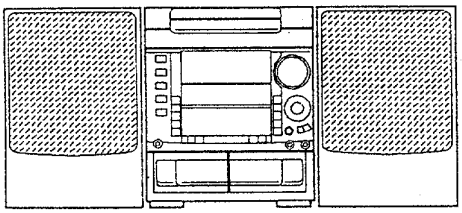
aiwa

aiwa SERVICE

NSX-KF9

SERVICE MANUAL



COMPACT DISC STEREO
CASSETTE RECEIVER

- BASIC TAPE MECHANISM : 2ZM-3MK2 PR4NM
- BASIC CD MECHANISM : 6ZG-1 V1GDFNM
- TYPE : HE

SYSTEM	CD – CASSEIVER	SPEAKER	REMOTE CONTROLLER
NSX-KF9	CX-NKF9	SX–NAVF9	RC UNIT, 6AS08

- If requiring information about the Speaker, see Service Manual of SX-NAVF9, S/M Code No. 09-971-177-4FP.

S/M Code No. 09–971–179–4FP

TABLE OF CONTENTS

SPECIFICATIONS

<FM Tuner section>

Tuning range	87.5 MHz to 108 MHz
Usable sensitivity(IHF)	13.2 dBf
Antenna terminals	75 ohms (unbalanced)

<MW Tuner section>

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

<SW Tuner section>

Tuning range	5.900 MHz to 17.900 MHz
Antenna	Wire antenna

<Amplifier section>

Power output	Rated 160 W + 160 W (6 ohms,T.H.D.1%,1 kHz) Reference: 200 W + 200 W (6 ohms, T.H.D.10%,1 kHz)
	*(without connecting to the SURROUND SPEAKERS)
Total harmonic distortion	0.1% (20 W, 1 kHz, 6 ohms, DIN AUDIO)
Inputs	VIDEO/AUX : 150 mV(adjustable) MIC 1,MIC 2: 1mV (10 kohms)
Outputs	LINE OUT: 200mV SUPER WOOFER: 3.1 V 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
Singnal-to noise ratio	60 dB (Dolby B NR ON, CrO_2 tape peak level)
Recording system	AC bias
Heads	Deck 1 : Playback head x 1 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	83 dB (1 kHz, 0 dB)
Harmonic distortion	0.05 % (1 kHz, 0 dB)
Wow and flutter	Unmeasurable
Video signal	NTSC/PAL color format (selectable)
Video data	MPEG 1
Audio data	MPEG 1, LAYER 2

<Speaker system SX–NAVF9>

Cabinet type	3 way, bass reflex (magnetic shielded type)
Speakers	Woofer : 160 mm cone type Tweeter : 80 mm cone type Super tweeter: 20 mm ceramic type
Impedance	6 ohms
Output sound pressure level	87 dB/W/m
Dimensions (W x H x D)	260 x 353 x 330mm
Weight	5.9 kg

<General>

Power requirements	120 V / 220 – 230 V / 240 V AC, switchable 50/60 Hz
Power consumption	210 W
Dimensions of main unit	300 x 357.5 x 374 mm
Weight of main unit	13 kg

- Design and specifications are subject to change without notice.

- Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
  "DOLBY" and the double-D symbol ⧈ are trademarks of Dolby Laboratories Licensing Corporation.

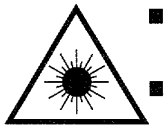
- The word "BBE"and the "BBE symbol" are trademarks of BBE Sound, Inc.
  Under license from BBE Sound,Inc.

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.

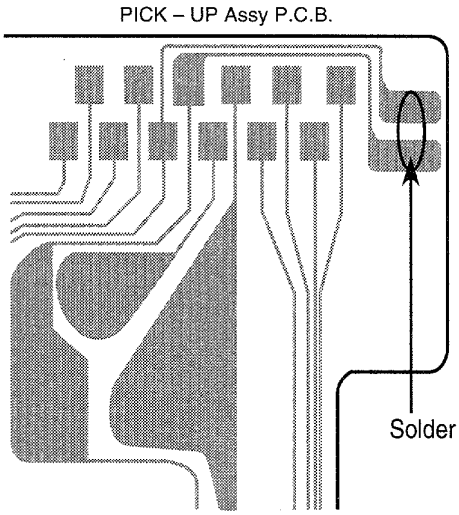
CLASS 1	LASER PRODUCT
KLASSE 1	LASER PRODUKT
LUOKAN 1	LASER LAITE
KLASS 1	LASER APPARAT

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.



CD DISASSEMBLY INSTRUCTION

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.

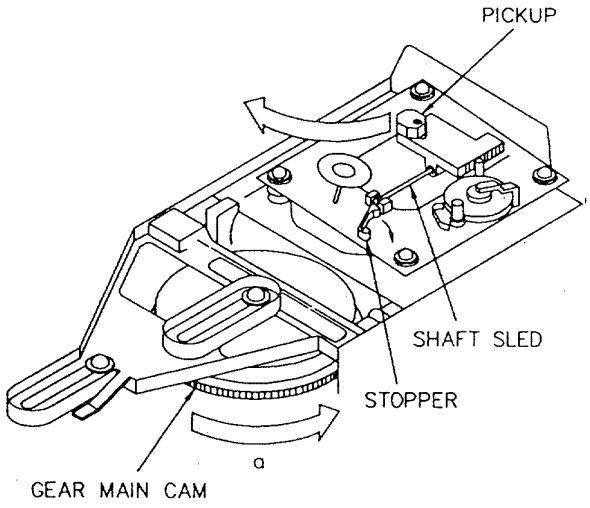


Figure 1

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.)

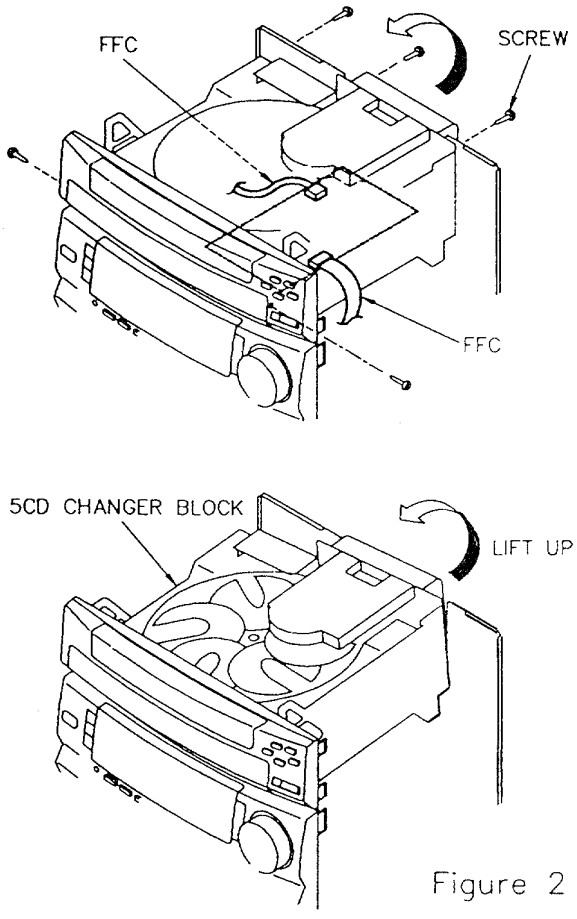


Figure 2

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)

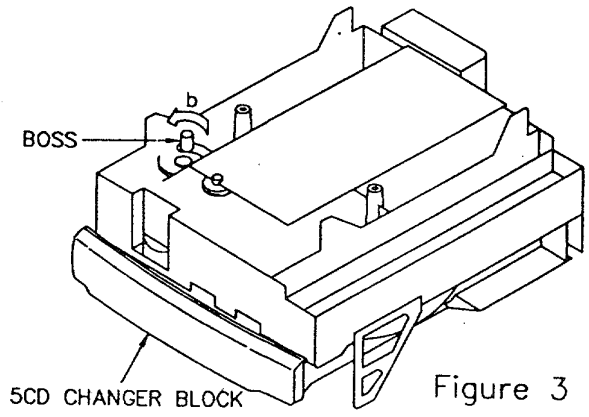
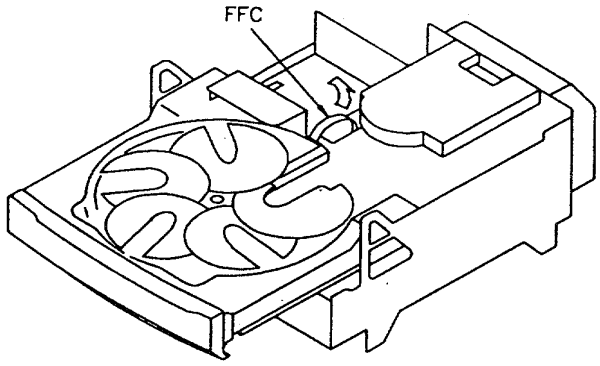


Figure 3



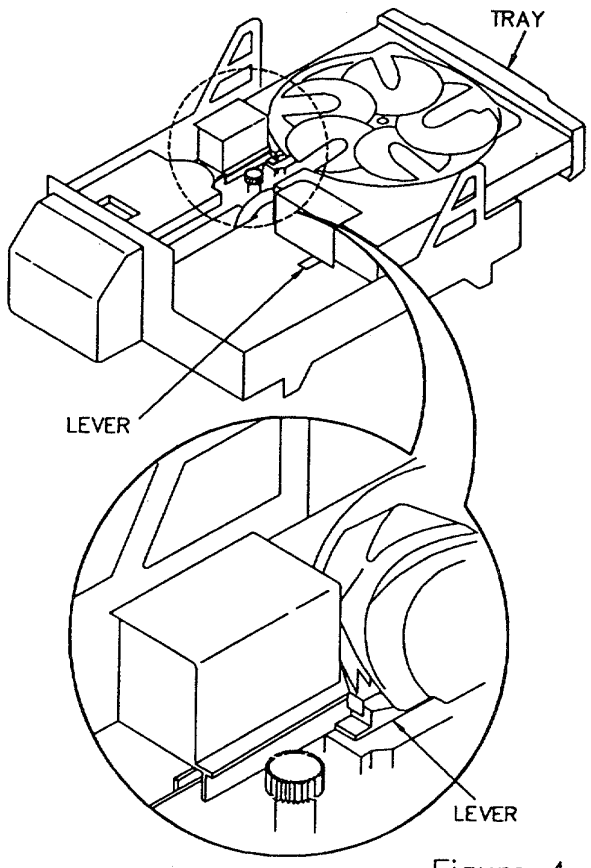


Figure 4

（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)

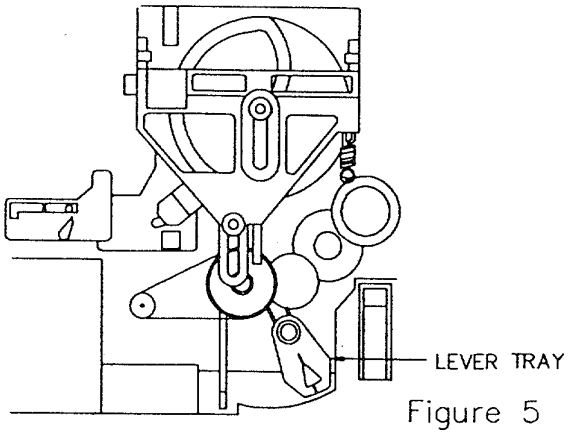


Figure 5

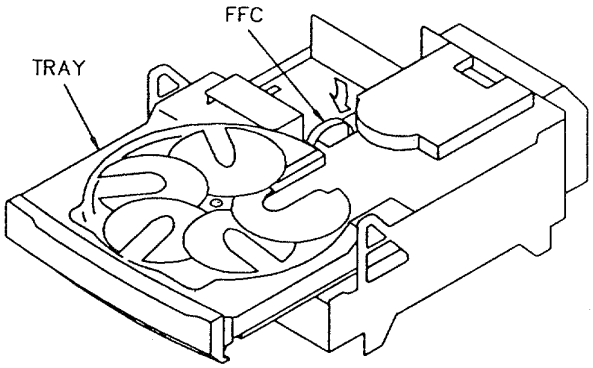


Figure 6

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).

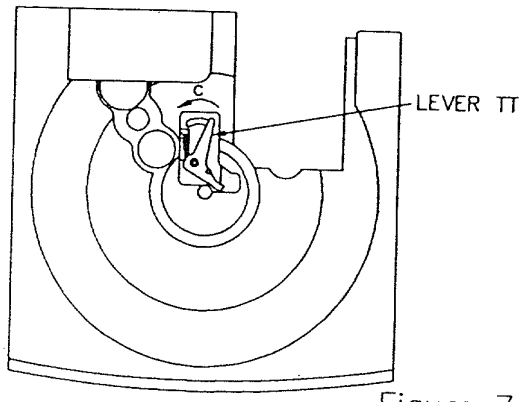


Figure 7

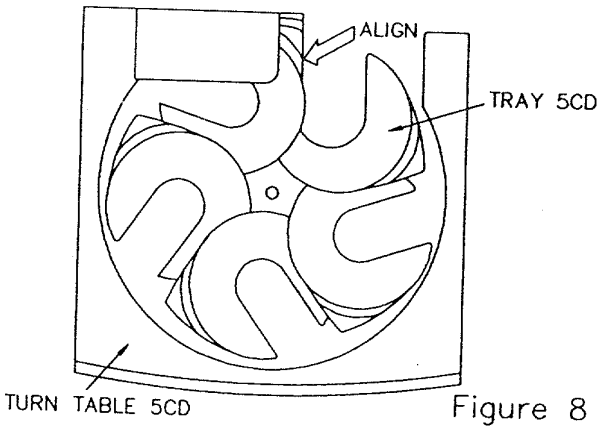


Figure 8

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			
	87-017-745-019		IC,CXA1782BQ
	86-NH9-620-010		IC,UPD780206GF-015-3BA
	87-A20-154-010		IC,SPS-444-1
	87-A20-264-010		IC,STK-419-150
	87-070-121-010		IC,HA12185
	87-070-232-010		IC,BA3834S
	87-017-375-080		C-IC,TC4094BF
	87-A20-355-010		IC,CXA1553P
	87-A20-107-010		IC,BA3836
	87-027-666-010		IC,TC4052BP
	87-A20-056-010		IC,BA3880S
	87-017-374-010		IC,TC4094BP
	87-017-888-080		C-IC,NJM4558MD
	87-A20-067-040		C-IC,M65849FP
	87-A20-437-010		C-IC,M62431FP
	87-070-127-110		IC,LC72131D
	87-017-022-080		C-IC,NJM2068M-D(T1)
	87-017-714-110		IC,LA1836L
	87-A20-312-010		IC,M62420SP
	87-A20-068-040		IC,M65847FP
	87-002-783-110		IC,CXD2500BQ
	87-002-532-010		IC,PQ05RF11
	87-017-825-010		IC,GP1F32T
	84-ZG1-649-010		C-IC,MB89627R-321
	87-017-543-080		IC,PST600D
	87-A20-255-040		C-IC,SN74LV373NS
	87-A20-251-040		C-IC,BR6265BF-N10SL
	87-A20-252-040		C-IC,SN74LV00NS
	87-A20-253-040		C-IC,SN74LV04NS
	87-A20-254-040		C-IC,SN74LV32NS
	87-A20-244-010		C-IC,CL484
	87-A20-200-040		C-IC,HM514260CJ7/CLJ7
	84-ZG1-640-040		C-IC,LH5317YR
	87-A20-256-040		C-IC,PQ20VZ5U
	87-A20-247-010		C-IC,BU1417AK
	87-A20-248-040		C-IC,BU2173F
	87-A20-258-040		C-IC,SM5877AM
	87-001-982-010		IC,TA7291S
	87-A20-257-040		C-IC,BA6791FP
TRANSISTOR			
	89-213-702-010		TR,2SB1370E
	87-026-609-080		TR,KTA1266GR
	87-A30-065-080		TR,2SC2785FE
	89-332-665-080		TR,2SC3266GR
	89-337-221-380		C-TR,2SC3722K(R/S/E)
	89-324-122-080		C-TR,2SC2412KR
	89-110-372-080		C-TR,2SA1037K(R)
	87-026-635-080		C-TR,UN2213
	89-327-125-080		C-TR,2SC2712GR
	87-026-233-080		C-TR,DTA114TK
	87-026-211-080		C-TR,DTA144EK
	89-111-625-080		C-TR,2SA1162 GR
	87-026-213-080		C-TR,DTC114YK
	87-A30-047-080		TR,CSD655E
	89-421-722-389		TR,2SD2172V/W
	87-026-223-080		C-TR,DTC143TK
	89-320-011-080		TR,2SC2001K
	89-333-266-080		C-TR,2SC3326B
	87-A30-066-080		TR,2SA1175FE
	89-109-705-080		TR,2SA970GR
	87-026-297-080		C-TR,DTA144TK
	87-026-226-080		C-TR,DTA143EK
	89-502-466-080		FET,2SK246BL
	89-112-965-080		TR,2SA1296GR
	87-026-228-080		C-TR,DTA124EK
	87-026-610-080		TR,KTC3198GR
	89-109-521-080		TR,2SA952K
	87-026-238-080		C-TR,DTC144WK
	87-026-214-080		TR,DTA114YS
	89-503-685-080		C-FET,2SK368GR
	89-327-143-080		C-TR,2SC2714O
	87-026-269-080		TR,DTA114ES
	89-110-373-080		C-TR,2SA1037K(S)
	89-421-141-280		C-TR,2SD2114KU
	89-505-434-540		C-FET,2SK543-TB(4/5)
	87-026-237-089		C-TR,DTC124XK
	89-113-625-089		C-TR,2SA1362R
	87-026-470-089		C-TR,HN1C03FB
	87-026-580-089		C-TR,DTA123JK
	89-318-155-089		TR,2SC1815GR
	87-026-475-089		C-TR,RN1607
DIODE			
	87-017-437-080		DIODE,1N4148M
	87-A40-224-010		DIODE,GBU8DL
	87-A40-115-060		DIODE,RS603M
	87-017-978-080		DIODE,1N4003
	87-020-027-080		C-DIODE,1SS184
	87-020-125-080		C-DIODE,1SS181
	87-A40-200-080		ZENER,UZL11L3
	87-A40-211-080		ZENER,UZ36BSA
	87-A40-207-080		ZENER,UZ11BSC
	87-A40-274-010		DIODE,FMB-G16L
	87-A40-199-080		ZENER,UZL6H2
	87-A40-202-080		ZENER,UZ5.1BSB
	87-020-331-080		C-DIODE,DAN202K
	87-020-330-080		C-DIODE,DAP202K
	87-A40-198-080		ZENER,UZL6M1
	87-A40-197-080		ZENER,UZL6L1
	87-020-339-080		C-DIODE,1SS226
	87-002-843-080		DIODE,1SS108
	87-A40-180-089		C-DIODE,SB07-015C
	87-A40-196-089		C-ZENER,UDZ6.2B
	87-A40-323-010		DIODE,FMB-G16L(F)
	87-027-322-080		ZENER,HZ18-2
MAIN C.B			
C101	87-A10-231-090		CAP,E 3300-80
C102	87-A10-231-090		CAP,E 3300-80
C104	87-010-235-080		CAP,E 470-16 SME
C105	87-010-235-080		CAP,E 470-16 SME
C107	87-A10-417-080		CAP,E 47-63 SME
C108	87-010-247-080		CAP,E 100-50 M SME
C109	87-010-263-080		CAP,E 100-10 SME
C112	87-010-382-080		CAP,E 22-25 M SME
C113	87-010-403-080		CAP,E 3.3-50 M SME
C116	87-012-140-080		C-CAP,S 470P-50 J CH
C121	87-012-368-080		C-CAP,S 0.1-50 Z F
C122	87-012-368-080		C-CAP,S 0.1-50 Z F
C123	87-018-209-080		CAP,TC U 0.1-50 Z F UP050
C124	87-012-368-080		C-CAP,S 0.1-50 Z F
C145	87-010-186-080		C-CAP,S 4700P-50 K B
C146	87-010-186-080		C-CAP,S 4700P-50 K B
C152	87-010-260-080		CAP,E 47-25 SME
C171	87-A10-056-090		CAP,E 4700-35 M
C172	87-A10-056-090		CAP,E 4700-35 M
C173	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C174	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C175	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C176	87-015-785-080		C-CAP, 0.1-25 Z F
C220	87-010-194-080		C-CAP,S 0.047-25 Z F
C221	87-010-400-080		CAP,E 0.47-50 M SME
C222	87-010-400-080		CAP,E 0.47-50 M SME
C223	87-010-187-080		C-CAP,S 5600P-50 K B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C224	87-010-187-080		C-CAP,S 5600P-50 K B
C225	87-010-179-080		C-CAP,S 1200P-50 K B
C226	87-010-179-080		C-CAP,S 1200P-50 K B
C227	87-010-402-080		CAP,E 2.2-50 M SME
C228	87-010-402-080		CAP,E 2.2-50 M SME
C229	87-010-402-080		CAP,E 2.2-50 M SME
C230	87-010-402-080		CAP,E 2.2-50 M SME
C231	87-010-147-080		C-CAP,S 3P-50 C CH GRM
C232	87-018-098-080		CAP,TC U 3.3P-50 K SL UP050
C233	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C234	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C235	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C236	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C243	87-010-322-080		C-CAP,S 100P-50 J CH
C244	87-010-322-080		C-CAP,S 100P-50 J CH
C249	87-018-209-080		CAP,TC U 0.1-50 Z F UP050
C250	87-A10-200-080		CAP,E 10-100 M BP SME
C260	87-015-785-080		C-CAP, 0.1-25 Z F
C261	87-010-196-080		C-CAP, 0.1-25 Z F C2012
C301	87-010-318-080		C-CAP,S 47P-50 J CH
C302	87-010-318-080		C-CAP,S 47P-50 J CH
C303	87-012-157-080		C-CAP,S 330P-50 J CH
C304	87-012-157-080		C-CAP,S 330P-50 J CH
C305	87-012-157-080		C-CAP,S 330P-50 J CH
C306	87-012-157-080		C-CAP,S 330P-50 J CH
C307	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C311	87-010-198-080		C-CAP,S 0.022-25 K B
C312	87-010-198-080		C-CAP,S 0.022-25 K B
C313	87-010-179-080		C-CAP,S 1200P-50 K B
C314	87-010-179-080		C-CAP,S 1200P-50 K B
C315	87-010-179-080		C-CAP,S 1200P-50 K B
C316	87-010-179-080		C-CAP,S 1200P-50 K B
C317	87-016-492-080		C-CAP,S 0.33-16 Z F
C318	87-016-492-080		C-CAP,S 0.33-16 Z F
C319	87-016-491-080		C-CAP,S 0.22-16 Z F C2021
C320	87-016-491-080		C-CAP,S 0.22-16 Z F C2021
C321	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C322	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C324	87-010-260-080		CAP,E 47-25 SME
C325	87-010-370-080		CAP,E 330-6.3 M SME
C326	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C330	87-010-405-080		CAP,E 10-50 M SME
C332	87-015-785-080		C-CAP, 0.1-25 Z F
C335	87-016-462-080		C-CAP,S 1-16 Z F
C336	87-016-462-080		C-CAP,S 1-16 Z F
C337	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C338	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C339	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C340	87-015-785-080		C-CAP, 0.1-25 Z F
C351	87-012-154-080		C-CAP,S 150P-50 J CH GRM
C352	87-012-154-080		C-CAP,S 150P-50 J CH GRM
C451	87-012-140-080		C-CAP,S 470P-50 J CH
C452	87-012-140-080		C-CAP,S 470P-50 J CH
C453	87-010-178-080		C-CAP,S 1000P-50 K B
C454	87-010-176-080		C-CAP,S 680P-50 J SL
C455	87-010-178-080		C-CAP,S 1000P-50 K B
C456	87-010-260-080		CAP,E 47-25 SME
C457	87-010-197-080		C-CAP,S 0.01-25 K B
C458	87-010-183-080		C-CAP,S 2700P-50 K B
C459	87-010-183-080		C-CAP,S 2700P-50 K B
C460	87-010-183-080		C-CAP,S 2700P-50 K B
C470	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C501	87-010-179-080		C-CAP,S 1200P-50 K B
C502	87-010-179-080		C-CAP,S 1200P-50 K B
C503	87-012-155-080		C-CAP,S 180P-50 J CH GRM
C504	87-012-155-080		C-CAP,S 180P-50 J CH GRM
C515	87-010-545-080		CAP,E 0.22-50 M SME
C516	87-010-545-080		CAP,E 0.22-50 M SME
C519	87-015-785-080		C-CAP, 0.1-25 Z F

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C521	87-010-197-080		C-CAP,S 0.01-25 K B
C522	87-010-318-080		C-CAP,S 47P-50 J CH
C523	87-010-197-080		C-CAP,S 0.01-25 K B
C525	87-010-184-080		C-CAP,S 3300P-50 K B
C526	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C527	87-010-401-080		CAP,E 1-50 M SME
C528	87-010-401-080		CAP,E 1-50 M SME
C529	87-010-384-080		CAP,E 100-25 M SME
C530	87-010-197-080		C-CAP,S 0.01-25 K B
C531	87-010-183-080		C-CAP,S 2700P-50 K B
C532	87-010-194-080		C-CAP,S 0.047-25 Z F
C534	87-010-263-080		CAP,E 100-10 SME
C535	87-010-401-080		CAP,E 1-50 M SME
C536	87-010-401-080		CAP,E 1-50 M SME
C537	87-010-545-080		CAP,E 0.22-50 M SME
C538	87-012-142-080		C-CAP,S 0.33-16 Z F
C540	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C541	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C542	87-010-405-080		CAP,E 10-50 M SME
C543	87-010-546-080		CAP,E 0.33-50 SME
C544	87-010-546-080		CAP,E 0.33-50 SME
C545	87-010-400-080		CAP,E 0.47-50 M SME
C546	87-010-400-080		CAP,E 0.47-50 M SME
C547	87-015-632-080		C-CAP,0.015-50 K B
C548	87-015-632-080		C-CAP,0.015-50 K B
C553	87-015-627-080		C-CAP,1000P-50 K B
C554	87-015-627-080		C-CAP,1000P-50 K B
C557	87-010-178-080		C-CAP,S 1000P-50 K B
C558	87-010-178-080		C-CAP,S 1000P-50 K B
C597	87-010-404-080		CAP,E 4.7-50 M SME
C598	87-010-404-080		CAP,E 4.7-50 M SME
C601	87-010-178-080		C-CAP,S 1000P-50 K B
C602	87-010-178-080		C-CAP,S 1000P-50 K B
C603	87-010-405-080		CAP,E 10-50 M SME
C604	87-010-405-080		CAP,E 10-50 M SME
C605	87-010-260-080		CAP,E 47-25 SME
C606	87-010-101-080		CAP,E 220-16 SME
C607	87-010-188-080		C-CAP,S 6800P-50 K B
C608	87-010-188-080		C-CAP,S 6800P-50 K B
C609	87-018-127-080		CAP,TC U 470P-50 K B UP050
C610	87-018-127-080		CAP,TC U 470P-50 K B UP050
C611	87-010-197-080		C-CAP,S 0.01-25 K B
C612	87-010-197-080		C-CAP,S 0.01-25 K B
C613	87-010-195-080		C-CAP,S 0.068-25 Z F C2012
C614	87-010-195-080		C-CAP,S 0.068-25 Z F C2012
C615	87-010-404-080		CAP,E 4.7-50 M SME
C616	87-010-404-080		CAP,E 4.7-50 M SME
C617	87-010-404-080		CAP,E 4.7-50 M SME
C618	87-010-404-080		CAP,E 4.7-50 M SME
C641	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C642	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C651	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C653	87-012-154-080		C-CAP,S 150P-50 J CH GRM
C659	87-A10-060-080		C-CAP,S 0.18-16 K B
C660	87-A10-060-080		C-CAP,S 0.18-16 K B
C661	87-012-154-080		C-CAP,S 150P-50 J CH GRM
C662	87-012-145-080		C-CAP,S 270P-50 J CH
C663	87-012-145-080		C-CAP,S 270P-50 J CH
C664	87-012-154-080		C-CAP,S 150P-50 J CH GRM
C665	87-010-183-080		C-CAP,S 2700P-50 K B
C666	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C667	87-010-177-080		C-CAP,S 820P-50 J SL
C668	87-010-177-080		C-CAP,S 820P-50 J CH
C669	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C670	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C671	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C672	87-010-183-080		C-CAP,S 2700P-50 K B
C680	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C701	87-010-381-080		CAP,E 330-16 SME

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C702	87-010-404-080		CAP,E 4.7-50 M SME
C703	87-010-197-080		C-CAP,S 0.01-25 K B
C704	87-010-197-080		C-CAP,S 0.01-25 K B
C711	87-010-263-080		CAP,E 100-10 SME
C712	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C722	87-010-312-080		C-CAP,S 15P-50 J CH
C723	87-010-178-080		C-CAP,S 1000P-50 K B
C725	87-010-178-080		C-CAP,S 1000P-50 K B
C727	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C728	87-010-248-080		CAP,E 220-10 SME
C735	87-018-134-080		CAP,TC U 0.01-16 N Y UP050
C770	87-010-405-080		CAP,E 10-50 M SME
C771	87-010-405-080		CAP,E 10-50 M SME
C772	87-010-194-080		C-CAP,S 0.047-25 Z F
C773	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C774	87-010-263-080		CAP,E 100-10 SME
C775	87-010-405-080		CAP,E 10-50 M SME
C777	87-010-400-080		CAP,E 0.47-50 M SME
C778	87-010-401-080		CAP,E 1-50 M SME
C779	87-010-401-080		CAP,E 1-50 M SME
C780	87-010-197-080		C-CAP,S 0.01-25 K B
C781	87-010-405-080		CAP,E 10-50 M SME
C782	87-010-405-080		CAP,E 10-50 M SME
C785	87-010-197-080		C-CAP,S 0.01-25 K B
C786	87-010-197-080		C-CAP,S 0.01-25 K B
C787	87-010-184-080		C-CAP,S 3300P-50 K B
C788	87-010-184-080		C-CAP,S 3300P-50 K B
C789	87-010-179-080		C-CAP,S 1200P-50 K B
C790	87-010-179-080		C-CAP,S 1200P-50 K B
C791	87-010-401-080		CAP,E 1-50 M SME
C792	87-010-180-080		C-CAP,S 1500P-50 K B
C793	87-010-189-080		C-CAP,S 8200P-50 K B
C794	87-010-408-080		CAP,E 47-50 SME
C795	87-010-194-080		C-CAP,S 0.047-25 Z F
C796	87-010-403-080		CAP,E 3.3-50 M SME
C799	87-010-178-080		C-CAP,S 1000P-50 K B
C802	87-010-197-080		C-CAP,S 0.01-25 K B
C814	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C819	87-010-197-080		C-CAP,S 0.01-25 K B
C820	87-010-408-080		CAP,E 47-50 SME
C821	87-010-197-080		C-CAP,S 0.01-25 K B
C823	87-010-197-080		C-CAP,S 0.01-25 K B
C828	87-010-197-080		C-CAP,S 0.01-25 K B
C829	87-010-197-080		C-CAP,S 0.01-25 K B
C830	87-015-819-080		C-CAP,0.01-50 K B
C835	87-010-197-080		C-CAP,S 0.01-25 K B
C901	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C902	87-015-785-080		C-CAP, 0.1-25 Z F
C903	87-018-119-080		CAP,TC U 100P-50 K B UP050
C941	87-010-314-080		C-CAP,S 22P-50 J CH
C943	87-010-197-080		C-CAP,S 0.01-25 K B
C944	87-014-051-080		CAP,PP 560P-100 J
C945	87-010-197-080		C-CAP,S 0.01-25 K B
C946	87-010-401-080		CAP,E 1-50 M SME
C950	87-014-073-080		CAP,PP 4700P-100 J
C952	87-010-197-080		C-CAP,S 0.01-25 K B
C953	87-010-197-080		C-CAP,S 0.01-25 K B
C954	87-010-400-080		CAP,E 0.47-50 M SME
C956	87-010-263-080		CAP,E 100-10 SME
C960	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C987	87-018-134-080		CAP,TC U 0.01-16 N Y UP050
C990	87-010-197-080		C-CAP,S 0.01-25 K B
C993	87-018-134-080		CAP,TC U 0.01-16 N Y UP050
C995	87-010-197-080		C-CAP,S 0.01-25 K B
C999	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
CF801	87-008-261-010		FLTR,CFSFE10.7MA5
CF802	87-008-261-010		FLTR,CFSFE10.7MA5
FFE801	A8-6ZA-190-030		6ZA-1 YFEUNM
FR121	87-029-060-010		RES,FUSE 33-1/4W J
FR122	87-029-060-010		RES,FUSE 33-1/4W J

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
J252	87-099-678-010		JACK,6.3 BLK ST W/SW
J253	87-099-474-010		JACK,PIN 3P BLK W/SW
J254	87-A60-238-010		TERMINAL,SP 4P (MSC)
J652	87-099-625-010		JACK,PIN 4P BLK W/O SW
J801	87-A60-202-010		TERMINAL,ANT 4P MSP-154V-02
L101	87-003-383-010		COIL,1UH K
L102	87-003-383-010		COIL,1UH K
L403	87-A50-049-010		COIL,TRAP 85K(COI)
L404	87-A50-049-010		COIL,TRAP 85K(COI)
L451	87-007-342-010		COIL,OSC 85KHZ BIAS
L701	87-A50-027-010		COIL,1 POLE MPX(TOK)
L702	87-A50-027-010		COIL,1 POLE MPX(TOK)
L741	87-A50-015-010		COIL,FM DET (TOK)
L742	87-A90-052-010		FLTR, CFMT-450A(TOK)
L743	87-005-564-080		C-COIL,2125 2.2UH K MLF2012
L770	87-003-102-080		COIL,10UH K LAL02
L832	87-005-847-080		COIL,2.2UH K CECS
L941	87-A50-022-010		COIL,ANT SW (COI) 7.96MHZ
L942	87-A50-021-010		COIL,OSC SW (COI) 15MHZ
L943	87-005-372-080		COIL,1MH K LAL03
L944	87-003-131-080		COIL,10MH J EL0607
L981	86-NF4-666-010		COIL,AM PACK 3(TOK)
⚠ PR113	87-026-681-080		PROTECTOR,5A 491SERIES 60V
⚠ PR114	87-026-681-080		PROTECTOR,5A 491SERIES 60V
⚠ PR150	87-A90-091-080		PROTECTOR,2A 491SERIES 60V
R105	87-022-600-080		RES,M/F 0.1-2 WJ
R106	87-022-600-080		RES,M/F 0.1-2 WJ
RY101	87-045-389-010		RELAY,12V OSA-SS-212DM5
RY102	87-045-382-010		RELAY,12V OUAZ-SH-112L
SFR301	87-024-355-080		SFR,33K H EVN DJAA03
SFR302	87-024-355-080		SFR,33K H EVN DJAA03
SFR303	87-024-355-080		SFR,33K H EVN DJAA03
SFR304	87-024-355-080		SFR,33K H EVN DJAA03
SFR305	87-024-356-080		SFR,47K H EVN DJAA03
SFR306	87-024-356-080		SFR,47K H EVN DJAA03
SFR451	87-024-356-080		SFR,47K H EVN DJAA03
SFR452	87-024-356-080		SFR,47K H EVN DJAA03
SFR722	87-024-352-080		SFR,4.7K H EVN DJAA03
TC701	87-011-253-080		TRIMMER,CER 30P 4.0X4.5 ECRLA
TC941	87-011-220-080		TRIMMER,CER 20P 6.15X5.9 VCT51
TC942	87-011-221-080		TRIMMER,CER 30P 6.15X5.9 VCT51
TH241	87-A90-157-080		C-THMS,4.7K
VR651	87-A90-153-010		VR,RTRY 50KBX2 V
W101	86-NF9-651-010		F-CABLE,7P 2.5 (NF9)
X703	84-508-618-010		VIB,CER CSB 456 F15
X721	86-NFZ-651-010		VIB,XTAL 4.500MHZ CSA-309
X722	87-030-354-010		VIB,CER 450.0KHZ BFU C

FRONT C.B

C201	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C202	87-012-156-080		C-CAP,S 220P-50 J CH GRM
C203	87-010-263-040		CAP,E 100-10 M SME
C204	87-010-494-040		CAP,E 1-50 5L SRE
C205	87-010-494-040		CAP,E 1-50 5L SRE
C206	87-010-550-040		CAP,E 100-6.3 5L SRE
C207	87-010-550-040		CAP,E 100-6.3 5L SRE
C208	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C209	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C210	87-010-314-080		C-CAP,S 22P-50 J CH
C211	87-010-154-080		C-CAP,S 10P-50 D CH
C212	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C213	87-010-178-080		C-CAP,S 1000P-50 K B
C214	87-010-112-040		CAP,E 100-16 SME
C215	87-010-322-080		C-CAP,S 100P-50 J CH
C216	87-010-560-040		CAP,E 10-50 M 5L MA
C351	87-010-497-040		CAP,E 4.7-35 5L SRE
C352	87-010-497-040		CAP,E 4.7-35 5L SRE
C353	87-010-981-040		CAP,E 22-35 M 5L SRE
C363	87-012-156-080		C-CAP,S 220P-50 J CH GRM

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C364	87-012-156-080		C-CAP,S 220P-50 J CH GRM
C381	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C382	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C383	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C384	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C385	87-010-322-080		C-CAP,S 100P-50 J CH
C386	87-010-400-040		CAP,E 0.47-50 SME
C387	87-010-400-040		CAP,E 0.47-50 SME
C389	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C401	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C402	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C601	87-010-405-040		CAP,E 10-50 M SME
C602	87-010-176-080		C-CAP,S 680P-50 J SL
C603	87-010-186-080		C-CAP,S 4700P-50 K B
C604	87-010-322-080		C-CAP,S 100P-50 J CH
C605	87-010-321-080		C-CAP,S 82P-50 J CH
C606	87-010-401-040		CAP,E 1-50 M SME
C607	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C608	87-010-322-080		C-CAP,S 100P-50 J CH
C609	87-010-491-040		CAP,E 0.22-50 5L SRE
C610	87-010-177-080		C-CAP,S 820P-50 J SL
C611	87-010-406-040		CAP,E 22-50 M SME
C612	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C614	87-A10-189-040		CAP,E 220-10 M
C615	87-010-498-040		CAP,E 10-16 M 5L SRE
C619	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C620	87-010-197-080		C-CAP,S 0.01-25 K B
C622	87-010-194-080		C-CAP,S 0.047-25 Z F
C650	87-010-319-080		C-CAP,S 56P-50 J CH
C651	87-010-319-080		C-CAP,S 56P-50 J CH
C652	87-010-404-040		CAP,E 4.7-50 SME
C654	87-010-178-080		C-CAP,S 1000P-50 K B
C655	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C656	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C657	87-010-263-040		CAP,E 100-10 M SME
C658	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C659	87-010-184-080		C-CAP,S 3300P-50 K B
C660	87-010-426-080		C-CAP,S 0.012-25 K B
C663	87-010-263-040		CAP,E 100-10 M SME
C664	87-012-141-080		C-CAP,S 0.22-16 Z F
C667	87-018-130-080		CAP,TC U 820P-50 K B UP050
C668	87-010-180-080		C-CAP,S 1500P-50 K B
C669	87-010-404-040		CAP,E 4.7-50 SME
C670	87-010-404-040		CAP,E 4.7-50 SME
C671	87-010-188-080		C-CAP,S 6800P-50 K B
C672	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C701	87-010-421-040		CAP,E 4.7-50 M 5L SRE
C702	87-010-112-040		CAP,E 100-16 SME
C705	87-010-493-040		CAP,E 0.47-50 M 5L SRE
C706	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C707	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C708	87-010-400-040		CAP,E 0.47-50 SME
C709	87-010-192-080		C-CAP,S 0.022-50 Z F C2012
C710	87-010-400-040		CAP,E 0.47-50 SME
C711	87-010-190-080		C-CAP,S 0.01-50 Z F C2012
C712	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C713	87-010-185-080		C-CAP,S 3900P-50 K B
C714	87-010-596-080		C-CAP,S 0.047-16 K R
C715	87-010-181-080		C-CAP,S 1800P-50 K B
C716	87-010-192-080		C-CAP,S 0.022-50 Z F C2012
C717	87-010-176-080		C-CAP,S 680P-50 J SL
C718	87-010-188-080		C-CAP,S 6800P-50 K B
C719	87-012-145-080		C-CAP,S 270P-50 J CH
C720	87-010-183-080		C-CAP,S 2700P-50 K B
C721	87-010-402-040		CAP,E 2.2-50 SME
C722	87-010-495-040		CAP,E 2.2-50 5L SRE
C723	87-010-378-040		CAP,E 10-16 M SME
C724	87-010-192-080		C-CAP,S 0.022-50 Z F C2012
C725	87-010-493-040		CAP,E 0.47-50 M 5L SRE
C726	87-010-197-080		C-CAP,S 0.01-25 K B
C727	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C728	87-010-185-080		C-CAP,S 3900P-50 K B
C729	87-010-596-080		C-CAP,S 0.047-16 K R
C730	87-010-181-080		C-CAP,S 1800P-50 K B
C731	87-010-192-080		C-CAP,S 0.022-50 Z F C2012
C732	87-010-176-080		C-CAP,S 680P-50 J SL
C733	87-010-188-080		C-CAP,S 6800P-50 K B
C734	87-012-145-080		C-CAP,S 270P-50 J CH
C735	87-010-183-080		C-CAP,S 2700P-50 K B
C751	87-010-322-080		C-CAP,S 100P-50 J CH
C752	87-010-322-080		C-CAP,S 100P-50 J CH
C753	87-010-493-049		CAP,E 0.47-50 M SL SRE
C754	87-010-493-049		CAP,E 0.47-50 M SL SRE
C801	87-010-197-080		C-CAP,S 0.01-25 K B
C802	87-010-178-080		C-CAP,S 1000P-50 K B
C803	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C804	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C805	87-010-805-080		C-CAP,S 1-16 Z F
C806	87-010-805-080		C-CAP,S 1-16 Z F
C807	87-010-561-040		CAP,E 100-16 M 5L SRE
C808	87-A10-189-040		CAP,E 220-10 M
C809	87-010-491-040		CAP,E 0.22-50 5L SRE
C810	87-010-491-040		CAP,E 0.22-50 5L SRE
C811	87-010-495-040		CAP,E 2.2-50 5L SRE
C813	87-010-560-040		CAP,E 10-50 M 5L MA
C814	87-010-405-040		CAP,E 10-50 M SME
C815	87-010-322-080		C-CAP,S 100P-50 J CH
C816	87-010-322-080		C-CAP,S 100P-50 J CH
C817	87-012-142-080		C-CAP,S 0.33-16 Z F
FB601	87-008-372-080		FLTR,EMIBL01 RN1
FFC102	87-A80-054-110		FF-CABLE,4P 1.25 70MM
FFC104	88-914-281-110		FF-CABLE,14P 1.25
FFC301	87-A80-053-010		FF-CABLE,8P 1.25 300MM
FFC501	88-915-161-110		FF-CABLE,15P 1.25
FL301	86-NF9-653-010		FL,BJ539GK
FL302	86-NF9-616-010		FL,BJ504GK
J601	87-A60-284-010		JACK,3.5MO (MSC)
J621	87-A60-284-010		JACK,3.5MO (MSC)
L201	87-A50-158-010		COIL,CLOCK 4.19MHZ (NF9)
L650	87-005-738-080		COIL,47UH J SP02
LED401	87-070-281-080		LED,SLZ-736A-25H-S-T1 P-GRN
LED402	87-070-281-080		LED,SLZ-736A-25H-S-T1 P-GRN
LED403	87-070-281-080		LED,SLZ-736A-25H-S-T1 P-GRN
LED404	87-070-281-080		LED,SLZ-736A-25H-S-T1 P-GRN
LED405	87-070-281-080		LED,SLZ-736A-25H-S-T1 P-GRN
LED406	87-070-281-080		LED,SLZ-736A-25H-S-T1 P-GRN
LED407	87-017-979-010		LED,SEL2413E GRN
LED408	87-017-979-010		LED,SEL2413E GRN
LED409	87-017-979-010		LED,SEL2413E GRN
LED410	87-017-979-010		LED,SEL2413E GRN
LED411	87-017-979-010		LED,SEL2413E GRN
LED412	87-017-979-010		LED,SEL2413E GRN
LED413	87-017-979-010		LED,SEL2413E GRN
LED414	87-017-979-010		LED,SEL2413E GRN
LED420	87-A40-259-080		LED,SLR-342VCT31 RED
LED421	87-A40-259-080		LED,SLR-342VCT31 RED
LED422	87-A40-259-080		LED,SLR-342VCT31 RED
LED423	87-A40-259-080		LED,SLR-342VCT31 RED
LED425	87-070-278-010		LED,SLZ-738A-24S PGRN
LED426	87-070-278-010		LED,SLZ-738A-24S PGRN
LED427	87-070-290-010		LED,SLZ-936C-30-S RED
LED428	87-070-290-010		LED,SLZ-936C-30-S RED
LED429	87-070-278-010		LED,SLZ-738A-24S PGRN
LED430	87-070-278-010		LED,SLZ-738A-24S PGRN
⚠ PR101	87-026-689-080		PROTECTOR,1A 491 SERIES 60 V
S301	87-A90-095-080		SW,TACT EVQ11G04M
S302	87-A90-095-080		SW,TACT EVQ11G04M
S303	87-A90-095-080		SW,TACT EVQ11G04M
S304	87-A90-095-080		SW,TACT EVQ11G04M
S305	87-A90-095-080		SW,TACT EVQ11G04M

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
S306	87-A90-095-080		SW,TACT EVQ11G04M
S307	87-A90-095-080		SW,TACT EVQ11G04M
S308	87-A90-095-080		SW,TACT EVQ11G04M
S309	87-A90-095-080		SW,TACT EVQ11G04M
S310	87-A90-095-080		SW,TACT EVQ11G04M
S311	87-A90-095-080		SW,TACT EVQ11G04M
S312	87-A90-095-080		SW,TACT EVQ11G04M
S313	87-A90-095-080		SW,TACT EVQ11G04M
S314	87-A90-095-080		SW,TACT EVQ11G04M
S315	87-A90-095-080		SW,TACT EVQ11G04M
S316	87-A90-095-080		SW,TACT EVQ11G04M
S317	87-A90-095-080		SW,TACT EVQ11G04M
S318	87-A90-095-080		SW,TACT EVQ11G04M
S319	87-A90-095-080		SW,TACT EVQ11G04M
S320	87-A90-095-080		SW,TACT EVQ11G04M
S321	87-A90-095-080		SW,TACT EVQ11G04M
S322	87-A90-095-080		SW,TACT EVQ11G04M
S323	87-A90-095-080		SW,TACT EVQ11G04M
S324	87-A90-095-080		SW,TACT EVQ11G04M
S326	87-A90-095-080		SW,TACT EVQ11G04M
S327	87-A90-095-080		SW,TACT EVQ11G04M
S328	87-A90-095-080		SW,TACT EVQ11G04M
S329	87-A90-095-080		SW,TACT EVQ11G04M
S330	87-A90-095-080		SW,TACT EVQ11G04M
S331	87-A90-095-080		SW,TACT EVQ11G04M
S332	87-A90-095-080		SW,TACT EVQ11G04M
S333	87-A90-095-080		SW,TACT EVQ11G04M
S334	87-A90-095-080		SW,TACT EVQ11G04M
S335	87-A90-095-080		SW,TACT EVQ11G04M
S336	87-A90-095-080		SW,TACT EVQ11G04M
S338	87-A90-095-080		SW,TACT EVQ11G04M
S339	87-A90-095-080		SW,TACT EVQ11G04M
SW251	87-A90-392-010		SW,RTRY EC16B24304-20 NON
VR601	86-NFA-607-010		VR,RTRY 10K15AX1 1 V XV0121PVN
CD SW C.B			
LED451	87-017-979-010		LED,SEL2413E GRN
LED452	87-017-979-010		LED,SEL2413E GRN
LED453	87-017-979-010		LED,SEL2413E GRN
LED454	87-017-979-010		LED,SEL2413E GRN
LED455	87-017-979-010		LED,SEL2413E GRN
LED456	87-017-979-010		LED,SEL2413E GRN
LED457	87-017-979-010		LED,SEL2413E GRN
LED458	87-017-979-010		LED,SEL2413E GRN
LED459	87-017-979-010		LED,SEL2413E GRN
LED460	87-017-979-010		LED,SEL2413E GRN
S451	87-A90-095-080		SW,TACT EVQ11G04M
S452	87-A90-095-080		SW,TACT EVQ11G04M
S453	87-A90-095-080		SW,TACT EVQ11G04M
S454	87-A90-095-080		SW,TACT EVQ11G04M
S455	87-A90-095-080		SW,TACT EVQ11G04M
S456	87-A90-095-080		SW,TACT EVQ11G04M
S457	87-A90-095-080		SW,TACT EVQ11G04M
VR C.B			
SW252	87-A90-340-010		SW,RTRY EC16B24204-15
AC2 C.B			
⚠ PR101	87-026-682-080		PROTECTOR,10A 491SERIES 60V
⚠ PR102	87-026-682-080		PROTECTOR,10A 491SERIES 60V
PT C.B			
⚠	82-304-743-010		TERMINAL,1P
⚠ F109	87-035-368-010		FUSE,4A,250V T
⚠ F110	87-035-368-010		FUSE,4A,250V T
⚠ FC101	87-033-213-080		FUSE CLAMP,PFC5000
⚠ FC102	87-033-213-080		FUSE CLAMP,PFC5000
⚠ FC103	87-033-213-080		FUSE CLAMP,PFC5000
⚠ FC104	87-033-213-080		FUSE CLAMP,PFC5000
⚠ PT001	86-NF9-630-010		PT,6NF-9H
⚠ SW101	87-A90-165-010		SW,SL 1-2-3 SWS2301
PRO C.B			
C151	87-016-083-080		C-CAP,S 0.15-16 K R
VCD MAIN C.B			
C101	87-010-197-080		C-CAP,S 0.01-25 K B
C102	87-010-550-040		CAP,E 100-6.3 5L SRE
C103	87-010-318-080		C-CAP,S 47P-50 J CH
C104	87-010-197-080		C-CAP,S 0.01-25 K B
C105	87-010-318-080		C-CAP,S 47P-50 J CH
C106	87-010-549-040		CAP,E 47-6.3 5L SRE
C107	87-012-156-080		C-CAP,S 220P-50 J CH GRM
C108	87-010-184-080		C-CAP,S 3300P-50 K B
C109	87-010-194-080		C-CAP,S 0.047-25 K F
C111	87-010-197-080		C-CAP,S 0.01-25 K B
C112	87-012-358-080		C-CAP,S 0.47-10 Z F
C113	87-010-196-080		C-CAP,S 0.1-25 Z F
C114	87-010-550-040		CAP,E 100-6.3 5L SRE
C115	87-010-196-080		C-CAP,S 0.1-25 Z F
C119	87-010-196-080		C-CAP,S 0.1-25 Z F
C121	87-010-196-080		C-CAP,S 0.1-25 Z F
C130	87-010-178-080		C-CAP,S 1000P-50 K B
C201	87-010-499-040		CAP,E 22-6.3 5L SRE
C203	87-010-196-080		C-CAP,S 0.1-25 Z F
C204	87-010-316-080		C-CAP,S 33P-50 J CH
C205	87-010-316-080		C-CAP,S 33P-50 J CH
C206	87-010-499-040		CAP,E 22-6.3 5L SRE
C207	87-010-197-080		C-CAP,S 0.01-25 K B
C208	87-010-197-080		C-CAP,S 0.01-25 K B
C209	87-010-197-080		C-CAP,S 0.01-25 K B
C210	87-010-197-080		C-CAP,S 0.01-25 K B
C211	87-010-197-080		C-CAP,S 0.01-25 K B
C301	87-010-549-040		CAP,E 47-6.3 5L SRE
C302	87-010-549-040		CAP,E 47-6.3 5L SRE
C303	87-010-178-080		C-CAP,S 1000P-50 KB
C304	87-010-197-080		C-CAP,S 0.01-25 K B
C305	87-010-197-080		C-CAP,S 0.01-25 K B
C306	87-010-197-080		C-CAP,S 0.01-25 K B
C307	87-010-197-080		C-CAP,S 0.01-25 K B
C308	87-010-197-080		C-CAP,S 0.01-25 K B
C309	87-010-197-080		C-CAP,S 0.01-25 K B
C310	87-010-197-080		C-CAP,S 0.01-25 K B
C311	87-010-197-080		C-CAP,S 0.01-25 K B
C312	87-010-197-080		C-CAP,S 0.01-25 K B
C313	87-010-318-080		C-CAP,S 47P-50 J CH
C314	87-010-196-080		C-CAP,S 0.1-25 Z F
C315	87-010-196-080		C-CAP,S 0.1-25 Z F
C316	87-010-549-040		CAP,E 47-6.3 5L SRE
C320	87-010-196-080		C-CAP,S 0.1-25 Z F
C321	87-010-549-040		CAP,E 47-6.3 5L SRE
C322	87-010-197-080		C-CAP,S 0.01-25 K B
C323	87-010-549-040		CAP,E 47-6.3 5L SRE
C324	87-010-197-080		C-CAP,S 0.01-25 K B
C402	87-010-550-040		CAP,E 100-6.3 5L SRE
C403	87-010-197-080		C-CAP,S 0.01-25 K B
C404	87-012-140-080		C-CAP,S 470P-50 J CH
C405	87-010-322-080		C-CAP,S 100P-50 J CH
C406	87-012-140-080		C-CAP,S 470P-50 J CH
C407	87-010-371-080		CAP,E 470-6.3 SME
C408	87-010-196-080		C-CAP,S 0.1-25 Z F
C409	87-010-197-080		C-CAP,S 0.01-25 K B
C410	87-010-197-080		C-CAP,S 0.01-25 K B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C412	87-010-550-040		CAP,E 100-6.3 5L SRE
C413	87-010-314-080		C-CAP,S 22P-50 J CH
C414	87-010-316-080		C-CAP,S 33P-50 J CH
C415	87-010-499-040		CAP,E 22-6.3 5L SRE
C416	87-010-197-080		C-CAP,S 0.01-25 K B
C418	87-010-197-080		C-CAP,S 0.01-25 K B
C420	87-010-197-080		C-CAP,S 0.01-25 J B
C421	87-012-140-080		C-CAP,S 470P-50 J CH
C422	87-010-184-080		C-CAP,S 3300P-50 K B
C423	87-010-175-080		C-CAP,S 560P-50 J SL
C424	87-010-317-080		C-CAP,S 39P-50 J CH
C425	87-012-140-080		C-CAP,S 470P-50 J CH
C426	87-018-209-080		CAP,TC U 0.1-50 Z F UP050
C427	87-018-209-080		CAP,TC U 0.1-50 Z F UP050
C428	87-018-209-080		CAP,TC U 0.1-50 Z F UP050
C429	87-010-197-080		C-CAP,S 0.01-25 K B
C488	87-010-197-080		C-CAP,S 0.01-25 K B
C489	87-010-197-080		C-CAP,S 0.01-25 K B
C491	87-010-197-080		C-CAP,S 0.01-25 K B
C499	87-010-197-080		C-CAP,S 0.01-25 K B
C501	87-010-550-040		CAP,E 100-6.3 5L SRE
C502	87-010-196-080		C-CAP,S 0.1-25 Z F
C505	87-010-313-080		C-CAP,S 18P-50 J CH
C507	87-010-197-080		C-CAP,S 0.01-25 K B
C508	87-010-178-080		C-CAP,S 1000P-50 K B
C509	87-010-178-080		C-CAP,S 1000P-50 K B
C510	87-010-178-080		C-CAP,S 1000P-50 K B
C511	87-010-178-080		C-CAP,S 1000P-50 K B
C512	87-010-498-040		CAP,E 10-16 5L SRE
C513	87-010-498-040		CAP,E 10-16 5L SRE
C514	87-010-318-080		C-CAP,S 47P-50 J CH
C515	87-010-318-080		C-CAP,S 47P-50 J CH
C516	87-010-197-080		C-CAP,S 0.01-25 K B
C601	87-010-060-040		CAP,E 100-16 M 7L SRA
C602	87-010-432-040		CAP,AS 10-16 M SC
C603	87-010-196-080		C-CAP,S 0.1-25 Z F
C604	87-010-196-080		C-CAP,S 0.1-25 Z F
C606	87-010-196-080		C-CAP,S 0.1-25 Z F
C607	87-012-140-080		C-CAP,S 470P-50 J CH
C616	87-010-552-040		CAP,E 22-16 5L SRE
C651	87-010-101-080		CAP,E 220-16 SME
C652	87-010-496-040		CAP,E 3.3-50 5L SRE
C653	87-010-496-040		CAP,E 3.3-50 5L SRE
C701	87-010-313-080		C-CAP,S 18P-50 J CH
C702	87-010-193-080		C-CAP,S 0.033-25 K F
C703	87-010-993-080		C-CAP,S 0.056-25 J B
C704	87-010-993-080		C-CAP,S 0.056-25 J B
C705	87-010-197-080		C-CAP,S 0.01-25 K B
C707	87-010-197-080		C-CAP,S 0.01-25 K B
C708	87-010-805-080		C-CAP,S 1-16 Z F
C709	87-010-322-080		C-CAP,S 100P-50 J CH
C710	87-016-081-080		C-CAP,S 0.1-16 K R
C711	87-010-549-040		CAP,E 4.7-6.3 5L SRE
C712	87-010-322-080		C-CAP,S 100P-50 J CH
C713	87-010-196-080		C-CAP,S 0.1-25 Z F
C714	87-010-197-080		C-CAP,S 0.01-25 K B
C715	87-012-141-080		C-CAP,S 0.22-16 Z F
C716	87-010-182-080		C-CAP,S 2200P-50 K B
C717	87-012-141-080		C-CAP,S 0.22-16 Z F
C718	87-010-196-080		C-CAP,S 0.1-25 Z F
C719	87-010-196-080		C-CAP,S 0.1-25 Z F
C720	87-010-549-040		CAP,E 47-6.3 5L SRE
C721	87-010-549-040		CAP,E 47-6.3 5L SRE
C722	87-010-497-040		CAP,E 4.7-35 5L SRE
C723	87-010-549-040		CAP,E 47-6.3 5L SRE
C725	87-010-550-040		CAP,E 100-6.3 5L SRE
C726	87-010-197-080		C-CAP,S 0.01-25 K B
C727	87-010-549-040		CAP,E 47-6.3 5L SRE
C728	87-010-549-040		CAP,E 47-6.3 5L SRE
C729	87-010-182-080		C-CAP,S 2200P-50 K B
C731	87-010-196-080		C-CAP,S 0.1-25 Z F
C733	87-010-196-080		C-CAP,S 0.1-25 Z F
C734	87-010-196-080		C-CAP,S 0.1-25 Z F
C735	87-010-196-080		C-CAP,S 0.1-25 Z F
C736	87-010-197-080		C-CAP,S 0.01-25 K B
C737	87-010-805-080		C-CAP,S 1-16 Z F
C738	87-010-178-080		C-CAP,S 1000P-50 K B
C751	87-016-081-080		C-CAP,S 0.1-16 K R
J401	87-009-502-010		JACK,PIN 1P YEL
L101	87-005-204-080		COIL,47UH K EL0606
L202	87-005-204-080		COIL,47UH K EL0606
L301	87-005-204-080		COIL,47UH K EL0606
L302	87-005-204-080		COIL,47UH K EL0606
L303	87-005-204-080		COIL,47UH K EL0606
L304	87-005-204-080		COIL,47UH K EL0606
L401	87-005-196-080		COIL,10UH K EL0606KSI
L402	87-005-781-080		C-COIL, 47UH FLC32C
L404	87-005-190-080		COIL,3.3UH K EL0606
L405	87-005-189-080		COIL,2.7UH K EL0606
L601	87-005-469-080		COIL,4.7UH J FLR50
L602	87-A50-095-010		COIL,68UH RCR875D
M601	87-045-305-019		MOT,RF-500TB
R740	87-022-364-080		C-RES,S 82K-1/10W F
R745	87-022-364-080		C-RES,S 82K-1/10W F
SFR101	87-024-175-080		SFR,47K H RH0638C
SFR102	87-024-176-080		SFR,100K H RH0638C
SFR103	87-024-176-080		SFR,100K H RH0638C
SW101	87-036-109-010		SW,MICRO SPPB61
SW102	87-036-109-010		SW,MICRO SPPB61
SW103	87-036-109-010		SW,MICRO SPPB61
X202	87-A70-027-080		VIB,XTAL 8.0MHZ-100PPM
X401	87-A70-026-080		VIB,XTAL 13.5MHZ-50PPM
X501	87-030-270-080		VIB,XTAL 16.9344MHZ HC-49/U03
VIDEO SW C.B			
SW801	87-A90-238-019		SW,SL1-1-3 9L
LED C.B			
LED701	87-017-733-080		LED,SEL1250SMTP5 RED
LED702	87-017-350-080		LED,SEL1550CM PGRN
LED703	87-017-733-080		LED,SEL1250SMTP5 RED
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
DECK C.B			
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

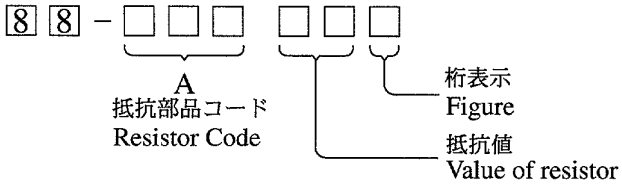
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
SW6	87-036-378-019		SW, PUSH 1-1-1 SH2
SW8	87-036-378-019		SW, PUSH 1-1-1 SH2

HEAD-1 C.B

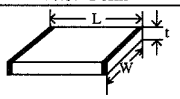
HEAD-2 C.B

O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



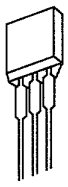
チップ抵抗
Chip resistor

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

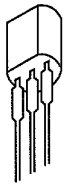
TRANSISTOR ILLUSTRATION

2SA1296GR
2SC3266GR
2SD2172V/W
KTA1266GR
KTC3198GR
2SC1815GR

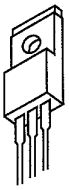
2SA952K
CSD655E
2SA970GR
2SC2001K



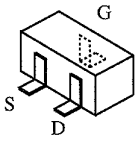
DTA114YS
DTA114ES
2SA1175
2SC2785



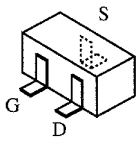
2SK246



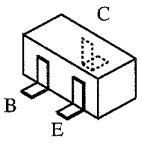
2SB1370



2SK368

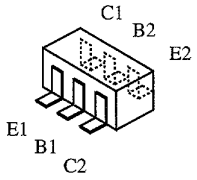


2SK543



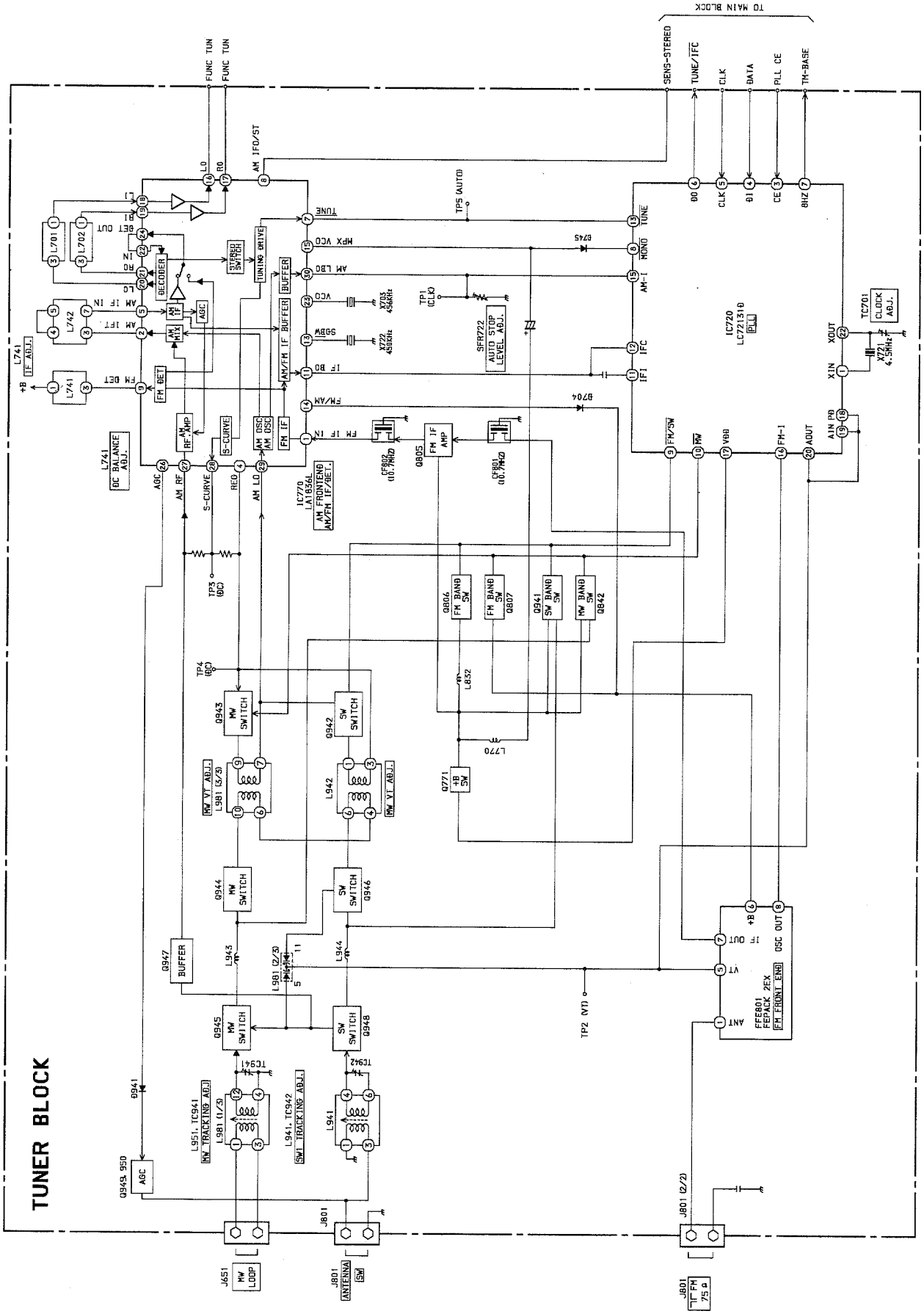
2SA1037
2SA1162
2SC2412
2SC2712
2SC2714
2SC3326
2SC3722
2SD2114
DTA144EK
DTA114TK

DTA124EK
DTA143EK
DTA144TK
DTC114YK
DTC143TK
DTC144WK
UN2213
2SA1362
DTA123JK
DTC124XK

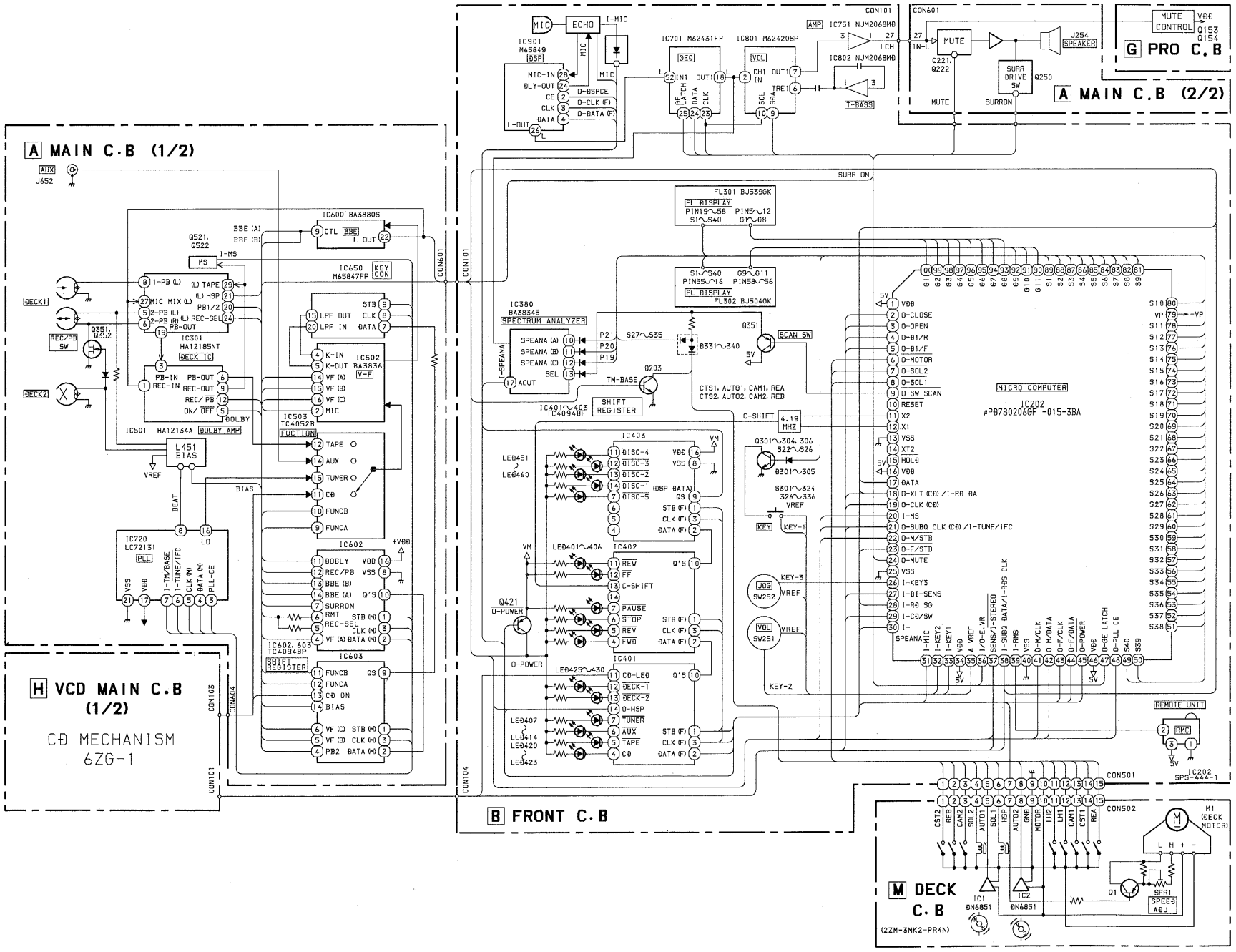


RN1607
HN1C03

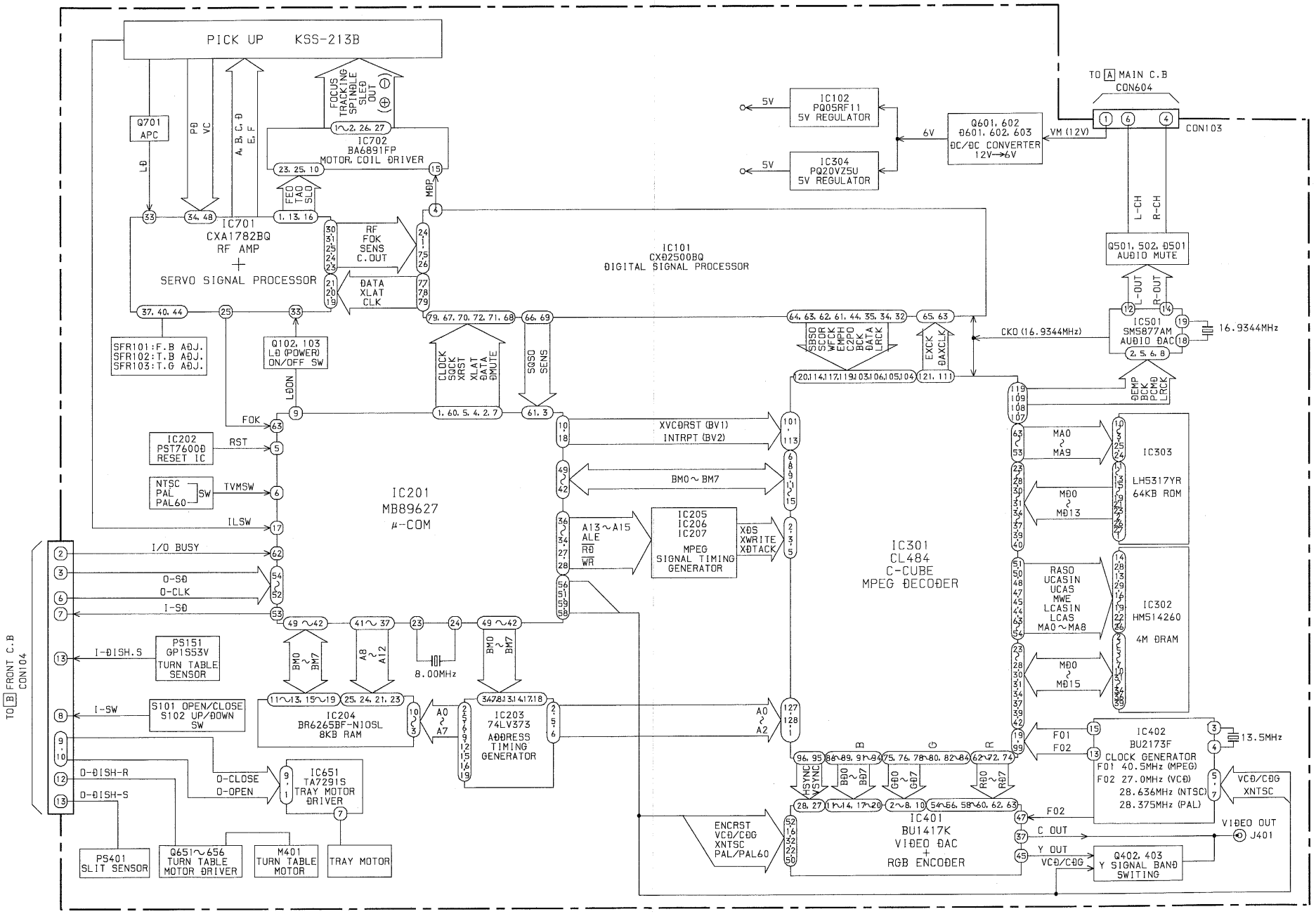
BLOCK DIAGRAM – 1 (TUNER)



BLOCK DIAGRAM – 2 (MAIN/FRONT)

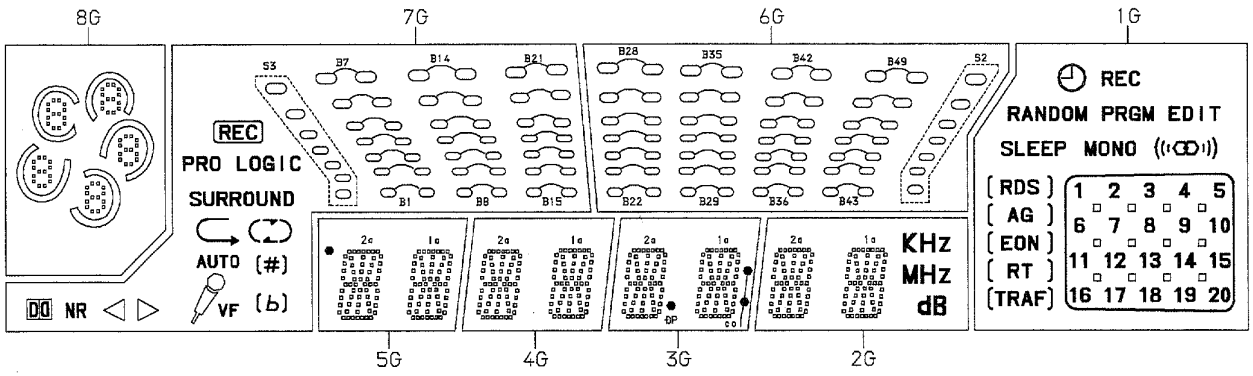


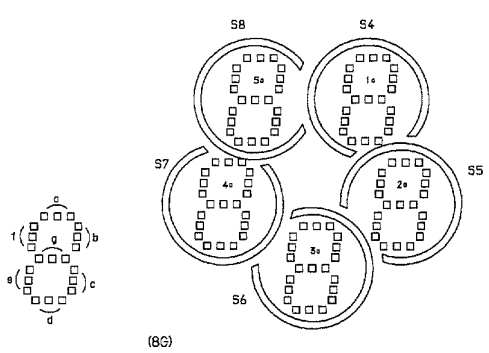
BLOCK DIAGRAM – 3 (VCD)

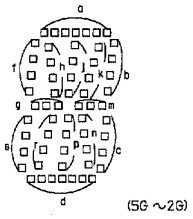


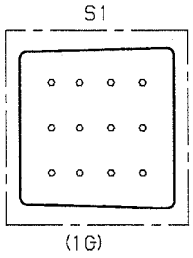
FL GRID ASSIGNMENT & ANODE CONNECTION

FL, BJ539GK





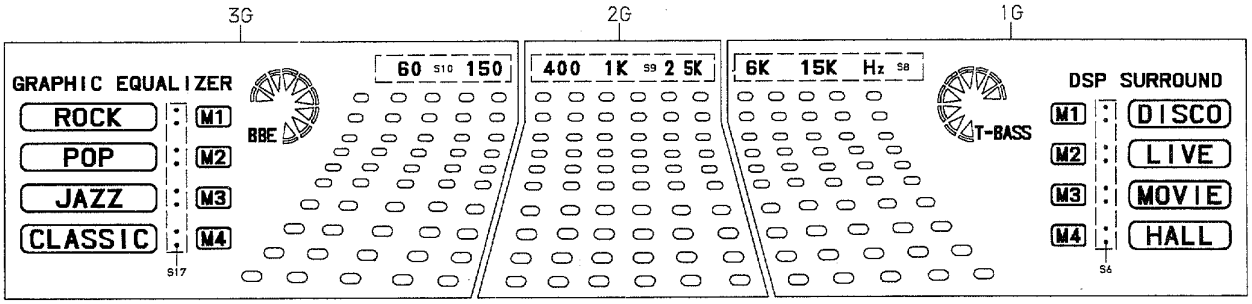




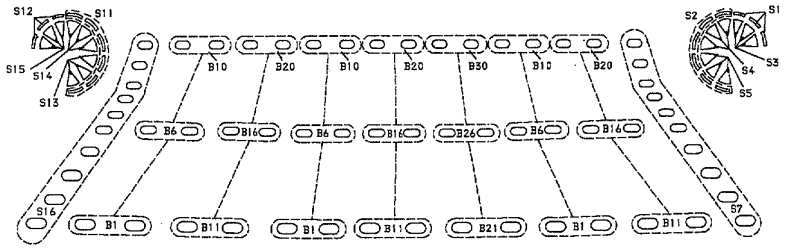
	8G	7G	6G	5G	4G	3G	2G	1G
P1	5a	—	—	—	—	—	—	REC
P2	5b	DO	—	—	—	—	—	◴
P3	5f	NR	—	—	—	—	—	EDIT
P4	5g	◁	—	—	—	—	—	AI
P5	5c	▷	—	—	—	—	—	PRGM
P6	5e	VF	—	—	—	—	—	MONO
P7	5d	REC	—	—	—	—	—	RANDOM
P8	S8	S3	S2	—	—	—	—	SLEEP
P9	S6	)	—	○	—	—	—	((CD))
P10	3d	⇄	—	2a	2a	2a	2a	RDS
P11	3e	(	—	2h	2h	2h	2h	( ) (RDS)
P12	3c	↪	—	2j	2j	2j	2j	AG
P13	3g	(#)	B22	2k	2k	2k	2k	( ) (AG)
P14	3f	B1	B29	2f	2f	2f	2f	EON
P15	3b	B8	B36	2b	2b	2b	2b	( ) (EON)
P16	3a	B15	B43	2m	2m	2m	2m	RT
P17	S5	♯	B23	2g	2g	2g	2g	( ) (RT)
P18	2d	B2	B30	2c	2c	2c	2c	TRAF
P19	2e	B9	B37	2e	2e	2e	2e	( ) (TRAF)
P20	2c	B16	B44	2r	2r	2r	2r	1

	8G	7G	6G	5G	4G	3G	2G	1G
P21	2g	AUTO	B24	2p	2p	2p	2p	2
P22	2f	B3	B31	2n	2n	2n	2n	3
P23	2b	B10	B38	2d	2d	2d	2d	4
P24	2a	B17	B45	—	—	(UP)	KHz	5
P25	S7	SURROUND	B25	—	—	(DOWN)	MHz	6
P26	4d	B4	B32	—	—	ÐP	dB	7
P27	4e	B11	B39	1a	1a	1a	1a	8
P28	4c	B18	B46	1h	1h	1h	1h	9
P29	4g	PRO LOGIC	B26	1j	1j	1j	1j	10
P30	4f	B5	B33	1k	1k	1k	1k	11
P31	4b	B12	B40	1f	1f	1f	1f	12
P32	4a	B19	B47	1b	1b	1b	1b	13
P33	S4	(♭)	B27	1m	1m	1m	1m	14
P34	1d	B6	B34	1g	1g	1g	1g	15
P35	1e	B13	B41	1c	1c	1c	1c	16
P36	1c	B20	B48	1e	1e	1e	1e	17
P37	1g	♭	B28	1r	1r	1r	1r	18
P38	1f	B7	B35	1p	1p	1p	1p	19
P39	1b	B14	B42	1n	1n	1n	1n	20
P40	1a	B21	B49	1d	1d	1d	1d	S1

FL, BJ504GK



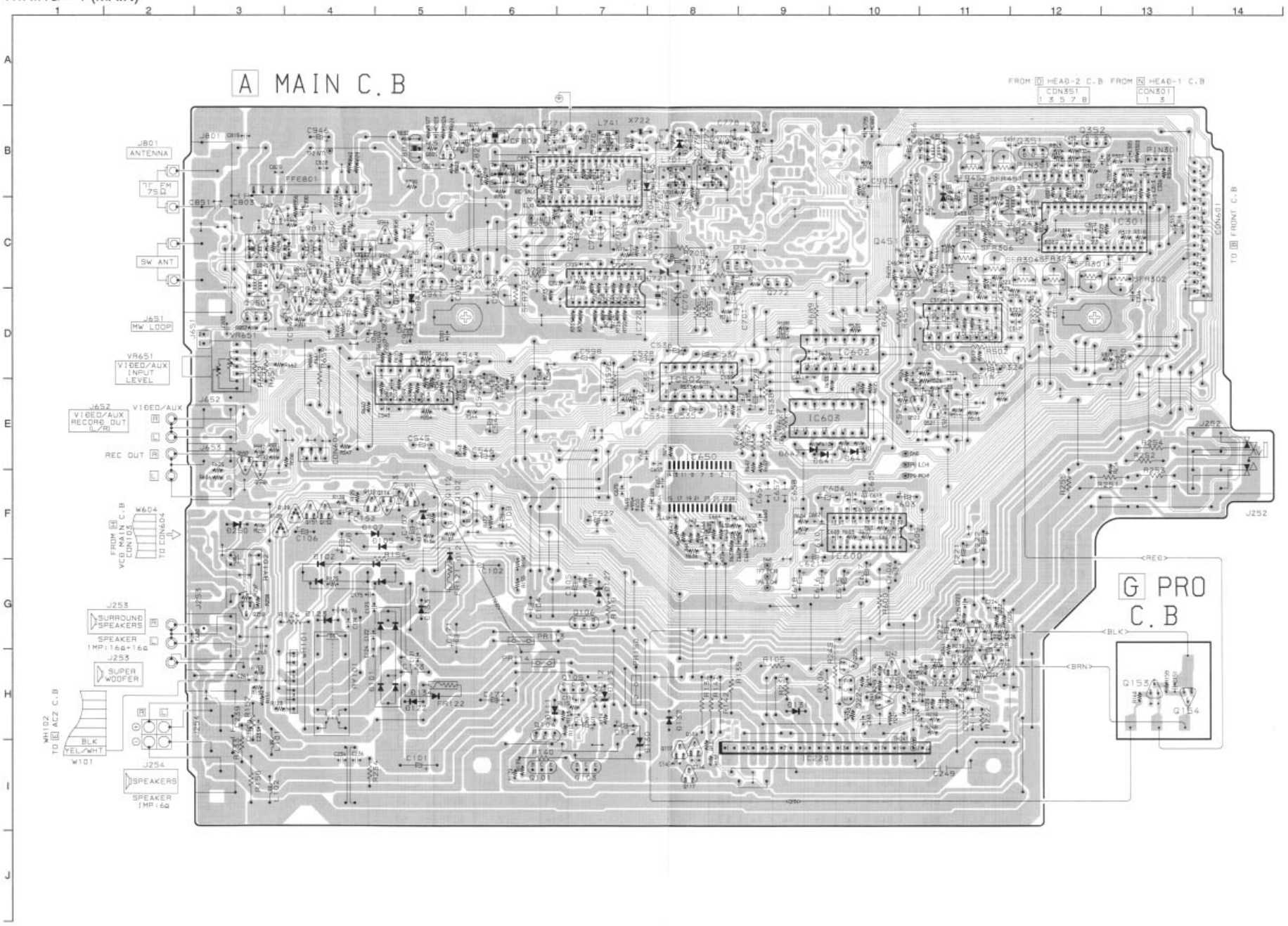
SEGMENT DESIGNATION



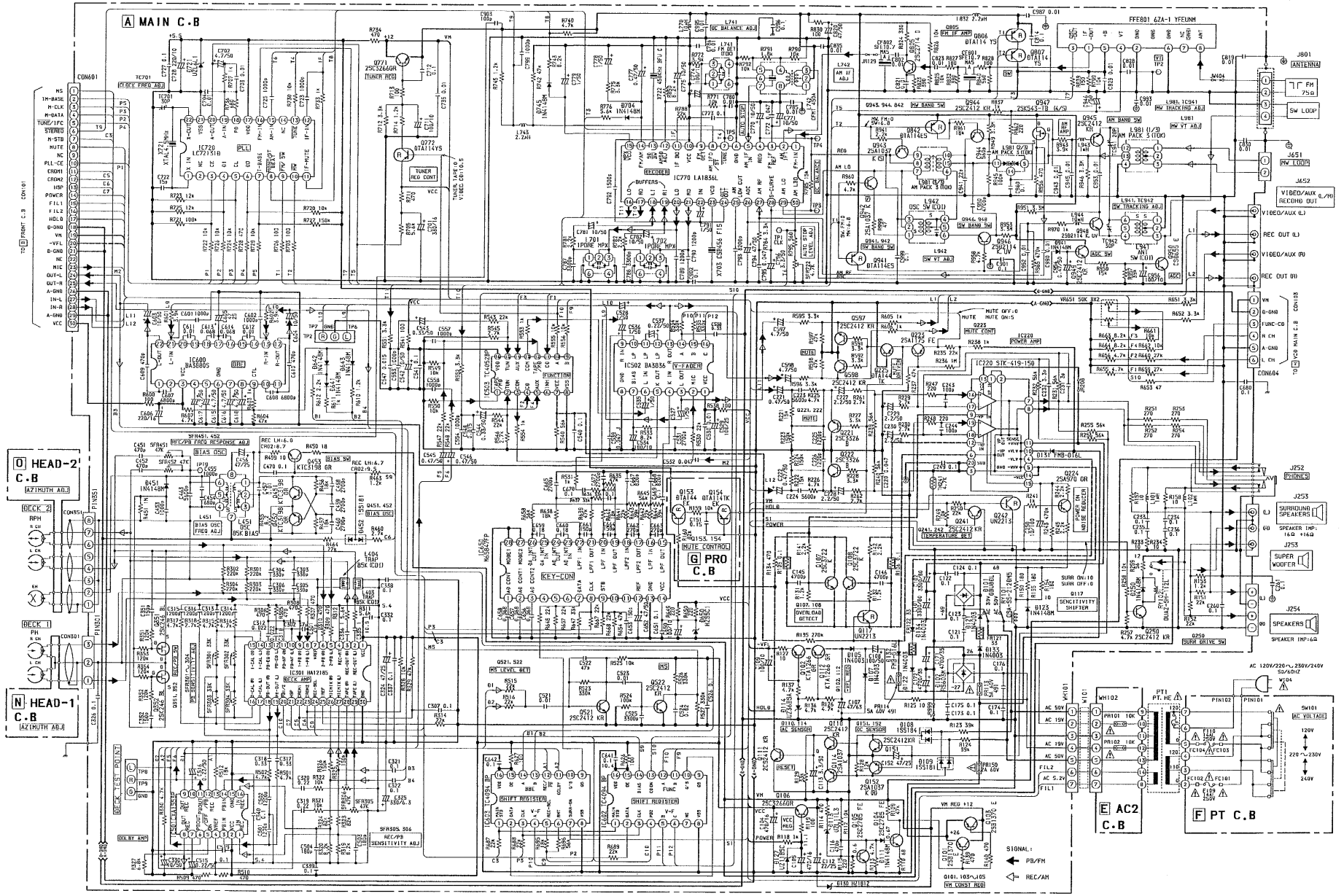
(3G) (2G) (1G)

	3G	2G	1G
P1	GRAPHIC EQUALIZER	—	DSP SURROUND
P2	ROCK POP JAZZ CLASSIC	—	DISCO LIVE MOVIE HALL
P3	(ROCK)	—	(DISCO)
P4	(POP)	—	(LIVE)
P5	(JAZZ)	—	(MOVIE)
P6	(CLASSIC)	—	(HALL)
P7	S10	S9	S8
P8	M1 M3 M2 M4	—	M1 M3 M2 M4
P9	(M1)	—	(M1)
P10	(M2)	—	(M2)
P11	(M3)	B30	(M3)
P12	(M4)	B29	(M4)
P13	S11	B28	S1
P14	S12	B27	S2
P15	S13	B26	S3
P16	S14	B25	S4
P17	S15	B24	S5
P18	BBE	B23	T-BASS
P19	S16	B22	S7
P20	S17	B21	S8

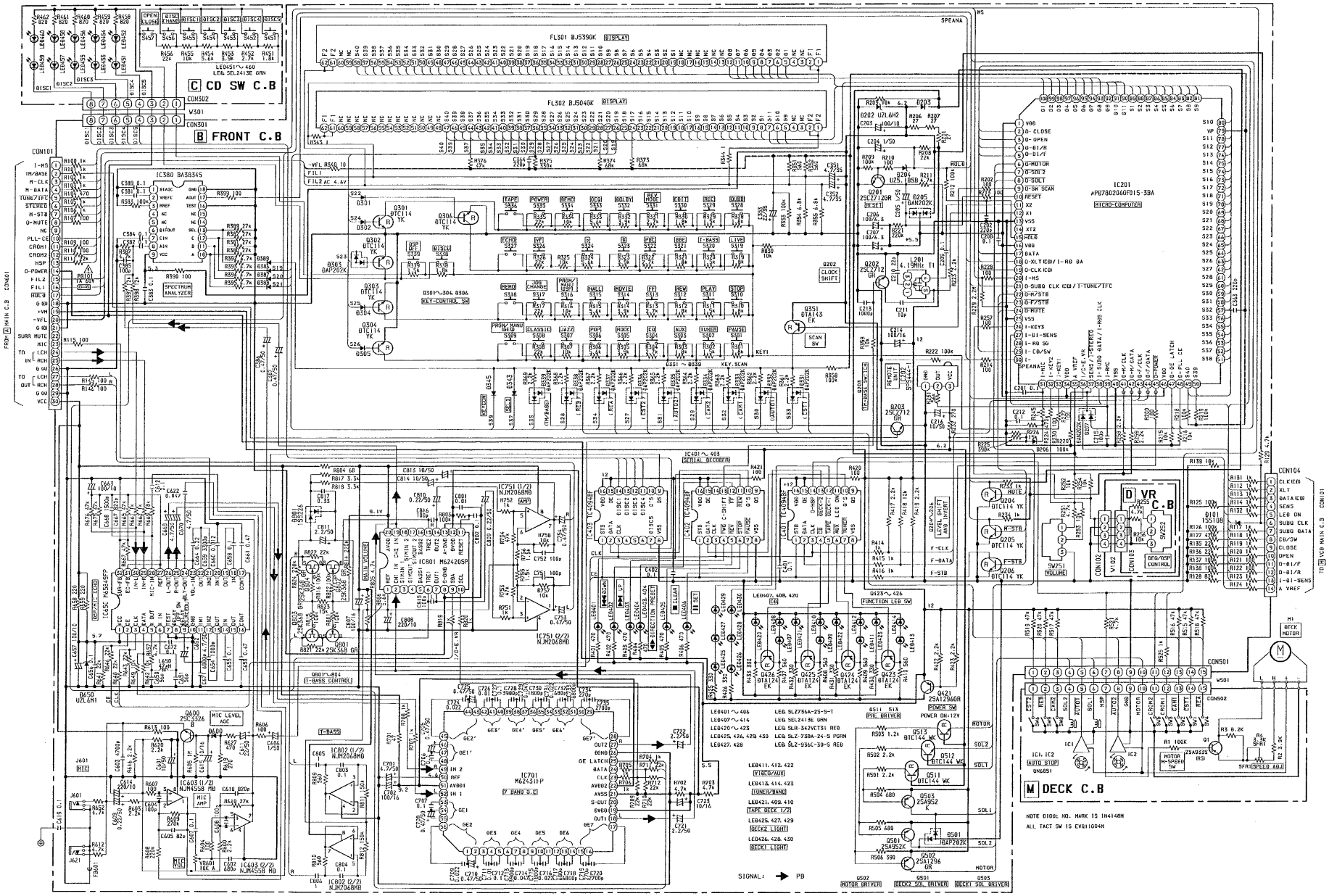
	3G	2G	1G
P21	B20	B20	B20
P22	B19	B19	B19
P23	B18	B18	B18
P24	B17	B17	B17
P25	B16	B16	B16
P26	B15	B15	B15
P27	B14	B14	B14
P28	B13	B13	B13
P29	B12	B12	B12
P30	B11	B11	B11
P31	B10	B10	B10
P32	B9	B9	B9
P33	B8	B8	B8
P34	B7	B7	B7
P35	B6	B6	B6
P36	B5	B5	B5
P37	B4	B4	B4
P38	B3	B3	B3
P39	B2	B2	B2
P40	B1	B1	B1


A MAIN C.B
FROM D HEAD-2 C.B
CON351
1 3 5 7 8
FROM N HEAD-1 C.B
CON301
1 5
TO M FRONT C.B
CON601
J801
ANTENNA
TF FM 75Ω
SW ANT
J651
MW LOOP
VR651
VIDEO/AUX INPUT LEVEL
J652
VIDEO/AUX
J657
VIDEO/AUX RECORD OUT (L/R)
REC OUT
J653
FROM H VCD MAIN C.B CON105
W604
TO CON604
J253
SURROUND SPEAKERS
SPEAKER IMP:16Ω+16Ω
J253
SUPER WOOFER
WH102
TO E AC2 C.B
BLK
YEL/WHT
W101
J254
SPEAKERS
SPEAKER IMP:6Ω
J252
IC301
IC602
IC603
IC650
IC600
IC2
Q352
Q45
Q153
Q154
<RED>
<BLK>
<BRN>
G PRO C.B

SCHEMATIC DIAGRAM – 1 (MAIN)

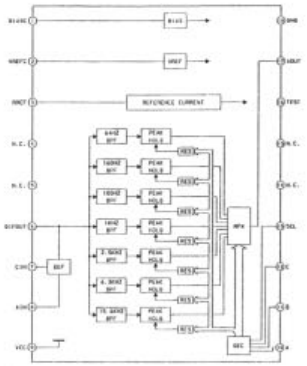


SCHEMATIC DIAGRAM – 2 (FRONT)

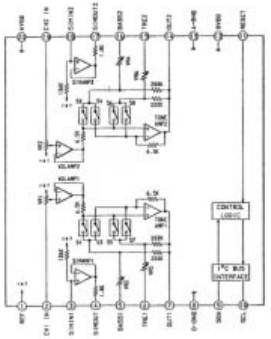


IC BLOCK DIAGRAM – 1

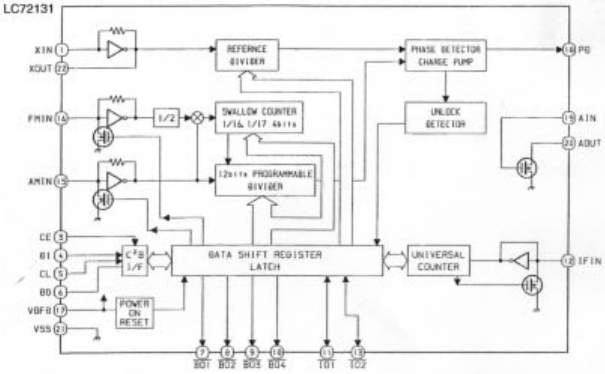
IC, BA3834S



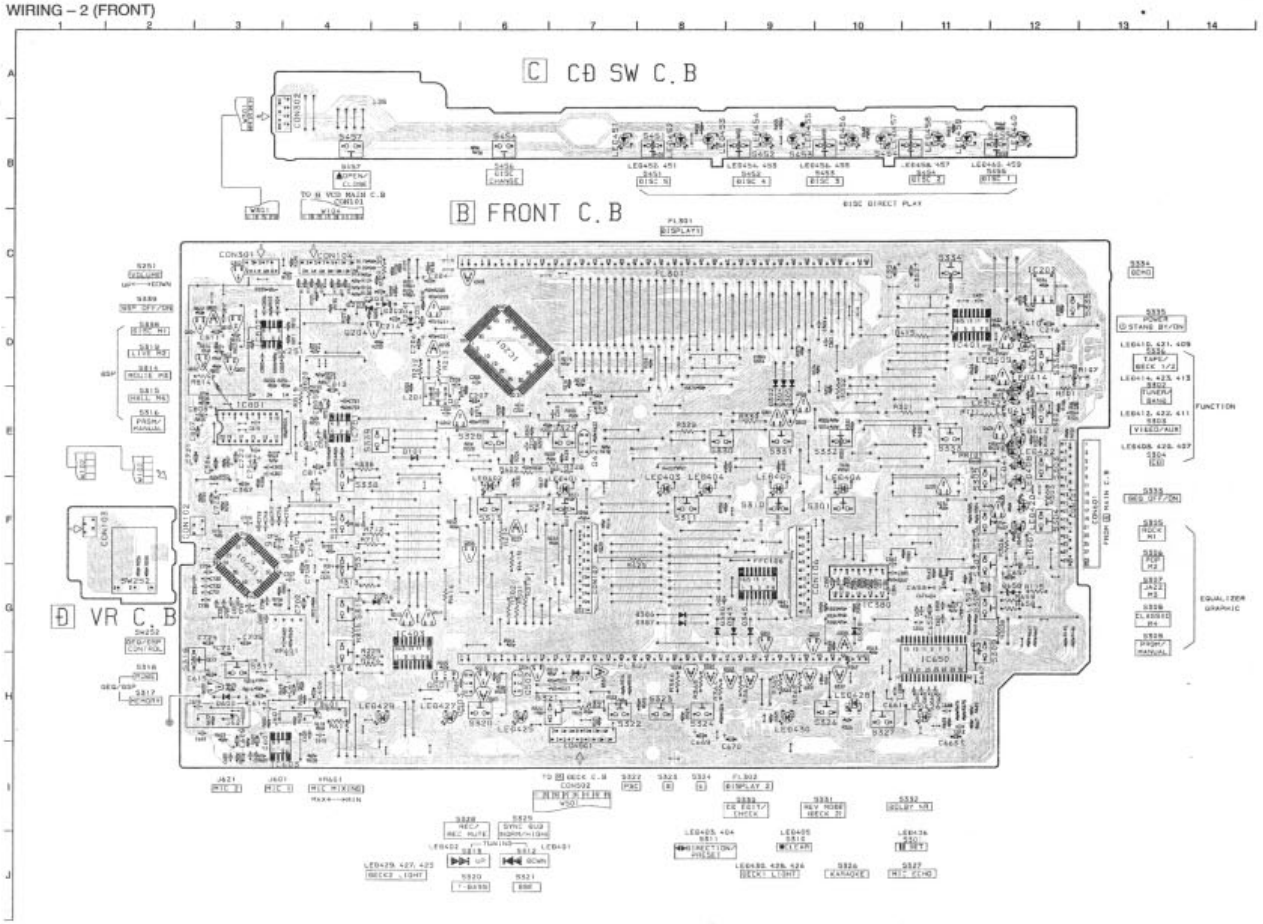
IC, M62420SP



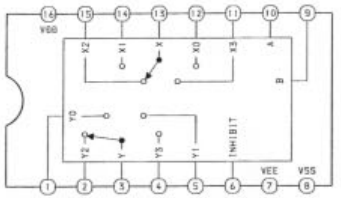
IC, LC72131



WIRING – 2 (FRONT)



IC, TC4052BP

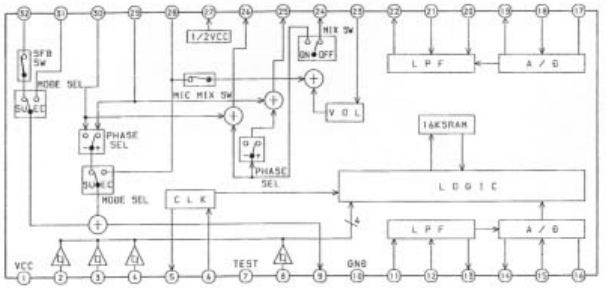


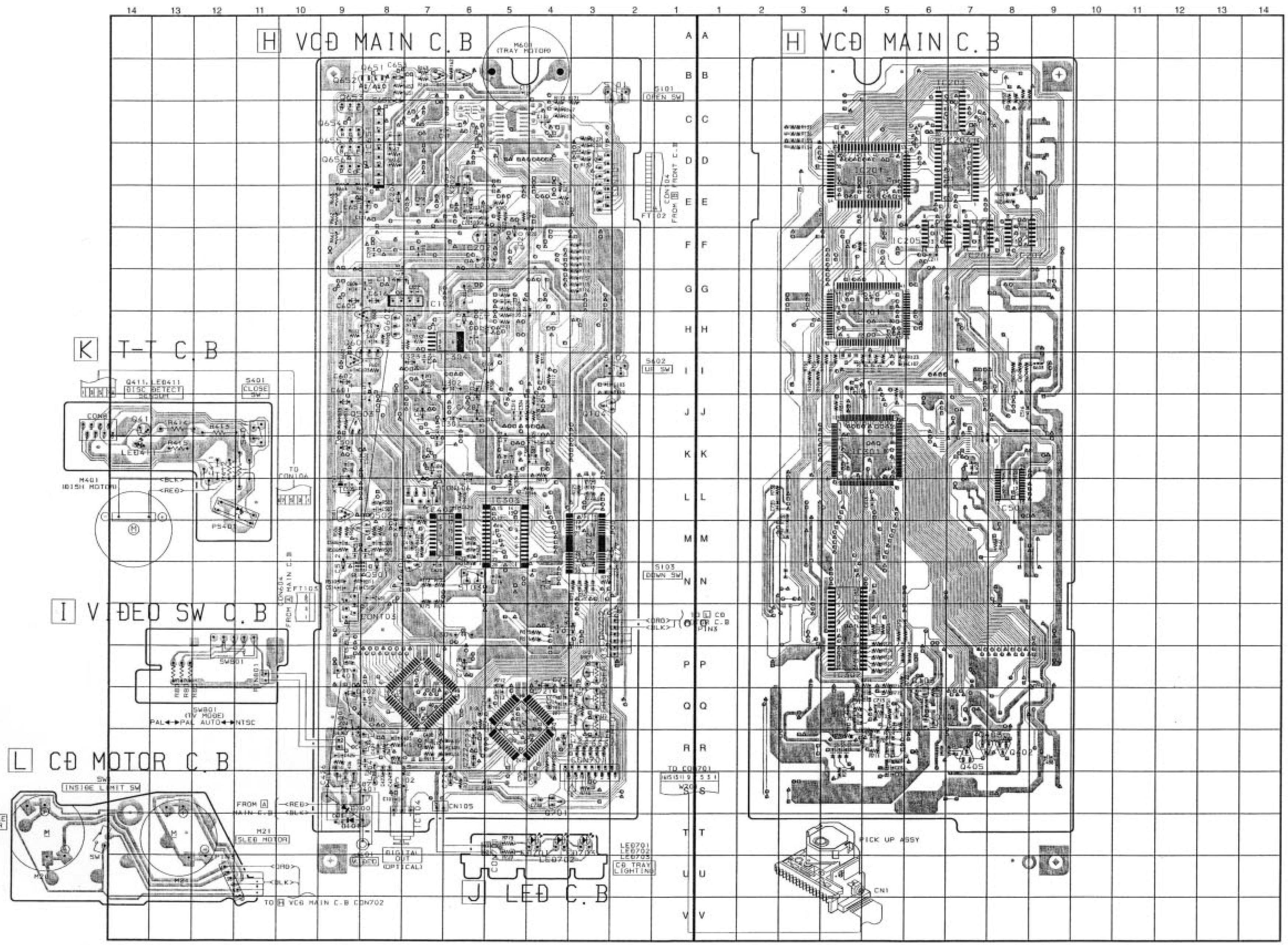
TRUTH TABLE

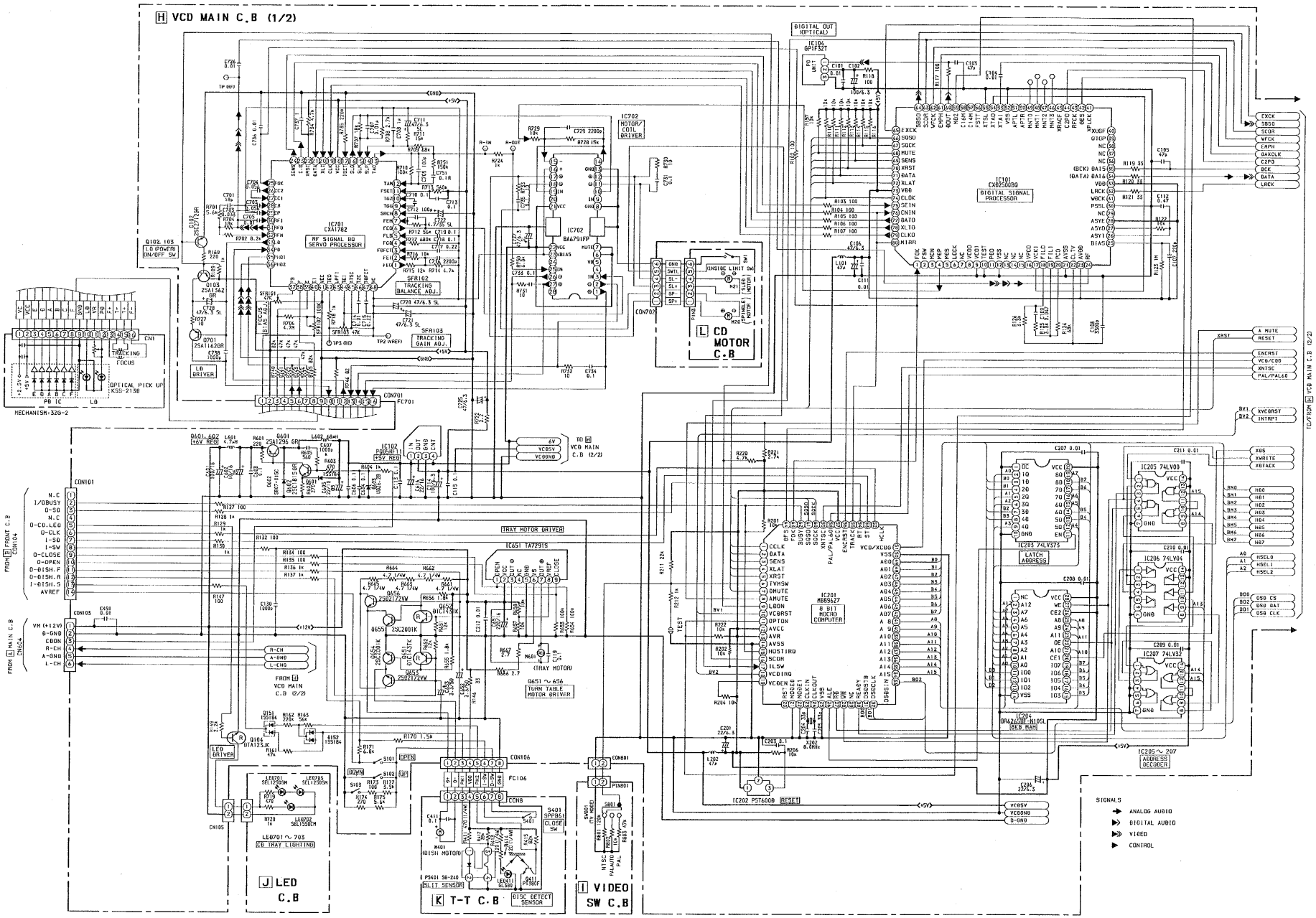
CONTROL INPUTS			ON SWITCH	
INHIBIT	B	A		
L	L	L	Y0	X0
L	L	H	Y1	X1
L	H	L	Y2	X2
L	H	H	Y3	X3
H	X	X	–	–

L:LOW LEVEL
H:HIGH LEVEL
H:IRRELEVANT

IC, M65849FP

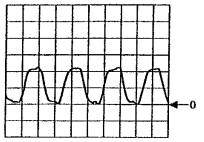



H VCD MAIN C.B
M600 (TRAY MOTOR)
S101 OPEN SW
S602 UP SW
S103 DOWN SW
FROM B FRONT C.B CON104
FT102
K T-T C.B
Q411, LED411 DISC DETECT SENSOR
S401 CLOSE SW
M401 (DISH MOTOR)
TO CON106
I VIDEO SW C.B
SW801 (TV MODE) PAL←→PAL AUTO←→NTSC
FROM A MAIN C.B CON604
FT103
L CD MOTOR C.B
SW INSIDE LIMIT SW
M20 SPINDLE MOTOR
M21 SLED MOTOR
FROM A MAIN C.B
TO H VCD MAIN C.B CON702
DIGITAL OUT (OPTICAL)
J LED C.B
LED701 LED702 LED703 CD TRAY LIGHTING
TO CON701
PICK UP ASSY
CN1

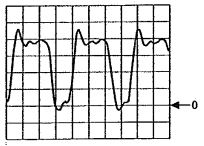

H VCD MAIN C.B (1/2)
IC101 CXD2506BQ DIGITAL SIGNAL PROCESSOR
IC701 CXA1782 RF SIGNAL BQ SERVO PROCESSOR
IC702 BA6791FP MOTOR/ COIL DRIVER
IC201 M88P627 8 BIT MICRO COMPUTER
IC651 TA72915 TRAY MOTOR DRIVER
IC102 PQ05RF11 +5V REGULATOR
IC202 PST600D RESET
IC204 BR24G32F-W10SL (64KB RAM)
IC205 74LV00
IC206 74LV04
IC207 74LV32
IC203 74LV373 LATCH ADDRESS
IC205 ~ 207 ADDRESS DECODER
IC104 GP1F32T DIGITAL OUT (OPTICAL)
L CD MOTOR C.B
J LED C.B
K T-T C.B
I VIDEO SW C.B
LD DRIVER
LED DRIVER
TRAY MOTOR DRIVER
TURN TABLE MOTOR DRIVER
SPINDLE MOTOR
SLED MOTOR
OPTICAL PICK UP KSS-215B
MECHANISM 320-2
SIGNALS
ANALOG AUDIO
DIGITAL AUDIO
VIDEO
CONTROL

WAVEFORM

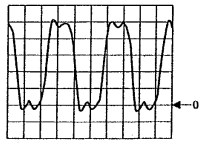
① IC301 Pin ㉙ (GCK) — VOLT/DIV: 1V, TIME/DIV: 10nS
40.5MHz
VCD PLAY
TV MODE: • NTSC
• PAL
• PAL AUTO



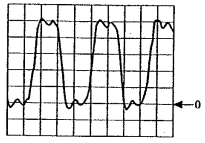
② IC301 Pin ㉚ (VCLK) — VOLT/DIV: 1V, TIME/DIV: 10nS
27MHz±1350Hz
VCD PLAY
TV MODE: • NTSC
• PAL
• PAL AUTO



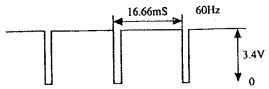
28.375MHz — VOLT/DIV: 1V, TIME/DIV: 10nS
CDG PLAY
TV MODE: • PAL
• PAL AUTO



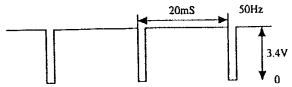
28.6363MHz — VOLT/DIV: 1V, TIME/DIV: 10nS
TV MODE: • NTSC



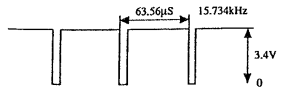
③ IC301 Pin ㉜ (V SYNC)
VCD, CDG PLAY
TV MODE: • NTSC
• PAL AUTO



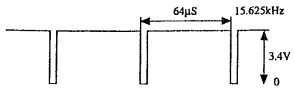
VCD, CDG PLAY
TV MODE: PAL



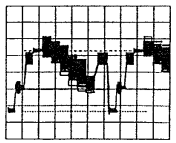
④ IC301 Pin ㉛ (H SYNC)
VCD, CDG PLAY
TV MODE: • NTSC
• PAL AUTO



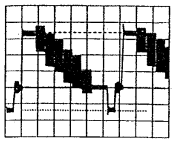
VCD, CDG PLAY
TV MODE: PAL



⑤ VIDEO OUT — VOLT/DIV: 200mV
C407 ⊖ side — TIME/DIV: 10µS
CDG PLAY: CD-T03 TRACK2
TV MODE:• NTSC

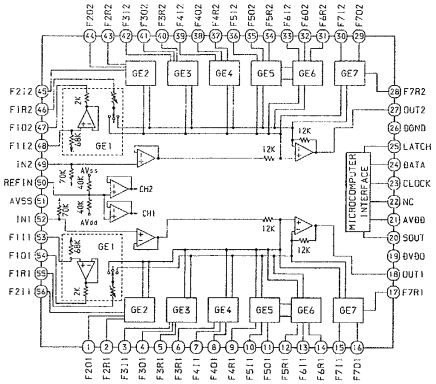


VCD PLAY: CD-T05 TRACK4 — VOLT/DIV: 200mV
TV MODE:• NTSC — TIME/DIV: 10µS

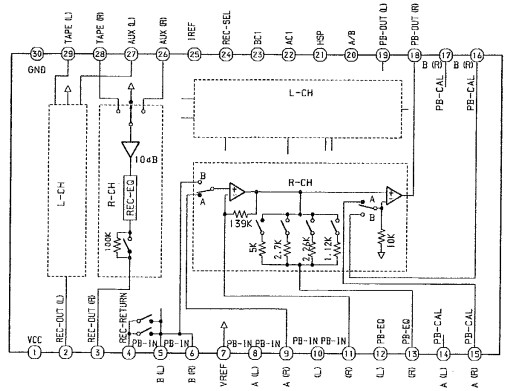


IC BLOCK DIAGRAM – 2

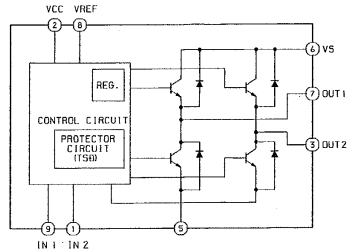
IC, M62431FP



IC, HA12185NT



IC, TA7291

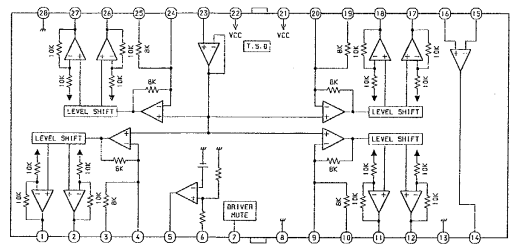


TRUTH TABLE

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

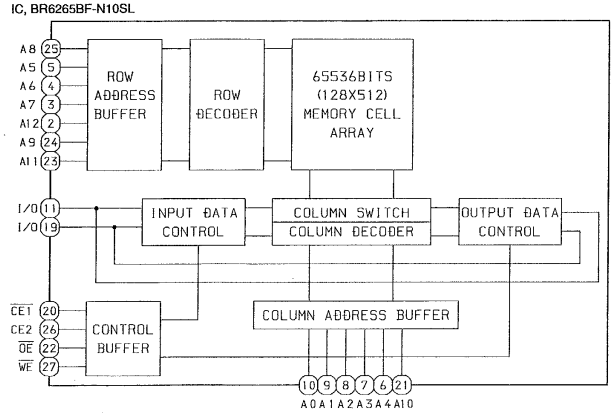
∞ : HI IMPEDANCE
NOTE : INPUT "H" ACTIVE

IC, BA6791FP

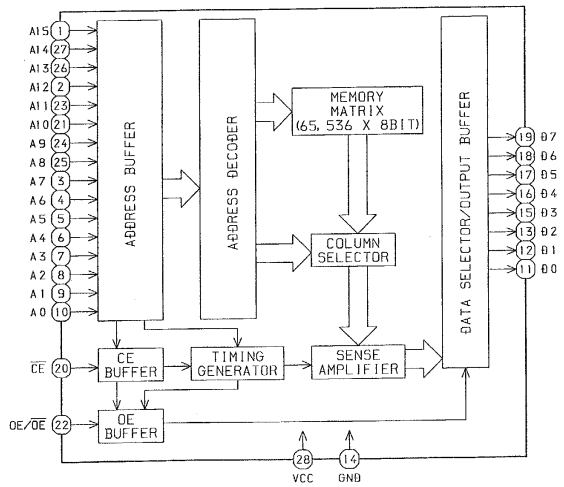


T.S.D: THERMAL SHUTDOWN
UNIT: Ω

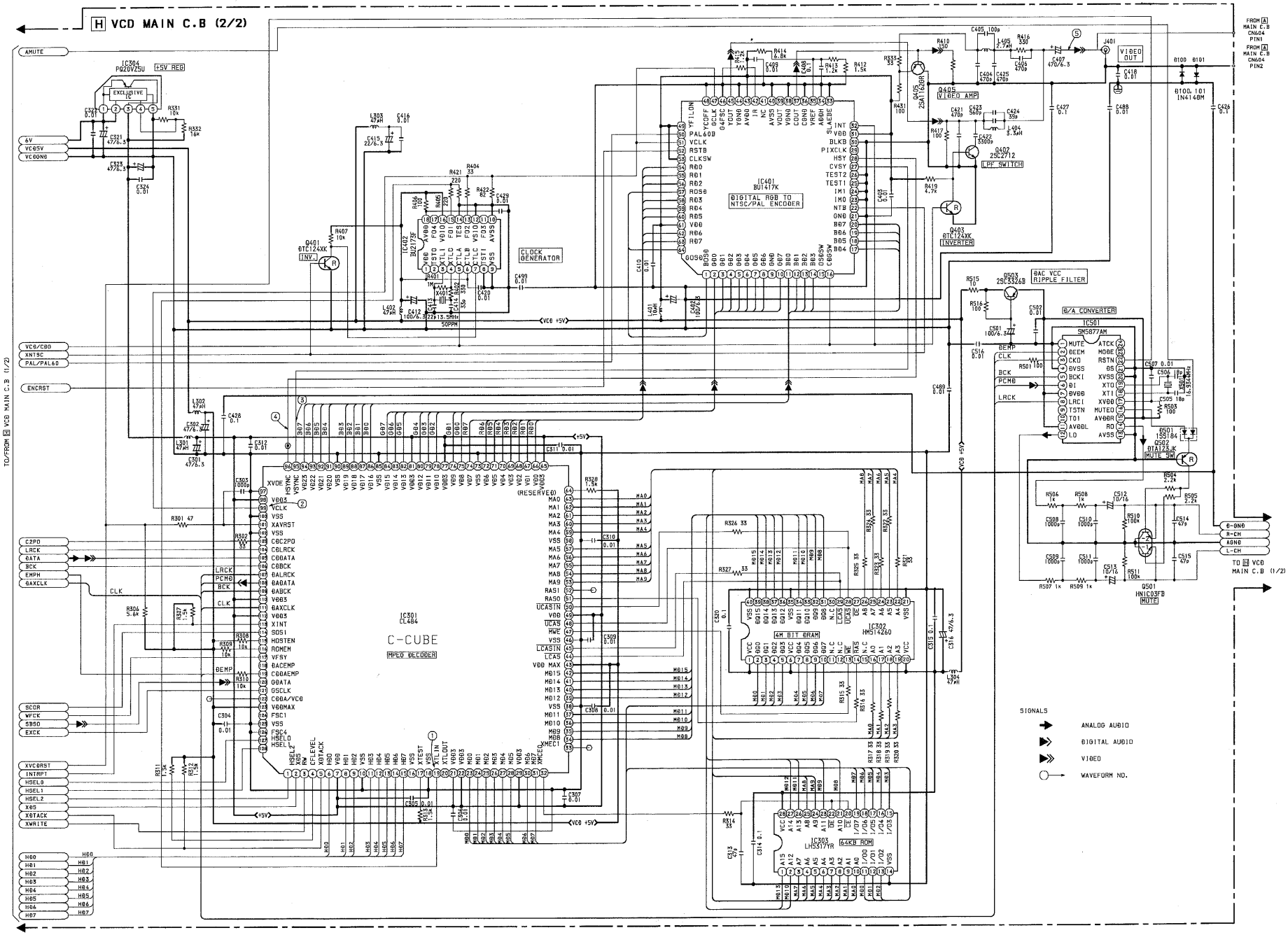
IC, BR6265BF-N10SL



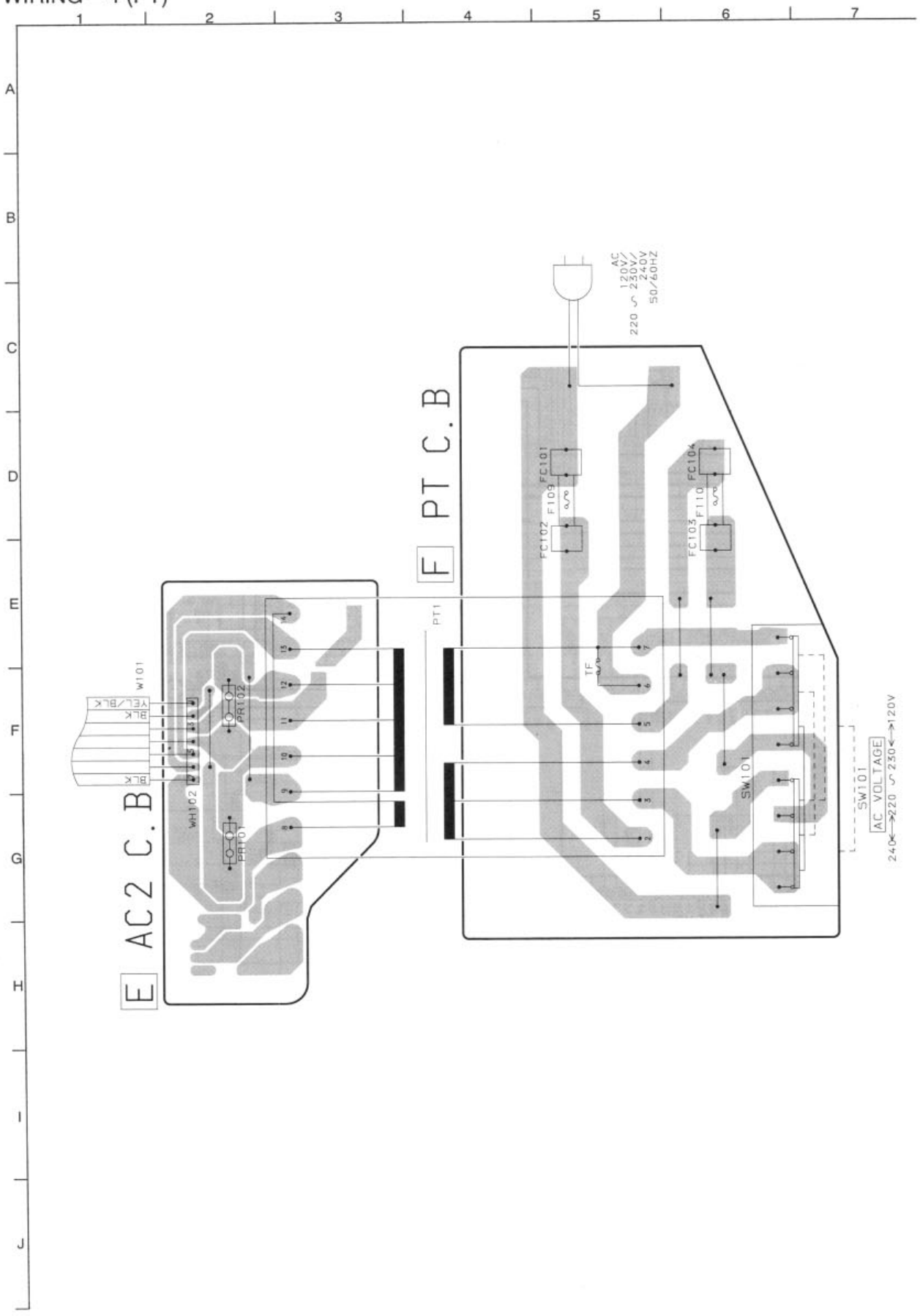
IC, LH53517N



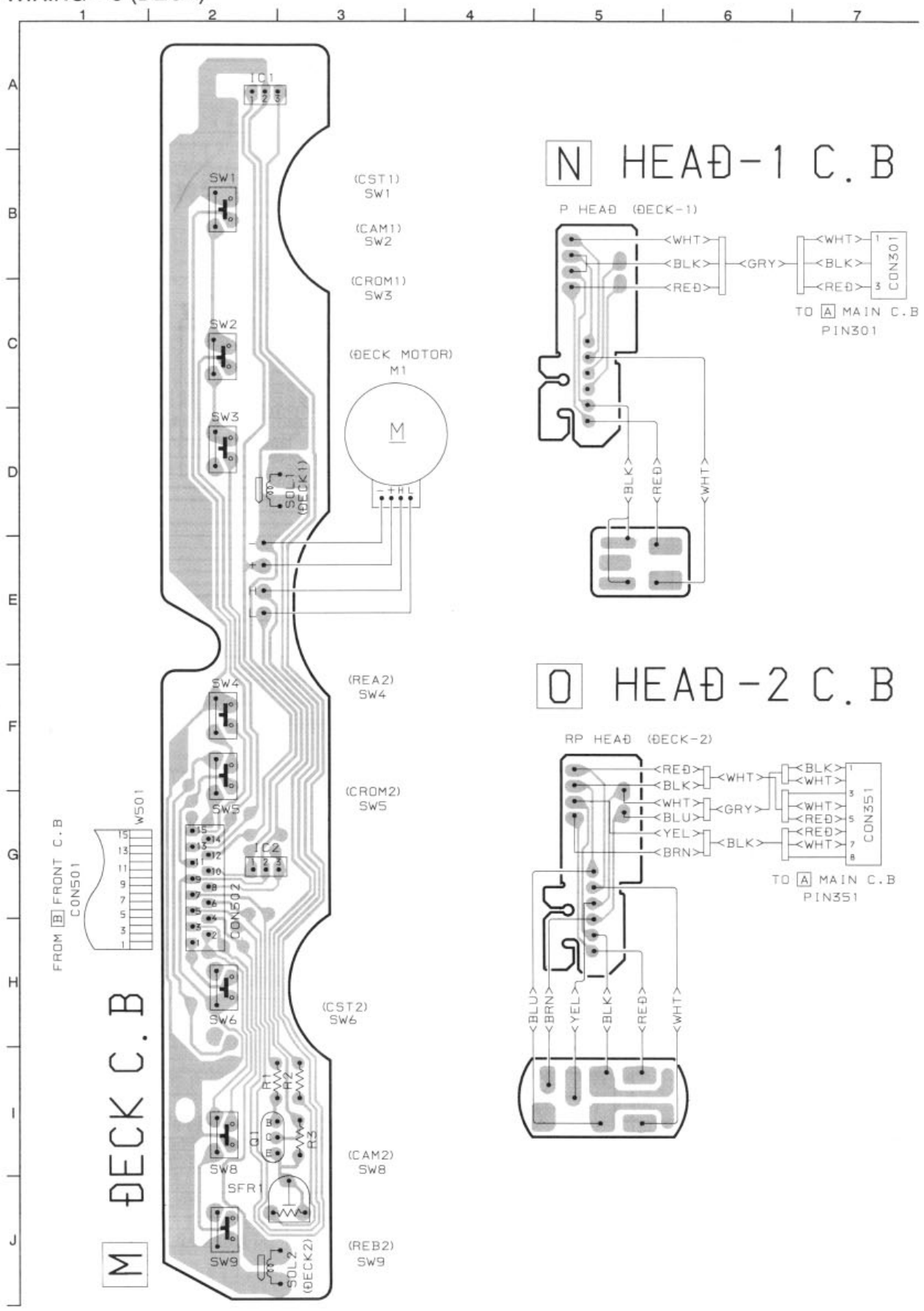
SCHEMATIC DIAGRAM – 4 (VCD MAIN 2/2)



WIRING – 4 (PT)

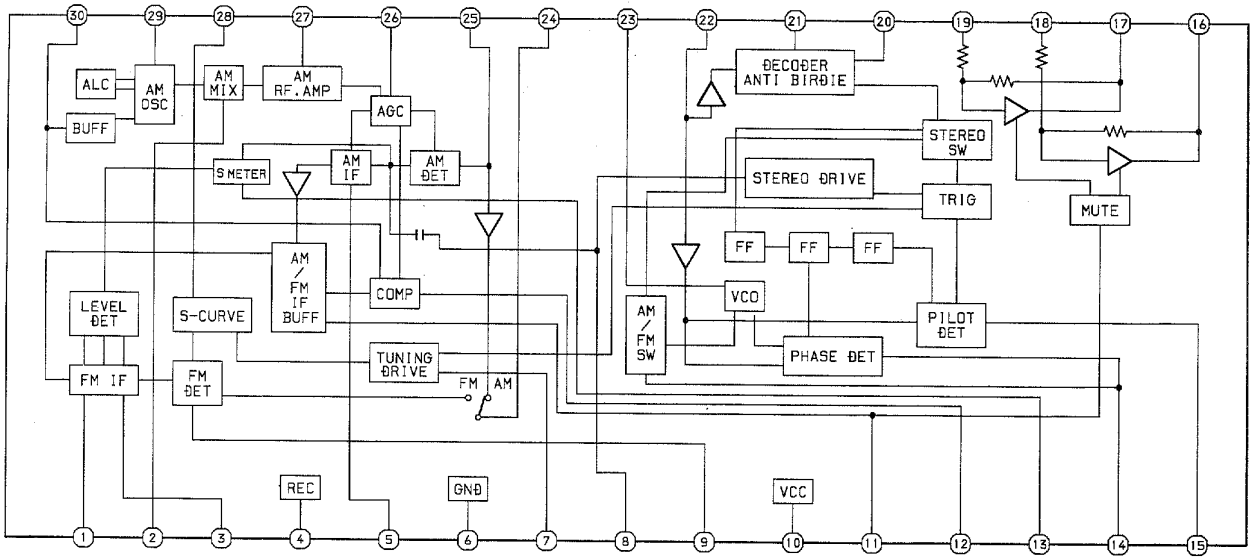

1
2
3
4
5
6
7
A
B
C
D
E
F
G
H
I
J
E AC2 C.B
F PT C.B
W101
YEL/BLK
BLK
BLK
WH102
PR102
PR101
PT1
TF
FC101
F109
FC102
FC104
F110
FC103
SW101
AC VOLTAGE
240 220 230 120V
AC
120V/
230V/
240V
50/60HZ
220

WIRING – 5 (DECK)

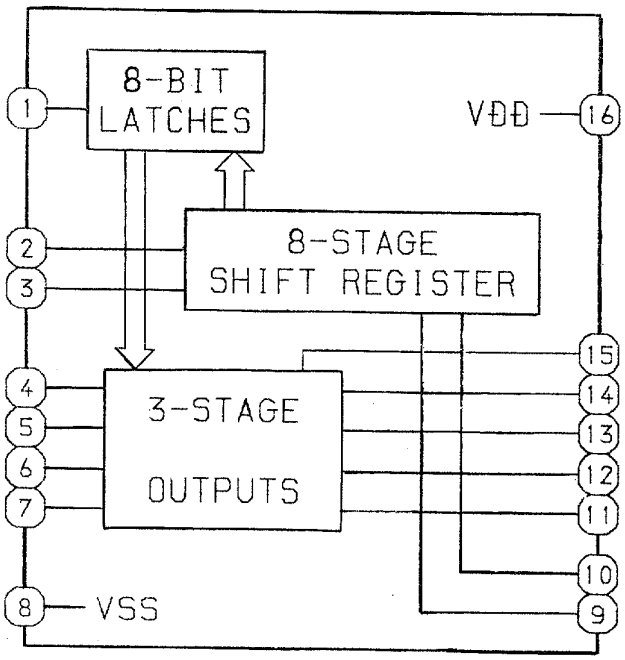


IC BLOCK DIAGRAM – 3

IC, LA1836



IC, TC4094BP



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 frequency 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 (CXD2500BQ).
20	XLT	I	Latch input from CPU (CXD2500BQ).
21	DATA	I	Serial data input from CPU (CXD2500BQ).
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 (CXD2500BQ).
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, LC72131

<table>
<tr><th>Pin No.</th><th>Pin Name</th><th>I/O</th><th>Description</th></tr>
<tr><td>1</td><td>XIN</td><td rowspan="2">I/O</td><td rowspan="2">A crystal oscillator (7.2MHz) is connected between these pins.</td></tr>
<tr><td>22</td><td>XOUT</td></tr>
<tr><td>2</td><td>NC</td><td>-</td><td>Not used.</td></tr>
<tr><td>3</td><td>CE</td><td>I</td><td>To enable the IC. Active "H".</td></tr>
<tr><td>4</td><td>DI</td><td>I</td><td>Digital data input from CPU (UPD780206GF-015-3) when relevant key is operated. Active "H".</td></tr>
<tr><td>5</td><td>CLK</td><td>I</td><td>To clock in the data DI.</td></tr>
<tr><td>6</td><td>DO</td><td>O</td><td>Digital data output to CPU (UPD780206GF-015-3).</td></tr>
<tr><td>7</td><td>TM-BASE</td><td>O</td><td>Outputs a reference clock signal (8Hz) for the clock.</td></tr>
<tr><td>8</td><td>$\overline{\text{MONO}}$ / BEAT</td><td>O</td><td>Outputs "H" when MONO / BEAT is switched.</td></tr>
<tr><td>9</td><td>$\overline{\text{FM}}$ / AM</td><td>O</td><td>Output "L" or "H" as follows:
<table>
<tr><th colspan="2">2 BAND</th><th colspan="3">3 BAND</th><th colspan="3">3 BAND</th></tr>
<tr><td>AM</td><td>FM</td><td>LW</td><td>MW</td><td>FM</td><td>MW</td><td>SW</td><td>FM</td></tr>
<tr><td>H</td><td>L</td><td>H</td><td>H</td><td>L</td><td>H</td><td>L</td><td>L</td></tr>
</table></td></tr>
<tr><td>10</td><td>$\overline{\text{MW}}$</td><td>O</td><td>Outputs "L" or "H" as follows:
<table>
<tr><th colspan="2">2 BAND</th><th colspan="3">3 BAND</th><th colspan="3">3 BAND</th></tr>
<tr><td>AM</td><td>FM</td><td>LW</td><td>MW</td><td>FM</td><td>MW</td><td>SW</td><td>FM</td></tr>
<tr><td>L</td><td>L</td><td>H</td><td>L</td><td>L</td><td>L</td><td>H</td><td>L</td></tr>
</table></td></tr>
<tr><td>11</td><td>IF-MUTE</td><td>O</td><td>To control internal counter.</td></tr>
<tr><td>12</td><td>IFIN</td><td>I</td><td>General purpose counter input.</td></tr>
</table>

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, SM5877AM

Pin No.	Pin Name	I/O	Description
1	MUTE	I	Mode = H : Soft mute ON/OFF terminal (H : ON). Mode = L : Attenuator level DOWN/UP terminal (H : DOWN)
2	DEEM	I	Emphasis ON/OFF terminal (H : ON).
3	CKO	O	Oscillator clock output (16.9344MHz).
4	DVSS	-	Digital VSS terminal.
5	BCKI	I	Bit clock input terminal.
6	DI	I	Serial data input terminal.
7	DVDD	-	Digital VDD terminal.
8	LRCI	I	Sampling rate clock (fs) input terminal (H = Lch / L = Rch).
9	TSTN	I	Input for LSI testing. (Not used.)
10	TO1	O	Output 1 for testing (Output Low level at normal). (Not used.)
11	AVDDL	-	Anlaog VDD terminal (Lch).
12	LO	O	Analog output terminal (Lch).
13	AVSS	-	Analog VSS terminal.
14	RO	O	Analog output terminal (Rch).
15	AVDDR	-	Analog VDD terminal (Rch).
16	MUTEO	O	Infinity-zero detection output.
17	XVDD	-	VDD terminal for crystal.
18	XTI	I	Crystal oscillator input terminal (16.9344MHz).
19	XTO	O	Crystal oscillator output terminal (16.9344MHz).
20	XVSS	-	VSS terminal for crystal.
21	DS	I	Double/Normal speed playback modes selection (H : Double).
22	RSTN	I	Reset terminal (L : Reset).
23	MODE	I	Soft mute / attenuator mode selection (H : Soft mute mode). (Not used.)
24	ATCK	I	Attenuator level setup clock (ignored when mode is H). (Not used.)

IC, UPD780206GF-015-3BA

Pin No.	Pin Name	I/O	Description
1	VDD	-	Power supply input.
2	O-CLOSE	O	CD tray close data output.
3	O-OPEN	O	CD tray open data output.
4	O-DI/R	O	CD turntable reverse rotation output.
5	O-DI/F	O	CD turntable forward rotation output.
6	$\overline{\text{O-MOTOR}}$	O	Deck motor output.
7	$\overline{\text{O-SOL2}}$	O	DECK2 solenoid output (DECK2).
8	$\overline{\text{O-SOL1}}$	O	DECK1 solenoid output (DECK1).
9	$\overline{\text{O-SW SCAN}}$	O	Switch scan timing output.
10	$\overline{\text{RESET}}$	I	Reset input.
11,12	X1,X2	I/O	4.19MHz oscillator circuit.
13	VSS	-	GND.
14	XT2	-	Not used.
15	$\overline{\text{HOLD}}$	I	Power failure detected input "L"to stop lock and maintain memory.
16	VDD	-	Power supply input.
17	DATA (CD)	O	DATA(CD) output.
18	O-XLT(CD)/I-RDDA	I/O	XLT(CD) output/ RDS data input (tuner).
19	O-CLK(CD)	O	CLOCK (CD) output.
20	I-MS	I	Deck music sensor signal input.
21	O-SUBQ CLK(CD) /$\overline{\text{I-TUNER/IFC}}$	I/O	SUBQ CLOCK(CD) output /tuner $\overline{\text{SD}}$ detected input. IF count serial data input.
22	$\overline{\text{O-M/STB}}$	O	Main shift register data latch strobe output.
23	$\overline{\text{O-F/STB}}$	O	Front shift register data latch strobe output.
24	$\overline{\text{O-MUTE}}$	O	System mute output.
25	VSS	-	GND.
26	I-KEY3	I	Key input 3 (A/D).
27	I-DI-SENS	I	CD turntable photo sensor A/D converter input.
28	I-RD SG	I	RDS signal input (tuner).
29	I-CD/SW	I	CD mechanical switch A/D converter input.
30	I-SPEANA	I	A/D input for spectrum analyzer display.
31	I-MIC	I	Microphone input for auto V/F display.
32	I-KEY2	I	Key input 2 (A/D).
33	I-KEY1	I	Key input 1 (A/D).
34	VDD	-	Power supply input.
35	A VREF	I	A/D Reference voltage input.
36	I/O E.VR	I/O	I ^{2}C Bus data for electrical voltage.
37	SENS/I-$\overline{\text{STEREO}}$	I	CD.SENS input/tuner stereo detected input.
38	I-SUBQ DATA /I-RDS CLK	I	CD.SUB-Q input/ RDS clock input(tuner).
39	I-RMC	I	System remote control signal input.
40	VSS	-	GND.
41	O-M/CLK	O	Main shift register, PLL/KEY CONTROL/DSP related clock.

Pin No.	Pin Name	I/O	Description
42	O-M/DATA	O	Main shift register, PLL/KEY CONTROL/DSP related data output.
43	O-F/CLK	O	Front shift register/data transfer clock output.
44	O-F/DATA	O	Front shift register/data output.
45	O-$\overline{\text{POWER}}$	O	Power on signal output.
46	VDD	-	Power supply input.
47	O-GE LATCH	O	G.E data latch strobe output.
48	O-PLL CE	O	PLL IC chip enable.
49	S40/I-$\overline{\text{H.PHONE}}$	I/O	FL segment output S40/ head phone switch data input.
50	S39/I-KCON	I /O	FL segment output S39/ key con mode data input to diode.
51	S38/I-NTSC/PAL	I /O	FL segment output S38/ NTSC/PAL mode data input to diode.
52	S37/I-TU2	I /O	FL segment output S37/ tuner model select mode DATA2 input to diode.
53	S36/I-TU1	I/O	FL segment output S36/ tuner model select mode DATA1 input to diode.
54	S35/I-TMBASE	I/O	FL segment output S35/ reference clock input for timer watch.
55	S34/I-$\overline{\text{REA}}$	I/O	FL segment output S34/ DECK2 side-A record OK switch data input.
56	S33/I-$\overline{\text{CST1}}$	I/O	FL segment output S33/ DECK1 cassette detect switch data input.
57	S32/I-$\overline{\text{CAM1}}$	I/O	FL segment output S32/ DECK1 cam switch data input.
58	S31/I-$\overline{\text{AUTO2}}$	I/O	FL segment output S31/ DECK2 auto stop signal input.
59	S30/I-$\overline{\text{AUTO1}}$	I/O	FL segment output S30/ DECK1 auto stop signal input.
60	S29/I-$\overline{\text{CAM2}}$	I/O	FL segment output S29/ DECK2 cam switch data input.
61	S28/I-$\overline{\text{REB}}$	I/O	FL segment output S28/ DECK2 side-B record OK switch data input.
62	S27/I-$\overline{\text{CST2}}$	I/O	FL segment output S27/ DECK2 cassette detect switch data input.
63	S26/O-KSCAN5	O	FL segment output S26/ key scan 5 output.
64	S25/O-KSCAN4	O	FL segment output S25/ key scan 4 output.
65	S24/O-KSCAN2	O	FL segment output S24/ key scan 2 output.
66	S23/O-KSCAN3	O	FL segment output S23/ key scan 3 output.
67	S22/O-KSCAN1	O	FL segment output S22/ key scan 1 output.
68	21/O-SPEANA.A	O	FL segment output S21/ SPEANA band changing A output.
69	S20/O-SPEANA.B	O	FL segment output S20/ SPEANA band changing B output.
70	S19/O-SPEANA.C	O	FL segment output S19/ SPEANA band changing C output.
71~78	S18-S11	O	FL segment output S18~S11.
79	VP	-	Power supply input for FL display.
80~89	S10~S1	O	FL segment output S10~S1.
90~100	G11~G1	O	FL grid output G11~G1.

IC, CXD2500BQ

Pin No.	Pin Name	I/O	Description
1	FOK	I	Focus OK input terminal. Used for SENS output and servo auto sequencer.
2	FSW	O	Spindle motor output filter selection output.
3	MON	O	Spindle motor ON/OFF control output.
4	MDP	O	Spindle motor servo control.
5	MDS	O	Spindle motor servo control.
6	LOCK	O	H output when GFS is sampled at 460 Hz and GFS is H. L output when L is continuously 8 times.
7	NC	-	Not used.
8	VCOO	O	Oscillator circuit output for analog EFM PLL.
9	VCOI	I	Oscillator circuit input for analog EFM PLL. FLOCK = 8.6436 MHz.
10	TEST	I	TEST terminal. Normally GND.
11	PDO	O	Charge pump output for analog EFM PLL.
12	VSS	-	GND.
13	NC	-	Not used.
14	NC	-	Not used.
15	NC	-	Not used.
16	VPCO	O	Charge pump output for vari-pitch PLL.
17	VCKI	I	Clock input from external VCO for vari-pitch. fc center = 16.9344 MHz.
18	FILO	O	Filter output for master PLL (slave = digital PLL).
19	FILI	I	Filter input for master PLL.
20	PCO	O	Charge pump output for master PLL .
21	AVSS	-	Analog GND.
22	CLTV	I	VCO control voltage input for master.
23	AVDD	-	Analog power supply (+3.5 V).
24	RF	I	EFM signal input.
25	BIAS	I	Asymmetry circuit constant current input.
26	ASYI	I	Asymmetry comparate voltage input.
27	ASYO	O	EFM full swing output (L = VSS, H = VDD).
28	ASYE	I	L : asymmetry circuit OFF, H : asymmetry circuit ON.
29	NC	-	Not used.
30	PSSL	I	Audio data output mode selection input. Serial output at L, parallel output at H.
31	WDCK	O	D/A interface for 48-bit slot. Word clock f = 2Fs.
32	LRCK	O	D/A interface for 48-bit slot. LR clock f = Fs.
33	VDD	-	Power supply. (+3.5 V)
34	SDATA	O	DA16 (MSB) output when PSSL = H. 48-bit slot serial data when PSSL = L. (2's COMP, MSB first).
35	BCLK	O	DA15 output when PSSL = H. 48-bit slot serial data when PSSL = L.
36	NC	O	DA14 output when PSSL = H. 48-bit slot serial data when PSSL = L. (2's COMP, MSB first). (Not used.)
37	NC	O	DA13 output when PSSL = H. 64-bit slot serial data when PSSL = L. (Not used.)
38	NC	O	DA12 output when PSSL = H. 64-bit slot LR clock when PSSL = L. (Not used.)

Pin No.	Pin Name	I/O	Description
39	GTOP	O	DA11 output when PSSL = H. GTOP output when PSSL = L. (Not used.)
40	XUGF	O	DA10 output when PSSL = H. XUGF output when PSSL = L. (Not used.)
41	XPLCK	O	DA09 output when PSSL = H. XPLCK output when PSSL = L. (Not used.)
42	GFS	O	DA08 output when PSSL = H. GFS output when PSSL = L.
43	RFCK	O	DA07 output when PSSL = H. RFCK output when PSSL = L. (Not used.)
44	C2PO	O	DA06 output when PSSL = H. C2PO output when PSSL = L.
45	XRAOF	O	DA05 output when PSSL = H. XRAOF output when PSSL = L. (Not used)
46	MNT3	O	DA04 output when PSSL = H. MNT3 output when PSSL = L. (Not used.)
47	MNT2	O	DA03 output when PSSL = H. MNT2 output when PSSL = L. (Not used.)
48	MNT1	O	DA02 output when PSSL = H. MNT1 output when PSSL = L. (Not used.)
49	MNT0	O	DA01 output when PSSL = H. MNT0 output when PSSL = L. (Not used.)
50	APTR	O	Aperture correction control output. H when R channel. (Not used.)
51	APTL	O	Aperture correction control output. H when L channel. (Not used.)
52	VSS	-	GND.
53	XTAI	I	Input to 16.9344 MHz X'tal oscillator circuit or 33.8688 MHz input.
54	XTAO	O	16.9344 MHz X'tal oscillator output.
55	XTSL	I	X'tal selection input. L when X'tal is 16.9344 MHz. H when 33.8688 MHz.
56	FSTT	O	2/3 divider output of the pins 53 and 54. Does not change with vari-pitch. (Not used.)
57	C4M	O	4.2336 MHz output. When vari-pitch is performed, it changes too. (Not used.)
58	C16M	O	16.2336 MHz output. When vari-pitch is performed, it changes too. (Not used.)
59	MD2	I	Digital-out ON/OFF control. ON at H, OFF at L.
60	DOUT	O	Digital out terminal.
61	EMPH	O	H output when the playback disc has emphasis. L output without emphasis.
62	WFCK	O	WFCK (Write Frame Clock) output.
63	SCOR	O	H output when S0 or S1 of the subcode sync is detected.
64	SBSO	O	Serial output of Sub P to W.
65	EXCK	I	Clock input for SBSO read out.
66	SQSO	O	SubQ 8-bit and PCM peak level data. 16-bit output.
67	SQCK	I	Clock input for SQSO readout.
68	MUTE	I	Mute at H. Release at L.
69	SENS	O	SENS output. Output to CPU.
70	XRST	I	System reset. Reser at L.
71	DATA	I	Serial data input from CPU.
72	XLAT	I	Latch input from CPU. Latches serial data at fall-down edge.
73	VDD	-	Power supply (+3.5 V).
74	CLOK	I	Serial data transfer clock input from CPU.
75	SEIN	I	Sensor input from SSP.
76	CNIN	I	Track jump number counted signal input.
77	DATO	O	Serial data output to SSP.
78	XLTO	O	Serial data latch output to SSP. Latches at fall-down edge.
79	CLKO	O	Serial data transfer clock output to SSP.
80	MIRR	I	Mirror signal input. Used for jump of 128 track or more at auto sequencer..

IC, MB89627

Pin No.	Pin Name	I/O	Description
1	CCLK	O	SSP, DSP Control Clock.
2	DATA	O	SSP, DSP Control Data.
3	SENS	I	SSP, DSP Status.
4	XLAT	O	SSP, DSP Command Latch.
5	XRST	O	SSP, DSP Reset.
6	TVMSW	O	OFF/NTSC/PAL/PAL60/PAL AUTO/AUTO/TEST.*NOTE
7	DMUTE	O	Digital Mute.
8	AMUTE	O	Analog Mute.
9	LDON	O	Servo PCB Power ON.
10	VCDRST	O	Video CD Reset.
11	OPTON	O	Optical Digital Output ON.
12	AVCC	-	A/D Converter VCC.
13	AVR	-	A/C Converter VREF.
14	AVSS	-	A/D Converter VSS.
15	HOSTIRQ	I	Host CPU Interrupt Request.
16	SCOR	I	Subcode Sync 0. (Subcode IRQ)
17	ILSW	I	Inter Limit Switch.
18	VCDIRQ	I	Video CD Decoder Interrupt Request.
19	VCDEN	I	Video CD encoder.
20	RST	I	CPU Reset. (Not used.)
21	MODE0	I	CPU MODE. (Pull-down)
22	MODE1	I	CPU MODE. (Pull-down)
23	CLKIN	O	8MHz System Clock.
24	CLKOUT	I	8MHz System Clock.
25	VSS	-	GND.
26	ALE	O	Address Latch Strobe.
27	$\overline{RD}$	O	Data Read Strobe.
28	$\overline{WR}$	O	Data Write Strobe.
29	N.C	O	Not used.
30	READY	I	Video CD Decoder Ready.
31	OSDXSTB	O	OSDC Enable.
32	OSDCLK	O	OSDC Data Clock.
33	OSDSIN	O	OSDC Data.
34~41	A8~A15	O	Address Bus 8~15.
42~49	AD0~AD7	I/O	Address/Data Bus 0~7.
50	VSS	-	GND.
51	VCD/XCDG	O	Video CD/CDG Switch.
52	HCLK	I	Host CPU Control Clock.
53	ST	O	Host CPU Control Send Data.
54	RT	I	Host CPU Control Receive Data.
55	TRACK	I	Tranvase Counter.
56	ENCRST	O	Video Encoder Reset.

Pin No.	Pin Name	I/O	Description
57	DVCC	-	DVCC.
58	PAL/PAL60	O	PAL/PAL60 Switch.
59	XNTSC	O	PAL/NTSC Switch.
60	SQCK	O	Subcode Q Read Clock.
61	SQSO	I	Subcode Q Serial Data.
62	BUSY	I/O	Host CPU I/F Busy Signal.
63	FOK	I	Focus Servo OK Detect.
64	GFS	I	Frame Sync Detect.

Note

- Analog input (TVMSW: 6 pin) of the microprocessor is divided into 7, then controlled.
- The output are the command setting (Set Video Format) to the two ports of PAL/PAL60 (58 pin), XNTSC (59 pin) and IC301 (CL484).

TVMSW (6 pins)		DISC encoding system	TV output mode	PAL/PAL60 (58 pins)	XNTSC (59 pins)	Set Video Format
Volt (V)	Mode					
5.00	OFF	-	Not used (NTSC output mode).			
4.58	NTSC	-	NTSC	H	L	NTSC
3.75	PAL	-	PAL	H	H	PAL
2.92	PAL60	-	PAL60	L	H	NTSC
2.08	PAL AUTO	NTSC	PAL60	L	H	NTSC
		PAL	PAL	H	H	PAL
1.25	AUTO	NTSC	NTSC	H	L	NTSC
		PAL	PAL	H	H	PAL
0.42	TEST	-	For servo circuit adjustment (NTSC output mode).			
0.00						

*1 As to identification of the disc encoding system, it is identified from the V-SIZE (1A1h/word) of the MPEG data.

*2 "For servo circuit adjustment" is the process during adjustment (when variable resistor is operated by service engineer) that the microprocessor enters the emergency process routine if the servo system goes extremely out of the service range.

*3 In addition to the above, ENCRST (56 pins) is the reset signal for TV encoder, issues the active "L" pulse when each of the input port of CDGSW, NTB, CVSY, HSY, PIXCLK, GCLK, PAL60B and VCLK of IC401 (BU1417AK) has changed as follows:

1. When the power is supplied to the circuit boards of the CD block,

2. When stating to reach TOC.

3. The modes have changed as follows:

- TVMSW is switched.
- Switching of encoding system owing to exchange of video CD disc
- Exchange of video CD disc with CD-DA or CD-G.

IC, CL484

Pin No.	Pin Name	I/O	Description
1	HSEL2	I	Host address bus.
2	DS	I	Data strobe.
3	RW	I	Read/write.
4	CFLEVEL	O	Coded data FIFO level status. Open drain.
5	XDTACK	O	Host data acknowledge. Open drain.
6	HD0	I/O	Host data bus.
7	VDD	-	Power supply pin. Used in 3.3 V.
8,9	HD1,HD2	I/O	Host data bus.
10	VSS	-	GND.
11~15	HD3~HD7	I/O	Host data bus.
16	VSS	-	GND.
17	XTEST	I	Test terminal. Normally fixed to High.
18	VSS	-	GND.(Not used.)
19	XTLIN	I	Global clock. 40.5 MHz.
20	XTLOUT	O	Global clock. 40.5 MHz.(Not used.)
21,22	VDD3	-	Power supply pin. Used in 3.3 V.
23~28	MD0~MD5	I/O	Memory data bus.
29	VDD3	-	Power supply pin. Used in 3.3 V.
30,31	MD6,MD7	I/O	Memory data bus.
32,33	XMCE0,XMCE1	O	Chip enable. (Pin 33 not used.)
34~37	MD8~MD11	I/O	Memory data bus.
38	VSS	-	GND.
39~42	MD12~MD15	I/O	Memory data bus.
43	VDD MAX	-	Power supply pin. Used in 5.0 V.
44	$\overline{\text{LCAS}}$	O	Lower digital, column address strobe.
45	$\overline{\text{LCASIN}}$	I	Lower digital, data latch enabe.
46	VSS	-	GND.
47	$\overline{\text{MWE}}$	O	Write enable.

Pin No.	Pin Name	I/O	Description
48	$\overline{\text{XUCAS}}$	O	Higher digital, column address strobe.
49	VDD3	-	Power supply pin. Used in 3.3 V.
50	$\overline{\text{XUCASIN}}$	I	Higher digital, data latch enable.
51, 52	RAS0, RAS1	O	Lower address strobe. (Pin 52 not used.)
53~57	MA9~MA5	O	Memory address bus.
58	VSS	-	GND.
59~63	MA4~MA0	O	Memory address bus.
64	RESERVED	-	Reserved.
65	VDD3	-	Power supply pin. Used in 3.3 V.
66~72	VD0~VD6	O	Pixel data bus. RGB or YCbCr format.
73	VSS	-	GND.
74~76	VD7~VD9	O	Pixel data bus. RGB or YCbCr format.
77	VDD3	-	Power supply pin. Used in 3.3 V.
78~80	VD10~VD12	O	Pixel data bus. RGB or YCbCr format.
81	VDD3	-	Power supply pin. Used in 3.3 V.
82~84	VD13~VD15	O	Pixel data bus. RGB or YCbCr format.
85	VSS	-	GND.
86~89	VD16~VD19	O	Pixel data bus. RGB or YCbCr format.
90	VSS	-	GND.
91~94	VD20~VD23	O	Pixel data bus. RGB or YCbCr format.
95	XVSYNC	I/O	Vertical sync signal.
96	XHSYNC	I/O	Horizontal sync signal.
97	XVOE	I	Video output enable.
98	VDD3	-	Power supply pin. Used in 3.3 V.
99	VCLK	I/O	Video clock.
100	VSS	-	GND.
101	XAVRST	I	Hardware reset.
102	VSS	-	GND.
103	CDC2PO	I	Data error. Used during CD-ROM data input.
104	CDLRCK	I	LR clock.
105	CDDATA	I	Serial data input from CD-DSP.
106	CDBCK	I	Bit clock from CD decoder.
107	DALRCK	O	LR clock.
108	DADATA	O	Bit serial audio sample signal.
109	DABCK	O	Audio bit clock.
110	VDD3	-	Power supply pin. Used in 3.3 V.
111	DAXCLK	I	External audio frequency clock.
112	VDD3	-	Power supply pin. Used in 3.3 V.
113	XINT	O	Interrupt request.
114	S0S1	1	Block start sync.
115	HOSTEN	I	Host enable.
116	RAMEN	I	Boot ROM enable.

Pin No.	Pin Name	I/O	Description
117	VFSY	I	Frame start or composite sync.
118	DACEMP	O	Output emphasis flag.
119	CDDAEMP	I	Input emphasis flag.
120	GSDATA	I	Subcode data.
121	GSCLK	I/O	Subcode data clock.
122	CDDA/VCD	O	Input data identification. H: CDDA. L: video CD.
123	VDDMAX	I	Power supply pin. Used in 5 V.
124	FSC1	O	Output generated by dividing-by-4 the pin-126 input CLK.
125	VSS	-	GND.
126	FSC4	I	Frequency divider input.
127~128	HSEL0, HSEL1	I	Host address bus.

IC, BU1417AK

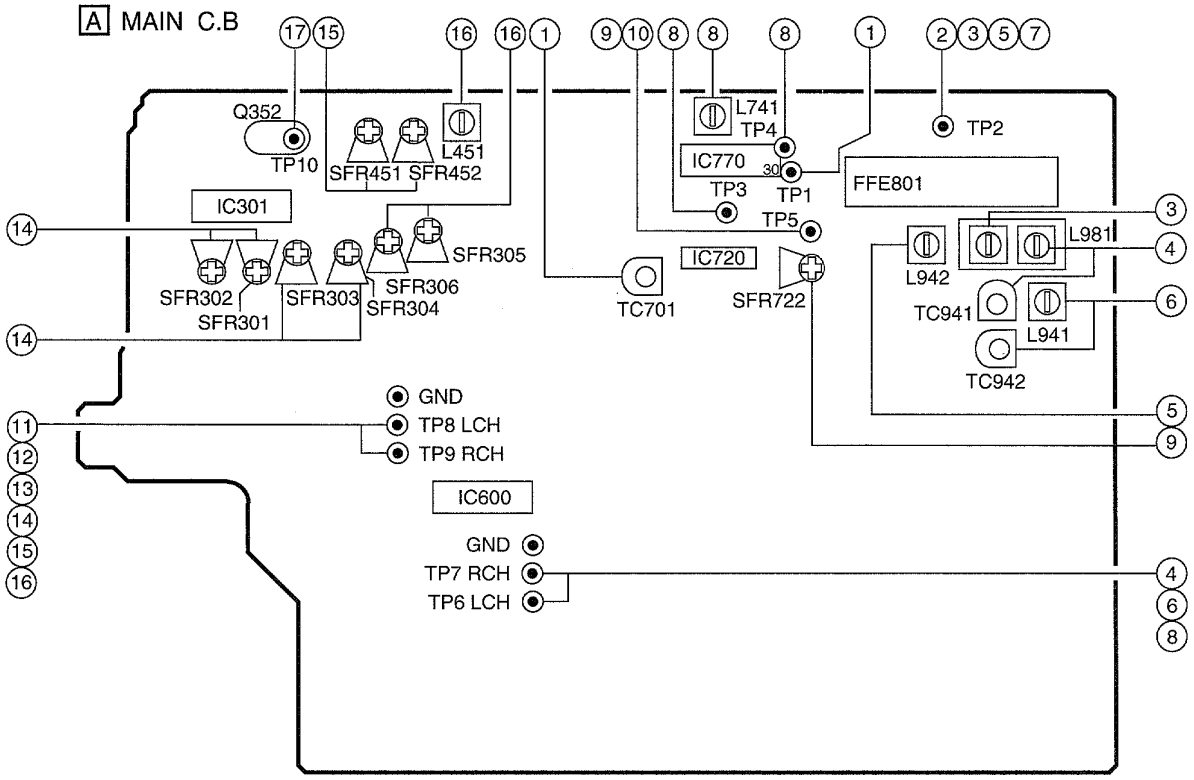
Pin No.	Pin Name	I/O	Description
1	BOSD	I	OSD Blue Data input.
2	GD0	I	Green Data Bit 0. (LSB)
3~8	GD1~GD6	I	Green Data Bit 1~6.
9	GND	-	Digital ground. (Not used.)
10	GD7	I	Green Data Bit 7. (MSB)
11	BD0	I	Blue Data Bit 0. (LSB)
12~14	BD1~BD3	I	Blue Data Bit 1~3.
15	OSDSW	I	OSD input enable.
16	CDGSWB	I	Select Video-CD/$\overline{\text{CD-G}}$.
17~19	BD4~BD6	I	Blue Data Bit 4~6.
20	BD7	I	Blue Data Bit 7. (MSB)
21	GND	-	Digital ground.
22	NTB	I	Select $\overline{\text{NTSC}}$/PAL mode.
23,24	IM0,IM1	I	Input mode set Bit 0, 1.
25,26	TEST1,TEST2	I	Normally pull-down to GND.
27	CVSY	I	C-SYNC or V-SYNC input.
28	HSY	I	H-SYNC input.
29	PIXCLK	O	1/2 Freq. of internal CL. (Not used.)
30	BLKB	I	Data blanking $\overline{\text{ENABLE}}$.
31	VDD	-	Digital VDD.
32	INT	I	INTERLACE/$\overline{\text{NON-INTERLANCE}}$.
33	SLAXEBE	I	Set mode MASTER/$\overline{\text{SLABE}}$.
34	ADDH	I	ADD One-line at Non-inter.
35	VREF	I	Reference voltage. (1.29 V)
36	CGND	-	Chroma output ground.
37	COUT	O	Chroma output.
38	VGND	-	Composite output ground.
39	VOUT	O	Composite output.

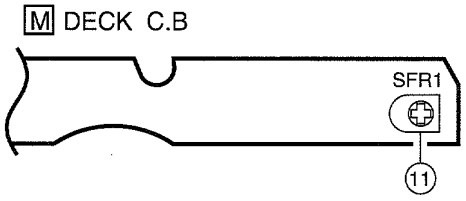
Pin No.	Pin Name	I/O	Description
40	AVSS	-	Analog (DAC, VREF) ground.
41	NC	-	Not used.
42	IR	I	Reference resistor. (1.2K)
43	AVDD	-	Analog (DAC, REF) VDD.
44	YGND	-	Luminance output ground.
45	YOUT	O	Luminance output.
46	G4FSC	I	Pull-down to GND.
47	GCLK	I	Video clock input for CD-G.
48	YCOFF	I	DAC (YOUT, COUT) off.
49	YFILON	I	Pull-down to GND.
50	PAL60B	I	$\overline{\text{PAL60 ON}}$ at NTB=HIGH.
51	VCLK	I	Video clock input for VCD.
52	RSTB	I	Logic part initial reset.
53	CLKSW	I	Divide input CLK $\overline{\text{ENABLE}}$.
54	RD0	I	Red data Bit 0. (LSB)
55,56	RD1,RD2	I	Red data Bit 1, 2.
57	ROSD	I	OSD Red data input.
58~60	RD3~RD5	I	Red data Bit 3~5.
61	VDD	-	Digital VDD.
62	RD6,RD7	I	Red data Bit 6, 7.
63	GOSD	I	OSD green data input.

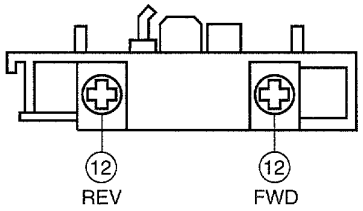
IC, BU2173F

Pin No.	Pin Name	I/O	Description
1	VDD	-	Digital VDD.
2	TSTO	O	Open during normal mode. (Used in test mode.)
3	XTALI	I	Reference oscillator input.
4	XTLO	O	Reference oscillator output.
5	CTLA	I	CD-G/VCD clock selector terminal.
6	CTLB	I	Fixed to "H" during normal mode.
7	CTLC	I	CD-G PAL/NTSC clock selector terminal.
8	TSTI	I	Connected to Vss during normal mode. (Used in test mode.)
9	VSS	-	Digital GND.
10	AVSS	-	Analog GND.
11	FO3	O	Open during normal mode. (Not used.)
12	VSIO	-	I/O GND. (Not used.)
13	FO2	O	Clock output (2).
14	TEST	-	Test mode setting. Connected to Vss during testing mode.
15	FO1	O	Clock output (1).
16	VDIO	-	I/O VDD.
17	FO4	O	Clock output (4). (Not used.)
18	AVDD	-	Analog VDD.

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 and adjust TC701 so that the test point becomes 2160kHz ± 0.01kHz.

2. MW VT Check
   Settings : • Test point : TP2 (VT)
   Method : Set to MW 530kHz and check that the test point is more than 0.3V.

3. MW VT Adjustment
   Settings : • Test point : TP2 (VT)
   • Adjustment location : L981
   Method : Set to MW 1710kHz and adjust L981 so that the test point becomes 8.5V ± 0.05V.

4. MW Tracking Adjustment
   Settings : • Test point : TP6, TP7
   • Adjustment location :
   L981 ..... 600kHz
   TC941 ..... 1400kHz
   Method : Set up TC941 to center before adjustment. The level at 600kHz is adjusted to MAX by L981. Then the level at 1400kHz is adjusted to MAX by TC941.

5. SW VT Adjustment
   Settings : • Test point : TP2 (VT)
   • Adjustment location : L942
   Method : Set to SW 17.9MHz and adjust L942 so that the test point becomes 7.0V ± 0.05V.

6. SW Tracking Adjustment
Settings : • Test point : TP6, TP7
• Adjustment location :
L941 ..... 5.9MHz
TC942 ..... 17.9MHz
Method : Set up TC942 to center before adjustment. The level at 5.9MHz is adjusted to MAX by L941. Then the level at 17.9MHz is adjusted to MAX by TC942.

7. 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 1.0V (87.5MHz) and less than 8.0V (108.MHz).

8. 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%.

9. Auto Stop Level Adjustment
Settings : • Test point : TP5
• Adjustment location : SFR722
• Input level : 18dB (without RDS)
25dB (with RDS)
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.

10. Auto Stop Level Check
MW
Settings : • Test point : TP5
• Input level : 50dB
Method : Set to MW 999kHzand check that the test point is 40 ~ 65dB.

SW
Settings : • Test point : TP5
• Input level : 65dB
Method : Set to SW 12.0MHz and check that the test point is less than 65 dB.

FM
Settings : • Test point : TP5
Method : Set to FM 98.0MHz and check that the test point is 20 dB ± 5 dB (without RDS), 30 dB ± 4 dB (with RDS).

< DECK SECTION >

11. 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.

12. 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.

13. 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.

14. 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 255mV (SFR301,SFR302) and 245mV (SFR303,SFR304).

15. 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 theoutput level at the TP8, TP9 becomes 170mV. 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.

16. 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 16mV ± 0.5dB.

17. Bias OSC Frequency Adjustment
Settings : • Test tape : TTA–615
• Test point : TP10 (Q352)
• Adjustment location : L451
Method : Set to the REC mode. Adjust L451 so that the frequency counter of the test point becomes minimum.

PRACTICAL SERVICE FIGURE

<TUNER SECTION>

<FM SECTION>

IHF Sensitivity :	3dB ± 6dB
(THD 3%)	[at 87.5 / 98.0 / 108.0MHz]
S/N 50dB Quieting sensitivity :	
	Less than 36dB
	[at 87.5 / 98.0 / 108.0MHz]
Signal to noise ratio :	More than 67dB
	[at 98.0MHz]
Distortion :	Less than 2%
	[at 98.0MHz]
Auto stop level :	20dB ± 5dB [at 98.0MHz]
Stereo separation :	More than 25dB [at 98.0MHz]
Intermediate frequency :	10.7MHz

<(MW) SECTION>

Sensitivity :	52 ~ 62dB
(S/N 20 dB)	[at 603kHz]
	48 ~ 58dB
	[at 999kHz]
	48 ~ 58dB
	[at 1404kHz]
Signal to noise ratio :	More than 36dB
	[at 999kHz]
Distortion :	Less than 1.5%
	[at 999kHz]
Auto stop level :	53dB ± 13dB
Intermediate frequency :	450kHz

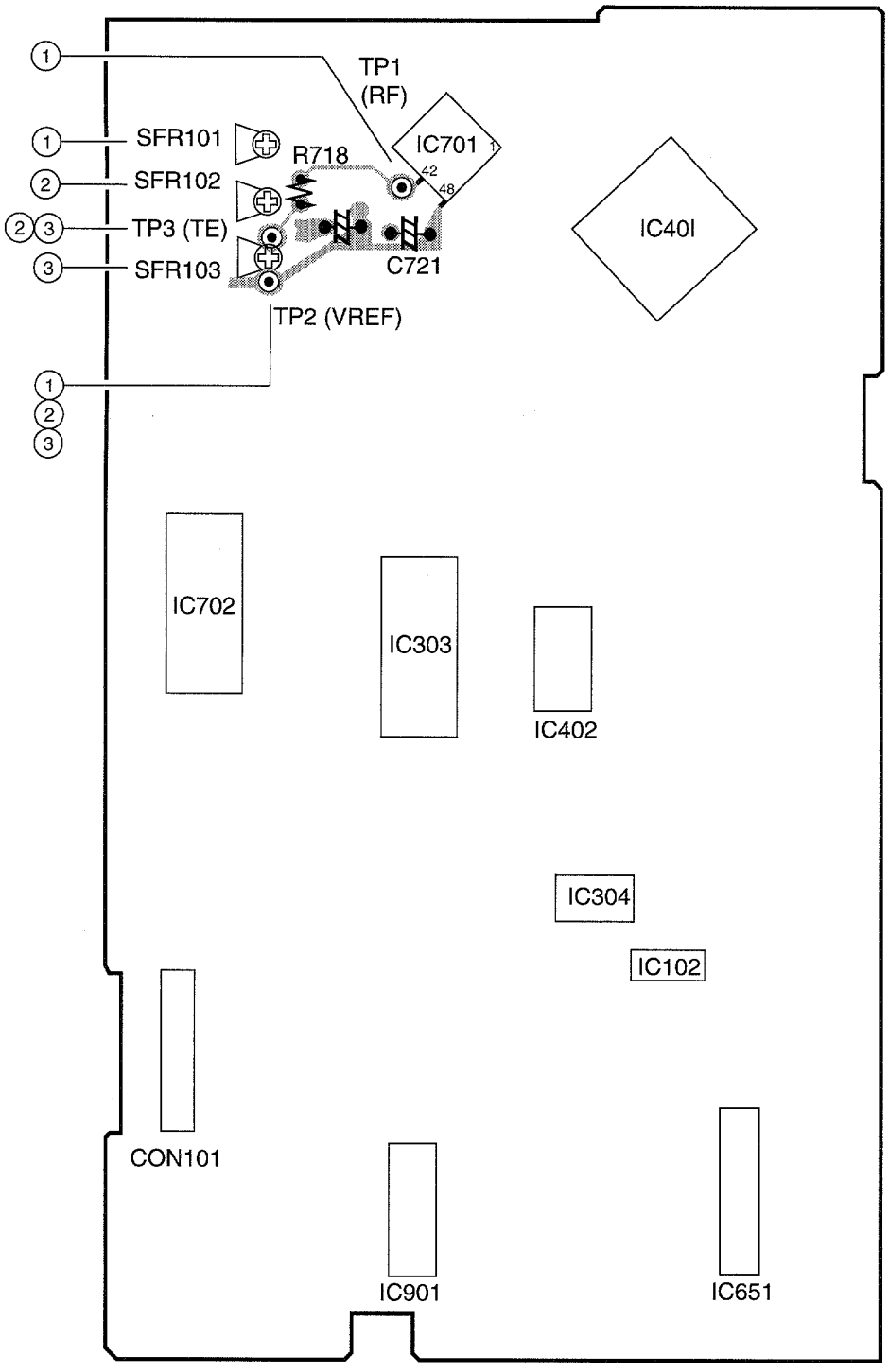
<SW SECTION>

Sensitivity :	33 ~ 43dB (5.90MHz)
(S/N 20dB)	27 ~ 37dB (12.0MHz)
	25 ~ 35dB (17.9MHz)
Distortion :	Less than 2.0% (17.9MHz)
Intermediate frequency :	450kHz

<DECK SECTION>

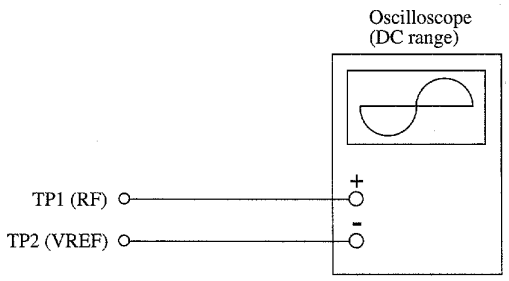
Tape speed :	3000Hz ± 45Hz
Wow & flutter :	Less than 0.21%
	(R.M.S)
Take-up torque :	30 ~ 55g-cm
	(FWD, REV)
F.F & REW torque :	75 ~ 160g-cm
Back tension :	2 ~ 7g-cm
	(FWD, REV)
PB output level :	300mV± 1dB
	(SP OUT 2V)
REC/PB output level :	180mV ± 1dB
	(SP OUT 2V)
Distortion (REC/PB) :	Less than 2.0%
	(NORM, CrO_2)
Noise level (PB) :	Less than 1.8mV
	(NORM, SP OUT 2V, DOLBY OFF)
	Less than 1.1mV
	(CrO_2, SP OUT 2V, DOLBY B,C ON)
Noise level (REC/PB) :	Less than 2.0mV
	(NORM, SP OUT 2V, DOLBY OFF)
	Less than 1.2mV
	(CrO_2, SP OUT 2V, DOLBY B,C ON)
Crosstalk :	More than 60dB
	(1kHz, 0VU)
Channel separation :	More than 30dB
	(1kHz, 0VU)
Erasing ratio :	More than 60dB
	(at 125Hz,CrO_2)
Test tape :	TTA–602 (NORMAL)
	TTA–615 (CrO_2)

H VCD MAIN C.B


TP1
(RF)
SFR101
SFR102
TP3 (TE)
SFR103
R718
IC701
42
48
C721
TP2 (VREF)
IC40I
IC702
IC303
IC402
IC304
IC102
CON101
IC901
IC651

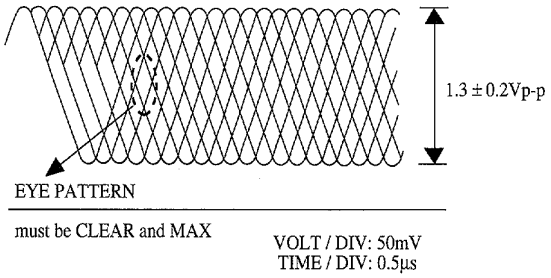
Note :
Connect a probe (10:1) of the oscilloscope or the frequency counter to a test point TP2(VREF).

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

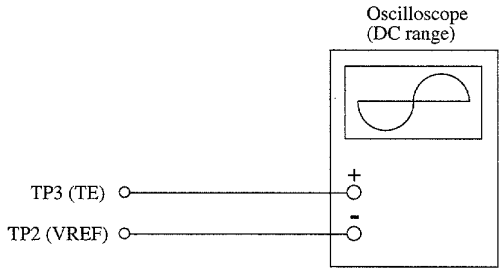


1) Connect an oscilloscope to the test points TP1 (RF) and TP2 (VREF).
2) Turn on the power switch.
3) Insert test disc TCD-782 (YEDS-18) and play back the second composition.
4) Adjust SFR101 so that RF signal of the test point TP1 (RF) is MAX and CLEAREST.

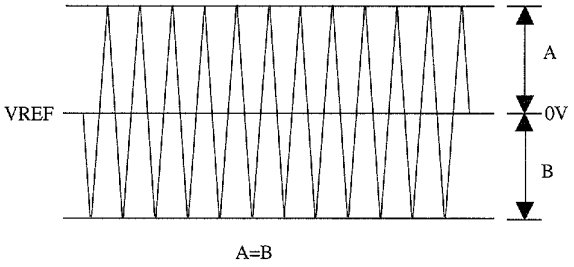
RF signal waveform



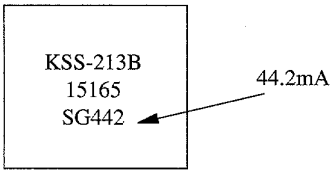
2. Tracking Balance Adjustment



1) Connect an oscilloscope to the test points TP3 (TE) and TP2 (VREF).
2) Activates 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 SFR102 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 R727 (10Ω). The difference for the specified value shown on the level must be within ± 6.0mA.



$$\text{Laser current Iop} = \frac{\text{Voltage across R727}}{10\Omega}$$

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.

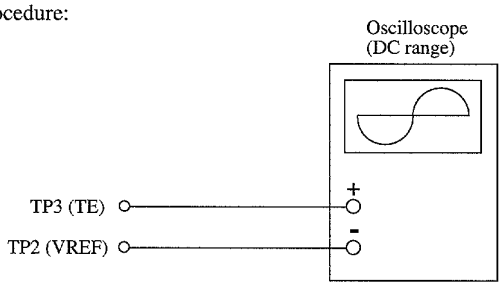
Symptoms \ Gain	(Focus)	Tracking
• The time until music starts becomes longer for STOP → ▶PLAY or automatic selection (⏮, ⏭ buttons pressed.) (Normally takes about 2 seconds.)	low	low or high
• Music does not start and disc continues to rotate for STOP → ▶PLAY or automatic selection (⏮, ⏭ buttons pressed.)	–	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.

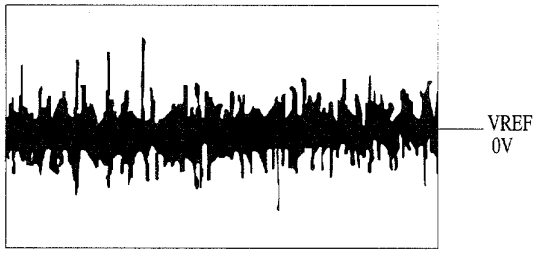
– Simple adjustment –

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:



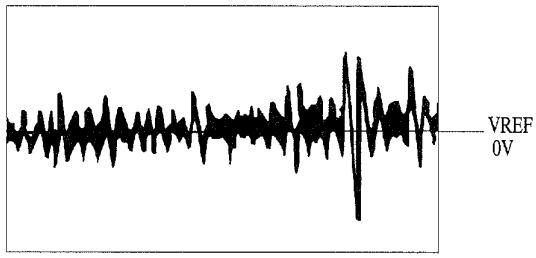
1) Keep the set horizontal. (If the set is not kept horizontally,
   this adjustment cannot be performed due to the gravity against the 2-axis device.)
2) Insert test disc TCD-782 (YEDS-18) and play back the second composition.
3) Connect an oscilloscope to TP2 (VREF) and TP3(TE).
4) Adjust SFR103 so that the waveform appears as shown in the figure below.
   (tracking gain adjustment)



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

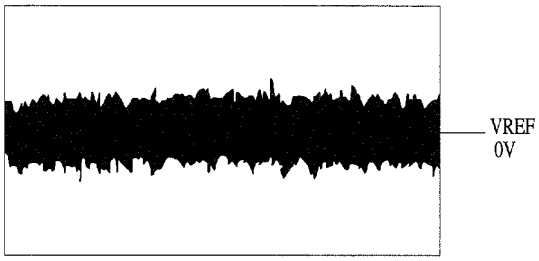
- Incorrect examples

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.

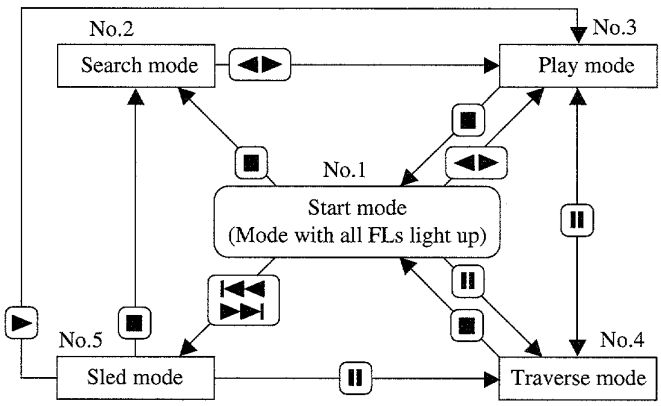
Mode / No.	Operation	FL display	Operation	Contents
Start mode No. 1	Test mode activation	All FLs light up	• Activates the test mode. (CD block power supply ON)	All FL displays light up
Search mode No. 2	■ key	C0--	• Laser diode illuminated under normal circumstances • Continual focus search * NOTE 1 (The pickup lens repeats the full-swing up-down motion.) * Avoid continual searches that last for more than 10 minutes.	• Laser current measurement (Across R727 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 FLs 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 cancelled. 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.

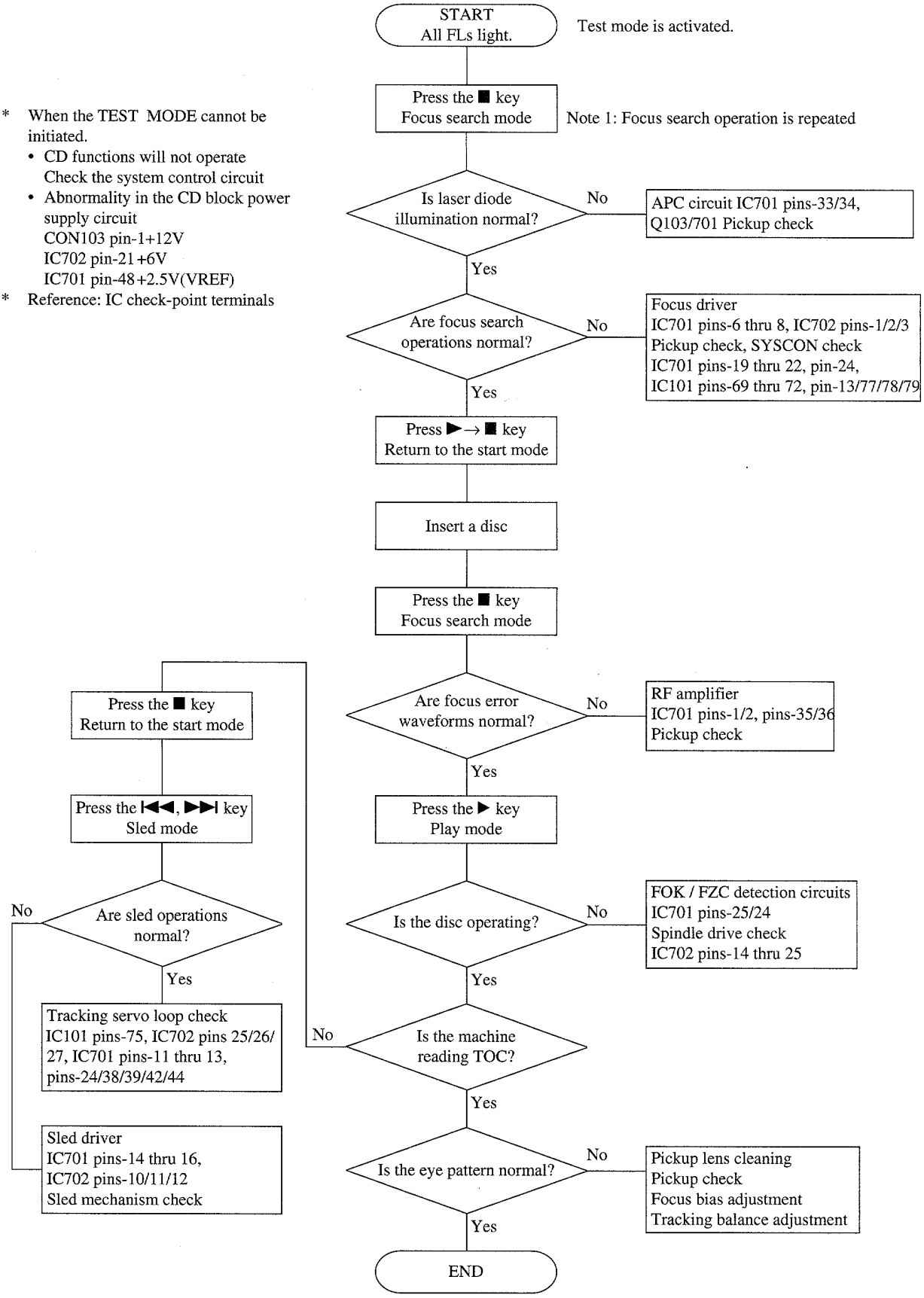
4. Operation Outline
- The operation of each mode is carried out in the direction of the arrows from the start mode as indicated in the following illustration.
- When DISC DIRECT key is pressed, test mode is operated same as pressing the PLAY key.
- When CD tray is opened by OPEN / CLOSE key while play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



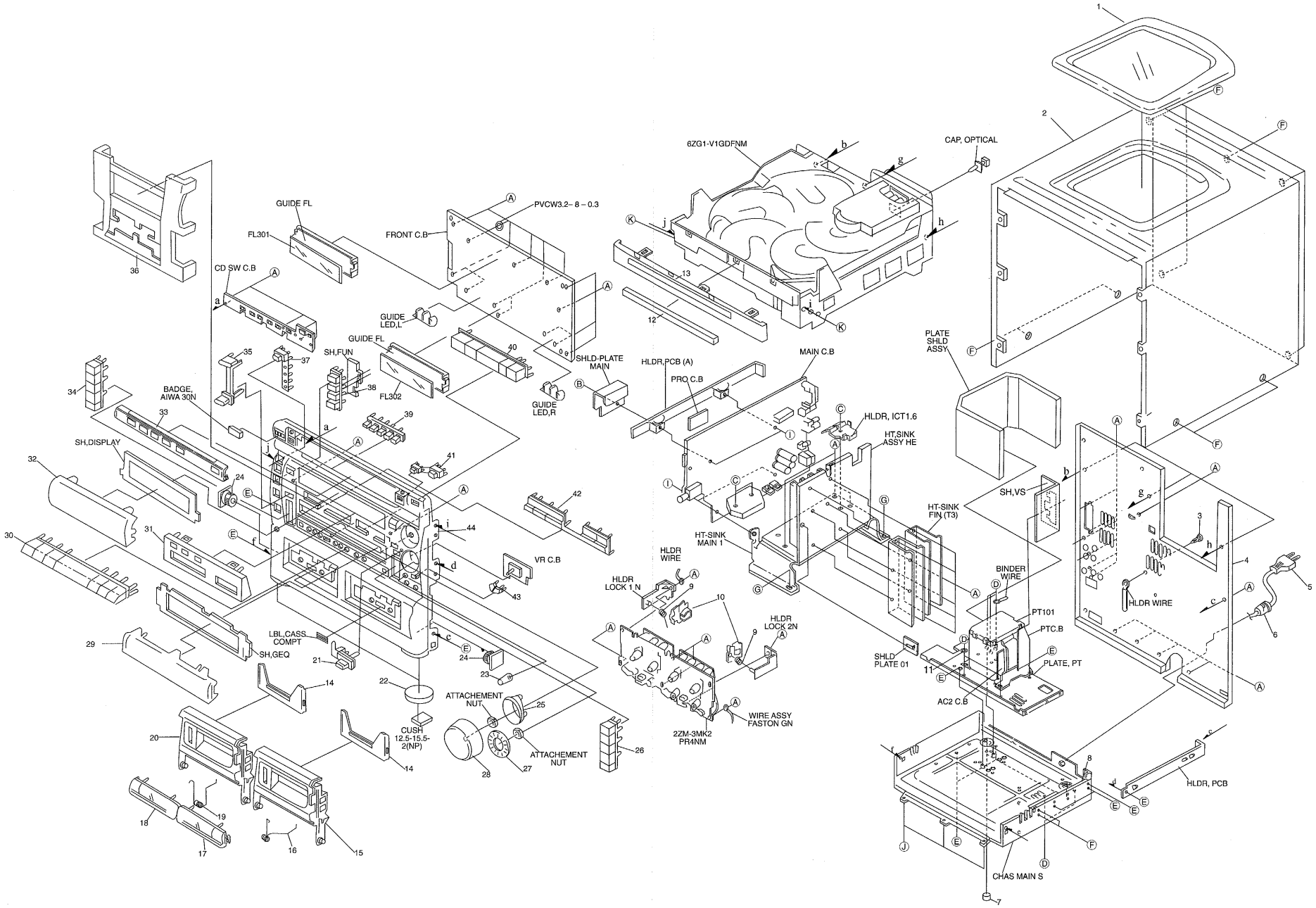
CD TROUBLE-SHOOTING

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
    CON103 pin-1+12V
    IC702 pin-21+6V
    IC701 pin-48+2.5V(VREF)
* Reference: IC check-point terminals



MECHANICAL EXPLODED VIEW 1/1

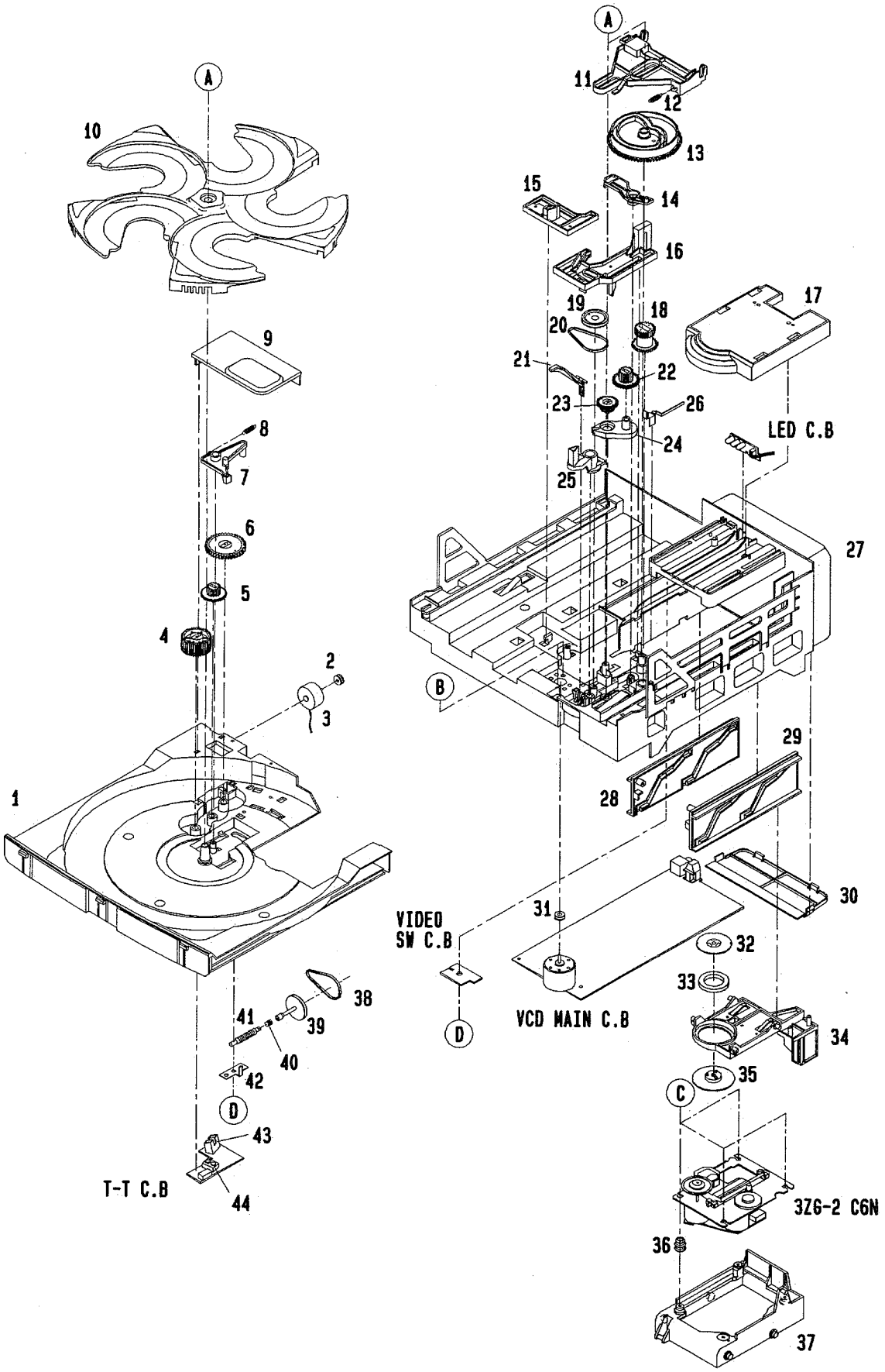


MECHANICAL PARTS LIST 1 / 1

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-NHA-019-010		CABI,STEEL(ST)
3	87-084-077-010		RIVET,NYL 3.5-4.5
4	86-NF9-002-010		PANEL,REAR HEJBNM
⚠ 5	87-050-079-010		AC CORD ASSY,E BLK
6	87-085-185-010		BUSHING,AC CORD(E) CM-22B
7	87-085-221-010		FOOT, H 13.5
8	86-NF9-214-019		HLDR,TYPE L
9	82-NF5-228-010		SPR-C,LOCK
10	82-NF5-229-010		PLATE,LOCK(*)
11	87-067-747-010		W,4.3-14-1 W/O ADH
12	86-NF9-006-010		PANEL,CD
13	86-NH9-019-010		PANEL,TRAY
14	86-NF6-061-010		REFLECTOR,CASS
15	86-NH9-004-010		BOX,CASS 2
16	82-NF5-219-010		SPR-T,EJECT 2(SIN)
17	86-NF9-014-010		WINDOW,CASS 2
18	86-NF9-013-010		WINDOW,CASS 1
19	82-NF5-218-010		SPR-T,EJECT 1(SIN)
20	86-NH9-003-010		BOX,CASS 1
21	86-NF9-038-010		KEY,DSP OFF
22	86-NF9-034-010		RING,FOOT
23	86-NT1-023-010		KNOB,RTRY MIC
24	87-063-165-010		OIL-DMPR,150
25	86-NF9-032-010		RING,VOL
26	86-NF9-026-010		KEY,DSP
27	86-NH9-013-010		KNOB,RTRY JOG
28	86-NH9-012-010		KNOB,RTRY VOL
29	86-NF9-012-010		WINDOW,GEQ
30	86-NH9-018-010		KEY,KEY CON
31	86-NH9-007-010		PANEL,CONTROL
32	86-NF9-011-010		WINDOW,DISPLAY
33	86-NF9-010-010		WINDOW,CD
34	86-NF9-025-010		KEY,GEQ
35	86-NF9-037-010		KEY,GEQ OFF
36	86-NF9-007-010		PANEL,FR
37	86-NF9-042-010		KEY,ASSY POWER
38	86-NH9-009-110		KEY,FUN
39	86-NF9-016-010		KEY,ASSY DISC
40	86-NF9-043-110		KEY,ASSY PLAY
41	86-NH9-008-010		KEY,OPEN
42	86-NF9-039-010		KEY,REC
43	86-NH9-017-010		KEY,MEMORY
44	86-NH9-001-010		CABI,FR
A	87-067-703-010		BVT2+3-10 W/O SLOT
B	87-741-094-410		UT2+3-6
C	87-067-822-010		BVT2+3-20 W/O SLOT
D	87-067-975-010		S-SCREW,IT+4-8 SWCH12A
E	87-721-095-410		QT2+3-8
F	87-067-641-010		UTT2+3-8 W/O SLOT BLK
G	87-067-689-010		BVTT+3-8
H	87-078-084-010		BVTT+3-6 W,CONVEX
I	87-067-633-010		BVT2+3-8 W,CONVEX
J	87-067-673-010		BVTT+3-8 BLK
K	87-721-097-410		QT2+3-12 W/O SLOT

CD MECHANISM EXPLODED VIEW 1/2

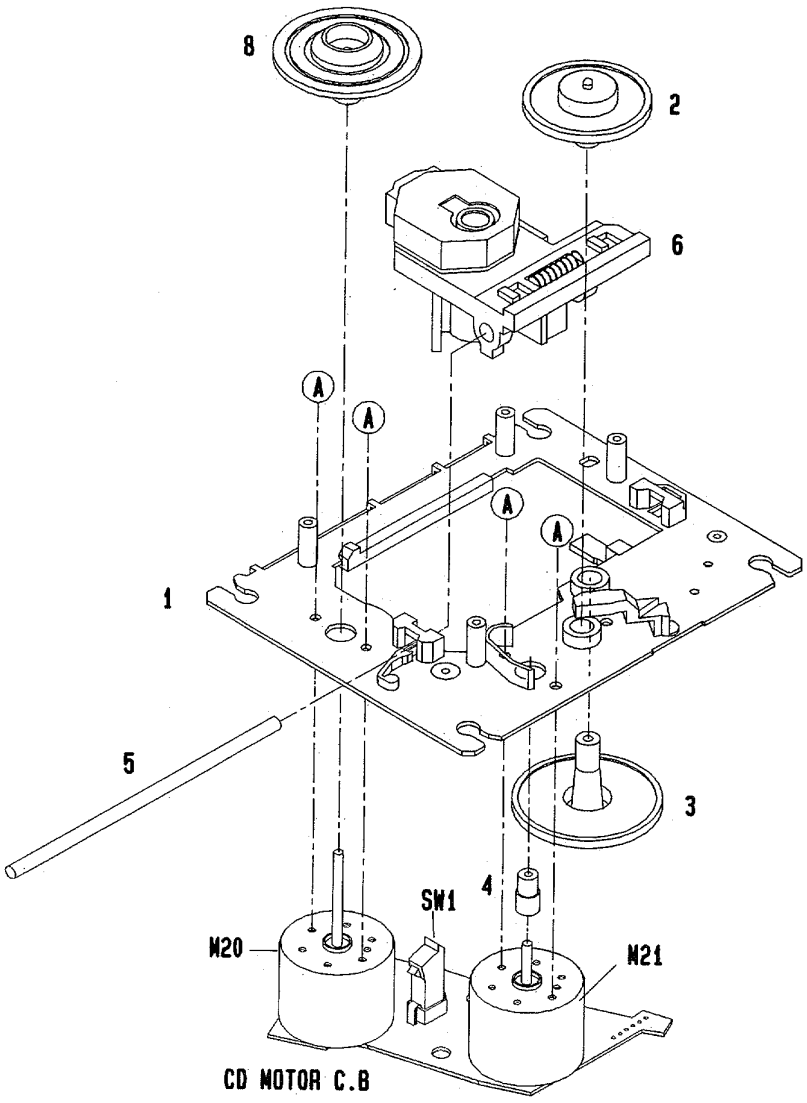


CD MECHANISM PARTS LIST 1/2

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

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	86-ZG1-001-119		TRAY,5CD
2	81-ZG1-212-01K		PULLY,LOAD MO
3	87-A90-036-019		MOT ASSY,RF-300CA-11
4	86-ZG1-228-019		GEAR,TT-B
5	86-ZG1-227-019		GEAR,TT-A
6	86-ZG1-223-019		WORM-WHEEL,TT
7	86-ZG1-224-019		LEVER,TT
8	86-ZG1-226-010		SPR-E,LEVER TT
9	86-ZG1-003-119		COVER,TRAY
10	86-ZG1-002-119		TURN TABLE,5CD
11	86-ZG1-211-119		JOINT,CAM
12	86-ZG1-216-010		SPR-E,JT
13	86-ZG1-203-019		GEAR,MAIN CAM
14	86-ZG1-213-019		LEVER,LOAD
15	86-ZG1-214-019		LEVER,PROTECT
16	86-ZG1-212-119		SLIDER,LOAD
17	86-ZG1-004-019		REFLECTOR,CD
18	86-ZG1-205-019		GEAR,TRAY
19	84-ZG1-219-019		PULLY,RELAY BGE
20	84-ZG1-209-010		BELT,SQ1.8-117.7
21	86-ZG1-217-019		LEVER,SW
22	86-ZG1-206-019		GEAR,RELAY B
23	86-ZG1-204-019		GEAR,RELAY A
24	86-ZG1-218-019		PLATE,GEAR
25	86-ZG1-208-019		LEVER,TRAY
26	86-ZG1-220-110		SPR-P,LOCK
27	86-ZG1-201-119		CHAS,MECHA
28	86-ZG1-209-019		SLIDER,CAM L
29	86-ZG1-210-019		SLIDER,CAM R
30	86-ZG1-005-019		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-ZG1-215-019		HLDR,CHUCK
35	83-ZG3-212-019		CAP,DISC
36	80-CD3-214-019		CUSH CD A
37	86-ZG1-202-119		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-ZG1-256-010		GEAR,WORM N
42	86-ZG1-232-010		SPR-P,WORM
43	86-ZG1-229-019		HLDR,SENSOR
44	86-ZG1-230-019		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-SCREW,MECH HLDR
D	87-067-579-019		BVT2+3-8 W/O SLOT

CD MECHANISM EXPLODED VIEW 2/2

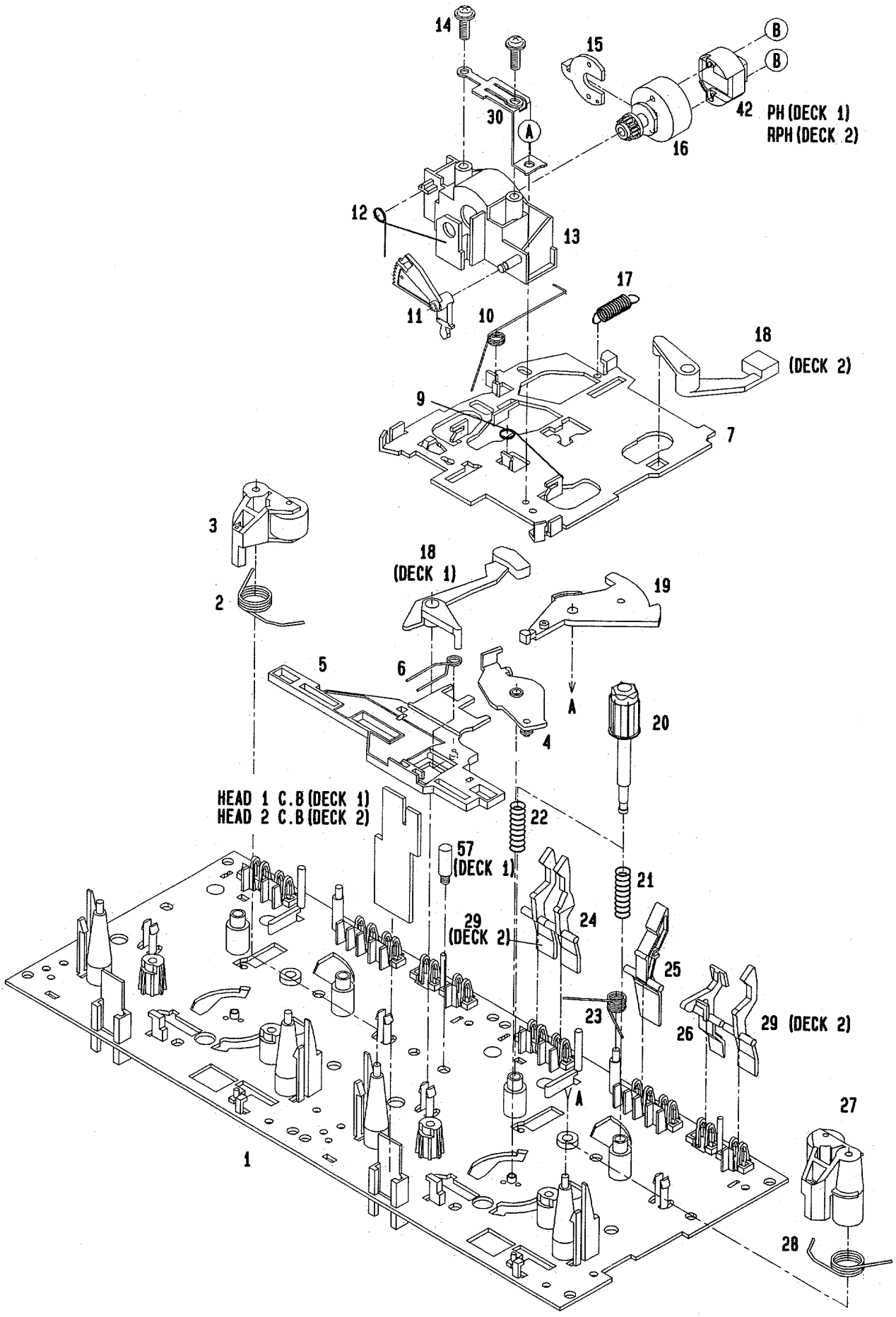


CD MECHANISM PARTS LIST 2/2

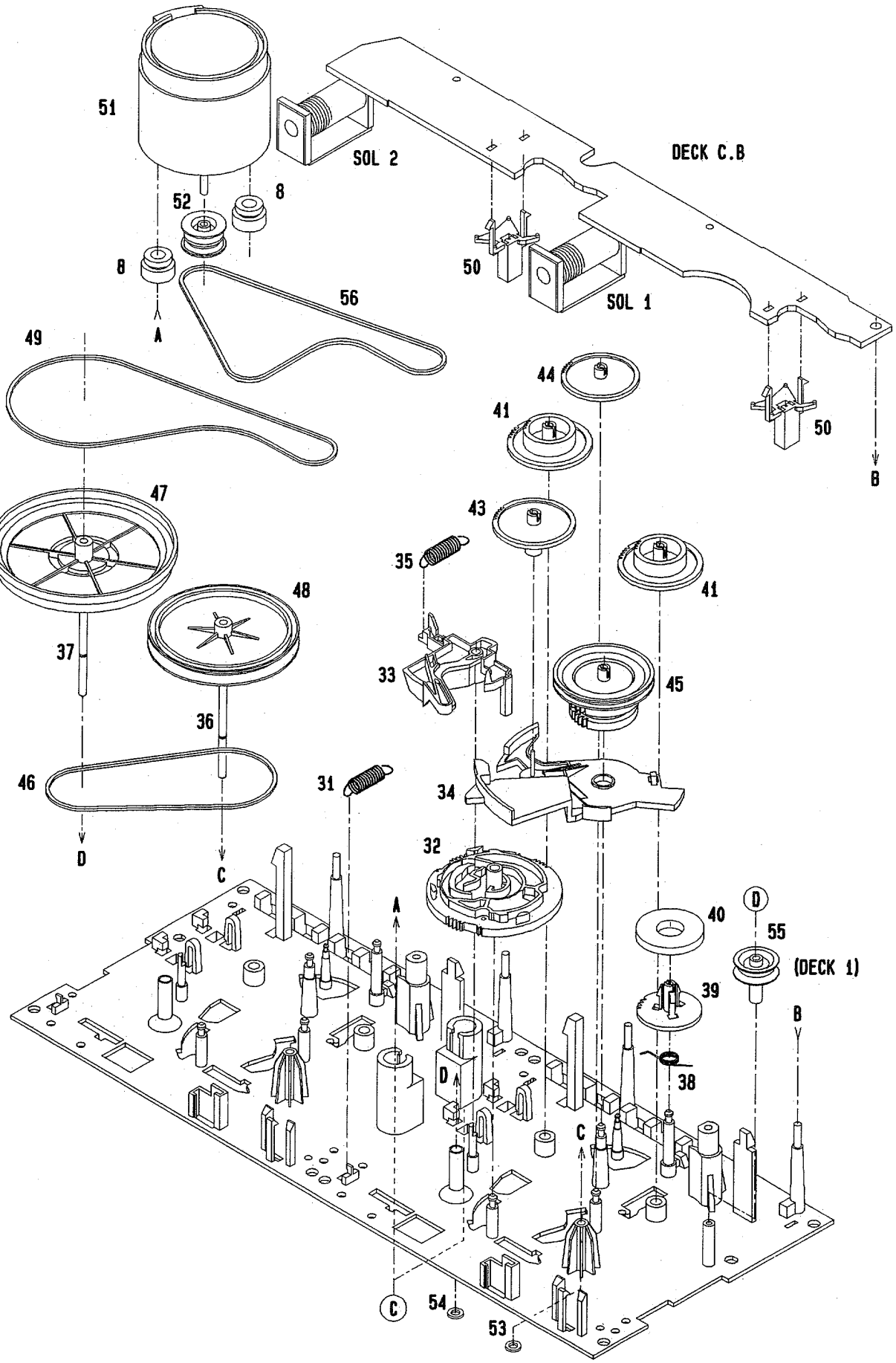
If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	83-ZG2-232-11K		O-SERT S ASSY,S5
2	83-ZG2-237-11K		GEAR,A5
3	83-ZG2-205-219		GEAR,B
4	83-ZG2-238-01K		GEAR,MOTOR 5
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

TAPE MECHANISM EXPLODED VIEW 1/2



TAPE MECHANISM EXPLODED VIEW 2/2



TAPE MECHANISM PARTS LIST 1 / 1

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

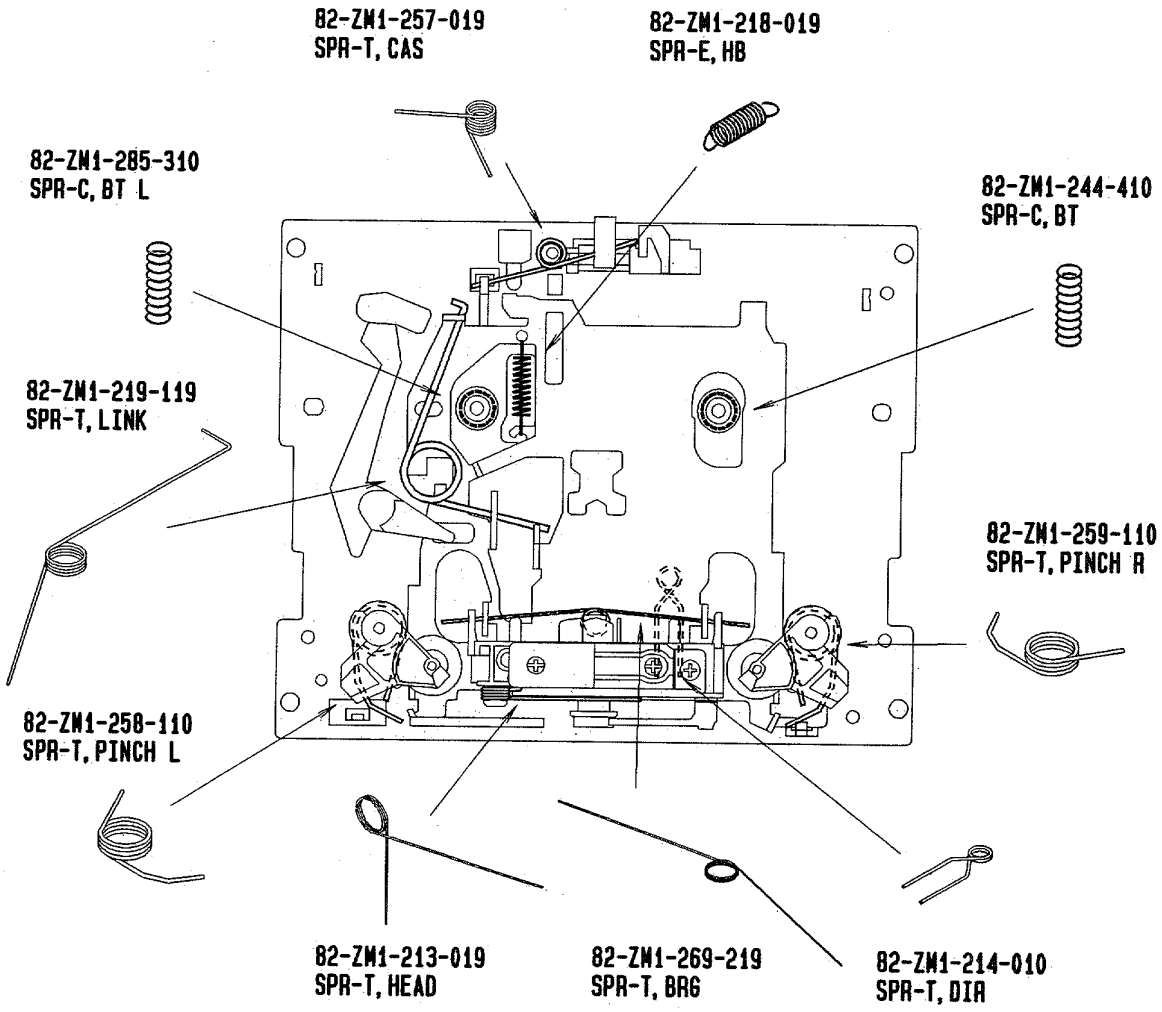
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	82-ZM3-301-519		CHAS ASSY,M2
2	82-ZM1-258-110		SPR-T,PINCH L
3	82-ZM1-345-019		LVR ASSY,PINCH L W
4	82-ZM1-333-010		PLATE,LINK 2
5	82-ZM1-266-11K		LVR,DIR
6	82-ZM1-214-010		SPR-T,DIR
7	82-ZM1-206-81K		CHAS,HEAD
8	82-ZM3-307-019		CUSH-G,DIA3.7-8-3.2
9	82-ZM1-269-219		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

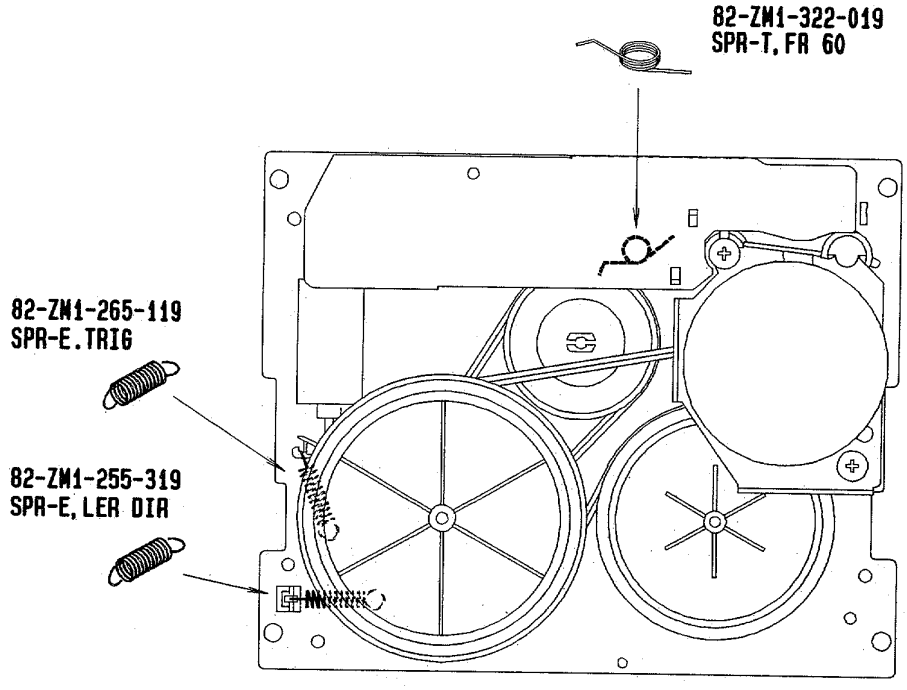
ACCESSORIES / PACKAGE LIST

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

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	86-NH9-901-010		IB,H(ECA)M
2	86-MG3-702-110		RC UNIT,6AS08
3	87-A90-054-010		ANT,LOOP AM-CON C
4	87-043-095-010		ANT,WIRE
5	87-043-115-010		FEEDER-ANT,FM
⚠ 6	87-A90-312-010		PLUG,CONVERSION WTN-1157R1
7	87-050-103-010		CORD,PIN 1PY1.5M

SPRING APPLICATION POSITION





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
G－　－	
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