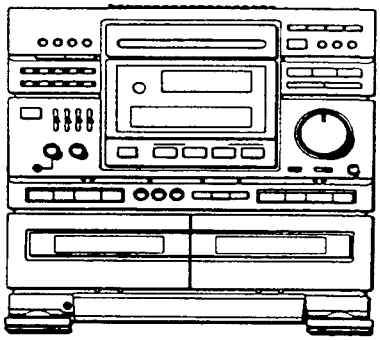
S/M Code No.91 – 006 DATE OF ISSUE 3/1991 –

AIWA®

CX-810

SERVICE MANUAL



COMPACT DISC STEREO SYSTEM

- BASIC TAPE MECHANISM : TN – 1800
- BASIC CD MECHANISM : KSL – 210AFM
- TYPE. E,K,Z

[REVISED SERVICE MANUAL]

Hdnr 312

This is a improved model being based on NSX – 800. Only the modifications are stated in this manual.
Use this manual with NSX – 800 Service Manual (S/M code No. 90 – 027).

AIWA Co., Ltd. Tokyo Japan

SPECIFICATIONS

TUNER SECTION

<FM section>

Frequency range	87.5 MHz to 108 MHz
Usable sensitivity	CX-810E,K 1.6 μV (75 ohms) 15.2 dBf (IHF) CX-810Z 1.9 μV (75 ohms) 16.8 dBf (DIN)
Altemate channel selectivity	CX-810E,K 50 dB (±400 kHz) CX-810Z 65 dB (±400 kHz)
Signal-to-noise ratio	CX-810E,K 70 dB (STEREO), 78 dB (MONO) CX-810Z 66 dB (STEREO), 72 dB (MONO)
Harmonic distortion	0.3% (MONO), 1 kHz 0.8% (STEREO), 1 kHz
Frequency response	20 Hz to 15 kHz (+0.5 dB, −3 dB)
Stereo separation	30 dB at 1 kHz
Antenna	75 ohms (unbalanced)

<MW section>

Frequency range	522 kHz to 1,611 kHz
Usable sensitivity	300 μV/m
Selectivity	22 dB
Signal-to-noise ratio	53 dB (100 dB input)
Antenna	Loop antenna

<LW section>

Frequency range	153 kHz to 290 kHz
Usable sensitivity	1,000 μV/m
Antenna	Loop antenna

<Timer section>

Program timer	"Once" and/or "every"
Sleep timer	Capable of setting in 10-minute increments, 99 minutes maximum

AMPLIFIER SECTION

Power output	75W + 75 W (6 ohms, EIAJ, 1 kHz) 55W + 55 W (6 ohms, T.H.D. 1%, 1 kHz)
Harmonic distortion	0.05% (25 W, 1 kHz, 6 Ω)
Input sensitivity (load impedance)	DAT/AUX 350 mV (10 k ohms)
Signal-to-noise ratio	85 dB

CASSETTE DECK SECTION

Track format	4 tracks. 2 channels
Frequeny response	METAL tape: 20–17,000 Hz (Playback only) CrO2tape: 40–15,000 Hz (Record/Playback) Normal tape: 40–15,000 Hz (Record/Playback)
Signal-to-noise ratio	60 dB (DOLBY NR ON, peak level)
Wow and flutter	0.13% (WRMS)
Tape speed	4.8 cm/sec. (1-7/8 ips) 9.5 cm/sec. (double speed)
Motor	DC servomotor (2)
Heads	Playback head (1) (Deck 1) Record/playback/erase head (1) (Deck 2)

COMPACT DISC SECTION

Disc	Compact disc
Scanning method	Non contact optical scanner (semiconductor laser application)
Laser	Semiconductor laser λ=780 nm
Rotation speed	Approx. 500 rpm–200 rpm (CLV)
Error correction	Cross Interleave, Read Solomon Code
No. of Channels	2 channels
D-A conversion	16-bit linear
Wow & Flutter	Unmeasurable
Filter	16 bit two times oversampling digital filter & tertiary active filter

SPEAKER

Cabinet type	2 way bass reflex (Magnetically Shield)
Speaker	130 mm cone type woofer 60 mm cone type tweeter
Impedance	6 ohms
Dimensions	186 (W) × 300(H) × 220(D) mm
Weight	4.0 kg

COMMON SECTION

Power requirements	CX-810E,K 220 V AC, 50 Hz CX-810Z 240 V AC, 50 Hz
Power consumption	CX-810E,K 270 W CX-810Z 280 W
Dimensions	672 (W) × 302 (H) × 310 (D) mm
Weight	18.0 kg (Including speakers)

• Design and specifications are subject to change without notice.

- Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
- "DOLBY" and the double-D symbol ⧈ are trademarks of Dolby Laboratories Licensing Corporation.
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- Under license form BBE Sound, Inc.

ALTERATION PARTS LIST

===FRONT CIRCUIT BOARD SECTION===

LED1	87 – 002 – 389 – 010	LED, SEL3413E (CD)
LED2	87 – 002 – 389 – 010	LED, SEL3413E (CD)
LED3	87 – 002 – 389 – 010	LED, SEL3413E (DAT/AUX)
LED4	87 – 002 – 389 – 010	LED, SEL3413E (DAT/AUX)
LED5	87 – 002 – 389 – 010	LED, SEL3413E (TAPE)
LED6	87 – 002 – 389 – 010	LED, SEL3413E (TAPE)
LED7	87 – 002 – 389 – 010	LED, SEL3413E (TUNER)
LED8	87 – 002 – 389 – 010	LED, SEL3413E (TUNER)

===CD MAIN CIRCUIT BOARD SECTION===

D702	87 – 001 – 574 – 010	DIODE, 1SR139 – 200

===POWER AMP CIRCUIT BOARD SECTION===

C139	★87 – 010 – 453 – 019	CAP, ELECT 4700 – 25 (K)
D23	87 – 001 – 574 – 010	DIODE, 1SR139 – 200
D24	87 – 001 – 574 – 010	DIODE, 1SR139 – 200
D25	87 – 001 – 574 – 010	DIODE, 1SR139 – 200
⚠F2	87 – 035 – 366 – 018	FUSE, 2.5A 250V T E/K

===PT – 1 CIRCUIT BOARD SECTION===

⚠F1	87 – 035 – 365 – 018	FUSE, 2A 250V T E

===MISCELLANEOUS===

⚠	★87 – 034 – 781 – 018	AC CORD E (E, Z)
⚠	★87 – 034 – 592 – 018	AC CORD K (K)
⚠PT101	89 – MX1 – 719 – 018	POWER TRANSFORMER MAIN <E – TB> (E, Z)

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!!
WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION. BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.

ADVARSEL!

Usynlig laserståling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

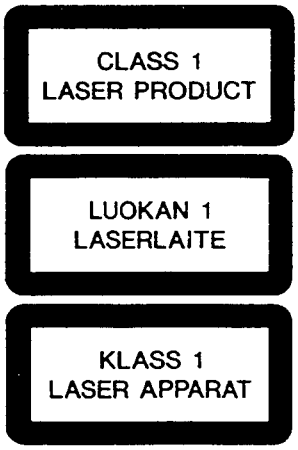
VARO!
Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen.

VARNING!
Osynlig laserstrålning när denna del är öppnad och spärren är urkopplad. Betrakta ej strålen.

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

ATTENTION
L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

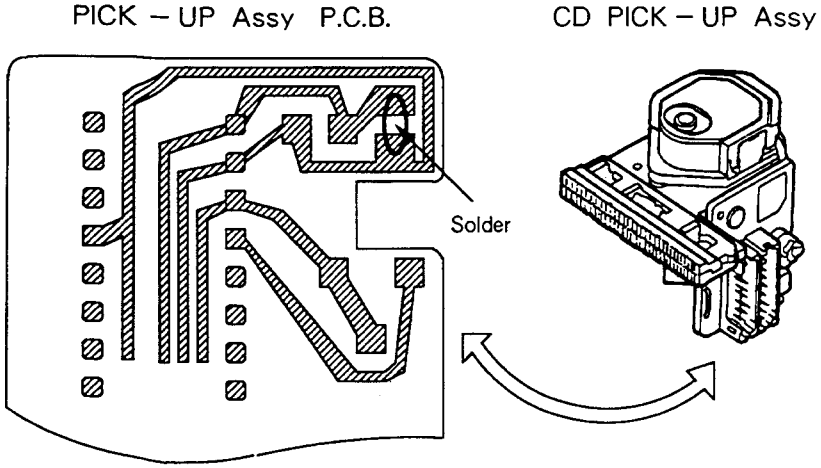
This Compact Disc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the rear exterior.



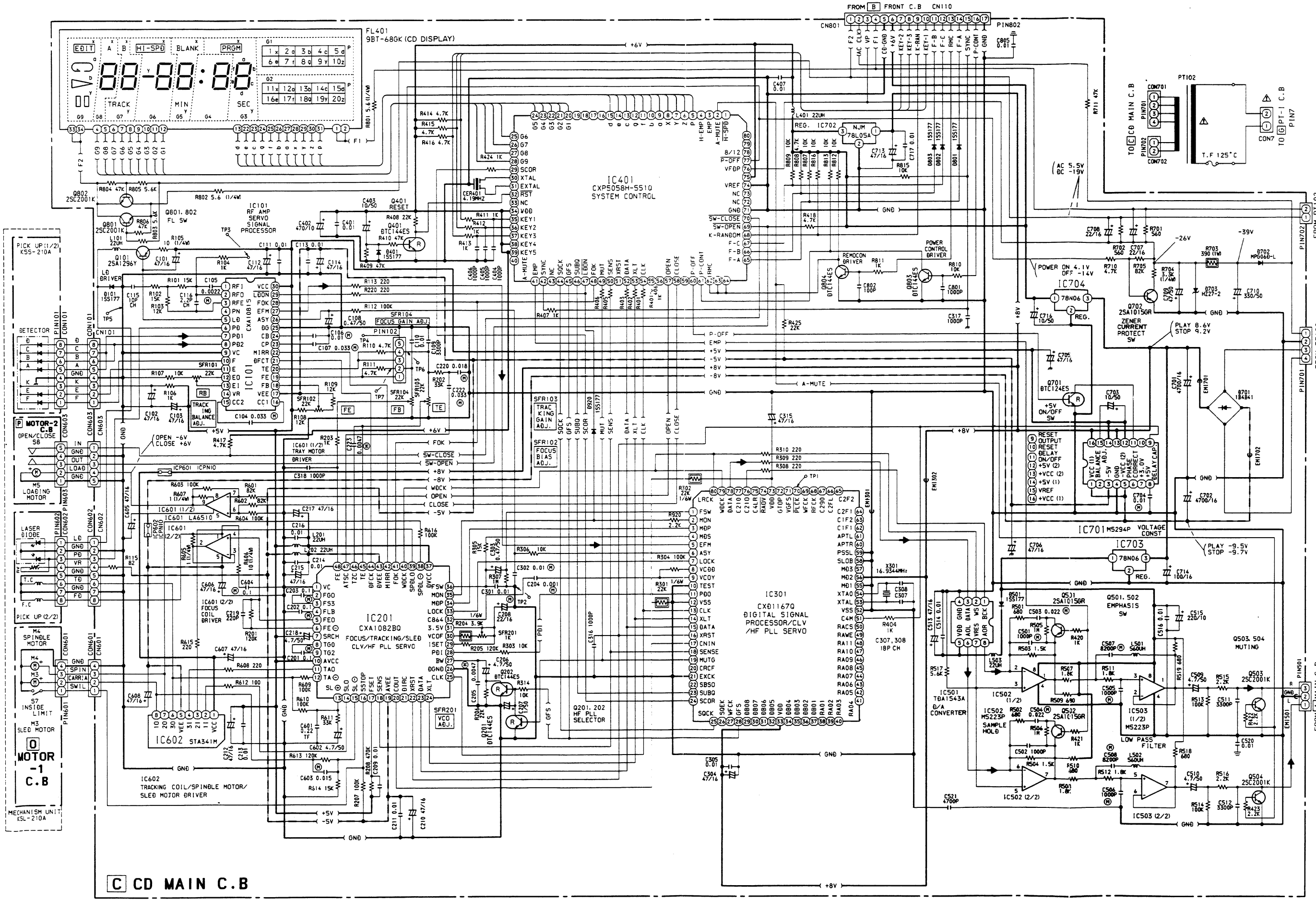
Precaution to replace Optical block (KSS – 210A)

Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure ground body and workbench, and use care the clothes do not touch the diode.

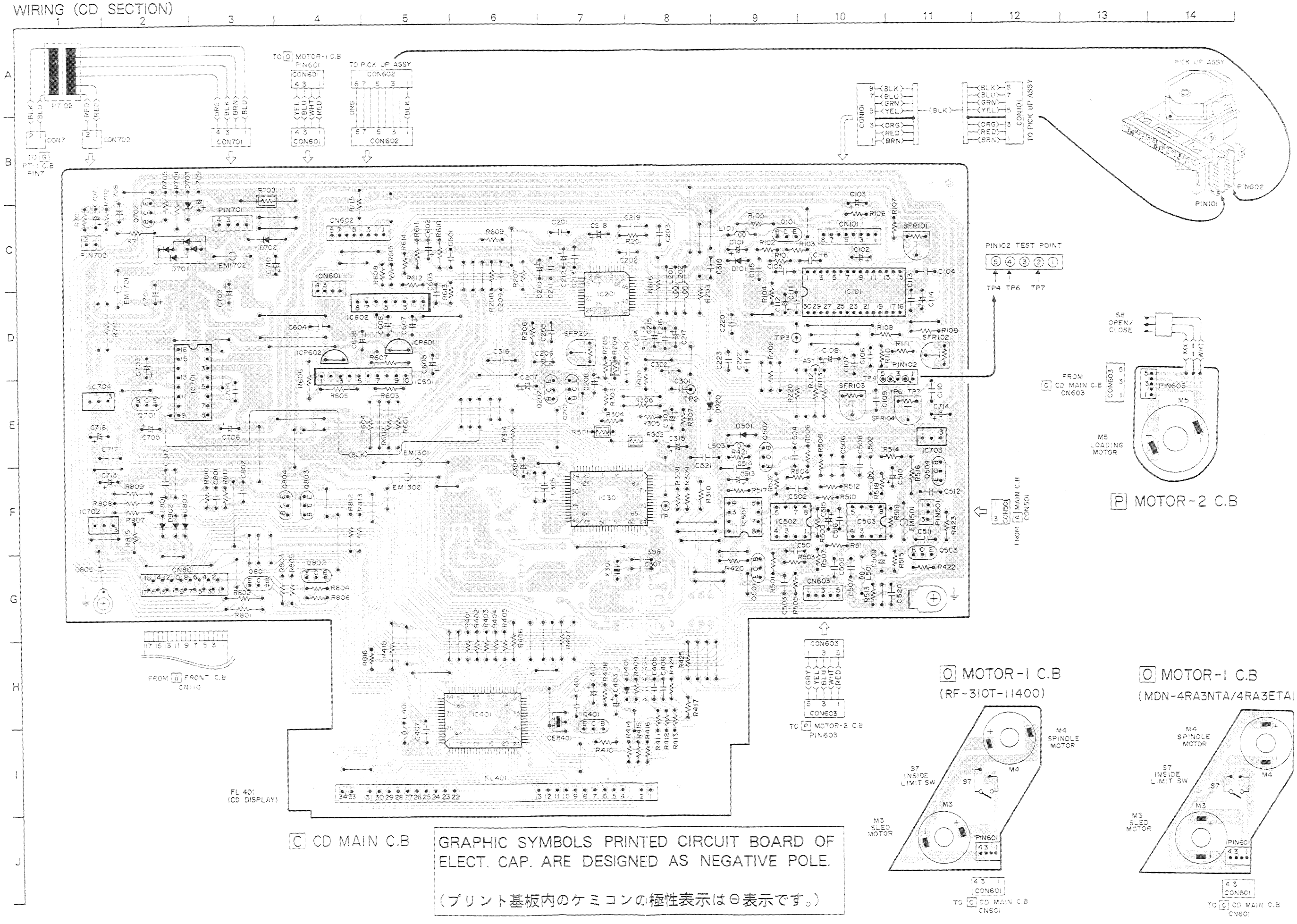
1) After the connection, remove solder shown in figure below.



SCHEMATIC DIAGRAM (CD SECTION)



WIRING (CD SECTION)

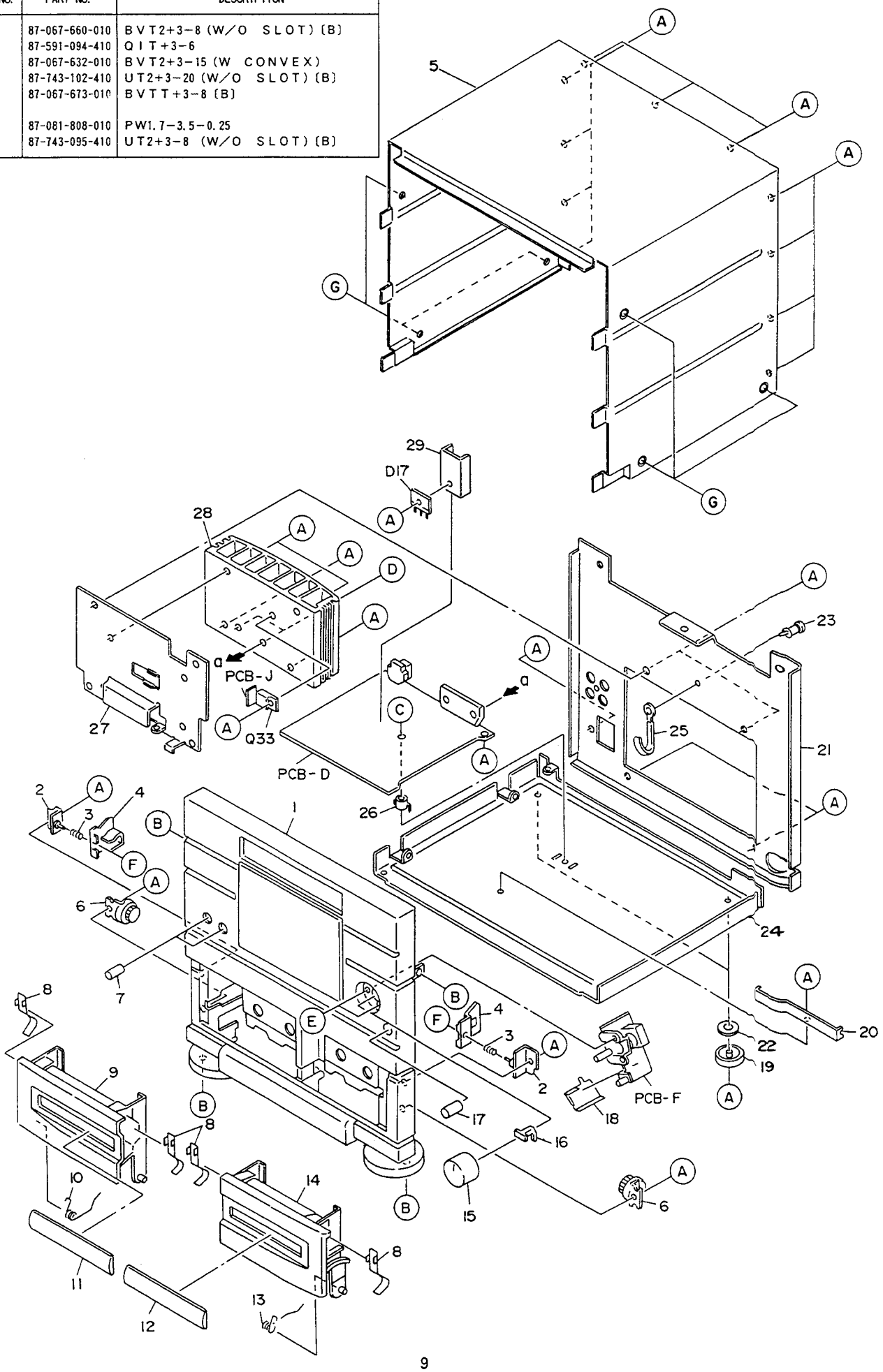


GRAPHIC SYMBOLS PRINTED CIRCUIT BOARD OF ELECT. CAP. ARE DESIGNED AS NEGATIVE POLE.

(プリント基板内のケミコンの極性表示はⓇ表示です。)

EXPLODED VIEW – 1

REF. NO.	PART NO.	DESCRIPTION
A	87-067-660-010	BVT2+3-8 (W/O SLOT) (B)
B	87-591-094-410	QIT+3-6
C	87-067-632-010	BVT2+3-15 (W CONVEX)
D	87-743-102-410	UT2+3-20 (W/O SLOT) (B)
E	87-067-673-010	BVTT+3-8 (B)
F	87-081-808-010	PW1.7-3.5-0.25
G	87-743-095-410	UT2+3-8 (W/O SLOT) (B)

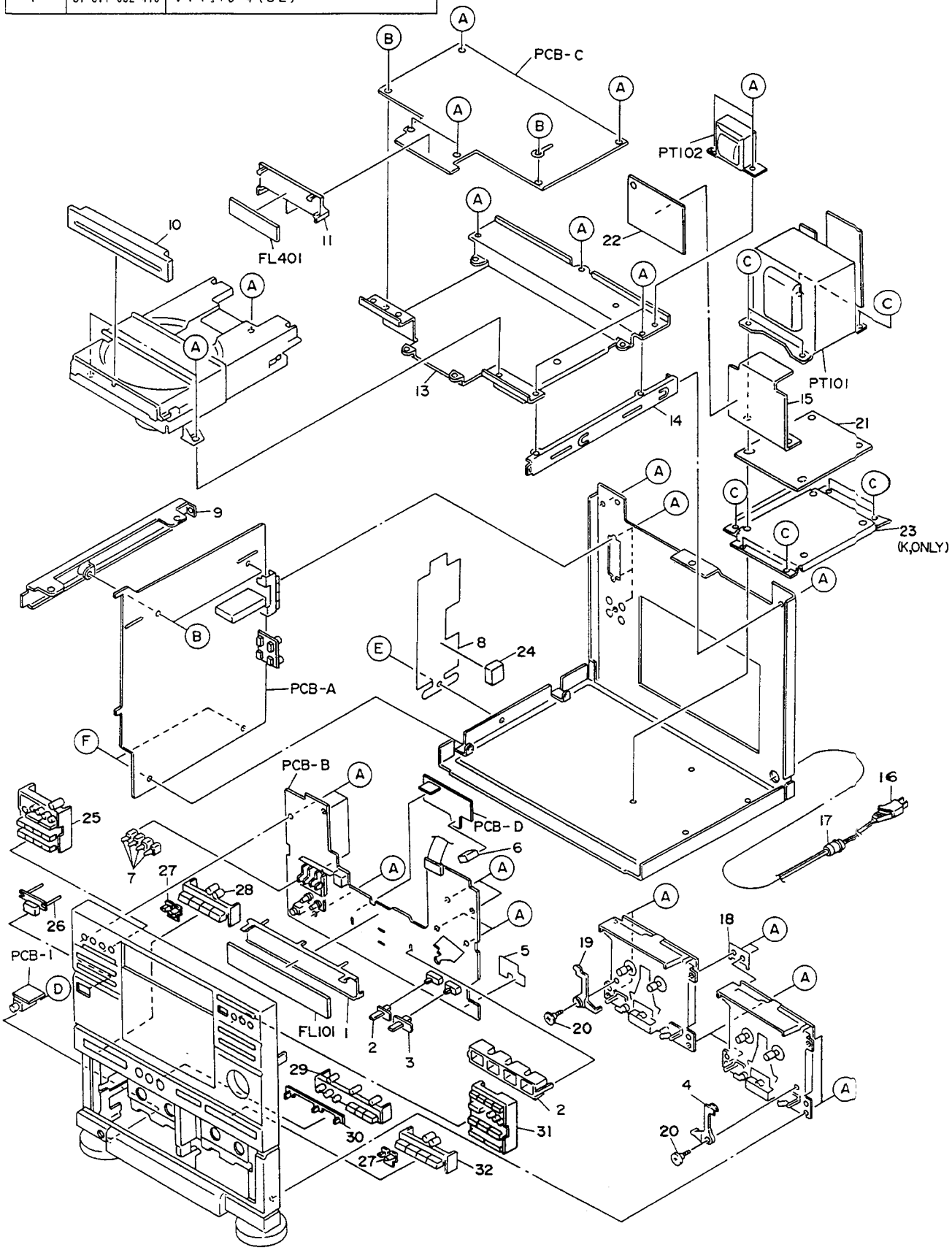


MECHANICAL PARTS LIST

PART NO. CHANGED TO	REF. NO	PART NO.	DESCRIPTION	COMMON MODEL	Q'TY
	1-1	★09-047-572-010	CABINET, FRONT ASSY	※	1
	1-2	★81-693-209-010	HOLDER LOCK ASSY		2
	1-3	★81-715-234-010	C-SPRING, LOCK PLATE		2
	1-4	★81-715-214-210	PLATE, LOCK		2
	1-5	★89-MX1-127-010	CABINET, STEEL, G	※	1
	1-6	★87-063-144-010	OIL DAMPER 37		2
	1-7	★89-MX1-026-010	KNOB, BBE	※	2
	1-8	★82-202-217-110	P-SPRING, CASSETTE HOLDER		4
	1-9	89-MX1-110-010	BOX, CASSETTE	※	1
	1-10	★81-693-205-010	T-SPRING, 1		1
	1-11	★89-MX1-035-010	WINDOW, BOX L	※	1
	1-12	★89-MX1-046-010	WINDOW, BOX R	※	1
	1-13	★81-693-206-010	T-SPRING, 2		1
	1-14	89-MX1-111-010	BOX, CASSETTE	※	1
	1-15	★89-MX1-025-010	KNOB, VOLUME	※	1
	1-16	★89-MX1-028-010	INDICATOR, POWER	※	1
	1-17	★89-MX1-047-010	KNOB, BALANCE	※	1
	1-18	★89-MX1-684-010	SHIELD CASE, VOLUME	※	1
	1-19	★89-MX1-074-010	FOOT, REAR 2	※	2
	1-20	★89-MX1-204-010	HOLDER, P.C.B	※	1
	1-21	★89-MX1-113-010	PANEL, REAR (E)	※	1
	1-21	★89-MX1-114-010	PANEL, REAR (K)	※	1
	1-21	★89-MX1-115-010	PANEL, REAR (Z)	※	1
	1-22	★89-MX1-236-010	SHEET, FOOT REAR	※	2
	1-23	★87-084-077-010	RIVET, NYLON 3.5-4.5		1
	1-24	---	CHASSIS, MAIN		1
	1-25	---	WIRE BINDER		1
	1-26	★89-MX1-217-010	HOLDER, P.C.B 9.9	※	1
	1-27	★89-MX1-207-210	HOLDER, HS (E, Z)	※	1
	1-27	★89-MX1-231-010	HOLDER, HS (K)	※	1
	1-28	---	HEAT SINK		1
	1-29	---	HEAT SINK B		1

EXPLODED VIEW – 2

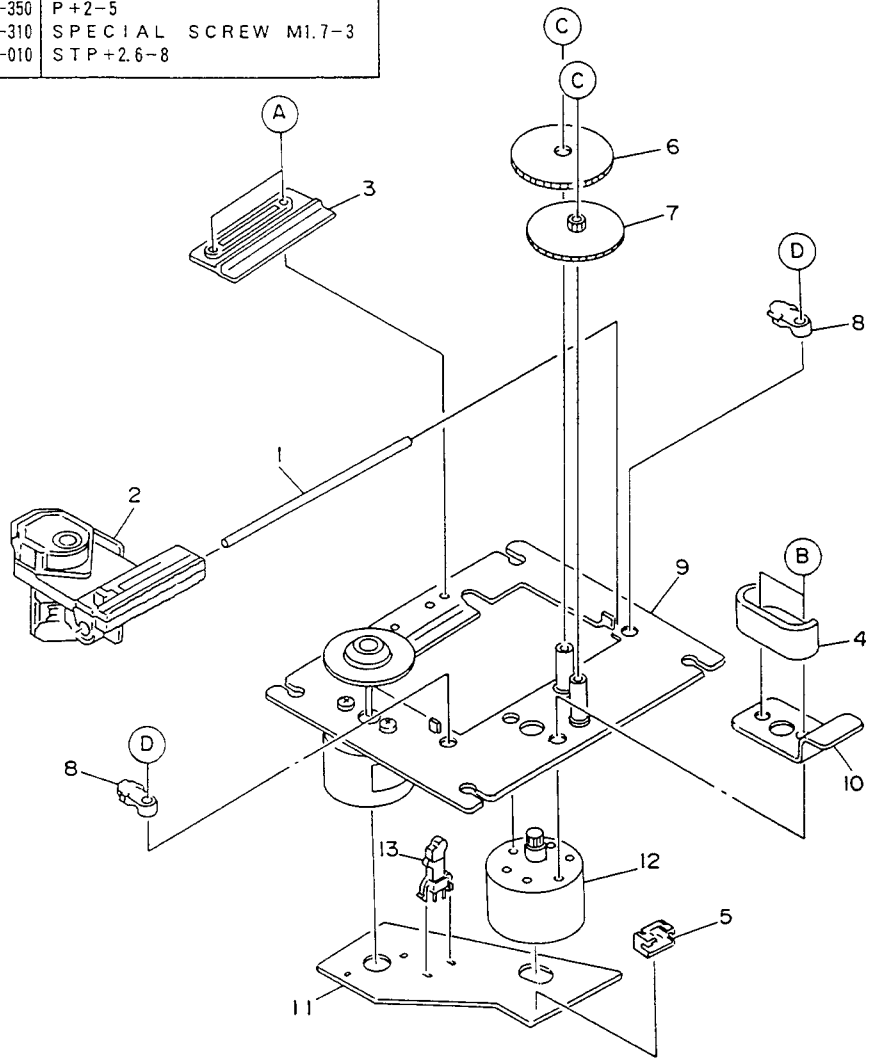
REF. NO.	PART NO.	DESCRIPTION
A	87-067-660-010	B V T 2+3-8 (W/O S L O T) (B)
B	87-067-633-010	B V T 2+3-8 (W CONVEX)
C	87-067-586-010	B V T T +4-8
D	87-561-095-210	V F T 1+3-8 (10φ)
E	87-571-071-410	V I T +2.6-4
F	87-571-092-410	V I T$_3$+8-4 (G L)



PART NO. CHANGED TO	REF. NO	PART NO.	DESCRIPTION	COMMON MODEL	Q'TY
	2-1	★89-MX1-209-010	GUIDE, FL	※	1
	2-2	★89-MX1-037-010	KNOB, SLIDE DOLBY	※	1
	2-3	★89-MX1-027-010	KNOB, SLIDE MODE	※	1
	2-4	★81-653-214-310	LEVER, EJECT 2		1
	2-5	---	SHIELD PLATE, FRONT		1
	2-6	★89-MX1-214-010	G CUSHION, SQ5-12-14.8	※	1
	2-7	★89-MX1-045-110	KNOB, GE	※	4
	2-8	★89-MX1-683-010	SHIELD, P.C.B	※	1
	2-9	★89-MX1-211-010	HOLDER, CD 2	※	1
	2-10	★80-MZ1-029-010	JOINT, CD	※	1
	2-11	★89-VX5-202-010	GUIDE, FL		1
	2-12	★89-MX1-208-010	GUIDE, LED	※	1
	2-13	★89-MX1-202-310	CHASSIS, CD	※	1
	2-14	★89-MX1-203-010	HOLDER, CD	※	1
	2-15	---	SHIELD, PT1		1
	2-16	★87-034-781-018	AC CORD (E, Z)		1
	2-16	★87-034-592-018	AC CORD (K)		1
	2-17	★87-085-185-010	BUSHING, AC CORD		1
	2-18	★89-MX1-212-010	PLATE, MECHANISM	※	1
	2-19	★81-653-212-210	LEVER, EJECT 1		1
	2-20	★81-653-213-010	SCREW, SPECIAL		2
	2-21	---	SHIELD, PT2		1
	2-22	---	SHIELD, PT3		1
	2-23	★89-MX1-224-019	BASE, PT (K)	※	1
	2-24	★89-MX1-215-019	CUSHION, S SQ 10-10-8	※	1
	2-25	★80-MZ1-025-110	KEY, TUNING	※	1
	2-26	★89-MX1-049-010	KEY, POWER	※	1
	2-27	★89-MX1-030-010	IND, DIRECTION	※	2
	2-28	★80-MZ1-027-010	KEY, DECK 1	※	1
	2-29	★89-MX1-024-010	KEY, REC	※	1
	2-30	★89-MX1-029-010	IND, FUNCTION	※	1
	2-31	★80-MZ1-026-010	KEY, CD	※	1
	2-32	★80-MZ1-028-010	KEY, DECK 2	※	1

EXPLODED VIEW – 3

REF. NO.	PART NO.	DESCRIPTION
A	92-642-144-010	PTT+2-6
B	97-621-255-350	P+2-5
C	93-303-809-310	SPECIAL SCREW M1.7-3
D	92-641-447-010	STP+2.6-8



PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q'TY
	3-1	★94-910-431-010	SHAFT, SLIDE		1
	3-2	98-848-127-310	PICK UP (KSS-210ASRP)		1
	3-3	★92-641-443-010	HOLDER, SLIDE		1
	3-4	★92-641-434-010	COVER, GEAR		1
	3-5	★92-564-720-110	CONNECTOR PIN		1
	3-6	9X-264-076-910	GEAR A		1
	3-7	★92-641-403-050	GEAR B		1
	3-8	★92-641-448-020	CLAMP, SHAFT		2
	※ 3-9	9X-264-133-710	SP MOTOR ASSY (W/CHASSIS, T.T) (DISC) (RF-310T-11400)		1
	※ 3-9	9X-264-134-810	SP MOTOR ASSY (W/CHASSIS, T.T) (DISC) (MDN-4RA3NTAS)		1
	3-10	★92-641-371-010	STOPPER		1
	※ 3-11	★91-625-848-110	CD MOTOR 1 C.B (RF-310T-11400)		1
	※ 3-11	★91-628-263-110	CD MOTOR 1 C.B (MDN-4RA3NTAS/4RA3ETA)		1
	※ 3-12	9X-264-077-010	SLED MOTOR GEAR ASSY (SLED) (RF-310T-11400)		1
	※ 3-12	9X-264-134-410	SLED MOTOR GEAR ASSY (SLED) (MDN-4RA3ETA)		1
	3-13	91-572-053-120	LEAF SWITCH (LIMIT)		1

※Caution

Two types of the spindle (DISC) motor and sled motor are used, but they are not compatible.

Check the part numbers (MDN ····, RF ····) on the labels of motors and replace motors with the same one.

■ SPEAKER LIST (SX – 810)

PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q,TY
	1	★80-MS1-002-010	PANEL,FR	※	2
	2	★80-MS1-005-010	PANEL,M ASSY	※	2
	3	★80-MS1-004-010	PANEL,W	※	2
	4	★80-MS1-013-010	GRILL ASSY	※	2
	5	★83-149-611-010	TERMINAL		2
	6	★80-MS1-003-010	DUCT	※	2
	7	89-MS2-602-010	SPEAKER,WOOFER		2
	8	89-MS2-604-010	SPEAKER,TWEETER		2
	9	★89-MS1-610-010	NETWORK ASSY	※	2
	10	★89-MS1-615-010	SPEAKER CORD	※	2
	11	80-MS1-009-010	PANEL,T ASSY	※	2
	12	★89-MS7-605-010	SPEAKER CERAMIC	※	2
	13	★87-343-177-010	SCREW UT1 + 4 – 20		16
	14	★87-342-097-010	SCREW UT1 + 3 – 12		4

■ ACCESSORIES/PACKAGE LIST

PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q,TY
	1	★89-MX1-915-010	INSTRUCTION BOOKLET ENE	※	1
	2	★81-653-647-010	AM LOOP ANT (6T) CON (E,K)		1
	3	★81-653-645-010	AM LOOP ANT (6T) NC (Z)		1
	4	★81-748-632-010	FEEDER ANT,FM N (E,K)		1
	5	★87-043-106-010	FM,WIRE ANT (Z)		1
	6	★89-MR1-012-010	REMOTE – CON RC – T800 LYB	※	1

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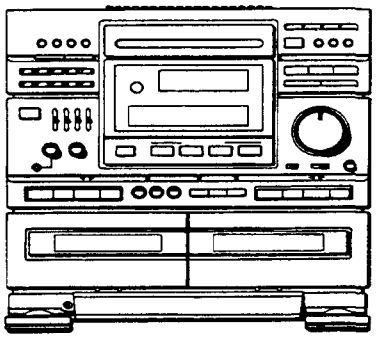
AIWA®

NSX-800

SERVICE MANUAL



COMPACT DISC STEREO SYSTEM

- BASIC TAPE MECHANISM : TN – 1800
- BASIC CD MECHANISM : KSL – 150ACM3
- TYPE. E, K, Z

■ Model NSX – 800 is composed of the CX – 800 (CD – casseiver), RC – T800L (remote controller) and SX – 800 (speaker system).

AIWA Co., Ltd.

Tokyo Japan

Printed in Japan

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TABLE OF CONTENTS

SPECIFICATIONS

TUNER SECTION

<FM section>

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Usable sensitivity	CX-800E,K 1.6 μV (75 ohms) 15.2 dBf (IHF) CX-800Z 1.9 μV (75 ohms) 16.8 dBf (DIN)
Alternate channel selectivity	CX-800E,K 50 dB (±400 kHz) CX-800Z 65 dB (±400 kHz)
Signal-to-noise ratio	CX-800E,K 70 dB (STEREO), 78 dB (MONO) CX-800Z 66 dB (STEREO), 72 dB (MONO)
Harmonic distortion	0.3% (MONO), 1 kHz 0.8% (STEREO), 1 kHz
Frequency response	20 Hz to 15 kHz (+0.5 dB, −3 dB)
Stereo separation	30 dB at 1 kHz
Antenna	75 ohms (unbalanced)

<MW section>

Frequency range	522 kHz to 1,611 kHz
Usable sensitivity	300 μV/m
Selectivity	22 dB
Signal-to-noise ratio	53 dB (100 dB input)
Antenna	Loop antenna

<LW section>

Frequency range	153 kHz to 290 kHz
Usable sensitivity	1,000 μV/m
Antenna	Loop antenna

<Timer section>

Program timer	"Once" and/or "every"
Sleep timer	Capable of setting in 10-minute increments, 99 minutes maximum

AMPLIFIER SECTION

Power output	75W+75 W (6 ohms, EIAJ, 1 kHz) 55W+55 W (6 ohms, T.H.D. 1%, 1 kHz)
Harmonic distortion	0.05% (25 W, 1 kHz, 6 Ω)
Input sensitivity (load impedance)	DAT/AUX 350 mV (10 k ohms)
Signal-to-noise ratio	85 dB

CASSETTE DECK SECTION

Track format	4 tracks, 2 channels
Frequency response	METAL tape: 20–17,000 Hz (Playback only) CrO_2tape: 40–15,000 Hz (Record/Playback) Normal tape: 40–15,000 Hz (Record/Playback)
Signal-to-noise ratio	60 dB (DOLBY NR ON, peak level)
Wow and flutter	0.13% (WRMS)
Tape speed	4.8 cm/sec. (1-7/8 ips) 9.5 cm/sec. (double speed)
Motor	DC servomotor (2)
Heads	Playback head (1) (Deck 1) Record/playback/erase head (1) (Deck 2)

COMPACT DISC SECTION

Disc	Compact disc
Scanning method	Non contact optical scanner (semiconductor laser application)
Laser	Semiconductor laser λ=780 nm
Rotation speed	Approx. 500 rpm–200 rpm (CLV)
Error correction	Cross Interleave, Read Solomon Code
No. of Channels	2 channels
D-A conversion	16-bit linear
Wow & Flutter	Unmeasurable
Filter	16 bit two times oversampling digital filter & tertiary active filter

SPEAKER

Cabinet type	2 way bass reflex (Magnetically Shield)
Speaker	130 mm cone type woofer 60 mm cone type tweeter
Impedance	6 ohms
Dimensions	186 (W) × 300(H) × 220(D) mm
Weight	4.0 kg

COMMON SECTION

Power requirements	CX-800E,Z 220 V AC, 50 Hz CX-800K 240 V AC, 50 Hz
Power consumption	CX-800E,Z 270 W CX-800K 280 W
Dimensions	672 (W) × 302 (H) × 310 (D) mm
Weight	18.0 kg (Including speakers)

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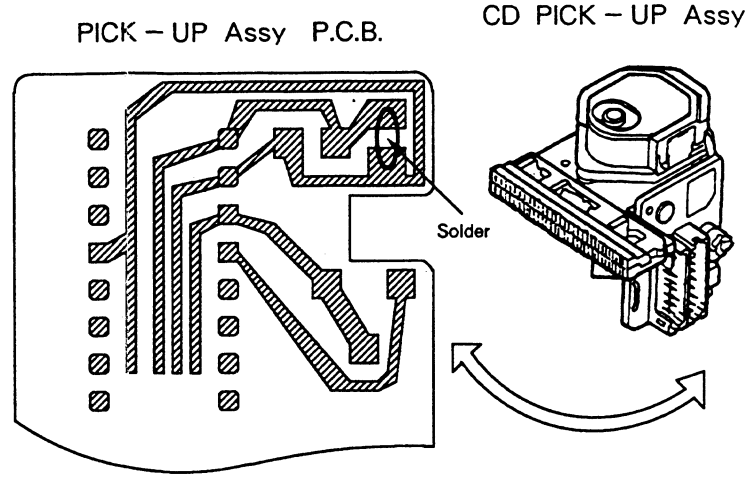
Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure ground body and workbench, and use care the clothes do not touch the diode.

1) After the connection, remove solder shown in figure below.



PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!!

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION. BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

ATTENTION
L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entrainer une dangereuse exposition aux radiations.

"Varoitus! Suojakoteloa ei saa avata. Laite sisältää laserdiodin, joka lahettää näkymätöntä silmille vaarallista lasersäteilyä."

This Compact Disc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the rear exterior.

CLASS-1
LASER-PRODUCT

ADVARSEL!

Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

"Denna apparat innehåller laserkomponent som avger laserstrålning som överskrider gränsen för laserklass 1."

ELECTRICAL MAIN PARTS LIST

REF. NO.	PART NO.	DESCRIPTION
===IC===		
	87-001-893-019	IC, 78N06
	87-001-443-010	IC, ASP8801
	87-001-440-019	IC, BA15218N
	87-001-184-010	IC, CXA1081S
	87-020-794-010	IC, CXA1082BQ
	87-020-981-019	IC, CXA1102P
	87-020-795-010	IC, CXD1135Q
	87-001-944-010	IC, CXD1167Q
	87-020-796-010	IC, CXK5816M
	89-MX1-695-010	IC, CXP5058H-551Q
	87-001-533-010	IC, GP1U501(REMOTE SENSOR)
	87-001-347-019	IC, HD14051BP
	87-001-196-019	IC, ICPN10
	87-020-566-019	IC, LA1265G
	87-001-872-019	IC, LA6515
	89-MX1-692-010	IC, LC6538D-MX1(EX)
	87-001-376-019	IC, LC7218
	87-027-895-019	IC, M5218L
	87-027-925-010	IC, M5220
	83-099-626-010	IC, M5223P
	87-001-891-010	IC, M5280L
	87-001-871-010	IC, M5294P
	87-020-758-019	IC, NJM2068SD
	87-020-881-019	IC, NJM78L05A
	87-020-908-019	IC, NJU4066BD
	87-001-169-010	IC, STA341M
	87-001-903-019	IC, STK4172-2
	87-020-446-019	IC, TA7343AP
	87-001-865-010	IC, TDA1543A
===TRANSISTOR===		
	89-501-615-019	FET, 2SK161GR
	89-502-415-019	FET, 2SK241GR
	89-502-466-019	FET, 2SK246BL
	89-502-465-019	FET, 2SK246GR
	89-502-464-019	FET, 2SK246Y
	89-110-155-019	TRANSISTOR, 2SA1015GR
	89-112-965-019	TRANSISTOR, 2SA1296GR
	89-112-964-019	TRANSISTOR, 2SA1296Y
	87-026-463-019	TRANSISTOR, 2SA933S(SR)
	89-109-521-019	TRANSISTOR, 2SA952K
	89-213-702-019	TRANSISTOR, 2SB1370E
	87-026-462-019	TRANSISTOR, 2SC1740S(SR)
	89-318-155-019	TRANSISTOR, 2SC1815GR
	89-318-154-019	TRANSISTOR, 2SC1815Y
	89-319-233-019	TRANSISTOR, 2SC1923(O)
	89-320-011-019	TRANSISTOR, 2SC2001K
	89-324-584-019	TRANSISTOR, 2SC2458Y
	89-332-665-019	TRANSISTOR, 2SC3266GR
	89-419-442-019	TRANSISTOR, 2SD1944J. K
	89-420-612-019	TRANSISTOR, 2SD2061E
	89-406-555-019	TRANSISTOR, 2SD655E
	87-026-214-019	TRANSISTOR, DTA114YS
	87-026-286-019	TRANSISTOR, DTA143ES
	87-026-288-019	TRANSISTOR, DTA143XS
	87-026-219-019	TRANSISTOR, DTA144ES
	87-026-215-019	TRANSISTOR, DTC114YS
	87-026-287-019	TRANSISTOR, DTC143ES
	87-026-218-019	TRANSISTOR, DTC144ES
	S6-804-050-040	TRANSISTOR, ESA1266
===DIODE===		
	87-027-376-010	DIODE 1B4B41
	87-001-559-019	DIODE 1SS131
	87-020-691-019	DIODE 1SS132
	87-020-110-019	DIODE 1SS177
	87-001-749-010	DIODE D5SB20
	87-020-123-019	DIODE DS446-AT
	87-001-783-019	DIODE IN4002
	87-020-945-010	DIODE MPG06D
	87-020-992-010	DIODE MPG06D-L
	87-027-436-019	DIODE, ZENER HZ11B1
	87-027-479-019	DIODE, ZENER HZ27-2
	87-027-406-019	DIODE, ZENER HZ3A3
	87-027-393-019	DIODE, ZENER HZ4C2
	87-027-475-019	DIODE, ZENER HZ6B1
	87-027-332-019	DIODE, ZENER HZ6B1L
	87-027-674-019	DIODE, ZENER HZ7A2
	87-027-633-019	DIODE, ZENER HZ9A2-T2
	87-027-583-019	DIODE, ZENER HZ9B1L
	87-001-917-019	DIODE, ZENER UTZJ12C
===MAIN CIRCUIT BOARD SECTION===		
BPF731	*82-794-697-019	FILTER, ANTI BIRDIE(Z)
BPF831	*87-030-105-010	FILTER, BPMB6A(Z)
C1	*87-010-402-019	CAP, ELECT 2. 2-50 SME
C2	*87-010-402-019	CAP, ELECT 2. 2-50 SME
C3	*87-010-402-019	CAP, ELECT 2. 2-50 SME
C4	*87-010-402-019	CAP, ELECT 2. 2-50 SME
C5	*87-010-101-019	CAP, ELECT 220-16 SME
C6	*87-010-101-019	CAP, ELECT 220-16 SME
C10	*87-010-263-019	CAP, ELECT 100-10
C11	*87-010-263-019	CAP, ELECT 100-10
C12	*87-010-374-019	CAP, ELECT 47-10
C13	*87-010-374-019	CAP, ELECT 47-10
C101	*87-010-404-019	CAP, ELECT 4. 7-50 SME
C102	*87-010-404-019	CAP, ELECT 4. 7-50 SME
C103	*87-010-405-019	CAP, ELECT 10-50 SME
C104	*87-010-405-019	CAP, ELECT 10-50 SME
C105	*87-018-126-019	CAP, CERA-SOL SS 390P-50
C106	*87-018-126-019	CAP, CERA-SOL SS 390P-50
C111	*87-018-205-019	CAP, CERA-SOL SS 0. 022-25
C171	*87-018-205-019	CAP, CERA-SOL SS 0. 022-25
C201	*87-010-401-019	CAP, ELECT 1-50 SME
C202	*87-010-401-019	CAP, ELECT 1-50 SME
C203	*87-010-405-019	CAP, ELECT 10-50 SME
C204	*87-010-405-019	CAP, ELECT 10-50 SME
C205	*87-010-401-019	CAP, ELECT 1-50 SME
C206	*87-010-401-019	CAP, ELECT 1-50 SME
C207	*87-018-123-019	CAP, CERA-SOL SS 220P-50
C208	*87-018-123-019	CAP, CERA-SOL SS 220P-50
C215	*87-010-545-019	CAP, ELECT 0. 22-50 SME
C216	*87-010-545-019	CAP, ELECT 0. 22-50 SME
C217	*87-018-109-019	CAP, CERA-SOL SS 22P-50 SL
C218	*87-018-109-019	CAP, CERA-SOL SS 22P-50 SL
C219	*87-010-401-019	CAP, ELECT 1-50 SME
C220	*87-010-401-019	CAP, ELECT 1-50 SME
C221	*87-018-134-019	CAP, CERA-SOL SS 0. 01-16
C222	*87-018-134-019	CAP, CERA-SOL SS 0. 01-16
C223	*87-010-248-019	CAP, ELECT 220-10 SME
C225	*87-010-404-019	CAP, ELECT 4. 7-50 SME
C226	*87-010-404-019	CAP, ELECT 4. 7-50 SME
C233	*87-010-401-019	CAP, ELECT 1-50 SME
C234	*87-010-401-019	CAP, ELECT 1-50 SME
C235	*87-010-401-019	CAP, ELECT 1-50 SME
C236	*87-010-401-019	CAP, ELECT 1-50 SME
C237	*87-018-134-019	CAP, CERA-SOL SS 0. 01-16
C238	*87-018-134-019	CAP, CERA-SOL SS 0. 01-16
C239	*87-018-131-019	CAP, CERA-SOL SS 1000P-50
C240	*87-018-131-019	CAP, CERA-SOL SS 1000P-50
C251	*87-010-381-019	CAP, ELECT 330-16 SME
C301	*87-018-115-019	CAP, CERA-SOL SS 47P-50 SL
C302	*87-018-115-019	CAP, CERA-SOL SS 47P-50 SL
C303	*87-018-122-019	CAP, CERA-SOL SS 180P-50

REF. NO.	PART NO.	DESCRIPTION
C304	*87-018-122-019	CAP, CERA-SOL SS 180P-50
C307	*87-010-400-019	CAP, ELECT 0. 47-50 SME
C308	*87-010-400-019	CAP, ELECT 0. 47-50 SME
C309	*87-018-131-019	CAP, CERA-SOL SS 1000P-50
C310	*87-018-131-019	CAP, CERA-SOL SS 1000P-50
C351	*87-018-121-019	CAP, CERA-SOL SS 150P-50
C352	*87-018-121-019	CAP, CERA-SOL SS 150P-50
C353	*87-018-122-019	CAP, CERA-SOL SS 180P-50
C354	*87-018-122-019	CAP, CERA-SOL SS 180P-50
C355	*87-018-115-019	CAP, CERA-SOL SS 47P-50 SL
C356	*87-018-115-019	CAP, CERA-SOL SS 47P-50 SL
C359	*87-010-400-019	CAP, ELECT 0. 47-50 SME
C360	*87-010-400-019	CAP, ELECT 0. 47-50 SME
C361	*87-018-131-019	CAP, CERA-SOL SS 1000P-50
C362	*87-018-131-019	CAP, CERA-SOL SS 1000P-50
C401	*87-010-401-019	CAP, ELECT 1-50 SME
C402	*87-010-401-019	CAP, ELECT 1-50 SME
C403	*87-018-133-019	CAP, CERA-SOL SS 4700P-16
C404	*87-018-133-019	CAP, CERA-SOL SS 4700P-16
C405	*87-010-401-019	CAP, ELECT 1-50 SME
C406	*87-010-401-019	CAP, ELECT 1-50 SME
C407	*87-018-130-019	CAP, CERA-SOL SS 820P-50
C408	*87-018-130-019	CAP, CERA-SOL SS 820P-50
C409	*87-010-256-019	CAP, ELECT 0. 68-50
C410	*87-010-256-019	CAP, ELECT 0. 68-50
C411	*87-010-404-019	CAP, ELECT 4. 7-50 SME
C412	*87-010-404-019	CAP, ELECT 4. 7-50 SME
C413	*87-010-371-019	CAP, ELECT 470-6. 3
C414	*87-010-382-019	CAP, ELECT 22-25 SME
C415	*87-018-134-019	CAP, CERA-SOL SS 0. 01-16
C451	*87-018-123-019	CAP, CERA-SOL SS 220P-50
C452	*87-018-123-019	CAP, CERA-SOL SS 220P-50
C453	*87-018-131-019	CAP, CERA-SOL SS 1000P-50
C456	*87-010-406-019	CAP, ELECT 22-50 SME
C465	*87-010-234-019	CAP, ELECT 47-16
C501	*87-010-402-019	CAP, ELECT 2. 2-50 SME
C502	*87-010-402-019	CAP, ELECT 2. 2-50 SME
C504	*87-018-132-019	CAP, CERA-SOL SS 2200P-16
C506	*87-018-132-019	CAP, CERA-SOL SS 2200P-16
C513	*87-010-401-019	CAP, ELECT 1-50 SME
C514	*87-010-401-019	CAP, ELECT 1-50 SME
C515	*87-018-121-019	CAP, CERA-SOL SS 150P-50
C516	*87-018-121-019	CAP, CERA-SOL SS 150P-50
C551	*87-018-134-019	CAP, CERA-SOL SS 0. 01-16
C603	*87-018-134-019	CAP, CERA-SOL SS 0. 01-16
C604	*87-010-408-019	CAP, ELECT 47-50 SME
C605	*87-018-209-019	CAP, CERA-SOL SS 0. 1-50
C606	*87-010-404-019	CAP, ELECT 4. 7-50 SME
C607	*87-018-106-019	CAP, CERA-SOL SS 15P-50 SL
C608	*87-010-248-019	CAP, ELECT 220-10 SME
C609	*87-018-134-019	CAP, CERA-SOL SS 0. 01-16
C610	*87-018-134-019	CAP, CERA-SOL SS 0. 01-16
C611	*87-018-134-019	CAP, CERA-SOL SS 0. 01-16
C613	*87-018-134-019	CAP, CERA-SOL SS 0. 01-16
C615	*87-018-134-019	CAP, CERA-SOL SS 0. 01-16
C617	*87-018-134-019	CAP, CERA-SOL SS 0. 01-16
C619	*87-018-134-019	CAP, CERA-SOL SS 0. 01-16
C621	*87-018-199-019	CAP, CERA-SOL SS 3300P-16
C622	*87-018-199-019	CAP, CERA-SOL SS 3300P-16
C623	*87-018-195-019	CAP, CERA-SOL SS 1200P-16
C624	*87-018-195-019	CAP, CERA-SOL SS 1200P-16
C625	*87-010-403-019	CAP, ELECT 3. 3-50 SME
C626	*87-010-403-019	CAP, ELECT 3. 3-50 SME
C721	*87-010-402-019	CAP, ELECT 2. 2-50 SME
C722	*87-010-402-019	CAP, ELECT 2. 2-50 SME
C723	*87-010-405-019	CAP, ELECT 10-50 SME
C724	*87-014-057-019	CAP, PP 1000P-100
C725	*87-010-401-019	CAP, ELECT 1-50 SME
C726	*87-010-403-019	CAP, ELECT 3. 3-50 SME
C727	*87-010-248-019	CAP, ELECT 220-10 SME
C728	*87-010-402-019	CAP, ELECT 2. 2-50 SME(Z)
C729	*87-010-402-019	CAP, ELECT 2. 2-50 SME(Z)
C740	*87-010-374-019	CAP, ELECT 47-10
C741	*87-015-453-019	CAP, ELECT BP 2. 2-25
C742	*87-018-125-019	CAP, CERA-SOL SS 330P-50
C743	*87-010-382-019	CAP, ELECT 22-25 SME
C744	*87-018-134-019	CAP, CERA-SOL SS 0. 01-16
C745	*87-018-134-019	CAP, CERA-SOL SS 0. 01-16
C746	*87-010-401-019	CAP, ELECT 1-50 SME
C747	*87-018-134-019	CAP, CERA-SOL SS 0. 01-16
C748	*87-010-404-019	CAP, ELECT 4. 7-50 SME
C749	*87-010-405-019	CAP, ELECT 10-50 SME
C750	*87-010-544-019	CAP, ELECT 0. 1-50
C751	*87-010-403-019	CAP, ELECT 3. 3-50 SME
C752	*87-018-134-019	CAP, CERA-SOL SS 0. 01-16
C754	*87-010-402-019	CAP, ELECT 2. 2-50 SME
C755	*87-010-401-019	CAP, ELECT 1-50 SME
C802	*87-018-102-019	CAP, CERA-SOL SS 6. 8P-50 SL(E, K)
C802	*87-018-101-019	CAP, CERA-SOL SS 5. 6P-50 SL(Z)
C804	*87-018-102-019	CAP, CERA-SOL SS 6. 8P-50 SL(E, K)
C805	*87-018-098-019	CAP, CERA-SOL SS 3. 3P-50 SL(E, K)
C805	*87-018-097-019	CAP CERA-SOL SS 2. 2P-50 SL(Z)
C806	*87-018-096-019	CAP, CERA-SOL SS 1P-50 SL
C807	*87-018-100-019	CAP, CERA-SOL SS 4. 7P-50 SL(E, K)
C807	*87-018-106-019	CAP, CREA-SOL SS 15P-50 SL(Z)
C808	*87-018-119-019	CAP, CERA-SOL SS 100P-50
C809	*87-018-134-019	CAP, CERA-SOL SS 0. 01-16
C810	*87-018-134-019	CAP, CERA-SOL SS 0. 01-16
C811	*87-018-116-019	CAP, CERA-SOL SS 56P-50 SL
C812	*87-018-107-019	CAP, CERA-SOL SS 18P-50 SL
C813	*87-018-134-019	CAP, CERA-SOL SS 0. 01-16
C814	*87-018-134-019	CAP, CERA-SOL SS 0. 01-16
C815	*87-010-401-019	CAP, ELECT 1-50 SME
C831	*87-018-099-019	CAP, CERA-SOL SS 3. 9P-50 SL(E, K)
C831	*87-018-101-019	CAP, CERA-SOL SS 5. 6P-50 SL(Z)
C832	*87-018-104-019	CAP, CERA-SOL SS 10P-50 SL(Z)
C834	*87-018-101-019	CAP, CERA-SOL SS 5. 6P-50 SL(Z)
C941	*87-018-134-019	CAP, CERA-SOL SS 0. 01-16
C942	*87-018-121-019	CAP, CERA-SOL SS 150P-50 B
C943	*87-014-050-019	CAP, PP 510P-100J
C945	*87-010-401-019	CAP, ELECT 1-50 SME
C962	*87-010-405-019	CAP, ELECT 10-50 SME
C963	*87-014-049-019	CAP, PP 470P-100
C964	*87-018-108-019	CAP, CERA-SOL SS 20P-50 SL
C971	*87-018-134-019	CAP, CERA-SOL SS 0. 01-16
C972	*87-018-134-019	CAP, CERA-SOL SS 0. 01-16(E, K)
C983	*87-010-401-019	CAP, ELECT 1-50 SME
C985	*87-018-134-019	CAP, CERA-SOL SS 0. 01-16
C990	*87-018-134-019	CAP, CERA-SOL SS 0. 01-16
C991	*87-010-374-019	CAP, ELECT 47-10
C992	*87-018-134-019	CAP, CERA-SOL SS 0. 01-16
C993	*87-018-134-019	CAP, CERA-SOL SS 0. 01-16
C994	*87-018-134-019	CAP, CERA-SOL SS 0. 01-16
C995	*87-010-260-019	CAP, ELECT 47-25 SME
C996	*87-018-134-019	CAP, CERA-SOL SS 0. 01-16
C997	*87-018-209-019	CAP, CERA-SOL SS 0. 1-50
C998	*87-018-134-019	CAP, CERA-SOL SS 0. 01-16
C999	*87-018-134-019	CAP, CERA-SOL SS 0. 01-16
CF741	*82-794-670-019	BFU 450C4N
CF971	*87-008-261-019	FILTER SFE10. 7MA5-A(E, K)
CF971	*87-799-621-019	MS2-A(Z)
CF972	*87-008-261-019	FILTER SFE10. 7MA5-A
CF973	*87-008-261-019	FILTER SFE10. 7MA5-A(Z)
D801	*87-027-900-019	DIODE, VARI-CAP 1SV147
D802	*87-027-900-019	DIODE, VARI-CAP 1SV147
D803	*87-027-900-019	DIODE, VARI-CAP 1SV147

REF. NO.	PART NO.	DESCRIPTION
D804	*87-027-900-019	DIODE, VARI-CAP 1SV147(Z)
D981	*81-754-634-019	DIODE, VARI-CAP KV1260
J151	81-584-634-019	JACK ASSY, 4P(DAT/AUX IN, OUT)
J902	*81-631-646-019	ANT TERMINAL 2P PAL(ANTENNA)
J903	81-754-629-010	CONNECTOR XH 2P(UL)(MW/LW LOOP) (E, K)
L451	*82-794-661-010	COIL, OSC BIAS
L501	*87-003-131-019	COIL, 10MMH
L502	*87-003-131-019	COIL, 10MMH
L503	*82-231-622-010	COIL, 22MMH
L504	*82-231-622-010	COIL, 22MMH
L601	*87-005-153-019	COIL, 47UH
L604	*87-003-098-019	COIL, 2.2UH
L605	*87-003-098-019	COIL, 2.2UH
L621	*81-631-643-019	COIL, 1 POLE MPX
L622	*81-631-643-019	COIL, 1 POLE MPX
L741	*81-631-611-019	COIL, QUAD (SINGLE)
L801	*81-794-716-019	COIL, ANT 3/4 T
L802	*81-794-717-019	COIL, ANT 2-3/4 SPACE
L803	*82-791-627-019	COIL, ANT 2 FM
L804	*82-702-638-019	COIL, FM DIA6
L805	*87-003-098-019	COIL, 2.2UH
L806	*82-794-683-019	IFT, FM 6T
L807	*87-007-259-019	COIL, FM OSC (7K)N
L831	*87-006-175-019	COIL, FM(4 GANG)(Z)
L941	*87-006-177-019	COIL, LW ANT
L942	*82-794-688-019	COIL, OSC LW
L981	*82-794-687-019	COIL, OSC
L982	*87-006-190-019	COIL, MW ANT(3B)
⚠R271	87-029-060-019	RES, FUSE 33-1/4W
SFR201	*87-024-175-019	SFR 47K
SFR202	*87-024-175-019	SFR 47K
SFR301	*87-024-168-019	SFR 1K
SFR302	*87-024-168-019	SFR 1K
SFR351	*87-024-168-019	SFR 1K
SFR352	*87-024-168-019	SFR 1K
SFR451	*87-024-175-019	SFR 47K
SFR452	*87-024-175-019	SFR 47K
SFR501	*87-024-171-019	SFR 4.7K
SFR502	*87-024-171-019	SFR 4.7K
SFR721	*87-024-171-019	SFR 4.7K
SFR740	*87-024-174-019	SFR 33K
TC601	*87-011-221-019	CAP, TRIMMER 30P
TC801	*87-011-219-019	CAP, TRIMMER 10P
TC802	*87-011-219-019	CAP, TRIMMER 10P
TC803	*87-011-219-019	CAP, TRIMMER 10P(Z)
TC941	*87-011-221-019	CAP, TRIMMER 30P
TC981	*87-011-219-019	CAP, TRIMMER 10P
X601	*87-030-163-019	VIB, XTAL 7.2MHZ(NDK)
	===FRONT CIRCUIT BOARD SECTION===	
C1	*87-018-131-019	CAP, CERA-SOL SS 1000P-50
C2	*87-018-131-019	CAP, CERA-SOL SS 1000P-50
C3	*87-018-131-019	CAP, CERA-SOL SS 1000P-50
C4	*87-018-131-019	CAP, CERA-SOL SS 1000P-50
C103	*87-018-208-019	CAP, CERA-SOL SS 0.047-50
C104	*87-018-208-019	CAP, CERA-SOL SS 0.047-50
C107	*87-018-126-019	CAP, CERA-SOL SS 390P-50
C108	*87-018-126-019	CAP, CERA-SOL SS 390P-50
C109	*87-018-205-019	CAP, CERA-SOL SS 0.022-25
C110	*87-018-205-019	CAP, CERA-SOL SS 0.022-25
C111	*87-018-134-019	CAP, CERA-SOL SS 0.01-16
C112	*87-018-134-019	CAP, CERA-SOL SS 0.01-16
C113	*87-018-208-019	CAP, CERA-SOL SS 0.047-50
C114	*87-018-208-019	CAP, CERA-SOL SS 0.047-50
C119	*87-018-109-019	CAP, CERA-SOL SS 22P-50 SL
C120	*87-018-109-019	CAP, CERA-SOL SS 22P-50 SL

REF. NO.	PART NO.	DESCRIPTION
C151	*87-018-134-019	CAP, CERA-SOL SS 0.01-16
C153	*87-018-131-019	CAP, CERA-SOL SS 1000P-50
C154	*87-010-071-019	CAP, ELECT 1-50
C155	*87-010-248-019	CAP, ELECT 220-10 SME
C156	*87-010-221-019	CAP, ELECT 470-10
C157	*87-010-075-019	CAP, ELECT 10-16
C158	*87-015-684-019	CAP, ELECT 47-16
C159	*87-010-408-010	CAP, ELECT 47-50 SME
C301	*87-018-131-019	CAP, CERA-SOL SS 1000P-50
C302	*87-010-382-019	CAP, ELECT 22-25 SME
C304	*87-018-129-019	CAP, CERA-SOL SS 680P-50
C305	*87-010-401-019	CAP, ELECT 1-50 SME
CF1	*89-MX1-691-019	CERA LOCK 3.9MHZ
FL101	89-MX1-700-010	FL, CPF-5419(GEQ./TUNER DISPLAY)
J301	89-MX1-658-019	JACK, PHI 3.5 MONO(MIC)
LED1	87-001-895-010	LED SEL3913K(CD)
LED2	87-001-895-010	LED SEL3913K(CD)
LED3	87-001-895-010	LED SEL3913K(DAT/AUX)
LED4	87-001-895-010	LED SEL3913K(DAT/AUX)
LED5	87-001-895-010	LED SEL3913K(TAPE)
LED6	87-001-895-010	LED SEL3913K(TAPE)
LED7	87-001-895-010	LED SEL3913K(TUNER)
LED8	87-001-895-010	LED SEL3913K(TUNER)
LED9	87-001-123-019	LED SLZ 981C-02TI(REC)
LED10	87-001-124-019	LED SLZ 381C-02-T1(REV)(D2)
LED11	87-001-124-019	LED SLZ 381C-02-T1(FWD)(D2)
LED12	87-001-294-019	LED SLZ 481C-02-T1(PAUSE)
LED13	87-001-124-019	LED SLZ 381C-02-T1(REV)(D1)
LED14	87-001-124-019	LED SLZ 381C-02-T1(FWD)(D1)
LED15	87-001-123-019	LED SLZ 981C-02TI(SYNC DUBBING)
R105	89-MX1-688-019	RES, ARRAY R6P A
R106	89-MX1-689-019	RES, ARRAY R6P B
SW1	87-036-142-019	TACT SW(REW)(D1)
SW2	87-036-142-019	TACT SW(F FWD)(D1)
SW3	87-036-142-019	TACT SW(◁▷)(D1)
SW4	87-036-142-019	TACT SW(■)(D1)
SW5	87-036-142-019	TACT SW(REW)(D2)
SW6	87-036-142-019	TACT SW(F FWD)(D2)
SW7	87-036-142-019	TACT SW(◁▷)(D2)
SW8	87-036-142-019	TACT SW(■)(D2)
SW9	87-036-142-019	TACT SW(REC MUTE)
SW10	87-036-142-019	TACT SW(PAUSE)
SW11	87-036-142-019	TACT SW(REC)
SW12	87-036-142-019	TACT SW(CD SYNC REC)
SW14	87-036-142-019	TACT SW(POWER)
SW15	87-036-142-019	TACT SW(HIGH)
SW16	87-036-142-019	TACT SW(NORMAL)
SW17	87-036-142-019	TACT SW(CD)
SW18	87-036-142-019	TACT SW(DAT/AUX)
SW20	87-036-142-019	TACT SW(TUNER)
SW22	87-036-142-019	TACT SW(TAPE)
SW24	87-036-142-019	TACT SW(BBE)
SW25	87-036-142-019	TACT SW(1)
SW26	87-036-142-019	TACT SW(2)
SW27	87-036-142-019	TACT SW(3)
SW28	87-036-142-019	TACT SW(4)
SW29	87-036-142-019	TACT SW(5)
SW30	87-036-142-019	TACT SW(6)
SW31	87-036-142-019	TACT SW(7)
SW32	87-036-142-019	TACT SW(8)
SW33	87-036-142-019	TACT SW(9)
SW34	87-036-142-019	TACT SW(10)
SW35	87-036-142-019	TACT SW(MODE)
SW36	87-036-142-019	TACT SW(DISPLAY)
SW37	87-036-142-019	TACT SW(SET)
SW38	87-036-142-019	TACT SW(BAND)
SW39	87-036-142-019	TACT SW(▲UP)
SW40	87-036-142-019	TACT SW(▼DOWN)

REF. NO.	PART NO.	DESCRIPTION
SW51	87-036-142-019	TACT SW(CONT)
SW52	87-036-142-019	TACT SW(▶▶/▶▶▌)
SW53	87-036-142-019	TACT SW(◀◀/▌◀◀)
SW54	87-036-142-019	TACT SW(OPEN/CLOSE)
SW55	87-036-142-019	TACT SW(RANDOM)
SW56	87-036-142-019	TACT SW(DELETE)
SW57	87-036-142-019	TACT SW(PRGM/CHECK)
SW58	87-036-142-019	TACT SW(REPEAT/BLANK)
SW59	87-036-142-019	TACT SW(TIME)
SW60	87-036-142-019	TACT SW(AUTO)
SW61	87-036-142-019	TACT SW(▷)
SW62	87-036-142-019	TACT SW(▮▮)
SW63	87-036-142-019	TACT SW(■)
SW101	89-MX1-682-019	SLIDE SW(MODE)
SW102	89-MX1-681-019	SLIDE SW(DOLBY NR)
VR101	89-MX1-698-019	VOLUME, SLIDE 100KB(TURBO SONIC)
VR102	89-MX1-698-019	VOLUME, SLIDE 100KB(500Hz)
VR103	89-MX1-698-019	VOLUME, SLIDE 100KB(2KHz)
VR104	89-MX1-698-019	VOLUME, SLIDE 100KB(10KHz)
VR105	89-MX1-693-019	VOLUME 50K-X2(BBE)
VR301	89-MX1-696-019	VOLUME 10KA(MIC MIXING)
	===CD MAIN CIRCUIT BOARD SECTION===	
C101	*87-010-380-019	CAP, ELECT 47-16 SME
C102	*87-010-380-019	CAP, ELECT 47-16 SME
C103	*87-010-380-019	CAP, ELECT 47-16 SME
C108	*87-010-400-019	CAP, ELECT 0.47-50 SME
C109	*87-018-199-019	CAP, CERA-SOL SS 3300P-16
C110	*87-018-199-019	CAP, CERA-SOL SS 3300P-16
C111	*87-018-134-019	CAP, CERA-SOL SS 0.01-16
C112	*87-010-380-019	CAP, ELECT 47-16 SME
C113	*87-018-134-019	CAP, CERA-SOL SS 0.01-16
C114	*87-010-380-019	CAP, ELECT 47-16 SME
C115	*87-018-147-019	CAP, CERA-SOL SS 10P-50 CH
C116	*87-018-140-019	CAP, CERA-SOL SS 2.2P-50 CH
C206	*87-010-404-019	CAP, ELECT 4.7-50 SME
C207	*87-010-401-019	CAP, ELECT 1-50 SME
C208	*87-010-379-019	CAP, ELECT 22-16 SME
C209	*87-018-134-019	CAP, CERA-SOL SS 0.01-16
C210	*87-010-380-019	CAP, ELECT 47-16 SME
C211	*87-018-134-019	CAP, CERA-SOL SS 0.01-16
C212	*87-010-380-019	CAP, ELECT 47-16 SME
C213	*87-018-134-019	CAP, CERA-SOL SS 0.01-16
C214	*87-018-134-019	CAP, CERA-SOL SS 0.01-16
C215	*87-010-380-019	CAP, ELECT 47-16 SME
C216	*87-018-134-019	CAP, CERA-SOL SS 0.01-16
C217	*87-010-380-019	CAP, ELECT 47-16 SME
C218	*87-010-404-019	CAP, ELECT 4.7-50 SME
C219	*87-018-123-019	CAP, CERA-SOL SS 220P-50
C303	*87-010-400-019	CAP, ELECT 0.47-50 SME
C304	*87-010-380-019	CAP, ELECT 47-16 SME
C305	*87-018-134-019	CAP, CERA-SOL SS 0.01-16
C306	*87-015-684-019	CAP, ELECT 47-16
C307	*87-018-150-019	CAP, CERA-SOL SS 18P-50 CH
C308	*87-018-150-019	CAP, CERA-SOL SS 18P-50 CH
C315	*87-010-380-019	CAP, ELECT 47-16 SME
C316	*87-018-131-019	CAP, CERA-SOL SS 1000P-50
C317	*87-018-131-019	CAP, CERA-SOL SS 1000P-50
C318	*87-018-131-019	CAP, CERA-SOL SS 1000P-50
C401	*87-018-134-019	CAP, CERA-SOL SS 0.01-16
C402	*87-010-221-019	CAP, ELECT 470-10
C403	*87-010-405-019	CAP, ELECT 10-50 SME
C404	*87-018-131-019	CAP, CERA-SOL SS 1000P-50
C405	*87-018-131-019	CAP, CERA-SOL SS 1000P-50
C406	*87-018-131-019	CAP, CERA-SOL SS 1000P-50
C407	*87-018-134-019	CAP, CERA-SOL SS 0.01-16
C509	*87-010-404-019	CAP, ELECT 4.7-50 SME

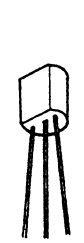
REF. NO.	PART NO.	DESCRIPTION
C510	*87-010-404-019	CAP, ELECT 4.7-50 SME
C511	*87-018-199-019	CAP, CERA-SOL SS 3300P-16
C512	*87-018-199-019	CAP, CERA-SOL SS 3300P-16
C513	*87-010-380-019	CAP, ELECT 47-16 SME
C514	*87-018-134-019	CAP, CERA-SOL SS 0.01-16
C515	*87-010-248-019	CAP, ELECT 220-10 SME
C516	*87-018-134-019	CAP, CERA-SOL SS 0.01-16
C520	*87-018-134-019	CAP, CERA-SOL SS 0.01-16
C521	*87-018-133-019	CAP, CERA-SOL SS 4700P-16
C602	*87-010-404-019	CAP, ELECT 4.7-50 SME
C605	*87-010-380-019	CAP, ELECT 47-16 SME
C606	*87-010-380-019	CAP, ELECT 47-16 SME
C607	*87-010-380-019	CAP, ELECT 47-16 SME
C608	*87-010-380-019	CAP, ELECT 47-16 SME
C701	*87-010-124-019	CAP, ELECT 4700-16
C702	*87-010-124-019	CAP, ELECT 4700-16
C703	*87-010-405-019	CAP, ELECT 10-50 SME
C705	*87-010-380-019	CAP, ELECT 47-16 SME
C706	*87-010-380-019	CAP, ELECT 47-16 SME
C707	*87-010-379-019	CAP, ELECT 22-16 SME
C708	*87-010-379-019	CAP, ELECT 22-16 SME
C709	*87-010-408-019	CAP, ELECT 47-50 SME
C710	*87-010-410-019	CAP, ELECT 330-50 SME
C713	*87-010-380-019	CAP, ELECT 47-16 SME
C714	*87-010-112-019	CAP, ELECT 100-16
C716	*87-010-405-019	CAP, ELECT 10-50 SME
C717	*87-018-134-019	CAP, CERA-SOL SS 0.01-16
C801	*87-018-131-019	CAP, CERA-SOL SS 1000P-50
C802	*87-018-119-019	CAP, CERA-SOL SS 100P-50
C805	*87-018-134-019	CAP, CERA-SOL SS 0.01-16
CER401	*87-008-394-019	CF CST4.19MGW
EMI301	*87-008-372-019	FILTER EMI, BL OIRNI
EMI302	*87-008-372-019	FILTER EMI, BL OIRNI
EMI501	*87-008-372-019	FILTER EMI, BL OIRNI
EMI701	*87-008-372-019	FILTER EMI, BL OIRNI
EMI702	*87-008-372-019	FILTER EMI, BL OIRNI
FL401	89-MX1-701-010	FL, 9BT-68GK(CD DISPLAY)
L101	*87-003-147-019	COIL, 22UH
L201	*87-003-147-019	COIL, 22UH
L202	*87-003-147-019	COIL, 22UH
L401	*87-003-147-019	COIL, 22UH
L501	*87-005-406-019	COIL, 560UH
L502	*87-005-406-019	COIL, 560UH
L503	*87-003-147-019	COIL, 22UH
R204	*87-025-373-019	RES, METAL 3.9K-1/6W
R301	*87-025-426-019	RES, M/F 22K-1/6W
R302	*87-025-426-019	RES, M/F 22K-1/6W
R703	*87-025-335-019	RES, M/O 390-1W
SFR101	*87-024-173-019	SFR 22K
SFR102	*87-024-173-019	SFR 22K
SFR103	*87-024-173-019	SFR 22K
SFR104	*87-024-173-019	SFR 22K
SFR201	*87-024-302-019	SFR 1K
X301	*84-733-617-019	VIB, XTAL 16.9344MHZ
	===POWER AMP CIRCUIT BOARD SECTION===	
⚠	87-033-213-019	FUSE CLAMP
C9	*87-010-260-019	CAP, ELECT 47-25 SME
C10	*87-010-260-019	CAP, ELECT 47-25 SME
C21	*87-010-401-019	CAP, ELECT 1-50 SME
C22	*87-010-401-019	CAP, ELECT 1-50 SME
C25	*87-010-404-019	CAP, ELECT 4.7-50 SME
C26	*87-010-404-019	CAP, ELECT 4.7-50 SME
C51	*87-010-404-019	CAP, ELECT 4.7-50 SME
C52	*87-010-404-019	CAP, ELECT 4.7-50 SME
C53	*87-018-127-019	CAP, CERA-SOL SS 470P-50
C54	*87-018-127-019	CAP, CERA-SOL SS 470P-50
C55	*87-010-406-019	CAP, ELECT 22-50 SME

REF. NO.	PART NO.	DESCRIPTION
C56	*87-010-406-019	CAP, ELECT 22-50 SME
C57	*87-018-119-019	CAP, CERA-SOL SS 100P-50 B(Z)
C58	*87-018-119-019	CAP, CERA-SOL SS 100P-50 B(Z)
C61	*87-010-408-019	CAP, ELECT 47-50 SME
C62	*87-010-408-019	CAP, ELECT 47-50 SME
C63	*87-010-247-019	CAP, ELECT 100-50 SME
C101	*87-010-248-019	CAP, ELECT 220-10 SME
C102	*87-010-406-019	CAP, ELECT 22-50 SME(E, K)
C102	*87-010-260-019	CAP, ELECT 47-25 SME(Z)
C111	*87-010-260-019	CAP, ELECT 47-25 SME
C113	*87-010-260-019	CAP, ELECT 47-25 SME
C114	*87-010-260-019	CAP, ELECT 47-25 SME
C115	*87-010-260-019	CAP, ELECT 47-25 SME
C116	*87-010-260-019	CAP, ELECT 47-25 SME
C117	*87-010-489-019	CAP, ELECT 6800-50
C118	*87-010-489-019	CAP, ELECT 6800-50
C121	*87-010-248-019	CAP, ELECT 220-10 SME
C122	*87-010-409-019	CAP, ELECT 220-50 SME
C123	*87-010-400-019	CAP, ELECT 0.47-50 SME
C131	*87-018-134-019	CAP, CERA-SOL SS 0.01-16
C132	*87-010-260-019	CAP, ELECT 47-25 SME
C133	*87-010-381-019	CAP, ELECT 330-16 SME
C134	*87-010-381-019	CAP, ELECT 330-16 SME
C135	*87-010-381-019	CAP, ELECT 330-16 SME
C136	*87-010-260-019	CAP, ELECT 47-25 SME
C137	*87-018-134-019	CAP, CERA-SOL SS 0.01-16
C138	*87-010-248-019	CAP, ELECT 220-10 SME
C139	*87-010-390-019	CAP, ELECT 3300-25 SME
⚠F2	87-035-139-019	FUSE T2.5A
L1	*87-005-366-010	COIL, 1UH
L2	*87-005-366-010	COIL, 1UH
R87	*87-022-191-010	RES, CEMNT 0.1-5W
R88	*87-022-191-010	RES, CEMNT 0.1-5W
R93	*87-022-191-010	RES, CEMNT 0.1-5W
R94	*87-022-191-010	RES, CEMNT 0.1-5W
⚠R152	87-029-110-019	RES, FUSE 10-1W
⚠R154	87-029-110-019	RES, FUSE 10-1W
R155	*87-022-194-019	RES, M/F 0.39-1/2W
RY1	*87-045-306-010	RELAY VB-12MBU-515SP
RY2	*87-045-285-010	RELAY VB12MB
	===DRIVER CIRCUIT BOARD SECTION===	
C401	*87-015-692-019	CAP, ELECT 0.22-50
C402	*87-015-692-019	CAP, ELECT 0.22-50
C403	*87-015-692-019	CAP, ELECT 0.22-50
C404	*87-015-692-019	CAP, ELECT 0.22-50
C405	*87-018-127-019	CAP, CERA-SOL SS 470P-50
C406	*87-018-127-019	CAP, CERA-SOL SS 470P-50
C407	*87-018-197-019	CAP, CERA-SOL SS 1800P-16
C408	*87-018-197-019	CAP, CERA-SOL SS 1800P-16
C409	*87-018-202-019	CAP, CERA-SOL SS 6800P-16
C410	*87-018-202-019	CAP, CERA-SOL SS 6800P-16
C414	*87-010-234-019	CAP, ELECT 47-16
C415	*87-010-221-019	CAP, ELECT 470-10
	===VOLUME CIRCUIT BOARD SECTION===	
C501	*87-010-402-019	CAP, ELECT 2.2-50 SME
C502	*87-010-402-019	CAP, ELECT 2.2-50 SME
C503	*87-010-404-019	CAP, ELECT 4.7-50 SME
C504	*87-010-404-019	CAP, ELECT 4.7-50 SME
C507	*87-010-405-019	CAP, ELECT 10-50 SME
C508	*87-010-405-019	CAP, ELECT 10-50 SME
C509	*87-010-402-019	CAP, ELECT 2.2-50 SME
C510	*87-010-402-019	CAP, ELECT 2.2-50 SME
C511	*87-010-101-019	CAP, ELECT 220-16
C512	*87-010-374-019	CAP, ELECT 47-10
C513	*87-010-544-019	CAP, ELECT 0.1-50
C515	*87-018-131-019	CAP, CERA-SOL SS 1000P-50

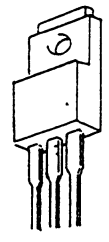
REF. NO.	PART NO.	DESCRIPTION
C516	*87-018-131-019	CAP, CERA-SOL SS 1000P-50
C521	*87-018-115-019	CAP, CERA-SOL SS 47P-50 SL(Z)
C522	*87-018-115-019	CAP, CERA-SOL SS 47P-50 SL(Z)
L501	*87-003-152-019	COIL, 100UH
L502	*87-003-152-019	COIL, 100UH
VR107	89-MX1-699-019	VOLUME 50KA-X2(VOLUME)
M2	+ + +	MOTOR(VOLUME)
LED101	+ + +	LED(VOLUME IND.)
VR108	89-MX1-697-019	VOLUME 100KW(BALANCE)
	===PT-1 CIRCUIT BOARD SECTION===	
⚠	87-033-147-019	FUSE CLAMP
⚠F1	87-035-190-019	FUSE T2A
	===PT-2 CIRCUIT BOARD SECTION===	
	===HP CIRCUIT BOARD SECTION===	
C523	*87-018-134-019	CAP, CERA-SOL SS 0.01-16 Y(Z)
C524	*87-018-134-019	CAP, CERA-SOL SS 0.01-16 Y(Z)
J501	87-009-216-019	JACK, DIA 3.5 STS(PHONES)
	===TR CIRCUIT BOARD SECTION===	
	===DECK-1 CIRCUIT BOARD SECTION===	
M1	S6-005-030-420	MOTOR MMI-6H2LWK(D1)
S1	S6-401-011-740	LEAF SW(PLAY)
S2	S6-401-011-750	LEAF SW(FR)
S3	S6-401-011-730	LEAF SW(CST)
S4	S6-401-011-730	LEAF SW(LH)
SFR1	*S6-816-010-010	SFR 4.7K
SFR2	*S6-816-010-010	SFR 4.7K
SOL1	*S1-880-210-130	SOLENOID(PLAY)
SOL2	*S1-880-210-130	SOLENOID(FR)
	===DECK-2 CIRCUIT BOARD SECTION===	
M1	S6-005-030-420	MOTOR MMI-6H2LWK(D2)
S1	S6-401-011-740	LEAF SW(PLAY)
S2	S6-401-011-750	LEAF SW(FR)
S3	S6-401-011-730	LEAF SW(CST)
S4	S6-401-011-730	LEAF SW(LH)
S5	S6-401-011-730	LEAF SW(REA)
S6	S6-401-011-730	LEAF SW(REB)
SFR1	*S6-816-010-010	SFR 4.7K
SFR2	*S6-816-010-010	SFR 4.7K
SOL1	*S1-880-210-130	SOLENOID(PLAY)
SOL2	*S1-880-210-130	SOLENOID(FR)
	===RELAY-1 CIRCUIT BOARD SECTION===	
	===RELAY-2 CIRCUIT BOARD SECTION===	
	===MOTOR-1 CIRCUIT BOARD SECTION===	
※PCB-0	91-625-848-110	MOTOR-1 C.B(RF-310T-11400)
※PCB-0	91-625-848-110	MOTOR-1 C.B(MDN-4RA3NTAS/4RA3ETA)
※M3	9X-264-077-010	MOTOR GEAR ASSY(SLED) (RF-310T-11400)
※M3	9X-264-134-410	MOTOR GEAR ASSY(SLED)(MDN-4RA3ETA)
※M4	9X-264-133-710	MOTOR ASSY(W/CHASSIS, T.T)(SPINDLE) (RF-310T-11400)
※M4	9X-264-134-810	MOTOR ASSY(W/CHASSIS, T.T)(SPINDLE) (MDN-4RA3NTAS)
S7	91-570-822-210	LEAF SW(INSIDE LIMIT)
	===MOTOR-2 CIRCUIT BOARD SECTION===	
M5	9X-246-133-610	MOTOR ASSY(LOADING)
	===MISCELLANEOUS===	
	98-848-046-510	PICK UP KSS-150A(H)(RP)
⚠	82-187-797-019	AC CORD <E>(E, Z)

REF. NO.	PART NO.	DESCRIPTION
⚠	82-187-796-019	AC CORD <BS>(K)
⚠	87-085-185-010	AC CORD BUSHING <E>
CON301	89-MX1-641-019	CONN ASSY HEAD 1 (D1)
CON451	89-MX1-642-019	CONN ASSY HEAD 2 (D2)
PH	S6-204-070-090	P HEAD(D1)
⚠PT101	89-MX1-614-019	POWER TRANSFORMER <E> MAIN (E, Z)
⚠PT101	89-MX1-615-019	POWER TRANSFORMER <K> MAIN (K)
⚠PT102	89-MX1-619-019	POWER TRANSFORMER <E> CD (E, Z)
⚠PT102	89-MX1-620-019	POWER TRANSFORMER <K> CD (K)
RPEH	S6-204-040-010	R.P.E HEAD(D2)
S8	91-571-312-110	LEAF SW(OPEN/CLOSE)

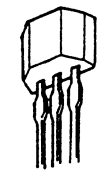
※Caution
Two Types of the spindle (DISC) motor and sled motor are used, but they are not compatible.
Check the part numbers (MDN ····, RF ····) on the labels of motors and replace motors with the same one.



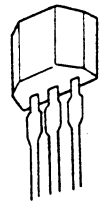
2SA1015 2SC1923
2SA1296 2SC2001
2SA933 2SC3266
2SA952 2SD655
2SC1740 ESA1266
2SC1815



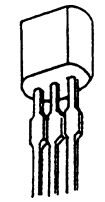
2SB1370
2SD1944
2SD2061



2SC2458
DTA114
DTA143
DTA144
DTC114
DTC143
DTC144

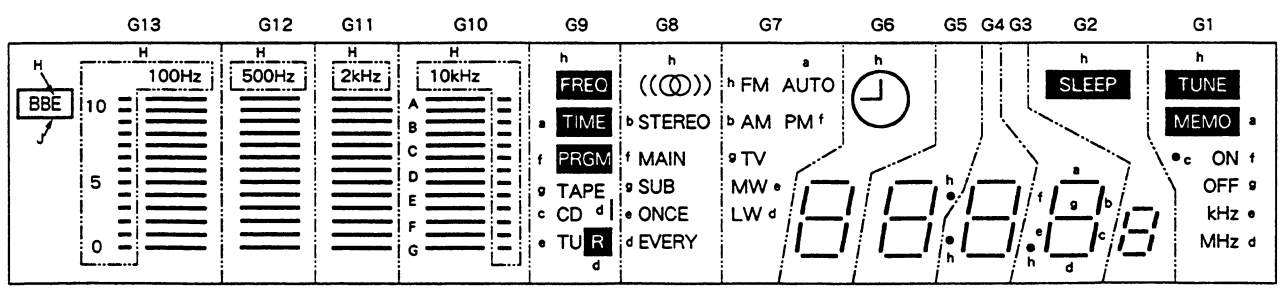


2SK161
2SK241



2SK246

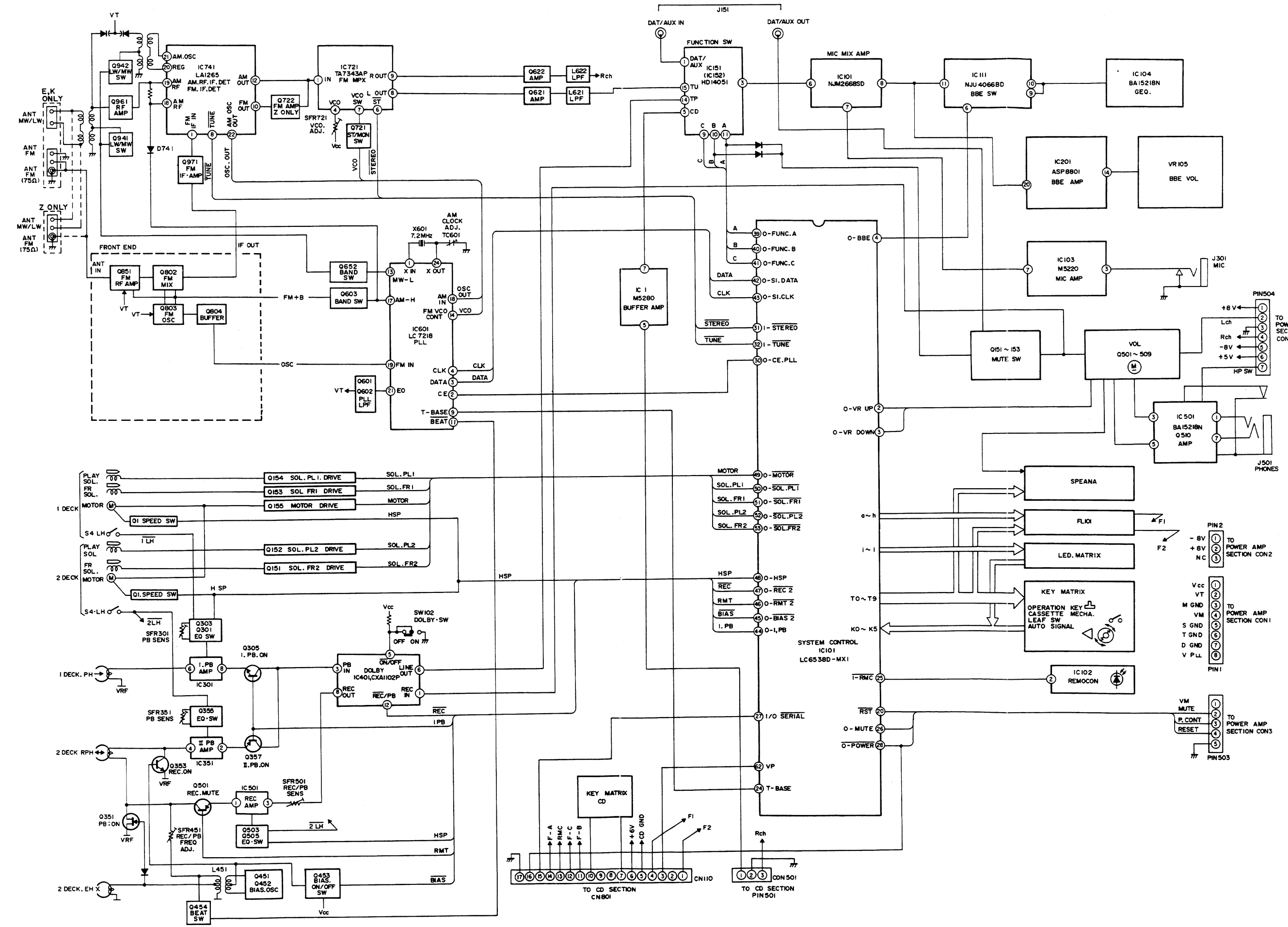
FL101 ASSIGNMENT



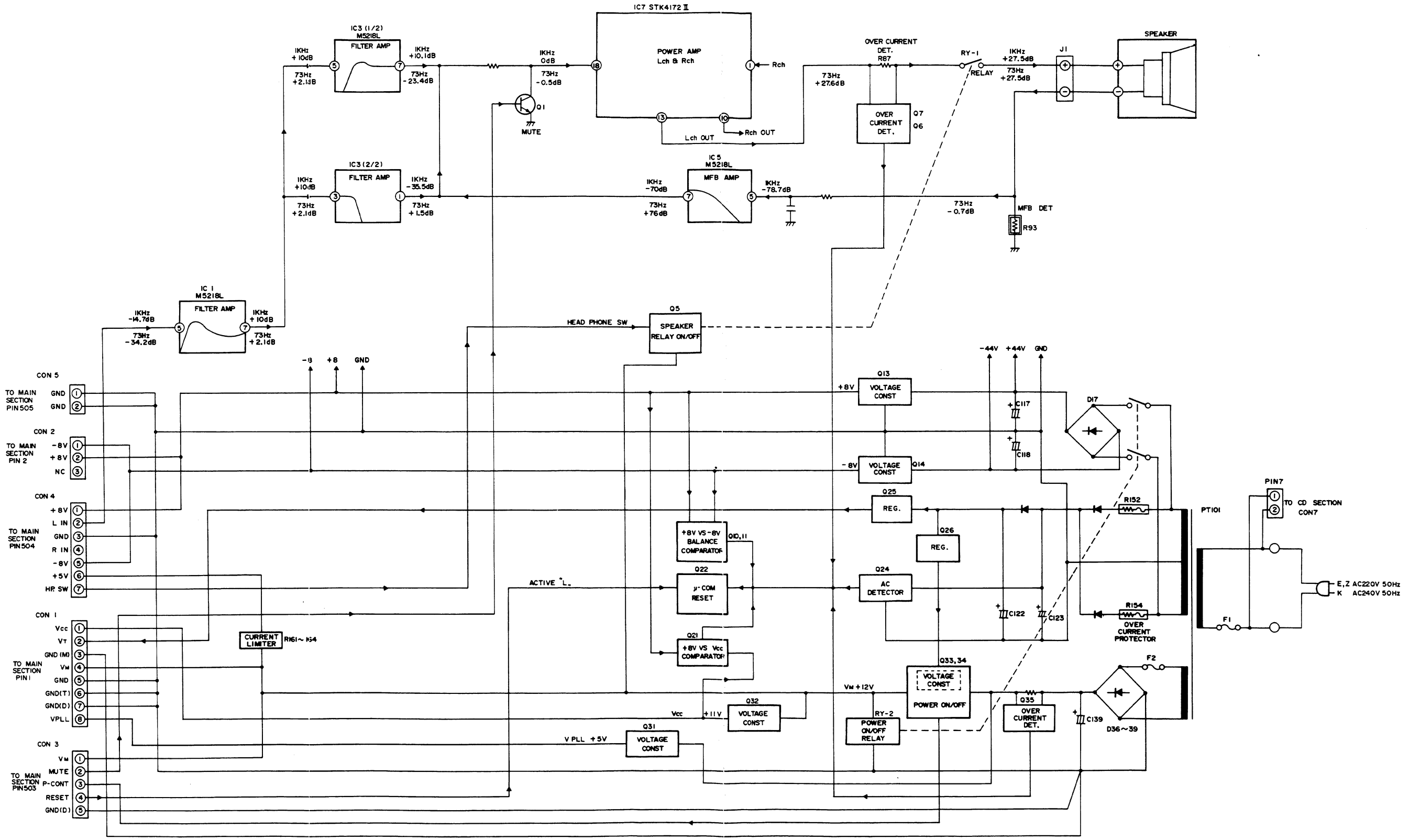
PIN ASSIGNMENT

PIN No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
ASSIGNMENT	F1	F1	–	G13	–	J	G13	H	G	G12	F	E	G11	D	C	G10	B	A	G9	–	–	G8
PIN No.	23	24	25	26	27	28	29	30	31	31	33	34	35	36	37	38	39	40	41	42	43	
ASSIGNMENT	–	–	G7	–	G6	h	g	G5	f	e	G4	d	c	G3	b	G2	a	G1	–	F2	F2	

BLOCK DIAGRAM – 1 (MAIN, FRONT SECTION)



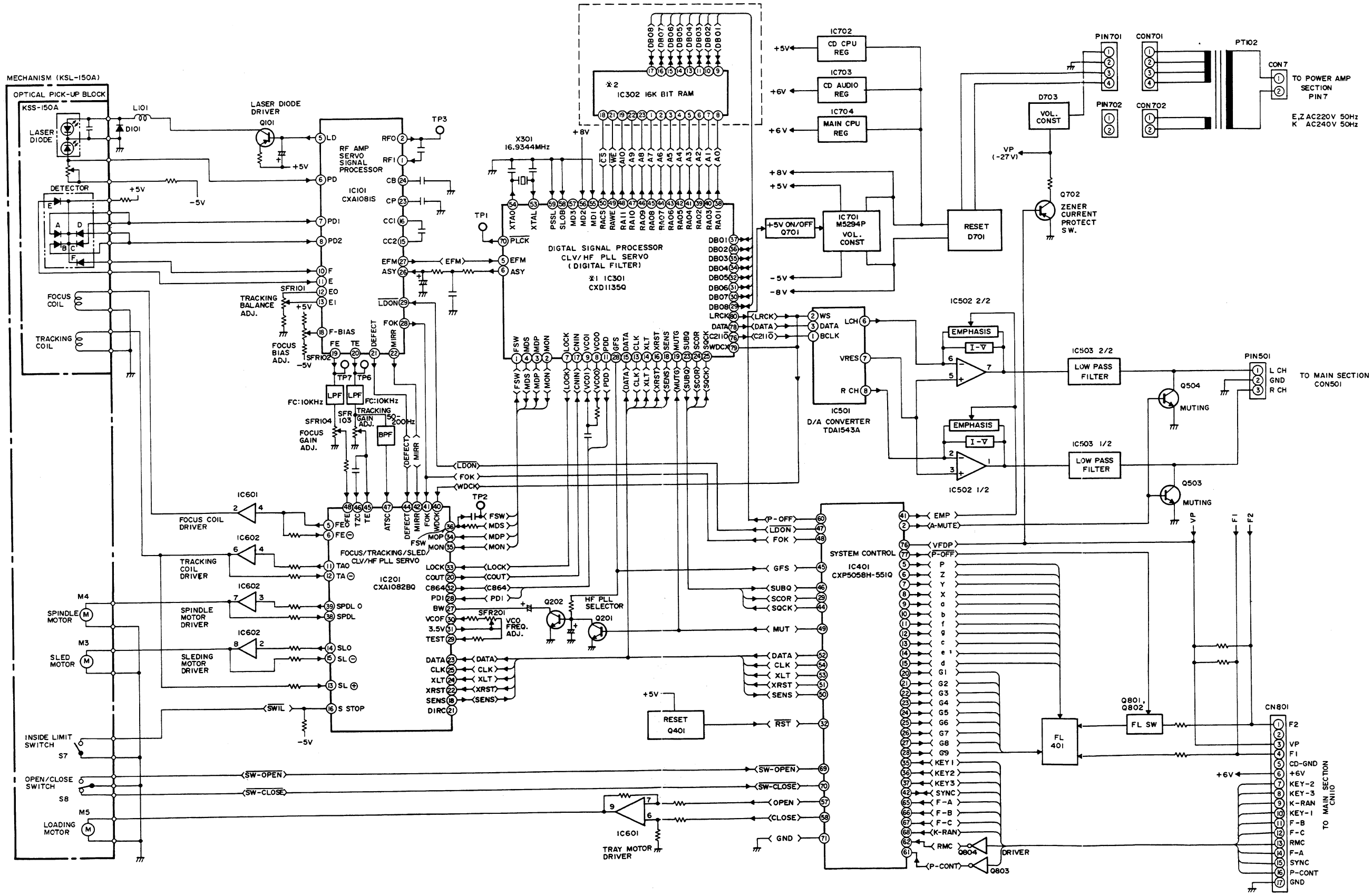
BLOCK DIAGRAM – 2 (AMP SECTION)

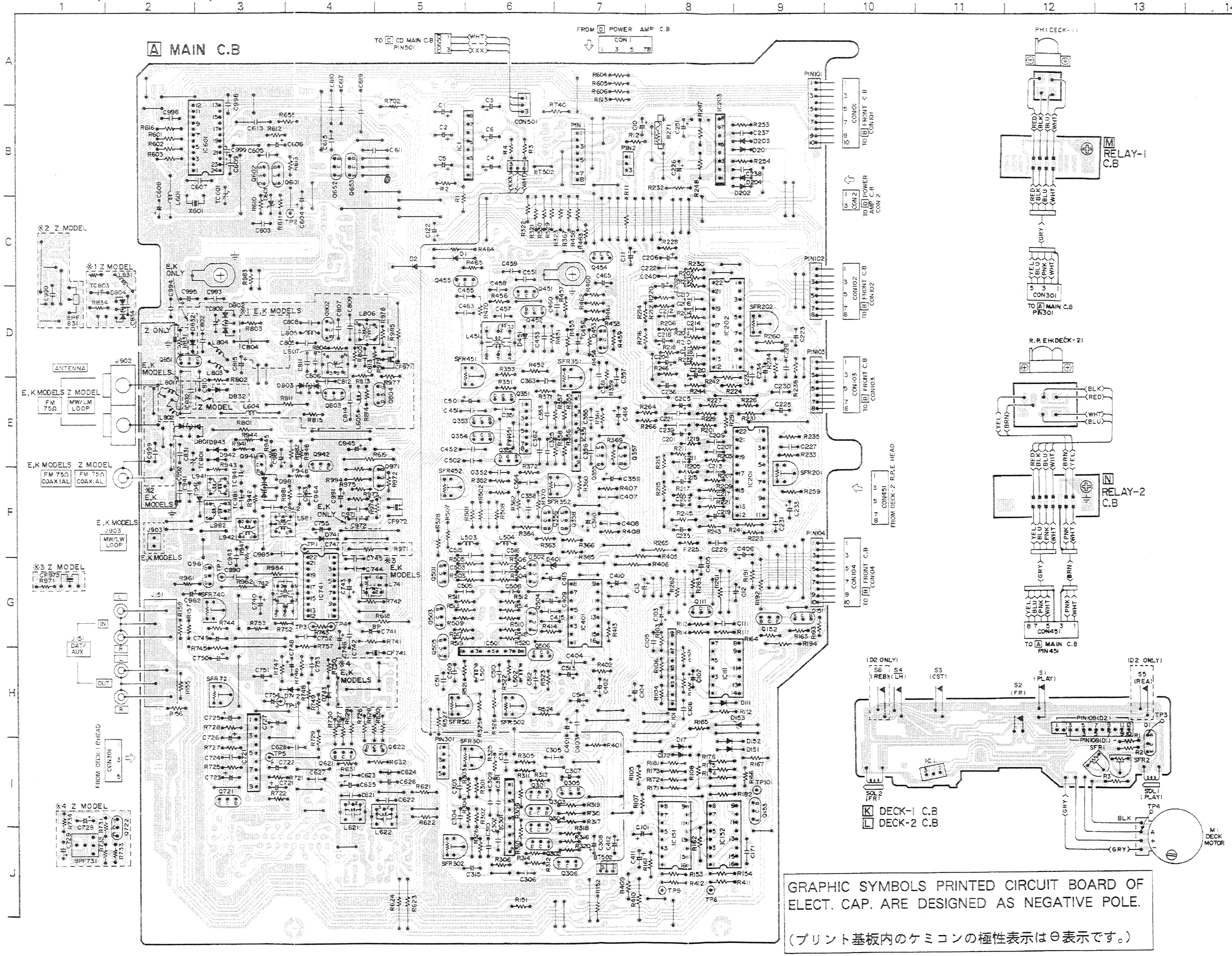


BLOCK DIAGRAM – 3 (CD SECTION)

※1 IC301 alteration IC, CXD1167Q since March, 1990 production.

※2 Cancel IC302 (IC, CXK5816M) since March, 1990 production.

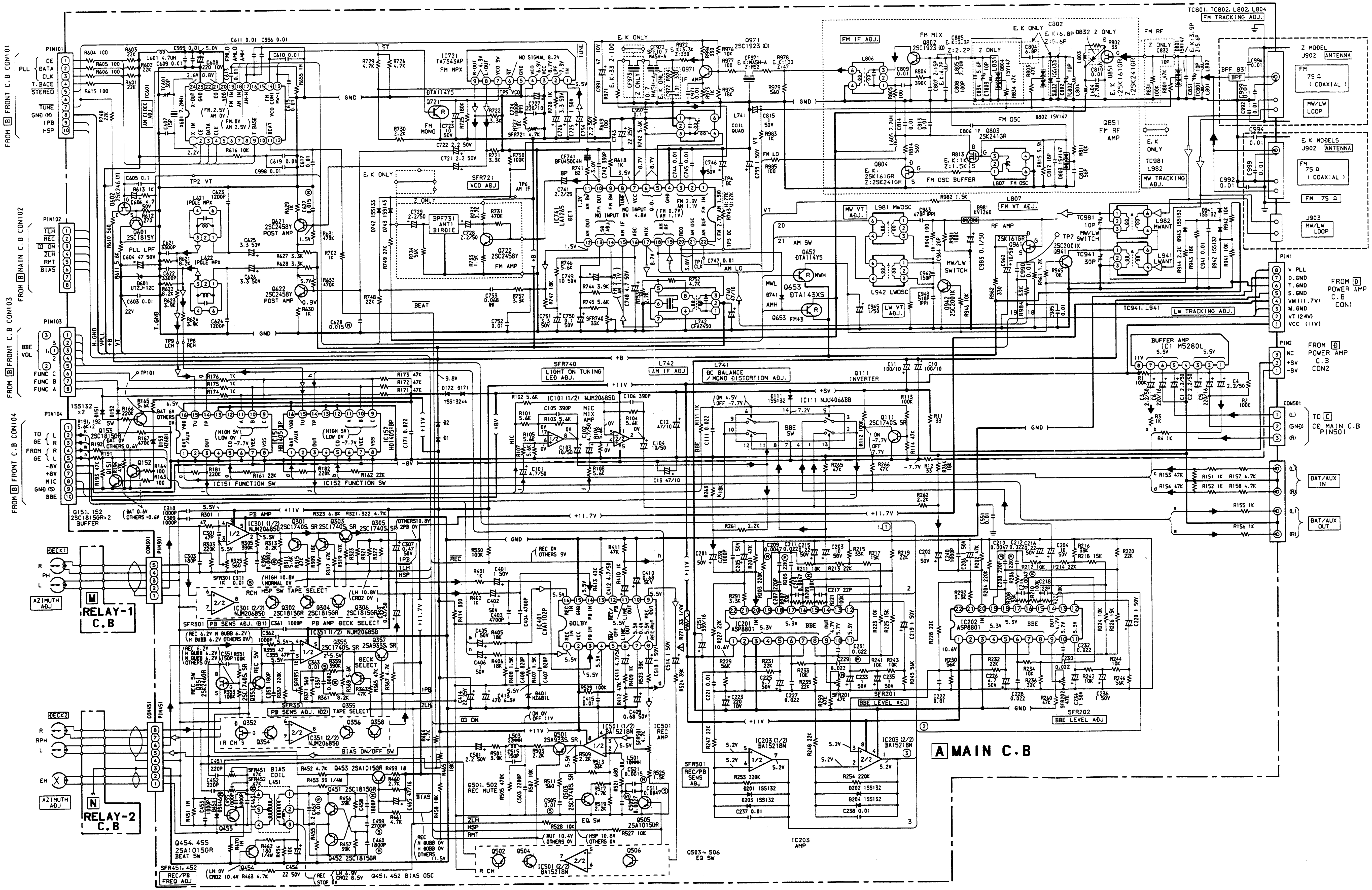




GRAPHIC SYMBOLS PRINTED CIRCUIT BOARD OF ELECT. CAP. ARE DESIGNED AS NEGATIVE POLE.

（プリント基板内のケミコンの極性表示はΘ表示です。）

SCHEMATIC DIAGRAM – 1 (MAIN SECTION)

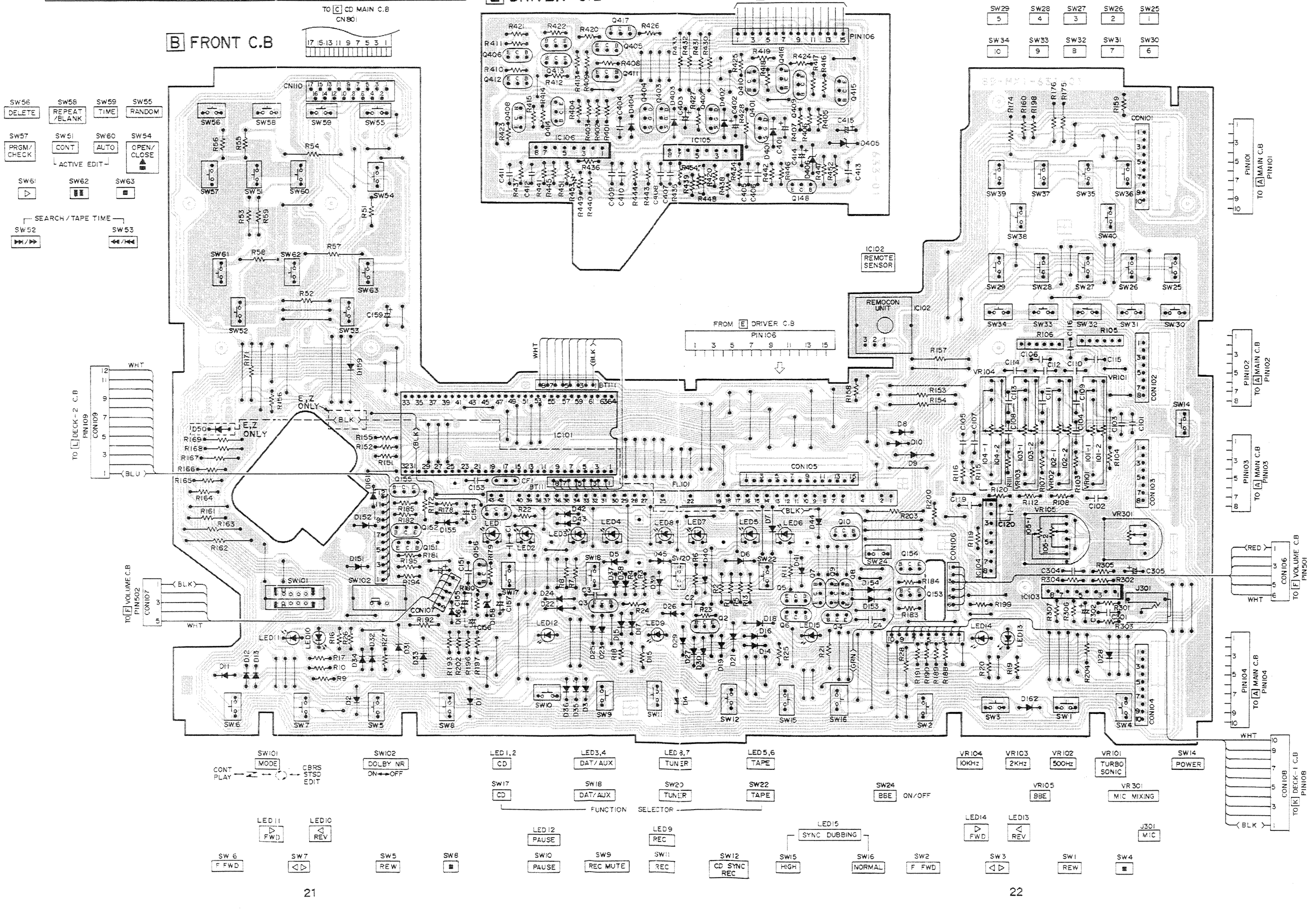


GRAPHIC SYMBOLS PRINTED CIRCUIT BOARD OF ELECT. CAP. ARE DESIGNED AS NEGATIVE POLE.

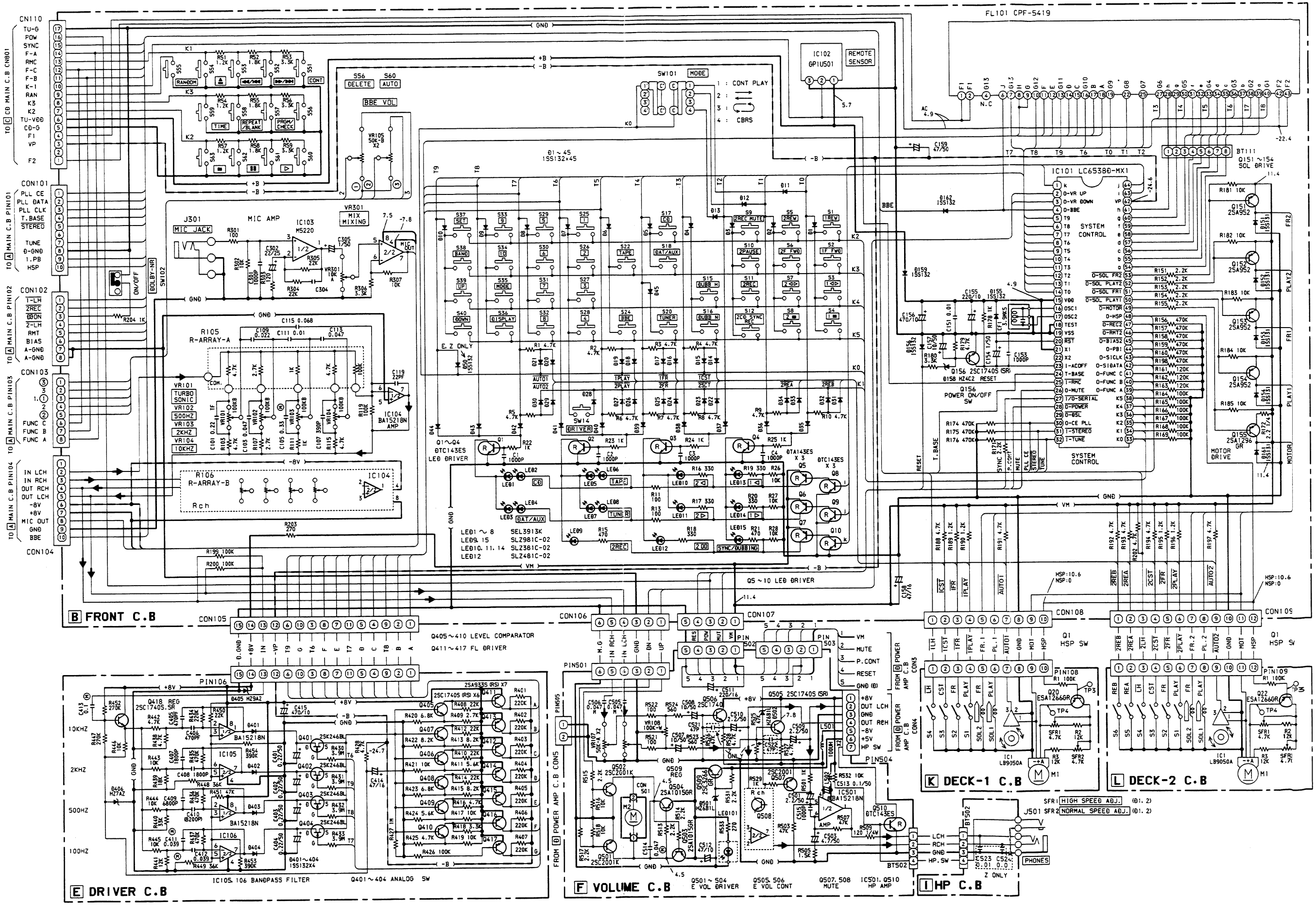
(プリント基板内のケミコンの極性表示はθ表示です。)

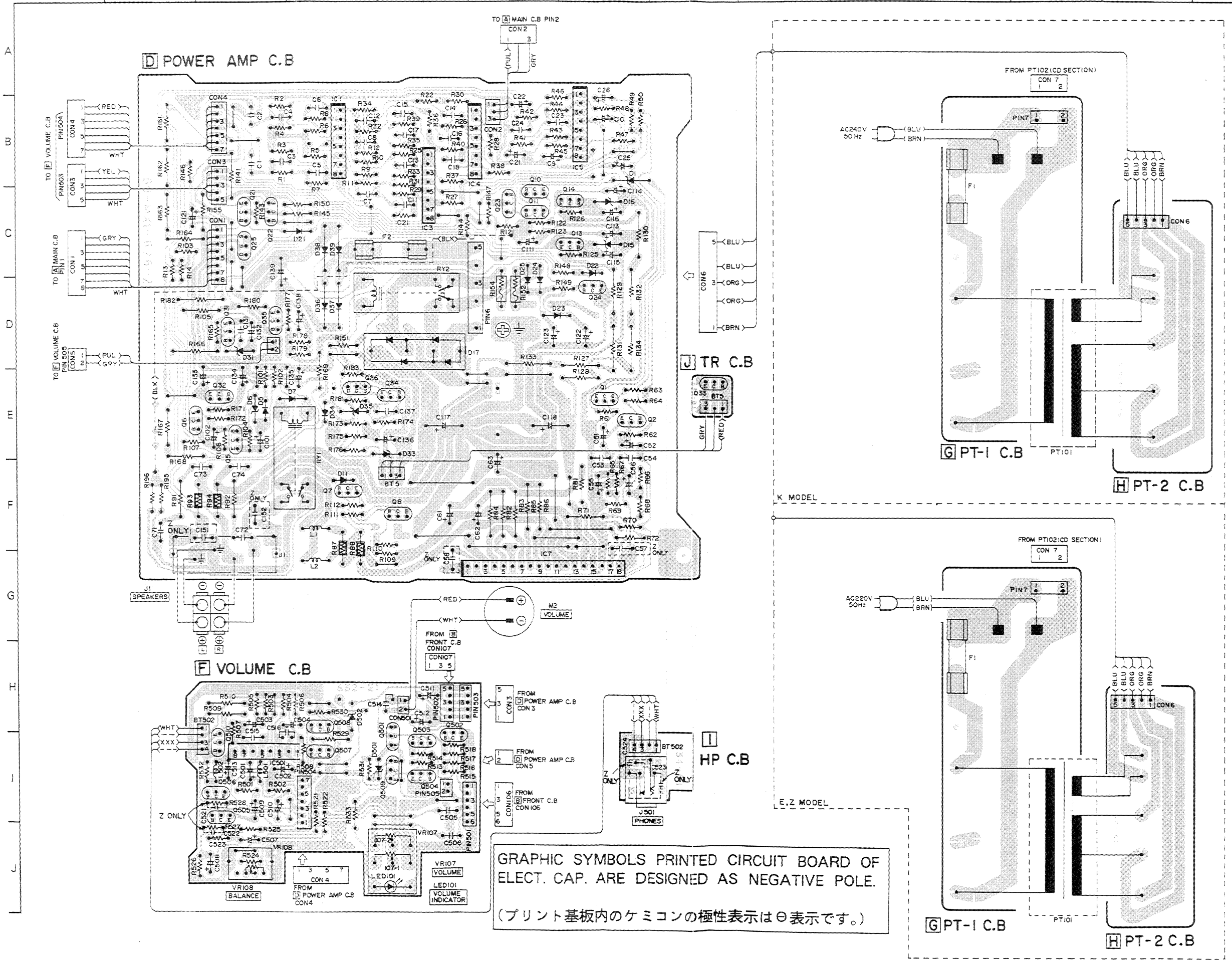
B FRONT C.B

E DRIVER C.B



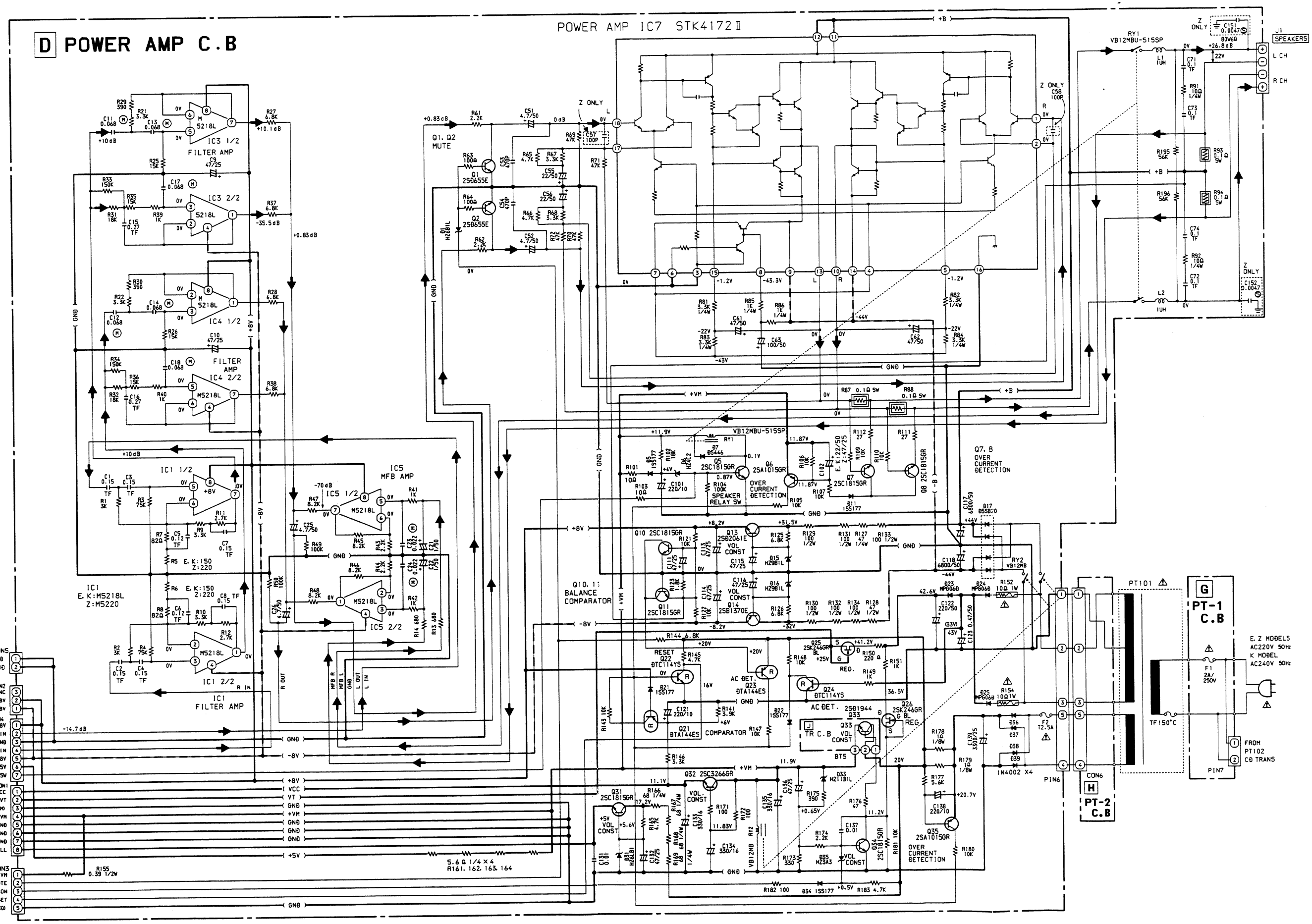
SCHEMATIC DIAGRAM – 2 (FRONT SECTION)

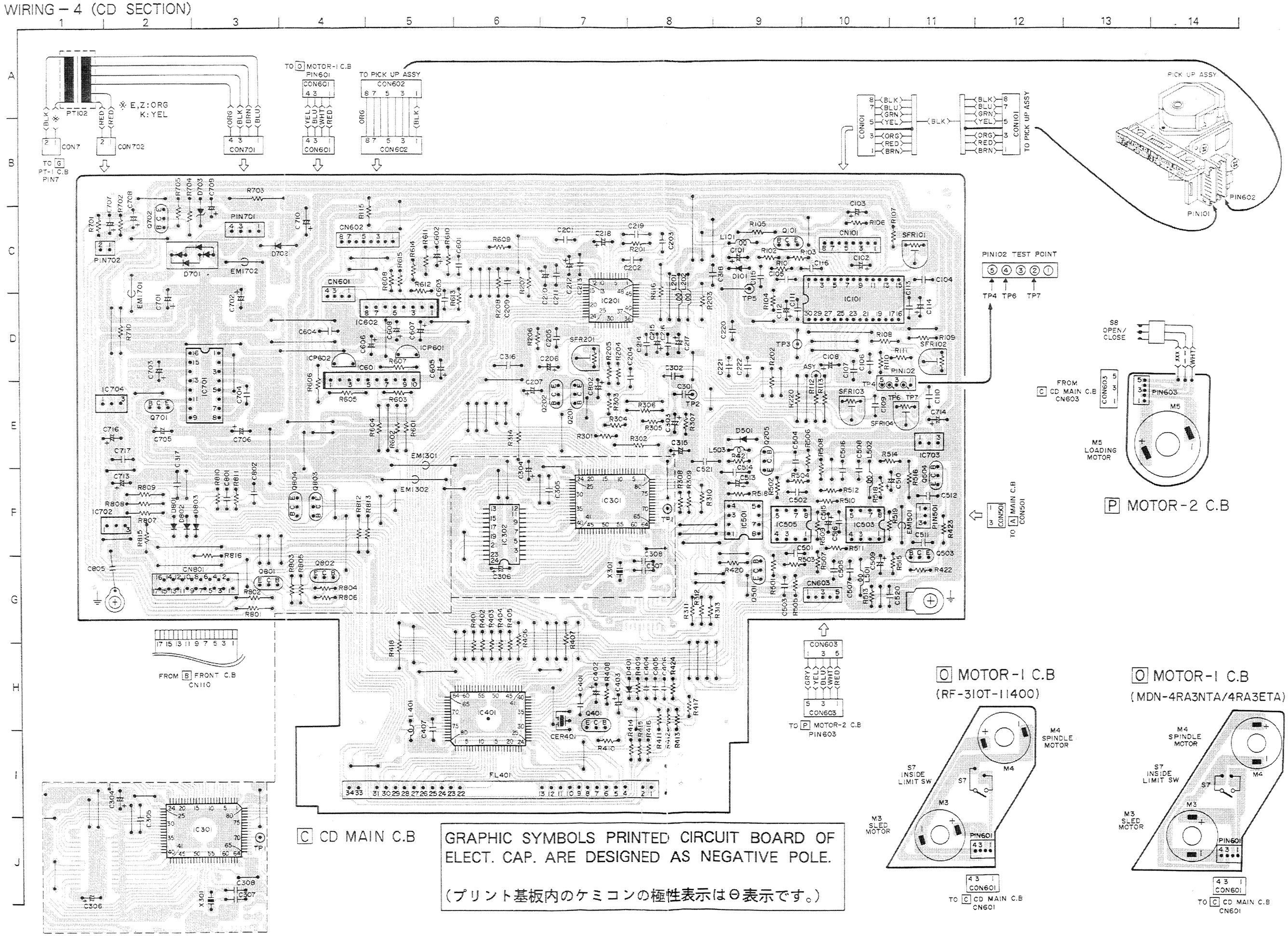




GRAPHIC SYMBOLS PRINTED CIRCUIT BOARD OF ELECT. CAP. ARE DESIGNED AS NEGATIVE POLE.

(プリント基板内のケミコンの極性表示は⊖表示です。)


D POWER AMP C.B
POWER AMP IC7 STK4172 II
IC1 FILTER AMP
IC1 1/2
IC3 1/2 FILTER AMP
IC3 2/2
IC4 1/2
IC4 2/2 FILTER AMP
IC5 MFB AMP
IC5 1/2
IC5 2/2
Q1, Q2 MUTE
Q10, 11 BALANCE COMPARATOR
Q7, 8 OVER CURRENT DETECTION
Q33 VOL CONST
AC DET.
COMPARATOR
RESET
REG.
VB12MBU-515SP
RY1
RY2
J1 SPEAKERS
L CH
R CH
PT-1 C.B
PT-2 C.B
TR C.B
PT101
E. Z MODELS AC220V 50Hz
K MODEL AC240V 50Hz
FROM PT102 CD TRANS
TO A MAIN C.B PIN505
TO F VOLUME C.B PIN2
TO F VOLUME C.B PIN504
TO A MAIN C.B PIN1
TO F VOLUME C.B PIN503
CON5 GND GND
CON2 NC +8V -8V
CON4 +8V L IN GND R IN -8V +5V HP. SW
CON1 VCC VT GND VM S GND T GND D GND V PLL
CON3 VM MUTE P-CON RESET GND
CON6
PIN6
PIN7
GND
+8V
-8V
+5V
+VM
+B
+10 dB
-14.7 dB
+0.85 dB
-35.5 dB
-70 dB
5.6Ω 1/4 X 4 R161. 162. 163. 164
R155 0.39 1/2W
IC1 E. K:M5218L Z:M5220
E. K:150 Z:220
IN4002 X4

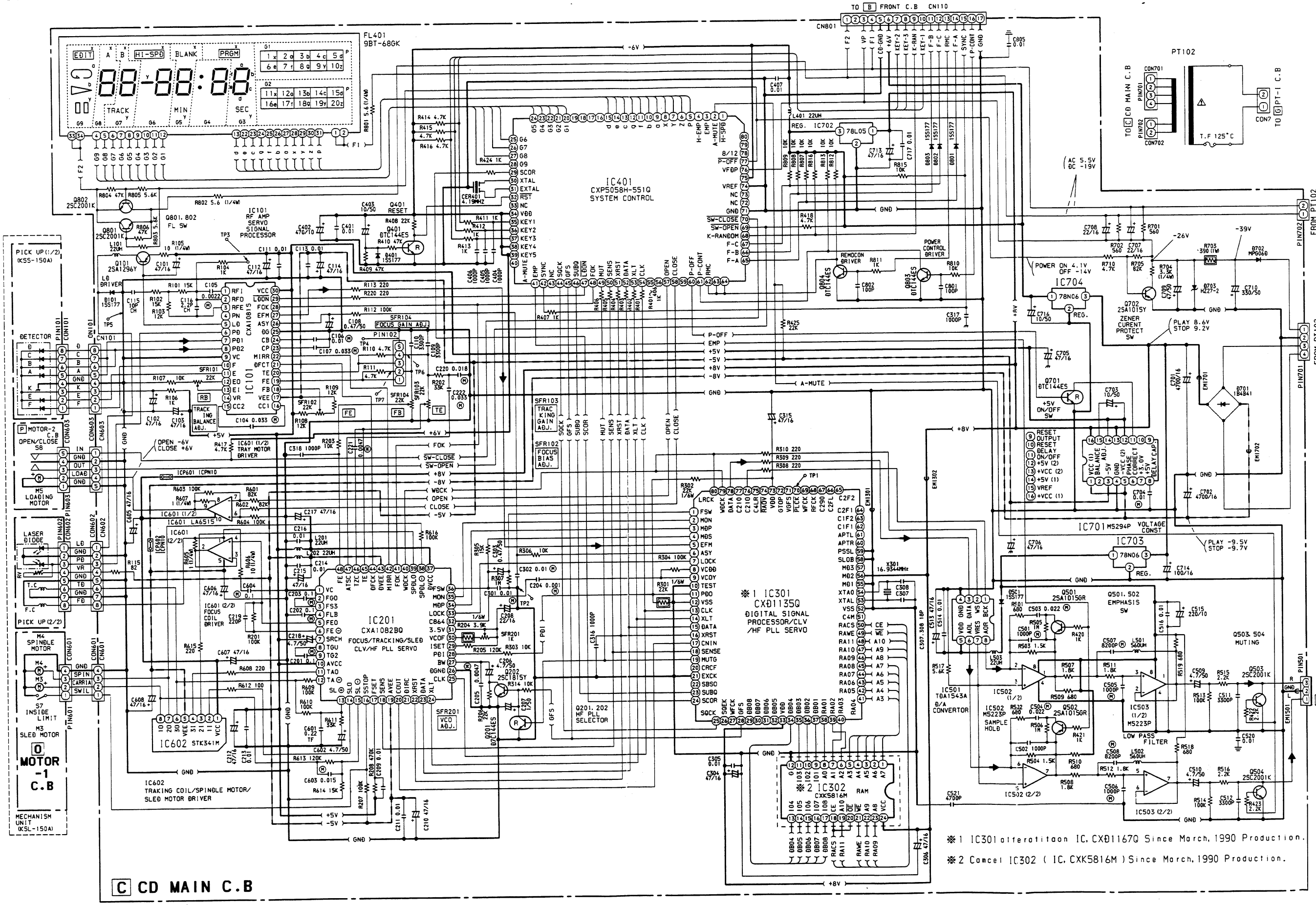


GRAPHIC SYMBOLS PRINTED CIRCUIT BOARD OF ELECT. CAP. ARE DESIGNED AS NEGATIVE POLE.

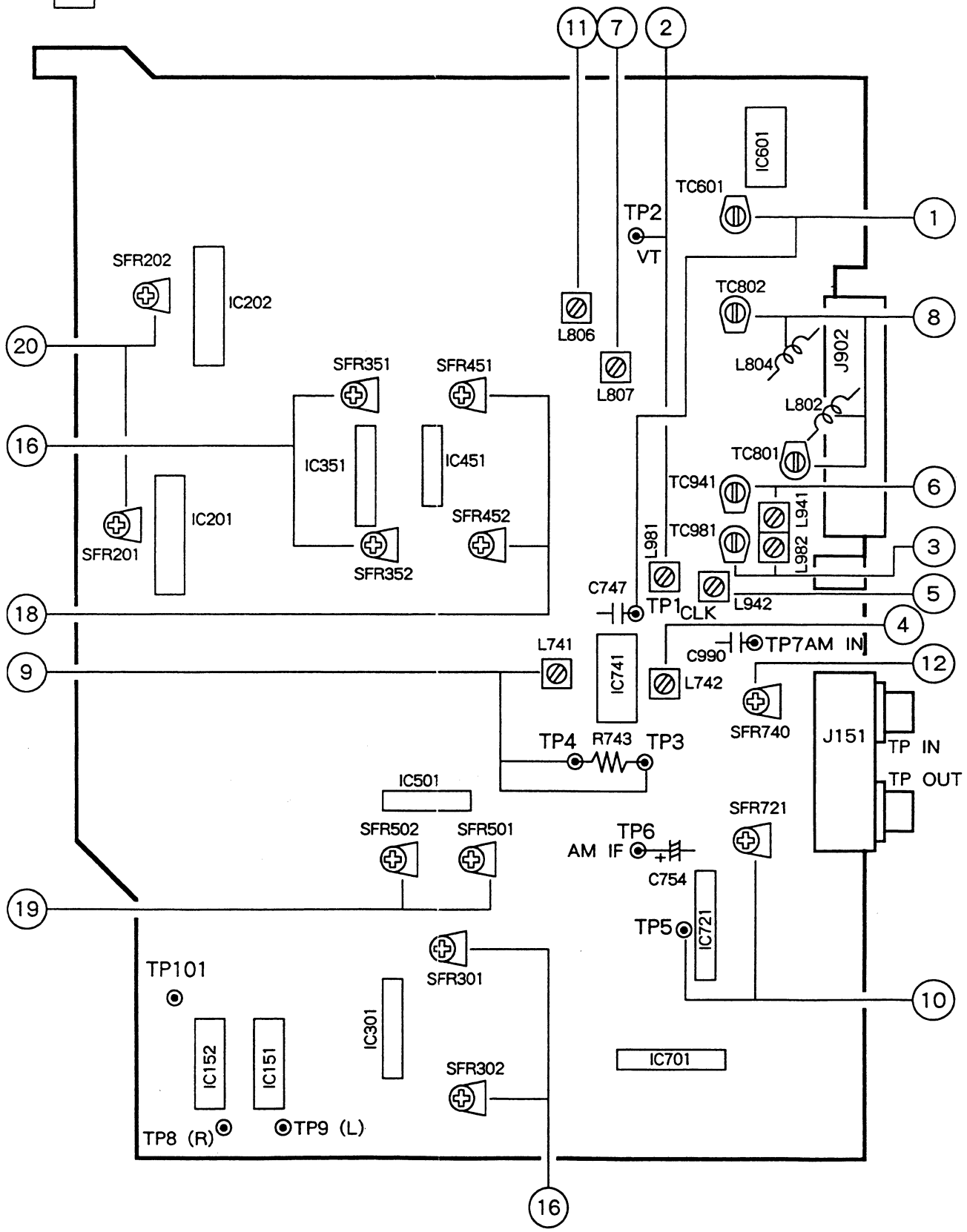
(プリント基板内のケミコンの極性表示はθ表示です。)

This circuit alteration since March, 1990 production.

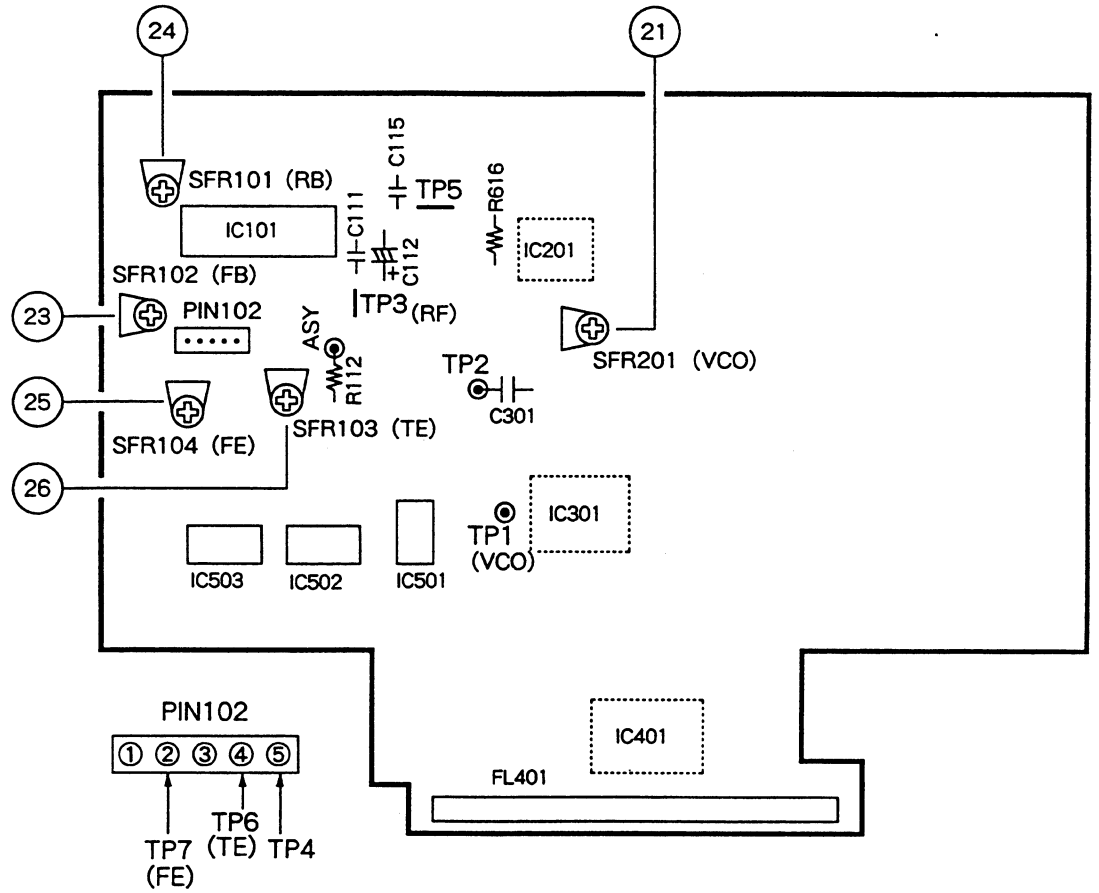
SCHEMATIC DIAGRAM – 4 (CD SECTION)



A MAIN C.B

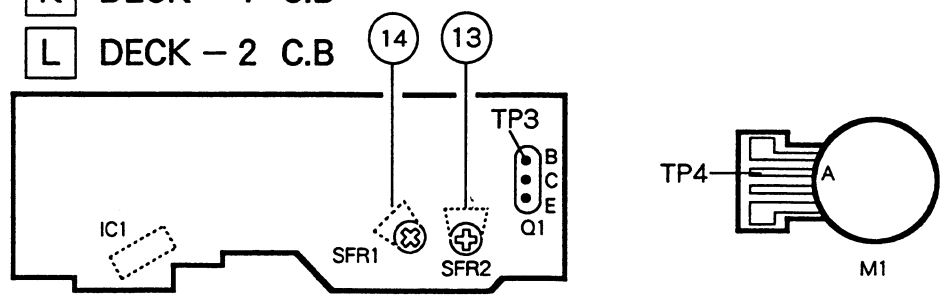


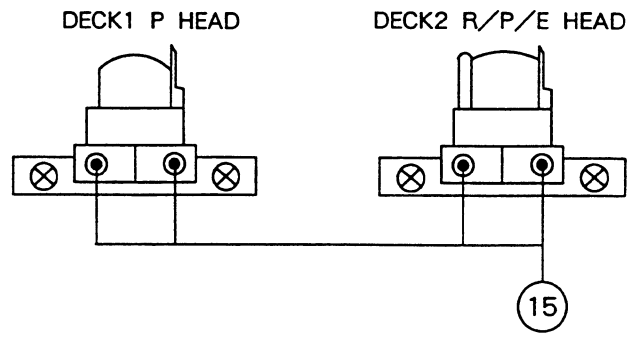
C CD MAIN C.B



K DECK – 1 C.B

L DECK – 2 C.B





(TUNER SECTION)

1. Clock Frequency Adjustment
   Settings : • Test point : TP1 (CLK)
   • Adjustment location : TC601
   Method : Set to AM 1602kHz and adjust so that the test point becomes 2052kHz ± 0.01kHz.

2. MW VT Adjustment
   Settings : • Test point : TP2 (VT)
   • Adjustment location : L981
   Method : Set to AM 522kHz and adjust so that the test point becomes 1.0V ± 0.05V.

3. MW Tracking Adjustment
   Settings : • Test point : TP-OUT (J151)
   L982 ····· 603kHz
   TC981 ····· 1404kHz

4. AM IF Adjustment
   Settings : • Test point : TP6 (C754)
   L742 ····· 1008kHz

5. LW VT Adjustment
   Settings : • Test point : TP2 (VT)
   • Adjustment location : L942
   Method : Set to LW 153kHz and adjust so that the test point becomes 1.9V ± 0.05V.

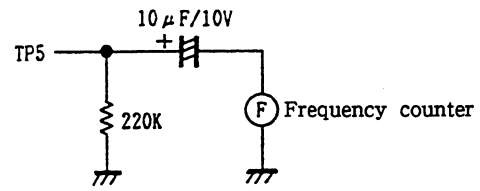
6. LW Tracking Adjustment
   Settings : • Test point : TP-OUT (J151)
   L941 ····· 153kHz
   TC941 ····· 290kHz

7. FM VT Adjustment
   Settings : • Test point : TP2 (VT)
   • Adjustment location : L807
   Method : Set to FM 87.5MHz and adjust L807 so that the test point becomes 3.0V ± 0.05V.

8. FM Tracking Adjustment
   Settings : • Test point : TP-OUT (J151)
   TC801, TC802 ····· 108MHz
   L802, L804 ····· 87.5MHz

9. DC Balance/MONO Distortion Adjustment
   Settings : • Test point : TP3, TP4 (DC balance)
   TP-OUT (J151) (Distortion)
   • Adjustment location : L741
   Method : Set to FM 98.0MHz and adjust L741 so that TP3 and TP4 output becomes 0V ± 0.02V. Next, adjust L741 so that the distortion becomes minimum (less than 0.8%).

10. MPX VCO Adjustment
    Settings : • Test point : TP5
    • MODE SW : STEREO
    • Adjustment location : SFR721
    Method : Connect a capacitor and a resistor as below. Set to FM 98.0MHz and adjust so that the frequency at test point becomes 38kHz ± 0.05kHz.



11. FM IF Adjustment
    Settings : • Test point : TP6 (C754)
    L806 ····· 98.0MHz

12. LIGHT ON TUNNING LED Adjustment
    Settings : • Adjustment location : SFR740
    • Input level : 20dB
    Method : Set to FM 98.0MHz and adjust TUNNING LED to light on by SFR740. After that, LED goes out by 2dB down.

(DECK SECTION)

13. Normal Speed Adjustment (DECK-1, DECK-2)
    Settings : • Test tape : TTA-100 (TTA-111S)
    • Test point : TP-OUT (J151)
    • Adjustment location : SFR2 (DECK-1, DECK-2)
    Method : Play back the test tepe, adjust for 3000Hz.

14. High Speed Adjustment (DECK-1, DECK-2)
    Settings : • Test tape : TTA-100 (TTA-111S)
    • Test point : TP-OUT (J151)
    • Adjustment location : SFR1 (DECK-1, DECK-2)
    Method : Play back the test tape, and make the high speed condition to be shorted between TP3 and TP4. Adjust for 6000Hz.

15. Head Azimuth Adjustment (DECK-1, DECK-2)
    Settings : • Test tape : TTS-310 (TTA-317E, SCC-1429)
    • Adjustment location : Head azimuth adjustment screw
    Method : Play back the 10kHz signal of the test tape and adjust so that the output becomes maximum. Next, perform on each FWD PLAY and REV PLAY mode.

16. PB Sensitivity Adjustment (DECK-1, DECK-2)
    Settings : • Test tape : TTS-200 (TTA-161, TCC-130)
    • Test point : TP-OUT (J151)
    • Adjustment location : SFR301 (DECK-1, Lch)
    SFR302 (DECK-1, Rch)
    SFR351 (DECK-2, Lch)
    SFR352 (DECK-2, Rch)
    Method : Play back the test tape and adjust so that the output becomes 270mV.

17. PB Frequency Response Check (DECK-1, DECK-2)
    Settings : • Test tape : TTS-310 (TTA-317E, SCC-1429)
    • Test point : TP-OUT (J151)
    Method : Play back the 315Hz and 10kHz signals of the test tape and check the output of the 10kHz signal is 0dB ± 2dB with respect to that of the 315Hz signal.

18. REC/PB Frequency Response Adjustment (DECK-2)
    Settings : • Test tape : TTA-600 (TTA-119K)
    • Test point : TP-OUT (J151)
    • DOLBY NR SW : OFF
    • Input signal : 1kHz/10kHz (DAT/AUX IN)
    • Adjustment location : SFR451 (Lch)
    SFR452 (Rch)
    Method : Connect TP101 to ground (chassis), apply a 1kHz signal and adjust attenuator so that the level at the DAT/AUX OUT is 19mV. Record and play back the 1kHz and 10kHz signals and adjust so that the output level of 10kHz signal is -1dB ± 0.5dB for 1kHz signal.
    After adjustment, remove the grounding lead wire.

19. REC/PB Sensitivity Adjustment (DECK-2)
    Settings : • Test tape : TTA-600 (TTA-119K)
    • Test point : TP-OUT (J151)
    • DOLBY NR SW : OFF
    • Input signal : 1kHz (DAT/AUX IN)
    • Adjustment location : SFR501 (Lch)
    SFR502 (Rch)
    Method : Connect TP101 to ground (chassis), apply a 1kHz signal and adjust attenuator so that the level at the DAT/AUX OUT is 19mV. Record and play back the 1kHz signal and adjust SFR501 and SFR502 so that the output level is 19mV-0.5dB.
    After adjustment, remove the grounding lead wire.

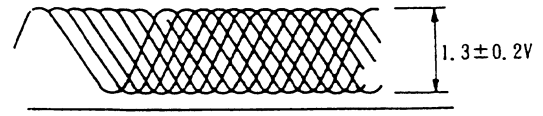
20. BBE Level Adjustment
    Settings : • Test point : DAT/AUX OUT
    • Input terminal : DAT/AUX IN
    • Input signal : 0dBm (0.775V), 1kHz/5kHz
    • BBE SW : ON
    • Adjustment location : SFR201 (Lch)
    SFR202 (Rch)
    Method : Connect TP101 to ground (chassis), set the BBE control to minimum and adjust so that the output difference between the 1kHz and 5kHz signals is 0 ± 0.5dB.
    After adjustment, remove the grounding lead wire.

(CD SECTION)

21. VCO Frequency Adjustment
    (1) Open the tray using the OPEN/CLOSE button.
    (2) Connect a frequency counter to TP1 (VCO), TP2 (C301, GND).
    (3) Connect R112 (ASY) to TP4 (PIN102⑤, GND).
    (4) Turn on the power switch.
    (5) Adjust SFR201 (VCO) so that the frequency counter reading is 4.23MHz ± 0.02MHz.
    (6) After adjustment, remove the grounding lead wire.

22. RF level check
    Make the RF level check when replacing and repairing the optical block.
    (1) Connect an oscilloscope to TP3 (RF), TP5 (GND).
    (2) Connect R112 (ASY) to TP4 (PIN102⑤, GND).
    (3) Turn on the power switch.
    (4) Insert the disc YEDS-18 (YEDS-1) TRACK No.2 and press the ▶PLAY button.
    (5) Check that the waveform on tlhe oscilloscope is as shown in the figure below.
    (6) After check remove the grounding lead wire.

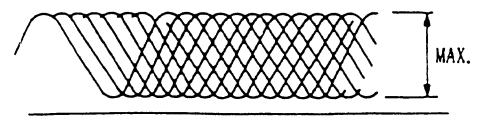
RF signal waveform



VOLT/DIV : 0.2V
TIME/DIV : 0.5μS

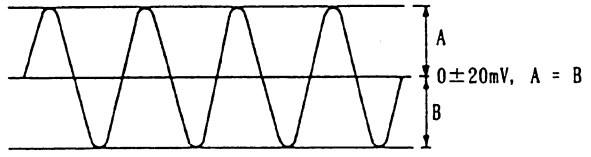
23. Focus Bias Adjustment
    Make the focus bias adjustment when replacing and repairing the optical block.
    (1) Connect an oscilloscope to TP3 (RF), TP4 (PIN102⑤, GND)
    (2) Connect R112 (ASY) to TP4 (PIN102⑤, GND).
    (3) Turn on the power switch.
    (4) Insert the disc YEDS-18 (YEDS-1) TRACK No.2 and press the ▶PLAY button.
    (5) Adjust SFR102 (FB) to make clear and maximize the waveform amplitude on the oscillosope. For clearer waveform, diamond shapes (◇) can be distinguished in the center of the waveform.
    (6) After adjustment, remove the grounding lead wire.

RF signal waveform



VOLT/DIV : 0.2V
TIME/DIV : 0.5μS

24. Tracking Balance Adjustment
(1) Connect an oscilloscope to TP6 (PIN102④), TP4 (PIN102⑤, GND).
(2) Connect R112 (ASY) to TP4 (PIN102⑤, GND).
(3) Connect center pin SFR103 (TE) to ground.
(4) Turn on the power switch.
(5) Insert the disc YEDS-18 (YEDS-1) TRACK No.2 and press the ▶PLAY button.
(6) Adjust SFR101 (RB) so that the waveform on the oscilloscope is vertically symmetrical as shown in the figure below.
(7) After adjustment, remove the grounding lead wire.



VOLT/DIV : 50mV
TIME/DIV : 0.2mS

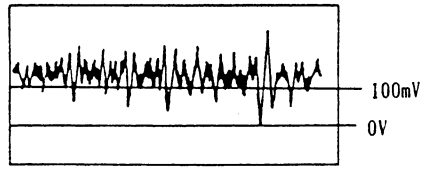
25, 26. Focus/Tracking Gain Adjustment
A frequency response analyzer is necessary in order to perform this adjustment exactly.
However, this gain has a margin, so even if it is slightly off, there is no problem. Therefore,do not perform this adjustment.
Focus/tracking gain determines the pick-up follow-up (vertical and horizontal) relative to mechanical noise and mechanical shock when the 2-axis device operate. However. as these reciprocate, the adjustment is at the point where both are satisfied.
- When gain is raised, the noise when the 2-axis device operates increases.
- When gain is lowered, it is more susceptible to mechanical shock and skipping occurs more easily.
- When gain adjustment is off, the symptoms below appear.

Gain / Symptoms	Focus	Tracking
● The time until music starts becomes longer for STOP→▶ PLAY or automatic selection (⏮ ⏭ buttons pressed.) (Normally takes about 2 seconds.)	low	low or high
● MUSIC does not start and disc continues to rotate for STOP→▶ PLAY or automatic selection (⏮ ⏭ buttons pressed.)	–	low
● Disc table opens shortly after STOP→▶ PLAY.	low or high	–
● Sound is interrupted during PLAY. Or time counter display stops progressing.	–	low
● More noise during 2-axis device operation.	high	high

The following is a simple adjustment method.

-Simple Adjutment-
Note : Since exact adjustment cannot be performed, remember the positions of the controls before performing the adjustment. If the positions after the simple adjustment are only a little different, return the controls to the original position.

Procefure :
(1) Keep the set horizontal.
If the set is not horizontal, this adjustment cannot be performed due to the gravity against the 2-axis device.
(2) Insert a disc YEDS-18 (YEDS-1) TRACK No.2 and press the ▶PLAY button.
(3) Connect an oscilloscope to TP7 (PIN102②).
(4) Adjustment SFR104 (FE) so that the waveform is as shown in the figure below.
(focus gain adjustment)



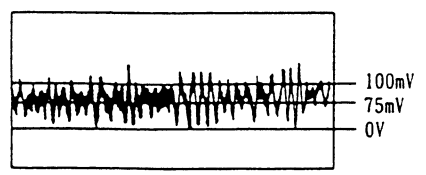
VOLT/DIV : 0.1V
TIME/DIV : 2mS

● Incorrect Examples (DC level changes more than on -adjusted waveform)

low focus gain

VOLT/DIV : 0.1V
TIME/DIV : 2mS

high focus gain



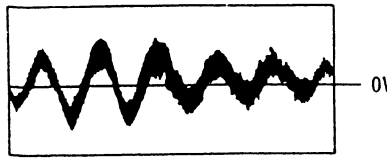
VOLT/DIV : 0.1V
TIME/DIV : 2mS

(5) Connect an oscilloscope to TP6 (PIN102④).
(6) Adjust SFR103 (TE) so that the waveform is as shown in the figure below.
(tracking gain adjustment)

VOLT/DIV : 0.5V
TIME/DIV : 2mS

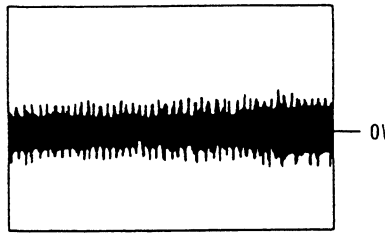
● Incorrect Example (fundamental wave appears)

low tracking gain



VOLT/DIV : 0.5V
TIME/DIV : 2mS

high tracking gain
(higher fundamental wave than for low gain)



VOLT/DIV : 0.5V
TIME/DIV : 2mS

PRACTICAL SERVICE FIGURE

< Tuner section >
< FM section >

IHF sensitivity :	4 ± 4dB (THD 3%, 98MHz) (E, K only)
	8 ± 4dB (THD 3%, 98MHz) (Z only)
S/N 50dB sensitivity :	30 ± 5dB (98MHz) (E, K only)
S/N 46dB sensitivity :	30 ± 5dB (98MHz) (Z only)
Intermediate frequency :	10.7MHz
Stereo distortion :	Less than 0.8% (98MHz)
Stereo separation :	More than 25dB (98MHz)

< MW section >

Sensitivity : (S/N 20dB)	54 ± 4dB (999kHz)
Intermediate frequency :	450kHz

< LW section >

Sensitivity : (S/N 20dB)	63 ± 4dB (198kHz)
Intermediate frequency :	450kHz

< Cassette Deck section >

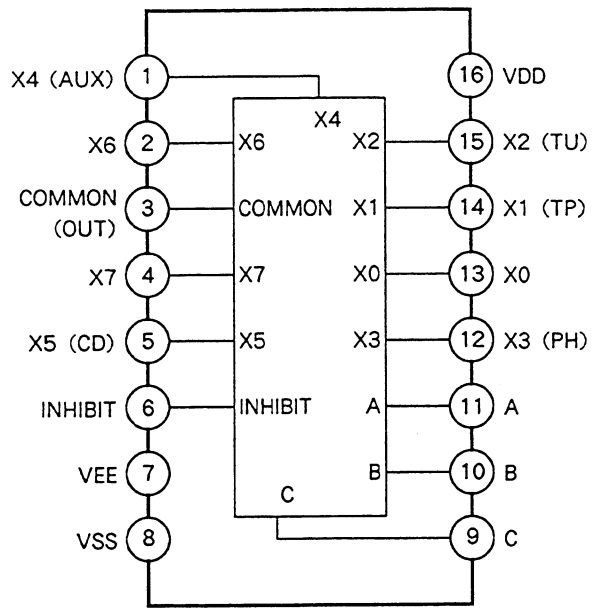
PB output level :	270 ± 20mV (DAT/AUX OUT)
TTS-200 (TTA-161, TCC-130)	
REC/PB output level :	190mV ± 2dB (DAT/AUX OUT)
Distortion (REC/PB) :	Less than 2.0% (CrO2, NORM.)
Noise (PB) :	Less than 3.5mV (DOLBY B NR OFF NORM.)
	Less than 1.0mV (DOLBY B NR ON CrO2)
Erasing ratio :	More than 60dB (125Hz)
Crosstalk :	More than 60dB (1kHz, 0VU)
Channel separation :	More than 45dB (1kHz, 0VU)
REC/PB noise : (Weighted-A)	Less than 0.3mV/1.0mV (DOLBY B NR ON/OFF CrO2)
	Less than 0.5mV/1.5mV (DOLBY B NR ON/OFF NORM.)
Recording bias frequency :	100kHz
Tape speed :	3000Hz ± 1.5%
TTA-100 (TTA-111S)	
Wow & flutter (W-RMS) :	Less than 0.18% (DECK1,2)
Take-up torque :	30~60g-cm (DECK1, 2)
F.F & REW torque :	55~120g-cm (DECK1, 2)
Back tension :	2~5g-cm (DECK1, 2)
Test tape :	NORMAL TTA-600 (TTA-119K)
	CrO2 TTA-610 (TTA-119H)

< CD player section >

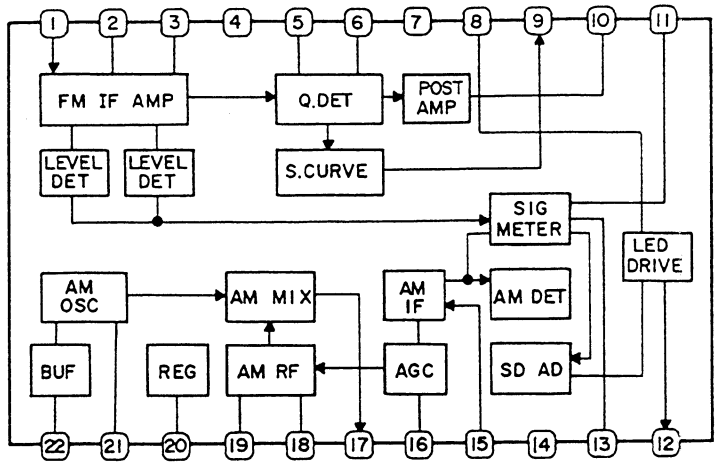
Output level :	0.8 ± 0.2V (TR-2, 1kHz)
Frequency response :	0dB + 1.5dB-2dB (100Hz, 10kHz) (TR-4, 5)

IC BLOCK DIAGRAM

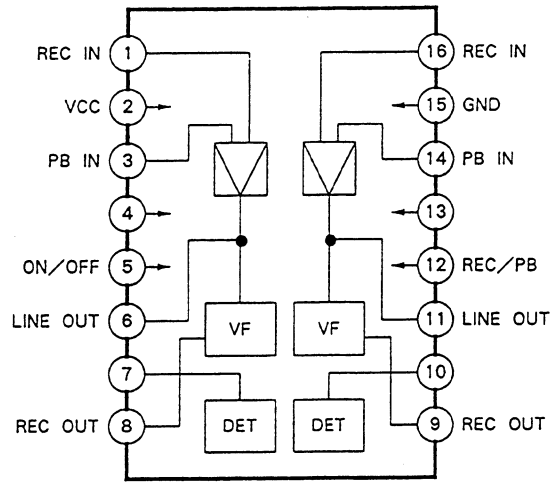
IC, HD14051BP



IC, LA1265



IC, CXA1102

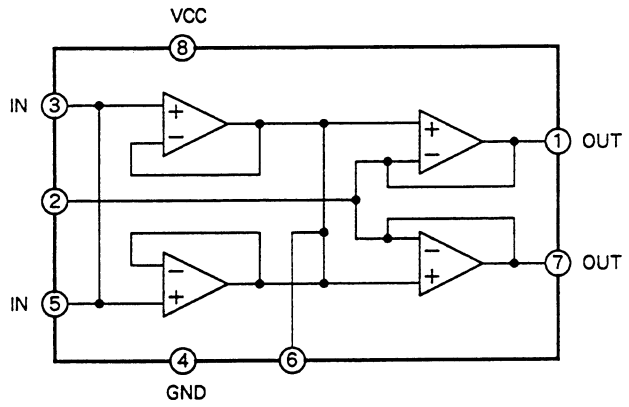


IC, HD14051BP TRUTH TABLE

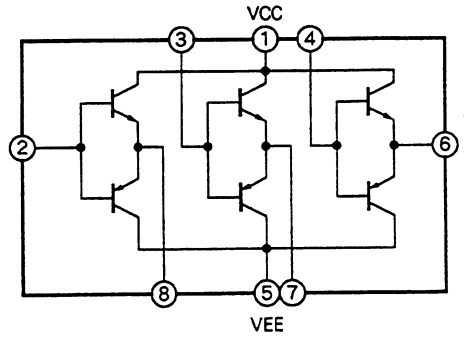
CONTROL INPUT				ON
INHIBIT	C	B	A	SWITCH
0	0	0	0	X0
0	0	0	1	X1
0	0	1	0	X2
0	0	1	1	X3
0	1	0	0	X4
0	1	0	1	X5
0	1	1	0	X6
0	1	1	1	X7
1	X	X	X	−

※ X : DON'T CARE

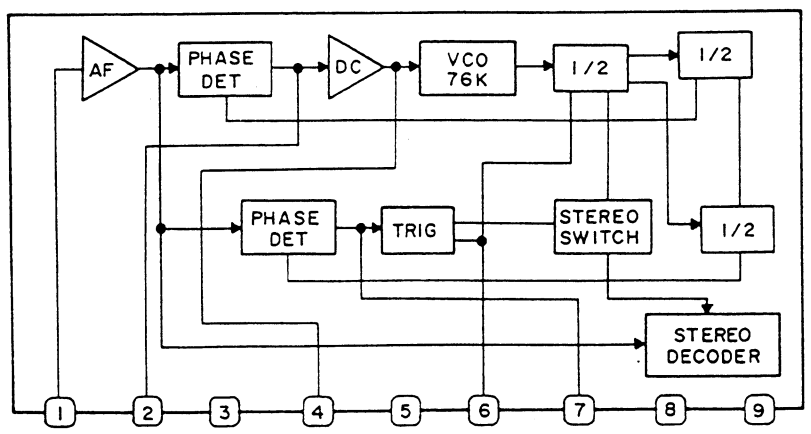
IC, M5280



IC, STA341M

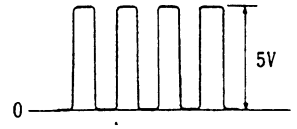


IC, TA7343AP



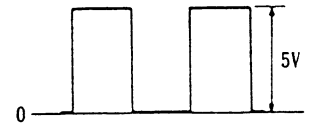
WAVE FORM

CXD1167
CXD1135
C4M
IC3015



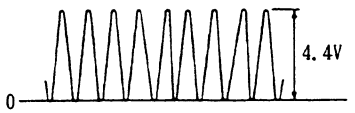
2V/DIV
0.2μS/DIV
f = 4.2336MHz

CXD1167
CXD1135
WDCK
IC3019



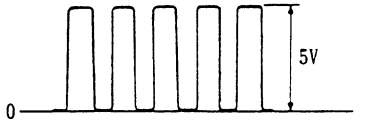
2V/DIV
2μS/DIV
f = 88.2kHz

CXD1167
CXD1135
XTAO
IC3014



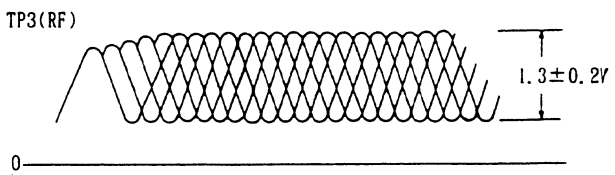
2V/DIV
0.2μS/DIV
f = 16.9344MHz

TP1
VCO



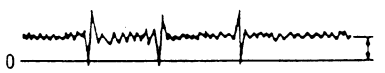
2V/DIV
0.2μS/DIV
f = 4.32MHz

TP3(RF)



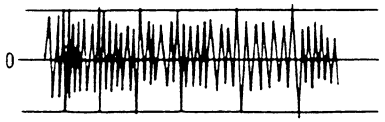
500mV/DIV
0.5μS/DIV

TP7(FE)
(at PLAY)



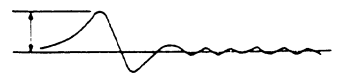
200mV/DIV
2mS/DIV

TP6(TE)
(at PLAY)



500mV/DIV
1mS/DIV

TP7(FE)
(at FOCUS SEARCH)
≒3(V)



IC DESCRIPTION

I C, L C 6 5 3 8 D − M X 1

Pin No.	Pin Name	I/O	Description
1	K	O	LED display segment output. Active "H".
2	O−VR UP	O	Motor volume up and down output.
3	O−VR DOWN	O	
4	O−BBE	O	BBE on/off output. "H" output turns BBE on.
5 ∫ 14	T9 ∫ T0	O	FL display digit outputs. Active "H". Key scan outputs.
15	VDD	—	Power supply.
16	OSC1	—	Pins to generate a 3.9MHz clock signal.
17	OSC2	—	
18	TEST	—	Connected to GND.
19	Vss	—	GND.
20	$\overline{RST}$	I	Reset input which goes "L" when AC Power is supplied.
21	X1	—	Crystal oscillator pin. Not used. Connected to VDD.
22	X2	—	Crystal oscillator pin. Not used.
23	I−AC OFF	I	Power failure detection input. "H" input switches off all the output ports and then sets the unit to the HOLD mode (clock stopped and memory maintained.) Goes "H" when the over-current detector in the Power amplifier operates.
24	T−BASE	I	Clock pulse input for clock counting. 8Hz is input from the tuner PLL IC (LC7218).
25	I−$\overline{RMC}$	I	Remote control signal input.
26	O−MUTE	O	Muting output.
27	I/O−$\overline{SERIAL}$	I/O	I/O port to synchronize the CD player. Works as DECK-CD SYNC I/O and AMP auto-function input.
28	O−$\overline{POWER}$	O	Power on/off output. Goes "L" when the power is turned on.
29	O−$\overline{DSL}$	O	DSL on/off output. Goes "L" when DSL is on. (Not used)
30	O−CE PLL	O	Chip enable output for the PLL IC (LC7218) in the tuner section.
31	I−$\overline{STEREO}$	I	Goes "L" when the tuner receives a stereo signal.
32	I−$\overline{TUNE}$	I	Tuning detection input from the tuner. Goes "L" when the tuner is tuned to a signal. Receives auto scan and auto stop signals, and drives the tuning display.
33 ∫ 38	I−K0 ∫ I−K5	I	Key return inputs.
39	O−FUNC. A	O	Amp input swiching (function) control outputs.
40	O−FUNC. B	O	
41	O−FUNC. C	O	

NO.	C	B	A	FUNCTION
1	L	L	H	TAPE
2	L	H	L	TUNER
3	L	H	H	PHONO(Not used)
4	H	L	L	AUX
5	H	L	H	CD
6	H	H	H	MUTE

Pin No.	Pin Name	I/O	Description
42	O−SI. DATA	O	Outputs data to the PLL IC (LC7218) in the tuner.
43	O−SI. CLK	O	Outputs a clock signal to the PLL IC (LC7218) in the tuner.
44	O−I. PB	O	Play back input signal select output. Goes "H" when a tape playing in DECK I. Goes "H" in the record mode and when the power is turned on.
45	O−$\overline{BIAS\ 2}$	O	Bias oscillation on/off output. Goes "L" in the record and dubbing modes.

Pin No.	Pin Name	I/O	Description
46	O−$\overline{RMT\ 2}$	O	Record muting output. Goes "H" when muting signals.
47	O−$\overline{REC\ 2}$	O	Dolby NR recording/playback switching output. Goes "L" in the record mode. As this pin goes "H" during dubbing, the Dolby NR circuit is set to the playback mode.
48	O−HSP	O	Output "H" in the high-speed dubbing mode and "L" in other modes. When power is turned on, this pin outputs "L" for initialization.
49	O−$\overline{MOTOR}$	O	DECK 1/2 motor drive output. "L" output drives the motor. Outputs "L" for one second when the power is turned on. Outputs "H" when DECK 1/2 are in the stop mode.
50	O−$\overline{SOL\ PL1}$	O	DECK 1 PLAY solenoid output. Active "L".
51	O−$\overline{SOL\ FR1}$	O	DECK 1 FR solenoid output. Active "L".
52	O−$\overline{SOL\ PL2}$	O	DECK 2 PLAY solenoid output. Active "L".
53	O−$\overline{SOL\ FR2}$	O	DECK 2 FR solenoid output. Active "L".
54 ∫ 61	a ∫ h	O	FL display segment outputs. Active "H".
62	Vp	—	Negative power supply pin for the FL drive.
63	i	O	LED display segment outputs. Active "H".
64	j	O	

I C, L C 7 2 1 8

Pin No.	Pin Name	I/O	Description
1 24	X−IN X−OUT	—	A crystal oscillator (7.2MHz) is connected between these pins.
2 3 4	CE DATA CLK	I	When a key is operated, a signal is transmitted from the CPU (microprocessor). Active "H".
5 ∫ 8	—— ∫ ——	—	Open.
9	T. BASE	O	Outputs a reference clock signal (8Hz) for the clock.
10 12	——	—	Open.
13	MW−L	O	Outputs "H" when an MW broadcast is received.
14	FM VCO CONT	O	Outputs "H" when FM stereo switching is set to AUTO.
15 16	—— ——	—	Open.
17	AM−H	O	Outputs "H" when an AM broadcast is received.
18	AM IN	I	Receives the AM local oscillator frequency signal.
19	FM IN	I	Receives the FM local oscillator frequency signal.
20	VDD	—	5V power supply pin.
21	E. O.	O	PLL charge pump output.
22	——	—	Open.
23	GND	—	GND.
11	$\overline{BEAT}$	O	Beat select signal output.

IC, CXD1167Q

※( ) Pin name IC, CXD1135Q

Pin No.	Pin Name	I/O	Description
1	FSW	O	Output to switch the time constant of the spindle motor output filter.
2	MON	O	Spindle motor on/off control output.
3	MDP	O	Spindle motor drive output. Coarse control in the CLV.S mode and phase control in the CLV.P mode.
4	MDS	O	Spindle motor drive output. Speed control in the CLV.S mode.
5	EFM	I	Inputs an EFM signal from the RF amplifier.
6	ASY	O	Output to control the slice level of the EFM signal.
7	LOCK	O	The GFS signal is sampled by the WFCK/16. When the GFS signal is "H", this pin outputs "H", and when the signal is "L" 8 times continuously, it outputs "L".
8	VCOO (VCDD)	O	VCO output. When this is locked to the EFM signal. f = 8.6436MHz
9	VCOI (VCOY)	I	VCO input.
10	TEST	—	Connected to GND. (0V)
11	PDO	O	Phase comparison output between the EFM signal and VCO/2.
12	VSS	—	GND (0V)
13	CLK	I	Inputs a clock signal for the serial data transfer from CPU. Latches data at the rise of the clock signal.
14	XLT	I	Latch input from CPU. Latches 8-bit shift register data (serial data from CUP) to each register.
15	DATA	I	Inputs serial data from CPU.
16	XRST	I	System reset input. The system is reset at "L" input.
17	CNIN	I	Tracking pulse input.
18	SENSE	O	Outputs the internal state according to the address.
19	MUTG	I	Muting input. When the ATTM in the internal register is "L", the system is in the normal state if the MUTG is "L" and the sound is muted if the MUTG is "H".
20	CRCF	O	Outputs the CRC checking result of sub-code Q. (Not used)
21	EXCK	I	Clock input for the sub-code serial output. (Connected to GND)
22	SBSO	O	Sub-code serial output. (Not used)
23	SUBQ	O	Sub-code Q output.
24	SCOR	O	Sub-code sync S0 + S1 output.
25	SQCK	I/O	Clock signal for reading of sub-code Q.
26	SQEX	I	SQCK select input. (Not used)
27	DOTX ($\overline{WFCK}$)	O	Digital audio interface output ($\overline{WFCK}$ is output when being off).
28	GFS	O	Display output of the frame sync locking state. Goes "H" when locked.
29 ∫ 32	$\overline{(DB05 \sim DB08)}$	—	RAM

Pin No.	Pin Name	I/O	Description
33	VDD	—	Power supply (+5V)
34 ∫ 50	$\overline{(DB01 \sim DB04)(RAWE)}$ $\overline{(RA01 \sim RA11)(RACS)}$	—	RAM
51	C4M	O	1/2 division output of the crystal oscillator. f = 4.2336MHz(Not used)
52	VSS	—	GND (0V)
53	XTAL	I	Crystal oscillator input. f = 8.4672MHz
54	XTAO	O	Crystal oscillator output. f = 8.4672MHz
55	MD1	I	Mode select input 1 used at "H" } Used in the mode with the clock frequency 8.4672MHz, the digital output OFF. the digital filter ON. (Connected to GND.)
56	MD2	I	Mode select input 2 used at "L" }
57	MD3	I	Mode select input 3 used at "L" }
58	SLOB	I	Input to switch the code of the audio data output. "L" causes the 2 second complement output and "H" causes the offset binary output. (Connected to GND.)
59	PSSL	I	Input to switch the mode of the audio data output. "L" causes serial output and "H" causes parallel output. (Connected to GND.)
60	APTR	O	Aperture correction control output. 44.1kHz with the filter OFF. (Not used)
61	APTL	O	Aperture correction control output. 44.1kHz with the filter OFF. (Not used)
62	DA01 (C1F1)	O	DA01(LSB of parallel audio data) output with PSSL = "H". C1F1 output with PSSL = "L". (Not used)
63	DA02 (C1F2)	O	DA02 output with PSSL = "H". C1F2 output with PSSL = "L". (Not used)
64	DA03 (C2F1)	O	DA03 output with PSSL = "H". C2F1 output with PSSL = "L". (Not used)
65	DA04 (C2F2)	O	DA04 output with PSSL = "H". C2F2 output with PSSL = "L". (Not used)
66	DA05 (C2FL)	O	DA05 output with PSSL = "H". C2FL output with PSSL = "L". (Not used)
67	DA06 (C2PO)	O	DA06 output with PSSL = "H". C2PO output with PSSL = "L". (Not used)
68	DA07 (RFCK)	O	DA07 output with PSSL = "H". RFCK output with PSSL = "L". (Not used)
69	DA08 (WFCK)	O	DA08 output with PSSL = "H". WFCK output with PSSL = "L". (Not used)
70	DA09 ($\overline{PLCK}$)	O	DA09 output with PSSL = "H". $\overline{PLCK}$ output with PSSL = "L". (Note 1)
71	DA10 (VGFS)	O	DA10 output with PSSL = "H". VGFS output with PSSL = "L". (Not used)
72	DA11 (GTOP)	O	DA11 output with PSSL = "H". GTOP output with PSSL = "L". (Not used)
73	VDD	—	Power supply (+5V)
74	DA12 ($\overline{RA0V}$)	O	DA12 output with PSSL = "H". $\overline{RA0V}$ output with PSSL = "L". (Not used)
75	DA13 (C4LR)	O	DA13 output with PSSL = "H". C4LR output with PSSL = "L". (Not used)
76	DA14 (C210)	O	DA14 output with PSSL = "H". C210 output with PSSL = "L".
77	DA15 (C210)	O	DA15 output with PSSL = "H". C210 output with PSSL = "L". (Note 2) (Not used)
78	DA16 (DATA)	O	DA16(MSB of parallel audio data) output with PSSL = "H". DATA output with PSSL = "L". (Note 3)
79	WDCK	O	Strobe signal output. 88.2kHz with the filter OFF.
80	LRCK	O	Strobe signal output. 44.1kHz with the filter OFF.

Note 1) $\overline{PLCK}$: VCO/2 output. When locked to the EFM signal, f = 4.3218MHz

Note 2) C210: Bit clock signal. f = 2.1168MHz

Note 3) DATA: Audio signal serial data output

IC, CXP5058H-551Q

Pin No.	Pin Name	I/O	Description
1	$\overline{\text{H-SPD}}$	O	Outputs "L" when high speed. (Not used)
2	A-MUTE	O	Analog mute output: "H" during mute.
3	EMP	O	Emphasis on/off select output. "H" when emphasis is on. (Not used)
4	H-EMP	O	Outputs "H" when high speed is emphasis on. (Not used)
5 ∫ 15	a～g ∫ p x～z	O	Flourescent indicator lamp segment data output.
16 ∫ 19	——	—	Not used.
20 ∫ 28	G1 ∫ G9	O	Flourescent indicator lamp grid scan output.
29	SCOR	I	Sub-code data input.
30	XTAL	—	Connected to ceramic vibrator. (4.19MHz)
31	EXTAL	I	
32	$\overline{\text{RST}}$	I	Reset signal input.
33	NC	—	Not used.
34	VDD	—	Power supply (+6V)
35 ∫ 39	KEY1 ∫ KEY5	I	Key matrix data input.
40	A-MUTE	O	Analog mute output. "L" during mute.
41	EMP	O	Emphasis on/off select output. "L" when emphasis is on.
42	SYNC	I/O	External equipment sync signal input and output. (8-bit serial)
43	NC	—	Not used.
44	SQCK	I	Sub-code Q read clock input.
45	GFS	I	Frame sync locking state input.
46	SUBQ	I	Sub-code Q serial data input.
47	$\overline{\text{LODN}}$	O	Laser diode control output. "L" causes the laser diode to emit light.
48	FOK	I	Focus condition. "H" when focus in good condition is input.
49	MUT	O	DSP muting output.
50	SENS	I	Connected to DSP SENS terminal.
51	XRST	O	System reset output.
52	DATA	O	DSP serial data output.
53	XLT	O	DATA latch output.
54	CLK	O	DATA transter clock.
55, 56	——	—	Not used.

Pin No.	Pin Name	I/O	Description
57	OPEN	O	Output to open tray. Opens tray when "H".
58	CLOSE	O	Output to close tray. Closes tray when "H".
59	——	—	Not used.
60	P-OFF	O	System on/off select output. "H" when system is off.
61	P-CONT	I	External system on/off signal input.
62	RMC	I	42-bit remote control data serial input.
63	——	I	Connected to RMC.
64	——	I	
65	F-A	I	Function select signal input.
66	F-B	I	
67	F-C	I	
68	K-RANDOM	I	Random mode on/off switching input. Stop and open is play.
69	$\overline{\text{SW-OPEN}}$	I	Tray open detection switch input. "L" when tray is open.
70	$\overline{\text{SW-CLOSE}}$	I	Tray close detection switch input. "L" when tray is closed.
71	GND	—	GND.
72, 73	NC	—	Not used.
74	VREF	—	Connected to GND.
75	——	—	Connected to VDD.
76	VFDP	—	Flourecent indicator lamp output power supply.
77	$\overline{\text{P-OFF}}$	O	Outputs "L" when power is off.
78	8/12	O	Outputs "H" when music time is Less than twenty-three minutes.
79, 80	——	—	Not used.

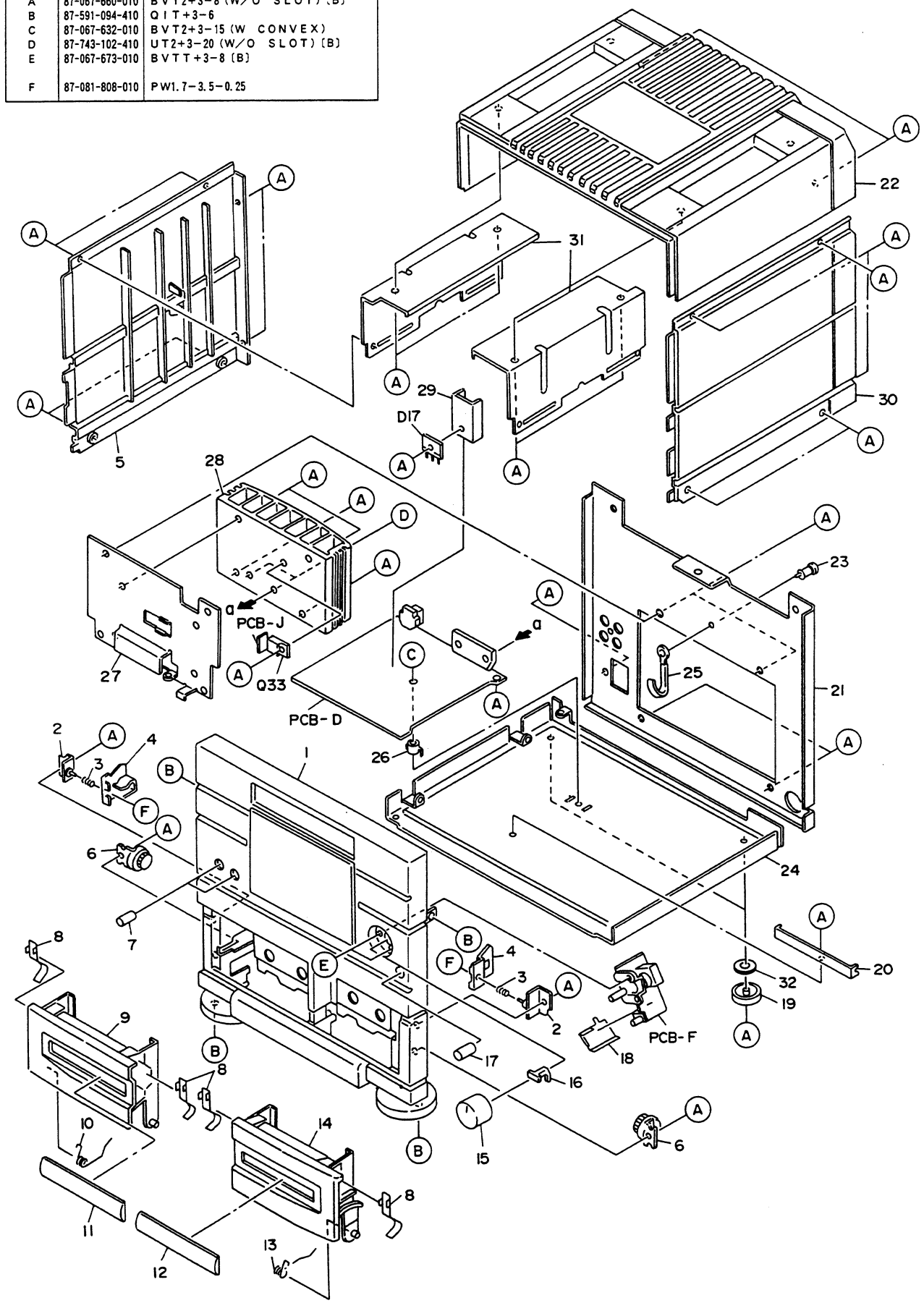
	TAPE	TUNER	PHONO. (Not used)	AUX	CD
A	H	L	H	L	H
B	L	H	H	L	L
C	L	L	L	H	H

See the XC-002 for the IC description below.

	CX-800	XC-002
①	IC, CXA1082BQ	IC, CXA1082M
②	IC, CXA1081S	IC, CXA1081M

EXPLODED VIEW – 1

REF. NO.	PART NO.	DESCRIPTION
A	87-067-660-010	BVT2+3-8 (W/O SLOT) (B)
B	87-591-094-410	QIT+3-6
C	87-067-632-010	BVT2+3-15 (W CONVEX)
D	87-743-102-410	UT2+3-20 (W/O SLOT) (B)
E	87-067-673-010	BVTT+3-8 (B)
F	87-081-808-010	PW1.7-3.5-0.25

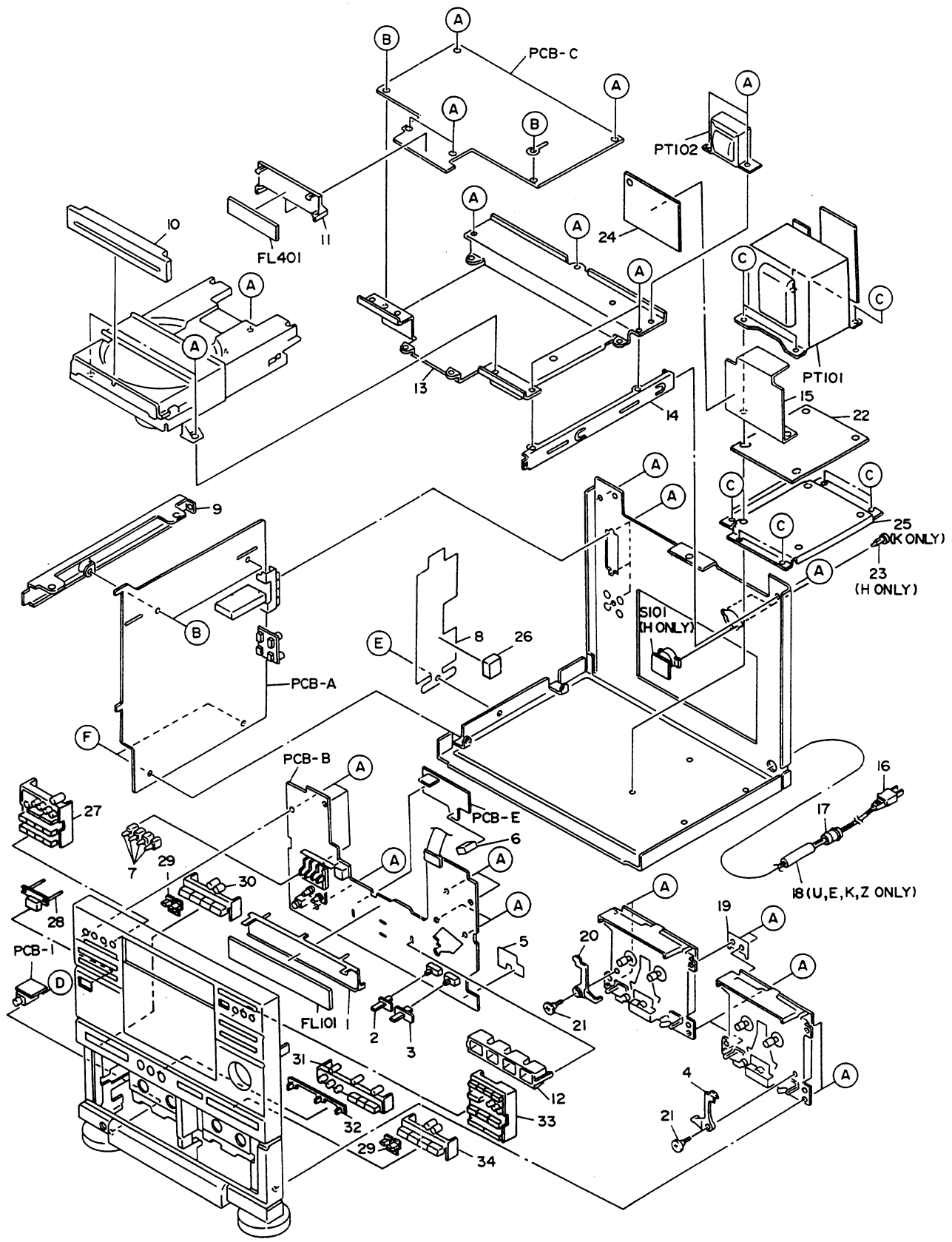


MECHANICAL PARTS LIST

PART NO. CHANGED TO	REF. NO	PART NO.	DESCRIPTION	COMMON MODEL	Q'TY
	1-1	★09-047-571-010	FRONT CABINET ASSY (H)	※	1
	1-1	★09-047-592-010	FRONT CABINET ASSY (U)	※	1
	1-1	★09-047-572-010	CABINET, FRONT ASSY (E, K, Z)	※	1
	1-2	★81-693-209-010	HOLDER LOCK ASSY		2
	1-3	★81-715-234-010	C-SPRING, LOCK PLATE		2
	1-4	★81-715-214-210	PLATE, LOCK		2
	1-5	★89-MX1-067-010	CABINET, SIDE L (H, E, K, Z)	※	1
	1-5	★89-MX1-069-010	CABINET, SIDE L (U)	※	1
	1-6	★87-063-144-010	OIL DAMPER 37		2
	1-7	★89-MX1-026-010	KNOB, BBE	※	2
	1-8	★82-202-217-110	P-SPRING, CASSETTE HOLDER		4
	1-9	89-MX1-071-010	BOX, CASSETTE	※	1
	1-10	★81-693-205-010	T-SPRING, 1 (H, E, K, Z)		1
	1-10	★81-693-212-019	T-SPRING, 1 EX (U)		1
	1-11	★89-MX1-035-010	WINDOW, BOX L	※	1
	1-12	★89-MX1-046-010	WINDOW, BOX R	※	1
	1-13	★81-693-206-010	T-SPRING, 2 (H, E, K, Z)		1
	1-13	★81-693-213-019	T-SPRING, 2 EX (U)		1
	1-14	89-MX1-072-010	BOX, CASSETTE	※	1
	1-15	★89-MX1-025-010	KNOB, VOLUME	※	1
	1-16	★89-MX1-028-010	INDICATOR, POWER	※	1
	1-17	★89-MX1-047-010	KNOB, BALANCE	※	1
	1-18	★89-MX1-684-010	SHIELD CASE, VOLUME	※	1
	1-19	★89-MX1-074-010	FOOT, REAR 2	※	2
	1-20	★89-MX1-204-010	HOLDER, P.C.B	※	1
	1-21	★89-MX1-055-010	PANEL, REAR (H)	※	1
	1-21	★89-MX1-086-010	PANEL, REAR (HJ)	※	1
	1-21	★89-MX1-056-010	PANEL, REAR (U)	※	1
	1-21	★89-MX1-058-010	PANEL, REAR (E)	※	1
	1-21	★89-MX1-059-010	PANEL, REAR (K)	※	1
	1-21	★89-MX1-061-010	PANEL, REAR (Z)	※	1
	1-22	★89-MX1-065-110	CABINET, TOP (H, E, K, Z)	※	1
	1-22	★89-MX1-066-010	CABINET, TOP (U)	※	1
	1-23	★87-084-077-010	RIVET, NYLON 3.5-4.5		1
	1-24	---	CHASSIS, MAIN		1
	1-25	---	WIRE BINDER		1
	1-26	★89-MX1-217-010	HOLDER, P.C.B 9.9	※	1
	1-27	★89-MX1-207-010	HOLDER, HS (H, U, E, Z)	※	1
	1-27	★89-MX1-231-010	HOLDER, HS (K)	※	1
	1-28	---	HEAT SINK		1
	1-29	---	HEAT SINK B		1
	1-30	★89-MX1-068-010	CABINET, SIDE R (H, E, K, Z)	※	1
	1-30	★89-MX1-070-010	CABINET, SIDE R (U)	※	1
	1-31	★89-MX1-233-010	HOLDER, HANDLE EX	※	2
	1-32	★89-MX1-236-010	SHEET, FOOT REAR	※	2

EXPLODED VIEW – 2

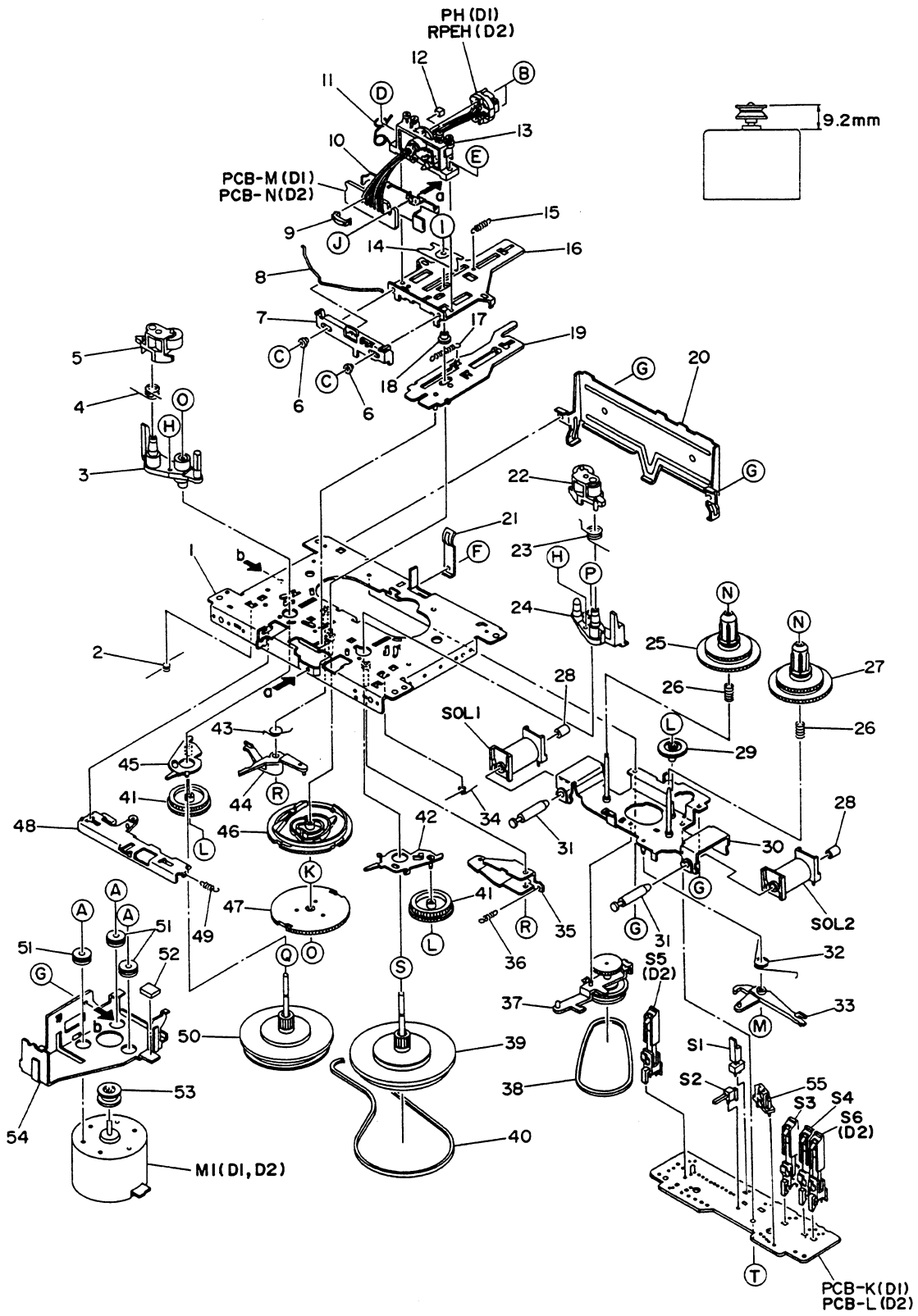
REF. NO.	PART NO.	DESCRIPTION
A	87-067-660-010	BVT2+3-8 (W/O SLOT) (B)
B	87-067-633-010	BVT2+3-8 (W CONVEX)
C	87-067-586-010	BVTT+4-8
D	87-561-095-210	VFT1+3-8 (10ø)
E	87-571-071-410	VIT+2.6-4
F	87-571-092-410	VIT+8-4 (GL)



PART NO. CHANGED TO	REF. NO	PART NO.	DESCRIPTION	COMMON MODEL	Q'TY
	2-1	★89-MX1-209-01K	GUIDE, FL	※	1
	2-2	★89-MX1-037-010	KNOB, SLIDE DOLBY	※	1
	2-3	★89-MX1-027-010	KNOB, SLIDE MODE	※	1
	2-4	★81-653-214-110	LEVER, EJECT 2		1
	2-5	---	SHIELD PLATE, FRONT		1
	2-6	★89-MX1-214-010	G CUSHION, SQ5-12-14.8	※	1
	2-7	★89-MX1-045-110	KNOB, GE	※	4
	2-8	★89-MX1-683-010	SHIELD, P.C.B	※	1
	2-9	★89-MX1-211-010	HOLDER, CD 2	※	1
	2-10	★89-MX1-031-010	JOINT, CD	※	1
	2-11	★89-VX5-202-010	GUIDE, FL		1
	2-12	★89-MX1-208-010	GUIDE, LED	※	1
	2-13	★89-MX1-202-21K	CHASSIS, CD	※	1
	2-14	★89-MX1-203-010	HOLDER, CD	※	1
	2-15	---	SHIELD, PT1		1
	2-16	★82-187-797-019	AC CORD (H,E,Z)		1
	2-16	★87-034-584-019	AC CORD (U)		1
	2-16	★82-187-796-019	AC CORD (K)		1
	2-17	★87-085-185-010	BUSHING, AC CORD (H,E,K,Z)		1
	2-17	★87-085-189-010	BUSHING, AC CORD (U)		1
	2-18	---	TUBE, UL 7-100 (U,E,K,Z)		1
	2-19	★89-MX1-212-010	PLATE, MECHANISM	※	1
	2-20	★81-653-212-010	LEVER, EJECT 1		1
	2-21	★81-653-213-010	SCREW, SPECIAL		2
	2-22	---	SHIELD, PT2		1
	2-23	---	RIVET, NYLON3-3.5 (H)		2
	2-24	---	SHIELD, PT3		1
	2-25	★89-MX1-224-019	BASE, PT (K)	※	1
	2-26	★89-MX1-215-019	CUSHION, S SQ 10-10-8	※	1
	2-27	★89-MX1-012-110	KEY, TUNING	※	1
	2-28	★89-MX1-049-010	KEY, POWER	※	1
	2-29	★89-MX1-030-010	IND, DIRECTION	※	2
	2-30	★89-MX1-022-010	KEY, DECK 1	※	1
	2-31	★89-MX1-024-010	KEY, REC	※	1
	2-32	★89-MX1-029-010	IND, FUNCTION	※	1
	2-33	★89-MX1-015-010	KEY, CD	※	1
	2-34	★89-MX1-023-010	KEY, DECK 2	※	1

EXPLODED VIEW－3 (DECK 1／2)

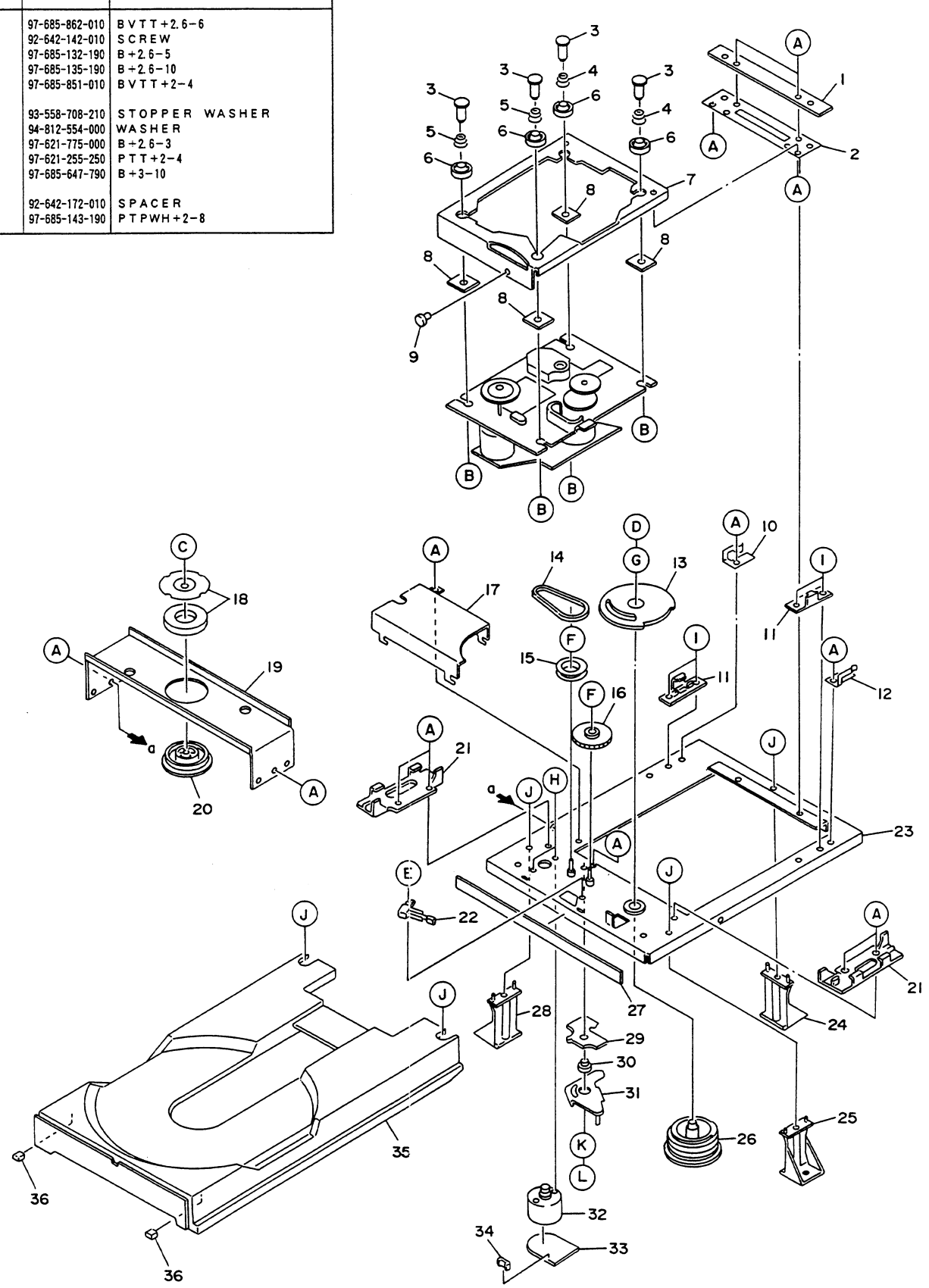
REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
A	S1-851-140-180	SCREW	H	S9-182-000-000	SCREW M2－6(C TAPPING)	O	S9-999-700-060	HL WASHER 1.55－3.5－0.5
B	S9-999-180-170	SCREW	I	S9-999-180-160	SCREW M2－5(S TAPPING)	P	S9-999-700-070	HL WASHER 1.8－4－0.5
C	S9-547-000-000	SCREW M1.7－3	J	S9-999-200-340	SCREW M2－8(S TAPPING TAMS)	Q	S9-999-600-020	HL WASHER 2.1－3.5－0.3
D	S9-117-000-000	SCREW BIND M2－5	K	S9-502-000-000	E-RING ø2.0	R	S9-999-700-040	HL WASHER 2.1－5－0.4
E	S9-078-000-000	SCREW TAMS M2－5	L	S9-421-000-000	PW 1.2－3－0.25	S	S9-999-600-030	HL WASHER 2.3－3.8－0.3
F	S9-178-000-000	SPECIAL SCREW M2－3(C TAPPING)	M	S9-876-000-000	PW 2.1－5－0.5	T	S9-999-200-200	SCREW M2－5(S TAPPING TAMS)
G	S9-180-000-000	SCREW M2－3(C TAPPING)	N	S9-999-700-030	HL WASHER 1.4－3.2－0.4			



PART NO. CHANGED TO	REF. NO	PART NO.	DESCRIPTION	COMMON MODEL	Q'TY
	3-1	---	CHASSIS ASSY		1
	3-2	★S1-880-050-190	T－SPRING,GEAR ARM R		1
	3-3	★S1-880-090-210	FL METAL ASSY R		1
	3-4	★S1-880-040-040	P－SPRING,ARM R		1
	3-5	S1-880-043-020	PINCH ROLLER ARM ASSY R		1
	3-6	★S1-865-020-280	COLLAR,TIP LEVER		2
	3-7	★S1-880-020-060	LEVER,TIP		1
	3-8	★S1-880-040-050	SPRING,PINCH ROLLER		1
	3-9	---	WIRE,CLAMP		1
	3-10	★S1-880-020-180	PLATE,SHIELD		1
	3-11	★S1-865-020-600	SPRING,CLAMP		1
	3-12	★S1-865-090-610	SPEACER		1
	3-13	★S1-865-023-060	HEAD BASE ASSY		1
	3-14	★S1-880-020-160	SPRING,PANEL PLATE		1
	3-15	★S1-880-020-040	SPRING,RC		1
	3-16	★S1-880-020-010	PANEL,HEAD A		1
	3-17	★S1-880-020-050	SPRING,PANEL		1
	3-18	★S1-880-020-190	COLLAR,PANEL A		1
	3-19	★S1-880-025-010	HEAD PANEL B ASSY		1
	3-20	★S1-880-530-020	PROTECTOR,SWITCH		1
	3-21	★S1-829-100-010	SPRING,PACK		1
	3-22	S1-880-043-010	PINCH ROLLER ARM ASSY F		1
	3-23	★S1-880-040-030	P－SPRING,ARM F		1
	3-24	★S1-880-090-080	FL METAL ASSY F		1
	3-25	S1-880-053-020	T REEL ASSY R		1
	3-26	★S1-880-050-220	SPRING,BT R		2
	3-27	S1-880-053-010	T REEL ASSY F		1
	3-28	★S1-880-210-060	HOLDER,PLUNGER		2
	3-29	★S1-880-050-080	GEAR,FF		1
	3-30	★S1-880-055-010	REEL BASE ASSY		1
	3-31	★S1-880-210-050	PLUNGER		2
	3-32	★S1-880-050-170	SPRING,FR TRIGGER ARM		1
	3-33	★S1-880-050-150	ARM,RF TRIGGER		1
	3-34	★S1-880-050-180	SPRING,T GEAR ARM		1
	3-35	★S1-880-215-030	P KICK LEVER ASSY		1
	3-36	★S1-880-210-110	P－SPRING,LEVER K		1
	3-37	★S1-880-073-010	RF CLUTCH ASSY		1
	3-38	S1-880-070-070	BELT,RF		1
	3-39	S1-880-093-010	FLYWHEEL F ASSY		1
	3-40	S1-880-090-100	BELT,MAIN		1
	3-41	★S1-880-050-350	GEAR,T		2
	3-42	★S1-880-055-020	T GEAR ARM ASSY F		1
	3-43	★S1-880-010-060	SPRING,M TRIGGER ARM		1
	3-44	★S1-880-210-030	ARM,M TRIGGER		1
	3-45	★S1-880-055-030	T GEAR ARM ASSY R		1
	3-46	★S1-880-210-150	GEAR,M		1
	3-47	★S1-880-210-160	GEAR,RF CAM		1
	3-48	★S1-880-215-010	CH SLIDE LEVER ASSY		1
	3-49	★S1-880-210-080	SPRING,CH SLIDE LEVER		1
	3-50	S1-880-093-020	FLYWHEEL ASSY R		1
	3-51	★S1-821-120-660	LEVER,MOTOR		3
	3-52	★S1-880-090-200	MAT		1
	3-53	★S1-880-090-320	PULLEY,MOTOR		1
	3-54	★S1-880-090-110	BRACKET,MOTOR		1
	3-55	S1-880-530-030	PROTECTOR,IC		1

EXPLODED VIEW – 4

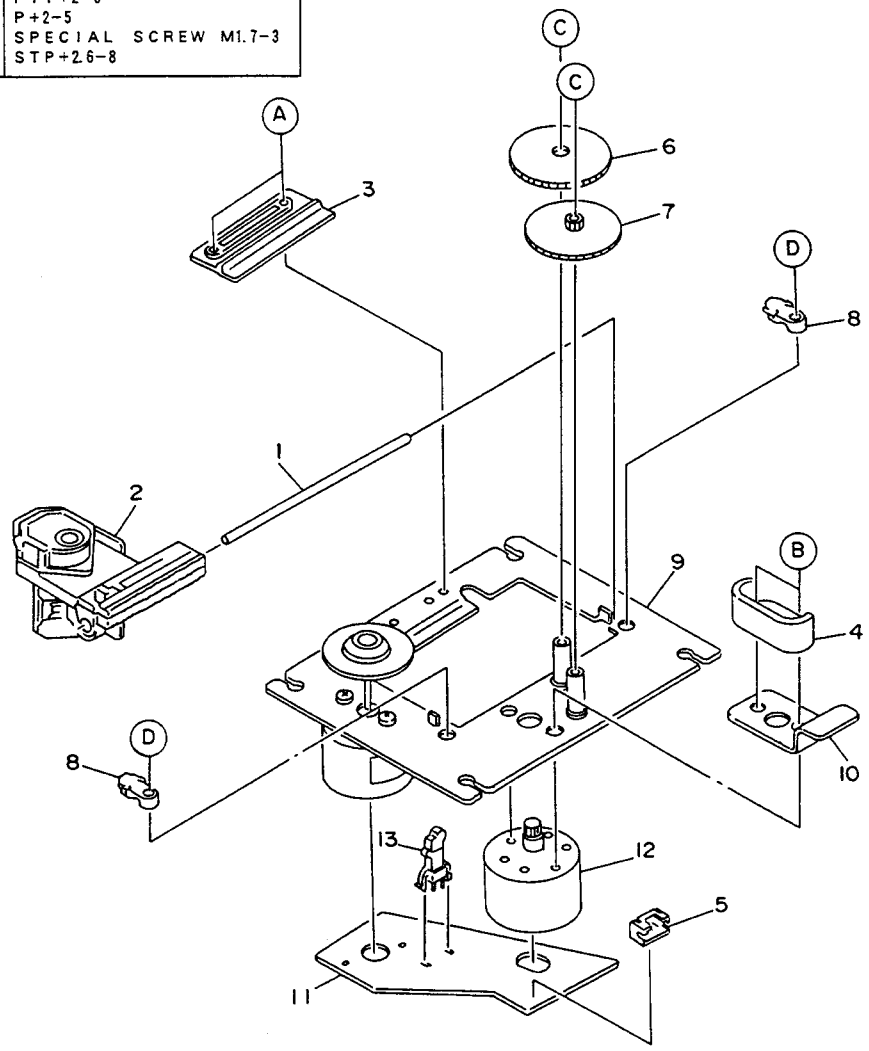
REF. NO.	PART NO.	DESCRIPTION
A	97-685-862-010	BVTT+2.6-6
B	92-642-142-010	SCREW
C	97-685-132-190	B+2.6-5
D	97-685-135-190	B+2.6-10
E	97-685-851-010	BVTT+2-4
F	93-558-708-210	STOPPER WASHER
G	94-812-554-000	WASHER
H	97-621-775-000	B+2.6-3
I	97-621-255-250	PTT+2-4
J	97-685-647-790	B+3-10
K	92-642-172-010	SPACER
L	97-685-143-190	PTPWH+2-8



PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q'TY
	4-1	★92-642-170-010	HOLDER, HINGE		1
	4-2	★92-642-164-010	SPRING, HINGE		1
	4-3	★92-642-160-010	SHAFT, SPRING T		4
	4-4	★92-642-137-010	SPRING, COIL B		2
	4-5	★92-642-139-010	SPRING, COIL A		2
	4-6	★92-642-158-010	FOOT C		4
	4-7	★9X-264-210-510	SPRING SUB CHASSIS ASSY		1
	4-8	★92-642-159-010	PLATE, SPRING T		4
	4-9	★92-642-169-010	ROLLER		1
	4-10	★92-642-147-010	GUIDE, TRAY L		1
	4-11	★92-642-162-020	HOLDER, TRAY		2
	4-12	★92-642-146-010	GUIDE, TRAY R		1
	4-13	★92-642-154-020	GEAR, SPRING DRIVE		1
	4-14	93-653-387-000	LM BELT		1
	4-15	★94-913-731-010	PULLEY, ROADING		1
	4-16	★92-642-148-010	GEAR, SPRING RELAY		1
	4-17	★92-642-149-010	COVER, SPRING GEAR		1
	4-18	91-452-507-110	MAGNET ASSY		1
	4-19	★92-642-165-010	CHUCK CHASSIS		1
	4-20	★92-642-432-010	CHUCKING PULLEY		1
	4-21	★92-642-161-010	HOLDER, FRONT TRAY		2
	4-22	91-571-312-110	LEAF SWITCH (OPEN/CLOSE)		1
	4-23	★9X-264-210-610	SPRING MAIN CHASSIS ASSY		1
	4-24	★92-642-512-010	MD HOLDER BOSS REAR		1
	4-25	★92-642-510-010	MD HOLDER BOSS		1
	4-26	★92-642-153-010	CAM, SPRING CONTROL		1
	4-27	★92-642-157-030	TAPE, FRONT		1
	4-28	★92-642-511-010	MD HOLDER BOSS L		1
	4-29	★92-642-173-010	PLATE, RING		1
	4-30	★92-642-133-020	BOSS		1
	4-31	★9X-264-210-710	STOPPER RING ASSY		1
	4-32	9X-264-133-610	MOTOR ASSY (LOADING)		1
	4-33	★91-624-793-210	CD MOTOR 2 C.B		1
	4-34	★91-564-721-110	CONNECTOR PIN 5P		1
	4-35	★92-642-156-010	TRAY		1
	4-36	★92-642-125-010	DAMPER		2

EXPLODED VIEW – 5

REF. NO.	PART NO.	DESCRIPTION
A	92-642-144-010	PTT+2-6
B	97-621-255-350	P+2-5
C	93-303-809-310	SPECIAL SCREW M1.7-3
D	92-641-447-010	STP+2.6-8



PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q'TY
	5-1	★94-910-431-010	SHAFT, SLIDE		1
	5-2	98-848-046-510	PICK UP (KSS-150AHRP)		1
	5-3	★92-641-443-010	HOLDER, SLIDE		1
	5-4	★92-641-434-010	COVER, GEAR		1
	5-5	★92-564-720-110	CONNECTOR PIN		1
	5-6	9X-264-076-910	GEAR A		1
	5-7	★92-641-403-050	GEAR B		1
	5-8	★92-641-448-020	CLAMP, SHAFT		2
	※ 5-9	9X-264-133-710	SP MOTOR ASSY (W/CHASSIS, T.T) (DISC) (RF-310T-11400)		1
	※ 5-9	9X-264-134-810	SP MOTOR ASSY (W/CHASSIS, T.T) (DISC) (MDN-4RA3NTAS)		1
	5-10	★92-641-371-010	STOPPER		1
	※ 5-11	★91-625-848-110	CD MOTOR 1 C.B (RF-310T-11400)		1
	※ 5-11	★91-628-263-110	CD MOTOR 1 C.B (MDN-4RA3NTAS/4RA3ETA)		1
	※ 5-12	9X-264-077-010	SLED MOTOR GEAR ASSY (SLED) (RF-310T-11400)		1
	※ 5-12	9X-264-134-410	SLED MOTOR GEAR ASSY (SLED) (MDN-4RA3ETA)		1
	5-13	91-570-822-210	LEAF SWITCH (LIMIT)		1

※Caution
Two types of the spindle (DISC) motor and sled motor are used, but they are not compatible.
Check the part numbers (MDN ····, RF ····) on the labels of motors and replace motors with the same one.

■ SPEAKER LIST

PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q'TY
	1	★89-MS2-001-010	PANEL, W	※	2
	2	★89-MS2-011-010	PANEL, T ASSY	※	2
	3	★89-MS2-003-010	CABINET	※	2
	4	★89-MS2-004-010	GRILL FRAME ASSY	※	2
	5	★83-149-611-010	TERMINAL		2
	6	★89-MS2-010-010	DUCT	※	2
	7	89-MS2-602-010	SPEAKER, WOOFER	※	2
	8	89-MS2-604-010	SPEAKER, TWEETER	※	2
	9	★89-MS1-610-010	NETWORK ASSY		2
	10	★89-MS1-615-010	SPEAKER CORD		2

■ ACCESSORIES/PACKAGE LIST

PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q'TY
	1	★89-MX1-903-019	INSTRUCTION BOOKLET, H (H)	※	1
	2	★89-MX1-906-019	INSTRUCTION BOOKLET, U (U)	※	1
	3	★89-MX1-904-019	INSTRUCTION BOOKLET, E (E, K, Z)	※	1
	4	★81-653-645-010	AM LOOP ANT (6T) NC (H, U, Z)		1
	5	★81-653-647-010	AM LOOP ANT (6T) CON (E, K)		1
	6	★81-748-632-010	FEEDER ANT, FM N (H, U, E, K)		1
	7	★87-042-062-010	SIEMENS PLUG (H)		1
	8	★87-043-106-010	FM, WIRE ANT (Z)		1
	9	★89-MR1-011-019	REMOTE-CON RC-T800FYBN (H, U)	※	1
	10	★89-MR1-012-019	REMOTE-CON RC-T800LYBN (E, K, Z)	※	1