



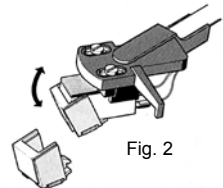
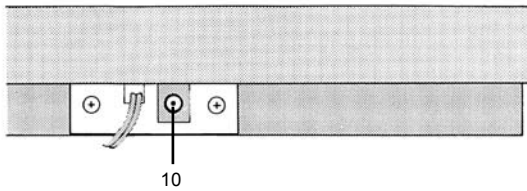
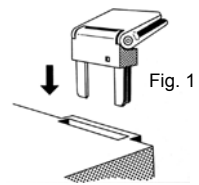
---

**CS 415-2**  
**HiFi**  
**automatic-turntable**

---

Operating Instructions

**WARNING:** To Prevent fire or shock hazard, do not expose this product to rain or moisture



# Installation

1. Dust cover
2. Hinge
3. Cueing lift lever
4. Speed Selector
5. tonearm support with tonearm lock
6. Automatic start - stop switch
7. Stylus
8. Audio Cinch Plugs
9. Earth Wire
10. Connection socket for mains set at 12 V / D.C

## Preliminary operations

Unpack the unit and all the accessories. Please keep the packaging for future use when transporting the device.

- Insert the hinges **2** in the appropriate recesses (fig. 1)
- Slide the cover **1** parallel to the position of the hinges **2** (opening angle approximately 60°) until it locks in position. In this position, the cover can be removed any time.

## Supply of the mains set (Australia only)

The delivered mains set will be connected to the socket **10**. The mains set, corresponding to the voltage indicated on the nameplate has to be plugged in to the power-supply plug (230 V / 50Hz).

## Connection to phono stage, amplifier or receiver

- Connect the audio cables **8** to the phono-magnetic inputs of the phonostage, amplifier or receiver (red RCA-type plug = right channel, white RCA-type plug = left channel).
- Connect earth wire **9** to the earth connector of you amplifier.

## Automatic start, speed selection

- The record diameter for the automatic start is also pre-selected when the record speed 33.33 or 45 rpm **4** is selected.
- Remove the stylus guard by pulling it forwards and disengage the tonearm set switch **6** to **Start**
- The tonearm is lowered automatically onto the record.

## Manual start, cue control

- Select the required platter speed, 33.33 or 45 rpm, by means of the switch **4**, swivel the stylus protection cap upwards, set the cueing lever **3** to position ▼
- Now position the tonearm over the lead-in groove of the record. The tonearm is now lowered slowly onto the record using the cueing lever **3**. The tonearm is lowered slowly, thus preventing damage to your records.
- The tonearm can be raised at any position, also for brief interruptions when playing, by means of the cue control lever (cueing lever in position ▼). The platter continues to rotate in this case.

## Stop

- At the end of record, the tonearm is automatically repositioned back on the tonearm post and unit is switched off.
- You can also switch off the turntable by setting the cueing lever **3** to position ▼ and repositioning the tonearm on the tonearm post.

## Stylus DN 251 S

The stylus is subject to natural wear and tear during normal playing. Therefore, we recommend you occasionally check the stylus and, in the case of the diamond styli, this should be carried out after approximately 300 hours playing hours. Worn or damaged (splintered) styli chisel the modulation from the grooves and destroy records. Therefore, only use the stylus types recommended in the technical data of the cartridge as replacement cartridges. Imitated styli result in audible quality losses and increased wear and tear of records.

Pull of the stylus slanting downwards, Insert the stylus in the reverse mode (fig. 2)

<b>Technical data</b> Measured values = typical values	
<b>Model</b>	DUAL CS 415-2
<b>Belt drive</b> Electronic-controlled DC motor	DUAL
<b>Mains voltage</b> (mains set)	230V / 50 Hz oder
<b>Line frequency</b>	50 Hz / 60 Hz
<b>Power requirement</b>	1.5 W
<b>Platter speeds</b>	33.33, 45 U/min
<b>Wow and flutter</b> (DIN)	± 0.12
<b>Platter</b>	304 mm Ø
<b>Tonearm</b>	Distortion-free aluminium tubular tonearm
<b>Signal to noise ratio</b> (DIN 45 500) Rumble unweighted signal to noise ratio Rumble weighted signal to noise ratio	40 dB 62 dB
<b>Effective tonearm length</b>	211 mm
<b>Offset angle</b>	26°
<b>Overhang</b>	19.5 mm
<b>Tangential tracking error</b>	0.15°/cm Rad.
<b>Cartridge</b> HiFi DIN 45 500 Red R Right channel Green RG Right channel ground Blue LG Left channel ground White L Left channel	DUAL DMS 251 S
<b>Diamond Stylus</b> Conical	DUAL DN 251S 15 µm O
<b>Tracking force</b>	20 mN
<b>Frequency range</b>	20 Hz - 18000 Hz
<b>Output</b>	4 mV/5 cms <sup>-1</sup> /1kHz
<b>Compliance</b> Horizontal Vertical	16 µm/mN 18 µm/mN
<b>Cartridge weight</b>	5 g
<b>Total capacitance</b> Tonearm leads and audio cables	ca. 160 pF
<b>Dimensions (W x H x D)</b>	440 x 110 x 360 mm

# NOTES