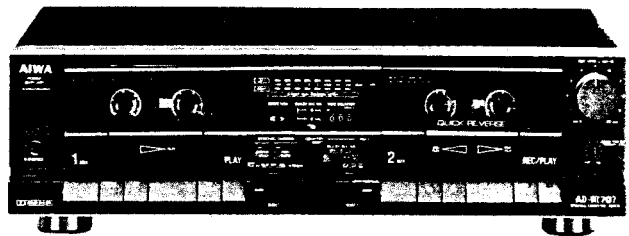


SERVICE MANUAL


MODEL No. **AD-WX707**

- STEREO CASSETTE DECK
- TYPE. HB,UB,CB,EB,KB,GB,ZB
- BASIC MECHANISM : X-3



SPECIFICATIONS

Type	Stereo cassette tape deck		Inputs	LINE IN maximum input sensitivity: 50 mV (over 50 k Ω)
Track format	4 tracks, 2 channels		Outputs	LINE OUT standard output level: 390 mV (0 VU); suitable load impedance: over 50 k Ω .
Power supply	AD-WX707E, Z	AC 220 V, 50/60 Hz	Dimensions	430(W) x 126.5(H) x 318.5(D)
	AD-WX707K, G	AC 240 V, 50/60 Hz	Weight	5.0 kg
	AD-WX707U, C	AC 120 V, 60 Hz	Tape speed	4.8 cm/sec. (1-7/8 ips), 9.5 cm/sec (Double speed)
	AD-WX707H	AC 120 V/220 V/240 V switchable, 50/60 Hz	Recording system	AC bias (frequency 100 kHz)
Power consumption	26W		Erase system	AC erase
Frequency response	METAL tape:	20 - 18,000 Hz	Motor	DC Servomotor x 2
	CrO ₂ tape:	20 - 17,000 Hz	Heads	Record/playback head x 1
	NORMAL tape:	20 - 16,000 Hz		Playback head: x 1
Signal-to-noise ratio	73 dB (METAL tape DOLBY C NR ON)			Erase head: x 1
Wow and flutter	Deck [1] 0.12% (According to DIN 45500) 0.065% (WRMS)			
	Deck [2] 0.12% (According to DIN 45500) 0.065% (WRMS)			

- 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.

DISASSEMBLY INSTRUCTIONS

1. Applying the counter belt

- 1) Apply the counter belt to the rib of the front cabinet temporarily. (See Figure-1)
- 2) Assemble the mechanism into the front cabinet.
- 3) Turn the relay pulley. The counter belt is applied to the pulley of the reel disk automatically.

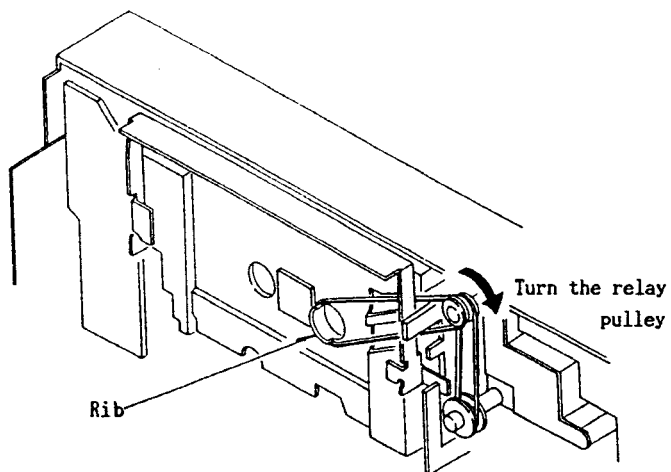


Fig. 1

■ ACCESSORIES/PACKAGE LIST

PART NO. CHANGED TO	REF. NO.	PART NO.	ORDER	DESCRIPTION	COMMON MODEL	Q, TY
	1	*82-224-901-010		INSTRUCTION BOOKLET	*	1
	2	*87-032-845-010		SIEMENS PLUG(H ONLY)		1
	3	*87-034-978-010		CW-254 BSK		2

ELECTRICAL MAIN PARTS LIST

REF.NO. PART NO. ORDER DESCRIPTION

--- IC ---

87-001-143-010 IC,CX20187
 87-020-454-010 IC,DM-6851
 87-020-261-010 IC,LA6358S
 87-001-164-010 IC,LB1408

 82-224-614-010 IC,LC6520H-3386
 87-027-895-010 IC,M5218L
 87-020-680-010 IC,NJM2068S
 87-020-758-010 IC,NJM2068SD

 87-001-133-010 IC,NJU4052BP
 87-020-908-010 IC,NJU4066BD
 87-001-191-010 IC,TA78DL12P

--- TRANSISTOR ---

89-503-735-010 FET,2SK373GR
 87-026-219-010 TRANSISTOR, DTA144ES
 87-026-292-010 TRANSISTOR, DTA144WS
 89-109-521-010 TRANSISTOR,2SA 952K

 89-110-155-010 TRANSISTOR,2SA1015GR
 89-309-456-010 TRANSISTOR,2SC 945LP
 89-318-155-010 TRANSISTOR,2SC1815 GR
 89-320-011-010 TRANSISTOR,2SC2001K

 89-331-138-010 TRANSISTOR,2SC3113B
 89-411-110-010 TRANSISTOR,2SD1111
 89-413-023-010 TRANSISTOR,2SD1302ST
 89-414-065-010 TRANSISTOR,2SD1406GR

--- MAIN CIRCUIT BOARD SECTION ---

PCB-A 82-224-602-010 MAIN CIRCUIT BOARD
 C1 *87-010-390-010 CAP,ELECT 3300UF/25V SME
 C3 *87-010-235-010 CAP,ELECT 470UF/16V
 C5 *87-010-237-010 CAP,ELECT 1000UF/16V SME

 C8 *87-010-374-010 CAP,ELECT 47UF/10V
 C9 *87-010-235-010 CAP,ELECT 470UF/16V
 C10 *87-010-248-010 CAP,ELECT 220UF/10V SME
 C22 *87-010-401-010 CAP,ELECT 1UF/50V SME

 C23 *87-010-248-010 CAP,ELECT 220U/10V SME
 C101 *87-018-125-010 CAP,CERA-SOL 330PF
 C102 *87-018-125-010 CAP,CERA-SOL 330PF
 C103 *87-018-106-010 CAP,CERA-SOL 15PF

 C104 *87-018-106-010 CAP,CERA-SOL 15PF
 C107 *87-015-455-010 CAP,ELECT BP 10UF/25
 C108 *87-015-455-010 CAP,ELECT BP 10UF/25V
 C111 *87-018-134-010 CAP,CERA-SOL 0.01UF

 C112 *87-010-101-010 CAP,ELECT 220UF/16V SME
 C113 *87-018-134-010 CAP,CERA-SOL 0.01UF
 C201 *87-018-125-010 CAP,CERA-SOL 330PF
 C202 *87-018-125-010 CAP,CERA-SOL 330PF

 C203 *87-018-106-010 CAP,CERA-SOL 15PF
 C204 *87-018-106-010 CAP,CERA-SOL 15PF
 C207 *87-015-455-010 CAP,ELECT BP 10UF/25V
 C208 *87-015-455-010 CAP,ELECT BP 10UF/25V

 C211 *87-018-121-010 CAP,CERA-SOL 150PF
 C211 *87-018-134-010 CAP,CERA-SOL 0.01UF
 C212 *87-018-121-010 CAP,CERA-SOL 150PF
 C301 *87-018-132-010 CAP,CERA-SOL 2200PF

 C302 *87-018-132-010 CAP,CERA-SOL 2200PF
 C305 *87-010-402-010 CAP,ELECT 2.2UF/50V SME
 C306 *87-010-402-010 CAP,ELECT 2.2UF/50V SME
 C421 *87-010-260-010 CAP,ELECT 47UF/25V SME

 C422 *87-010-406-010 CAP,ELECT 22UF/50V SME
 C425 *87-018-133-010 CAP,CERA-SOL 4700PF
 C428 *87-014-069-010 CAP,PP 3300PF
 C429 *87-018-131-010 CAP,CERA-SOL 1000PF

REF.NO. PART NO. ORDER DESCRIPTION

C431 *87-018-121-010 CAP,CERA-SOL 150P
 C432 *87-018-121-010 CAP,CERA-SOL 150PF
 C501 *87-018-125-010 CAP,CERA-SOL 330PF
 C502 *87-018-125-010 CAP,CERA-SOL 330PF

 C503 *87-010-404-010 CAP,ELECT 4.7UF/50V SME
 C504 *87-010-404-010 CAP,ELECT 4.7UF/50V SME
 C507 *87-010-402-010 CAP,ELECT 2.2UF/50V SME
 C508 *87-010-402-010 CAP,ELECT 2.2UF/50V SME

 C509 *87-010-248-010 CAP,ELECT 220UF/10V SME
 C510 *87-010-248-010 CAP,ELECT 220UF/10V SME
 C511 *87-018-205-010 CAP,CERA-SOL 0.022PF
 C512 *87-018-205-010 CAP,CERA-SOL 0.022PF

 C515 *87-010-400-010 CAP,ELECT 0.47UF/50V SME
 C516 *87-010-400-010 CAP,ELECT 0.47UF/50V SME
 C521 *87-010-545-010 CAP,ELECT 0.22UF/50V SME
 C522 *87-010-545-010 CAP,ELECT 0.22UF/50V SME

 C531 *87-010-075-010 CAP,ELECT 10UF/16V
 C532 *87-010-075-010 CAP,ELECT 10UF/16V
 C701 *87-010-401-010 CAP,ELECT 1UF/50V SME
 C702 *87-010-401-010 CAP,ELECT 1UF/50V SME

 C703 *87-018-134-010 CAP,CERA-SOL 0.01UF
 C757 *87-010-402-010 CAP,ELECT 2.2UF/50V SME
 C758 *87-010-402-010 CAP,ELECT 2.2UF/50V SME
 C801 *87-018-118-010 CAP,CERA-SOL 82PF

 C802 *87-018-205-010 CAP,CERA-SOL 0.022PF
 C851 *87-010-565-010 CAP,ELECT 470UF/12V SME
 C852 *87-010-565-010 CAP,ELECT 470UF/12V SME
 C853 *87-010-565-010 CAP,ELECT 470UF/12V SME

 C854 *87-010-565-010 CAP,ELECT 470UF/12V SME
 C883 *87-010-379-010 CAP,ELECT 22UF/16V SME
 C884 *87-010-402-010 CAP,ELECT 2.2UF/50V SME
 C901 *87-010-404-010 CAP,ELECT 4.7UF/50V SME

 C902 *87-010-404-010 CAP,ELECT 4.7UF/50V SME
 C903 *87-018-134-010 CAP,CERA-SOL 0.01UF
 C904 *87-018-134-010 CAP,CERA-SOL 0.01UF
 D1 87-027-365-010 DIODE,S5277B

 D2 87-027-365-010 DIODE,S5277B
 D3 87-027-365-010 DIODE,S5277B
 D4 87-027-365-010 DIODE,S5277B
 D8 87-020-752-010 DIODE,1SS270

 D9 87-027-286-010 DIODE,ZENER HZ-5C1
 D401 87-020-752-010 DIODE,1SS270
 D402 87-020-752-010 DIODE,1SS270
 D403 87-020-752-010 DIODE,1SS270

 D404 87-020-123-010 DIODE,DS446
 D421 87-020-752-010 DIODE,1SS270
 D803 87-020-752-010 DIODE,1SS270
 D804 87-020-752-010 DIODE,1SS270

 D805 87-020-752-010 DIODE,1SS270
 D806 87-020-752-010 DIODE,1SS270
 D809 87-020-752-010 DIODE,1SS270
 D810 87-020-752-010 DIODE,1SS270

 D811 87-020-752-010 DIODE,1SS270
 D812 87-020-752-010 DIODE,1SS270
 D813 87-020-752-010 DIODE,1SS270
 D851 87-020-123-010 DIODE,DS446

 D852 87-020-123-010 DIODE,DS446
 D853 87-020-123-010 DIODE,DS446
 D854 87-020-123-010 DIODE,DS446
 ICP1 *83-203-688-010 ICP-N25

 J701-1 87-049-420-010 JACK,PIN 4P-14(PLAY/LINE OUT L)
 J701-2 +++ JACK,PIN 4P-14(PLAY/LINE OUT R)
 J701-3 +++ JACK,PIN 4P-14(REC/LINE IN L)
 J701-4 +++ JACK,PIN 4P-14(REC/LINE IN R)

REF.NO. PART NO. ORDER DESCRIPTION

L301	*87-003-131-010	COIL,CHOKE 10MMH
L302	*87-003-131-010	COIL,CHOKE 10MMH
L303	*87-003-128-010	COIL,5.6MMH J
L304	*87-003-128-010	COIL,5.6MMH J
L305	*82-196-603-010	COIL,TRAP 100KH
L306	*82-196-603-010	COIL,TRAP 100KH
L401	*82-224-619-010	COIL,OSC BIAS 100KH
L501	*82-221-697-010	FILTER,SQ CX
L502	*82-221-697-010	FILTER,SQ CX
L503	*82-224-612-010	FILTER,DOLBY 100KZ
L504	*82-224-612-010	FILTER,DOLBY 100KZ
L801	*82-202-624-010	COIL,OSC LC6520H
SFR101	*87-021-735-010	SFR,220
SFR102	*87-021-735-010	SFR,220
SFR103	*87-021-738-010	SFR,1K
SFR104	*87-021-738-010	SFR,1K
SFR201	*87-021-735-010	SFR,220
SFR202	*87-021-735-010	SFR,220
SFR203	*87-021-738-010	SFR,1K
SFR204	*87-021-738-010	SFR,1K
SFR301	*87-021-739-010	SFR,2.2K
SFR302	*87-021-739-010	SFR,2.2K
SFR451	*87-021-745-010	SFR,47K
SFR452	*87-021-745-010	SFR,47K

=== KEY CIRCUIT BOARD SECTION ===

PCB-B	*	KEY CIRCUIT BOARD
C1201	*87-010-378-010	CAP,ELECT 10UF/16V
C1203	*87-010-378-010	CAP,ELECT 10UF/16V
C1204	*87-010-378-010	CAP,ELECT 10UF/16V
D1001	87-020-752-010	DIODE,1SS270
D1002	87-020-752-010	DIODE,1SS270
D1201	*87-001-162-010	LED,SEL-2210 W(PEAK METER L)
D1202	*87-001-162-010	LED,SEL-2210 W(PEAK METER R)
D1203	*87-001-162-010	LED,SEL-2210 W(PEAK METER L)
D1204	*87-001-162-010	LED,SEL-2210 W(PEAK METER R)
D1205	*87-001-162-010	LED,SEL-2210 W(PEAK METER L)
D1206	*87-001-162-010	LED,SEL-2210 W(PEAK METER R)
D1207	*87-001-161-010	LED,SEL-2410 E(PEAK METER L)
D1208	*87-001-161-010	LED,SEL-2410 E(PEAK METER R)
D1209	*87-001-161-010	LED,SEL-2410 E(PEAK METER L)
D1210	*87-001-161-010	LED,SEL-2410 E(PEAK METER R)
D1211	*87-001-161-010	LED,SEL-2410 E(PEAK METER L)
D1212	*87-001-161-010	LED,SEL-2410 E(PEAK METER R)
D1213	*87-001-161-010	LED,SEL-2410 E(PEAK METER L)
D1214	*87-001-161-010	LED,SEL-2410 E(PEAK METER R)
D1215	*87-001-161-010	LED,SEL-2410 E(PEAK METER L)
D1216	*87-001-161-010	LED,SEL-2410 E(PEAK METER R)
D1217	*87-001-161-010	LED,SEL-2410 E(D2 DIRECTION▶)
D1218	*87-001-161-010	LED,SEL-2410 E(D2 DIRECTION◀)
D1219	*87-001-161-010	LED,SEL-2410 E(DOLBY NR,B)
D1220	*87-001-162-010	LED,SEL-2210 W(DOLBY NR,C)
D1221	87-020-752-010	DIODE,1SS270
D1222	87-020-752-010	DIODE,1SS270
D1505	87-020-752-010	DIODE,1SS270
D1506	87-020-752-010	DIODE,1SS270
D1507	87-020-752-010	DIODE,1SS270
D1508	87-020-752-010	DIODE,1SS270
D1509	87-020-752-010	DIODE,1SS270
D1510	87-020-752-010	DIODE,1SS270
D1511	87-020-752-010	DIODE,1SS270
D1512	87-020-752-010	DIODE,1SS270
D1513	87-020-752-010	DIODE,1SS270
D1514	87-020-752-010	DIODE,1SS270

REF.NO. PART NO. ORDER DESCRIPTION

D1515	87-020-752-010	DIODE,1SS270
D1516	87-020-752-010	DIODE,1SS270
D1517	87-020-752-010	DIODE,1SS270
D1518	87-020-752-010	DIODE,1SS270
D1573	*87-001-137-010	LED,SLP-981C50(REC MUTE D2)
D1574	*87-001-138-010	LED,SLP-481C50(PAUSE D2)
D1575	*87-001-138-010	LED,SLP-481C50(PAUSE D1)
D1576	*87-001-137-010	LED,SLP-981C50(SYNC.DUB HI)
D1577	*87-001-137-010	LED,SLP-981C50(SYNC.DUB NOR)
S1505	87-031-893-010	SW,TACT(D1 REC)
S1506	87-031-893-010	SW,TACT(D1 REC MUTE)
S1507	87-031-893-010	SW,TACT(SYNC.DUB HI)
S1508	87-031-893-010	SW,TACT(SYNC.DUB NOR)
S1509	87-031-893-010	SW,TACT(D2 STOP)
S1510	87-031-893-010	SW,TACT(D2 PAUSE)
S1511	87-031-893-010	SW,TACT(D2 FF▶▶)
S1512	87-031-893-010	SW,TACT(D2 REW◀◀)
S1513	87-031-893-010	SW,TACT(D1 PLAY)
S1514	87-031-893-010	SW,TACT(D1 PAUSE)
S1515	87-031-893-010	SW,TACT(D1▶▶)
S1516	87-031-893-010	SW,TACT(D1 ◀◀)
S1517	87-036-032-010	SW,SLIDE(TIMER)
S1518	87-036-053-010	SW,SLIDE(REV.MODE)
S1519	82-224-615-010	SW,SLIDE(DOLBY NR)

=== POWER CIRCUIT BOARD SECTION ===

△ PCB-D	*	POWER CIRCUIT BOARD
△ C15	*87-019-113-010	0.0022E
C751	*87-010-544-010	CAP,ELECT 0.1UF/50V
C752	*87-010-544-010	CAP,ELECT 0.1UF/50V
C753	*87-010-101-010	CAP,ELECT 220UF/16V SME
C754	*87-010-101-010	CAP,ELECT 220UF/16V SME
C755	*87-010-565-010	CAP,ELECT 470UF/12V SME
J751	87-049-827-010	JACK,HLJ-0521-010(PHONES)
△ S1	82-224-617-010	SW,PUSH(POWER)

=== SWITCH-1 CIRCUIT BOARD SECTION ===

PCB-E	*	SW-1 CIRCUIT BOARD
D1501	87-020-752-010	DIODE,1SS270
D1561	*87-001-159-010	LED,SLV-31MC 3F(PLAY)
D1562	*87-001-159-010	LED,SLV-31MC 3F(PLAY)
D1563	*87-001-159-010	LED,SLV-31MC 3F(PLAY)
D1564	*87-001-159-010	LED,SLV-31MC 3F(PLAY)
S1501	87-031-893-010	SW,TACT(PLAY)

=== SWITCH-2 CIRCUIT BOARD SECTION ===

PCB-F	*	SW-2 CIRCUIT BOARD
D1503	87-020-752-010	DIODE,1SS270
D1504	87-020-752-010	DIODE,1SS270
D1565	*87-001-160-010	LED,SLV-31VC 3F(REV PLAY)
D1566	*87-001-160-010	LED,SLV-31VC 3F(REV PLAY)
D1567	*87-001-160-010	LED,SLV-31VC 3F(PLAY)
D1568	*87-001-160-010	LED,SLV-31VC 3F(PLAY)
D1569	*87-001-159-010	LED,SLV-31MC 3F(PLAY)
D1570	*87-001-159-010	LED,SLV-31MC 3F(PLAY)
D1571	*87-001-159-010	LED,SLV-31MC 3F(REV PLAY)
D1572	*87-001-159-010	LED,SLV-31MC 3F(REV PLAY)
S1503	87-031-893-010	SW,TACT(PLAY▶)
S1504	87-031-893-010	SW,TACT(REV.PLAY◀)

=== VL CIRCUIT BOARD SECTION ===

PCB-G	*	VOLUME CIRCUIT BOARD
C319	*87-015-241-010	CAP,ELECT LL 1UF/50V
C320	*87-015-241-010	CAP,ELECT LL 1UF/50V

PRACTICAL SERVICE FIGURE

REF.NO.	PART NO.	ORDER	DESCRIPTION
VOL301	82-224-613-010		VR,10K(A)(REC LEVEL)
VOL302	82-224-618-010		VR,250K(B)(BIAS FINE,NOR/CRO2)

TR CIRCUIT BOARD SECTION

PCB-H	*	TR CIRCUIT BOARD
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MECHANISM-1 CIRCUIT BOARD SECTION

PCB-I	*	MECHANISM-1 CIRCUIT BOARD
S1108	87-036-040-010	PUSH SW(D1, CRO2)
S1109	87-036-039-010	PUSH SW(D1,CST)
SFR1103	87-021-966-010	SFR 4.7K(D1)

SFR1104	87-021-966-010	SFR 4.7K(D1)
SOL1103	86-535-611-010	SOLENOID X-3 PB(D1)
SOL1104	86-535-612-010	SOLENOID X-3 FR(D1)

MECHANISM-2 CIRCUIT BOARD SECTION

PCB-J	*	MECHANISM-2 CIRCUIT BOARD
S1101	87-036-039-010	PUSH SW(D2,MT)
S1102	87-036-040-010	PUSH SW(D2,CRO2)
S1103	87-036-039-010	PUSH SW(D2,CST)

S1104	87-036-039-010	PUSH SW(D2,DIR)
S1104	87-036-039-010	PUSH SW
S1105	87-036-039-010	PUSH SW(D2,RE-B)
S1106	87-036-039-010	PUSH SW(D2,RE-A)

SFR1101	87-021-966-010	SFR 4.7K(D2)
SFR1102	87-021-966-010	SFR 4.7K(D2)
SOL1101	86-535-611-010	SOLENOID X-3 PB(D2)
SOL1102	86-535-612-010	SOLENOID X-3 FR(D2)

SENSOR CIRCUIT BOARD SECTION

PCB-K	*	SENSOR CIRCUIT BOARD
CP1101	87-020-755-010	PHOTO SENSOR SPI-900

MISCELLANEOUS

△	*87-034-732-010	AC CORD H ASSY(H)
△	*87-034-731-010	AC CORD UL ASSY(U)
△	*87-034-736-010	AC CORD E ASSY(E,Z)
△	*87-034-734-010	AC CORD K ASSY(K)
△	*87-034-735-010	AC CORD ASSY(G)
△	*87-085-184-010	AC CORD BUSHING D(H)
△	*87-085-189-010	AC CORD BUSHING U(U)
△	*87-085-185-010	AC CORD BUSHING E(E,Z)
CON8	86-535-605-110	CONNECTOR ASSY RPEH 9P
CON9	82-224-801-010	CONNECTOR ASSY 6P(PBH)
D1501	*87-020-109-010	LED,SLF-201C(D1)
D1502	*87-020-109-010	LED,SLF-201C(D2)
M1101	87-045-235-010	MOTOR MMA6B2LW(D1)
M1102	87-045-235-010	MOTOR MMA6B2LW(D2)
PH	87-046-261-010	HEAD PH(D1)
△ PT1	82-224-621-010	POWER TRANSFORMER H(H)
△ PT1	82-224-622-010	POWER TRANSFORMER UC(U,C)
△ PT1	82-224-623-010	POWER TRANSFORMER EZ(E,Z)
△ PT1	82-224-624-010	POWER TRANSFORMER KG(K,G)
RPEH	87-046-275-010	HEAD RPEH(D2)
△ S2	87-031-586-010	SW,ROTARY H(AC VOLTAGE)(H)

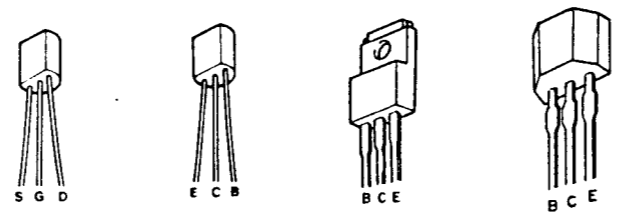
Combination circuit board A 82-224-601-110

PCB-A	82-224-602-110
PCB-B	82-224-603-110
PCB-D	82-224-605-110
PCB-E	82-224-606-110
PCB-F	82-224-607-110
PCB-G	82-224-610-110
PCB-H	82-224-608-110

Combination circuit board B 86-535-601-210

PCB-I,J	86-535-602-210
PCB-K	86-535-603-210

Playback output: (TTA-161)	520mV (LINE OUT,400Hz)
PB/REC output: (TTA-119K)	400±30mV (LINE OUT,1kHz)
PB/REC distortion:	Less than 2% (NORM,CrO ₂ ,MT tapes)
Playback noise:	Less than 2.8mV (DOLBY C NR ON, with leader tapes) Less than 2.3mV (DOLBY B NR OFF, with leader tapes)
Erase ratio (125Hz):	More than 60dB
Crosstalk:	More than 60dB(1kHz,0VU)
Channel separation:	More than 30dB(1kHz,0VU)
PB/REC S/N ratio:	More than 44/50dB (DOLBY C NR OFF/ON with MT,CrO ₂ tapes) More than 39/46dB (DOLBY C NR OFF/ON with NORM. tapes)
Recording bias frequency:	100kHz
Tape speed: (TTA-111S)	3kHz±1.5%
Wow & flutter: (W.R.M.S)	Less than 0.07% (FWD.)(DECK1,2) Less than 0.075%(REV.)
Take-up torque:	30-60g-cm(DECK 1,2)
Fast forward torque:	130±30g-cm(DECK 1,2)
Rewind torque:	130±30g-cm(DECK 1,2)
Back-tension:	2.5-5.5g-cm(DECK 1,2)
Pinch roller pressure:	290±70g-cm(DECK 1,2)
Test tapes:	METAL TTA-119MP CrO ₂ TTA-119H NORMAL TTA-119K



2SK373	2SA952	2SD1406	DT A144
	2SA1015		2SC3113
	2SC945		
	2SC1815		
	2SC2001		
	2SD1111		
	2SD1302		

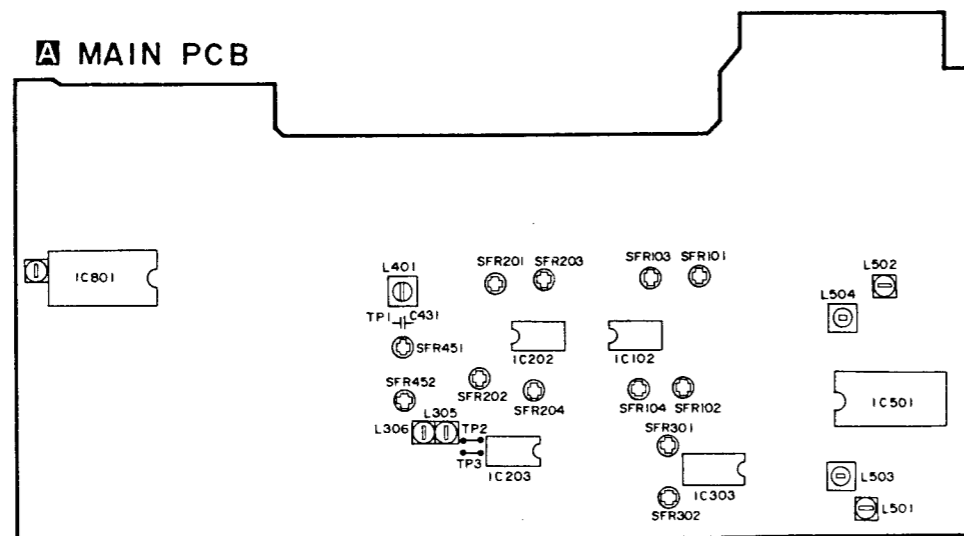
1. IC, LC6520H-3386

1-1 Terminal Description

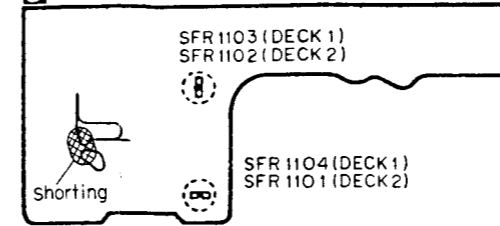
Pin No	Pin Name	Description
1	---	Pulled up to 10.8 V by a resistor.
2	---	Pulled up to 10.8 V by a resistor.
3	I-AUTO-1	DECK 1 auto-stop input. DECK 1 stops automatically without level change of "L" and "H".
4	I-AUTO-2	DECK 2 auto-stop input. DECK 2 stops automatically without level change of "L" and "H".
5	---	GND
6	---	Pulled down by a resistor and grounded.
7	O-MOTOR	Motor drive output (active "H"). Outputs "L" only when both DECKS 1 & 2 are in the stop mode. This pin outputs a signal 320 msec before SOL-PB and SOL-FRP, waiting for the O-MOTR rotating steadily.
8	O-BIAS	Bias oscillation output. Goes "L" during REC PAUSE and "H" during REC and DUBBING.
9	O-FL-RES	Outputs "H" when MPU is reset (initialized).
10	O-DUBB	Noise reduction control output during dubbing. Goes "L" during dubbing.
11	O-PB1	DECK 1 PB request output. Goes "L" when DECK 2 is in the play, play pause, cue and review modes.
12	O-PB2	DECK 2 PB request output. Goes "H" when DECK 1 is in the play, play pause, cue and review modes.
13	O-PLAY	CUE/REVIEW MUTE output. Goes "H" when the DECK which is selected by O-PB1 and O-PB2 is in the play mode.
14	O-HSP	Motor high-speed request output. Goes "H" at high-speed.
15	O-RMT	REC MUTE output. Goes "H" during REC and PLAY. Goes "L" during PAUSE, RMT and REC→REVERSE.
16	O-LMT	LINE MUTE output. Goes "L" during PLAY, CUE REVIEW, REC, REC PLAY, REC MUTE and REC→PAUSE.
17	O-REC	REC/PLAY switching output. Goes "H" during REC and REC REVERSE. Goes "L" during dubbing.
18	---	GND
19	TEST	MPU test pin connected to Vss
20	V s s	Common terminal (GND) of each input/output power of MPU.
21	OSC-1	4MHz clock oscillation pin.
22	OSC-2	4MHz clock oscillation pin.
23	RESET	MPU reset input. "H" resets the MPU.
24	{	Refer to the next page.
36	}	
37	O-SOL-FRP2	DECK 2 / solenoid absorption output (active "L"). DECK 2 performs F.FWD/REV and CUE/REVIEW according to the absorption timing.
38	O-SOL-PB2	DECK 2 / solenoid absorption output (active "L"). DECK 2 performs PLAY, PAUSE and REVERSE according to the absorption timing.
39	O-SOL-FRP1	DECK 1 / solenoid absorption output (active "L"). DECK 1 performs F.FWD/REV and CUE/REVIEW according to the absorption timing.
40	VDD	MPU power pin connected to +5 V.
41	O-SOL-PB1	DECK 1 PB solenoid absorption output (active "L"). DECK 1 performs PLAY, PAUSE and REVERSE according to the absorption timing.
42	---	Pulled down by a resistor and grounded.

Pin No	Pin Name	Description					Output : LED
		Input : Key DATA					
		Key SW IN = ON at "L", PULSE = ON at "H"					
		When KS3 is "L"	When KS2 is "L"	When KS1 is "L"	When KS0 is "L"	Lights when DISP is "L"	
35	DT φ	*	F.PLAY-1 KEY IN		CST-2 SW IN	PLAY-1 LED OUT	
34	DT 1	R.PLAY-2 KEY IN			QUICK-2 PULSE IN	PLAY-2 LED OUT	
33	DT 2	F.PLAY-2 KEY IN	REV.MODE SW IN	REC KEY IN	DIR-2 SW IN	REC LED OUT	
32	DT 3	STOP-2 KEY IN	STOP-1 KEY IN	RMT KEY IN	CST-1 SW IN	RMT LED OUT	
31	DT 4		PAUSE-1 KEY IN	TIMER PLAY SW IN		PAUSE-1 LED OUT	
30	DT 5	PAUSE-2 KEY IN	REV.MODE SW IN	TIMER REC SW IN		PAUSE-2 LED OUT	
29	DT 6	FF-2 KEY IN	FF-1 KEY IN	H/DUB KEY IN	RE-A SW IN	H/DUB LED OUT	
28	DT 7	REW-2 KEY IN	REW-1 KEY IN	N/DUB KEY IN	RE-B SW IN	N/DUB LED OUT	
27	KS 0	DT φ ~ DT7 KEY SCAN OUT					
26	KS 1						
25	KS 2						
24	KS 3						
36	DISP	DT φ ~ DT7 LED SCAN OUT					

ADJUSTMENT



MECHANISM-1 PCB (DECK 1) MECHANISM-2 PCB (DECK 2)



RECORD/PLAYBACK HEAD AZIMUTH ADJUSTMENT

1. Turn off the Dolby NR switch (S1519).
2. Load the unit with a test tape SCC-1429 (TTA-317E) and place it in play mode.
3. Adjust the head azimuth adjusting screws so that the output becomes 10kHz signal level maximum.
4. Adjust also the reverse running of tape for DECK 2.

TAPE SPEED ADJUSTMENT

(Normal speed)

1. Load the unit with a test tape (TTA-111S) and play its intermediate area.
2. Then adjust the variable resistor inserting a screwdriver through the adjustment SFR1104(1101) so that the frequency counter reads 3000Hz.
3. Check the reverse running of tape for DECK 2. (Hi-speed)
4. Short-Circuit the pattern of the MOTOR P.C.B in the DECK to be adjusted as shown in Fig.
5. Load the unit with a test tape (TTA-111H) and play its intermediate area.
6. Adjust the variable resistor SFR1103(1102) so that the frequency counter reads 3000Hz.
7. After adjustment is completed, release the short-circuit of the pattern.

Note: Always perform the normal speed adjustment and then the high-speed adjustment. Adjusting the high-speed only will cause an error in the normal tape speed.

PLAYBACK SENSITIVITY ADJUSTMENT

1. Turn off the Dolby NR switch (S1519).
2. Load the unit with a test tape TCC-130 (TTA-161) and place it in play mode.
3. Adjust the variable resistors SFR101 (left) and SFR102 (right) so that the SSVM reads 535+10mV.(DECK1) Adjust SFR201 (left) and SFR202 (right) for DECK 2.

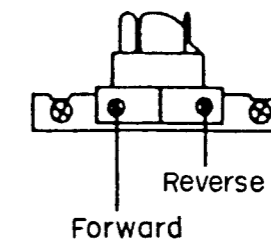
PLAYBACK FREQUENCY RESPONSE ADJUSTMENT

1. Turn off the Dolby NR switch (S1519).
2. Playback the test tape SCC-1429 (TTA-317E)
3. Adjust the variable resistors SFR103 (left) and SFR104(right) so that the output difference of 1kHz and 10kHz become+0.5dB+0.5dB X (DECK1).
4. Adjust SFR203 (left) and SFR204 (right) for DECK2.

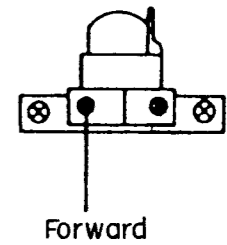
BIAS FREQUENCY ADJUSTMENT

1. Turn off the Dolby NR switch (S1519).
2. Load the unit with the test tape (TTA-119K), and place it in record (DECK2).
3. Adjust the variable coil L401 for 100kHz at test point (TP1).

DECK 2 R/P/E HEAD



DECK 1 P HEAD



BIAS TRAP COIL ADJUSTMENT

1. Turn off the Dolby NR switch (S1519).
2. Load the unit with the test tape (TTA-119K), and place it in record (DECK 2).
3. Adjust the variable coil L305 (left) and L306 (right) for minimum level at Bias trap coil test point (TP3,TP2).

FILTER MPX COIL ADJUSTMENT

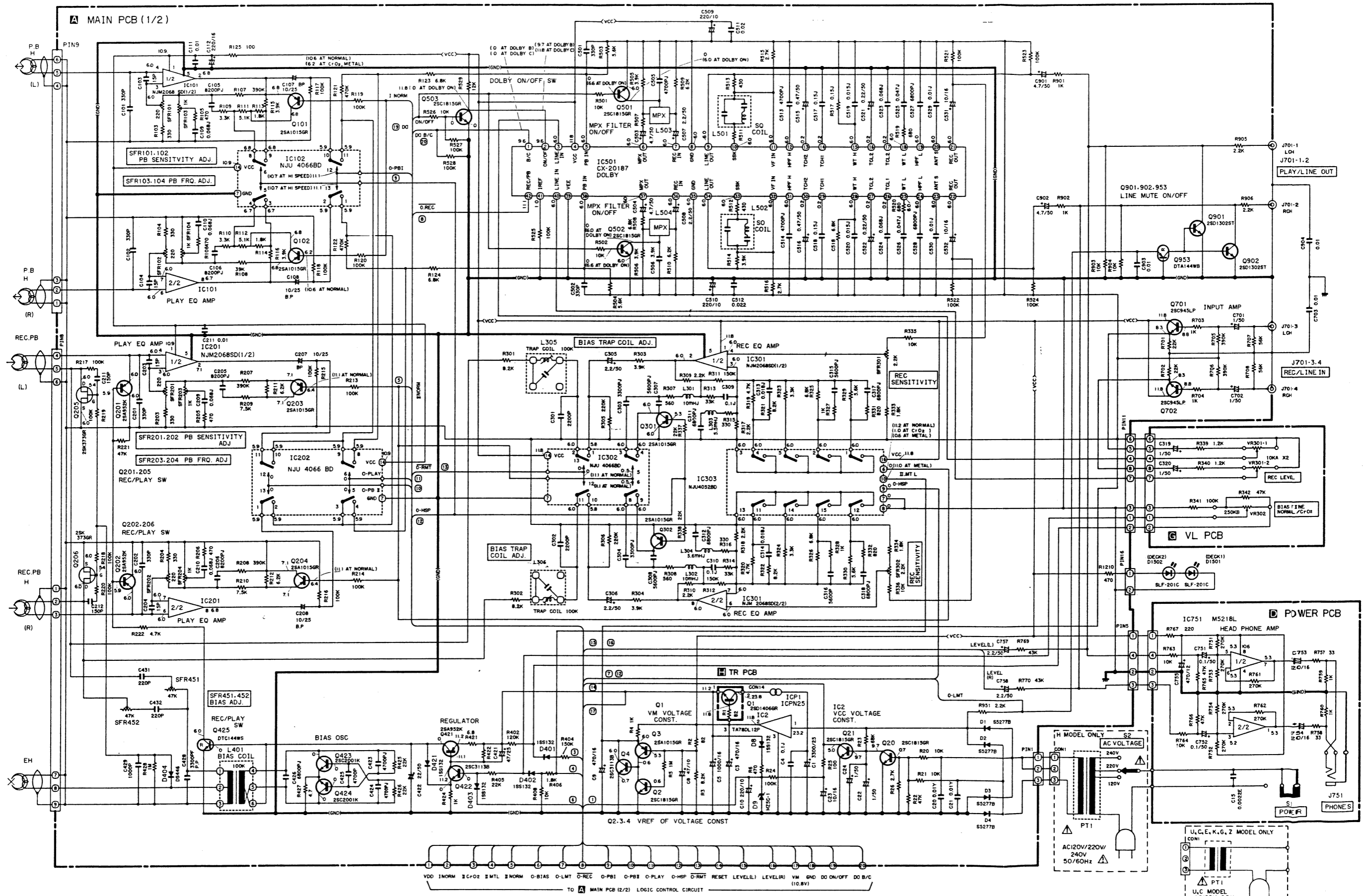
1. Turn off the Dolby NR switch (S1519).
2. Load the unit (DECK 2) with the test tape TTA-119K and set DECK2 to the record mode.
3. Adjust L503 and L504 so that the difference in the levels at test points 1 and 2 when the Dolby NR switch is turned on and off is 27 dB or more.

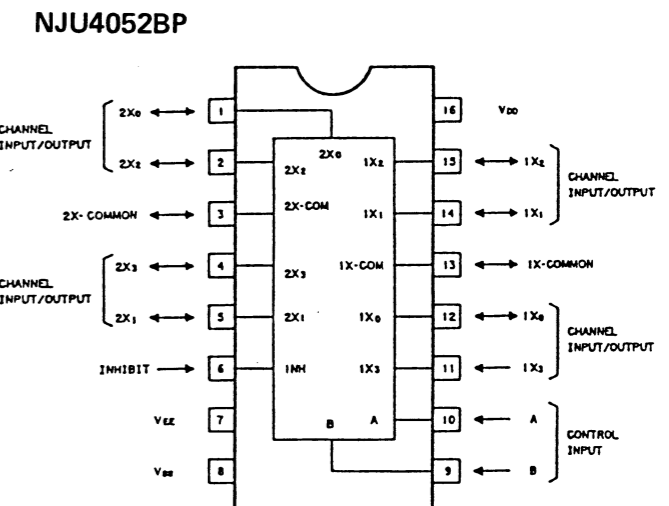
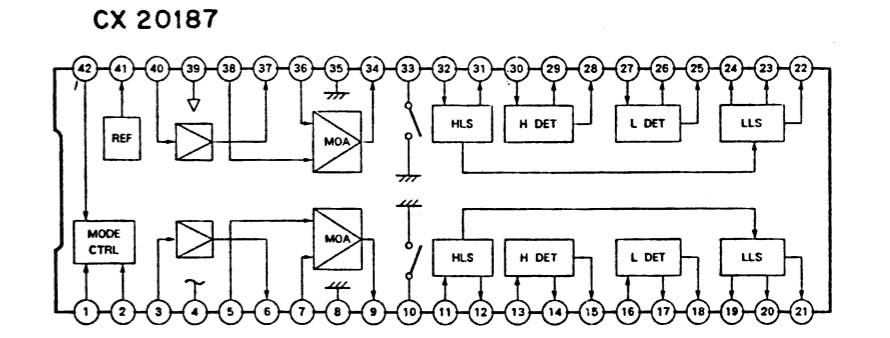
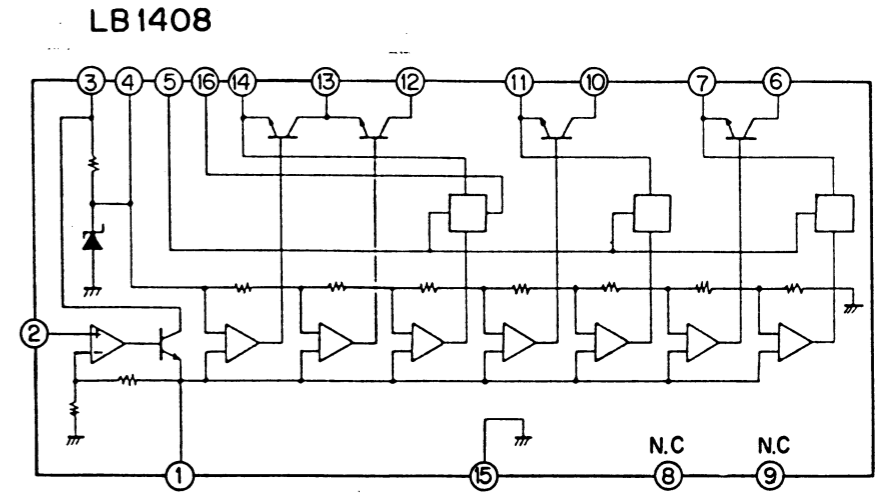
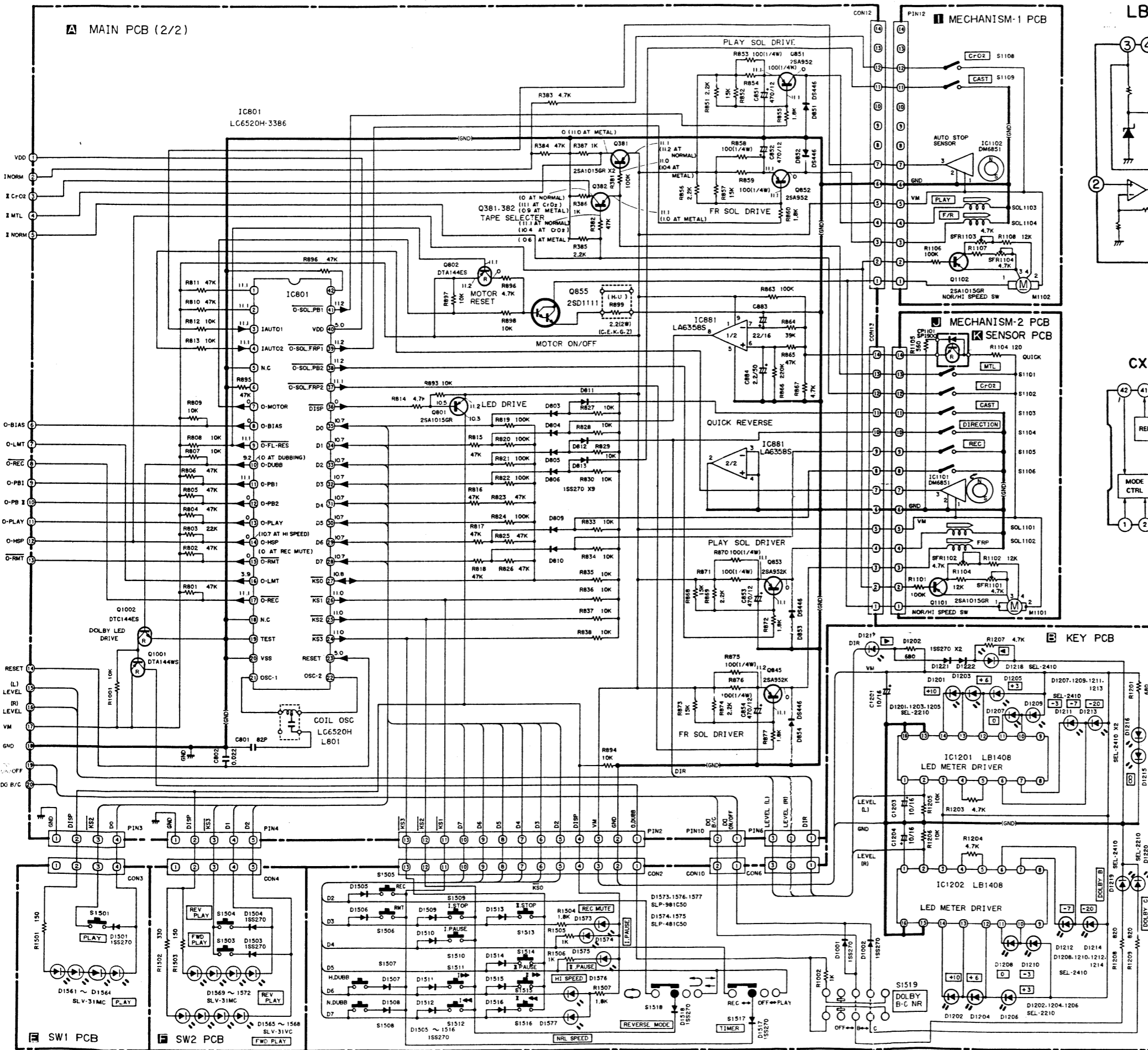
RECORD/PLAYBACK FREQUENCY ADJUSTMENT

1. Turn off the Dolby NR switch (S1519).
2. Set variable resistor VR302(BIAS FINE) to the center. Set variable resistor VR301(REC LEVEL) to a maximum.
3. Load the unit with test tape (TTA-119K), and place it in record. Using CR oscillation apply a signal of oscillation frequency 1kHz and 10kHz. (input level 500mV). Adjust the attenuator so that the level at the Line out jack is 390mV.
4. Record and playback the 1kHz and 10kHz signals and adjust the variable resistors SFR203 (left) and SFR204 (right) so that Line out level difference becomes 1dB+0.5dB.

RECORD/PLAYBACK SENSITIVITY ADJUSTMENT

1. Turn off the Dolby NR switch (S1519).
2. Set variable resistor VR302 (BIAS FINE) to the center. Set variable resistor VR301 (REC LEVEL) to a maximum.
3. Load the unit with test tape (TTA-119K) and place it in record (DECK 2). Using CR oscillator apply a signal of oscillation frequency 1kHz (input level 500mV). Adjust the attenuator so that the level at the Line Out (jack) is 39 mV.
4. Recording and Playback the 1kHz signal and adjust the variable resistors SFR301 (left) and SFR302 (right) so that Line out level difference becomes 0.1dB+0.5dB.



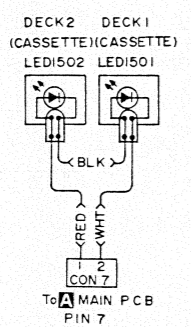
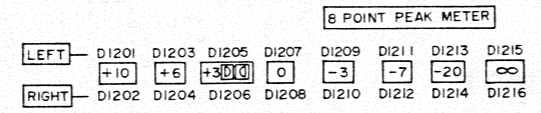
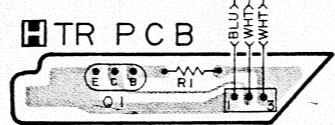
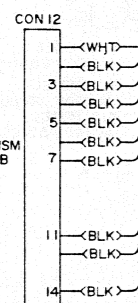
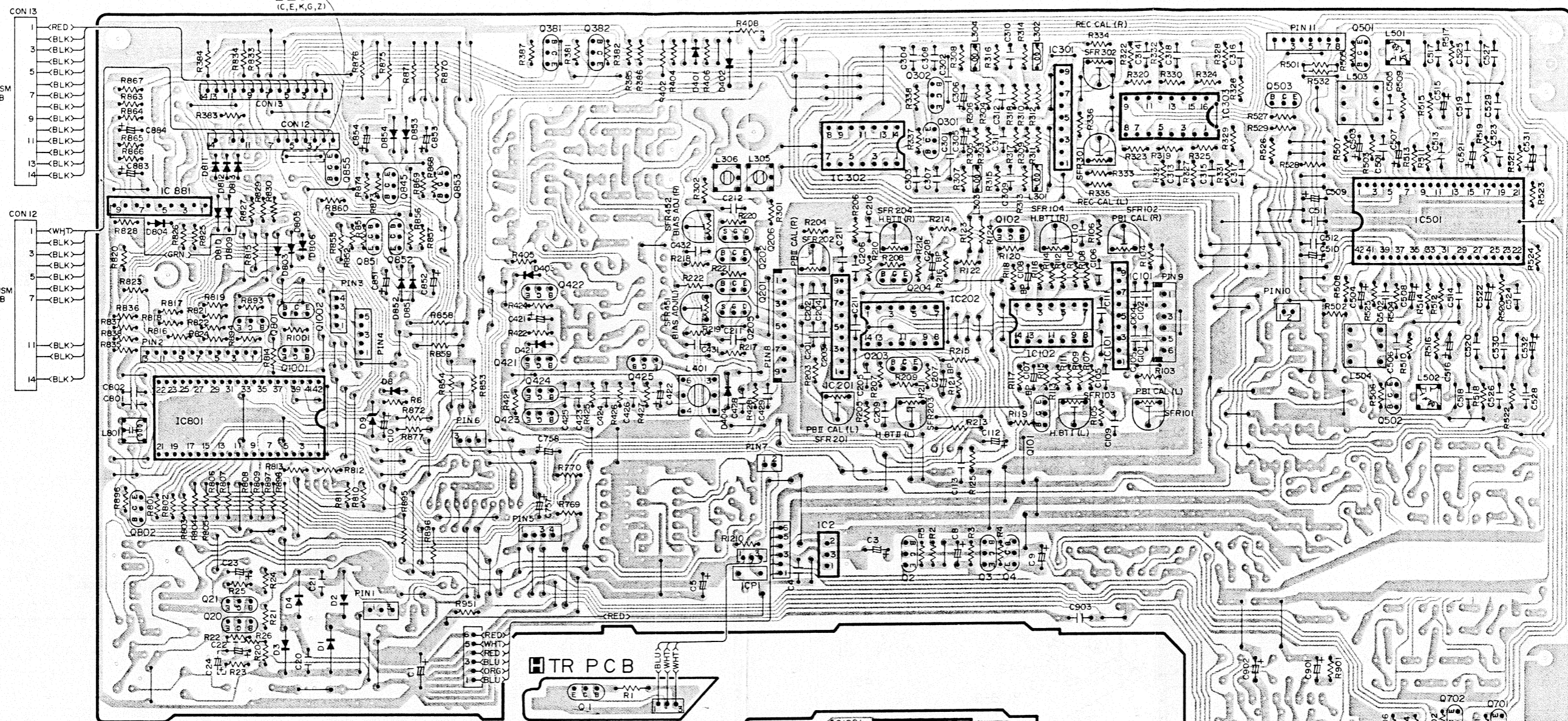


TRUTH TABLE

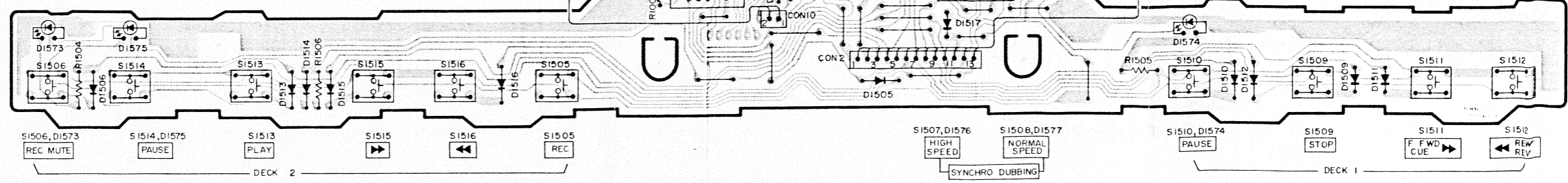
INHIBIT INPUT	CONTROL INPUT		CHANNEL INPUT/OUTPUT SWITCH OF COMMON TERMINAL			
	B	A	X ₀	X ₁	X ₂	X ₃
L	L	L	ON	OFF	OFF	OFF
L	L	H	OFF	ON	OFF	OFF
L	H	L	OFF	OFF	ON	OFF
L	H	H	OFF	OFF	OFF	ON
H	X	X	OFF	OFF	OFF	OFF

Note 1 X: "H" or "L"

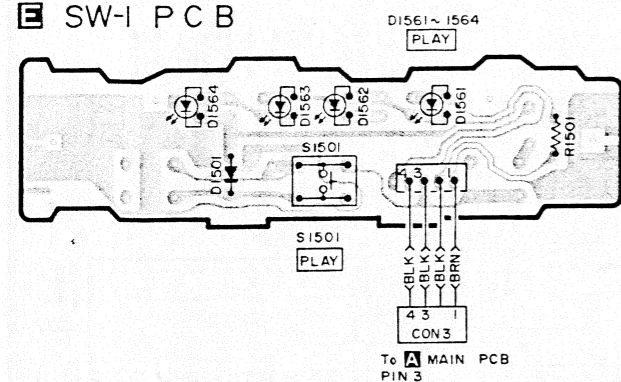
A MAIN PCB



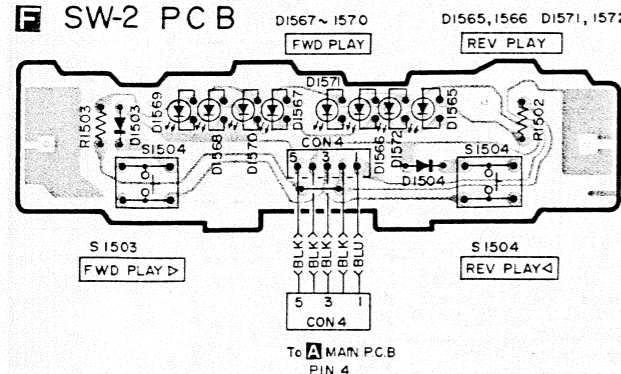
B KEY PCB



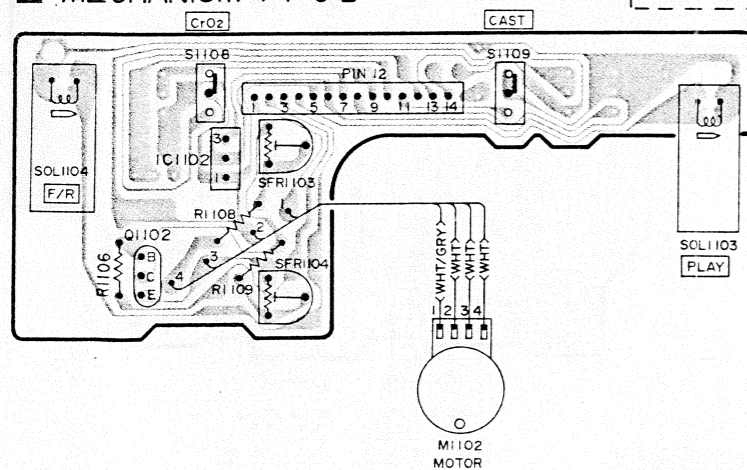
E SW-1 PCB



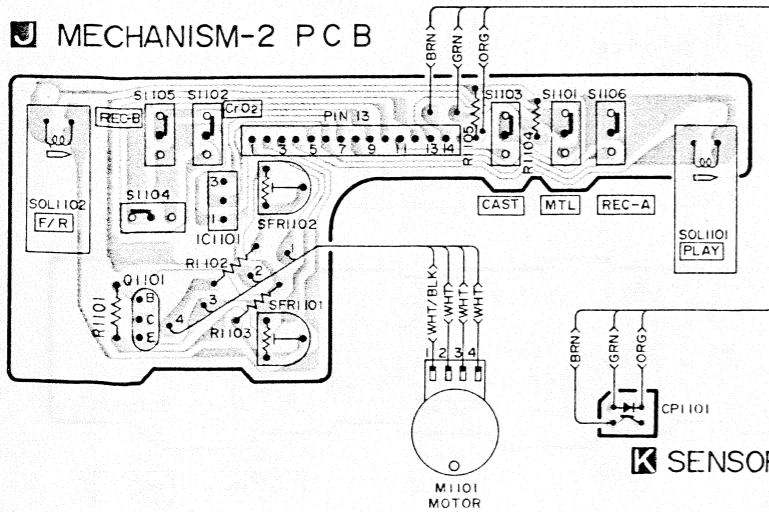
F SW-2 PCB



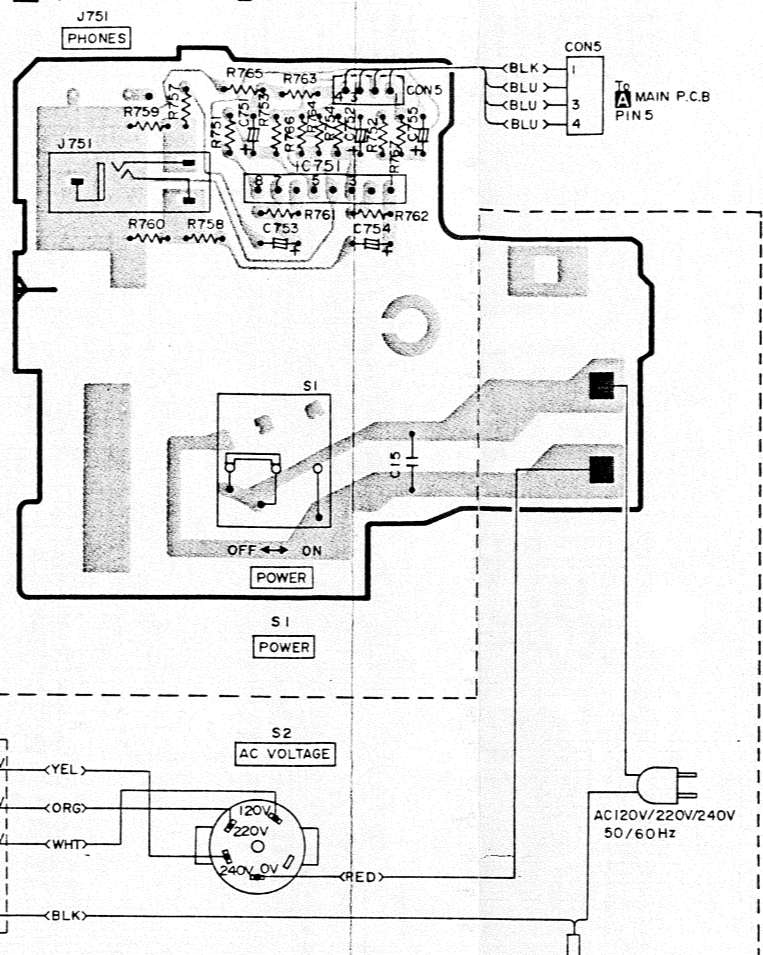
I MECHANISM-1 PCB



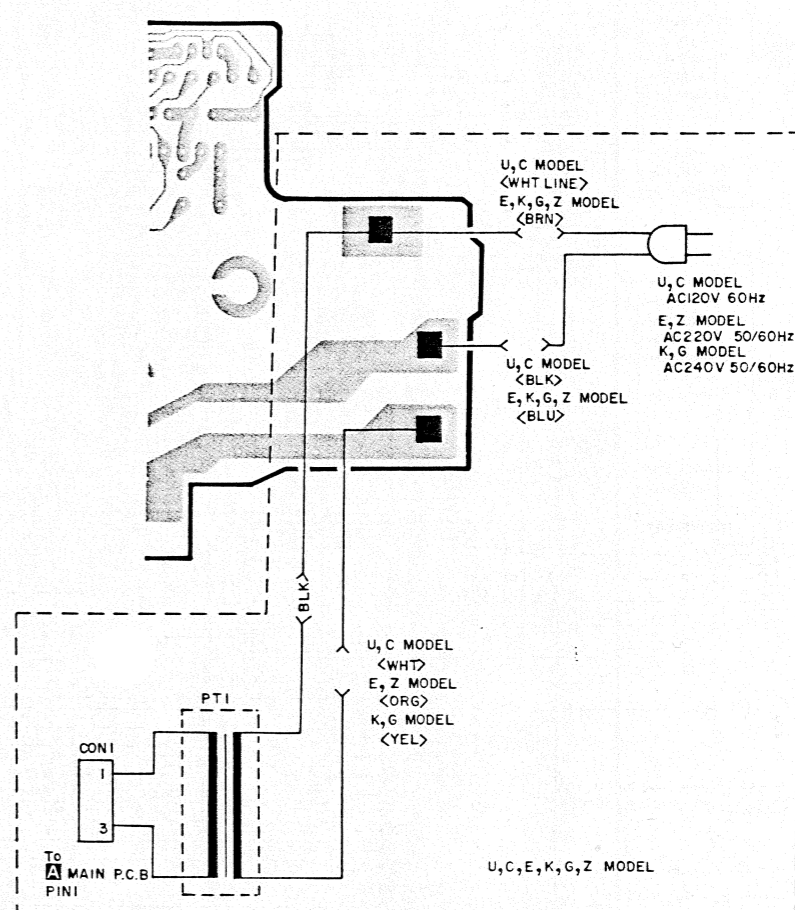
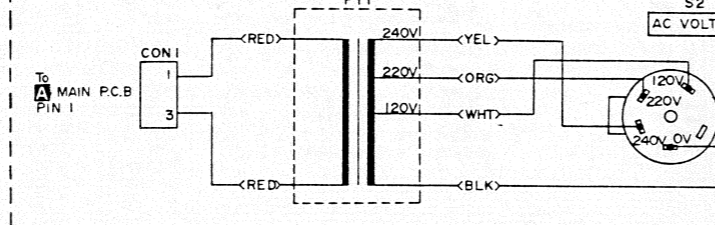
J MECHANISM-2 PCB



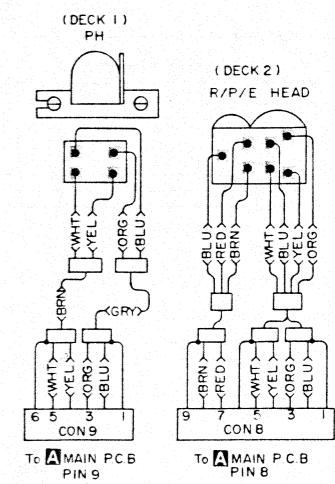
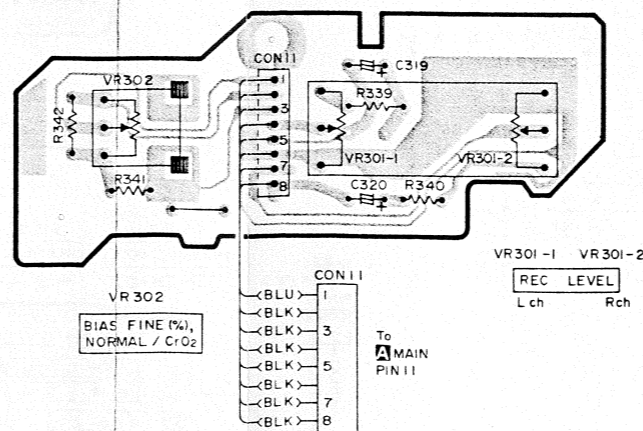
D POWER PCB



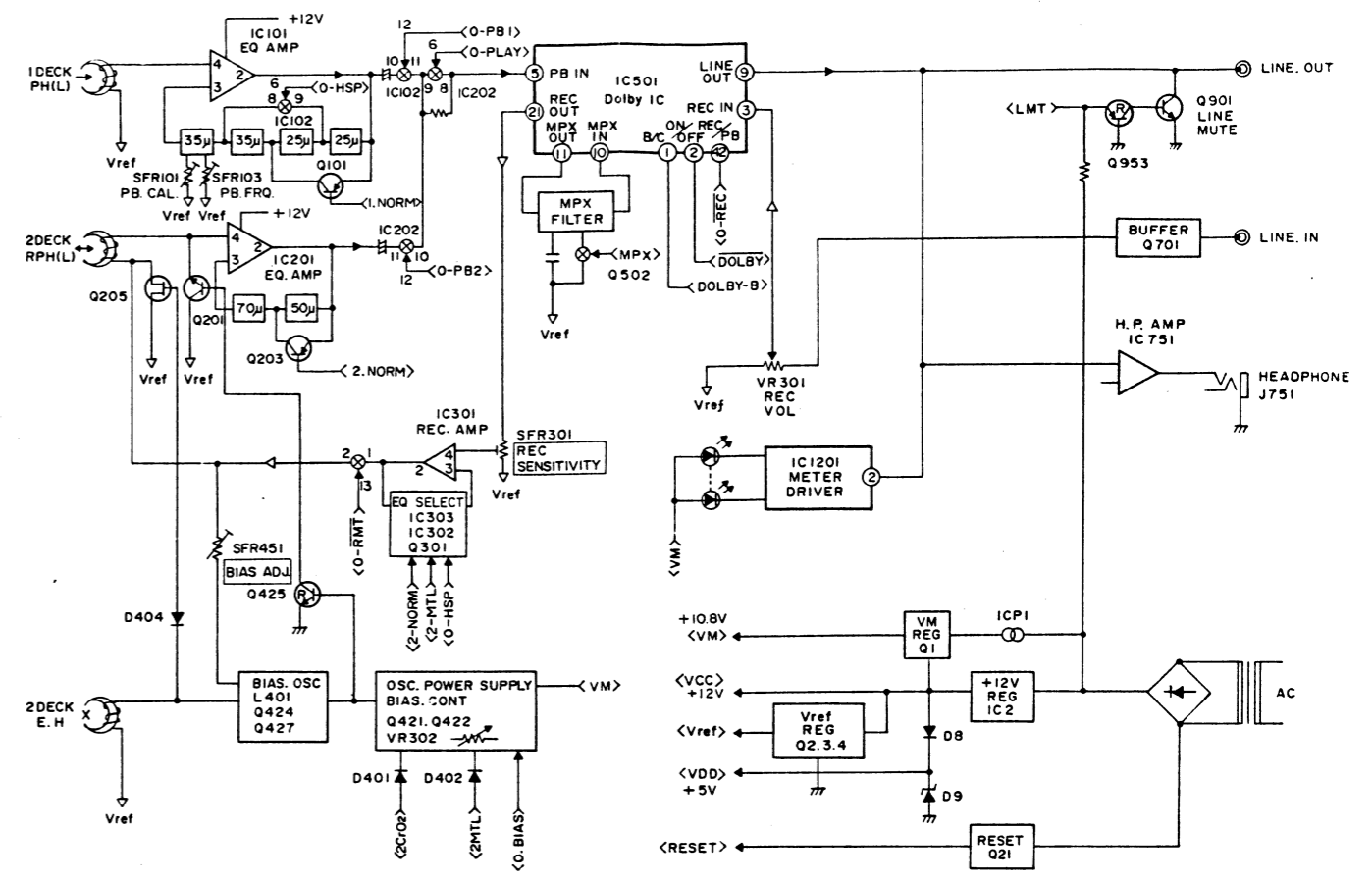
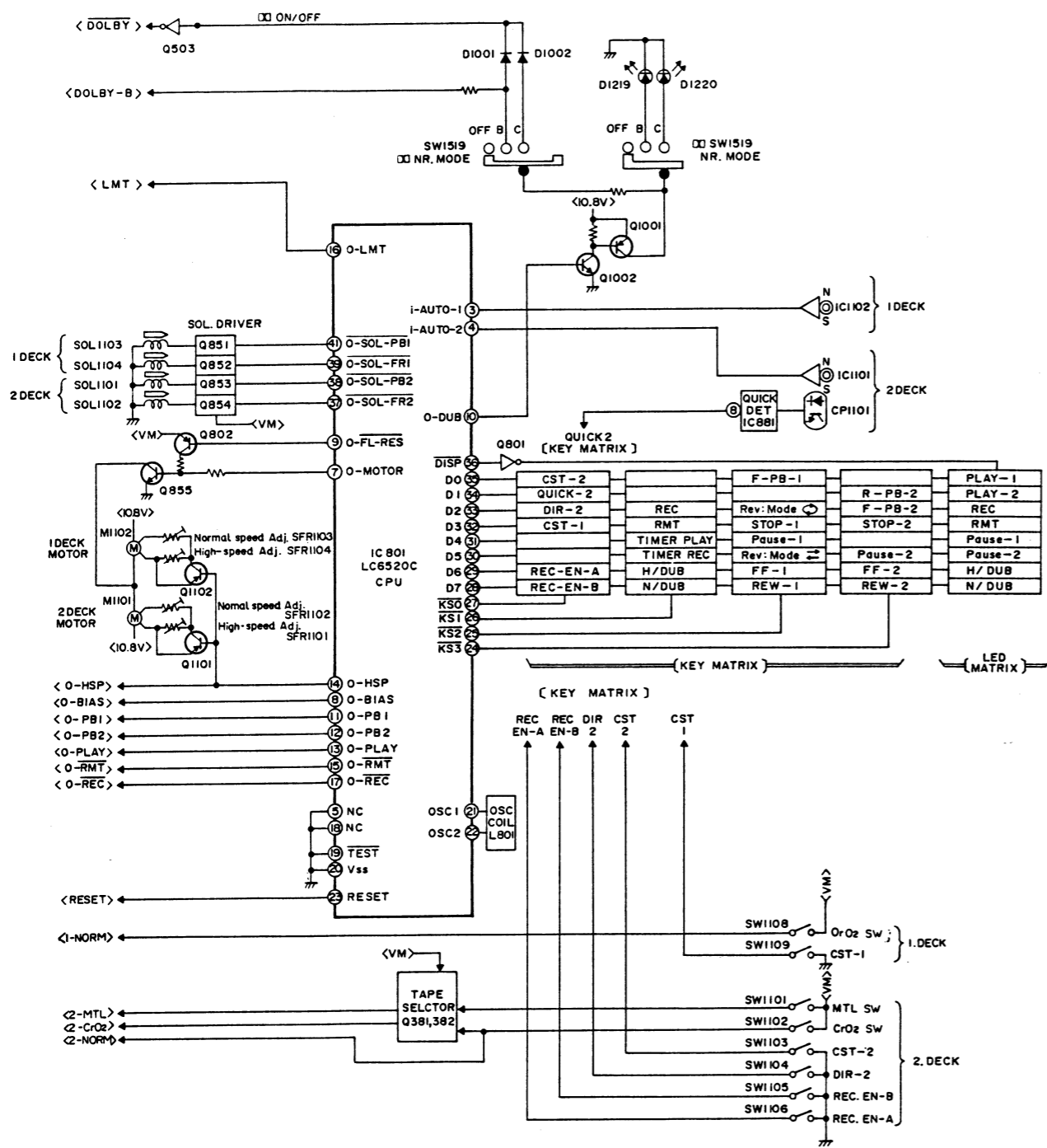
H MODEL ONLY



G VL PCB

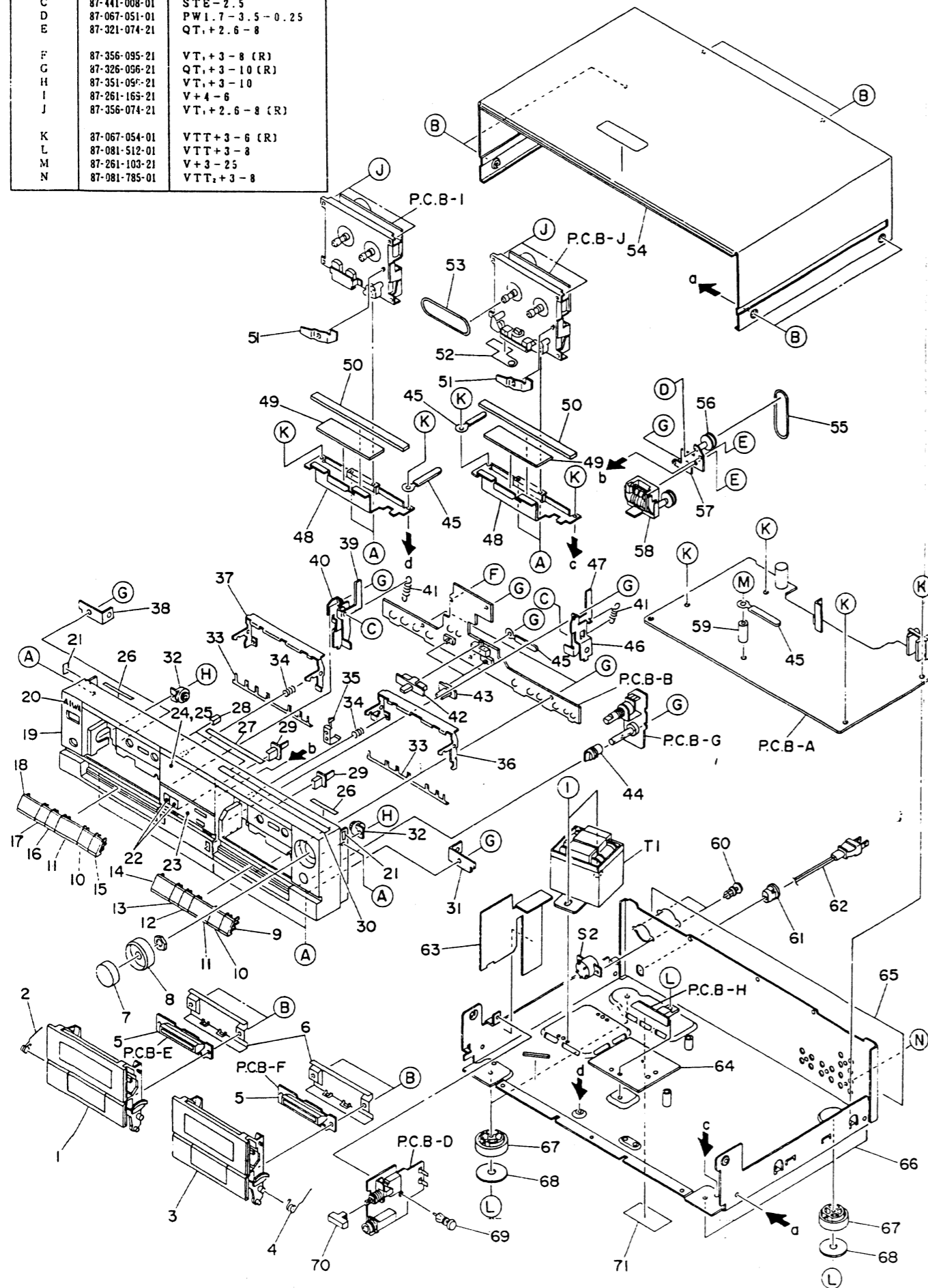


BLOCK DIAGRAM



EXPLODED VIEW-1

REF. NO.	PART NO.	DESCRIPTION
A	87-081-531-01	QTT+3-6
B	87-347-095-21	UT,+3-8 (B)
C	87-441-008-01	STE-2.5
D	87-067-051-01	PW1.7-3.5-0.25
E	87-321-074-21	QT,+2.6-8
F	87-356-095-21	VT,+3-8 (R)
G	87-326-096-21	QT,+3-10 (R)
H	87-351-095-21	VT,+3-10
I	87-261-165-21	V+4-6
J	87-356-074-21	VT,+2.6-8 (R)
K	87-067-054-01	VTT+3-6 (R)
L	87-081-512-01	VTT+3-8
M	87-261-103-21	V+3-25
N	87-081-785-01	VTT,+3-8

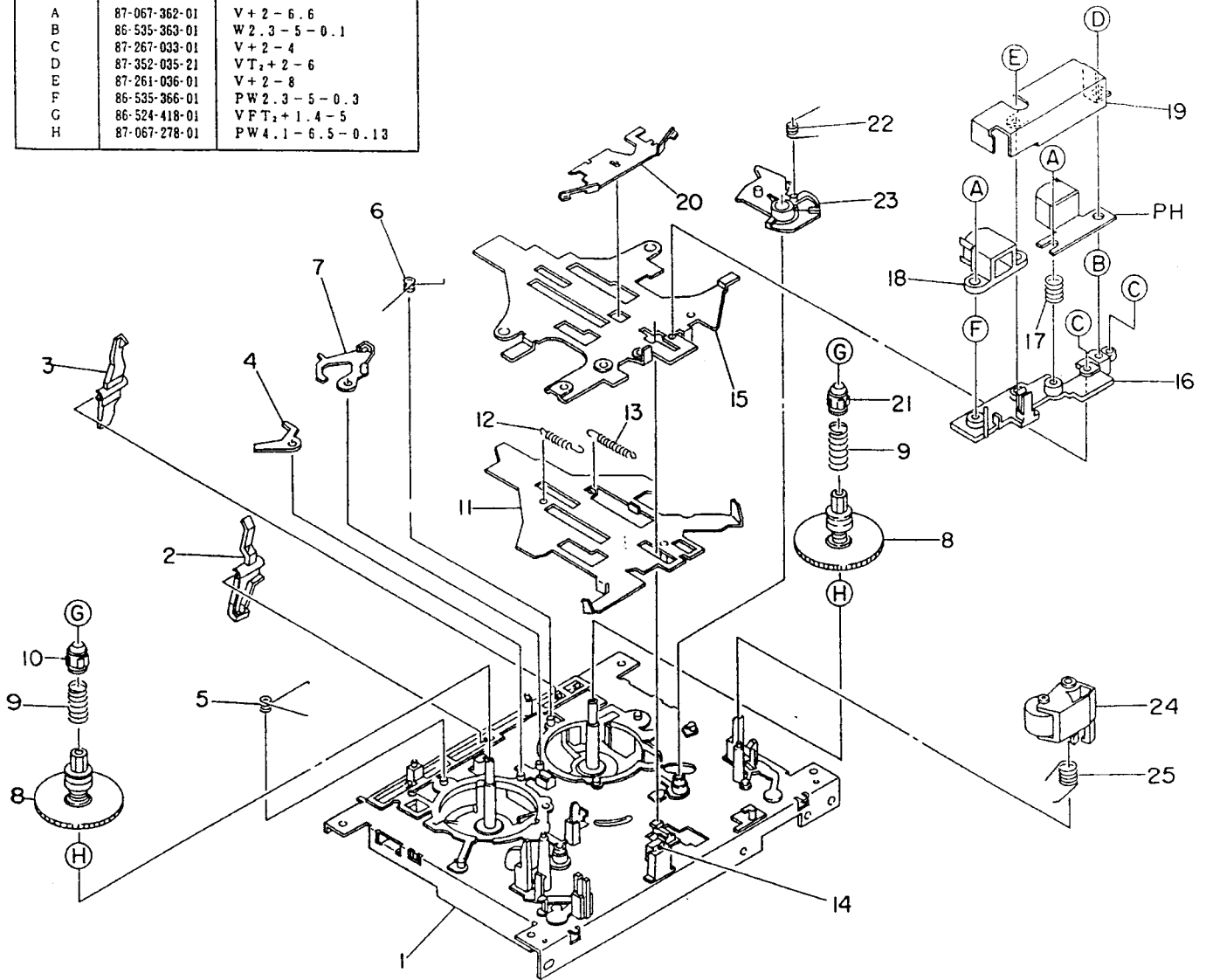


MECHANICAL PARTS LIST

PART NO. CHANGED TO	REF. NO.	PART NO.	ORDER	DESCRIPTION	COMMON MODEL	Q. TY
	1-1	09-047-278-010		CASSETTE BOX 1 ASSY(EXCEPT U)	*	1
	1-1	09-047-280-010		CASSETTE BOX 1 ASSY(U ONLY)	*	1
	1-2	*82-221-223-110		T-SPRING,EJECT 1	*	1
	1-3	09-047-279-010		CASSETTE BOX 2 ASSY(EXCEPT U)	*	1
	1-3	09-047-281-010		CASSETTE BOX 2 ASSY(U ONLY)	*	1
	1-4	*82-221-224-110		T-SPRING,EJECT 2	*	1
	1-5	*82-221-204-010		GUIDE,LED	*	2
	1-6	*82-221-033-010		PLATE,BOX REAR	*	2
	1-7	82-221-012-010		KNOB,VOLUME R	*	1
	1-8	82-221-011-010		KNOB,VOLUME L	*	1
	1-9	*82-221-039-010		PUSH-KEY ASSY,MUTE	*	1
	1-10	*82-221-038-010		PUSH-KEY ASSY,PAUSE	*	1
	1-11	*82-221-019-010		PUSH-KEY,STOP	*	2
	1-12	*82-224-014-010		PUSH-KEY,FF2	*	1
	1-13	*82-224-013-010		PUSH-KEY,REW2	*	1
	1-14	*82-221-017-010		PUSH-KEY,REC	*	1
	1-15	*82-221-024-010		PUSH-KEY,DUMMY B	*	1
	1-16	*82-224-012-010		PUSH-KEY,FF	*	1
	1-17	*82-224-011-010		PUSH-KEY,REW	*	1
	1-18	*82-221-023-010		PUSH-KEY,DUMMY A	*	1
	1-19	*82-224-001-110		CABINET,FRONT	*	1
	1-20	84-721-024-010		BADGE,AIWA	XC-001	1
	1-21	*81-544-235-010		SHEET 14-6-0.3	CS-W550	2
	1-22	*82-221-032-010		PUSH-KEY ASSY,DUBB	*	1
	1-23	*82-224-002-010		PANEL,CONTROL L	*	1
	1-24	*82-224-005-010		WINDOW,IND(REAR)	*	1
	1-25	*82-224-007-010		WINDOW,INDICATOR	*	1
	1-26	*82-221-232-010		FELT 4-30	*	2
	1-27	*82-224-208-010		SHEET 4-100	*	1
	1-28	*81-525-222-010		G CUSHION 6X3X2	HS-J300	2
	1-29	*82-221-029-010		PUSH-BUTTON,EJECT	*	2
	1-30	*82-174-045-110		BIAS EXPLANATION SHEET EX	*	1
	1-31	*82-221-209-010		HOLDER,C-BOX 2	*	1
	1-32	*87-063-143-010		OIL-DAMP 75	*	2
	1-33	*82-221-207-010		P-SPRING,PUSH-KEY	*	2
	1-34	*82-217-211-110		C-SPRING,LEVER EJECT	AD-WX909	2
	1-35	*82-221-206-010		EARTH PLATE,CENTER	*	1
	1-36	*82-221-222-010		PLATE,EJECT(3)-2	*	1
	1-37	*82-221-221-110		PLATE,EJECT(3)-1	*	1
	1-38	*82-221-208-010		HOLDER,C-BOX 1	*	1
	1-39	*82-221-210-010		LEVER,EJECT 1	*	1
	1-40	*82-221-216-010		HOLDER ASSY,EJECT 1	*	1
	1-41	*84-123-293-010		E-SPRING,M	*	2
	1-42	*82-221-014-010		KNOB,DOLBY	*	1
	1-43	*82-221-013-010		KNOB,REV MODE	*	2
	1-44	*84-424-008-010		KNOB,VOLUME	*	1
	1-45	---		WIRE BINDER	*	4
	1-46	*82-221-215-110		HOLDER ASSY,EJECT 2	*	1
	1-47	*82-221-211-010		LEVER,EJECT 2	*	1
	1-48	*82-221-214-010		HOLDER,MECHANISM	*	2
	1-49	*82-221-050-010		DAMPER,MECHANISM	*	2
	1-50	*82-217-248-010		DAMPER,MECHANISM 2	AD-WX909	2
	1-51	*82-217-213-110		LEVER,EJECT BLOCKING L	AD-WX909	2
	1-52	*82-221-229-010		PLATE,WIRE	*	1
	1-53	82-463-219-010		BELT,COUNTER	*	1
	1-54	*82-217-041-010		CABINET,STEEL(EXCEPT U)	AD-WX909	1
	1-54	*82-224-052-010		CABINET,STEEL 3(U ONLY)	*	1
	1-55	82-422-279-010		BELT B,COUNTER	*	1
	1-56	*82-146-202-010		RELAY PULLEY	FX-W60	1
	1-57	*82-224-203-010		HOLDER ASSY,COUNTER	*	1
	1-58	*87-040-193-010		COUNTER	*	1
	1-59	*82-221-230-010		COLLAR 18,LED	*	1
	1-60	*87-085-090-010		NYLON RIVET 3-6.5(H ONLY)	*	2
	1-61	*87-085-184-010		AC CORD BUSHING(H ONLY)	*	1
	1-61	*87-085-189-010		AC CORD BUSHING(U,C ONLY)	*	1
	1-61	*87-085-185-010		AC CORD BUSHING(E,K,G,Z ONLY)	*	1
	1-62	*87-034-732-010		AC CORD ASSY(H ONLY)	*	1
	1-62	*87-034-731-010		AC CORD ASSY(U,C ONLY)	*	1
	1-62	*87-034-736-010		AC CORD ASSY(E,Z ONLY)	*	1
	1-62	*87-034-734-010		AC CORD ASSY(K ONLY)	*	1
	1-62	*87-034-735-010		AC CORD ASSY(G ONLY)	*	1
	1-63	*82-221-225-010		COVER,TERMINAL	*	1
	1-64	---		HEAT SINK	*	1
	1-65	---		NAME PLATE, JACK	*	1
	1-66	*82-221-201-010		CHASSIS ASSY,AMP.(H ONLY)	*	1
	1-66	*82-221-217-010		CHASSIS ASSY,AMP.(EXCEPT H)	*	1
	1-67	*81-715-051-010		FOOT(4D)	*	4
	1-68	*82-217-069-010		FELT φ 33.5	AD-WX909	4
	1-69	*87-084-086-010		NYLON RIVET 3.5-4.5	*	1
	1-70	84-721-023-010		PUSH-BUTTON,POWER	XC-001	1
	1-71	*82-221-227-010		COVER,HALL	*	1

EXPLODED VIEW-2 (DECK 1)

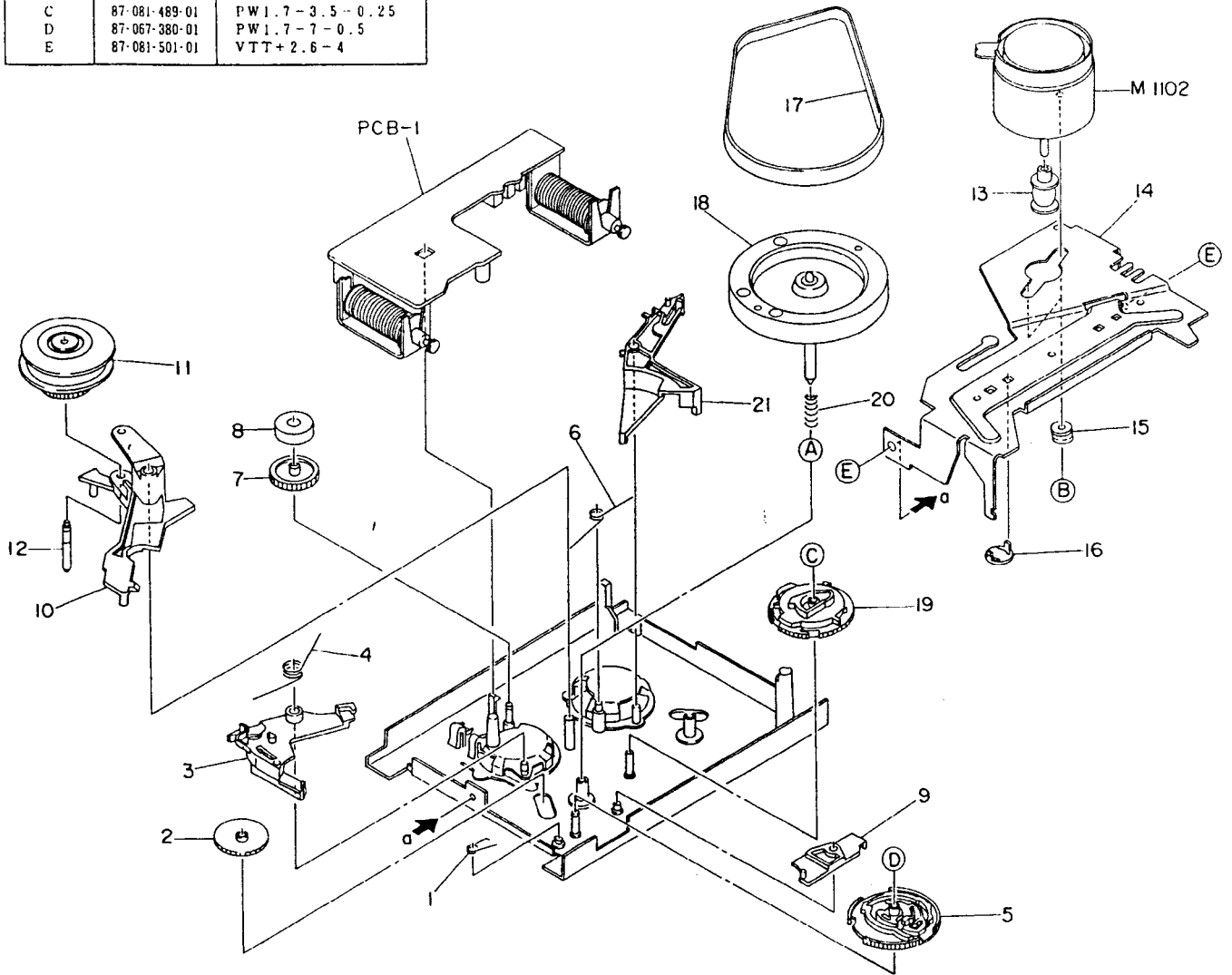
REF.NO.	PART NO.	DESCRIPTION
A	87-067-362-01	V+2-6.6
B	86-535-363-01	W2.3-5-0.1
C	87-267-033-01	V+2-4
D	87-352-035-21	VT;+2-6
E	87-261-036-01	V+2-8
F	86-535-366-01	PW2.3-5-0.3
G	86-524-418-01	VFT;+1.4-5
H	87-067-278-01	PW4.1-6.5-0.13



PART NO. CHANGED TO	REF. NO.	PART NO.	ORDER	DESCRIPTION	COMMON MODEL	Q, TY
	2-1	*86-535-339-110		OUTSERT CHASSIS ASSY		1
	2-2	*86-535-249-110		LEVER, CASSETTE DETECTION		1
	2-3	*86-535-254-010		LEVER, CHROME		1
	2-4	*86-535-252-110		LEVER, BRAKE R		1
	2-5	*86-535-358-010		T-SPRING, BRAKE R		1
	2-6	*86-535-276-010		T-SPRING, BRAKE		1
	2-7	*86-535-251-010		LEVER, BRAKE F		1
	2-8	*86-535-293-010		C-SPRING, REEL PLATFORM		2
	2-9	86-535-240-010		REEL PLATFORM R ASSY		2
	2-10	*86-524-218-110		STOPPER S, REEL PLATFORM		1
	2-11	*86-535-215-110		SLIDE PLATE ASSY		1
	2-12	*86-535-285-010		E-SPRING, SLIDE		1
	2-13	*86-535-286-010		E-SPRING, ACTUATING		1
	2-14	*86-535-353-010		FELT 5-4-2		1
	2-15	*86-535-311-010		ACTUATING CHASSIS S		1
	2-16	*86-535-314-010		BASE, HEAD		1
	2-17	*86-535-359-010		C-SPRING, AZIMUTH S		1
	2-18	*82-174-222-110		EH DUMMY		1
	2-19	*86-535-362-010		PLATE, HEAD SHIELD		1
	2-20	*86-535-289-010		P-SPRING, ACTUATING		1
	2-21	*86-524-233-110		STOPPER T, REEL PLATFORM		1
	2-22	*86-535-282-010		T-SPRING, PLAY GEAR F		1
	2-23	*86-535-238-110		LEVER, PLAY F		1
	2-24	86-535-226-110		PINCH LEVER F ASSY		1
	2-25	*86-535-312-010		T-SPRING, PINCH S		1

EXPLODED VIEW-3 (DECK 1)

REF.NO.	PART NO.	DESCRIPTION
A	87-067-332-01	PW2.8-4.7-0.13
B	86-524-457-01	U+2.6-5.5
C	87-081-489-01	PW1.7-3.5-0.25
D	87-067-380-01	PW1.7-7-0.5
E	87-081-501-01	VTT+2.6-4



PART NO. CHANGED TO	REF. NO.	PART NO.	ORDER	DESCRIPTION	COMMON MODEL	Q, TY
	3-1	*86-535-291-010		T-SPRING,FR CAM		1
	3-2	86-535-259-110		GEAR,PLAY		1
	3-3	*86-535-230-110		LEVER,TRIGGER FR		1
	3-4	*86-535-278-010		T-SPRING,FR		1
	3-5	*86-535-261-210		CAM,FR P		1
	3-6	*86-535-279-010		T-SPRING,MAIN		1
	3-7	86-535-258-310		GEAR,IDLER		1
	3-8	*86-535-614-010		RING,MAGNET(4P)		1
	3-9	*86-535-223-310		LEVER,PAUSE		1
	3-10	*86-535-233-010		LEVER,FR		1
	3-11	*86-535-301-010		SLIPDISC ASSY		1
	3-12	*86-535-235-010		SHAFT,FR		1
	3-13	*86-535-315-010		PULLEY,MOTOR		1
	3-14	---		HOLDER,MOTOR		1
	3-15	*86-513-441-110		COLLAR		2
	3-16	*86-535-255-010		FLYWHEEL BEARING		1
	3-17	86-535-316-110		BELT S(A)		1
	3-18	86-535-264-010		FLYWHEEL F ASSY		1
	3-19	*86-535-260-310		CAM,MAIN		1
	3-20	*86-535-288-010		C-SPRING,FLYWHEEL		1
	3-21	*86-535-231-210		LEVER,TRIGGER PLAY		1

■ DECK 2 (X-3R4)

See the X-3 Mechanism (Supplement of Service Manual) for the exploded views.
The following parts have been changed for this model.

ALTERATION PARTS LIST

PART NO. CHANGED TO	REF. NO.	PART NO.	ORDER	DESCRIPTION	COMMON MODEL	Q, TY
	1-20	*86-535-351-110		ACTUATING CHASSIS PH ASSY		1
	1-23	*86-535-356-010		HEAD HOUSING PH ASSY		1
	1-44	*86-535-353-010		FELT 5-4-2		1
	2-17	86-535-394-010		BELT		1

ADDITIONAL PARTS LIST

PART NO. CHANGED TO	REF. NO.	PART NO.	ORDER	DESCRIPTION	COMMON MODEL	Q, TY
	1-45	*86-535-358-010		T-SPRING, BRAKE R		1

The following REF.NOS. are not used in this model.
1-4, 2-9

EXPLODED VIEW

