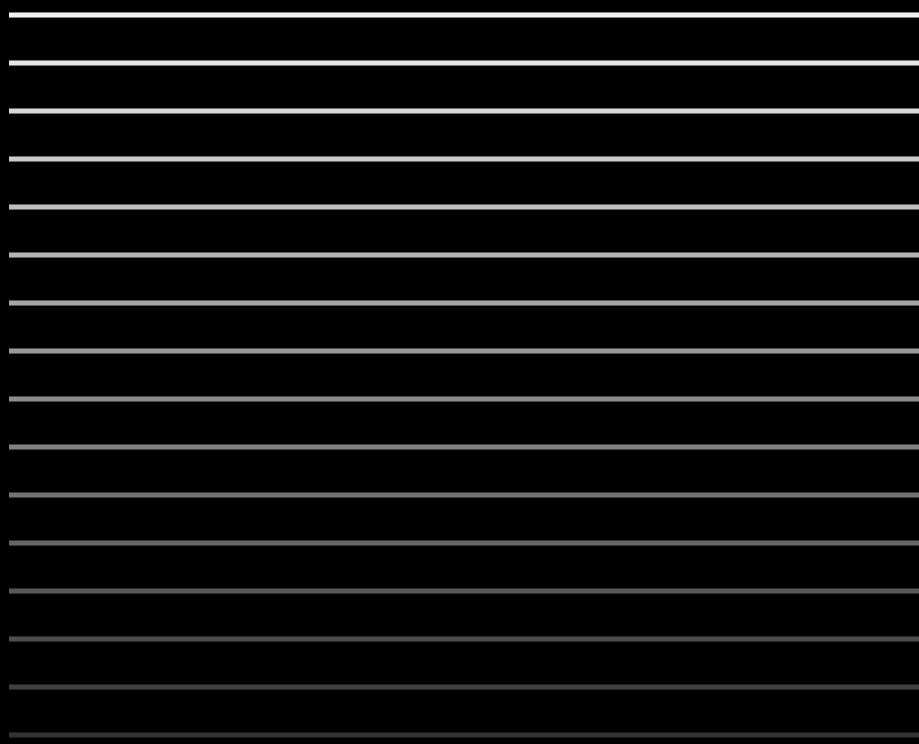


**JEFF ROWLAND**  
DESIGN GROUP



Concentra  
Stereo Integrated 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 amplifiers. ▶ With its combination of industrial grade active and passive devices, precision electronic circuitry and accurately machined chassis components throughout, your Concentra Integrated 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. ▶ Your Amplifier’s serial number is located on the rear panel and also recorded below. Please include this number with any correspondence regarding your Concentra Integrated 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.

Enjoy the music!

Jeff Rowland

President

▶ Jeff Rowland Design Group, Inc.  
2911 North Prospect Street  
Colorado Springs, CO 80907  
Phone: 719/473-1181  
Fax: 719/633-4158

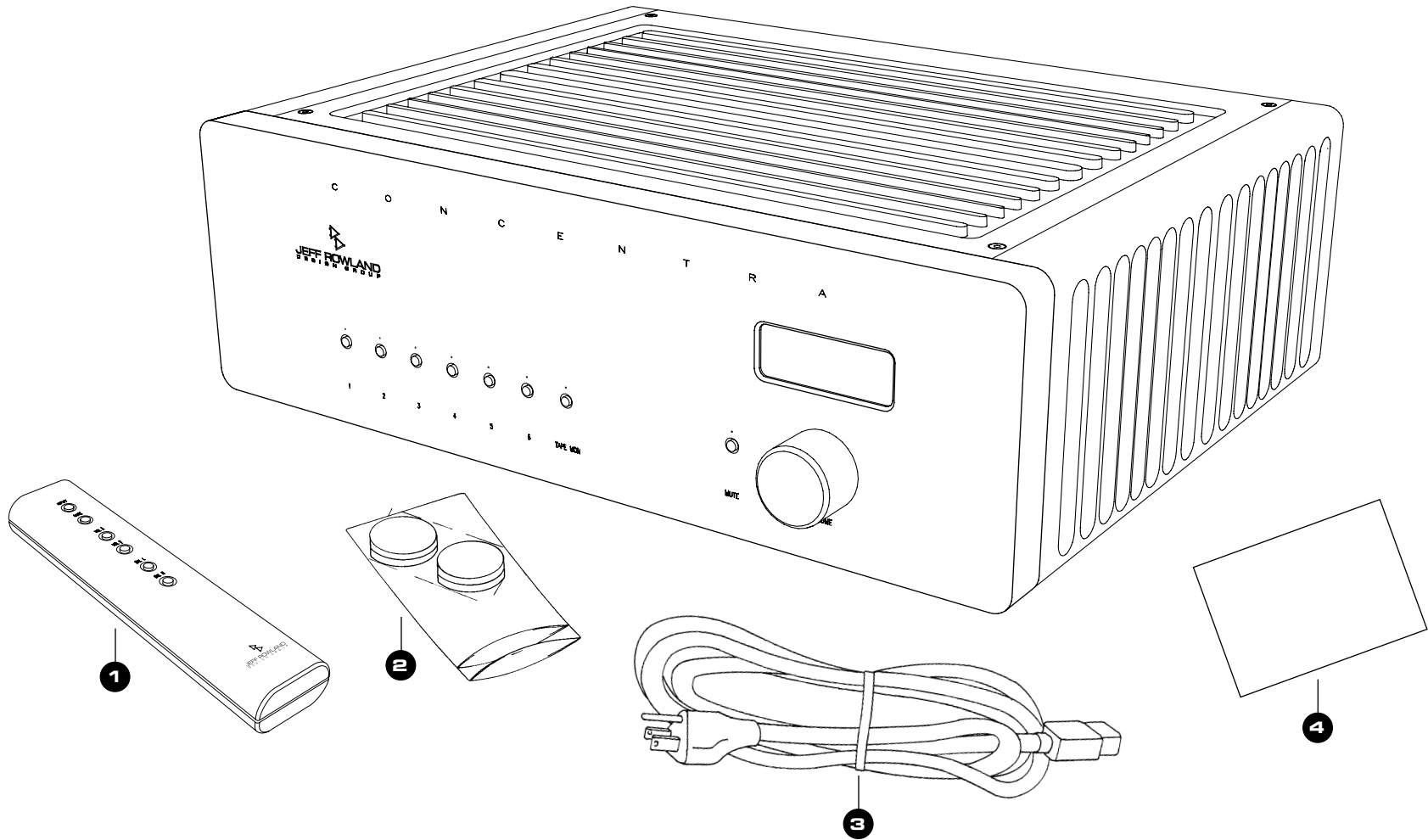
## Product Features

---

- ▶ Three balanced XLR inputs per channel plus three unbalanced (RCA) inputs per channel.
- ▶ Preamp Out in both balanced XLR output and unbalanced (RCA) outputs per channel.
- ▶ Tape input and output jacks allow tape recording from any source and monitoring of tape recorder output.
- ▶ Rear panel handles assist moving and transport of unit.
- ▶ Chassis and all chassis components, precision machined from 6061 aluminum plate, reduce distortion resulting from mechanical resonance and thermal instabilities.
- ▶ All operational functions under microprocessor control. Within five seconds of any function selected, the microprocessor reverts to a non-clocking “sleep” mode which eliminates any possibility of digital noise contamination.
- ▶ Non-multiplexed, zero electrical noise generating numerical display indicates volume level over entire range of 99.5 decibels.
- ▶ ‘Display off after five seconds’ option available for non-intrusive, low light listening environments.
- ▶ Dual range volume control allows large volume level changes when knob is rotated abruptly, yet permits precise small volume level changes when knob is rotated slowly.
- ▶ Optional plug-in phono cards (installed internally) convert Line Input 1 to high performance phono inputs. Four gain and input loading options standard for moving magnet and moving coil cartridge types.
- ▶ Full electronic and thermal protection modes guard against output overloads and short circuits.
- ▶ High current preamp outputs (balanced XLR and unbalanced RCA) allow simultaneous driving of external power amplifiers for subwoofers, vertical bi-amping, etc.
- ▶ All inputs are transformer-coupled to provide maximum immunity from RF contamination and system ground loops and enhance compatibility with a wide variety of interconnected components.
- ▶ Speaker outputs are fully balanced to provide maximum sonic performance and immunity from RF contamination due to high output common mode noise rejection.
- ▶ Optical encoder type volume control maintains quiet, trouble-free performance and accuracy over entire lifetime of product.
- ▶ Six-function hand-held IR remote 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 Concentra Integrated 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

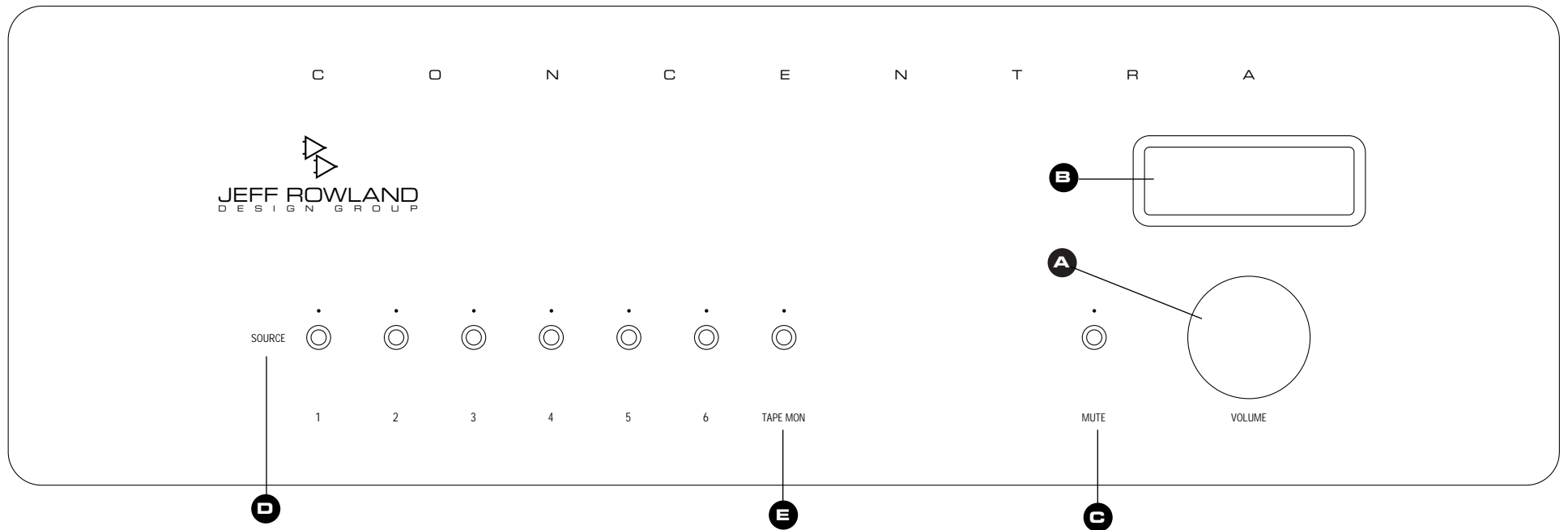
---

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** Handheld remote transmitter
- 2** Four (4) compliant isolation interface supports
- 3** AC power cable
- 4** One (1) warranty card (in some countries warranties are provided by the respective importer)

# Front Panel Function Controls

---



## Front Panel Function Controls

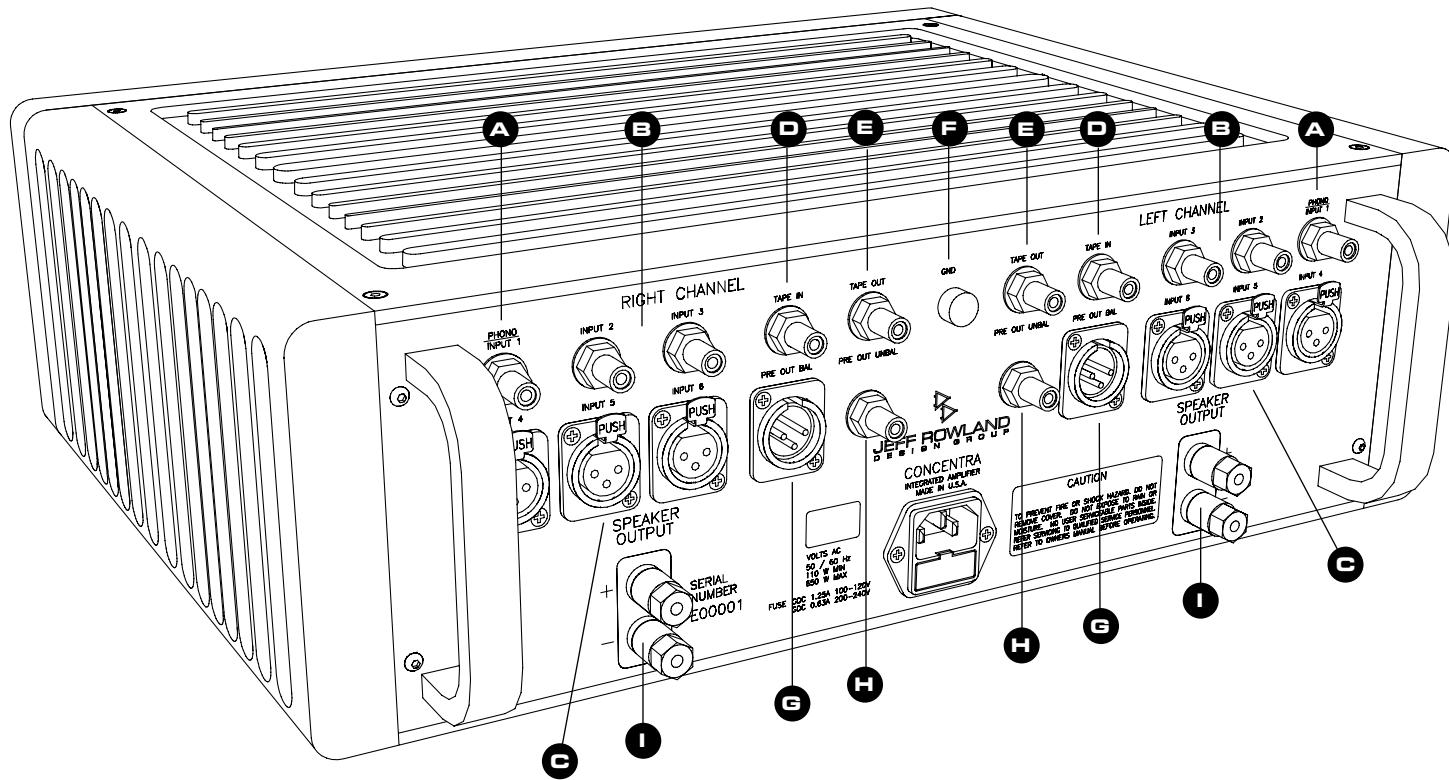
---

Before attempting any system interconnection, please familiarize yourself with the front panel controls of the Concentra Integrated Amplifier. The descriptions below refer to the letters associated with the features in the diagram above.

### Front Panel

- A** VOLUME control: Rotating the VOLUME control clockwise increases volume, while rotating the knob counter clockwise decreases volume. The VOLUME control provides a fixed range of 99.5 dB in increments of 0.5 dB throughout a rotation of 330 degrees. If the VOLUME control is rotated abruptly, the full range of 99.5 dB will be achieved within 110 degrees of rotation.
- B** DISPLAY: Contains the IR receiver for receiving commands from the remote control. Also displays the numerical Volume control position from 0 to 99.5 dB in increments of 0.5 dB. If desired, your dealer can internally configure the display to turn off after five seconds from initiating any front panel command (Input Select, Volume, etc.) Please contact your dealer for details.
- C** MUTE push button: Momentarily pressing this push button mutes the amplifier PRE OUT and SPEAKER OUTPUTS. The lamp above the MUTE button illuminates. Pressing the push button again restores the normal condition of the amplifier outputs. The MUTE lamp is not illuminated. Pressing and holding in the Mute push button for five seconds, then releasing, will reset the microprocessor and automatically recalibrate internal circuitry. Initiate this function in the unlikely event of control 'lock-up' (caused by AC line brown-outs) or to reset the channel balance to 'center' position if it has been changed via the remote control.
- D** SOURCE push buttons 1-6: Momentarily pressing one of these buttons selects the source (CD, tuner, etc.) connected to the associated rear panel input (see Signal Connections). The lamp above the selected source illuminates. In addition to being selected for listening, the selected source signal is also routed to the PRE OUT and TAPE OUT jacks on the rear panel (see Signal Connections).
- E** TAPE MON push button: Momentarily pressing this button routes the signal source (tape recorder) connected to the TAPE INPUT jacks to the PRE OUT and SPEAKER OUTPUTS for monitoring and listening purposes. The lamp above TAPE MON illuminates. Pressing the button a second time restores normal operation. The TAPE MON lamp is not illuminated. Note: The TAPE OUT outputs are unaffected by TAPE MON.

# Signal Connections



## Signal Connections

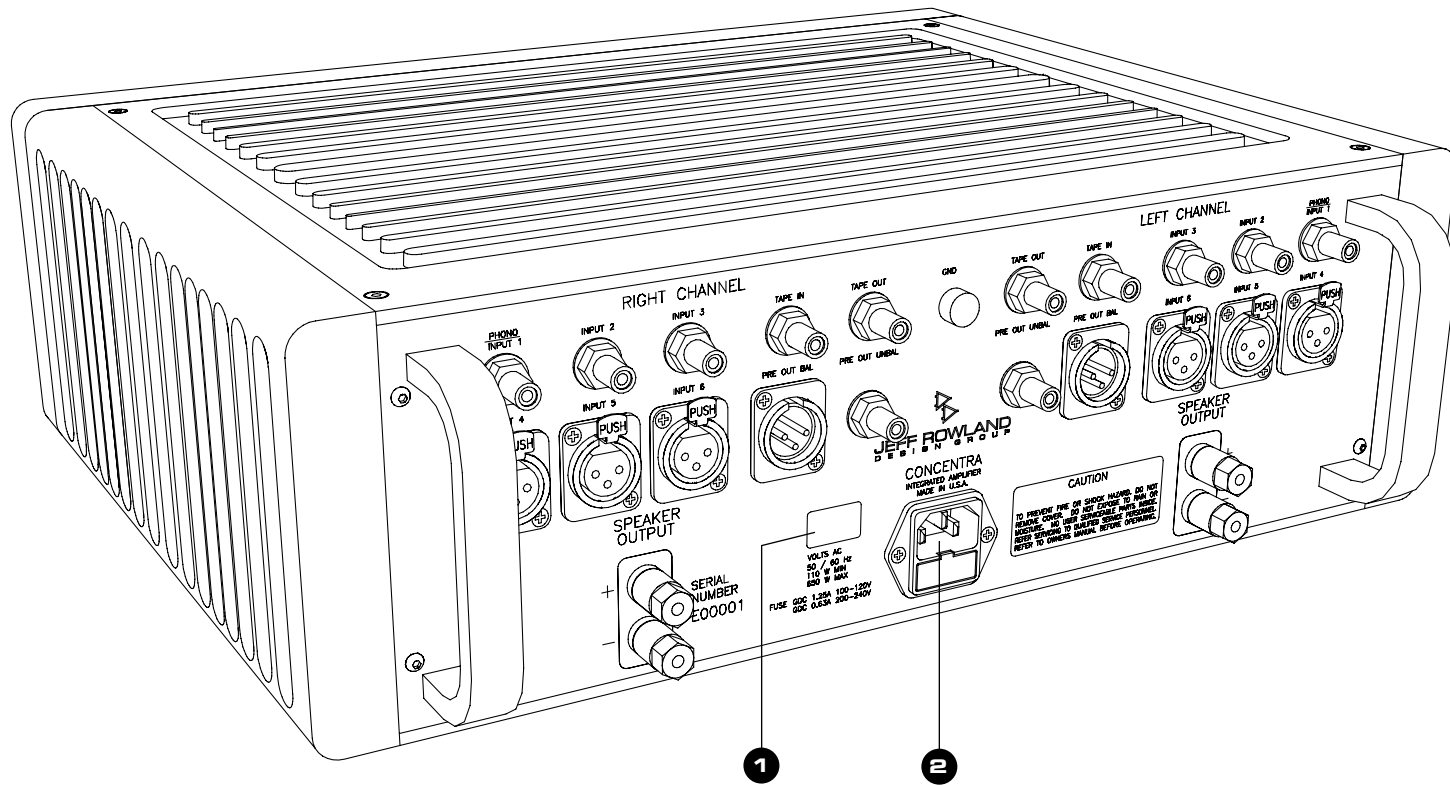
---

- A** INPUT 1/PHONO (RCA unbalanced): Connect any unbalanced line source (CD, Tuner, D/A Converter, Laser Disk, etc.), unless the PHONO option has been installed. If the PHONO option is installed, the low level output from the PHONO source (turntable) **MUST** be connected only to this input, and line level sources **MUST NOT** be connected to this source.
- B** INPUTS 2 and 3 (RCA unbalanced): Connect any line level source with unbalanced (RCA) type connectors.
- C** INPUTS 4-6 (Female XLR balanced): Connect any line level source using balanced XLR connectors. Each INPUT connector conforms to a Pin #1 ground, Pin #2 negative, Pin #3 positive standard. For lowest possible noise, both positive and negative terminals of each INPUT connector are isolated from ground by several megohms which restores maximum common mode noise rejection regardless of source impedance imbalances.
- D** TAPE IN (RCA unbalanced): Connect the output from a tape recorder to this input to allow monitoring of recording via the TAPE MON push button (see Front Panel Function Controls).
- E** TAPE OUT (RCA unbalanced): Connect to the input of a tape recorder to allow recording from the selected SOURCE.
- F** GND: When using the phono option, this thumbscrew provides a convenient ground connection for turntable grounding. To use, unscrew the knurled knob several turns, insert the uninsulated or spade terminal end of the ground wire from the turntable underneath the thumbscrew and firmly re-tighten.
- G** PRE OUT BAL (Male XLR balanced): When using an additional amplifier, such as for subwoofers or for additional speakers, this connector provides fully balanced volume-controlled output to drive the additional amplifier. This PRE OUT conforms to a Pin #1 ground, Pin #2 negative, Pin #3 positive standard. Balanced output signals are always provided regardless of input selected (balanced or unbalanced). Note: The gain structure (internal power amplifier gain) from PRE OUT BAL to SPEAKER OUTPUT is 26 dB.
- H** PRE OUT UNBAL (RCA unbalanced): This connector provides volume controlled output to drive an auxiliary amplifier (as above) requiring unbalanced RCA connections.
- I** SPEAKER OUTPUT: Unscrew the + and - SPEAKER OUTPUT connectors and install the positive and negative loudspeaker cable spade connectors. Retighten the output connectors. Red is normally positive; black is normally negative. **ALWAYS USE THE SUPPLIED SPEAKER TERMINAL HAND WRENCH WHEN CONNECTING OR DISCONNECTING LOUD-SPEAKER CABLES. DO NOT OVER TIGHTEN THE TERMINALS.** Note: The signal polarity between either PRE OUT BAL or PRE OUT UNBAL and speaker output is inverted. For example: PRE OUT BAL, Pin #3 (positive polarity) and PRE OUT UNBAL (RCA center pin) corresponds to SPEAKER OUTPUT - (negative).



**WARNING:** Both positive and negative SPEAKER OUTPUTS 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.

# Rear Panel Power Connections



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

The Concentra Integrated Amplifier is convection cooled, eliminating the need for a fan or forced air cooling. When operating, the chassis should have at least two inches of air space around the heat sink areas.

Supplied with your Concentra Integrated Amplifier are four compliant interface supports which can be easily installed underneath the chassis near the corners. This will help attenuate the transfer of spurious energy from the supporting structure into the Amplifier chassis.

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

- 1** Verify that the VOLTS 50/60 Hz INPUT identified on the rear panel corresponds to the AC mains voltage of your service area.
- 2** Install the AC power cable between the amplifier and an active AC mains outlet

Note: The Concentra Integrated Amplifier is designed to be powered from AC mains at all times with no degradation of durability or service life. An AC power switch for interrupting AC mains has not been provided. However, if desired, the AC power cord can be plugged into a 'switched' AC mains outlet or suitable device to facilitate AC mains switching in the interest of energy conservation. Please note that the Concentra power consumption is approximately 100 watts average. Depending on various operating conditions during use, power consumption can increase up to 550 watts for short periods.

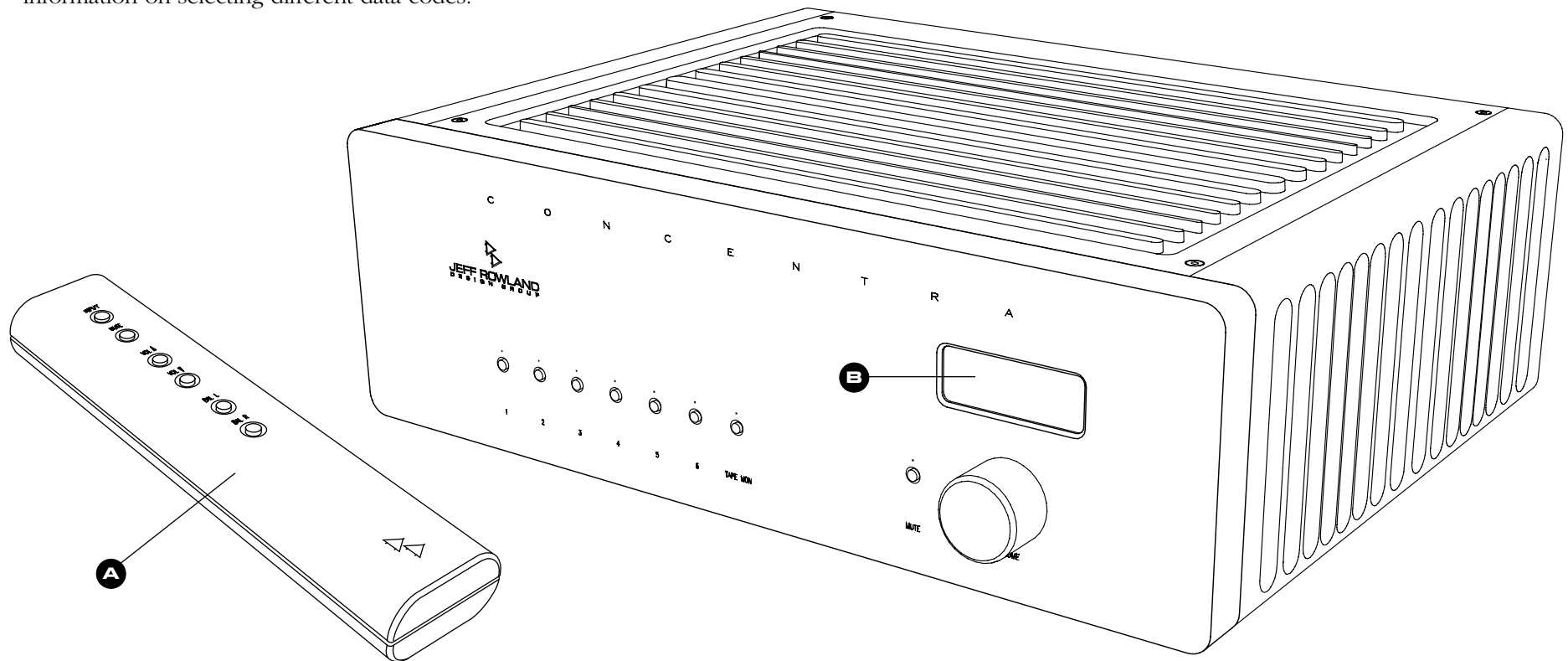
## Remote Control Features

---

- 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** The Concentra volume display simultaneously receives transmitted data and displays a numerical Volume control position from 0 to 99.5 dB in increments of 0.5 dB.

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.

Two (2) different data rate transmission codes can be selected if interference from other IR remote transmitters become an issue. Please contact your Jeff Rowland Design Group dealer or distributor for information on selecting different data codes.



# Concentra Performance Specifications

---

<b>Output Power</b>	Continuous RMS Watts
@ 8 ohms	100 watts
@ 4 ohms	150 watts
<b>Bandwidth</b>	0.5 Hz to 160 kHz, -3 dB
<b>Slew Rate</b>	30 volts per microsecond
<b>THD and Noise</b>	Less than 0.06% at rated power
<b>Damping Factor</b>	60, 20 Hz to 20 kHz, 8 ohms
<b>Output Current</b>	16 amps continuous, 28 amps peak
<b>Gain Structure</b>	
Preamplifier Section	14 dB
Amplifier Section	26 dB
<b>Volume Control Range</b>	99.5 dB
<b>Volume Control Resolution</b>	0.5 dB $\pm$ 0.05 dB over entire range
<b>Input Impedance</b>	36k ohm
<b>Common Mode Rejection Ratio</b>	Greater than 60 dB, 20 Hz to 20 kHz
<b>Power Consumption</b>	100 watts idle; 550 watts maximum

<b>Inputs</b>	
Balanced Line	3 per channel (XLR)
Unbalanced Line	3 per channel (RCA)
Record	1 per channel (RCA)
Unbalanced Phono (optional)	1 per channel (RCA)

<b>Outputs</b>	
Balanced Pre Out	1 per channel (XLR)
Unbalanced Pre Out	1 per channel (RCA)
Record	1 per channel (RCA)
Speaker	1 pair binding posts per channel

<b>Dimensions</b>	17.5 in (W) x 14.35 in (D) x 5.75 in (H) 44.5 cm (W) x 36.2 cm (D) x 14.6 cm (H)
-------------------	---

<b>Weight</b>	50 lbs (23 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.

