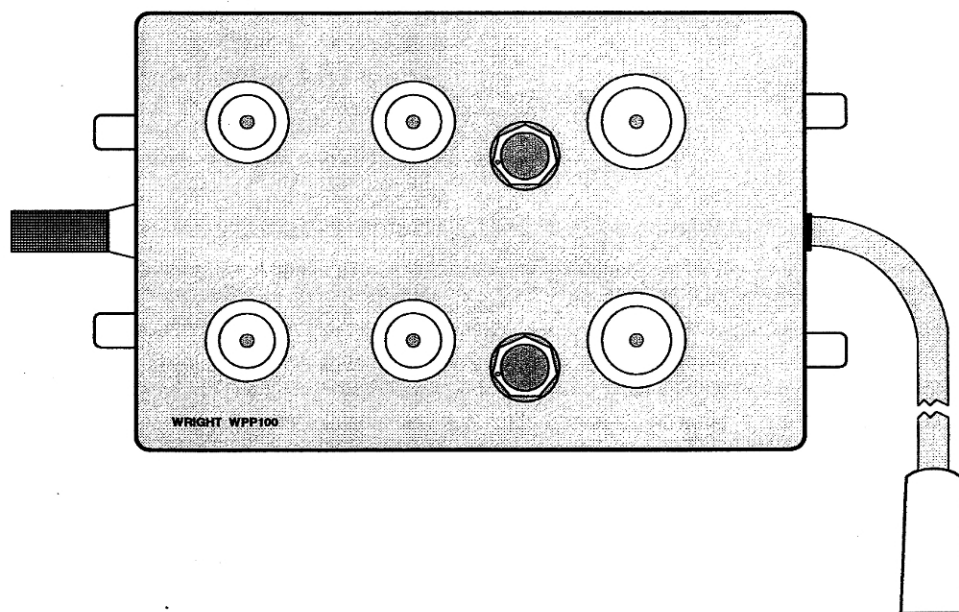


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**Wright Sound Company**  
**WPP100B/C**



***Operating Guide***

Rev 1 98 Oct

## Welcome

Thank you for purchasing the Wright Sound Company model WPP100B/C Phono Preamplifier. With proper care, this unit will provide many years of enjoyable listening. Please take a few moments to read this short owner's manual. It contains important information about your new preamplifier.

And don't forget to visit our Web site at <http://www.wright-sound.com> for more information on this and other products.

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## Important Safety Information

### Don't open the preamplifier

Vacuum-tube equipment operates at hazardous voltages. To avoid the possibility of electric shock, never remove the protective covers on the preamplifier or power supply. In the unlikely event that service is required, please contact the Wright Sound Company.

### Allow adequate ventilation

The WPP100B/C is a vacuum-tube product and requires proper ventilation to ensure maximum life for all internal components and to avoid damage to nearby surfaces important. Please observe the following precautions:

- Allow at least 8 inches (200 mm) of vertical height for the WPP100B/C and its power supply chassis. This means there should be at least 4 inches (100 mm) of free space above the top of the tubes.
- Do not cover the preamplifier while in use. If you must use a dust-cover when the preamplifier is turned off, allow the preamplifier to cool for at least one hour before covering it.

### Ensure optimal placement

For best performance, locate the WPP100B/C as follows:

- Although the WPP100B/C preamplifier chassis is unusually well shielded, it's a good idea to separate the preamplifier from its power supply by at least 12 inches (200 mm) to avoid any hum pickup.
- To reduce electromagnetic interference from external noise sources, do not place the WPP100B/C or its power supply near devices such as electric motors or transformers.
- Place the preamplifier and power supply on a hard, stable surface to avoid microphonics (vibration pickup) common to all vacuum-tube electronics.

### Warning

To avoid the possibility of electric shock, do not expose the WPP100B/C or its power supply to rain or moisture. Also, do not open the protective covers or otherwise tamper with the unit. There are no user-serviceable parts inside.

The Wright Sound Company WPP100B/C is intended for operation on 120 volts alternating current only (with the exception of those units with the WPS04E export power supply). Do not connect it to direct current or to voltages for which it was not intended.

## Preamplifier

### ***1 Phono input***

The WPP100B/C has one phono input which presents the industry-standard load to your phonograph cartridge (47 kilohm shunted by 100 pF of capacitance). This ensures optimal performance with any standard moving-magnet or high-output moving-coil phono cartridge. Low-output moving-coil cartridges may require a separate step-up transformer (contact the Wright Sound Company for additional information).

### ***2 Ground connector***

To avoid pickup of hum and noise, it's important to properly ground the phono input. If your turntable does not have a ground wire, connect a wire from the turntable chassis to the WPP100B/C ground input. If you continue to experience hum problems, the turntable headshell/tonerarm wiring may be defective.

### ***3 Level controls***

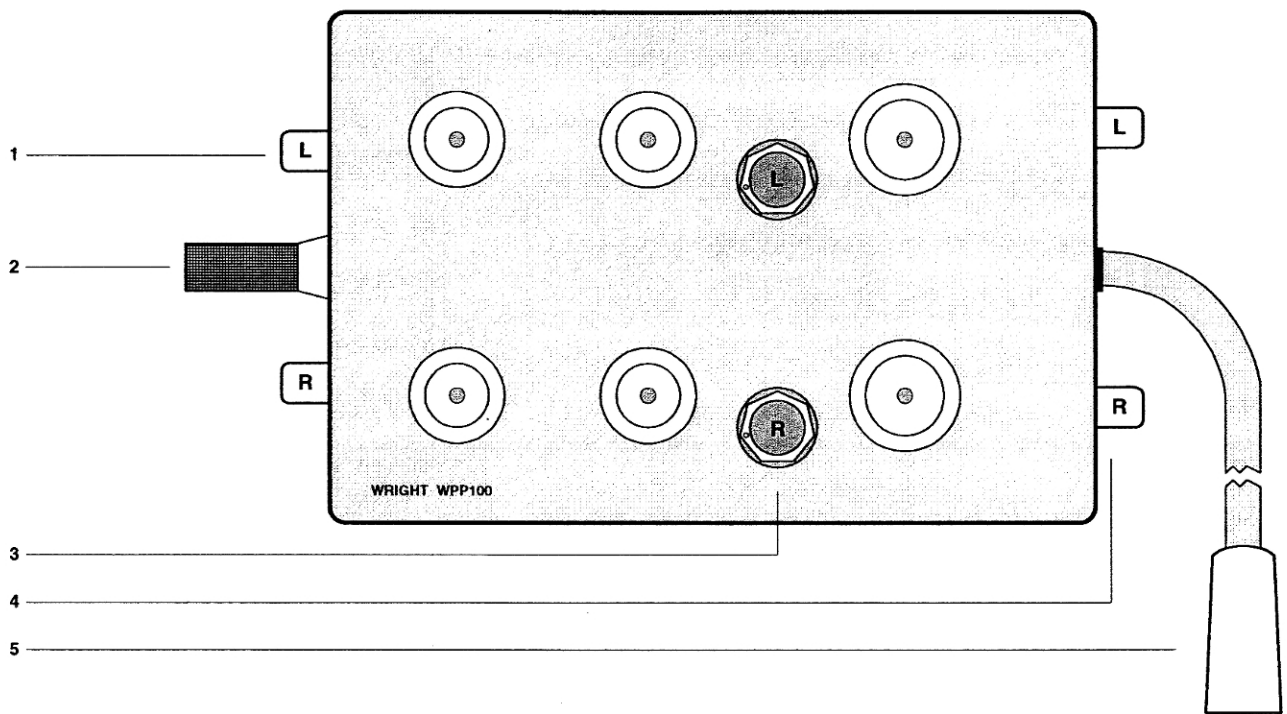
To permit maximum flexibility (with minimal sonic degradation), the WPP100B/C features independent level controls. The normal operation position of the level controls will vary somewhat depending on the output of your phono cartridge.

### ***4 Output***

The WPP100B/C has an isolated stereo line output. This is a low-impedance output (nominally 2 kilohms) that can easily drive any standard vacuum-tube or solid-state amplifier. For broadcast studio applications, this line output will drive a standard 600-ohm line with slight loss of output level but no loss of performance.

To avoid high-frequency rolloff, you should use a high-quality, low-capacitance cable between the line output connector and the input to your amplifier. This cable should be no longer than 25 feet (8 meters).



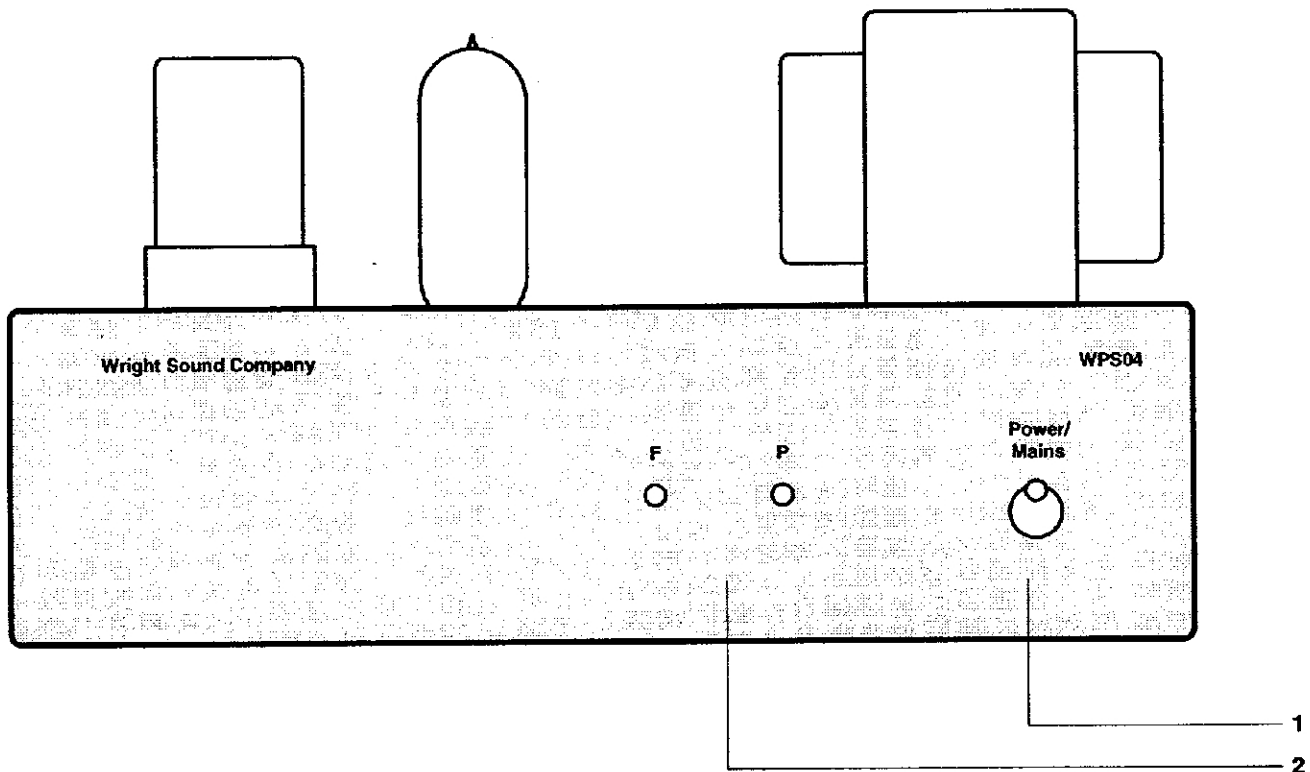


## 5 Umbilical cable

The WPP100B/C preamplifier chassis has a shielded, four-conductor cable to accept filament and plate voltages from the power supply chassis. Observe the following precautions:

- To avoid electrical shock, don't insert any objects into the *output* jack on the power supply chassis (the power supply is the chassis with the power cord and fuse holder).
- Don't connect the power supply to the ac mains power outlet without first connecting the umbilical cable to the power supply (make sure the umbilical cable is firmly seated into the *output* jack).
- If you need to disconnect the umbilical cable, unplug the power supply from the ac mains power outlet first (to release the umbilical cable, press the *push* tab on the power supply's output jack).

## Power Supply



### ***1 Power switch***

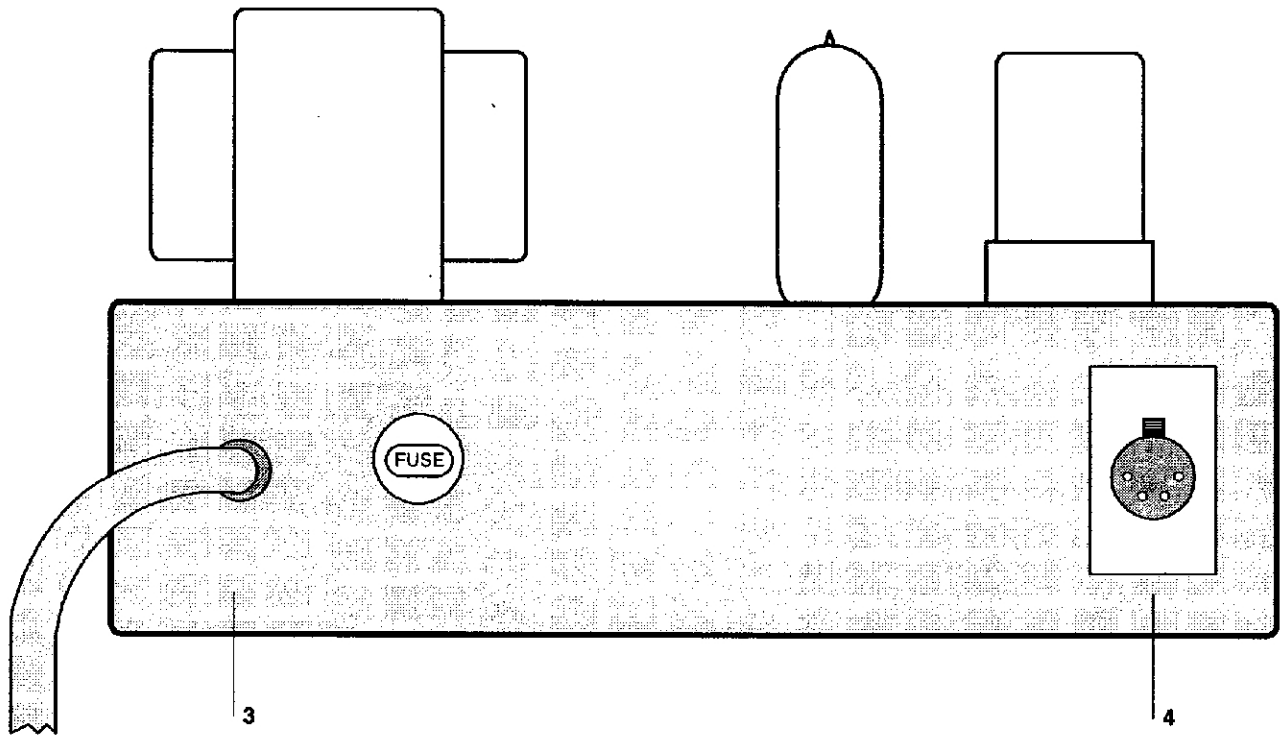
Before using the power switch to turn on the WPP100B/C, make sure that you have connected the power supply to the preamplifier chassis using the umbilical cord. Also, make sure that all tubes are in their sockets and are not damaged.

After connecting the umbilical cable to the power supply (see *Umbilical Cable*) and ensuring that all tubes are intact and in their sockets, turn on the power switch.

### ***2 Indicator LEDs***

The power supply has two LED (light-emitting diode) indicators. The green one is marked **F** (filament supply) and should illuminate immediately after you turn on the preamplifier. The amber LED is marked **P** (plate supply).

To prolong the life of the vacuum tubes, the power supply incorporates a soft-start circuit to delay the application of plate voltage for approximately ten seconds. Consequently, the amber LED does not illuminate at first but will do so after approximately ten seconds.



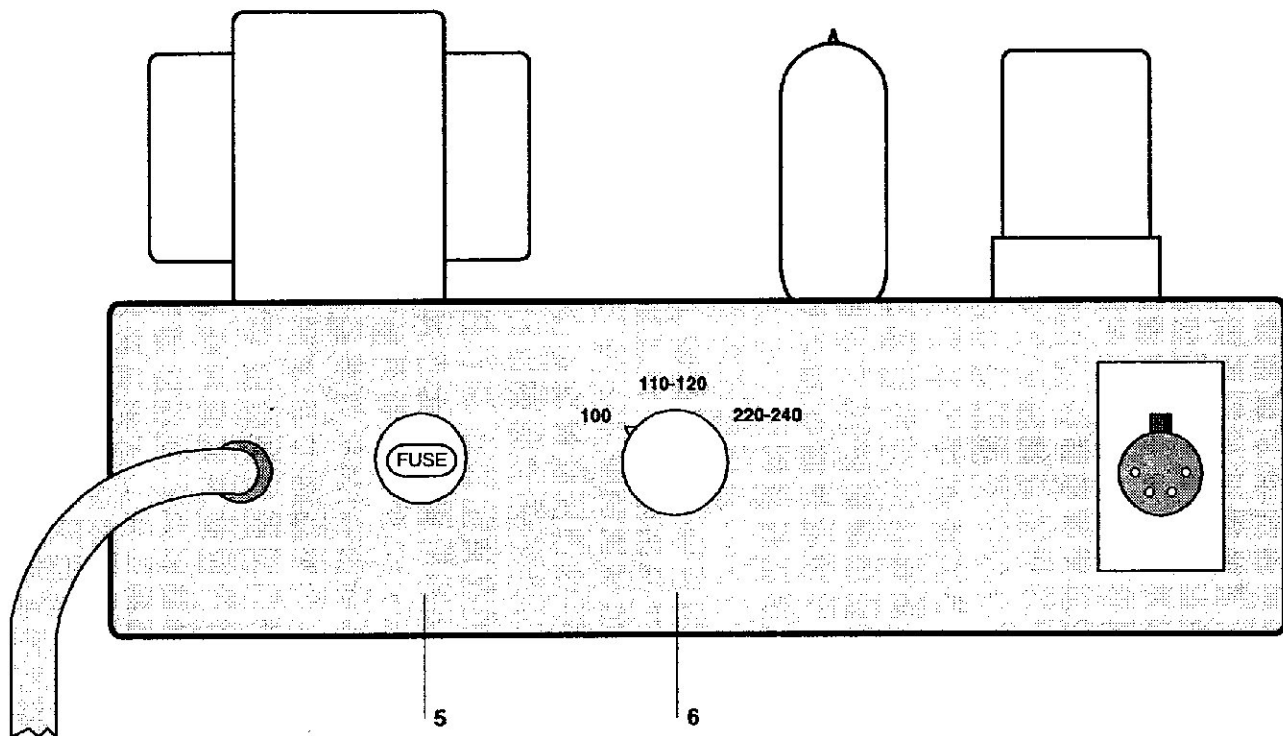
### **3 Power cord**

After connecting the umbilical cord to the power supply, connect the power cord to 120 volts alternating current (either 50 or 60 Hz). If you need to operate the WPP100B/C at other ac voltages, you will need to use a WPS04E export power supply.

### **4 Power output jack**

The four-pin jack on the rear of the power supply accepts the umbilical cable from the preamplifier chassis. To avoid electrical shock, don't insert any objects into this jack or otherwise tamper with it.

Don't connect the power supply to the ac mains power outlet without first connecting the umbilical cable to the power supply (make sure the umbilical cable is firmly seated into the *output* jack). If you need to disconnect the umbilical cable, unplug the power supply from the ac mains power outlet first (to release the umbilical cable, press the *push* tab on the output jack).



### Note

The Wright Sound Company is not responsible for any damages caused by improper fusing.

### 5 Fuse holder

The proper fuse for the WPS04 power supply is a slow-blow 0.8A 250V fuse (such as a type MDL 8/10 250V). If you have a WPS04E power supply and are using it at 220/240 volts ac, the proper fuse is a slow-blow 0.4A 250V fuse (such as a type MDL 4/10 250V); if you are using the WPS04E in any other voltage position, the correct fuse would be the same used in the WPS04 (type MDL 8/10 250V).

It is extremely unlikely that you will ever need to change the fuse. If the fuse blows, unplug the power supply before removing the old fuse. Be sure to replace the old fuse with the correct fuse. If the fuse blows a second time, the preamplifier may require servicing. Contact the Wright Sound Company.

### 6 Voltage selector (WPS04E ONLY)

Before applying power to the WPS04E, make sure you know the ac mains voltage in your area. Then move the selector switch to the appropriate position—if you are using the 220/240 volt position, you must change the fuse to a 0.4A 250V fuse (such as the type MDL 4/10 250V) supplied with the WPS04E power supply.

Only after you have determined the correct voltage and fuse requirements as described above should you connect the preamplifier to the ac mains power.

## **Options and Accessories**

### **Options**

The standard WPP100B/C is supplied with the WPS04 Power Supply.

#### **WPP100B/C-HC**

This is a standard WPP100B/C with Hovland Musicap® capacitors installed in the line stage. Reportedly, a sweeter-sounding preamplifier yet one that retains the accurate, transparent sound of the WPP100B/C.

#### **WPS04E**

Export version of the WPS04 Power Supply for those customers who require operation with ac mains power other than 120 volts ac. With the WPS04E, you can select 100, 110/120, or 220/240 operation (mains frequency can be either 50 or 60 Hz).

### **Accessories**

Additional accessories may be available; contact the Wright Sound Company or visit our Web site at <http://www.wright-sound.com> to learn more.

#### **WIC1 and WIC2**

Joined stereo pair of low-capacitance shielded interconnect cables. The WIC1 is a one-meter pair and the WIC2 is a two-meter pair.

## Features and Specifications

### Features

- Extremely fast transient response
- Sonically neutral, with no added coloration
- Point-to-point hand wiring
- Preamp uses copper-clad ground plane to ensure minimal hum and framed-grid tubes to reduce noise
- Output section uses medium- $\mu$  stage directly coupled to cathode follower output for clean performance with minimal parts count
- Power supply has regulated plate line and well-filtered filament line

### Specifications

#### Preamplifier Chassis:

WPP100C: Clear-coated polished electroplated copper on 18-gauge custom steel chassis

WPP100B: Black-finished electroplated copper on 18-gauge custom steel chassis

#### Tube Complement:

WPP100B/C preamp: 6ER5/EC95 (four), 5963/12AU7A (two)

WPS04 Power Supply: 6EM7/6GL7, 6X4/6202

#### Frequency Response:

Better than 20 Hz to 20 kHz,  $\pm 1$  dB

#### Phono Equalization:

RIAA standard, Accurate within 1.0 dB between 20 Hz and 20 kHz

#### Distortion:

Less than 0.4 percent total harmonic distortion

#### Input Impedance:

47 kilohms shunted by 100 pF

#### Output Impedance:

2 kilohms, nominal; will drive loads down to 600 ohms with slight loss of output level

#### Output Level:

1 volt peak-to-peak, nominal, when used with moving-magnet or high-output moving-coil cartridges (low-output moving-coil cartridges may require a separate step-up transformer)

#### Voltage Gain:

65 dB, nominal

## About the Wright Sound Company

We have a simple philosophy at the Wright Sound Company—build the best, neutral-sounding analog audio equipment possible at an affordable price. Every product we make is point-to-point hand wired, not mass-produced with printed-circuit boards like most audio manufacturers. Although costlier and more time-consuming to produce, our assembly techniques minimize leakage paths that can worsen over time, degrading sonic performance. The result is great sounding, durable unit that will last for years. In short, we build tube equipment the way it was meant to be built.

Our line stages use a medium-mu gain stage directly coupled to a constant-current class A cathode-follower output. Additionally, units with phono stages use framed-grid tubes and passive equalization to provide generous amounts of clean, low-noise gain. And since an amplifier's performance is only as good as its power supply, all Wright Sound Company products feature carefully optimized low-noise power supplies (plate supplies use slow turn-on tube rectifiers fed into an inverting series regulator; filament supplies use fast-recovery diodes and a large filter capacitor).

Whether your inclinations lean toward tube or solid-state gear, analog or digital source material, our products are guaranteed to impress you with their extraordinarily clean detail, superior transient response, and neutral sound.

Each Wright Sound Company amplifier is hand-wired and assembled right here in the Pacific Northwest by a select group of carefully-trained technicians. Mr. Wright himself does the final assembly and inspection for each and every unit, which includes a musical audition as well as quantitative measurements with precision test instruments. This extra attention to detail and one-stop checkout ensures that the amplifier you purchase will perform as specified and far outlast consumer-grade electronics equipment.

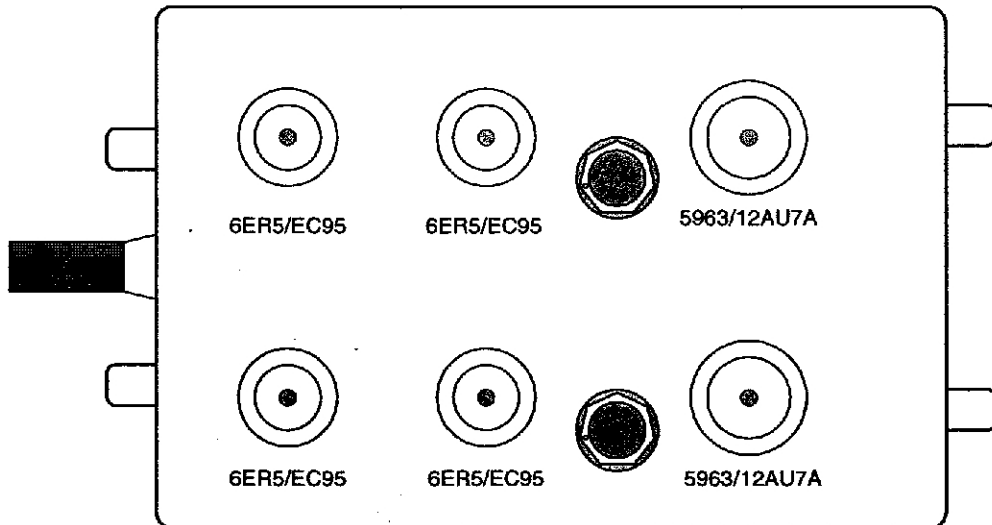
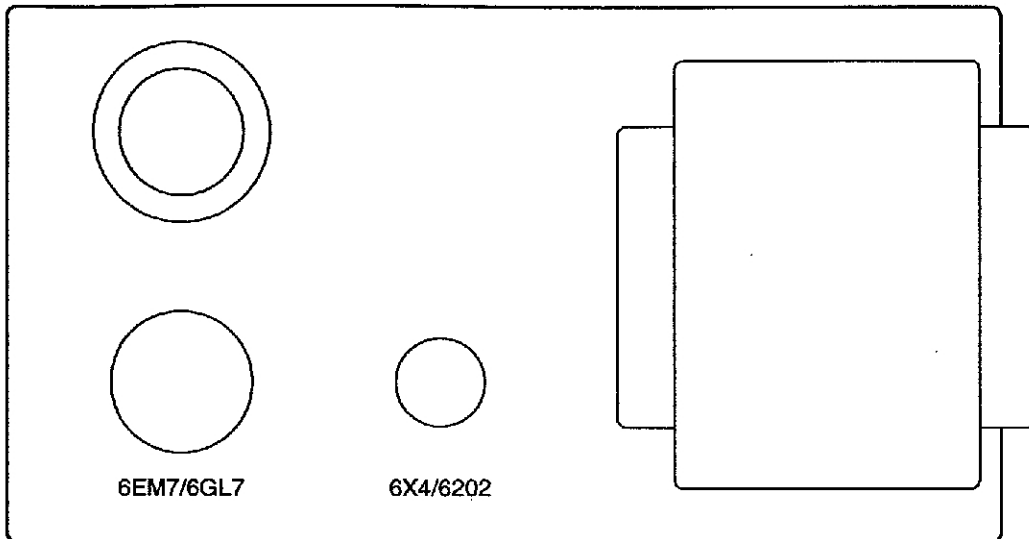
## Warranty Information

Limited one year parts and labor under normal use (tube warranty is 90 days). Damage resulting from abuse, accident, modifications, unauthorized repairs is excluded. Additionally, damage to chassis lettering and protective finish is not covered under this warranty. Units shipped prepaid to the factory will be examined to determine warranty status, and warranty units will be repaired (or replaced) with return postage paid.

Your state may have specific rights with regard to warranties (United States residents only).

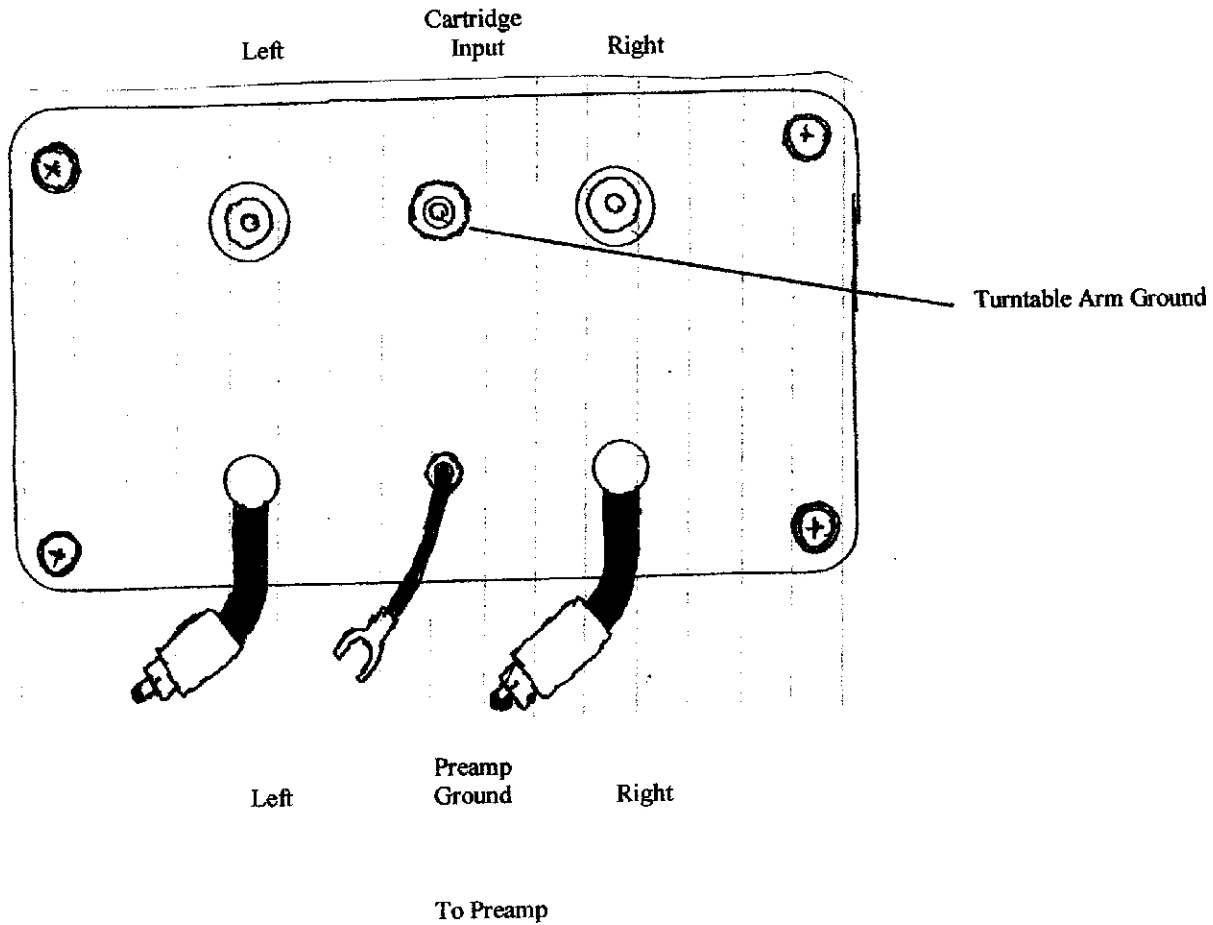


# Tube Layout



### WPM100 Phono Transformer

Will match cartridge impedance from 2 ohms up to 100 ohms into a standard phono preamp.  
Loading of 47K ohms. The step up ratio is 1:10 or ten times, so .5mV will equal 5 mV into the preamp.



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