

CDP-M95

SERVICE MANUAL

*AEP Model
UK Model
E Model*



SPECIFICATIONS

Compact disc player

System	Compact disc digital audio system
Disc	Compact disc
Laser	Semiconductor laser ($\lambda = 780 \text{ nm}$)
Laser output	Less than $44.6 \mu\text{W}^*$ <small>* This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up Block.</small>
Spindle speed	200 rpm to 500 rpm (CLV)
Scan velocity	1.2—1.4 m/sec.
Error correction	Sony Super Strategy Cross Interleave Reed Solomon Code
Number of channel	Two
D/A conversion	16-bit linear
Frequency response	2—20,000 Hz $\pm 0.5 \text{ dB}$
Signal to noise ratio	More than 104 dB
Dynamic range	More than 95 dB
Harmonic distortion	Less than 0.003% (1 kHz)
Channel separation	More than 95 dB (1 kHz)
Wow and flutter	Below measurable limit
Output jacks	

LINE OUT (phono jacks)	Output level 2 V (at 50 kilohms) Load impedance over 10 kilohms
DIGITAL OUT (COAXIAL) (phono jacks)	Output level 0.5 Vp-p (at 75 ohms) Load impedance 75 ohms
DIGITAL OUT (OPTICAL) (optical output connector)	Wave length 660 nm Output level -18 dBm
HEADPHONES (stereo phone jack)	Output level max. 15 mW Load impedance 32 ohms

General

Power requirements

AEP model:
220 V AC (240 V AC adjustable by Sony personnel), 50/60 Hz
UK model:
240 V AC, 50/60 Hz
E model:
110 120 V or 220 240 V AC adjustable,
50/60 Hz

Power consumption

11 W

Dimensions Approx. 355 \times 95 \times 310 mm (w/h/d)
(14 \times 3 $\frac{3}{4}$ \times 12 $\frac{1}{2}$ inches)

Weight Approx. 4 kg (8 lb 14 oz), net

Supplied accessories

Remote commander (1)
Audio signal connecting cord (1)
Sony New Super batteries Sony SUM-3 (NS) (2)

Remote commander (RM-D600)

Remote control system

Infrared control

Power requirements

3V DC with two R6 (size AA) batteries

Dimensions Approx. 65 \times 20 \times 170 mm (w/h/d)
(2 $\frac{1}{2}$ \times 1 $\frac{1}{16}$ \times 6 $\frac{3}{4}$ inches)

Weight Approx. 135 g (5 oz) incl. batteries

Design and specifications subject to change without notice.



Disc	
Track pitch	1.6 μm
Sampling frequency	44.1 kHz
Quantization	16 bit linear quantizing/channel
Modulation system	EFM
Transfer rate	2.03 Mbit/sec. (before modulation)

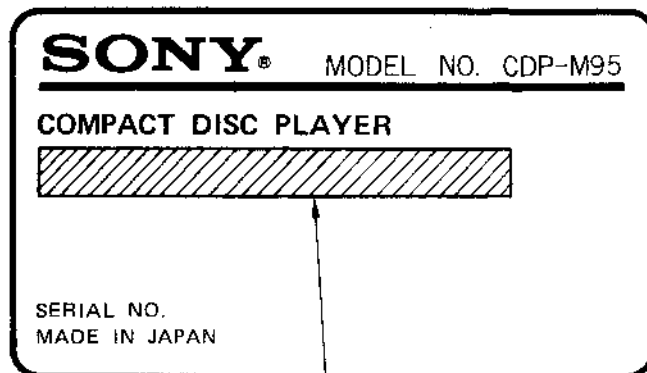
COMPACT DISC PLAYER
SONY®

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MODEL IDENTIFICATION

— Specification Labels —



AEP model: AC: 220 V ~ 50/60 Hz
 UK model: AC: 240 V ~ 50/60 Hz
 E model: AC: 110, 120, 220, 240 V ~ 50/60 Hz

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  OR DOTTED LINE WITH MARK  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SERVICING NOTES

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs a laser. Therefore, be sure to follow carefully the instructions below when servicing.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

1. Laser Diode Properties

- Material: GaAlAs
- Wavelength: 780 nm
- Emission Duration: continuous
- Laser Output: max. 44.6 μ W*

* This output is the value measured at a distance of about 200 mm from the objective lens surface on the Optical Pick-up Block.

2. During service, do not take the Optical Pick-up Block apart, and do not adjust the APC circuit. If there is a breakdown in the APC circuit (including laser diode), replace the entire Optical Pick-up Block (including APC board).

BESKYTTELSE AF ØJNE MOD LASERSTRÅLING UNDER SERVICE

I dette apparat anvendes laserlys. Derfor skal nedenstående instruktioner nøje følges under service.

Følg iøvrigt instruktionerne i servicemanualen.

ADVARSEL!!

Under service må øjnene ikke komme nær objektiv-linsen på den optiske pick-up enhed. I tilfælde af at det er nødvendigt at kontrollere udsendelsen af laserlys, skal det ske i en afstand af mere end 25 cm fra den optiske pick-up.

1. Laser-diode data

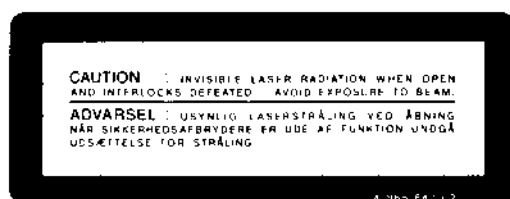
- Materiale: GaAlAs
- Bølgelængde: 780 nm
- Udstråling: Kontinuerlig
- Laseroutput: Max. 0,4 mW*
- * Målt i 1,6 mm afstand fra overfladen af objektiv-linsen på den optiske pick-up enhed.
- Klassifikation: Klasse IIIb.

2. Adskil aldrig den optiske pick-up enhed under service, og juster ikke APC kredsløbet (Automatic Power Control). Hvis APC kredsløbet (incl. laser-dioden) bryder ned, skal hele den optiske pick-up enhed (incl. APC printkortet) udskiftes.

LASER ADVARSEL MÆRKNING

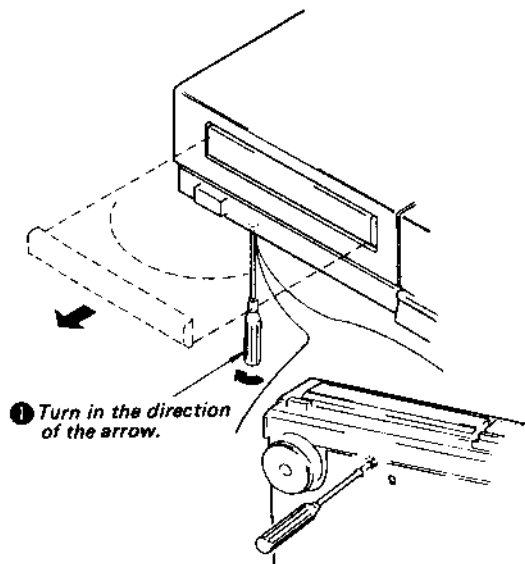
Følgende mærkning findes indvendig i apparatet:

1. Advarsel Mærkning



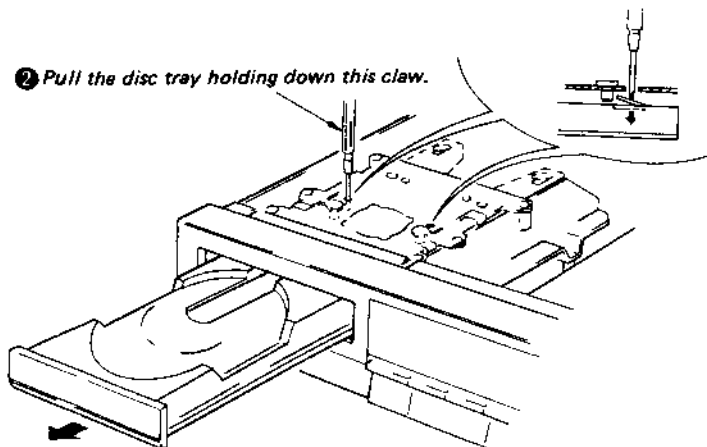
VAROITUS: Laite sisältää, laserdiodin, joka lähettää (näkyvätöntä) silmille vaarallista lasersäteilyä.

HOW TO OPEN THE DISC TRAY WHEN POWER SWITCH TURNS OFF



Caution: When you work, keep the set horizontal.

DISC TRAY REMOVAL



NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

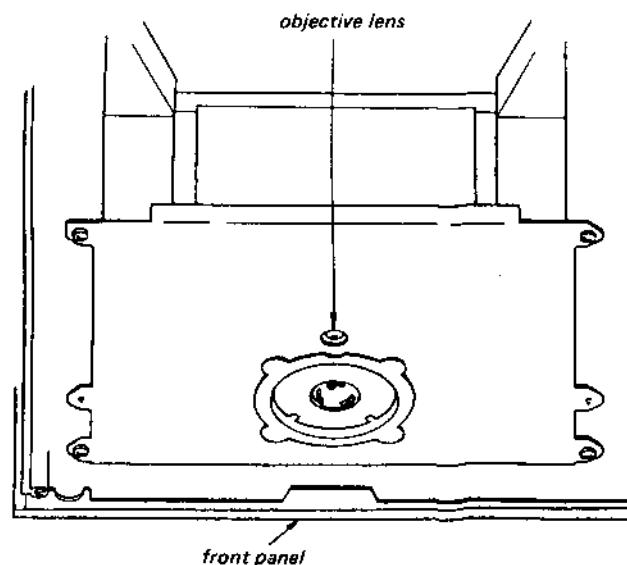
The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body. During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts. The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

LASER DIODE AND FOCUS SEARCH OPERATION CHECK

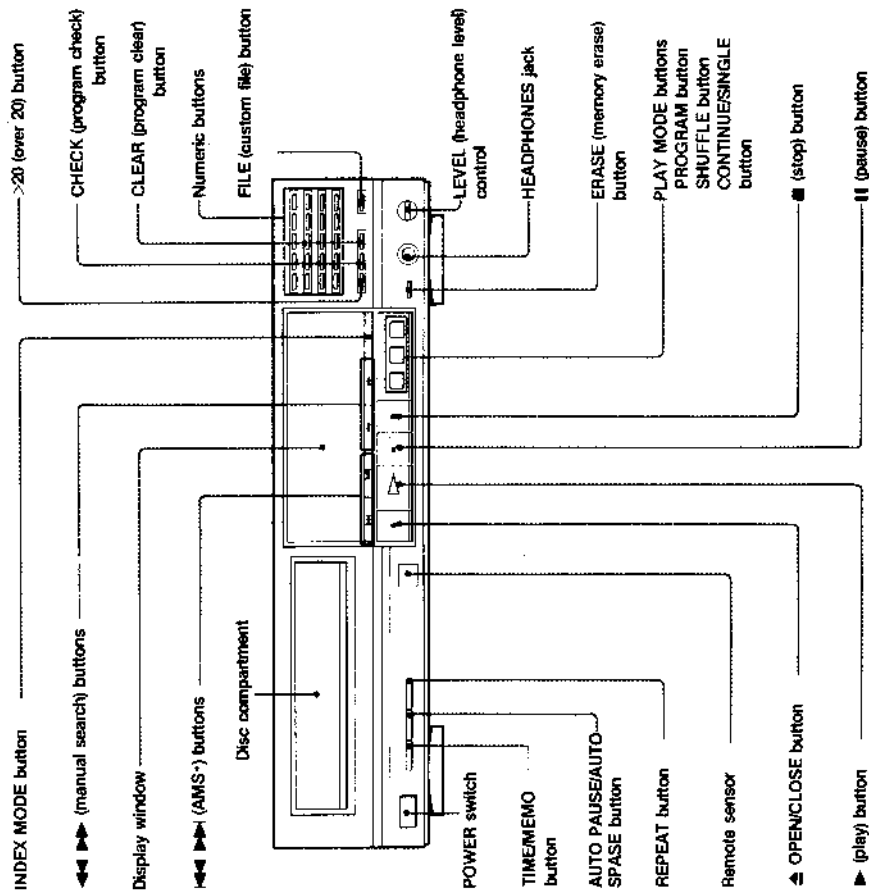
1. Make POWER switch on with no disc inserted and disc table closed.
2. Confirm that the following operation is performed while observing the objecting lens.



- ① Confirm that laser beam is spread.
- ② Up and down motion of the objective lens. (3 times)

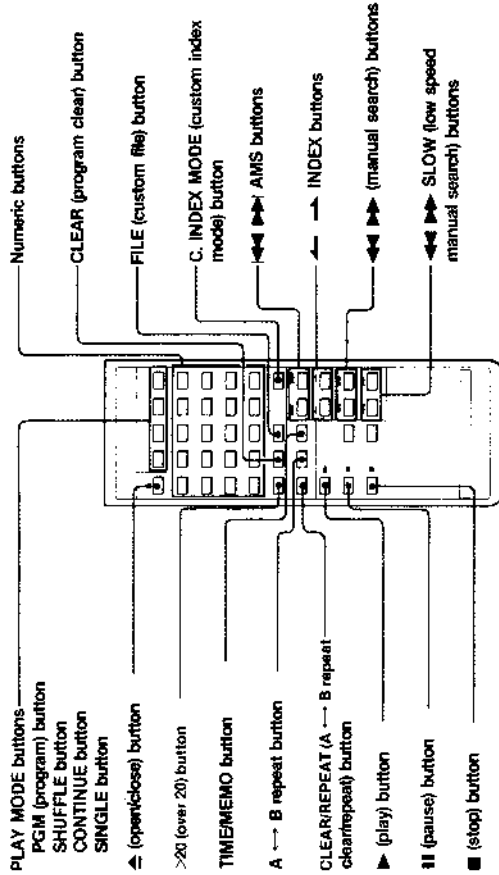
Location of Controls

Front Panel



* AMS is an abbreviation of Automatic Music Sensor.

Remote Commander



Remote Control Operation

Once the POWER switch is turned on, you can remotely control various functions of the player with the supplied remote commander.

Operations which is performed only with the remote commander

- Manual search at low speed
- Index search
- A ↔ B repeat

Operations which cannot be performed with the remote commander

- Turning the power on and off
- Headphones volume control
- Setting and releasing auto pause function
- Setting and releasing auto space function
- Checking the programmed selections
- Writing a comment about a disc (disc memo function)
- Clearing custom indexes
- Clearing all custom files

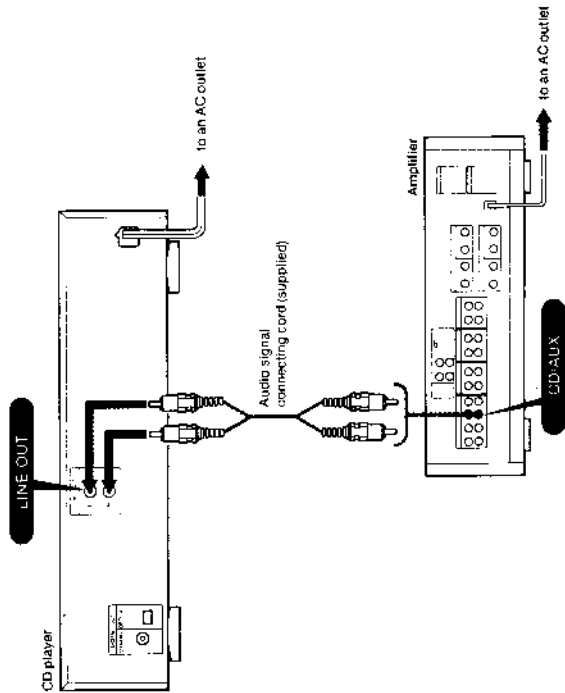
Notes on the remote commander and remote control operation

- Keep the commander away from extremely hot or humid places.
- Avoid dropping any foreign objects into the commander casing, particularly when replacing the batteries.
- To avoid a malfunction, do not simultaneously depress two or more buttons.
- Avoid exposure of the remote sensor to direct sunlight or lighting apparatus. Such exposure can cause a malfunction.

Connections

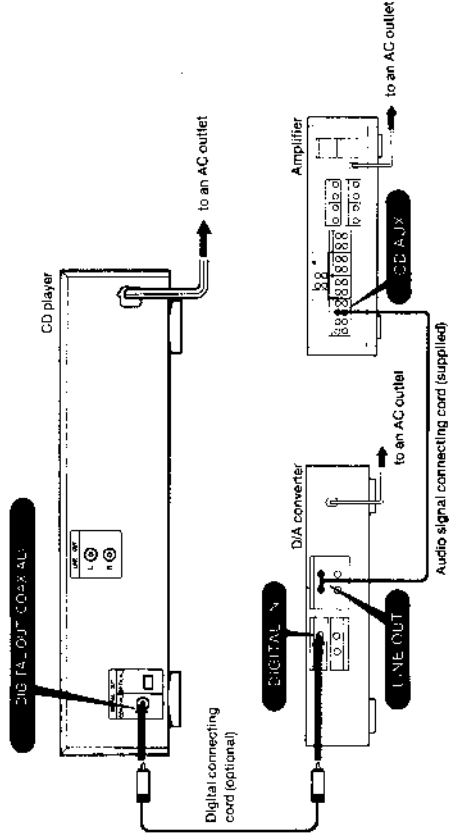
Connection Diagrams

Connecting the amplifier directly



Connecting D/A converter unit and amplifier

Sony DAS-702ES D/A converter unit or other equivalent D/A converter using a digital audio interface can be connected to the DIGITAL OUT jack.



Connecting an amplifier having an optical input connector

