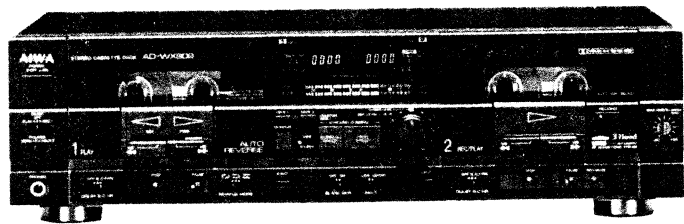


SERVICE MANUAL


MODEL NO. AD-WX909

- STEREO CASSETTE DECK
- TYPE. HB, UB, EB, KB, ZB
- BASIC MECHANISM: X-3 (1 DECK)
DM-28 (2 DECK)



SPECIFICATIONS

Type	Stereo cassette tape deck	Tape speed	4.8 cm/sec. (1-7/8 ips), 9.5 cm/sec (Double speed)
Track format	4 tracks, 2 channels	Recording system	AC bias (frequency 100 kHz)
Power supply	AD-WX909E, Z AC 220 V, 50/60 Hz AD-WX909K AC 240 V, 50/60 Hz AD-WX909U, AC 120 V, 60 Hz AD-WX909H AC 120 V/220 V/240 V switchable, 50/60 Hz	Erase system	AC erase
Power consumption	35 W	Motor	DC Servomotor × 2 DC Motor × 1
Frequency response	METAL tape: 10 – 20,000 Hz CrO ₂ tape: 10 – 19,000 Hz NORMAL tape: 10 – 17,000 Hz	Heads	Record head: × 1 Playback head: × 2 Erase head: × 1
Signal-to-noise ratio	75 dB (METAL tape DOLBY C NR ON)	Inputs	LINE IN/CD maximum input sensitivity: 50 mV (over 50 kΩ)
Wow and flutter	Deck ① 0.1% (According to DIN 45500) 0.055% (WRMS) Deck ② 0.09% (According to DIN 45500) 0.028% (WRMS)	Outputs	LINE OUT standard output level: 380 mV (0 VU); suitable load impedance: over 50 kΩ.
		Dimensions	430(W) × 126(H) × 316.5(D)mm
		Weight	6.2 kg

- Design and specifications are subject to change without notice.
- Noise reduction system manufactured under license from Dolby Laboratories Licensing Corporation.
- Dolby and the  symbol are trademarks of Dolby Laboratories Licensing Corporation.
- HX professional originated by BANG&OLUFSEN.

See the FX-D1 service manual for the IC pin Description and IC block diagram.

※ Please order the all parts for this model to Japan.

ELECTRICAL MAIN PARTS LIST

※ Please order the all parts for this model to Japan.

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
--- IC ---					
87-020-180	IC,BA6146		--- MAIN-1 CIRCUIT BOARD SECTION ---		
87-020-454	IC,DM6851		PCB-A	*	MAIN-1 CIRCUIT BOARD
82-202-621	IC,HD38702A39		C1	★ 87-018-119	CAP,CERA-SOL SS 100P
87-020-140	IC,L78M12		C2	★ 87-018-119	CAP,CERA-SOL SS 100P
			C3	★ 87-018-116	CAP,CERA-SOL SS 56P
87-020-261	IC,LA6358S		C4	★ 87-018-116	CAP,CERA-SOL SS 56P
82-200-616	IC,LC6520H-3279		C11	★ 87-010-135	CAP,ELECT BP 10-25
87-020-096	IC,M4066BP		C12	★ 87-010-135	CAP,ELECT BP 10-25
87-020-533	IC,M4069UBP		C13	★ 87-018-127	CAP,CERA-SOL SS 470P
87-020-679	IC,M4572BP		C14	★ 87-018-127	CAP,CERA-SOL SS 470P
87-027-895	IC,M5218L		C15	★ 87-018-131	CAP,CERA-SOL SS 1000P
87-027-909	IC,M54523P		C16	★ 87-018-131	CAP,CERA-SOL SS 1000P
87-020-680	IC,NJM2068S		C31	★ 87-018-119	CAP,CERA-SOL SS 100P
87-020-758	IC,NJM2068SD		C32	★ 87-018-119	CAP,CERA-SOL SS 100P
87-020-908	IC,NJU4066BD		C37	★ 87-010-135	CAP,ELECT BP 10-25
87-020-898	IC,M74HC42P		C38	★ 87-010-135	CAP,ELECT BP 10-25
87-027-937	IC,TC4030BP		C39	★ 87-018-131	CAP,CERA-SOL SS 1000P
--- TRANSISTOR ---					
87-026-214	TRANSISTOR,DTA114Y		C40	★ 87-018-131	CAP,CERA-SOL SS 1000P
89-109-521	TRANSISTOR,2SA952K		C41	★ 87-018-127	CAP,CERA-SOL SS 470P
89-110-155	TRANSISTOR,2SA1015GR		C42	★ 87-018-127	CAP,CERA-SOL SS 470P
89-318-155	TRANSISTOR,2SC1815GR		C101	★ 87-015-951	CAP,ELECT 1-50
89-320-011	TRANSISTOR,2SC2001K		C102	★ 87-015-951	CAP,ELECT 1-50
89-321-204	TRANSISTOR,2SC-2120Y		C103	★ 87-018-119	CAP,CERA-SOL SS 100P
89-322-406	TRANSISTOR,2SC2240BL		C104	★ 87-018-119	CAP,CERA-SOL SS 100P
89-411-110	TRANSISTOR,2SD11111		C105	★ 87-010-379	CAP,ELECT 22-16
89-412-753	TRANSISTOR,2SD1275		C106	★ 87-010-379	CAP,ELECT 22-16
89-412-763	TRANSISTOR,2SD1276QP		C107	★ 87-018-130	CAP,CERA-SOL 820P
89-413-023	TRANSISTOR,2SD13023		C108	★ 87-018-130	CAP,CERA-SOL 820P
			C109	★ 87-018-131	CAP,CERA-SOL SS 1000P
			C110	★ 87-018-131	CAP,CERA-SOL SS1000P
			C151	★ 87-010-379	CAP,ELECT 22-16SME
			C161	★ 87-010-379	CAP,ELECT 22-16SME

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
C162	★ 87-010-404	CAP,ELECT 4.7-50SME	L402	★ 87-003-051	COIL 470UH
C163	★ 87-010-404	CAP,ELECT 4.7-50SME	△ R405	★ 87-029-067	RES,FUSIBLE 4.7-1/4W
C164	★ 87-010-236	CAP,ELECT 1000-10S	RY401	87-045-270	RELAY G5A-297P
C181	★ 87-010-379	CAP,ELECT 22-16SME	SFR1	★ 87-021-735	SFR 220
C182	★ 87-010-236	CAP,ELECT 1000-10S	SFR2	★ 87-021-735	SFR 220
C201	★ 87-018-132	CAP,CERA-SOL SS 2200P	SFR3	★ 87-021-739	SFR 2.2K
C202	★ 87-018-132	CAP,CERA-SOL SS 2200P	SFR4	★ 87-021-739	SFR 2.2K
C204	★ 87-018-121	CAP,CERA-SOL SS 150P	SFR5	★ 87-021-738	SFR 1K
C205	★ 87-010-401	CAP,ELECT 1-50SME	SFR6	★ 87-021-738	SFR 1K
C206	★ 87-018-132	CAP,CERA-SOL SS 2200P	SFR31	★ 87-021-735	SFR 220
C208	★ 87-018-132	CAP,CERA-SOL SS 2200P	SFR32	★ 87-021-735	SFR 220
C209	★ 87-018-121	CAP,CERA-SOL SS 150P	SFR33	★ 87-021-739	SFR 2.2K
C210	★ 87-010-401	CAP,ELECT 1-50SME	SFR34	★ 87-021-739	SFR 2.2K
C211	★ 87-010-221	CAP,ELECT 470-6.3SME	--- MAIN-2 CIRCUIT BOARD SECTION ---		
C212	★ 87-018-005	CAP,CERA-CYL 4.7P	PCB-B	*	MAIN-2 CIRCUIT BOARD
C213	★ 87-018-005	CAP,CERA-CYL 4.7P	C502	★ 87-010-101	CAP,ELECT 220-16SME
C305	★ 87-018-119	CAP,CERA-SOL SS 100P	C506	★ 87-010-035	CAP,ELECT 2.2-50
C306	★ 87-018-119	CAP,CERA-SOL SS 100P	C507	★ 87-010-042	CAP,ELECT 47-25(10S)
C307	★ 87-010-379	CAP,ELECT 22-16SME	C508	★ 87-010-112	CAP,ELECT 100-16
C308	★ 87-010-379	CAP,ELECT 22-16SME	C509	★ 87-010-045	CAP,ELECT 100-25V(10S)
C309	★ 87-015-951	CAP,ELECT LL 1-50V	C510	★ 87-010-379	CAP,ELECT 22-16SME
C310	★ 87-015-951	CAP,ELECT LL 1-50V	C511	★ 87-010-383	CAP,ELECT 33-25SME
C331	★ 87-010-404	CAP,ELECT 4.7-50SME	C512	★ 87-010-235	CAP,ELECT 470-16
C355	★ 87-010-401	CAP,ELECT 1-50SME	C513	★ 87-010-398	CAP,ELECT 2200-35VSM
C356	★ 87-010-401	CAP,ELECT 1-50SME	C516	★ 87-010-048	CAP,ELECT 220-25(10S)
C401	★ 87-014-081	CAP,PP 0.01	C517	★ 87-010-237	CAP,ELECT 1000-16SME
C402	★ 87-010-378	CAP,ELECT 10-16SME	C519	★ 87-010-398	CAP,ELECT 2200-35SME
C407	★ 87-010-258	CAP,ELECT 22-35V SME	C1001	★ 87-018-122	CAP,CERA-SOL SS 180P
C408	★ 87-010-112	CAP,ELECT 100-16	C1003	★ 87-010-380	CAP,ELECT 47-16SME
C411	★ 87-018-047	CAP,CERA-SOL S 0.01Y-16	C1202	★ 87-010-380	CAP,ELECT 47-16SME
C503	★ 87-010-101	CAP,ELECT 220-16SME	C1203	★ 87-010-380	CAP,ELECT 47-16SME
C504	★ 87-010-101	CAP,ELECT 220-16SME	C1203	★ 87-010-380	CAP,ELECT 47-16SME
C505	★ 87-010-404	CAP,ELECT 4.7-50SME	C1301	★ 87-010-429	CAP,ELECT 680-16VSM
D101	87-027-475	DIODE,ZENER H26B1	C1302	★ 87-010-429	CAP,ELECT 680-16VSM
D201	87-020-691	DIODE 1S5132	C1401	★ 87-010-380	CAP,ELECT 47-16SME
D202	87-020-691	DIODE 1S5132	C1402	★ 87-010-380	CAP,ELECT 47-16SME
D203	87-020-691	DIODE 1S5132	D351	87-020-691	DIODE 1S5132
D204	87-020-691	DIODE 1S5132	D502	87-020-691	DIODE 1S5132
D205	87-027-286	DIODE,ZENER H25C1	D503	87-020-691	DIODE 1S5132
D301	87-027-633	DIODE,ZENER H29A2	D504	87-020-691	DIODE 1S5132
D302	87-052-188	DIODE 1S188FM	D505	87-027-365	DIODE S5277B
D401	87-020-691	DIODE 1S5132	D506	87-027-365	DIODE S5277B
D402	87-020-691	DIODE 1S5132	D507	87-020-025	DIODE 2B4841,LC-2
D403	87-020-691	DIODE 1S5132	D1001	87-020-691	DIODE 1S5132
D404	87-020-123	DIODE DS446	D1002	87-020-691	DIODE 1S5132
D405	87-020-691	DIODE 1S5132	D1005	87-020-691	DIODE 1S5132
D407	87-020-691	DIODE 1S5132	D1006	87-020-691	DIODE 1S5132
D408	87-020-691	DIODE 1S5132	D1007	87-020-691	DIODE 1S5132
J451-1	87-049-420	PIN JACK 4P-14,K (LINE OUT L D1)	D1008	87-020-691	DIODE 1S5132
J451-2	+++	PIN JACK 4P-14,K (LINE OUT R D1)	D1012	87-027-514	DIODE,ZENER H26B2
J451-3	+++	PIN JACK 4P-14,K (CD/DAT L)	D1013	87-020-691	DIODE 1S5132
J451-4	+++	PIN JACK 4P-14,K (CD/DAT R)	D1014	87-027-514	DIODE,ZENER H26B2
J452-1	87-049-420	PIN JACK 4P-14 (LINE OUT L D2)	D1015	87-020-691	DIODE 1S5132
J452-2	+++	PIN JACK 4P-14 (LINE OUT R D2)	D1016	87-020-691	DIODE 1S5132
J452-3	+++	PIN JACK 4P-14 (LINE IN L D2)	D1101	87-020-691	DIODE 1S5132
J452-4	+++	PIN JACK 4P-14 (LINE IN R D2)	D1301	87-020-123	DIODE DS446
L1	★ 82-202-665	COIL TRAP 100K	D1302	87-020-123	DIODE DS446
L2	★ 82-202-665	COIL TRAP 100K	D1401	87-020-691	DIODE 1S5132
L51	★ 82-202-616	FILTER,LP 100X2	D1402	87-020-691	DIODE 1S5132
L52	★ +++	FILTER,LP 100X2	D1601	87-020-691	DIODE 1S5132
L101	82-217-602	FILTER,42W-5012-12	D1602	87-020-691	DIODE 1S5132
L301	★ 82-196-603	COIL TRAP 100K	D1603	87-020-691	DIODE 1S5132
L302	★ 82-196-603	COIL TRAP 100K	D1604	87-020-691	DIODE 1S5132
L401	★ 82-200-628	COIL OSC 100KH			

※ Please order the all parts for this model to Japan.

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
D1605	87-020-691	DIODE 1SS132	C266	* 87-010-545	CAP,ELECT 0.22-50SME
D1606	87-020-691	DIODE 1SS132	D261	87-020-691	DIODE 1SS132
D1607	87-020-691	DIODE 1SS132	VR401	82-202-623	VOLUME 250KB(DZ BIAS FINE NOR./CO)
D1608	87-020-691	DIODE 1SS132			
--- DISPLAY CIRCUIT BOARD SECTION ---					
D1609	87-020-691	DIODE 1SS132	PCB-E	*	DISPLAY CIRCUIT BOARD
D1610	87-020-691	DIODE 1SS132	C351	* 87-010-265	CAP,ELECT 33-16V (USL)
D1611	87-020-691	DIODE 1SS132	C352	* 87-010-265	CAP,ELECT 33-16V (USL)
D1612	87-020-691	DIODE 1SS132	C1901	* 87-018-119	CAP,CERA-SOL SS 100P
D1614	87-020-691	DIODE 1SS132	D1817	87-020-691	DIODE 1SS132
D1615	87-020-691	DIODE 1SS132	D1818	87-020-691	DIODE 1SS132
D1701	87-020-691	DIODE 1SS132	D1901	87-027-393	DIODE,ZENER HZ42C
D1702	87-020-691	DIODE 1SS132	FL1901	82-217-603	FL,FG116P9 (COUNTER)
D1703	87-020-691	DIODE 1SS132	FL1902	81-199-635	FL,BG-232ZK 1ZDOT (PEAK PROGRAM LEVEL METER)
D1704	87-020-691	DIODE 1SS132	LED367	87-027-542	LED,LN217RP (D1 DOLBY NR C)
△F2	87-035-331	FUSE,GHS-1.25A (U ONLY)	LED368	87-027-543	LED,LN317GP (D1 DOLBY NR B)
L1001	* 82-202-624	COIL OSC LC6520H	LED369	87-027-542	LED,LN217RP (D2 DOLBY NR C)
R523	* 87-025-440	RES,MFO 1W-330	LED370	87-027-543	LED,LN317GP (D2 DOLBY NR B)
R524	* 87-025-440	RES,MFO 1W-330	LED401	87-027-637	LED,TLG226 (DZ ADMS)
R1014	* 82-202-652	RES,ARRAY 47KX9P	LED1811	87-001-138	LED,SLP481C50,Y (SOURCE)
R1015	* +++	RES,ARRAY 47KX9P	LED1812	87-001-122	LED,SLP381C50,G (TAPE)
R1028	* +++	RES,ARRAY 47KX9P	LED1813	87-001-137	LED,SLP981C50,R (SYNC DUB,NORM)
R1029	* +++	RES,ARRAY 47KX9P	LED1814	87-001-137	LED,SLP981C50,R (SYNC DUB,HIGH)
R1030	* +++	RES,ARRAY 47KX9P	R358	* 87-025-081	REG,MFO 2W-150
R1031	* +++	RES,ARRAY 47KX9P	S1817	87-031-893	TACT SW (SYNC DUB,NORM)
R1032	* +++	RES,ARRAY 47KX9P	S1818	87-031-893	TACT SW (SYNC DUB,HIGH)
R1033	* +++	RES,ARRAY 47KX9P	S1819	87-031-893	TACT SW (MONITOR)
R1020	* 82-202-654	RES,ARRAY 10KX9P	S1820	87-031-893	TACT SW (D1 COUNTER RESET)
R1021	* +++	RES,ARRAY 10KX9P	S1829	87-031-893	TACT SW (D2 COUNTER RESET)
R1022	* +++	RES,ARRAY 10KX9P			
R1023	* +++	RES,ARRAY 10KX9P			
R1024	* +++	RES,ARRAY 10KX9P			
R1025	* +++	RES,ARRAY 10KX9P			
R1026	* +++	RES,ARRAY 10KX9P			
R1027	* +++	RES,ARRAY 10KX9P			
R1034	* 82-202-653	RES,ARRAY 47KX8P			
R1035	* +++	RES,ARRAY 47KX8P			
R1036	* +++	RES,ARRAY 47KX8P			
R1037	* +++	RES,ARRAY 47KX8P			
R1038	* +++	RES,ARRAY 47KX8P			
R1039	* +++	RES,ARRAY 47KX8P			
R1040	* +++	RES,ARRAY 47KX8P			
R1044	* 82-202-632	RES,ARRAY 4.7KX5P			
R1045	* +++	RES,ARRAY 4.7KX5P			
R1046	* +++	RES,ARRAY 4.7KX5P			
R1047	* +++	RES,ARRAY 4.7KX5P			
R1301	* 87-025-437	RES,MFO 82-1W			
R1304	* 87-025-437	RES,MFO 82-1W			
SFR1401	* 87-021-864	SFR 10K			
SFR1402	* 87-021-865	SFR 22K			
--- H.P.AMP CIRCUIT BOARD SECTION ---					
PCB-C	*	H.P.AMP CIRCUIT BOARD	C920	* 87-010-382	CAP,ELECT 22-25SME
C251	* 87-010-401	CAP,ELECT 1-50SME	D901	87-020-156	DIODE MC931
C252	* 87-010-401	CAP,ELECT 1-50SME	D902	87-020-156	DIODE MC931
C253	* 87-010-401	CAP,ELECT 1-50SME	D903	87-027-026	DIODE,ZENER HZ-5C1
C254	* 87-010-401	CAP,ELECT 1-50SME	L61	* 82-196-603	COIL TRAP 100K
C255	* 87-010-235	CAP,ELECT 470-16	L62	* 82-196-603	COIL TRAP 100K
C257	* 87-010-101	CAP,ELECT 220-16SME	L63	* 87-003-129	COIL 6.8MHJ
C258	* 87-010-101	CAP,ELECT 220-16SME	L64	* 87-003-129	COIL 6.8MHJ
--- METER CONTROL CIRCUIT BOARD SECTION ---					
PCB-D	*	METER CONTROL CIRCUIT BOARD	L65	* 87-003-125	COIL 3.3MHJ
C265	* 87-010-545	CAP,ELECT 0.22-50SME	L66	* 87-003-125	COIL 3.3MHJ
			L901	* 82-202-619	COIL HX 100K,AM
			L902	* 82-202-619	COIL HX 100K,AM

※ Please order the all parts for this model to Japan.

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
SFR61	* 87-021-864	SFR 10K	S101	87-036-033	SLIDE SW (INPUT)
SFR62	* 87-021-864	SFR 10K	S1820	87-036-033	SLIDE SW (BLANK SKIP)
SFR901	* 87-021-868	SFR 100K			
SFR902	* 87-021-868	SFR 100K			
--- SWITCH-4 CIRCUIT BOARD SECTION ---					
PCB-L	*	SWITCH-4 CIRCUIT BOARD	D1825	87-020-691	DIODE,1SS132
D1825	87-020-691	DIODE,1SS132	S1825	82-191-657	SLIDE SW (TIMER)
S1825	82-191-657	SLIDE SW (PHONES)			
--- KEY SWITCH-1 CIRCUIT BOARD SECTION ---					
PCB-G	*	KEY SWITCH-1 CIRCUIT BOARD			
D1801	87-020-691	DIODE 1SS132			
D1803	87-020-691	DIODE 1SS132			
D1805	87-020-691	DIODE 1SS132			
D1807	87-020-691	DIODE 1SS132			
LED371	87-001-122	LED,SLP381C50,G (D1 DIRECT▶)	△PCB-M	*	POWER SWITCH CIRCUIT BOARD
LED372	87-001-122	LED,SLP381C50,G (D1 DIRECT◀)	△C521	87-019-110	SPARK KILLER,0.01 (H ONLY)
LED1804	87-001-122	LED,SLP381C50,G (D1 PLAY)	△C521	87-019-112	SPARK KILLER,0.001 (U,E,K,Z ONLY)
			△S1	87-036-115	PUSH SW (POWER)
LED1805	87-001-122	LED,SLP381C50,G (D1 REV PLAY)			
S1801	87-031-893	TACT SW (D1 MS ◀◀)			
S1803	87-031-893	TACT SW (D1 REV▶)			
S1805	87-031-893	TACT SW (D1 FWD▶)			
S1807	87-031-893	TACT SW (D1 MS ▶▶)			
--- VOLUME-1 CIRCUIT BOARD SECTION ---					
PCB-N	*	VOLUME-1 CIRCUIT BOARD			
D102	88-052-188	DIODE,1SS188FM			
VR301	82-217-604	VOLUME,10KX2 (REC LEVEL)			
--- VOLUME-2 CIRCUIT BOARD SECTION ---					
PCB-O	*	VOLUME-2 CIRCUIT BOARD			
VR401	82-202-623	VOLUME,250KB (BIAS FINE)			
--- H.P.JACK CIRCUIT BOARD SECTION ---					
PCB-P	*	H.P.JACK CIRCUIT BOARD			
J251	87-049-827	JACK (PHONES)			
--- RELAY CIRCUIT BOARD SECTION ---					
PCB-Q	*	RELAY CIRCUIT BOARD			
D1819	87-020-691	DIODE,1SS132			
--- TR CIRCUIT BOARD SECTION ---					
PCB-R	*	TR CIRCUIT BOARD			
--- FUSE CIRCUIT BOARD SECTION ---					
△PCB-S	*	FUSE CIRCUIT BOARD			
△F1	87-033-147	FUSE CLAMP			
△F1	87-035-356	FUSE,1250MMA (E,K,Z ONLY)			
△F1	87-035-294	FUSE,500MMA (U ONLY)			
△F1	87-035-249	FUSE,1A (H ONLY)			
--- DECK CIRCUIT BOARD SECTION ---					
PCB-T	*	DECK CIRCUIT BOARD (D1)			
S1102	87-036-039	PUSH SW D2A2120-4 (CO,D1)			
S1103	87-036-040	PUSH SW D2A2110-3 (CAST,D1)			
S1106	87-036-039	PUSH SW D2A2120-4 (DIRE,D1)			
SFR110	* 87-021-966	SFR 4.7K			
SFR110	* 87-021-966	SFR 4.7K			
SOL110	86-535-611	SOLENOID X-3 (PLAY,D1)			
SOL110	86-535-612	SOLENOID X-3 (FR,D1)			
--- SENSOR CIRCUIT BOARD SECTION ---					
PCB-U	*	SENSOR CIRCUIT BOARD (D1)			
CP1101	87-020-755	PHOTO SENSOR SPI-900-0102(D1)			
--- AUTO STOP CIRCUIT BOARD SECTION ---					
PCB-V	*	AUTO STOP CIRCUIT BOARD (D2)			
CP1151	87-027-644	PHOTO SENSOR NJL-5141EA			
--- DOLBY NR-1 CIRCUIT BOARD SECTION ---					
PCB-K	*	SWITCH-3 CIRCUIT BOARD			
D1820	87-020-691	DIODE,1SS132			
			87-030-114		DOLBY UNIT HA12088GN (W/PCB-W)

* Please order the all parts for
this model to Japan

Ref. No.	Part No.	Description
=== DOLBY NR-2 CIRCUIT BOARD SECTION ===		
	87-030-114	DOLBY UNIT HA12088GN (W/PCB-X)
=== DOLBY NR-3 CIRCUIT BOARD SECTION ===		
	87-030-114	DOLBY UNIT HA12088GN (W/PCB-Y)
=== MISCELLANEOUS ===		
△	* 87-034-732	AC CORD (H ONLY)
△	* 87-034-731	AC CORD (U ONLY)
△	* 82-034-736	AC CORD (E,Z ONLY)
△	* 87-034-734	AC CORD (K ONLY)
△	* 87-085-184	AC CORD BUSHING (H ONLY)
△	* 87-085-189	AC CORD BUSHING (U ONLY)
△	* 87-085-185	AC CORD BUSHING (E,K,Z ONLY)
CON2	* 82-200-623	CONNECTOR 9P ASSY RH-EH
CON3	* 82-200-621	CONNECTOR 6P ASSY PH
EH	* 87-046-288	E HEAD (D2)
LED501*	87-027-944	LED SLF-301C (D1 LIGHT)
LED502*	87-027-944	LED,SLF-301C (D2 LIGHT)
M1101	87-045-235	MOTOR MMA6B2LW (D1)
M1151	81-505-604	REEL MOTOR (D2)
M1152	87-045-235	MOTOR MMA6B2LW (D2)
PH	87-046-297	PB HEAD (D1)
RPH	87-046-194	RP HEAD HADKH27001 (D2)
△SW1	87-031-586	ROTARY SW (AC VOLT.) (H ONLY)
S1152	81-505-601	LEAF SW GEAR CAM (PLAY,D2)
S1153	81-505-601	LEAF SW GEAR CAM (PAUSE,D2)
S1154	81-505-607	LEAF SW (CAST,D2)
S1155	81-505-607	LEAF SW (ENA A,D2)
S1157	81-505-607	LEAF SW (MT,D2)
S1158	81-505-607	LEAF SW (CO,D2)
SOL115	81-505-603	SOLENOID 9ME-A (PLAY,D2)
SOL115	81-505-603	SOLENOID 9ME-A (PAUSE,D2)
△TS01	* 82-104-648	POWER TRANSFORMER (H ONLY)
△TS01	* 82-104-645	POWER TRANSFORMER (U ONLY)
△TS01	* 82-104-646	POWER TRANSFORMER (E,Z ONLY)
△TS01	* 82-104-647	POWER TRANSFORMER (K ONLY)

Combination circuit board C 86-535-601

PCB-T 86-535-602

PCB-U 86-535-603



2SD1275
2SD1276



DTA114



2SA952
2SA1015
2SC1815
2SC2001
2SC2120
2SC2240
2SD1111
2SD1302

Combination circuit board A 82-217-605

PCB-A 82-217-606

PCB-B 82-217-607

PCB-C 82-217-609

PCB-D 82-217-610

PCB-R 82-217-608

Combination circuit board B 82-217-611

PCB-E 82-217-620

PCB-F 82-217-623

PCB-G 82-217-612

PCB-H 82-217-613

PCB-I 82-217-615

PCB-J 82-217-616

PCB-K 82-217-614

PCB-L 82-217-617

PCB-M 82-217-618

PCB-N 82-217-621

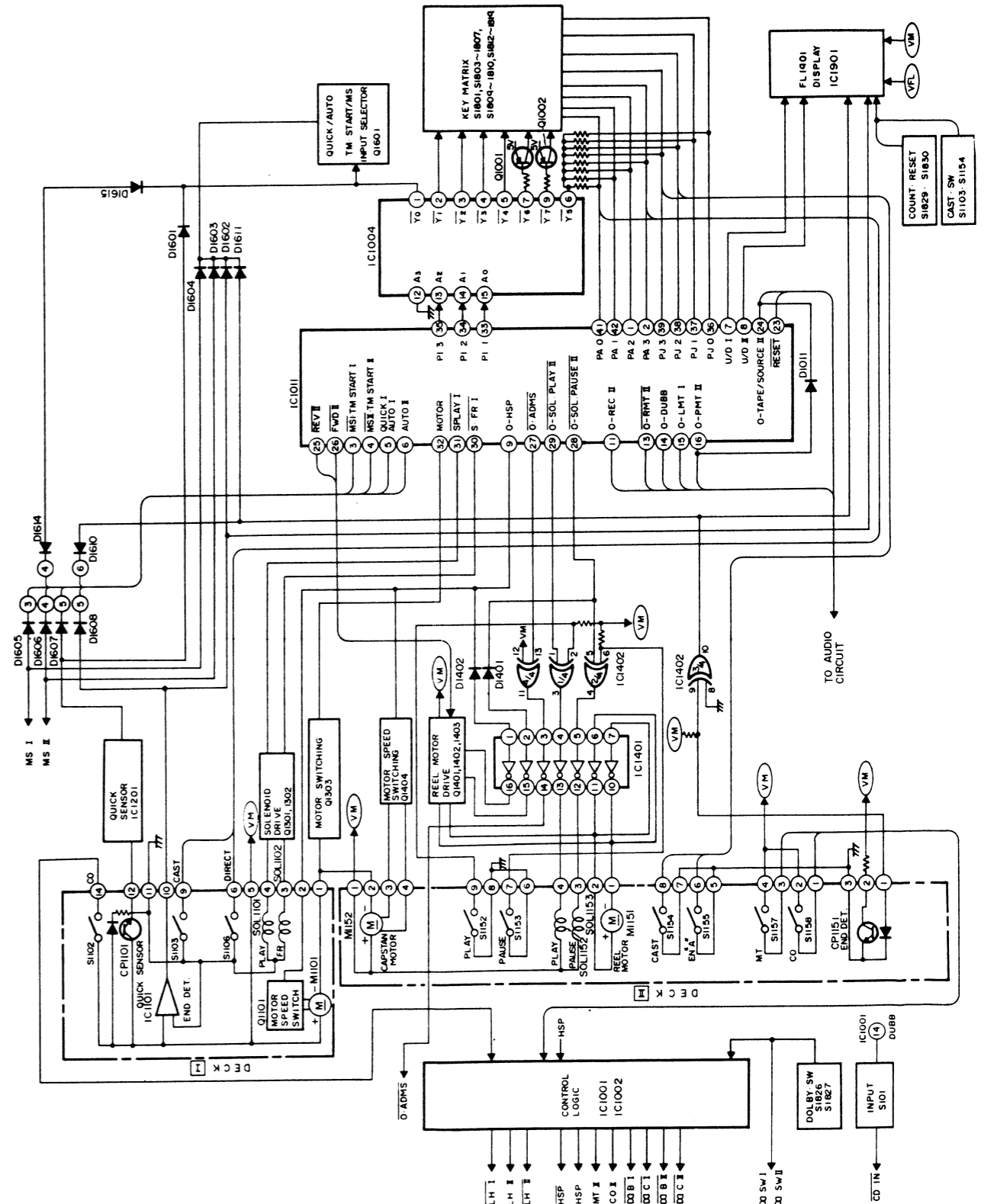
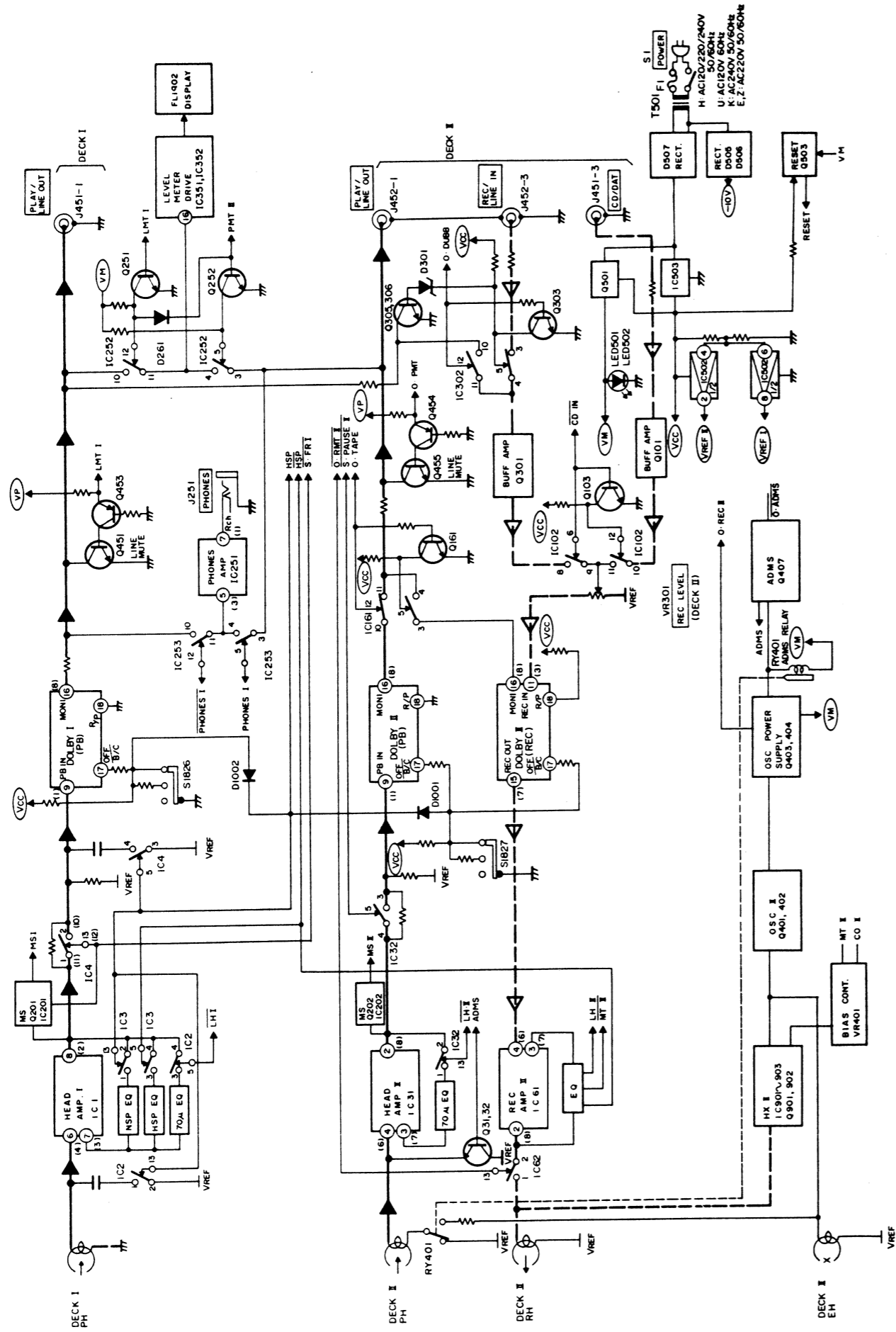
PCB-O 82-217-622

PCB-P 82-217-619

PCB-Q 82-217-640

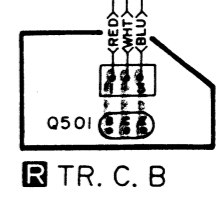
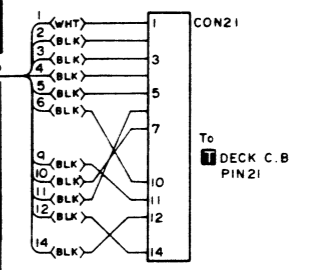
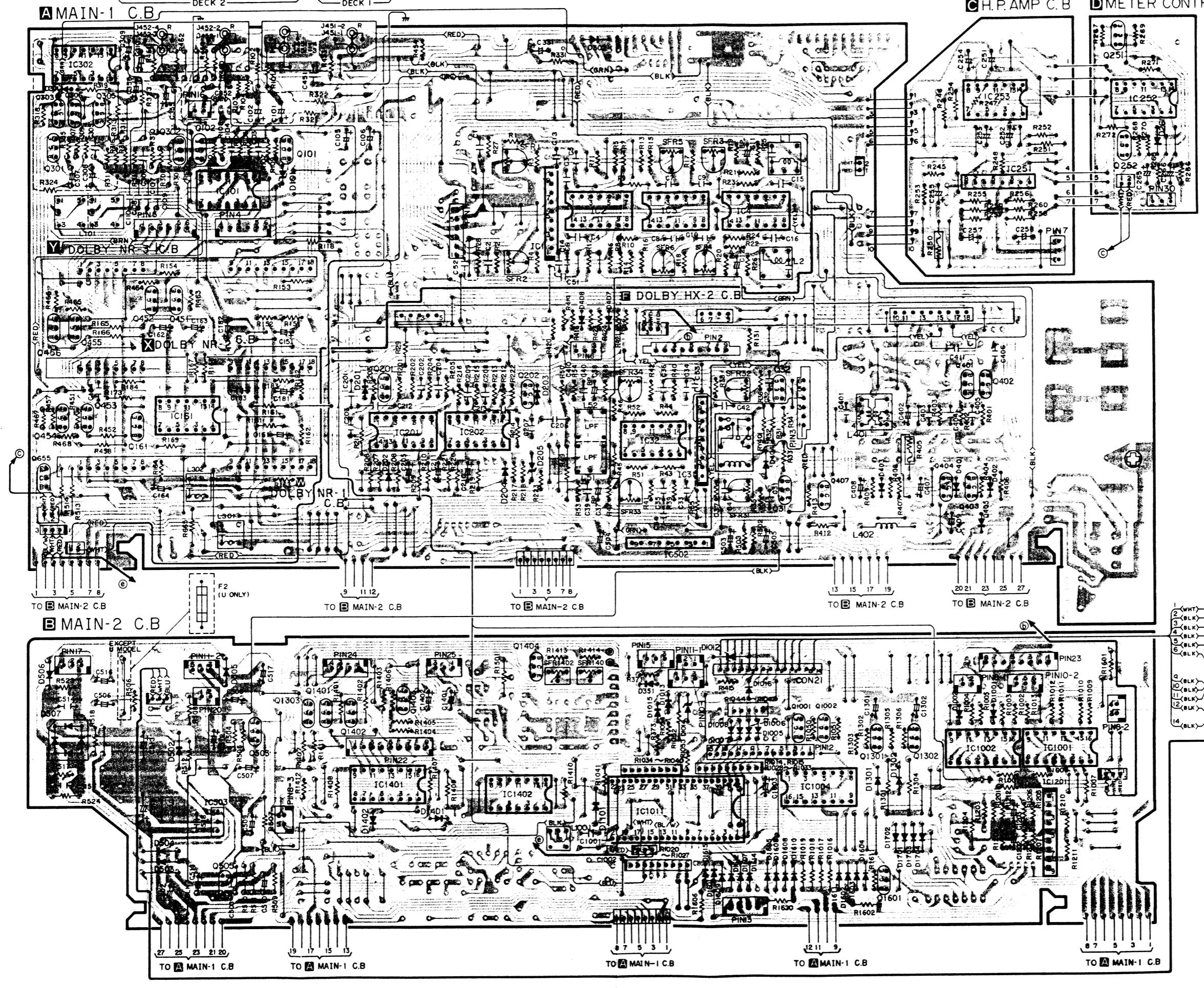
PCB-S 82-217-624

BLOCK DIAGRAM

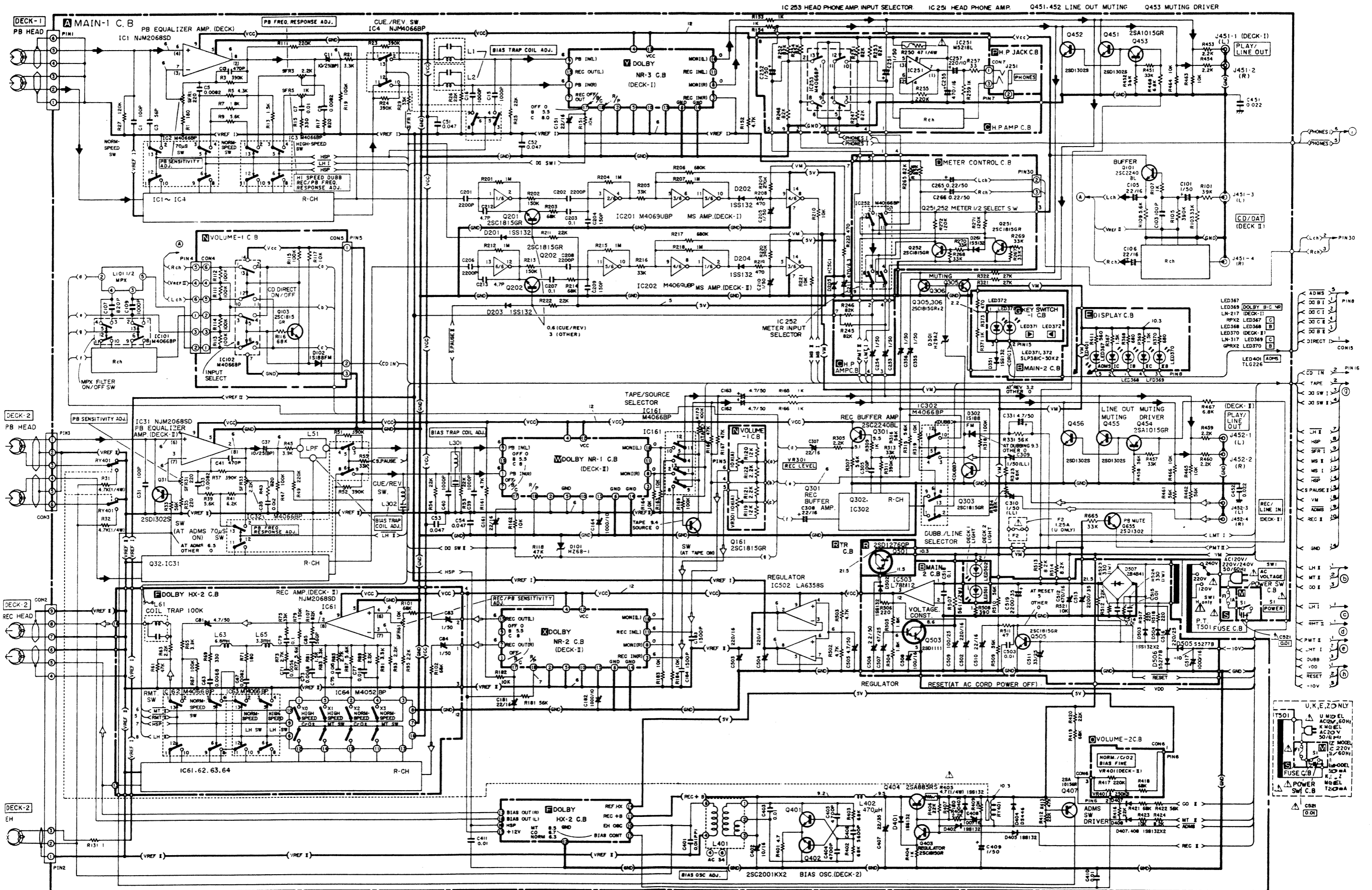


J452-3,4 REC/LINE IN DECK 2
J452-1,2 PLAY/LINE OUT DECK 2
J451-3,4 CD/DTA
J451-1,2 PLAY/LINE OUT DECK 1

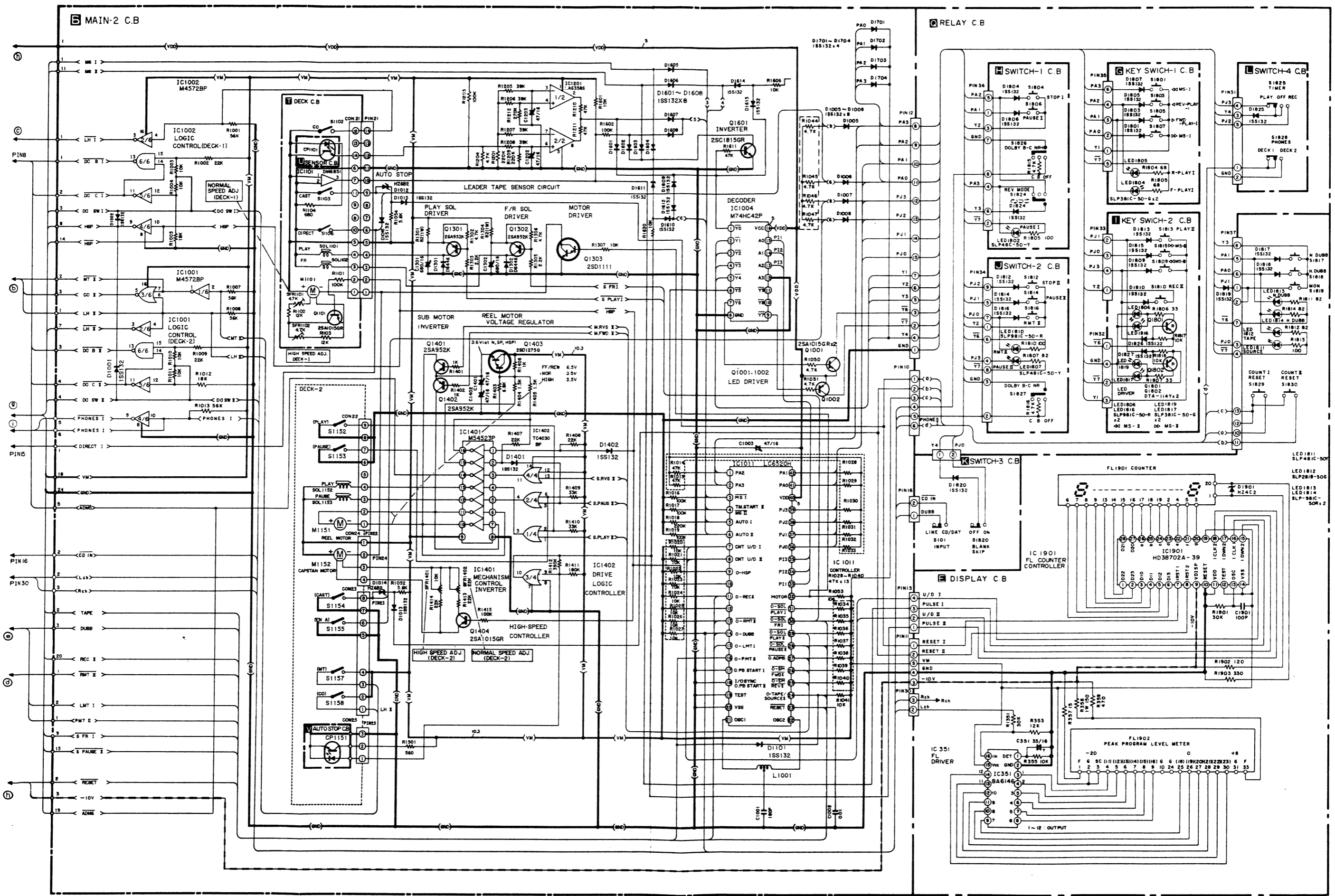
C H.P. AMP C.B
D METER CONTROL C.B



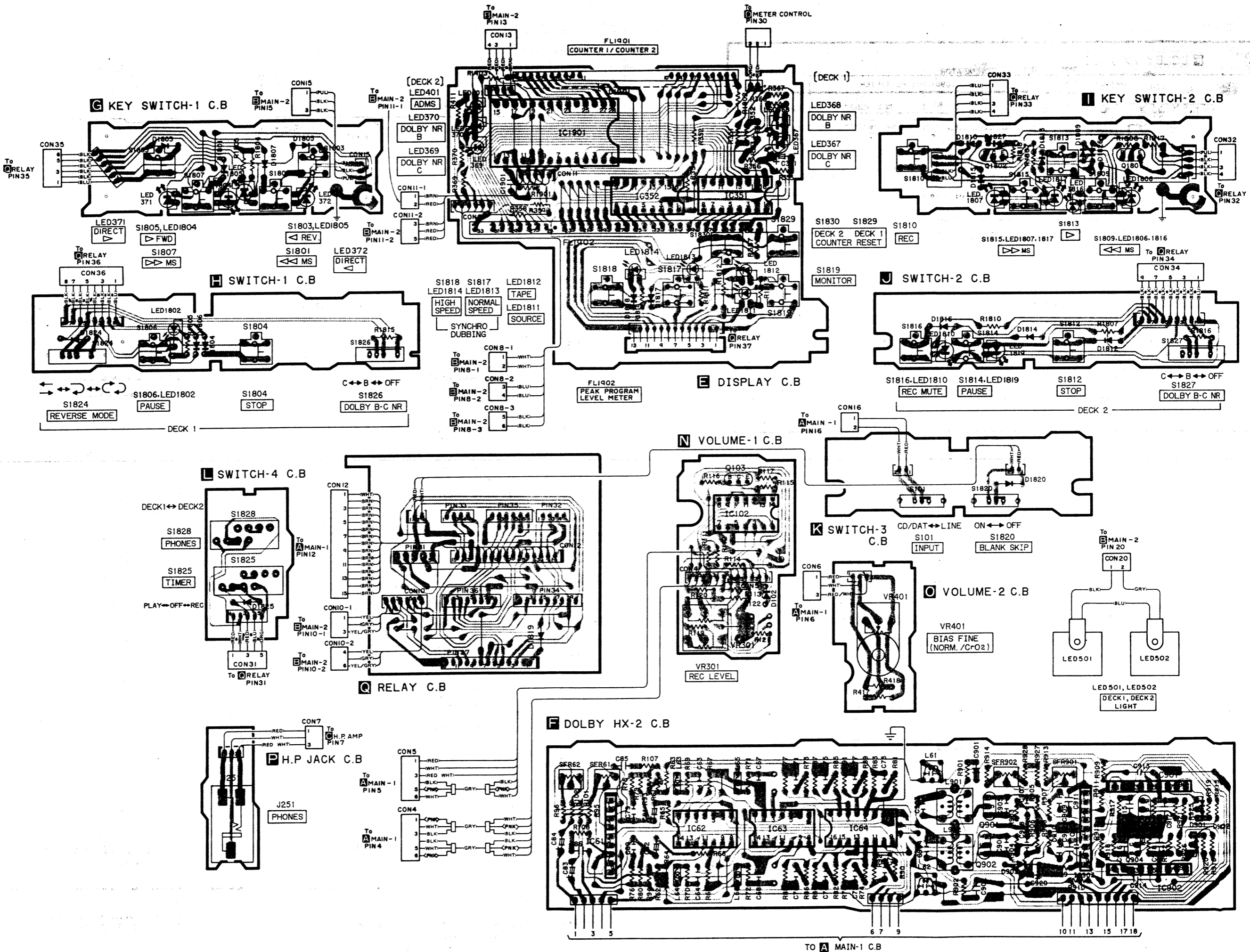
SCHEMATIC DIAGRAM-1

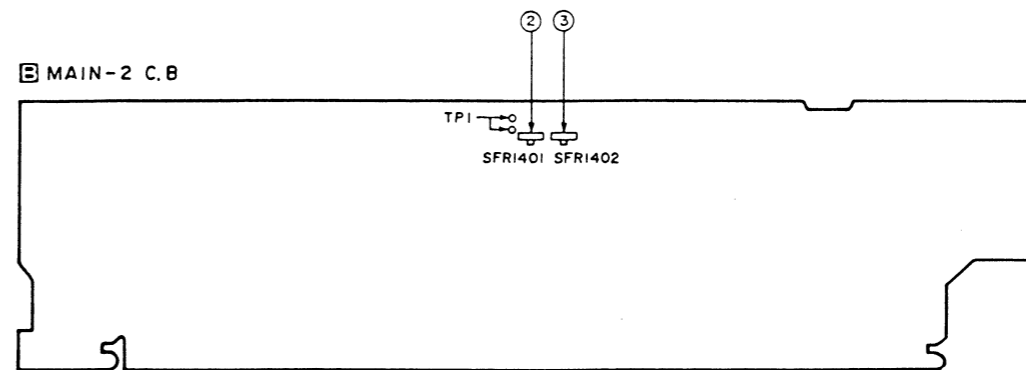
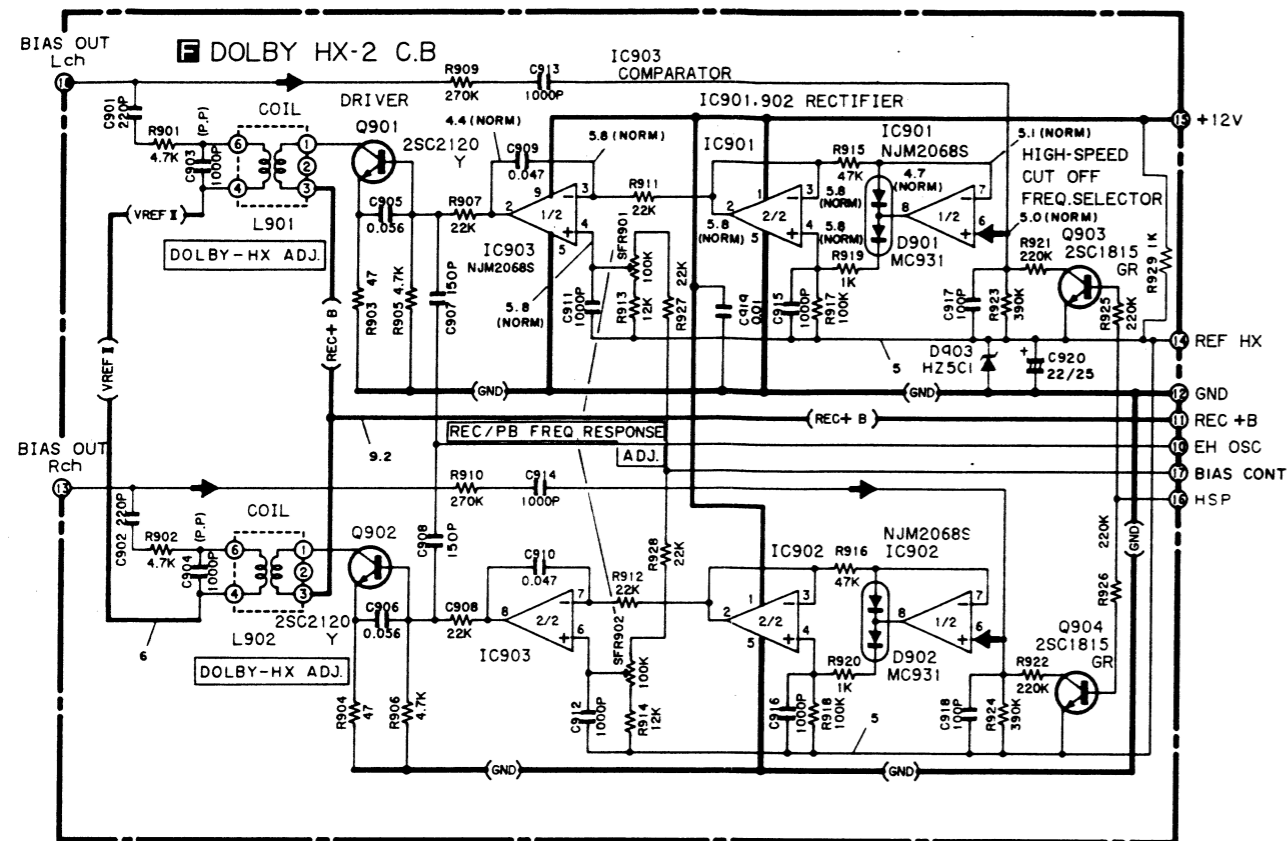


SCHEMATIC DIAGRAM-2

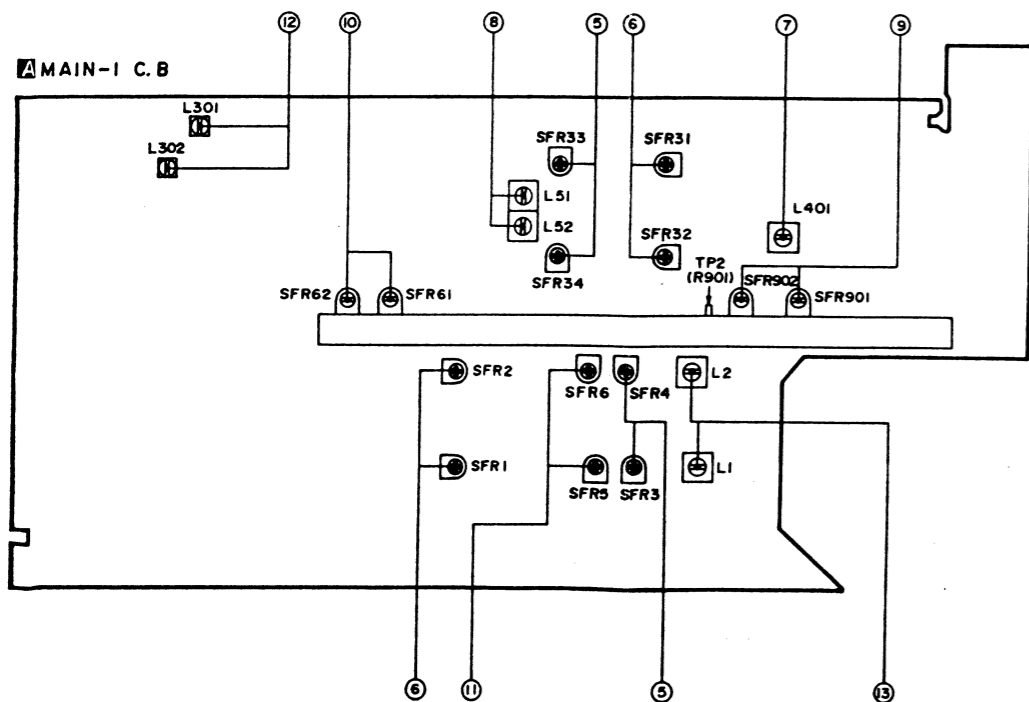


A
B
C
D
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F
G
H
I
J
K



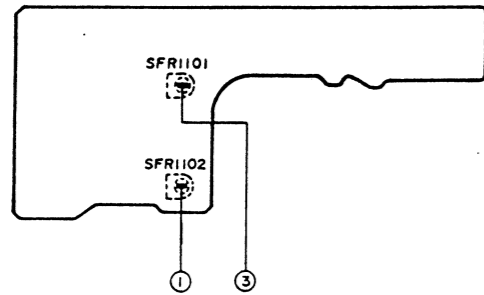


ADJUSTMENT



1. High Speed Adjustment (DECK-1)
 Settings : • Test tape : TTA-111H
 • Test point : LINE OUT
 • Adjustment location : SFR 1102
 Method : Set up the high speed condition.
 Adjust for 3kHz.
2. High Speed Adjustment (DECK-2)
 Settings : • Test tape : TTA-111H
 • Test point : LINE OUT
 • Adjustment location : SFR 1401
 Method : Make pins of TPI shorted to set up the high speed condition. Then play back the test tape. Adjust for 3kHz.
3. Normal Speed Adjustment (DECK-1, DECK-2)
 Settings : • Test tape : TTA-111S
 • Test point : LINE OUT
 • Adjustment location : SFR 1101 (DECK-1)
 SFR 1402 (DECK-2)
 Method : Play back the test tape, adjust for 3kHz.
4. Head Azimuth Adjustment (DECK-1, DECK-2)
 Settings : • Test tape : TTA-317H
 • Test point : LINE OUT
 • Adjustment location : Head azimuth adjustment screw
 Method : Play back the 10kHz signal of the test tape, and adjust for maximum output.
5. PB Frequency Response Adjustment (DECK-1, DECK-2)
 Settings : • Test tape : TTA-317H
 • Test point : LINE OUT
 • DOLBY NR switch : OFF
 • Adjustment location : SFR 3 (DECK-1, Lch)
 SFR 4 (DECK-1, Rch)
 SFR 38 (DECK-2, Lch)
 SFR 34 (DECK-2, Rch)
 Method : Play back the test tape, and adjust so that 10kHz signal becomes $1 \pm 0.5\text{dB}$ against 1kHz signal.
6. PB Sensitivity Adjustment (DECK-1, DECK-2)
 Settings : • Test tape : TTA-161
 • Test point : LINE OUT
 • DOLBY NR switch : OFF
 • Adjustment location : SFR 1 (DECK-1, Lch)
 SFR 2 (DECK-1, Rch)
 SFR 31 (DECK-2, Lch)
 SFR 32 (DECK-2, Rch)
 Method : Play back the test tape, and adjust for $560\text{mV} \pm 0.5\text{dB}$.
7. REC OSC Frequency Adjustment (DECK-2)
 Settings : • Test tape : TTA-119K
 • Test point : TP2
 • Adjustment location : L 401
 Method : Set in REC mode and adjust for $100\text{kHz} \pm 1\text{kHz}$
8. Bias OSC Trap Coil Adjustment (DECK-2)
 Settings : • Test tape : NORM. CASSETTE removed tape.
 • Test point : LINE OUT
 • TAPE MONITOR switch : TAPE
 • Adjustment location : L 51 (Lch)
 L 52 (Rch)
 Method : Set the DECK-2 in REC mode. Adjust for minimum level of the bias leakage.
9. REC/PB Frequency Response Adjustment (DECK-2)
 Settings : • Test tape : TTA-119H
 • Test point : LINE OUT
 • Input signal : 1kHz, -20dB (41mV)
 10kHz, -20dB (41mV)
 • REC VR : Center click point.
 • DOLBY NR switch : OFF
 • Adjustment location : SFR 901 (Lch)
 SFR 902 (Rch)
 Method : Record the 1kHz and 10kHz signals, then play back the two signals and adjust so that 10kHz signal becomes higher of $0.5 \pm 0.5\text{dB}$ than 1kHz signal.

DECK C. B (DECK-1)



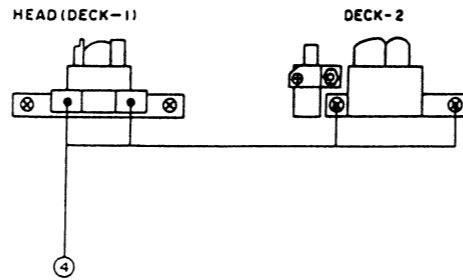
10. REC/PB Sensitivity Adjustment (DECK-2)
 Settings : • Test tape : TTA-119H
 • Test point : LINE OUT
 • DOLBY NR switch : OFF
 • Adjustment location : SFR 61 (Lch)
 SFR 62 (Rch)
 Method : Record the 1 kHz signal, then play back the signal, and adjust for 0 ± 0.5 dB.

11. High Speed Dubbing REC/PB Frequency Response Adjustment
 Settings : Test tape : TTA-317H (DECK-1)
 TTA-119M (DECK-2)
 • Test point : LINE OUT
 • Adjustment location : SFR 5 (Lch)
 SFR 6 (Rch)
 Method : Record in high speed dubbing mode, then play back the signal and adjust so that 10kHz signal becomes 0 ± 1 dB against 1kHz signal.

12. Dolby "C" NR Bias OSC Trap Coil Adjustment
 Settings : • Test tape : TTA-119K
 • Test point : LINE OUT
 • TAPE MONITOR switch : TAPE

PRACTICAL SERVICE FIGURE

Wow & flutter : Less than 0.065% (DECK1)
 Less than 0.046% (DECK2) (FWD./REV.)
 Pinch roller pressure : 290 ± 70 g (DECK1)
 $(2.84 \pm 0.69$ N)
 350 ± 30 g (DECK2)
 $(3.43 \pm 0.3$ N)
 Take-up torque : $30 \sim 60$ g-cm (DECK1)
 $(0.29 \sim 0.59$ mN·m)
 35 ± 6 g-cm (DECK2)
 $(0.34 \pm 0.06$ mN·m)
 F. F & REW torque : 130 ± 30 g-cm (DECK1)
 $(1.27 \pm 0.29$ mN·m)
 150 ± 30 g-cm (DECK2)
 $(1.47 \pm 0.29$ mN·m)
 Back tension : $2.5 \sim 5.5$ g-cm (DECK1)
 $(0.025 \pm 0.054$ mN·m)
 5 ± 1 g-cm (DECK2)
 $(0.05 \pm 0.001$ mN·m)
 PB output level : 500 ± 50 mV (TTA-161)



• Input signal : 300 Hz. -20dB (41mV)
 • DOLBY NR switch : "C"
 • Adjustment location : L 301 (L-ch)
 L 51 (L-ch)
 L 302 (R-ch)
 L 52 (R-ch)

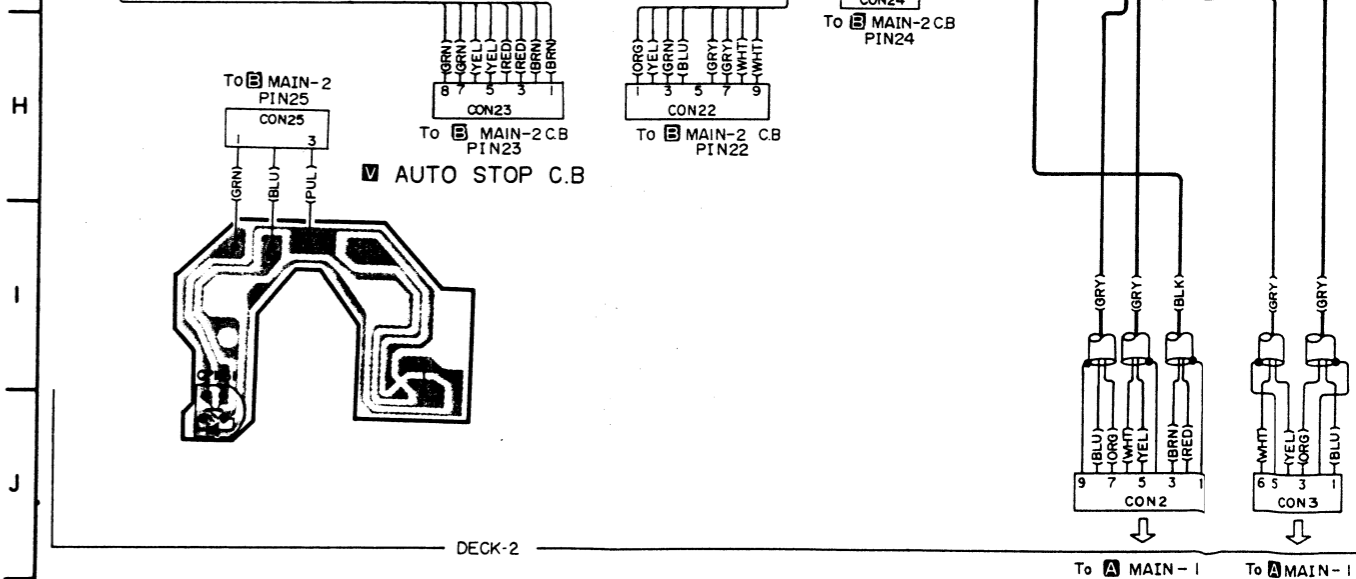
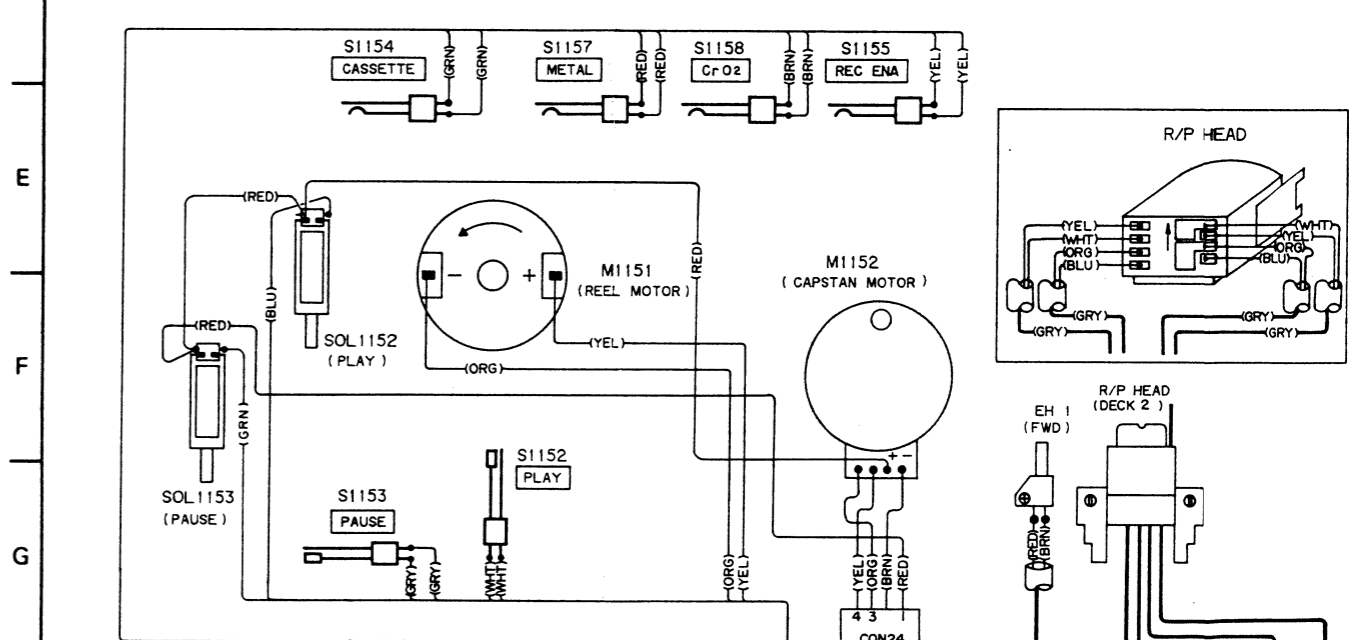
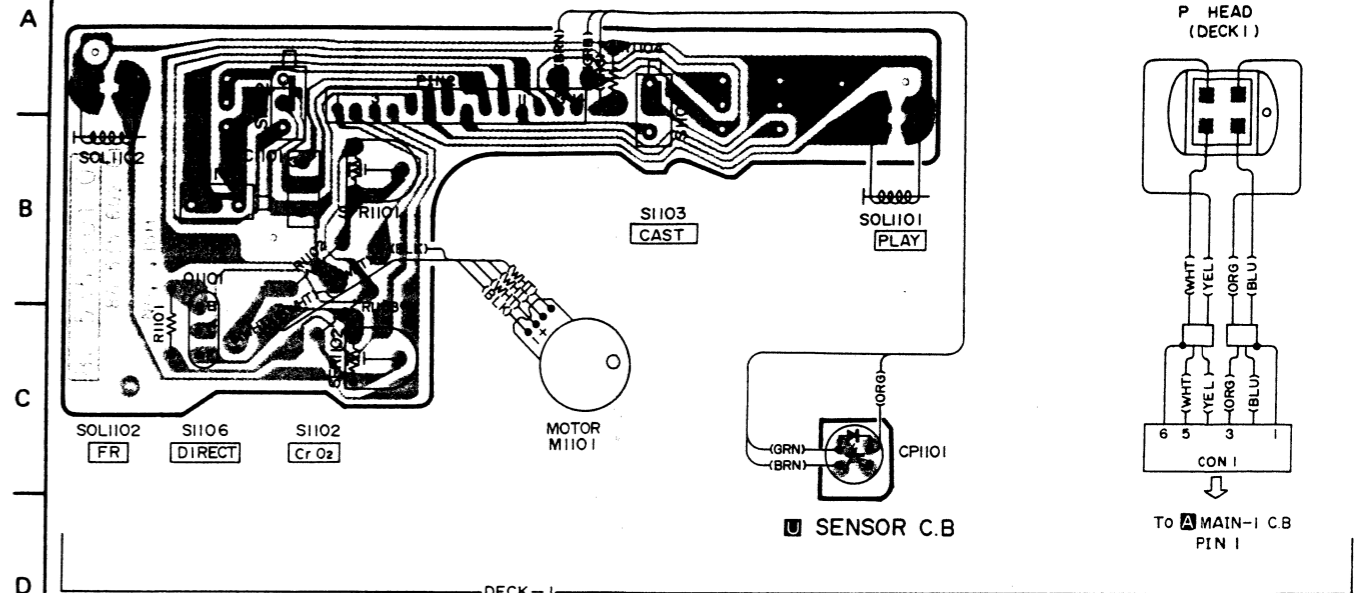
Method : Record 300Hz signal, then adjust for minimum level of 300Hz signal. To make sure of the following, turn Dolby NR switch to "OFF" mode. The level in "OFF" mode becomes lower of 0~5dB than the one in "C" mode.

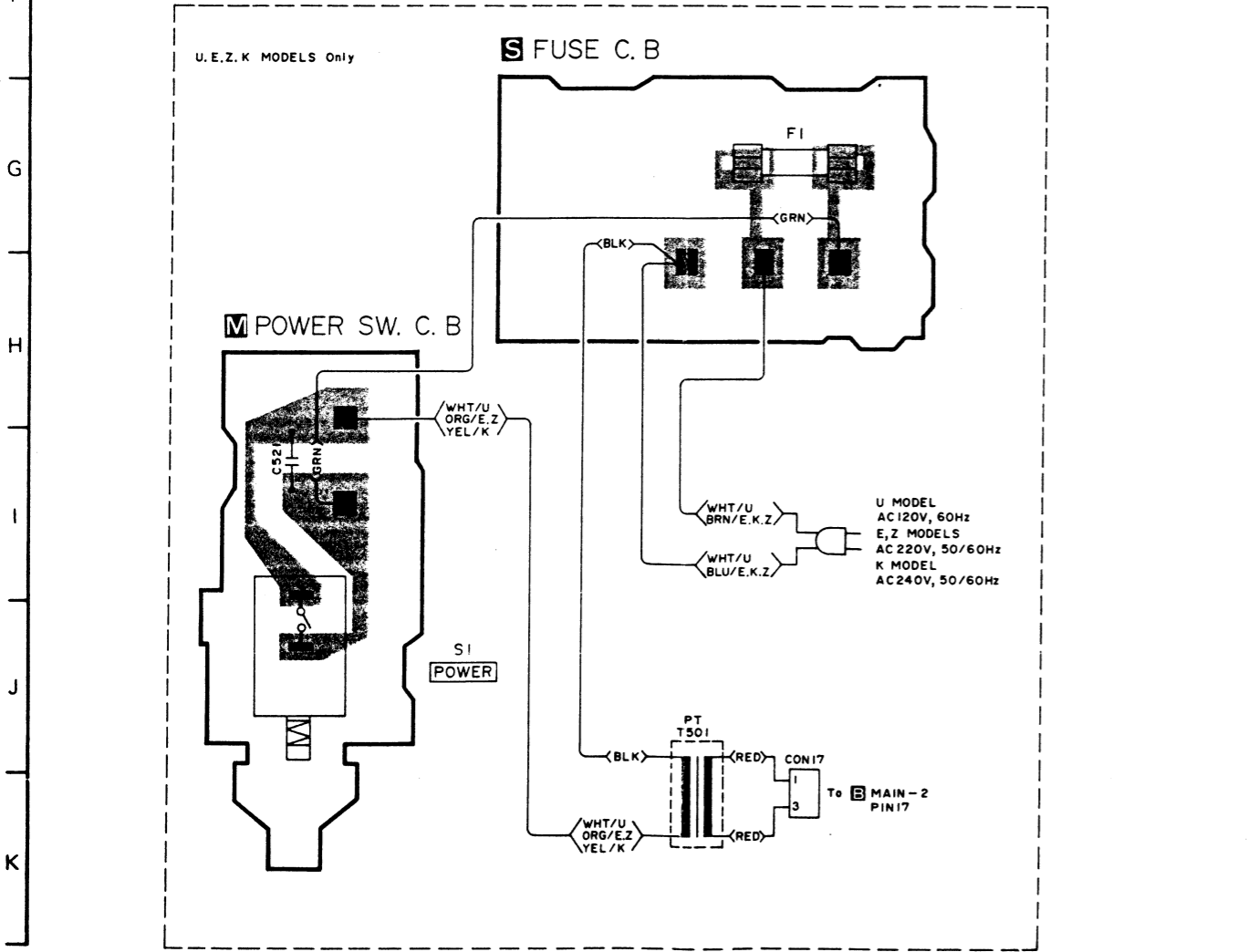
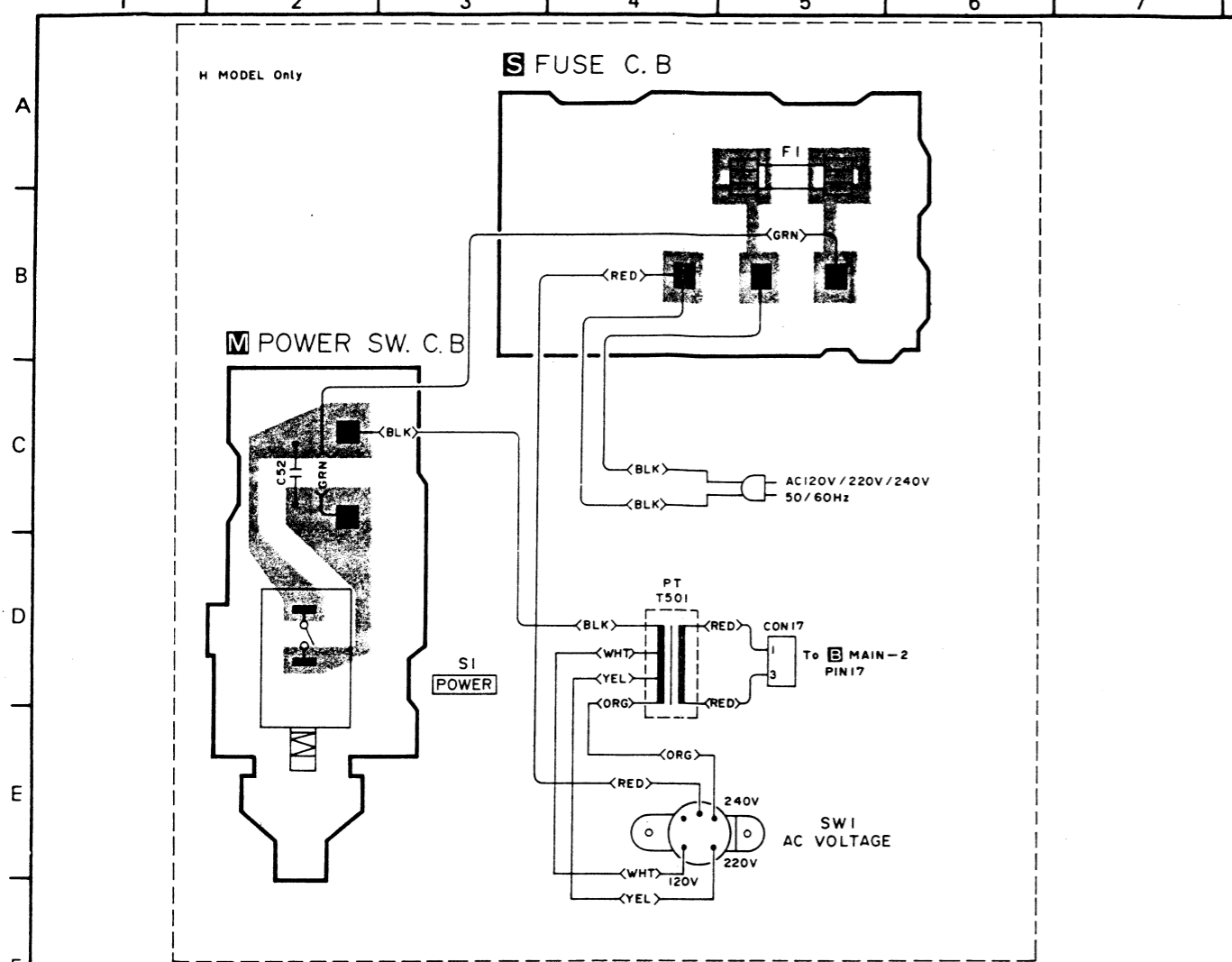
13. High Speed Bias OSC Trap Coil Adjustment
 Settings : • Test tape : TTA-119K (DECK-2)
 Cassette removed tape (DECK-1)
 • Test point : LINE OUT
 • DOLBY NR switch : OFF
 • Adjustment location : L 1 (Lch)
 L 2 (Rch)

Method : Make in high speed dubbing mode, adjust for minimum level of the bias leakage.

REC/PB output : 0 VU ± 1.5 dB
 REC/PB S/N ratio : More than 42/48dB (METAL, CrO₂, DOLBY-NR C OFF/ON)
 More than 39/46dB (NORMAL, DOLBY-NR OFF/ON)
 Distortion (REC/PB) : Less than 2% (METAL, CrO₂, NORMAL)
 Noise (PB) : Less than 2.5/1.2mV (METAL, CrO₂, DOLBY-NR C OFF/ON)
 Less than 3.0/1.5mV (NORMAL, DOLBY-NR C OFF/ON)
 Erasing ratio : More than 60dB (at 125Hz)
 Channel separation : More than 30dB
 Recording bias frequency : 100kHz
 Test tape : METAL TTA-119MP
 CrO₂ TTA-119H
 NORMAL TTA-119K

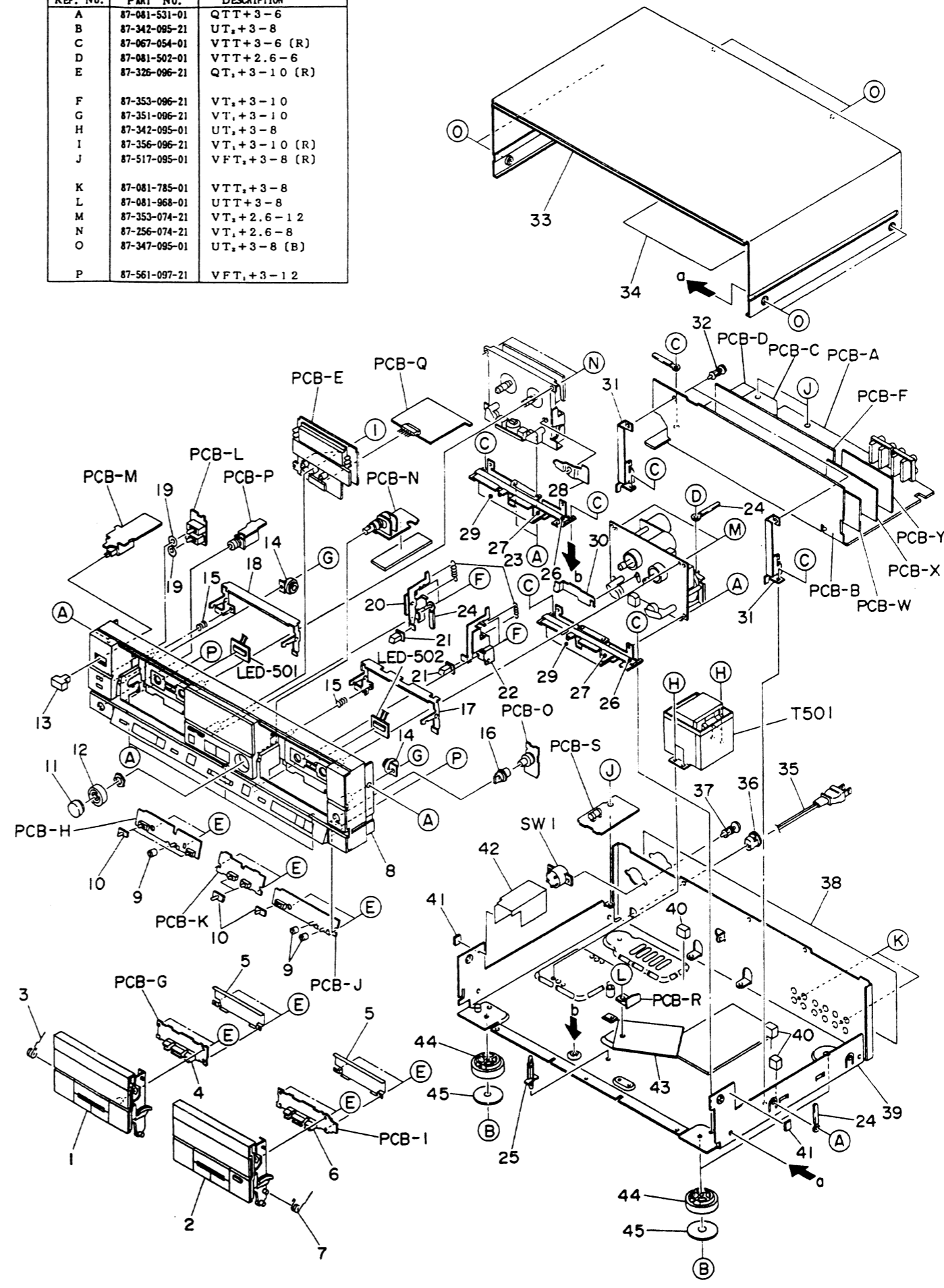
DECK C. B





EXPLODED VIEW-1

REF. NO.	PART NO.	DESCRIPTION
A	87-081-531-01	QTT,+3-6
B	87-342-095-21	UT,+3-8
C	87-067-054-01	VTT,+3-6 (R)
D	87-081-502-01	VTT,+2.6-6
E	87-325-096-21	QT,+3-10 (R)
F	87-353-096-21	VT,+3-10
G	87-351-096-21	VT,+3-10
H	87-342-095-01	UT,+3-8
I	87-356-096-21	VT,+3-10 (R)
J	87-517-095-01	VFT,+3-8 (R)
K	87-081-785-01	VTT,+3-8
L	87-081-968-01	UTT,+3-8
M	87-353-074-21	VT,+2.6-12
N	87-256-074-21	VT,+2.6-8
O	87-347-095-01	UT,+3-8 (B)
P	87-561-097-21	VFT,+3-12



MECHANICAL PARTS LIST

※ Please order the all parts for this model to Japan.

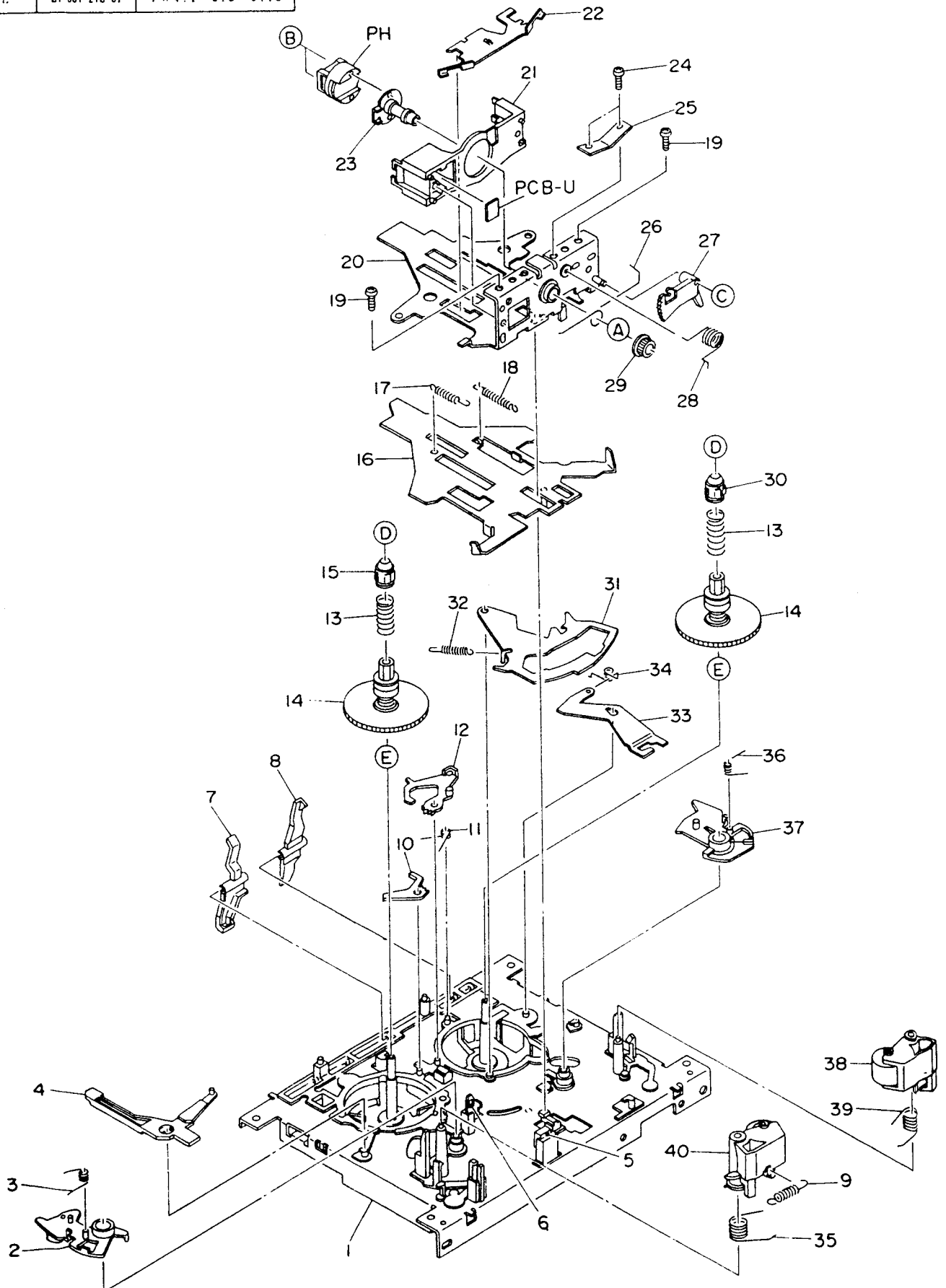
PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q, TY
	1-1	09-047-264	CASSETTE BOX 1 ASSY	*	1
	1-2	09-047-265	CASSETTE BOX 2 ASSY	*	1
	1-3	*82-217-209	T-SPRING,EJECT 1	*	1
	1-4	---	LAMP HOUSE 1		1
	1-5	---	PLATE,BOX REAR		1
	1-6	---	LAMP HOUSE 2		1
	1-7	*82-217-210	T-SPRING, EJECT 2	*	1
	1-8	*09-047-263	FRONT CABINET ASSY	*	1
	1-9	---	RUBBER TUBE 5-3-7		3
	1-10	*82-217-013	KNOB,SLIDE	*	5
	1-11	82-217-015	KNOB,VOLUME L	*	1
	1-12	82-217-016	KNOB,VOLUME R	*	1
	1-13	*84-721-023	PUSH-BUTTON,POWER	XC-001	1
	1-14	*87-063-143	OIL-DAMP 75		2
	1-15	*82-217-211	C-SPRING,EJECT LEVER	*	2
	1-16	*84-424-008	KNOB,VOLUME		1
	1-17	*82-217-204	PLATE,EJECT 2	*	1
	1-18	*82-217-203	PLATE,EJECT 1	*	1
	1-19	---	BLIND HIMERON		2
	1-20	*82-217-237	HOLDER EJECT 1 ASSY	*	1
	1-21	*82-217-014	KNOB,EJECT	*	2
	1-22	*82-217-238	HOLDER EJECT 2 ASSY	*	1
	1-23	*81-747-327	E-SPRING,PANEL		2
	1-24	---	WIRE BINDER		3
	1-25	*82-217-244	HOLDER,CIRCUIT BOARD	*	1
	1-26	---	DAMPER,MECHANISM 2		2
	1-27	---	DAMPER,MECHANISM 1		2
	1-28	*82-217-213	LEVER,EJECT BLOCKING 1	*	1
	1-29	*82-217-215	HOLDER,MECHANISM	*	2
	1-30	*82-217-214	LEVER,EJECT BLOCKING 2	*	1
	1-31	---	HOLDER,CIRCUIT BOARD		2
	1-32	*87-085-102	NYLON RIVET 3.5-5.5	*	2
	1-33	*82-217-041	CABINET,STEEL		1
	1-34	---	DAMPER 150-100		1
	1-35	*87-034-732	AC CORD ASSY(H ONLY)		1
	1-35	*87-034-731	AC CORD ASSY(U ONLY)		1
	1-35	*87-034-736	AC CORD ASSY(E,Z ONLY)		1
	1-35	*87-034-734	AC CORD ASSY(K ONLY)		1
	1-36	*87-085-184	CORD BUSHING(H ONLY)		1
	1-36	*87-085-189	CORD BUSHING(U ONLY)		1
	1-36	*87-085-185	CORD BUSHING(E,K,Z ONLY)		1
	1-37	*87-085-090	NYLON RIVET 3-6.5(H ONLY)		2
	1-38	---	PLATE,JACK		1
	1-39	---	AMP.CHASSIS ASSY		1
	1-40	---	CUSHION 12-15-12.5		3
	1-41	---	G CUSHION 4X9.5X13.5		2
	1-42	---	COVER,POWER		1
	1-43	---	HEAT SINK		1
	1-44	*81-715-051	FOOT(40)		4
	1-45	*82-217-096	FELT 33.5		4

■ACCESSORIES/PACKAGE LIST

PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q, TY
	1	*82-217-901	INSTRUCTION BOOKLET	*	1
	2	*87-032-845	SIEMENS PLUG (H ONLY)		1
	3	*87-034-978	CW-254 BSK		3

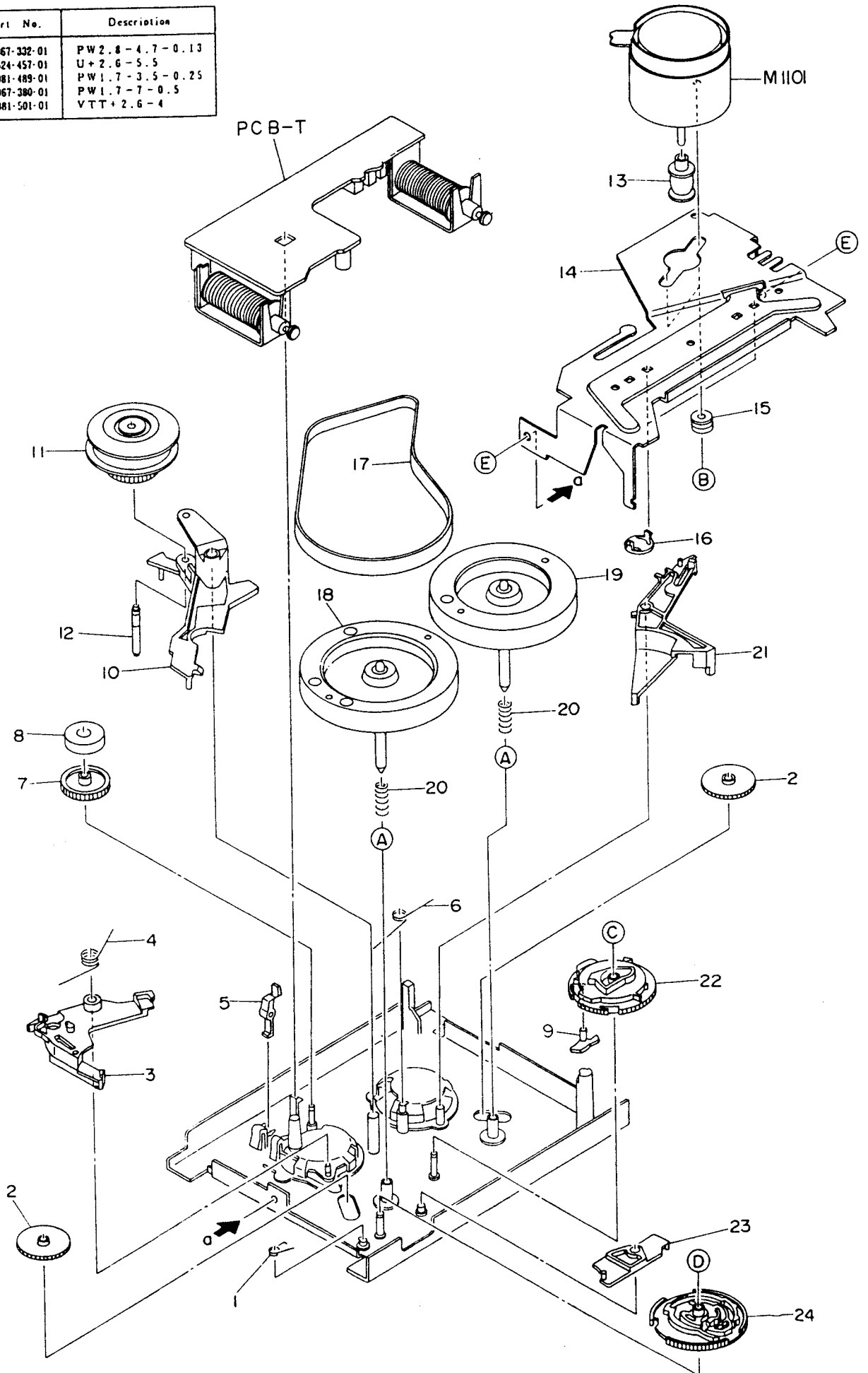
EXPLODED VIEW-2 (DECK 1)

Ref. No.	Part No.	Description
A	87-067-364-01	PW 3.58-6-0.25C
B	87-067-177-01	V+1.6-5.5
C	87-081-489-01	PW 1.7-3.5-0.25
D	86-524-418-01	VFT,+1.4-5
E	87-067-278-01	PW 4.1-G.5-0.13



EXPLODED VIEW-3 (DECK 1)

Ref. No.	Part No.	Description
A	87-067-332-01	PW 2.8 - 4.7 - 0.13
B	86-524-457-01	U + 2.6 - 5.5
C	87-081-489-01	PW 1.7 - 3.5 - 0.25
D	87-067-380-01	PW 1.7 - 7 - 0.5
E	87-081-501-01	VTT + 2.6 - 4



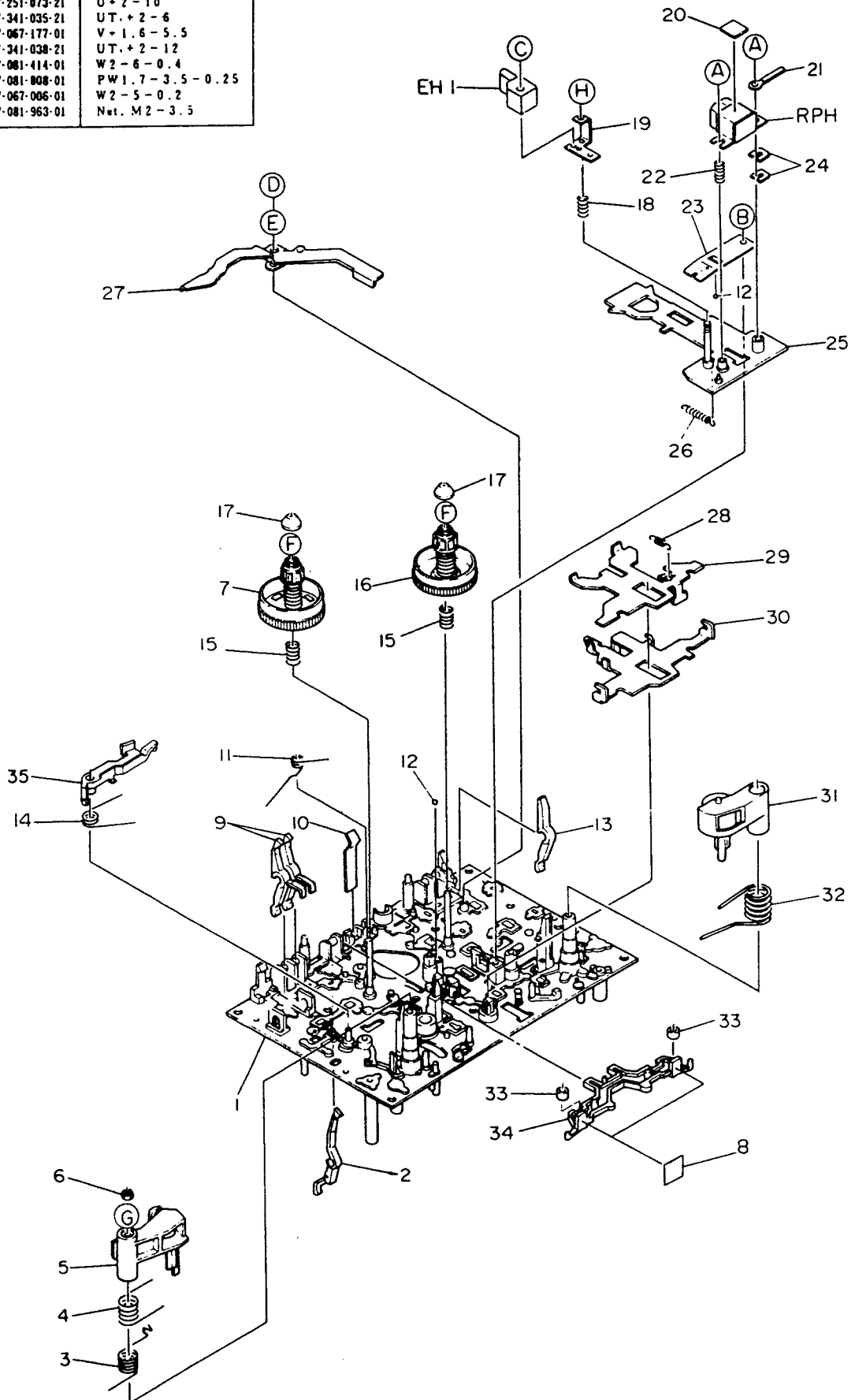
※ Please order the all parts for
this model to Japan.

PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q, TY
	2-1	*86-535-201	OUTSERT CHASSIS ASSY		1
	2-2	*86-535-239	LEVER,PLAY R		1
	2-3	*86-535-283	T-SPRING,PLAY GEAR R		1
	2-4	*86-535-242	LEVER,EJECT BLOCKING L		1
	2-5	*86-535-296	FELT 5-5-2		1
	2-6	*86-517-353	SHEET		1
	2-7	*86-535-249	LEVER,CASSETTE DETECTION		1
	2-8	*86-535-254	LEVER,CHROME		1
	2-9	*86-535-287	E-SPRING,PINCH		1
	2-10	*86-535-252	LEVER,BRAKE R		1
	2-11	*86-535-276	T-SPRING,BRAKE		1
	2-12	*86-535-251	LEVER,BRAKE F		1
	2-13	*86-535-293	C-SPRING,REEL PLATFORM		2
	2-14	86-535-240	REEL PLATFORM R ASSY		1
	2-15	*86-524-218	STOPPER,REEL PLATFORM S		1
	2-16	*86-535-215	SLIDE PLATE ASSY		1
	2-17	*86-535-285	E-SPRING,SLIDE		1
	2-18	*86-535-286	E-SPRING,ACTUATING		1
	2-19	*86-535-310	ADJUSTMENT SCREW		2
	2-20	*86-535-351	ACTUATING CHASSIS ASSY		1
	2-21	*86-535-237	GUIDE,TAPE		1
	2-22	*86-535-289	P-SPRING,ACTUATING		1
	2-23	*86-535-270	HEAD HOUSING ASSY		1
	2-24	*86-535-297	ADJUSTMENT SCREW,AZIMUTH		2
	2-25	*86-524-300	P-SPRING,AZIMUTH		1
	2-26	*86-535-298	T-SPRING,GUIDE		1
	2-27	86-535-246	GEAR,SEGMENT		1
	2-28	*86-535-290	T-SPRING,GEAR SEGMENT		1
	2-29	86-524-278	GEAR,HEAD HOUSING		1
	2-30	*86-524-233	STOPPER,REEL PLATFORM T		1
	2-31	*86-535-218	LEVER,DIRECTION ASSY		1
	2-32	*86-535-284	E-SPRING,LEVER DELECTION		1
	2-33	*86-535-225	LEVER,D SWITCH		1
	2-34	*86-535-277	T-SPRING,D SWITCH		1
	2-35	*86-535-281	T-SPRING,PINCH R		1
	2-36	*86-535-282	T-SPRING,PLAY GEAR F		1
	2-37	*86-535-238	LEVER,PLAY F		1
	2-38	86-535-226	PINCH LEVER F ASSY		1
	2-39	*86-535-280	T-SPRING,PINCH F		1
	2-40	86-535-228	PINCH LEVER R ASSY		1

PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q, TY
	3-1	*86-535-291	T-SPRING,FR CAM		1
	3-2	86-535-259	GEAR,PLAY		2
	3-3	*86-535-230	LEVER,TRIGGER FR		1
	3-4	*86-535-278	T-SPRING,FR		1
	3-5	*86-535-253	LEVER,RELAY		1
	3-6	*86-535-279	T-SPRING,MAIN		1
	3-7	86-535-258	GEAR,IDLER		1
	3-8	*86-535-614	RING,MAGNET(4P)		1
	3-9	*86-535-308	LEVER,SELECT		1
	3-10	*86-535-233	LEVER,FR		1
	3-11	*86-535-301	SLIPDISC ASSY		1
	3-12	*86-535-235	SHAFT,FR		1
	3-13	*86-535-315	MOTOR PULLEY		1
	3-14	---	HOLDER,MOTOR		1
	3-15	*86-513-441	COLLAR		2
	3-16	*86-535-255	FLYWHEEL BEARING		2
	3-17	86-535-294	BELT		1
	3-18	86-535-264	FLYWHEEL F ASSY		1
	3-19	86-535-267	FLYWHEEL R ASSY		1
	3-20	*86-535-288	C-SPRING,FW		2
	3-21	*86-535-231	LEVER,TRIGGER PLAY		1
	3-22	*86-535-260	CAM,MAIN		1
	3-23	*86-535-223	LEVER,PAUSE		1
	3-24	*86-535-261	CAM,FR P		1
	3-25	*86-535-308	LEVER,SELECT		1

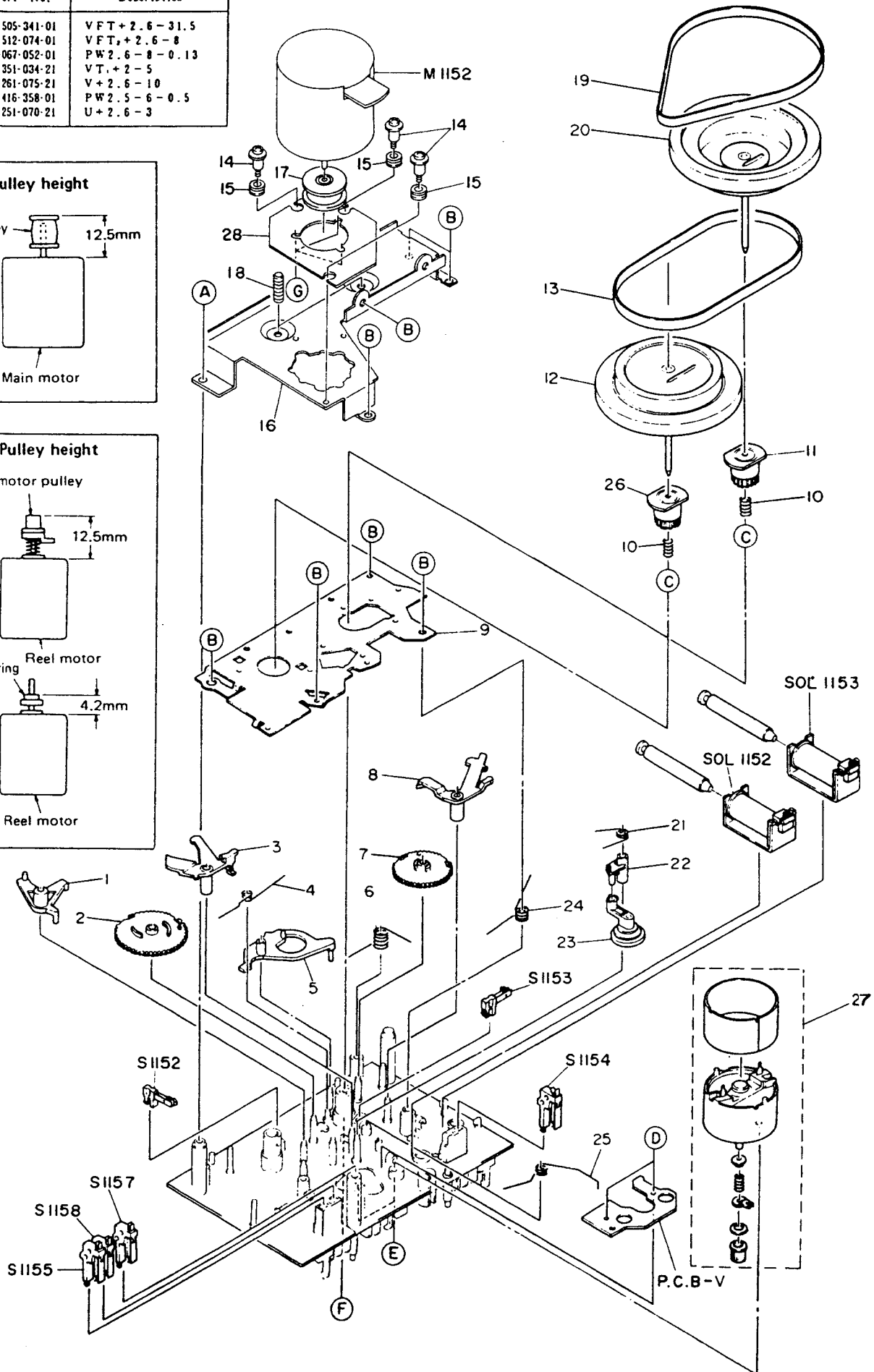
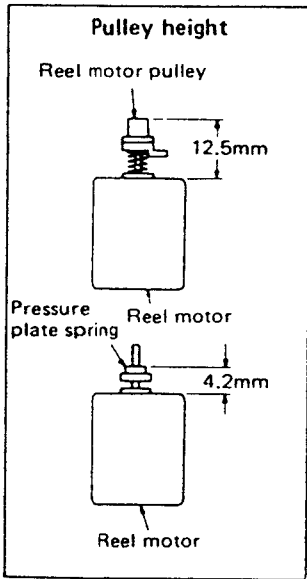
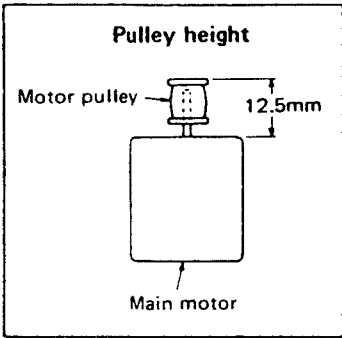
I EXPLODED VIEW-4 (DECK 2)

Ref. No.	Part No.	Description
A	87-251-073-21	U + 2 - 10
B	87-341-035-21	UT + 2 - 6
C	87-067-177-01	V - 1.6 - 5.5
D	87-341-038-21	UT + 2 - 12
E	87-081-414-01	W2 - 6 - 0.4
F	87-081-808-01	PW1.7 - 3.5 - 0.25
G	87-067-006-01	W2 - 5 - 0.2
H	87-081-963-01	Net. M2 - 3.5



EXPLODED VIEW-5 (DECK 2)

Ref. No.	Part No.	Description
A	81-505-341-01	VFT+2.6-31.5
B	87-512-074-01	VFT,+2.6-8
C	87-067-052-01	PW2.6-8-0.13
D	87-351-034-21	VT,+2-5
E	87-261-075-21	V+2.6-10
F	82-416-358-01	PW2.5-6-0.5
G	87-251-070-21	U+2.6-3



※ Please order the all parts for
this model to Japan.

PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q, TY
	4-1	*81-507-260	OUTSERT CHASSIS ASSY(4L-1)		1
	4-2	*81-505-242	LEVER,METAL		1
	4-3	*81-507-228	C-SPRING,PINCH LEVER S		1
	4-4	*81-507-217	T-SPRING,PINCH LEVER S		1
	4-5	81-507-207	PINCH LEVER S ASSY		1
	4-6	*87-081-963	NYLON NUT M2-3.5		1
	4-7	81-505-275	REEL PLATFORM S ASSY		1
	4-8	*81-505-237	FELT,SLIDE BRAKE		2
	4-9	*81-505-241	REC BLOCKING LEVER		2
	4-10	*86-516-289	P-SPRING,CASSETTE PRESSURE		1
	4-11	*81-505-268	T-SPRING,SLIDE BRAKE		1
	4-12	*87-073-005	STEEL BALL 2		2
	4-13	*81-505-240	SENSOR LEVER,CASSETTE		1
	4-14	*81-507-223	T-SPRING,B.T		1
	4-15	*81-507-219	C-SPRING,REEL S		2
	4-16	81-505-369	REEL PLATFORM T ASSY-2		1
	4-17	*82-303-398	CAP,TAKE-UP REEL		2
	4-18	*81-507-251	C-SPRING,EH B		1
	4-19	*81-507-250	HOLDER C,EH		1
	4-20	---	LABEL,HEAD		1
	4-21	---	WIRE BINDER 2.3		1
	4-22	*82-307-212	C-SPRING,EH		1
	4-23	*81-507-224	P-SPRING,ACTUATING CHASSIS		1
	4-24	*81-507-227	SPACER		2
	4-25	*81-507-252	ACTUATING CHASSIS ASSY B		1
	4-26	*81-505-265	E-SPRING,ACTUATING CHASSIS		1
	4-27	*81-505-307	LEVER,EJECT BRAKE		1
	4-28	*81-505-266	E-SPRING,PAUSE PLATE		1
	4-29	*81-505-207	PLATE,PAUSE		1
	4-30	*81-507-220	PLATE,PINCH LEVER		1
	4-31	81-505-210	PINCH LEVER F ASSY		1
	4-32	*81-505-267	T-SPRING,PINCH F		1
	4-33	*81-507-229	G.BRAKE		2
	4-34	*81-505-236	LEVER,SLIDE BRAKE		1
	4-35	*81-507-222	LEVER,BACKTENSION		1

PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q, TY
	5-1	*81-505-230	LEVER,PLAY		1
	5-2	81-505-234	GEAR,PLAY CAM		1
	5-3	*81-505-231	TRIGGER LEVER,PLAY		1
	5-4	*81-505-272	T-SPRING,CAM		1
	5-5	*81-505-308	LEVER B,PAUSE		1
	5-6	*81-505-283	T-SPRING,PAUSE LEVER		1
	5-7	81-505-235	GEAR,PAUSE CAM		1
	5-8	*81-505-233	TRIGGER LEVER,PAUSE		1
	5-9	---	MECHANISM CHASSIS B		1
	5-10	*81-505-261	C-SPRING,FLYWHEEL F		2
	5-11	81-505-225	GEAR,FLYWHEEL		1
	5-12	*81-507-244	FLYWHEEL S ASSY FD		1
	5-13	81-507-247	RUBBER BELT B		1
	5-14	*87-081-483	MOTOR SCREW,M2.6		3
	5-15	*87-087-029	RUBBER CUSHION		3
	5-16	---	HOLDER,MOTOR(4L-1)		1
	5-17	*81-507-262	PULLEY,MOTOR		1
	5-18	*82-565-373	SCREW,THRUST		2
	5-19	81-507-261	RUBBER BELT(4L-1)		1
	5-20	*81-507-242	FLYWHEEL T ASSY FD		1
	5-21	*81-505-361	T-SPRING,FR IDLER B		1
	5-22	*81-505-359	IDLER LEVER FR C		1
	5-23	81-505-356	FR IDLER B ASSY		1
	5-24	*81-505-271	T-SPRING,TRIGGER LEVER		1
	5-25	*81-505-269	T-SPRING,PINCH PLATE		1
	5-26	81-505-354	GEAR,FLYWHEEL 2.7		1
	5-27	09-011-038	REEL MOTOR ASSY		1
	5-28	---	PLATE,MOTOR		1