

STEREO CARTRIDGE

XL-45/35/15

INSTRUCTION FOR USE

3-780-597-51 (1)

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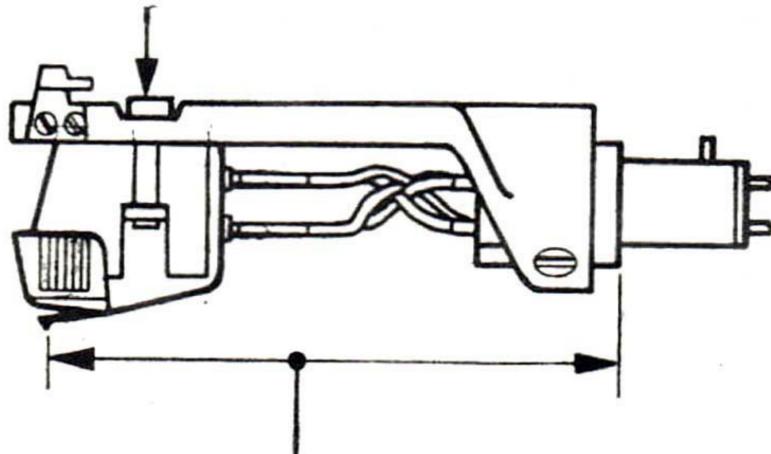
The XL-45, XL-35, and XL-15 assure faithful reproduction of your records, as a result of the adoption of "carbon fiber", many year's experiments on transducer design and strict listening tests.

To obtain the optimum performance of your cartridge and preserve its life, please read the following instructions.

MOUNTING

- Mounting Screws: Use the screws which fix the cartridge to the package.
- Take care not to touch the stylus tip while mounting.
- Be sure that the stylus is vertically mounted when viewed from the front.

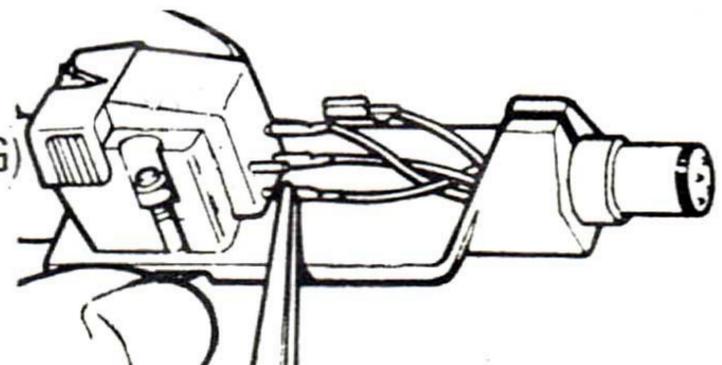
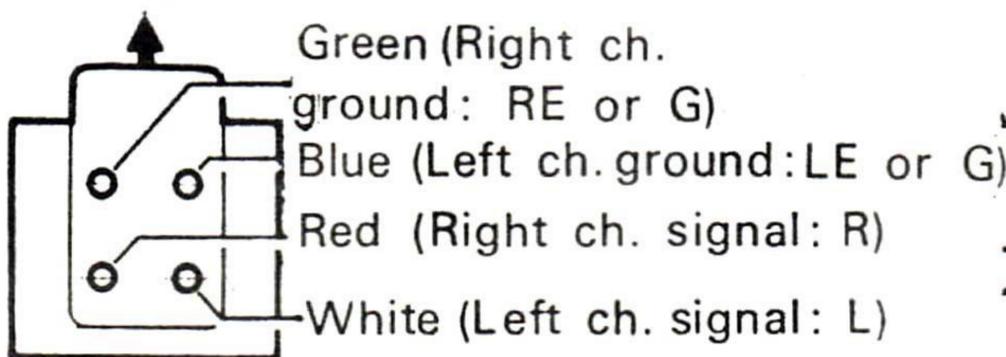
Fasten the screws tightly after setting correct "overhang"



The correct "overhang" should be checked by following the manual of the tonearm.

TERMINAL CONNECTIONS

- Connect the shell connectors to the cartridge terminals by matching the colors.
- Do not solder the terminal connections.



TRACKING FORCE

- XL-45 and XL-35: Apply the tracking force in the range of 1.0 g - 2.0 g (1.5 g recommended).
- XL-15: Apply the tracking force in the range of 1.2 g - 2.5 g (1.7 g recommended).
- For using in low temperatures below 10°C (50°F), use the XL-45 and XL-35 with 1.5 g - 2.5 g force (but not exceed 2.5 g), and the XL-15 with 1.7 g - 2.5 g (but not exceed 2.5 g).
- Too light tracking force will result in "shattering distortion" and may cause record groove damage.

LOAD IMPEDANCE

Your cartridge can be directly connected to phono inputs having an input impedance of 50 k - 100 k ohms.

STYLUS CLEANING

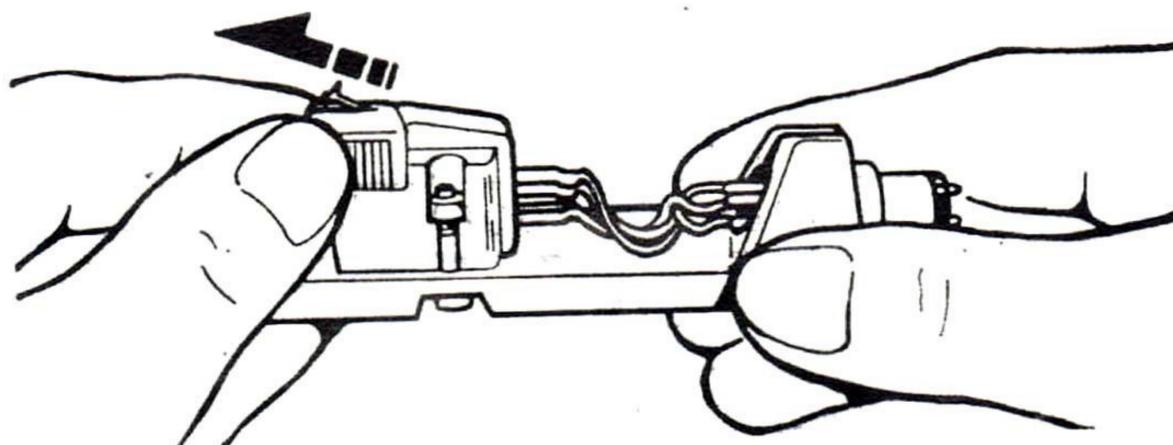
It is recommended that the stylus tip be cleaned before each record playing to obtain optimum sound reproduction and preserve the life of the stylus and record.

- Clean the stylus tip with a soft brush (stylus brush, or artist's paint brush of camel's hair) dipped in alcohol. Never dust the stylus with your finger tip.
- Be sure to brush from back to front (never from front to back, or side-to-side).

STYLUS REPLACEMENT

The stylus will wear out after about 400 hours of use. However it is advisable to replace it sooner, before it shows too much wear, in order to assure high quality reproduction and to minimize groove wear.

- Replacement Stylus: ND-45X (for XL-45); ND-35E (for XL-35); ND-15G (for XL-15).
 - Handle the stylus carefully as it is precision made and delicate.
 - Before proceeding, lower the sound level or turn off the amplifier. Remove the shell from the tonearm.
1. Grasp the stylus housing and pull it gently in the direction illustrated. With the XL-15 the stylus cover is removed simultaneously.
 2. Insert the replacement stylus to the cartridge until the stylus housing securely engages with the cartridge.



NOTES

To conserve the stylus life and record groove:

- Clean the stylus and record before playing.
- To raise or lower the stylus manually the use of the cueing lever is recommended.
- For routine cleaning of records, use a dry soft cloth (gauze etc.). If a moistened type cleaner is used, make sure that the groove has dried completely before playing it.
- The stylus assembly used in your cartridge is precisely adjusted. Do not apply any force to it with your finger tip or do not strike the edge of the record.
- Do not touch the probe of a volt-ohm-meter to cartridge terminals to avoid possible damage caused by excessive current flow.

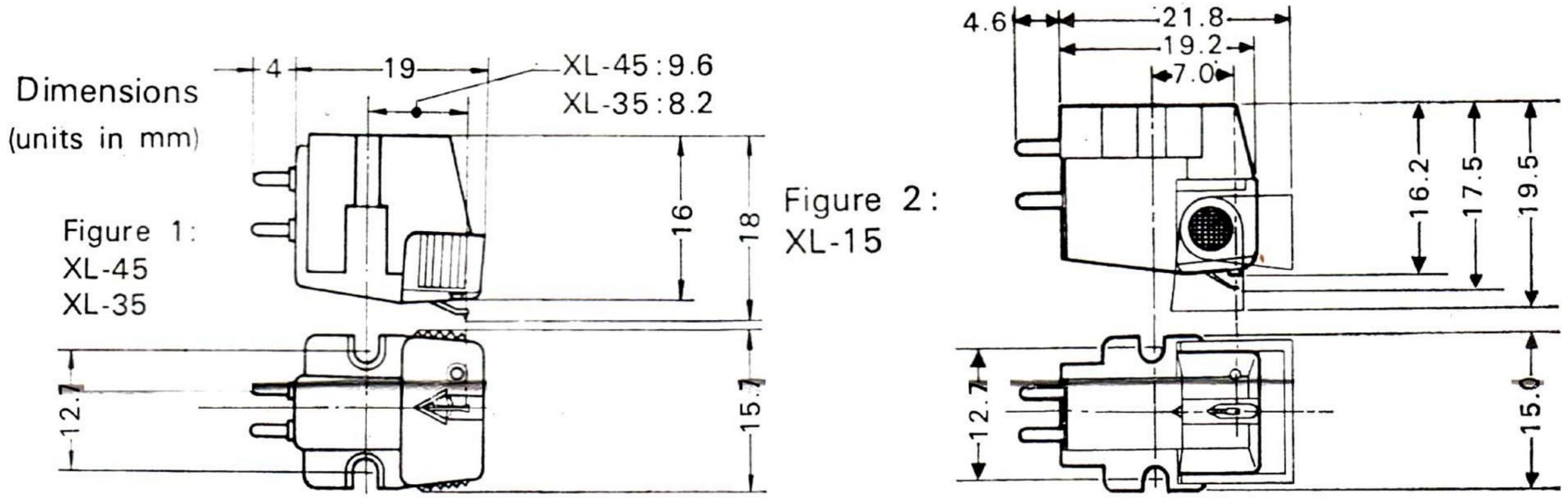
To derive the utmost from your cartridge:

- Use a tonearm having high trackability. Take care to properly set the overhang adjustment and antiskating compensator adjustment by following the instructions of the tonearm.
- Keep the phono cord from the tonearm outputs to the amplifier inputs as short as possible. Excessive long runs over 2 m (6 feet) may cause high frequency losses in the wiring.

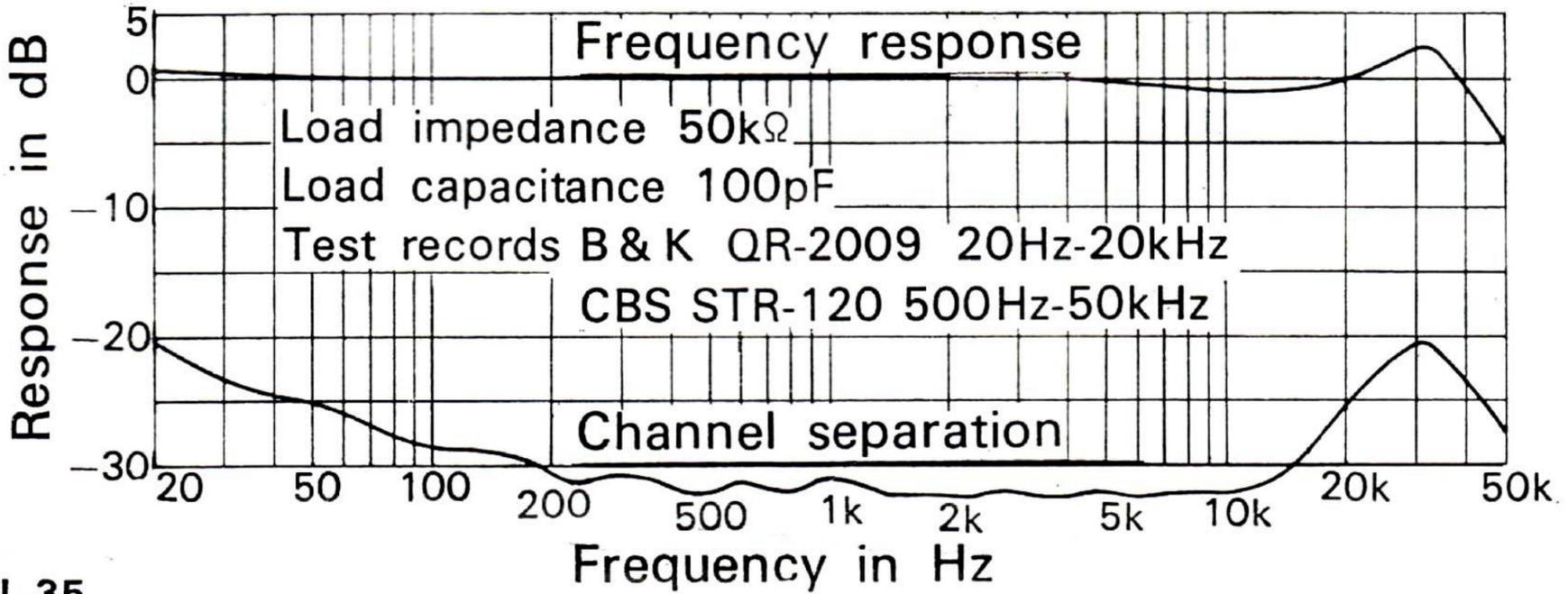
SPECIFICATIONS

	XL-45	XL-35	XL-15
Frequency response	10 - 45,000 Hz	10 - 35,000 Hz	10 - 30,000 Hz
Channel balance at 1 kHz	Less than 1 dB	Less than 1 dB	Less than 1.5 dB
Channel separation at 1 kHz	30 dB	28 dB	25 dB
Output voltage NAB (1 kHz, 5 cm/sec. 45°)	3 mV	3 mV	4 mV
DC resistance	500Ω	600Ω	600Ω
Impedance at 1 kHz, per channel	2.7 kΩ	3.5 kΩ	3.5 kΩ
Load impedance	50 k - 100 kΩ	50 k - 100 kΩ	50 k - 100 kΩ
Compliance horizontal, vertical	20 × 10 ⁻⁶ cm/dyne	15 × 10 ⁻⁶ cm/dyne	15 × 10 ⁻⁶ cm/dyne
Vertical tracking angle	24°	24°	24°
Tracking force (recommended value)	1.0 - 2.0 g (1.5 g)	1.0 - 2.0 g (1.5 g)	1.2 - 2.5 g (1.7 g)
Type of stylus	Line contact type Nude diamond	Elliptical (0.3 × 0.8 mil) Nude diamond	Conical (0.6 mil) Diamond
Replacement stylus	ND-45X	ND-35E	ND-15G
Weight	5.5 g	5.5 g	5.2 g
Dimensions	Figure 1	Figure 1	Figure 2
Installation dimensions	EIA	EIA	EIA
Supplied accessories	Mounting hardware (1 pair) Brush (1) Driver (1)	Mounting hardware (1 pair) Brush (1) Driver (1)	Mounting hardware (1 pair) Extra weight (1)

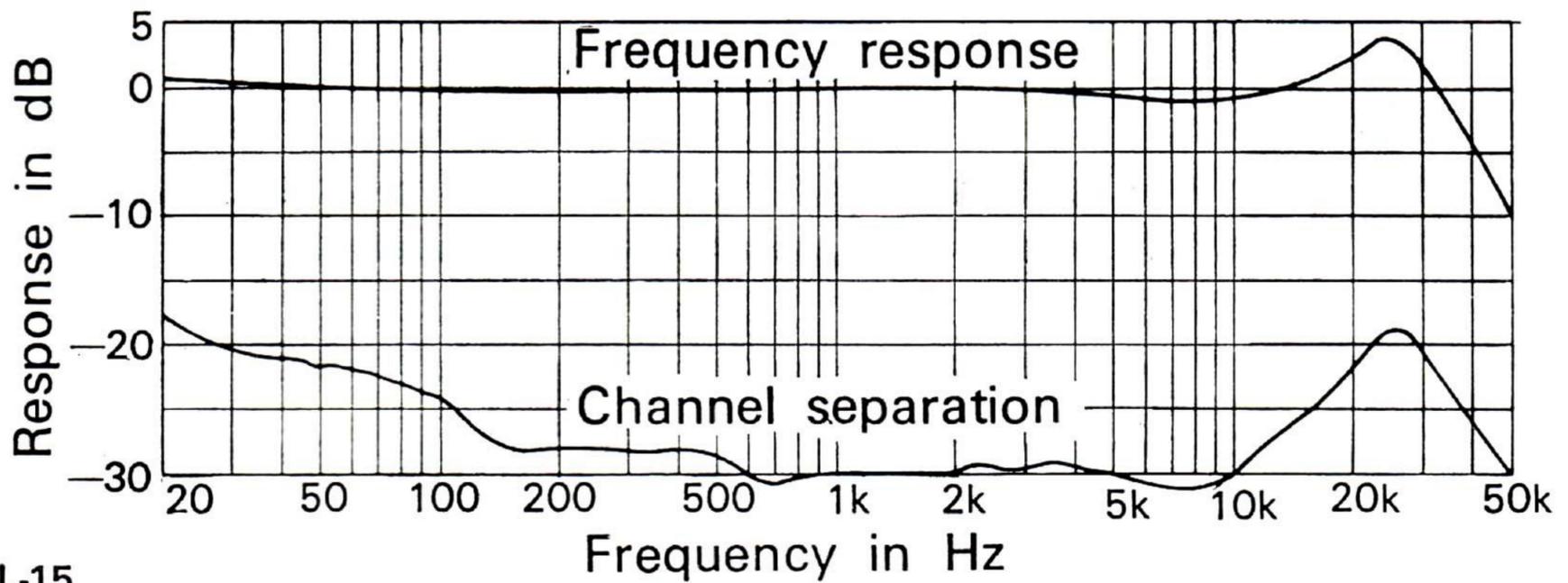
● Design and specifications subject to change without notice.



XL-45



XL-35



XL-15

