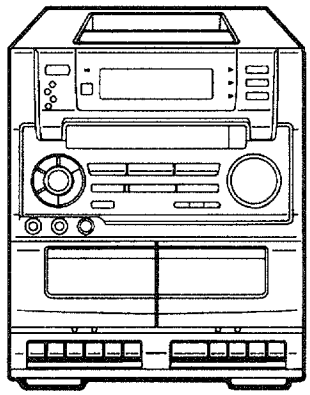
aiwa

aiwa SERVICE

CA-DW620



CD CARRY COMPONENT SYSTEM

- BASIC TAPE MECHANISM: TN-21ZSW-1691
- BASIC CD MECHANISM: 3ZG-3 A6N

•TYPE: U,LH

SERVICE MANUAL

REVISION PUBLISHING

This Service Manual is the "Revision Publishing" and replaces "Simple Manual" (S/M Code No. 09-97A-203-70T).

S/M Code No. 09-97B-226-90T

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SPECIFICATIONS

LH MODEL

Tuner section

FM 87.5 - 108.0 MHz
Antenna: Rod antenna

AM 530 - 1,710 kHz
(10 kHz steps)
531 - 1,602 kHz
(9 kHz steps)
Antenna: Ferrite bar antenna

Amplifier section

Power output 5W + 5W (4 ohms, EIAJ)

Power requirements
DC 12 V using eight size D (R20) batteries
AC 110-120 V/220-240 V selectable, 50/60 Hz

Power consumption
30 W

CD player section

Disc Compact disc

Scanning method Non-contact optical laser
(semiconductor laser application)

Laser Semiconductor laser
λ = 780 nm

Rotation speed Approx. 500 - 200 rpm/ CLV

Error correction Cross Interleave, Reed Solomon code

Number of channels
2 channels

D/A conversion 1-bit dual

Cassette deck section

Track format 4 tracks, 2 channels

Frequency response
Normal tape: 50-12,000 Hz (EIAJ)

Recording system
AC bias

Erasure system Magnet erase

Motor DC motor (1)

Heads Deck 1
Recording/playback head (1)
Erasure head (1)
Deck 2
Playback head (1)

Common section

Dimensions (W × H × D)
266 × 303.7 × 274.1 mm

Weight 4.3 kg (not including batteries)

Speaker

Cabinet type 2-way bass reflex type

Speaker 120 mm (4¾ in.) cone type woofer
27 mm (1⅛ in.) ceramic type tweeter

Impedance 4 ohms

Allowable max. input
10 W

Dimensions (W × H × D)
200 × 303.7 × 236.5 mm

Weight 1.75 kg

● Design and specifications are subject to change without notice.

U MODEL

Tuner section

FM 87.5 - 108.0 MHz
Antenna: Rod antenna

AM 530 - 1,710 kHz
(10 kHz steps)
531 - 1,602 kHz
(9 kHz steps)
Antenna: Ferrite bar antenna

Amplifier section

Power output 5W + 5W (4 ohms, EIAJ)
FTC rule
4 Watts per channel, Min.
RMS at 4 ohms from 65 Hz to 15,000 Hz, With no more than 1 % distortion

Power requirements
DC 12 V using eight size D (R20) batteries
AC 120 V, 60 Hz

Power consumption
30 W

CD player section

Disc Compact disc

Scanning method Non-contact optical laser
(semiconductor laser application)

Laser Semiconductor laser
λ = 780 nm

Rotation speed Approx. 500 - 200 rpm/ CLV

Error correction Cross Interleave, Reed Solomon code

Number of channels
2 channels

D/A conversion 1-bit dual

Cassette deck section

Track format 4 tracks, 2 channels

Frequency response
Normal tape: 50-12,000 Hz (EIAJ)

Recording system
AC bias

Erasure system Magnet erase

Motor DC motor (1)

Heads Deck 1
Recording/playback head (1)
Erasure head (1)
Deck 2
Playback head (1)

Common section

Dimensions (W × H × D)
266 × 303.7 × 274.1 mm (10½ × 12 × 10⅞ in.)

Weight 4.3 kg (9 lbs 8 oz) (not including batteries)

Speaker

Cabinet type 2-way bass reflex type

Speaker 120 mm (4¾ in.) cone type woofer
27 mm (1⅛ in.) ceramic type tweeter

Impedance 4 ohms

Allowable max. input
10 W

Dimensions (W × H × D)
200 × 303.7 × 236.5 mm (8 × 12 × 9⅜ in.)

Weight 1.75 kg (3 lbs 14 oz)

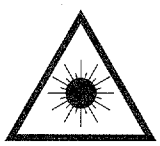
● Design and specifications are subject to change without notice.

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.

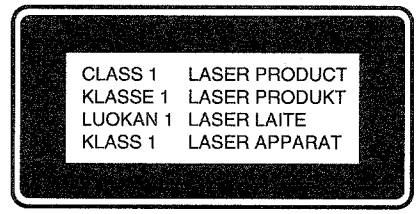
ATTENTION

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.

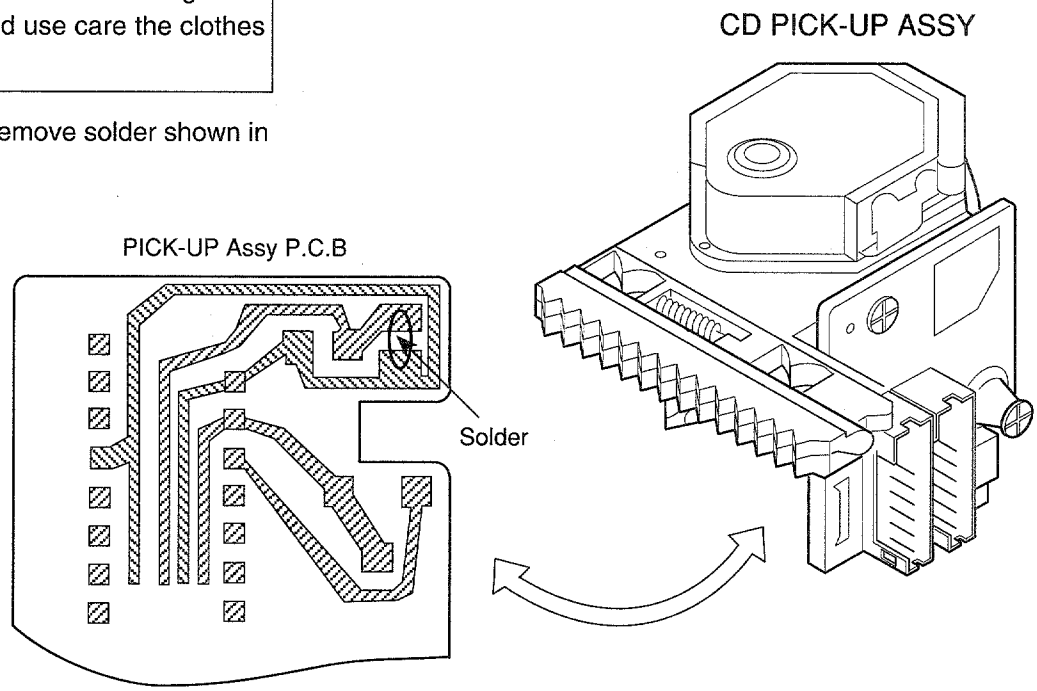
This Compact Disc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the rear exterior.



Precaution to replace Optical block (KSS-212A)

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.



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			
	87-001-440-010		IC,BA15218N
	87-020-828-010		IC,BA3416BL
	87-070-282-010		IC,BU2092
	87-017-804-010		IC,BU4052BC
	87-002-444-010		IC,BU4094B
	87-070-083-010		IC,GP1U281X
⚠	87-001-132-080		IC,ICP-N38
⚠	87-002-330-080		IC,ICP-N5
	87-002-268-010		IC,LA1851N
	87-001-376-010		IC,LC7218
	87-017-564-010		IC,LC7533
	84-CT4-640-010		IC,LC867116W-5844
	SI-NS7-805-00C		IC,LM7805
	87-017-787-010		IC,M62412P
	87-027-235-010		IC,NJM4558DD
	87-001-596-010		IC,NJM4580L
	87-070-416-010		IC,NJU7201L55
	87-017-801-080		IC,TA2058F
	87-070-134-010		IC,TA2065F
	87-001-982-010		IC,TA7291S
	87-017-681-010		IC,TA8126SN
	87-017-680-010		IC,TA8176SN
	87-002-848-010		IC,TA8229K
	87-070-101-010		IC,TC9284AF
TRANSISTOR			
	89-110-155-010		TR,2SA1015-GR
	89-112-964-010		TR,2SA1296GR
	89-113-187-080		TR,2SA1318T/U
	87-026-463-010		TR,2SA933S
	89-109-521-210		TR,2SA952/K/L
	89-213-702-010		TR,2SB1370E/F
	87-026-447-080		TR,2SC1740S
	89-318-154-010		TR,2SC1815-BL
	86-NFZ-657-080		TR,2SC1923(O)
	89-320-011-210		TR,2SC2001/K
	89-322-405-080		TR,2SC2240GR
	89-414-680-080		TR,2SD1468S
	89-501-615-080		TR,2SK161
	89-502-464-010		TR,2SK246Y
	87-026-572-080		TR,DTA114TS
	87-026-286-010		TR,DTA143ES
	87-026-486-010		TR,DTA144TS
	87-026-464-010		TR,DTC114TS
	87-026-291-010		TR,DTC124XS
	87-026-287-010		TR,DTC143ES
DIODE			
	87-020-465-010		DIODE,1SS133
	87-017-625-010		DIODE,GP15B
	82-135-799-010		DIODE,IN4148
	S3-MTZ-J15-A10		ZENER,MTZJ15A
	S0-100-821-210		ZENER,UJZJ8-2B
	87-001-913-080		ZENER,UTZJ5.6B
MAIN C.B			
C64	87-010-544-010		CAP,E 0.1-50V
C103	87-010-248-080		ELECT CAP 220-10V
C104	87-010-035-010		CAP,E 2.2-50V
C108	87-010-053-810		CAP,E 1-50V
C109	87-010-053-810		CAP,E 1-50V
C110	87-010-053-810		CAP,E 1-50V
C111	87-010-546-080		CAP,E 0.33-50V
C113	87-010-404-010		CAP,E 4.7-50V
C116	87-010-037-010		CAP,E 10-50V
C131	87-010-545-010		CAP,E 0.22-50V
C132	87-010-221-010		CAP,E 470-10V
C142	87-010-221-010		CAP,E 470-10V
C160	87-010-263-080		ELECT CAP 100-10V
C167	87-010-403-010		CAP,E 3.3-50V
C194	87-010-263-080		ELECT CAP 100-10V
C195	87-010-380-010		CAP,E 47-16V
C305	87-010-380-010		CAP,E 47-16V
C306	87-010-380-010		CAP,E 47-16V
C307	87-010-038-010		CAP,E 22-25V
C308	87-010-037-010		CAP,E 10-50V
C309	87-010-545-010		CAP,E 0.22-50V
C310	87-010-545-010		CAP,E 0.22-50V
C311	87-010-248-080		ELECT CAP 220-10V
C312	87-010-380-010		CAP,E 47-16V
C315	87-010-053-810		CAP,E 1-50V
C316	87-010-053-810		CAP,E 1-50V
C317	87-010-038-010		CAP,E 22-25V
C318	87-010-038-010		CAP,E 22-25V
C319	87-010-037-010		CAP,E 10-50V
C320	87-010-037-010		CAP,E 10-50V
C327	87-010-404-010		CAP,E 4.7-50V
C331	87-010-380-010		CAP,E 47-16V
C351	87-010-053-810		CAP,E 1-50V
C501	87-010-053-810		CAP,E 1-50V
C502	87-010-053-810		CAP,E 1-50V
C503	87-010-053-810		CAP,E 1-50V
C504	87-010-053-810		CAP,E 1-50V
C505	87-010-263-080		ELECT CAP 100-10V
C531	87-010-053-810		CAP,E 1-50V
C532	87-010-053-810		CAP,E 1-50V
C539	87-010-545-010		CAP,E 0.22-50V
C540	87-010-545-010		CAP,E 0.22-50V
C541	87-010-260-080		CAP,E 47-25V
C571	87-010-053-810		CAP,E 1-50V
C572	87-010-053-810		CAP,E 1-50V
C573	87-010-053-810		CAP,E 1-50V
C574	87-010-053-810		CAP,E 1-50V
C579	87-010-380-010		CAP,E 47-16V
C580	87-010-053-810		CAP,E 1-50V
C581	87-010-544-010		CAP,E 0.1-50V
C582	87-010-221-010		CAP,E 470-10V
C583	87-010-263-080		ELECT CAP 100-10V
C591	87-010-053-810		CAP,E 1-50V
C592	87-010-053-810		CAP,E 1-50V
C607	87-010-038-010		CAP,E 22-25V
C608	87-010-038-010		CAP,E 22-25V
C609	87-010-260-080		CAP,E 47-25V
C613	87-010-263-080		ELECT CAP 100-10V
C614	87-010-263-080		ELECT CAP 100-10V
C615	87-010-376-010		CAP,E 2200-10V
C616	87-010-376-010		CAP,E 2200-10V
C621	87-010-260-080		CAP,E 47-25V
C622	87-010-387-080		CAP,E 470-25V
C623	87-010-546-080		CAP,E 0.33-50V
C624	87-010-546-080		CAP,E 0.33-50V
C625	87-010-037-010		CAP,E 10-50V
C641	87-010-248-080		ELECT CAP 220-10V
C720	87-010-037-010		CAP,E 10-50V
C721	87-010-698-010		CAP,E 4700-25V
C722	87-010-385-010		CAP,E 220-25V
C723	87-010-248-080		ELECT CAP 220-10V
C726	87-010-404-010		CAP,E 4.7-50V
C727	87-010-053-810		CAP,E 1-50V
C728	87-010-221-010		CAP,E 470-10V
C729	87-010-263-080		ELECT CAP 100-10V
C730	87-010-248-080		ELECT CAP 220-10V
C741	87-010-263-080		ELECT CAP 100-10V
C831	87-010-037-010		CAP,E 10-50V
C832	87-010-053-810		CAP,E 1-50V
CF1	S0-001-070-000		CER,FIL SFE-10.7MA5-M

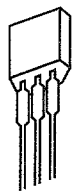
REF. NO	PART NO.	KANRI NO.	DESCRIPTION
CF101	S0-001-070-000		CER,FIL SFE-10.7MA5-M
CT51	S2-001-690-000		TRIMMER TZ03R300FR169
IFT101	S0-029-200-070		IFT,292MCAS-A617HM
J601	S0-020-003-500		JACK,HP 3.5MM
J602	S0-003-240-000		TERMINAL,4P
J801	S0-002-420-000		JACK,RCAHSP-242V-05
L4	87-003-098-080		INDUCTOR,2.2UH
L52	S0-091-310-070		I.F.T.PA7BRS-A9131CCG
L61	S0-612-051-200		ANT,COILMW 61T:20T
L151	87-003-143-010		INDUCTOR,4.7UH
L152	87-005-440-080		INDUCTOR,47UH
L191	S0-091-340-070		I.F.T.A7BRCS-A9134
L192	87-005-696-080		INDUCTOR,100UH
L301	S0-091-300-070		I.F.T.126ANS-A9130YWD
MFT101	S0-006-600-070		I.F.T.PCFMT-066
SFR751	S2-020-650-000		SFR,2K
SW301	S0-062-200-010		SW,RECORDING
VC1	87-002-730-010		DIODE,SVC203SPA
VC2	87-002-730-010		DIODE,SVC203SPA
VC3	87-002-730-010		DIODE,SVC203SPA
VC52	81-754-634-010		CAP,VARI KV1260TS2
X101	87-030-218-010		CER,RESO KBR457HS15
X151	S6-072-000-000		X'TAL 7.2 MHz
FRONT C.B			
C7	87-010-400-010		CAP,E 0.47-50V
C8	87-010-053-810		CAP,E 1-50V
C10	87-010-075-040		CAP,E 10-16V
C12	87-010-079-010		CAP,E 100-6.3V
C18	87-010-908-010		CAP,E 220-10V
C98	87-010-263-080		ELECT CAP 100-10V
C404	87-010-053-810		CAP,E 1-50V
C405	87-010-545-010		CAP,E 0.22-50V
C407	87-010-053-810		CAP,E 1-50V
C408	87-010-380-010		CAP,E 47-16V
C409	87-010-263-080		ELECT CAP 100-10V
C410	87-010-037-010		CAP,E 10-50V
C413	87-010-037-010		CAP,E 10-50V
C980	87-010-380-010		CAP,E 47-16V
D4	87-002-285-010		LED,5-5(RED)
D5	87-017-508-080		LED,3MM(GRN)
D6	87-017-508-080		LED,3MM(GRN)
D7	87-017-508-080		LED,3MM(GRN)
D8	87-017-508-080		LED,3MM(GRN)
D9	87-002-285-010		LED,5-5(RED)
D10	87-002-285-010		LED,5-5(RED)
D11	87-002-285-010		LED,5-5(RED)
D21	87-017-719-010		LED GL3EG8 3MM(GRN)
D22	87-017-719-010		LED GL3EG8 3MM(GRN)
D23	87-017-719-010		LED GL3EG8 3MM(GRN)
D24	87-017-719-010		LED GL3EG8 3MM(GRN)
D25	87-017-719-010		LED GL3EG8 3MM(GRN)
D26	87-017-719-010		LED GL3EG8 3MM(GRN)
D27	87-017-719-010		LED GL3EG8 3MM(GRN)
D28	87-017-719-010		LED GL3EG8 3MM(GRN)
D29	87-017-719-010		LED GL3EG8 3MM(GRN)
D30	87-017-719-010		LED GL3EG8 3MM(GRN)
D33	87-017-719-010		LED GL3EG8 3MM(GRN)
D34	87-017-719-010		LED GL3EG8 3MM(GRN)
D35	87-017-719-010		LED GL3EG8 3MM(GRN)
D36	87-017-719-010		LED GL3EG8 3MM(GRN)
J1	S0-515-460-000		JACK,MIC 3.5MM
L10	87-005-647-080		COIL,10UH
L11	87-005-647-080		COIL,10UH
LCD1	S1-120-040-350		LCD,AIW4035T-30P
SW1	87-036-170-080		SW,TACT
SW2	87-036-170-080		SW,TACT
SW3	87-036-170-080		SW,TACT
SW4	87-036-170-080		SW,TACT
SW5	87-036-170-080		SW,TACT
SW7	87-036-170-080		SW,TACT
SW8	87-036-170-080		SW,TACT
SW9	87-036-170-080		SW,TACT
SW10	87-036-170-080		SW,TACT
SW11	87-036-170-080		SW,TACT
SW12	87-036-170-080		SW,TACT
SW13	87-036-170-080		SW,TACT
SW14	87-036-170-080		SW,TACT
SW15	87-036-170-080		SW,TACT
SW16	87-036-170-080		SW,TACT
SW17	87-036-170-080		SW,TACT
SW18	87-036-170-080		SW,TACT
SW19	87-036-170-080		SW,TACT
SW20	87-036-170-080		SW,TACT
SW21	87-036-170-080		SW,TACT
VR401	SE-111-032-010		RES,VARIABLE 10KA
X1	S3-327-680-000		X,TAL 32.768KHZ
X2	87-030-214-080		RESONATOR KBR-6
CD C.B			
C4	87-010-380-010		CAP,E 47-16V
C5	87-010-380-010		CAP,E 47-16V
C6	87-010-263-080		ELECT CAP 100-10V
C9	87-010-037-010		CAP,E 10-50V
C10	87-010-380-010		CAP,E 47-16V
C13	87-010-037-010		CAP,E 10-50V
C14	87-010-038-010		CAP,E 22-25V
C15	87-010-403-010		CAP,E 3.3-50V
C16	87-010-053-810		CAP,E 1-50V
C22	87-010-265-010		CAP,E 33-16V
C26	87-010-263-080		ELECT CAP 100-10V
C35	87-010-263-080		ELECT CAP 100-10V
C38	87-010-404-010		CAP,E 4.7-50V
C44	87-010-248-080		ELECT CAP 220-10V
C48	87-010-380-010		CAP,E 47-16V
C50	87-010-380-010		CAP,E 47-16V
C70	87-010-045-010		CAP,E 100-25V
C85	87-010-053-810		CAP,E 1-50V
C124	87-010-263-080		ELECT CAP 100-10V
C126	87-010-221-010		CAP,E 470-10V
C132	87-010-545-010		CAP,E 0.22-50V
C361	87-010-035-010		CAP,E 2.2-50V
C363	87-010-221-010		CAP,E 470-10V
C364	87-010-263-080		ELECT CAP 100-10V
C377	87-010-035-010		CAP,E 2.2-50V
FB1	S1-011-620-000		FERRITE BEAD INDUCTOR
FB2	S1-011-620-000		FERRITE BEAD INDUCTOR
L1	87-005-196-080		INDUCTOR,10UH
L302	87-005-495-080		INDUCTOR 680UH
SFR1	S1-030-850-000		SFR,10K
SFR2	87-024-176-080		SFR,100K
SFR3	87-024-176-080		SFR,100K
SFR4	87-024-176-080		SFR,100K
X1	S0-016-930-000		CER,RESO
POWER C.B			
⚠	S7-900-000-000		FUSE HOLDER
C743	87-010-404-010		CAP,E 4.7-50V
⚠F701	S0-315-200-010		FUSE,3.15A/250V<U>
⚠F701	S0-315-200-030		FUSE,3.15A/250V<LH>
DRIVE C.B			
SW1	87-036-340-019		SW,LEAF LSA-1121
M1	87-045-358-019		MOT,RF-310TA 43
M2	87-045-356-019		MOT,RF-310TA 30

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
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

TRANSISTOR ILLUSTRATION

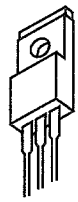
ECB

2SA952
2SA1015
2SA1296
2SA1318
2SC1815
2SC1923
2SC2001
2SC2240



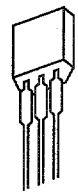
ECB

2SA933S
2SC1740S
2SD1468S
DTA114TS
DTA143ES
DTA144TS
DTC114TS
DTC124XS
DTC143ES



BCE

2SB1370



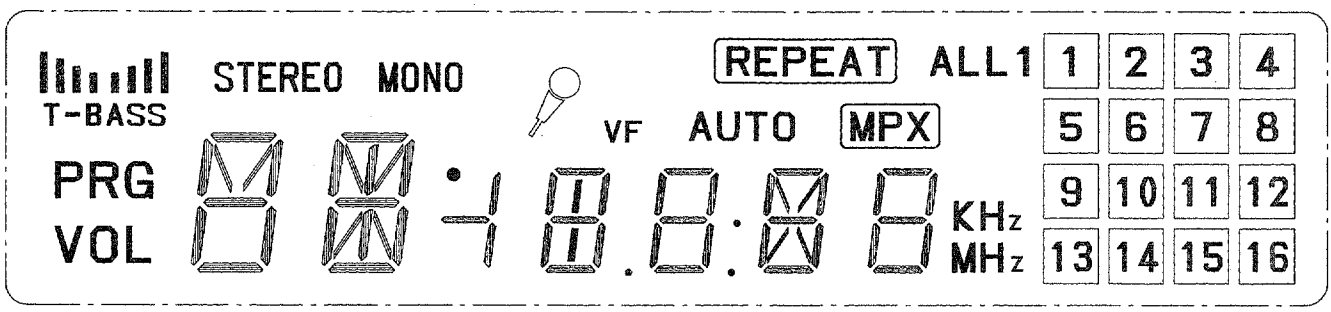
DSG

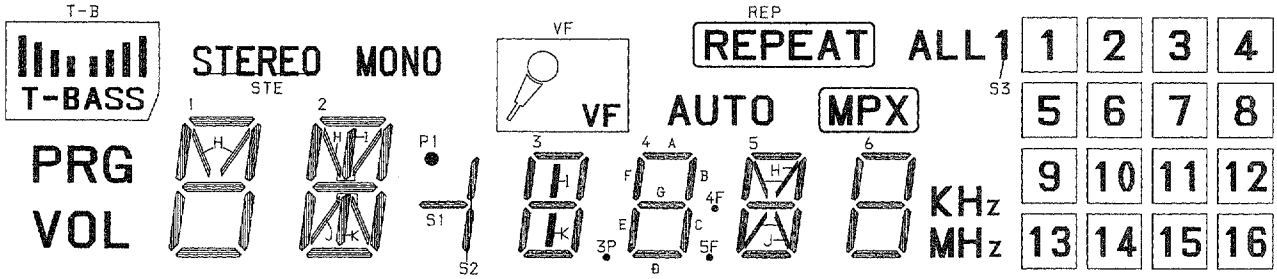
2SK161

SGD

2SK246

LCD DISPLAY (AIW4035T-30P)

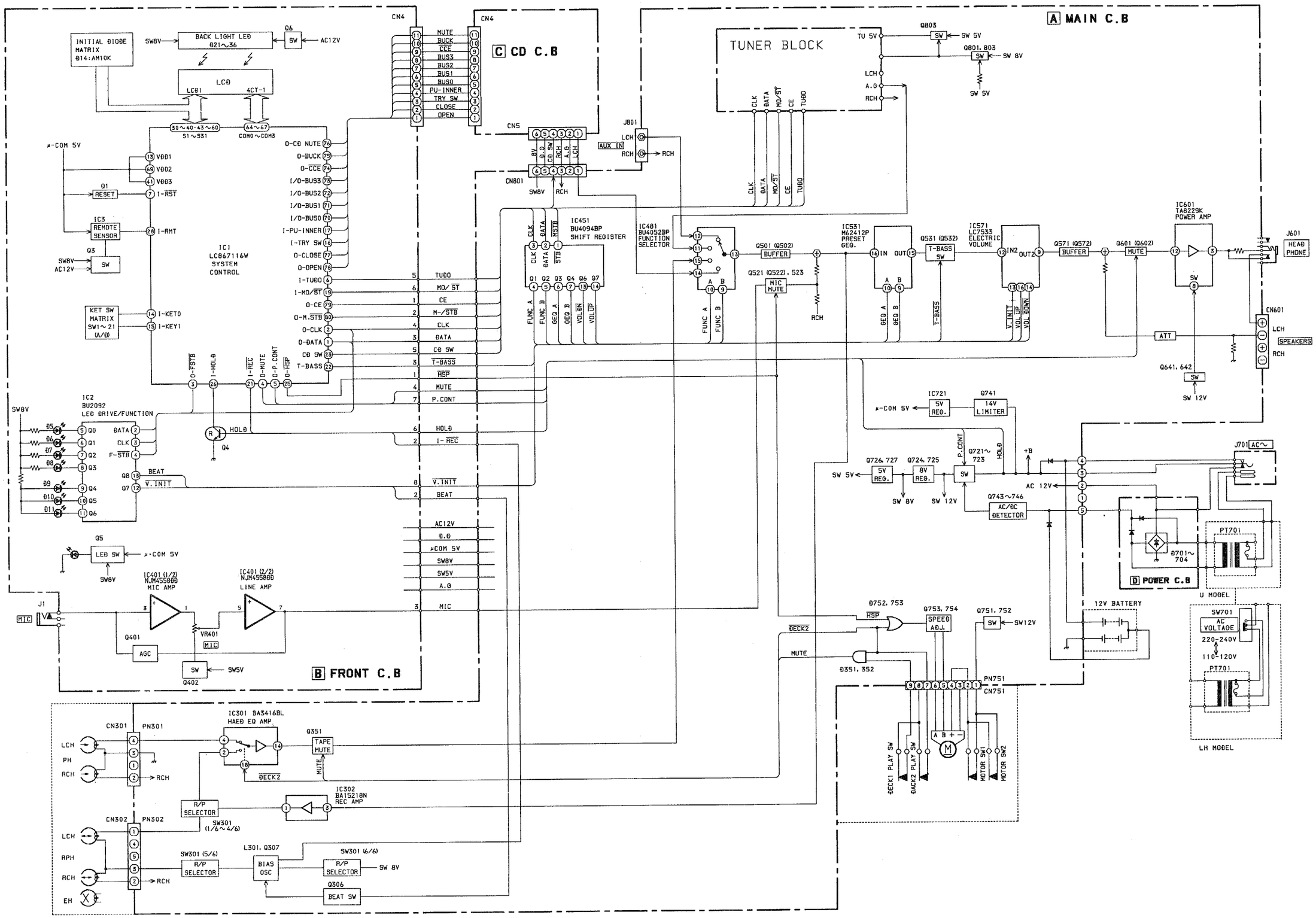




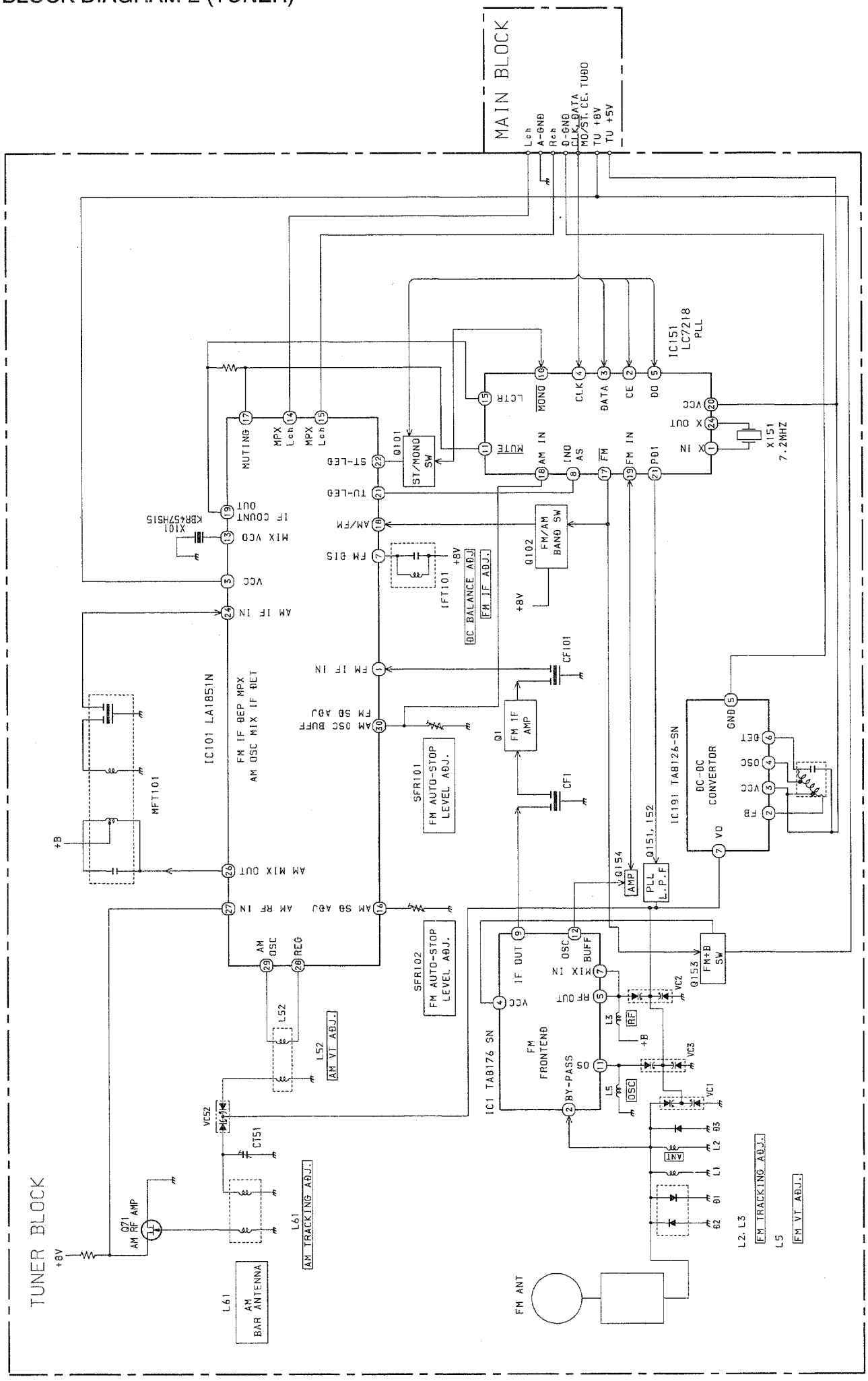
NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
COM1	COM1	—	—	TOB	1A	1H	—	2I	2G	2K	2B	MONO	REP	3F	3A	3B	4F
COM2	—	COM2	—	PRG	1F	1G	1B	2A	2H	2J	2C	P1	VF	3G	3IK	3C	4G
COM3	—	—	COM3	VOL	1B	1Đ	1C	STE	2F	2E	2Đ	S1	S2	3E	3Đ	3P	4E

18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
4B	2A	AUTO	5A	5B	6F	6B	6A	5	6	7	8	4	MPX	ALL
4C	4P	5F	5HJ	5C	6G	6C	KHZ	9	10	11	12	3	—	—
4Đ	5P	5E	5G	5Đ	MHZ	13	MHZ	13	14	15	16	2	1	S3

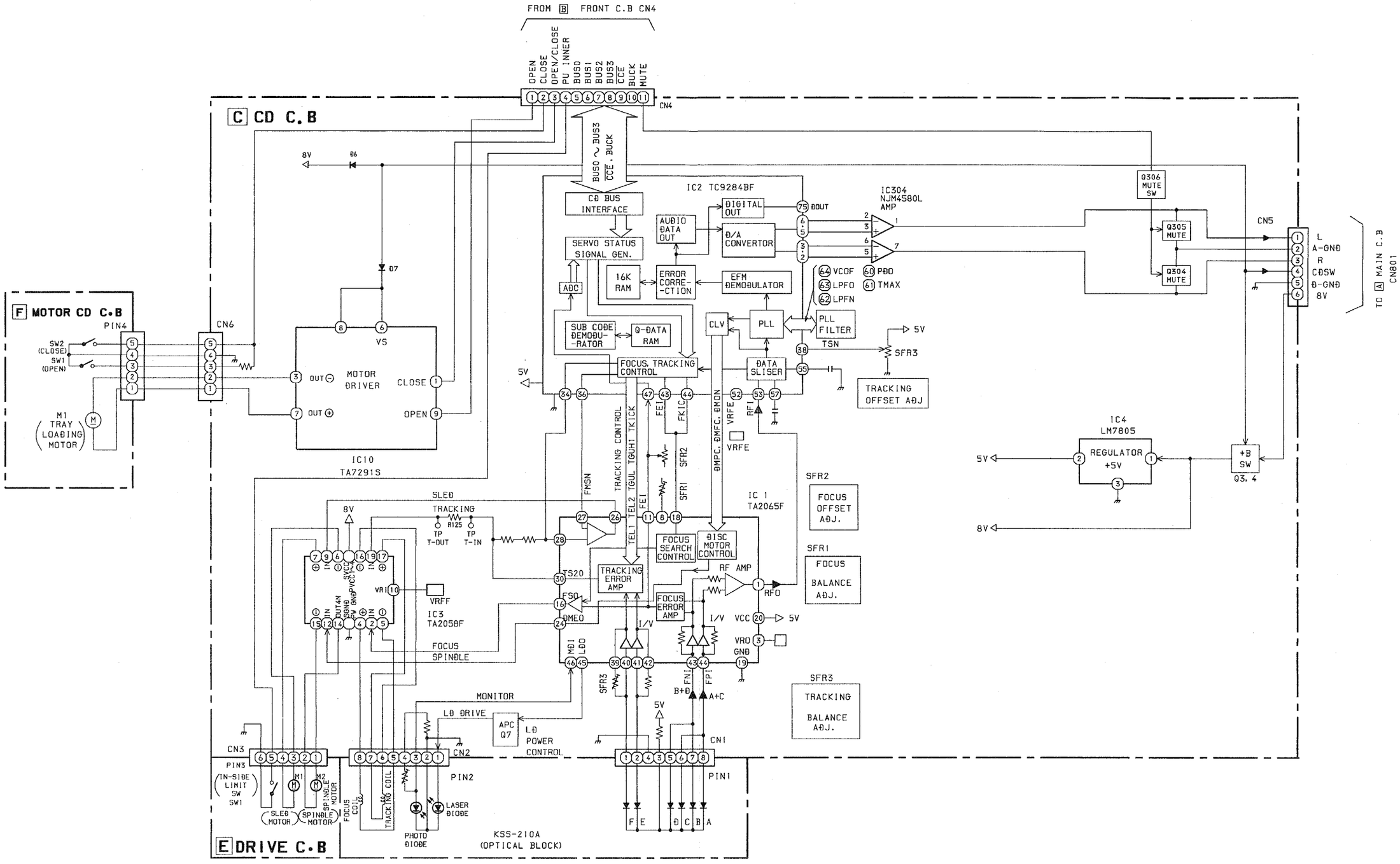
BLOCK DIAGRAM-1 (MAIN)

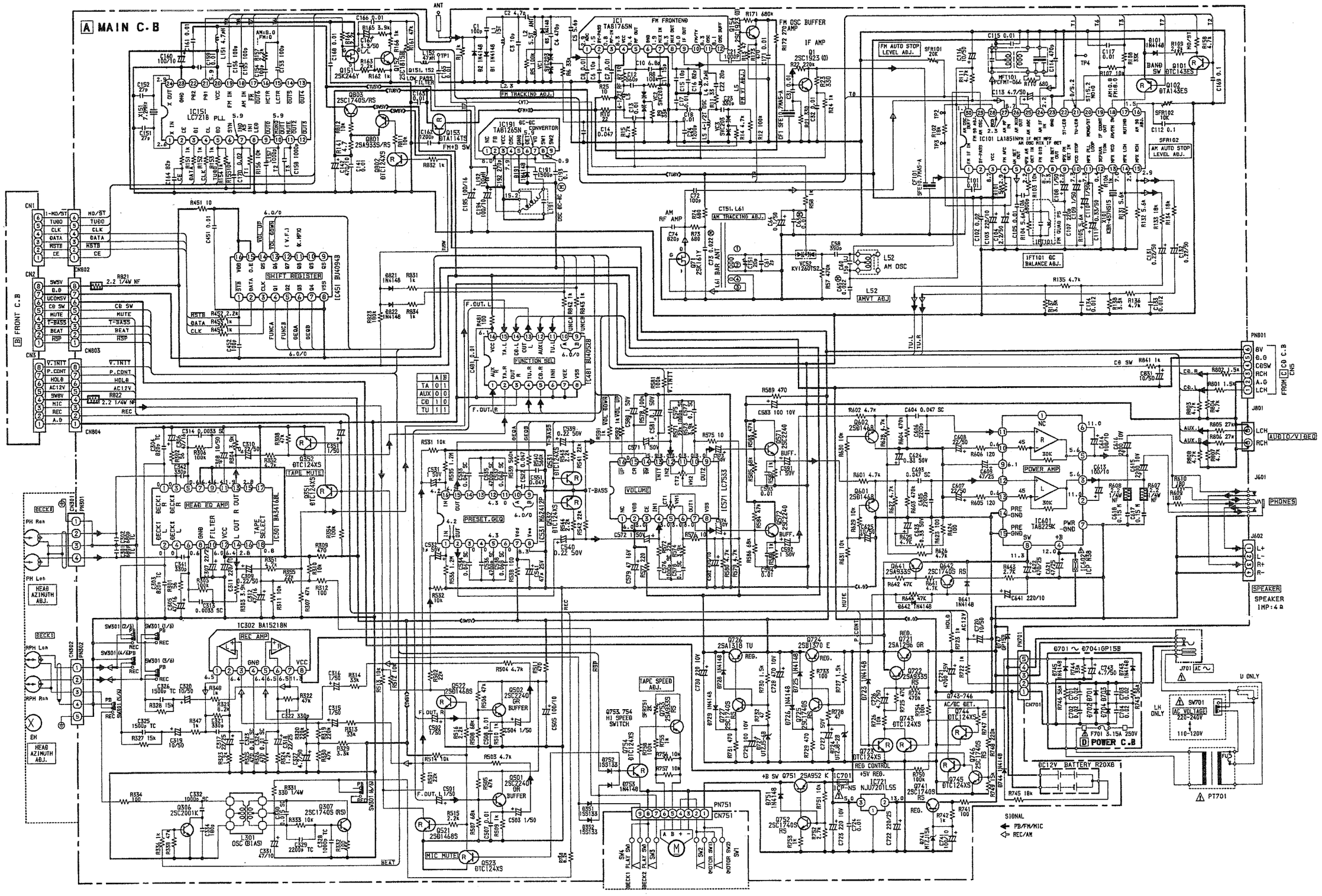


BLOCK DIAGRAM-2 (TUNER)

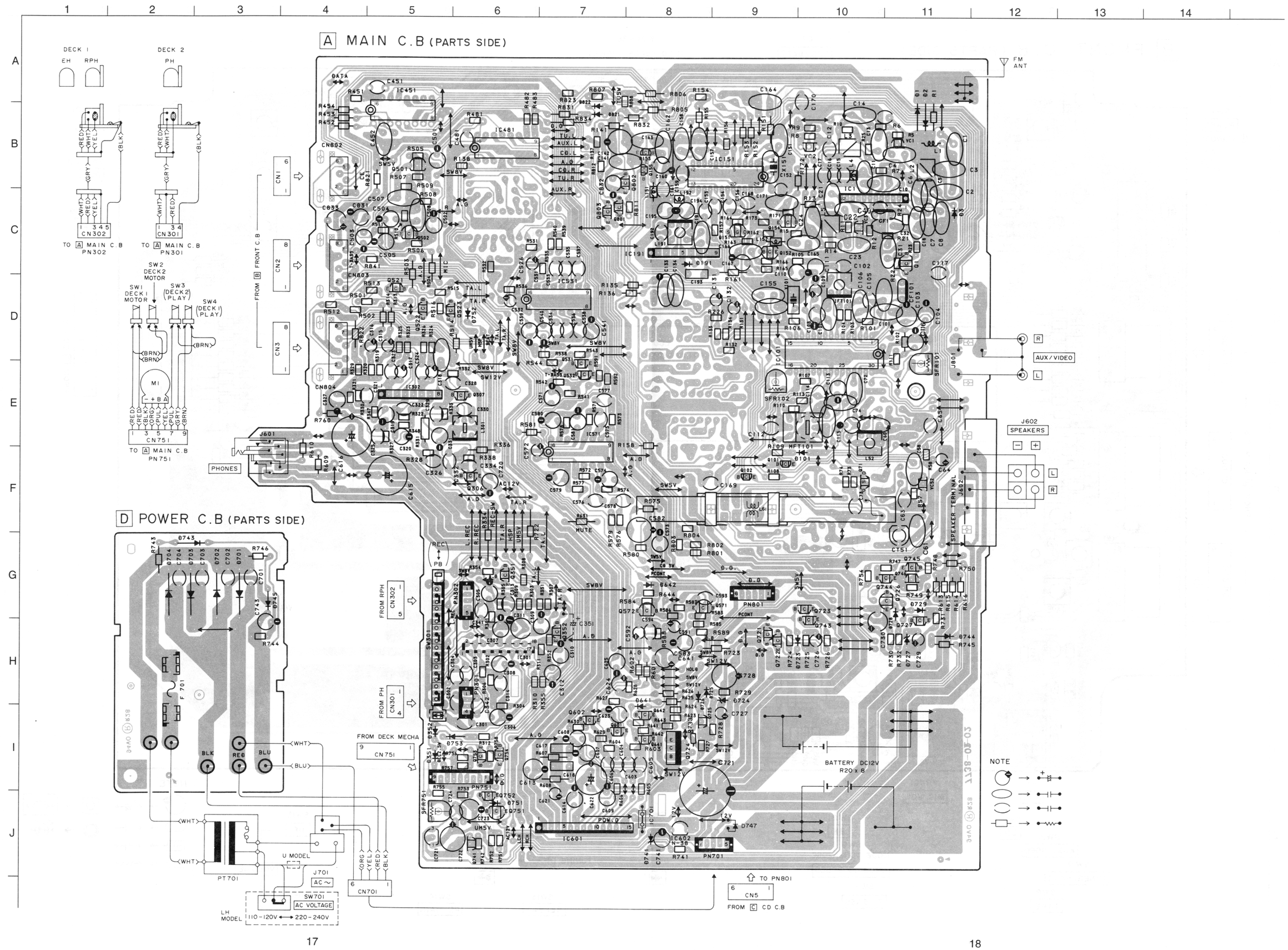


BLOCK DIAGRAM-3 (CD)

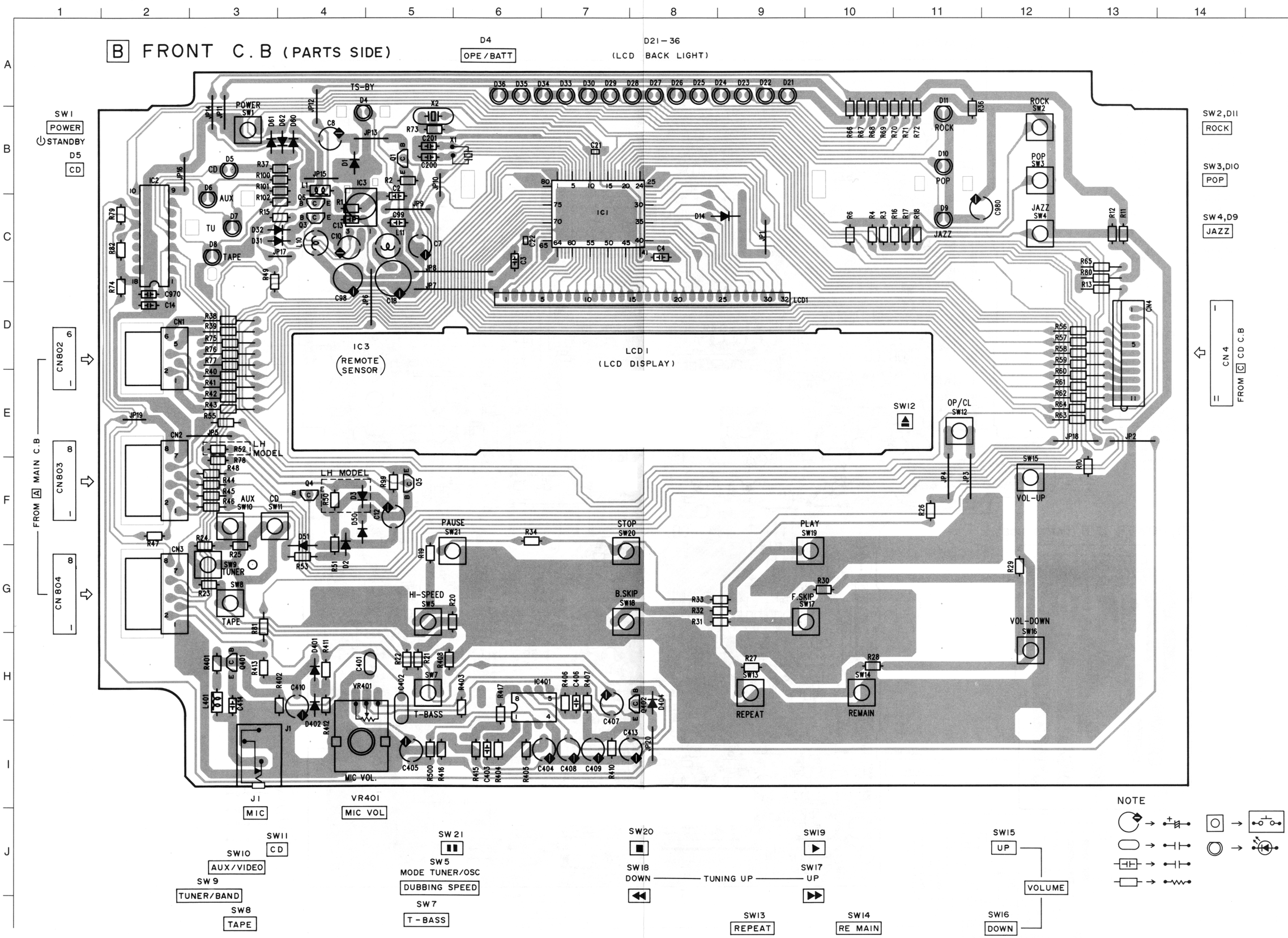



A MAIN C.B
B FRONT C.B
D POWER C.B
CN1
CN2
CN3
CN802
CN803
CN804
CN5
PN801
J801
J601
J602
J701
PN701
CN701
PN751
CN751
IC151 LC7218 PLL
IC191 GC-BC TA8126SN CONVERTOR
IC1 TA8176SN FM FRONTEND
IC451 BU4094B SHIFT REGISTER
IC481 BU4052B FUNCTION SEL
IC501 BA3416BL TAPE SELECT
IC302 BA15218N REC AMP
IC601 TA8225K PWR AMP
IC701 NJU7201L55 +5V REG.
IC721 2SC1740S REG CONTROL
IC101 LA1851NFK
IF AMP
FM OSC BUFFER
AM RF AMP
L52 AM OSC
L52 AMVT ADJ
FM TRACKING ADJ.
AM TRACKING ADJ.
FM AUTO STOP LEVEL ADJ.
AM AUTO STOP LEVEL ADJ.
1FT101 GC BALANCE ADJ.
HEAD AZIMUTH ADJ.
HEAD EQ AMP
REC AMP
PRESET.EQ
VOLUME
POWER AMP
FUNCTION SEL
SHIFT REGISTER
REG CONTROL
TAPE SPEED ADJ.
HI SPEED SWITCH
MUTE
BEAT
AUDIO/VIDEO
PHONES
SPEAKER
SPEAKER IMP:4Ω
AC VOLTAGE 220-240V 110-120V
DC12V BATTERY R20X8
SIGNAL
PB/FM/MIC
REC/AM
FROM C.B CN5
D ONLY
LH ONLY

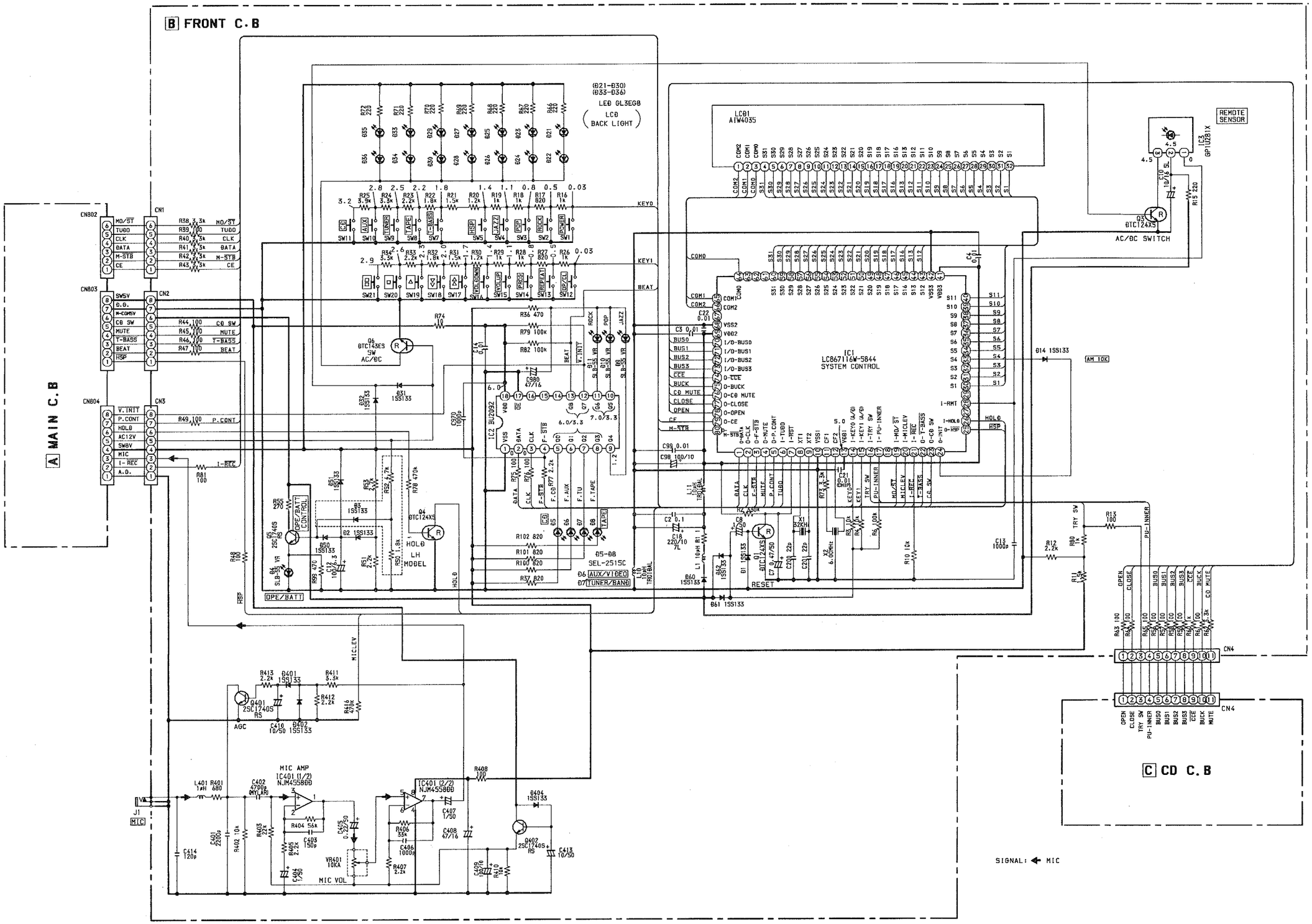
WIRING-1 (MAIN)

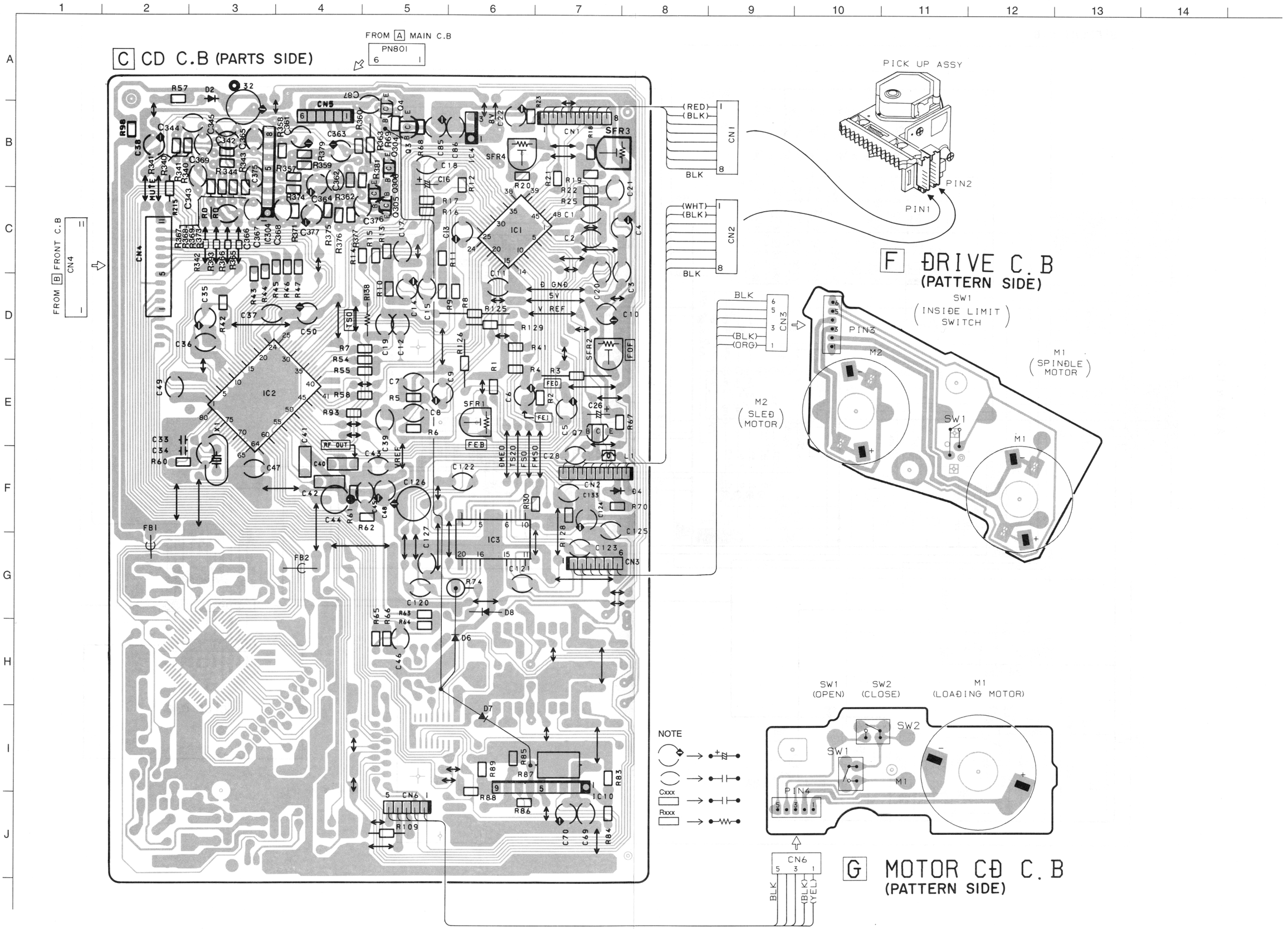


B FRONT C.B (PARTS SIDE)

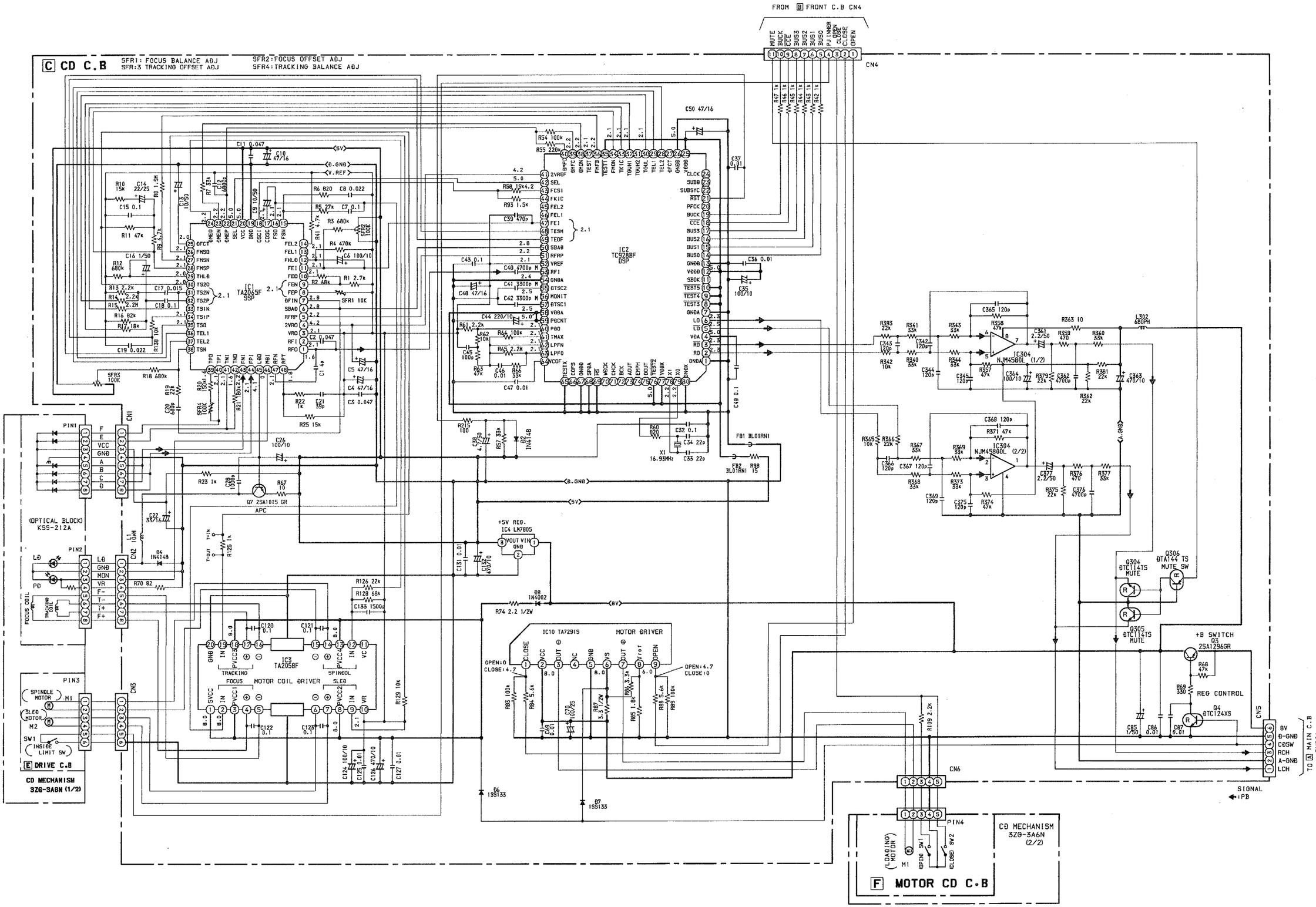


SCHEMATIC DIAGRAM-2 (FRONT)




C CD C.B (PARTS SIDE)
FROM A MAIN C.B
PN801
6 1
FROM B FRONT C.B
CN4
PICK UP ASSY
(RED)
(BLK)
CN1
BLK
(WHT)
(BLK)
CN2
BLK
PIN2
PIN1
F DRIVE C.B
(PATTERN SIDE)
SW1
(INSIDE LIMIT SWITCH)
BLK
CN3
(BLK)
(ORG)
PIN3
M2
M1
(SPINDLE MOTOR)
M2
(SLED MOTOR)
SW1
M1
IC1
IC2
IC3
IC10
SFR1
SFR2
SFR3
SFR4
CN5
CN6
CN3
CN2
CN1
RF OUT
FBI
FB2
NOTE
Cxxx
Rxxx
SW1
(OPEN)
SW2
(CLOSE)
M1
(LOADING MOTOR)
SW2
SW1
M1
PIN4
CN6
5 3 1
BLK
(BLK)
(YEL)
G MOTOR CD C.B
(PATTERN SIDE)

SCHEMATIC DIAGRAM-3 (CD)



VOLTAGE CHART

TUNER SECTION
TEST CONDITION:SET TUNER AM/FM ON ONE FREQUENCY
IC151(LC7218)

PIN'S NUMBER	1	2	3	4	5	6	7	8	9	10	11	12
FM	2.56	0	0	0	5.30	0	5.70	0.00	/	5.68	0	2.50
AM	2.60	0	0	0	5.33	0	5.80	0	/	0	0	1.90
PIN'S NUMBER	13	14	15	16	17	18	19	20	21	22	23	24
FM	2.68	2.54	0	0	0.19	0.03	2.88	5.70	1.04	2.10	0	2.93
AM	0	1.95	0	0	8.03	2.91	0.02	5.81	1.19	1.70	0	2.98

IC1(TA8176SN)

PIN'S NUMBER	1	2	3	4	5	6	7	8	9	10	11	12
FM	2.91	1.49	0.77	7.57	7.70	0	1.90	7.57	7.29	0.02	7.53	7.38

IC101(LA1851N)

PIN'S NUMBER	1	2	3	4	5	6	7	8	9	10
FM	2.09	2.11	7.82	2.62	0	2.19	7.83	3.26	2.18	6.39
AM	2.34	2.34	0.04	2.41	0.70	2.18	8.04	2.31	2.18	6.63
PIN'S NUMBER	11	12	13	14	15	16	17	18	19	20
FM	6.38	0.38	6.11	3.05	3.14	1.51	0.05	7.82	0.07	0.80
AM	6.61	0.38	6.04	3.07	3.15	1.48	0.05	0.79	0.07	0.77
PIN'S NUMBER	21	22	23	24	25	26	27	28	29	30
FM	5.70	5.02	0	2.11	0.08	7.82	2.30	2.30	2.30	1.07
AM	5.81	0	0	2.34	0.69	8.04	2.26	2.26	2.26	0.79

	Q801(A933S)			Q802(C124)			Q803(C1740S)		
PIN'S NUMBER	E	C	B	E	C	B	E	C	B
FM	8.31	8.08	7.53	0	0.02	1.50	5.72	5.84	6.44
AM	8.32	8.20	7.57	0	0.02	1.50	5.82	5.86	6.50

CASSETTE SECTION
TEST CONDITION: TAPE PLAY
IC301(BA3416BL)

PIN'S NUMBER	1	2	3	4	5	6	7	8	9
PLAY	0	0	0	0	0.59	0.59	5.68	0	5.68
PIN'S NUMBER	10	11	12	13	14	15	16	17	18
PLAY	5.31	0.66	5.68	2.62	2.59	0	0	0	0.34

IC302(BA15218N)

PIN'S NUMBER	1	2	3	4	5	6	7	8
REC	5.97	5.97	5.84	0	5.84	5.97	5.97	9.17

PIN'S NUMBER	Q306(C2001)			Q307(C1740S)			Q501(C2240)			Q502(C2240)		
	E	C	B	E	C	B	E	C	B	E	C	B
REC	0	9.90	0	0.90	5.28	0.11	2.53	5.83	3.15	2.54	5.83	3.17

	Q753(A933S)		
PIN'S NUMBER	E	C	B
NOR SPEED	8.04	8.00	7.41
HI SPEED	8.04	8.00	7.41

	Q751(A952)			Q752(C1740S)		
PIN'S NUMBER	E	C	B	E	C	B
TAPE	9.09	9.01	8.35	1.28	8.35	1.91

POWER AMP SECTION
TEST CONDITION: TAPE PLAY

IC451(BU4094B)

PIN'S NUMBER	1	2	3	4	5	6	7	8
TAPE	0	0	0	0	5.84	0	0	0
RADIO	0	0	0	5.83	5.83	0	0	0
CD	0	0	0	5.86	0	0	0	0
AUX	0	0	0	0	0	0	0	0
PIN'S NUMBER	9	10	11	12	13	14	15	16
TAPE	5.84	5.84	5.84	5.84	5.84	5.84	5.84	5.84
RADIO	5.83	5.83	5.83	5.83	5.83	5.83	5.83	5.83
CD	5.86	5.86	5.86	5.86	5.86	5.86	5.86	5.86
AUX	5.86	5.86	5.86	5.86	5.86	5.86	5.86	5.86

IC481(BU4052BC)

PIN'S NUMBER	1	2	3	4	5	6	7	8
TAPE	0	0	0	0	0	0	0	0
RADIO	0	0	0	0	0	0	0	0
CD	0	0	0	0	0	0	0	0
AUX	0	0	0	0	0	0	0	0
PIN'S NUMBER	9	10	11	12	13	14	15	16
TAPE	5.87	0	0	0	0	0	0	5.87
RADIO	5.84	5.84	0	0	0	0	0	5.84
CD	0	5.87	0	0	0	0	0	5.87
AUX	0	0	0	0	0	0	0	5.87

IC571(LC7533)

PIN'S NUMBER	1	2	3	4	5	6	7	8
	5.83	5.83	5.83	2.90	2.91	2.91	2.91	0
PIN'S NUMBER	9	10	11	12	13	14	15	16
	2.91	2.91	2.91	2.90	5.76	5.87	0	5.87

IC531(M62417P)

PIN'S NUMBER	1	2	3	4	5	6	7	8
	4.27	4.22	0.41	0	4.29	0	7.68	0
PIN'S NUMBER	9	10	11	12	13	14	15	16
	0.04	0.05	0	4.30	0	0	4.24	4.27

IC601(TA8229K)

PIN'S NUMBER	1	2	3	4	5	6	7	8	9
	1.76	3.05	3.07	4.48	0	3.04	3.07	3.05	9.73
PIN'S NUMBER	10	11	12	13	14	15	16	17	
	9.70	4.10	4.10	0	0	4.12	4.09	9.73	

	Q721(A1296)			Q722(A933S)			Q726(A1318)			Q727(C1740S)		
PIN'S NUMBER	E	C	B	E	C	B	E	C	B	E	C	B
	9.84	9.14	9.15	9.15	9.15	8.48	8.35	5.88	7.67	5.16	7.67	5.71

CD SECTION
TEST CONDITION:CD PLAY

IC1(TA2065F)

PIN'S NUMBER	1	2	3	4	5	6	7	8	9	10	11	12
	0.90	1.00	2.20	4.40	1.80	2.20	2.20	2.20	2.20	2.20	2.20	1.90
PIN'S NUMBER	13	14	15	16	17	18	19	20	21	22	23	24
	2.00	2.20	2.20	2.00	2.00	2.60	0.00	4.50	0.00	1.80	2.20	2.20
PIN'S NUMBER	25	26	27	28	29	30	31	32	33	34	35	36
	1.80	2.20	2.20	2.20	0.60	2.20	2.20	1.70	2.20	2.20	2.20	2.20
PIN'S NUMBER	37	38	39	40	41	42	43	44	45	46	47	48
	2.20	2.20	2.20	2.20	2.202.	2.20	2.20	2.20	4.40	0	2.20	1.20

IC2(TC9284F)

PIN'S NUMBER	1	2	3	4	5	6	7	8	9	10	11	12	13	14
	2.80	3.00	2.40	4.40	2.40	3.00	2.80	4.40	4.40	4.40	0	4.40	0	4.60
PIN'S NUMBER	15	16	17	18	19	20	21	22	23	24	25	26	27	28
	4.60	4.60	4.60	4.60	4.60	2.20	4.40	0	0	0	4.50	0	0	2.20
PIN'S NUMBER	29	30	31	32	33	34	35	36	37	38	39	40	41	42
	2.00	2.20	0	2.20	0	2.20	4.60	0.40	3.80	2.00	2.20	0.80	4.40	0
PIN'S NUMBER	43	44	45	46	47	48	49	50	51	52	53	54	55	56
	2.20	2.40	0	0	2.00	2.20	2.20	1.70	1.60	2.20	1.50	0	1.60	2.20
PIN'S NUMBER	57	58	59	60	61	62	63	64	65	66	67	68	69	70
	2.00	4.40	4.40	2.20	0	1.20	3.80	0	0	4.40	0	0	0	2.20
PIN'S NUMBER	71	72	73	74	75	76	77	78	79	80				
	2.20	2.20	0	4.40	2.20	4.40	0	0	0	0				

IC3(TA2058F)

PIN'S NUMBER	1	2	3	4	5	6	7	8	9	10
	8.00	2.00	8.00	3.80	3.80	3.80	3.80	8.00	2.20	2.20
PIN'S NUMBER	11	12	13	14	15	16	17	18	19	20
	3.6	2.00	8.00	3.80	3.80	3.80	3.80	8.00	2.20	0

IC10(TA7291S)

PIN'S NUMBER	1	2	3	4	5	6	7	8	9
	0	8.00	0	0	0	8.00	0	3.00	0

IC1(LC867116W)

PIN'S NUMBER	1	2	3	4	5	6	7	8	9	10	11	12	13	14
	0	0	0	0	4.40	3.40	1.80	0	0	0	4.40	4.40	4.40	4.40
PIN'S NUMBER	15	16	17	18	19	20	21	22	23	24	25	26	27	28
	4.40	0	0	0	0	2.40	0	0	0	4.50	4.50	0	0	4.20
PIN'S NUMBER	29	30	31	32	33	34	35	36	37	38	39	40	41	42
	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	4.50	0
PIN'S NUMBER	43	44	45	46	47	48	50	51	52	53	54	55	56	57
	1.80	1.80	2.00	2.00	2.00	1.80	1.80	1.80	1.90	1.90	1.90	1.90	1.80	2.00
PIN'S NUMBER	58	59	60	61	62	63	64	65	66	67	68	69	70	71
	2.00	1.90	1.90	0	0	0	1.90	1.90	1.90	0	0	4.40	0	0
PIN'S NUMBER	72	73	74	75	76	77	78	79	80					
	0	0	0	0	0	0	0	0	0					

IC DESCRIPTION

IC, LC867116W-5844

Pin No.	Pin Name	I/O	Description
1	O-DATA	O	PLL, shift register data output.
2	O-CLK	O	PLL, shift register clock output.
3	$\overline{\text{O-FSTB}}$	O	Shift register data latch strobe output.
4	O-MUTE	O	Main mute output.
5	O-PCONT	O	Machine power supply control output.
6	I-TUDO	I	PLL IC tuner data input.
7	$\overline{\text{I-RST}}$	I	Microprocessor reset..
8	XT1	I	Connected to 32.768 kHz crystal.
9	XT2	O	Connected to 32.768 kHz crystal.
10	VSS1	—	GND.
11	CF1	I	Connected to 6 MHz ceramic lock.
12	CF2	O	Connected to 6 MHz ceramic lock.
13	VDD1	—	Microprocessor power supply (5 V).
14	I-KEY0	I	Key A/D input.
15	I-KEY1	I	Key A/D input.
16	I-TRY SW	I	CD tray open/close switch A/D input.
17	I-PU-INNER	I	CD inside limit switch input.
18	—	I	N.C.
19	I-MO/$\overline{\text{ST}}$	I	Tuner · stereo detection.
20	I-MICLEV	I	Microphone level detection.
21	I-$\overline{\text{REC}}$	I	N.C.
22	$\overline{\text{O-T-BASS}}$	O	T-bass circuit ON/OFF switch output (ON: L).
23	O-CDSW	O	CD block power supply control output (ON: H).
24	O-INIT	O	Initial setting output.
25	$\overline{\text{O-HSP}}$	O	High speed dubbing selector output (ON: L).
26	I-HOLD	I	Hold backup mode at "H".
27	—	I	N.C.
28	I-RMT	I	Remote control input.
29	PAO	I	Initial setting input.
30	S1	O	LCD segment output.
31-40	S2-S11	O	LCD segment output and initial setting output at the same time.
41	VDD3	—	Microprocessor power supply.
42	VSS3	—	GND.
43	S12	O	LCD segment output.
44	S13	O	LCD segment output.
45-60	S16-31	O	LCD segment output.
61	V3	—	LCD drive bias power supply.
62	V2	—	LCD drive bias power supply.
63	V1	—	LCD drive bias power supply.
64	COM0	O	LCD common output.
65	COM1	O	LCD common output.

Pin No.	Pin Name	I/O	Description
66	COM2	O	LCD common output.
67	COM3	O	N.C.
68	VSS2	—	GND.
69	VDD2	—	CD IC control data bus input/output.
70	I/O BUS0	I/O	CD IC control data bus input/output.
71	I/O BUS1	I/O	CD IC control data bus input/output.
72	I/O BUS2	I/O	CD IC control data bus input/output.
73	I/O BUS3	I/O	CD IC control data bus input/output.
74	$\overline{\text{O-CCE}}$	O	CD IC control chip enable output.
75	O-BUCK	O	CD IC control data bus clock output.
76	O-CDMUTE	O	CD mute output.
77	O-CLOSE	O	CD tray close output (Close ON: H).
78	O-OPEN	O	CD tray open output (Close ON: H).
79	O-CE	O	PLL chip enable output.
80	O-MSTB	O	Shift register (MAIN C.B.) data latch strobe output.

IC, TA2065F

Pin No.	Pin Name	I/O	Description
1	RFO	O	RF amp (RF AMP) output terminal.
2	RFI	I	RF ripple signal generating circuit input terminal.
3	VRO	O	VR amp output terminal.
4	2VRO	O	2VR amp output terminal.
5	RFRP	O	RF ripple signal output terminal.
6	SBAD	O	Defects detection signal output terminal.
7	DFIN	I	Defect detecting comparator positive phase input terminal.
8	FEP	I	Focus error balance adjusting input terminal.
9	FEN	I	Focus error amp (FE AMP) negative phase input terminal.
10	FEO	O	Focus error amp (FE AMP) output terminal.
11	FEI	I	Focus output amp (FS AMP) positive phase input terminal.
12	FHLD	I	Hold switch terminal for defect.
13	FEL1	I	Focus gain adjusting terminal.
14	FEL2	I	Focus gain adjusting terminal.
15	FSN	I	Focus output amp (FS AMP) negative phase input terminal.
16	FSO	O	Focus output amp (FS AMP) output terminal.
17	COSC	O	Focus search signal generating capacitor connecting terminal.
18	OSCI	I	Focus search signal generating built-in current source control input terminal.
19	GND	—	Ground terminal.
20	VCC	—	Power source terminal.
21	SEL	I	Analog switch control signal input terminal.
22	DMEP	I	Disc motor amp (DM AMP) positive phase input terminal.
23	DMEN	I	Disc motor amp (DM AMP) negative phase input terminal.
24	DMEO	O	Disc motor amp (DM AMP) output terminal.
25	DFCT	I	Defect detecting comparator negative phase input terminal.
26	FMSO	O	Feed motor output amp (FMS AMP) output terminal.
27	FMSN	I	Feed motor output amp (FMS AMP) negative phase input terminal.
28	FMSP	I	Feed motor output amp (FMS AMP) positive phase input terminal.
29	THLD	I	Hold switch terminal for defect.
30	TS2O	O	Tracking servo amp 2 (TS2 AMP) output terminal.
31	TS2N	I	Tracking servo amp 2 (TS2 AMP) negative phase input terminal.
32	TS2P	I	Tracking servo amp 2 (TS2 AMP) positive phase input terminal.
33	TS1N	I	Tracking servo amp 1 (TS1 AMP) negative phase input terminal.
34	TS1P	I	Tracking servo amp 1 (TS1 AMP) positive phase input terminal.
35	TSO	O	Tracking output amp (TS AMP) output terminal.
36	TEL1	I	Tracking gain adjusting terminal.
37	TEL2	I	Tracking gain adjusting terminal.
38	TSN	I	Tracking output amp (TS AMP) negative phase input terminal.
39	TPO	O	Sub-beam I-V amp output terminal.
40	TPI	I	Sub-beam I-V amp input terminal.
41	TNI	I	Sub-beam I-V amp input terminal.

Pin No.	Pin Name	I/O	Description
42	TNO	O	Sub-beam I-V amp output terminal.
43	FNI	I	Main-beam I-V amp input terminal.
44	FPI	I	Main-beam I-V amp input terminal.
45	LDO	O	Laser diode amp output terminal.
46	MDI	I	Monitor photo diode amp input terminal.
47	RFN	I	RF amp negative phase input terminal.
48	RFT	I	RF amp peaking terminal.

IC, TC9284AF

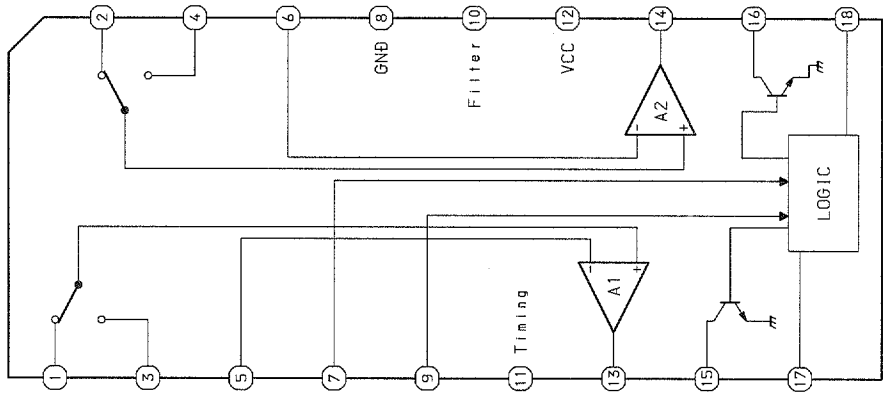
Pin No.	Pin Name	I/O	Description
1	GNDA	—	D/A converter R-channel analog GND.
2	RO	O	R-channel data positive output.
3	$\overline{RO}$	O	R-channel data inverted output.
4	VDA	—	D/A converter power supply.
5	$\overline{LO}$	O	L-channel data inverted output.
6	LO	O	L-channel data positive output.
7	GNDA	—	D/A converter L-channel analog GND.
8-10	$\overline{TEST3}$-$\overline{TEST5}$	I	TEST pin. Normally "H" or open.
11	SBOK	O	Sub code Q data CRCC judgment result output. Judgment result OK: H
12	VDDD	—	Digital power supply. (+5 V)
13	GNDD	—	Digital GND.
14-17	BUS0-BUS3	I/O	µprocessor interface, data input/output.
18	CCE	I	µprocessor interface, chip enable signal input. When "L" : BUS 3-0 are active
19	BUCK	I	µprocessor interface, clock input.
20	PFCK	O	PB frame sync output.
21	$\overline{RST}$	I	Reset signal input. "L" at reset.
22	SUBSYC	O	Sub code block sync output. When sub code is detected,"H" at S1 position.
23	SUBD	O	Sub code P-W output.
24	CLCK	I	Sub code P-W data read clock input.
25	VDDD	—	Digital power supply. (+5 V)
26	GNDD	—	Digital GND.
27	DFCT	O	Defect detection signal output. When defect is detected: "VREF", normally "HiZ".
28	TEL2	O	Tracking gain adjustment analog switch output. "VREF" , or "HiZ".
29	TEL1	O	Tracking gain adjustment analog switch output. "VREF" , or "HiZ".
30	TGUL	O	Analog switch output for tracking servo gain up. Polarity in gain-up mode and normal mode can be selected by command.
31	TGUH2	O	Analog switch output for tracking servo gain up. "HiZ" for gain-up, normally "VREF".
32	TUGH1	O	TGUH1 during normal playback. TGUH2: not used
33	TKIC	O	Tracking actuator kick signal output. NKICx and CKICx are used for kick during tracking gain adjustment. "VREF" for outermost track."O" for moving toward inner track. Normally "HiZ".
34	FMON	O	Analog switch output to turn ON/OFF the feed servo. "HiZ" to turn ON servo. "VREF" to turn OFF servo.
35	$\overline{TEST1}$	I	TEST pin. Normally "H" or open.
36	FMFB	O	Feed motor FWD/BWD direction control signal output."2VREF" for outmost track. "O" for moving toward inner track. Normally "HiZ".
37	$\overline{TEST}$	I	TEST pin. Normally "H" or open.
38	DMON	O	Analog switch output to select gain of the disc motor drive circuit. "HiZ" for CLV servo OFF, "HiZ" or "VREF" can be selected by command.

<table>
<tr><th>Pin No.</th><th>Pin Name</th><th>I/O</th><th>Description</th></tr>
<tr><td>39</td><td>DMPC</td><td>O</td><td>Disc motor CLV servo AFC signal output.
<table>
<tr><th>Operation</th><th>Command</th><th>DMFC output</th></tr>
<tr><td>Motor acceleration</td><td>DMFK</td><td>“2VREF”</td></tr>
<tr><td>CLV servo ON</td><td>DMSV</td><td>AFC signal (PWM)</td></tr>
<tr><td>Motor brake</td><td>DMBK</td><td>“L”</td></tr>
<tr><td>CLV servo OFF</td><td>DMOFF</td><td>“VREF”</td></tr>
</table></td></tr>
<tr><td>40</td><td>DMPC</td><td>O</td><td>Disc motor CLV servo APC signal output.</td></tr>
<tr><td>41</td><td>2VREF</td><td>—</td><td>Analog power supply. (twice the “VREF” voltage)</td></tr>
<tr><td>42</td><td>SEL</td><td>O</td><td>Servo mode select output. It turns ON/OFF the laser diode (LD) and focus servo.
<table>
<tr><th>SEL output</th><th>LD</th><th>Focus servo</th><th>Operating mode</th></tr>
<tr><td>“L”</td><td>OFF</td><td>OFF</td><td>LD OFF</td></tr>
<tr><td>“HiZ”</td><td>ON</td><td>OFF</td><td>Focus search</td></tr>
<tr><td>“H”</td><td>ON</td><td>ON</td><td>Focus ON (normal play)</td></tr>
</table></td></tr>
<tr><td>43</td><td>FCSI</td><td>O</td><td>Focus actuator drive signal output during focus search mode. “VDDA” to move the lens far from disc. “L” to move the lens closer to disc. Normally “HiZ”.</td></tr>
<tr><td>44</td><td>FKIC</td><td>O</td><td>Focus actuator drive signal output during focus adjustment mode. “VDDA” to move the lens far from disc. “L” to move the lens closer to disc. Normally “HiZ”.</td></tr>
<tr><td>45, 46</td><td>FEL1, FEL2</td><td>O</td><td>Focus gain adjustment analog switch output. “VREF” or “HiZ”.</td></tr>
<tr><td>47</td><td>FEI</td><td>I</td><td>Focus error signal input.</td></tr>
<tr><td>48</td><td>TESH</td><td>I</td><td>Analog switch input to track error signal sample-and-hold.</td></tr>
<tr><td>49</td><td>TEOF</td><td>O</td><td>Focus gain adjustment analog switch output.“VREF” when tracking servo off.</td></tr>
<tr><td>50</td><td>SBAD</td><td>I</td><td>Sub beam added signal input.</td></tr>
<tr><td>51</td><td>RFRP</td><td>I</td><td>RF ripple signal input.</td></tr>
<tr><td>52</td><td>VREF</td><td>—</td><td>Analog power supply.</td></tr>
<tr><td>53</td><td>RFI</td><td>I</td><td>RF signal input.</td></tr>
<tr><td>54</td><td>GNDA</td><td>—</td><td>Analog GND.</td></tr>
<tr><td>55</td><td>DTSC2</td><td>O</td><td>Data slice control EFM signal inverted output.</td></tr>
<tr><td>56</td><td>MONI T</td><td>O</td><td>Internal signal monitored output. EFMO, PLCK or LOCK signals can be selected by command. Can be muted. (Not used)</td></tr>
<tr><td>57</td><td>DTSC 1</td><td>O</td><td>Data slice control EFM signal positive polarity output.</td></tr>
<tr><td>58</td><td>VDDA</td><td>—</td><td>Analog power supply.</td></tr>
<tr><td>59</td><td>PDCNT</td><td>I</td><td>PDO output control signal input. “L” to fix to “HiZ” forcibly. “H” : normal output.</td></tr>
<tr><td>60</td><td>PDO</td><td>O</td><td>Phase error signal between EFM and PLCK signals is output.</td></tr>
<tr><td>61</td><td>TMAX</td><td>O</td><td>TMAX detected result output.
<table>
<tr><th>TMAX detected result</th><th>TMAX output</th></tr>
<tr><td>Longer than specified cycle</td><td>“L”</td></tr>
<tr><td>Shorter than specified cycle</td><td>“VREF”</td></tr>
<tr><td>Within specified cycle</td><td>“HiZ”</td></tr>
</table></td></tr>
<tr><td>62</td><td>LPFN</td><td>I</td><td>Low-pass filter amplifier inverted input.</td></tr>
</table>

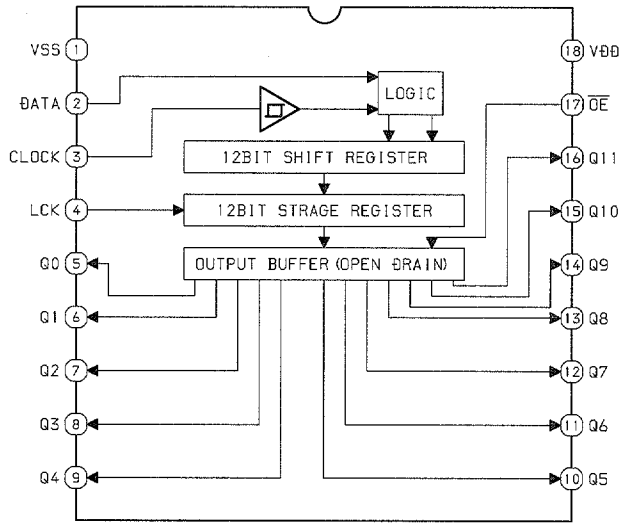
Pin No.	Pin Name	I/O	Description
63	LPFO	O	Low-pass filter amplifier output.
64	VCOF	O	VCO filter output.
65	TESTX	I	TEST pin. Normally "H" or "L" .(Connected to +5 V)
66	$\overline{HS}$	O	Double speed mode output. "H" : normal speed. "L" : double speed
67	GNDD	—	Digital GND.
68	SPDA	O	Processor status signal output.
69	COFS	O	Correction circuit frame clock (7.35 kHz) output.
70	WDCK	O	Word clock (88.2 kHz) output. SUBQ, BUF0V or 1PF can be selected by the μprocessor command. (Not used)
71	CHCK	O	Channel clock (44.1 kHz) output. "L"for L-channel. "H" for R-channel.
72	BCK	O	Bit clock (1.4112 MHz) output.
73	AOUT	O	Audio data output. (Not used)
74	EMPH	O	Emphasis ON/OFF select signal. "H" : emphasis ON. "L" for emphasis OFF
75	DOUT	O	DIGITAL SIGNAL output.
76	$\overline{TEST2}$	I	TEST pin. Normally "H".
77	VDDX	—	Crystal oscillator circuit power supply.
78	XI	I	External crystal oscillator is connected. (Crystal oscillator frequency 16.9344 MHz)
79	XO	O	External crystal oscillator is connected. (Crystal oscillator frequency 16.9344 MHz)
80	GNDX	—	Crystal oscillator GND.

IC BLOCK DIAGRAM

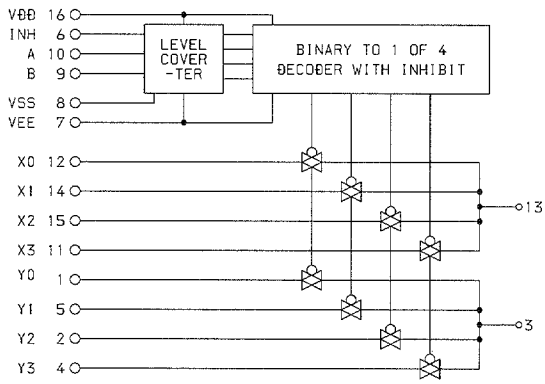
IC, BA3416BL

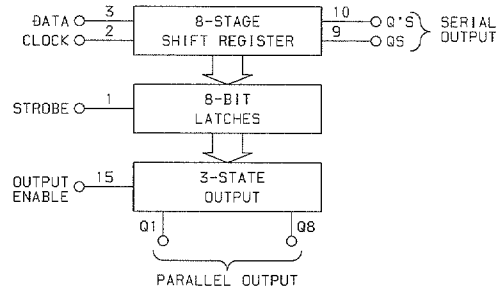


IC, BU2092F



IC, BU4052BC

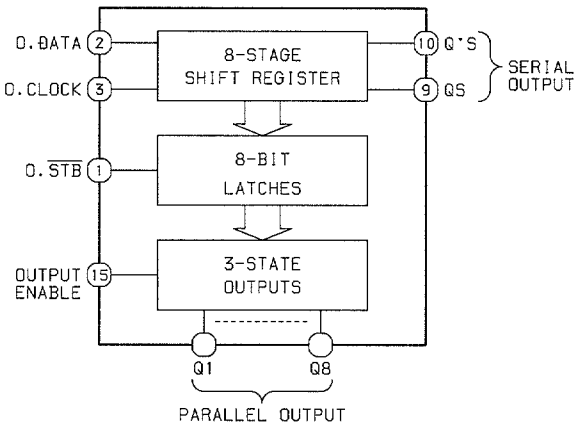




TRUTH TABLE

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

IC, BU4094B



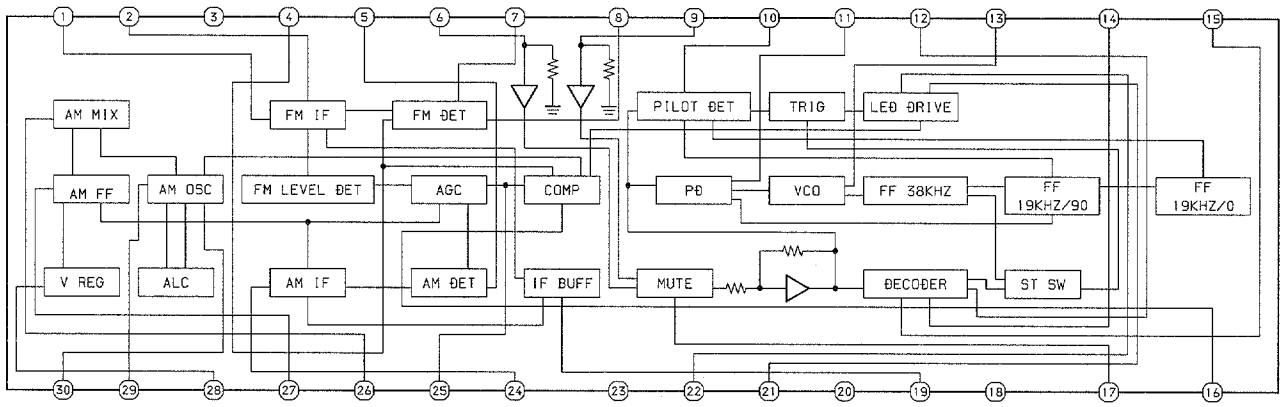
Q1:D.DOLBY ON Q5:D.PLAY
Q2:D.DOLBY C Q6:D.PB2
Q3:D.EXT.REC Q7:D.LED
Q4:D.INT.REC Q8:D.$\overline{RMT}$

TRUTH TABLE

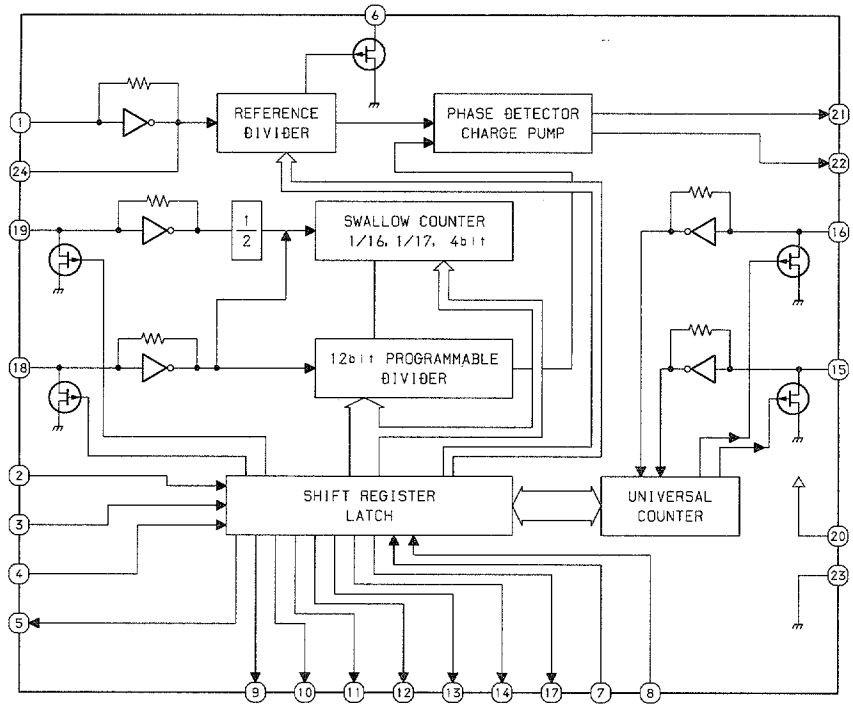
CLOCK	OUTPUT ENABLE	STROBE	DATA	PARALLEL OUTPUTS		SERIAL OUTPUTS	
				Q1	Qn	QS	Q'S
↓	L	X	X	Z	Z	Q7	NO CHG.
↑	L	X	X	Z	Z	NO CHG.	QS
↓	H	L	X	NO CHG.	NO CHG.	Q7	NO CHG.
↓	H	H	L	L	Qn-1	Q7	NO CHG.
↓	H	H	H	H	Qn-1	Q7	NO CHG.
↑	H	X	X	NO CHG.	NO CHG.	NO CHG.	QS

Z = HIGH IMPEDANCE
X = DON'T CARE

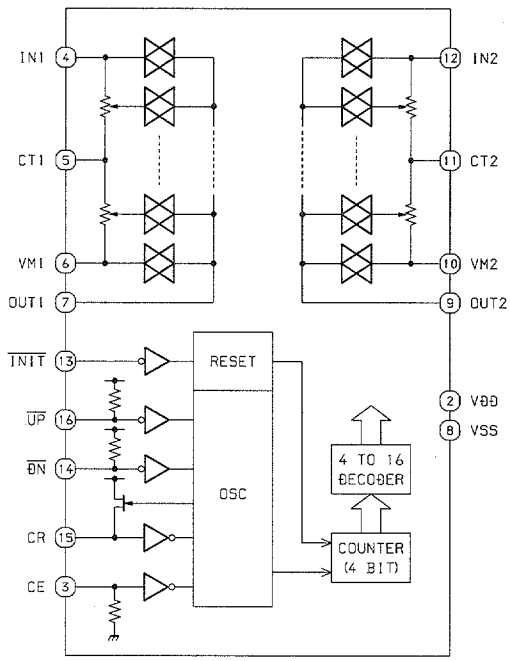
IC, LA1851N



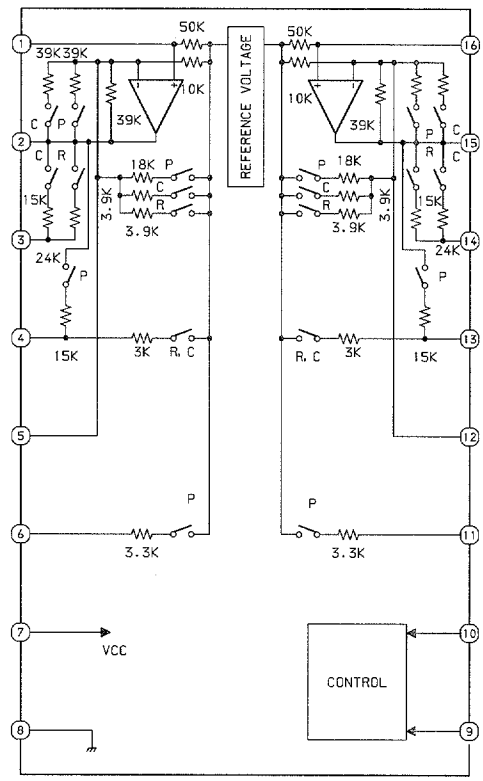
IC, LC7218



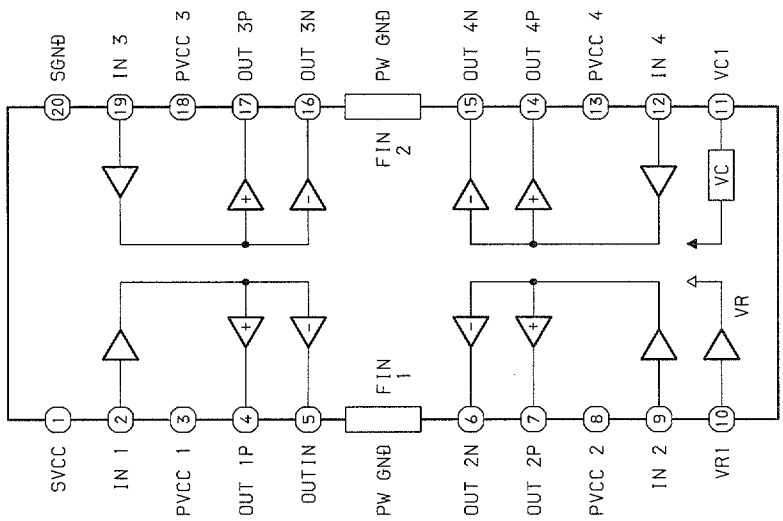
IC, LC7533



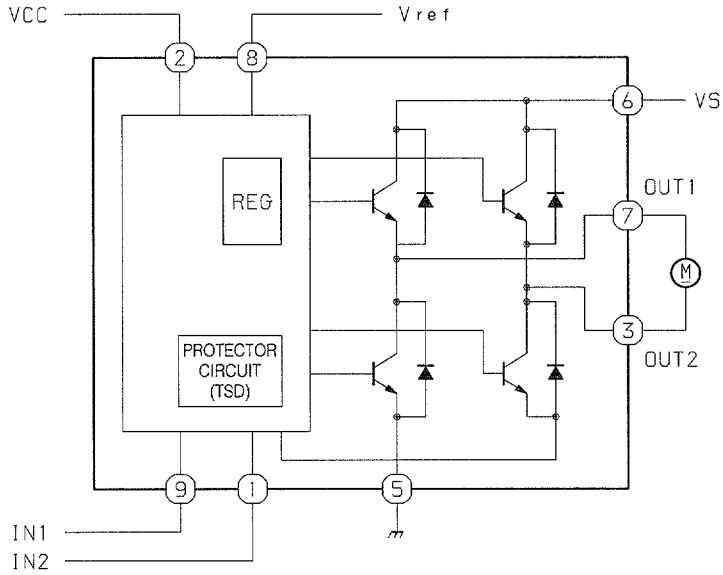
IC, M62412P



IC, TA2058F



IC, TA7291S

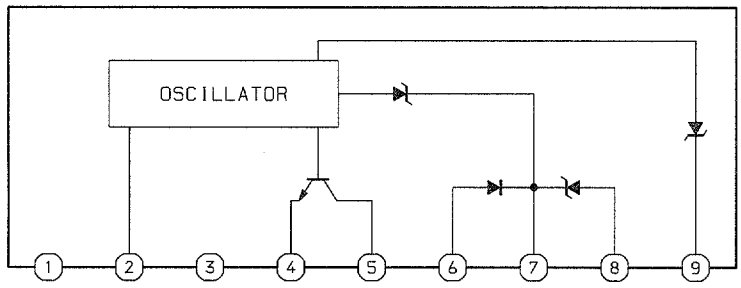


INPUT		OUTPUT		MODE
IN1	IN2	OUT1	OUT2	
0	0	∞	∞	STOP
1	0	H	L	CW/CCW
0	1	L	H	CCW/CW
1	1	L	L	BRAKE

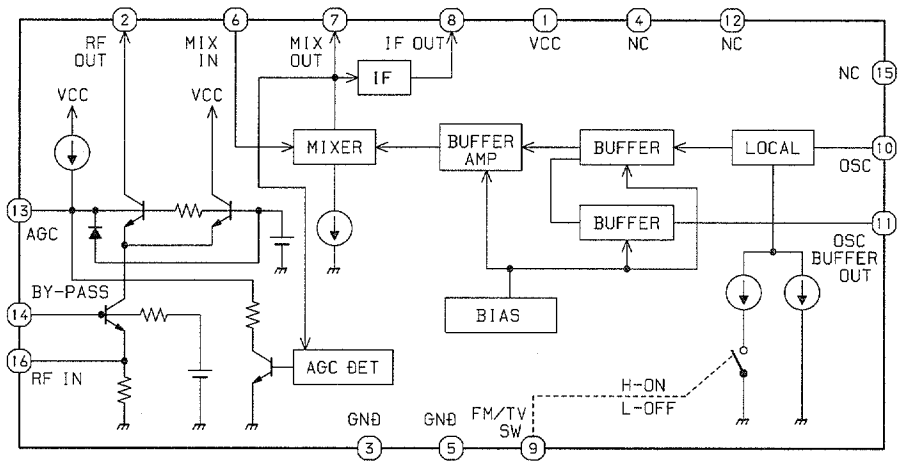
∞ : HI IMPEDANCE

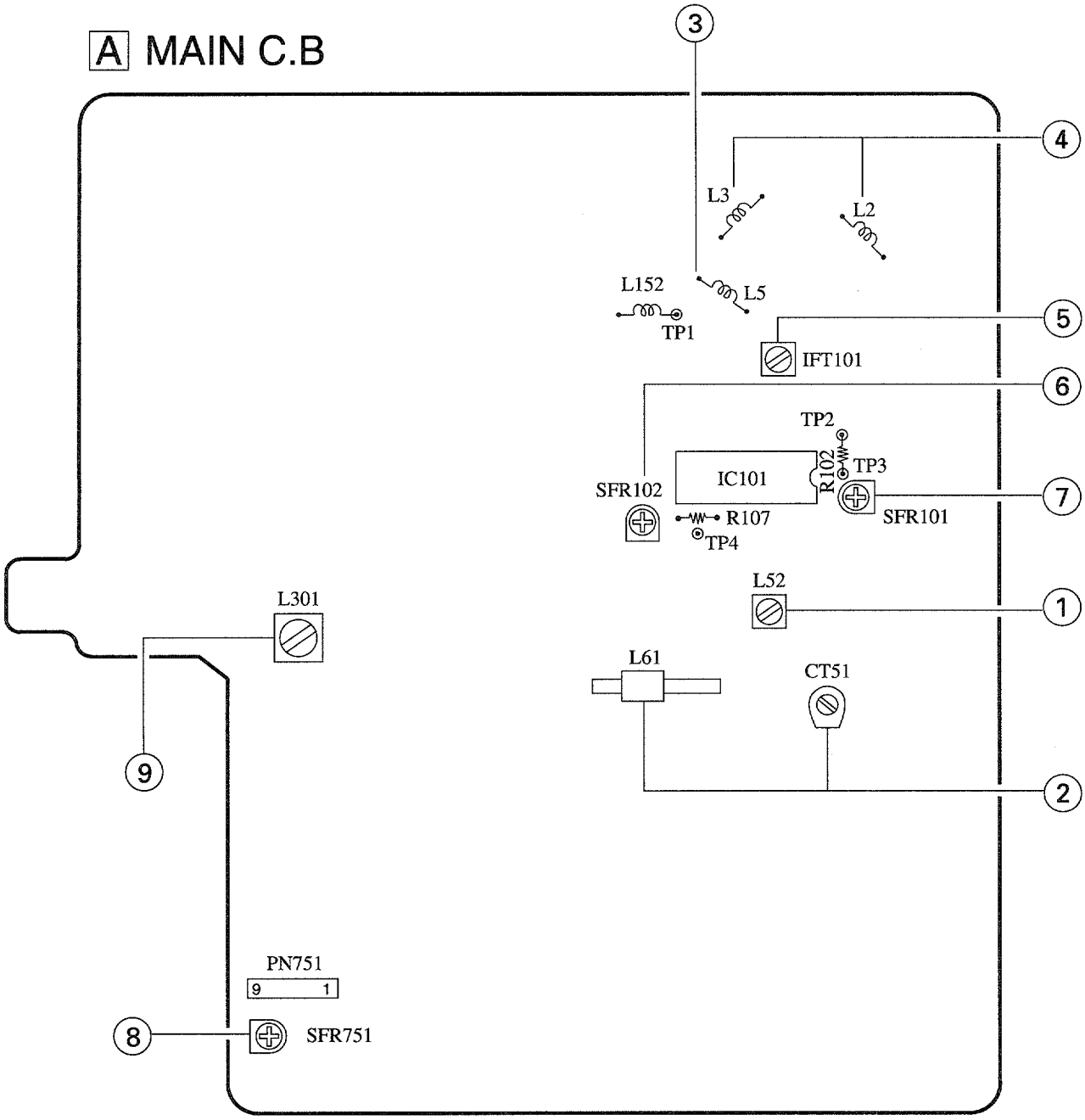
NOTE : INPUT "H" ACTIVE

IC, TA8126SN

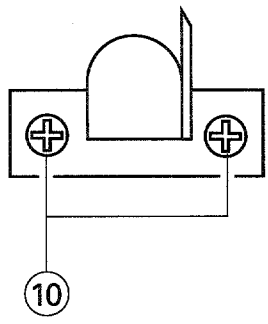


IC, TA8176SN





RPH (DECK1) / PH (DECK2)



< TUNER SECTION >

1. AM VT Adjustment
   Settings: • Test point: TP1
   • Adjustment location: L52
   Method: Set to AM 530kHz adjust L52 so that the test point becomes 1.3V.

2. AM Tracking Adjustment
   L61 ..... 612±10kHz
   CT51 ..... 1404kHz±10kHz

3. FM VT Check
   Settings: • Test point: TP1
   • Adjustment location: L5
   Method: Set to FM 87.5MHz adjust L5 so that the test point is 4.0V.

4. FM Tracking Adjustment
   L2, 3 ..... 87.5±0.3MHz

5. DC Balance/MONO Distortion Adjustment
   Settings: • Test point: TP2, TP3
   • Adjustment location: MFT101
   • Input level: 54dB
   Method: Set to FM 98.0MHz and adjust MFT101 so that the voltage between TP2 and TP3 becomes 0V±10mV.

6. AM Auto Stop Level Adjustment
   Settings: • Test point: TP4
   SFR102 ..... 0V

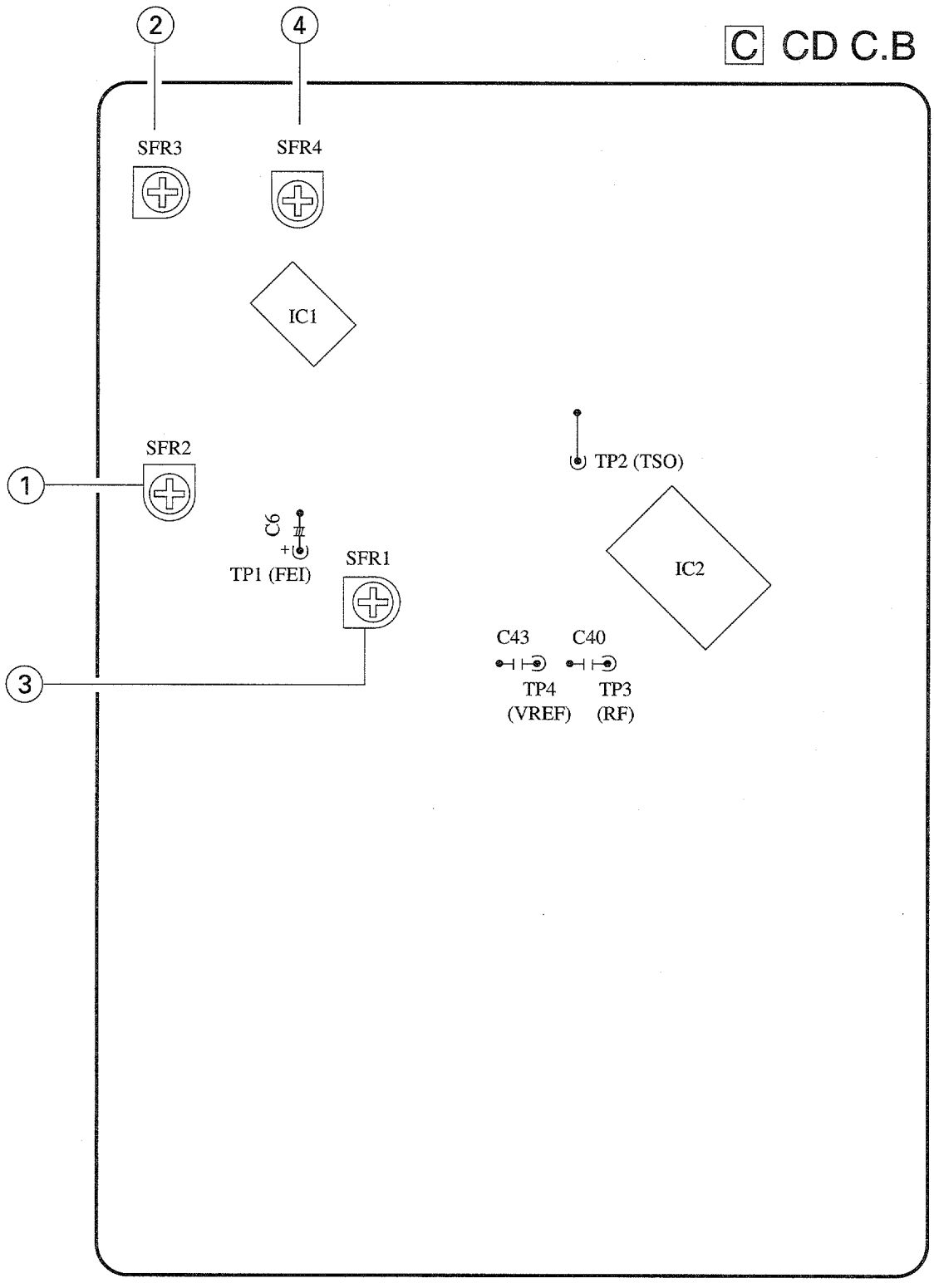
7. FM Auto Stop Level Adjustment
   Settings: • Test point: TP4
   SFR101 ..... 0V

< TAPE SECTION >

8. Tape speed Adjustment (DECK2)
   Settings: • Test tape: TTA-100
   • Adjustment location: SFR751
   Method: Play back the test tape with DECK1 and adjust SFR751 so that the output frequency is 3000Hz. After the adjustment, check that the frequency of DECK2 is 3000±55Hz.

9. BIAS Frequency Adjustment
   L301 ..... 60kHz

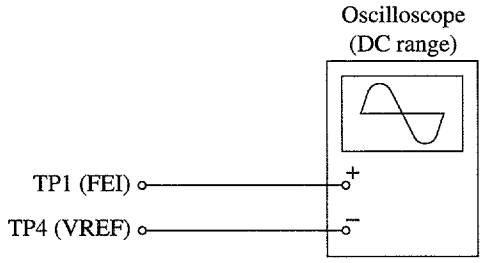
10. Azimuth Adjustment (DECK1, DECK2)
    Settings: • Test tape: TTA-320
    • Adjustment location: Head azimuth adjustment screw
    Method: Play back the 8kHz signal of the test tape and adjust screw so that the output becomes maximum. Next, perform on each FWD PLAY and REV PLAY mode.


C CD C.B
2
4
SFR3
SFR4
IC1
SFR2
1
C6
TP1 (FEI)
SFR1
3
TP2 (TSO)
IC2
C43
C40
TP4
(VREF)
TP3
(RF)

< CD SECTION >

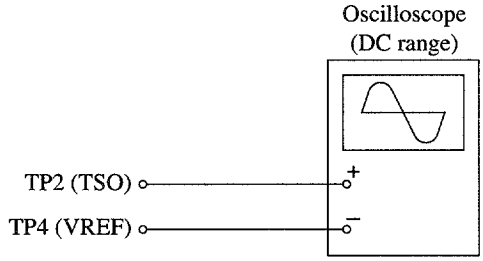
Note: · Connect a probe (10: 1) of the oscilloscope to a test point.

1. Focus offset Adjustment



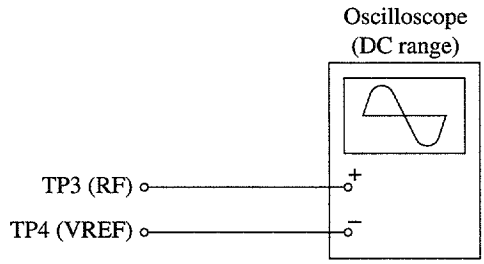
1) Make short-circuit between TP3 (RF) and TP4 (VREF) by wire.
2) Connect an oscilloscope between test points TP1 (FEI) and TP4 (VREF).
3) Turn on the main power to the CD player.
4) Insert the test disc TCD-782 and reads the TOC data.
5) Adjust SFR2 so that the offset level is 0±10mV.
6) Remove short-circuit after completing adjustment.

2. Tracking offset Adjustment

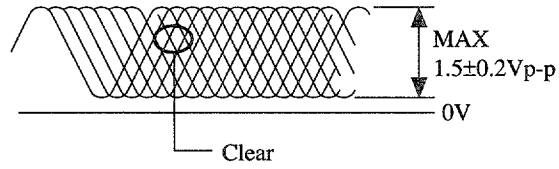


1) Make short-circuit between TP3 (RF) and TP4 (VREF) by wire.
2) Connect an oscilloscope between test points TP2 (TSO) and TP4 (VREF).
3) Turn on the main power to the CD player.
4) Insert the test disc TCD-782 and reads the TOC data.
5) Adjust SFR3 so that the offset level is 10±10mV.
6) Remove short-circuit after completing adjustment.

3. Focus Balance Adjustment
Make the focus bias adjustment when replacing and repairing the optical block.

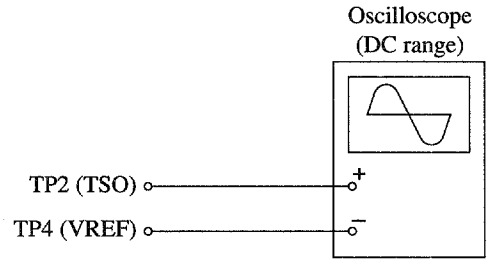


1) Connect an oscilloscope to test points TP3 (RF) and TP4 (VREF).
2) Turn on the power switch.
3) Insert test disc TCD-782 and play back the second composition.
4) Adjust SFR1 so that the level of RF wave to be maximum and clear.

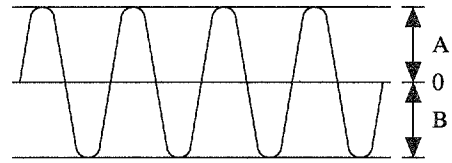


VOLT/DIV: 0.5V
TIME/DIV: 1mS

4. Tracking Balance Adjustment



1) Connect an oscilloscope to test points TP2 (TSO) and TP4 (VREF).
2) Turn on the power switch.
3) Insert test disc TCD-782 and press the PLAY (▶) button.
4) Push and hold the ⏭ button. (MS mode)
5) Adjust SFR4 so that the waveform on the oscilloscope is vertically symmetrical as shown in the figure below.



A = B

VOLT/DIV: 20mV
TIME/DIV: 1mS

PRACTICAL SERVICE FIGURE

< TUNER SECTION >

< FM SECTION >

Sensitivity:	15±5dB (87.5MHz)
(THD 3%)	16±5dB (98.0MHz)
	17±5dB (108.0MHz)
Signal to Noise Ratio:	60±5dB (98MHz)
(Input 54dB)	
Distortion:	Less than 2% (98MHz)
(Input 54dB)	
Intermediate frequency:	10.7MHz
Stereo separation:	More than 25dB

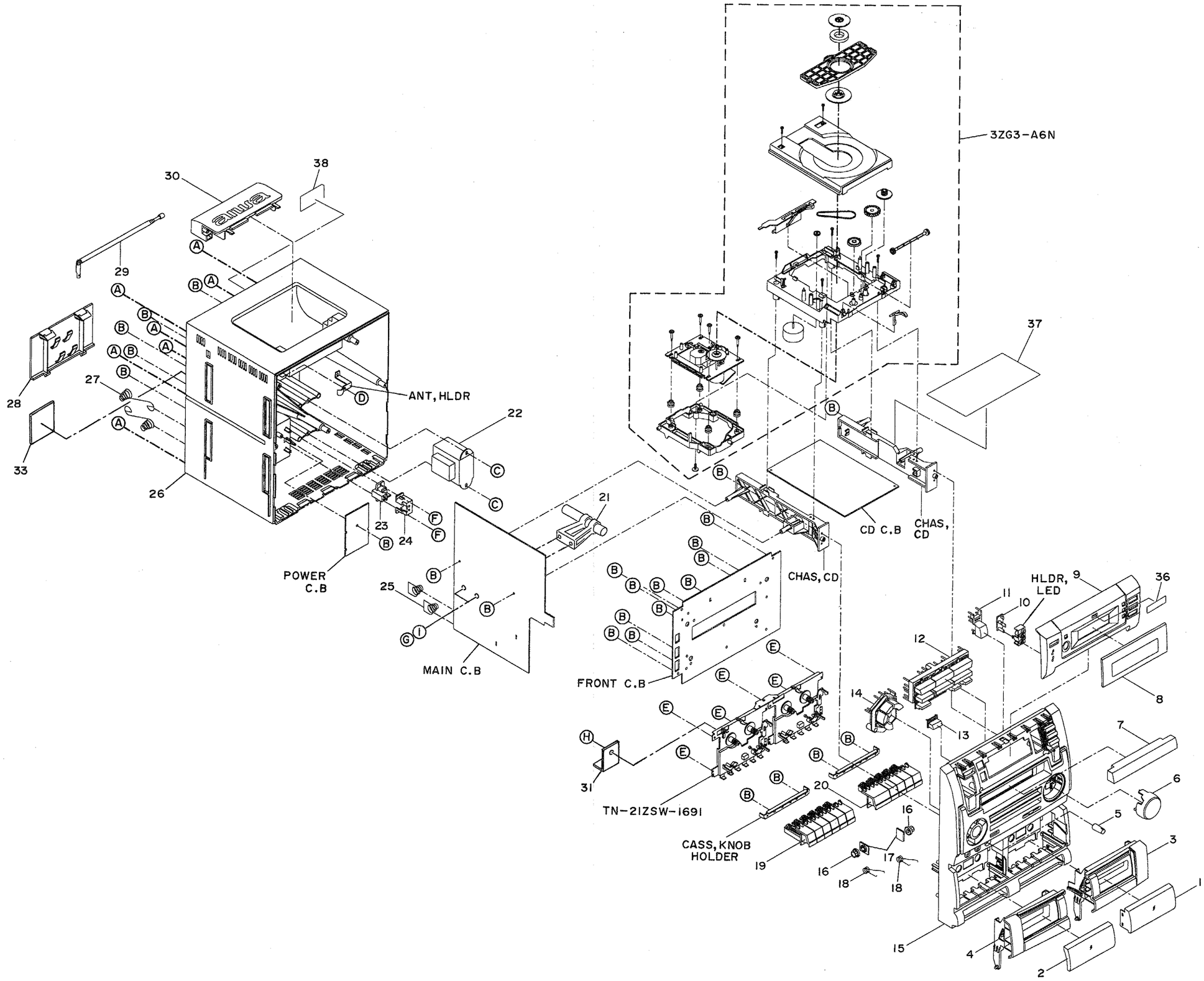
< AM SECTION >

Sensitivity:	Less than 50dB±5dB (600kHz)
(S/N 10dB)	Less than 45dB±5dB (1000kHz)
	Less than 43dB±5dB (1400kHz)
Distortion:	Less than 5% (1000kHz)
(Input 74dB)	
Intermediate frequency:	450kHz±1.2kHz

< CASSETTE SECTION >

Tape speed:	3000Hz±90Hz
Wow & flutter:	Less than 0.4% (JIS RMS)
Take-up torque:	30-60g-cm (DECK 1/2)
F.F torque:	55-120g-cm (DECK 1/2)
Rew torque:	55-120g-cm (DECK 1/2)
S/N ratio:	More than 40dB (AC/DC, PB)
	More than 37dB (AC/DC, REC/PB)
Distortion:	Less than 3.0% (PB)
Noise (PB):	Less than 1mV (AC/DC, MIN)
Erasing Ratio (W/FILTER):	More than 60dB

MECHANICAL EXPLODED VIEW 1/1

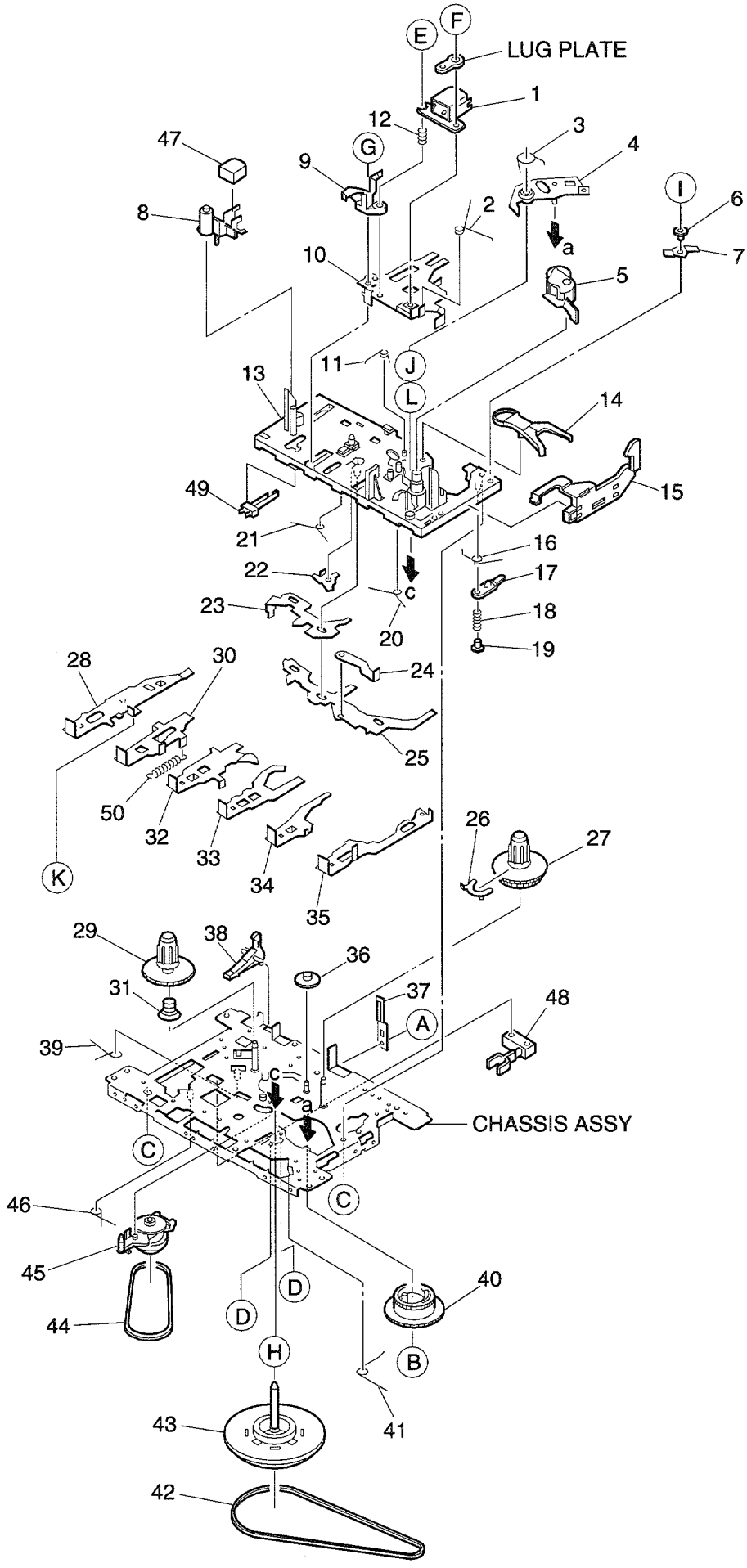


MECHANICAL PARTS LIST 1/1

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	S7-CT4-070-000		LENS,DOOR CASS(R)
2	S7-CT4-060-000		LENS,DOOR CASS(L)
3	S7-CT4-040-100		DOOR,CASS(R)
4	S7-CT4-030-100		DOOR,CASS(L)
5	S7-738-130-010		KNOB,MIC
6	S7-CT4-130-010		KEY,VOLUME
7	S7-CT4-080-100		PANEL,CD
8	S7-CT4-050-200		WINDOW,DISPLAY<LH>
8	S7-CT4-050-100		WINDOW,DISPLAY<U>
9	S7-CT4-020-100		PANEL,FRONT
10	S7-CT4-090-000		LENS,FUNCTION
11	S7-CT4-150-010		KEY,OPEN CD
12	S7-CT4-140-100		KEY,CONTROL CD
13	S7-CT4-120-000		KNOB,POWER
14	S7-CT4-160-000		KEY,FUNCTION
15	S7-CT4-010-100		CAB,FRONT
16	S7-538-280-000		GEAR,
17	S7-538-270-000		BRACKET GEAR
18	S7-738-390-000		SPR,CASS<U>
18	S7-CT4-240-000		SPR,CASS<LH>
19	S7-CT4-170-100		KEY,CASS(L)
20	S7-CT4-180-100		KEY,CASS(R)
21	S0-101-000-000		FERRI,BAR 10-100MM (LW)
⚠ 22	S4-130-150-200		PT,TF EI-57/30<U>
⚠ 22	S4-540-041-300		PT,TF EI-57/30<LH>
22	S7-738-470-000		RUBBBER FOOT
⚠ 23	S2-201-000-050		AC SOCKET 220V<LH>
⚠ 23	87-099-712-010		SOCKET,AC<U>
24	S2-838-070-000		AC SOCKET COVER BLK
25	S7-738-420-000		SPR,BAT(+)
26	S7-738-020-010		CAB,BACK
28	S7-738-070-000		DOOR BATTERY
28	S7-738-400-000		SPR,BAT(-)
29	87-043-116-010		ROD ANTENNA
30	S7-738-050-010		PANEL,TOP
31	S7-CT4-220-000		PLATE,SPR REC<LH>
31	S5-617-CT4-220		PLATE,SPR REC<U>
33	S7-538-700-000		PLATE,COVER SW VOLTAGE<LH>
33	S7-738-240-000		VOLTAGE PLATE<U>
⚠ 34	S1-200-000-030		SW,SLIDE SS12J01M-A-65<LH>
35	S2-838-080-000		VOLT,SW COVER<LH>
36	S7-538-120-000		BADGE AIWA
37	S7-738-500-000		CD PLATE
38	S7-738-250-000		CD-G PLATE
A	87-741-104-010		SCREW,ST3-30MM PAB
B	87-352-097-210		SCREW,ST3-12
C	87-743-103-410		SCREW ST3-25MM HEAD
D	87-078-157-010		SCREW 3-16
E	87-741-096-410		SCREW,ST3-10MM
F	87-343-075-210		SCREW,ST 2.6-10
G	87-343-075-210		SCREW,2.6-10
H	87-262-547-310		SCREW,2-3 PM
I	S0-000-264-500		NUT,M2.6-0.45

TAPE MECHANISM EXPLODED VIEW 1/2

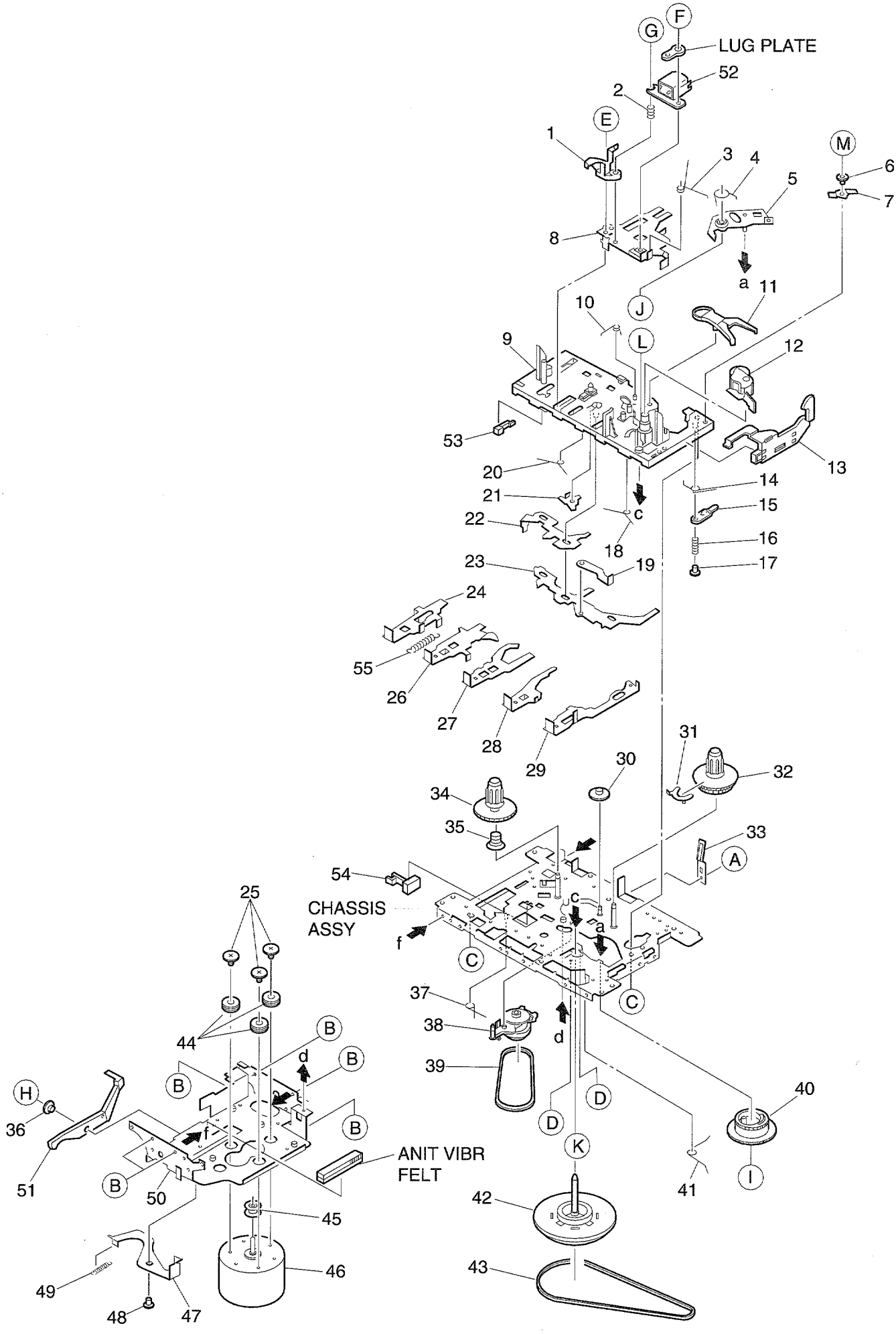


TAPE MECHANISM PARTS LIST 1/2

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	S6-201-011-110		HEAD,RP7442ES-0951
2	S1-921-030-030		PANEL P SPRING
3	S1-921-260-050		GEAR PLATE SPRING
4	S1-921-265-020		GEAR PLATE ASSY
5	S1-921-043-090		PINCH ROLLER ARM ASY
6	S1-921-140-370		P ARM COLLER
7	S1-921-140-340		P ARM
8	S1-921-030-050		MG ARM
9	S1-921-030-4A0		HEAD BASE
10	S1-921-030-110		HEAD PANEL
11	S1-921-141-8A0		M CONTROL SPRING
12	S1-821-030-070		AZIMUTH SPRING
13	S1-921-143-010		BASE ASSY
14	S1-921-260-4A0		SENSING LEVER
15	S1-921-130-020		EJECT SLIDE LEVER
16	S1-921-141-3A0		P CONTROL SPRING
17	S1-921-140-820		PAUSE LEVER(F)
18	S1-921-140-120		PAUSE LEVER SPRING
19	S1-921-140-110		PAUSE STOPPER
20	S1-921-140-150		BUTTON LEVER SPRING(B)
21	S1-921-140-140		BUTTON LEVER SPRING(A)
22	S1-921-140-200		PR STOPPER
23	S1-921-140-090		SWITCH ACTUATOR
24	S1-821-011-590		E KICK LEVER
25	S1-921-140-080		PUSH BUTTON ACTUATOR
26	S1-921-050-060		SENSER
27	S1-921-053-030		TAKE UP REEL ASSY
28	S1-921-140-220		REC BUTTON LEVER
29	S1-921-053-040		SUPPLY REEL ASSY
30	S1-921-140-230		PLAY BUTTON LEVER
31	S1-829-100-100		BACK TENSION SPRING
32	S1-921-140-240		REW BUTTON LEVER
33	S1-921-140-250		FF BUTTON LEVER
34	S1-921-140-260		STOP BUTTON LEVER
35	S1-921-140-610		PAUSE BUTTON LEVER
36	S1-821-100-700		FF GEAR
37	S1-829-100-010		PACK SPRING
38	S1-821-100-690		RECORD SAFETY LEVER
39	S1-921-140-210		REC BUTTON LEVER SPRING
40	S1-921-260-020		CAM GEAR
41	S1-921-140-160		E ACTUATOR SPRING
42	S1-921-090-240		MAIN BELT
43	S1-921-093-030		FLYWHEEL ASSY
44	S1-921-070-030		RF BELT
45	S1-921-073-080		RF CLUTCH ASSY
46	S1-921-140-170		P.S.LEVER SPRING
47	S6-209-100-100		E HEAD PH-K380-MS1
48	S6-401-011-610		LEAF SW MSW-17820MVEI
49	S6-401-011-520		LEAF SW MSW-1541F
50	S1-821-010-500		PLAY BUTTON LEVER SPRING
A	S9-P33-200-320		DEL TITE SCREWM2-3
B	S9-422-000-000		P WASHER CUT 12-3.8-0.3
C	S9-679-000-000		P TAP SCREW M2-5
D	S9-999-180-090		TAP SCREW M2-4.5
E	S9-922-000-000		AZIMUTH SCREW M2-8
F	S9-P01-200-310		SCREW,M2-3
G	S9-004-000-000		SCREW M2-6
H	S9-882-000-000		P WASHER 2-3.5-0.4
I	S9-999-200-410		P TAP SCREW M2-3
J	S9-999-030-130		P WASHER CUT 1.45-3.8-0.5
K	S9-179-000-000		C TAP SCREW M2-3
L	S9-999-000-030		P WASHER2.1-4-0.13

TAPE MECHANISM EXPLODED VIEW 2/2

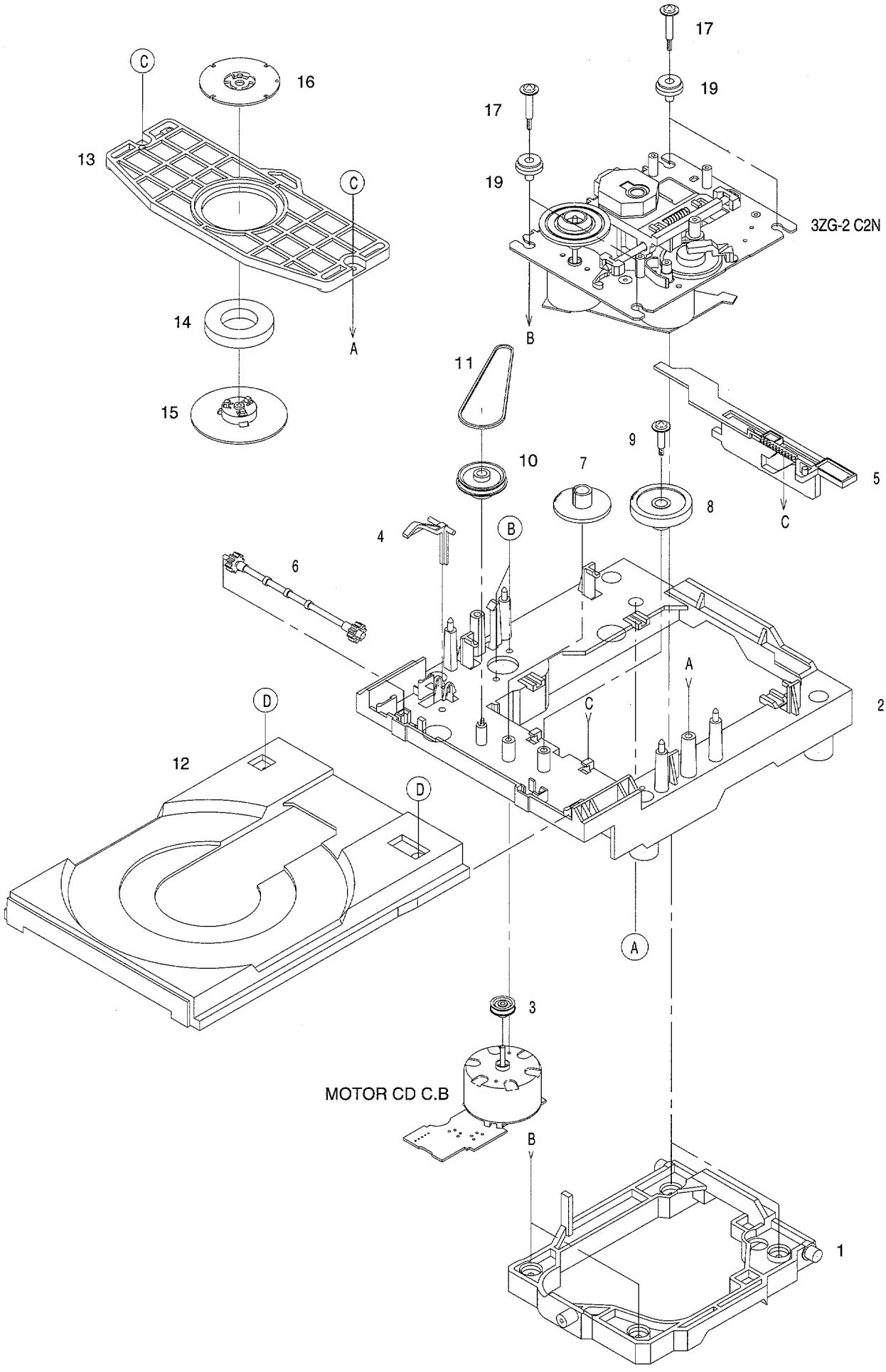


TAPE MECHANISM PARTS LIST 2/2

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	S1-921-030-4A0		HEAD BASE
2	S1-821-030-070		AZIMUTH SPRING
3	S1-921-030-030		PANEL P SPRING
4	S1-921-260-050		GEAR PLATE SPRING
5	S1-921-265-020		GEAR PLATE ASSY
6	S1-921-140-370		P ARM COLLER
7	S1-921-140-340		P ARM
8	S1-921-030-110		HEAD PANEL
9	S1-921-143-010		BASE ASSY
10	S1-921-141-8A0		M CONTROL SPRING
11	S1-921-260-4A0		SENSING LEVER
12	S1-921-043-090		PINCH ROLLER ARM ASY
13	S1-921-130-020		EJECT SLIDE LEVER
14	S1-921-141-3A0		P CONTROL SPRING
15	S1-921-140-820		PAUSE LEVER(F)
16	S1-921-140-120		PAUSE LEVER SPRING
17	S1-921-140-110		PAUSE STOPPER
18	S1-921-140-150		BUTTON LEVER SPRING(B)
19	S1-821-011-590		E KICK LEVER
20	S1-921-140-140		BUTTON LEVER SPRING(A)
21	S1-921-140-200		PR STOPPER
22	S1-921-140-090		SWITCH ACTUATOR
23	S1-921-140-080		PUSH BUTTON ACTUATOR
24	S1-921-140-230		PLAY BUTTON LEVER
25	S1-821-120-020		MOTOR COLLER SCREW
26	S1-921-140-240		REW BUTTON LEVER
27	S1-921-140-250		FF BUTTON LEVER
28	S1-921-140-260		STOP BUTTON LEVER
29	S1-921-140-610		PAUSE BUTTON LEVER
30	S1-821-100-700		FF GEAR
31	S1-921-050-060		SENSER
32	S1-921-053-030		TAKE UP REEL ASSY
33	S1-829-100-010		PACK SPRING
34	S1-921-053-040		SUPPLY REEL ASSY
35	S1-829-100-100		BACK TENSION SPRING
36	S1-821-120-650		COLLER B
37	S1-921-140-170		P.S.LEVER SPRING
38	S1-921-073-080		RF CLUTCH ASSY
39	S1-921-070-030		RF BELT
40	S1-921-260-020		CAM GEAR
41	S1-921-140-160		E ACTUATOR SPRING
42	S1-921-093-040		FLYWHEEL ASSY
43	S1-921-090-240		MAIN BELT
44	S1-820-130-060		MOTOR RUBBER
45	S1-921-120-130		MOTOR PULLEY
46	S6-002-030-290		MOTOR EG530YD-2BH
47	S1-821-120-680		P KICK LEVER (A)
48	S1-821-120-230		PK COLLER SCREW A
49	S1-821-120-250		P KICK LEVER SPRING
50	S1-921-120-110		MOTOR BRACKET
51	S1-921-120-090		P KICK LEVER
52	S6-201-011-110		HEAD,RP7442ES-0951
53	S6-401-011-520		LEAF SW MSW-1541F
54	S6-401-011-610		LEAF SW MSW-17820MVEI
55	S1-821-010-500		PLAY BUTTON LEVER SPRING
A	S9-P33-200-320		DEL TITE SCREWM2-3
B	S9-180-000-000		C TAP SCREW M2-4
C	S9-679-000-000		P TAP SCREW M2-5
D	S9-999-180-090		TAP SCREW M2-4.5
E	S9-004-000-000		SCREW M2-6
F	S9-P01-200-310		SCREW,M2-3
G	S9-922-000-000		AZIMUTH SCREW M2-8
H	S9-182-000-000		C TAP SCREW M2-6
I	S9-422-000-000		P WASHER CUT 12-3.8-0.3
J	S9-999-030-130		P WASHER CUT 1.45-3.8-0.5
K	S9-882-000-000		P WASHER 2-3.5-0.4
L	S9-999-000-030		P WASHER2.1-4-0.13
M	S9-999-200-410		P TAP SCREW M2-3

CD MECHANISM EXPLODED VIEW 1/2

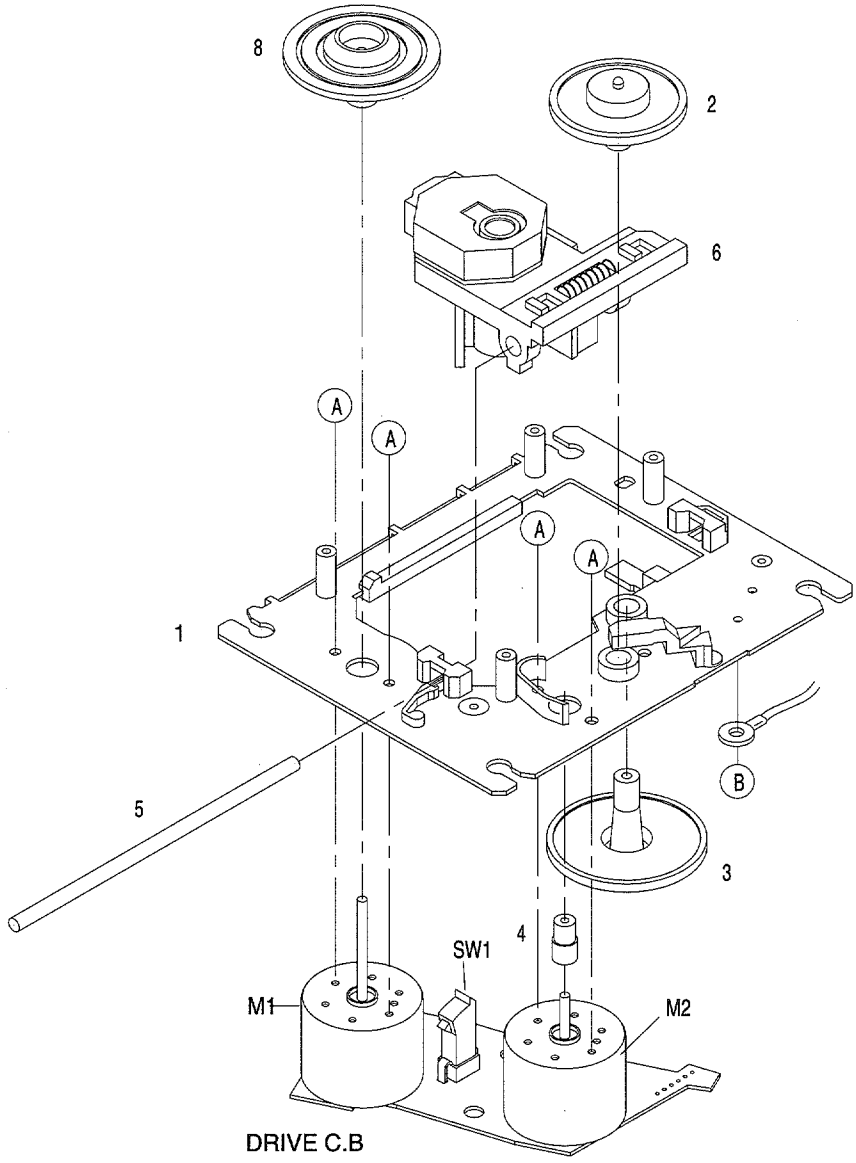


CD MECHANISM PARTS LIST 1/2

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-ZG3-224-119		HLDR,M2
2	83-ZG3-228-21K		CHAS,L6
3	83-ZG3-208-01K		PULLEY,MOTOR
4	83-ZG3-213-01K		LVR,SW
5	83-ZG3-209-01K		CAM,SLIDE
6	83-ZG3-207-01K		GEAR,TRAY
7	83-ZG3-204-01K		GEAR,C
8	83-ZG3-205-01K		GEAR,D
9	83-ZG3-217-019		S-SCREW,GEAR D
10	83-ZG3-220-11K		GEAR,PULLEY 2
11	83-ZG3-214-019		BELT,L
12	83-ZG3-229-01K		TRAY,CD 2
13	83-ZG3-210-01K		HLDR,CHUCK
14	83-ZG3-602-010		RING,MAG
15	83-ZG3-212-01K		CAP,DISC
16	83-ZG3-211-01K		PLATE,DISC
17	81-ZG1-254-019		S-SCEW,MECH HLDR
19	83-ZG3-225-019		CUSH-G,MAIN A
A	87-067-945-119		VFT2+3-12(F10)
B	87-251-071-119		U+2.6-4
C	87-512-074-219		VFT2+2.6-8
D	87-352-075-219		VT2+2.6-10

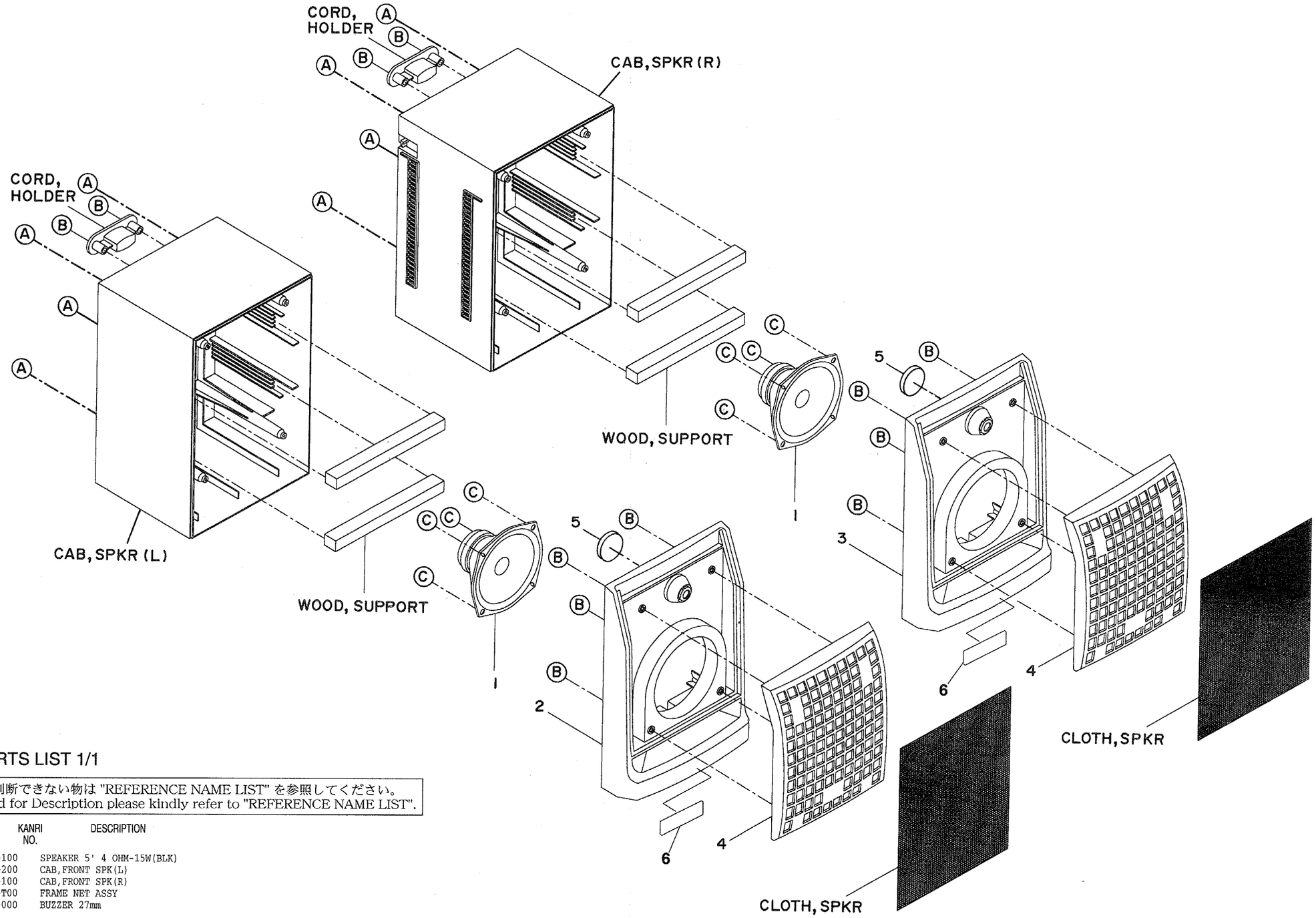
CD MECHANISM EXPLODED VIEW 2/2



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-ZG2-202-71K		O-SERT S ASSY,S
2	83-ZG2-204-419		GEAR,A
3	83-ZG2-205-219		GEAR,B
4	83-ZG2-220-01K		GEAR MOTOR 2
5	83-ZG2-240-019		SHAFT,SLIDE 3
6	87-070-109-019		KSS 212A,PICKUP UNIT
8	83-ZG2-233-019		TURN TABLE,A5
A	87-261-032-219		SCREW V+2-3
B	87-067-174-019		SCRE VTT+2-4



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	S5-040-150-100		SPEAKER 5' 4 OHM-15W(BLK)
2	S7-CT4-100-200		CAB,FRONT SPK(L)
3	S7-CT4-100-100		CAB,FRONT SPK(R)
4	S7-CT4-FNE-T00		FRAME NET ASSY
5	S3-270-010-000		BUZZER 27mm
6	S0-410-210-000		LOGO AIWA
A	87-342-099-210		SCREW ST 3-15
B	87-352-097-210		SCREW,ST3-12
C	87-661-097-410		SCREW ST3-12

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	S7-CT4-910-200		INSTRUCTION BOOK(DW620LH)<LH>
	1	S7-CT4-910-100		INSTRUCTION BOOK(DW620U)<U>
	2	SR-CDW-620-EX0		RC,RC-DW620EX<LH>
⚠	3	S2-201-100-000		POWER CORD(E)<LH>
⚠	3	S1-171-101-000		CORD,POWER SET<U>
⚠	4	S0-220-117-000		CONVERTOR 220V-117V<LH>

REFERENCE NAME LIST

ELECTRICAL SECTION

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

MECHANICAL SECTION

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

サービス技術ニュース	
番号	連絡内容
G— —	
G— —	
G— —	

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