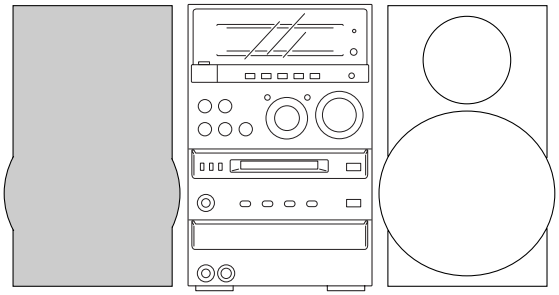
aiwa SERVICE

XR-MDK109

HRJ(S)
HC(S)



SERVICE MANUAL

MD/CD STEREO SYSTEM

- BASIC TAPE MECHANISM : 2ZM-3 YR9
- BASIC CD MECHANISM : 3ZG-3 E3(HRJ)
- BASIC CD MECHANISM : 3ZG-3 E6(HC)
- BASIC MD MECHANISM : 7ZG-9 YB

This Service Manual is the “Revision Publishing” and replaces “Simple Manual” (S/M Code No.09-99C-337-4T1).

aiwa

S/M Code No. 09-99C-337-4R1

REVISION DATA

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SPECIFICATIONS

MAIN UNIT

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

Amplifier section

Power output	HR: Rated 24 W + 24 W (6 ohms, T.H.D. 1%, 1kHz) HC: Rated 25 W + 25 W (6 ohms, T.H.D. 1%, 1kHz) Reference 30 W + 30 W (6 ohms, T.H.D. 10%, 1kHz)
Inputs	VIDEO/AUX: 700 mV DIGITAL IN sampling frequency: 48 kHz/44.1 kHz/32 kHz Optical input level: more than –21 dBm MIC: 1.5 mV (600 ohms)
Outputs	SUPER WOOFER: 1.4 V SPEAKERS: accept speakers of 6 ohms or more PHONES (stereo minijack): accepts headphones of 16 ohms or more VIDEO OUT: 1Vp-p (75 ohms) AUDIO OUT: 400 mV

Cassette deck section

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

Compact disc player section

Laser	Semiconductor laser (λ = 780 nm)
D-A converter	1 bit dual
Frequency	20 – 20000 Hz
Harmonic distortion	0.05 % (1 kHz, 0 dB)
Wow and flutter	Unmeasurable

MD recorder section

Scanning method	Non-contact optical scanner (Semiconductor laser application)
Recording system	Magnetic polarity modulation overwrite system
Rotation speed	Approx. 400 – 900 rpm (CLV)
Sampling frequency	44.1 kHz
No. of channels	Stereo: 2 channels Monaural: 1 channel
A-D, D-A converter	1-bit
Frequency	HR: 20 – 20000 Hz HC: 20 – 20000 Hz $^{+0.2}_{-1.5}$ dB
Wow and flutter	Unmeasurable

SPEAKER SYSTEM

Cabinet type	2 way, bass reflex (magnetic shielded type)
Speakers	Woofer: 130 mm cone type Tweeter: 60 mm cone type
Impedance	6 ohms
Output sound pressure level	87 dB/W/m
Dimensions (W × H × D)	175 × 275 × 227 mm
Weight	3.0 kg

General

Power requirements	HR: 115/220-230 V AC, switchable HC: 120/220-240 V AC, switchable 50/60 Hz
Power consumption	80 W
Standby power consumption	1.4 W (power-economizing mode set to ON)
Dimensions (W × H × D)	175 × 275 × 333 mm
Weight	6.0 kg

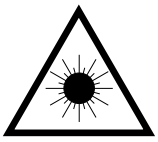
- Design and specifications are subject to change without notice.
- Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
  "DOLBY" and the double-D symbol ⧏⧐ are trademarks of Dolby Laboratories Licensing Corporation.
- The word "BBE" and the "BBE symbol" are trademarks of BBE Sound,Inc.
  Under license from BBE Sound,Inc.

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

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

WARNING!

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



- Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
- Advarsel: Usynling laserstråling 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.

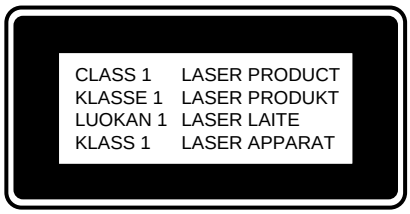
ATTENTION

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

ADVARSEL!

Usynlig laserstråling 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.

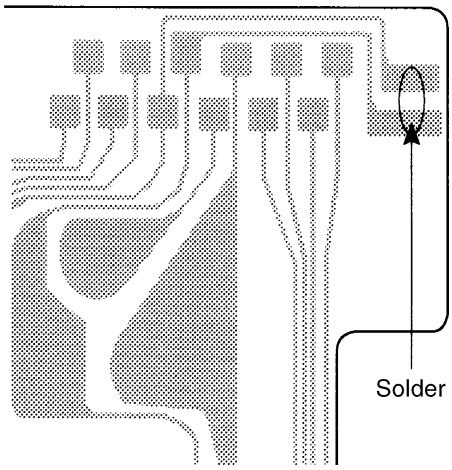


Precaution to replace Optical block (KSS-213F)

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 the right figure.

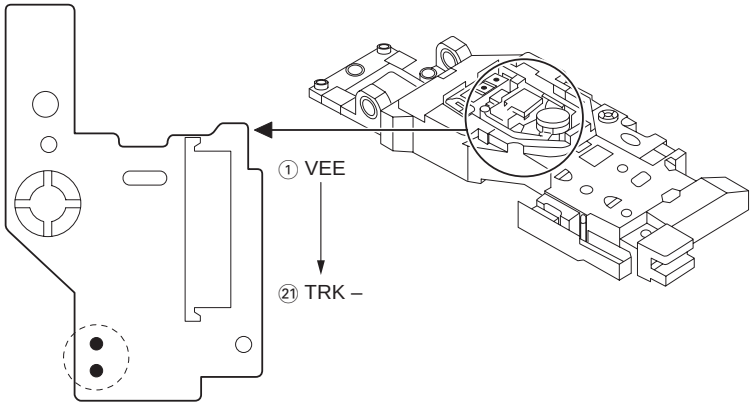
PICK-UP Assy P.C.B



Precaution to replace Optical block (KMS-260A)

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 the right figure.

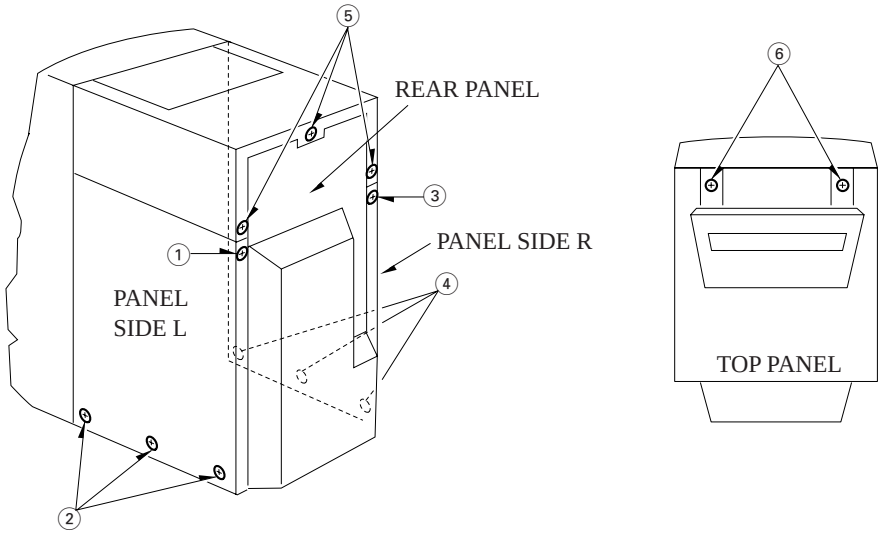


DISASSEMBLY INSTRUCTIONS

Disassembly Procedure

1. Open the cabinet

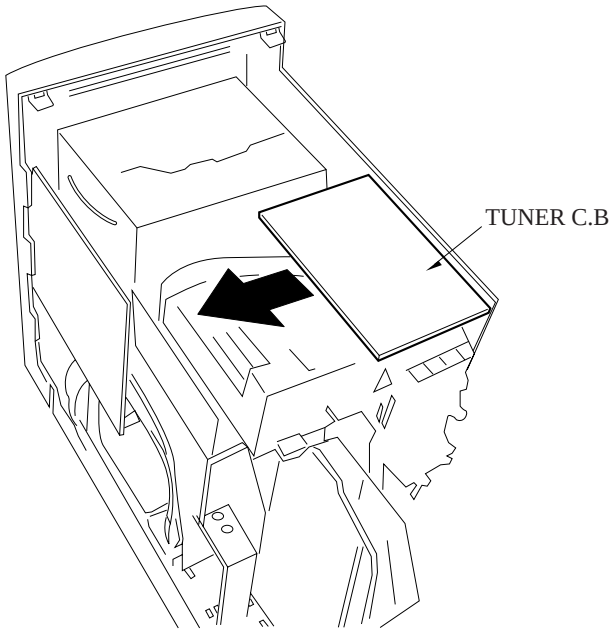
1) Remove the screws (①BVT2+3-10✕1, ②UTT2+3-6✕3 w/o SLOT B), and remove the PANEL SIDE L.
2) Remove the screws (③BVT2+3-10✕1, ④UTT2+3-6✕3 w/o SLOT B), and remove the PANEL SIDE R.
3) Remove the screw (⑤BVT2+3-10✕3) from the rear side, open the deck lid, remove the screw (⑥BVT2+3-16✕2), and remove the TOP PANEL.



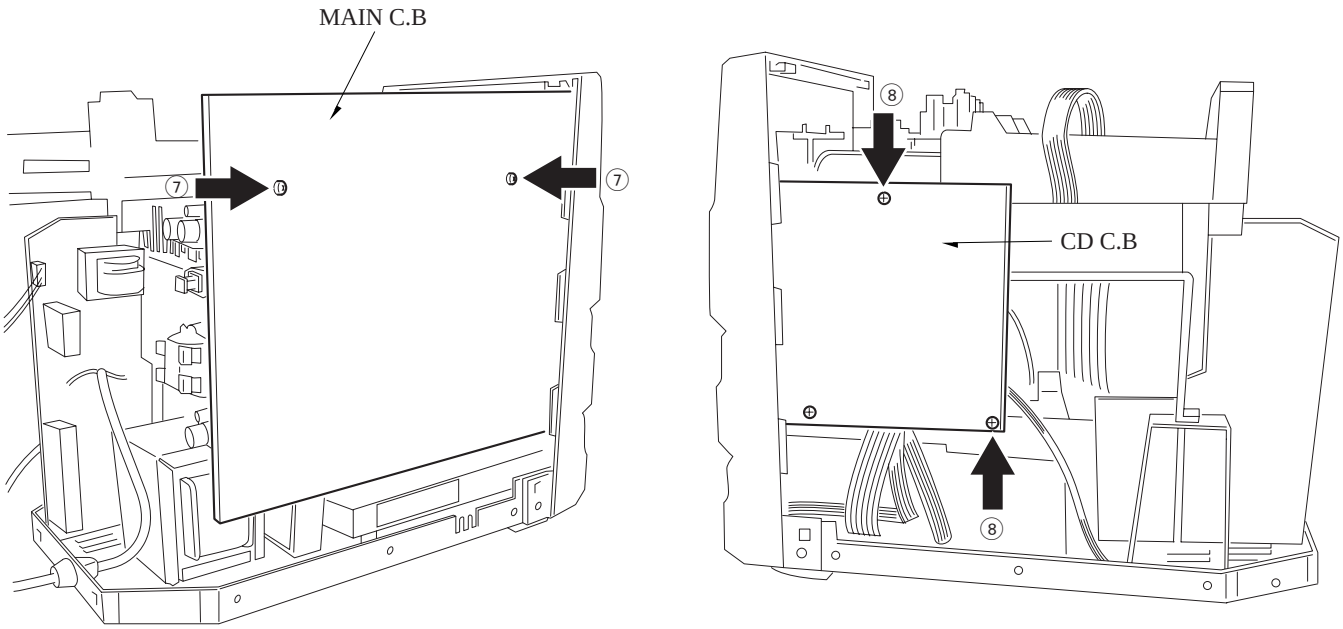
4) Remove the screw (BVT2+3-10✕11) from the rear side, and remove the REAR PANEL.

2. Removing the deck mechanism.

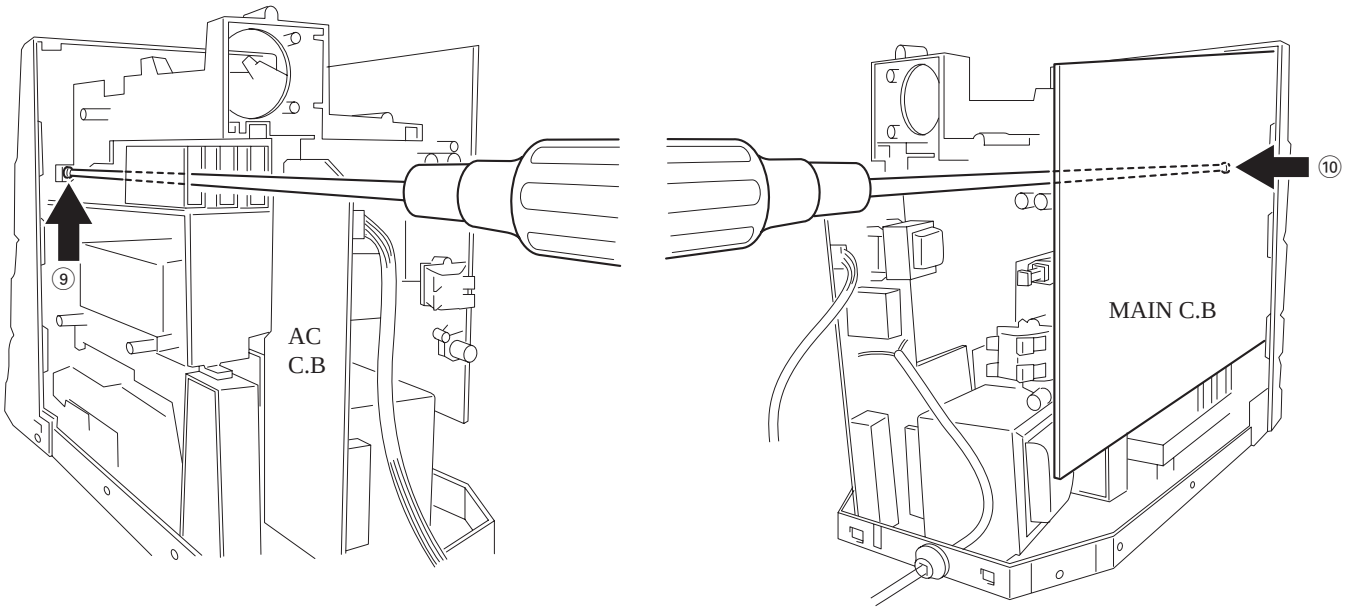
1) Remove the TUNER C.B in the direction of the arrow.



2) Remove the screw (⑦BVT2+3-10✕2) on the top of the MAIN C.B, and remove the screw (⑧BVT2+3-10✕3) from the CD C.B.



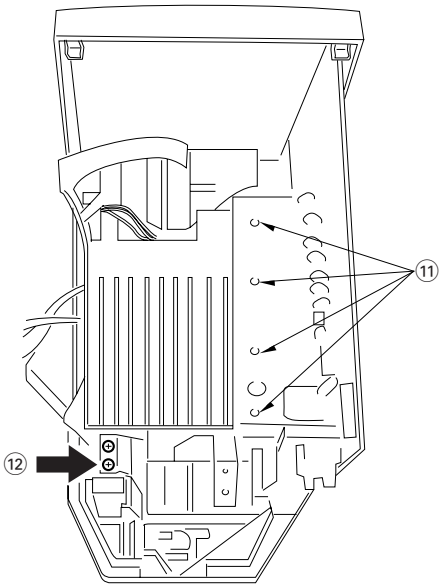
3) Remove the CD C.B, remove the screw (⑨UTT2+3-6✕1), insert a screwdriver tip through the clearance between the parts and the chassis, and remove the screw (⑩UTT2+3-6✕1).



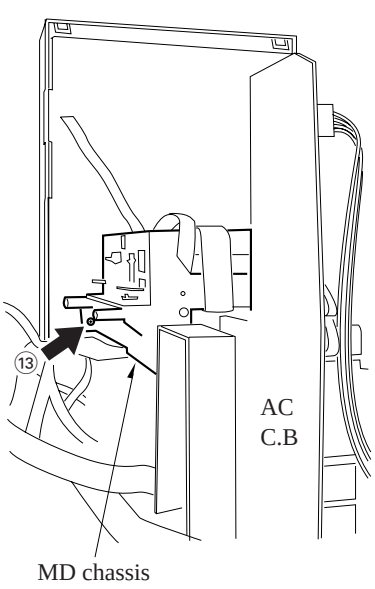
4) Remove the cord, and remove the deck mechanism together with the chassis.

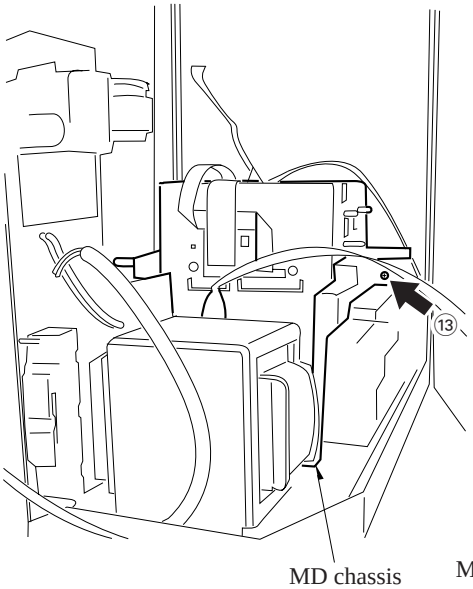
3. Removing the MD mechanism.

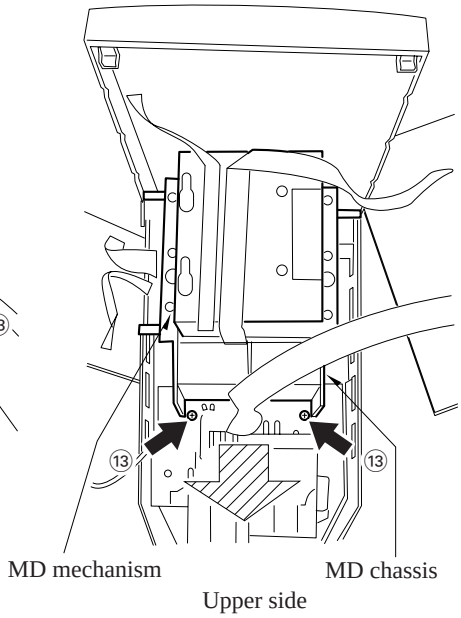
1) Remove the screw (⑪BVTT+4-6✕4) securing the transformer, and move the transformer to the rear.
2) Remove the screw (⑫BVT2+3-10✕1) that fixes the heat side to the holder, and remove the MAIN C.B.



3) Remove the screw (⑬BVT2+3-10✕4), and remove the MD mechanism together with the chassis.

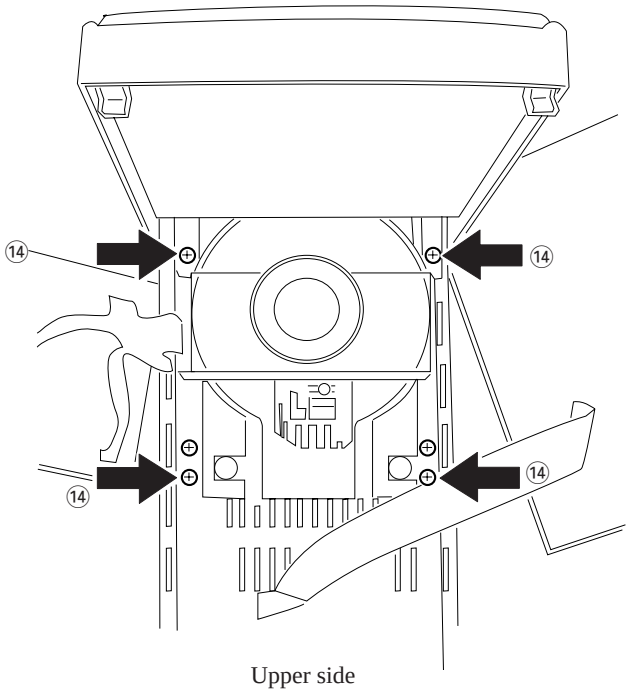






4. Removing the CD mechanism.

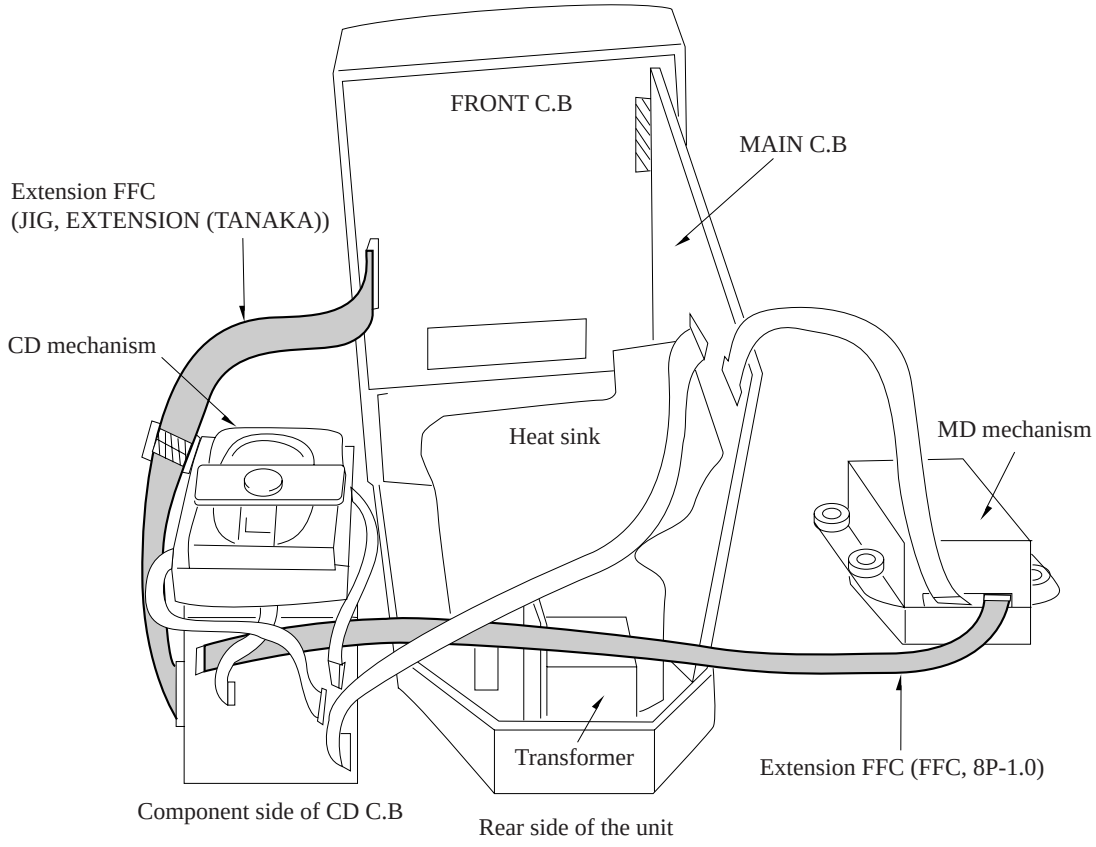
1) Remove the screw (⑭BVT2+3-6✕4), open the tray, remove the CD panel, and remove the CD mechanism.



SERVICE JIG AND TOOLS

After opening the board, use the following jig and tools as shown in the figure.

JIG. EX TENSION (TANAKA) SV-J00-019-010
FFC, 8P-1.0 ..... SV-J00-043-010



ELECTRICAL MAIN PARTS LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
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,DM6851
	87-070-127-110		IC,LC72131 D
	87-A20-913-010		IC,LA1837NL
	87-A20-707-010		C-IC,CXA2523AR
	87-A20-708-010		C-IC,CXD2652AR
	87-A20-709-040		C-IC,BD7910FV
	87-ZG9-608-010		C-IC,CXP81952M-547R
	87-ZG9-606-040		C-IC,MN41V4400SJ-08
	87-A20-755-080		C-IC,AK93C45AF
	87-A20-710-040		C-IC,S-8110AMP
	87-A20-711-040		C-IC,BA5970FP
	87-A20-712-040		C-IC,BA6417F
	87-A21-110-040		C-IC,AK4519VF
	87-017-853-040		IC,NJM2100V
	87-A20-797-040		C-IC,NJU7221U30
	87-A20-798-040		C-IC,NJU7221U35
	87-A20-714-040		C-IC,NJM2370U33
	87-A21-021-040		C-IC,BU2099FV
	8Z-CG4-601-010		C-IC,LC876572V-5N52
	87-A20-914-010		IC,SPS-442-1-F
	87-017-888-080		IC,NJM4558MD
	87-A20-455-010		IC,HA12211
	87-A20-355-010		IC,CXA1553P
	87-A21-111-040		C-IC,M62495FP
	87-A21-103-040		C-IC,MM1454XFBE
	87-017-915-080		IC,BU4094BCF
	87-A21-022-040		C-IC,BA3880FS
	87-A20-870-010		IC,GP1F37R
	87-A21-175-040		C-IC,TC74VHC14FT
	87-A20-547-010		C-IC,CXA1992AR
	87-A20-919-040		C-IC,BA5915FP
	87-A20-917-010		C-IC,CXD2540Q-1/2
	84-ZG1-698-010		C-IC,UPD78016FGC-553
	87-017-760-080		IC,M51943BML
	87-A20-602-040		C-IC,M5291FP
	87-A20-925-040		C-IC,BA05FP
	87-A20-905-040		C-IC,BA033FP
	87-001-982-010		IC,TA7291S
	87-A20-920-010		C-IC,CL680-D1
	87-A20-921-040		C-IC,SN74LVU04APW
	87-A20-962-040		C-IC,MSM54V16258B/BSL
	84-ZG1-695-040		C-IC,LH5V2RN1
	87-A20-975-040		C-IC,SN74LV74APW
	87-A20-372-010		C-IC,TC9409BF
	87-A20-974-040		C-IC,LC74781M-9017
	87-A21-031-040		C-IC,BU4551BF
TRANSISTOR			
	87-A30-234-080		TR,CSC4115BC
	87-A30-072-080		C-TR,RT1P 144C
	89-327-143-080		TR,2SC2714 (0.1W)
	87-026-423-080		C-TR RN2305
	89-115-884-080		CHIP -TRANSISTER 2SA1588Y
	89-341-164-080		CHIP-TRANSISTOR,2SC4116 Y
	87-026-412-080		C-TR RN1305
	87-026-245-080		TR,DTC114ES
	87-A30-198-080		TR,KTC3199GR
	89-111-625-080		TR,2SA1162 (0.15W)
	87-026-237-080		CHIP-TR,DTC124XK
	89-327-125-080		CHIP TR,2SC2712GR
	87-026-231-080		CHIP-TRANSISTER,DTA124XK
	87-A30-117-010		TR,2SA1357
	87-A30-071-080		C-TR,RT1N 144C
	87-026-297-080		TR,DTA144TK
	87-A30-086-040		C-TR,CSD1306E
	87-A30-076-080		C-TR,2SC3052F
	87-026-610-080		TR,KTC3198GR
	87-A30-075-080		C-TR,2SA1235F
	87-A30-073-080		C-TR,RT1N 141C
	87-A30-087-080		C-FET,2SK2158
	87-A30-159-080		C-TR,KTA1298Y
	87-A30-084-080		TR,CSB1058B
	87-A30-268-040		C-TR,2SA1514K(S)
	87-A30-074-080		C-TR,RT1P 141C
	89-213-702-010		TR,2SB1370 (1.8W)
	87-A30-196-080		TR,2SC4115SRS
	87-026-609-080		TR,KTA1266GR
	87-A30-190-080		TR,CC5551
	87-A30-215-010		TR,2SD2025
	87-A30-214-010		TR,2SB1344
	87-A30-106-070		C-TR,CMBT5551
	87-A30-105-080		C-TR,RT1P 441C
	87-A30-047-080		TR,CSD655E
DIODE			
	87-017-149-080		ZENER,HZS6A2L
	87-020-465-080		DIODE,1SS133 (110MA)
	87-001-166-080		DIODE,1SS301
	87-A40-412-040		C-DIODE,SB05-05CP
	87-A40-270-080		C-DIODE,MC2838
	87-A40-269-080		C-DIODE,MC2836
	87-A40-509-080		ZENER,MTZJ6.8C
	87-020-339-080		CHIP DIODE,1SS226
	87-A40-299-080		ZENER,DZ5.1M
	87-A40-291-080		DIODE,1N4148 (CPT)
	87-A40-004-080		ZENER,MTZJ16A
	87-070-178-090		DIODE,1N5402-BD54
	87-070-274-080		DIODE,1N4003 SEM
	87-A40-345-080		ZENER,MTZJ10C
	87-017-083-080		ZENER,HZS4C2
	87-A40-312-080		ZENER,DZ33M
	87-A40-488-080		DIODE,1SS244
	87-A40-293-080		ZENER,DZ2.7M
	87-001-731-080		ZENER,HZS6C2L
	88-100-000-010		PLATING-JW,0.58 SN95
	87-020-027-080		CHIP-DIODE 1SS184
	87-017-024-040		C-DIODE,DA204K
	87-A40-180-040		C-DIODE,SB07-015C
	87-020-585-080		CHIP-ZENER,02CZ6.2Y
MAIN C.B			
C61	87-010-260-080		CAP, ELECT 47-25V
C62	87-010-403-080		CAP, ELECT 3.3-50V
C63	87-010-197-080		CAP, CHIP 0.01 DM
C102	87-016-051-090		CAP,E 2200-35 SMG
C103	87-016-051-090		CAP,E 2200-35 SMG
C106	87-010-196-080		CHIP CAPACITOR,0.1-25
C107	87-010-196-080		CHIP CAPACITOR,0.1-25
C108	87-010-196-080		CHIP CAPACITOR,0.1-25
C109	87-010-196-080		CHIP CAPACITOR,0.1-25
C110	87-010-928-090		CAP,E 4700-25 SMG
C111	87-012-140-080		CAP 470P
C112	87-A10-919-080		CAP,E 100-16 M 105 KME
C113	87-010-247-080		CAP, ELECT 100-50V
C114	87-010-112-080		CAP, ELECT 100-16V
C115	87-010-235-080		CAP,E 470-16 SME
C151	87-010-196-080		CHIP CAPACITOR,0.1-25
C152	87-A11-233-090		CAP,E 4700-16 105 KMG
C153	87-010-196-080		CHIP CAPACITOR,0.1-25
C154	87-A10-096-080		CAP,E 1000-16
C171	87-010-260-080		CAP, ELECT 47-25V
C172	87-010-260-080		CAP, ELECT 47-25V
C173	87-010-260-080		CAP, ELECT 47-25V
C174	87-010-260-080		CAP, ELECT 47-25V
C175	87-010-247-080		CAP, ELECT 100-50V

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
C176	87-010-247-080		CAP, ELECT 100-50V
C201	87-010-260-080		CAP, ELECT 47-25V
C202	87-010-260-080		CAP, ELECT 47-25V
C203	87-A10-946-080		C-CAP,S 220P-100 J CH
C204	87-A10-946-080		C-CAP,S 220P-100 J CH
C209	87-010-186-080		CAP,CHIP 4700P
C210	87-010-186-080		CAP,CHIP 4700P
C211	87-012-368-080		C-CAP,S 0.1-50 F
C212	87-012-368-080		C-CAP,S 0.1-50 F
C213	87-010-195-080		C-CAP,S 0.068-25 F
C214	87-015-837-080		C-CAP,0.068 F
C215	87-010-544-080		CAP, ELECT 0.1-50V
C216	87-010-544-080		CAP, ELECT 0.1-50V
C217	87-010-182-080		C-CAP,S 2200P-50 B
C218	87-010-182-080		C-CAP,S 2200P-50 B
C221	87-010-186-080		CAP,CHIP 4700P
C222	87-010-186-080		CAP,CHIP 4700P
C223	87-010-403-080		CAP, ELECT 3.3-50V
C224	87-010-403-080		CAP, ELECT 3.3-50V
C261	87-010-197-080		CAP, CHIP 0.01 DM
C262	87-010-197-080		CAP, CHIP 0.01 DM
C263	88-266-740-810		CAPACITOR
C264	88-266-740-810		CAPACITOR
C265	87-010-546-080		CAP, ELECT 0.33-50V
C266	87-010-546-080		CAP, ELECT 0.33-50V
C267	87-010-380-080		CAP, ELECT 47-16V
C277	87-010-197-080		CAP, CHIP 0.01 DM
C303	87-012-157-080		C-CAP,S 330P-50 CH
C304	87-012-157-080		C-CAP,S 330P-50 CH
C307	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
C315	87-010-181-080		CAP,CHIP S 1800P
C316	87-010-181-080		CAP,CHIP S 1800P
C317	87-012-142-080		CAP, S 0.33-16
C318	87-012-142-080		CAP, S 0.33-16
C319	87-012-141-080		CHIP-CAPACITOR,0.22-16F
C320	87-012-141-080		CHIP-CAPACITOR,0.22-16F
C321	87-012-141-080		CHIP-CAPACITOR,0.22-16F
C322	87-012-141-080		CHIP-CAPACITOR,0.22-16F
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	87-010-178-080		CHIP CAP 1000P
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
C370	87-010-196-080		CHIP CAPACITOR,0.1-25
C371	87-010-179-080		CAP,CHIP S B1200P
C372	87-010-179-080		CAP,CHIP S B1200P
C373	87-010-179-080		CAP,CHIP S B1200P
C374	87-010-179-080		CAP,CHIP S B1200P
C375	87-010-545-080		CAP, ELECT 0.22-50V
C376	87-010-545-080		CAP, ELECT 0.22-50V
C378	87-018-209-080		CAP, CER 0.1-50V
C381	87-010-197-080		CAP, CHIP 0.01 DM
C382	87-010-318-080		C-CAP,S 47P-50 CH
C383	87-010-197-080		CAP, CHIP 0.01 DM
C384	87-010-402-080		CAP, ELECT 2.2-50V
C385	87-010-184-080		CHIP CAPACITOR 3300P(K)
C386	87-010-196-080		CHIP CAPACITOR,0.1-25
C388	87-010-154-080		CAP CHIP 10P
C399	87-010-265-080		CAP, ELECT 33-16V
C501	87-010-154-080		CAP CHIP 10P
C502	87-010-374-080		CAP, ELECT 47-10V
C503	87-016-122-080		CAP,E 47-10 M 105 KME
C505	87-010-187-080		CAP CHIP S5600P
C506	87-010-187-080		CAP CHIP S5600P
C509	87-010-182-080		C-CAP,S 2200P-50 B
C510	87-010-182-080		C-CAP,S 2200P-50 B
C511	87-010-213-080		C-CAP,S 0.015-50 B
C512	87-010-213-080		C-CAP,S 0.015-50 B
C513	87-010-400-080		CAP, ELECT 0.47-50V
C514	87-010-400-080		CAP, ELECT 0.47-50V
C515	87-010-400-080		CAP, ELECT 0.47-50V
C516	87-010-400-080		CAP, ELECT 0.47-50V
C517	87-010-401-080		CAP, ELECT 1-50V
C518	87-010-401-080		CAP, ELECT 1-50V
C551	87-010-402-080		CAP, ELECT 2.2-50V
C552	87-010-402-080		CAP, ELECT 2.2-50V
C561	87-010-407-080		CAP, ELECT 33-50V
C562	87-010-407-080		CAP, ELECT 33-50V
C581	87-010-404-080		CAP, ELECT 4.7-50V
C582	87-010-404-080		CAP, ELECT 4.7-50V
C603	87-010-402-080		CAP, ELECT 2.2-50V
C604	87-010-402-080		CAP, ELECT 2.2-50V
C605	87-010-408-080		CAP, ELECT 47-50V
C607	87-010-405-080		CAP, ELECT 10-50V
C608	87-010-405-080		CAP, ELECT 10-50V
C609	87-010-196-080		CHIP CAPACITOR,0.1-25
C610	87-010-384-080		CAP, ELECT 100-25V
C611	87-010-197-080		CAP, CHIP 0.01 DM
C612	87-010-197-080		CAP, CHIP 0.01 DM
C620	87-010-380-080		CAP, ELECT 47-16V
C621	87-010-196-080		CHIP CAPACITOR,0.1-25
C622	87-010-322-080		C-CAP,S 100P-50 CH
C631	87-010-400-080		CAP, ELECT 0.47-50V
C653	87-010-404-080		CAP, ELECT 4.7-50V
C654	87-010-404-080		CAP, ELECT 4.7-50V
C655	87-010-404-080		CAP, ELECT 4.7-50V
C656	87-010-404-080		CAP, ELECT 4.7-50V
C657	87-010-188-080		CAP,CHIP 6800P
C658	87-010-188-080		CAP,CHIP 6800P
C659	87-012-140-080		CAP 470P
C660	87-012-140-080		CAP 470P
C662	87-010-408-080		CAP, ELECT 47-50V
C663	87-010-178-080		CHIP CAP 1000P
C664	87-010-178-080		CHIP CAP 1000P
C665	87-010-197-080		CAP, CHIP 0.01 DM
C666	87-010-197-080		CAP, CHIP 0.01 DM
C667	87-010-195-080		C-CAP,S 0.068-25 F
C668	87-010-195-080		C-CAP,S 0.068-25 F
C669	87-010-408-080		CAP, ELECT 47-50V
C670	87-010-196-080		CHIP CAPACITOR,0.1-25
C671	87-010-404-080		CAP, ELECT 4.7-50V
C672	87-010-404-080		CAP, ELECT 4.7-50V
C675	87-010-401-080		CAP, ELECT 1-50V
C676	87-010-401-080		CAP, ELECT 1-50V
C901	87-010-196-080		CHIP CAPACITOR,0.1-25
C902	87-010-178-080		CHIP CAP 1000P
C903	87-010-178-080		CHIP CAP 1000P
C904	87-010-196-080		CHIP CAPACITOR,0.1-25
C905	87-012-140-080		CAP 470P
C906	87-010-196-080		CHIP CAPACITOR,0.1-25
C907	87-010-197-080		CAP, CHIP 0.01 DM
C951	87-010-401-080		CAP, ELECT 1-50V
C952	87-010-263-080		CAP, ELECT 100-10V
C953	87-010-380-080		CAP, ELECT 47-16V

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
C960	87-010-260-080		CAP, ELECT 47-25V
CN101	87-A60-111-010		CONN,5P V S2M 5W
CN501	87-099-719-010		CONN,30P TYK-B(X)
CN502	87-A60-423-010		CONN,14P V TOC-B
CN504	87-A60-136-010		CONN,11P V FE
CN701	87-099-570-010		CONN,13P TUC-P13P-B1
CNA901	8Z-CL4-656-010		CONN ASSY,2P V DTL SHLD
J201	87-A60-420-010		JACK,3.5 ST (MSC)
J202	87-099-801-010		JACK,PIN 1P BLK
J203	87-A60-659-010		TERMINAL,SPKR 4P HSP-134V-05Z
J501	87-A60-354-010		JACK,PIN 2P MSP -242V-05
JW181	87-018-126-080		CAP,TC-U 390P-50 B
JW190	87-008-372-080		FILTER, EMI BL OIRNI
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
⚠PR103	87-026-681-080		PROTECTOR,5A 60V 491
⚠PR104	87-026-681-080		PROTECTOR,5A 60V 491
⚠PR151	87-A90-094-080		PROTECTOR,4A 491SERIES 60V
⚠PR152	87-A90-094-080		PROTECTOR,4A 491SERIES 60V
SFR303	87-A90-557-080		SFR,33K H HOKU
SFR304	87-A90-557-080		SFR,33K H HOKU
SFR305	87-024-436-080		SFR,47K RH063EC
SFR306	87-024-436-080		SFR,47K RH063EC
SFR351	87-024-436-080		SFR,47K RH063EC
SFR352	87-024-436-080		SFR,47K RH063EC
TH51	87-A91-042-080		C-THMS,100K 55001
TH52	87-A91-042-080		C-THMS,100K 55001
W101	8Z-CL4-658-010		F-CABLE,10P 2.5 300MM
FRONT C.B			
C131	87-010-402-040		CAP,E 2.2-50 SME
C132	87-010-400-040		CAP,E 0.47-50
C151	87-010-196-080		CHIP CAPACITOR,0.1-25
C152	87-010-322-080		C-CAP,S 100P-50 CH
C153	87-012-368-080		C-CAP,S 0.1-50 F
C154	87-010-322-080		C-CAP,S 100P-50 CH
C201	87-012-145-080		CAP, CHIP S 270P CH
C203	87-010-312-080		C-CAP,S 15P-50 CH
C204	87-015-785-080		CHIP CAPACITOR, 0.1FZ-25Z
C205	87-010-196-080		CHIP CAPACITOR,0.1-25
C206	87-012-368-080		C-CAP,S 0.1-50 F
C207	87-012-368-080		C-CAP,S 0.1-50 F
C208	87-012-368-080		C-CAP,S 0.1-50 F
C231	87-010-405-040		CAP,E 10-50
C232	87-010-178-080		CHIP CAP 1000P
C241	87-010-400-040		CAP,E 0.47-50
C242	87-A10-189-040		CAP,E 220-10
C243	87-010-196-080		CHIP CAPACITOR,0.1-25
C245	87-010-378-040		CAP,E 10-16
C246	87-010-196-080		CHIP CAPACITOR,0.1-25
C247	87-012-368-080		C-CAP,S 0.1-50 F
C249	87-012-369-080		C-CAP,S 0.047-50F
C250	87-010-198-080		CAP, CHIP 0.022
C251	87-010-263-040		CAP,E 100-10
C351	87-010-197-080		CAP, CHIP 0.01 DM
C352	87-010-197-080		CAP, CHIP 0.01 DM
C353	87-010-197-080		CAP, CHIP 0.01 DM
C354	87-010-197-080		CAP, CHIP 0.01 DM
C371	87-010-421-040		CAP,E 4.7-50 5L
C372	87-010-421-040		CAP,E 4.7-50 5L
C373	87-010-408-040		CAP,E 47-50 SME
C501	87-010-196-080		CHIP CAPACITOR,0.1-25
CN101	87-099-720-010		CONN,30P TYK-B(P)
CN102	87-A60-162-010		CONN,14P H FE
CN103	87-A60-157-010		CONN,9P H FE
CNA401	88-802-092-420		CONN ASSY,9P
D153	87-A40-568-010		LED,L-13HD RED
D154	87-001-161-080		LED SEL2410E
D155	87-001-161-080		LED SEL2410E
D156	87-001-161-080		LED SEL2410E
D157	87-001-161-080		LED SEL2410E
D158	87-001-161-080		LED SEL2410E
D161	87-A40-276-080		LED,SML1816W UMB/GRN
D163	87-A40-276-080		LED,SML1816W UMB/GRN
D165	87-A40-276-080		LED,SML1816W UMB/GRN
D167	87-A40-276-080		LED,SML1816W UMB/GRN
D169	87-A40-276-080		LED,SML1816W UMB/GRN
FL301	8Z-CL4-621-010		FL,13-ST-36GNK
L201	87-A50-052-010		COIL,CLOCK 5.76MHZ T1
S201	87-A90-300-010		SW,SL SSAA 1-3 B
S301	87-A90-696-080		SW,TACT TS2103-03-430
S302	87-A90-696-080		SW,TACT TS2103-03-430
S303	87-A90-696-080		SW,TACT TS2103-03-430
S304	87-A90-696-080		SW,TACT TS2103-03-430
S305	87-A90-696-080		SW,TACT TS2103-03-430
S306	87-A90-696-080		SW,TACT TS2103-03-430
S307	87-A90-696-080		SW,TACT TS2103-03-430
S308	87-A90-696-080		SW,TACT TS2103-03-430
S309	87-A90-696-080		SW,TACT TS2103-03-430
S310	87-A90-696-080		SW,TACT TS2103-03-430
S311	87-A90-696-080		SW,TACT TS2103-03-430
S312	87-A90-696-080		SW,TACT TS2103-03-430
S321	87-A90-696-080		SW,TACT TS2103-03-430
S322	87-A90-696-080		SW,TACT TS2103-03-430
S323	87-A90-696-080		SW,TACT TS2103-03-430
S324	87-A90-696-080		SW,TACT TS2103-03-430
S325	87-A90-696-080		SW,TACT TS2103-03-430
S326	87-A90-696-080		SW,TACT TS2103-03-430
S327	87-A90-696-080		SW,TACT TS2103-03-430
S328	87-A90-696-080		SW,TACT TS2103-03-430
S329	87-A90-696-080		SW,TACT TS2103-03-430
S330	87-A90-696-080		SW,TACT TS2103-03-430
S331	87-A90-696-080		SW,TACT TS2103-03-430
S351	87-A90-085-010		SW,RTRY EC16B 24204
S352	87-A90-535-010		SW,RTRY EC16B24304
W151	88-CE2-659-010		F-CABLE,2P 2.5 100MM (4MM)
W801	8Z-CG4-617-010		F-CABLE,3P 2.5 100MM (4MM)
WH151	87-A90-506-010		HLDR,WIRE 2.5-2P
WH801	87-A90-458-010		HLDR,WIRE 2.5-3P
LED C.B			
D181	87-001-161-080		LED SEL2410E
D182	87-002-738-080		LED,SEL2210R TP6
D183	87-001-161-080		LED SEL2410E
WH152	87-A90-506-010		HLDR,WIRE 2.5-2P
VCD C.B			
C101	87-010-182-080		C-CAP,S 2200P-50 B
C102	87-016-669-080		C-CAP,S 0.1-25 K B
C103	87-016-669-080		C-CAP,S 0.1-25 K B
C104	87-016-669-080		C-CAP,S 0.1-25 K B
C105	87-010-404-040		CAP,E 4.7-50 SME
C106	87-016-369-080		C-CAP,S 0.033-25 B K
C107	87-010-197-080		CAP, CHIP 0.01 DM
C108	87-010-401-040		CAP,E 1-50 SME
C109	87-010-382-040		CAP,E 22-25 SME
C110	87-010-213-080		C-CAP,S 0.015-50 B
C111	87-010-263-040		CAP,E 100-10
C112	87-010-197-080		CAP, CHIP 0.01 DM
C113	87-016-369-080		C-CAP,S 0.033-25 B K
C114	87-016-369-080		C-CAP,S 0.033-25 B K
C115	87-016-369-080		C-CAP,S 0.033-25 B K
C116	87-012-158-080		C-CAP,S 390P-50 CH

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
C117	87-012-154-080		C-CAP,S 150P-50 CH
C118	87-010-401-040		CAP,E 1-50 SME
C119	87-010-312-080		C-CAP,S 15P-50 CH
C120	87-010-992-080		C-CAP,S 0.047-25 B
C121	87-010-992-080		C-CAP,S 0.047-25 B
C123	87-016-669-080		C-CAP,S 0.1-25 K B
C125	87-010-198-080		CAP, CHIP 0.022
C126	87-016-669-080		C-CAP,S 0.1-25 K B
C127	87-010-263-040		CAP,E 100-10
C130	87-010-263-040		CAP,E 100-10
C131	87-010-263-040		CAP,E 100-10
C132	87-010-178-080		CHIP CAP 1000P
C133	87-010-263-040		CAP,E 100-10
C134	87-010-196-080		CHIP CAPACITOR,0.1-25
C135	87-010-196-080		CHIP CAPACITOR,0.1-25
C136	87-010-196-080		CHIP CAPACITOR,0.1-25
C137	87-010-196-080		CHIP CAPACITOR,0.1-25
C138	87-010-184-080		CHIP CAPACITOR 3300P(K)
C139	87-010-197-080		CAP, CHIP 0.01 DM
C140	87-010-112-040		CAP,E 100-16
C141	87-010-196-080		CHIP CAPACITOR,0.1-25
C143	87-010-213-080		C-CAP,S 0.015-50 B
C151	87-010-263-040		CAP,E 100-10
C152	87-010-197-080		CAP, CHIP 0.01 DM
C153	87-010-248-040		CAP,E 220-10 SME
C154	87-010-197-080		CAP, CHIP 0.01 DM
C155	87-010-184-080		CHIP CAPACITOR 3300P(K)
C156	87-010-194-080		CAP, CHIP 0.047
C157	87-010-194-080		CAP, CHIP 0.047
C158	87-012-156-080		C-CAP,S 220P-50 CH
C159	87-A10-369-080		C-CAP,S 0.47-16 K B
C161	87-010-182-080		C-CAP,S 2200P-50 B
C162	87-010-178-080		CHIP CAP 1000P
C201	87-010-196-080		CHIP CAPACITOR,0.1-25
C206	87-010-322-080		C-CAP,S 100P-50 CH
C207	87-010-322-080		C-CAP,S 100P-50 CH
C208	87-010-322-080		C-CAP,S 100P-50 CH
C209	87-010-322-080		C-CAP,S 100P-50 CH
C210	87-010-196-080		CHIP CAPACITOR,0.1-25
C211	87-010-263-040		CAP,E 100-10
C213	87-010-197-080		CAP, CHIP 0.01 DM
C214	87-010-196-080		CHIP CAPACITOR,0.1-25
C301	87-016-251-040		CAP,E 220-16 SMG
C302	87-012-140-080		CAP 470P
C303	87-010-178-080		CHIP CAP 1000P
C304	87-010-384-040		CAP,E 100-25 SME
C305	87-010-383-040		CAP,E 33-25 SME
C306	87-010-112-040		CAP,E 100-16
C307	87-010-196-080		CHIP CAPACITOR,0.1-25
C308	87-010-263-040		CAP,E 100-10
C309	87-010-196-080		CHIP CAPACITOR,0.1-25
C310	87-010-263-040		CAP,E 100-10
C311	87-010-196-080		CHIP CAPACITOR,0.1-25
C312	87-010-178-080		CHIP CAP 1000P
C320	87-A10-230-080		C-CAP,S 0.68-25 Z F
C401	87-010-196-080		CHIP CAPACITOR,0.1-25
C402	87-010-112-040		CAP,E 100-16
C403	87-010-196-080		CHIP CAPACITOR,0.1-25
C404	87-010-196-080		CHIP CAPACITOR,0.1-25
C431	87-010-197-080		CAP, CHIP 0.01 DM
C433	87-010-196-080		CHIP CAPACITOR,0.1-25
C434	87-010-197-080		CAP, CHIP 0.01 DM
C435	87-016-044-080		CAP,E 100-16 5L GAS
C501	87-010-197-080		CAP, CHIP 0.01 DM
C502	87-010-197-080		CAP, CHIP 0.01 DM
C503	87-010-197-080		CAP, CHIP 0.01 DM
C504	87-010-154-080		CAP CHIP 10P
C505	87-010-154-080		CAP CHIP 10P
C506	87-010-197-080		CAP, CHIP 0.01 DM
C508	87-010-263-040		CAP,E 100-10
C509	87-010-196-080		CHIP CAPACITOR,0.1-25
C510	87-010-555-040		CAP,E 100-10 GAS
C511	87-010-196-080		CHIP CAPACITOR,0.1-25
C512	87-010-197-080		CAP, CHIP 0.01 DM
C513	87-010-197-080		CAP, CHIP 0.01 DM
C514	87-010-197-080		CAP, CHIP 0.01 DM
C518	87-010-322-080		C-CAP,S 100P-50 CH
C519	87-012-145-080		CAP, CHIP S 270P CH
C520	87-012-157-080		C-CAP,S 330P-50 CH
C521	87-012-154-080		C-CAP,S 150P-50 CH
C523	87-010-197-080		CAP, CHIP 0.01 DM
C524	87-010-197-080		CAP, CHIP 0.01 DM
C525	87-010-197-080		CAP, CHIP 0.01 DM
C526	87-010-197-080		CAP, CHIP 0.01 DM
C527	87-010-197-080		CAP, CHIP 0.01 DM
C528	87-010-197-080		CAP, CHIP 0.01 DM
C529	87-010-197-080		CAP, CHIP 0.01 DM
C530	87-010-197-080		CAP, CHIP 0.01 DM
C531	87-010-197-080		CAP, CHIP 0.01 DM
C532	87-010-374-040		CAP,E 47-10
C533	87-010-197-080		CAP, CHIP 0.01 DM
C535	87-010-197-080		CAP, CHIP 0.01 DM
C536	87-010-549-040		CAP,E 47-6.3 GAS
C537	87-010-197-080		CAP, CHIP 0.01 DM
C538	87-010-196-080		CHIP CAPACITOR,0.1-25
C539	87-010-196-080		CHIP CAPACITOR,0.1-25
C540	87-010-374-040		CAP,E 47-10
C541	87-010-197-080		CAP, CHIP 0.01 DM
C542	87-010-318-080		C-CAP,S 47P-50 CH
C544	87-010-197-080		CAP, CHIP 0.01 DM
C546	87-010-197-080		CAP, CHIP 0.01 DM
C560	87-010-318-080		C-CAP,S 47P-50 CH<HRJ>
C560	87-010-197-080		CAP, CHIP 0.01 DM<HC1>
C601	87-010-196-080		CHIP CAPACITOR,0.1-25
C602	87-010-555-040		CAP,E 100-10 GAS
C603	87-010-196-080		CHIP CAPACITOR,0.1-25
C604	87-010-374-040		CAP,E 47-10
C605	87-010-174-080		CAP CHIP SL470P (K)
C606	87-010-378-040		CAP,E 10-16
C607	87-010-186-080		CAP,CHIP 4700P
C608	87-010-187-080		CAP CHIP S5600P
C609	87-010-378-040		CAP,E 10-16
C610	87-010-378-040		CAP,E 10-16
C611	87-010-180-080		C-CER 1500P
C612	87-010-180-080		C-CER 1500P
C613	87-012-154-080		C-CAP,S 150P-50 CH
C614	87-012-154-080		C-CAP,S 150P-50 CH
C617	87-010-374-040		CAP,E 47-10
C618	87-010-374-040		CAP,E 47-10
C620	87-010-313-080		CAP, CHIP 18P
C621	87-010-313-080		CAP, CHIP 18P
C622	87-010-196-080		CHIP CAPACITOR,0.1-25<HRJ>
C623	87-010-553-040		CAP,E 47-16 GAS
C627	87-010-196-080		CHIP CAPACITOR,0.1-25
C628	87-010-553-040		CAP,E 47-16 GAS
C651	87-010-992-080		C-CAP,S 0.047-25 B
C671	87-010-073-040		CAP,E 3.3-50 5L
C672	87-010-073-040		CAP,E 3.3-50 5L
C673	87-010-178-080		CHIP CAP 1000P
C674	87-010-178-080		CHIP CAP 1000P
C675	87-010-178-080		CHIP CAP 1000P
C676	87-010-178-080		CHIP CAP 1000P
C681	87-010-196-080		CHIP CAPACITOR,0.1-25
C722	87-010-371-040		CAP,E 470-6.3
C749	87-010-401-040		CAP,E 1-50 SME
C751	87-012-153-080		C-CAP,S 120P-50 CH
C752	87-A10-369-080		C-CAP,S 0.47-16 K B
C754	87-010-197-080		CAP, CHIP 0.01 DM
C756	87-010-197-080		CAP, CHIP 0.01 DM
C757	87-A11-167-080		C-CAP,S 27P-50 F CH<HRJ>

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
C757	87-010-316-080		C-CAP,S 33P-50 CH<HC1>
C758	87-A11-167-080		C-CAP,S 27P-50 F CH
C801	87-010-494-040		CAP,E 1-50 GAS
C802	87-010-401-040		CAP,E 1-50 SME
C803	87-010-197-080		CAP, CHIP 0.01 DM
C804	87-010-197-080		CAP, CHIP 0.01 DM
C805	87-012-154-080		C-CAP,S 150P-50 CH
C806	87-012-154-080		C-CAP,S 150P-50 CH
C809	87-012-154-080		C-CAP,S 150P-50 CH
C810	87-012-154-080		C-CAP,S 150P-50 CH
C811	87-010-497-040		CAP,E 4.7-35 GAS
C812	87-010-497-040		CAP,E 4.7-35 GAS
C813	87-010-381-080		CAP, ELECT 330-16V
C814	87-010-378-040		CAP,E 10-16
C815	87-010-378-040		CAP,E 10-16
C816	87-010-378-040		CAP,E 10-16
C817	87-010-401-040		CAP,E 1-50 SME
C818	87-010-401-040		CAP,E 1-50 SME
C819	87-010-197-080		CAP, CHIP 0.01 DM
C820	87-010-197-080		CAP, CHIP 0.01 DM
C823	87-012-154-080		C-CAP,S 150P-50 CH
C824	87-012-154-080		C-CAP,S 150P-50 CH
C825	87-010-404-040		CAP,E 4.7-50 SME
C826	87-010-497-040		CAP,E 4.7-35 GAS
C829	87-010-381-080		CAP, ELECT 330-16V
C851	87-010-188-080		CAP,CHIP 6800P
C852	87-010-188-080		CAP,CHIP 6800P
C853	87-010-188-080		CAP,CHIP 6800P
C854	87-010-188-080		CAP,CHIP 6800P
C861	87-010-379-040		CAP,E 22-16 M SME
C862	87-010-196-080		CHIP CAPACITOR,0.1-25
C863	87-010-196-080		CHIP CAPACITOR,0.1-25
C864	87-010-196-080		CHIP CAPACITOR,0.1-25
C865	87-010-196-080		CHIP CAPACITOR,0.1-25
C866	87-010-196-080		CHIP CAPACITOR,0.1-25
CN101	87-A60-424-010		CONN,16P V TOC-B
CN103	87-A60-131-010		CONN,6P V FE
CN301	87-A60-136-010		CONN,11P V FE
CN401	87-A60-153-010		CONN,5P H FE
CN403	87-A60-162-010		CONN,14P H FE
CN404	87-A60-157-010		CONN,9P H FE
CN801	87-A60-119-010		CONN,9P H S2M-9WR
CN901	87-A60-422-010		CONN,8P V TOC-B
CN902	87-A60-109-010		CONN,2P V S2M-2W
L101	87-005-196-080		COIL,10UH
L102	87-005-448-080		COIL,220UH
L151	87-005-204-080		COIL,47UH
L201	87-005-204-080		COIL,47UH
L301	87-A50-095-010		COIL,68UH RCR875D
L302	87-005-426-080		COIL,3.3UH K FLR50
L502	87-005-204-080		COIL,47UH
L503	87-005-189-080		COIL 2.7UH
L504	87-005-187-080		COIL,1.8UH
L505	87-005-204-080		COIL,47UH
L506	87-005-204-080		COIL,47UH
L507	87-005-204-080		COIL,47UH
L708	87-005-817-080		C-COIL, 33UH J FLC32
R130	87-022-364-080		C-RES,S 82K-1/10W F
R131	87-022-364-080		C-RES,S 82K-1/10W F
R132	87-022-364-080		C-RES,S 82K-1/10W F
R133	87-022-364-080		C-RES,S 82K-1/10W F
R134	87-022-364-080		C-RES,S 82K-1/10W F
R135	87-022-364-080		C-RES,S 82K-1/10W F
R507	87-A00-408-080		C-RES,S 2K-1/10W D
X201	87-A70-124-080		VIB,CER 8.0MHZ
X501	87-A70-125-080		VIB,XTAL 27MHZ 50PPM
X601	87-030-270-080		VIB,XTAL 16.9344MHZ

AC2 C.B

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
C101	87-010-387-080		CAP,E 470-25 SME
C103	87-A10-479-080		CAP,CER 2200P-250 M E KH
C104	87-A10-479-080		CAP,CER 2200P-250 M E KH
C105	87-010-403-080		CAP, ELECT 3.3-50V
CN102	87-A60-109-010		CONN,2P V S2M-2W
CNA101	8Z-CL4-654-010		CONN ASSY,5P V RELAY
⚠PT102	8Z-NF8-663-010		PT,SUB ZNF-8(H)
RY101	87-A91-281-010		RELAY,AC DC12V OSA-SS-212DM5
⚠S101	87-A90-234-010		SW,SL 1-2-2 SW2201
⚠T101	87-A60-317-010		TERMINAL, 1P MSC
⚠T102	87-A60-317-010		TERMINAL, 1P MSC

V-OUT C.B

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
CNA801	8Z-CG4-615-010		CONN ASSY,9P V VOUTSHLD
J801	87-A61-151-010		JACK,PIN 1P YEL MSC
J802	87-A60-354-010		JACK,PIN 2P MSP -242V-05
S801	87-A90-300-010		SW,SL SSAA 1-3 B

MIC C.B

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
C801	87-010-182-080		C-CAP,S 2200P-50 B
C802	87-010-544-040		CAP,E 0.1-50 SME
C804	87-012-154-080		C-CAP,S 150P-50 CH
C805	87-010-545-080		CAP, ELECT 0.22-50V
C806	87-010-178-080		CHIP CAP 1000P
C807	87-010-401-080		CAP, ELECT 1-50V
C808	87-010-400-040		CAP,E 0.47-50
C809	87-010-404-080		CAP, ELECT 4.7-50V
C810	87-010-248-040		CAP,E 220-10 SME
C811	87-010-112-040		CAP,E 100-16
C813	87-010-545-080		CAP, ELECT 0.22-50V
J803	87-A60-420-010		JACK,3.5 ST (MSC)
VR801	87-A90-239-010		VR,RTRY 10KA H PRV09
WH802	87-A90-458-010		HLDR,WIRE 2.5-3P

TUNER C.B

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
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
C721	87-012-176-080		CAP 15P
C722	87-012-176-080		CAP 15P
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
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
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
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
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
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

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
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
C820	87-010-260-080		CAP, ELECT 47-25V
C959	87-010-196-080		CHIP CAPACITOR,0.1-25
C960	87-010-196-080		CHIP CAPACITOR,0.1-25
C961	87-012-174-080		CAP CHIP CERA SS 12P CHJ
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-A91-110-010		FLTR,PCFJZH-450 (TOK)
L981	8Z-ZA1-664-010		COIL,AM PACK 4(TOK)
X721	87-A70-061-010		VIB,XTAL 4.500MHZ CSA-309

MD C.B

C100	87-016-296-080		C-CAP,TN 22-4SV(A)
C101	87-016-296-080		C-CAP,TN 22-4SV(A)
C102	87-012-286-080		CAP, U 0.01-25
C103	87-010-787-080		CAP, U 0.022-25
C104	87-010-662-080		C-CAP,E 22-6.3
C105	87-010-831-080		C-CAP,U,0.1-16F
C106	87-016-462-080		C-CAP,S 1-16 F
C107	87-012-195-080		C-CAP,U 100P-50CH
C108	87-012-274-080		CHIP CAP,U 1000P-50B
C109	87-016-436-080		C-CAP,TN 47-4(B2)
C111	87-016-296-080		C-CAP,TN 22-4SV(A)
C112	87-012-286-080		CAP, U 0.01-25
C113	87-012-284-080		CAP, U 6800P-50
C114	87-010-828-080		CHIP CAPACITOR,U 0.033-25F
C115	87-A10-369-080		C-CAP,S 0.47-16 K B
C116	87-012-282-080		CAP, U 4700P-50
C117	87-016-462-080		C-CAP,S 1-16 F
C118	87-012-282-080		CAP, U 4700P-50
C119	87-016-491-080		C-CAP,S 0.22-16 FZ
C120	87-010-787-080		CAP, U 0.022-25
C121	87-012-286-080		CAP, U 0.01-25
C122	87-010-829-080		CAP, U 0.047-16
C123	87-012-286-080		CAP, U 0.01-25
C124	87-010-662-080		C-CAP,E 22-6.3
C125	87-010-662-080		C-CAP,E 22-6.3
C126	87-010-831-080		C-CAP,U,0.1-16F
C201	87-010-831-080		C-CAP,U,0.1-16F
C202	87-010-831-080		C-CAP,U,0.1-16F
C203	87-010-785-080		C-CAP,U0.015-25BK
C204	87-016-461-080		C-CAP,S 0.47-16F
C205	87-010-831-080		C-CAP,U,0.1-16F
C206	87-012-270-080		CAP, U 470P-50
C207	87-016-461-080		C-CAP,S 0.47-16F
C208	87-012-286-080		CAP, U 0.01-25
C209	87-010-831-080		C-CAP,U,0.1-16F
C210	87-012-172-080		CAPACITOR CHIP U 10P CH
C211	87-012-172-080		CAPACITOR CHIP U 10P CH
C212	87-012-195-080		C-CAP,U 100P-50CH
C213	87-010-662-080		C-CAP,E 22-6.3
C214	87-012-274-080		CHIP CAP,U 1000P-50B
C217	87-012-188-080		C-CAP,U 47P-50 CH
C218	87-012-172-080		CAPACITOR CHIP U 10P CH
C219	87-016-296-080		C-CAP,TN 22-4SV(A)
C220	87-010-662-080		C-CAP,E 22-6.3
C221	87-010-831-080		C-CAP,U,0.1-16F
C222	87-016-444-080		C-CAP,TN 47-10 F95E
C223	87-010-831-080		C-CAP,U,0.1-16F
C224	87-A10-685-080		C-CAP,S 470P-100 J CH
C225	87-010-831-080		C-CAP,U,0.1-16F
C226	87-010-831-080		C-CAP,U,0.1-16F
C227	87-012-274-080		CHIP CAP,U 1000P-50B
C228	87-012-274-080		CHIP CAP,U 1000P-50B
C229	87-012-274-080		CHIP CAP,U 1000P-50B
C232	87-012-274-080		CHIP CAP,U 1000P-50B
C233	87-012-274-080		CHIP CAP,U 1000P-50B
C236	87-010-831-080		C-CAP,U,0.1-16F
C300	87-010-831-080		C-CAP,U,0.1-16F
C301	87-010-831-080		C-CAP,U,0.1-16F
C302	87-010-831-080		C-CAP,U,0.1-16F
C305	87-016-462-080		C-CAP,S 1-16 F
C307	87-010-831-080		C-CAP,U,0.1-16F
C308	87-010-831-080		C-CAP,U,0.1-16F
C311	87-010-662-080		C-CAP,E 22-6.3
C312	87-012-195-080		C-CAP,U 100P-50CH
C321	87-012-274-080		CHIP CAP,U 1000P-50B
C322	87-012-274-080		CHIP CAP,U 1000P-50B
C323	87-012-274-080		CHIP CAP,U 1000P-50B
C324	87-012-274-080		CHIP CAP,U 1000P-50B
C325	87-012-274-080		CHIP CAP,U 1000P-50B
C400	87-010-831-080		C-CAP,U,0.1-16F
C401	87-010-831-080		C-CAP,U,0.1-16F
C402	87-010-831-080		C-CAP,U,0.1-16F
C403	87-010-831-080		C-CAP,U,0.1-16F
C404	87-010-831-080		C-CAP,U,0.1-16F
C405	87-010-661-080		C-CAP,E 10-16
C406	87-010-779-080		C-CAP,E 100-6.3
C407	87-012-197-080		C-CAP,U 150P-50 CH
C408	87-012-197-080		C-CAP,U 150P-50 CH
C411	87-012-271-080		CAP, U 560P-50
C412	87-012-271-080		CAP, U 560P-50
C413	87-012-197-080		C-CAP,U 150P-50 CH
C414	87-012-197-080		C-CAP,U 150P-50 CH
C417	87-012-268-080		C-CAP,U 330P-50 B
C418	87-012-268-080		C-CAP,U 330P-50 B
C423	87-012-286-080		CAP, U 0.01-25
C424	87-012-286-080		CAP, U 0.01-25
C429	87-012-286-080		CAP, U 0.01-25
C430	87-012-286-080		CAP, U 0.01-25
C431	87-010-779-080		C-CAP,E 100-6.3
C434	87-010-831-080		C-CAP,U,0.1-16F
C501	87-010-831-080		C-CAP,U,0.1-16F
C502	87-010-831-080		C-CAP,U,0.1-16F
C503	87-010-662-080		C-CAP,E 22-6.3
C504	87-010-831-080		C-CAP,U,0.1-16F
C505	87-010-662-080		C-CAP,E 22-6.3
C506	87-010-831-080		C-CAP,U,0.1-16F
C507	87-010-661-080		C-CAP,E 10-16
C508	87-010-831-080		C-CAP,U,0.1-16F
C509	87-010-662-080		C-CAP,E 22-6.3
C510	87-010-831-080		C-CAP,U,0.1-16F
C511	87-010-661-080		C-CAP,E 10-16
C513	87-010-661-080		C-CAP,E 10-16
C514	87-010-661-080		C-CAP,E 10-16
C515	87-012-337-080		C-CAP,U 56P-50 CH
C516	87-012-337-080		C-CAP,U 56P-50 CH
C517	87-012-278-080		C-CAP,U 2200P-50 B
C518	87-012-278-080		C-CAP,U 2200P-50 B
C519	87-010-831-080		C-CAP,U,0.1-16F
C520	87-010-661-080		C-CAP,E 10-16
C521	87-010-831-080		C-CAP,U,0.1-16F
C522	87-010-661-080		C-CAP,E 10-16
C523	87-010-662-080		C-CAP,E 22-6.3
C524	87-010-662-080		C-CAP,E 22-6.3
C525	87-012-274-080		CHIP CAP,U 1000P-50B
C526	87-012-274-080		CHIP CAP,U 1000P-50B

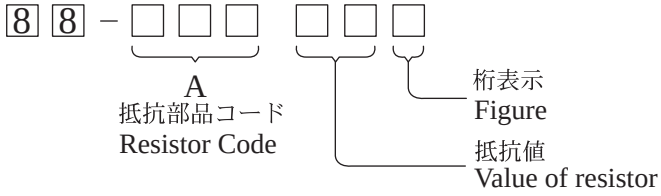
REF. NO	PART NO.	KANRI NO.	DESCRIPTION
C527	87-010-661-080		C-CAP,E 10-16
C528	87-010-661-080		C-CAP,E 10-16
C530	87-010-831-080		C-CAP,U,0.1-16F
C531	87-010-831-080		C-CAP,U,0.1-16F
C600	87-010-662-080		C-CAP,E 22-6.3
C601	87-010-779-080		C-CAP,E 100-6.3
C602	87-010-779-080		C-CAP,E 100-6.3
C603	87-010-662-080		C-CAP,E 22-6.3
C604	87-010-779-080		C-CAP,E 100-6.3
C605	87-012-286-080		CAP, U 0.01-25
C607	87-010-831-080		C-CAP,U,0.1-16F
C608	87-010-831-080		C-CAP,U,0.1-16F
CN400	87-A60-027-080		C-CONN,8P H WHT
CN401	87-A60-062-010		CONN,05P V 9604S-05C
FB501	87-A90-828-080		C-F-BEAD, BK1608LM182
L100	87-A50-117-080		C-COIL,10UHLQH3C
L101	87-A50-012-080		C-COIL,100UH LQH3C
L102	87-A50-117-080		C-COIL,10UHLQH3C
L103	87-A50-117-080		C-COIL,10UHLQH3C
L201	87-A50-117-080		C-COIL,10UHLQH3C
L202	87-A50-117-080		C-COIL,10UHLQH3C
L203	87-A50-116-080		C-COIL,4.7UHLQH3C
L301	87-A50-117-080		C-COIL,10UHLQH3C
L501	87-A50-116-080		C-COIL,4.7UHLQH3C
L502	87-A50-116-080		C-COIL,4.7UHLQH3C
L503	87-A50-116-080		C-COIL,4.7UHLQH3C
L504	87-005-774-080		C-COIL,4BLH
L505	87-005-774-080		C-COIL,4BLH
L611	87-A50-163-080		C-COIL,ZBFS5101-PT
L612	87-005-512-080		C-COIL,BLM21A05
L613	87-005-512-080		C-COIL,BLM21A05
L614	87-A50-163-080		C-COIL,ZBFS5101-PT
L615	87-A90-034-080		C-FLTR,EMI BLM41P750
L616	87-A50-163-080		C-COIL,ZBFS5101-PT
R423	87-025-564-080		C-RES,U M/F 47K D
R424	87-025-564-080		C-RES,U M/F 47K D
R425	87-022-583-080		C-RES,U M/F 12K D
R426	87-022-583-080		C-RES,U M/F 12K D
X200	87-A70-105-080		C-VIB,XTAL 22.5792MHZ SMD-49
X301	87-A70-100-080		C-VIB,CER 12.0MHZ PBRC-BR-A

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
LOAD C.B			
M450	87-A90-672-010		MOT,M25E-4
SW451	87-A90-673-010		SW,MICRO ESE11SH1C
SW452	87-A90-117-010		SW,PUSH 1-1-1 MPU103
MECHA C.B			
SW400	87-A90-611-010		SW,PUSH 3-2-2 MPU20300MLB0
SW401	87-A90-612-010		SW,PUSH 2-1-1 MPU10371MLB1
DECK C.B			
SFR1	87-024-581-010		SFR,3.3K DIA 6H KOA
SOL2	82-ZM1-618-310		SOL ASSY,27
SW2	87-036-110-010		SW,PUSH SPPB 62
SW3	87-036-110-010		SW,PUSH SPPB 62
SW4	87-036-110-010		SW,PUSH SPPB 62
SW5	87-036-110-010		SW,PUSH SPPB 62
SW6	87-A90-248-010		SW,MICRO ESE11SH
RELAY C.B			
CON301	87-A60-112-010		CONN,7P V S2M-7W
MOTOR CD C.B			
SW1	87-036-110-019		SW,PUSH SPPB 62
SW2	87-036-110-019		SW,PUSH SPPB 62
M1	87-045-305-019		MOTOR, RF-500TB
DRIVE C.B			
M20	87-045-358-010		MOT,RF-310TA 43
M21	87-045-356-010		MOT,RF-310TA 30
SW1	87-036-340-010		SW,LEAF LSA-1121

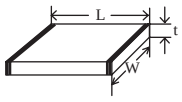
- Regarding connectors, they are not stocked as they are not the initial order items.
  The connectors are available after they are supplied from connector manufacturers upon the order is received.

○チップ抵抗部品コード／CHIP RESISTOR PART CODE

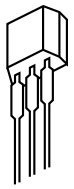
チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding



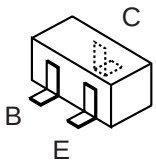
チップ抵抗
Chip resistor

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

TRANSISTOR ILLUSTRATION



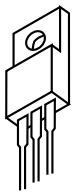
DTC114ES



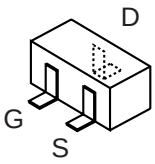
2SA1235
2SA1514
2SC2714
2SC3052
CMBT5551
DTA144TK
2SA1162
CSD1306E
RT1N144C

RT1N141C
2SC2712GR
DTA124XK
DTC124XK
KTA1298Y
RT1P141C
RT1P144C
RT1P441C

CC5551
CSD655E
CSB1058B
KTA1266GR
KTC3198GR



2SB1344
2SB1370
2SC4115
2SD2025
KTC3199GR



2SK2158

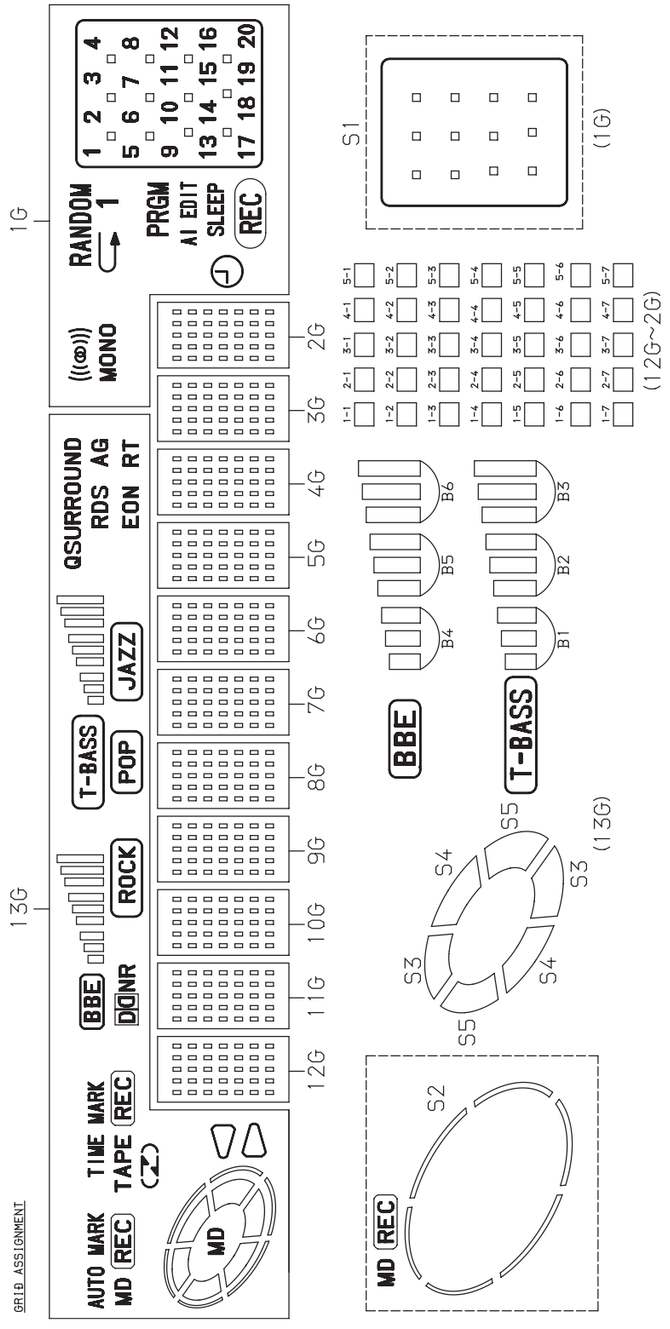
2SA1357

FL (13-ST-36GNK) GRID ASSIGNMENT/ANODE CONNECTION

	13G	12G~2G	1G
P1	JAZZ	1-1	1
P2	POP	2-1	2
P3	ROCK	3-1	MONO
P4	DNR	4-1	RANDOM
P5	RT	5-1	((∞))
P6	EON	1-2	PRGM
P7	AG	2-2	AI
P8	RDS	3-2	EDIT
P9	B1	4-2	SLEEP
P10	B2	5-2	⏲
P11	B3	1-3	REC
P12	T-BASS	2-3	1
P13	B4	3-3	2
P14	B5	4-3	3
P15	B6	5-3	4
P16	BBE	1-4	5
P17	▽	2-4	6
P18	△	3-4	7

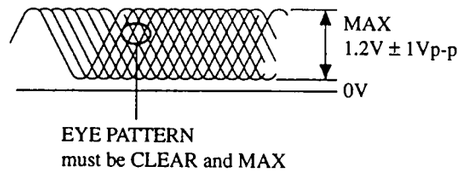
	13G	12G~2G	1G
P19	☽	4-4	8
P20	Z	5-4	9
P21	☾	1-5	10
P22	TAPE REC	2-5	11
P23	S2	3-5	12
P24	S3	4-5	13
P25	S4	5-5	14
P26	S5	1-6	15
P27	MD	2-6	16
P28	TIME MARK	3-6	17
P29	AUTO MARK	4-6	18
P30	QSURROUND	5-6	19
P31	-	1-7	20
P32	-	2-7	S1
P33	-	3-7	-
P34	-	4-7	-
P35	-	5-7	-

ANODE CONNECTION

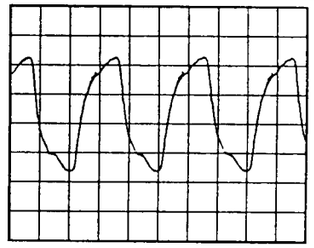


WAVE FORM

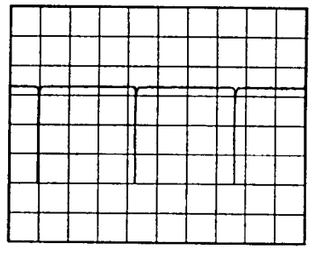
① IC101 Pin 33 (RF-O)
VOLT/DIV: 200mV
TIME/DIV: 0.5µS



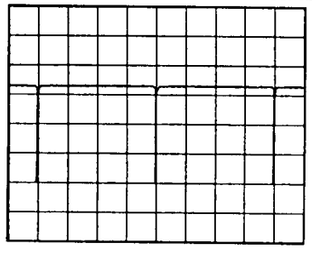
② IC501 Pin 86 (DA-XCK)
16.93MHz
VOLT/DIV: 1V
TIME/DIV: 20nS



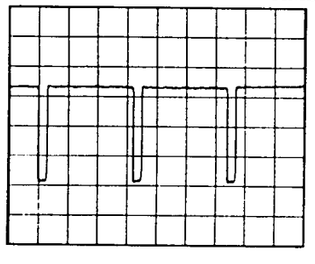
③ IC501 Pin 93 (VSYNC)
NTSC
VOLT/DIV: 1V
TIME/DIV: 5mS



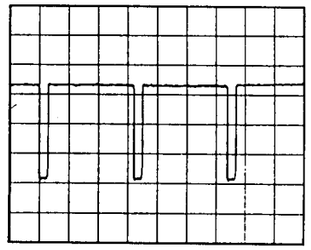
③ IC501 Pin 93 (VSYNC)
PAL
VOLT/DIV: 1V
TIME/DIV: 5mS



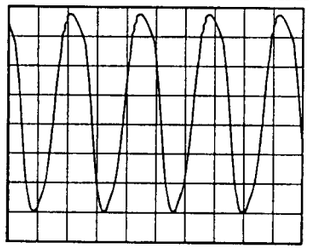
④ IC501 Pin 101 (HSYNC)
NTSC
VOLT/DIV: 1V
TIME/DIV: 20µS



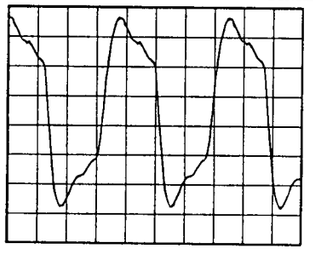
④ IC501 Pin 101 (HSYNC)
PAL
VOLT/DIV: 1V
TIME/DIV: 1V
TIME/DIV: 20µS



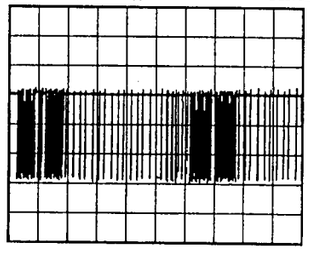
⑤ IC501 Pin 107 (GCK OUT)
42.3MHz
VOLT/DIV: 1V
TIME/DIV: 10nS



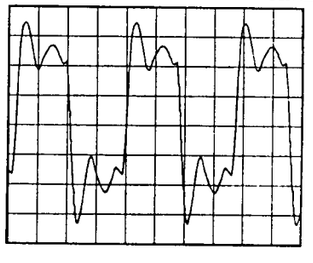
⑥ IC503 Pin 8 (33 VCK)
27MHz ± 1.35kHz
VOLT/DIV: 1V
TIME/DIV: 10nS

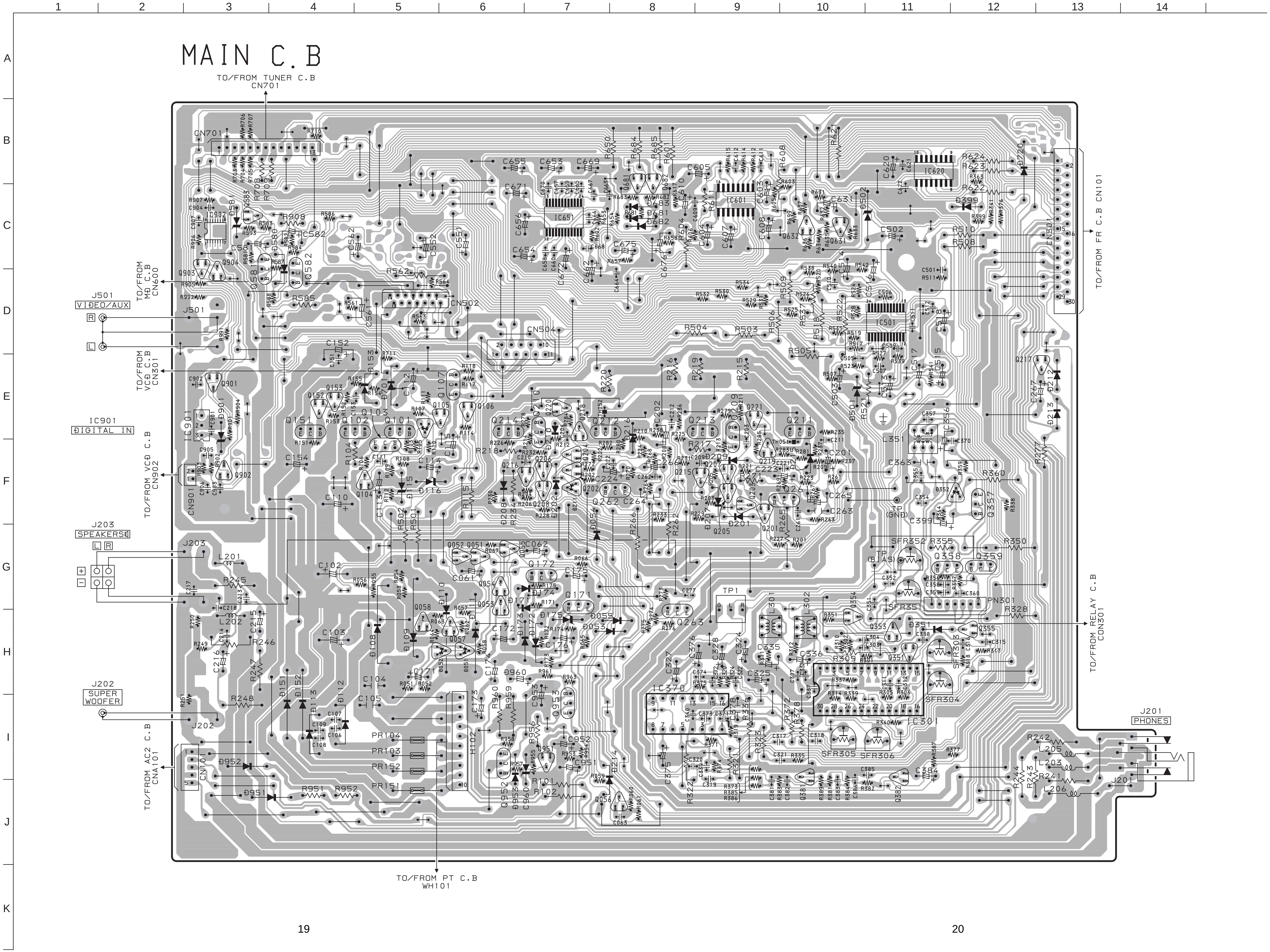


⑦ IC504 Pin 30 (UCAS)
(Pin 31 (LCAS))
VOLT/DIV: 1V
TIME/DIV: 2µS

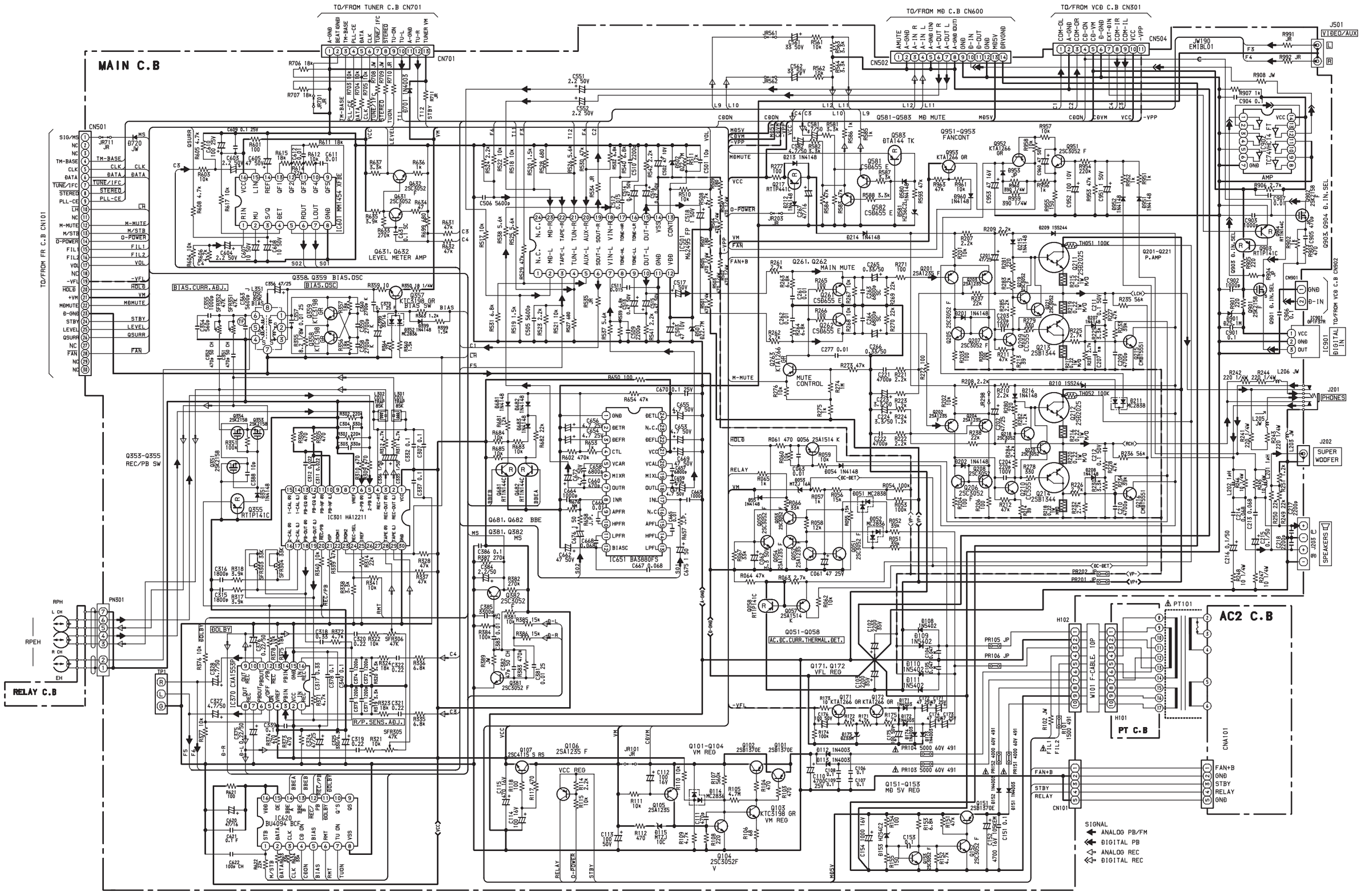


⑧ IC506 Pin 5 (OSD CLK)
13.5MHz ± 675Hz
VOLT/DIV: 1V
TIME/DIV: 20nS

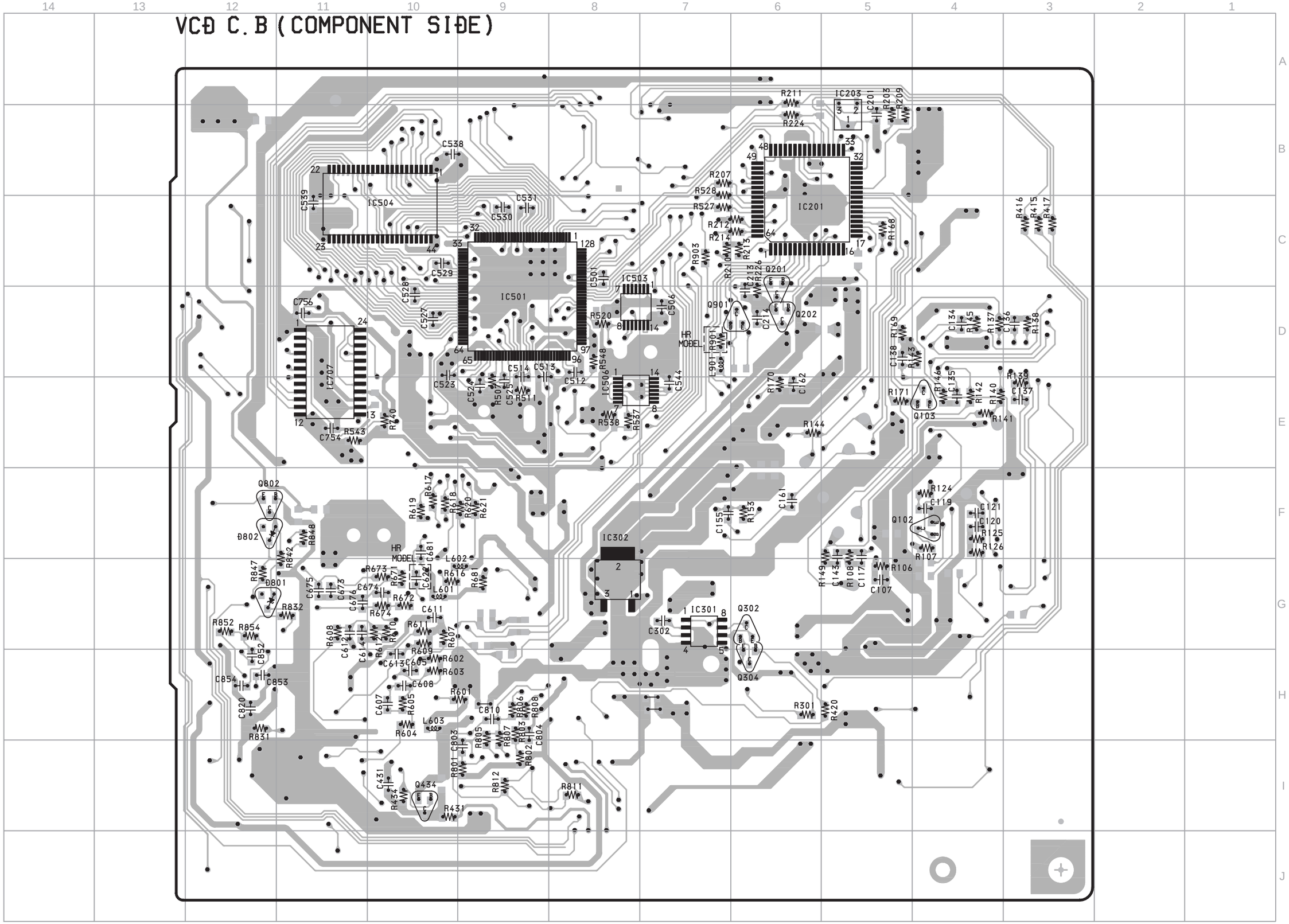



MAIN C.B
TO/FROM TUNER C.B
CN701
TO/FROM MD C.B
CN600
J501
VIDEO/AUX
TO/FROM VCD C.B
CN301
IC901
DIGITAL IN
TO/FROM VCD C.B
CN902
J203
SPEAKERS
J202
SUPER
WOOFER
TO/FROM AC2 C.B
CNA101
TO/FROM PT C.B
WH101
TO/FROM FR C.B CN101
TO/FROM RELAY C.B
CON301
J201
PHONES
TP
(GND)
TP
(BIAS)
TP1

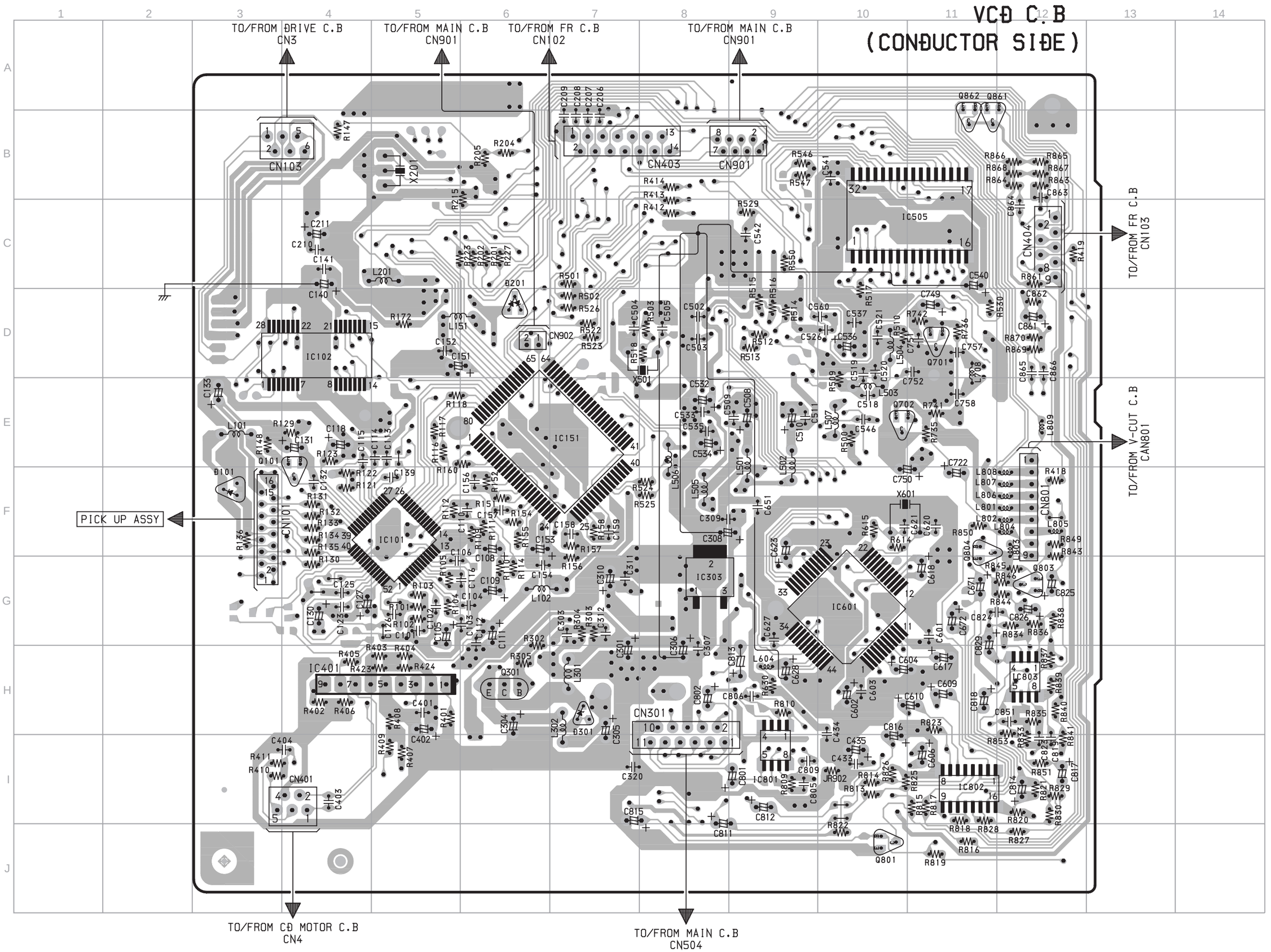
SCHEMATIC DIAGRAM-1 (MAIN)



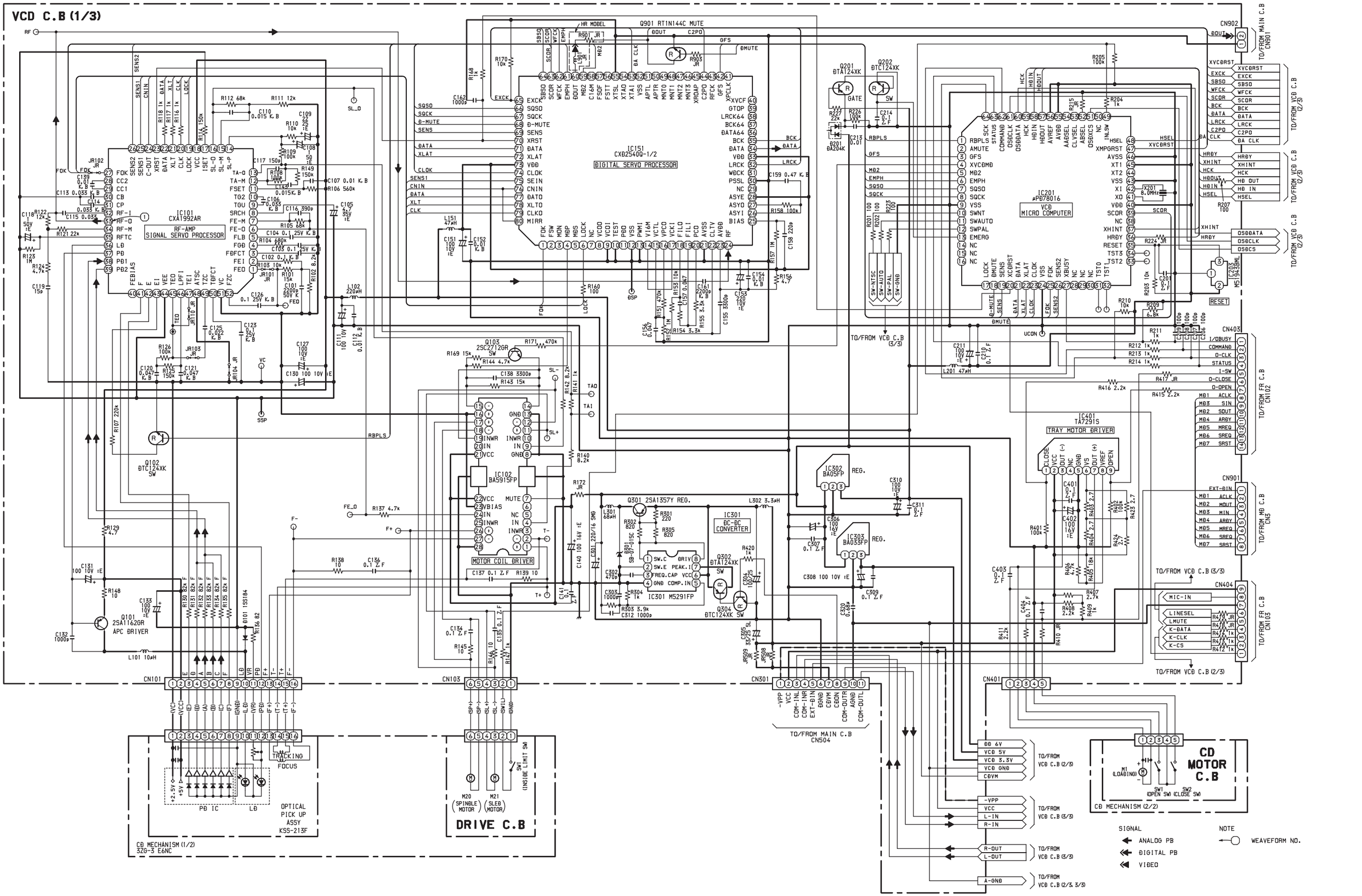
WIRING-2 (VCD: COMPONENT SIDE)



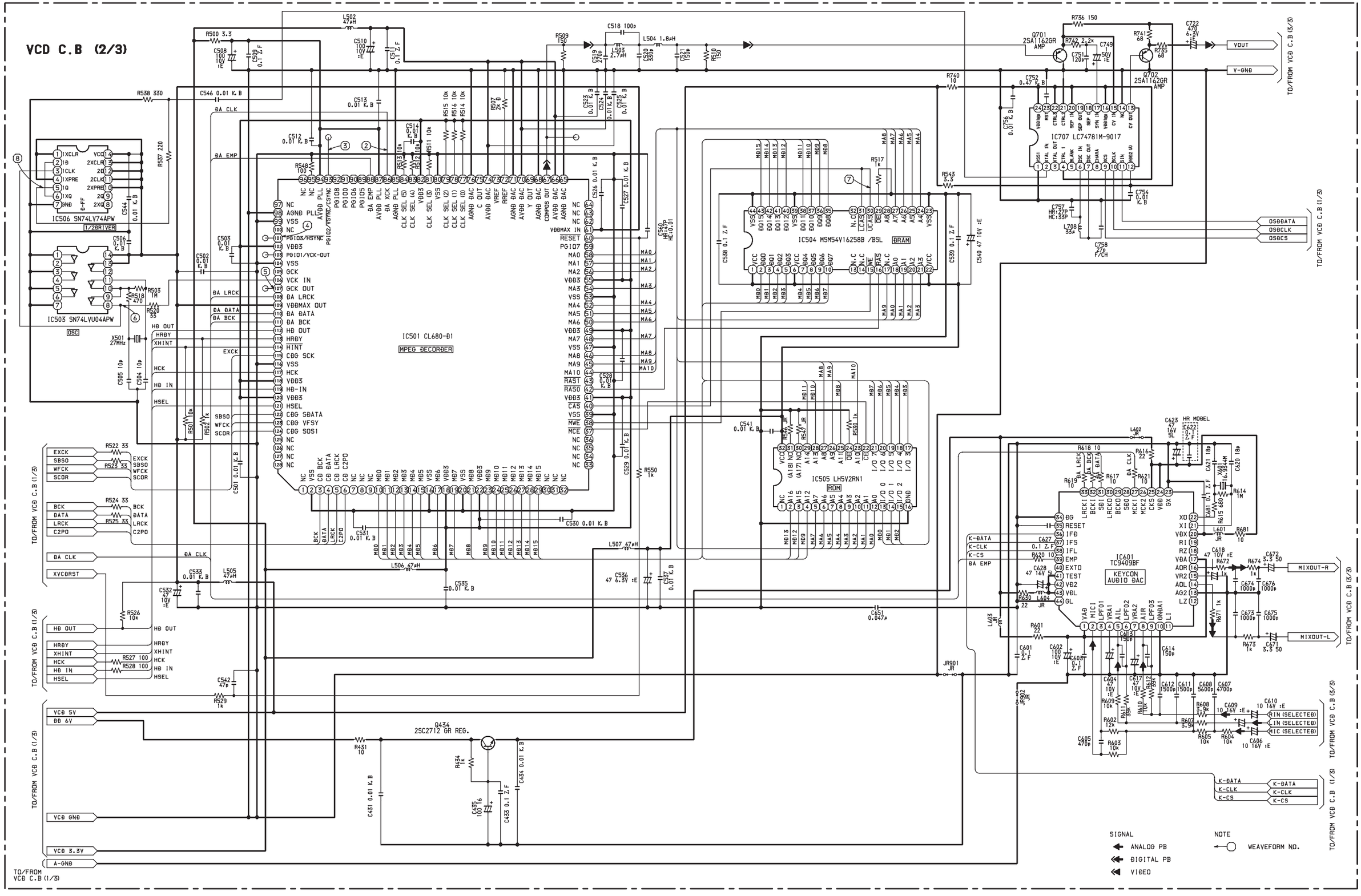
WIRING-3 (VCD: CONDUCTOR SIDE)



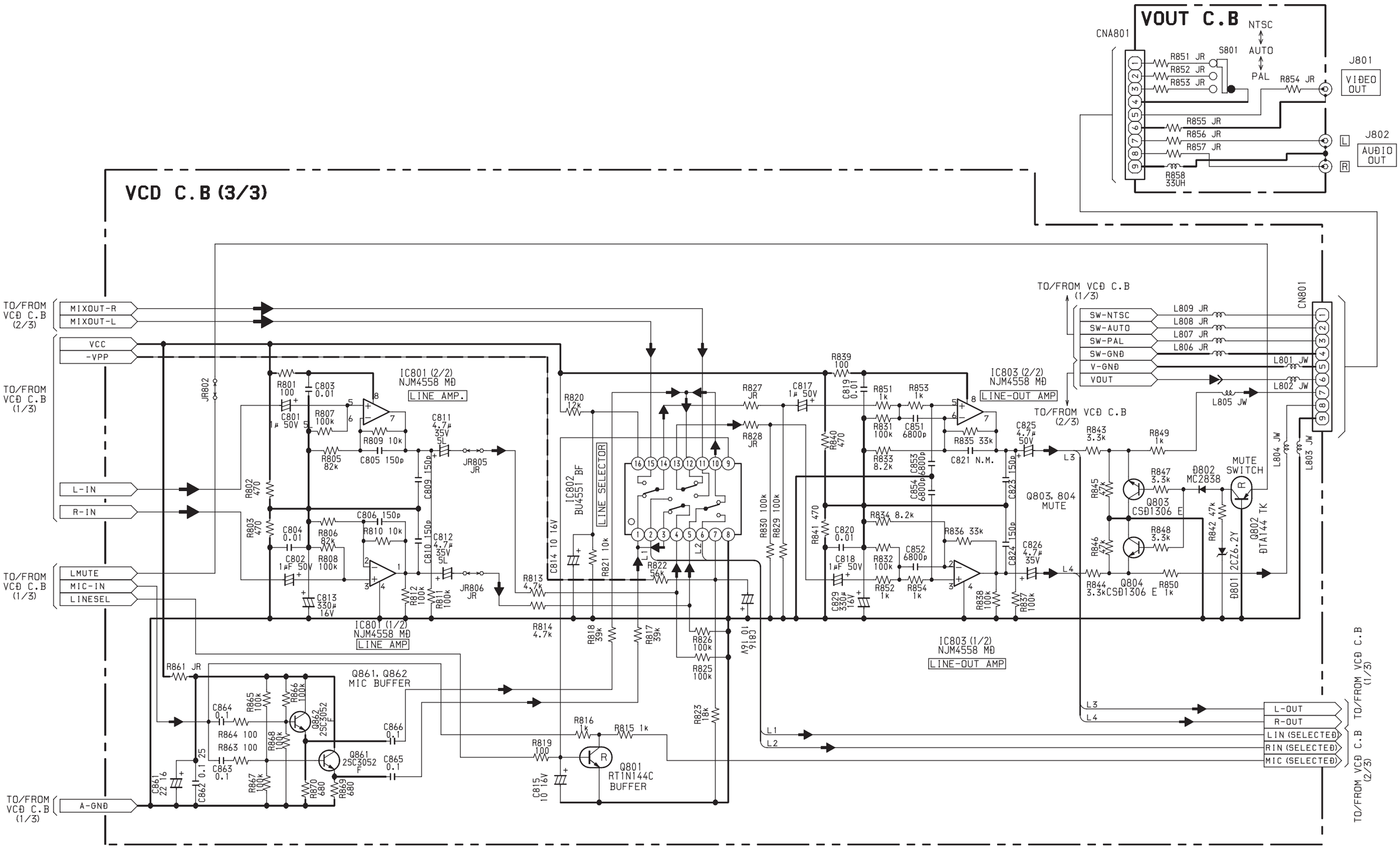
SCHEMATIC DIAGRAM-2 (VCD 1/3)



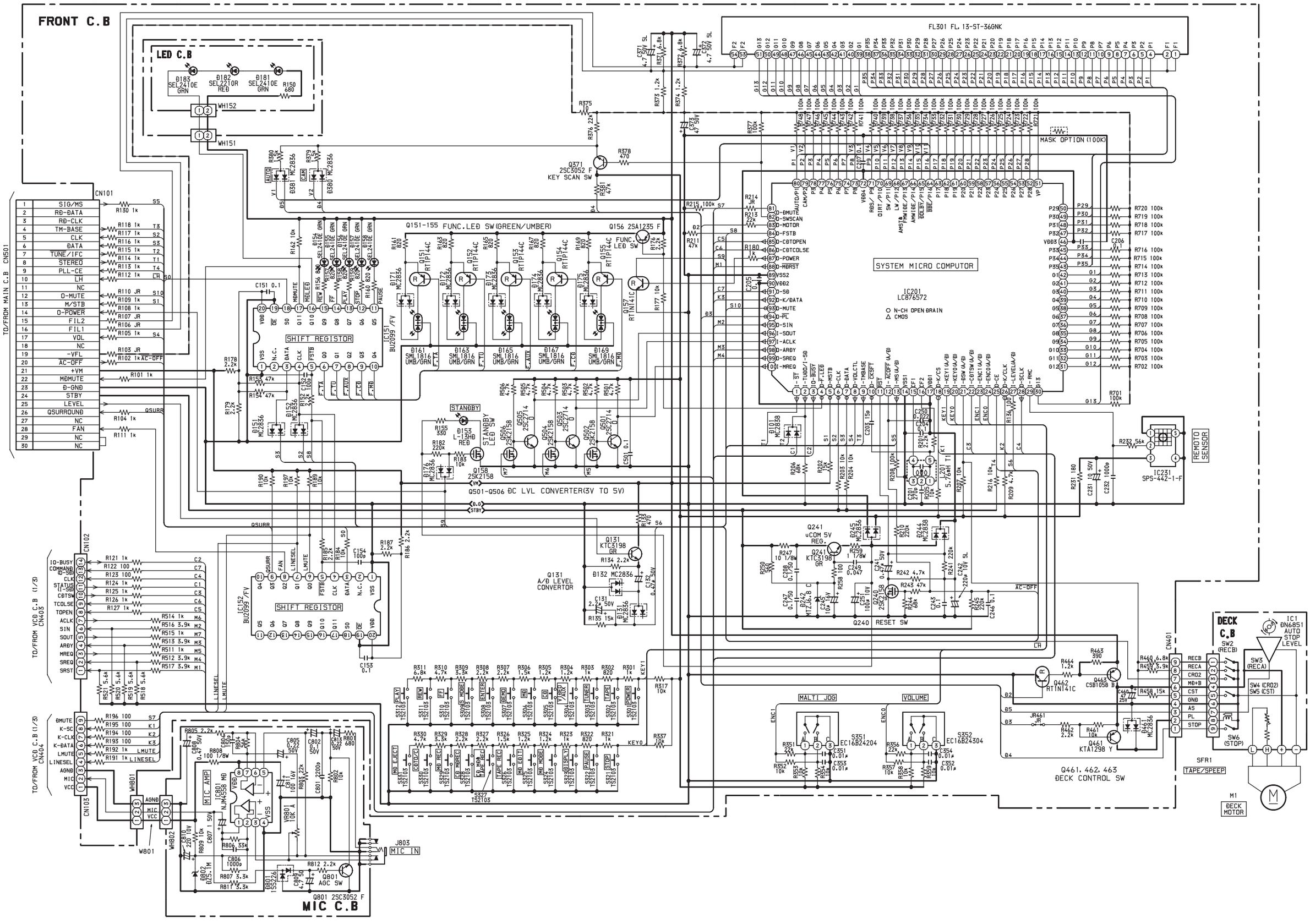
SCHEMATIC DIAGRAM-3 (VCD 2/3)



SCHEMATIC DIAGRAM-4 (VCD 3/3)

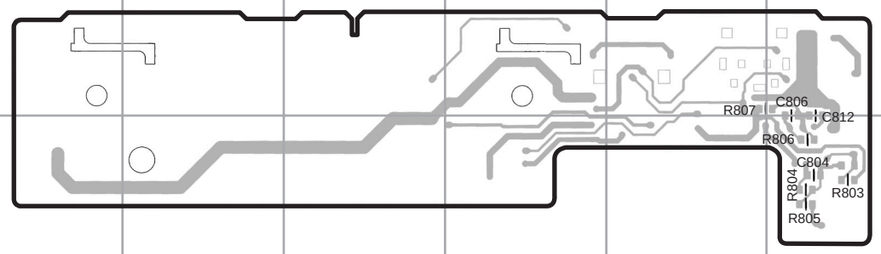


SCHEMATIC DIAGRAM-5 (FRONT)

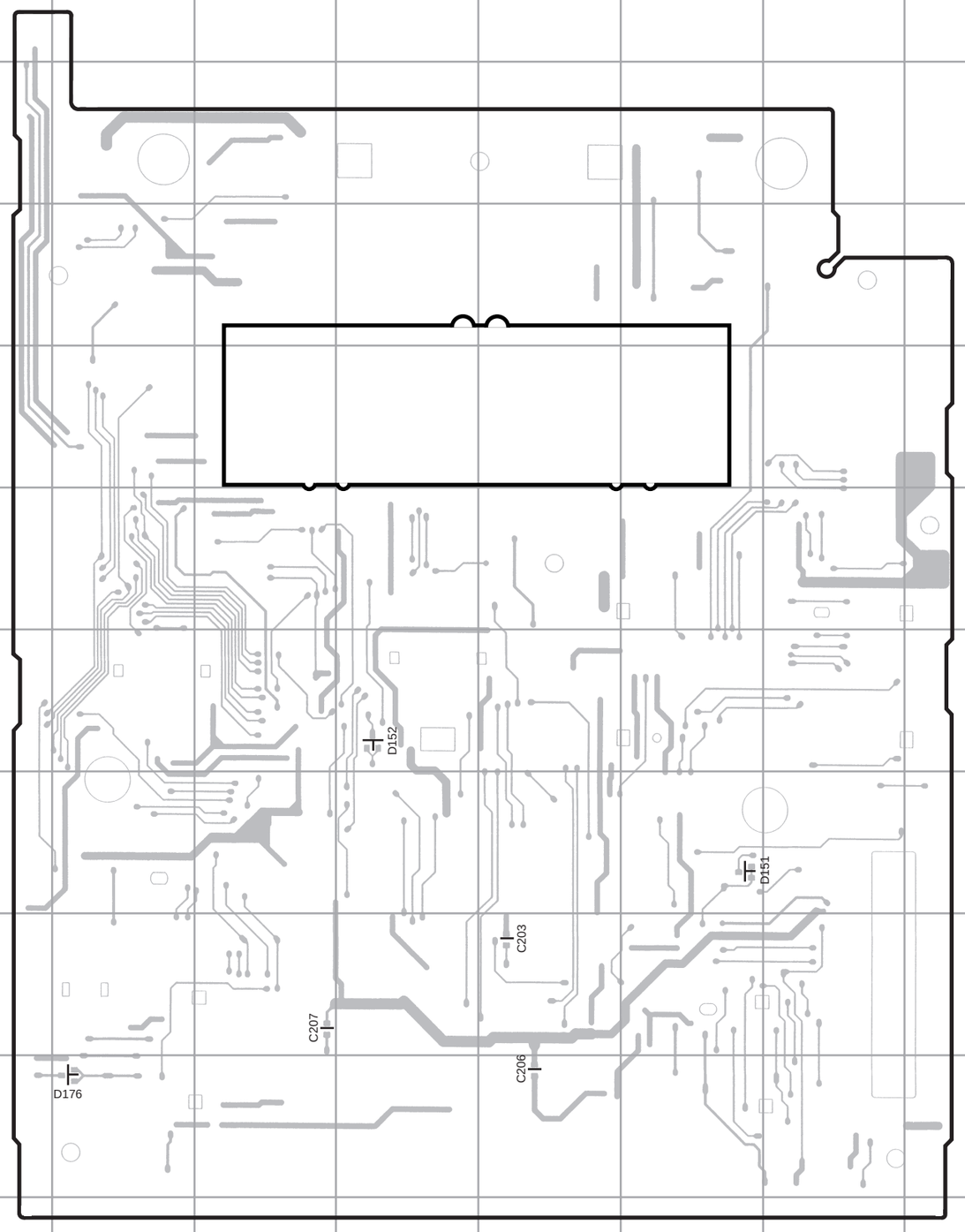


WIRING-4 (FRONT: COMPONENT SIDE)

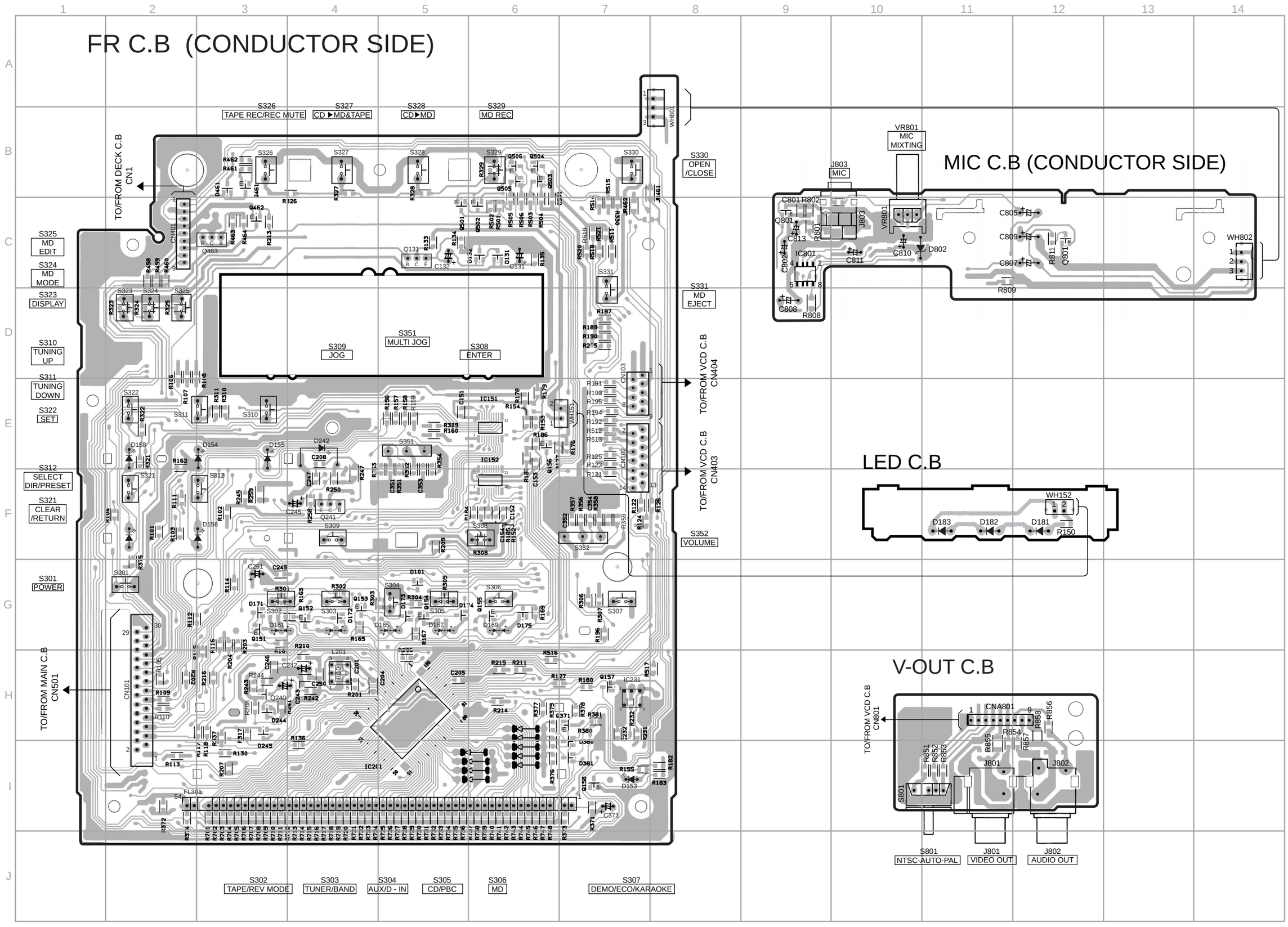
MIC C.B (COMPONENT SIDE)

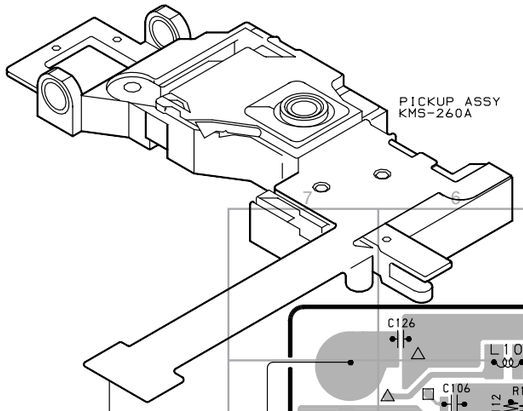


FR C.B (COMPONENT SIDE)

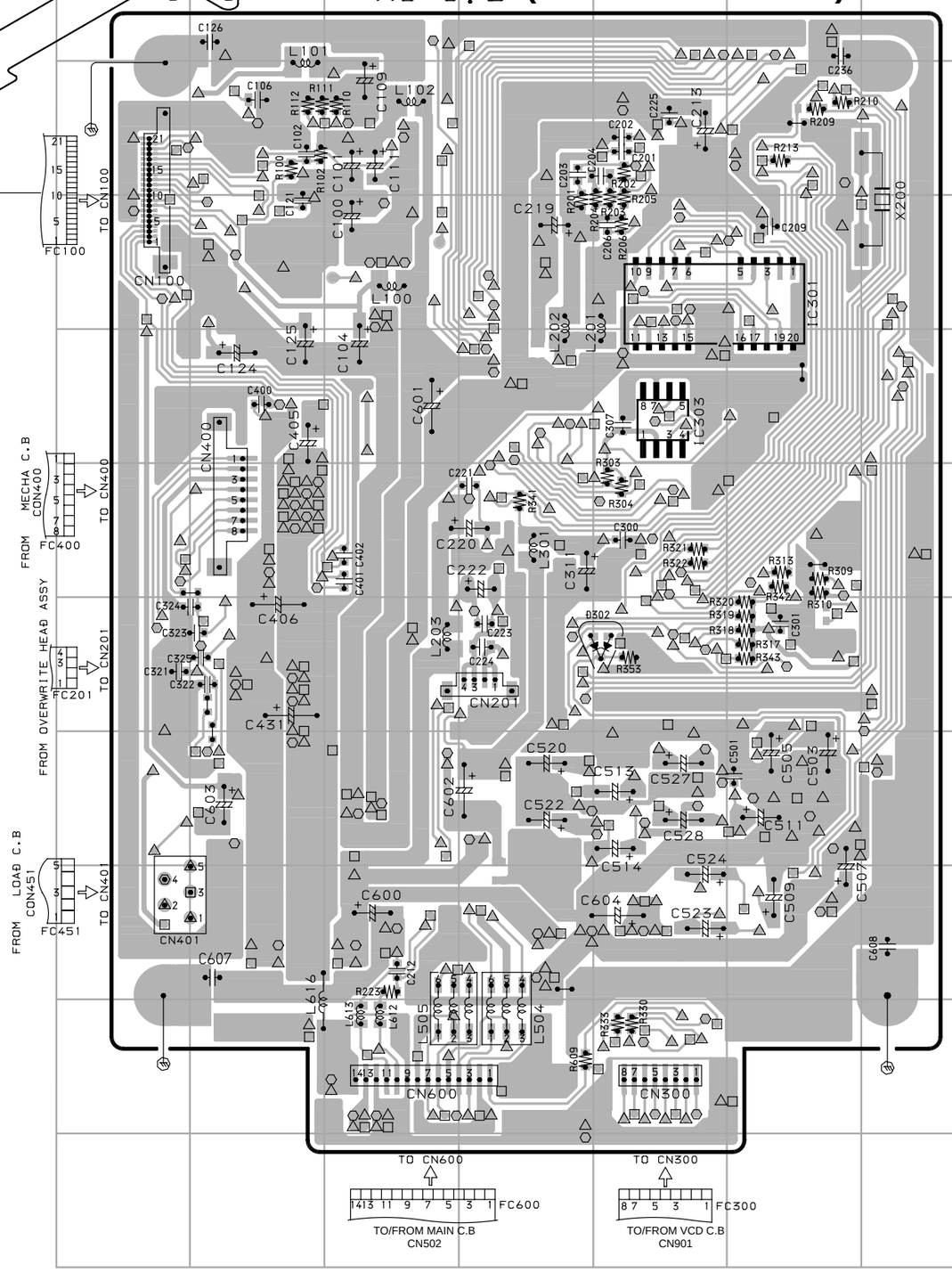


WIRING-5 (FRONT: CONDUCTOR SIDE)

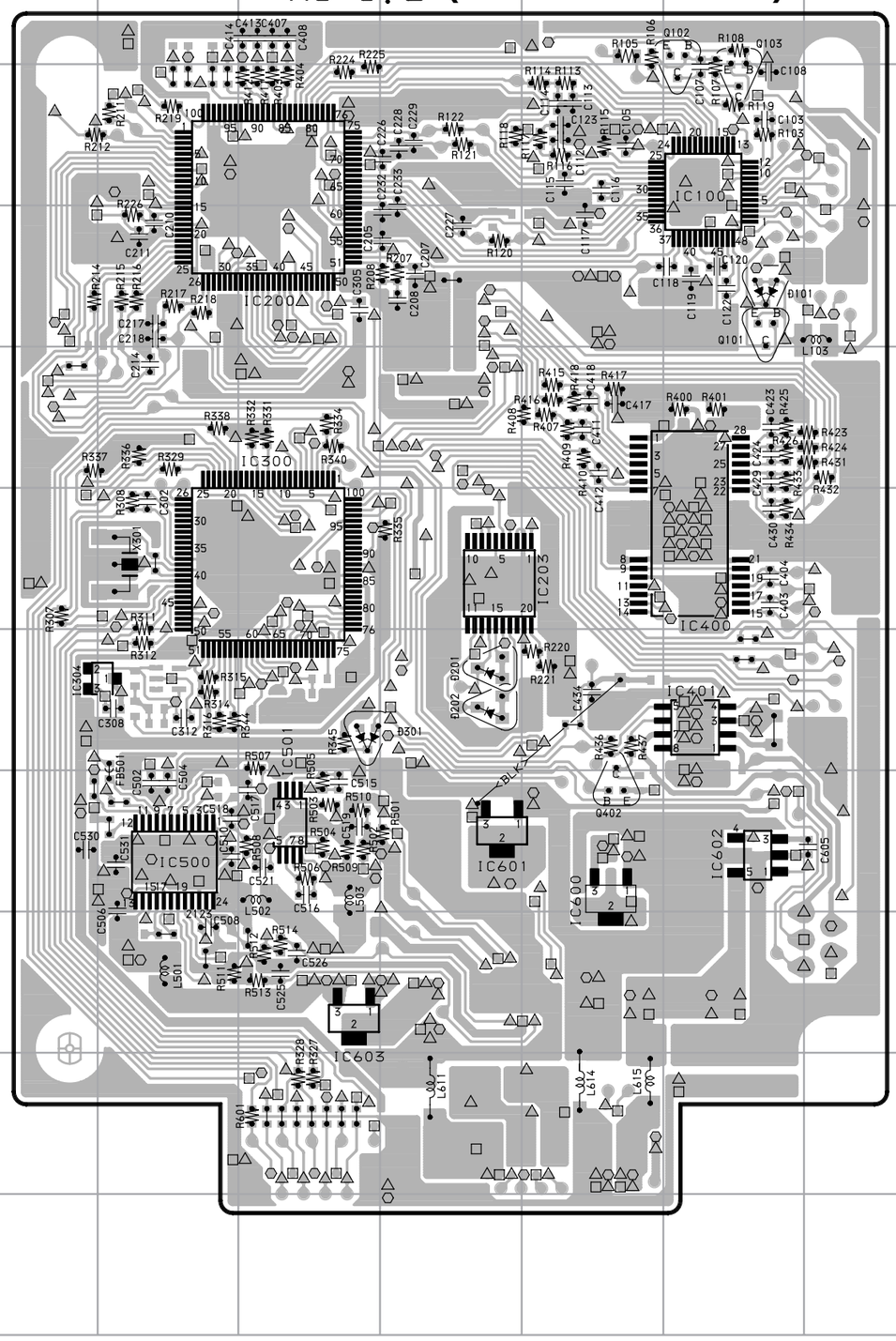




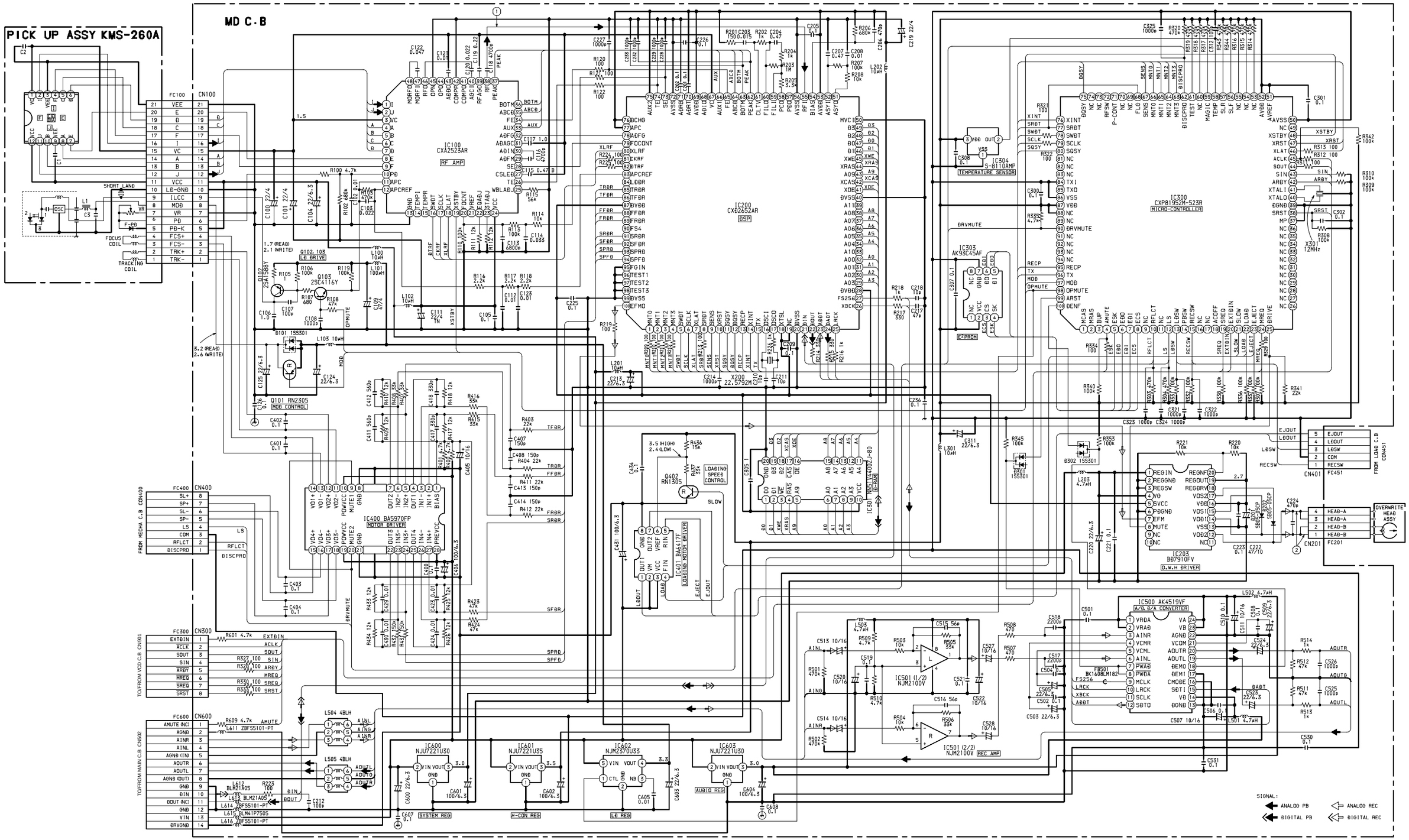
MD C.B (COMPONENT SIDE)

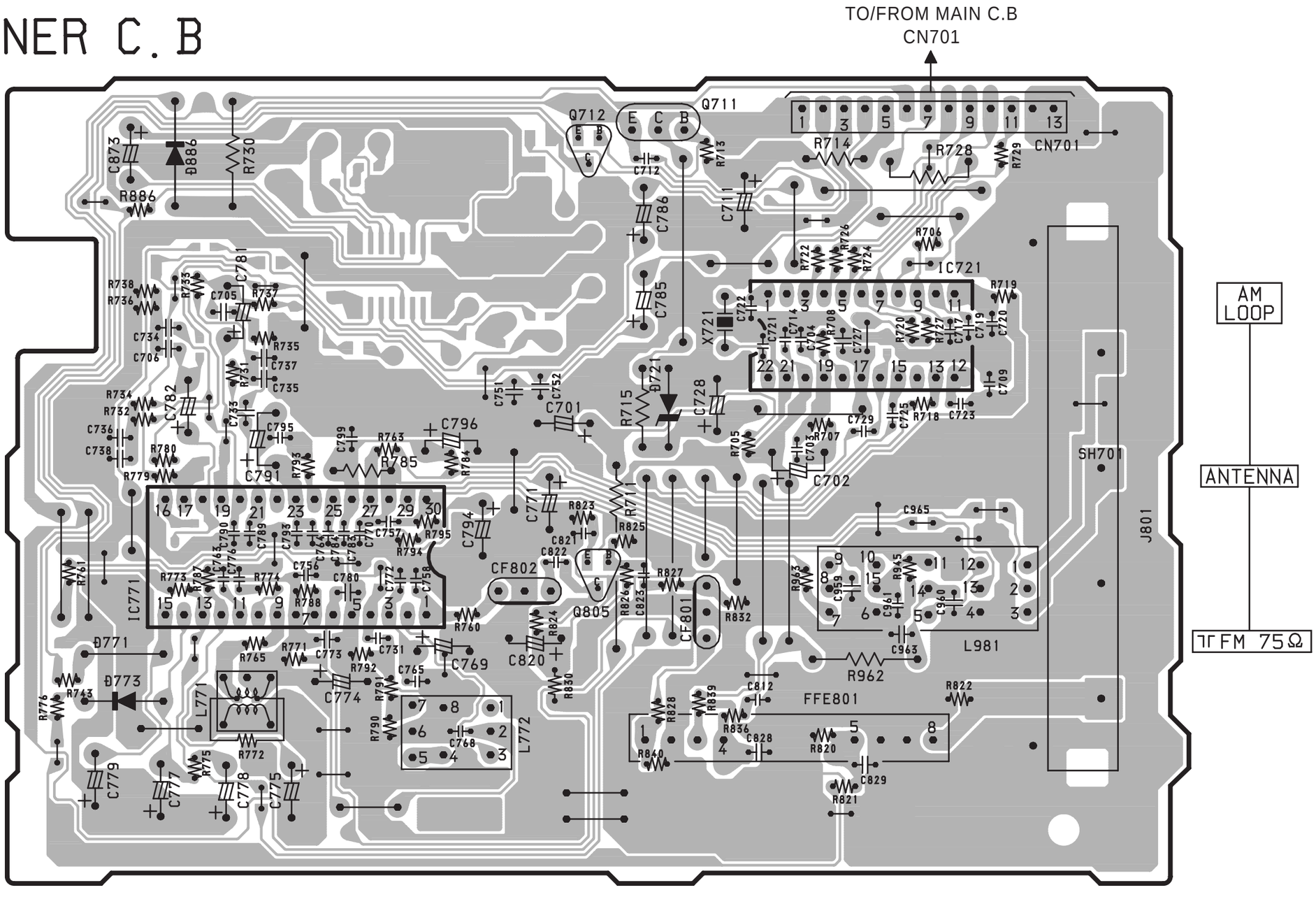


MD C.B (CONDUCTOR SIDE)



SCHEMATIC DIAGRAM-6 (MD)




1
2
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12
13
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A
B
C
D
E
F
G
H
I
J
K
TUNER C.B
TO/FROM MAIN C.B
CN701
Q712
E B C
E C B
Q711
CN701
1 3 5 7 9 11 13
R714
R728
R729
R713
C712
C711
C786
C785
C873
D886
R730
R886
R738
R736
R733
C705
C781
R737
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R734
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C782
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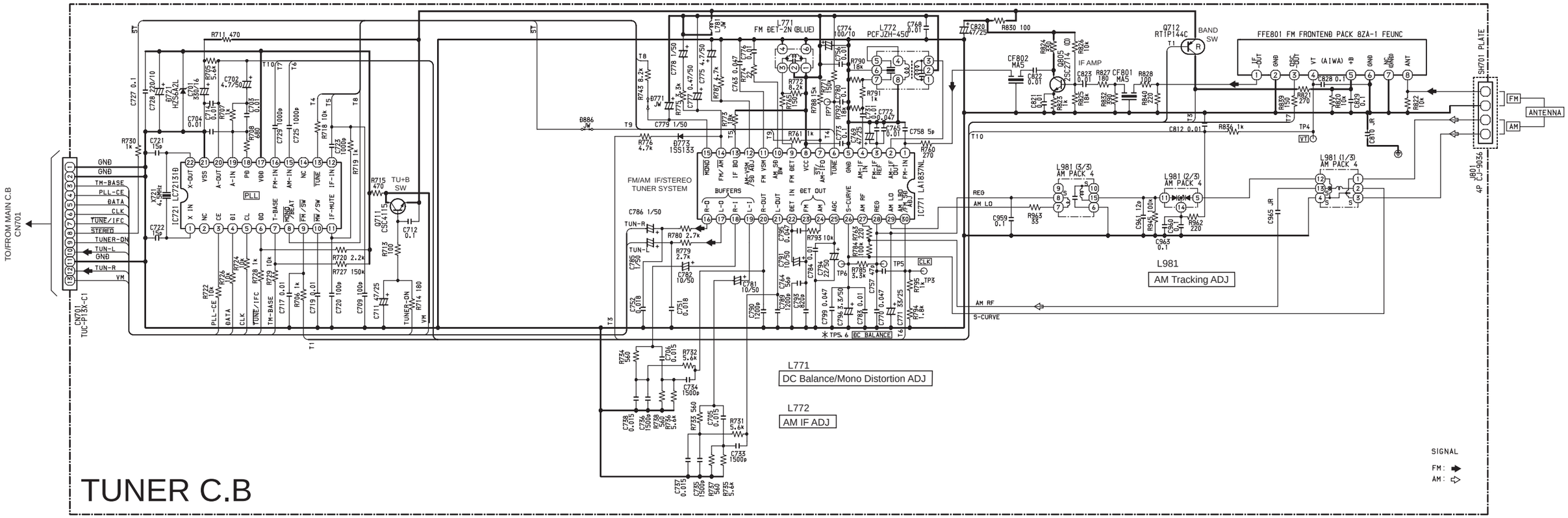
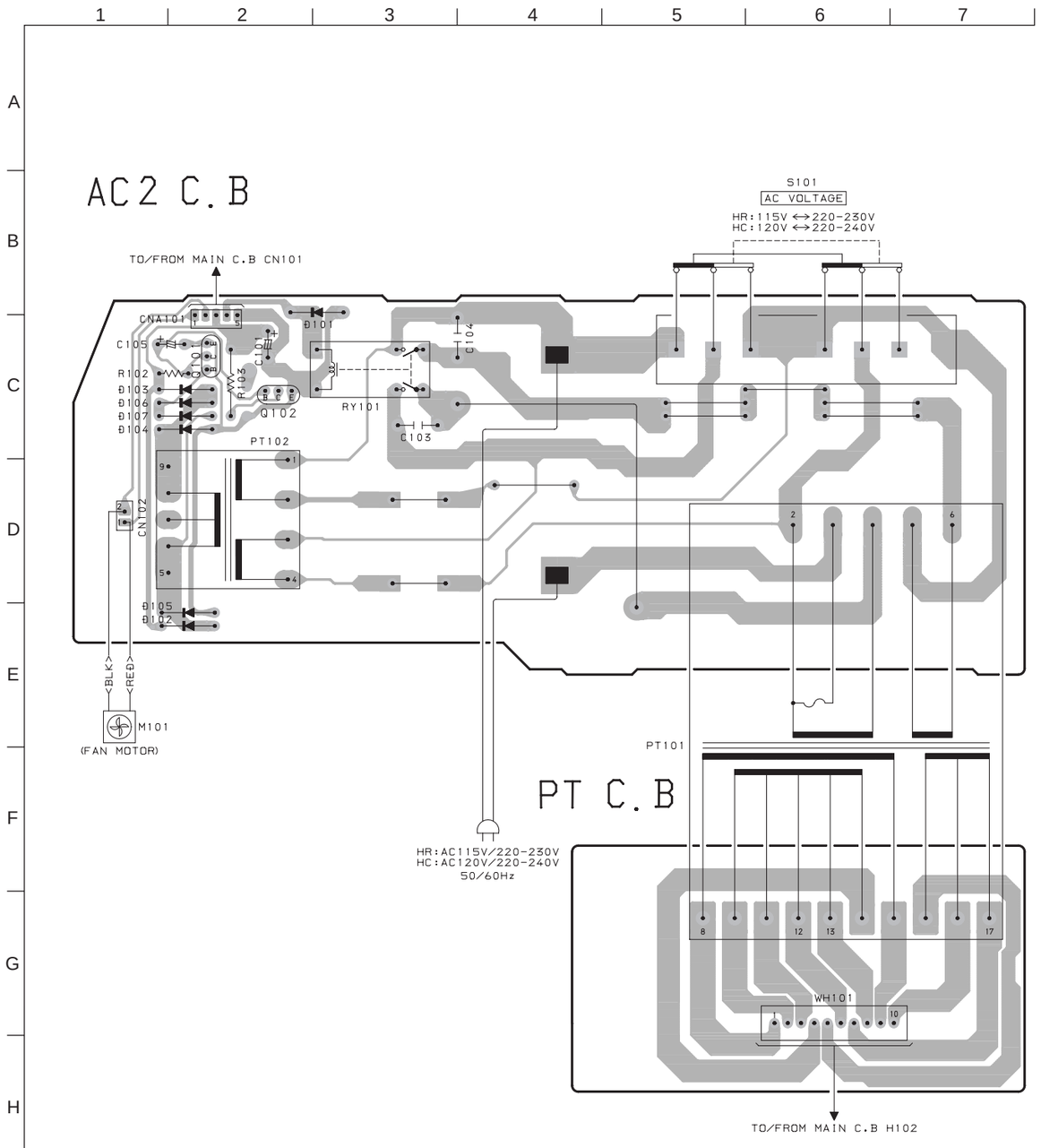
C796
R784
C751
C752
C701
R715
D721
C728
X721
C722
C721
C714
C704
R708
C727
R720
R727
C717
C719
C720
R719
R722
R726
R724
R706
IC721
1 3 5 7 9 11
22 21 19 17 15 13 12
C709
C725
R718
C723
C729
R707
C703
C702
R705
R711
C771
R823
C821
R825
C822
CF802
Q805
E B C
R824
C820
R830
R826
C823
R827
CF801
R832
C794
16 17 19 21 23 25 27 29 30
C790
C789
C793
C764
C784
C783
C770
C757
R795
R794
C763
C776
C756
C780
C772
C758
R773
R787
R774
R788
15 13 11 9 7 5 3 1
IC771
R761
R760
D771
D773
R776
R743
L771
R765
R771
C773
C731
R792
C765
C769
C774
R791
R790
C768
L772
7 8 1
6 2
5 4 3
R772
R775
C779
C777
C778
C775
R828
R839
C812
FFE801
R836
C828
R820
R840
1 4 5 8
C829
R821
R822
R962
C963
L981
R963
C959
R945
C961
C960
C965
9 10 11 12 1
8 15 14 13 2
7 6 5 4 3
SH701
J801
AM
LOOP
ANTENNA
⊤FM 75Ω

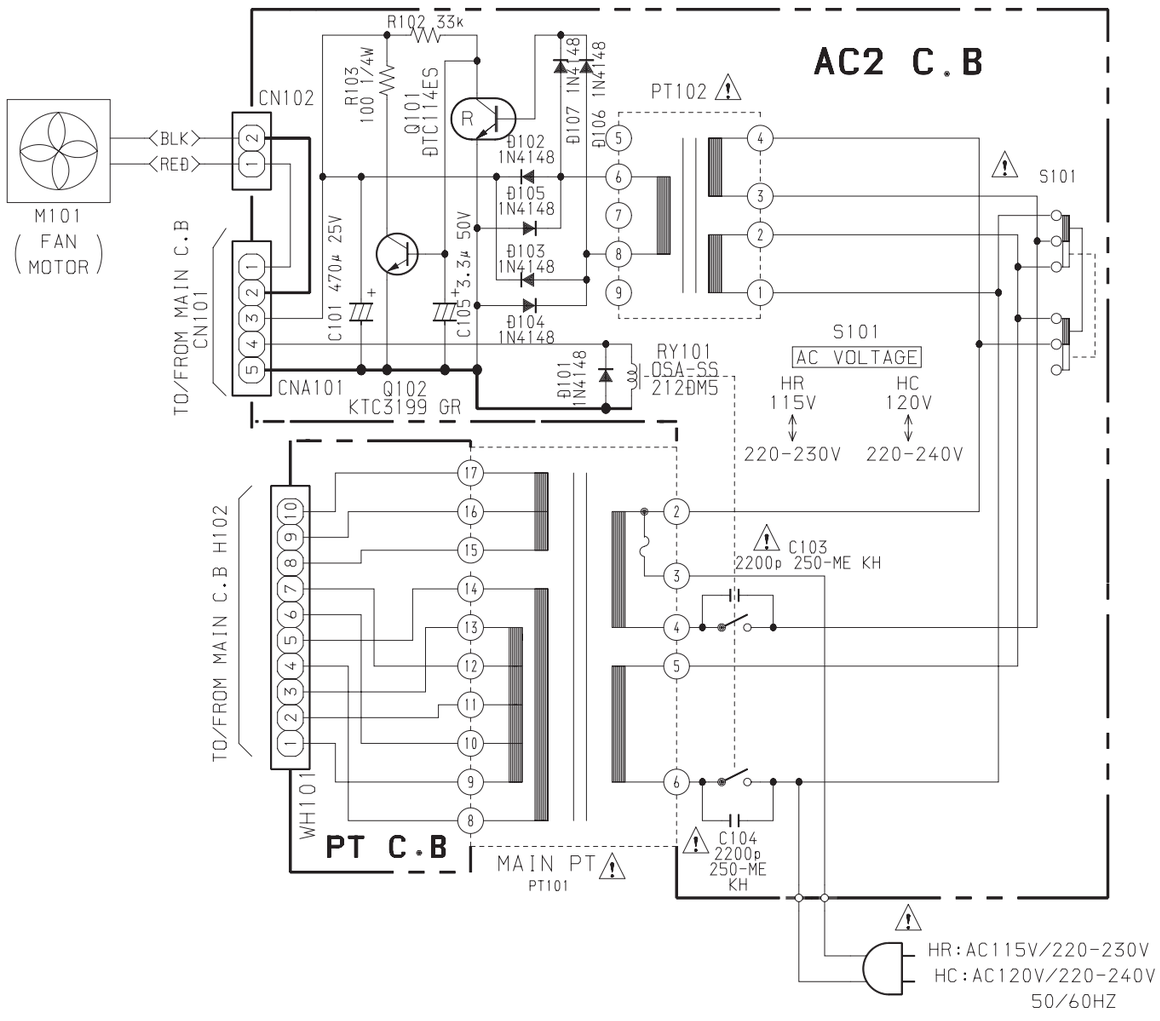
SCHEMATIC DIAGRAM-7 (TUNER)

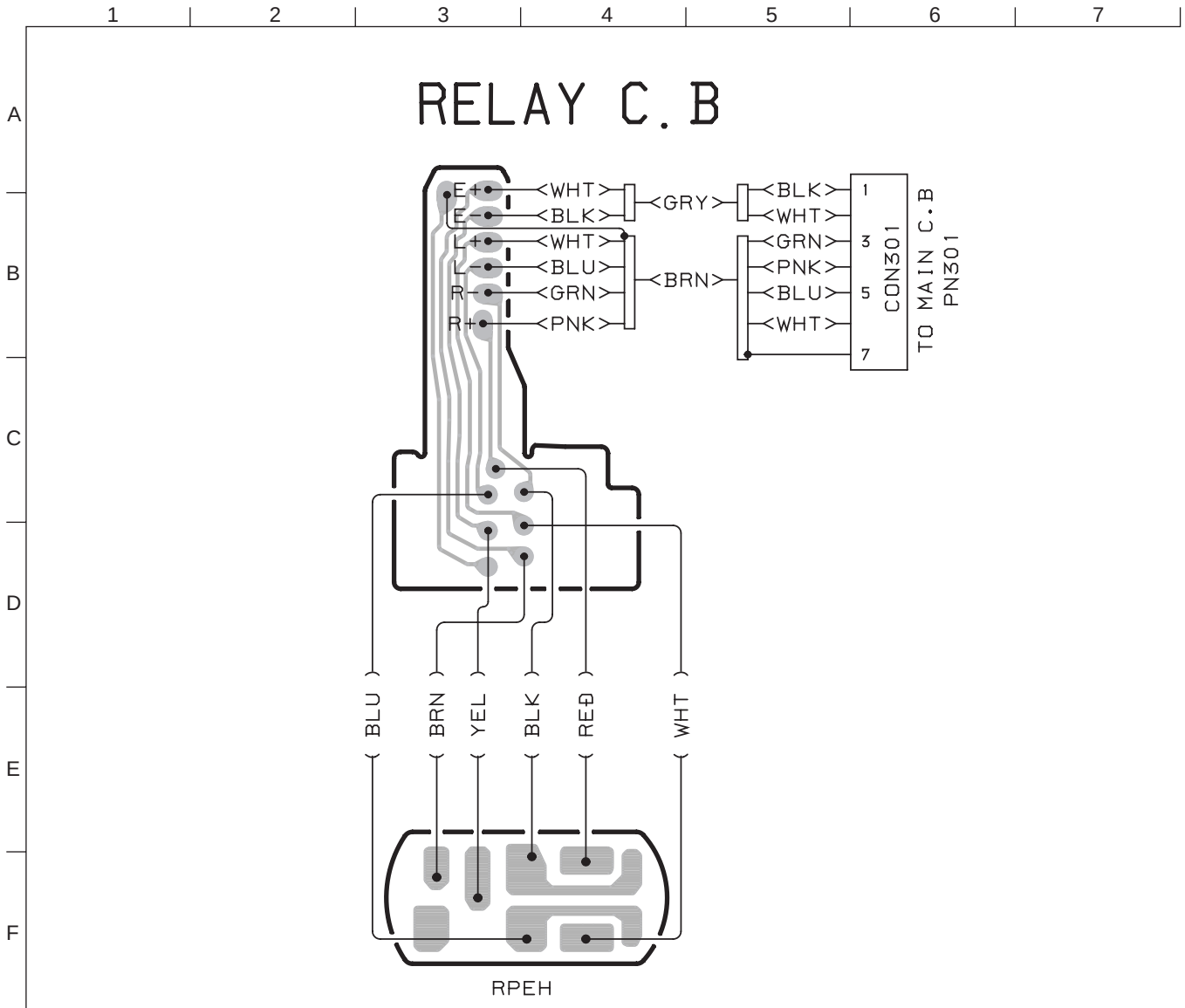


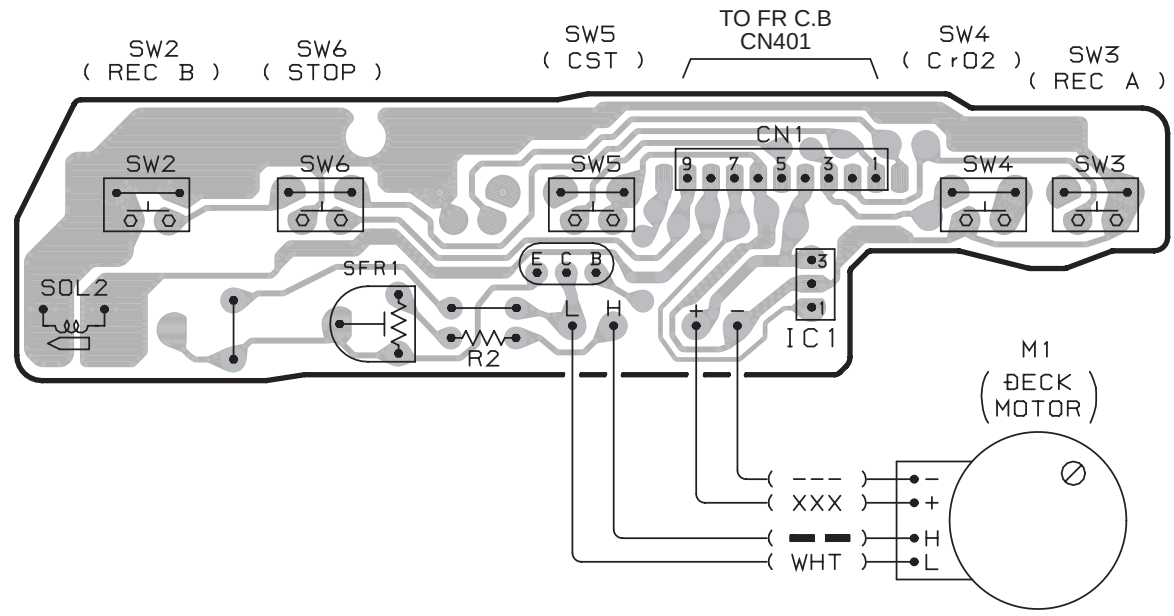
WIRING-8 (AC)

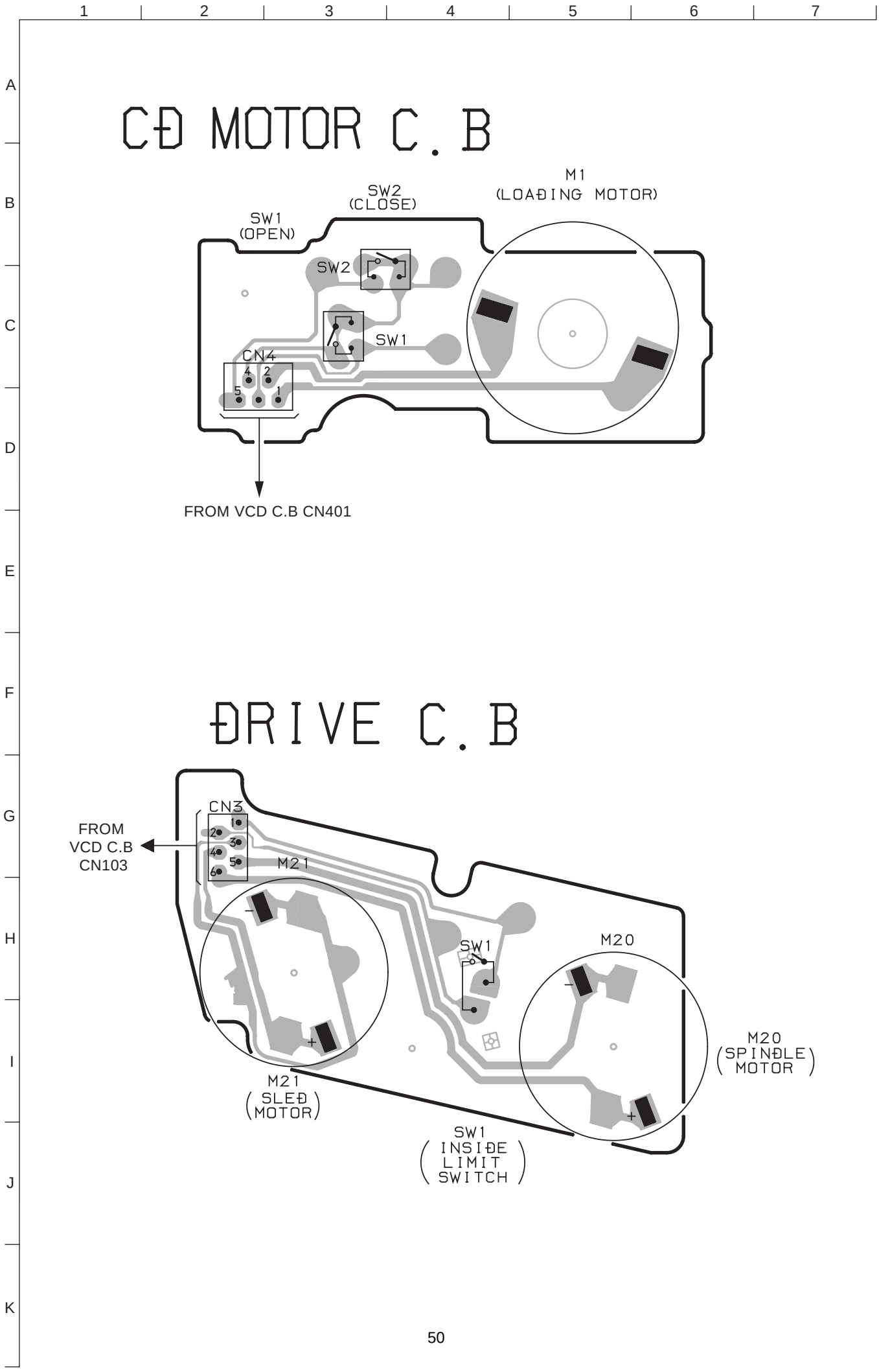


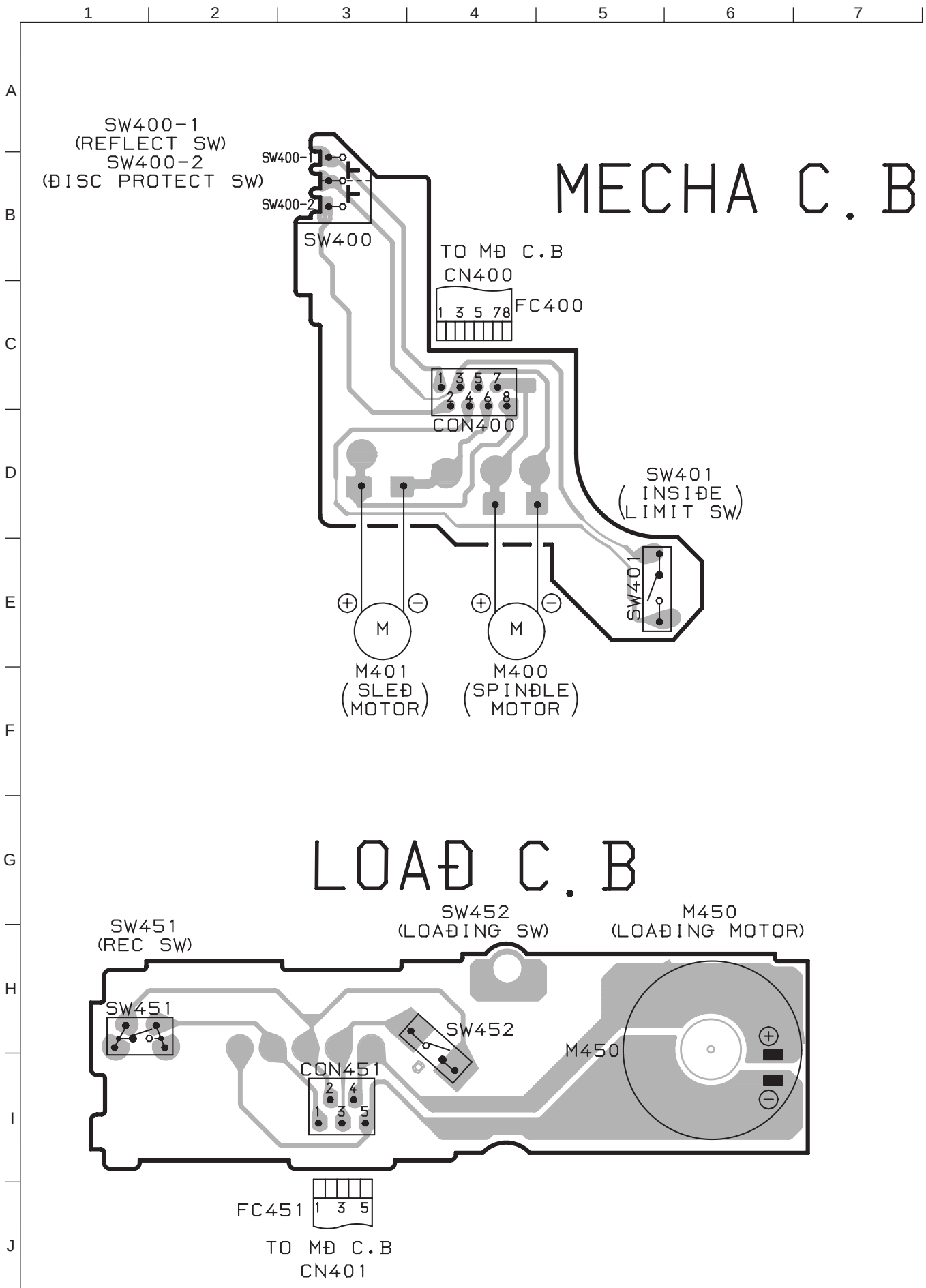
SCHEMATIC DIAGRAM-8 (AC)




RELAY C.B
E+
E-
L+
L-
R-
R+
WHT
BLK
WHT
BLU
GRN
PNK
GRY
BRN
BLK
WHT
GRN
PNK
BLU
WHT
1
3
5
7
CON301
TO MAIN C.B
PN301
BLU
BRN
YEL
BLK
RED
WHT
RPEH


DECK C.B
SW2
(REC B)
SW6
(STOP)
SW5
(CST)
TO FR C.B
CN401
SW4
(CrO2)
SW3
(REC A)
CN1
9 7 5 3 1
SW2
SW6
SW5
SW4
SW3
E C B
SFR1
SOL2
L H
R2
+ −
3
1
IC1
M1
(DECK
MOTOR)
(---)
(XXX)
(WHT)
−
+
H
L


CD MOTOR C.B
M1
(LOADING MOTOR)
SW2
(CLOSE)
SW1
(OPEN)
SW2
SW1
CN4
4
2
5
1
FROM VCD C.B CN401
DRIVE C.B
CN3
1
2
3
4
5
6
FROM
VCD C.B
CN103
M21
SW1
M20
M20
(SPINDLE
MOTOR)
M21
(SLED
MOTOR)
SW1
(INSIDE
LIMIT
SWITCH)


1
2
3
4
5
6
7
A
B
C
D
E
F
G
H
I
J
K
SW400-1
(REFLECT SW)
SW400-2
(DISC PROTECT SW)
SW400-1
SW400-2
SW400
MECHA C.B
TO MD C.B
CN400
1 3 5 78
FC400
1 3 5 7
2 4 6 8
CON400
SW401
(INSIDE
LIMIT SW)
SW401
M
M
M401
(SLED
MOTOR)
M400
(SPINDLE
MOTOR)
LOAD C.B
SW451
(REC SW)
SW452
(LOADING SW)
M450
(LOADING MOTOR)
SW451
SW452
M450
CON451
2 4
1 3 5
FC451
1 3 5
TO MD C.B
CN401

TEST MODE

1. CD Test Mode

1-1. Starting Up the CD Test Mode

While pressing the “CD” button, connect the AC plug to the power outlet. When the CD test mode starts up, all displays turn on.

1-2. How to Release the CD Test Mode

To release the CD test mode, press the “POWER” button or the function buttons other than the “CD” button, or disconnect the AC plug from the power outlet.

1-3. Function Description of the Test Mode

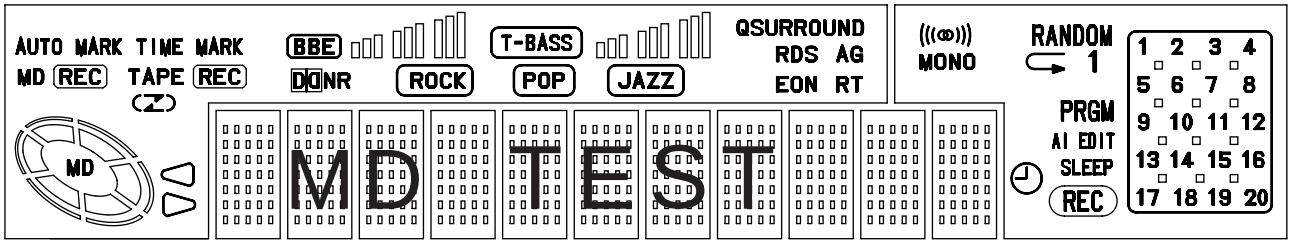
MODE	Operation	Indication on display	Function and movement	Check item
Start mode	CD key + AC plug IN	All indicators light	• CD TEST mode starts • All indicators light	• Check all indicators light • Microprocessor
Focus search mode	STOP key	CD	• LD lights • Continuous focus search • Continuous spindle motor kick	• DATA BUS LINE • APC circuit • LASER current • Check the focus search waveform • Check the focus error waveform • Focus servo circuit • DRF output • Spindle servo line
Play mode	PLAY key	Track No. and playing time (spectrum analyzer)	• Normal playback • When TOC reading is not possible, the focus search continues	• Same checks as shown in the above column • Each servo circuit
Traverse mode	PAUSE key	Track No. and playing time	• Tracking servo is turned off	• Check the tracking error waveform • Tracking circuit
Sled mode	F.SKIP key B.SKIP key	CD TEST	• The pickup moves to the innermost track • The pickup moves to the outermost track	• Sled circuit • Mechanism (gear and motor)

Note: If the focus search operation is continued for 10 minutes or longer, the driver IC heats up sufficiently to trigger the protection circuit, which stops the CD system. Turn off the main power and re-start operation about 10 minutes later.

2. MD Test Mode

2-1. Starting Up the MD Test Mode

While pressing the “MD” button, connect the AC plug to the power outlet. About one second later after the MD test mode has started up, the following message appears and the MD test mode becomes operable.



Note: 1. If operation of the mechanism shows any abnormality during the test mode, disconnect the AC plug immediately.
2. Playback and recording are not possible during the test mode.
3. If a disc cannot be inserted, insert a disc part way and press the “CD▶ MD DIRECT REC” button. The disc can then be fully inserted.

2-2. How to Exit the MD Test Mode

1) Press the “MD EJECT” button and remove the disc.
2) Disconnect the AC plug from the power outlet.

* If the machine exits the MD test mode by any methods other than the procedure described above, the machine may operate abnormally when the POWER is turned on next time. If this happens, disconnect the AC plug.

2-3. Operation Check Mode

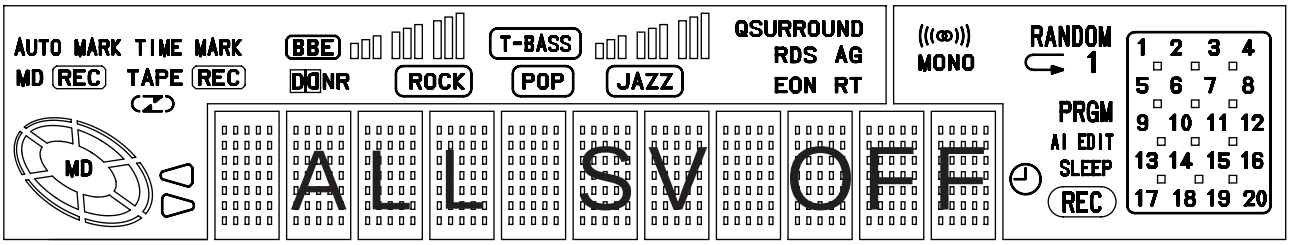
1) Checks after the test mode has started up
   The following playback audio circuits can be checked.

- The circuits that can be checked: ..... DAC, LINE AMP and HEADPHONE AMP
- Output level: ..... 1 kHz, -21 dB

2) Switch status check
   The ON/OFF states of the respective switches on the machine and mechanism can be checked on the display.

Switch Name	Switch State	Indication on display	Usable disc
REC PROTECT	When the write-protection tab of a disc is closed to ON	ROCK	Disc for record/playback
REFRECT	When the high reflection disc (CD) is used	POP	Disc for playback only
INNER	When the pickup is at the innermost track (when the LIMIT switch is ON)	JAZZ	—

3) How to Switch to Servo Standby Mode
   When the MD test mode has been established, the mode changes to the servo standby mode and “ALL SV OFF” is displayed by pressing the ■ button. The various check modes can be entered from this mode. Pressing the ■ button during each operation returns to “ALL SV OFF”.



4) Checking the Sled Operation
   The operation of the sled motor and pickup can be checked by pressing the ▶▶ (to outermost track) and ◀◀ (to innermost track) buttons in the “ALL SV OFF” state. “T.SLED FWD” appears while moving to the outermost track and “T.SLED RVS” appears while moving to the innermost track.
5) Checking the Laser Output
   The laser power output level is switched each time the “MD EDIT” button is pressed when “ALL SV OFF” appears and the operation stops. The laser power output level is repeatedly changed in the order of OFF LASER READ → LASER 1/2 → LASER WRITE. The indications are as follows.

MODE	Indication on display	
OFF	ALL SV OFF	T-BASS
LASER READ	LASER READ	T-BASS ▯
LASER 1/2 WRITE	LASER 1/2	T-BASS ▯▯
LASER WRITE	LASER WRITE	T-BASS ▯▯▯

* After checking, press the ■ button to return the display to “ALL SV OFF”.

6) Checking the Operation of OWH (Over Write Head)
   The OWH operation can be checked in the loading-completed state.
   “MD ▶ CD” button ..... OWH DOWN
   “ ▲ MD EJECT” button ..... OWH UP

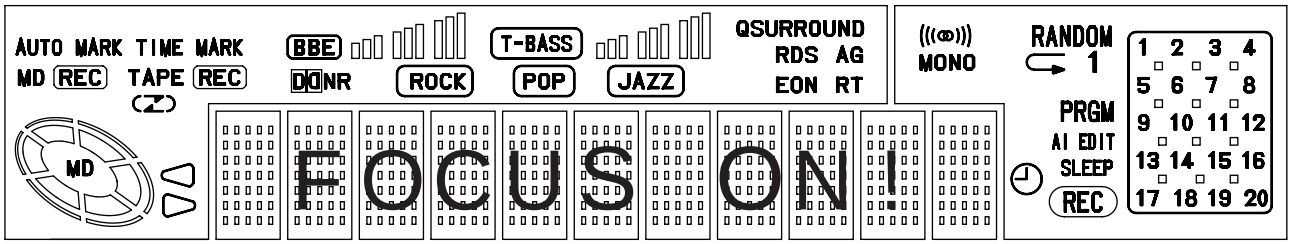
Note: Do not move down the OWH while using a high reflection disc (CD).

7) Checking the focus search and spindle kick

- The focus search and the spindle kick can be checked by pressing the ◀▶ button in the “ALL SV OFF” state without inserting a disc. During checking, the message “FOCUS SEARCH” is displayed.
- After checking these operations, press the ■ button to return the display to “ALL SV OFF”.

8) Checking the focus servo

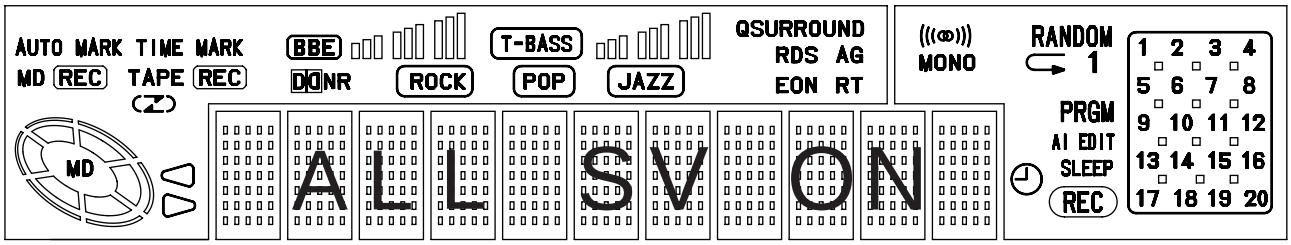
- Insert a test disc.
- Move the pickup to the center track using the ▶▶ and ◀◀ buttons.
- Press the “MD MODE” button until the following servo mode is selected in accordance with the inserted disc.
  MO disc (MO) ..... Display “SELECT GRV”. (“TIME MARK” lights.)
  PIT disc (CD) ..... Display “SELECT PIT”. (“AUTO MARK” lights.)
- Press the ◀▶ button. If the focus servo is operating normally, the message “FOCUS ON!” is displayed after “FOCUS SEARCH”.



- After the checking is completed, press the ■ button to return the display to “ALL SV OFF”.

9) Checking that all servo loops are turned on

- The tracking servo and the sled servo are turned on and all servo loops work when the “ENTER” button is pressed in the “FOCUS ON!” state.
- If all servo loops are normal, “ALL SV OFF” is displayed.



- After the checking is completed, press the ■ button to return the display to “ALL SV OFF”.

3. Adjustment Mode

3-1. Temperature Compensation Adjustment

Test point: Check the test point on the display.
Tool: Thermometer
Adjustment procedure:

1) After the MD test mode has started up, press the ■ button to display “ALL SV OFF”.
2) Press the “DISPLAY” button to display “TMP = $◇◇”.
3) Press the ❚❚ button to display “TMP + **C: + 00”.
4) Put the thermometer near the MD mechanism to measure the room temperature.
5) Adjust the indication value ** using the ◀◀ button and ▶▶ button until the value is the same as the room temperature. After the adjustment is complete, press the “ENTER” button.
6) Then, press the ■ button to return the display to “ALL SV OFF”.
7) After the above setting, reduce or add the value indicated by the sharp sign (##) of “TMP + **C: + ##” from or to the value indicated by the asterisk (**) of “TMP + **C: + ##”. The calculated value must be the room temperature.

Note: Normally, do not perform the temperature compensation adjustment.

3-2. Laser Power Adjustment

Test point: Pickup laser output
Tool: Laser power meter
Adjustment procedure:

1) Press the “MD EDIT” button three times in the “ALL SV OFF” state to change the display to “LASER WRITE”.
2) Press the ⏸ button to change the display to “LASER = $**”.
3) Adjust the laser power meter so that the value is within 6.8 ±0.03 mW using the ◀◀ button or ▶▶ button.
4) After adjustment, press the ■ button to return the display to “ALL SV OFF”.

Note: If the laser power exceeds 7.0 mW, the pickup may be damaged.

3-3. Adjustment and Check of Auto Sequence

Test disc: MDW-60, TGYS-1
When adjusting the MO disc:

1) Insert the test disc MDW-60.
2) Press the “MD MODE” button to display “SELECT GRV”.
3) Press the “MD” button to display “AUTO ADJ”. After adjustment, “DONE” appears.
   (If “FAILED” is displayed, the adjustment failed.)
4) After the adjustment is completed normally, press the ■ button to return the display to “ALL SV OFF”.

Note: 1. Be sure to use a clean disc because adjustment may be impossible if the disc is dirty or scratched.
2. Be sure to use an MO disc for recording because the writing power of the MO disc is tested and part of the recorded data is erased.

How to check the IVR, EFB and focus/tracking/sled gain

1) Move the pickup to the center track using the ◀◀ button and ▶▶ button.
2) Press the ◀▶ button to display “FOCUS ON!”.
3) Press the “ENTER” button to switch the mode to “ALL SV ON”.
4) Press the ■ button and press the “DISPLAY” button twice. Then, confirm that the values of “IV$**:EF$◇◇” are within the following ranges.
   “**” 03-07
   “◇◇” 09-12
5) Press the “DISPLAY” button again to display “GF** + ##s△△”. Confirm that the values of the hexadecimal indication on display are within the following ranges.
   “**” 20-40
   “##” 15-35
   “△△” 15-35
6) After adjustment, press the ■ button to return the display to “ALL SV OFF”.

When adjusting the PIT disc:

1) Insert the test disc TGYS-1.
2) Press the “MD MODE” button to display “SELECT PIT”.
3) Press the “MD” button to display “AUTO ADJ”. After adjustment, “DONE” appears.
   (If “FAILED” is displayed, the adjustment failed.)
4) After the adjustment is completed normally, press the ■ button to return the display to “ALL SV OFF”. Checking the IVR, EFB and focus/tracking/sled gain of the PIT disc Confirm that the values on the display are within the following ranges.
   “IVR” 13-19
   “EFB” 09-12
   “Focus gain” 2A-45
   “Tracking gain” 20-40
   “Sled gain” 20-40

3-4. Checking the Playback Error Rate (PIT disc)

1) Insert the test disc TGYS-1.
2) Move the pickup to the center track using the ◀◀ button and ▶▶ button.
3) Press the “MD MODE” button to display “SELECT PIT”.
4) Press the ◀▶ button to display “FOCUS ON!”.
5) Press the “ENTER” button to display “ALL SV ON”, and press the “DISPLAY” button to confirm that the address display advances regularly.
6) Press the “DISPLAY” button again to display the playback error rate, and confirm that the value shown by the asterisks (****) of “Er****:####” is “0030” or less.
7) After adjustment, press the ■ button to return the display to “ALL SV OFF”.

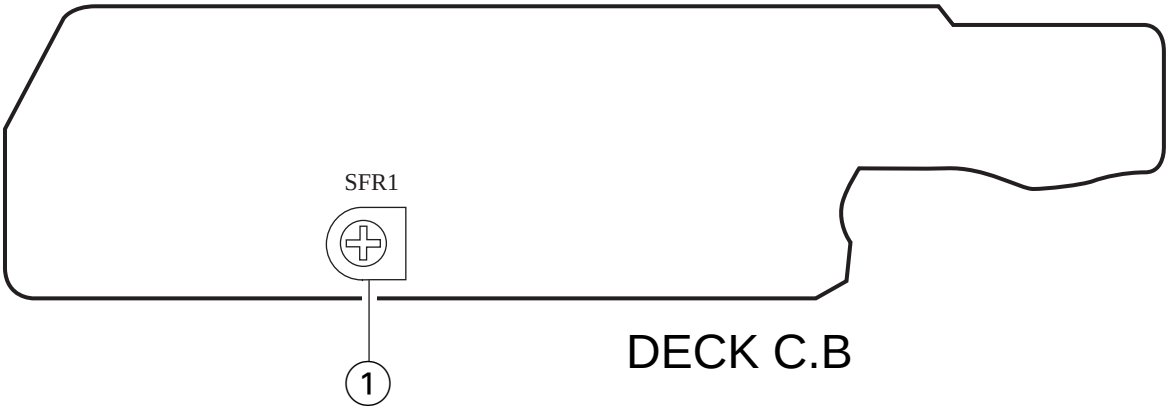
3-5. Checking the Record/Playback Error Rate (MO disc)

1) Insert the test disc MDW-60.
2) Move the pickup to the center track using the ◀◀ button and ▶▶ button.
3) Press the “CD” button; OWH starts moving and recording from the 600th cluster.
4) After recording for about 15 seconds, press the ■ button to display “ALL SV OFF”
5) Press the “AUX” button to change the mode to “ALL SV ON”, and press the “DISPLAY” button at the 600th cluster. Then, confirm that the value shown by the asterisks (****) of “Er****:####” is “0020” or less.
6) After adjustment, press the ■ button to return the display to “ALL SV OFF”.

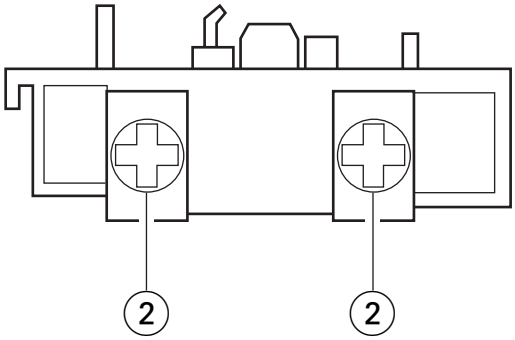
3-6. UTOC Erase

Perform the following procedure if the recorded disc needs to be erased.

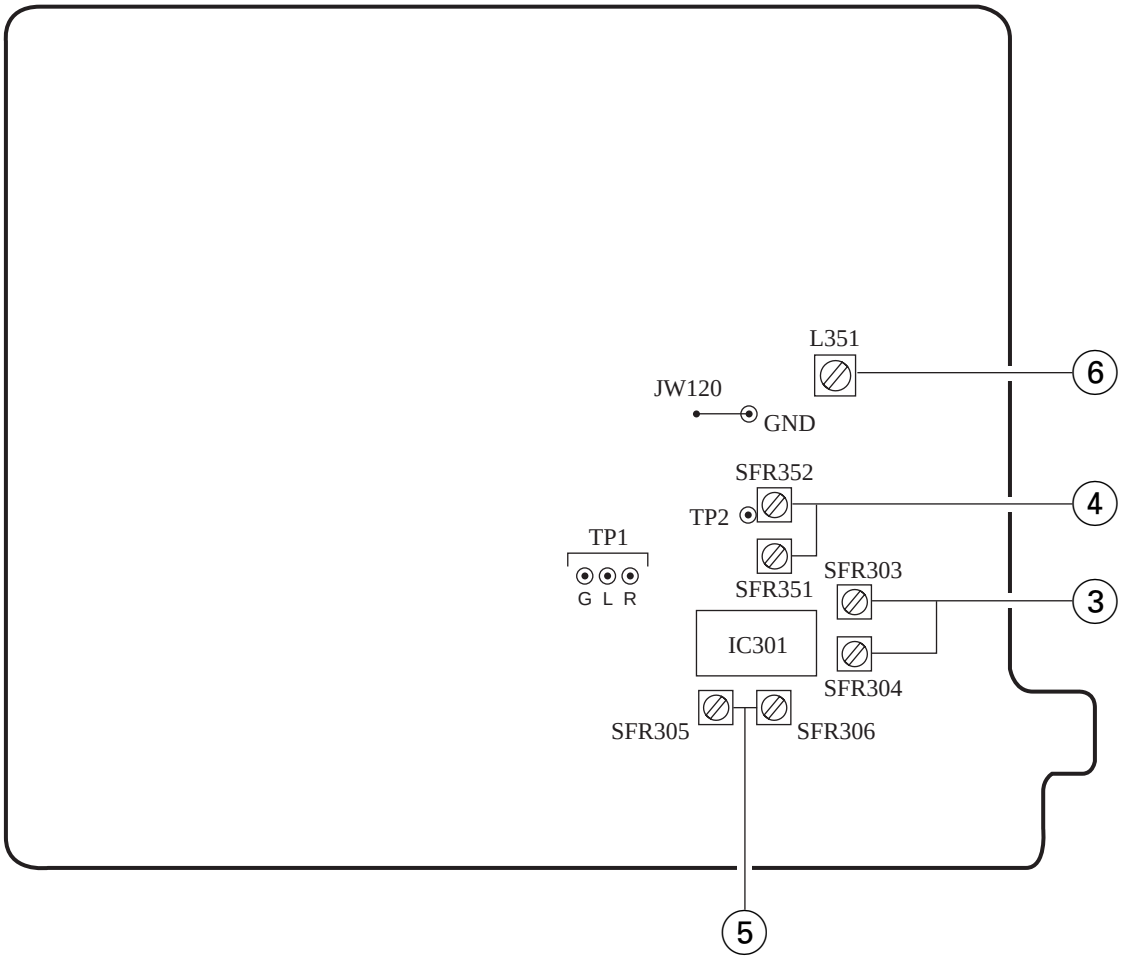
1) Insert the test disc of the UTOC to be erased.
2) Move the pickup to the center track using the ◀◀ button and ▶▶ button.
3) Press the “MD MODE” button to display “SELECT GRV”.
4) Press the “MD REC” button to display “REC Analog”.
5) Press the ◀▶ button to display “FOCUS ON!”.
6) Press the “ENTER” button to display “ALL SV ON”.
7) Press the “TAPE REC/REC MUTE” button to display “UTOC ERASE”. The UTOC is erased.
8) After the UTOC is erased, “ALL SV OFF” appears on the display.



R.P.E HEAD



MAIN C.B



< DECK SECTION >

1. Tape Speed Adjustment
   Settings:
   - Test tape: TTA-100
   - Test point: TP1
   - Adjustment location: SFR1

   Method: Playback the test tape by DECK2 and adjust SFR1 so that the frequency counter reads 3000Hz±5Hz. Check that the counter reading in the REV mode is within the range of ±45Hz of that in the FWD mode.

2. Azimuth Adjustment
   Settings:
   - Test tape: TTA-300
   - Test point: TP1
   - Adjustment location: Head azimuth adjustment screw

   Method: Playback the 10kHz signal of the test tape and adjust the adjustment screw so that the output becomes the -5dB point below the maximum reading. The adjustment must ends with the clockwise rotation of the adjustment screw. Perform this adjustment in both FWD and REV directions. Fix the adjustment screw with adhesive agent upon completion of adjustment.

3. PB Sensitivity Adjustment
   Settings:
   - Test tape: TTA-200
   - Test point: TP1
   - Adjustment location:
     SFR303 (Lch)
     SFR304 (Rch)

   Method: Play back the test tape and adjust SFRs so that the output level of the TP1 becomes 245mV±5mV.

4. REC/PB Frequency Response Adjustment
   Settings:
   - Test tape: TTA-602
   - Test point: TP1
   - Input signal: 315Hz/10kHz (LINE IN)
   - Adjustment location: SFR351 (Lch)
     SFR352 (Rch)

   Method: Establish the record mode. Input the 315Hz and the 10kHz signals from LINE IN with the input level so that TP1 has the signal level of 12mV. Record the 1kHz and the 10kHz signals, then play them back. Adjust SFR so that the output difference between the 315Hz and the 10kHz signals becomes 0dB±0.5dB.

5. REC/PB Sensitivity Adjustment
   Settings:
   - Test tape: TTA-602
   - Test point: TP1
   - Input signal: 1kHz /10kHz (LINE IN)
   - Adjustment location: SFR305 (Lch)
     SFR306 (Rch)

   Method: Establish the record mode. Input the 1kHz signal from LINE IN with the input level so that TP1 has the signal level of 12mV. Record the 1kHz signal, then play it back. Adjust SFR so that the output level becomes 12mV±0.5dB.

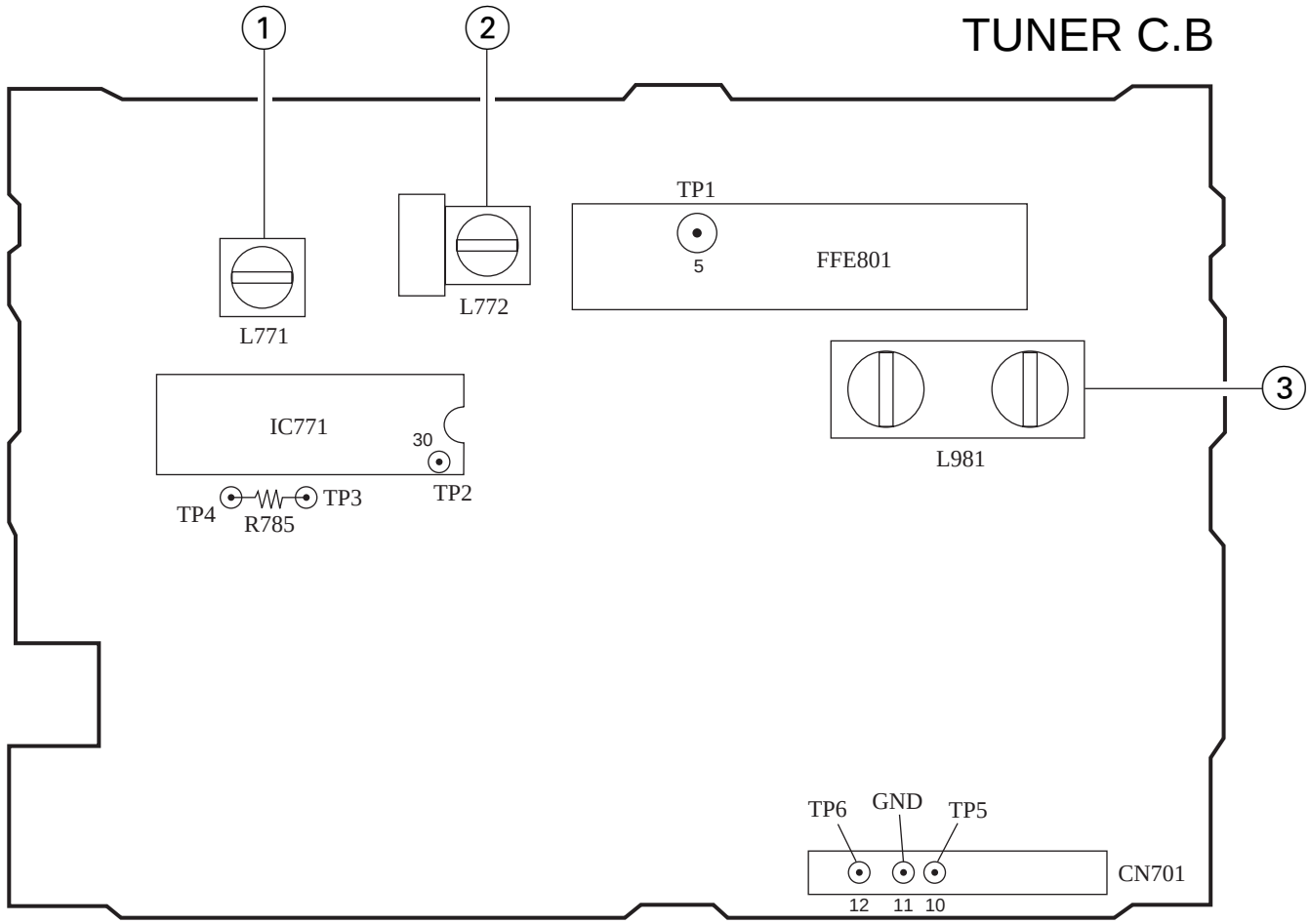
6. Bias OSC Frequency Adjustment
   Settings:
   - Test tape: TTA-601
   - Test point: TP2
   - Adjustment location: L351

   Method: Set to the REC mode. Adjust L351 so that the frequency at TP2 is 85.0kHz±1kHz.

PRACTICAL SERVICE FIGURE

< DECK SECTION >

Tape speed:	3000Hz±5.0%	
Wow & flutter: (W.R.M.S)	Less than 0.21%	
Distortion (REC/PB):	Less than 2% (NORM, CrO_2)	
Noise level (PB):	Less than 50mV (DOLBY NR OFF, NORM)	
	Less than 35mV (DOLBY NR ON, CrO_2)	
Test tape:	NORMAL	TTA-100
		TTA-300
		TTA-601
		TTA-602
	CrO_2	TTA-200


TUNER C.B
1
2
3
L771
L772
TP1
5
FFE801
L981
IC771
30
TP2
TP4
R785
TP3
TP6
GND
TP5
12
11
10
CN701

< TUNER SECTION >

1. DC Balance/Mono Distortion Adjustment
   Settings:
   - Test point: TP3, TP4
   - Adjustment location: L771
   - Input level: 54dB

   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%.

2. AM IF Adjustment
   Settings:
   - Test point: TP5, TP6

   L772 ..... 450kHz

3. AM Tracking Adjustment
   Settings:
   - Test point: TP5, TP6
   - Adjustment location: L981

   Method: Set to AM 999kHz and adjust L981 so that the test point becomes maximum.

4. AM VT Check
   Settings:
   - Test point: TP1 (VT)

   Method: Set to AM 1710kHz and check that the test point is less than 7.0V.
   Then set to AM 530kHz and check that the test point is more than 0.5V.

5. Clock Frequency Check
   Settings:
   - Test point: TP2 (CLK IC771 pin30)

   Method: Set to AM 1710kHz and check that the test point becomes 2160kHz±45Hz.

6. 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 (87.5MHz) and less than 8.0V (108.0MHz).

PRACTICAL SERVICE FIGURE

< TUNER SECTION >

< FM SECTION >

IHF Sensitiviy:	4dB±6dB
(THD 3%)	(at 87.5/98.0MHz)
	5dB±6dB (at 108MHz)
Signal to noise ratio:	More than 65dB
	(at 98.0MHz)
Distortion:	Less than 1.3%
(Input: 66dB)	(at 98.0MHz)
Stereo separation:	More than 25dB
	(at 98.0MHz)
Intermediate frequency:	10.7MHz

< AM SECTION >

Sensitivity:	54dB±6dB (at 600kHz)
(S/N 20dB)	52dB±6dB
	(at 1000/1400kHz)
Signal to noise ratio:	41dB±36dB (at 1000kHz)
(Input: 100dB)	
Distortion:	Less than 2.0%
	(at 1000kHz)
Intermediate frequency:	450kHz

IC, CXD2652AR

Pin No.	Pin Name	I/O	Description
1	MNT0	O	Monitor output terminal.
2	MNT1	O	Monitor output terminal.
3	MNT2	O	Monitor output terminal.
4	MNT3	O	Monitor output terminal.
5	SWDT	I	Microprocessor serial interface data input.
6	SCLK	I	Microprocessor serial interface shift clock input.
7	XLAT	I	Microprocessor serial interface latch input. Latched at falling down edge.
8	SRDT	O	Microprocessor serial interface data output.
9	SENS	O	The terminal which outputs internal status in accordance with the address of the microprocessor serial interface.
10	XRST	I	Reset input. L: reset.
11	SQSY	O	Disc sub code Q sync/ADIP sync output.
12	DQSY	O	Subcode Q sync output of U-bit CD or MD format when the DIGITAL IN source is CD or MD.
13	RECP	I	Laser power selection input. H: Recording power, L: Playback power.
14	XINT	O	Interrupt request output terminal. L is output when interrupt status is generated.
15	TX	I	Record data output enable signal input terminal. H: enable.
16	OSCI	I	Crystal oscillator circuit input terminal.
17	OSCO	O	Crystal oscillator circuit output terminal. (Inverted output of OSCI).
18	XTSL	I	OSCI terminal input frequency selection. H: 512 Fs (22.5792 MHz), L: 1024 Fs (45.1584 MHz).
19	NC	—	Not connected.
20	DVSS	—	Digital GND.
21	DIN	I	Digital audio interface signal input.
22	DOUT	O	Digital audio interface signal output.
23	ADDT	I	Analog recording signal input terminal. (External A/D converter output is connected to this terminal).
24	DADT	O	RECORD monitor output/decode audio data output.
25	LRCK	O	LRCK (44.1 kHz) output terminal to external audio block.
26	XBCK	O	Bit clock output (2.8224 kHz) output terminal to external audio block.
27	FS256	O	256 Fs output. (11.2896 MHz).
28	DVDD	—	Digital power supply.
29	A03	O	Address output to external DRAM.
30	A02	O	Address output to external DRAM.
31	A01	O	Address output to external DRAM.
32	A00	O	Address output to external DRAM.
33	A10	O	Address output to external DRAM. (Not used).
34	A04	O	Address output to external DRAM.
35	A05	O	Address output to external DRAM.
36	A06	O	Address output to external DRAM.
37	A07	O	Address output to external DRAM.

Pin No.	Pin Name	I/O	Description
38	A08	O	Address output to external DRAM.
39	A11	O	Address output to external DRAM. (Not used).
40	DVSS	—	Digital GND.
41	XOE	O	External DRAM output enable.
42	XCAS	O	$\overline{\text{CAS}}$ output to external DRAM.
43	A09	O	Address output to external DRAM.
44	XRAS	O	$\overline{\text{RAS}}$ output to external DRAM.
45	XWE	O	Write enable for external DRAM.
46	D1	I/O	Data bus for external DRAM.
47	D0	I/O	Data bus for external DRAM.
48	D2	I/O	Data bus for external DRAM.
49	D3	I/O	Data bus for external DRAM.
50	MVCI	I	External VCO (784 fs) clock input.
51	ASYO	O	Playback EFM full swing output. (L: VSS, H: VDD).
52	ASYI	I	Playback EFM comparator slice voltage input.
53	AVDD	—	Analog GND.
54	BIAS	I	Playback EFM comparator bias current input.
55	RFI	I	Playback EFM RF signal input.
56	AVss	—	Analog power supply.
57	PDO	O	Phase comparison output to EFM decoder analog PLL.
58	PCO	O	Phase comparison output to the master PLL of playback digital PLL and to the recording EFM PLL.
59	FILI	I	Filter input to the master PLL of playback digital PLL and to the recording EFM PLL.
60	FILO	O	Filter output to the master PLL of playback digital PLL and to the recording EFM PLL.
61	CLTV	I	Internal VCO control voltage of the master PLL of playback digital PLL and of the recording EFM PLL.
62	PEAK	I	Optical light volume’s peak hold signal input.
63	BOTM	I	Optical light volume’s bottom hold signal input.
64	ABCD	I	Optical light volume signal input.
65	FE	I	Focus error signal input.
66	AUX1	I	Auxiliary input 1.
67	VC	I	Center terminal voltage input.
68	ADIO	O	Monitor output of A/D converter input signal.
69	AVDD	—	Analog power supply.
70	ADRT	I	Voltage input of the upper limit of the A/D converter operation range.
71	ADRB	I	Voltage input of the lower limit of the A/D converter operation range.
72	AVSS	—	Analog GND.
73	SE	I	Sled error signal input.
74	TE	I	Tracking error signal input.
75	AUX2	I	Auxiliary input 2.

Pin No.	Pin Name	I/O	Description
76	DCHG	I	Connected to the low impedance power supply.
77	APC	I	Error signal input to the laser digital APC.
78	ADFG	I	ADIP2 binary-converted FM signal (22.05±1 kHz) input.
79	F0CNT	O	Current source setting output terminal to CXA2523.
80	XLRF	O	Latch output for CXA2523 control. Latched at rise-up.
81	CKRF	O	Shift clock output for CXA2523 control.
82	DTRF	O	Data output for CXA2523 control.
83	APCREF	O	Reference PWM output to laser APC.
84	LDDR	O	PWM output to laser digital APC. (Not used).
85	TRDR	O	Tracking servo drive PWM output. (-).
86	TFDR	O	Tracking servo drive PWM output. (+).
87	DVDD	—	Digital power supply.
88	FFDR	O	Focus servo drive PWM output. (+).
89	FRDR	O	Focus servo drive PWM output. (-).
90	FS4	O	4 fs output. (176.4 kHz).
91	SRDR	O	Sled servo drive PWM output. (-).
92	SFDR	O	Sled servo drive PWM output. (+).
93	SPRD	O	Spindle servo drive PWM output. (PWM (-) or negative polarity).
94	SPFD	O	Spindle servo drive PWM output. (PWM (+) or PWM absolute value).
95	FGIN	I	FG input to spindle CAV servo.
96	TEST1	I	Test pin. Connected to GND.
97	TEST2	I	Test pin. Connected to GND.
98	TEST3	I	Test pin. Connected to GND.
99	DVSS	—	Digital GND.
100	EFMO	O	Low signal during playback. EFM (encode data) output: during recording.

IC, CXP81952

Pin No.	Pin Name	I/O	Description
1	MCAS	—	Not used.
2	MRAS	—	
3	BUP	—	
4	AMUTE	O	Audio mute signal output.
5	ESK	O	Serial clock output for EEPROM interface.
6	EDO	O	Serial data output for EEPROM interface.
7	EDI	I	Serial data input for EEPROM interface.
8	ECS	O	EEPROM interface chip select signal output.
9	—	—	Not used.
10	RFLCT	I	DISC reflectance factor detection switch input.
11	—	—	Not used.
12	LS	I	Optical pickup inner circumference detection switch input.
13	LDSW	I	Loading mechanism, EJECT position detection switch input.
14	PBSW	I	Loading mechanism, PB position detection switch input.
15	RECSW	I	Loading mechanism, RECORD position detection switch input.
16	—	—	Not used.
17	—	—	
18	ACOFF	—	
19	SREQ	I	System control send request signal input for system control interface.
20	EXTDIN	O	External DIGITAL-IN enable signal output.
21	SLOW	O	Loading mechanism speed control signal input.
22	LOAD	O	Loading mechanism operational direction control signal input 1.
23	EJECT	O	Loading mechanism operational direction control signal input 2.
24	MREQ	O	MD microprocessor send request signal output for system control interface.
25	DRIVE	O	EFM driver ON/OFF signal output.
26	—	—	Not used.
27	—	—	
28	—	—	
29	—	—	
30	—	—	
31	—	—	
32	—	—	
33	—	—	
34	—	—	
35	—	—	
36	—	—	
37	MP	—	Connected to VSS.
38	SRST	I	MD microprocessor reset signal input.
39	DGND	—	Connected to VSS.
40	XTALO	O	External system clock oscillation crystal connection terminal 1.
41	XTALI	I	External system clock oscillation crystal connection terminal 2.

Pin No.	Pin Name	I/O	Description
42	ARDY	I	Ready signal input for system control interface.
43	SIN	I	Serial data input for system control interface.
44	SOUT	O	Serial data output for system control interface.
45	ACLK	O	Serial clock output for system control interface.
46	XLAT	O	CXD2652 interface latch signal output.
47	XRST	O	CXD2652 reset signal output.
48	XSTBY	O	CXA2523 standby signal output.
49	—	—	Not used.
50	AVSS	—	Connected to VSS.
51	AVREF	—	Connected to VDD.
52	AVDD	—	
53	—	—	Not used. (PLL UP)
54	—	—	
55	—	—	
56	SLF	—	
57	SRF	—	
58	TEMP	—	
59	MAGIC	—	
60	—	—	
61	TEST	—	
62	DISCPRO	I	DISC write-protection switch input.
63	MNT3	I	CXD2652 monitor signal input 3.
64	MNT2	I	CXD2652 monitor signal input 2.
65	MNT1	I	CXD2652 monitor signal input 1.
66	MNT0	I	CXD2652 monitor signal input 0.
67	SENS	I	CXD2652 SENS signal input.
68	FLG	I	The terminal monitoring the flag included in the SRDT of the CXD2652 interface.
69	—	—	Not used.
70	—	—	
71	P-CONT	—	
72	RFSW	—	
73	—	—	
74	—	—	
75	DQSY	I	DIGITAL-IN SUB-Q sync input.
76	XINT	I	CXD2652 status sync input.
77	SRDT	I	CXD2652 interface serial data input.
78	SWDT	O	CXD2652 interface serial data output.
79	SCLK	O	CXD2652 interface serial clock output.
80	SQSY	I	SUB-Q, ADIP sync input.
81	—	—	Not used.
82	—	—	

Pin No.	Pin Name	I/O	Description
83	—	—	Not used.
84	TXI	—	Connected to VSS.
85	TXO	—	Open. (Not used)
86	VSS	—	Connected to VSS.
87	VDD	—	Connected to VDD.
88	NC	—	
89	—	—	Not used.
90	DRVMUTE	O	BA5970FP mute signal output.
91	—	—	Not used.
92	—	—	
93	—	—	
94	—	—	
95	RECP	O	Laser power selection signal output.
96	TX	O	Record data output enable signal output.
97	MOD	O	RF modulation circuit ON/OFF signal output.
98	OPMUTE	O	Laser mute signal output.
99	ARST	O	AK4512 reset signal output.
100	DENF	O	De-emphasis ON/OFF signal output.

IC, CXA1992AR

Pin No.	Pin Name	I/O	Description
1	FEO	O	Output terminal for focus error amplifier. Internally connected to window comparator input for bias condition.
2	FEI	I	Input terminal for focus error.
3	FDFCT	I	Capacitor connection terminal for time constant used when there is defect.
4	FGD	I	This pin is connected to GND via capacitor when high frequency gain of the focus servo is attenuated.
5	FLB	I	This is a pin where the time constant is externally connected to raise the low frequency gain of the focus servo.
6	FE_O	O	Focus drive output.
7	FEM	I	Focus amplifier inverted input pin.
8	SRCH	I	This is a pin where the time constant is externally connected to generate the focus search waveform.
9	TGU	I	This is a pin where the selection time constant is externally connected to set the tracking servo the high frequency gain.
10	TG2	I	This is a pin where the selection time constant is externally connected to set the tracking high frequency gain.
11	FSET	I	Pin for setting peak of the phase compensator of the focus tracking.
12	TA_M	I	Tracking amplifier inverted input pin.
13	TA_O	O	Tracking drive output.
14	SL_P	I	Sled amplifier non-inverted input pin.
15	SL_M	I	Sled amplifier inverted input pin.
16	SL_O	O	Sled drive output.
17	ISET	I	The current which determines height of the focus search, track jump and sled kick is input with external resistance connected.
18	Vcc	I	Power supply.
19	LOCK	I	“L” setting starts sled disorder-prevention circuit. (Not pull-up resistance)
20	CLK	I	Clock input for serial data transfer from CPU. (No pull-up resistance)
21	XLT	I	Latch input from CPU. (No pull-up resistance)
22	DATA	I	Serial data input from CPU. (No pull-up resistance)
23	XRST	I	Reset system at “L” setting. (No pull-up resistance)
24	C_OUT	O	Signal output for track number counting.
25	SENS1	O	FZC, DFCT1, TZC, BALH, TGH, FOH, or ATSC is output depending on the command from CPU.
26	SENS2	O	DFCT2, MIRR, BALL, TGL or FOL is output depending on the command from CPU.
27	FOK	O	Output terminal for focus OK comparator.
28	CC2	I	Input pin where the DEFECT bottom hold output is capacitance coupled.
29	CC1	O	DEFECT bottom-hold output terminal. Internally connected to interruption comparator input.
30	CB	I	Connection terminal for DEFECT bottom-hold capacitor.
31	CP	I	Connection terminal for MIRR hold-capacitor. Anti-reverse input terminal for MIRR comparator.

Pin No.	Pin Name	I/O	Description
32	RF_I	I	Input terminal by capacity combination of RF summing amplifier.
33	RF_O	O	Output terminal of RF summing amplifier. Checkpoint of Eye pattern.
34	RF_M	I	Anti-reverse input terminal for RF summing amplifier. The gain of RF amplifier is decided by the connection resistance between RF_M and RFO terminals.
35	RFTC	I	This is a pin where the selection time constant is externally connected to control the RF level.
36	LD	O	APC amplifier output terminal.
37	PD	I	APC amplifier input terminal.
38, 39	PD1, PD2	I	RFI-V amplifier inverted input pin. These pins are connected to the A+C and B+C pins of the optical pickup, receiving by currents input.
40	FEBIAS	I/O	Bias adjustment pin of the focus error amplifier.
41, 42	F, E	I	F and EIV amplifier inverted input pins. These pins are connected to the F and E of the optical pickup, receiving by current input.
43	EI	—	Gain adjustment pin of the I-V amplifier E. (When not in use of BAL automatic adjustment)
44	VEE	—	GND connection pin.
45	TEO	O	Output terminal for tacking-error amplifier. Output E-F signal.
46	LPFI	I	BAL adjustment comparator input pin. (Input through LPF from TEO)
47	TEI	I	Input terminal for tracking error.
48	ATSC	I	Window-comparator input terminal for detecting ATSC.
49	TZC	I	Input terminal for tracking-zero cross comparator.
50	TDFCT	I	Capacitor connection pin for the time constant used when there is defect.
51	VC	O	Output terminal for DC voltage reduced to half of VCC+VEE.
52	FZC	I	Input terminal for focus-zero cross comparator.

IC, CXD2540Q

Pin No.	Pin Name	I/O	Description
1	FOK	I	Focus OK input. Used for SENS output and the servo auto sequencer.
2	FSW	O	Spindle motor output filter switching output.
3	MON	O	Spindle motor on/off control output.
4	MDP	O	Spindle motor servo control.
5	MDS	O	
6	LOCK	O	High, when sampled value of GFS at 460Hz is high. Low, when sampled value of GFS at 460Hz is low by 8 times successively.
7	NC		
8	VCOO	O	Analog EFM PLL oscillation circuit output.
9	VCOI	I	Analog EFM PLL oscillation circuit input. fLOCK=8.6436MHz.
10	TEST	I	TEST pin.
11	PDO	O	Analog EFM PLL charge pump output.
12	VSS		GND.
13	PWMI	I	Spindle motor external control input.
14	V16M	O	VCO2 oscillation output for the wide-band EFM PLL.
15	VCTL	I	VCO2 control voltage input for the wide-band EFM PLL.
16	VPCO	O	Wide-band EFM PLL charge pump output.
17	VCKI	I	VCO2 oscillation input for the wide-band EFM PLL.
18	FILO	O	Multiplier PLL (slave=digital PLL) filter output.
19	FILI	I	Multiplier PLL filter input.
20	PCO	O	Multiplier PLL charge pump output.
21	AVSS		Analog GND.
22	CLTV	I	Multiplier VCO1 control voltage input.
23	AVDD		Analog power supply (5V).
24	RF	I	EFM signal input.
25	BIAS	I	Constant current input of the asymmetry circuit.
26	ASYI	I	Asymmetry comparator voltage input.
27	ASYO	O	EFM full-swing output.
28	ASYE	I	Low: asymmetry circuit off; high: asymmetry circuit on.
29	NC		
30	PSSL	I	Audio data output mode switching input. Low: serial output; high: parallel output.
31	WDCK	O	D/A interface for 48-bit slot. Word clock f=2Fs.
32	LRCK	O	D/A interface for 48-bit slot. LR clock f=Fs.
33	VDD		Power supply (5V).
34	DA16	O	DA16 (MSB) output when PSSL=1. 48-bit slot serial data (two’s complement, MSB first) when PSSL=0.
35	DA15	O	DA15 output when PSSL=1. 48-bit slot bit clock when PSSL=0.
36	DA14	O	DA14 output when PSSL=1. 64-bit slot serial data (two’s complement, LSB first) when PSSL=0.
37	DA13	O	DA13 output when PSSL=1. 64-bit slot bit clock when PSSL=0.
38	DA12	O	DA12 output when PSSL=1. 64-bit slot LR clock when PSSL=0.

Pin No.	Pin Name	I/O	Description
39	DA11	O	DA11 output when PSSL=1. GTOP output when PSSL=0.
40	DA10	O	DA10 output when PSSL=1. XUGF output when PSSL=0.
41	DA09	O	DA09 output when PSSL=1. XPLCK output when PSSL=0.
42	DA08	O	DA08 output when PSSL=1. GFS output when PSSL=0.
43	DA07	O	DA07 output when PSSL=1. RFCK output when PSSL=0.
44	DA06	O	DA06 output when PSSL=1. C2PO output when PSSL=0.
45	DA05	O	DA05 output when PSSL=1. XRAOF output when PSSL=0.
46	DA04	O	DA04 output when PSSL=1. MNT3 output when PSSL=0.
47	DA03	O	DA03 output when PSSL=1. MNT2 output when PSSL=0.
48	DA02	O	DA02 output when PSSL=1. MNT1 output when PSSL=0.
49	DA01	O	DA01 output when PSSL=1. MNT0 output when PSSL=0.
50	APTR	O	Aperture compensation control output. This pin outputs a high signal when the right channel is used.
51	APTL	O	Aperture compensation control output. This pin outputs a high signal when the left channel is used.
52	VSS		GND.
53	XTAI	I	Crystal oscillation circuit input.
54	XTAO	O	Crystal oscillation circuit output.
55	XTSL	I	Crystal selector input.
56	FSTT	O	2/3 frequency divider output for Pins 53 and 54.
57	FSOF	O	1/4 frequency divider output for Pins 53 and 54.
58	C16M	O	16.9344MHz output. (V16M output in CLV-W and CAV-W modes)
59	MD2	I	Digital-out on/off control. High: on; low: off
60	DOUT	O	Digital-out output.
61	EMPH	O	Outputs a high signal when the playback disc has emphasis, and a low signal when there is no emphasis.
62	WFCK	I	WFCK (write frame clock) output.
63	SCOR	O	Outputs a high signal when either subcode sync S0 or S1 is detected.
64	SBSO	O	Sub P to W serial output.
65	EXCK	I	SBSO readout clock input.
66	SQSO	O	Sub Q 80-bit and PCM peak, level metter and internal status outputs.
67	SQCK	I	SQSO readout clock input.
68	MUTE	I	High: mute; low: release
69	SENS	—	SENS output to CPU.
70	XRST	I	System reset. Reset when low.
71	DATA	O	Serial data input from CPU.
72	XLAT	O	Latch input from CPU. Serial data is latched at the falling edge.
73	VDD		Power supply (5V).
74	CLOK	O	Serial data transfer clock input from CPU.
75	SEIN	I	SENS input from SSP.
76	CNIN	I	Track jump count signal input.

Pin No.	Pin Name	I/O	Description
77	DATO	O	Serial data output to SSP.
78	XLTO	O	Serial data latch output to SSP. Latched at the falling edge.
79	CLKO	O	Serial data transfer clock output to SSP.
80	MIRR	I	Mirror signal input. Used when the number of tracks is 128 or more for the 2N-track jump and M track move of the auto sequencer.

Notes)

- The 64-bit slot is an LSB first, two's complement output, and the 48-bit slot is an MSB first, two's complement output.
- GTOP is used to monitor the frame sync protection status. (High: sync protection window open.)
- XUGF is the negative pulse for the frame sync obtained from the EFM signal. It is the signal before sync protection.
- XPLCK is the inverse of the EFM PLL clock. The PLL is designed so that the falling edge and the EFM signal transition point coincide.
- GFS goes high when the frame sync and the insertion protection timing match.
- RFCK is derived from the crystal accuracy, and has a cycle of 136µ.
- C2PO represents the data error status.
- XRAOF is generated when the 32K RAM exceeds the ±28F jitter margin.

IC, CL680

Pin No.	Pin Name	I/O	Description
1	NC	—	No connection.
2	VSS	—	GND.
3	CD BCK	I	Bit clock input from CD DSP.
4	CD DATA	I	Data input from CD DSP.
5	CD LRCK	I	LRCK input from CD DSP.
6	CD C2PO	I	C2 pointer input from CD DSP.
7-9	NC	—	No connection.
10-15	MD0-MD5	I/O	DRAM/ROM interface. (DATA)
16	VSS	—	Ground.
17	MD6	I/O	DRAM/ROM interface. (DATA)
18	VDD3	—	Power supply 3.3V.
19	MD7	I/O	DRAM/ROM interface. (DATA)
20	VSS	—	Ground.
21	MD8	I/O	DRAM/ROM interface. (DATA)
22	VDD3	—	Power supply 3.3V.
23-29	MD9-MD15	I/O	DRAM/ROM interface. (DATA)
30-36	NC	—	No connection.
37	$\overline{\text{MCE}}$	—	ROM chip enable.
38	$\overline{\text{MWE}}$	O	DRAM write enable.
39	VSS	—	Ground.
40	$\overline{\text{CAS}}$	O	DRAM/ROM interface.
41	VDD3	—	Power supply 3.3V.
42	$\overline{\text{RASO}}$	O	DRAM/ROM interface.
43	$\overline{\text{RASI}}$	O	
44-46	MA10-MA8	O	DRAM/ROM interface. (Address)
47	VSS	—	Ground.
48	MA7	O	DRAM/ROM interface. (Address)
49	VDD3	—	Power supply 3.3V.
50-52	MA6-MA4	O	DRAM/ROM interface. (Address)
53	VSS	—	Ground.
54	MA3	O	DRAM/ROM interface. (Address)
55	VDD3	—	Power supply 3.3V.
56-58	MA2-MA0	O	DRAM/ROM interface. (Address)
59	PGIO7	I/O	Programmable I/O.
60	$\overline{\text{RESET}}$	I	Reset input.
61	VDD MAX IN	—	Power supply - VDDMAX. (5.0V)
62-64	NC	—	No connection.
65	AGND DAC	—	Analog ground.
66	A DAC	—	Analog power supply (DAC) : 3.3V.
67	COMP OUT	O	Composite out.
68	AGND DAC	—	Analog ground.

Pin No.	Pin Name	I/O	Description
69	Y OUT	O	Video signal “Y” OUT.
70	AVDD DAC	—	Analog power supply (DAC) 3.3V.
71	AGND DAC	—	Analog ground.
72	R REF	I	Reference resistor input.
73	V REF	I	Voltage reference input.
74	AVDD DAC	—	Analog power supply (DAC) : 3.3V.
75	C OUT	O	Video signal “C” out.
76	AGND DAC	—	Analog ground.
77-79	CLK SEL0-2	I	Clock selection input.
80	VSS	—	Ground.
81	CLK SEL3	I	Clock selection input.
82	VDD3	—	Power supply 3.3V.
83, 84	CLK SEL4, 5	I	Clock selection input.
85	AGND PLL	—	Analog ground.
86	DA XCK	I	DA XCK (16.933MHz) input.
87	AVDD PLL	—	Analog power supply 3.3V.
88	DA EMP	O	DAC-emphasis output.
89, 90	PGIO5, O6	I/O	Programmable I/O.
91	PGIO0	I/O	
92	PGIO8	I/O	
93	$\overline{\text{VSYNC}}$/$\overline{\text{CSYNC}}$	O	$\overline{\text{VSYNC}}$/$\overline{\text{CSYNC}}$ output.
94	AVDD PLL	—	Analog power supply (PLL) 3.3V.
95	VID_DAC_CK	O	Video DAC clock.
96	PROC_CK	O	Processor clock.
97	AUD_XCK	O	Audio XCK.
98	AGND PLL	—	Analog ground.
99	VSS	—	Ground.
100	NC	—	No connection.
101	$\overline{\text{HSYNC}}$	O	$\overline{\text{HSYNC}}$ output.
102	VDD3	—	Power supply 3.3V.
103	VCK OUT	O	VCK out.
104	VSS	—	Ground.
105	GCK	I	Global clock signal input. (42.3MHz)
106	VCK	I	Video clock signal input. (27.0MHz)
107	GCK OUT	O	Global clock signal output. (27.0MHz)
108	DA LRCK	O	DAC-LRCK output.
109	VDD MAX OUT	—	Power supply (VDD MAX) : 5.0V.
110	DA DATA	O	DAC-PCM data output.
111	DA BCK	O	DAC-BIT clock output.
112	HD OUT	O	Micon interface. (Data out)
113	HRDY	O	Micon interface. (Host ready)

Pin No.	Pin Name	I/O	Description
114	$\overline{\text{HINT}}$	O	Micon interface. (Host interrupt)
115	CDG SCK	I	CD-G serial clock input.
116	VSS	—	Ground.
117	HCK	I	Micon interface. (Host clock)
118	VDD3	—	Power supply 3.3V.
119	HD IN	I	Micon interface. (Host data in)
120	VDD3	—	Power supply 3.3V.
121	HSEL	I	Micon interface. (Host select in)
122	CDG DATA	I	CD-G data input.
123	CDG VFSY	I	CD-G VFSY input.
124	CDG SOSI	I	CD-G SOSI input.
125	DSP-XCK	O	DSP-XCK output.
126-128	NC	—	No connection.

IC, µPD78016FGC

Pin No.	Pin Name	I/O	Description
1	RBPLS	O	RADIAL BALANCE PLUS.
2	AMUTE	O	AUDIO ANALOG MUTE (H=MUTE ON).
3	GFS	I	GFS.
4	XVCDMD	I	AUDIO/VIDEO CD MODE (L=VCD=SPINDLE GAIN UP).
5	MD2	O	DOUT MUTE CONT.
6	EMPH	I	EMPHASIS.
7	SQSO	I	SQDATA FROM CD.
8	SQCK	O	SQCLK TO CD.
9	VSS	—	GND.
10	SWNT	I	SW TV OUT MODE (L=NTSC).
11	SWAUTO	I	SW TV OUT MODE (L=NTSC/PAL AUTO).
12	SWPAL	I	SW TV OUT MODE (L=PAL).
13	EMERG	I	POWER EMERGENCY STOP (L*3sec=STOP).
14	NC	—	Nou used.
15	LPCSEL	I	“LPC ON/OFF (H=ON, NORMAL)”.
16	NC	—	Nou used.
17	LOCK	O	GFS (FRAME SYNC) LOCK (NO USE=H).
18	DMUTE	O	DIGITAL DATA OUT MUTE.
19	SENS	I	DSP SENS1 FROM CD.
20	XCDRST	O	CD RESET.
21	DATA	O	DATA TO CD.
22	XLAT	O	XLT TO CD.
23	CLOK	O	CLK TO CD.
24	VSS	—	GND.
25	FOK	I	FOCUS OK.
26	SENS2	I	SSP SENS2 FROM CD.
27	XBUSY	I/O	READY/BUSY I/O TO HOST OD.
28	NC	—	Nou used.
29	NC	—	
30	NC	—	
31	TST0	I/O	CHECK LAND.
32	TST1	I/O	
33	TST2	I/O	
34	TST3	I/O	
35	RESET	I	RESET.
36	HRDY	I	HRDY FROM CL680.
37	XHINT	I	HINT FROM CL680.
38	NC	—	Nou used.
39	SCOR	I	SCOR FROM CD.
40	VDD	—	5.0VDD.
41	XO	O	8.0MHz CERALOCK.

Pin No.	Pin Name	I/O	Description
42	XI	I	8.0MHz CERALOCK.
43	VSS	—	GND.
44	XT2	—	Nou used.
45	XT1	I	5.0VDD.
46	AVSS	—	GND.
47	XMPGRST	O	MPEG BLOCK IC RESET.
48	HSEL	O	ADDRESS/DATA SEL TO CL680.
49	INLSW	I	INSIDE LIMIT SW.
50	NC	—	Nou used.
51	OSDXCS	O	OSD CHIP SELECT.
52	ABSEL	I	CXA1992A/B SELECT (L=CXA1992A).
53	CLVSEL	I	CLV MODE SELECT (H=CLV-N).
54	AADSEL	I	AUTO ADJUST SELECT (H=AUTO ON).
55	AVDD	—	5.0VDD.
56	AVREF	—	
57	HDOUT	I	HD-OUT FROM CL680.
58	HDIN	O	HD-IN TO CL680.
59	HCK	O	HCK TO CL680.
60	OSDDATA	O	OSD DATA.
61	OSDCLK	O	OSD CLOCK.
62	COMMAND	I	COMMAND FROM HOST.
63	STATUS	O	STATUS TO HOST.
64	SCK	I	SCK FROM HOST.

IC, TC9409BF

Pin No.	Pin Name	I/O	Description
1	VDA1	—	ADC power supply.
2	MICI	I	Input to MIC input low-pass filter.
3	LPFO1	O	Output from MIC input low-pass filter.
4	VRA1	—	ADC reference voltage.
5	AIL	I	Input to LINE input L-ch low-pass filter.
6	LPFO2	O	Output from LINE input L-ch low-pass filter.
7	VRA2	—	ADC reference power supply.
8	AIR	I	Input to LINE input R-ch low-pass filter.
9	LPFO3	O	Output from LINE input R-ch low-pass filter.
10	GNDA1	—	ADC ground.
11	LI	I	Input to L-ch analog adder. (Open when not used.)
12	LZ	O	Zero is detected when L-ch digital is input.
13	GNDA2	—	DAC ground.
14, 16	AOL, AOR	O	DAC output L-ch. DAC output R-ch.
15	VR2	—	DAC reference voltage.
17	VDA2	—	DAC power supply.
18	RZ	O	Zero is detected when R-ch digital is input.
19	RI	I	Input to R-ch analog adder. (Open when not used.)
20	VDX	—	Oscillator block power supply.
21	XI	I	Terminal where external oscillator is connected. (Any of 256, 384, 5 12 or 768 fs).
22	XO	O	Terminal where external oscillator is connected.
23	GNDX	—	Oscillator ground.
24, 42	VDD1, VDD2	—	Digital power supply.
25	CKS	I	Master clock selection. (H: 256/384 fs, L: 512/768 fs).
26	MCK2	O	Oscillator clock divided-by-2 output.
27	MCK1	O	Oscillator clock output.
28	SDO	O	Digital audio data output.
29	BCKO	O	Bit clock output.
30	LRCKO	O	Channel clock output.
31	SDI	I	Digital audio data input.
32	BCKI	I	Bit clock input.
33	LRCKI	I	Channel clock input.
34	GNDD	—	Digital ground.
35	$\overline{\text{RESET}}$	I	Reset. (Reset at L).
36	IFD	I	Microprocessor I/F data input.
37	IFS	I	Microprocessor I/F data shift clock input.
38	IFL	I	Microprocessor I/F latch pulse input.
39	EMP	I	De-emphasis setting. (De-emphasis filter ON at H).
40	EXTO	O	Expansion output terminal.
41	$\overline{\text{TEST}}$	I	Test mode setting. (Fixed to normally H).
43	VDL	—	Digital power supply for DRAM.
44	GNDL	—	Digital ground for DRAM.

IC, LC876572V-5N52

Pin No.	Pin Name	I/O	Description
1	I-$\overline{\text{STEREO}}$	I	Connected to stereo detection and tuner.
2	I-TUDO	I	Connected to tuner PLL IC LC72131 pin-⑥ DO and connected to VCD µPD78016 pin-㊸.
3	I/O-BUSY	I/O	Connected to VCD microprocessor µPD78016 pin-㉗.
4	O-$\overline{\text{F.LED}}$	O	Function LED control output.
5	O-M.STB	O	Connected to main shift resistor 4094 pin-① STB.
6	O-CLK	O	Connected to front shift resistor BU2092 pin-③ CLK, main shift resistor 4094 pin-③ CLK, and tuner PLL IC LC72131 pin-⑤ CL.
7	O-DATA	O	Connected to front shift resistor BU2092 pin-② DATA, main shift resistor 4094 pin-② DATA, and tuner PLL IC LC72131 pin-④ DI.
8	O-VOLCTL	O	Connected to VOL/P.EQ IC M62439SP pin-⑪ CONT.
9	I-TMBASE	I	Reference clock input for clock PLL IC LC72131 pin-⑦.
10	O-$\overline{\text{CKSFT}}$	O	Clock shift output is shifted: “L”
11	RESET	I/O	Microprocessor reset.
12	I-ACOFF	I	Hold status detection.
13	I-MS	I	Connected to music search detection circuit.
14	VSS	—	GND.
15	CF1	—	Connected to 5.76 MHz oscillator
16	CF2	—	Connected to 5.76 MHz oscillator.
17	VDD1	—	Microprocessor power supply. (µ-com 5 V)
18	O-K.CS	O	Connected to karaoke IC TC9409 pin-㊳.
19	I-KEY1	I	Key AD value input.
20	I-KEY0	I	Key AD value input.
21	I-DSW	I	Deck MECA status detection input. (AD)
22	I-CDTSW	I	CD tray OPEN/CLOSE status detection input. (AD)
23	I-ENC1	I	AD value input from multiple jog rotary encoder outputs A and B.
24	I-ENC0	I	Electronic VOL’s AD value input from rotary encoder outputs A and B.
25	O-CE	O	Connected to tuner PLL IC LC72131 pin-③ CE.
26	O-K.CLK	O	Connected to karaoke IC TC9409 pin-㊲.
27	I-LEVEL	I	Level meter input.
28	O-CLK	O	Connected to VCD microprocessor µPD78016 pin-㊹.
29	I-RMT	I	Remote control input.
30-42	T0-T12	O	FL tube grid output. (13G-1G)
43-45	S13-S15	O	FL tube anode output. (P35-P33)
46	VDD3	—	Microprocessor power supply. (µ-com 5 V)
47-50	S16-S19	O	FL tube anode output. (P32-P29)
51	VP	—	Connected to minus power supply for FL, -VFL.
52-63	S20-S31	O	FL tube anode output. (P28-P17)
64	S32/$\overline{\text{BBE}}$	O	FL tube anode output (P16), and INT.DIODE MATRIX input.
65	S33/$\overline{\text{DOLBY}}$	O	FL tube anode output (P15), and INT.DIODE MATRIX input.
66	S34/AM10k	O	FL tube anode output (P14), and INT.DIODE MATRIX input.

Pin No.	Pin Name	I/O	Description
67	S35/FMWIDE&AMST	O	FL tube anode output (P13), and INT.DIODE MATRIX input.
68	S36/LW	O	FL tube anode output (P12), and INT.DIODE MATRIX input.
69	S37/SW	O	FL tube anode output (P11), and INT.DIODE MATRIX input.
70	S38/OIRT	O	FL tube anode output (P10), and INT.DIODE MATRIX input.
71	S39/RDS	O	FL tube anode output (P9), and INT.DIODE MATRIX input.
72	VDD4	—	Microprocessor power supply. (µ-com 5 V)
73-78	S40-S45	O	FL tube anode output. (P8-P3)/SHOP
79	S46/CAM	O	(P2)/deck mechanism status detection input. (CAM)
80	S47/AUTO	O	(P1)/deck mechanism status detection input. (AUTO)
81	O-DMUTE	O	Digital signal line mute output for CD to MD.
82	O-SWSCAN	O	Key scan detection timing switch.
83	O-MOTOR	O	Deck mechanism motor control output.
84	O-FSTB	O	Connected to front shift resistor IC BU2092 pin-⑤.
85	O-CDOPEN	O	CD tray open control output.
86	O-CDCLOSE	O	CD tray close control output.
87	O-P.ON	O	Power supply ON/OFF control.
88	O-$\overline{\text{MDRST}}$	O	MD unit 7ZG-9A reset signal output.
89	VSS2	—	GND.
90	VDD2	—	Microprocessor power supply. (µ-com 5 V)
91	O-SD	O	Connected to VCD microprocessor µPD78016 pin-㊷.
92	O-K.DATA	O	Connected to karaoke IC TC9409 pin-㊱.
93	O-MUTE	O	Main mute output.
94	O-$\overline{\text{PL}}$	O	Deck mechanism plunger solenoid control output.
95	O-SIN	O	MD unit control serial data output.
96	I-SOUL	I	MD unit control serial data input.
97	I-ACLK	I	MD unit control serial data input.
98	O-ARDY	O	MD unit control serial data send/receive ready output.
99	O-SREQ	O	MD unit control serial data transfer request .
100	O-MREQ	O	MD unit control serial data transfer request.

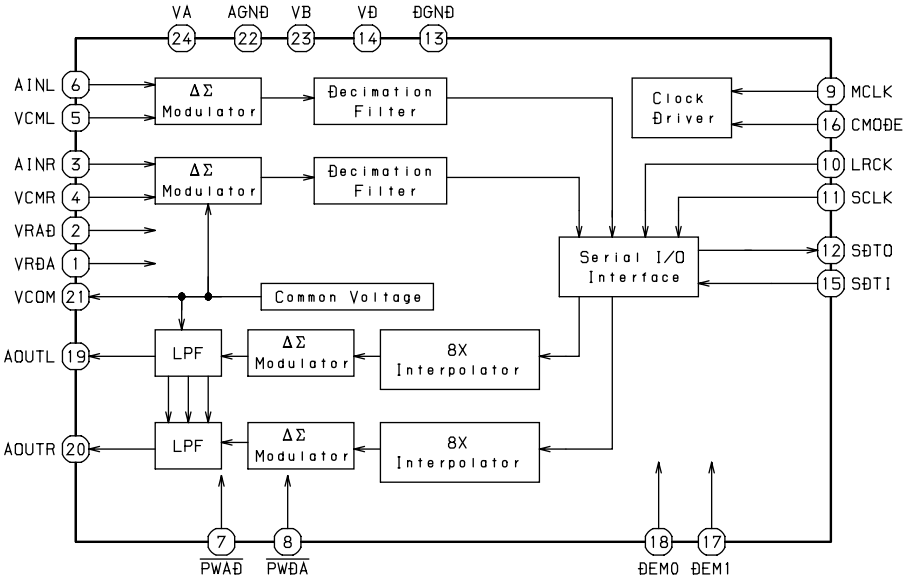
IC, LC74781M

Pin No.	Pin Name	I/O	Description
1	VSS1	—	GND connection terminal. (Digital ground terminal).
2	Xtal IN	I	External X'tal and capacitor for internal sync generator, or the external clock are connected to this terminal. (2fsc or 4fsc).
3	Xtal OUT	O	
4	CTRL1	I	Either the external clock input mode or the X'tal generator mode is selected by this selector terminal. L: X'tal generator mode, H: External clock input.
5	BLANK	O	Blank signal (character and the green ORed signal) is output from this terminal. (MODE 0: composite sync signal is output at H.) When reset ($\overline{\text{RST}}$ terminal = L), the X'tal clock signal is output. (It is not output when reset by the reset command).
6	OSC IN	I	External coil and capacitor for the character output dot clock generator are connected to this terminal.
7	OSC OUT	O	
8	CHARA	O	The character signal is output from this terminal. (MOD 0: when H, the external sync signal identification signal is output from this terminal. This output signal tells whether the external sync signal is present or not. When external sync signal is present, H is output.) When reset ($\overline{\text{RST}}$ terminal = L), the dot clock signal (LC oscillator) is output. (It is not output when reset by the reset command).
9	$\overline{\text{CS}}$	I	Enable signal for the serial data input is input to this terminal. The serial data input is enabled at L. Pull-up resistor is built-in. (Hysteresis input).
10	SCLK	I	Clock of the serial data input is input to this terminal. Pull-up resistor is built-in. (Hysteresis input).
11	SIN	I	Serial data input terminal. Pull-up resistor is built-in. (Hysteresis input).
12	VDD2	—	Power supply for the composite video signal level adjustment. (Analog power supply).
13	CV OUT	O	Composite video signal output terminal.
14	NC	—	Connected to GND or not connected.
15	CV IN	I	Composite video signal input terminal.
16	VDD1	—	Power supply (+5V digital power supply).
17	SYN IN	I	Video signal for the internal sync separator circuit is input to this terminal. (When the internal sync separator circuit is not used, the horizontal sync signal or composite sync signal is input to this terminal).
18	SEP C	—	Internal sync separator circuit bias voltage monitoring terminal.
19	SEP OUT	O	The composite sync output signal of the internal sync separator circuit is output from this terminal. (H: MOD 1. H: during internal sync mode. L: during external sync mode.) (When internal sync separator circuit is not used, the SYN IN input signal is output from this terminal).
20	SEP IN	I	The output signal of the SEP OUT terminal is integrated so that the vertical sync signal is input to this terminal. An integrator circuit must be connected between the SEP OUT terminal and this terminal. When this terminal is not used, it must be connected to VDD1.
21	CTRL2	I	When selecting any of the NTSC or PAL or PAL-M or PAL-N system, the pin setting has priority. When L, the NTSC system is selected after resetting. Selection of either NTSC or PAL or PAL-M or PAL-N system by the command becomes effective. H: PAL-M system.

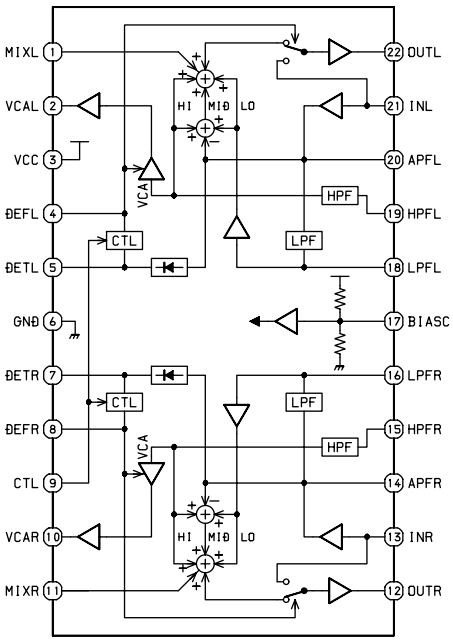
Pin No.	Pin Name	I/O	Description
22	CTRL3	I	Controls whether or not to input the $\overline{\text{VSYNC}}$ signal to the SEPIN input. L: to input the $\overline{\text{VSYNC}}$ signal. H: not to input the $\overline{\text{VSYNC}}$ signal.
23	$\overline{\text{RST}}$	I	System reset input terminal. Pull-up resistor is built-in. (Hysteresis input).
24	VDD1	—	Power supply. (+5V digital power supply).

IC BLOCK DIAGRAM

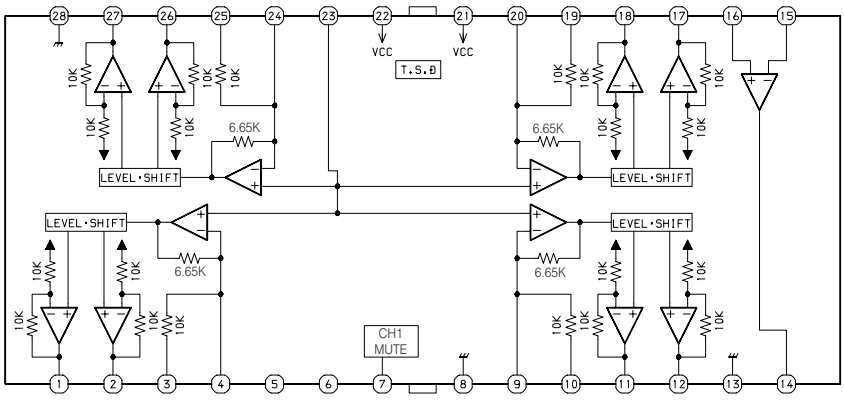
IC, AK4519VF



IC, BA3880FS

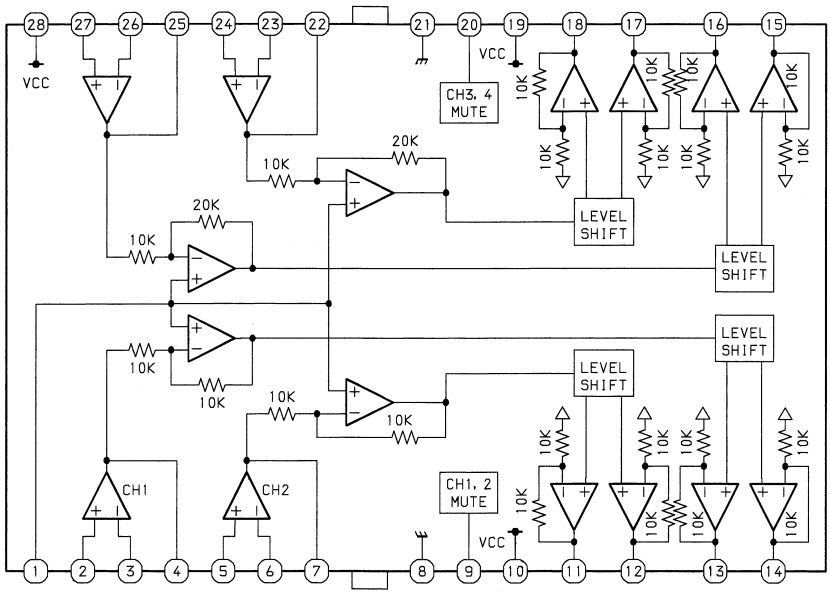


IC, BA5915FP

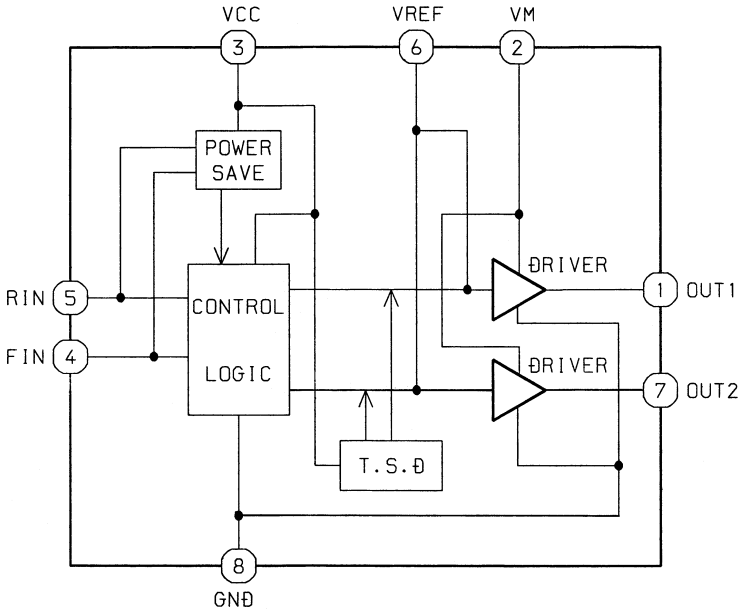


T.S.D: Thermal shut-down
Resistors are in units of Ω.

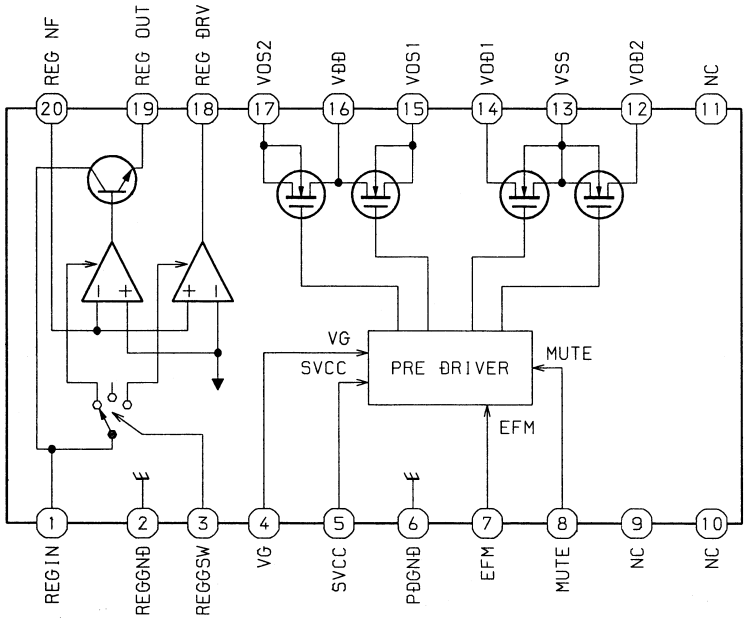
IC, BA5970FP



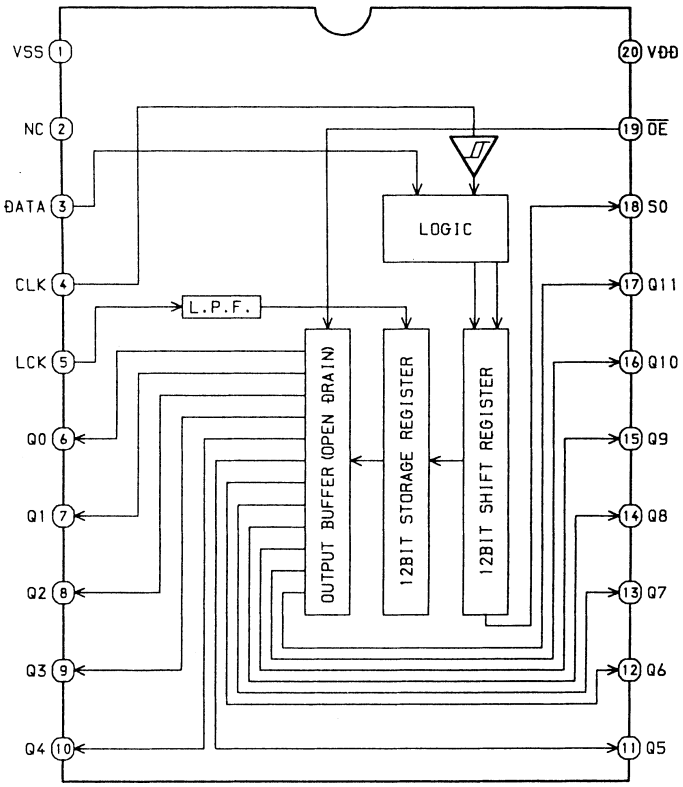
IC, BA6417F



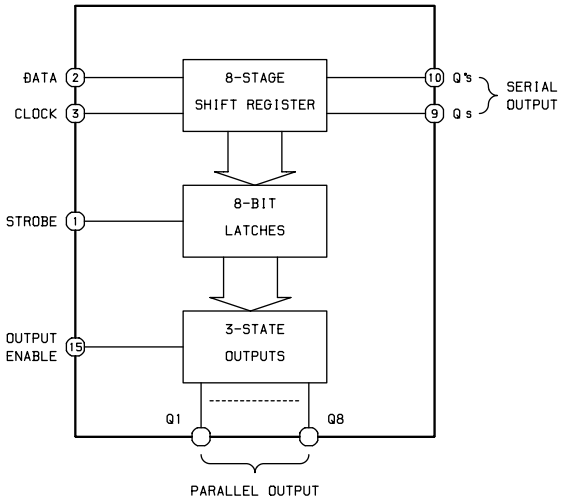
IC, BD7910FV



IC, BU2099FV



IC, BU4094BCF



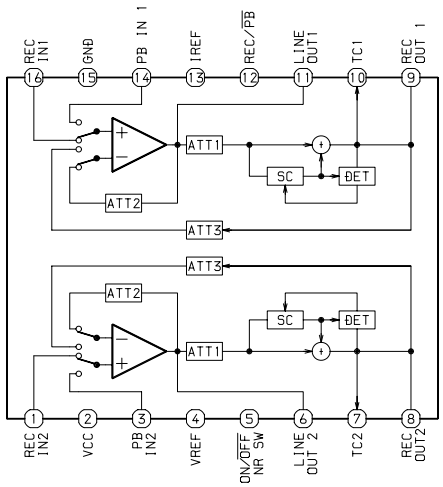
TRUTH TABLE

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

Z=High Impedance

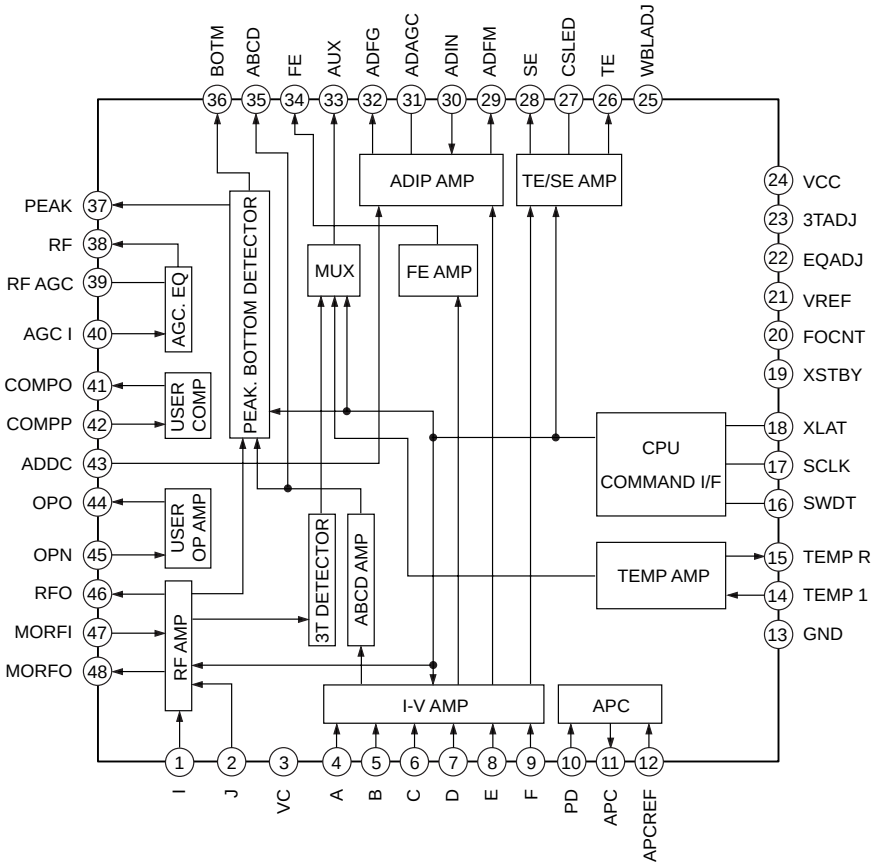
X=Don't Care

IC, CXA1553P

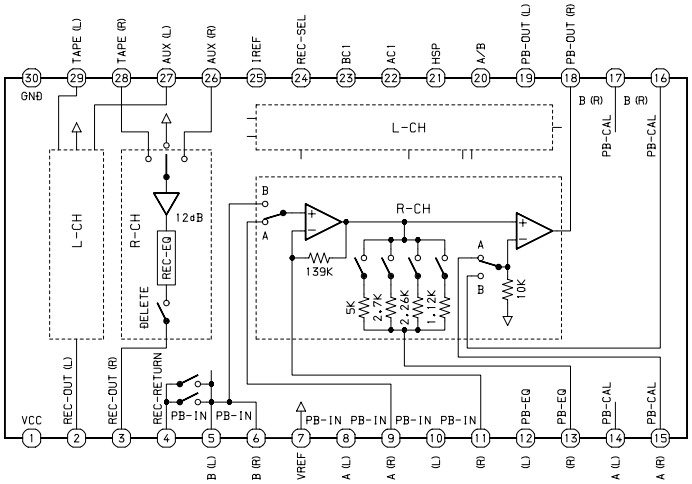


ATT:Attenuator
SC:Side Chain
DET:Detector

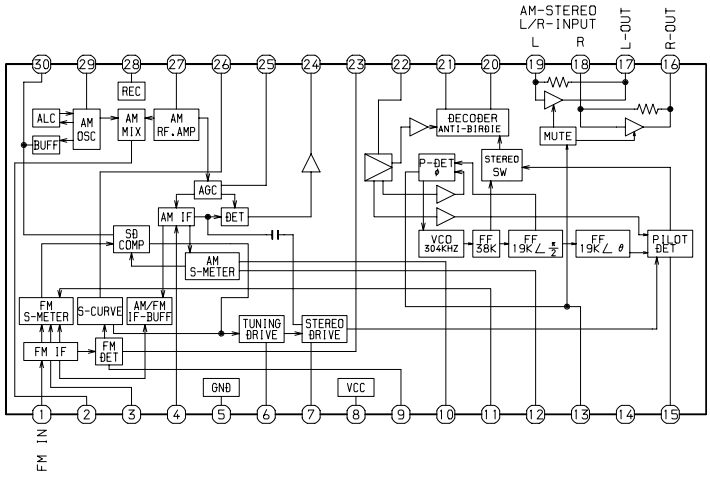
IC, CXA2523AR



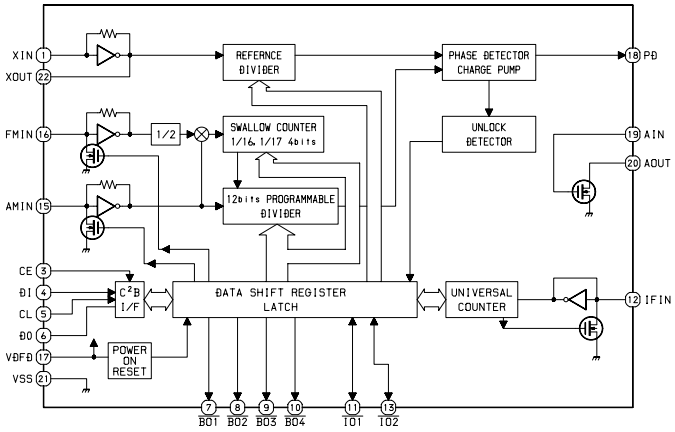
IC, HA12211



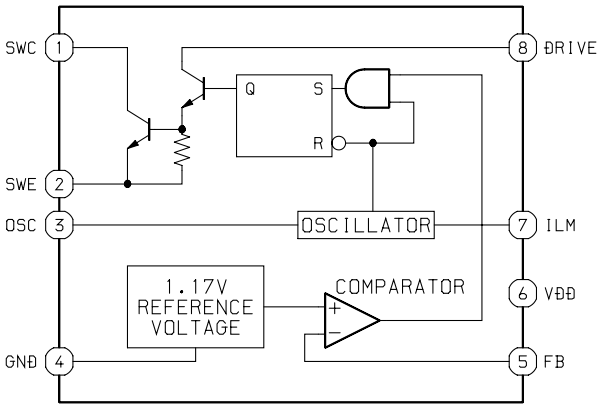
IC, LA1837NL



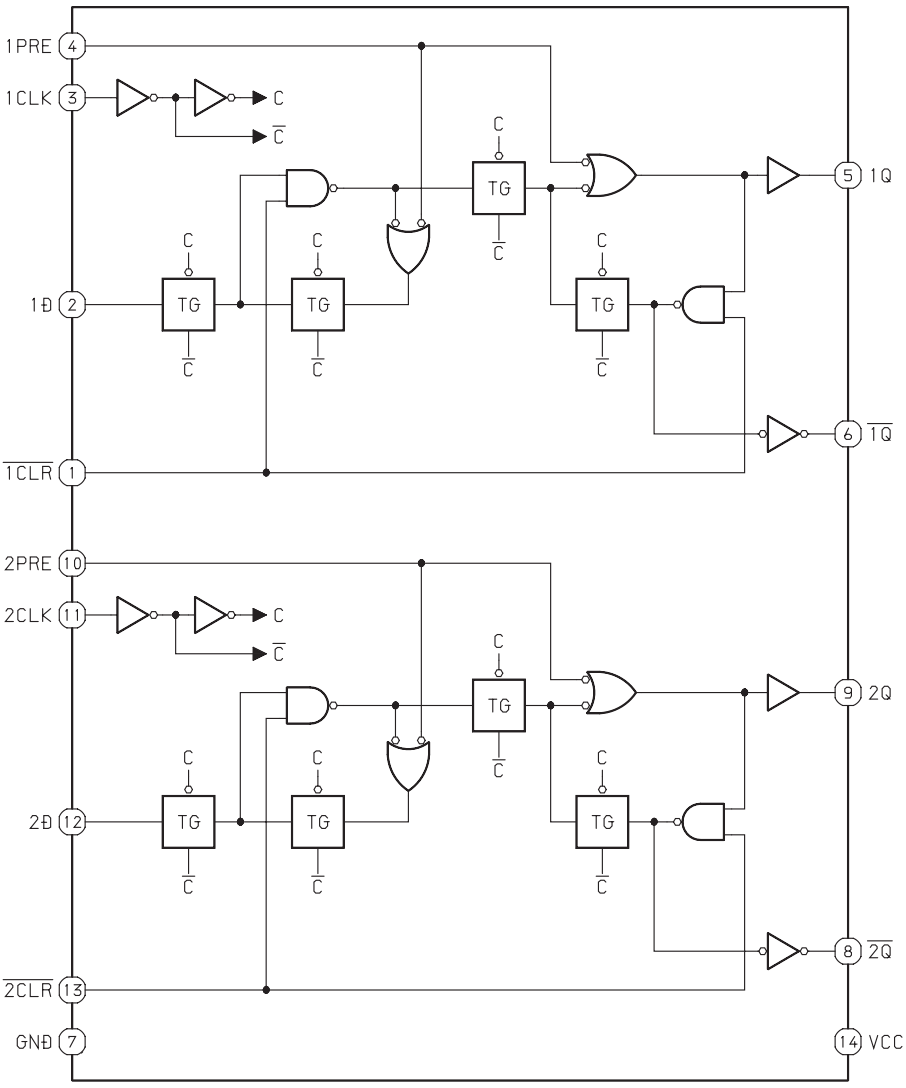
IC, LC72131



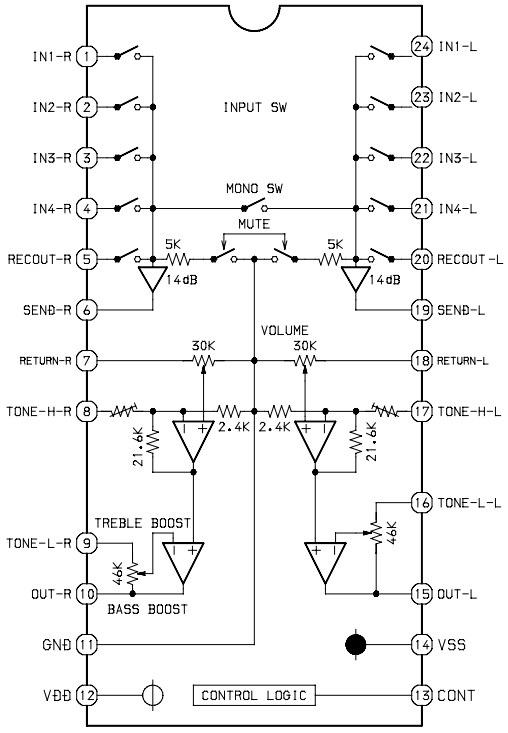
IC, M5291FP



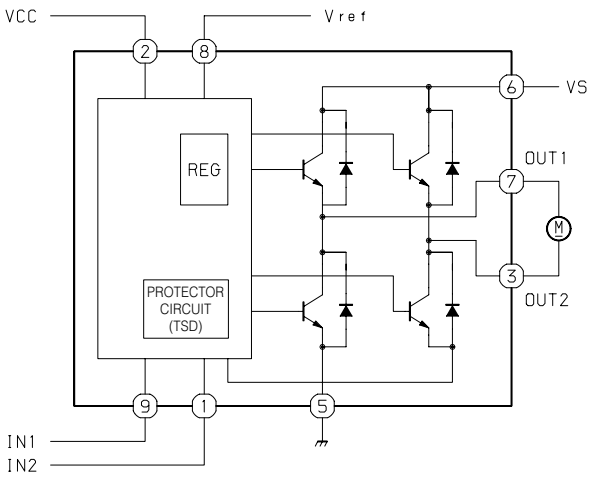
IC, SN74LV74APW



IC, M62495FP



IC, TA7291S

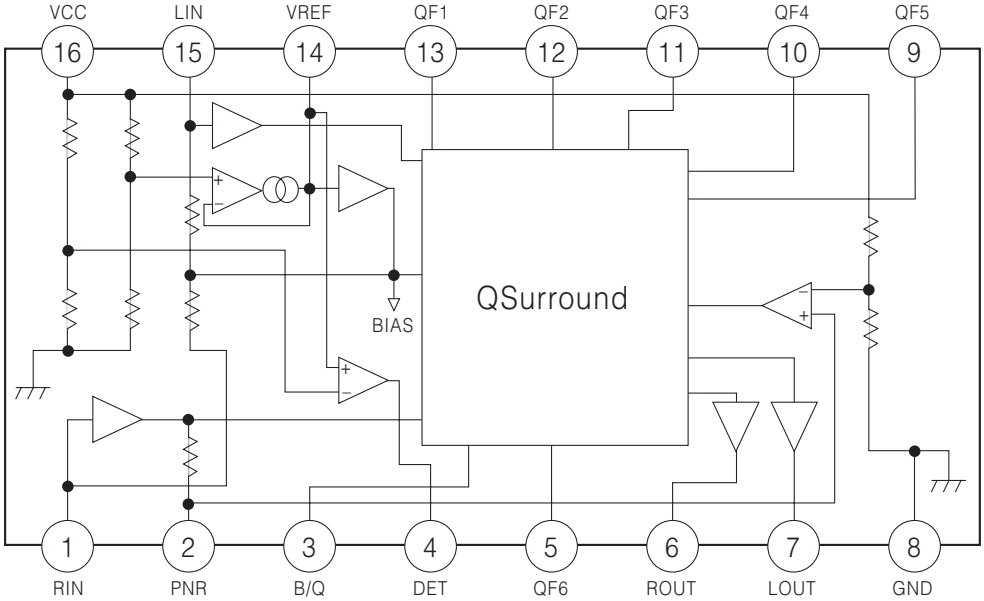


INPUT		OUTPUT		MOÐE
IN1	IN2	OUT1	OUT2	
0	0	∞	∞	STOP
1	0	H	L	CW/CCW
0	1	L	H	CCW/CW
1	1	L	L	BRAKE

∞ : HI IMPEDANCE

NOTE : INPUT "H" ACTIVE

IC, MM1454XFBE



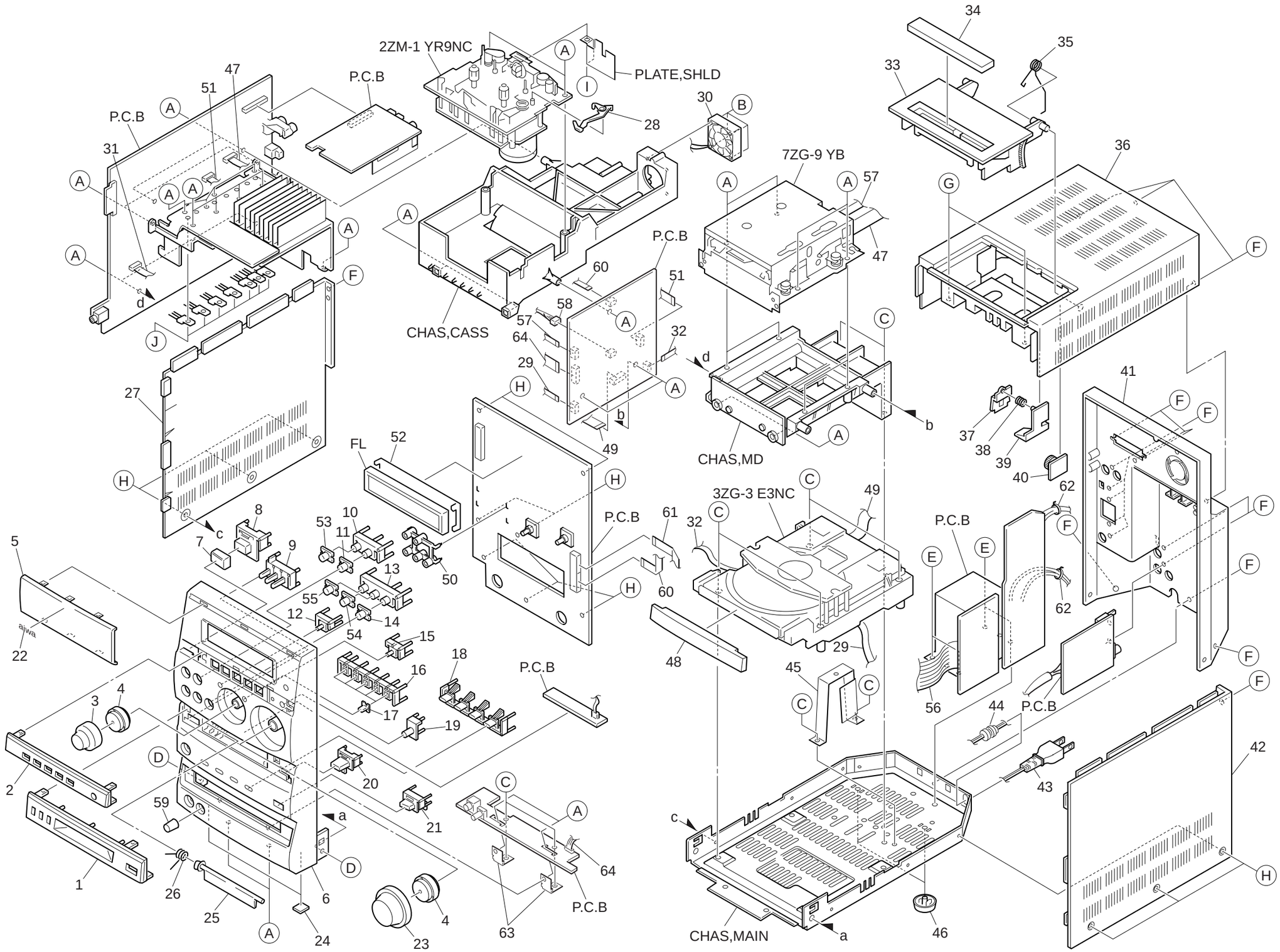
MECHANICAL PARTS LIST 1/1

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

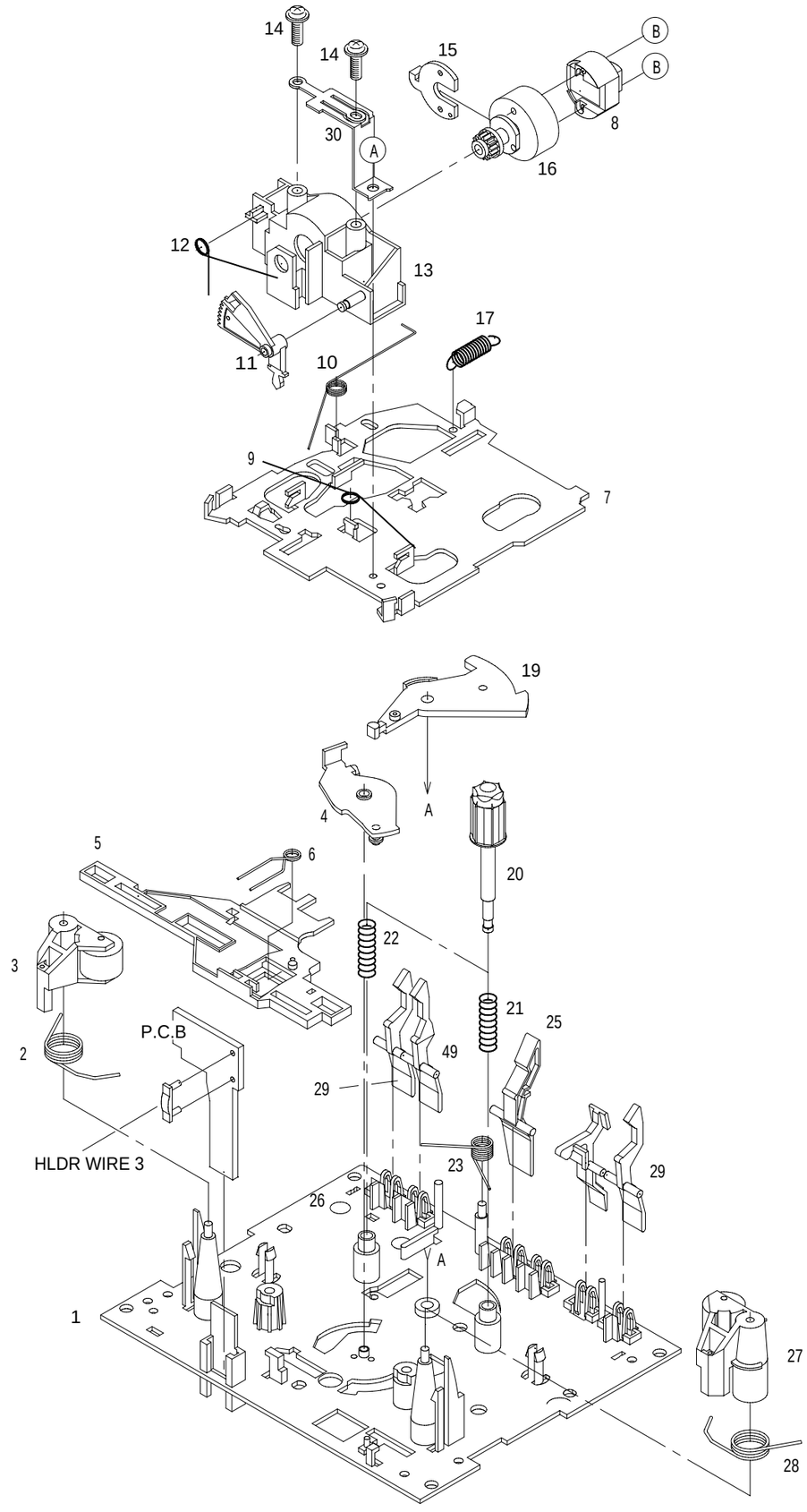
REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	8Z-CL4-007-010		PANEL,MD
2	8Z-CG4-005-010		PANEL,FUNK VCD
3	8Z-CL4-025-010		CAP, JOG
4	8Z-CL4-208-010		KNOB,RTRY
5	8Z-CG4-006-010		WINDOW,FR VCD
6	8Z-CG4-001-010		CABI,FR VCD
7	8Z-CL4-023-010		CAP, PWR
8	8Z-CL4-209-010		BTN,PWR
9	8Z-CL4-020-010		BTN,MD
10	8Z-CL4-015-010		BTN,CONT 1
11	8Z-CL4-026-010		CAP, PLAY
12	8Z-CL4-018-010		BTN,MODE
13	8Z-CL4-016-010		BTN,CONT 2
14	8Z-CL4-028-010		CAP, FF
15	8Z-CL4-017-010		BTN,ENTER
16	8Z-CL4-206-010		BTN,FUNC
17	8Z-CL4-013-010		LENS,FUNC
18	8Z-CL4-022-110		BTN,REC
19	8Z-CL4-014-010		BTN,DEMO
20	8Z-CL4-019-110		BTN,EJECT
21	8Z-CL4-021-110		BTN,OPEN
22	87-B00-010-010		BADGE,AIWA 30.5-5.2 S 2.5L
23	8Z-CL4-024-010		CAP, VOL
24	88-CT4-026-010		CUSH,FOOT
25	8Z-CL4-012-010		PANEL,FLAP
26	88-CE2-209-010		SPR-T,MD
27	8Z-CL4-004-010		PANEL,SIDE L
28	82-ZM1-263-110		LVR,EJECT L
29	88-906-221-110		CABLE,FFC 6P-1.25
30	85-XS3-604-010		FAN,MF40D-12
31	8Z-CL4-655-010		CONN ASSY,7P V RPH SHLD
32	88-905-351-110		FF-CABLE, 5P 1.25 350MM
33	8Z-CL4-011-110		BOX,CASS
34	8Z-CL4-010-010		WINDOW,CASS
35	82-NF5-218-010		SPR-T,EJECT 1 (SIN)
36	8Z-CL4-041-010		CABI,TOP T
37	88-CD5-203-010		HLDR,LOCK 2N
38	88-CD5-213-010		SPR-C,LOCK
39	82-NF5-229-010		PLATE,LOCK
40	87-063-165-010		OIL-DMPR 150
41	8Z-CG4-002-010		PANEL,REAR VCD
42	8Z-CL4-005-010		PANEL,SIDE R
⚠ 43	87-A80-083-010		AC CORD,HC BLK
44	87-085-185-010		BUSHING, AC CORD (E)
45	8Z-CL4-207-010		HLDR,HT-SINK
46	81-669-025-010		FOOT, H11
47	8Z-CL4-641-010		FF-CABLE, 14P 1.0 550MM
48	8Z-CG4-004-010		PANEL,CD VCD
49	88-CE2-654-010		FF-CABLE, 16P 1.0 250MM PICK
50	8Z-CL4-205-010		GUIDE,CONT LED
51	88-911-381-110		FF-CABLE, 11P 1.25 380MM
52	8Z-CL4-204-010		HLDR,FL
53	8Z-CL4-027-010		CAP, STOP
54	8Z-CL4-029-010		CAP, REW
55	8Z-CL4-030-010		CAP, PAUSE
56	8Z-CL4-658-010		F-CABLE,10P 2.5 300MM
57	88-CE2-640-010		FF-CABLE, 8P 1.0 300MM N
58	88-CE2-659-010		F-CABLE,2P 2.5 100MM (4MM)
59	8Z-CG4-009-010		KNOB,RTRY ZCG4
60	88-909-161-110		FF-CABLE, 9P 1.25 160MM
61	88-914-141-110		FF-CABLE,14P 1.25
62	87-A90-193-010		HLDR,CV100 (B)
63	8Z-CG4-201-010		HLDR,PWB
64	8Z-CG4-617-010		F-CABLE,3P 2.5 100MM (4MM)
A	87-067-703-010		TAPPING SCREW, BVT2+3-10
B	87-751-075-210		VT2+2.6-10
C	87-067-584-010		TAPPING SCREW, BVT2+3-6
D	87-591-094-010		QIT+3-6 GOLD
E	87-067-585-010		TAPPING SCREW, BVTT+4-6
F	87-067-761-010		TAPPING SCREW, BVT2+3-10
G	87-B10-071-010		BVT2+3-16 W/O SLOT B
H	87-B10-068-010		UTT2+3-6 W/O SLOT CR
I	87-067-421-010		VTT+2-4
J	87-067-579-010		TAPPING SCREW, BVT2+3-8

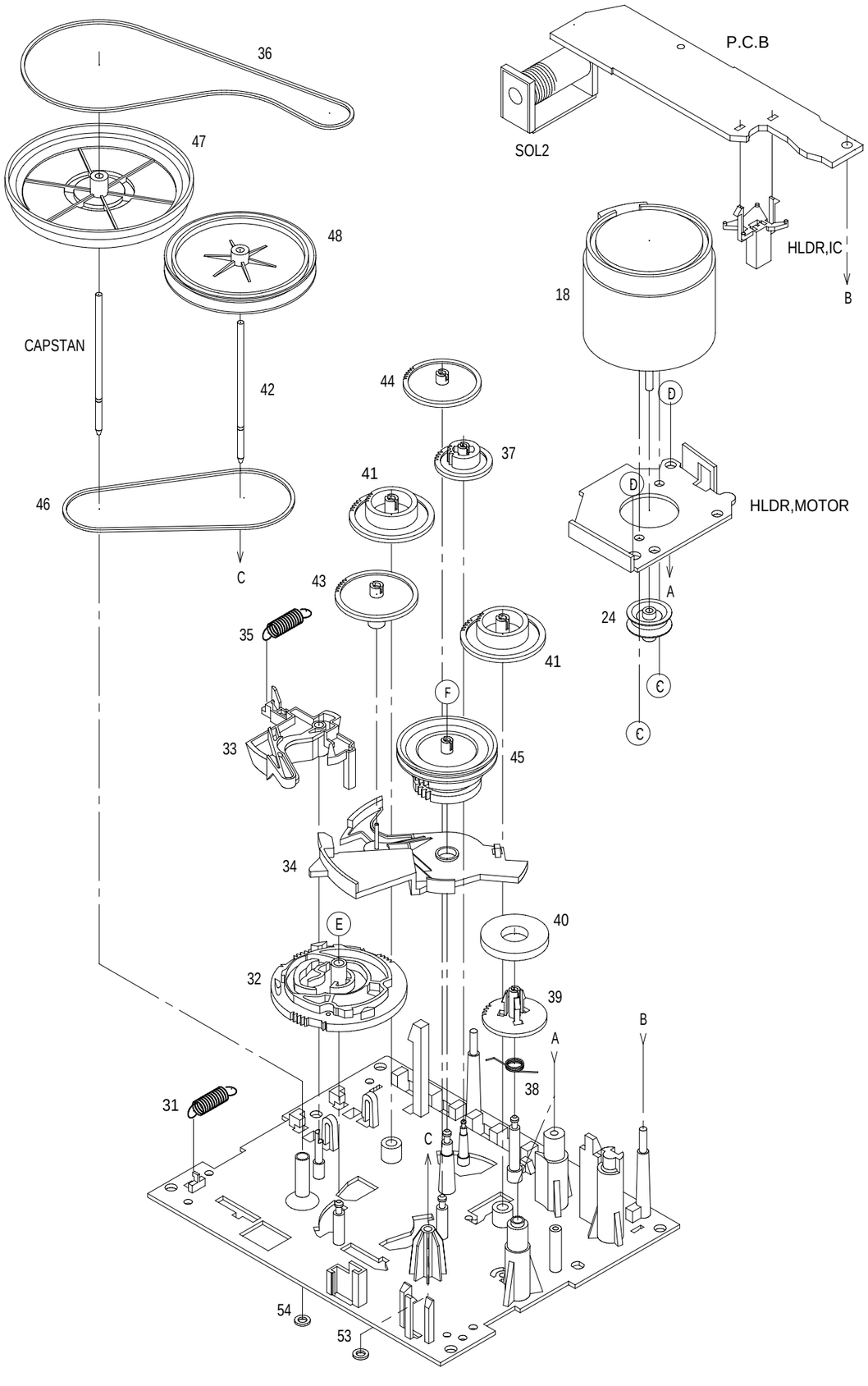
COLOR NAME TABLE

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		


2ZM-1 YR9NC
PLATE,SHLD
P.C.B
CHAS,CASS
7ZG-9 YB
CHAS,MD
3ZG-3 E3NC
CHAS,MAIN
FL
aiwa

TAPE MECHANISM EXPLODED VIEW 1/1



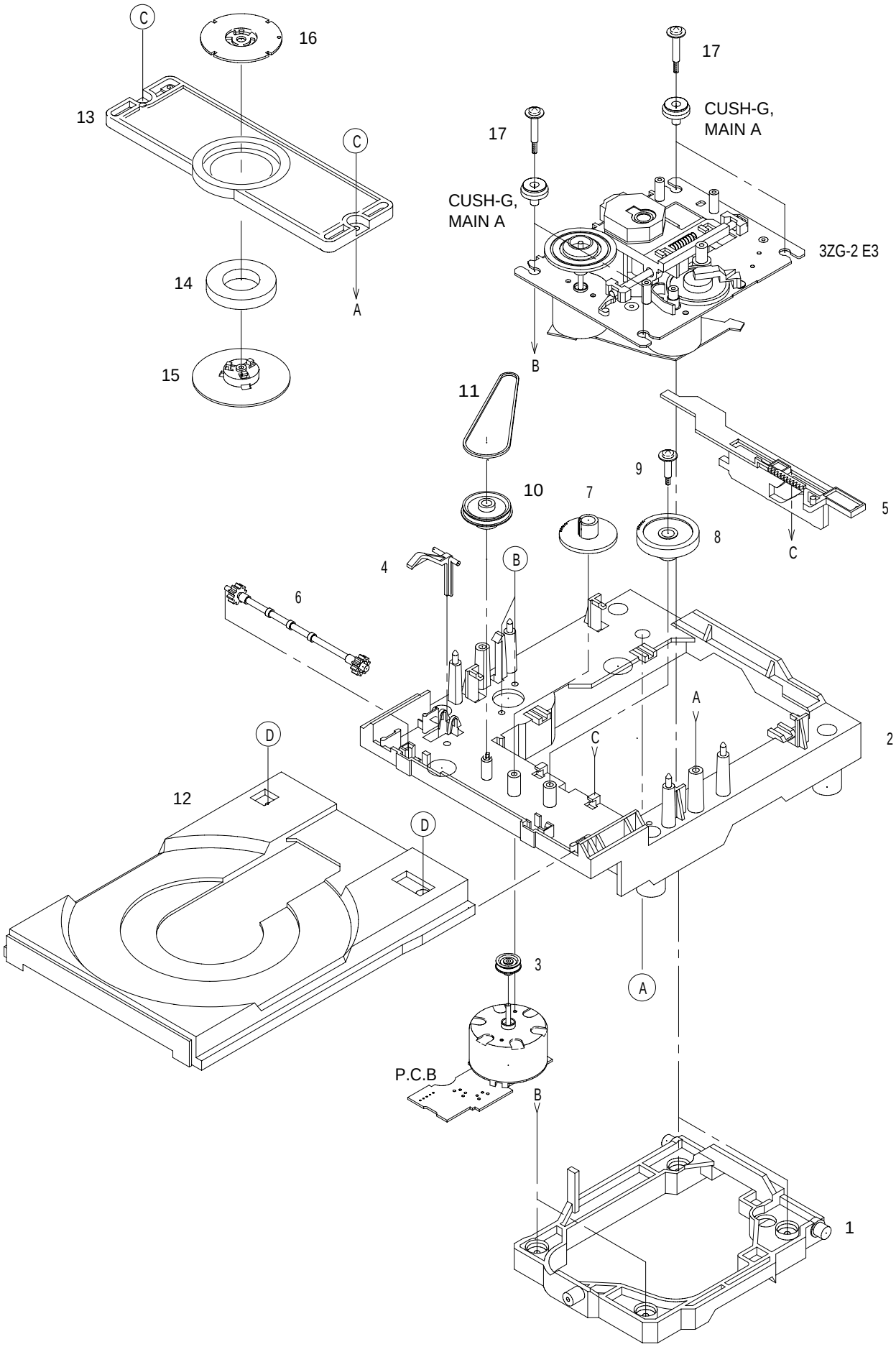


TAPE MECHANISM PARTS LIST 1/1

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	82-ZM1-327-310		CHAS ASSY,RM
2	82-ZM1-258-210		SPR-T,PINCH L
3	82-ZM1-341-210		LVR ASSY,PINCH L2
4	82-ZM1-333-210		PLATE,LINK2
5	82-ZM1-266-310		LVR,DIR
6	82-ZM1-214-010		SPR-T,DIR
7	82-ZM1-206-910		CHAS,HEAD
8	87-A91-176-010		HEAD,RPH HADKH56
9	82-ZM1-269-210		SPR-T,BRG
10	82-ZM1-219-110		SPR-T,LINK
11	82-ZM1-210-110		GEAR,H T
12	82-ZM1-213-010		SPR-T,HEAD
13	82-ZM1-207-910		GUIDE,TAPE
14	82-ZM1-283-310		S-SCREW,AZIMUTH
15	82-ZM1-314-110		PLATE,HEAD
16	82-ZM1-208-310		HLDR,HEAD
17	82-ZM1-218-010		SPR-E,HB
18	87-045-347-010		MOT,SHU2L 70
19	82-ZM1-222-210		LVR,PLAY
20	82-ZM1-217-410		REEL TABLE
21	82-ZM1-244-510		SPR-C,BT
22	82-ZM1-285-410		SPR-C,BT L
23	82-ZM1-257-010		SPR-T,CAS
24	82-ZM1-247-210		PULLEY,MOTOR
25	82-ZM1-242-010		LVR,CAS
26	82-ZM1-243-010		LVR,STOP
27	82-ZM1-344-210		LVR ASSY,PINCH R2
28	82-ZM1-259-210		SPR-T,PINCH R
29	82-ZM1-240-110		LVR,REC(*)
30	82-ZM1-298-010		SPR-P EARTH
31	82-ZM1-255-310		SPR-E,LVR DIR
32	82-ZM1-221-310		GEAR,CAM(*)
33	82-ZM1-227-310		LVR,TRIG
34	82-ZM1-224-410		LVR,FR
35	82-ZM1-305-210		SPR-E,TRIG 2
36	82-ZM1-340-010		BELT,SBU MAIN2
37	82-ZM1-223-010		GEAR,PLAY
38	82-ZM1-322-010		SPR-T,FR 60
39	82-ZM1-220-210		GEAR,IDLER
40	82-ZM3-616-010		RING MAGNET 4
41	82-ZM1-216-510		GEAR,REEL
42	82-ZM1-236-010		CAPSTAN,2-41.5
43	82-ZM1-225-210		GEAR,FR
44	82-ZM1-226-010		GEAR,REW
45	82-ZM3-333-310		SLIP DISK ASSY 2
46	82-ZM1-338-110		BELT,FR 4
47	82-ZM1-349-110		FLY-WHL,R W
48	82-ZM1-348-110		FLY-WHL,L W
49	82-ZM1-241-310		LVR,MC
A	82-ZM1-315-010		S-SCREW GUIDE TAPE
B	80-ZM6-207-010		V+1.6-7
C	87-251-070-410		U+2.6-3
D	87-741-073-410		UT2+2.6-6 GLD
E	87-B10-008-010		W-P,2.08-8-0.4-SLIP
F	82-ZM1-247-210		PULLEY,MOTOR

CD MECHANISM EXPLODED VIEW 1/2

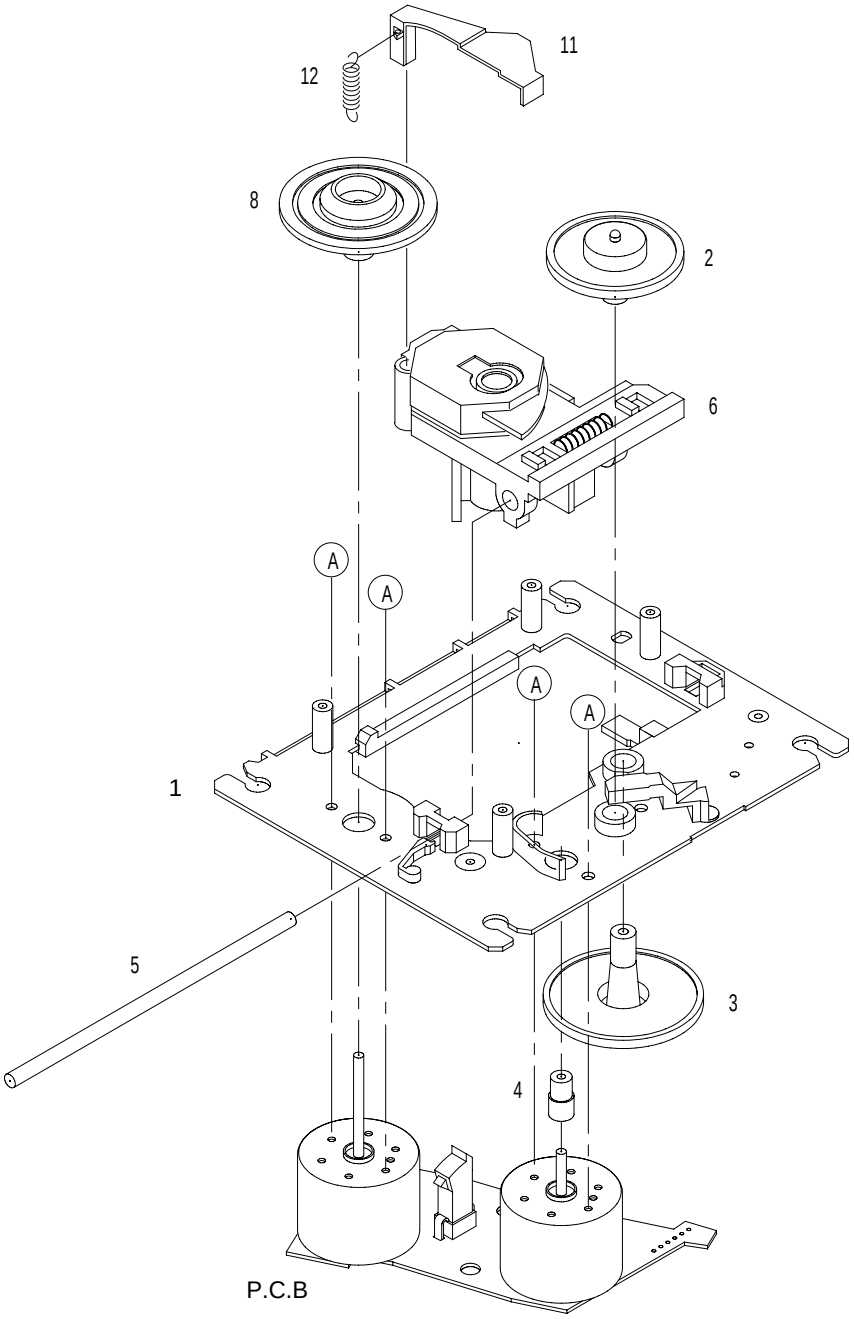


CD MECHANISM PARTS LIST 1/2

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	83-ZG3-224-510		HLDR M2
2	83-ZG3-228-610		CHAS,L6
3	83-ZG3-208-010		PULLEY,MOTOR
4	83-ZG3-213-010		LVR,SW
5	83-ZG3-209-610		CAM,SLIDE
6	83-ZG3-207-010		GEAR,TRAY
7	83-ZG3-204-210		GEAR,C
8	83-ZG3-205-010		GEAR,D
9	83-ZG3-217-010		S-SCREW,GEAR D
10	83-ZG3-220-210		GEAR,PULLEY 2
11	83-ZG3-214-010		BELT,L
12	83-ZG3-229-410		TRAY,CD 2
13	83-ZG3-210-110		HLDR,CHUCK
14	83-ZG3-602-010		RING,MAG
15	83-ZG3-212-010		CAP,DISC
16	83-ZG3-211-010		PLATE,DISC
17	81-ZG1-254-010		S-SCREW,MECH HLDR
A	87-067-945-110		VFT2+3-12(F10)
B	87-251-071-410		U+2.6-4
C	87-512-074-210		SCREW, 2+2.6-8
D	87-352-075-210		VT2+2.6-10

CD MECHANISM EXPLODED VIEW 2/2

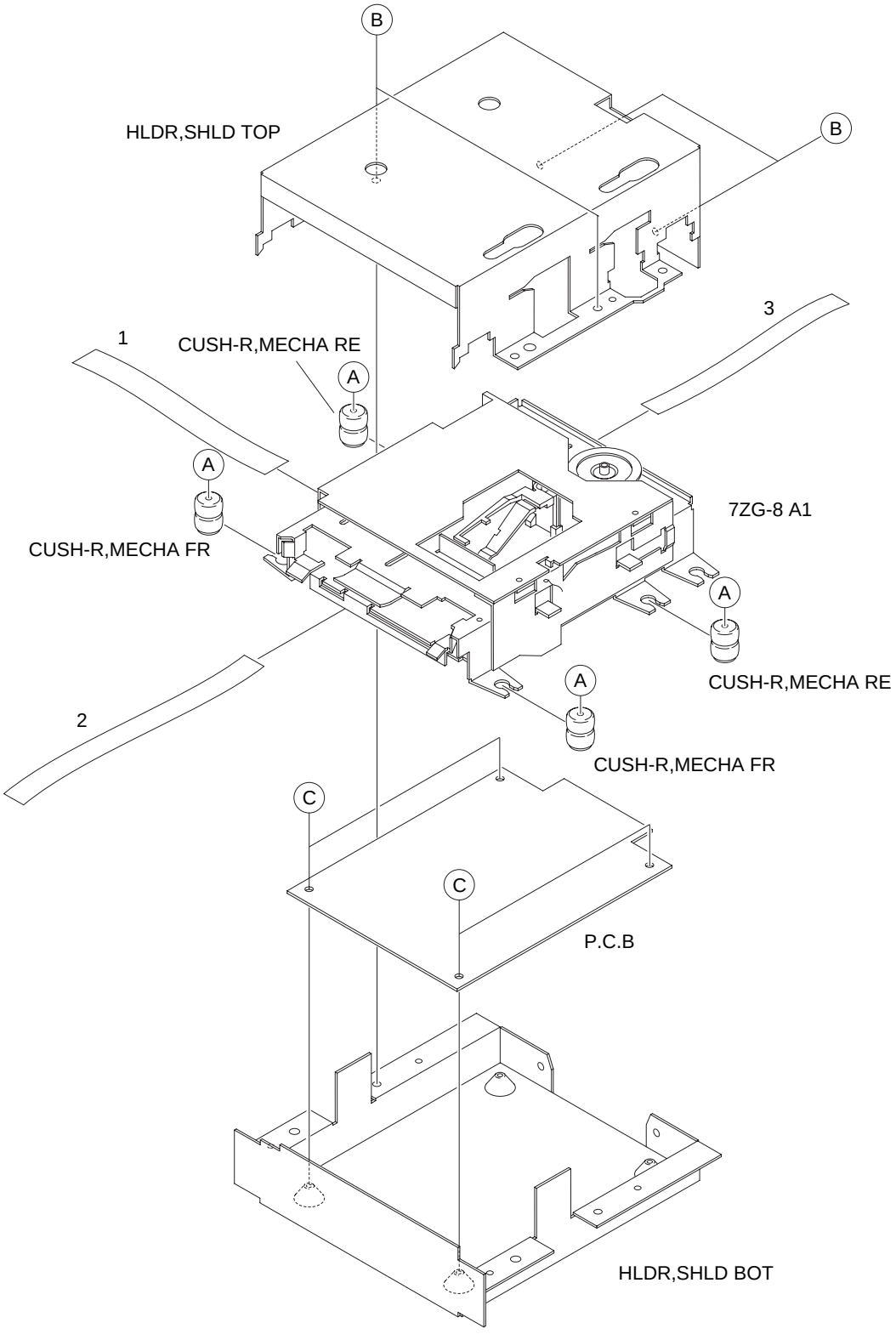


CD MECHANISM PARTS LIST 2/2

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	83-ZG2-243-210		CHAS ASSY,SHT
2	83-ZG2-235-010		GEAR,A3
3	83-ZG2-205-210		GEAR,B
4	83-ZG2-236-010		GEAR MOTOR 3
5	83-ZG2-253-010		SHAFT,SLIDE 5
6	87-A90-836-010		PICKUP,KSS-213F
8	83-ZG2-227-210		TURN TABLE,C1
11	83-ZG2-245-410		LEVER,SHUTTER
12	83-ZG2-250-110		SPR-E,SHT 2
A	87-261-032-210		SCREW V+2-3

MD MECHANISM EXPLODED VIEW 1/3

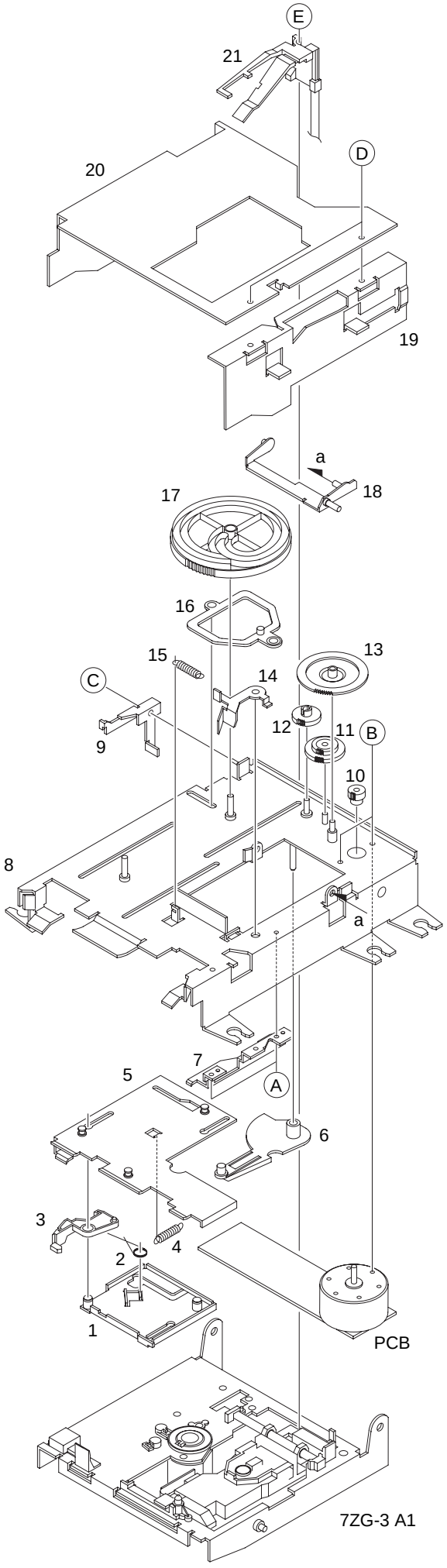


MD MECHANISM PARTS LIST 1/3

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	87-ZG9-602-010		FF-CABLE,21P 0.5 90MM
2	87-ZG9-603-010		FF-CABLE,8P 1.0 120MM
3	87-ZG9-604-010		FF-CABLE,5P 1.25 100MM
A	87-ZG9-206-010		S-SCREW,MD
B	87-067-688-010		BVTT+3-6
C	87-067-421-010		VTT+2-4

MD MECHANISM EXPLODED VIEW 2/3

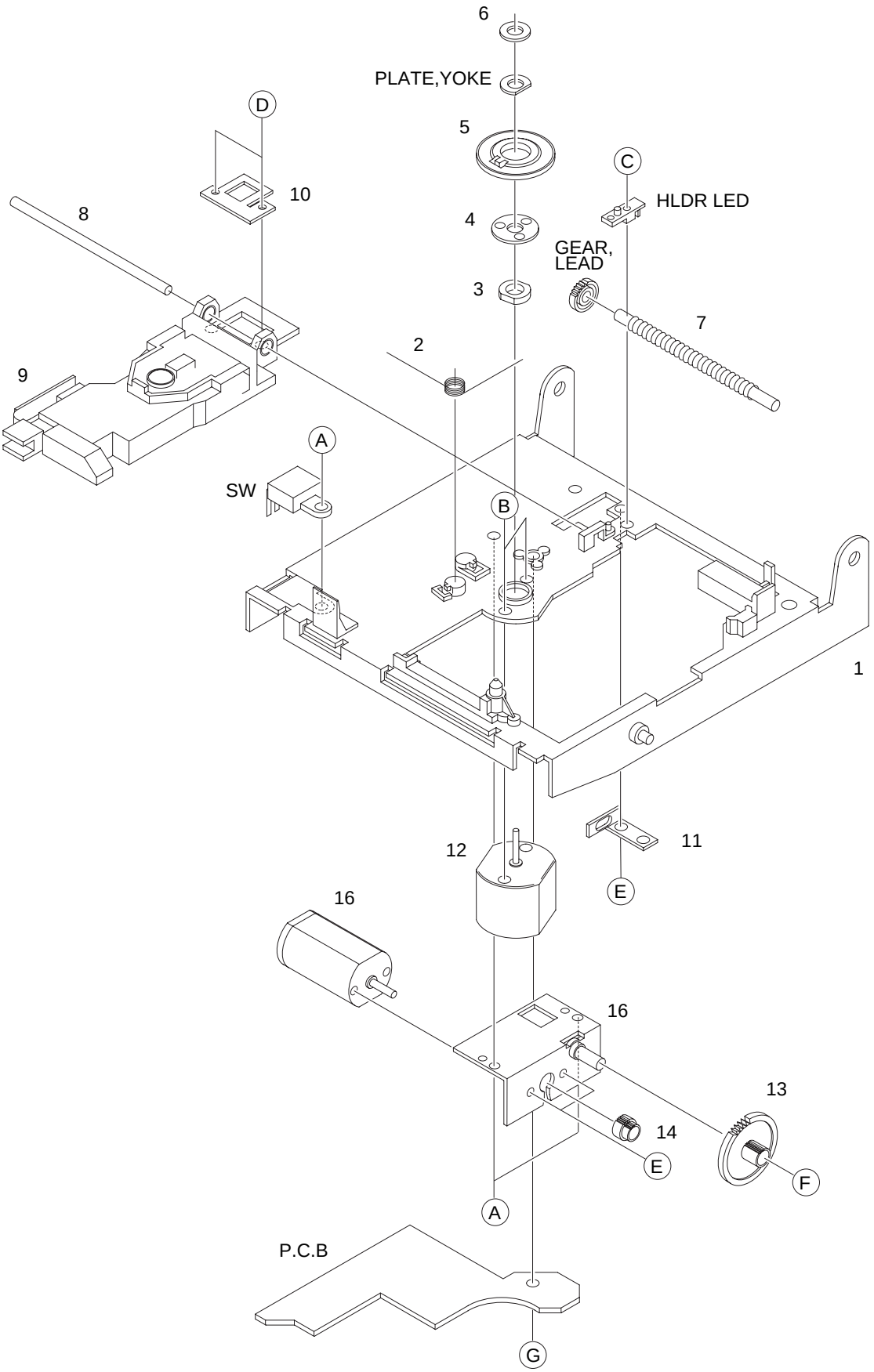


MD MECHANISM PARTS LIST 2/3

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	87-ZG8-220-110		PLATE ASSY,LATCH
2	87-ZG8-259-010		SPR-T,LATCH
3	87-ZG8-230-110		LEVER,LATCH
4	87-ZG8-224-110		SPR-E,LATCH
5	87-ZG8-214-110		HLDR ASSY,CARTRIGE
6	87-ZG8-233-010		LEVER,SW H
7	87-ZG8-255-110		PLATE,CARTRIGE
8	87-ZG8-201-210		CHAS ASSY,MAIN
9	87-ZG8-256-010		LEVER,SW S2
10	87-ZG8-242-010		GEAR,MOT
11	87-ZG8-253-010		GEAR,REDUCTION S3
12	87-ZG8-246-010		GEAR,IDLER 2
13	87-ZG8-252-010		GEAR,REDUCTION L3
14	87-ZG8-231-010		LEVER,SHUTTER
15	87-ZG8-232-010		SPR-E,SHUTTER
16	87-ZG8-225-110		LEVER ASSY,CAM
17	87-ZG8-239-010		CAM,LOAD
18	87-ZG8-257-110		LEVER ASSY,REC
19	87-ZG8-213-010		PLATE,SLIDE R
20	87-ZG8-209-010		PLATE ASSY,SLIDE L
21	87-A90-605-010		HEAD,OWH RF325-74A
A	87-B10-129-010		VTT+1.7-3.5 W/O MFZN2-C
B	87-B10-128-010		V+1.7-2 W/O MFZN2-C
C	87-B10-130-010		W-P,1.23-3.1-0.25 SLIT
D	87-067-421-010		VTT+2-4
E	87-B10-131-010		VW+1.7-5 W/O MFZN2C

MD MECHANISM EXPLODED VIEW 3/3



MD MECHANISM PARTS LIST 3/3

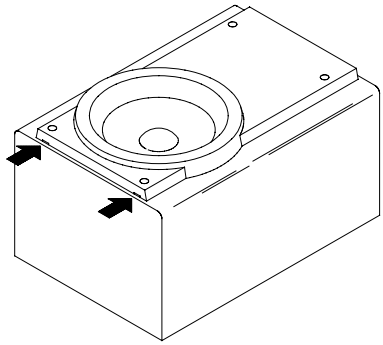
DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	87-ZG3-202-010		CHAS ASSY,OUT-SERT
2	87-ZG3-214-010		SPR-T,SPINDLE-A
3	83-ZG5-308-010		BRG,1.5-2
4	83-ZG5-305-010		SPR-P,DISC
5	83-ZG5-302-010		TURN TABLE,MD1
6	83-ZG5-605-010		MAGNET,CHUCK
7	87-ZG3-212-010		SHAFT,LEAD
8	87-ZG3-211-010		SHAFT,GUIDE
9	87-A90-613-010		PICKUP,KMS-260A
10	87-ZG3-216-010		SPR-P,RACK
11	87-ZG3-213-010		SPR-P,LEAD
12	87-A90-413-010		MOT,FF-110PH 9
13	87-ZG3-206-010		GEAR,A
14	87-ZG3-205-010		GEAR,MOT SL
15	87-ZG3-208-010		HLDR ASSY,MOTOR
16	87-A90-616-010		MOT,FF-N30VA
A	87-261-547-310		V+2-3 BLK (1)
B	87-263-523-310		SCREW, V+1.7-2
C	87-261-509-310		SCREW, V+1.4-4
D	87-067-393-010		SCREW +1.4-1.4
E	87-261-503-310		PRECISION SCREW, V+1.4-2
F	87-078-033-010		PW 1.2-2.5-0.25 SLT
G	87-341-035-210		SCREW,UT1+2-6

SPEAKER DISASSEMBLY INSTRUCTIONS

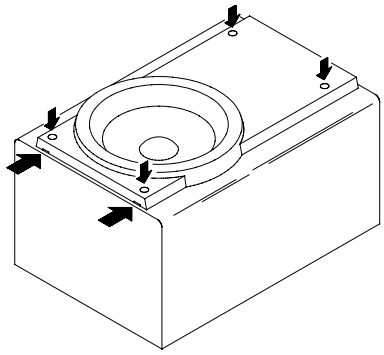
Type.1

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



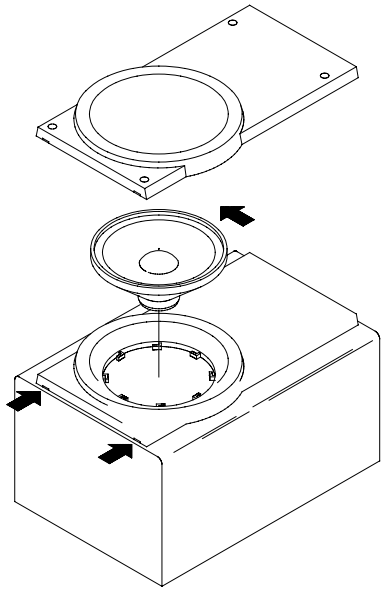
Type.2

Remove the grill frame and four pieces of rubber caps by pulling out with a flat-bladed screwdriver. Remove the screws from hold 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.

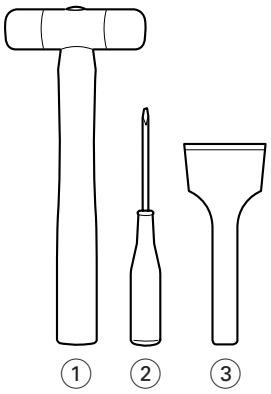


Type.3

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 arround speaker unit, and then remove the speaker unit. After replacing the speaker unit, install it turnning to clock-wise direction unitil "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.

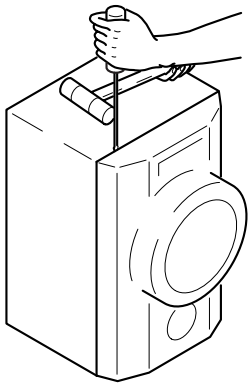


Fig-1

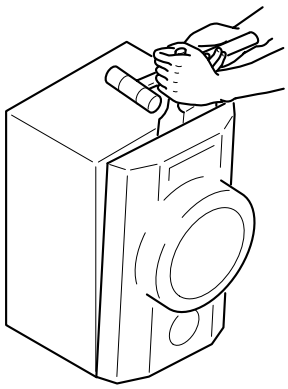


Fig-2

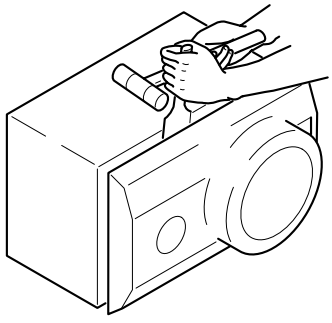


Fig-3

How to Attach the PANEL, FR

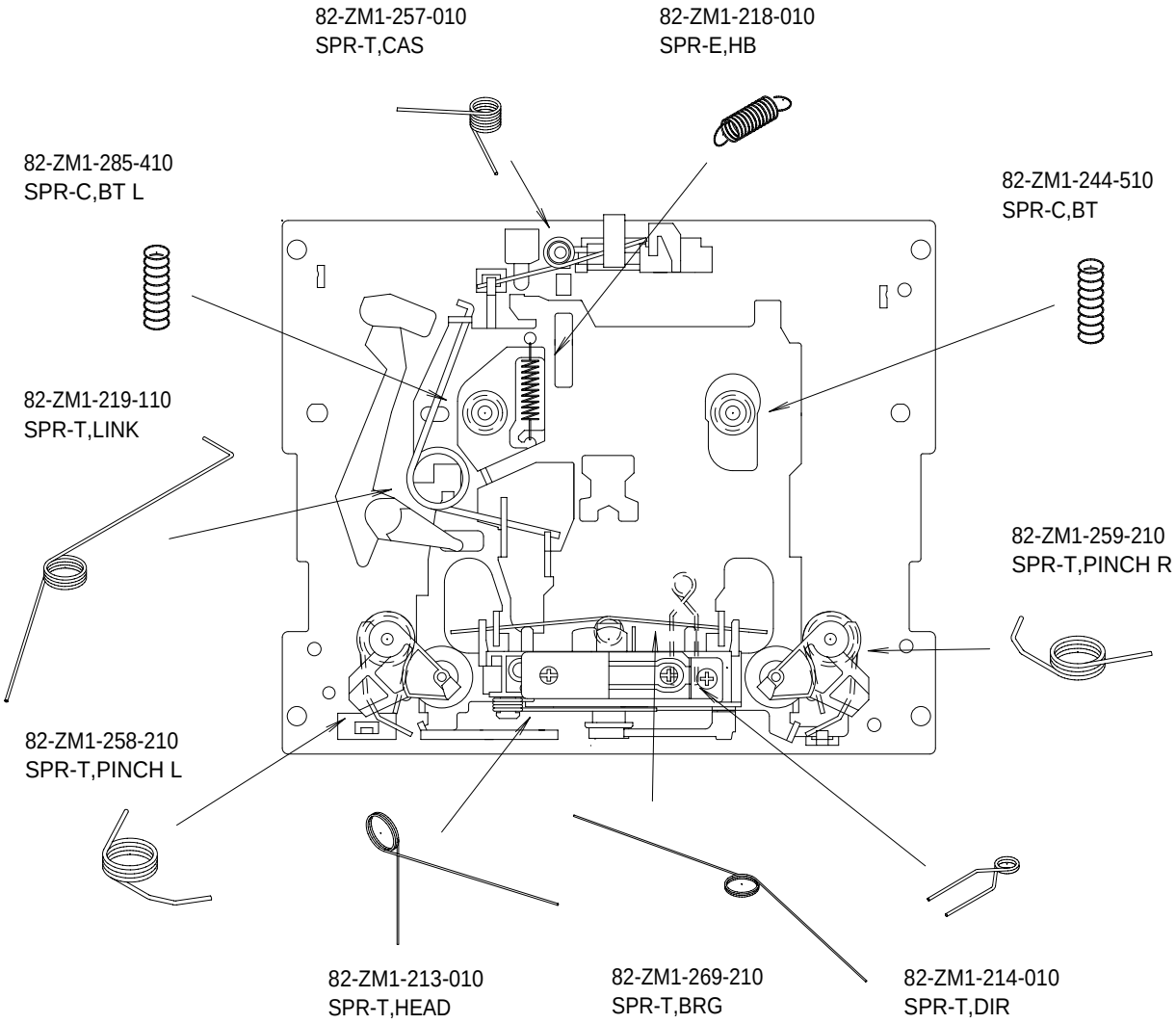
Attach the PANEL, FR to the PANEL, SPKR. Tap the four corners of the PANEL, FR with the plastic hammer to fit the PANEL, FR into the PANEL, SPKR completely.

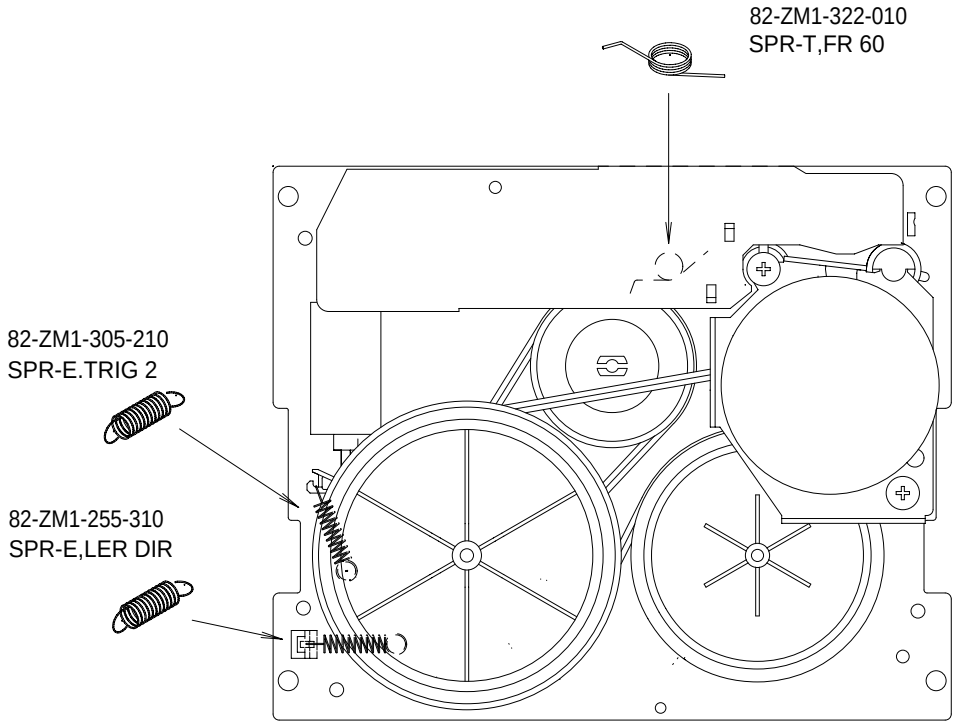
SPEAKER PARTS LIST 1/1

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	8Z-CL4-962-010		40B-FZCL-4,PANEL FRONT
2	8Z-CL4-963-010		40B-TZCL-4,PANEL TW
3	87-050-103-010		CORD,PIN 1PY1.5M
4	8Z-CL4-966-010		GRILLE ASSY,FRAME S
5	87-NSG-606-010		SPKR TW60
6	88-CL3-948-010		SPKR,W 130

SPRING APPLICATION POSITION





ACCESSORIES/PACKAGE LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	87-043-115-010		ANT,FEEDER FM
2	87-A90-030-010		ANT,LOOP AM-NC C
3	8Z-CG4-911-010		IB,H(EC-H)S<HRJ>
4	8Z-CG4-901-010		IB,H(EC-K)S<HC1>
5	8Z-CG8-952-010		RC UNIT,RC-ZATXX

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