

JEFF ROWLAND
DESIGN GROUP



Model 2
Stereo Power Amplifier
Owner's Manual

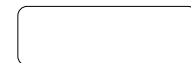
Introduction

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 industrial grade active and passive devices, precision electronic circuitry and accurately machined chassis components throughout, your Model 2 Amplifier will offer you many years of musically satisfying enjoyment. ▶ Please take a few moments to read the remainder of this Owner’s Manual. ▶ 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 2 Stereo Amplifier serial number begins with the letter A. ▶ 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 2 Amplifier. ▶ It has been my joy to create an audio component of enduring value which will reflect a higher ideal of musical and artistic expression. ▶ It is my hope that these qualities will enrich your experience of ownership.

▶ Jeff Rowland Design Group, Inc.
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Colorado Springs, CO 80907
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Enjoy the music!

Jeff Rowland
President

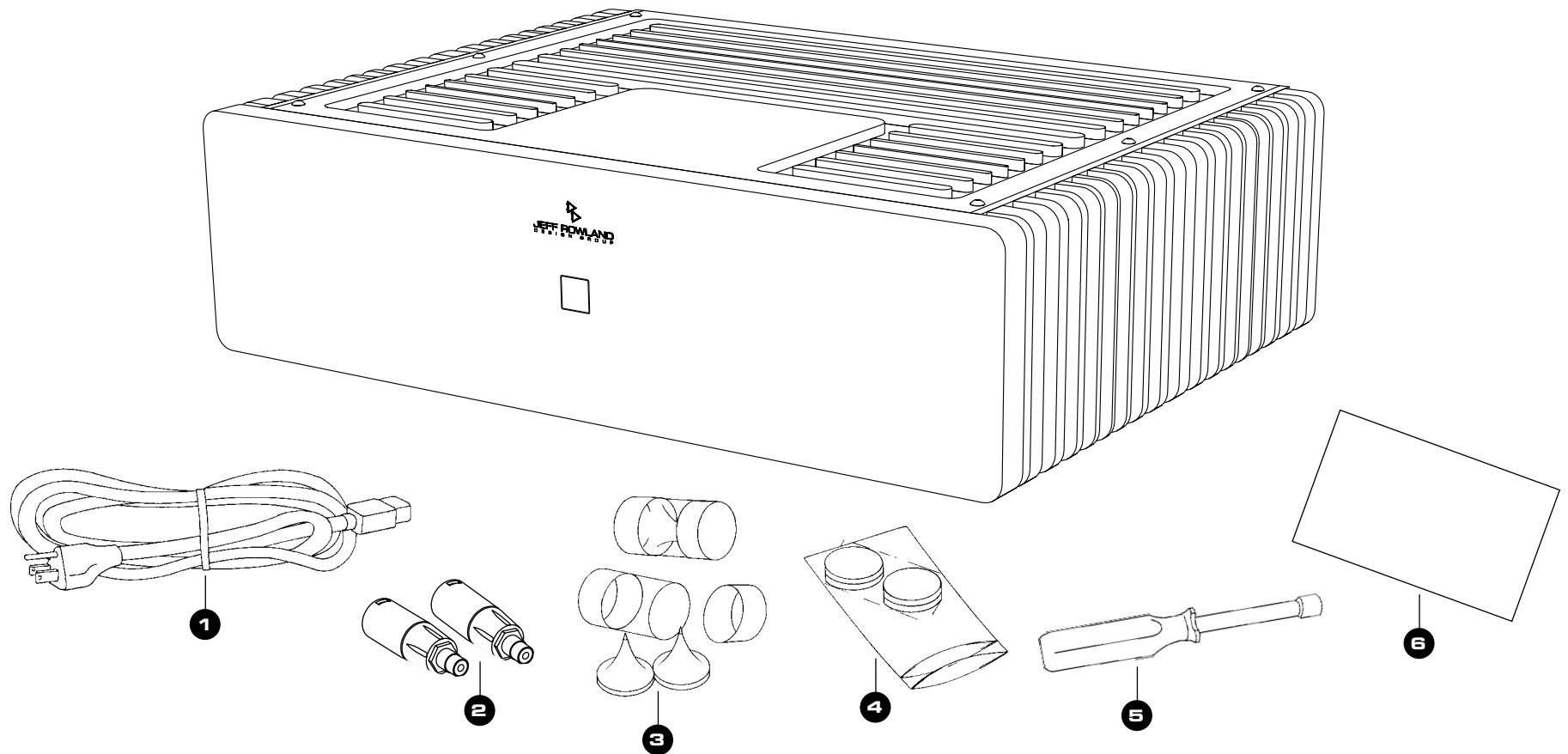


Product Features

- ▶ XLR Balanced Input jacks for balanced (Differential Mode™) system configurations
- ▶ XLR to RCA Input adapters included
- ▶ User-selectable overall gain of 26 or 32 dB
- ▶ User-selectable input impedance of 36k Ω (HI) or 600 Ω (LO)
- ▶ All internal signal circuitry is totally isolated from chassis and system ground potentials to eliminate noisy ground loops and to provide extreme immunity from RF interference
- ▶ Optional remote (wired or wireless power ON/OFF switching)
- ▶ Automatic temperature stabilizing circuitry maintains constant operating temperature
- ▶ Standby power condition reduces warm-up time
- ▶ Fail-safe operation provided by user-resettable AC circuit breaker located on rear panel
- ▶ Quiet, transient-free operation during power and function mode switching
- ▶ Automatic input muting under anomalous input or output operating conditions
- ▶ Balanced Differential Mode™ circuit topology implemented from input to output
- ▶ Plug-in modules, containing critical electronic circuitry, enhance thermal stability, mechanical integrity and serviceability
- ▶ Low-resonance, structurally integrated chassis of precision machined aluminum alloy components.

Introduction / Product Features

Contents



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). Note: Many shippers require notification and an inspection within twenty-four (24) hours of delivery to ascertain the nature of damages incurred.

Your Model 2 Amplifier has undergone extensive performance evaluations, listening tests, quality control inspections and a minimum seventy-two (72) hour burn-in period prior to shipment and should be in a perfect operational condition upon receipt. If the Amplifier does not operate correctly, please notify your dealer immediately.

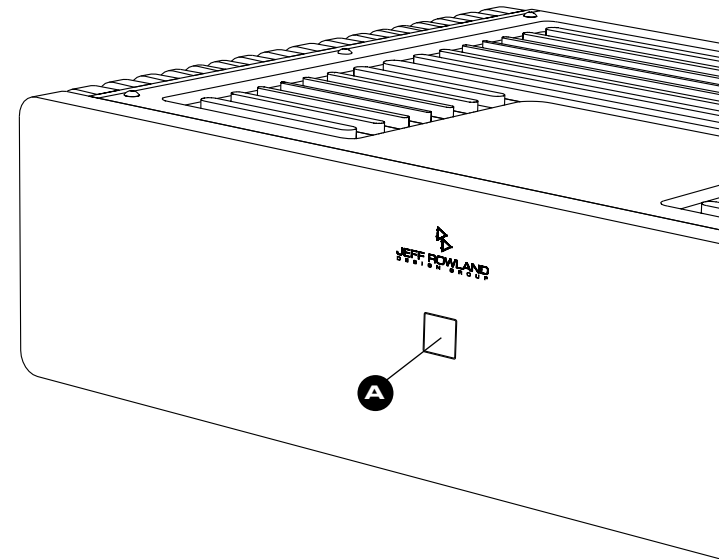
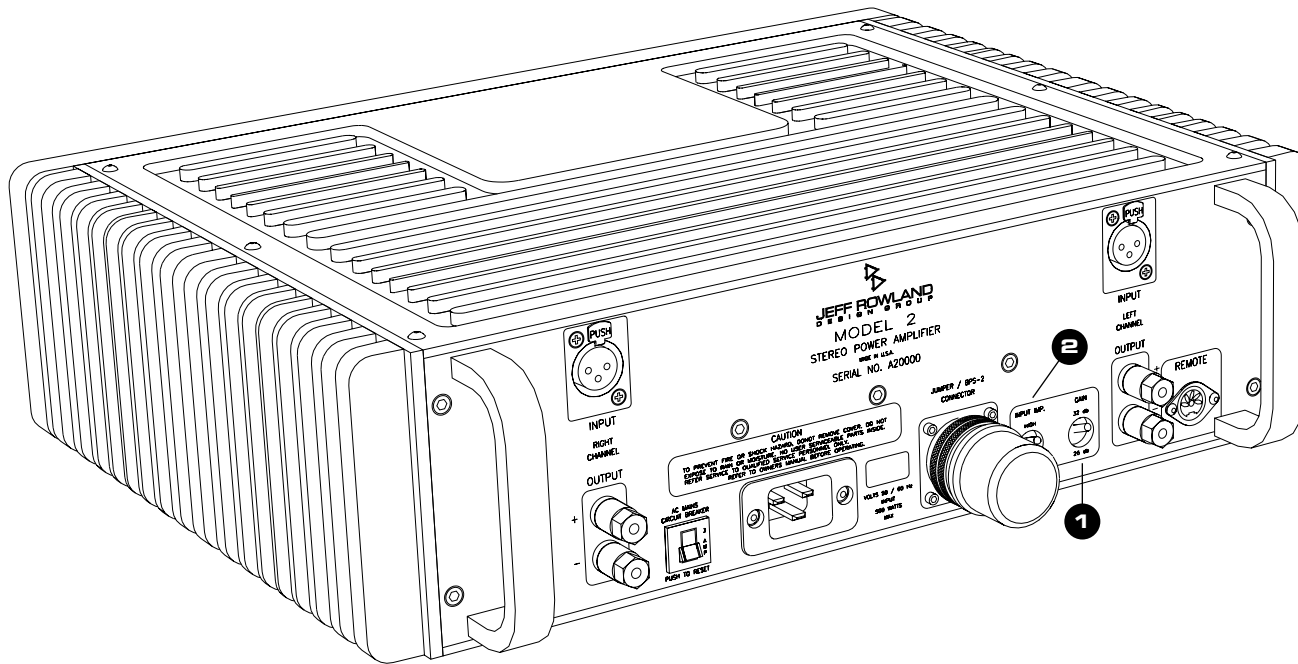
We strongly suggest that you save all packing materials. If the Amplifier is returned to your dealer or Jeff Rowland Design Group, the original packing materials must be used for shipment. Neither Jeff Rowland Design Group nor the shipper can be held responsible for damages incurred during transit if the original factory packing is not used. All factory returns require that a Return Authorization number be issued by Jeff Rowland Design Group 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** AC power cable
- 2** Two (2) XLR/RCA adapters
- 3** Four (4) spiked coupling interface supports
- 4** Four (4) compliant isolation interface supports
- 5** One (1) speaker terminal hand wrench (7/16 inch)
- 6** One (1) warranty card (in some countries warranties are provided by the respective importer)

Front & Rear Panel Function Controls



Front & Rear Panel Function Controls

Before attempting any system interconnection, please familiarize yourself with the front and rear panel controls of the Model 2 Amplifier. The descriptions below refer to the numbers associated with the features in the diagram above.

Front Panel

- A** FRONT PANEL STANDBY/POWER button: Press to operate Amplifier in standby mode. This button will illuminate when the Amplifier is operational. When the button is not illuminated, all Amplifier inputs are muted and internal circuitry is reverted to power-saving (standby) mode. Note: All ON/OFF power switching should be initiated ONLY with this button. Anomalous operating conditions will automatically switch the Amplifier off (no illumination) and will prevent the Amplifier from being switched back on again until such a condition is eliminated.

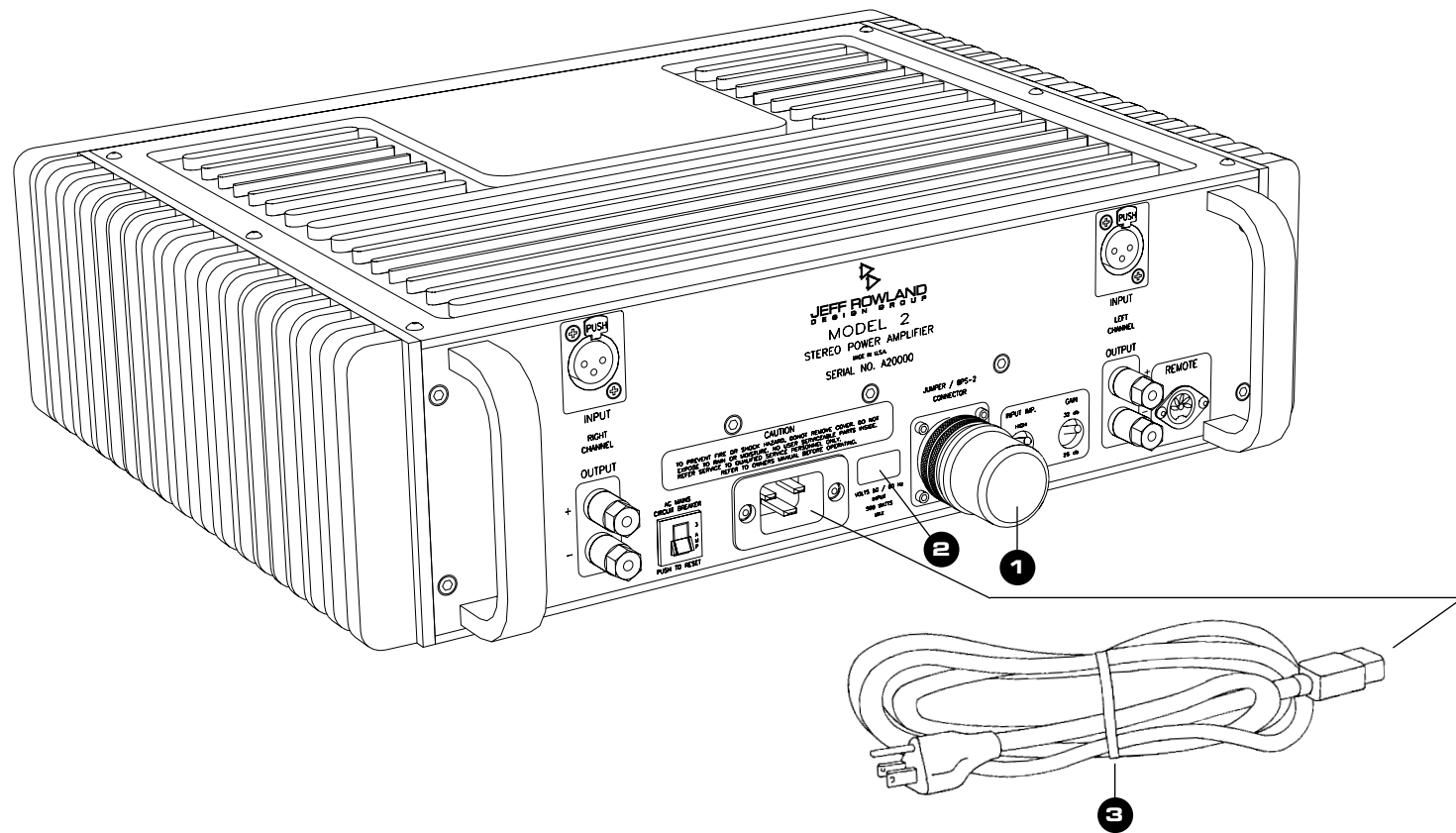
Rear Panel

(Note: The switches described below can be switched, if desired, while the Amplifier is operational and playing music.)

- 1** INPUT IMPEDANCE switch: This switch selects between a high ($36K\Omega$) or low (600Ω) input impedance.
- 2** OVERALL GAIN switch: This switch selects between a high (32 dB) or normal (26 dB) overall gain structure of the Amplifier.

Front & Rear Panel Function Controls

Rear Panel Power Connections



Installation

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

The Model 2 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 chassis can be stacked vertically thus facilitating an upward flow of warm air currents throughout the vertical heatsink fin areas. This upward flow must not be impeded or recirculated around the chassis if proper cooling is to be maintained.

Supplied with your Model 2 Amplifier are two different support systems. An assessment of the supporting structure should be made to determine the proper system for the Amplifier. Both spiked and compliant interface supports can be easily installed within the indentations on each of the four chassis pods located underneath the corners of the chassis. These system options permit the coupling or decoupling of the Amplifier chassis to the supporting structure.

As a general rule, most installations allow the Amplifier chassis to be rigidly coupled to the supporting structure via the spiked coupling interface supports. In carpeted installations, these supports provide excellent coupling from the Amplifier chassis to the rigid supporting structure below. In installations where the integrity of the supporting structure is poor, the Amplifier chassis can be loosely coupled to the supporting structure via the compliant isolation interface supports. This will help attenuate the transfer of spurious energy from the supporting structure into the Amplifier chassis.

Note: Another installation option, when incorporating the optional Battery Power Source, utilizes its chassis as a stable, high mass structural support for the Amplifier chassis. In this configuration, the Battery Power Source chassis is rigidly coupled to the supporting structure via the spiked coupling interface supports and the Amplifier is placed directly above the Battery Power Source and isolated via the compliant isolation interface supports.

If desired, a coin may be placed directly under the point of the spiked coupling support to prevent damage to various surfaces (i.e. hardwood floors).

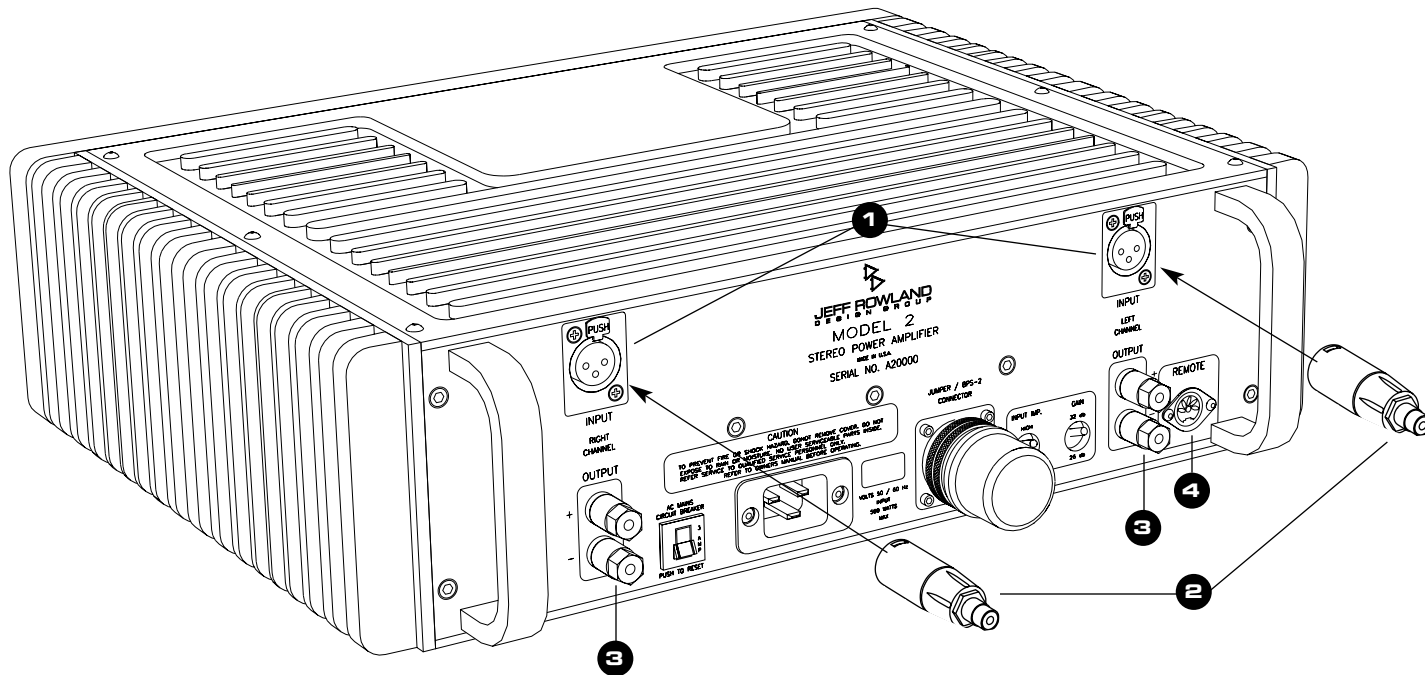
Installation / Rear Panel Power Connections

Rear Panel Power Connections

Important: Please strictly follow the steps in order as outlined below before operating your Model 2 Amplifier.

- 1** Verify that the supplied connector jumper and cover are installed correctly to the JUMPER/BPS-2 CONNECTOR. This connector jumper can serve as an interlock to prevent unauthorized operation of the amplifier when not in place. When using the companion BPS-2 (Battery Power Source), this connector jumper must be removed and the BPS-2 DC power cable must be installed in its place.
- 2** Verify that the VOLTS 50/60 Hz INPUT identified on the rear panel corresponds to the AC mains voltage of your service area.
- 3** Install the AC power cable between the Amplifier and an active AC mains outlet.

Signal Connections



Signal Connections

The Model 2 amplifier offers unprecedented compatibility with associated audio components. When connecting or disconnecting speaker or interconnect cables, it is only necessary that the FRONT PANEL STANDBY/POWER button be pressed to switch the amplifier to standby mode. The button will not be illuminated in this mode.

- 1** When installing the interconnect cables, a slight click may be heard when the XLR interconnect plugs are installed correctly and latched. The latch (located on the input connector and labeled PUSH) must be pressed to remove the XLR interconnect cable.
- 2** When using RCA unbalanced interconnects from your preamplifier or other source component, install the supplied XLR/RCA adapters into both XLR input connectors. The Amplifier will still operate in the fully balanced (Differential Mode™) configuration.
- 3** Unscrew RIGHT CHANNEL OUTPUT and LEFT CHANNEL OUTPUT connectors and install the positive and negative loudspeaker cable spade terminals to the respective Amplifier OUTPUT. Red is normally positive; black is normally negative. ALWAYS USE THE SUPPLIED SPEAKER TERMINAL HAND WRENCH WHEN CONNECTING OR DISCONNECTING LOUDSPEAKER CABLES. DO NOT OVERTIGHTEN THESE TERMINALS.



WARNING: Both positive and negative OUTPUTS of both channels are electrically active with respect to chassis and/or system ground potential. It is important that both of these outputs are electrically isolated from system ground potential. This precludes the use of this Amplifier in certain loudspeaker switching configurations (sometimes used in retail demonstrations) and testing or servicing situations where either positive or negative outputs can be connected to ground potentials. Failure to observe these precautions may result in damage to the Amplifier and may void your warranty. Consult the factory first if the Amplifier is to be used under these conditions.

Remote

- 4** A REMOTE connector (DIN 5-pin) is provided on the rear panel for remotely switching the Amplifier between operational and standby modes. The pin connections on this connector parallel the electrical contacts of the FRONT PANEL STANDBY/POWER button and lamp. An optional wired remote switch or infrared wireless remote sensor can be plugged into the REMOTE connector to facilitate this function. Contact your dealer or Jeff Rowland Design Group for further information and availability of this feature.

Operation

After following the procedures outlined in the Installation/Rear Panel Power Connections and Signal Connections sections, the Amplifier can be turned on by pressing the FRONT PANEL STANDBY/POWER button. Allow approximately twenty (20) minutes for the amplifier to reach operating temperature and maximum performance potential. A short warm-up time is dependent upon the amplifier being plugged in to an active AC mains power source for at least two hours prior to activating the FRONT PANEL STANDBY/POWER button. Therefore, it is recommended that the Amplifier be continuously connected to an active AC mains power source.

If you desire to disconnect the AC mains for an extended period of time, simply disconnect the AC power cable from the wall outlet and reconnect upon your return. Slight transients may be heard in the loudspeakers during the AC mains connect/disconnect transitions.

Your new Model 2 Amplifier will require an initial break-in period of at least eighty (80) hours before maximum performance can be expected. Efficient break-in procedures require the Amplifier to be fully operational (playing music). Continuous and noticeable performance improvements will occur during subsequent months of operation.

To achieve the maximum performance for which this Amplifier was designed, it is recommended that balanced signal source (INPUT) and LOW INPUT IMPEDANCE options are used. This condition requires that the driving source component (preamplifier) is equipped with balanced outputs and sufficient output current to properly drive the input of the Model 2 when the LOW INPUT IMPEDANCE option is selected. Most high-quality solid state preamplifiers can satisfy these conditions, and best results are obtained when the output impedance of the preamplifier (600Ω balanced) matches the input impedance of the power Amplifier (600Ω balanced). When the impedances are matched, maximum signal power transfer and signal fidelity are achieved in addition to the advantage of utilization of long lengths (10 meters and greater) of interconnect between components with no sonic degradation. However, there will be a 6 dB decrease in volume relative to a mismatched condition (low driving source impedance driving high load (Amplifier input impedance)).

If there is any doubt as to the compatibility of the above mentioned components, then HIGH INPUT IMPEDANCE should be selected. Since the electrical performance of the Model 2 is not changed when selecting different INPUT IMPEDANCE options, apparent differences in sonic quality can be attributed to mismatched impedances.

Due to different sensitivities of associated equipment used with the Model 2, the OVERALL GAIN switch can be used to optimize the total gain structure of the entire system. This allows the volume control of your preamp to be used in an ideal mid-range position.

Performance Specifications

Output Power

Continuous RMS watts

@ 8 ohms 75 watts

@ 4 ohms 150 watts

Power Bandwidth 0.1 Hz to 160 kHz, -3 dB

Slew Rate 80 volts per microsecond

THD and Noise Less than 0.05% at rated power

Damping Factor Greater than 100, 20 Hz to 20 kHz, 8 ohms

Output Current 20 amps continuous, 35 amps peak

Overall Gain

& Sensitivity

(1 watt, 8 ohms)

User selectable on rear panel

26 dB or 32 dB; 141 mV or 71 mV

Input Impedance

Unbalanced

Balanced

User selectable on rear panel

36k or 600 ohms

36k or 600 ohms

Common Mode

Rejection Ratio

Greater than 60 dB, 20 Hz to 20 kHz

Power Consumption

25 watts standby; 175 watts operating, idle;
400 watts maximum

Inputs

Unbalanced

Balanced

User selectable on rear panel

With supplied XLR/RCA adapter

2 XLR connectors

Outputs

1 pair binding posts per channel

Dimensions

17.5 in. W x 14.25 in. D x 5.25 in. H

44.5 cm W x 36.2 cm D x 13.3 cm H

Shipping Dimensions

24 in. W x 20 in. D x 12 in. H

61 cm W x 50.8 cm D x 30.5 cm H

Weight

47 lbs. (21.5 kg)

Shipping Weight

75 lbs. (34.0 kg)

Because Jeff Rowland Design Group is constantly analyzing new design improvements, we reserve the right to change or modify product specifications without notice or obligation.

Basic Troubleshooting

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

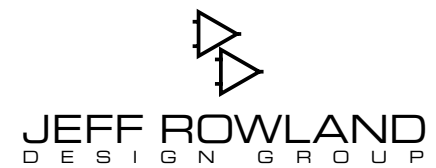
The Model 2 Amplifier can produce high power levels which, without well designed protection circuitry, could damage loudspeakers. Therefore, most fault conditions which may occur during use will be indicated by the Model 2 reverting to a standby condition.

JRDG = Jeff Rowland Design Group, Inc.

Condition	Cause	Remedy
FRONT PANEL STANDBY/POWER button lamp does not illuminate after pressing, although the Amplifier operates normally.	Light bulb defective.	Remove STANDBY/POWER button from front panel and replace bulb located under button. Use replacement bulb kit and instructions supplied by JRDG.
FRONT PANEL STANDBY/POWER button lamp does not illuminate after pressing, and Amplifier does not operate normally.	Incorrect power connections or AC MAINS CIRCUIT BREAKER on Amplifier rear panel is tripped.	Review Installation/Rear Panel Power Connections section. Reset CIRCUIT BREAKER on amplifier rear panel.
	Abnormal operation of Model 2 Amplifier internal circuitry.	Consult dealer or JRDG.
FRONT PANEL STANDBY/POWER button reverts to standby condition during listening but can be returned to operational condition.	Excessive sub-sonic signals produced by source components.	Repair or replace source component (preamplifier). Identify and correct abnormal conditions such as low frequency rumble and/or acoustic feedback caused by phono playback components (if applicable).
	Severe clipping of Amplifier circuitry under intermittent overload conditions.	Reduce volume slightly or use higher efficiency loudspeakers.

Condition	Cause	Remedy
FRONT PANEL STANDBY/POWER button illuminates normally but RIGHT, LEFT or both Amplifier CHANNELS do no operate or warm up to normal operating temperature.	Internal DC fuses defective.	Consult dealer or JRDG.
AC MAINS CIRCUIT BREAKER (rear panel) switches off or will not remain on.	AC mains service voltage too high for Amplifier.	Reconfigure Amplifier to proper AC mains voltage operation. Consult dealer or JRDG.
50/60 Hz hum noise in loudspeakers.	Sensitive source component(s) located too close to Amplifier.	Reorient or increase distance between source component and Amplifier.
High frequency, random or scratching noise in loudspeakers.	Unstable conditions created by excessive capacitance in loudspeaker cables.	Insert compensation network on Amplifier OUTPUT connector(s) (available from JRDG).

If you have any additional questions regarding installation or operation, please contact your authorized Jeff Rowland Design Group Dealer.



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