

SERVICE MANUAL

MODEL NO.

AD-3150

STEREO CASSETTE DECK



Order No. AD-31500-01

TYPE: H, HU, U, C, E, K, G, Z

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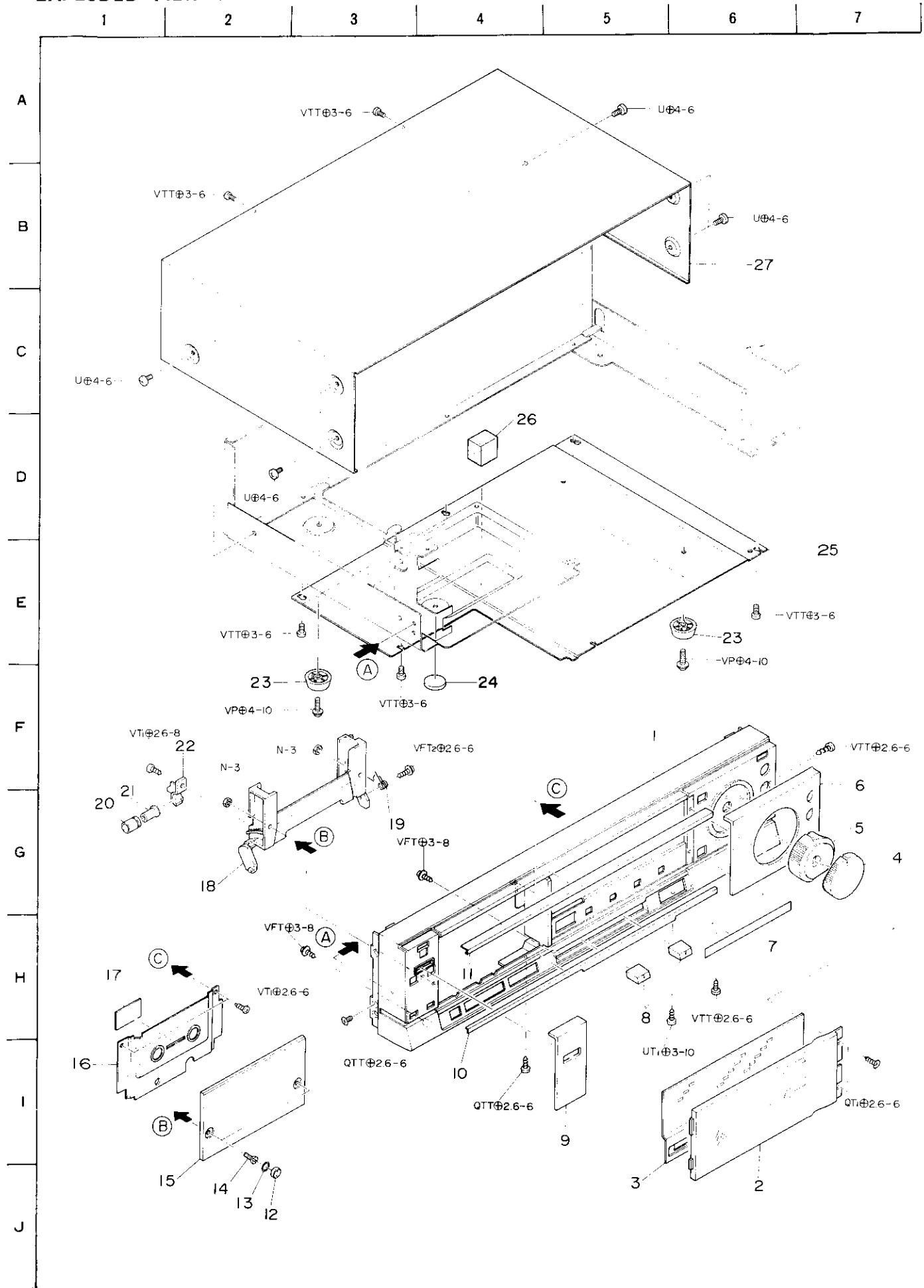
SPECIFICATIONS

Semiconductors	Diodes: 48 mm ² type 1A diodes, 1A diodes	Rec./Pb. SN ratio	More than 41 dB
Power supply	H, HU models AC 120V, 50/60 Hz, 1.5A E, K models AC 120V, 50/60 Hz, 1.5A U, C models AC 120V, 50/60 Hz, 1.5A E, Z models AC 220V, 50/60 Hz, 1.5A K, G models AC 240V, 50/60 Hz, 1.5A	Unweighted	More than 41 dB
Power consumption	H, HU, U, C models: 12W E, K, G, Z models: 14W	Weighted A	More than 41 dB
Dimensions	420(W) x 110(H) x 280(D) mm (16-1/2" x 4-3/8" x 11-1/4")	Channel separation	More than 41 dB
Weight	4 kg (8.8 lbs.)	Cross talk	More than 41 dB
Track type	4 tracks 2 channel	Erasable tape	More than 41 dB
Tape speed	4.8 cm/s (1-7/8 ips)	Bras frequency	20 ~ 10,000 Hz
Wow and flutter	Less than 0.038% (W/FMS)	Frequency response	20 ~ 10,000 Hz
Automatic stop system	Full auto stop	Motor	DC motor
Automatic shut-off action time	Less than 5s.	Head	DK head (for Rec./Pb.)
Pinch roller pressure	125 ~ 15 g (1.25 ~ 0.15N)	Inputs	LINE IN maximum input level: 0.3V (200 Hz ~ 10 kHz, unweighted)
Take up torque	35 ~ 115 g-cm (0.345 ~ 0.113 N-m)	Outputs	LINE OUT standard output level: 0.41 V (0 VU) (variable load)
FF & rewind torque	110 ~ 110 g-cm (0.98 ~ 0.98 N-m)		Impedance more than 50 kΩ
FF & rewind time	90 ~ 5s. (C-60)		0.41 V (0 VU)
Playback output	490 ~ 50 mV (1 kHz)		Headphones 8Ω
Playback noise	Less than 1.3 mV (METAL, CrO ₂ , DOLBY NR ON)		
(Unweighted)	Less than 2.0 mV (LH DOLBY NR ON)		
Rec./Pb. input	OVU ~ 1.5 dB (LINE)		
(TTA-112-1)			
Rec./Pb. distortion	H, HU, U, C, E, K, G Less than 2.5% (METAL) Less than 2.0% (CrO ₂) Less than 1.5% (LH) Z model Less than 3% (CrO ₂)		

- Specifications and external appearance are subject to change without due to product improvement.
- Noise reduction system manufactured under license from Dolby Laboratories Licensing Corporation.
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EXPLODED VIEW-1



PARTS LIST

MECHANICAL PARTS

Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
1-1	82-187-001-21		Cabinet, Front	*	1
1-2	82-185-004-01		Window, Meter	AD-3250	1
1-3	82-187-005-01		Plate, Meter	*	1
1-4	82-176-009-01		Knob, REC A ₂		1
1-5	82-175-029-01		Knob, REC B		1
1-6	82-185-003-11		Panel, Front B	AD-3250	1
1-7	82-185-025-01		Sheet, Bias Insulation	AD-3250	1
1-8	82-185-014-01		Slide knob, BIAS	AD-3250	2
1-9	82-187-003-01		Panel, Front C	*	1
1-10	82-187-006-01		Control Plate B	*	1
1-11	82-185-017-01		Plate, Top	AD-3250	1
1-12	82-175-010-01		Cap	AD-3500	2
1-13	82-176-215-01		Adhesive sheet 7φ	AD-3100	2
1-14	82-175-213-01		Screw, 3—6.5	AD-3500	2
1-15	82-176-019-01		Window, Cassette B	AD-3100	1
1-16	82-175-033-01		Plate, Cassette		1
1-17	82-185-029-01		Label, Tape indication	AD-3250	1
1-18	82-187-014-01		Cassette box ass'y B	*	1
1-19	82-185-213-01		T-spring, Eject	AD-3250	1
1-20	82-185-212-01		Oil-dump bearing	AD-3250	1
1-21	82-534-264-01		Gear, Oil-dump		1
1-22	82-175-210-11		Holder, Oil-dump	AD-3500	1
1-23	87-085-161-01		Foot		3
1-24	82-168-025-01		Rubber foot	AD-3600	1
1-25	82-168-018-11		Cabinet, Bottom	AD-3600	1
1-26	82-735-209-11		G cushion		1
1-27	82-175-009-01		Cabinet, Steel	AD-3500	1

This diagram illustrates the exploded view of a complex electronic assembly, likely a power supply or control unit. The components are organized into several main sections, each identified by a label:

- Top Section:** Includes components like 24e, 25, 24c, 24a.b, 24d, VT₂Φ3-8, VT₁Φ3-6, 23, 21f, P.C.B-I, P.C.B-C, J₇, 31, 33, 32, 30, 29, 28, 27, 26, 22, VTTΦ2.6-6, VTTΦ3-6, QTTΦ2.6-6, VT₁Φ3-6, VT₂Φ3-16, 9, 8, 7, 6, 5, 4, 3, 2, 1, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.
- Left Section:** Includes components like 24e, 25, 24c, 24a.b, 24d, VT₂Φ3-8, VT₁Φ3-6, 23, 21f, P.C.B-I, P.C.B-C, J₇, 31, 33, 32, 30, 29, 28, 27, 26, 22, VTTΦ2.6-6, VTTΦ3-6, QTTΦ2.6-6, VT₁Φ3-6, VT₂Φ3-16, 9, 8, 7, 6, 5, 4, 3, 2, 1, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.
- Right Section:** Includes components like 24e, 25, 24c, 24a.b, 24d, VT₂Φ3-8, VT₁Φ3-6, 23, 21f, P.C.B-I, P.C.B-C, J₇, 31, 33, 32, 30, 29, 28, 27, 26, 22, VTTΦ2.6-6, VTTΦ3-6, QTTΦ2.6-6, VT₁Φ3-6, VT₂Φ3-16, 9, 8, 7, 6, 5, 4, 3, 2, 1, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.
- Bottom Section:** Includes components like 24e, 25, 24c, 24a.b, 24d, VT₂Φ3-8, VT₁Φ3-6, 23, 21f, P.C.B-I, P.C.B-C, J₇, 31, 33, 32, 30, 29, 28, 27, 26, 22, VTTΦ2.6-6, VTTΦ3-6, QTTΦ2.6-6, VT₁Φ3-6, VT₂Φ3-16, 9, 8, 7, 6, 5, 4, 3, 2, 1, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.

The diagram uses various callouts to identify specific components and their assembly points. Key callouts include:

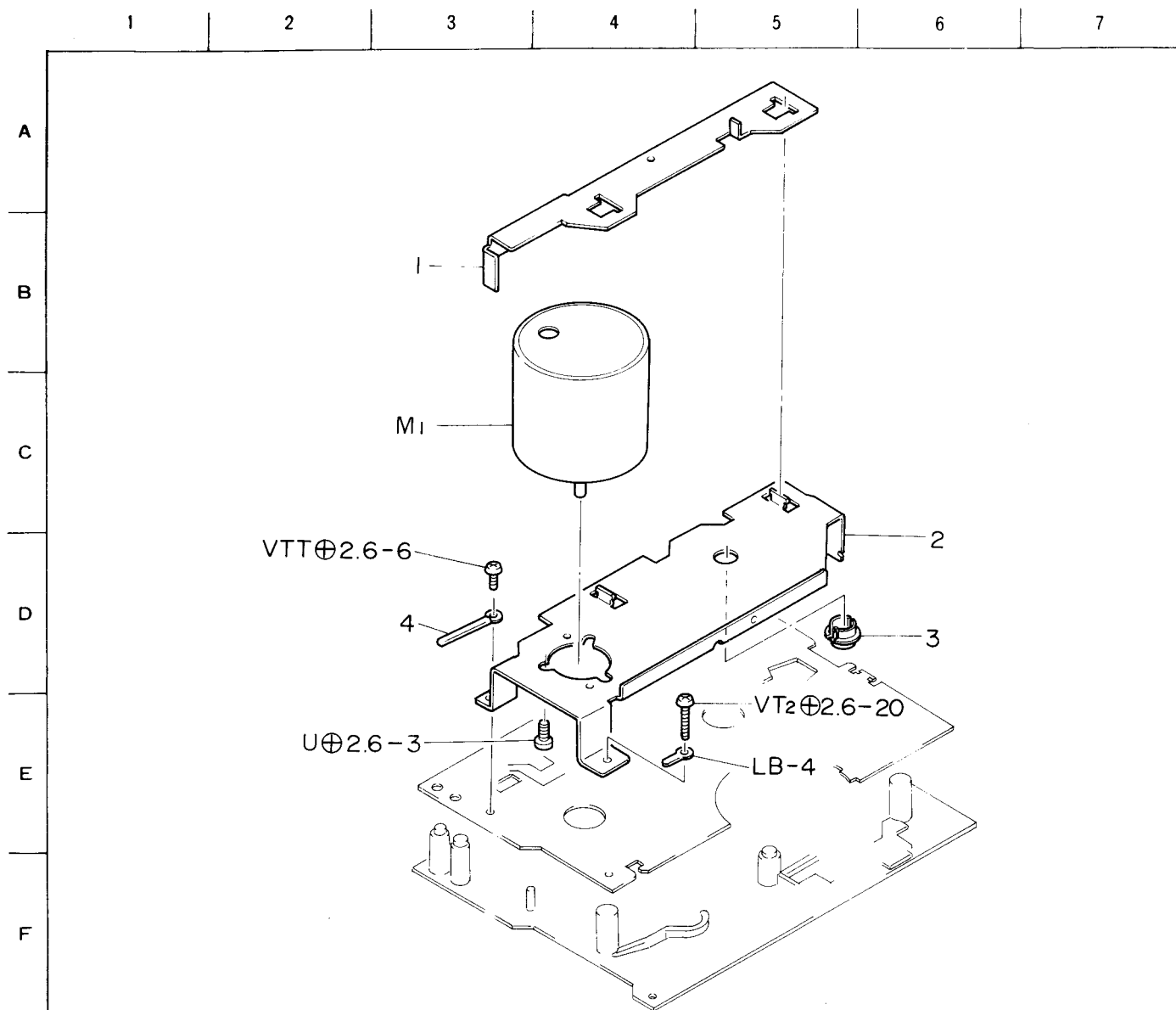
- VT₁Φ3-6**: A screw used for mounting the top cover (P.C.B-I).
- VT₂Φ3-8**: A screw used for mounting the top cover (P.C.B-I).
- VTTΦ3-6**: A screw used for mounting the top cover (P.C.B-I).
- QTTΦ2.6-6**: A screw used for mounting the top cover (P.C.B-I).
- VT₁Φ2.6-6**: A screw used for mounting the top cover (P.C.B-I).
- VT₂Φ3-16**: A screw used for mounting the top cover (P.C.B-I).
- VTTΦ2.6-6**: A screw used for mounting the top cover (P.C.B-I).
- QTTΦ2.6-6**: A screw used for mounting the top cover (P.C.B-I).
- VT₁Φ2.6-6**: A screw used for mounting the top cover (P.C.B-I).
- VT₂Φ3-16**: A screw used for mounting the top cover (P.C.B-I).
- VTTΦ2.6-6**: A screw used for mounting the top cover (P.C.B-I).
- QTTΦ2.6-6**: A screw used for mounting the top cover (P.C.B-I).
- VT₁Φ2.6-6**: A screw used for mounting the top cover (P.C.B-I).
- VT₂Φ3-16**: A screw used for mounting the top cover (P.C.B-I).
- VTTΦ2.6-6**: A screw used for mounting the top cover (P.C.B-I).
- QTTΦ2.6-6**: A screw used for mounting the top cover (P.C.B-I).
- VT₁Φ2.6-6**: A screw used for mounting the top cover (P.C.B-I).
- VT₂Φ3-16**: A screw used for mounting the top cover (P.C.B-I).
- VTTΦ2.6-6**: A screw used for mounting the top cover (P.C.B-I).
- QTTΦ2.6-6**: A screw used for mounting the top cover (P.C.B-I).
- VT₁Φ2.6-6**: A screw used for mounting the top cover (P.C.B-I).
- VT₂Φ3-16**: A screw used for mounting the top cover (P.C.B-I).
- VTTΦ2.6-6**: A screw used for mounting the top cover (P.C.B-I).
- QTTΦ2.6-6**: A screw used for mounting the top cover (P.C.B-I).
- VT₁Φ2.6-6**: A screw used for mounting the top cover (P.C.B-I).
- VT₂Φ3-16**: A screw used for mounting the top cover (P.C.B-I).
- VTTΦ2.6-6**: A screw used for mounting the top cover (P.C.B-I).
- QTTΦ2.6-6**: A screw used for mounting the top cover (P.C.B-I).
- VT₁Φ2.6-6**: A screw used for mounting the top cover (P.C.B-I).
- VT₂Φ3-16**: A screw used for mounting the top cover (P.C.B-I).
- VTTΦ2.6-6**: A screw used for mounting the top cover (P.C.B-I).
- QTTΦ2.6-6**: A screw used for mounting the top cover (P.C.B-I).
- VT₁Φ2.6-6**: A screw used for mounting the top cover (P.C.B-I).
- VT₂Φ3-16**: A screw used for mounting the top cover (P.C.B-I).
- VTTΦ2.6-6**: A screw used for mounting the top cover (P.C.B-I).
- QTTΦ2.6-6**: A screw used for mounting the top cover (P.C.B-I).
- VT₁Φ2.6-6**: A screw used for mounting the top cover (P.C.B-I).
- VT₂Φ3-16**: A screw used for mounting the top cover (P.C.B-I).
- VTTΦ2.6-6**: A screw used for mounting the top cover (P.C.B-I).
- QTTΦ2.6-6**: A screw used for mounting the top cover (P.C.B-I).
- VT₁Φ2.6-6**: A screw used for mounting the top cover (P.C.B-I).
- VT₂Φ3-16**: A screw used for mounting the top cover (P.C.B-I).
- VTTΦ2.6-6**: A screw used for mounting the top cover (P.C.B-I).
- QTTΦ2.6-6**: A screw used for mounting the top cover (P.C.B-I).
- VT₁Φ2.6-6**: A screw used for mounting the top cover (P.C.B-I).
- VT₂Φ3-16**: A screw used for mounting the top cover (P.C.B-I).
- VTTΦ2.6-6**: A screw used for mounting the top cover (P.C.B-I).
- QTTΦ2.6-6**: A screw used for mounting the top cover (P.C.B-I).
- VT₁Φ2.6-6**: A screw used for mounting the top cover (P.C.B-I).
- VT₂Φ3-16**: A screw used for mounting the top cover (P.C.B-I).

Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty	
2-1	82-185-205-01		Guide, LED A	AD-3250	3	
2-2	82-185-206-01		Guide, LED B	AD-3250	1	
2-3	87-040-146-11		Counter		1	
2-4	82-185-202-01		Holder, Counter	AD-3250	1	
2-5	84-120-015-01		Push-button, POWER		1	
2-6	82-176-206-01		Rod, POWER		1	
2-7	82-185-204-01		Holder, POWER	AD-3250	1	
2-8	82-175-208-11		Chassis A, Amp		1	
2-9	87-085-166-01		Holder, AC power cord (E, K, G, Z models only)		1	
2-10	82-168-232-01		U cushion		1	
2-11	82-185-007-11		Push-button, REC	AD-3250	1	
2-12	82-185-011-11		Push-button, REW	AD-3250	1	
2-13	82-185-006-11		Push-button, PLAY	AD-3250	1	
2-14	82-185-010-11		Push-button, FF	AD-3250	1	
2-15	82-185-008-11		Push-button, STOP	AD-3250	1	
2-16	82-185-009-11		Push-button, PAUSE	AD-3250	1	
2-17	82-535-210-01		Belt, Counter		1	
2-18	82-185-216-01		Holder, Mechanism	AD-3250	1	
2-19	87-038-039-01		Wire binder		1	
2-20	87-085-165-01		Cord bushing (H, HU, U, C, models only)		1	
2-21a	82-187-007-01		Panel, Rear H (H, HU models only)	*	1	
b	82-187-007-01		Panel, Rear (U, C models only)	*	1	
c	82-187-009-01		Panel, Rear (E model only)	*	1	
d	82-187-010-01		Panel, Rear K (K model only)	*	1	
e	82-187-013-01		Panel, Rear G (G model only)	*	1	
f	82-187-012-01		Panel, Rear Z (Z model only)	*	1	
2-22	87-085-090-01		Nylon rivet 3—6.5 (H, HU models only)		2	
2-23	87-084-077-01		Nylon rivet 3.5—4.5 (Z model only)		4	
2-24a	87-034-826-01		AC power cord (H, HU models only)		1	
b	87-034-951-01		AC power cord (U, C models only)		1	
c	87-034-877-01		AC power cord (E, Z models only)		1	
d	87-034-872-01		AC power cord (K model only)		1	
e	87-034-892-01		AC power cord (G model only)		1	
2-25	87-056-008-01		Lavel, AC power cord (K model only)		1	
2-26	82-168-213-01		Holder, Circuit board		1	
2-27	82-185-219-01		E-spring, REC	AD-3250	1	
2-28	82-186-277-01		Stopper, Rod		1	
2-29	82-185-203-01		Rod, DOLBY A	AD-3250	1	
2-30	82-187-002-01		Push-button DOLBY B	*	1	
2-31	82-185-201-01		Holder, MIC jack	AD-3250	1	
2-32	82-185-215-01		Holder, Circuit board	AD-3250	1	
2-33	82-185-214-01		Chassis B ₂ , Amp	AD-3250	1	

EXPLODED VIEW-3

As the MD-3 Mechanism is adopted in this model, the exploded view is omitted --- See the supplement MD-3 Mechanism manual in case of repair and parts order.

The following is the exploded view of the exclusive mechanism and the motor attachments. The part-code list of such is described as well.



Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty	
3-1	82-175-220-21		Slide plate ass'y	AD-3500	1	
3-2	82-585-281-31		Holder, Motor		1	
3-3	82-585-326-11		Thrust bearing B		1	
3-4	87-038-039-01		Wire binder		1	

ACCESSORIES/PACKAGE

Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
1a	82-187-852-01		Printed indiv., Packing (H, HU, C, E, K, G, Z models only)	*	1
1b	82-187-855-01		Printed indiv., Packing (U model only)	*	1
2a	82-185-852-01		Cushion L, Printed indiv. (H, HU, C, E, K, G, Z models only)	AD-3250	1
2b	82-176-852-01		Cushion L, Printed indiv. (U model only)		1
3a	82-185-853-01		Cushion R, Printed indiv. (H, HU, C, E, K, G, Z models)	AD-3250	1
3b	82-176-853-01		Cushion R, Printed indiv. (U model only)		1
4	87-051-135-11		Poly-vinyl sack		1
5	87-056-512-01		Sheel, Cassette guide		1
6	87-056-628-01		Poly-vinyl sack		1
7	82-187-903-01		Instructions booklet	*	1
8	87-051-171-11		Poly-vinyl sack		1
9	87-056-008-11		Label, AC power cord (K model only)		1
10	87-056-009-51		Distributors list (H, C, E, K, G, Z models only)		1
11	87-056-045-01		Guarantee card (HU, U models only)		1
12	87-056-050-11		Safety instructions (HU, U models only)		1
13	87-056-057-01		Service station list (HU, U models only)		1
14	87-056-059-01		Guarantee card (G model only)		1
15	87-032-845-01		Siemens plug (H, HU models only)		1
16	87-034-971-01		Connection cord CW-252BSK		1
17	87-056-013-01		Guarantee card (C model only)		

AIWA Co., Ltd. Tokyo Japan

WIRING-1

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

- Settings:
- Recording mode
 - Test tape: TTA-1 (B)
 - TAPE SELECTOR switch: LR
 - Output level: 300 mV
 - Input signal: 1 kHz, 10 mV
 - Adjustment locations: SFR7 (Lch), SFR8 (Rch)

Method:

Record and playback the 1 kHz signal. Adjust SFR7, 8 so that the output deviation are 0.5 dB.

- Adjustment Settings:
- Recording mode
 - Test tape: TTA-1 (B)
 - TAPE SELECTOR switch: LR
 - Output level: 300 mV
 - Input signal: 1 kHz, 10 mV, 10 dB
 - Adjustment locations: SFR7 (Lch), SFR8 (Rch)

Method:

Record and playback the 1 kHz and 10 kHz signals. Adjust SFR7, 8 so that the output deviation are 0.5 dB.

- Settings:
- Playback mode
 - Test tape: TTA-1 (B)
 - TAPE SELECTOR switch: LR
 - Adjustment locations: SFR1 (Lch), SFR2 (Rch)

Method:

Playback the test tape and adjust SFR1, 2 so that the output level is 480 mV.

- Settings:
- Test tape: TTA-1 (B)
 - TAPE SELECTOR switch: LR
 - Adjustment locations: SFR3 (Lch), SFR4 (Rch)

Method:

Playback the test tape so that the output level is 480 mV.

- Settings:
- Playback mode
 - Test tape: TTA-1 (B)
 - TAPE SELECTOR switch: LR
 - Adjustment locations: SFR5 (Lch), SFR6 (Rch)

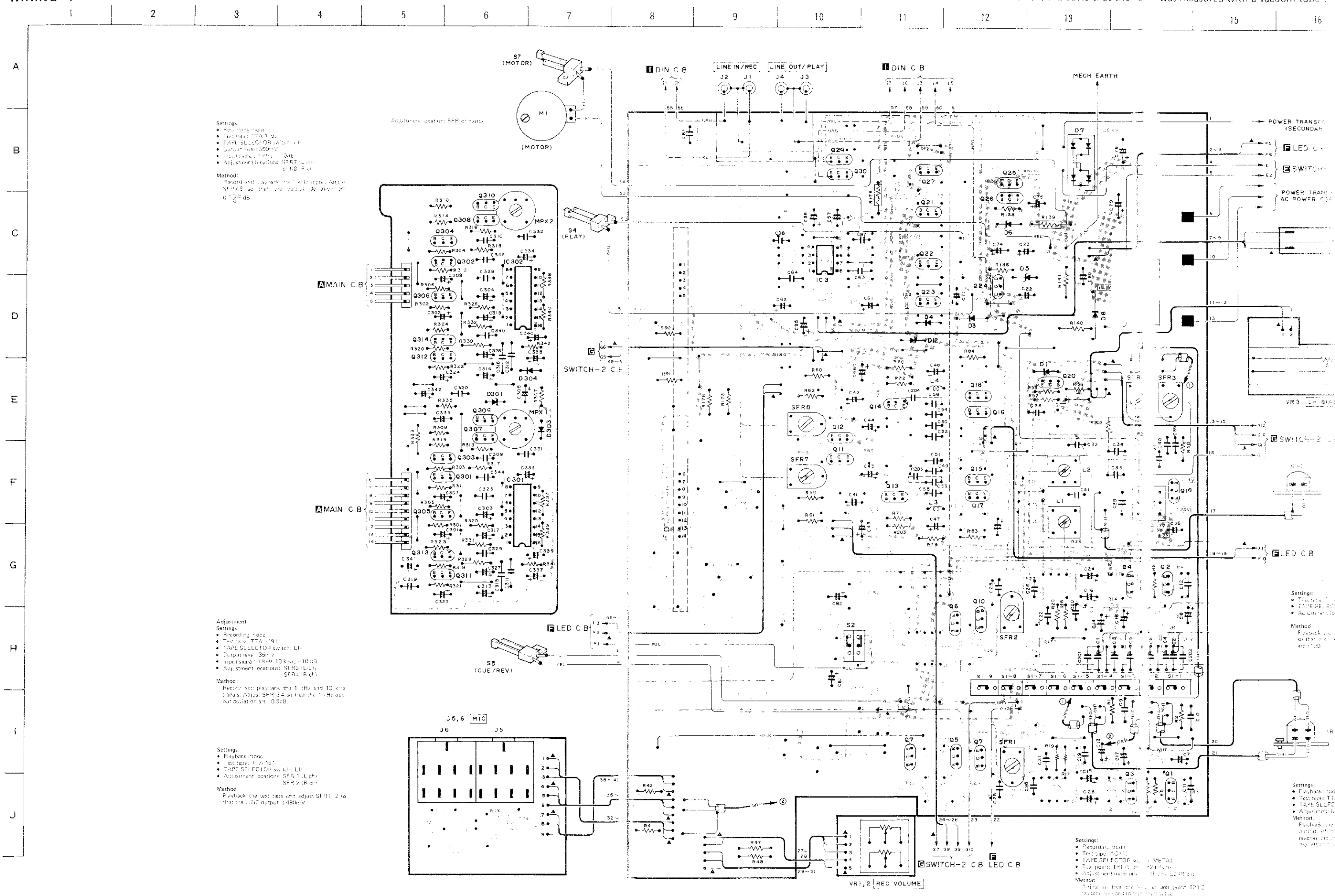
Method:

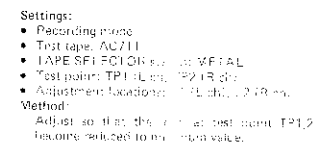
Playback the test tape so that the output level is 480 mV.

- Settings:
- Recording mode
 - Test tape: TTA-1 (B)
 - TAPE SELECTOR switch: LR
 - Test points: TP1 (Lch), TP2 (Rch)
 - Adjustment locations: SFR7 (Lch), SFR8 (Rch)

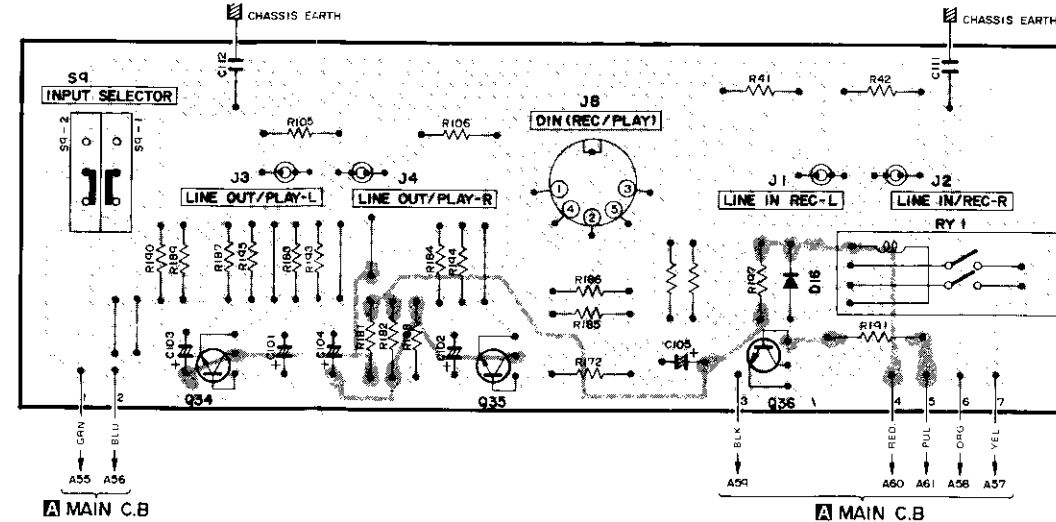
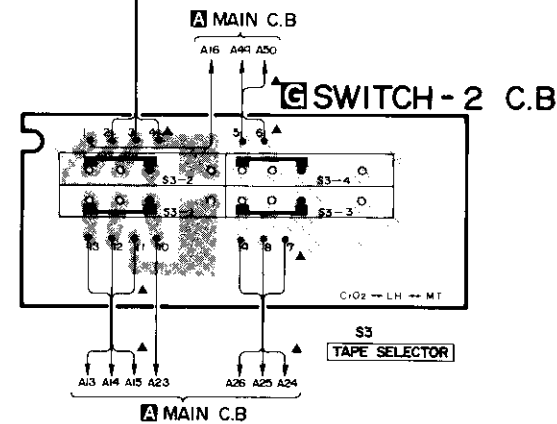
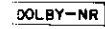
Method:

Adjust so that the output level at test points TP1, 2 reaches the reference value.





1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
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The diagrams illustrate the internal wiring of the TI (P.T) transformer for different power input models:

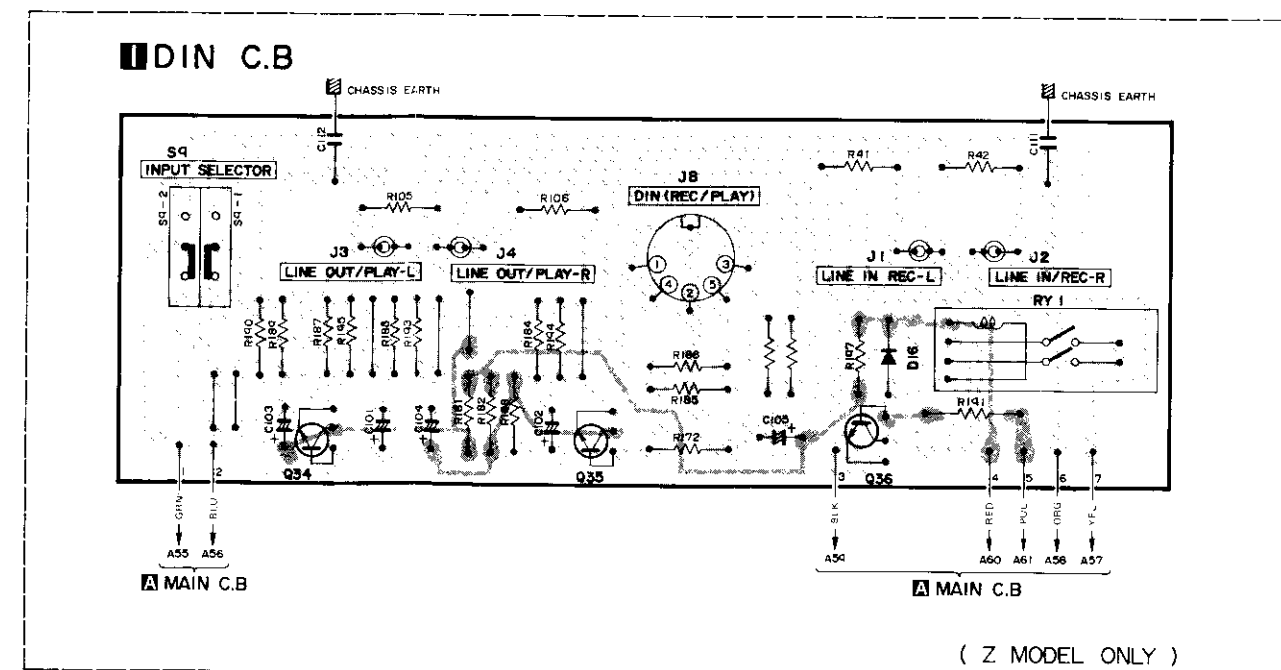
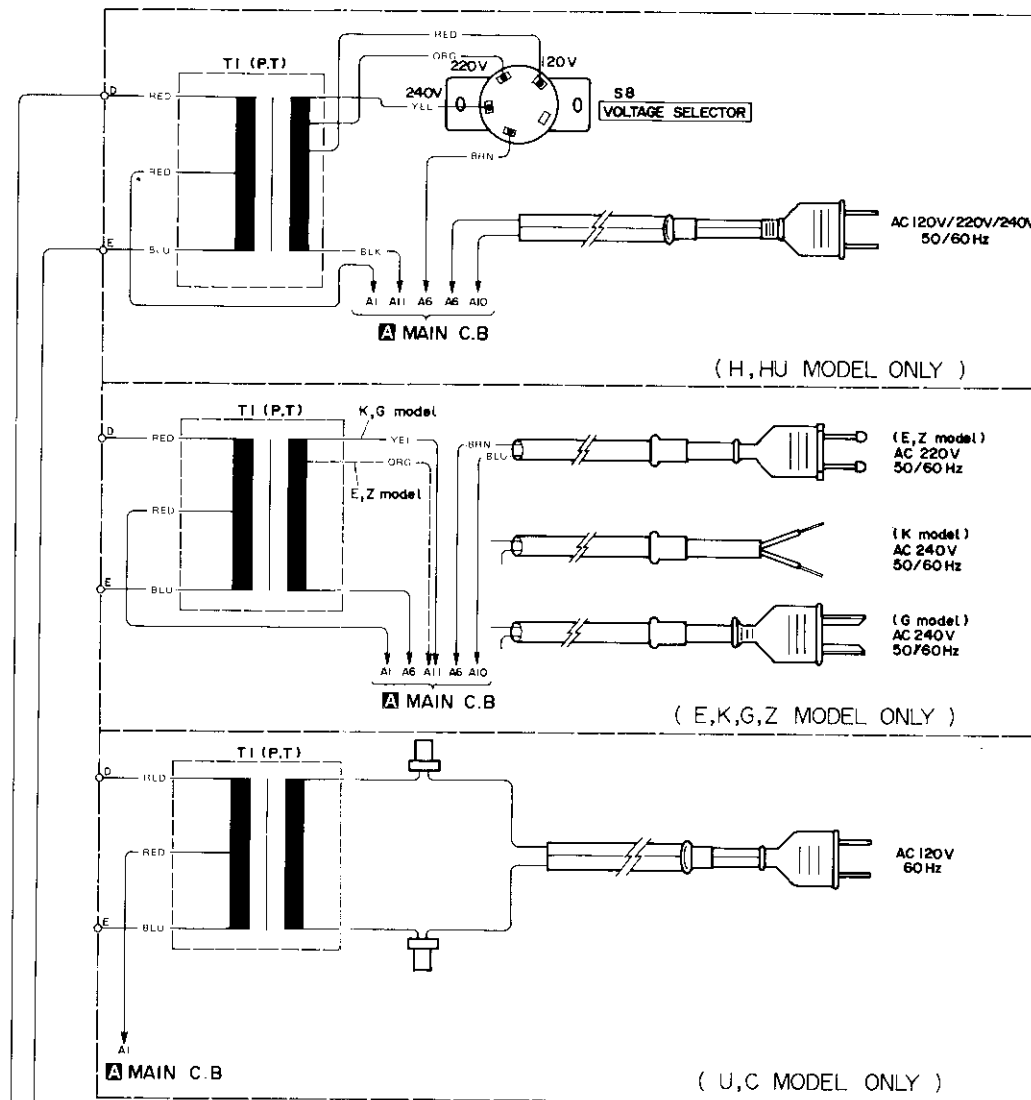
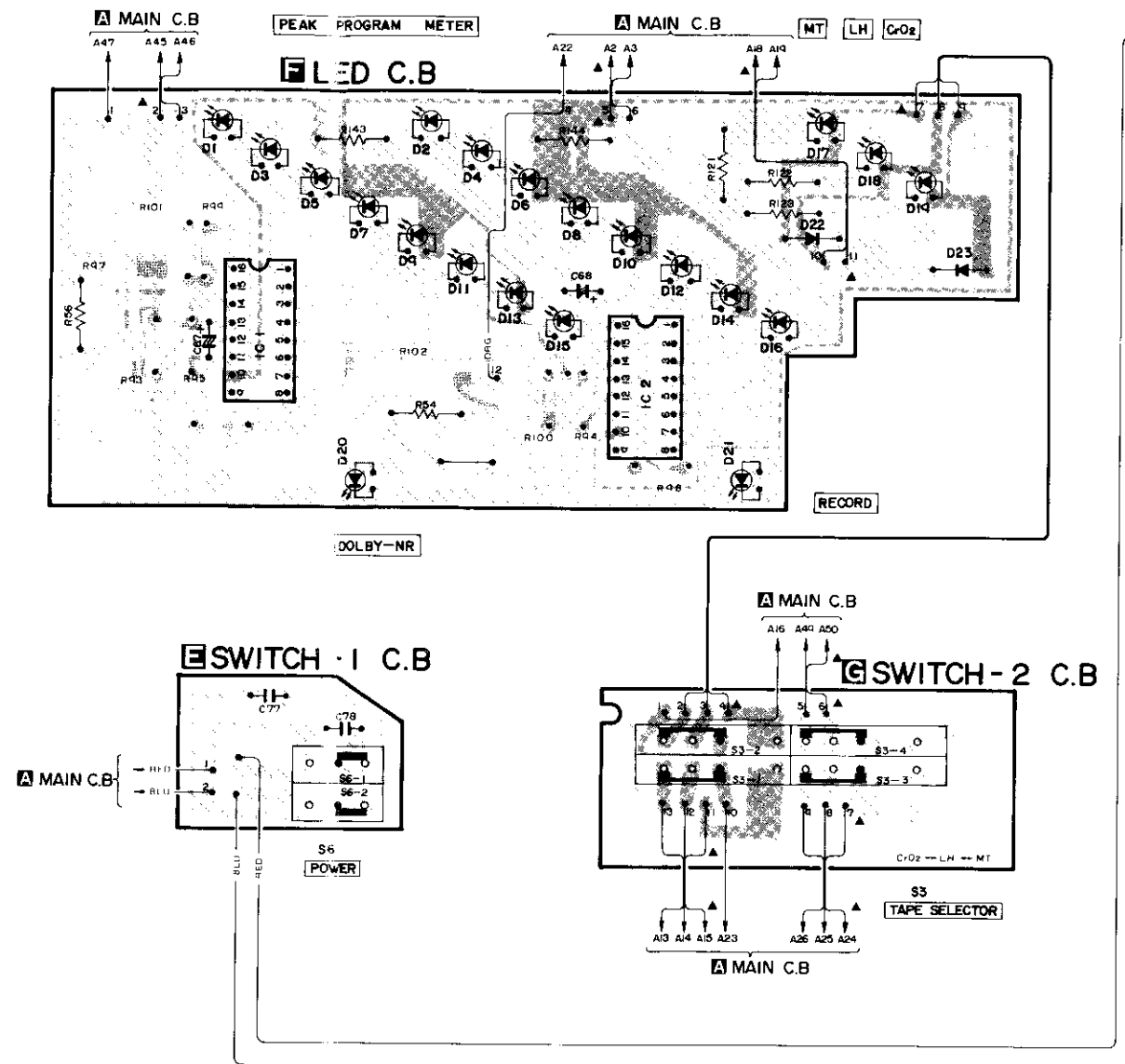
- (H, HU MODEL ONLY):** Shows a transformer with terminals HLD, RED, BLU, and HLK. It includes a voltage selector switch (S8) with positions for 120V, 220V, and 240V. The 240V position is selected. The output terminals are labeled A1, A11, A5, A6, and A10, which are connected to the MAIN C.B.
- (E, K, G, Z MODEL ONLY):** Shows a transformer with terminals HLD, RED, BLU, and HLK. It includes a voltage selector switch (S8) with positions for 120V, 220V, and 240V. The 220V position is selected. The output terminals are labeled A1, A5, A11, A6, and A10, which are connected to the MAIN C.B.
- (U, C MODEL ONLY):** Shows a transformer with terminals HLD, RED, and BLU. The output terminals are labeled A1, A5, A11, A6, and A10, which are connected to the MAIN C.B.

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

AD-3150
H, HU, U, C, E, K, G, Z

AD-3150
H, HU, U, C, E, K, G, Z

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

Symbol No.	Part No.	Description
≪ MAIN CIRCUIT BOARD SECTION ≫		
PCB-A	*	Main circuit board
IC3	87-027-739-01	IC, NJM4556D
Q1,2	89-322-406-01	Transistor, 2SC2240 (BL)
Q3,4,5,6	89-326-347-01	Transistor, 2SC2634S
7,8,9,10		
11,12,13,		
14,15,16,		
17,18,21,		
22,23		
Q19	89-313-846-01	Transistor, 2SC1384 (R)
Q20,29,30	89-320-011-01	Transistor, 2SC2001 (K)
Q24	89-313-833-01	Transistor, 2SC1383 (R)
Q25	89-408-804-51	Transistor, 2SD880Y (G, R)
Q26	89-309-456-01	Transistor, 2SC945L (P)
Q27	89-107-335-01	Transistor, 2SA733K
D1,4,12,	87-027-097-01	Diode, 1S1555
D5	87-027-449-01	Zener diode, HZ15-3L
D6	87-027-662-01	Zener diode, HZ22-1L
D7	87-027-376-01	Diode, 1B4B41
D8	87-027-537-01	Diode, S5277B (LB)
L1,2	87-005-127-01	Coil, 22mH
L3,4	87-003-069-01	Coil, 4,7mH
L5	82-401-661-01	Choke coil, 600μH
L6	82-176-628-01	OSC coil
J1,2,3,4	87-049-055-01	Pin jack, 4P (LINE IN/REC LINE OUT/PLAY) (H, HU, U, C, E, K, G models only)
S1	82-185-606-01	Slide switch (REC/PB)
S2	82-186-622-01	Push-switch (DOLBY-NR)
F1	87-035-186-01	Fuse, "T" 125mA (H, HU, E, K, G, Z models only)
	87-098-007-01	Fuse label, "T" 125mA (H, HU, E, K, G, Z models only)
	87-033-147-01	Fuse clamp (H, HU, E, K, G, Z models only)
SFR1,2	87-021-569-01	Semi-fixed resistor, 50kΩ-B
SFR3,4	87-021-570-01	Semi-fixed resistor, 100kΩ-B
SFR7,8	87-021-568-01	Semi-fixed resistor, 20kΩ-B
SFR9	82-587-634-01	Semi-fixed resistor, 100Ω-B (Z model only)
	82-304-743-01	1 P terminal
	< Resistors >	
R139	87-029-089-01	4.7Ω 1/4W Fuse resistor
R176	87-029-023-01	47Ω 1/4W Fuse resistor
	< Capacitors >	
C7,8	87-015-939-01	10μF 16V Electrolytic LL
C17,18	80-002-457-14	100μF 3V Tantalun
C31,32	87-014-037-01	150pF PP
C35	87-014-128-01	1500pF 630V PP
C41,42	87-015-367-01	0.15μF 10V Aluminum solid
C11,12	87-018-032-01	100pF Ceramic
C1,2,3,4	87-018-034-01	150pF Ceramic
C5,6	87-018-038-01	330pF Ceramic
C9,10	87-018-044-01	1000pF Ceramic
C63,64	87-018-047-01	0.01μF 16V Ceramic

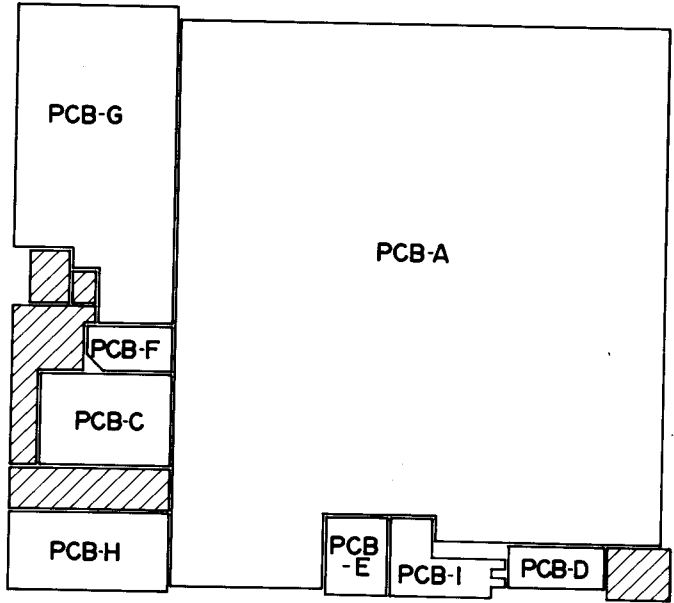
Symbol No.	Part No.	Description
≪ DOLBY-NR CIRCUIT BOARD SECTION ≫		
PCB-B	82-187-602-01	Dolby-NR circuit board
IC301,302	87-027-754-01	IC, LM1111C
Q301,302,303,	89-309-456-01	Transistor, 2SC945L (P)
304,305,306,		
307,308,309,		
310,311,312,		
313,314		
D301	87-027-702-01	Zener diode, HZ6C2L
D303,304	87-027-097-01	Diode, 1S1555
MPX1,2	82-187-601-01	MPX filter
	87-049-115-01	Pin, 5P
	87-049-119-01	Pin, 9P
C311, 312,	87-018-044-01	1000pF Ceramic
315, 316		
C37,38	87-015-426-01	< Capacitor > 0.1μF 25V Aluminum solid
≪ JACK-1 CIRCUIT BOARD SECTION ≫		
PCB-C	*	Jack-1 circuit board
J5,6	87-049-073-01	Jack, 6.3φ (MIC)
≪ VOLUME-1 CIRCUIT BOARD SECTION ≫		
PCB-D	*	Volume-1 circuit board
VR1,2	87-021-679-01	Volume, 50kΩ-A (REC VOLUME)
≪ SWITCH-1 CIRCUIT BOARD SECTION ≫		
PCB-E	*	Switch-1 circuit board
S6	87-031-668-01	Push-switch (POWER) (H, HU, E, K, G, Z models only)
S6	82-185-609-01	Push-switch (POWER) (U, C models only)
≪ LED CIRCUIT BOARD SECTION ≫		
PCB-F	*	LED circuit board
IC1,2	87-027-879-01	IC, AN6882
D1,2,3,4,	87-027-542-01	LED, LN217RP
5,6,17		
D7,8,9,	87-027-543-01	LED, LN317GP
10,11,12,		
13,14,15,		
16,18		
D19	87-027-671-01	LED, LN417YP
D20	87-027-773-01	LED, GL-9NG4
D21	87-027-772-01	LED, GL-9PR4
D22,23	87-027-097-01	Diode, 1S1555
≪ SWITCH-2 CIRCUIT BOARD SECTION ≫		
PCB-G	*	Switch-2 circuit board
S3	82-185-607-01	Slide switch (TAPE SELECTOR)
≪ VOLUME-2 CIRCUIT BOARD SECTION ≫		
PCB-H	*	Volume circuit board
VR-3	82-185-612-01	Volume, 500Ω-B (LH, BIAS, FINE)
≪ DIN CIRCUIT BOARD SECTION ≫ = "Z" model only		
PCB-I	82-160-667-01	DIN circuit board
Q34,35,36	89-309-456-01	Transistor, 2SC945L (P)
D16	87-027-097-01	Diode, 1S1555
J1,2,3,4,	87-038-054-01	Jack plate ass'y (w/switch) (LINE IN/REC, LINE OUT/PLAY DIN, INPUT SELECTOR) (Z model only)
8, S 9		
RY1	87-045-152-01	Lead relay, L24M

Symbol No.	Part No.	Description
≪ MISCELLANEOUS ≫		
T1	82-185-602-01	Power transformer (H, HU model only)
T1	82-185-603-01	Power transformer (U, C model only)
T1	82-185-604-01	Power transformer (E, Z model only)
T1	82-185-605-01	Power transformer (K, G model only)
J7	87-049-083-01	Jack, 6.3φ (HEADPHONES)
RPH	87-046-200-01	REC/PB head
EH	87-046-196-01	Erase head
M1	87-045-135-01	Motor, DC-EG
	87-034-826-01	AC power cord (H, HU model only)
	87-034-951-01	AC power cord (U, C model only)
	87-034-877-01	AC power cord (E, Z model only)
	87-034-872-01	AC power cord (K model only)
	87-034-892-01	AC power cord (G model only)
	87-085-165-01	Cord bushing (H, HU, U, C model only)
	87-085-166-01	Holder, AC power cord (E, K, G, Z model only)
S4,7	87-031-615-01	Leaf switch (PLAY MOTOR)
S5	87-031-548-01	Leaf switch (CUE/REV)
S8	87-031-586-01	Rotary switch (VOLTAGE SELECTOR) (H, HU 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.

Note; Combination Circuit Board
The parts on the electrical parts list which are indicated by an asterisk (*) are supplied as one single combined circuit board. Therefore, they will not be supplied separately. If this becomes necessary, please order the entire circuit board.

Combination circuit board 82-187-603-01



Symbol No.	Part No.	Description
◀◀ DOLBY-NR CIRCUIT BOARD SECTION ▶▶		
PCB-B	82-187-602-01	Dolby-NR circuit board
IC301,302	87-027-754-01	IC, LM1111C
Q301,302,303, 304,305,306, 307,308,309, 310,311,312, 313,314	89-309-456-01	Transistor, 2SC945L (P)
D301	87-027-702-01	Zener diode, HZ6C2L
D303,304	87-027-097-01	Diode, 1S1555
MPX1,2	82-187-601-01	MPX filter
	87-049-115-01	Pin, 5P
	87-049-119-01	Pin, 9P
C311, 312, 315, 316	87-018-044-01	1000pF Ceramic
		< Capacitor >
C37,38	87-015-426-01	0.1μF 25V Aluminum solid
◀◀ JACK-1 CIRCUIT BOARD SECTION ▶▶		
PCB-C	*	Jack-1 circuit board
J5,6	87-049-073-01	Jack, 6.3φ (MIC)
◀◀ VOLUME-1 CIRCUIT BOARD SECTION ▶▶		
PCB-D	*	Volume-1 circuit board
VR1,2	87-021-679-01	Volume, 50kΩ-A (REC VOLUME)
◀◀ SWITCH-1 CIRCUIT BOARD SECTION ▶▶		
PCB-E	*	Switch-1 circuit board
S6	87-031-668-01	Push-switch (POWER) (H, HU, E, K, G, Z models only)
S6	82-185-609-01	Push-switch (POWER) (U, C models only)
◀◀ LED CIRCUIT BOARD SECTION ▶▶		
PCB-F	*	LED circuit board
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D7,8,9, 10,11,12, 13,14,15, 16,18	87-027-543-01	LED, LN317GP
D19	87-027-671-01	LED, LN417YP
D20	87-027-773-01	LED, GL-9NG4
D21	87-027-772-01	LED, GL-9PR4
D22,23	87-027-097-01	Diode, 1S1555
◀◀ SWITCH-2 CIRCUIT BOARD SECTION ▶▶		
PCB-G	*	Switch-2 circuit board
S3	82-185-607-01	Slide switch (TAPE SELECTOR)
◀◀ VOLUME-2 CIRCUIT BOARD SECTION ▶▶		
PCB-H	*	Volume circuit board
VR-3	82-185-612-01	Volume, 500Ω-B (LH, BIAS, FINE)
◀◀ DIN CIRCUIT BOARD SECTION ▶▶ = "Z" model only		
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J1,2,3,4, 8, S 9	87-038-054-01	Jack plate ass'y (w/switch) (LINE IN/REC, LINE OUT/PLAY DIN, INPUT SELECTOR) (Z model only)
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S5	87-031-548-01	Leaf switch (CUE/REV)
 S8	87-031-586-01	Rotary switch (VOLTAGE SELECTOR) (H, HU model only)

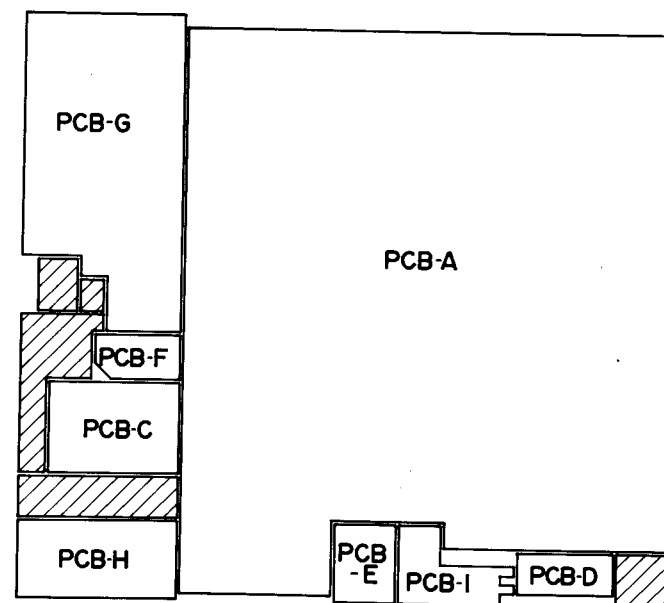
 **Safety component symbol**

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.

Note; Combination Circuit Board

The parts on the electrical parts list which are indicated by an asterisk (*) are supplied as one single combined circuit board. Therefore, they will not be supplied separately. If this becomes necessary, please order the entire circuit board.

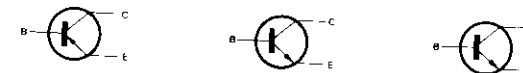
Combination circuit board 82-187-603-01



☆☆☆☆☆ MEMO ☆☆☆☆☆



- 1)  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 $\pm 2\%$ (G), $\pm 5\%$ (J) and $\pm 10\%$ (K).
- 7) Ceramic capacitor symbols:
 High dielectric constant system (YW, YP, YZ)
 Semiconductor ceramic
- 8) Explanation of symbols
 Mylar capacitor
 Aluminum solid capacitor
 Polypropylene film capacitor
 Low-leakage capacitor
 Tantalum capacitor
 Printed resistor
 Fuse 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.



2SA733 2SC945 2SD88
 2SC1383
 2SC1384
 2SC2001
 2SC2240
 2SC2634

