



CONDUCTOR

PHONO PRE AMPLIFIER



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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 Phono pre-amplifiers. With its combination of features such as precision electronic circuitry, exceptional efficiency, and accurately machined chassis components throughout, your CONDUCTOR 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 Conductor Phono Pre-amplifier. A thorough understanding of the operational features will allow you to gain the maximum performance and ease of use for which this phono pre-amplifier was designed.

Please note that your CONDUCTOR serial number begins with the letters “PS”. Please include this number with any correspondence regarding your Conductor. 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 CONDUCTOR please contact your authorized Jeff Rowland Design Group dealer or check the Jeff Rowland Design Group web site at <http://jeffrowlandgroup.com>.

Enjoy the music!

A handwritten signature in black ink that reads "Jeff Rowland". The signature is written in a cursive, flowing style with a large initial "J".

Jeff Rowland
President, Jeff Rowland Design Group

INTRODUCTION

The Conductor Phono Preamplifier was designed for the discriminating music listener to provide the highest quality playback of a wide variety of modern and vintage phonograph records. A versatile feature set permits the use of this preamplifier in any high quality audio system. A list of these features with a short technical description is presented below.

1. The CONDUCTOR can be ordered with one to four active cartridge inputs. Inputs 1,2, and 3 are dedicated for Moving Coil (MC) cartridges and Input 4 is dedicated only for Moving Magnet (MM) or High Output Moving Coil (HOMC) cartridge types. For example, this feature allows the use of phono turntables with multiple tonearms, each with a particular tonearm/cartridge combination optimized for a users unique preference or quality. Since each input preamplifier circuitry is independent from one another, each input can be optimized with regards to gain, loading and other parameters which will be explained later in this manual. Additionally, this feature allows input switching to occur at a higher “line level signal” instead of switching at the microvolt signal level of a phono cartridge where signal degradation is more likely to occur.

In whatever input configuration the CONDUCTOR is ordered, machined cover plates are installed over the unused inputs for an uncluttered rear panel look.

2. Both balanced (XLR) and unbalanced (RCA) interconnect options are provided for all MC inputs and main outputs. Only RCA input jacks are provided for the MM input option, however all inputs and outputs are transformer coupled for noise elimination and galvanic isolation. There is no gain difference between any paired balanced or unbalanced input or output.
3. The CONDUCTOR incorporates custom made input transformers for all inputs. These unique transformers, co-developed between Lundahl and JRDG, are wound with high purity copper wire sourced from Cardas Audio and specifically designed with a low turns ratio to ensure minimum copper losses and extremely low noise in conjunction with the active low noise circuitry directly following the transformers. A very low turns ratio was chosen to

ensure the highest signal bandwidth possible, since a higher turns ratio would limit bandwidth. A transformer cartridge interface prevents the input current of the first stage active circuitry from flowing through the connected phono cartridge coils, thus preventing the micro-magnetization of the connected cartridge. The active circuitry can thus have a defined and constant low impedance dc Current path, providing stable operating parameters independent of different connected cartridge types. The transformer also provides the ideal “coil to coil” balanced, ground isolated interface between the phono cartridge and active circuitry, offering an extremely high common mode rejection of common mode noise present on the unshielded tone-arm and interconnect wiring. Additional differential-mode noise filtering is also provided which prevents intermodulation distortion in the first gain stages of the amplification circuitry due to RF and EMI ingress. The transformer cartridge interface is provided with both XLR and RCA input connector types.

4. The CONDUCTOR can be ordered with two different types of input transformer core materials, standard or high-grade amorphous type.
5. Phono cartridge loading is performed by individual thin-film resistors inserted on the input transformer secondary with precision relays, selected by rear panel mounted toggle switches for easy switching. This loading resistor position allows maximum cartridge signal energization of the transformer primary without electrical energy being consumed by a direct connected load resistor. Fourteen individual loading values can be selected by choosing a particular switch combination listed in the Conductor Cartridge Loading Chart for Moving Coil Cartridges.
6. For each selected input, fully balanced, low noise, high gain, solid-state circuitry provides the necessary gain and equalization. The signal is maintained and amplified differentially to preserve a high common-mode noise rejection and provides excellent immunity from overload. All signal amplification is provided with a total of three wide-band, flat gain stages, optimized to maintain all distortion and noise products less than 100 dB below operating signal level throughout the full audio bandwidth. Equalization to conform to the RIAA standard and additional EQ curves are provided via hand selected capacitors and 0.1 % thin film resistors.

7. An optional handheld wired remote control box can be plugged into the rear panel of the CONDUCTOR to provide different equalization curves for playback of selected vintage recordings.
8. A two-pole (12 dB/octave) maximally flat high-pass filter is incorporated into the signal path for filtering out undesirable low frequency turntable rumble signals. An internal switch is provided to insert an additional filter, which working in conjunction with the two-pole filter, provides an additional attenuation greater than 40 dB at 10 Hertz, a common tone-arm resonance frequency. The composite effect of these filters will have a minimal result on the audio pass-band with less than 3 dB of attenuation at 20 Hertz.
9. Any MC input can be modified for higher gain for use with low output phono cartridges. An additional 6 dB of gain is available. The gain increase is accomplished by connecting the input transformer primary windings in parallel for a higher turns ratio over standard. This allows extra gain without a significant increase of overall noise. A soldered jumper provides this change without compromising signal integrity.
10. Front panel push buttons provide selection of Input, Mute, Standby, Mono and Left minus Right functions. Functional definitions of these buttons will be covered in the Operation section of this manual.
11. The CONDUCTOR can be powered with two different external power supplies. For users that own the optional JRDG Model PSU power supply, the CONDUCTOR can be plugged into one of the unused PSU auxiliary DC outputs. The Model PPS-1 DC Power Supply can also be used to power the CONDUCTOR via its DC output connector. Both power supply options provide a fully regulated, low noise direct current power source for the CONDUCTOR and are designed to be switched on and off via the CONDUCTOR front panel Standby push button.
12. All of the active circuitry is elastomerically mounted within a chassis machined from a solid block of aircraft grade 6061 bar-stock aluminum, providing resonance control and shielding from external radio frequency interference. Each input amplifier/equalizer and output circuits are configured as individual “modules”, which can be exchanged, updated or modified as needed. All circuitry is strategically placed for the smallest possible “loop area”, utilizing precision 0.1% thin-film surface mount (SMD) componentry on four layer circuit boards for the

lowest possible noise, distortion and field interaction. Individual low-noise regulators independently power each input, output and filter sections, which, together with low noise external power supplies, eliminate all forms of noise from any source.

13. Both models of external power supplies assure quiet, reliable operation on all worldwide mains voltages.
14. To assist the break-in of all internal circuitry, an Inverse RIAA Network board is included with the CONDUCTOR. This device is installed between any line level output such as a tuner or CD player and any active input of the CONDUCTOR. The line level source signal is attenuated and pre-equalized such that it can be safely used to break-in the CONDUCTOR circuitry in much less time than simply playing phonograph records.

SAFETY INSTRUCTIONS



The CONDUCTOR Phono Pre amplifier 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 CONDUCTOR:

- Read these instructions.
- Retain these instructions.
- Follow all instructions.
- Do not expose the phono pre amplifier to rain, moisture, or excessively damp conditions.

- Due to auto-ranging circuitry in both power supply offerings, and dual-stage voltage regulation in the Conductor Phono pre-amplifier, the audio performance will not be affected by any voltage fluctuations within the operating voltage range. The CONDUCTOR can be operated at any mains voltage over the range of 85 to 265 VAC without any adjustments necessary.
- The CONDUCTOR 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.

PROTECTIVE SYSTEMS

Both CONDUCTOR power supplies, the PSU and PPS-1 DC Power Supply, are equipped with external 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 pre-amplifier will not be used for extended periods of time, the pre-amplifier 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.

	<p>The crossed-out wheeled bin is the European Union symbol for indicating separate collection for electrical and electronic equipment. This product contains electrical and electronic equipment which should be reused, recycled or recovered and should not be disposed of with unsorted regular waste. Please return the unit or contact the authorized dealer from whom you purchased this product for more information.</p>
	<p>This product complies with European Low Voltage (2006/95/EC) and Electromagnetic Compatibility (89/336/EEC) Directives when used and installed according to this instruction manual. For continued compliance servicing must be referred to qualified service personnel.</p>

LIMITED WARRANTY

Jeff Rowland Design Group, Inc. warrants the materials, workmanship, and proper functioning of this product for a period of five years from the date of purchase as long as the product was operated in accordance with its operating manual, the products was not altered or improperly serviced or prepared, or if the product failed to function from the beginning. In the event of such a failure, the product will be repaired or replaced by Jeff Rowland Design Group, Inc. through one of its dealers. This warranty is extended to the original purchaser only and is non-transferable to any secondary or other purchaser.

In order to have this product repaired or replaced, the original purchaser must first obtain the prior authorization of Jeff Rowland Design Group, Inc. or one of its dealers. Purchaser must then return the product, PACKAGED IN ITS ORIGINAL CARTON, FREIGHT PREPAID to: Jeff Rowland Design Group, Inc., 2911 North Prospect Street, Colorado Springs, Colorado, 80907, or to one of its dealers.

Jeff Rowland Design Group, Inc. reserves the right to inspect any product which is subject to any warranty claim prior to repairing or replacing it. Final determination of warranty coverage lies solely with Jeff Rowland Design Group, Inc. Said determination shall be made as soon as possible following receipt of the product. Jeff Rowland Design Group, Inc. may, at its option, require from the purchaser, valid proof of purchase (dated copy or photocopy of dealer's original invoice). Out-of-warranty claims will be billed for labor, materials, return freight, and insurance as required. Any product for which a warranty claim is accepted will be returned to the purchaser and costs of shipping and insurance will be factory prepaid within the boundaries of the USA. Units to be shipped outside of the USA will be shipped freight collect only. This warranty gives the holder specific legal rights. The purchaser also has implied warranty rights, and may also have other rights which may vary from state to state.

Jeff Rowland Design Group, Inc. strives to manufacture the very finest possible equipment and therefore reserves the right to make changes in design and improvements upon its previously manufactured models.

THE ABOVE WARRANTY IS THE SOLE WARRANTY GIVEN BY JEFF ROWLAND DESIGN GROUP, INC. AND IS IN LIEU OF ALL OTHER WARRANTIES; ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE SHALL BE STRICTLY LIMITED IN DURATION TO FIVE YEARS FROM THE ORIGINAL DATE OF PURCHASE AND UPON THE EXPIRATION OF THIS FIVE YEAR WARRANTY PERIOD, JEFF ROWLAND DESIGN GROUP, INC. SHALL HAVE NO FURTHER OBLIGATION OF ANY KIND WHETHER EXPRESSED OR IMPLIED.

Jeff Rowland Design Group, Inc. does not authorize any third party, including any dealer or representative, to assume any liabilities on its behalf or to make any warranties on its behalf unless authorized to do so.

Warranty registration cards must be completed and mailed to Jeff Rowland Design Group, Inc. within thirty (30) days of the date of purchase. If this product is used in a commercial or industrial application, then special warranty exclusions may apply. Contact your dealer or Jeff Rowland Design Group, Inc. for information regarding our commercial warranty policies.

OWNERS MANUAL USE

This owners manual is designed to make installing and using this product as easy as possible. Information in this document has been carefully checked for accuracy at the time of printing; however, Jeff Rowland Design Group, Inc.'s policy is one of continuous improvement, therefore design and specifications are subject to change without prior notice. If you notice any errors please feel free to email us at: support@jeffrowlandgroup.com.

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MAINTENANCE AND CARE

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

The 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 CONDUCTOR 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 and bottom 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 CONDUCTOR, please contact your dealer 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, CONDUCTOR chassis, 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 CONDUCTOR 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 CONDUCTOR does not operate correctly, please notify your dealer immediately.

We strongly suggest that you save all of the packing materials. If the CONDUCTOR is returned to your dealer or Jeff Rowland Design Group, the original packing materials must be used for shipment to avoid possible damage. 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 Jeff Rowland Design Group issue a Return Authorization (RA) number prior to shipment.

UNPACKING

Carefully unpack CONDUCTOR chassis and power supply (if included) from the original packing box. Remove all accessory items from the accessory box. Accessories include:

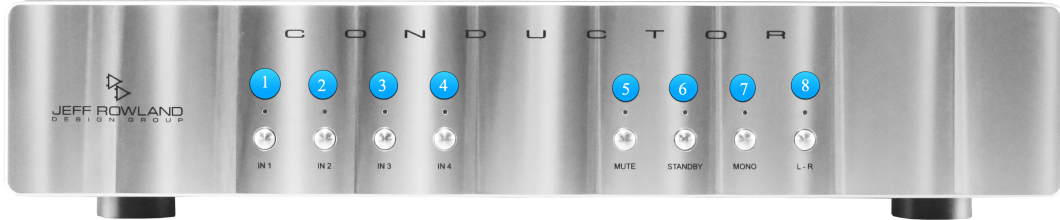
- Operational Manual
- Warranty Card
- DC cable

- Power Supply (If ordered)
- Inverse RIAA Network and two pair of RCA-RCA interconnect cables

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

FRONT PANEL OPERATIONS

1. The CONDUCTOR can be equipped with one to four active inputs. Each input can be selected by depressing the desired INPUT button. A small green light will illuminate directly above a selected input whether or not a particular input is active.
2. When the MUTE button is depressed the output level of the Conductor will be reduced by approximately 40 dB, providing a reduced, yet slightly audible signal when a record is being played. A small red light will illuminate directly about the MUTE button when the CONDUCTOR outputs are muted.
3. Depressing the STANDBY button will place the CONDUCTOR in operation mode. A small yellow light will not be present when the CONDUCTOR is operational. Alternately depressing the STANDBY button will place the CONDUCTOR in standby where no operation is possible. The small yellow light will illuminate when the CONDUCTOR is in standby mode.
4. The MONO button algebraically sums the right and left channels for playback of monophonic recordings. A small blue light will illuminate directly above the MONO button when monophonic operation is active.
5. The L-R button algebraically subtracts the right channel signal from the left channel signal, effectively producing a difference signal to aid in cartridge setup. This difference signal is present at both CONDUCTOR LINE OUTPUTS when the L-R function is activated. To use this feature, play a test record in which a reference tone is present, equally, in both channels. Depress the L-R button and note that the output level decreases significantly. The cartridge azimuth is then adjusted for the minimum signal output, which confirms that the optimum cartridge azimuth has been achieved, and both right and left channel output levels are as equal as possible. This feature can also be used in a similar manner to set an ideal anti-skate adjustment when playing the inner grooves of a suitable test record. A small white light will illuminate directly above the L-R button when this function is active..



1	INPUT 1	Press this button to select input 1, when input circuitry is installed
2	INPUT 2	Press this button to select input 2, when input circuitry is installed
3	INPUT 3	Press this button to select input 3, when input circuitry is installed
4	INPUT 4	Press this button to select input 4, when input circuitry is installed
5	MUTE	Press this button to mute the CONDUCTOR outputs
6	STANDBY	Press this button to place the CONDUCTOR in or out of STANDBY mode
7	MONO	Press this button for playback of monophonic recordings
8	L-R	Press this button to enable cartridge azimuth adjustments

REAR PANEL CONNECTIONS



As shown in the diagram, both XLR balanced and RCA unbalanced input connectors are provided on Inputs 1, 2, and 3 for connecting to your phono turntable with a moving coil type cartridge. Even though RCA connectors are provided for each input, the signal from the turntable is still amplified as a balanced signal and not referenced to an earth ground, even when connecting to Input 4, for MM and High Output MC cartridges. For best results, use balanced interconnect cables for maximum rejection of all types of electromagnetic noise. Grounding thumbscrews have been provided on each input to provide earth grounding of a connected phono turntable. Due to the Conductor's ability to reject hum fields from any source, these grounding connections may not be needed in a particular system.

Four cartridge loading switches are provided for each Input 1, 2 and 3. See the Conductor Cartridge Loading Chart in this manual for choosing a value approximate to the loading resistance recommended by the phono cartridge manufacturer. You may wish to experiment with values other than those specified. These switches can be switched on and off while music is being played with no clicks or pops in the signal. Input 4 is provided with three switches for adjusting loading capacitance for Moving Magnet cartridges. The capacitance value assigned to each switch will algebraically add if two or three switches are switched on at the same time but it is

unlikely that most MM cartridges would benefit from more than 300 picofarads (PF) of loading capacitance.

(Note that the combined capacitance of the tonearm and interconnect wiring must be added to the selected capacitance value of the Conductor.)

The switch above the capacitance values increases the gain of Input 4 to accommodate High Output Moving Coil Cartridges. The default input impedance for HOMC cartridges is typically recommended to be 47k ohms. However, the loading input resistance can be adjusted internally for values lower than 47k ohms for potential cartridge performance increases. Values other than 47 k ohms is only available when the Conductor switch is set to HOMC. Refer to the Loading Chart for High Output Moving Coil Cartridges in this manual.)

Both RCA and XLR output connectors are provided for the Conductor Line Outputs. Due to a transformer output configuration, both output connectors provide a ground isolated, balanced signal for the lowest possible output noise and elimination of system ground loops. The signal level is equal between the XLR and RCA outputs.

A DC Power Input connector allows the use of an external power source for eliminating signal contamination from stray magnetic fields present in most power supplies. Connect the supplied DC power cable between the external power supply PSU or PPS-1 DC Power Supply and this connector. Note that this cable is supplied with both male and female type connectors for correct installation. To remove this cable, simply pull on the outer sleeve in the direction to be removed. The external power source will only be powered on and off when the STANDBY button on the Conductor front panel is depressed.

A 5 pin DIN type connector is provided for connecting an optional cable and EQ switching unit for switching different equalization curves for playing vintage records.

INVERSE RIAA NETWORK

The JRDG Inverse RIAA Network allows a rapid and efficient break-in of all internal circuitry within the CONDUCTOR. The network is constructed of precision, hand matched components to accurately pre-equalize and attenuate any line level source audio signal for connecting directly to any active phono cartridge input on the CONDUCTOR.

By selecting a predetermined attenuation level via a specific DIP switch code, any external line level signal will be attenuated such that the CONDUCTOR output level will match the input line level signal. The output can be monitored to verify that the output signal level will accurately match level of the input line level source signal.

Use the Network with any line level component as a signal source, such as a tuner, cd player, D/A convertor or other line level source with RCA output connectors.

To use, first select the attenuation level desired by sliding the specified white colored DIP switch sliders to the proper position. The code is screened for each configuration on the network circuit board. For example, if INPUT 4 of the Conductor is active and equipped for Moving Magnet cartridges, note that the code indicates that switch positions 7 and 8 would be switched to the ON position. All of the other positions would be in the OFF positions. NOTE: the network is shipped in a default configuration with switch positions 3 and 4 ON, for use with standard Moving Coil cartridges with standard gain.

Four attenuation levels are provided:

Low output Moving Coil cartridges (LOMC) ON	-position 1 and 2
Standard Moving Coil cartridges (MC) ON	-position 3 and 4
High Output Moving Coil cartridges ON	-position 5 and 6
Moving Magnet cartridges ON	-position 7 and 8

Two RCA interconnect cables are provided to connect between the audio source component and selected CONDUCTOR input. Connect the chosen source component output to the Network RCA inputs labeled R IN and L IN with one supplied RCA cable. Use the other supplied RCA cable to connect the Network R OUT and L OUT RCA outputs to any active right and left channel CONDUCTOR RCA input jacks.

Turn on the source component with a verified signal, then turn on the CONDUCTOR and choose the selected active input. Monitor the CONDUCTOR outputs with a connected preamplifier to verify that the source signal is present. The source component can be left on, providing a constant “break-in” signal whenever the phono turntable is not being used, to facilitate a complete break-in of all internal circuitry of the CONDUCTOR. Expect dramatic improvements of the CONDUCTOR sonic performance after 400 hours or more of “break-in” using this Inverse RIAA network.

CONDUCTOR CARTRIDGE LOADING CHART

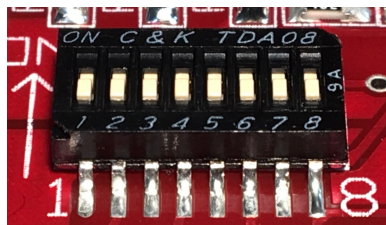
Toggle Switches				Loading Resistance in Ohms	
50	100	200	400	Standard	High Gain Option
ON	ON	ON	ON	24	7
ON	ON	ON		28	8
ON	ON			32	9
ON		ON		38	10
ON			ON	42	11
ON				50	13
	ON	ON	ON	54	15
	ON	ON		64	17
	ON		ON	75	20
	ON			100	25
		ON	ON	133	33
		ON		200	50
			ON	400	100
				1000	250

CONDUCTOR HIGH OUTPUT MOVING COIL DIP SWITCH CHART

Note: DIP switch is located inside the CONDUCTOR chassis. The bottom cover of the chassis must be removed to access switch.

The switch is located on the circuit board directly behind the MM/HOMC Input 4 connectors, and is located adjacent to the Lundahl transformers near the center of the circuit board.

DIP SWITCH POSITION								LOAD RESISTANCE
1	2	3	4	5	6	7	8	
								47K
ON							ON	10K
	ON					ON		5K
ON	ON					ON	ON	3.3K
		ON			ON			2K
			ON	ON				1K
	ON		ON	ON		ON		800
		ON	ON	ON	ON			600



SPECIFICATIONS

Overall gain:	43 dB MM, 53 dB High Output MC, 68 db standard MC, 74 dB Low Output MC
Max. Output Level	16V rms, balanced outputs
RIAA Conformance	+/-0.15 dB, 30 Hz - 20kHz
S/N Ratio:	68 dB, ref. 0.5 mV@1 kHz, unweighted
THD:	0.0015%. 30 Hz -20 kHz
CMRR:	110 dB, 20 Hz - 20kHz
Conductor chassis weight:	25 lbs/11.33 kg
Conductor dimensions: (H/W/D)	3.5" x 15.5" x 9.75"/ 88.9mm x 393mm x 248mm