



# Dynavector PHA-200 Instruction Manual

The Dynavector PHA-200 phono head amplifier is a unique current amplifier that offers the best performance for most moving coil cartridges. The PHA-200 is a complete redesign of our PHA-100, using new circuitry and the most advanced, highest quality components.

The most unusual feature of the PHA-200 is its amplification method. Conventional phono stages or step-up transformers are designed to accurately amplify the very low output voltage of moving coil cartridges. In contrast, the PHA-200 extracts the maximum current signal from the cartridge, and then this current is converted into a voltage high enough to drive a conventional line level pre-amplifier.



In the PHA-200 the coil of the cartridge is short circuited or terminated by zero ohms, consequently the current from the coil is much larger than with conventional voltage amplification.

All cartridges have magnetic distortion caused by nonlinear characteristics with in the magnetic materials of the cartridge components. These distortions have an adverse affect on the sound quality.

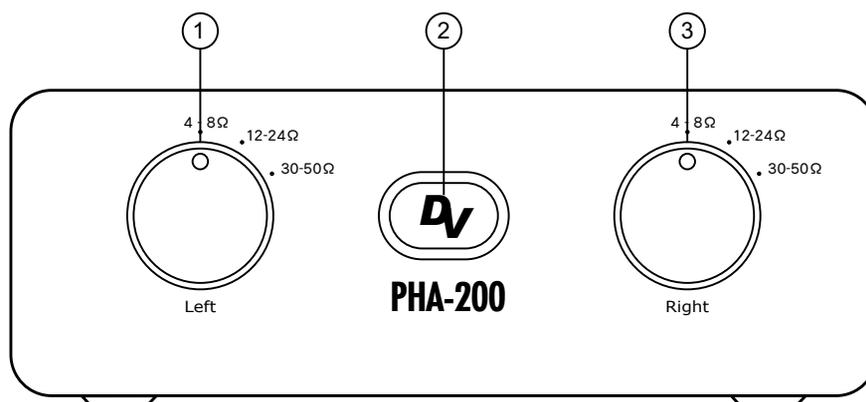
By using current amplification and extracting the current signal, the magnetic distortion of the cartridge is significantly reduced. In other words the linearity across the reproducible frequency range for the cartridge is improved. As a result PHA-200 is able to amplify the original cutting signal on records as precisely as possible.

The sonic advantages of the PHA-200 compared to conventional phono stages or step-up transformers is immediately apparent. The neutral soundstage, rich mid-bass and smooth highs are most impressive. The overall sound quality offers improved transparency and resolution.

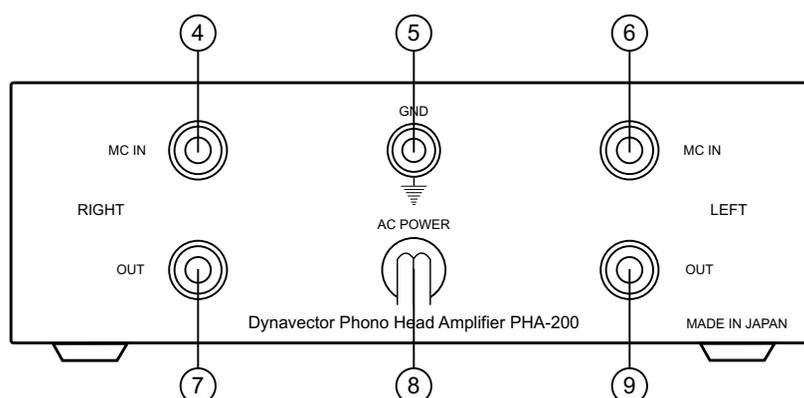
## SPECIAL FEATURES

- A unique patented current maximizing circuit designed to provide maximum fidelity from vinyl LP's.
- 3 position input resistance selector to suit most MC cartridges.
- Left and right channels are completely separated but have identical signal paths. This is achieved by using mono-symmetric circuit design. The input selector switch is an extremely low contact resistance type rated for minute currents. The switch has separate sections for each channel.
- High-grade components are used. All components are carefully selected following repeated listening tests.
- Extra low noise stabilized power supply with high-grade, parallel connected, electrolytic capacitors in the smoothing circuit.
- An R-Core transformer that offers improved voltage regulation and reduced flux leakage is used. The transformer has magnetic and electrostatic shields.

# Control Functions and Connections --- (1)



FRONT VIEW



REAR VIEW

## (1) Input resistance selector for left channel

Select the position suited to the cartridge DC resistance. Before changing the selector, you should ensure that the volume control of the pre-amplifier is turned to a minimum or the AC power for the audio system is turned off.

## (2) Power Indicator

The DV logo lights up when the PHA-200 is on and receiving AC power.

## (3) Input resistance selector for right channel

Select the position suited to the cartridge DC resistance. Before changing the selector, you should ensure that the volume control of the pre-amplifier is turned to a minimum or the AC power for the audio system is turned off.

## (4) Input RCA plug for right channel

This input should be connected to the tonearm output RCA plug for right channel.

## (5) Ground post

Ground wires for either the tonearm and/or the turntable should be connected to the ground post of the PHA-200 to

prevent any "HUM" from interfering with the music signal.

## (6) Input RCA plug for left channel

This input should be connected to the tonearm output RCA plug for left channel.

## (7) Output RCA plug for right channel

This output should be connected to the "MM 47K ohms" phono input of the pre-amplifier or the input of a "MM" phono stage for right channel. You should not connect them to the "MC" phono input.

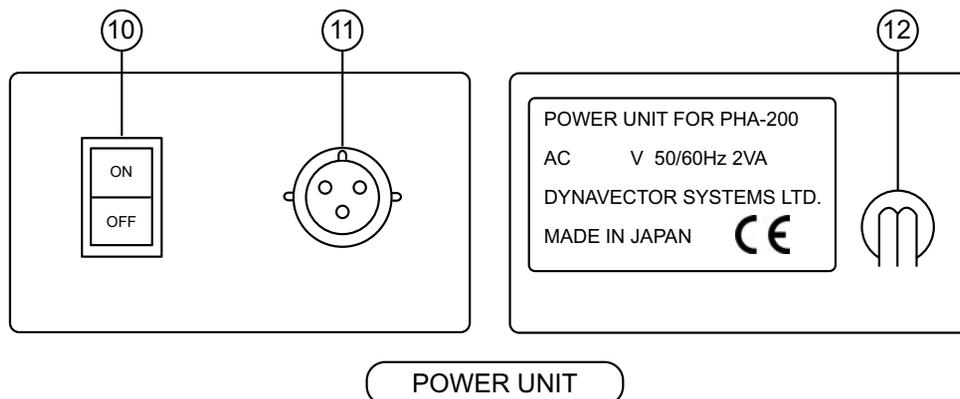
## (8) AC power cable

This cable should be connected to the AC power socket (11) of the power supply unit.

## (9) Output RCA plug for left channel

This output should be connected to the "MM 47K ohms" phono input of the pre-amplifier or the input of a "MM" phono stage for left channel. You should not connect them to the "MC" phono input.

## Control Functions and Connections --- (2)



### (10) Power switch

When in the ON position, this switch allows the PHA200 to receive power, rendering the PHA200 operational as shown by the power indicator at (2).

### (11) AC power output socket

This socket should be connected to the AC power cable at (8). Please ensure that the connection is properly locked into position by turning the knurled outer socket of the power cable to the right while pushing it in.

### (12) AC power supply cable

This cable should be connected to the power source. Please ensure that the operating voltage of the PHA200 matches the voltage in your area.

We recommend that this cable should be connected to the "Switched AC outlet" of the pre-amplifier where such an outlet is available.

## Adjustments

### 1) Cartridge DC Resistance Selector

Three resistance/gain adjustments are available. Using the rotary control on the front panel select the position which matches the cartridge's DC resistance:

1. Low resistance: 4 - 8 ohms
2. Med resistance: 12- 24 ohms
3. High resistance: 30- 50 ohms

**The volume control of pre-amplifier must be turned to minimum, when you change the DC resistance selector.**

#### Note 1:

Input sensitivity and gain is determined mainly by the cartridge DC resistance since the PHA-200 is a current maximizing head amplifier. This means that the output voltage of the PHA-200 varies according to the cartridge resistance and the optimal output voltage is not achieved unless the input resistance selector is set to match the cartridge DC resistance.

#### Note 2:

When the loading impedance for the MM phono input of the pre-amplifier is adjustable, you should set it to the over "30K" ohms position. Operation below the "30K" ohms level will result in a deterioration in low frequency response.

#### 2) N.B.

-Do not use the PHA-200 with a MM cartridge because the PHA-200 is designed solely for MC cartridges.

-To avoid any hum problems, the power supply unit of the PHA-200 should be located as far as away as practicable from the main unit of the PHA-200.

-Do not connect any components e.g. transformers, capacitors or resistors between the PHA-200 and the cartridge since the design of PHA-200 circuit is quite unlike that of other voltage amplifiers.

#### 3) Positioning

Be sure to locate PHA-200 where:  
- there is reasonable air circulation

# Safety Instructions

1. Ventilation - Be sure to locate the PHA-200 in areas where there is reasonably good air circulation..
2. Water and Moisture - The PHA-200 should be kept dry at all times. To prevent fire or shock hazard, do not expose the product to any form of moisture.
3. Heat - The PHA-200 should be situated away from heat sources such as direct sunlight, radiators, fires, stoves or any other appliances which produce heat.
4. Power Sources - The PHA-200 should be connected to an AC power source of the correct rated voltage as stipulated on the power supply unit for the PHA-200.
5. Cleaning - A regular dusting with a soft, non-abrasive cloth will generally keep the finish of the faceplate and chassis looking like new. Do not use liquid or aerosol cleaners; they may damage the circuitry and cause damage which will not be covered under your warranty.
6. Servicing - Refer servicing to an authorized service technician.
7. There are no user serviceable parts within the unit and removal of the chassis cover may void the warranty.

## Note for Reviewers

When the PHA-200 is being used by reviewers, particular care needs to be taken so that neither the unit nor any part of the audio system suffers damage. This is because, the circuit of the PHA-200 is of unconventional design and dissimilar to other voltage amplifiers in that the current of the MC's coil is maximized. In other words, the MC's coil acts as though it is short circuited. If, therefore, the PHA-200 is tested by using a signal generator, any excessive current from the generator may damage the PHA-200.

## SPECIFICATIONS

Type	:Current maximising phono amplifier
Output voltage	:Dependent on the current sensitivity of cartridge
Frequency Response	:10 - 50,000Hz, (+0dB -0.5dB)
S/N ratio	:over 62 dB (FLAT)
Cartridge impedance	:position 1 — impedance 4 - 8 ohms :position 2— impedance 12 - 24 ohms :position 3— impedance 30 - 50 ohms
Power supply	:AC 100 volts, 115 volts, 230 volts, 2VA, according to territory
Size & Weight	:Main unit: 160w x 186D x 60H mm, 1,1kg :Power supply unit: 82w x 132D x 45H mm, 800g
Country of origin	:Made in Japan

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