

STEREO CASSETTE DECK WITH DOLBY NR SYSTEM

MODEL **AD-6400**EE, UK

AIWA®

[SERVICE MANUAL]



Set using ISO screws



DATE OF ISSUE 26/8/1977

SPECIFICATIONS

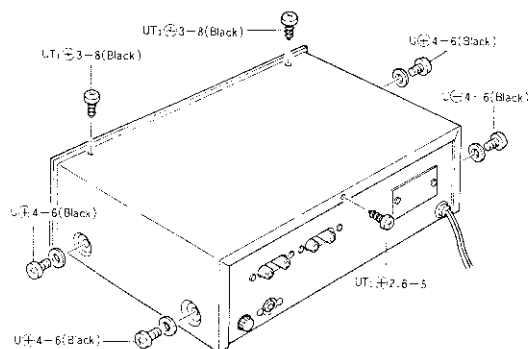
Semiconductors:	3 IC's, 43 transistors, 23 diodes & 2 LED's	Cross talk:	More than 65 dB (at 1 kHz 0 VU)
Power source:	AD-6400EE: AC 110~120 V/220~240 V (switchable) 50/60 Hz AD-6400UK: AC 120 V/240 V (switchable) 50/60 Hz	Erasing ratio:	More than 60 dB (400 Hz +10 VU)
Power consumption:	10 W	Bias frequency:	100 kHz $\pm$ 10 kHz
Dimensions:	420(W) x 150(H) x 330(D) mm	Frequency response:	LH tape, 20~15 kHz (−10 dB) 30~13 kHz ($\pm$ 3 dB) Fe-Cr tape, 20~17 kHz (−10 dB) 30~15 kHz ($\pm$ 3 dB) CrO ₂ tape, 20~17 kHz (−10 dB) 30~15 kHz ($\pm$ 3 dB)
Weight:	7.5 kg	Motor:	(at Dolby off, Rec./pb) 38 pulse FG servo motor
Track system:	4-track 2-channel stereo	Head:	Ferrite guard head (FGH)
Tape speed:	4.76 cm/sec. $\pm$ 1%	Input:	MIC: Max. input sensitivity 0.3mV (200 Ω ~ 10 k Ω suitable)
Wow & flutter:	0.1% (According to DIN 45 500 Blatt 8)		LINE IN: Max. input sensitivity 50 mV (More than 50 k Ω)
Automatic shut-off action time:	4 $\pm$ 1 sec.		DIN: Max. input sensitivity 0.1 mV/k Ω (3 k Ω)
Pinch roller pressure:	375 $\pm$ 30 g		LINE OUT: Standard output level 0.775 V (0 VU) Optimum load impedance more than 50 k Ω
Take-up torque:	50 $\pm$ 10 g-cm		DIN: Standard output level 0.775 V (0 VU) Optimum load impedance more than 50 k Ω
FF & rewind torque:	125 $\pm$ 25 g-cm		PHONES: 3.4 mV (+3 VU) Load impedance 8 Ω
FF & rewind time:	Less than 95 sec. (w/C-60 cassette)		
Playback output:	1.05 $\pm$ 0.05 V (LINE/DIN)		
(TTA-161)			
Playback noise:	Less than 4.5 mV (LH, DOLBY ON)		
(Un-Weighted)	Less than 3.0 mV (Fe-Cr, CrO ₂ , DOLBY. ON)		
Rec./pb output:	0 VU $\pm$ 0.5 dB (LINE/DIN)		
(400 Hz 0 VU)			
Rec./pb distortion:	Less than 2.0% (LH)		
(400 Hz 0 VU)	Less than 1.5% (Fe-Cr) Less than 3.0% (CrO ₂)		
Rec./pb S/N:	More than 43/45 dB (LH, DOLBY OFF/ON)		
(400 Hz 0 VU)	More than 45/48 dB (Fe-Cr, DOLBY OFF/ON)		
(Un-Weighted)	More than 45/48 dB (CrO ₂ , DOLBY OFF/ON)		
Channel separation:	More than 28 dB (at 1 kHz 0 VU)		

- 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.

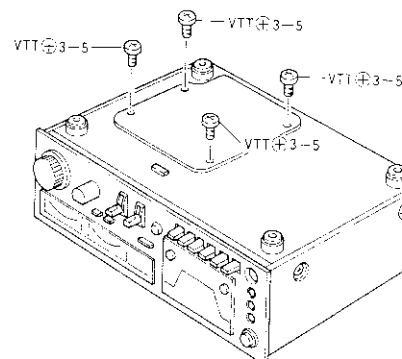
DISASSEMBLY INSTRUCTIONS

To Remove Cabinet

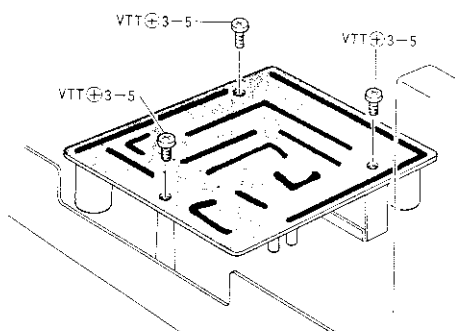
Remove 7 screws.

**To Remove Bottom Cover**

Remove 4 screws.

**To Remove Power Circuit Board**

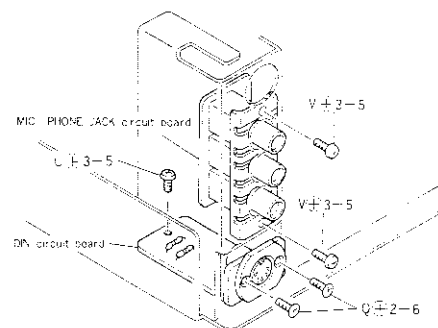
Remove 3 screws.

**To Remove MIC/PHONE Jack Circuit Board**

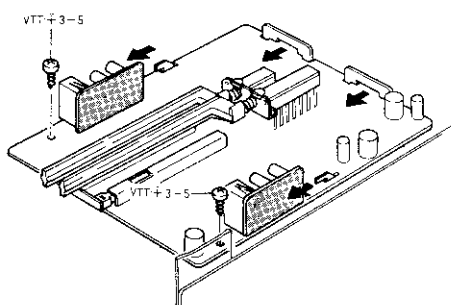
Remove 2 screws.

To Remove DIN Circuit Board

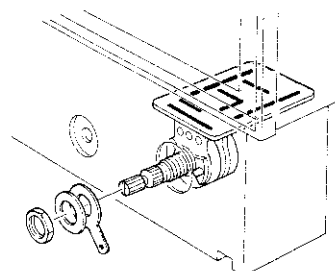
Remove 3 screws.

**To Remove Main Circuit Board**

Remove 2 screws.

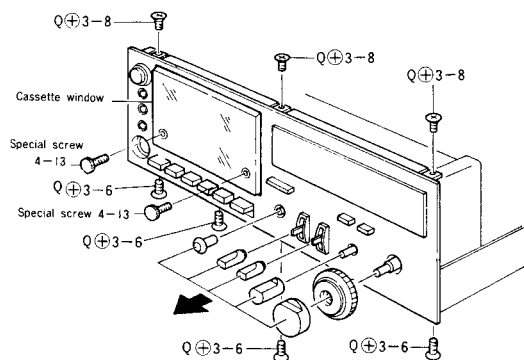
**To Remove Rec. Volume Circuit Board**

Remove mounting nut.



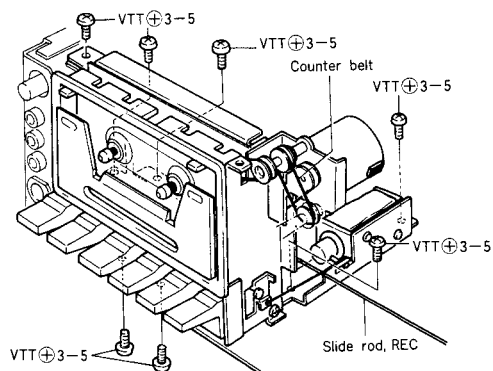
To Remove Front Panel

Pull out the 6 knobs and remove 9 screws.



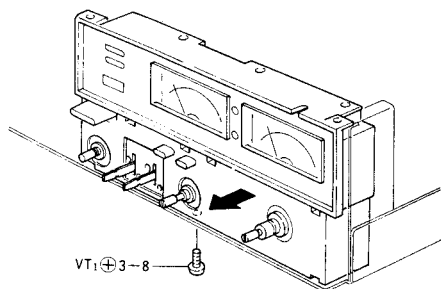
To Remove Mechanism

- 1) Remove counter belt and rec. slide rod.
- 2) Remove 7 screws.



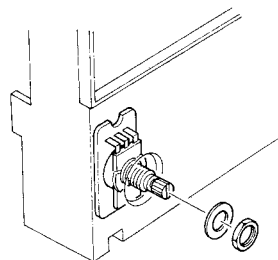
To Remove Front Chassis

Remove mounting screw.



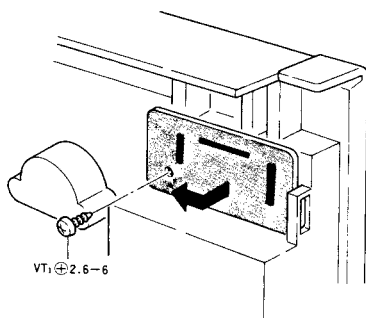
To Remove LH Bias Volume Circuit Board

Remove mounting nut.



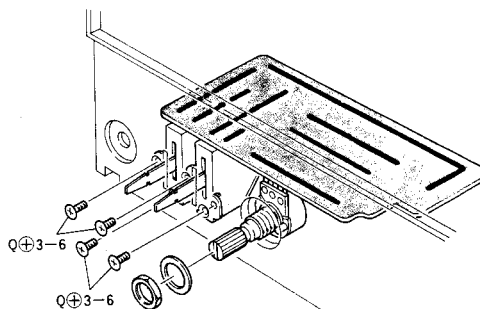
To Remove Lamp Circuit Board

Remove mounting screw.

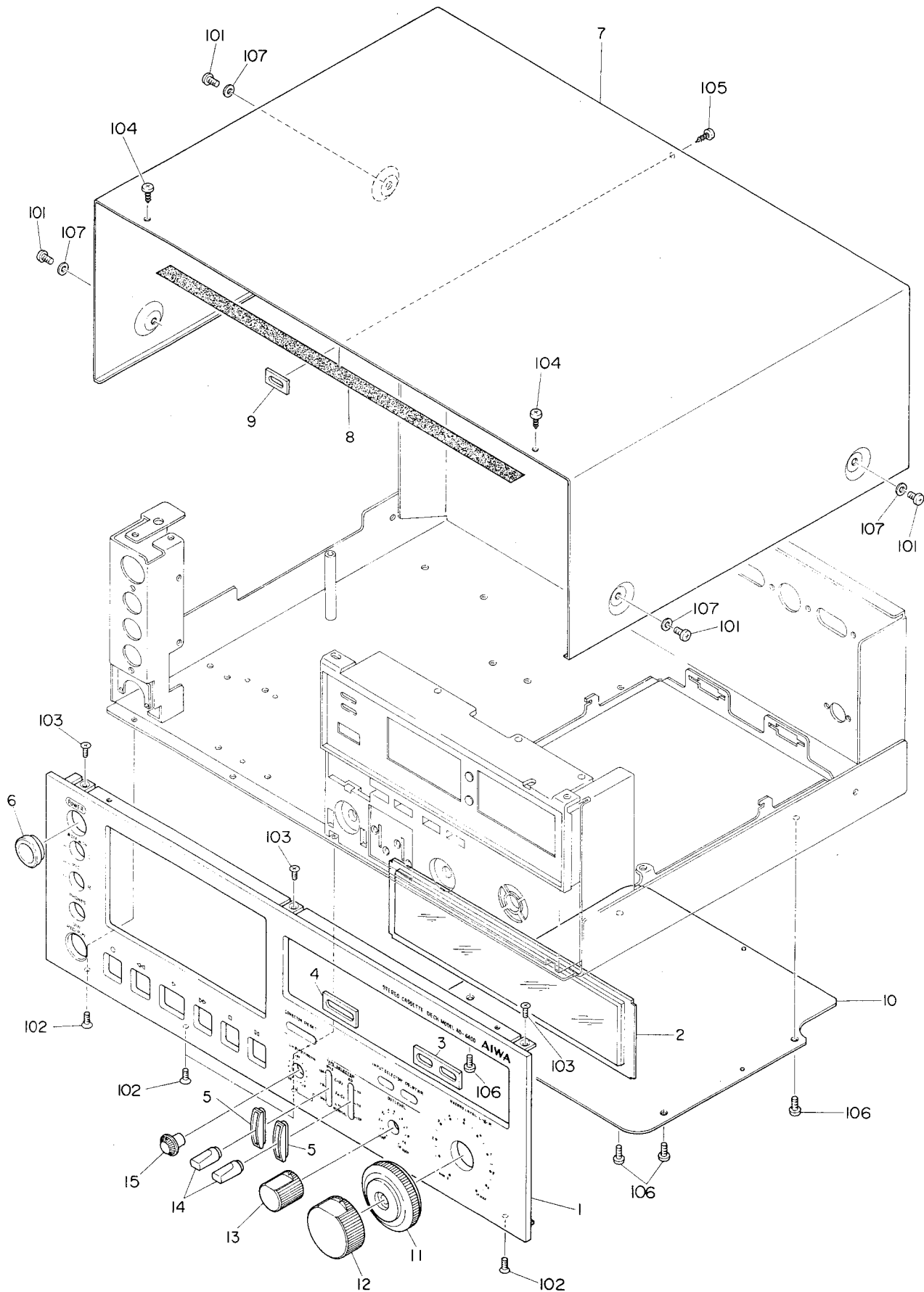


To Remove Eq./Switch Circuit Board

Remove 4 screws and nut.



EXPLODED VIEW-1



PARTS LIST

MECHANICAL PARTS

■ * Mark in this part list shows exclusive part
(which is used) for only Model AD-6400.

Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
1~5	09-047-086-01		Panel Assembly		
1-1	82-399-003-01		Panel, Front	*	1
1-2	82-397-018-01		Window, Meter	AD-6550	1
1-3	82-397-250-01		Cover, Selector button	AD-6550	2
1-4	82-397-246-01		Cover, Reset button	AD-6550	1
1-5	82-301-002-01		Guide, Lever switch		2
1-6	82-397-027-01		Ring, AC switch button	AD-6550	1
1-7	82-397-004-01		Cabinet, Steel sach	AD-6550	1
1-8	82-397-245-01		Himeron cloth, Cabinet	AD-6550	1
1-9	82-380-439-01		Spacer, Back panel	AD-6500	1
1-10	83-399-029-01		Bottom lid	*	1
1-11	82-397-021-01		Knob B ass'y, RECORD LEVEL	AD-6550	1
1-12	82-397-019-01		Knob A ass'y, RECORD LEVEL	AD-6550	1
1-13	82-397-023-01		Knob ass'y, OUTPUT LEVEL	AD-6550	1
1-14	82-399-024-01		Knob ass'y, TAPE SELECTOR	*	2
1-15	82-397-062-01		Knob, LH BIAS FINE	AD-6550	1

Ref. No.	Part No.	Description	Q'ty
1-101	87-257-169-01	U + 4-6(Black)	4
1-102	87-233-094-01	Q + 3-6	4
1-103	87-233-095-01	Q + 3-8	3
1-104	87-326-095-01	UT ₁ + 3-8(Black)	2

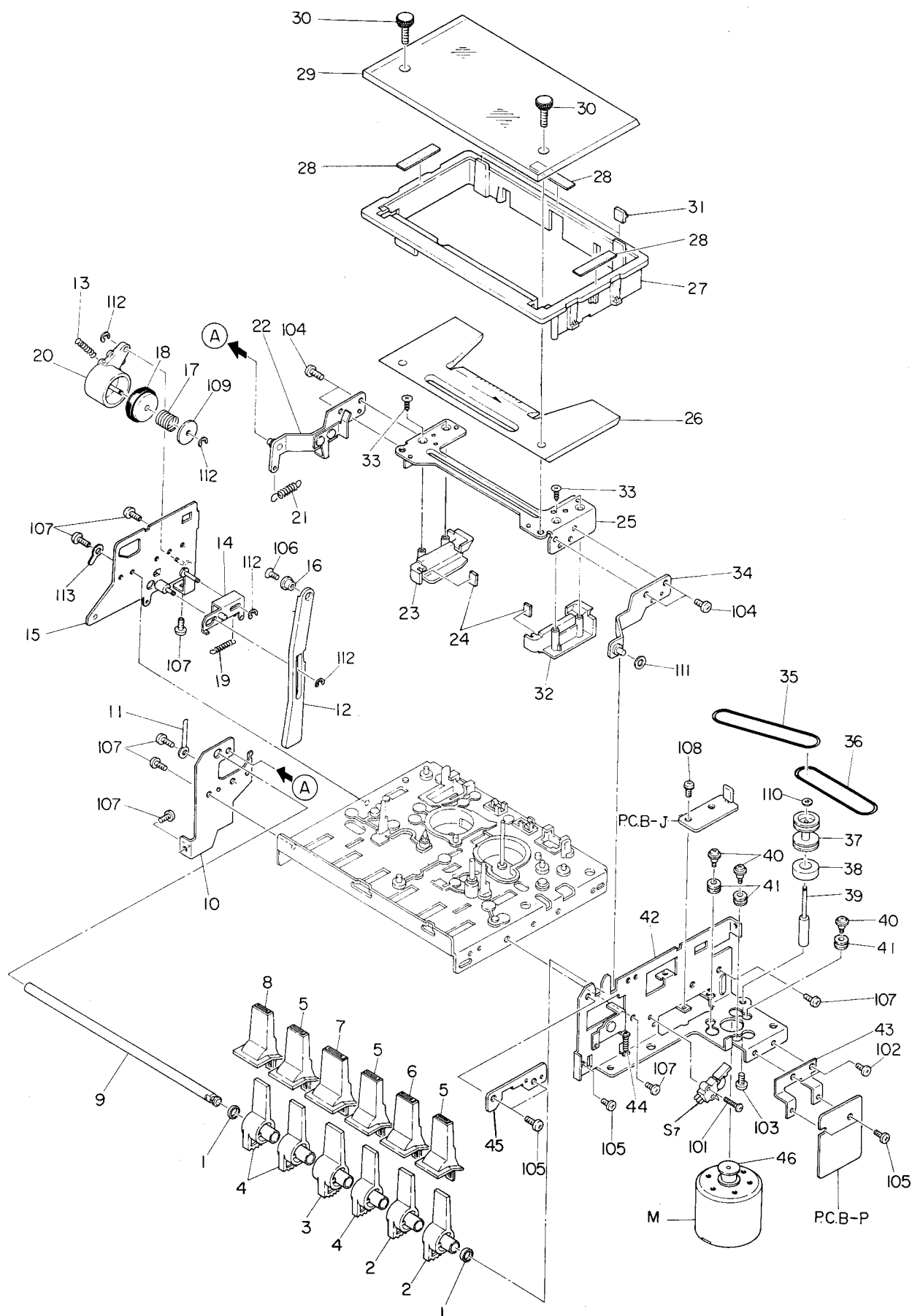
Ref. No.	Part No.	Description	Q'ty
1-105	87-327-074-01	UT ₂ + 2.6-8(Black)	1
1-106	87-081-481-01	VTT + 3-5	4
1-107	87-081-499-01	PW4-8-0.25	4

Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty	
2-1	82-399-217-01		Amp. chassis ass'y	*	1	
2-2	82-399-025-01		AC switch button ass'y	*	1	
2-3	82-385-382-01		Rod, P	AD-6300	1	
2-4	82-385-383-01		Stopper, Rod	AD-6300	3	
2-5	82-397-324-01		Holder, Circuit board	AD-6550	2	
2-6	82-397-028-01		Reset button	AD-6550	1	
2-7	82-397-017-01		Name plate, Meter	AD-6550	1	
2-8	82-397-030-01		Window, Counter	AD-6550	1	
2-9	82-397-031-01		Lens, DOLBY	AD-6550	1	
2-10	82-397-032-01		Lens, REC	AD-6550	1	
2-11	82-397-316-01		Spring, Reset	AD-6550	1	
2-12	82-397-239-01		Lever, Reset button	AD-6550	1	
2-13	82-397-210-01		Front chassis	AD-6550	1	
2-14	82-397-029-01		Selector button	AD-6550	2	
2-15	87-040-092-01		Counter		1	
2-16	82-397-292-01		Shaft, Selector	AD-6550	2	
2-17	82-397-330-01		Shaft, DIN circuit	AD-6550	1	
2-18a	87-034-835-01		AC cord (EE model only)		1	
2-18b	87-034-848-01		AC cord (UK model only)		1	
2-19a	82-399-011-01		Name plate, Spec. (EE model only)	*	1	
2-19b	82-399-012-01		Name plate, Spec. (UK model only)	*	1	
2-20	82-386-629-01		Shield plate, Jack		1	
2-21a	82-397-008-01		Jack plate (EE model only)	AD-6550	1	
2-21b	82-397-009-01		Jack plate (UK model only)	AD-6550	1	
2-22	87-085-102-01		Nylon rivet		8	
2-23	87-033-088-01		Earth terminal		1	
2-24	82-399-213-01		Spacer, Meter	*	2	
2-25	84-184-242-01		Rubber, Sound-proof		2	
2-26	82-397-318-01		Slide rod, PAUSE	AD-6550	1	
2-27	82-397-232-01		Holder, Solenoid	AD-6550	1	
2-28	82-397-319-01		Slide rod, Auto A	AD-6550	1	
2-29	82-272-424-01		Spring, Brake		1	
2-30	82-397-229-01		REC holder ass'y	AD-6550	1	
2-31	82-397-243-01		REC lever A	AD-6550	1	
2-32	81-301-040-01		Cushion, Circuit board		1	
2-33	82-397-334-01		Auxiliary plate	AD-6550	1	
2-34	82-397-317-01		Slide rod, REC	AD-6550	1	
2-35	87-085-144-01		Leg		4	
2-36	82-397-248-01		REC lever C	AD-6550	1	
2-37	82-397-310-01		Spring, REC	AD-6550	1	
2-38	82-397-335-01		Spring, REC-C	AD-6550	1	
2-39	82-397-241-01		REC lever B	AD-6550	1	
2-40	82-397-054-01		Cover, DIN	AD-6550	1	
2-41	82-397-235-01		Collar, LED	AD-6550	2	
2-42	82-397-694-01		Earth lug	AD-6550	1	
2-43	82-387-278-01		Holder, Jack		1	
2-44	82-380-457-01		Stopper rubber, Up-plate		2	
2-45	87-038-039-01		Wire binder	*	2	
2-46	82-397-244-01		Holder, AC cord	AD-6550	1	
2-47	87-085-094-01		Holder A, AC cord		1	
2-48	87-085-095-01		Holder B, AC cord		1	
2-49	87-056-008-01		Label, AC cord (UK model only)		1	
2-50	87-056-014-01		Tag, Main voltage (UK model only)		1	

Ref. No.	Part No.	Description	Q'ty	
2-101	87-257-033-01	U + 2.4(Black)	4	
2-102	87-253-071-01	U + 2.6-4	4	
2-103	87-253-093-01	U + 3-5	6	
2-104	87-253-170-01	U + 4-8	4	
2-105	87-261-101-01	V + 3-18	2	
2-106	87-233-035-01	Q + 2-6	2	
2-107	87-233-094-01	Q + 3-6	4	
2-108	87-233-095-01	Q + 3-8	2	
2-109	87-351-073-01	VT ₁ + 2.6-6	1	

Ref. No.	Part No.	Description	Q'ty	
2-110	87-341-095-01	UT ₁ + 3-8	1	
2-111	87-480-093-01	VS + 3-5	2	
2-112	87-480-169-01	VS + 4-6	2	
2-113	87-081-481-01	VTT + 3-5	16	
2-114	87-433-906-01	WTIE4-10	1	
2-115	87-441-006-01	STE-2.3	2	
2-116	87-441-009-01	STE-3	1	
2-117	87-391-024-11	N4	1	

EXPLODED VIEW-3

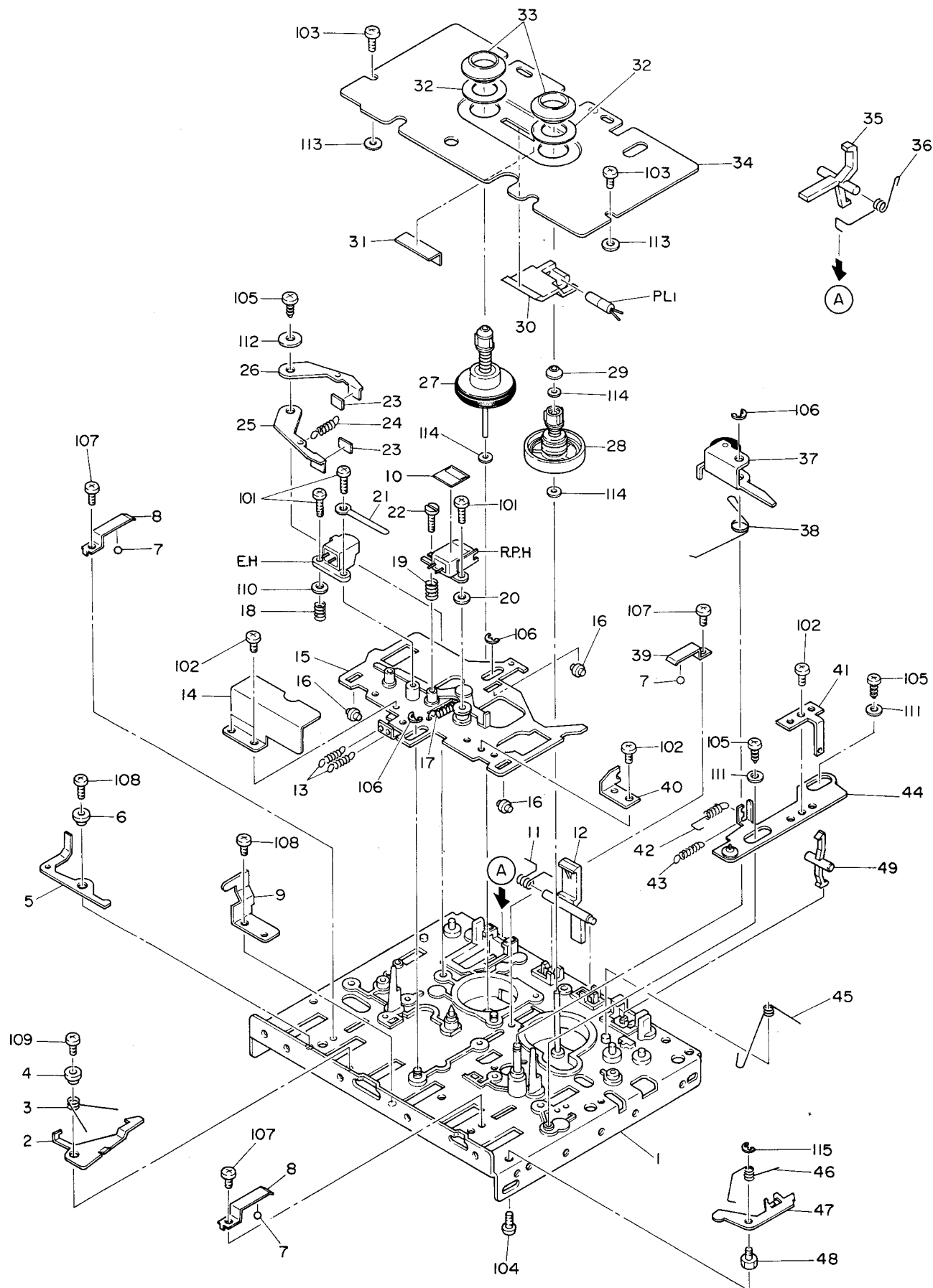


Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty	
3-1	82-397-279-01		Collar, Push key	AD-6550	2	
3-2	82-397-276-01		Push-key lever, REW	AD-6550	2	
3-3	82-397-274-01		Push-key lever, PLAY	AD-6550	1	
3-4	82-397-275-01		Push-key lever, STOP	AD-6550	3	
3-5	82-397-046-01		Push-key lever, FF	AD-6550	3	
3-6	82-397-048-01		Push-key, STOP	AD-6550	1	
3-7	82-397-045-01		Push-key, PLAY	AD-6550	1	
3-8	82-397-047-01		Push-key, REC	AD-6550	1	
3-9	82-397-278-01		Shaft, Push-key	AD-6550	1	
3-10	82-397-252-01		Holder, Push-key	AD-6550	1	
3-11	87-038-039-01		Wire binder		1	
3-12	82-397-280-01		Lock plate, Cassette lid	AD-6550	1	
3-13	82-397-303-01		Spring E, Oil drum	AD-6550	1	
3-14	82-397-261-01		Lock lever ass'y	AD-6550	1	
3-15	82-399-203-01		Frame chassis L ass'y	*	1	
3-16	82-397-281-01		Flange collar, Cassette lid	AD-6550	1	
3-17	82-397-302-01		Spring C, Oil drum	AD-6550	1	
3-18	82-397-271-01		Idler lever ass'y, Oil	AD-6550	1	
3-19	82-397-301-01		Drum B ass'y, Oil	AD-6550	1	
3-20	82-397-265-01		Drum ass'y, Oil	AD-6550	1	
3-21	82-399-215-01		Spring, Cassette lid arm	*	1	
3-22	82-399-202-01		Cassette lid lever L ass'y	*	1	
23~33	09-047-087-01		Cassette lid ass'y			
3-23	82-397-043-01		Cassette case L	AD-6550	1	
3-24	82-397-312-01		G cushion, Cassette case	AD-6550	2	
3-25	82-397-225-01		Cassette case ass'y	AD-6550	1	
3-26	82-399-021-01		Cassette lid ass'y	*	1	
3-27	82-397-044-01		Blinder	AD-6550	1	
3-28	82-397-313-01		G cushion, Blinder	AD-6550	3	
3-29	82-397-036-01		Cassette window	AD-6550	1	
3-30	82-397-040-01		Special screw, 4mmφ x 13mm	AD-6550	2	
3-31	82-399-028-01		Cushion, Cassette lid	*	2	
3-32	82-397-042-01		Cassette case R	AD-6550	1	
3-33	87-392-036-01		QT ₁ 2-8 (Black)	AD-6550	4	
3-34	82-397-264-01		Cassette lid lever R ass'y	AD-6550	1	
3-35	82-397-325-01		Rubber belt C	AD-6550	1	
3-36	82-397-314-01		Rubber belt A	AD-6550	1	
3-37	82-397-228-01		Relay pulley	AD-6550	1	
3-38	82-379-617-01		Ring magnet	AD-1800	1	
3-39	82-397-247-01		Shaft ass'y, Relay	AD-6550	1	
3-40	87-081-483-01		Motor screw		3	
3-41	87-087-029-01		Rubber cushion		3	
3-42	82-397-211-01		Frame chassis R ass'y	AD-6550	1	
3-43	82-397-647-01		Holder, Motor circuit board	AD-6550	1	
3-44	82-272-424-01		Brake spring		1	
3-45	82-397-270-01		Shaft, Stopper C	AD-6550	1	
3-46	82-399-216-01		Motor pulley ass'y	*	1	

Ref. No.	Part No.	Description	Q'ty	
3-101	87-253-036-01	U + 2-8	2	
3-102	87-253-071-01	U + 2.6-4	2	
3-103	87-253-072-01	U + 2.6-5	1	
3-104	87-257-073-01	U + 2.6-6(Black)	4	
3-105	87-253-093-01	U + 3-5	5	
3-106	87-233-074-01	Q + 2.6-8	1	

Ref. No.	Part No.	Description	Q'ty	
3-107	87-081-481-01	VTT + 3-5	8	
3-108	87-480-072-01	VS + 2.6-5	2	
3-109	87-410-318-01	W3-13-0.8	2	
3-110	87-081-489-01	PW1.7-3.5-0.25	1	
3-111	87-081-499-01	PW4-8-0.25	1	
3-112	87-441-006-01	STE-2.3	6	
3-113	87-450-414-01	LB-4	1	

EXPLODED VIEW-4

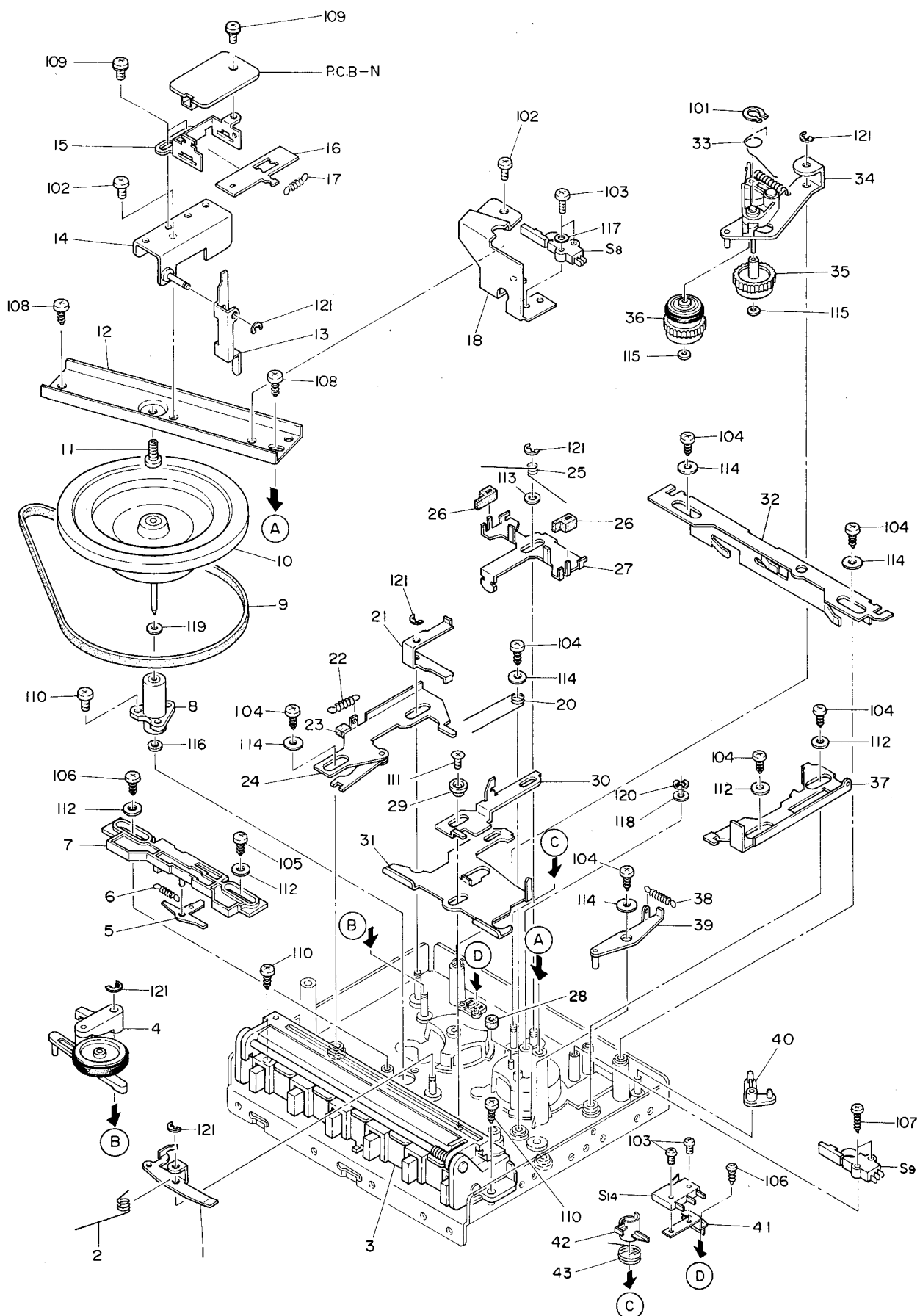


Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
4-1	82-392-202-01		Outsert chassis ass'y	AD-6550	1
4-2	82-397-320-01		Stopper, Actuating chassis	AD-6550	1
4-3	82-397-299-01		Spring, Stopper	AD-6550	1
4-4	82-397-323-01		Flange collar B	AD-6550	1
4-5	82-397-321-01		Lever, Actuating	AD-6550	1
4-6	82-397-322-01		Flange collar A	AD-6550	1
4-7	82-215-341-01		Steel ball, 3/32		3
4-8	82-392-317-01		Spring, Actuating chassis B	AD-6550	2
4-9	82-397-289-01		Stopper B, Push-key shaft	AD-6550	1
4-10	82-372-931-01		Label, Head	AD-1500	1
4-11	82-397-297-01		Spring, Cassette holder	AD-6550	1
4-12	82-397-286-01		Lever, Cassette holder	AD-6550	1
4-13	82-392-342-01		Return spring	AD-6550	2
4-14	82-397-291-01		Shield plate, Head	AD-6550	1
4-15	82-392-218-01		Actuating chassis ass'y	AD-6550	1
4-16	82-392-318-01		Roller, Actuating chassis	AD-6550	3
4-17	82-392-343-01		Spring, Actuating chassis	AD-6550	1
4-18	82-392-357-01		Spring, Erasing head	AD-6550	1
4-19	82-392-347-01		Spring, Rec/pb head	AD-6550	1
4-20	82-392-354-01		G cushion, Head	AD-6550	1
4-21	82-357-487-01		Binder, Lead wire		1
4-22	82-439-373-01		Shaft, Rec/pb adjusting	TPR-300	1
4-23	82-392-350-01		Felt, Back tension	AD-6550	2
4-24	82-392-340-01		Spring, Back tension	AD-6550	1
4-25	82-392-359-01		Lever, Back tension C	AD-6550	1
4-26	82-392-360-01		Lever, Back tension D	AD-6550	1
4-27	82-399-211-01		Supply reel platform ass'y	*	1
4-28	82-392-283-01		Take-up reel platform ass'y	AD-6550	1
4-29	82-392-352-01		Cap, Take-up reel platform	AD-6550	1
4-30	82-397-041-01		Guide, Light	AD-6550	1
4-31	82-397-345-01		Blinder, Light	AD-6550	1
4-32	82-397-290-01		Adhesive sheet, Ring	AD-6550	2
4-33	82-397-030-01		Ring, Reel platform	AD-6550	2
4-34	82-397-064-01		Cassette plate	AD-6550	1
4-35	82-397-287-01		Lever, Record-blocking	AD-6550	1
4-36	82-397-298-01		Spring, Record-blocking lever	AD-6550	1
4-37	82-392-363-01		Pinch roller ass'y	AD-6550	1
4-38	82-392-334-01		Spring, Pinch lever	AD-6550	1
4-39	82-392-316-01		Spring, Actuating chassis A	AD-6550	1
4-40	82-392-367-01		Plate, PSP	AD-6550	1
4-41	82-397-233-01		Auxiliary plate, pause	AD-6550	1
4-42	82-392-375-01		Spring, Pause B	AD-6550	1
4-43	82-392-374-01		Spring, Pause A	AD-6550	1
4-44	82-392-280-01		Pause slide plate ass'y	AD-6550	1
4-45	82-392-333-01		Spring, Take-up	AD-6550	1
4-46	82-392-335-01		Spring, Lock plate	AD-6550	1
4-47	82-392-213-01		Lock plate	AD-6550	1
4-48	82-392-211-01		Shaft, Lock plate	AD-6550	1
4-49	82-397-288-01		Lever, CrO ₂ selecting		1

Ref. No.	Part No.	Description	Q'ty
4-101	87-253-034-01	V + 2.5	3
4-102	87-263-071-01	V + 2.6.4	4
4-103	87-253-031-01	U + 2.2	2
4-104	87-253-032-01	U + 2.3	1
4-105	87-351-074-01	UT ₁ + 2.6-8	3
4-106	87-441-006-01	STE-2.3	3
4-107	87-081-501-01	VTT + 2.6.4	3
4-108	87-081-480-01	VTT + 2.6-5	2

Ref. No.	Part No.	Description	Q'ty
4-109	87-081-503-01	VTT + 2.6-8	1
4-110	87-410-303-01	W2.4.3-0.23	1
4-111	87-410-311-01	W2.6-7.5-0.5	2
4-112	87-410-317-01	W3-10-0.8	1
4-113	87-081-023-01	FW2.6-7.5-0.5	2
4-114	87-081-319-01	TW2.3-8-0.2	3
4-115	87-441-005-01	STE-2	1

EXPLODED VIEW-5



Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
5-1	82-392-302-01		REV. auxiliary lever ass'y	AD-6550	1
5-2	82-392-331-01		Spring, REV. auxiliary lever	AD-6550	1
5-3	82-392-235-01		Push-switch proper ass'y	AD-6550	1
5-4	82-392-262-01		Take-up idler ass'y	AD-6550	1
5-5	82-392-361-01		Lever, Main drive B	AD-6550	1
5-6	82-392-346-01		Spring, FF	AD-6550	1
5-7	82-392-313-01		Slide plate, FR	AD-6550	1
5-8	82-392-256-01		Shaft bearing ass'y	AD-6550	1
5-9	82-392-319-01		Belt, Main	AD-6550	1
5-10	82-392-371-01		Flywheel ass'y	AD-6550	1
5-11	82-331-107-01		Screw for thrust		1
5-12	82-392-321-01		Plate, Flywheel	AD-6550	1
5-13	82-397-240-01		Lever, MT switch	AD-6550	1
5-14	82-397-236-01		MT switch holder ass'y	AD-6550	1
5-15	82-374-248-01		Switch holder C	AD-6550	1
5-16	82-397-242-01		Slider, MT switch	AD-1500	1
5-17	82-372-417-01		Spring B, MT switch slider	AD-6550	1
5-18	82-397-308-01		Holder, Memory switch	AD-6550	1
5-19	82-397-350-01		T spring, CrO ₂	AD-6550	1
5-20	82-392-337-01		Spring, Center shifter	AD-6550	1
5-21	82-397-283-01		Eject lever B	AD-6550	1
5-22	82-397-300-01		Spring, Eject lever	AD-6550	1
5-23	82-397-307-01		G cushion, Eject lever	AD-6550	1
5-24	82-397-253-01		Eject lever A ass'y	AD-6550	1
5-25	82-392-332-01		Spring, Brake		1
5-26	82-439-260-01		Brake shoe	TPR-300	2
5-27	82-392-320-01		Slide plate, Brake	AD-6550	1
5-28	82-392-373-01		G cushion, FR	AD-6550	1
5-29	82-392-353-01		Collar, Rewind shaft	AD-6550	1
5-30	82-392-326-01		Slide plate, REW	AD-6550	1
5-31	82-392-323-01		Slide plate, Brake S	AD-6550	1
5-32	82-397-285-01		Slide plate, Eject	AD-6550	1
5-33	82-392-330-01		Spring, FR lever	AD-6550	1
5-34	82-392-295-01		FR lever ass'y	AD-6550	1
5-35	82-392-315-01		Gear, REW	AD-6550	1
5-36	82-392-305-01		FF pulley ass'y	AD-6550	1
5-37	82-397-282-01		Slide plate, REC	AD-6550	1
5-38	82-392-345-01		Spring, REC lock	AD-6550	1
5-39	82-392-274-01		REC lock lever ass'y	AD-6550	1
5-40	82-397-284-01		Eject lever C	AD-6550	1
5-41	82-397-346-01		Holder, CrO ₂ switch	AD-6550	1
5-42	82-397-347-01		Lever, CrO ₂	AD-6550	1

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
5-101	87-442-005-01	STP-5	1	5-112	87-810-311-01	W2.6-7.5-0.5	4
5-102	87-253-093-11	V + 3-5	2	5-113	87-410-312-01	W3-6-0.3	1
5-103	87-253-036-01	U + 2-8	5	5-114	87-410-317-01	W3-10-0.8	5
5-104	87-351-074-01	VT ₁ + 2.6-8	7	5-115	87-081-489-01	PW1.7-3.5-0.25	3
5-105	87-351-075-01	VT ₁ + 2.6-10	2	5-116	82-416-358-01	PW2.5-6	1
5-106	87-341-034-01	UT ₁ + 2-5	2	5-117	87-081-197-01	FW2.6-8-1.0	1
5-107	87-341-037-01	UT ₁ + 2-10	2	5-118	87-081-319-01	TW2.3-8-0.2	1
5-108	87-341-095-01	UT ₁ + 3-8	2	5-119	87-081-098-01	NW2.6-7-0.3	1
5-109	87-480-072-01	VS + 2.6-5	3	5-120	87-441-004-01	STE-1.5	1
5-110	87-081-480-01	VTT + 2.6-5	5	5-121	87-441-006-01	STE-2.3	5
5-111	87-081-523-01	QTT + 2.6-8	1				

V: Pan head screw



STE: E ring



U: Binding head screw



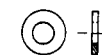
STP: Powerful stop ring



Q: Flat countersunk head screw



W: Washer



VT1: Pan head tapping screw



FW: Fiber washer

NW: Nylon washer

UT1: Binding head tapping screw



PW: Poly-slider washer

QT1: Flat countersunk head tapping screw



TW: Tefron washer

WTIE: Crown washer



QTT: Flat countersunk head tap-tight screw



SS: Set screw



VTT: Pan head tap-tight screw



N: Nut



UT2: Binding head tapping screw



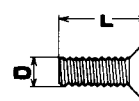
VS: Pan head screw with spring washer



Example:



V + 3 - 6
 Length in mm
 Diameter in mm
 Type of Slot
 Type of Head

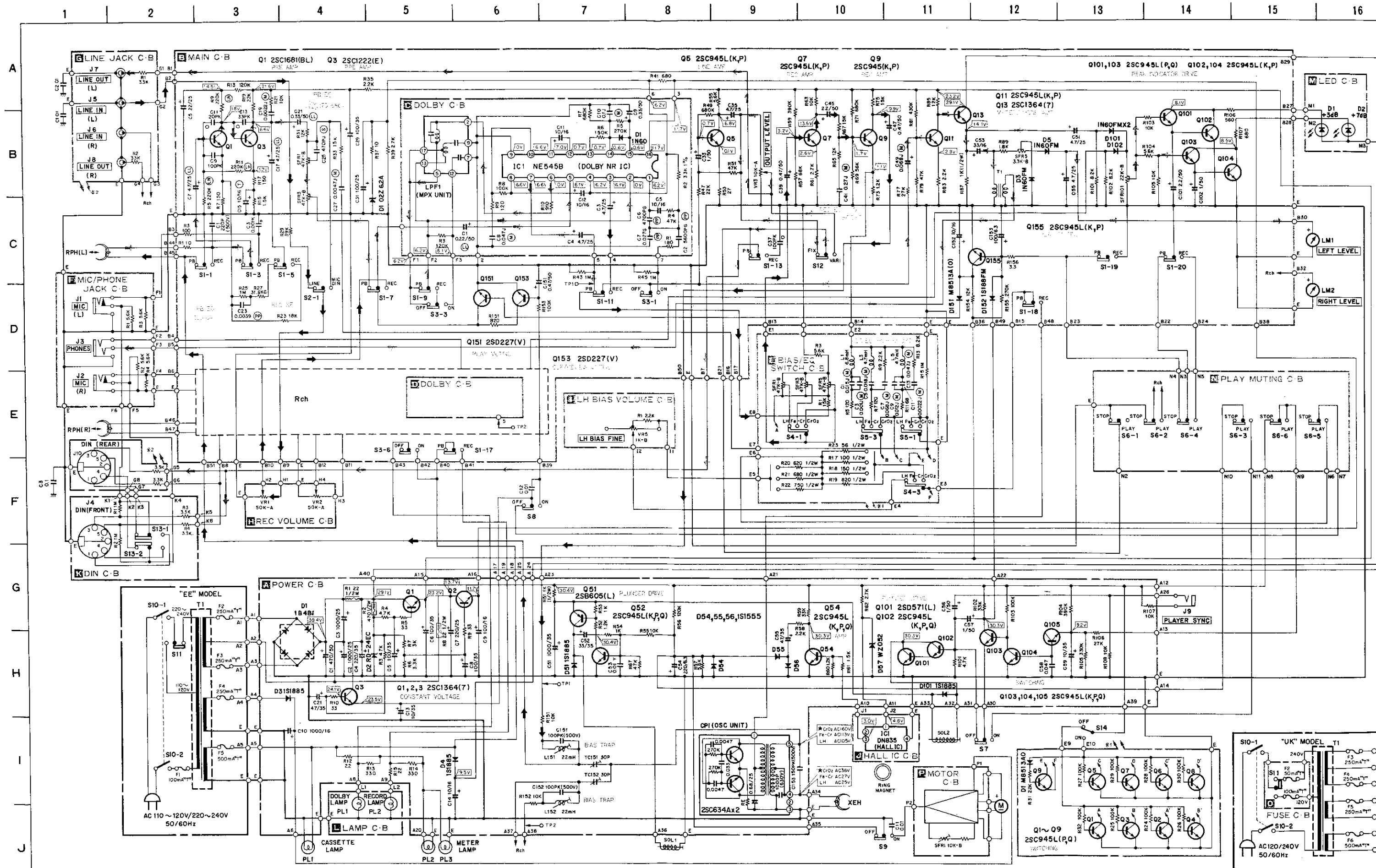


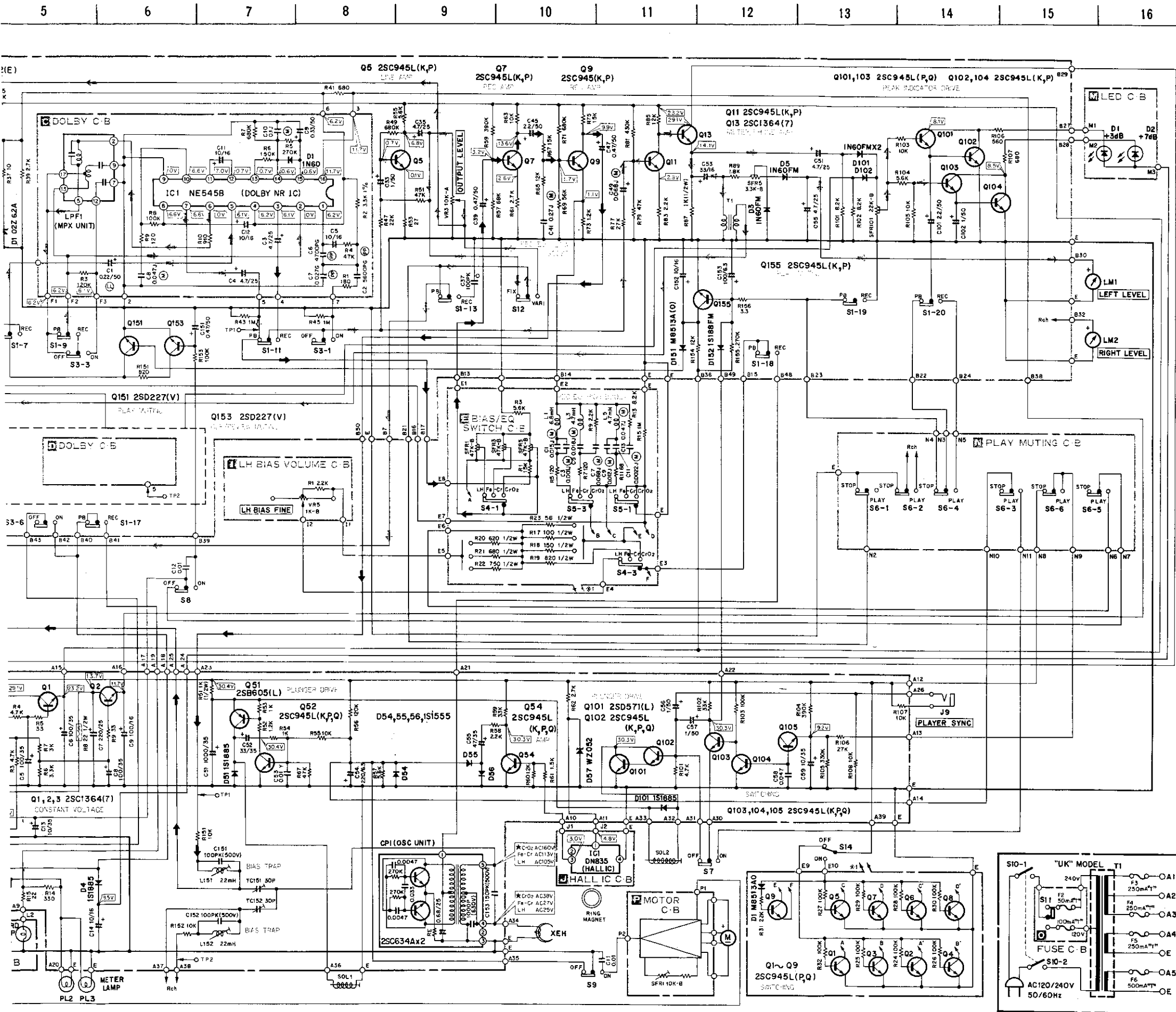
Q + 3 - 6
 Length in mm
 Diameter in mm
 Type of Slot
 Type of Head

ACCESSORIES/PACKAGE

Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
1	82-399-853-01		Printed indiv., Packing	*	1
2	82-397-856-01		Cushion L, Printed indiv.	AD-6550	1
3	82-397-857-01		Cushion R, Printed indiv.	AD-6550	1
4	86-056-500-01		Curl stopper		2
5	87-051-146-01		Poly-vinyl sack (for case)		1
6	87-051-175-01		Poly-tube A (for instruction)		1
7	87-051-131-01		Poly-vinyl sack (for AC cord)		1
8	87-058-024-01		Head cleaning pole		1
9	86-925-002-01		Connection cord, CW-115K		1
10	87-058-023-01		Cord binder		1
11	87-056-009-01		Distributors list		1
12	80-291-645-01		Tape cassette, DMC-130A		1
13a	82-399-904-01		Instructions booklet (EE model only)	*	1
13b	82-399-905-01		Instructions booklet (UK model only)	*	1

SCHEMATIC DIAGRAM

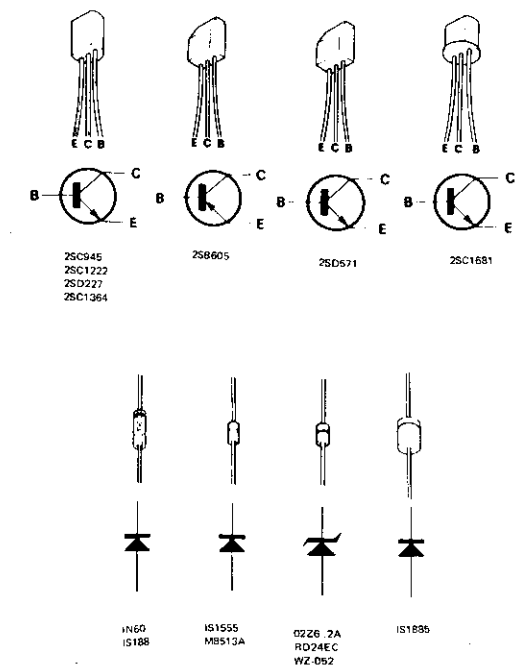


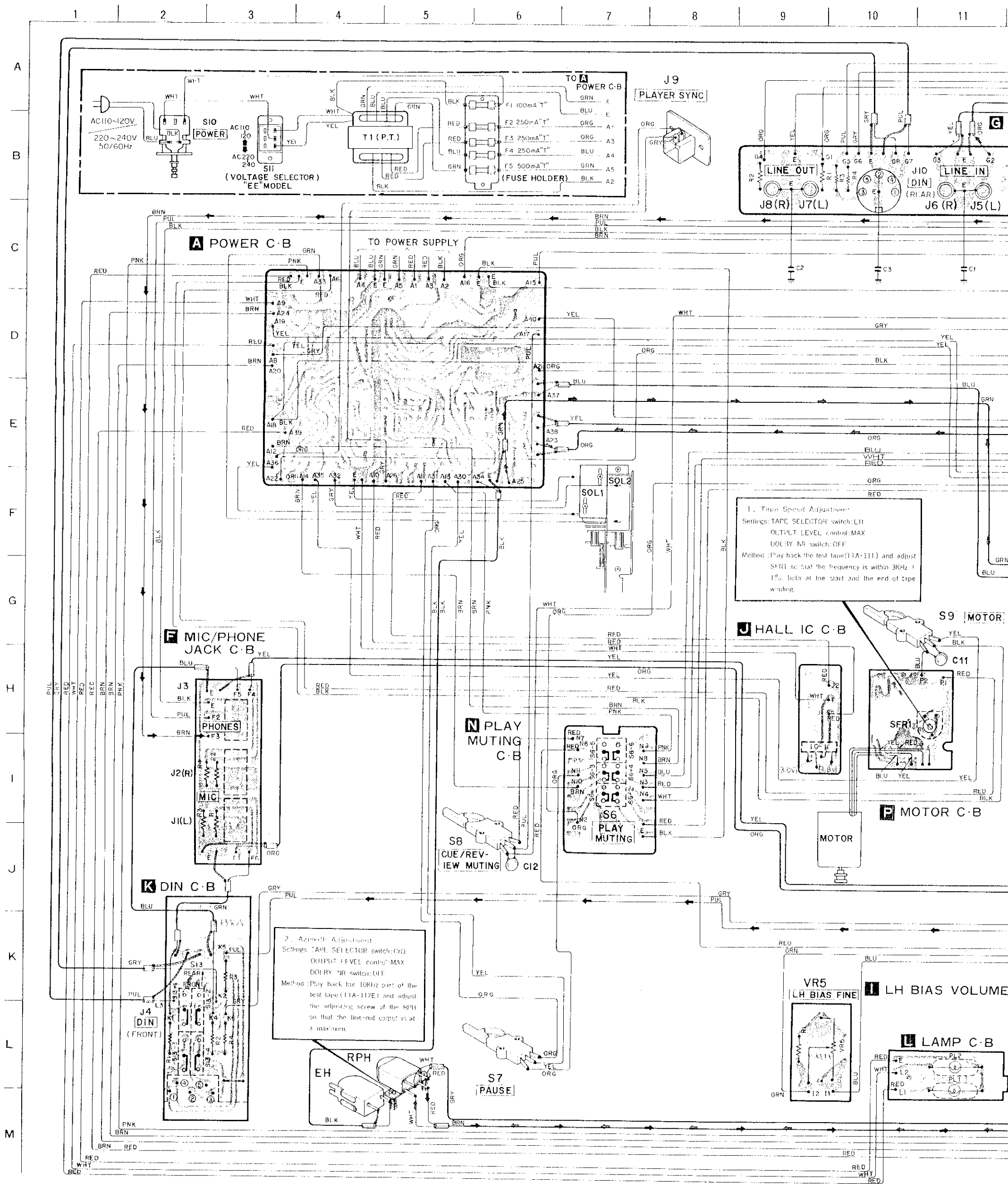


NOTES:

- 1) — B(+) power supply
- 2) ➡ Signal path
- 3) ➡ Rec. path
- 3) 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.
- 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) Ceramic capacitor symbols:
 — For temperature compensation (SL)
 — High dielectric constant system (YY)
 — High dielectric constant system (YP, YZ)
- 7) The only capacitor tolerances indicated are ±2% (G), ±5% (J) and ±10% (K).
- 8) Explanation of symbols:
 (M) Mylar capacitor
 (S) Styrol capacitor
 (T) Tantalum capacitor
 (LL) Low-leakage capacitor
 (PP) Polypropylene film capacitor
 (LN) Low-noise resistor
- 9) Switches are set to the following positions:
 S1-1~10 REC/PB (PB)
 S2-1~2 INPUT SELECTOR (LINE)
 S3-1~6 DOLBY NR (OFF)
 S4-1~4 TAPE SELECTOR-BIAS (LH)
 S5-1~4 TAPE SELECTOR-EQ (LH)
 S6-1~6 PLAY MUTING (STOP)
 S7 PAUSE (OFF)
 S8 CUE/REVIEW MUTING (OFF)
 S9 MOTOR (OFF)
 S10 POWER (OFF)
 S11 VOLTAGE SELECTOR
 S12 DIN OUT (FIX)
 S13 DIN FRONT/REAR (REAR)
 S14 CrO₂ AUTO (OFF)

This schematic diagram is subject to change without notice in the interests of improved performance.





NOTES (1)

B(+) Pattern

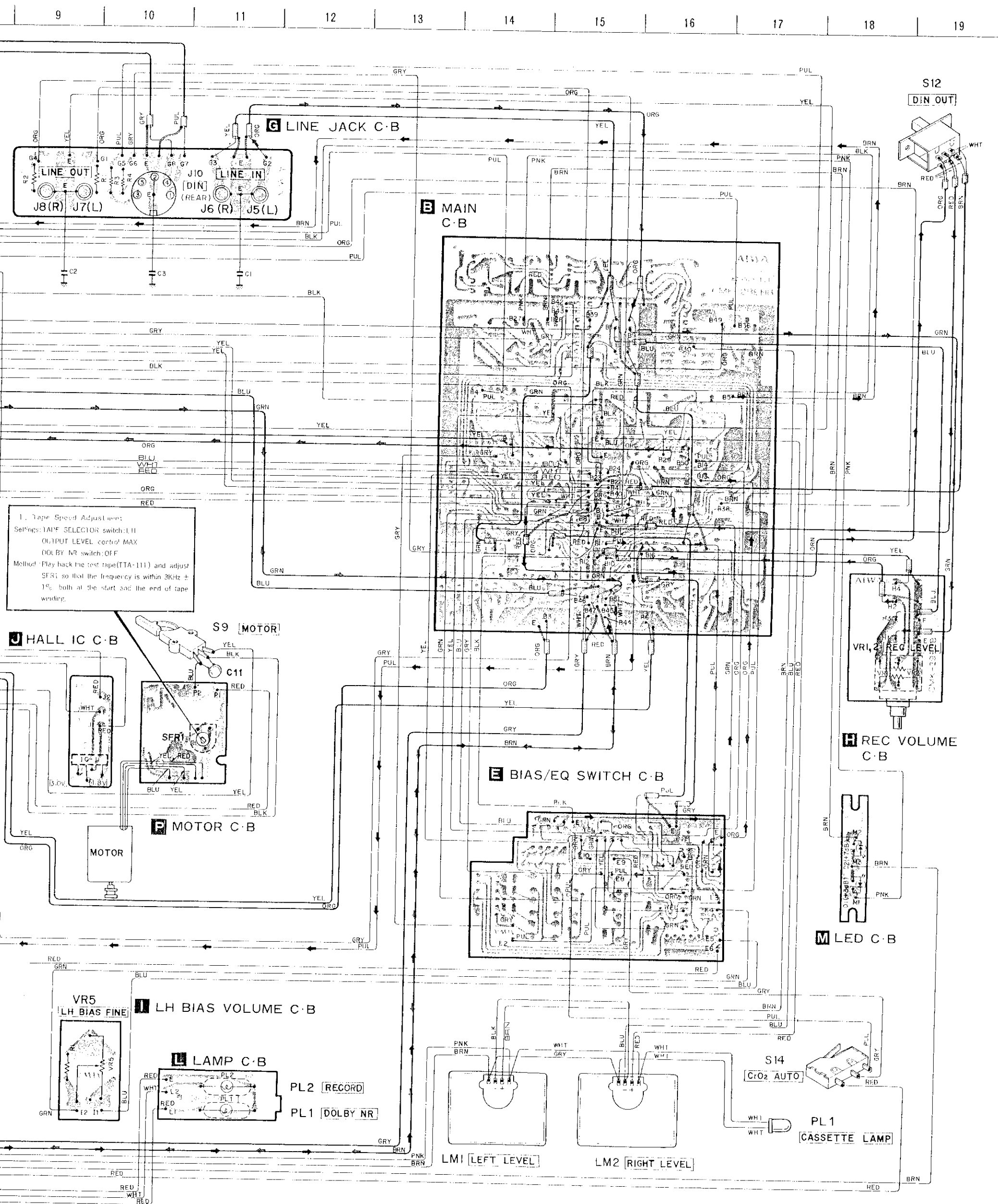
Others pattern

(2)

Signal path

Rec. path

(3) The voltage is the refere

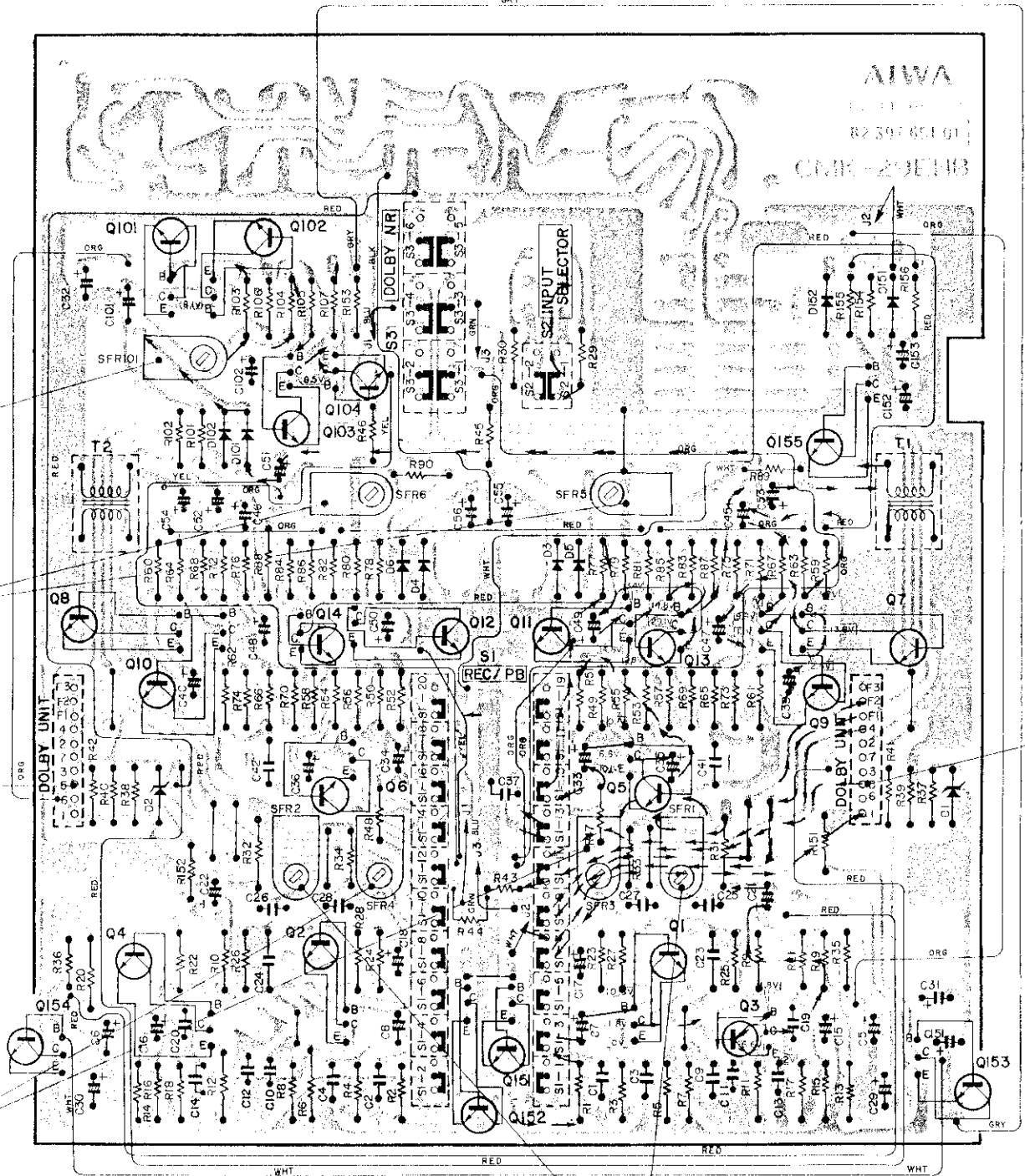


WIRING-2

1 2 3 4 5 6 7 8 9 10 11

A
B
C
D
E
F
G
H
I
J
K
L
M

B MAIN C-B

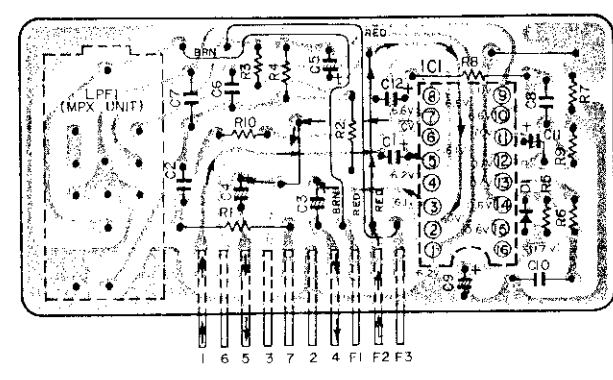


7. Peak Indicator Adjustment
Settings: Same as in the Level Meter Adjustment.
Method: Adjust SFR101 so that the yellow LED lights up slightly when the recording input is increased by 2dB. Then confirm that the yellow LED lights up completely when the recording input is increased by 3dB. Finally, confirm that the LED lights up when the recording input is increased by 7dB.

6. Level Meter Adjustment
Settings: INPUT SELECTOR switch: INT.
OUTPUT LEVEL control: MAX.
DOLBY NR switch: OFF.
Record inputs: 0dBm (=0.775V)
Method: Adjust the SFR5 and 6 so that the indicator of the level meter points to 0VU by the 1kHz signal.
Rating: 0VU $\pm$ 0.3dB

3. Playback Level Adjustment
Settings: TAPE SELECTOR switch: 1H.
OUTPUT LEVEL control: MAX.
DOLBY NR switch: OFF.
Method: While playing back the test tape (TTA-161), adjust SFR3 and SFR4 so that the voltage of TP1 and 2 is 580mV.
Rating: Dolby-out output (TP1,2): 580mV $\pm$ 0.2dB
Line-out output: 1.1V $\pm$ 0.05V

C D DOLBY C-B

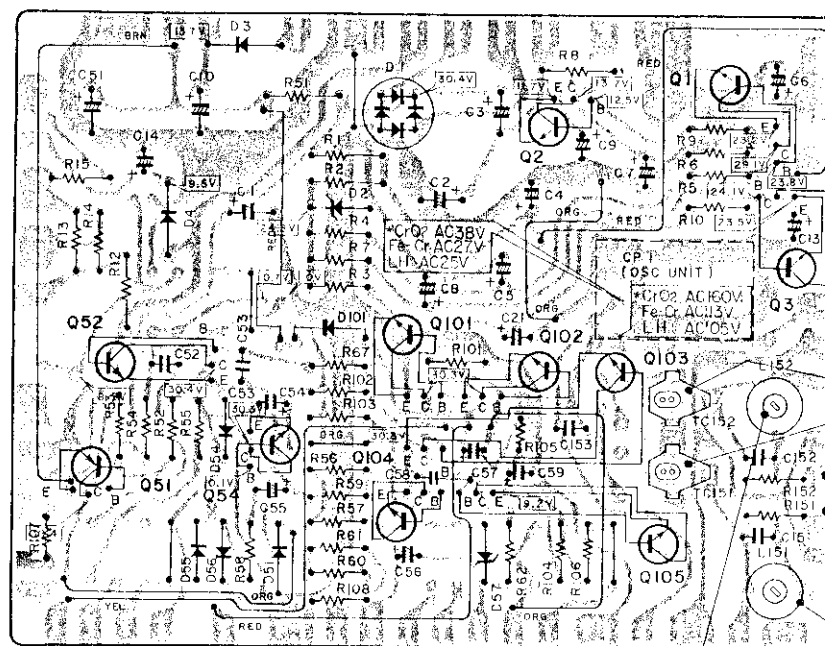


4. Playback Frequency Characteristic Adjustment
Settings: TAPE SELECTOR switch: Cr0.
OUTPUT LEVEL control: MAX.
DOLBY NR switch: OFF.
Method: While playing back the 1KHz and 10KHz portions of the test tape (TTA-11/E), adjust SFR1 and 2 so that the line-out output of the 10KHz portions is +0.5dB higher than that of the 1KHz portion.
Rating: Level of 10KHz as compared with 1KHz: 0dB $\pm$ 0.5dB

NOTES:
• For adjustments of playback, see 1 - 4.
• For adjustments of Recording, see 5 - 7.
• For adjustments of Recording and playback, see 8 - 16.

NOTES (1) B(+) Pattern Others pattern (2) Signal path Rec. path (3) The voltage is the reference

A POWER C-B



8. Fe-Cr Bias Adjustment

Settings: TAPE SELECTOR switch: Fe-Cr
INPUT SELECTOR switch: LINE
OUTPUT LEVEL control: MAX.
DOLBY NR switch: OFF
Record inputs: OVU-20dB
Test tape: CS-30

Method: Record and playback the 500Hz and 5KHz signals. While repeating the recording and playback, adjust TC151 and 152 so that the line-out output of the 5KHz portion is flat as compared with that of the 500Hz portion.
Rating: Level of 5KHz as compared with 500Hz: 0dB ± 0.5 dB

TP2

TP1

5. Bias Trap Adjustment

Settings: TAPE SELECTOR switch: CrO₂
OUTPUT LEVEL control: MAX.
RECORD LEVEL control: MAX.

Method: Set the unit to the recording mode and adjust L151 and 152 so that the voltage of TP1 and 2 is at a minimum.
Rating: Bias leakage (TP1, 2): less than 1V.

14. CrO₂ Rec./Ph. Sensitivity Adjustment

Settings: TAPE SELECTOR switch: CrO₂
INPUT SELECTOR switch: LINE
OUTPUT LEVEL control: MAX.
DOLBY NR switch: OFF
Record inputs: OVU
Test tape: CS-20

Method: Record and playback the 1KHz signal. While repeating the recording and playback, adjust SFR5 and 6 so that the line-out output is 0.775V ± 0.25 dB.

10. LH Bias Adjustment

Settings: TAPE SELECTOR switch: LH
LH BIAS FINE control: Click position
INPUT SELECTOR switch: LINE
OUTPUT LEVEL control: MAX.
DOLBY NR switch: OFF
Record inputs: OVU-20dB
Test tape: CS-10

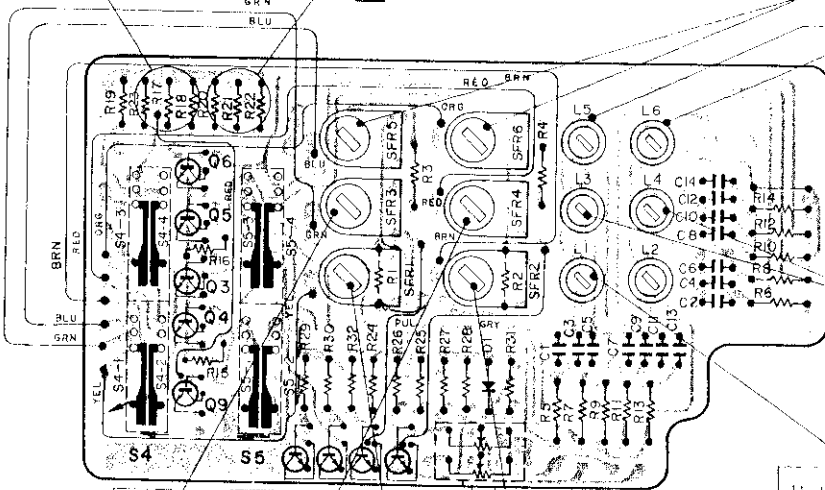
Method: Adjust R20, 21 and 22 the same as in the Fe-Cr Bias Adjustment.
Rating: Level of 5KHz as compared with 500Hz: 0dB ± 0.5 dB

12. CrO₂ Bias Adjustment

Settings: TAPE SELECTOR switch: CrO₂
INPUT SELECTOR switch: LINE
OUTPUT LEVEL control: MAX.
DOLBY NR switch: OFF
Record inputs: OVU-20dB
Test tape: CS-20

Method: Adjust R17, 18 and 23 the same as in the Fe-Cr Bias Adjustment.
Rating: Level of 5KHz as compared with 500Hz: 0dB ± 0.5 dB

E BIAS/EQ SWITCH C-B

13. CrO₂ Recording Equalizer Adjustment

Settings: Same as in the CrO₂ Bias Adjustment.
Method: Adjust L5 and 6 the same as in the Fe-Cr Recording Equalizer Adjustment.
Rating: Level of 1KHz as compared with 500Hz: 0dB ± 0.5 dB

9. Fe-Cr Recording Equalizer Adjustment

Settings: Same as in the Fe-Cr Bias Adjustment.
Method: Record and playback the 500Hz and 1KHz signals. While repeating the recording and playback, adjust L3 and 4 so that the line-out output of the 1KHz portion is flat as compared with that of the 500Hz portion.
Rating: Level of 1KHz as compared with 500Hz: 0dB ± 0.5 dB

11. LH Recording Equalizer Adjustment

Settings: Same as in the LH Bias Adjustment.
Method: Adjust L1 and 2 the same as in the Fe-Cr Recording Equalizer Adjustment.
Rating: Level of 1KHz as compared with 500Hz: 0dB ± 0.5 dB

15. Fe-Cr Rec./Ph. Sensitivity Adjustment

Settings: TAPE SELECTOR switch: Fe-Cr
INPUT SELECTOR switch: LINE
OUTPUT LEVEL control: MAX.
DOLBY NR switch: OFF
Record inputs: OVU
Test tape: CS-30
Method: Adjust SFR1 and 4 the same as in the CrO₂ Rec./Ph. Sensitivity Adjustment.

16. LH Rec./Ph. Sensitivity Adjustment

Settings: TAPE SELECTOR switch: LH
INPUT SELECTOR switch: LINE
OUTPUT LEVEL control: MAX.
DOLBY NR switch: OFF
Record inputs: OVU
Test tape: CS-10
Method: Adjust SFR1 and 2 the same as in the CrO₂ Rec./Ph. Sensitivity Adjustment.

Frequency Characteristic

INPUT SELECTOR switch: CrO₂
OUTPUT LEVEL control: MAX.
DOLBY NR switch: OFF
Method: Record and playback the 1KHz and 10KHz portions of the test tape (FTA-117E). Adjust SFR1 at the line-out output of the 10KHz portion so that the output is 0.5dB higher than that of the 1KHz portion.
Rating: Level of 10KHz as compared with 1KHz: 0dB ± 0.5 dB

Points of playback, see 1 - 4
Points of Recording, see 5 - 7
Points of Recording and playback, see 8 - 10

→ Rec. path

(3) The voltage is the reference value measured with a tester (20K ohms/VDC) when there are no signals.

ELECTRICAL MAIN PARTS

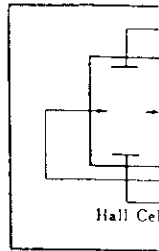
Symbol No.	Part No.	Description
《POWER CIRCUIT BOARD SECTION》		
PCB-A	82-397-610-11	Power circuit board
<POWER SECTION>		
Q1,2,3	89-313-647-01	Transistor, 2SC1364 (7)
D1	87-027-163-01	Bridge diode, 1B4B1
D2	87-027-212-01	Zener diode, RD24EC
D3,4	87-027-083-01	Diode, 1S1885
<Resistors>		
R1	87-029-014-01	22Ω 1/2W Fuse resistor
R8	87-029-016-01	22Ω 1/2W Fuse resistor
R2	87-029-027-01	470Ω 1/2W Fuse resistor
<BIAS OSC SECTION>		
CP1	82-372-658-01	Bias OSC unit
L151,152	82-371-644-01	Bias OSC coil, 22mH
TC151,152	87-011-079-01	Trimmer, 30pF
<AUTO STOP SECTION>		
Q51	89-206-052-01	Transistor, 2SB605 (L)
Q52,54	89-309-455-71	Transistor, 2SC945L (K, P, Q)
Q51	87-027-083-01	Diode, 1S1885
D54,55,56	87-027-097-01	Diode, 1S1555
D57	87-026-069-01	Zener diode, WZ-052
<TIMER START SECTION>		
Q101	89-405-712-01	Transistor, 2SC571 (L)
Q102,103,104	89-309-455-71	Transistor, 2SC945L (K, P, Q)
105		
D101	87-027-083-01	Diode, 1S1885
《MAIN CIRCUIT BOARD SECTION》		
PCB-B	82-397-652-01	Main circuit board
<REC/PB SECTION>		
Q1,2	89-316-816-01	Transistor, 2SC1681 (BL)
Q3,4	89-312-222-01	Transistor, 2SC1222 (E)
Q5,6,7,8,9,10	89-309-456-71	Transistor, 2SC945L (K, P)
11,12		
Q13,14	89-313-647-01	Transistor, 2SC1364 (7)
D1,2	87-027-122-01	Zener diode, 02Z6.2A
D3,4,5,6	88-051-060-01	Diode, 1N60 (FM)
T1,2	82-370-610-01	Matching transformer
S1	87-031-390-01	Slide switch (REC/PB)
S2,3	82-397-641-01	Push switch ass'y (B) (INPUT SELECTOR, DOLBY-NR)
SFR1,2,3,4	87-021-498-01	Semi-fixed resistor, 47kΩ-B
SFR5,6	87-021-502-01	Semi-fixed resistor, 3.3kΩ-B
<Resistor>		
R27,28	82-380-664-01	31.6kΩ 1/4W ±2%
<Capacitors>		
C21,22	87-015-329-01	0.33μF 50V LL
C7,8,17,18	87-015-246-01	4.7μF 25V LL
C15,16	87-015-200-01	10μF 16V Tantalum
C23,24	82-380-661-01	0.0039μF PP
<PEAK INDICATOR SECTION>		
Q101,103	89-309-455-61	Transistor, 2SC945L (P, Q)
Q102,104	89-309-456-71	Transistor, 2SC945L (K, P)
D101,102	88-051-060-01	Diode, 1N60 (FM)
SFR101	87-021-497-01	Semi-fixed resistor, 22kΩ-B

Symbol No.	Part No.	Description
<MUTING SECTION>		
Q151,152,153	89-402-275-01	Transistor, 2SD227 (V)
154		
Q155	89-309-456-71	Transistor, 2SC945L (K, P)
D151	87-026-066-01	Diode, M8513A (O)
D152	88-052-188-11	Diode, 1S188 (FM)
《DOLBY CIRCUIT BOARD SECTION》		
PCB-C,D	82-385-650-11	Dolby circuit board
IC1	87-027-151-01	IC, NE545B
D1	88-051-060-01	Diode, 1N60 (FM)
LPF1	82-397-634-01	Low pass filter (MPX UNIT)
	87-032-640-01	Pin, 10p
<Resistor>		
R2	82-371-652-01	3.3kΩ ±1%
<Capacitors>		
C1	87-015-328-01	0.22μF 50V LL
C6	87-371-643-01	4700pF PP
C2	82-371-642-01	5600pF PP
C7	82-371-641-01	0.027μF PP
《BIAS/EQ SWITCH CIRCUIT BOARD SECTION》		
PCB-E	82-397-653-01	Bias/EQ switch circuit board
Q1~9	89-309-455-61	Transistor, 2SC945L (P, O)
D1	87-026-066-01	Diode, M8513A (O)
L1,2	82-385-636-01	Coil, 6.8mH
L3,4,5,6	82-385-634-01	Coil, 4.7mH
VR3,4	82-397-636-01	Volume 10kΩ-A (OUT PUT LEVEL)
S4,5	87-031-388-01	Lever switch (BIAS, EQ)
SFR1,2,3,4	87-021-498-01	Semi-fixed resistor, 47kΩ-B
5,6		
《MIC/PHONE JACK CIRCUIT BOARD SECTION》		
PCB-F	82-397-605-01	MIC/PHONE JACK circuit board
J1,2,3	82-397-639-01	Jack ass'y (MIC, PHONES)
《LINE JACK CIRCUIT BOARD SECTION》		
PCB-G	82-397-662-01	LINE JACK circuit board
J5,6,7,8,10	82-385-678-11	JACK ass'y (LINE IN, LINE OUT, DIN-REAR)
《REC VOLUME CIRCUIT BOARD SECTION》		
PCB-H	82-397-607-01	REC volume circuit board
VR1,2	82-385-640-01	Volume, 50kΩ-A (REC LEVEL)
《LH BIAS VOLUME CIRCUIT BOARD SECTION》		
PCB-I	82-397-608-01	LH bias volume circuit board
VR5	82-397-637-01	Volume, 1kΩ-B (LH BIAS FINE)
《HALL IC CIRCUIT BOARD SECTION》		
PCB-J	82-397-623-01	Hall IC circuit board
IC1	87-027-160-01	Hall IC, DN835
《DIN CIRCUIT BOARD SECTION》		
PCB-K	82-397-654-01	DIN circuit board
J4	82-380-616-01	DIN socket (DIN-FRONT)
S13	82-380-610-01	DIN switch (FRONT/REAR)

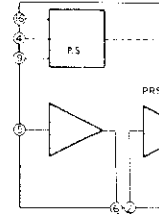
Symbol No.	Part No.	Description
《LAMP CIRCUIT BOARD SECTION》		
PCB-L	82-397-622-01	Lamp circuit board
PL1,2	82-380-705-01	Lamp 8V 55mA (DOLBY-NR, RECORD)
《LED CIRCUIT BOARD SECTION》		
PCB-M	82-397-624-01	LED circuit board
D1	87-026-086-01	Light emitting diode (ORG)
D2	87-026-083-01	Light emitting diode (RED)
《PLAY MUTING CIRCUIT BOARD SECTION》		
PCB-N	82-397-609-01	Play muting circuit board
S6	87-031-239-01	Slide switch (PLAY MUTING)
《FUSE CIRCUIT BOARD SECTION》 = UK model only		
PCB-O	82-397-650-01	Fuse circuit board
F1	87-035-131-01	Fuse, 100mA "T"
	87-098-006-01	Fuse label, 100mA "T"
F2	87-035-183-01	Fuse, 50mA "T"
	87-098-003-01	Fuse label, 50mA "T"
	87-032-744-01	Fuse clamp
S11	87-031-343-01	Slide switch (VOLTAGE SELECTOR)
《MISCELLANEOUS》		
T1	82-397-629-01	Power transformer (EE model only)
T1	82-399-613-01	Power transformer (UK model only)
RPH	82-372-676-01	Rec/Pb head
EH	87-046-088-11	Erase head
M, PCB-P	82-397-643-01	Motor ass'y
PL1	82-397-646-01	Pilot lamp 8V 50mA (CASSETTE)
SOL1,2	82-397-633-01	Solenoid (AUTO STOP, TIMER START)

Symbol No.	Part No.	Description
LM1,2	82-399-602-01	Level meter (LEFT LEVEL, RIGHT LEVEL)
J9	87-032-849-01	Jack 2.5φ (PLAYER SYNC)
S7,8,9	87-031-362-01	Micro switch (PAUSE, CUE/REVIEW MUTING, MOTOR)
S10	87-031-408-01	Push switch (POWER)
S11	87-031-364-01	Slide switch (VOLTAGE SELECTOR) (EE model only)
S12	82-467-671-01	Slide switch (DIN OUT)
S14	87-031-377-01	Micro switch (CrO ₂ AUTO)
F1	87-035-067-01	Fuse, 100mA "T" (EE model only)
	87-098-006-01	Fuse label, 100mA "T" (EE model only)
F2,3,4	87-035-144-01	Fuse, 250mA "T" (EE model only)
F3,4,5	87-035-145-01	Fuse, 250mA "T" (UK model only)
	87-098-010-01	Fuse label, 250mA "T"
F5	87-035-075-01	Fuse, 500mA "T" (EE model only)
	87-098-013-01	Fuse label, 500mA "T" (EE model only)
F6	87-035-134-01	Fuse, 500mA "T" (UK model only)
	87-098-013-01	Fuse label, 500mA "T" (UK model only)
	82-397-660-01	Fuse holder, 4P (UK model only)
	82-397-661-01	Fuse holder, 5P (EE model only)

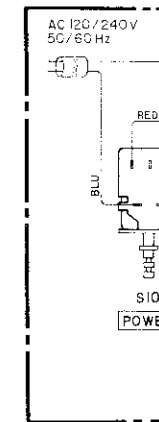
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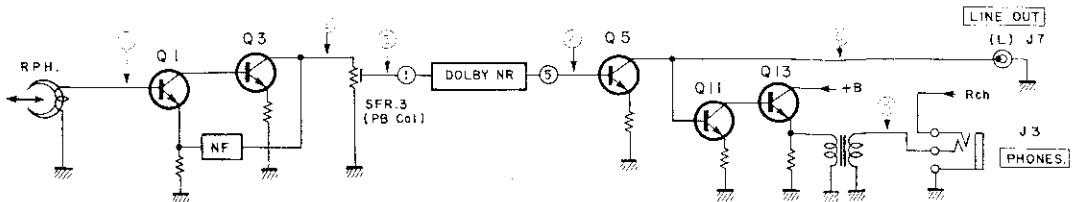
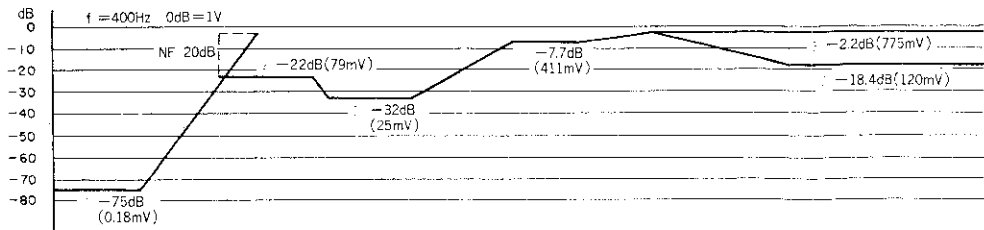


POWER CI

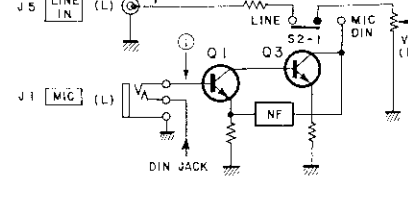
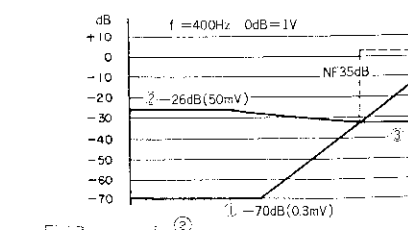


LEVEL DIAGRAM

- Playback



- Recording



Symbol No.	Part No.	Description
LM1,2	82-399-602-01	Level meter (LEFT LEVEL, RIGHT LEVEL)
J9	87-032-849-01	Jack 2.5 ϕ (PLAYER SYNC)
S7,8,9	87-031-362-01	Micro switch (PAUSE, CUE/REVIEW MUTING, MOTOR)
S10	87-031-408-01	Push switch (POWER)
S11	87-031-364-01	Slide switch (VOLTAGE SELECTOR) (EE model only)
S12	82-467-671-01	Slide switch (DIN OUT)
S14	87-031-377-01	Micro switch (CrO ₂ AUTO)
F1	87-035-067-01	Fuse, 100mA "T" (EE model only)
	87-098-006-01	Fuse label, 100mA "T" (EE model only)
F2,3,4	87-035-144-01	Fuse, 250mA "T" (EE model only)
F3,4,5	87-035-145-01	Fuse, 250mA "T" (UK model only)
	87-098-010-01	Fuse label, 250mA "T"
F5	87-035-075-01	Fuse, 500mA "T" (EE model only)
	87-098-013-01	Fuse label, 500mA "T" (EE model only)
F6	87-035-134-01	Fuse, 500mA "T" (UK model only)
	87-098-013-01	Fuse label, 500mA "T" (UK model only)
	82-397-660-01	Fuse holder, 4P (UK model only)
	82-397-661-01	Fuse holder, 5P (EE model only)

