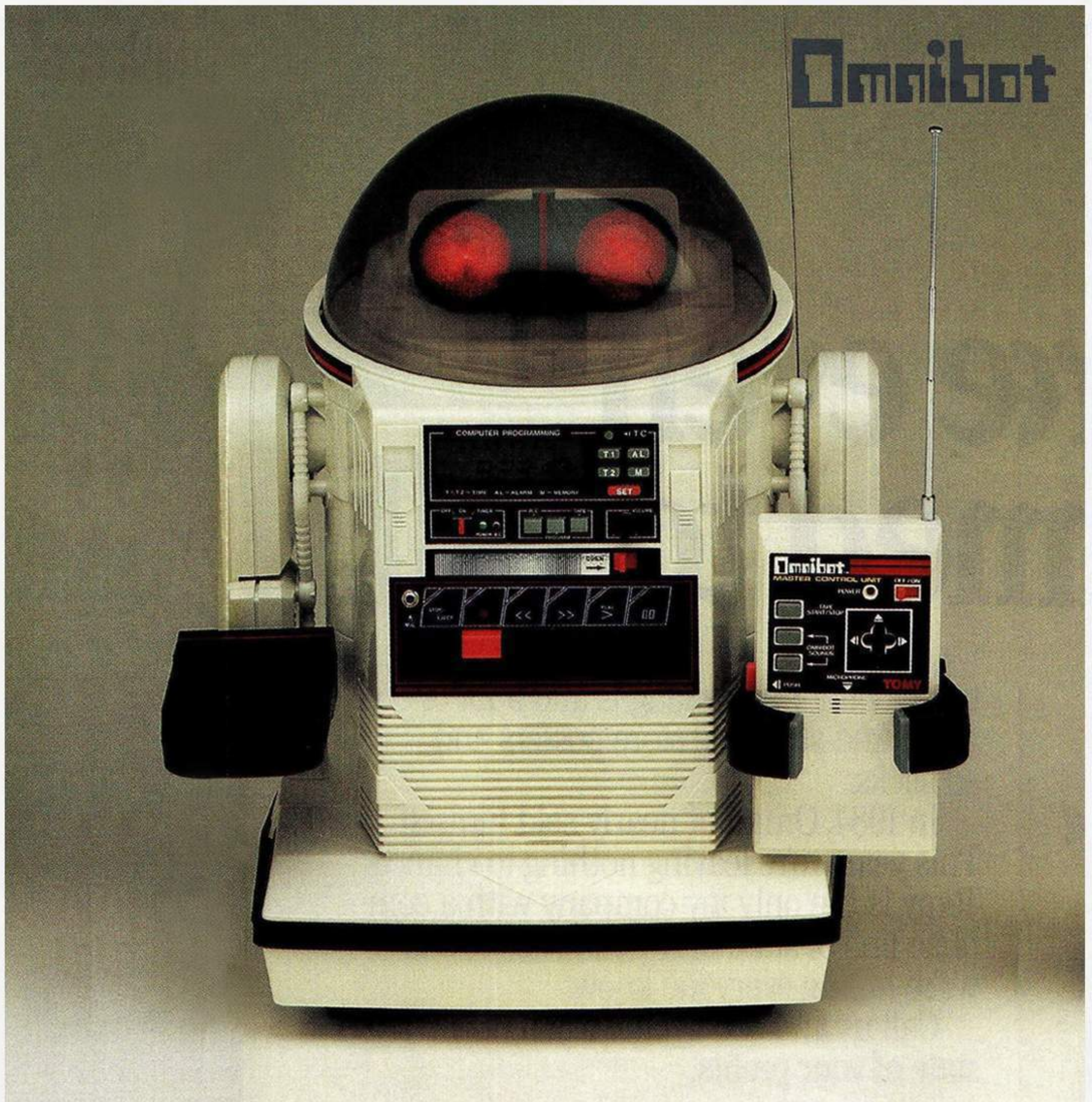


TOMY®

Service Manual



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TECHNICAL SPECIFICATIONS

1. CASSETTE RECORDER

Type: 2 track monaural
 Tape Selection: normal bias only
 Tape Speed: $\pm 0.3\%$
 Wow & Flutter: within 0.3%

2. ALARM CLOCK

Display: liquid crystal display
 Accuracy: ± 3 sec/day
 Power Supply: 1.5V alkaline size UM-3, 2 required
 Battery Life: 5,000 hours typical

3. BATTERY CHARGER

Type: plug-in AC adapter with 6-foot-cord and coaxial "barrel type" connector, (negative center pole)
 Output: 6.4VDC, 400 mA

4. RECHARGEABLE BATTERY

Type: sealed lead acid
 Output Rating: 6V, 4.0Ah
 Physical Size: 2 $\frac{3}{4}$ "L \times 1 $\frac{3}{4}$ "W \times 4"H
 Terminals/Connectors: lead wires with coaxial "barrel type" connector (negative center pole)

5. GENERAL

Battery Life: 4 hours continuous at 5.5Volts (normal)
 Battery Indicator: red light indicates when discharged to 5.7 Volts
 Operating Temperatures: 5°C~40°C(41°F~104°F)

6. ACCESSORIES

Detachable Tray (included): 1 kg maximum weight allowance
 External Auxiliary Microphone: Dynamic Microphone, 1/8" mini-plug, 300~600 OHM impedance (not included)

7. OPERATING FREQUENCY: 49.860 MHz

OMNIBOT CHANGE PARTS

INDIVIDUAL CHANGE PARTS

No.	PARTS
1	Fuse
2	Windshield
3	Battery
4	Robot Antenna
5	Battery Cover (with Truss Screw)
6	Arm Links (Large) and (Small)
7	Arm O-Ring
8	Speaker
9	Sounducer
10	Battery Recharger
11	Base Board
12	Tray
13	Transmitter Antenna
14	Battery Cover

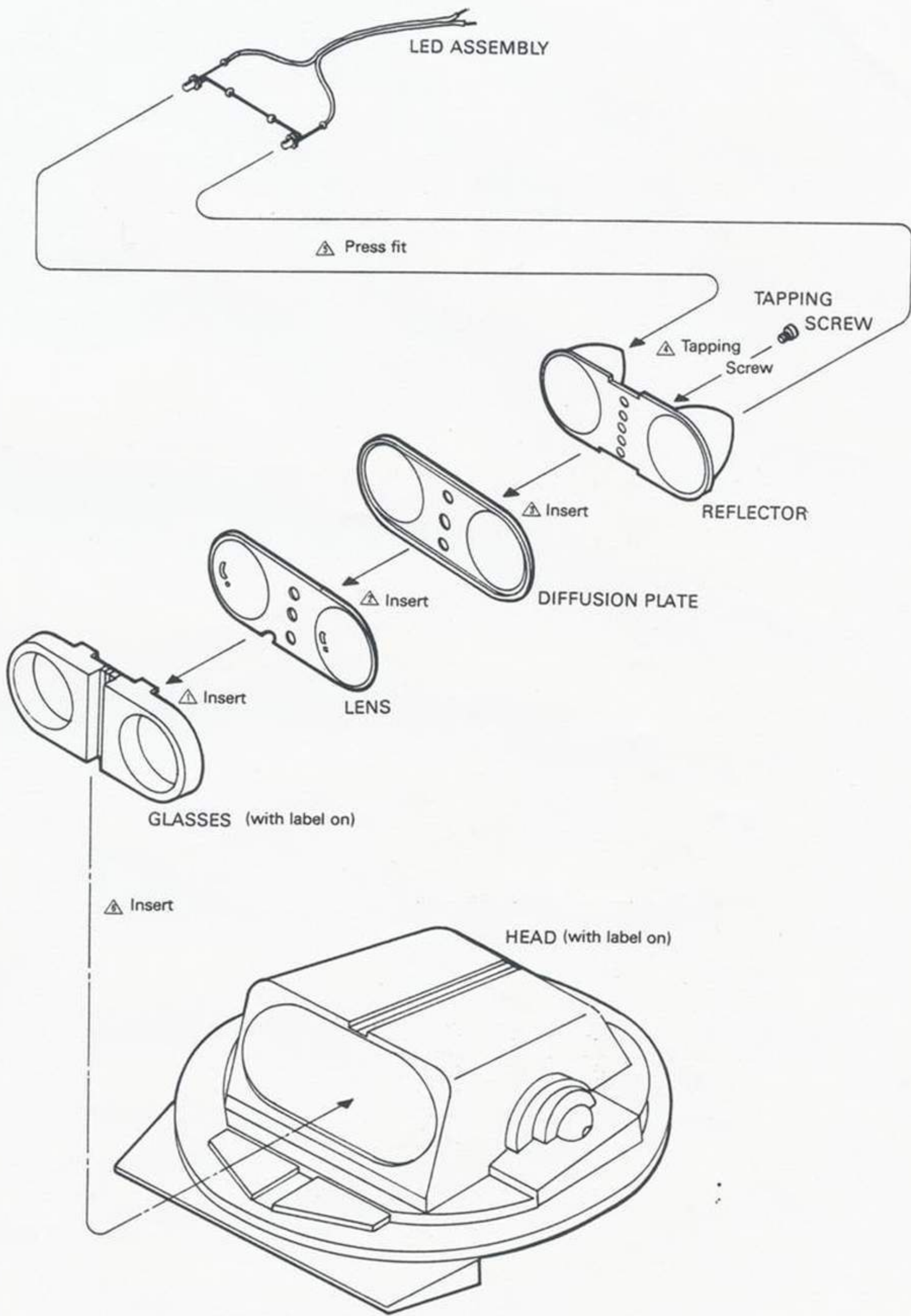
ASSEMBLY CHANGE PARTS

No.	ASSEMBLY PARTS
1	Head Assembly
2	Right Arm Assembly
3	Left Arm Assembly
4	Clock Assembly
5	Cassette Assembly (including the main board)
6	Base Assembly (including the gear box)
7	Transmitter Assembly

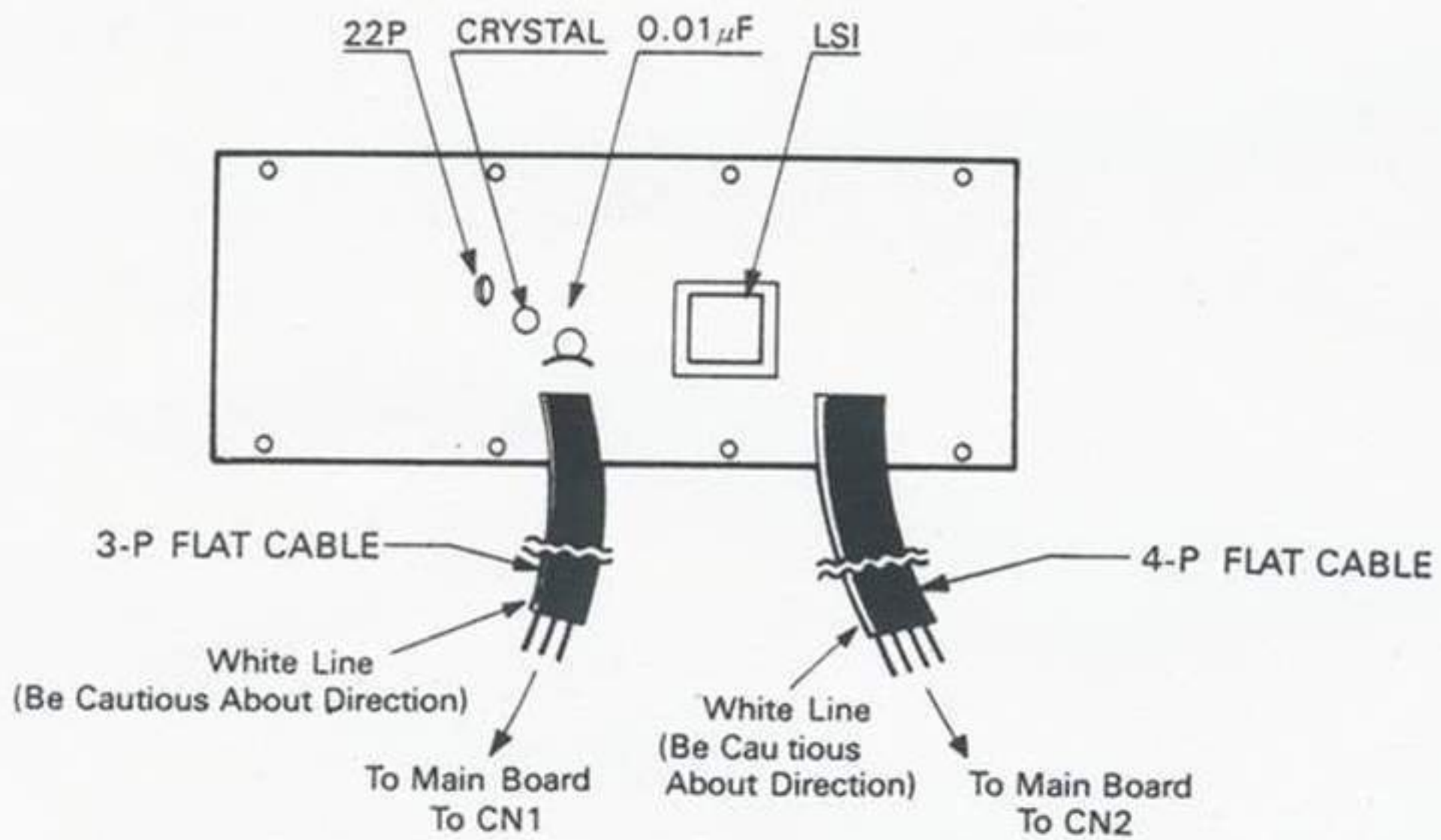
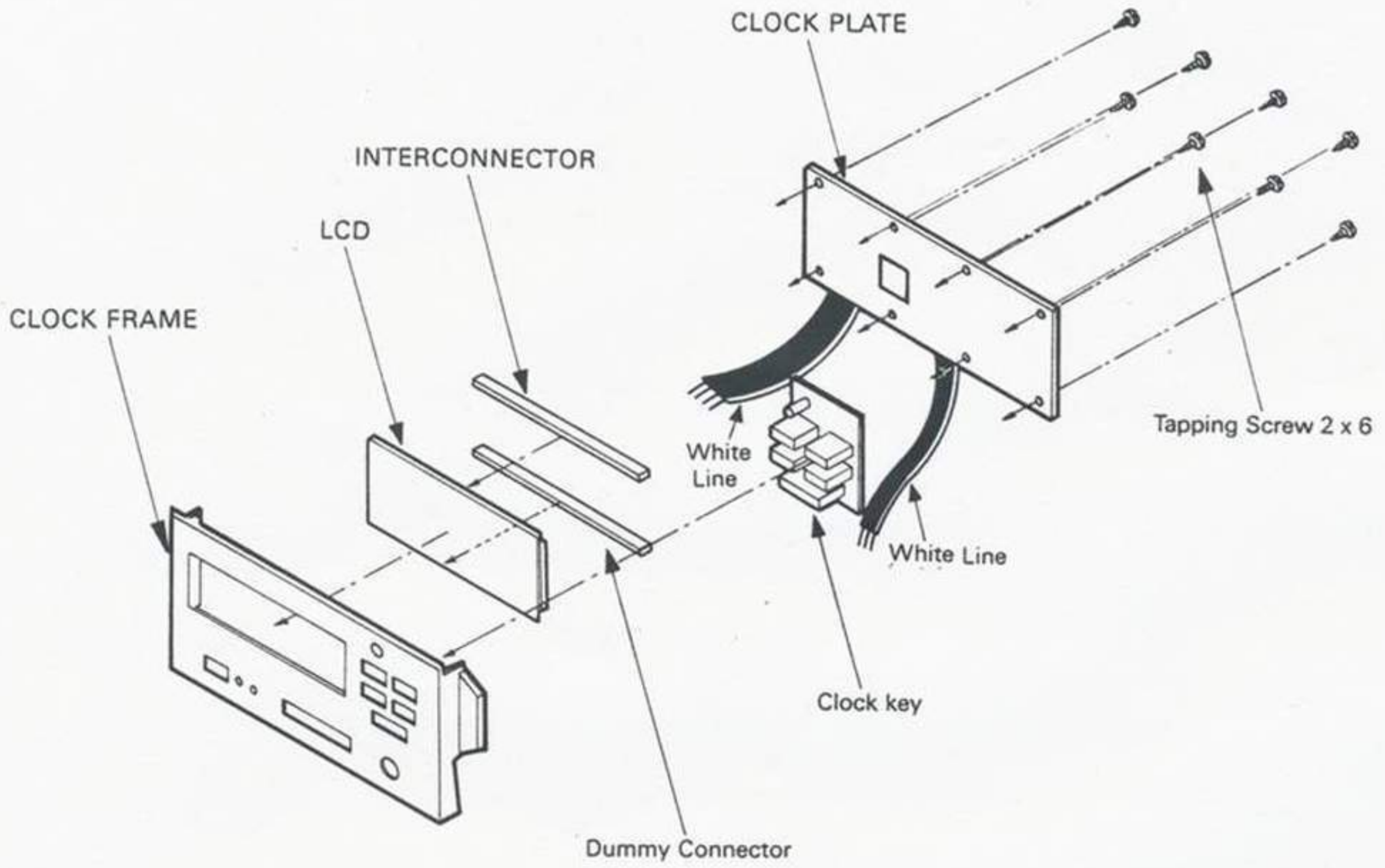
TROUBLE-SHOOTING

SYMPTOM	CAUSE	REPAIR
CLOCK PART <ul style="list-style-type: none"> ◦ Does not function. 		<ul style="list-style-type: none"> ◦ Change clock unit
CASSETTE PART <ul style="list-style-type: none"> ◦ Does not run (curves) ◦ No microphone sound during tracing ◦ No sound when external microphone is used ◦ Tape cannot be recorded or played back ◦ Sound volume adjusting knob cannot be adjusted ◦ Noise ◦ Cassette section unit does not eject externally 	<ul style="list-style-type: none"> ◦ Motor drive (chip) damage ◦ Damaged relay ◦ Shielded wire solder is removed ◦ Damaged semi-fixed resistor (Microphone volume adjusting knob) ◦ Stained head ◦ Head life ◦ Broken recording lever ◦ Damaged RECORD/PLAYBACK switch ◦ Damaged sound volume adjusting knob ◦ ditto ◦ Slipped spring 	<ul style="list-style-type: none"> ◦ Check mechanical part motor ◦ Change main board ◦ Change main board ◦ Resolder ◦ Change semi-fixed resistor (Microphone volume adjusting knob) ◦ Clean head ◦ Change mechanical parts ◦ Change lever ◦ Change amplifier board ◦ Change sound volume adjusting knob ◦ ditto
BASE ASSEMBLY <ul style="list-style-type: none"> ◦ Does not run ◦ Curves ◦ Caster is not smooth 	<ul style="list-style-type: none"> ◦ Damaged motor ◦ Damaged motor ◦ Wear, low oil, dust 	<ul style="list-style-type: none"> ◦ Change gear box ◦ Change gear box ◦ Supply oil, clean or change base caster.
TRANSMITTER ASSEMBLY <ul style="list-style-type: none"> ◦ Wireless microphone is not functioning ◦ Power cannot be fed ◦ LED is not lit ◦ Cannot be operated 	<ul style="list-style-type: none"> ◦ Damaged talk switch ◦ Damaged main switch ◦ Damaged LED ◦ Damaged joy stick 	<ul style="list-style-type: none"> ◦ Change transmitter set ◦ ditto ◦ ditto ◦ ditto
BATTERY CHARGER <ul style="list-style-type: none"> ◦ Cannot be recharged 	<ul style="list-style-type: none"> ◦ Damaged connector ◦ Damaged adaptor ◦ Battery life 	<ul style="list-style-type: none"> ◦ Change battery charger ◦ ditto ◦ Change battery
ARM ASSEMBLY (Right and Left) <ul style="list-style-type: none"> ◦ Article cannot be lifted ◦ Left arm cannot lift article 	<ul style="list-style-type: none"> ◦ Damaged link ◦ Loose tamping ◦ Worn O-ring ◦ Damaged spring 	<ul style="list-style-type: none"> ◦ Change link ◦ Change O-ring ◦ Change left arm

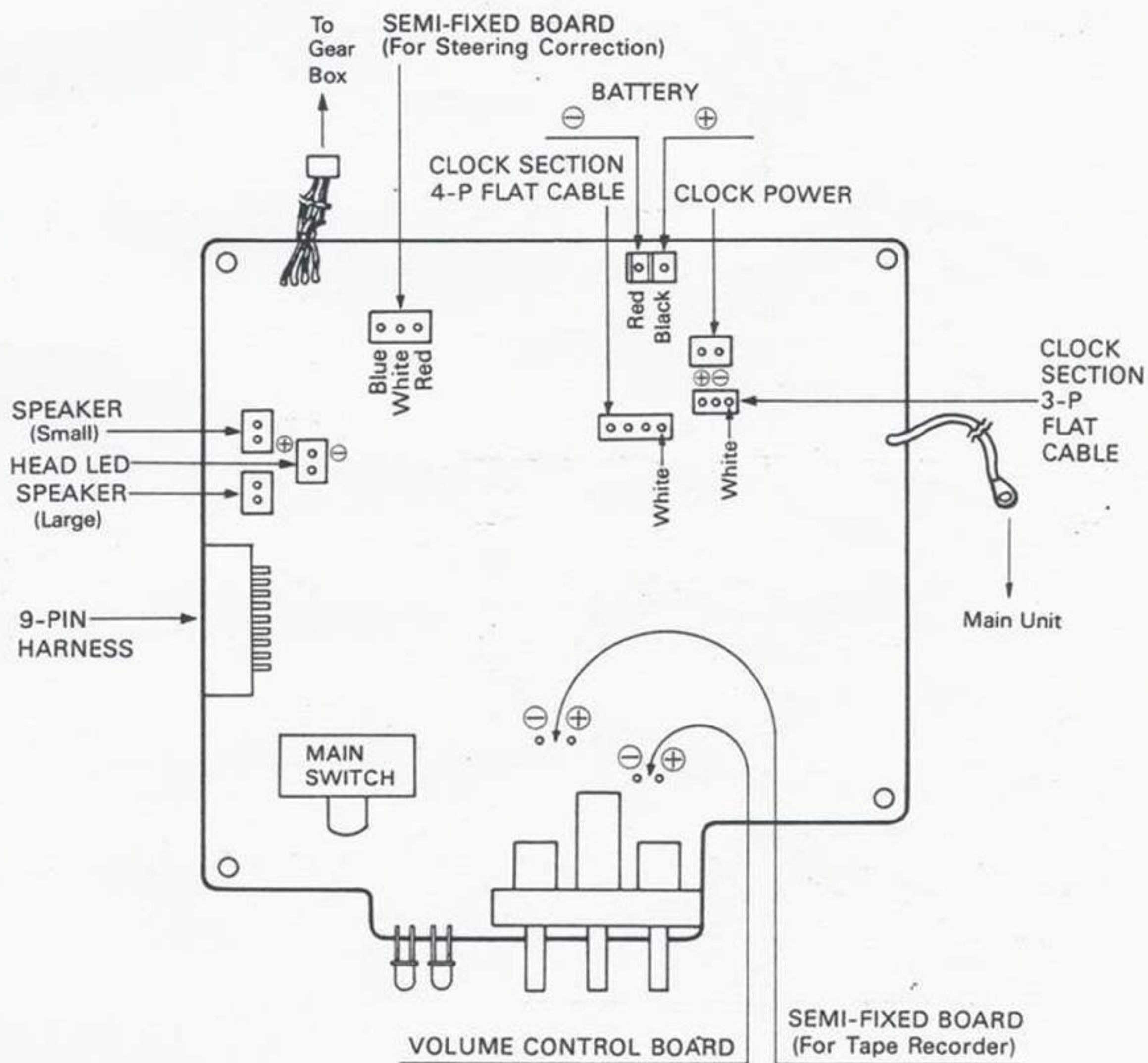
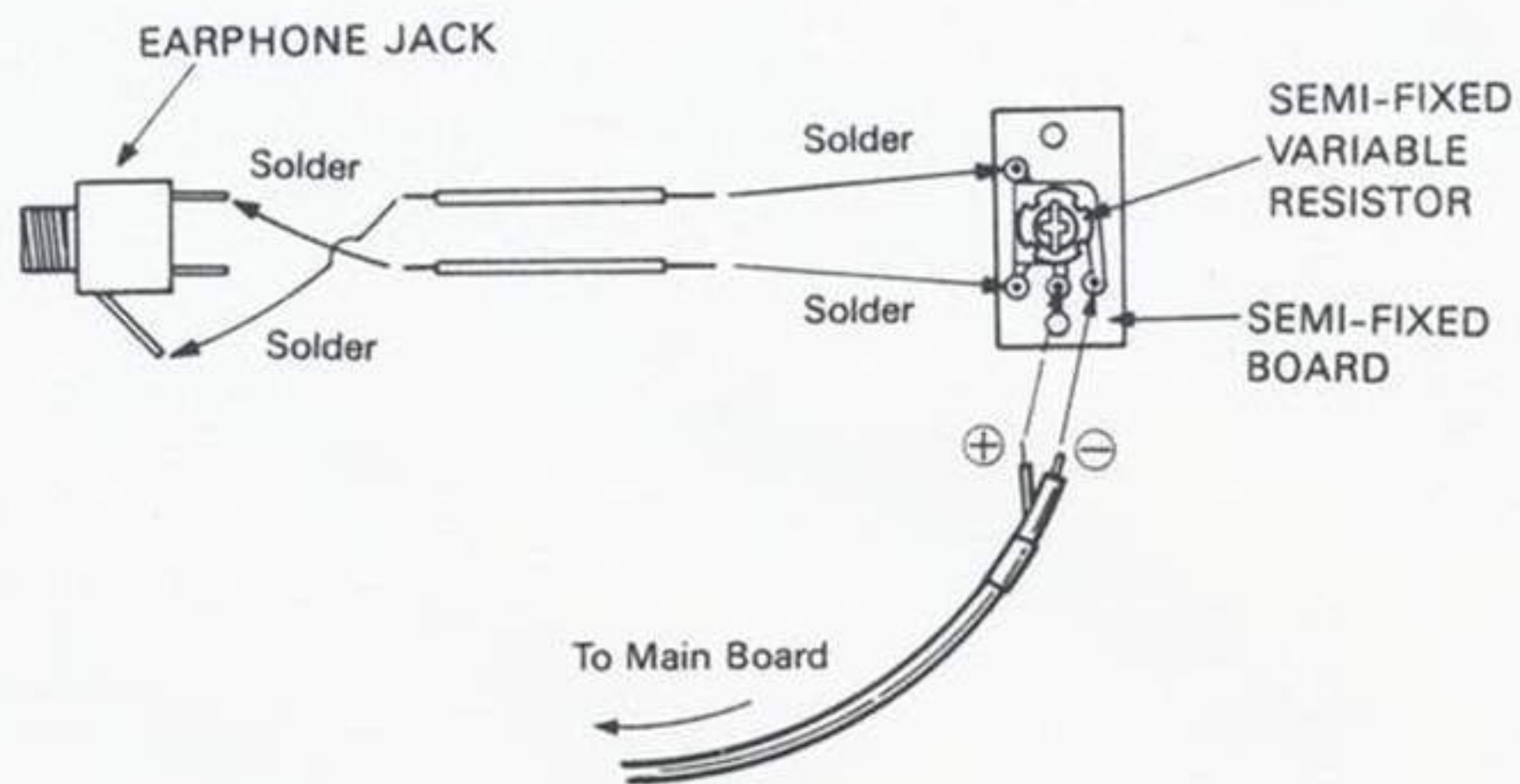
HEAD ASSEMBLY DIAGRAM



CLOCK ASSEMBLY DIAGRAM



SEMI-FIXED BOARD DIAGRAM

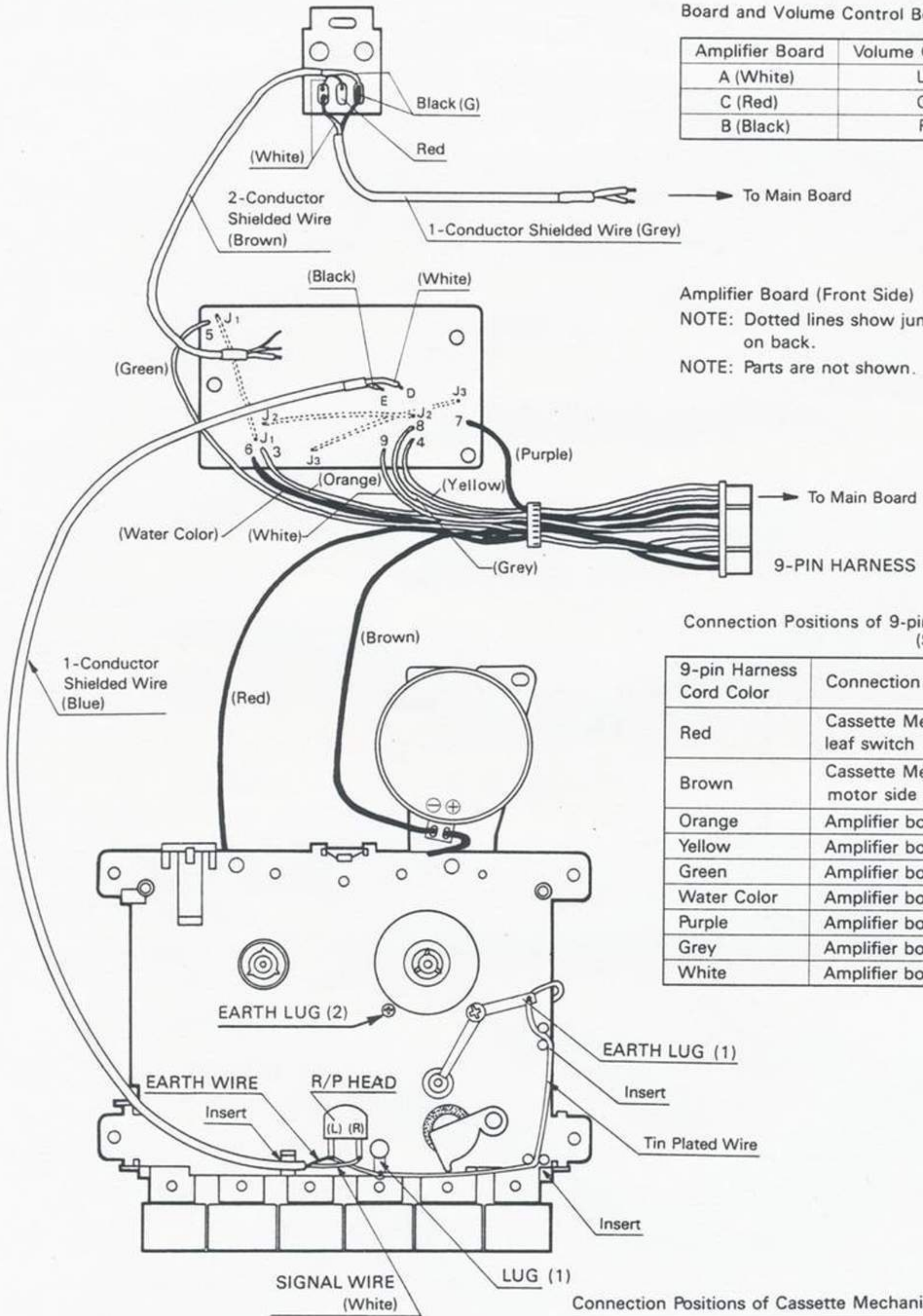


MAIN BOARD DETAIL

SOUND VOLUME ADJUSTING BOARD

Connection Positions between Amplifier Board and Volume Control Board.

Amplifier Board	Volume Control Board
A (White)	Left
C (Red)	Center
B (Black)	Right



Amplifier Board (Front Side)
 NOTE: Dotted lines show jumper wires on back.
 NOTE: Parts are not shown.

Connection Positions of 9-pin Harness (Soldering)

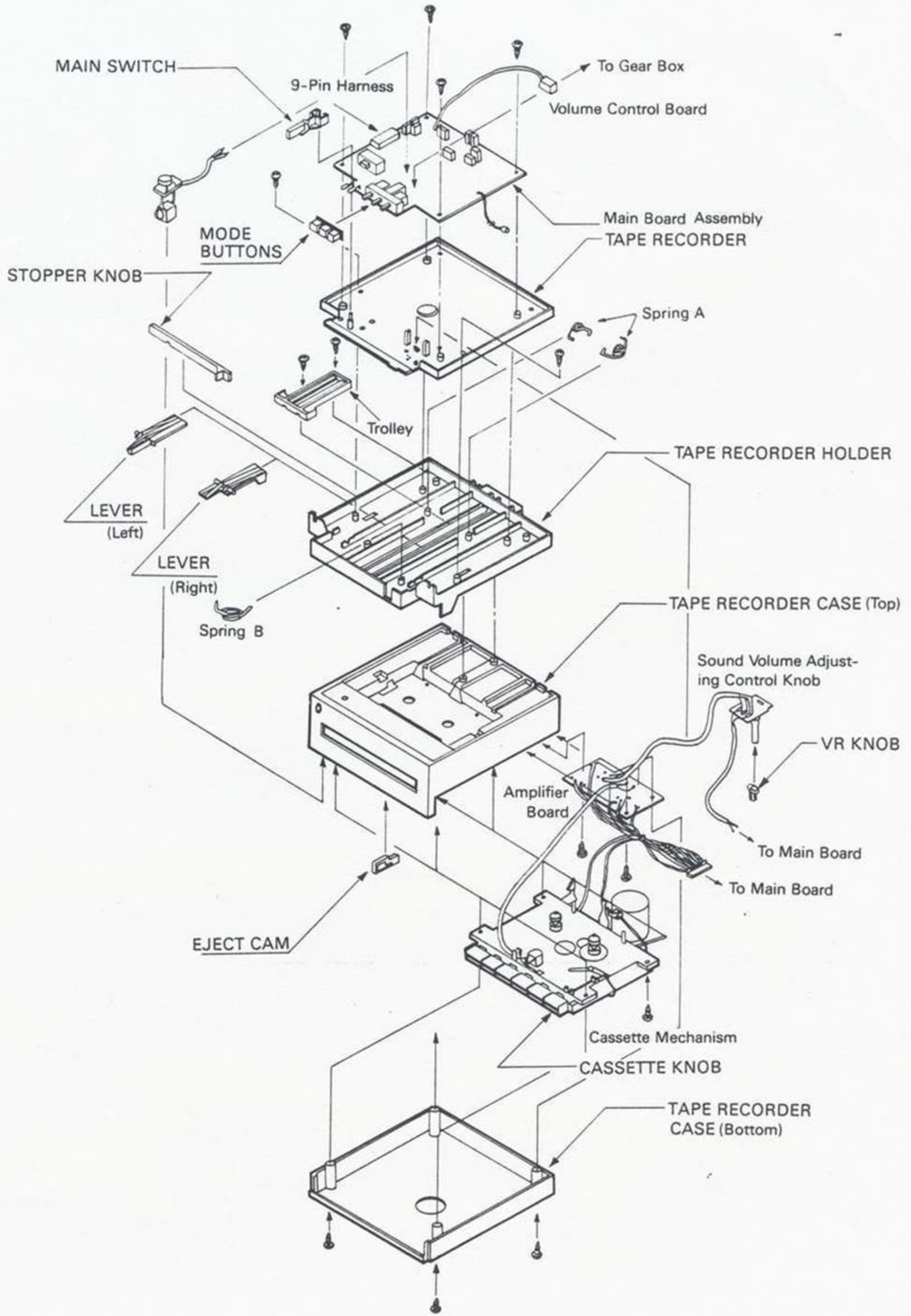
9-pin Harness Cord Color	Connection Position
Red	Cassette Mechanism leaf switch
Brown	Cassette Mechanism motor side
Orange	Amplifier board No. 3
Yellow	Amplifier board No. 4
Green	Amplifier board No. 5
Water Color	Amplifier board No. 6
Purple	Amplifier board No. 7
Grey	Amplifier board No. 8
White	Amplifier board No. 9

CASSETTE MECHANISM (Front Side)

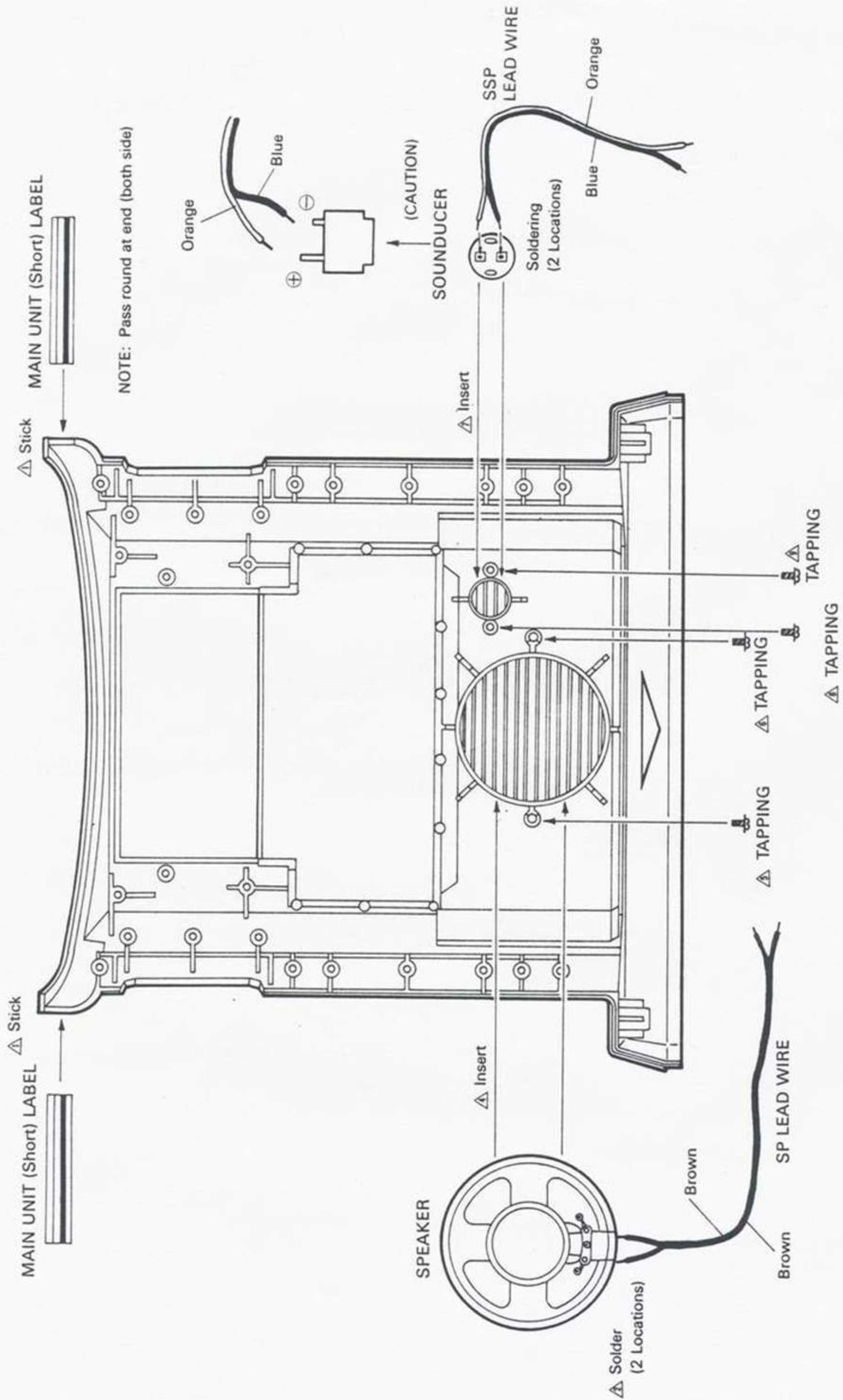
Connection Positions of Cassette Mechanism (Soldering)

R/P Head (L)	Lug (1)	Connect using one tin plated wire
Lug (1)	Earth lug (1)	
Earth lug (1)	Earth lug (2)	Cord color (Red)
Leaf switch (L)	Motor ⊕ side	
R/P Head (L)	Amplifier board D	1-conductor shield wire (Blue)
R/P Head (R)	Amplifier board E	

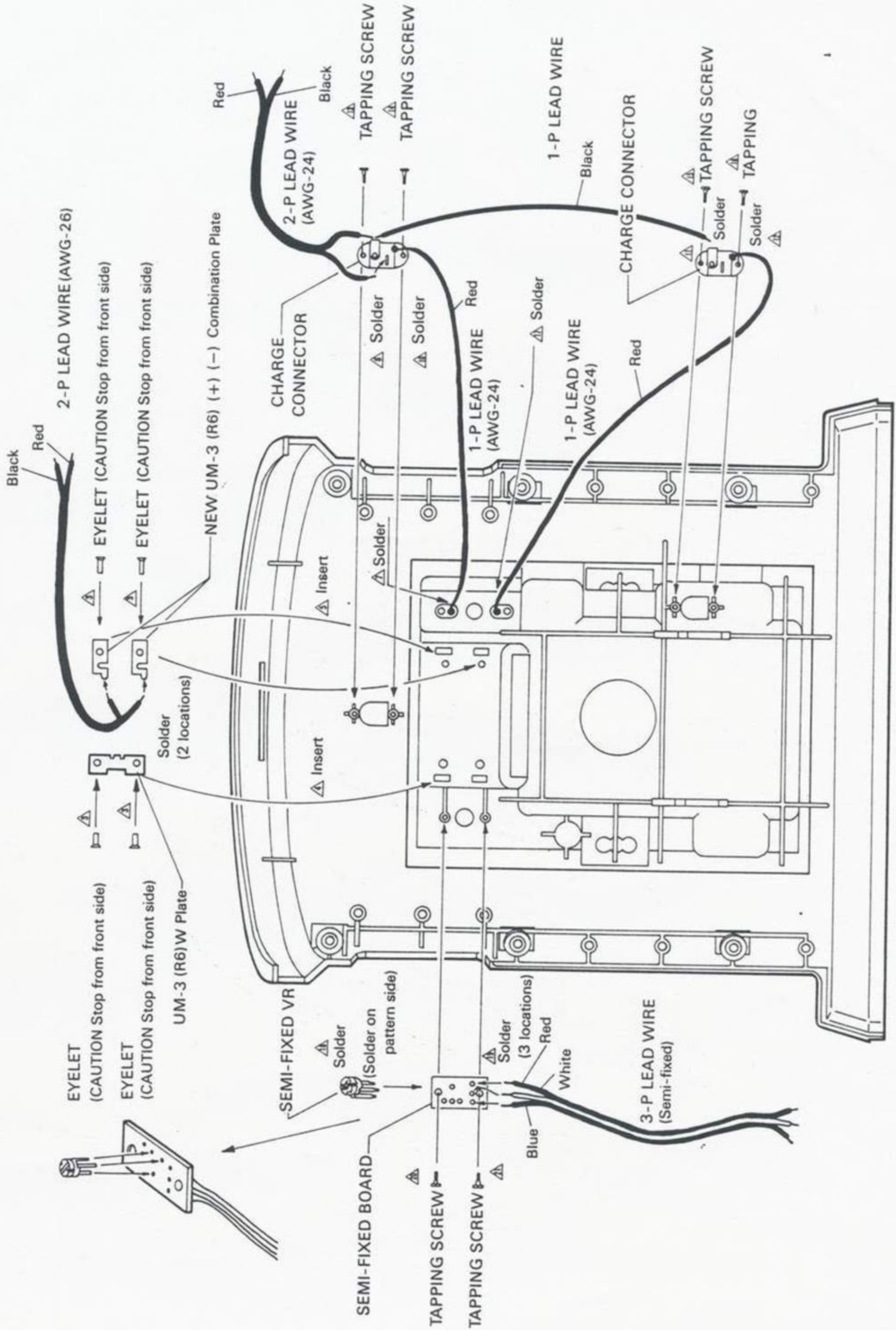
MAIN BOARD AND RECORDER ASSEMBLY DIAGRAM



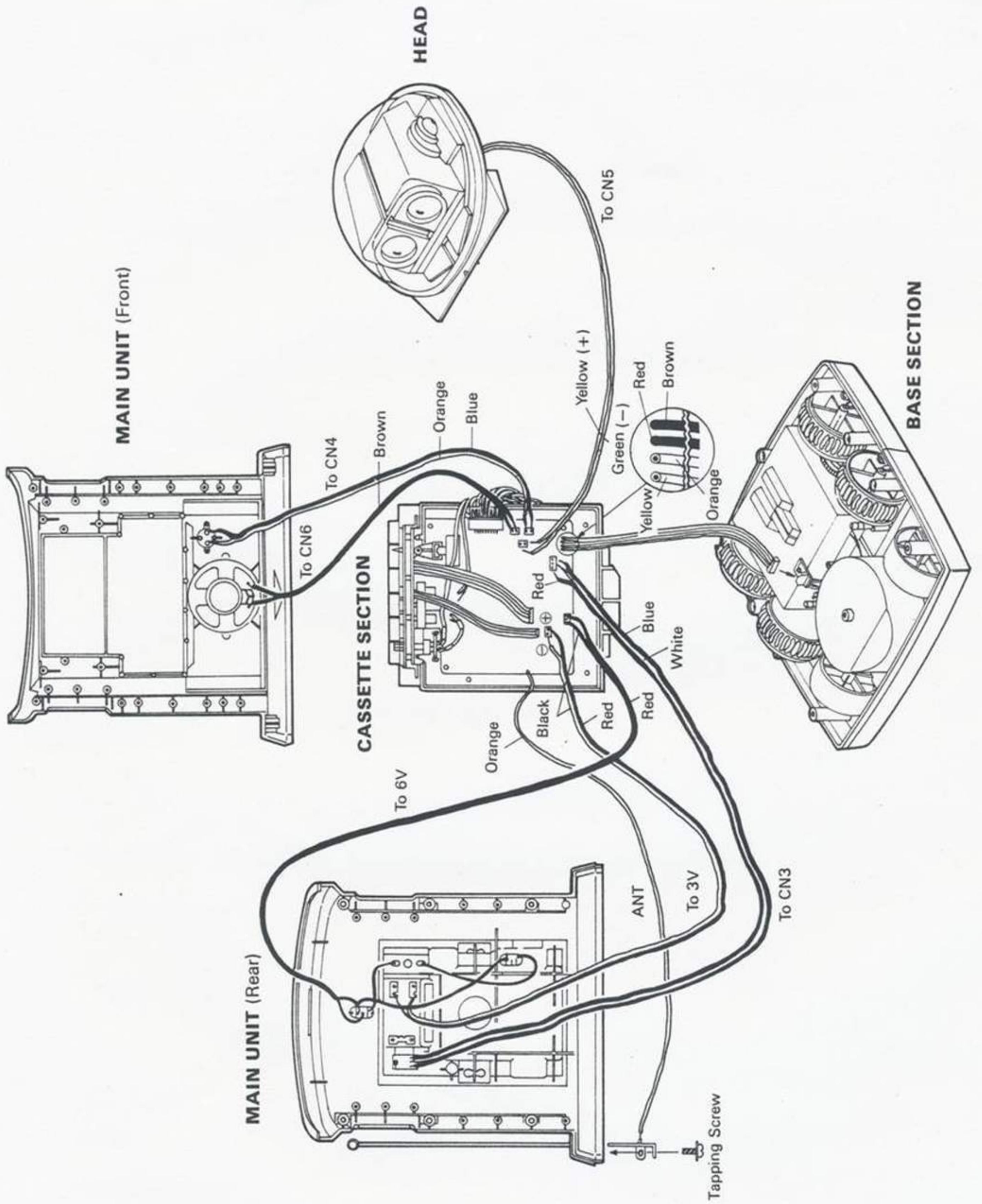
MAIN UNIT (Front) REAR SIDE ASSEMBLY DIAGRAM



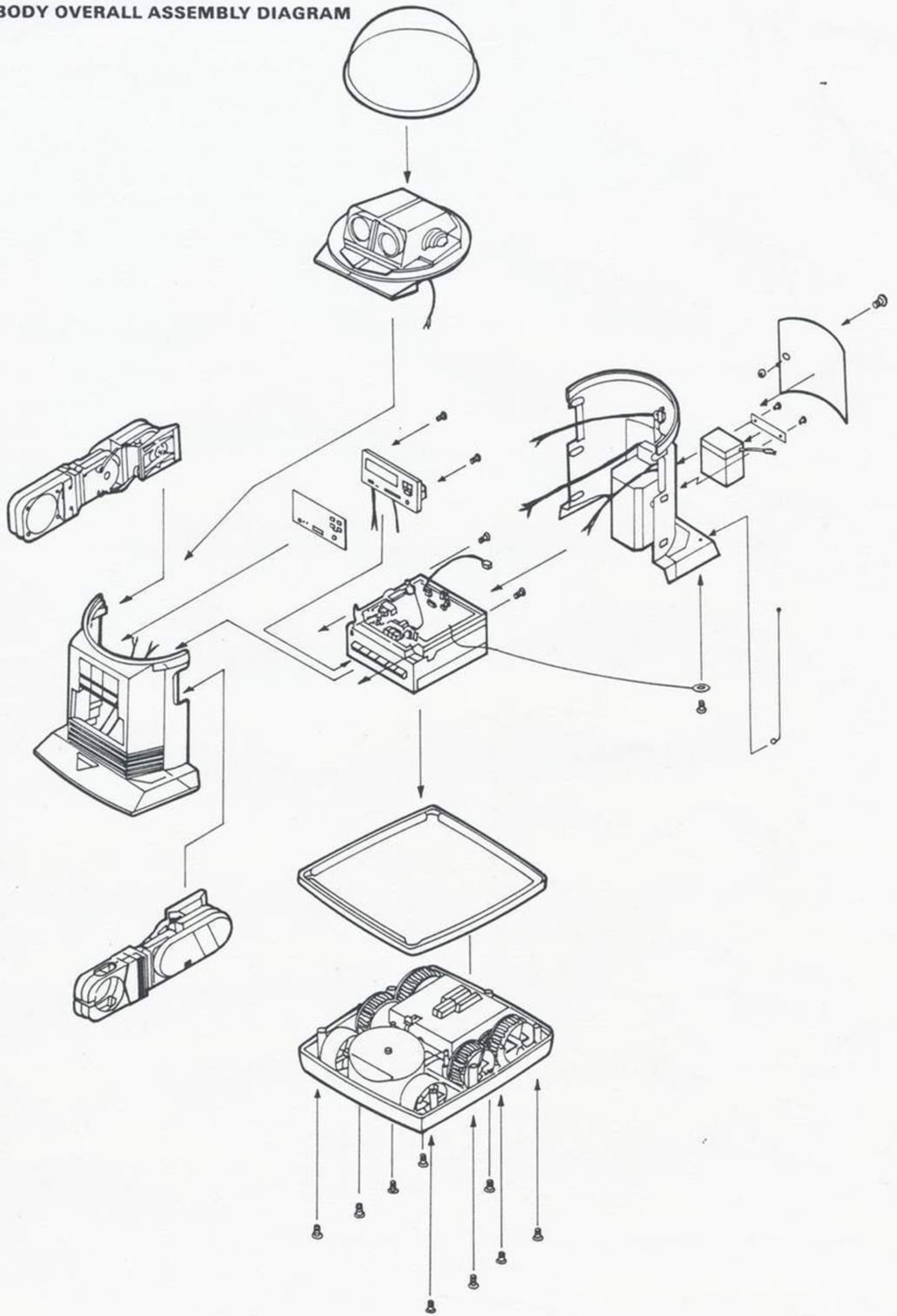
MAIN UNIT (Back) REAR SIDE ASSEMBLY DIAGRAM



The processing sequence is the same as page 10.



BODY OVERALL ASSEMBLY DIAGRAM



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Michael's Collection

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