



JEFF ROWLAND  
DESIGN GROUP

# CORUS STEREO PREAMPLIFIER

## Operational Manual

REV04 2010



## **IMPORTANT SAFETY INSTRUCTIONS**

The preamplifier has been designed to operate at the highest level of efficiency and performance in any normal operating situation; however, there are a few important use and care principles that must be kept in mind when operating the preamplifier:

- Do not expose the preamplifier to rain, moisture, or excessively damp conditions.
- Due to auto-ranging circuitry and dual-stage voltage regulation, the audio performance will not be affected by any voltage fluctuations within the operating voltage range. The CORUS PREAMPLIFIER can be operated at any mains voltage over the range of 85 to 265 VAC without any adjustments necessary.
- The CORUS PREAMPLIFIER must not be modified in any way, other than according to official service bulletins from JRDG (Jeff Rowland Design Group). Otherwise, the factory warranty will be immediately voided.
- Be sure the preamplifier is muted (volume level bracketed) before connecting or disconnecting any interconnect cables.
- When operating the CORUS PREAMPLIFIER, a properly grounded AC receptacle should be used. A potential shock hazard may result if the supplied 3-wire, grounded AC cable ground terminal is defeated or lifted or the unit is connected to a 2-wire ungrounded AC outlet.
- The CORUS PREAMPLIFIER is designed to perform optimally with no adjustments or maintenance for the lifetime of the product. Do not attempt to open the bottom cover of the preamplifier and refer all service issues to qualified personnel. The voltages inside the CORUS PREAMPLIFIER can be hazardous.
- Because of the energy efficiency of the CORUS PREAMPLIFIER, there is no need to unplug the unit when not in use; however, the preamplifier can be muted, and/or display blanked, if desired.

## **PROTECTIVE SYSTEMS**

The CORUS PREAMPLIFIER is equipped with internal fuses for protection against excessive AC current draw; however, since no protection circuitry or system can completely protect a product from every electrical hazard, certain precautions should be observed. In the event of severe voltage hazards such as lightning or when the preamplifier will not be used for extended periods of time, the preamplifier should be unplugged from the AC mains to avoid potential damage to the internal circuitry. All other audio/video system components should also be disconnected from AC mains power as hazardous voltages can easily travel throughout an interconnected system.

## NOTE FROM JEFF ROWLAND DESIGN GROUP

**W**elcome to the Jeff Rowland Design Group “family” and congratulations on your purchase of what is unquestionably one of the world’s finest preamplifiers. With its combination of features such as precision electronic circuitry, exceptional efficiency, and accurately machined chassis components throughout, your CORUS PREAMPLIFIER 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 preamplifier. 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 CORUS PREAMPLIFIER and power supply serial numbers begin with the letters “PD” and “C” respectively. Please include this number with any correspondence regarding your CORUS PREAMPLIFIER. It has been my joy to create an audio component of enduring value that reflects the highest ideals of musical and artistic expression. It is my hope that these qualities will enrich your experience and pride of ownership.

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

Enjoy the music!

A handwritten signature in black ink that reads "Jeff Rowland". The signature is fluid and cursive, with the first letter 'J' being particularly large and stylized.

**Jeff Rowland**

President, Jeff Rowland Design Group

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## **SPECIAL DESIGN FEATURES**

**MACHINED ALUMINUM CHASSIS:** Preamplifier circuitry housed inside single ultra-low resonance, structurally rigid chassis precision-machined from a solid ingot of aircraft grade 6061-T6 aluminum, completely sealed for trouble-free operation, yield maximum electrical/EMI/RF isolation.

**FUNCTIONAL ISOLATION:** Power supply is confined inside external machined aluminum chassis. Sensitive audio circuits isolated from power supply in main preamplifier chassis. Left and right channel circuits are further isolated into individual milled aluminum pockets in a true dual mono design for ultimate RF and EMI shielding.

**FREE OF INTERNAL SIGNAL POLLUTION:** Control subsystem taken completely offline after each command execution to maximize sound purity. All signal switching relays are “latching” type which only draw current for a few milliseconds during the switching event then revert to a no current “off” state.

**MULTI-REGULATED AC SMPS:** High speed regulated, low noise switch mode power supply (SMPS) developed for aerospace applications incorporates passive power factor correction (PFC) for sonic performance so pure and musical that is virtually invariant to different quality power cords.

**AUTOMATIC WORLDWIDE OPERATIONS:** Auto-sensing and auto-ranging SMPS provides optimum performance at any world-wide mains operating voltage between 85V and 265V.

**CERAMIC CIRCUIT BOARDS:** All audio circuits are implemented on military-grade, multilayer, low dielectric constant, Rogers™ ceramic circuit board substrate for extremely low energy retention and absorption. Large low impedance ground planes for extended internal star-grounding. Newly developed ceramic capacitors replace conventional electrolytic type, resulting in power supply noise decoupling improvements by an order of magnitude (10X).

**SHORTEST SIGNAL PATH:** Gain stages, based upon ultra-low noise differential balanced audio amplifiers, are implemented into the shortest signal path of any previous Rowland preamplifier. All signal paths are balanced from input to output for maximum noise rejection.

**DUAL-ZONE PREAMPLIFICATION:** Separate 2nd gain stage for record outputs offers same circuitry as the primary signal path with independent volume control.

**TRANSFORMER-COUPLED:** All inputs and outputs routed through professional grade Lundahl transformers for maximum common noise rejection, EMI immunity, and cross-component compatibility. Transformer coupling also ensures invariant gain for all balanced inputs and outputs. When used with input transformer equipped JRDG (Jeff Rowland Design Group) amplifiers a 140dB dynamic range interface can be achieved. All unbalanced inputs convert to balanced upon entering the preamp.

**FLEXIBLE CONNECTIVITY:** 6 inputs (4 XLR balanced, 2 RCA unbalanced); 4 main outputs (2 XLR balanced, 2 RCA unbalanced); 2 record outputs (1 XLR balanced, 1 RCA unbalanced); per channel.

**INPUT GAIN OFFSETS:** Hi resolution independently programmable gain offset on each main input ranging from -20dB to +20dB in 0.5dB increments.

**OUTPUT OFFSET:** High-resolution programmable gain offset on **MAIN UNBALANCED OUTPUT 2** (mapped to **OUTPUT B** on the preamplifier back panel) with 0.5dB resolution adjustable relative to **MAIN OUTPUT 1** (mapped to **OUTPUT A** on the preamplifier back panel).

**UNITY GAIN INPUTS:** Any main input can be configured as unity gain bypass for compatibility with theater processors.

**PHASE INVERSION:** Independent signal phase inversion control on left and right channels for optimum speaker setup and system checks.

**CHANNEL BALANCE:** Hi resolution (1.0dB) panning of stereophonic image (channel balance) for a maximum +/-20dB shift.

**VFD:** Long life 32x320 pixel custom graphic vacuum fluorescent display (VFD) offers maximum resolution of display data for status indication.

**HANDHELD REMOTE TRANSMITTER:** Highly ergonomic, custom handheld remote transmitter milled from aluminum billet supports complete system control and duplicates front panel operations.

**REMOTE SENSOR:** Wired remote sensor milled from aluminum billet enables handheld remote transmitter operation while housing preamplifier in closed cabinet enclosures.

**PRECISION VOLUME ADJUSTMENTS:** Dual rate volume control allows precision level adjustments over nearly a 100 dB range. The volume control incorporates a permanently noiseless optical encoder that will always maintain its tactile feel, accuracy, and channel balance at all settings. The volume can be adjusted from 0dB to 99.5dB from the multi-role control knob on the front panel, as well as from the multi-function handheld remote transmitter. Rapid turns of the control knob adjust the volume by 1.5dB increments. Slow turns of the control allow for very fine adjustments by 0.5dB increments.

**QUIET POWER-UP:** No turn-on or turn-off transients during intermittent power interruptions.

**CUSTOMIZATION:** Inputs can be custom named and set for different gain structures and automatically stored in internal memory.



**Figure 1:** Corus components (cables not shown)

## **MAINTENANCE AND CARE**

All JRDG (Jeff Rowland Design Group) products are designed to provide a lifetime of enjoyment and listening pleasure.

Chassis is sealed to prevent dust from entering the interior of the chassis and thus should never need interior cleaning during the lifetime of the product. All internal circuitry is maintenance-free such that no adjustments of any kind are necessary over the lifetime of the product. If the preamplifier is ever in need of service, updating, or upgrading, it should only be returned to an authorized repair facility or technician for servicing.

The front panel of the unit is precision-machined in a unique process that incorporates a diamond tipped cutting tool. This process was refined over many years to produce an attractive and unique appearance. 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.

**NOTE: PLEASE ALLOW THE FRONT PANEL, WHICH IS COATED WITH AN AUTOMOTIVE-GRADE POLYURETHANE FINISH, 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.**

**WARNING: 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, USE OF ANY OTHER CLEANING AGENT MAY PERMANENTLY SCRATCH THE FINISH.**

The top cover, sides and bottom are protected by a durable black anodized finish and can be cleaned with a soft cotton cloth (such as an optical lens or microfiber cleaning cloth) dampened with plain water. Water should be applied directly to the cloth and not the chassis. A very mild plastic or glass cleaner that does not contain ammonia may also be used. If a mark has been left on the chassis, do not use any type of abrasive or chemical cleaner to remove the mark.

If you have any questions about the care or cleaning of your CORUS PREAMPLIFIER, please contact your dealer or the JRDG (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.



## **UNPACKING AND PLACEMENT**

### **INITIAL INSPECTION**

Inspect the shipping container for damage. If any portion of the shipping container, packing material, preamplifier, 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 24 HOURS OF DELIVERY TO DETERMINE THE NATURE OF DAMAGES INCURRED.**

Your CORUS PREAMPLIFIER has undergone extensive performance evaluations, listening tests, quality control inspections, and a minimum 72-hour burn-in period prior to shipment and should therefore be in perfect operating condition upon delivery. If the preamplifier does not operate correctly, please notify your dealer immediately.

We strongly suggest that you save all of the packing materials. If the preamplifier is returned to your dealer or JRDG (Jeff Rowland Design Group), the original packing materials must be used for shipment to avoid possible damage. Neither JRDG (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 JRDG (Jeff Rowland Design Group) issue a Return Authorization (RA) number prior to shipment.

### **UNPACKING**

Carefully unpack preamplifier chassis and power supply from their original packing box. Remove all accessory items from the accessory box. Accessories include:

- 1 Detachable IEC AC Power Cord
- 2 2-Meter Multi-pin DC Cables
- 1 Handheld Remote Transmitter Handset
- 1 Remote Transmitter Sensor
- 1 2-Meter Remote Transmitter Data Cable
- Operational Manual
- Warranty Card

**IMPORTANT: RETAIN ALL PACKING MATERIALS FOR FUTURE TRANSPORT. SHIPPING PRODUCT IN INADEQUATE PACKING MATERIALS MAY VIOLATE THE JEFF ROWLAND DESIGN GROUP MANUFACTURER'S WARRANTY.**

## **PLACEMENT AND ALIGNMENT**

Place the CORUS PREAMPLIFIER on a stable platform, rack, or shelf. The power supply can be placed up to two meters away from the preamplifier. All audio interconnects can be inserted into the rear panel at this time. Then each multi-pin DC cable can be inserted into the DC out receptacles. Partially insert each cable connector shell and rotate until alignment is achieved. Then firmly push cable shell until it locks in place. A snap will be felt and heard when the cable is correctly inserted. Repeat the same procedure when installing the DC cables into the power supply. To remove cables, grasp the outer sliding sleeve of each cable between your fingers and pull sliding sleeve and cable away from the chassis connector.

**NOTE: DO NOT FORCE CABLE INTO RECEPTACLE UNLESS ALIGNMENT IS ACHIEVED.**

After all interconnect and DC cables have been installed into both units, plug in the AC power cord into the power supply. The other end of the power cord may then be plugged into any AC mains source from 85 to 265 volts AC. The rocker power switch on the power supply may be turned on at this time.

**NOTE: THE PREAMPLIFIER IS BEST LEFT POWERED ON INDEFINITELY TO ENSURE OPTIMUM OPERATING CHARACTERISTICS.**

**WARNING: THE CORUS PREAMPLIFIER MUST BE CONNECTED TO THE POWER SUPPLY VIA THE DC POWER CABLES BEFORE APPLYING AC POWER TO THE POWER SUPPLY. FAILURE TO FOLLOW THIS INSTALLATION SEQUENCE MAY RESULT IN DAMAGE TO INTERNAL POWER SUPPLY COMPONENTS.**

## FRONT PANEL

The front panel of the Corus Preamplifier's chassis features a vacuum-fluorescent (VFD) display, 10 push-buttons, and a multi-purpose volume/menu control knob.

All controls are precision machined from aluminum billet. Each pushbutton has been designed with a slightly different length to accommodate the curvature of the faceplate.

## FRONT PANEL DISPLAY



**Figure 2:** Front Panel Display

1. **CUSTOM VFD.** Long life 32x320 pixel custom graphic vacuum fluorescent display (VFD) offers maximum resolution of display data for status indication.
2. **PHASE INVERSION INDICATOR.** The CORUS PREAMPLIFIER'S display features a visible indicator for the phases of both right and left channels on its lower left corner as follows:
  - a. L+ +R -- the phase for both channels is Normal (not inverted).
  - b. L- +R -- left channel inverted.
  - c. L+ -R -- right channel inverted.
  - d. L- -R -- both channels inverted.
3. **RECORD SELECT INDICATOR.** Indicates which input is routed to the **RECORD OUTPUT** jacks. If the input is labeled via the **MENU** function, then the label selected will also be indicated under the heading. If the input is not labeled, then no indication will be provided. If inputs **1** through **4** are selected **BAL** will be indicated. If inputs **5** or **6** are selected, **UNBAL** will be indicated.
4. **RECORD LABEL INDICATOR.** Indicates label assigned to input routed to the **RECORD OUTPUT** jacks. If no input is selected, then no label will be indicated.

5. **CHANNEL BALANCE/OFFSET INDICATOR.** The channel balance indicator is a horizontal bar graph located to the right of the phase indicator. The cursor changes from a small square to a diamond shape at the center of the bar graph when the left and right channels have identical gains, or when no input gain offset has been added to a selected input. Whenever a channel balance or gain offset is adjusted the cursor will change from a diamond to a square. Each increment of the cursor is equal to one-half dB of gain offset of each channel, or a one dB difference between right and left channels.
6. **INPUT NUMBER INDICATOR.** Indicates which input number is routed to the **MAIN OUTPUT 1/2/B** jacks. If inputs **1** through **4** are selected **BAL** will be indicated. If inputs **5** or **6** are selected, **UNBAL** will be indicated.
7. **INPUT LABEL INDICATOR.** If the input is labeled via the **MENU** function, then the label selected will be indicated. A complete list of input names is provided in the **MENU** when the menu function is selected.
8. **VOLUME/MUTE INDICATOR.** This display shows the current volume of the selected input numerically, from 00.0 to 99.5, in 0.5 dB increments. When the preamp is muted the volume indicator numbers will be surrounded by corner brackets which indicates that the selected volume will be decreased by 20 dB. The selected volume numbers will also be decreased by 20. When the preamp is fully muted the original volume indicator numbers will be surrounded by full brackets which indicates that the selected volume will be decreased to zero.

## FRONT PANEL CONTROLS



**Figure 3:** Front Panel Controls

1. **INPUT BUTTONS 1-6.** The main input number is selected by pressing the desired input button.
2. **RECORD PUSHBUTTON.** Enters the **RECORD SELECT** mode. The record input number is selected by pressing the front panel's **RECORD** button and then pressing the desired input button. This can also be done by choosing **RECORD SELECT** from the **MENU**. The **RECORD SELECT MODE** persists until a main input number is selected.
3. **MENU PUSHBUTTON.** Enters **MENU** mode. Also used to select the **MENU** option and exit the **MENU** mode.
4. **DISPLAY PUSHBUTTON.** Turns display off and mutes the preamplifier. Typically used to extend the life of the display while maintaining the preamplifier circuitry in a powered status.
5. **MUTE PUSHBUTTON.** Depressing the **MUTE** button once will reduce the volume by 20 dB. Depressing the **MUTE** button a second time will fully mute the volume. Depressing the **MUTE** button a third time will return the volume to the original unmuted condition. Depressing and holding the **MUTE** button for approximately 10 seconds forces a hardware reset.
6. **VOLUME CONTROL KNOB.** Rotation of the volume control knob clockwise will increase the output level of the CORUS PREAMPLIFIER. Rotation of the knob counter-clockwise will decrease the output level. The CORUS PREAMPLIFIER features a dual-range volume control system. Rotating the volume knob slowly will cause the volume to increase or decrease in small, precise steps. Rotating the knob abruptly will result in large, immediate changes to the output level.

In **MENU** mode, rotating the volume knob will scroll through the CORUS PREAMPLIFIER's menu and submenus.

## MENU OPTIONS

Several buttons enter and exit the **MENU**: The front-panel's **MENU** button; the handheld remote transmitter **ENTER** and **EXIT** buttons; and the front panel **VOLUME** knob. From the display's main screen, pressing any of the **MENU** buttons enters the **MENU** mode. Once in **MENU** mode, either the **VOLUME** knob or the handheld remote transmitter's Navigation Up (**▲**) or Down (**▼**) buttons scroll through the **MENU** choices. The menu text scrolls up or down. After scrolling to the desired menu item, pressing any **MENU** button again performs that function and exits the **MENU** mode.

- **CANCEL MENU.** Pressing any of the **MENU** buttons will cancel the **MENU** mode and return to the display's main screen.
- **BALANCE.** Adjusts the difference between left and right signal levels in 1.0dB steps. Adjusting the cursor to the left increases the left channel's gain in 0.5dB increments, while decreasing the right channel's gain in 0.5dB increments, and vice versa. The adjustment in balance will not affect the overall volume level. Adjusting the balance for any input will adjust the balance for all inputs. Any balance adjustment will be saved in the internal memory of the preamplifier even if the power is shut off. Up to a maximum of +/-20dB offset can be achieved.
- **STANDBY.** Enters **STANDBY** mode. **STANDBY** mode must be exited by pressing the front panel's Standby button.
- **RECORD SELECT.** Assigns any input selected from the front panel to the record circuitry and outputs jacks.
- **PHASE NORMAL.** Sets both channels to non-inverting (normal phase). The lower left-hand corner of the display indicates. (L+ +R)

**NOTE: ANY OF THE FOUR PHASE OPTIONS CAN BE SELECTED FROM THE MENU. HOWEVER, THE PHASE BUTTON ON THE HANDHELD REMOTE TRANSMITTER SIMPLY TOGGLES BETWEEN PHASE NORMAL AND INVERT BOTH.**

- **INVERT BOTH.** Inverts the phase of both channels. (L- -R)
- **INVERT LEFT.** Inverts only the left channel. (L- +R)
- **INVERT RIGHT.** Inverts only the right channel. (L+ -R)
- **INPUT OFFSET.** Adjusts the input gain offset for the most recently selected main input by up to +/-20dB by turning the **VOLUME** knob clockwise or counter-clockwise. The balance bar graph will indicate any degree of adjustment in 0.5dB increments when this mode is selected. When the cursor is returned to center and resumes its diamond shape no input offset adjustment has been made. This feature is particularly useful for sources that have much higher or much lower output levels than normal. Every individual input offset adjustments is automatically stored in the preamplifier internal memory until adjusted to a new value.

- **OUT 2 OFFSET.** Adjusts the input gain offset of the unbalanced (RCA) **OUT 2** output relative to the balanced (XLR) **MAIN OUTPUTS 1** and **2** by turning the **VOLUME** knob clockwise or counter-clockwise. The balance bar graph will indicate any degree of adjustment in 0.5dB increments when this mode is selected. When the cursor is returned to center and resumes its diamond shape, no **OUT 2 OFFSET** adjustment has been made. Any **OUT 2 OFFSET** adjustment is automatically stored in the preamplifier internal memory until adjusted to a new value. Up to a maximum of +/-20dB offset can be achieved.
- **RECORD OUT LEVEL.** Adjusts the level (volume) of the record signal path.
- **NAME – . . . . .** A variety of names for labeling the Main and Record Inputs is provided. The name chosen is assigned to the last-selected Main or Record Input.
- **REMOTE DEFAULT.** Returns IR receiver frequencies to factory default setting, thereby matching the handheld remote transmitter transmission frequencies when adjusted to factory default setting.
- **REMOTE ALT 1,2, AND 3.** Sets IR receiver frequencies to match handheld remote transmitter transmission frequencies when adjusted to corresponding transmitting frequencies.
- **DISPLAY HIGH/MEDIUM/LOW.** Adjusts the brightness of the display in three levels.
- **DISPLAY ON.** Cancels **DISPLAY OFF 5s/15s** modes and returns the display to the **DISPLAY HIGH** brightness setting.
- **DISPLAY OFF 5s.** The display remains off during normal operation, and is temporarily activated for 5 seconds whenever any command is issued through the front panel or the handheld remote transmitter.
- **DISPLAY OFF 15s.** The display remains off during normal operation, and is temporarily activated for 15 seconds whenever any command is issued through the front panel or handheld remote transmitter.
- **FACTORY DEFAULT.** Return all preamplifier settings to factory defaults.
- **CORUS PREAMPLIFIER FIRMWARE REVISION NUMBER.** Indicates current version of CORUS PREAMPLIFIER operating system software.

## REAR PANEL

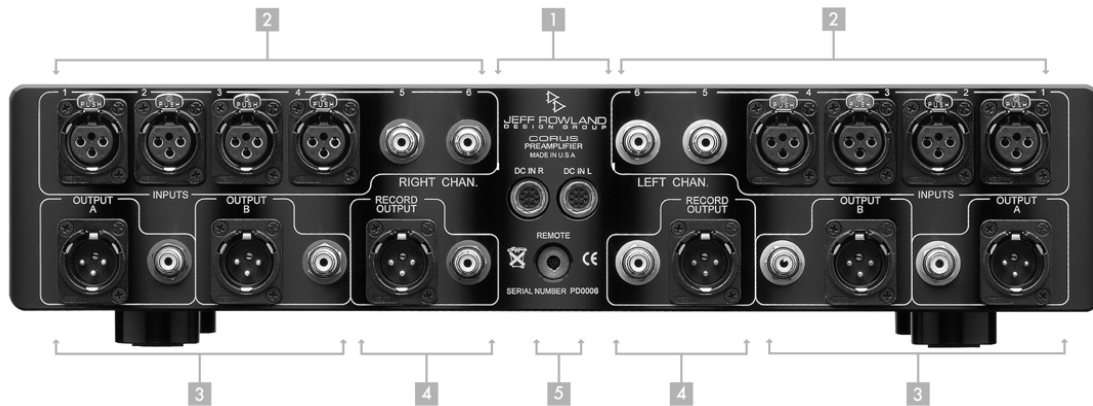
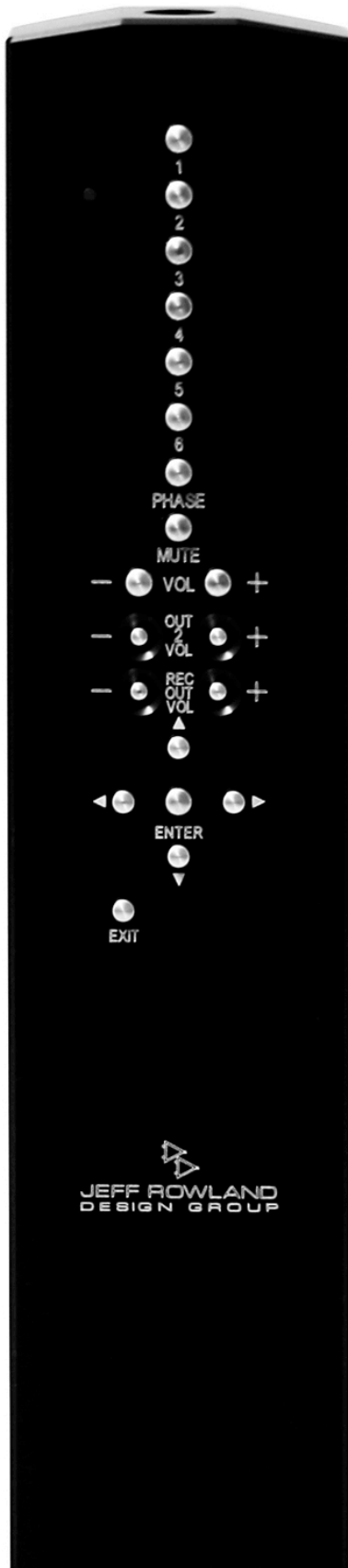


Figure 4: Rear Panel

1. **DC IN R/L POWER INPUT RECEPTACLES.** Two separate DC power cables, one for each channel, are utilized to connect the power supply to CORUS PREAMPLIFIER.
2. **INPUTS.** Four (4) pair Balanced (XLR), Two (2) pair Unbalanced (RCA) input jacks for each channel.
3. **MAIN 1/MAIN 2 OUTPUTS.** Two (2) pair Balanced (XLR), Two (2) pair Unbalanced (RCA) jacks for Main A/Main B outputs for each channel. (**MAIN 1** and **MAIN 2** are mapped to **OUTPUT A** and **OUTPUT B** on the preamplifier back panel)
4. **RECORD OUTPUTS.** One (1) pair Balanced (XLR), One (1) pair Unbalanced (RCA) jacks for Record Out.
5. **REMOTE SENSOR INPUT CONNECTOR and SERIAL NUMBER.** The remote sensor unit connects to this connector via a 2-meter flexible cable. The wired connection allows full control of the preamplifier through the infrared handheld remote transmitter. The 2-meter cable end marked **PREAMP END** must be connected to the preamplifier rear panel. The preamplifier chassis serial number begins with the letters "PD".





## HANDHELD REMOTE TRANSMITTER

The CORUS PREAMPLIFIER's infrared handheld remote transmitter is matched by a remote sensor unit that connects to the preamplifier via a 2 meter long cable. The hard wired connection allows the sensor unit to be placed up to 2 meters away from the preamplifier.

**NOTE: AN ACTIVITY LIGHT ON THE HANDHELD REMOTE TRANSMITTER ILLUMINATES DURING IR TRANSMISSION. A FAINT ACTIVITY LIGHT IS AN INDICATION THAT THE AA ALKALINE BATTERIES INSIDE THE HANDHELD REMOTE ARE DEPLETED, AND NEED TO BE REPLACED.**

The handheld remote transmitter features internal switches for selecting alternate transmission frequency codes. The switches are accessible by removing the handheld remote bottom cover. Alternate codes may be selected to remedy conflicts with other remote controlled devices. Matching codes must be assigned to the CORUS PREAMPLIFIER from the **MENU**.

**NOTE: NORMAL CORUS OPERATION UTILIZES THE REMOTE DEFAULT CODE LOCATED IN THE MENU.**

Figure 5: Handheld Remote Transmitter

## REMOTE TRANSMITTER CONTROLS

- **BUTTONS 1 THROUGH 6.** Selects the Main Input number. If front panel **RECORD** button is pressed, or the **RECORD SELECT** menu option is selected, the handheld remote buttons #1 through #6 will select the Record Input Number.
- **PHASE.** Toggles between Phase Normal (L+ +R) and Invert Both (L- -R).
- **MUTE.** The CORUS PREAMPLIFIER's mute function can be controlled by pressing the dedicated **MUTE** button featured on the handheld remote transmitter.
- **VOLUME +/-.** Normally adjusts the Main Input volume. In **RECORD OUT LEVEL** mode it adjusts the record volume.
- **OUT 2 VOL +/-.** Adjusts the level of the unbalanced RCA main outputs relative to the balanced Main Out 1 outputs (XLR/RCA), and Main Output 2 XLR output. Press **ENTER** or **EXIT** to leave this mode.
- **REC OUT VOLUME +/-.** Pressing either button automatically enters the **REC OUT LEVEL** menu mode and then adjusts the level of the **RECORD** outputs (XLR/RCA). Press **ENTER** or **EXIT** to leave this mode.
- **UP-DOWN ARROWS. ▲/▼.** In **MENU** mode scrolls the menu text up or down.
- **LEFT RIGHT ARROWS. ►/◄** In the **BALANCE** menu mode - shifts the outputs to the left or right. In the **INPUT OFFSET** or **OUT 2 OFFSET** menu modes - adjusts the input gain offset up or down.
- **ENTER.** Performs the same function as the front panel's **MENU** button.
- **EXIT.** Exits any **MENU** function.

## INTERNAL SWITCHES

Selects the Remote Frequency (custom code) that is transmitted.

- All Switches OFF: The Default Remote Code
- Switch 1 ON: Remote Code 1.
- Switch 2 ON: Remote Code 2.
- Switch 3 ON: Remote Code 3.
- Switch 4 ON: Enables blinking "finder" LED.

## REMOTE TRANSMITTER BATTERY REPLACEMENT

The CORUS PREAMPLIFIER's handheld remote transmitter is powered by 2 standard alkaline double-A (AA) batteries. When the remote transmission range decreases or no longer operates, the batteries need to be replaced.

- Using a standard flat blade screw driver, unfasten the holding screw located in the bottom end of the transmitter unit.
- Remove the spring-loaded cover.
- Remove both AA batteries.
- Orient the remote transmitter with the keypad facing up, and with the battery compartment towards you.
- Insert a fresh battery into the left barrel with negative pole (flat end) first.
- Insert a fresh battery into the right barrel with positive pole (button end) first.
- Install the spring-loaded cover.
- Gently refasten the holding screw. Do not over-tighten.

## GENERAL OPERATIONS

### MUTE SETTINGS

Pressing the **MUTE** button once on either the control panel or remote transmitter reduces the main volume by 20dB, and decreases the volume indicator by 20.0 counts. The display shows the volume indicator surrounded by corner brackets.

Pressing **MUTE** button a second time mutes the main volume completely. The volume indicator on the display returns to the normal count, but it is surrounded by full brackets.

Pressing **MUTE** button a third time returns the CORUS PREAMPLIFIER's volume to the original level. Brackets will disappear from the indicator, and the indicator will return to its original count.

### CHANNEL BALANCE

There are two methods to adjust left/right channel balance on the CORUS PREAMPLIFIER:

#### From the Preamplicifier Control Chassis

Enter **MENU**. Scroll to and select **BALANCE**. Turn the main volume knob clockwise for a right shift or counter-clockwise for a left shift. Exit **MENU**.

#### From the Handheld Remote Transmitter

Enter **MENU**. Scroll to and select **BALANCE**. Press either volume buttons (+/-) on the handheld remote transmitter. Each **BALANCE** key press on the remote transmitter reduces the gain by 0.5dB on one channel, while increasing the gain on the opposite channel by the same amount. This results in a detectable shift of the sonic image towards the desired side.

**NOTE: BALANCE ADJUSTMENTS MADE ON ANY INPUT WILL BE APPLIED TO ALL INPUTS AND IS SAVED EVEN WHEN PREAMPLIFIER IS POWERED DOWN.**

### RECORD SELECT INPUT ASSIGNMENT

Enter **RECORD SELECT MODE** by pressing the **RECORD** pushbutton on the main control panel, or by selecting **RECORD SELECT** from the CORUS PREAMPLIFIER's menu.

Press any input button, ranging from #1 to #6, on the control panel or on the CORUS PREAMPLIFIER's remote transmitter to complete the assignment. The selected input routed to the **RECORD-OUT** jacks will be confirmed on the left-hand side of the display. The CORUS PREAMPLIFIER will automatically return to standard operation.

## ADJUSTING RECORD OUT LEVEL

Enter **MENU**. Scroll and select **RECORD OUT LEVEL**. The main volume indicator shows the gain of the selected input routed to the **RECORD-OUT** jacks. Adjust the level with the front panel's volume knob or the remote's **REC OUT VOL +/-** buttons.

The **RECORD OUT LEVEL** mode is also entered by pressing either of the remote's **REC OUT VOL +/-** buttons. Exit by pressing any of the **MENU** buttons.

## INDEPENDENT PHASE INVERSION

Enter **MENU**. Scroll and select desired phase condition. Possible phase conditions include **PHASE NORMAL**, **INVERT BOTH**, **INVERT RIGHT**, and **INVERT LEFT** as indicated on the display. Exit by pressing any of the **MENU** buttons.

The CORUS PREAMPLIFIER's independent phase inversion control on each channel is an important system debugging tool. It facilitates effective troubleshooting of phase inversion problems on associated electronic components, speakers, speaker wires, and interconnects, particularly in complex audio systems consisting of multiple amplifiers and multiple source components.

## SETTING OUT 2 OFFSET

Enter **MENU**. Scroll and select **OUT 2 OFFSET**. The balance indicator bar temporarily shows the amount of offset. Adjust the offset with the front panel's knob or the remote's **NAVIGATION RIGHT (▶) NAVIGATION LEFT (◀)** buttons. Exit by pressing any of the **MENU** buttons.

## SETTING INPUT OFFSET

Enter **MENU**. Scroll and select **INPUT OFFSET**. The balance indicator bar temporarily shows the amount of input offset gain. Adjust the offset with the front panel's knob or the remote's **NAVIGATION RIGHT (▶) NAVIGATION LEFT (◀)** buttons. Exit by pressing any of the **MENU** buttons.

## ADJUSTING OUT 2 OFFSET

Enter **MENU**. Scroll and select **OUT 2 OFFSET**. The balance indicator bar temporarily shows the amount of offset. Adjust the offset with the front panel's knob or the remote's **NAVIGATION RIGHT (▶) NAVIGATION LEFT (◀)** buttons. Exit by pressing any of the **MENU** buttons.

## FACTORY RESTORE

Enter **MENU**. Scroll and select **FACTORY DEFAULTS**. This action returns all configuration and adjustments to the original factory-set default values: Main and record volume levels are set to 0dB, input device name assignments are cleared, input and output gain offset adjustments are zeroed, and the CORUS PREAMPLIFIER is returned to AC operation.

## SPECIFICATIONS

<b>Overall Gain</b>	Independently Programmable 0 to 20 dB on each input
<b>Gain Range</b>	99.5 dB, 199 Equal Increments
<b>Gain Resolution</b>	0.5 dB, +/- 0.03 dB Over Entire Range
<b>Frequency Response</b>	10 Hz – 300 kHz, -3 dB @ 8 ohms
<b>Maximum Input Level</b>	13.5 volts (RMS) @ 0 dB Gain
<b>Maximum Output Level</b>	13.5 volts (RMS)
<b>THD + Noise</b>	< .003% @ 2 volt (RMS) Output, 50 Hz – 20 kHz
<b>Signal-to-Noise Ratio</b>	> 100 dB
<b>Common Mode Rejection Ratio</b>	> 90 dB, 20 Hz – 20 kHz
<b>Channel Separation</b>	99.5 dB
<b>Input Impedance</b>	40k ohms Balanced or Unbalanced
<b>Output Impedance</b>	60 ohms Balanced or Unbalanced
<b>Inputs</b>	4 pair Balanced (XLR), 2 pair Unbalanced (RCA)
<b>Outputs</b>	2 pair Balanced (XLR), 2 pair Unbalanced (RCA) for Main Out 1 pair Balanced (XLR), 1 pair Unbalanced (RCA) for Record Out
<b>Power Consumption</b>	15 watts
<b>Power Supply</b>	Universal Voltage Input Power Factor Corrected Power Supply
<b>Display</b>	320 x 32 dot Vacuum Fluorescent Display (VFD)
<b>Preamp Weight</b>	22 lbs. / 10 kg
<b>Power Supply Weight</b>	6 lbs / 2.7 kg
<b>Preamp Dimensions H/W/D</b>	3.9" x 15.5" x 12.3" (99mm x 394mm x 311mm)
<b>Power Supply Dimensions H/W/D</b>	3.9" x 4.7" x 11" (99mm x 119mm x 279mm)