



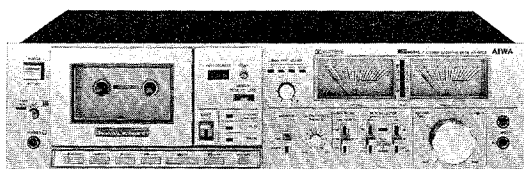
STEREO CASSETTE DECK WITH DOLBY-NR SYSTEM

MODEL NO. AD-M700H, E, K, G

AIWA®

(SERVICE MANUAL)

Code No. 96-770-000-52



DATE OF ISSUE 10/1979

SPECIFICATIONS

Semiconductor:	8 IC's, 74 transistors 48 diodes 12 LED's (H model only) 8 IC's, 75 transistors, 49 diodes 12 LED's (E, K, G model only)	VU meter display error:	0 VU ± 0.5 dB (0 VU)
Power source:	AC 110V/120V/220V/240V Switchable 50/60 Hz (H model) AC 110 ~ 120V/220V Switchable 50/60 Hz (E model) AC 120V/240V Switchable 50/60 Hz (K, G model)	Bias frequency:	105 kHz
Power consumption:	20W	Frequency response:	0 VU METAL: 30~12,500 Hz CrO ₂ : 30~8,000 Hz -20 VU METAL: 20~19,000 Hz CrO ₂ : 20~18,000 Hz Fe-Cr: 20~18,000 Hz LH: 20~16,000 Hz
Dimensions:	450(W) x 120(H) x 270(D) mm	Bias adjustment range:	± 10% (METAL) ± 20% (LH, Fe-Cr, CrO ₂)
Weight:	7 kg	Motor:	DC servomotor (capstan) DC motor (reels)
Track system:	4 track 2 channel stereo	Head:	Recording/Playback V-cut Combination sendust head
Tape speed:	4.8 cm/s ± 1%	Recording system:	Erasure Double gap ferrite head
Wow & flutter:	Less than 0.04% (WRMS)	Erase system:	AC bias
Automatic stop system:	Full auto stop	Input:	AC erase MIC; Max. input sensitivity 0.3 mV (200 Ω~10 kΩ suitable)
Automatic shut-off action time:	3 ± 1 s	Output:	LINE IN; Max. input sensitivity 50 mV (More than 50 kΩ)
Pinch roller pressure:	450 ± 40 g (4.41 ± 0.39 N)		DIN; Max. input sensitivity 0.1 mV/kΩ (2.7 kΩ)
Take-up torque:	50 ± 10 g-cm (490 ± 98 mN·m)		LINE OUT; Standard output level 0.41V (0 VU) Optimum load impedance More than 50 kΩ
FF & rewind torque:	155 ± 65 g-cm (1520 ± 637 mN·m)		DIN; Standard output level 0.41V (0 VU) Optimum load impedance More than 50 kΩ
FF & rewind time:	Less than 90 s (w/C-60 cassette)		PHONES; 8 Ω
Playback output:	0.58 ± 0.05V (LINE, DIN)		
Playback noise:	Less than 1.3 mV (METAL, CrO ₂ , Fe-Cr, DOLBY NR ON) Less than 2.8 mV (LH, DOLBY NR OFF)		
Rec./Pb output:	0 VU ± 1.5 dB (LINE OUT, DIN OUT)		
Rec./Pb distortion:	Less than 1.2% (METAL) Less than 1.5% (CrO ₂) Less than 1.1% (Fe-Cr) Less than 1.5% (LH)		
Rec./Pb S/N:	More than 43/46 dB (METAL, CrO ₂ , Fe-Cr, DOLBY NR OFF/ON) More than 40/45 dB (LH, DOLBY NR OFF/ON)		
Channel separation:	More than 35 dB		
Cross talk:	More than 60 dB		
Erasing ratio:	More than 60 dB		
			<ul style="list-style-type: none"> • 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

- 1) Remove the cassette lid in the direction shown by the arrow (See Figure 1.)

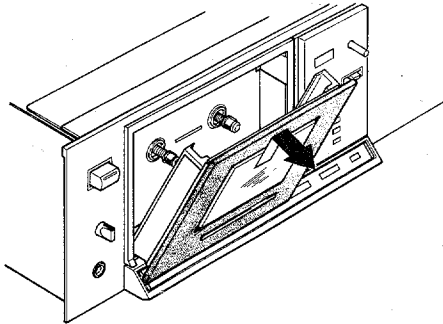


Fig. 1

5. To Remove Flywheel Support Plate

- 1) Loosen the screws and then slide the support plate in the direction of the arrow (See Figure 5.)

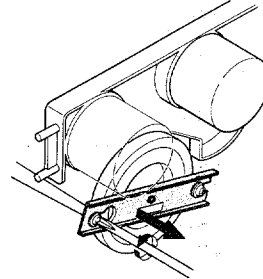


Fig. 5

2. To Remove Blinder and Cassette Plate

- 1) Remove the two cassette plate screws and pull the blinder in the direction of the arrow (See Figure 2.)

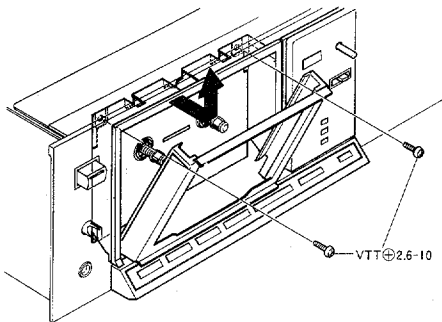


Fig. 2

6. To Remove Oil-damped Section

- 1) Remove the screw holding the power switch.
- 2) Remove the two logic circuit board screws.
- 3) Remove the screw. (See Figure 6.)

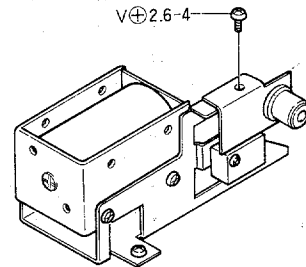


Fig. 6

3. To Remove Front Panel

- 1) Remove the eight knobs and six screws (See Figure 3.)

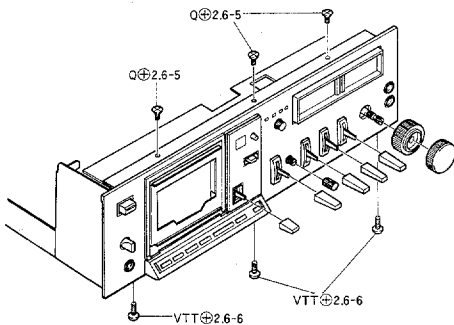


Fig. 3

Notes: Application of oil-damping oil

Apply silicon K oil (GD-10) evenly to the whole inside circumference of the holder (oil-damped) and the whole outside of the gear (oil-damped.) (See Figure 7.)

Rotate the gear (oil-damped) and then insert the holder. Wipe off any excess oil.

4. To Remove Main Motor and Sub Motor

- 1) Bend the wires and solder, etc. into the shape of an "L" and place the main belt over the belt rest.
- 2) Once rotated in the direction of the arrow, the main and sub motors can be removed easily (See Figure 4.)

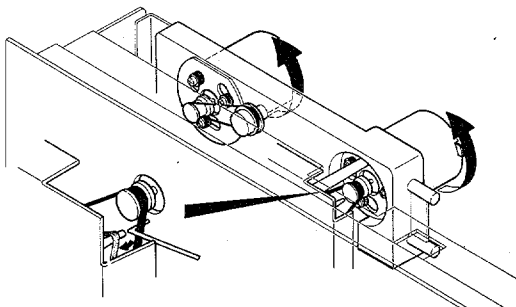


Fig. 4

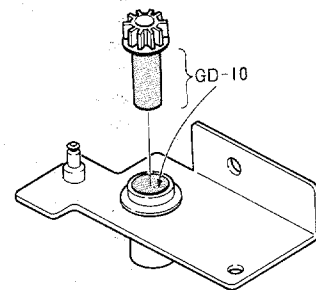
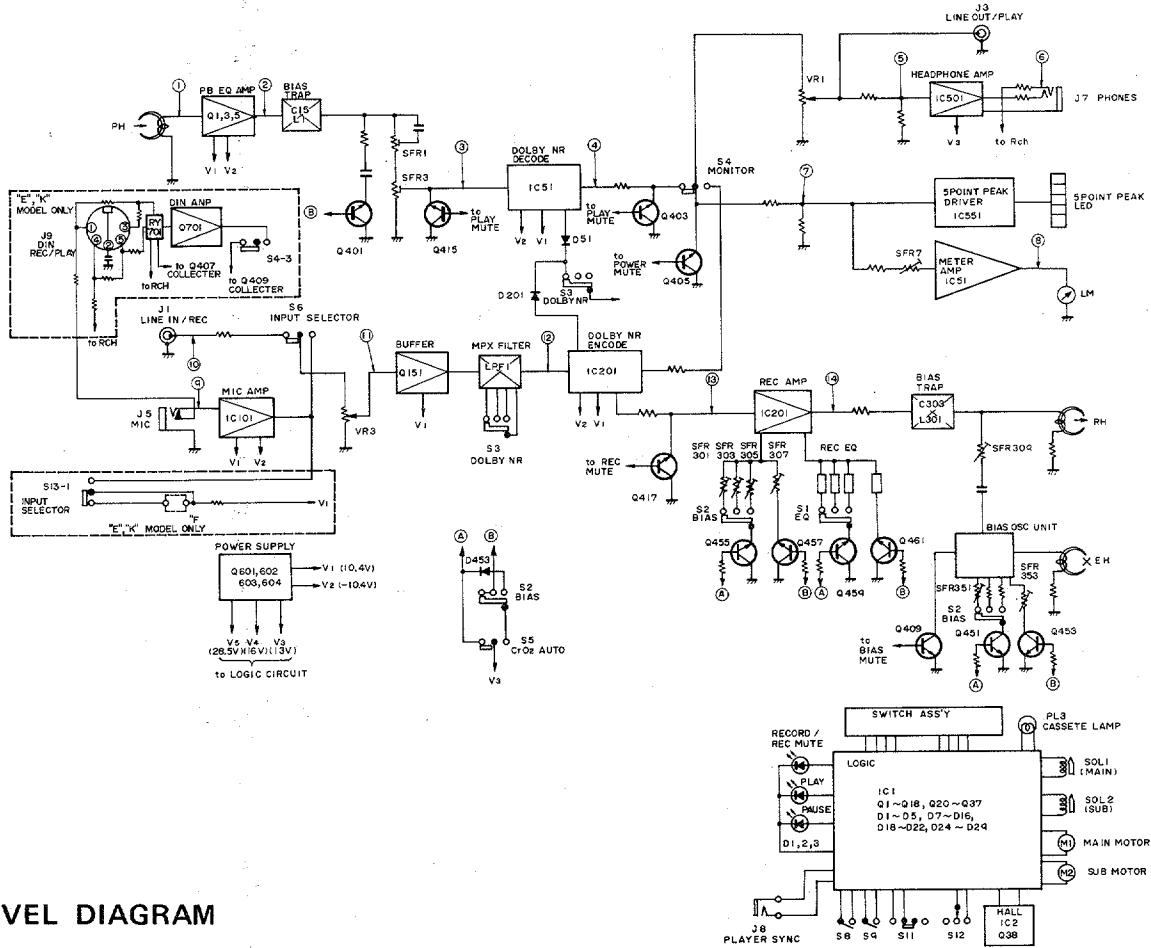
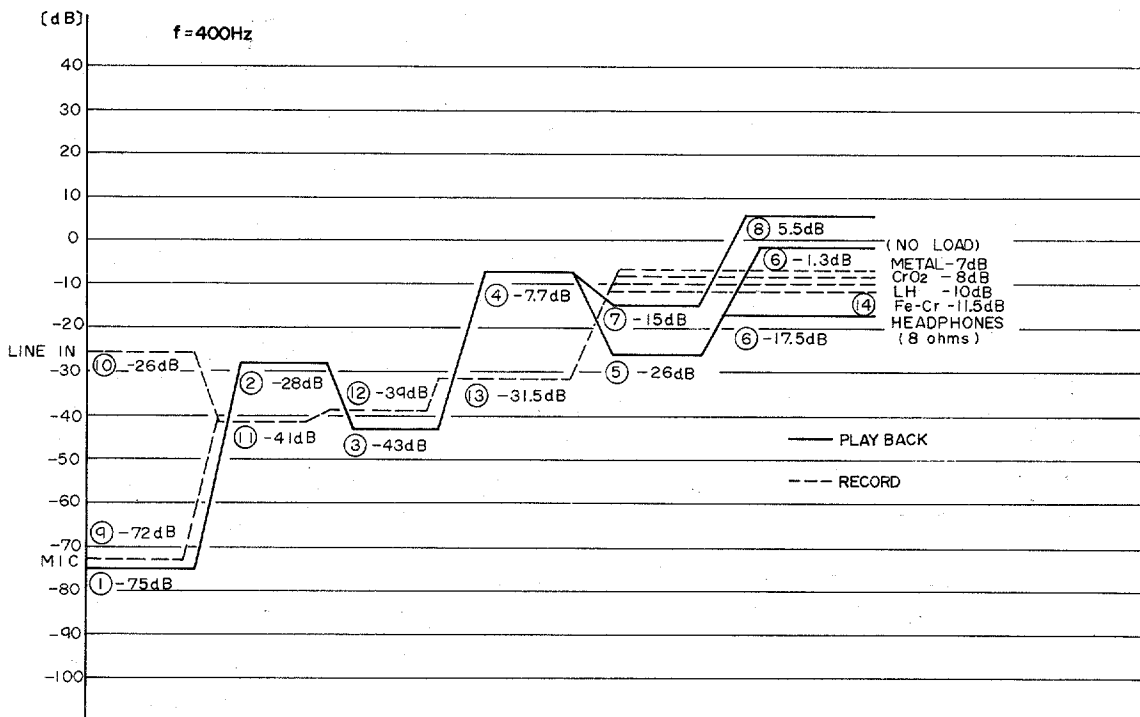


Fig. 7

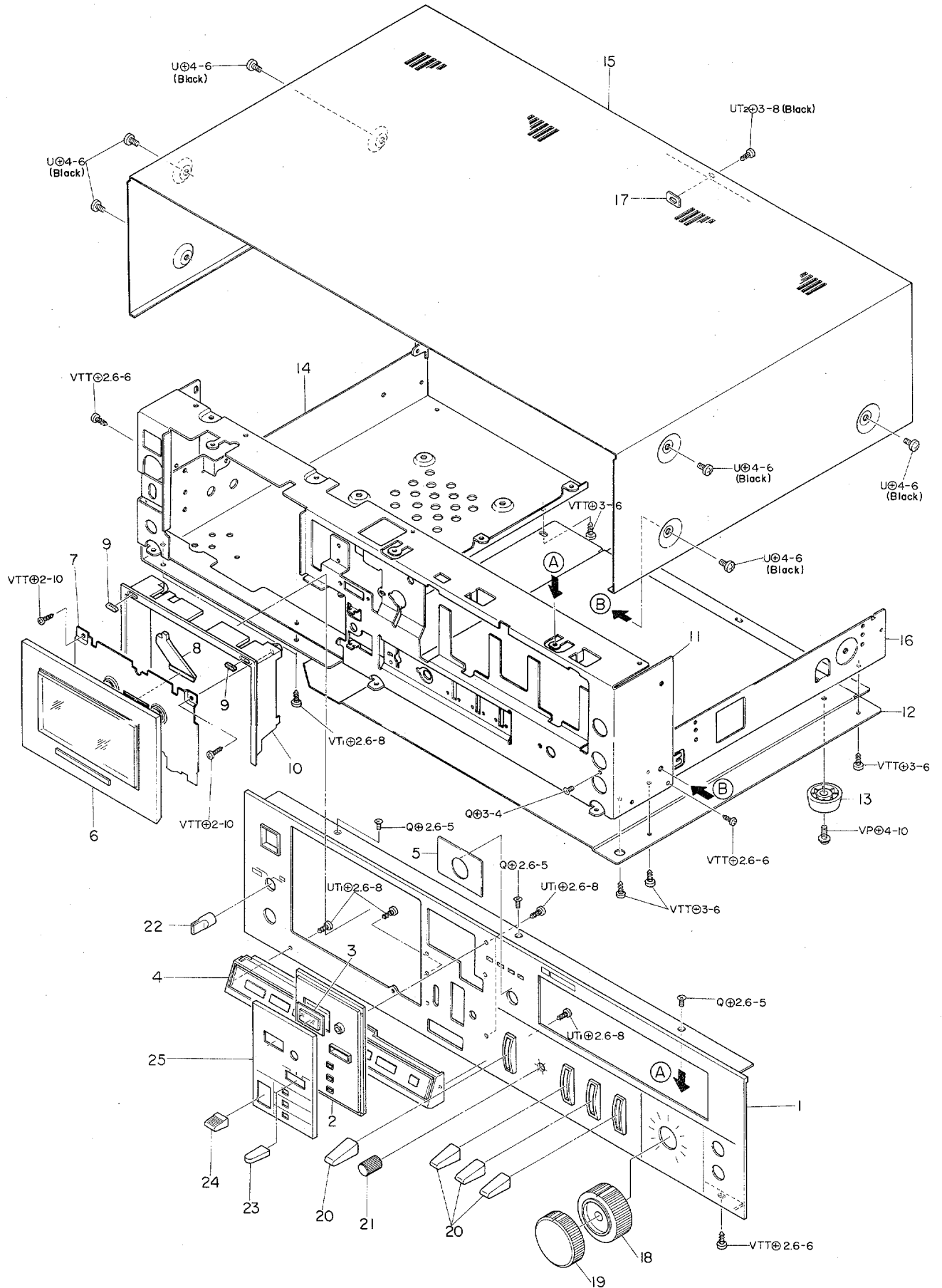
BLOCK DIAGRAM



LEVEL DIAGRAM



EXPLODED VIEW-1



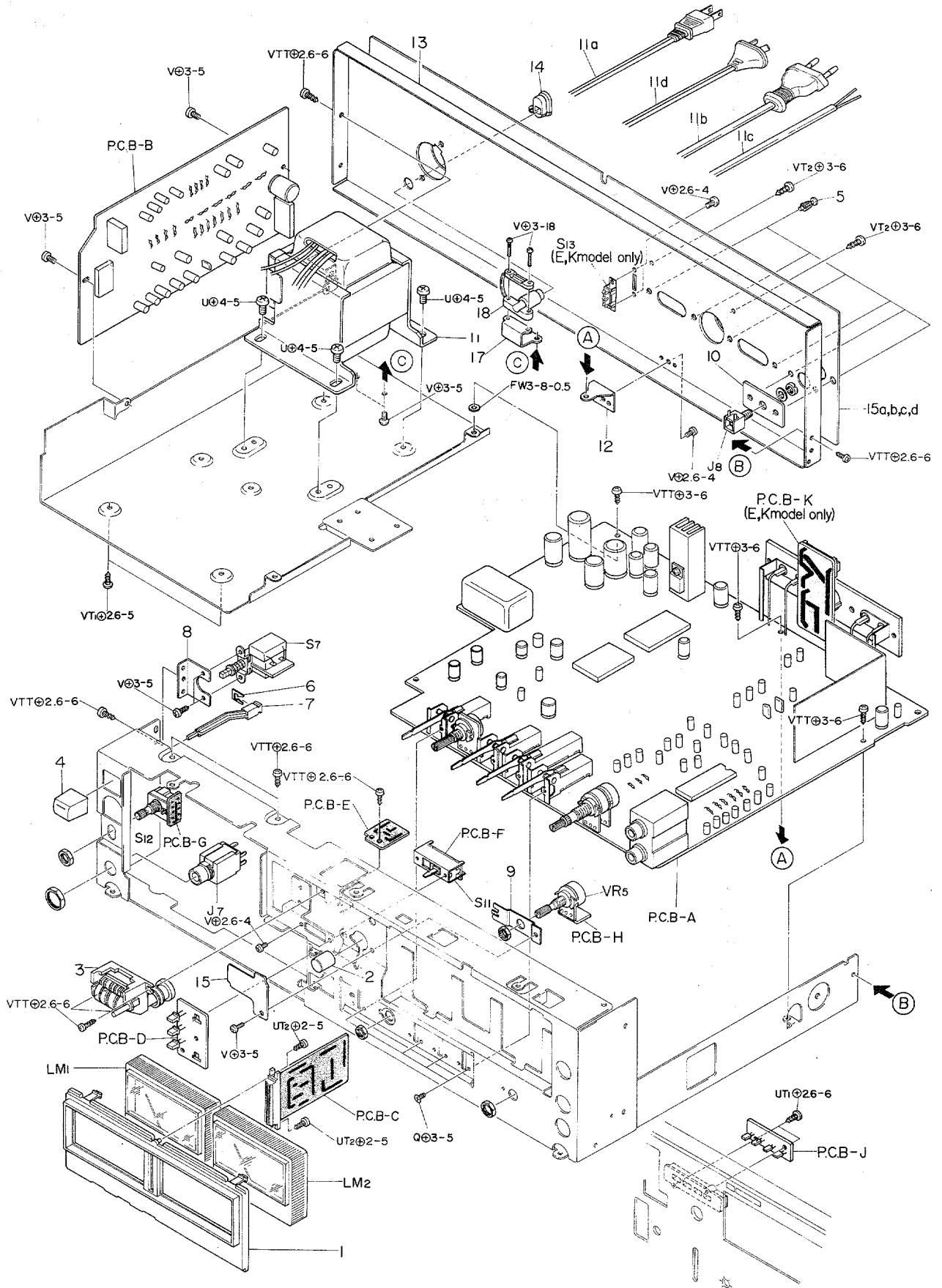
MECHANICAL PARTS

PARTS LIST

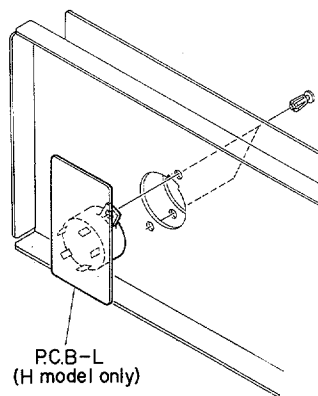
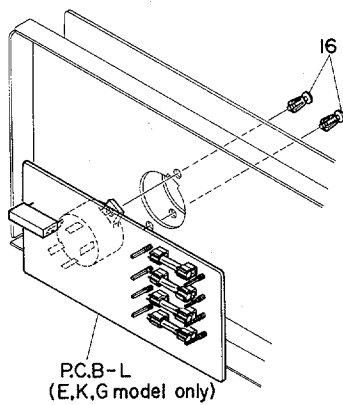
■ * mark in this part list shows exclusive part (which is used) for only Model AD-M700.

Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
1-1	09-047-164-01		Front panel E ass'y	*	1
	82-154-013-01		Front panel	*	1
	82-154-005-01		Guide, Lever switch	*	3
	82-154-004-01		Guide, Lever switch	*	1
	82-318-014-01		Guide, Power button		1
	82-154-208-01		Guide, LED	*	1
1-2	82-318-006-01		Frame, Counter		1
1-3	82-397-030-01		Window, Counter		1
1-4	82-154-625-01		Switch board ass'y	*	1
1-5	82-154-018-01		Sheet, Bias instruction	*	1
1-6	09-047-161-01		Cassette lid ass'y	*	1
1-7	82-154-006-01		Cassette plate	*	1
1-8	82-154-015-01		Guide, Right	*	1
1-9	82-304-066-01		S cushion, Cassette lid		2
1-10	82-318-027-01		Blinder B		1
1-11	82-318-201-01		Chassis, Front		1
1-12	82-318-002-01		Bottom, Cabinet		1
1-13	87-085-161-01		Foot		4
1-14	82-154-217-01		Chassis A ₂ , Amp.	*	1
1-15	82-318-044-01		Steel cabinet		1
1-16	82-321-220-01		Chassis B ₂ , Amp.		1
1-17	82-380-439-01		Spacer, Back panel	AD-5600	1
1-18	82-318-019-01		REC knob B ass'y		1
1-19	82-318-016-01		REC knob A ass'y		1
1-20	82-318-023-01		Knob, Lever switch		4
1-21	82-318-043-01		Knob, Bias		1
1-22	82-318-022-01		Knob, Bias		1
1-23	82-318-024-01		Knob, Slide switch		1
1-24	82-328-025-01		Knob, Eject key		1
1-25	82-318-005-01		Panel, Counter		1

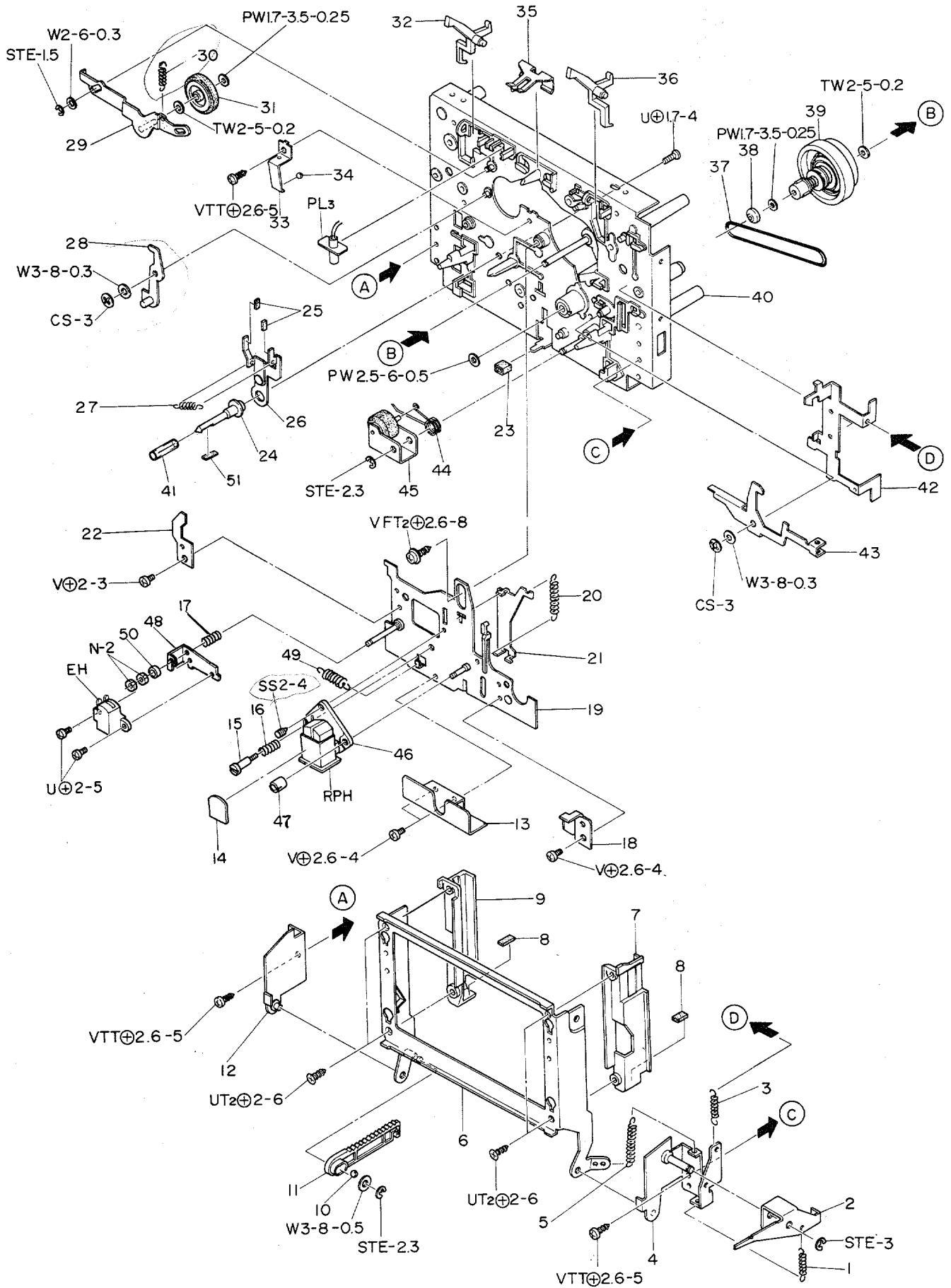
EXPLODED VIEW-2



Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
2-1	82-154-017-01		Frame, Meter M	*	1
2-2	82-154-019-01		Knob, Pb A	*	1
2-3	87-040-119-01		Counter		1
2-4	82-318-025-01		Push button, Power		1
2-5	87-085-102-01		Nylon rivet 3.5-5.5		6
2-6	82-385-383-01		Rod stopper		1
2-7	82-304-210-01		Rod, Power		1
2-8	82-318-205-01		Holder, Power		1
2-9	82-154-207-01		Holder, Bias volume	*	1
2-10	82-387-273-01		Holder, Jack	AD-6800	1
2-11a	87-034-826-01		AC power cord (H model only)		1
2-11b	87-034-877-01		AC power cord (E model only)		1
2-11c	87-034-872-01		AC power cord (K model only)		1
2-11d	87-034-878-01		AC power cord (G model only)		1
2-12	82-318-203-01		Holder, Circuit board		1
2-13	82-318-210-01		Chassis, Rear		1
2-14	87-085-165-01		Cord bushing (H, G model only)		1
2-15a	82-154-010-01		Plate, Jack (H model only)	*	1
2-15b	82-154-007-01		Plate, Jack (E model only)	*	1
2-15c	82-154-008-01		Plate, Jack (K model only)	*	1
2-15d	82-154-009-01		Plate, Jack (G model only)	*	1
2-16	87-085-090-01		Nylon rivet		2
2-17	82-397-244-01		Holder, AC power cord (E, K model only)	AD-6550	1
2-18	87-085-166-01		Holder, AC power cord (E, K model only)		1



EXPLODED VIEW-3



Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
3-1	82-304-264-11		E spring, Eject lever	AD-6900	1
3-2	82-304-236-01		Lever, Eject key	AD-6900	1
3-3	82-392-374-01		E spring, Pause A	AD-6550	1
3-4	82-319-220-01		Holder C, Box R ass'y		1
3-5	82-319-230-01		E spring, Cassette lid		1
3-6	82-319-216-01		Cassette box ass'y		1
3-7	82-304-046-01		Holder R, Cassette	AD-6900	1
3-8	82-304-284-01		G cushion, Cassette	AD-6900	2
3-9	82-304-047-01		Holder L, Cassette	AD-6900	1
3-10	87-073-005-01		Steel ball 2φ		1
3-11	82-541-240-01		Lever, Oil damper	TPR-950	1
3-12	82-319-223-01		Holder C, Box L ass'y		1
3-13	82-397-291-01		Shield plate, Head	AD-6550	1
3-14	82-304-069-01		Label, Head	AD-6900	1
3-15	82-304-289-01		Screw, RPH	AD-6900	1
3-16	82-304-290-01		C spring, Head	AD-6900	1
3-17	82-154-209-01		C spring, Erase head platform	*	1
3-18	82-303-294-01		Holder, T spring	AD-6700	1
3-19	82-154-202-01		Out-ert actuating chassis sub ass'y	*	1
3-20	82-319-229-01		E spring, Actuating		1
3-21	82-319-210-01		Actuating slide plate		1
3-22	82-319-209-01		Guide, Idler lever		1
3-23	82-397-307-01		G cushion, Eject lever	AD-6550	1
3-24	82-154-212-01		Shaft, Tension	*	1
3-25	82-303-382-01		Felt, Sub brake	AD-6700	2
3-26	82-319-259-01		Lever, Back tension ass'y		1
3-27	82-319-258-01		E spring, Back tension		1
3-28	82-319-235-01		PAC lever ass'y		1
3-29	82-303-342-01		Play idler lever ass'y	AD-6700	1
3-30	82-303-325-01		E spring, Play idler	AD-6700	1
3-31	82-303-274-01		Play idler ass'y	AD-6700	1
3-32	82-303-346-01		REC blocking lever	AD-6700	1
3-33	82-319-215-01		P spring, Actuating A		1
3-34	82-215-341-01		Steel ball 3/32		1
3-35	82-319-214-01		P spring, Cassette		1
3-36	82-303-349-01		Lever, CrO ₂	AD-6700	1
3-37	82-318-207-01		Belt, Counter		1
3-38	82-303-398-01		Take up reel platform cap	AD-6700	1
3-39	82-303-249-01		Take up reel platform ass'y	AD-6700	1
3-40	09-047-153-01		Main chassis ass'y		1
3-41	87-819-301-01		Tube		1
3-42	82-319-212-01		Lock slide plate		1
3-43	82-319-211-01		Lever, Play switch		1
3-44	82-303-316-01		T spring, Pinch lever	AD-6700	1
3-45	82-319-252-01		Pinch roller ass'y		1
3-46	87-046-175-01		Head combination		1
3-47	82-304-317-01		Nut, Azimuth	AD-6900	1
3-48	82-303-374-01		Holder, EH	AD-6700	1
3-49	82-303-377-01		E spring, EH	AD-6700	1
3-50	82-303-371-01		Collar, EH	AD-6700	1
3-51	82-303-372-01		Felt, EH	AD-6700	1

Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
4-1	82-319-241-01		Holder, CrO ₂		1
4-2	82-319-251-01		E spring, CrO ₂		1
4-3	82-303-286-01		Lever, Brake	AD-6700	1
4-4	82-303-350-01		Holder, REC blocking	AD-6700	1
4-5	82-319-234-01		E spring, REC blocking		1
4-6	82-319-207-01		Holder, Plunger		1
4-7	82-304-244-01		Shaft, Play lever	AD-6900	1
4-8	82-304-249-01		E spring, Actuating	AD-6900	1
4-9	82-304-232-01		Lever, Play	AD-6900	1
4-10	82-304-243-01		Shaft B, Plunger	AD-6900	1
4-11	82-319-250-01		Slide plate, Play B		1
4-12	82-304-242-01		Shaft A, Plunger	AD-6900	1
4-13	82-319-225-01		Holder, Oil damper ass'y		1
4-14	82-534-264-01		Gear, Oil damper	TPR-980	1
4-15	82-319-239-01		Gear, Oil		1
4-16	82-303-398-01		Take up reel platform cap	AD-6700	1
4-17	82-154-216-01		Supply reel platform ass'y	*	1
4-18	82-303-322-01		C spring, FR idler	AD-6700	1
4-19	82-303-271-01		Idler pulley FR ass'y	AD-6700	1
4-20	82-303-335-01		Felt 6.4-14	AD-6700	1
4-21	82-303-353-01		E spring, FR lever	AD-6700	1
4-22	82-303-277-01		FR lever ass'y	AD-6700	1
4-23	82-303-292-01		Lever, FR ejector	AD-6700	1
4-24	87-081-483-01		Motor screw M2.6		6
4-25	82-498-319-01	629	Rubber cushion B	TPR-300	6
4-26	82-319-247-01		Motor pulley, FR		1
4-27	82-319-248-01		Motor pulley, Flywheel A		1
4-28	09-047-152-01		Sub chassis ass'y		1
4-29	87-038-039-01		Wire binder		1
4-30	82-303-288-01		Lever, Actuating lock	AD-6700	1
4-31	82-303-309-01		Drive rubber	AD-6700	1
4-32	82-303-330-01		Slip pulley ass'y	AD-6700	1
4-33	82-303-385-01		Rubber belt FR B	AD-6700	1
4-34	82-439-426-01		Brake shoe A	TPR-300	1
4-35	82-303-318-01		T spring, Brake	AD-6700	1
4-36	82-303-297-01		Slide plate, Brake	AD-6700	1
4-37	82-319-238-01		Plate, Flywheel		1
4-38	82-331-107-01		Thrust screw		1
4-39	82-154-218-01		Flywheel ass'y	*	1
4-40	82-319-227-01		Rubber belt, Flywheel		1

ACCESSORIES/PACKAGE

Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
1	82-154-855-01		Printed indiv., Packing	*	1
2	82-318-861-01		Cushion L, Printed indiv.		1
3	82-318-862-01		Cushion R, Printed indiv.		1
4	82-318-860-01		Pad, Cassette window		1
5	87-051-131-11		Poly-vinyl sack (for AC power cord) (H model only)		1
6	87-051-135-11		Poly-vinyl sack (for AC power cord) (E,K,G model only)		1
7	87-056-607-01		Poly-vinyl sack (for case)		1
8a	82-154-904-01		Instructions booklet (H model only)	*	1
8b	82-154-906-01		Instructions booklet (E model only)	*	1
8c	82-154-907-01		Instructions booklet (K model only)	*	1
8d	82-154-908-01		Instructions booklet (G model only)	*	1
9	87-051-175-01		Poly-tube A (for instruction)		1
10	87-056-008-11		Label, AC power cord (K model only)		1
11	87-056-009-41		Distributors list		1
12	87-056-016-01		Tag, Main voltage (K model only)		1
13	87-056-042-01		Label, Metal POP		1
14a	86-944-012-01		Connection cord CW-129BSK (H,K model only)		1
14b	86-925-015-01		Connection cord CW-115BSK (E model only)		1
15	87-032-845-01		Siemens plug (H model only)		1

ELECTRICAL MAIN PARTS LIST

Symbol No.	Part No.	Description
« MAIN CIRCUIT BOARD SECTION »		
PCB-A	82-154-602-01	Main circuit board
IC51,52,201	87-027-557-01	IC, CX-174
202		
IC101	87-027-371-01	IC, NJM4558DA
IC501	87-027-382-01	IC, LA4170
Q1,2	89-107-505-01	Transistor, 2SA750 (E)
Q3,4,5,6,151	89-309-456-01	Transistor, 2SC945L (P)
152,401,402		
407,409,411		
413,416,451		
453,455,456		
457,458,459		
460,461,462		
Q403,404,405	89-320-011-01	Transistor, 2SC2001 (K)
406,417,418		
Q412,601	89-405-712-01	Transistor, 2SD571 (L)
Q602	89-206-052-01	Transistor, 2SB605 (L)
Q603,604	89-407-624-01	Transistor, 2SD762 (P)
D51,52,201	87-027-097-01	Diode, 1S1555
202,351,404		
405,406,451		
452,453,454		
455		
D352,401,402	87-027-555-01	Zener diode, HZ5C2
403		
D408	87-027-365-01	Diode, S5277B
D407	88-052-188-01	Diode, 1S188 (FM)
D601,602	87-027-556-01	Zener diode, HZ-11B3
D603	87-027-479-01	Zener diode, HZ-272
D604	87-027-509-01	Zener diode, HZ-12B3
D605,606	87-027-163-01	Encapsulated diode
L1,2	82-938-640-01	Coil, 10mH
L301,302	82-304-701-01	Coil 22mH
L303,304	82-371-648-01	Micro inductor coil, 6.8mH
L305,306,307	87-005-091-01	Micro inductor coil, 3.3mH
308		
L309,310	87-005-093-01	Micro inductor coil, 4.7mH
LPF1,2	87-030-060-01	Low pass filter
BIAS OSC UNIT	82-328-602-01	OSC unit
VR1,2	82-154-615-01	Volume, 10kΩ-A (OUTPUT LEVEL)
VR3,4	82-318-610-01	Volume, 20kΩ-A (RECORD LEVEL)
J1,2,3,4	82-309-639-01	Pin jack ass'y (LINE IN/REC, LINE OUT/PLAY)
J5,6	87-032-957-01	MIC jack ass'y w/switch (MIC)
S1,3	87-031-499-01	Lever switch (EQ, DOLBY NR)
S2	82-154-611-01	Lever switch (BIAS)
S4	82-481-660-01	Lever switch (MONITOR)
SFR1,2,3,4	87-021-615-01	Semi-fixed resistor, 47kΩ-B
305,306		
307,308		
SFR301,302	87-021-616-01	Semi-fixed resistor, 100kΩ-B
303,304		
309,310		
SFR351	87-021-613-01	Semi-fixed resistor, 10kΩ-B
PIN1,2,3,4	87-032-903-01	Pin, 3P
5,6		
PIN7	87-032-904-01	Pin, 4P

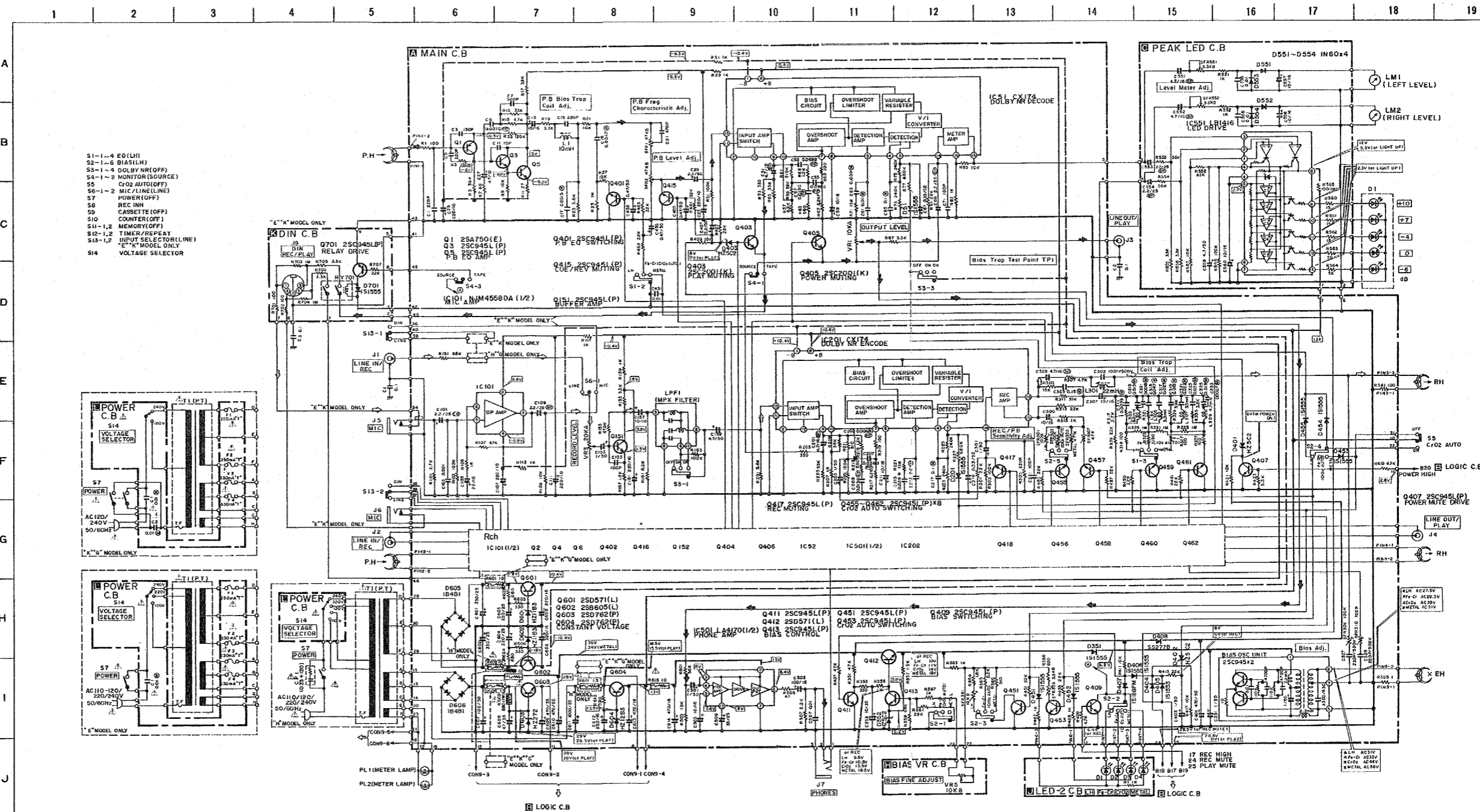
Symbol No.	Part No.	Description
△ R608,611	87-029-066-01	< Resistor > 1.5Ω ¼w Fuse resistor (H model only)
△ R601,602	87-029-017-01	10Ω ¼w Fuse resistor (H model only)
△ R615	87-029-017-01	10Ω ¼w Fuse resistor (H model only)
△ R607	87-029-007-01	22Ω ¼w Fuse resistor
R609	87-025-068-01	680Ω 1w Nonflammable resistor
R67,68,217	87-025-239-01	6.2kΩ Metal film resistor
218		
< Capacitors >		
C101,102	87-015-242-01	2.2μF 25V Electrolytic LL
C69,70,109	87-015-453-01	2.2μF 25V Electrolytic BP
110		
C29,30,51,52	87-015-464-01	4.7μF 16V Electrolytic BP
201,202		
C303,304	88-238-410-01	100pF 500V Ceramic
C327,328	88-238-480-01	220pF 500V Ceramic
C53,54,203	87-014-116-01	0.0068μF PP
204		
C57,58,209	87-014-118-01	0.015μF PP
210		
C9,10	87-014-119-01	0.027μF PP
C55,56,207	87-014-120-01	0.056μF PP
208		
« LOGIC CIRCUIT BOARD SECTION »		
PCB-B	82-318-603-21	Logic circuit board
IC1	87-027-477-01	IC, TC-9121P
Q1,2,3,4,5,6	89-318-155-01	Transistor, 2SC1815 (GR)
8,12 13,14,		
15,16 17,20,		
22,27 30,33,		
35,36 37		
Q7	89-309-456-01	Transistor, 2SC945L (P)
Q10,29,32	89-318-464-51	Transistor, 2SC1846 (R,S)
Q9,11	89-407-624-01	Transistor, 2SD762 (P)
Q16,25,26	89-313-835-01	Transistor, 2SC1383NC (Q)
Q21,34	89-107-335-61	Transistor, 2SA733K (P)
Q23,24	89-106-835-01	Transistor, 2SA683NC (Q)
Q28,31	89-108-854-51	Transistor, 2SA885R (S)
D1,2,3,4,5,7,8,	87-027-097-01	Diode, 1S1555
9,11,12 15,		
16,18,19 20,		
26,27,28 29		
D10,13,21,22	87-027-365-01	Diode, S5277 (B)
24,25		
D14	87-027-475-01	Zener diode, HZ-6B1
SFR1	87-021-480-01	Semi-fixed resistor, 50kΩ-B
PIN-8	87-032-955-01	Pin, 8P
PIN-9	87-032-926-01	Pin, 6P
< Resistor >		
R27	87-025-218-01	33Ω 5W Nonflammable resistor

Symbol No.	Part No.	Description
« PEAK LED CIRCUIT BOARD SECTION »		
PCB-C	82-154-605-01	Peak LED circuit board
IC551	87-027-351-01	IC, LB1416
D1	87-027-432-01	Light emitting diode 5 points (PEAK)
D551,552,553	88-051-060-01	Diode, 1N60
554		
SFR353,551	87-021-611-01	Semi-fixed resistor, 3.3kΩ-B
552		
< Resistor >		
R565	87-025-072-01	100Ω 2W Nonflammable resistor
< Capacitors >		
C553,554	87-015-453-01	2.2μF 25V Electrolytic BP
C551,552	87-015-464-01	4.7μF 16V Electrolytic BP
« LED-1 CIRCUIT BOARD SECTION »		
PCB-D	82-318-604-21	LED-1 circuit board
D1	87-027-353-01	Light emitting diode, (YEL) (PAUSE)
D2	87-027-352-01	Light emitting diode, GL-9NG2 (PLAY)
D3	87-027-354-01	Light emitting diode, GL-9PR2 (RECORD/REC MUTE)
« HALL IC CIRCUIT BOARD SECTION »		
PCB-E	82-318-607-21	Hall IC circuit board
IC2	87-027-478-01	IC, DN-6835
Q38	89-318-155-01	Transistor, 2SC1815 (GR)
« MEMORY CIRCUIT BOARD SECTION »		
PCB-F	82-318-606-21	Memory circuit board
S11	82-318-615-01	Lever switch (MEMORY)
« TIMER CIRCUIT BOARD SECTION »		
PCB-G	82-318-605-21	Timer circuit board
S12	87-031-502-01	Rotary switch (TIMER/REPEAT)
« BIAS VOLUME CIRCUIT BOARD SECTION »		
PCB-H	82-154-603-01	Bias volume circuit board
VR5	82-154-616-01	Volume, 10kΩ-B (BIAS FINE ADJ)
« SWITCH CIRCUIT BOARD SECTION »		
	82-154-625-01	Switch board ass'y
« LED-2 CIRCUIT BOARD SECTION »		
PCB-J	82-154-604-01	LED-2 circuit board
D1,2	87-027-352-01	Light emitting diode (GRN) GL-9NG2 (LH, Fe-Cr)
D3	87-027-353-01	Light emitting diode (YEL) (CrO ₂)
D4	87-027-354-01	Light emitting diode (RED) GL-9PR2 (METAL)
« DIN CIRCUIT BOARD SECTION »		
E,K model only		
PCB-K	82-154-606-01	DIN circuit board
Q701	89-309-455-01	Transistor, 2SC945L (P)
D701	87-027-097-01	Diode, 1S1555
RY701	84-184-612-01	Reed relay, HA212N
J1,2,3,4,9	82-309-637-01	Pin jack ass'y DIN

Symbol No.	Part No.	Description
« POWER CIRCUIT BOARD SECTION »		
△ PCB-L	82-304-733-11	Power circuit board (H model only)
△ PCB-L	82-154-608-01	Power circuit board (E,K,G model only)
△ S14	82-304-732-01	Rotary switch (VOLTAGE SELECTOR) (H model only)
△ S14	87-031-459-01	Rotary switch (VOLTAGE SELECTOR) (E model only)
△ F1,2	87-035-145-01	Fuse, "T" 250mA
	87-098-010-01	Fuse label, "T" 250mA
△ F3,4	87-035-220-01	Fuse, "T" 630mA
	87-098-014-01	Fuse label, "T" 630mA
	87-033-147-01	Fuse clamp
« MISCELLANEOUS »		
△ T1	82-318-621-01	Power transformer (H model only)
△ T1	82-318-623-01	Power transformer (E model only)
△ T1	82-318-624-01	Power transformer (K,G model only)
RH,PH	87-046-175-01	REC/PB head combination
EH	87-046-173-01	Erase head
LM1,2	82-154-612-01	Level meter
PL3	82-318-628-01	Pilot lamp 8V
CP1	87-028-036-01	Compound capacitor (H model only)
M1	82-154-621-01	Motor DC, FG (MAIN)
M2	82-319-617-01	Motor DC (SUB)
SOL1	82-319-615-01	Solenoid (FWD) (MAIN)
SOL2	82-304-640-01	Solenoid (FR) (SUB)
S5,8	82-304-724-01	Micro switch (CrO ₂ , AUTO, REC INH)
△ S7	87-031-467-01	Push switch (POWER)
S9	82-319-613-01	Micro switch (CASSETTE)
S13	87-031-460-01	Slide switch (INPUT SELECTOR)
J7	87-032-748-01	Jack, 6.3φ (PHONES)
J8	87-032-882-01	Jack, 2.5φ (PLAYER SYNC)
△	87-034-826-01	AC power cord (H model only)
△	87-034-877-01	AC power cord (E model only)
△	87-034-872-01	AC power cord (K model only)
△	87-034-878-01	AC power cord (G model only)
△	87-033-140-01	Splice connector (H model only)
△	87-085-165-01	Cord bushing (H model only)
CON-1	82-309-648-01	3P connector ass'y
CON-2	82-309-649-01	3P connector ass'y
CON-3	82-154-618-01	3P connector ass'y
CON-4	82-154-619-01	3P connector ass'y
CON-5	82-154-617-01	3P connector ass'y
CON-6	82-154-622-01	3P connector ass'y
CON-7	82-154-623-01	4P connector ass'y
CON-9	82-318-635-01	6P connector ass'y
< Capacitors >		
△ C1	87-019-096-01	0.01μF Ceramic (E model only)
△ C1,2	87-019-096-01	0.01μF Ceramic (K,G model only)

△ 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.

SCHEMATIC DIAGRAM-1



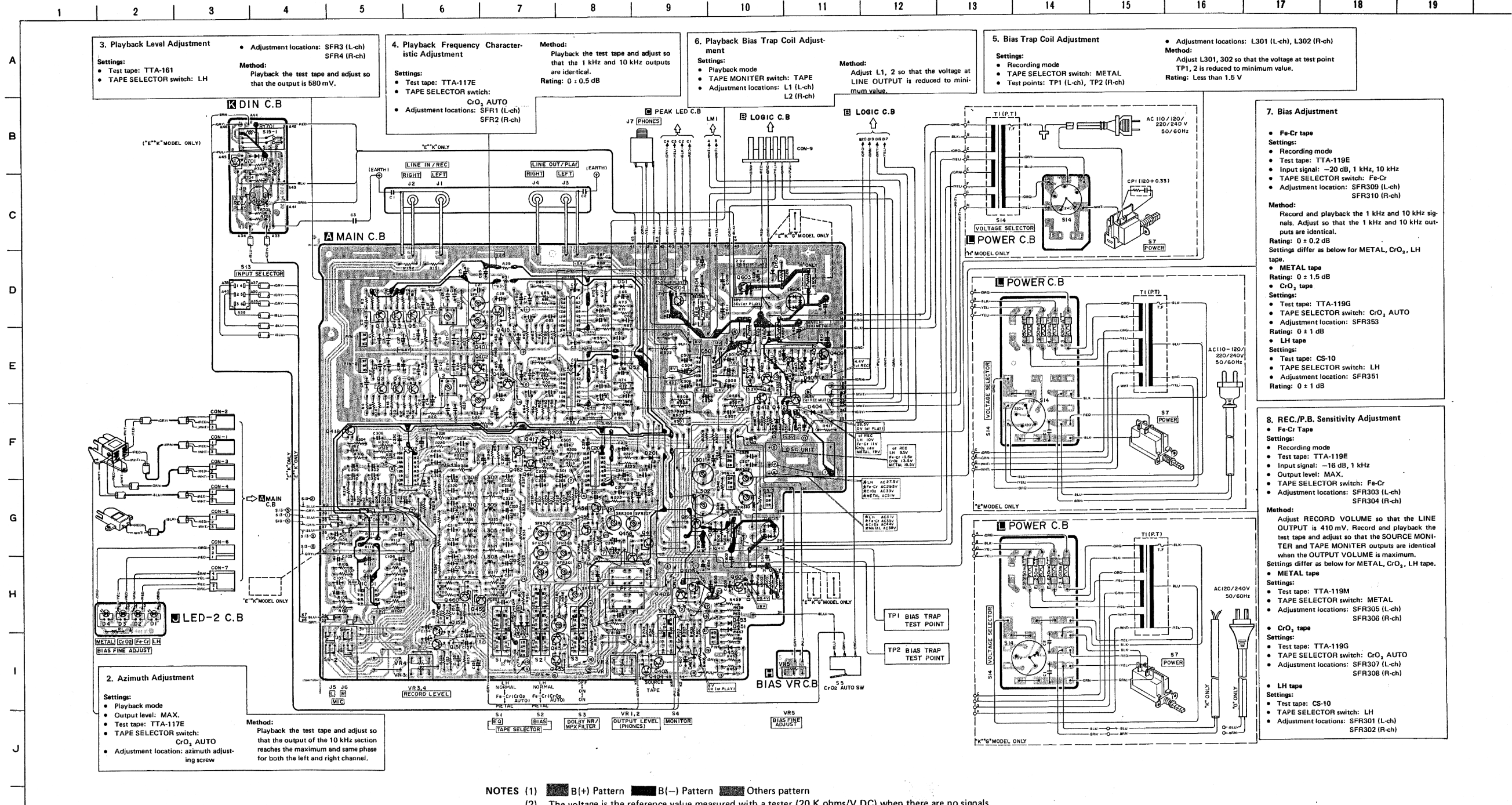
- S1-1-4 EO(LH)
- S2-1-4 BIAS(LM)
- S3-1-4 DOLBY NR(OFF)
- S4-1-2 MONITOR(SOURCE)
- S5 C/2 AUTO(OFF)
- S6-1-2 MIC/LINE(LINE)
- S7 POWER(OFF)
- S8 REC INH
- S9 CASSETTE(OFF)
- S10 COUNTER(OFF)
- S11-1,2 MEMORY(OFF)
- S12-1,2 TIMER/REPEAT
- S13-1,2 INPUT SELECTOR(LINE)
- S14 VOLTAGE SELECTOR

LOGIC C.B.

LED-2 C.B.

BIAS VR C.B.

WIRING-1



3. Playback Level Adjustment

Settings:

- Test tape: TTA-161
- TAPE SELECTOR switch: LH

Method:

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

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

4. Playback Frequency Characteristic Adjustment

Settings:

- Test tape: TTA-117E
- TAPE SELECTOR switch: CrO₂ AUTO

Method:

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

Rating: 0 ± 0.5 dB

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

6. Playback Bias Trap Coil Adjustment

Settings:

- Playback mode
- TAPE MONITOR switch: TAPE

Method:

Adjust L1, 2 so that the voltage at LINE OUTPUT is reduced to minimum value.

Adjustment locations: L1 (L-ch) L2 (R-ch)

5. Bias Trap Coil Adjustment

Settings:

- Recording mode
- TAPE SELECTOR switch: METAL

Method:

Adjust L301, 302 so that the voltage at test point TP1, 2 is reduced to minimum value.

Adjustment locations: L301 (L-ch), L302 (R-ch)

Rating: Less than 1.5 V

7. Bias Adjustment

Settings:

- Fe-Cr tape
- Recording mode
- Test tape: TTA-119E
- Input signal: -20 dB, 1 kHz, 10 kHz
- TAPE SELECTOR switch: Fe-Cr

Method:

Record and playback the 1 kHz and 10 kHz signals. Adjust so that the 1 kHz and 10 kHz outputs are identical.

Rating: 0 ± 0.2 dB

Settings differ as below for METAL, CrO₂, LH tape.

- METAL tape
- Recording mode
- Test tape: TTA-119G
- TAPE SELECTOR switch: CrO₂ AUTO

Adjustment location: SFR353

Rating: 0 ± 1 dB

- LH tape
- Test tape: CS-10
- TAPE SELECTOR switch: LH
- Adjustment location: SFR351

Rating: 0 ± 1 dB

8. REC./P.B. Sensitivity Adjustment

Settings:

- Fe-Cr Tape
- Recording mode
- Test tape: TTA-119E
- Input signal: -16 dB, 1 kHz
- Output level: MAX.
- TAPE SELECTOR switch: Fe-Cr

Method:

Adjust RECORD VOLUME so that the LINE OUTPUT is 410 mV. Record and playback the test tape and adjust so that the SOURCE MONITOR and TAPE MONITOR outputs are identical when the OUTPUT VOLUME is maximum.

Settings differ as below for METAL, CrO₂, LH tape.

- METAL tape
- Test tape: TTA-119M
- TAPE SELECTOR switch: METAL

Adjustment locations: SFR305 (L-ch) SFR306 (R-ch)

- CrO₂ tape
- Test tape: TTA-119G
- TAPE SELECTOR switch: CrO₂ AUTO

Adjustment locations: SFR307 (L-ch) SFR308 (R-ch)

- LH tape
- Test tape: CS-10
- TAPE SELECTOR switch: LH
- Adjustment locations: SFR301 (L-ch) SFR302 (R-ch)

2. Azimuth Adjustment

Settings:

- Playback mode
- Output level: MAX.
- Test tape: TTA-117E
- TAPE SELECTOR switch: CrO₂ AUTO

Method:

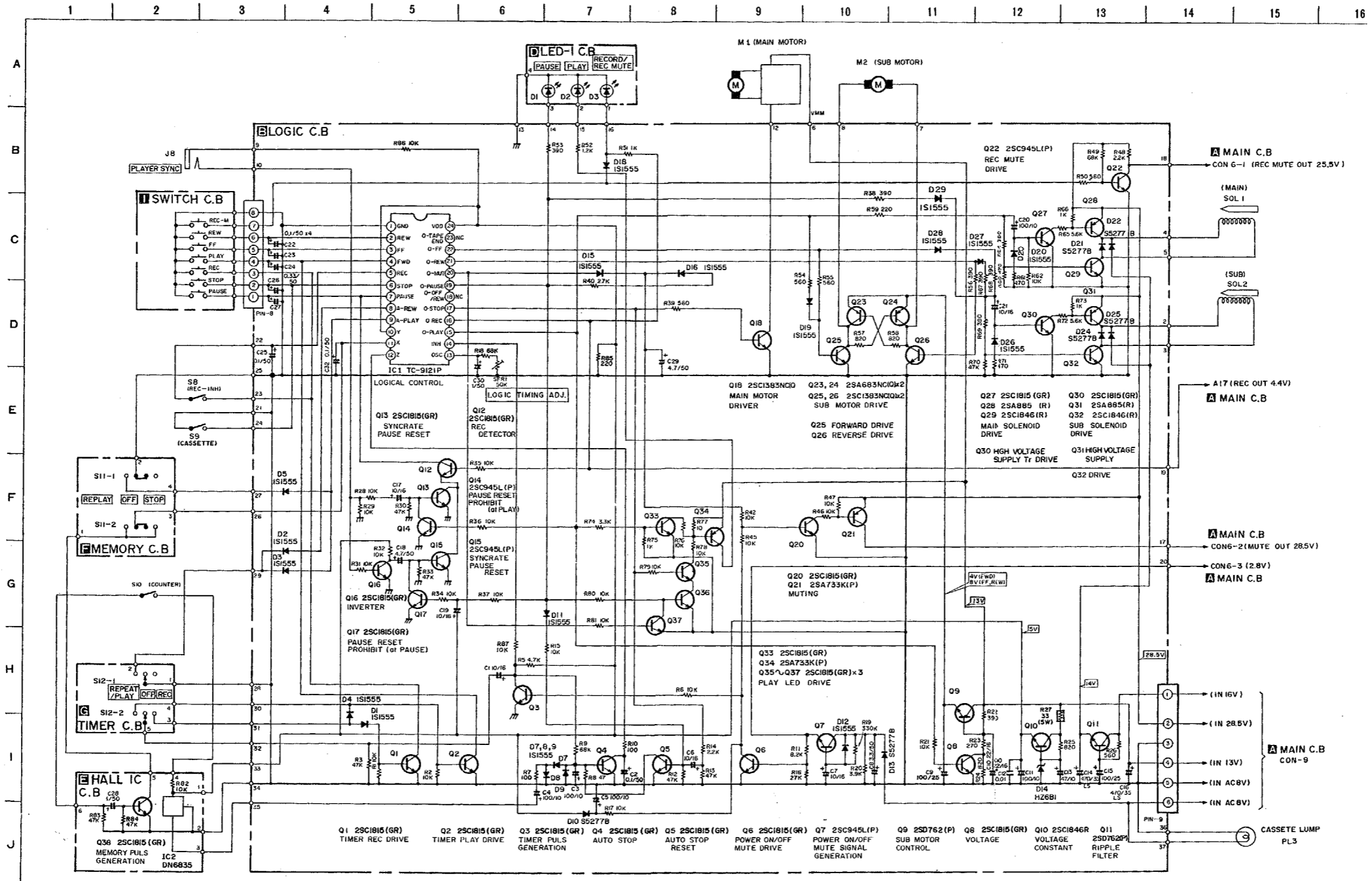
Playback the test tape and adjust so that the output of the 10 kHz section reaches the maximum and same phase for both the left and right channel.

Adjustment location: azimuth adjusting screw

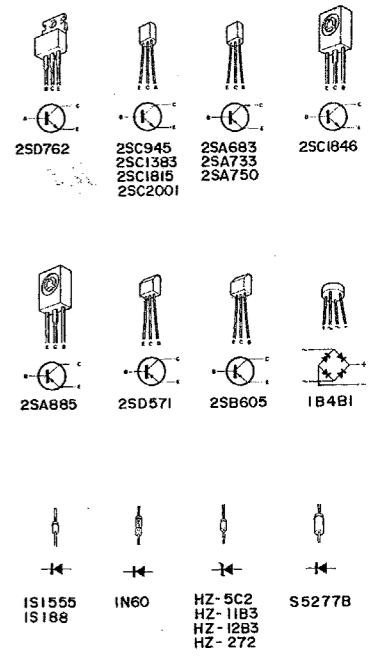
NOTES (1) B(+) Pattern B(-) Pattern Others pattern

(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.

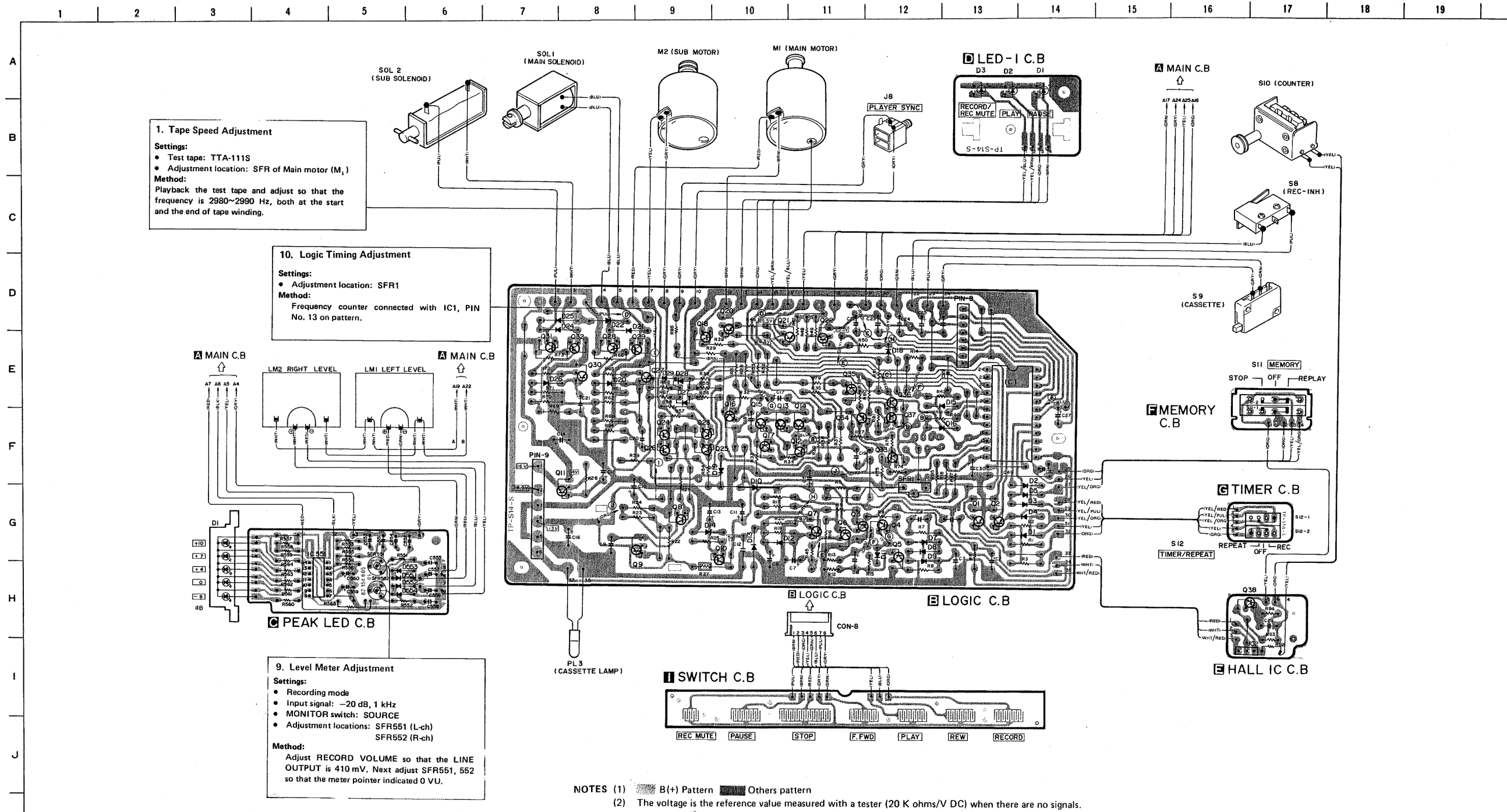
SCHMATIC DIAGRAM-2



- NOTES:
- 1) — B (+) power supply — B (-) power supply
 - 2) — Signal path
— Rec 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 ±5% (J) and ±10% (K).
 - 7) Ceramic capacitor symbols:
— For temperature compensation (SL)
— High dielectric constant system (YV, YP, YZ)
— Semiconductor ceramic
 - 8) Explanation of symbols:
— Mylar capacitor
— Polypropylene film capacitor
— Bi-polarized capacitor
— Low-leakage capacitor
— Fuse resistor
— Nonflammable resistor
— 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.



WIRING-2



1. Tape Speed Adjustment

Settings:

- Test tape: TTA-111S
- Adjustment location: SFR of Main motor (M₁)

Method:
Playback the test tape and adjust so that the frequency is 2980~2990 Hz, both at the start and the end of tape winding.

10. Logic Timing Adjustment

Settings:

- Adjustment location: SFR1

Method:
Frequency counter connected with IC1, PIN No. 13 on pattern.

9. Level Meter Adjustment

Settings:

- Recording mode
- Input signal: -20 dB, 1 kHz
- MONITOR switch: SOURCE
- Adjustment locations: SFR551 (L-ch)
SFR552 (R-ch)

Method:
Adjust RECORD VOLUME so that the LINE OUTPUT is 410 mV. Next adjust SFR551, 552 so that the meter pointer indicated 0 VU.

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. An asterisk (*) indicates that the value was measured with a vacuum-tube voltmeter during recording.