

Model 112
Stereo Power Amplifier
Owner's Manual

Introduction

Welcome to the Jeff Rowland Design Group "family" and congratulations on your purchase of what is unquestionably one of the world's finest audio power amplifiers. **With** its combination of features such as numerous function control and interconnect possibilities, precision electronic circuitry, and accurately machined chassis components throughout, your Model 112 Stereo Power Amplifier will offer you many years of musically satisfying enjoyment. Please take a few minutes to read the remainder of this Owner's Manual before proceeding with the installation of the amplifier. A thorough understanding of the operational features will allow you to gain the maximum performance and ease of use for which this amplifier was designed. Please note that your Model 112 Stereo Amplifier serial number begins with the letter "L." This number is recorded below and is also located on the rear panel of the chassis. Please include this number with any correspondence regarding your Model 112 Stereo Amplifier. It has been my joy to create an audio component of enduring value that reflects a higher ideal of musical and artistic expression. It is my hope that these qualities will enrich your experience of ownership.

Enjoy the music!

Jeff Rowland

President

Jeff Rowland Design Group

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Product Features

- XLR input connectors for balanced (Differential Mode™) system configuration.
- RCA input Connectors for unbalanced system configurations.
- Selectable overall gain of 26 or 32 dB.
- User selectable switching between balanced and unbalanced connections.
- 12V remote ON/OFF power switching connector.
- Automatic temperature stabilizing circuitry maintains constant operating temperature.
- CE approved speaker output connectors requiring no tools for tight connections.
- Automatic bias adjustment maintains optimal bias setting regardless of source material or loudspeaker load.
- Standby power condition reduces warm-up time.
- Fail-safe operation provided by user-resettable thermal circuit breakers located on rear panel.
- Quiet, transient-free operation during power and function mode switching.
- Automatic input muting under anomalous input or output operating conditions.
- Fully-balanced Differential Mode™ circuit topology implemented from input to output.
- Low resonance, structurally integrated chassis constructed of precision-machined aircraft grade aluminum.

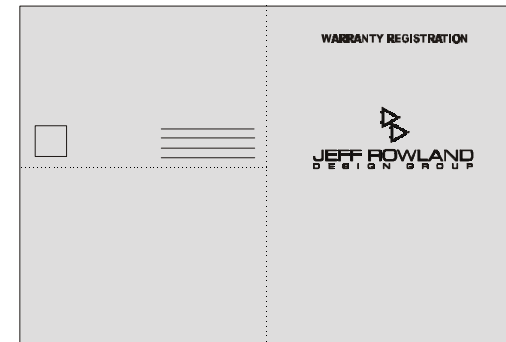
Contents



Model 112 Stereo
Power Amplifier



AC Power Cable



Warranty Card

Initial Inspection

Inspect the shipping container for damage. If the shipping container, packing material, amplifier, or accessories are damaged or missing, notify your dealer and the shipper (if a claim is to be made) immediately. **Note:** *Many shippers require notification and inspection within twenty-four hours of delivery to determine the nature of damages incurred.*

Your Model 112 Stereo Power Amplifier has undergone extensive performance evaluations, listening tests, quality control inspections, and a minimum seventy-two hour burn-in period prior to shipment and should therefore be in perfect operating condition upon receipt. If the amplifier does not operate correctly, please notify your dealer immediately.

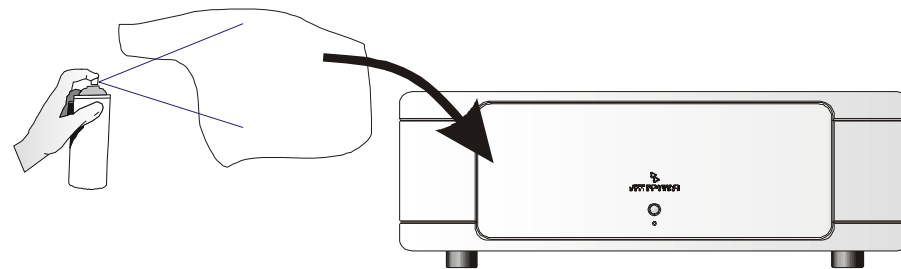
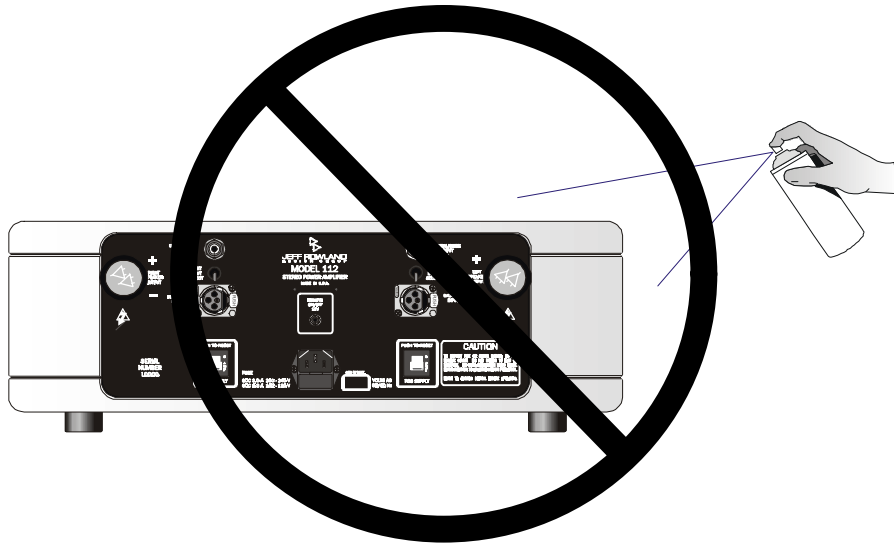
We strongly suggest that you save all packing materials. If the amplifier is to be returned to your dealer or Jeff Rowland Design Group, the original packing materials must be used for shipment to avoid damage. Neither Jeff Rowland Design Group nor the shipper can be held responsible for damages incurred during transit if the original factory packing is not used. All factory returns require that Jeff Rowland Design Group issue a Return Authorization (RA) number prior to shipment.

Contents

Ensure that all of the auxiliary components listed below are enclosed within the accessory box. Refer to the diagrams illustrated above and verify the components included.

- 1 One AC Power Cable
- 2 One Warranty Card (In some countries, warranties are provided by the respective importer.)

Care, Cleaning, and Maintenance



Care

The Model 112 Stereo Power Amplifier is finely constructed from pieces of solid aluminum. The surface of the unit is cut in a unique process that uses a diamond tipped blade. This process was refined over many years to produce an artistic and attractive finish. The front, top, bottom and side panels are then finished with fine automobile polyurethane clear coat after a light anodizing to preserve the clarity of the finish and are not raw or exposed metal.

Because the surface is not finished in the typical fashion of most audio and video equipment, there are a few rules that must be kept in mind when cleaning the equipment.

- Please allow the unit to cure for 6 months before attempting to clean it. This will prevent small scratches from marring the surface before the surface coating has had a chance to harden completely.
- The top cover, sides, and bottom cover can all be cleaned with a soft cotton cloth (such as an optical lens cleaning cloth or fine furniture polishing rag) dampened with plain water. Water should be applied directly to the cloth and not the chassis. If a mark has been left on the chassis, do not use any type of abrasive or chemical cleaner to remove the mark. A very mild plastic or glass cleaner that does not contain ammonia should be tried only as a last resort. Please contact the factory before trying any type of cleanser on the chassis other than water to clean the unit.
- The front panel of the unit should never be cleaned with anything other than a very soft cotton cloth and plain water or fine oil-

based furniture polish. Because of the fine finish of the front panel, small scratches from the use of any other agent to clean the front panel will become very visible. Again, the water or polish should be applied to the cloth, not the chassis.

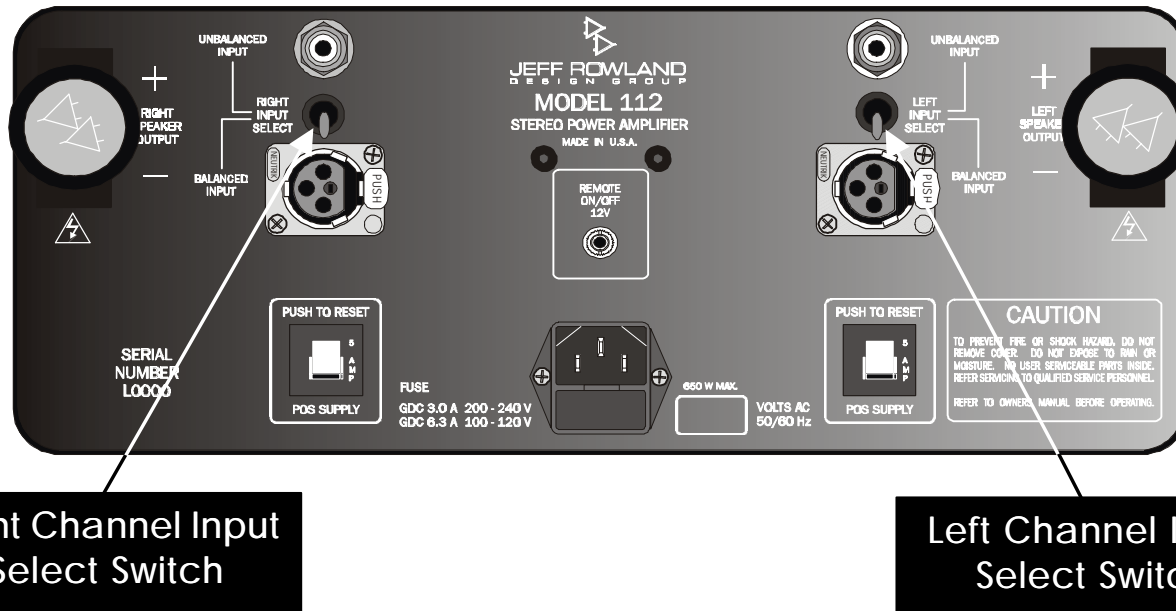
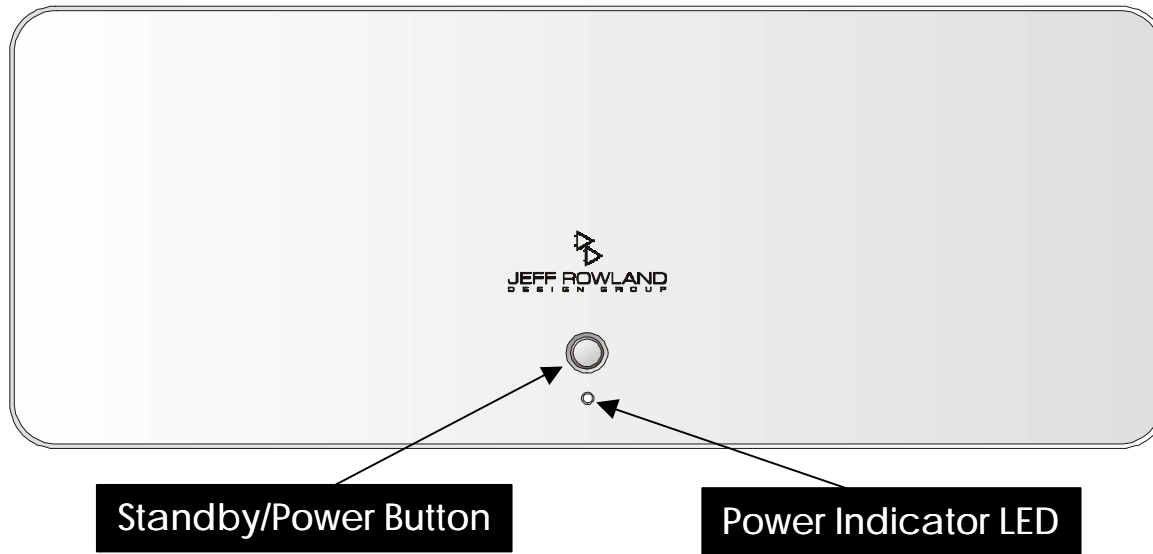
If you have any questions about the treatment or cleaning of your Model 112 amplifier, please contact your dealer or the Jeff Rowland Design Group factory before attempting to clean the chassis. The use of a cleanser or abrasive to clean the chassis that has not been approved by the factory will almost certainly damage the finish and will not be covered under warranty.

Maintenance

All Jeff Rowland Design Group products are designed to provide a lifetime of enjoyment and listening pleasure. The chassis is sealed to prevent dust from entering and the interior of the chassis should not need cleaning during the lifetime of the product. All internal circuitry is self-adjusting or stable so no adjustments or maintenance of any kind should be necessary over a lifetime of normal operation.

If the amplifier is ever in need of service, updating, or upgrading, it should only be returned to an authorized repair facility or technician for servicing. It is not recommended that the customer attempt to disassemble or repair the unit and doing so may void your warranty.

Amplifier Front and Rear Panel Function Controls



Amplifier Front and Rear Panel Function Controls

Before attempting any system interconnection, please familiarize yourself with the front and rear panel controls of the Model 112 Stereo Power Amplifier. The descriptions below refer to the diagrams above.

Front Panel

- 1 **FRONT PANEL STANDBY/POWER BUTTON:** Press this button to operate the amplifier. Press again to place the amplifier in Standby mode. The small orange POWER INDICATOR LED will illuminate when the amplifier is operational. When the POWER INDICATOR LED is not illuminated, all amplifier inputs are muted and internal circuitry reverts to power-saving (Standby) mode. Anomalous operating conditions will place the amplifier in Standby mode and will prevent the amplifier from being switched back on again until such a condition is eliminated.

To avoid spurious noises, the amplifier should never be turned on if the inputs on the rear panel are not connected.

Note: All ON/OFF power switching should be initiated *ONLY* with this button. The amplifier should never be disconnected from AC power without first placing the amplifier in Standby mode.

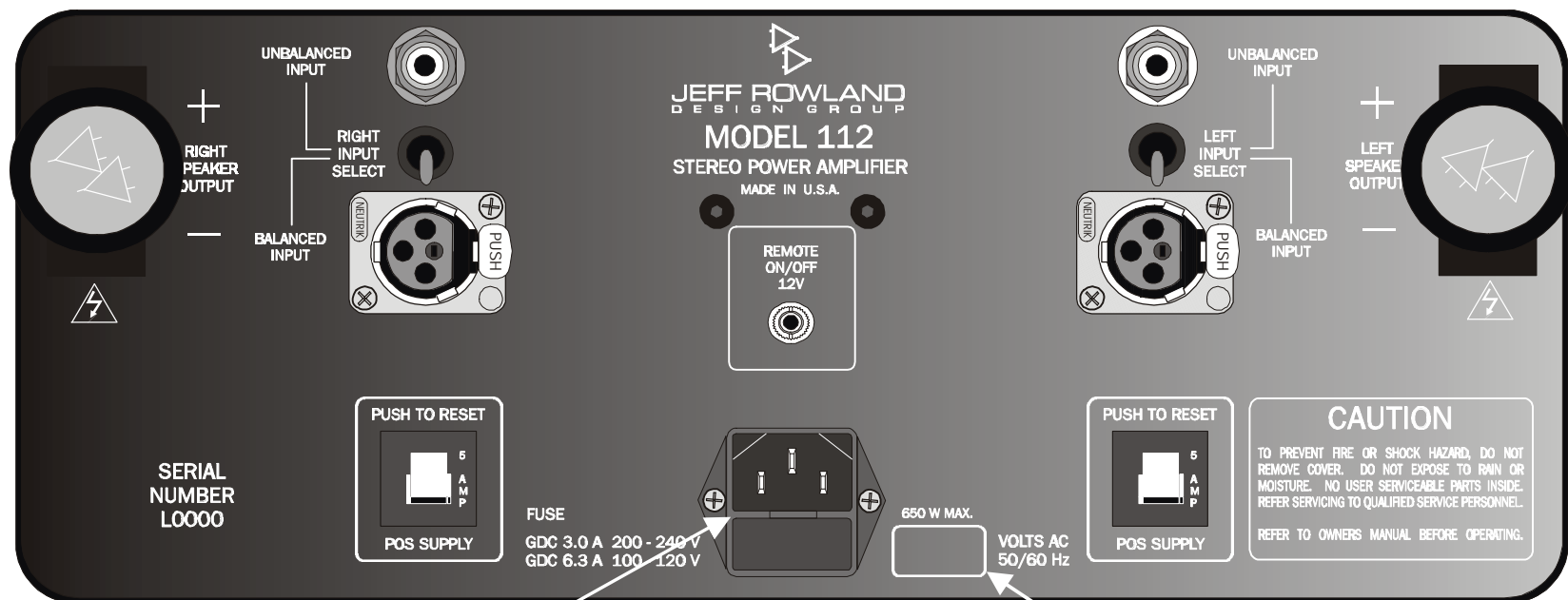
Rear Panel

(Note: If desired, the switch described below can be switched while the amplifier is operational and playing music.)

- 1 **INPUT SELECT SWITCH:** This switch selects either the unbalanced RCA inputs or the balanced XLR inputs. **Note:** When the RCA position is selected, pin 2 of the XLR is shorted to pin 1.

Rear Panel Power Connections

Amplifier Rear Panel



AC Power Cable Connector

Volts AC Indicator

Installation

Locate the amplifier as close as possible to its final installation point. Allow access to the rear panel for making connections.

The Model 112 Stereo Power Amplifier is convection cooled, eliminating the need for fan or forced-air cooling. When operating, the chassis should have at least two (2) inches of air space around the heatsink areas. Multiple units can be stacked vertically, facilitating an upward flow of warm air currents throughout the vertical heatsink areas. This upward flow must not be blocked or recirculated around the chassis if proper cooling is to be maintained.

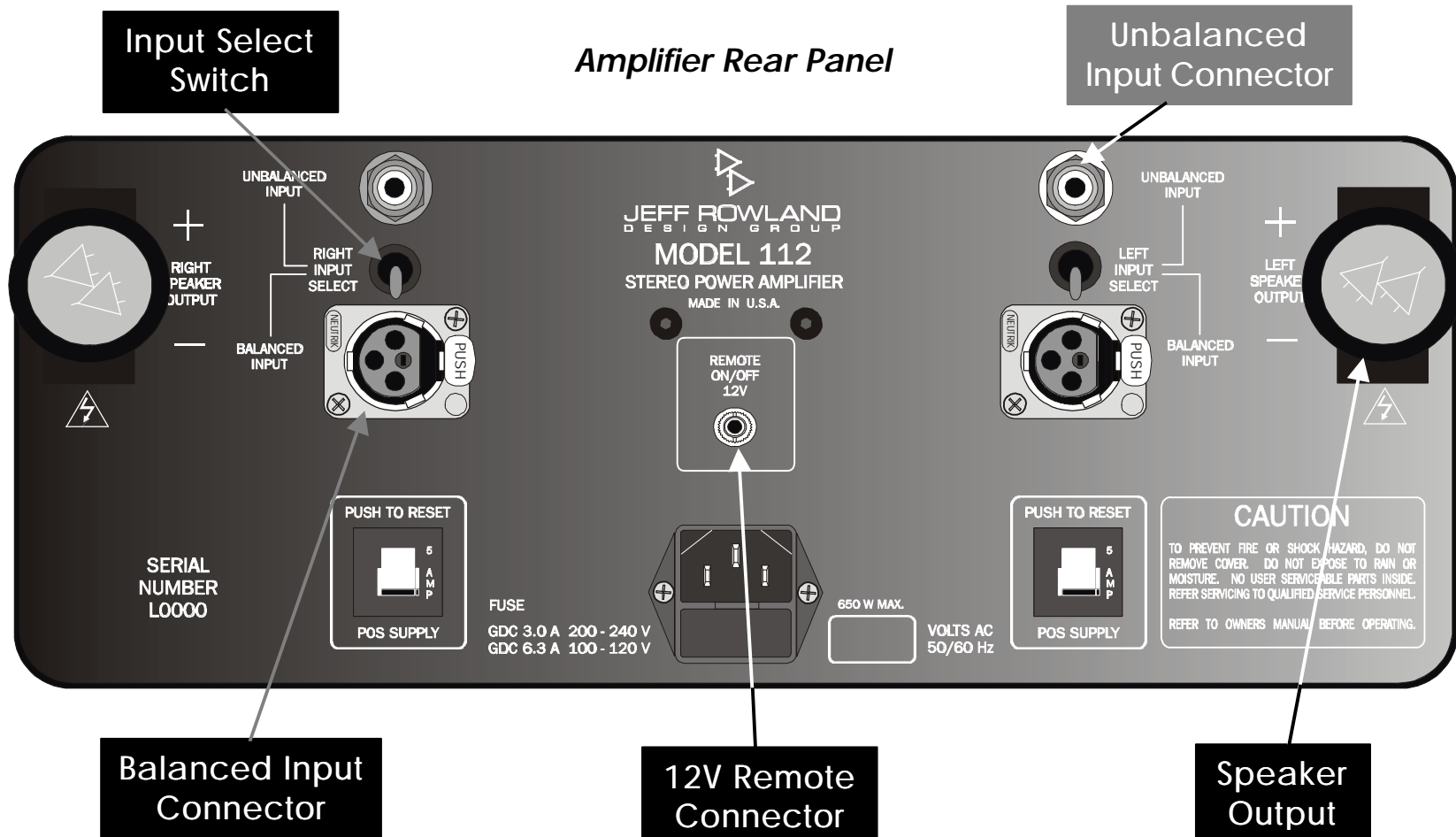
Rear Panel Power Connections

Important: Please strictly follow the steps in order as outlined below before operating your Model 112 Stereo Power Amplifier.

- 1 Verify that the VOLTS AC input identified on the rear panel near the AC input socket is the same as the AC mains voltage in your area. If the voltage does not match, do *not* connect the amplifier to AC power and contact your dealer immediately.
- 2 Verify that the AC MAINS CIRCUIT BREAKER and the POSITIVE and NEGATIVE SUPPLY CIRCUIT BREAKERS are closed.
- 3 Install the AC Power Cable between the amplifier and your AC mains outlet.

Note: *If the amplifier is to be moved to another location, always place the unit in Standby mode before disconnecting the AC power cable from the AC mains wall outlet!*

Signal Connections and Remote



Signal Connections

The Model 112 Stereo Power Amplifier offers unprecedented compatibility with associated audio components. When Connecting or disconnecting speaker or interconnect cables, it is necessary to place the amplifier in Standby mode (orange POWER INDICATOR LED on the front panel OFF).

- 1 If you are using balanced XLR interconnects from your preamplifier or source component, position the INPUT SELECT switch to BALANCED INPUT. If you are using unbalanced RCA interconnects, position the INPUT SELECT switch to UNBALANCED INPUT.
- 2 Connect your interconnect cable to one input – either BALANCED INPUTS or UNBALANCED INPUTS – on each channel.
- 3 A slight mechanical click may be heard when the balanced XLR interconnect cables are correctly installed and locked. The unlocking tab (located on the input connector and labeled “PUSH”) must be pressed to disconnect the XLR interconnect cable from the amplifier.
- 4 Unscrew the knob that secures the speaker output connectors on both the LEFT SPEAKER OUTPUT and the RIGHT SPEAKER OUTPUT and pull the securing block out far enough to allow access to the binding posts. Install the positive (usually red) loudspeaker cable spade terminal to the positive (+) binding post and the negative spade terminal to the negative (-) binding post on both the LEFT and RIGHT CHANNEL. Secure the loudspeaker connections by tightening the knob securely with your fingers.



Warning: Both positive and negative outputs are electrically active with respect to chassis and/or system ground potential. Therefore, this amplifier cannot be used in certain loudspeaker switching configurations, such as those used in retail demonstrations. Failure to avoid these precautions can result in damage to the amplifier and will void the warranty.

Remote

- 1 A 12V REMOTE ON/OFF mini-plug connector is provided on the rear panel of the power supply for remotely switching the amplifier between Operational and Standby modes. The connections on this connector parallel the electrical contacts of the FRONT PANEL STANDBY/POWER button. When connected to another component with the proper circuitry, the amplifier can be turned ON and OFF remotely. Please contact your dealer for further information about this feature.

Internal Function Controls

Overall Gain

The overall gain of the Model 112 Stereo Power Amplifier can be adjusted between 26 dB and 32 dB. The setting from the factory is 26 dB, which is adequate for the majority of applications, though in a small number of situations involving low efficiency systems the higher gain setting may be necessary. There is no sonic difference between the two settings.

Because of the potentially dangerous voltages inside of the chassis, it is recommended that you contact your dealer for information regarding the overall gain setting adjustments. **Note:** *Do not attempt to disassemble the chassis of the amplifier and adjust the gain without explicit instructions from your dealer or Jeff Rowland Design Group.*

DC Protection System

The Model 112 Stereo Power Amplifier can produce high power levels that, without well-designed protection circuitry, could damage your loudspeakers and is equipped with a circuit that protects the amplifier from DC current emitted by source components. This system also prevents amplification of DC currents that can damage your loudspeakers.

Do not alter the settings of the DC protection circuit, as this will disable the ability of the amplifier to protect your loudspeakers! These settings are for production and testing purposes only. *Because of the potentially dangerous voltages inside the chassis, do not attempt to disassemble the amplifier.*

Model 112 Stereo Power Amplifier Specifications

Output Power:

Continuous RMS watts

@ 8 ohms

150 watts

@ 4 ohms

275 watts

Power Bandwidth:

DC to 160 kHz, -3 dB

Slew Rate:

30 volts/microsecond

THD + Noise:

< .008%

Damping Factor:

>60, 20 to 20 kHz

Gain (1 watt, 8 ohms):

User Selectable Internal Jumper,
26 dB or 32 dB

Input Impedance:

40k ohms

Common Mode

Rejection Ratio:

>80 dB, 20 – 20 kHz

Absolute Phase:

Phase-Inverted

Power Supply:

500 VA toroidal transformer with
100,000 MFD total storage
capacitance. Regulated front-
end supply.

Power Consumption:

75 watts idle, 700 watts maximum
Both Channels Driven
Simultaneously at Full Output Power

Inputs:

User Selectable,
2 x Balanced XLR
2 x Unbalanced RCA

Outputs:

One Pair Binding Posts per Channel

Dimensions:

17.5" W x 11.7" D x 5.2" H
44.5cm W x 33.5cm D x 14.5cm H

Weight:

55 lbs.
24.5 kg

Shipping Dimensions:

24" W x 22" D x 13" H
61cm W x 56cm D x 33cm H

Shipping Weight:

65 lbs.
29.4 kg

Basic Troubleshooting

A summary of fault conditions and their causes and remedies are listed below.

The Model 112 Stereo Power Amplifier can produce high power levels that, without well-designed protection circuitry, could damage loudspeakers. Therefore, most fault conditions will result in the Model 10 reverting into Standby Mode.

| Condition: | Cause: | Remedy: |
|-------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Front panel POWER INDICATOR LED does not illuminate after pressing POWER/STANDBY BUTTON, amplifier does not operate normally: | Incorrect power connections, incorrect speaker connections, or circuit breaker must be reset. | Reset circuit breaker, review Installation and Rear Panel Connections section of Owner's Manual. |
| | Abnormal Operation of the Model 112 internal circuitry. | Contact your dealer immediately. |
| FRONT PANEL STANDBY/POWER button reverts to Standby Mode during listening but can be returned to normal operation: | Excessive sub-sonic or DC signals produced by source components. | Repair or replace source component. Identify and correct abnormal conditions such as low frequency rumble and/or acoustic feedback caused by phono playback (if applicable). |
| | Severe clipping of amplifier circuitry. | Reduce volume slightly or use higher efficiency loudspeakers. |
| AC MAINS CIRCUIT BREAKER switches OFF or will not remain ON: | AC mains voltage too high for amplifier. | Consult your dealer immediately to have the amplifier reconfigured for the proper AC mains voltage. |
| | Abnormal operation of amplifier internal circuitry. | Contact your dealer immediately. |
| 50/60 Hz buzz noise in loudspeakers: | Ground loop condition created between components in system. | Use balanced system configuration if possible. |
| | | Inspect interconnect cables for poor connection or termination. |

Additional Information

If you have any additional questions regarding the installation or operation of the Model 112 Stereo Power Amplifier, please contact your authorized Jeff Rowland Design Group dealer or check the Jeff Rowland Design Group web site at <http://www.jeffrowland.com>.

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