DENON DL-110

STEREO CARTRIDGE

To enable more people to enjoy the excellent sound quality of moving coil (MC type) cartridges, the DL-110 has been developed by using DENON's state-of-the-art MC cartridge manufacturing know-how; it is a high output MC cartridge which can be used with the ease of MM type cartridge.

To enjoy the excellent characterisitics such as its tracing ability, comparable to higher priced models and the flat frequency characteristics as well as the excellent sound quality please read this instruction manual thoroughly before using the cartridge and for the cartridge properly. In addition, please keep this instruction manual, along for when questions occur during use.

The following accessories are included; please check.

Stylus tip brush 1
Weight balance plate 1

Please use the case as a shell stand and the transportation dummy shell as an overhang gauge and as a stylus tip check magnifier.

Features

1. A high output MC cartridge with an output voltage comparable to MM cartridges

   The DL-110 is a high output MC cartridge which can be connected directly to the MM position of the amplifier without step-up transformers or head amplifiers.

2. Rational vibration section without compromise

   State-of-the-art technology has been employed in the minute sections such as the traditional cross-shape armature, dual-construction cantilever and the vibration-center one point support method using suspension wires. This enables balanced characteristics and excellent sound quality comparable to higher priced cartridges.

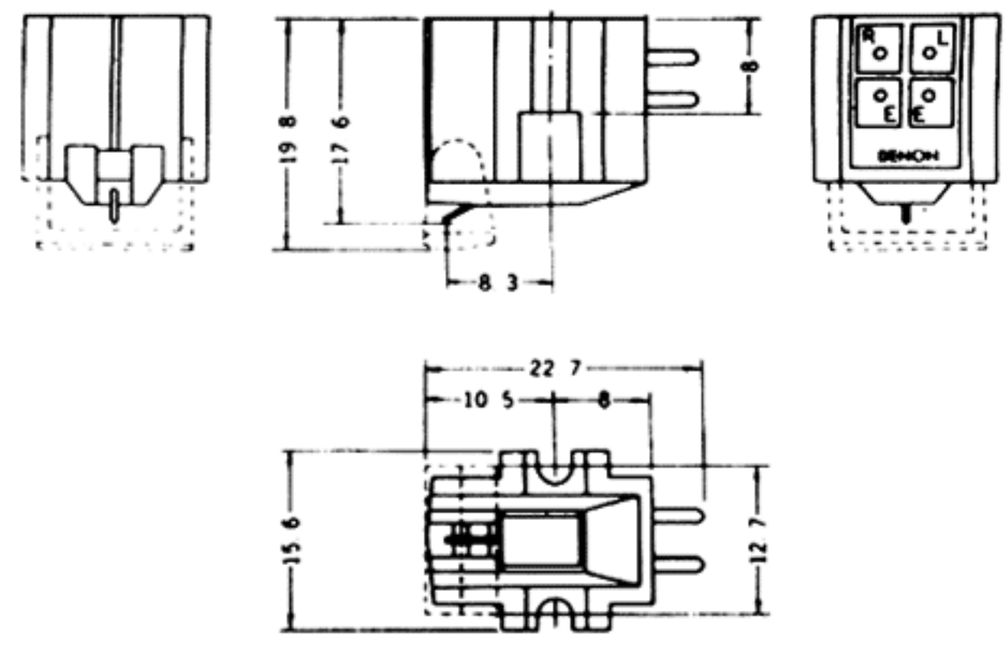
3. **Excellent temperature characteristics** and **light** weight body.

   With the DENON original vibrating section and the 2-way damping method, sound quality fluctuations due to temperature differences are kept to a minimum. In addition, the overall weight has been reduced by simplifying the magnetic circuit, improving the tracing ability of the stylus against record warps.

Cautions on Use

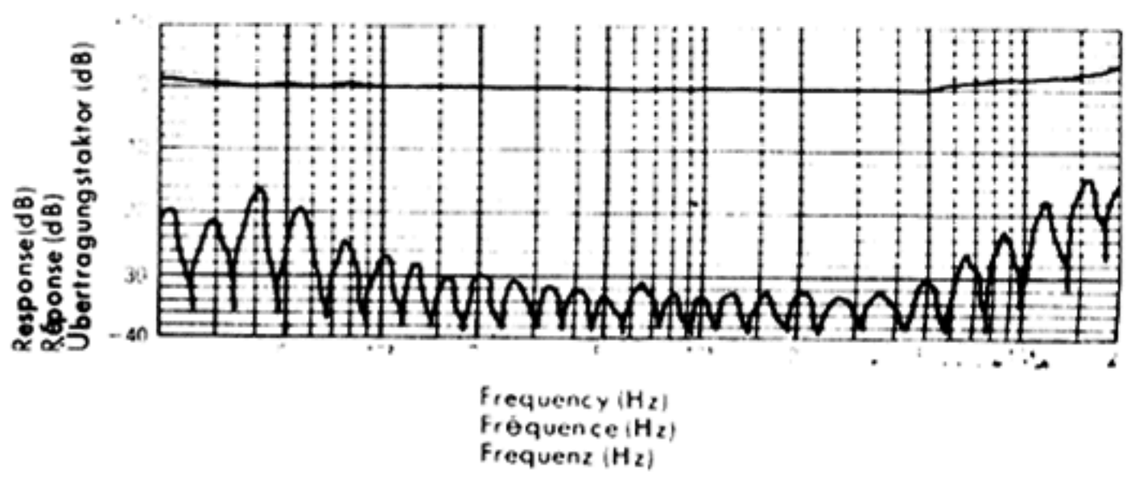
1. The stylus tip is delicate. If excessive force is applied, such as pressing the stylus tip with your fingers, it may be damaged. Please be very careful when installing the cartridge on the shell.
2. Since an extremely strong magnet is used, this unit cannot be used with a metallic turntable. In some cases, this unit cannot be used with players which use magnetic materials such as metal plates near the turntable or the arm for shielding. In addition, if metal screwdrivers are inadvertently brought close to the cartridge, they will be pulled against the cartridge and may damage the stylus tip; please pay attention.
3. Avoid dust and other foreign particles on the cartridge. If a dusty record is played or if foreign particles stick to the stylus tip or the record surface, the sound quality will deteriorate and the record may be damaged. Please remove particles on the stylus tip using the supplied brush. Brush gently from the base of the cantilever towards the stylus tip. Dust and other foreign particles on the record should be removed using quality record cleaners.

Overall dimension
Dimensions hors-tsut
Abmessungen



mm

Frequency response of output voltage and crosstalk
Reponse de fréquence de la tension de sortie et diaphonie
Frequenzgang der Ausgangspannung und Übersprechen



DENON

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HANDLING PROCEDURES

1. Installation on the headshell • tonearm

• The installation method of the DL-110 follows the JIS and EIA standards; thus installation is possible on most headshells • tonearms on the market. However, to obtain optimum performance of the DL-110, use a stable tonearm with good sensitivity.

• When installing the cartridge on the headshell, make sure it is not tilted or bent. In addition, set the overhang corresponding the tonearm to be used. Use the transportation dummy shell as an overhang gauge. (Fig. 1)

• The output terminals are arranged and color-coded as shown in Fig. 3. The lead wires of the headshell are designated in the same manner. Please connect properly.

Caution: If heat is applied to the output terminals, such as by soldering, it may cause malfunctions such as line breakage. Always use the lead tips. (Fig. 4)

• Install the cartridge-headshell assembly on the tonearm and zero-balance the tonearm. Then set the stylus force to 18mN. Next, gently lower the stylus onto the record and adjust the arm height so that the arm pipe is parallel to the record surface. At this time, make sure that the reference line at the front of the cartridge and the reference line reflected on the record surface are approximately linear. (Fig. 5)

2. Stylus force adjustment

• The optimum stylus force for the DL-110 is 18 mN± 3 mN. The various characteristics are standardized at 20°C. When changing the stylus force due to ambient temperature conditions etc., such as increasing the stylus force when the ambient temperature is low, please do so only within this optimum stylus force range.

3. Output Voltage

• The output voltage of the DL-110 is 1.6 mV, which isequivalent to the output of MM type cartridges; thus, there is no need to use head amplifiers or step-up transformers. Please connect directly to the PHONO terminal of the amplifier.

SPECIFICATIONS

Generating method:	moving coil method
Output voltage:	1,6 mV (1 kHz, 50 mm/s, horizontal direction)
L, R sensitivity difference:	within 1 dB (1 kHz)
L, R separation:	more than 25 dB (1 kHz)
Electrical impedance:	160 Ohms
Compliance:	8×10^{-3}m/N (8×10^{-6}cm/dyne) (with 100 Hz record)
Stylus tip:	**Special elliptical, Solid diamond with 0.1×0.2 mm rectangular cross section**
Stylus force:	18 mN ± 3 mN (1.8g ± 0.3g)
Playback frequency range:	20 Hz ~ 45 kHz
Weight:	4.8 g
Load resistance:	more than 47 kOhms

Fig. 1 Overhang adjustment with dummy shell
Fig. 1 Reglage de la suspersion aves coquille fictive
Abb. 1 Uderhangeins tellungmit ersatzgehause

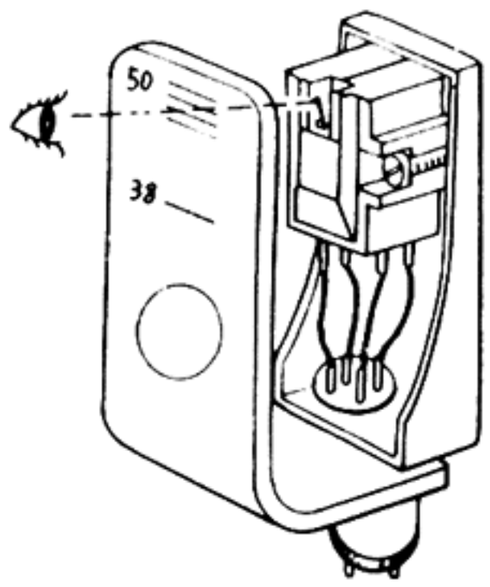

Fig. 2 Use of balancing plate
Fig. 2 Utilisation du contrepoids
Abb. 2 Gebrauch der gegengewichtsscheibe

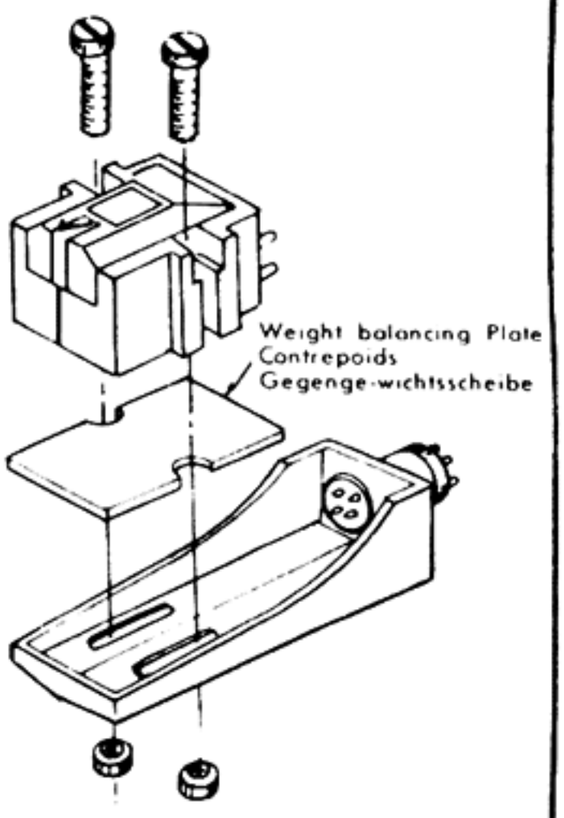

Fig. 3 Output terminals
Fig. 3 Bornes de sortie
Abb. 3 Ausgangsklemmen

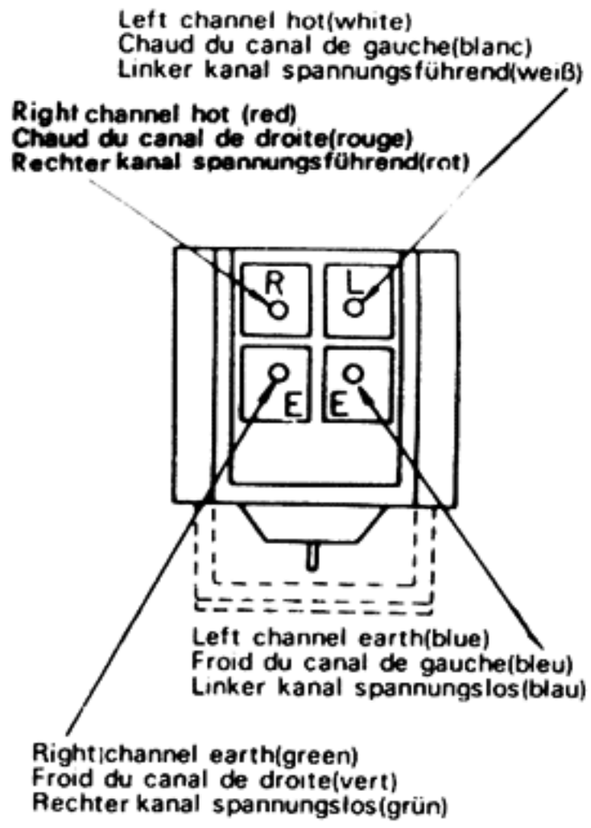

Fig. 4
Fig. 4
Abb. 4

Fig. 5 Cartridge aligment
Fig. 5 Alignement de la cellule de lecture
Abb. 5 Ausrichten des Tonabnehmers