

PHILIPS**Model N2223**

General Description: A mains or battery-operated portable cassette tape recorder with automatic record level control. Sockets are provided for the connection of microphone, tape recorder, or radio, external loudspeaker, and remote control.

Mains Supplies: 110–127, 220–240 V, 50/60 Hz.

Batteries: 9 V (6×1.5 V).

Number of Tracks: 2.

Frequency Range: 80–10,000 Hz within 6 dB.

Loudspeaker: 8 Ω impedance.

Dismantling

Removing the Housing: Remove the cover by loosening the two screws of the carrying strap. The rear housing section can now be separated from the front section.

After loosening three screws the tape deck and P.C. board assembly can be taken out of the housing. The tape deck and the P.C. board assembly are now only connected to the front section by connectors. The microphone lead is still attached to one side of the P.C. board assembly bracket by a tag.

Hinging out the tape deck or P.C. board assembly. Remove the housing. Loosen the three screws; the tape deck can now be hinged out. When the tape deck is hinged back on to the P.C. board assembly check that the centring pin of the P.C. switch SK1 engages the bracket.

Adjustments

Erase Head: In position 'Recording' the voltage across the erase head must be about 16 V measured with a meter of 40 k Ω V. The oscillator frequency is 48–58 kHz.

Bias Current: This current is adjusted with R451 and must produce a voltage of about 35 mV across test resistor R528. This can be measured on point 6 of BU2.

Checking the Speed: The speed must be checked with test cassette 8945 600 13501, on which an 800-Hz signal has been modulated at intervals of 4.76 m. Insert the cassette, and set the recorder to position 'Playback'. The time elapsing between two successive 800-Hz signals must be 95–103 seconds. If the time is < 95 seconds, the speed is too high. If the time is > 103 seconds, the speed is too low. The speed can be adjusted with R454.

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Adjusting the Recording Switch SK₁: In position 'Playback', the projection on the switch coupling piece must be exactly opposite the mark on the P.C. board. The mark is located next to the hole in the P.C. board through which an eccentric pin is accessible and with which the switch can be adjusted.