ModWright Instruments, Inc.

PH 150 Tube Phono Stage

Owner's Manual

Manufactured by ModWright Instruments, Inc.
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USA
www.modwright.com

CAUTIONS:

Do not operate or power up unit without ALL tubes installed in tube sockets. Failure to do so will result in damage to tubes.

WARNING: DO NOT POWER UNIT ON UNTIL LID IS ENTIRELY FASTENED. VERY HIGH VOLTAGES ARE PRESENT INSIDE UNIT DURING OPERATION. IT IS CRITICAL THAT PREAMP ENCLOSURE NOT BE OPEN WHEN UNIT IS POWERED ON. FAILURE TO DO SO MAY RESULT IN SERIOUS INJURY OR DEATH.

WHEN CHANGING TUBES, POWER UNIT OFF AND DISCONNECT FROM ALL POWER SOURCES. FAILURE TO DO SO MAY RESULT IN SERIOUS INJURY OR DEATH.

Introduction:

Thank you for purchasing a ModWright Instruments product. This unit is designed to offer high performance and exceptional reliability.

The PH 150 phono stage offers high bandwidth, low noise and distortion, and exceptional musicality. We have designed this phono stage to allow the reproduction of vinyl recordings that is accurate, transparent and musical.

The PH 150 includes features not found in simpler phono stage designs:

- Front panel resistance and capacitance loading on the fly.
- 0, -6dB and -12dB gain adjustments for MM and MC, on the fly.
- MM, Mute, MC input select on the fly.
- Mono/Stereo switch on front panel.
- Phase toggle on rear of unit.
- RCA or XLR (fully balanced) toggle select on rear panel.

The PH 150 is a high-gain, low noise phono stage design with exceptional flexibility. Maximum gain for the PH 150 ranges from 72dB (MC) to 57dB (MM). Gain may be adjusted by -0dB, -6dB or -12dB for either MC or MM operation. This allows for compatibility with different MM and MC cartridges of high, low or medium gain.

Cartridge loading for MC (resistance only), is user selectable via front panel controls for six different resistance settings.

Cartridge loading for MM (47K fixed resistance), allows for six different capacitance settings, including 0pf.

The PH 150 was designed purposely with an external, solid-state power supply. The power supply is connected to the phono stage via a 4ft umbilical, and it is recommended that the power supply be well separated from the phono stage for lowest possible noise.

The ground lug on the rear of the PH 150 enclosure is common to signal ground, earth ground and the PS 150 and PH 150 enclosure. Depending on system grounding, you may need to connect a ground wire from turntable to the phono stage ground lug.

Setup:

It is always recommended to remove all tubes before shipping the unit. Be sure that the PS 150 external power supply is NOT connected to AC power and that the power plug is disconnected from the unit and wall outlet. Use supplied 5/64" hex driver to remove four lid screws in top panel and install (2) 6C45 and (2) 6922 signal tubes in 9-pin ceramic tube sockets. Align tube pins with socket and gently but firmly press the tubes down into socket until seated.

After tubes are installed, replace lid and secure with four screws. Only after this, should the PS 150 external power supply be connected to the PH 150 phono stage. Do not connect PS 150 to AC power until umbilical is connected to both PS 150 and PH 150.

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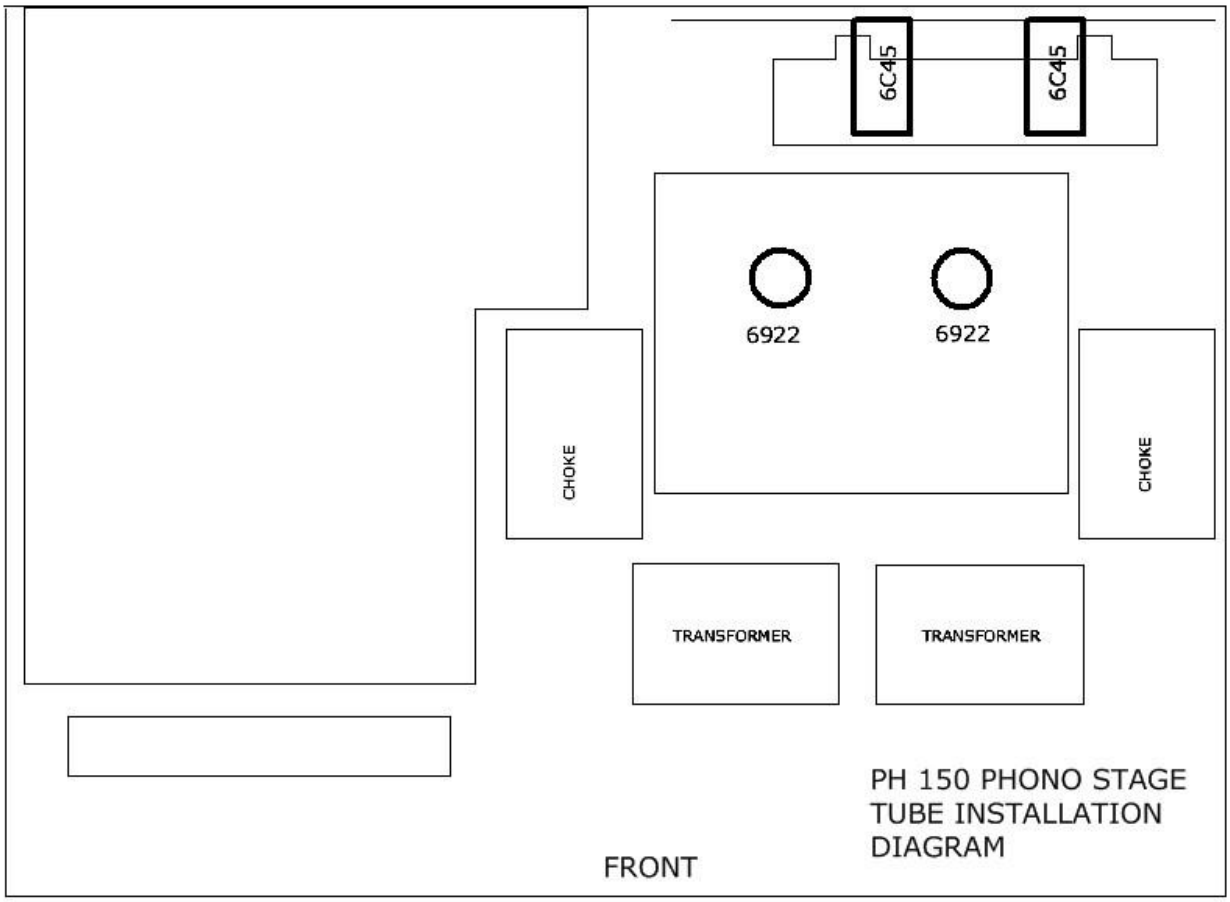
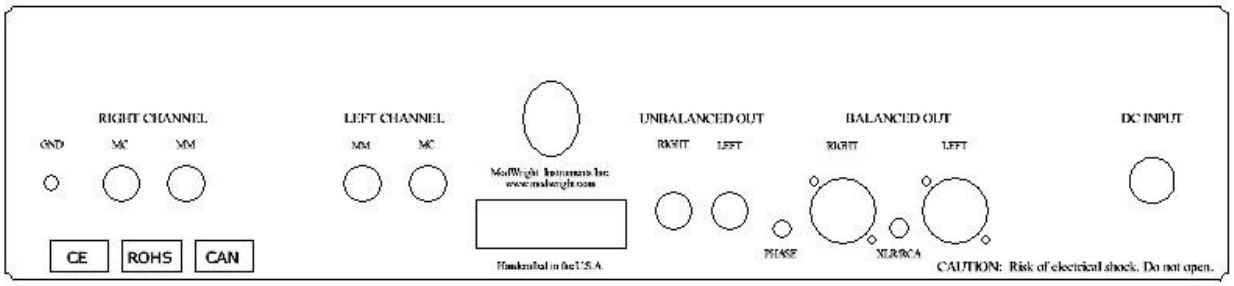


The PH 150 phono stage is powered by the external PS 150 power supply. The blue umbilical supplied, connects the PS 150 to the PH 150 and provides DC voltage to the phono stage. The PS 150 is a solid-state power supply and has no user-serviceable parts inside. Operating voltage is indicated on the back panel of the PS 150. The PS 150 uses a single SLO-BLO fuse, 5mmx20mm in size. For 120V operation, the fuse should be rated for 1.5A. For 240V operation, the fuse should be rated for .75A.

After tubes are installed in the PH 150, first connect the blue umbilical to the PS 150 and connect the other end of the umbilical to the PH 150 Phono stage. The umbilical has Male/Female, 8-pin connectors. It can only be connected in one direction. One end of the umbilical has pins and the other sockets. These mate with the corresponding pin or socket connector at the PS 150 and PH 150 respectively. Rotate the umbilical connector until it seats in the receptacle on the PS 150. Once connector is seated in receptacle, rotate outer threaded barrel until finger tight, to secure connector to the receptacle. Repeat this process to connect the umbilical to the PH 150. Only after the umbilical is securely connected at both power supply and phono stage, should AC power cord be connected.

Signal cables must be connected for input and outputs. You may connect the turntable to phono stage for MM or MC operation, by connecting cables to the appropriate RCA input connectors. If cables from turntable to phono stage have a ground wire, this may be connected to the ground lug on the rear of the PH 150. Signal cables must also be connected (RCA or XLR) main outs to preamp. Toggle switch should be in position for either RCA or XLR cable type used.



PH 150 REAR PANEL

Power Up:

You are ready to power the unit up if the following has been done:

1) Tubes are installed in PH 150 and cover secured in place.
2) Umbilical is connected and locking connectors tightened at both ends, between PH 150 and PS 150 power supply.
3) AC power has been plugged into IEC power inlet on PS 150, of appropriate AC mains voltage as indicated on back of power supply.
4) MM or MC signal cables and ground wire are connected between turntable and phono stage.
5) RCA or XLR signal cables are connected from main outs of PH 150 to preamp.
6) RCA/XLR toggle is in the correct position for cables connected to main outs.

Depress the power button on front face of unit, to power up PH 150. When first powered on, blue LEDs above both power and mute switches will be lit. The unit will remain in mute for approximately 25-seconds, allowing for tubes to stabilize and gently reach operating voltage. When unit is operational, mute LED will no longer be lit.

Operation:

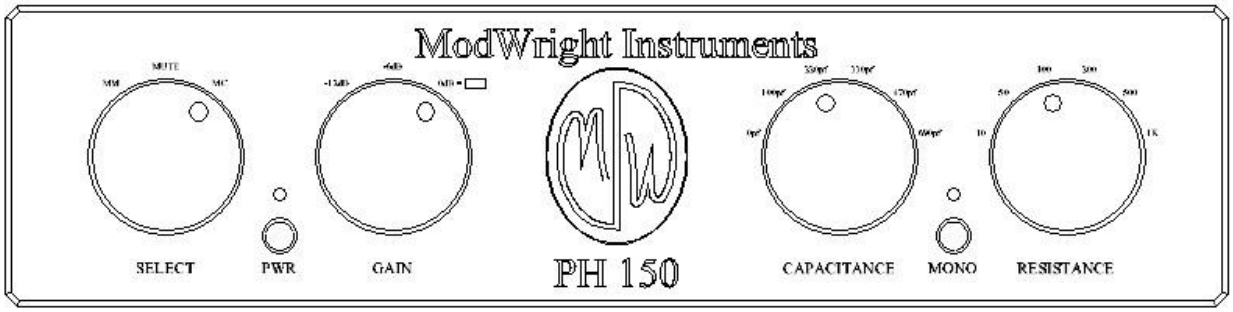
Once the PH 150 is powered up, you must first select MM or MC input. The knob on the left side of the front panel allows for MM, Mute, or MC input selection when rotated clock-wise.

The next knob on the left side of the front panel allows for adjusting the total MM/MC gain. When rotated all the way to the right, 0dB attenuation is selected. You may rotate the knob to the left to select -6dB or -12dB. For example, if MC were selected, in the '0dB' position, max gain would be 72dB. If this were too much, then rotating the Gain selector to the -6dB position would reduce MC gain to 66dB. The same may be done for MM use, where max gain is 57dB when Gain selector is in '0dB' position.

If you are using a MM cartridge, then you may choose to set capacitive loading, via the third control knob. Resistance loading is fixed at 47K when MM selected. This may be changed with or without music playing. There are six capacitance settings: 0, 100pf, 200pf, 330pf, 470pf and 680pf. When MC input is selected, there is no capacitance loading and the Capacitance control has no effect on cartridge loading.

If you are using a MC cartridge, you may set the recommended Resistance loading for your cartridge. This may also be changed with or without music playing. Six resistance settings: 10 ohm, 50 ohm, 100 ohm, 200 ohm, 500 ohm and 1K ohm are intended to meet most MC cartridge loading needs.

You may also at this time select if you are listening to a Mono or Stereo recording. Default setting is Stereo, and LED above the Mono button is only lit when operating in Mono mode.



PH 150 FRONT PANEL

Ground:

You should **ALWAYS** use a grounded AC cord with this product. The chassis is always connected to earth ground if unit is fitted with proper grounded AC power cord.

Technical Specifications:

- MC Gain: Max 72dB.
- MM Gain: Max 57dB.
- Gain Attenuation: 0dB, -6dB, -12dB.
- MC Resistance Loading: 10, 50, 100, 200, 500, 1K.
- MM Resistive loading: 47K fixed.
- Capacitance Loading: 0, 100pf, 220pf, 330pf, 470pf, 680pf.
- Frequency Response: 20Hz – 20Khz (+/-.2dB)
- Weight: PH150 - 19 lbs; PS150 - 15 lbs.
- Dimensions: PH150 - 17”W x 12”D x 5”H; PS150 - 10.5”W x 8.5”D x 5”H

Basic Specifications:

- (1) pair MM RCA inputs.
- (1) pair MC RCA Inputs.
- (1) pair RCA Main Outs.
- (1) pair XLR Main Outs, fully balanced.

Vacuum Tubes:

- Two 6922 signal tubes – may substitute ANY 6922/6DJ8/7308 compatible tubes.
- Two 6C45 signal tubes.

Warranty:

ModWright agrees to warranty product for a period of 5 years from the date of purchase from a factory authorized ModWright Instruments Dealer.

Warranty covers parts and labor for repairs due to equipment failure not related to customer abuse and/or neglect. Customer is responsible for shipping costs to and from ModWright Instruments or authorized service center.

Warranty is non-transferable to second party.

Contact Information:

If you have any questions about ModWright Instruments products or ModWright modifications or products, please do not hesitate to contact us via phone, e-mail or conventional mail.

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Thank you for purchasing a ModWright Instruments product.

Dan Wright,
President, Owner
ModWright Instruments, Inc.