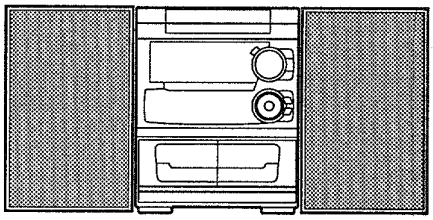
aiwa

aiwa SERVICE

NSX-A303
NSX-A304
NSX-S303



COMPACT DISC STEREO
CASSETTE RECEIVER

- BASIC TAPE MECHANISM : 6ZM-3 PR1NM / PR2NM
- BASIC CD MECHANISM : 4ZG–1 Z3DNM
- TYPE : U<A303/304>, LH,HE<S303>

SERVICE MANUAL

SYSTEM	SPEAKER	CD – CASSEIVER
NSX–A303 (TYPE : U)	SX – NA302	CX – NA303
NSX–A304 (TYPE : U)	SX – NA302 SX – R275	
NSX–S303 (TYPE : LH,HE)	SX – NS302	CX – NS303

•If requiring information about the CD mechanism, see Service Manual of 4ZG-1, S/M Code No. 09-978-221-20T.

S/M Code No. 09–981–236–3FE

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SPECIFICATIONS

<FM Tuner section>

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

<AM/MW Tuner section>

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

<SW Tuner section>

	HE :
Tuning range	5.900 MHz ~ 17.900 MHz
Antenna	Wire antenna

<Amplifier section>

Power output	U : 30 W + 30 W (50 Hz – 20 kHz, THD less than 1%, 6 ohms) LH : Rated : 50 W + 50 W (6 ohms, T.H.D. 10 %, 1 kHz) HE : Rated : 40 W + 40 W (6 ohms, T.H.D. 1 %, 1 kHz) Reference : 50 W + 50 W (6 ohms, T.H.D. 10 %, 1 kHz)
Total harmonic distortion	U : 0.1 % (15 W, 1 kHz, 6 ohms, DIN AUDIO) LH,HE : 0.1 % (25W, 1 kHz, 6 ohms, DIN AUDIO)
Inputs	VIDEO/AUX : 500 mV
Outputs	SPEAKERS: accept speakers of 6 ohms or more U : SURROUND SPEAKERS : accept speakers of 8 ohms to 16 ohms 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/ erase head x 1

<Compact disc player section>

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

<Speaker system SX–NA302> (U)

Cabinet type	2 way, bass reflex (magnetic shielded type)
Speakers	Woofer : 120 mm ($4^3/_4$ in.) cone type Tweeter : 10 mm ($^{13}/_{32}$ in.) ceramic type
Impedance	6 ohms
Output sound pressure level	87 dB/W/m
Dimensions (W x H x D)	235 x 324 x 250 mm ($9^3/_8$ x $12^7/_8$ x $9^7/_8$ in.)
Weight	3.2 kg (7 lbs 11 oz.)

<Speaker system SX–NS302> (LH)

Cabinet type	3 way, bass reflex (magnetic shielded type)
Speakers	Woofer : 140 mm cone type Tweeter : 60 mm ceramic type Super tweeter : 10 mm ceramic type
Impedance	6 ohms
Output sound pressure level	87 dB/W/m
Dimensions (W x H x D)	240 x 304 x 250 mm
Weight	3.3 kg

<Speaker system SX–NS302> (HE)

Cabinet type	2 way, bass reflex (magnetic shielded type)
Speakers	Woofer : 120 mm cone type Tweeter : 10 mm ceramic type
mpedance	6 ohms
Output sound pressure level	87 dB/W/m
Dimensions (W x H x D)	235 x 324 x 250 mm
Weight	3.2 kg

<General>

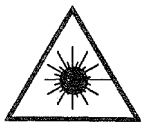
Power requirements	U : 120 V AC, 60Hz LH,HE : 120 V/ 220 – 230 V/ 240 V AC, switchable ,50 / 60 Hz
Power consumption	U : 85 W LH,HE : 100 W
Dimensions of main unit (W x H x D)	260 x 330 x 346 mm ($10^1/_4$ x 13 x $13^5/_8$ in.)
Weight of main unit	U : 5.7 kg (12 lbs 9 oz.) LH,HE : 6.5 kg

• 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 laserståling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

VAROITUS!
Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyt-täjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

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

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

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

ADVARSEL!
Usynlig laserståling ved åbning, når sikkerhedsafbrydereer ude af funktion. Undgå udsættelse for stråling.

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

CLASS 1	LASER PRODUCT
KLASSE 1	LASER PRODUKT
LUOKAN 1	LASER LAITE
KLASS 1	LASER APPARAT

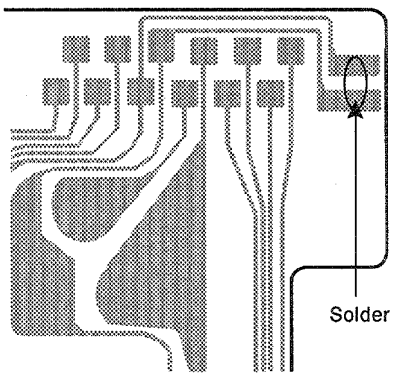
Precaution to replace Optical block

(KSS – 213B)

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 figure right.

PICK-UP Assy P.C.B



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-A20-083-010		IC,BA3835S
	88-NF8-602-010		IC,UPD780228-XXX-XXX
	87-NF8-614-010		IC,SPS-442-1-W
	87-017-889-010		IC,NJM4558LD
	87-017-888-080		IC,NJM4558MD<HE>
	87-A20-715-010		IC,M62439SP
⚠	87-001-486-080		PROTECTOR,IC ICP-N15<U>
	87-070-127-110		IC,LC72131 D
	87-A20-438-010		IC,LA1837
TRANSISTOR			
	89-213-702-010		TR,2SB1370 (1.8W)
	89-333-317-880		TR,2SC3331 (0.5W)
	87-A30-198-080		TR,KTC3199GR
	87-A30-196-080		TR,2SC4115SRS
	89-113-187-880		TRNSISTOR,2SA1318 (0.5W)
	87-A30-197-080		TR,KTA1267GR
	87-026-219-080		TR,DTA144ES (0.3W)
	87-A30-087-080		C-FET,2SK2158
	87-A30-074-080		C-TR,RT1P 141C
	87-A30-071-080		C-TR,RT1N 144C
	87-A30-073-080		C-TR,RT1N 141C
	87-026-263-080		C-TR,RN1410
	87-A30-190-080		TR,CC5551
	87-A30-109-010		TR,2SD 2495<LH,HE>
	87-A30-130-010		TR,2SD2241<U>
	87-A30-128-010		TR,2SB1481<U>
	87-A30-108-010		TR,2SB1626<LH,HE>
	87-A30-159-080		C-TR,KTA1298Y
	87-A30-091-080		FET,2SJ460
	87-A30-090-080		FET,2SK2541
	89-112-965-080		TR,2SA1296 (0.75W)
	87-026-218-080		TR,DTC144ES (0.2W)
	87-026-214-080		TR,DTA114YS (0.3W)
	87-A30-047-080		TR,CSD655E<HE>
	87-A30-164-080		TR,CSC2001K<HE>
	87-A30-092-080		FET,2SK439E/F<HE>
	87-026-269-080		TR,DTA114ES<HE>
DIODE			
	87-070-274-080		DIODE,1N4003 SEM
	87-070-178-090		DIODE,1N5402-BD54<U>
	87-A40-435-080		ZENER,MTZJ30D
	87-A40-470-080		DIODE,1SS254
	87-A40-345-080		ZENER,MTZJ10C
	87-002-225-010		DIODE,DBF40C-K10<LH,HE>
	87-017-932-080		ZENER,MTJ6.2B
	87-A40-466-080		ZENER,MTZJ2.7A
	87-A40-234-080		ZENER,MTZJ5.6A
MAIN C.B			
C101	87-016-495-090		CAP,E 3300-25 SMG<LH,HE>
C101	87-010-917-090		CAP,E 3300-50 M SMG<U>
C102	87-010-385-080		CAP, ELECT 220-25V<LH,HE>
C103	87-010-917-090		CAP,E 3300-50 M SMG<LH,HE>
C104	87-A10-627-090		CAP,E 2200-50 M SMG
C105	87-018-127-080		CAP, CER 470P-50V
C106	87-010-408-080		CAP, ELECT 47-50V
C107	87-010-384-080		CAP, ELECT 100-25V
C108	87-010-381-080		CAP, ELECT 330-16V
C109	87-010-384-080		CAP, ELECT 100-25V<LH,HE>
C109	87-010-382-080		CAP, ELECT 22-25V<U>
C110	87-010-384-080		CAP, ELECT 100-25V<LH,HE>
C110	87-010-382-080		CAP, ELECT 22-25V<U>
C111	87-010-247-080		CAP, ELECT 100-50V<LH,HE>
C111	87-010-430-080		CAP, ELECT 100-63<U>
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
C122	87-010-384-080		CAP, ELECT 100-25V<LH,HE>
C122	87-010-382-080		CAP, ELECT 22-25V<U>
C123	87-010-384-080		CAP, ELECT 100-25V<LH,HE>
C123	87-010-382-080		CAP, ELECT 22-25V<U>
C124	87-018-134-080		CAPACITOR,TC-U 0.01-16
C130	87-018-131-080		CAP,CER 1000P-50V
C207	87-010-546-080		CAP, ELECT 0.33-50V
C208	87-010-546-080		CAP, ELECT 0.33-50V
C209	87-018-133-080		CAPACITOR,CER 4700P-16V
C210	87-018-133-080		CAPACITOR,CER 4700P-16V
C211	87-010-404-080		CAP, ELECT 4.7-50V
C212	87-010-404-080		CAP, ELECT 4.7-50V
C213	87-010-260-080		CAP, ELECT 47-25V
C214	87-010-260-080		CAP, ELECT 47-25V
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, TC-U 220P-50 K B
C230	87-018-123-080		CAP, TC-U 220P-50 K B
C235	87-018-209-080		CAP, CER 0.1-50V
C236	87-018-209-080		CAP, CER 0.1-50V
C237	87-018-134-080		CAP, TC-U 0.01-16 YN
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
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
C360	87-010-401-080		CAP, ELECT 1-50V
C361	87-010-374-080		CAP, ELECT 47-10V
C401	87-010-401-080		CAP, ELECT 1-50V
C402	87-010-401-080		CAP, ELECT 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
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	87-010-408-080		CAP, ELECT 47-50V
C617	87-010-408-080		CAP, ELECT 47-50V
C701	87-010-404-080		CAP, ELECT 4.7-50V
C702	87-018-134-080		CAPACITOR,TC-U 0.01-16
C703	87-018-134-080		CAPACITOR,TC-U 0.01-16
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
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, TC-U 100P-50 K B
C746	87-018-134-080		CAPACITOR,TC-U 0.01-16
C753	87-010-408-080		CAP, ELECT 47-50V

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C756	87-018-134-080		CAPACITOR,TC-U 0.01-16
C757	87-018-134-080		CAPACITOR,TC-U 0.01-16
C758	87-010-112-080		CAP, ELECT 100-16V
C759	87-018-134-080		CAPACITOR,TC-U 0.01-16<LH,U>
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
C766	87-010-407-080		CAP, ELECT 33-50V
C768	87-018-208-080		CAP 0.047-50F
C769	87-010-403-080		CAP, ELECT 3.3-50V
C770	87-018-134-080		CAPACITOR,TC-U 0.01-16
C771	87-010-406-080		CAP, ELECT 22-50
C773	87-018-131-080		CAP, CER 1000P-50V
C774	87-010-405-080		CAP, ELECT 10-50V
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, CER 1500P-16V<HE>
C787	87-018-132-080		CAP, CER 2200P-16V<LH,U>
C788	87-018-196-080		CAP, CER 1500P-16V<HE>
C788	87-018-132-080		CAP, CER 2200P-16V<LH,U>
C789	87-010-403-080		CAP, ELECT 3.3-50V
C790	87-010-403-080		CAP, ELECT 3.3-50V
C803	87-018-134-080		CAPACITOR,TC-U 0.01-16
C804	87-018-134-080		CAPACITOR,TC-U 0.01-16
C808	87-018-134-080		CAPACITOR,TC-U 0.01-16
C813	87-018-131-080		CAP, CER 1000P-50V
C931	87-010-263-080		CAP, ELECT 100-10V<HE>
C932	87-010-400-080		CAP, ELECT 0.47-50V<HE>
C934	87-018-134-080		CAPACITOR,TC-U 0.01-16<HE>
C935	87-018-134-080		CAPACITOR,TC-U 0.01-16<HE>
C936	87-018-134-080		CAPACITOR,TC-U 0.01-16<HE>
C937	87-018-134-080		CAPACITOR,TC-U 0.01-16<HE>
C938	87-018-134-080		CAPACITOR,TC-U 0.01-16<HE>
C939	87-014-073-080		CAP,PP 4700P-100 J<HE>
C940	87-014-051-080		CAPACITOR (PP), 560P<HE>
C941	87-018-109-080		CAP, CER 22P-50V<HE>
C944	87-018-147-080		CAP,TC-U 10P-50 CH<LH,U>
CF801	87-008-261-010		FILTER, SFE10.7MA5-A
FFE801	A8-8ZA-190-030		8ZA-1 FEUNM
J601	87-A60-398-010		JACK,PIN 2P R/W HSP-242V24
J801	87-A60-202-010		TERMINAL,ANT 4P MSP-154V-02
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)<HE>
L772	87-A90-733-010		FLTR,PCFAZH-450 (TOK)<LH,U>
L801	87-005-847-080		COIL,2.2UH(CECS)
L933	87-A50-159-010		COIL,10MH K C2B<HE>
L934	87-005-372-080		COIL S 1MHM<HE>
L941	87-A50-022-010		COIL,ANT SW(COI)<HE>
L942	87-A50-173-010		COIL,OSC SW-N(COI)<HE>
L981	87-NF4-650-010		COIL,AM PACK 4N(TOK)<LH,U>
L981	88-NF8-625-010		COIL,AM PACK3N(TOK)<HE>
R124	87-A00-320-080		RES,M/F 3.3-1/4W F SN2E<U>
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
R723	87-A00-320-080		RES,M/F 3.3-1/4W F SN2E<U>
RY001	87-A90-464-010		RELAY, DG12D2-O(M)<LH,HE>
SFR451	87-A90-432-080		SFR,30K H NVZ6TLTA
SFR452	87-A90-432-080		SFR,30K H NVZ6TLTA
TC941	87-011-220-080		TRIMMER CAP 20P VTC<HE>
TC943	87-011-221-080		CAP, TRIMMER 30P<HE>

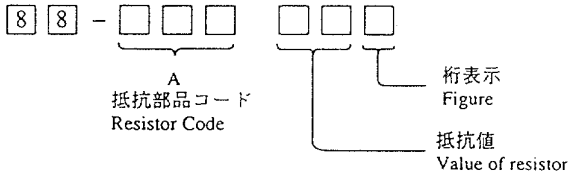
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
W101	83-NE2-618-110		F-CABEL,5P-2.5<U>
W101	85-NF5-628-010		F-CABLE 7P-2.5<LH,HE>
X701	87-A70-061-010		VIB,XTAL 4.500MHZ CSA-309
X751	87-030-354-010		VIB,CF BFU 450C<HE>
FRONT C.B			
	88-911-091-110		FF-CABLE,11P 1.25
	88-913-321-110		FF-CABLE,13P 1.25 320MM
	88-906-251-110		FF-CABLE,6P 1.25
C36	87-010-322-080		C-CAP,S 100P-50 CH
C37	87-010-322-080		C-CAP,S 100P-50 CH
C38	87-010-322-080		C-CAP,S 100P-50 CH
C39	87-010-322-080		C-CAP,S 100P-50 CH
C40	87-010-322-080		C-CAP,S 100P-50 CH
C41	87-010-322-080		C-CAP,S 100P-50 CH
C42	87-010-322-080		C-CAP,S 100P-50 CH
C43	87-010-322-080		C-CAP,S 100P-50 CH
C44	87-010-322-080		C-CAP,S 100P-50 CH
C45	87-010-322-080		C-CAP,S 100P-50 CH
C46	87-012-156-080		C-CAP,S 220P-50 CH
C150	87-010-196-080		CHIP CAPACITOR,0.1-25
C151	87-010-196-080		CHIP CAPACITOR,0.1-25
C152	87-010-196-080		CHIP CAPACITOR,0.1-25
C153	87-010-196-080		CHIP CAPACITOR,0.1-25
C154	87-010-196-080		CHIP CAPACITOR,0.1-25
C201	87-018-205-080		CAP, CERA-SOL 0.022
C202	87-010-198-080		CAP, CHIP 0.022
C203	87-010-198-080		CAP, CHIP 0.022
C204	87-012-140-080		CAP 470P
C205	87-010-316-080		C-CAP,S 33P-50 CH
C206	87-010-318-080		C-CAP,S 47P-50 CH
C207	87-010-312-080		C-CAP,S 15P-50 CH
C208	87-010-196-080		CHIP CAPACITOR,0.1-25
C209	87-010-494-040		CAP,E 1-50 GAS
C210	87-A10-189-040		CAP,E 220-10
C211	87-010-194-080		CAP, CHIP 0.047
C212	87-010-555-040		CAP,E 100-10 GAS
C213	87-010-196-080		CHIP CAPACITOR,0.1-25
C214	87-010-405-040		CAP,E 10-50
C215	87-012-156-080		C-CAP,S 220P-50 CH
C216	87-012-156-080		C-CAP,S 220P-50 CH
C217	87-010-197-080		CAP, CHIP 0.01 DM
C250	87-018-209-080		CAP, TC-U 0.1-50 F Z
C307	87-015-686-040		CAP,E 22-25 M 7L SRA
C354	87-010-196-080		CHIP CAPACITOR,0.1-25
C355	87-010-196-080		CHIP CAPACITOR,0.1-25
C401	87-010-405-040		CAP,E 10-50
C402	87-010-405-040		CAP,E 10-50
C404	87-010-194-080		CAP, CHIP 0.047
C405	87-010-246-040		CAP,E 47-35 SME
C406	87-010-197-080		CAP, CHIP 0.01 DM
C501	87-010-401-040		CAP,E 1-50 SME<HE>
C502	87-010-177-080		C-CAP,S 820P-50 SL<HE>
C504	87-010-544-040		CAP,E 0.1-50 SME<HE>
C505	87-010-321-080		CHIP CAPACITOR,82P(J)<HE>
C506	87-010-405-040		CAP,E 10-50<HE>
C508	87-010-248-040		CAP,E 220-10 SME<HE>
C509	87-010-545-040		CAP,E 0.22-50 SME<HE>
C510	87-010-196-080		CHIP CAPACITOR,0.1-25<HE>
C511	87-010-406-040		CAP,E 22-50 SME<HE>
C513	87-010-405-040		CAP,E 10-50<HE>
C514	87-010-186-080		CAP,CHIP 4700P<HE>
CON102	87-099-015-010		CONN,13P 6216V
CON301	87-099-013-010		CONN,11P 6216 V
EMI501	87-008-372-080		FILTER, EMI BL OIRNI<HE>
FL401	88-NF8-603-010		FL,SVA-11MM12
J501	87-A60-284-010		JACK,3.5MO (MSC)<HE>
LED207	87-070-281-080		LED,SLZ736A-25-S-T1<LH,HE>
LED208	87-070-281-080		LED,SLZ736A-25-S-T1

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
LED209	87-070-281-080		LED,SLZ736A-25-S-T1
LED210	87-070-281-080		LED,SLZ736A-25-S-T1
LED211	87-070-281-080		LED,SLZ736A-25-S-T1
LED212	87-070-281-080		LED,SLZ736A-25-S-T1<LH,HE>
LED213	87-070-281-080		LED,SLZ736A-25-S-T1<U>
S401	87-A90-680-080		SW,TACT KSM0612BTS
S402	87-A90-680-080		SW,TACT KSM0612BTS
S403	87-A90-680-080		SW,TACT KSM0612BTS
S404	87-A90-680-080		SW,TACT KSM0612BTS
S405	87-A90-680-080		SW,TACT KSM0612BTS
S406	87-A90-680-080		SW,TACT KSM0612BTS
S407	87-A90-680-080		SW,TACT KSM0612BTS
S408	87-A90-680-080		SW,TACT KSM0612BTS
S409	87-A90-680-080		SW,TACT KSM0612BTS
S410	87-A90-680-080		SW,TACT KSM0612BTS
S411	87-A90-680-080		SW,TACT KSM0612BTS
S412	87-A90-680-080		SW,TACT KSM0612BTS
S413	87-A90-680-080		SW,TACT KSM0612BTS
S414	87-A90-680-080		SW,TACT KSM0612BTS
S415	87-A90-680-080		SW,TACT KSM0612BTS
S416	87-A90-680-080		SW,TACT KSM0612BTS
S417	87-A90-680-080		SW,TACT KSM0612BTS
S418	87-A90-680-080		SW,TACT KSM0612BTS
S419	87-A90-680-080		SW,TACT KSM0612BTS
S420	87-A90-680-080		SW,TACT KSM0612BTS
S421	87-A90-680-080		SW,TACT KSM0612BTS
S423	87-A90-680-080		SW,TACT KSM0612BTS
S425	87-A90-680-080		SW,TACT KSM0612BTS
SW201	87-A90-535-010		SW,RTRY EC16B24304
SW202	88-NF8-615-010		SW,RTRY EC16B24204L
VR501	87-NB7-602-010		VR,RTRY 10KAX1 1 V<HE>
X201	87-A70-075-080		VIB,CER 4.19MHZ CRHF

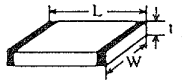
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
AC1 C.B			
⚠ F101	87-035-139-010		FUSE,2.5AT<LH,HE>
⚠ F101	87-035-414-010		FUSE,T2A 250V UL<U>
⚠ FC1	87-A90-505-080		FUSE CLAMP,TP00351-51<U>
⚠ FC2	87-A90-505-080		FUSE CLAMP,TP00351-51<U>
⚠ FC101	87-033-147-010		FUSE CLAMP,MT<LH,HE>
⚠ FC102	87-033-147-010		FUSE CLAMP,NT<LH,HE>
⚠ PT101	88-NF8-606-010		PT,8NF-8HR<HE>
⚠ PT101	88-NF8-605-010		PT,8NF-8LH<LH>
⚠ PT101	88-NF8-604-010		PT,8NF-8U<U>
⚠ SW101	87-A90-165-010		SW,SL 1-2-3 SWS2301<LH,HE>
⚠ T1	87-A60-317-010		TERMINAL, 1P MSC<LH,U>
⚠ T2	87-A60-317-010		TERMINAL, 1P MSC<LH,U>
AC2 C.B			
⚠ PR004	87-026-681-080		PROTECTOR,5A 60V 491<LH,HE>
⚠ PR005	87-026-681-080		PROTECTOR,5A 60V 491<LH,HE>
R001	87-A00-261-080		RES,M/F 0.56-1W J<LH,HE>
R002	87-A00-261-080		RES,M/F 0.56-1W J<LH,HE>
DECK C.B			
CON105	87-099-753-019		CONN,11P H 9604
CON301	85-MA2-615-010		CON ASSY,3P-PB<LH,HE>
CON301	86-ZM3-604-219		CON ASSY,3P-PB<U>
CON351	86-ZM3-605-119		CON ASSY,8P-RPB
SFR1	87-024-581-089		SFR,3.3K DIA 6H
SOL1	82-ZM1-618-410		SOL ASSY, 27
SOL2	82-ZM1-618-410		SOL,ASSY, 27
SW1	87-A90-248-010		SW,MICRO ESE11SH2CXQ
SW2	87-A90-248-010		SW,MICRO ESE11SH2CXQ
SW3	87-A90-248-010		SW,MICRO ESE11SH2CXQ
SW4	87-A90-248-010		SW,MICRO ESE11SH2CXQ
SW5	87-A90-248-010		SW,MICRO ESE11SH2CXQ
W1	82-ZM3-601-019		RBN-CORD,4P-75
HEAD-1 C.B			
	85-ZM3-601-210		PWB,FLEX I<LH,HE>

○ チップ抵抗部品コード／CHIP RESISTOR PART CODE

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



チップ抵抗
Chip resistor

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

TRANSISTOR ILLUSTRATION

C2C2001K

CSD655E
CC5551

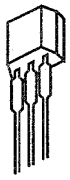
2SB1370

DTC144ES
DTA114YS
DTA114ES
DTA144ES

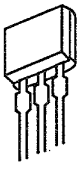
2SA1296

2SB1626
2SD2495
2SB1481
2SD2241

2SC3331
2SA1318



KTA1267
KTC3199

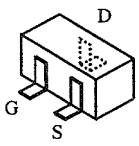


2SC4115S

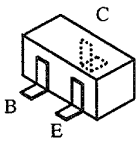
2SJ460

2SK2541

2SK439

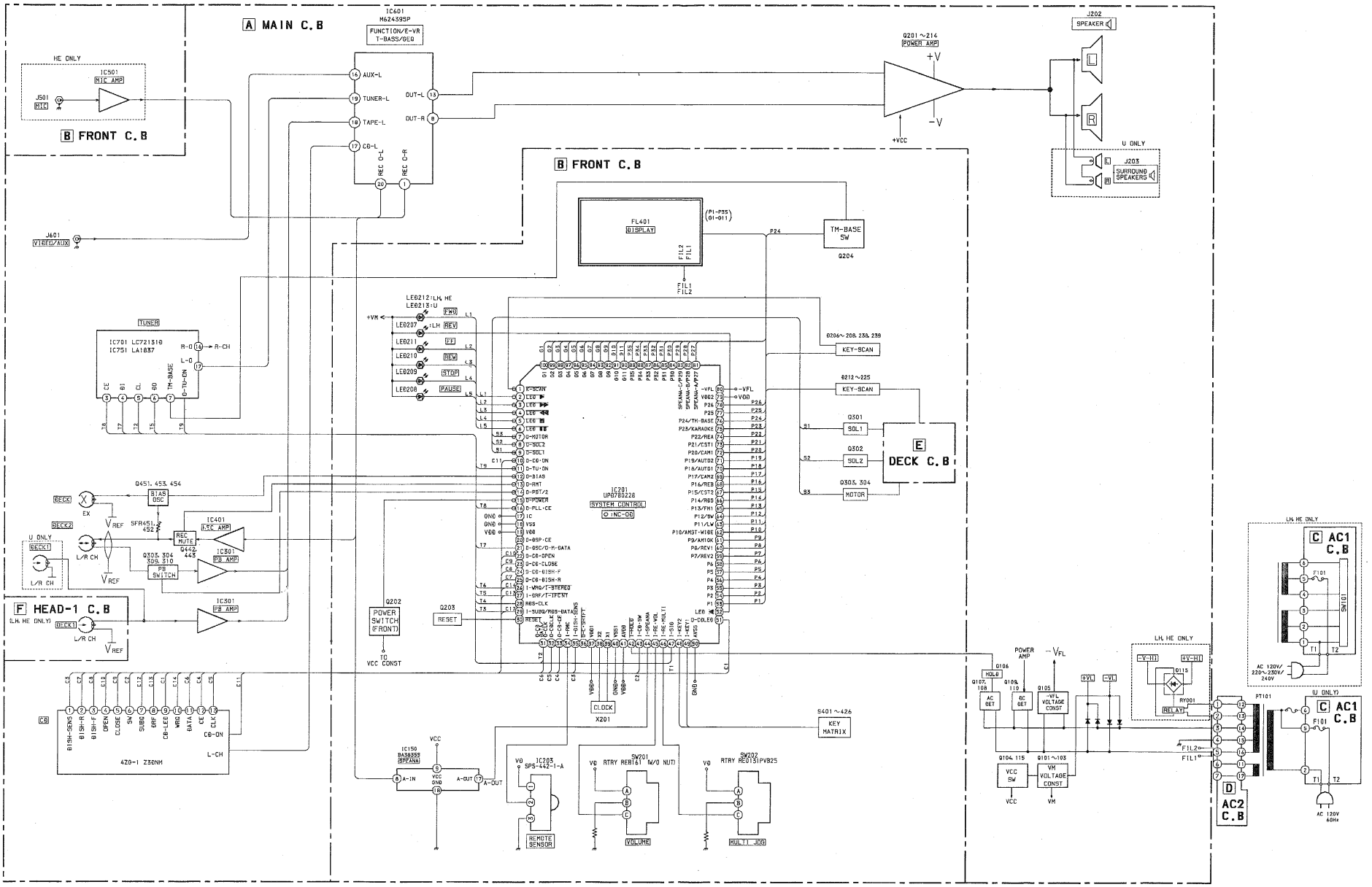


2SK2158

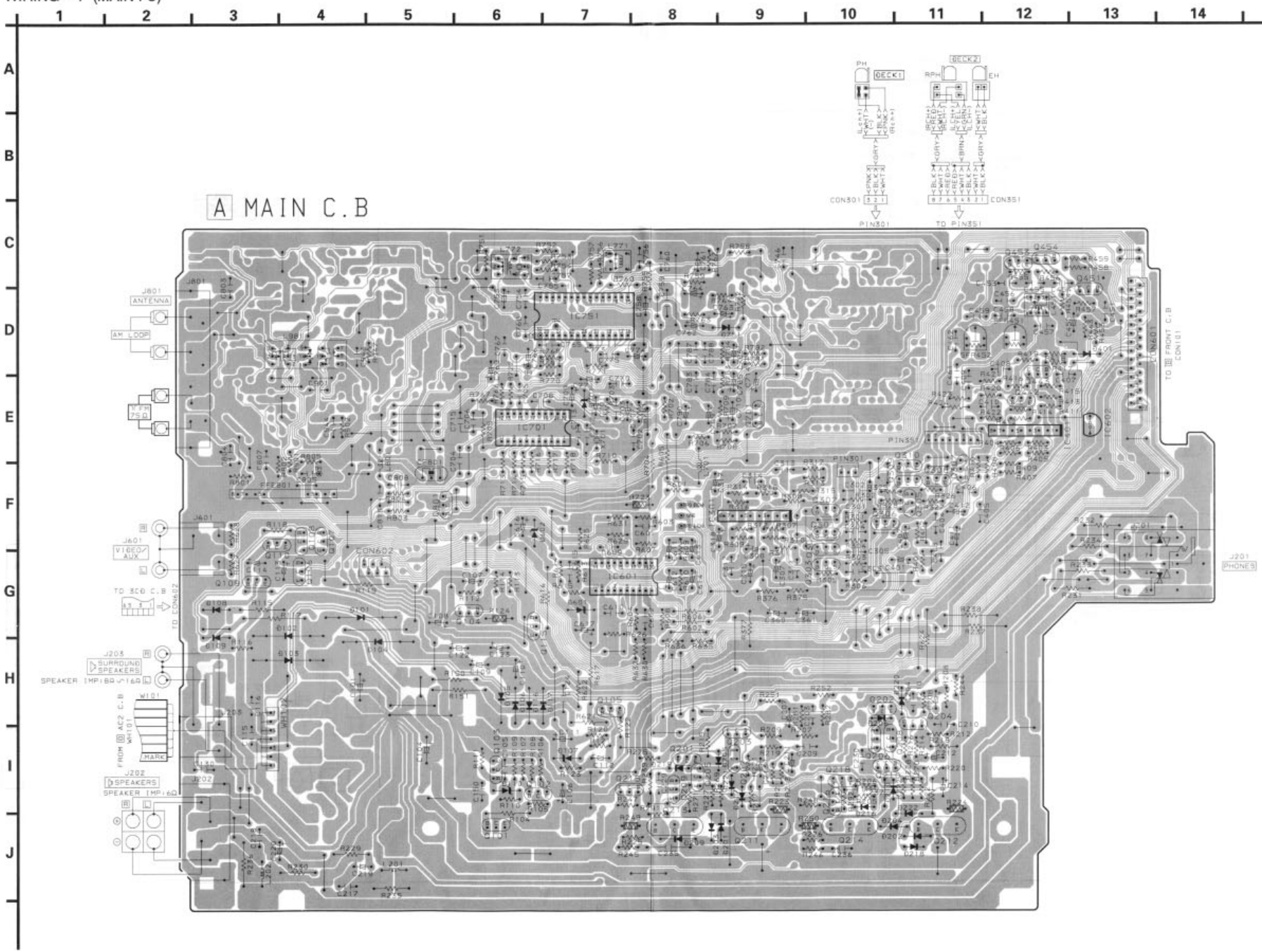


RN1410 RT1N144C
RT1N141C RT1P141C
KTA1298Y

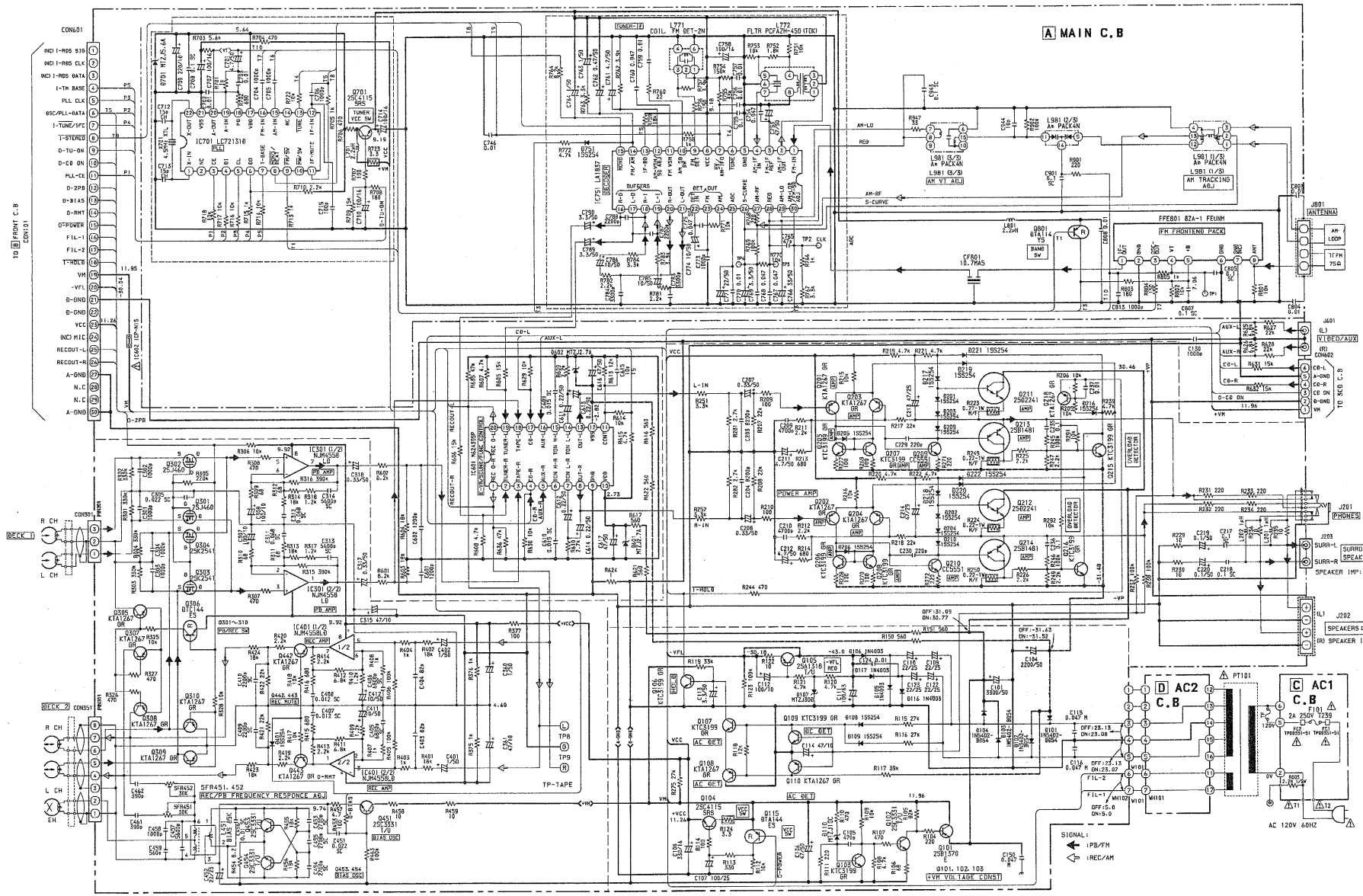
BLOCK DIAGRAM (MAIN / FRONT)



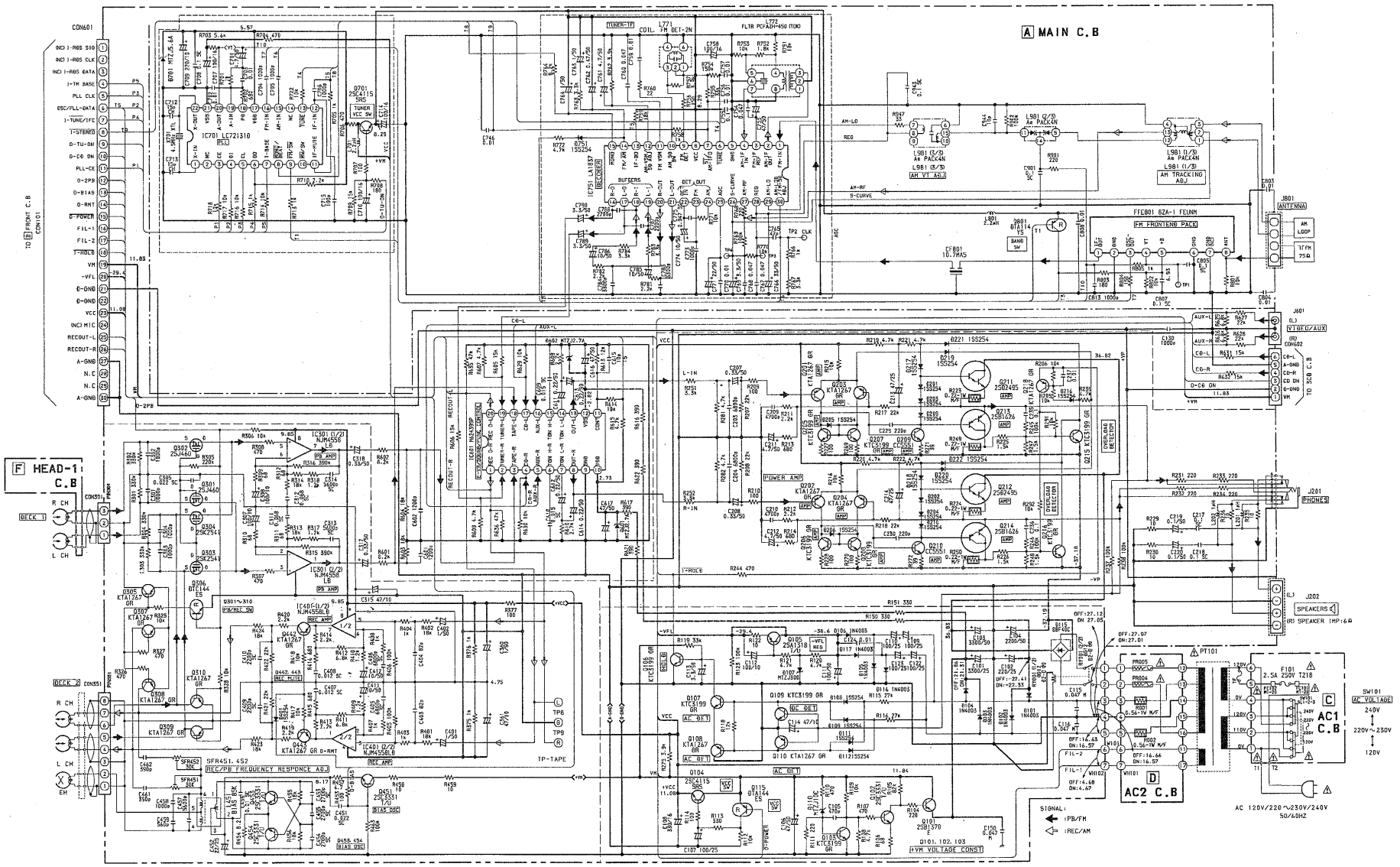
WIRING – 1 (MAIN : U)



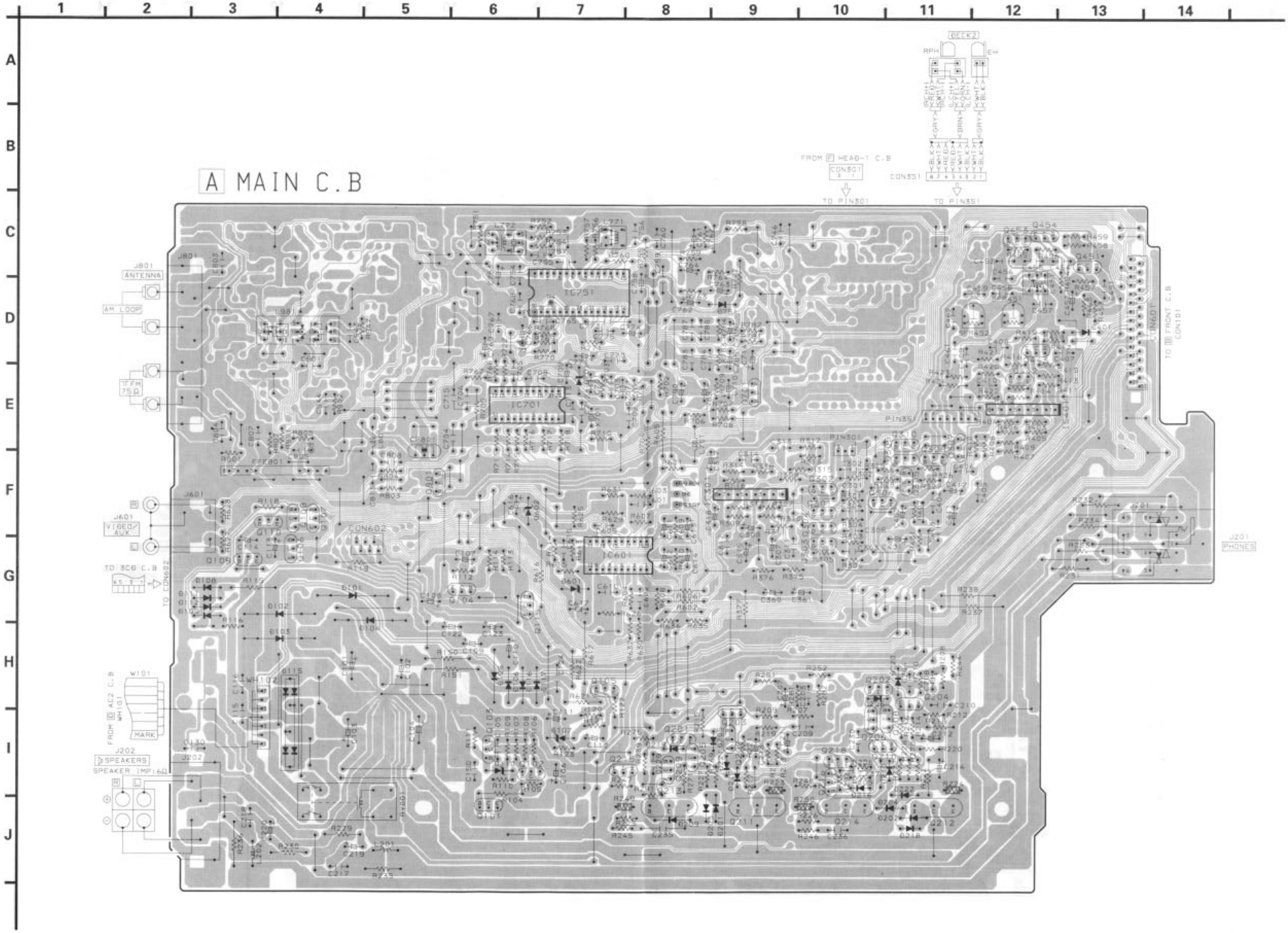
SCHEMATIC DIAGRAM – 1 (MAIN : U)

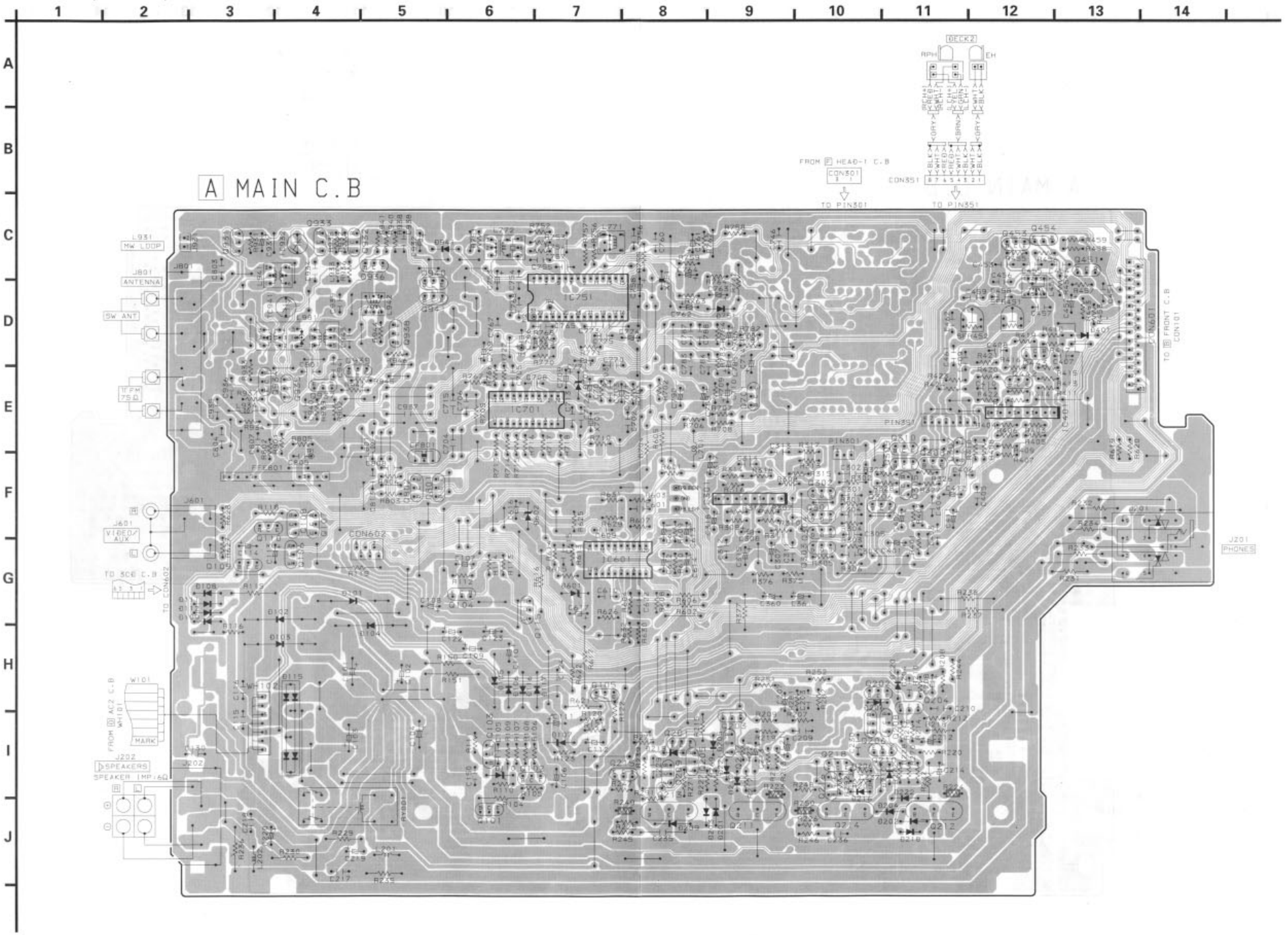


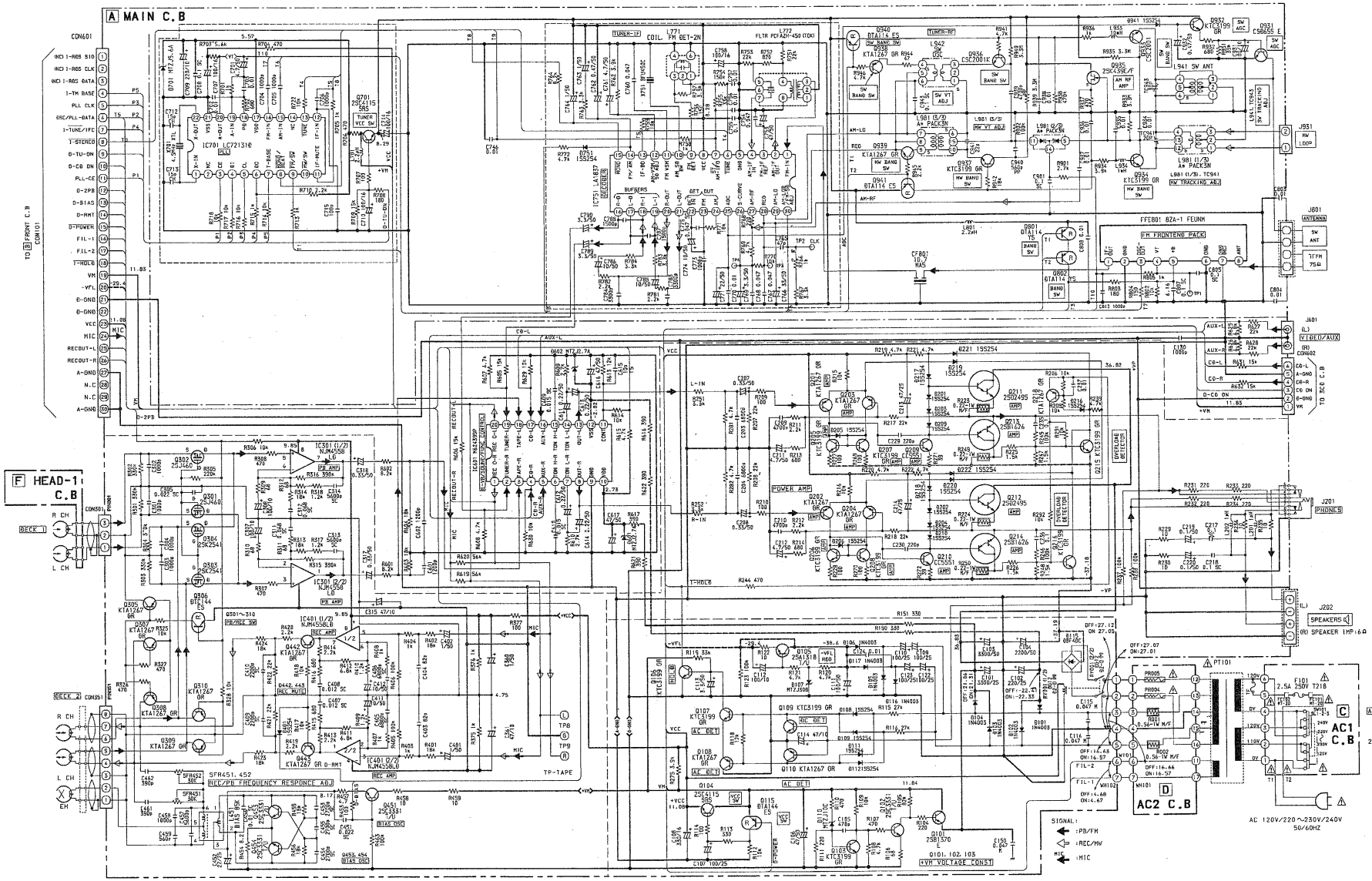
SCHEMATIC DIAGRAM – 2 (MAIN : LH)



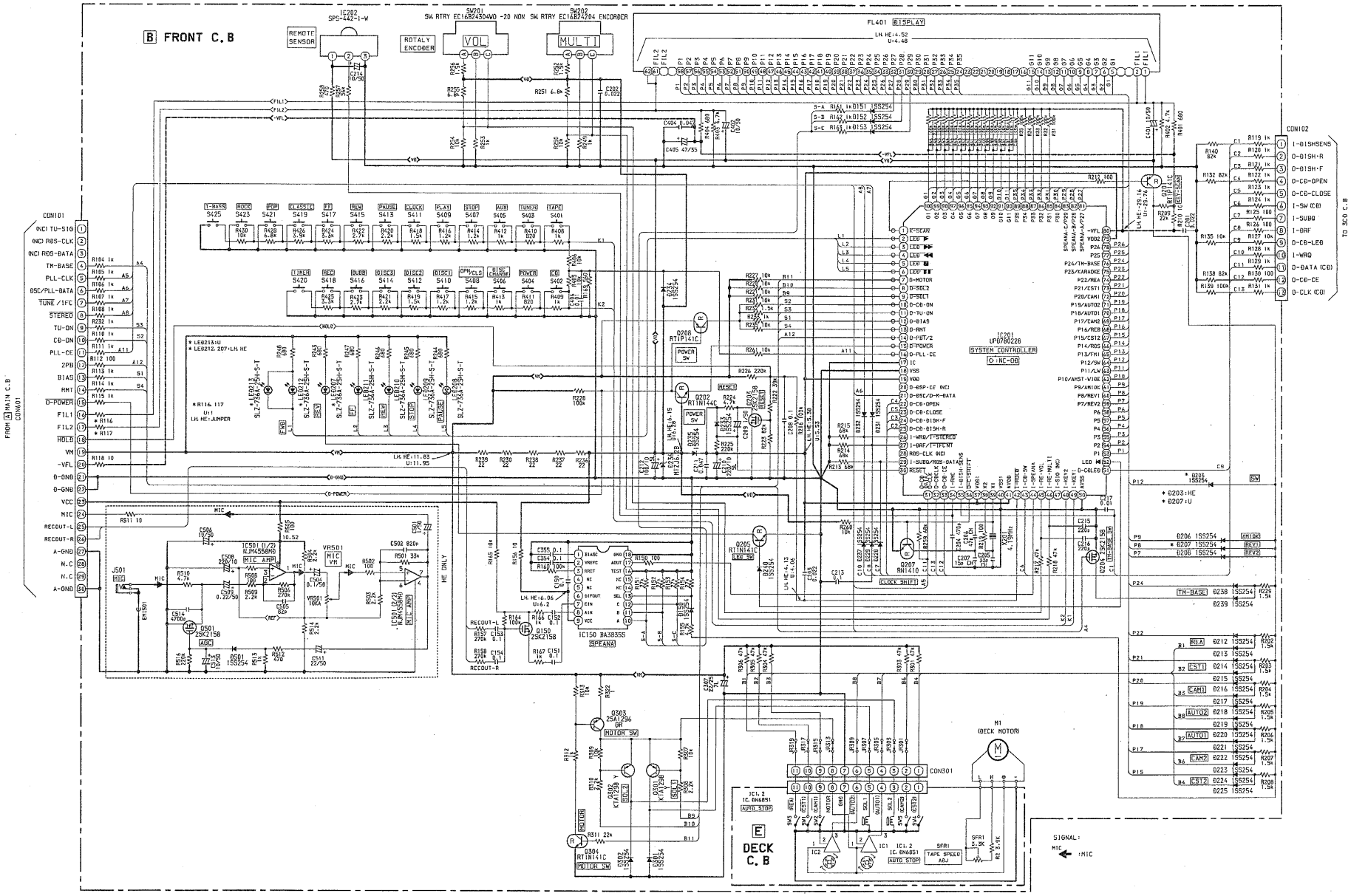
WIRING – 2 (MAIN : LH)

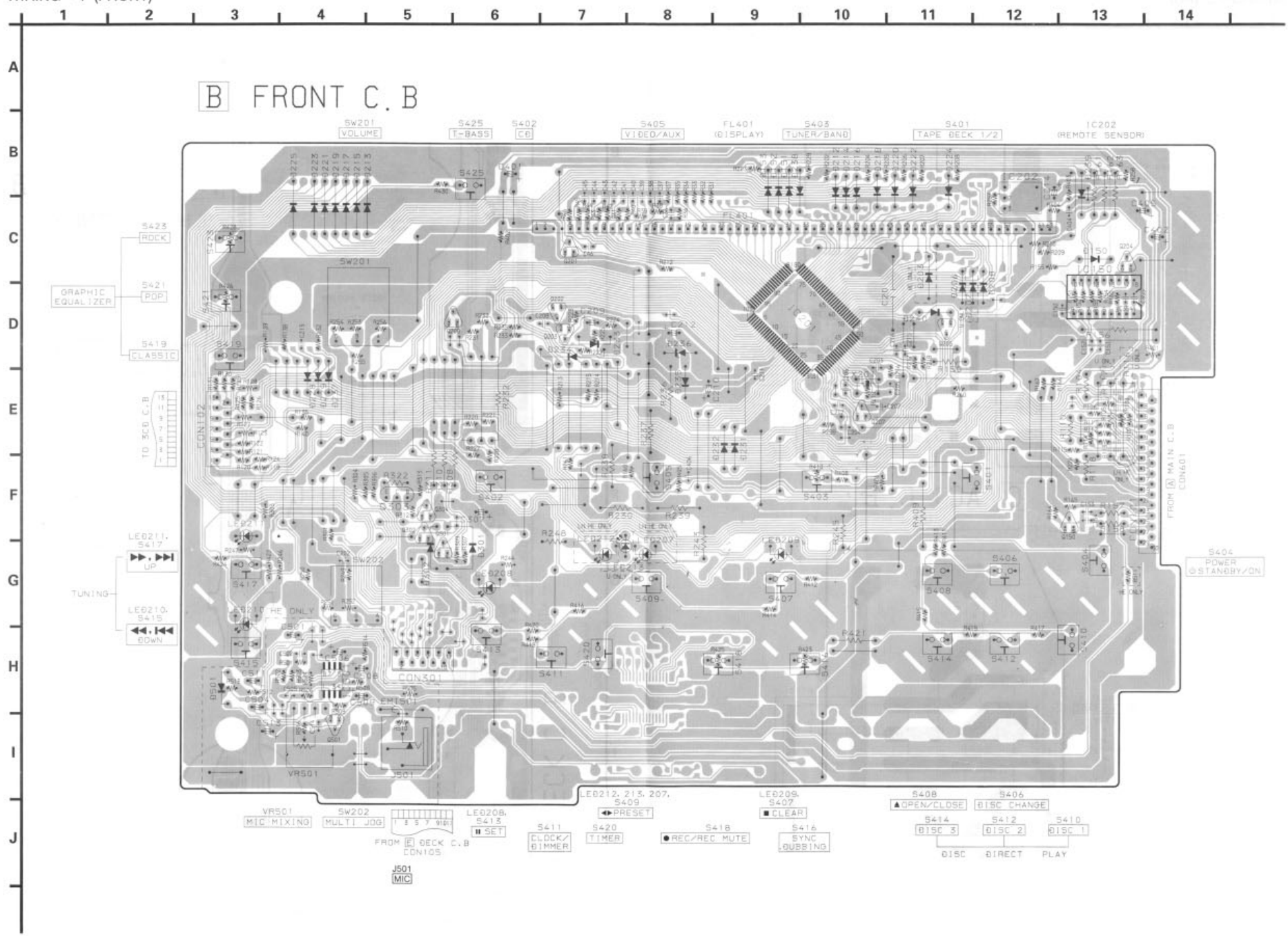


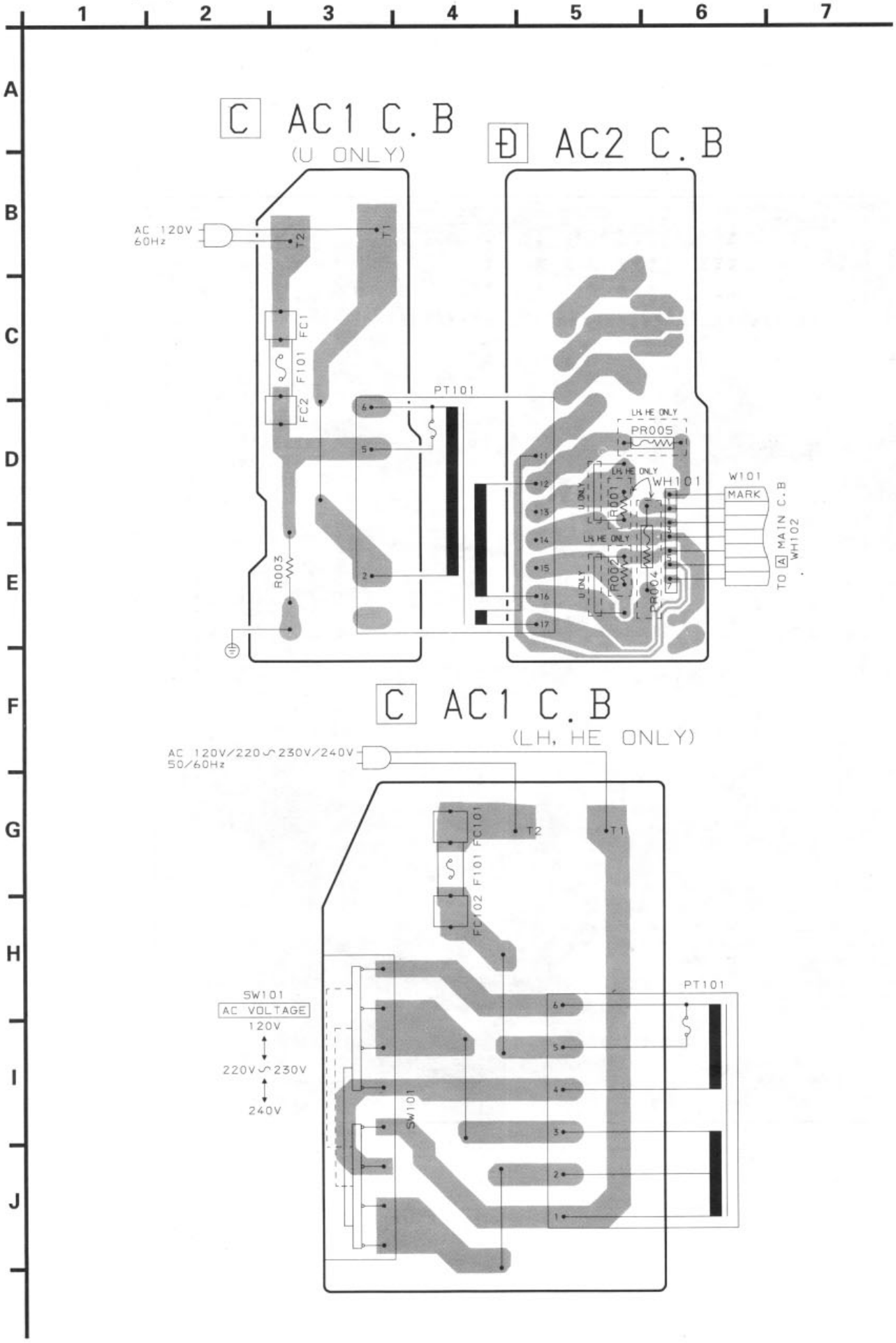

A MAIN C.B
DECK2
RPH
EH
FROM F HEAD-1 C.B
CON301
CON351
TO PIN301
TO PIN351
L931
MW LOOP
J801
ANTENNA
SW ANT
TFM
75Ω
J401
VIDEO/
AUX
TO SCE C.B
CON602
TO CON602
W101
FROM W101
AC2 C.B
MARK
J202
SPEAKERS
SPEAKER IMP:6Ω
IC751
IC701
IC601
PIN301
TO FRONT C.B
CON101
CON301
J201
PHONES

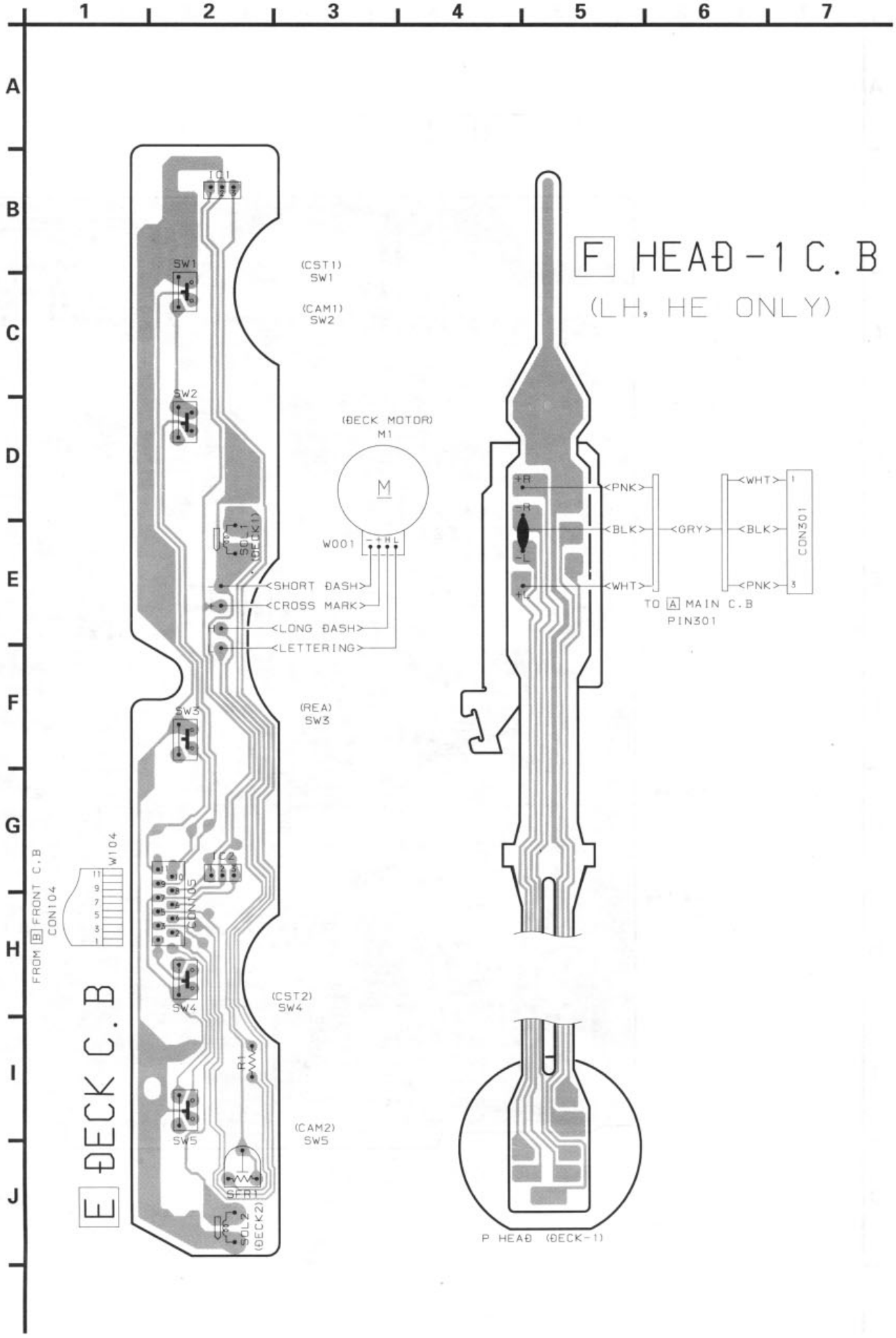

A MAIN C.B
F HEAD-1 C.B
C AC1 C.B
D AC2 C.B
TUNER-IF
TUNER-RF
FM FRONTEND PACK
POWER AMP
SPEAKERS
PHONES
VIDEO/AUX
ANTENNA
SIGNAL:
:PB/FM
:REC/MW
:MIC
AC 120V/220~230V/240V 50/60HZ

SCHEMATIC DIAGRAM – 4 (FRONT)

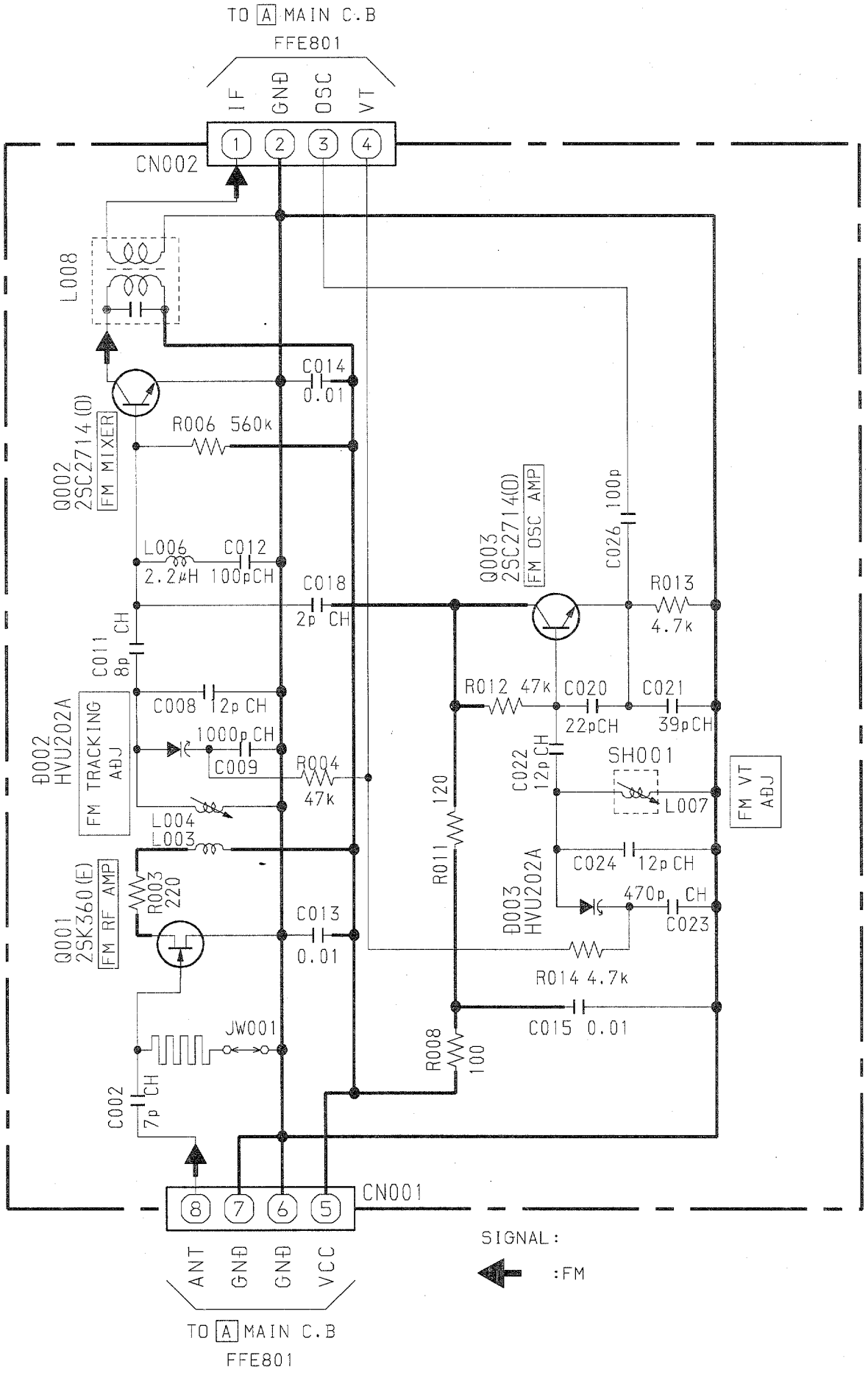



B FRONT C.B
SW201 VOLUME
S425 T-BASS
S402 CD
S405 VIDEO/AUX
FL401 (DISPLAY)
S403 TUNER/BAND
S401 TAPE DECK 1/2
IC202 (REMOTE SENSOR)
S423 ROCK
S421 POP
S419 CLASSIC
GRAPHIC EQUALIZER
TO SCD C.B CON102
LE0211, S417 UP
LE0210, S415 DOWN
TUNING
FROM (A) MAIN C.B CON601
S404 POWER @STANDBY/ON
S406
S408
S407
S414
S412
S411
S409
CON301
VR501
J501
VR501 MIC MIXING
SW202 MULTI JOG
FROM (E) DECK C.B CON105
LE0208, S413 SET
S411 CLOCK/ DIMMER
S420 TIMER
LE0212, 213, 207, S409 PRESET
S418 REC/REC MUTE
LE0209, S407 CLEAR
S416 SYNC DUBBING
S408 OPEN/CLOSE
S406 DISC CHANGE
S414 DISC 3
S412 DISC 2
S410 DISC 1
DISC DIRECT PLAY
J501 MIC


1
2
3
4
5
6
7
A
B
C
D
E
F
G
H
I
J
C AC1 C.B
(U ONLY)
D AC2 C.B
AC 120V
60Hz
T2
T1
FC1
F101
FC2
PT101
6
5
2
R003
11
12
13
14
15
16
17
LH, HE ONLY
PR005
U ONLY
R001
LH, HE ONLY
WH101
W101
MARK
LH, HE ONLY
R002
U ONLY
R004
TO A MAIN C.B
WH102
C AC1 C.B
(LH, HE ONLY)
AC 120V/220~230V/240V
50/60Hz
T2
T1
FC101
F101
FC102
SW101
AC VOLTAGE
120V
220V~230V
240V
SW101
PT101
6
5
4
3
2
1

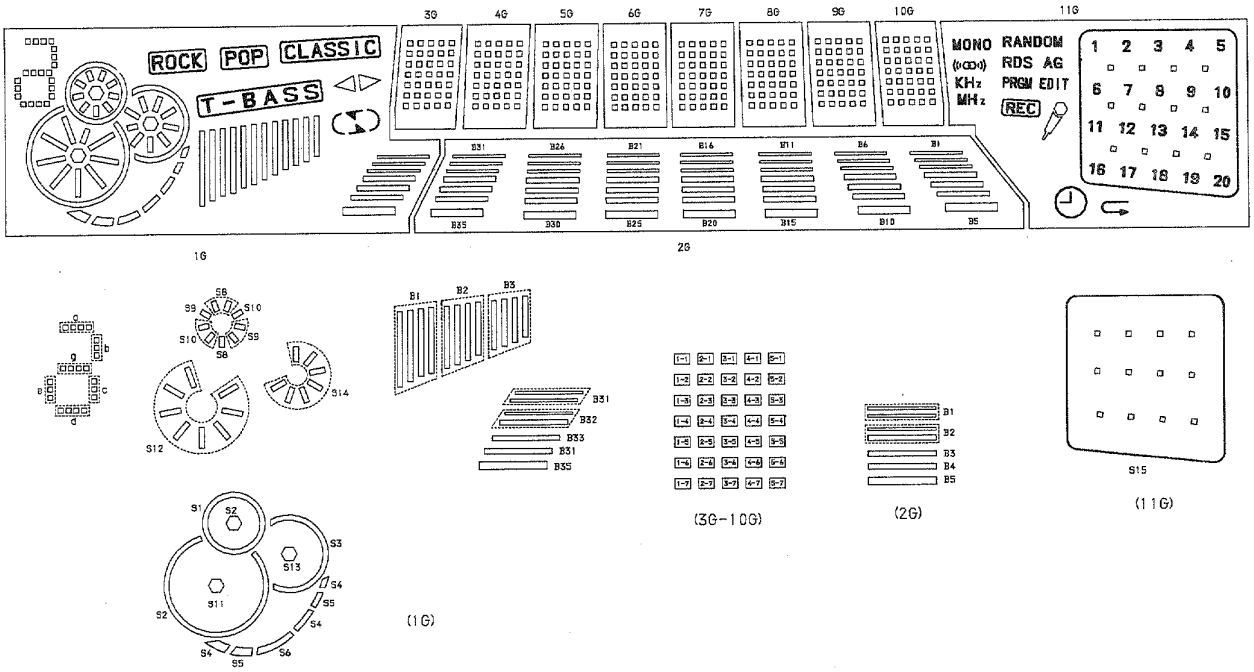

1
2
3
4
5
6
7
A
B
C
D
E
F
G
H
I
J
E DECK C.B
F HEAD-1 C.B
(LH, HE ONLY)
TO1
SW1
(CST1)
SW1
(CAM1)
SW2
SW2
(DECK MOTOR)
M1
M
W001
SOL1
(DECK1)
<SHORT DASH>
<CROSS MARK>
<LONG DASH>
<LETTERING>
(REA)
SW3
SW3
W104
FROM E FRONT C.B
CON104
IC2
CON10
SW4
(CST2)
SW4
R1
SW5
(CAM2)
SW5
SER1
SOL2
(DECK2)
+R
-R
-L
+L
<PNK>
<BLK>
<GRY>
<WHT>
<WHT>
<BLK>
<PNK>
CON301
TO A MAIN C.B
PIN301
P HEAD (DECK-1)

SCHEMATIC DIAGRAM – 5 (TUNER FRONT END)



FL GRID ASSIGNMENT AND ANODE CONNECTION

GRID ASSIGNMENT



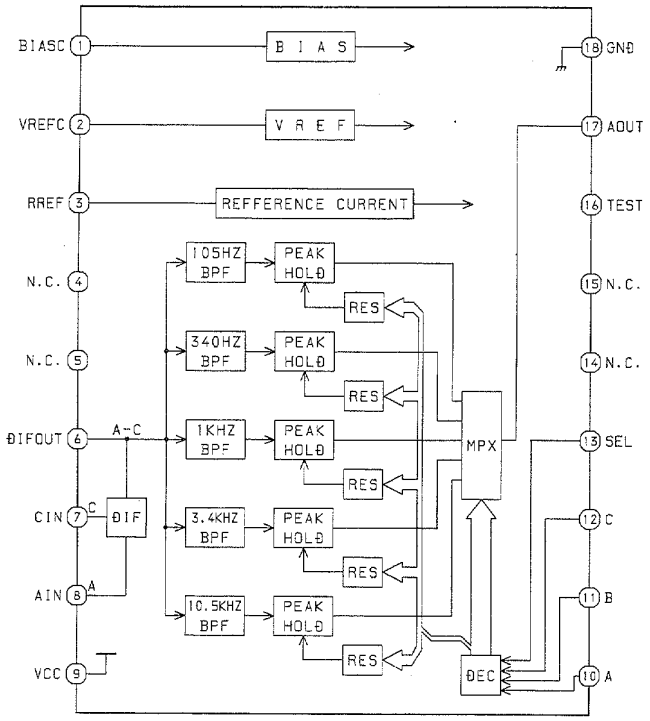
ANODE CONNECTION

	1G	2G	3G-10G	11G
P1	a, g, d	B35	1-1	MONO
P2	b	B30	2-1	((●))
P3	c	B25	3-1	KHz
P4	e	B20	4-1	MHz
P5	S1	B15	5-1	
P6	S7	B10	1-2	RANDOM
P7	S8	B5	2-2	
P8	S9	B34	3-2	
P9	S10	B29	4-2	
P10	S2	B24	5-2	EDIT
P11	S11	B19	1-3	REC
P12	S12	B14	2-3	
P13	S3	B9	3-3	
P14	S13	B4	4-3	
P15	S14	B33	5-3	S15
P16	S4	B28	1-4	20
P17	S5	B23	2-4	19
P18	S6	B18	3-4	18

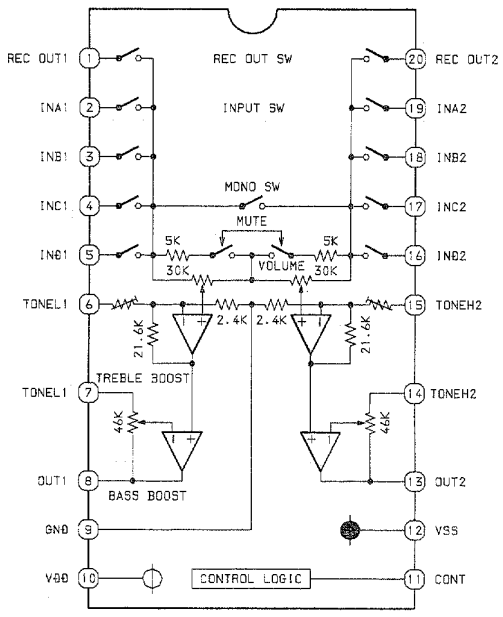
	1G	2G	3G-10G	11G
P19	ROCK	B13	4-4	17
P20	POP	B8	5-4	16
P21	CLASSIC	B3	1-5	15
P22		B32	2-5	14
P23		B27	3-5	13
P24		B22	4-5	12
P25		B17	5-5	11
P26		B12	1-6	10
P27	T-BASS	B7	2-6	9
P28	B1	B2	3-6	8
P29	B2	B31	4-6	7
P30	B3	B26	5-6	6
P31	B31	B21	1-7	5
P32	B32	B16	2-7	4
P33	B33	B11	3-7	3
P34	B34	B6	4-7	2
P35	B35	B1	5-7	1

IC BLOCK DIAGRAM

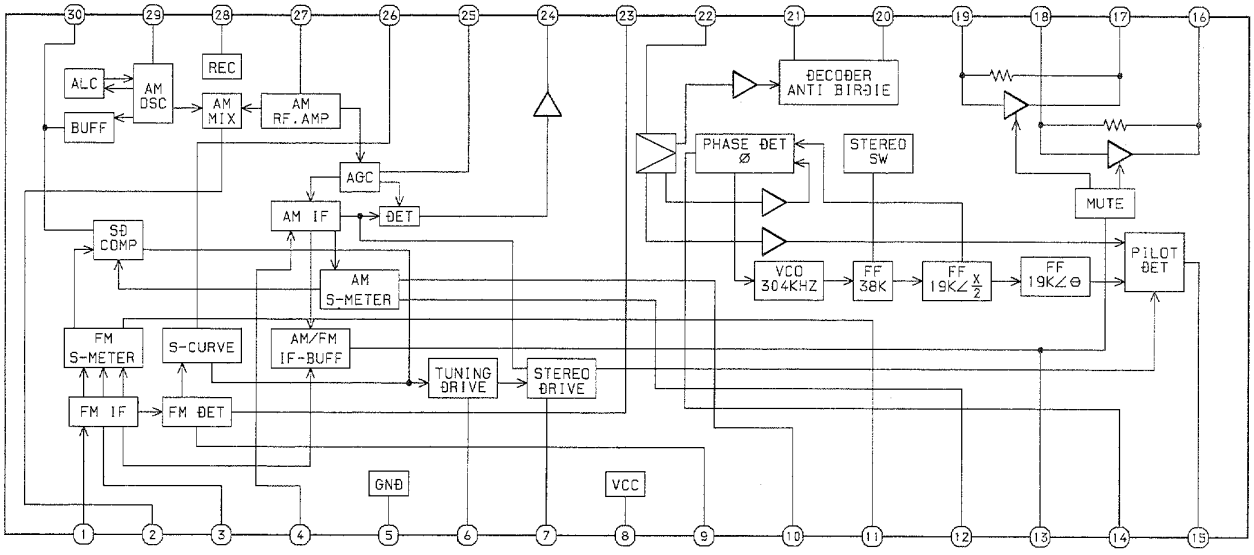
IC, BA3835S



IC, M62439SP



IC, LA1837



IC DESCRIPTION

IC, μPD780228

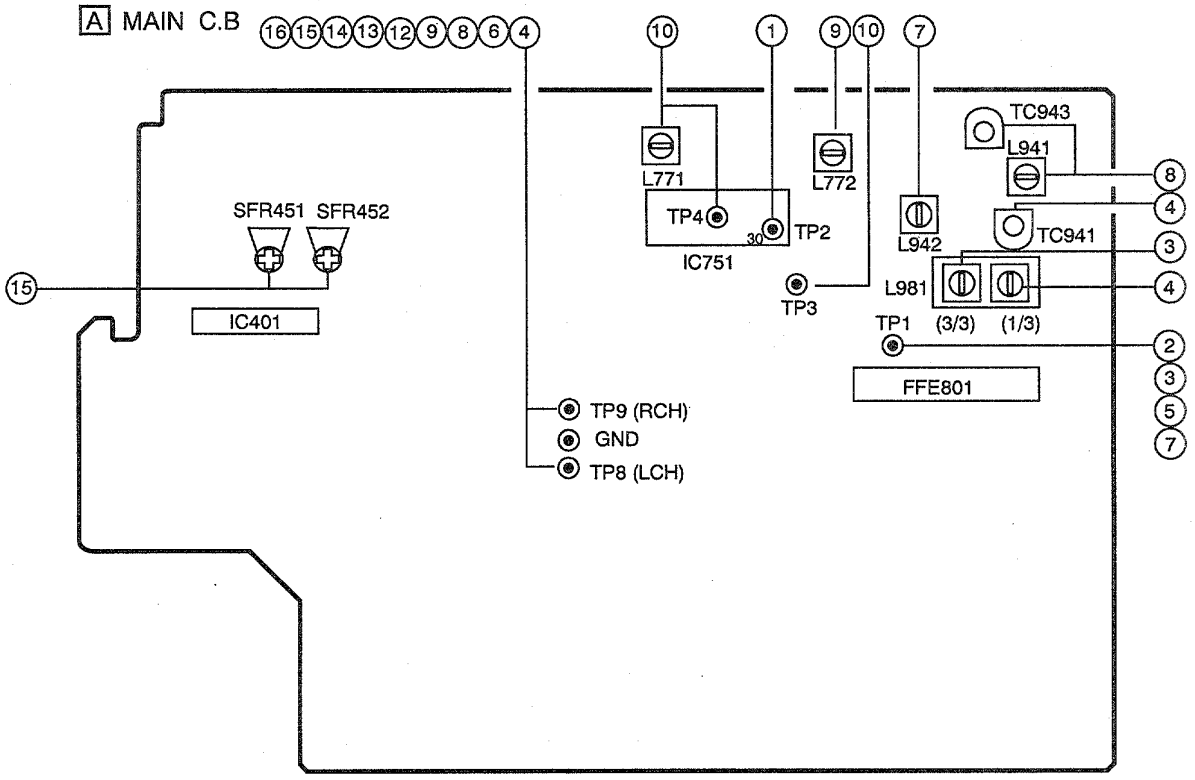
Pin No.	Pin Name	I/O	Description
1	$\overline{\text{K-SCAN}}$	O	Key scan output.
2	$\overline{\text{LED ▶}}$	O	▶ LED $\overline{\text{ON}}$/OFF output.
3	$\overline{\text{LED ▶▶}}$	O	▶▶ LED $\overline{\text{ON}}$/OFF output.
4	$\overline{\text{LED ◀◀}}$	O	◀◀ LED $\overline{\text{ON}}$/OFF output.
5	$\overline{\text{LED ■}}$	O	■ LED $\overline{\text{ON}}$/OFF output.
6	$\overline{\text{LED ❚❚}}$	O	❚❚ LED $\overline{\text{ON}}$/OFF output.
7	O-MOTOR	O	DECK MOTOR ON/$\overline{\text{OFF}}$ output.
8	$\overline{\text{O-SOL2}}$	O	DECK 2 solenoid output.
9	$\overline{\text{O-SOL1}}$	O	DECK 1 solenoid output.
10	O-CD.ON	O	CD power ON/OFF output.
11	O-TU.ON	O	Tuner power ON/OFF output.
12	O-BIAS	O	DECK bias ON/$\overline{\text{OFF}}$ output.
13	O-RMT	O	DECK2 REC MUTE output.
14	O-PB1/2	O	Playback DECK1 and DECK2 switch output.
15	$\overline{\text{O-POWER}}$	O	System power supply $\overline{\text{ON}}$/OFF output.
16	O-PLLCE	O	PLL IC chip enable output.
17	IC	–	Internal connection.(Connected to GND.)
18	VSS	–	GND.
19	VDD	–	Power supply input.
20	O-DSP.CE	O	DSP IC chip enable logic.
21	O-DSC/O-M-DATA	O	E-VR & SOUND & FUNCTION IC data output/ Main PLL shift register data output.
22	O-CD.OPEN	O	CD tray open data output.
23	O-CD.CLOSE	O	CD tray close data output.
24	O-CD.DISH.F	O	CD turntable forward rotation output.
25	O-CD.DISH.R	O	CD turntable reverse rotation output.
26	I-WRQ/$\overline{\text{I-STEREO}}$	I	CD WRQ input/Tuner stereo input.
27	I-DRF/$\overline{\text{I-IFCNT}}$	I	CD DRF input/Tune IF count serial data input.
28	RDS CLK	I	Tuner RDS clock input.
29	I-SUBQ/RDS-DATA	I	CD SUBQ data input/RDS data input.
30	$\overline{\text{RESET}}$	–	System reset.
31	O-CD DATA/O-CLK	O	CD data output/Main PLL shift register clock output.
32	O-CDCLK	O	CD clock output.
33	O-CD.CE	O	CD enable output.
34	I-RMC	I	System remote control input.
35	I.DISH.SENSE	I	CD turntable photo sensor input.
36	O-C.SHIFT	O	Micon clock shift output.
37	VDD1	–	Power supply input.
38,39	X2,X1	–/I	4.19MHz oscillator circuit.
40	VSS1	–	GND.
41	AVDD	–	Power supply input.
42	$\overline{\text{I-HOLD}}$	I	Power failure detected input "H" to stop clock and main memory.
43	I-CD.SW	I	CD mecha switch input.

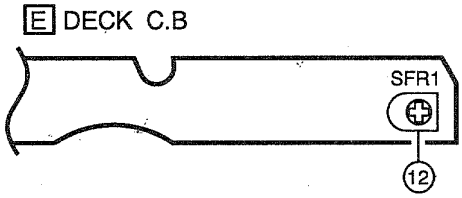
Pin No.	Pin Name	I/O	Description
44	I-SPEANA	I	A/D input for spectrum analyser display.
45	I-RE VOL	I	Volume jog AD input.
46	I-RE MULTI	I	Multi jog AD input.
47	I-SIG	I	RDS Tuner signal input.
48,49	I-KEY2,1	I	Key2,1 input.
50	AVSS	–	GND.
51	O-CD LED	O	CD flash window LED ON/OFF output.
52	LED ◀	O	◀ LED switch ON/OFF output.
53~58	P1~P6	O	FL segment P1~6 output.
59	P7/REV2	I/O	FL segment P7 output / REV2 data input.
60	P8/REV1	I/O	FL segment P8 output / REV1 data input.
61	P9/AM10K	I/O	FL segment P7 output / AM10K data input.
62	P10/AMSTWIDE	I/O	FL segment P10 output / AMSTWIDE data input.
63	P11/LW	I/O	FL segment P11 output / LW mode data input.
64	P12/SW	I/O	FL segment P12 output / SW mode data input.
65	P13/FM1	I/O	FL segment P13 output / FM1 data input.
66	P14/RDS	I/O	FL segment P14 output / RDS data input.
67	P15/CST2	I/O	FL segment P15 output / DECK2 cassette detect switch data input.
68	P16/REB	I/O	FL segment P16 output / DECK2 side B record OK switch data input.
69	P17/CAM2	I/O	FL segment P17 output / DECK2 CAM switch data input.
70	P18/AUTO1	I/O	FL segment P18 output / DECK1 AUTO stop switch data input.
71	P19/AUTO2	I/O	FL segment P19 output / DECK2 AUTO stop switch data input.
72	P20/CAM1	I/O	FL segment P20 output / DECK1 CAM stop switch data input.
73	P21/CST1	I/O	FL segment P21 output / DECK1 cassette detect switch data input.
74	P22/REA	I/O	FL segment P22 output / DECK2 side A record OK switch data input.
75	P23/KARAOKE	I/O	FL segment P23 output / KARAOKE data input.
76	P24/TM-BASE	I/O	FL segment P24 output / TM-BASE data input.
77,78	P25,P26	O	FL segment P25,P26 output.
79	VDD2	–	Power supply input.
80	–VFL	–	Power supply for FL display.
81	SPEANA-A/P27	O	FL segment P27 output / Spectrum analyser band switching data output.
82	SPEANA-B/P28	O	FL segment P28 output / Spectrum analyser band switching data output.
83	SPEANA-C/P29	O	FL segment P29 output / Spectrum analyser band switching data output.
84~89	P30~P35	O	FL segment P30~35 output.
90~100	G10~G1	O	FL grid G10~1 output.

IC, LC72131

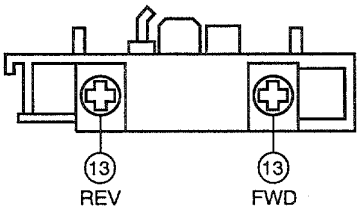
<table>
<tr><th>Pin No.</th><th>Pin Name</th><th>I/O</th><th>Description</th></tr>
<tr><td>1</td><td>XIN</td><td rowspan="2">I/O</td><td rowspan="2">A crystal oscillator (4.5MHz) is connected between these pins.</td></tr>
<tr><td>22</td><td>XOUT</td></tr>
<tr><td>2</td><td>NC</td><td>–</td><td>Not used.</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>Digital data input from CPU (μPD780228) when relevant key is operated. Active "H".</td></tr>
<tr><td>5</td><td>CL</td><td>I</td><td>To clock in the data DI.</td></tr>
<tr><td>6</td><td>DO</td><td>O</td><td>Digital data output to CPU (μPD780228).</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>

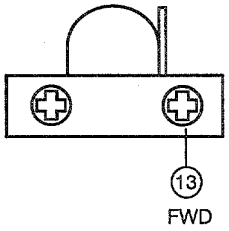




DECK–1 P HEAD (LH,HE ONLY)



DECK–1 P, DECK–2 R / P / E HEAD (U ONLY)
DECK–2 R / P / E HEAD (LH,HE ONLY)



< TUNER SECTION >

1. Clock Check
   Settings : • Test point : TP2
   Method : Set to AM 1710kHz (LH,U), MW 1602kHz (HE) and check that the test point is 2160kHz ± 45Hz (LH,U), 2052kHz ± 45Hz (HE) .

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

3. MW VT Adjustment (HE)
   Settings : • Test point : TP1
   • Adjustment location : L981(3/3)
   Method : Set to MW 1710kHz and adjust L981(3/3) so that the test point becomes 8.5V ± 0.05V. Then set to MW 530kHz and check that the test point is more than 0.3V.

4. AM Tracking Adjustment (LH,U)
   Settings : • Test point : TP8(Lch), TP9(Rch)

• Adjustment location :
L981(1/3) 1000kHz
Method : The level at 1000kHz is adjusted to MAX by L981(1/3).

4. MW Tracking Adjustment (HE)
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 603 kHz is adjusted to MAX by L981(1/3). Then the level at 1404 kHz is adjusted to MAX by TC941.

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

6. FM Tracking Check
Settings : • Test point : TP8(Lch), TP9(Rch)
Method : • Set to FM 98.0MHz and check that the test point is less than 9.0dB.

7. SW VT Adjustment (HE)
Settings : • Test point : TP1
• Adjustment location : L942
Method : Set to SW 17.9MHz and adjust L942 so that the test point becomes 7.0V ± 0.05V. Then set to SW 5.9MHz and check that the test point is more than 0.3V.

8. SW Tracking Adjustment (HE)
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 MAX by L941.
Then the level at 17.9MHz is adjust to MAX by TC943.

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

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

11. Auto Stop Level Check
AM(MW)
Settings : • Input level : 52dB
Method : Set to AM 1000kHz(LH,U),MW 999kHz(HE) and check that the test point is 37 ~ 62dB.

FM
Settings : • Input level : 25dB
Method : Set to FM 98.0MHz and check that the test point is 25dB ± 10dB.

< DECK SECTION >

12. 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.

13. Head Azimuth Adjustment
Settings : • Test tape : TTA–330
• Test point : TP8,TP9
• 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.

14. 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.

15. REC/PB Frequency Response Adjustment
Settings : • Test tape : TTA–602
• Test point : TP8,TP9
• Input signal : 1kHz / 8kHz
• Adjustment location : SFR451
SFR452
Method : Apply a 1kHz signal and REC mode.
Then adjust OSC attenuator so that the output level at the TP8,TP9 becomes 8~10mV. Record and play back the 1kHz and 8kHz signals and adjust SFRs so that the output of the 8kHz signals becomes 0dB ± 0.5dB with respect to that of the 1kHz signal.

16. REC/PB Sensitivity Check
Settings : • Test tape : TTA–602
• Test point : TP8,TP9
• Input signal : 1kHz
Method : Apply a 1kHz signal and REC mode. Then adjust OSC attenuator so that the output level at the TP8,TP9 becomes 80~100mV. Record and play back the 1kHz signals and check that the output is -2.0dB ± 3.5dB.

PRACTICAL SERVICE FIGURE

<TUNER SECTION>

<FM SECTION>

IHF Sensitivity :	Less than 10dB
(THD 3%)	[at 87.5MHz]
	Less than 9.0dB
	[at 98.0/108.0MHz]
S/N 50dB Quieting sensitivity :	
(Stereo)	Less than 35dB
	[at 87.5 / 98.0 / 108.0MHz]
Signal to noise ratio :	More than 72dB (mono)
	More than 66dB (stereo)
	[at 98.0MHz]
Distortion :	Less than 1.2% (mono)
	Less than 2.0% (stereo)
	[at 98.0MHz]
Stereo separation :	More than 30dB
	[at 98.0MHz]
Intermediate frequency :	10.7MHz

<AM(MW) SECTION>

Sensitivity :	Less than 60dB
(S/N 20 dB)	[at 600kHz (LH,U)]
	[at 603kHz (HE)]
	Less than 58dB
	[at 1000 / 1400kHz (LH,U)]
	[at 999 / 1404kHz (HE)]
Signal to noise ratio :	More than 30dB (mono)
	More than 34dB (stereo)
	[at 1000kHz (LH,U)]
	[at 999kHz (HE)]
Distortion :	Less than 1.5% (mono)
	Less than 4.0% (stereo)
	[at 1000kHz (LH,U)]
	[at 999kHz (HE)]
Stereo separation :	More than 15dB
	[at 1000kHz (LH,U)]
	[at 999kHz (HE)]
Intermediate frequency :	450kHz

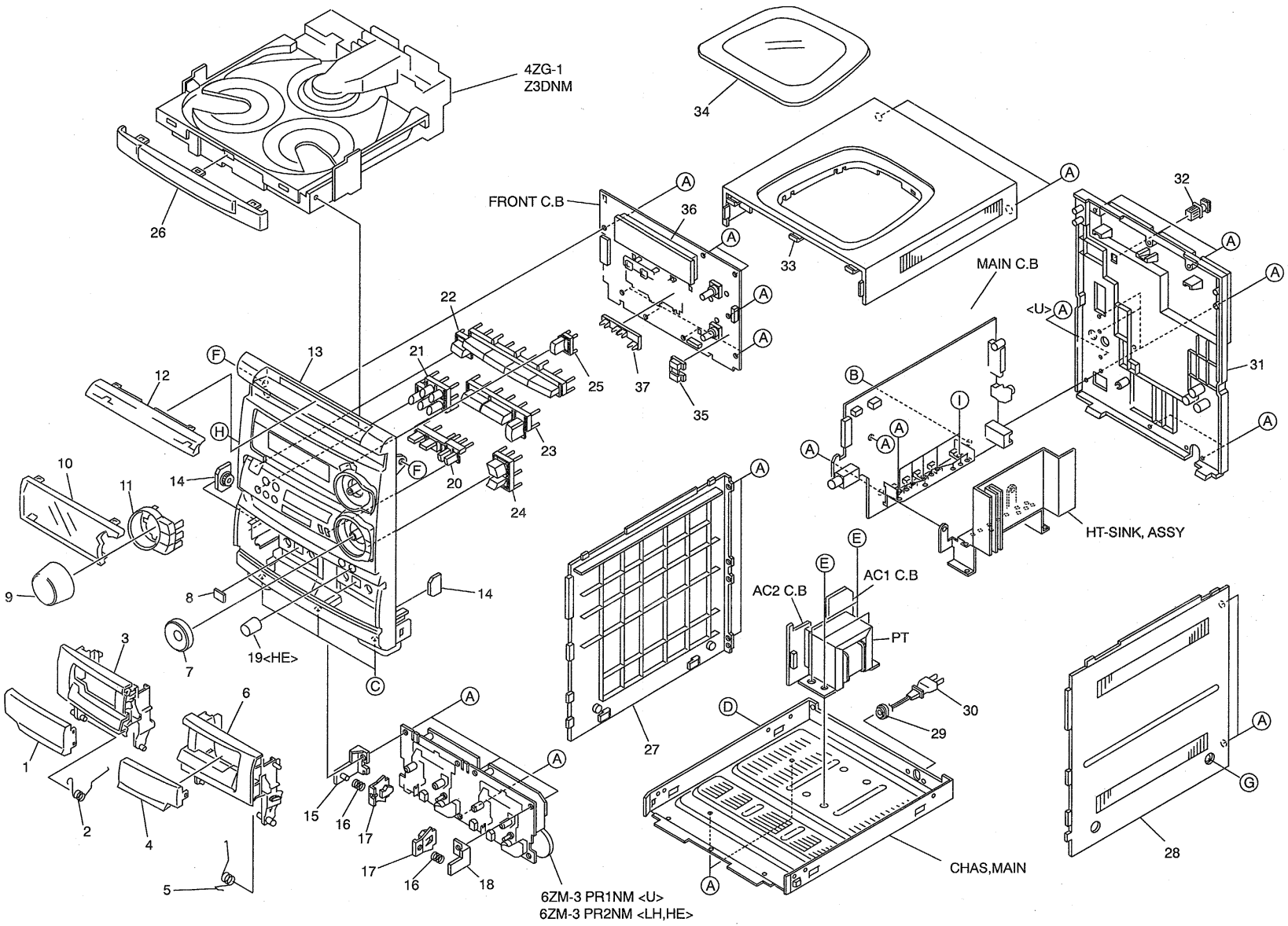
<SW SECTION> (HE)

Sensitivity :	Less than 49dB (5.9MHz)
(S/N 20dB)	Less than 44dB (12.0MHz)
	Less than 38dB (17.9MHz)
Distortion :	Less than 10.0% (12.0MHz)
Intermediate frequency :	450kHz

<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 & REW torque :	75 ~ 180g-cm (F.F,REW)
Back tension :	2 ~ 7g-cm
PB Output level :	2.8V ± 3dB (SP 2V)
	Distortion (REC/PB) : Less than 2.0%
(NORM)	
Noise level (PB) :	Less than 25mV (NORM)
Noise level (REC/PB) :	Less than 30mV(NORM)
Erasing ratio :	More than 60dB (at 125Hz,NORM)
Test tape :	NORM : TTA–602

MECHANICAL EXPLODED VIEW 1 / 1

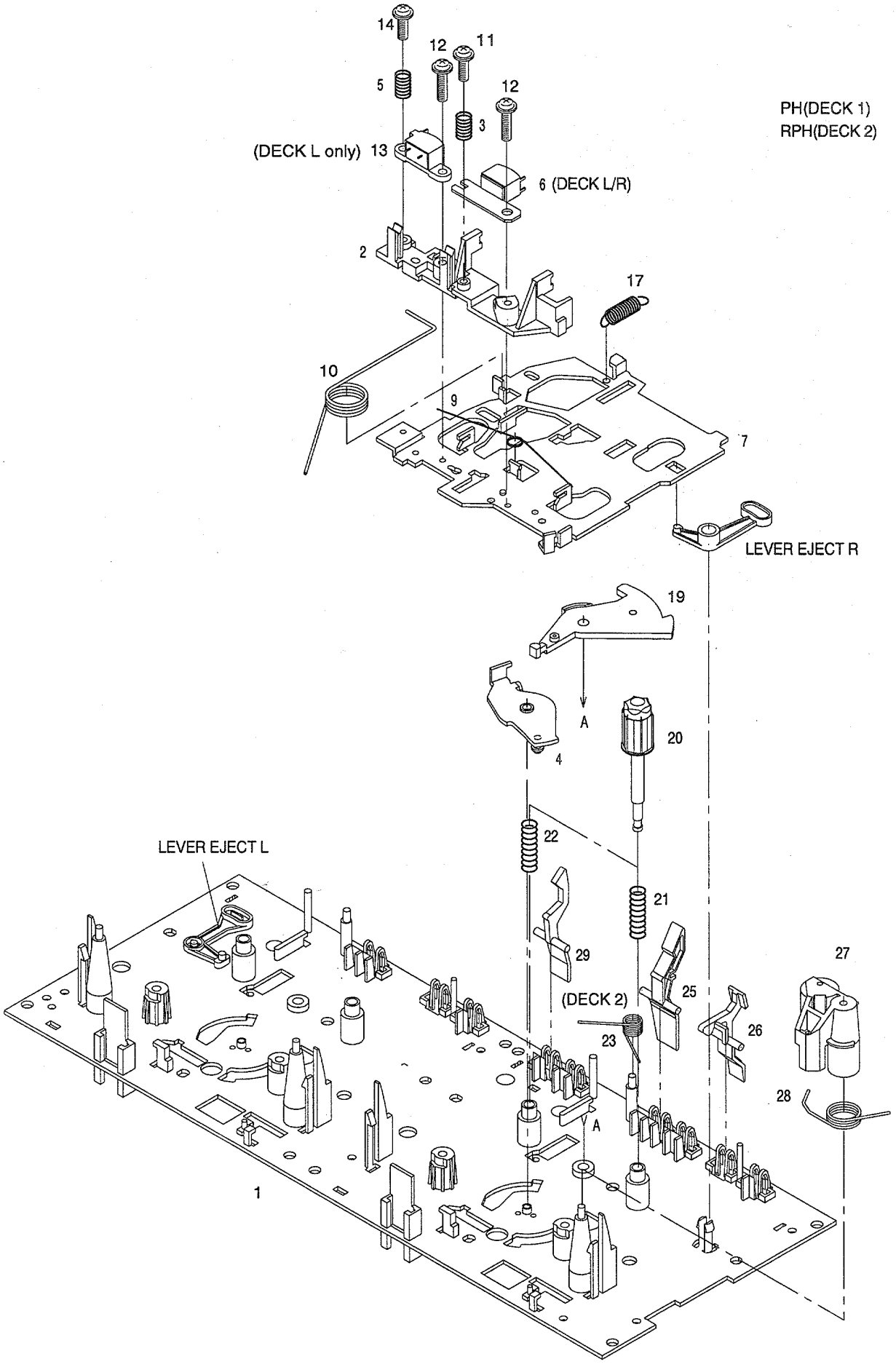


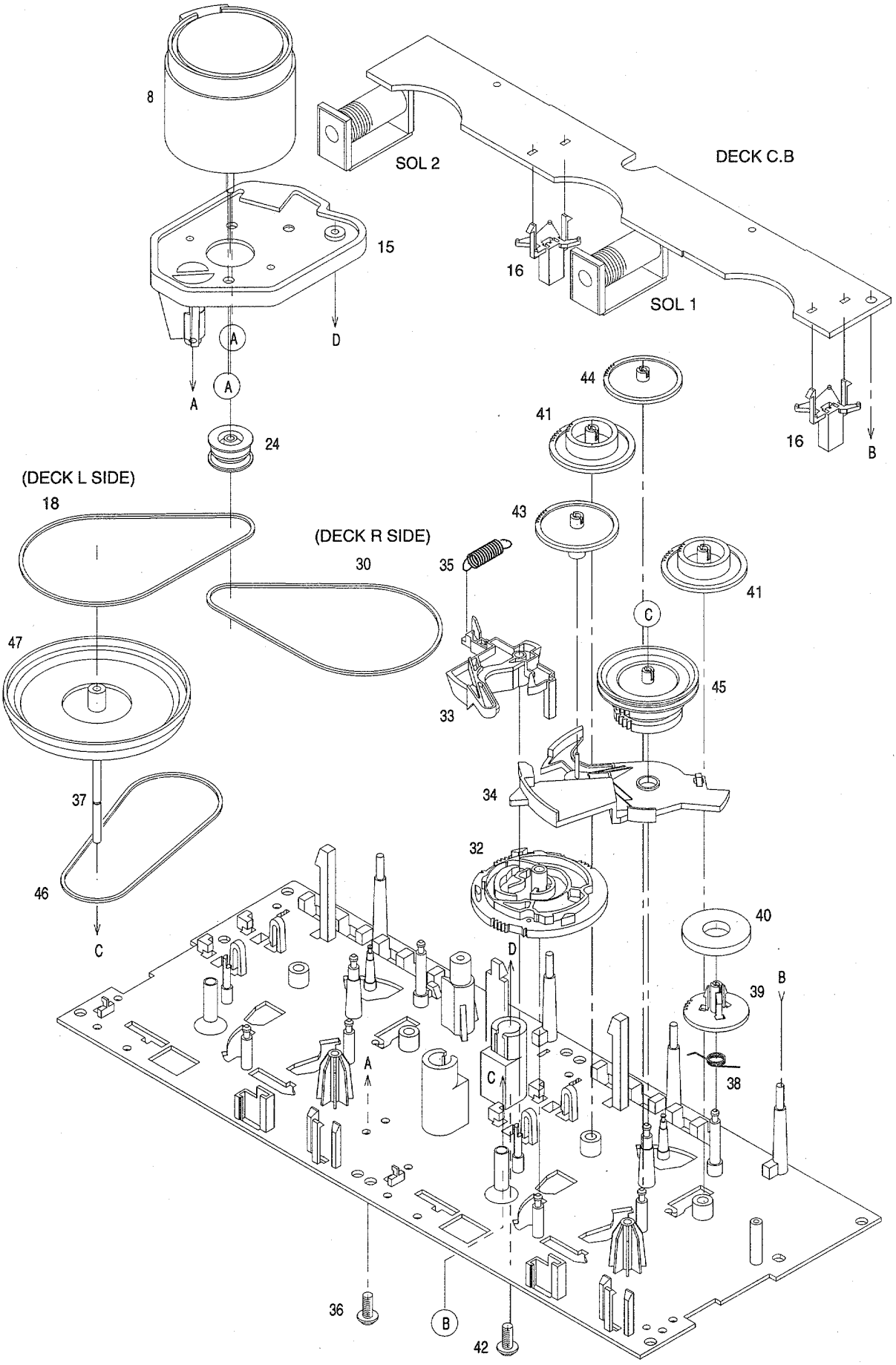
MECHANICAL PARTS LIST 1 / 1

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

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	87-NB8-012-010		WINDOW,CASS 1
2	82-NF5-218-010		SPR-T,EJECT 1 (SIN)
3	88-NF8-044-010		BOX,CASS 1 1WAY<U>
3	88-NF8-041-010		BOX,CASS 1 REV<LH,HE>
4	87-NB8-013-010		WINDOW,CASS 2
5	82-NF5-219-010		SPR-T,EJECT 2 (SIN)
6	88-NF8-043-010		BOX,CASS 2 1WAY
7	88-NF8-016-010		KNOB,RTRY JOG
8	81-532-080-010		LABEL, CASS. COMPT
9	87-NB8-015-010		KNOB,RTRY VOL
10	88-NF8-022-010		WINDOW,DISPLAY H<LH,HE>
10	88-NF8-021-010		WINDOW,DISPLAY U<U>
11	87-NB8-021-110		KEY,GEQ
12	87-NB8-009-010		WINDOW,CD
13	88-NF8-002-010		CABI,FR H<HE>
13	88-NF8-005-010		CABI,FR LH<LH>
13	88-NF8-001-010		CABI,FR U<U>
14	87-NF8-220-010		DMPR,150
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-NF4-217-010		HLDR,LOCK 2
19	87-NB8-017-010		KNOB,RTRY MIC<HE>
20	88-NF8-006-010		KEY,REC
21	88-NF8-014-010		KEY,CD
22	88-NF8-007-010		KEY,FUNCTION
23	88-NF8-010-010		KEY,ASSY PLAY REV<LH,HE>
23	88-NF8-019-010		KEY,PLAY 1WAY ASSY<U>
24	88-NF8-013-010		KEY,ASSY FF
25	87-NB8-022-010		KEY,T-BASS
26	88-NF8-046-010		PANEL,TRAY
27	87-NB8-005-010		PANEL,LEFT<LH,HE>
27	87-NB8-051-010		PANEL,LEFT U<U>
28	88-NF8-047-010		PANEL,RIGHT 2<LH,HE>
28	88-NF8-048-010		PANEL,RIGHT 2 U<U>
29	87-085-185-010		BUSHING, AC CORD (E)<LH,HE>
29	87-085-189-010		BUSHING, CORD (U)<U>
⚠ 30	87-050-053-010		AC CORD ASSY,U-2<U>
⚠ 30	87-050-079-010		AC-CORD ASSY,E<LH,HE>
31	88-NF8-040-010		CABI,REAR HEJSTNM<HE>
31	88-NF8-032-010		CABI,REAR LHSTNM<LH>
31	88-NF8-038-010		CABI,REAR USTN<U>
32	84-ZG1-245-210		CAP,OPTICAL
33	87-NF9-055-010		PANEL,TOP
34	86-NFZ-001-010		WINDOW,TOP
35	88-NF8-207-010		GUIDE,FF
36	88-NF8-205-010		GUIDE,FL
37	88-NF8-208-010		GUIDE,PLAY 1WAY<U>
37	88-NF8-206-010		GUIDE,PLAY REV<LH,HE>
A	87-067-703-010		TAPPING SCREW, BVT2+3-10
B	87-NF4-224-010		S-SCREW,IT3B+3-8 CU
C	87-067-688-010		BVTT+3-6
D	87-721-096-410		QT2+3-10 GLD
E	87-078-019-010		S-SCREW,IT+4-6
F	87-721-097-410		QT2+3-12 GLD
G	87-067-641-010		UTT2+3-8(W/O SLOT)BL
H	87-723-096-410		QT2+3-10 BLK
I	87-067-579-010		BVT2+3-8 W/O SLOT

TAPE MECHANISM EXPLODED VIEW 1 / 1 <U>



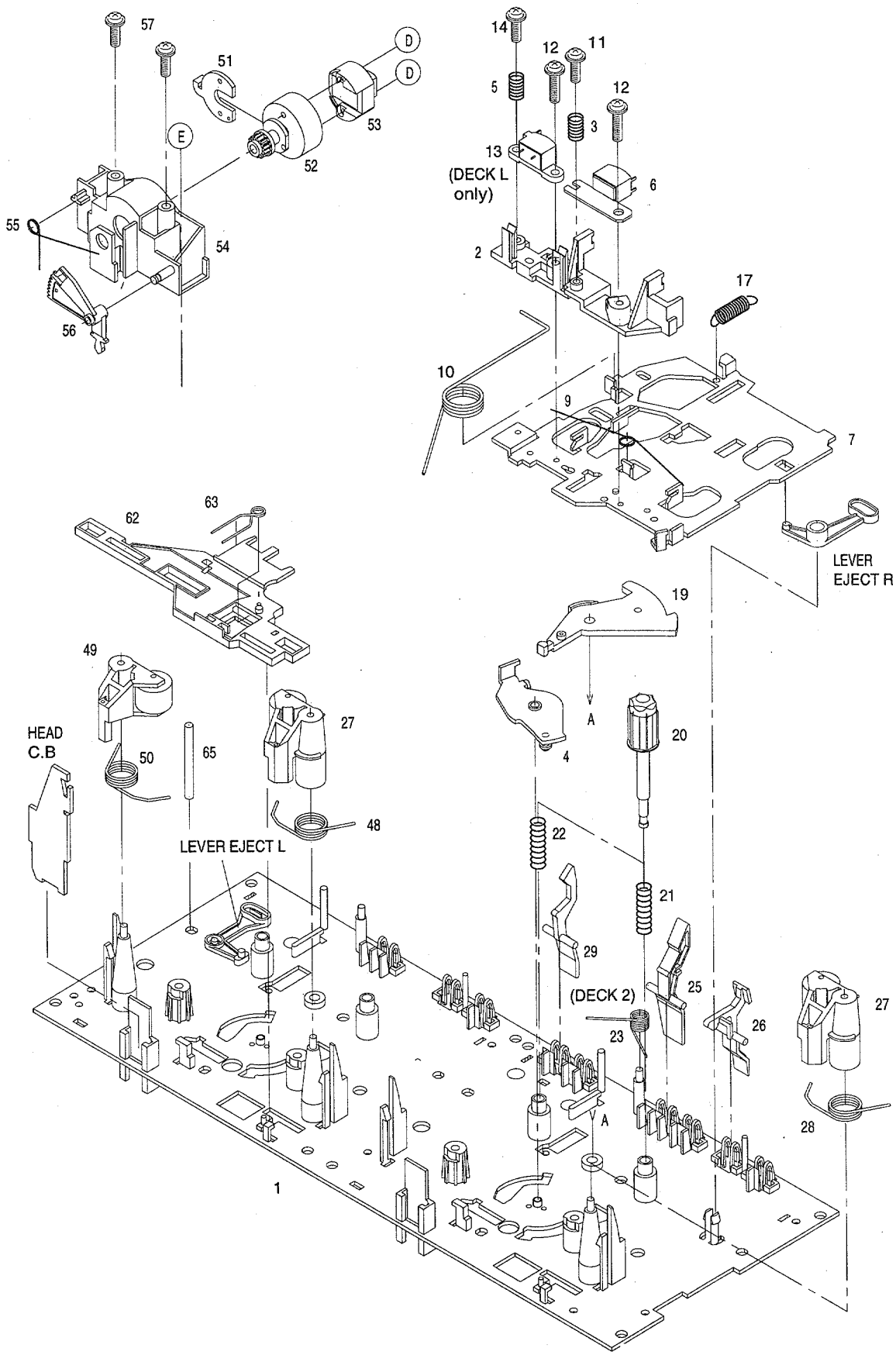

8
SOL 2
DECK C.B
15
16
SOL 1
A
D
A
A
24
44
41
16
B
(DECK L SIDE)
18
(DECK R SIDE)
30
43
35
41
C
47
45
33
37
34
32
46
C
40
D
B
39
A
C
38
36
B
42

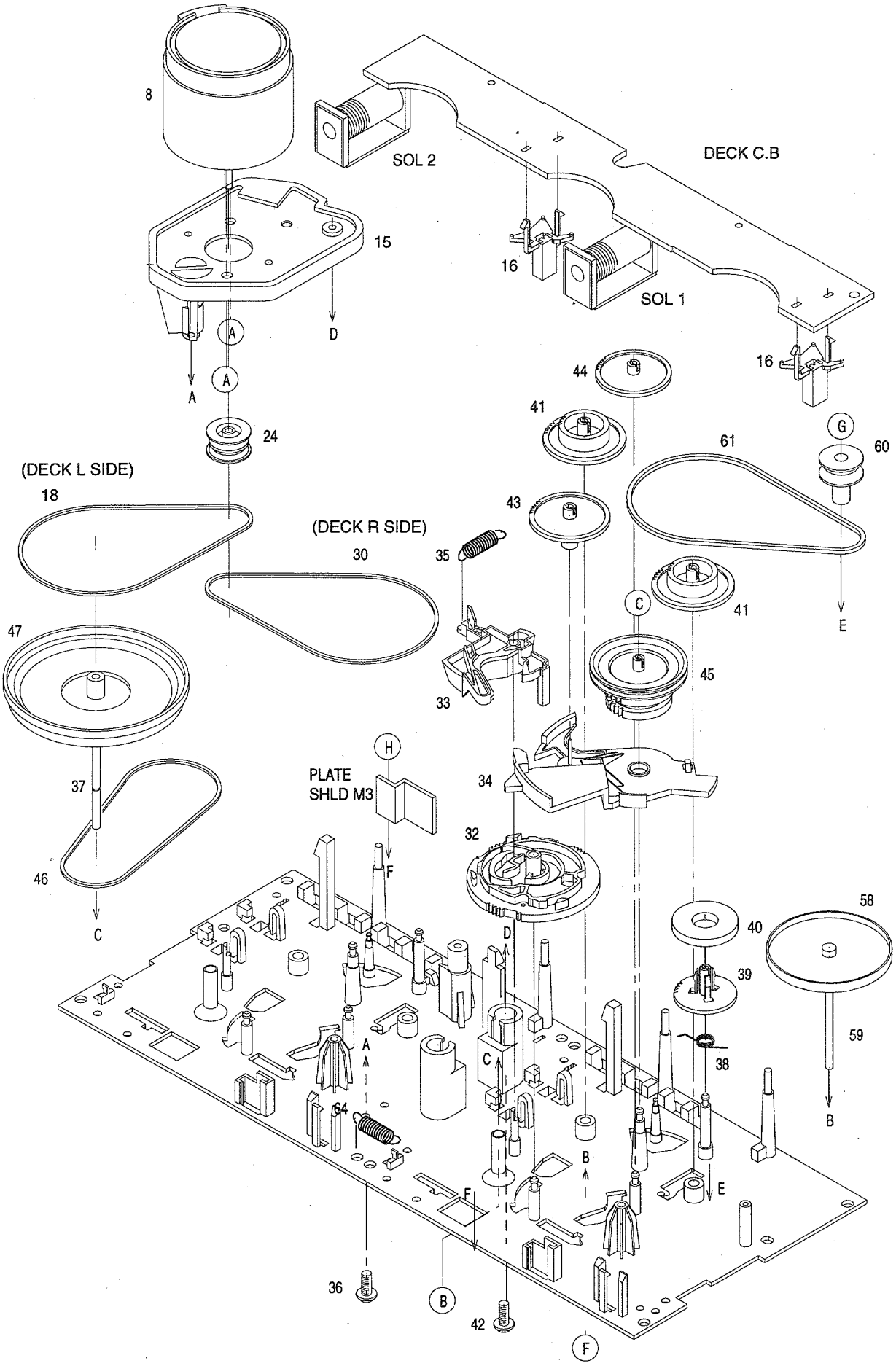
TAPE MECHANISM PARTS LIST 1 / 1 <U>

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	85-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)
47	82-ZM3-331-019		FLY-WHL R2W (DECK R)
A	87-251-071-417		U+2.6-4
B	80-ZM6-243-019		SH,1.75-3.6-0.5 SLT

TAPE MECHANISM EXPLODED VIEW 1 / 1 <LH, HE>




8
SOL 2
DECK C.B
15
16
SOL 1
A
D
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44
41
24
G
61
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(DECK L SIDE)
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(DECK R SIDE)
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H
PLATE
SHLD M3
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C
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A
C
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64
B
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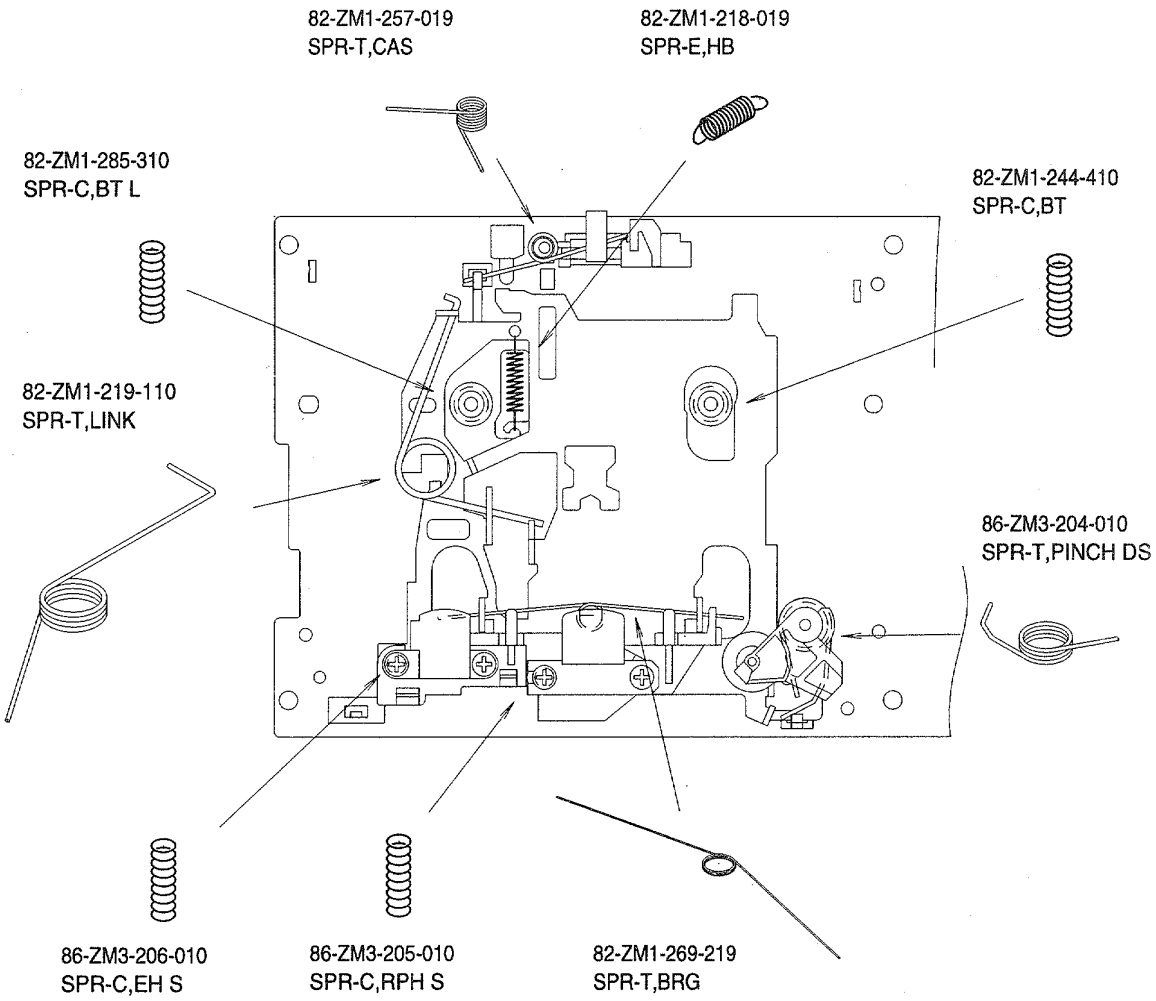
F
E
36
B
42
F

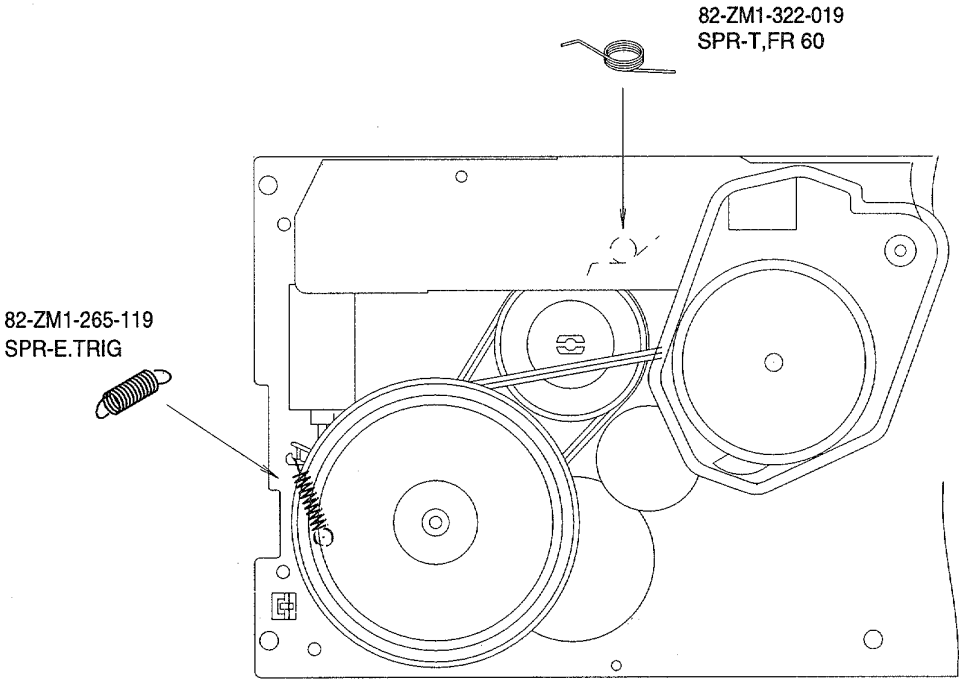
TAPE MECHANISM PARTS LIST 1 / 1 <LH, HE>

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

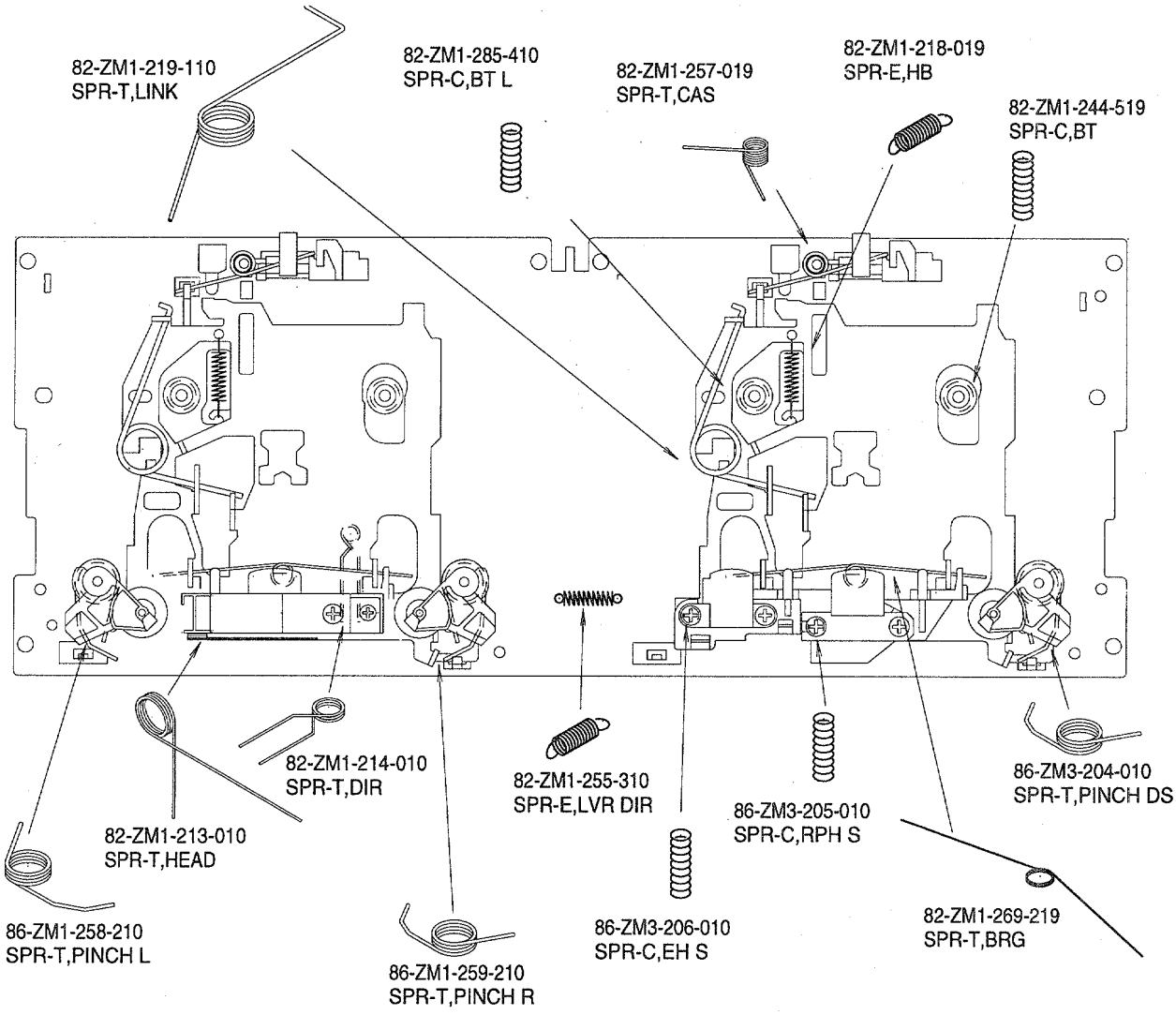
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	86-ZM3-215-010		CHAS ASSY,RS
2	86-ZM3-202-010		BASE,HEAD S
3	86-ZM3-205-010		SPR-C,RPH S
4	82-ZM1-333-210		PLATE,LINK 2
5	86-ZM3-206-010		SPR-C,EH S
6	87-A90-403-019		HEAD,RPH MS15R
7	86-ZM3-201-010		CHAS,HEAD S(DECK L)
7	82-ZM3-206-910		CHAS,HEAD(DECK R)
8	87-045-347-019		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

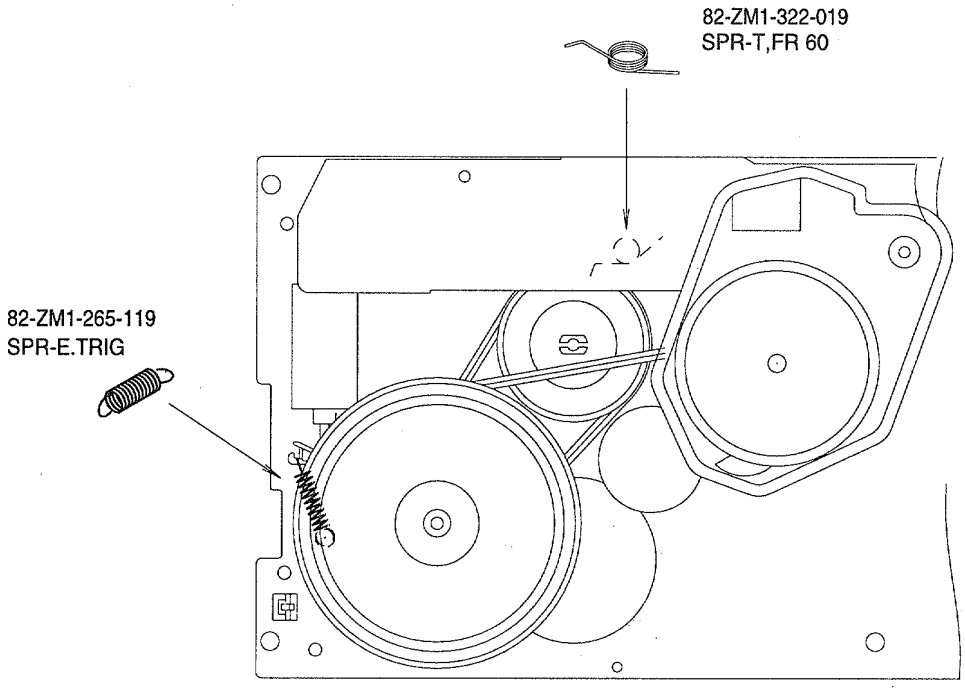
SPRING APPLICATION POSITION <U>





SPRING APPLICATION POSITION <LH, HE>



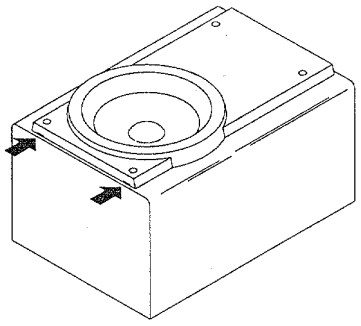


SPEAKER DISASSEMBLY INSTRUCTIONS

Type.1

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

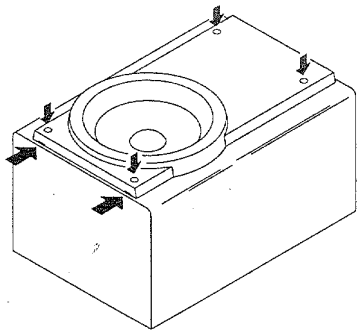
Insert a flat-bladed screwdriver into the position indicated by the arrows and remove the panel. Remove the screws of each speaker unit and then remove the speaker units.



Type.2

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

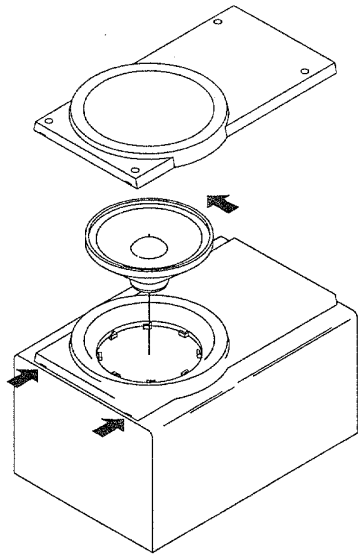
Remove the grill frame and four pieces of rubber caps by pulling out with a flat-bladed screwdriver Remove the screws from hole where installed rubber caps. Insert a flat-bladed screwdriver into the position indicated by the arrows and remove the panel. Remove the screws of each speaker unit and then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



Type.3

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

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



SPEAKER PARTS LIST (SX-NA302 / NS302)

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

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	86-NS5-012-010		BADGE,AIWA 35
2	87-NS7-611-010		CORD,SPKR
3	87-NSH-612-010		SPKR,CERAMIC ASSY
4	87-NSJ-602-010		SPKR 120<AUST>
5	88-NSJ-604-010		SPKR,T 60<SJST,SLST>
6	88-NSJ-602-010		SPKR,W 140<SJST,SLST>
7	88-NSJ-001-010		PANEL,FR
8	88-NSJ-003-010		NET,

SPEAKER PARTS LIST (SX-R275)

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

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	87-YS1-004-010		GRILLE FRAME ASSY
2	87-YS6-002-010		SPKR, CORD Y
3	87-YS6-601-010		SPKR, 100

ACCESSORIES / PACKAGE LIST

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

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	87-006-225-010		AM LOOP ANT NC2<LH,U>
1	87-A90-054-010		ANT,LOOP AM-CON C<HE>
2	87-A90-064-010		FEEDER-ANT,FM(SHS)
3	88-NF8-901-010		IB,H(ECA)M<HE>
3	88-NF8-902-010		IB,LH(ESP)M<LH>
3	88-NF8-903-010		IB,U(ESF)M<U>
⚠ 4	87-A90-312-010		PLUG,CONVERSION WTN-1157R1<LH,HE>
5	87-NF6-635-010		RC UNIT,RC-7AS06
6	87-043-095-010		WIRE ANTENNA<HE>

REFERENCE NAME LIST

ELECTRICAL SECTION

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

MECHANICAL SECTION

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

サービス技術ニュース	
番号	連絡内容
G— —	
G— —	
G— —	

アイワ株式会社
AIWA CO.,LTD.

9620450,750038
Tokyo Japan

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Printed in Singapore