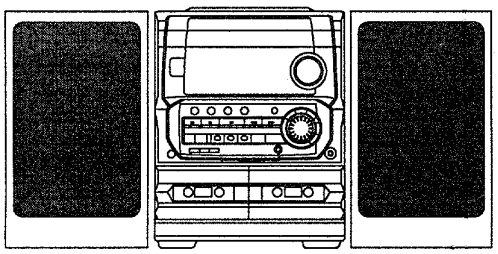
aiwa

aiwa SERVICE

NSX-K380

SERVICE MANUAL



COMPACT DISC
STEREO CASSETTE RECEIVER

- BASIC TAPE MECHANISM: 6ZM-3 PR1NM / PR2NM
- BASIC CD MECHANISM: 4ZG-1 VOS1RDSHM
- TYPE: HR

REVISION PUBLISHING

SYSTEM	CD CASSEIVER	SPEAKER	REMOTE CONTROLLER
NSX-K380	CX-NK380	SX-NS332	RC UNIT, ZAS07

System	Type	Tape Mechanism
NSX-K380	HRSTM, HRJSTM	6ZM-3 PR1NM
	HRJ7STM, HRJ8STM	6ZM-3 PR2NM

- This Service Manual is the "Revision Publishing" and replaces "Simple Manual", S/M Code No. 09-991-407-7T1.
- If requiring information about the CD mechanism, see Service Manual of 4ZG-1. (S/M Code No.09-985-249-8S2)

S/M Code No. 09-994-407-7R1

SPECIFICATIONS

<FM Tuner section>

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

<MW Tuner section>

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

<SW Tuner section>

Tuning range	5.900 MHz to 17.900 MHz
Usable sensitivity	40 μV (IEC)
Antenna	Wire antenna

<Amplifier section>

Power output	Rated : 24 W + 24 W (6 ohms, T.H.D. 1 %, 1 kHz) Reference: 30 W + 30 W (6 ohms, T.H.D. 10 %, 1 kHz)
Total harmonic distortion	0.05 % (15 W, 1 kHz, 6 ohms, DIN AUDIO)
Inputs	VIDEO/AUX : 500 mV MIC : 1.0 mV (10 kohms)
Outputs	VIDEO OUT : 1.0 Vp-p (75 ohms) SPEAKERS: accept speakers of 6 ohms or more PHONES (stereo jack) : accepts headphones of 32 ohms or more

<Cassette deck section>

Track format	4 tracks, 2 channels stereo
Frequency response	50 Hz - 10000 Hz
Recording system	AC bias
Heads	Deck 1 : Playback head x 1 Deck 2 : Recording/playback head x 1, erase head x 1

<Compact disc player section>

Laser	Semiconductor laser (λ =780 nm)
D-A converter	1 bit dual
Signal-to-noise ratio	85 dB (1 kHz, 0 dB)
Harmonic distortion	0.05% (1 kHz, 0 dB)
Wow and flutter	Unmeasurable
Video signal	NTSC/PAL color format (selectable)
Video data	MPEG 1
Audio data	MPEG 1, LAYER 2

<Speaker system SX-NS332>

Cabinet type	2 way, bass reflex (magnetic shielded type)
Speakers	Woofer : 120 mm cone type Tweeter : 20 mm ceramic type
Impedance	6 ohms
Output sound pressure level	87 dB/W/m
Dimensions (W x H x D)	234 x 324 x 270 mm
Weight	2.8 kg

<General>

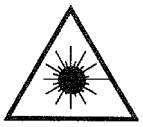
Power requirements	120 V/ 220 – 230 V/ 240 V AC switchable, 50 / 60 Hz
Power consumption	85 W
Dimensions of main unit (W x H x D)	260 x 330 x 350 mm
Weight of main unit	6 kg

• 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: Usynlig 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.

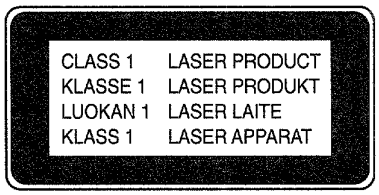
VARNING!
Om apparaten används på annat sätt än vad som specificeras i denna bruksanvising, kan användaren utsättas för osynling laserstrålning, som överskrider gränsen för laserklass 1.

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.



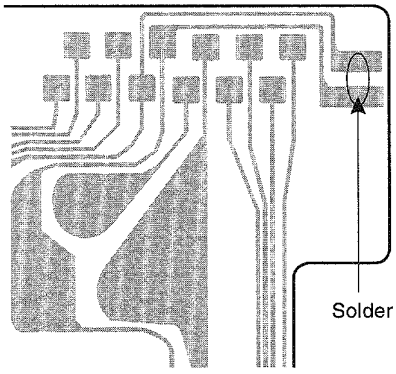
Precaution to replace Optical block

(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 right figure.

PICK-UP Assy P.C.B



NOTE ON BEFORE STARTING REPAIR

1. Forced discharge of electrolytic capacitor of power supply block

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

Discharge procedure

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

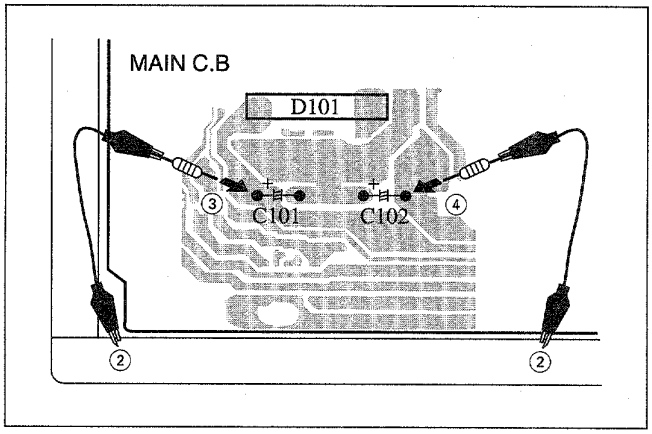


Fig-1

Select a discharging resistor referring to the following table.

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

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

2. Check items before exchanging the MICROCOMPUTER

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

2-1. Regarding the HOLD terminal of the MICROCOMPUTER

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

- Good or no good judgement of the MICROCOMPUTER

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

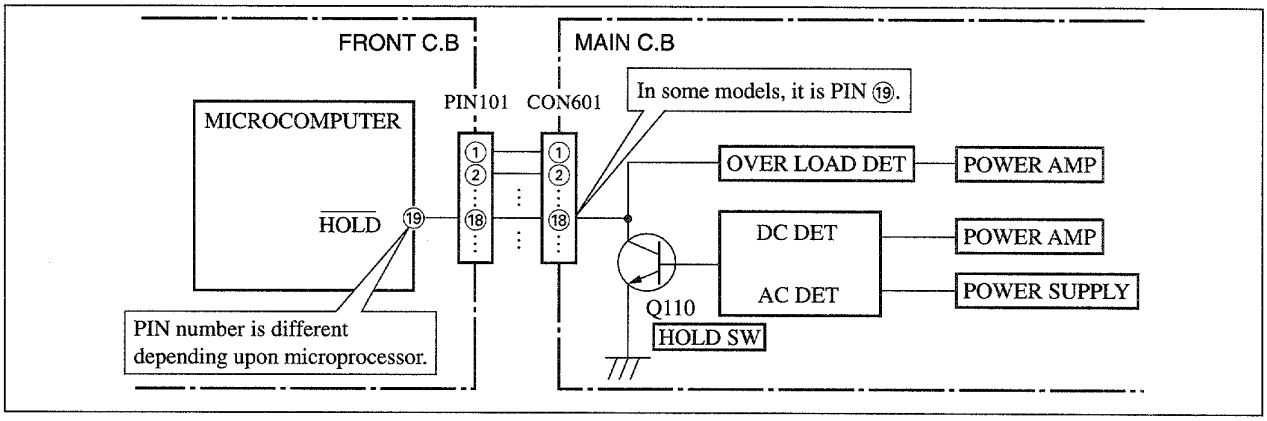


Fig-2-1

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

2-2. Regarding reset

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

① Remove the AC power cord.

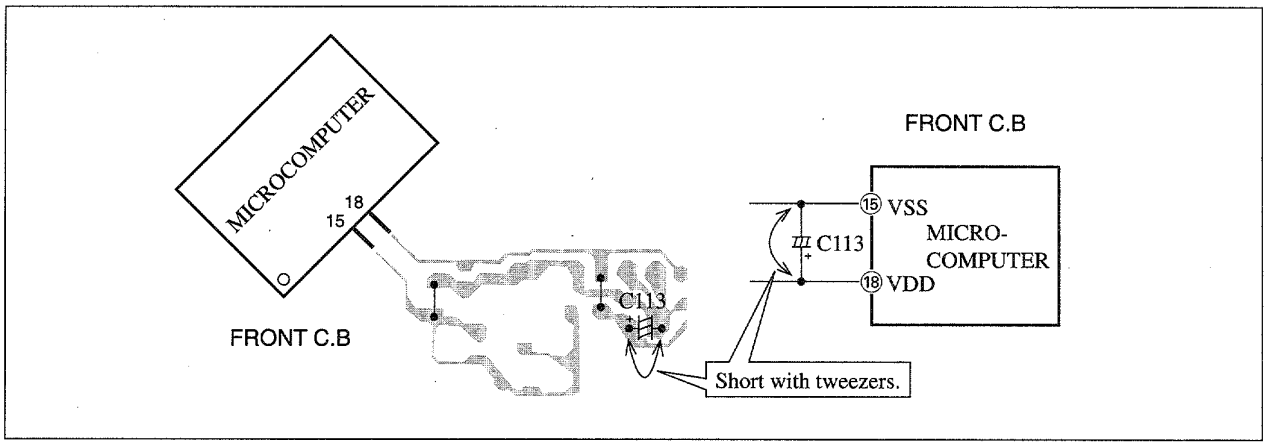


Fig-2-2

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

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

2-3. Confirmation of soldering state of MICROCOMPUTER

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

ELECTRICAL MAIN PARTS LIST

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

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
IC			
	87-020-454-010		IC,DN6851
	87-A20-913-010		IC,LA1837NL
	87-070-127-110		IC,LC72131 D
	8Z-NH9-610-010		IC,M38B57MCH-E217FP
	87-A20-715-010		IC,M62439SP
	87-A21-118-040		IC,M65855FP
	87-A21-218-010		IC,NJL64H380A
	87-017-889-010		IC,NJM4558LD
TRANSISTOR			
	87-A30-255-010		TR,2SB1342
	89-213-702-010		TR,2SB1370E(1.8W)
	87-A30-256-010		TR,2SD1933
	87-A30-190-080		TR,CC5551
	87-A30-318-080		TR,CSA952K
	87-A30-240-080		TR,CSA1585BC
	87-A30-164-080		TR,CSC2001K
	87-A30-234-080		TR,CSC4115BC
	87-026-269-080		TR,DTA114ES
	87-026-214-080		TR,DTA114YS (0.3W)
	87-026-219-080		TR,DTA144ES (0.3W)
	87-026-245-080		TR,DTC114ES
	87-026-215-080		TR,DTC114YS
	87-026-287-080		TR,DTC143ES
	87-026-218-080		TR,DTC144ES (0.2W)
	87-026-609-080		TR,KTA1266GR
	87-026-610-080		TR,KTC3198GR
	87-A30-091-080		FET,2SJ460
	87-A30-092-080		FET,2SK439(E/F)
	87-A30-090-080		FET,2SK2541
DIODE			
	87-070-274-080		DIODE,1N4003 SEM
	87-020-465-080		DIODE,1SS133
	87-A40-455-080		DIODE,RL203 GW
	87-A40-466-080		ZENER,MTZJ2.7A
	87-A40-002-080		ZENER,MTZJ5.1C
	87-017-931-080		ZENER,MTZJ5.6B
	87-A40-509-080		ZENER,MTZJ6.8C
	87-A40-345-080		ZENER,MTZJ10C
	87-A40-336-080		ZENER,MTZJ27D T-72
MAIN C.B.			
C101	87-A10-520-090		CAP,E 3300-35 M SMG
C103	87-016-051-090		CAP,E 2200-35 SMG
C105	87-018-127-080		CAP, CER 470P-50V
C106	87-010-260-080		CAP, ELECT 47-25 M 11L
C107	87-010-384-080		CAP, ELECT 100-25V
C108	87-010-381-080		CAP, ELECT 330-16V
C111	87-010-430-080		CAP, ELECT 100-63
C112	87-010-263-080		CAP, ELECT 100-10V
C113	87-010-403-080		CAP, ELECT 3.3-50V
C114	87-010-374-080		CAP, ELECT 47-10V
C115	87-A10-303-080		CAP,M 0.047-50 J
C116	87-A10-303-080		CAP,M 0.047-50 J
C122	87-010-408-080		CAP, ELECT 47-50V
C123	87-010-408-080		CAP, ELECT 47-50V
C152	87-010-394-080		CAP ELECT220-35V
C207	87-010-546-080		CAP, ELECT 0.33-50V
C208	87-010-546-080		CAP, ELECT 0.33-50V
C209	87-A11-154-080		CAP,TC U 4700P-16 Z F
C210	87-A11-154-080		CAP,TC U 4700P-16 Z F
C211	87-010-403-080		CAP, ELECT 3.3-50V
C212	87-010-403-080		CAP, ELECT 3.3-50V
C213	87-010-260-080		CAP, ELECT 47-25V
C214	87-010-260-080		CAP, ELECT 47-25V
C217	87-A10-304-080		CAP,M 0.056-50 J
C218	87-A10-304-080		CAP,M 0.056-50 J
C219	87-010-544-080		CAP, ELECT 0.1-50V
C220	87-010-544-080		CAP, ELECT 0.1-50V
C229	87-018-123-080		CAP, CER 220P-50V
C230	87-018-123-080		CAP, CER 220P-50V
C235	87-A11-148-080		CAP,TC U 0.1-50 Z F
C236	87-A11-148-080		CAP,TC U 0.1-50 Z F
C237	87-A11-155-080		CAP,TC U 0.01-16 Z F
C301	87-018-131-080		CAP, CER 1000P-50V
C302	87-018-131-080		CAP, CER 1000P-50V
C303	87-018-131-080		CAP, CER 1000P-50V
C304	87-018-131-080		CAP, CER 1000P-50V
C307	87-010-263-080		CAP, ELECT 100-10V
C308	87-010-263-080		CAP, ELECT 100-10V
C311	87-A10-305-080		CAP,M 0.068-50 J
C312	87-A10-305-080		CAP,M 0.068-50 J
C315	87-010-374-080		CAP, ELECT 47-10V
C317	87-010-546-080		CAP, ELECT 0.33-50V
C318	87-010-546-080		CAP, ELECT 0.33-50V
C326	87-018-205-080		CAP, CERA-SOL 0.022
C360	87-010-401-080		CAP, ELECT 1-50V
C361	87-010-374-080		CAP, ELECT 47-10V
C399	87-018-127-080		CAP, CER 470P-50V
C401	87-010-544-080		CAP, ELECT 0.1-50V
C402	87-010-544-080		CAP, ELECT 0.1-50V
C403	87-018-118-080		CAP,TC-U 82P-50 B
C404	87-018-118-080		CAP,TC-U 82P-50 B
C411	87-010-405-080		CAP, ELECT 10-50V
C412	87-010-405-080		CAP, ELECT 10-50V
C452	87-010-382-080		CAP, ELECT 22-25V
C457	88-708-730-810		CAP,M 5600P-100 J
C458	87-018-131-080		CAP, CER 1000P-50V
C459	87-018-128-080		CAP, CERA-SOL SS 560P
C461	87-018-126-080		CAP,TC-U 390P-50 B
C462	87-018-126-080		CAP,TC-U 390P-50 B
C601	87-018-195-080		CAP, CER 1200P-16V
C602	87-018-195-080		CAP, CER 1200P-16V
C611	87-010-545-080		CAP, ELECT 0.22-50V
C612	87-010-545-080		CAP, ELECT 0.22-50V
C613	87-010-545-080		CAP, ELECT 0.22-50V
C614	87-010-545-080		CAP, ELECT 0.22-50V
C615	87-018-104-080		CAP,TC-U 10P-50 SL
C616	87-010-260-080		CAP, ELECT 47-25V
C617	87-010-260-080		CAP, ELECT 47-25V
C701	87-010-404-080		CAP, ELECT 4.7-50V
C702	87-A11-155-080		CAP,TC U 0.01-16 Z F
C703	87-A11-155-080		CAP,TC U 0.01-16 Z F
C704	87-018-131-080		CAP, CER 1000P-50V
C705	87-018-131-080		CAP, CER 1000P-50V
C706	87-018-131-080		CAP, CER 1000P-50V
C707	87-010-112-080		CAP, ELECT 100-16V
C708	87-A11-144-080		CAP,TC U 0.1-50 K B
C709	87-010-248-080		CAP, ELECT 220-10V
C710	87-010-112-080		CAP, ELECT 100-16V
C712	87-018-149-080		CAP,TC-U 15P-50 CH
C713	87-018-149-080		CAP,TC-U 15P-50 CH
C714	87-010-112-080		CAP, ELECT 100-16V
C715	87-018-119-080		CAP, CER 100P-50V
C746	87-A11-155-080		CAP,TC U 0.01-16 Z F
C751	87-018-131-080		CAP, TC U 1000P-50 K B UP050
C753	87-010-408-080		CAP, ELECT 47-50V
C755	87-A11-144-080		CAP,TC U 0.1-50 K B
C756	87-A11-155-080		CAP,TC U 0.01-16 Z F
C757	87-A11-155-080		CAP,TC U 0.01-16 Z F
C758	87-010-112-080		CAP, ELECT 100-16V
C761	87-010-404-080		CAP, ELECT 4.7-50V
C762	87-010-400-080		CAP, ELECT 0.47-50V
C763	87-010-401-080		CAP, ELECT 1-50V
C764	87-010-401-080		CAP, ELECT 1-50V
C765	87-018-115-080		CAP, CER 47P-50V

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C766	87-010-407-080		CAP, ELECT 33-50V
C768	87-A11-147-080		CAP,TC U 0.047-50 Z F
C769	87-010-403-080		CAP, ELECT 3.3-50V
C770	87-A11-155-080		CAP,TC U 0.01-16 Z F
C771	87-010-406-080		CAP, ELECT 22-50
C773	87-018-131-080		CAP, TC U 1000P-50 K B UP050
C774	87-010-405-080		CAP, ELECT 10-50V
C776	87-A11-155-080		CAP,TC U 0.01-16 Z F
C783	87-018-199-080		CAP, CER 3300P
C784	87-018-199-080		CAP, CER 3300P
C785	87-010-405-080		CAP, ELECT 10-50V
C786	87-010-405-080		CAP, ELECT 10-50V
C787	87-018-196-080		CAP,TC U 1500P-16 N X
C788	87-018-196-080		CAP,TC U 1500P-16 N X
C789	87-010-403-080		CAP, ELECT 3.3-50V
C790	87-010-403-080		CAP, ELECT 3.3-50V
C805	87-A11-144-080		CAP,TC U 0.1-50 K B
C807	87-A11-144-080		CAP,TC U 0.1-50 K B
C808	87-A11-155-080		CAP,TC U 0.01-16 Z F
C813	87-018-131-080		CAP, CER 1000P-50V
C901	87-A11-148-080		CAP,TC U 0.1-50 Z F
C931	87-010-263-080		CAP, ELECT 100-10V
C932	87-010-400-080		CAP, ELECT 0.47-50V
C934	87-A11-155-080		CAP,TC U 0.01-16 Z F
C935	87-A11-155-080		CAP,TC U 0.01-16 Z F
C936	87-A11-155-080		CAP,TC U 0.01-16 Z F
C937	87-A11-155-080		CAP,TC U 0.01-16 Z F
C938	87-A11-155-080		CAP,TC U 0.01-16 Z F
C939	87-014-073-080		CAP,PP 4700P-100J
C940	87-014-051-080		CAP,PP 560P-100J PL
C941	87-018-109-080		CAP,TC U 22P-50J SL
C943	87-A11-144-080		CAP,TC U 0.1-50 K B
CF801	87-008-261-010		FILTER, SFE10.7MA5-A
CN301	87-A60-620-010		CONN,3P V 2MM JMT
CN351	87-A60-625-010		CONN,8P V 2MM JMT
CN601	88-NF9-657-010		CONN,30P H BLK TYK-B(X)
CN602	87-099-194-010		CONN,6P 6216V
FB813	87-008-372-080		FILTER, EMI BL OIRNI
FC602	88-906-251-110		FF-CABLE, 6P 1.25
FFE801	A8-8ZA-190-030		8ZA-1 FEUNM
J201	87-A60-602-010		JACK,DIA6.3 BLK ST W/SW TC
J202	87-A60-238-010		TERMINAL,SP 4P (MSC)
J601	87-A60-425-010		JACK,PIN 2P YKC21-3838
J801	87-A60-202-010		TERMINAL,ANT 4P MSP-154V-02
J931	81-754-629-010		CONNECTOR XH 2P
L201	87-003-383-010		COIL,1UH-S
L202	87-003-383-010		COIL,1UH-S
L451	87-007-342-010		COIL,OSC 85K BIAS
L701	87-005-847-080		COIL,2.2UH(CECS)
L771	87-A50-266-010		COIL,FM DET-2N(TOK)
L772	87-A90-052-010		FLTR,CFMT-450A(TOK)
L801	87-005-847-080		COIL,2.2UH(CECS)
L933	87-A50-159-010		COIL,10MH K C2B
L934	87-005-372-080		COIL,1MH K LALO3
L941	87-A50-022-010		COIL,ANT SW (COI) 7.96 MHZ
L942	87-A50-173-010		COIL,OSC SW-N(COI)
L981	88-NF8-625-010		COIL,AM PACK 3N(TOK)
R223	87-A00-258-080		RES,M/F 0.22-1W J
R224	87-A00-258-080		RES,M/F 0.22-1W J
R249	87-A00-258-080		RES,M/F 0.22-1W J
R250	87-A00-258-080		RES,M/F 0.22-1W J
RY101	87-045-389-010		RELAY, 12V-OSA-SS-212DM5
SFR451	87-024-355-080		SFR,33K H EVN DJAA03
SFR452	87-024-355-080		SFR,33K H EVN DJAA03
TC941	87-011-220-080		TRIMMER,CER 20P 6.15X5.9
TC943	87-011-221-080		TRIMMER,CER 30P 6.15X5.9
W101	83-NE2-618-110		F-CABEL,5P-2.5
WH102	87-A90-459-010		HLDR,WIRE 2.5-5P
X701	87-A70-061-010		VIB,XTAL 4.500MHZ CSA-309
X751	87-030-354-010		VIB,CER 450.0KHZ BFUC

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
FRONT C.B			
C101	87-A11-140-080		CAP,TC U 0.047-50 K B
C151	87-A11-142-080		CAP,TC U 0.068-50 K B
C153	87-010-221-080		CAP, ELECT 470-10V
C201	87-010-421-040		CAP,E 4.7-50 5L
C202	87-010-421-040		CAP,E 4.7-50 5L
C203	87-010-560-040		CAP,E 10-50 GAS
C204	87-010-246-040		CAP,E 47-35 SME
C205	87-018-205-080		CAP, CERA-SOL 0.022
C210	87-010-060-040		CAP,E 100-16
C211	87-A11-242-040		CAP,E 220-10 M 5L
C212	87-018-205-080		CAP, CERA-SOL 0.022
C213	87-015-695-040		CAP,E 0.047-50 M7LSRA
C214	87-A11-155-080		CAP,TC U 0.01-16 Z F
C216	87-018-131-080		CAP, CER 1000P-50V
C217	87-018-125-080		CAP, CER 330P-50V
C218	87-018-125-080		CAP, CER 330P-50V
C219	87-018-131-080		CAP, CER 1000P-50V
C220	87-018-205-080		CAP, CERA-SOL 0.022
C221	87-018-105-080		CAP,TC-U 12P-50 SL
C222	87-018-128-080		CAP, CERA-SOL SS 560P
C224	87-018-205-080		CAP, CERA-SOL 0.022
C230	87-A11-140-080		CAP,TC U 0.047-50 K B
C231	87-015-681-040		E/CAP 10-16
C232	87-A11-140-080		CAP,TC U 0.047-50 K B
C234	87-A11-140-080		CAP,TC U 0.047-50 K B
C241	87-018-117-080		CAP,TC-U 68P-50 SL
C242	87-018-117-080		CAP,TC-U 68P-50 SL
C243	87-018-117-080		CAP,TC-U 68P-50 SL
C244	87-018-117-080		CAP,TC-U 68P-50 SL
C245	87-018-117-080		CAP,TC-U 68P-50 SL
C246	87-018-118-080		CAP,TC-U 82P-50 B
C251	87-018-117-080		CAP,TC-U 68P-50 SL
C252	87-018-131-080		CAP,TC U 1000P-50 K B
C401	87-A11-154-080		CAP,TC U 4700P-16 Z F
C402	87-010-112-040		CAP,E 100-16 M 11L SME
C403	87-A11-149-080		CAP,TC U 0.22-50 Z F
C404	87-018-117-080		CAP,TC U 68P-50 J SL
C406	87-A11-144-080		CAP,TC U 0.1-50 K B
C407	87-015-699-040		CAP,E 10-50 M 7L SRA
C408	87-018-118-080		CAP,TC U 82P-50 J B
C409	87-010-265-040		CAP,E 33-16 M 11L
C410	87-A11-140-080		CAP,TC U 0.047-50 K B
C412	87-018-131-080		CAP,TC U 1000P-50 K B
C413	87-018-131-080		CAP,TC U 1000P-50 K B
C501	87-A11-155-080		CAP,TC U 0.01-16 Z F
C502	87-010-263-040		CAP,E 100-10 M 11L
C503	88-710-849-810		CAP,M 0.033-50 J TFL
C504	88-266-720-810		CAP,SC 4700P-25 K SR
C505	87-015-691-040		CAP,E 0.1-50 M 7L
C506	87-015-686-040		CAP,E 22-25 M 7L
C507	88-710-849-810		CAP,M 0.033-50 J TFL
C508	87-015-694-040		CAP,E 0.047-50 M 7L
C509	88-266-700-810		CAP,SC 3300P-25 K
C510	87-A11-132-080		CAP,TC U 0.01-50 K B
C511	87-015-694-040		CAP,E 0.047-50 M 7L
C512	88-266-800-810		CAP,SC 0.012-25 K SR
C701	87-018-115-080		CAP, CER 47P-50V
CN701	87-099-013-010		CONN,11P 6216 V
CON101	88-NF9-658-010		CONN,30P BLK TYK-B(P)
CON102	87-099-015-010		CONN,13P 6216V
EMI401	87-008-372-080		FLTR,EMI BL01 RN1
FC102	88-913-221-110		FF-CABLE, 13P 1.25 220MM
FC701	88-911-201-110		FF-CABLE, 11P 1.25
FL301	8Z-NF9-610-010		FL,SVA-10MS12
J401	87-A60-651-010		JACK SW,TACT SKQNAB(N)
L201	87-A50-434-010		COIL,CLK 4.19M(TOKO)
LED601	87-A40-619-080		LED,SLR-56PT-TE7-W GRN
LED602	87-A40-619-080		LED,SLR-56PT-TE7-W GRN

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
LED604	87-A40-619-080		LED,SLR-56PT-TE7-W GRN
LED605	87-A40-619-080		LED,SLR-56PT-TE7-W GRN
LED608	87-A40-619-080		LED,SLR-56PT-TE7-W GRN
LED609	87-A40-619-080		LED,SLR-56PT-TE7-W GRN
S201	87-A90-535-010		SW,RTRY EC16B24304
S202	87-A90-791-010		SW,RTRY EC16B12204 ENCODER
S301	87-A90-164-080		SW,TACT SKQNAB(N)
S302	87-A90-164-080		SW,TACT SKQNAB(N)
S303	87-A90-164-080		SW,TACT SKQNAB(N)
S304	87-A90-164-080		SW,TACT SKQNAB(N)
S305	87-A90-164-080		SW,TACT SKQNAB(N)
S306	87-A90-164-080		SW,TACT SKQNAB(N)
S307	87-A90-164-080		SW,TACT SKQNAB(N)
S309	87-A90-164-080		SW,TACT SKQNAB(N)
S310	87-A90-164-080		SW,TACT SKQNAB(N)
S311	87-A90-164-080		SW,TACT SKQNAB(N)
S312	87-A90-164-080		SW,TACT SKQNAB(N)
S313	87-A90-164-080		SW,TACT SKQNAB(N)
S314	87-A90-164-080		SW,TACT SKQNAB(N)
S315	87-A90-164-080		SW,TACT SKQNAB(N)
S316	87-A90-164-080		SW,TACT SKQNAB(N)
S317	87-A90-164-080		SW,TACT SKQNAB(N)
S318	87-A90-164-080		SW,TACT SKQNAB(N)
S319	87-A90-164-080		SW,TACT SKQNAB(N)
S320	87-A90-164-080		SW,TACT SKQNAB(N)
S321	87-A90-164-080		SW,TACT SKQNAB(N)
S322	87-A90-164-080		SW,TACT SKQNAB(N)
S323	87-A90-164-080		SW,TACT SKQNAB(N)
S324	87-A90-164-080		SW,TACT SKQNAB(N)
S325	87-A90-164-080		SW,TACT SKQNAB(N)
S329	87-A90-164-080		SW,TACT SKQNAB(N)
S330	87-A90-164-080		SW,TACT SKQNAB(N)
VR401	86-NFA-607-010		VR,RTRY 10K15AX1

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
AC1 C.B.			
⚠ F101	87-035-224-010		FUSE 1.6 AT
⚠ FC101	87-033-147-010		FUSE CLAMP
⚠ FC102	87-033-147-010		FUSE CLAMP
⚠ PT101	88-NF9-610-010		PT,8NF-9 HI-HR
⚠ SW101	87-A90-165-010		SW,SL 1-2-3 SWS2301
⚠ T101	87-A60-317-010		TERMINAL, 1P MSC
⚠ T102	87-A60-317-010		TERMINAL, 1P MSC
AC2 C.B.			
⚠ PR101	87-026-681-080		PROTECTOR,5A 60V 491
⚠ PR102	87-026-681-080		PROTECTOR,5A 60V 491
WH101	87-A90-459-010		HLDR,WIRE 2.5-5P
DECK C.B			
CON105	87-099-753-019		CONN,11P 9604
CON301	86-ZM3-604-219		CONN ASSY, 3P-PB<HR,HRJ>
CON351	86-ZM3-605-119		CONN ASSY, 8P-PB<HR,HRJ>
SFR1	87-024-581-019		SFR,3.3K DIA 6H
SOL1	82-ZM1-618-410		SOL ASSY, 27
SOL2	82-ZM1-618-410		SOL ASSY, 27
SW1	87-A90-248-019		SW,MICRO ESE11SH2CXQ
SW2	87-A90-248-019		SW,MICRO ESE11SH2CXQ
SW3	87-A90-248-019		SW,MICRO ESE11SH2CXQ
SW4	87-A90-248-019		SW,MICRO ESE11SH2CXQ
SW5	87-A90-248-019		SW,MICRO ESE11SH2CXQ
W001	82-ZM3-601-019		RBN-CORD,4P-75<HRJ7,HRJ8>
W001	82-ZM1-632-019		REN-CORD,4P-120MM<HR,HRJ>
HEAD-1 C.B			
CON301	85-MA2-615-010		CONN,ASSY,3P-PB<HRJ7,HRJ8>

TRANSISTOR ILLUSTRATION

E C B

KTA1266GR
KTC3198GR

E C B

CC5551

E C B

CSA952K
CSA1585BC
CSC2001K
CSC4115BC

B C E

2SB1342
2SB1370
2SD1933

G S D

2SK439

S G D

2SK2541

E C B

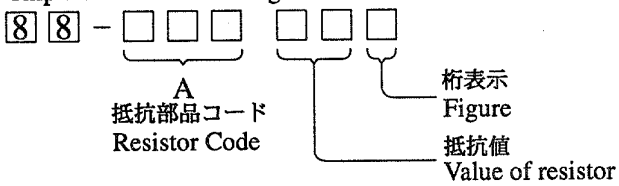
DTA114ES DTC114YS
DTA114YS DTC143ES
DTA144ES DTC144ES
DTC114ES

S D G

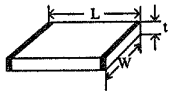
2SJ460

○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

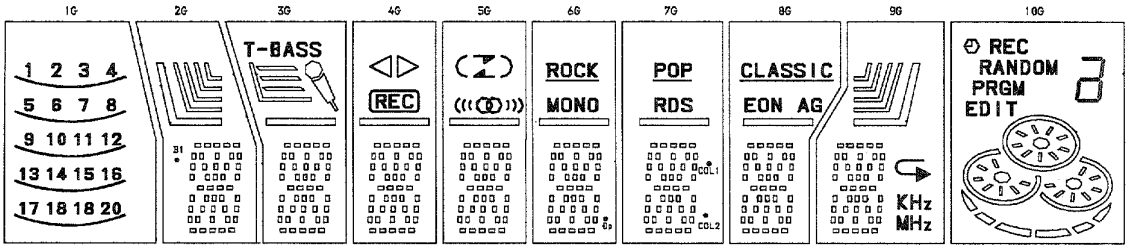


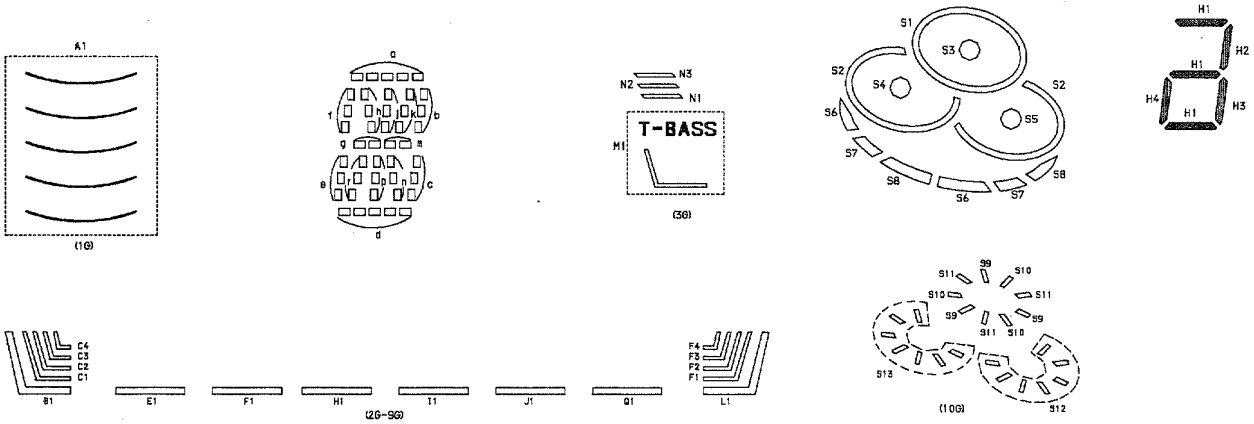
チップ抵抗
Chip resistor

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

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

GRID ASSIGNMENT

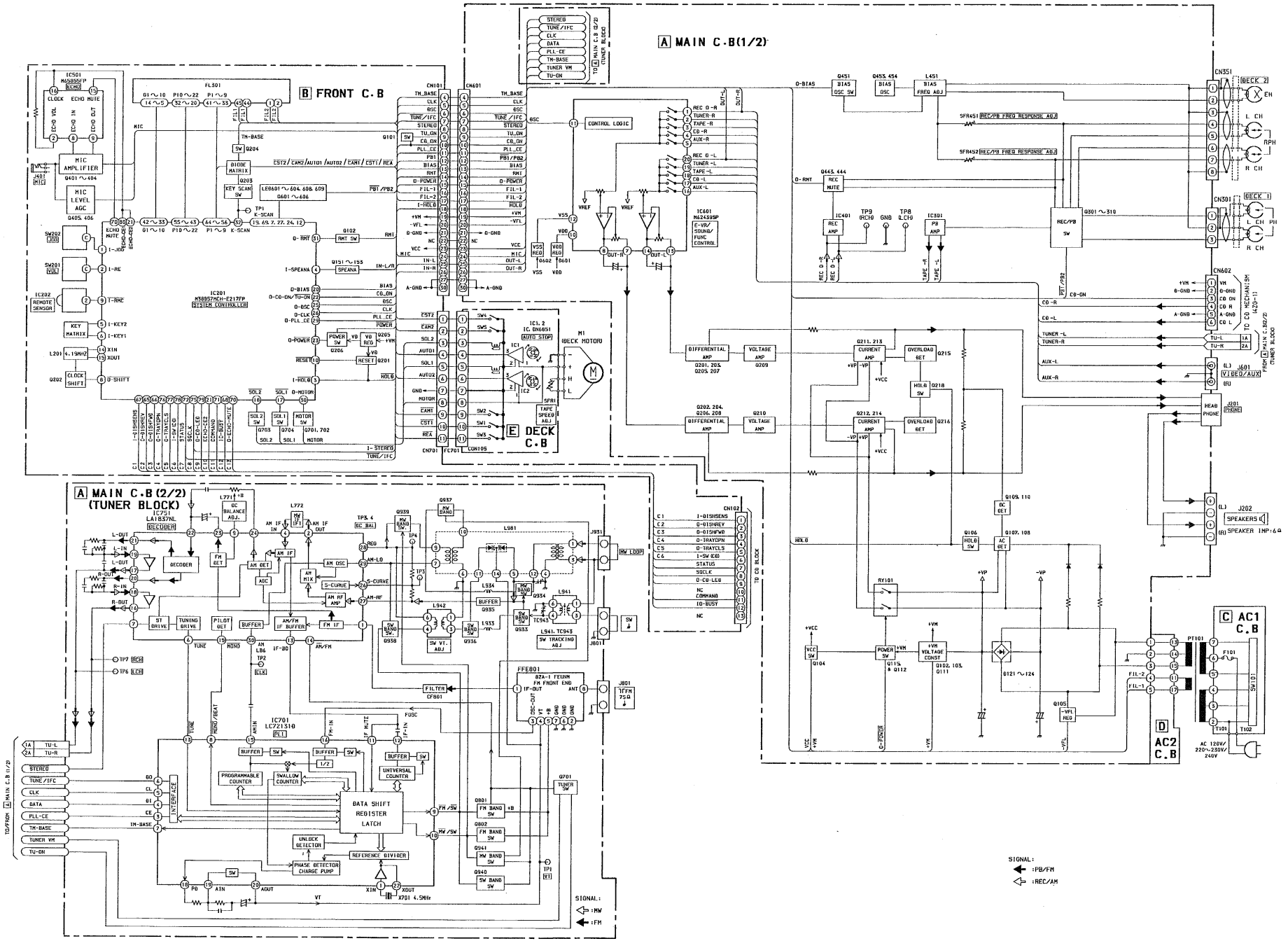




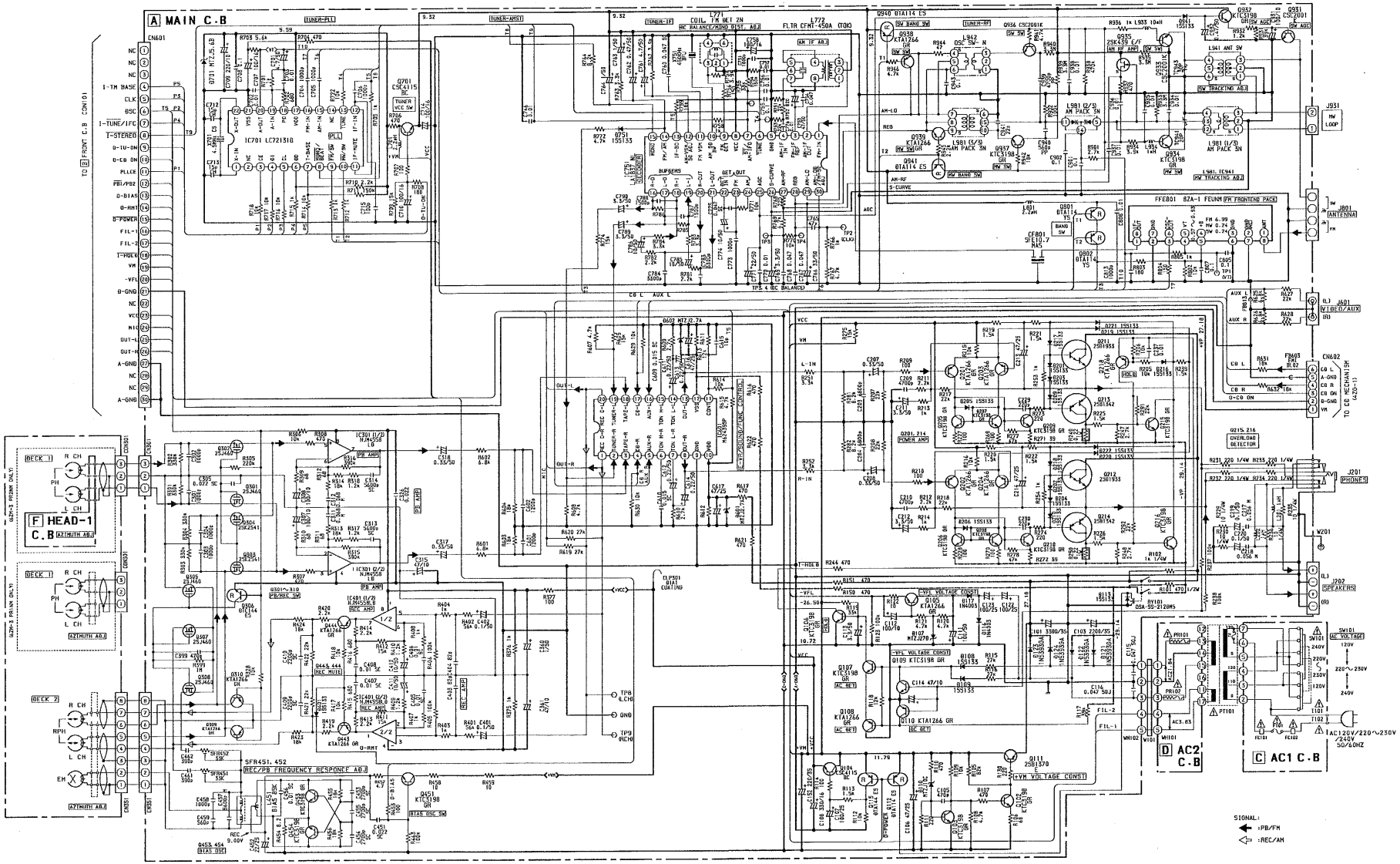
ANODE CONNECTION

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

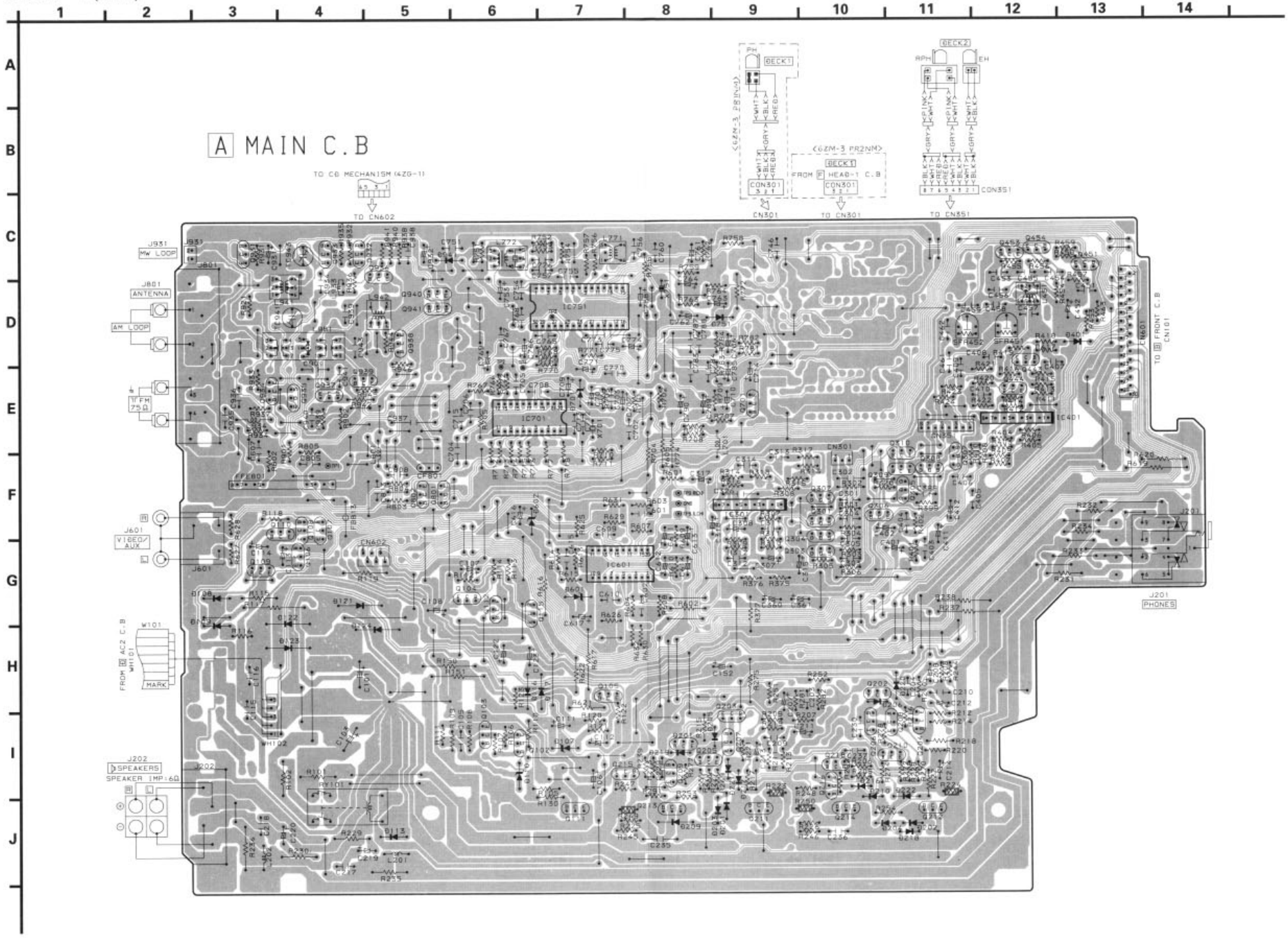
BLOCK DIAGRAM – 1 (MAIN / FRONT / AC1 / AC2 / DECK)



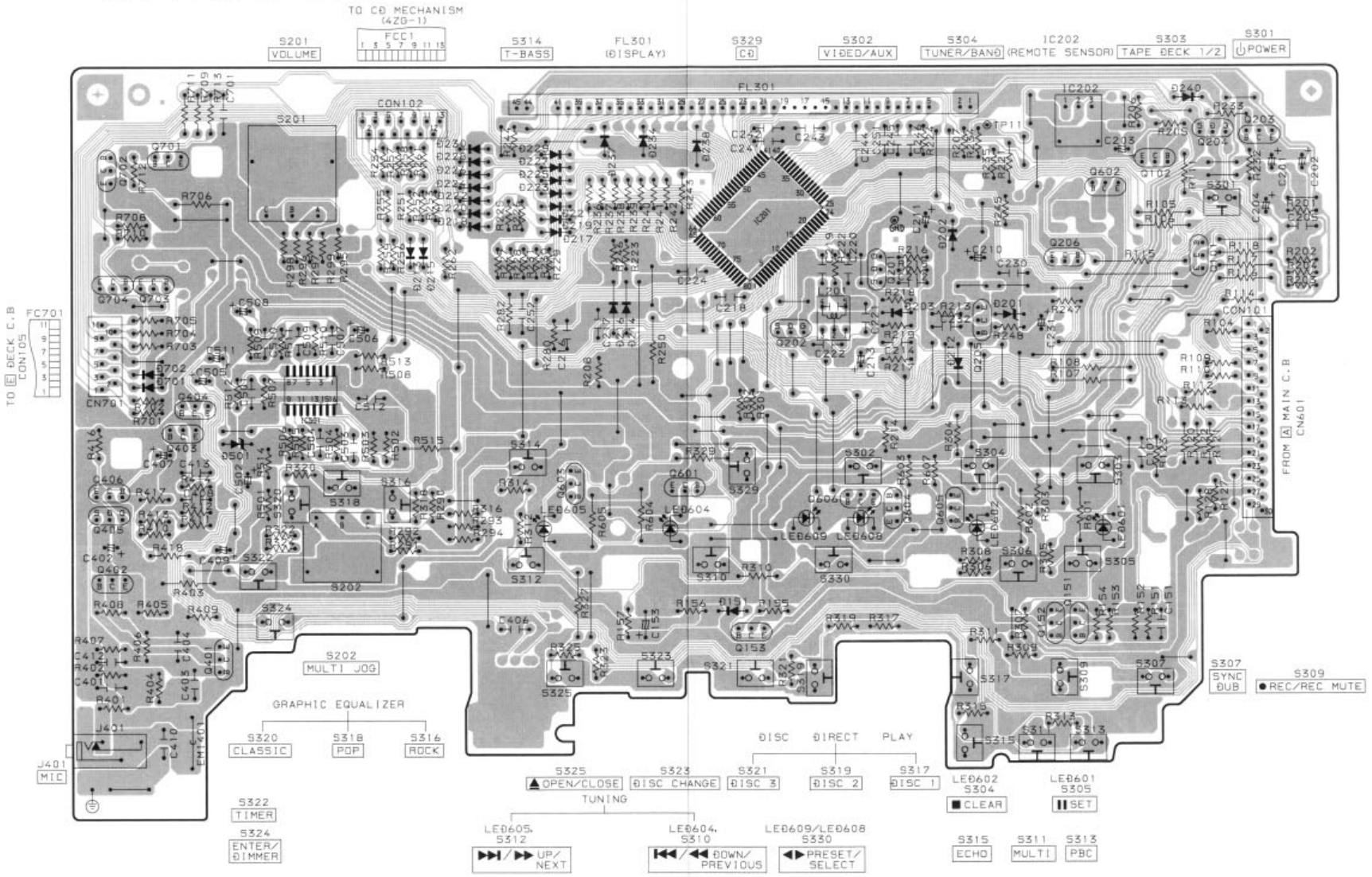
SCHEMATIC DIAGRAM – 1 (MAIN)

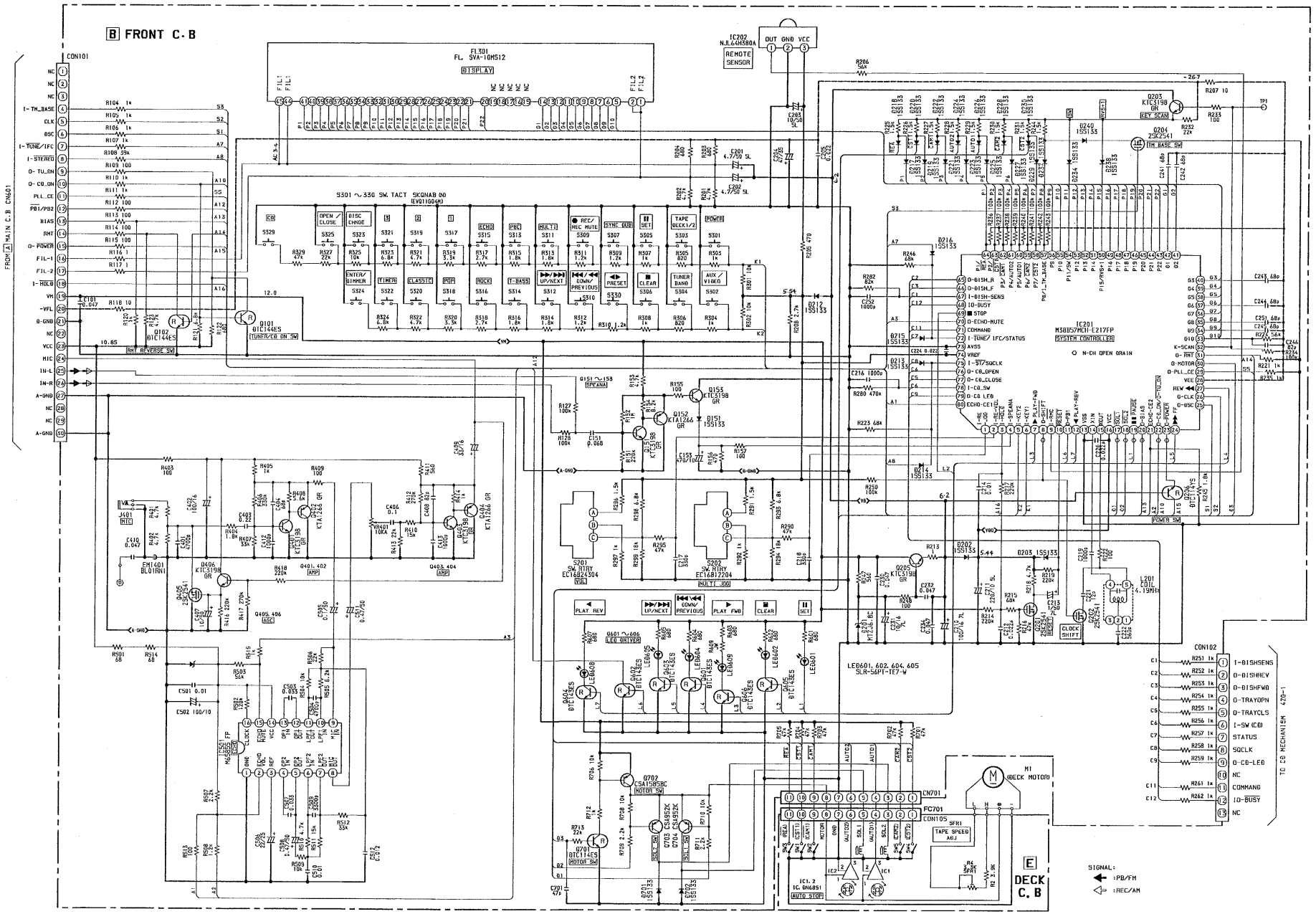


WIRING – 1 (MAIN)



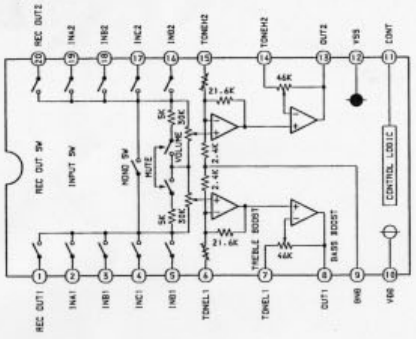
B FRONT C.B


TO CD MECHANISM (4ZG-1)
FCC1
S201 VOLUME
S314 T-BASS
FL301 (DISPLAY)
S329 CD
S302 VIDEO/AUX
S304 TUNER/BAND
IC202 (REMOTE SENSOR)
S303 TAPE DECK 1/2
S301 POWER
CON102
FL301
IC202
S201
TO E DECK C.B CON105
FC701
CN701
FROM A MAIN C.B CN601
S202 MULTI JOG
GRAPHIC EQUALIZER
S320 CLASSIC
S318 POP
S316 ROCK
J401 MIC
S322 TIMER
S324 ENTER/DIMMER
DISC DIRECT PLAY
S325 OPEN/CLOSE
S323 DISC CHANGE
S321 DISC 3
S319 DISC 2
S317 DISC 1
TUNING
LED605, S312 UP/NEXT
LED604, S310 DOWN/PREVIOUS
LED609/LED608 S330 PRESET/SELECT
LED602 S304 CLEAR
LED601 S305 SET
S315 ECHO
S311 MULTI
S313 PBC
S307 SYNC DUB
S309 REC/REC MUTE

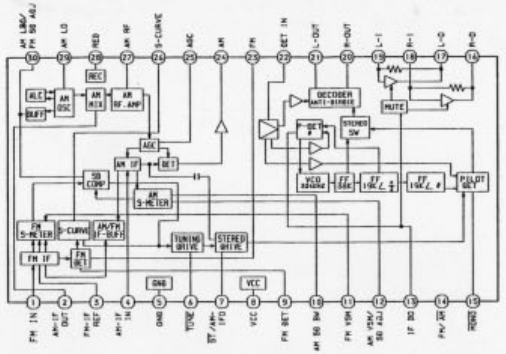

B FRONT C.B
CON101
FROM A MAIN C.B CN601
FL301
FL SW-10MS12
DISPLAY
IC202
NJL64H580A
REMOTE SENSOR
OUT GND VCC
IC201
M38B57MCH-E217FP
SYSTEM CONTROLLER
N-CH OPEN DRAIN
S501 ~ 530 SW. TACT SKQNAB 00
(EVQ11G04M)
OPEN / CLOSE
DISC CHNGE
ENTER/ DIMMER
TIMER
CLASSIC
POP
ROCK
T-BASS
UP/NEXT
DOWN/ PREVIOUS
PRESET
REC/ REC MUTE
SYNC DUB
SET
CLEAR
TUNER BAND
TAPE DECK1/2
AUX / VIDEO
POWER
ECHO
PBC
MULTI
KEY SCAN
TM BASE SW
Q101 DTC144ES
TUNER/CB ON SW
Q102 DTC144ES
RMT REVERSE SW
Q151 ~ 153 SPEANA
Q154 KTC3198 GR
Q152 KTA1266 GR
D151 1SS133
Q201 ~ 206 LED DRIVER
LED601, 602, 604, 605
SLR-56MT-1E7-W
LED603 SLR-56MC-1E7-W
LED606 SLR-56VC-1E7-W
SW201 ~ 204 KEY
SW205 ROTARY EC16B1220404
VOL
SW206 ROTARY EC16B0824304
MULTI JOG
PLAY REV
UP/NEXT
DOWN/ PREVIOUS
PLAY FWD
CLEAR
SET
CON102
I-DISHSENS
O-DISHREV
O-DISHFWD
O-TRAYOPN
O-TRAYCLS
I-SW (CB)
STATUS
SQCLK
O-CB-LED
NC
COMMAND
IO-BUSY
NC
TO CB MECHANISM 420-1
CN701
FC701
CON105
M1
DECK MOTOR
TAPE SPEED ADJ
IC1, 2
IC BN6851
AUTO STOP
E
DECK C.B
SIGNAL:
:PB/FM
:REC/AM

IC BLOCK DIAGRAM

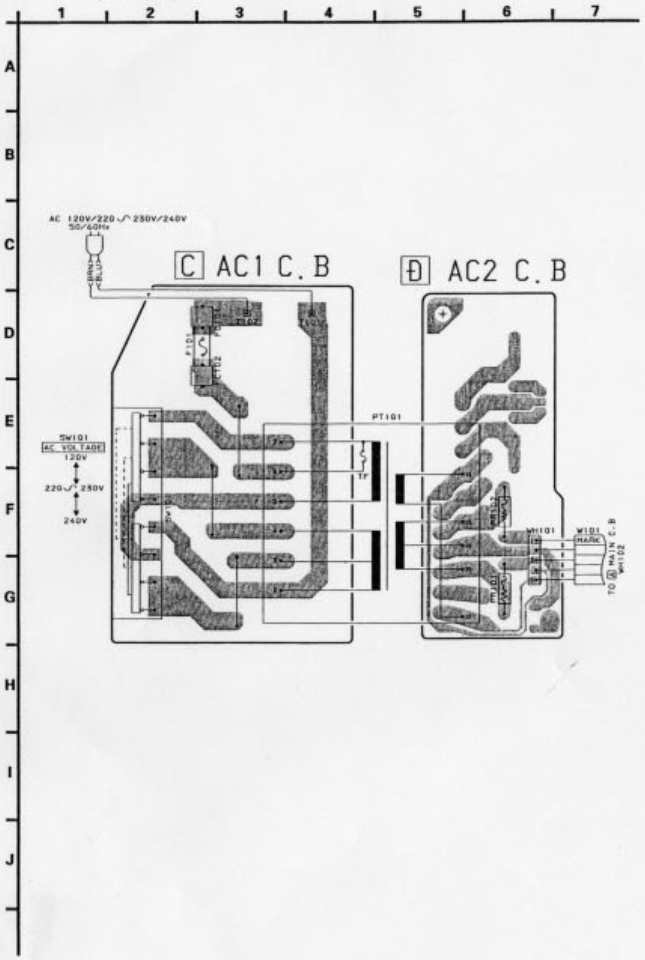
IC, M62439SP



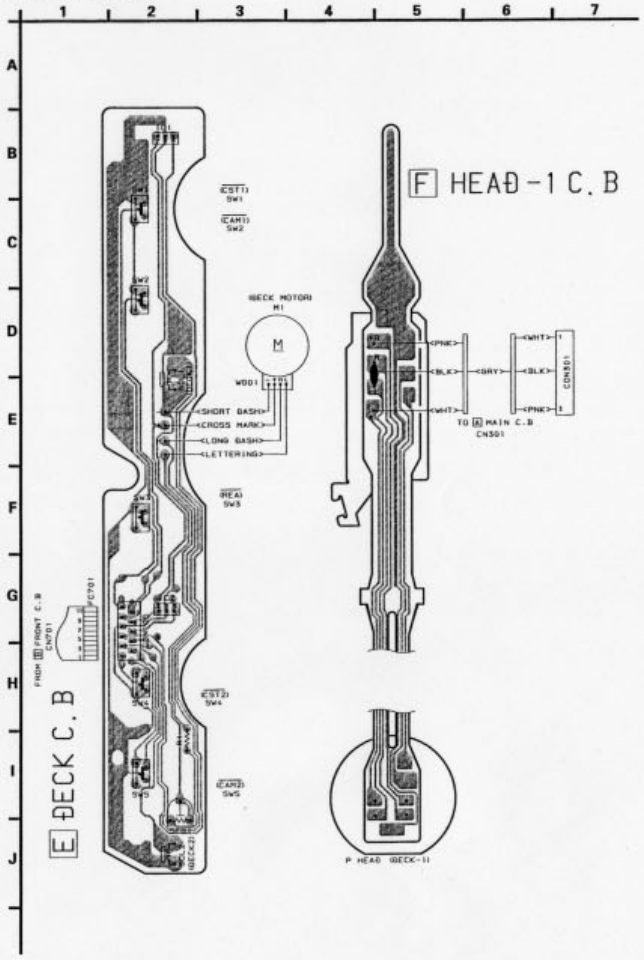
IC, LA1837NL



WIRING – 3 (AC1 / AC2)



WIRING – 4 (DECK)



IC DESCRIPTION

IC, M38B57MCH-E217FP

Pin No.	Pin Name	I/O	Description
1	I-RE-JOG	I	MULTI JOG Rotary encoder input A/B.
2	I-RE-VOL	I	Main volume rotary encoder input A/B.
3	I-HOLD	I	Power failure detection, "L" to stop clock and main memory.
4	I-SPEANA	I	A/D iutput for spectrum analyser level display.
5,6	I-KEY 2,1	I	KEY 2,1 A/D input.
7	► PLAY-FWD	O	► PLAY-FWD LED ON/OFF output.
8	O-SHIFT	O	Microprocessor clock shift output.
9	I-RMC	I	System remote control input.
10	I-RESET	I	System reset input.
11	O-PB1	O	DECK1 playback switch output.
12	◄ PLAY-REV	O	◄ PLAY-REV LED ON/OFF output.
13	VSS	–	GND.
14,15	XIN, XOUT	I/O	4.19MHz oscillator circuit.
16	VCC	–	Power supply.
17	O-SOL1	O	DECK 1 solenoid output.
18	O-SOL2	O	DECK 2 solenoid output.
19	II PAUSE	O	II PAUSE LED ON/OFF output.
20	O-BIAS	O	DECK2 bias ON/OFF output.
21	ECHO-CE2	O	ECHO IC chip enable output.
22	O-CD-ON/O-TU-ON	O	CD power ON/OFF output / Tuner power ON/OFF output.
23	O-POWER	O	System power supply ON/OFF output.
24	►► FF	O	►► FF LED ON/OFF output.
25	O-DSC	O	E-VR and function IC data output.
26	O-CLK	O	MAIN PLL shift register clock output.
27	◄◄ REW	O	◄◄ REW LED ON/OFF output.
28	VEE	–	Power supply for FL display.
29	O-PLL_CE	O	PLL IC chip enable output.
30	O-MOTOR	O	DECK motor ON/OFF output.
31	O-RMT	O	DECK2 REC MUTE output.
32	K-SCAN	O	Key scan output.
33–42	G10–G1	O	FL grid G10–G1 output.
43–49	P22–P16	O	FL segment P22–P16 output.
50	P15/RVS+1	O/I	FL segment P15 output / REVERSE + 1 way input.
51–53	P14–P12	O	FL segment P14–P12 output.
54	P11/SW	O/I	FL segment P11 output / SW input to diode.
55–56	P10–P9	O/I	FL segment P10–P9 output.
57	P8/I-TMBASE	O/I	FL segment P8 output / Reference clock input for timer watch.
58	P7/CST2	O/I	FL segment P7 output / DECK 2 cassette detect switch data input.
59	P6/ CAM2	O/I	FL segment P6 output / DECK2 CAM switch data input.
60	P5/AUTO1	O/I	FL segment P5 output / DECK1 AUTO stop switch data input.
61	P4/AUTO2	O/I	FL segment P4 output / DECK2 AUTO stop switch data input.
62	P3/CAM1	O/I	FL segment P3 output / DECK1 CAM stop switch data input.

Pin No.	Pin Name	I/O	Description
63	P2/CST1	O/I	FL segment P2 output / DECK1 cassette detect switch data input.
64	P1/REA	O/I	FL segment P1 output / DECK2 side A record OK switch data input.
65	O-DISH_R	O	CD turntable reverse rotation output.
66	O-DISH_F	O	CD turntable forward rotation output.
67	I-DISH-SENS	I	CD turntable photo sensor input.
68	IO-BUSY	O	IO busy data output.
69	■ STOP	O	■ STOP LED ON/OFF output.
70	O-ECHO_MUTE	O	ECHO IC mute output.
71	COMMAND	O	CD command output.
72	I-$\overline{\text{TUNE}}$/IFC/STATUS	I	Tuner TUNE input / Tuner IF count serial data input / CD status data input.
73	AVSS	–	GND.
74	VREF	–	Power supply.
75	I-$\overline{\text{ST}}$/SQCLK	I/O	Tuner STEREO input / SQ clock output.
76	O-CD_OPEN	O	CD tray open data output.
77	O-CD_CLOSE	O	CD tray close data output.
78	I-CD_SW	I	CD mecha switch input.
79	O-CD_LED	O	CD flash window LED output.
80	ECHO_CE1	O	ECHO IC chip enable output.

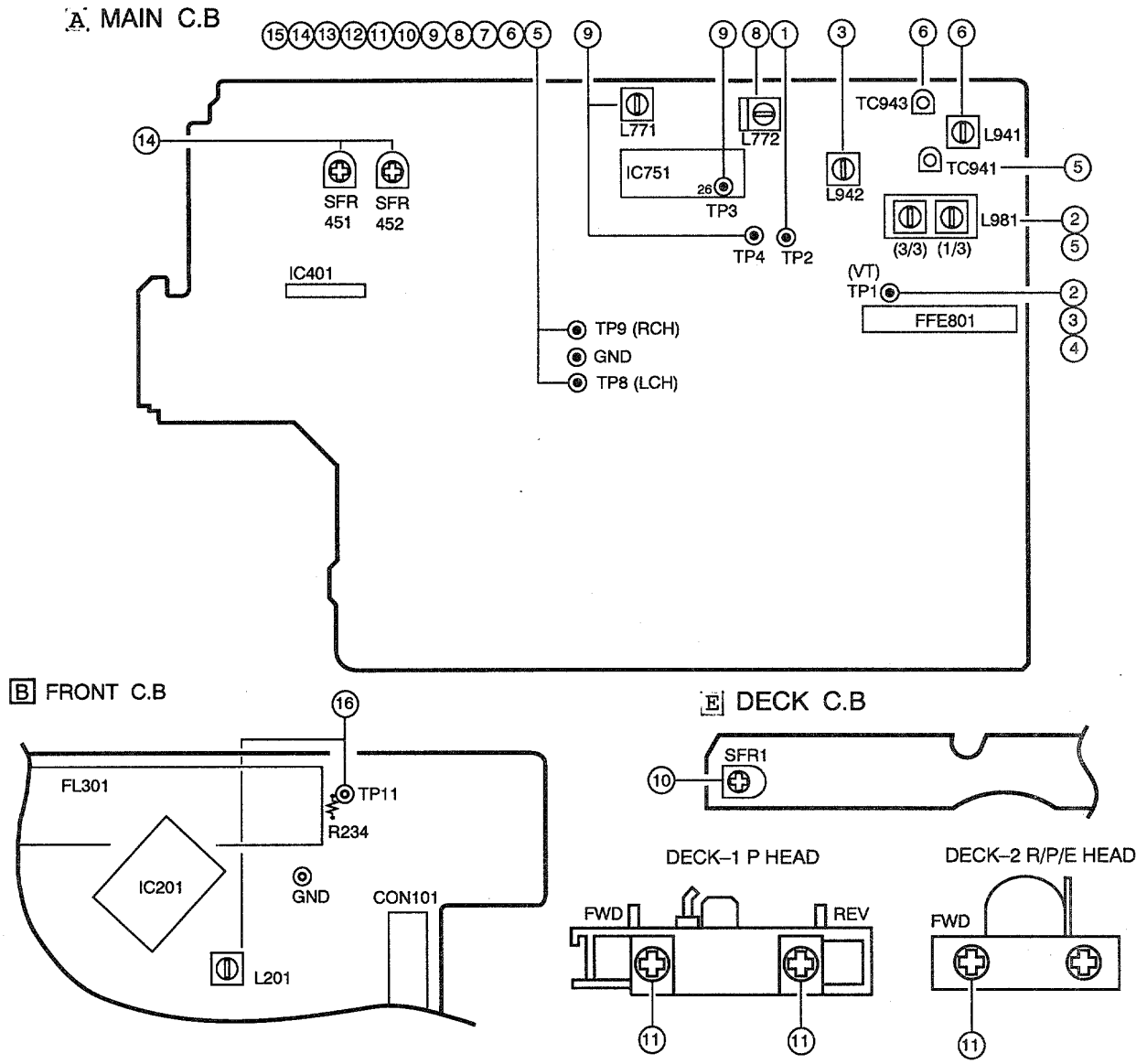
IC, M65855FP

Pin No.	Pin Name	I/O	Description
1	GND	–	GND.
2	ECHO VOL	I	ECHO level control input.
3	REF	–	Power supply input.
4	OP2 IN	I	Low pass filter for D/A converter.
5	OP2 OUT	O	Low pass filter for D/A converter.
6	LPF2 IN	I	Low pass filter for MIC input.
7	LPF2 OUT	O	Low pass filter for MIC input.
8	MIC OUT	O	Mix out ECHO and MIC.
9	MIC IN	I	MIC input.
10	LPF1 IN	I	Low pass filter for MIC input.
11	LPF1 OUT	O	Low pass filter for MIC input.
12	OP1 OUT	O	Low pass filter for A/D converter.
13	OP1 IN	I	Low pass filter for A/D converter.
14	VCO	–	Power supply input.
15	ECHO MUTE	I	ECHO mute control input.
16	CLOCK	I	Clock oscillator circuit.

IC, LC72131D

<table>
<tr><th>Pin No.</th><th>Pin Name</th><th>I/O</th><th>Description</th></tr>
<tr><td>1</td><td>XIN</td><td rowspan="2">I/O</td><td rowspan="2">A crystal oscillator (4.5MHz) is connected between these pins.</td></tr>
<tr><td>22</td><td>XOUT</td></tr>
<tr><td>2</td><td>NC</td><td>–</td><td>Not used.</td></tr>
<tr><td>3</td><td>CE</td><td>I</td><td>To enable the IC. Active "H".</td></tr>
<tr><td>4</td><td>DI</td><td>I</td><td>Serial data input from CPU (μP M38B59MFH-P101FP) when relevant key is operated. Active "H".</td></tr>
<tr><td>5</td><td>CL</td><td>I</td><td>Synchronization clock for serial data in (DI) or serial data out (DO).</td></tr>
<tr><td>6</td><td>DO</td><td>O</td><td>Serial data output to CPU (μP M38B59MFH-P101FP).</td></tr>
<tr><td>7</td><td>T-BASE</td><td>O</td><td>Outputs a reference clock signal (8Hz) for the clock.</td></tr>
<tr><td>8</td><td>$\overline{\text{MONO}}$ / BEAT</td><td>O</td><td>Outputs "H" when MONO / BEAT is switched.</td></tr>
<tr><td>9</td><td>$\overline{\text{FM}}$ / $\overline{\text{SW}}$</td><td>O</td><td>Output "L" or "H" as follows:
<table>
<tr><th colspan="2">2 BAND</th><th colspan="3">3 BAND</th><th colspan="3">3 BAND</th></tr>
<tr><th>AM</th><th>FM</th><th>LW</th><th>MW</th><th>FM</th><th>MW</th><th>SW</th><th>FM</th></tr>
<tr><td>H</td><td>L</td><td>H</td><td>H</td><td>L</td><td>H</td><td>L</td><td>L</td></tr>
</table></td></tr>
<tr><td>10</td><td>$\overline{\text{MW}}$/SW</td><td>O</td><td>Outputs "L" or "H" as follows:
<table>
<tr><th colspan="2">2 BAND</th><th colspan="3">3 BAND</th><th colspan="3">3 BAND</th></tr>
<tr><th>AM</th><th>FM</th><th>LW</th><th>MW</th><th>FM</th><th>MW</th><th>SW</th><th>FM</th></tr>
<tr><td>L</td><td>L</td><td>H</td><td>L</td><td>L</td><td>L</td><td>H</td><td>L</td></tr>
</table></td></tr>
<tr><td>11</td><td>IF-MUTE</td><td>O</td><td>To control internal counter.</td></tr>
<tr><td>12</td><td>IF-IN</td><td>I</td><td>General purpose counter input.</td></tr>
<tr><td>13</td><td>$\overline{\text{TUNE}}$</td><td>I</td><td>Receives "L" when station is tuned.</td></tr>
<tr><td>14</td><td>NC</td><td>–</td><td>Not used.</td></tr>
<tr><td>15</td><td>AM-IN</td><td>I</td><td>Receives the AM local oscillator frequency signal.</td></tr>
<tr><td>16</td><td>FM-IN</td><td>I</td><td>Receives the FM local oscillator frequency signal.</td></tr>
<tr><td>17</td><td>VDD</td><td>–</td><td>Supply power to IC (+5V).</td></tr>
<tr><td>18</td><td>PD</td><td>O</td><td>PLL charge pump output.</td></tr>
<tr><td>19</td><td>A-IN</td><td>I</td><td rowspan="2">The MOS transistor for PLL active low pass filter.</td></tr>
<tr><td>20</td><td>A-OUT</td><td>O</td></tr>
<tr><td>21</td><td>VSS</td><td>–</td><td>Ground.</td></tr>
</table>

ADJUSTMENT <TUNER / DECK>



< TUNER SECTION >

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

2. MW VT Adjustment
   Settings : • Test point : TP1 (VT)
   • Adjustment location : L981 (3/3)
   Method : Set to MW 1710kHz and adjust L981 (3/3) so that the test point becomes 7.5V ± 0.05V. Then check that the test point is more than 0.3V (530kHz).

3. SW VT Adjustment
   Settings : • Test point : TP1 (VT)
   • Adjustment location : L942
   Method : Set to SW 17.9MHz and adjust L942 so that the test point becomes 6.0V ± 0.05V. Then check that the test point is more than 0.3V (5.9MHz).

4. 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).

5. MW Tracking Adjustment
   Settings : • Test point : TP8(Lch), TP9(Rch)
   • Adjustment location :
   L981 (1/3) 603kHz
   TC941 ..... 1404kHz
   Method : Set up TC941 to center before adjustment. The level at 603kHz is adjust to maximum by L981(1/3). Then the level at 1404kHz is adjust to maximum by TC941.

6. SW Tracking Adjustment
   Settings : • Test point : TP8(Lch), TP9(Rch)
   • Adjustment location :
   L941 ..... 5.9MHz
   TC943 ..... 17.9MHz

Method : Set up TC943 to center before adjustment. The level at 5.9MHz is adjust to maximum by L941. Then the level at 17.9 MHz is adjust to maximum by TC943.

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

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

9. DC Balance / Mono Distortion Adjustment
   Settings : • Test point : TP3, TP4 (DC Balance)
   : TP8(Lch), TP9(Rch) (Distortion)
   • 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%.

< DECK SECTION >

10. Tape Speed Adjustment
    Settings : • Test tape : TTA–100
    • Test point : TP8,TP9
    • Adjustment location : SFR1
    Method : Play back the test tape and adjust SFR1 so that the frequency counter reads 3000Hz ± 5Hz and ± 45Hz (REV) with respect to forward speed.

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

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

13. PB Sensitivity Check (DECK 1, DECK 2)
    Settings : • Test tape : TTA–200
    • Test point : TP8,TP9
    Method : Play back the test tape and check the signal level of the test point is 110mV ± 3.0dB.

14. REC/PB Frequency Response Adjustment
    Settings : • Test tape : TTA–602
    • Test point : TP8,TP9
    • Input signal : 1kHz / 8kHz, -26dB (LINE IN)
    • Adjustment location : SFR451(LCH)
    SFR452(RCH)
    Method : Apply 1kHz signal and REC mode. Then adjust OSC attenuator so that the output level at the TP8,TP9 becomes 7.5~9.5mV. Record and play back the 1kHz and 8kHz signals and adjust SFRs so that the output of the 8kHz signal becomes 0dB ± 0.5dB with respect to that of the 1kHz signal.

15. REC/PB Sensitivity Check
    Settings : • Test tape : TTA–602
    • Test point : TP8,TP9
    • Input signal : 1kHz, -6dB (LINE IN)
    Method : Apply a 1kHz signal and REC mode. Then adjust OSC attenuator so that the output level at the TP8,TP9 becomes 75~95mV. Record and play back the 1kHz signals and check that the output is -1.0dB ± 3.5dB.

< FRONT SECTION >

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

PRACTICAL SERVICE FIGURE

<TUNER SECTION>

<FM SECTION>

IHF Sensitivity :	Less than 10dBμV [at 87.5MHz]
(THD 3%)	Less than 9.0dBμV [at 98.0/108.0MHz]
S/N 50dB Quieting sensitivity :	
(Stereo)	Less than 35dB [at 98.0MHz]
Signal to noise ratio :	More than 68dB (mono) [at 98.0MHz]
	More than 66dB (stereo) [at 98.0MHz]
Distortion :	Less than 1.2% (mono) [at 98.0MHz]
	Less than 2.0% (stereo) [at 98.0MHz]
Auto stop level :	25dB ± 10dB
Stereo separation :	More than 25dB [at 98.0MHz]

<MW SECTION>

Sensitivity :	Less than 60dBμV [at 600kHz]
(S/N 20 dB)	Less than 58dBμV [at 1000 / 1400kHz]
Signal to noise ratio :	More than 36dB (mono) [at 1000kHz]
	More than 34dB (stereo) [at 1000kHz]
Distortion :	Less than 1.5% (mono) [at 1000kHz]
	Less than 4.0% (stereo) [at 1000kHz]
Auto stop level :	52dB +10/-15dB [at 1000kHz]
Stereo separation :	More than 15dB [at 1000kHz]

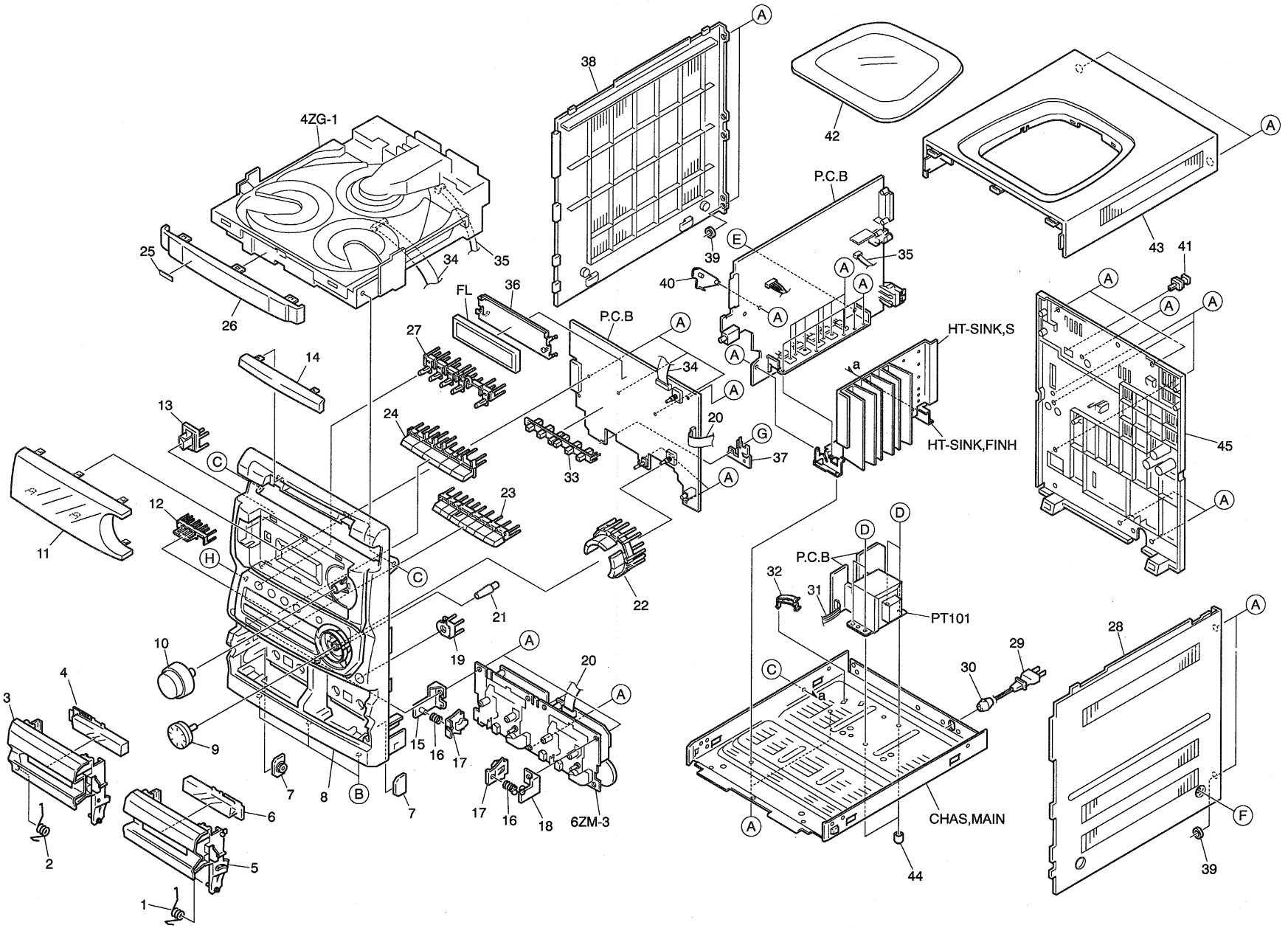
<SW SECTION>

Sensitivity :	Less than 55dB [at 5.9MHz]
	Less than 49dB [at 12.0 MHz]
	Less than 42dB [at 17.9MHz]
Distortion :	Less than 10% [at 12.0MHz]

<DECK SECTION>

Tape speed :	3000Hz ± 45Hz
Wow & flutter :	Less than 0.25% (R.M.S)
Take-up torque :	30 ~ 55g/cm (FWD, REV)
F.F torque :	75 ~ 180g/cm
REW torque :	75 ~ 130g/cm
Back tension :	2 ~ 7g/cm
PB Output level :	3.0V ± 3dB
REC/PB output level :	2.0V ± 3dB
Distortion (REC/PB) :	Less than 2.0% (NORM)
Noise level (PB) :	Less than 20mV (NORM)
Noise level (REC/PB) :	Less than 30mV(NORM)
Erasing ratio :	More than 60dB (at 125 Hz, +10VU)
Test tape :	NORM : TTA–602, TA–200

MECHANICAL EXPLODED VIEW 1 / 1



MECHANICAL PARTS LIST 1 / 1

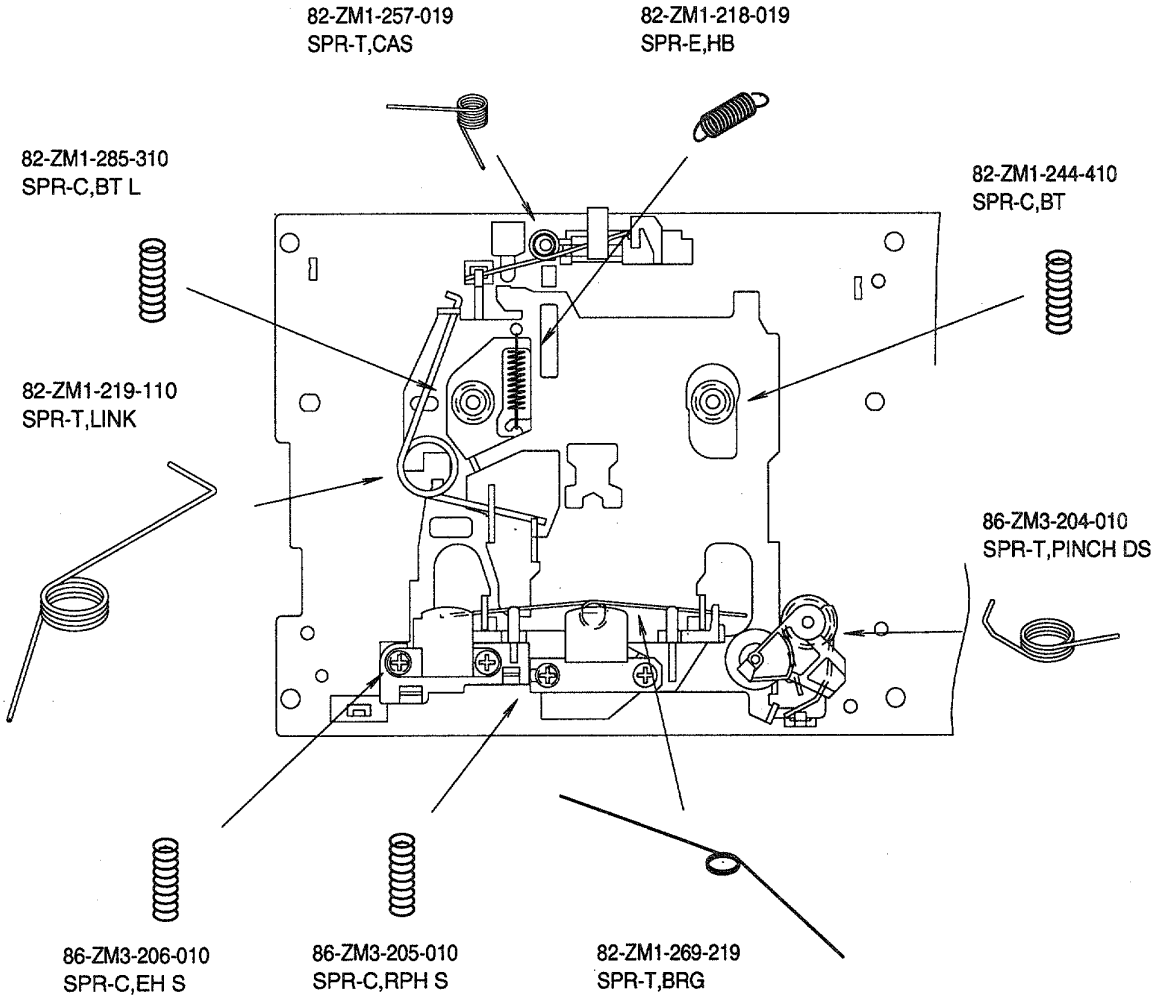
If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

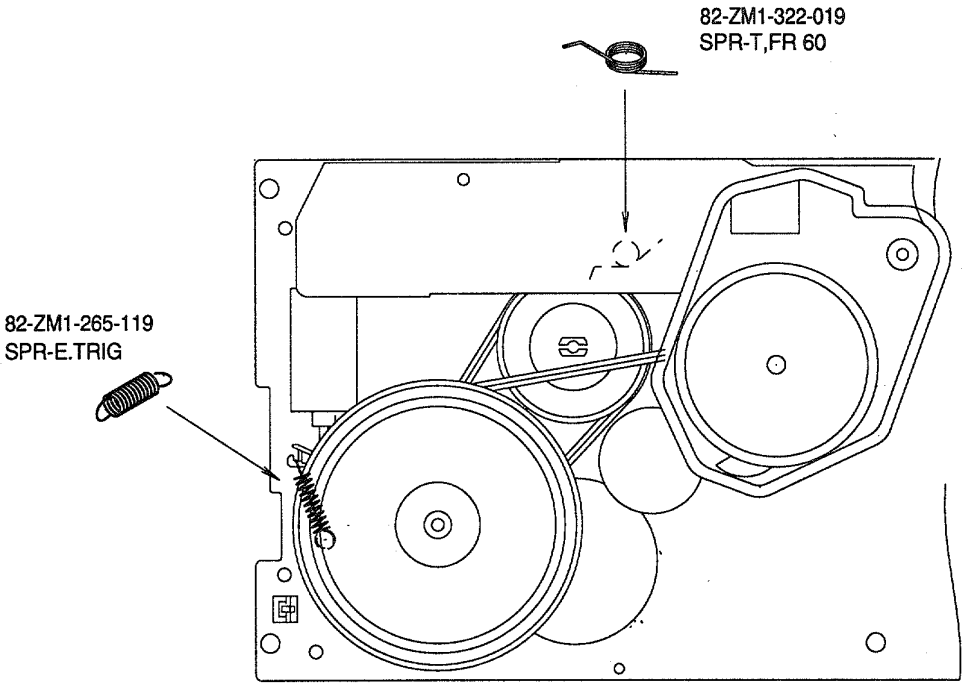
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	82-NF5-219-010		SPR-T,EJECT 2 (SIN)
2	82-NF5-218-010		SPR-T,EJECT 1 (SIN)
3	8Z-NF9-004-010		BOX,CASS 2
4	8Z-NF9-008-010		WINDOW,CASS 2
5	8Z-NF9-032-010		BOX,CASS 1R
6	8Z-NF9-007-010		WINDOW,CASS 1
7	87-NF8-220-010		DMPR,150
8	8Z-NH9-001-010		CABI,FR H
9	8Z-NF9-010-010		KNOB,RTRY JOG
10	8Z-NF9-009-010		KNOB,RTRY VOL
11	8Z-NH9-005-010		WINDOW,DISP H
12	8Z-NH9-008-010		KEY,PBC
13	8Z-NF9-011-010		KEY,POWER
14	8Z-NF9-005-010		WINDOW,CD
15	87-NF4-216-010		HLDR,LOCK 1
16	86-NF9-224-010		SPR-C,LOCK
17	82-NF5-229-010		PLATE,LOCK
18	87-NF4-217-110		HLDR,LOCK 2
19	8Z-NF9-204-010		PLATE,MIC
20	88-911-201-110		FF-CABLE,11P 1.25
21	88-NF9-056-010		KNOB,RTRY MIC
22	8Z-NF9-017-010		KEY,GEQ
23	8Z-NF9-016-010		KEY,CD
24	8Z-NH9-010-010		KEY,ASSY OPE VCD R
25	82-NE6-067-010		BADGE,AIWA 30N
26	8Z-NH9-002-010		PANEL,TRAY H
27	8Z-NF9-012-010		KEY,FUN
28	8Z-NF9-043-010		PANEL,RIGHT S V-2
⚠ 29	87-050-079-010		AC-CORD ASSY,E
30	87-085-185-010		BUSHING, AC CORD (E)
31	83-NE2-618-110		F-CABEL,5P-2.5
32	87-NF4-221-010		HLDR,CABLE
33	8Z-NF9-202-010		GUIDE,OPE R
34	88-913-221-110		FF-CABLE, 13P 1.25 220MM
35	88-906-251-110		FF-CABLE,6P 1.25
36	82-NF7-210-110		GUIDE,FL (*)
37	8Z-NF9-209-010		HLDR,RDS
38	8Z-NB8-011-110		PANEL,LEFT V-2
39	85-NF7-599-010		PV CW 3.2-8-0.3
40	88-NF5-208-010		HLDR,PWB-M N
41	84-ZG1-245-210		CAP,OPTICAL
42	86-NFZ-001-010		WINDOW,TOP
43	8Z-NF9-042-010		PANEL,TOP V-2
44	8Z-NB8-240-010		COVER, PL
45	8Z-NH9-011-010		CABI,REAR HRJSTM
A	87-067-703-010		TAPPING SCREW, BVT2+3-10
B	87-067-689-010		TAPPING SCREW, BVTT+3-8
C	87-721-097-410		QT2+3-12 GLD
D	87-067-975-010		S-SCREW,IT+4-8
E	87-NF4-224-010		S-SCREW,IT3B+3-8 CU
F	87-067-641-010		UTT2+3-8(W/O SLOT)BL
G	87-067-758-010		BVT2+3-12 W/O SLOT
H	87-721-096-410		QT2+3-10 GLD

COLOR NAME TABLE

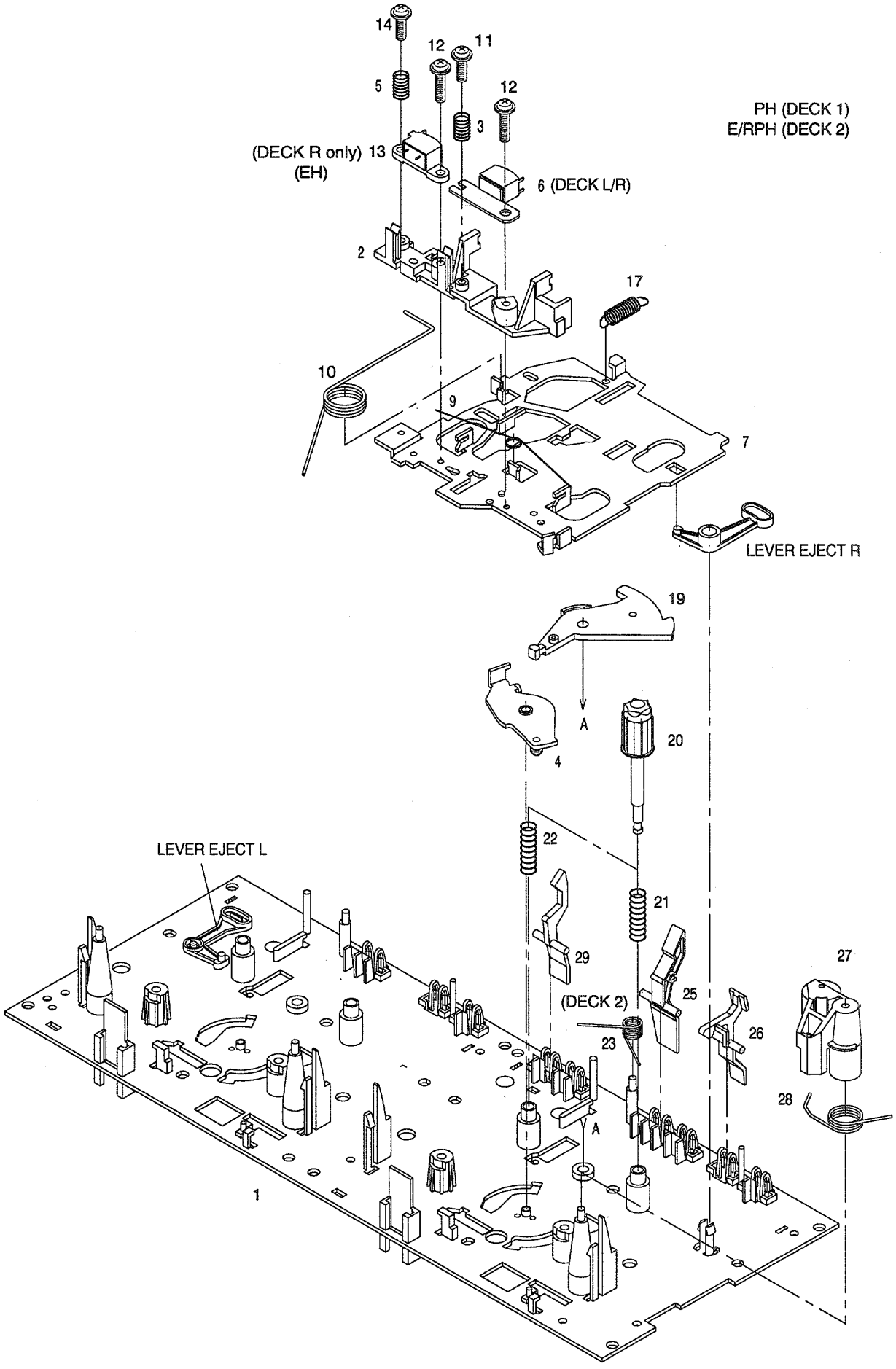
Basic color symbol	Color	Basic color symbol	Color	Basic color symbol	Color
B	Black	C	Cream	D	Orange
G	Green	H	Gray	L	Blue
LT	Transparent Blue	N	Gold	P	Pink
R	Red	S	Silver	ST	Titan Silver
T	Brown	V	Violet	W	White
WT	Transparent White	Y	Yellow	YT	Transparent Yellow
LM	Metallic Blue	LL	Light Blue	GT	Transparent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

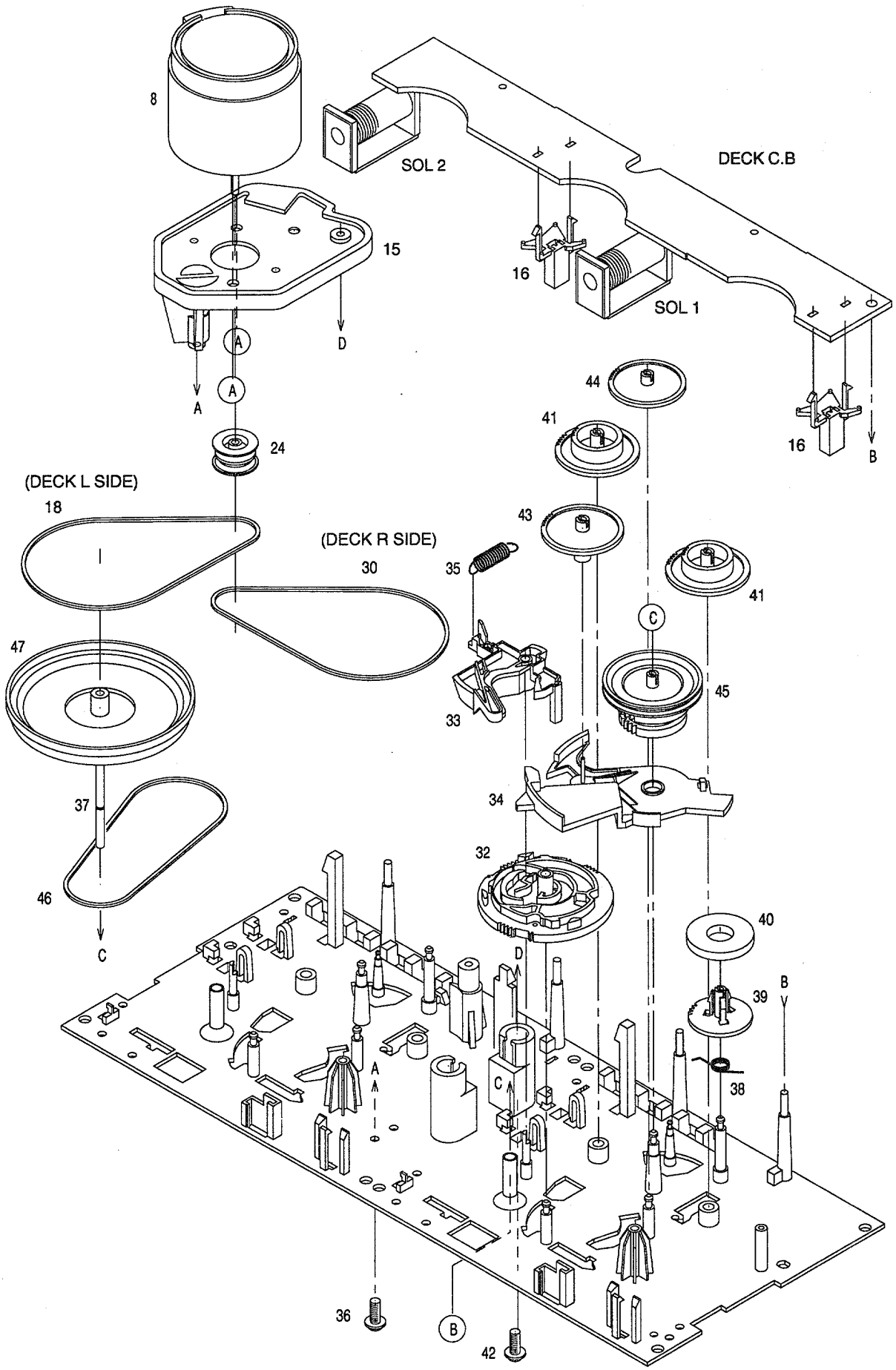
SPRING APPLICATION POSITION <6ZM–3 PR1NM>





TAPE MECHANISM EXPLODED VIEW 1 / 1 <6ZM–3 PR1NM>



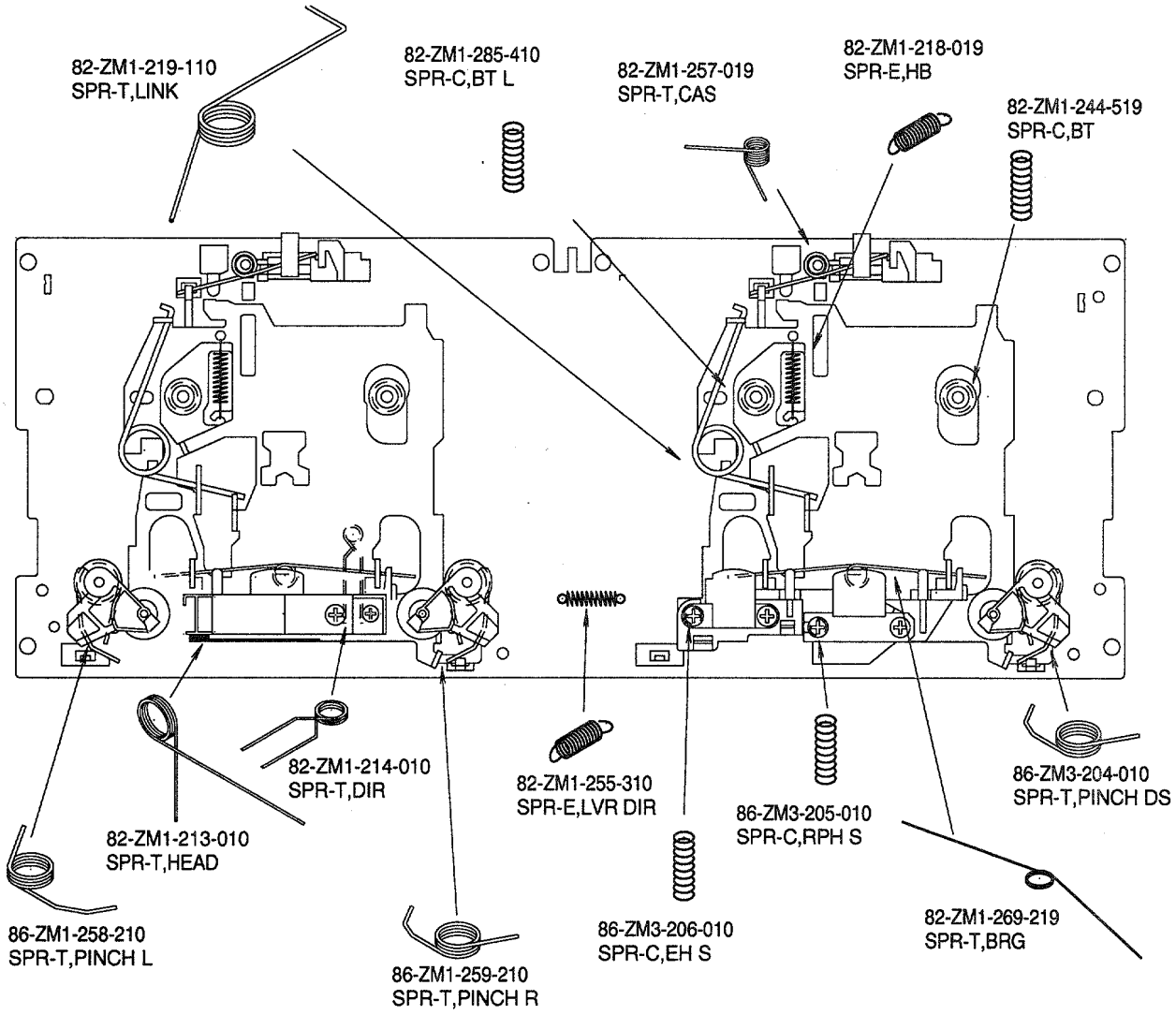

8
SOL 2
DECK C.B
15
16
SOL 1
D
A
A
24
44
41
16
B
(DECK L SIDE)
18
(DECK R SIDE)
30
43
35
41
C
47
45
33
37
34
32
46
C
D
40
B
39
A
C
38
36
B
42

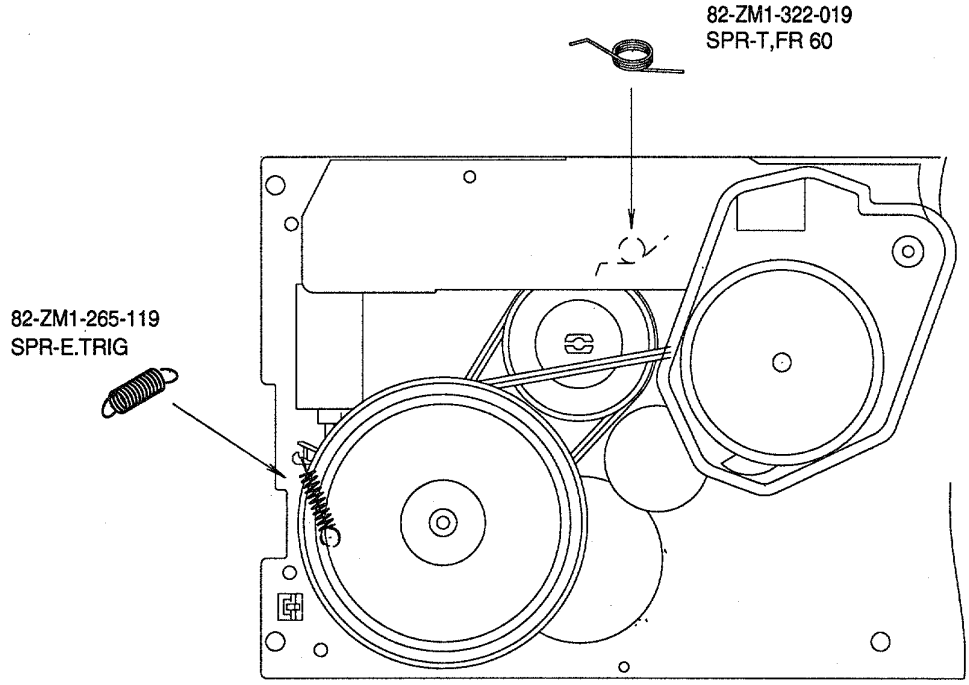
TAPE MECHANISM PARTS LIST 1 / 1 <6ZM–3 PR1NM>

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

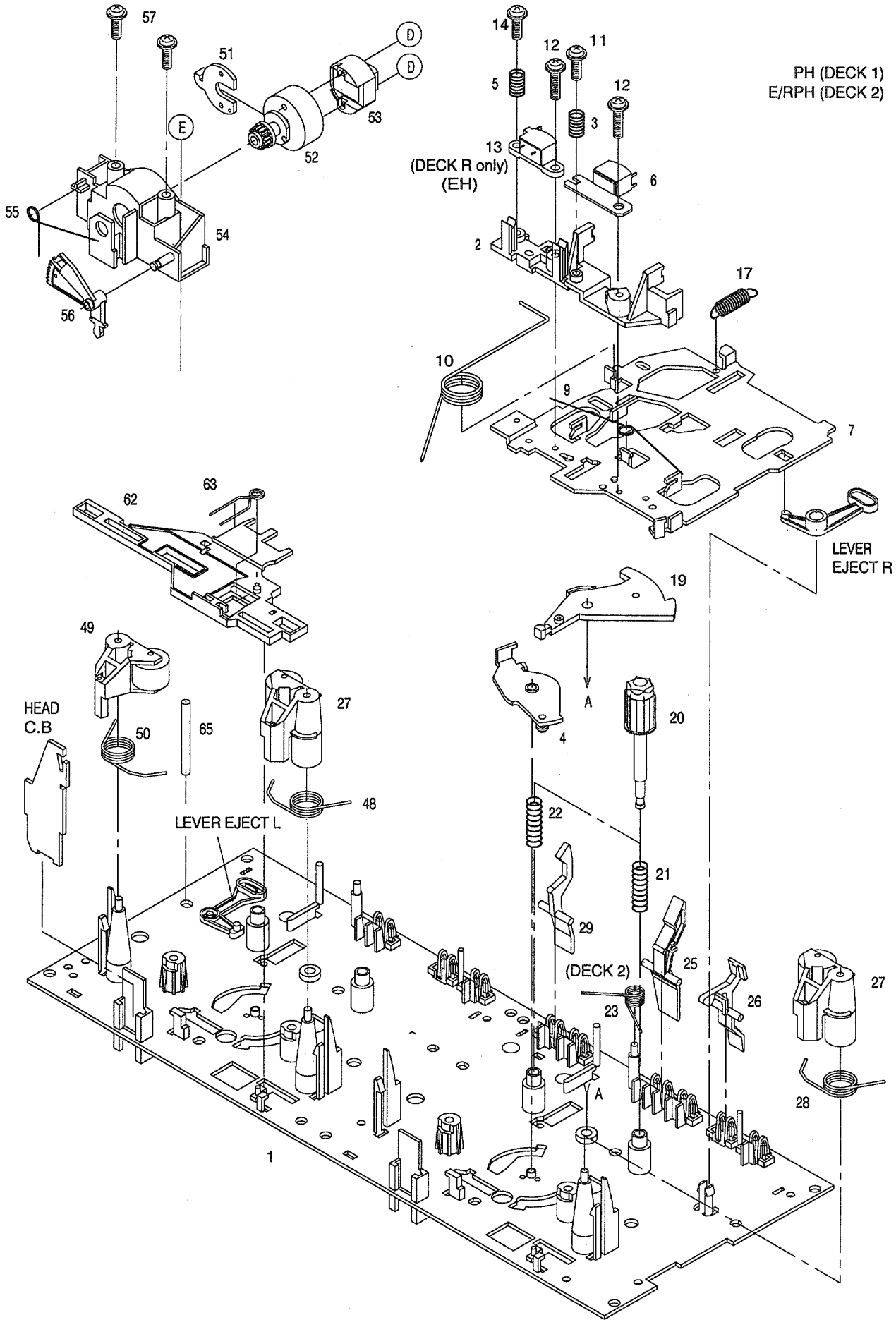
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	86-ZM3-212-010		CHAS ASSY,SS
2	86-ZM3-202-010		BASE,HEAD S
3	86-ZM3-205-010		SPR-C,RPH S
4	82-ZM1-333-210		PLATE,LINK 2
5	86-ZM3-206-010		SPR-C,EH S
6	87-A90-403-019		HEAD,RPH MS15R
7	86-ZM3-201-010		CHAS,HEAD S
8	87-045-347-019		MOT,SHU2L 70(M1)
9	82-ZM1-269-219		SPR-T,BRG
10	82-ZM3-323-119		SPR-T,LINK
11	86-ZM3-209-010		S-SCREW,ASIMUTHS
12	86-ZM3-207-010		S-SCREW,RPH
13	87-A90-404-019		HEAD,EH LE15B
14	86-ZM3-208-010		S-SCREW,EH
15	86-ZM3-203-010		HLDR,MOTS
16	82-ZM1-245-210		HLDR,IC
17	82-ZM1-218-019		SPR-E,HB
18	86-ZM3-211-010		BELT,RS
19	82-ZM1-222-219		LVR,PLAY
20	82-ZM1-217-419		REEL,TABLE
21	82-ZM1-244-519		SPR-C,BT
22	82-ZM1-285-410		SPR-C,BT L
23	82-ZM1-257-019		SPR-T,CAS
24	82-ZM3-221-010		PULLEY,MOT 2M
25	82-ZM1-242-019		LE=VR,CAS
26	82-ZM1-243-019		LVR,STOP
27	82-ZM1-344-119		LVR ASSY,PINCH
28	86-ZM3-204-010		SPR-T,PINCHDS
29	82-ZM1-240-119		LVR,REC (DECK 2)
30	86-ZM3-210-010		BELT,PS
31	82-ZM1-223-010		GEAR,PLAY
32	82-ZM3-305-019		GEAR,CAM M2
33	82-ZM1-227-319		LVR,TRIG
34	82-ZM3-306-110		LVR,FR M2
35	82-ZM1-265-119		SPR-E,TRIG
36	85-ZM3-203-019		S-SCREW MOTOR M3
37	82-ZM1-236-019		CAPSTAN N 2-41.5
37	82-ZM1-239-019		CAPSTAN N 2.2-41.7
38	82-ZM1-322-019		SPR-T,FR60
39	82-ZM1-220-219		GEAR,IDLER
40	82-ZM3-616-019		RING MAGNET 4
41	82-ZM1-216-319		GEAR,REEL
42	86-ZM3-213-010		S-SCREW,HLDR MOT 3
43	82-ZM1-225-219		GEAR,FR
44	82-ZM1-226-019		GEAR,REW
45	82-ZM3-333-210		SLIP DISK ASSY 2
46	82-ZM1-338-010		BELT FR4
47	82-ZM1-349-019		FLY-WHL RW (DECK L)

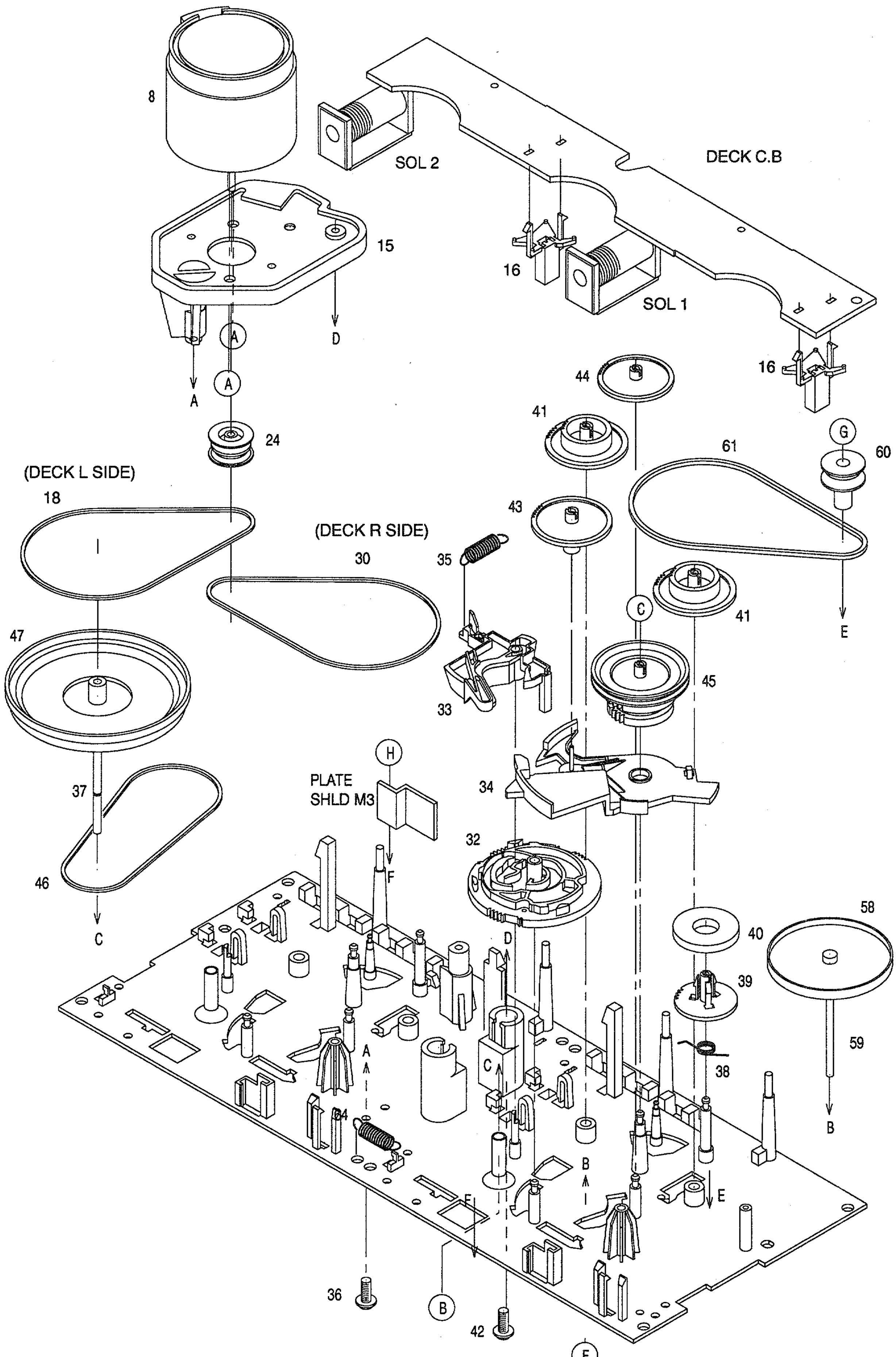
SPRING APPLICATION POSITION <6ZM–3 PR2NM>





TAPE MECHANISM EXPLODED VIEW 1 / 1 <6ZM–3 PR2NM>





8
SOL 2
DECK C.B
15
16
SOL 1
D
A
A
A
16
44
41
24
61
G
60
(DECK L SIDE)
18
43
(DECK R SIDE)
30
35
41
E
C
47
45
33
H
PLATE
SHLD M3
34
37
32
F
46
58
C
40
D
39
59
A
C
38
24
B
B
E
F
36
B
42
F

TAPE MECHANISM PARTS LIST 1 / 1 <6ZM-3 PR2NM>

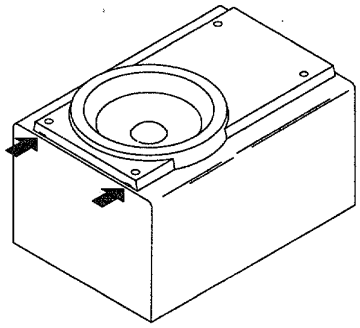
If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	86-ZM3-215-010		CHAS ASSY,RS
2	86-ZM3-202-010		BASE,HEAD S
3	86-ZM3-205-010		SPR-C,RPH S
4	82-ZM1-333-210		PLATE,LINK 2
5	86-ZM3-206-010		SPR-C,EH S
6	87-A90-403-019		HEAD,RPH MS15R
7	86-ZM3-201-010		CHAS,HEAD S(DECK L)
7	82-ZM3-206-910		CHAS,HEAD(DECK R)
8	87-045-347-019		MOT,SHU2L 70(M1)
9	82-ZM1-269-219		SPR-T,BRG
10	82-ZM1-219-110		SPR-T,LINK
11	86-ZM3-209-010		S-SCREW,ASIMUTHS
12	86-ZM3-207-010		S-SCREW,RPH
13	87-A90-404-019		HEAD,EH LE15B
14	86-ZM3-208-010		S-SCREW,EH
15	86-ZM3-203-010		HLDR,MOTS
16	82-ZM1-245-210		HLDR,IC
17	82-ZM1-218-019		SPR-E,HB
18	86-ZM3-214-010		BELT,SUB RR
19	82-ZM1-222-219		LVR,PLAY
20	82-ZM1-217-419		REEL TABLE
21	82-ZM1-244-519		SPR-C,BT
22	82-ZM1-285-410		SPR-C,BT L
23	82-ZM1-257-019		SPR-T,CAS
24	82-ZM3-221-010		PULLEY,MOT 2M
25	82-ZM1-242-019		LVR,CAS
26	82-ZM1-243-019		LVR,STOP
27	82-ZM1-344-119		LVR ASSY,PINCH
28	86-ZM3-204-010		SPR-T,PINCHDS
29	82-ZM1-240-119		LVR,REC (DECK 2)
30	86-ZM3-210-010		BELT,RS
32	82-ZM3-305-119		GEAR,CAM M2
33	82-ZM1-227-319		LVR,TRIG
34	82-ZM3-306-110		LVR,FR M2
35	82-ZM1-265-119		SPR-E,TRIG
36	87-761-073-419		VFT2+2.6-6 W/O SLOT
37	82-ZM1-239-019		CAPSTAN N 2.2-41.7
38	82-ZM1-322-019		SPR-T,FR60
39	82-ZM1-220-219		GEAR,IDLER
40	82-ZM3-616-019		RING MAGNET 4
41	82-ZM1-216-319		GEAR,REEL
42	86-ZM3-213-010		S-SCREW,HLDR,MOT 3
43	82-ZM1-225-219		GEAR,FR
44	82-ZM1-226-019		GEAR,REW
45	82-ZM3-333-310		SLIP DISK ASSY 2
46	82-ZM1-338-010		BELT FR4
47	82-ZM1-349-019		FLY-WHL RW (DECK L)
47	82-ZM3-338-010		FLY-WHL R3W (DECK R)
48	82-ZM1-259-210		SPR-T,PINCH R
49	82-ZM1-341-110		LVR ASSY,PINCH L2
50	82-ZM1-258-210		SPR-T,PINCH L
51	82-ZM1-314-110		PLATE,HEAD
52	82-ZM1-208-310		HLDR,HEAD
53	87-A90-366-010		HEAD,PH YK50P-BF414
54	82-ZM1-207-810		GUIDE TAPE
55	82-ZM1-213-010		SPR-T,HEAD
56	82-ZM1-210-110		GEAR,HT
57	86-ZM4-206-010		S-SCREW AZIMUTH L
58	82-ZM1-348-010		FLY-WHL,LW
59	82-ZM1-236-019		CAPSTAN N 2-41.5
60	82-ZM3-335-210		PULLEY,COUPLER M3
61	86-ZM1-206-010		BELT,MAIN L
62	82-ZM1-266-110		LVR,DIR
63	82-ZM1-214-010		SPR-T,DIR
64	82-ZM1-255-310		SPR-E,LVR DIR
65	82-ZM3-339-010		SHAFT,COUPLER N3
A	87-251-071-417		U+2.6-4
B	80-ZM6-243-019		SH,1.75-3.6-0.5 SLT
C	82-ZM3-334-010		PW,2.16-6-0.4
D	80-ZM6-207-010		V+1.6-7
E	85-ZM3-202-010		S-SCREW TG
F	82-ZM1-288-010		SH,1.63-3.2-0.5 SLT
G	87-B10-043-010		W-P,0.99-4-0.25 SLT
H	87-571-032-410		VIT+2-3

SPEAKER DISASSEMBLY INSTRUCTIONS

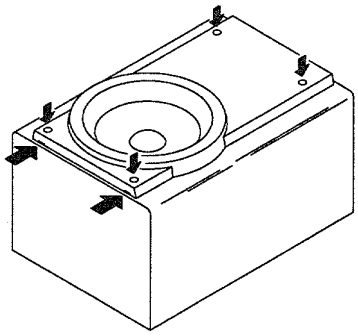
Type.1

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



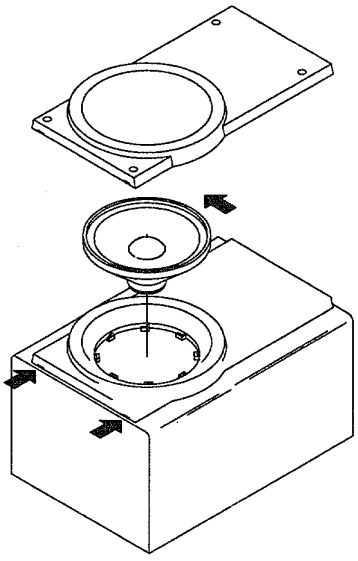
Type.2

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

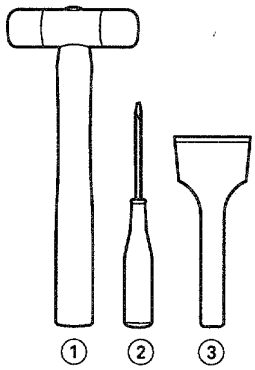


Type.3

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



Type.4



TOOLS

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

How to Remove the PANEL, FR

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

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

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

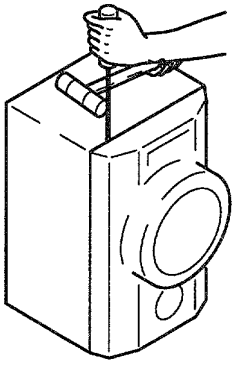


Fig-1

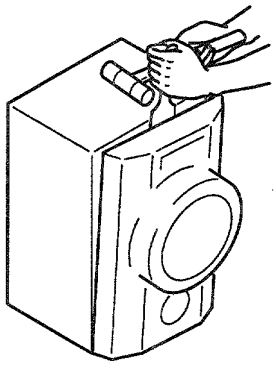


Fig-2

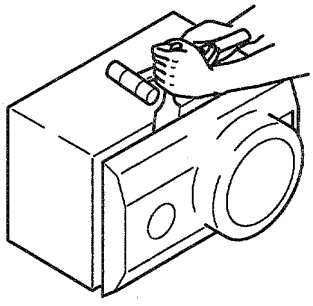


Fig-3

How to Attach the PANEL, FR

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

SPEAKER PARTS LIST
SX-NS332 (Y1STL, YJSTC, YJ7STL)

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

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	87-NS7-611-010		CORD,SPKR
2	87-NSH-612-010		SPKR, CERAMIC ASSY
3	87-NSJ-604-110		SPKR,W 120<YJ7STL,Y1STL>
3	87-NSJ-602-010		SPKR,W 120<YJSTC>
4	8Z-NSK-001-010		PANEL,FR
5	8Z-NSK-002-010		PANEL,BA

ACCESSORIES / PACKAGE LIST

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

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8Z-NH9-911-010		IB,H(EC-H)M
2	87-043-115-010		ANT,FEEDER FM
⚠ 3	87-A91-017-010		PLUG, CONVERSION JT-0476
4	8Z-NH8-702-010		RC UNIT,ZAS07
5	87-006-269-010		AM LOOP ANT (UN)
6	87-043-095-010		WIRE ANTENNA
7	87-050-103-010		CORD,PIN 1PY1.5M

REFERENCE NAME LIST

ELECTRICAL SECTION

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

MECHANICAL SECTION

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

サービス技術ニュース	
番号	連絡内容
G— —	
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G— —	

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