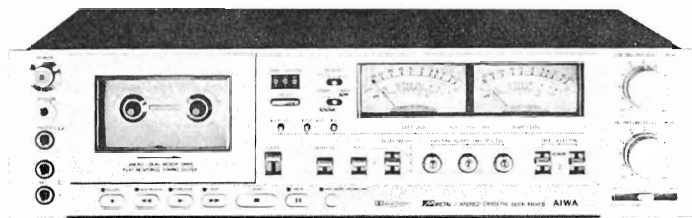


# FLAT RESPONSE TUNING SYSTEM STEREO CASSETTE DECK

MODEL NO. AD-6900MKII H,U,E,K

# AIWA® (SERVICE MANUAL)

Code No. 04-690-000-54



Shown above is AD-6900MKII,H

DATE OF ISSUE 7/1979

## SPECIFICATIONS

**Semiconductors:** 20 IC's, 90 transistors, 78 diodes, 10 FET's 6 LED's & 1 PIN diode

**Power source:** AC 110V/120V/220V/240V (H model)  
AC 110~120V/220V/240V (E model)  
AC 120V/240V (K model) (switchable) 50/60 Hz  
AC 120V, 60 Hz (U model)

**Power consumption:** 26W

**Dimensions:** 450(W) x 120(H) x 327(D) mm  
[17-3/4"(W) x 4-3/4"(H) x 12-7/8"(D)]

**Weight:** 9.5 kg [20.9 lbs.]

**Track system:** 4-track 2-channel stereo

**Tape speed:** 4.8 cm/sec.  $\pm$  0.5%

**Wow & flutter:** Less than 0.04% (WRMS) at Pb

**Automatic stop system:** Full auto-stop

**Automatic shut-off action time:** 2  $\pm$  0.5 s.

**Pinch roller pressure:** 450  $\pm$  40 g (4.41  $\pm$  0.39N)

**Take-up torque:** 50  $\pm$  10 g-cm (490  $\pm$  98m N-m)

**FF & rewind torque:** 155  $\pm$  25 g-cm (1519  $\pm$  245m N-m)

**FF & rewind time:** 65  $\pm$  5 s. (w/c-60 cassette)

**Playback output:** 0.58  $\pm$  0.06 V (LINE)

**Playback noise:** Less than 3.5 mV (LH, DOLBY OFF)  
(Un-Weighted)  
Less than 1.0 mV (Fe-Cr, CrO<sub>2</sub>, METAL, DOLBY ON)

**Rec./Pb output:** 0 VU  $\pm$  1.0 dB (LINE)

**Rec./Pb distortion:** Less than 1.5% (LH, CrO<sub>2</sub>)  
(400 Hz 0 VU)  
Less than 1.0% (Fe-Cr, METAL)

**Rec./Pb S/N:** More than 40/45 dB (LH, DOLBY OFF/ON)  
(400 Hz 0 VU)  
More than 43/46 dB (Fe-Cr, CrO<sub>2</sub>, METAL, DOLBY OFF/ON)  
(Un-Weighted)

**Channel separation:** More than 30 dB  
(1 kHz 0 VU)

**Cross talk:** More than 60 dB  
(1 kHz 0 VU)

**Erasing ratio:** More than 60 dB  
(400 Hz 0 VU +10 dB)

**VU meter display error:** 0 VU  $\pm$  0.5 dB  
(0 VU)

**Peak meter display error:** (0 VU +7 dB) +7 dB  $\pm$  1 dB  
(0 VU -10 dB) -10 dB  $\pm$  1 dB  
(0 VU -20 dB) -20 dB  $\pm$  2 dB

**Bias frequency:** 105 kHz

**Frequency response:** LH tape, 20~16,000 Hz  
25~14,000 Hz (  $\begin{smallmatrix} +2 \\ -3 \end{smallmatrix}$  dB)  
Fe-Cr tape, 20~20,000 Hz  
25~18,000 Hz (  $\begin{smallmatrix} +2 \\ -3 \end{smallmatrix}$  dB)

**CrO<sub>2</sub> tape,** 20~19,000 Hz  
25~17,000 Hz (  $\begin{smallmatrix} +2 \\ -3 \end{smallmatrix}$  dB)

**METAL tape,** 20~20,000 Hz  
25~18,000 Hz (  $\begin{smallmatrix} +2 \\ -3 \end{smallmatrix}$  dB)

**Motor:** 38 pulse FG servo motor (for capstan)  
DC servo motor

**Head:** V-cut combination ferrite head (for Rec./Pb)  
Double cap ferrite head (for Erasure)

**Input:** MIC; Max. input sensitivity 0.25 mV (200  $\Omega$ ~10 k $\Omega$  suitable)  
LINE IN; Max. input sensitivity 75 mV (More than 50 k $\Omega$ )  
DIN; Max. input sensitivity 0.25 mV (50 k $\Omega$ ) (H,E,K model)

**Output:** LINE OUT; Standard output level 0.41V (0 VU)  
Optimum load impedance More than 50 k $\Omega$   
DIN; Standard output level 0.41 V (0 VU)  
Optimum load impedance More than 50 k $\Omega$  (H,E,K model)  
PHONES; 8  $\Omega$ ~150  $\Omega$

### Remote control unit specifications

**Number of channels:** 7

**Clock frequency:** 40 kHz  $\pm$ 1%

**Power requirements:** 4.5V UM-3 (size 'AA') x 3

**Current consumption:** 500 mA (when transmitting)  
5  $\mu$ A (during shutdown)  
under normal conditions)

**Transmission directivity:** About  $\pm$ 45°

**Coverage range:** About 8 meters

**Semiconductors used:** 2 ICs, 5 transistors, 1 diodes,  
2 LEDs

**Usable temperature range:** +0°C to +35°C

**Dimensions:** 50 (W) x 25 (H) x 150 (D) mm  
2"(W) x 1"(H) x 5-15/16"(D)

**Weight:** 163g 0.36 lbs

- Specifications and external appearance are subject to change without notice due to product improvement.
- Dolby Noise Reduction System is licensed from Dolby Laboratories Incorporated.
- The name "Dolby" and the "Double D" symbol are trademarks of Dolby Laboratories Incorporated.

**DISASSEMBLY INSTRUCTIONS**

**1. To Remove Cassette Lid, Blinder and Cassette Plate**

- 1) Remove the cassette lid.
- 2) Remove the blinder.
- 3) Remove 2 screws, securing the cassette plate in place.  
(Refer to Fig. 1)

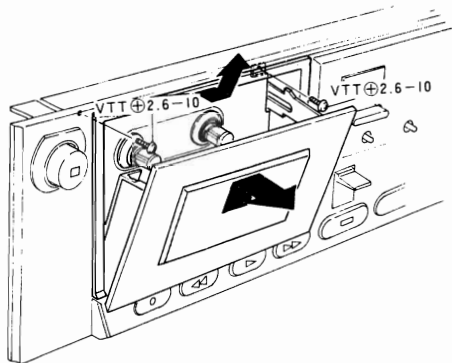


Fig. 1

**2. To Remove Front Panel**

- 1) Remove the connector.
- 2) Pull out the 13 knobs.
- 3) Remove 6 screws.  
(Refer to Fig. 2)

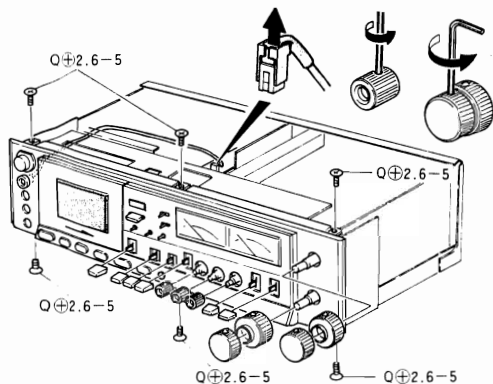


Fig. 2

**3. To Remove Mechanism**

- 1) Remove 2 screws, securing the player shync circuit board in place.
- 2) Remove 4 screws, securing the power transformer in place.
- 3) Remove 2 screws, securing the power switch holder in place.
- 4) Remove the counter belt and main belt.
- 5) Remove the rod stoppers and take out the selector rods.  
(Refer to Fig. 3)

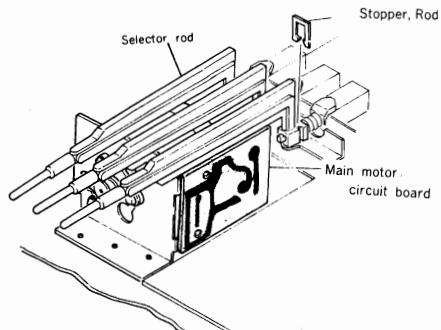


Fig. 3

- 6) Remove 10 screws.  
(Refer to Fig. 4 and Fig. 5)

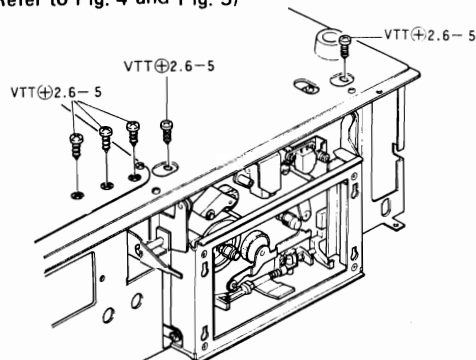


Fig. 4

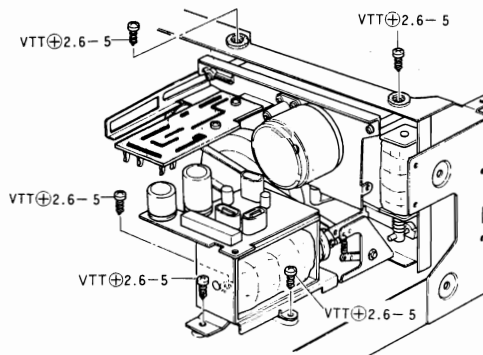
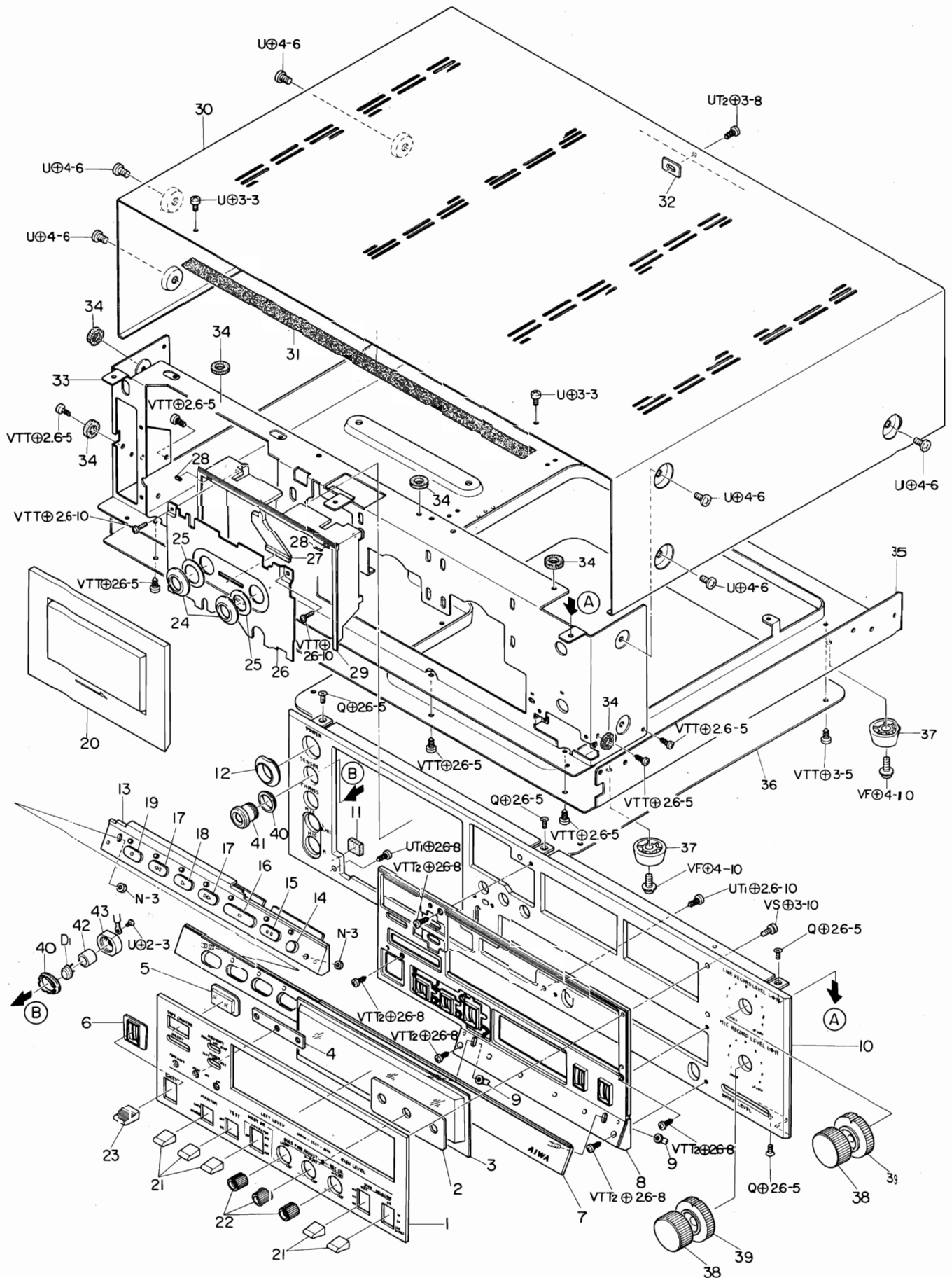


Fig. 5



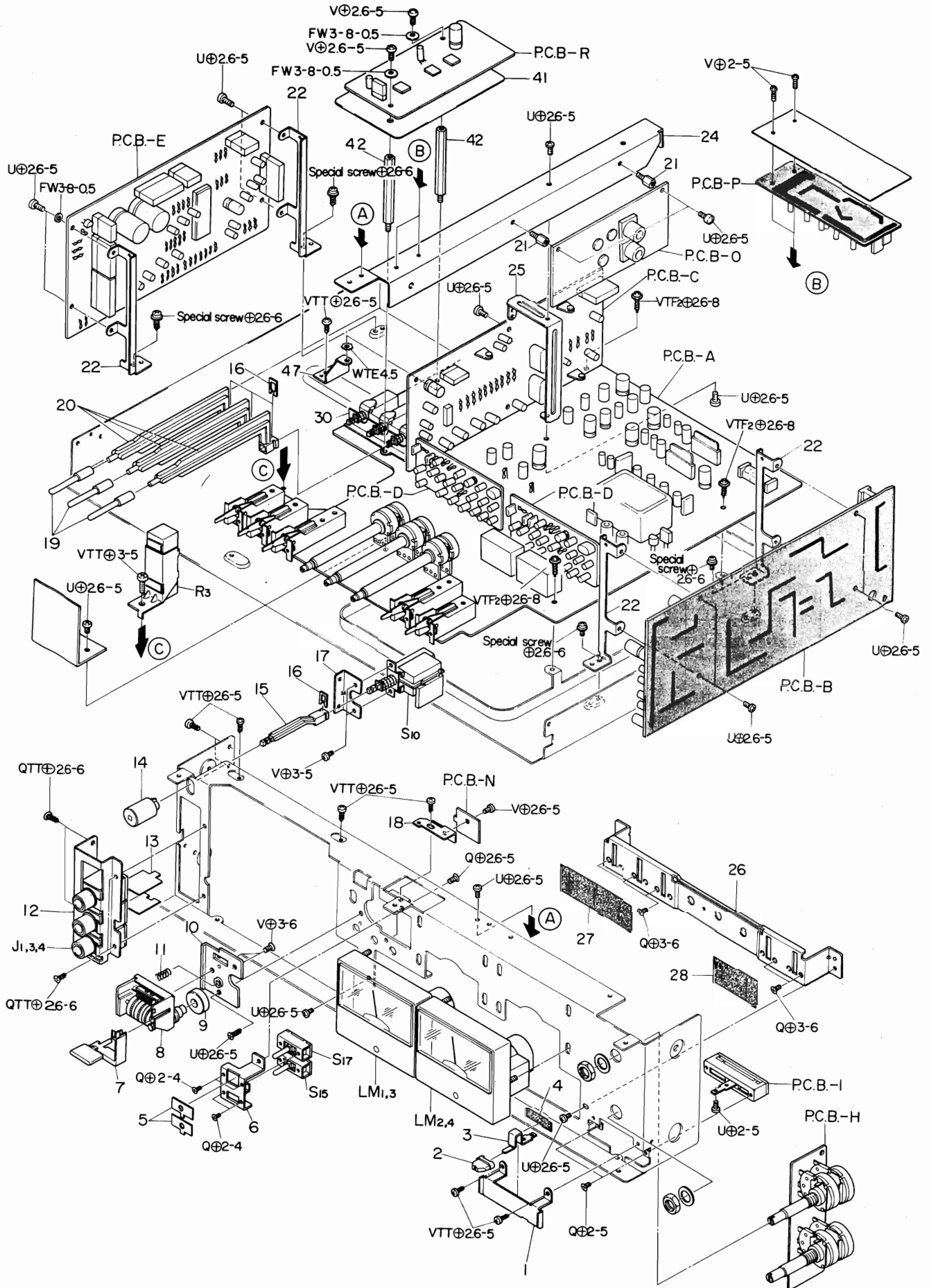
EXPLODED VIEW-1





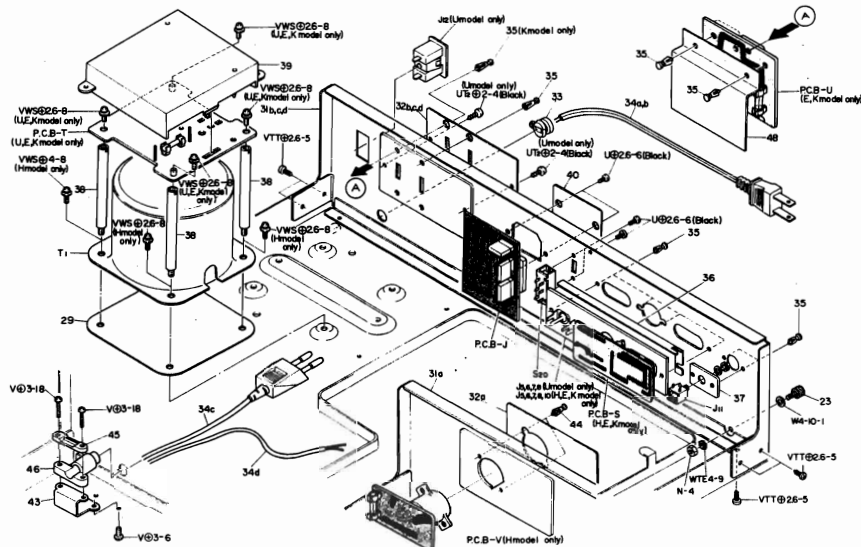


EXPLODED VIEW-2

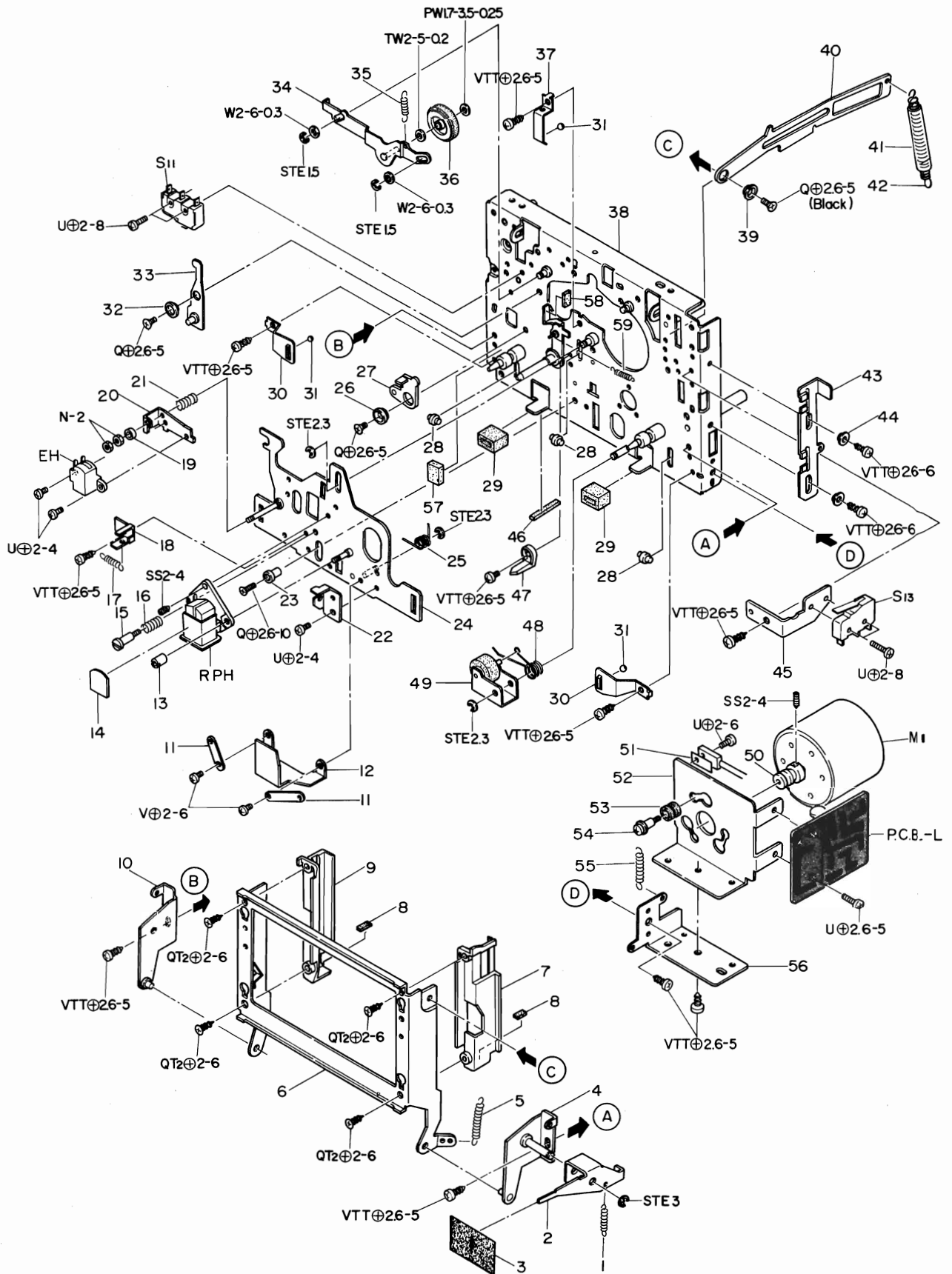


Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
2-1	82-328-018-01		Cover, PB volume	*	1
2-2	82-328-011-01		Knob D ass'y	*	1
2-3	82-304-254-01		Holder, Volume	AD-6900	1
2-4	82-304-291-01		Himeron cloth, PB volume	AD-6900	1
2-5	82-304-048-01		Selector cover	AD-6900	1
2-6	82-304-205-01		Holder B, Switch	AD-6900	1
2-7	82-304-027-01		Button, Reset	AD-6900	1
2-8	87-040-100-01		Counter	AD-6900	1
2-9	82-379-617-01		Ring magnet	AD-1800	1
2-10	82-304-206-01		Holder, Counter	AD-6900	1
2-11	82-304-303-01		C spring, Reset	AD-6900	1
2-12	82-304-634-01		Jack ass'y	AD-6900	1
2-13	82-304-647-01		Jack shield plate	AD-6900	1
2-14	82-321-015-01		AC switch button silver ass'y		1
2-15	82-304-210-01		Rod, Power	AD-6900	1
2-16	82-385-383-01		Stopper, Rod	AD-6300	4
2-17	82-304-258-01		Holder, Power	AD-6900	1
2-18	82-397-265-01		Holder, Hall IC	AD-6550	1
2-19	82-304-028-01		Push button	AD-6900	3
2-20	82-304-211-01		Rod selector	AD-6900	3
2-21	82-307-229-01		Holder, Circuit board	AD-6700	2
2-22	82-304-207-01		Holder A, Circuit board	AD-6900	4
2-23	87-033-088-01		Earth terminal		1
2-24	82-307-232-01		Holder C, Circuit board	AD-6700	1
2-25	82-304-262-01		Holder D, Circuit board	AD-6900	1
2-26	82-304-204-01		Holder A, Switch	AD-6900	1
2-27	82-304-273-01		Himeron cloth, Selector A	AD-6900	1
2-28	82-304-274-01		Himeron cloth, Selector B	AD-6900	1
2-29	82-304-735-01		Shield plate, Power transformer	AD-6900	1
2-30	82-304-300-01		Holder, Selector switch	AD-6900	1
2-31a	82-307-031-01		Back panel (H model only)	AD-6700	1
2-31b	82-307-029-01		Back panel (U model only)	AD-6700	1
2-31c	82-307-032-01		Back panel (E model only)	AD-6700	1
2-31d	82-307-033-01		Back panel (K model only)	AD-6700	1
2-32a	82-153-040-01		Name plate, Spec. (H model only)		1
2-32b	82-153-044-01		Name plate, Spec. (U model only)		1
2-32c	82-153-042-01		Name plate, Spec. (E model only)		1
2-32d	82-153-043-01		Name plate, Spec. (K model only)		1
2-33	87-085-101-01		Cord bushing		1
2-34a	87-034-826-01		AC power cord (H model only)		1
2-34b	87-034-874-01		AC power cord (U model only)		1
2-34c	87-034-877-01		AC power cord (E model only)		1
2-34d	87-034-872-01		AC power cord (K model only)		1
2-35	87-085-102-01		Nylon rivet		1
2-36	82-386-629-01		Shield plate, Jack	AD-1250	1
2-37	82-387-273-01		Holder, Jack	AD-6800	1
2-38	82-304-325-01		Holder I, Circuit board (U,E,K model only)	AD-6900	4
2-39	82-304-326-01		Shield case, Fuse (U,E,K model only)	AD-6900	1
2-40	82-307-028-01		Sheet, Brind	AD-6700	1
2-41	82-307-654-11		Shield sheet, Remote	AD-6700	1
2-42	82-307-236-01		Holder B, Circuit board	AD-6700	2
2-43	82-397-244-01		Holder, AC power cord (E,K model only)	AD-6550	1
2-44	87-085-090-01		Nylon rivet (H model only)		2
2-45	87-085-094-01		Holder A, AC power cord (E,K model only)		1
2-46	87-085-095-01		Holder B, AC power cord (E,K model only)		1
2-47	82-304-306-01		Holder F, Circuit board	AD-6900	1
2-48	82-304-749-01		Insulation plate, V selector	AD-6900	1

H,U:6  
E: 12,K:10



EXPLODED VIEW-3



Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
3-1	82-304-264-01		Spring, Eject lever	AD-6900	1
3-2	82-304-236-01		Lever, Eject key	AD-6900	1
3-3	82-304-275-01		Himeron cloth, Eject	AD-6900	1
3-4	82-304-215-01		Holder, Cassette box R ass'y	AD-6900	1
3-5	82-304-252-01		Spring, Cassette lid	AD-6900	1
3-6	82-304-212-01		Cassette box ass'y	AD-6900	1
3-7	82-304-046-01		Cassette holder R	AD-6900	1
3-8	82-304-284-01		Cushion, Cassette	AD-6900	2
3-9	82-304-047-01		Cassette holder L	AD-6900	1
3-10	82-304-219-01		Holder, Cassette box L ass'y	AD-6900	1
3-11	82-365-280-01		Holder, Wire		2
3-12	82-304-308-01		Shield plate,	AD-6900	1
3-13	82-304-317-01		Nut, Azimuth	AD-6900	1
3-14	82-304-069-01		Label, Head	AD-6900	1
3-15	82-304-289-01		Screw, Rec./Pb. head	AD-6900	1
3-16	82-304-290-01		Spring, Rec./Pb. head	AD-6900	1
3-17	82-303-377-01		Spring A, Erase head		1
3-18	82-303-375-01		Stopper, Erase head		1
3-19	82-303-371-01		Collar, Erase head		1
3-20	82-303-374-01		Holder, Erase head		1
3-21	82-303-376-01		Spring, Erase head		1
3-22	82-303-294-01		Holder, Spring		1
3-23	82-303-306-01		Flange collar, Actuating		1
3-24	82-303-236-01		Actuating chassis ass'y		1
3-25	82-303-315-01		Spring, Actuating		1
3-26	82-303-295-01		Flange collar, Actuating lock		1
3-27	82-303-288-01		Lever, Actuating lock		1
3-28	82-303-302-01		Roller, Actuating		3
3-29	82-303-312-01		Cushion, Actuating		2
3-30	82-303-299-01		Spring, Actuating B		2
3-31	82-215-341-01		Steel ball		3
3-32	82-303-303-01		Flange collar idler lever		1
3-33	82-303-337-01		Lever, Play idler B ass'y		1
3-34	82-303-342-01		Lever, Play idler ass'y		1
3-35	82-303-325-01		Spring, Play idler		1
3-36	82-303-274-01		Play idler ass'y		1
3-37	82-303-298-01		Spring, Actuating A		1
3-38	82-304-201-01		Mechanism chassis ass'y		1
3-39	82-304-287-01		Flange collar, Cassette lid	AD-6900	1
3-40	82-304-239-01		Lock plate, Cassette lid	AD-6900	1
3-41	87-830-504-01		UL tube 5φ x 40		1
3-42	82-304-318-01		Spring, Lock plate	AD-6900	1
3-43	82-304-237-01		Slide plate, Eject	AD-6900	1
3-44	82-304-241-01		Flange collar, Eject	AD-6900	1
3-45	82-304-235-01		Holder, Lead switch	AD-6900	1
3-46	82-303-372-01		Felt, Erase head		1
3-47	82-303-290-01		Guide, Cassette lid		1
3-48	82-303-316-01		Spring, Pinch lever		1
3-49	82-303-260-01		Pinch roller ass'y		1
3-50	82-303-301-01		Motor pulley, Flywheel		1
3-51	82-304-701-01		Spacer, Insulation	AD-6900	1
3-52	82-304-256-01		Holder, Motor A	AD-6900	1
3-53	87-087-029-01		Rubber cushion		3
3-54	87-081-483-01		Motor screw, M2.6		3
3-55	82-304-265-01		Spring, Eject	AD-6900	1
3-56	82-304-257-01		Holder, Motor B	AD-6900	1
3-57	82-303-367-01		Cushion, Actuating		1
3-58	82-303-382-01		Felt, Brake		1
3-59	82-303-326-01		Spring, Back tension		1







Symbol No.	Part No.	Description
△ R202	87-029-016-01	22Ω ½W Fuse resistor
△ R209	87-029-017-01	10Ω ¼W Fuse resistor
△ R210	87-029-007-01	22Ω ¼W Fuse resistor
<b>&lt; Capacitors &gt;</b>		
C21,22	87-015-327-01	0.1μF 50V Electrolytic LL
C115,116	87-968-410-01	100pF 500V Dipped mica
C35,36	87-014-033-01	100pF ±5% PP
C25,26	87-014-047-01	390pF ±5% PP
C17,18	82-304-648-01	0.018μF ±2% PP
<b>≪ FRTS CIRCUIT BOARD SECTION ≫</b>		
PCB-B	82-304-607-31	Frts circuit board
IC1,2	87-027-137-01	IC, TA-7122AP
IC3	87-027-235-01	IC, NJM-4558D
Q1,2	82-371-625-01	FET, 2SK30 (D)
Q3,4,5,6	89-312-222-01	Transistor 2SC1222 (E)
Q7,8,12	89-402-275-01	Transistor, 2SD227 (V)
Q9,10,11,13,14	89-318-154-01	Transistor, 2SC1815 (Y)
D1,2	87-027-171-01	Zener diode, RD2.7E
D3,4,5,6	87-026-066-01	Diode, M8513A (O)
SFR1,2	87-021-525-01	Semi-fixed resistor, 3kΩ-B
SFR3	87-021-481-01	Semi-fixed resistor, 100kΩ-B
SFR4	87-021-431-01	Semi-fixed resistor, 30kΩ-B
SFR5	87-021-480-01	Semi-fixed resistor, 50kΩ-B
SFR6	87-021-434-01	Semi-fixed resistor, 20kΩ-B
PIN-1	87-032-897-01	Pin, 3P
<b>&lt; Resistors &gt;</b>		
R92	82-304-684-01	47Ω 10W Cement resistor
<b>&lt; Capacitors &gt;</b>		
C49,50	87-015-241-01	1μF 50V Electrolytic LL
C57,58	87-015-242-01	2.2μF 50V Electrolytic LL
C33,34	87-015-243-01	3.3μF 50V Electrolytic LL
C53,54	87-015-246-01	4.7μF 25V Electrolytic LL
C43,44	87-015-247-01	10μF 25V Electrolytic LL
C2,4	87-014-049-01	470pF ±5% PP
<b>≪ PEAK METER CIRCUIT BOARD SECTION ≫</b>		
PCB-C	82-304-606-51	Peak meter circuit board
IC1,3,101	87-027-183-01	IC, NUM-4558
IC2	87-027-184-01	IC, μPC324C
Q1,2	89-107-505-01	Transistor, 2SA-750 (E)
Q3,4	87-027-198-01	FET, 2SK68 (N)
Q5,6,7,8	87-027-245-01	FET, 2SK68A (N)
Q9,10,12	89-107-335-61	Transistor, 2SA733 (K, P)
Q11,13,101,102,103,104	89-309-455-61	Transistor, 2SC945 L (P, Q)
D1~8	87-027-253-01	Diode, M8513A (AIWA)
D9,10,11,12,43,44	87-027-097-01	Diode, 1S1555
D41	82-371-647-01	Zener diode, RD-7.5E
D101,102,103,104,105,106	88-052-188-11	Diode, 1S188 (FM)
Th1,2	82-304-721-01	Thermistor, 5kΩ
SFR1,2	87-021-522-01	Semi-fixed resistor, 1MΩ-B
SFR3,4	87-021-524-01	Semi-fixed resistor, 10kΩ-B
SFR5,6	87-021-512-01	Semi-fixed resistor, 2kΩ-B
SFR101,102	87-021-520-01	Semi-fixed resistor 5kΩ-B
PIN-3	87-032-904-01	Pin, 4P
PIN	87-032-635-01	Pin, 5P
PIN-2	87-032-906-01	Pin, 6P
PIN	87-032-638-01	Pin, 8P

Symbol No.	Part No.	Description
<b>&lt; Capacitors &gt;</b>		
C5,6,101,102	87-015-379-01	1μF 50V Electrolytic BP
C1,2,103,104	87-015-380-01	4.7μF 25V Electrolytic BP
C7,8	87-014-082-01	0.47μF 50V Mylar
<b>≪ DOLBY-NR CIRCUIT BOARD SECTION ≫</b>		
PCB-D	82-304-728-11	Dolby-NR circuit board
IC1,2	82-304-729-01	IC, CR-713
D1	82-371-647-01	Zener diode, RD-7.5 (E)
D3,4	88-051-060-01	Diode, 1N60
	87-032-898-01	IC socket, 16P
PIN	87-032-646-01	Pin, 16P
<b>&lt; Resistor &gt;</b>		
R9,10	82-371-652-01	3.3kΩ ¼W ±1%
<b>&lt; Capacitors &gt;</b>		
C1,2	87-015-241-01	1μF 50V Electrolytic LL
C9,10	87-015-247-01	10μF 25V Electrolytic LL
C11,12	82-371-643-01	4700pF ±2% PP
C3,4	82-371-642-01	5600pF ±2% PP
C13,14	82-371-641-01	0.027μF ±2% PP
<b>≪ MICROPROCESSOR CIRCUIT BOARD SECTION ≫</b>		
PCB-E	82-319-602-31	Microprocessor circuit board
IC1	87-027-425-01	IC, μPD-546C-66
IC2,3,4	87-027-426-01	IC, 1R-2403
Q1,2,3,4,5,6,10,12	89-309-455-01	Transistor, 2SC945L (Q)
Q7,9,11	89-404-143-01	Transistor, 2SD414 (Q)
Q8	89-402-344-01	Transistor, 2SD234 (Y)
Q13	89-309-457-01	Transistor, 2SC945L (K)
D1	88-052-188-11	Diode, 1S188 (FM)
D2,3,4,6,7,8,9,11,12,16	87-027-097-01	Diode, 1S1555
D5	87-027-416-01	Zener diode, HZ3C2
D10	87-026-069-01	Zener diode, WZ-052
D13,14	87-027-365-01	Diode, S5277 (B)
D15	87-027-140-01	Zener diode, 05Z-6.2U
D17	87-027-171-01	Zener diode, RD2.7E
D18	87-027-097-01	Diode, 1S1555
RY1,S18	82-304-651-01	Relay, L
RY2,S19	84-196-630-01	Relay, BR211AD
X1	87-008-186-01	Ceramic, CSB400R1
PIN-6,7	87-032-904-01	Pin, 4P
PIN-22	87-032-905-01	Pin, 5P
PIN-5	87-032-906-01	Pin, 6P
PIN-9	87-032-908-01	Pin, 8P
PIN-8	87-032-909-01	Pin, 9P
PIN-4	87-032-910-01	Pin, 10P
PIN-10	87-032-912-01	Pin, 12P
<b>&lt; Resistor &gt;</b>		
△ R51	87-029-015-01	10Ω ¼W Fuse resistor (E,K model only)
<b>≪ TERMINAL CIRCUIT BOARD SECTION ≫</b>		
PCB-G	82-304-753-01	Terminal circuit board
Q1	89-309-455-01	Transistor, 2SC945L (Q)
D1	87-027-365-01	Diode, S5277B
D2	88-052-188-11	Diode, 1S188 (FM)
<b>≪ VOLUME CIRCUIT BOARD-2 SECTION ≫</b>		
PCB-H	82-304-691-21	Volume circuit board-2
VR1,2	82-304-680-11	Volume, 20kΩ-A (MIC RECORD LEVEL)
VR3,4	82-304-681-11	Volume, 50kΩ-A (LINE RECORD LEVEL)

Symbol No.	Part No.	Description
<b>≪ VOLUME CIRCUIT BOARD-1 SECTION ≫</b>		
PCB-I	82-304-605-11	Volume circuit board-1
VR5,6	82-304-622-01	Slide volume, 10kΩ-A (OUTPUT LEVEL)
<b>≪ REMOTE CONTROL JACK CIRCUIT BOARD SECTION ≫</b>		
PCB-J	82-307-653-11	Remote control jack circuit board
J9	82-307-669-01	Connector
<b>≪ SWITCH CIRCUIT BOARD SECTION ≫</b>		
PCB-K	82-304-740-11	Switch circuit board ass'y
D1,6	87-026-112-01	Light emitting diode, SEL-1033 (RED)
D2,3,4,5	87-026-113-01	Light emitting diode, SEL-303E (GRN)
<b>≪ DME CIRCUIT BOARD SECTION ≫</b>		
PCB-N	82-307-655-01	DME circuit board
DME	82-397-642-11	DME-101A
<b>≪ METAL CIRCUIT BOARD SECTION ≫</b>		
PCB-O	82-304-752-01	Metal circuit board
L1,2	82-304-714-01	Coil, 3.3mH
SFR1,2	87-021-366-01	Semi-fixed resistor, 10kΩ-B
PIN-19	87-032-903-01	Pin, 3P
PIN-18,20	87-032-904-01	Pin, 4P
<b>≪ EQ CIRCUIT BOARD SECTION ≫</b>		
PCB-P	82-304-713-11	EQ circuit board
Q1~6	89-318-154-01	Transistor, 2SC1815 (Y)
<b>≪ THERMISTOR CIRCUIT BOARD SECTION ≫</b>		
PCB-Q	82-304-719-01	Thermistor circuit board
Th1	82-304-720-01	Thermistor, 1.7kΩ
Th2	82-304-721-01	Thermistor, 5kΩ
<b>≪ RX CIRCUIT BOARD SECTION ≫</b>		
PCB-R	82-307-640-21	RX circuit board
IC1	87-027-355-01	IC, LF357
IC2	87-027-235-01	IC, 4558
IC3	87-027-300-01	IC, 555 TIMER
Q1	89-309-455-61	Transistor, 2SC945L (P,Q)
D2	88-052-188-11	Diode, 1S188 (FM)
D3	87-027-097-01	Diode, 1S1555
PIN-21	87-032-903-01	Pin, 3P
<b>≪ JACK CIRCUIT BOARD SECTION ≫ = H,E,K model</b>		
PCB-S	82-304-734-11	Jack circuit board
Q1	89-316-347-01	Transistor, 2SC1634 (7)
D1	87-027-097-01	Diode, 1S1555
RY1,S19	84-184-612-01	Relay, Reed HA212N
J5,6,7,8,10	82-304-737-01	jack 4P w/DIN (LINE OUT LINE IN, DIN)
<b>≪ FUSE CIRCUIT BOARD SECTION ≫</b>		
△ PCB-T	82-304-731-01	Fuse circuit board (U,E,K model only)
△ F1	87-035-298-01	Fuse, 1.25A (U model only)
	87-098-166-01	Fuse caution label (U model only)
	87-098-163-01	Fuse label (U model only)
△ F3,5,6	87-035-107-01	Fuse, "T" 315mA (E,K model only)
	87-098-011-01	Fuse label, "T" 315mA (E,K model only)
△ F4	87-035-063-01	Fuse, "T" 630mA (E,K model only)
	87-098-014-01	Fuse label, "T" 630mA (E,K model only)

Symbol No.	Part No.	Description
△ F7	87-035-117-01	Fuse, "T" 1.25A (E,K model only)
	87-098-017-01	Fuse label, "T" 1.25A (E,K model only)
△ F8	87-035-064-01	Fuse, "T" 1A (E,K model only)
	87-098-016-01	Fuse label, "T" 1A (E,K model only)
	87-033-147-01	Fuse clamp
<b>&lt; Capacitors &gt;</b>		
△ C1	87-019-096-01	0.01μF 250V Line capacitor (E model only)
△ C1,2	87-019-096-01	0.01μF 250V Line capacitor (K model only)
<b>≪ VOLTAGE SELECTOR CIRCUIT BOARD SECTION ≫ = E,K model</b>		
△ PCB-U	82-304-730-01	Voltage selector circuit board
△ S22	87-031-364-01	Slide switch (VOLTAGE SELECTOR) (K model only)
△ S22-1,2	87-031-364-01	Slide switch (VOLTAGE SELECTOR) (E model only)
△ F1	87-035-075-01	Fuse, "T" 500mA
	87-098-013-01	Fuse label, "T" 500mA
△ F2	87-035-107-01	Fuse, "T" 315mA (K model only)
	87-098-011-01	Fuse label, "T" 315mA (K model only)
	87-032-744-01	Fuse clamp
<b>≪ VOLTAGE SELECTOR CIRCUIT BOARD SECTION ≫ = H model</b>		
△ PCB-V	82-304-733-11	Voltage selector circuit board
△ S22	82-304-732-01	Rotary switch (VOLTAGE SELECTOR)
△ F1	87-035-075-01	Fuse, "T" 500mA
	87-098-013-01	Fuse label, "T" 500mA
	87-033-147-01	Fuse clamp
<b>≪ MISCELLANEOUS ≫</b>		
△ T1	82-153-601-01	Power transformer (H model only)
△ T1	82-304-646-21	Power transformer (U model only)
△ T1	82-153-603-01	Power transformer (E model only)
△ T1	82-153-604-01	Power transformer (K model only)
D1	87-027-366-01	PIN diode, M133HLF AW
RH,PH	82-304-635-21	RH, PH combination head
EH	87-046-173-01	Erase head
M1,PCB-L	82-304-637-11	Main motor, DC-EG
M2,PCB-M	82-304-638-01	Sub motor, DC-EG
LM1,2,3,4	82-328-607-01	Meter (PEAK/VU)
△ CP1	87-028-036-01	Compound capacitor 0.033μF 120Ω (U model only)
PL3	82-304-718-01	Pilot lamp 8V (CASSETTE WINDOW)
SOL1	82-304-639-01	Solenoid (FWD)
SOL2	82-304-640-11	Solenoid (FR)
J1,3,4	82-307-644-01	Jack ass'y (PHONES, MIC)
J5,6,7,8	82-306-670-01	Pin jack, 4P (LINE OUT, LINE IN) (U model only)



[RC-100 REMOTE CONTROL SECTION]

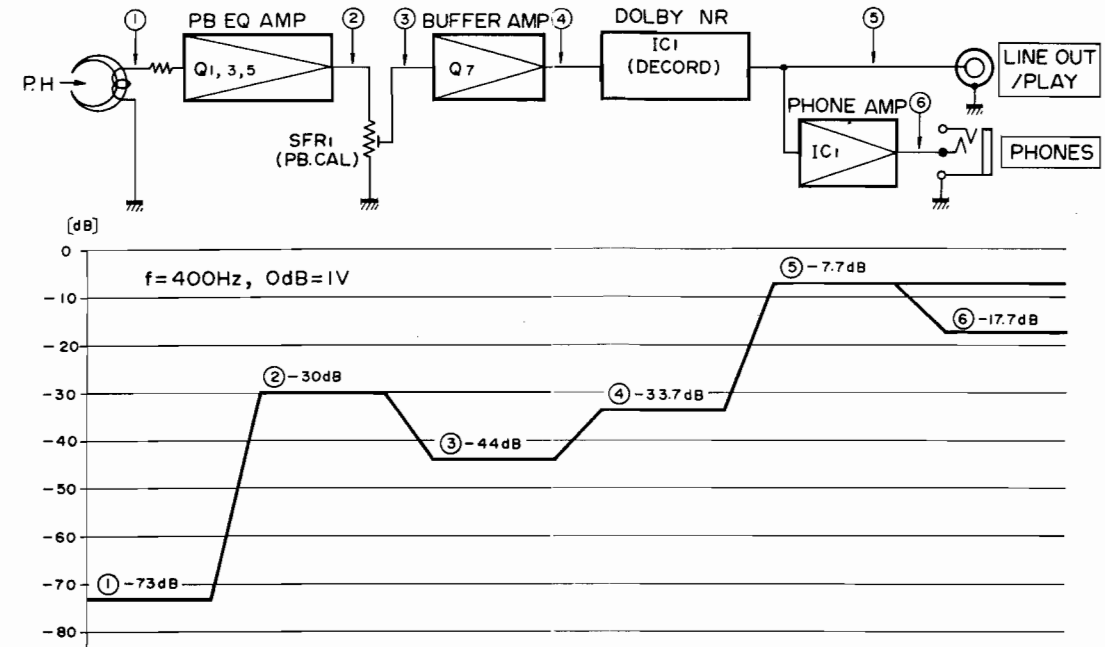
Symbol No.	Part No.	Description
J11	87-032-882-01	Jack, 2.5φ (PLAYER SYNC)
▲ J12	87-032-674-01	Jack (AC OUTLET) (U model only)
▲ S10	87-031-408-01	Push switch (POWER) (H,E,K model only)
▲ S10	87-031-480-01	Push switch (POWER) (U model only)
S11	82-304-723-01	Micro switch (PLAY DETECTION)
S13,14,21	82-304-724-01	Micro switch (CASSETTE DETECTION, ERASE PREVENTION DETECTION, CrO <sub>2</sub> AUTO)
S15,17	82-304-630-01	Slide switch (TIMER, MEMORY)
S16	87-040-100-11	Counter (MEMORY COUNTER)
S20	82-375-623-01	Slide switch (DIN OUTPUT LEVEL) (H,E,K model only)
▲	87-034-826-01	AC power cord (H model only)
▲	87-034-874-01	AC power cord (U model only)
▲	87-034-877-01	AC power cord (E model only)
▲	87-034-872-01	AC power cord (K model only)
▲	87-085-101-01	Cord bushing (U model only)
▲ F9	87-035-107-01	Fuse, "T" 315mA (E,K model only)
▲	87-098-011-01	Fuse label, "T" 315mA (E,K model only)
▲	87-033-161-01	Fuse holder, 1P (E,K model only)
CON-1	82-304-703-01	Connector ass'y, 3P
CON-19	82-328-605-01	Connector ass'y, 3P
CON-21	82-307-650-11	Connector ass'y, 3P
CON-3	82-304-657-11	Connector, ass'y, 4P
CON-6	82-328-608-01	Connector ass'y, 4P
CON-7	82-328-617-01	Connector ass'y, 4P
CON-13	82-304-668-01	Connector ass'y, 4P
CON-18	82-328-603-01	Connector ass'y, 4P
CON-20	82-328-604-01	Connector ass'y, 4P
CON-22	82-307-668-01	Connector ass'y, 5P
CON-12	82-304-669-01	Connector ass'y, 5P
CON-2	82-304-659-11	Connector ass'y, 6P
CON-5	82-328-619-01	Connector ass'y, 6P
CON-11	82-304-670-01	Connector ass'y, 6P
CON-9	82-328-620-01	Connector ass'y, 8P
CON-8	82-328-609-01	Connector ass'y, 9P
CON-4	82-328-618-01	Connector ass'y, 10P
CON-10	82-328-610-01	Connector ass'y, 12P
		< Resistor >
R3	82-304-738-01	47Ω 10W Cement resistor
		< Capacitor >
▲ C1	87-019-096-01	0.01μF 250V Line (H model only)

▲ Safety component symbol  
This symbol is given to important parts which serve to maintain the safety of the product, and which are made to conform to special safety specifications. Therefore, when replacing a component with this symbol, make absolutely sure that you use a designated part.

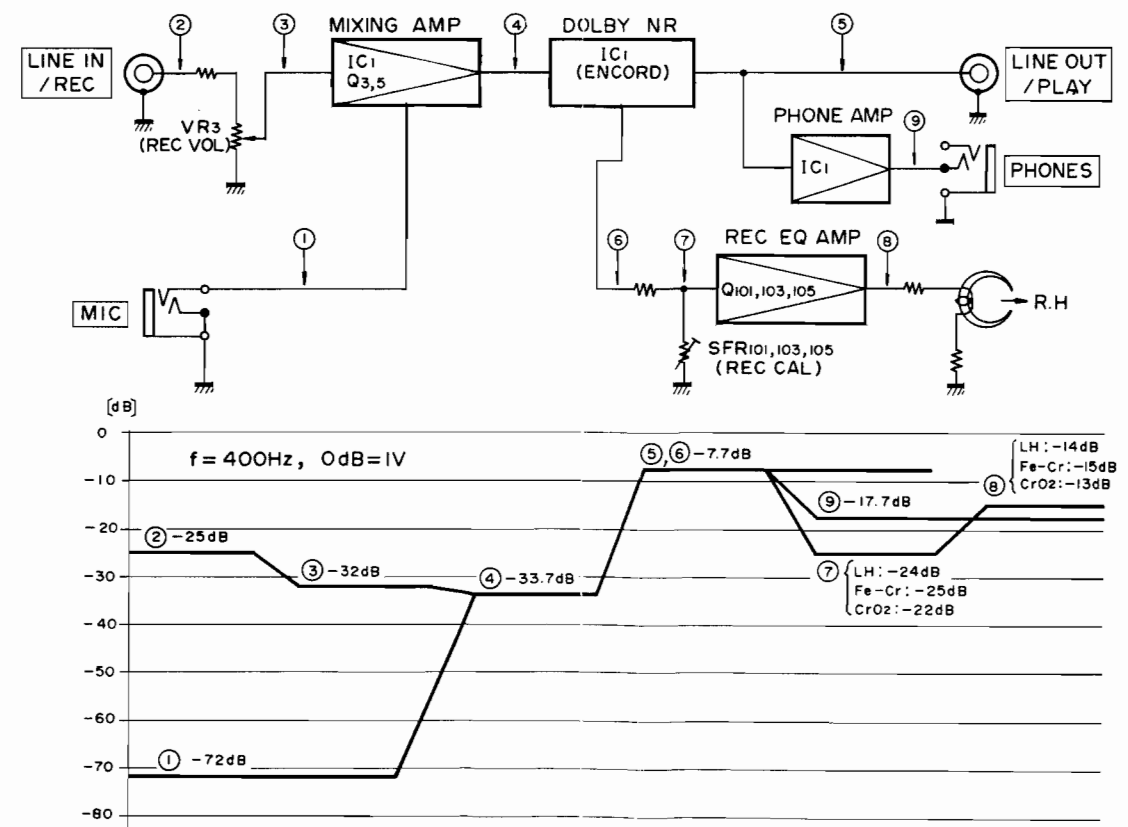
Symbol No.	Part No.	Description
◀ REMOTE CONTROL CIRCUIT BOARD SECTION ▶		
PCB-A	82-307-639-01	Remote control circuit board
◀ TX CIRCUIT BOARD SECTION ▶		
PCB-B	82-307-638-11	TX circuit board
IC1	87-027-421-01	IC, TC4028
IC2	87-027-424-01	IC, M58484
Q1~4	89-309-455-61	Transistor, 2SC945L (P,Q)
Q5	89-404-673-01	Transistor, 2SD467 (C)
D1	87-027-363-01	Light emitting diode, GL-520
D2	87-027-097-01	Diode, 1S1555
D3	87-027-356-01	Light emitting diode, GL-9PR-6
X1	87-008-191-01	Ceramic, SFB-455R

LEVEL DIAGRAM

• PLAYBACK



• RECORD

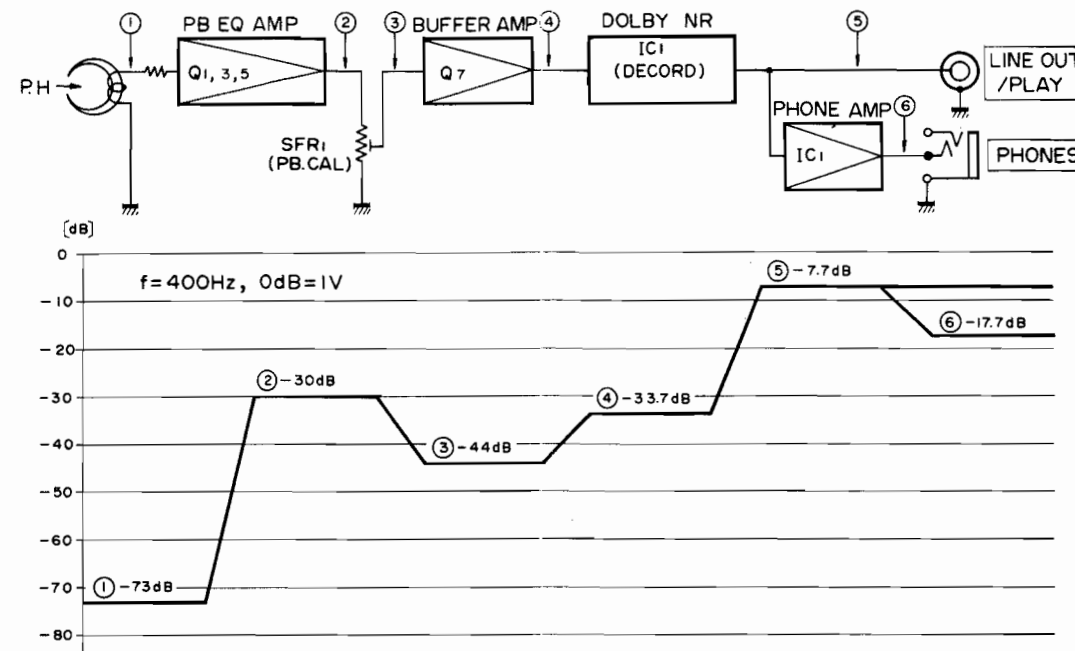


[RC-100 REMOTE CONTROL SECTION]

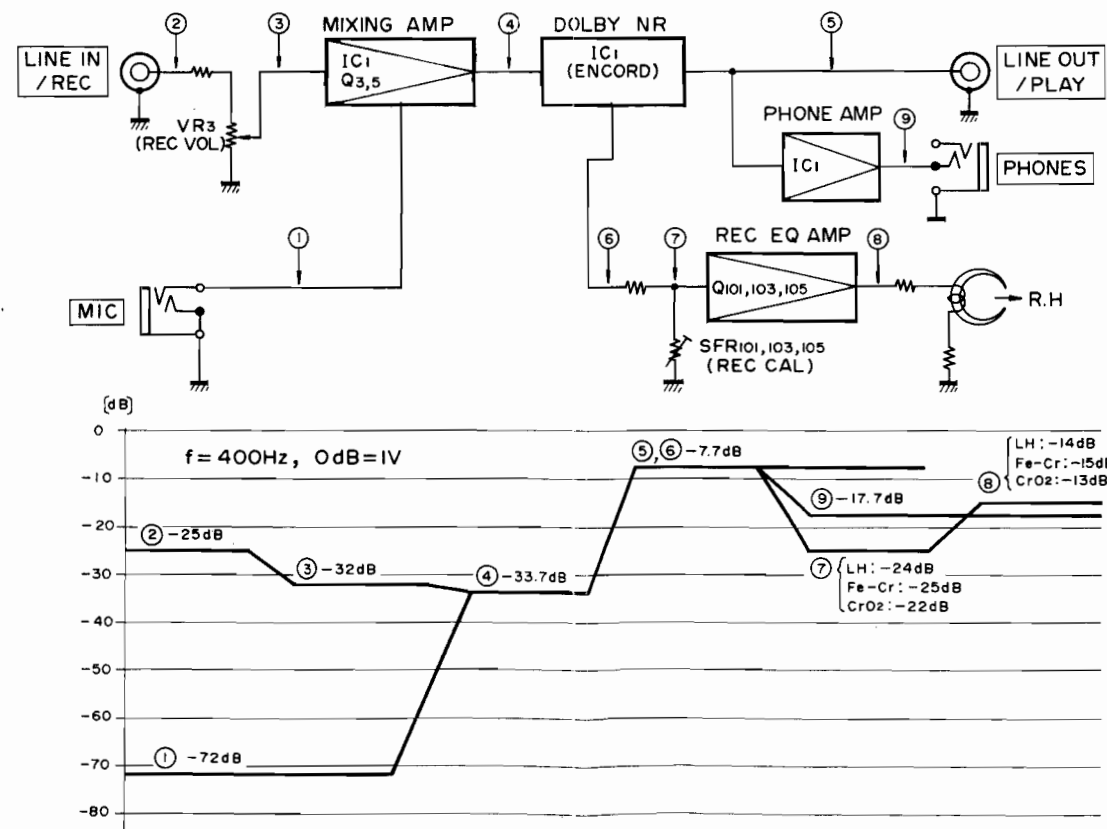
Symbol No.	Part No.	Description
◀ REMOTE CONTROL CIRCUIT BOARD SECTION ▶		
PCB-A	82-307-639-01	Remote control circuit board
◀ TX CIRCUIT BOARD SECTION ▶		
PCB-B	82-307-638-11	TX circuit board
IC1	87-027-421-01	IC, TC4028
IC2	87-027-424-01	IC, M58484
Q1~4	89-309-455-61	Transistor, 2SC945L (P,Q)
Q5	89-404-673-01	Transistor, 2SD467 (C)
D1	87-027-363-01	Light emitting diode, GL-520
D2	87-027-097-01	Diode, 1S1555
D3	87-027-356-01	Light emitting diode, GL-9PR-6
X1	87-008-191-01	Ceramic, SFB-455R

LEVEL DIAGRAM

• PLAYBACK

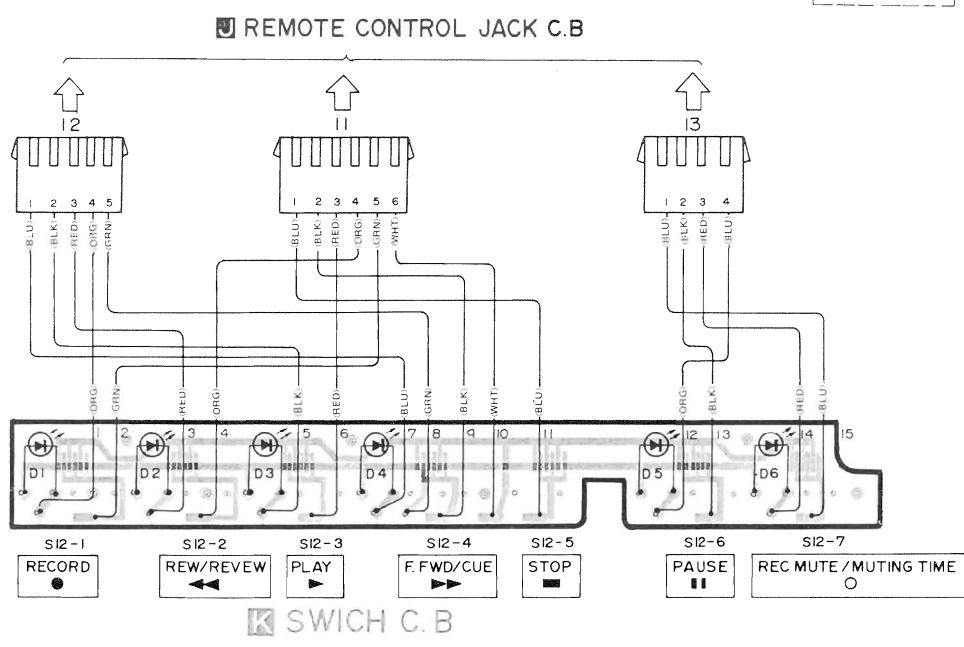
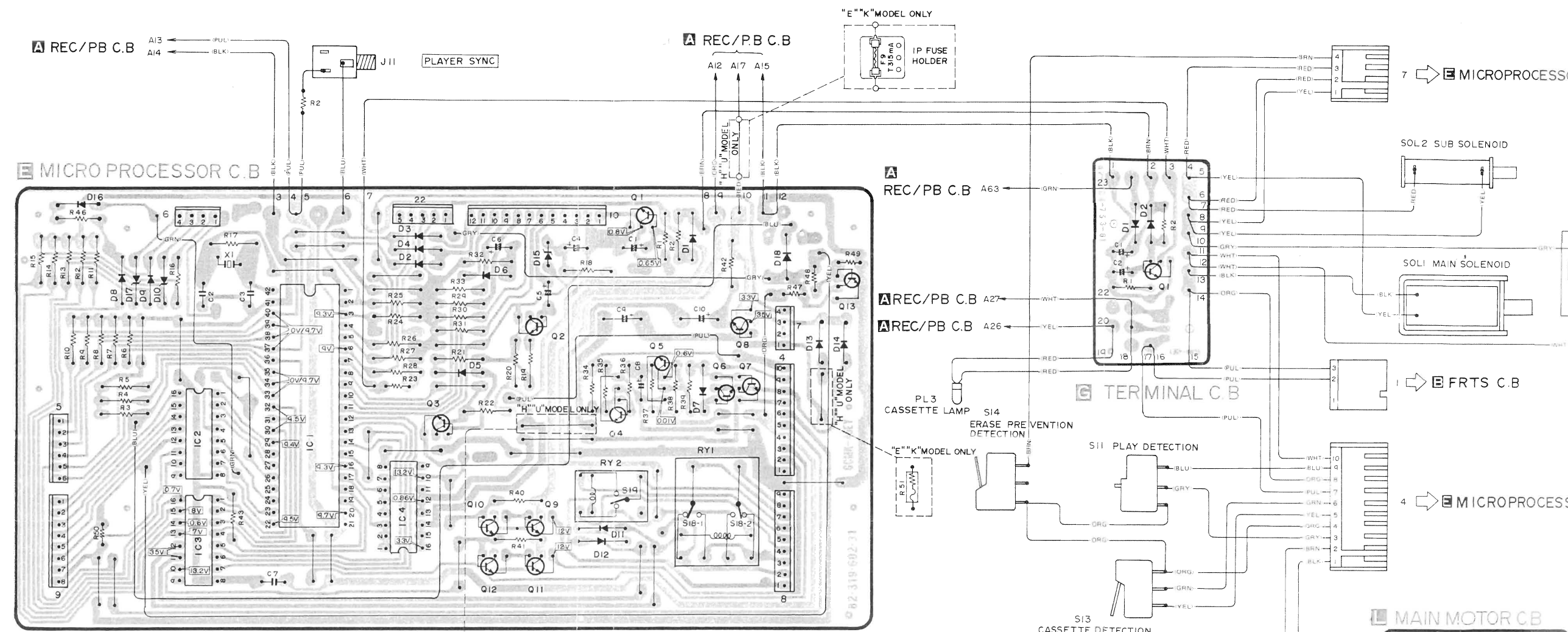


• RECORD



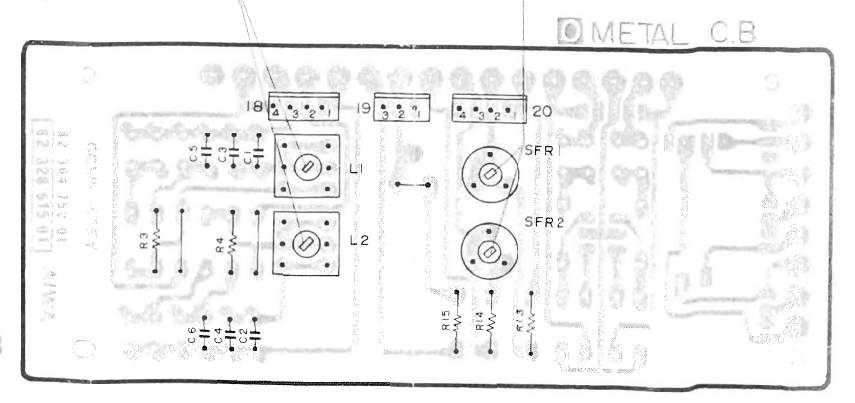
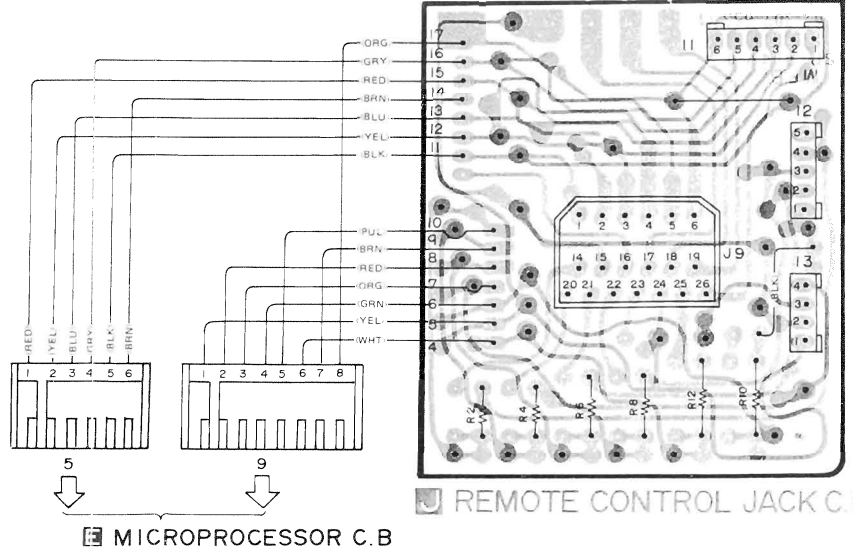
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

A  
B  
C  
D  
E  
F  
G  
H  
I  
J



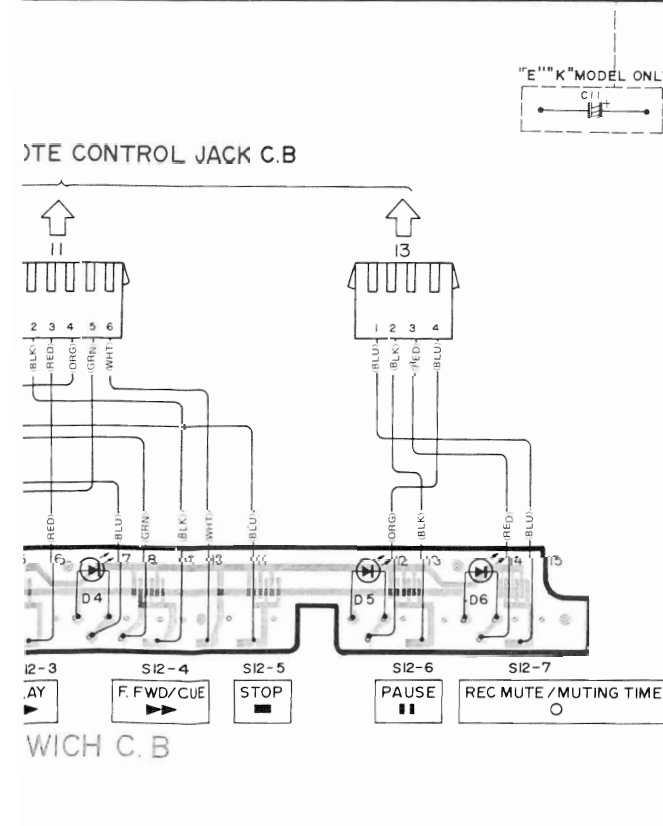
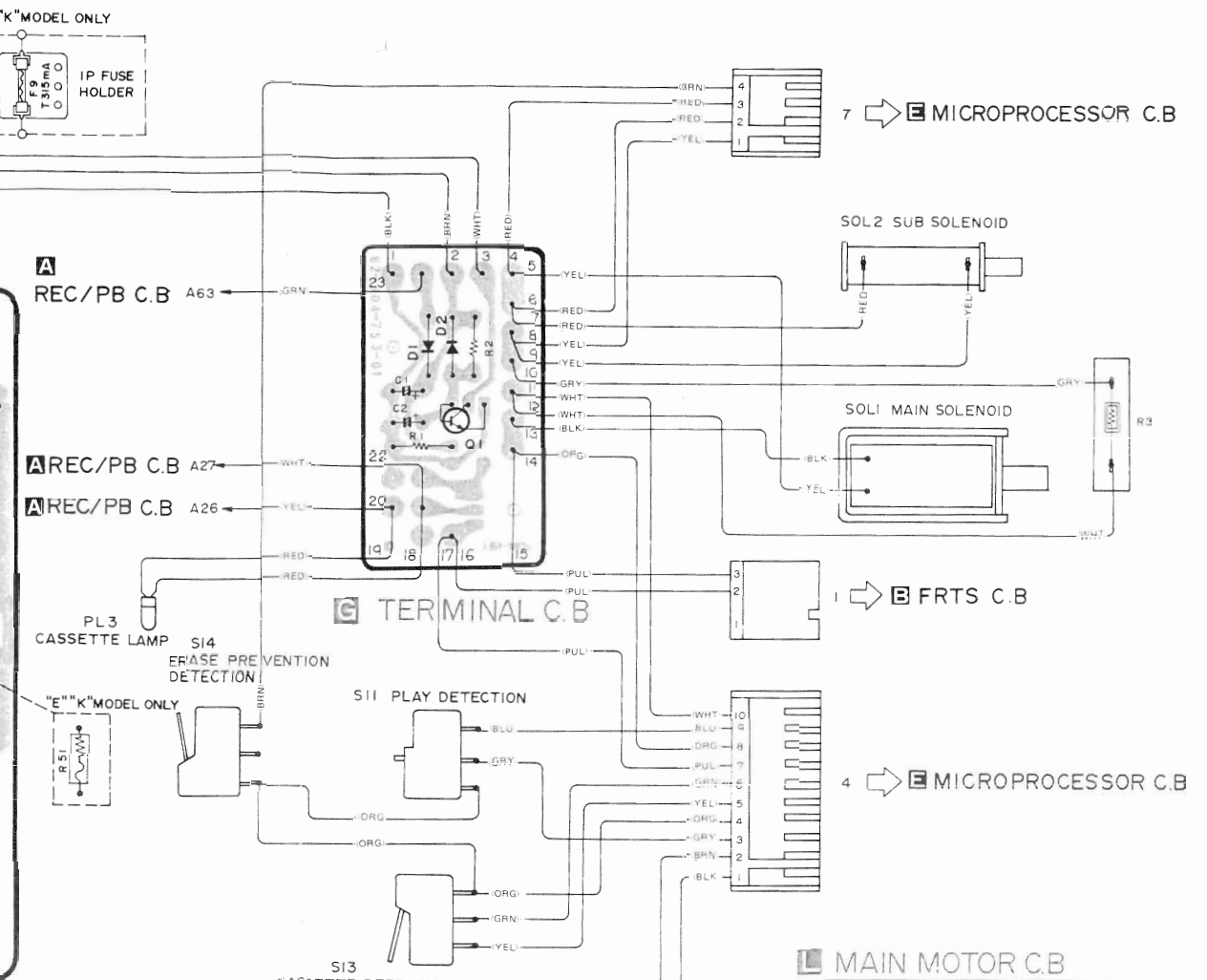
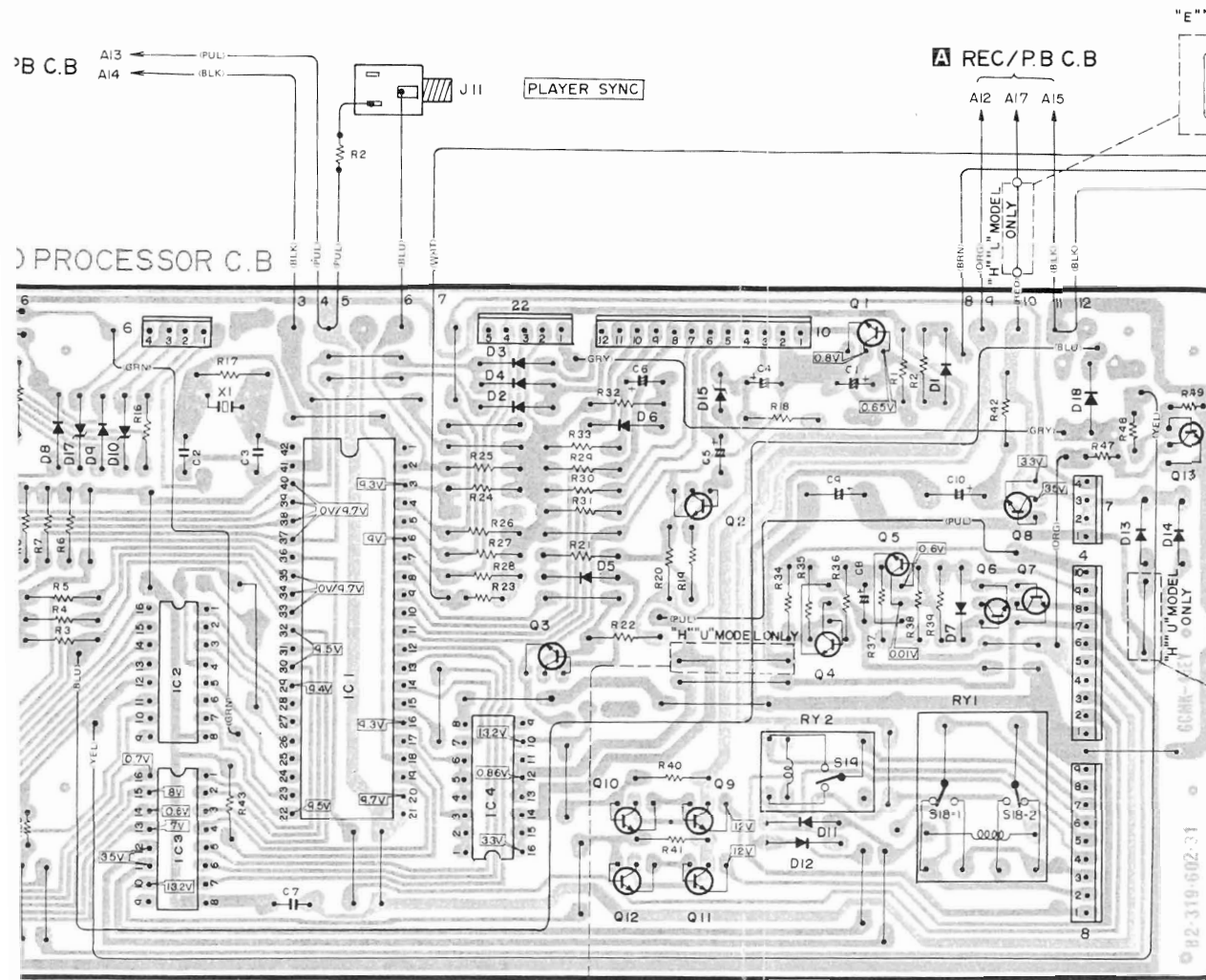
**15. REC./Pb. Sensitivity Adjustment-2**  
**Settings**  
 • Input signal: 2kHz, -20VU  
 • Adjustment locations:  
 METAL: SFR1 (L-ch), SFR2 (R-ch)  
**Method:**  
 Adjust for identical SOURCE and TAPE outputs.  
 \* Rating: 0dB ± 0.5dB

**14. Recording Equalizer Adjustment-2**  
**4. METAL**  
**Settings:**  
 • TAPE SELECTOR switch: METAL  
 • Input signal: 1kHz/10kHz ~ 20kHz  
 0VU -20dB  
 • Adjustment locations: L1 (L-ch), L2 (R-ch)  
**Method:**  
 Adjust for identical SOURCE and TAPE outputs.  
 \* Rating: 0dB ± 1.5dB



**NOTES**  
 (1) B(+) Pattern Component side pattern Others pattern  
 (2) The voltage is the reference value measured with a tester (20 K ohms/V DC) when there are no signals.

4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19



**15. REC./Pb. Sensitivity Adjustment-2**

**Settings:**

- Input signal: 2kHz, -20VU
- Adjustment locations: METAL: SFR1 (L-ch), SFR2 (R-ch)

**Method:**

Adjust for identical SOURCE and TAPE outputs.

\* Rating: 0dB ± 0.5dB

**14. Recording Equalizer Adjustment-2**

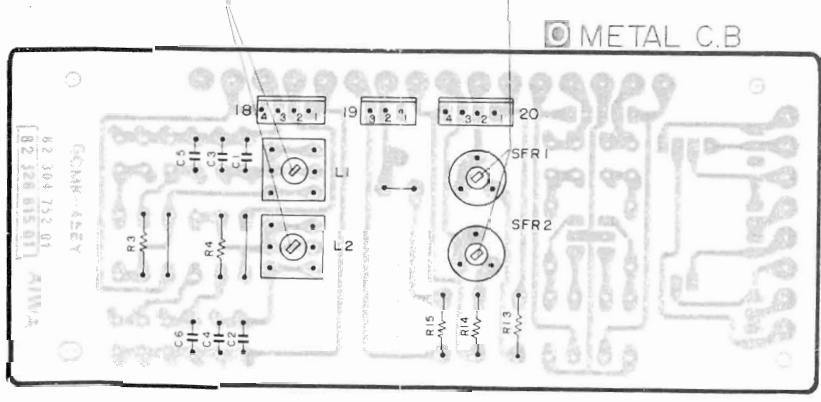
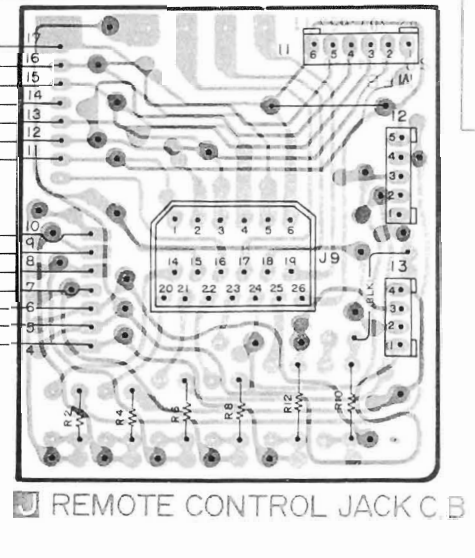
**Settings:**

- TAPE SELECTOR switch: METAL
- Input signal: 1kHz/10kHz ~ 20kHz 0VU -20dB

**Method:**

Adjust for identical SOURCE and TAPE outputs.

\* Rating: 0dB ± 1.5dB



**CMOS IC handling precautions**

(1) The CMOS IC's construction makes this part susceptible to damage by static electricity and so take sufficient care.

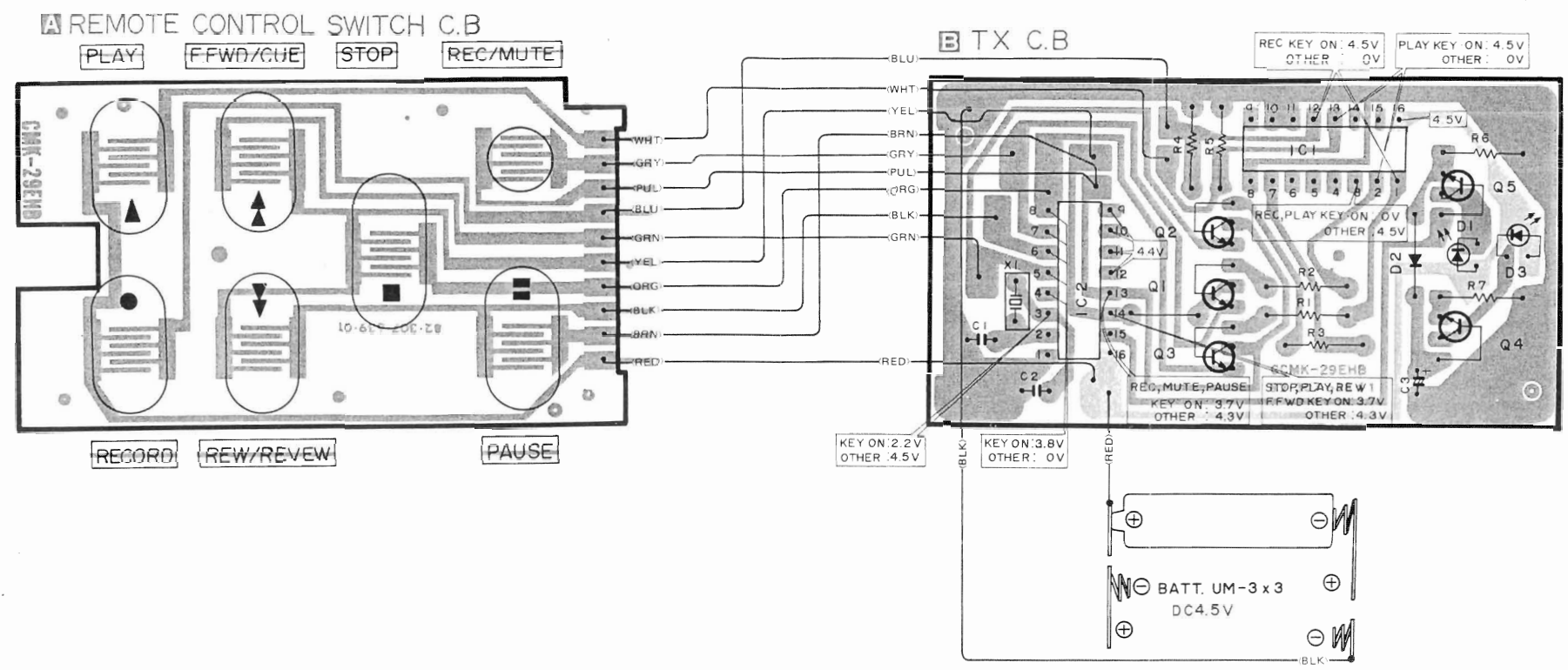
(2) Do not perform a continuity test with a tester, etc. Refer to the circuit voltages of each part.

Component side pattern Others pattern  
The reference value measured with a tester (20 K ohms/V DC) when there are no signals.

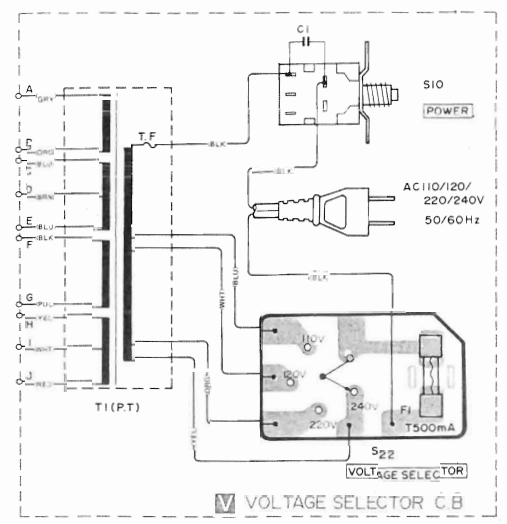


WIRING-4

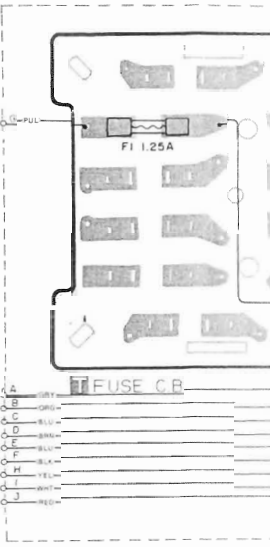
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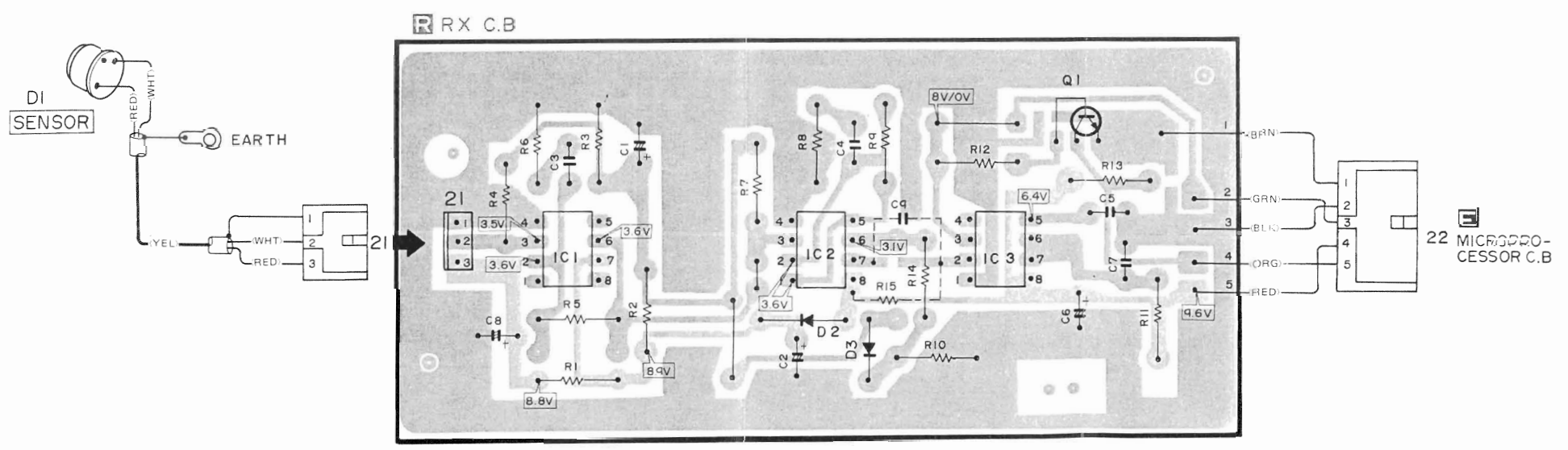
< POWER SECTION >



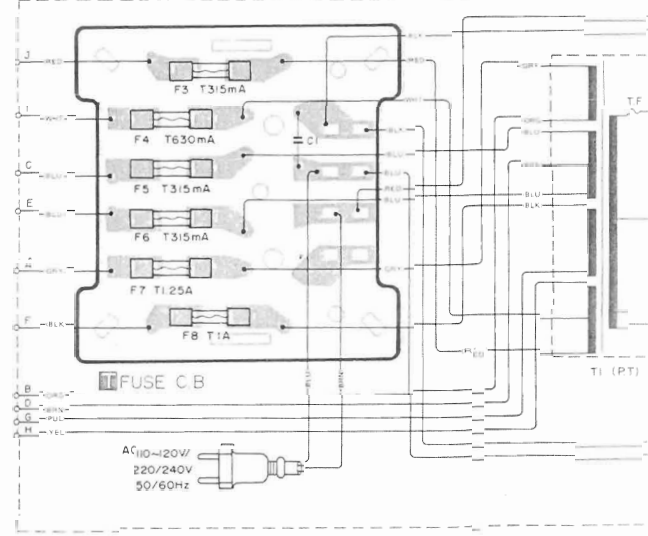
U MODEL



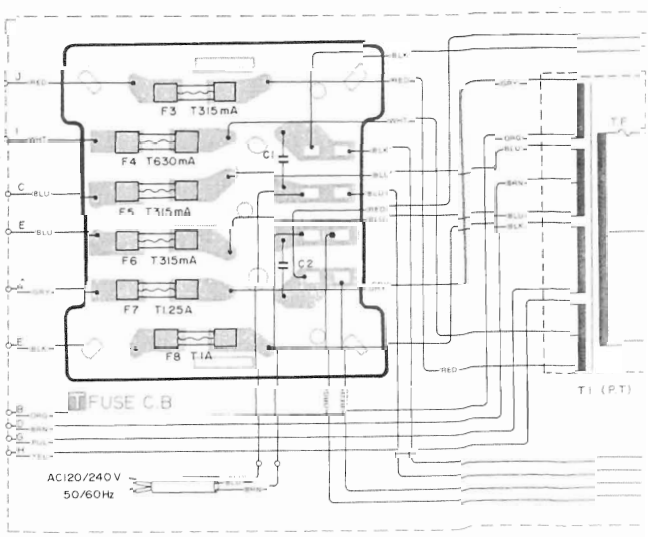
< RECEIVER SECTION >



E MODEL



K MODEL



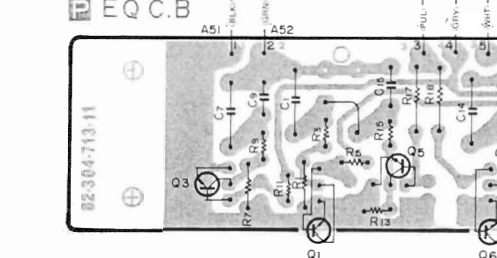
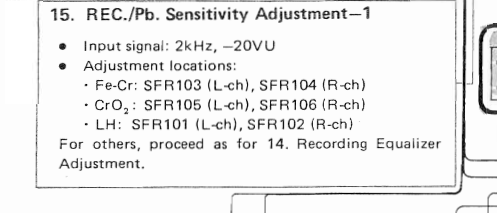
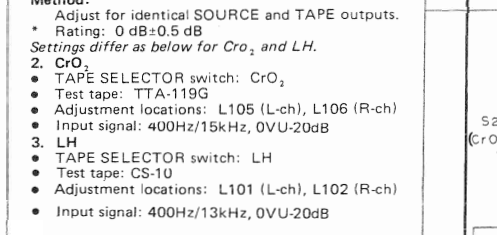
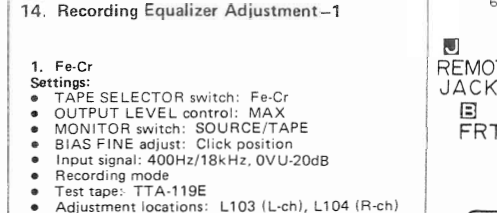
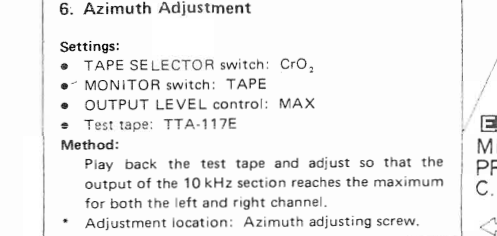
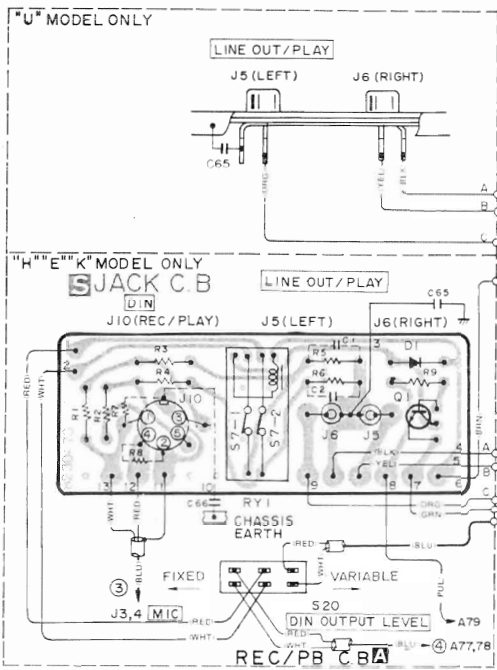
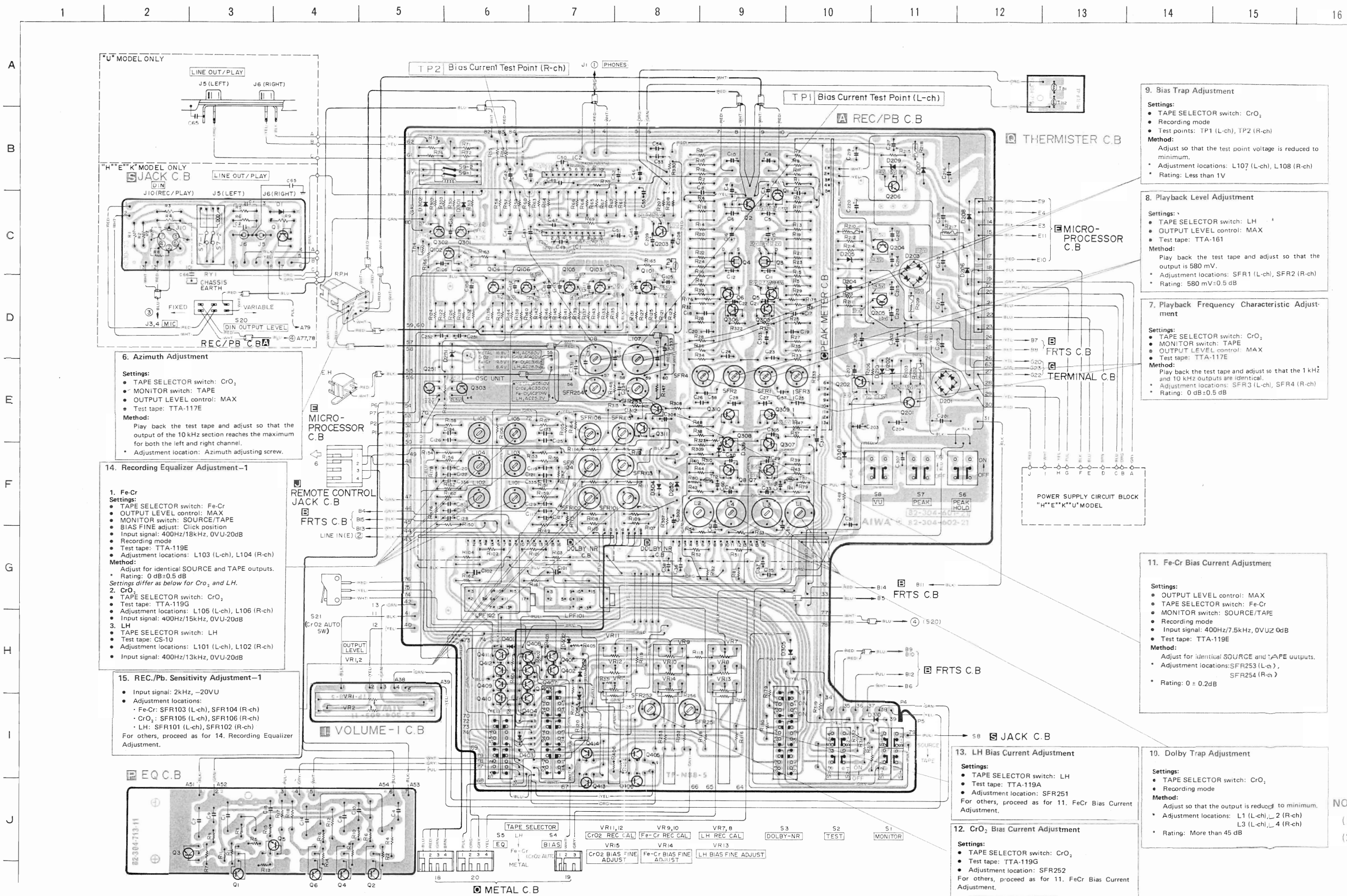
NOTES

- (1) B(+) Pattern Others pattern
- (2) The voltage is the reference value measured with a tester (20 K ohms/V DC) when there are no signals.

CMOS IC handling precautions

- (1) The CMOS IC's construction makes this part susceptible to damage by static electricity and so take sufficient care.
- (2) Do not perform a continuity test with a tester, etc. Refer to the circuit voltages of each part.





**6. Azimuth Adjustment**

**Settings:**

- TAPE SELECTOR switch: CrO<sub>2</sub>
- MONITOR switch: TAPE
- OUTPUT LEVEL control: MAX
- Test tape: TTA-117E

**Method:**

Play back the test tape and adjust so that the output of the 10 kHz section reaches the maximum for both the left and right channel.

- Adjustment location: Azimuth adjusting screw.

**14. Recording Equalizer Adjustment-1**

**1. Fe-Cr**

**Settings:**

- TAPE SELECTOR switch: Fe-Cr
- OUTPUT LEVEL control: MAX
- MONITOR switch: SOURCE/TAPE
- BIAS FINE adjust: Click position
- Input signal: 400Hz/18kHz, 0VU-20dB
- Recording mode
- Test tape: TTA-119E
- Adjustment locations: L103 (L-ch), L104 (R-ch)

**Method:**

Adjust for identical SOURCE and TAPE outputs.

- Rating: 0 dB±0.5 dB

**Settings differ as below for CrO<sub>2</sub> and LH.**

**2. CrO<sub>2</sub>**

- TAPE SELECTOR switch: CrO<sub>2</sub>
- Test tape: TTA-119G
- Adjustment locations: L105 (L-ch), L106 (R-ch)
- Input signal: 400Hz/15kHz, 0VU-20dB

**3. LH**

- TAPE SELECTOR switch: LH
- Test tape: CS-10
- Adjustment locations: L101 (L-ch), L102 (R-ch)
- Input signal: 400Hz/13kHz, 0VU-20dB

For others, proceed as for 14. Recording Equalizer Adjustment.

**15. REC./Pb. Sensitivity Adjustment-1**

- Input signal: 2kHz, -20VU
- Adjustment locations:
  - Fe-Cr: SFR103 (L-ch), SFR104 (R-ch)
  - CrO<sub>2</sub>: SFR105 (L-ch), SFR106 (R-ch)
  - LH: SFR101 (L-ch), SFR102 (R-ch)

For others, proceed as for 14. Recording Equalizer Adjustment.

**9. Bias Trap Adjustment**

**Settings:**

- TAPE SELECTOR switch: CrO<sub>2</sub>
- Recording mode
- Test points: TP1 (L-ch), TP2 (R-ch)

**Method:**

Adjust so that the test point voltage is reduced to minimum.

- Adjustment locations: L107 (L-ch), L108 (R-ch)
- Rating: Less than 1V

**8. Playback Level Adjustment**

**Settings:**

- TAPE SELECTOR switch: LH
- OUTPUT LEVEL control: MAX
- Test tape: TTA-161

**Method:**

Play back the test tape and adjust so that the output is 580 mV.

- Adjustment locations: SFR1 (L-ch), SFR2 (R-ch)
- Rating: 580 mV±0.5 dB

**7. Playback Frequency Characteristic Adjustment**

**Settings:**

- TAPE SELECTOR switch: CrO<sub>2</sub>
- MONITOR switch: TAPE
- OUTPUT LEVEL control: MAX
- Test tape: TTA-117E

**Method:**

Play back the test tape and adjust so that the 1 kHz and 10 kHz outputs are identical.

- Adjustment locations: SFR3 (L-ch), SFR4 (R-ch)
- Rating: 0 dB±0.5 dB

**11. Fe-Cr Bias Current Adjustment**

**Settings:**

- OUTPUT LEVEL control: MAX
- TAPE SELECTOR switch: Fe-Cr
- MONITOR switch: SOURCE/TAPE
- Recording mode
- Input signal: 400Hz/7.5kHz, 0VU±0dB
- Test tape: TTA-119E

**Method:**

Adjust for identical SOURCE and TAPE outputs.

- Adjustment locations: SFR253 (L-ch), SFR254 (R-ch)
- Rating: 0 ± 0.2dB

**10. Dolby Trap Adjustment**

**Settings:**

- TAPE SELECTOR switch: CrO<sub>2</sub>
- Recording mode

**Method:**

Adjust so that the output is reduced to minimum.

- Adjustment locations: L1 (L-ch), L2 (R-ch), L3 (L-ch), L4 (R-ch)
- Rating: More than 45 dB

**13. LH Bias Current Adjustment**

**Settings:**

- TAPE SELECTOR switch: LH
- Test tape: TTA-119A
- Adjustment location: SFR251

For others, proceed as for 11. FeCr Bias Current Adjustment.

**12. CrO<sub>2</sub> Bias Current Adjustment**

**Settings:**

- TAPE SELECTOR switch: CrO<sub>2</sub>
- Test tape: TTA-119G
- Adjustment location: SFR252

For others, proceed as for 11. FeCr Bias Current Adjustment.

TP2 Bias Current Test Point (R-ch)

TP1 Bias Current Test Point (L-ch)

THERMISTERS C.B.

MICRO-PROCESSOR C.B.

FRTS C.B.

TERMINAL C.B.

POWER SUPPLY CIRCUIT BLOCK "H\*\*E\*\*K\*\*U" MODEL

FRTS C.B.

FRTS C.B.

JACK C.B.

METAL C.B.

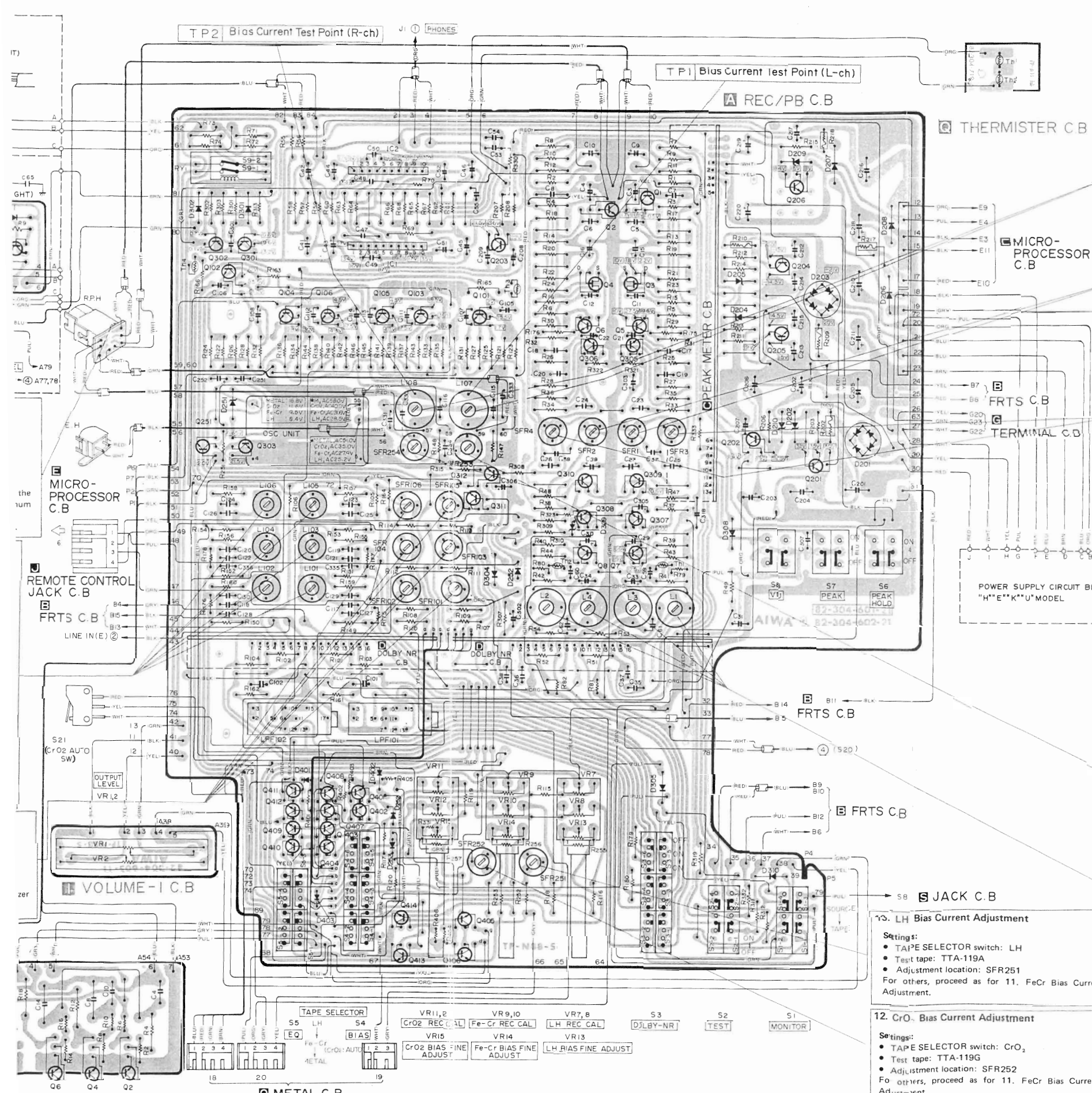
TAPE SELECTOR: S5 LH, S4 EQ, S3 DOLBY-NR, S2 TEST, S1 MONITOR

VR11,12 CrO2 REC CAL, VR9,10 Fe-Cr REC CAL, VR7,8 LH REC CAL

VR15 CrO2 BIAS FINE ADJUST, VR4 Fe-Cr BIAS FINE ADJUST, VR13 LH BIAS FINE ADJUST

NOT (1) (2)





**9. Bias Trap Adjustment**

**Settings:**

- TAPE SELECTOR switch: CrO<sub>2</sub>
- Recording mode
- Test points: TP1 (L-ch), TP2 (R-ch)

**Method:**

Adjust so that the test point voltage is reduced to minimum.

- Adjustment locations: L107 (L-ch), L108 (R-ch)
- Rating: Less than 1V

**8. Playback Level Adjustment**

**Settings:**

- TAPE SELECTOR switch: LH
- OUTPUT LEVEL control: MAX
- Test tape: TTA-161

**Method:**

Play back the test tape and adjust so that the output is 580 mV.

- Adjustment locations: SFR1 (L-ch), SFR2 (R-ch)
- Rating: 580 mV±0.5 dB

**7. Playback Frequency Characteristic Adjustment**

**Settings:**

- TAPE SELECTOR switch: CrO<sub>2</sub>
- MONITOR switch: TAPE
- OUTPUT LEVEL control: MAX
- Test tape: TTA-117E

**Method:**

Play back the test tape and adjust so that the 1 kHz and 16 kHz outputs are identical.

- Adjustment locations: SFR3 (L-ch), SFR4 (R-ch)
- Rating: 0 dB±0.5 dB

**11. Fe-Cr Bias Current Adjustment**

**Settings:**

- OUTPUT LEVEL control: MAX
- TAPE SELECTOR switch: Fe-Cr
- MONITOR switch: SOURCE/TAPE
- Recording mode
- Input signal: 400Hz/7.5kHz, 0VU±0.3dB
- Test tape: TTA-119E

**Method:**

Adjust for identical SOURCE and TAPE outputs.

- Adjustment locations: SFR253 (L-ch), SFR254 (R-ch)
- Rating: 0 ± 0.2dB

**10. Dolby Trap Adjustment**

**Settings:**

- TAPE SELECTOR switch: CrO<sub>2</sub>
- Recording mode

**Method:**

Adjust so that the output is reduced to minimum.

- Adjustment locations: L1 (L-ch), L2 (R-ch), L3 (L-ch), L4 (R-ch)
- Rating: More than 45 dB

**13. LH Bias Current Adjustment**

**Settings:**

- TAPE SELECTOR switch: LH
- Test tape: TTA-119A
- Adjustment location: SFR251

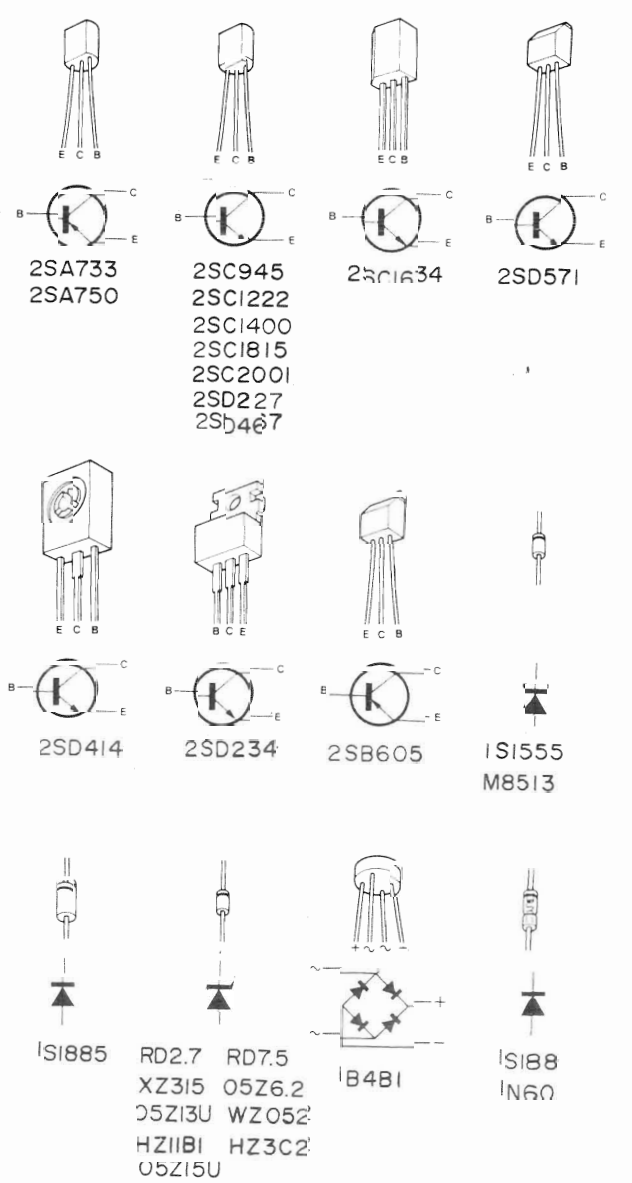
For others, proceed as for 11. FeCr Bias Current Adjustment.

**12. CrO<sub>2</sub> Bias Current Adjustment**

**Settings:**

- TAPE SELECTOR switch: CrO<sub>2</sub>
- Test tape: TTA-119G
- Adjustment location: SFR252

For others, proceed as for 11. FeCr Bias Current Adjustment.



**NOTES**

(1) B(+) Pattern B(-) Pattern Others pattern

(2) The voltage is the reference value measured with a tester (20 K ohms/V DC) when there are no signals. An asterisk (\*) indicates that the value was measured with a vacuum-tube voltmeter during recording.



WIRING-2

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

A B C D E F G H I J

**4. Peak Meter Indication Adjustment**

**Settings:**

- MONITOR switch: SOURCE
- OUTPUT LEVEL control: MAX
- Input signal: 1kHz, 0VU
- Recording mode

**Method:**

Adjust so that peak meter indication is 0 dB.

- Adjustment locations: SFR5 (L-ch), SFR6 (R-ch)
- Rating: 0 dB±0.5 dB

**3. Peak Meter Offset Adjustment**

**Settings:**

- PEAK HOLD switch: OFF
- OUTPUT LEVEL control: MIN

**Method:**

Adjust so that peak meter pointer does not deflect with PEAK switch ON/OFF.

- Adjustment locations: SFR3 (L-ch), SFR4 (R-ch)

**2. VU Meter Indication Adjustment**

**Settings:**

- MONITOR switch: SOURCE
- OUTPUT LEVEL control: MAX
- Input signal: 400 Hz -16 dB (1V = 0 dB)
- Recording mode

**Method:**

Rotate LINE RECORD LEVEL for an output of 410mV.

Adjust so that VU meter indication is 0VU.

- Adjustment locations: SFR101 (L-ch), SFR102 (R-ch)
- Rating: 0VU±0.5 dB

**1. Mixing Amp. Balance Adjustment**

**Settings:**

- MONITOR switch: SOURCE
- OUTPUT LEVEL control: MAX
- Input signal: 1kHz, 0VU
- Recording mode

**Method:**

Adjust so that output is same for both left and right channels.

- Adjustment location: SFR4
- Rating: Within 0.5 dB

**19. FRTS Adjustment**

**Settings:**

- Recording mode
- OUTPUT LEVEL control: MAX
- Input signal: 400Hz/8kHz, 0VU -20dB
- Test tape: TTA-119E

**Method:**

Using the test tape, check the frequency response of the 400Hz and 8kHz input signals, and adjust so that right channel meter indication is 0VU when the TEST switch is set to ON.

Now adjust as follows for the left channel meter:

- 0dB : 0VU
- 1dB : +1VU
- +1dB : -1VU

- Adjustment locations: SFR5 (L-ch), SFR6 (R-ch)

**16. 400 Hz Osc Adjustment**

**Settings:**

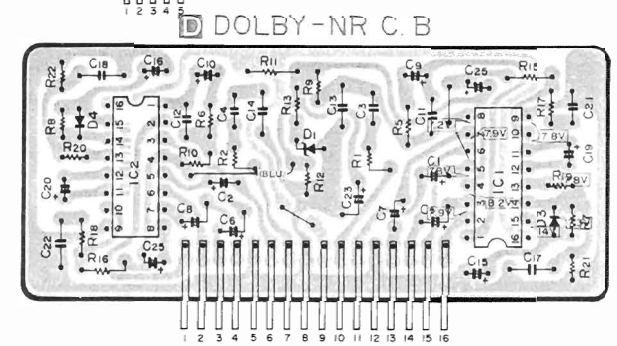
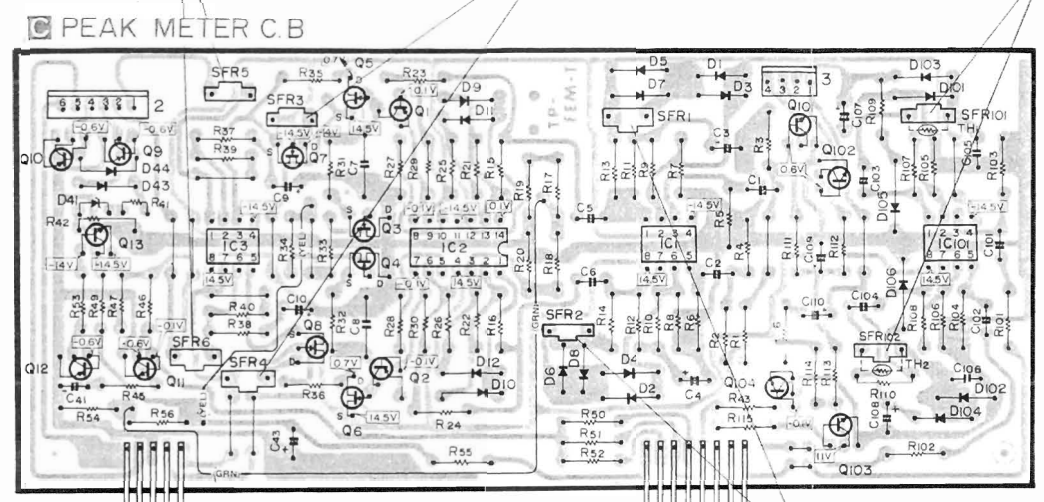
- Recording mode
- OUTPUT LEVEL control: MAX
- TEST switch: ON

**Method:**

Adjust so that waveforms appear on the oscilloscope.

Connect the oscilloscope to the right channel.

- Adjustment location: SFR1



**5. Peak Meter Log. Amp. Adjustment**

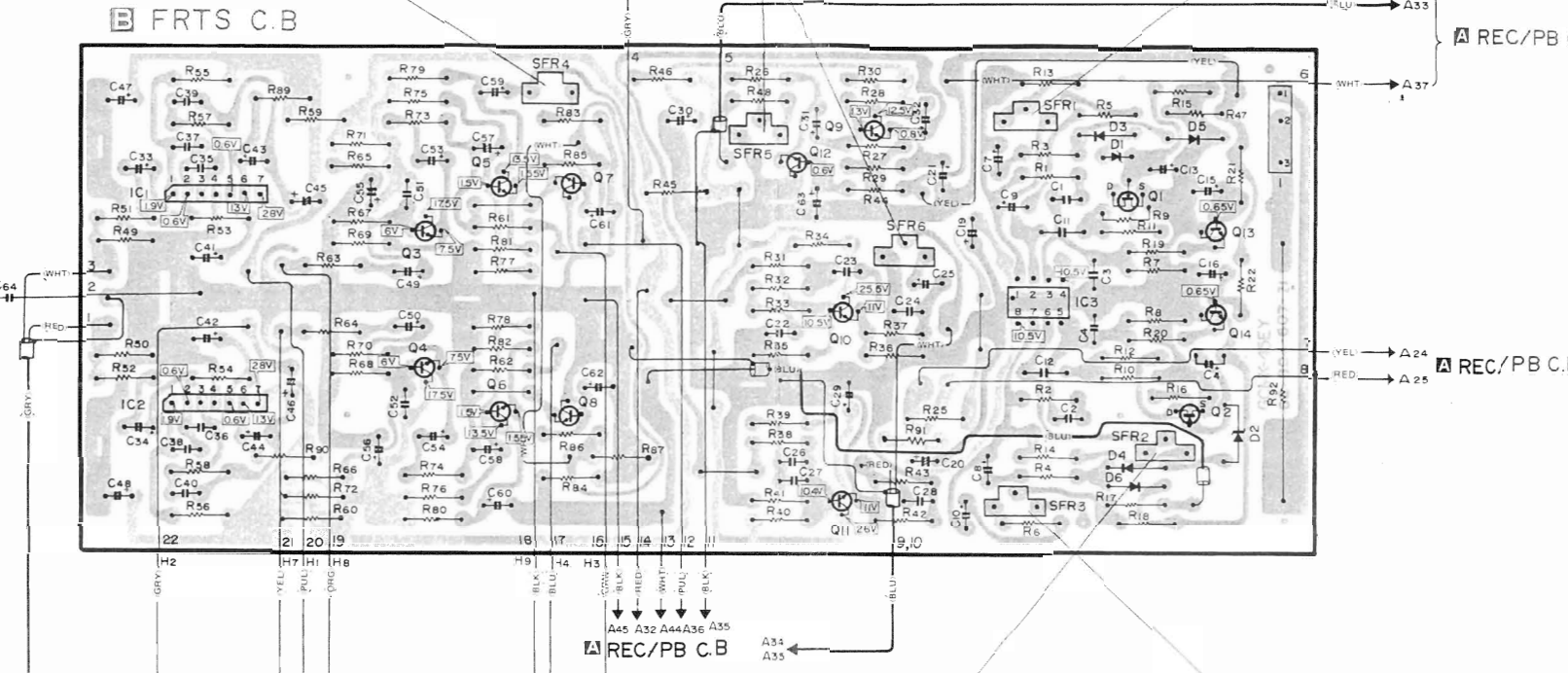
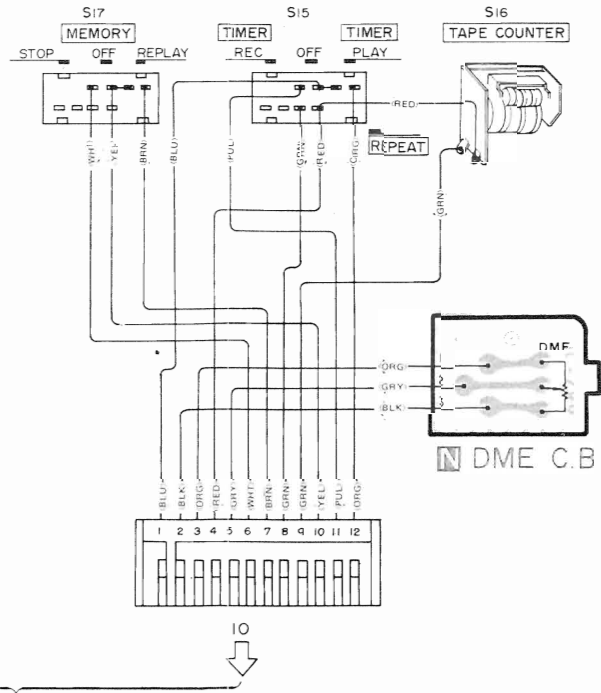
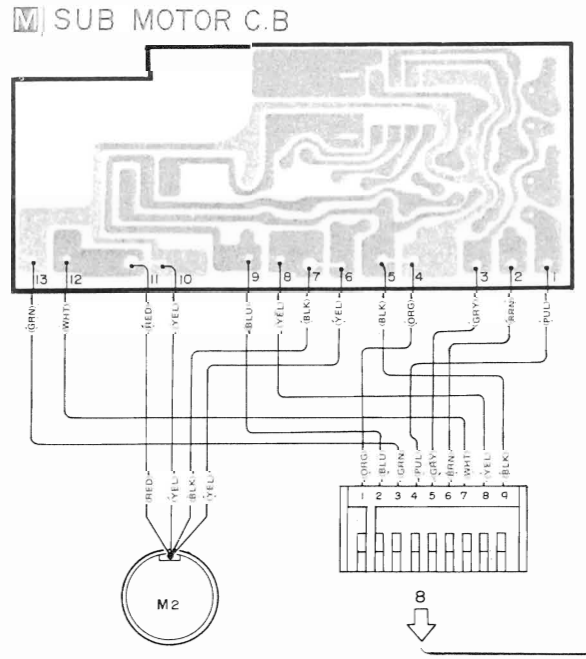
**Settings:**

- MONITOR switch: SOURCE
- OUTPUT LEVEL control: MAX
- Input signal: 400Hz, 0VU
- Recording mode

**Method:**

Adjust for a peak meter indication of -30dB when the input is reduced by 17dB.

- Adjustment locations: SFR1 (L-ch), SFR2 (R-ch)
- Rating: -30dB ± 1dB



**17. 8 kHz Osc Adjustment**

Adjustment location: SFR2

For others, proceed as for 16. 400 Hz Osc Adjustment.

**18. 400 Hz/8 kHz Balance Adjustment**

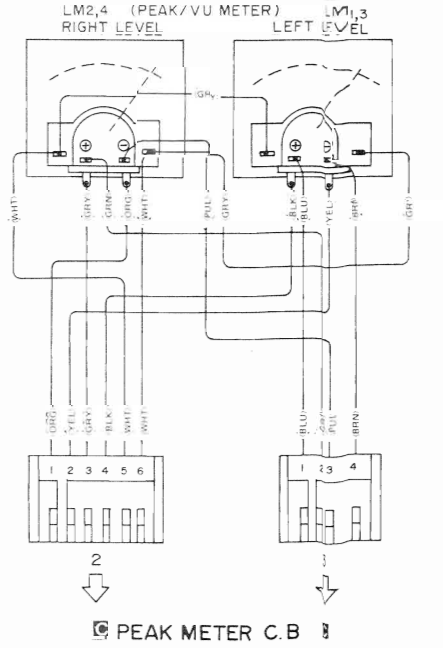
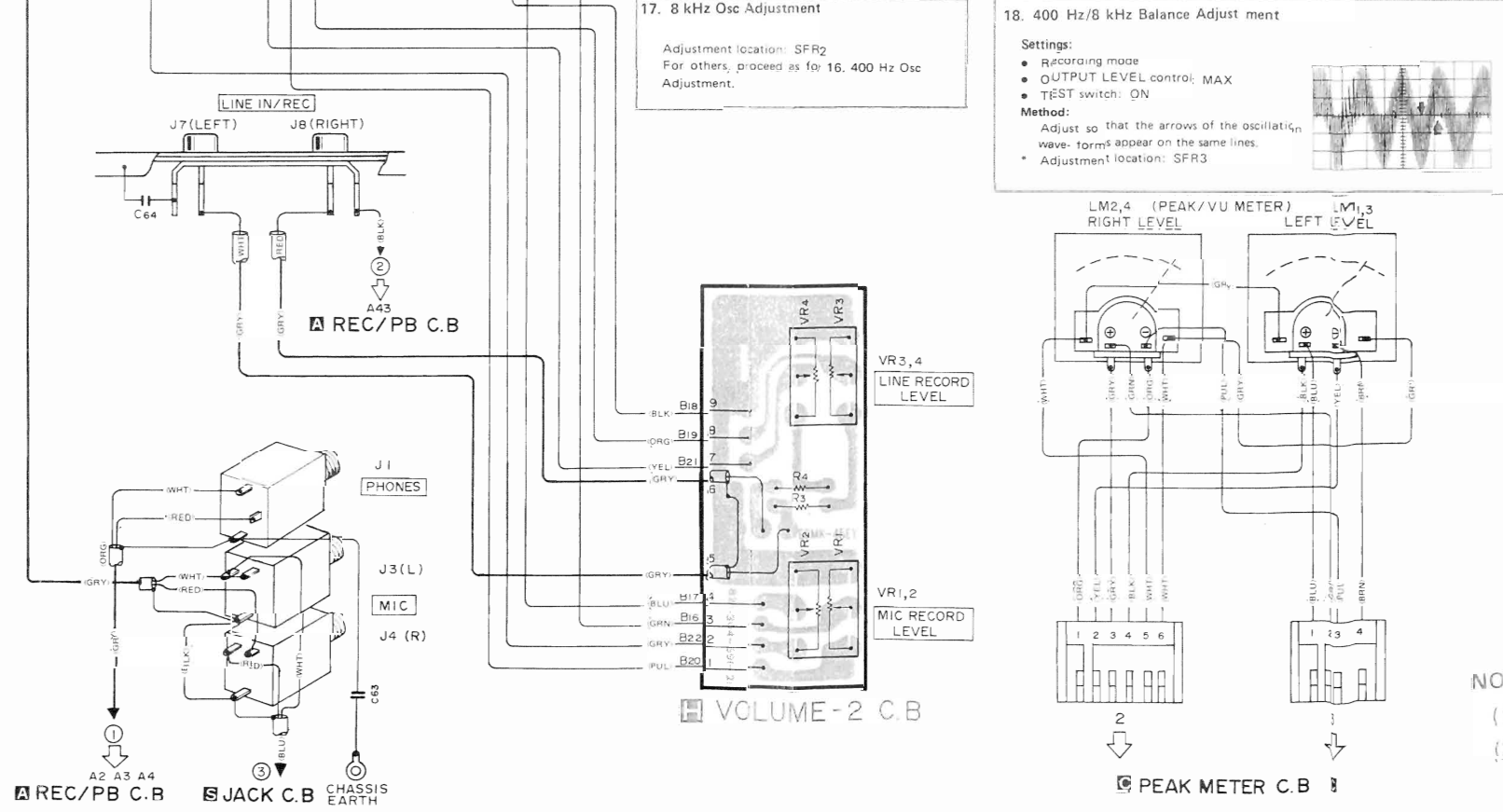
**Settings:**

- Recording mode
- OUTPUT LEVEL control: MAX
- TEST switch: ON

**Method:**

Adjust so that the arrows of the oscillation waveforms appear on the same lines.

- Adjustment location: SFR3



NOT (1) (2)

**Peak Meter Offset Adjustment**

**Settings:**

- PEAK HOLD switch: OFF
- OUTPUT LEVEL control: MIN

**Method:**

Adjust so that peak meter pointer does not deflect with PEAK switch ON/OFF.

Adjustment locations: SFR3 (L-ch), SFR4 (R-ch)

**2. VU Meter Indication Adjustment**

**Settings:**

- MONITOR switch: SOURCE
- OUTPUT LEVEL control: MAX
- Input signal: 400 Hz -16 dB (1V = 0 dB)
- Recording mode

**Method:**

Rotate LINE RECORD LEVEL for an output of 410mV.

Adjust so that VU meter indication is 0VU.

Adjustment locations: SFR101 (L-ch), SFR102 (R-ch)

Rating: 0VU=0.5 dB

**1. Mixing Amp Balance Adjustment**

**Settings:**

- MONITOR switch: SOURCE
- OUTPUT LEVEL control: MAX
- Input signal: 1kHz, 0VU
- Recording mode

**Method:**

Adjust so that output is same for both left and right channels.

Adjustment location: SFR4

Rating: Within 0.5 dB

**19. FRTS Adjustment**

**Settings:**

- Recording mode
- OUTPUT LEVEL control: MAX
- Input signal: 400Hz/8kHz, 0VU -20dB
- Test tape: TTA-119E

**Method:**

Using the test tape, check the frequency response of the 400Hz and 8kHz input signals, and adjust so that right channel meter indication is 0VU when the TEST switch is set to ON.

Now adjust as follows for the left channel meter.

0dB : 0VU  
-1dB : +1VU  
+1dB : -1VU

Adjustment locations: SFR5 (L-ch), SFR6 (R-ch)

**16. 400 Hz Osc Adjustment**

**Settings:**

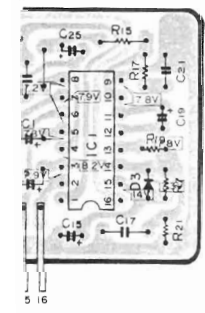
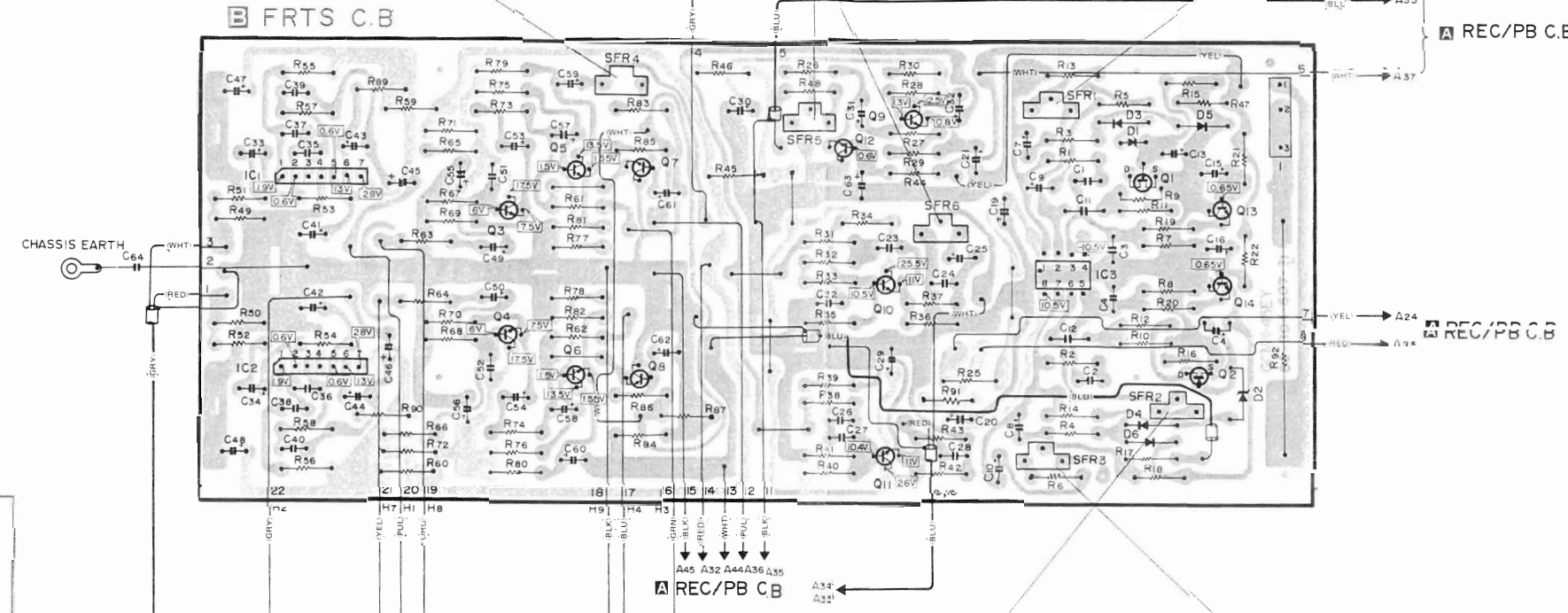
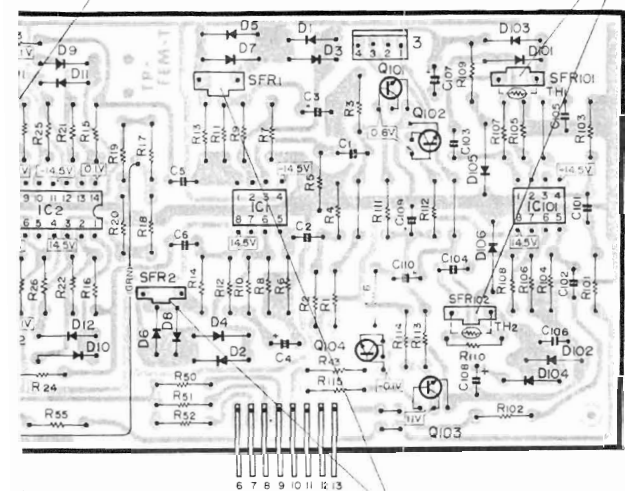
- Recording mode
- OUTPUT LEVEL control: MAX
- TEST switch: ON

**Method:**

Adjust so that waveforms appear on the oscilloscope.

Connect the oscilloscope to the right channel.

Adjustment location: SFR1



**5. Peak Meter Log. Amp. Adjustment**

**Settings:**

- MONITOR switch: SOURCE
- OUTPUT LEVEL control: MAX
- Input signal: 400Hz, 0VU
- Recording mode

**Method:**

Adjust for a peak meter indication of -30dB when the input is reduced by 17dB.

Adjustment locations: SFR1 (L-ch), SFR2 (R-ch)

Rating: -30dB ± 1dB

**17. 8 kHz Osc Adjustment**

Adjustment location: SFR2

For others, proceed as for 16. 400 Hz Osc Adjustment.

**18. 400 Hz/8 kHz Balance Adjustment**

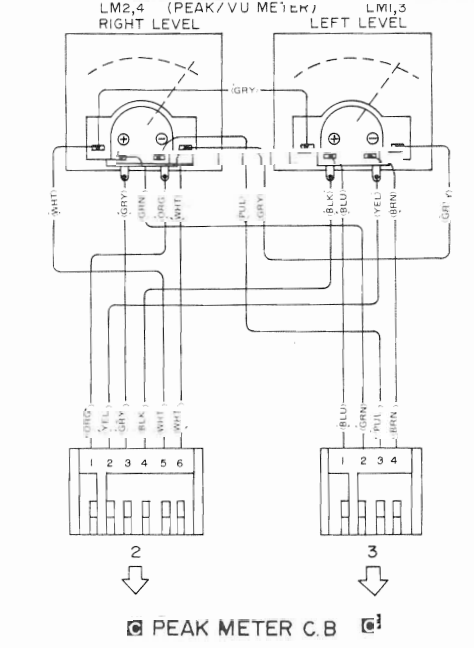
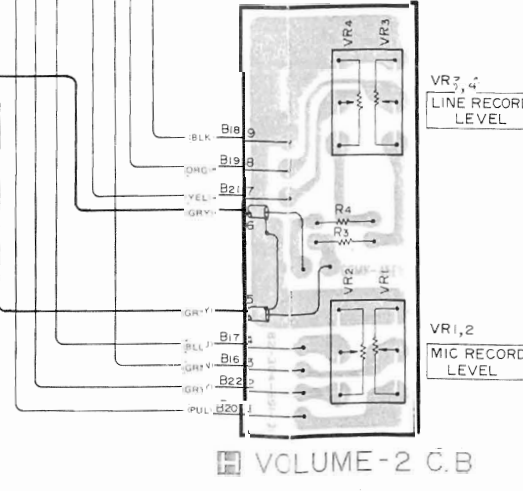
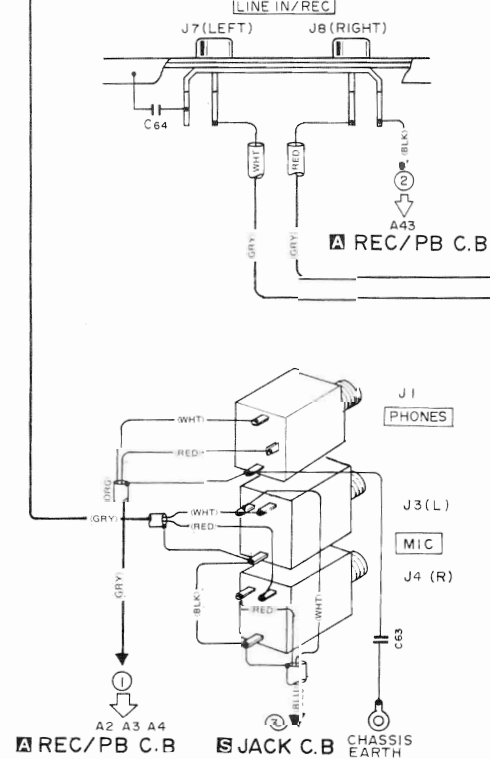
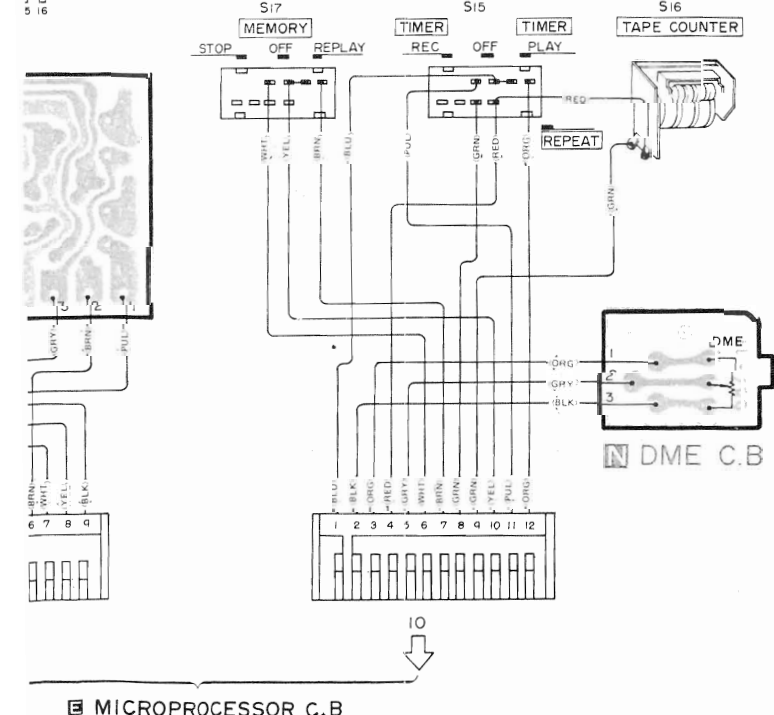
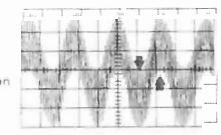
**Settings:**

- Recording mode
- OUTPUT LEVEL control: MAX
- TEST switch: ON

**Method:**

Adjust so that the arrows of the oscillation waveforms appear on the same lines.

Adjustment location: SFR3



**CMOS IC handling precautions**

- The CMOS IC's construction makes this part susceptible to damage by static electricity and so take sufficient care.
- Do not perform a continuity test with a tester, etc. Refer to the circuit voltages of each part.

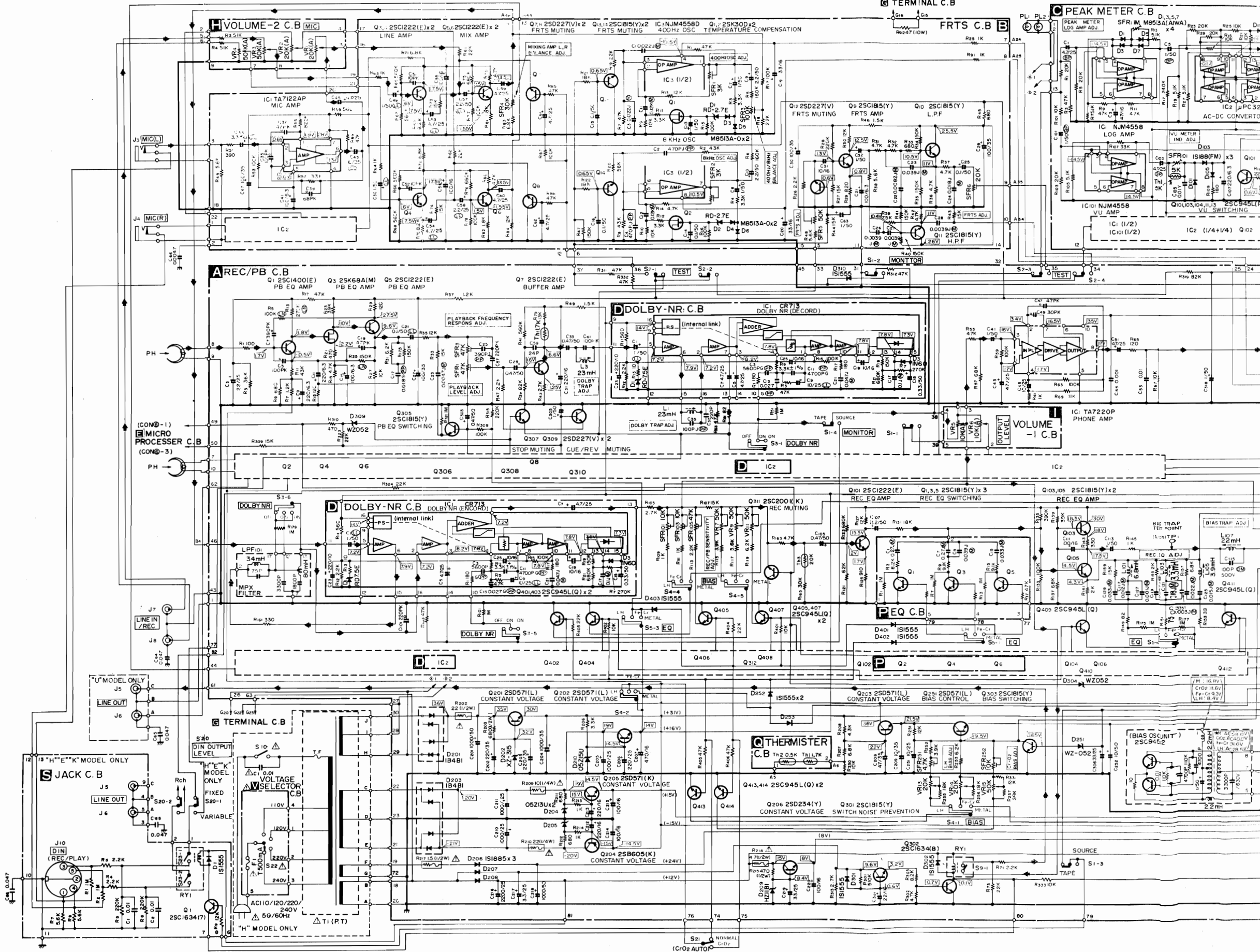
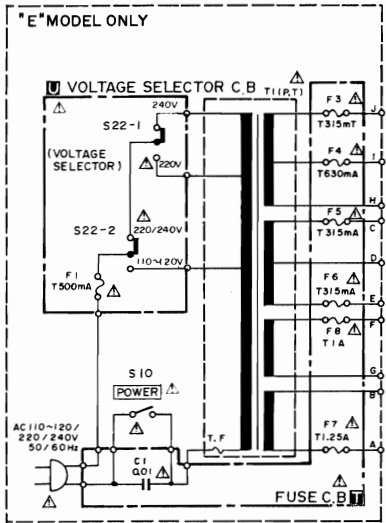
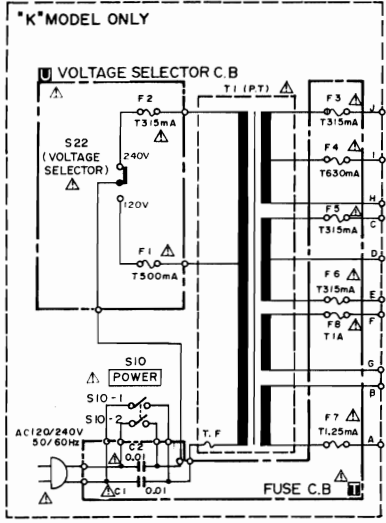
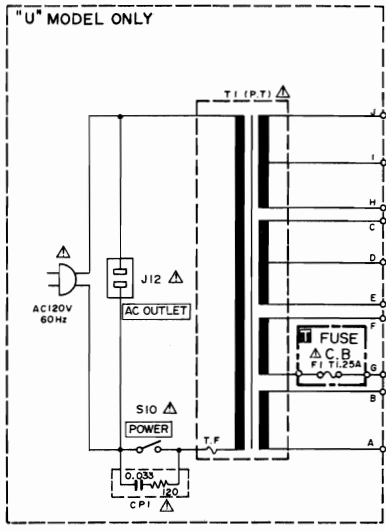
**NOTES**

- (1) B(+) Pattern B(-) Pattern Others pattern
- (2) The voltage is the reference value measured with a tester (20 K ohms/V DC) when there are no signals.

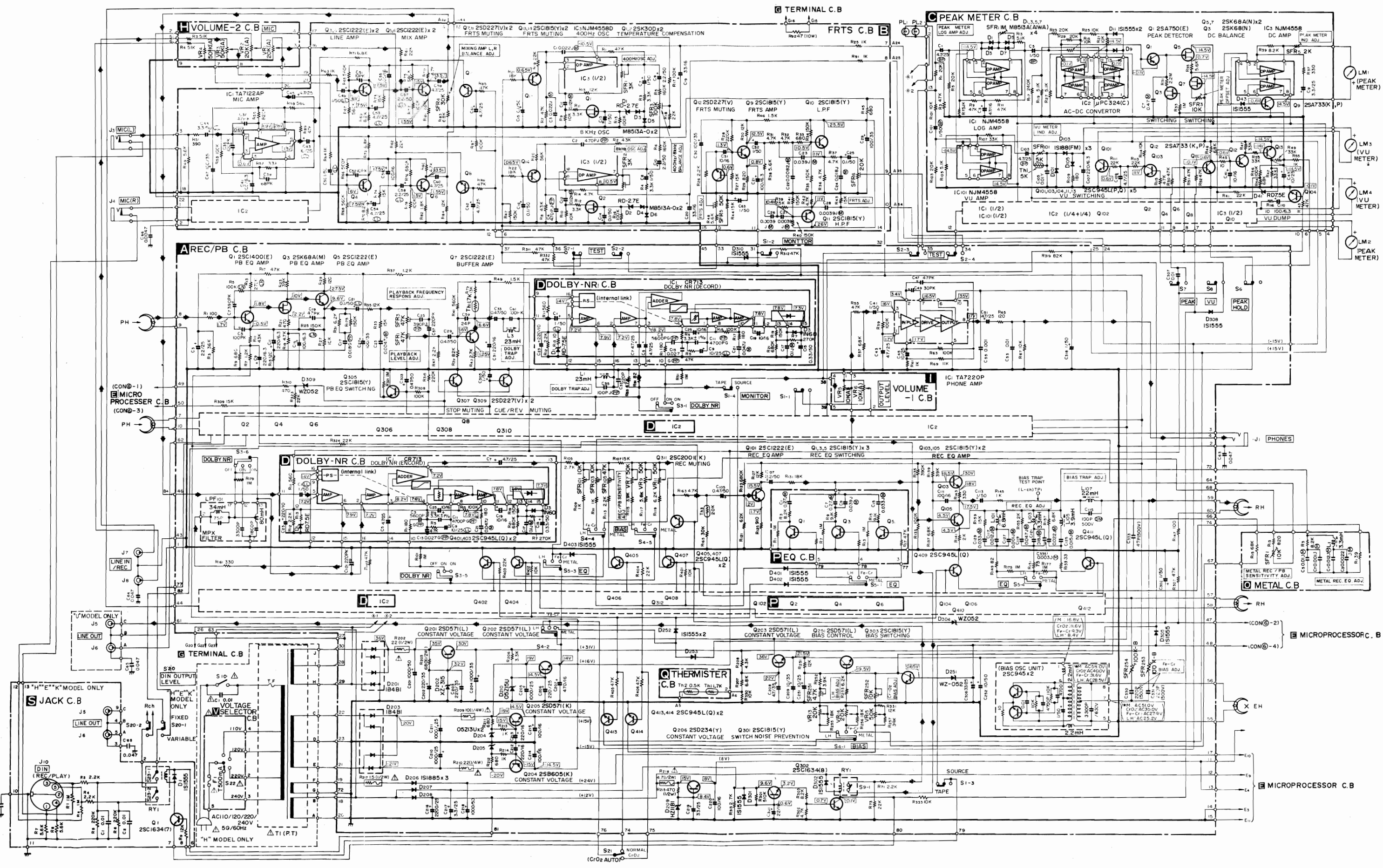
SCHEMATIC DIAGRAM - 1

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

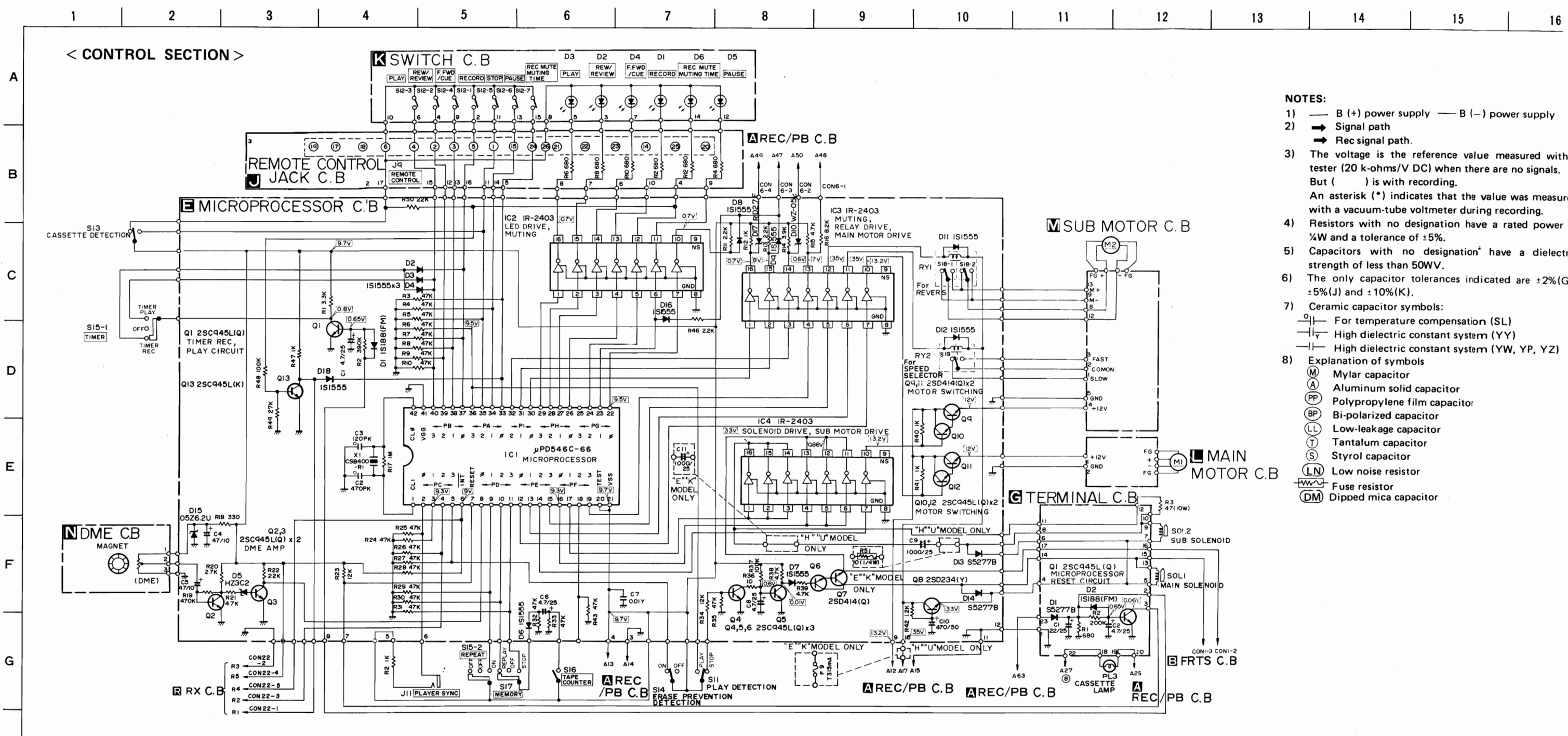
A B C D E F G H I J





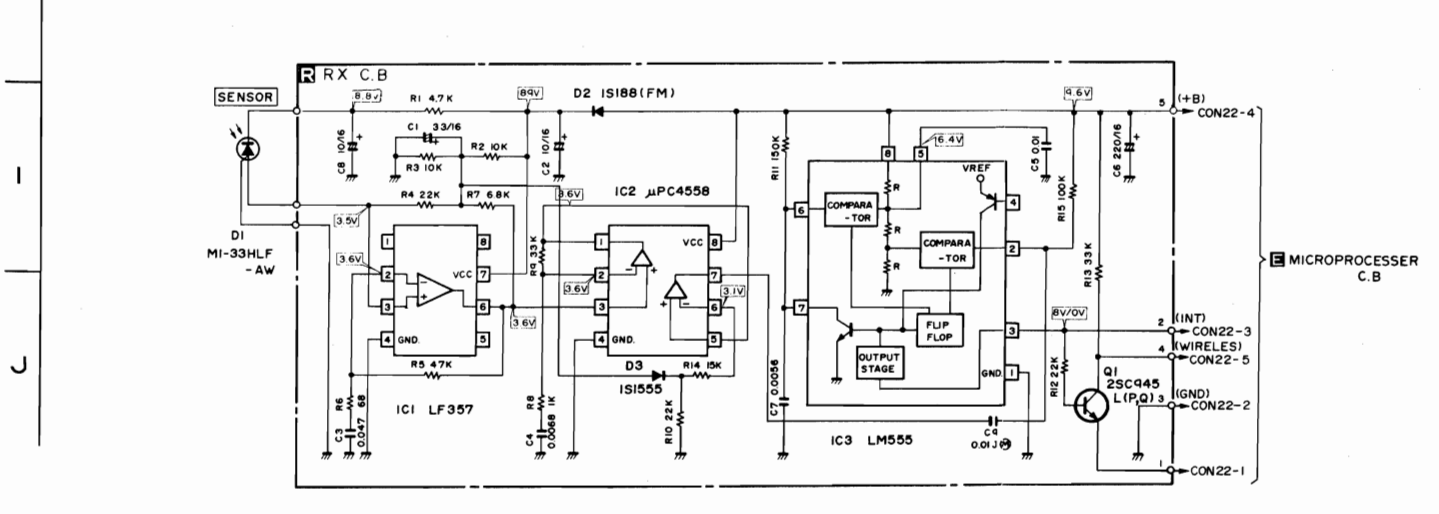


SCHEMATIC DIAGRAM-2

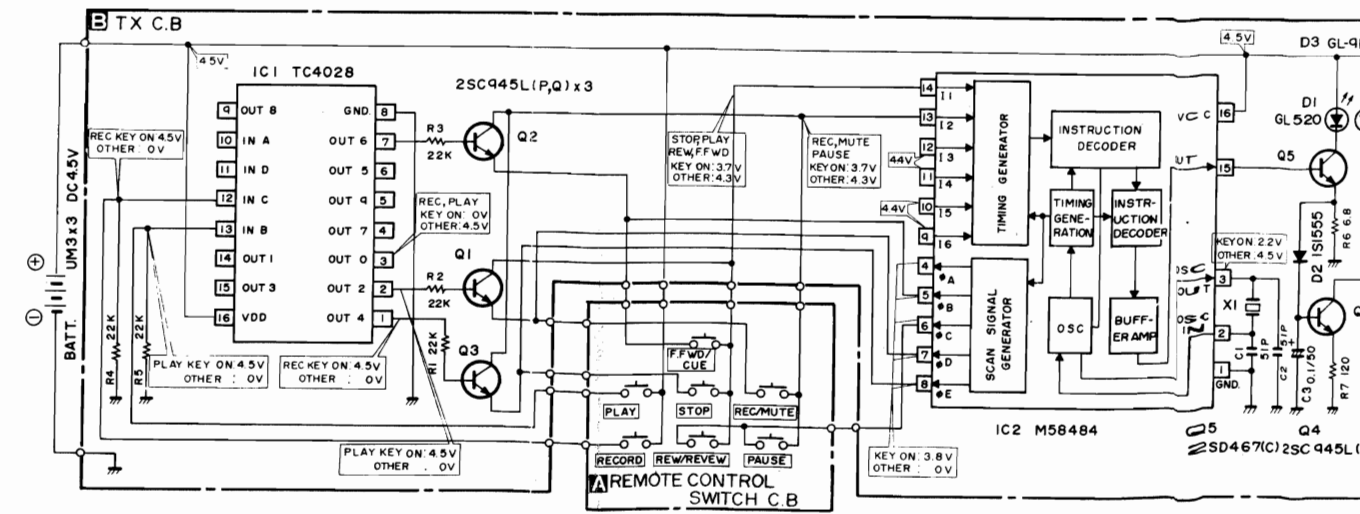


- NOTES:**
- 1) — B (+) power supply — B (-) power supply
  - 2) → Signal path  
→ Rec signal path.
  - 3) The voltage is the reference value measured with a tester (20 k-ohms/V DC) when there are no signals. But ( ) is with recording. An asterisk (\*) indicates that the value was measured with a vacuum-tube voltmeter during recording.
  - 4) Resistors with no designation have a rated power of 1/4W and a tolerance of ±5%.
  - 5) Capacitors with no designation have a dielectric strength of less than 50WV.
  - 6) The only capacitor tolerances indicated are ±2%(G), ±5%(J) and ±10%(K).
  - 7) Ceramic capacitor symbols:  
 ○ For temperature compensation (SL)  
 □ High dielectric constant system (YY)  
 ▽ High dielectric constant system (YW, YP, YZ)
  - 8) Explanation of symbols  
 (M) Mylar capacitor  
 (A) Aluminum solid capacitor  
 (PP) Polypropylene film capacitor  
 (BP) Bi-polarized capacitor  
 (LL) Low-leakage capacitor  
 (T) Tantalum capacitor  
 (S) Styrol capacitor  
 (LN) Low noise resistor  
 (FR) Fuse resistor  
 (DM) Dipped mica capacitor

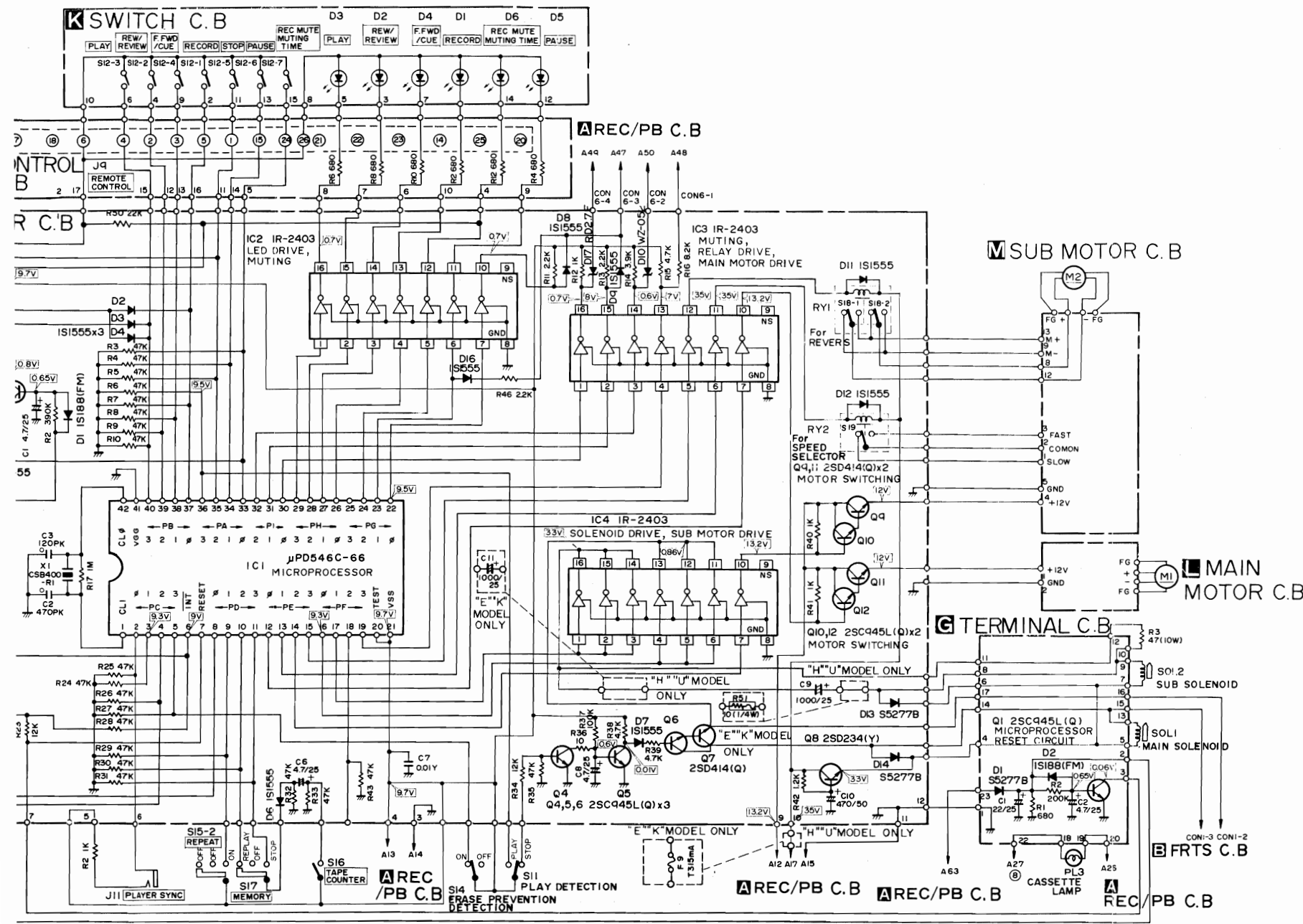
< RECEIVER SECTION >



< REMOTE CONTROL SECTION >



4 5 6 7 8 9 10 11 12 13 14 15 16

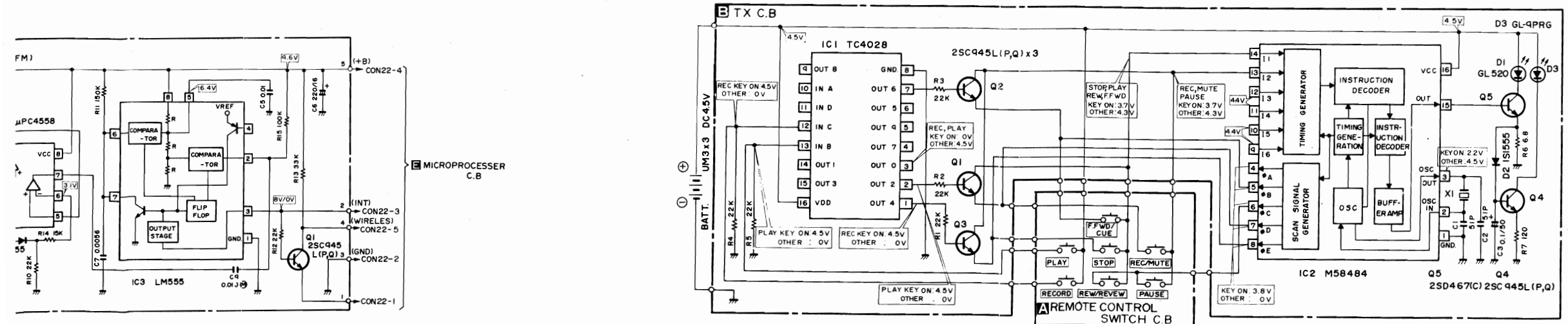


NOTES:

- 1) — B (+) power supply — B (-) power supply
- 2) → Signal path  
→ Rec signal path.
- 3) 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.
- 4) Resistors with no designation have a rated power of 1/4W and a tolerance of  $\pm 5\%$ .
- 5) Capacitors with no designation have a dielectric strength of less than 50WV.
- 6) The only capacitor tolerances indicated are  $\pm 2\%$ (G),  $\pm 5\%$ (J) and  $\pm 10\%$ (K).
- 7) Ceramic capacitor symbols:  
 ○ For temperature compensation (SL)  
 □ High dielectric constant system (YY)  
 ▭ High dielectric constant system (YW, YP, YZ)
- 8) Explanation of symbols  
 (M) Mylar capacitor  
 (A) Aluminum solid capacitor  
 (PP) Polypropylene film capacitor  
 (BP) Bi-polarized capacitor  
 (LL) Low-leakage capacitor  
 (S) Tantalum capacitor  
 (T) Styrol capacitor  
 (LN) Low noise resistor  
 (DM) Dipped mica capacitor
- 9) Switches are set to the following positions.  
 S1-1 ~ 4 MONITOR (SOURCE)  
 S2-1 ~ 4 TEST (ON)  
 S3-1 ~ 6 DOLBY-NR (OFF)  
 S4-1 ~ 6 TAPE SELECTOR-BIAS (LH)  
 S5-1 ~ 4 TAPE SELECTOR-EQ (LH)  
 S6 PEAK HOLD (OFF)  
 S7 PEAK (ON)  
 S8 VU (ON)  
 S9 STOP MUTING (STOP)  
 S10 POWER (OFF)  
 S11 PLAY DETECTION (STOP)  
 S12-1 ~ 7 LOGIC CONTROL BUTTONS  
 S13 CASSETTE DETECTION (ON)  
 S14 ERASE PREVENTION (ON)  
 S15 TIMER (PLAY)  
 S16 TAPE COUNTER  
 S17 MEMORY (STOP)  
 S18-1, 2 SUB MOTOR SELECTOR  
 S19 SUB MOTOR SPEED SELECTOR (SLOW)  
 S20-1, 2 DIN OUTPUT LEVEL (VARIABLE) (FIXED)  
 S21 CrO<sub>2</sub> AUTO (OFF)  
 S22 VOLTAGE SELECTOR

⚠ Safety component symbol  
 This symbol is given to important parts which serve to maintain the safety of the product, and which are made to conform to special safety specifications. Therefore, when replacing a component with this symbol, make absolutely sure that you use a designated part.  
 • This schematic diagram is subject to change without notice in the interests of improved performance.

< REMOTE CONTROL SECTION >



Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
4-1	82-303-285-01		Guide, Cassette R		1
4-2	82-303-347-01		Lever, Cassette pressure		1
4-3	82-303-355-01		Spring, Cassette pressure		1
4-4	82-303-348-01		Holder, Cassette pressure		1
4-5	82-303-289-01		Guide, Cassette L		1
4-6	82-303-346-01		Lever, Rec.-blocking		1
4-7	82-303-354-01		Spring, Rec.-blocking		1
4-8	82-303-350-01		Holder, Rec.-blocking		1
4-9	82-303-286-01		Lever, Brake		1
4-10	82-304-286-01		Flange collar B	AD-6900	2
4-11	82-304-238-01		Slide lever, Cassette pressure	AD-6900	1
4-12	82-481-311-01		Spring, Plunger		1
4-13	82-304-233-01		Holder, Plunger	AD-6900	1
4-14	82-304-244-01		Shaft, Play lever	AD-6900	1
4-15	82-304-248-01		Spring, Plunger	AD-6900	1
4-16	82-304-232-01		Lever, PLAY	AD-6900	1
4-17	82-304-243-01		Shaft B, Plunger	AD-6900	1
4-18	82-304-234-01		Slide plate, PLAY	AD-6900	1
4-19	82-304-249-01		Spring, Actuating	AD-6900	1
4-20	82-304-242-01		Shaft A, Plunger	AD-6900	1
4-21	82-304-283-01		Cushion, Plunger	AD-6900	1
4-22	82-304-307-01		Screw, Plunger	AD-6900	2
4-23	82-303-300-01		FR motor pulley		1
4-24	87-085-135-01		Bushing 3-4-5		3
4-25	87-087-029-01		Rubber cushion		3
4-26	82-303-340-01		Shaft bearing ass'y		1
4-27	82-304-701-01		Spacer, Insulation	AD-6900	1
4-28	82-303-259-01		Holder, Motor circuit board		1
4-29	82-304-260-01		Guide, Lock plate	AD-6900	1
4-30	82-303-233-01		Mechanism chassis sub ass'y		1
4-31	82-303-360-01		Supply reel platform ass'y		1
4-32	82-303-358-01		Shaft bearing ass'y		1
4-33	82-303-322-01		Spring, FR idler		1
4-34	82-303-271-01		FR idler pulley ass'y		1
4-35	82-303-335-01		Felt 6.4-14		1
4-36	82-303-353-01		Spring, FR lever		1
4-37	82-303-277-01		FR lever ass'y		1
4-38	82-303-292-01		FR eject lever		1
4-39	82-304-247-01		Rubber belt, Counter	AD-6900	1
4-40	82-392-352-01		Cap, Take-up reel platform	AD-6550	1
4-41	82-303-249-01		Take-up reel platform ass'y		1
4-42	82-303-309-01		Rubber, Main drive		1
4-43	82-303-330-01		Slip pulley ass'y		1
4-44	82-303-385-01		Rubber belt B, FR		1
4-45	82-439-426-01		Brake shoe A		2
4-46	82-303-318-01		Spring, Brake		1
4-47	82-303-297-01		Slide plate, Brake		1
4-48	87-038-039-01		Wire binder		1
4-49	82-303-314-01		Nut 2.6		2
4-50	82-303-291-01		Plate, Flywheel		1
4-51	82-385-311-01		Screw for thrust	AD-6300	1
4-52	82-303-246-01		Flywheel ass'y		1
4-53	82-303-310-01		Rubber belt, Flywheel		1
4-54	82-303-224-01		Spring, Flywheel		1
4-55	82-392-256-01		Shaft bearing ass'y	AD-6550	1
4-56	82-304-251-01		Spring, Lock lever	AD-6900	1
4-57	82-304-221-01		Lock lever ass'y	AD-6900	1
4-58	82-397-354-01		Drum wheel C ass'y	AD-6550	1
4-59	82-304-312-01		Idler oil E ass'y	AD-6900	1
4-60	82-304-250-01		Spring, Oil	AD-6900	1
4-61	82-303-349-01		Lever, CrO <sub>2</sub>		1
4-62	82-303-351-01		Holder, CrO <sub>2</sub>		1
4-63	82-303-356-01		T spring, CrO <sub>2</sub>		1

## ACCESSORIES/PACKAGE

Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
1a	82-153-857-01		Printed indiv., Packing (H,E,K model only)	*	1
1b	82-153-853-01		Printed indiv., Packing (U model only)	*	1
2	82-304-852-11		Cushion L, Printed indiv.	AD-6900	1
3	82-304-853-11		Cushion R, Printed indiv.	AD-6900	1
4	82-307-858-01		Sub cushion, Rear	AD-6700	2
5a	87-051-131-11		Poly-vinyl sack (for AC power cord) (H model only)		1
5b	87-051-135-11		Poly-vinyl sack (for AC power cord) (U,E,K model only)		1
6	87-056-564-01		Curl stopper		2
7	87-056-607-01		Poly-vinyl sack (for case)		1
8a	82-153-904-01		Instructions booklet (H model only)	*	1
8b	82-153-907-01		Instructions booklet (U model only)	*	1
8c	82-153-905-01		Instructions booklet (E model only)	*	1
8d	82-153-906-01		Instructions booklet (K model only)	*	1
9	87-051-132-01		Poly-vinyl sack		1
10	87-051-175-01		Poly-tuvc A (for instruction)		1
11	87-056-008-11		Label, AC power cord (K model only)		1
12	87-056-009-41		Distributors list		1
13	87-056-014-01		Tag, Main voltage (K model only)		1
14	87-056-034-01		Service station list (U model only)		1
15	87-056-035-01		Card, Limited warranty (U model only)		1
16	87-056-036-01		Guarantee card (U model only)		1
17	87-056-042-01		Label, Metal POP		1
18	82-304-951-01		Driber	AD-6900	1
19	86-121-100-01		Remote control unit, RC-100		1
20a	86-944-012-01		Connection cord, CW-129BSK (H,U,K model only)		2
20b	86-925-015-01		Connection cord, CW-115BSK (E model only)		1
21	87-032-845-01		Siemens plug (H model only)		1
22	87-047-063-01		Battery, SUM-3AE		3
23	87-058-023-01		Cord binder		1
24	87-058-024-01		Head cleaning pole ass'y		1