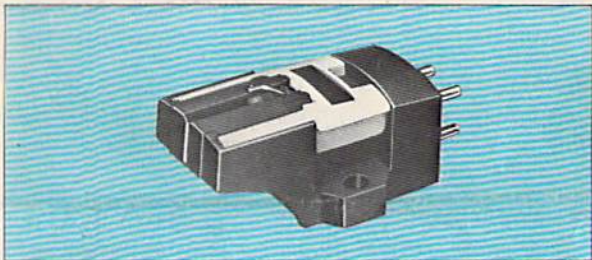


Operating Instructions

Panasonic

HI-FI COMPONENTS

Panasonic



MODEL EPC-450C-II

Before operating this set, please read these instructions completely

We want to thank you for selecting the EPC-450C-II cartridge.

This is a semiconductor cartridge especially designed for CD-4 discrete records. And of course, ordinary stereo records and MATRIX 4-channel records can be played with optimum performance.

To receive optimum performance from this cartridge, we recommend that you carefully read these instructions.

INSTALLATION OF THE CARTRIDGE

- Before installing the cartridge into the head shell, the stylus assembly should be temporarily removed. Carefully grasp the stylus holder and pull it as shown in Fig. 1.
- Install the cartridge using the included screws and shell weight.
- Select the shell weight according to your tonearm (refer to Fig. 2 ~ 4)
- In mounting the cartridge, consult the instruction booklet by which your turntable or pickup has been accompanied.
- Cartridge installation is easier if the head shell of the pickup is first removed. (if this is possible)

- After the cartridge has been installed, insert the stylus assembly until it is securely fixed. (click is heard) (refer to Fig. 1)

CONNECTION OF THE LEAD WIRES

- Make connection of lead wires as shown in Fig. 5.
- Never attempt to solder the lead wires directly to the cartridge terminal pins.

CONNECTION OF THE CD-4 DEMODULATOR

- Connect the output terminals of the player to the CD-4 DEMODULATOR. This cartridge utilizes "the piezo resistance effect" in semiconductor material, and therefore, requires the phono input terminals for semiconductor cartridge.
- When connecting to the DEMODULATOR, follow the instructions of the DEMODULATOR.

ADJUSTMENT OF THE STYLUS PRESSURE

- Adjust the stylus pressure when you have installed the cartridge EPC-450C-II on the pickup of your turntable. In adjusting the stylus pressure the cartridge EPC-450C-II should be used with a stylus pressure of 1.5 to 2.5 g.

(NOTE) When the recording level of the disc is very high, increase the stylus pressure up to 2.5 g.

STYLUS REPLACEMENT

- Carefully grasp the stylus holder and pull it as shown in Fig.1.
- When replacing with a new stylus, be careful not to touch the stylus tip, and insert the stylus into the hole of the cartridge until it is securely fixed. (click is heard)
- The stylus life is approximately 300 to 400 hours, and should be replaced at or before that time.
- Use the genuine replacement stylus only.
The model number is EPS-450QD.

OPERATION NOTES

HANDLE THE STYLUS TIP CAREFULLY

- The stylus has been very precisely produced so that it traces the grooves with micro exactness. Be sure to avoid moving it with finger tip or applying force to it. Be careful never to drop the stylus tip to the surface of the record. For additional protection, use the stylus cover when the cartridge is not being used.

REMOVE ALL DUST AND DIRT FROM THE STYLUS TIP AND THE RECORD

- If the stylus is used with dust or dirt on its tip, it will not contact the record groove completely, nor trace perfectly, resulting in sound deterioration as well as damage to both the record and the stylus tip. Be sure therefore, to clean away dust and dirt on the tip carefully with the included stylus cleaner. (refer to Fig. 6).

(NOTE) Stylus cleaner liquid should be applied only on the stylus tip.

- Be especially careful to clean away all dust and dirt from the stylus tip on the record before playing discrete 4-channel record because such dust may result in abnormal noise.
- Clean the record with a good quality record cleaner.

HOW TO USE STYLUS CLEANER

- Take off cap, moisten brush by pushing the bottle from side to side and clean stylus tip by brushing it several times.

(CAUTION)

- Tighten cap after use.
- Non toxic, but don't swallow contents.
- Combustible, keep from heat or flame.
- Avoid prolonged exposure to sunlight.
- Keep out of reach of children.

(Stylus cleaner liquid is an alcohol-distilled water solution.)

SPECIFICATIONS

Model	EPC-450C-II
Type	Semiconductor cartridge
Frequency characteristics	0 ~ 50,000 Hz
Rated output level	5mV (5cm/sec, 1 kHz, lateral, 4mA)
Separation	More than 20 dB (1 kHz)
Impedance	1000 Ω pure resistance
Compliance	10 x 10 ⁻⁶ cm/dyne
Stylus pressure range	1.5 ~ 2.5 g
Stylus tip	Special diamond for 4-channel, stereo records
Cartridge weight	3.2 g
Replacement stylus	EPS-4500D

Specifications, design and other details are subject to change, without prior notice, at any time in order to improve performance.

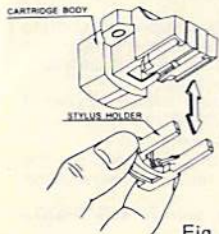
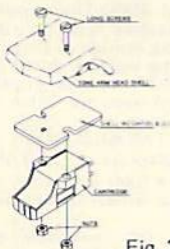
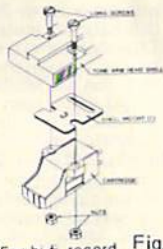


Fig. 1



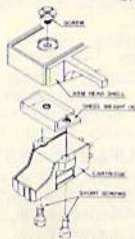
For ordinary player



For hi-fi record changer

SHELL WEIGHT

For ordinary player	D	8g
	E	2.5g
For hi-fi record changer	A	3.3g
	C	2.5g



For hi-fi record changer

Fig. 4

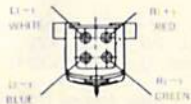


Fig. 5

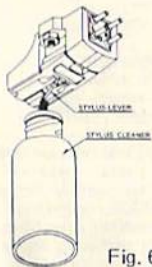
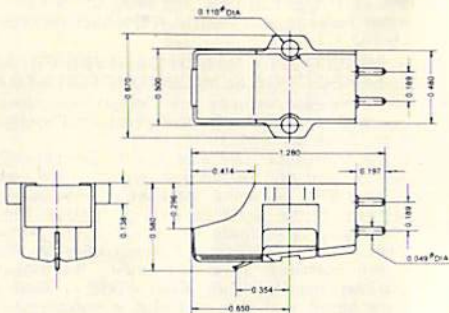


Fig. 6

DIMENSIONS (in inches)



FEATURES

FREQUENCY RESPONSE OF 0 TO 50,000 Hz

- In order to play CD-4 records perfectly, it is necessary that the cartridge have a frequency response range from 20 to 45,000Hz. The frequency response of this cartridge is from 0 to 50,000Hz. This is sufficient for CD-4 playback. This cartridge can play not only CD-4 records but also conventional stereo records and matrix 4-channel records with accuracy and high fidelity.

HIGH SENSITIVITY WHICH DERIVES FROM THE "PIEZO RESISTANCE EFFECT" OF SEMICONDUCTOR STRAINGAGE ELEMENTS

- This cartridge utilizes the "piezo resistance effect". That is, the resistance value of the semiconductor materials varies in proportion to the force applied to it. In the transducer element, a tiny silicon pellet precisely processed is used to convert mechanical energy into electrical energy. There is no problem of noise generation, because the noise level of this cartridge is the same as that of carbon film resistor, different from a transistor or a diode. When 4mA is applied to the cartridge per channel, the output voltage of the cartridge is about 5mV, the noise to signal ratio of this cartridge results more than 70dB. And the frequency response characteristics of this cartridge is equalized for RIAA recording curve in it self. Therefore, it does not requires the equalizer amplifier and virtually can produce about 30 times greater than ordinary magnetic cartridges. Internal impedance of EPC-450C-II (non-inductive and

non-capacitive) is about 1000 Ohms pure resistance, different from ordinary magnetic or ceramic type cartridges.

Therefore, there is no loss at high or low frequency response according to the capacitance of the output shield cables between the cartridge and the DEMODULATOR or the amplifier. That is, the ordinary shield cables can be used even for CD-4 reproductions.

So, there are no problems even when the record player is placed separate far from the DEMODULATOR or the amplifier.

SPECIAL NAKED DIAMOND STYLUS TIP FOR CD-4

- In order to pick up the high frequency signals of CD-4 records, the stylus tip is made of the tiniest naked diamond tip which is polished by special method.

This stylus, of course can playback ordinary stereo and matrix 4-channel records with high fidelity.

WELL MATCHED TO THE TRANSISTORIZED CIRCUIT AND HUM FREE

- This cartridge can be matched well to the transistorized circuit because its internal impedance is pure resistance of 1000 Ohms. In other words, it does not contain any coil nor capacitance like the magnetic or the ceramic has, so, it is hum free caused by leakage flux from phono motor and transformer, and also free from fluctuations of power supply frequency.

"MICRO-COUPLER" SYSTEM

- In this system, the vibration picked up with stylus tip from a fine record groove (especially, fine in CD-4 records) is transmitted directly to the semiconductor elements through a tiny synthetic rubber ring ("Micro Coupler").

"Micro-Coupler" system overcomes the defects in conventional V-shape resolver type.

"Micro-Coupler" can transmit more ultra-sonic frequency, and get more channel separation especially at high frequency than the conventional V-shape resolver.

Therefore, this "Micro-Coupler" (cartridge EPC-450C-II) can play CD-4 records successfully, and leads you to excellent CD-4 sound.

ACCESSORIES

Shell washers 2	M2.6 x 5mm (0.2 inch) 2
Stylus cleaner 1	M2.6 x 9mm (0.35 inch) 2
Shell weight A 1	4-48 x 0.26 inch (Black) 2
C 1	M2.6 x 5mm (0.2 inch) flat head 1
D 1	Cartridge nuts (M2.6) 2
E 1	Terminal jacks 4
Cartridge screws 7	Lead wires 4

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