After the desired input polarity is set, or if no change is desired, press any button on the front panel. The display will now change to the Setup screen.

NOTE: Polarity is often referred to as “phase.” However, “phase” indicates any angle between two channels, from 0 to 360 degrees. The term “polarity” is used to indicate 180° phase change, or inversion, as available in the 3010 Preamplifier.

Input Theater/Record

While in **Setup** mode, pressing the **Input Theater/Record** button will allow you to set a specific input for use in a home cinema or route the signal from a specific input to the Auxiliary output as in a tape loop.

To program Input Theater/Record, press the **Input Theater/Record** button while in Setup mode.

Theater Mode



While in **Setup** mode, it is possible to program a specific input to be set to unity gain for use with a surround sound processor in a home cinema setting. Any of the 3010's inputs can be programmed to unity gain. This is called **Theater Mode**. When an input has been programmed for Theater Mode, the volume and balance controls will have no effect on volume or balance levels and the volume level must be controlled by the surround sound processor. “**UNITY**” will be shown in the display.

WARNING: Theater Mode should be used with extreme caution, as there is no way to control the volume of the 3010 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!

WARNING: If the input is programmed for “THEATER MODE,” the balance control will have no effect!

Operation

The screen will show a box reading **Input Theater Mode** on the left side of the display and a box showing **On** or **Off** on the right side of the screen. To set an input to Theater Mode, rotate the **Center Control Knob** to the right (clockwise) until the box on the right side of the display reads, “**On.**” The input will now be set to unity gain.

To return the input to normal operation, rotate the **Center Control Knob** to the **left** (counter-clockwise) until the box on the right side of the display reads, “**Off.**” The Volume and Balance controls will once again be active.

After the desired Theater Mode setting is selected, or if no change is desired, press any button on the front panel. The display will now change to the Recordable screen.

Input Recordable



While in **Setup** mode, it is possible to program specific inputs so that they are recordable and the signal is routed to the Auxiliary output to prevent feedback loops. When in this mode, the input signal will not be affected by the volume control.

To enter the **Input Recordable** programming mode, press the **Setup** button and then press the **Input Theater/Record** button. Once the Input Theater screen appears, you will need to press any button on the front panel Button Bar a second time to enter the Input Recordable screen.

“**Input Recordable**” will show on the left side of the display and the selection choice on the right side. The two choices are **Yes** or **No**. Rotate the **Center Control Knob** to the **right** (counter-clockwise) to change this setting to “**Yes.**” Rotate the **Center Control Knob** to the **left** (counter-clockwise) to change this setting to “**No.**”

*For detailed information about recording, please see the **Recording** section on page 5-1.*

Operation

Input Off



While in **Setup** mode, pressing the **Input Off** button will allow you to temporarily disable an input so that it cannot be selected from the front panel or the remote control.

To **disable** an input, **press** the button to select the **Input** you wish to disable. Next, **press** the **Setup** button. Now **press** the **Input Off** button. The display will change to the Input Configuration screen. “**Input**” will show in the box on the left side of the display and the selection choice on the right side. The two choices are **On** or **Off**. Turn the **Center Control Knob** to the **left** (counter-clockwise) to turn the input **Off**. Turn the **Center Control Knob** to the **right** (clockwise) to turn the input **On**.

Aux Settings

Aux Follows Main



In some installations, you may want the Auxiliary Output to follow the Main Outputs during input selection.

While in Setup mode, press the **Aux Settings** button to enter the Auxiliary programming screen.

The front panel will show two boxes in the display, with **Aux Follows Main** in the left box and the selection choice on the right. The two choices are **On** and **Off**. Rotate the **Center Control Knob** to the **right** (clockwise) to change this setting to “**On**.” When set to “**On**,” the Auxiliary Output will always connect to the same input as the main outputs.

Aux Polarity



The polarity of the Auxiliary Output may also be adjusted to match the associated equipment used. All Boulder products adhere to the AES Standard of Pin-2 “Hot” or positive. Products which are configured for Pin-3 Hot operation are considered “polarity inverted.”

For information regarding the polarity of equipment by other manufacturers, please consult their respective instruction manuals or contact your dealer.

To enter the **Auxiliary Polarity** programming mode, press the **Setup** button and then press the **Aux Settings** button. Once the Auxiliary Programming screen appears, you will need to press any button on the front panel Button Bar a second time to enter the Aux Polarity screen.

“**Aux Polarity**” will show on the left side of the display along with a selection choice on the right. Rotate the **Center Control Knob** to the **right** (clockwise) to configure the polarity as **Pin 3 Hot**. Rotate the **Center Control Knob** to the **left** (counter-clockwise) to configure the Aux Polarity as **Pin 2 Hot**. When programming the Auxiliary Output Polarity, the 3010 will change the Output On or Off simultaneously with the display.

To exit the Auxiliary Polarity programming mode, press any button on the front panel Button Bar or simply wait 30 seconds for the display to automatically revert to the Home Screen.

Operation

Aux Off



In some instances it may be desired to disable the Auxiliary Outputs. To do so, press the **Aux Off** button while in **Setup** mode. “**Aux**” will show on the left side of the display along with a selection choice on the right. Rotate the **Center Control Knob** to the **right** (clockwise) to turn the Auxiliary Output **On**. Rotate the **Center Control Knob** to the **left** (counter-clockwise) to turn the Auxiliary Output **Off**. When programming the Auxiliary Output, the 3010 will change the output On or Off simultaneously with the display.

To exit the Aux Off programming screen, press any button on the front panel Button Bar.

Soft Level



The Soft feature allows for temporary volume reduction without losing the original setting. The Soft Level will attenuate the current volume control setting by an additional amount from -6.0 dB to -80.0 dB as programmed into the Soft Level feature. Because personal use of this feature varies, the actual level of attenuation can be adjusted to suit your needs.

While in Setup mode, press the **Soft Level** push button. “**Soft Level**” will show on the left side of the display along with a selection choice on the right. Rotate the **Center Control Knob** to the **right** (clockwise) to **increase** the Soft Level. Rotate the **Center Control Knob** to the **left** (counter-clockwise) to **decrease** the Soft Level.

For example, setting the Soft Level to “**-35.0**” will lower the output to the current volume level plus an additional -35.0 dB of attenuation, a level suitable for conversation.

Operation

To exit the Soft Level screen, press any button on the front panel Button Bar.

NOTE: The Soft output level is relative to the normal listening level. Therefore, if “SOFT LEVEL” is set to -60.0dB, the volume will be decreased by an additional 60dB from its current level when “Soft” is pressed.

Output Polarity



The polarity of each output can be configured individually in the Output Polarity screen. The Output Polarity is configured in successive screens, so Output 1 will have to be configured before Output 2, etc.

NOTE: Polarity is often referred to as “phase.” However, “phase” indicates any angle between two channels, from 0 to 360 degrees. The term “polarity” is used to indicate 180° phase change, or inversion, as available in the 3010 Preamplifier.

To configure the polarity of each output, press the Output Polarity button while in Setup mode. “**Output 1 Polarity**” will show on the left side of the display along with a selection choice on the right. Rotate the **Center Control Knob** to the **right** (clockwise) to configure the polarity as **Pin 3 Hot**. Rotate the **Center Control Knob** to the **left** (counter-clockwise) to configure the Aux Polarity as **Pin 2 Hot**.

Once the polarity for Input 1 has been configured, press any button on the Button Bar to configure the polarity for Input 2. Once the polarity for Input 2 has been configured, press any button on the Button Bar to configure the polarity for Input 3. Pressing any button on the Button Bar after Output 3 has been configured will return the display to the Home Screen.

Operation

Volume Scale/Resolut.

Precise control of the Boulder 3010 volume control can be programmed. The default setting for the 3010's volume scale is a range from -100 dB (maximum attenuation) to 0 dB (no attenuation, +20.0 dB of gain), and the default step resolution is 0.5 dB. Both the range and resolution settings can be adjusted to your preferences.

Volume Scale



To adjust these features, press the **Volume Scale/Resolut.** button while in **Setup** mode. “**Volume Scale**” will show on the left side of the display along with a selection choice on the right. Rotate the **Center Control Knob** to the **right** (clockwise) to **increase** the display reading for maximum attenuation. Rotate the **Center Control Knob** to the **left** (counter-clockwise) to **decrease** the display reading for maximum attenuation.

Rotating the **Center Control Knob** to its end points will change the setting from “**-100 to 0**” to “**0 to 100**” or anywhere in between. This feature allows you to set the volume control of the 3010 to the scale of your choice.

For example, one possibility would be to set the scale to “**-80 TO 20**” indicating the actual gain in decibels (dB) of the Boulder 3010 Preampfier.

NOTE: The Volume Scale will always show a range of 100 dB.

Volume Resolution



Once you have chosen a Volume Scale, press the any button on the front panel Button Bar. “**Volume Resolution**” will appear on the left side of the display along with a selection choice on the right. Rotate the **Center Control Knob** to select “**0.1 dB**”, “**0.5 dB**” (default), or “**1.0 dB**” per step as shown on the right side of the display.

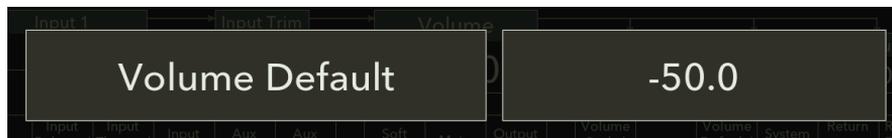
Press any button on the front panel Button Bar to exit the Volume Scale and Resolution screen.

Volume Default and Max

The default volume setting upon power-up can be programmed to prevent loud settings from previous listening sessions. The maximum allowable volume setting can be also programmed to prevent children or other users from turning the system up too loud.

The factory setting for the 3010’s volume default adjustment is “**Off.**” The volume control does not have a maximum volume setting from the factory.

Volume Default



A Volume Default range from -50.0 dB to -100.0 dB is possible. To adjust the Volume Default press the **Volume Default/Max** button while in Setup mode. “**Volume Scale**” will show on the left side of the display along with a selection choice on the right. Rotate the **Center Control Knob** to the **left** (counter-clockwise) to **decrease** the default volume level for that input.

Operation

Rotate the **Center Control Knob** to the **right** (clockwise) to **increase** the default volume level for that input. Turning the **Center Control Knob** to the **right** and past the **-50.0** setting will turn the Volume Default function **Off**.

This feature allows you to set the volume of the 3010 to the programmed default level of your choice. For example, setting the Volume Default level at **-60.0 dB** will cause the 3010 to always set the volume at **-60.0 dB** when coming out of Standby.

Volume Max

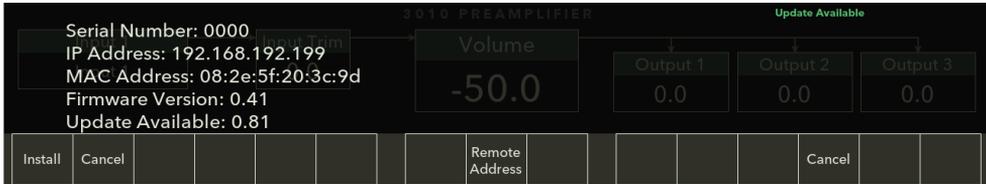


Once you have chosen a Volume Default setting, press any button on the front panel Button Bar. “**Volume Max**” will appear on the left side of the display along with a selection choice on the right. Rotate the **Center Control Knob** to select your desired maximum volume level. A Volume Max range from **-20.0 dB** to **0.0 dB** (no attenuation) is possible.

For example, when the Volume Max is set to **-15.0 dB**, the volume level can only be turned up to **-15.0 dB** before the volume control stops responding.

Press any button on the front panel Button Bar again to exit the **Volume Default/Max** screen.

System Info



Pressing the **System Info** button while in **Setup** mode will display all nonconfigurable information about your 3010 Preamplifier, including:

- Serial Number:**
- IP Address:**
- MAC Address:**
- Firmware Version:**

If a firmware update is available, you will also see the following:

Update Available:

Serial Number: The Serial Number of the unit is assigned at the factory and is indicated here. It is permanent and cannot be changed by the user.

IP Address: If the 3010 is attached to an active network, the IP address of the unit will be indicated here. This is useful when accessing the HTML page for programming. *For information regarding programming via the HTML page, please see page 4-1.*

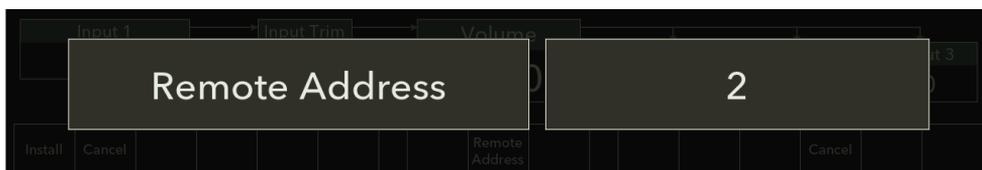
MAC Address: The network MAC address is indicated here. This is useful for networks where specific MAC addresses are given permission to access the network.

Firmware Version: The Firmware Version indicates the firmware revision installed in the 3010.

Operation

Update Available: If a new firmware update is available, it will be listed here. In the event that an update is available, it can be installed by pressing the **Install** button on the far left-hand side of the Button Bar. If you do not wish to install the update, press the **Cancel** button and the update will not be installed.

The option to change the **Remote Address** is located on the System Info screen. If you encounter problems where the IR remote control interferes with the operation of other electronic devices in your home, you will need to change the remote address in the 3010 and in the handheld remote control.



To change the Remote Address, press the **Remote Address** button in the center of the Button Bar while on the System Info screen in Setup mode. “**Remote Address**” will show on the left side of the display along with a selection choice on the right. Rotate the **Center Control Knob** to the **right** (clockwise) to **increase** the Remote Address. Rotate the **Center Control Knob** to the **left** (counter-clockwise) to **decrease** the Remote Address. The default Remote Address is **2**.

NOTE: You will also need to change the Remote Address in the 3010’s handheld IR remote control. See page 3-3.

Return to Home

Return
to
Home

Pressing the **Return to Home** button will change the display to the Home Screen mode and return all buttons to their Home Screen functions.

Restore Factory Defaults

Restore
Factory
Defaults

While in **Setup** mode, it is possible to restore all programming to the original, factory default settings by pressing the **Restore Factory Defaults** button.

To restore the 3010 to the original factory default settings, press the **Setup** button, followed by the **Restore Factory Defaults** button. The front panel display will show “**Restore Factory Defaults?**” To restore the 3010 to the original factory settings, press the **Restore** button. To cancel the factory default restoration, press the **Cancel** button.

NOTE: When factory default settings are restored, all programmed names and settings will be lost and cannot be retrieved.

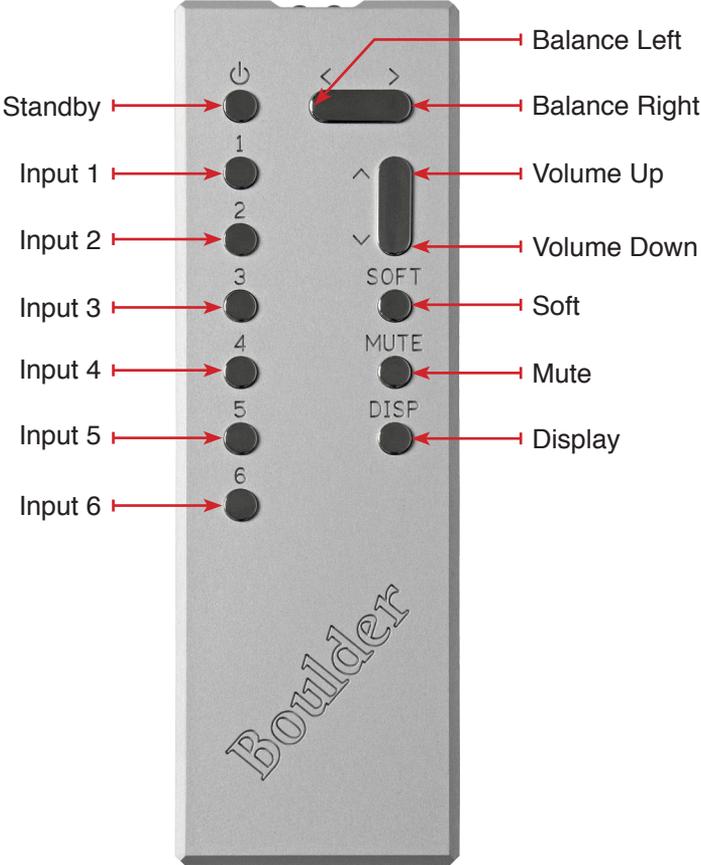
Remote Control

Remote Control

The 3010's handheld remote control can be used to control all of the preamplifier's functions. Most of the buttons on the remote control will have the same function as the buttons on the front panel of the 3010.

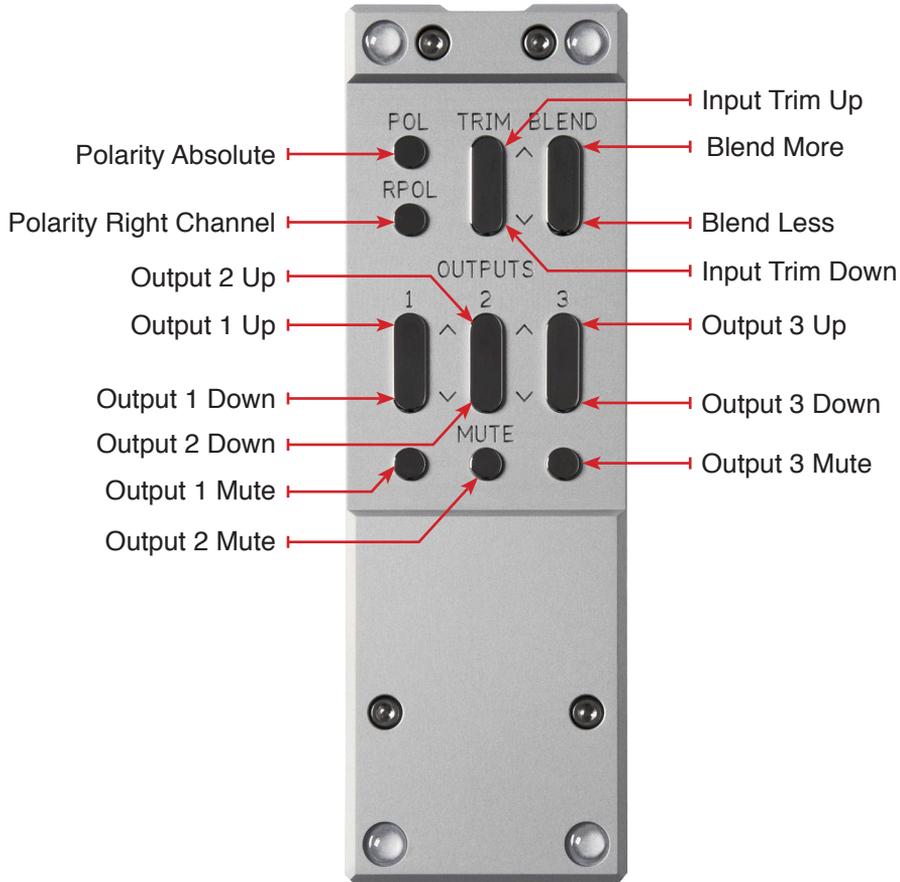
You will also notice that some of the less frequently used buttons are located on the backside of the remote control.

The following buttons are present on the front of the remote control:



Remote Control

The following buttons are present on the backside of the remote control:



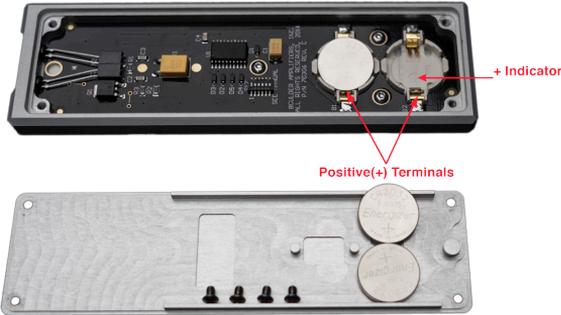
Replacing the Remote Control's Batteries

To replace the batteries in the remote control, use a $7/64$ " hex (Allen) screwdriver to remove the four screws that secure both halves of the remote. This type of screwdriver is included in the 3010 Accessory Kit.

The battery type is a CR2032 "coin" style battery. Insert the tip of a $1/8$ " slotted screwdriver under the coin cell battery through the most accessible opening on the battery holder.

Remote Control

Carefully pry the battery out of the holder. Repeat the process for the second battery.



CAUTION: The batteries must be installed at an angle and care must be taken not to bend the battery holder's electrical contacts or damage to the remote control may occur!

When installing the new battery, insert it at an angle that presses against the positive (+) terminals first. While holding the positive (+) terminals in place, press down until the battery snaps into place. Repeat for the second battery.

Once the batteries have been replaced, put the two halves of the remote back together and use the 7/64" hex screwdriver to secure the four screws.

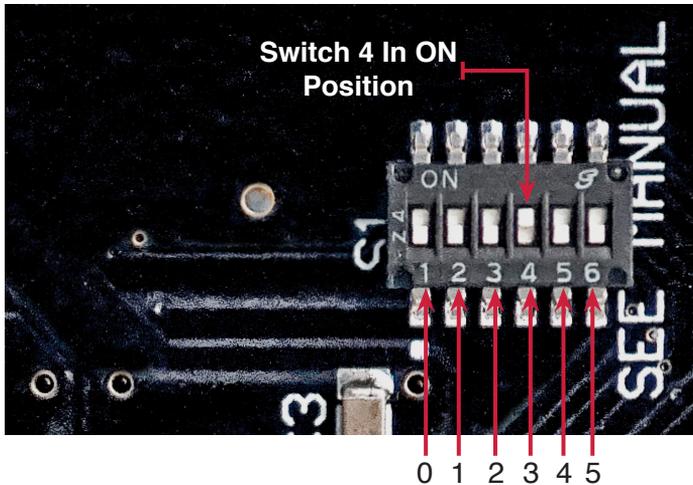
Remote Address

In the event that the IR remote control interferes with other products in your system, the **Remote Address** can be changed.

The factory default Remote Address number is 2.

To change the Remote Address, the two halves of the remote control must be separated. Use a 7/64" hex screwdriver to remove the four screws that secure both halves of the remote. Once the remote control is separated, move the switch number that corresponds to the Remote Address number that you selected in the Setup Menu. (See page 3-4).

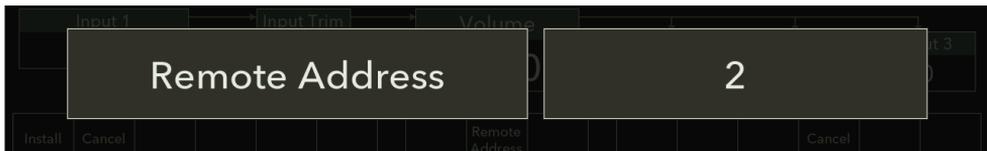
Remote Control



NOTE: The switch address numbers are offset by 1 and do not match the numbers inside the remote. Make sure that only one of the switches is set to the “ON” position.

To select ID 6, all switches must be in the “OFF” position.

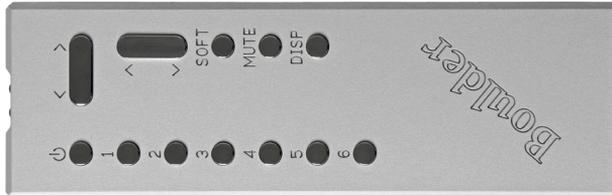
To Change the Remote Address for the 3010:



1. Press the **Setup** button, then press the **System Info** button.
2. Press the **Remote Address** button.
3. Rotate the **Center Control Knob** until the Remote ID number that matches the setting for the remote control is shown in the 3010 display.
4. Press any button on the front panel Button Bar to exit the Setup menu.

Remote Control

Remote Control Button Functions and Use: Front



Standby



Pressing the **Standby** button will put the 3010 into Standby mode. Standby will turn off all circuits except for the logic necessary to wake it up again.

NOTE: Because the 3010 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 3010 off via the Master AC switch on the rear panel of the power supply. The 3010 was designed for years of operation in this manner, so that no damage to the unit will occur.

Volume Up and Volume Down



To **increase** the volume of the 3010, press the button next to the **UP** arrow. Holding the button will continue to raise the volume quickly until the button is released.

To **reduce** the volume, press the button next to the **DOWN** arrow. Holding the button will continue to lower the volume quickly until the button is released.

Soft



Pressing the **SOFT** button will temporarily reduced the volume for instances such as a short conversation or telephone call. The attenuated Soft Level will show in the Volume Box of the display. Pressing the **SOFT** button again or pressing the Volume Up button on the remote will return the output level to the previous volume setting.

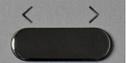
Remote Control

While in Soft mode, the level of all three Main Outputs on both channels will be reduced to the current volume setting plus the amount programmed into the Soft function.

Mute

 To completely mute the volume (infinite attenuation), press the **MUTE** button. Pressing the **MUTE** button a second time or pressing the Volume Up button on the remote will return the output level to the previous volume setting.

Balance Left and Balance Right

 To shift the balance to the **left**, press the button with the **LEFT** arrow () and continue holding until the Balance Box on the display shows the desired balance change.

To shift the balance to the **right**, press the button with the **RIGHT** arrow () and continue holding until the Balance Box on the display shows the desired balance change.

To center the balance control, press the button with the **LEFT** or **RIGHT** button until the Balance Box on the display shows “**Center.**”

Display

 Pressing the **DISP** button will adjust the brightness of the display as well as turn the display completely off. The Display setting determines the brightness of the display in 20 steps, from 0% (off) to 100% (full brightness).

To change the brightness level, press the **DISP** button. The current display brightness will show in the display. Continue to press the DISP button until the desired brightness is obtained, for example “**Display 75.**” The number in the display indicates the display’s brightness as a percentage of maximum.

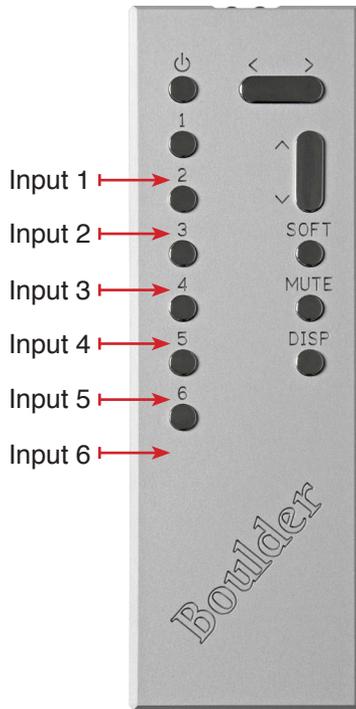
Remote Control

When the brightness is set to low levels, the screen will temporarily go two steps brighter than the programmed display brightness setting for five seconds, when any button is pressed on the front panel or remote control, and then return to the desired brightness. This ensures that if a function is changed, it will be noticed whether intentional or inadvertent.

After several seconds of inactivity when adjusting the display brightness, the display will automatically return to the Home Screen.

Input Selection, 1 - 6

To select an input (source), press the desired **Input** number (**1** through **6**) on the remote control. You will now be listening to the selected source and the input will be shown in the display.



Remote Control

Remote Control Button Functions and Use: Back



Blend More and Blend Less

 The **Blend** buttons adjust the 3010's output from wide stereo separation output to mono output. This may be useful when listening to recordings with images that are hard-panned to one channel or when listening to monaural phono recordings. The Blend function is adjusted and indicated in decibel (dB) steps.

The Blend control adjustment is divided into a total of **16** steps, from **Stereo** (full channel separation) to **Mono** (no stereo separation). Blend level is indicated on the front panel display in the Blend Box. Each increasing step adjusts the amount that the left and right channels are merged. The default Blend level is **Stereo**.

Pressing the **Blend More** button () will increase the amount of blend applied to the stereo image.

Pressing the **Blend Less** button () will decrease the amount of blend applied to the stereo image.

Input Trim Up and Input Trim Down

 The **Input Trim Up** and **Down** functions allow you to make adjustments to the volume of the selected input relative to all others so that they can be matched to the same level. The level can be trimmed so that there is no difference in volume level when switching between the two sources.

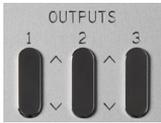
Trim Level adjustments are made in 0.1 dB steps for a total of 25.0 dB. The default trim level for each input is **0.0 dB**.

Remote Control

To **increase** the level of an input relative to the others, press the **Input Trim Up** button ().

To **decrease** the level of an input relative to the others, press the **Input Trim Down** button ().

Outputs 1 – 3: Up, Down, and Mute



Each of the three outputs can be adjusted for output level **Up** or **Down** or **Mute**.

Output Trim buttons for each output are available on the IR remote control. These buttons allow you to make adjustments to the output level of each output relative to all others. For example, this may be useful when trying to even out the frequency response of the loudspeaker in a bi- or tri-amplified system.

Trim Level adjustments are made in a range from **-100.0 dB** to **+6.0 dB** in **0.5 dB** steps for a total of **106.0 dB**. The default trim level for each output is **0.0 dB**, so the level for each output can be raised a total of **+6.0 dB** or attenuated an additional **-100.0 dB**.

To **increase** the level of an output relative to the others, press the **UP** Output Trim button () for that input.

To **decrease** the level of an output relative to the others, press the **DOWN** Output Trim button () for that input.

Mute

It is possible to mute an individual output.



To **mute** an output, press the **Mute** button for that output.

To **unmute** an output, press the **Mute** button for that output again.

Programming

HTML Programming

Though it is not necessary to use any of the HTML programming functions, you will probably find them helpful in setting up your Boulder 3010 Preamplifier.

All HTML programming is accomplished by accessing the 3010 HTML page while the preamplifier is powered up and connected to a live network. Once the page is accessed, the various programming functions can be viewed, changed, and saved.

To access the 3010's HTML page, you will need a computer that is connected to the same network as the 3010.

To find the HTML page IP address, press the **Setup** button, followed by the **System Info** button. You will see a list of information about the 3010, including:

Serial Number:
IP Address:
MAC Address:
Firmware Version:

If a firmware update is available, you will also see the following:

Update Available:

Serial Number: The Serial Number of the unit is assigned at the factory and is indicated here. It is permanent and cannot be changed by a user.

IP Address: If the 3010 is attached to an active network, the IP address of the unit will be indicated here. This is useful when accessing the HTML page for programming. *For information regarding programming via the HTML page, please see page 4-2.*

MAC Address: The network MAC address is indicated here. This is useful for networks where specific MAC addresses are given permission to access a network.

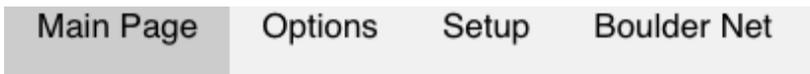
Programming

Firmware Version: The Firmware Version indicates the firmware revision installed in the 3010.

Update Available: If a new firmware update is available, it will be listed here. In the event that an update is available, it can be installed by pressing the **Install** button on the far left-hand side of the Button Bar. If you do not wish to install the update, press the **Cancel** button and the update will not be installed.

Page Tabs

The HTML screen is divided into four tabbed pages: **Main Page**, **Options**, **Setup** and **Boulder Net**. The tabs for these pages can be found in the upper left-hand corner of the HTML screen. Clicking on each tab will present a different set of control options.



Main Page

Master Volume



The **Master Volume Slider** adjusts the volume control and attenuation of the 3010. When adjusted, the Master Volume Slider will control the output of all three outputs simultaneously and has a range from **INF** (infinite attenuation) to **0.0 dB** (+20.0 dB of gain and maximum output). The volume control setting will appear under the left side of the Master Volume Slider.

To **increase** the volume of the 3010, click on the **Master Volume Slider** and move it to the **right**. An indication such as “**-40.0**” will appear in the

Programming

Volume portion of the front panel display. At this point you should hear music from the system.

To **decrease** the volume of the 3010, click on the **Master Volume Slider** and move it to the **left**. Moving the slider as far left as possible will drop the volume to no output and the display will indicate “**INF.**”

NOTE: *The Scale and Volume Step resolution may be changed. Please see “Volume Scale and Resolution” in the Setup section of this manual on page 2-20 or page 4-17.*

CAUTION: *The volume control must adjusted carefully, as it has the ability to get loud very quickly. Never move the Master Volume Slider quickly while the system is powered ON!*

WARNING: *If the selected input is programmed for “THEATER MODE,” the volume control will have no effect.*

NOTE: *The actual output level is the volume level indicated in addition to the programmed Input and Output level. Input and Output levels can be adjusted during Setup programming (see pages 4-6 and 4-7).*

Settings

There are two checkboxes on the Main Page, **Mute** and **Soft**.

- Mute
- Soft

Mute

- Mute

It is possible to **Mute** the outputs so that the 3010’s outputs are reduced to infinite attenuation.

To mute the outputs, click on and mark the checkbox marked **Mute**.

To unmute the outputs, click on and unmark the checkbox marked **Mute**.

Programming

Soft

Soft

The **Soft** feature allows for temporary volume reduction without losing the original setting. The level of Soft mode attenuation is indicated in dB (decibels).

For example, engaging the Soft function will attenuate the output to a level suitable for conversation.

To engage the **Soft** function, click on and mark the checkbox marked **Soft**.

To disengage the **Soft** function, click on and unmark the checkbox marked **Soft**.

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

Blend



The **Blend Slider** adjusts the 3010's output from wide stereo separation to mono output. This may be useful when listening to recordings with images that are hard-panned to one channel or when listening to monaural phono recordings with a stereo phono cartridge. The Blend function is adjusted and indicated in decibels (dB).

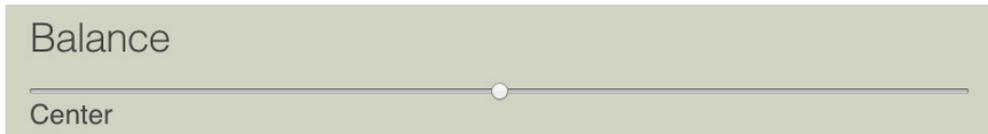
The Blend control adjustment is divided into a total of 16 steps, from **Stereo** (full channel separation) to **Mono** (no stereo separation). Each step increases the amount that the left and right channels are merged. The default Blend level is **Stereo**.

Programming

To **increase** the level of Blend, click on the **Blend Slider** and move it to the **right**. An indication such as “-12” will appear in the Blend Box on the front panel display.

To **decrease** the level of Blend, click on the **Blend Slider** and move it to the **left**.

Balance



The **Balance Slider** adjusts the left-to-right level balance. When the output from both channels is equal “**Center**” will show in the Balance portion of the front panel display.

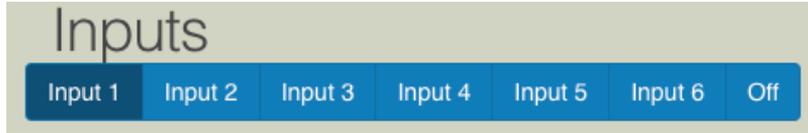
To shift the balance to the **right**, click on the **Balance Slider** and move it to the **right**. An indication such as “**L -2.0**” will be displayed. This will attenuate the left channel -2.0 dB below the right channel, regardless of volume setting, making the right channel louder.

To shift the balance to the **left**, click on the **Balance Slider** and move it to the **left**. An indication such as “**R -2.0**” will be displayed. This will attenuate the right channel -2.0 dB below the left channel, regardless of volume setting, making the left channel louder.

The range of balance offset is limited to **-20.0 dB**. If the slider is moved to the end, the attenuated channel will be muted.

Programming

Inputs



Inputs 1 – 6 are grouped in a **blue** Input Bar, with each input occupying a button within the bar. To select an input, click on the button for the desired **input**. When an input is selected for listening, the box color for that input will change to **dark blue**.



Input Trim



When an input is selected, the box below the Input Bar will show the **Input Trim Slider** for the selected input. The Input Trim Slider allows you to make adjustments to 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.

Trim Level adjustments are made in **0.1 dB** steps for a total of **25.0 dB**. The default trim level for each input is **-6.0 dB**, so the level for each input can be raised a total of 6.0 dB or attenuated an additional **-19.0 dB**. The level of Trim is indicated in dB (decibels) below the left side of the Input Trim Slider.

To **increase** the level of an input relative to the others, click on the **Input Trim Slider** and move it to the **right**.

To **decrease** the level of an input relative to the others, click on the **Input Trim Slider** and move it to the **left**.

Programming

It is possible to temporarily **disable** an input. To do so, click on the desired **input** and then click on the box marked **Off**. The box will turn **dark blue**. The selected input will now be disabled.

To **enable** an input, click on the desired **input** and then click on the box marked **Off**. The box will return to **blue** and the input will now be enabled.

Outputs

There is a box for Outputs 1, 2, and 3 on the Main Page. Each box contains the basic functions for each output and the controls in each box will only affect that Output.



Output Trim

Each of the three outputs can be individually adjusted for output level **Up** or **Down**.



Output Trim Sliders for each output are shown in three boxes. These sliders allow you to make adjustments to the output level of each output relative to all others. For example, this may be useful when trying to even out the frequency response of the loudspeaker in a bi- or tri-amplified system.

Trim Level adjustments are made in a range from **-100.0 dB** to **+6.0 dB** in **0.5 dB** steps for a total of **106.0 dB**. The default trim level for each output is **0.0 dB**, so the level for each output can be raised a total of **+6.0 dB** or attenuated an additional **-100.0 dB**.

4-7

Programming

To **increase** the level of an output relative to the others, click on the **Output Trim Slider** and move it to the **right**.

To **decrease** the level of an output relative to the others, click on the **Output Trim Slider** and move it to the **left**.

Mute



It is possible to **Mute** the outputs so that the 3010's outputs are reduced to infinite attenuation.

To mute an output, click on the **Mute** checkbox in the bottom left corner of the desired output.

To unmute an output, click on the **Mute** checkbox in the bottom left corner of the desired output again.

Toggle Standby

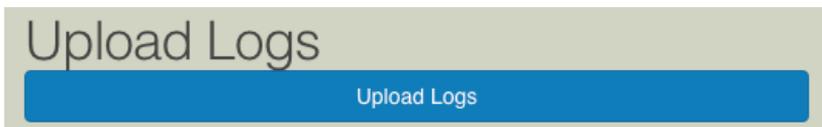


The 3010 can be toggled in and out of **Standby** mode.

To place the 3010 in **Standby**, click on the **button** marked **Standby**.

To bring the 3010 out of Standby mode, click on the **button** marked **Standby** again.

Upload Logs



The 3010 keeps a running log of errors and system crashes. At times it may be useful to send these logs to the Boulder factory to help eliminate

Programming

software bugs or improve development. To do so, the 3010 must be connected to a network with an active Internet feed.

To send the stored logs to the Boulder factory, click on the **button** marked **Upload Logs**. The page will immediately refresh once the logs have been sent.

Version

Version

0.88

The software version of the 3010 will be indicated here. For example, it may be shown as “**1.06**”.

Serial Number

Serial Number:

Demo

The serial number of the 3010 will be indicated here. It cannot be changed.

Options

Mute

Options

Mute

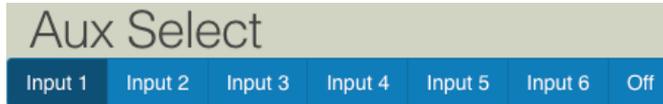
It is possible to **Mute** the outputs so that the 3010’s outputs are reduced to infinite attenuation.

To **mute** the outputs, click on and mark the checkbox marked **Mute**.

To **unmute** the outputs, click on and unmark the checkbox marked **Mute**.

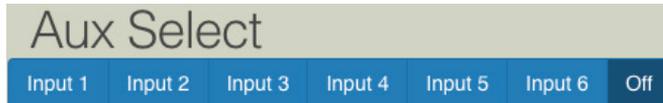
Programming

Aux Select



Inputs 1 – 6 are grouped in a **blue** bar, with each input occupying a button within the bar. To select an input to route to the **Auxiliary Output**, click on the box for the desired **input**. When an input is selected, the button color for that input will change to **dark blue** and that the audio from that input will be routed to the Auxiliary Output.

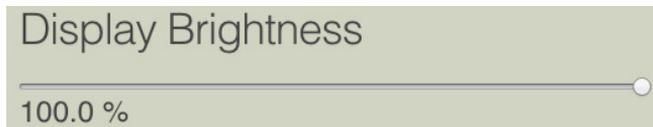
It is possible to **disable** the ability for an input to be sent to the Auxiliary Outputs in the event that it will not be used. To do so, click on the desired **input** and then click on the box marked **Off**. The box will turn **dark blue**. The selected input will now be disabled.



To **enable** an **input**, click on the desired **input** and then click on the box marked **Off**. The box will return to **blue** and the input will now be enabled.

The Auxiliary Output can also be set to follow the Main Outputs. *See page 4-19 of the HTML Programming section.*

Display Brightness



Display Brightness will adjust the illumination of the display as well as turn the display completely off. The Display Brightness setting determines the brightness of the display in **20 steps**, from 0% (off) to 100% (maximum brightness).

To **increase** the **Display Brightness**, click on the **Display Brightness Slider** and move it to the **right**.

Programming

To **decrease** the **Display Brightness**, click on the **Display Brightness Slider** and move it to the **left**.

Polarity

Output Polarities



NOTE: Polarity is often referred to as “phase.” However, “phase” indicates any angle between two channels, from 0 to 360 degrees. The term “polarity” is used to indicate 180° phase change, or inversion, as available in the 3010 Preamplifier.

Each output of the 3010 defaults to Pin 2 “High” or hot. The **Output Polarity** checkbox will allow you to invert the polarity of an individual output to compensate for amplification in an independent zone or to test the polarity of each portion of a bi- or tri-amplified system.

To **invert** the polarity of a specific output, click on the checkbox marked **Polarity** for that output. When the checkbox is selected, the polarity will be inverted or 180 degrees out of phase and an inverted phase icon will appear in the Output’s box on the front panel display.

To **un-invert** the polarity of a specific output, click on the checkbox again to **uncheck Polarity** for the desired output.

Polarity Absolute



NOTE: Polarity is often referred to as “phase.” However, “phase” indicates any angle between two channels, from 0 to 360 degrees. The term “polarity” is used to indicate 180° phase change, or inversion, as available in the 3010 Preamplifier.

Programming

To **invert** the polarity of all active Main Outputs, click the **Polarity Absolute** checkbox. An inverted phase icon will appear in the Volume box on the front panel display.

To return to normal (non-inverted) polarity, click the **Polarity Absolute** checkbox again. Both channels of all enabled outputs will no longer be inverted.

Polarity Right Channel

Polarity Right Channel

NOTE: *Polarity is often referred to as “phase.” However, “phase” indicates any angle between two channels, from 0 to 360 degrees. The term “polarity” is used to indicate 180° phase change, or inversion, as available 51 in the 3010 Preamplifier.*

It is possible to invert the polarity of only the right channel of all enabled Main Outputs. This can be useful when trying to determine if a speaker cable, interconnect cable, or phono leads may be wired incorrectly within the system.

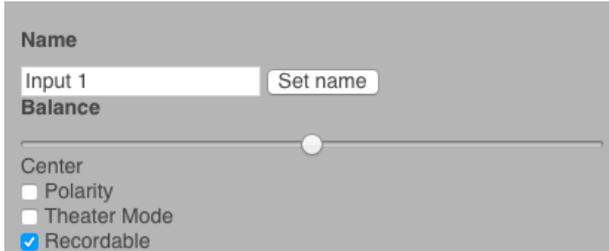
To **invert** the polarity of the **right channel** of all enabled Main Outputs, click the **Polarity Right Channel** checkbox. A Right Channel Inverted Phase icon will appear in the Volume box on the front panel display

To **return to normal** (non-inverted) polarity, click the **Polarity Right Channel** button again. The right channel of all Main Outputs will no longer be inverted.

Programming

Setup

Inputs



The screenshot shows a control panel for 'Input 1'. At the top, the word 'Name' is displayed above a text box containing 'Input 1' and a 'Set name' button. Below this, the word 'Balance' is displayed above a horizontal slider with a white knob in the center. Underneath the slider, there are three checkboxes: 'Polarity' (unchecked), 'Theater Mode' (unchecked), and 'Recordable' (checked).

A box is visible for each of the six inputs. This box contains setup controls for the following functions: **Name**, **Balance**, **Polarity**, **Theater Mode**, and **Recordable**.

Name



The screenshot shows the 'Name' control panel for 'Input 1'. It features the word 'Name' above a text box containing 'Input 1' and a 'Set name' button.

It is possible to enter a custom name for each input so that it can easily be identified on the preamplifier's Home Screen display.

At the top of each input's section there you will see the word **Name** above a box containing words such as "**Input 1**" or an existing custom input name. Click on the **Name** box and type the new input name you would like within the box, then click on the button marked **Set Name**. The new name will now appear on the 3010's front panel display. It is possible to rename all of the 3010's inputs this way.

Balance



The screenshot shows the 'Balance' control panel for 'Input 1'. It features the word 'Balance' above a horizontal slider with a white knob in the center. Below the slider, the word 'Center' is displayed.

The **Balance Slider** adjusts the left-to-right level balance in **0.1 dB** steps. When the output from both channels is equal "**Center**" will show below the left side of the Balance Slider.

Programming

To shift the balance to the **right**, click on the **Balance Slider** and move it to the **right**. An indication such as “**L -3.6**” will be displayed below the left side of the Balance Slider. This will attenuate the left channel -3.6 dB below the right channel, regardless of volume setting, making the right channel louder.

To shift the balance to the **left**, click on the **Balance Slider** and move it to the **left**. An indication such as “**R -3.6**” will be displayed below the left side of the Balance Slider. This will attenuate the right channel -3.6 dB below the left channel, regardless of volume setting, making the left channel louder.

The range of balance offset is limited to **-12.0 dB** per channel. If the slider is moved to its end point, the attenuated channel will be muted.

Polarity

Polarity

Each input of the 3010 defaults to Pin 2 “High” or hot. The **Polarity** checkbox will allow you to invert the polarity of an input to compensate for a source with inverted output.

To **invert** the polarity of a specific input, click on the **Polarity** checkbox. When the checkbox is selected, the polarity will be inverted or 180 degrees out of phase.

To **un-invert** the input, click on the **Polarity** checkbox again.

NOTE: *Polarity is often referred to as “phase.” However, “phase” indicates any angle between two channels, from 0 to 360 degrees. The term “polarity” is used to indicate 180° phase change, or inversion, as available in the 3010 Preamplifier.*

Theater Mode

Theater Mode

Theater Mode sets the selected input’s to ‘Unity Gain’. This allows the

Programming

3010 to be easily integrated into a surround sound or theater system. Theater Mode is only intended to be used with a surround sound processor. When operating in Theater Mode the 3010's Volume Control, Input Trim, Input Balance, Balance and Output Trim are disabled. Therefore, only the surround sound processor can control the volume level.

WARNING: *Use Theater Mode with extreme caution! It is important to remember that the 3010 volume control is disabled for this input immediately upon its activation in the programming menu.*

To **enable** Theater Mode for an input, click on the checkbox marked **Theater Mode**.

To **disable** Theater Mode, click on the checkbox again to **uncheck Theater Mode**.

NOTE: *Input level remains inoperative when theater mode is active.*

Recordable

Recordable

Recordable disables the volume, balance and polarity controls for the selected input and sends the audio signal from that input to the Auxiliary Outputs so that they can be recorded.

To **enable** Recordable mode for an input, click on the **Recordable** checkbox.

To **disable** Recordable mode, click on the **Recordable** checkbox again.

Restore Default Input Names

Restore Default Input Names

To **restore** the name of all inputs to the original factory defaults, click the button marked **Restore Default Input Names**. All custom input names will immediately be deleted and the input names will be returned to the factory defaults.

Programming

Outputs

Name

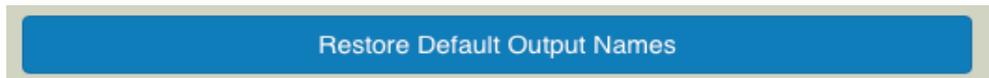


A screenshot of a user interface for naming an output. It features a grey header with the word "Name" in bold. Below the header is a white text input field containing the text "Output 1". To the right of the input field is a grey button with the text "Set name" in white.

A box is visible for each of the three outputs. In each Output box it is possible to enter custom names for each of the outputs so that they can easily be identified on the front panel display Home Screen.

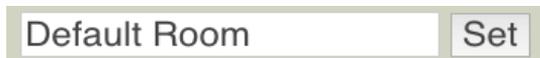
At the top of each output's section there you will see the word **Name** above a box with words such as “**Output 1**” or an existing custom output name inside. Type the new output name you would like in the box and then click on the button marked **Set Name**. The new name will now appear on the 3010's Home Screen. It is possible to rename all of the 3010's outputs this way.

Restore Default Output Names



To restore the name of all outputs to the original factory defaults, click the button marked **Restore Default Output Names**. All custom output names will be deleted. All custom output names will immediately be deleted and the output names will be returned to the factory defaults.

Room



A screenshot of a user interface for naming a room. It features a grey header with the word "Room" in bold. Below the header is a white text input field containing the text "Default Room". To the right of the input field is a grey button with the text "Set" in white.

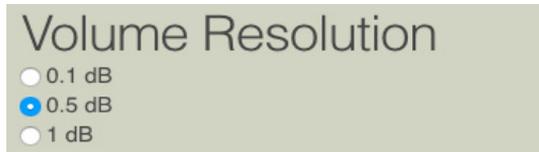
The 3010 may be used as a part of a larger, whole-home audio system in an Open Home system and can be named to make identification of the system being used easier.

For example, if your home has separate audio and home cinema systems and each has a 3010, you would be able to name one system “Listening Room” and another system “Home Cinema” so that they appear on your home network under those names. It is also possible to assign various

Programming

components to different systems using the room naming process. To assign a room name, click on the box marked “**Room:**” Type the name you would like in the box and then click on the button marked **Set**. The new name will now appear on the 3010’s Home Screen.

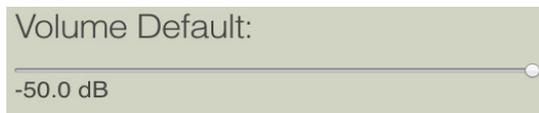
Volume Resolution



There are three options for the Master Volume control’s step resolution. Clicking on one of these options enables you to choose the step rate at which the volume control is raised or lowered.

To adjust the **Volume Resolution**, click on one of the options next to **0.1 dB**, **0.5 dB**, or **1.0 dB**. The Master Volume control will immediately change to the selected Volume Resolution.

Default Volume



Default Volume determines the volume setting that the 3010 will automatically go to when brought out of Standby mode to prevent loud settings from previous listening sessions. Settings in 1.0 dB steps from **-90.0** to **-50.0** or anywhere in between can be entered. The Default Volume setting from the factory is **-100.0 dB**.

For example, setting the Default Volume level of -60.0 dB will cause the 3010 to always set the volume at -60.0 dB when coming out of Standby.

To enter the Default Volume, click on the **Default Volume** slider and move the slider until the desired Default Volume setting is indicated under the left side of the Default Volume slider.

Programming

Max Volume



The maximum allowable volume setting can be programmed to prevent children or other users from turning the system up too loud. Settings in 1.0 dB steps from **-100.0 dB** to **0.0 dB** or anywhere in between can be entered.

For example, when Max Volume level is set to -15.0 dB, the volume control can only be turned up to -15.0 dB before the volume control will stop responding.

To enter the Max Volume, click on the **Max Volume** slider move the slider until the desired Max Volume setting is indicated under the left side of the Max Volume slider.

Soft Level



The level of attenuation for the Soft mode can be programmed. Settings in 1.0 dB steps from **-20.0 dB** to **-6.0 dB** or anywhere in between can be entered.

For example, when the Soft Level is set to -15.0 dB, the volume will drop -15.0 dB from its original setting.

To enter the Soft Level, click on the **Soft Level** slider move the slider until the desired Soft Level setting is indicated under the left side of the Soft Level Slider.

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

Programming

Settings

The following functions can be activated via the checkboxes in the Settings section: Aux Polarity, and Aux Follows Main.

Aux Polarity

Aux Polarity

NOTE: Polarity is often referred to as “phase.” However, “phase” indicates any angle between two channels, from 0 to 360 degrees. The term “polarity” is used to indicate 180° phase change, or inversion, as available in the 3010 Preamplifier.

The Auxiliary output of the 3010 defaults to Pin 2 “High” or hot. The **Aux Polarity** checkbox will allow you to invert the polarity of the Auxiliary output to compensate for a connected device that inverts polarity.

To **invert** the polarity of the Auxiliary output, click on the **Aux Polarity** checkbox. When the checkbox is selected, the polarity will be inverted or 180 degrees out of phase.

To **un-invert** the output, click on the **Aux Polarity** checkbox again.

Aux Follows Main

Aux Follows Main

It is possible to configure the 3010 to automatically direct the selected input to the Auxiliary output.

To **enable** Aux Follows Main, click the **Aux Follows Main** checkbox.

To **disable** the Aux Follows Main function, click and uncheck the **Aux Follows Main** checkbox.

Programming

Restore Factory Defaults



Restore Factory Defaults

It is possible to restore all programming to the original, factory default settings by pressing the **Reset Factory Defaults** button.

To restore the 3010 to the original factory default settings, click on the **Restore Factory Defaults** button. The 3010 will immediately restore the original factory settings.

NOTE: When factory default settings are restored, all programmed names and settings will be lost and cannot be retrieved.

Recording

Connecting a Recording Device

A recording device can easily be connected to the Boulder 3010 Preamplifier.

One output labeled “**AUX OUT**” is provided on the rear panel of each channel. Connect these to the inputs of your recording device.

Record Source Selection



Any of the 6 inputs may be routed to the auxiliary output.

To program an input to be sent to the Auxiliary Output, press the **Option** button on the front panel Button Bar, followed by the **Aux Select** button. Now press one of the **Input 1 – 6** buttons on the left side of the display. This will route the selected input to Auxiliary Outputs. The front panel display will also show the selected input outlined in **green**.

To have the selected input automatically be routed to the Auxiliary Output, press the **Setup** button on the front panel Button Bar, then press the **Aux Settings** button. Rotate the **Center Control Knob** to the right (clockwise) until “**On**” appears in the box on the right-hand side of the front panel display.

Recording

Programming for Recording



Instead of having hardware-dedicated inputs for playback (tape) monitors, any input may be chosen for this purpose through software selection. Connect the outputs of these recorders to any input you have chosen in the previous section.

To program the selected input for recording, press the **Setup** button on the front panel Button Bar, followed by **two** presses of the **Input Theater/Record** button. When the front panel display shows “**Input Recordable**” on the left side of the display, rotate the **Center Control Knob** to the **right** (clockwise) until “**Yes**” appears in the right-hand box in the front panel display. Press any button on the front panel Button Bar to save this setting.

Appendix

Technical Specifications

Balanced Inputs	6 x 3-pin XLR
Balanced Outputs, Each One Of Three	2 x 3-pin XLR
AUX Balanced Outputs	1 x 3-pin XLR
Maximum Input Level	7 Vrms
Maximum Output Level	28 Vrms
THD+N, 2V Output, from 20 Hz to 5kHz At 20 kHz	0.0008% (-102 dB) 0.001% (-100 dB)
Maximum Voltage Gain	20 dB
Volume Range	100 dB
Volume Steps	0.1, 0.5, 1.0 dB \pm 0.01 dB
Aux Path Gain	-1 dB
Frequency Response, 20 Hz to 5kHz	+0.00, -0.03 dB
Frequency Response, -3 dB	0.02 Hz & 300 kHz
Input Impedance	333k Ω Balanced
Output Impedance	100 Ω Balanced
Power Requirements	90-120V / 200-240V, 50 - 60 Hz
Power Consumption	240W Max

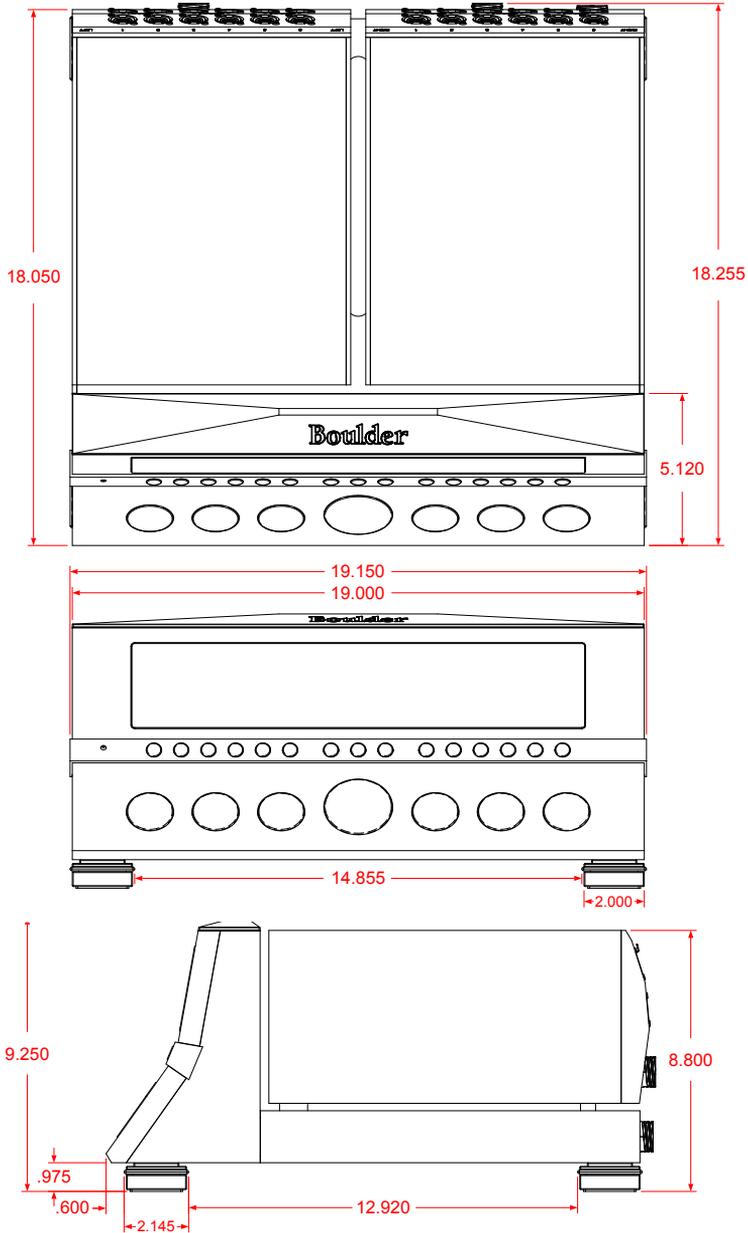
All specifications taken at 240 VAC mains Power

Weights and Dimensions

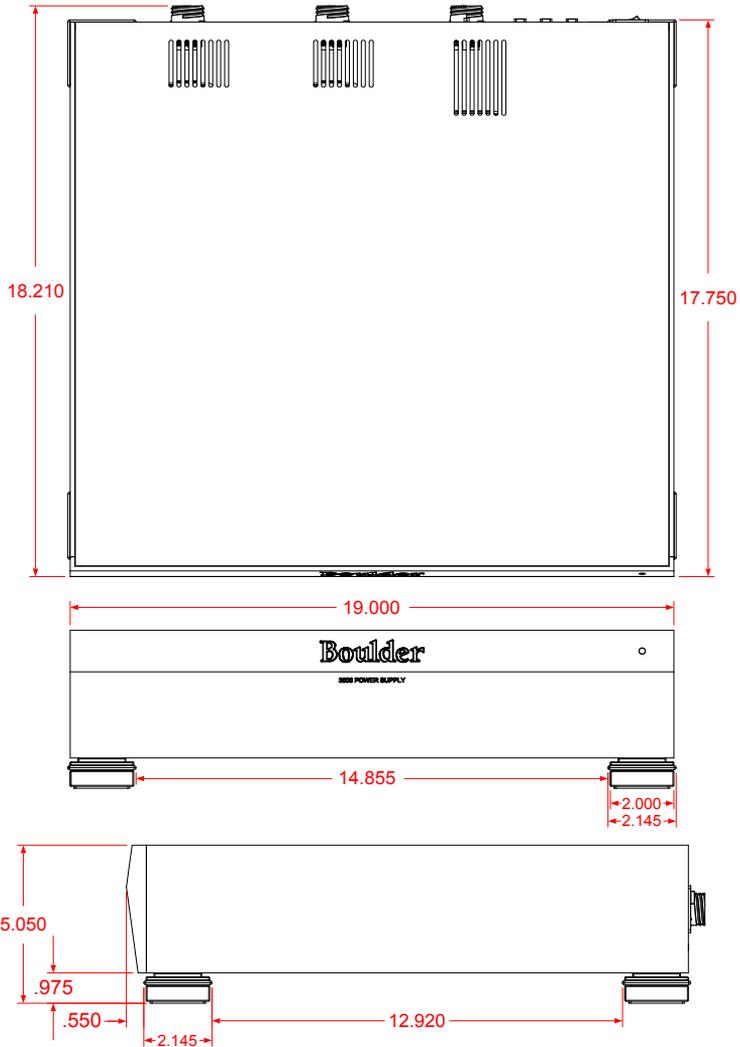
3010 Preamplifier Chassis:	19"W x 18"D x 9.25"H (78lbs.)
3000 Power Supply Chassis:	19"W x 18"D x 5.1"H (45 lbs.)
Shipping (Preamp + Power Supply):	27"W x 33"D x 26"H (235 lbs.)

Appendix

3010 Preamplifier Dimensions



3000 Power Supply Dimensions



Appendix

Troubleshooting

SYMPTOM	CAUSE	REMEDY
No Power Indication	Rear panel power switch is not on	Turn on power switch
	Preamplifier is not plugged in	Connect to an AC Mains outlet
	Home circuit breaker is tripped	Have line voltage checked
Red power indication	Low line voltage	Reset breakers on rear panel
	Defective power cable	Have cable tested
	Defective power supply	Return to dealer for service
White power indication, but no sound from one channel	No signal from one channel of source	Check source controls, cables, and connections
	One Channel is muted by balance control	Re-center balance on preamp
	No signal out to Preamplifier	Check connections from preamplifier.

