

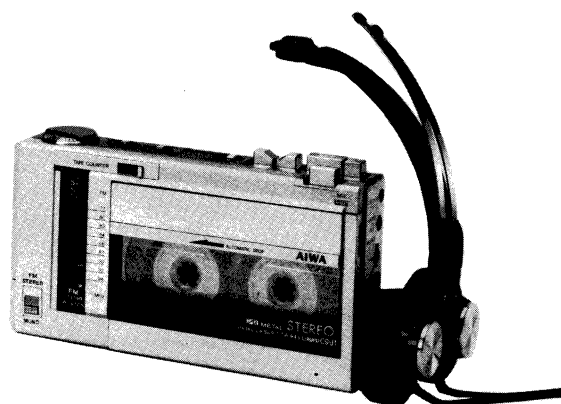
# FM STEREO RADIO CASSETTE TAPE RECORDER

## MODEL NO. CS-J1 Y, YU, YG

# AIWA®

## (SERVICE MANUAL)

Code No. 29-100-000-01



DATE OF ISSUE 4/1981

### SPECIFICATIONS

#### GENERAL

**Semiconductors:** 4 ICs, 1 FET, 18 transistors  
8 diodes, 2 LED's

**Power source:** Batteries DC 4.5V (UM-3 x 3)  
Household AC power  
(thru AC adaptor)

**Dimensions:** 155.5(W) x 81(H) x 29.9(D)mm  
[6-1/8" x 3-1/8" x 1-1/8"]

**Weight:** 430g (0.951 lbs.)

#### < Radio section >

**Circuit:** Superheterodyne

**Frequency range:** FM 87.4 ~ 108.3 MHz

**Intermediate frequency:** FM 10.7 MHz

**Sensitivity:**  
(IHF, THD 3%)

FM 0 ± 4 dB (at 88 MHz)  
-1 ± 4 dB (at 96 MHz)  
2 ± 4 dB (at 108 MHz)

FM 24 ± 4 dB (at 88 MHz)  
FM 75 ± 6 dB (at 88 MHz)

**Image rejection:** FM 24 ± 4 dB (at 88 MHz)

**IF rejection:** FM 75 ± 6 dB (at 88 MHz)

#### < Tape recorder section >

**Track type:** 4 tracks, 2 channel  
AC bias

**Recording system:** MAGNET erase

**Erasing system:** MAGNET erase

**Tape speed:** 4.8 cm/s (1-7/8 ips)

**Record bias frequency:** 59 kHz

**Signal to noise ratio:** More than 44/43 dB (PB)  
(Unweighted) More than 32/31 dB (REC/PB)

**Frequency response:** 40 ~ 12,500 Hz (NORMAL)  
40 ~ 16,000 Hz (METAL)

**Output power:** 28.5 mW + 28.5 mW

**Erasing ratio:** 60 ± 5 dB (1 kHz)

**Distortion:** Less than 2% (PB)  
Less than 8% (RE/PB)

**Motor:** DC electrical governor motor

**Wow & flutter:** Less than 0.2% (WRMS)  
Less than 0.37% (RMS)

**Auto stop system:** Mechanical full auto

**Auto stop action time:** 5<sup>+3</sup><sub>-5</sub> s. (at PLAY/REC)

**Pinch roller pressure:** 220 ± 30 g (2.16 ± 0.29 N)

**Take-up torque:** 40 ± 5 g-cm (0.39 ± 0.05 mN·m)

**FF torque:** More than 70 g-cm (0.67 mN·m)

**Rewind torque:** More than 70 g-cm (0.67 mN·m)

**Rewind, FF time:** 110 ± 20 s.

**Input:** MIC/AUX 3.5φ jack

**Max. input sensitivity:** MIC 0.3 mV/3.3 kΩ  
AUX 150 mV/1kΩ

**Output:** Headphone jack (3.5φ)

**Battery life under continuous use:**  
Recording—approximately 8 hours (EIAJ) with alkaline batteries  
Recording—approximately 3 hours (EIAJ) with AIWA EXTRA Batteries

**< Headphone section >**

**Type:** Dynamic type

**Impedance:** 28 ohms

**Frequency response:** 20 ~ 20,000 Hz

**Sensitivity:** 100 dB/mW

**Maximum input:** 100 mW

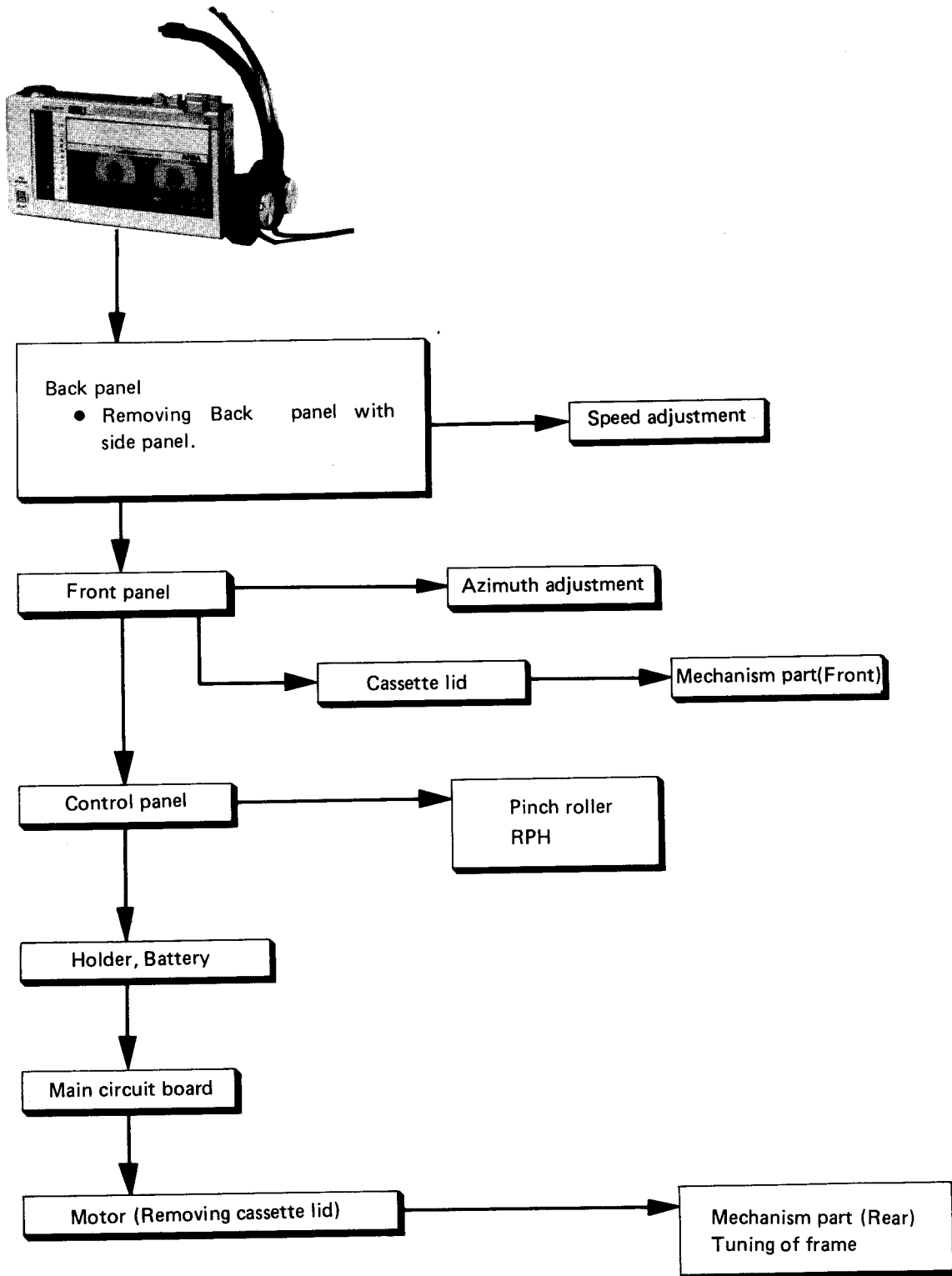
**Cord length:** 1.4 meter

**Weight:** 40 g (without cord)

- The specifications and external appearance of this set are subject to change without prior notice.

DISASSEMBLING CHART DIAGRAM OF MAIN PARTS

- To avoid troubles when disassembling or replacing the main parts, follow the chart diagram as below.



## To disassemble the main parts

### 1. Back panel

Remove the 5 screws. (See figure 1)

### 2. Front panel

Remove the 2 screws. (See figure 1)

### 3. Operation panel

Remove 3 screws.

With 3 screws removed, the operation panel, switch panel and slide knob can be detached simultaneously. Be careful not to lose them. (See figure 1)

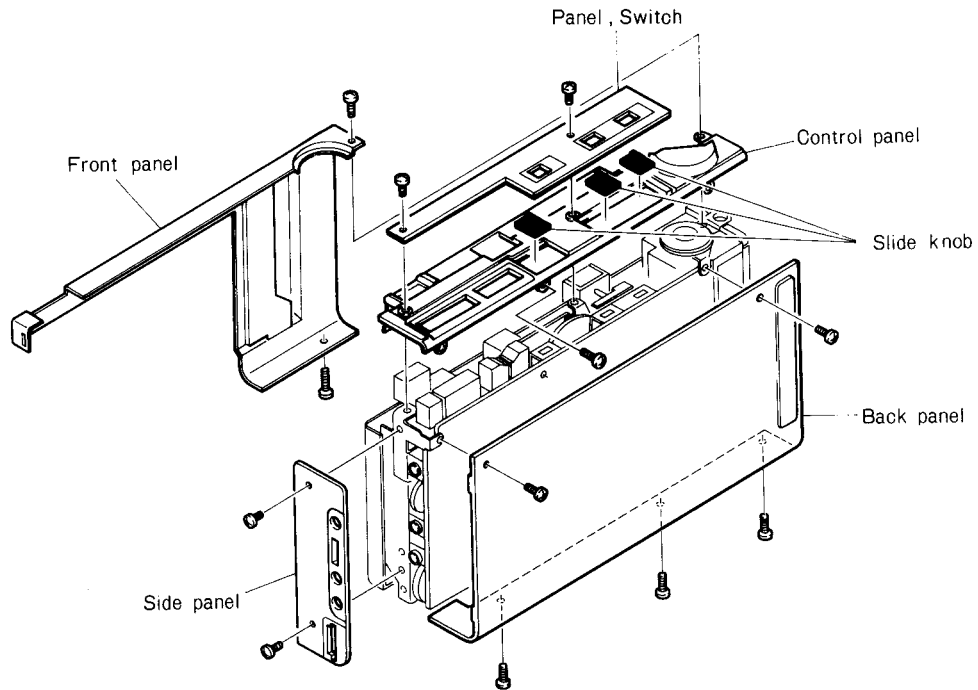


Fig. 1

### 4. Cassette lid

Remove the spring and then remove 1 screw. (See figure 2)

### 5. Battery holder

Remove 2 screws and move the holder in the direction of the arrow (See figure 3)

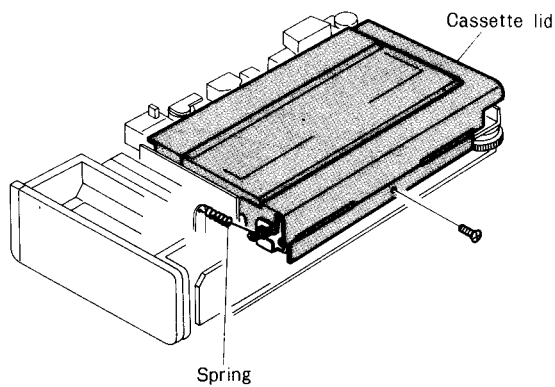


Fig. 2

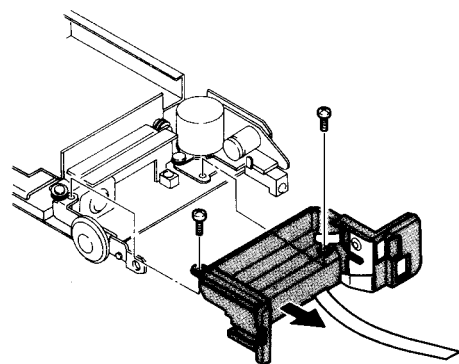


Fig. 3

### 6. Main PC Board

Unsolder wires (red, white, black, green, grey).

**Note:** Be sure to remove the wires on the PC Board side because the terminals on the PC Board are not heat-resistant.

Remove 5 screws (See figure 4)

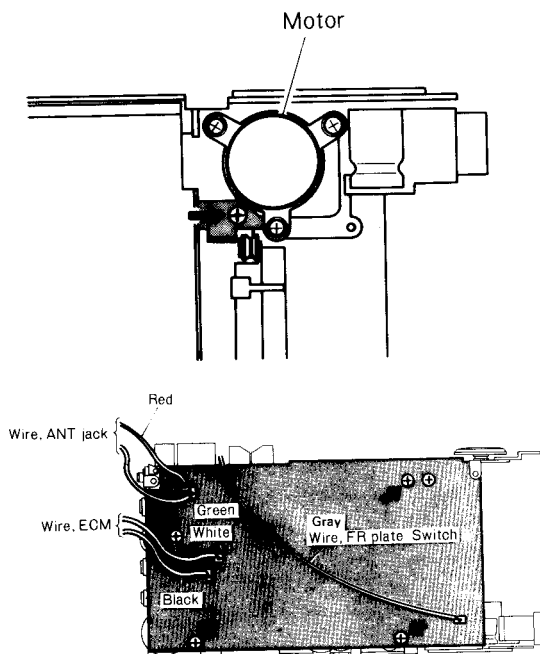


Fig. 4

### 7. Tuning frame

Remove 3 screws and lift the tuning frame in the direction of the arrow

A mylar sheet is fixed to the tuning frame to prevent other parts from touching it. Check that the mylar sheet is present when re-assembling the tuning frame. (See figure 5)

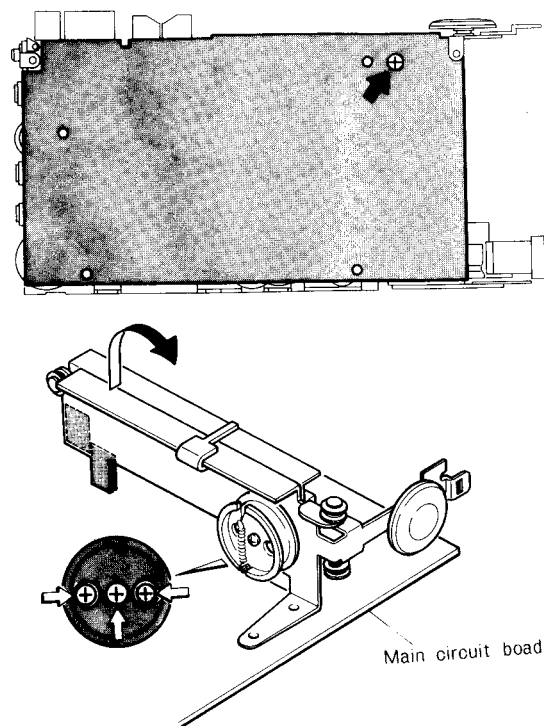
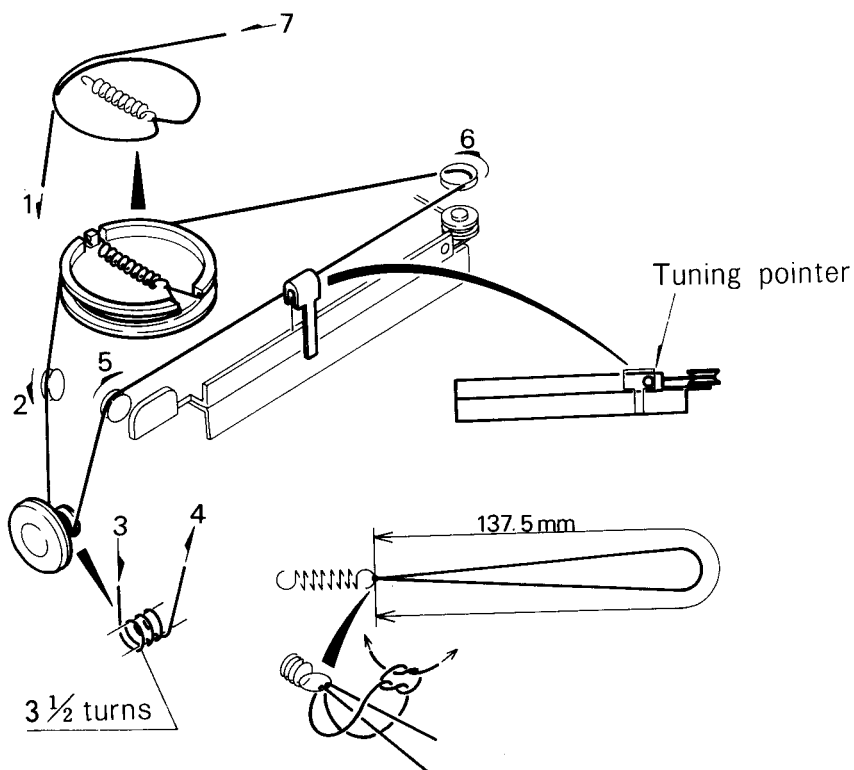
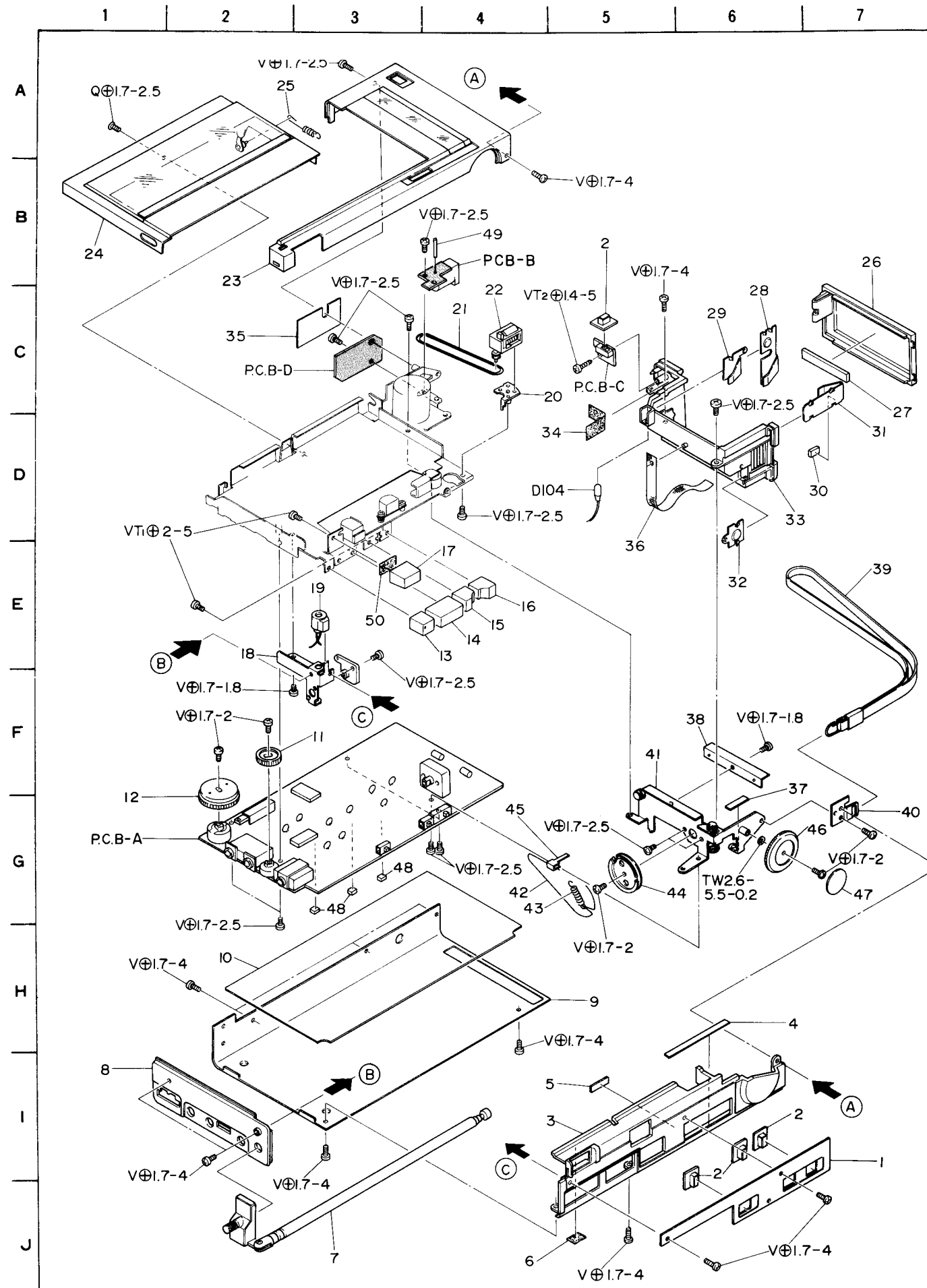


Fig. 5

### DIAL CORD STRINGING



EXPLODED VIEW-1

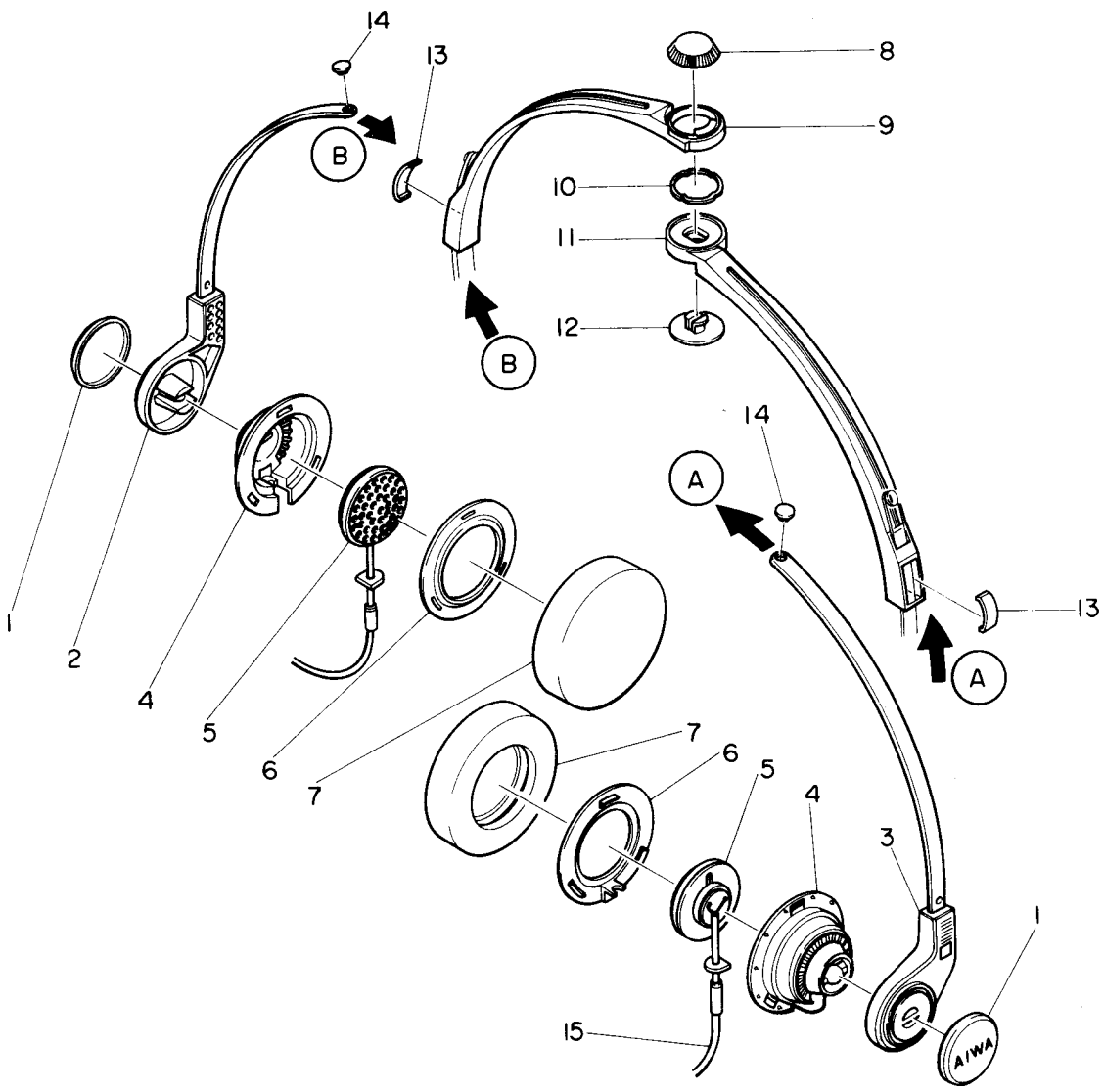


MECHANICAL PARTS

PARTS LIST

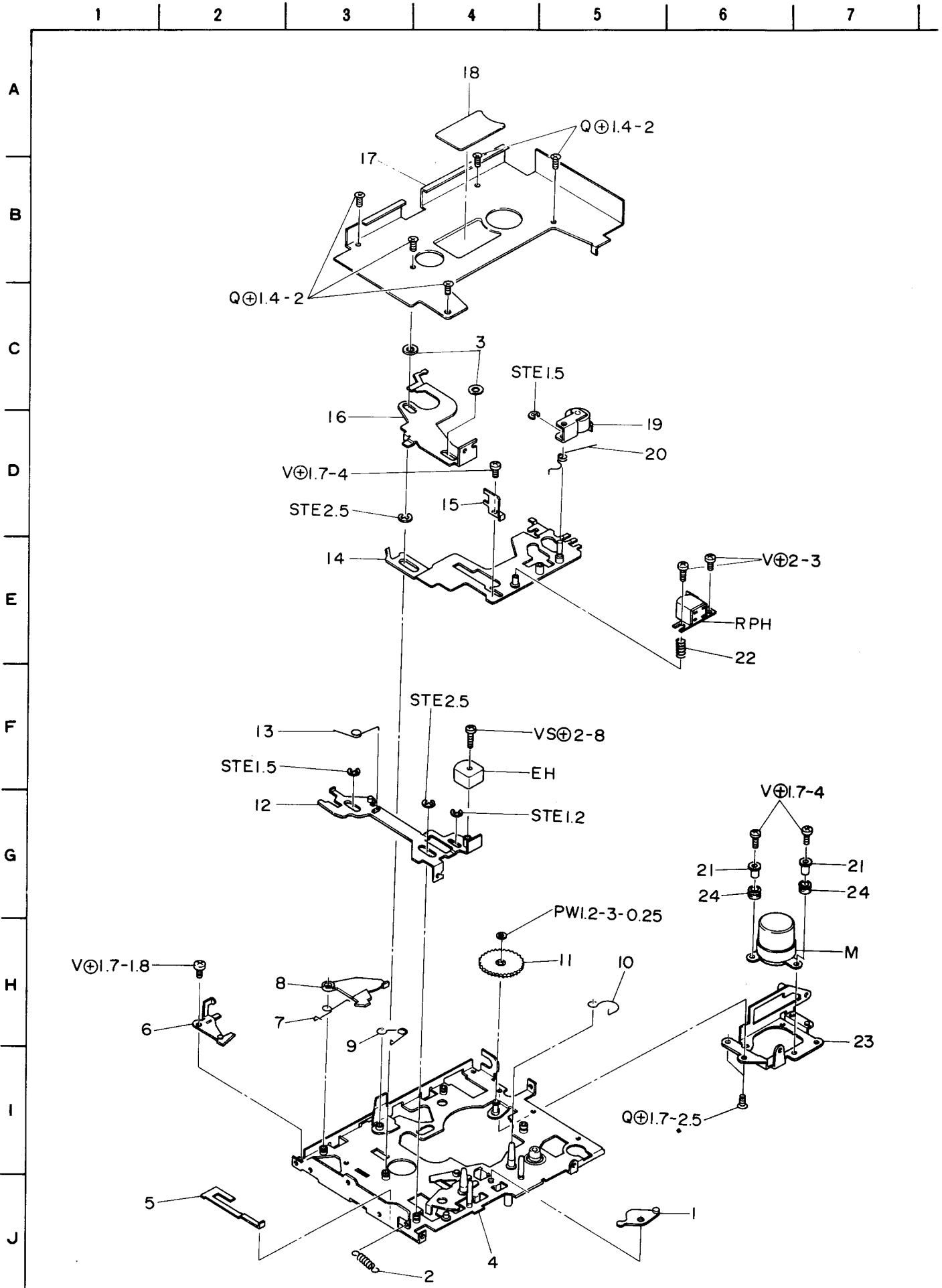
\* mark in this part list shows exclusive part.

Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
1-1	82-590-017-01		Panel S, Switch	*	1
1-2	82-590-012-01		Slide knob	*	4
1-3	82-590-006-01		Control panel S	*	1
1-4	82-641-230-01		Mylar sheet C		1
1-5	82-639-428-01		Rubber sheet 12-3-1		1
1-6	82-590-247-01		Himeron cloth 7 x 10 x 0.5	*	1
1-7	09-017-825-01		Antenna ass'y	*	1
	82-590-024-01		Cover, Antenna	*	1
	82-590-016-01		Screw, Antenna stopper	*	1
	87-043-056-01		Whip antenna	*	1
	82-590-137-01		Mylar sheet 9-15	*	1
1-8	82-590-007-01		Side panel S	*	1
1-9	82-590-592-01		Back panel S	*	1
1-10	82-590-234-01		Mylar sheet	*	1
1-11	82-641-020-01		Knob, BALANCE		1
1-12	82-641-010-01		Knob, VOLUME		1
1-13	82-641-006-01		Push-button, REC		1
1-14	82-641-007-01		Push-button, FWD		1
1-15	82-641-019-01		Push-button, REW		1
1-16	82-641-009-01		Push-button, FF		1
1-17	82-641-008-01		Push-button, STOP		1
1-18	82-590-220-01		Bracket, ECM	*	1
1-19	82-641-210-01		Holder, ECM		1
1-20	82-590-213-01		Counter holder ass'y	*	1
1-21	82-641-214-01		Belt, Counter		1
1-22	87-040-144-01		Counter		1
1-23	09-017-833-01		Front panel ass'y	*	1
	82-590-051-01		Front panel	*	1
	82-590-053-01		Dial, Window	*	1
	82-590-020-01		Decorated plate	*	1
	82-590-233-01		Adhesive paper 7-60	*	1
	82-590-239-01		L-metal fitting	*	1
1-24	09-017-824-01		Cassette lid ass'y	*	1
	82-590-003-01		Cassette lid S ass'y	*	1
	82-590-019-01		Name plate	*	1
	82-590-232-01		Adhesive paper 9-98	*	1
	82-590-231-01		Cassette window, Adhesive paper	*	1
	82-590-010-01		Cassette window (Blue)	*	1
1-25	82-641-204-01		E-spring, Cassette lid		1
1-26	82-590-009-01		Battery room lid S	*	1
1-27	82-575-283-01		M cushion 30-8-3		1
1-28	82-636-601-01		Terminal plate, Battery		1
1-29	82-299-702-01		Terminal plate (-)		1
1-30	82-445-253-01		Rubber A, Carrying handle		1
1-31	82-590-230-01		Terminal plate, Battery	*	1
1-32	82-299-701-01		Terminal plate (+)		1
1-33	82-590-008-01		Holder S, Battery	*	1
1-34	82-590-238-01		Himeron cloth, Blind	*	1
1-35	82-590-235-01		Mylar sheet 20-35	*	1
1-36	82-590-236-01		Ribbon, Battery	*	1
1-37	82-641-228-01		Nylon sheet 12-3-0.3		1
1-38	82-590-022-01		Dial plate (Blue)	*	1
1-39	82-641-956-01		Strap ass'y	*	1
1-40	82-590-025-01		Holder, Strap	*	1
1-41	82-590-225-01		Tuning frame ass'y	*	1
1-42	87-096-086-01		Dial string 0.4φ		1
1-43	82-590-229-01		E-spring, Tuning	*	1
1-44	82-590-228-01		Drum, Tuning	*	1
1-45	82-590-021-01		Tuning pointer	*	1
1-46	82-590-015-01		Tuning knob	*	1
1-47	87-590-018-01		Plate knob 13	*	1
1-48	82-575-320-01		G cushion 3-3-2.5		3
1-49	87-033-170-01		Pin, 1-11		1



Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
1	86-388-015-01		Cap		2
2	86-388-010-01		Hanger L ass'y		1
3	86-388-011-01		Hanger R ass'y		1
4	86-388-012-01		Housing A		2
5	86-384-010-01		Driver unit		2
6	86-388-016-01		Housing B		2
7	86-388-018-01		Pad, Ear		2
8	86-388-021-01		Stopper A		1
9	86-388-013-01		Head band L		1
10	86-388-020-01		Spring		1
11	86-388-014-01		Head band R		1
12	86-388-022-01		Stopper B		1
13	86-388-019-01		Slide spring		2
14	86-384-020-01		Slide stopper		2
15	86-388-023-01		3.5φ cord ass'y		1

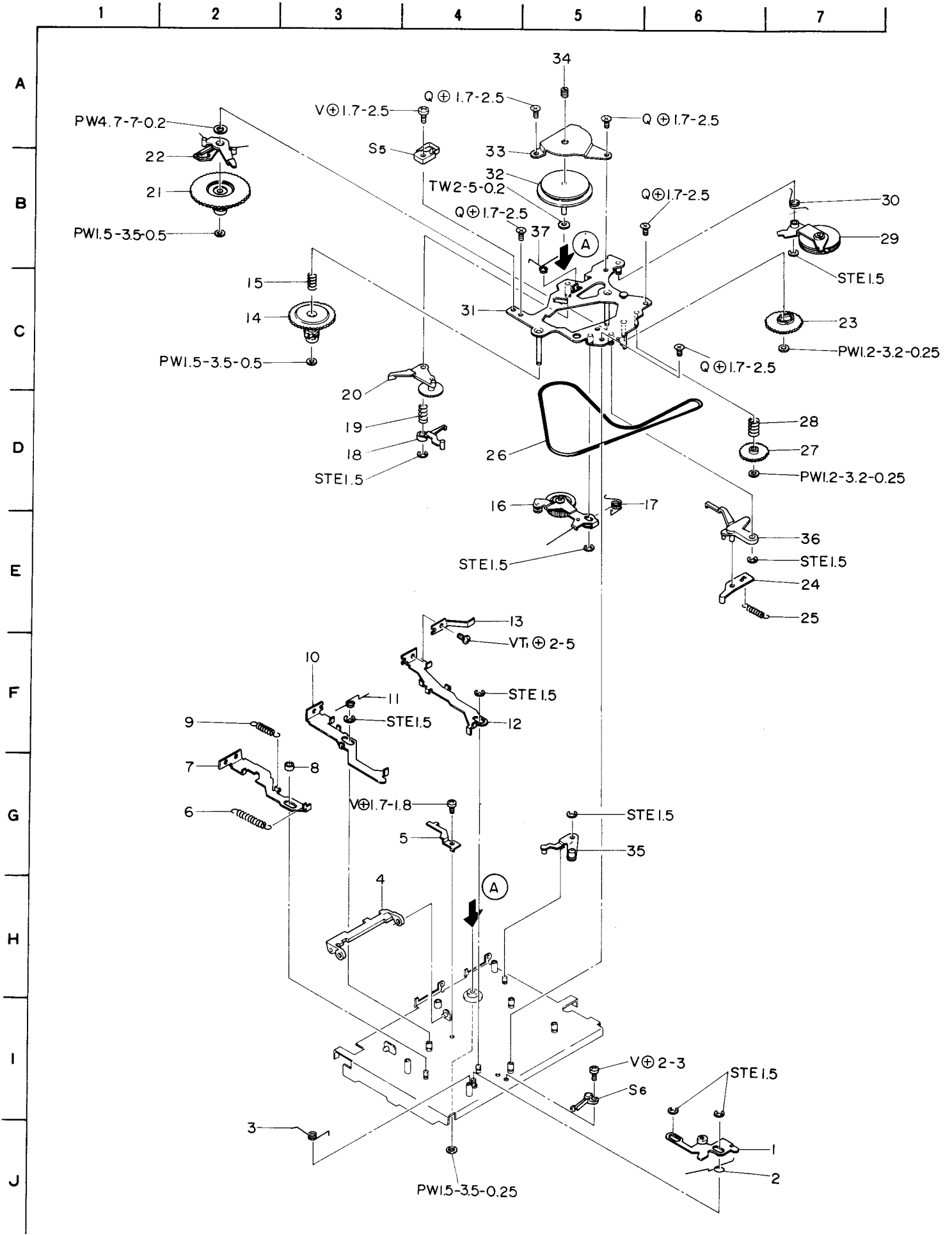
EXPLODED VIEW-2



Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
2-1	82-639-232-01		Arm actuating chassis B ass'y		1
2-2	82-639-396-01		E-spring, Eject		1
2-3	82-639-430-01		Washer, STOP lever		2
2-4	82-639-201-01		Chassis ass'y		1
2-5	82-639-252-01		Cam, Eject		1
2-6	82-639-378-01		Arm REC blocking ass'y		1
2-7	82-639-261-01		T-spring, REC lock		1
2-8	82-590-219-01		Arm, REC lock	*	1
2-9	82-639-251-01		T-spring, STOP lever		1
2-10	82-639-419-01		T-spring, Moving chassis		1
2-11	82-639-283-01		Gear, Counter		1
2-12	82-639-245-01		Lever, REC ass'y		1
2-13	82-639-246-01		T-spring, REC lever		1
2-14	82-639-411-01		Actuating chassis ass'y		1
2-15	82-639-405-01		Guide, Tape		1
2-16	82-639-250-01		Lever, STOP		1
2-17	82-590-023-01		Panel, Blind (Blue)	*	1
2-18	82-641-017-01		Label, Tape indication		1
2-19	82-639-281-01		Pinch lever ass'y		1
2-20	82-639-413-01		T-spring, Pinch lever		1
2-21	82-636-260-01		Collar, Motor		3
2-22	82-639-466-01		C-spring, Head		1
2-23	82-590-215-01		Motor holder ass'y	*	1
2-24	82-636-254-01		Rubber cushion		3



EXPLODED VIEW-3

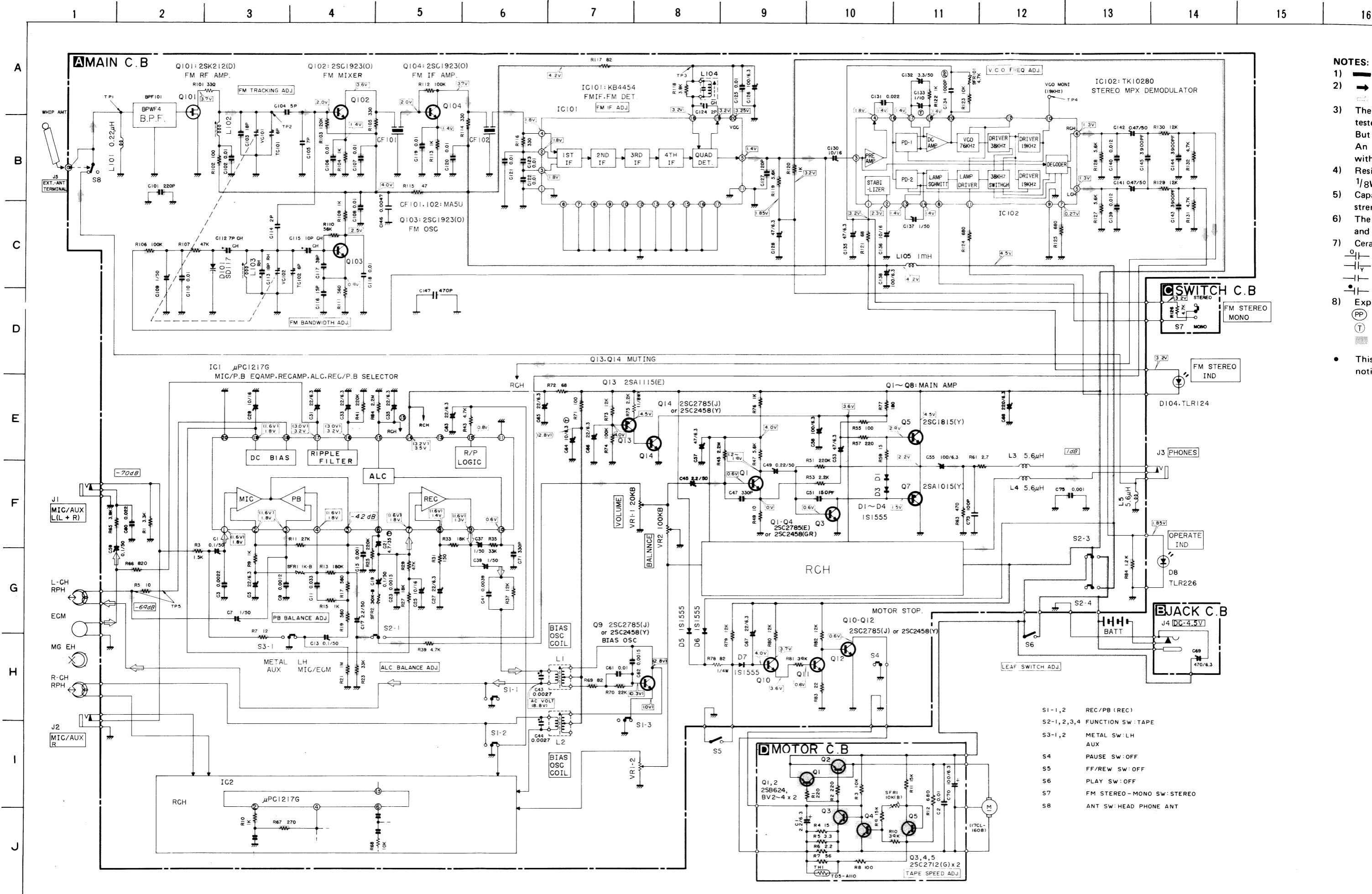


Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
3-1	82-639-273-01		Brake ass'y		1
3-2	82-639-262-01		T-spring, Eject arm		1
3-3	82-639-427-01		T-spring, REC B		1
3-4	82-639-270-01		Lock plate button		1
3-5	82-639-271-01		P-spring, Lock plate		1
3-6	82-639-243-01		E-spring, Play lever		1
3-7	82-639-242-01		Play lever		1
3-8	82-639-276-01		Roller, Brake		1
3-9	82-639-244-01		E-spring, Actuating chassis		1
3-10	82-639-240-01		Lever, REW		1
3-11	82-639-241-01		T-spring, FF/REW lever		1
3-12	82-639-238-01		Lever, FF		1
3-13	82-639-239-01		P-spring, FF lever		1
<b>14~31</b>	<b>82-590-211-11</b>		<b>Bottom plate ass'y</b>		<b>1</b>
3-14	82-639-325-01		Supply reel ass'y		1
3-15	82-639-375-01		C-spring, Back tension		1
3-16	82-639-340-01		Arm, REW gear ass'y		1
3-17	82-639-345-01		T-spring, REW gear		1
3-18	82-639-354-01		Arm, Sensor eject		1
3-19	82-639-442-01		C-spring, Auto eject		1
3-20	82-639-349-01		FF gear ass'y		1
3-21	82-639-313-01		Take-up reel ass'y		1
3-22	82-639-390-01		Sensor ass'y		1
3-23	82-639-360-01		Cam, Auto-stop		1
3-24	82-639-357-01		Arm, Eject gear		1
3-25	82-639-358-01		E-spring, Eject gear		1
3-26	82-590-212-01		Rubber belt	*	1
3-27	82-639-359-01		Gear, Auto-stop		1
3-28	82-639-421-01		C-spring, Cam auto gear		1
3-29	82-639-330-01		Take-up ass'y		1
3-30	82-639-339-01		T-sprung, Arm take-up		1
3-31	82-639-300-01		Bottom plate semi ass'y		1
3-32	82-639-289-01		Flywheel ass'y		1
3-33	82-639-287-01		Plate, Flywheel		1
3-34	82-639-361-01		Adjust screw		1
3-35	82-639-267-01		Take-up lever ass'y		1
3-36	82-639-356-01		Arm, Sensor		1
3-37	82-639-441-01		T-spring, FF gear A		1

## ACCESSORIES / PACKAGE

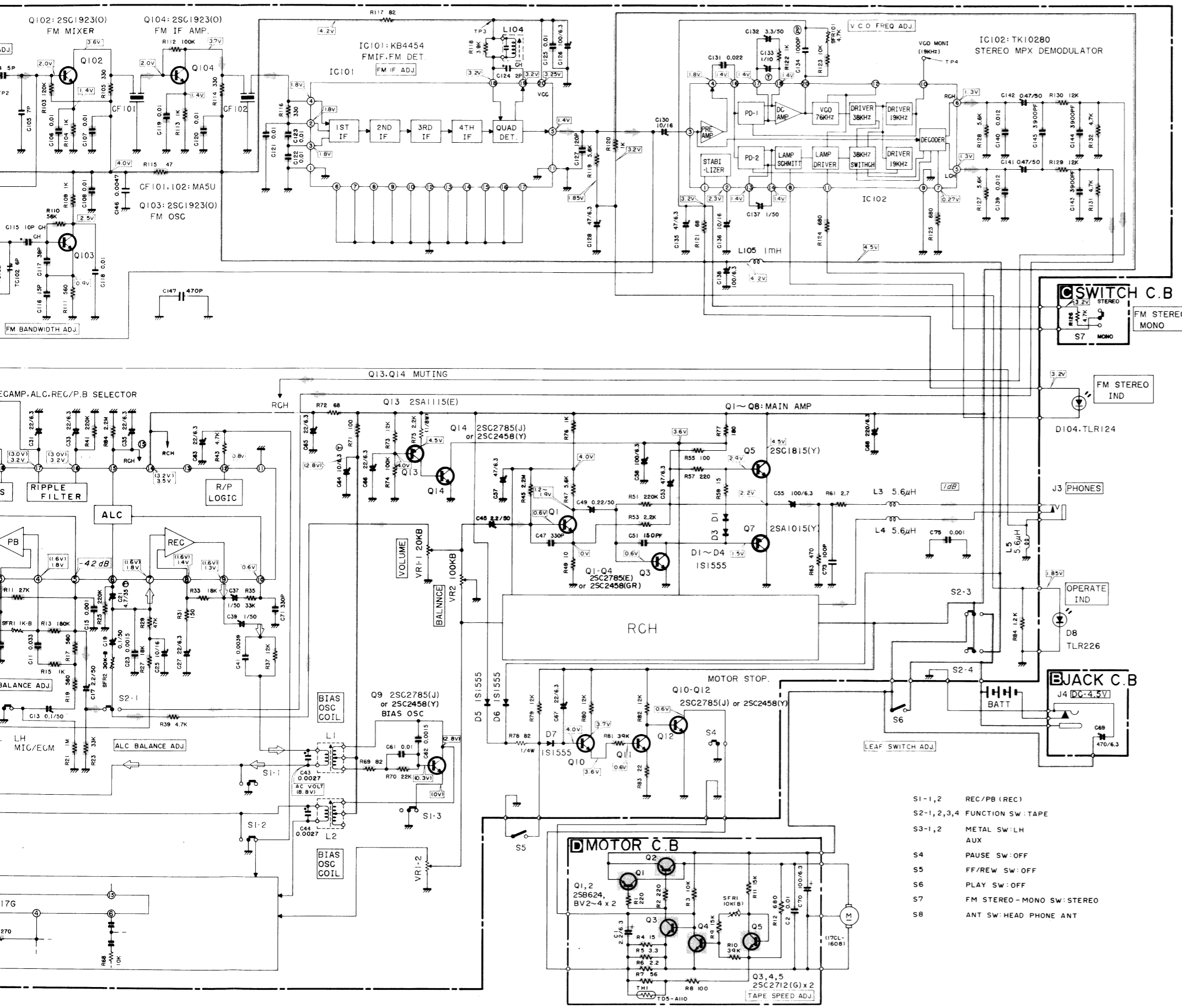
Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
1	82-590-856-01		Printed indiv., Packing Y	*	1
2	82-590-861-01		Sheet Y, Auxiliary cushion	*	1
3	82-590-858-01		Cushion, Printed indiv.	*	1
4	87-051-131-11		Poly-vinyl sack		1
5	87-051-136-11		Poly-vinyl sack		1
6	82-590-904-01		Instructions booklet	*	1
7	87-051-136-11		Poly-vinyl sack		1
8	87-056-009-41		Distributors list (Y,YG model only)		1
9	87-056-045-01		Guarantee card U (YU model only)		1
10	87-056-057-01		Service station list (YU model only)		1
11	87-056-059-01		Guarantee card G (YG model only)		1
12	82-590-952-01		Carrying case EX	*	1
13	82-590-953-01		Band holder	*	1
14	82-641-956-01		Strap ass'y		1
15	82-916-730-01		Tape cassette DMC-163		1
16	86-388-001-01		Headphone HP-M5K		1
17	09-017-825-01		Antenna ass'y	*	1

SCHEMATIC DIAGRAM



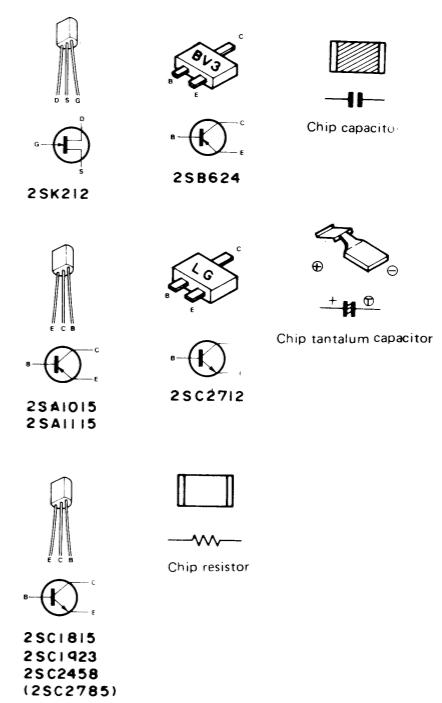
- NOTES:
- 1) [Symbol]
  - 2) [Symbol]
  - 3) The teste But An a with 1/gw
  - 4) Resis 1/gw
  - 5) Capa stren
  - 6) The and
  - 7) Cera
  - 8) Expl [Symbol]
  - This notice

- S1-1,2 REC/PB (REC)
- S2-1,2,3,4 FUNCTION SW TAPE
- S3-1,2 METAL SW LH AUX
- S4 PAUSE SW OFF
- S5 FF/REW SW OFF
- S6 PLAY SW OFF
- S7 FM STEREO-MONO SW STEREO
- S8 ANT SW HEAD PHONE ANT



NOTES:

- 1) B (+) power supply
  - 2) Signal path
  - 3) Rec path, AM signal path.
  - 4) The voltage is the reference value measured with a tester (20 k-ohms/V DC) when there are no signals. But ( ) is with recording. An asterisk (\*) indicates that the value was measured with a vacuum-tube voltmeter during recording.
  - 5) Resistors with no designation have a rated power of 1/8W and a tolerance of ±10%
  - 6) Capacitors with no designation have a dielectric strength of less than 50WV.
  - 7) The only capacitor tolerances indicated are ±5% (J) and ±10% (K).
  - 8) Ceramic capacitor symbols:
    - For temperature compensation (SL)
    - High dielectric constant system (YY)
    - High dielectric constant system (YW, YP, YZ)
    - Semiconductor ceramic
  - 9) Explanation of symbols
    - Polypropylene film capacitor
    - Tantalum capacitor
    - Chip parts
- This schematic diagram is subject to change without notice in the interests of improved performance.



- S1-1,2 REC/PB (REC)
- S2-1,2,3,4 FUNCTION SW: TAPE
- S3-1,2 METAL SW: LH AUX
- S4 PAUSE SW: OFF
- S5 FF/REW SW: OFF
- S6 PLAY SW: OFF
- S7 FM STEREO-MONO SW: STEREO
- S8 ANT SW: HEAD PHONE ANT

ELECTRICAL MAIN PARTS LIST

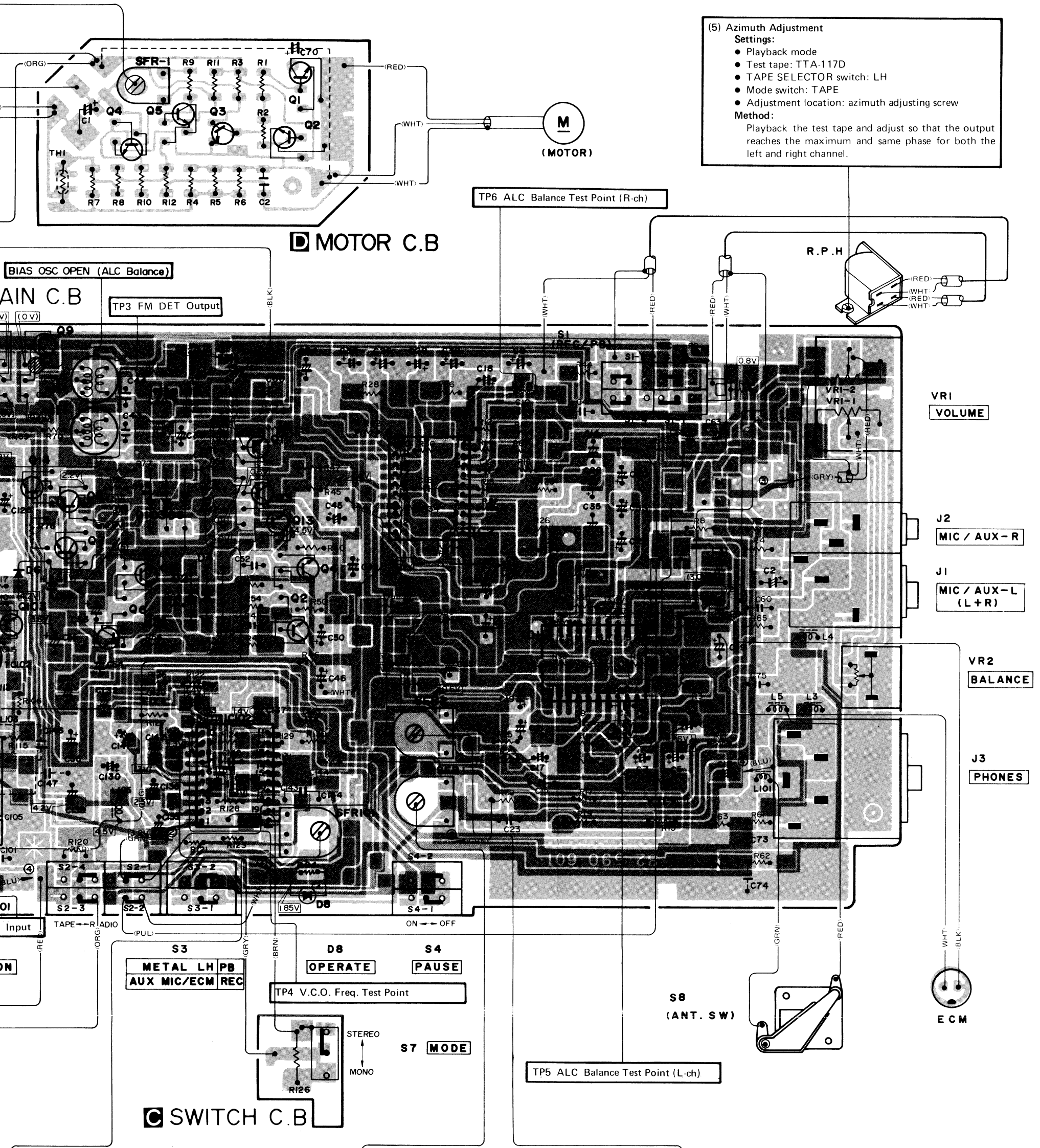
Symbol No.	Part No.	Description
<b>◀ MAIN CIRCUIT BOARD SECTION ▶</b>		
PCB-A	82-590-601-21	Main circuit board
<b>&lt; Tuner section &gt;</b>		
IC101	87-027-748-01	IC, KB4454
IC102	87-027-763-01	IC, TK10280
Q101	89-502-124-01	FET, 2SK212 (D)
Q102,103,104	89-319-233-01	Transistor, 2SC1923 (O)
D101	87-017-004-01	Diode, SD117
D104	87-027-262-01	LED, TLR124
L101	87-003-063-01	Coil, 0.22μH
L102,103	87-006-055-01	FM RF coil, FM OSC coil
L104	82-590-603-01	Quad coil, DET 5SH
L105	87-003-062-01	Choke coil, 1mH
VC101,102	87-011-125-01	PVC
TC101,102	87-011-124-01	Trimmer, 6pF
BPF101	87-030-082-01	Band pass filter
CF101,102	87-008-229-01	Ceramic filter MA5U
SFR101	87-021-643-01	Semi-fixed resistor, 4.7kΩ-B
<b>&lt; Resistors &gt;</b>		
R115	88-129-470-01	47Ω Chip resistor
R121	88-129-680-01	68Ω Chip resistor
R117	88-129-820-01	82Ω Chip resistor
R102	88-129-101-01	100Ω Chip resistor
R105,114,116	88-129-331-01	330Ω Chip resistor
R120	88-129-471-01	470Ω Chip resistor
R111	88-129-561-01	560Ω Chip resistor
R124,125	88-129-681-01	680Ω Chip resistor
R104,109,113,120,122	88-129-102-01	1kΩ Chip resistor
R118	88-129-392-01	3.9kΩ Chip resistor
R131,132	88-129-472-01	4.7kΩ Chip resistor
R119,127,128	88-129-562-01	5.6kΩ Chip resistor
R123	88-129-103-01	10kΩ Chip resistor
R129,130	88-129-123-01	12kΩ Chip resistor
R107,108	88-129-473-01	47kΩ Chip resistor
R110	88-129-563-01	56kΩ Chip resistor
R106,112	88-129-104-01	100kΩ Chip resistor
R103	88-129-124-01	120kΩ Chip resistor
<b>&lt; Capacitors &gt;</b>		
C134	87-014-057-01	1000pF PP
C133	87-015-376-01	1μF 10V Tantalum
C114,124	87-015-880-01	2pF Chip capacitor
C104	87-015-746-01	5pF Chip capacitor
C105,112	87-015-748-01	7pF Chip capacitor
C115	87-015-879-01	10pF Chip capacitor
C116	87-015-753-01	15pF Chip capacitor
C103	87-015-754-01	18pF Chip capacitor
C117	87-015-759-01	39pF Chip capacitor
C127	87-015-765-01	120pF Chip capacitor
C143,144,145	87-015-824-01	3900pF Chip capacitor
C102,106,107,108,110,111,119,120,121,122,123,125,	87-015-819-01	0.01μF Chip capacitor
C139,140	87-015-882-01	0.012μF Chip capacitor
C131	87-015-883-01	0.022μF Chip capacitor
<b>&lt; Audio section &gt;</b>		
IC1,2	87-027-745-01	IC, μPC1217G
Q1,2,3,4 (Q1,2,3,4)	89-324-585-01	Transistor, 2SC2458 (GR)
Q5,6	89-318-154-01	Transistor, 2SC1815 (Y)
Q7,8	89-110-154-01	Transistor, 2SA1015 (Y)

Symbol No.	Part No.	Description
Q9,10,11,12,14 (Q9,10,11,12,14)	89-324-584-01	Transistor, 2SC2458 (Y)
Q13	89-327-852-01	Transistor, 2SC2758 (J)
D1,2,3,4,5,6,7	89-111-154-01	Transistor, 2SA1115 (E)
D8	87-027-097-01	Diode, 1S1555
L1,2	87-027-636-01	LED, TLR226
L3,4,5	82-641-612-01	Bias, OSC coil
J1,2	87-003-061-01	Choke coil, 5.6μH
J3	87-032-978-01	Jack, 3.5φ (MIC/AUX)
S1	87-049-012-01	Jack, 3.5φ (PHONES)
S2	87-031-593-01	Slide switch (REC/PB)
S3,4	87-031-629-01	Slide switch (RADIO/TAPE)
VR1	87-031-595-01	Slide switch (LH/AUX, PAUSE)
VR2	82-641-603-11	Volume, 20kΩ-A (VOLUME)
SFR1	87-021-640-01	Volume, 100kΩ-B (BALANCE)
SFR2	87-021-673-01	Semi-fixed resistor, 1kΩ-B
	87-021-674-01	Semi-fixed resistor, 30kΩ-B
<b>&lt; Resistors &gt;</b>		
R61,62	88-129-279-01	2.7Ω Chip resistor
R5,6,49,50	88-129-100-01	10Ω Chip resistor
R7,8	88-129-120-01	12Ω Chip resistor
R59,60	88-129-150-01	15Ω Chip resistor
R83	88-129-220-01	22Ω Chip resistor
R72	88-129-680-01	68Ω Chip resistor
R55,56,71	88-129-101-01	100Ω Chip resistor
R31,32	88-129-151-01	150Ω Chip resistor
R77	88-129-181-01	180Ω Chip resistor
R57,58	88-129-221-01	220Ω Chip resistor
R67	88-129-271-01	270Ω Chip resistor
R63,64	88-129-471-01	470Ω Chip resistor
R17,18,19,20	88-129-561-01	560Ω Chip resistor
R24,25,69	88-129-681-01	680Ω Chip resistor
R9,10,15,16,76	88-129-102-01	1kΩ Chip resistor
R3,4	88-129-152-01	1.5kΩ Chip resistor
R53,54,66	88-129-222-01	2.2kΩ Chip resistor
R1,2	88-129-332-01	3.3kΩ Chip resistor
R65	88-129-392-01	3.9kΩ Chip resistor
R39,40,43,44	88-129-472-01	4.7kΩ Chip resistor
R47,48	88-129-562-01	5.6kΩ Chip resistor
R68	88-129-103-01	10kΩ Chip resistor
R37,38,73,79,80,82	88-129-123-01	12kΩ Chip resistor
R27,28,33,34	88-129-183-01	18kΩ Chip resistor
R70	88-129-223-01	22kΩ Chip resistor
R11,12	88-129-273-01	27kΩ Chip resistor
R23,24,35,36	88-129-333-01	33kΩ Chip resistor
R81	88-129-393-01	39kΩ Chip resistor
R29,30	88-129-473-01	47kΩ Chip resistor
R74	88-129-104-01	100kΩ Chip resistor
R13,14	88-129-184-01	180kΩ Chip resistor
R25,26,41,42,51,52	88-129-224-01	220kΩ Chip resistor
R21	88-129-105-01	1MΩ Chip resistor
R45,46,84	88-129-225-01	2.2MΩ Chip resistor
<b>&lt; Capacitors &gt;</b>		

Symbol No.	Part No.	Description
C64	87-015-843-01	10μF 6.3V Tantalum
C51,53	87-015-766-01	150pF Chip capacitor
C47,48	87-015-770-01	330pF Chip capacitor
C15,16,75	87-015-776-01	0.001μF Chip capacitor
C9,10	87-015-826-01	0.0012μF Chip capacitor
C23,24,62	87-015-825-01	0.0015μF Chip capacitor
C3,4	87-015-817-01	0.0022μF Chip capacitor
C41,42	87-015-824-01	0.0039μF Chip capacitor
C61	87-015-819-01	0.01μF Chip capacitor
C60	87-015-883-01	0.022μF Chip capacitor
C11,12	87-015-834-01	0.033μF Chip capacitor
<b>◀ JACK CIRCUIT BOARD SECTION ▶</b>		
PCB-B	82-590-602-01	Jack circuit board
J4	87-049-048-01	DC jack
<b>◀ SWITCH CIRCUIT BOARD SECTION ▶</b>		
PCB-C	82-590-610-01	Switch circuit board
S7	87-031-632-01	Slide switch (STEREO/MONO)
<b>◀ MISCELLANEOUS ▶</b>		
RPH	87-046-193-01	REC/PB head
EH	82-424-625-01	Erase head
M-PCB-D	86-636-810-01	Motor, 17CL-1608 W/Motor circuit board
J5	82-590-241-01	Antenna jack ass'y (EXT-ANT TERMINAL)
S5	82-641-604-01	Leaf switch (FF/REW)
S6	87-031-548-01	Leaf switch (PLAY)
ECM	87-049-019-01	ECM

no signals.  
recording.

9 10 11 12 13 14 15 16 17 18 19



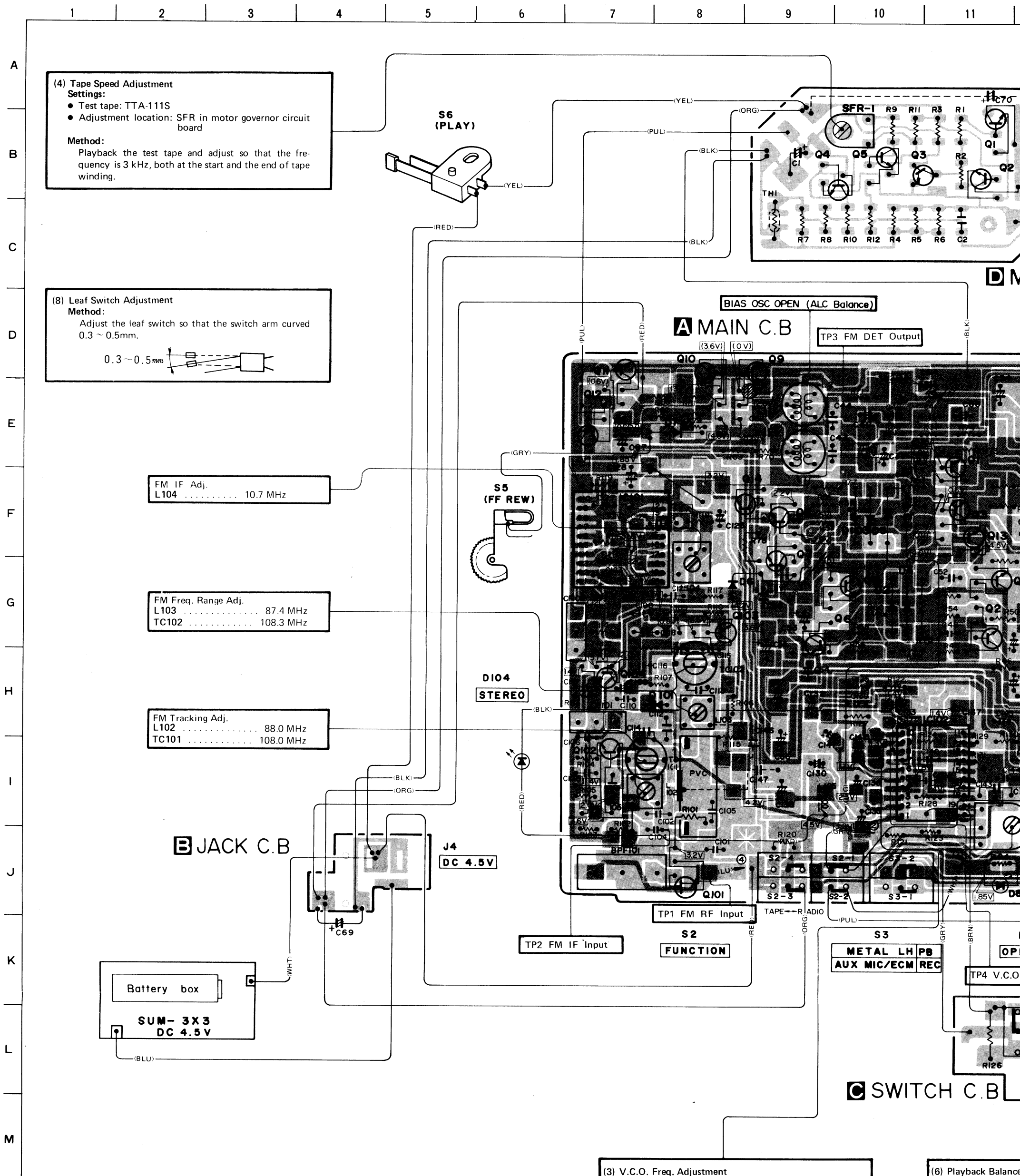
**(5) Azimuth Adjustment**  
**Settings:**  
 • Playback mode  
 • Test tape: TTA-117D  
 • TAPE SELECTOR switch: LH  
 • Mode switch: TAPE  
 • Adjustment location: azimuth adjusting screw  
**Method:**  
 Playback the test tape and adjust so that the output reaches the maximum and same phase for both the left and right channel.

**(6) Playback Balance Adjustment**  
**Settings:**  
 • Test tape: TTA-112A  
 • MODE switch: TAPE  
 • Output level: Output volume, point 4  
 • Adjustment locations: SFR1  
**Method:**  
 Adjust SFR1 so that the level becomes the same for both left and right channels.

**(7) ALC Balance Adjustment**  
**Settings:**  
 • Input signal: MIC, -50 dB  
 • Test point: TP5 (L-ch), TP6 (R-ch)  
 • Adjustment location: SFR2  
**Method:**  
 Adjust SFR2 so that the level becomes  $\pm 0.5$  dB for both left and right channels.

ent  
on: SFR101  
of IC102 is cut.  
that the frequency become 19 kHz

WIRING-1



**(4) Tape Speed Adjustment**  
**Settings:**  
 • Test tape: TTA-111S  
 • Adjustment location: SFR in motor governor circuit board

**Method:**  
 Playback the test tape and adjust so that the frequency is 3 kHz, both at the start and the end of tape winding.

**(8) Leaf Switch Adjustment**  
**Method:**  
 Adjust the leaf switch so that the switch arm curved 0.3 ~ 0.5mm.

FM IF Adj.  
 L104 ..... 10.7 MHz

FM Freq. Range Adj.  
 L103 ..... 87.4 MHz  
 TC102 ..... 108.3 MHz

FM Tracking Adj.  
 L102 ..... 88.0 MHz  
 TC101 ..... 108.0 MHz

**(3) V.C.O. Freq. Adjustment**  
**Settings:**  
 • Test point: TP4  
 • Adjustment location: SFR101

**Method:**  
 Pin (3) (Input pin) of IC102 is cut.  
 Adjust SFR101 so that the frequency become 19 kHz ± 20 Hz.

**(6) Playback Balance**  
**Settings:**  
 • Test tape: TTA-111S  
 • MODE switch  
 • Output level  
 • Adjustment location: SFR101

**Method:**  
 Adjust SFR101 so that the frequency become 19 kHz ± 20 Hz.



Adjust so that the fre-  
start and the end of tape

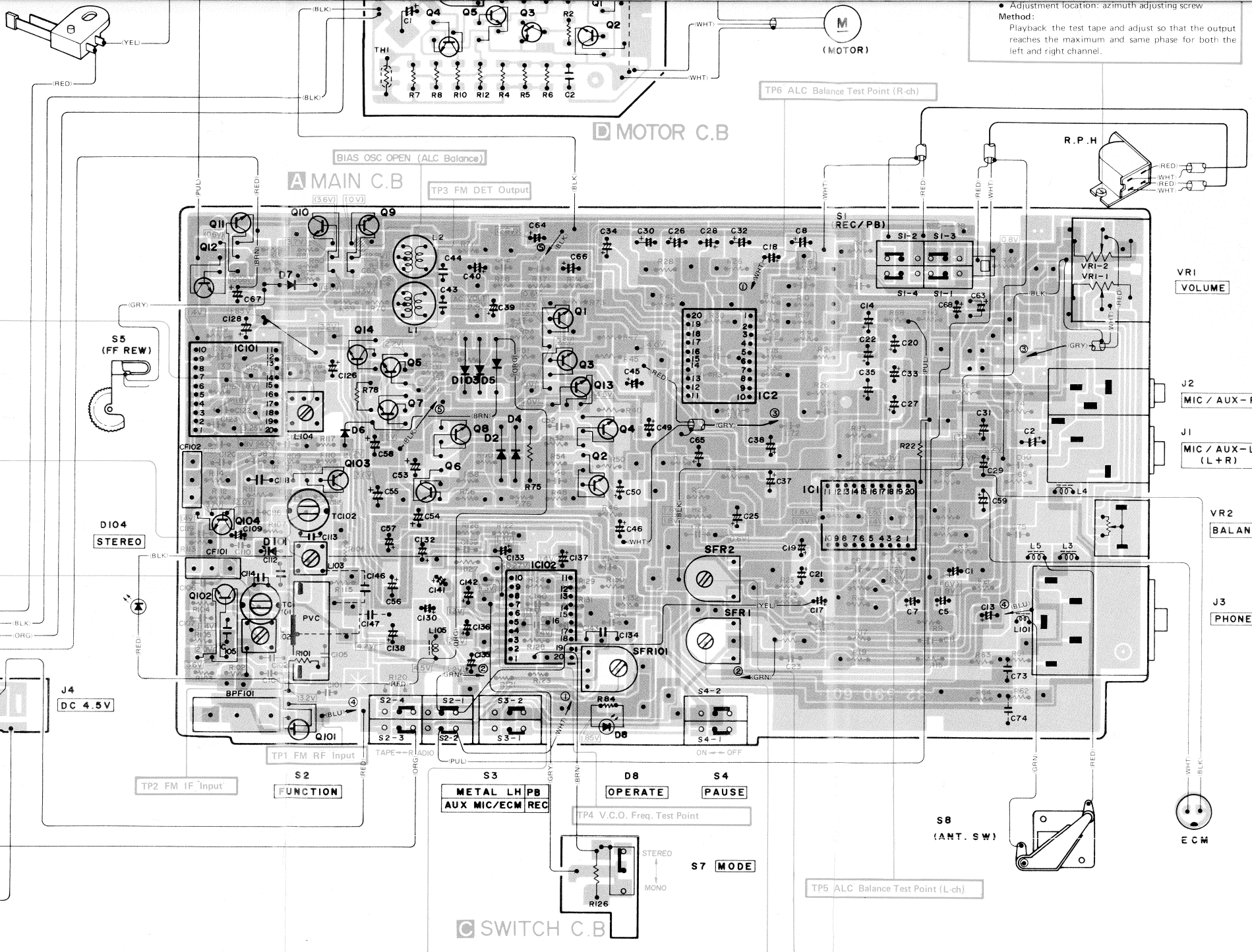
t the switch arm curved

10.7 MHz

Range Adj.  
87.4 MHz  
108.3 MHz

Adj.  
88.0 MHz  
108.0 MHz

BACK C.B.



Adjustment location: azimuth adjusting screw  
Method:  
Playback the test tape and adjust so that the output  
reaches the maximum and same phase for both the  
left and right channel.

(3) V.C.O. Freq. Adjustment  
Settings:  
• Test point: TP4  
• Adjustment location: SFR101

(6) Playback Balance Adjustment  
Settings:  
• Test tape: TTA-112A  
• MODE switch: TAPE

(7) ALC Balance Adjustment  
Settings:  
• Input signal: MIC, -50 dB  
• Test point: TP5 (L-ch), TP6 (R-ch)

nt  
S  
n: SFR in motor governor circuit  
board

tape and adjust so that the fre-  
quency is at the start and the end of tape

nt  
tch so that the switch arm curved

M IF Adj.  
104 ..... 10.7 MHz

M Freq. Range Adj.  
103 ..... 87.4 MHz  
C102 ..... 108.3 MHz

M Tracking Adj.  
102 ..... 88.0 MHz  
C101 ..... 108.0 MHz

JACK C.B.

J4 DC 4.5V

TP1 FM RF Input

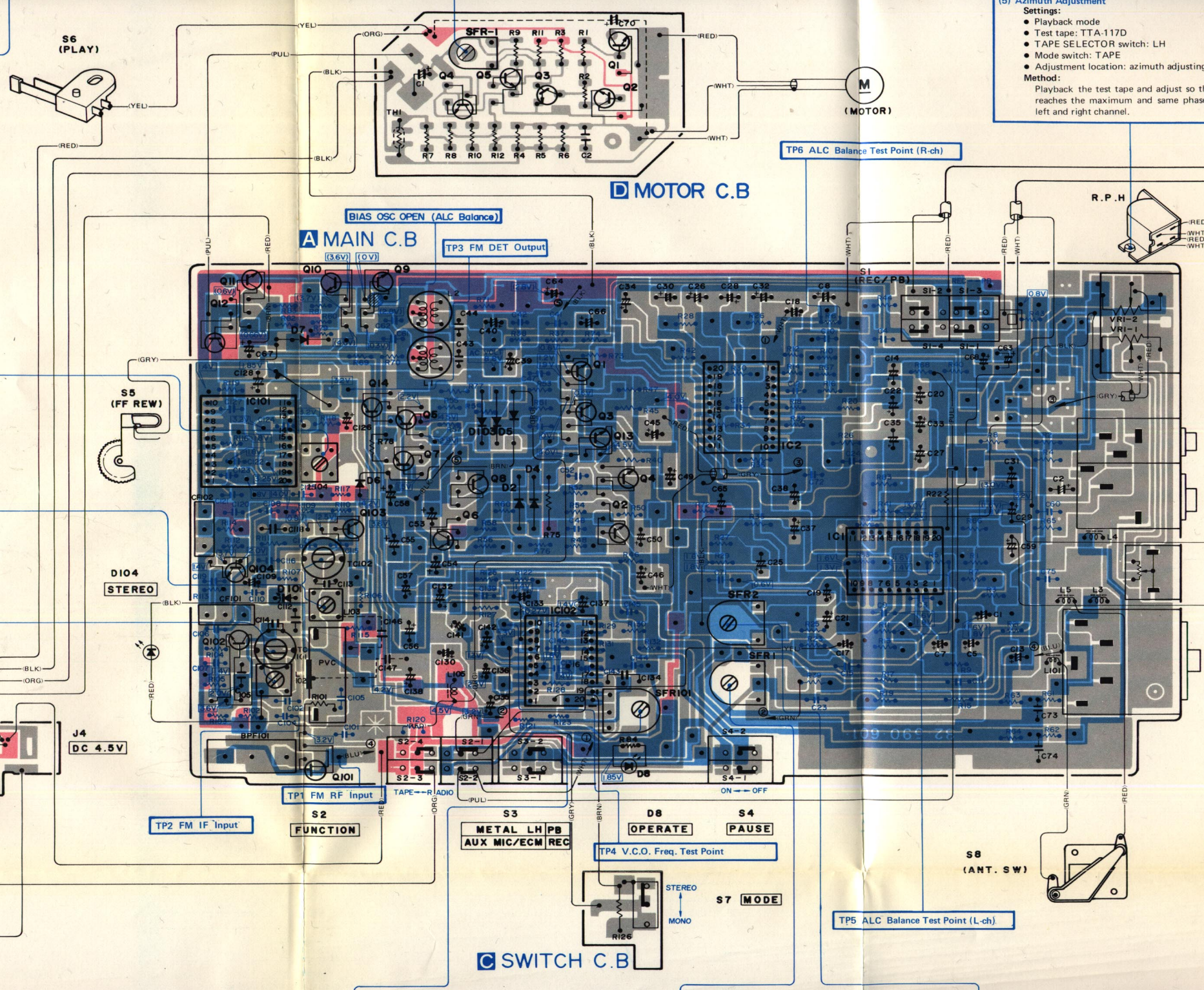
TP2 FM IF Input

TP3 FM DET Output

TP4 V.C.O. Freq. Test Point

TP5 ALC Balance Test Point (L-ch)

TP6 ALC Balance Test Point (R-ch)



(5) Azimuth Adjustment

Settings:

- Playback mode
- Test tape: TTA-117D
- TAPE SELECTOR switch: LH
- Mode switch: TAPE
- Adjustment location: azimuth adjusting screw

Method:

Playback the test tape and adjust so that the frequency reaches the maximum and same phase for both left and right channel.

VRI VOL

J2 MIC

J1 MIC

EC