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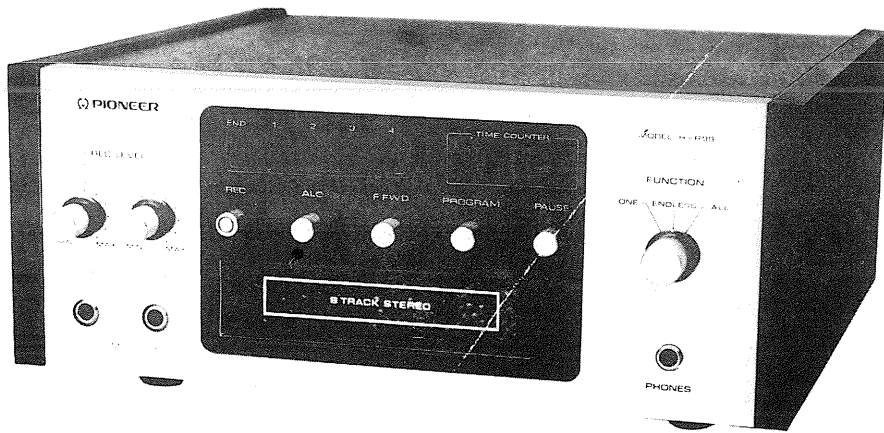
Retail Price \$6.00

#-R99

SERVICE MANUAL

8 TRACK HOME STEREO
RECORDING DECK

H-R99 KCU



PIONEER®

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1. SPECIFICATIONS

SEMI-CONDUCTORS	27 transistors, 19 diodes and 1 thyristor
POWER SOURCE	AC 120V, 50/60Hz
POWER CONSUMPTION	Less than 20W
TAPE SPEED	9.5cm/sec (3-3/4 in./sec)
WOW AND FLUTTER	Less than 0.15% (WRMS)
PROGRAM SELECTION SYSTEM	Automatic and manual selection system
FAST FORWARD TIME	Approx. 2.5 times
FREQUENCY RESPONSE	30 ~ 12,000Hz
TOTAL HARMONIC DISTORTION	Less than 2%
CHANNEL SEPARATION	More than 40dB
CROSSTALK	More than 45dB
SIGNAL TO NOISE RATIO	More than 45dB
OUTPUT IMPEDANCE	Line: Less than 3 k Ω Headphone: 8 Ω
OVER-ALL FREQUENCY RESPONSE	40 ~ 10,000Hz
RECORDING SECTION	
ERASING RATIO	More than 50dB
INPUT LEVEL	200 mV
OUTPUT LEVEL	775 mV
DIMENSIONS (W x H x D)	295 x 116 x 275 mm (11-5/8 x 4-5/8 x 10-7/8 in.)
WEIGHT	5.5 kg (12.1 lbs)

2. PARTS LOCATION

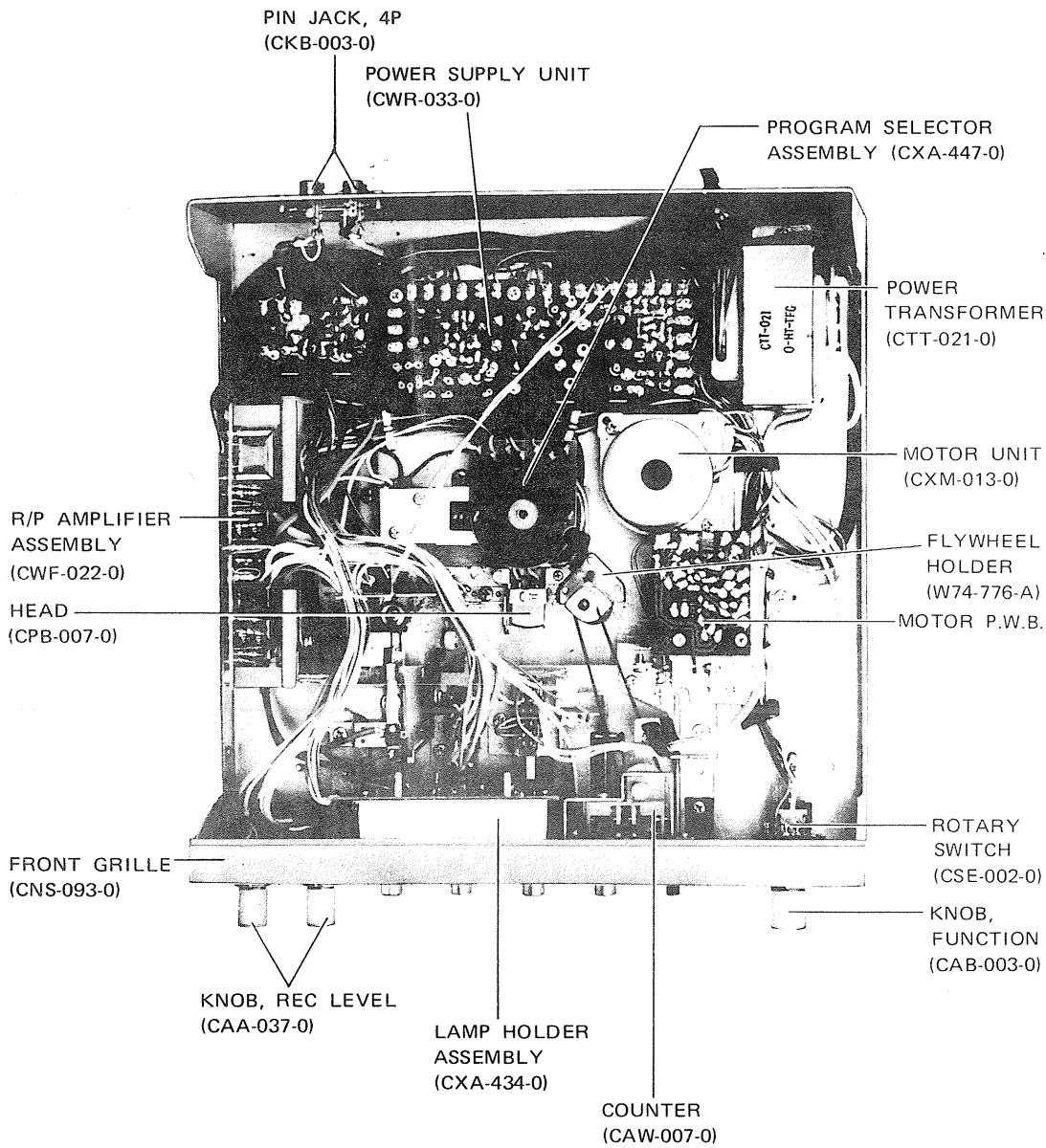


Fig. 1

3. CIRCUIT DESCRIPTION

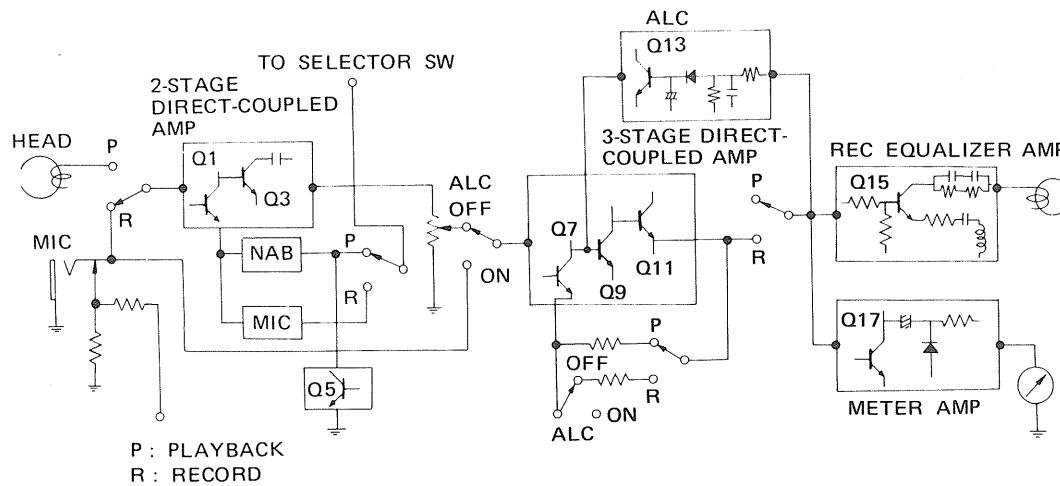


Fig. 2

● R/P Amplifier Section

This unit consists of a 2-stage direct-coupled amplifier, a recording equalizer amplifier, a meter amplifier, ALC circuit, and muting circuit.

Q1, Q3 2-stage direct-coupled amplifier becomes NAB equalizer for a TAPE when reproducing. When positive voltage is applied to Q5 muting circuit, the output of amplifier is muted to approx. 20dB at the time of reproducing. It acts as 20dB MIC amplifier at the time of recording.

Q7, Q9, Q11 3-stage direct-coupled amplifier becomes flat amplifier of approx. 20dB by NF (Negative Feedback) when reproducing a TAPE; it becomes flat amplifier of approx. 40dB when recording.

When ALC (Automatic Level Control) switch is ON, ALC circuit is activated, thus changing flat amplifier of 40dB into ALC amplifier with the

gain of more than 60dB.

When ALC switch is OFF, the level of a signal from 2-stage MIC amplifier is controlled by VOL 1, and the signal enters 3-stage 40dB amplifier; when ALC switch is ON, the signal enters 3-stage ALC amplifier directly from MIC JACK without passing through MIC amplifier, and the level of the signal is automatically controlled.

Only when recording, a signal enters Q15 recording equalizer amplifier and Q17 meter amplifier.

● Oscillating Section

This unit, which is an oscillator transformer or Q5, Q6 push-pull oscillator, generates approx. 60kHz oscillations. The unit controls bias (erase) current by VR1. R23 (100Ω) checks bias current.

4. DISASSEMBLY

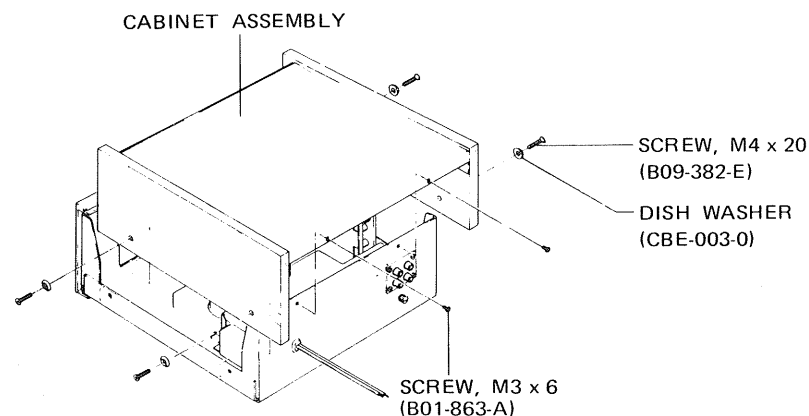


Fig. 3

5. ADJUSTMENT

5.1 HEAD ADJUSTMENT

● Hook-up Diagram

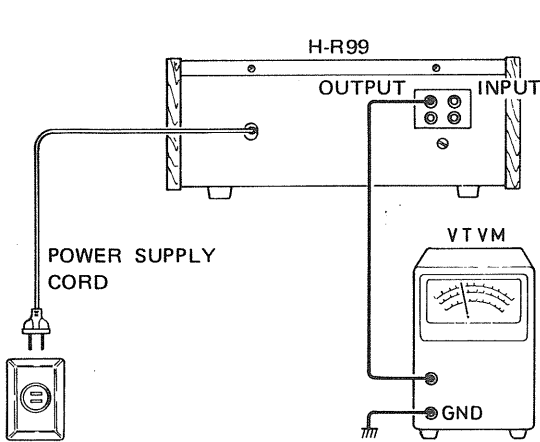


Fig. 4

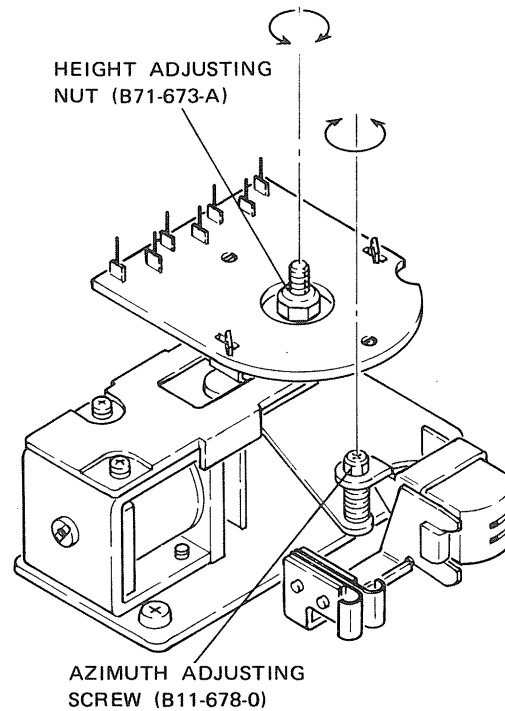


Fig. 5

● Test Tape

Item \ Test tape	PST-4.2	P-328
Recording Track	Full tracks	1, 3, 5, 7
Frequency	8 kHz	400 Hz
Level	-13 dB	0 dB
Application	Azimuth	Crosstalk

● Azimuth Adjustment

1. Hook up according to Fig. 4.
2. Insert test tape PST-4.2 and change over program to "3". Adjust by turning azimuth adjusting screw so that the VTVM indicates maximum reading.
After completion of adjustment, fasten the adjusting screw by using screwlock adhesive.

● Cross-Talk Adjustment

1. Hook up according to Fig. 4.
2. Insert test tape P-328 and set program to "2" and adjust by turning height adjusting nut so that the VTVM indicates minimum reading.
3. Change over program "3" and confirm that the VTVM indicates maximum reading. If maximum output is not obtained, repeat steps from 2 to 3.

