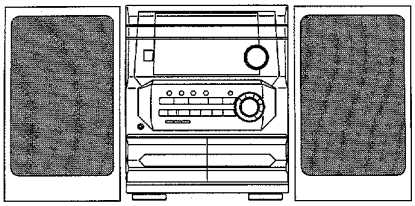
aiwa

aiwa SERVICE

NSX-AV240

SERVICE MANUAL



COMPACT DISC STEREO
CASSETTE RECEIVER

- BASIC TAPE MECHANISM: 6ZM–3 PR1NM
- BASIC CD MECHANISM: 4ZG–1 Z3RDLSHM
- TYPE: EZ,LH

REVISION PUBLISHING

TYPE	CD CASSEIVER	SPEAKER	REMOTE CONTROLLER
EZ	CX – NAV240	SX – NAV224 SX – CR677	RC – ZAS10
LH	CX – NAV240	SX – NS332 SX – CR677	

- This Service Manual is the "Revision Publishing" and replaces "Simple Manual" NSX-AV240 (EZ, LH) (S/M Code No. 09-994-402-9T2).
- If requiring information about the CD mechanism, see Service Manual of 4ZG-1, S/M Code No. 09-983-249-3S2.

S/M Code No. 09–994–402–9R2

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SPECIFICATIONS

<FM Tuner section>

Tuning range	87.5 MHz to 108 MHz
Usable sensitivity(IHF)	LH : 13.2 dBf EZ : 16.8DBf
Antenna terminals	75 ohms (unbalanced)

<AM/MW Tuner section>

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

<LW Tuner section>

	EZ :
Tuning range	144 kHz to 290 kHz
Usable sensitivity	1400 uV/m
Antenna	Loop antenna

<Amplifier section>

Power output <EZ>	**Front** Rated: 20 W + 20 W (6 ohms, T.H.D. 1 %, 1kHz/DIN 45500) Reference: 25 W + 25 W (6 ohms T.H.D. 10%, 1kHz/DIN 45324) DIN MUSIC POWER: 50 W + 50 W **Rear (Surround)** Rated: 10 W + 10 W (8 ohms, T.H.D. 1 %, 1kHz/DIN 45500) Reference: 12.5 W + 12.5 W (8 ohms T.H.D. 10%, 1kHz/DIN 45324) DIN MUSIC POWER: 22.5W + 22.5W **Center** Rated: 20 W (8 ohms, T.H.D. 1 %, 1kHz/DIN 45500) Reference: 25 W (8 ohms, T.H.D. 10 %, 1kHz/DIN 45324) DIN MUSIC POWER: 45 W
Power output <LH>	**Front** Rated: 20 W + 20 W (6 ohms, T.H.D. 1 %, 1kHz) Reference: 25 W + 25 W (6 ohms T.H.D. 10%, 1kHz/) **Rear (Surround)** Rated: 10 W + 10 W (8 ohms, T.H.D. 1 %, 1kHz) Reference: 12.5 W + 12.5 W (8 ohms, T.H.D. 10%, 1kHz) **Center** Rated: 20 W (8 ohms, T.H.D. 1 %, 1kHz) Reference: 25 W (8 ohms, T.H.D. 10 %, 1kHz)
Total harmonic distortion	EZ: 0.05 % (10 W, 1 kHz, 6 ohms, DIN AUDIO) LH: 0.05 % (10 W, 1 kHz, 6 ohms, DIN AUDIO/Front)
Inputs	VIDEO/AUX : 300 mV (adjustable)
Outputs	SPEAKERS : accept speakers of 6 ohms or more SURROUND SPEAKERS : accept speakers of 8 ohms to 16 ohms CENTER SPEAKER : accepts speaker of 8 ohms or more SUBWOOFER : EZ: 1.1 V, LH: 1.2 V PHONES (stereo jack) : accepts headphones of 32 ohms or more

<Cassette deck section>

Track format	4 tracks, 2 channels stereo
Frequency response	50 Hz – 15000 Hz
Recording system	AC bias
Heads	Deck 1 : Playback head x 1 Deck 2 : Recording/playback head x 1, erase head x 1

<Compact disc player section>

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

<Speaker system SX–NAV224 > (EZ)

Cabinet type	2 way, bass reflex (magnetic shielded type)
Speakers	Woofer : 140 mm cone type Tweeter : 60 mm ceramic type
Impedance	6 ohms
Output sound pressure level	87 dB/W/m
Dimensions (W x H x D)	240 x 324 x 253 mm
Weight	3.8 kg

<Speaker system SX–NS332 > (LH)

Cabinet type	2 way, bass reflex (magnetic shielded type)
Speakers	Woofer : 120 mm cone type Tweeter : 20 mm ceramic type
Impedance	6 ohms
Output sound pressure level	87 dB/W/m
Dimensions (W x H x D)	234 x 324 x 270 mm
Weight	2.5 kg

<General>

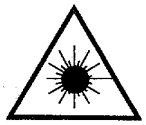
Power requirements	EZ: 230 V AC. 50 Hz LH: 120 V / 220 – 230 V / 240 V AC switchable, 50 / 60 Hz
Power consumption	120 W
Dimensions of main unit (W x H x D)	260 x 330 x 350 mm
Weight of main unit	8.0 kg
Standby power consumption	If the power-economizing mode is OFF: 22 W<EZ>, 19 W<LH> If the power-economizing mode is ON: 2.1 W<EZ>, 2.4 W<LH>

- Design and specifications are subject to change without notice.
- Manufactured under license from Dolby Laboratories Licensing Corporation. "DOLBY" and the double-D symbol ◻◻ and "PRO LOGIC" are trademarks of Dolby Laboratories Licensing Corporation.

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.

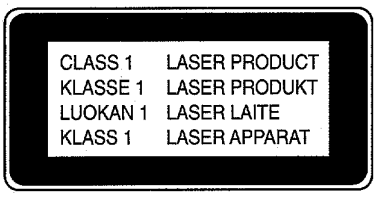
VARNING!
Om apparaten används på annat sätt än vad som specificeras i denna bruksanvising, kan användaren utsättas för osynling laserstrålning, som överskrider gränsen för laserklass 1.

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.



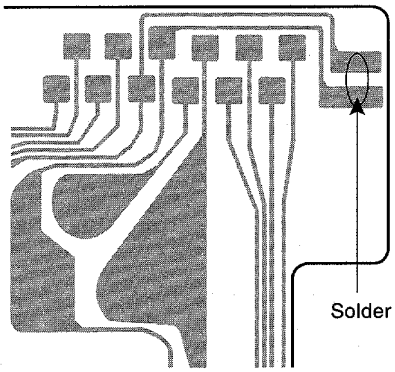
Precaution to replace Optical block

(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, 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 to 1 V or less using a multimeter or an oscilloscope.

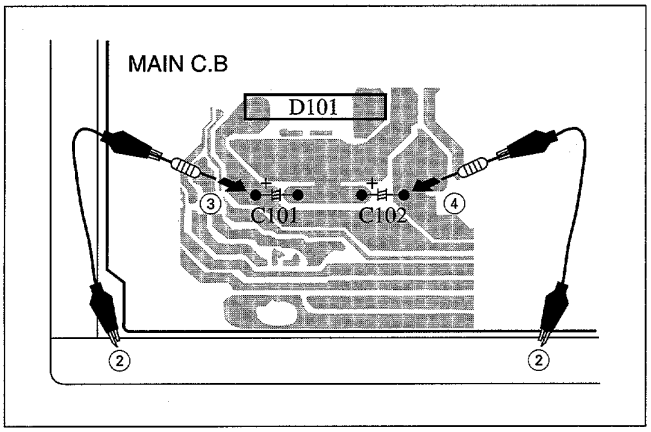


Fig-1

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.

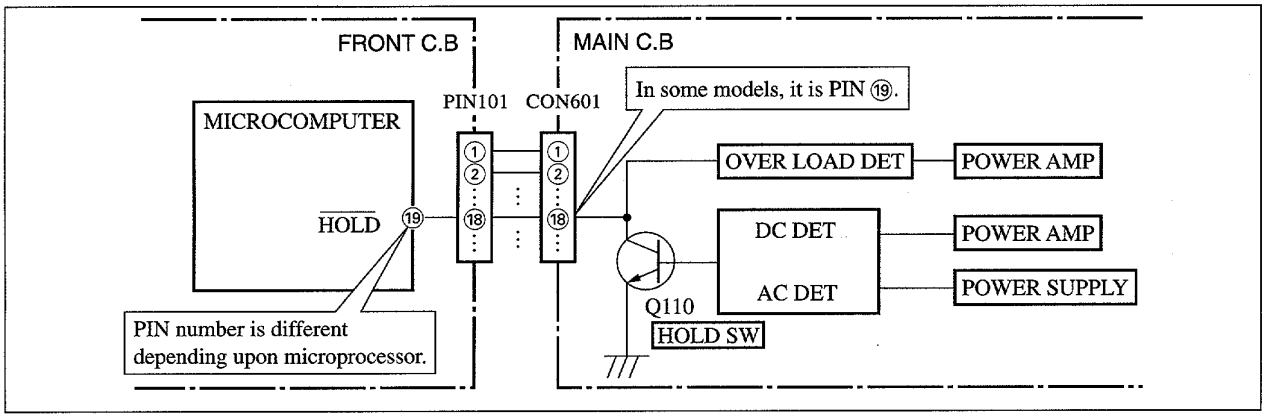


Fig-2-1

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 lead 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.

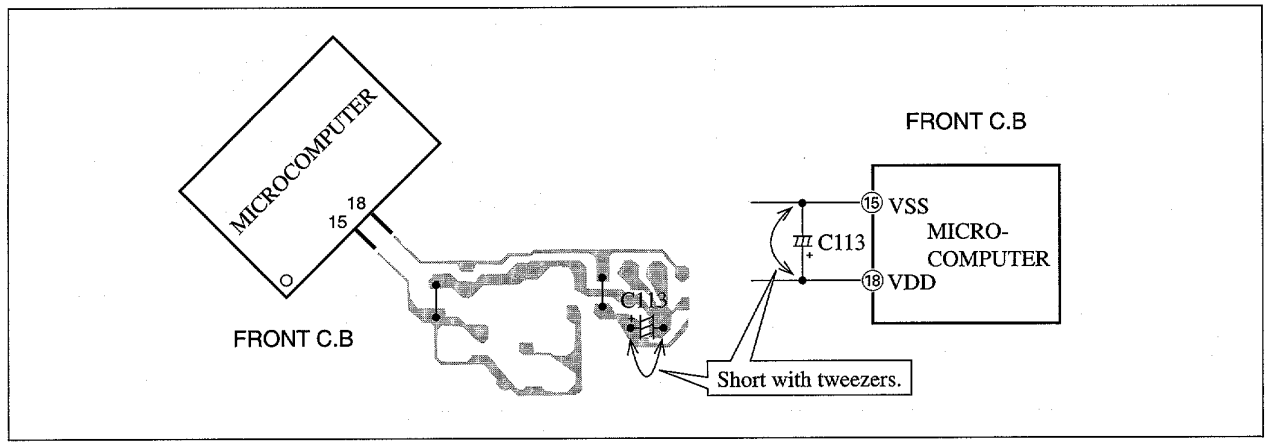


Fig-2-2

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
	87-A20-913-010		IC,LA1837NL
	87-070-127-110		IC,LC72131D
	87-A21-218-010		IC,NJL64H380A
	87-A20-783-040		C-IC,BA7762AFS
	87-A20-440-040		C-IC,BU1920FS
	8Z-NFW-630-010		C-IC,M38B59MFH-E106FP
	87-A21-202-040		C-IC,M62445AFP
	87-A21-097-040		C-IC,M62463AFP
TRANSISTOR			
	87-A30-200-080		TR,2SA1585SR
	87-A30-255-010		TR,2SB1342
	87-A30-214-010		TR,2SB1344
	89-213-702-010		TR,2SB1370 (1.8W)
	89-327-143-080		TR,2SC2714 (0.1W)
	87-A30-196-080		TR,2SC4115SRS
	87-A30-256-010		TR,2SD1933
	87-A30-215-010		TR,2SD2025
	87-A30-190-080		TR,CC5551
	87-A30-318-010		TR,CSA952K
	87-A30-234-080		TR,CSC4115BC
	87-026-245-080		TR,DTC114ES
	87-026-215-080		TR,DTC114YS
	87-026-287-080		TR,DTC143ES
	87-026-609-080		TR,KTA1266GR
	87-A30-241-080		TR,KTA1272Y
	87-026-610-080		TR,KTC3198GR
	87-A30-075-080		C-TR,2SA1235F
	87-A30-076-080		C-TR,2SC3052F
	87-A30-119-040		C-TR,2SC3906K R
	87-A30-257-080		C-TR,2SD1306E
	87-A30-106-070		C-TR,CMBT5551
	87-A30-086-070		C-TR,CSD1306E
	87-A30-142-040		C-TR,DTA123EKA
	87-A30-074-080		C-TR,RT1P 141C
	87-A30-072-080		C-TR,RT1P 144C
	87-A30-105-080		C-TR,RT1P 441C
	87-A30-087-080		C-FET,2SK2158
	89-505-434-540		C-FET,2SK543(4/5)
	87-A30-090-080		FET,2SK2541
DIODE			
	87-A40-269-080		C-DIODE,MC2836
	87-A40-270-080		C-DIODE,MC2838
	87-020-465-080		DIODE,1SS133 (110MA)
	87-070-274-080		DIODE,1N4003 SEM
	87-A40-224-010		DIODE,GBU8DL
	87-A40-345-080		ZENER,MTZJ10C
	87-A40-336-080		ZENER,MTZJ27D T-72
	87-A40-438-080		ZENER,MTZJ4.7A
	87-070-136-080		ZENER,MTZJ5.1B
	87-A40-002-080		ZENER,MTZJ5.1C
	87-A40-234-080		ZENER,MTZJ5.6A
	87-A40-509-080		ZENER,MTZJ6.8C
	87-A40-442-080		ZENER,MTZJ9.1A
	87-017-149-080		ZENER,HZS6A2L
MAIN C.B			
C1	87-012-369-080		C-CAP,S 0.047-50 ZF<EZ>
C2	87-012-369-080		C-CAP,S 0.047-50 ZF<EZ>
C3	87-012-368-080		C-CAP,S 0.1-50 F
C4	87-012-368-080		C-CAP,S 0.1-50 F
C5	87-012-368-080		C-CAP,S 0.1-50 F
C6	87-012-368-080		C-CAP,S 0.1-50 F
C9	87-016-658-090		CAP,E 4700-35 M SMG
C10	87-016-658-090		CAP,E 4700-35 M SMG
C21	87-010-383-080		CAP, ELECT 33-25V M
C22	87-010-383-080		CAP, ELECT 33-25V M
C23	87-010-383-080		CAP, ELECT 33-25V M
C24	87-010-383-080		CAP, ELECT 33-25V M
C25	87-010-430-080		CAP, ELECT 100-63
C26	87-010-263-080		CAP, ELECT 100-10V
C27	87-010-197-080		C-CAP,S 0.01-25 KB
C29	87-010-247-080		CAP, ELECT 100-50V
C30	87-010-112-080		CAP, ELECT 100-16V
C31	87-010-235-080		CAP,E 470-16 SME
C61	87-010-260-080		CAP, ELECT 47-25V
C62	87-010-403-080		CAP, ELECT 3.3-50V
C101	87-010-181-080		C-CAP,S 1800P-50<EZ>
C101	87-010-180-080		C-CAP,S 1500P-50<LH>
C102	87-010-181-080		C-CAP,S 1800P-50<EZ>
C102	87-010-180-080		C-CAP,S 1500P-50<LH>
C103	87-010-401-080		CAP, ELECT 1-50V M
C104	87-010-401-080		CAP, ELECT 1-50V M
C105	87-010-186-080		CAP,CHIP 4700P-50
C106	87-010-186-080		CAP,CHIP 4700P-50
C107	87-010-404-080		CAP, ELECT 4.7-50V M
C108	87-010-404-080		CAP, ELECT 4.7-50V M
C109	87-010-322-080		C-CAP,S 100P-50J CH<EZ>
C110	87-010-322-080		C-CAP,S 100P-50J CH<EZ>
C111	87-010-260-080		CAP, ELECT 47-25V
C112	87-010-260-080		CAP, ELECT 47-25V
C113	87-A10-946-080		C-CAP,S 220P-100 J CH
C114	87-A10-946-080		C-CAP,S 220P-100 J CH
C117	87-A11-236-080		C-CAP,0.22-50 Z F
C118	87-A11-236-080		C-CAP,0.22-50 Z F
C121	87-010-178-080		CHIP CAP 1000P-50 K B
C122	87-010-178-080		CHIP CAP 1000P
C123	87-010-176-080		C-CAP,S 680P-50 J<EZ>
C124	87-010-176-080		C-CAP,S 680P-50 J<EZ>
C125	87-012-368-080		C-CAP,S 0.1-50 F
C126	87-012-368-080		C-CAP,S 0.1-50 F
C127	87-012-368-080		C-CAP,S 0.1-50 F
C128	87-012-368-080		C-CAP,S 0.1-50 F
C129	87-010-191-080		C-CAP,S 0.015-50 Z F<EZ>
C130	87-010-191-080		C-CAP,S 0.015-50 Z F<EZ>
C131	87-010-197-080		C-CAP,S 0.01-25 K B<EZ>
C132	87-010-197-080		C-CAP,S 0.01-25 K B<EZ>
C133	87-010-197-080		C-CAP,S 0.01-25 K B
C135	87-010-246-080		CAP, ELECT 47-35 M
C136	87-012-368-080		C-CAP,S 0.1-50 F<EZ>
C201	87-010-401-080		CAP, ELECT 1-50V
C202	87-010-401-080		CAP, ELECT 1-50V
C203	87-010-182-080		C-CAP,S 2200P-50 K B
C204	87-010-183-080		C-CAP,S 2700P-50 K B
C209	87-010-246-080		CAP, ELECT 47-35 M SME
C210	87-010-258-080		CAP, ELECT 22-35 M SME
C213	87-010-258-080		CAP, ELECT 22-35 M
C214	87-010-391-080		CAP, ELECT 10-35 M
C215	87-010-322-080		C-CAP,S 100P-50J CH<EZ>
C216	87-010-322-080		C-CAP,S 100P-50J CH<EZ>
C217	87-010-260-080		CAP, ELECT 47-25V
C218	87-010-384-080		CAP, ELECT 100-25 M
C219	87-A10-596-080		C-CAP,S 100P-100 J CH
C220	87-A10-596-080		C-CAP,S 100P-100 J CH
C225	87-A10-712-080		C-CAP,S 0.22-50 Z F
C226	87-A10-712-080		C-CAP,S 0.22-50 Z F
C227	87-010-186-080		CAP,CHIP 4700P
C228	87-010-186-080		CAP,CHIP 4700P
C229	87-010-993-080		C-CAP,S 0.056-25 B
C231	87-010-196-080		C-CAP,S 0.1-25
C233	87-010-190-080		C-CAP,S 0.01-50 Z F<EZ>
C234	87-010-190-080		C-CAP,S 0.01-50 Z F<EZ>
C237	87-010-190-080		C-CAP,S 0.01-50 Z F<EZ>
C238	87-010-322-080		C-CAP,S 100P-50J CH<EZ>

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C239	87-010-196-080		C-CAP,S 0.1-25<EZ>
C240	87-015-690-080		CAP, ELECT 22-35 M
C254	87-012-368-080		C-CAP,S 0.1-50 F
C256	87-012-368-080		C-CAP,S 0.1-50 F
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		CAP, CHIP S 270P CH
C306	87-012-145-080		CAP, CHIP S 270P CH
C307	87-010-196-080		CHIP CAPACITOR,0.1-25
C309	87-010-196-080		CHIP CAPACITOR,0.1-25
C310	87-010-196-080		CHIP CAPACITOR,0.1-25
C311	87-010-198-080		CAP, CHIP 0.022
C312	87-010-198-080		CAP, CHIP 0.022
C313	87-010-180-080		CAP,CHIP S 1500-50 K B
C314	87-010-180-080		CAP,CHIP S 1500-50 K B
C315	87-010-182-080		CAP,CHIP 2200-50 K B
C316	87-010-182-080		CAP,CHIP 2200-50 K B
C321	87-016-492-080		C-CAP,S 0.33-16 FZ
C322	87-016-492-080		C-CAP,S 0.33-16 FZ
C324	87-010-260-080		CAP, ELECT 47-25V
C325	87-010-370-080		CAP,E 330-6.3 SME
C327	87-010-404-080		CAP, ELECT 4.7-50V
C328	87-010-404-080		CAP, ELECT 4.7-50V
C332	87-010-196-080		CHIP CAPACITOR,0.1-25
C335	87-010-401-080		CAP, ELECT 1-50V
C336	87-010-401-080		CAP, ELECT 1-50V
C337	87-010-196-080		CHIP CAPACITOR,0.1-25
C339	87-010-196-080		CHIP CAPACITOR,0.1-25
C340	87-010-196-080		CHIP CAPACITOR,0.1-25
C351	87-012-140-080		CAP 470P
C352	87-012-140-080		CAP 470P
C354	87-010-175-080		CAP 560P
C355	87-012-349-080		C-CAP,S 1000P-50 CH
C356	87-010-260-080		CAP, ELECT 47-25V
C357	87-010-197-080		CAP, CHIP 0.01 DM
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
C363	87-A10-292-080		CAP,M 5600P-50 J
C370	87-010-196-080		CHIP CAPACITOR,0.1-25
C373	87-016-083-080		C-CAP,S 0.15-16 RK
C374	87-016-083-080		C-CAP,S 0.15-16 RK
C378	87-010-196-080		CHIP CAPACITOR,0.1-25
C379	87-010-406-080		CAP, ELECT 22-25 M
C380	87-010-406-080		CAP, ELECT 22-25 M
C386	87-010-196-080		CHIP CAPACITOR,0.1-25
C388	87-010-170-080		C-CAP,S 220P-50 J
C391	87-010-319-080		C-CAP,S 56P-50 J<LH>
C392	87-010-319-080		C-CAP,S 56P-50 J<LH>
C393	87-010-319-080		C-CAP,S 56P-50 J<LH>
C394	87-010-319-080		C-CAP,S 56P-50 J<LH>
C451	87-010-400-080		CAP, ELECT 0.47-50 M
C452	87-010-400-080		CAP, ELECT 0.47-50 M
C467	87-016-314-080		C-CAP,S 1-16 Z F
C601	87-010-180-080		C-CAP,S 1500P-50 B
C602	87-010-180-080		C-CAP,S 1500P-50 B
C611	87-010-197-080		CAP, CHIP 0.01 DM
C612	87-010-322-080		C-CAP,S 100P-50 J CH
C613	87-016-081-080		C-CAP,S 0.1-16 RK
C614	87-016-081-080		C-CAP,S 0.1-16 RK
C615	88-710-969-810		CAP,M 0.12-50 J
C616	88-710-969-810		CAP,M 0.12-50 J
C617	88-710-869-810		CAP,M 0.068-50 J
C618	88-710-869-810		CAP,M 0.068-50 J
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, ELECT 1-50V
C622	87-010-401-080		CAP, ELECT 1-50V
C623	87-A10-307-080		CAP,M 0.1-50 J
C624	87-A10-307-080		CAP,M 0.1-50 J
C628	87-010-322-080		C-CAP,S 100P-50 J CH
C629	87-010-405-080		CAP, ELECT 10-50V
C632	87-010-263-080		CAP, ELECT 100-10V
C633	87-010-263-080		CAP, ELECT 100-10V
C634	87-010-196-080		CHIP CAPACITOR,0.1-25
C635	87-010-196-080		CHIP CAPACITOR,0.1-25
C640	87-010-314-080		C-CAP,S 22P-50V
C641	87-010-196-080		CHIP CAPACITOR,0.1-25
C677	87-010-196-080		CHIP CAPACITOR,0.1-25
C678	87-010-196-080		CHIP CAPACITOR,0.1-25
C801	87-010-176-080		C-CAP,S 680P-50 J SL
C802	87-010-176-080		C-CAP,S 680P-50 J SL
C803	87-010-958-080		C-CAP,S 0.01-25 J B
C804	87-010-958-080		C-CAP,S 0.01-25 J B
C805	87-010-958-080		C-CAP,S 0.01-25 J B
C806	87-010-958-080		C-CAP,S 0.01-25 J B
C807	87-010-401-080		CAP, ELECT 1-50V
C808	87-010-401-080		CAP, ELECT 1-50V
C809	87-010-196-080		C-CAP,S 0.1-25 Z F
C810	87-010-112-080		CAP, ELECT 100-16 M
C811	87-010-493-080		CAP, ELECT 0.47-50 M
C812	87-010-493-080		CAP, ELECT 0.47-50 M
C813	87-010-400-080		CAP, ELECT 0.47-50V
C814	87-010-494-080		CAP, ELECT 1-50 M SL
C817	87-010-221-080		CAP, ELECT 470-10V
C818	87-A10-891-080		CAP, ELECT 4.7-25
C819	87-A10-800-080		C-CAP,S 6800P-16
C820	87-010-374-080		CAP, ELECT 47-10 M
C821	87-010-196-080		C-CAP,S 0.1-25 Z F
C822	87-A10-804-080		C-CAP,S 0.1-25 J B
C824	87-010-374-080		CAP, ELECT 47-10 M
C825	87-010-196-080		C-CAP,S 0.1-25 Z F
C830	87-012-142-080		C-CAP,S 0.33-16 Z F
C831	87-010-971-080		C-CAP,S 4700P-50 J B
C832	87-012-349-080		C-CAP,S 1000P-50 J CH
C833	87-A11-183-080		C-CAP,S 0.12-16 J B
C834	87-A11-182-080		C-CAP,S 0.27-16 J B
C835	87-A11-182-080		C-CAP,S 0.27-16 J B
C836	87-A11-183-080		C-CAP,S 0.12-16 J B
C837	87-010-971-080		C-CAP,S 4700P-50 J B
C838	87-012-349-080		C-CAP,S 1000P-50 J CH
C839	87-010-805-080		C-CAP,S 1-16 Z F
C840	87-010-401-080		CAP, ELECT 1-50V
C841	87-A10-799-080		C-CAP,S 5600P-16 J B
C842	87-A10-802-080		C-CAP,S 0.047-16 J B
C843	87-A10-229-080		C-CAP,S 0.68-10 K W5R
C844	87-012-393-080		C-CAP,S 0.22-16 K W5R
C845	87-012-393-080		C-CAP,S 0.22-16 K W5R
C846	87-010-404-080		CAP, ELECT 4.7-50V
C847	87-010-404-080		CAP, ELECT 4.7-50V
C848	87-012-393-080		C-CAP,S 0.22-16 K
C849	87-012-393-080		C-CAP,S 0.22-16 K
C850	87-016-081-080		C-CAP,S 0.1-16 K R
C851	87-A10-802-080		C-CAP,S 0.047-16 J B
C852	87-A10-802-080		C-CAP,S 0.047-16 J B
C853	87-016-081-080		C-CAP,S 0.1-16 K R
C854	87-016-081-080		C-CAP,S 0.1-16 K R
C855	87-A10-801-080		C-CAP,S 0.022-16 J B
C856	87-A10-801-080		C-CAP,S 0.022-16 J B
C857	87-016-081-080		C-CAP,S 0.1-16 K R
C898	87-010-993-080		C-CAP,S 0.056-25 K B
C899	87-012-368-080		C-CAP,S 0.1-50 Z F
C900	87-012-368-080		C-CAP,S 0.1-50 F
CN301	87-099-827-010		CONN,3P S2M-3W
CN351	87-099-832-010		CONN,8P S2M-8W
CN601	88-NF9-657-010		CONN,30P H BLK TYK-B(X)
CN602	87-A60-131-010		CONN,6P V FE
CN604	87-099-570-010		CONN,13P TUC-P13P-B1<LH>

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
CN605	87-A60-189-010		CONN,16P V TUC-P16P-B1<EZ>
CNA1	8Z-NF8-670-010		CONN ASSY,7P 480 VH
FB016	87-008-372-080		FLTR,EMI BLO1 RN1
FB301	87-008-372-080		FLTR,EMI BLO1 RN1<EZ>
FB807	87-008-372-080		FLTR,EMI BLO1 RN1
FC602	88-906-251-110		FF-CABLE, 6P 1.25
J201	87-A60-483-010		JACK,DIA6.3 BLK ST W/S
J203	87-A60-238-010		TERMINAL,SP 4P(MSC)
J204	87-A60-752-010		JACK,PIN 4P R/W, O/B
J604	87-A60-881-010		JACK,PIN 2P MSP 242V05 PBSN
L101	87-003-383-010		COIL,1UH-S
L102	87-003-383-010		COIL,1UH-S
L201	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
L801	87-003-383-010		COIL,1UH-S
R129	87-A00-258-080		RES,M/F 0.22-1W J
R130	87-A00-258-080		RES,M/F 0.22-1W J
R131	87-A00-258-080		RES,M/F 0.22-1W J
R132	87-A00-258-080		RES,M/F 0.22-1W J
R143	87-A00-440-050		RES,220-1/2W J RP
R144	87-A00-440-050		RES,220-1/2W J RP
R145	87-A00-440-050		RES,220-1/2W J RP
R146	87-A00-440-050		RES,220-1/2W J RP
R165	87-A00-258-080		RES,M/F 0.22-1W J
R166	87-A00-258-080		RES,M/F 0.22-1W J
R231	87-A00-258-080		RES,M/F 0.22-1W J
R232	87-A00-258-080		RES,M/F 0.22-1W J
R233	87-A00-258-080		RES,M/F 0.22-1W J
R234	87-A00-258-080		RES,M/F 0.22-1W J
R265	87-A00-258-080		RES,M/F 0.22-1W J
R266	87-A00-258-080		RES,M/F 0.22-1W J
SFR351	87-A90-433-080		SFR,50K H NVZ6TLTA
SFR352	87-A90-433-080		SFR,50K H NVZ6TLTA
TH101	87-A91-042-080		C-THMS,100K 55001
TH102	87-A91-042-080		C-THMS,100K 55001
TH201	87-A91-042-080		C-THMS,100K 55001
TH202	87-A91-042-080		C-THMS,100K 55001
WH001	87-A90-510-010		HLDR,WIRE 2.5-9P
FRONT C.B			
C101	87-A11-140-080		CAP,TC U 0.047-50 K B
C151	87-A11-132-080		CAP,TC U 0.01-50 K B
C153	87-010-221-080		CAP, ELECT 470-10V
C201	87-010-421-040		CAP,E 4.7-50 5L
C202	87-010-421-040		CAP,E 4.7-50 5L
C203	87-010-560-040		CAP,E 10-50 GAS
C204	87-010-246-040		CAP,E 47-35 SME
C205	87-018-205-080		CAP, CERA-SOL 0.022
C208	87-A11-242-040		CAP,E 220-10 M 5L
C210	87-010-060-040		CAP,E 100-16
C211	87-A11-242-040		CAP,E 220-10 M 5L
C212	87-018-205-080		CAP, CERA-SOL 0.022
C213	87-015-694-040		CAP,E 0.47-50 M7LSRA
C214	87-A11-155-080		CAP,TC U 0.01-16 Z F
C216	87-018-131-080		CAP, CER 1000P-50V
C217	87-018-125-080		CAP, CER 330P-50V
C218	87-018-125-080		CAP, CER 330P-50V
C219	87-018-131-080		CAP, CER 1000P-50V
C220	87-018-205-080		CAP, CERA-SOL 0.022
C221	87-018-105-080		CAP,TC-U 12P-50 SL
C222	87-018-128-080		CAP, CERA-SOL SS 560P
C224	87-018-205-080		CAP, CERA-SOL 0.022
C230	87-A11-140-080		CAP,TC U 0.047-50 K B
C231	87-015-681-040		E/CAP 10-16
C232	87-A11-140-080		CAP,TC U 0.047-50 K B
C234	87-A11-140-080		CAP,TC U 0.047-50 K B
C241	87-018-117-080		CAP,TC-U 68P-50 SL
C242	87-018-117-080		CAP,TC-U 68P-50 SL
C243	87-018-117-080		CAP,TC-U 68P-50 SL
C244	87-018-117-080		CAP,TC-U 68P-50 SL
C245	87-018-117-080		CAP,TC-U 68P-50 SL
C246	87-018-118-080		CAP,TC-U 82P-50 B
C251	87-018-117-080		CAP,TC-U 68P-50 SL
C252	87-018-131-080		CAP, CER 1000P-50V
C701	87-018-115-080		CAP, CER 47P-50V
CN701	87-099-013-010		CONN,11P 6216 V
CON101	88-NF9-658-010		CONN,30P BLK TYK-B(P)<LH>
CON101	87-099-720-010		CONN,30P BLK TYK-B(P)<EZ>
CON102	87-099-015-010		CONN,13P 6216V
FC102	88-913-221-110		FF-CABLE, 13P 1.25 220MM
FC701	88-911-201-110		FF-CABLE, 11P 1.25
FL301	8Z-NF9-610-010		FL,SVA-10MS12
L201	87-A50-434-010		COIL,CLK 4.19M(TOKO)
LED601	87-A40-619-080		LED,SLR-56PT-TE7-W GRN
LED602	87-A40-619-080		LED,SLR-56PT-TE7-W GRN
LED603	87-A40-619-080		LED,SLR-56PT-TE7-W GRN
LED604	87-A40-619-080		LED,SLR-56PT-TE7-W GRN
LED605	87-A40-619-080		LED,SLR-56PT-TE7-W GRN
LED606	87-A40-266-080		LED,SLH-56VCT31 RED
LED607	87-A40-266-080		LED,SLH-56VCT31 RED
S201	87-A90-535-010		SW,RTRY EC16B24304
S202	87-A90-791-010		SW,RTRY EC16B12204 ENCODER
S301	87-A90-164-080		SW,TACT SKQNAB(N)
S302	87-A90-164-080		SW,TACT SKQNAB(N)
S303	87-A90-164-080		SW,TACT SKQNAB(N)
S304	87-A90-164-080		SW,TACT SKQNAB(N)
S305	87-A90-164-080		SW,TACT SKQNAB(N)
S306	87-A90-164-080		SW,TACT SKQNAB(N)
S307	87-A90-164-080		SW,TACT SKQNAB(N)
S308	87-A90-164-080		SW,TACT SKQNAB(N)
S309	87-A90-164-080		SW,TACT SKQNAB(N)
S310	87-A90-164-080		SW,TACT SKQNAB(N)
S311	87-A90-164-080		SW,TACT SKQNAB(N)<EZ>
S312	87-A90-164-080		SW,TACT SKQNAB(N)
S313	87-A90-164-080		SW,TACT SKQNAB(N)<EZ>
S314	87-A90-164-080		SW,TACT SKQNAB(N)
S315	87-A90-164-080		SW,TACT SKQNAB(N)<EZ>
S316	87-A90-164-080		SW,TACT SKQNAB(N)
S317	87-A90-164-080		SW,TACT SKQNAB(N)
S318	87-A90-164-080		SW,TACT SKQNAB(N)
S319	87-A90-164-080		SW,TACT SKQNAB(N)
S320	87-A90-164-080		SW,TACT SKQNAB(N)
S321	87-A90-164-080		SW,TACT SKQNAB(N)
S322	87-A90-164-080		SW,TACT SKQNAB(N)
S323	87-A90-164-080		SW,TACT SKQNAB(N)
S324	87-A90-164-080		SW,TACT SKQNAB(N)
S325	87-A90-164-080		SW,TACT SKQNAB(N)
S327	87-A90-164-080		SW,TACT SKQNAB(N)
S329	87-A90-164-080		SW,TACT SKQNAB(N)
TUNER C.B <LH>			
C701	87-010-381-080		CAP, ELECT 330-16V
C702	87-010-404-080		CAP, ELECT 4.7-50V
C703	87-012-286-080		CAP, U 0.01-25
C704	87-012-286-080		CAP, U 0.01-25
C705	87-A10-592-080		C-CAP,S 0.015-50 J B
C706	87-A10-592-080		C-CAP,S 0.015-50 J B
C709	87-012-195-080		C-CAP,U 100P-50CH
C711	87-010-260-080		CAP, ELECT 47-25V
C712	87-010-831-080		C-CAP,U,0.1-16F
C714	87-012-286-080		CAP, U 0.01-25
C717	87-012-286-080		CAP, U 0.01-25
C718	87-012-179-080		C-CAP,U 20P-50 CH
C719	87-012-286-080		CAP, U 0.01-25
C720	87-012-195-080		C-CAP,U 100P-50CH
C721	87-012-176-080		CAP 15P

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C722	87-012-176-080		CAP 15P
C723	87-012-274-080		CHIP CAP,U 1000P-50B
C725	87-012-274-080		CHIP CAP,U 1000P-50B
C727	87-010-196-080		CHIP CAPACITOR,0.1-25
C728	87-010-248-080		CAP, ELECT 220-10V
C729	87-012-274-080		CHIP CAP,U 1000P-50B
C731	87-012-286-080		CAP, U 0.01-25
C733	87-010-987-080		C-CAP,S 1500P-50 CH
C734	87-010-987-080		C-CAP,S 1500P-50 CH
C735	87-010-987-080		C-CAP,S 1500P-50 CH
C736	87-010-987-080		C-CAP,S 1500P-50 CH
C737	87-A10-592-080		C-CAP,S 0.015-50 J B
C738	87-A10-592-080		C-CAP,S 0.015-50 J B
C751	87-012-365-080		C-CAP,S 0.027-25VBK
C752	87-012-365-080		C-CAP,S 0.027-25VBK
C756	87-012-286-080		CAP, U 0.01-25
C757	87-012-188-080		C-CAP,U 47P-50 CH
C758	87-012-167-080		C-CAP,U 5P-50 CH
C763	87-010-829-080		CAP, U 0.047-16
C764	87-012-337-080		C-CAP,U 56P-50 CH
C765	87-012-286-080		CAP, U 0.01-25
C768	87-012-286-080		CAP, U 0.01-25
C769	87-010-260-080		CAP, ELECT 47-25V
C770	87-010-829-080		CAP, U 0.047-16
C771	87-010-383-080		CAP, ELECT 33-25V
C772	87-010-829-080		CAP, U 0.047-16
C773	87-010-196-080		CHIP CAPACITOR,0.1-25
C774	87-010-263-080		CAP, ELECT 100-10V
C775	87-010-404-080		CAP, ELECT 4.7-50V
C776	87-012-286-080		CAP, U 0.01-25
C777	87-010-400-080		CAP, ELECT 0.47-50V
C778	87-010-401-080		CAP, ELECT 1-50V
C779	87-010-401-080		CAP, ELECT 1-50V
C780	87-010-196-080		CHIP CAPACITOR,0.1-25
C781	87-010-405-080		CAP, ELECT 10-50V
C782	87-010-405-080		CAP, ELECT 10-50V
C783	87-012-286-080		CAP, U 0.01-25
C784	87-012-286-080		CAP, U 0.01-25
C785	87-010-401-080		CAP, ELECT 1-50V
C786	87-010-401-080		CAP, ELECT 1-50V
C789	87-012-275-080		C-CAP,U 1200P-50 B
C790	87-012-275-080		C-CAP,U 1200P-50 B
C791	87-010-405-080		CAP, ELECT 10-50V
C793	87-012-273-080		C-CAP,U 820P-50 B
C794	87-010-406-080		CAP, ELECT 22-50
C795	87-010-596-080		CAP, S 0.047-16
C796	87-010-403-080		CAP, ELECT 3.3-50V
C799	87-010-829-080		CAP, U 0.047-16
C812	87-012-286-080		CAP, U 0.01-25
C820	87-010-260-080		CAP, ELECT 47-25V
C821	87-012-286-080		CAP, U 0.01-25
C822	87-012-286-080		CAP, U 0.01-25
C823	87-012-286-080		CAP, U 0.01-25
C828	87-010-196-080		CHIP CAPACITOR,0.1-25
C829	87-010-196-080		CHIP CAPACITOR,0.1-25
C959	87-010-196-080		CHIP CAPACITOR,0.1-25
C960	87-010-196-080		CHIP CAPACITOR,0.1-25
C961	87-012-170-080		C-CAP,U 8P-50 CH
C963	87-010-196-080		CHIP CAPACITOR,0.1-25
CF801	87-008-261-010		FILTER, SFE10.7MA5-A
CF802	87-008-261-010		FILTER, SFE10.7MA5-A
CN701	87-A60-700-010		CONN,13P H GRY TUC-P13X-C1
FFE801	A8-8ZA-190-030		8ZA-1 FEUNM
J801	87-A60-702-010		TERMINAL,ANT 4P CJ-9036
L771	87-A50-266-010		COIL,FM DET-2N(TOK)
L772	87-A90-733-010		FLTR,PCFAZH-450 (TOK)
L981	87-NF4-650-010		COIL,AM PACK 4N(TOK)
X721	87-A70-061-010		VIB,XTAL 4.500MHZ CSA-309PT C.B

TUNER C.B <EZ>

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C701	87-010-381-080		CAP,ELECT 330-16V
C702	87-010-404-080		CAP,ELECT 4.7-50V
C703	87-012-286-080		CAP,U 0.01-25
C704	87-012-286-080		CAP,U 0.01-25
C709	87-012-195-080		C-CAP,U 100P-50CH
C711	87-010-260-080		CAP,ELECT 47-25V
C712	87-010-831-080		C-CAP,U,0.1-16F
C713	87-012-286-080		CAP,U 0.01-25
C714	87-012-286-080		CAP,U 0.01-25
C715	87-012-195-080		C-CAP,U 100P-50CH
C717	87-012-286-080		CAP,U 0.01-25
C719	87-012-286-080		CAP,U 0.01-25
C720	87-012-195-080		C-CAP,U 100P-50CH
C721	87-012-176-080		CAP,15P
C722	87-012-176-080		CAP,15P
C723	87-012-274-080		CHIP CAP,U 1000P-50B
C725	87-018-131-080		CAP,TC U 1000P-50 KB
C727	87-010-196-080		CHIP CAPACITOR,0.1-25
C728	87-010-248-080		CAP,ELECT 220-10V
C729	87-012-274-080		CHIP CAP,U 1000P-50B
C731	87-012-286-080		CAP,U 0.01-25
C733	87-012-280-080		C-CAP,U 3300P-50 KB
C734	87-012-280-080		C-CAP,U 3300P-50 KB
C752	87-012-282-080		C-CAP,U 4700P-50 KB
C753	87-012-195-080		C-CAP,U 100P-50 J CH
C755	87-012-286-080		CAP,U 0.01-25
C756	87-012-286-080		CAP,U 0.01-25
C757	87-012-188-080		C-CAP,U 47P-50 CH
C758	87-012-167-080		C-CAP,U 5P-50 CH
C761	87-010-196-080		C-CAP,S 0.1-25 ZF
C762	87-012-286-080		CAP,U 0.01-25
C763	87-010-829-080		CAP,U 0.047-16
C765	87-012-286-080		CAP,U 0.01-25
C766	87-010-197-080		C-CAP,S 0.01-25 KB
C768	87-012-286-080		CAP,U 0.01-25
C769	87-010-260-080		CAP,ELECT 47-25V
C770	87-010-829-080		CAP,U 0.047-16
C771	87-010-383-080		CAP,ELECT 33-25V
C772	87-010-829-080		CAP,U 0.047-16
C773	87-010-196-080		CHIP CAPACITOR,0.1-25
C774	87-010-263-080		CAP,ELECT 100-10V
C775	87-010-404-080		CAP,ELECT 4.7-50V
C776	87-012-286-080		CAP,U 0.01-25
C777	87-010-493-080		CAP,E 0.47-50 M 5L SRE
C778	87-010-401-080		CAP,ELECT 1-50V
C779	87-010-401-080		CAP,ELECT 1-50V
C780	87-010-196-080		CHIP CAPACITOR,0.1-25
C781	87-010-405-080		CAP,ELECT 10-50V
C782	87-010-405-080		CAP,ELECT 10-50V
C783	87-012-286-080		CAP,U 0.01-25
C784	87-012-286-080		CAP,U 0.01-25
C785	87-010-401-080		CAP,ELECT 1-50V
C786	87-010-401-080		CAP,ELECT 1-50V
C787	87-012-275-080		C-CAP,U 1200P-50 B
C788	87-012-275-080		C-CAP,U 1200P-50 B
C789	87-012-275-080		C-CAP,U 1200P-50 B
C790	87-012-275-080		C-CAP,U 1200P-50 B
C791	87-010-405-080		CAP,ELECT 10-50V
C793	87-012-273-080		C-CAP,U 820P-50 B
C794	87-010-406-080		CAP,ELECT 22-50
C795	87-010-596-080		CAP,S 0.047-16
C796	87-010-403-080		CAP,ELECT 3.3-50V
C797	87-012-276-080		C-CAP,U 1500P-50 KB
C798	87-012-276-080		C-CAP,U 1500P-50 KB
C799	87-010-829-080		CAP,U 0.047-16
C812	87-012-286-080		CAP,U 0.01-25
C814	87-012-286-080		CAP,U 0.01-25
C820	87-010-260-080		CAP,ELECT 47-25V

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C821	87-012-286-080		CAP,U 0.01-25
C822	87-012-286-080		CAP,U 0.01-25
C823	87-012-286-080		CAP,U 0.01-25
C828	87-010-196-080		CHIP CAPACITOR,0.1-25
C829	87-010-196-080		CHIP CAPACITOR,0.1-25
C859	87-012-286-080		C-CAP,U 0.01-25 KB
C861	87-012-199-080		C-CAP,U 220P-50 J CH
C862	87-012-199-080		C-CAP,U 220P-50 J CH
C863	87-012-270-080		C-CAP,U 470P-50 KB
C864	87-010-405-080		CAP,E 10-50 M 11L SME
C865	87-010-196-080		C-CAP,S 0.1-25 ZF
C866	87-010-405-080		CAP,E 10-50 M 11L SME
C867	87-012-286-080		C-CAP,U 0.01-25 KB
C868	87-012-184-080		C-CAP,U 33P-50 J CH
C869	87-012-180-080		C-CAP,U 22P-50 J CH
C940	87-012-286-080		C-CAP,U 0.01-25 KB
C942	87-012-172-080		C-CAP,U 10P-50 D CH
C947	87-012-286-080		C-CAP,U 0.01-25 KB
C949	87-A10-039-080		C-CAP,U 470P-50 J CH
C952	87-012-286-080		C-CAP,U 0.01-25 KB
C958	87-010-197-080		C-CAP,S 0.01-25 KB
C959	87-010-831-080		C-CAP,U 0.1-16 ZF
C960	87-010-196-080		CHIP CAPACITOR,0.1-25
C962	87-010-401-080		CAP,E 1-50 M 11L SME
CF801	87-008-423-010		FLTR,CF SFE10.7MS3G-A
CF802	82-785-747-010		CF,MS2 GHY R
CN701	87-A60-650-010		CONN,16P H GRY TUC-P16X-C1
FFE801	A8-6ZA-191-130		6ZA-1 FEENM
J801	87-033-241-010		TERMINAL,ANT 2P AJ-2039
L771	87-A50-266-010		COIL,FM DET-2N(TOK)
L772	87-A90-733-010		FLTR,PCFAZH-450(TOK)
L781	87-005-847-010		COIL,2.2UH K CECS
L791	87-A50-027-010		COIL,1 POLE MPX(TOK)
L792	87-A50-027-010		COIL,1 POLE MPX(TOK)
L832	87-005-847-080		COIL,2.2UH K CECS

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
L851	87-005-847-080		COIL,2.2UH K CECS
L941	87-A50-020-010		COIL,ANT LW(COI)252KHZ
L942	87-A50-019-010		COIL,OSC LW(COI) 856KHZ
L981	87-NF4-651-110		COIL,AM PACK 2N(TOM)
TC942	87-011-164-010		TRIMMER,CER 30P 4.5X3.9 VCT31
X721	87-A70-061-010		VIB,XTAL 4.500MHZ CSA-309
X851	87-A70-091-010		VIB,XTAL 4.332MHZ CSA-309
PT C.B			
C001	87-010-387-080		CAP,E 470-25 SME
C004	87-010-403-080		CAP,E 3.3-50 M SME
CN001	87-A60-850-010		CONN,7P V VH
⚠ PT001	8Z-NFW-604-010		PT,ZNF-W LH<LH>
⚠ PT001	8Z-NFW-603-010		PT,ZNF-W EKZ<EZ>
⚠ PT002	8Z-NF8-663-010		PT,SUB ZNF-8(H)<LH>
⚠ PT002	8Z-NF8-662-010		PT,SUB ZNF-8(E)<EZ>
⚠ RY001	87-A90-976-010		RELAY,AC12V SDT-S-112LMR<EZ>
⚠ RY002	87-A91-281-010		RELAY,AC DC12V OSA-SS-212<LH>
⚠ S001	87-A90-165-010		SW,SL 1-2-3 SWS2301<LH>
⚠ T001	87-A60-317-010		TERMINAL, 1P MSC
⚠ T002	87-A60-317-010		TERMINAL, 1P MSC
DECK C.B			
CN105	87-099-753-019		CONN,11P 9604
CON301	86-ZM3-604-219		CON ASSY,3P-PB
CON351	86-ZM3-605-119		CON ASSY,8P-PB
SFR1	87-024-581-019		SFR,3.3K DIA 6H
SOL1	82-ZM1-618-410		SOL ASSY, 27
SOL2	82-ZM1-618-410		SOL ASSY, 27
SW1	87-A90-248-019		SW,MICRO ESE11SH2CXQ
SW2	87-A90-248-019		SW,MICRO ESE11SH2CXQ
SW3	87-A90-248-019		SW,MICRO ESE11SH2CXQ
SW4	87-A90-248-019		SW,MICRO ESE11SH2CXQ
SW5	87-A90-248-019		SW,MICRO ESE11SH2CXQ
W001	82-ZM1-632-019		REN-CORD,4P-120MM00

TRANSISTOR ILLUSTRATION

E C B

CSA952K
KTA1266GR
KTC3198GR

E C B

CC5551

E C B

CSC4115BC

B C E

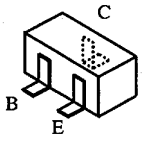
2SB1342
2SB1344
2SB1370
2SD1933
2SD2025

E C B

2SA1585SR
2SC4115SRS
DTC114ES
DTC114YS
DTC143ES
KTA1272Y

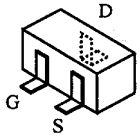
S G D

2SK2541

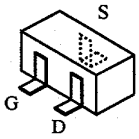


2SA1235F
2SC2714
2SC3052F
2SC3906KR
2SD1306E
CMBT5551

CSD1306
DTA123EKA
RT1P141C
RT1P144C
RT1P441C



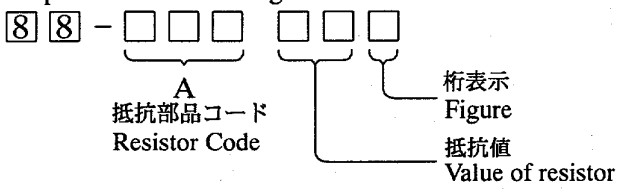
2SK2158



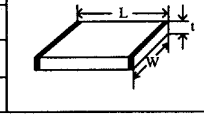
2SK543

Oチップ抵抗部品コード／CHIP RESISTOR PART CODE

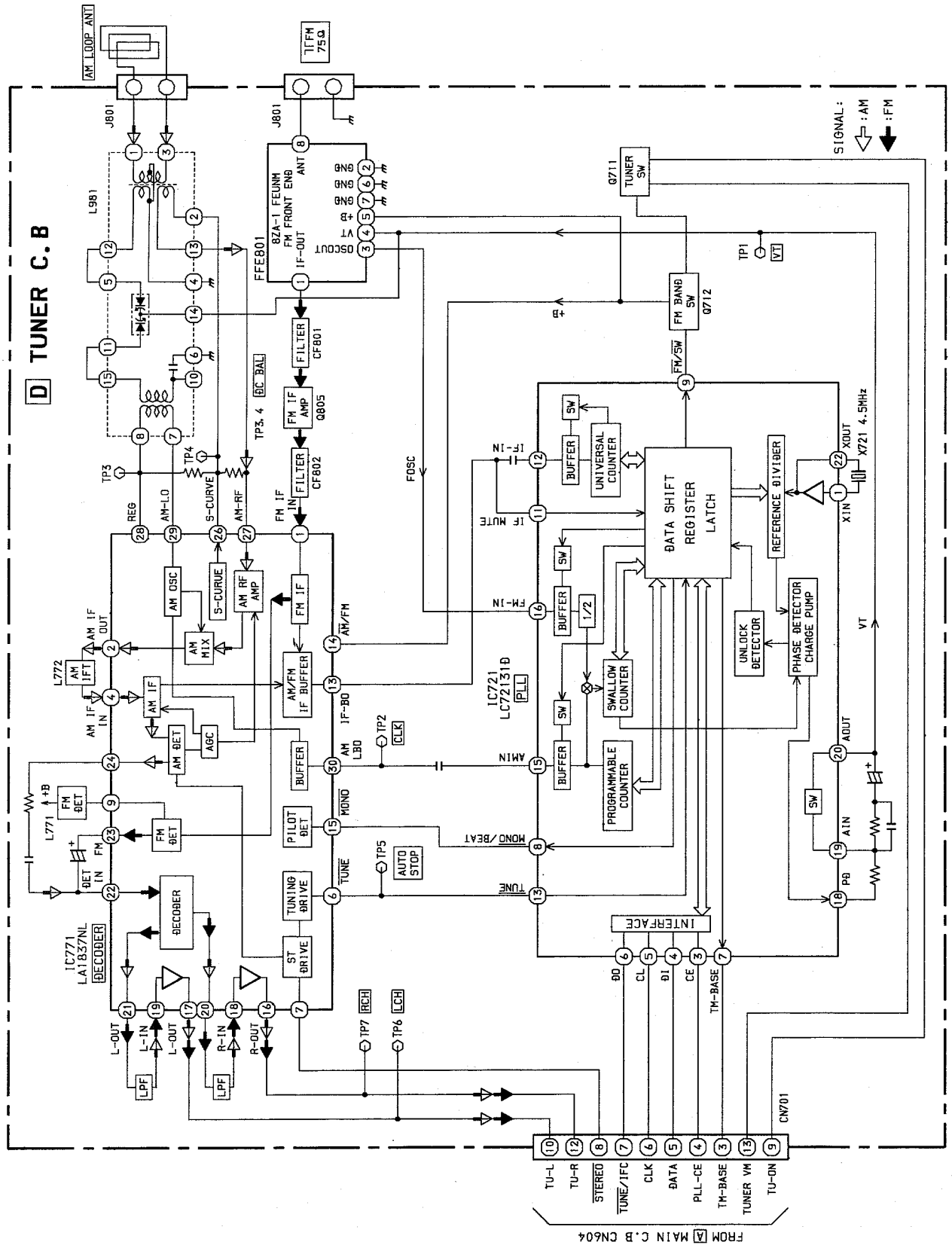
チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding



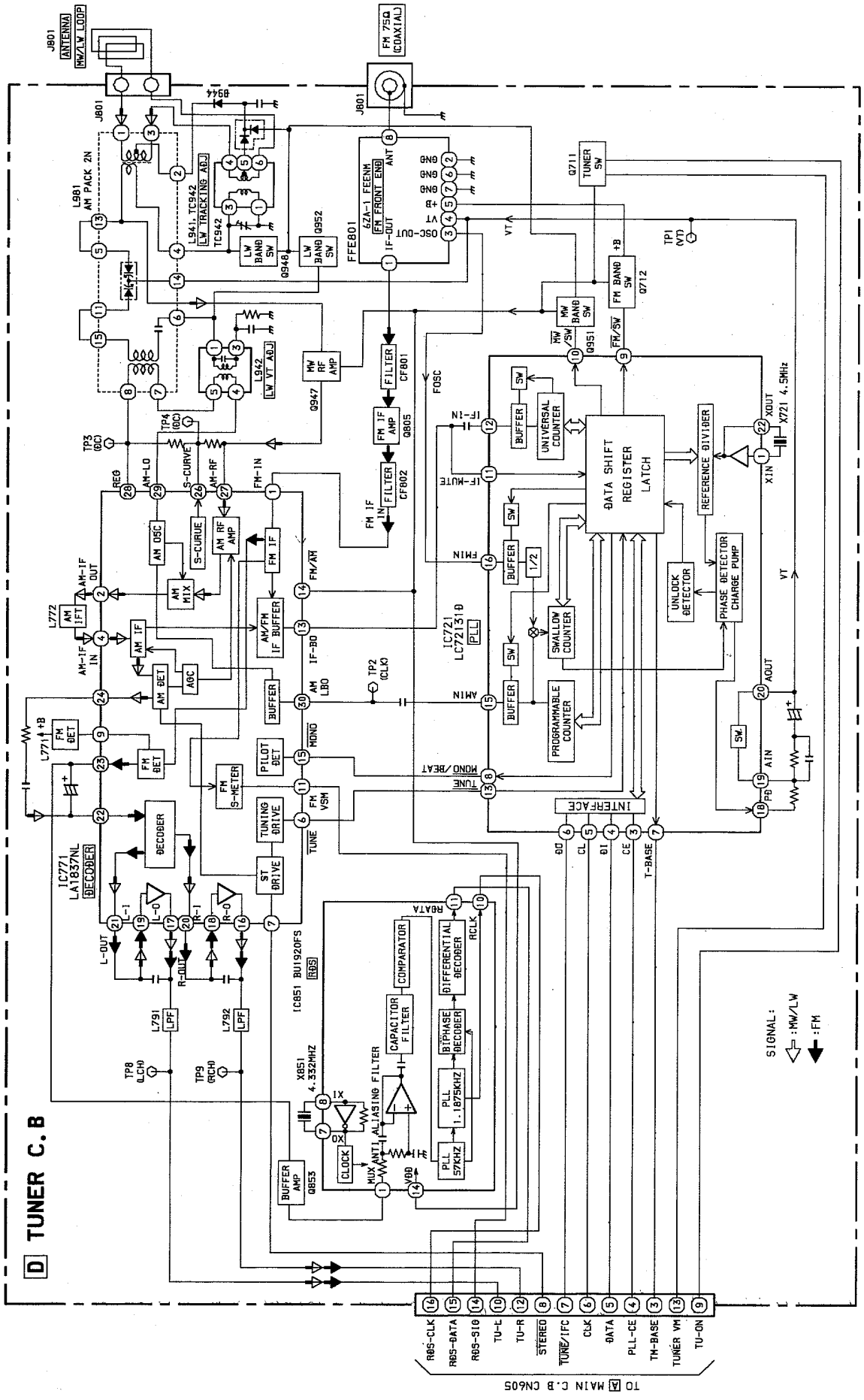
チップ抵抗
Chip resistor

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	1005	±5%	CJ		1.0	0.5	0.35	104
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

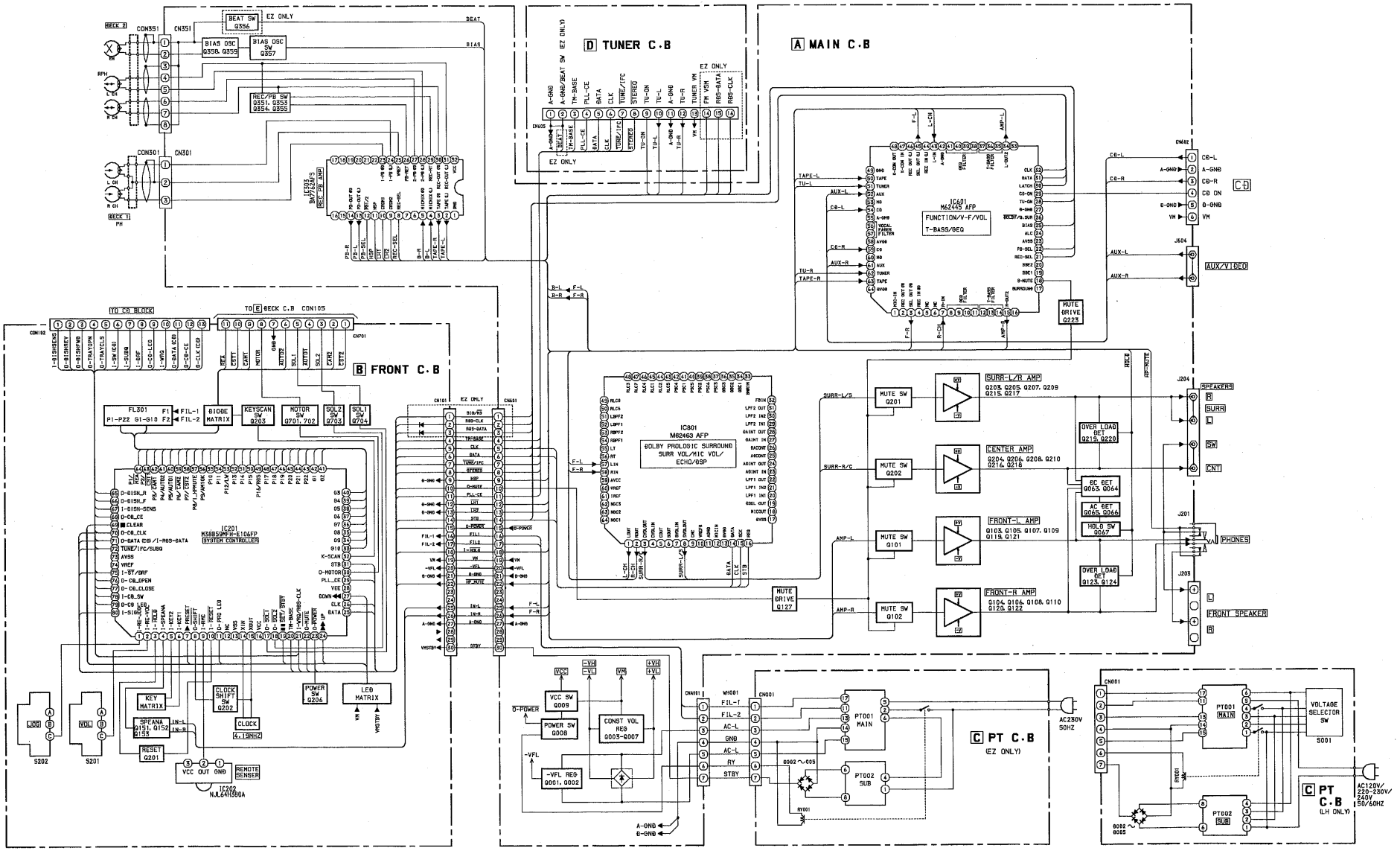
BLOCK DIAGRAM – 1 (TUNER : LH)



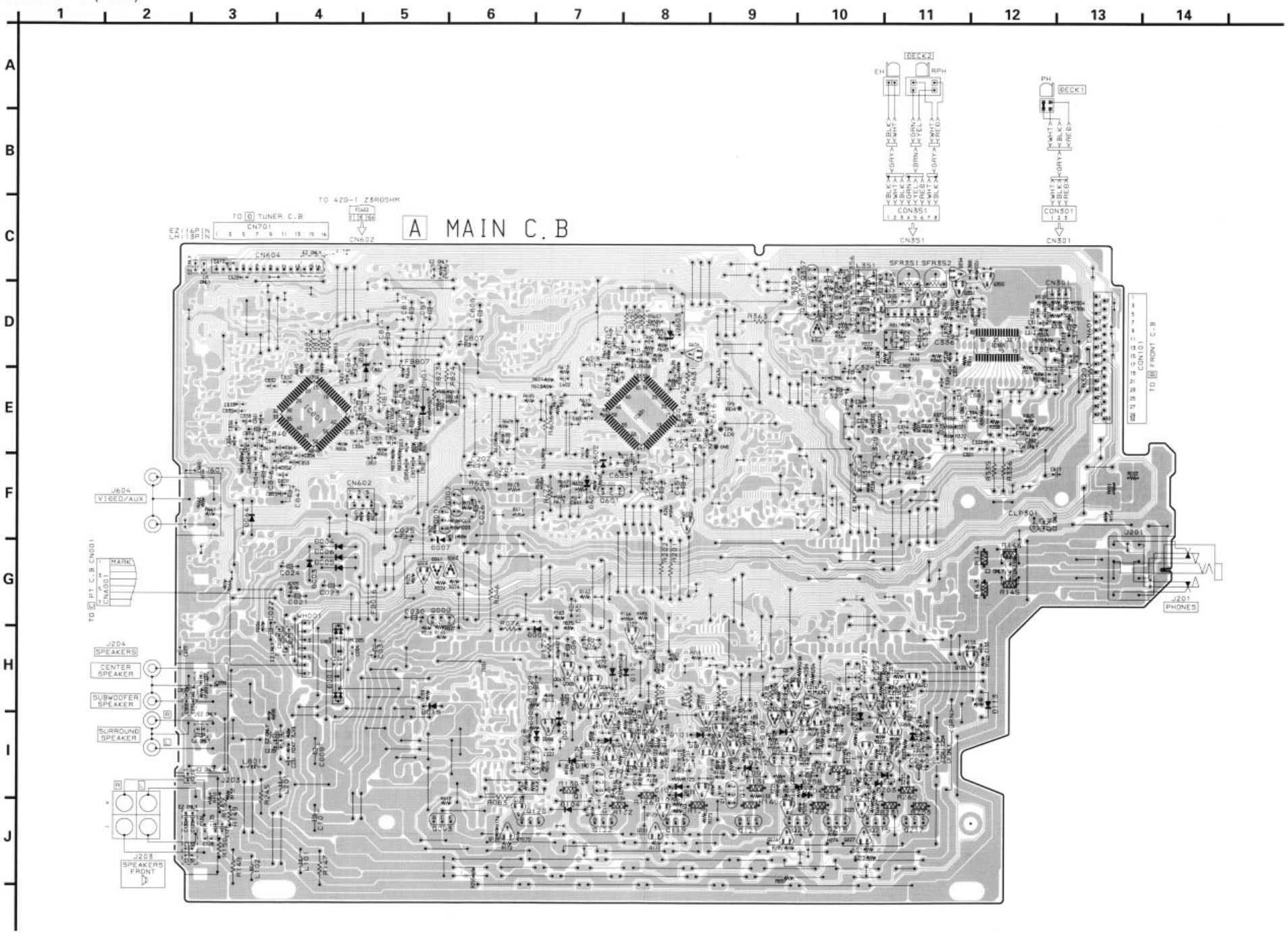
BLOCK DIAGRAM – 2 (TUNER : EZ)

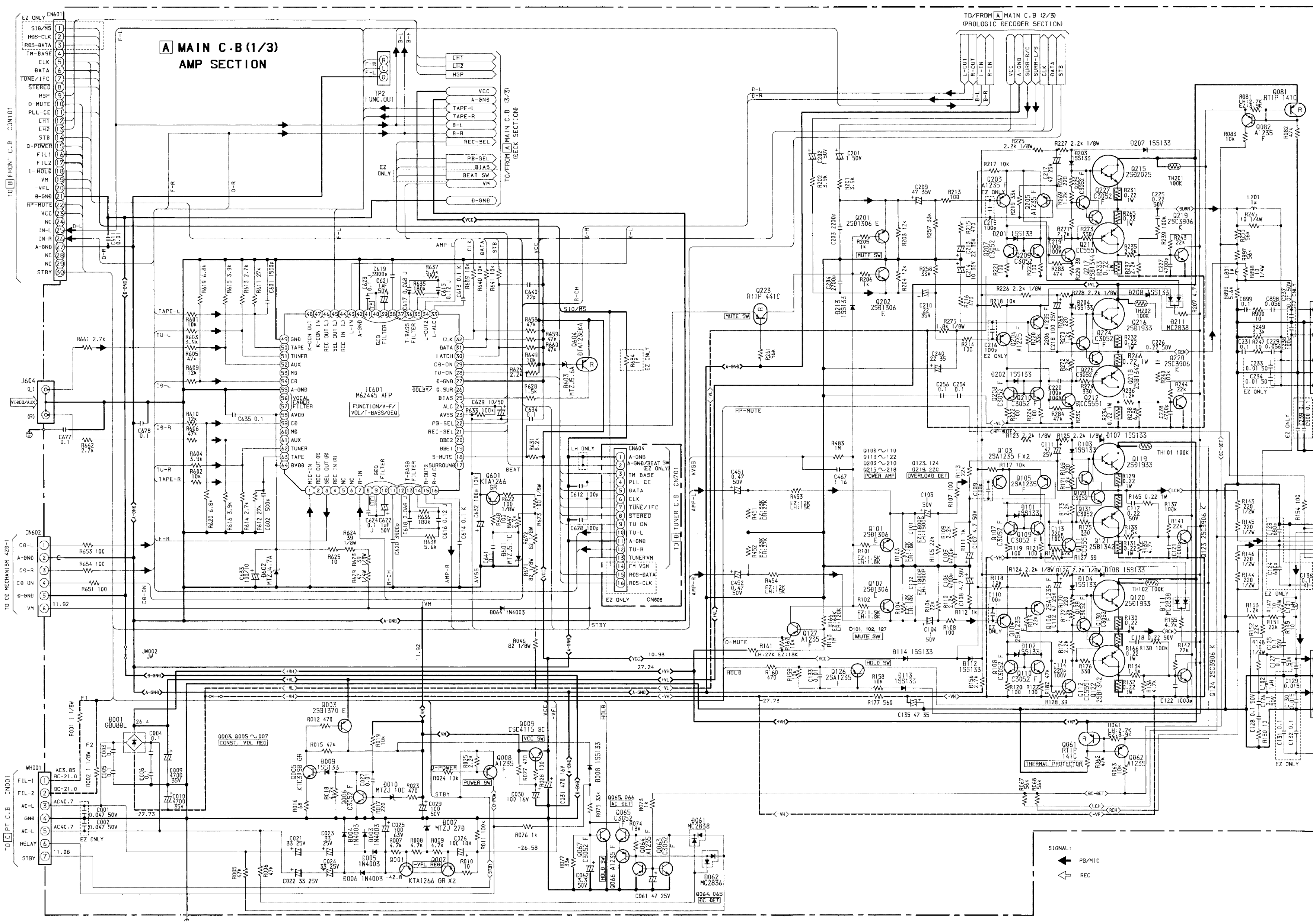


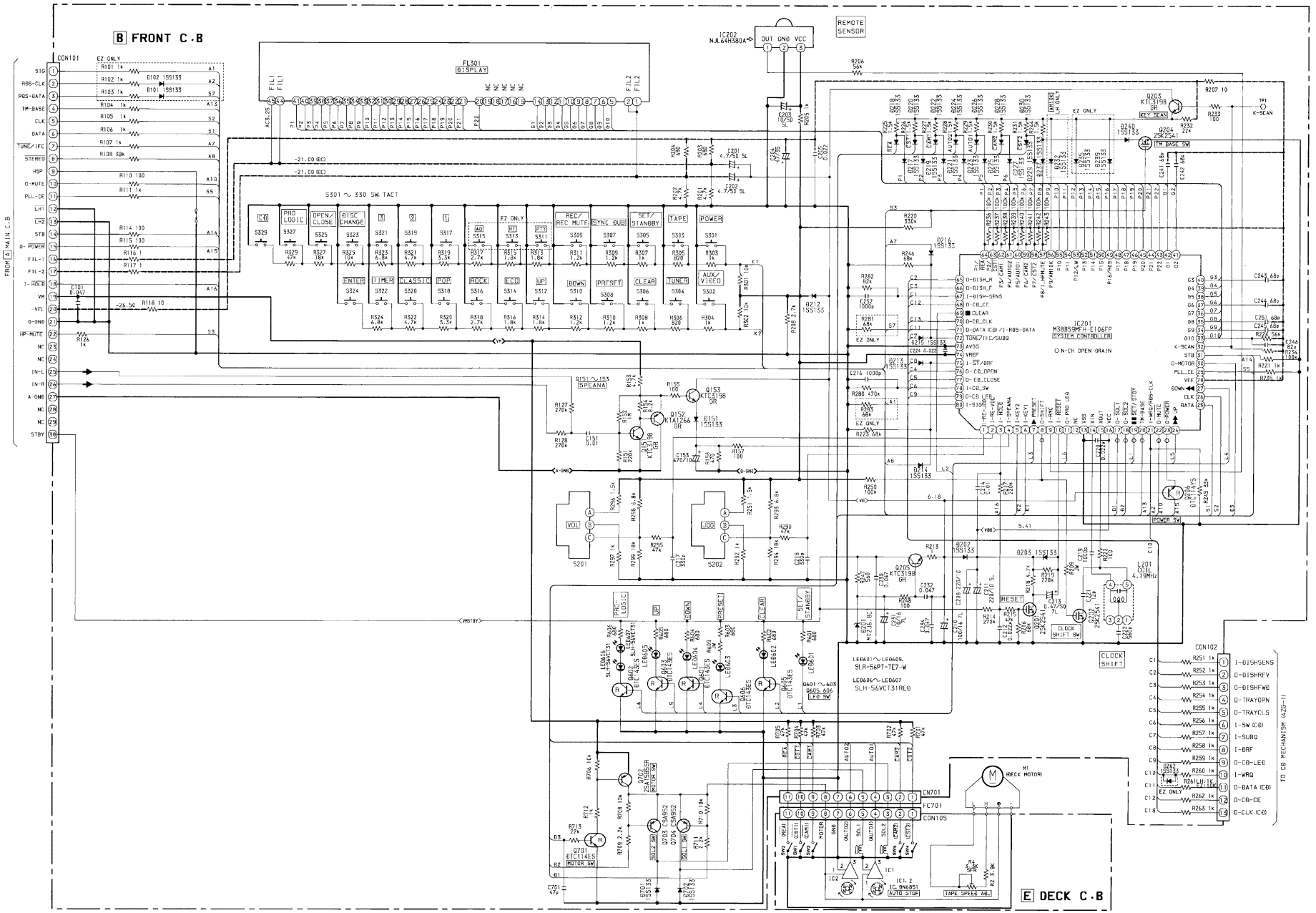
BLOCK DIAGRAM – 3 (MAIN / FRONT / PT)

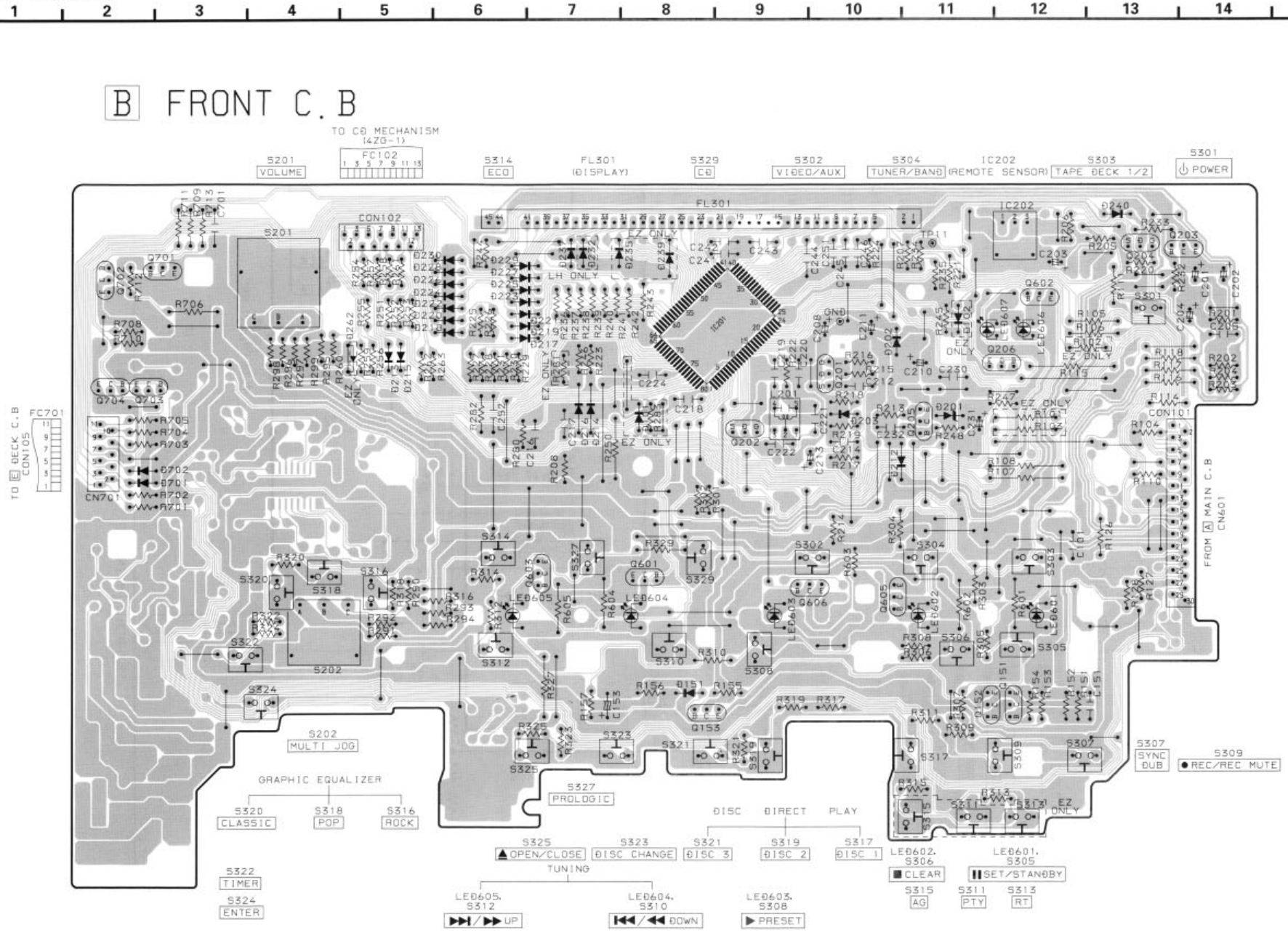


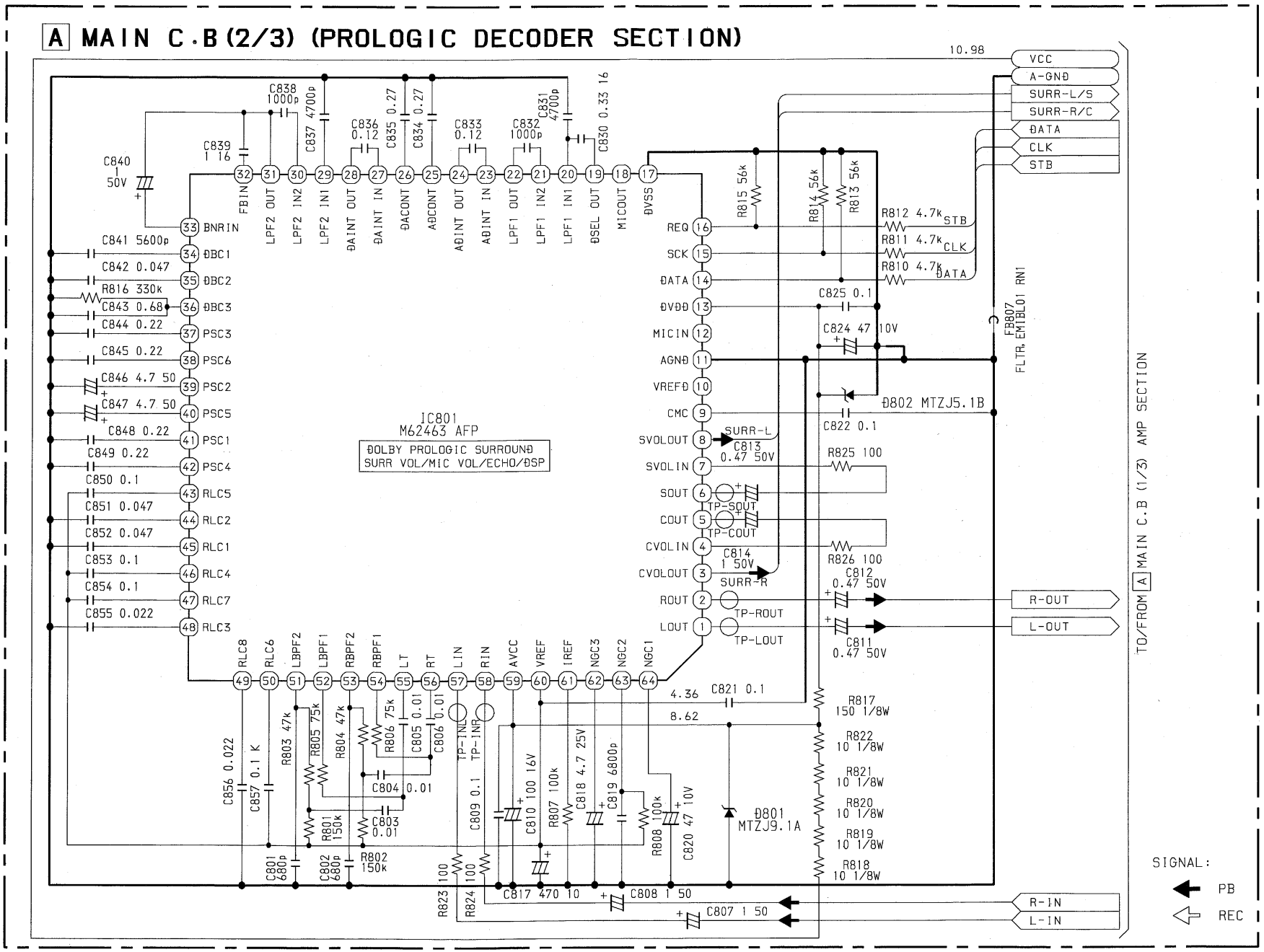
WIRING – 1 (MAIN)




A MAIN C.B (1/3)
AMP SECTION
TO/FROM A MAIN C.B (2/3)
(PROLOGIC DECODER SECTION)
TO/FROM A MAIN C.B (3/3)
(DECK SECTION)
TO B FRONT C.B CON101
TO CD MECHANISM 4Z9-1
TO C PT C.B CN001
TO D TUNER C.B CN701
IC601
M62445 AFP
FUNCTION/V-F/
VOL/T-BASS/GEQ
CENTER SPEAKER
SUBWOOFER
SURR SPEAKER
FRONT SPEAKER
PHONES
THERMAL PROTECTOR
POWER AMP
OVERLOAD DET
MUTE SW
HOLD SW
POWER SW
VCC SW
CONST. VOL REG
SIGNAL:
PB/MIC
REC

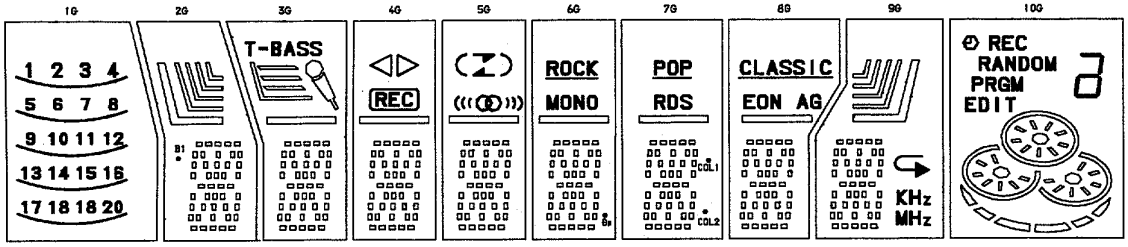

B FRONT C.B
E DECK C.B
FROM A MAIN C.B
TO CB MECHANISM (4ZG-1)
REMOTE SENSOR
IC202 NJL64H380A
IC201 M38B59MFH-E106FP SYSTEM CONTROLLER
FL301 DISPLAY
CON101
CON102
CN701
CON105
FC701
M1 6DECK MOTOR
IC1, 2 IC BN6851 AUTO STOP
TAPE SPEED ADJ.
CLOCK SHIFT
POWER SW
K-SCAN
KEY SCAN
TM BASE SW
EJECT SW
MOTOR SW
LOADING SW
REC MUTE
SYNC SUB
SET STANDBY
PRO LOGIC
OPEN/CLOSE
DISC EXCHANGE
ENTER
TIMER
CLASSIC
POP
ROCK
ECO
UP
DOWN
PRESET
CLEAR
TUNER
AUX/VIDEO
TAPE
POWER
SPEANA
VOL
JOG
RESET
EZ ONLY
LH ONLY
N-CH OPEN DRAIN
LE8601～LE8605 SLR-56PT-TE7-W
LE8606～LE8607 SLR-S6VCT31REB

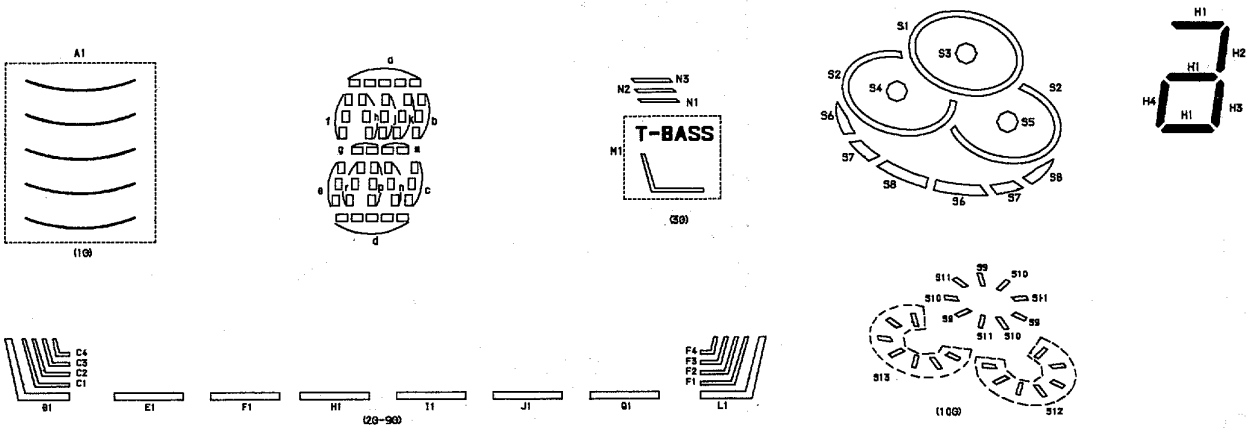

B FRONT C.B
TO CD MECHANISM (4ZG-1)
FC102
S201 VOLUME
S314 ECO
FL301 (DISPLAY)
S329 CD
S302 VIDEO/AUX
S304 TUNER/BAND
IC202 (REMOTE SENSOR)
S303 TAPE DECK 1/2
S301 POWER
CON102
FL301
IC202
S201
TO E DECK C.B CON105
FC701
CN701
FROM A MAIN C.B CN601
CON101
S202 MULTI JOG
GRAPHIC EQUALIZER
S320 CLASSIC
S318 POP
S316 ROCK
S327 PROLOGIC
DISC DIRECT PLAY
S325 OPEN/CLOSE
S323 DISC CHANGE
S321 DISC 3
S319 DISC 2
S317 DISC 1
TUNING
LED605, S312 ▶▶|/▶▶ UP
LED604, S310 |◀◀/◀◀ DOWN
LED603, S308 ▶ PRESET
LED602, S306 ■ CLEAR
LED601, S305 II SET/STANDBY
S315 AG
S311 PTY
S313 RT
S322 TIMER
S324 ENTER
S307 SYNC DUB
S309 ● REC/REC MUTE


A MAIN C.B (2/3) (PROLOGIC DECODER SECTION)
IC801
M62463 AFP
DOLBY PROLOGIC SURROUND
SURR VOL/MIC VOL/ECHO/DSP
VCC
A-GND
SURR-L/S
SURR-R/C
DATA
CLK
STB
R-OUT
L-OUT
R-IN
L-IN
TO/FROM A MAIN C.B (1/3) AMP SECTION
SIGNAL:
PB
REC
D802 MTZJ5.1B
D801 MTZJ9.1A
FB807 FLTR, EMIBL01 RN1

FL (SVA – 10MS12) GRID ASSIGNMENT AND ANODE CONNECTION

GRID ASSIGNMENT

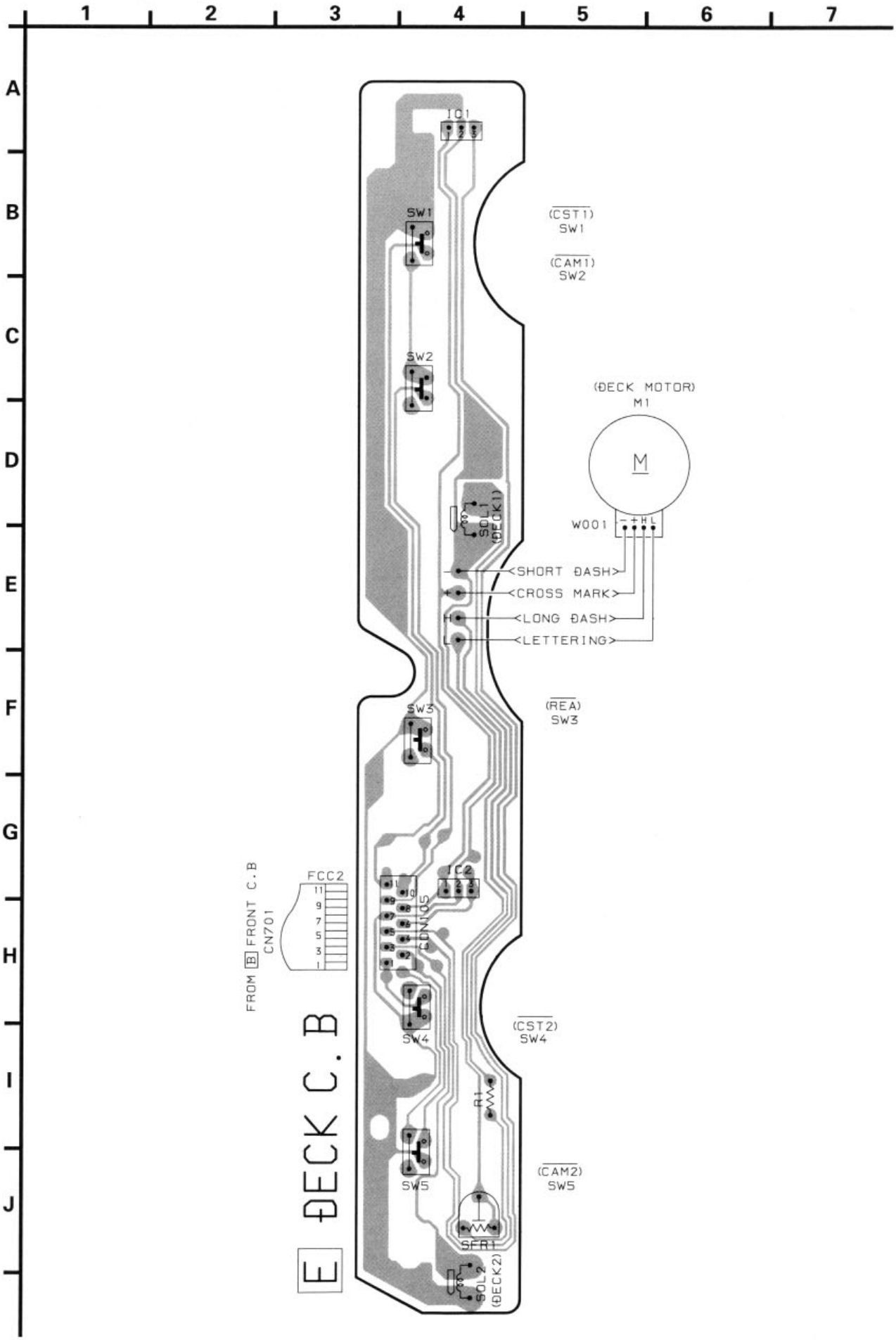




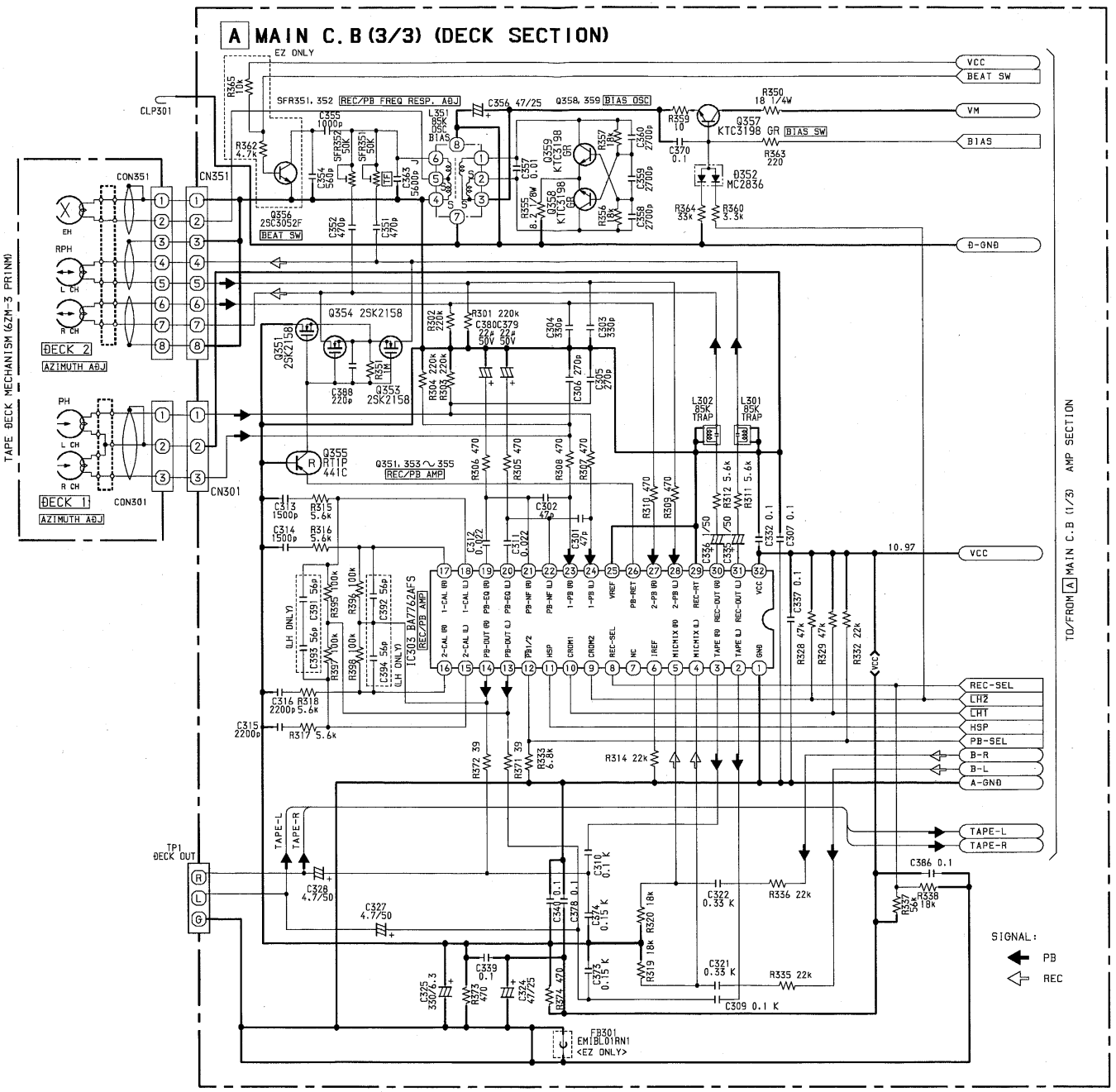
ANODE CONNECTION

	1G	2G	3G	4G	5G	6G	7G	8G	9G	10G
P1	**20**	d	d	d	d	d	d	d	d	S1
P2	**19**	n	n	n	n	n	n	n	n	S9
P3	**18**	p	p	p	p	p	p	p	p	S10
P4	**17**	r	r	r	r	r	r	r	r	S11
P5	**16**	e	e	e	e	e	e	e	e	S3
P6	**15**	c	c	c	c	c	c	c	c	S2
P7	**14**	g	g	g	g	g	g	g	g	S13
P8	**13**	m	m	m	m	m	m	m	m	S4
P9	**12**	f	f	f	f	f	f	f	f	S12
P10	**11**	b	b	b	b	b	b	b	b	S5
P11	**10**	k	k	k	k	k	k	k	k	S6
P12	**9**	j	j	j	j	j	j	j	j	S7
P13	**8**	h	h	h	h	h	h	h	h	S8
P14	**7**	a	a	a	a	a	a	a	a	**EDIT**
P15	**6**	Đ1	E1	F1	H1	Đp	COL2	Q1	**MHz**	**PRGM**
P16	**5**	C1	M1	REC	(((ω)))	I1	COL1	**EON**	**KHz**	**RANDOM**
P17	**4**	C2	N1	◁	☾	**MONO**	J1	**AG**	↪	**REC**
P18	**3**	C3	N2	▷	⌐	—	**RDS**	—	L1	◷
P19	**2**	C4	N3		☽	**ROCK**	—	**CLASSIC**	F1	H1
P20	**1**	B1	♪				**POP**		F2	H2
P21	A1								F3	H3
P22									F4	H4

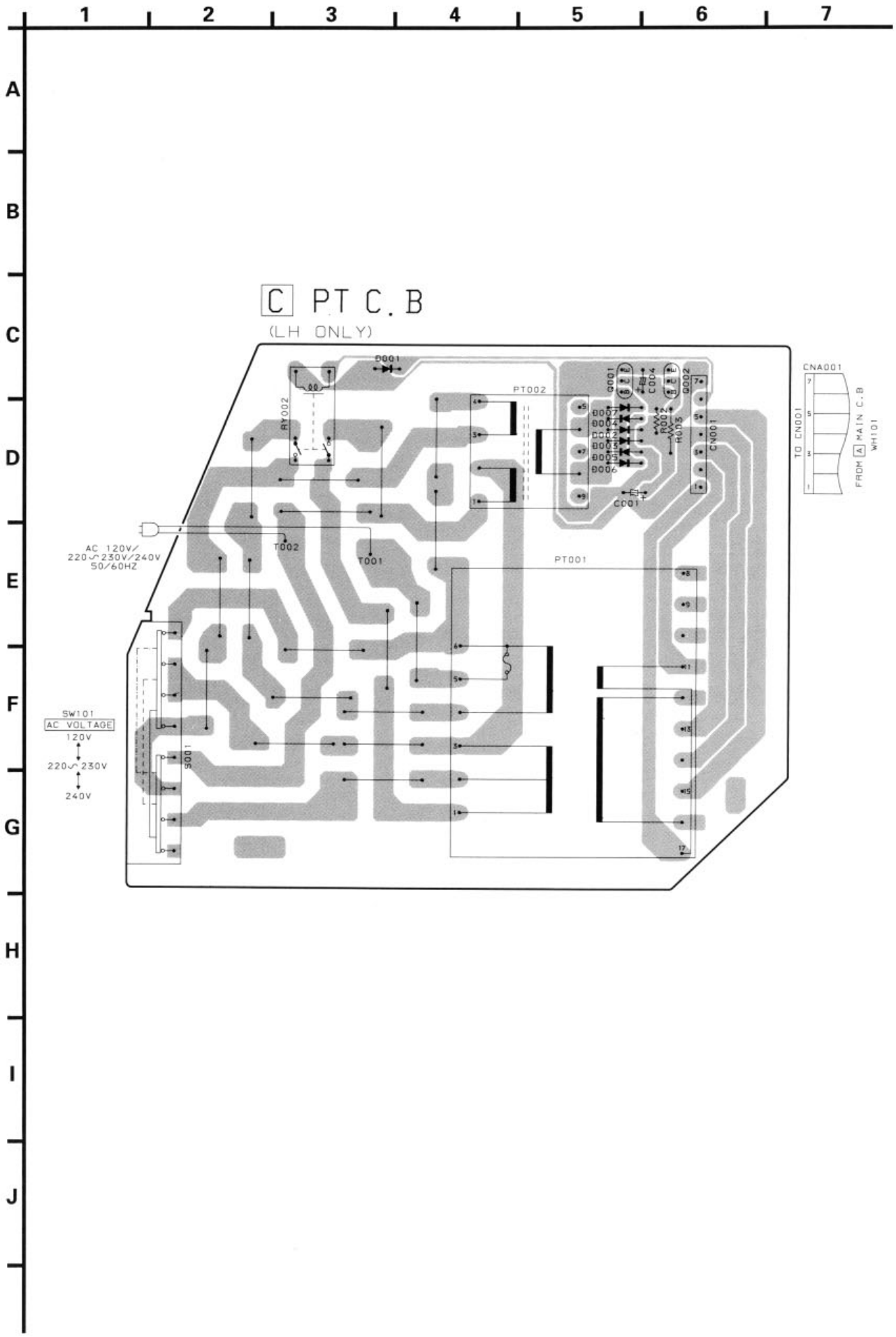
WIRING – 3 (DECK)



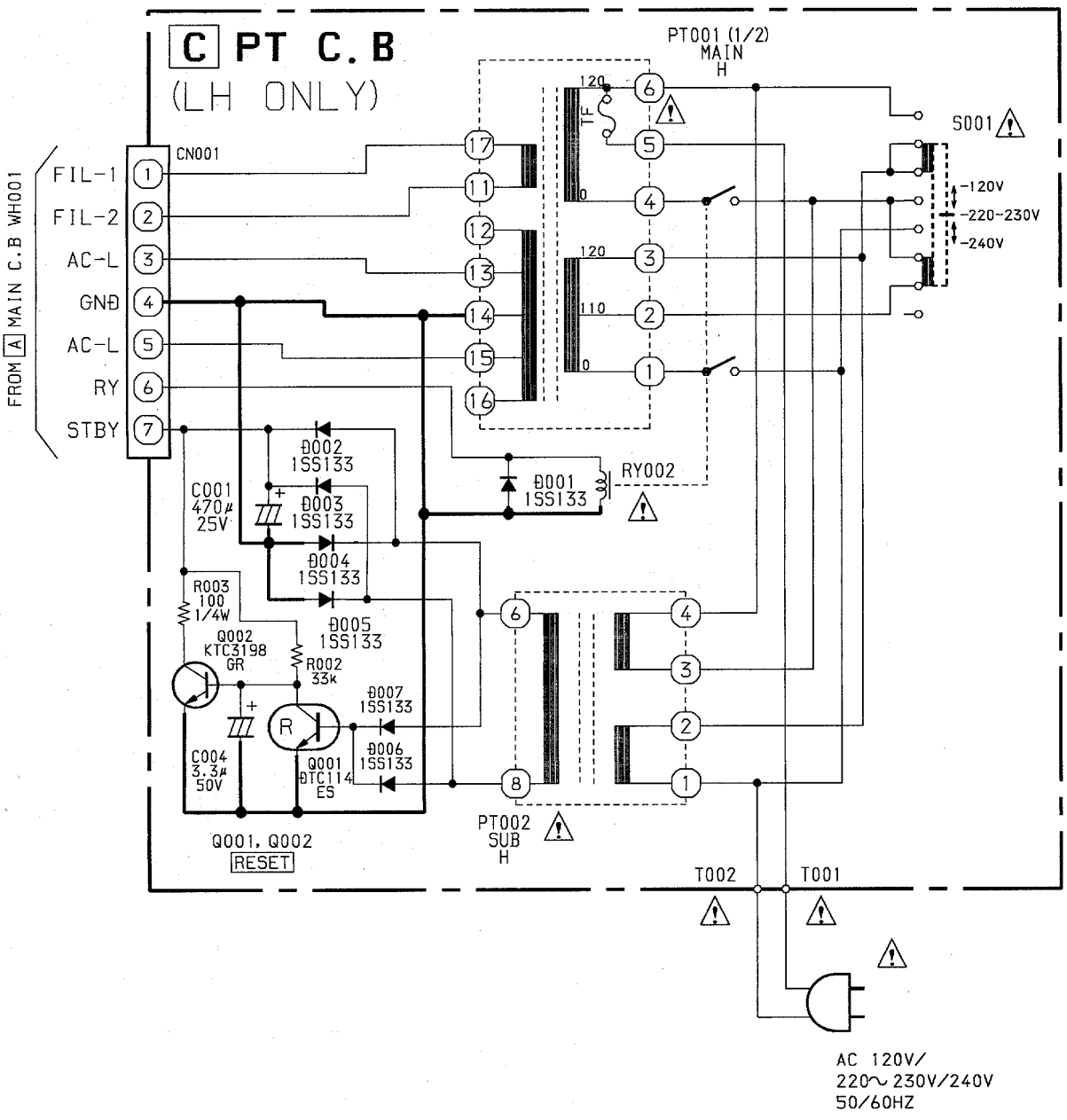
SCHEMATIC DIAGRAM – 4 (MAIN 3 / 3 : DECK)



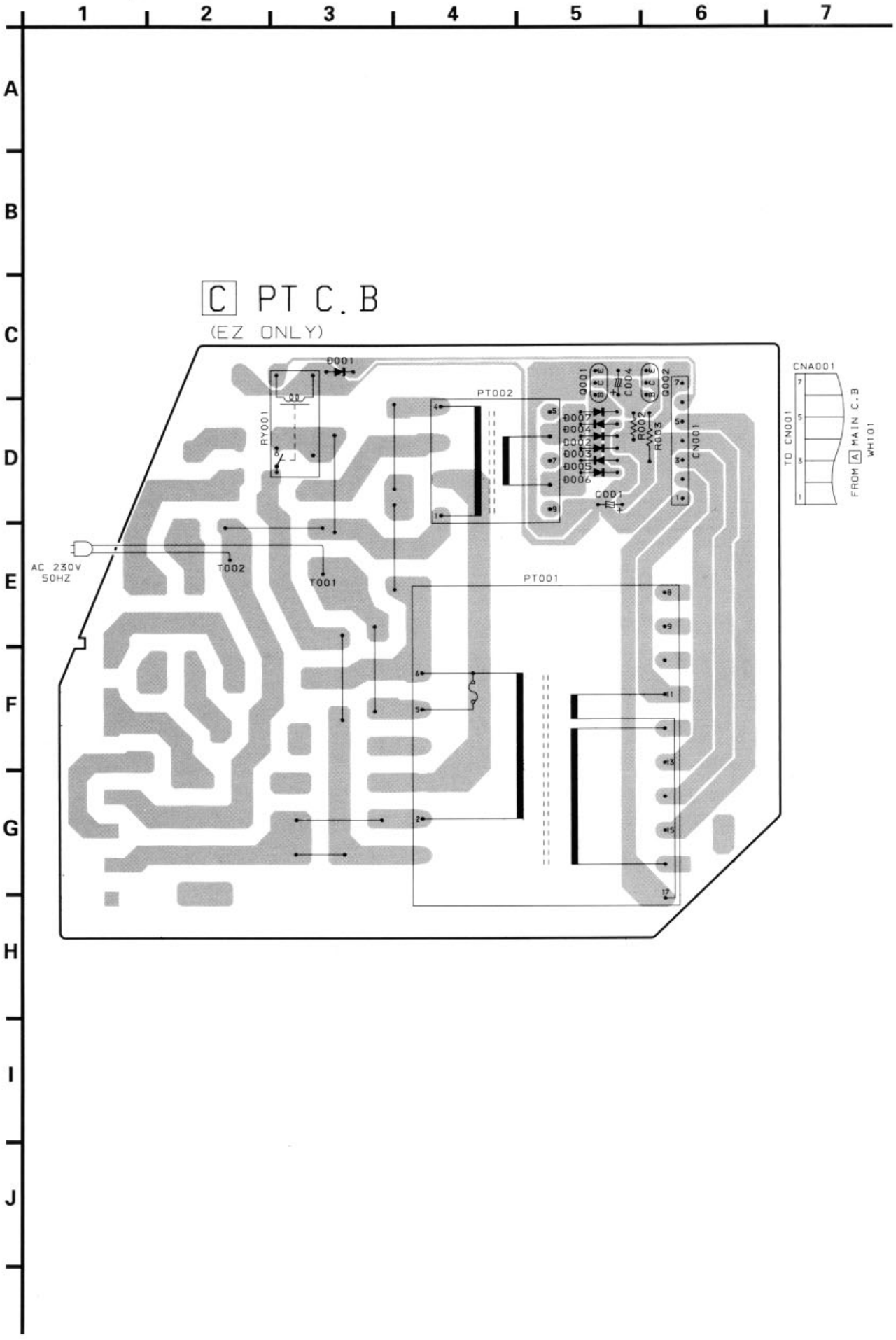
WIRING – 4 (PT : LH)

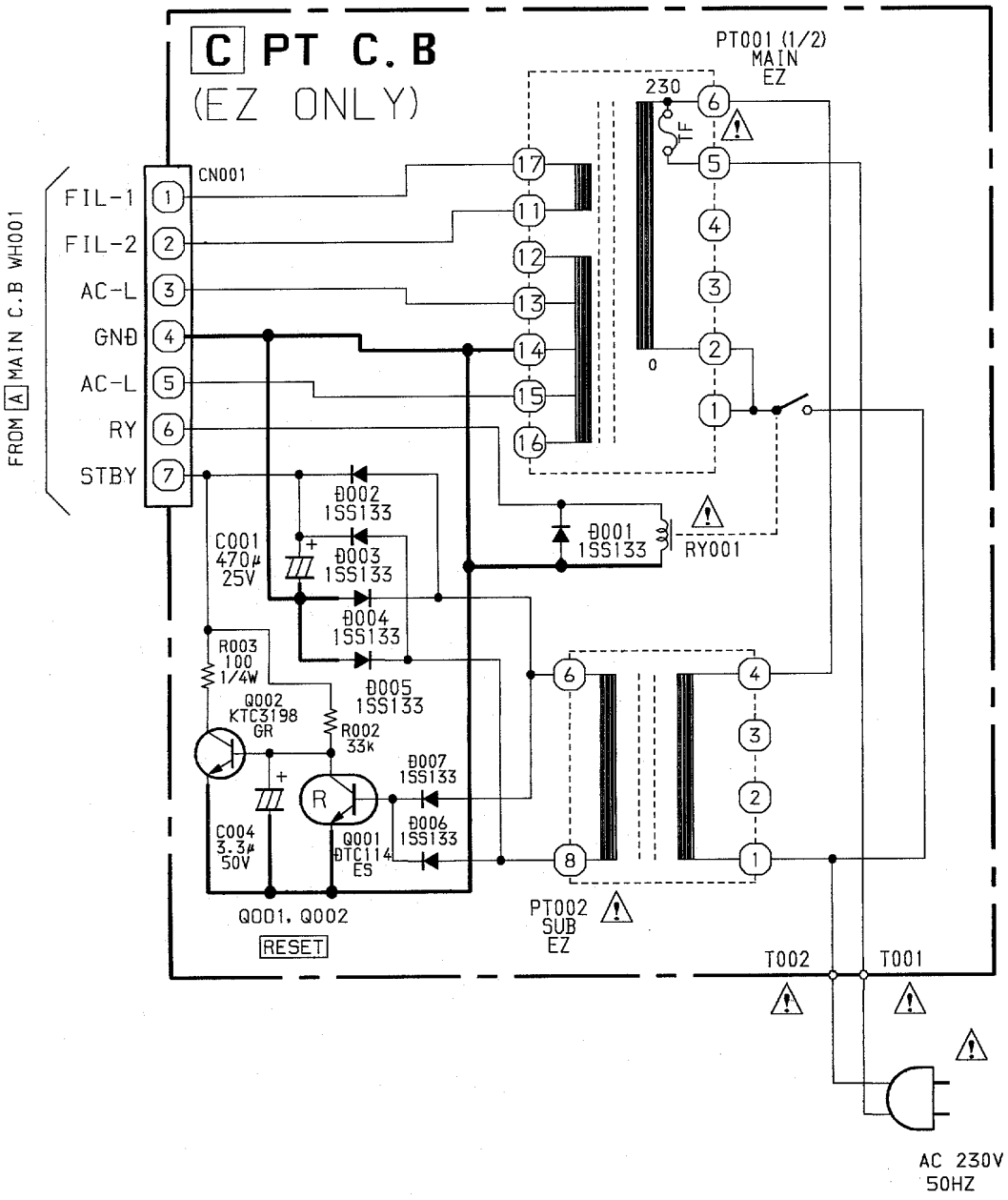


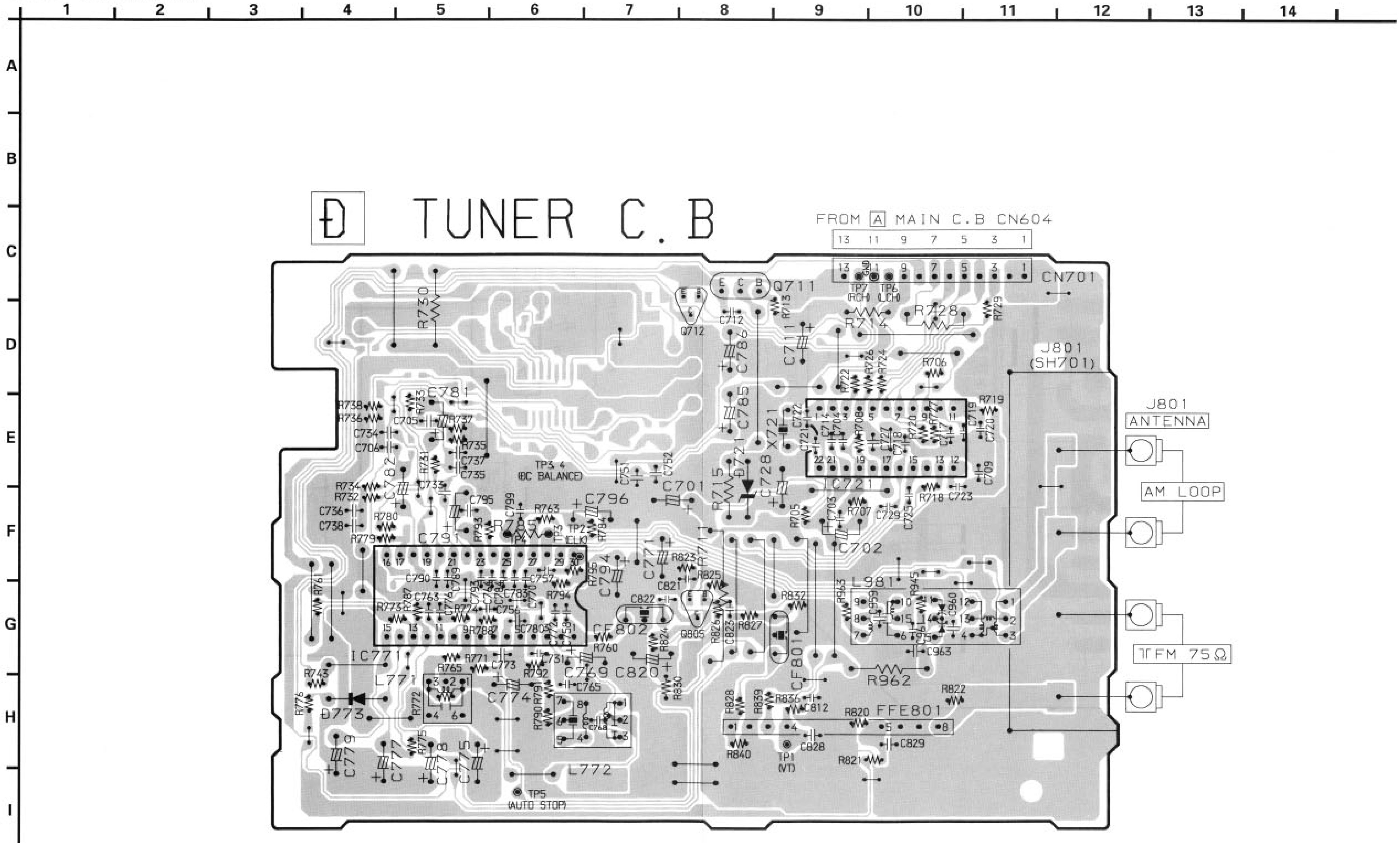
SCHEMATIC DIAGRAM – 5 (PT : LH)



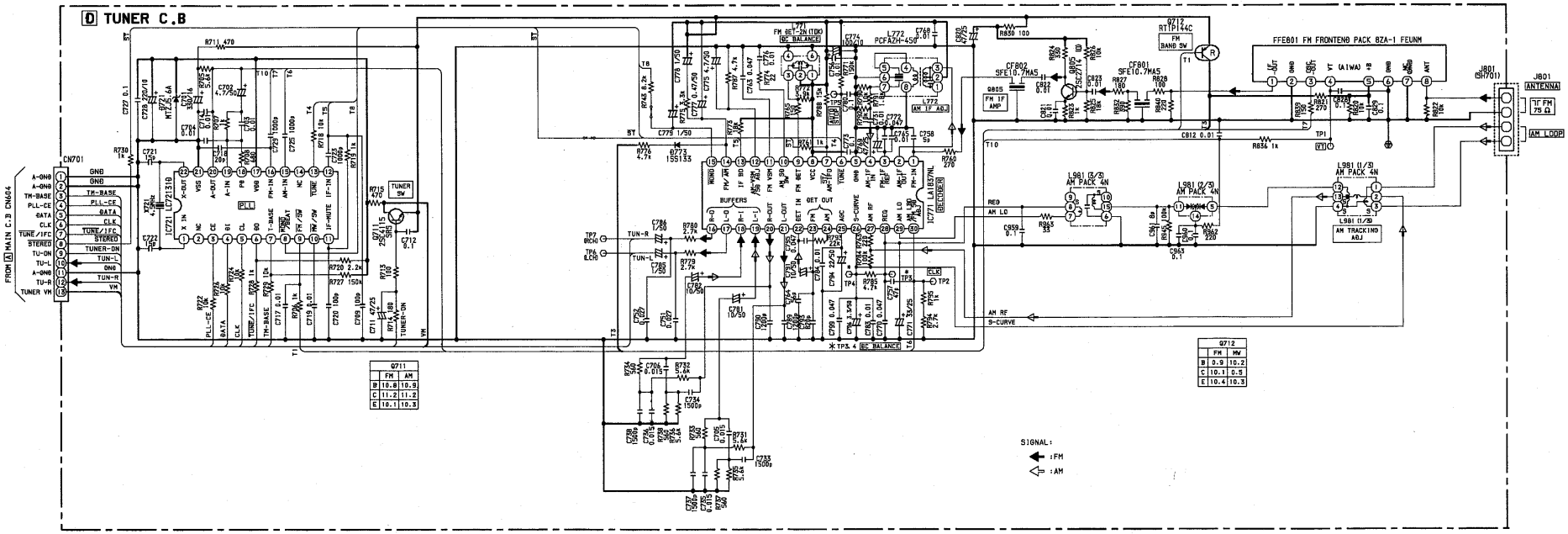
WIRING – 5 (PT : EZ)

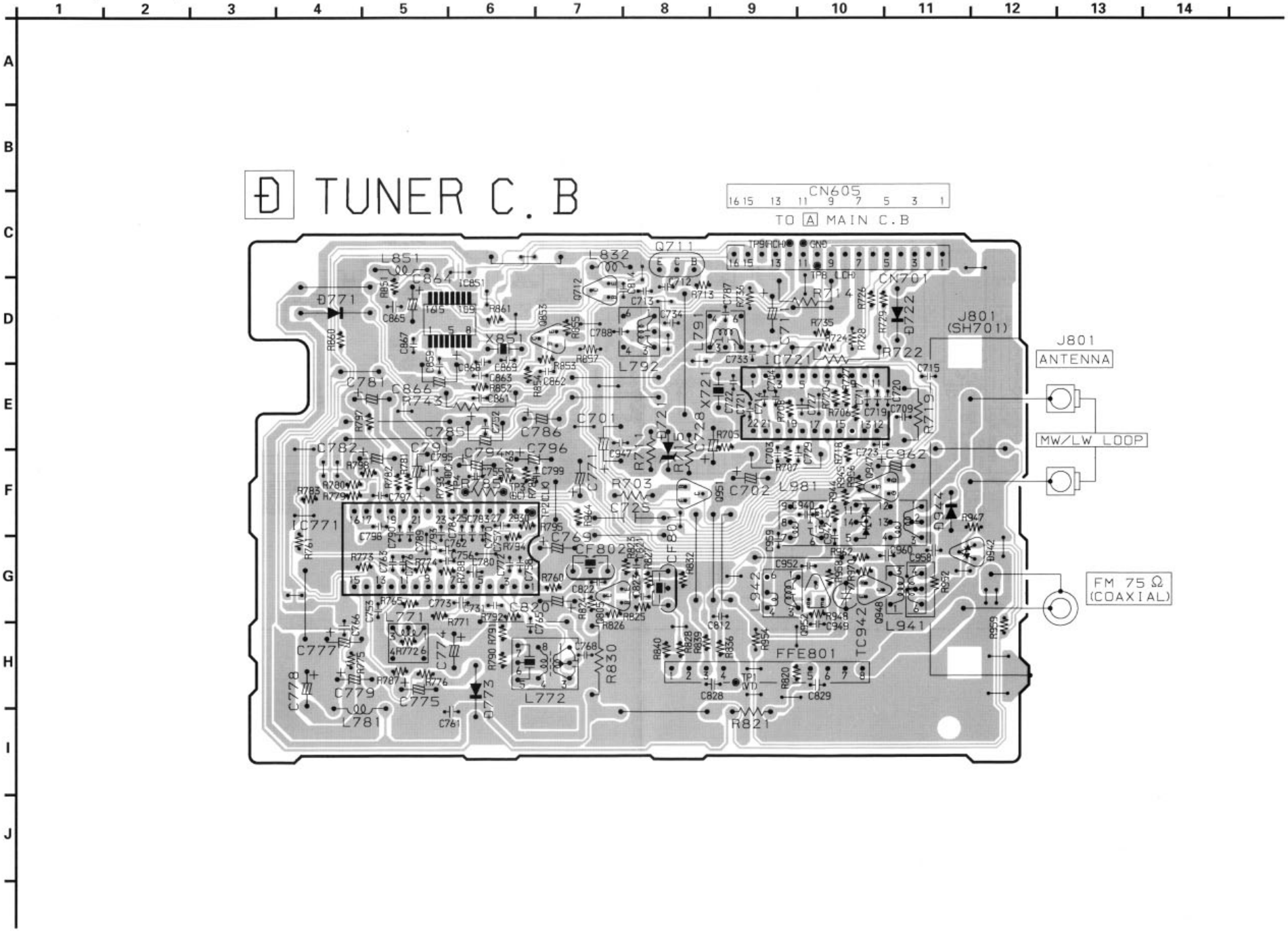



C PT C.B
(EZ ONLY)
FROM A MAIN C.B WH001
CN001
FIL-1
FIL-2
AC-L
GND
AC-L
RY
STBY
PT001 (1/2)
MAIN
EZ
230
0
TF
RY001
C001
470μ
25V
R003
100
1/4W
Q002
KTC3198
GR
R002
33k
C004
3.3μ
50V
Q001
DTC114
ES
Q001, Q002
RESET
PT002
SUB
EZ
T002
T001
AC 230V
50HZ

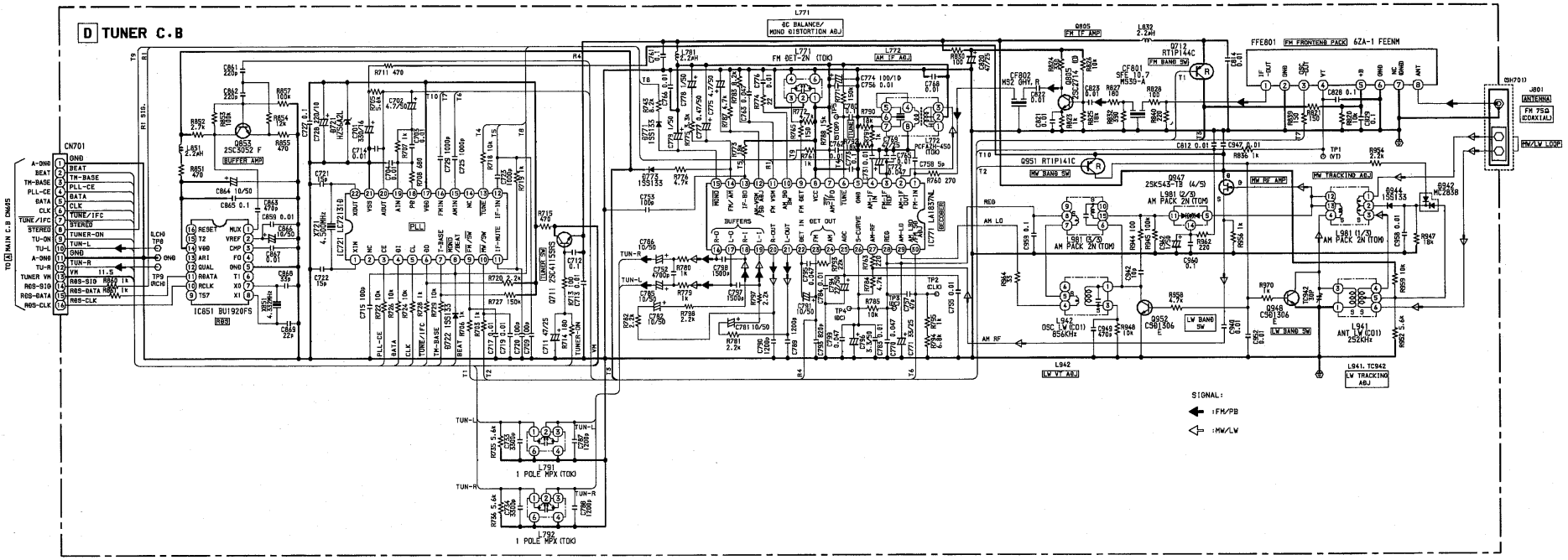

1
2
3
4
5
6
7
8
9
10
11
12
13
14
A
B
C
D
E
F
G
H
I
J
D TUNER C. B
FROM A MAIN C. B CN604
13 11 9 7 5 3 1
CN701
J801
(SH701)
J801
ANTENNA
AM LOOP
FM 75Ω
TP7 (RCH)
TP6 (LCH)
TP3, 4 (BC BALANCE)
TP2 (CLK)
TP1 (VT)
TP5 (AUTO STOP)
IC771
IC721
FFE801
CF801
CF802
L981
L771
L772
Q711
Q712
Q805
D721
D773
X721

SCHEMATIC DIAGRAM – 7 (TUNER : LH)




Đ TUNER C.B
CN605
16 15 13 11 9 7 5 3 1
TO A MAIN C.B
J801
(SH701)
J801
ANTENNA
MW/LW LOOP
FM 75 Ω
(COAXIAL)
1 2 3 4 5 6 7 8 9 10 11 12 13 14
A B C D E F G H I J

SCHEMATIC DIAGRAM – 8 (TUNER : EZ)



IC DESCRIPTION

IC, LC72131D

<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 (4.5MHz) 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>Serial data input from CPU (μP M38B59MFH-P101FP) when relevant key is operated. Active "H".</td></tr>
<tr><td>5</td><td>CL</td><td>I</td><td>Synchronization clock for serial data in (DI) or serial data out (DO).</td></tr>
<tr><td>6</td><td>DO</td><td>O</td><td>Serial data output to CPU (μP M38B59MFH-P101FP).</td></tr>
<tr><td>7</td><td>T-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>$\overline{\text{FM}}$ / $\overline{\text{SW}}$</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><th>AM</th><th>FM</th><th>LW</th><th>MW</th><th>FM</th><th>MW</th><th>SW</th><th>FM</th></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>$\overline{\text{MW}}$/SW</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><th>AM</th><th>FM</th><th>LW</th><th>MW</th><th>FM</th><th>MW</th><th>SW</th><th>FM</th></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>IF-IN</td><td>I</td><td>General purpose counter input.</td></tr>
<tr><td>13</td><td>$\overline{\text{TUNE}}$</td><td>I</td><td>Receives "L" when station is tuned.</td></tr>
<tr><td>14</td><td>NC</td><td>–</td><td>Not used.</td></tr>
<tr><td>15</td><td>AM-IN</td><td>I</td><td>Receives the AM local oscillator frequency signal.</td></tr>
<tr><td>16</td><td>FM-IN</td><td>I</td><td>Receives the FM local oscillator frequency signal.</td></tr>
<tr><td>17</td><td>VDD</td><td>–</td><td>Supply power to IC (+5V).</td></tr>
<tr><td>18</td><td>PD</td><td>O</td><td>PLL charge pump output.</td></tr>
<tr><td>19</td><td>A-IN</td><td>I</td><td rowspan="2">The MOS transistor for PLL active low pass filter.</td></tr>
<tr><td>20</td><td>A-OUT</td><td>O</td></tr>
<tr><td>21</td><td>VSS</td><td>–</td><td>Ground.</td></tr>
</table>

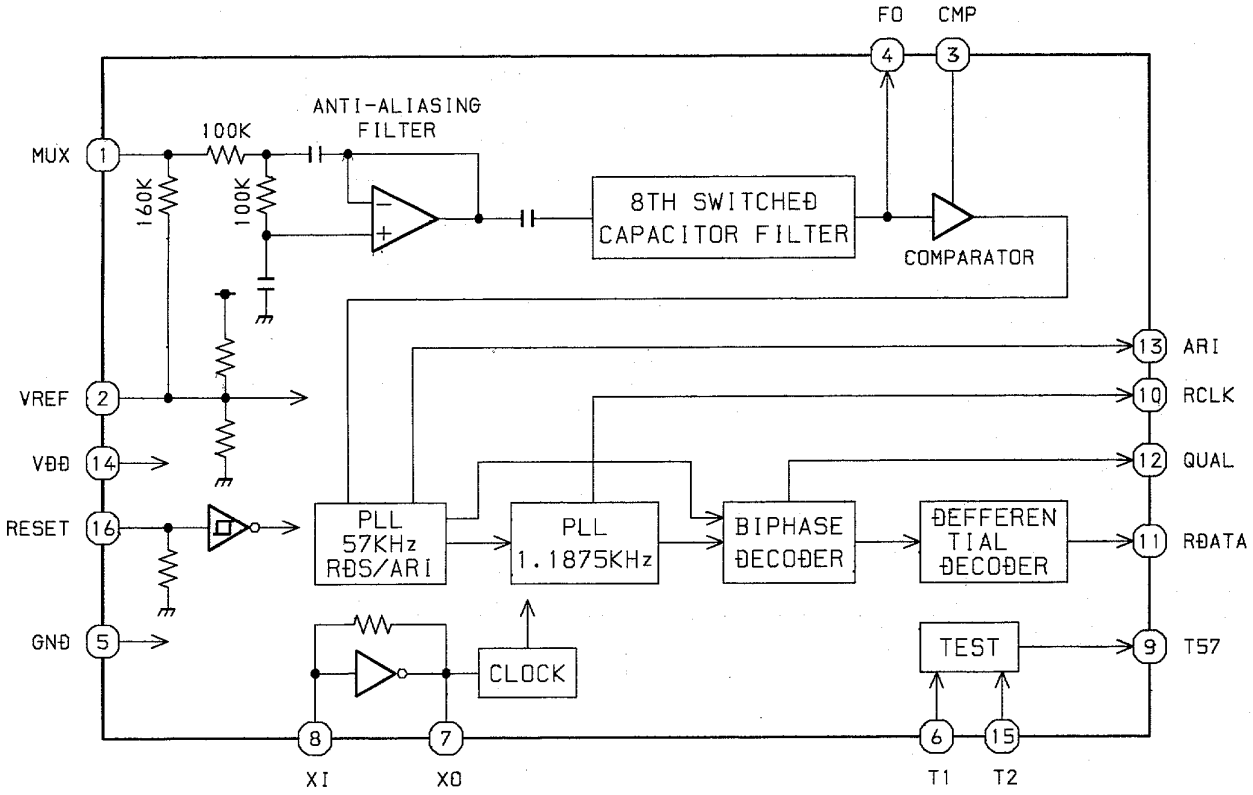
IC, M38B59MFH-E106FP

Pin No.	Pin Name	I/O	Description
1	I-RE-JOG	I	MULTI JOG Rotary encoder input A/B.
2	I-RE-VOL	I	Main volume rotary encoder input A/B.
3	I-$\overline{\text{HOLD}}$	I	Power failure detection, "L" to stop clock and main memory.
4	I-SPEANA	I	A/D iutput for spectrum analyser level display.
5,6	I-KEY 2,1	I	KEY 2,1 A/D input.
7	►PRESET	O	►PRESET LED ON/$\overline{\text{OFF}}$ output.
8	O-$\overline{\text{SHIFT}}$	O	Microprocessor clock shift output.
9	I-$\overline{\text{RMC}}$	I	System remote control input.
10	I-$\overline{\text{RESET}}$	I	System reset input.
11	O-PRO LED	O	PRO LOGIC LED ON/$\overline{\text{OFF}}$ output.
12	NC	–	Not used.
13	VSS	–	GND.
14,15	XIN, XOUT	I/O	4.19MHz oscillator circuit.
16	VCC	–	Power supply.
17	O-$\overline{\text{SOL1}}$	O	DECK 1 solenoid output.
18	O-$\overline{\text{SOL2}}$	O	DECK 2 solenoid output.
19	$\overline{\text{II SET}}$	O	II SET LED $\overline{\text{ON}}$/OFF output.
20	I-TMBASE	I	Time-base clock (8Hz) input.
21	I-WRQ/I-RDS-CLK	I	CD WRQ input/Tuner RDS clock input.
22	O-MUTE	O	System mute output(ON/$\overline{\text{OFF}}$).
23	O-$\overline{\text{POWER}}$	O	System power supply $\overline{\text{ON}}$/OFF output.
24	►►I/►►UP	O	►►I/►►UP LED ON/$\overline{\text{OFF}}$ output.
25	DATA	O	Data output for MAIN, FRONT C.B.
26	O-CLK	O	CLK output for MAIN, FRONT C.B.
27	I◄◄/◄◄ DOWN	O	I◄◄/◄◄ DOWN LED ON/$\overline{\text{OFF}}$ output.
28	VEE	–	Power supply for FL display.
29	O-PLL_CE	O	PLL IC chip enable output.
30	O-MOTOR	O	DECK motor ON/$\overline{\text{OFF}}$ output.
31	O-STB	O	Latch strobe output for MAIN C.B
32	K-SCAN	O	Key scan output.
33~42	G10~G1	O	FL grid G10~G1 output.
43~48	P22~P17	O	FL segment P22~P17 output.
49	P16/I-RDS	O/I	FL segment P16 output / RDS input to diode.
50~52	P15~P13	O	FL segment P15~P13 output.
53	P12/I-LW	O/I	FL segment P12 / LW input to diode.
54~55	P11~P10	O	FL segment P11~P10 output.
56	P9/AM10K	O/I	FL sigment P9 output / AM10K data input.
57	P8/I-HPMUTE	O/I	FL sigment P8 output / Headphone insert detect input.
58	P7/$\overline{\text{CST2}}$	O/I	FL sigment P7 output / DECK 2 cassette detect switch data input.
59	P6/ $\overline{\text{CAM2}}$	O/I	FL segment P6 output / DECK2 CAM switch data input.
60	P5/AUTO1	O/I	FL segment P5 output / DECK1 AUTO stop switch data input.
61	P4/AUTO2	O/I	FL segment P4 output / DECK2 AUTO stop switch data input.

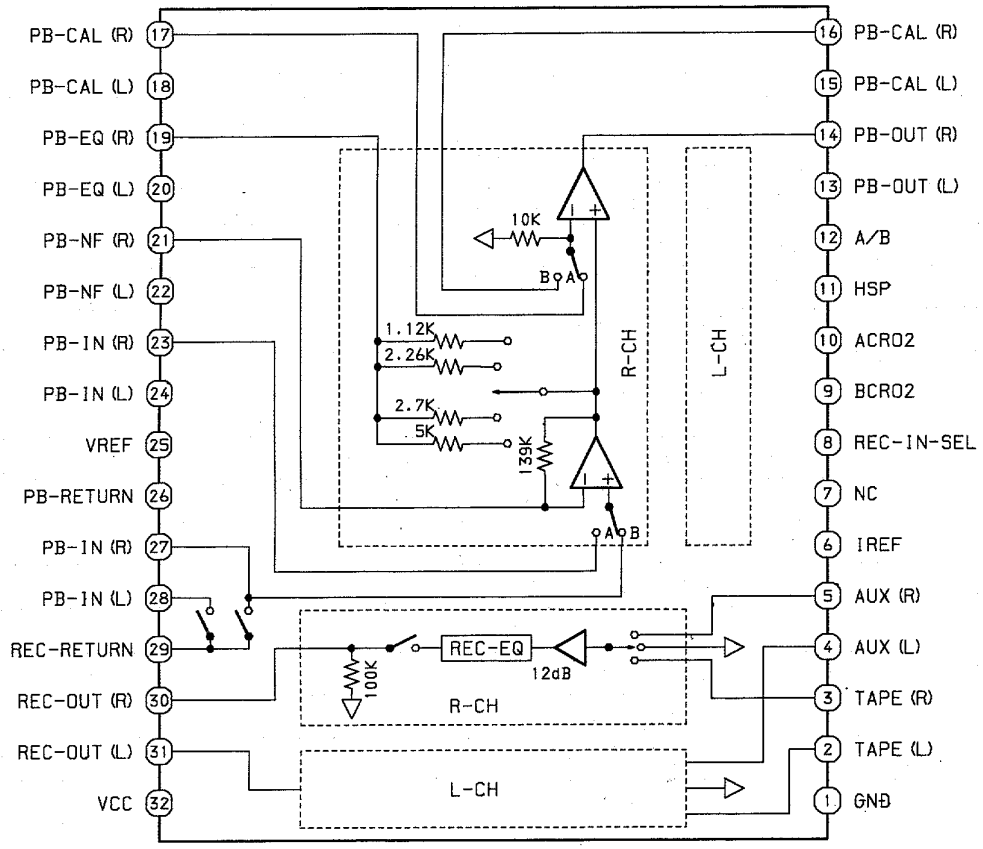
Pin No.	Pin Name	I/O	Description
62	P3/$\overline{\text{CAM1}}$	O/I	FL segment P3 output / DECK1 CAM stop switch data input.
63	P2/$\overline{\text{CST1}}$	O/I	FL segment P2 output / DECK1 cassette detect switch data input.
64	P1/$\overline{\text{REA}}$	O/I	FL segment P1 output / DECK2 side A record OK switch data input.
65	O-DISH_R	O	CD turntable reverse rotation output.
66	O-DISH_F	O	CD turntable forward rotation output.
67	I-DISH-SENS	I	CD turntable photo sensor input.
68	O-CD_CE	O	CD enable output.
69	■CLEAR	O	■CLEAR LED ON/OFF output.
70	O-CD_CLK	O	CD clock output.
71	O-DATA/I-RDS	O/I	CD data output / RDS data input.
72	I-$\overline{\text{TUNE}}$/IFC/SUBQ	I	Tuner TUNE input / Tuner IF count serial data input / CD SUBQ data input.
73	AVSS	–	GND.
74	VREF	–	Power supply.
75	I-ST/DRF	I	Tuner STEREO input / CD DRF input.
76	O-CD_OPEN	O	CD tray open data output.
77	O-CD_CLOSE	O	CD tray close data output.
78	I-CD_SW	I	CD mecha switch input.
79	O-CD_LED	O	CD flash window LED output.
80	I-SIG	I	RDS signal input.

IC BLOCK DIAGRAM

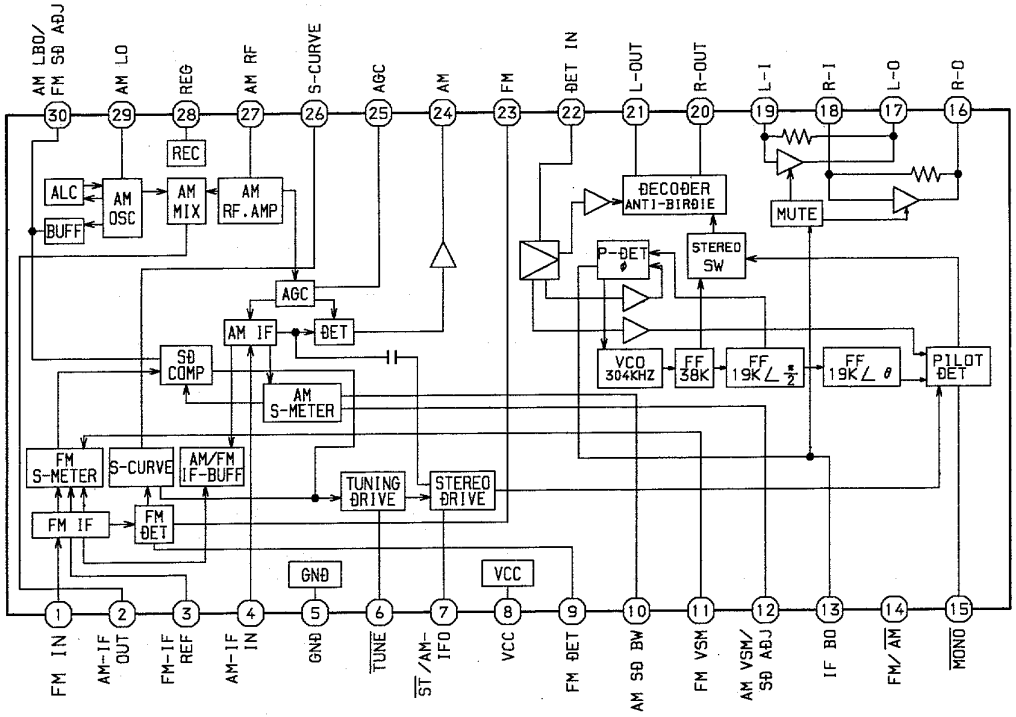
IC, BU1920FS



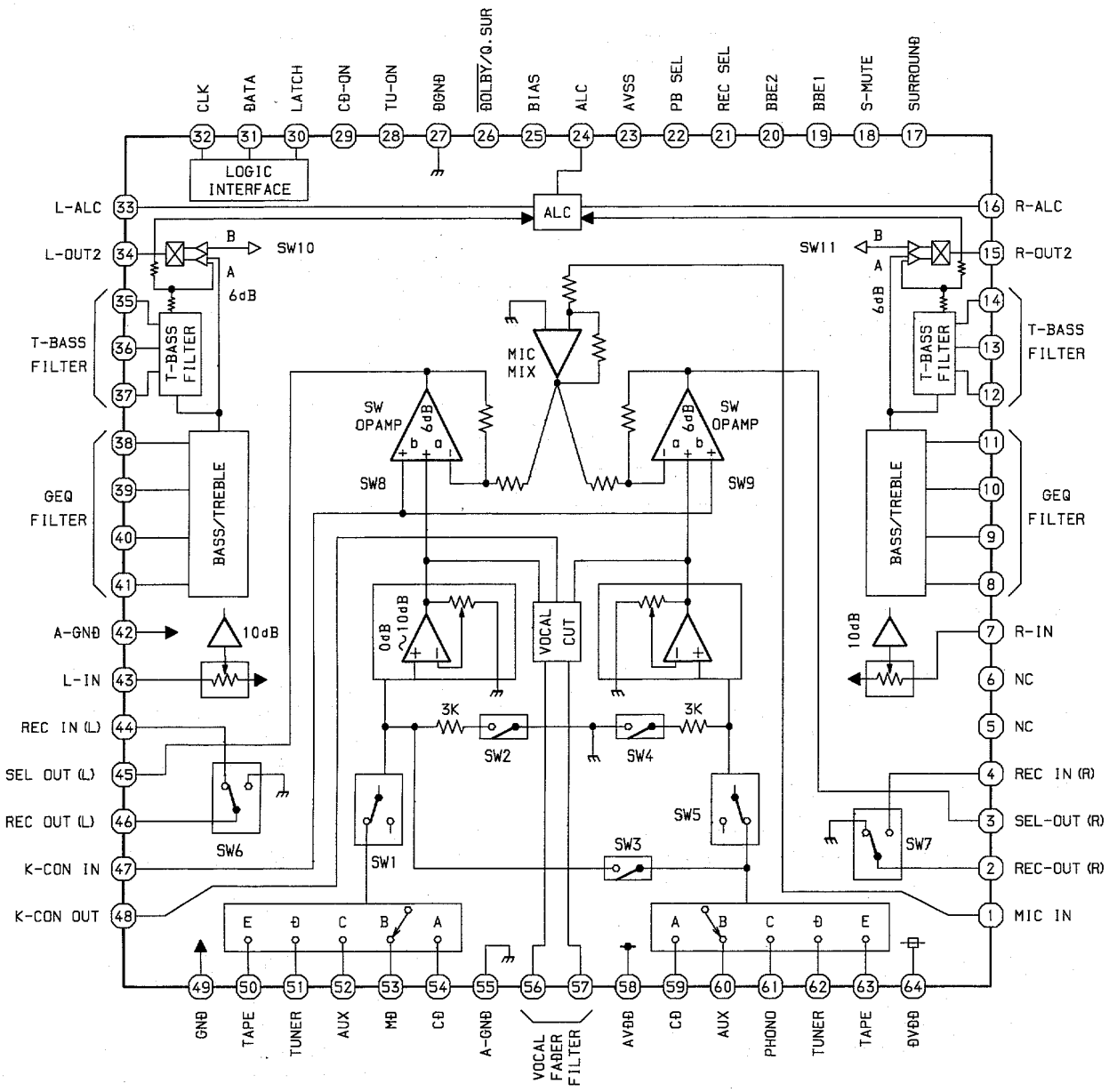
IC, BA7762AFS



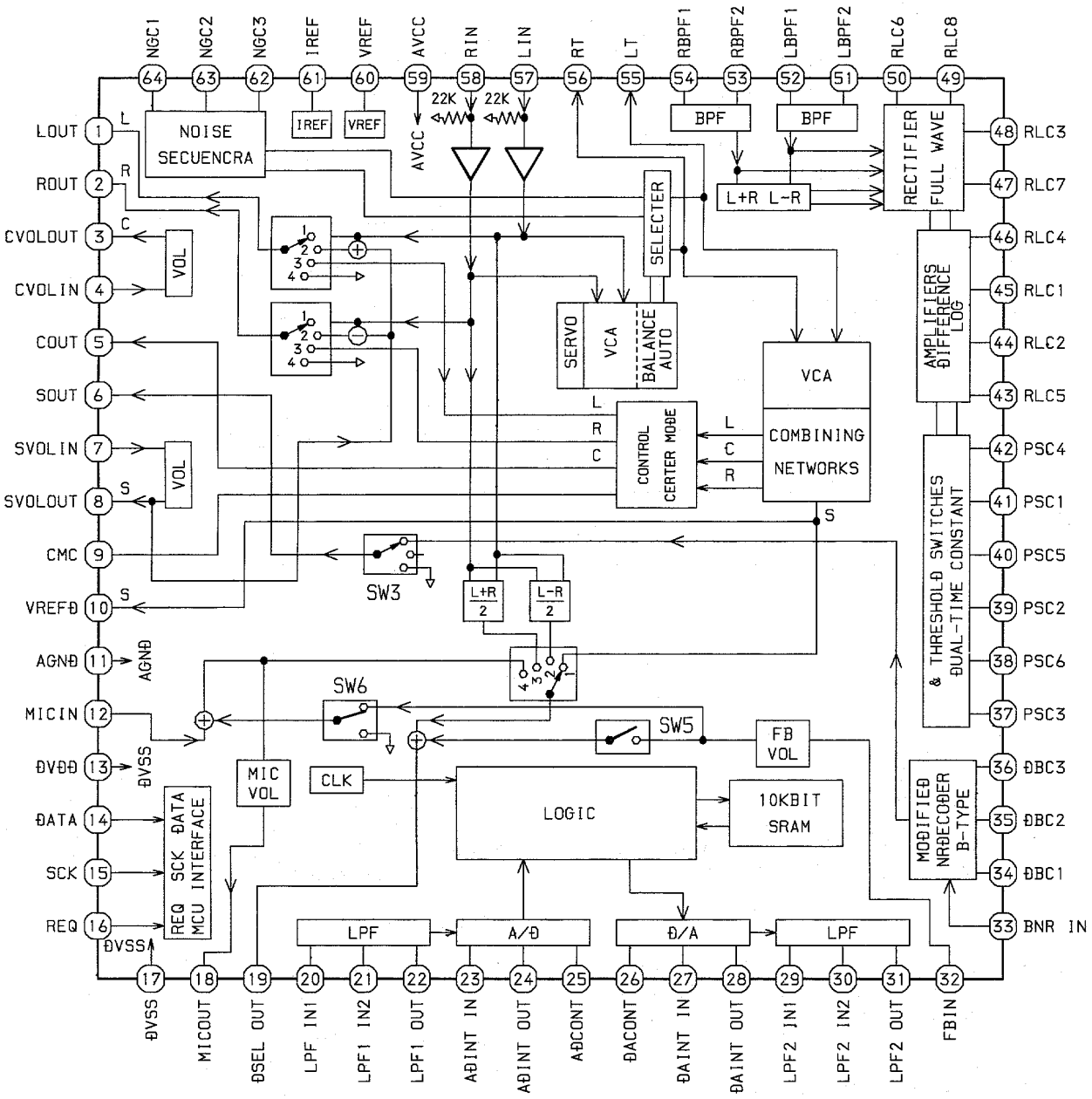
IC, LA1837NL



IC, M62445AFP

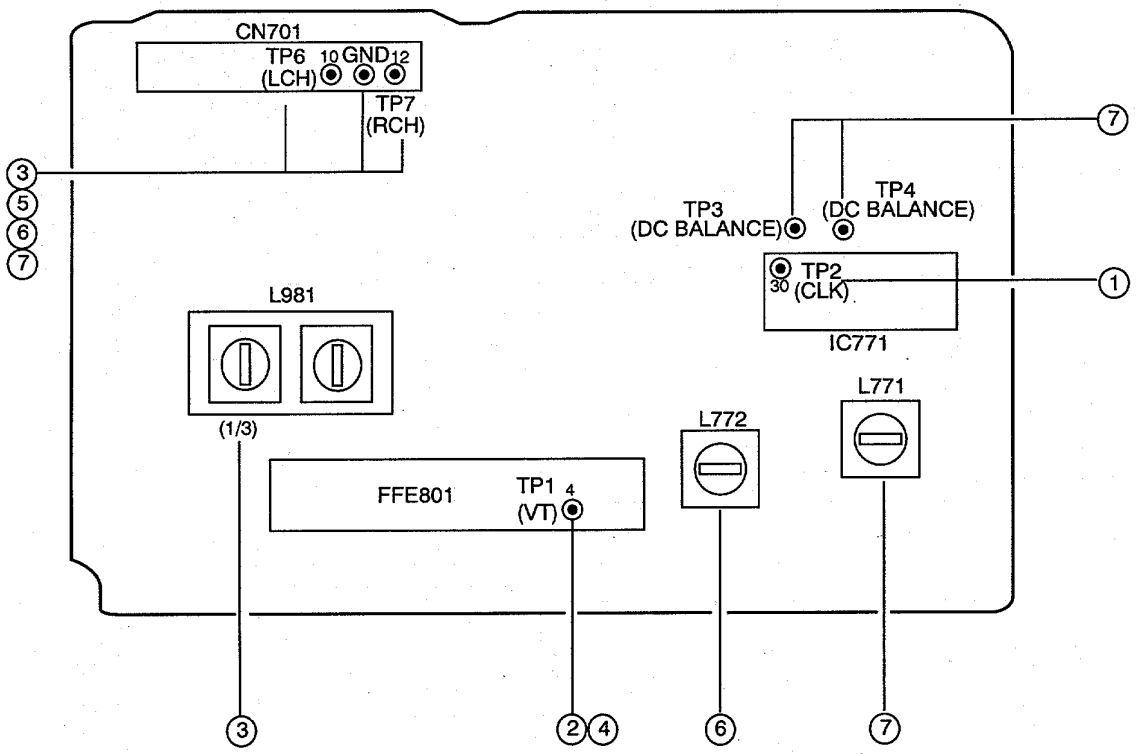


IC, M62463AFP



ADJUSTMENT – 1 <TUNER>

[D] TUNER C.B <LH>



< TUNER SECTION > (LH)

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

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

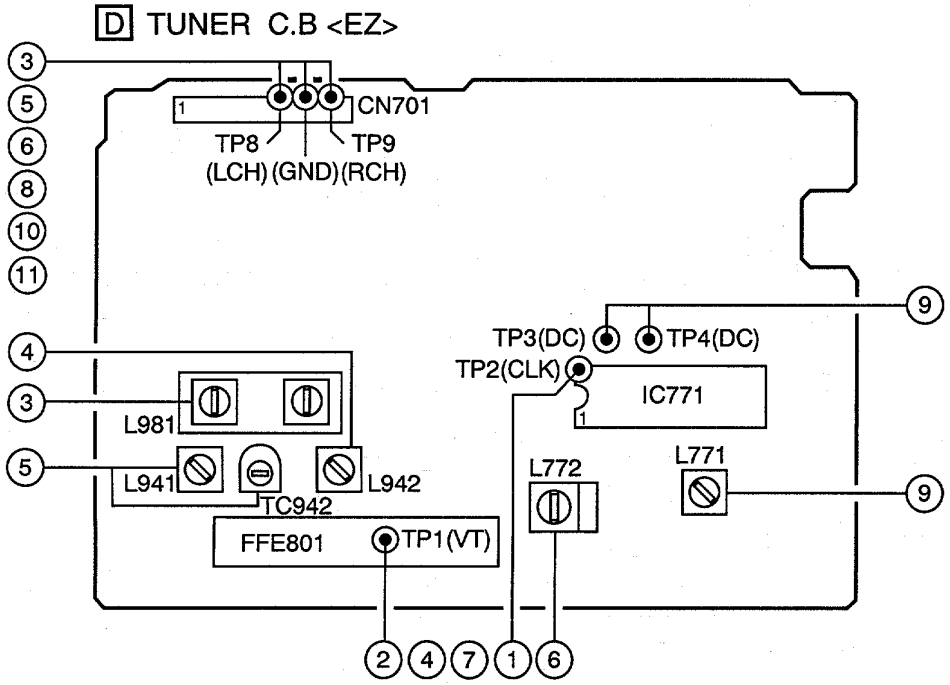
3. AM Tracking Adjustment
   Settings : • Test point : TP6(Lch), TP7(Rch)
   • Adjustment location :
   L981(1/3) 1000kHz
   Method : Set to AM 1000kHz and adjust L981(1/3) so that the test point is max.

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

5. FM Tracking Check
   Settings : • Test point : TP6(Lch), TP7(Rch)
   Method : Set to FM 98.0MHz and check that the test point is less than 9.0dBμV.

6. AM IF Adjustment
   Settings : • Test point : TP6(Lch), TP7(Rch)
   • Adjustment location :
   L772 ..... 450kHz

7. DC Balance / Mono Distortion Adjustment
   Settings : • Test point : TP3, TP4 (DC Balance)
   TP6(Lch), TP7(Rch) (Distortion)
   • Adjustment location : L771
   • Input level : 60dBμV
   Method : Set to FM 98.0MHz and adjust L771 so that the voltage between TP3 and TP4 becomes 0V ± 0.04V. Next, check that the distortion is less than 1.3%



< TUNER SECTION > (EZ)

1. Clock Frequency Check
   Settings : • Test point : TP2 (CLK)
   Method : Set to MW 1602kHz and check that the test point is 2052kHz ± 45Hz.

2. MW VT Check
   Settings : • Test point : TP1 (VT)
   Method : Set to MW 1602kHz and check that the test point is less than 8.0V. Then set to MW 531kHz and check that the test point is more than 0.6V.

3. MW Tracking Adjustment
   Settings : • Test point : TP8 (Lch), TP9 (Rch)
   • Adjustment location : L981 (1/3)
   Method : Set to MW 999kHz and adjust L981 (1/3) so that the test point becomes maximum.

4. LW VT Adjustment
   Settings : • Test point : TP1 (VT)
   • Adjustment location : L942
   Method : Set to LW 144kHz and adjust L942 so that the test point becomes 1.3V ± 0.05V.
   Then set to LW 290kHz and check that the test point is less than 8.0V.

5. LW Tracking Adjustment
   Settings : • Test point : TP8 (Lch), TP9 (Rch)
   • Adjustment location :
   L941 ..... 144kHz
   TC942 ..... 290kHz
   Method : Set up TC942 to center before adjustment. The level at 144kHz is adjusted to MAX by L941. Then the level at 290kHz is adjusted to MAX by TC942.

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

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

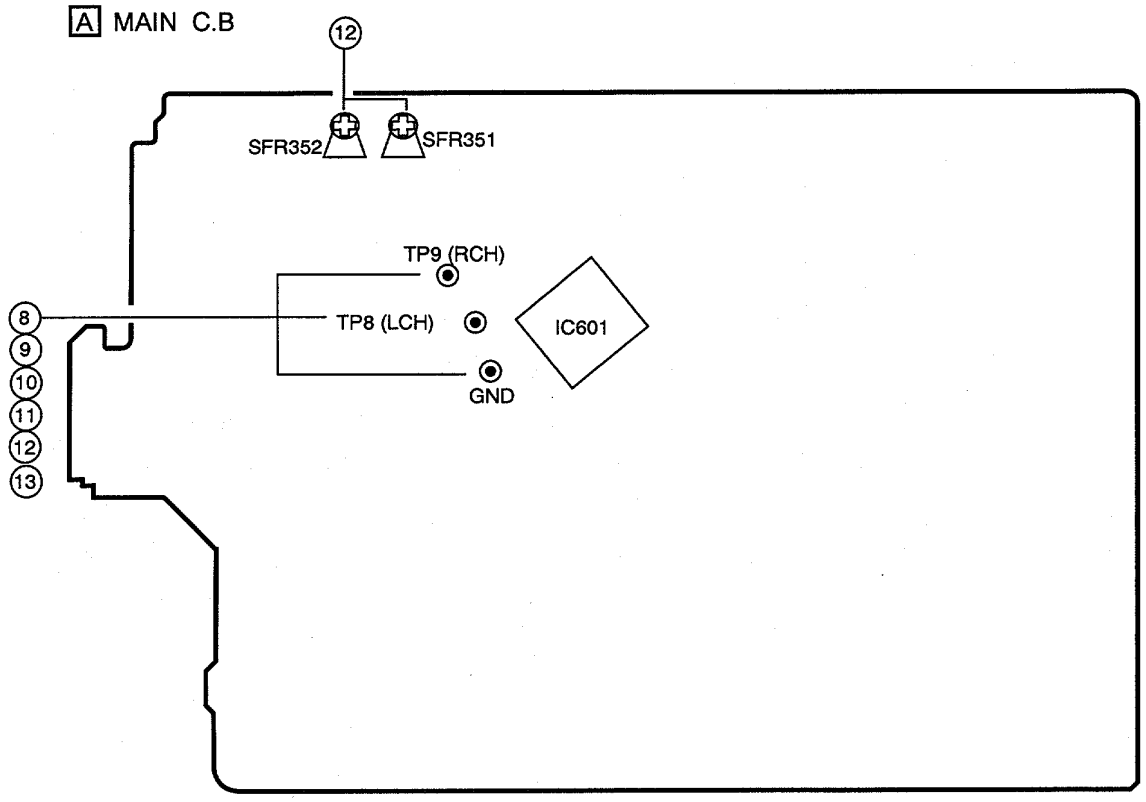
8. FM Tracking Check
   Settings : • Test point : TP8 (Lch), TP9 (Rch)
   Method : Set to FM 98.0MHz and check that the test point is less than 13dBμV.

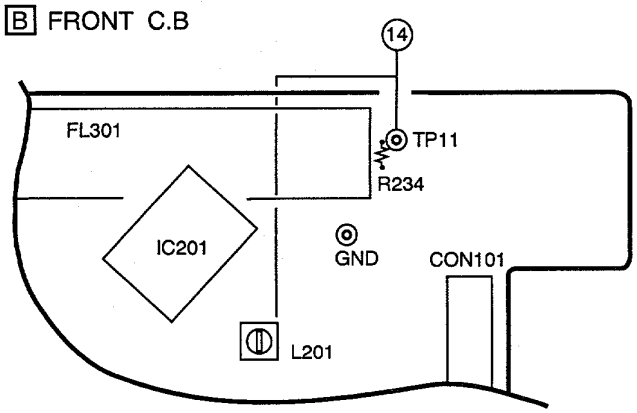
9. DC Balance / Mono Distortion Adjustment
   Settings : • Test point : TP3,TP4 (DC balance)
   • Adjustment location : L771
   • Input level : 60dBμV
   Method : Set to FM 98.0MHz and adjust L771 so that the voltage between TP3 and TP4 becomes 0V ± 0.04V. Next, check that the distortion is less than 1.3%.

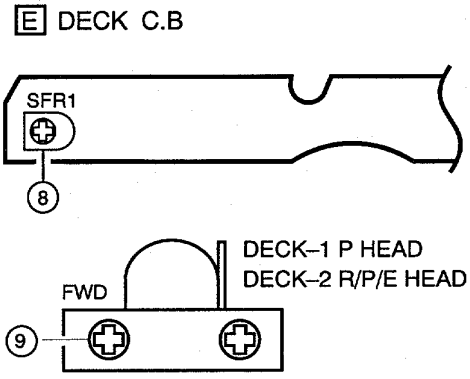
10. Output Level Check
    <MW>
    Settings : • Test point : TP8 (Lch), TP9 (Rch)
    • Input level : 74dBμV
    Method : Set to MW 999kHz and check that the test point is 130mV ± 3dB.

    <FM>
    Settings : • Test point : TP8 (Lch), TP9 (Rch)
    • Input level : 60dBμV
    Method : Set to FM 98.0MHz and check that the test point is 520mV ± 3dB.

11. FM Separation Check
    Settings : • Test point : TP8 (Lch), TP9 (Rch)
    • Input level :60dBμV
    Method : Set to FM 98.0MHz and check that the test point is more than 25dB.


A MAIN C.B
12
SFR352
SFR351
TP9 (RCH)
TP8 (LCH)
IC601
GND
8
9
10
11
12
13


B FRONT C.B
14
FL301
TP11
R234
IC201
GND
CON101
L201


E DECK C.B
SFR1
8
DECK–1 P HEAD
DECK–2 R/P/E HEAD
FWD
9

ADJUSTMENT – 2 <DECK/FRONT>

< DECK SECTION >

8. Tape Speed Adjustment (DECK 1, DECK 2)
   Settings : • Test tape : TTA–100
   • Test point : TP8(Lch), TP9(Rch)
   • Adjustment location : SFR1
   Method : Play back the test tape and adjust SFR1 so that the frequency counter reads 3000Hz ± 5Hz.

9. Head Azimuth Adjustment (DECK 1, DECK 2)
   Settings : • Test tape : TTA–330
   • Test point : TP8(Lch), TP9(Rch)
   • Adjustment location : Head azimuth adjustment screw
   Method : Play back (FWD) the 8kHz signal of the test tape and adjust screw so that the output becomes maximum.

10. PB Frequency Response Check (DECK 1, DECK 2)
    Settings : • Test tape : TTA–330
    • Test point :TP8(Lch), TP9(Rch)
    Method : Play back the 315Hz and 8kHz signals of the test tape and check that the output ratio of the 8kHz signal with respect to that of the 315Hz signal is within 5dB.

11. PB Sensitivity Check (DECK 1, DECK 2)
    Settings : • Test tape : TTA–200
    • Test point : TP8(Lch), TP9(Rch)
    Method : Play back the test tape and check that the output level of the test point is 300mV ± 3dB.

12. REC/PB Frequency Response Adjustment
    Settings : • Test tape : TTA–602
    • Test point : TP8(Lch), TP9(Rch)
    • Input signal : 1kHz / 8kHz (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 TP8, TP9 becomes 0dB(21mV). Record and play back the 1kHz and 8kHz signals and adjust SFRs so that the output of the 8kHz signals becomes 0dB ± 0.5dB with respect to that of the 1kHz signal.

13. REC/PB Sensitivity Check
    Settings : • Test tape : TTA–602
    • Test point : TP8(Lch), TP9(Rch)
    • Input signal : 1kHz (LINE IN)
    Method : Apply a 1kHz signal and REC mode. Then adjust OSC attenuator so that the output level at TP8, TP9 becomes 0dB (210mV). Record and play back the 1kHz signals and check that the output is 1.5dB ± 3.0dB.

< FRONT SECTION >

14. μ-CON OSC Adjustment
    Settings : • Test point : TP11
    • Adjustment location : L201
    Method : Insert AC plug with pressing TUNER function key. Adjust L201 so that the frequency across the test point is 233.97Hz ± 0.23Hz.

PRACTICAL SERVICE FIGURE

<TUNER SECTION>

<FM SECTION>

IHF Sensitivity : (THD 3%)	LH: Less than 10 / 9 / 9dBμV EZ: Less than 14 / 13 / 13dBμV [at 87.5 / 98.0 / 108.0MHz]
S/N 50dB Quieting sensitivity :	LH: Less than 35dBμV EZ: Less than 38dBμV [at 98.0MHz]
Signal to noise ratio :	Mono : More than 68dB Stereo : LH: More than 66dB EZ: More than 64dB [at 98.0MHz]
Distortion :	Mono : Less than 1.2% Stereo : Less than 2.0% [at 98.0MHz]
Auto stop level :	25dBμV +10dB/-14dB [at 98.0MHz]
Stereo separation :	LH: More than 22dB EZ: More than 12dB [at 98.0MHz]
Intermediate frequency :	10.7MHz

<MW/AM SECTION>

Sensitivity :	Less than 60dBμV [at 600kHz] Less than 58dBμV [at 1000 / 1400kHz]
Signal to noise ratio :	More than 36dB (mono) More than 34dB (stereo) [at 1000kHz]
Distortion :	Less than 1.5% (mono)

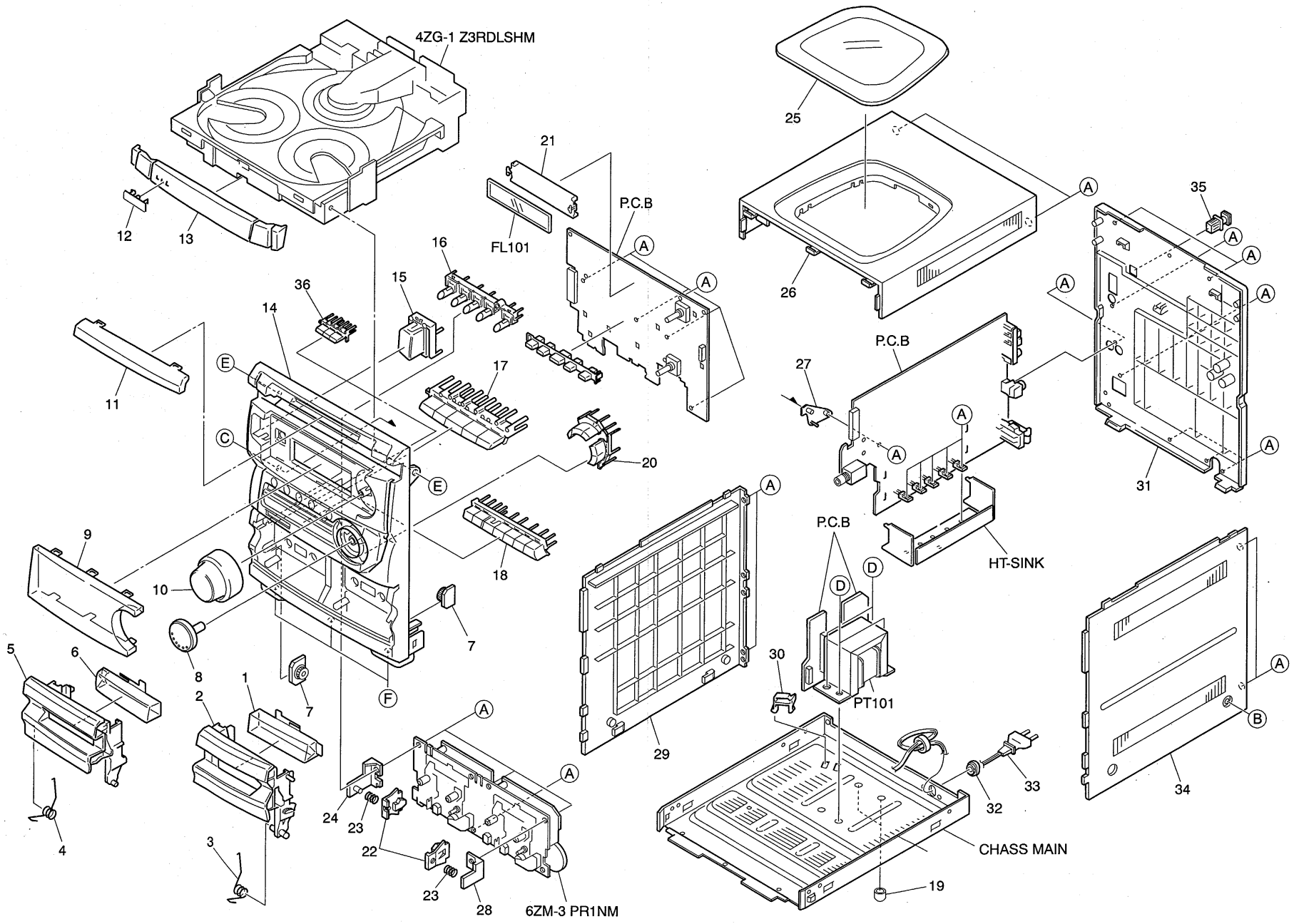
<LW SECTION> (EZ)

Sensitivity :	Less than 70dBμV [at 144kHz] Less than 68dBμV [at 198 / 290kHz]
Intermediate frequency :	450kHz

<DECK SECTION>

Tape speed :	3000Hz ± 45Hz
Wow & flutter :	Less than 0.25% (W.R.M.S)
Take-up torque :	30 ~ 55g-cm
F.F torque :	75 ~ 180g-cm
REW torque :	130 ~ 75g-cm
Back tension :	2 ~ 7g-cm
PB output level :	2.8V ± 3.0dB
REC/PB output level :	2V ± 3.0dB (0VU, NORM)
Distortion (REC/PB) :	Less than 2.0% (0VU)
Noise level (PB) :	Less than 20mV (NORM, FILTER DIN AUDIO)
Noise level (REC/PB) :	Less than 30mV (NORM, FILTER DIN AUDIO)
Erasing ratio :	More than 60dB (at 125Hz, +10VU)
Test tape :	TTA–602 (NORMAL) TTA–100

MECHANICAL EXPLODED VIEW 1 / 1



MECHANICAL PARTS LIST 1 / 1

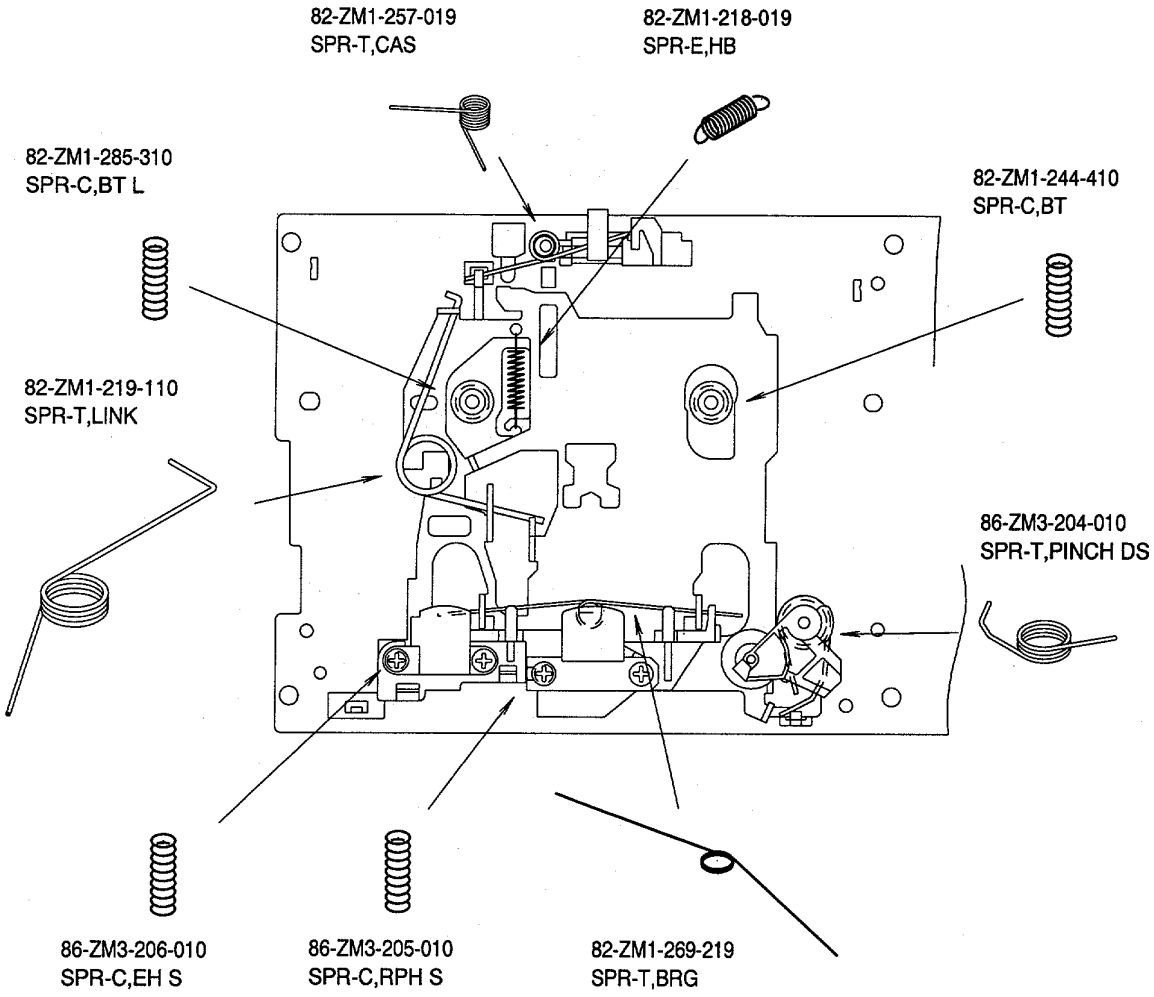
If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

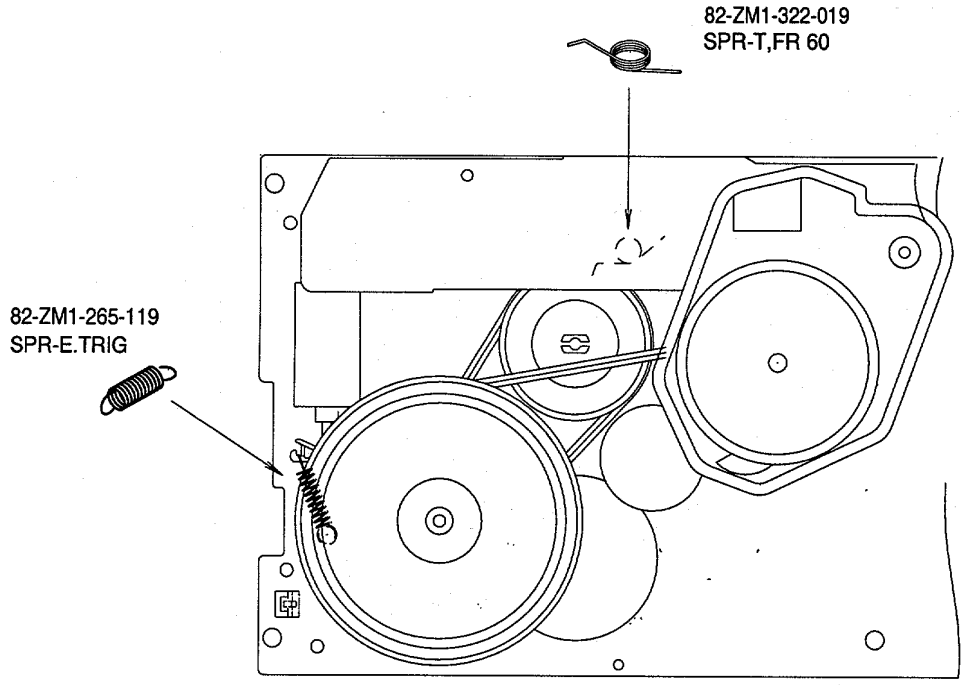
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8Z-NF9-008-010		WINDOW,CASS 2
2	8Z-NF9-004-010		BOX,CASS 2
3	82-NF5-219-010		SPR-T,EJECT 2 (SIN)
4	82-NF5-218-010		SPR-T,EJECT 1 (SIN)
5	8Z-NF9-003-010		BOX,CASS 1 1WAY
6	8Z-NF9-007-010		WINDOW,CASS 1
7	87-NF8-220-010		DMPR,150
8	8Z-NF9-010-010		KNOB,RTRY JOG
9	8Z-NFW-008-010		WINDOW,DISP H<LH>
9	8Z-NFW-006-010		WINDOW,DISP EZ<EZ>
10	8Z-NF9-009-010		KNOB,RTRY VOL
11	8Z-NF9-005-010		WINDOW,CD
12	82-NE6-067-010		BADGE,AIWA 30N
13	8Z-NF9-002-010		PANEL,TRAY H
14	8Z-NFW-001-010		CABI,FR U<LH>
14	8Z-NFW-007-010		CABI,FR EZ<EZ>
15	8Z-NF9-011-010		KEY,POWER
16	8Z-NFW-003-010		KEY,PRO
17	8Z-NF9-013-010		KEY,ASSY OPE 1W
18	8Z-NF9-016-010		KEY,CD
19	8Z-NB8-240-010		COVER, PL
20	8Z-NF9-017-010		KEY,GEQ
21	82-NF7-210-110		GUIDE,FL (*)
22	82-NF5-229-010		PLATE,LOCK
23	86-NF9-224-010		SPR-C,LOCK
24	87-NF4-216-010		HLDR,LOCK 1
25	86-NFZ-001-010		WINDOW,TOP
26	8Z-NF9-042-010		PANEL,TOP V-2
27	88-NF5-208-010		HLDR,PWB-M N
28	87-NF4-217-110		HLDR,LOCK 2
29	8Z-NB8-011-110		PANEL,LEFT V-2
30	87-NF4-221-010		HLDR,CABLE
31	8Z-NFW-016-010		CABI,REAR LHSTM<LH>
31	8Z-NFW-017-010		CABI,REAR EZSTE<EZ>
32	87-085-185-010		BUSHING, AC CORD (E)
⚠ 33	87-050-079-010		AC-CORD ASSY,E
34	8Z-NF9-043-010		PANEL,RIGHT S V-2
35	84-ZG1-245-210		CAP,OPTICAL
36	8Z-NF9-018-010		KEY,RDS<EZ>
A	87-067-703-010		TAPPING SCREW, BVT2+3-10
B	87-067-689-010		TAPPING SCREW, BVTT+3-8
C	87-721-096-410		QT2+3-10 GLD
D	87-067-975-010		S-SCREW,IT+4-8
E	87-721-097-410		QT2+3-12 GLD
F	87-067-641-010		UTT2+3-8(W/O SLOT)BL

COLOR NAME TABLE

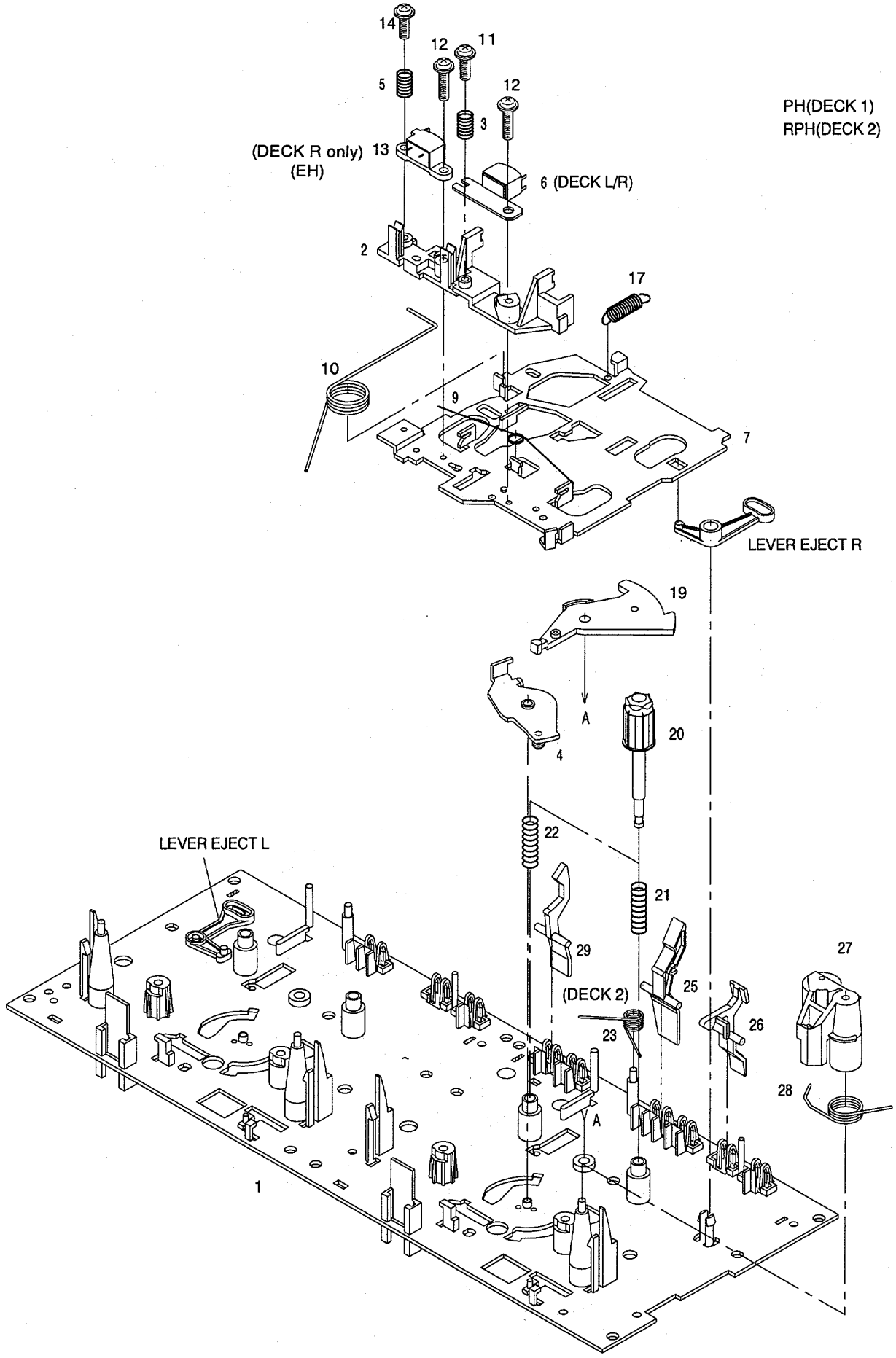
Basic color symbol	Color	Basic color symbol	Color	Basic color symbol	Color
B	Black	C	Cream	D	Orange
G	Green	H	Gray	L	Blue
LT	Transparent Blue	N	Gold	P	Pink
R	Red	S	Silver	ST	Titan Silver
T	Brown	V	Violet	W	White
WT	Transparent White	Y	Yellow	YT	Transparent Yellow
LM	Metallic Blue	LL	Light Blue	GT	Transparent Green
LD	Dark Blue	DT	Transparent Orange		

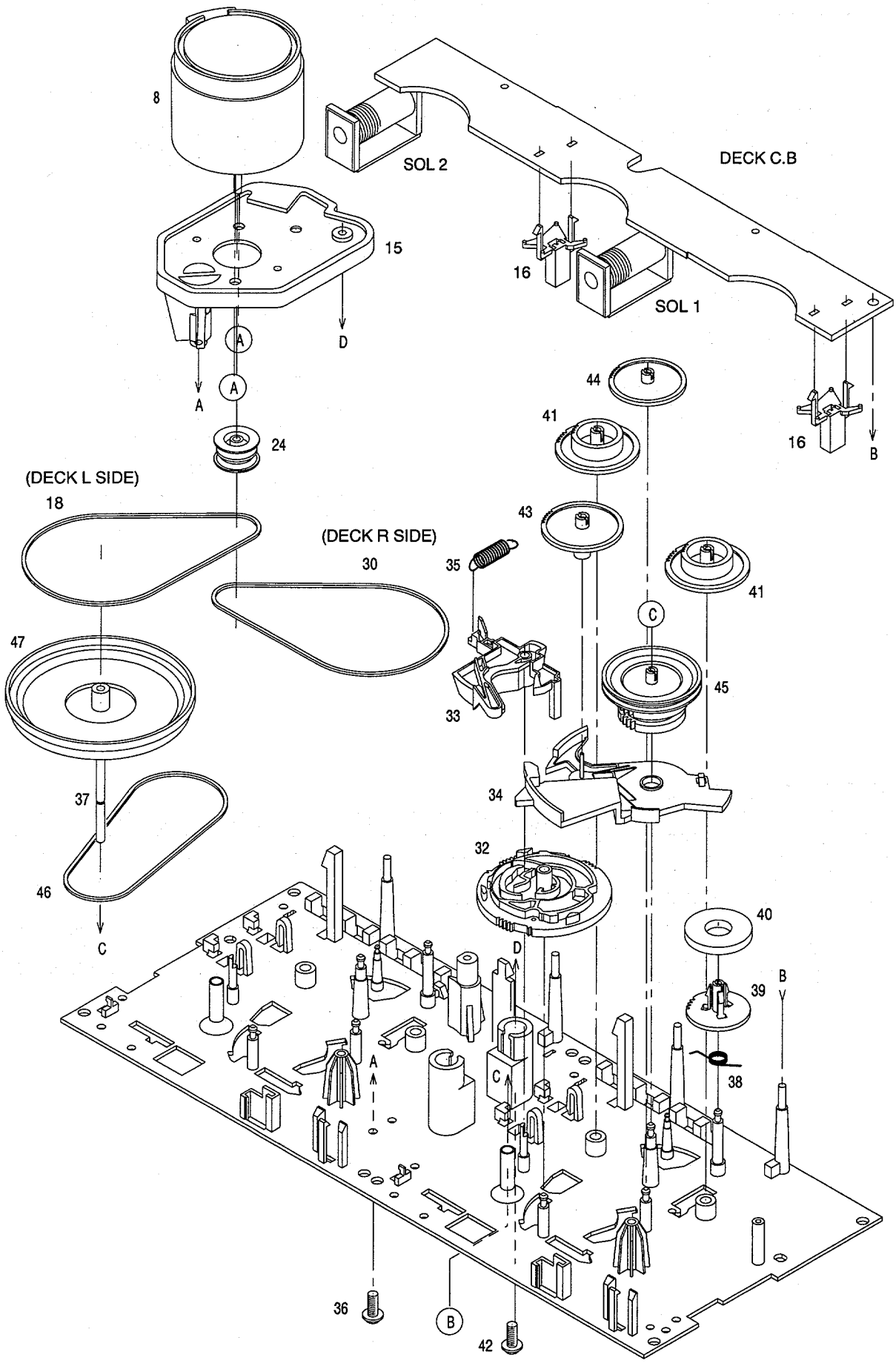
SPRING APPLICATION POSITION





TAPE MECHANISM EXPLODED VIEW 1 / 1




8
SOL 2
DECK C.B
15
16
SOL 1
D
A
A
44
41
16
B
24
(DECK L SIDE)
18
(DECK R SIDE)
43
30
35
41
C
47
45
33
37
34
32
46
C
D
40
39
B
A
C
38
36
B
42

TAPE MECHANISM PARTS LIST 1 / 1

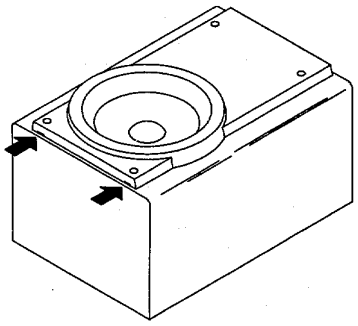
If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	86-ZM3-212-010		CHAS ASSY,SS
2	86-ZM3-202-010		BASE,HEAD S
3	86-ZM3-205-010		SPR-C,RPH S
4	82-ZM1-333-210		PLATE,LINK 2
5	86-ZM3-206-010		SPR-C,EH S
6	87-A90-403-019		HEAD,RPH MS15R
7	86-ZM3-201-010		CHAS,HEAD S
8	87-045-347-019		MOT,SHU2L 70(M1)
9	82-ZM1-269-219		SPR-T,BRG
10	82-ZM3-323-119		SPR-T,LINK
11	86-ZM3-209-010		S-SCREW,ASIMUTHS
12	86-ZM3-207-010		S-SCREW,RPH
13	87-A90-404-019		HEAD,EH LE15B
14	86-ZM3-208-010		S-SCREW,EH
15	86-ZM3-203-010		HLDR,MOTS
16	82-ZM1-245-210		HLDR,IC
17	82-ZM1-218-019		SPR-E,HB
18	86-ZM3-211-010		BELT,RS
19	82-ZM1-222-219		LVR,PLAY
20	82-ZM1-217-419		REEL,TABLE
21	82-ZM1-244-519		SPR-C,BT
22	82-ZM1-285-410		SPR-C,BT L
23	82-ZM1-257-019		SPR-T,CAS
24	82-ZM3-221-010		PULLEY,MOT 2M
25	82-ZM1-242-019		LE=VR,CAS
26	82-ZM1-243-019		LVR,STOP
27	82-ZM1-344-119		LVR ASSY,PINCH
28	86-ZM3-204-010		SPR-T,PINCHDS
29	82-ZM1-240-119		LVR,REC (DECK 2)
30	86-ZM3-210-010		BELT,PS
31	82-ZM1-223-010		GEAR,PLAY
32	82-ZM3-305-019		GEAR,CAM M2
33	82-ZM1-227-319		LVR,TRIG
34	82-ZM3-306-110		LVR,FR M2
35	82-ZM1-265-119		SPR-E,TRIG
36	85-ZM3-203-019		S-SCREW MOTOR M3
37	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-ZM1-216-319		GEAR,REEL
42	86-ZM3-213-010		S-SCREW,HLDR MOT 3
43	82-ZM1-225-219		GEAR,FR
44	82-ZM1-226-019		GEAR,REW
45	82-ZM3-333-210		SLIP DISK ASSY 2
46	82-ZM1-338-010		BELT FR4
47	82-ZM1-349-019		FLY-WHL RW (DECK L)

SPEAKER DISASSEMBLY INSTRUCTIONS

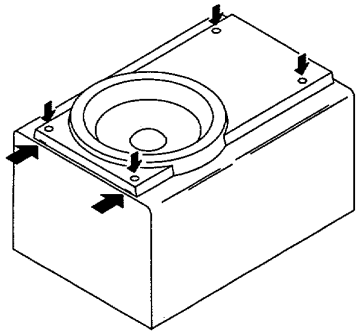
Type.1

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.



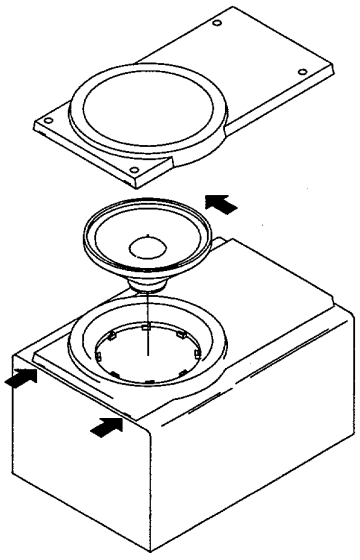
Type.2

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.

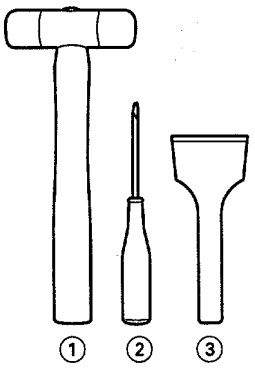


Type.3

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 around speaker unit, and then remove the speaker unit. After replacing the speaker unit, install it turning to clockwise direction until "click" sound comes out.



Type.4



TOOLS

① Plastic head hammer
② (⊖) flat head screwdriver
③ Cut chisel

How to Remove the PANEL, FR

1. Insert the (⊖) flat head screwdriver tip into the gap between the PANEL, FR and the PANEL, SPKR. Tap the head of the (⊖) flat head screwdriver with the plastic hammer head, and create the clearance as shown in Fig-1.

2. Insert the cut chisel in the clearance, and tap the head of the cut chisel with plastic hammer as shown in Fig-2, to remove the PANEL, FR.

3. Place the speaker horizontally. Tap head of the cut chisel with plastic hammer as shown in Fig-3, and remove the PANEL, FR completely.

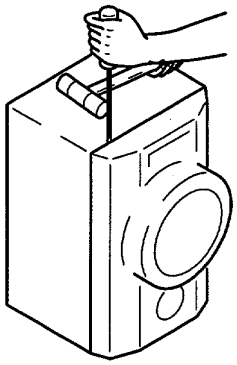


Fig-1

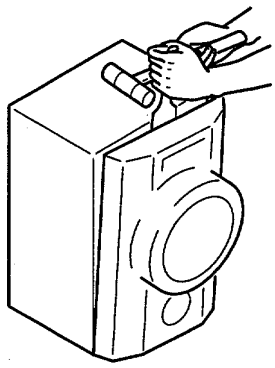


Fig-2

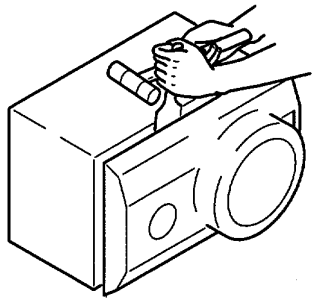


Fig-3

How to Attach the PANEL, FR

Attach the PANEL, FR to the PANEL, SPKR. Tap the four corners of the PANEL, FR with the plastic hammer to fit the PANEL, FR into the PANEL, SPKR completely.

SPEAKER PARTS LIST

SX-NS332 (YLSTCC, YLSTC1C)

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

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8Z-NSK-001-010		PANEL,FR
2	8Z-NSK-002-010		PANEL,BA
3	87-NSH-612-010		SPKR,CERAMIC ASSY
4	87-NS7-611-010		CORD,SPKR
5	87-NSJ-602-010		SPKR,120<YLSTCC>
5	8Z-NSK-602-010		SPKR,W 120<YLSTC1C>

SX-NAV224 (YBL, YTL)

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

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8Z-NSW-002-010		GRILLE,FRAME ASSY
2	83-096-614-010		SPKR,CORD
3	8Z-NSW-602-010		SPKR,W 140
4	8Z-NSW-604-010		SPKR,T 60
5	88-NS3-605-010		CAP

SX-CR677 (YSTC, YSTCC)

NOTE: This SX-CR677 speaker contains SX-C607 (center speaker) and SX-R277 (rear speaker).

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

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8Z-YS1-001-010		CABI,REAR
2	8Z-YS1-002-010		GRILLE,FRAME ASSY
3	81-VSA-009-010		CORD,BUSH
4	87-010-384-010		CAP,E 100-25 M SME
5	87-YS6-002-010		SPKR,CORD Y
6	8Z-YS1-601-010		SPKR,100
7	87-YS7-012-010		PANEL,FR S
8	87-YS7-013-010		PANEL,REAR S
9	81-VSA-009-010		CORD BUSH
10	87-YS3-003-010		GRILLE,FRAME ASSY
11	83-NSM-010-010		SPKR,CORD
12	87-YS7-602-010		SPKR, 100

ACCESSORIES / PACKAGE LIST

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

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8Z-NFW-902-010		IB,LH(ESP)M
1	8Z-NFW-906-010		IB,EZ(9L)E
2	8Z-NFW-702-010		RC UNIT,ZAS10
3	87-006-225-010		AM LOOP ANT NC2
4	87-043-115-010		ANT,FEEDER FM
5	87-043-106-010		WIRE, FM ANT (Z)
⚠ 6	87-A91-017-010		PLUG, CONVERSION JT-0476

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
	SERGE SUPPRESSOR
	CAP, CERA

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
	ARM, SHAFT
	GUIDE, SHAFT
	STRAP
	S-SCREW
	HINGE
	S-SCREW
	SCREW, SERPART

サービス技術ニュース	
番号	連絡内容
G— —	
G— —	
G— —	

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Printed in Singapore