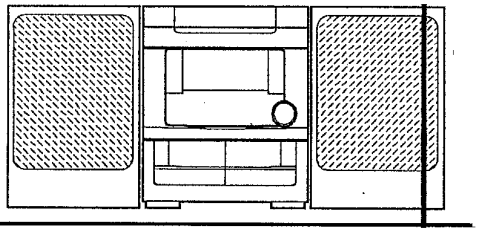
aiwa

aiwa SERVICE

NSX-F7
NSX-F77

SERVICE MANUAL



COMPACT DISC STEREO
CASSETTE RECEIVER

- BASIC TAPE MECHANISM : 2ZM-3MK2 PR4NM
- BASIC CD MECHANISM : 6ZG–1 DFNM <U>, 6ZG-1 YDFNM <EZ,K>
- TYPE : EZ,K<7>, U<77>

SYSTEM	CD – CASSEIVER	SPEAKER	REMOTE CONTROLLER
NSX-F7 (TYPE:EZ,K)	CX-NF7	SX–FNF7	RC UNIT, 6AS01
NSX-F77 (TYPE:U)	CX-NF77	SX–NAVF77 SX–R240	RC UNIT, 6AS01

- If requiring information about the Speaker, see Service Manual of SX-FNF7, SX-NAVF77, SX-R240.
  S/M Code No. 09-964-137-8FP.

S/M Code No. 09–96B–173–3FP

TABLE OF CONTENTS

SPECIFICATIONS 3
DISASSEMBLY INSTRUCTION ..... 4 ~ 6
PROTECTION OF EYES FROM LASER BEAM DURING SERVICING 7
PRECAUTION TO REPLACE OPTICAL BLOCK 7
ELECTRICAL MAIN PARTS LIST ..... 8 ~ 13
TRANSISTOR ILLUSTRATION 14
FL GRID ASSIGNMENT & ANODE CONNECTION 15,16
BLOCK DIAGRAM – 1 (TUNER : EZ,K) 17
BLOCK DIAGRAM – 2 (TUNER : U) 18
BLOCK DIAGRAM – 3 (MAIN / FRONT) 19, 20
BLOCK DIAGRAM – 4 (CD) 21, 22
WIRING – 1 (MAIN : EZ,K) 23, 24
SCHEMATIC DIAGRAM – 1 (MAIN : EZ,K) ..... 25 ~ 27
SCHEMATIC DIAGRAM – 2 (MAIN : U) ..... 28~ 30
WIRING – 2 (MAIN : U) 31, 32
WIRING – 3 (FRONT) 33, 34
SCHEMATIC DIAGRAM – 3 (FRONT) ..... 35 ~ 37
IC BLOCK DIAGRAM – 1 ..... 38 ~ 40
WIRING – 4 (CD) 39, 40
SCHEMATIC DIAGRAM – 4 (CD) 41, 42
WIRING – 5 (DECK) 43
WIRING – 6 (PT) 44
IC BLOCK DIAGRAM – 2 ..... 45 ~ 49
IC DESCRIPTION ..... 50 ~ 57
PRACTICAL SERVICE FIGURE 58
ADJUSTMENT – 1 <TUNER / DECK> 59, 60
ADJUSTMENT – 2 <CD> ..... 61 ~ 63
TEST MODE 64
TROUBLESHOOTING 65
TAPE MECHANISM EXPLODED VIEW 1 / 1 ..... 66, 67
TAPE MECHANISM PARTS LIST 1 / 1 68
SPRING APPLICATION POSITION 69
CD MECHANISM EXPLODED VIEW 1 / 2 70
CD MECHANISM PARTS LIST 1 / 2 71
CD MECHANISM EXPLODED VIEW 2 / 2 72
CD MECHANISM PARTS LIST 2 / 2 72
MECHANICAL EXPLODED VIEW 1 / 1 ..... 73, 74
MECHANICAL PARTS LIST 1 / 1 75
ACCESSORIES / PACKAGE LIST 75
REFERENCE NAME LIST 76

SPECIFICATIONS

<FM Tuner section>

Tuning range	87.5 MHz to 108 MHz
Usable sensitivity (IHF)	13.2 dBf<U,K> 16.8 dBf<EZ>
Antenna terminals	75 ohms (unbalanced)

<AM (MW) Tuner section>

Tuning range	531 kHz to 1602 kHz (9 kHz step) 530 kHz to 1710 kHz (10 kHz step)
Usable sensitivity	350 µV/m
Antenna	Loop antenna

<LW Tuner section> (EZ,K)

Tuning range	144 kHz ~ 290 kHz
Usable sensitivity	1400 uV/m
Antenna	Loop antenna

<Amplifier section>

Power output *	EZ,K: Rated 100 W +100 W (6 ohms, T.H.D. 1 %,1 kHz/DIN45500) Reference : 125 W + 125 W (6 ohms, T.H.D. 10 %, 1 kHz DIN 45324) DIN MUSIC POWER 188 W + 188 W * without connecting to the SURROUND SPEAKERS U: 120 W + 120 W (50 Hz-20 kHz,THD less than 1%, 6 ohms)
Total harmonic distortion	0.1 % (50 W, 1 kHz, 6 ohms, DIN AUDIO)
Inputs	VIDEO/AUX:230mV (adjustable) MIC 1, MIC 2 : 1.7mV (10 kohms)
Outputs	SUPER WOOFER : 1.7 V<EZ,K> 2 .5 V<U> SPEAKERS: accept speakers of 6 ohms or more SURROUND SPEAKERS : accept speakers of 16 ohms or more PHONES (stereo jack) : accepts headphones of 32 ohms or more

<Cassette deck section>

Track format	4 tracks, 2 channels stereo
Frequency response	CrO_2 tape : 50 Hz – 16000 Hz Normal tape : 50 Hz –15000 Hz
Signal-to-noise ratio	60 dB (Dolby B NR ON, CrO_2 tape peak level)
Recording system	AC bias
Heads	Deck 1 : Playback head x1 Deck 2 : Recording/playback/ erase head x 1

<Compact disc player section>

Laser	Semiconductor laser (λ =780 nm)
D-A converter	1 bit dual
Signal-to-noise ratio	85 dB (1 kHz, 0 dB)
Harmonic distortion	0.05 % (1 kHz, 0 dB)
Wow and flutter	Unmeasurable

<General>

Power requirements	120 V AC,60 Hz<U> 230 V AC,50Hz<EZ,K>
Power consumption	210 W<U> 680 W<EZ,K>
Dimensions of main unit (W x H x D)	300 x 357.5 x 381.5 mm (11 7/8 x 14 1/8 x15 1/8 in.)<U> 300 x 357.5 x 381.5 mm<EZ,K>
Weight of main unit	10.8 kg (23 lbs 13 oz)<U> 10.5 kg<EZ,K>

<Speaker system SX–FNF7(EZ)/ NAVF77(U)>

Cabinet type	3 way, bass reflex <U> 3 way,bass reflex with surround speaker<EZ,K> (magnetic shielded type)
Speakers	Woofer : 160 mm cone type<EZ,K> 160 mm (6 3/8 in.) cone type<U> Tweeter : 80 mm cone type <EZ,K> 80 mm (3 1/4 in.) cone type<U> Super tweeter : 20 mm ceramic type <EZ,K> 20 mm (13/16 in.)ceramic type<U> Surround speaker: 80 mm cone type<EZ,K>
Impedance	6 ohms<U> Front speaker: 6 ohms <EZ,K> Surround speaker: 16 ohms <EZ,K>
Output sound pressure level	87 dB/W/m
Dimensions (W x H x D)	260 x 353 x 280 mm<EZ,K> 260 x 353 x 265 mm (10 1/4 x 14 x 10 1/2 in)<U>
Weight	4.7 kg<EZ,K> 4.5 kg(9 lbs 13 oz)<U>

- Design and specifications are subject to change without notice.
- Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
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  Under license from BBE Sound, Inc.

CD DIASSEMBLY INSTRUCTIONS

1. ピックアップの交換方法
   1）TRAY をｵｰﾌﾟﾝさせる。
   stopper を矢印の方向へ押し、SHAFT SLED 半分だけ抜く。
   2）GEAR MAIN CAMを反時計方向（“a”の方向）に回し、figure 1のようにCDﾒｶを持ち上げる。
   3）SHAFT SLED を抜く。
   4）CDﾒｶを下げてPICK UPを交換する。
   5）CDﾒｶをfigure 1のように上げて、SHAFT SLEDを取り付ける。

1. How to replace PICK UP.
   1) Open the TRAY.
   Push the stopper to arrow direction and release half of the SHAFT SLED.
   2) Turn GEAR MAIN CAM to the counterclockwise (arrow “a”) direction, and lift up CD mechanism. (figure 1)
   3) Remove SHAFT SLED.
   4) CD mechanism in down position, replace PICK UP.
   5) Lift up CD mechanism (figure 1), and Reassemble the SHAFT SLED.

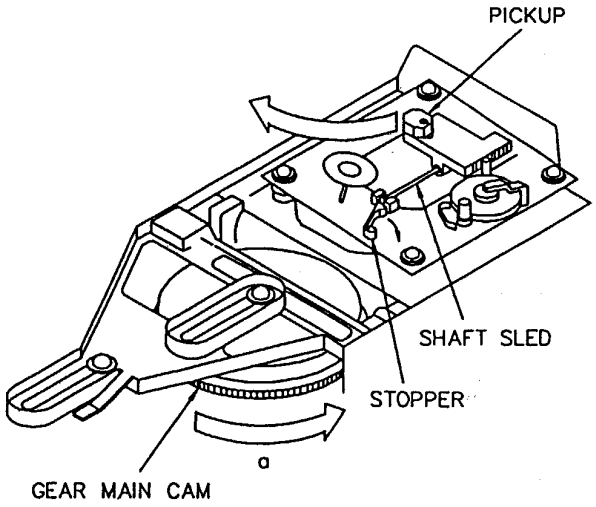


Figure 1

2．5巻ﾁｪﾝｼﾞｬｰﾌﾞﾛｯｸの外し方 (figure 2)
   1）CD基板のFFC２本を外し、ﾋﾞｽ５本を外す。
   2）５巻ﾁｪﾝｼﾞｬｰﾌﾞﾛｯｸを後から持ち上げて外す。
   （PANEL TRAY を外さなくても、５ﾁｪﾝｼﾞｬｰﾌﾞﾛｯｸを後から外すことができる。）

2 . How to remove 5CD CHANGER BLOCK (figure 2)
   1) Remove the two FFC of the CD circuit board, and remove the five SCREWS.
   2) Lift 5 CD CHANGER BLOCK from behind, and remove it.
   (5CD CHANGER BLOCK can be removed even if PANEL TRAY are not removed.)

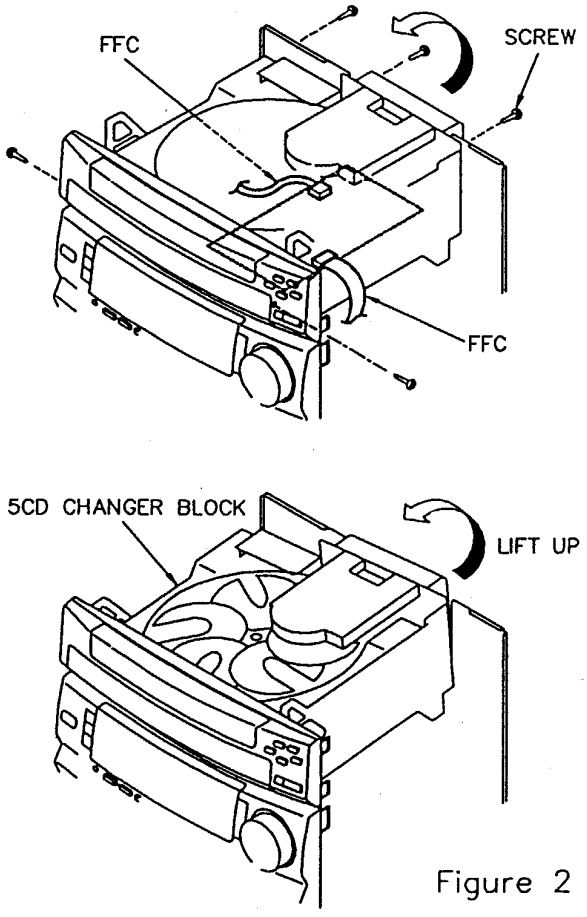


Figure 2

3 TRAY の分解・組立て方法

（1）分解方法

1） CHAS MECHA 下部のPLATE GEARの ﾎﾞｽを外側（矢印 "b" 方向）に強く押す。
(figure 3)
（TRAY が少しせり出すのを確認する）

2） TRAY をｵｰﾌﾟﾝ位置まで引き出す。

3） FFC を抜き、両ｻｲﾄﾞのCHAS MECH ﾂﾒ（2ケ所）を押してTRAYを外す。
(figure 4)

3. The disassemble and reassemble the TRAY

(1) Disassembling procedure.

1) Push the PLATE GEAR'S Bossat the bottom part of CHAS MECHA strongly to the outside (arrow "b" direction). (figure 3)
(Confirm that TRAY appears a little in the front.)

2) Draw TRAY to the open position.

3) Remove FFC, and push the two LEVERS at both side of the CHAS MECH to remove TRAY. (figure 4)

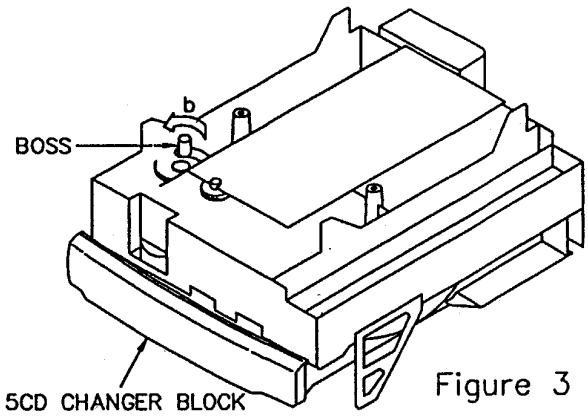
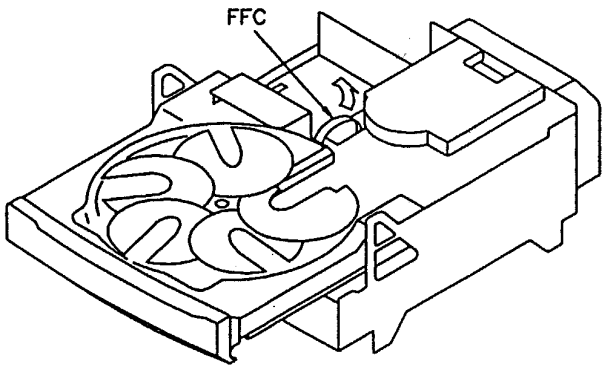


Figure 3



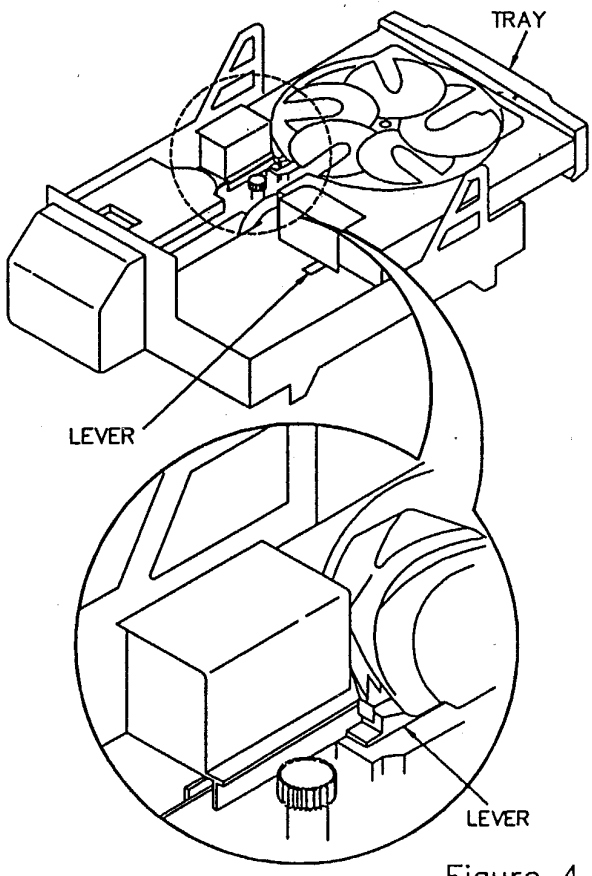


Figure 4

（2）組立て方法

1） LEVER TRAY が figure 5 の位置で、CD ﾒｶが下がっていることを確認する.

2） TRAY をCHAS MECHAのﾚｰﾙに沿って組み込む。

3） 半分までTRAY を組み込んだらFFCを差し、TRAYを最後まで押し入れる。(figure 6)

(2) Reassembling procedure.

1) Confirm that LEVER TRAY is at the most right position in order for the CD Mechanism to be in the down position. (figure 5)

2) Push in the TRAY along the rail of the CHAS MECHA.

3) After TRAY is half closed and FFC is put in, it can enter by force until the end of TRAY closed. (figure 6)

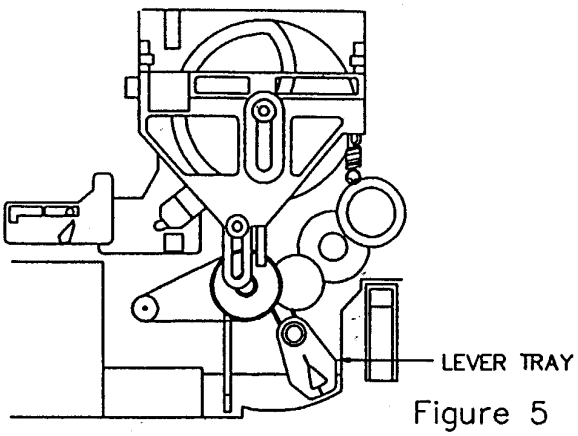


Figure 5

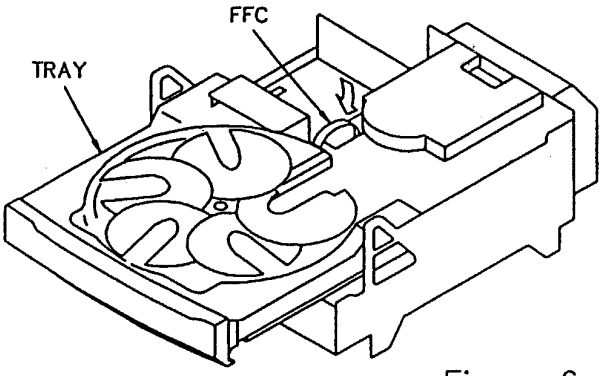


Figure 6

4. ﾀｰﾝﾃｰﾌﾞﾙの組立方法 (figure 7)

1） LEVER TT を “C” の方向に押しながら、TURN TABLE 5CD を組み込む。(figure 7)
この時、TRAY 5CD とTURN TABLE 5CD の切り欠きが同じ方向になるようにする。(figure 8)

＊ 組み込む際のTURN TABLE 5CDのCD番号（1～5）は任意で構いません。(figure 7)

4. How to reassemble the TURN TABLE. (figure 7)

1) Push LEVER TT in the direction of "C", and put in the TURN TABLE 5CD. (figure 7)
After reassembly, one of the TURN TABLE DISC TRAY (can be either one of the five disc trays) must be aligned with TURN TABLE 5CD. (figure 8)
That is, having no gap difference between the TURN TABLE 5CD and the TRAY 5CD.

＊ When reassembling the TURN TABLE 5CD, it is acceptable facing any CD numbe r (1~5).

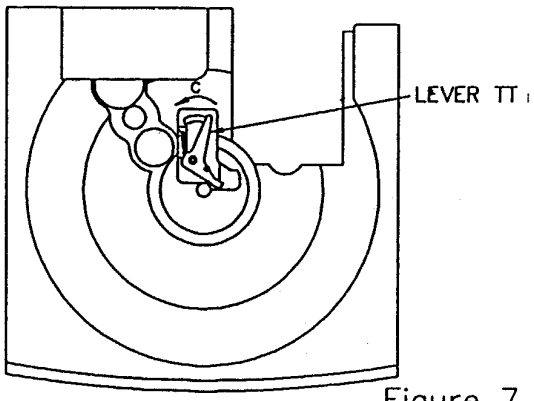


Figure 7

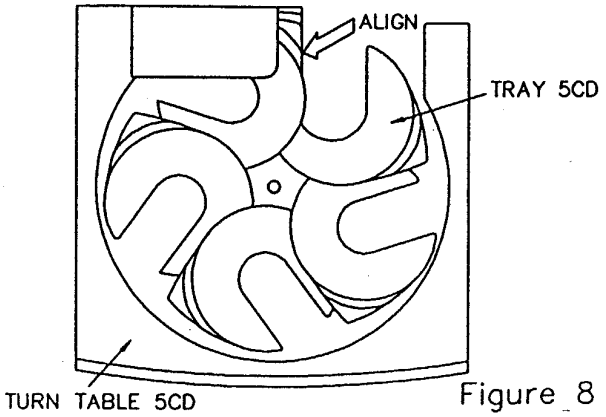


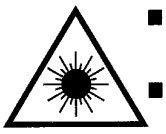
Figure 8

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: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
- Advarsel: Usynlig laserståling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

VAROITUS!

Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saataa altistaa käyt-täjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

VARNING!

Om apparaten används på annat sätt än vad som specificeras i denna bruksanvising, kan användaren utsättas för osynling laserstrålning, som överskrider gränsen för laserklass 1.

CAUTION

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

ATTENTION

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

ADVARSEL

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

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

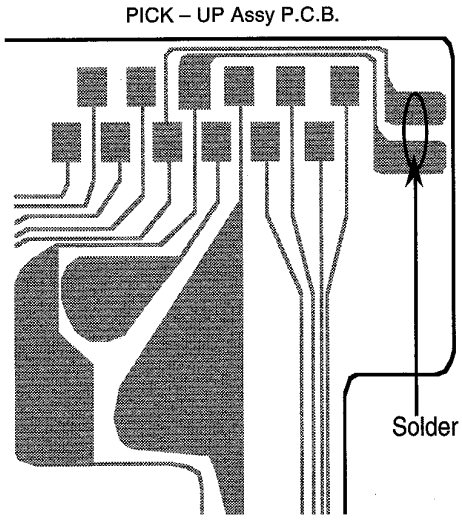
CLASS 1	LASER PRODUCT
KLASSE 1	LASER PRODUKT
LUOKAN 1	LASER LAITE
KLASS 1	LASER APPARAT

Precaution to replace Optical block

(KSS-213B)

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

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



ELECTRICAL MAIN PARTS LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
IC			
	87-020-454-010		IC,DN6851
	87-070-083-019		IC,GP1U281X
	87-A20-191-019		IC,STK-419-140
	87-070-121-010		IC,HA12185NT<U>
	87-A20-455-010		IC,HA12211<EZ,K>
	87-070-232-019		IC,BA3834S
	87-017-915-089		IC,BU4094BCF
	87-001-874-019		IC,HA12134A
	87-A20-107-019		IC,BA3836
	87-017-804-019		IC,BU4052BC
	87-A20-056-019		IC,BA3880S
	87-017-914-019		IC,BU4094 BC
	87-017-888-089		IC,NJM4558MD
	87-A20-067-040		IC,M65849FP
	87-A20-069-049		C-IC,BA3842F
	87-070-127-119		IC,LC72131
	87-017-714-119		IC,LA1836
	86-NFA-608-010		C-IC,LC866540-5C34<U>
	87-017-421-080		C-IC,TC9212F
	87-001-982-019		IC,TA7291S
	87-070-305-019		IC,BA6897S
	86-NFA-617-080		IC,866548-5D57<EZ,K>
	87-017-745-019		IC,CXA1782BQ
	87-070-294-019		IC,CXD2508AQ
	87-A20-105-040		C-IC,BU1912FS<EZ,K>
	87-001-792-080		C-IC,NJM2100 M<EZ,K>
TRANSISTOR			
	87-026-463-089		TR,2SA933S(RS)
	89-213-702-019		TR,2SB1370E
	89-113-187-089		TR,2SA1318TU
	87-026-610-089		TR,KTC3198GR
	89-332-665-089		TR,2SC3266GR
	89-337-221-389		C-TR,2SC3722K
	89-327-125-088		C-TR,2SC2712GR
	89-111-625-089		C-TR,2SA1162GR
	87-026-210-089		C-TR,DTC144EK T147
	87-026-211-089		C-TR,DTA144EK T147
	89-333-266-089		C-TR,2SC3326B
	87-026-609-089		TR, KTA1266GR
	89-109-705-089		TR,2SA970GR
	87-026-226-089		C-TR,DTA143EK
	89-502-466-089		TR FET 2SK246-BL (TPE2)
	87-026-228-089		C-TR,DTA124EK
	89-112-965-089		TR,2SA1296GR
	89-333-317-089		TR,2SC3331T
	89-109-521-089		TR,2SA952K
	89-406-555-089		TR,2SD655E
	87-026-238-089		C-TR,DTC144WK
	87-026-214-089		TR,DTA114YS
	89-327-143-089		C-TR,2SC2714 (O)
	87-026-269-089		TR,DTA114ES
	89-421-141-289		C-TR,2SD2114K,UV<EZ,K>
	89-505-434-589		C-FET,2SK543(4/5)
	87-026-234-080		C-TR,DTC143EK
	89-502-094-080		C-FET,2SK209Y
	87-026-608-089		C-TR,DTC123JK
	87-026-233-089		C-TR,DTA114TK
	87-026-636-080		C-TR,UN2214<EZ,K>
	87-026-223-089		C-TR,DTC143TK
	87-026-239-089		C-TR,DTC114TK
	89-110-155-089		TR,2SA1015GR
	89-320-011-089		TR,2SC2001K
	89-327-126-089		C-TR,2SC2712BL<EZ,K>
	89-421-722-389		TR,2SD2172 V/W
	89-420-053-010		TR,2SD2005 R<U>

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
DIODE			
	87-020-465-089		DIODE,1SS133
	87-A40-211-089		ZENER,UZ36BSA
	87-A40-197-089		ZENER,UZL6L1
	87-A40-200-089		ZENER,UZL11L3
	87-A40-198-089		ZENER,UZL6M1
	87-A40-199-089		ZENER,UZL6H2
	87-A40-202-089		ZENER,UZ5.1BSB
	87-A40-115-069		DIODE,RS603M
	87-070-274-089		DIODE,1N4003 SEM
	87-020-027-089		C-DIODE,1SS184
	87-020-125-089		C-DIODE,1SS181
	87-017-437-089		DIODE,1N4148M
	87-017-174-089		ZENER,HZS11A3L
	87-017-147-089		ZENER,HZS33-2
	87-017-978-089		DIODE,1N4003
	87-A40-179-089		DIODE,RK34
	87-A40-184-090		DIODE,RK34
	87-A40-261-080		ZENER,HZS36-3
	87-001-731-089		ZENER,HZS6C2L
	87-017-091-089		ZENER,HZS5C1
	87-020-331-089		C-DIODE,DAN202K
	87-017-123-089		ZENER,HZS11A3L
	87-020-330-089		C-DIODE,DAP202K
	87-001-290-089		ZENER,HZS6B1L
	87-017-148-089		ZENER,HZS6A1L
	87-017-149-080		ZENER,HZS6A2L
MAIN C.B			
C101	87-016-657-099		CAP,E 3300-71 SMG
C102	87-016-657-099		CAP,E 3300-71 SMG
C104	87-010-235-089		CAP,E 470-16 SME
C105	87-010-235-089		CAP,E 470-16 SME
C106	87-010-409-089		CAP,E 220-50 SME
C107	87-010-409-089		CAP,E 220-50 SME
C108	87-010-409-089		CAP,E 220-50 SME
C109	87-010-263-089		CAP,E 100-10 SME 5X11
C112	87-010-382-089		CAP,E 22-25 SME
C113	87-010-403-089		CAP,E 3.3-50 SME
C116	87-012-140-089		C-CAP,S 470P-50 CH
C121	87-012-368-089		C-CAP,S 0.1-50 F
C122	87-012-368-089		C-CAP,S 0.1-50 F
C123	87-018-209-089		CAP,TC-U 0.1-50 F
C124	87-012-368-089		C-CAP,S 0.1-50 F
C125	87-010-263-089		CAP,E 100-10 SME<U>
C145	87-010-186-089		C-CAP,S 4700P-50 B
C146	87-010-186-089		C-CAP,S 4700P-50 B
C152	87-010-260-089		CAP,E 47-25 SME
C171	87-016-565-099		CAP,E 4700-25(JAM1)
C172	87-016-565-099		CAP,E 4700-25(JAM1)
C173	87-010-196-089		C-CAP,S 0.1-25 F
C174	87-010-196-089		C-CAP,S 0.1-25 F
C175	87-010-196-089		C-CAP,S 0.1-25 F
C176	87-015-785-089		C-CAP,0.1-25 F
C220	87-010-194-089		C-CAP,S 0.047-25 F
C221	87-010-490-089		CAP,E 0.1-50 SME
C222	87-010-490-089		CAP,E 0.1-50 SME
C223	87-010-187-089		C-CAP,S 5600P-50 B
C224	87-010-187-089		C-CAP,S 5600P-50 B
C225	87-012-179-089		C-CAP,S 1200P-50 B
C226	87-012-179-089		C-CAP,S 1200P-50 B
C227	87-010-405-089		CAP,E 10-50 SME
C228	87-010-405-089		CAP,E 10-50 SME
C229	87-010-402-089		CAP,E 2.2-50 SME
C230	87-010-402-089		CAP,E 2.2-50 SME
C231	87-010-147-089		C-CAP,S 3P-50 CH
C232	87-018-098-089		CAP,TC-U 3.3P-50 SL

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C233	87-010-196-089		C-CAP,S 0.1-25 F
C234	87-010-196-089		C-CAP,S 0.1-25 F
C235	87-010-196-089		C-CAP,S 0.1-25 F
C236	87-010-196-089		C-CAP,S 0.1-25 F
C239	87-018-134-089		CAP,TC-U 0.01-16 Y <EZ,K>
C240	87-018-134-089		CAP,TC-U 0.01-16 Y <EZ,K>
C241	87-010-197-089		C-CAP,S 0.01-25 B<EZ,K>
C242	87-010-197-089		C-CAP,S 0.01-25 B<EZ,K>
C243	87-010-322-080		C-CAP,S 100P-50 J CH
C244	87-010-322-080		C-CAP,S 100P-50 J CH
C245	87-010-318-089		C-CAP,S 47P-50 CH<EZ,K>
C246	87-010-293-080		C-CAP,47P-50 J CH<EZ,K>
C249	87-018-209-089		CAP,TC-U 0.1-50 F
C250	87-A10-200-010		CAP,E 10-100 PP
C255	87-010-178-089		C-CAP,S 1000P-50 B <EZ,K>
C260	87-015-785-089		C-CAP,0.1-25 F
C301	87-010-318-089		C-CAP,S 47P-50 CH
C302	87-010-318-089		C-CAP,S 47P-50 CH
C303	87-012-157-089		C-CAP,S 330P-50 CH
C304	87-012-157-089		C-CAP,S 330P-50 CH
C305	87-012-145-089		C-CAP,S 270P-50 CH
C306	87-012-145-089		C-CAP,S 270P-50 CH
C307	87-010-196-089		C-CAP,S 0.1-25 F
C311	87-010-198-089		C-CAP,S 0.022-25 B
C312	87-010-198-089		C-CAP,S 0.022-25 B
C313	87-010-182-089		C-CAP,S 2200P-50 B
C314	87-010-182-089		C-CAP,S 2200P-50 B
C315	87-010-180-089		C-CAP,S 1500P-50 B
C316	87-010-180-089		C-CAP,S 1500P-50 B
C317	87-012-142-089		C-CAP,S 0.33-16 F
C318	87-012-142-089		C-CAP,S 0.33-16 F
C319	87-012-141-089		C-CAP,S 0.22-16 F
C320	87-012-141-089		C-CAP,S 0.22-16 F
C321	87-010-196-089		C-CAP,S 0.1-25 F
C322	87-010-196-089		C-CAP,S 0.1-25 F
C324	87-010-260-089		CAP,E 47-25 SME
C325	87-010-370-089		CAP,E 330-6.3 SME
C326	87-010-196-089		C-CAP,S 0.1-25 F
C330	87-010-401-089		CAP,E 1-50 SME
C332	87-015-785-089		C-CAP,0.1-25 F
C335	87-010-805-089		C-CAP,S 1-16F
C336	87-010-805-089		C-CAP,S 1-16F
C337	87-010-196-089		C-CAP,S 0.1-25 F
C338	87-010-196-089		C-CAP,S 0.1-25 F
C339	87-010-196-089		C-CAP,S 0.1-25 F
C340	87-015-785-089		C-CAP,0.1-25 F
C351	87-012-154-089		C-CAP,S 150P-50 CH
C352	87-012-154-089		C-CAP,S 150P-50 CH
C451	87-012-140-089		C-CAP,S 470P-50 CH
C452	87-012-140-089		C-CAP,S 470P-50 CH
C453	87-010-178-089		C-CAP,S 1000P-50 B
C454	87-010-175-089		C-CAP,S 560P-50 SL <EZ,K>
C455	87-010-178-089		C-CAP,S 1000P-50 B <EZ,K>
C456	87-010-408-089		CAP,E 47-50 SME
C457	87-010-197-089		C-CAP,S 0.01-25 B
C458	87-010-183-089		C-CAP,S 2700P-50 B
C459	87-010-183-089		C-CAP,S 2700P-50 B
C460	87-010-183-089		C-CAP,S 2700P-50 B
C470	87-010-196-089		C-CAP,S 0.1-25 F
C501	87-010-179-089		C-CAP,S 1200P-50 B
C502	87-010-179-089		C-CAP,S 1200P-50 B
C503	87-012-155-089		C-CAP,S 180P-50 CH
C504	87-012-155-089		C-CAP,S 180P-50 CH
C515	87-010-545-089		CAP,E 0.22-50 SME
C516	87-010-545-089		CAP,E 0.22-50 SME
C519	87-015-785-089		C-CAP,0.1-25 F
C521	87-010-196-089		C-CAP,S 0.1-25 F
C522	87-010-318-089		C-CAP,S 47P-50 CH
C523	87-010-197-089		C-CAP,S 0.01-25 B
C524	87-010-402-089		CAP,E 2.2-50 SME
C525	87-010-184-089		C-CAP,S 3300P-50 B
C526	87-010-196-089		C-CAP,S 0.1-25 F
C527	87-010-401-089		CAP,E 1-50 SME
C528	87-010-401-089		CAP,E 1-50 SME
C529	87-010-384-089		CAP,E 100-25 SME
C530	87-010-197-089		C-CAP,S 0.01-25 B
C531	87-010-183-089		C-CAP,S 2700P-50 B
C532	87-010-194-089		C-CAP,S 0.047-25 F
C533	87-010-196-089		C-CAP,S 0.1-25 F
C534	87-010-263-089		CAP,E 100-10 SME 5X11
C535	87-010-401-089		CAP,E 1-50 SME
C536	87-010-401-089		CAP,E 1-50 SME
C537	87-010-545-089		CAP,E 0.22-50 SME
C540	87-010-196-089		C-CAP,S 0.1-25 F
C541	87-010-196-089		C-CAP,S 0.1-25 F
C542	87-010-405-089		CAP,E 10-50 SME
C543	87-010-546-089		CAP,E 0.33-50 SME
C544	87-010-546-089		CAP,E 0.33-50 SME
C545	87-010-400-089		CAP,E 0.47-50 SME
C546	87-010-400-089		CAP,E 0.47-50 SME
C547	87-015-632-089		C-CAP,0.015-50 BK<EZ,K>
C547	87-015-822-089		C-CAP,0.022<U>
C548	87-015-632-089		C-CAP,0.015-50 BK<EZ,K>
C548	87-015-822-089		C-CAP,0.022 Z F<U>
C553	87-015-627-089		C-CAP,1000P-25 ZF
C554	87-015-627-089		C-CAP,1000P-50 B
C557	87-010-178-089		C-CAP,S 1000P-50 B
C558	87-010-178-089		C-CAP,S 1000P-50 B
C601	87-010-178-089		C-CAP,S 1000P-50 B
C602	87-010-178-089		C-CAP,S 1000P-50 B
C603	87-010-405-089		CAP,E 10-50 SME
C604	87-010-405-089		CAP,E 10-50 SME
C605	87-010-260-089		CAP,E 47-25 SME
C606	87-010-101-089		CAP,E 220-16 SME
C607	87-010-188-089		C-CAP,S 6800P-50 B
C608	87-010-188-089		C-CAP,S 6800P-50 B
C609	87-018-127-089		CAP,TC-U 470P-50 B
C610	87-018-127-089		CAP,TC-U 470P-50 B
C611	87-010-197-089		C-CAP,S 0.01-25 B
C612	87-010-197-089		C-CAP,S 0.01-25 B
C613	87-010-195-089		C-CAP,S 0.068-25 F
C614	87-010-195-089		C-CAP,S 0.068-25 F
C615	87-010-404-089		CAP,E 4.7-50 SME
C616	87-010-404-089		CAP,E 4.7-50 SME
C617	87-010-404-089		CAP,E 4.7-50 SME
C618	87-010-404-089		CAP,E 4.7-50 SME
C641	87-010-196-089		C-CAP,S 0.1-25 F
C642	87-010-196-089		C-CAP,S 0.1-25 F
C673	87-010-316-089		C-CAP,S 33P-50 CH <EZ,K>
C674	87-010-316-089		C-CAP,S 33P-50 CH <EZ,K>
C675	87-010-318-089		C-CAP,S 47P-50 CH <EZ,K>
C676	87-010-318-089		C-CAP,S 47P-50 CH <EZ,K>
C701	87-010-381-089		CAP,E 330-16 SME
C702	87-010-404-089		CAP,E 4.7-50 SME
C703	87-010-197-089		C-CAP,S 0.01-25 B
C704	87-010-197-089		C-CAP,S 0.01-25 B
C711	87-010-263-089		CAP,E 100-10 SME 5X11
C712	87-010-196-089		C-CAP,S 0.1-25 F
C722	87-010-152-089		C-CAP,S 8P-50 CH
C723	87-010-178-089		C-CAP,S 1000P-50 B
C725	87-010-178-089		C-CAP,S 1000P-50 B
C727	87-010-196-089		C-CAP,S 0.1-25 F
C728	87-010-248-089		CAP,E 220-10 SME
C735	87-018-134-089		CAP,TC-U 0.01-16 Y<U>
C770	87-010-405-089		CAP,E 10-50 SME
C771	87-010-405-089		CAP,E 10-50 SME
C772	87-010-194-089		C-CAP,S 0.047-25 F
C773	87-010-196-089		C-CAP,S 0.1-25 F
C774	87-010-263-089		CAP,E 100-10 SME 5X11
C775	87-010-405-089		CAP,E 10-50 SME

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C776	87-010-197-089		C-CAP,S 0.01-25 B
C777	87-010-400-089		CAP,E 0.47-50 SME
C778	87-010-401-089		CAP,E 1-50 SME
C779	87-010-401-089		CAP,E 1-50 SME
C780	87-010-197-089		C-CAP,S 0.01-25 B
C781	87-010-405-089		CAP,E 10-50 SME
C782	87-010-405-089		CAP,E 10-50 SME
C785	87-010-197-089		C-CAP,S 0.01-25 B
C786	87-010-197-089		C-CAP,S 0.01-25 B
C787	87-010-184-089		C-CAP,S 3300P-50 B
C788	87-010-184-089		C-CAP,S 3300P-50 B
C789	87-010-179-089		C-CAP,S 1200P-50 B K
C790	87-010-179-089		C-CAP,S 1200P-50 B
C791	87-010-401-089		CAP,E 1-50 SME
C792	87-010-180-089		C-CAP,S 1500P-50 B <U>
C792	87-010-182-089		C-CAP,S 2200P-50 B <EZ,K>
C793	87-010-189-089		C-CAP,S 8200P-50 B
C794	87-010-408-089		CAP,E 47-50 SME
C795	87-010-194-089		C-CAP,S 0.047-25 F
C796	87-010-403-089		CAP,E 3.3-50 SME
C802	87-010-197-089		C-CAP,S 0.01-25 B
C803	87-018-134-089		CAP,TC-U 0.01-16 Y
C814	87-010-196-089		C-CAP,S 0.1-25 F
C815	87-018-134-089		CAP,TC-U 0.01-16 Y
C817	87-010-197-081		C-CAP,S 0.01-25 B<EZ,K>
C818	87-010-197-081		C-CAP,S 0.01-25 B<EZ,K>
C819	87-018-134-089		CAP,TC-U 0.01-16 Y<U>
C820	87-010-408-089		CAP,E 47-50 SME
C821	87-010-197-089		C-CAP,S 0.01-25 B
C823	87-010-197-089		C-CAP,S 0.01-25 B
C828	87-010-197-089		C-CAP,S 0.01-25 B
C829	87-010-197-089		C-CAP,S 0.01-25 B
C830	87-015-819-089		CHIP CAP 0.01
C835	87-010-197-089		C-CAP,S 0.01-25 B
C860	87-010-248-080		CAP,E 220-10 SME<EZ,K>
C861	87-010-196-089		C-CAP,S 0.1-25 F<EZ,K>
C862	87-010-182-080		C-CAP,S 2200P-50 K B<EZ,K>
C863	87-010-178-080		C-CAP,S 1000P-50 K B<EZ,K>
C864	87-010-315-089		C-CAP,S 27P-50 C H<EZ,K>
C865	87-010-315-089		C-CAP,S 27P-50 C H<EZ,K>
C866	87-010-197-080		C-CAP,S 0.01-25 B<EZ,K>
C867	87-012-140-089		C-CAP,S 470P-50 C H<EZ,K>
C868	87-010-405-080		CAP,E 10-50 SME<EZ,K>
C869	87-010-196-089		C-CAP,S 0.1-25 F<EZ,K>
C871	87-010-805-080		C-CAP,S 1-16 Z F<EZ,K>
C872	87-010-197-080		C-CAP,S 0.01-25 B<EZ,K>
C901	87-010-197-089		C-CAP,S 0.01-25 B
C902	87-015-785-089		C-CAP, 0.1-25 F
C903	87-010-119-089		CAP,TC-U 100P-50 B
C941	87-010-314-089		C-CAP,S 22P-50 CH
C942	87-010-154-089		C-CAP,S 10P-50 D CH<EZ,K>
C943	87-010-197-089		C-CAP,S 0.01-25 B<EZ,K>
C944	87-014-051-089		CAP,PP 560P-100 J
C945	87-010-197-089		C-CAP,S 0.01-25 B
C946	87-010-401-089		CAP,E 1-50 SME
C949	87-014-049-080		CAP,PP 470P-100 J<EZ,K>
C950	87-014-073-089		CAP,PP 4700P-100 J
C952	87-010-197-089		C-CAP,S 0.01-25 B <EZ,K>
C953	87-010-197-089		C-CAP,S 0.01-25 B
C954	87-010-400-089		CAP,E 0.47-50
C956	87-010-263-089		CAP,E 100-10 SME 5X11
C957	87-010-315-089		C-CAP,S 27P-50 CH<EZ,K>
C958	87-010-197-080		C-CAP,S 0.01-25 B<EZ,K>
C960	87-010-196-089		C-CAP,S 0.1-25 F
C961	87-010-152-089		C-CAP,S 8P-50 CH<U>
C987	87-018-134-089		CAP,TC-U 0.01-16 Y
C990	87-010-197-089		C-CAP,S 0.01-25 B
C993	87-018-134-089		CAP,TC-U 0.01-16 Y
C995	87-010-197-089		C-CAP,S 0.01-25 B
C999	87-010-196-089		C-CAP,S 0.1-25 F

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
CF801	87-008-261-019		FLTR,SFE10.7MA5-A
CF802	87-008-261-019		FLTR,SFE10.7MA5-A
FFE801	86-NF4-670-019		FE PACK 2 EX-N<U>
FFE801	A8-6ZA-195-030		6ZA-1 YFEENM<EZ,K>
FR121	87-029-060-089		RES,FUSE 33-1/4W J
FR122	87-029-060-089		RES,FUSE 33-1/4W J
J252	87-A60-024-019		JACK 6.3BLK W/S WKM
J253	87-099-802-019		JACK,PIN 3P BRW
J254	87-033-240-019		TERMINAL,HSP 4P324V1-05
J652	87-099-741-019		JACK,PIN 2P (JT)
J801	87-033-239-019		TERMINAL,HSP-154V-2<U>
J801	87-033-241-010		TERMINAL,ANT AJ-2093<EZ,K>
L101	87-003-383-019		COIL,1UH-S
L102	87-003-383-019		COIL,1UH-S
L403	87-007-341-019		COIL,TRAP 85K
L404	87-007-341-019		COIL,TRAP 85K
L451	87-007-342-019		COIL,OSC 85K BIAS
L701	87-A50-027-019		COIL,1 POLE MPX(TOK)
L702	87-A50-027-019		COIL,1 POLE MPX(TOK)
L741	87-A50-015-019		COIL,FM DET(TOK)
L742	87-A90-051-019		FLTR,CFAZ-450(TOK)<EZ,K>
L770	87-003-102-089		COIL,10UH
L790	87-005-564-089		C-COIL,2.2UH
L832	87-005-847-089		COIL,2.2UH(CECS)
L850	87-005-847-089		COIL,2.2UH(CECS)<EZ,K>
L941	87-A50-020-019		COIL,ANT LW(COI)<EZ,K>
L942	87-A50-019-019		COIL,OSC LW(COI)<EZ,K>
L943	87-005-564-089		C-COIL 2.2UH<EZ,K>
L981	86-NF4-665-019		AM PACK 1(TOK)
⚠ PR110	87-026-681-089		PROTECTOR,5A 60V 491<EZ,K>
⚠ PR111	87-026-681-089		PROTECTOR,5A 60V 491<EZ,K>
R105	87-022-600-089		RES,M/F 0.1-2W J
R106	87-022-600-089		RES,M/F 0.1-2W J
RY101	87-045-389-019		RELAY,12V SS-212DM5<U>
RY101	87-045-361-010		RELAY,12VDH 2SU<EZ,K>
RY102	87-045-382-019		RELAY,OUAZ-SH-112L
SFR301	87-024-174-089		SFR33K DIA6 V
SFR302	87-024-174-089		SFR33K DIA6 V
SFR303	87-024-174-089		SFR33K DIA6 V
SFR304	87-024-174-089		SFR33K DIA6 V
SFR305	87-024-175-089		SFR,47K DIA6 V
SFR306	87-024-175-089		SFR,47K DIA6 V
SFR451	87-024-175-089		SFR,47K DIA6 V
SFR452	87-024-175-089		SFR,47K DIA6 V
SFR722	87-024-171-089		SFR 4.7K DIA6 V
TC701	87-011-253-089		TRIMER,30P LAR
TC942	87-011-253-089		TRIMER,30P LAR<EZ,K>
TH241	87-A90-157-089		C-THMS,4.7K<EZ,K>
VR651	82-NF5-660-019		VR 50K BX2 RK14K 12A
W101	85-NF5-628-019		F-CABLE 7P-2.5
W301	86-NF5-618-019		CONN ASSY,8P RPB
W604	85-NF5-617-019		CABLE,FFC 6P-1.25
X703	84-508-618-019		VIB,CER CSB 456 F/5
X721	87-030-372-019		VIB,XTAL 7.2MHZ
X850	89-KT1-608-010		VIB,XTAL 4.332MHZ<EZ,K>

FRONT C.B

C130	87-010-196-080		C-CAP,S 0.1-25 Z F
C201	87-010-404-040		CAP,E 4.7-50 SME
C202	87-010-404-040		CAP,E 4.7-50 SME
C203	87-010-407-040		CAP,E 33-50 M SME
C204	87-010-494-040		CAP,E 1-50 5L SRE
C205	87-010-555-040		CAP,E 100-10 5L SRE
C206	87-A10-116-040		CAP,E 330-6.3 GAS
C207	87-010-494-040		CAP,E 1-50 5L SRE
C208	87-010-196-080		C-CAP,S 0.1-25 Z F
C209	87-010-316-080		C-CAP,S 33P-50 J CH
C210	87-010-311-089		C-CAP,S 12P-50 J CH
C211	87-010-405-040		CAP,E 10-50 M SME

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C212	87-010-378-040		CAP,E 10-16 SME
C213	87-010-196-080		C-CAP,S 0.1-25 Z F
C214	87-010-196-080		C-CAP,S 0.1-25 Z F
C215	87-010-196-080		C-CAP,S 0.1-25 Z F
C223	87-010-178-080		C-CAP,S 1000P-50 K B
C250	87-010-178-080		C-CAP,S 1000P-50 K B
C251	87-010-196-080		C-CAP,S 0.1-25 Z F
C270	87-018-209-089		CAP,TC-U 0.1-50 F
C271	87-010-196-080		C-CAP,S 0.1-25 Z F
C280	87-010-322-080		C-CAP,S 100P-50 J CH
C281	87-010-322-080		C-CAP,S 100P-50 J CH
C381	87-010-196-080		C-CAP,S 0.1-25 Z F
C382	87-010-196-080		C-CAP,S 0.1-25 Z F
C383	87-010-196-080		C-CAP,S 0.1-25 Z F
C384	87-010-196-080		C-CAP,S 0.1-25 Z F
C385	87-010-322-080		C-CAP,S 100P-50 J CH
C389	87-010-196-080		C-CAP,S 0.1-25 Z F
C401	87-010-196-080		C-CAP,S 0.1-25 Z F
C402	87-010-196-080		C-CAP,S 0.1-25 Z F
C501	87-015-684-040		CAP,E 47-16 7L SRA
C602	87-010-322-080		C-CAP,S 100P-50 J CH<EZ,K>
C603	87-010-177-080		C-CAP,S 820P-50 J SL
C604	87-010-168-080		C-CAP,S 4700P-50 K B
C605	87-015-692-040		CAP,E 0.22-50 7L SRA
C606	87-010-196-080		C-CAP,S 0.1-25 Z F
C607	87-010-321-080		C-CAP,S 82P-50 J CH
C608	87-010-112-040		CAP,E 100-16 SME
C609	87-010-196-080		C-CAP,S 0.1-25 Z F
C611	87-010-248-080		CAP,E 220-10 SME
C612	87-010-322-080		C-CAP,S 100P-50 J CH
C613	87-010-196-080		C-CAP,S 0.1-25 Z F
C614	87-010-178-080		C-CAP,S 1000P-50 K B
C630	87-010-378-040		CAP,E 10-16 SME
C640	87-010-406-040		CAP,E 22-50 SME
C646	87-015-785-080		C-CAP, 0.1-25 Z F
C647	87-010-196-080		C-CAP,S 0.1-25 Z F
C648	87-010-322-080		C-CAP,S 100P-50 J CH
C651	87-010-311-080		C-CAP,S 12P-50 J CH
C652	87-010-311-080		C-CAP,S 12P-50 J CH
C653	87-010-426-080		C-CAP,S 0.012-25 K B
C654	87-010-178-080		C-CAP,S 1000P-50 K B
C656	87-016-461-080		C-CAP,S 0.47-16 Z F
C657	87-010-196-080		C-CAP,S 0.1-25 Z F
C658	87-010-263-040		CAP,E 100-10 SME
C659	87-010-263-040		CAP,E 100-10 SME
C661	87-010-177-080		C-CAP,S 820P-50 J SL
C664	87-012-141-080		C-CAP,S 0.22-16 Z F
C665	87-010-184-080		C-CAP,S 3300P-50 K B
C666	87-010-426-080		C-CAP,S 0.012-25 K B
C668	87-016-461-080		C-CAP,S 0.47-16 Z F
C669	87-010-404-040		CAP,E 4.7-50 SME
C670	87-010-404-040		CAP,E 4.7-50 SME
C671	87-012-156-080		C-CAP,S 220P-50 J CH GRM
C675	87-010-180-080		C-CAP,S 1500P-50 B
C701	87-015-697-080		CAP,E 3.3-50 7L SRA
C702	87-015-697-080		CAP,E 3.3-50 7L SRA
C703	87-010-993-080		C-CAP, 0.056-25 BK
C704	87-010-993-080		C-CAP, 0.056-25 BK
C705	87-016-460-080		C-CAP, 0.22-16 BK
C706	87-016-460-080		C-CAP, 0.22-16 BK
C707	87-010-182-080		C-CAP,S 2200P-50 K B
C708	87-010-182-080		C-CAP,S 2200P-50 K B
C709	87-012-393-080		C-CAP, 0.22-16 RK
C710	87-012-393-080		C-CAP, 0.22-16 RK
C711	87-010-196-080		C-CAP,0.1-25 Z F
C712	87-015-681-040		CAP,E 10-16 7L SRA
C713	87-010-260-040		CAP,E 47-25 SME
C714	87-010-263-040		CAP,E 100-10 SME
C715	87-015-697-080		CAP,E 3.3-50 7L SRA
C717	87-015-697-080		CAP,E 3.3-50 7L SRA
C718	87-015-697-080		CAP,E 3.3-50 7L SRA
C730	87-010-371-080		CAP,E 470-6.3 SME
C731	87-015-684-040		CAP,E 47-16 7L SRA
C733	87-012-157-080		C-CAP,S 330P-50 J CH GRM
C734	87-012-157-080		C-CAP,S 330P-50 J CH GRM
C737	87-015-697-080		CAP,E 3.3-50 7L SRA
C738	87-015-695-040		CAP,E 1-50 7L SRA
C836	87-010-991-080		C-CAP,2.2-16 ZYSV
FB601	87-008-372-080		FLTR,EMIBL01 RN1
FL101	86-NFA-604-010		FL, BJ481GK
J601	82-NF7-630-010		JACK,3.5 MO
J621	82-NF7-630-010		JACK,3.5 MO
L201	87-A50-052-010		COIL,CLOCK 5.76MHZ T1
L650	87-005-487-080		COIL,150UH J FLR50
LED401	87-017-784-080		LED,SEL 1550 CM TP8 PGRN
LED402	87-017-784-080		LED,SEL 1550 CM TP8 PGRN
LED403	87-017-784-080		LED,SEL 1550 CM TP8 PGRN
LED404	87-017-784-080		LED,SEL 1550 CM TP8 PGRN
LED405	87-017-784-080		LED,SEL 1550 CM TP8 PGRN
LED406	87-017-784-080		LED,SEL 1550 CM TP8 PGRN
LED407	87-070-199-080		LED,SLP-738F-81-S-T1 P-GRN
LED408	87-070-199-080		LED,SLP-738F-81-S-T1 P-GRN
LED409	87-070-199-080		LED,SLP-738F-81-S-T1 P-GRN
LED410	87-070-199-080		LED,SLP-738F-81-S-T1 P-GRN
LED411	87-070-199-080		LED,SLP-738F-81-S-T1 P-GRN
LED412	87-070-199-080		LED,SLP-738F-81-S-T1 P-GRN
LED413	87-070-199-080		LED,SLP-738F-81-S-T1 P-GRN
LED414	87-070-199-080		LED,SLP-738F-81-S-T1 P-GRN
LED420	87-070-201-080		LED,SLP-9118C-51-S RED
LED421	87-070-201-080		LED,SLP-9118C-51-S RED
LED422	87-070-201-080		LED,SLP-9118C-51-S RED
LED423	87-070-201-080		LED,SLP-9118C-51-S RED
LED424	87-070-278-010		LED,SLZ-738A-24S PGRN
LED425	87-070-278-010		LED,SLZ-738A-24S PGRN
LED426	87-070-278-010		LED,SLZ-738A-24S PGRN
LED427	87-070-278-010		LED,SLZ-738A-24S PGRN
LED428	87-070-290-010		LED,SLZ-936C-30-S RED
LED429	87-070-290-010		LED,SLZ-936C-30-S RED
R300	87-022-355-080		C-RES,S 10K-1/10W F
R320	87-022-355-080		C-RES,S 10K-1/10W F
S301	87-036-215-080		SW,TACT EVQ 214 04M
S302	87-036-215-080		SW,TACT EVQ 214 04M
S303	87-036-215-080		SW,TACT EVQ 214 04M
S304	87-036-215-080		SW,TACT EVQ 214 04M
S321	87-036-215-080		SW,TACT EVQ 214 04M
S322	87-036-215-080		SW,TACT EVQ 214 04M
S323	87-036-215-080		SW,TACT EVQ 214 04M
S324	87-036-215-080		SW,TACT EVQ 214 04M
S325	87-036-215-080		SW,TACT EVQ 214 04M
S326	87-036-215-080		SW,TACT EVQ 214 04M
S327	87-036-215-080		SW,TACT EVQ 214 04M
S328	87-036-215-080		SW,TACT EVQ 214 04M
S329	87-036-215-080		SW,TACT EVQ 214 04M
S330	87-036-215-080		SW,TACT EVQ 214 04M
S331	87-036-215-080		SW,TACT EVQ 214 04M<EZ,K>
S341	87-036-215-080		SW,TACT EVQ 214 04M
S342	87-036-215-080		SW,TACT EVQ 214 04M
S343	87-036-215-080		SW,TACT EVQ 214 04M
S344	87-036-215-080		SW,TACT EVQ 214 04M
S345	87-036-215-080		SW,TACT EVQ 214 04M
S346	87-036-215-080		SW,TACT EVQ 214 04M<EZ,K>
S347	87-036-215-080		SW,TACT EVQ 214 04M
S348	87-036-215-080		SW,TACT EVQ 214 04M
S349	87-036-215-080		SW,TACT EVQ 214 04M
S350	87-036-215-080		SW,TACT EVQ 214 04M
S351	87-036-215-080		SW,TACT EVQ 214 04M
S352	87-036-215-080		SW,TACT EVQ 214 04M<EZ,K>
S353	87-036-215-080		SW,TACT EVQ 214 04M
S701	86-NFA-605-010		SW,RTRY REB161
VR601	86-NFA-606-010		VR,RTRY 10KBX1 1 V XV0121PVN

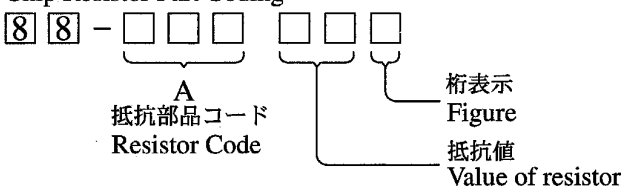
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
VR602	86-NFA-607-010		VR,RTRY 10K15AX1 1 V XV0121PVN
KEY C.B			
LED311	87-A40-248-080		LED,SEL 2210STP7 RED
LED312	87-A40-248-080		LED,SEL 2210STP7 RED
LED313	87-A40-248-080		LED,SEL 2210STP7 RED
LED314	87-A40-248-080		LED,SEL 2210STP7 RED
LED315	87-A40-248-080		LED,SEL 2210STP7 RED
LED316	87-A40-248-080		LED,SEL 2210STP7 RED
LED317	87-A40-248-080		LED,SEL 2210STP7 RED
LED318	87-A40-248-080		LED,SEL 2210STP7 RED
LED319	87-A40-248-080		LED,SEL 2210STP7 RED
LED320	87-A40-248-080		LED,SEL 2210STP7 RED
S305	87-036-215-080		SW,TACT EVQ 214 04M
S306	87-036-215-080		SW,TACT EVQ 214 04M
S307	87-036-215-080		SW,TACT EVQ 214 04M
S308	87-036-215-080		SW,TACT EVQ 214 04M
S309	87-036-215-080		SW,TACT EVQ 214 04M
S310	87-036-215-080		SW,TACT EVQ 214 04M
S311	87-036-215-080		SW,TACT EVQ 214 04M
AC2 C.B			
⚠ F101	87-026-691-089		FUSE,10A 125V 251<U>
⚠ F102	87-026-691-089		FUSE,10A 125V 251<U>
⚠ PR101	87-026-682-089		PROTECTOR,10A 60V 491<EZ,K>
⚠ PR102	87-026-682-089		PROTECTOR,10A 60V 491<EZ,K>
C103	87-010-196-089		C-CAP,S 0.1-25 F<EZ,K>
PT C.B			
	82-304-743-019		TERMINAL,1P
⚠ CF109	87-033-213-080		FUSE,CLAMP PFC 5000
⚠ CF110	87-033-213-080		FUSE,CLAMP PFC 5000
⚠ F109	87-035-367-019		FUSE,3.15A 250V T <EZ,K>
⚠ F109	87-035-492-010		FUSE,6.3A 125V T 237<U>
⚠ PT001	86-NFA-618-019		PT,E 6NF-A<EZ>
⚠ PT001	86-NFA-619-019		PT,K 6NF-A<K>
⚠ PT001	86-NF4-656-010		PT,6NF-4U<U>
CD MAIN C.B			
	86-ZG1-605-019		CABLE,FFC 16P
	86-ZG1-608-019		CABLE,FFC 8P
C11	87-010-182-089		C-CAP,S 2200P-50 B
C12	87-016-081-089		C-CAP,S 0.1-16 RK
C13	87-016-081-089		C-CAP,S 0.1-16 RK
C14	87-016-081-089		C-CAP,S 0.1-16 RK
C15	87-010-404-049		CAP,E 4.7-50 SME
C16	87-016-081-089		C-CAP,S 0.1-16 RK
C17	87-010-197-089		C-CAP,S 0.01-25 B
C18	87-010-402-049		CAP,E 2.2-50 SME
C19	87-010-382-049		CAP,E 22-25 SME
C20	87-010-213-089		C-CAP,S 0.015-25 B
C21	87-010-197-089		C-CAP,S 0.01-25 B
C22	87-010-263-049		CAP,E 100-10 SME
C23	87-010-197-089		C-CAP,S 0.01-25 B
C24	87-016-369-089		C-CAP,S 0.033-25 B K
C25	87-010-197-089		C-CAP,S 0.01-25 B
C26	87-016-369-089		C-CAP,S 0.033-25 B K
C27	87-010-197-089		C-CAP,S 0.01-25 B
C28	87-010-146-029		C-CAP,S 2P-50 C CH GRM
C29	87-010-154-089		C-CAP,S 10P-50 D CH
C30	87-010-263-049		CAP,E 100-10 SME
C31	87-010-178-089		C-CAP,S 1000P-50 B
C32	87-010-198-089		C-CAP,S 0.022-25 B
C33	87-016-081-089		C-CAP,S 0.1-16 RK
C34	87-010-197-089		C-CAP,S 0.01-25 B
C35	87-010-263-049		CAP,E 100-10 SME
C36	87-015-677-049		CAP,E 100-6.3 7L
C37	87-010-197-089		C-CAP,S 0.01-25 B
C38	87-010-260-089		CAP,E 47-25 SME
C39	87-010-196-089		C-CAP,S 0.1-25 F
C91	87-010-263-049		CAP,E 100-10 SME
C101	87-010-596-089		C-CAP,S 0.047-16 RK
C102	87-010-188-089		C-CAP,S 6800P-50 B
C103	87-018-133-089		CAP,TC-U 4700P-16 NX
C104	87-012-156-089		C-CAP,S 220P-50 CH
C105	87-010-404-049		CAP,E 4.7-50 SME
C106	87-010-263-049		CAP,E 100-10 SME
C107	87-010-197-089		C-CAP,S 0.01-25 B
C108	87-016-526-089		C-CAP,S 0.47-16 BK
C109	87-010-197-089		C-CAP,S 0.01-25 B
C112	87-010-318-089		C-CAP,S 47P-50 CH
C113	87-010-263-089		CAP,E 100-10 SME 5X11
C114	87-010-197-089		C-CAP,S 0.01-25 B
C115	87-010-318-089		C-CAP,S 47P-50 CH
C116	87-010-318-089		C-CAP,S 47P-50 CH
C117	87-010-197-089		C-CAP,S 0.01-25 B
C122	87-010-186-089		C-CAP,S 4700P-50 B
C123	87-010-382-049		CAP,E 22-25 SME
C201	87-010-318-089		C-CAP,S 47P-50 CH
C202	87-010-318-089		C-CAP,S 47P-50 CH
C203	87-010-321-089		C-CAP,S 82P-50 CH
C204	87-010-321-089		C-CAP,S 82P-50 CH
C205	87-010-321-089		C-CAP,S 82P-50 CH
C206	87-010-321-089		C-CAP,S 82P-50 CH
C207	87-012-153-089		C-CAP,S 120P-50 CH
C208	87-012-153-089		C-CAP,S 120P-50 CH
C209	87-012-153-089		C-CAP,S 120P-50 CH
C210	87-012-153-089		C-CAP,S 120P-50 CH
C211	87-010-403-049		CAP,E 3.3-50 SME
C212	87-010-403-089		CAP,E 3.3-50 SME
C213	87-010-186-089		C-CAP,S 4700P-50 B
C214	87-010-186-089		C-CAP,S 4700P-50 B
C231	87-016-251-049		CAP,E 220-16 SMG
C232	87-010-263-089		CAP,E 100-10 SME 5X11
C301	87-010-196-089		C-CAP,S 0.1-25 F
C302	87-010-260-089		CAP,E 47-25 SME
C401	87-010-403-089		CAP,E 3.3-50 SME
C402	87-010-403-049		CAP,E 3.3-50 SME
C501	87-016-459-049		CAP,E 470-10 SMG
C502	87-010-197-089		C-CAP,S 0.01-25 B
C503	87-010-263-049		CAP,E 100-10 SME
C504	87-010-196-089		C-CAP,S 0.1-25 F
C505	87-010-196-089		C-CAP,S 0.1-25 F
C506	87-010-196-089		C-CAP,S 0.1-25 F
C507	87-010-196-089		C-CAP,S 0.1-25 F
C508	87-016-459-049		CAP,E 470-10 SMG
C509	87-010-196-089		C-CAP,S 0.1-25 F
C510	87-010-196-089		C-CAP,S 0.1-25 F
C601	87-010-196-089		C-CAP,S 0.1-25 F
C602	87-016-251-049		CAP,E 220-16 SMG
C603	87-010-196-089		C-CAP,S 0.1-25 F
C701	87-010-322-089		C-CAP,S 100P-50 CH
C702	87-010-318-089		C-CAP,S 47P-50 CH
C703	87-010-318-089		C-CAP,S 47P-50 CH
C705	87-010-178-089		C-CAP,S 1000P-50 B
C706	87-010-178-089		C-CAP,S 1000P-50
C901	87-010-260-049		CAP,E 47-25 SME
C902	87-010-196-089		C-CAP,S 0.1-25 F
L11	87-003-102-089		COIL,10UH K LAL02
LED901	87-A40-123-019		LED,SLZ-8128A-01-B
M601	87-045-305-019		MOTOR,RF-500TB
R36	87-022-365-089		C-RES,S 100K-1/10W F
R37	87-022-363-089		C-RES,S 68K-1/10W F
R38	87-022-363-089		C-RES,S 68K-1/10W F
R39	87-022-363-089		C-RES,S 68K-1/10W F
R40	87-022-363-089		C-RES,S 68K-1/10W F

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
R41	87-022-365-089		C-RES,S 100K-1/10W F
SFR11	87-024-175-089		SFR,47K DIA6V
SFR12	87-024-173-089		SFR,22K HRHO638C
SFR13	87-024-176-089		SFR,100K DIA6V
SW601	87-036-109-019		SW,PUSH SPPB 61
SW602	87-036-109-019		SW,PUSH SPPB 61
SW603	87-036-109-019		SW,PUSH SPPB 61
W604	88-906-261-110		FF-CABLE 6P 1.25 260MM
X101	87-030-402-089		VIB,XTAL 16.9344MHZ
LED C.B			
LED701	87-017-733-080		LED,SEL1250SM
LED702	87-017-350-080		LED,SEL1550CM
LED703	87-017-733-080		LED,SEL1250SM
T-T C.B			
C411	87-018-214-089		CAP,TC U 0.1-50
LED411	87-070-288-019		LED,GL380
M401	87-A90-036-019		MOT ASSY,RF-300CA-11
PS401	87-A90-156-019		SNSR,SG-240
Q411	87-A30-031-019		P-TR,PT380F
SW401	87-036-109-019		SW,PUSH SPPB61
CD MOTOR C.B			
SW1	87-036-340-019		SW,LEAF LSA-1121
M20	87-045-358-019		MOT,RF-310TA 43
M21	87-045-356-019		MOT,RF-310TA 30

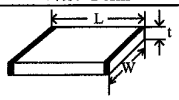
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
DECK C.B			
CON502	82-ZM1-625-019		RBN,CORD,4P-55
SFR1	87-024-581-089		SFR,3.3K DIA 6H
SOL1	82-ZM1-618-010		SOL ASSY, 27
SOL2	82-ZM1-618-010		SOL ASSY, 27
SW1	87-036-378-010		SW, PUSH 1-1-1 SH2
SW2	87-036-378-010		SW, PUSH 1-1-1 SH2
SW3	87-036-378-010		SW, PUSH 1-1-1 SH2
SW4	87-036-378-010		SW, PUSH 1-1-1 SH2
SW5	87-036-378-010		SW, PUSH 1-1-1 SH2
SW6	87-036-378-019		SW, PUSH 1-1-1 SH2
SW8	87-036-378-019		SW, PUSH 1-1-1 SH2
W502	87-099-756-019		CONN, 15P 9604 S F
HEAD-1 C.B			
HEAD-2 C.B			
CON351	86-NF5-618-110		CONN ASSY,8P RPB

○チップ抵抗部品コード／CHIP RESISTOR PART CODE

チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding



チップ抵抗
Chip resistor

容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法／Dimensions (mm) 外形／Form	L	W	t	抵抗コード : A Resistor Code : A
1/16W	1608	±5%	CJ		1.6	0.8	0.45	108
1/10W	2125	±5%	CJ		2	1.25	0.45	118
1/8W	3216	±5%	CJ		3.2	1.6	0.55	128

TRANSISTOR ILLUSTRATION

2SA1296GR
2SC3266GR
KTA1266GR
KTC3198GR

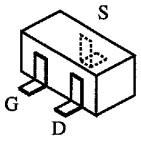
2SA952K
2SD655E
2SA970GR
2SA1015GR
2SC2001K

DTA114YS
DTA114ES
2SA933S

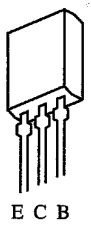
2SA1318
2SC3331T

2SB1370

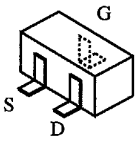
2SK246



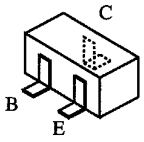
2SK543



2SD2005
2SD2172V/W



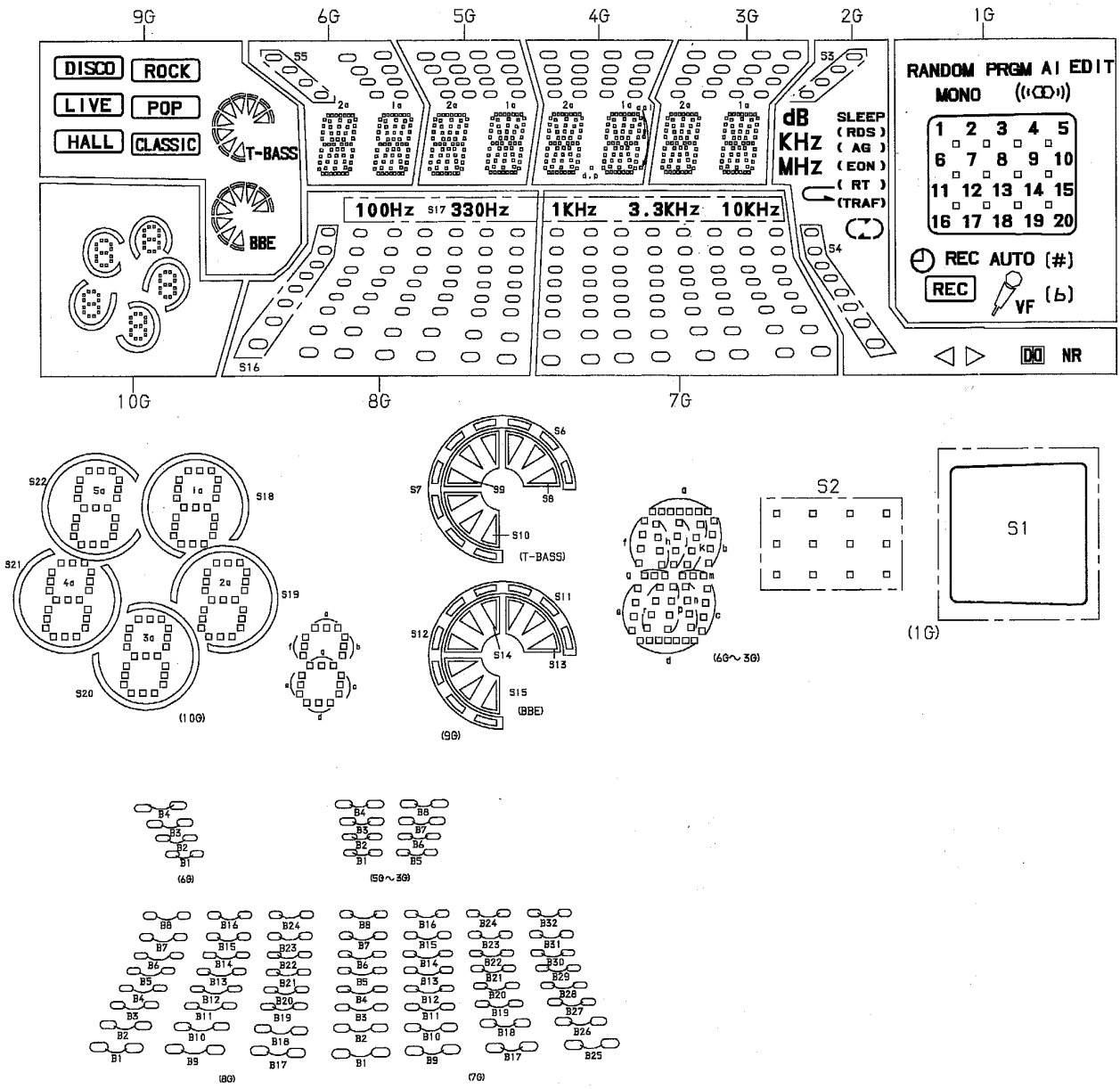
2SK209



2SA1162
2SC2712
2SC2714
2SC3326
2SC3722
2SD2114
DTA114TK
DTA124EK
UN2214
DTA143EK
DTA144EK
DTC114TK
DTC123JK
DTC143EK
DTC143TK
DTC144EK
DTC144WK

FL GRID ASSIGNMENT & ANODE CONNECTION

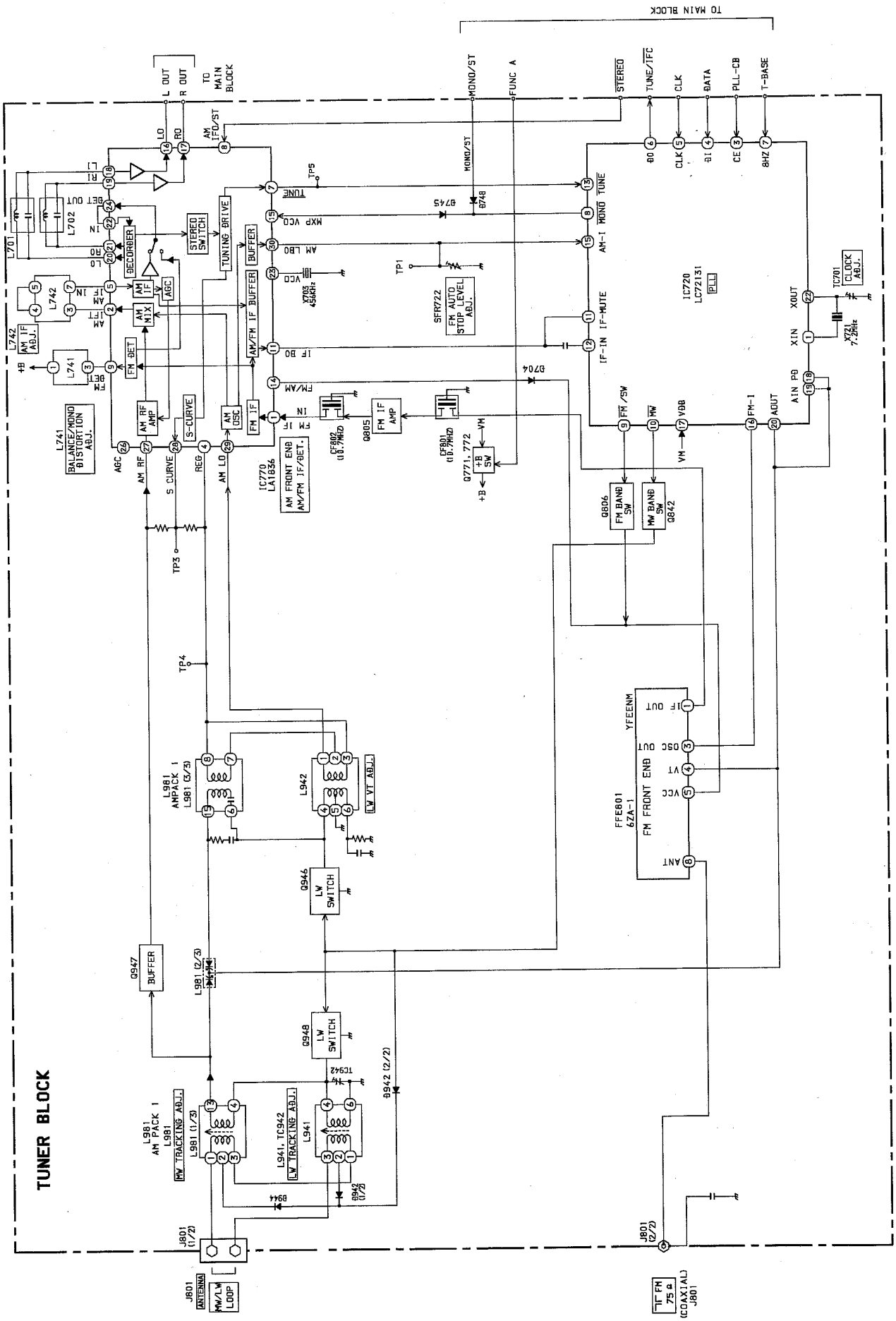
FL, BJ481 GK
GRID ASSIGNMENT



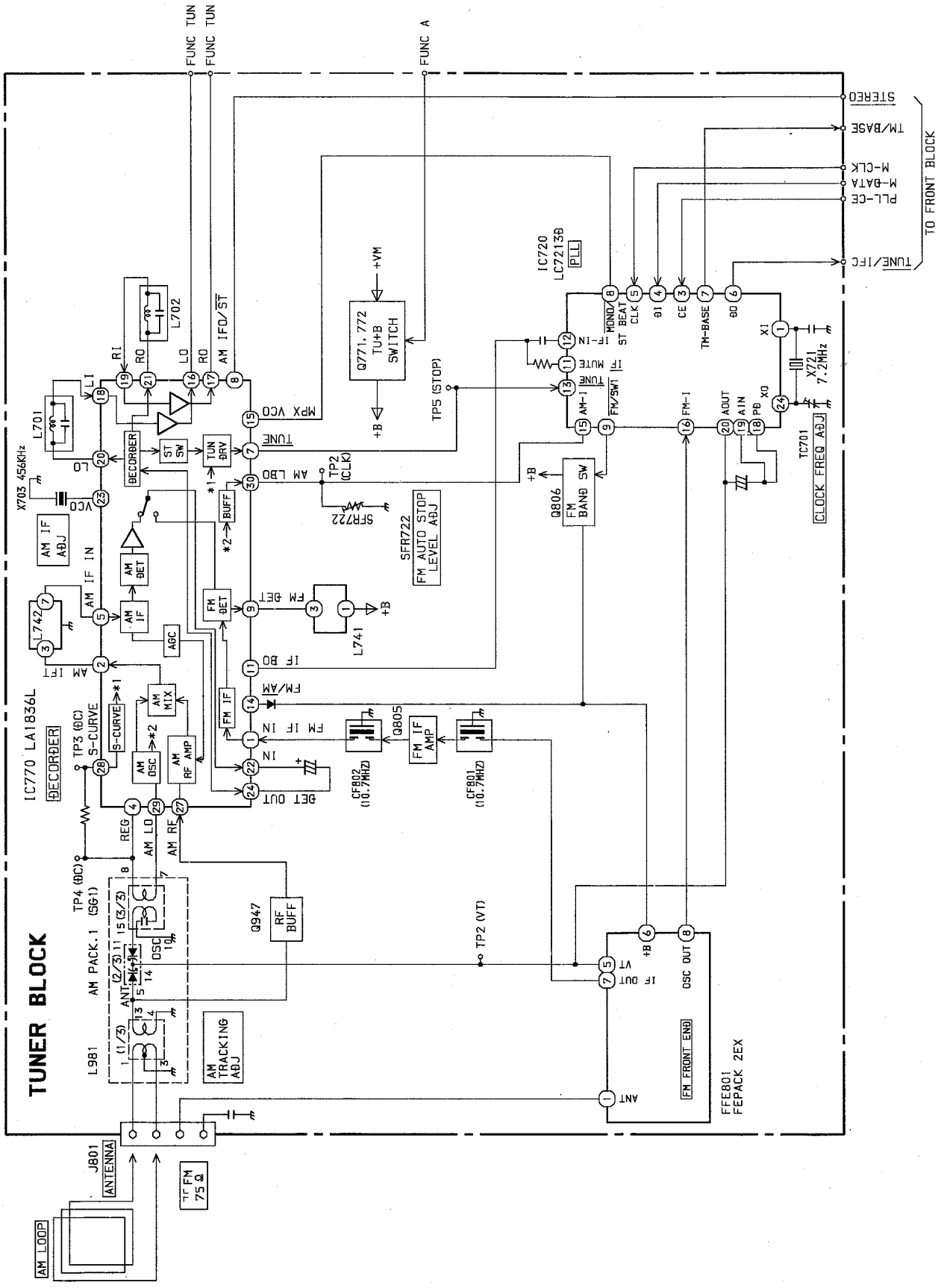
ANODE CONNECTION

	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
P1	1a	-	B8	B8	1d	1d	1d	1d		EDIT
P2	1b	-	B16	B16	1n	1n	1n	1n	-	
P3	1f	-	B24	B24	1p	1p	1p	1p	-	AI
P4	1g	-	-	B32	1r	1r	1r	1r	RT	PRGM
P5	1c	-	B7	B7	1e	1e	1e	1e	((RT))	MONO
P6	1e	-	B15	B15	1c	1c	1c	1c	EON	RANDOM
P7	1d	-	B23	B23	1g	1g	1g	1g	((EON))	5
P8	S18	-	-	B31	1m	1m	1m	1m	MHz	4
P9	5a	-	B6	B6	1f	1f	1f	1f	KHz	3
P10	5b	-	B14	B14	1b	1b	1b	1b	dB	2
P11	5f	-	B22	B22	1k	1k	1k	1k	AG	1
P12	5g	-	-	B30	1j	1j	1j	1j	((AG))	10
P13	5c	-	B5	B5	1h	1h	1h	1h	RDS	9
P14	5e	-	B13	B13	1a	1a	1a	1a	((RDS))	8
P15	5d	BBE	B21	B21	-	-	COL	-	SLEEP	7
P16	S22	S15	-	B29	-	-	db	-	-	6
P17	2e	S13	B4	B4	2d	2d	2d	2d	-	15
P18	2b	S14	B12	B12	2n	2n	2n	2n	-	14
P19	2f	S11	B20	B20	2p	2p	2p	2p	-	13
P20	2g	S12	-	B28	2r	2r	2r	2r	-	12
P21	2c	T-BASS	B3	B3	2e	2e	2e	2e	-	11
P22	2e	S10	B11	B11	2c	2c	2c	2c	-	S2
P23	2d	S8	B19	B19	2g	2g	2g	2g	-	20
P24	S19	S9	-	B27	2m	2m	2m	2m	-	19
P25	4a	S6	B2	B2	2f	2f	2f	2f	-	18
P26	4b	S7	B10	B10	2b	2b	2b	2b	-	17
P27	4f	CLASSIC	B18	B18	2k	2k	2k	2k	-	16
P28	4g	HALL	-	B26	2j	2j	2j	2j	-	S1
P29	4c	(CLASSIC)	B1	B1	2h	2h	2h	2h	TRAF	#
P30	4e	(HALL)	B9	B9	2a	2a	2a	2a	(TRAF)	((#))
P31	4d	POP	B17	B17	B1	B5	B5	B5		AUTO
P32	S21	LIVE	-	B25	-	B1	B1	B1		
P33	3a	(POP)	-	-	B2	B6	B6	B6		REC
P34	3b	(LIVE)	-	-	-	B2	B2	B2	NR	b
P35	3f	ROCK	-	-	B3	B7	B7	B7		((b))
P36	3g	DISCO	-	-	-	B3	B3	B3		VF
P37	3c	(ROCK)	-	-	B4	B8	B8	B8		REC
P38	3e	(DISCO)	S16	-	S5	B4	B4	B4	S3. S4	(REC)
P39	3d	-	S17	S17	-	-	-	-	-	-
P40	S20	-	-	-	-	-	-	-	-	-

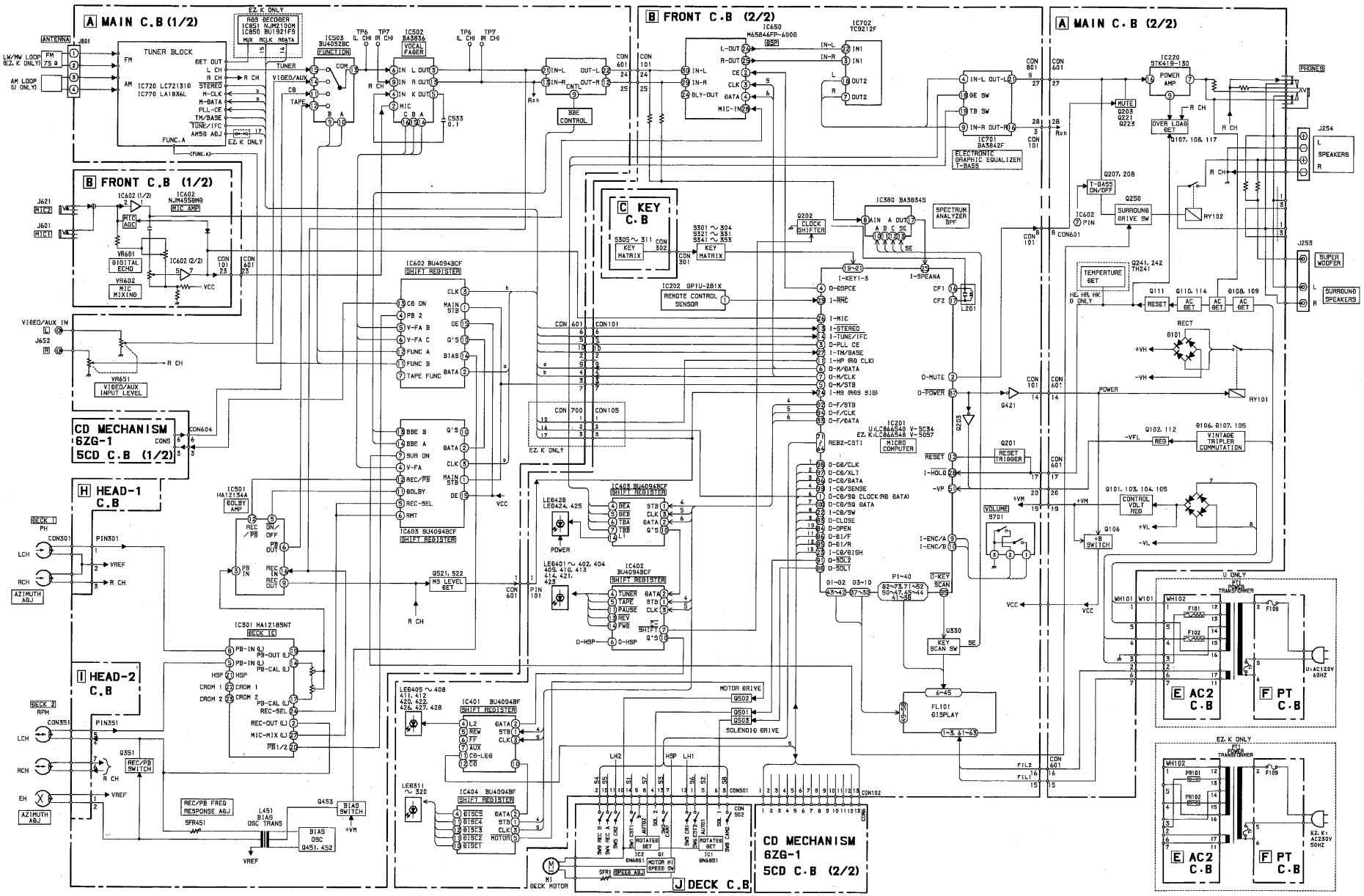
BLOCK DIAGRAM – 1 (TUNER : EZ,K)



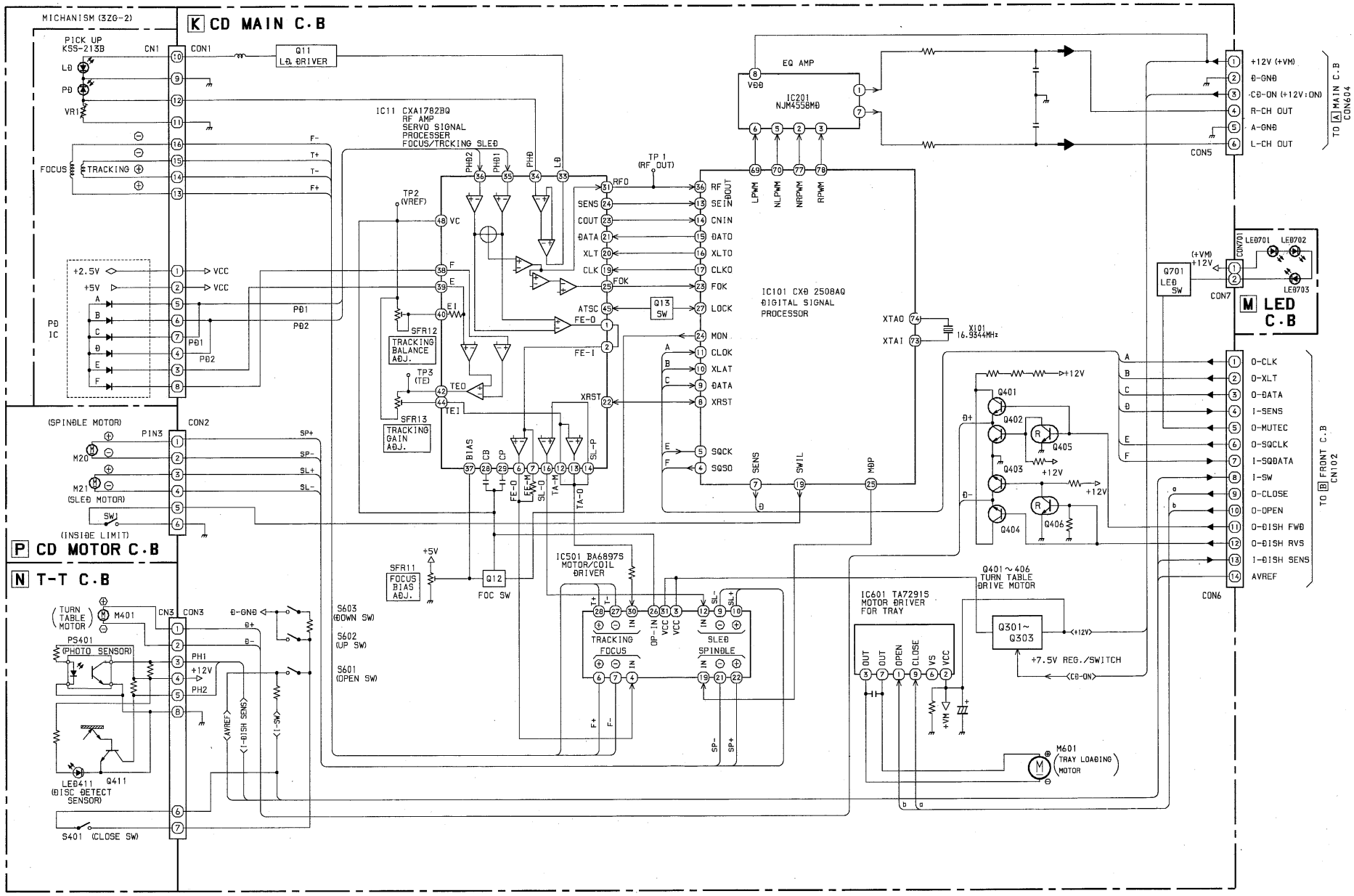
BLOCK DIAGRAM – 2 (TUNER : U)

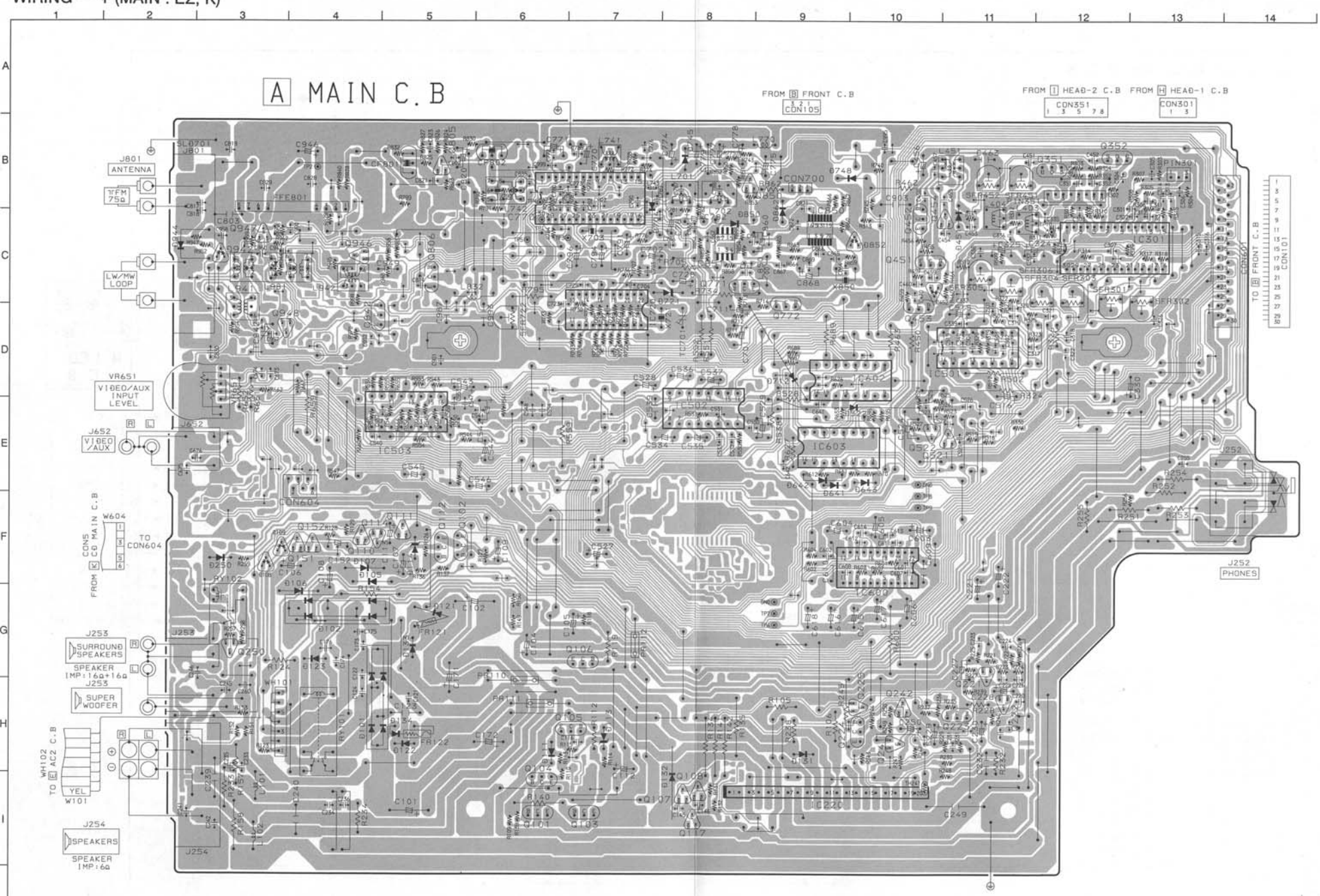


BLOCK DIAGRAM – 3 (MAIN/FRONT)

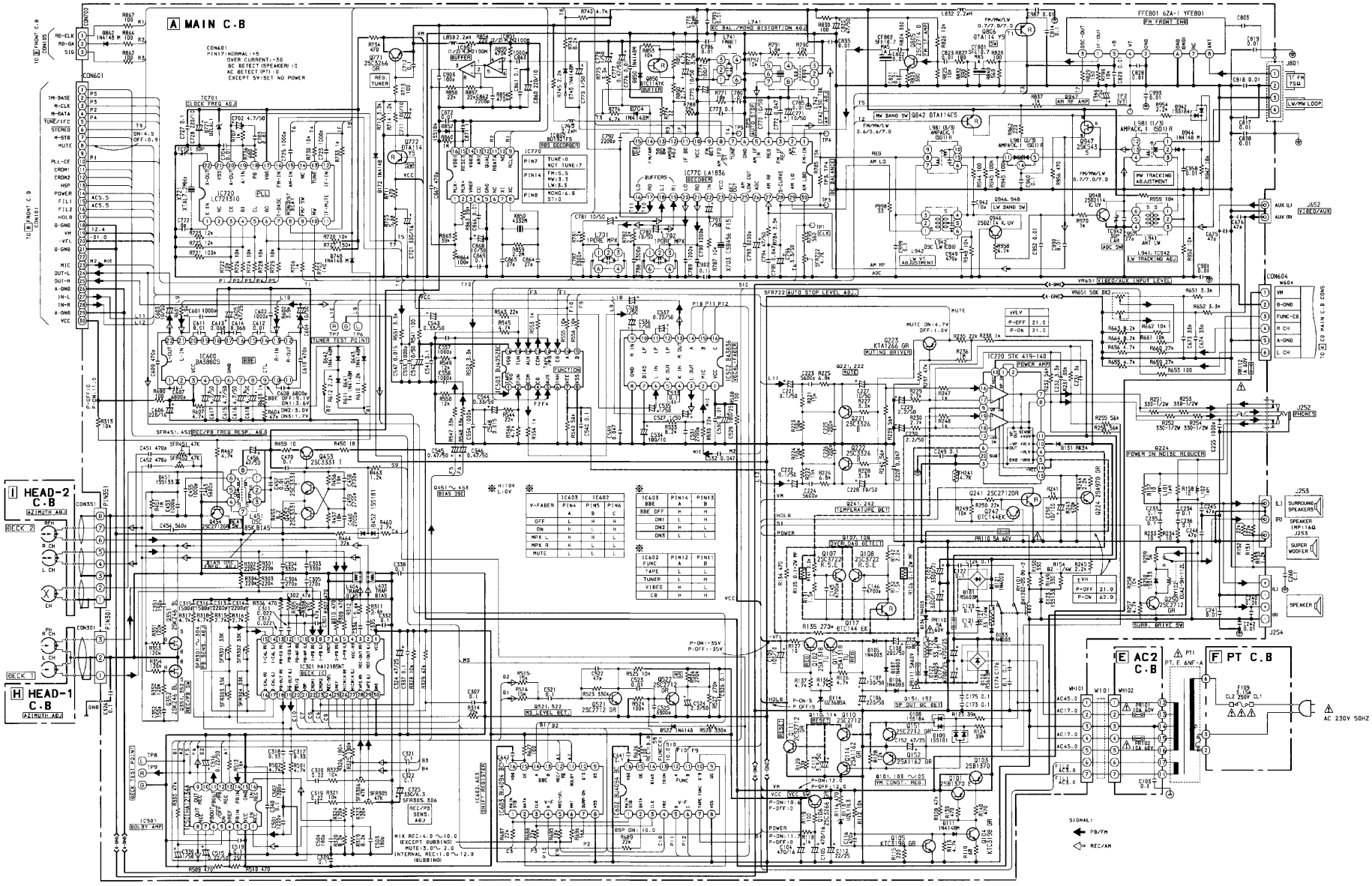


BLOCK DIAGRAM – 4 (CD)

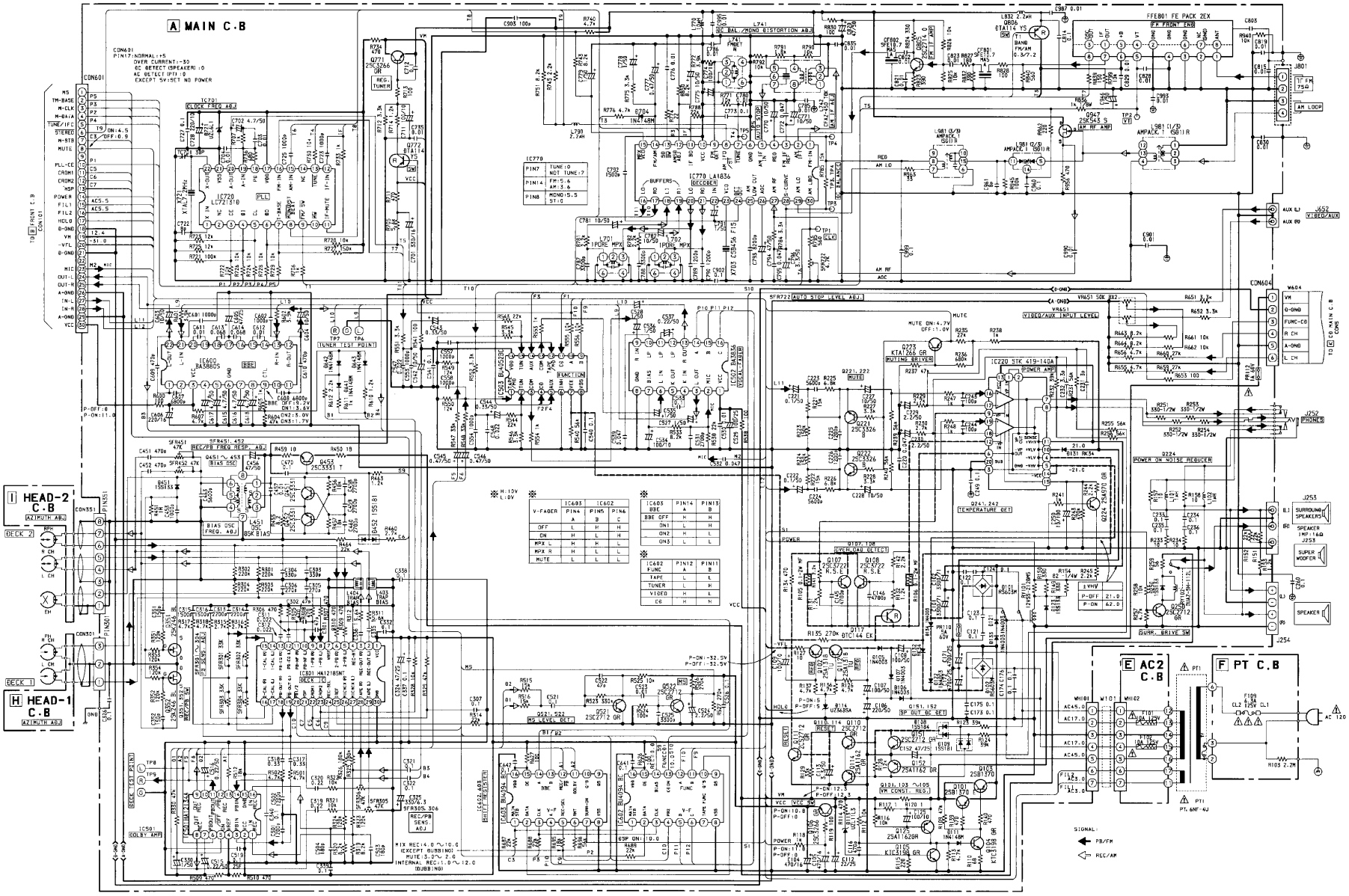



A MAIN C.B
FROM B FRONT C.B
CON105
FROM I HEAD-2 C.B
CON351
FROM H HEAD-1 C.B
CON301
TO H FRONT C.B
CON101
J801
ANTENNA
VR651
VIDEO/AUX INPUT LEVEL
J652
VIDEO /AUX
W604
TO CON604
FROM CB MAIN C.B
J253
SURROUND SPEAKERS
SPEAKER IMP:16Ω+16Ω
J253
SUPER WOOFER
WH102
TO E AC2 C.B
YEL
W101
J254
SPEAKERS
SPEAKER IMP:6Ω
J252
PHONES
IC301
IC501
IC503
IC603
IC2201
CON700
CON604

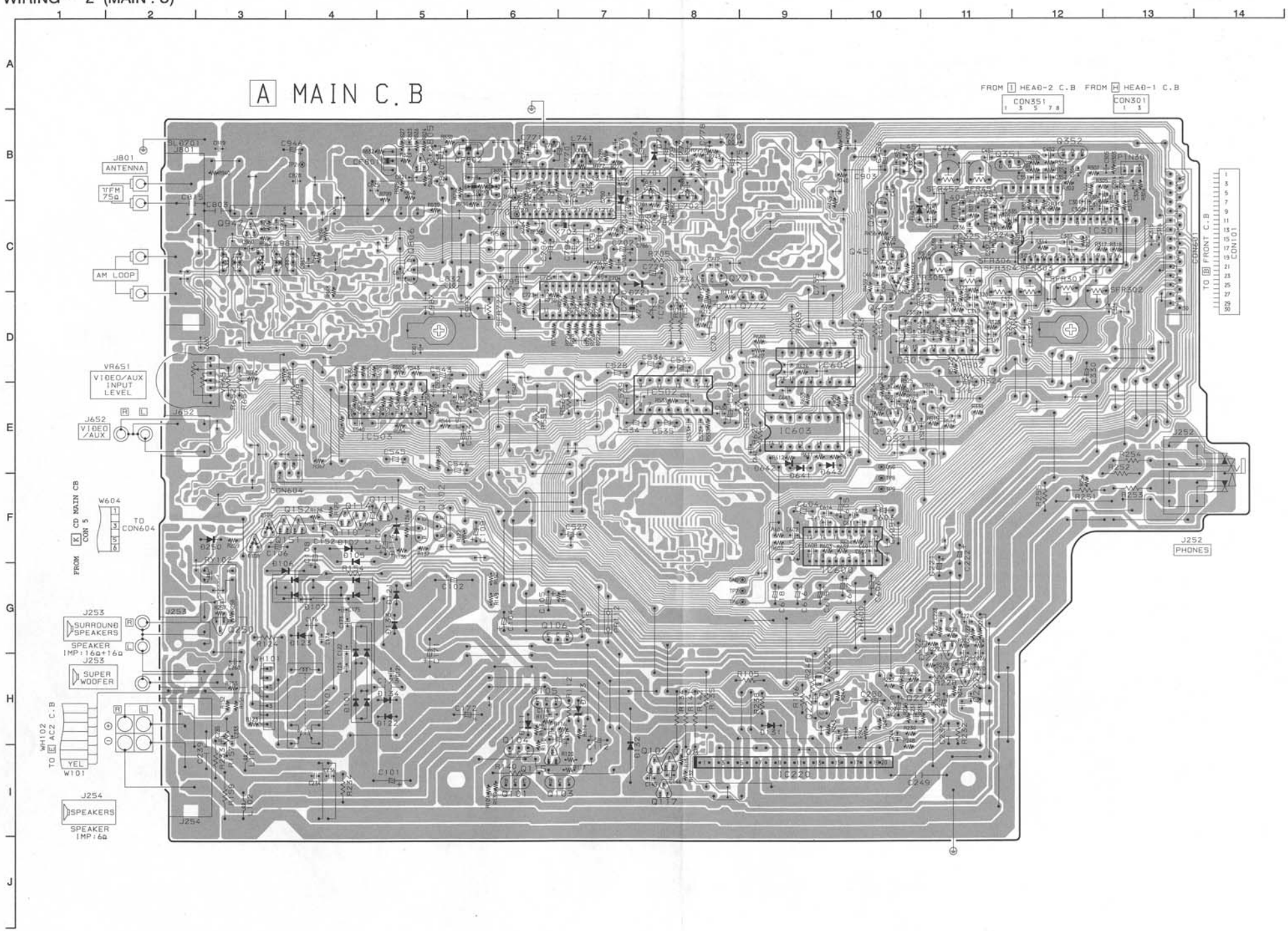
SCHEMATIC DIAGRAM – 1 (MAIN : EZ, K)

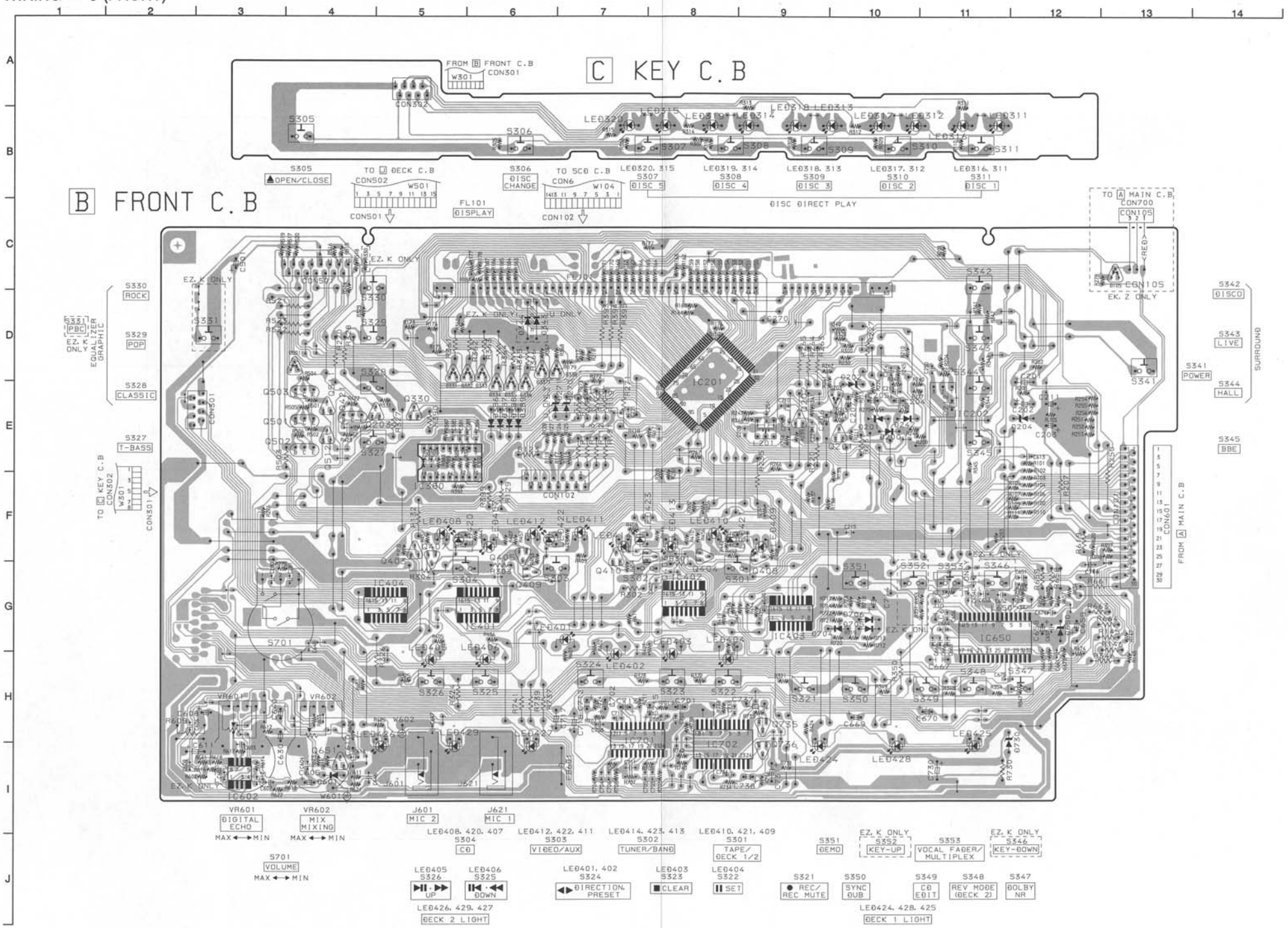


SCHEMATIC DIAGRAM – 2 (MAIN : U)

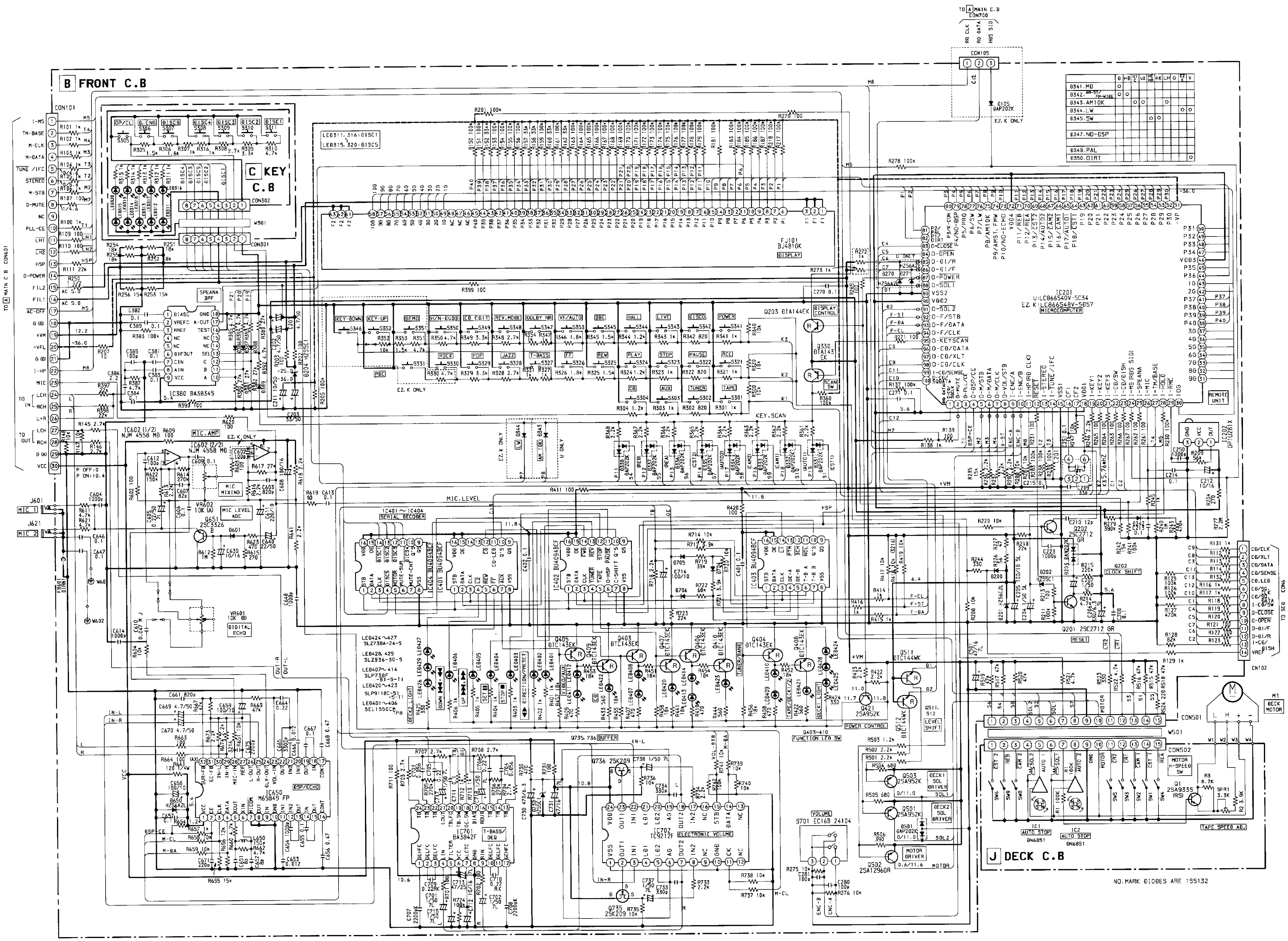


WIRING – 2 (MAIN : U)



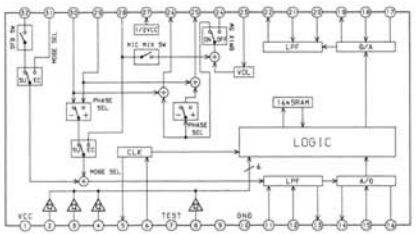

C KEY C.B
B FRONT C.B
FROM B FRONT C.B
CON301
W301
CON302
S305
OPEN/CLOSE
TO D DECK C.B
CON502
W501
CON501
S306
DISC CHANGE
TO SCB C.B
CON6
W104
CON102
FL101
DISPLAY
LED320. 315
S307
DISC 5
LED319. 314
S308
DISC 4
LED318. 313
S309
DISC 3
LED317. 312
S310
DISC 2
LED316. 311
S311
DISC 1
DISC DIRECT PLAY
TO A MAIN C.B
CON700
CON105
EK. 2 ONLY
S342
DISCO
S343
LIVE
S344
HALL
S345
BBE
S341
POWER
SURROUND
S330
ROCK
S329
POP
S328
CLASSIC
S327
T-BASS
S331
PBC
EZ. K ONLY
EQUALIZER GRAPHIC
TO C KEY C.B
CON302
W301
CON301
FROM A MAIN C.B
CON601
IC201
IC380
IC404
IC401
IC403
IC650
IC702
S701
VOLUME
MAX ↔ MIN
VR601
DIGITAL ECHO
MAX ↔ MIN
VR602
MIX MIXING
MAX ↔ MIN
J601
MIC 2
J621
MIC 1
LED408. 420. 407
S304
CD
LED412. 422. 411
S303
VIDEO/AUX
LED414. 423. 413
S302
TUNER/BAND
LED410. 421. 409
S301
TAPE/ DECK 1/2
S351
DEMO
EZ. K ONLY
S352
KEY-UP
S353
VOCAL FADER/ MULTIPLEX
EZ. K ONLY
S346
KEY-DOWN
LED405
S326
UP
LED406
S325
DOWN
LED426. 429. 427
DECK 2 LIGHT
LED401. 402
S324
DIRECTION. PRESET
LED403
S323
CLEAR
LED404
S322
SET
S321
REC/ REC MUTE
S350
SYNC DUB
S349
CD EDIT
S348
REV MODE (DECK 2)
S347
DOLBY NR
LED424. 428. 425
DECK 1 LIGHT

SCHEMATIC DIAGRAM – 3 (FRONT)

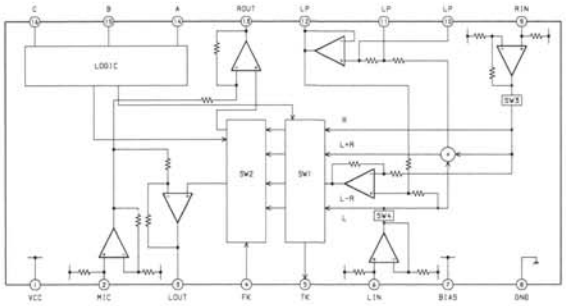


IC BLOCK DIAGRAM – 1

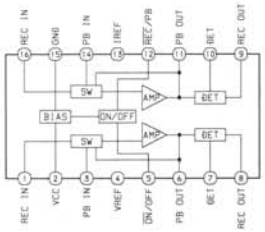
IC, M65849FP



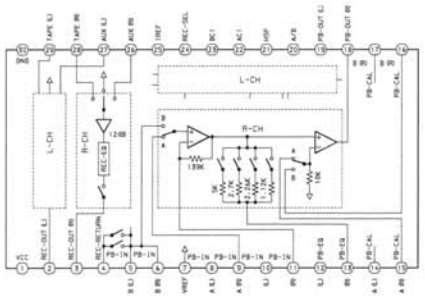
IC, BA3836



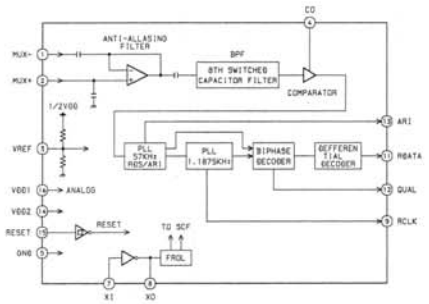
IC, HA12134A



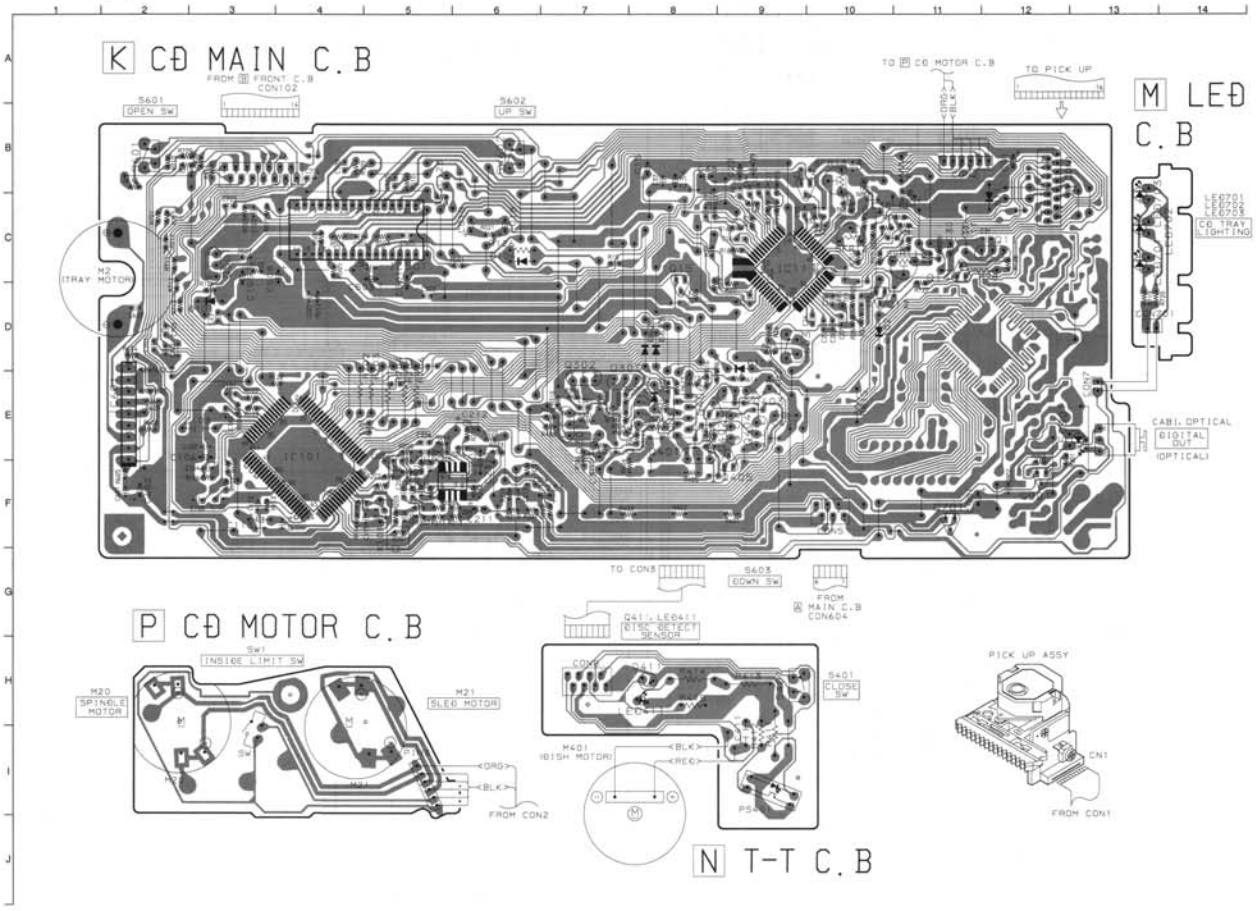
IC, HA1221NT



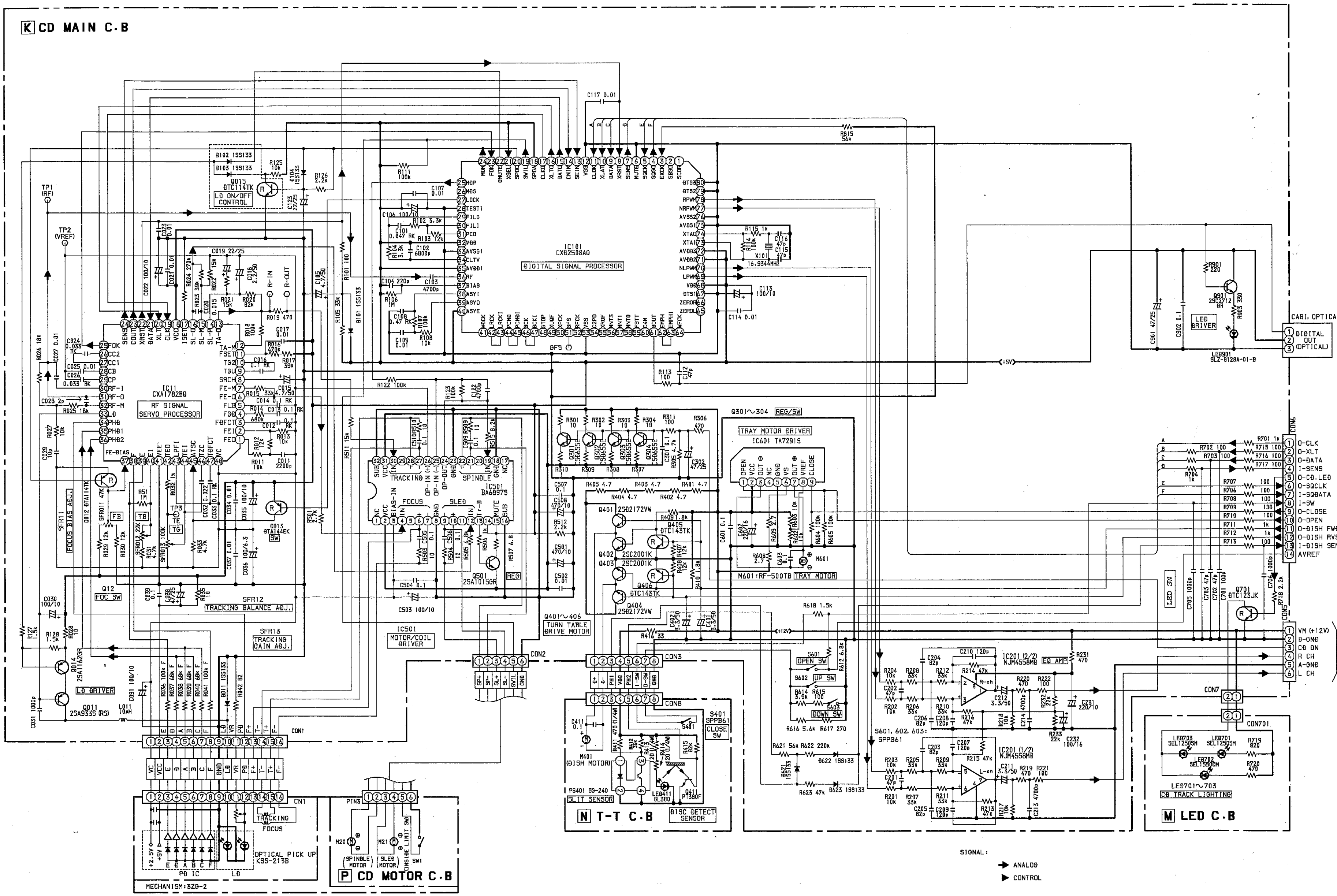
IC, BU1921FS

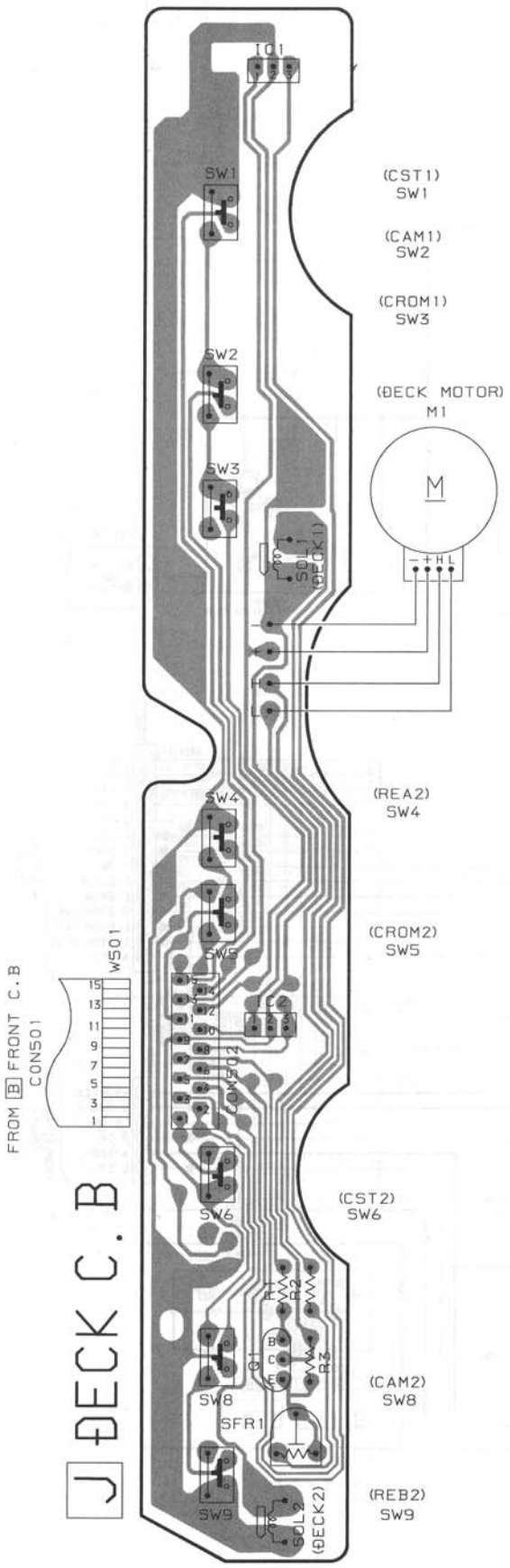


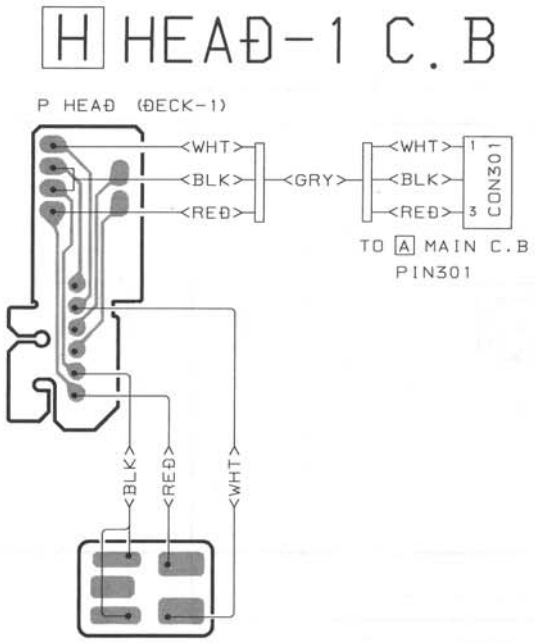
WIRING – 4 (CD)

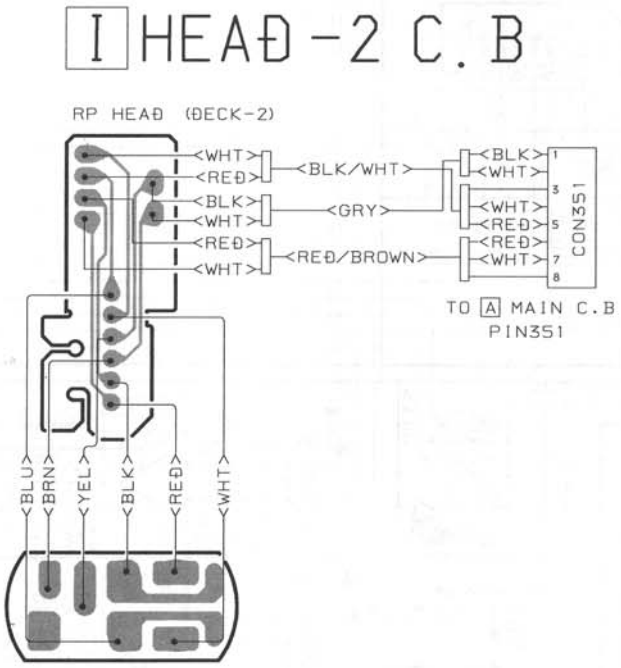


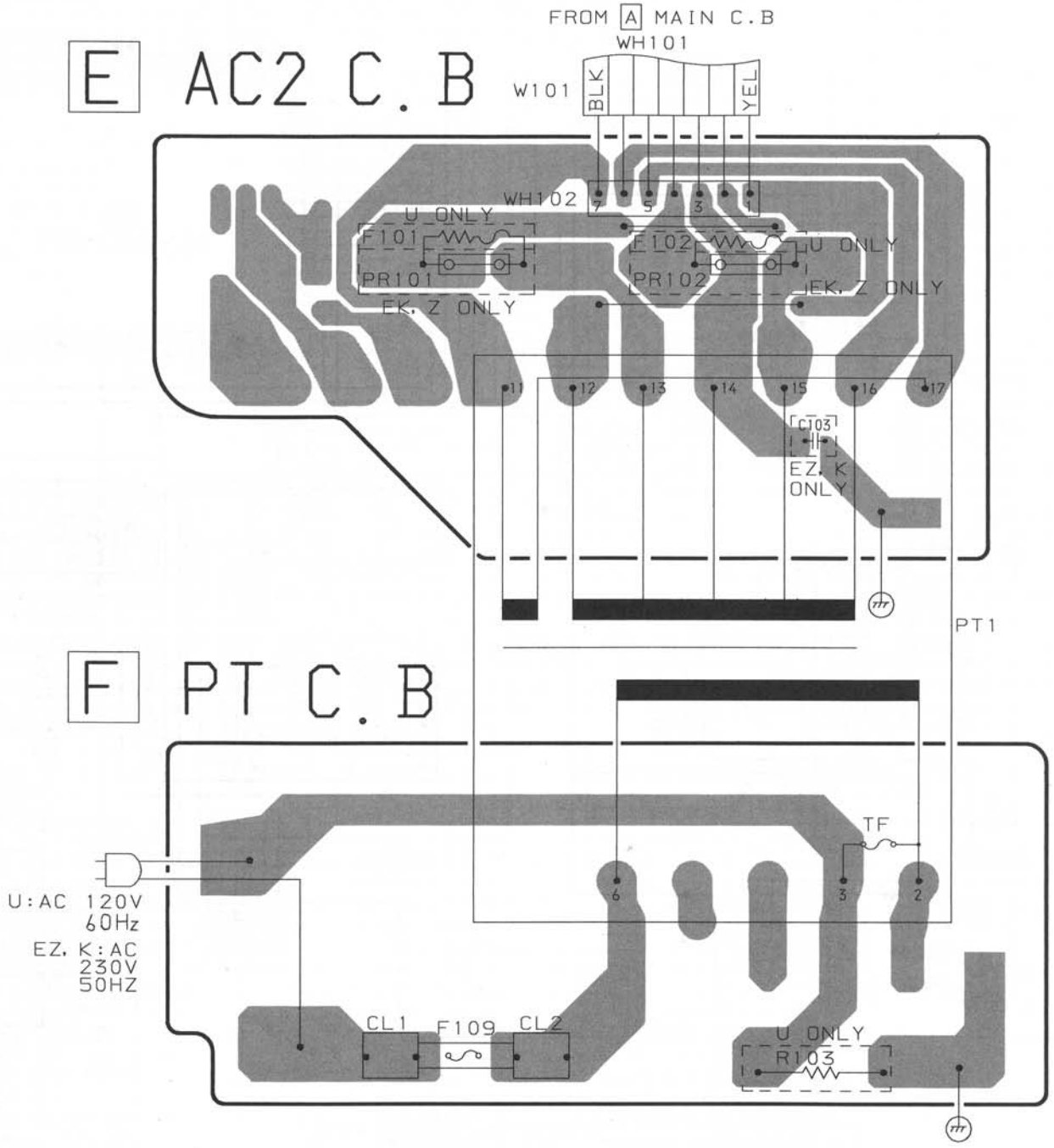
SCHEMATIC DIAGRAM – 4 (CD)




J DECK C.B
IC1
SW1
(CST1)
SW1
(CAM1)
SW2
(CROM1)
SW3
SW2
(DECK MOTOR)
M1
M
SW3
SOL1
(DECK1)
(REA2)
SW4
SW4
(CROM2)
SW5
SW5
W501
FROM B FRONT C.B
CON501
CON502
C2
SW6
(CST2)
SW6
R1
R2
R3
Q1
B
C
E
SW8
SFR1
(CAM2)
SW8
SW9
SOL2
(DECK2)
(REB2)
SW9

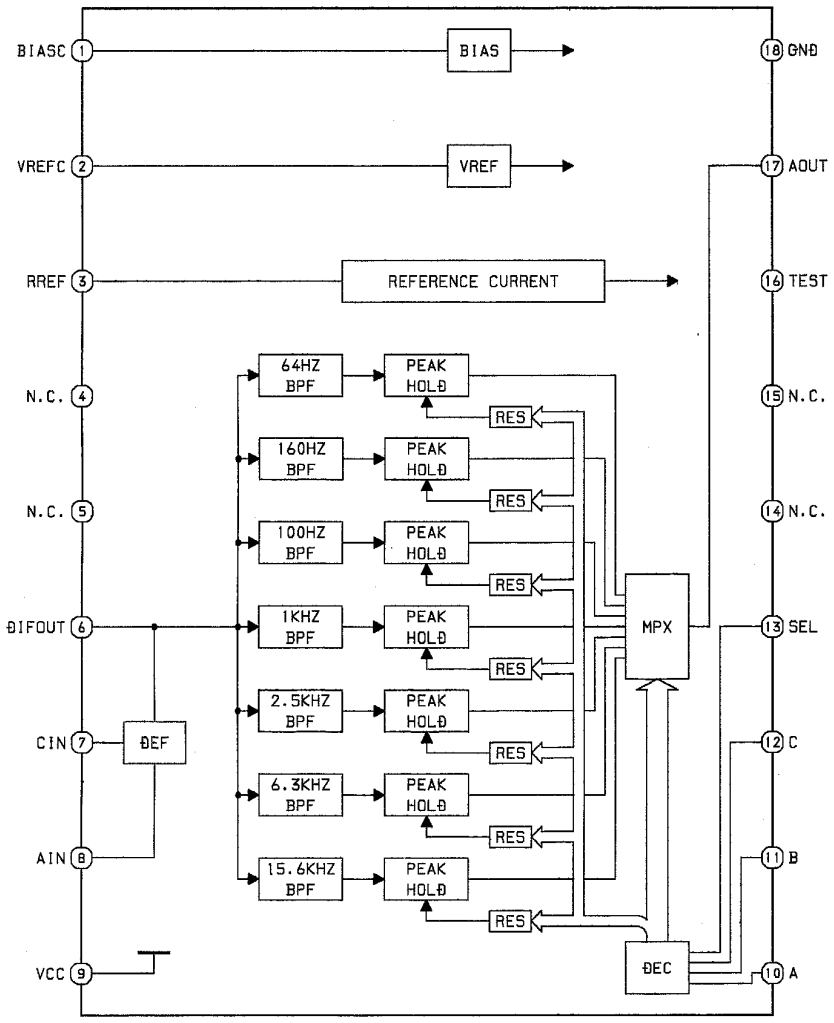

H HEAD-1 C.B
P HEAD (DECK-1)
WHT
BLK
RED
GRY
WHT
BLK
RED
CON301
TO A MAIN C.B
PIN301
BLK
RED
WHT


I HEAD-2 C.B
RP HEAD (DECK-2)
WHT
RED
BLK/WHT
BLK
WHT
GRY
RED
WHT
RED/BROWN
BLK
WHT
WHT
RED
RED
WHT
CON351
TO A MAIN C.B
PIN351
BLU
BRN
YEL
BLK
RED
WHT

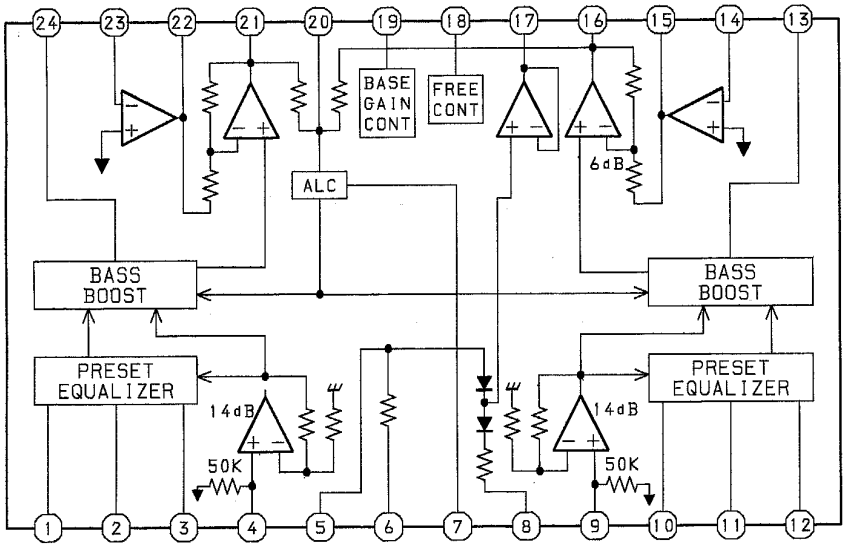

FROM A MAIN C.B
WH101
E AC2 C.B
W101
BLK
YEL
WH102
7
5
3
1
U ONLY
F101
PR101
EK, Z ONLY
F102
PR102
U ONLY
EK, Z ONLY
11
12
13
14
15
16
17
C103
EZ, K ONLY
PT1
F PT C.B
TF
6
3
2
U: AC 120V 60Hz
EZ, K: AC 230V 50HZ
CL1
F109
CL2
U ONLY
R103

IC BLOCK DIAGRAM – 2

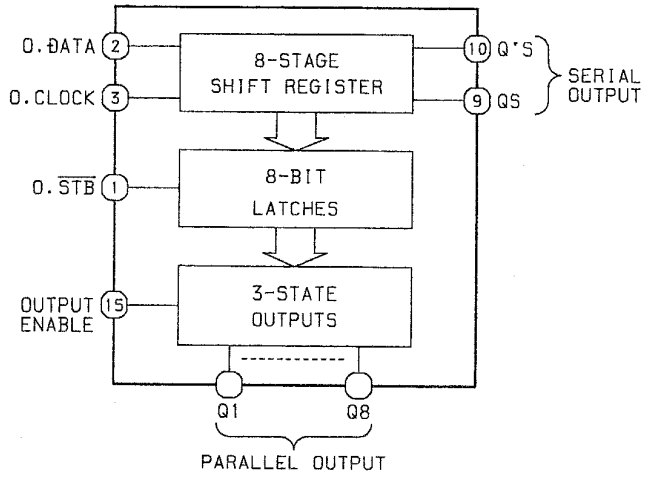
IC, BA3834S



IC, BA3842F



IC, BU4094BCF
IC, BU4094BC

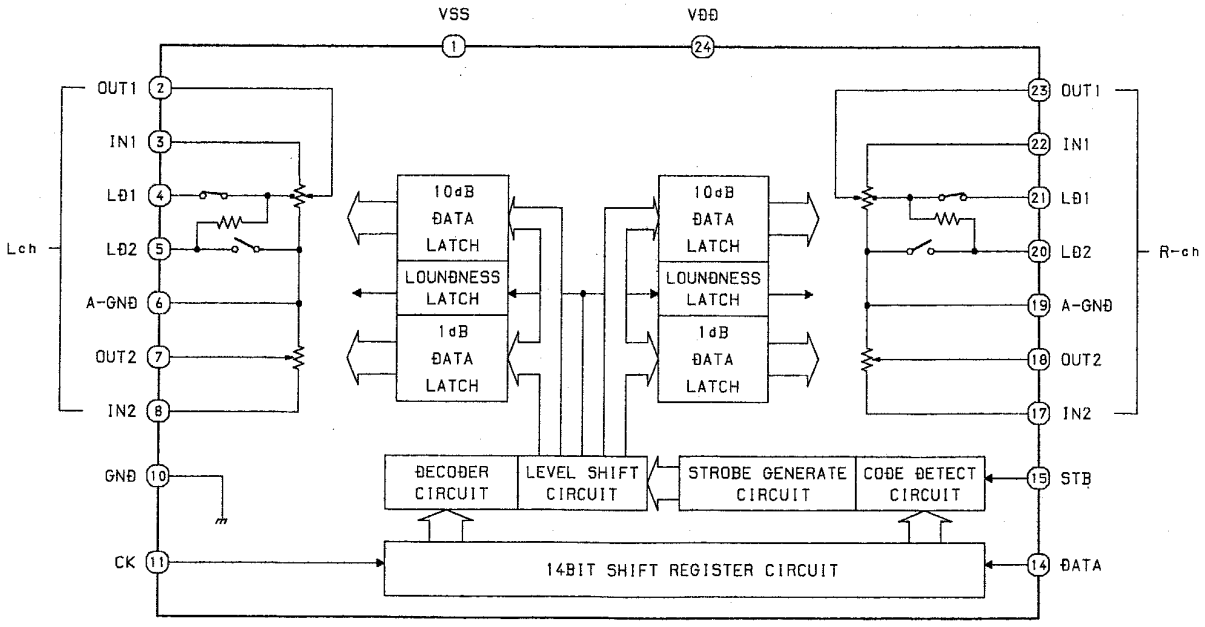


TRUTH TABLE

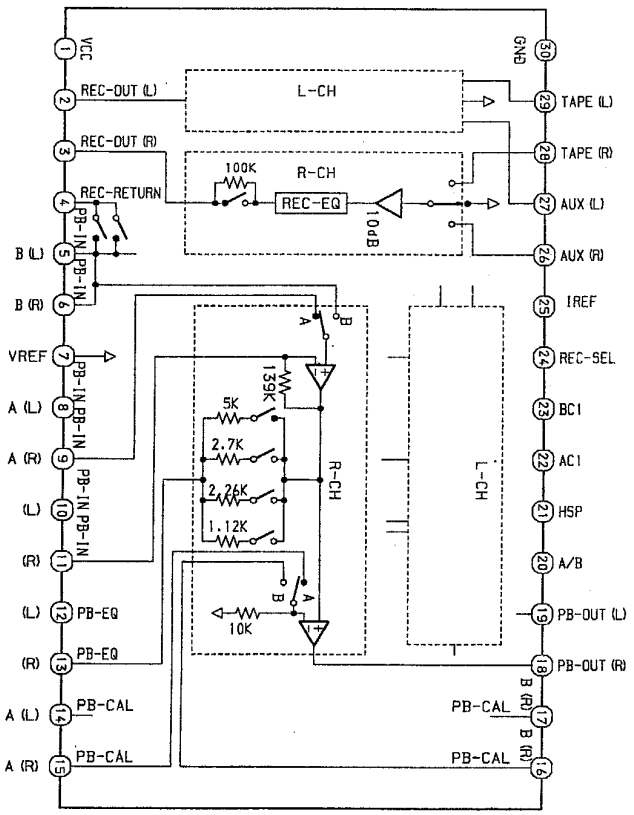
CLOCK	OUTPUT ENABLE	STROBE	DATA	PARALLEL OUTPUTS		SERIAL OUTPUTS	
				Q1	Qn	QS	Q'S
↓	L	X	X	Z	Z	Q7	NO CHG.
↑	L	X	X	Z	Z	NO CHG.	QS
↓	H	L	X	NO CHG.	NO CHG.	Q7	NO CHG.
↓	H	H	L	L	Qn-1	Q7	NO CHG.
↓	H	H	H	H	Qn-1	Q7	NO CHG.
↑	H	X	X	NO CHG.	NO CHG.	NO CHG.	QS

Z = HIGH IMPEDANCE
X = DON'T CARE

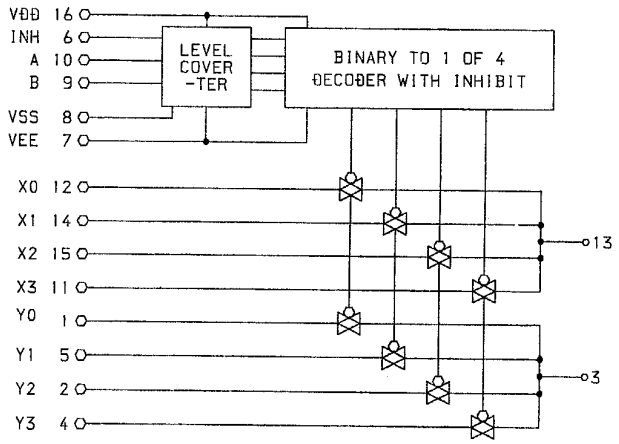
IC, TC9212F



IC, HA12185NT

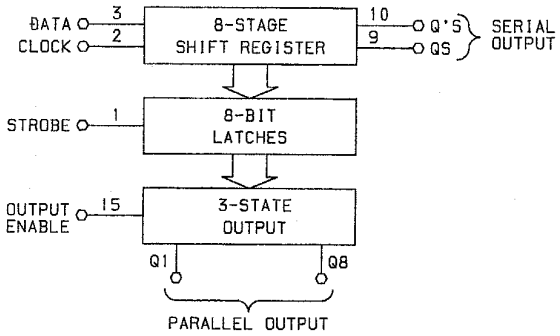


IC, BU4052BCF

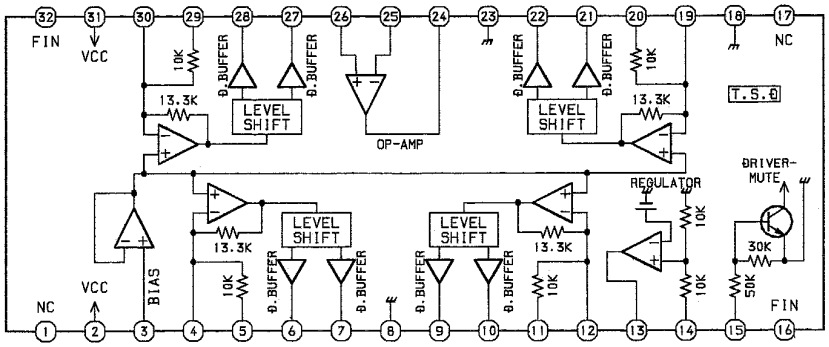


TRUTH TABLE

INHIBIT	A	B	ON SWITCH
L	L	L	X0 Y0
L	H	L	X1 Y1
L	L	H	X2 Y2
L	H	H	X3 Y3
H	X	X	NONE

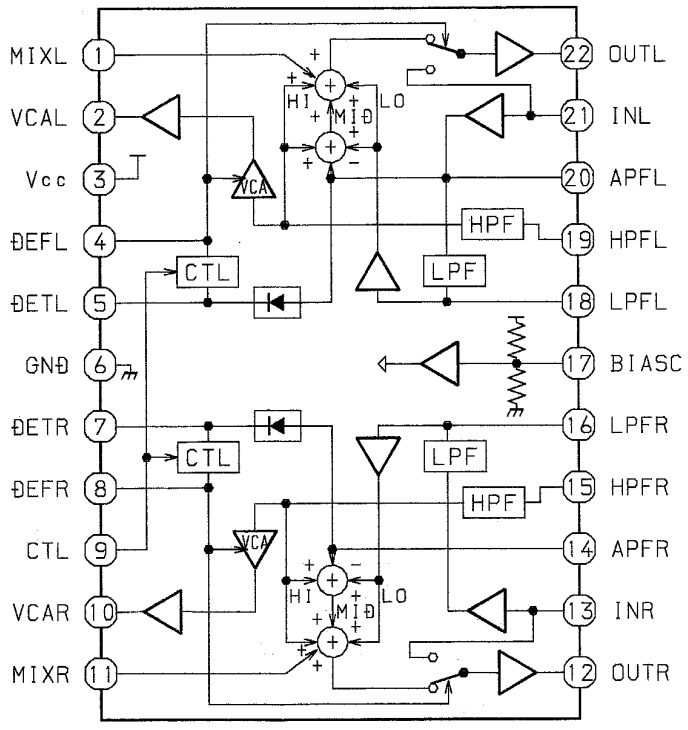


IC, BA6897S

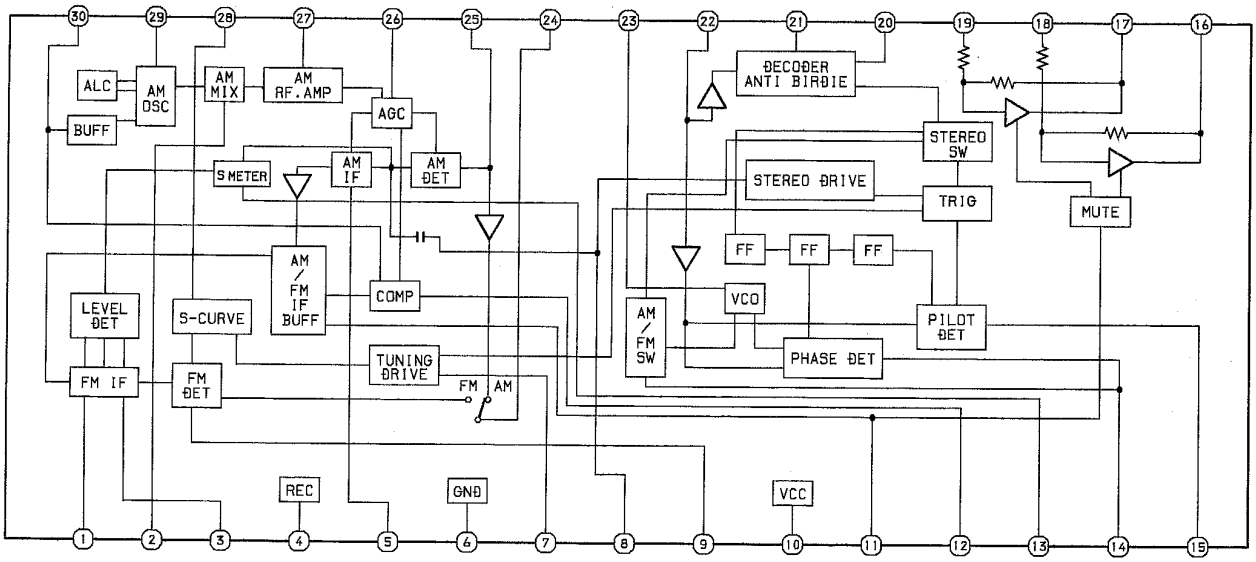


T.S.Ð: THERMAL SHUT ÐOWN CIRCUIT
Ð.BUFFER: ÐRIVE BUFFER

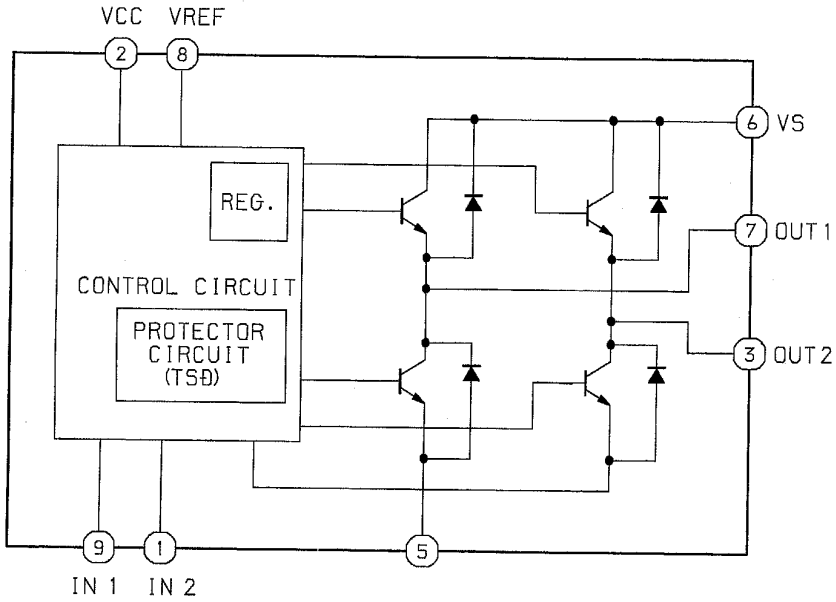
IC, BA3880S



IC, LA1836



IC, TA7291



INPUT		OUTPUT		MODE
IN1	IN2	OUT1	OUT2	
0	0	∞	∞	STOP
1	0	H	L	CW
0	1	L	H	CCW
1	1	L	L	BRAKE

∞ : HI IMPEDANCE
NOTE : INPUT "H" ACTIVE

IC DESCRIPTION

IC, CXA1782BQ

Pin No.	Pin Name	I/O	Description
1	FEO	O	Focus error amplifier output pin. This pin is connected to the FZC comparator input internally.
2	FEI	I	Focus error input pin.
3	FDFCT	I	Capacitor connection pin for time constant used when there is defect.
4	FGD	I	Corrects the focus servo high frequency gain.
5	FLB	I	This is a pin where the time constant is externally connected to raise the low frequeny gain of the focus servo.
6	FEO	O	Focus drive output.
7	FEM	I	Focus amplifier inverted input pin.
8	SRCH	I	This is a pin where the time constant is externally connected to generate the focus search waveform.
9	TGU	I	This is a pin where the selection time constant is externally connected to set the tracking servo the high frequency gain.
10	TG2	I	This is a pin where the selection time constant is externally connected to set the tracking high frequency gain.
11	FSET	I	Pin for setting peak of the phase compensator of the focus tracking.
12	TAM	I	Tracking amplifier inverted input pin.
13	TAO	O	Tracking drive output.
14	SLP	I	Sled amplifier non-inverted input pin.
15	SLM	I	Sled amplifier inverted input pin.
16	SLO	O	Sled drove output.
17	ISET	I	The current which determines height of the focus search, track jump and sled kick is input.
18	VCC	-	+5V power supply pin.
19	CLK	I	Serial data transfer clock input from CPU (CXD2518Q).
20	XLT	I	Latch input from CPU (CXD2518Q).
21	DATA	I	Serial data input from CPU (CXD2518Q).
22	XRST	I	Reset input pin. Reset at L.
23	COUT	O	Signal output to count the number of tracks.
24	SENS	O	FZC, DFCT, TZC, Gain or BAL is output depending on the command to CPU (CXD2518Q).
25	FOK	O	Output pin of the focus OK comparator.
26	CC2	O	Input pin where the DEFECT bottom hold output is capacitance coupled.
27	CC1	I	DEFECT bottom hold output pin.
28	CB	I	This is a pin where the DEFECT bottom hold capacitor is connected.
29	CP	I	This is a pin where the MIRR hold capacitor is connected and MIRR comparator non-inverted signal is input.
30	RFI	I	Input pin where the RF summing amplifier output is capacitance coupled.
31	RFO	O	RF summing amplifier output pin. (TP1)
32	RFM	I	RF summing amplifier inverted input pin. Gain of RF amplifier is determined by the resistor connected between RFO and this pin.

Pin No.	Pin Name	I/O	Description
33	LD	O	APC amplifier output pin.
34	PHD	I	APC amplifier input pin.
35~36	PHD1~2	I	RF I-V amplifier inverted input pin. These pins are connected to the A+C and B+D pins of the optical pickup.
37	BIAS	I	Bias adjustment pin of the non-inverted side of the focus error amplifier.
38~39	F-E	I	F and E IV amplifier non-inverted input pins. These pins are connected to the F and E of the optical pickup.
40	EI	-	Gain adjustment pin of the I-V amplifier E.
41	VEE	-	GND connection pin.
42	TEO	O	Tracking error amplifier output pin.
43	LPFI	I	BAL adjustment comparator input pin.
44	TEI	I	Tracking error input pin.
45	ATSC	I	Window comparator input pin for detecting ATSC.
46	TZC	I	Tracking zero-cross comparator imput pin.
47	TDFCT	I	Capacitor connection pin for the time constant used when there is defect.
48	VC	O	DC voltage output pin of VREF. (VDD/2)

IC, CDX2508AQ

Pin No.	Pin Name	I/O	Description
1	SCOR	O	Outputs a high signal when either subcode sync S0 or S1 is detected.
2	SBSO	O	Sub P to W serial output.
3	EXCK	I	SBSO readout clock input.
4	SQSO	O	Sub Q 80-bit serial output.
5	SQCK	I	SQSO readout clock input.
6	MUTE	I	High: mute; low: release.
7	SENS	O	SENS output to CPU.
8	XRST	I	System reset. Reset when low.
9	DATA	I	Serial data input from CPU.
10	XLAT	I	Latch input from CPU. Serial data is latched at the falling edge.
11	CLOK	I	Serial data transfer clock input from CPU.
12	VSS	–	GND.
13	SEIN	I	Sense input from SSP.
14	CNIN	I	Track jump count signal input.
15	DATO	O	Serial data output to SSP.
16	XLTO	O	Serial data latch output to SSP. Latched at the falling edge.
17	CLKO	O	Serial data transfer clock output to SSP.
18	SPOA	I	Microcomputer extended interface (input A).
19	SPOB	I	Microcomputer extended interface (input B).
20	SPOC	I	Microcomputer extended interface (input C).
21	XTSL	I	Crystal selection input. Low for 16.9344MHz; high for 33.8688MHz.
22	XLON	O	Microcomputer extended interface (output).
23	FOK	I	Focus OK input. Used for SENS output and the servo auto sequencer.

Pin No.	Pin Name	I/O	Description
24	MON	O	Spindle motor on/off control output.
25	MDP	O	Spindle motor servo control.
26	MDS	O	Spindle motor servo control.
27	LOCK	O	GFS is sampled at 460Hz; when GFS is high, this pin outputs a high signal. If GFS is low eight consecutive samples, this pin outputs low.
28	TEST	I	TEST pin. Normally GND.
29	FILO	O	Master PLL (slave=digital PLL) filter output.
30	FILI	I	Master PLL filter input.
31	PCO	O	Master PLL charge pump output.
32	VDD	-	Digital power supply for DSP.
33	AVSS1	-	Analog GND for DSP.
34	CLTV	I	Master PLL VCO control voltage input.
35	AVDD1	-	Analog power supply for DSP.
36	RF	I	EFM signal input.
37	BIAS	I	Constant current input of asymmetry compensation circuit.
38	ASYI	I	Comparator voltage input of asymmetry compensation circuit.
39	ASYO	O	EFM full-swing output (low=VSS, high=VDD).
40	ASYE	I	Low: asymmetry compensation off; high: asymmetry compensation on.
41	WDCK	O	D/A interface for 48-bit slot. Word clock (2Fs).
42	LRCK	O	D/A interface for 48-bit slot. LR clock (Fs).
43	LRCKI	I	LR clock input for DAC. (48-bit slot)
44	PCMD	O	D/A interface. Serial data (two's complement, MSB first).
45	PCMDI	I	Audio data input for DAC. (48-bit slot)
46	BCK	O	D/A interface. Bit clock.
47	BCKI	I	Bit clock input for DAC. (48-bit slot)
48	GTOP	O	CTOP output.
49	XUGF	O	XUGF output.
50	XPCK	O	XPLCK output.
51	GFS	O	GFS output.
52	RFCK	O	RFCK output.
53	VSS	-	GND.
54	C2PO	O	C2PO output.
55	XROF	O	ARAOF output.
56	MNT3	O	MNT3 output.
57	MNT1	O	MNT1 output.
58	MNT0	O	MNT0 output.
59	FSTT	O	2/3 frequency-divider output for Pins 73 and 74.
60	C4M	O	4.2336MHz output.
61	DOUT	O	Digital Out output.
62	EMPH	O	Outputs high signal when the playback disc has emphasis, low signal when no emphasis.
63	EMPHI	I	DAC de-emphasis on/off. High: on; low: off.

Pin No.	Pin Name	I/O	Description
64	WFCK	O	WFCK (write frame clock) output.
65	ZEROL	O	No-sound data detection output; high when no sound data is detected. (Left channel)
66	ZEROR	O	No-sound data detection output; high when no sound data is detected. (Right channel)
67	DTS1	I	Test pin 1 for DAC; normally low.
68	VDD	-	Digital power supply for DAC.
69	NLPWM	O	Left channel PWM output. (Reverse phase)
70	LPWM	O	Left channel PWM output. (Forward phase)
71	AVDD2	-	Power supply for left channel PWM driver.
72	AVDD3	-	Power supply for crystal.
73	XTAI	I	33.8688MHz crystal oscillation circuit input.
74	XTAO	O	33.8688MHz crystal oscillation circuit output.
75	AVSS3	-	GND for crystal.
76	AVSS2	-	GND for PWM driver.
77	NRPWM	O	Right channel PWM output. (Reverse phase)
78	RPWM	O	Right channel PWM output. (Forward phase)
79	DTS2	I	DAC test pin 2; normally low.
80	DTS3	I	DAC test pin 3; normally low.

IC, LC72131

Pin No.	Pin Name	I/O	Description
1	XIN	I/O	A crystal oscillator (7.2MHz) is connected between these pins.
22	XOUT		
2	NC	–	Not used.
3	CE	I	To enable the IC. Active "H".
4	DI	I	Digital data input from CPU (LC866540V-5C34)<U>,(LC866548V-5D57)<EZ,K> when relevant key is operated. Active "H".
5	CLK	I	To clock in the data DI.
6	DO	O	Digital data output to CPU (LC866540V-5C34)<U>,(LC866548V-5D57)<EZ,K>.
7	TM-BASE	O	Outputs a reference clock signal (8Hz) for the clock.
8	$\overline{\text{MONO}}$ / BEAT	O	Outputs "H" when MONO / BEAT is switched.
9	$\overline{\text{FM}}$ / AM	O	Output "L" or "H" as follows: 2 BAND: AM H, FM L 3 BAND: LW H, MW H, FM L 3 BAND: MW H, SW L, FM L
10	$\overline{\text{MW}}$	O	Outputs "L" or "H" as follows: 2 BAND: AM L, FM L 3 BAND: LW H, MW L, FM L 3 BAND: MW L, SW H, FM L
11	IF-MUTE	O	To control internal counter.
12	IFIN	I	General purpose counter input.

Pin No.	Pin Name	I/O	Description
13	$\overline{\text{TUNE}}$	I	Receives "L" when station is tuned.
14	NC	–	Not used.
15	A MIN	I	Receives the AM local oscillator frequency signal.
16	F MIN	I	Receives the FM local oscillator frequency signal.
17	VDD	–	Supply power to IC (+5V).
18	PD	O	PLL charge pump output.
19	AIN	I	The MOS transistor for PLL active low pass filter.
20	AOUT	O	
21	VSS	–	Ground.

IC, LC866540V-5C34 <U ONLY>

Pin No.	Pin Name	I/O	Description
1	O-CD/SQCLK	O	CD IC control output.
2	O-MUTE	O	System mute ON/$\overline{\text{OFF}}$.
3	O-PLL/CE	O	PLL IC chip enable output.
4	O-DSP/CE	O	DSP IC chip enable output.
5	O-M/STB	O	Main shift register, data latch strobe output.
6	O-M/DATA	O	Main shift register, PLL, DSP, E-VOL related data output.
7	O-M/CLK	O	Main shift register, PLL, DSP, E-VOL related data transfer clock output.
8	O-VOL/STB	O	E-VOL data latch strobe output.
9	I-ENC/A	I	R-ENCORDER signal input.
10	I-ENC/B	I	R-ENCORDER signal input.
11	I-HP	I	Not used. (L : surround OFF)
12	$\overline{\text{RESET}}$	I	Reset input.
13	I-$\overline{\text{STEREO}}$	I	Stereo detected input.
14	I-$\overline{\text{TUNE/IFC}}$	I	Tuner $\overline{\text{SD}}$ detection input / IF count serial data input.
15	VSS1	-	GND.
16,17	CF1,CF2	I/O	5.76MHz μ–con clock oscillator.
18	VDD1	-	Power supply input.
19~21	I-KEY1~3	I	Key 1~3 A/D input.
22	I-CD/SW	I	CD mechanism switch A/D input.
23	I-CD/DISH	I	CD turntable photosensor A/D input
24	I-MS	I	Deck MS detection A/D input.
25	I-SPEANA	I	Spectrum analyzer level A/D input.
26	I-MIC	I	Mic level A/D input for auto vacal fader.
27	I-TM/BASE	I	Reference clock input for system clock.
28	I-$\overline{\text{HOLD}}$	I	Power failure detect input.
29	I-$\overline{\text{RMC}}$	I	System remote control input. (active low)
30~37	10G~3G	O	FL grid output 10G~3G.
38~41	P40~P37	O	FL segment output P40~P37.
42,43	2G,1G	O	FL grid output 2G~1G.
44,45	P36,P35	O	FL segment output P36~P35.

Pin No.	Pin Name	I/O	Description
46	VDD3	-	Power supply input.
47~50	P34~P31	O	FL segment output P34~P31.
51	VP	-	Power supply input for FL display.
52~60	P30~P22	O	FL segment output P30~P22.
61	P21/SPEANA A	I/O	FL segment output P21 / spectrum analyzer band select output A.
62	P20/SPEANA B	I/O	FL segment output P20 / spectrum analyzer band select output B.
63	P19/SPEANA C	I/O	FL segment output P19 / spectrum analyzer band select output C.
64	P18/$\overline{\text{CST1}}$	I/O	FL segment output P18 / DECK1 cassette sensed switch input.
65	P17/$\overline{\text{AUTO1}}$	I/O	FL segment output P17 / DECK1 auto stop input.
66	P16/$\overline{\text{CAM1}}$	I/O	FL segment output P16 / DECK1 cam switch input.
67	P15/$\overline{\text{CAM2}}$	I/O	FL segment output P15 / DECK2 cam switch input.
68	P14/$\overline{\text{AUTO2}}$	I/O	FL segment output P14 / DECK2 auto stop input.
69	P13/$\overline{\text{CST2}}$	I/O	FL segment output P13 / DECK2 cassette sensed switch input.
70	P12/$\overline{\text{REA}}$	I/O	FL segment output P12 / DECK2 side-A record OK switch input.
71	P11/$\overline{\text{REB}}$	I/O	FL segment output P11 / DECK2 side-B record OK switch input.
72	VDD4	-	Power supply input.
73	P10/NO-ECHO	I/O	FL segment output P10.
74	P9/AMST,FMW	I/O	FL segment output P9.
75	P8/AM10K	I/O	FL segment output P8.
76	P7/LW	I/O	FL segment output P7.
77	P6/SW	I/O	FL segment output P6.
78	P5/PRO	I /O	FL segment output P5.
79	P4/NO-DSP	I /O	FL segment output P4.
80	P3/K-CON	I /O	FL segment output P3.
81	P2/PAL	I/O	FL segment output P2.
82	P1/OIRT	I/O	FL segment output P1.
83	O-$\overline{\text{CLOSE}}$	O	CD tray close output.
84	O-$\overline{\text{OPEN}}$	O	CD tray open output.
85	O-DI/R	O	CD turntable reverse rotation output.
86	O-DI/F	O	CD turntable forward ratation output.
87	O-$\overline{\text{POWER}}$	O	System power $\overline{\text{ON}}$/OFF output.
88	O-$\overline{\text{SOL1}}$	O	DECK1 plunger $\overline{\text{ON}}$/OFF output.
89	VSS2	-	GND terminal.
90	VDD2	-	Power supply input.
91	O-$\overline{\text{SOL2}}$	O	DECK2 plunger $\overline{\text{ON}}$/OFF output.
92	O-F/STB	O	Front shift register data latch strobe output.
93	O-F/DATA	O	Front shift register data output.
94	O-F/CLK	O	Front shift register data transfer clock output.
95	O-$\overline{\text{KEYSCAN}}$	O	Scan output for digital input.
96	O-CD/DATA	O	CD IC control output.
97	O-CD/XLT		
98	O-CD/CLK		

Pin No.	Pin Name	I/O	Description
99	O-CD/SENSE	O	CD control input.
100	O-CD/SQDATA	O	CD IC control output.

IC, LC866548V-5D57 <EZ,K ONLY>

Pin No.	Pin Name	I/O	Description
1	I-RD DATA	O	RDS data input (TUNER).
2	O-MUTE	O	System mute ON/$\overline{\text{OFF}}$.
3	O-PLL/CE	O	PLL IC chip enable output.
4	O-DSP/CE	O	DSP IC chip enable output.
5	O-M/STB	O	Main shift register, data latch strobe output.
6	O-M/DATA	O	Main shift register, PLL, DSP, E-VOL related data output.
7	O-M/CLK	O	Main shift register, PLL, DSP, E-VOL related data transfer clock output.
8	O-VOL/STB	O	E-VOL data latch strobe output.
9	I-ENC/A	I	R-ENCORDER signal input.
10	I-ENC/B	I	R-ENCORDER signal input.
11	I-RD CLK	I	RDS clock input (TUNER).
12	$\overline{\text{RESET}}$	I	Reset input.
13	I-$\overline{\text{STEREO}}$	I	Stereo detected input.
14	I-$\overline{\text{TUNE/IFC}}$	I	Tuner $\overline{\text{SD}}$ detection input / IF count serial data input.
15	VSS1	-	GND.
16,17	CF1,CF2	I/O	5.76MHz μ-con clock oscillator.
18	VDD1	-	Power supply input.
19~21	I-KEY1~3	I	Key 1~3 A/D input.
22	I-CD/SW	I	CD mechanism switch A/D input.
23	I-CD/DISH	I	CD turntable photosensor A/D input
24	I-RDS SIG	I	RDS Signal input (TUNER).
25	I-SPEANA	I	Spectrum analyzer level A/D input.
26	I-MIC	I	Mic level A/D input for auto vacal fader.
27	I-TM/BASE	I	Reference clock input for system clock.
28	I-$\overline{\text{HOLD}}$	I	Power failure detect input.
29	I-$\overline{\text{RMC}}$	I	System remote control input. (active low)
30~37	10G~3G	O	FL grid output 10G~3G.
38~41	P40~P37	O	FL segment output P40~P37.
42,43	2G,1G	O	FL grid output 2G~1G.
44,45	P36,P35	O	FL segment output P36~P35.
46	VDD3	-	Power supply input.
47~50	P34~P31	O	FL segment output P34~P31.
51	VP	-	Power supply input for FL display.
52~60	P30~P22	O	FL segment output P30~P22.
61	P21/SPEANA A	I/O	FL segment output P21 / spectrum analyzer band select output A.
62	P20/SPEANA B	I/O	FL segment output P20 / spectrum analyzer band select output B.
63	P19/SPEANA C	I/O	FL segment output P19 / spectrum analyzer band select output C.

Pin No.	Pin Name	I/O	Description
64	P18/$\overline{\text{CST1}}$	I/O	FL segment output P18 / DECK1 cassette sensed switch input.
65	P17/$\overline{\text{AUTO1}}$	I/O	FL segment output P17 / DECK1 auto stop input.
66	P16/$\overline{\text{CAM1}}$	I/O	FL segment output P16 / DECK1 cam switch input.
67	P15/$\overline{\text{CAM2}}$	I/O	FL segment output P15 / DECK2 cam switch input.
68	P14/$\overline{\text{AUTO2}}$	I/O	FL segment output P14 / DECK2 auto stop input.
69	P13/$\overline{\text{CST2}}$	I/O	FL segment output P13 / DECK2 cassette sensed switch input.
70	P12/$\overline{\text{REA}}$	I/O	FL segment output P12 / DECK2 side-A record OK switch input.
71	P11/$\overline{\text{REB}}$	I/O	FL segment output P11 / DECK2 side-B record OK switch input.
72	VDD4	-	Power supply input.
73	P10/NO-ECHO	I/O	FL segment output P10.
74	P9/AMST,FMW	I/O	FL segment output P9.
75	P8/AM10K	I/O	FL segment output P8.
76	P7/LW	I/O	FL segment output P7.
77	P6/SW	I/O	FL segment output P6.
78	P5/PRO	I /O	FL segment output P5.
79	P4/NO-DSP	I /O	FL segment output P4.
80	P3/K-CON	I /O	FL segment output P3.
81	P2/PAL	I/O	FL segment output P2.
82	P1/OIRT	I/O	FL segment output P1.
83	O-$\overline{\text{CLOSE}}$	O	CD tray close output.
84	O-$\overline{\text{OPEN}}$	O	CD tray open output.
85	O-DI/R	O	CD turntable reverse rotation output.
86	O-DI/F	O	CD turntable forward ratation output.
87	O-$\overline{\text{POWER}}$	O	System power $\overline{\text{ON}}$/OFF output.
88	O-$\overline{\text{SOL1}}$	O	DECK1 plunger $\overline{\text{ON}}$/OFF output.
89	VSS2	-	GND terminal.
90	VDD2	-	Power supply input.
91	O-$\overline{\text{SOL2}}$	O	DECK2 plunger $\overline{\text{ON}}$/OFF output.
92	O-F/STB	O	Front shift register data latch strobe output.
93	O-F/DATA	O	Front shift register data output.
94	O-F/CLK	O	Front shift register data transfer clock output.
95	O-$\overline{\text{KEYSCAN}}$	O	Scan output for digital input.
96	O-CD/DATA		CD IC control output.
97	O-CD/XLT	O	
98	O-CD/CLK		
99	O-CD/SENSE	O	CD control input.
100	O-CD/SQDATA	O	CD IC control output.

PRACTICAL SERVICE FIGURE

<TUNER SECTION>

<FM SECTION>

IHF Sensitivity :	3dB ± 6dB
(THD 3%)	[at 87.5 / 98.0MHz]<U>
	6dB ± 6dB
	[at 108.0MHz]<U>
	8dB +6/–10dB
	[at 87.5 / 98.0MHz]<EZ,K>
	10dB +6/–10dB
	[at 108.0MHz]<EZ,K>
S/N 50dB Quieting sensitivity :	
	Less than 28dB<U>
	[at 87.5 / 98.0 / 108.0MHz]<U>
	Less than 39dB<EZ,K>
	[at 87.5 / 98.0 / 108.0MHz]<EZ,K>
Signal to noise ratio :	MONO
	More than 60dB<EZ,K>
	[at 98.0MHz]
	More than 62dB<U>
	[at 98.0MHz]
	STEREO
	More than 64dB<U>
	[at 98.0MHz]
Distortion :	MONO
	Less than 1.3%
	[at 98.0MHz]
	STEREO
	Less than 2.0%
	[at 98.0MHz]
Auto stop level :	30dB ± 10dB [at 98.0MHz]<EZ,K>
	20dB ± 10dB [at 98.0MHz]<U>
Stereo separation :	More than 20dB [at 98.0MHz]<EZ,K>
	More than 25dB [at 98.0MHz]<U>
Intermediate frequency :	10.7MHz

<AM(MW) SECTION>

Sensitivity :	52 ~ 62dB
(S/N 20 dB)	[at 603kHz (EZ,K)]
	[at 600kHz (U)]
	48 ~ 58dB
	[at 999kHz (EZ,K)]
	[at 1000kHz (U)]
	48 ~ 58dB
	[at 1404kHz (EZ,K)]
	[at 1400kHz (U)]
Signal to noise ratio :	More than 35dB
	[at 999kHz (EZ,K)]
	[at 1000kHz (U)]
Distortion :	Less than 1.5%
	[at 999kHz (EZ.K)]
	[at 1000kHz (U)]
Auto stop level :	55dB +10 /–15 dB
	[at 999kHz (EZ.K)]
	[at 1000kHz (U)]
Intermediate frequency :	450kHz

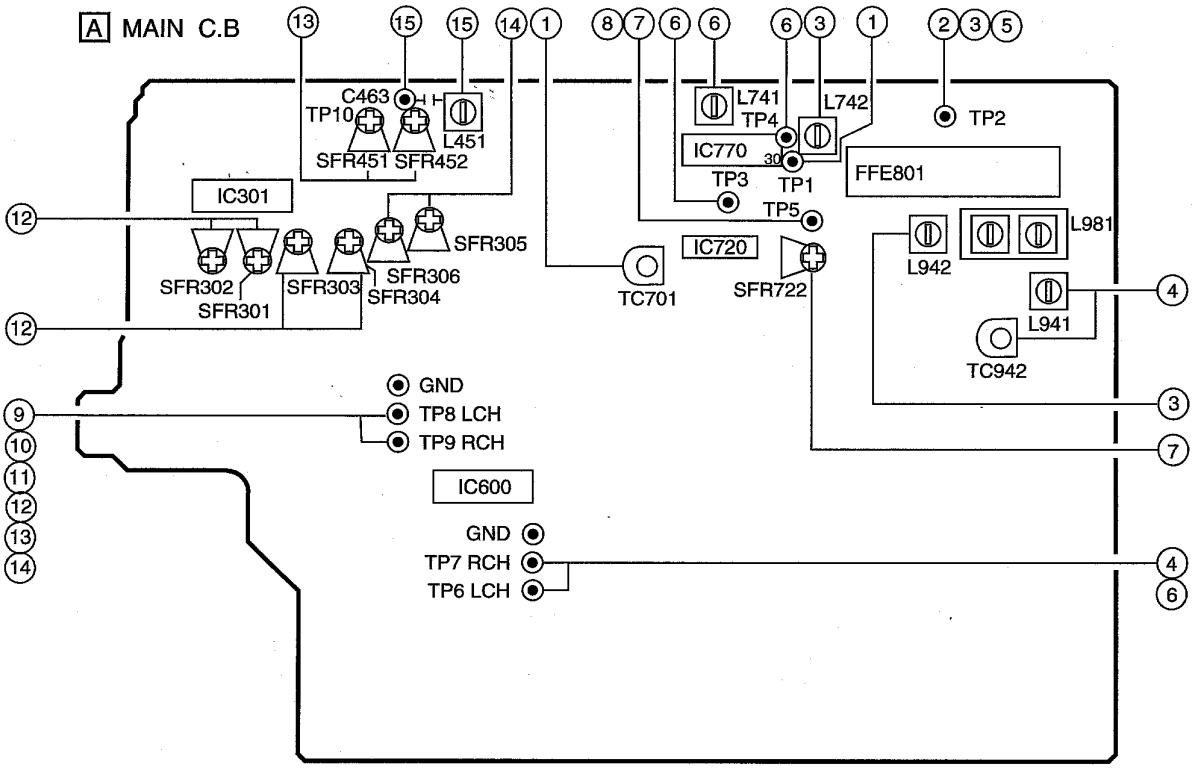
<LW SECTION>(EZ,K)

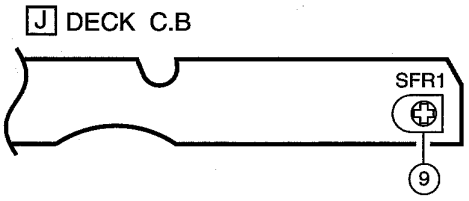
Sensitivity:	59~69dB (144kHz)
(S/N 20dB)	57~67dB (198kHz)
	55~65dB (290kHz)
Distortion:	Less than 1.4% (198kHz)
Intermediate frequency:	450kHz

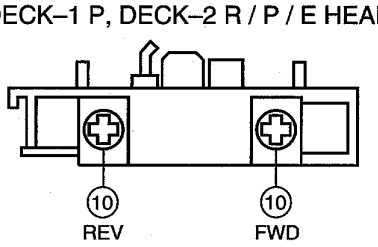
<DECK SECTION>

Tape speed :	3000Hz ± 45Hz
Wow & flutter :	Less than 0.15%
	(W.R.M.S)
Take-up torque :	30 ~ 55g-cm
	(FWD, REV)
F.F & REW torque :	75 ~ 180g-cm
Back tension :	2 ~ 7g-cm
	(FWD, REV)
PB output level :	2.8V ± 2dB
	(SP OUT 2V)
REC/PB output level :	1.6V ± 2dB
	(SP OUT 2V)
Distortion (REC/PB) :	Less than 2.0%
	(NORM, CrO_2)
Noise level (PB) :	Less than 200mV/150mV
	(NORM, SP OUT 2V, DOLBY OFF/B ON)
	Less than 180mV/120mV
	(CrO_2, SP OUT 2V, DOLBY OFF/B ON)
Noise level (REC/PB) :	Less than 200mV/150mV
	(NORM, SP OUT 2V, DOLBY OFF/B ON)
	Less than 190mV/130mV
	(CrO_2, SP OUT 2V, DOLBY OFF/B ON)
Crosstalk :	More than 58dB
	(1kHz, 0VU)
Channel separation :	More than 45dB
	(1kHz, 0VU)
Erasing ratio :	More than 60dB
	(at 125Hz, 10VU)
Test tape :	TTA–602 (NORMAL)
	TTA–615 (CrO_2)

ADJUSTMENT - 1 <TUNER / DECK>







< TUNER SECTION >

1. Clock Frequency Adjustment
   Settings : • Test point : TP1 (CLK IC770 pin30)
   • Adjustment location : TC701
   Method : Set to MW 1710kHz (U),1602kHz (EZ,K) and adjust TC701 so that the test point becomes 2160kHz ± 0.01kHz (U),2052 ± 0.01kHz (EZ,K).

2. MW VT Check
   Settings : • Test point : TP2 (VT)
   Method : Set to MW 1710kHz (U), 1602kHz (EZ,K) and check that the test point is 7.0V ± 1.0V (U),6.8V ± 1.0V (EZ,K).

3. LW VT Adjustment <EZ,K>
   Settings : • Test point : TP2 (VT)
   • Adjustment location : L942
   Method : Set to LW 144kHz and adjust L942 so that the test point becomes 1.3V ± 0.05V.

4. LW Tracking Adjustment <EZ,K>
   Settings : • Test point : TP6, TP7
   • Adjustment location :
   L941 ..... 144kHz
   TC942 ..... 290kHz
   Method : Set up TC942 to center before adjustment. The level at 144kHz is adjusted to MAX by L941. Then the level at 290kHz is adjusted to MAX by TC942.

5. FM VT Check
   Settings : • Test point : TP2 (VT)
   Method : Set to FM 87.5MHz, 108.0MHz and check that the test point is more than 1.3V (87.5MHz) and less than 8.0V (108.0MHz).

6. DC Balance / Mono Distortion Adjustment
   Settings : • Test point : TP3, TP4 (DC balance)
   : TP6, TP7 (Distortion)
   • Adjustment location : L741
   • Input level : 54dB
   Method : Set to FM 98.0MHz and adjust L741 so that the voltage between TP3 and TP4 becomes 0V ± 0.04V.
   Next, check that the distortion is less than 1.3%.

7. Auto Stop Level Adjustment
   Settings : • Test point : TP5
   • Adjustment location : SFR722
   • Input level : 16dB
   Method : Set to FM 98.0 MHz and adjust voltage low (about 0.01V) by SFR722. After that voltage high (about 7.0V) by 2dB down.

8. Auto Stop Level Check
   MW
   Settings : • Test point : TP5
   • Input level : 50dB
   Method : Set to MW 1000kHz (U), MW 999kH (EZ,K) and check that the test point is 45 ~ 65dB.

   FM
   Settings : • Test point : TP5
   • Input level : 18dB
   Method : Set to FM 98.0MHz and check that the test point is 20 dB ± 5 dB.

< DECK SECTION >

9. Tape Speed Adjustment
   Settings : • Test tape : TTA–100
   • Test point : TP8, TP9
   • Adjustment location : SFR1
   Method : Play back the test tape and adjust SFR1 so that the frequency counter reads 3000Hz ± 5Hz.

10. Head Azimuth Adjustment
    Settings : • Test tape : TTA–300
    • Test point : TP8, TP9
    • Adjustment location : Head azimuth adjustment screw
    Method : Play back the 10kHz signal of the test tape and adjust screw so that the output becomes maximum. Next,perform on each FWD and REV PLAYmode.

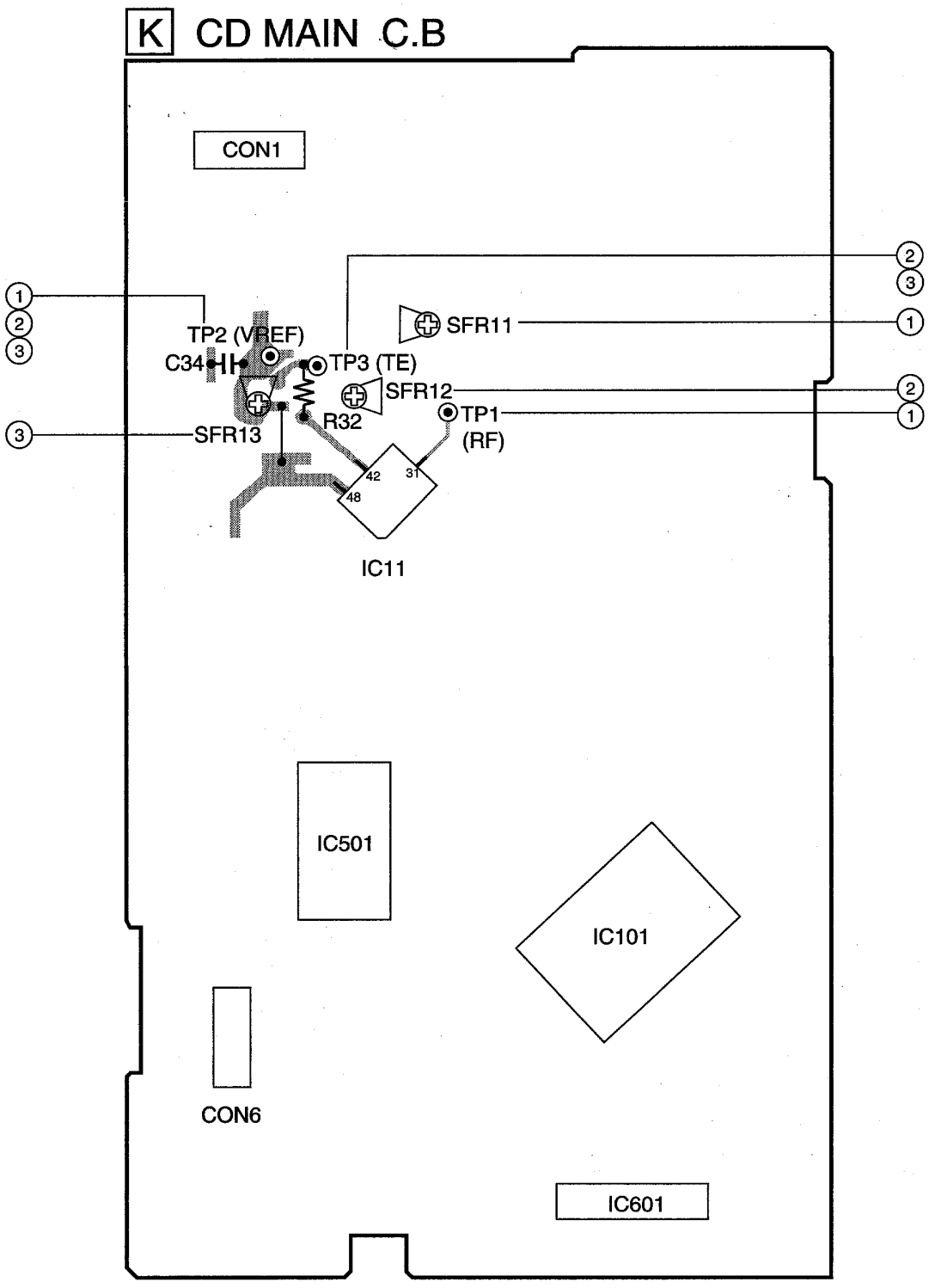
11. PB Frequency Response Check (DECK 1, DECK 2)
    Settings : • Test tape : TTA–300
    • Test point : TP8, TP9
    Method : Play back the 315Hz and 10kHz signals of the test tape and check that the output ratio of the 10kHz signal with respect to that of the 315Hz signal is ±2dB.

12. PB Sensitivity Adjustment (DECK 1, DECK 2)
    Settings : • Test tape : TTA–200
    • Test point : TP8, TP9
    • Adjustment location :
    SFR301 (DECK 1, Lch)
    SFR302 (DECK 1, Rch)
    SFR303 (DECK 2, Lch)
    SFR304 (DECK 2, Rch)
    Method : Play back the test tape and adjust SFRs so that the output level of the test point becomes 300mV ± 10mV.

13. REC/PB Frequency Response Adjustment
    Settings : • Test tape : TTA–602
    • Test point : TP8, TP9
    • Input signal : 1kHz / 10kHz (LINE IN)
    • Adjustment location : SFR451 (Lch)
    SFR452 (Rch)
    Method : Apply a 1kHz signal and REC mode. Then adjust OSC attenuator so that the output level at the TP8, TP9 becomes 17mV. Record and play back the 1kHz and 10kHz signals and adjust SFRs so that the output of the 10kHz signals becomes 0dB ± 0.5dB with respect to that of the 1kHz signal.

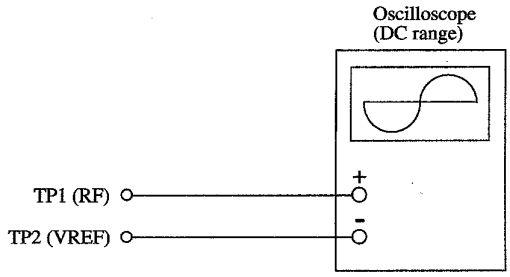
14. REC/PB Sensitivity Adjustment
    Settings : • Test tape : TTA–602
    • Test point : TP8, TP9
    • Input signal : 1kHz (LINE IN)
    • Adjustment location : SFR305 (Lch)
    SFR306 (Rch)
    Method : Apply a 1kHz signal and REC mode. Then adjust OSC attenuator so that the output level at the TP8, TP9 becomes 17mV. Record and play back the 1kHz signals and adjust SFRs so that the output is 0 ± 0.5dB.

15. Bias OSC Frequency Adjustment
    Settings : • Test tape : TTA–615
    • Test point : TP10 (C463)
    • Adjustment location : L451
    Method : Set to the REC mode. Adjust L451 so that the frequency counter of the test point becomes 85kHz ± 1kHz.


K CD MAIN C.B
CON1
TP2 (VREF)
C34
TP3 (TE)
SFR11
SFR12
R32
TP1
(RF)
SFR13
42
31
48
IC11
IC501
IC101
CON6
IC601

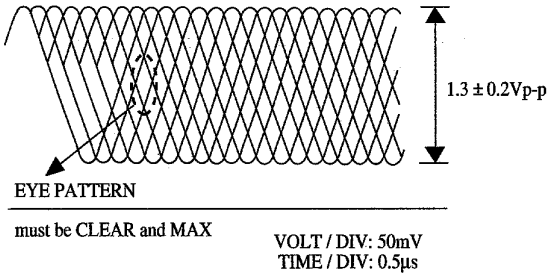
Note :
Connect a probe (10:1) of the oscilloscope or the frequency counter to a test point TP2(VREF).

1. Focus Bias Adjustment
   Make the focus bias adjustment when replacing and repairing the optical block.

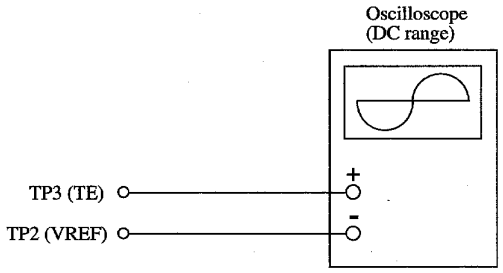


1) Connect an oscilloscope to the test points TP1 (RF) and TP2 (VREF).
2) Turn on the power switch.
3) Insert test disc TCD-782 (YEDS-18) and play back the second composition.
4) Adjust SFR11 so that RF signal of the test point TP1 (RF) is MAX and CLEARREST.

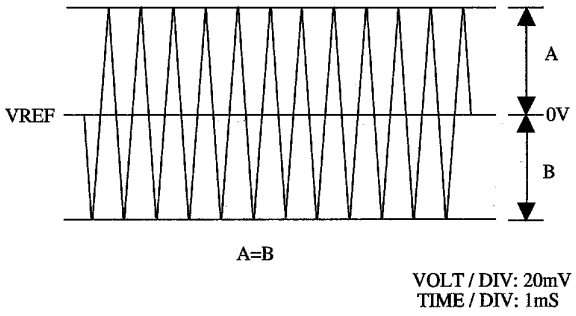
RF signal waveform



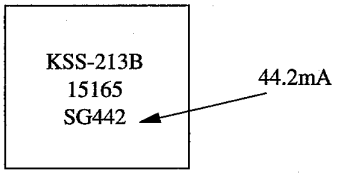
2. Tracking Balance Adjustment



1) Connect an oscilloscope to the test points TP3 (TE) and TP2 (VREF).
2) Active the CD test mode.
3) Insert test disc TCD-782 (YEDS-18) and set the traverse mode (No.4) of CD test mode.
4) Adjust SFR12 so that the waveform on the oscilloscope is vertically symmetrical as shown in the figure below.
5) After the adjustment is completed, remove the connected lead wires from the terminals.



Note:
The current of the laser signal can be checked with the voltages on both sides of R28 (10Ω). The difference for the specified value shown on the level must be within ± 6.0mA.



Laser current Iop = $\frac{\text{Voltage across R28}}{10\Omega}$

3. Tracking Gain Adjustment
A servo 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. Focus/tracking gain determines the pick-up follow-up (vertical and horizontal) relative to mechanical noise and mechanical shock when 2-axis device operates. However, as these gains are reciprocate, the adjustment is performed at the point where both gains are satisfied.

- When gain is raised, the noise increases when the 2-axis device operates increases.
- When gain is lowered, it is more susceptible to mechanical shock and skipping occurs more easily.

When the gain adjustment is not satisfied, the symptoms below appear.

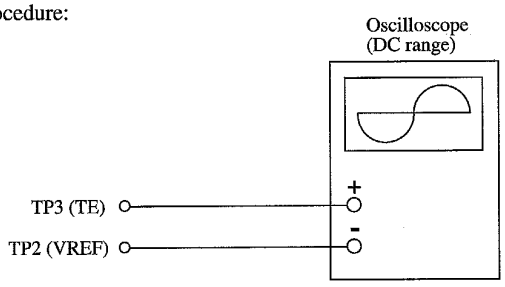
Symptoms \ Gain	(Focus)	Tracking
• The time until music starts becomes longer for STOP → ▶PLAY or automatic selection (⏮, ⏭ buttons pressed.) (Normally takes about 2 seconds.)	low	low or high
• Music does not start and disc continues to rotate for STOP → ▶PLAY or automatic selection (⏮, ⏭ buttons pressed.)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

The following is simple adjustment method.

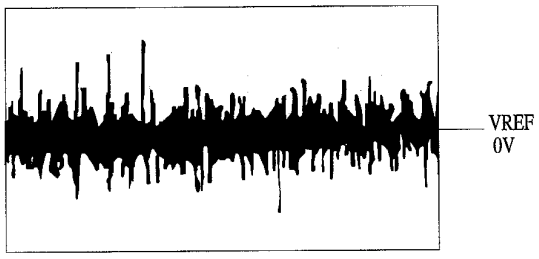
– Simple adjustment –

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.

Procedure:



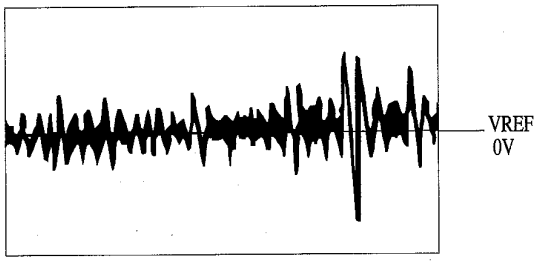
1) Keep the set horizontal. (If the set is not kept horizontally,
this adjustment cannot be performed due to the gravity against the 2-axis device.)
2) Insert test disc TCD-782 (YEDS-18) and play back the second composition.
3) Connect an oscilloscope to TP2 (VREF) and TP3(TE).
4) Adjust SFR13 so that the waveform appears as shown in the figure below.
(tracking gain adjustment)



VOLT/DIV: 50 mV
TIME/DIV: 1 mS

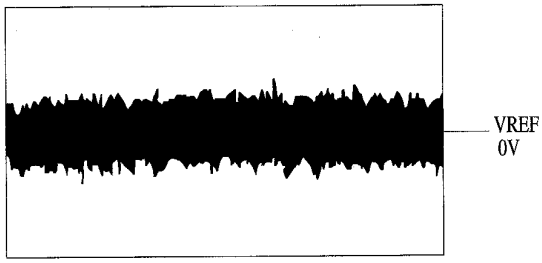
- Incorrect example

Low tracking gain
(The fundamental wave appears as compared with the waveform adjusted)



VOLT/DIV: 50 mV
TIME/DIV: 1 mS

High tracking gain
(The frequency of the fundamental wave is higher than in low gain)



VOLT/DIV: 50 mV
TIME/DIV: 1 mS

TEST MODE

1. How to Activate CD Test Mode
1) Insert the AC plug while pressing the function CD button. All FL display tubes will light up, and the test mode will be activated.

2. How to cancel CD Test Mode
Either one of the following operations will cancel the CD test mode.
- Press the function button (except CD button).
- Press the power switch button. • Disconnect the AC plug.

3. CD Test Mode Functions
When test mode is activated, the following mode functions from No. 1 to No. 5 can be used by pressing the operation keys.

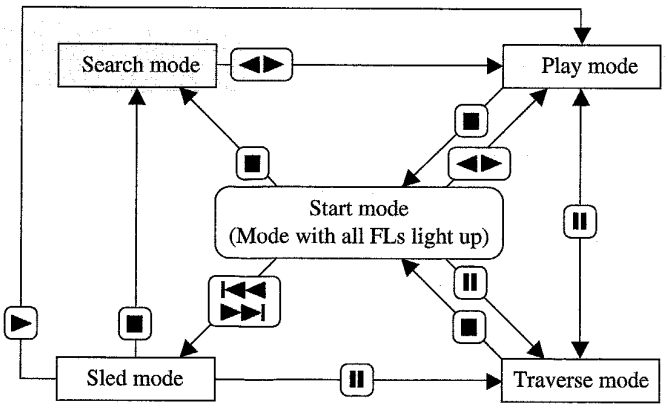
Mode / No.	Operation	FL display	Operation	Contents
Start mode No. 1	Test mode activation	All FL light up	• Active the test mode. (CD block power supply ON)	All FL displays light up
Search mode No. 2	■ key	C0--	• Laser diode illuminated under normal circumstances • Continual focus search * NOTE 1 (The pickup lens repeats the full-swing up-down motion.) * Avoid continual searches that last for more than 10 minutes.	• Laser current measurement (Across R28 resistor) FOCUS SERVO • Check focus search waveform • Check focus error waveform * FOK / FZC are not monitored in the search mode.
Play mode No. 3	◀ ▶ key	C01	• Normal playback • Focus search is continued if TOC cannot be read * NOTE 1	FOCUS SERVO / TRACKING SERVO CLV SERVO / SLED SERVO Check FOK / FZC
Traverse mode No. 4	⏸ key	C01	• During normal disc playback Press once; tracking servo OFF Press twice; tracking servo ON * NOTE 2	TRACKING SERVO ON / OFF Tracking balance (traverse) adjustment TP2 (VREF), TP3 (TE)
Sled mode No. 5	⏮ key ⏭	All FL light up	• Pickup moves to the outermost track • Pickup moves to the innermost track * NOTE 3 (During playback, machine operates normally.)	SLED SERVO Check SLED mechanism operation

* NOTE 1: There are cases when the tracking servo cannot be locked owing to the protection circuit being operated when heat builds up in the driver IC if the focus search is operated continually for more than 10 minutes. In these cases, the power supply should be switched off for 10 minutes until heat has been reduced and then re-started.

* NOTE 2: Do not press the ⏮ or ⏭ keys when the machine is in the ⏸ status is active. If they are pressed, playback will not be possible after the ⏸ status has been canceled. If the ⏮ or ⏭ keys are pressed in the ⏸ status, press the ■ key and return to start mode (No. 1).

* NOTE 3: When pressing the ⏮ or ⏭ keys, take care to avoid damage to the gears. Because the sled motor is activated when the ⏮ or ⏭ keys are pressed, even when the pick-up is at the outermost or innermost track.

4. Operation Outline
- The operation of each mode is carried out in the direction of the arrows from the start mode as indicated in the following illustration.
- When DISC DIRECT key is pressed, test mode is operated same as pressing the PLAY key.
- When CD tray is opened by OPEN / CLOSE key while play and traverse modes, test mode goes back start mode.

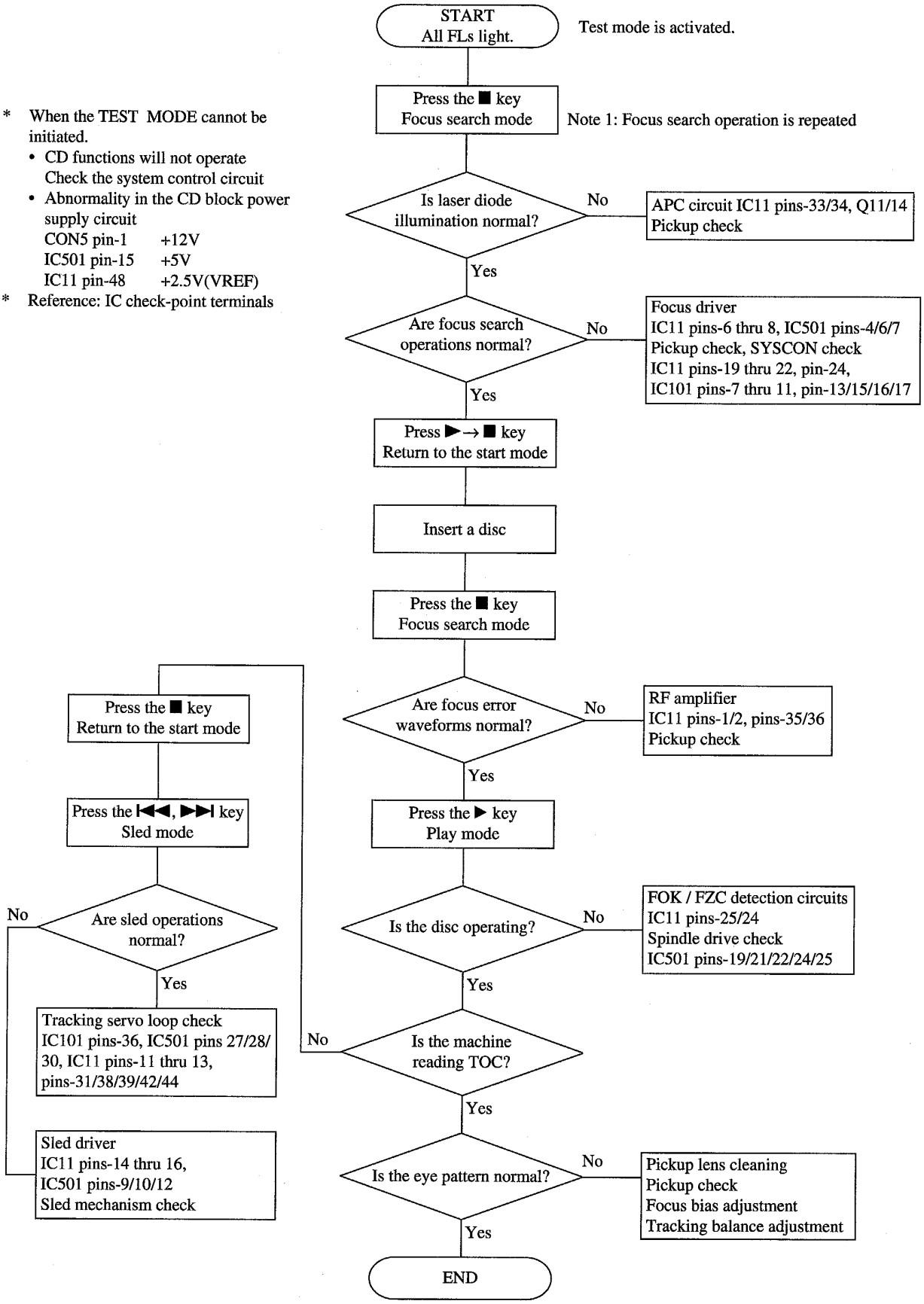


CD TROUBLE-SHOOTING

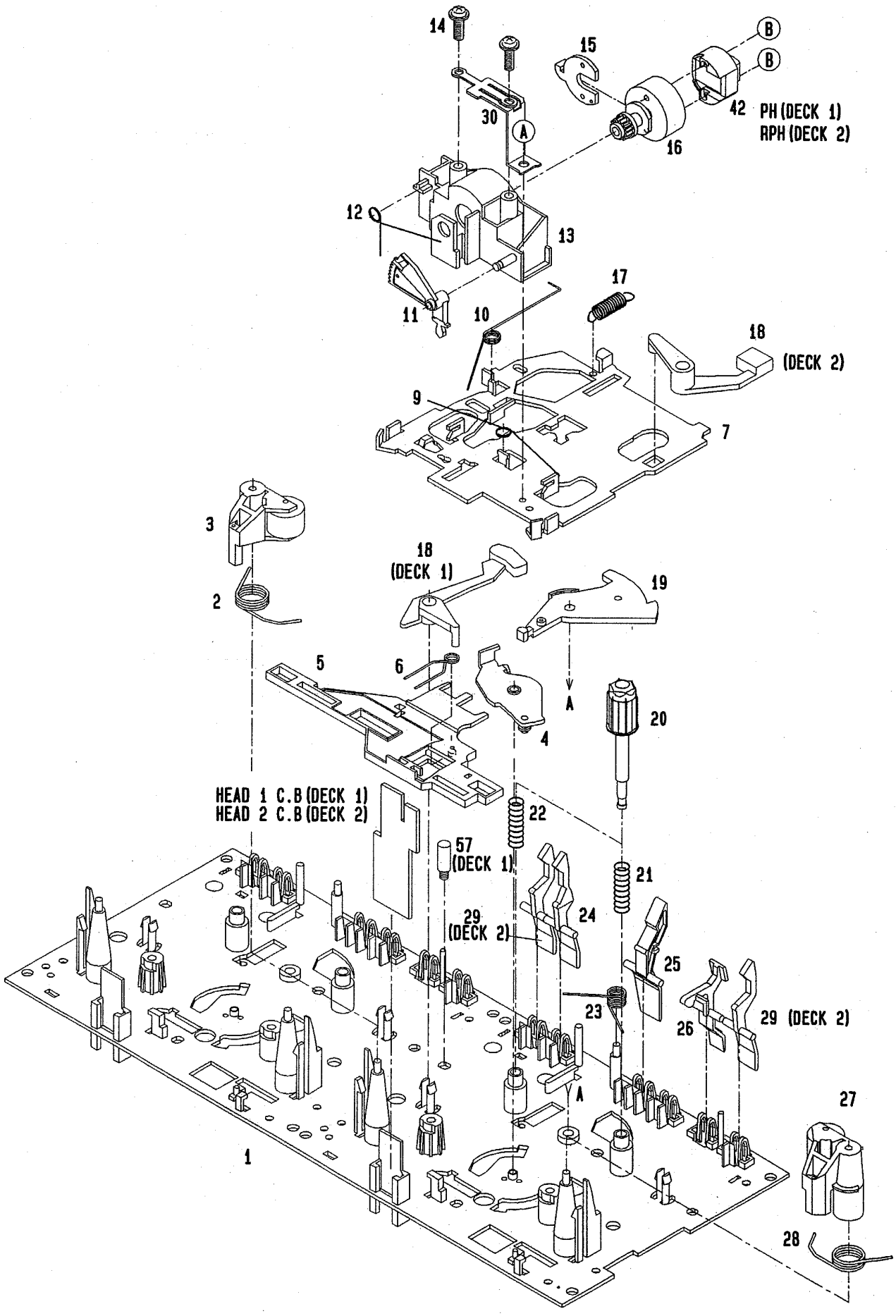
Flow Chart

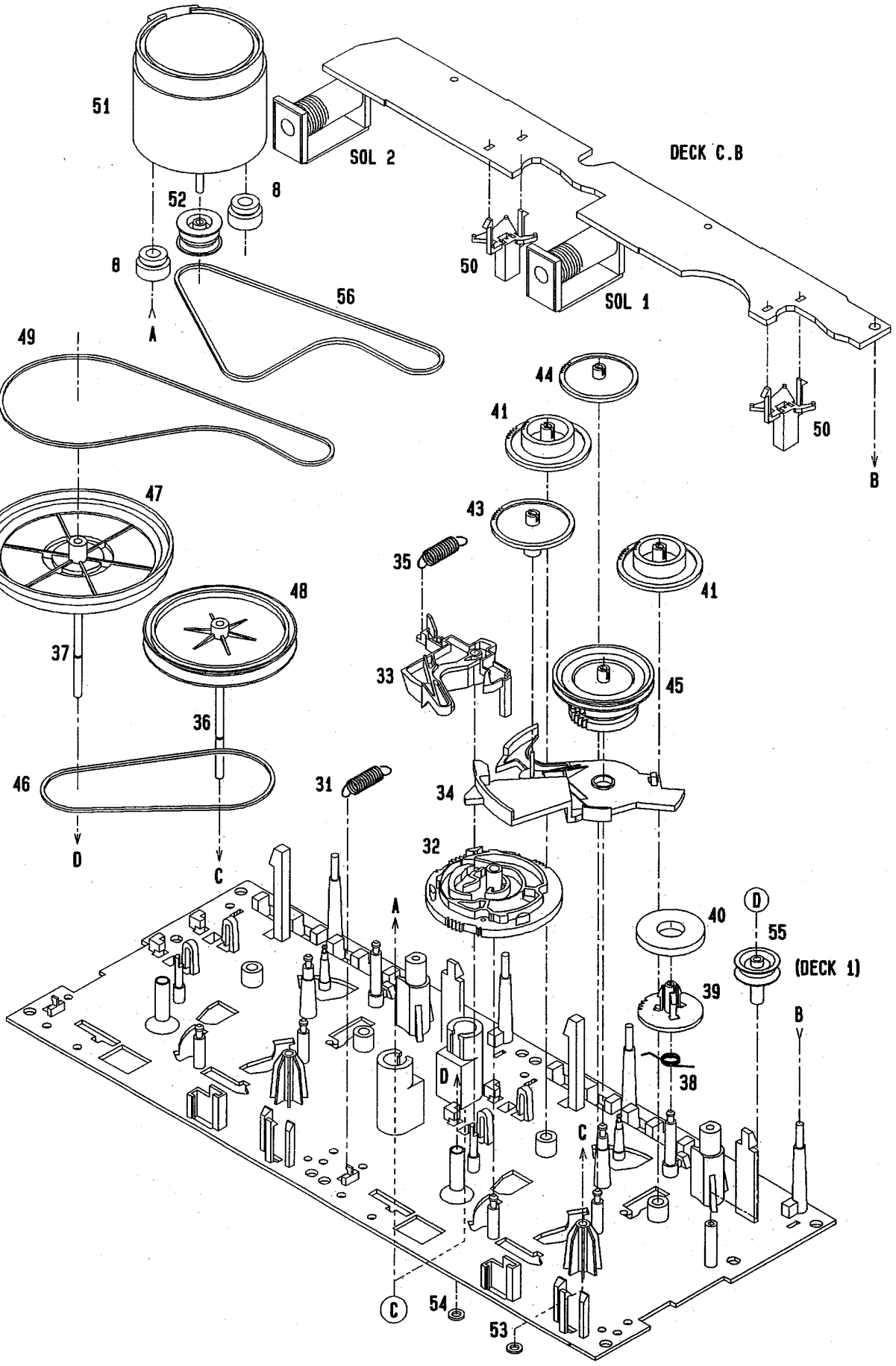
* When the TEST MODE cannot be initiated.
- CD functions will not operate
  Check the system control circuit
- Abnormality in the CD block power supply circuit
  CON5 pin-1 +12V
  IC501 pin-15 +5V
  IC11 pin-48 +2.5V(VREF)

* Reference: IC check-point terminals



TAPE MECHANISM EXPLODED VIEW 1 / 1



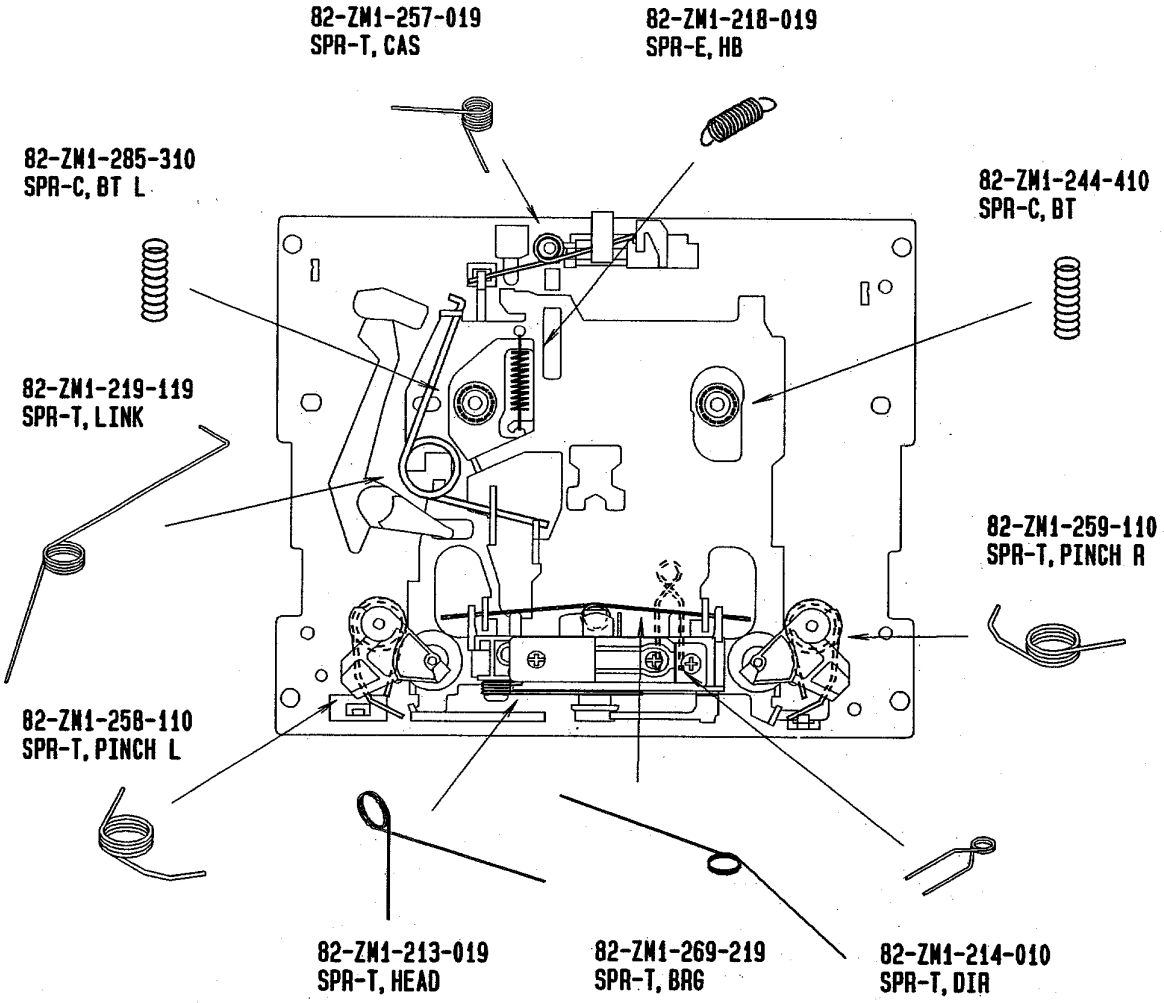

51
SOL 2
DECK C.B
52
8
8
50
SOL 1
56
A
49
44
41
50
B
47
43
35
41
48
37
33
45
36
46
31
34
D
C
32
A
40
D
55
(DECK 1)
39
B
38
D
C
C
54
53

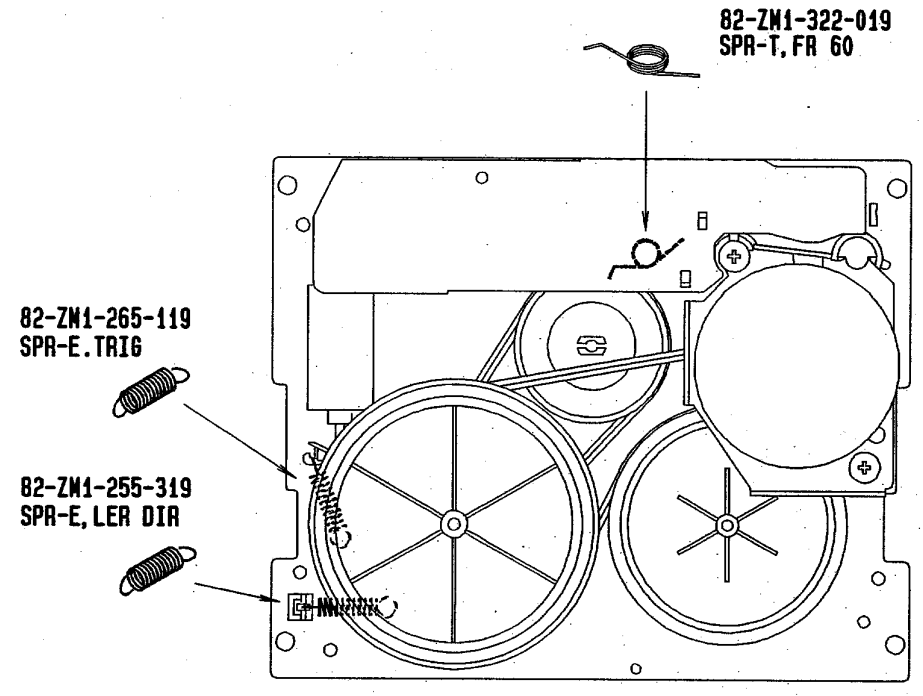
TAPE MECHANISM PARTS LIST 1 / 1

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

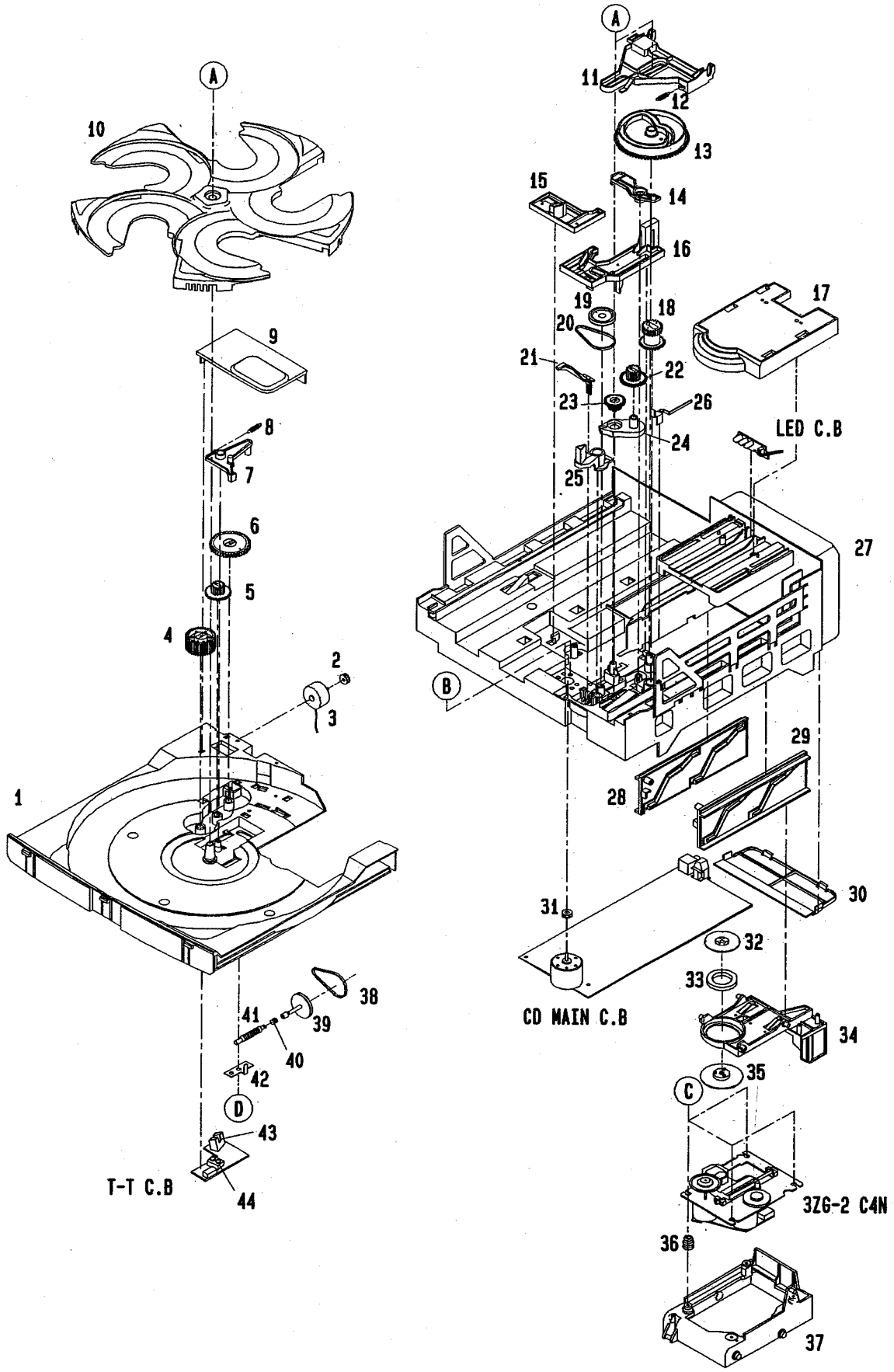
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	82-ZM3-301-519		CHAS ASSY,M2
2	82-ZM1-258-110		SPR-T,PINCH L
3	82-ZM1-345-019		LVR ASSY,PINCH L W
4	82-ZM1-333-010		PLATE,LINK 2
5	82-ZM1-266-11K		LVR,DIR
6	82-ZM1-214-010		SPR-T,DIR
7	82-ZM1-206-81K		CHAS,HEAD
8	82-ZM3-307-019		CUSH-G,DIA3.7-8-3.2
9	82-ZM1-269-219		SPR-T,BRG
10	82-ZM1-219-119		SPR-T,LINK
11	82-ZM1-210-119		GEAR,H T
12	82-ZM1-213-019		SPR-T,HEAD
13	82-ZM1-207-619		GUIDE,TAPE
14	82-ZM1-283-310		S-SCREW,AZIMUTH
15	82-ZM1-314-119		PLATE,HEAD
16	82-ZM1-208-119		HLDR,HEAD
17	82-ZM1-218-019		SPR-E,HB
18	82-ZM1-263-110		LVR,EJECT L (DECK 1)
18	82-ZM1-264-010		LVR,EJECT R (DECK 2)
19	82-ZM1-222-21K		LVR,PLAY
20	82-ZM1-217-319		REEL TABLE
21	82-ZM1-244-510		SPR-C,BT
22	82-ZM1-285-310		SPR-C,BT L
23	82-ZM1-257-019		SPR-T,CAS
24	82-ZM1-241-319		LVR,MC
25	82-ZM1-242-019		LVR,CAS
26	82-ZM1-243-019		LVR,STOP
27	82-ZM1-346-019		LVR ASSY,PINCH R W
28	82-ZM1-259-110		SPR-T,PINCH R
29	82-ZM1-240-11K		LVR,REC (DECK 2)
30	82-ZM1-298-010		SPR-P,EARTH
31	82-ZM1-255-319		SPR-E,LVR DIR
32	82-ZM3-305-01K		GEAR,CAM M2
33	82-ZM1-227-21K		LVR,TRIG
34	82-ZM3-306-11K		LVR,FR M2
35	82-ZM1-265-119		SPR-E,TRIG
36	82-ZM1-236-019		CAPSTAN N 2-41.5
37	82-ZM1-239-019		CAPSTAN N 2.2-41.7
38	82-ZM1-322-019		SPR-T,FR60
39	82-ZM1-220-219		GEAR,IDLER
40	82-ZM3-616-019		RING MAGNET 4
41	82-ZM1-216-31K		GEAR,REEL
42	87-046-355-019		HEAD,PH HADKH2529B(PH)
42	87-046-356-019		HEAD,RPH HADKH5581B(RPH)
43	82-ZM1-225-21K		GEAR,FR
44	82-ZM1-226-019		GEAR,REW
45	82-ZM1-228-810		SLIP DISK ASSY
46	82-ZM1-338-010		BELT FR4
47	82-ZM1-238-81K		FLY-WHL ASSY,R (DECK 2)
47	82-ZM3-210-71K		FLY-WHL ASSY,R2 (DECK 1)
48	82-ZM1-235-51K		FLY-WHL ASSY,L (DECK 2)
48	82-ZM3-208-61K		FLY-WHL ASSY,L2 (DECK 1)
49	82-ZM3-329-210		BELT,SBU R2
50	82-ZM1-245-210		HLDR,IC
51	87-045-347-019		MOT,SHU2L 70(M1)
52	82-ZM3-221-010		PULLEY,MOT 2M
53	82-ZM1-288-019		SH,1.63-3.2-0.5 SLT
54	80-ZM6-243-019		SH,1.75-3.6-0.5 SLT
55	82-ZM3-304-110		PULLEY,COUPLER (DECK 1)
56	82-ZM3-328-110		BELT,SBU P2
57	82-ZM3-216-019		SHAFT,COUPLER N(DECK 1)
A	82-ZM1-315-010		S-SCREW,GVIDE TAPE
B	80-ZM6-207-019		V+1.6-7
C	82-ZM3-318-019		S-SCRW MOTOR M2
D	87-067-972-019		PW,1.05-3-0.25 SLT

SPRING APPLICATION POSITION





CD MECHANISM EXPLODED VIEW 1 / 2

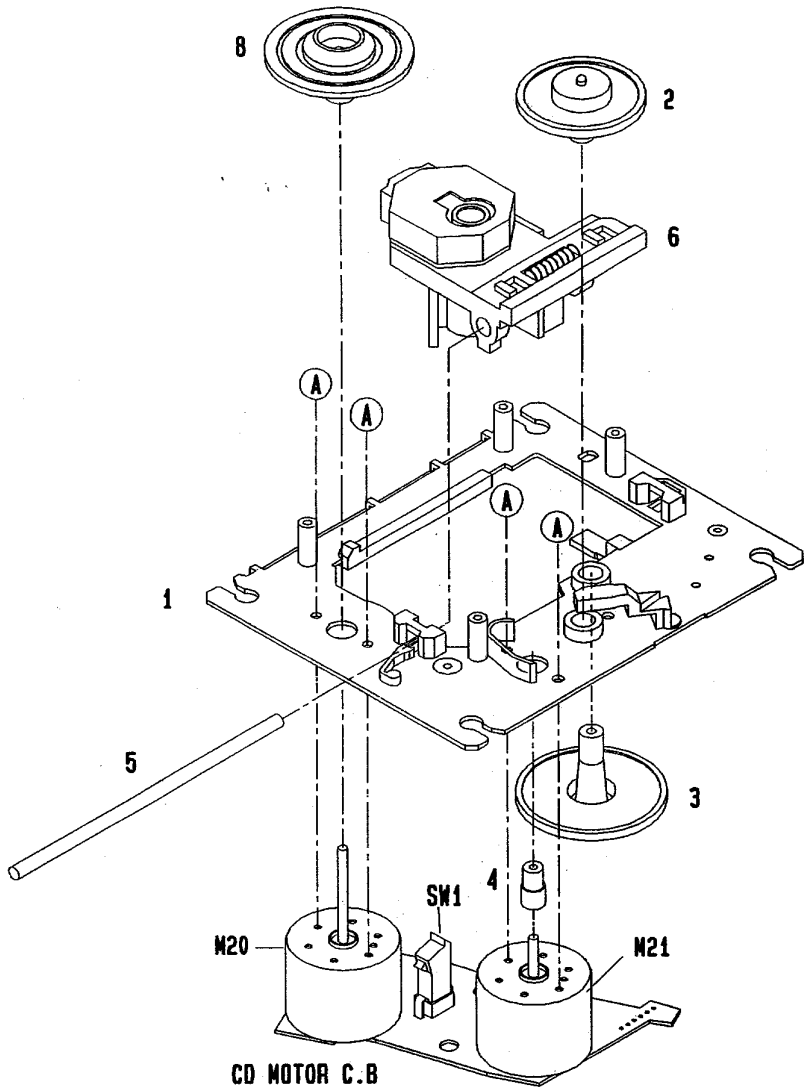


CD MECHANISM PARTS LIST 1 / 2

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	86-ZG1-001-01K		TRAY,5CD
2	81-ZG1-212-01K		PULLY,LOAD MO
3	87-A90-036-019		MOT ASSY,RF-300CA-11
4	86-ZG1-228-01K		GEAR,TT-B
5	86-ZG1-227-01K		GEAR,TT-A
6	86-ZG1-223-01K		WORM-WHEEL,TT
7	86-ZG1-224-01K		LEVER,TT
8	86-ZG1-226-010		SPR-E,LEVER TT
9	86-ZG1-003-01K		COVER,TRAY
10	86-ZG1-002-01K		TURN TABLE,5CD
11	86-ZG1-211-01K		JOINT,CAM
12	86-ZG1-216-010		SPR-E,JT
13	86-ZG1-203-01K		GEAR,MAIN CAM
14	86-ZG1-213-01K		LEVER,LOAD
15	86-ZG1-214-01K		LEVER,PROTECT
16	86-ZG1-212-01K		SLIDER,LOAD
17	86-ZG1-004-01K		REFLECTOR,CD
18	86-ZG1-205-01K		GEAR,TRAY
19	84-ZG1-219-019		PULLY,RELAY BGE
20	84-ZG1-209-010		BELT,SQ1.8-117.7
21	86-ZG1-217-01K		LEVER,SW
22	86-ZG1-206-01K		GEAR,RELAY B
23	86-ZG1-204-01K		GEAR,RELAY A
24	86-ZG1-218-01K		PLATE,GEAR
25	86-ZG1-208-01K		LEVER,TRAY
26	86-ZG1-220-110		SPR-P,LOCK
27	86-ZG1-201-01K		CHAS,MECHA
28	86-ZG1-209-01K		SLIDER,CAM L
29	86-ZG1-210-01K		SLIDER,CAM R
30	86-ZG1-005-01K		COVER,CHAS
31	84-ZG2-228-019		PULLEY,MOT
32	83-ZG3-211-01K		PLATE,DISC
33	83-ZG3-602-010		RING,MAG
34	86-ZG1-215-01K		HLDR,CHUCK
35	83-ZG3-212-019		CAP,DISC
36	80-CD3-214-019		CUSH CD A
37	86-ZG1-202-01K		HLDR,MECHA
38	86-ZG1-225-019		BELT,SQ1.2-32.9
39	86-ZG1-221-01K		PULLEY,TT
40	86-ZG1-231-010		SPR-C,WORM
41	84-ZG1-238-01K		GEAR,WORM N
42	86-ZG1-232-010		SPR-P,WORM
43	86-ZG1-229-010		HLDR,SENSOR
44	86-ZG1-230-010		HLDR,DISC SENSOR
A	87-078-148-019		VFT 2+3-12(F10)BLK
B	87-251-072-419		U+2.6-5
C	81-ZG1-254-019		S-SCEW,MECH HLDR
D	87-067-579-010		BVT2+3-8 W/O SLOT

CD EXPLODED VIEW 2 / 2

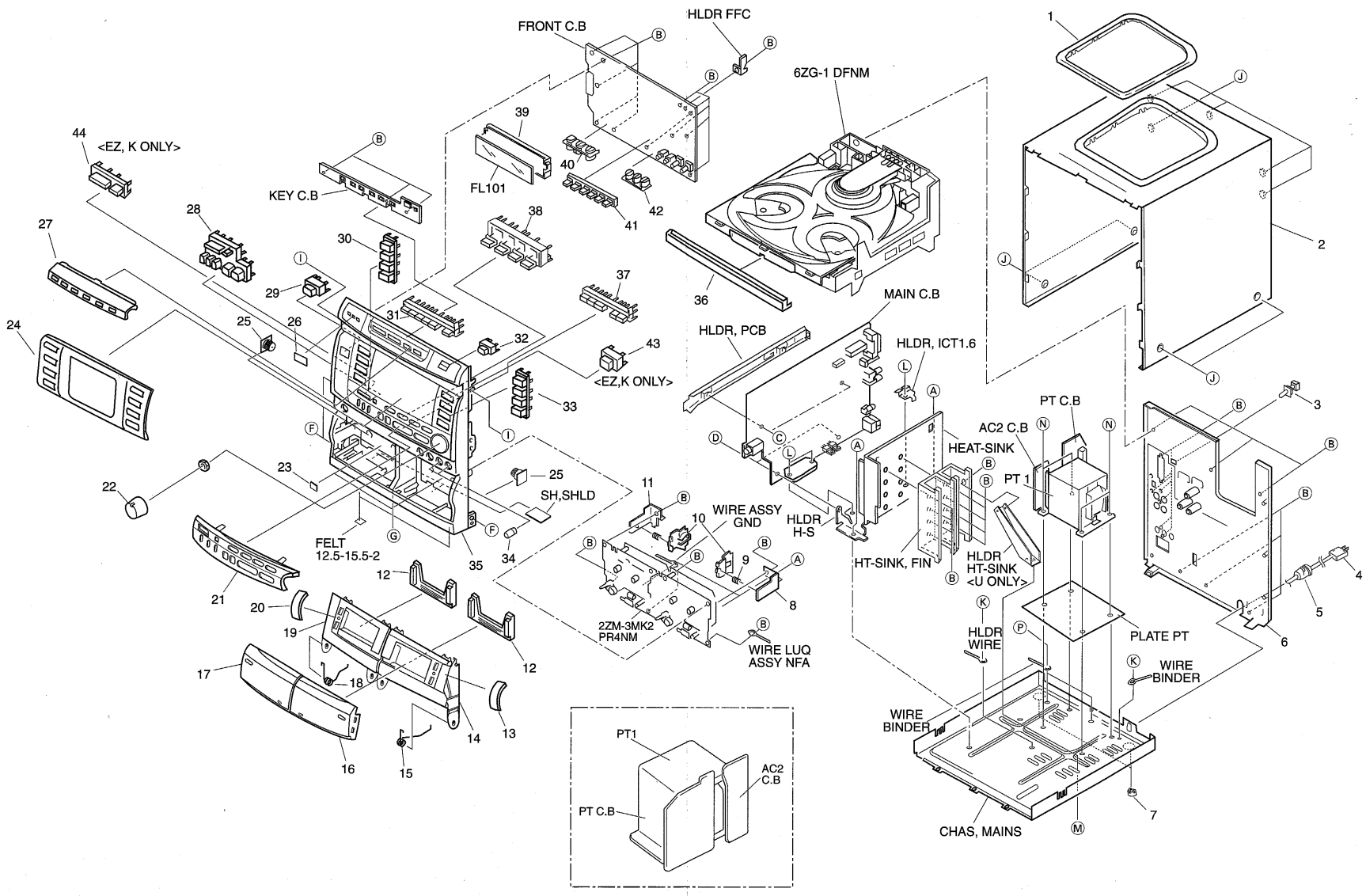


CD MECHANISM PARTS LIST 2 / 2

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	83-ZG2-232-11K		O-SERT S ASSY,S5
2	83-ZG2-204-419		GEAR,A
3	83-ZG2-205-219		GEAR,B
4	83-ZG2-220-01K		GEAR MOTOR 2
5	83-ZG2-207-119		SHAFT,SLIDE
6	87-070-445-010		PICK-UP,KSS-213B
8	83-ZG2-227-01K		TURN TABLE,C1
A	87-261-032-219		SCREW V+2-3

MECHANICAL EXPLODED VIEW 1 / 1



MECHANICAL PARTS LIST 1 / 1

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	86-MA3-042-010		WINDOW,TOP
2	86-NFA-004-010		CABI,STEEL
3	84-ZG1-245-110		CAP,OPTICAL
⚠ 4	87-050-016-010		AC CORD ASSY E<EZ>
⚠ 4	87-050-053-010		AC CORD ASSY U<U>
⚠ 4	87-A80-023-010		AC CORD ASSY K 3P<K>
5	87-085-185-010		BUSHING, AC CORD E<EZ,K>
5	87-085-189-010		BUSHING, AC CORD U<U>
6	86-NFA-049-010		PANEL,REAR KBNE<K>
6	86-NFA-050-010		PANEL,REAR EZBNE<EZ>
6	86-NFA-043-010		PANEL,REAR UBNM<U>
7	87-085-221-010		FOOT, H 13.5
8	82-NF5-227-010		HLDR,LOCK 2N(*)
9	82-NF5-228-010		SPR-C,LOCK
10	82-NF5-229-010		PLATE,LOCK(*)
11	82-NF5-226-010		HLDR,LOCK 1N(*)
12	86-NF6-061-010		REFLECTOR,CASS
13	86-NFA-041-010		PANEL,CASS R
14	86-NFA-008-010		BOX,CASS R E
15	82-NF5-219-010		SPR-T,EJECT 2(SIN)
16	86-NFA-031-010		WINDOW,CASS R
17	86-NFA-030-010		WINDOW,CASS L
18	82-NF5-218-010		SPR-T,EJECT 1(SIN)
19	86-NFA-007-010		BOX,CASS L E
20	86-NFA-040-010		PANEL,CASS L
21	87-NFA-038-010		PANEL FUN<U>
21	86-NFA-046-010		PANEL FUN(RDS)<EZ,K>
22	86-NFA-032-010		KNOB,RTRY MAIN
23	81-532-080-010		LBL,CASS-COMPT
24	86-NFA-029-010		WINDOW,AMP
25	87-063-165-010		OIL-DMPR,150
26	82-NE6-067-010		BADGE,AIWA 30N
27	86-NFA-028-010		WINDOW,CD
28	86-NFA-033-010		KEY,VF<HR>
28	86-NHA-010-010		KEY,EDIT<EZ,K>
29	86-NFA-017-010		KEY,POWER
30	86-NFA-019-010		KEY,GEQ
31	86-NFA-018-010		KEY,DIRECT
32	86-NFA-016-010		KEY,OPEN
33	86-NFA-020-010		KEY,DSP
34	86-NF4-049-010		KNOB,RTRY MIC
35	86-NFA-042-010		CABI,FR U<U>
35	86-NFA-045-010		CABI,FR E (RDS)<EZ,K>
36	86-NFA-010-010		PANEL,TRAY E
37	86-NFA-021-010		KEY,PLAY
38	86-NFA-022-010		KEY ASSY,FUN
39	86-NFA-203-010		GUIDE, FL
40	87-NF5-210-110		GUIDE, LED L
41	87-NFA-204-010		GUIDE, LED PLAY
42	87-NF5-211-110		GUIDE, LED R
43	86-NFA-048-010		KEY DEMO<EZ,K>
44	86-NFA-047-010		KEY RDS<EZ,K>
A	87-067-579-010		BVT2+3-8 W/O SLOT
B	87-067-703-010		BVT2+3-10 W/O SLOT
C	87-078-084-010		BVTT+3-6 W/CONVEX
D	87-067-633-010		BVT2+3-8 W/O SLOT W/CONVEX
F	87-591-094-410		QIT+3-6
G	87-067-716-010		BVTT+3-6 BLK
H	87-067-752-010		BVTT+4-10 SWCH/ZN
I	87-721-097-410		QT2+3-12 W/O SLOT
J	87-067-641-010		UTT2+3-8 W/O SLOT BLK
K	87-067-584-010		BVT2+3-6 W/O SLOT
L	87-067-822-010		BV2+3-20 W/O SLOT
M	87-761-095-410		VFT2+3-8 W/O SLOT
N	87-078-191-010		S-SCREW IT+4-10 SWH12A
P	87-067-586-010		BVTT+4-8

ACCESSORIES / PACKAGE LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	86-NFA-903-010		IB,U(ESF)M<U>
1	86-NFA-904-010		IB,K(E)NE<K>
1	86-NFA-905-010		IB,E(EGFSI)NE<EZ>
2	86-MA3-701-110		RC UNIT,6AS01
3	87-043-106-010		ANT,FM 1007 AWG<EZ.K>
4	87-043-115-010		FEEDER-ANT,FM<U>
5	87-006-225-010		ANT,LOOP ANT NC2

REFERENCE NAME LIST

ELECTRICAL SECTION

DESCRIPTION	REFERENCE NAME
ANT	ANTENNAS
C-	CHIP
C-CAP	CAP, CHIP
C-CAP TN	CAP, CHIP TANTALUM
C-COIL	COIL, CHIP
C-DI	DIODE, CHIP
C-DIODE	DIODE, CHIP
C-FET	FET, CHIP
C-FOTR	FILTER, CHIP
C-JACK	JACK, CHIP
C-LED	LED, CHIP
C-RES	RES, CHIP
C-SFR	SFR, CHIP
C-SLIDE SW	SLIDE SWITCH, CHIP
C-SW	SWITCH, CHIP
C-TR	TRANSISTOR, CHIP
C-VR	VOLUME, CHIP
C-ZENER	ZENER, CHIP
CAP, CER	CAP, CERA-SOL
CAP, E	CAP, ELECT
CAP, M/F	CAP, FILM
CAP, TC	CAP, CERA-SOL
CAP, TC-U	CAP, CERA-SOL SS
CAP, TN	CAP, TANTALUM
CERA FIL	FILTER, CERAMIC
CF	FILTER, CERAMIC
DL	DELAY LINE
E/CAP	CAP, ELECT
FILT	FILTER
FLTR	FILTER
FUSE RES	RES, FUSE
MOT	MOTOR
P-DIODE	PHOTO DIODE
P-SNSR	PHOTO SENSER
P-TR	PHOTO TRANSISTOR
POLY VARI	VARIABLE CAPACITOR
PPCAP	CAP, PP
PT	POWER TRANSFORMER
PTR, RES	PTR, MELF
RC	REMOTE CONTROLLER
RES NF	RES, NON-FLAMMABLE
RESO	RESONATOR
SHLD	SHIELD
SOL	SOLENOID
SPKR	SPEAKER
SW, LVR	SWITCH, LEVER
SW, RTRY	SWITCH, ROTARY
SW, SL	SWITCH, SLIDE
TC CAP	CAP, CERA-SOL
THMS	THERMISTOR
TR	TRANSISTOR
TRIMER	CAP, TRIMMER
TUN-CAP	VARIABLE CAPACITOR
VIB, CER	RESONATOR, CERAMIC
VIB, XTAL	RESONATOR, CRYSTAL
VR	VOLUME
ZENER	DIODE, ZENER

MECHANICAL SECTION

DESCRIPTION	REFERENCE NAME
ADHESHIVE	SHEET ADHESHIVE
AZ	AZIMUTH
BAR-ANT	BAR-ANTENNA
BAT	BATTERY
BATT	BATTERY
BRG	BEARING
BTN	BUTTON
CAB	CABINET
CASS	CASSETTE
CHAS	CHASSIS
CLR	COLLAR
CONT	CONTROL
CRSR	CURSOR
CU	CUSHION
CUSH	CUSHION
DIR	DIRECTION
DUBB	DUBBING
FL	FRONT LOADING
FLY-WHL	FLYWHEEL
FR	FRONT
FUN	FUNCTION
G-CU	G-CUSHION
HDL	HANDOL
HIMERON	CLOTH
HINGE, BAT	HINGE, BATTERY
HLDR	HOLDER
HT-SINK	HEAT SINK
IB	INSTRUCTION BOOKLET
IDLE	IDLER
IND, L-R	INDICATOR, L-R
KEY, CONT	KEY, CONTROL
KEY, PRGM	KEY, PROGRAM
KNOB, SL	KNOB, SLIDE
LBL	LABEL
LID, BATT	LID, BATTERY
LID, CASS	LID, CASSETTE
LVR	LEVER
P-SP	P-SPRING
PANEL, CONT	PANEL, CONTROL
PANEL, FR	PANEL, FRONT
PRGM	PROGRAM
PULLY, LOAD MO	PULLY, LOAD MOTOR
RBN	RIBBON
S-	SPECIAL
SEG	SEGMENT
SH	SHEET
SHLD-SH	SHIELD-SHEET
SL	SLIDE
SP	SPRING
SP-SCREW	SPECIAL-SCREW
SPACER, BAT	SPACER, BATTERY
SPR	SPRING
SPR-P	P-SPRING
SPR-PC-PUSH	P-SPRING, C-PUSH
T-SP	T-SPRING
TERM	TERMINAL
TRIG	TRIGGER
TUN	TUNING
VOL	VOLUME
W	WASHER
WHL	WHEEL
WORM-WHL	WORM-WHEEL

サービス技術ニュース	
番号	連絡内容
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