

**CONDUCTOR**

**Full Differential Tube Preamplifier**

**User Manual**



## Before You Begin

Before installing your Conductor preamplifier, please take a moment to review the basic connection guidelines.

Conductor is a fully differential design and achieves its best performance when used with balanced connections. When using RCA sources, be sure to install the supplied shorting connectors on the XLR inputs as described in the connection section of this manual.

Always make sure that all components in the system are **powered off before connecting or disconnecting cables.**

Proper ventilation should also be ensured. Leave at least **5–7 cm of free space above the unit** to allow adequate airflow and cooling.

Taking a few moments to follow these simple recommendations will help ensure reliable operation and the best possible performance from your Conductor preamplifier.

## Package Contents

Your Conductor preamplifier is carefully packed to ensure safe transport. Please verify that the following items are included:

- Conductor Full Differential Tube Preamplifier
  - Remote control
  - Matched E88CC tube set (installed)
- XLR shorting connectors for RCA input operation (1 pair)
  - User manual

If any of these items are missing or damaged, please contact your dealer or distributor before installing the unit.

We recommend retaining the original packaging in case the unit ever needs to be transported or serviced.

## Design Philosophy

Conductor was developed around a simple principle rarely implemented with complete consistency: a high-performance preamplifier should not alter the music — it should simply allow it to pass.

Rather than relying on corrective mechanisms or feedback loops, the circuit operates without global or local negative feedback. Stable operating points, a robust power supply and an inherently linear topology eliminate the need for corrective processing.

The goal is not to impose a sonic signature, but to preserve the integrity of the recording.

## Circuit Architecture

At the core of Conductor is a fully differential signal topology.

This architecture provides excellent noise rejection, signal symmetry and stable operation throughout the circuit.

Four E88CC vacuum tubes operate under carefully defined conditions without global or local feedback correction. Linearity is achieved through circuit structure and carefully optimized operating points rather than electronic correction.

The result is a stable and transparent amplification stage capable of preserving even the smallest musical details.

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## **Power Supply**

In Conductor the power supply is not a secondary subsystem but a fundamental part of the design.

All voltage references remain stable and independent of the audio signal. This ensures that tube operating conditions remain constant regardless of musical dynamics or listening level.

Because the supply remains rigid, the signal path itself is free to swing over a wide voltage range without compression or dynamic limitation.

## **Signal Path**

The signal path has been reduced to its essential elements.

A short and direct signal path minimizes parasitic effects while preserving micro-dynamics and maintaining excellent transient response.

This approach provides both technical accuracy and a natural, effortless presentation of music.

## **Bandwidth and Linearity**

Conductor operates with bandwidth extending to 1 MHz ( $-3$  dB) — far beyond the audible range.

Operating well above the audio band ensures stable phase behavior, minimal time-domain artifacts and excellent coherence across the entire audible spectrum.

Because the circuit operates well within its linear region, the music retains its natural timing, spatial information and dynamics.

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## Volume Control

Conductor uses a **64-step discrete attenuator** designed to provide the most natural and consistent progression of volume levels.

The **volume control** has been carefully optimized so that changes in listening level remain smooth and natural while maintaining precise channel balance and tonal consistency.

The volume control does not alter tonal balance, linearity or the intrinsic character of the signal. Its sole function is to regulate the amount of acoustic energy delivered to the loudspeakers.

## Gain Configuration

Three selectable gain settings are available via internal switches. \*\*\* See note

Switch 1	Switch 2	Gain
OFF	OFF	19 dB
ON	OFF	12 dB
OFF	ON	5 dB

The **OFF position** corresponds to the **upper switch position**.

Gain adjustment should only be used when necessary to match the output level of the source with the input sensitivity of the power amplifier.

For optimal performance it is recommended to leave both switches **OFF (19 dB gain)** whenever possible.

\*\*\* To access the gain switches, the top cover of the unit must be removed.

The switches are located between the two vacuum tubes inside a blue switch module. The module contains two small white switches resembling piano keys.

The **left white switch** corresponds to **Switch 1**, while the **right white switch** corresponds to **Switch 2**

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## Ventilation

Vacuum tubes generate heat during operation and require adequate airflow.

Ensure **at least 5–7 cm of free space above the unit** to allow proper cooling and air circulation.

Do not cover ventilation openings or restrict airflow around the preamplifier.

### Connections

Conductor is optimized for **balanced operation**, and balanced XLR connections are strongly recommended whenever possible.

#### XLR Pin Configuration

Pin	Function
Pin 1	Ground
Pin 2	Positive signal
Pin 3	Negative signal

#### Use with RCA Sources

When using **RCA inputs**, the negative input of the differential stage must be referenced to ground.

For this purpose the preamplifier is supplied with **shorting connectors that connect Pin 1 and Pin 3 on the XLR input.**

These connectors should be installed when RCA sources are used.

The preamplifier will operate without these shorting connectors, but the differential stage will not be properly referenced. In such conditions the unit will **not operate under optimal electrical conditions**, and overall performance may be reduced.

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#### Unbalanced Output Connection

When using **unbalanced output connections**, the correct wiring is:

Pin 2 — Signal  
Pin 1 — Ground  
Pin 3 — Not connected

**⚠ Important:**

Connecting **Pin 1 and Pin 3 together on the output may cause malfunction or permanent damage to the preamplifier.**

**Operating Note**

For best reliability and system safety, avoid connecting or disconnecting interconnect cables while the system is powered on.

Always power down the preamplifier and power amplifiers before making changes to system connections.

After powering the unit off, allow a short time for the internal voltages to fully discharge before reconnecting cables or handling connections.

**Tube Matching and Replacement**

The vacuum tubes supplied with your Conductor preamplifier are **precision matched** for this specific unit.

If tube replacement becomes necessary, the replacement tubes must be **matched within at least 5%** for both sections of the tube as well as between tubes.

Proper tube matching is essential for optimal performance of a fully differential circuit.

Using unmatched or poorly matched tubes can degrade sound quality and increase distortion.

For best results, always use **closely matched tube sets** when replacing the original tubes.

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**Component Burn-In and Warm-Up**

High-quality electronic components require a certain amount of operating time to reach optimal performance.

Approximately **100 hours of music playback** is recommended before the preamplifier reaches its full sonic potential.

Leaving the unit powered on continuously is **not harmful**, but it will contribute to the natural wear of the vacuum tubes, even though **E88CC tubes are designed for long service life**.

During the burn-in period, music signal should pass through the circuitry, as leaving the unit powered without signal does not significantly accelerate the process.

After the burn-in period is complete, the preamplifier reaches optimal performance after approximately **30 minutes of warm-up**, even though the circuit operates in **pure Class A**.

### Important Safety Instructions

- Operate the preamplifier only with the specified power supply and voltage
  - Do not expose the unit to moisture, rain or excessive humidity
    - Ensure adequate ventilation at all times
    - Do not block ventilation openings
- Never remove the cover while the unit is connected to mains power
- Connect or disconnect cables **only when the system is powered off**
  - Avoid **hot-plugging** audio cables or connectors

Recommended power-on sequence:  
**Sources → Conductor → Power Amplifiers**

Recommended power-off sequence:  
**Power Amplifiers → Conductor → Sources**

Failure to follow these instructions may result in equipment damage.

### Technical Specifications

Parameter	Specification
Topology	Fully differential tube design
Tubes	4 × E88CC
Input impedance	50 kΩ

Parameter	Specification
Output impedance	80 $\Omega$
Volume control	64-step discrete attenuator
Frequency response	-3 dB @ 1 MHz
Maximum gain	9 $\times$ ( $\approx$ 19 dB)

### Serial Number and Warranty

Serial Number: \_\_\_\_\_

Each Conductor preamplifier is **individually inspected and rigorously tested for 48 hours under demanding operating conditions** before leaving the workshop to ensure stability and consistent performance.

Under normal operating conditions, the carefully selected components are designed to provide many years of reliable service.

If any issue should ever arise, there is no reason for concern — the unit can always be inspected and serviced if necessary.

Repairs related to manufacturing defects are covered during the warranty period. Transportation to and from the service location remains the responsibility of the owner.

For this reason we recommend keeping the original packaging to ensure safe transport if service is ever required.

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### Designer's Note

*"The purpose of this design was never to shape the music, but to remove every possible obstacle between the recording and the listener."*

Designer of the Conductor Preamplifier