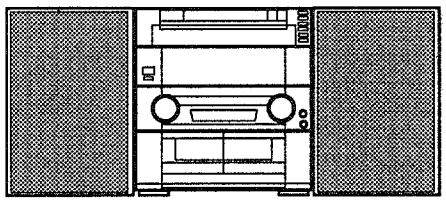
aiwa

aiwa SERVICE

Z-VR99

SERVICE MANUAL



COMPACT DISC STEREO
CASSETTE RECEIVER

- BASIC TAPE MECHANISM: 2ZM-3MK2 PR5NM
- BASIC CD MECHANISM: 6ZG-1 S2DSHNM
- TYPE: LH

SYSTEM	CD CASSEIVER	SPEAKER	REMOTE CONTROLLER
Z-VR99	CX-ZVR99	SX-WZR99 SX-CR676	RC-7AS02

- If requiring information about the CD mechanism, see Service Manual of 6ZG-1. (S/M Code No.09-984-249-9OT)

S/M Code No. 09-984-255-8FE

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)

<AM Tuner section>

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

<Amplifier section>

Power output	FRONT 170 W + 170 W (6 ohms, T.H.D. 10 %, 1kHz) REAR (Surround) 40 W + 40 W (16 ohms, T.H.D 10%, 1kHz) CENTER 40 W (8 ohms, T.H.D 10%, 1kHz)
Total harmonic distortion	0.15 % (85 W, 1 kHz, 6 ohms)
Inputs	VIDEO/AUX: 210 mV (adjustable) PHONO IN: 340 mV (47 kohms) MIC1, MIC2: 1.4 mV (20 kohms) 5.1 CH INPUT FRONT: 500 mV REAR: 300 mV CENTER: 300 mV SUB WOOFER: 500mV
Outputs	CD DIGITAL OUT (OPTICAL) SUPER WOOFER: 1V SPEAKERS: accept speakers of 6 ohms or more SURROUND SPEAKERS: accept speakers of 8 -16 ohms or more PHONES (stereo jack) : accepts headphones of 32 ohms or more

<Cassette deck section>

Track format	4 tracks, 2 channels stereo
Frequency response	CrO_2 tape: 50 Hz – 16000 Hz Normal tape: 50 Hz –15000 Hz
Signal-to noise ratio	60 dB (Dolby B NR ON, CrO_2 tape peak level, above 400Hz)
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	85 dB (1 kHz, 0 dB)
Harmonic distortion	0.03 % (1 kHz, 0 dB)
Wow and flutter	Unmeasurable

<Speaker system SX–WZR99>

Cabinet type	4 way, built-in sub woofer
Speakers	Sub woofer: 240 mm cone type Woofer: 140 mm cone type Tweeter: 60 mm cone type Super tweeter: 20 mm ceramic type
Impedance	6 ohms
Output sound pressure level	89 dB/W/m
Dimensions (W x H x D)	300 x 500 x 385 mm
Weight	7.0 kg

<General>

Power requirements	120 V/220 – 230 V/240 V AC switchable, 50/60 Hz
Power consumption	250 W
Dimensions of main unit (W x H x D)	360 x 394.5 x 381 mm
Weight of main unit	12 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.

ACCESSORIES / PACKAGE LIST

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

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	88-MAM-902-010		IB, LH(ESP) M
2	87-A90-030-010		ANT,LOOP AM-NC C
⚠ 3	87-099-789-010		PLUG,CONVERSION IR44
4	87-MAT-701-010		RC UNIT,7AS02
5	87-043-115-010		ANT,FEEDER FM

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 saattaa 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 herein may result in hazardous radiation exposure.

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

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

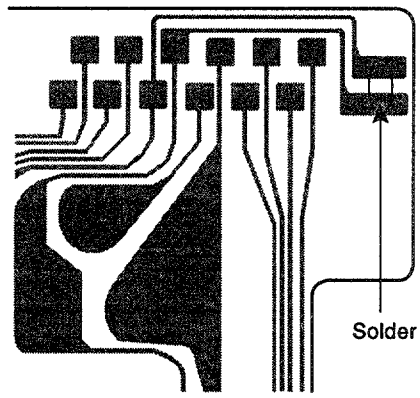
Precaution to replace Optical block

(KSS – 213F)

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

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

PICK-UP Assy P.C.B



NOTE ON BEFORE STARTING REPAIR

1. Forced discharge of electrolytic capacitor of power supply block

When repair is going to be attempted in the set that uses relay circuit in the power supply block, electric potential is kept charged across the electrolytic capacitors (C101, 102) even though AC power cord is removed. If repair is attempted in this condition, the secondary defect can occur.
In order to prevent the secondary trouble, perform the following measures before starting repair work.

Discharge procedure

① Remove the AC power cord.
② Connect a discharging resistor at an end of lead wire that has clips at both ends. Connect the other end of the lead wire to metal chassis.
③ Contact the other end of the discharging resistor to the positive (+) side (+VH) of C101. (For two seconds)
④ Contact the same end of the discharging resistor as step ③ to the negative (-) side (-VH) of C102 in the same way. (For two seconds)
⑤ Check that voltage across C101 and C102 has decreased 1 V or less using a multimeter or an oscilloscope.

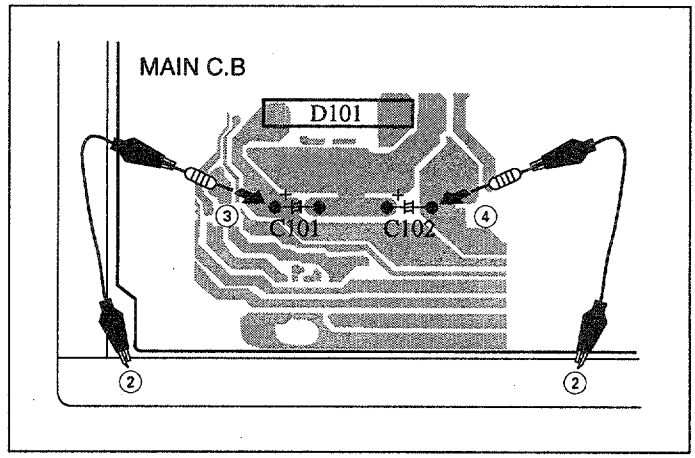


Fig-1

Select a discharging resistor referring to the following table.

Charging voltage (V) (C101, 102)	Discharging resistor (Ω)	Rated power (W)	Parts number
25-48	100	3	87-A00-247-090
49-140	220	5	87-A00-232-090

Note: The reference numbers (C101, C102) of the electrolytic capacitors can change depending on the models. Be sure to check the reference numbers of the charging capacitors on schematic diagram before starting the discharging work.

2. Check items before exchanging the MICROCOMPUTER

Be sure to check the following items before exchanging the MICROCOMPUTER. Exchange the MICROCOMPUTER after confirming that the MICROCOMPUTER is surely defective.

2-1. Regarding the HOLD terminal of the MICROCOMPUTER

When the HOLD terminal (INPUT) of the MICROCOMPUTER is "H", the MICROCOMPUTER is judged to be operating correctly. When this terminal is "L", the main power cannot be turned on. Therefore, be sure to check the terminal voltage of the HOLD terminal before exchange.
When the MICROCOMPUTER is not defective, the HOLD terminal can also go "L" when the POWER AMPLIFIER has any abnormalities that triggers the abnormality detection circuit on the MAIN C. B. that sets the HOLD terminal to "L".

- Good or no good judgement of the MICROCOMPUTER

① Turn on the AC main power.
② Confirm that the main power is turned on and the HOLD terminal of the MICROCOMPUTER keeps the "H" level or not.
③ When the HOLD terminal is "L" level, the abnormality detection circuit is judged to be working correctly and the MICROCOMPUTER is judged to be good.

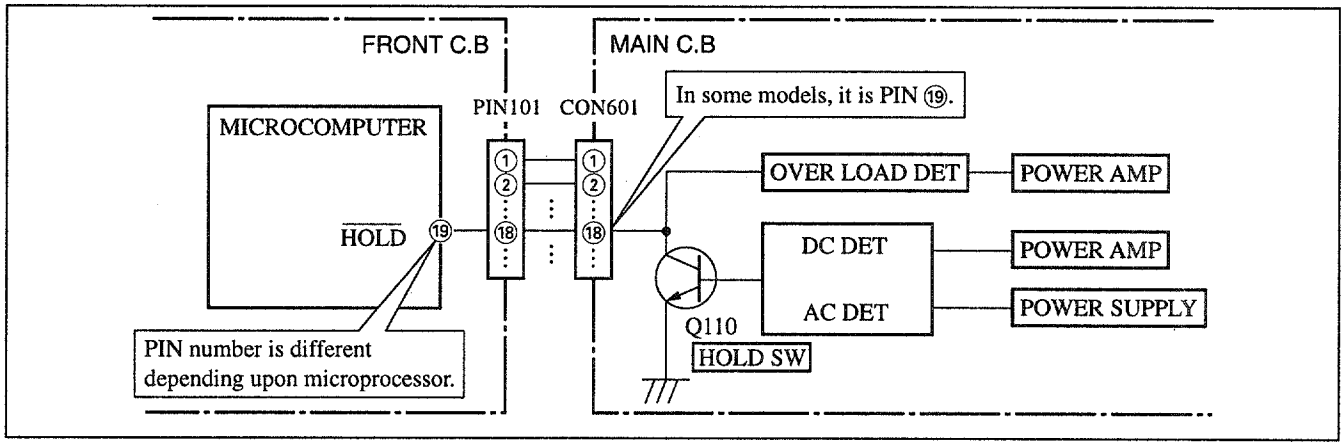


Fig-2-1

In such a case, check also if the POWER AMPLIFIER circuit or power supply circuit has any abnormalities or not.

2-2. Regarding reset

There are cases that the machine does not work correctly because the MICROCOMPUTER is not reset even though the AC power cord is re-inserted, or the software reset (pressing the STOP key + POWER key) is performed.
When the above described phenomenon occurs, it can leads to wrong judgement as if the MICROCOMPUTER is defective and to exchange the MICROCOMPUTER. In such a case, perform the forced-reset by the following procedure and check good or no good of the MICROCOMPUTER.

① Remove the AC power cord.

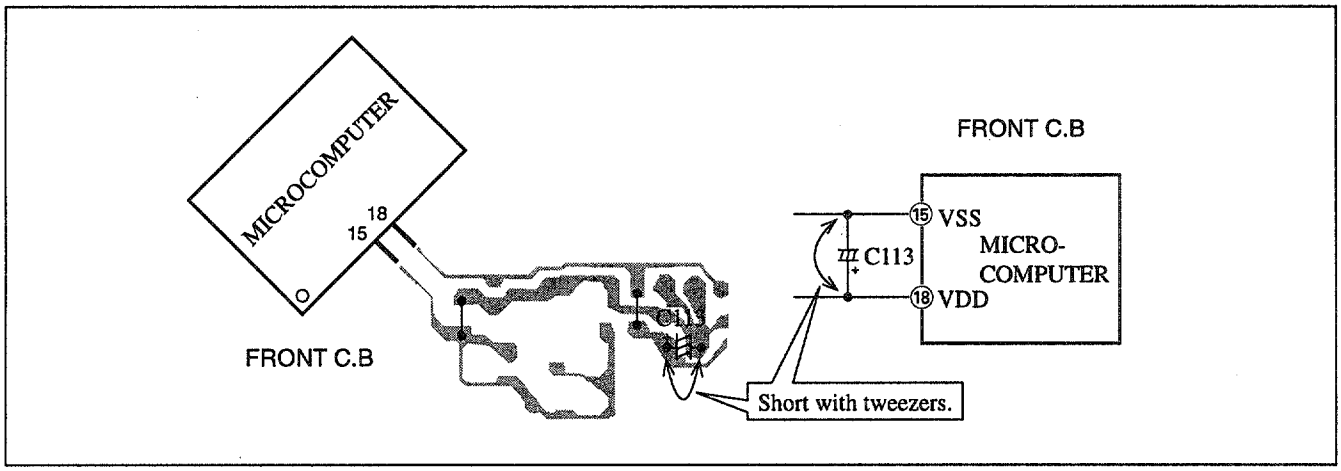


Fig-2-2

② Short both ends of the electrolytic capacitor C113 that is connected to VDD of the MICROCOMPUTER with tweezers.
③ Connect the AC power cord again. If the MICROCOMPUTER returns to the normal operation, the MICROCOMPUTER is good.

Note: The reference number or MICROCOMPUTER pin number of transistor (Q110) and electrolytic capacitor (C113) can change depending on the models. Be sure to check the reference numbers on schematic diagram before starting the discharging work.

2-3. Confirmation of soldering state of MICROCOMPUTER

Check the soldering state of the MICROCOMPUTER in addition to the above described procedures. Be sure to exchange the MICROCOMPUTER after surely confirming that the trouble is not caused by poor soldering but the MICROCOMPUTER itself.

ELECTRICAL MAIN PARTS LIST

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

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
IC			
	87-020-454-010		IC,DN6851
	88-MA1-602-010		C-IC,LC866560W-5H04
	87-NF8-614-010		IC,SPS-442-1-W
	87-017-915-080		C-IC,BU4094BCF
	87-A20-455-010		IC,HA12211
	87-A20-355-010		IC,CXA1553P
	87-A20-083-010		IC,BA3835S
	87-A20-804-040		C-IC,NJM2152M
	87-017-917-080		C-IC,BU4066BCF
	87-A20-954-040		C-IC,M62445FP-601
	87-017-888-080		IC,NJM4558MD
	86-NFZ-655-010		IC,LC72131D(Z)
	87-A20-438-010		IC,LA1837
	88-NF5-615-040		C-IC,MSM6654A-521GS-KR1
	87-017-726-080		C-IC,BU4052BCF
	87-A20-715-010		IC,M62439SP
	87-A20-853-010		C-IC,M62463FP
TRANSISTOR			
	87-026-463-080		TR,2SA933S
	87-A30-076-080		C-TR,2SC3052F
	89-213-702-010		TR,2SB1370
	87-026-610-080		TR,KTC3198GR
	87-A30-073-080		C-TR,RT1N 141C
	87-A30-085-070		C-TR,CSA1362GR
	87-A30-196-080		TR,2SC4115SRS
	87-A30-075-080		C-TR,2SA1235F
	89-112-965-080		TR,2SA1296
	87-A30-071-080		C-TR,RT1N 144C
	87-026-609-080		TR,KTA1266GR
	87-A30-105-080		C-TR,RT1P 441C
	87-026-580-080		C-TR,DTA123JK
	87-A30-107-070		C-TR,CMBT5401
	87-A30-190-080		TR,CC5551
	87-A30-097-010		TR,FN 1016
	87-A30-098-010		TR,FP 1016
	87-A30-106-070		C-TR,CMBT5551
	87-A30-162-010		FET,2SK2937
	87-A30-072-080		C-TR,RT1P 144C
	87-A30-074-080		C-TR,RT1P 141C
	87-026-232-080		C-TR,DTA144WK
	87-A30-087-080		C-FET,2SK2158
	87-026-211-080		C-TR,DTA144EK
	89-327-143-080		C-TR,2SC2714
	87-A30-108-010		TR,2SB1626
	87-A30-109-010		TR,2SD2495
	87-A30-214-010		TR,2SB1344
	87-A30-215-010		TR,2SD2025
	87-A30-086-070		C-TR,CSD1306E
	87-026-608-080		C-TR,DTC123JK
DIODE			
	87-A40-470-080		DIODE,1SS254
	87-017-654-060		DIODE,GBU6JL6131
	87-A40-269-080		C-DIODE,MC2836
	87-A40-270-080		C-DIODE,MC2838
	87-070-274-080		DIODE,1N4003 SEM
	87-A40-344-080		ZENER,MTZJ6.2C
	87-A40-341-080		ZENER,MTZJ 36 A
	87-A40-345-080		ZENER,MTZJ10C
	87-A40-004-080		ZENER,MTZJ16A
	87-A40-438-080		ZENER,MTZJ4.7A
	87-A40-370-090		DIODE,RK46-P20A
	87-070-136-080		ZENER,MTZJ5.1B
	87-A40-488-080		DIODE,1SS244
	87-017-931-080		ZENER,MTZJ5.6B
	87-A40-002-080		ZENER,MTZJ5.1C
	87-A40-234-080		ZENER,MTZJ5.6A
	87-002-225-010		DIODE,DBF40C-K10
	87-A40-442-080		ZENER,MTZJ9.1A
	87-A40-348-080		ZENER,MTZJ3.3A
MAIN C.B			
	88-906-251-110		FF-CABLE,6P 1.25
C101	87-016-657-090		CAP,E 3300-71 M SMG
C102	87-016-657-090		CAP,E 3300-71 M SMG
C103	87-016-658-090		CAP,E 4700-35 SMG
C104	87-016-658-090		CAP,E 4700-35 SMG
C105	87-012-368-080		C-CAP,S 0.1-50 F
C106	87-012-368-080		C-CAP,S 0.1-50 F
C107	87-012-368-080		C-CAP,S 0.1-50 F
C108	87-012-368-080		C-CAP,S 0.1-50 F
C109	87-010-196-080		C-CAP,S 0.1-25 Z F
C110	87-010-196-080		C-CAP,S 0.1-25 Z F
C111	87-010-196-080		C-CAP,S 0.1-25 Z F
C112	87-010-196-080		C-CAP,S 0.1-25 Z F
C113	87-010-247-080		CAP,E 100-50 SME
C116	87-010-247-080		CAP,E 100-50 SME
C117	87-010-430-080		CAP,E 100-63 SME
C118	87-010-263-080		CAP,E 100-10 SME
C119	87-010-260-080		CAP,E 47-25 SME
C120	87-010-403-080		CAP,E 3.3-50 SME
C121	87-012-140-080		C-CAP,S 470P-50 J CH
C123	87-010-247-080		CAP,E 100-50 SME
C124	87-010-112-080		CAP,E 100-16 SME
C125	87-010-235-080		CAP,E 470-16 SME
C204	87-016-299-080		CAP,E 10-100 SME
C209	87-010-546-080		CAP,E 0.33-50 SME
C210	87-010-546-080		CAP,E 0.33-50 SME
C211	87-010-183-080		C-CAP,S 2700P-50 K B
C212	87-010-183-080		C-CAP,S 2700P-50 K B
C213	87-010-186-080		C-CAP,S 4700P-50 K B
C214	87-010-186-080		C-CAP,S 4700P-50 K B
C215	87-010-403-080		CAP,E 3.3-50 SME
C216	87-010-403-080		CAP,E 3.3-50 SME
C217	87-010-260-080		CAP,E 47-25 SME
C218	87-010-260-080		CAP,E 47-25 SME
C223	87-010-197-080		C-CAP,S 0.01-25 K B
C224	87-010-197-080		C-CAP,S 0.01-25 K B
C229	87-A10-812-080		C-CAP,S 220P-200 J CH
C230	87-A10-812-080		C-CAP,S 220P-200 J CH
C233	87-010-544-080		CAP,E 0.1-50 SME
C234	87-010-544-080		CAP,E 0.1-50 SME
C235	87-010-196-080		C-CAP,S 0.1-25 Z F
C237	87-012-368-080		C-CAP,S 0.1-50 F
C238	87-012-368-080		C-CAP,S 0.1-50 F
C239	87-012-368-080		C-CAP,S 0.1-50 F
C240	87-012-368-080		C-CAP,S 0.1-50 F
C247	87-010-178-080		C-CAP,S 1000P-50 K B
C248	87-010-178-080		C-CAP,S 1000P-50 K B
C280	87-010-213-080		C-CAP,S 0.015-25 K B
C301	87-010-318-080		C-CAP,S 47P-50 CH
C302	87-010-318-080		C-CAP,S 47P-50 CH
C303	87-012-157-080		C-CAP,S 330P-50 CH
C304	87-012-157-080		C-CAP,S 330P-50 CH
C305	87-012-145-080		C-CAP,S 270P-50 J CH
C306	87-012-145-080		C-CAP,S 270P-50 J CH
C307	87-010-196-080		C-CAP,S 0.1-25 Z F
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	87-010-182-080		C-CAP,S 2200P-50 K B
C314	87-010-182-080		C-CAP,S 2200P-50 K B
C315	87-010-181-080		C-CAP,S 1800P-50 K B
C316	87-010-181-080		C-CAP,S 1800P-50 K B
C317	87-012-142-080		C-CAP,S 0.33-16 Z F

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C318	87-012-142-080		C-CAP,S 0.33-16 Z F
C319	87-012-141-080		C-CAP,S 0.22-16 Z F
C320	87-012-141-080		C-CAP,S 0.22-16 Z F
C321	87-012-141-080		C-CAP,S 0.22-16 Z F
C322	87-012-141-080		C-CAP,S 0.22-16 Z F
C324	87-010-260-080		CAP,E 47-25 SME
C325	87-010-370-080		CAP,E 330-6.3 SME
C327	87-010-404-080		CAP,E 4.7-50 SME
C328	87-010-404-080		CAP,E 4.7-50 SME
C332	87-010-196-080		C-CAP,S 0.1-25 Z F
C335	87-010-401-080		CAP,E 1-50 SME
C336	87-010-401-080		CAP,E 1-50 SME
C337	87-010-196-080		C-CAP,S 0.1-25 Z F
C339	87-010-196-080		C-CAP,S 0.1-25 Z F
C340	87-010-196-080		C-CAP,S 0.1-25 Z F
C351	87-012-140-080		C-CAP,S 470P-50 J CH
C352	87-012-140-080		C-CAP,S 470P-50 J CH
C354	87-010-175-080		C-CAP,S 560P-50 J SL
C355	87-010-178-080		C-CAP,S 1000P-50 K B
C356	87-010-260-080		CAP,E 47-25 SME
C357	87-010-197-080		C-CAP,S 0.01-25 K B
C358	87-010-183-080		C-CAP,S 2700P-50 B
C359	87-010-183-080		C-CAP,S 2700P-50 B
C360	87-010-183-080		C-CAP,S 2700P-50 B
C370	87-010-196-080		C-CAP,S 0.1-25 Z F
C371	87-010-179-080		C-CAP,S 1200P-50 K B
C372	87-010-179-080		C-CAP,S 1200P-50 K B
C373	87-010-179-080		C-CAP,S 1200P-50 K B
C374	87-010-179-080		C-CAP,S 1200P-50 K B
C375	87-010-545-080		CAP,E 0.22-50 SME
C376	87-010-545-080		CAP,E 0.22-50 SME
C378	87-010-196-080		C-CAP,S 0.1-25 Z F
C381	87-010-197-080		C-CAP,S 0.01-25 K B
C382	87-010-318-080		C-CAP,S 47P-50 CH
C383	87-010-197-080		C-CAP,S 0.01-25 K B
C384	87-010-402-080		CAP,E 2.2-50 SME
C385	87-010-184-080		C-CAP,S 3300P-50 K B
C386	87-010-196-080		C-CAP,S 0.1-25 Z F
C401	87-010-405-080		CAP,E 10-50 SME
C402	87-010-405-080		CAP,E 10-50 SME
C403	87-010-183-080		C-CAP,S 2700P-50 B
C404	87-010-183-080		C-CAP,S 2700P-50 B
C405	87-010-193-080		C-CAP,S 0.033-25 Z F
C406	87-010-193-080		C-CAP,S 0.033-25 Z F
C407	87-010-405-080		CAP,E 10-50 SME
C408	87-010-405-080		CAP,E 10-50 SME
C409	87-010-380-080		CAP,E 47-16 SME
C410	87-010-380-080		CAP,E 47-16 SME
C411	87-010-405-080		CAP,E 10-50 SME
C412	87-010-112-080		CAP,E 100-16 SME
C415	87-010-184-080		C-CAP,S 3300P-50 K B
C416	87-010-184-080		C-CAP,S 3300P-50 K B
C457	87-010-404-080		CAP,E 4.7-50 SME
C458	87-010-404-080		CAP,E 4.7-50 SME
C516	87-010-196-080		C-CAP,S 0.1-25 Z F
C601	87-010-180-080		C-CAP,S 1500P-50 K B
C602	87-010-180-080		C-CAP,S 1500P-50 K B
C613	87-016-081-080		C-CAP,S 0.1-16 RK
C614	87-016-081-080		C-CAP,S 0.1-16 RK
C619	87-010-185-080		C-CAP,S 3900P-50 B
C620	87-010-185-080		C-CAP,S 3900P-50 B
C621	87-010-401-080		CAP,E 1-50 SME
C622	87-010-401-080		CAP,E 1-50 SME
C625	87-010-405-080		CAP,E 10-50 SME
C626	87-010-405-080		CAP,E 10-50 SME
C629	87-010-405-080		CAP,E 10-50 SME
C630	87-010-213-080		C-CAP,S 0.015-50 B
C631	87-010-992-080		C-CAP,S 0.047-25 B
C632	87-010-263-080		CAP,E 100-10 SME
C633	87-010-263-080		CAP,E 100-10 SME
C634	87-010-196-080		C-CAP,S 0.1-25 Z F
C635	87-010-196-080		C-CAP,S 0.1-25 Z F
C636	87-010-196-080		C-CAP,S 0.1-25 Z F
C637	87-010-183-080		C-CAP,S 2700P-50 B
C641	87-010-196-080		C-CAP,S 0.1-25 Z F
C667	87-010-196-080		C-CAP,S 0.1-25 Z F
C701	87-010-381-080		CAP,E 330-16 SME
C702	87-010-404-080		CAP,E 4.7-50 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
C709	87-010-322-080		C-CAP,S 100P-50 CH
C711	87-010-263-080		CAP,E 100-10 SME
C712	87-010-196-080		C-CAP,S 0.1-25 Z F
C713	87-010-197-080		C-CAP,S 0.01-25 K B
C714	87-010-197-080		C-CAP,S 0.01-25 K B
C721	87-010-312-080		C-CAP,S 15P-50 CH
C722	87-010-312-080		C-CAP,S 15P-50 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
C728	87-010-248-080		CAP,E 220-10 SME
C755	87-010-197-080		C-CAP,S 0.01-25 K B
C756	87-010-197-080		C-CAP,S 0.01-25 K B
C757	87-010-318-080		C-CAP,S 47P-50 CH
C758	87-010-149-080		C-CAP,S 5P-50 CH
C761	87-010-196-080		C-CAP,S 0.1-25 Z F
C762	87-010-197-080		C-CAP,S 0.01-25 K B
C763	87-010-194-080		C-CAP, 0.047-50 Z F
C764	87-010-319-080		C-CAP,S 56P-50 CH
C765	87-010-197-080		C-CAP,S 0.01-25 K B
C766	87-010-197-080		C-CAP,S 0.01-25 K B
C767	87-010-405-080		CAP,E 10-50 SME
C768	87-010-197-080		C-CAP,S 0.01-25 K B
C769	87-010-408-080		CAP,E 47-50 SME
C770	87-015-821-080		C-CAP,0.047-50
C771	87-010-407-080		CAP,E 33-50 SME
C772	87-010-194-080		C-CAP, 0.047-50 Z F
C773	87-010-196-080		C-CAP,S 0.1-25 Z F
C774	87-010-263-080		CAP,E 100-10 SME
C775	87-010-404-080		CAP,E 4.7-50 SME
C776	87-010-197-080		C-CAP,S 0.01-25 K B
C777	87-010-400-080		CAP,E 0.47-50 SME
C778	87-010-401-080		CAP,E 1-50 SME
C779	87-010-401-080		CAP,E 1-50 SME
C780	87-010-196-080		C-CAP,S 0.1-25 Z F
C781	87-010-405-080		CAP,E 10-50 SME
C782	87-010-405-080		CAP,E 10-50 SME
C783	87-015-819-080		C-CAP,0.01-50 K B
C784	87-010-197-080		C-CAP,S 0.01-25 K B
C785	87-010-403-080		CAP,E 3.3-50 SME
C786	87-010-403-080		CAP,E 3.3-50 SME
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	87-010-405-080		CAP,E 10-50 SME
C793	87-010-177-080		C-CAP,S 820P-50 SL
C794	87-010-406-080		CAP,E 22-50 SME
C795	87-010-596-080		C-CAP,S 0.047-16
C796	87-010-403-080		CAP,E 3.3-50 SME
C797	87-010-182-080		C-CAP,S 2200P-50 B
C798	87-010-182-080		C-CAP,S 2200P-50 B
C799	87-010-194-080		C-CAP,S 0.047-50 Z F
C812	87-010-197-080		C-CAP,S 0.01-25 K B
C814	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
C822	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	87-010-196-080		C-CAP,S 0.1-25 Z F

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C829	87-010-196-080		C-CAP,S 0.1-25 Z F
C959	87-010-196-080		C-CAP,S 0.1-25 Z F
C960	87-010-196-080		C-CAP,S 0.1-25 Z F
C961	87-010-152-080		C-CAP,S 8P-50 CH
CF801	87-008-261-010		FILTER, SFE10.7MA5-A
CF802	87-008-261-010		FILTER, SFE10.7MA5-A
FB601	87-A50-190-080		C-COIL,S BLM21A102S
FFE801	A8-8ZA-190-030		8ZA-1 FEUNM
J201	87-A60-488-010		JACK,DIA6.3 BLK ST W/SW KM16AT
J203	87-033-240-010		TERMINAL,SP 4P32SV1-05
J602	87-099-625-010		JACK PIN 4P,RVS (KM)
J801	87-033-239-010		TERMINAL,HSP-154V-2
L201	87-003-383-010		COIL,1UH-S
L202	87-003-383-010		COIL,1UH-S
L301	87-A50-049-010		COIL,TRAP 85K(COI)
L302	87-A50-049-010		COIL,TRAP 85K(COI)
L351	87-007-342-010		COIL,OSC 85K BIAS
L771	87-A50-266-010		COIL,FM DET-2N(TOK)
L772	87-A90-733-010		FLTR,PCFAZH-450 (TOK)
L781	87-005-847-080		COIL,2.2UH(CECS)
L791	87-A50-209-010		COIL,1POLE MPX(MIT)
L792	87-A50-209-010		COIL,1POLE MPX(MIT)
L832	86-NFZ-694-080		COIL,2.2UH K CECS
L981	87-NF4-650-010		COIL,AM PACK 4N(TOK)
R237	87-A00-262-080		RES,M/F 0.15-2W J
R238	87-A00-262-080		RES,M/F 0.15-2W J
R239	87-A00-262-080		RES,M/F 0.15-2W J
R240	87-A00-262-080		RES,M/F 0.15-2W J
RY101	87-045-389-010		RELAY,OSA-SS-212DM5
SFR301	87-A90-557-080		SFR,33K H HOKU
SFR302	87-A90-557-080		SFR,33K H HOKU
SFR303	87-A90-557-080		SFR,33K H HOKU
SFR304	87-A90-557-080		SFR,33K H HOKU
SFR305	87-A90-433-080		SFR,50K H NVZ6TLTA
SFR306	87-A90-433-080		SFR,50K H NVZ6TLTA
SFR351	87-A90-433-080		SFR,50K H NVZ6TLTA
SFR352	87-A90-433-080		SFR,50K H NVZ6TLTA
W104	85-NF5-628-010		F-CABLE,7P-2.5
X721	87-A70-061-010		VIB,XTAL 4.500MHZ CSA-309
FRONT C.B			
	85-MA2-602-010		CABLE,FFC 15P-1.25
	88-912-281-110		FF-CABLE,12P 1.25
	88-908-231-110		FF-CABLE,8P 1.25
C101	87-010-320-080		C-CAP,S 68P-50 J CH
C102	87-010-320-080		C-CAP,S 68P-50 J CH
C103	87-010-197-080		C-CAP,S 0.01-25 K B
C104	87-010-312-080		C-CAP,S 15P-50 CH
C105	87-010-316-080		C-CAP,S 33P-50 CH
C106	87-010-320-080		C-CAP,S 68P-50 J CH
C107	87-012-157-080		C-CAP,S 330P-50 CH
C108	87-010-405-040		CAP,E 10-50
C109	87-010-071-040		CAP,E 1-50 5L
C110	87-010-196-080		C-CAP,S 0.1-25 Z F
C111	87-010-196-080		C-CAP,S 0.1-25 Z F
C112	87-010-196-080		C-CAP,S 0.1-25 Z F
C113	87-A10-189-040		CAP,E 220-10
C114	87-010-196-080		C-CAP,S 0.1-25 Z F
C115	87-010-178-080		C-CAP,S 1000P-50 K B
C116	87-010-071-040		CAP,E 1-50 5L
C117	87-010-079-040		CAP,E 100-6.3 5L
C118	87-012-369-080		C-CAP,S 0.047-50 Z F
C119	87-010-408-040		CAP,E 47-50 SME
C120	87-010-421-040		CAP,E 4.7-50 5L
C121	87-010-421-040		CAP,E 4.7-50 5L
C122	87-010-194-080		C-CAP, 0.047-25 Z F
C123	87-010-196-080		C-CAP,S 0.1-25 Z F
C124	87-010-196-080		C-CAP,S 0.1-25 Z F
C125	87-010-196-080		C-CAP,S 0.1-25 Z F
C127	87-010-196-080		C-CAP,S 0.1-25 Z F
C202	87-010-196-080		C-CAP,S 0.1-25 Z F
C203	87-010-196-080		C-CAP,S 0.1-25 Z F
C204	87-010-196-080		C-CAP,S 0.1-25 Z F
C281	87-010-198-080		C-CAP,S 0.022-25 K B
C282	87-010-198-080		C-CAP,S 0.022-25 K B
C381	87-010-196-080		C-CAP,S 0.1-25 Z F
C382	87-012-158-080		C-CAP,S 390P-50 CH
C383	87-010-196-080		C-CAP,S 0.1-25 Z F
C384	87-010-196-080		C-CAP,S 0.1-25 Z F
C385	87-010-196-080		C-CAP,S 0.1-25 Z F
C386	87-010-196-080		C-CAP,S 0.1-25 Z F
C387	87-010-196-080		C-CAP,S 0.1-25 Z F
C601	87-010-405-040		CAP,E 10-50
C602	87-010-186-080		C-CAP,S 4700P-50 K B
C603	87-010-405-040		CAP,E 10-50
C604	87-010-382-040		CAP,E 22-25 SME
C605	87-010-196-080		C-CAP,S 0.1-25 Z F
C607	87-010-321-080		C-CAP,S 82P-50 J CH
C608	87-010-196-080		C-CAP,S 0.1-25 Z F
C609	87-010-068-040		CAP,E 0.22-50 5L
C611	87-010-176-080		C-CAP,S 680P-50 SL
C612	87-010-176-080		C-CAP,S 680P-50 SL
C614	87-010-248-040		CAP,E 220-10 SME
C801	87-010-263-040		CAP,E 100-10
C802	87-010-196-080		C-CAP,S 0.1-25 Z F
C803	87-010-400-040		CAP,E 0.47-50
C804	87-010-315-080		C-CAP,S 27P-50 CH
C805	87-010-315-080		C-CAP,S 27P-50 CH
C852	87-012-156-080		C-CAP,S 220P-50 CH
C853	87-010-404-040		CAP,E 4.7-50 SME
C854	87-010-196-080		C-CAP,S 0.1-25 Z F
C938	87-012-145-080		C-CAP,S 270P-50 J CH
C941	87-012-145-080		C-CAP,S 270P-50 J CH
C942	87-012-145-080		C-CAP,S 270P-50 J CH
C943	87-012-145-080		C-CAP,S 270P-50 J CH
C944	87-012-145-080		C-CAP,S 270P-50 J CH
C945	87-012-145-080		C-CAP,S 270P-50 J CH
C946	87-012-145-080		C-CAP,S 270P-50 J CH
C947	87-012-145-080		C-CAP,S 270P-50 J CH
C948	87-012-145-080		C-CAP,S 270P-50 J CH
C949	87-012-145-080		C-CAP,S 270P-50 J CH
C950	87-012-145-080		C-CAP,S 270P-50 J CH
C951	87-012-145-080		C-CAP,S 270P-50 J CH
C952	87-012-145-080		C-CAP,S 270P-50 J CH
FB601	87-A50-190-080		C-COIL,S BLM21A102S
FL101	88-MA1-604-010		FL,BJ612GK
LED201	87-070-201-080		LED,SLP9118C-51-S RED
LED202	87-070-201-080		LED,SLP9118C-51-S RED
LED203	87-070-201-080		LED,SLP9118C-51-S RED
LED204	87-070-201-080		LED,SLP9118C-51-S RED
LED205	87-070-201-080		LED,SLP9118C-51-S RED
LED206	87-070-197-080		LED,SLP7118C-51-S P-GRN
LED207	87-070-197-080		LED,SLP7118C-51-S P-GRN
LED208	87-070-197-080		LED,SLP7118C-51-S P-GRN
LED209	87-070-197-080		LED,SLP7118C-51-S P-GRN
LED210	87-070-197-080		LED,SLP7118C-51-S P-GRN
LED211	87-070-197-080		LED,SLP7118C-51-S P-GRN
LED212	87-070-197-080		LED,SLP7118C-51-S P-GRN
LED213	87-070-197-080		LED,SLP7118C-51-S P-GRN
LED214	87-070-197-080		LED,SLP7118C-51-S P-GRN
LED215	87-070-197-080		LED,SLP7118C-51-S P-GRN
LED216	87-A40-446-040		LED,SLP-7131F-81H-S-T1 P-GRN
LED217	87-A40-446-040		LED,SLP-7131F-81H-S-T1 P-GRN
LED218	87-A40-446-040		LED,SLP-7131F-81H-S-T1 P-GRN
LED219	87-A40-446-040		LED,SLP-7131F-81H-S-T1 P-GRN
LED220	87-A40-446-040		LED,SLP-7131F-81H-S-T1 P-GRN
LED221	87-A40-446-040		LED,SLP-7131F-81H-S-T1 P-GRN
LED233	87-070-278-010		LED,SLZ-738A-24-S P-GRN
LED234	87-070-278-010		LED,SLZ-738A-24-S P-GRN

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
LED235	87-070-278-010		LED,SLZ-738A-24-S P-GRN
LED236	87-070-278-010		LED,SLZ-738A-24-S P-GRN
LED237	87-070-290-010		LED,SLZ 936-30-S RED
LED238	87-070-290-010		LED,SLZ 936-30-S RED
LED239	87-070-201-080		LED,SLP9118C-51-S RED
LED240	87-070-201-080		LED,SLP9118C-51-S RED
LED241	87-070-201-080		LED,SLP9118C-51-S RED
LED242	87-070-201-080		LED,SLP9118C-51-S RED
LED243	87-070-201-080		LED,SLP9118C-51-S RED
LED244	87-070-201-080		LED,SLP9118C-51-S RED
LED245	87-070-201-080		LED,SLP9118C-51-S RED
LED246	87-070-201-080		LED,SLP9118C-51-S RED
LED247	87-070-201-080		LED,SLP9118C-51-S RED
LED248	87-070-201-080		LED,SLP9118C-51-S RED
LED249	87-070-201-080		LED,SLP9118C-51-S RED
LED250	87-070-201-080		LED,SLP9118C-51-S RED
LED251	87-070-197-080		LED,SLP7118C-51-S P-GRN
LED252	87-070-197-080		LED,SLP7118C-51-S P-GRN
LED253	87-070-201-080		LED,SLP9118C-51-S RED
LED254	87-070-201-080		LED,SLP9118C-51-S RED
LED255	87-070-201-080		LED,SLP9118C-51-S RED
⚠ PR201	87-A90-393-080		PROTECTOR,0.5A 491SERISE 60V
R301	87-022-355-080		C-RES,S10K-1/10W F
R321	87-022-355-080		C-RES,S10K-1/10W F
R341	87-022-355-080		C-RES,S10K-1/10W F
S101	87-A90-535-010		SW,RTRY EC16B24304
S103	87-A90-792-010		SW,RTRY EC12E12244 ENCORDER
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
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
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
S325	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
S341	87-A90-095-080		SW,TACT EVQ11G04M
S342	87-A90-095-080		SW,TACT EVQ11G04M
S343	87-A90-095-080		SW,TACT EVQ11G04M
S344	87-A90-095-080		SW,TACT EVQ11G04M
S345	87-A90-095-080		SW,TACT EVQ11G04M
S346	87-A90-095-080		SW,TACT EVQ11G04M
S347	87-A90-095-080		SW,TACT EVQ11G04M
S348	87-A90-095-080		SW,TACT EVQ11G04M
S349	87-A90-095-080		SW,TACT EVQ11G04M
S350	87-A90-095-080		SW,TACT EVQ11G04M
S351	87-A90-095-080		SW,TACT EVQ11G04M
S352	87-A90-095-080		SW,TACT EVQ11G04M
S353	87-A90-095-080		SW,TACT EVQ11G04M
S354	87-A90-095-080		SW,TACT EVQ11G04M
S355	87-A90-095-080		SW,TACT EVQ11G04M
S356	87-A90-095-080		SW,TACT EVQ11G04M
X101	87-A70-070-080		VIB,CER 5.76MHZ CRHF
X801	87-A70-075-080		VIB,CER 4.19MHZ CRHF

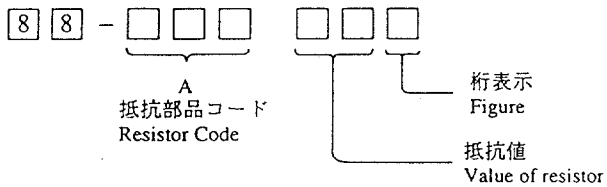
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
CD KEY C.B			
C287	87-010-196-080		C-CAP,S 0.1-25 Z F
CN302	87-099-201-010		CONN,8P 6216 H
LED258	87-070-201-080		LED,SLP-9118C-51-S RED
LED259	87-070-201-080		LED,SLP-9118C-51-S RED
LED260	87-070-201-080		LED,SLP-9118C-51-S RED
LED261	87-070-201-080		LED,SLP-9118C-51-S RED
LED262	87-070-201-080		LED,SLP-9118C-51-S RED
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
MIC C.B			
J601	87-099-659-010		JACK,6.3 JY-6314-01130
J602	87-099-659-010		JACK,6.3 JY-6314-01130
AC1 C.B			
⚠ F101	87-035-459-010		FUSE,5A 250V
⚠ FC101	87-033-147-010		FUSE CLAMP
⚠ FC102	87-033-147-010		FUSE CLAMP
⚠ PT101	88-MAM-609-010		PT,8MA-M LH
⚠ S101	87-A90-165-010		SW,SL 1-2-3 SWS2301
⚠ T101	87-A60-317-010		TERMINAL, 1P MSC
⚠ T102	87-A60-317-010		TERMINAL, 1P MSC
AC2 C.B			
⚠ PR101	87-026-682-080		PROTECTOR,10A 60V491
⚠ PR102	87-026-682-080		PROTECTOR,10A 60V491
⚠ PR103	87-026-682-080		PROTECTOR,10A 60V491
⚠ PR104	87-026-682-080		PROTECTOR,10A 60V491
⚠ PR105	87-A90-195-080		PROTECTOR,7A 60V491
⚠ PR106	87-A90-195-080		PROTECTOR,7A 60V491
HEAD-2 C.B			
	85-ZM3-601-110		PWB,FLEX I
CON351	83-NEG-608-010		CONN ASSY,8P-RPB
HEAD-1 C.B			
	85-ZM3-601-110		PWB,FLEX I
DECK C.B			
CON502	87-099-756-010		CONN,15P 9604S F
SFR1	87-024-581-010		SFR,3.3K DIA 6H
SOL1	82-ZM1-626-010		SOL ASSY,27K
SOL2	82-ZM1-626-010		SOL ASSY,27K
SW1	87-036-110-010		SW,MICRO SPPB62
SW2	87-036-110-010		SW,MICRO SPPB62
SW3	87-036-110-010		SW,MICRO SPPB62
SW4	87-036-110-010		SW,MICRO SPPB62
SW5	87-A90-248-010		SW,MICRO ESE11SH2CXQ
SW6	87-A90-248-010		SW,MICRO ESE11SH2CXQ
SW8	87-A90-248-010		SW,MICRO ESE11SH2CXQ
SW9	87-A90-248-010		SW,MICRO ESE11SH2CXQ
W1	82-ZM3-601-010		RBN-CORD,4P-75
PRO C.B			
C101	87-012-368-080		C-CAP,S 0.1-50 Z F
C102	87-012-368-080		C-CAP,S 0.1-50 Z F

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C103	87-010-917-090		CAP,E 3300-50 M SMG
C104	87-010-917-090		CAP,E 3300-50 M SMG
C105	87-010-196-080		C-CAP,S 0.1-25 Z F
C106	87-010-196-080		C-CAP,S 0.1-25 Z F
C111	87-010-178-080		C-CAP,S 1000P-50 K B
C207	87-010-402-080		CAP,E 2.2-50 M SME
C208	87-010-402-080		CAP,E 2.2-50 M SME
C209	87-010-183-080		C-CAP,S 2700P-50 K B
C210	87-010-183-080		C-CAP,S 2700P-50 K B
C211	87-010-404-080		CAP,E 4.7-50 M SME
C212	87-010-404-080		CAP,E 4.7-50 M SME
C217	87-010-408-080		CAP,E 47-50 M SME
C218	87-010-408-080		CAP,E 47-50 M SME
C219	87-A10-596-080		C-CAP,S 100P-100 J CH
C220	87-A10-596-080		C-CAP,S 100P-100 J CH
C221	87-A10-899-080		CAP,E 47-25 M BP
C222	87-A10-899-080		CAP,E 47-25 M BP
C223	87-010-544-080		CAP,E 0.1-50 M SME
C224	87-010-544-080		CAP,E 0.1-50 M SME
C225	87-010-993-080		C-CAP,S 0.056-25 K B
C226	87-010-993-080		C-CAP,S 0.056-25 K B
C227	87-010-196-080		C-CAP,S 0.1-25 Z F
C228	87-010-196-080		C-CAP,S 0.1-25 Z F
C233	87-010-263-080		CAP,E 100-10 SME
C234	87-010-263-080		CAP,E 100-10 SME
C307	87-010-402-080		CAP,E 2.2-50 M SME
C309	87-010-183-080		C-CAP, 2700P-50 K B
C311	87-010-404-080		CAP,E 4.7-50 M SME
C317	87-010-408-080		CAP,E 47-50 M SME
C319	87-A10-596-080		C-CAP,S 100P-100 J CH
C321	87-A10-899-080		CAP,E 47-25 M BP
C323	87-010-544-080		CAP,E 0.1-50 M SME
C325	87-010-993-080		C-CAP,S 0.056-25 K B
C327	87-010-196-080		C-CAP,S 0.1-25 Z F
C333	87-010-263-080		CAP,E 100-10 SME
C401	87-010-374-080		CAP,E 47-10 M SME
C402	87-010-196-080		C-CAP,S 0.1-25 Z F
C403	87-010-154-080		C-CAP,S 10P-50 D CH
C404	87-010-374-080		CAP,E 47-10 M SME
C405	87-010-196-080		C-CAP,S 0.1-25 Z F
C407	87-010-154-080		C-CAP,S 10P-50 D CH
C408	87-010-545-080		CAP,E 0.22-50 M SME
C410	87-010-546-080		CAP,E 0.33-50 SME
C413	87-010-196-080		C-CAP,S 0.1-25 Z F
C415	87-010-400-080		CAP,E 0.47-50 M SME
C416	87-010-400-080		CAP,E 0.47-50 M SME
C418	87-010-401-080		CAP,E 1-50 M SME
C419	87-010-260-080		CAP,E 47-25 SME
C421	87-010-378-080		CAP,E 10-16 M SME
C422	87-010-378-080		CAP,E 10-16 M SME
C501	87-010-176-080		C-CAP,S 680P-50 J SL
C502	87-010-176-080		C-CAP,S 680P-50 J SL
C503	87-A10-804-080		C-CAP,S 0.1-25 J B
C504	87-A10-804-080		C-CAP,S 0.1-25 J B
C505	87-A10-804-080		C-CAP,S 0.1-25 J B
C506	87-A10-804-080		C-CAP,S 0.1-25 J B
C509	87-010-112-080		CAP,E 100-16 M SME
C510	87-010-265-080		CAP,E 33-16 M SME
C511	87-A10-891-080		CAP,E 4.7-25 SME(K)
C512	87-A10-800-080		C-CAP,S 6800P-16 J B
C513	87-010-374-080		CAP,E 47-10 M SME
C514	87-010-196-080		C-CAP,S 0.1-25 Z F
C515	87-010-401-080		CAP,E 1-50 M SME
C516	87-010-401-080		CAP,E 1-50 M SME
C518	87-010-546-080		CAP,E 0.33-50 SME
C519	87-010-545-080		CAP,E 0.22-50 M SME
C520	87-010-546-080		CAP,E 0.33-50 SME
C521	87-010-546-080		CAP,E 0.33-50 SME
C522	87-018-209-080		CAP,TC U 0.1-50 Z F
C524	87-010-374-080		CAP,E 47-10 M SME

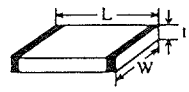
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C526	87-010-196-080		C-CAP,S 0.1-25 Z F
C530	87-010-544-080		CAP,E 0.1-50 M SME
C531	87-010-546-080		CAP,E 0.33-50 SME
C532	87-010-971-080		C-CAP,S 4700P-50 J B
C533	87-012-349-080		C-CAP,S 1000P-50 J CH
C538	87-010-971-080		C-CAP,S 4700P-50 J B
C539	87-012-349-080		C-CAP,S 1000P-50 J CH
C540	87-010-401-080		CAP,E 1-50 M SME
C541	87-010-401-080		CAP,E 1-50 M SME
C542	87-A10-799-080		C-CAP,S 5600P-16 J B
C543	87-A10-802-080		C-CAP,S 0.047-16 J B
C544	87-A10-229-080		C-CAP,S 0.68-10 K
C545	87-012-393-080		C-CAP,S 0.22-16 K
C546	87-012-393-080		C-CAP,S 0.22-16 K
C547	87-010-404-080		CAP,E 4.7-50 M SME
C548	87-010-404-080		CAP,E 4.7-50 M SME
C549	87-012-393-080		C-CAP,S 0.22-16 K
C550	87-012-393-080		C-CAP,S 0.22-16 K
C551	87-016-081-080		C-CAP,S 0.1-16 K R
C552	87-A10-802-080		C-CAP,S 0.047-16 J B
C553	87-A10-802-080		C-CAP,S 0.047-16 J B
C554	87-016-081-080		C-CAP,S 0.1-16 K R
C555	87-016-081-080		C-CAP,S 0.1-16 K R
C556	87-A10-801-080		C-CAP,S 0.022-16 J B
C557	87-A10-801-080		C-CAP,S 0.022-16 J B
C558	87-016-081-080		C-CAP,S 0.1-16 K R
C579	87-010-402-080		CAP,E 2.2-50 M SME
C580	87-010-402-080		CAP,E 2.2-50 M SME
C601	87-010-196-080		C-CAP,S 0.1-25 Z F
C602	87-010-196-080		C-CAP,S 0.1-25 Z F
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
J201	87-A60-561-010		JACK,PIN 4P W/R,B/O
J601	87-A60-562-010		JACK,PIN 6P W/R
L201	87-003-383-010		COIL,1UH K
L202	87-003-383-010		COIL,1UH K
L301	87-003-383-010		COIL,1UH K
R243	87-A00-258-080		RES,M/F 0.22-1W J
R244	87-A00-258-080		RES,M/F 0.22-1W J
R245	87-A00-258-080		RES,M/F 0.22-1W J
R246	87-A00-258-080		RES,M/F 0.22-1W J
R343	87-A00-258-080		RES,M/F 0.22-1W J
R345	87-A00-258-080		RES,M/F 0.22-1W J
R509	87-022-214-080		C-RES,S 100K-1/10W F

○ 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

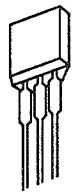


チップ抵抗
Chip resistor

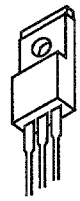
容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法／Dimensions (mm) 外形／Form	L	W	t	抵抗コード ：A Resistor Code: A
1／16W	1608	±5%	CJ		1.6	0.8	0.45	108
1／10W	2125	±5%	CJ		2	1.25	0.45	118
1／8W	3216	±5%	CJ		3.2	1.6	0.55	128

TRANSISTOR ILLUSTRATION

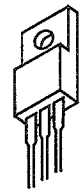
2SA1296
KTA1266
KTC3198



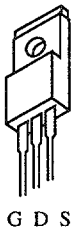
2SA933
2SC4115



2SB1370
FN1016
FP1016

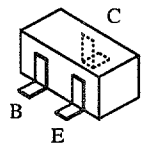


2SB1626
2SB1344
2SD2025
2SD2495

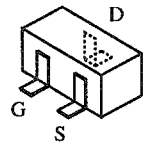


2SK2937

CC5551

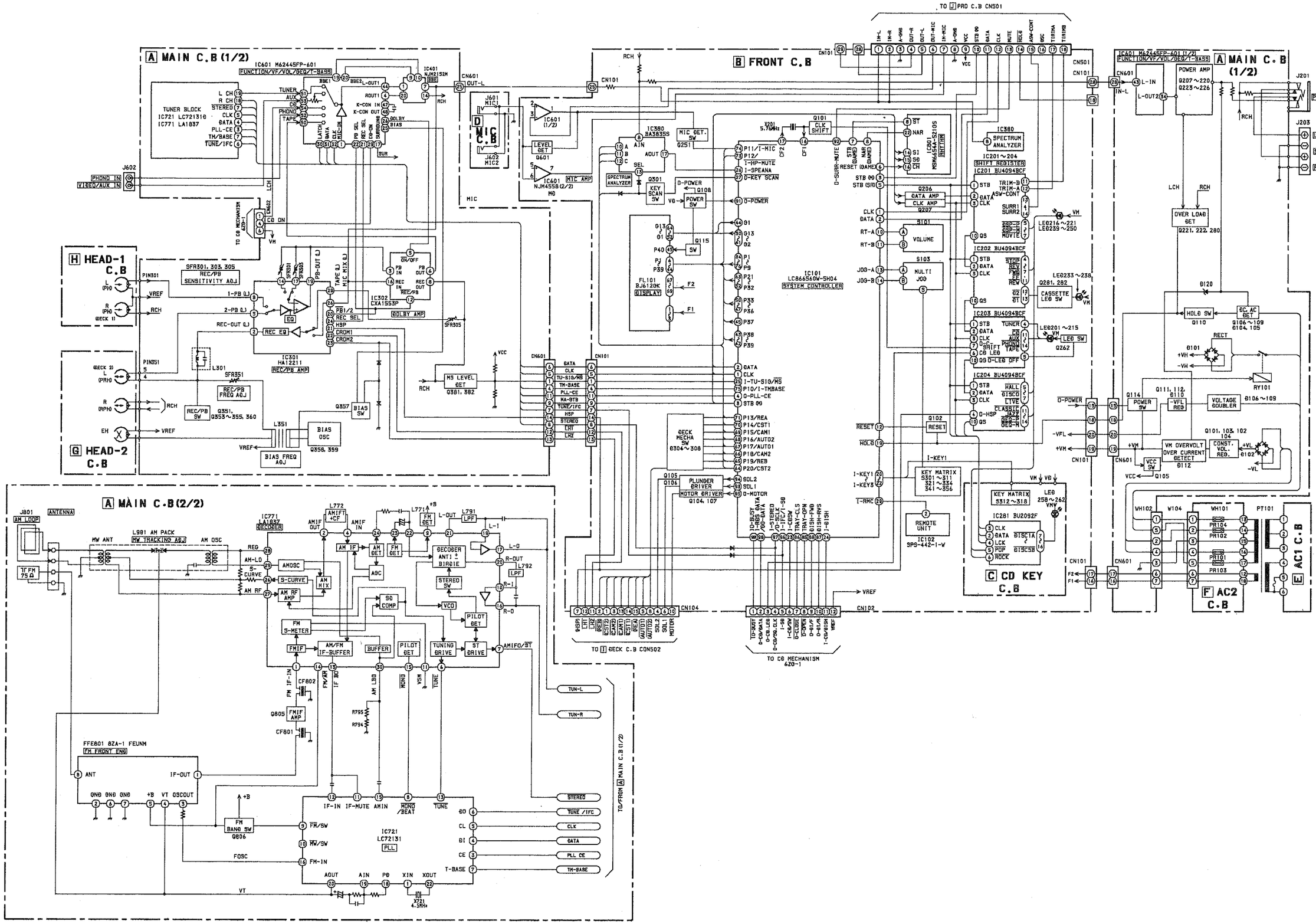


2SA1235
2SC2714
2SC3052
CMBT5401
CMBT5551
CSA1362
CSD1306
DTA123JK
DTA144EK
DTA144WK
DTC123JK
RT1N141C
RT1N144C
RT1P141C
RT1P144C
RT1P441C

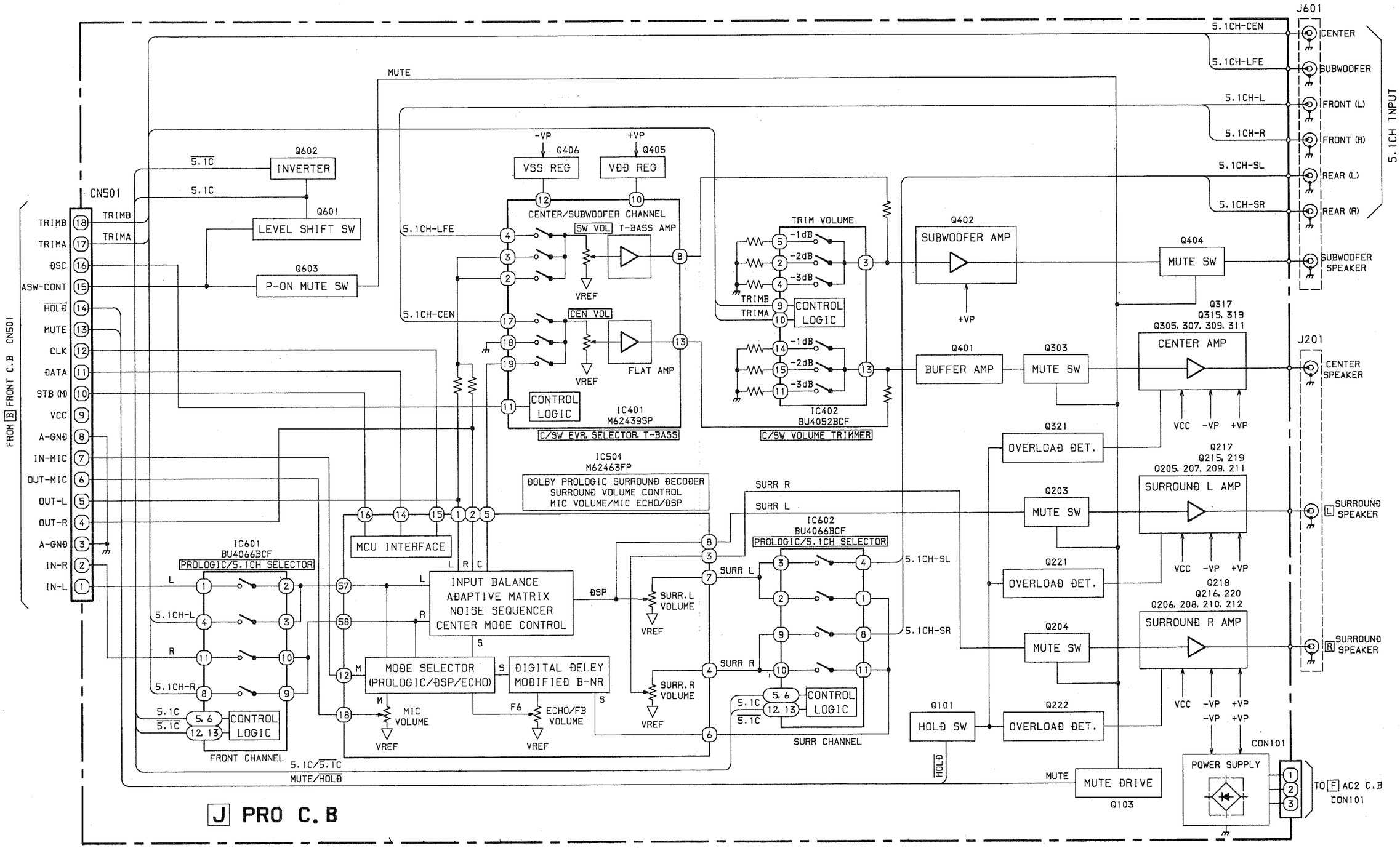


2SK2158

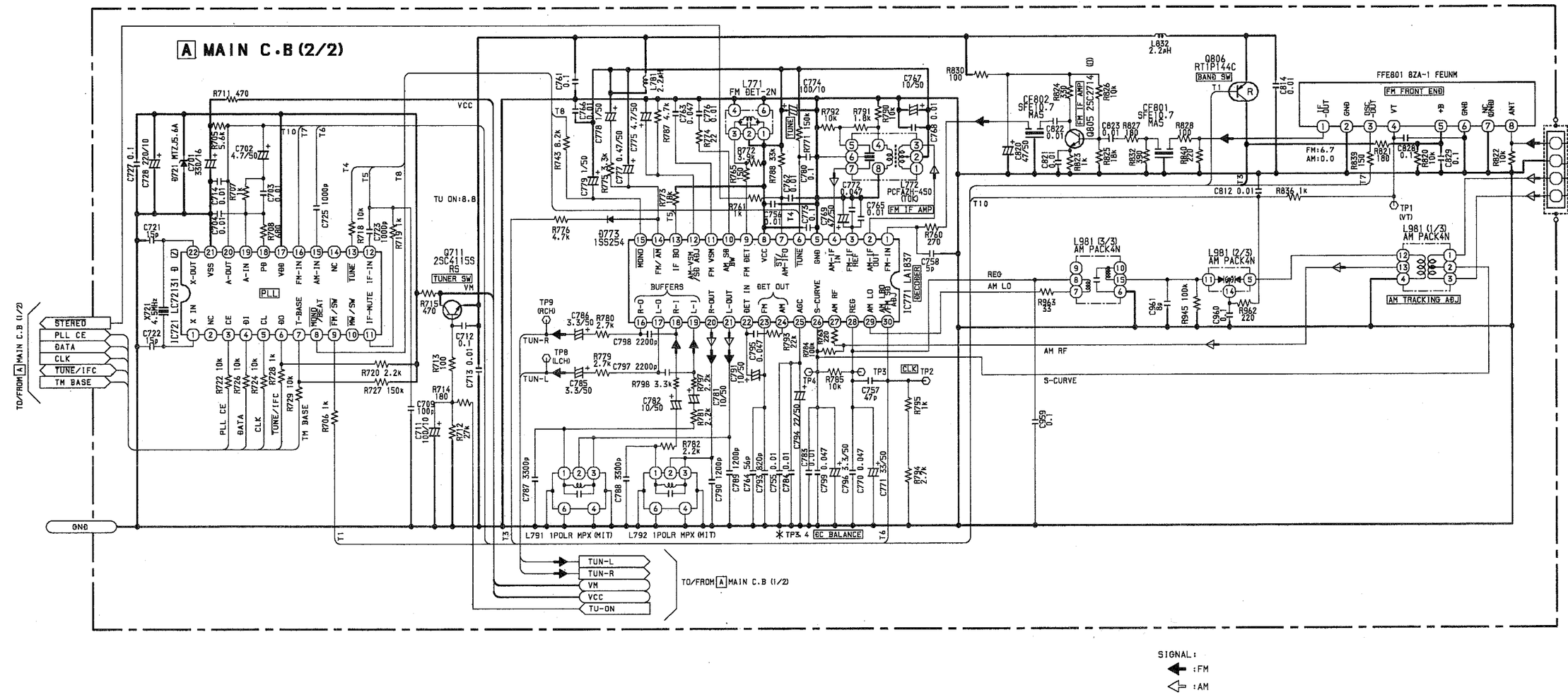
BLOCK DIAGRAM – 1 (MAIN / FRONT)



BLOCK DIAGRAM – 2 (PRO)



SCHEMATIC DIAGRAM – 1 (MAIN 2 / 2)

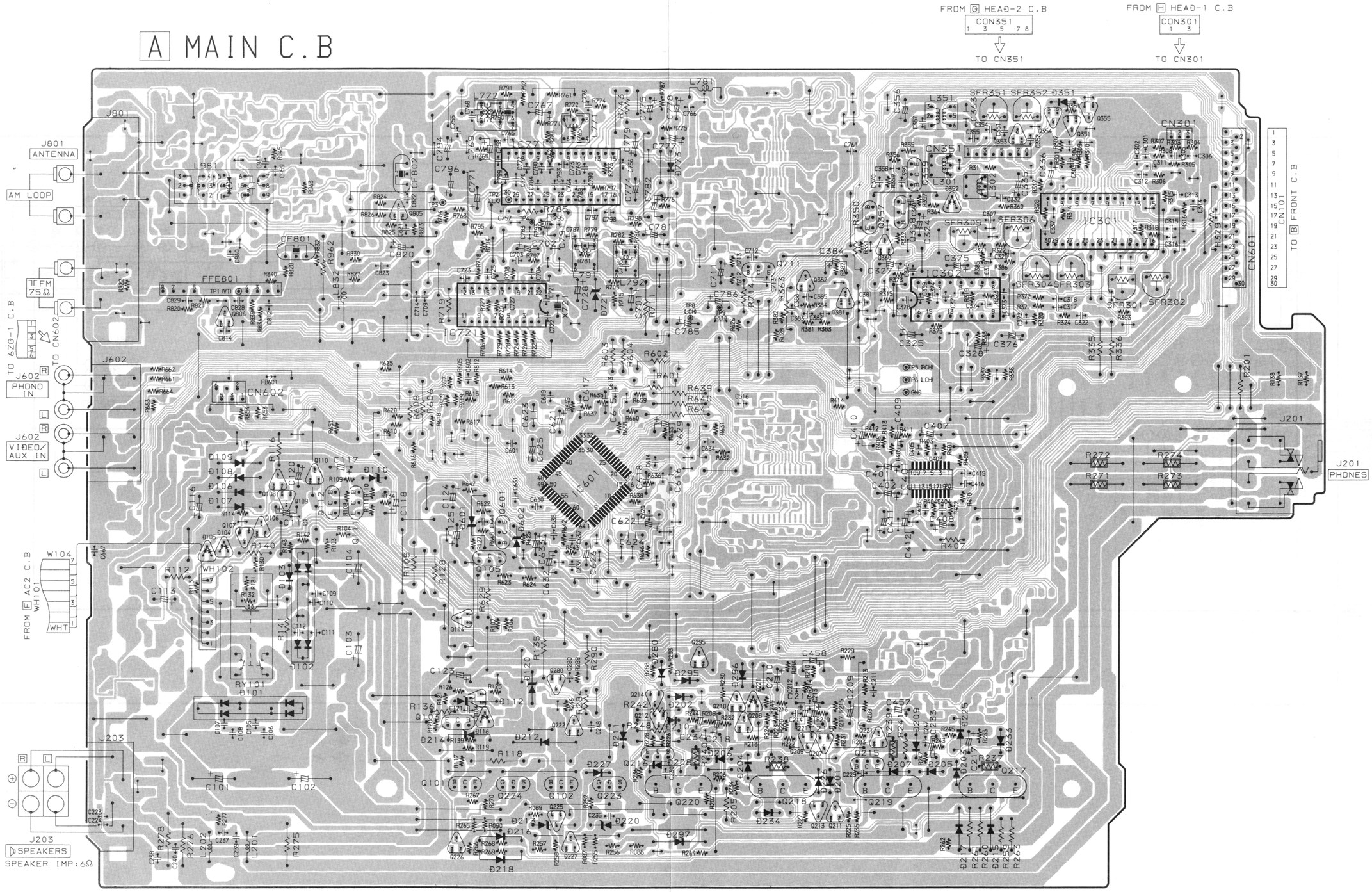


SIGNAL:
:FM
:AM

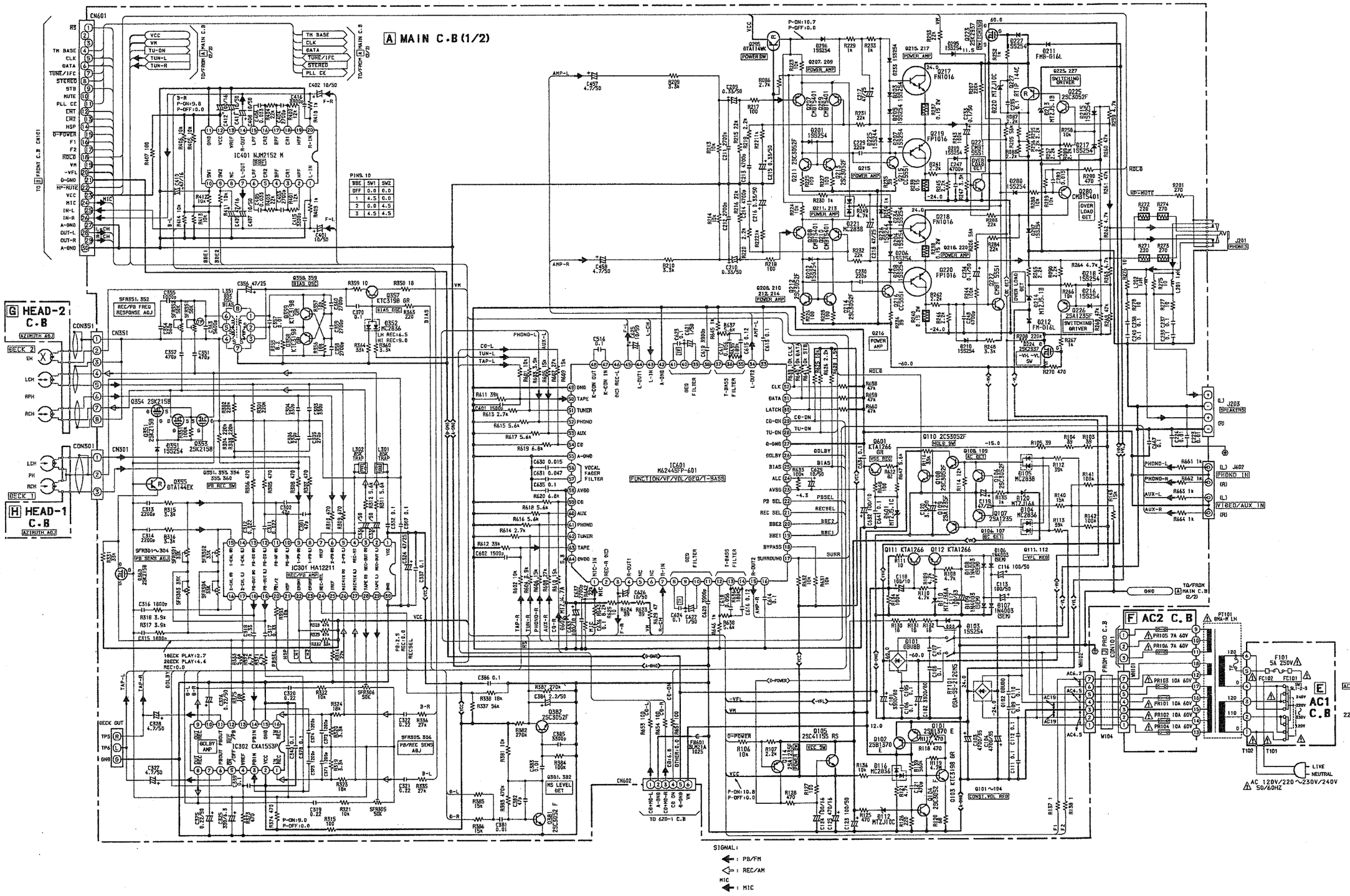
1 2 3 4 5 6 7 8 9 10 11 12 13 14

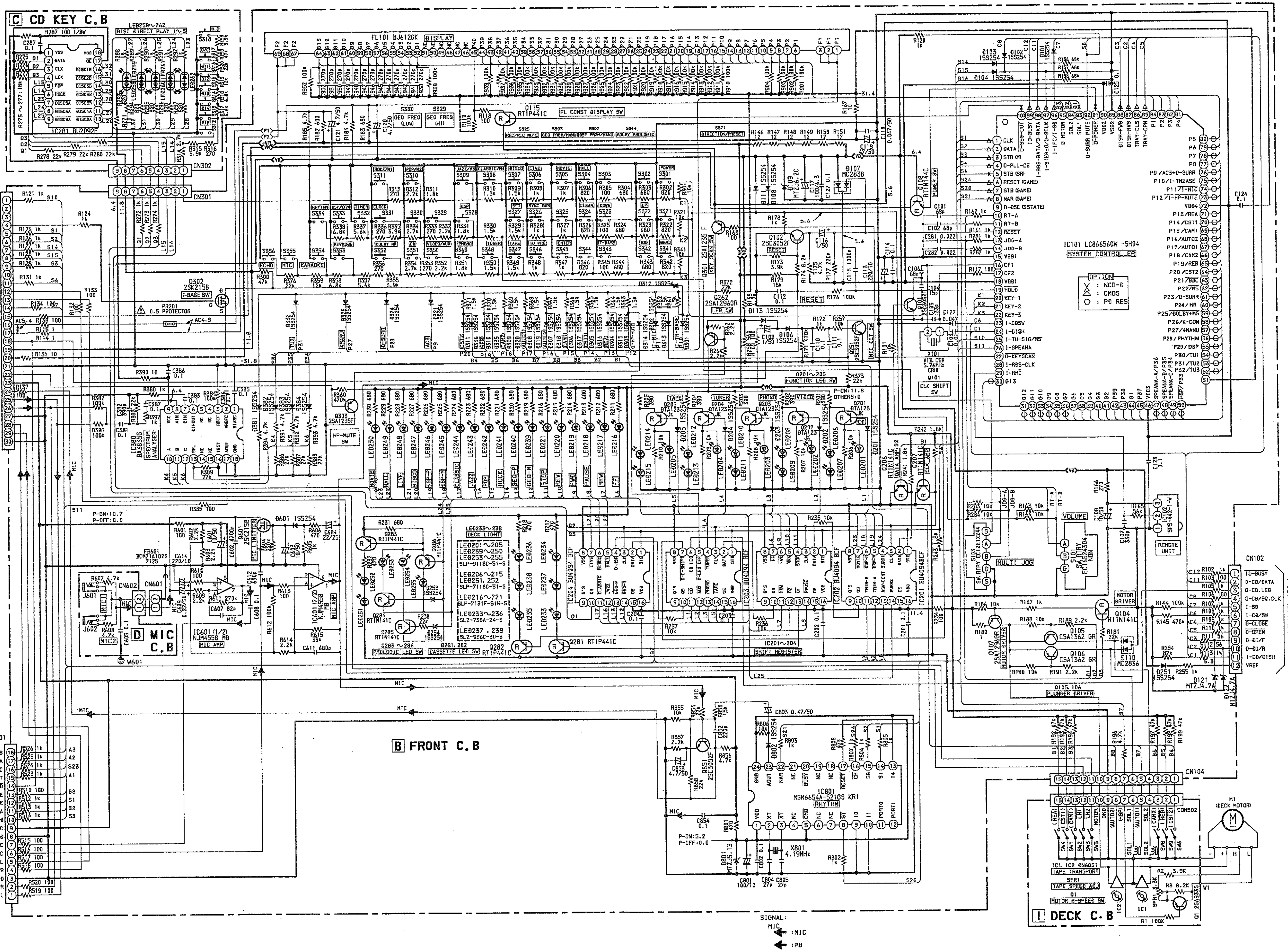
A B C D E F G H I J

A MAIN C.B



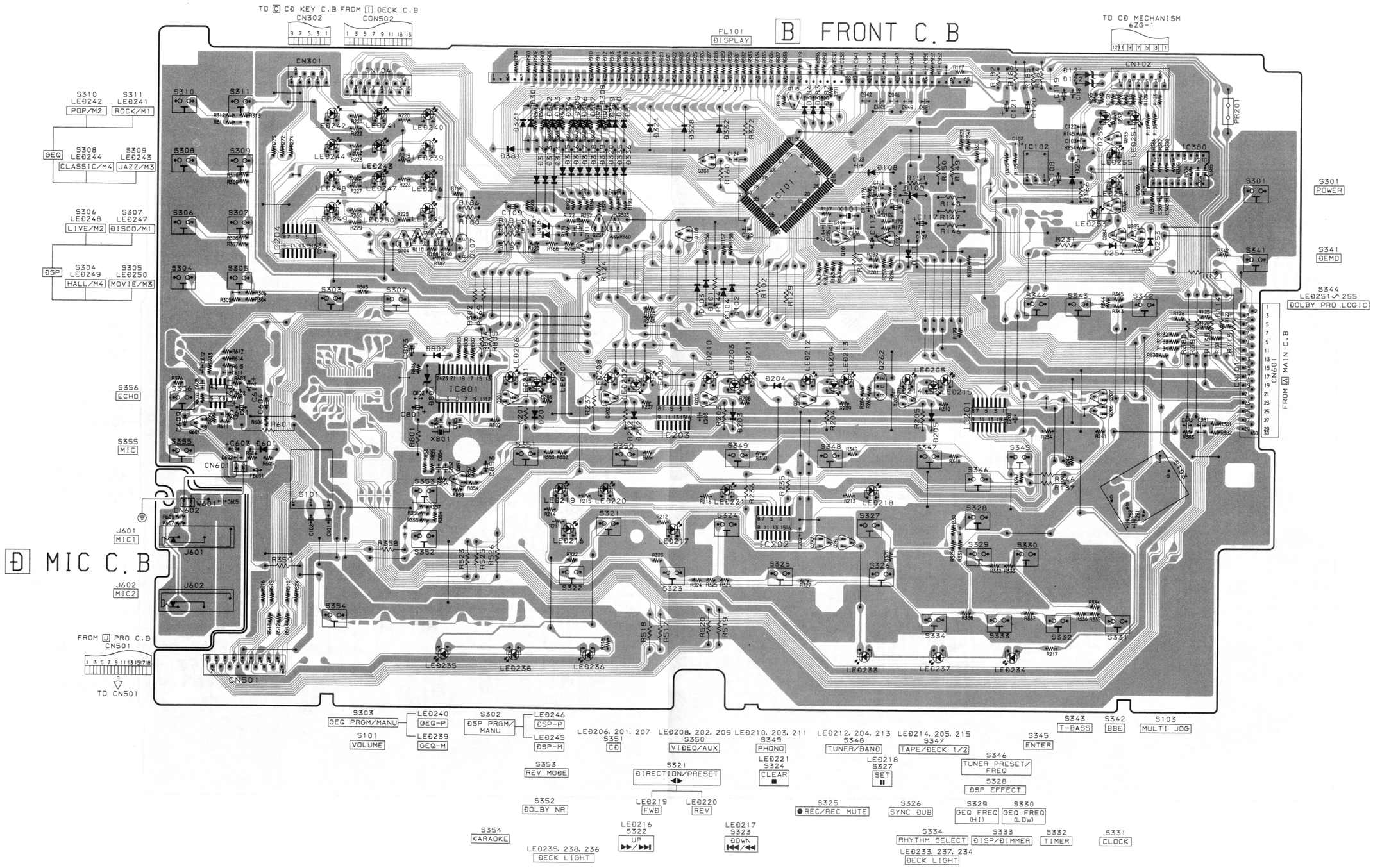
SCHEMATIC DIAGRAM – 2 (MAIN 1 / 2)

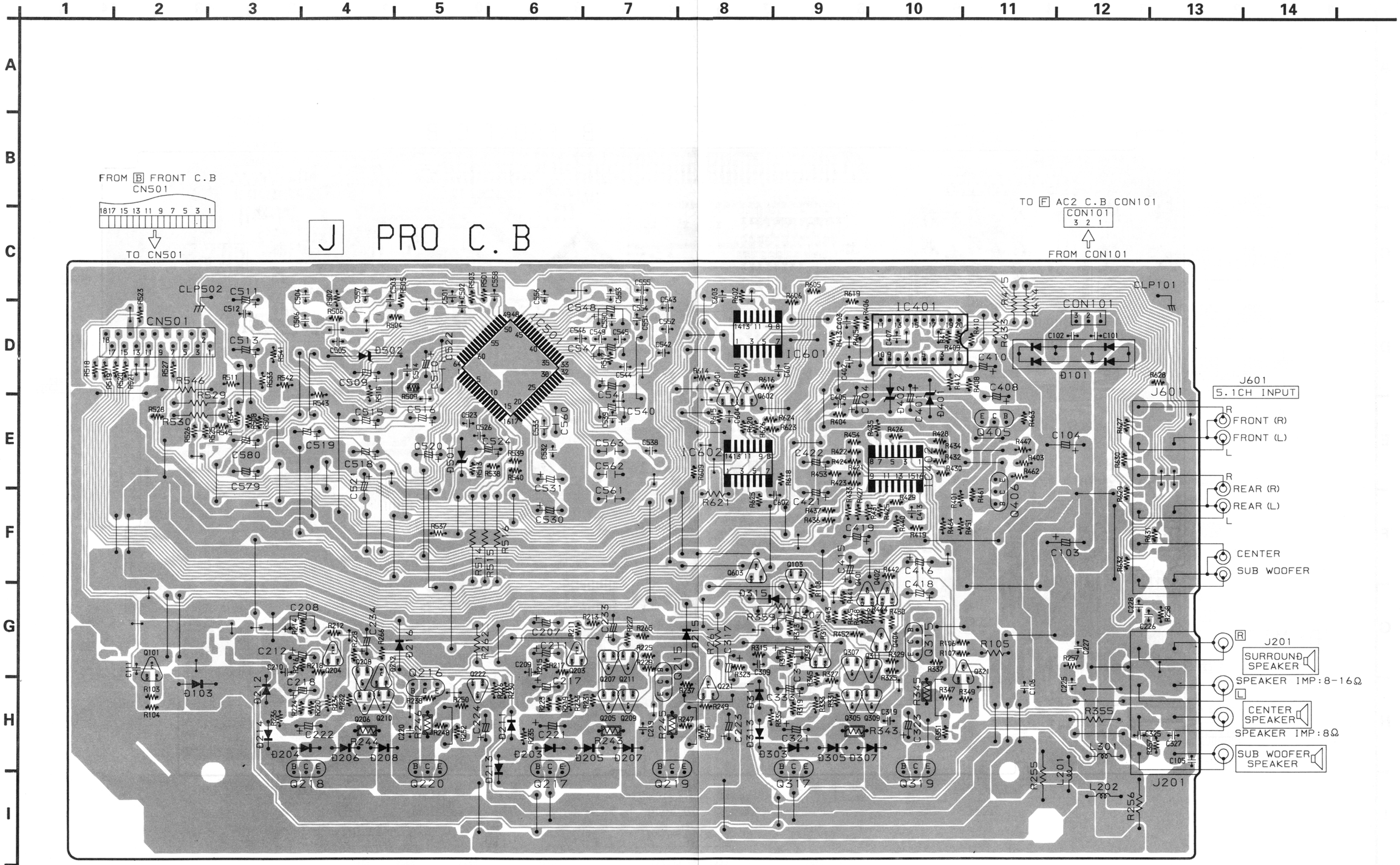



C CD KEY C.B
IC281 BU2092F
LED258~262
DISC DIRECT PLAY 1~5
CN302
CN301
CN101
FROM A MAIN C.B CN601
FL101 BJ612GK
DISPLAY
Q115
RT1P441C
FL CONST DISPLAY SW
Q302
2SK2158
T-BASE SW
PR201
0.5 PROTECTOR
IC380 BA3835S
SPECTRUM ANALYSER
Q303
2SA1235F
HP-MUTE SW
Q301 2SA1235 F
KEY SCAN SW
Q262
2SA1296GR
LED SW
Q102
2SC3052F
RESET
D107
MC2838
Q108
RT1N144C
POWER SW
IC101 LC866560W -5H04
SYSTEM CONTROLLER
OPTION
X : NCO-D
△ : CMOS
○ : PD RES
X101
VIB. CER
5.76MHz
CRHF
Q101
CLK SHIFT SW
Q201~205
FUNCTION LED SW
Q206
RT1N141C
DATA AMP
Q207
RT1N141C
CLK AMP
LED233~238
DECK LIGHT
LED201~205
LED239~250
LED253~255
SLP-9118C-51-S
LED206~215
LED251, 252
SLP-7118C-51-S
LED216~221
SLP-7131F-81H-S
LED233~236
SLZ-738A-24-S
LED237 . 238
SLZ-936C-30-S
Q283~286
PROLOGIC LED SW
Q281, 282
CASSETTE LED SW
IC204 BU4094 BCF
IC203 BU4094 BCF
IC202 BU4094 BCF
IC201 BU4094BCF
IC201~204
SHIFT REGISTER
Q601
2SK2158
MIC LIMITTER
IC601 (1/2)
NJM4558 MD
MIC AMP
IC601 (2/2)
NJM4558 MD
MIC AMP
D MIC C.B
CN602
CN601
J601
J602
MIC1
MIC2
S103
SW, RTRY EC12E12244
MULTI JOG
S101
SW, RTRY EC16B24304 NON
VOLUME
IC102
SPS-442-1-W
REMOTE UNIT
MOTOR DRIVER
Q104
RT1N141C
Q107
2SA1296GR
MOTOR DRIVER
Q105
CSA1362 GR
Q106
CSA1362 GR
D110
MC2836
Q105, 106
PLUNGER DRIVER
CN102
TO CD MECHANISM 6ZG-1
B FRONT C.B
IC801
MSM6654A-521GS KR1
RHYTHM
X801
4.19MHz
CN501
TO J PRO C.B CN501
CN104
CON502
M1
(DECK MOTOR)
IC1, IC2 DN6851
TAPE TRANSPORT
SFR1
TAPE SPEED ADJ
Q1
MOTOR H-SPEED SW
I DECK C.B
SIGNAL:
:MIC
:PB

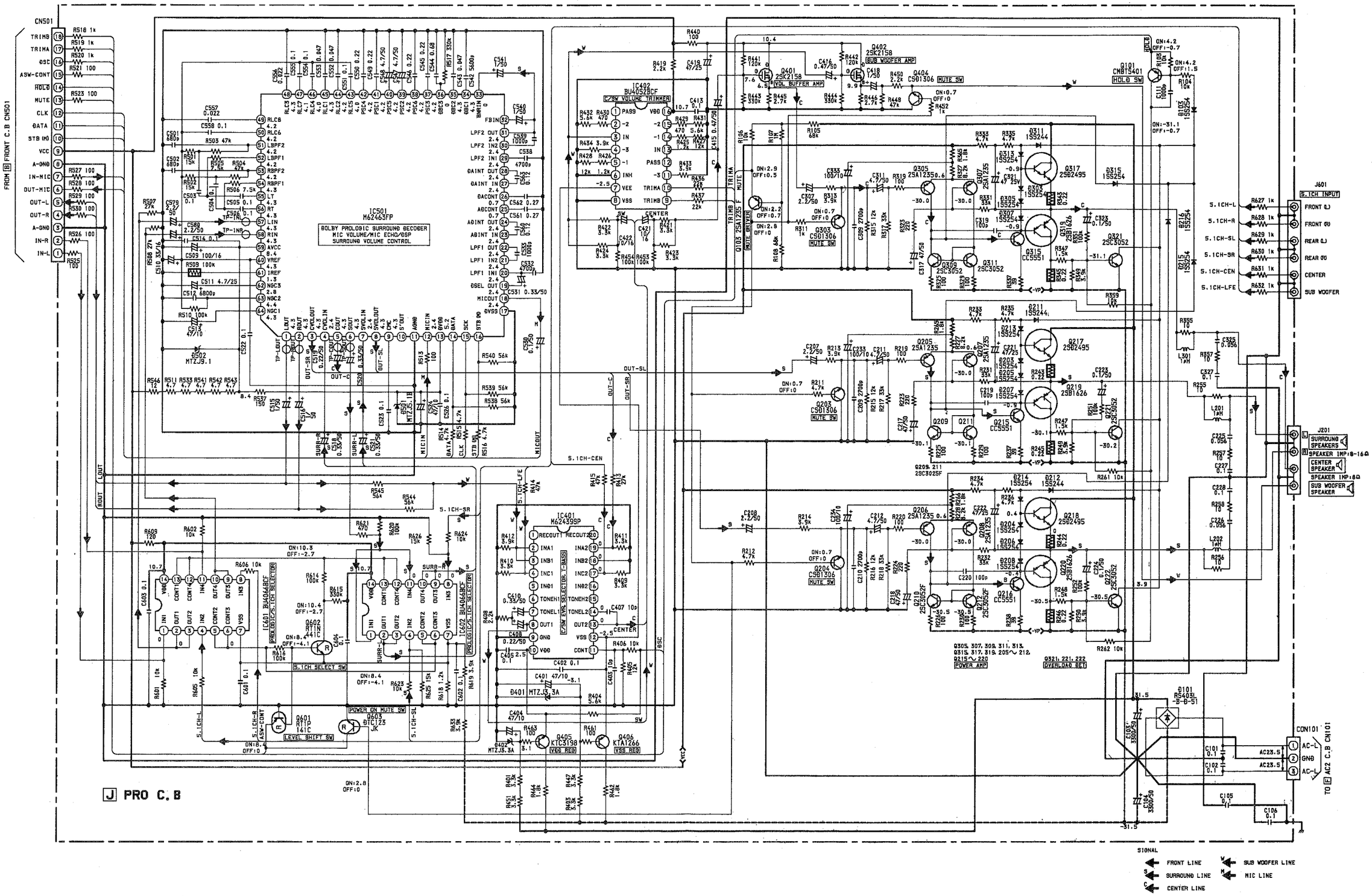
1 2 3 4 5 6 7 8 9 10 11 12 13 14

A B C D E F G H I J

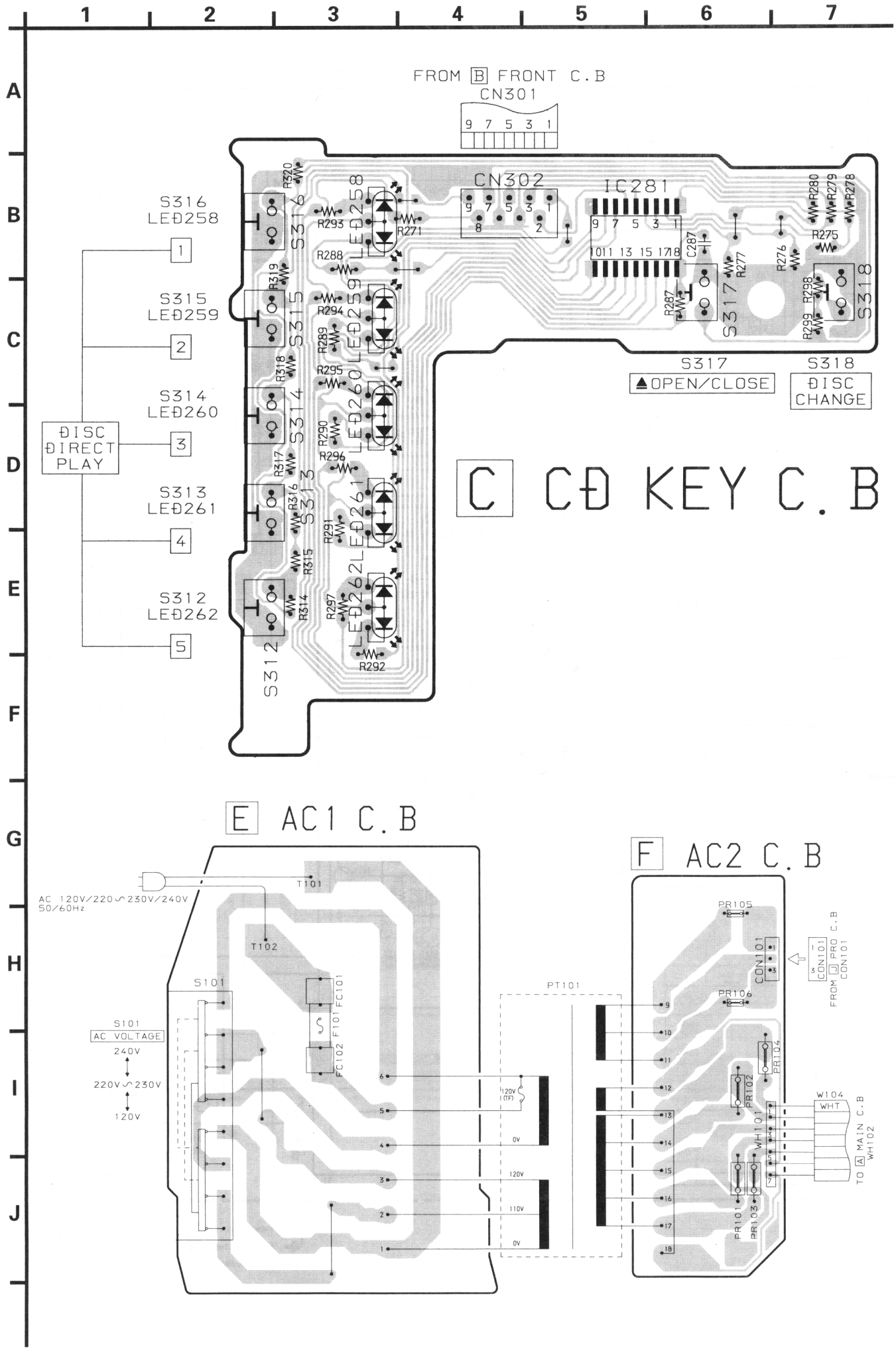


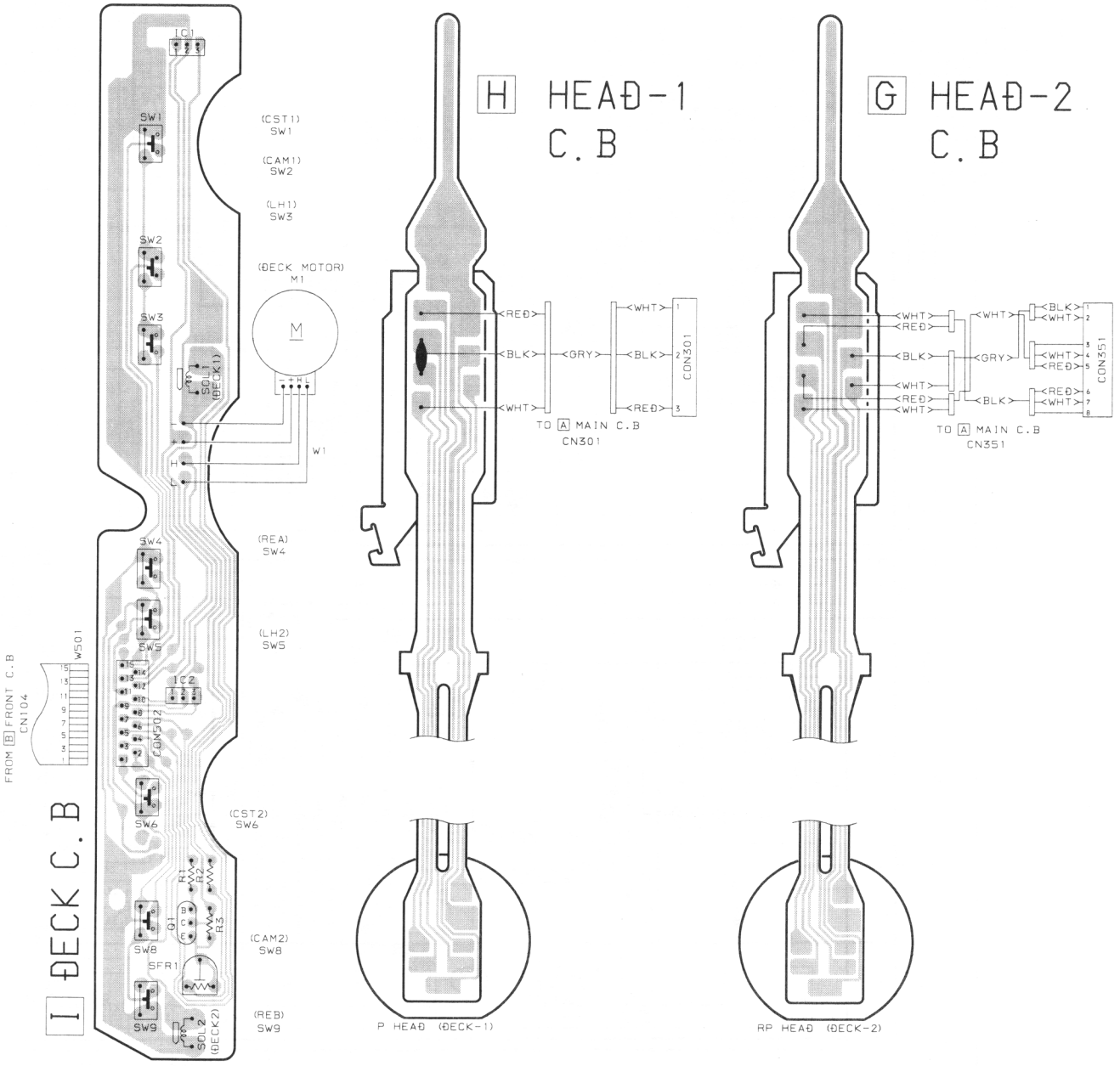

1 2 3 4 5 6 7 8 9 10 11 12 13 14
A B C D E F G H I J
FROM B FRONT C.B
CN501
18 17 15 13 11 9 7 5 3 1
TO CN501
J PRO C.B
TO F AC2 C.B CON101
CON101
3 2 1
FROM CON101
CLP502
CLP101
CN501
CON101
IC401
IC601
IC602
IC604
D101
J601
5.1CH INPUT
FRONT (R)
FRONT (L)
REAR (R)
REAR (L)
CENTER
SUB WOOFER
J201
SURROUND SPEAKER
SPEAKER IMP:8-16Ω
CENTER SPEAKER
SPEAKER IMP:8Ω
SUB WOOFER SPEAKER

SCHEMATIC DIAGRAM – 4 (PRO)

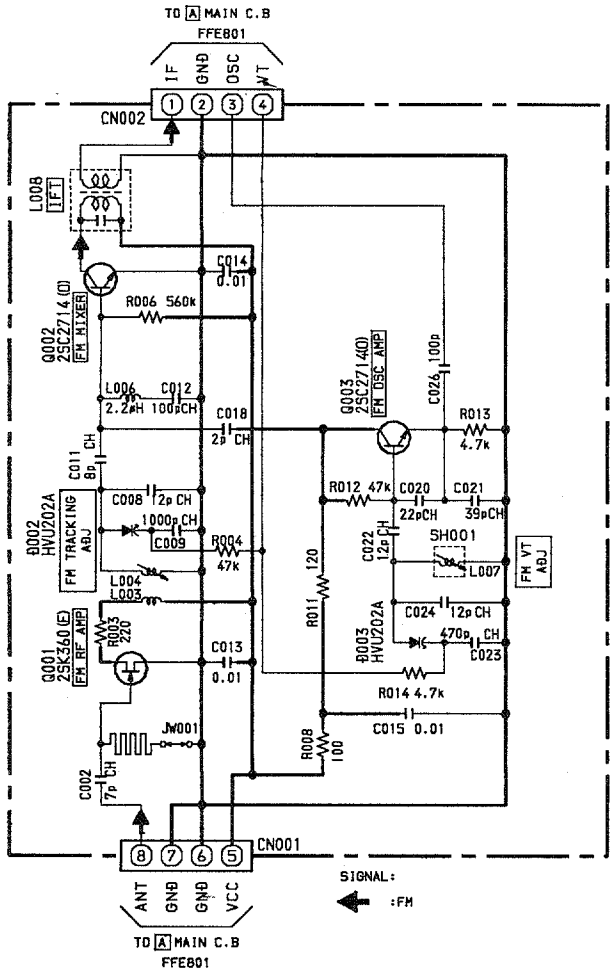


WIRING – 4 (CD KEY / AC1 / AC2)




I DECK C.B
H HEAD-1 C.B
G HEAD-2 C.B
IC1
IC2
SW1
SW2
SW3
SW4
SW5
SW6
SW8
SW9
(CST1) SW1
(CAM1) SW2
(LH1) SW3
(DECK MOTOR) M1
M
SOL1 (DECK1)
W1
(REA) SW4
(LH2) SW5
W501
CN104
FROM B FRONT C.B
CON502
(CST2) SW6
Q1
R1
R2
R3
(CAM2) SW8
SFR1
SOL2 (DECK2)
(REB) SW9
RED
BLK
GRY
WHT
CON301
TO A MAIN C.B CN301
CON351
TO A MAIN C.B CN351
P HEAD (DECK-1)
RP HEAD (DECK-2)

SCHEMATIC DIAGRAM – 5 (TUNER FRONT END)



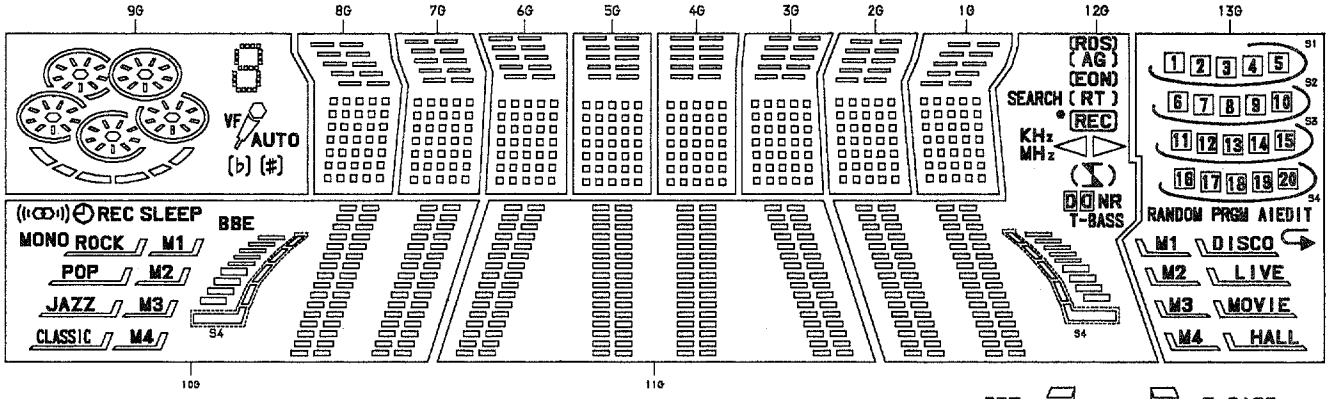
FL (BJ612GK) GRID ASSIGNMENT AND ANODE CONNECTION

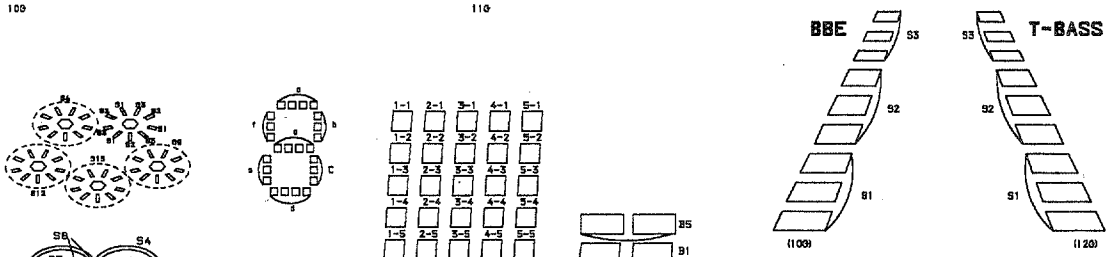
ANODE CONNECTION

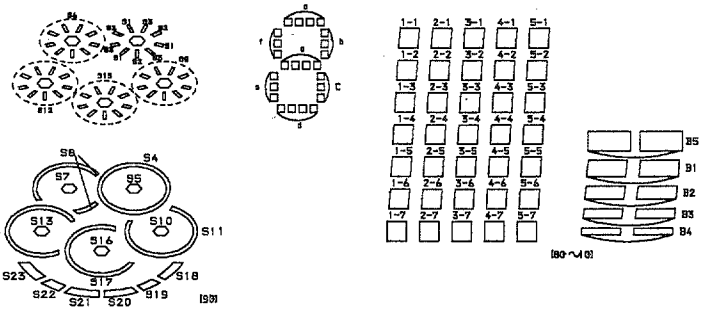
	13G	12G	11G	10G	9G	1G 8G
P1	S1	SEARCH	-	-	-	B4
P2	S2	RDS AG EON	-	-	-	B3
P3	S3	RT	-	-	-	B2
P4	S4	-	-	((( )))	S23	B1
P5	DISCO LIVE HALL MOVIE	(RBS)	-	MONO	S22	1-1
P6	(MOVIE)	(AG)	-	ROCK POP CLASSIC JAZZ	S21	2-1
P7	(HALL)	(EON)	-	(JAZZ)	S20	3-1
P8	(LIVE)	(RT)	B1	(CLASSIC)	S19	4-1
P9	(DISCO)	)	B9	(POP)	S18	5-1
P10	M1 M2 M3 M4	B1	B17	B1	S16	1-2
P11	(M4)	B9	B25	B9	S15	2-2
P12	(M3)		B2	(ROCK)	S17	3-2
P13	(M2)	(	B10	M1 M2 M3 M4	S13	4-2
P14	(M1)	B2	B18	B2	S12	5-2
P15		B10	B26	B10	S14	1-3
P16	EDIT		B3	(M4)	S10	2-3
P17	AI		B11	(M3)	S9	3-3
P18	PRGM	B3	B19	B3	S11	4-3
P19	RANDOM	B11	B27	B11	S7	5-3
P20	1	DD NR	B4	(M2)	S6	1-4

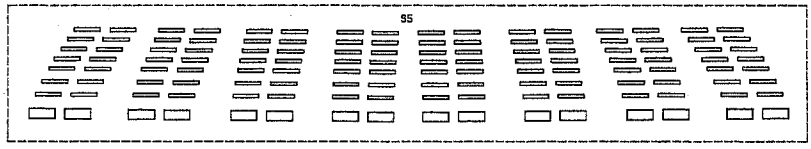
	13G	12G	11G	10G	9G	
P21	2	REC	B12	(M1)	S8	2-4
P22	3	B4	B20	B4	S5	3-4
P23	4	B12	B28	B12	S2	4-4
P24	5		B5	REC	S3	5-4
P25	6	KHz	B13		S1	1-5
P26	7	B5	B21	B5	S4	2-5
P27	8	B13	B29	B13	d	3-5
P28	9	MHz	B6	SLEEP	e	4-5
P29	10	B5	B14	S4	c	5-5
P30	11	B6	B22	B6	g	1-6
P31	12	B14	B30	B14	f	2-6
P32	13	T-BASS	B7	BBE	b	3-6
P33	14	S1	B15	S1	a	4-6
P34	15	B7	B23	B7	VF	5-6
P35	16	B15	B31	B15		1-7
P36	17	S2	B8	S2	AUTO	2-7
P37	18	S3	B16	S3	(b)	3-7
P38	19	B8	B24	B8	(#)	4-7
P39	20	B16	B32	B16	b #	5-7
P40	-	S5	S5	S5	-	B5

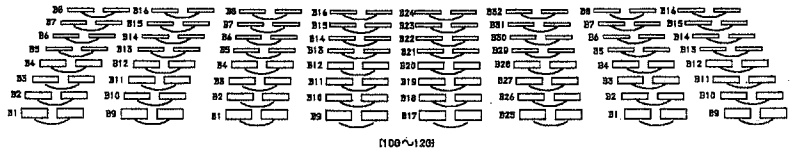
GRID ASSIGNMENT











IC DESCRIPTION

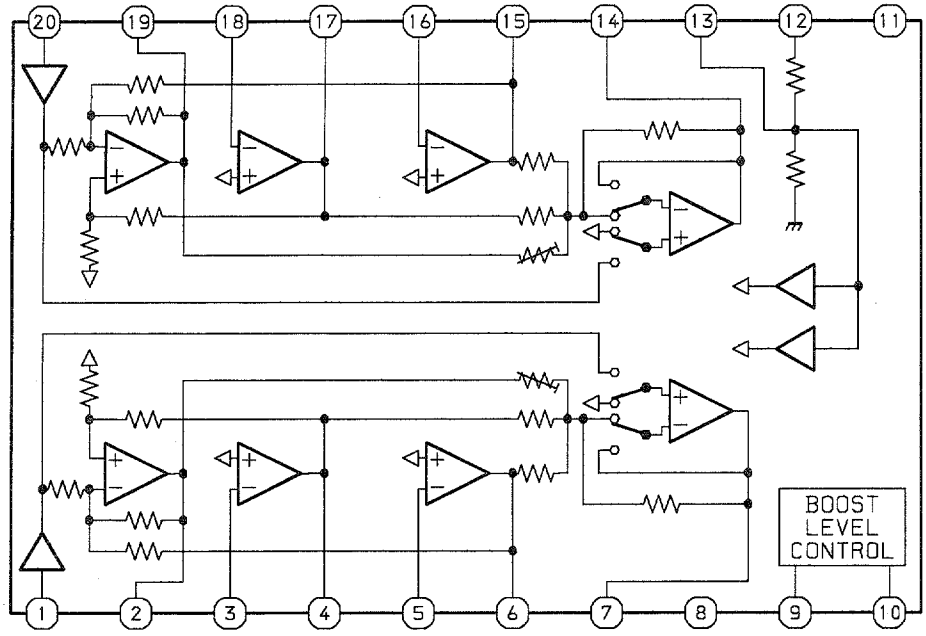
IC, LC866560W-5H04

Pin No.	Pin Name	I/O	Description
1	CLK	O	All serial IC clock output.
2	DATA	O	All serial IC data output.
3	STB (MAIN)	O	Main IC data latch strobe output.
4	O-PLL CE	O	PLL IC (LC72131D) chip enable output.
5	STB (SR)	O	Shift register data latch strobe output.
6	RESET	I	Reset input.
7	STB (GAME)	O	Rhythm IC data latch strobe output.
8	NAR (GAME)	I	Sound IC NAR input.
9	O-DSC	O	Serial data output for PROLOGIC C.B.
10	RT-A	I	ROTARY ENCODER volume in.
11	RT-B	I	ROTARY ENCODER volume in.
12	$\overline{\text{RESET}}$	I	Reset input.
13	JOG-A	I	ROTARY ENCODER multi jog in.
14	JOG-B	I	ROTARY ENCODER multi jog in.
15	VSS1	–	GND terminal.
16, 17	CF1, CF2	–	5.76 MHz oscillator circuit.
18	VDD1	–	Power supply input. Connected to VDD2.
19	$\overline{\text{HOLD}}$	I	Power failure detected. More than 4.9V: P-OFF 4.9V ~ 3.49V: Normal condition 3.49V ~ 1.41V: P-OFF Less than 1.41V: HOLD mode
20 ~ 22	KEY 1 ~ 3	I	Key input 1~3.
23	I-CDSW	I	CD mechanical switch A/D converter input.
24	I-DISH	I	CD turntable photo sensor A/D converter input.
25	I-TU-SIG/$\overline{\text{MS}}$	I	Tuner function: Tuner $\overline{\text{SD}}$ detected input. Tape function: Deck music sensor signal input.
26	I-SPEANA	I	A/D input for spectrum analyzer display.
27	$\overline{\text{O-KEY-SCAN}}$	O	Switch scan timing output.
28	I-RDS-CLK	I	RDS clock input.
29	$\overline{\text{I-RMC}}$	I	System remote control signal input.
30 ~ 41, 44	G13 ~ G1	O	FL grid output G13 ~ G1.
42, 43, 45	P39 ~ P37	O	FL segment output P39 ~ P37.
46	VDD3	–	Power supply input. Connected to VDD4.
47	P36/SPEANA-A	I/O	FL segment output P36 / spectrum analyzer band pass filter control A.
48	P35/SPEANA-B	I/O	FL segment output P35 / spectrum analyzer band pass filter control B.
49	P34/SPEANA-C	I/O	FL segment output P34 / spectrum analyzer band pass filter control C.
50	P33/$\overline{\text{HSP}}$	I/O	FL segment output P33 / $\overline{\text{HSP}}$ diode detect.
51	–VFL	–	Power supply input for FL display.
52	P32/TU3	I/O	FL segment output P32 / tuner band select 3.
53	P31/TU2	I/O	FL segment output P31 / tuner band select 2.
54	P30/TU1	I/O	FL segment output P30 / tuner band select 1.
55	P29/$\overline{\text{DSP}}$	I/O	FL segment output P29 / $\overline{\text{DSP}}$ diode detect.

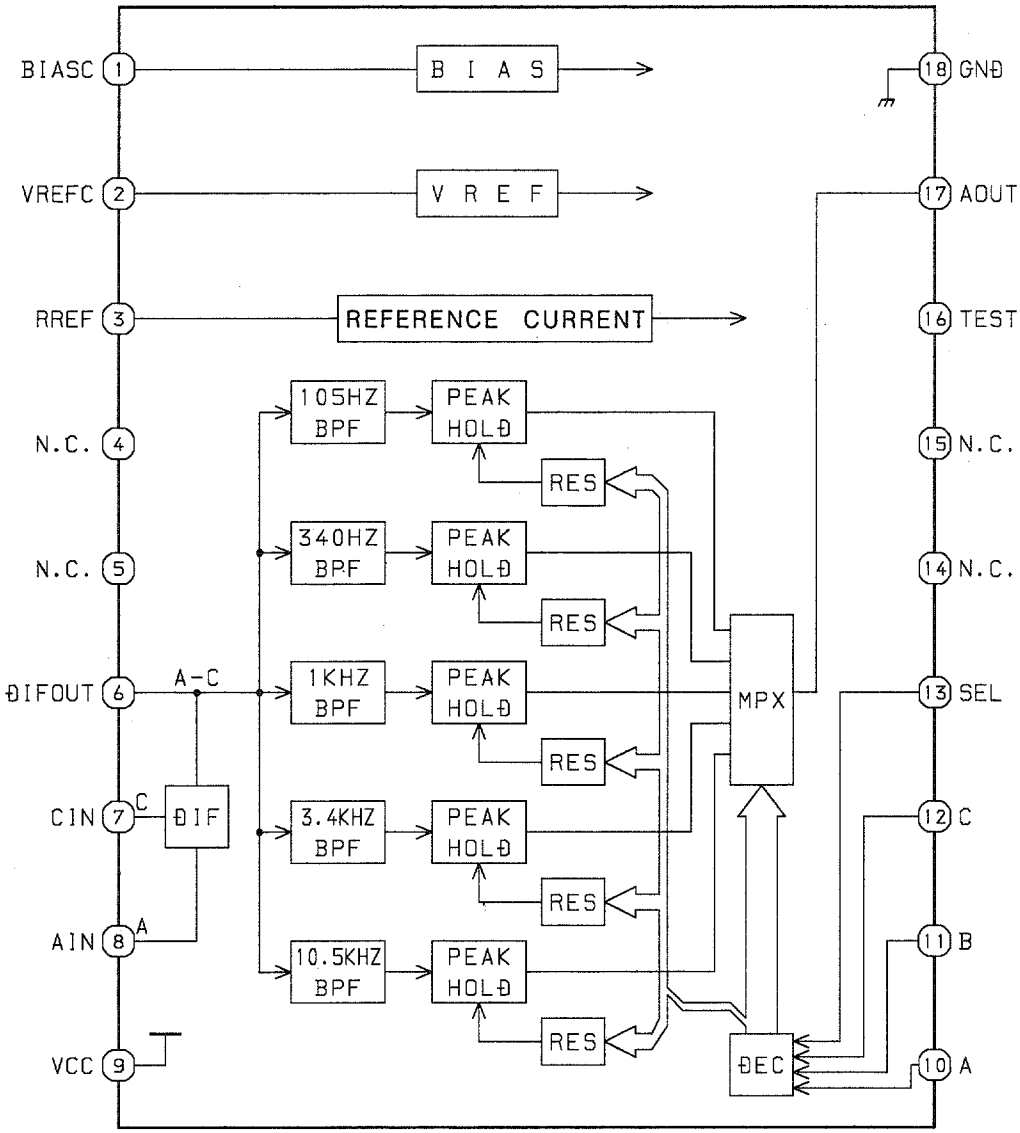
Pin No.	Pin Name	I/O	Description
56	P28/$\overline{\text{RHYTHM}}$	I/O	FL segment output P28 / $\overline{\text{RHYTHM}}$ diode detect.
57	P27/$\overline{\text{4MANU}}$	I/O	FL segment output P27 / $\overline{\text{4MANU}}$ diode detect.
58	P26/K-CON	I/O	FL segment output P26 / K-CON diode detect.
59	P25/$\overline{\text{DOLBY+MS}}$	I/O	FL segment output P25 /$\overline{\text{DOLBY+MS}}$ diode detect.
60	P24/HR	I/O	FL segment output P24 / HR diode detect.
61	P23/D-SURR	I/O	FL segment output P23 / D-SURR diode detect.
62	P22/$\overline{\text{MS}}$	I/O	FL segment output P22 / $\overline{\text{MS}}$ diode detect.
63	P21/$\overline{\text{BBE}}$	I/O	FL segment output P21 / $\overline{\text{BBE}}$ diode detect.
64	P20/CST2	I/O	FL segment output P20 / DECK2 cassette detect switch input.
65	P19/REB	I/O	FL segment output P19 / DECK2 side-B record OK switch input.
66	P18/CAM2	I/O	FL segment output P18 / DECK2 cam switch input.
67	P17/AUTO1	I/O	FL segment output P17 / DECK1 auto stop signal input.
68	P16/AUTO2	I/O	FL segment output P16 / DECK2 auto stop signal input.
69	P15/CAM1	I/O	FL segment output P15 / DECK1 cam switch input.
70	P14/CST1	I/O	FL segment output P14 / DECK1 cassette detect switch input.
71	P13/REA	I/O	FL segment output P13 / DECK2 side-A record OK switch input.
72	VDD4	–	Power supply input. Connected to VDD3.
73	P12/$\overline{\text{I-HP-MUTE}}$	I/O	FL segment output P12 / "L" input PROLOGIC DSP off.
74	P11/$\overline{\text{I-MIC}}$	I/O	FL segment output P11 / Microphone input for auto vocal fader ON/OFF.
75	P10/I-TMBASE	I/O	FL segment output P10 / Reference clock input for timer watch.
76	P9/AC-3+D-SURR	I/O	FL segment output P9 / AC-3+D-SURR diode detect.
77 ~ 84	P8 ~ P1	O	FL segment output P8 ~ P1.
85	TRAY-OPEN	O	CD tray open data output.
86	TRAY-CLOSE	O	CD tray close data output.
87	DISH-RVS	O	CD turntable reverse rotation output.
88	DISH-FWD	O	CD turntable forward rotation output.
89	VSS2	–	GND terminal.
90	VDD2	–	Power supply input. Connected to VDD1.
91	$\overline{\text{O-POWER}}$	O	System power supply $\overline{\text{ON}}$/OFF output.
92	O-SURR MUTE	O	Surround mute output.
93	SOL1	O	DECK1 solenoid output.
94	SOL2	O	DECK2 solenoid output.
95	O-MOTOR	O	DECK motor output.
96	I-SD/I-IFC	I	Tuner $\overline{\text{SD}}$ detect input/Tuner IF count serial data input.
97	O-SCLK/I-STEREO	I/O	Clock output for CD SUB-Q data/tuner stereo data input.
98	O-DATA/I-RDS	I/O	CLK control data output/tuner RDS data input.
99	I/O-BUSY	I/O	CD IC data input/output.
100	$\overline{\text{O-SEG-CONT}}$	O	FL segment control data output.

IC BLOCK DIAGRAM

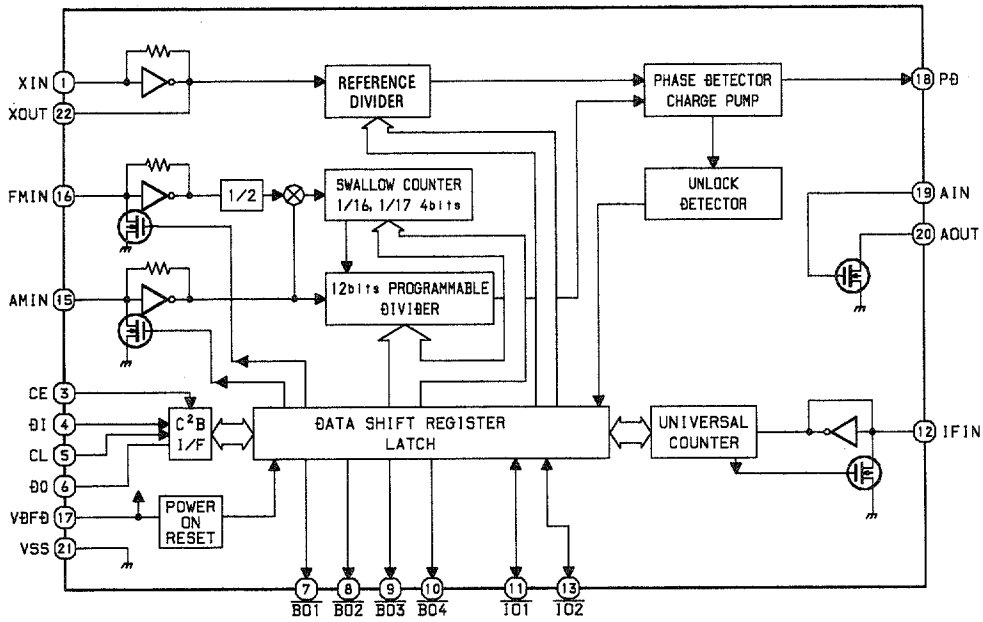
IC, NJM2152M



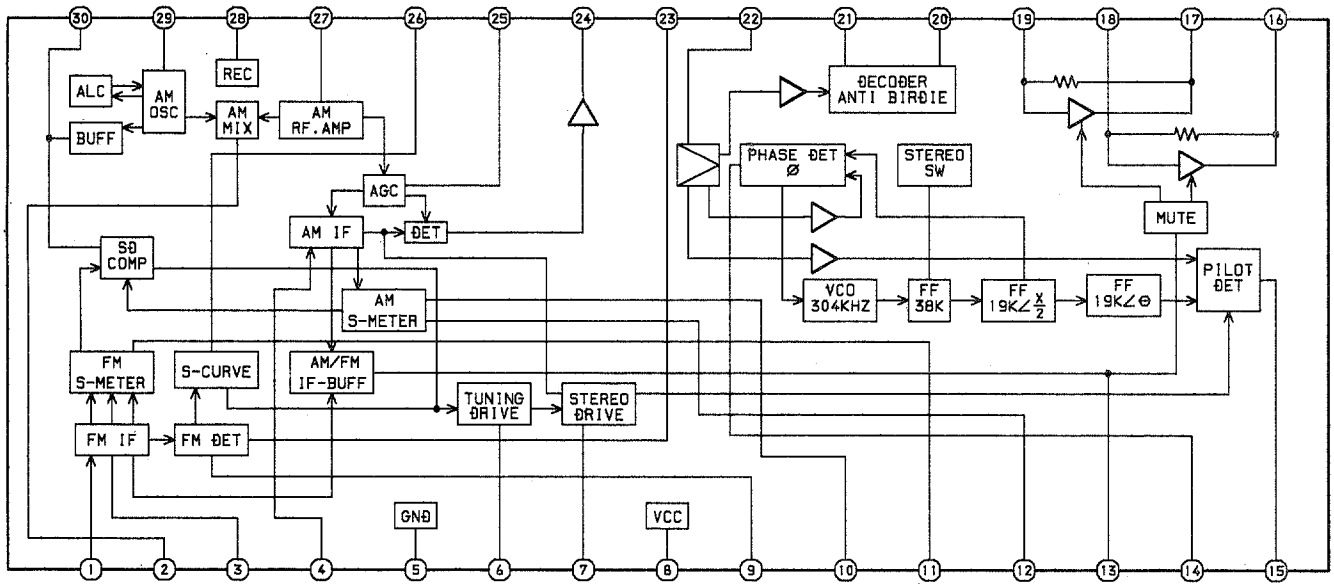
IC, BA3835S



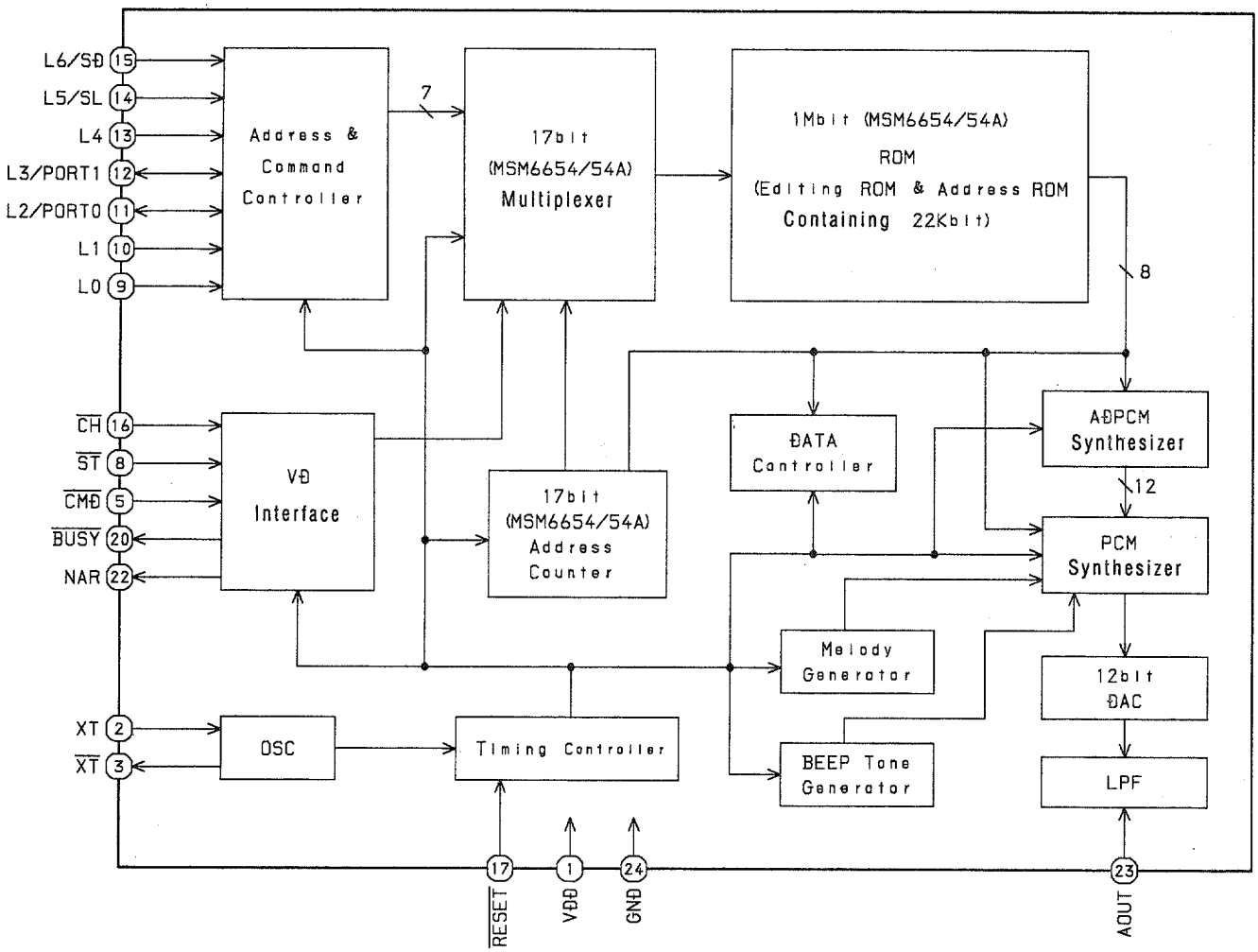
IC, LC72131D(Z)



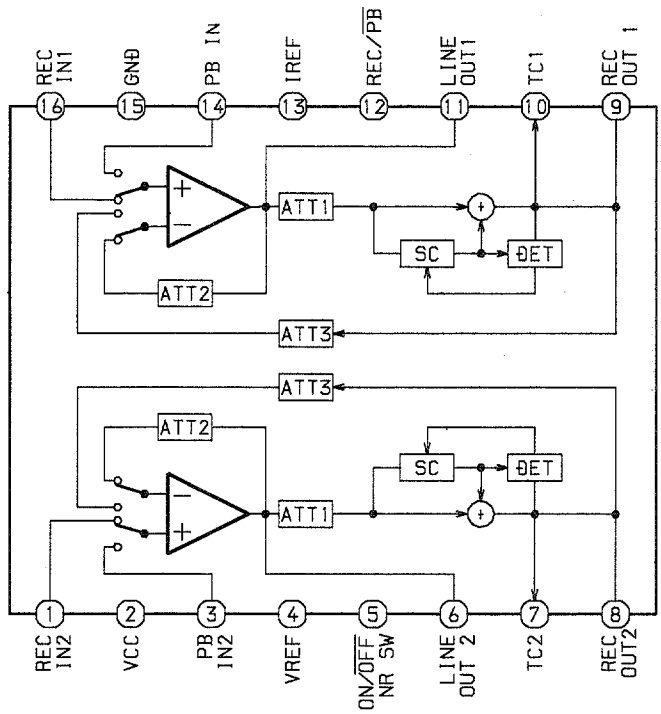
IC, LA1837



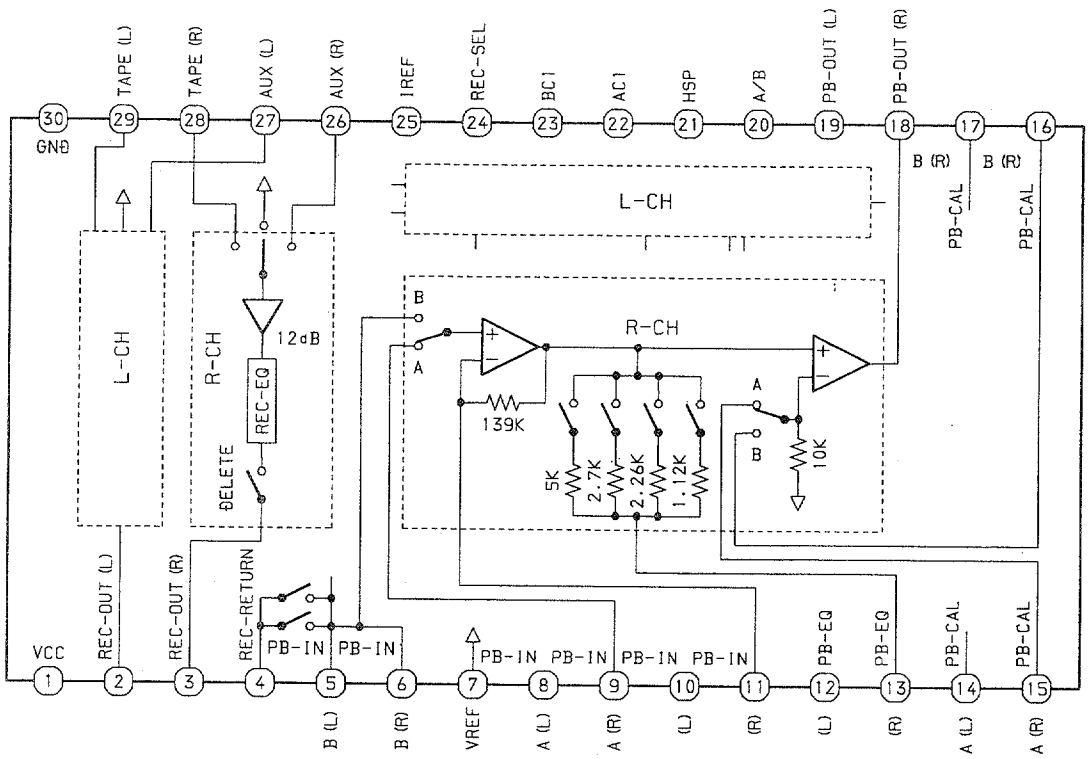
IC, MSM6654A-521GS-KR1



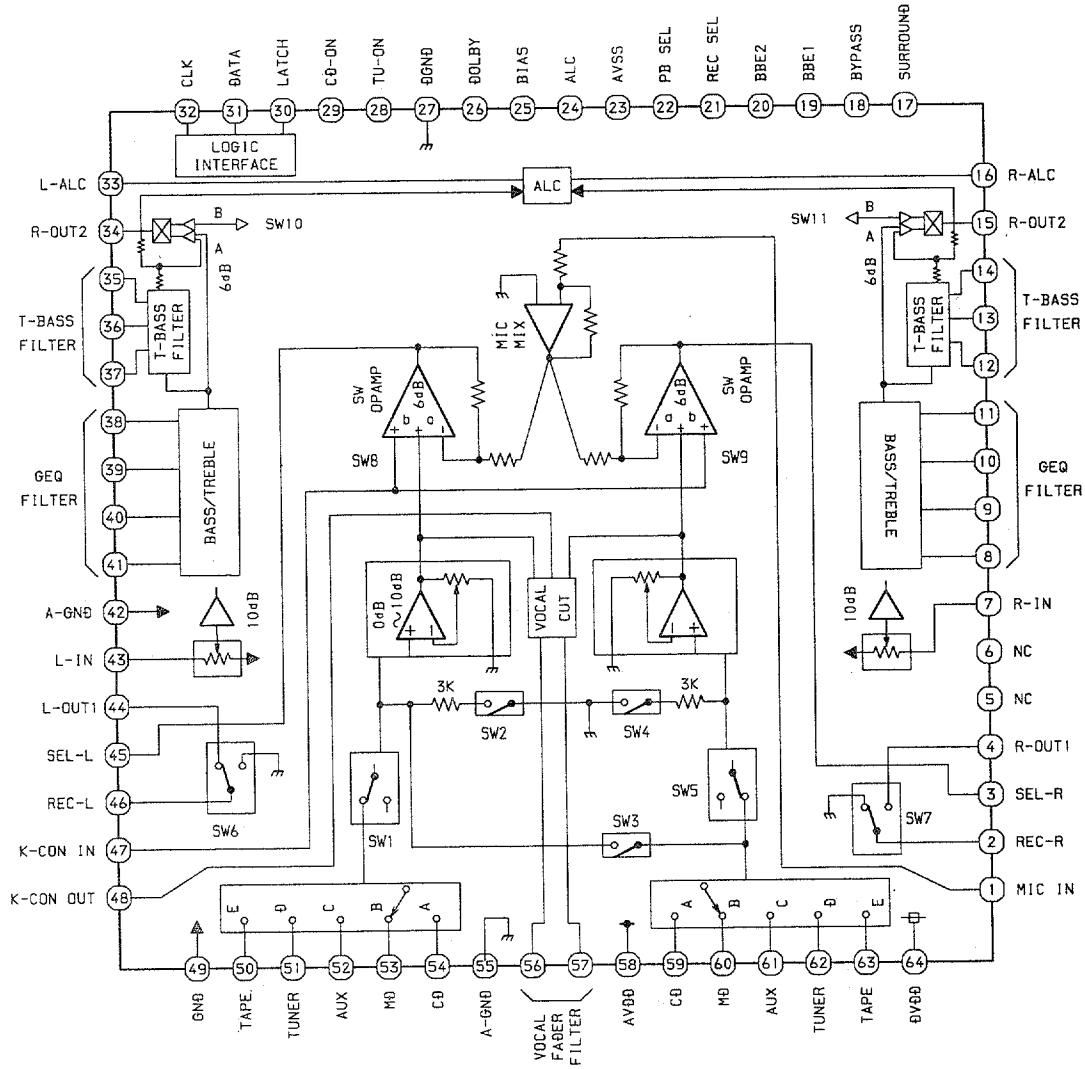
IC, CXA1553P



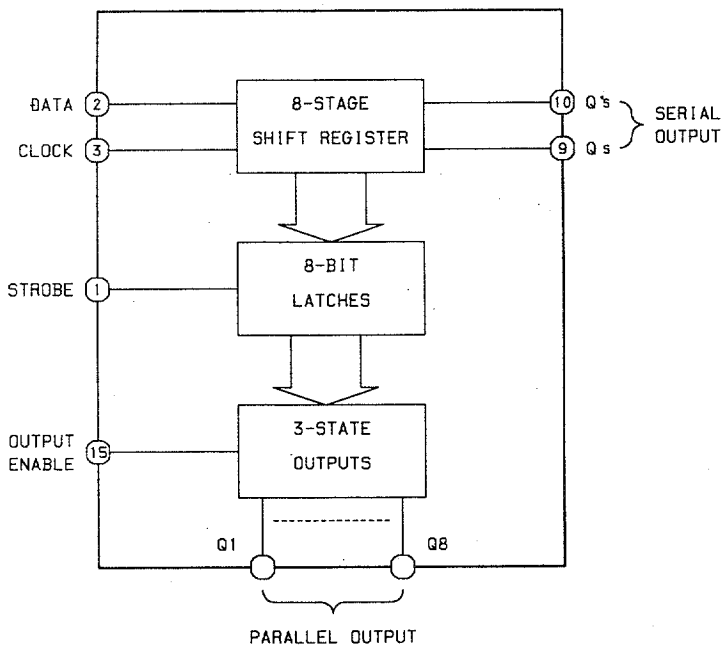
IC, HA12211



IC, M62445FP-601



IC, BU4094BCF



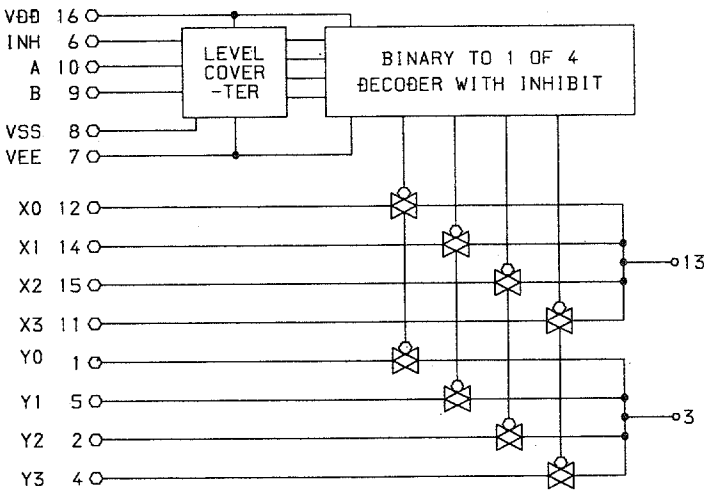
TRUTH TABLE

CLOCK	OUTPUT ENABLE	STROBE	DATA	PARALLEL OUTPUTS		SERIAL OUTPUTS	
				Q1	Qn	Qs	Q's
↑	L	X	X	Z	Z	Q7	NO Chg.
↓	L	X	X	Z	Z	No Chg.	Qs
↑	H	L	X	No Chg.	No Chg.	Q7	No Chg.
↑	H	H	L	L	Qn-1	Q7	No Chg.
↑	H	H	H	H	Qn-1	Q7	No Chg.
↓	H	X	X	No Chg.	No Chg.	No Chg.	Qs

Z=High Impedance

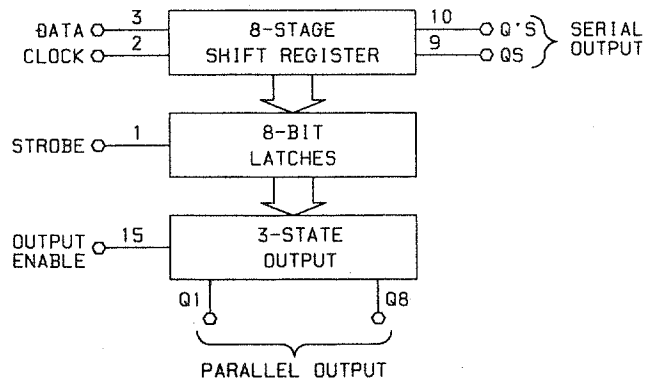
X=Don't Care

IC, BU4052BCF

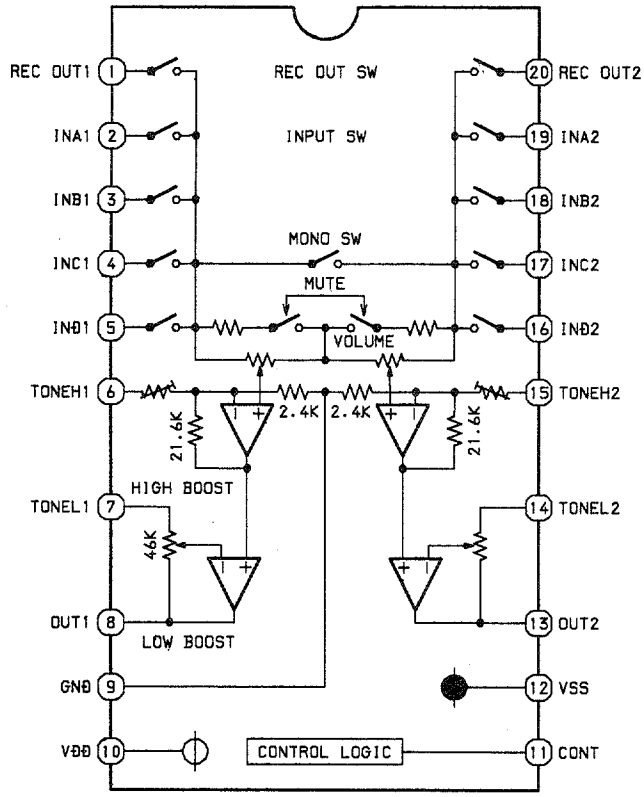


TRUTH TABLE

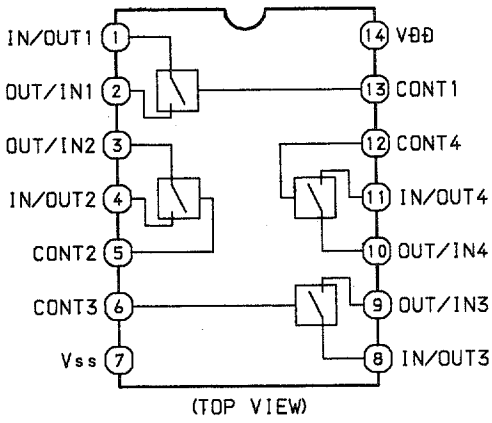
INHIBIT	A	B	ON SWITCH
L	L	L	X0 Y0
L	H	L	X1 Y1
L	L	H	X2 Y2
L	H	H	X3 Y3
H	X	X	NONE



IC, M62439SP

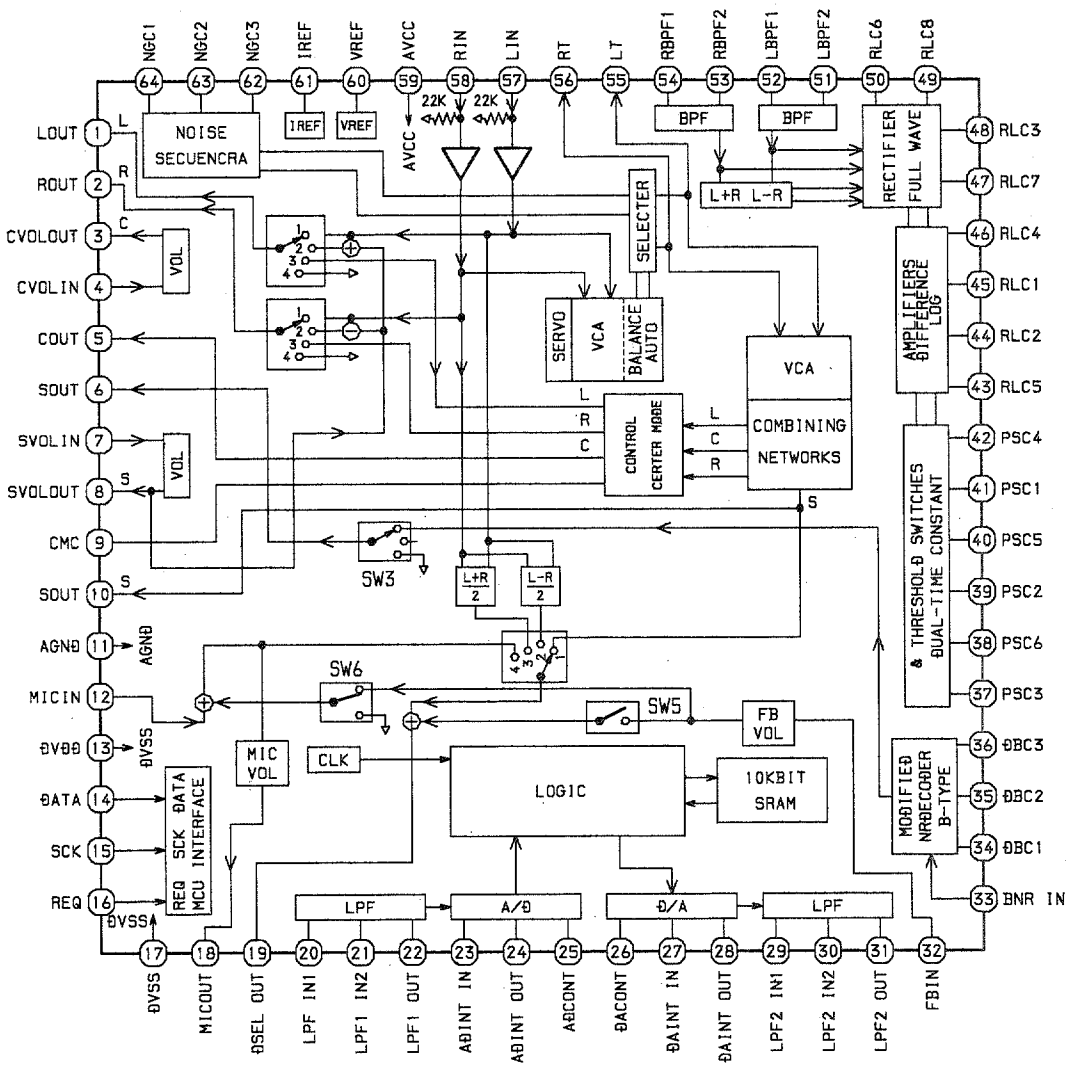


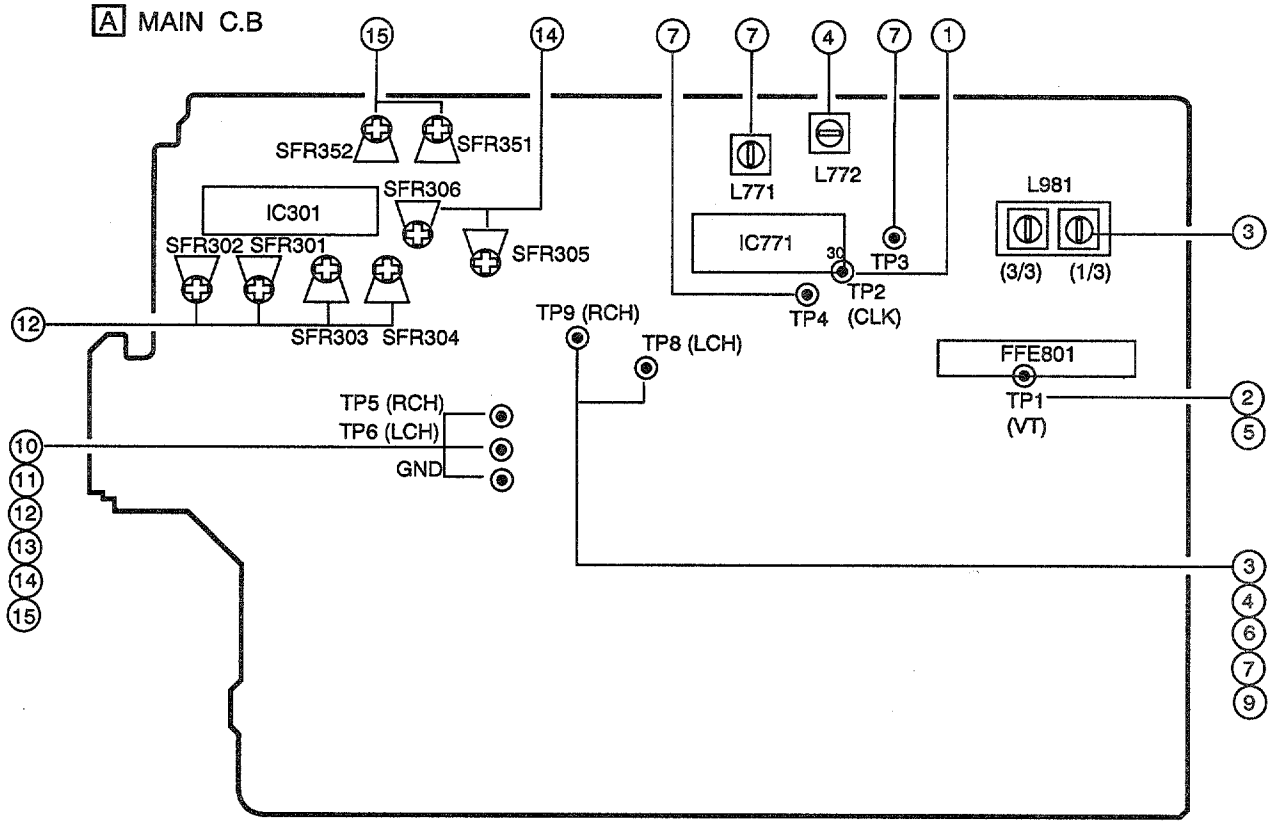
IC, BU4066BCF

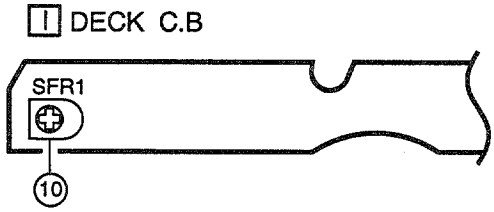


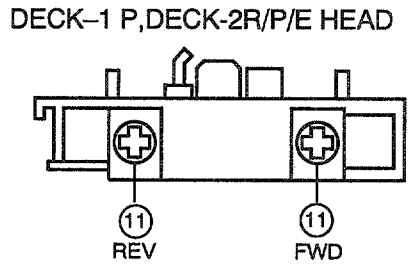
TRUTH TABLE

CONTROL	Impedance Between IN/OUT-OUT/IN
H	$0.5\sim5\times10^{2}\Omega$
L	$> 10^{9}\Omega$


NGC1
NGC2
NGC3
IREF
VREF
AVCC
RIN
LIN
RT
LT
RBPF1
RBPF2
LBPF1
LBPF2
RLC6
RLC8
LOUT
ROUT
CVOLOUT
CVOLIN
COUT
SOUT
SVOLIN
SVOLOUT
CMC
SOUT
AGND
MICIN
DVDD
DATA
SCK
REQ
DVSSA
NOISE SECUENCRA
22K
22K
BPF
BPF
RECTIFIER FULL WAVE
L+R L-R
SELECTER
VOL
SERVO
VCA
BALANCE AUTO
VCA
AMPLIFIERS DIFFERENCE LOG
CONTROL CENTER MODE
COMBINING NETWORKS
SW3
L+R 2
L-R 2
THRESHOLD SWITCHES DUAL-TIME CONSTANT
SW6
SW5
FB VOL
MIC VOL
CLK
LOGIC
10KBIT SRAM
MODIFIED NRBECODER B-TYPE
REQ SCK DATA MCU INTERFACE
LPF
A/D
D/A
LPF
RLC3
RLC7
RLC4
RLC1
RLC2
RLC5
PSC4
PSC1
PSC5
PSC2
PSC6
PSC3
DBC3
DBC2
DBC1
BNR IN
DVSS
MICOUT
DSEL OUT
LPF IN1
LPF1 IN2
LPF1 OUT
ADINT IN
ADINT OUT
ADCONT
DACONT
DAINT IN
DAINT OUT
LPF2 IN1
LPF2 IN2
LPF2 OUT
FBIN







< TUNER SECTION >

1. Clock Frequency Check
   Settings : • Test point : TP2 (CLK)
   Method : Set to AM 1710kHz and check that the test point is 2160kHz ± 45Hz.

2. AM VT Check
   Settings : • Test point : TP1 (VT)
   Method : Set to AM 530kHz (1710kHz) and check that the test point is more than 0.6V (less than 8.5V).

3. AM Tracking Adjustment
   Settings : • Test point : TP8 (Lch), TP9 (Rch)
   • Adjustment location : L981 (1/3)
   Method : Set to AM 1000kHz and adjust L981 (1/3) so that the test point becomes maximum.

4. AM IF Adjustment
   Settings : • Test point : TP8 (Lch), TP9 (Rch)
   • Adjustment location :
   L772 ..... 450kHz

5. FM VT Check
   Settings : • Test point : TP1 (VT)
   Method : Set to FM 87.5MHz (108.0MHz) and check that the test point is more than 0.5V (less than 8.0V).

6. FM Tracking Check
   Settings : • Test point : TP8 (Lch), TP9 (Rch)
   Method : Set to FM 98.0MHz and check that the test point is less than 9dB.

7. DC Balance / Mono Distortion Adjustment
   Settings : • Test point : TP3,TP4 (DC balance)
   TP8,TP9 (Distortion)
   • Adjustment location : L771
   • Input level : 54dB
   Method : Set to FM 98.0MHz and adjust L771 so that the voltage (TP3 and TP4) output becomes 0V ± 0.04V.
   Next, check that the distortion is less than 1.3%.

8. Auto Stop Level Check

AM

Settings : • Input level : 52dB

Method : Check the auto stop at AM 1000kHz and the output level is 52dB + 10/-15dB.

FM

Settings : • Input level : 25dB

Method : Check the auto stop at FM 98.0MHz and the output level is 25dB ± 10dB.

9. Output Level Check

AM

Settings : • Input level : 74dB
• Test point : TP8 (Lch), TP9 (Rch)

Method : Set to AM 1000KHz and check the test point is 200mV ± 3dB.

FM

Settings : • Input level : 54dB
• Test point : TP8 (Lch), TP9 (Rch)

Method : Set to FM 98.0MHz and check the test point is 600mV ± 3dB

< DECK SECTION >

10. Tape Speed Adjustment (DECK2)

Settings : • Test tape : TTA-100
• Test point : TP6 (Lch), TP5 (Rch)
• Adjustment location : SFR1

Method : Play back the test tape and adjust SFR1 so that the test point becomes 3000Hz ± 5Hz(FWD) and FWD PLAY speed ± 45Hz(REV).

11. Head Azimuth Adjustment (DECK1, DECK2)

Settings : • Test tape : TTA-300
• Test point : TP6 (Lch), TP5 (Rch)
• 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 PLAY and REV PLAY mode.

12. PB Sensitivity Adjustment (DECK1, DECK2)

Settings : • Test tape : TTA-200
• Test point : TP6 (Lch), TP5 (Rch)
• Adjustment location :
SFR301 (DECK1, Lch)
SFR302 (DECK1, Rch)
SFR303 (DECK2, Lch)
SFR304 (DECK2, Rch)

Method : Play back the test tape and adjust SFRs so that the output level of the test point becomes 245mV.

13. PB Frequency Response Check (DECK1, DECK2)

Settings : • Test tape : TTA-300
• Test point : TP6 (Lch), TP5 (Rch)

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 0dB ± 3dB.
Next, check that the Lch and Rch difference level of 10kHz signal is less than 2dB.

14. REC/PB Sensitivity Adjustment (DECK2)

Settings : • Test tape : TTA-602
• Test point : TP6 (Lch), TP5 (Rch)
• 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 TP5, TP6 becomes 12mV.
Record and play back the 1kHz signals and adjust SFRs so that the output is 0dB ± 0.5dB.

15. REC/PB Frequency Response Adjustment (DECK2)

Settings : • Test tape : TTA-602
• Test point : TP6 (Lch), TP5 (Rch)
• Input signal : 1kHz / 10kHz (LINE IN)
• Adjustment location : SFR351 (Lch)
SFR352 (Rch)

Method : Apply a 1kHz signal and REC mode.
Then adjust OSC attenuator so that the output level at the TP5, TP6 becomes 12mV. Record and play back the 1kHz and 10kHz signals and adjust SFRs so that the output level of the 10kHz signals becomes 0dB ± 0.5dB with respect to that of the 1kHz signal.

PRACTICAL SERVICE FIGURE

<TUNER SECTION>

<FM SECTION>

IHF Sensitivity :	Less than 10dB
(THD 3%)	[at 87.5MHz]
	Less than 9dB
	[at 98.0 / 108.0MHz]
S/N 50dB Quieting sensitivity (L-R) :	
	Less than 35dB
	[at 98.0MHz]
Signal to noise ratio :	(MONO) More than 68dB
	(STEREO) More than 66dB
	[at 98.0MHz]
Distortion :	(MONO)Less than 1.2%
	(STEREO)Less than 2.0%
	[at 98.0MHz]
Auto stop level :	25dB ± 10dB
	[at 98.0MHz]
Stereo separation :	More than 30dB
	[at 98.0MHz]
Intermediate frequency :	10.7MHz

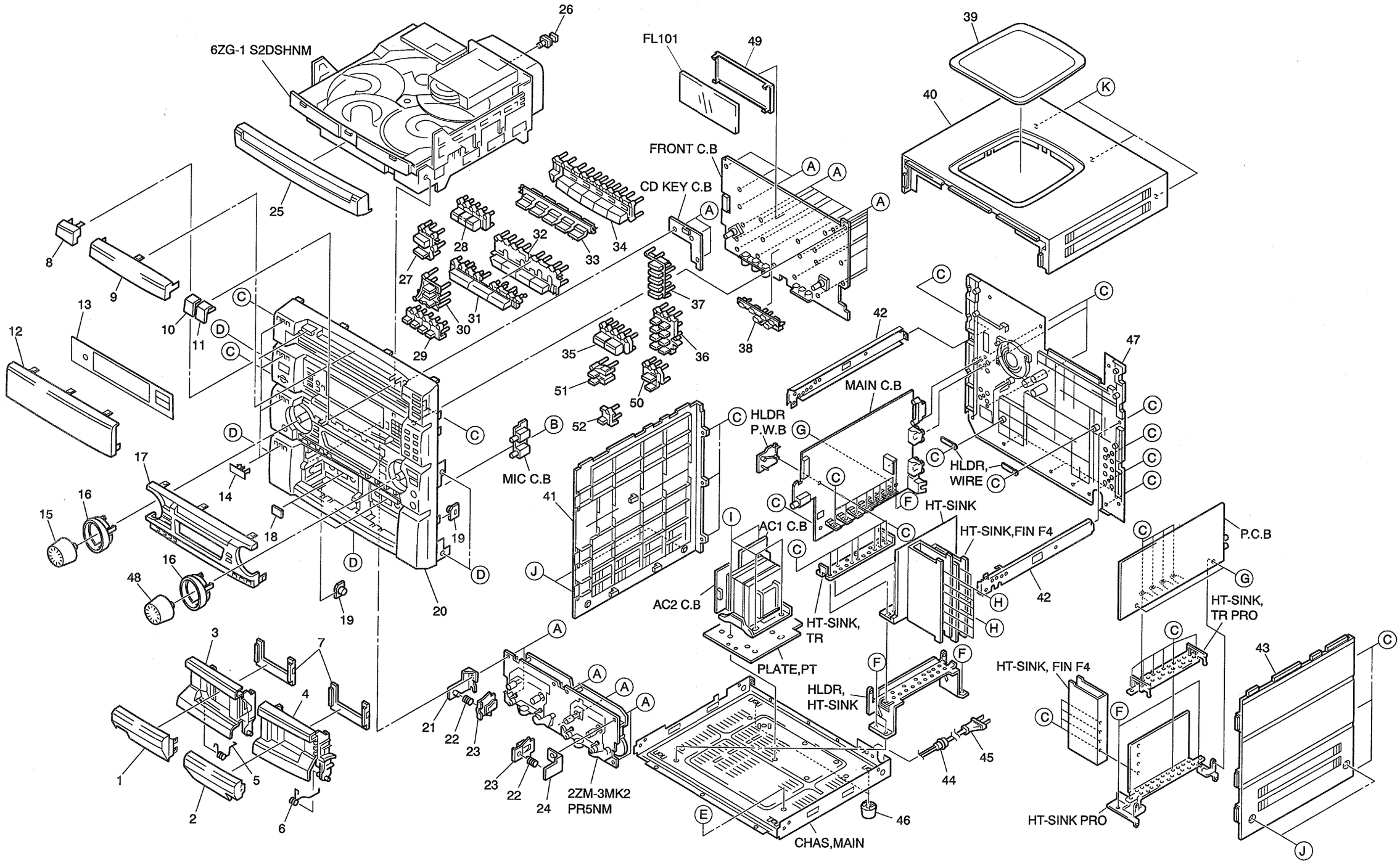
<AM SECTION>

Sensitivity :	Less than 60dB
(S/N 20 dB)	[at 600kHz]
	Less than 58dB
	[at 1000 / 1400kHz]
Signal to noise ratio :	More than 36dB
	[at1000kHz]
Distortion :	Less than 1.5%
	[at 1000kHz]
Auto stop level :	52dB + 10/-15dB
	[at 1000kHz]
Intermediate frequency :	450kHz

<DECK SECTION>

Tape speed :	3000Hz ± 45Hz
Wow & flutter :	Less than 0.21% (W.R.M.S)
Pinch roller pressure :	270 ~ 330g (FWD, REV)
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 :	2.8V ± 2dB
REC/PB Output level :	0dB ± 1dB (NORMAL)
Distortion (REC/PB) :	Less than 2.0% (NORMAL, CrO2)
Noise level (PB) :	Less than 20mV(NORMAL)
Noise level (REC/PB) :	Less than 20mV
	(DOLBY OFF, NORMAL)
Erasing ratio :	More than 60dB (at 125Hz, 10VU)
Test tape :	NORMAL : TTA-602
	CrO2 : TTA-615

MECHANICAL EXPLODED VIEW 1 / 1

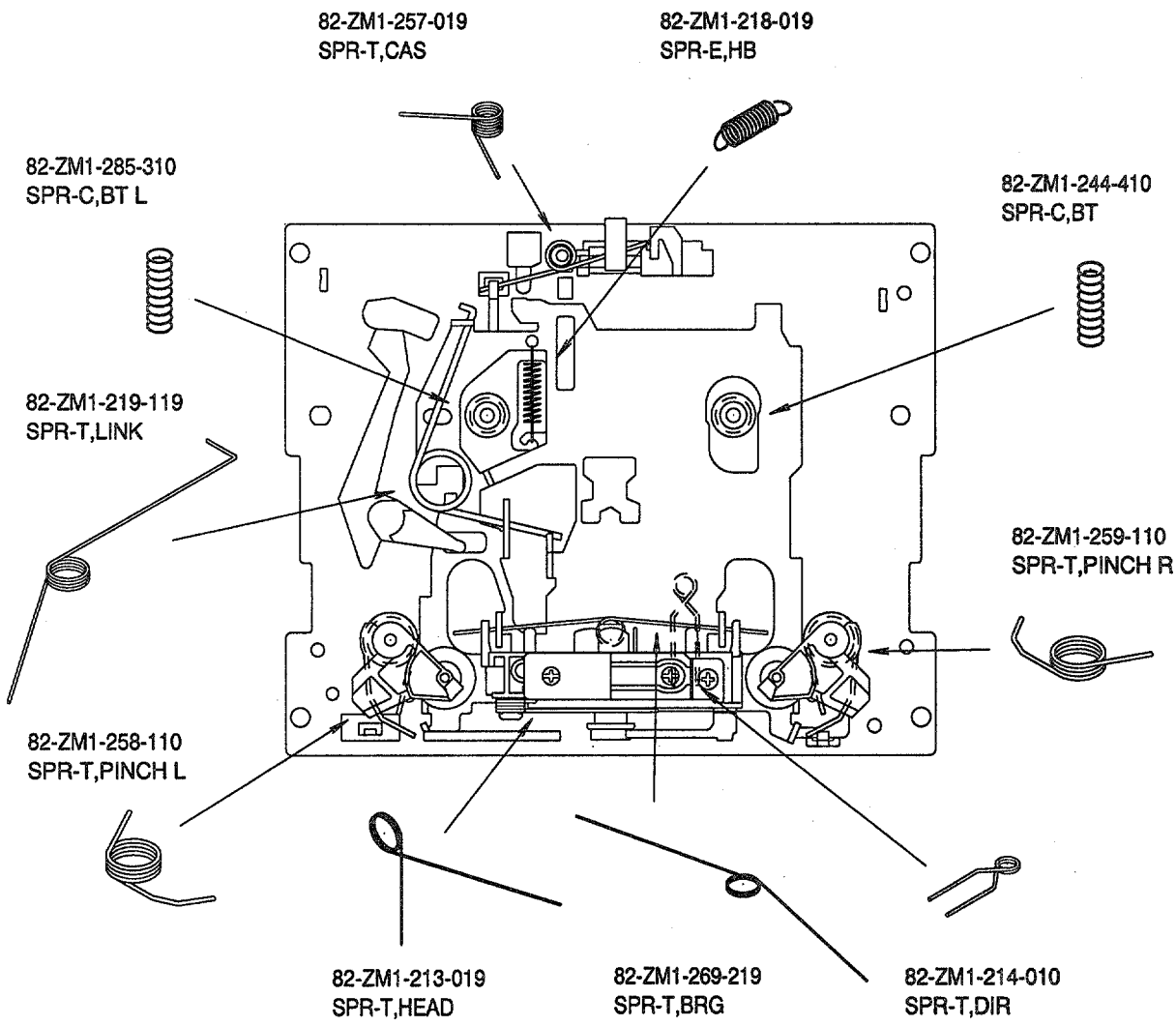


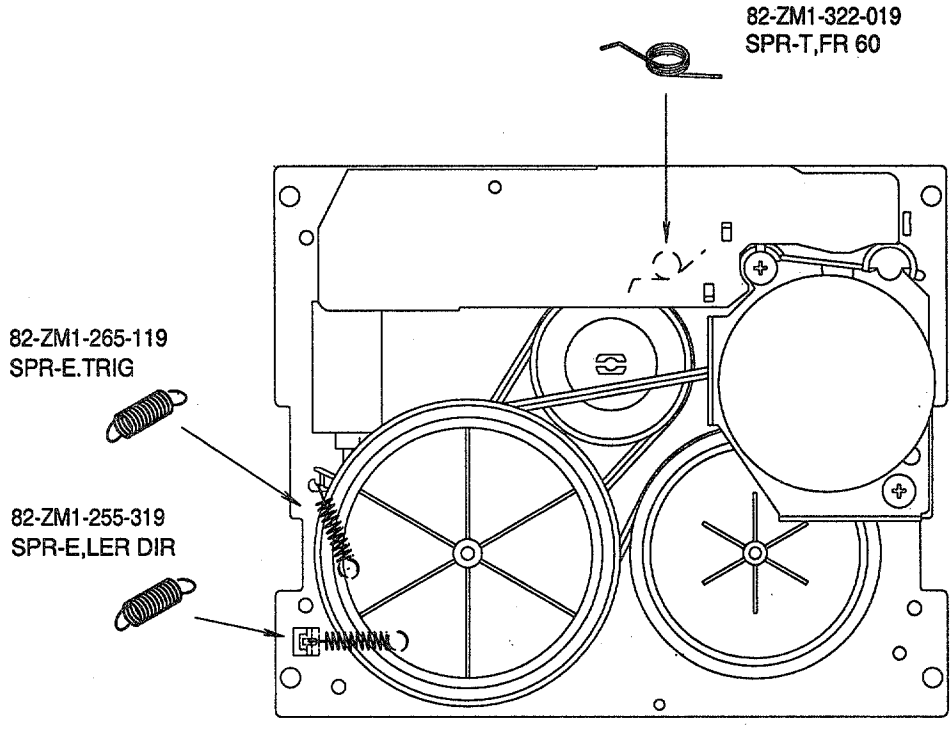
MECHANICAL PARTS LIST 1 / 1

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

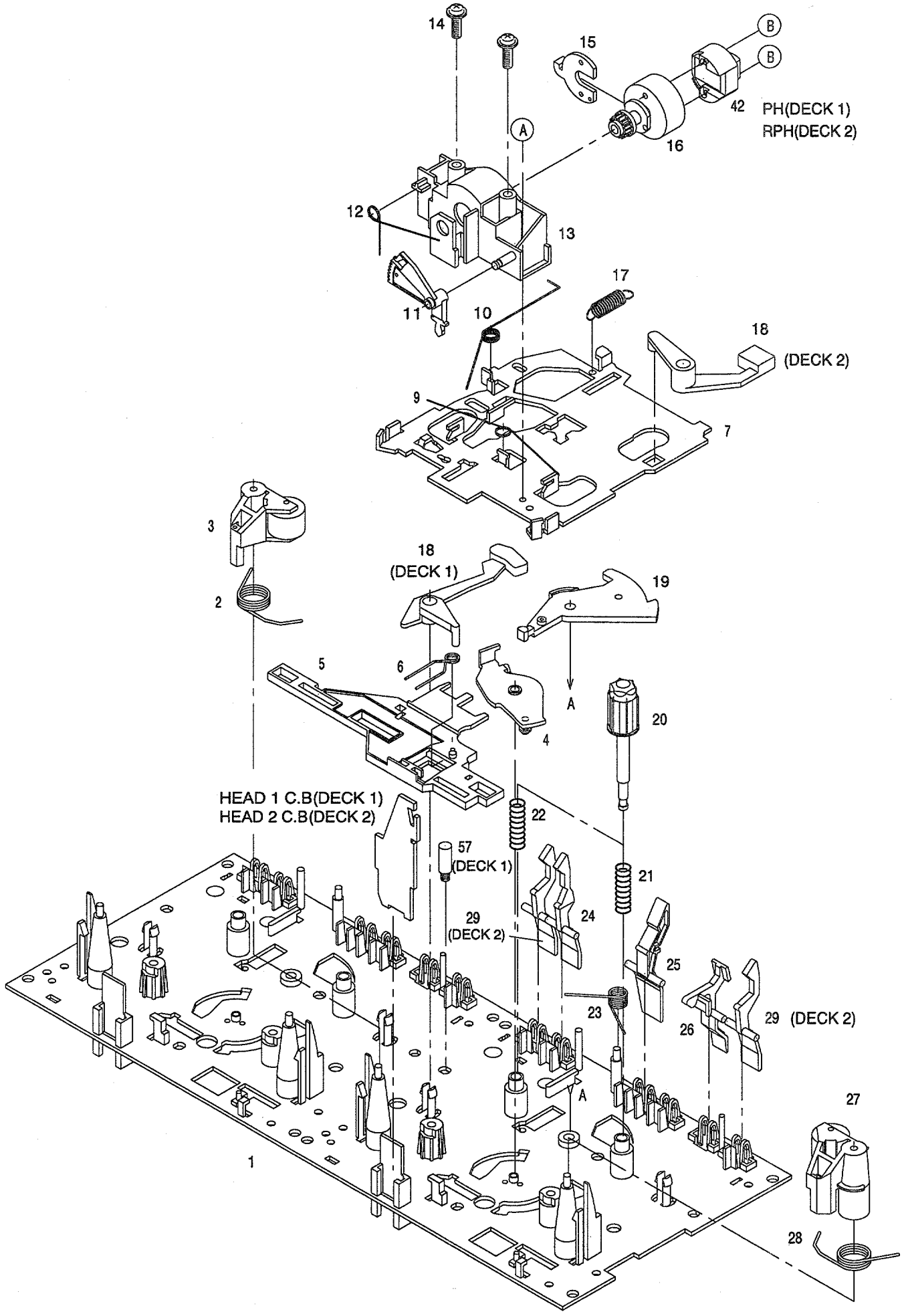
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	88-MA1-027-010		WINDOW,CASS L
2	88-MA1-028-010		WINDOW,CASS R
3	88-MA1-004-010		BOX,CASS L
4	88-MA1-005-010		BOX,CASS R
5	82-NF5-218-010		SPR-T,EJECT 1 (SIN)
6	82-NF5-219-010		SPR-T,EJECT 2 (SIN)
7	86-NF6-061-010		REFLECTOR,CASS
8	88-MA1-012-010		PANEL,CD
9	88-MA1-025-010		WINDOW,CD
10	88-MA1-011-010		KEY,CHANGE
11	88-MA1-010-010		KEY,OPEN
12	88-MAM-011-010		WINDOW,AMP PRO
13	88-MAM-013-010		PLATE,GEQ PRO
14	82-NE8-032-010		BADGE,AIWA 27.5
15	88-MA1-060-010		KNOB,RTRY RHYTHM
16	88-MA1-029-010		RING,VOL
17	88-MA1-032-010		PANEL,FR
18	81-532-080-010		LABEL, CASS. COMPT
19	87-NF8-220-010		DMPR,150
20	88-MAM-001-010		CABI,FR H
21	87-NF4-216-010		HLDR,LOCK 1
22	86-NF9-224-010		SPR-C,LOCK
23	82-NF5-229-010		PLATE,LOCK
24	87-NF4-217-010		HLDR,LOCK 2
25	88-MA1-013-010		PANEL,TRAY
26	84-ZG1-245-210		CAP,OPTICAL
27	88-MA1-015-010		KEY,POWER
28	88-MAM-009-010		KEY,BBE PRO
29	88-MA1-059-010		KEY,DEMO
30	88-MA1-019-010		KEY,JOG
31	88-MA1-039-010		KEY,ASSY PLAY
32	88-MA1-040-010		KEY,ASSY FF
33	88-MA1-045-010		REFLECTOR,FUN
34	88-MA1-018-010		KEY,FUN
35	88-MA1-017-010		KEY,PRGM
36	88-MA1-014-010		KEY,GEQ
37	88-MA1-009-010		KEY,DIRECT
38	88-MA1-201-010		GUIDE,PLAY
39	86-MA3-042-010		WINDOW,TOP
40	88-MA1-006-010		PANEL,TOP
41	88-MA1-007-010		PANEL,SIDE L
42	88-MA1-208-010		JOINT,CABI
43	88-MA1-008-010		PANEL,SIDE R
44	87-085-185-010		BUSHING, AC CORD (E)
⚠ 45	87-050-079-010		AC-CORD ASSY,E
46	87-MA3-062-010		FOOT, H17
47	88-MAM-006-010		CABI,REAR HE
48	88-MA1-030-010		KNOB,RTRY MAIN
49	88-MA1-205-010		GUIDE,FL
50	88-MA1-022-010		KEY,MIC
51	88-MA1-058-010		KEY,REV
52	88-MA1-024-010		KEY,VF
A	87-078-060-010		BVIT3PB+3-10
B	81-MK1-210-010		S-SCREW,VFT2+3-16
C	87-067-703-010		TAPPING SCREW, BVT2+3-10
D	87-591-095-410		TAPPING SCREW, QIT+3-8 (GLD)
E	87-067-688-010		BVTT+3-6
F	87-067-579-010		TAPPING SCREW, BVT2+3-8
G	87-NF4-224-010		S-SCREW,IT3B+3-8 CU
H	87-B10-090-010		BVIT3B+3-12
I	87-067-975-010		S-SCREW,IT+4-8
J	87-067-641-010		UTT2+3-8(W/O SLOT)BL
K	87-067-758-010		BVT2+3-12 W/O SLOT

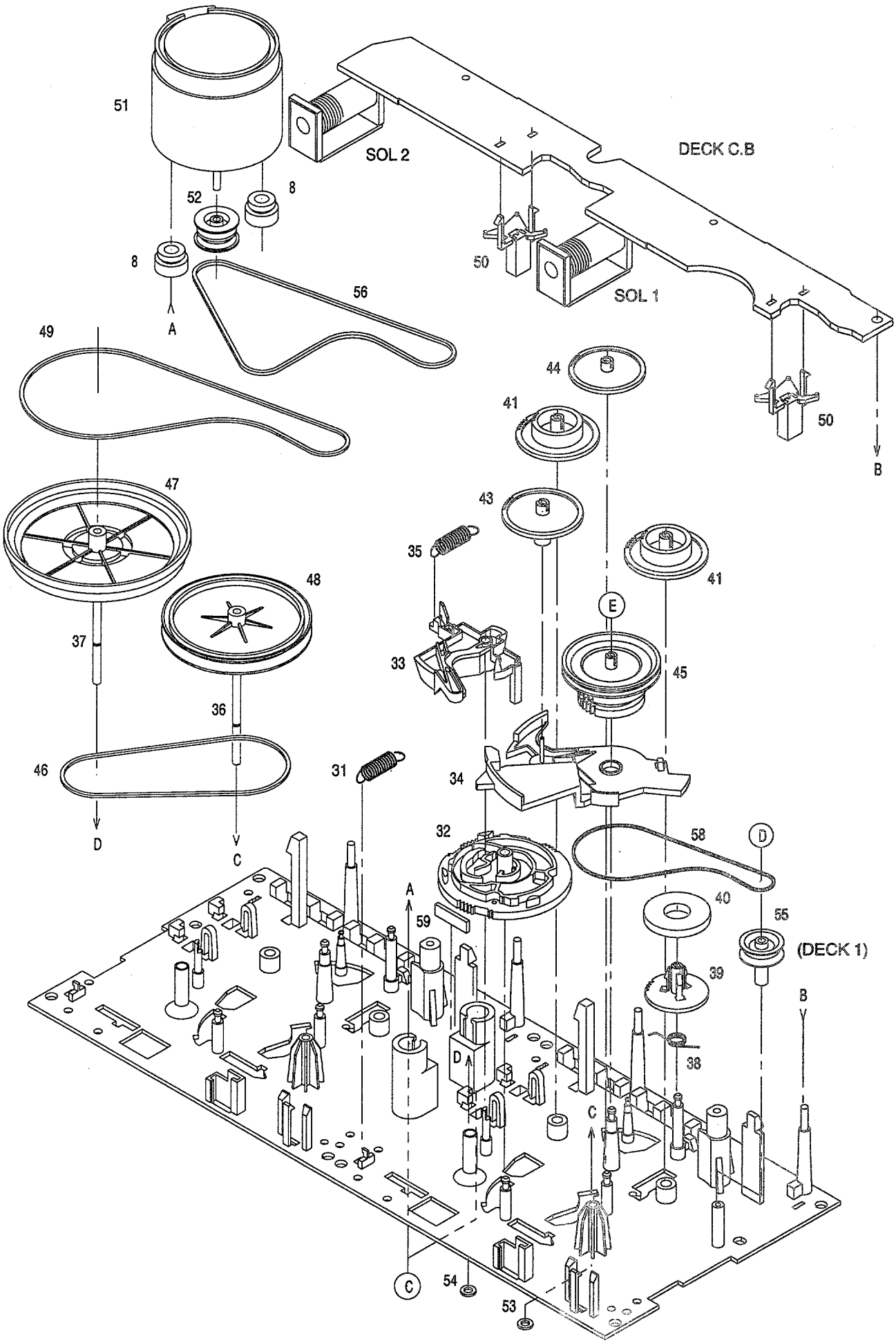
SPRING APPLICATION POSITION





TAPE MECHANISM EXPLODED VIEW 1 / 1




51
SOL 2
DECK C.B
52
8
8
50
SOL 1
56
A
49
44
41
50
B
47
43
35
41
48
E
37
33
45
36
46
31
34
D
C
32
58
D
A
40
55
59
(DECK 1)
39
B
38
D
C
C
54
53

TAPE MECHANISM PARTS LIST 1 / 1

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

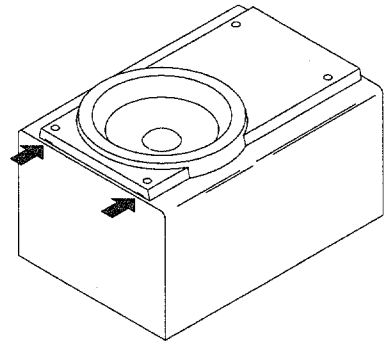
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	82-ZM3-301-519		CHAS ASSY,M2
2	82-ZM1-258-110		SPR-T,PINCH L
3	82-ZM1-341-110		LVR ASSY,PINCH L2
4	82-ZM1-333-010		PLATE,LINK 2
5	82-ZM1-266-11K		LVR,DIR
6	82-ZM1-214-010		SPR-T,DIR
7	82-ZM1-206-81K		CHAS,HEAD
8	82-ZM3-307-019		CUSH-G,DIA3.7-8-3.2
9	82-ZM1-269-219		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	86-ZM4-206-010		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-ZM1-344-110		LVR ASSY,PINCH R2
28	82-ZM1-259-110		SPR-T,PINCH R
29	82-ZM1-240-11K		LVR,REC (DECK 2)
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-A90-366-010		HEAD,PH YK50P-BF414 FPC
42	87-A90-367-010		HEAD,RPH YK56R-BF414 FPC
43	82-ZM1-225-21K		GEAR,FR
44	82-ZM1-226-019		GEAR,REW
45	82-ZM3-333-310		SLIP DISK ASSY 2
46	82-ZM1-338-010		BELT FR4
47	82-ZM1-349-110		FLY-WHL,R W(DECK 2)
47	82-ZM3-338-110		FLY-WHL,R3 W(DECK 1)
48	82-ZM1-348-010		FLY-WHL,L W(DECK 2)
48	82-ZM1-348-010		FLY-WHL,L W(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-ZM3-335-210		PULLEY,COUPLER M3(DECK 1)
56	82-ZM3-337-010		BELT,SBU MOT 2
57	82-ZM3-339-010		SHAFT,COUPLER N3(DECK 1)
58	86-ZM1-206-010		BELT,MAIN L
59	82-ZM3-340-010		SH,BELT D2
A	85-ZM3-202-010		S-SCREW,TG
B	80-ZM6-207-019		V+1.6-7
C	82-ZM3-318-019		S-SCRW MOTOR M2
D	87-B10-043-010		W-P,0.99-4-0.25 SLT
E	82-ZM3-334-010		PW,2.16-6-0.4

SPEAKER DISASSEMBLY INSTRUCTIONS

Type.1

矢印の位置にマイナスドライバーを差し込んで、パネルを外します。各々のスピーカーユニットのビスを取り、スピーカーユニットを外してください。

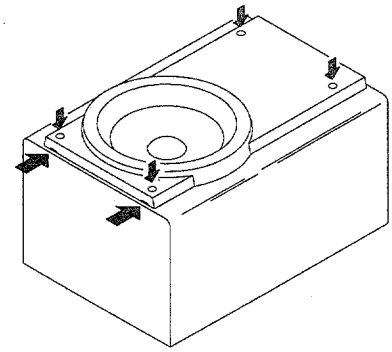
Insert a flat-bladed screwdriver into the position indicated by the arrows and remove the panel. Remove the screws of each speaker unit and then remove the speaker units.



Type.2

グリルフレームを外し、4個のゴムキャプをマイナスドライバーで端の方から持ち上げて外すと中にビスが有りますので、ビスを取り外します。矢印の位置にマイナスドライバーを差し込んで、パネルを外します。各々のスピーカーユニットのビスを取り、スピーカーユニットを外してください。

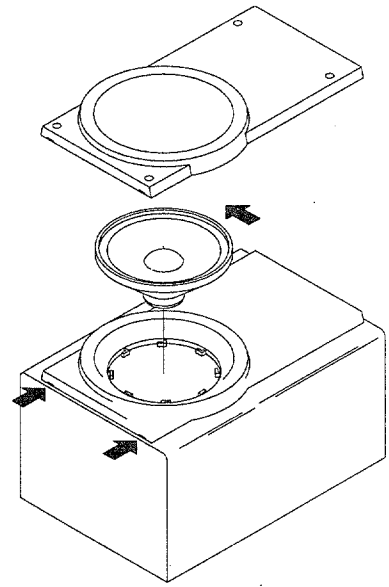
Remove the grill frame and four pieces of rubber caps by pulling out with a flat-bladed screwdriver Remove the screws from hole where installed rubber caps. Insert a flat-bladed screwdriver into the position indicated by the arrows and remove the panel. Remove the screws of each speaker unit and then remove the speaker units.



Type.3

矢印の位置にマイナスドライバーを差し込んで、パネルを外します。各々のスピーカーユニットの凹にマイナスドライバーを差し込んで、反時計方向に回転させスピーカーユニットを外してください。スピーカーユニット交換後は時計方向にクリック音がするまで、回転させて取り付けます。

Insert a flat-bladed screwdriver into the position indicated by the arrows and remove the panel. Turn the speaker unit to counter-clockwise direction while inserting a flat-bladed screwdriver into one of the hollows arround speaker unit, and then remove the speaker unit. After replacing the speaker unit, install it turning to clockwise direction until "click" sound comes out.



SPEAKER (SX-WZR99YLBNL) 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	88-MS1-001-010		PANEL,FR
2	88-MS1-002-010		PANEL,TW R
3	88-MS1-003-010		PANEL,TW L
4	88-MS1-004-010		PANEL,BA
5	88-MS1-005-010		PANEL,DUCT
6	88-MS1-006-010		PANEL,COVER
7	88-MS1-010-010		GRILLE,FRAME ASSY
8	88-MS1-603-010		SPKR, M 140
9	88-MS1-605-010		SPKR, T 60
10	88-MS1-608-010		SPKR, CERAMIC
11	88-MS1-610-010		CORD,SPKR
12	88-MS1-602-010		SPKR, W 240

SPEAKER (SX-CR676) 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	87-YS6-002-010		SPKR, CORD Y
2	87-YS6-601-010		SPKR, 100
3	87-YS7-001-010		PANEL,FR B
4	87-YS7-602-010		SPKR, 100
5	83-NSM-010-010		SPEAKER CORD
6	87-YS3-003-010		GRILL FRAME ASSY(C600)
7	87-YS1-004-010		GRILL,FRAME ASSY

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— —	
G— —	
G— —	

アイワ株式会社
AIWA CO.,LTD.
〒110-8710 東京都台東区池之端1-2-11 ☎03（3827）3111（代表）

9630466, 750038
Tokyo Japan
Printed in Singapore