

# Information about the pick-up cartridge incorporated in your Dual automatic turntable

### Dual CDS 650

This unit is equipped with the Dual stereo ceramic pick-up cartridge CDS 650, which can be supplied ex factory with the following styli:

DN 6: 2 x 0.6 mil sapphire needle

for all microgroove and stereo records

DN 63: 0.6 mil sapphire needle

for all microgroove and stereo records

2.4 mil sapphire needle for normal records

DN 65: 0.6 mil diamond needle

for all microgroove and stereo records

DN 66: 0.6 mil sapphire needle

for all microgroove and stereo records

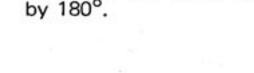
DN 67: 0.6 mil diamond needle

for all microgroove and stereo records

2.4 mil sapphire needle for normal records

Stylus type (e. g. DN 6) is shown on needle bearing.

To place the stylus request in playing position, turn needle



## Technical datas

Recommended stylus

4 g (3,5-4,5 g)

Frequency range:

20 c.p.s. to 16 k.c.p.s.

Output:

pressure:

Minimum 65 mV / 1 cm/sec per channel at 1 k.c.p.s. (1 M Ω/200 pF)

Output difference between channels:

2 2000 12

Maximum 2 dB at 1 k.c.p.s.

Isolation between

channels:

Approx. 22 dB at 1 k.c.p.s.

Compliance:

Horizontal 6 x 10-6 cm/dyn Vertical 4,5 x 10-6 cm/dyn

AC resistance:

per ceramic element

approx.160 kΩ at 1,000 c.p.s.

Net weight:

3,8 g

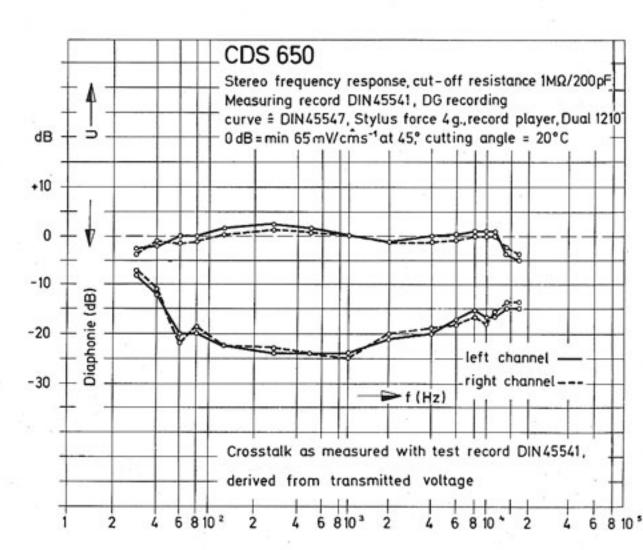
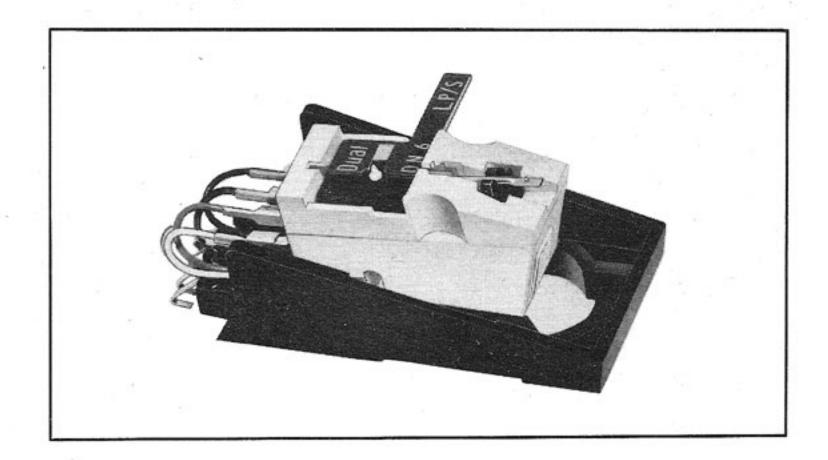
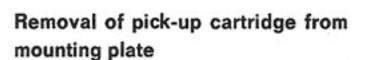


Fig. 1



For proper balancing of the tonearm (see operating instructions for your Dual automatic turntable) the needle protector (weight approximately 0.52 g) should be removed from the pick-up cartridge.

The novel snap-on mounting of this pick-up cartridge on the cartridge holder eliminates all mounting hardware. The snap-on mounting secures perfect geometrical alignment of the stylus tip.



Remove complete pick-up head from the tonearm and remove slip-on connectors from contact prongs of cartridge. Hold the mounting plate with one hand and pull down cartridge (Fig. 3).

### Attention!

The stylus assembly should be removed from the cartridge before mounting or removing same from the cartridge holder.

Pick-up cartridges with 1/2" standard mounting dimensions can be mounted on the cartridge holder with conventional mounting hardware.

#### Changing the stylus

After having removed the pick-up head turn the needle bearing by 90° as shown in fig. 4. Now the needle can be changed quite easily.

Insert the needle in the same position and make sure that the needle bearing is properly seated in the cut-outs of the cartridge.

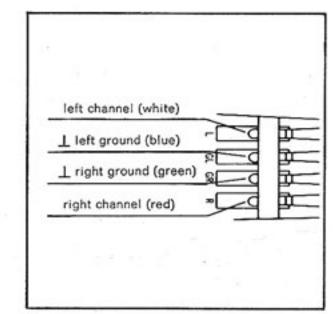


Fig. 2

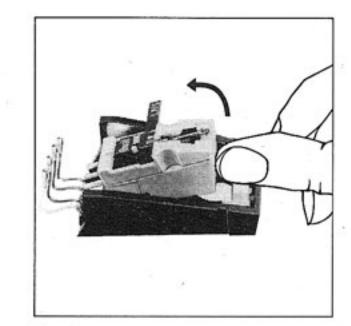


Fig. 3

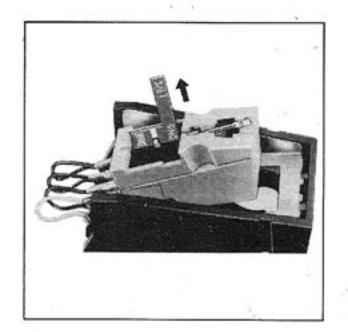


Fig. 4