

General Description

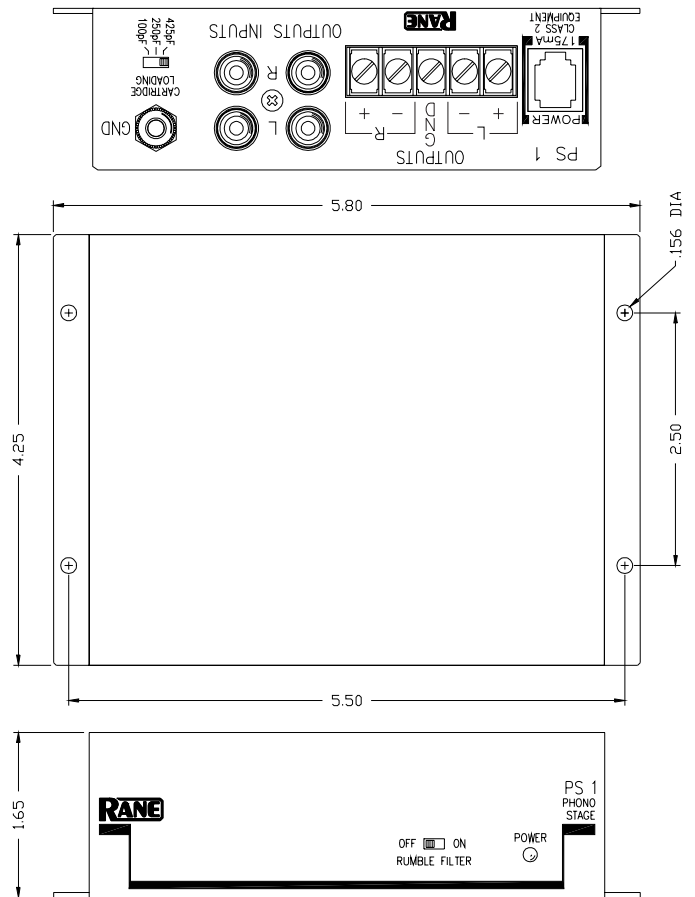
The Rane PS 1 High-Fidelity Phono Stage is a complete professional RIAA phonograph stereo preamplifier designed for remote turntable locations. Capable of driving extremely long lines, and intended primarily for permanent archival applications such as libraries, schools and museums, the PS 1 solves the problem of finding a reliable high quality phono stage for consultants and contractors. Club designers also find the PS 1 useful when needing to expand existing (or new) mixers which have no available phono inputs.

The PS 1 has all the necessary features for a complete remote installation. These include the correct loading capacitors for all popular phono cartridges, and properly designed rumble filters that remove all dangerous infrasonic* signals without interfering with the audio signals.

The PS 1 Phono Stage is supplied with a U.L. listed, C.S.A. certified, CE approved, safety extra low voltage (SELV) remote power supply for the best possible performance and safety. The 230 V versions of the unit and the power supply each meet the CE EMC directive 89/336/EEC.

Features

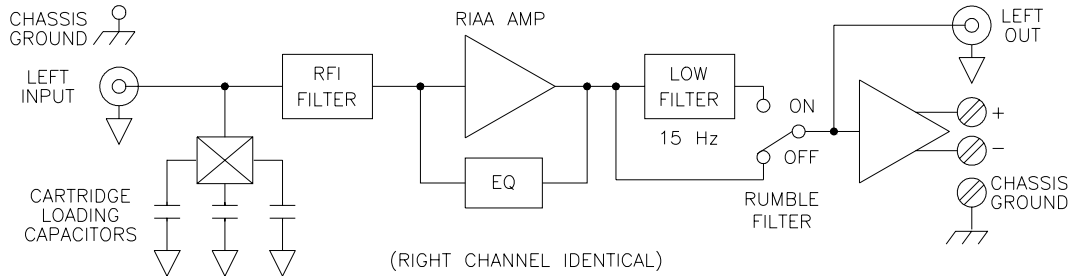
- Pristine Audio Path using Audio Grade Components
- Linear Tech & Analog Devices IC'S
- Cartridge Loading Capacitors
- Balanced Cross-Coupled High-Current Line Drivers
- Rumble Filter 15 Hz, 18 dB per Octave
- 0.1 dB RIAA Accuracy



- Balanced Screw Terminal & Unbalanced RCA Outputs
- UL/CSA/CE Remote Power Supply

Parameter	Specification	Limit	Units	Conditions/Comments
Input Resistance	47.5k	1%	ohms	
Input Capacitance	100 / 250 / 425	5%	pF	Selectable
Gain	+42 / +36	1	dB	Balanced / unbalanced out
RIAA Equalization Accuracy	0.1	Typ	dB	NAB (RIAA) standard curve
Infrasonic*(Rumble) Filter	15 Hz, 18 dB per Octave	3%		Butterworth high-pass
Signal-To-Noise Ratio	84	1	dB	re +4 dBu, 20 kHz Noise BW
THD+Noise	0.02	.01	%	+4 dBu, 20-20 kHz
Max Input Level	150	5%	mV	1 kHz reference point
Max Output Level	+22	1	dBu	Cross-coupled balanced into 600 ohms
	+22	1	dBu	Unbalanced into 2k ohms
Output Impedance	50 / 100	1%	ohms	Balanced / unbalanced
Output Cable Length	1000' (305 m)	typ		Belden 8451 or equivalent
Channel Separation	80	2	dB	1 kHz (50 dB @ 20 kHz)
Power Supply Input	18 VAC w/center tap	10%	Vrms	Rane RS 1 supplied with PS 1
Max Current Consumption	175		mA	Worst case max out 600 ohms
Unit: Size	1.65"H x 5.1"W x 4.25"D			(4.2 cm x 13 cm x 10.8 cm)
.....Weight	1 lb			(.45 kg)
Shipping: Size	3.6" x 11.75" x 7.2"			(9.5 cm x 30 cm x 18 cm)
.....Weight	4 lb			(1.8 kg)

Block Diagram



Application Information

Phono Cartridge Loading Capacitance

Use the slide switch to select the desired loading capacitance. If the correct capacitance is not known, use the following table as a guide:

Cartridge	Capacitance
Audio-Technica (all)	100 pf
Pickering (all)	250 pf
Shure V15's and ME's	250 pf
Shure M44's and M55's	450 pf
Stanton (all)	250 pf

Balanced Output Interconnection

Use only high-quality two-conductor shielded cable (Belden 8451 or equal). Connect the two conductors to the positive (“+”) and negative (“-”) #6 screw terminals. Connect the shield to the GND terminal.

Unbalanced RCA Output Interconnection

While not recommended, it is possible to run the output from the PS 1 to other equipment in an unbalanced fashion. This choice should *only* be taken for very short cable runs (less than 10 feet) and where hardware interconnection incompatibility demands it.

Grounding

Proper grounding of phono stages cannot be over emphasized. Be sure to connect the turntable ground wire to the PS 1 Chassis Ground thumbscrew. Additionally, it is recommended that the PS 1 chassis be earth-grounded. Due to the remote power supply, the chassis is *not* grounded through the AC line cord as normally expected; therefore it may be necessary to run a separate wire from the PS 1 chassis thumbscrew to a good earth ground (such as a grounded electrical outlet box). *TRICK:* For absolutely belligerent installations that defy all hum solutions, try connecting the interconnecting shield to the chassis Ground thumbscrew—*not* the ground terminal, and tie the other end to the *chassis* of the mixer. What this does is tie the turntable chassis directly to the input chassis—sometimes this solves things.

Architectural Specifications

The phono stage shall be a stereo stand alone unit with remote power supply. The power supply shall be U.L. listed, C.S.A. certified, and CE approved. Each input shall feature selectable cartridge loading capacitors of 100 pF, 250 pF and 425 pF. RFI input filters shall be provided. The unit shall have switchable infrasonic filters designed for a corner

frequency of 15 Hz with slopes of 18 dB/octave. The accuracy of the RIAA equalization stage shall be 0.1 dB for all specified frequencies. The output stages shall be of the active cross-coupled design and capable of driving at least 1000 feet of cable terminated in 600 ohms.

The unit shall be a Rane Corporation PS 1 Phono Stage.