

CDX-L420V

SERVICE MANUAL

Ver 1.0 2002. 01

AEP Model
UK Model



- The tuner and CD sections have no adjustments.

Model Name Using Similar Mechanism	CDX-L410
CD Drive Mechanism Type	MG-393XA-121//Q
Optical Pick-up Name	KSS-720A

SPECIFICATIONS

CD player section

Signal-to-noise ratio 90 dB
Frequency response 10 – 20,000 Hz
Wow and flutter Below measurable limit

Tuner section

FM

Tuning range 87.5 – 108.0 MHz
Aerial terminal External aerial connector
Intermediate frequency 10.7 MHz/450 kHz
Usable sensitivity 8 dBf
Selectivity 75 dB at 400 kHz
Signal-to-noise ratio 66 dB (stereo),
72 dB (mono)
Harmonic distortion at 1 kHz
0.6% (stereo),
0.3% (mono)
Separation 35 dB at 1 kHz
Frequency response 30 – 15,000 Hz

MW/LW

Tuning range MW: 531 – 1,602 kHz
LW: 153 – 279 kHz
Aerial terminal External aerial connector
Intermediate frequency 10.7 MHz/450 kHz
Sensitivity MW: 30 μ V
LW: 40 μ V

Power amplifier section

Outputs Speaker outputs
(sure seal connectors)
Speaker impedance 4 – 8 ohms
Maximum power output 45 W \times 4 (at 4 ohms)

General

Outputs Power aerial relay control
lead
Inputs Telephone ATT control lead
Tone controls Bass \pm 9 dB at 100 Hz
Treble \pm 9 dB at 10 kHz
Power requirements 12 V DC car battery
(negative ground)
Dimensions Approx. 178 \times 50 \times 177 mm
(w/h/d)
Mounting dimension Approx. 182 \times 53 \times 162 mm
(w/h/d)
Mass Approx. 1.2 kg
Supplied accessories Parts for installation and
connections (1 set)
Front panel case (1)

Design and specifications are subject to change without notice.

FM/MW/LW COMPACT DISC PLAYER

9-873-466-01
2002A0400-1
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Sony Corporation
e Vehicle Company
Published by Sony Engineering Corporation

SONY®

SERVICE NOTES



This label is located on the bottom of the chassis.



This label is located on the drive unit's internal chassis.

When replacing the chassis (T.U) of mechanism deck which have the "CAUTION LABEL" attached, please be sure to put a new LABEL (OP CAUTION) (3-223-913-01) to the chassis (T.U).

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.

During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.

The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

Notes on Chip Component Replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

TEST DISCS

This set can playback CD-R and CD-ROM discs. The following test discs should be used to check the capability:

CD-R test disc TCD-R082LMT (Part No. J-2501-063-1)

CD-RW test disc TCD-W082L (Part No. J-2501-063-2)

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK \triangle OR DOTTED LINE WITH MARK \triangle ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

EXTENSION CABLE AND SERVICE POSITION

When repairing or servicing this set, connect the jig (extension cable) as shown below.

- Connect the MAIN board (CNP301) and the SERVO board (CN1) with the extension cable (Part No. J-2502-011-1).

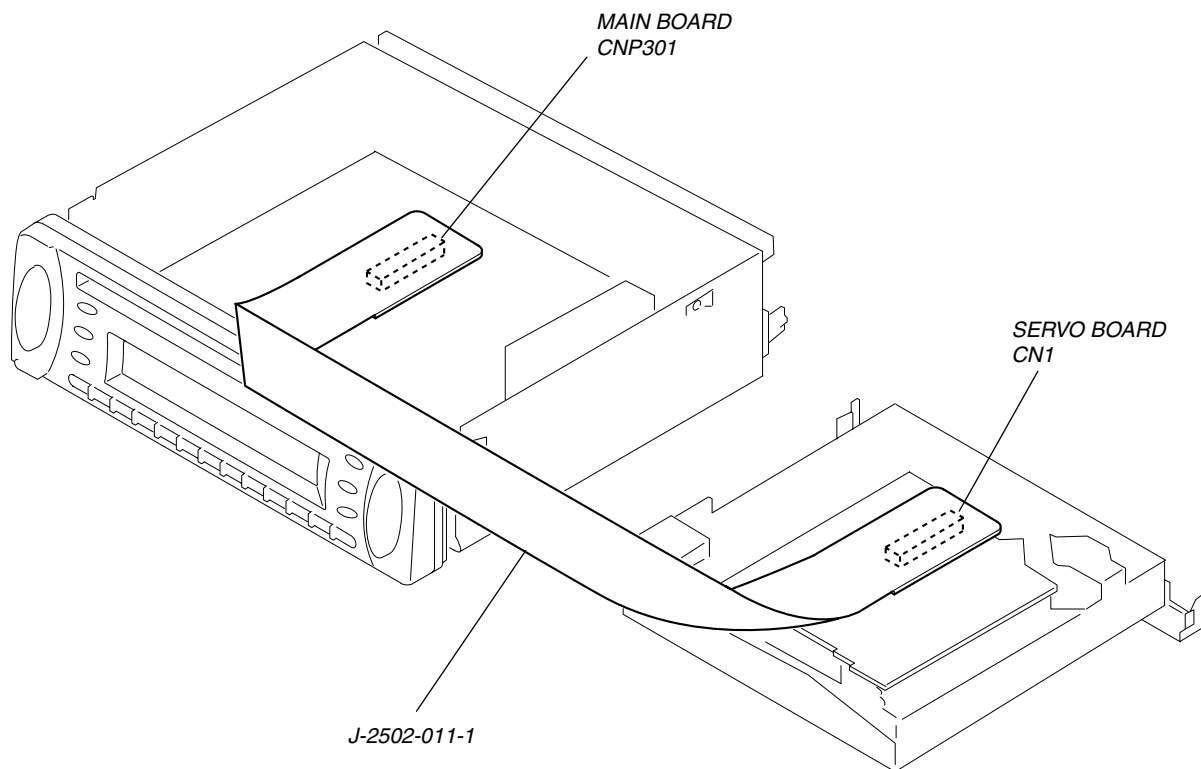


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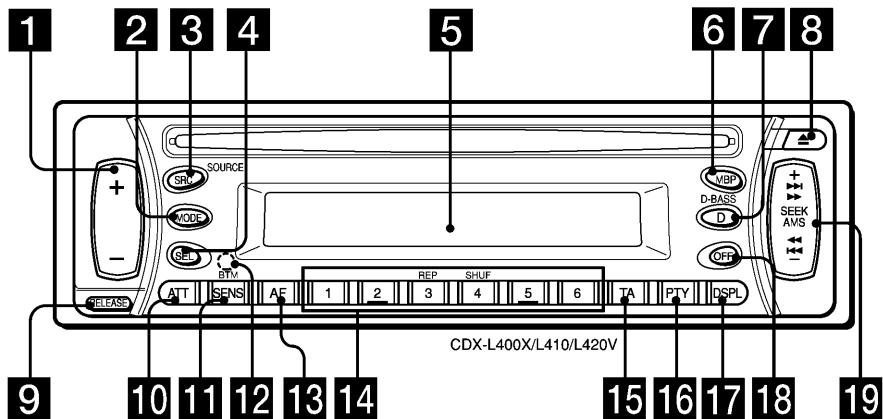
SECTION 1 GENERAL

This section is extracted from instruction manual.

Location of controls

Refer to the pages listed for details.

CD : During playback **RADIO** : During radio reception



- 1** Volume +/- button 8, 13, 17
- 2** MODE button
RADIO 10, 11, 13
- 3** SRC (SOURCE) (TUNER/CD) button 8, 10, 11, 13
- 4** SEL (select) button 8, 15, 17, 18
- 5** Display window
- 6** MBP (My Best sound Position) button 18
- 7** D (D-BASS) button 18
- 8** ▲ (eject) button 8
- 9** RELEASE (front panel release) button 7
- 10** ATT (attenuate) button 17
- 11** SENS/BTM button 10, 11, 13
- 12** RESET button (located on the front side of the unit, behind the front panel) 6
- 13** AF button 12, 13

- 14** Number buttons 17
CD
③ REP 9
④ SHUF 9
RADIO 10, 11, 12, 13, 15
- 15** TA button 13
- 16** PTY (programme type) button 14
- 17** DSPL (display mode change) button 8, 9, 11
- 18** OFF button* 7, 8
- 19** SEEK/AMS +/- button
CD 8
RADIO 10, 11, 12, 14

* **Warning when installing in a car without an ACC (accessory) position on the ignition key switch**
Be sure to press **OFF** on the unit for 2 seconds to turn off the clock display after turning off the engine. Otherwise, the clock display does not turn off and this causes battery drain.

Notes on CD-R/CD-RW discs

- You can play CD-Rs (recordable CDs)/CD-RWs (rewritable CDs) designed for audio use on this unit.
Look for these marks to distinguish CD-Rs/CD-RWs for audio use.



These marks denote that a disc is not for audio use.

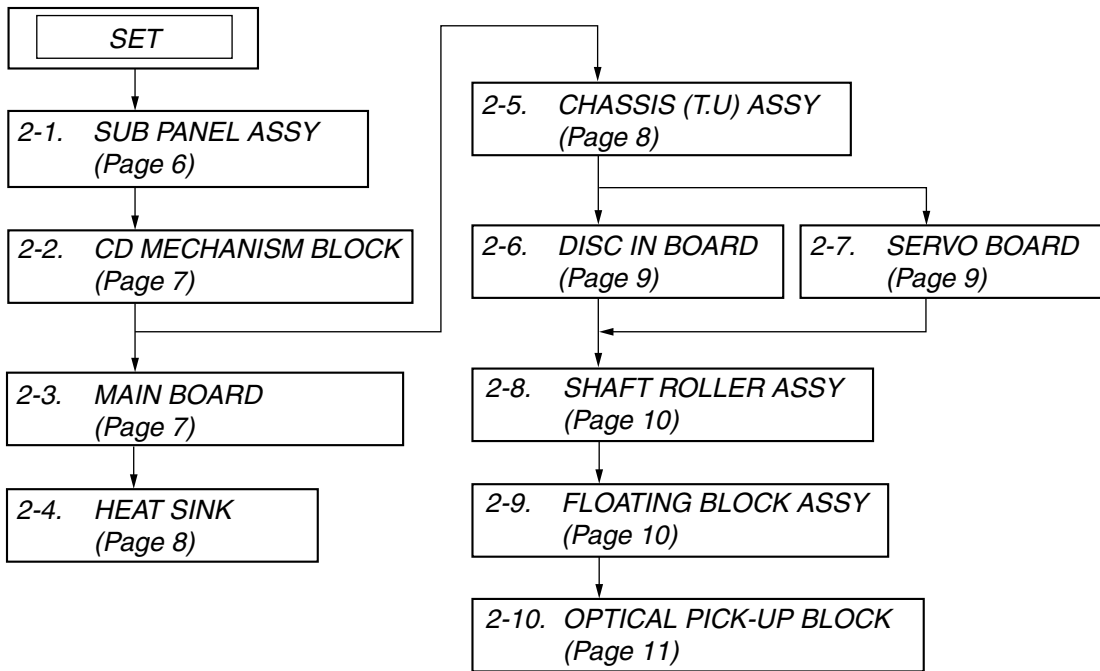


- Some CD-Rs/CD-RWs (depending on the equipment used for its recording or the condition of the disc) may not play on this unit.
- You cannot play a CD-R/CD-RW that is not finalized*.

* A process necessary for a recorded CD-R/CD-RW disc to be played on the audio CD player.

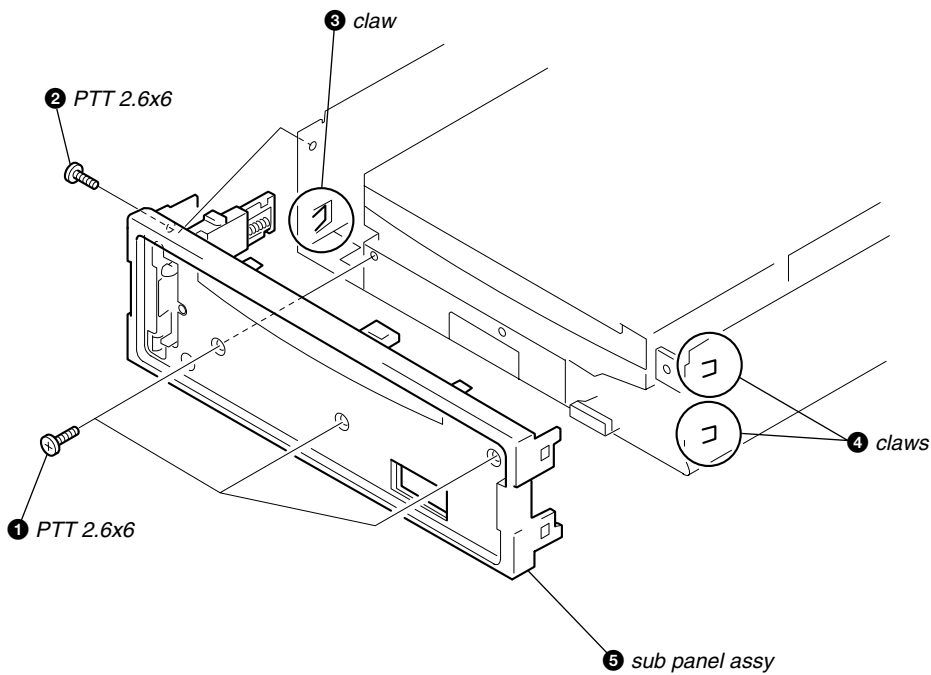
SECTION 2 DISASSEMBLY

Note : This set can be disassemble according to the following sequence.

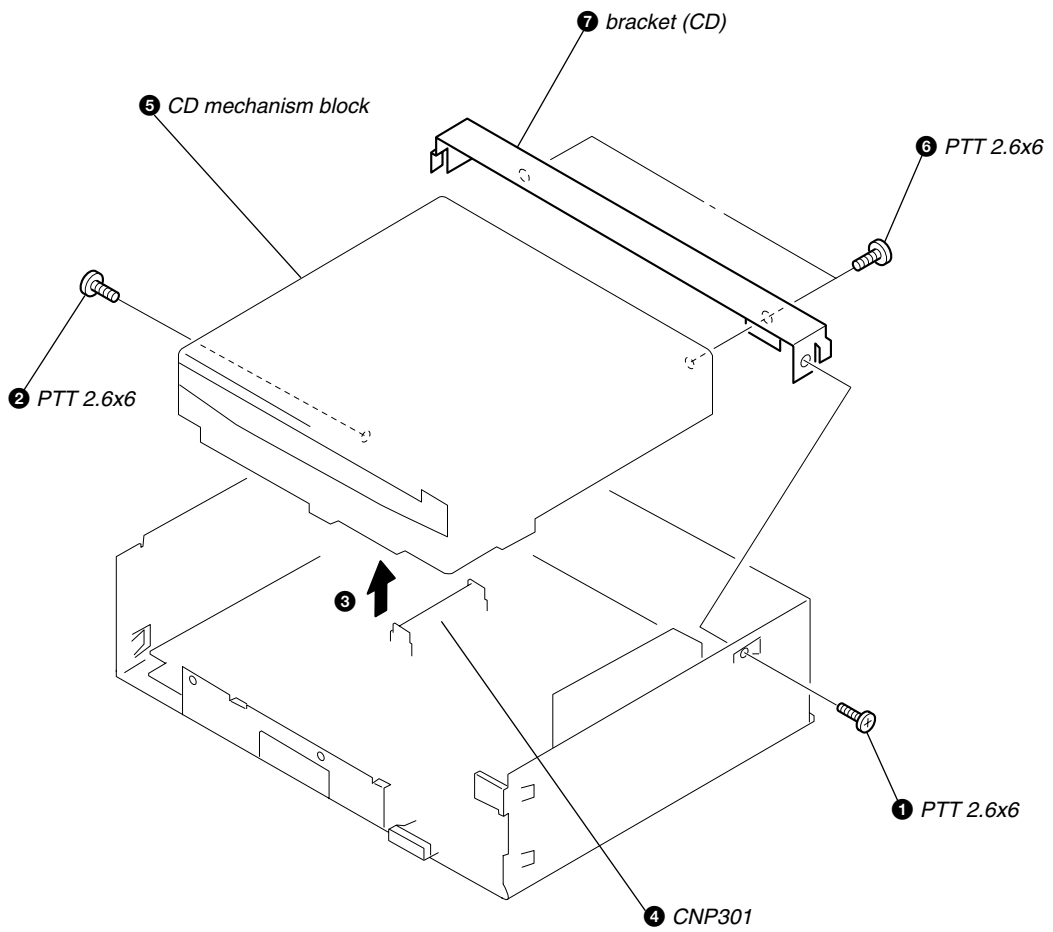


Note : Follow the disassembly procedure in the numerical order given.

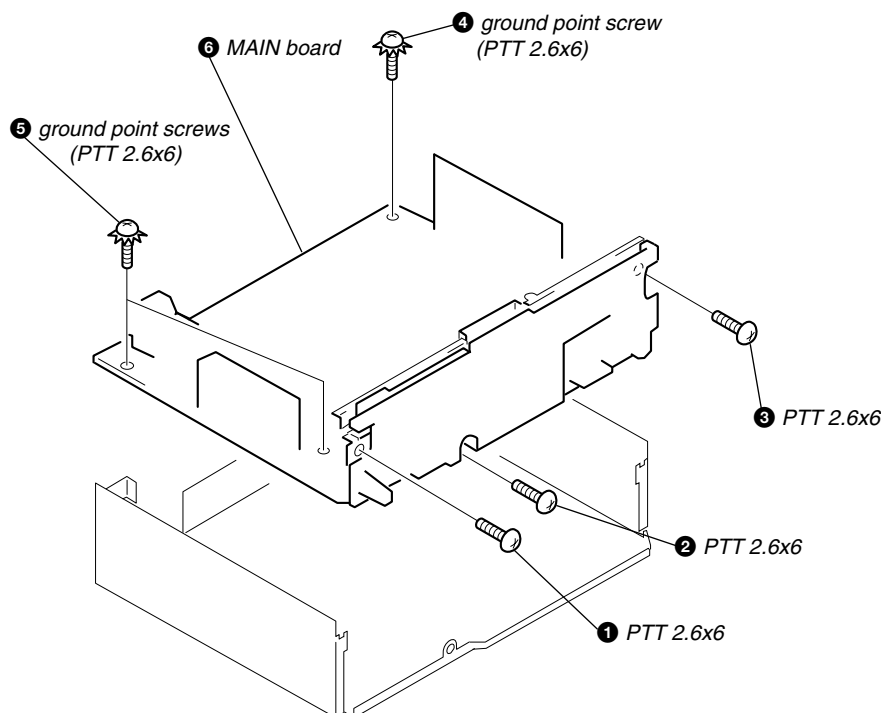
2-1. SUB PANEL ASSY



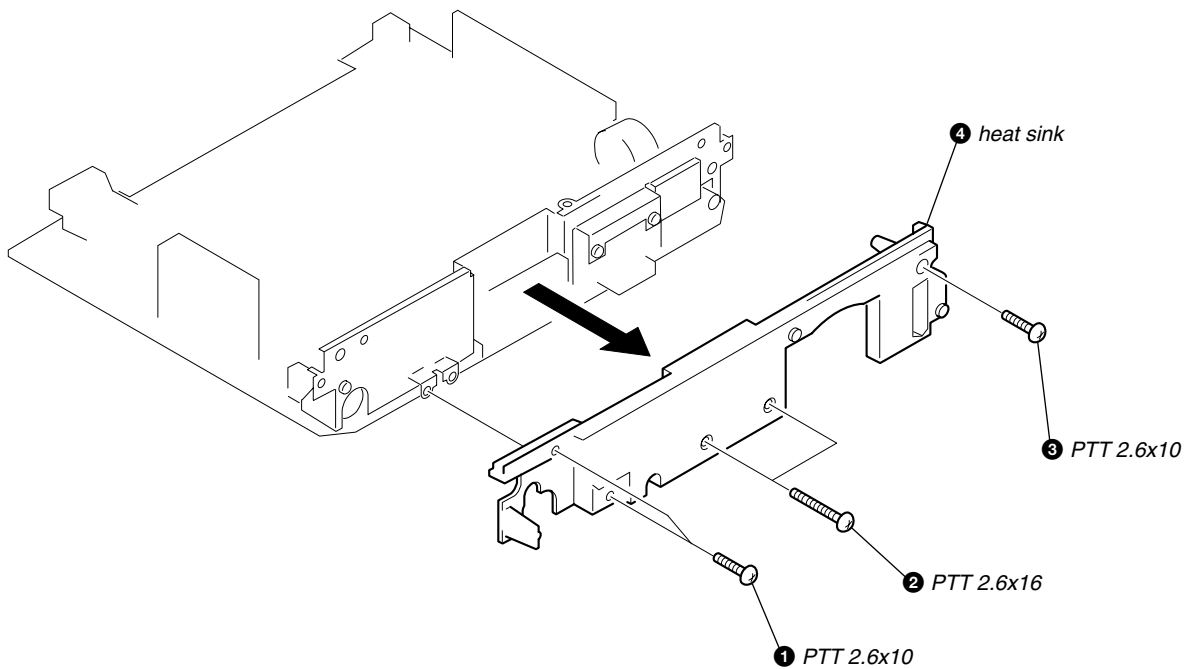
2-2. CD MECHANISM BLOCK



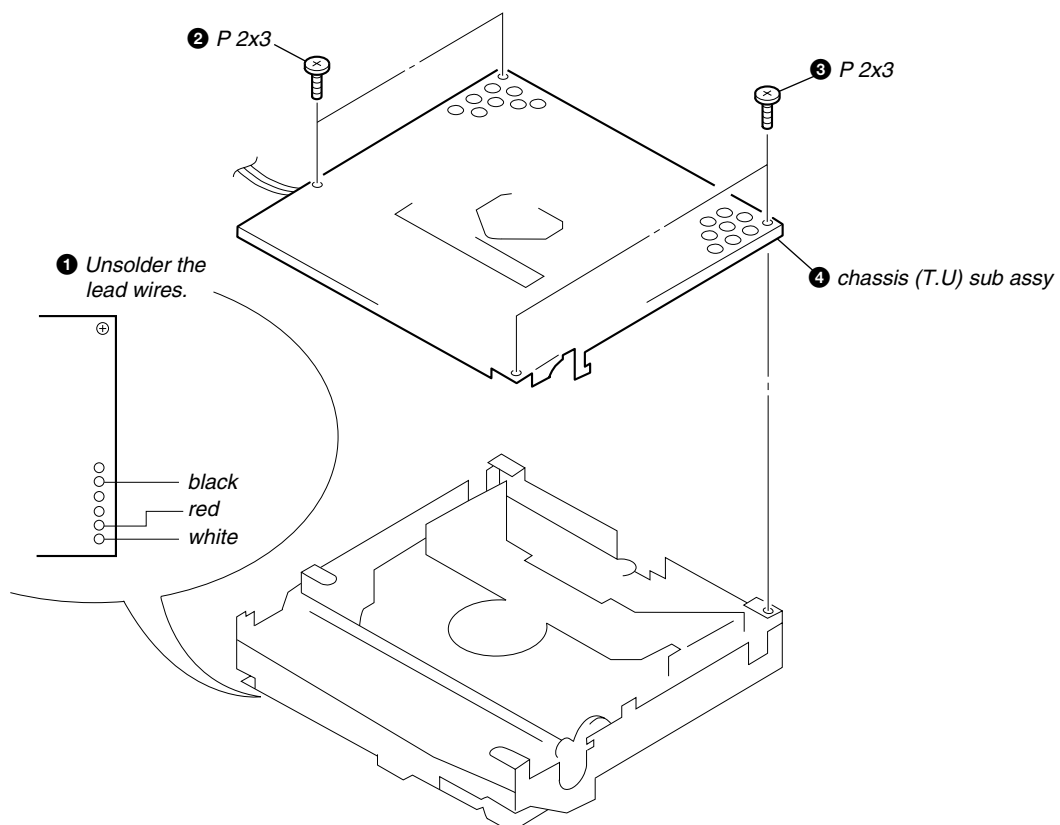
2-3. MAIN BOARD



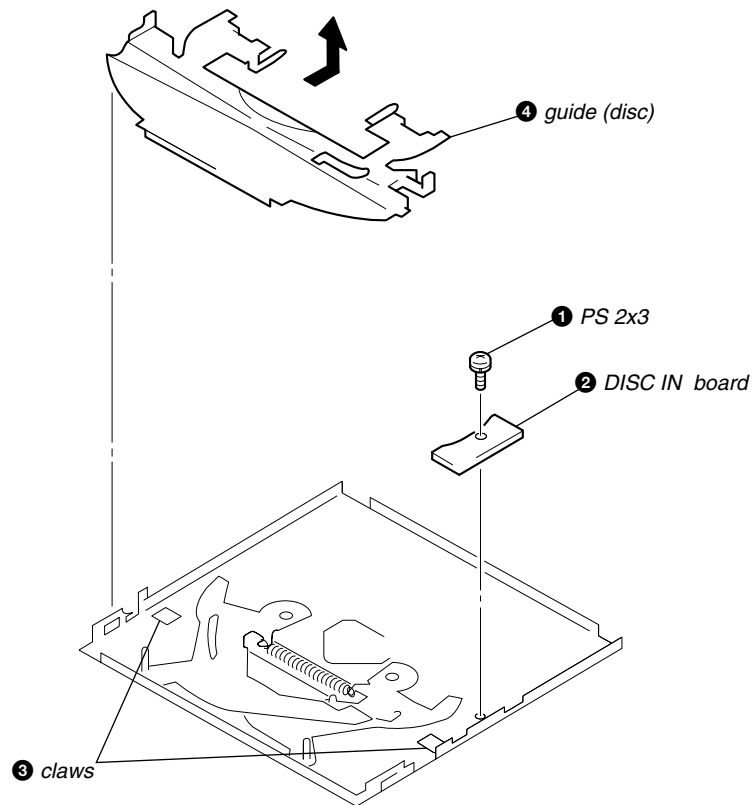
2-4. HEAT SINK



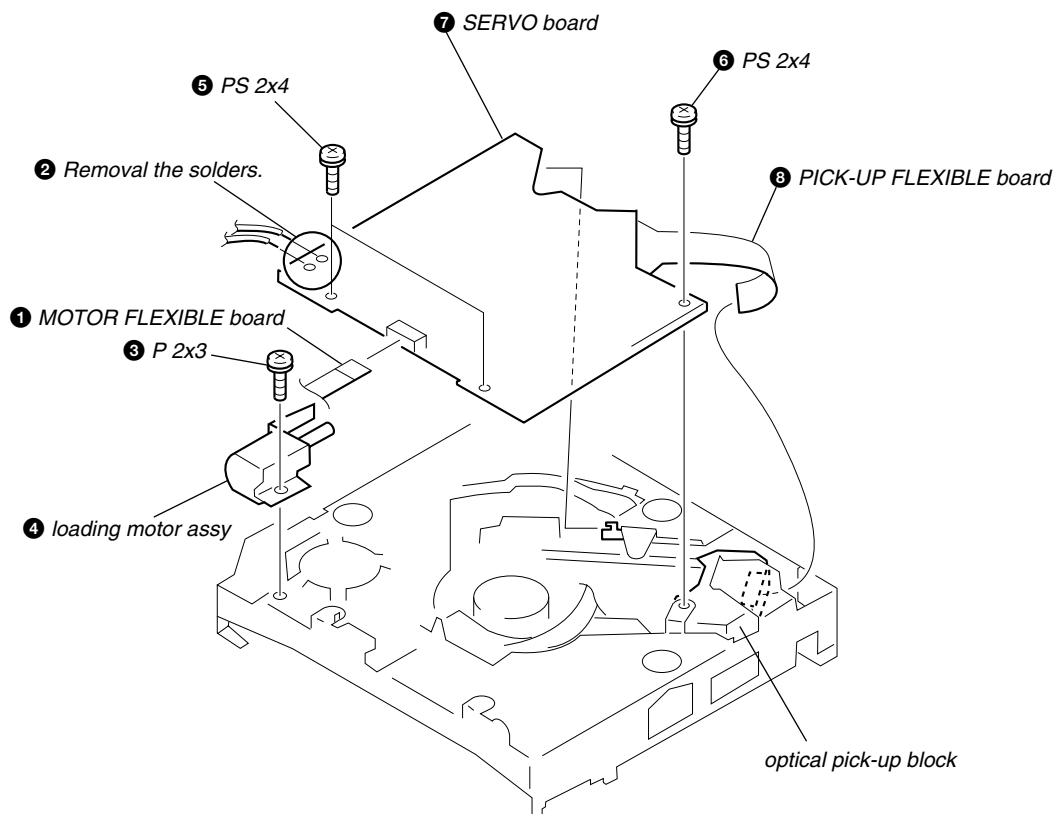
2-5. CHASSIS (T.U) ASSY



2-6. DISC IN BOARD

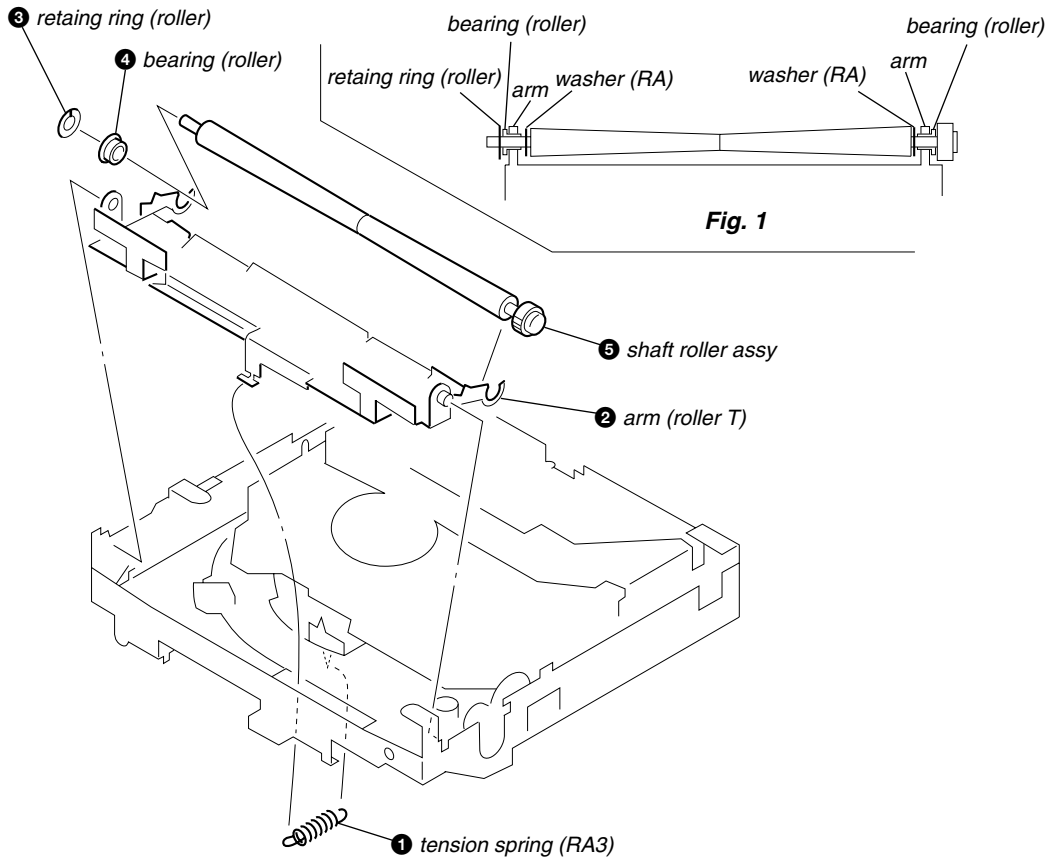


2-7. SERVO BOARD

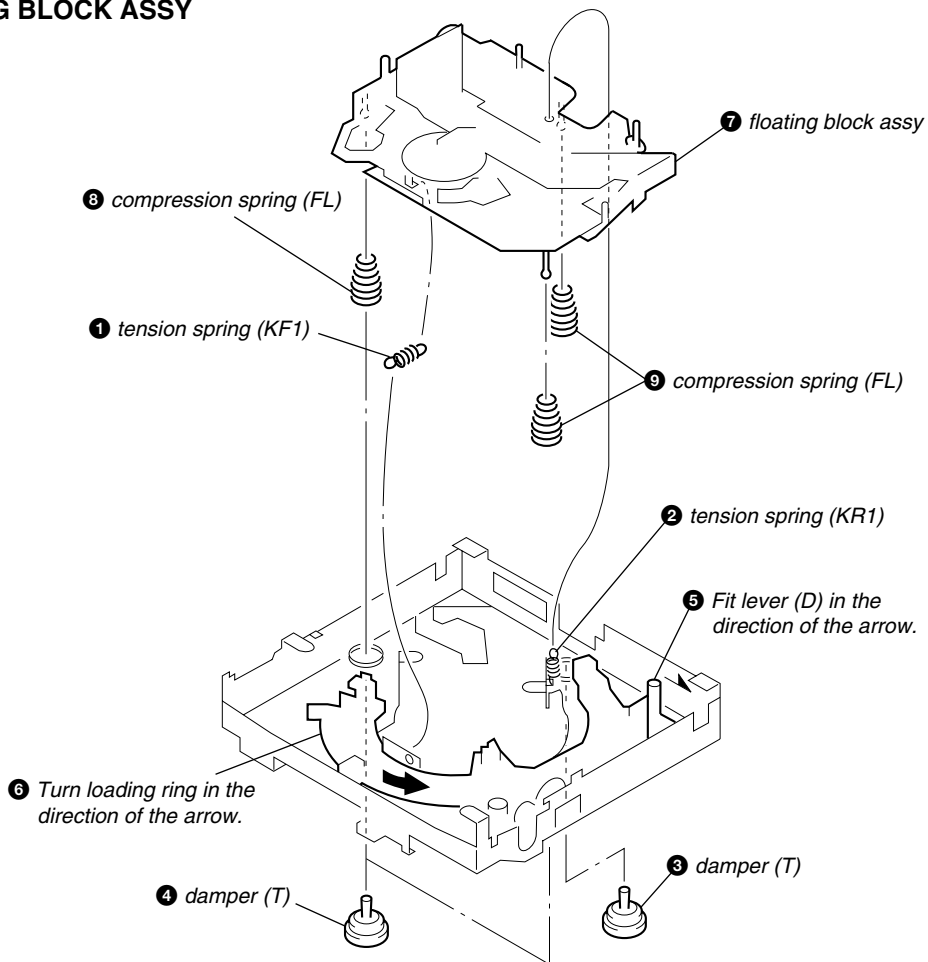


2-8. SHAFT ROLLER ASSY

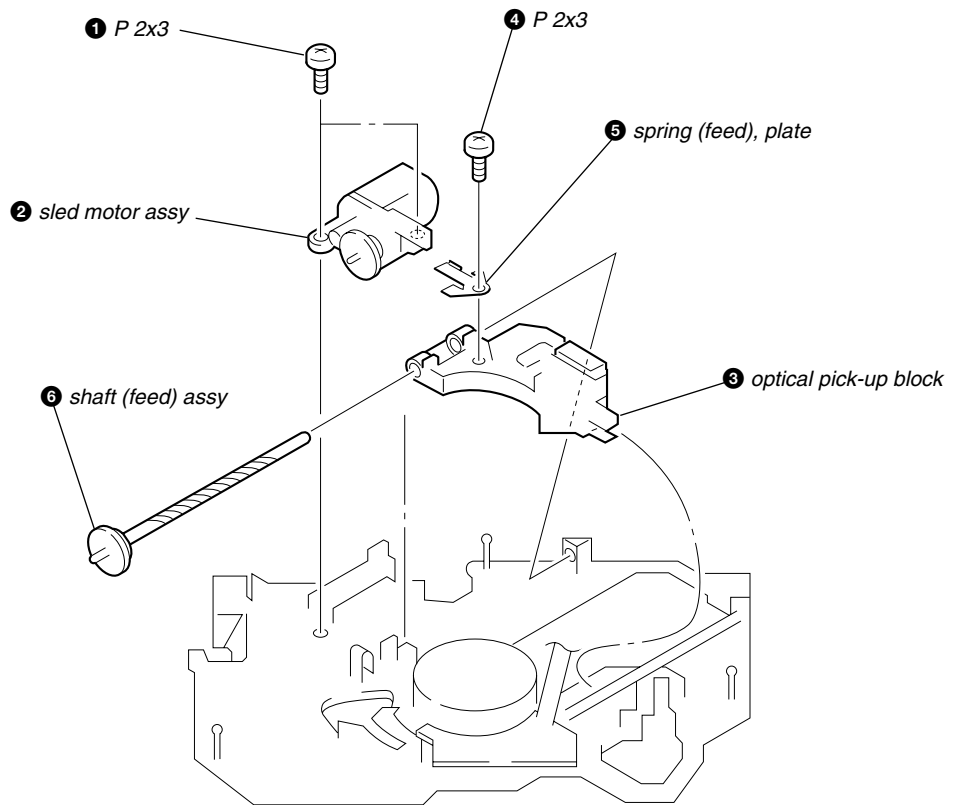
- When installing, take note of the positions arm (roller) and washers. (Fig. 1)



2-9. FLOATING BLOCK ASSY



2-10. OPTICAL PICK-UP BLOCK



SECTION 3 DIAGRAMS

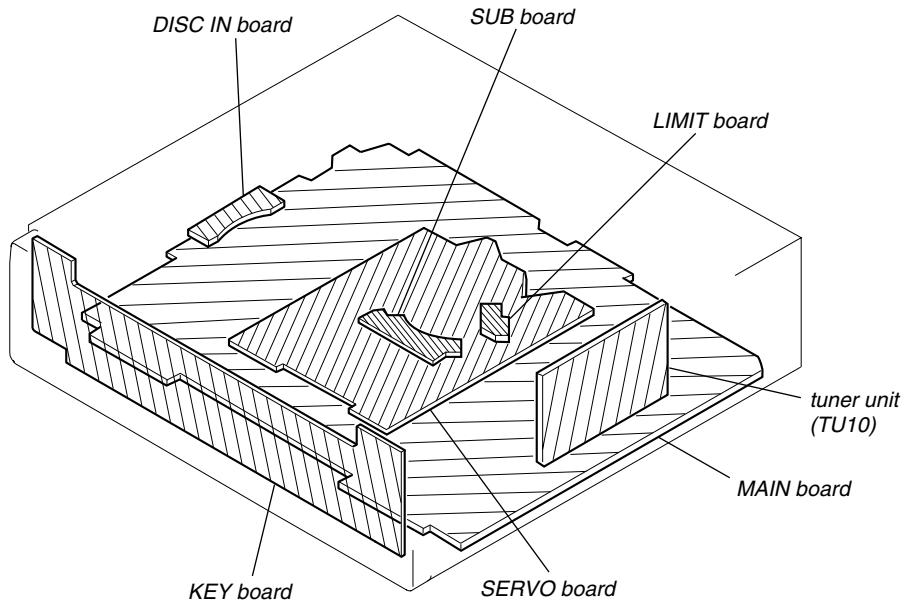
3-1. IC PIN DESCRIPTION

• IC501 MN101C49KTD2 (SYSTEM CONTROL)

Pin No.	Pin Name	I/O	Pin Description
1	VREF-	—	Rated voltage – for A/D converter.
2	VSM	I	S-meter voltage detection input
3	NC	—	Not used. (Connect to ground in this set)
4	KEYIN1	I	Key input 1
5	KEYIN0	I	Key input 0
6	RCIN0	I	Rotary commander input 0
7	QUALITY	I	Noise detection input
8	MPTH	I	Tuner multi-path detection input
9	NC	—	Not used. (Connect to ground in this set)
10	VREF+	—	Rated voltage + for A/D converter. (+5 V)
11	VDD	—	Power supply pin (+5 V)
12	OSCOUT	O	Oscillator output (18.432 MHz)
13	OSCIN	I	Oscillator input (18.432 MHz)
14	VSS	—	Ground
15	XIN	I	Oscillator input (32.768 kHz)
16	XOUT	O	Oscillator output (32.768 kHz)
17	MMOD	—	Mode selector (Connect to ground in this set)
18	LCDSO	O	LCD serial data output
19	LCDCE	O	LCD chip enable output
20	LCDCO	O	LCD serial clock output
21	CD_TSO	O	CD text serial data output
22	CD_TSI	I	CD text serial data input
23	CD_TCKO	O	CD text serial clock output
24	NC	—	Not used. (Open)
25	NC	—	Not used. (Open)
26	KEY ACK	I	Key acknowledge detection input
27	DAVN	I	RDS data block synchro detection input
28	BUIN	I	Back-up power detection input
29	NC	I	Not used. (Connect to ground in this set)
30	CD_SELFSW	I	CD self switch input
31	CD_PACK	I	CD pack synchro signal input
32	NC (VCC)	—	Not used. (Connect to VDD in this set)
33	RESET	I	Reset input
34	NC	—	Not used. (Fixed at H in this set)
35	BEEP	O	Beep output
36	NC	—	Not used. (Open)
37	TESTIN	I	Test mode detection input
38	ACCIN	I	Accessory power detection input
39	NC (VCC)	—	Not used. (Open)
40	TELATT	I	Telephone attenuate detection input
41	NC (VCC)	—	Not used. (Connect to VDD in this set)
42	UNISO	O	SONY BUS data output
43	UNISI	I	SONY BUS data input
44	UNICKO	O	SONY BUS clock output
45	I2C_SIO	I/O	I ² C BUS serial data input/output
46	NC	—	Not used. (Open)
47	I2C_CKO	O	I ² C BUS serial clock output
48	NC	—	Not used. (Open)
49	TUNON	O	Tuner power control output
50	PW_ON	O	System power control output
51	TSTB	O	CD text strobe output

Pin No.	Pin Name	I/O	Pin Description
52	RFOK	I	CD RFOK signal input
53	CD_RST	O	CD reset signal output
54	A0	O	CD command/parameter signal output
55	STB	O	CD strobe signal output
56	X_EN	O	CD crystal oscillator control output (Not used in this set)
57	LIMIT	I	CD limit switch input
58	PH1	I	Not used. (Fixed at H in this set)
59	D_SW	I	CD down switch input
60	INSW	I	CD disc in switch input
61	NC (PH3)	—	Not used. (Fixed at H in this set)
62	CD_LM_LO	O	Loading motor control output (Loading direction)
63	CD_LM_EJ	O	Loading motor control output (Eject direction)
64	NC	—	Not used. (Open)
65	NC	—	Not used. (Open)
66	$\overline{\text{AMPATT}}$	O	Power amplifier attenuator control output
67	AMPON	O	Power amplifier standby control output
68	CDMD_ON	O	CD mechanism power control output
69	ATT	O	System attenuate control output
70	$\overline{\text{VOLATT}}$	O	Electronic volume attenuate control output
71	NC	—	Not used. (Open)
72	NC	—	Not used. (Open)
73	NC	—	Not used. (Open)
74	NC	—	Not used. (Open)
75	NC	—	Not used. (Open)
76	NC	—	Not used. (Connect to ground in this set)
77	NC	—	Not used. (Connect to ground in this set)
78	DIMSEL	—	Not used. (Open)
79	XCD_ON	O	CD power control output
80	TU-ATT	—	Not used. (Open)
81	NC	—	Not used. (Open)
82	NC	—	Not used. (Open)
83	NC	—	Not used. (Open)
84	NC	—	Not used. (Open)
85	NC	—	Not used. (Open)
86	E2P_SIO	I/O	EEPROM serial data input/output
87	E2P_CKO	O	EEPROM serial clock output
88	NC	—	Not used. (Open)
89	FLASH_W	I	Flash write input
90	NS_MASK	O	Noise detection output
91	$\overline{\text{AD_ON}}$	O	Key power control output
92	NC	—	Not used. (Open)
93	ILLON	O	Illumination power control output
94	$\overline{\text{DOORSW}}$	I	Not used. (Connect to ground in this set)
95	DAVSS	—	Ground for D/A converter.
96	NC	—	Not used. (Open)
97	NC	—	Not used. (Open)
98	RCIN1	I	Rotary commander input 1
99	RAMBU	—	Not used. (Connect to ground in this set)
100	DAVDD	—	D/A converter power supply pin (+5 V)

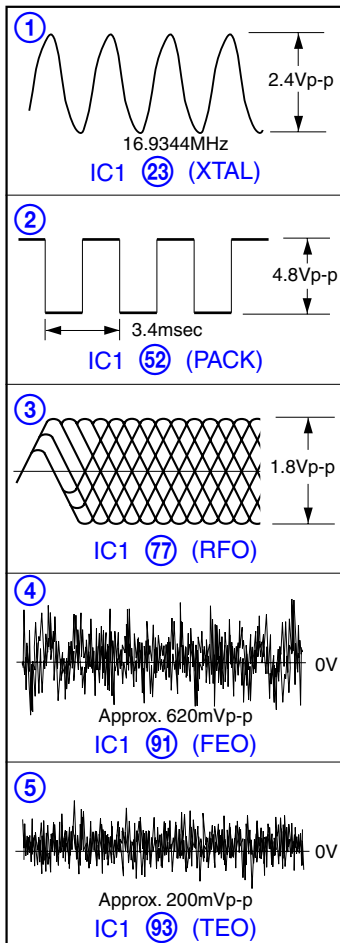
3-2. CIRCUIT BOARDS LOCATION



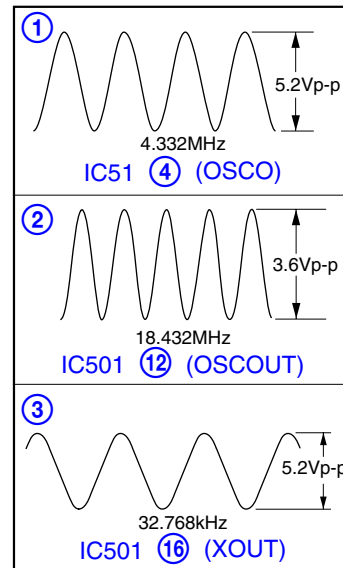
• Waveforms

— Servo Board —

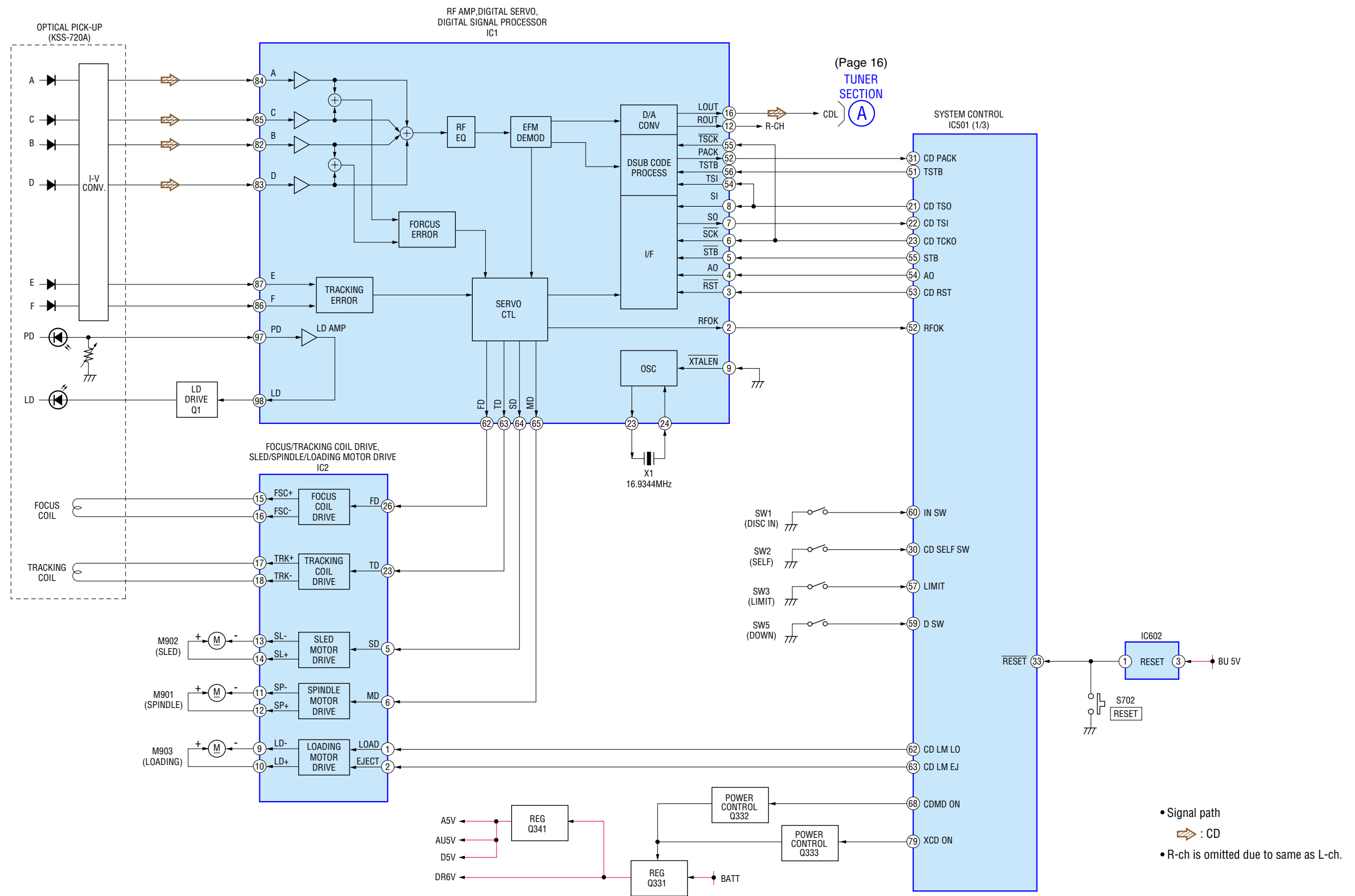
(MODE: CD PLAY)



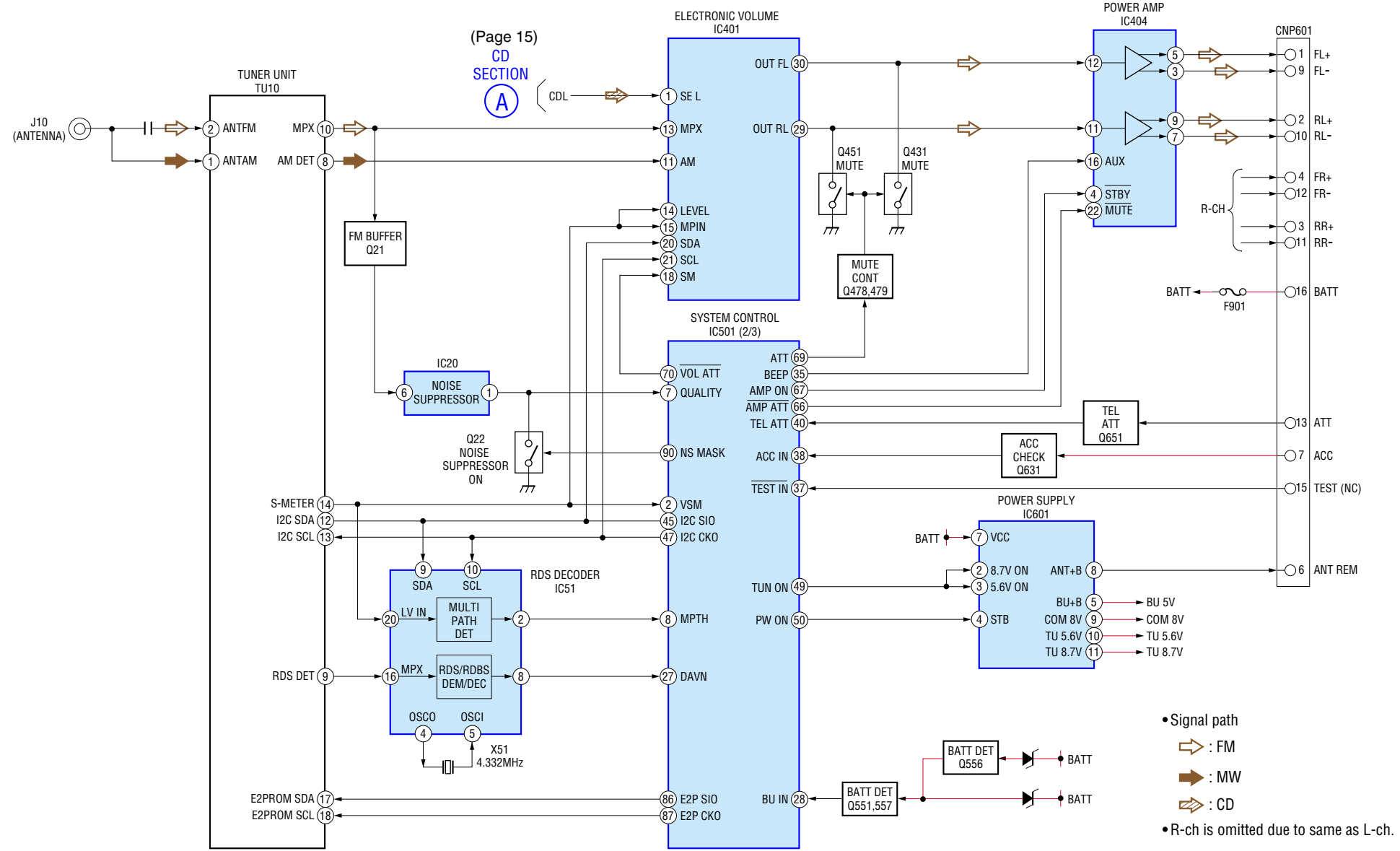
— Main Board —



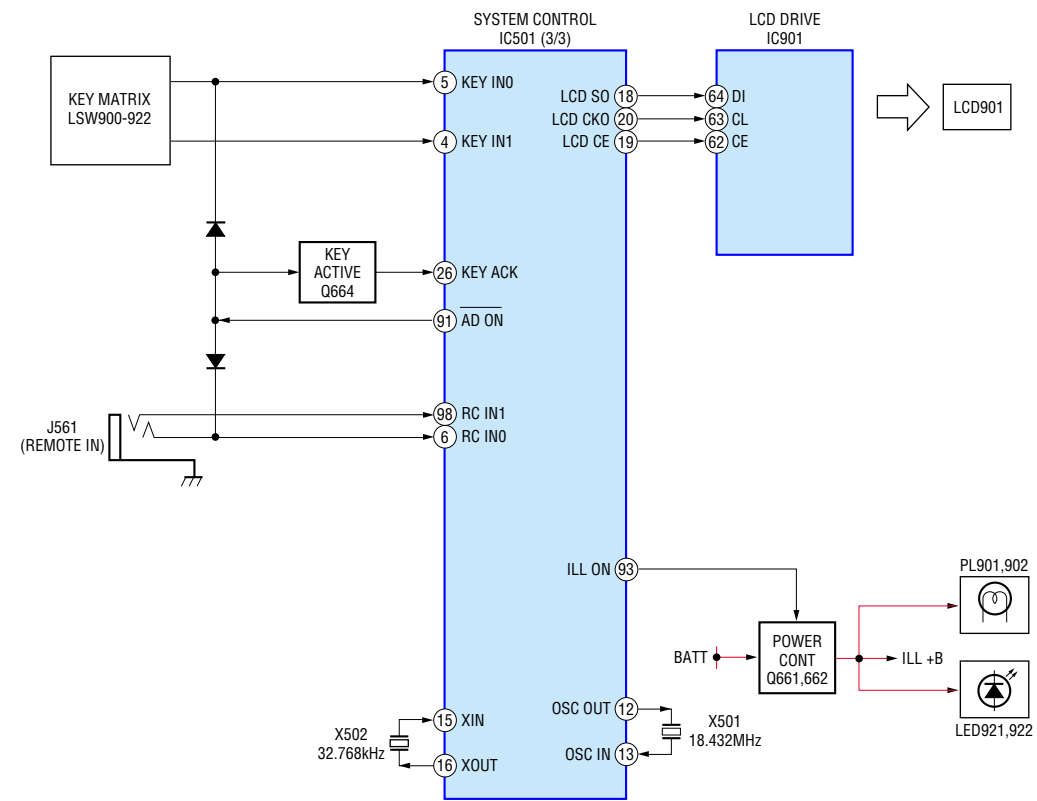
3-3. BLOCK DIAGRAM — CD SECTION —



3-4. BLOCK DIAGRAM — TUNER SECTION —



3-5. BLOCK DIAGRAM — DISPLAY SECTION —



3-6. PRINTED WIRING BOARDS — CD MECHANISM SECTION — • Refer to page 14 for Circuit Boards Location.

14	13	12	11	10	9	8	7	6	5	4	3	2	1
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THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

for schematic diagram:

- All capacitors are in μF unless otherwise noted. pF: μpF
50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $1/4\text{W}$ or less unless otherwise specified.
- % : indicates tolerance.
- Δ : internal component.
- : panel designation.

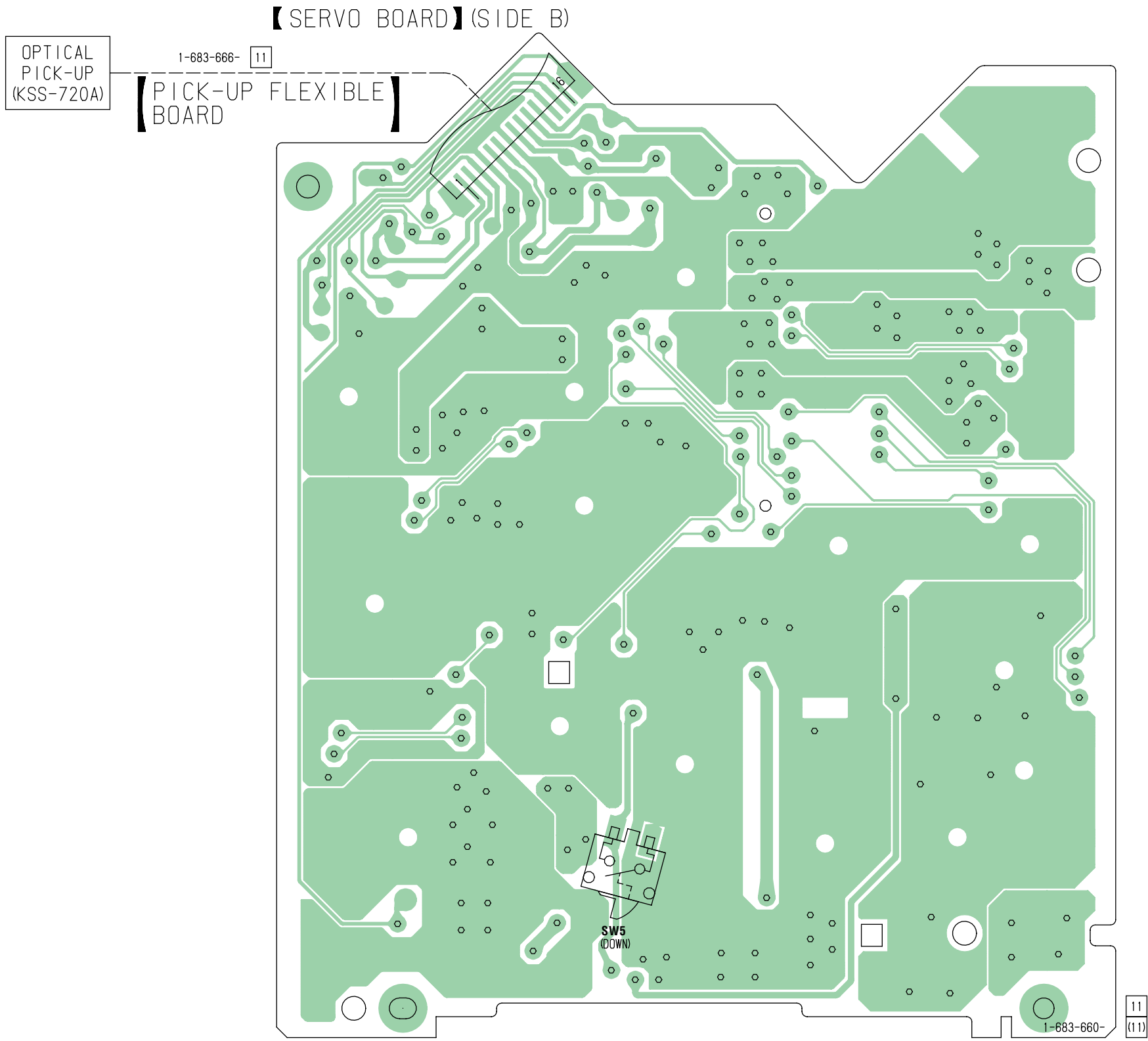
Note: The components identified by mark Δ or dotted line with mark Δ are critical for safety.
Replace only with part number specified.

- — : B+ Line.
- Power voltage is dc 14.4V and fed with regulated dc power supply from ACC and BATT cords.
- Voltages are taken with a VOM (Input impedance 10 M Ω).
Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
- \Rightarrow : FM
- \Rightarrow : MW
- \Rightarrow : CD

for printed wiring boards:

- \circ : parts extracted from the component side.
- --- : parts extracted from the conductor side.
- \circ : Through hole.
- : Pattern from the side which enables seeing.
(The other layer's patterns are not indicated.)

Caution:
Pattern face side: Parts on the pattern face side seen from the (Side B) pattern face are indicated.
Parts face side: Parts on the parts face side seen from the (Side A) parts face are indicated.



A
B
C
D
E
F
G
H
I
J

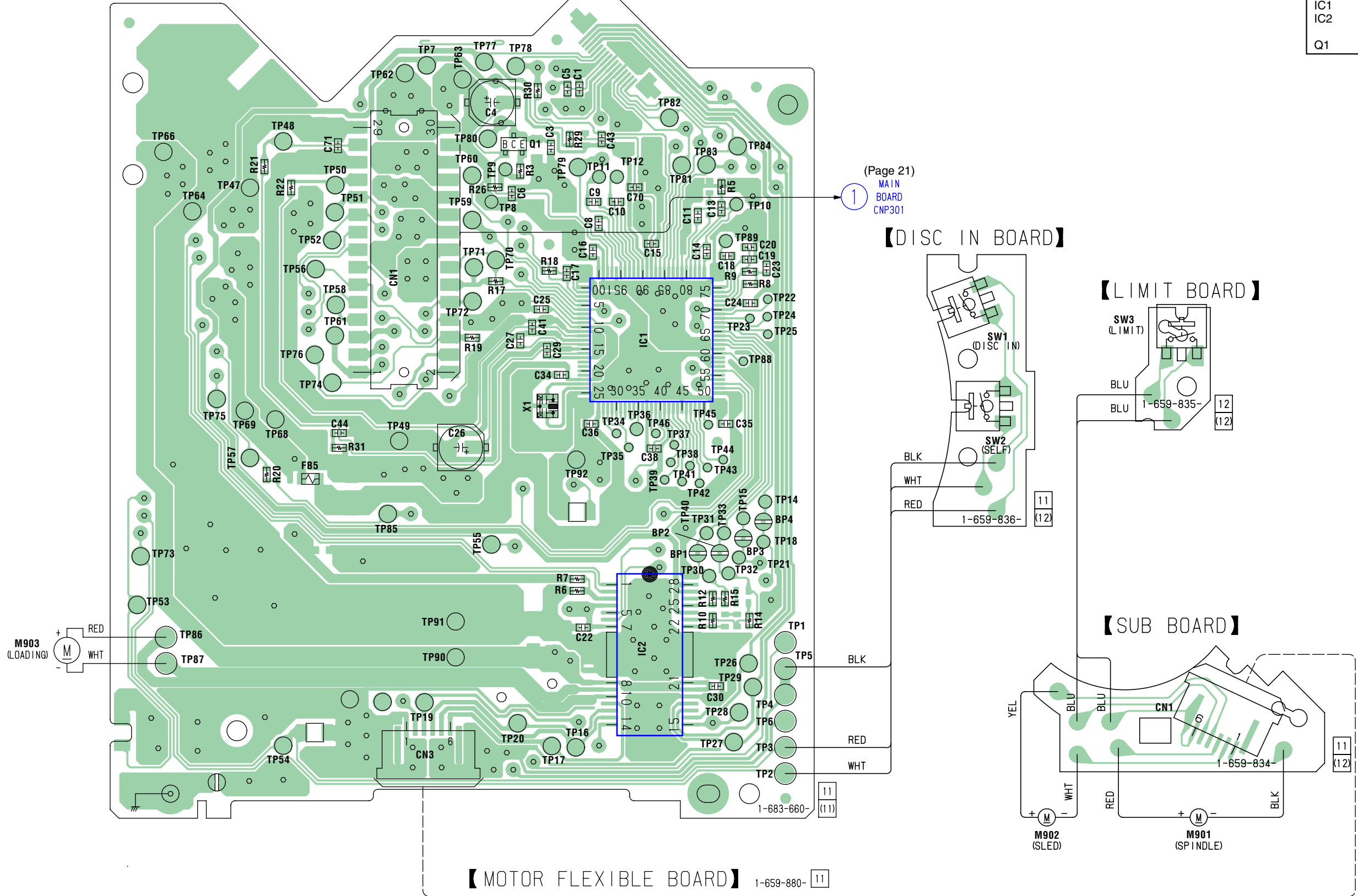
1 2 3 4 5 6 7 8 9 10 11 12 13 14

A
B
C
D
E
F
G
H
I
J

【SERVO BOARD】(SIDE A)

• Semiconductor Location

Ref. No.	Location
IC1	E-7
IC2	H-7
Q1	C-6



(Page 21)
MAIN BOARD
CNP301

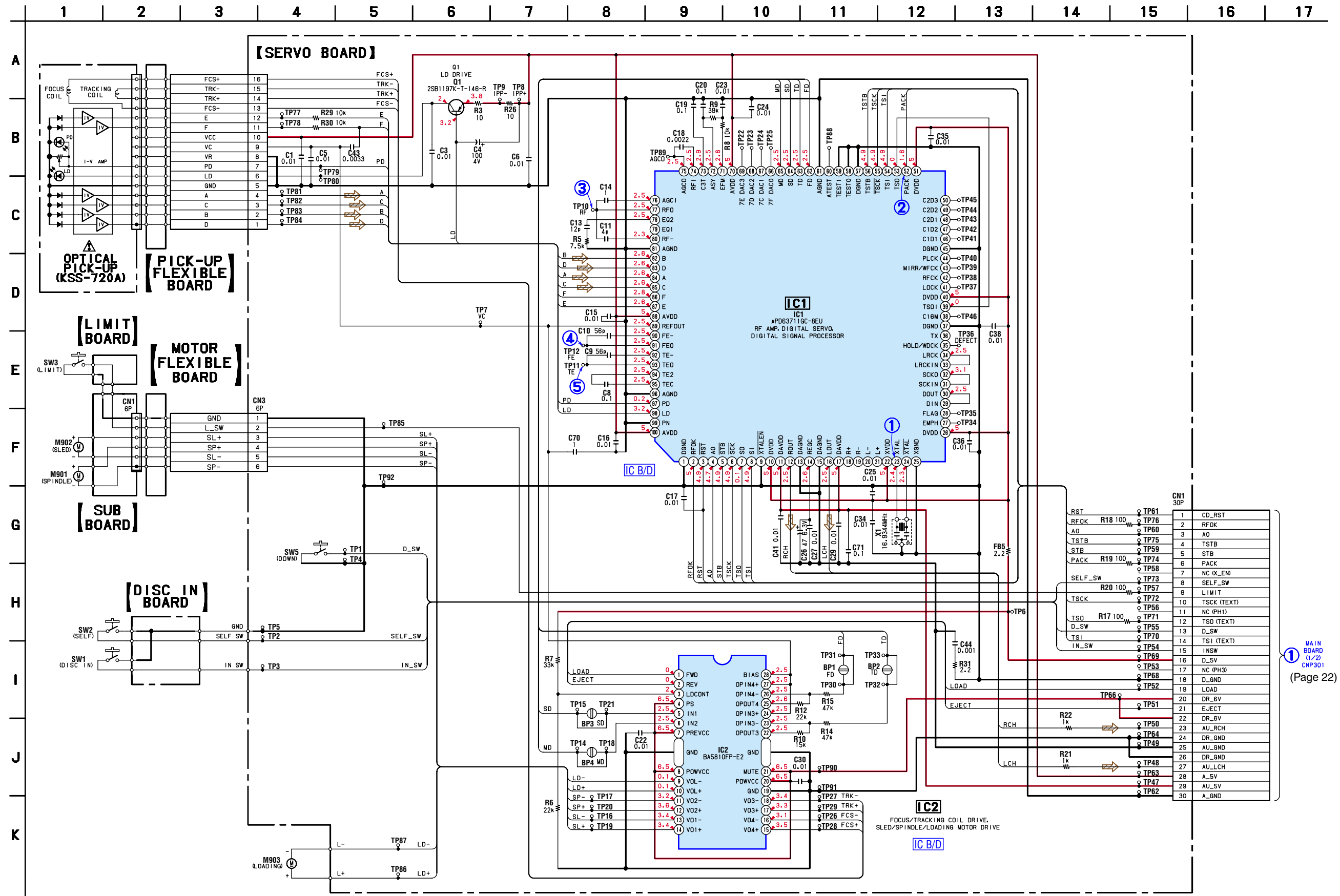
【DISC IN BOARD】

【LIMIT BOARD】

【SUB BOARD】

• Refer to page 14 for Waveforms and page 18 for Common Note on Schematic Diagram.

3-7. SCHEMATIC DIAGRAM — CD MECHANISM SECTION — • Refer to page 26 for IC Block Diagrams.

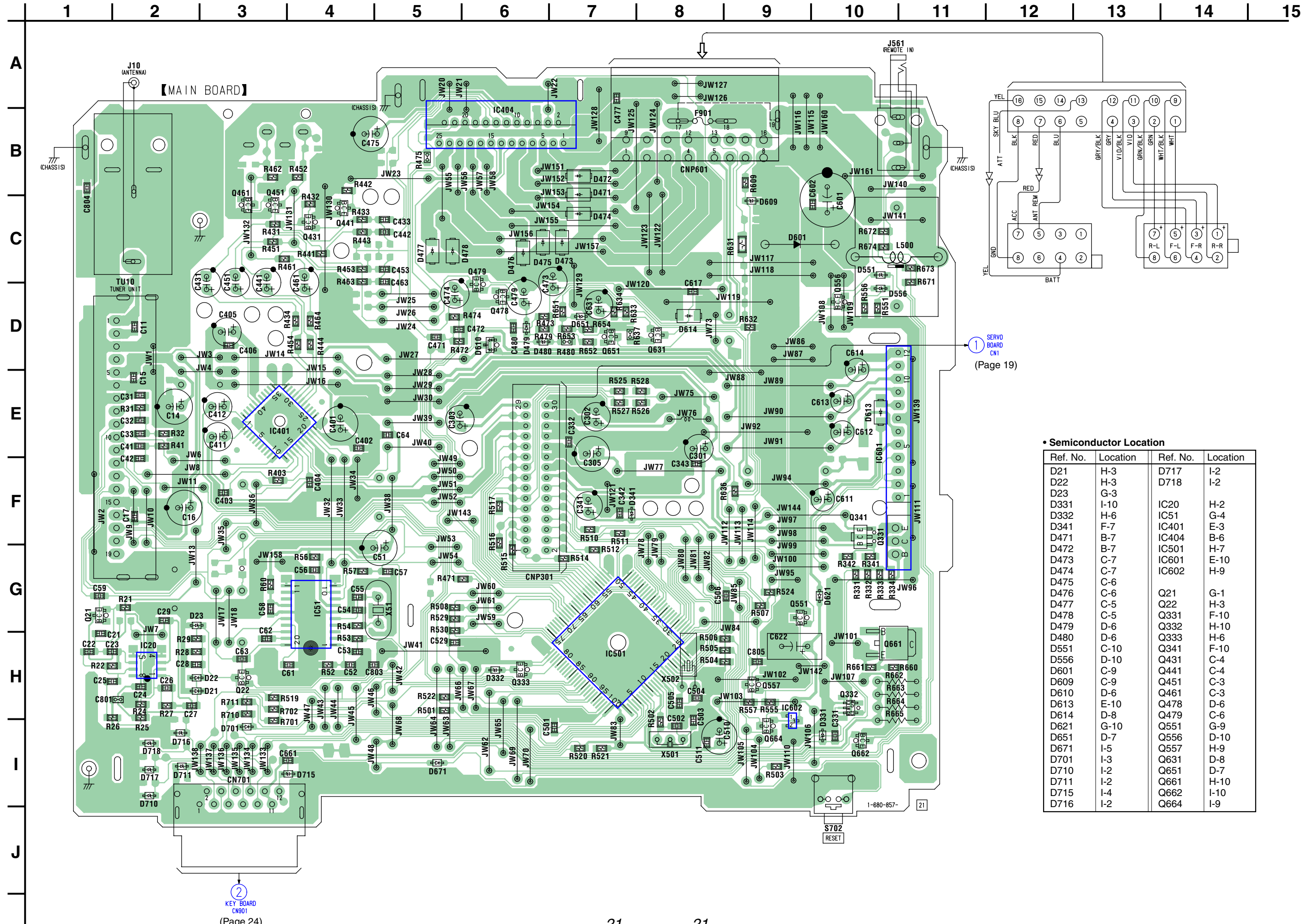


① MAIN BOARD (1/2) CNP301 (Page 22)

Note:

- Voltage is dc with respect to ground under no-signal conditions.
- no mark : CD PLAY

3-8. PRINTED WIRING BOARD — MAIN SECTION — • Refer to page 14 for Circuit Boards Location and page 18 for Common Note on Printed Wiring Boards.



① SERVO BOARD CN1 (Page 19)

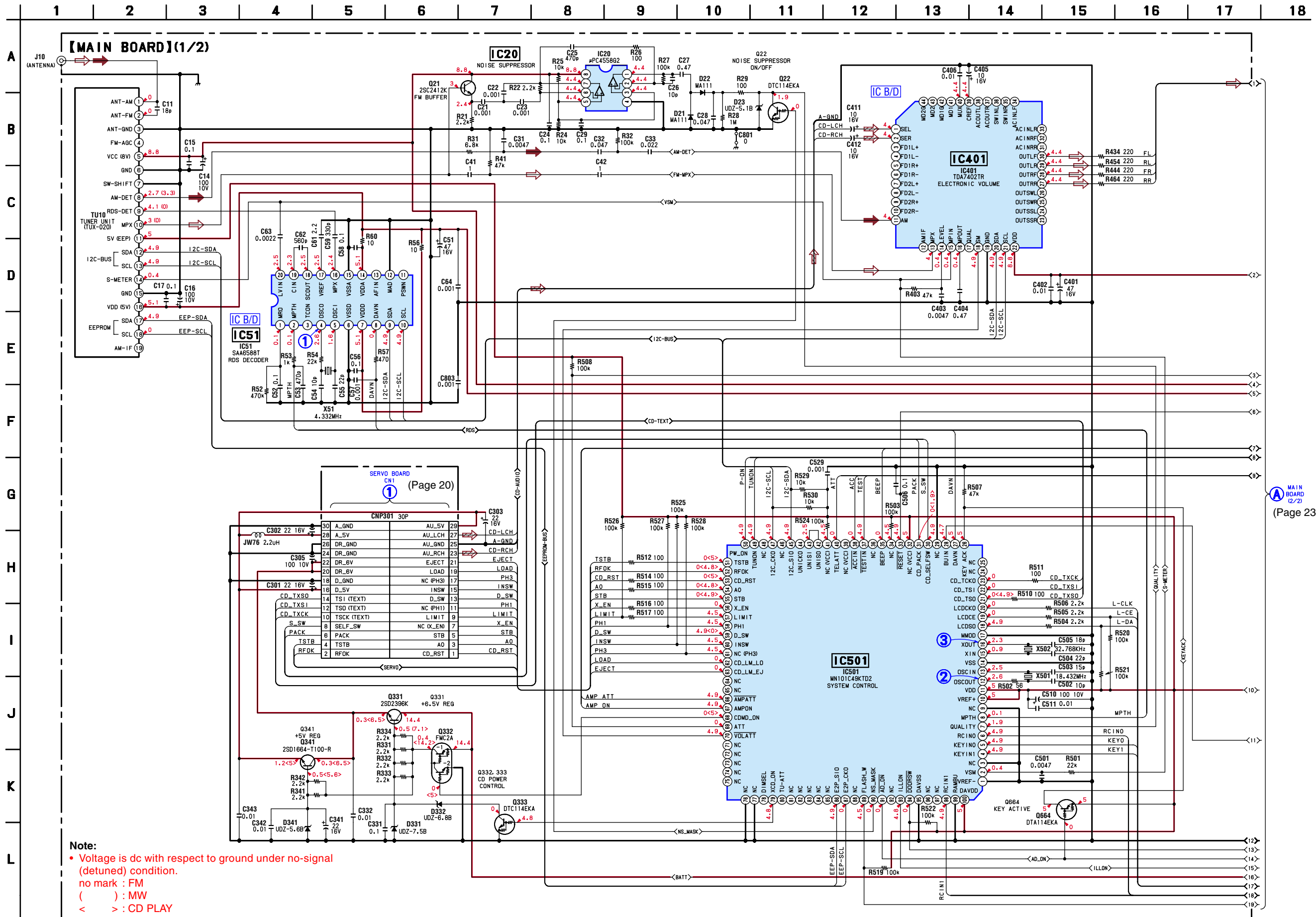
② KEY BOARD CN01 (Page 24)

• Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D21	H-3	D717	I-2
D22	H-3	D718	I-2
D23	G-3		
D331	I-10	IC20	H-2
D332	H-6	IC51	G-4
D341	F-7	IC401	E-3
D471	B-7	IC404	B-6
D472	B-7	IC501	H-7
D473	C-7	IC601	E-10
D474	C-7	IC602	H-9
D475	C-6		
D476	C-6	Q21	G-1
D477	C-5	Q22	H-3
D478	C-5	Q331	F-10
D479	D-6	Q332	H-10
D480	D-6	Q333	H-6
D551	C-10	Q341	F-10
D556	D-10	Q431	C-4
D601	C-9	Q441	C-4
D609	C-9	Q451	C-3
D610	D-6	Q461	C-3
D613	E-10	Q478	D-6
D614	D-8	Q479	C-6
D621	G-10	Q551	G-9
D651	D-7	Q556	D-10
D671	I-5	Q557	H-9
D701	I-3	Q631	D-8
D710	I-2	Q651	D-7
D711	I-2	Q661	H-10
D715	I-4	Q662	I-10
D716	I-2	Q664	I-9

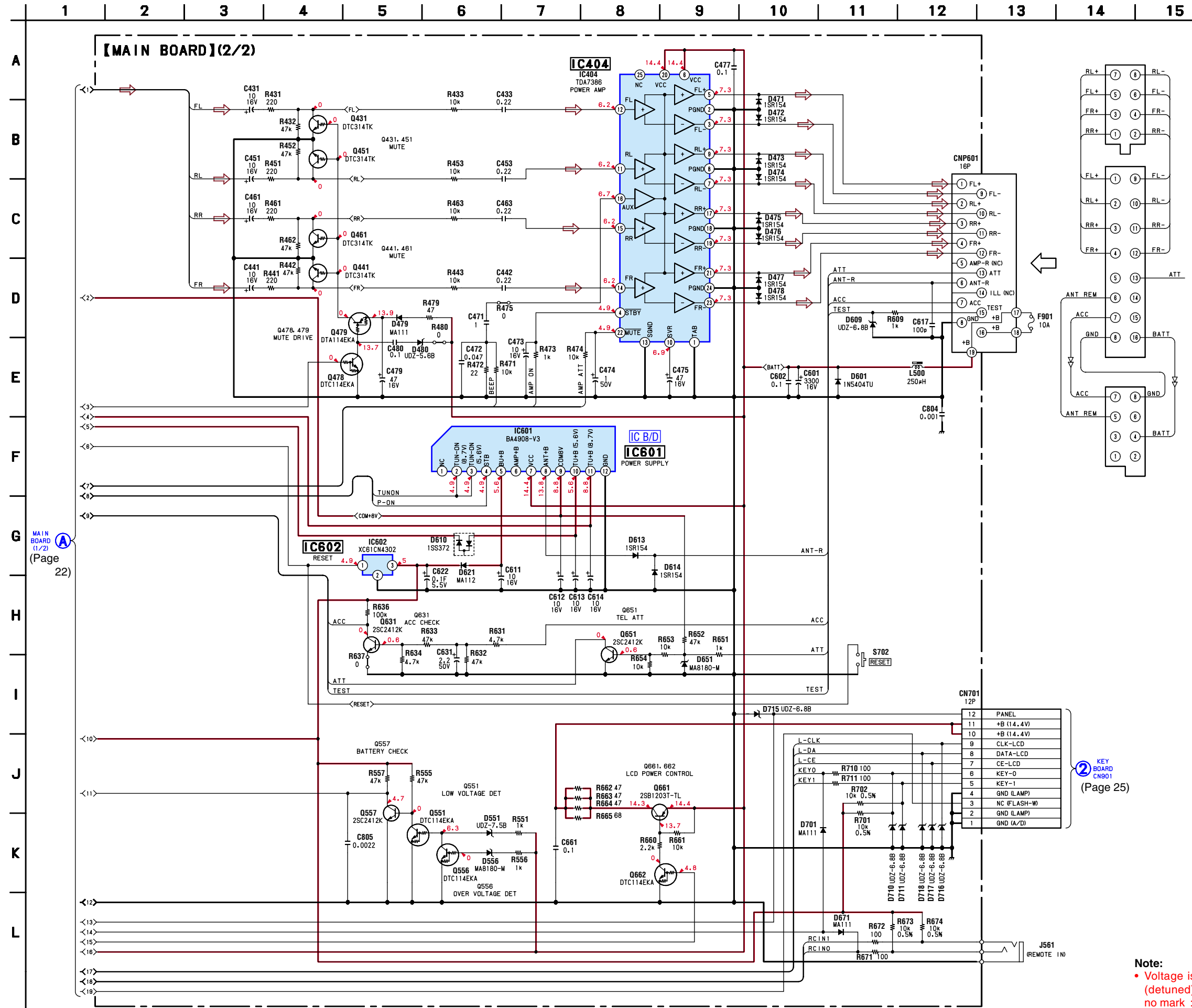
• Refer to page 14 for Waveforms and page 18 for Common Note on Schematic Diagram.

3-9. SCHEMATIC DIAGRAM — MAIN SECTION (1/2) — • Refer to page 26 for IC Block Diagrams.



MAIN BOARD (2/2) (Page 23)

3-10. SCHEMATIC DIAGRAM — MAIN SECTION (2/2) — • Refer to page 18 for Common Note on Schematic Diagram and page 26 for IC Block Diagrams.



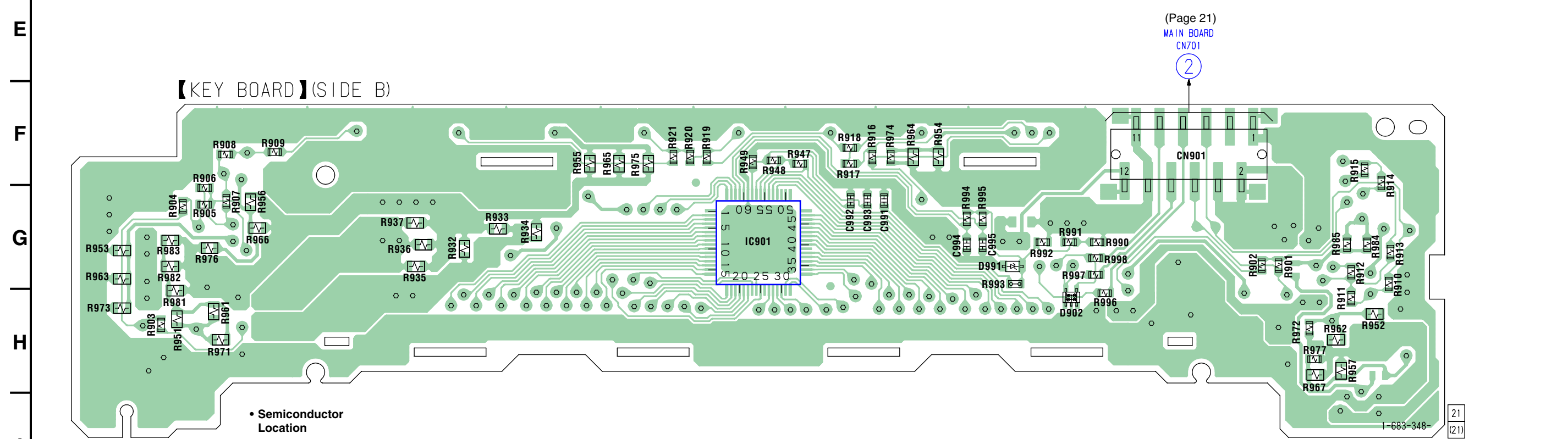
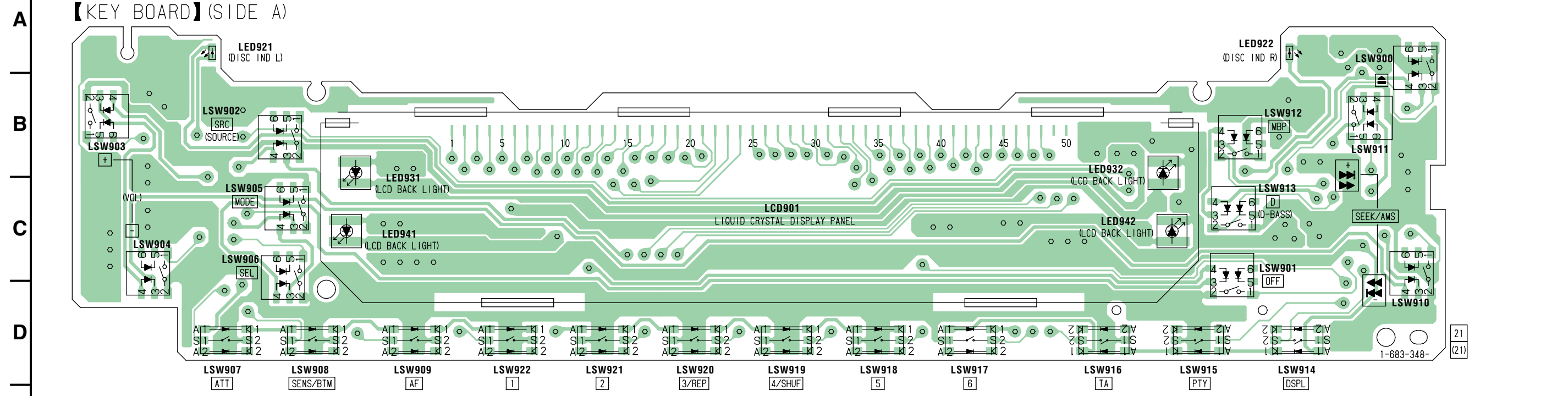
MAIN BOARD (1/2) (Page 22)

KEY BOARD CN901 (Page 25)

Note:
 • Voltage is dc with respect to ground under no-signal (detuned) condition.
 no mark : FM

3-11. PRINTED WIRING BOARD — KEY SECTION — • Refer to page 14 for Circuit Boards Location and page 18 for Common Note on Printed Wiring Boards.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

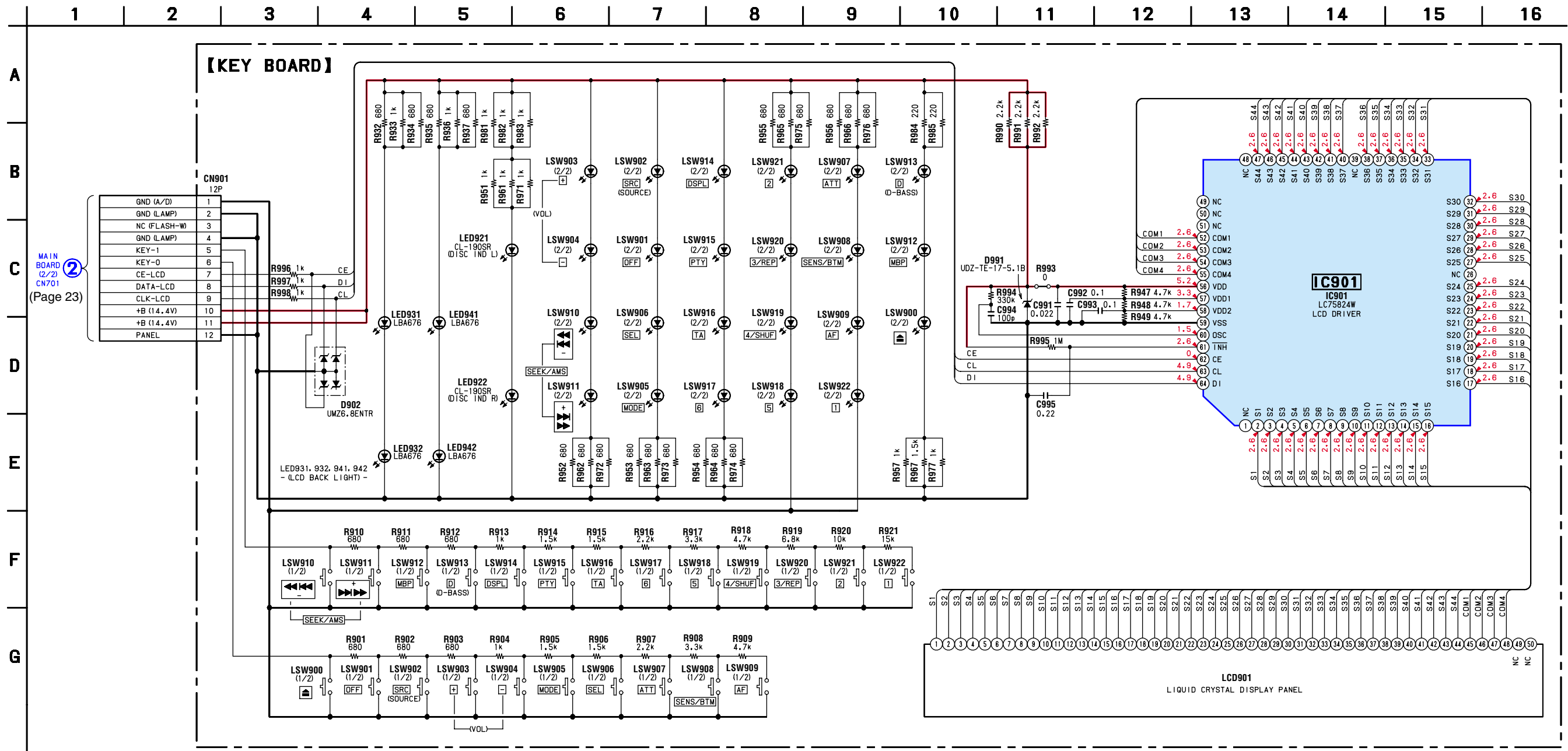


• Semiconductor Location

Ref. No.	Location
(D902)	H-11
(D991)	G-10
(IC901)	G-8
LED921	A-2
LED922	A-13
LED931	B-4
LED932	B-11
LED941	C-4
LED942	C-11

(): SIDE B

3-12. SCHEMATIC DIAGRAM — KEY SECTION — • Refer to page 18 for Common Note on Schematic Diagram.

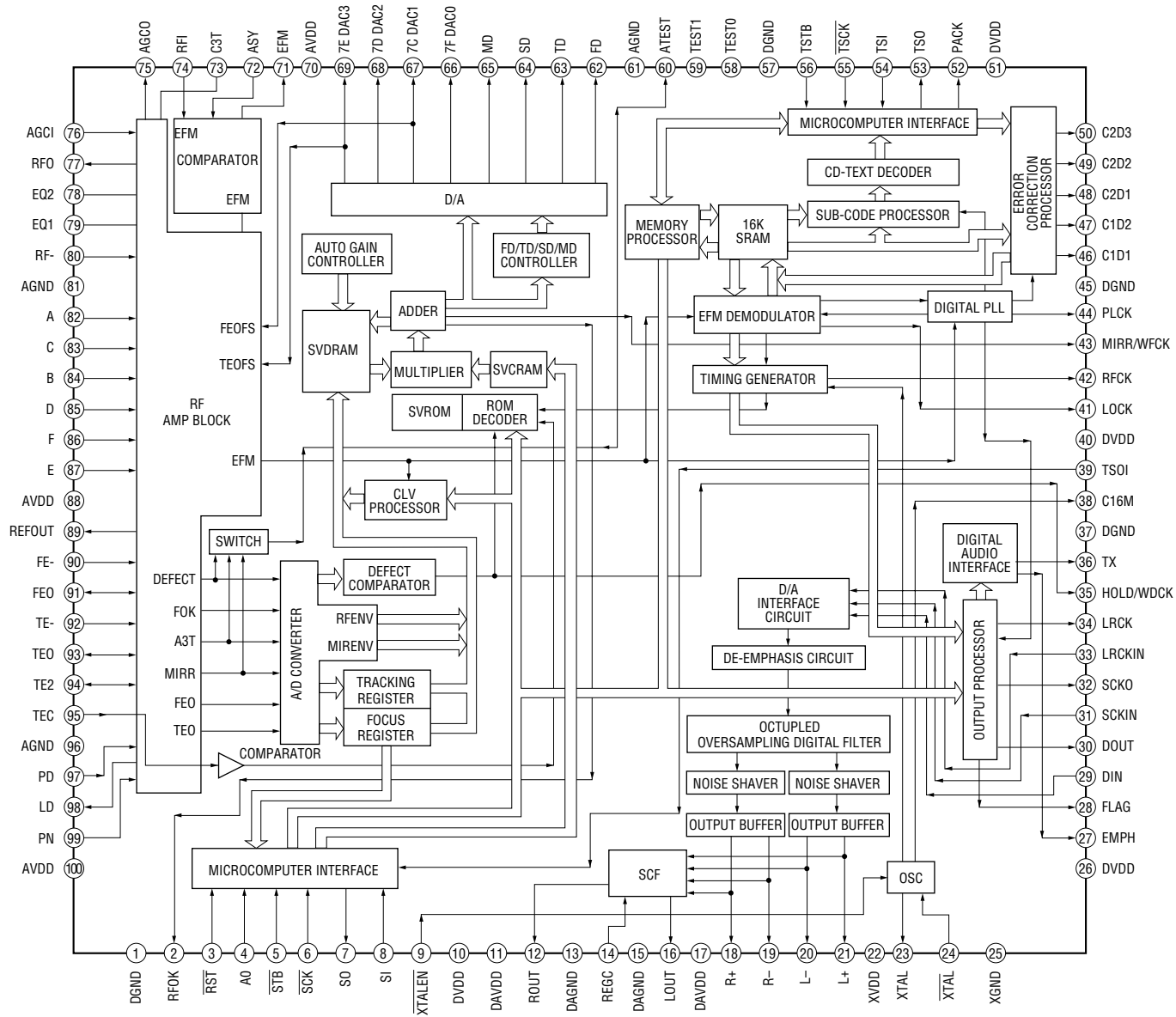


Note:
 • Voltage is dc with respect to ground under no-signal (detuned) condition.
 no mark : FM

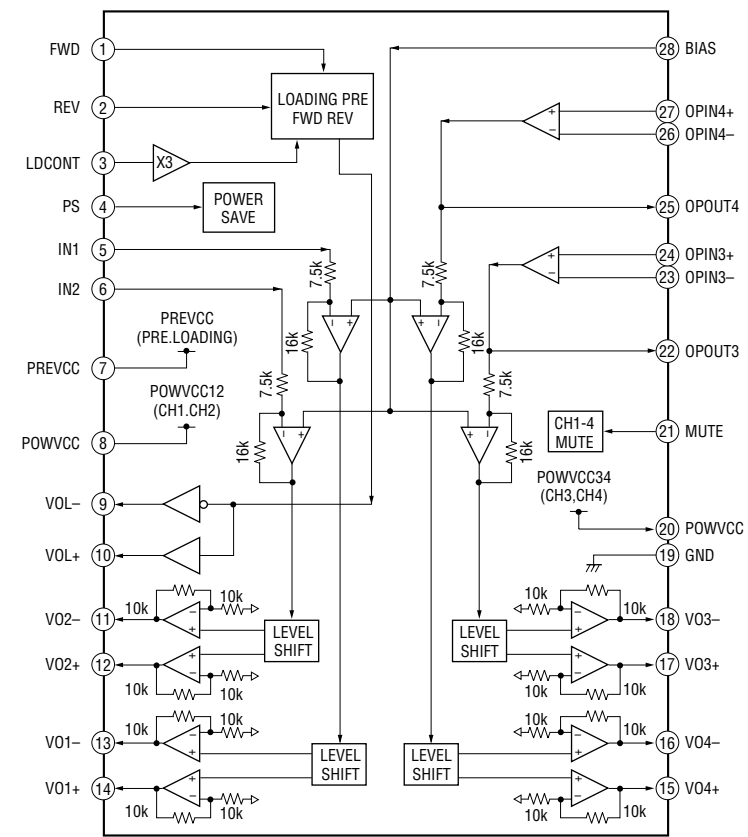
CDX-L420V

• IC Block Diagrams

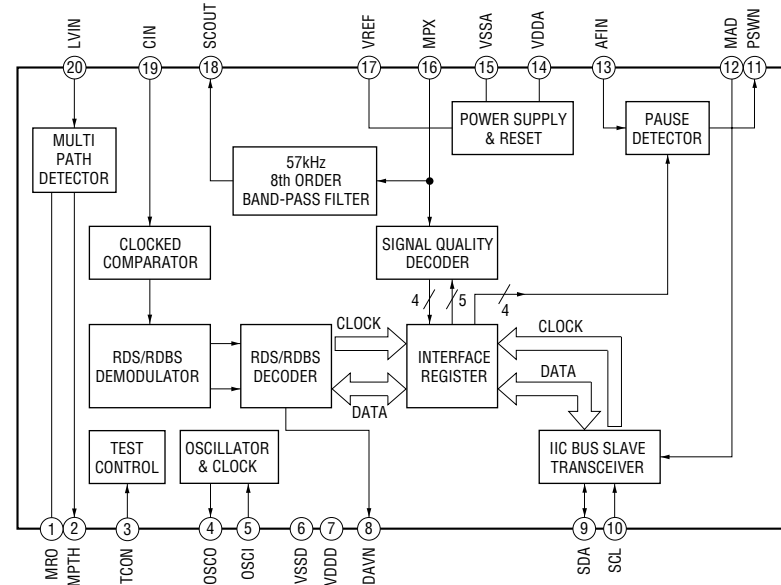
IC1 μ PD63711GC-8EU



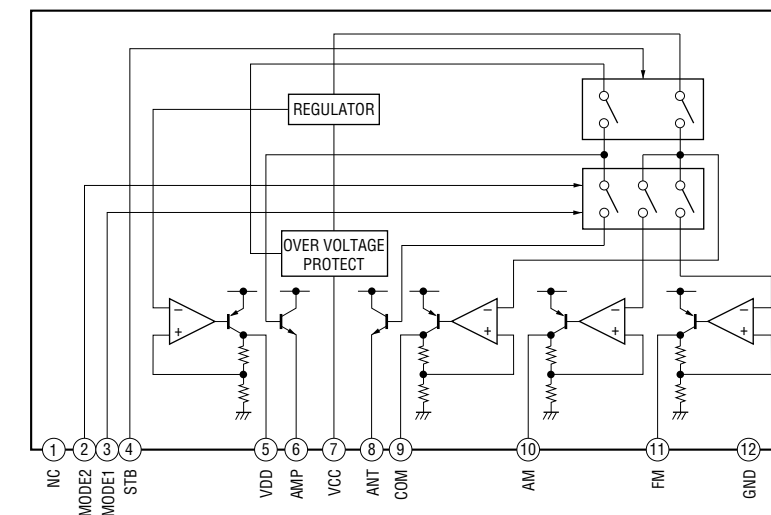
IC2 BA5810FP-E2



IC51 SAA6588T



IC601 BA4908-V3



SECTION 4 EXPLODED VIEWS

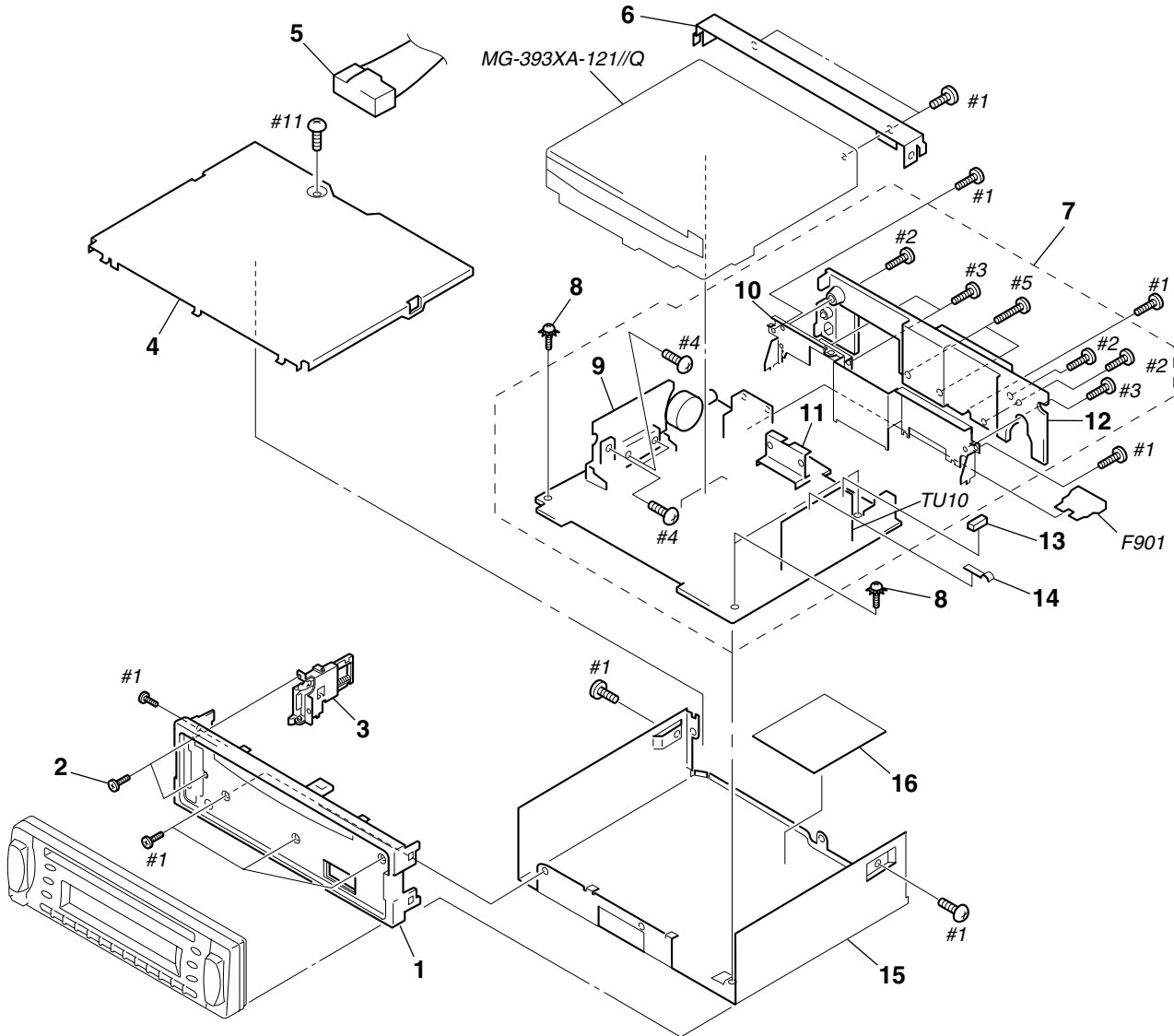
NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked “*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX and -X mean standardized parts, so they may have some difference from the original one.

- Color Indication of Appearance Parts
Example :
 KNOB, BALANCE (WHITE) ... (RED)
 ↑ ↑
 Parts Color Cabinet's Color
- Accessories are given in the last of this parts list.

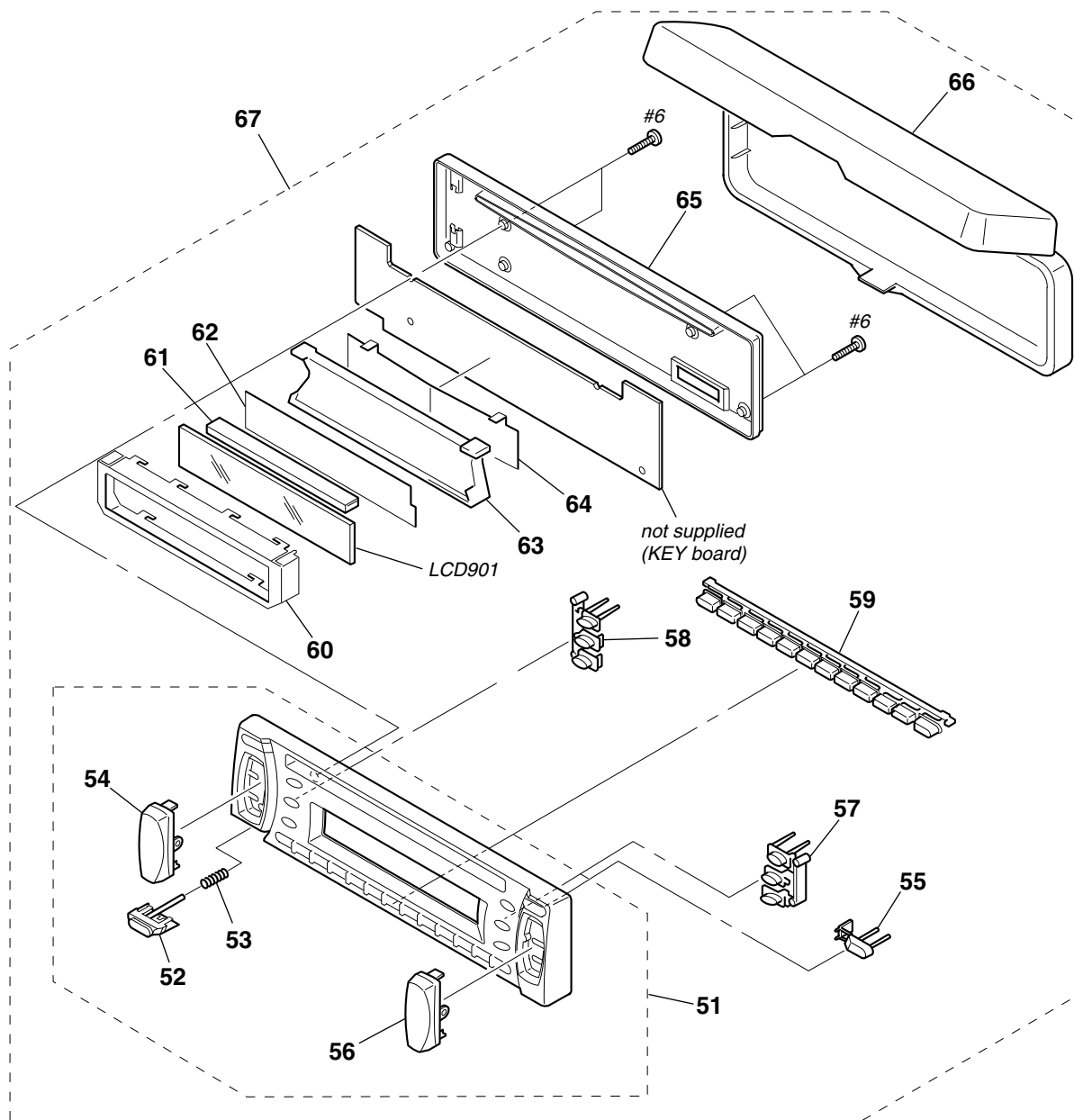
The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

4-1. CHASSIS SECTION



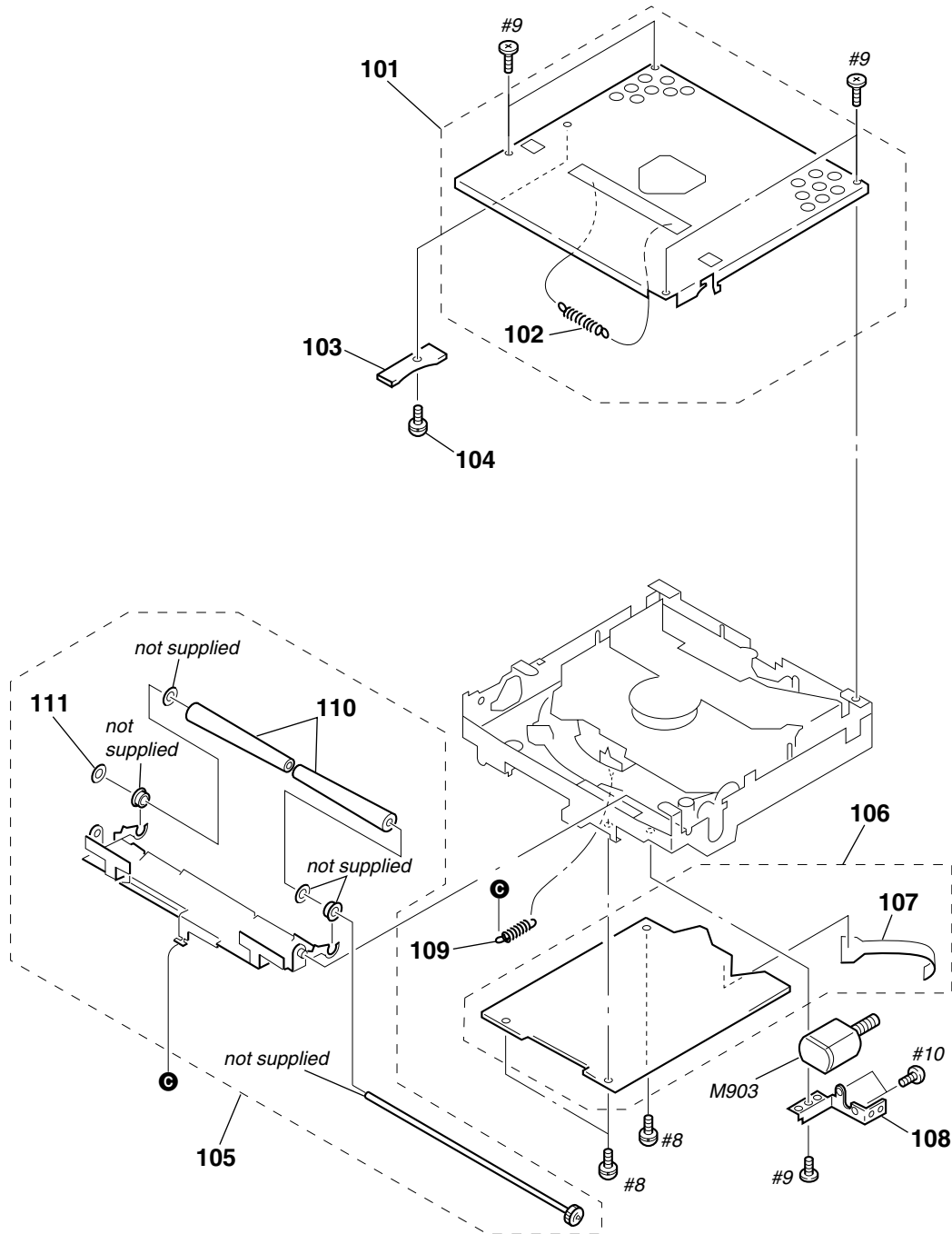
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
1	X-3380-162-4	PANEL SUB ASSY, SUB		* 13	3-045-877-02	CUSHION (TU)	
2	3-042-244-11	SCREW (T)		* 14	3-045-878-01	PLATE (TU), GROUND	
3	X-3379-876-3	LOCK ASSY (S)		15	3-225-133-11	CHASSIS	
4	3-223-782-21	COVER		16	3-231-821-01	PLATE, INSULATED	
5	1-776-527-82	CORD (WITH CONNECTOR) (ISO) (POWER)		F901	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) 10A	
6	3-041-012-11	BRACKET (CD)		TU10	A-3220-812-A	TUNER UNIT (TUX-020)	
7	A-3340-228-A	MAIN BOARD, COMPLETE		#1	7-685-792-09	SCREW +PTT 2.6X6 (S)	
8	3-376-464-11	SCREW (+PTT 2.6X6), GROUND POINT		#2	7-685-795-09	SCREW +PTT 2.6X12 (S)	
* 9	3-225-136-01	HEAT SINK (REG)		#3	7-685-793-09	SCREW +PTT 2.6X8 (S)	
* 10	3-225-271-02	CHASSIS (BACK)		#4	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	
* 11	3-040-998-01	BRACKET (IC)		#5	7-685-797-09	SCREW +PTT 2.6X16 (S)	
* 12	3-225-135-01	HEAT SINK		#11	7-685-791-09	SCREW +PTT 2.6X5 (S)	

4-2. FRONT PANEL SECTION



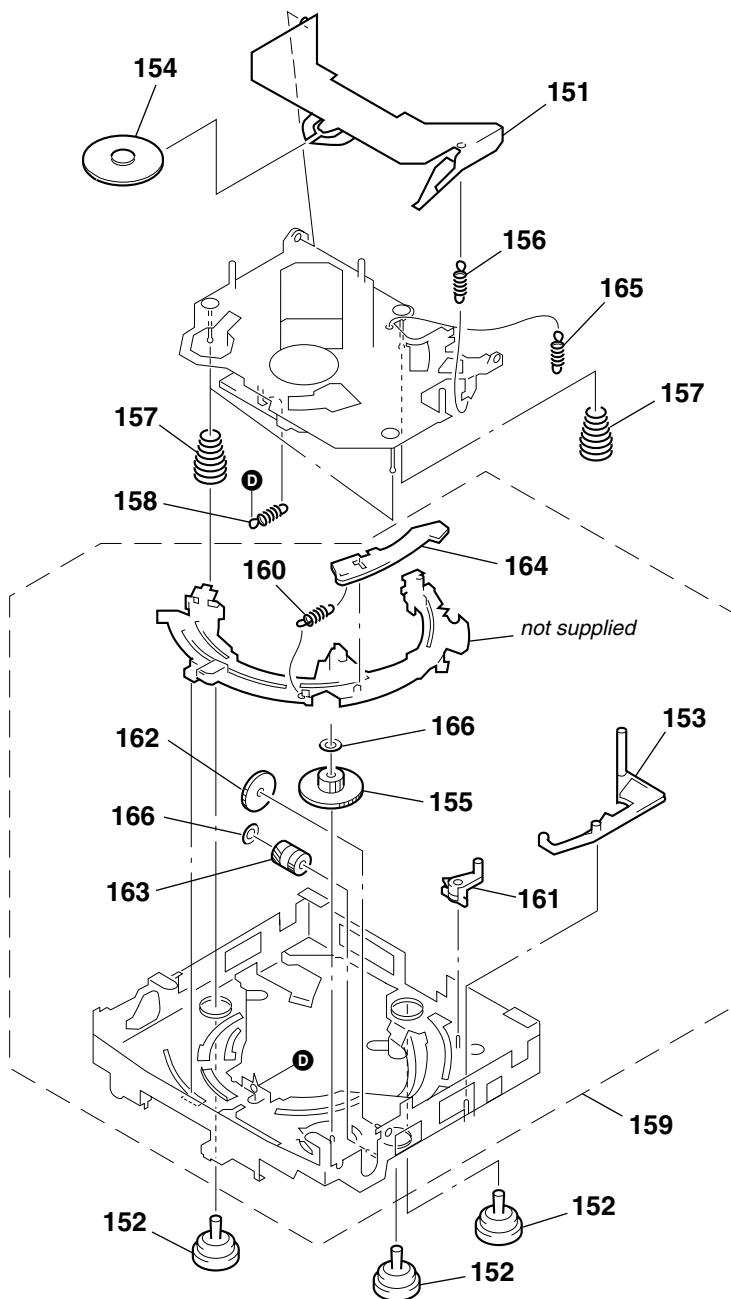
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	X-3381-289-1	PANEL SUB ASSY, FRONT		61	1-694-781-11	CONDUCTIVE BOARD, CONNECTION	
52	3-224-869-11	BUTTON (RELEASE/U)		62	3-235-387-11	ILLUMINATOR (LCD)	
53	3-231-816-01	SPRING (RELEASE)		63	3-235-381-01	PLATE (LCD), LIGHT GUIDE	
54	3-235-389-01	BUTTON (W) (+/-)		64	3-235-388-01	REFLECTOR (LCD)	
55	3-235-383-11	BUTTON (EJECT)		65	3-235-380-01	PANEL (CD), FRONT BACK	
56	3-235-390-01	BUTTON (W) (S/A)		66	X-3378-490-2	CASE (PANEL) ASSY (for FRONT PANEL)	
57	3-235-385-01	BUTTON (R)		* 67	A-3337-003-A	PANEL COMPLETE ASSY, FRONT	
58	3-235-384-01	BUTTON (L)		LCD901	1-804-625-11	DISPLAY PANEL, LIQUID CRYSTAL	
59	3-225-123-01	BUTTON (PRESET/CE)		#6	7-685-106-19	SCREW +P 2X10 TYPE2 NON-SLIT	
60	3-235-382-01	PLATE (LCD), GROUND					

4-3. CD MECHANISM SECTION (1)
(MG-393XA-121//Q)



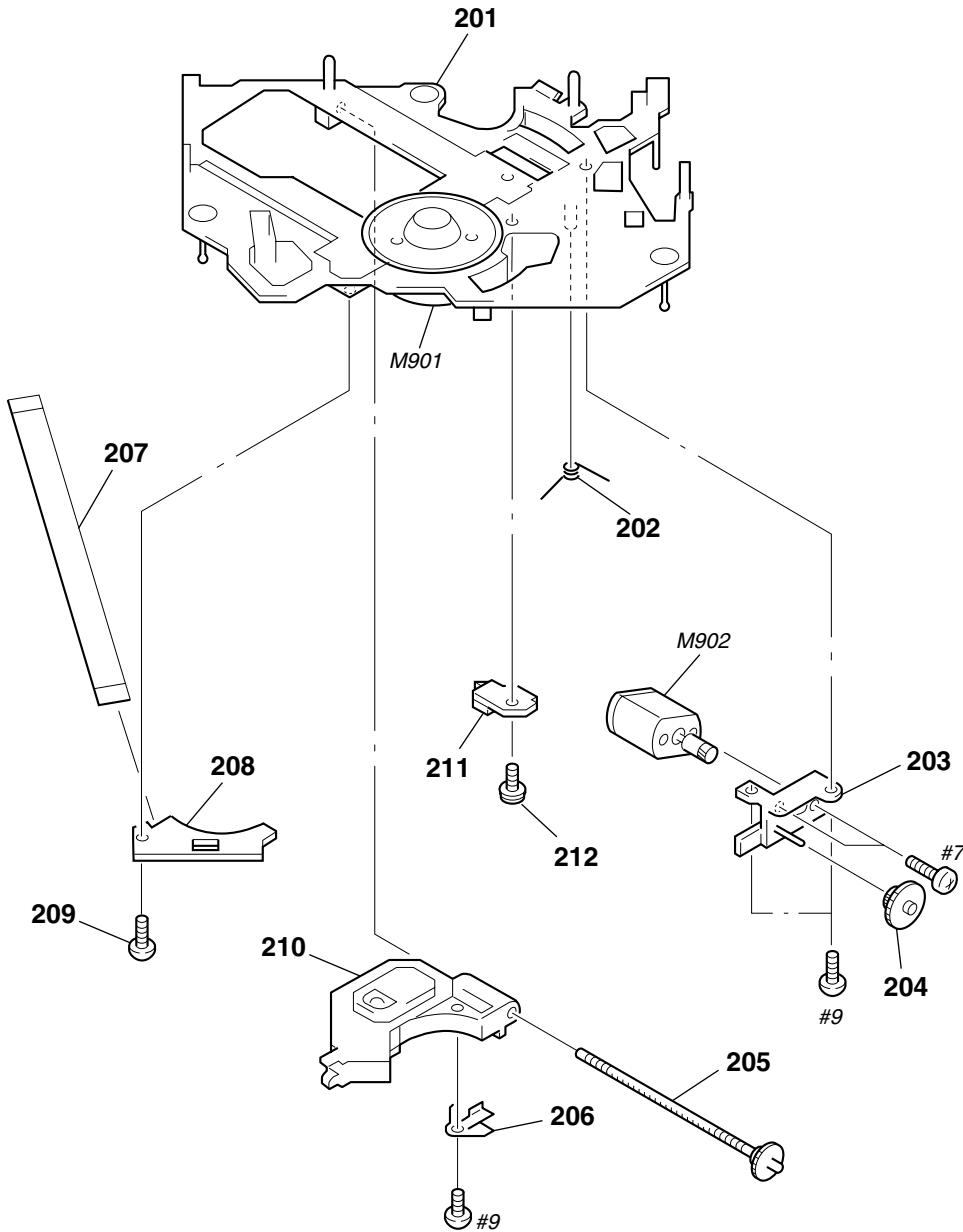
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
101	A-3315-247-B	CHASSIS (T.U) ASSY		109	3-225-784-01	SPRING (RA3), TENSION	
102	3-931-909-01	SPRING (LR), TENSION		110	3-933-152-03	ROLLER (S)	
103	1-659-836-11	DISC IN BOARD		111	3-931-913-11	RING (ROLLER), RETAINING	
104	3-338-737-01	SCREW (2X3), +PS		M903	A-3315-039-A	MOTOR SUB ASSY, LD (LOADING)	
105	A-3315-040-A	ROLLER ASSY, ARM		#8	7-628-253-00	SCREW +PS 2X4	
106	A-3283-270-A	SERVO BOARD, COMPLETE		#9	7-627-553-37	SCREW, PRECISION +P 2X3 TYPE3	
107	1-683-666-11	PICK-UP FLEXIBLE BOARD		#10	7-627-553-17	SCREW, PRECISION +P 2X2 TYPE3	
* 108	3-039-629-02	BRACKET (MOTOR)					

4-4. CD MECHANISM SECTION (2)
(MG-393XA-121//Q)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
151	X-3378-956-8	ARM ASSY, CHUCKING		159	A-3315-243-D	CHASSIS (M) ASSY	
152	3-931-897-61	DAMPER (T)		160	3-220-180-01	SPRING (TR2), TENSION	
153	3-039-627-01	LEVER (D)		161	3-931-881-03	LEVER (LOCK)	
154	3-040-165-02	RETAINER (DISC)		162	3-931-882-02	GEAR (MDL)	
155	3-014-727-01	WHEEL (LW), WORM		163	3-007-537-11	WHEEL (U), WORM	
156	3-931-895-01	SPRING (CH), TENSION		164	3-039-626-01	LEVER (TR)	
157	3-931-898-01	SPRING (FL), COMPRESSION		165	3-032-484-01	SPRING (KR1), TENSION	
158	3-032-483-02	SPRING (KF1), TENSION		166	3-018-272-01	WASHER	

4-5. CD MECHANISM SECTION (3)
(MG-393XA-121//Q)



The components identified by mark \triangle or dotted line with mark. \triangle are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
201	X-3381-611-1	CHASSIS (OP) ASSY (including M901)		209	3-909-607-01	SCREW	
202	3-043-494-01	SPRING (SL), TORSION		\triangle 210	8-820-103-11	PICK-UP, OPTICAL KSS-720A/C-RP	
203	3-040-170-01	BASE (DRIVING)		211	1-659-835-12	LIMIT BOARD	
204	3-040-419-01	GEAR (MIDWAY)		212	3-338-737-01	SCREW (2X3), +PS	
205	A-3291-669-A	SHAFT (FEED) ASSY		M902	A-3291-674-A	MOTOR ASSY, SLED (SLED)	
206	3-025-743-01	SPRING (FEED), LEAF		#7	7-627-850-28	SCREW, PRECISION +P 1.4X3	
207	1-659-880-11	MOTOR FLEXIBLE BOARD		#9	7-627-553-37	SCREW, PRECISION +P 2X3 TYPE3	
208	1-659-834-11	SUB BOARD					

SECTION 5 ELECTRICAL PARTS LIST

DISC IN	KEY
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NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
All resistors are in ohms.
METAL: Metal-film resistor.
METAL OXIDE: Metal oxide-film resistor.
F: nonflammable

- Items marked “*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
In each case, u : μ, for example:
uA.. : μA.. uPA.. : μPA..
uPB.. : μPB.. uPC.. : μPC.. uPD.. : μPD..
- CAPACITORS
uF : μF
- COILS
uH : μH

The components identified by mark \triangle or dotted line with mark \triangle are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description	Remark		Ref. No.	Part No.	Description	Remark
	1-659-836-11	DISC IN BOARD *****					< SWITCH >	
		< SWITCH >			LSW900	1-771-476-11	SWITCH, KEYBOARD (WITH LED) (\triangle)	
					LSW901	1-771-476-11	SWITCH, KEYBOARD (WITH LED) (OFF)	
					LSW902	1-771-476-11	SWITCH, KEYBOARD (WITH LED) (SRC (SOURCE))	
SW1	1-529-566-31	SWITCH, PUSH (1 KEY) (DISC IN)			LSW903	1-771-476-11	SWITCH, KEYBOARD (WITH LED) (+ (VOL))	
SW2	1-529-566-31	SWITCH, PUSH (1 KEY) (SELF)			LSW904	1-771-476-11	SWITCH, KEYBOARD (WITH LED) (- (VOL))	

		KEY BOARD *****			LSW905	1-771-476-11	SWITCH, KEYBOARD (WITH LED) (MODE)	
					LSW906	1-771-476-11	SWITCH, KEYBOARD (WITH LED) (SEL)	
					LSW907	1-771-883-11	SWITCH, TACTILE (WITH LED) (ATT)	
					LSW908	1-771-883-11	SWITCH, TACTILE (WITH LED) (SENS/BTM)	
					LSW909	1-771-883-11	SWITCH, TACTILE (WITH LED) (AF)	
					LSW910	1-771-476-11	SWITCH, KEYBOARD (WITH LED) (\lll \lll \lll - (SEEK/AMS))	
					LSW911	1-771-476-11	SWITCH, KEYBOARD (WITH LED) (+ \ggg \ggg \ggg (SEEK/AMS))	
					LSW912	1-771-476-11	SWITCH, KEYBOARD (WITH LED) (MBP)	
					LSW913	1-771-476-11	SWITCH, KEYBOARD (WITH LED) (D (D-BASS))	
					LSW914	1-771-883-11	SWITCH, TACTILE (WITH LED) (DSPL)	
C991	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V			LSW915	1-771-883-11	SWITCH, TACTILE (WITH LED) (PTY)	
C992	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V			LSW916	1-771-883-11	SWITCH, TACTILE (WITH LED) (TA)	
C993	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V			LSW917	1-771-883-11	SWITCH, TACTILE (WITH LED) (6)	
C994	1-162-927-11	CERAMIC CHIP 100PF 5% 50V			LSW918	1-771-883-11	SWITCH, TACTILE (WITH LED) (5)	
C995	1-127-715-11	CERAMIC CHIP 0.22uF 10% 16V			LSW919	1-771-883-11	SWITCH, TACTILE (WITH LED) (4/SHUF)	
		< CONNECTOR >			LSW920	1-771-883-11	SWITCH, TACTILE (WITH LED) (3/REP)	
CN901	1-794-312-11	PIN, CONNECTOR 12P			LSW921	1-771-883-11	SWITCH, TACTILE (WITH LED) (2)	
		< DIODE >			LSW922	1-771-883-11	SWITCH, TACTILE (WITH LED) (1)	
D902	8-719-085-72	DIODE UMZ6.8ENTR			< RESISTOR >			
D991	8-719-976-99	DIODE DTZ5.1B			R901	1-216-819-11	METAL CHIP 680 5% 1/16W	
		< IC >			R902	1-216-819-11	METAL CHIP 680 5% 1/16W	
IC901	8-759-365-90	IC LC75824W			R903	1-216-819-11	METAL CHIP 680 5% 1/16W	
		< LIQUID CRYSTAL DISPLAY >			R904	1-216-821-11	METAL CHIP 1K 5% 1/16W	
					R905	1-216-823-11	METAL CHIP 1.5K 5% 1/16W	
LCD901	1-804-625-11	DISPLAY PANEL, LIQUID CRYSTAL			R906	1-216-823-11	METAL CHIP 1.5K 5% 1/16W	
		< DIODE >			R907	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
LED921	8-719-061-16	LED CL-190SR-CD-T (DISC IND L)			R908	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
LED922	8-719-061-16	LED CL-190SR-CD-T (DISC IND R)			R909	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
LED931	8-719-072-40	LED LBA676-J2K1K2 (LCD BACK LIGHT)			R910	1-216-819-11	METAL CHIP 680 5% 1/16W	
LED932	8-719-072-40	LED LBA676-J2K1K2 (LCD BACK LIGHT)			R911	1-216-819-11	METAL CHIP 680 5% 1/16W	
LED941	8-719-072-40	LED LBA676-J2K1K2 (LCD BACK LIGHT)			R912	1-216-819-11	METAL CHIP 680 5% 1/16W	
					R913	1-216-821-11	METAL CHIP 1K 5% 1/16W	
LED942	8-719-072-40	LED LBA676-J2K1K2 (LCD BACK LIGHT)			R914	1-216-823-11	METAL CHIP 1.5K 5% 1/16W	
					R915	1-216-823-11	METAL CHIP 1.5K 5% 1/16W	

CDX-L420V

KEY	LIMIT	MAIN
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Ref. No.	Part No.	Description	Remark
R916	1-216-825-11	METAL CHIP	2.2K 5% 1/16W
R917	1-216-827-11	METAL CHIP	3.3K 5% 1/16W
R918	1-216-829-11	METAL CHIP	4.7K 5% 1/16W
R919	1-218-867-11	RES-CHIP	6.8K 5% 1/16W
R920	1-216-833-11	METAL CHIP	10K 5% 1/16W
R921	1-216-835-11	METAL CHIP	15K 5% 1/16W
R932	1-216-819-11	METAL CHIP	680 5% 1/16W
R933	1-216-821-11	METAL CHIP	1K 5% 1/16W
R934	1-216-819-11	METAL CHIP	680 5% 1/16W
R935	1-216-819-11	METAL CHIP	680 5% 1/16W
R936	1-216-821-11	METAL CHIP	1K 5% 1/16W
R937	1-216-819-11	METAL CHIP	680 5% 1/16W
R947	1-216-829-11	METAL CHIP	4.7K 5% 1/16W
R948	1-216-829-11	METAL CHIP	4.7K 5% 1/16W
R949	1-216-829-11	METAL CHIP	4.7K 5% 1/16W
R951	1-216-821-11	METAL CHIP	1K 5% 1/16W
R952	1-216-819-11	METAL CHIP	680 5% 1/16W
R953	1-216-819-11	METAL CHIP	680 5% 1/16W
R954	1-216-819-11	METAL CHIP	680 5% 1/16W
R955	1-216-819-11	METAL CHIP	680 5% 1/16W
R956	1-216-819-11	METAL CHIP	680 5% 1/16W
R957	1-216-821-11	METAL CHIP	1K 5% 1/16W
R961	1-216-821-11	METAL CHIP	1K 5% 1/16W
R962	1-216-819-11	METAL CHIP	680 5% 1/16W
R963	1-216-819-11	METAL CHIP	680 5% 1/16W
R964	1-216-819-11	METAL CHIP	680 5% 1/16W
R965	1-216-819-11	METAL CHIP	680 5% 1/16W
R966	1-216-819-11	METAL CHIP	680 5% 1/16W
R967	1-216-823-11	METAL CHIP	1.5K 5% 1/16W
R971	1-216-821-11	METAL CHIP	1K 5% 1/16W
R972	1-216-819-11	METAL CHIP	680 5% 1/16W
R973	1-216-819-11	METAL CHIP	680 5% 1/16W
R974	1-216-819-11	METAL CHIP	680 5% 1/16W
R975	1-216-819-11	METAL CHIP	680 5% 1/16W
R976	1-216-819-11	METAL CHIP	680 5% 1/16W
R977	1-216-821-11	METAL CHIP	1K 5% 1/16W
R981	1-216-821-11	METAL CHIP	1K 5% 1/16W
R982	1-216-821-11	METAL CHIP	1K 5% 1/16W
R983	1-216-821-11	METAL CHIP	1K 5% 1/16W
R984	1-216-813-11	METAL CHIP	220 5% 1/16W
R985	1-216-813-11	METAL CHIP	220 5% 1/16W
R990	1-216-825-11	METAL CHIP	2.2K 5% 1/16W
R991	1-216-825-11	METAL CHIP	2.2K 5% 1/16W
R992	1-216-825-11	METAL CHIP	2.2K 5% 1/16W
R993	1-216-864-11	METAL CHIP	0 5% 1/16W
R994	1-216-851-11	METAL CHIP	330K 5% 1/16W
R995	1-216-857-11	METAL CHIP	1M 5% 1/16W
R996	1-216-821-11	METAL CHIP	1K 5% 1/16W
R997	1-216-821-11	METAL CHIP	1K 5% 1/16W
R998	1-216-821-11	METAL CHIP	1K 5% 1/16W

Ref. No.	Part No.	Description	Remark
	1-659-835-12	LIMIT BOARD	*****
		< SWITCH >	
SW3	1-529-565-41	SWITCH, PUSH (1 KEY) (LIMIT)	*****
	A-3340-228-A	MAIN BOARD, COMPLETE	*****
*	3-040-998-01	BRACKET (IC)	
*	3-225-135-01	HEAT SINK	
*	3-225-136-01	HEAT SINK (REG)	
*	3-225-271-02	CHASSIS (BACK)	
	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	
	7-685-793-09	SCREW +PTT 2.6X8 (S)	
	7-685-795-09	SCREW +PTT 2.6X12 (S)	
	7-685-797-09	SCREW +PTT 2.6X16 (S)	
		< CAPACITOR >	
C11	1-162-918-11	CERAMIC CHIP	18PF 5% 50V
C14	1-124-584-00	ELECT	100uF 20% 10V
C15	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V
C16	1-124-584-00	ELECT	100uF 20% 10V
C17	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V
C21	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V
C22	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V
C23	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V
C24	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V
C25	1-164-315-11	CERAMIC CHIP	470PF 5% 50V
C26	1-162-915-11	CERAMIC CHIP	10PF 0.5PF 50V
C27	1-125-891-11	CERAMIC CHIP	0.47uF 10% 10V
C28	1-165-176-11	CERAMIC CHIP	0.047uF 10% 16V
C29	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V
C31	1-162-968-11	CERAMIC CHIP	0.0047uF 10% 50V
C32	1-165-176-11	CERAMIC CHIP	0.047uF 10% 16V
C33	1-164-227-11	CERAMIC CHIP	0.022uF 10% 25V
C41	1-125-837-00	CERAMIC CHIP	1uF 10% 6.3V
C42	1-125-837-00	CERAMIC CHIP	1uF 10% 6.3V
C51	1-124-589-11	ELECT	47uF 20% 16V
C52	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V
C53	1-164-315-11	CERAMIC CHIP	470PF 5% 50V
C54	1-162-915-11	CERAMIC CHIP	10PF 0.5PF 50V
C55	1-162-919-11	CERAMIC CHIP	22PF 5% 50V
C56	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V
C57	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V
C58	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V
C59	1-162-959-11	CERAMIC CHIP	330PF 5% 50V
C61	1-164-505-11	CERAMIC CHIP	2.2uF 16V
C62	1-164-739-11	CERAMIC CHIP	560PF 5% 50V
C63	1-162-966-11	CERAMIC CHIP	0.0022uF 10% 50V
C64	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V
C301	1-124-234-00	ELECT	22uF 20% 16V
C302	1-124-234-00	ELECT	22uF 20% 16V

Ref. No.	Part No.	Description			Remark	Ref. No.	Part No.	Description			Remark
C303	1-124-234-00	ELECT	22uF	20%	16V	C805	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C305	1-124-584-00	ELECT	100uF	20%	10V			< CONNECTOR >			
C331	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V						
C332	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	CN701	1-794-311-21	PLUG, CONNECTOR 12P			
C341	1-124-234-00	ELECT	22uF	20%	16V	CNP301	1-764-617-12	PIN, CONNECTOR (PC BOARD) 30P			
						CNP601	1-774-701-11	PIN, CONNECTOR 16P			
C342	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V			< DIODE >			
C343	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	D21	8-719-404-50	DIODE MA111-TX			
C401	1-124-589-11	ELECT	47uF	20%	16V	D22	8-719-404-50	DIODE MA111-TX			
C402	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	D23	8-719-976-99	DIODE DTZ5.1B			
C403	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V	D331	8-719-056-84	DIODE UDZ-TE-17-7.5B			
C404	1-125-891-11	CERAMIC CHIP	0.47uF	10%	10V	D332	8-719-056-83	DIODE UDZ-TE-17-6.8B			
C405	1-124-233-11	ELECT	10uF	20%	16V						
C406	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	D341	8-719-158-15	DIODE RD5.6S-B			
C411	1-124-233-11	ELECT	10uF	20%	16V	D471	8-719-053-18	DIODE 1SR154-400TE-25			
C412	1-124-233-11	ELECT	10uF	20%	16V	D472	8-719-053-18	DIODE 1SR154-400TE-25			
C431	1-124-233-11	ELECT	10uF	20%	16V	D473	8-719-053-18	DIODE 1SR154-400TE-25			
C433	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V	D474	8-719-053-18	DIODE 1SR154-400TE-25			
C441	1-124-233-11	ELECT	10uF	20%	16V						
C442	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V	D475	8-719-053-18	DIODE 1SR154-400TE-25			
C451	1-124-233-11	ELECT	10uF	20%	16V	D476	8-719-053-18	DIODE 1SR154-400TE-25			
C453	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V	D477	8-719-053-18	DIODE 1SR154-400TE-25			
C461	1-124-233-11	ELECT	10uF	20%	16V	D478	8-719-053-18	DIODE 1SR154-400TE-25			
C463	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V	D479	8-719-404-50	DIODE MA111-TX			
C471	1-125-837-00	CERAMIC CHIP	1uF	10%	6.3V						
C472	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V	D480	8-719-158-15	DIODE RD5.6S-B			
C473	1-124-233-11	ELECT	10uF	20%	16V	D551	8-719-056-84	DIODE UDZ-TE-17-7.5B			
C474	1-126-160-11	ELECT	1uF	20%	50V	D556	8-719-057-80	DIODE MA8180-M-TX			
C475	1-124-589-11	ELECT	47uF	20%	16V	D601	8-719-049-38	DIODE 1N5404TU			
C477	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	D609	8-719-056-83	DIODE UDZ-TE-17-6.8B			
C479	1-124-589-11	ELECT	47uF	20%	16V						
C480	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	D610	8-719-056-65	DIODE 1SS372-TE85L			
C501	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V	D613	8-719-053-18	DIODE 1SR154-400TE-25			
C502	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V	D614	8-719-053-18	DIODE 1SR154-400TE-25			
C503	1-162-917-11	CERAMIC CHIP	15PF	5%	50V	D621	8-719-067-56	DIODE MA112-TX			
C504	1-162-919-11	CERAMIC CHIP	22PF	5%	50V	D651	8-719-057-80	DIODE MA8180-M-TX			
C505	1-162-918-11	CERAMIC CHIP	18PF	5%	50V						
C506	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	D671	8-719-404-50	DIODE MA111-TX			
C510	1-124-584-00	ELECT	100uF	20%	10V	D701	8-719-404-50	DIODE MA111-TX			
C511	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	D710	8-719-056-83	DIODE UDZ-TE-17-6.8B			
C529	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	D711	8-719-056-83	DIODE UDZ-TE-17-6.8B			
C601	1-135-473-21	ELECT	3300uF	20%	16V	D715	8-719-056-83	DIODE UDZ-TE-17-6.8B			
C602	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V						
C611	1-126-157-11	ELECT	10uF	20%	16V	D716	8-719-056-83	DIODE UDZ-TE-17-6.8B			
C612	1-126-157-11	ELECT	10uF	20%	16V	D717	8-719-056-83	DIODE UDZ-TE-17-6.8B			
C613	1-126-157-11	ELECT	10uF	20%	16V	D718	8-719-056-83	DIODE UDZ-TE-17-6.8B			
								< IC >			
C614	1-126-157-11	ELECT	10uF	20%	16V	IC20	8-759-100-96	IC uPC4558G2			
C617	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	IC51	8-759-492-59	IC SAA6588T-118			
C622	1-125-710-11	DOUBLE LAYERS	0.1F		5.5V	IC401	8-759-653-27	IC TDA7402TR			
C631	1-124-257-00	ELECT	2.2uF	20%	50V	IC404	8-759-486-44	IC TDA7386			
C661	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	IC501	6-800-278-02	IC MN101C49KTD2			
C801	1-216-864-11	METAL CHIP	0	5%	1/16W	IC601	8-759-661-47	IC BA4908-V3			
C803	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	IC602	8-759-682-69	IC XC61CN4302MR			
C804	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V						

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Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
		< JACK >					
J10	1-815-185-12	JACK (ANTENNA)		R341	1-216-825-11	METAL CHIP 2.2K	5% 1/16W
J561	1-566-822-41	JACK (REMOTE IN)		R342	1-216-825-11	METAL CHIP 2.2K	5% 1/16W
		< COIL >		R403	1-216-841-11	METAL CHIP 47K	5% 1/16W
JW76	1-410-501-11	INDUCTOR, MICRO 2.2uH		R431	1-216-813-11	METAL CHIP 220	5% 1/16W
L500	1-419-476-11	COIL, CHOKE 250uH		R432	1-216-841-11	METAL CHIP 47K	5% 1/16W
		< TRANSISTOR >		R433	1-216-833-11	METAL CHIP 10K	5% 1/16W
Q21	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R434	1-216-813-11	METAL CHIP 220	5% 1/16W
Q22	8-729-900-53	TRANSISTOR DTC114EK		R441	1-216-813-11	METAL CHIP 220	5% 1/16W
Q331	8-729-021-82	TRANSISTOR 2SD2396K		R442	1-216-841-11	METAL CHIP 47K	5% 1/16W
Q332	8-729-047-76	TRANSISTOR FMC2A-T148		R443	1-216-833-11	METAL CHIP 10K	5% 1/16W
Q333	8-729-900-53	TRANSISTOR DTC114EK		R444	1-216-813-11	METAL CHIP 220	5% 1/16W
Q341	8-729-106-68	TRANSISTOR 2SD1615A-GP		R451	1-216-813-11	METAL CHIP 220	5% 1/16W
Q431	8-729-920-21	TRANSISTOR DTC314TK-T-146		R452	1-216-841-11	METAL CHIP 47K	5% 1/16W
Q441	8-729-920-21	TRANSISTOR DTC314TK-T-146		R453	1-216-833-11	METAL CHIP 10K	5% 1/16W
Q451	8-729-920-21	TRANSISTOR DTC314TK-T-146		R454	1-216-813-11	METAL CHIP 220	5% 1/16W
Q461	8-729-920-21	TRANSISTOR DTC314TK-T-146		R461	1-216-813-11	METAL CHIP 220	5% 1/16W
Q478	8-729-900-53	TRANSISTOR DTC114EK		R462	1-216-841-11	METAL CHIP 47K	5% 1/16W
Q479	8-729-027-23	TRANSISTOR DTA114EKA-T146		R463	1-216-833-11	METAL CHIP 10K	5% 1/16W
Q551	8-729-900-53	TRANSISTOR DTC114EK		R464	1-216-813-11	METAL CHIP 220	5% 1/16W
Q556	8-729-900-53	TRANSISTOR DTC114EK		R471	1-216-833-11	METAL CHIP 10K	5% 1/16W
Q557	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R472	1-216-801-11	METAL CHIP 22	5% 1/16W
Q631	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R473	1-216-821-11	METAL CHIP 1K	5% 1/16W
Q651	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R474	1-216-833-11	METAL CHIP 10K	5% 1/16W
Q661	8-729-821-63	TRANSISTOR 2SB1203T-FA		R475	1-216-864-11	METAL CHIP 0	5% 1/16W
Q662	8-729-900-53	TRANSISTOR DTC114EK		R479	1-216-805-11	METAL CHIP 47	5% 1/16W
Q664	8-729-027-23	TRANSISTOR DTA114EKA-T146		R480	1-216-864-11	METAL CHIP 0	5% 1/16W
		< RESISTOR >		R501	1-216-837-11	METAL CHIP 22K	5% 1/16W
R21	1-216-825-11	METAL CHIP 2.2K	5% 1/16W	R502	1-216-806-11	RES-CHIP 56	5% 1/16W
R22	1-216-825-11	METAL CHIP 2.2K	5% 1/16W	R503	1-216-845-11	METAL CHIP 100K	5% 1/16W
R24	1-216-833-11	METAL CHIP 10K	5% 1/16W	R504	1-216-825-11	METAL CHIP 2.2K	5% 1/16W
R25	1-216-833-11	METAL CHIP 10K	5% 1/16W	R505	1-216-825-11	METAL CHIP 2.2K	5% 1/16W
R26	1-216-809-11	METAL CHIP 100	5% 1/16W	R506	1-216-825-11	METAL CHIP 2.2K	5% 1/16W
R27	1-216-845-11	METAL CHIP 100K	5% 1/16W	R507	1-216-841-11	METAL CHIP 47K	5% 1/16W
R28	1-216-857-11	METAL CHIP 1M	5% 1/16W	R508	1-216-845-11	METAL CHIP 100K	5% 1/16W
R29	1-216-809-11	METAL CHIP 100	5% 1/16W	R510	1-216-809-11	METAL CHIP 100	5% 1/16W
R31	1-218-867-11	RES-CHIP 6.8K	5% 1/16W	R511	1-216-809-11	METAL CHIP 100	5% 1/16W
R32	1-216-845-11	METAL CHIP 100K	5% 1/16W	R512	1-216-809-11	METAL CHIP 100	5% 1/16W
R41	1-216-841-11	METAL CHIP 47K	5% 1/16W	R514	1-216-809-11	METAL CHIP 100	5% 1/16W
R52	1-216-853-11	METAL CHIP 470K	5% 1/16W	R515	1-216-809-11	METAL CHIP 100	5% 1/16W
R53	1-216-821-11	METAL CHIP 1K	5% 1/16W	R516	1-216-809-11	METAL CHIP 100	5% 1/16W
R54	1-216-837-11	METAL CHIP 22K	5% 1/16W	R517	1-216-809-11	METAL CHIP 100	5% 1/16W
R56	1-216-797-11	METAL CHIP 10	5% 1/16W	R519	1-216-845-11	METAL CHIP 100K	5% 1/16W
R57	1-216-817-11	METAL CHIP 470	5% 1/16W	R520	1-216-845-11	METAL CHIP 100K	5% 1/16W
R60	1-216-797-11	METAL CHIP 10	5% 1/16W	R521	1-216-845-11	METAL CHIP 100K	5% 1/16W
R331	1-216-825-11	METAL CHIP 2.2K	5% 1/16W	R522	1-216-845-11	METAL CHIP 100K	5% 1/16W
R332	1-216-825-11	METAL CHIP 2.2K	5% 1/16W	R524	1-216-845-11	METAL CHIP 100K	5% 1/16W
R333	1-216-825-11	METAL CHIP 2.2K	5% 1/16W	R525	1-216-845-11	METAL CHIP 100K	5% 1/16W
R334	1-216-825-11	METAL CHIP 2.2K	5% 1/16W	R526	1-216-845-11	METAL CHIP 100K	5% 1/16W
				R527	1-216-845-11	METAL CHIP 100K	5% 1/16W
				R528	1-216-845-11	METAL CHIP 100K	5% 1/16W
				R529	1-216-833-11	METAL CHIP 10K	5% 1/16W
				R530	1-216-833-11	METAL CHIP 10K	5% 1/16W
				R551	1-216-821-11	METAL CHIP 1K	5% 1/16W

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Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
R555	1-216-841-11	METAL CHIP	47K 5% 1/16W	C9	1-162-924-11	CERAMIC CHIP 56PF 5% 50V	
R556	1-216-821-11	METAL CHIP	1K 5% 1/16W	C10	1-162-924-11	CERAMIC CHIP 56PF 5% 50V	
R557	1-216-841-11	METAL CHIP	47K 5% 1/16W	C11	1-162-909-11	CERAMIC CHIP 4PF 0.25PF 50V	
R609	1-216-821-11	METAL CHIP	1K 5% 1/16W	C13	1-162-916-11	CERAMIC CHIP 12PF 5% 50V	
R631	1-216-214-00	RES-CHIP	4.7K 5% 1/8W	C14	1-125-837-00	CERAMIC CHIP 1uF 10% 6.3V	
R632	1-216-841-11	METAL CHIP	47K 5% 1/16W	C15	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
R633	1-216-841-11	METAL CHIP	47K 5% 1/16W	C16	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
R634	1-216-829-11	METAL CHIP	4.7K 5% 1/16W	C17	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
R636	1-216-845-11	METAL CHIP	100K 5% 1/16W	C18	1-162-966-11	CERAMIC CHIP 0.0022uF 10% 50V	
R637	1-216-864-11	METAL CHIP	0 5% 1/16W	C19	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
R651	1-216-821-11	METAL CHIP	1K 5% 1/16W	C20	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
R652	1-216-841-11	METAL CHIP	47K 5% 1/16W	C22	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
R653	1-216-833-11	METAL CHIP	10K 5% 1/16W	C23	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
R654	1-216-833-11	METAL CHIP	10K 5% 1/16W	C24	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
R660	1-216-825-11	METAL CHIP	2.2K 5% 1/16W	C25	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
R661	1-216-833-11	METAL CHIP	10K 5% 1/16W	C26	1-126-391-11	ELECT CHIP 47uF 20% 6.3V	
R662	1-249-401-11	CARBON	47 5% 1/4W	C27	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
R663	1-249-401-11	CARBON	47 5% 1/4W	C29	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
R664	1-249-401-11	CARBON	47 5% 1/4W	C30	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
R665	1-249-403-11	CARBON	68 5% 1/4W	C34	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
R671	1-216-809-11	METAL CHIP	100 5% 1/16W	C35	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
R672	1-216-809-11	METAL CHIP	100 5% 1/16W	C36	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
R673	1-218-871-11	METAL CHIP	10K 0.5% 1/10W	C38	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
R674	1-218-871-11	METAL CHIP	10K 0.5% 1/10W	C41	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
R701	1-218-871-11	METAL CHIP	10K 0.5% 1/10W	C43	1-162-967-11	CERAMIC CHIP 0.0033uF 10% 50V	
R702	1-218-871-11	METAL CHIP	10K 0.5% 1/10W	C44	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
R710	1-216-809-11	METAL CHIP	100 5% 1/16W	C70	1-125-837-00	CERAMIC CHIP 1uF 10% 6.3V	
R711	1-216-809-11	METAL CHIP	100 5% 1/16W	C71	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
		< SWITCH >				< CONNECTOR >	
S702	1-692-431-21	SWITCH, TACTILE (RESET)		CN1	1-764-616-12	HOUSING, CONNECTOR (PC BOARD) 30P	
		< TUNER >		CN3	1-770-347-21	CONNECTOR, FPC 6P	
TU10	A-3220-812-A	TUNER UNIT (TUX-020)				< RESISTOR >	
		< VIBRATOR >		FB5	1-216-298-11	RES-CHIP 2.2 5% 1/10W	
X51	1-579-242-41	VIBRATOR, CRYSTAL (4.332MHZ)				< IC >	
X501	1-781-294-21	VIBRATOR, CRYSTAL (18.432MHZ)		IC1	8-759-699-98	IC uPD63711GC-8EU	
X502	1-567-098-41	VIBRATOR, CRYSTAL (32.768KHZ)		IC2	8-759-658-87	IC BA5810FP-E2	

	A-3283-270-A	SERVO BOARD, COMPLETE				< TRANSISTOR >	
		*****		Q1	8-729-904-87	TRANSISTOR 2SB1197K-R	
	1-683-666-11	PICK-UP FLEXIBLE BOARD				< RESISTOR >	
		< CAPACITOR >		R3	1-216-797-11	METAL CHIP 10 5% 1/16W	
C1	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V		R5	1-218-344-11	RES-CHIP 7.5K 5% 1/16W	
C3	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V		R6	1-216-837-11	METAL CHIP 22K 5% 1/16W	
C4	1-104-609-11	ELECT CHIP 100uF 20% 4V		R7	1-216-839-11	METAL CHIP 33K 5% 1/16W	
C5	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V		R8	1-216-833-11	METAL CHIP 10K 5% 1/16W	
C6	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V		R9	1-216-840-11	METAL CHIP 39K 5% 1/16W	
C8	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V		R10	1-216-835-11	METAL CHIP 15K 5% 1/16W	
				R12	1-216-837-11	METAL CHIP 22K 5% 1/16W	

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SERVO **SUB**

Ref. No.	Part No.	Description	Remark
R14	1-216-841-11	METAL CHIP	47K 5% 1/16W
R15	1-216-841-11	METAL CHIP	47K 5% 1/16W
R17	1-216-809-11	METAL CHIP	100 5% 1/16W
R18	1-216-809-11	METAL CHIP	100 5% 1/16W
R19	1-216-809-11	METAL CHIP	100 5% 1/16W
R20	1-216-809-11	METAL CHIP	100 5% 1/16W
R21	1-216-821-11	METAL CHIP	1K 5% 1/16W
R22	1-216-821-11	METAL CHIP	1K 5% 1/16W
R26	1-216-797-11	METAL CHIP	10 5% 1/16W
R29	1-216-833-11	METAL CHIP	10K 5% 1/16W
R30	1-216-833-11	METAL CHIP	10K 5% 1/16W
R31	1-216-789-11	METAL CHIP	2.2 5% 1/16W
< SWITCH >			
SW5	1-762-944-12	SWITCH, DETECTION (SMALL TYPE) (DOWN)	
< VIBRATOR >			
X1	1-795-520-11	VIBRATOR, CERAMIC (16.9344MHZ)	

	1-659-834-11	SUB BOARD	

< CONNECTOR >			
CN1	1-770-347-21	CONNECTOR, FPC 6P	

MISCELLANEOUS			

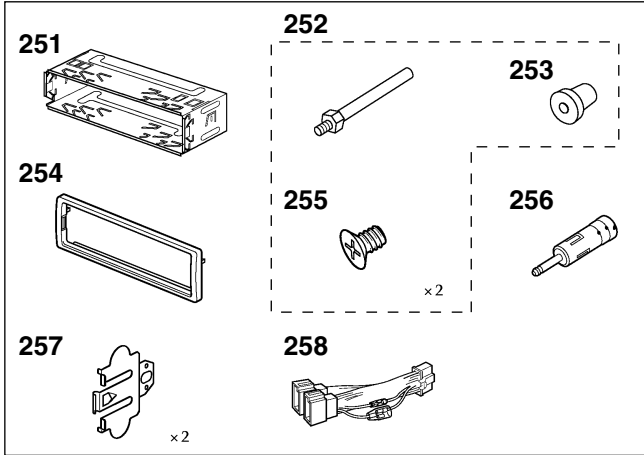
5	1-776-527-82	CORD (WITH CONNECTOR) (ISO) (POWER)	
201	X-3381-611-1	CHASSIS (OP) ASSY (including M901)	
207	1-659-880-11	MOTOR FLEXIBLE BOARD	
△210	8-820-103-11	PICK-UP, OPTICAL KSS-720A/C-RP	
F901	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) 10A	
M902	A-3291-674-A	MOTOR ASSY, SLED (SLED)	
M903	A-3315-039-A	MOTOR SUB ASSY, LD (LOADING)	

ACCESSORIES			

	3-236-849-11	MANUAL, INSTRUCTION (ENGLISH,GERMAN, FRENCH,ITALIAN,DUTCH)	
	3-236-850-11	MANUAL, INSTRUCTION, INSTALL (ENGLISH, GERMAN,FRENCH,ITALIAN,DUTCH)	
	X-3378-490-2	CASE (PANEL) ASSY (for FRONT PANEL)	

Ref. No.	Part No.	Description	Remark
PARTS FOR INSTALLATION AND CONNECTIONS			

251	3-237-206-21	FRAME, FITTING	
252	X-3381-148-1	SCREW ASSY (BS2), FITTING	
253	3-349-410-11	BUSHING	
254	3-232-419-01	COLLAR	
255	3-934-325-01	SCREW, +K (5X8) TAPPING	
256	1-465-459-21	ADAPTOR, ANTENNA	
257	3-233-644-01	SPRING, FITTING	
258	1-776-527-82	CORD (WITH CONNECTOR) (ISO) (POWER)	



The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.