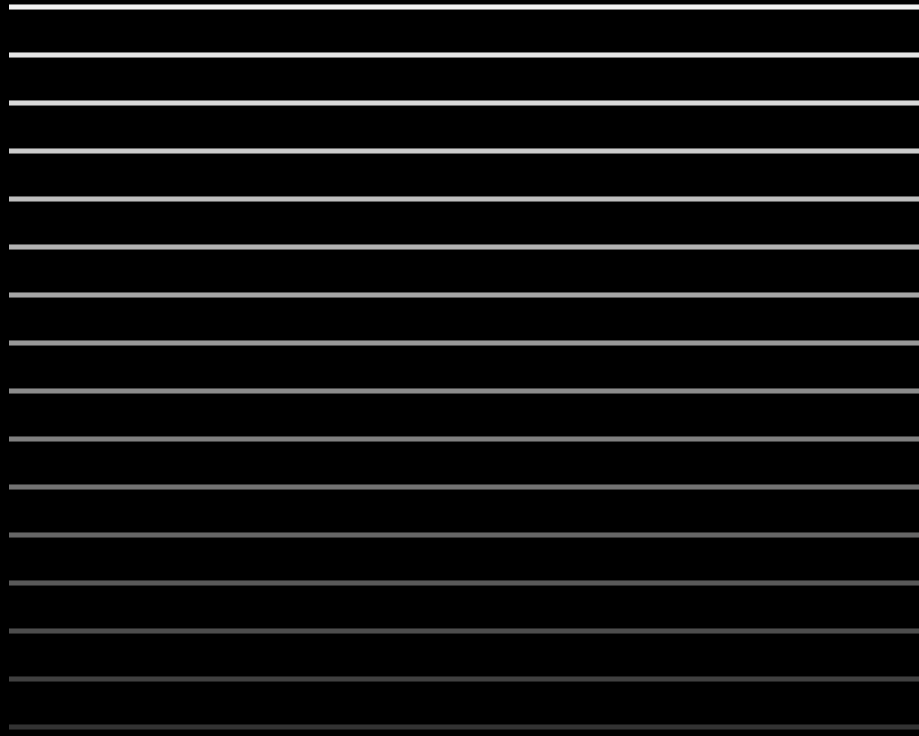


JEFF ROWLAND
DESIGN GROUP



Coherence
Stereo Preamplifier
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 preamplifiers. ▶ With its combination of industrial grade active and passive devices, precision electronic circuitry and accurately machined chassis components throughout, your Coherence Preamplifier 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 Preamplifier was designed. ▶ Please note that your Preamplifier must be used with its companion Power Supply. ▶ The serial number of each component is located on the rear panel of each, and also recorded below. ▶ The Preamplifier serial number begins with the letter C and the Power Supply serial number begins with the letter D. ▶ Please include these numbers with any correspondence regarding your Coherence Preamplifier. ▶ 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.

Enjoy the music!

Jeff Rowland

President

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Product Features

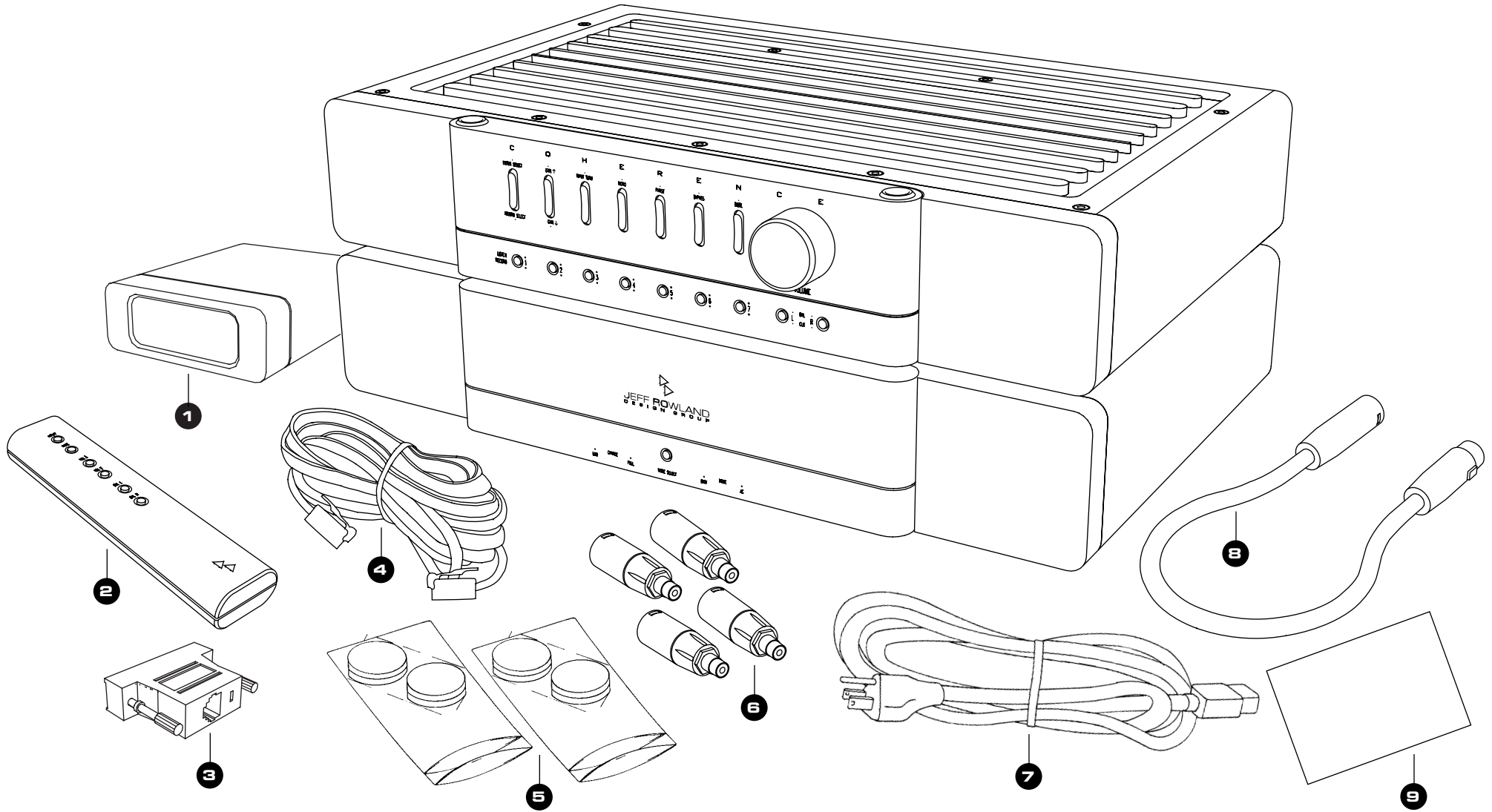
- ▶ Seven balanced XLR inputs per channel.
- ▶ Two balanced XLR main outputs per channel.
- ▶ Two balanced XLR record outputs per channel.
- ▶ One balanced XLR “bypass” input per channel for use in home theater installations.
- ▶ All inputs and outputs can be used with single-ended RCA terminated interconnects by using XLR/RCA adapters (one male stereo pair and one female stereo pair supplied).
- ▶ Independent Listen and Record functions on each input permit simultaneous listening and recording from any two selected inputs.
- ▶ Each input can be individually adjusted for R/L balance, mono/stereo, absolute phase, input impedance, and gain, exclusively independent of every other input. Individually adjusted input settings are automatically memorized and recalled when returning to that input.
- ▶ Built-in “pink noise” generator facilitates break-in of preamplifier components and interconnected associated components.
- ▶ Six-function hand-held IR remote control with separate IR sensor/display unit for remote IR reception and volume level indication.
- ▶ Chassis and all chassis components precision machined from 6061 aluminum plate provide maximum mechanical resonance control.

- ▶ All operational functions are under microprocessor control. Within five milliseconds of any function selected, the microprocessor reverts to a non-clocking “sleep” mode which eliminates any possibility of digital noise contamination.
- ▶ Transformer-coupled inputs and main outputs provide maximum immunity from RF contamination and system ground loops and enhance compatibility with a wide variety of interconnected components.

Power Supply Features

- ▶ Separate power supply provides a stable, low noise DC power source utilizing reliable, long-life sealed lead-calcium batteries.
- ▶ Microprocessor controlled charge-management system ensures optimum battery operation under all conditions. The microprocessor is normally in non-clocking “sleep” mode, except when servicing a short-term operational command.
- ▶ Two separate power supply outputs for powering additional companion units such as an optional phono equalizer.
- ▶ Front panel AC/DC mode switch disconnects AC power when DC mode (pure battery) operation is selected.
- ▶ Chassis and all chassis components precision machined from 6061 aluminum plate provide maximum mechanical resonance control.

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 Coherence Preamplifier 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 Preamplifier does not operate correctly, please notify your dealer immediately.

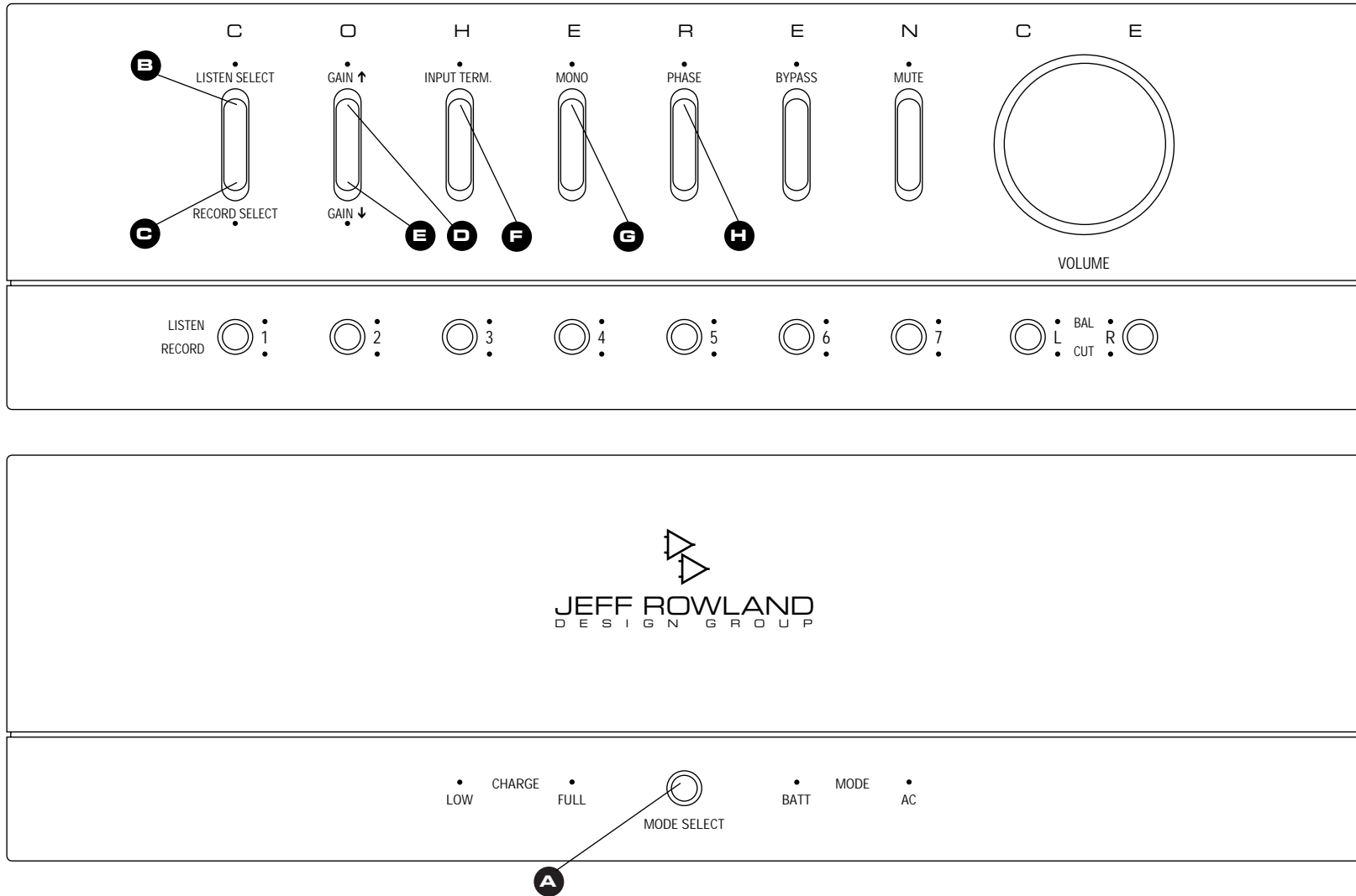
We strongly suggest that you save all packing materials. If the Preamplifier is returned to your dealer or Jeff Rowland Design Group, the original packing materials must be used for shipment. Neither Jeff Rowland Design Group nor the shipper can be held responsible for damages incurred during transit 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** Remote sensor/display unit
- 2** Handheld remote transmitter
- 3** Remote sensor/display unit interconnect cable adapter (DB-25 male to RJ-11)
- 4** Remote sensor/display unit interconnect cable
- 5** Eight (8) compliant isolation interface supports
- 6** Four (4) XLR/RCA adapters (one pair male input adapters and one pair female output adapters)
- 7** AC power cable
- 8** DC power cable
- 9** One (1) warranty card (in some countries warranties are provided by the respective importer)

Front Panel Function Controls



Front Panel Function Controls

Before attempting any system interconnection, please familiarize yourself with the front panel controls of the Coherence Preamplifier and Power Supply. The descriptions below refer to the numbers associated with the features in the diagram above.

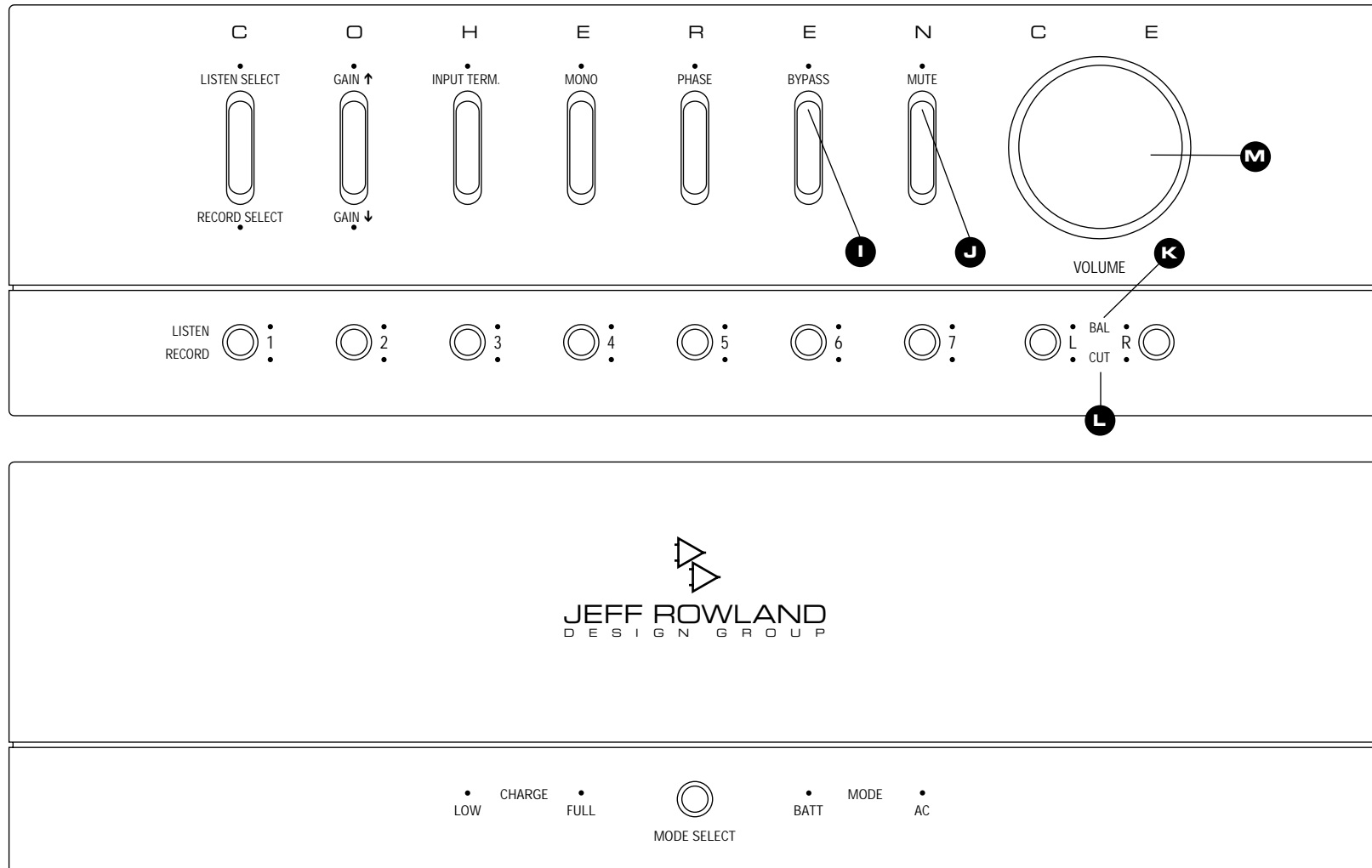
Any of the controls described below, when initiated, will be automatically stored in the microprocessor memory and will be recalled when the particular input is selected. For example, if Input 1 is selected and the gain is increased by 5dB with the Phase rocker switch activated, these settings are memorized and will be automatically recalled when returning to Input 1 after listening to other inputs. All functions are memorized with the exception of the volume control. However, if the Preamplifier is disconnected from the Power Supply, even momentarily, these memorized settings will be lost.

Front Panel

- A** MODE SELECT push button: Momentarily pressing this button switches the power supply between AC and BATT operational modes. Either the BATT lamp or the AC lamp will be illuminated. Note: BATT mode is not allowed unless the batteries have achieved sufficient charge capacity.
- B** LISTEN SELECT rocker switch: Momentarily pressing the upper section enables INPUT/RECORD buttons 1-7 for listening via the preamplifier Main output jacks. LISTEN SELECT lamp will remain illuminated unless the lower section Record Select rocker switch is pressed.
- C** RECORD SELECT rocker switch: Momentarily pressing the lower section enables INPUT/RECORD buttons 1-7 for recording via the preamplifier Record output jacks. RECORD SELECT lamp will remain illuminated unless the upper section LISTEN SELECT rocker switch is pressed.
- D** GAIN ↑ rocker switch: Momentarily pressing the upper section increases the gain of the selected Input by 0.5 dB to a limit of 20 dB higher than normal (0 dB) overall gain. For example, twelve (12) momentary presses will increase the gain by 6 dB. The GAIN ↑ lamp will momentarily illuminate each time the rocker switch is pressed.
- E** GAIN ↓ rocker switch: Momentarily pressing the lower section decreases the gain of the selected Input by 0.5 dB to a limit of 20 dB lower than normal (0 dB) overall gain. For example, twelve (12) momentary presses will decrease the gain by 6 dB. The GAIN ↓ lamp will momentarily illuminate each time the rocker switch is pressed.
- F** INPUT TERM rocker switch: Momentarily pressing the upper section of the INPUT TERM rocker switch connects a 600 ohm terminating resistor across the inverting and non-inverting (positive and negative) contacts of the selected Input connector. The INPUT TERM lamp remains illuminated. Pressing the lower section of the INPUT TERM rocker switch disconnects the 600 ohm terminating resistor and the input impedance of the selected input reverts to 18,000 ohms. The INPUT TERM lamp is not illuminated.
- G** MONO rocker switch: Momentarily pressing the upper section of the MONO rocker switch sums the Left and Right channel outputs into a monophonic signal output for the selected input. The MONO lamp remains illuminated. Pressing the lower section of the MONO rocker switch returns the selected Input's Left and Right channel outputs to normal stereo operation. The MONO lamp is not illuminated.
- H** PHASE rocker switch: Momentarily pressing the upper section of the PHASE rocker switch inverts the absolute phase of both channels of the selected Input. The PHASE lamp remains illuminated. Pressing the lower section of the PHASE rocker switch restores normal polarity to both channels of the selected Input. The PHASE lamp is not illuminated.

Function Controls continue on the next page.

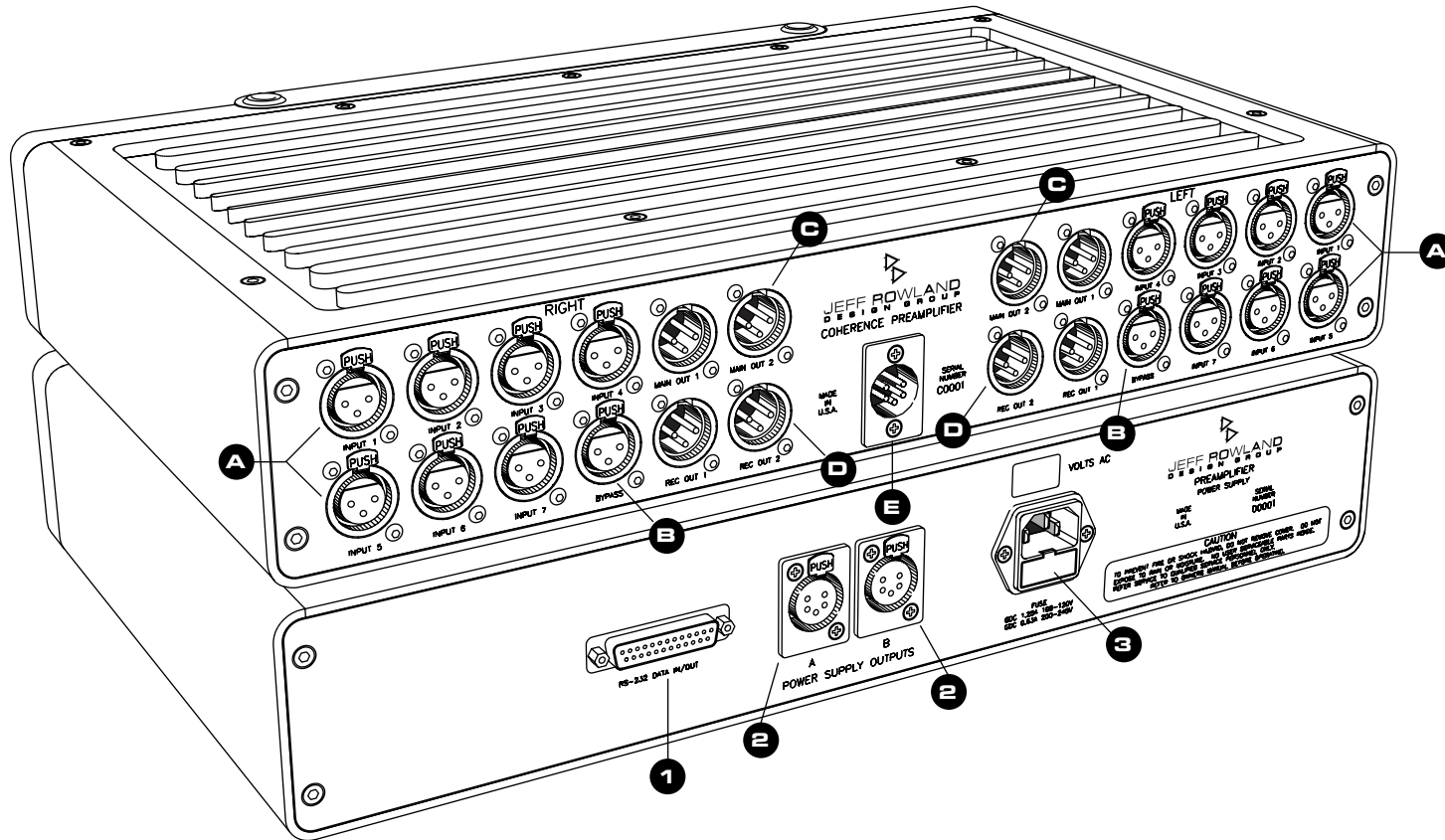
Front Panel Function Controls, (cont.)



Front Panel Function Controls, (cont.)

- I** BYPASS rocker switch: Momentarily pressing the upper section of the BYPASS rocker switch enables the rear panel BYPASS inputs. The overall gain of the preamplifier remains fixed at 0 dB (unity) gain. All other preamplifier functions are disabled except for record functions. All previously selected front panel lamps are not illuminated with the exception of the BYPASS and selected RECORD input lamp. Pressing the lower section of the BYPASS rocker switch or selecting any other Listen input will restore normal operation. The previously selected LISTEN Input lamp is illuminated and the BYPASS lamp is not illuminated.
- J** MUTE rocker switch: Momentarily pressing the upper section of the MUTE rocker switch mutes the preamplifier outputs. The MUTE lamp illuminates. Pressing the lower section of the MUTE rocker switch restores the normal condition of the preamplifier outputs. The MUTE lamp is not illuminated.
- K** BAL L/R push buttons: If the MUTE lamp is **not** illuminated, the stereo image is shifted to the left or right slightly for each press of the BAL L or BAL R button. Each press equals a total channel imbalance of 1 dB. For each 0.5 dB that one channel is offset, the opposite channel is offset in the opposite direction by 0.5 dB. This feature maintains that the absolute volume level will remain the same even though the image will be shifted by a specific amount. A total of six (6) presses on each button (3dB) can be achieved which will give a total imbalance of 6 dB between right and left channels. Either the L or R lamp will be illuminated to indicate a channel imbalance. Otherwise, neither L nor R lamp is illuminated.
- L** CUT L/R push buttons: If the Mute lamp **is** illuminated, pressing the CUT L push button will mute the left channel only. The CUT L lamp illuminates. Conversely, if the Mute lamp is illuminated, pressing the CUT R push button will mute the right channel only and the CUT R lamp illuminates. To restore normal operation, press the lower section of the MUTE rocker switch.
- M** VOLUME control: Rotating the VOLUME control clockwise increases volume, while rotating the knob counterclockwise decreases volume. The VOLUME control provides a fixed range of 63.5 dB in increments of 0.5 dB throughout a rotation of 230 degrees. The 63.5 dB range remains constant, independent of the overall gain selected by the GAIN rocker switch mentioned above. The VOLUME control does not utilize mechanical end-stops to indicate minimum or maximum volume settings. The numerical position of the VOLUME control is indicated when the remote sensor/display unit is utilized.

Preamplifier and Power Supply Rear Panels



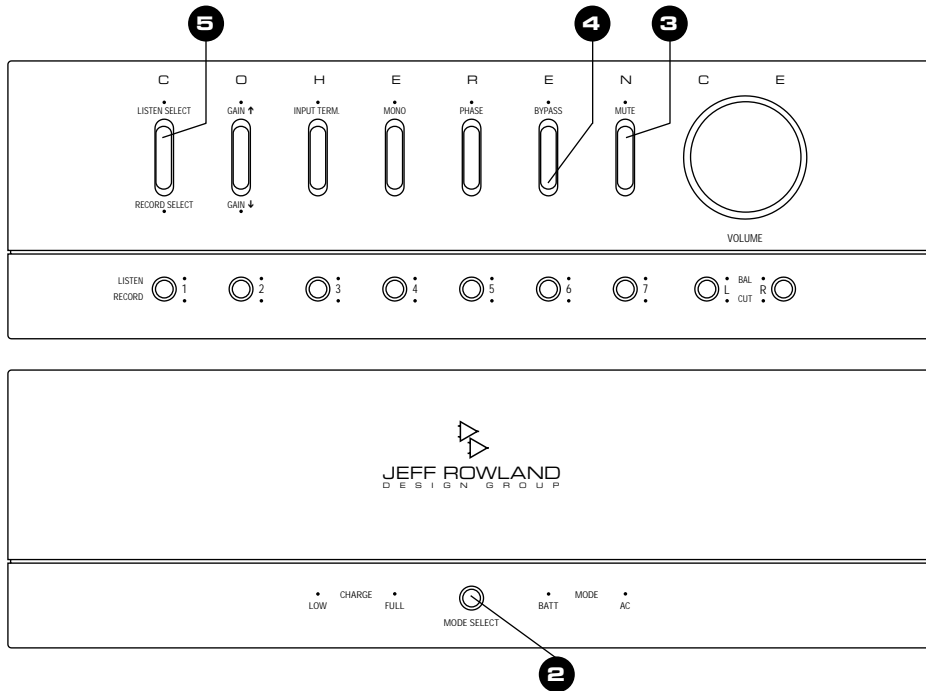
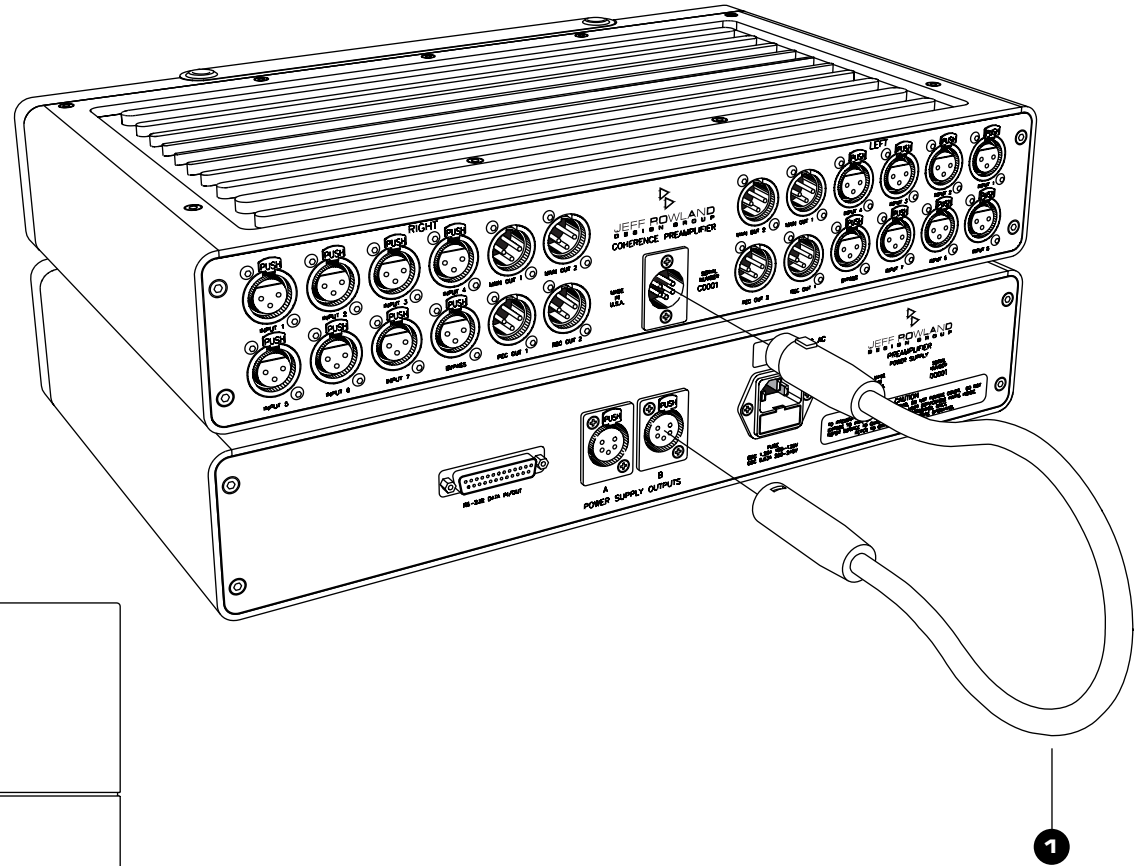
Preamplifier Rear Panel

- A** INPUTS 1-7 (Female XLR): Seven (7) XLR fully balanced or single-ended inputs (via supplied XLR/RCA adapters) are provided for line level signals only. Each INPUT connector conforms to a Pin #1 ground, Pin #2 negative, Pin #3 positive standard. Both positive and negative terminals of each INPUT connector are isolated from ground by several megohms which eliminates the possibility of ground loops and restores maximum common mode rejection ratio.
- B** BYPASS INPUT (Female XLR): Accepts balanced or single-ended inputs (via supplied XLR/RCA adapters) from home theater surround processor front left and front right outputs.
- C** MAIN OUTPUTS 1 & 2 (male XLR): Provides parallel XLR fully balanced or single-ended outputs (via supplied XLR/RCA adapters). Each OUTPUT connector conforms to a Pin #1 ground, Pin #2 negative, Pin #3 positive standard. Both positive and negative terminals of each OUTPUT connector are isolated from ground by several megohms which eliminates the possibility of ground loops and restores maximum common mode rejection ratio. Balanced output signals are always provided regardless of input (single-ended or balanced) signal configuration.
- D** REC OUTPUTS 1 & 2 (male XLR): Provides parallel XLR fully balanced or single-ended outputs (via supplied XLR/RCA adapters). Each OUTPUT connector conforms to a Pin #1 ground, Pin #2 negative, Pin #3 positive standard. REC OUTPUTS are ground referenced and buffered from any selected input. Balanced output signals are always provided regardless of input (single-ended or balanced) signal configuration.
- E** POWER SUPPLY INPUT (male XLR): Interconnects the Preamplifier to the Power Supply via the supplied DC power cable. **Caution:** Use only the supplied DC power cable and companion Power Supply.

Power Supply Rear Panel

- 1** RS232 DATA IN/OUT (DB-25 female connector): Provides power and signal data to the remote sensor/display unit.
- 2** POWER SUPPLY OUTPUTS A & B (XLR female connectors): Parallel DC power and signal data outputs for preamplifier and optional companion units such as phono equalizer, etc.
- 3** AC POWER INLET: Verify that the voltage indicated on the rear panel corresponds to the AC mains of your service area.

Installation and Operation



Installation and Operation

The Preamplifier is normally installed directly on top of the companion Power Supply. Be sure to install the supplied compliant isolation interface supports between each unit and underneath the Power Supply to avoid damage to chassis components and provide maximum mechanical isolation and decoupling from the supporting structure.

First, connect the supplied DC Power Cable (1) between the Preamplifier and Power Supply, as illustrated above. Then connect the AC mains to the Power Supply using the supplied AC Power Cable. If desired, the Preamplifier can be located up to twenty (20) inches (one half (0.5) meter) above or below the power supply. The use of a longer DC power cable offering greater separation distance is not recommended.

Upon initially connecting AC power, it may be necessary to press and hold down the MODE button (2) for five (5) seconds to initially boot-up or reset the charge management system located within the Power Supply. In a few seconds, the AC mode lamp will light and the Preamplifier INPUT 1 And RECORD 1 lamps will illuminate.

The Coherence Preamplifier is designed to be powered from the AC mains which automatically initiates battery charging as necessary and is indicated by the illumination of the AC mode lamp. However, the Preamplifier is still powered by the internal batteries. AC mains power is disconnected from the power supply internally whenever the BATT mode is selected using the MODE push button. Under this operating condition, the preamplifier operates exclusively from the internal batteries. Up to fifteen (15) hours of operation in this mode is possible depending upon the initial state of charge of the internal batteries.

If the Preamplifier is not used for an extended period of time and/or a source of AC power will not be available, AC power should be removed and the MODE push button should be pressed and held down for approximately five seconds. A slight click will be heard. No lamps should be illuminated. This feature allows the preamplifier to be stored or shipped without discharging the internal batteries.

If the FULL charge lamp is illuminated, the battery capacity will range between 50-100% of full charge. This lamp will not illuminate shortly after the BATT mode is selected.

If the LOW charge lamp is illuminated, the battery is significantly discharged and will automatically switch back to AC mode to commence charging. If AC mains power is not available under these conditions, then the Power Supply will automatically switch off, thus preventing the batteries from becoming overly discharged.

The Power Supply is intended to operate connected to active AC mains at all times. The charge management system only permits operation at the voltage indicated on the rear panel. If an incorrect AC line voltage is used, all of the Power Supply front panel lamps will flash on and off simultaneously approximately four times per second.

The Preamplifier is equipped with an internal pink noise generator. This noise is intended for cable, component and loudspeaker break-in. The noise generated is out of phase between left and right channels. A distinct acoustic null should become apparent at a midway point between the two speakers when utilizing this function.

To initiate the internal pink noise generator, press the upper section of the MUTE rocker switch (3) and then the lower section of the BYPASS rocker switch (4). The Preamplifier will automatically route pink noise throughout the Preamplifier circuitry for break-in purposes. The volume control can be used to adjust the volume of pink noise at the output jacks as desired. To resume normal operation, simply select any LISTEN input (5).

The Coherence Preamplifier utilizes circuit technologies which require a much longer “break-in” period than other preamplifier designs. It is recommended that a period of at least eight (8) days (200 hours) of continuous operation be allowed before full sonic performance potential can be expected.

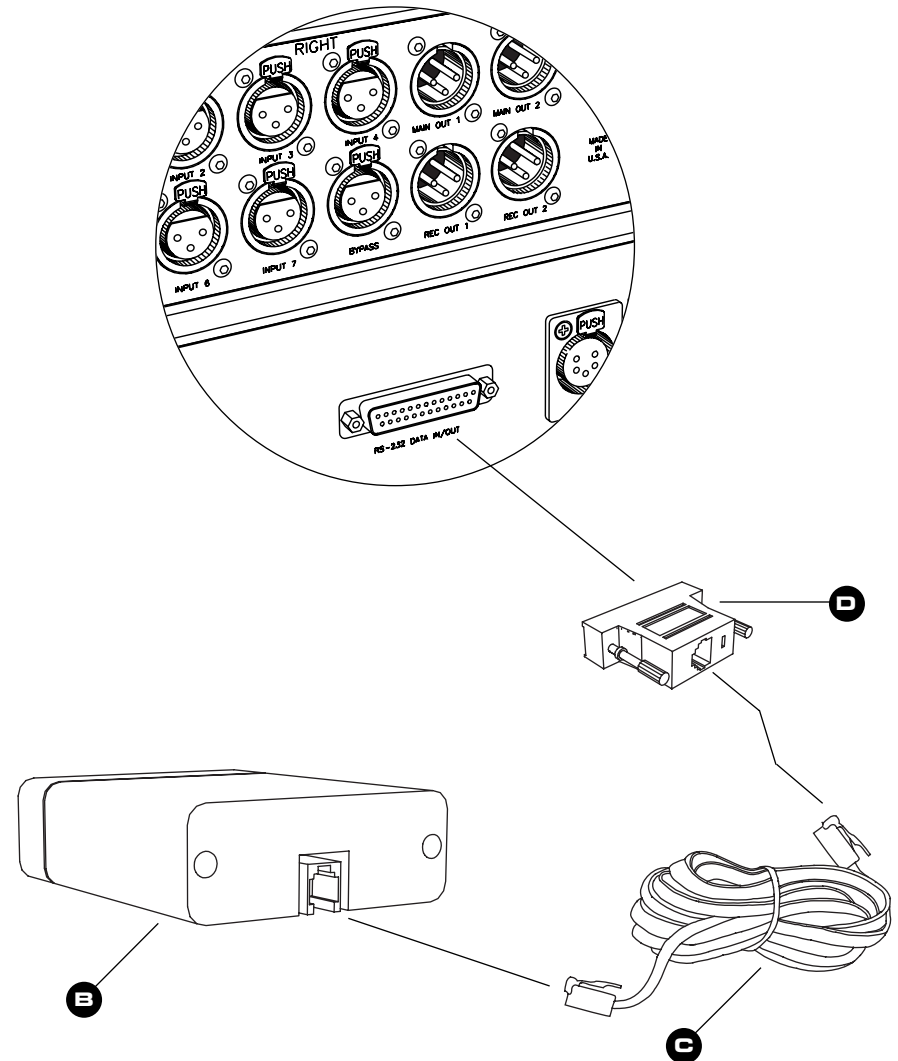
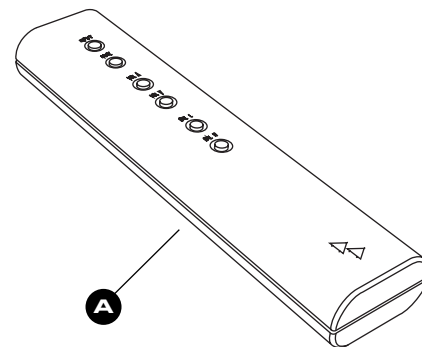
Remote Control Features

- A** The six-function, hand-held, IR remote transmitter permits remote operation of Input Selection, Volume Up/Down, Balance L/R and Mute functions
- B** A separate remote sensor/display unit simultaneously receives transmitted data and displays the numerical Volume control position from 0 to 63.5 dB in increments of 0.5 dB.
- C** The supplied RJ-11 cable allows the remote sensor/display unit to be placed within two meters of the preamplifier for optimal IR reception and/or volume control position viewing. Up to 30 meters of cable length can be used if desired.
- D** The Interconnect Cable Adapter should first be connected securely to the DB-25 connector on the rear panel of the Power Supply using the integral finger screws. The RJ-11 cable can then be installed from the Remote Sensor/Display unit to the adapter.

After installing the remote sensor/display unit and associated connecting cable, reset the preamplifier by pressing the power supply MODE switch and holding it for at least 5 seconds. Then release to commence operation.

The remote transmitter handset operates on a standard 9 volt battery available from a wide variety of sources. This battery is accessed by removing the two Phillips head screws on the back side of the handset.

Four (4) different data rate transmission codes can be selected if interference from other IR remote transmitters become an issue. Simply match the switch code between both handset and remote receiver/display unit internal switches (accessed by removing the respective bottom covers).



Coherence Performance Specifications

Overall Gain	Adjustable for each input ± 20 dB relative to unity gain (0 dB) in 0.5 dB increments
Input Impedance Unbalanced Balanced	Adjustable for each input 18k or 600 ohms 18k or 600 ohms
Output Impedance Unbalanced Balanced	50 ohms 50 ohms
Maximum Input Level	13 volts RMS at 0 dB gain
Maximum Output Level	13 volts RMS (24 dBm)
Output Noise Level	12 microvolts 20-20 KHz bandwidth, 0 dB gain
Signal To Noise Ratio	Greater than 96 dB
Channel Separation	Greater than 110 dB, @ 20-20 KHz bandwidth
Frequency Response	5 Hz-160 KHz, -3 dB
THD + Noise	0.0016% 10 volt output, 600 ohm load
Gain Range	63.5 dB, 127 equal increments
Gain Resolution	0.5 dB \pm 0.03 dB over entire range
Channel Balance	\pm 0.03 dB throughout entire range
Dimensions	17.5 in W x 12.0 in D x 3.7 in H 44.5 cm W x 30.9 cm D x 9.40 cm H
Weight	40 lbs (18 kg)

Power Supply Specifications

Power Consumption	40 watts maximum, 10 watts nominal
Mains Voltage	100V, 120V, 220V, 240V, 50/60 Hz
Battery Complement	2 each 12 volt, 7.2 amp/hour user replaceable sealed, lead calcium, maintenance-free batteries
Battery Service Life	5-8 years
AC Unassisted Run Time	14-18 hours based upon initial battery full charge
Dimensions	17.5 in W x 11.2 in D x 3.7 in H 44.5 cm W x 28.4 cm D x 9.40 cm H
Weight	43 lbs (19.5 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.

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

