

HCD-GRX20/RXD3

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AEP Model

UK Model

HCD-RXD3

E Model

Australian Model

HCD-GRX20

HCD-GRX20/RXD3 is the tuner, deck, CD and
By: Kevin Electronica C.E.I.T. cbba-Bolivia.

PHOTO : HCD-RXD3

CD SECTION	Model Name Using Similar Mechanism	NEW
	CD Mechanism Type	CX3
	Base Unit Type	KSM-213ECM
	Optical Pick-up Type	KSS-213ECM/C2NP
TAPE DECK SECTION	Model Name Using Similar Mechanism	NEW
	Tape Transport Mechanism Type	CWL-44-FR

SPECIFICATIONS

Amplifier section

European model

DIN power output (Rated) 40 W + 40 W
(6 Ω at 1 kHz, DIN)
Continuous RMS power output (Reference)
50 W + 50 W
(6 Ω at 1 kHz, 10% THD)
Music power output (Reference)
100 W + 100 W
(6 Ω at 1 kHz, 10% THD)

Other models

The following measured at AC 110, 220 V 60 Hz;
DIN power output (Rated) 45 W + 45 W
(6 Ω at 1 kHz, DIN)
Continuous RMS power output (Reference)
50 W + 50 W
(6 Ω at 1 kHz, 10% THD)
The following measured at AC 120, 240 V 60 Hz;
DIN power output (Rated) 50 W + 50 W
(6 Ω at 1 kHz, DIN)
Continuous RMS power output (Reference)
60 W + 60 W
(6 Ω at 1 kHz, 10% THD)

Inputs

MD IN (phono jack): voltage 450 mV,
impedance 47 k Ω

Outputs

MD OUT (phono jacks):

voltage 250 mV
impedance 1 k Ω

PHONES (stereo phone jack):

accepts headphones of 8 Ω or more.
accepts impedance of 6 to 16 Ω

SPEAKER:

CD player section

System

Compact disc and digital audio system

Laser

Semiconductor laser
($\lambda = 780$ nm)

Laser output

Emission duration:
continuous
Max. 44.6 μ W*
*This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up Block with 7 mm aperture.
Frequency response
Wavelength

20Hz – 20kHz (± 0.5 dB)
780 – 790 nm

DIGITAL OUT (OPTICAL)

(Square optical connector jack, rear panel)

Wavelength 600 nm
Output Level –18 dBm

Tape deck section

Recording system 4-track 2-channel stereo
Frequency response 40 – 13,000 Hz (± 3 dB),
using Sony TYPE I cassette
Wow and flutter $\pm 0.15\%$ W. Peak(IEC)
0.1% W. RMS(NAB)
 $\pm 0.2\%$ W. Peak(DIN)

Tuner section

FM stereo, FM/AM superheterodyne tuner

FM tuner section

Tuning range 87.5 – 108.0 MHz
Antenna FM lead antenna
Antenna terminals 75 Ω unbalanced
Intermediate frequency 10.7 MHz

— Continued on next page —

MINI Hi-Fi COMPONENT SYSTEM



SONY®

AM tuner section

Tuning range	531 – 1,602 kHz (with AM tuning interval set at 9 kHz) 530 – 1,710 kHz (with AM tuning interval set at 10 kHz)
Antenna	AM loop antenna
Antenna terminals	External antenna terminal
Intermediate frequency	450 kHz

General

Power requirements	
European model	230 V AC, 50/60 Hz
Mexican model	120 V AC, 50/60 Hz
Australian model	240 V AC, 50/60 Hz
Other models	110 – 120 V or 220 – 240 V AC, 50/60 Hz (adjustable with voltage selector)

Power consumption	
European model	105 W
Other models	115 W

Dimensions (w/h/d) incl. projecting parts and controls	
	Approx. 280 × 320 × 400 mm (11 ¹ / ₈ × 12 ⁵ / ₈ × 15 ³ / ₄ in)

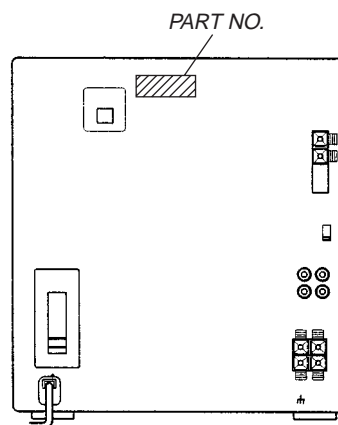
Mass	Approx. 9.2kg (20 lb 5 oz.)
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Supplied accessories:	
	AM loop antenna (1) FM lead antenna (1) Remote (1) Plug adaptor (for Asian model) (1)

Design and specifications are subject to change without notice.

MODEL IDENTIFICATION

— CABINET, REAR —



MODEL	PARTS No.
RXD3 model	4-221-603-0□
GRX20 : AUS model	4-221-604-0□
GRX20 : AR, E, SP, TW models	4-221-605-0□
GRX20 : MX model	4-221-606-0□

• Abbreviation

AUS	: Australian model
SP	: Singapore model
MX	: Mexican model
AR	: Argentina model
TW	: Taiwan model

CAUTION

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

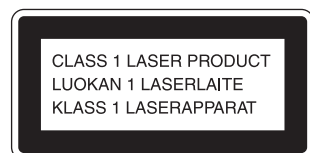
Notes on chip component replacement

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

Flexible Circuit Board Repairing

- Keep the temperature of soldering iron around 270°C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

Laser component in this product is capable of emitting radiation exceeding the limit for Class 1.



SAFETY-RELATED COMPONENT WARNING!!



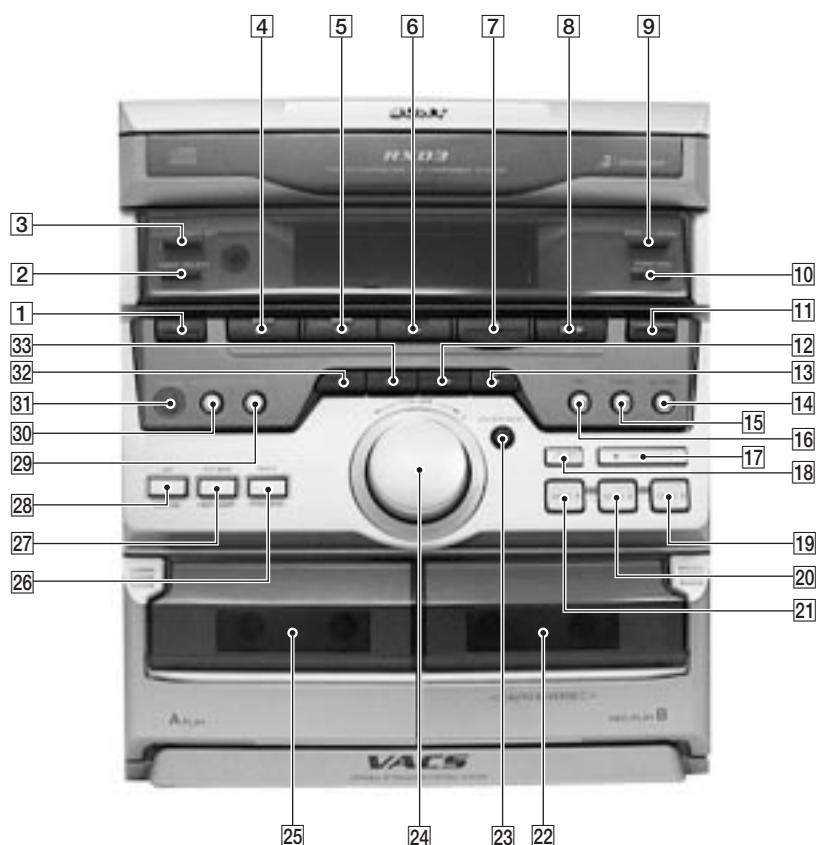
COMPONENTS IDENTIFIED BY MARK  OR DOTTED LINE WITH MARK  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

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SECTION 1 GENERAL

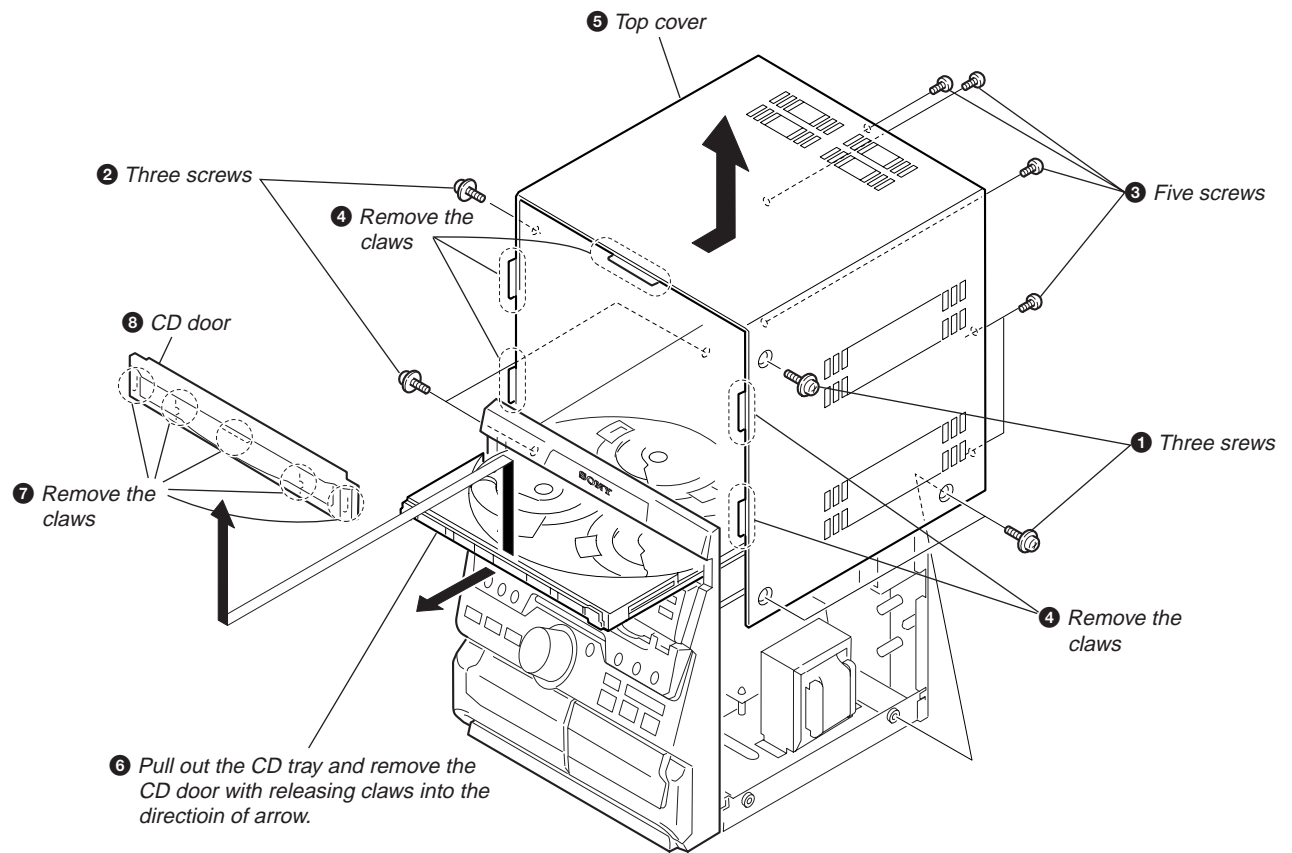


- | | | | |
|-----------|-------------------------------|-----------|--------------------------------------|
| 1 | I/⏻ (Power) button | 17 | ▲ OPEN/CLOSE button |
| 2 | TIMER SELECT button | 18 | DISC SKIP/EX-CHANGE button |
| 3 | CLOCK/TIMER SET button | 19 | DISC 3 button |
| 4 | ▶ (TAPE A) button | 20 | DISC 2 button |
| 5 | ◀ (TAPE B) button | 21 | DISC 1 button |
| 6 | ▶ (TAPE B) button | 22 | DECK B |
| 7 | ■ (STOP) button | 23 | ENTER/NEXT button |
| 8 | ▶▶ (CD) button | 24 | VOLUME knob |
| 9 | DISPLAY/DEMO button | 25 | DECK A |
| 10 | FUNCTION button | 26 | REPEAT/STEREO/MONO button |
| 11 | TUNER/BAND button | 27 | PLAY MODE/TUNER MEMORY button |
| 12 | ▶▶▶ button | 28 | EDIT/DIRECTION button |
| 13 | ▶▶▶ + button | 29 | DBFB button |
| 14 | CD SYNC button | 30 | FILE SELECT button |
| 15 | PAUSE button | 31 | PHONES jack |
| 16 | REC button | 32 | ◀◀ - button |
| | | 33 | ◀◀ button |

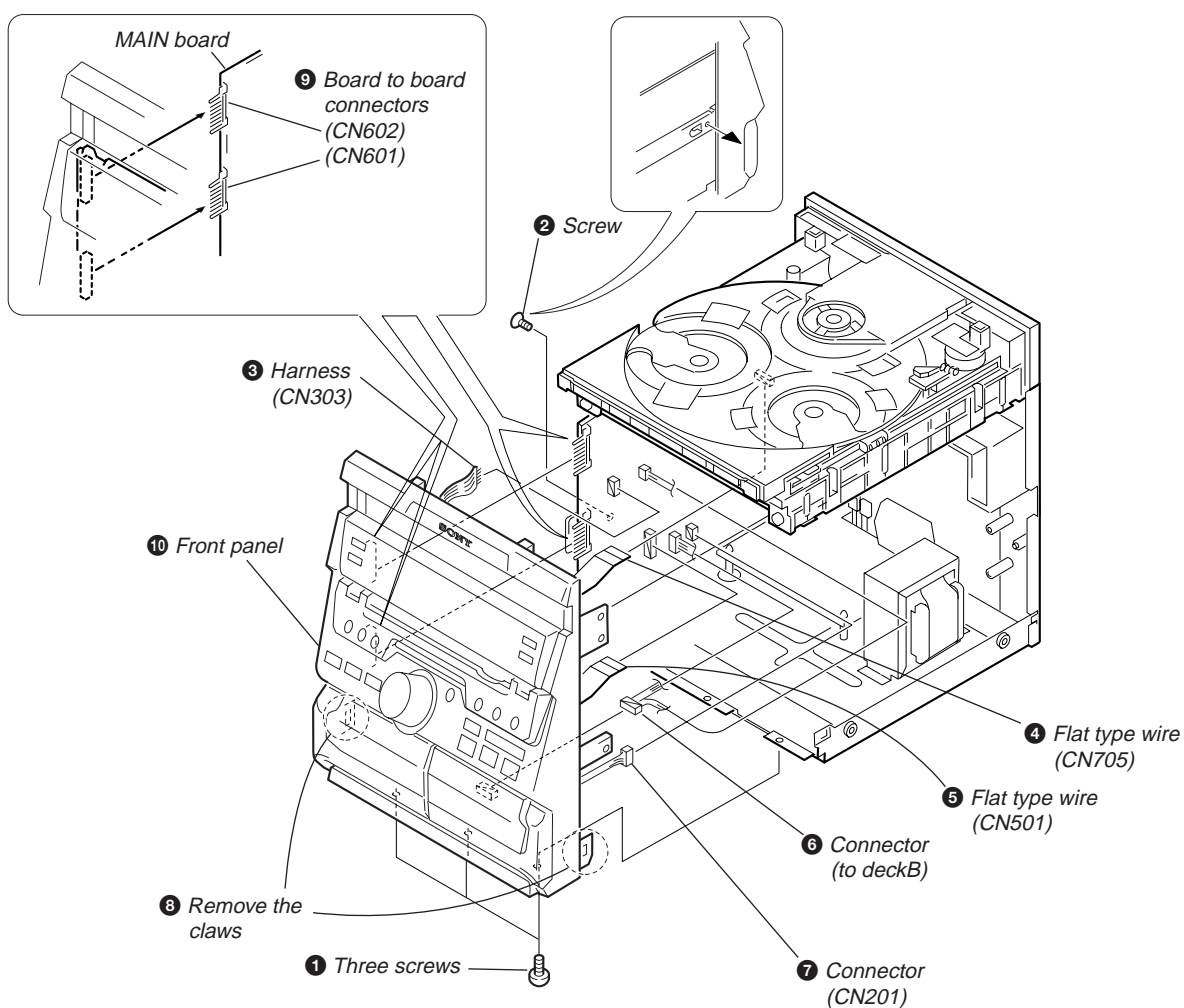
SECTION 2 DISASSEMBLY

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

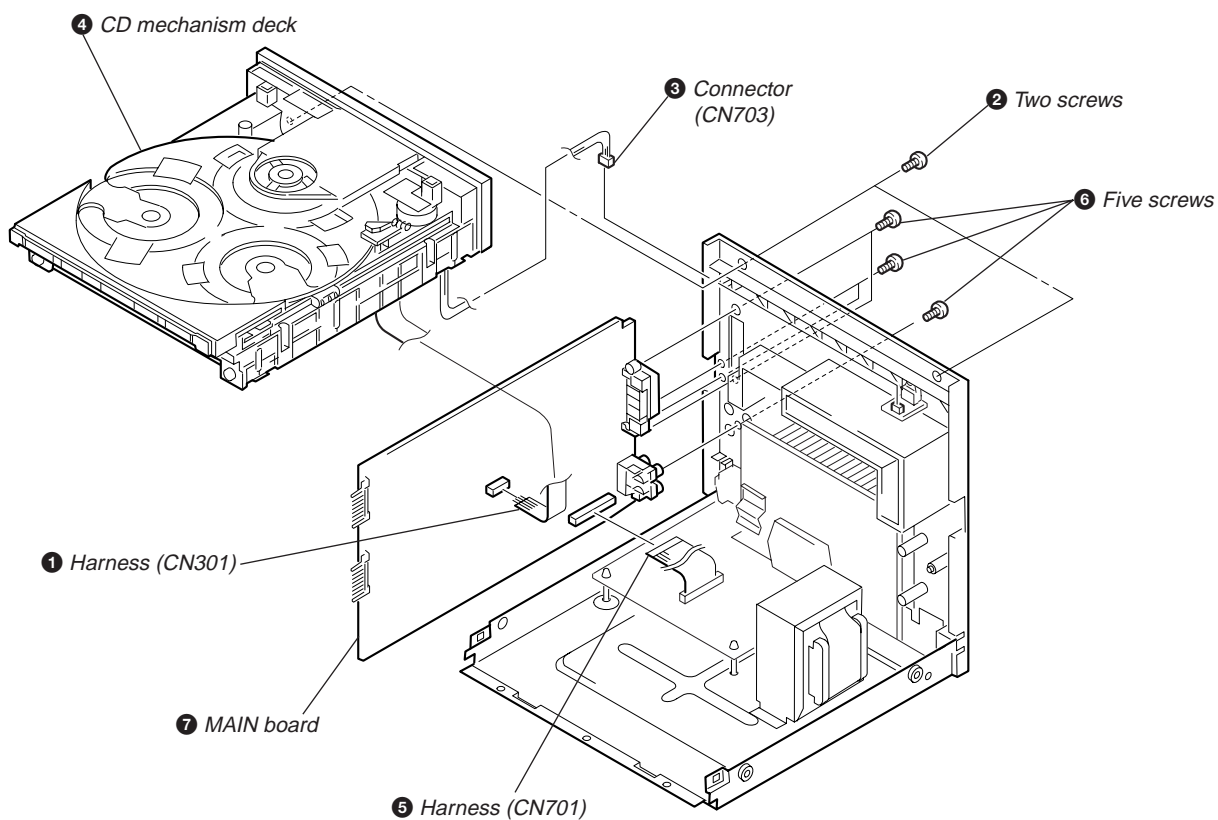
2-1. CD DOOR



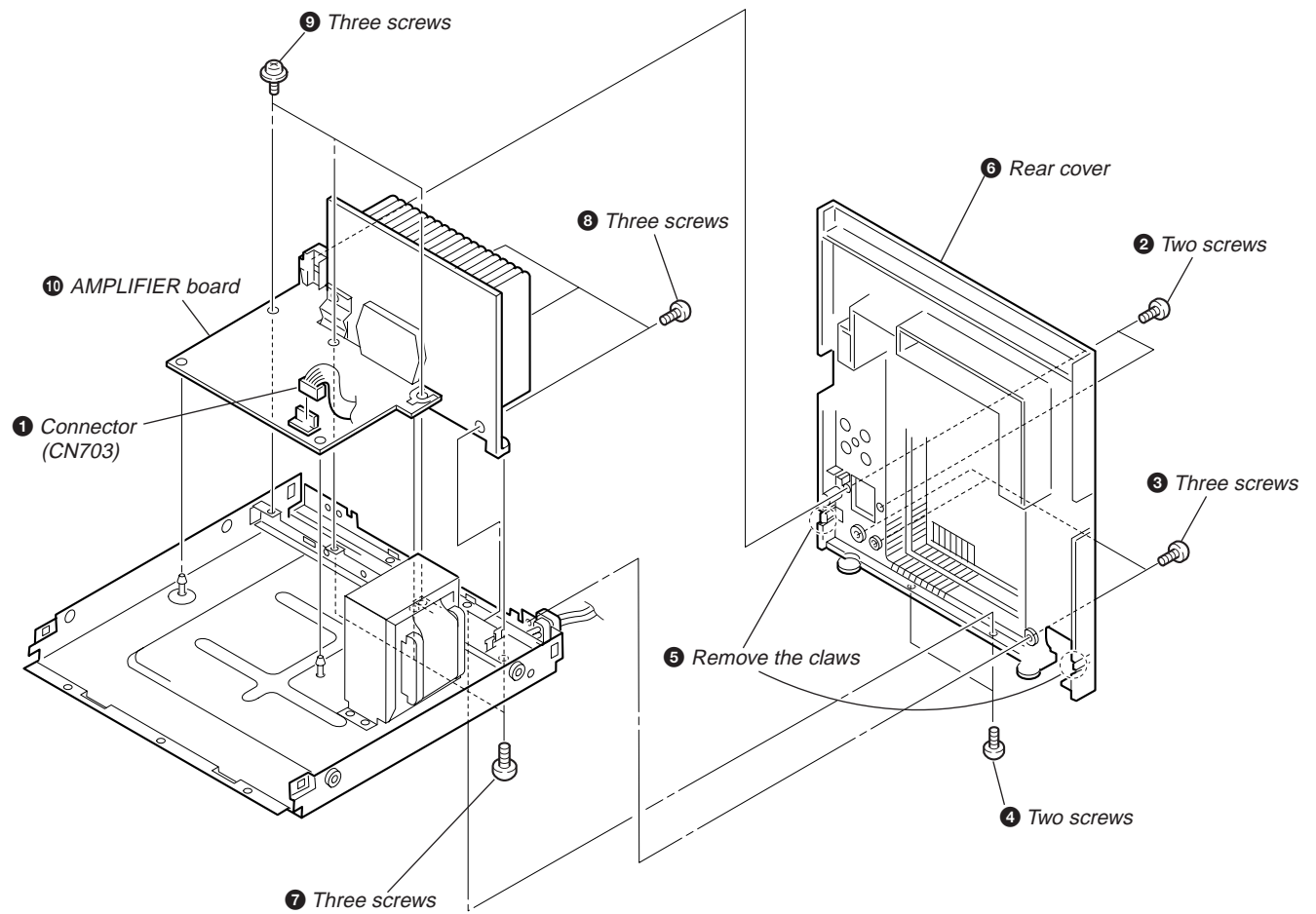
2-2. FRONT PANEL



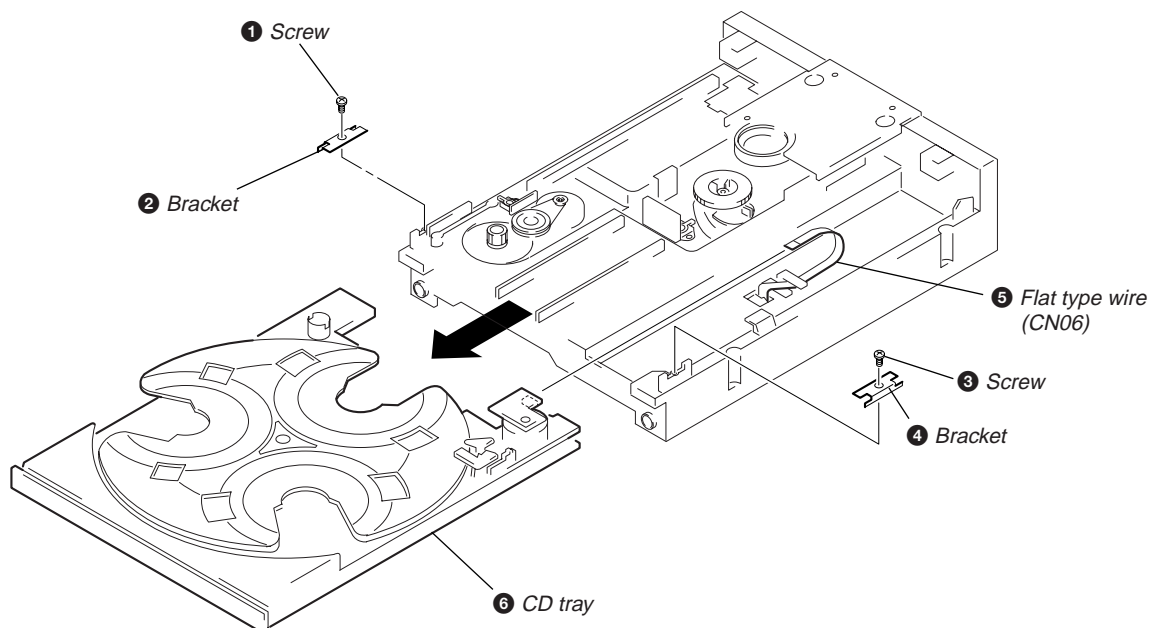
2-3. MAIN BOARD



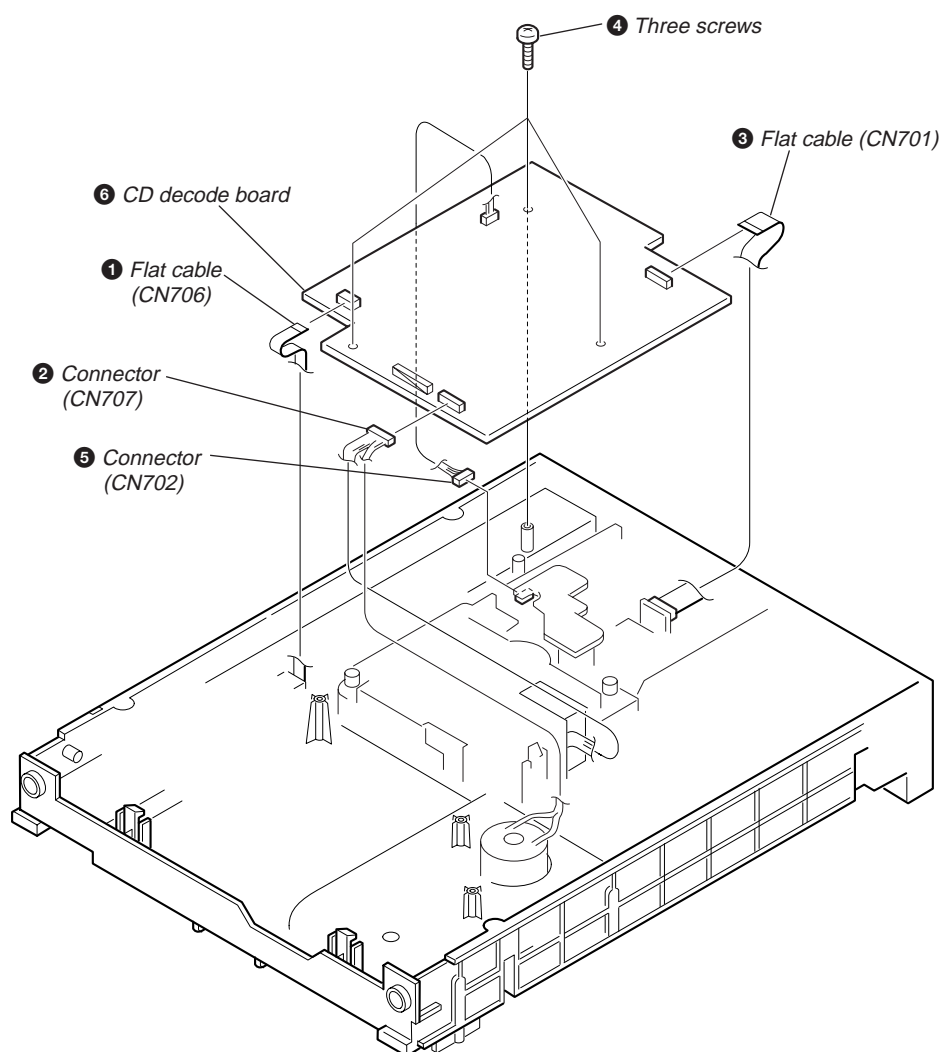
2-4. AMPLIFIER BOARD



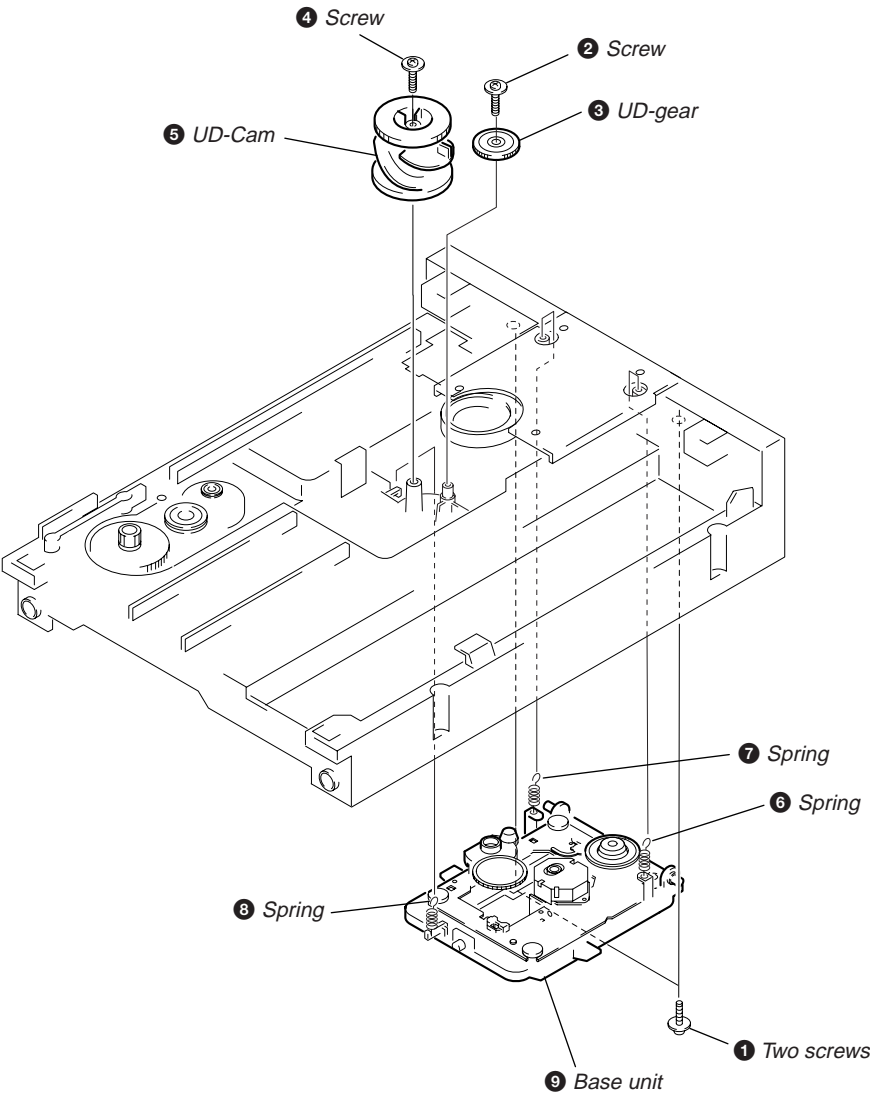
2-5. CD TRAY



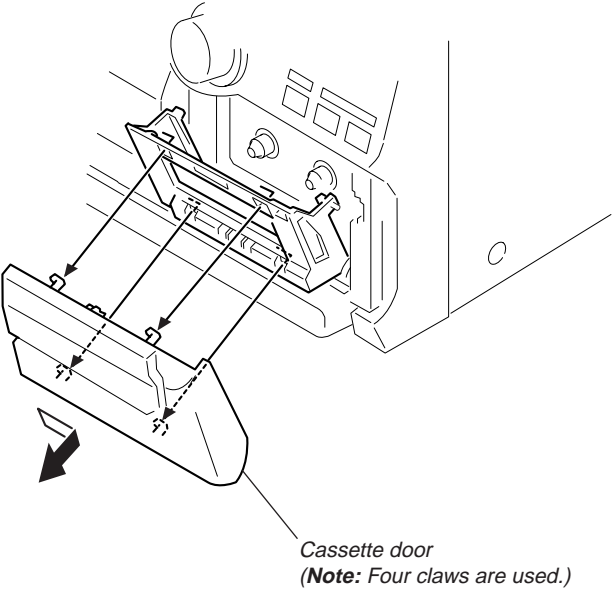
2-6. DECORD BOARD



2-7. BASE UNIT



2-8. CASSETTE LID



SECTION 3

TEST MODE

Function Key combination Description

Initialization

STOP + POWER OFF All preset data is re-set to the initial (default) value.

Model display

STOP + DISC 1 Mode name is displayed.

Destination display

STOP + DISC 2 Destination is displayed.

Version display

STOP + DISC 3 Version number of the microprocessor is displayed.

CD aging mode

STOP + DISC SKIP/EX-CHANGE Set discs to DISC 1 and DISC 3. The following operations are repeated when aging

starts:

1. DISC 1: TOC Read
2. Plays back the last music of the DISC 1.
3. DISC 3 : TOC Read
4. Plays back the last music of the DISC 3.
5. STOP
6. Tray is open and closed.

TAPE aging mode

STOP + PLAY A Insert a commercially available cassette tape (10 min) to the decks A and B. When aging starts, each tape is rewound and the following

operations are repeated:

1. TAPE A: FWD PLAY for one minute
2. TAPE A: FWD STOP for one second
3. TAPE A: FWD PLAY for three minutes
4. TAPE A: FWD FF to tape end
5. TAPE B: FWD PLAY for one minute
6. TAPE B: FWD REC PAUSE for one second
7. TAPE B: FWD REC for three minutes
8. TAPE B: FWD FF to tape end
9. TAPE B: REV PLAY for one minute
10. TAPE B: REV REC PAUSE for one second
11. TAPE B: REV REC for three minutes
12. TAPE B: REV FF to tape end.

CD service mode

STOP + OPEN/CLOSE The message "CD S - -" is displayed on the screen. The sled is moved to the outer circumference while the FF button is pressed. Also, the SLED is moved to the inner circumference while the REW button is pressed. After pressing the PLAY button, FOCUS is turned ON, CLV-S is set, TRACKING and SLED servos are turned OFF and ADDRESS 3 = 3F, 37 is set.

Display

STOP + DBFB All displays are turned ON.

Balance adjustment value

STOP + DISPLAY/DEMO The balance adjustment value is displayed.

Key check

STOP + FILE SELECT Function of the pressed key is displayed.

SECTION 4 MECHANICAL ADJUSTMENTS

Precaution

1. Clean the following parts with a denatured alcohol-moistened swab:
 record/playback head pinch rollers
 erase head rubber belts
 capstan idlers
2. Demagnetize the record/playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

Torque Measurement

Torque	Torque meter	Meter reading
FWD	CQ-102C	40 to 70 g • cm (0.56 - 0.97 oz • inch)
FWD back tension	CQ-102C	1 to 5 g • cm (0.01 - 0.07 oz • inch)
FF/REW	CQ-201B	55 to 140 g • cm (0.76 - 1.94 oz • inch)

SECTION 5 ELECTRICAL ADJUSTMENTS

DECK SECTION

0 dB=0.775V

1. Demagnetize the record/playback head with a head demagnetizer.
2. Do not use a magnetized screwdriver for the adjustments.
3. After the adjustments, apply suitable locking compound to the parts adjusted.
4. The adjustments should be performed with the rated power supply voltage unless otherwise noted.
5. The adjustments should be performed in the order given in this service manual. (As a general rule, playback circuit adjustment should be completed before performing recording circuit adjustment.)
6. The adjustments should be performed for both L-CH and R-CH.

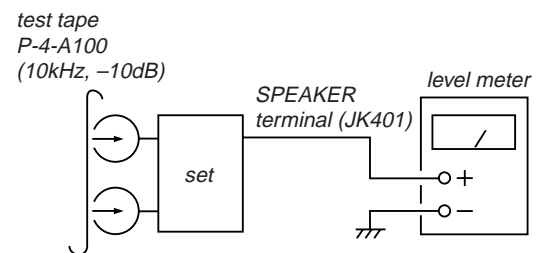
Tape	Signal	Used for
P-4-A100	10 kHz, -10 dB	Azimuth Adjustment
WS-48B	3 kHz, 0 dB	Tape Speed Adjustment

Record/Playback Head Azimuth Adjustment (Deck A, Deck B)

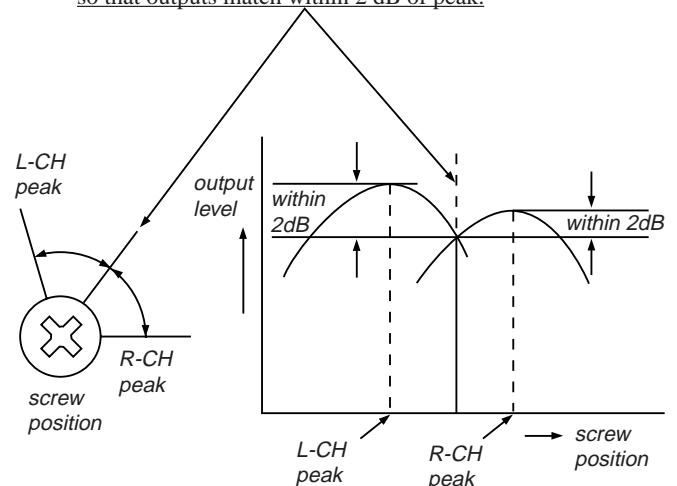
Note: Perform this adjustments for both decks.

Procedure:

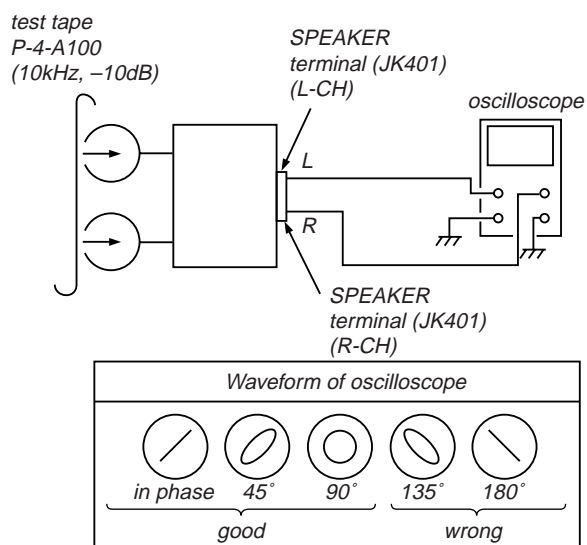
1. Mode : Playback



2. Turn the adjustment screw and check output peaks. If the peaks do not match for L-CH and R-CH, turn the adjustment screw so that outputs match within 2 dB of peak.



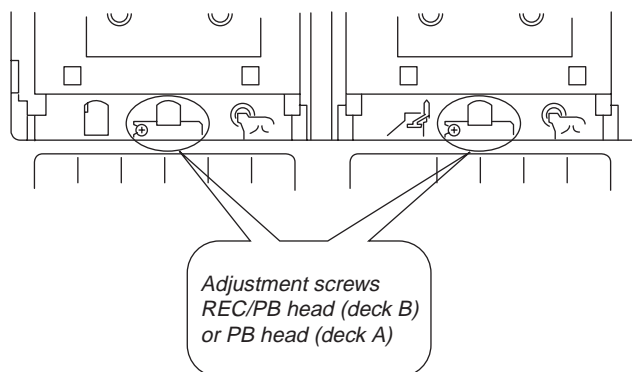
3. Mode: Playback



- After the adjustments, apply suitable locking compound to the parts adjusted.

Adjustment Location:

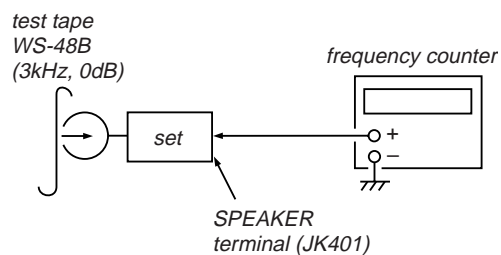
Remove the cassette lid before adjustment (See page 9)



Tape Speed Adjustment (Deck A)

Procedure:

- Mode: Playback



- Adjust the SFR501 so that the frequency counter reads 3,000 Hz \pm 90Hz.

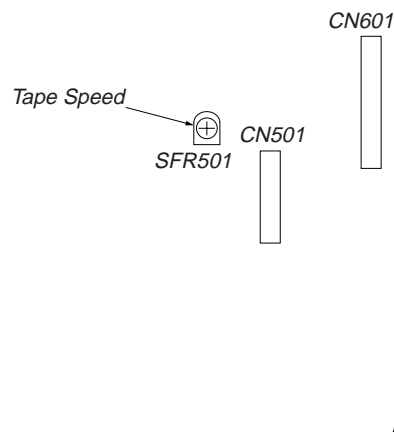
Adjustment Location: MAIN board

Sample Value of Wow and flutter

W. RMS (JIS) within 0.3%

(test tape: WS-48B)

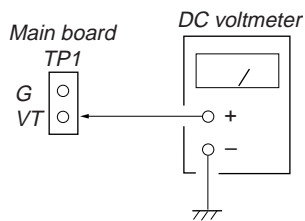
[MAIN BOARD] — Component side —



TUNER SECTION

0 dB=1 μ V

AM Tuning Voltage Adjustment

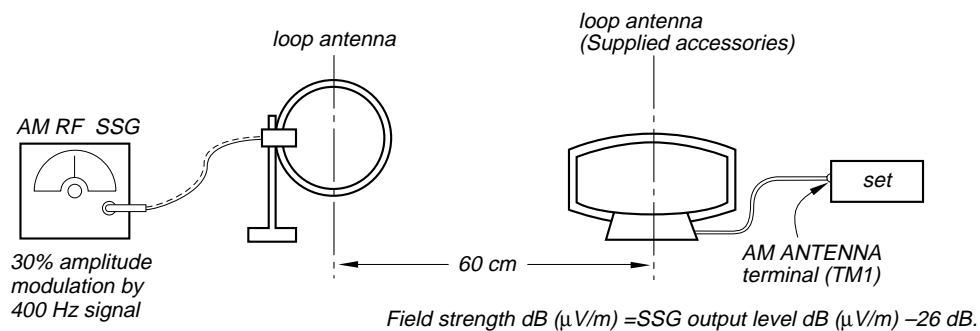


Procedure:

1. Set the reception frequency of the unit to 530 kHz.
2. Adjust L105 for 1.2 ± 0.05 V reading on the DC voltmeter.
3. Set the reception frequency of the unit to 1,710 kHz.
4. Confirm that the voltage reading on the DC voltmeter is within 8.0 ± 0.5 V.

Adjustment Location: MAIN board (See page 14)

AM Tracking Adjustment

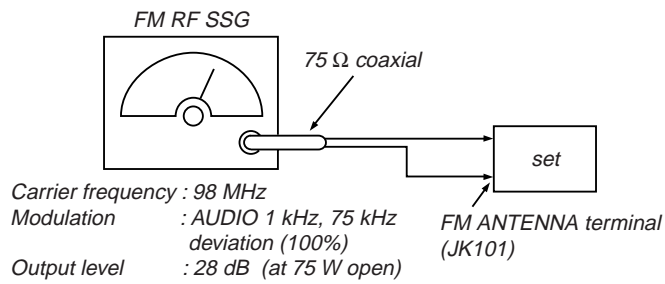


Procedure:

1. Tune the set to 600 kHz.
 2. Set the output of AM RF SSG so that the input level of the set will become 60 dB (μ V/m).
 3. Adjust L104 so that when the waveform on the oscilloscope is maximum, no noise appears.
 4. Tune the set to 1,400 kHz.
 5. Adjust TC102 so that when the waveform on the oscilloscope is maximum, no noise appears.
- Repeat the procedures in each adjustment several times, and the tracking adjustment should be finally done by the trimmer capacitors.

Adjustment Location: MAIN board (See page 14)

FM Tuned Level Adjustment



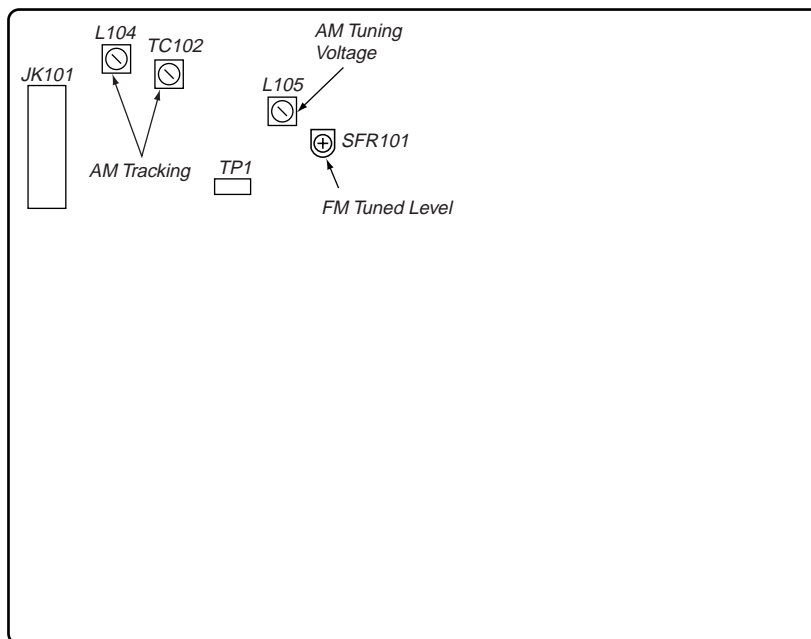
Procedure:

1. Supply a 28 dB 98 MHz signal from the ANTENNA terminal.
2. Tune the set to 98 MHz.
3. Adjust SFR101 to the point (moment) when the TUNED indicator will change from going off to going on.

Adjustment Location: MAIN board

Adjustment Location

[MAIN BOARD] — Component side —

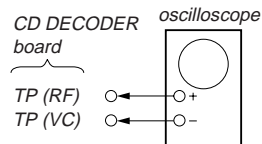


CD SECTION

Note:

1. CD Block is basically constructed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use an oscilloscope with more than $10M\Omega$ impedance.
4. Clean the object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.
5. Adjust the focus bias adjustment when optical block is replaced.

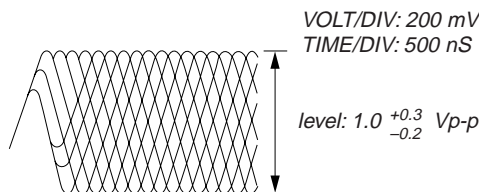
RF Level Check



Procedure :

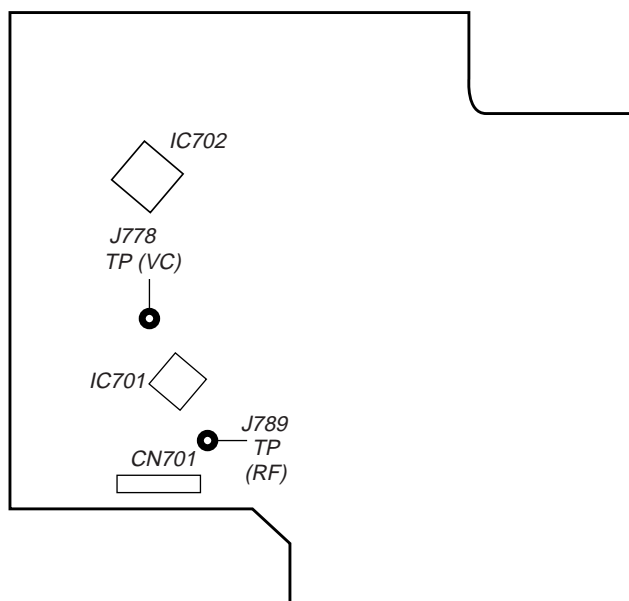
1. Connect oscilloscope to test point TP (RF) on CD DECODER board.
2. Turned Power switch on.
3. Put disc (YEDS-18) in and playback.
4. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

Note: Clear RF signal waveform means that the shape “ \diamond ” can be clearly distinguished at the center of the waveform.



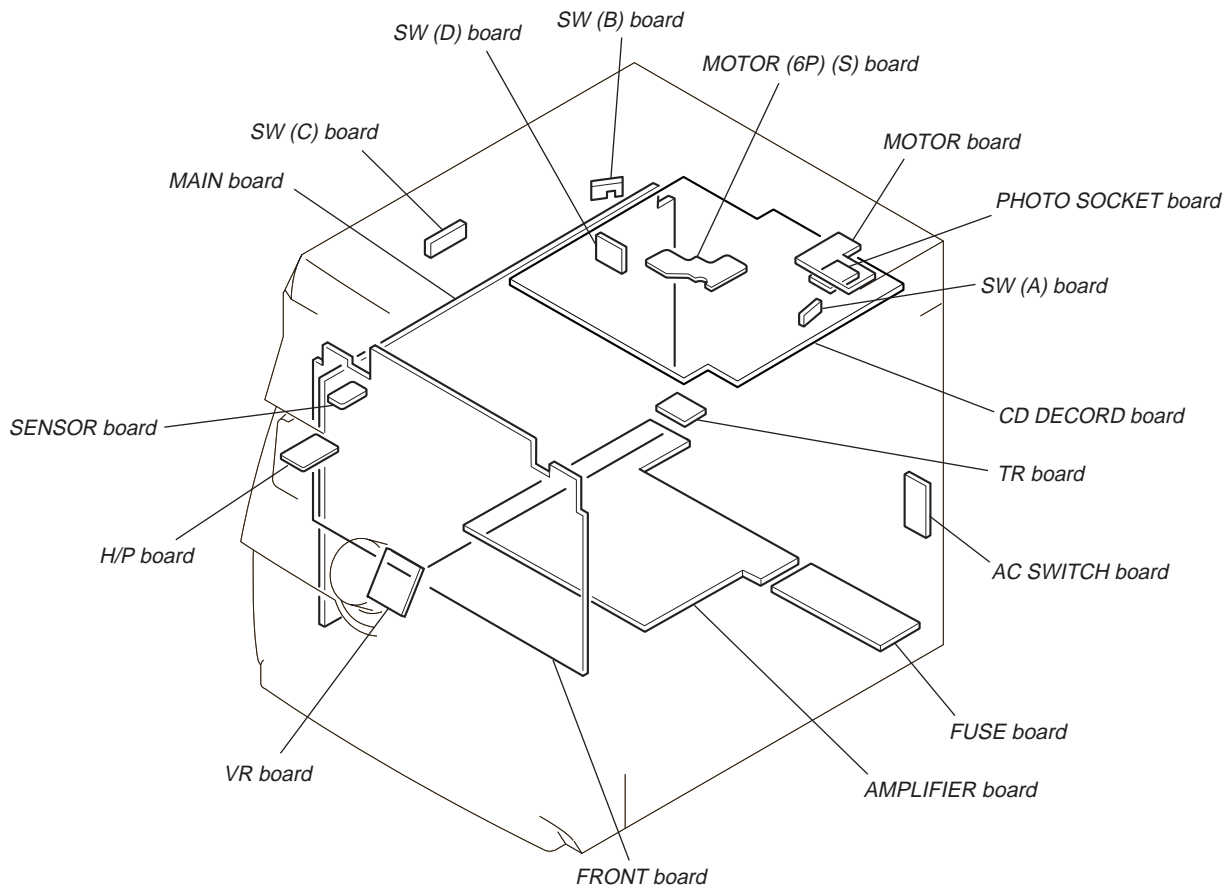
Adjustment Location:

[CD DECODER BOARD] — Component side —

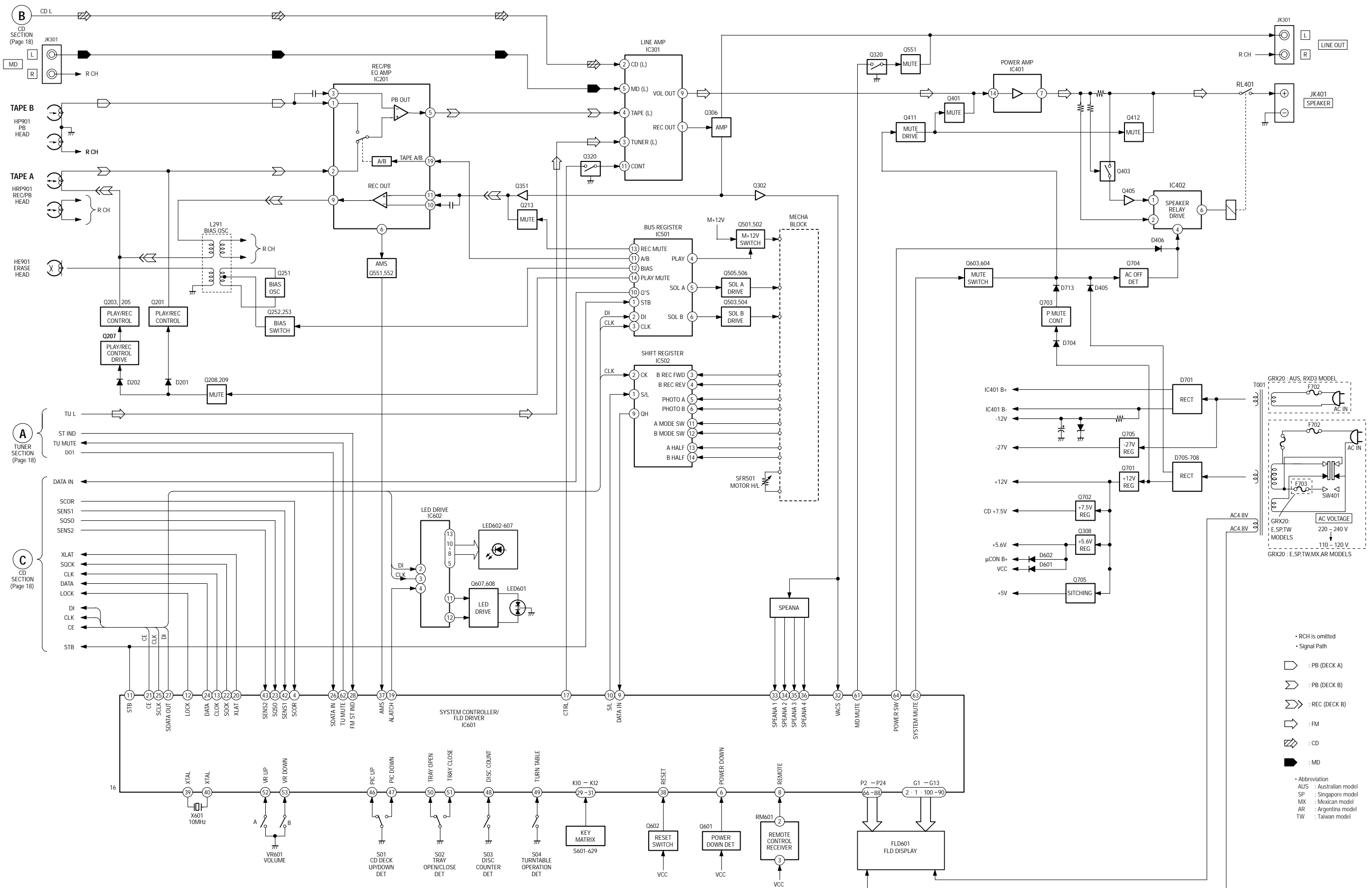


SECTION 6 DIAGRAMS

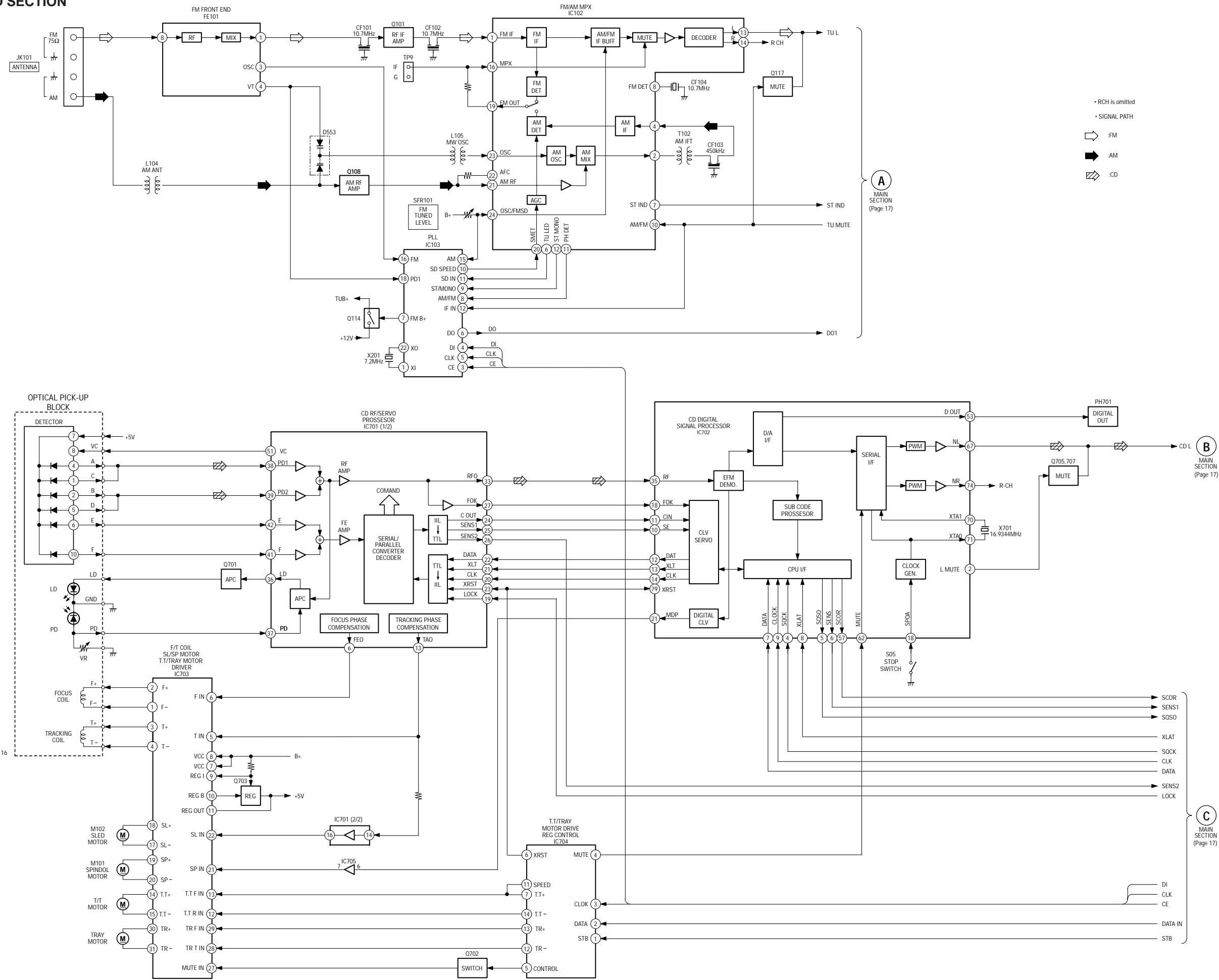
6-1. CIRCUIT BOARDS LOCATION



6-2. BLOCK DIAGRAMS MAIN SECTION






TUNER/CD SECTION












THIS NOTE IS COMMON FOR PRINTED WIRING
BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this necessary note is printed in each
block.)

For schematic diagrams.

Note:





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

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

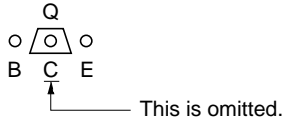
-  : B+ Line.
-  : B- Line.
-  : adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- Voltages are taken with a VOM (Input impedance 10 M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
- Circled numbers refer to waveforms.
- Signal path.
 -  : FM
 -  : AM
 -  : PB (DECK A)
 -  : PB (DECK B)
 -  : REC (DECK B)
 -  : CD
- Abbreviation
 - AUS : Australian model
 - SP : Singapore model
 - MX : Mexican model
 - AR : Argentina model
 - TW : Taiwan model

For printed wiring boards.

Note:

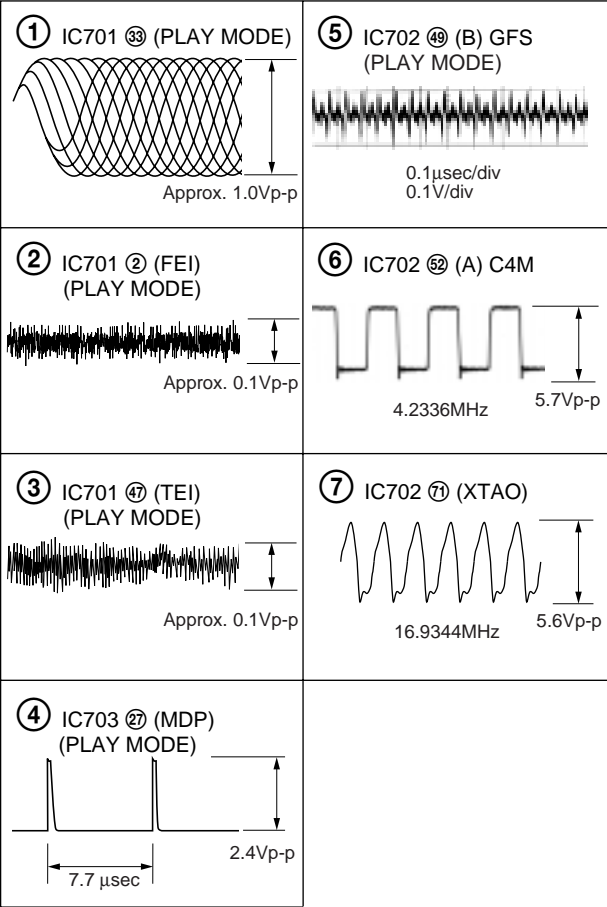
-  : parts extracted from the component side.
-  : Through hole.
-  : internal component.
-  : Pattern from the side which enables seeing.

- Indication of transistor.

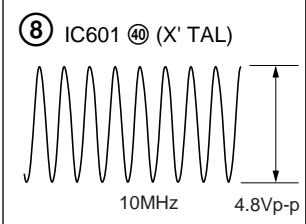


• WAVEFORM

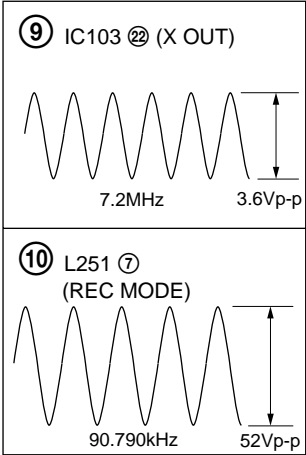
— BD SECTION —



— PANEL SECTION —



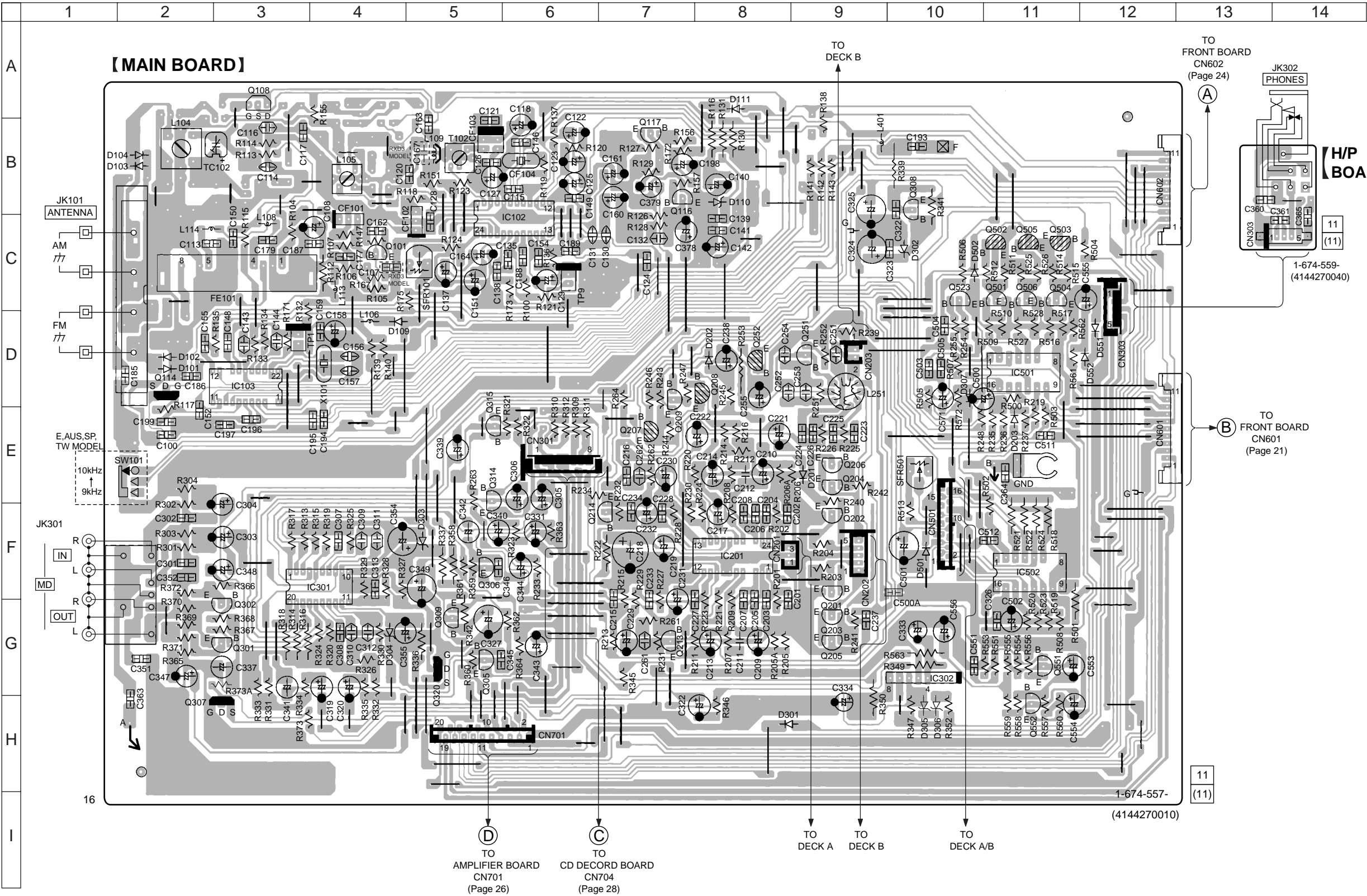
— MAIN SECTION —



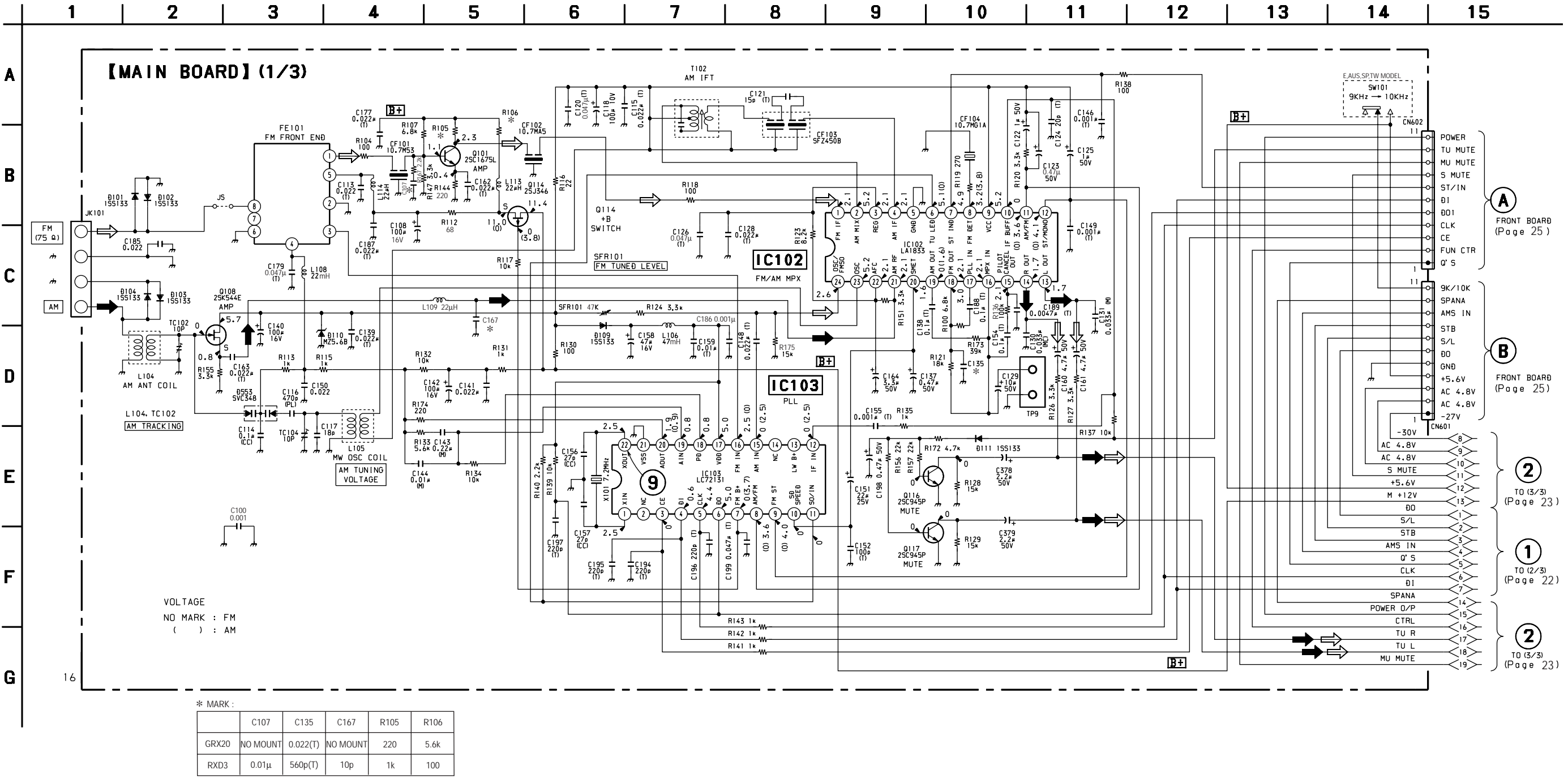
6-3. PRINTED WIRING BOARD MAIN SECTION • Refer to page 16 for Circuit Boards Location. • Refer to page 19 for Note on Printed Wiring Board.

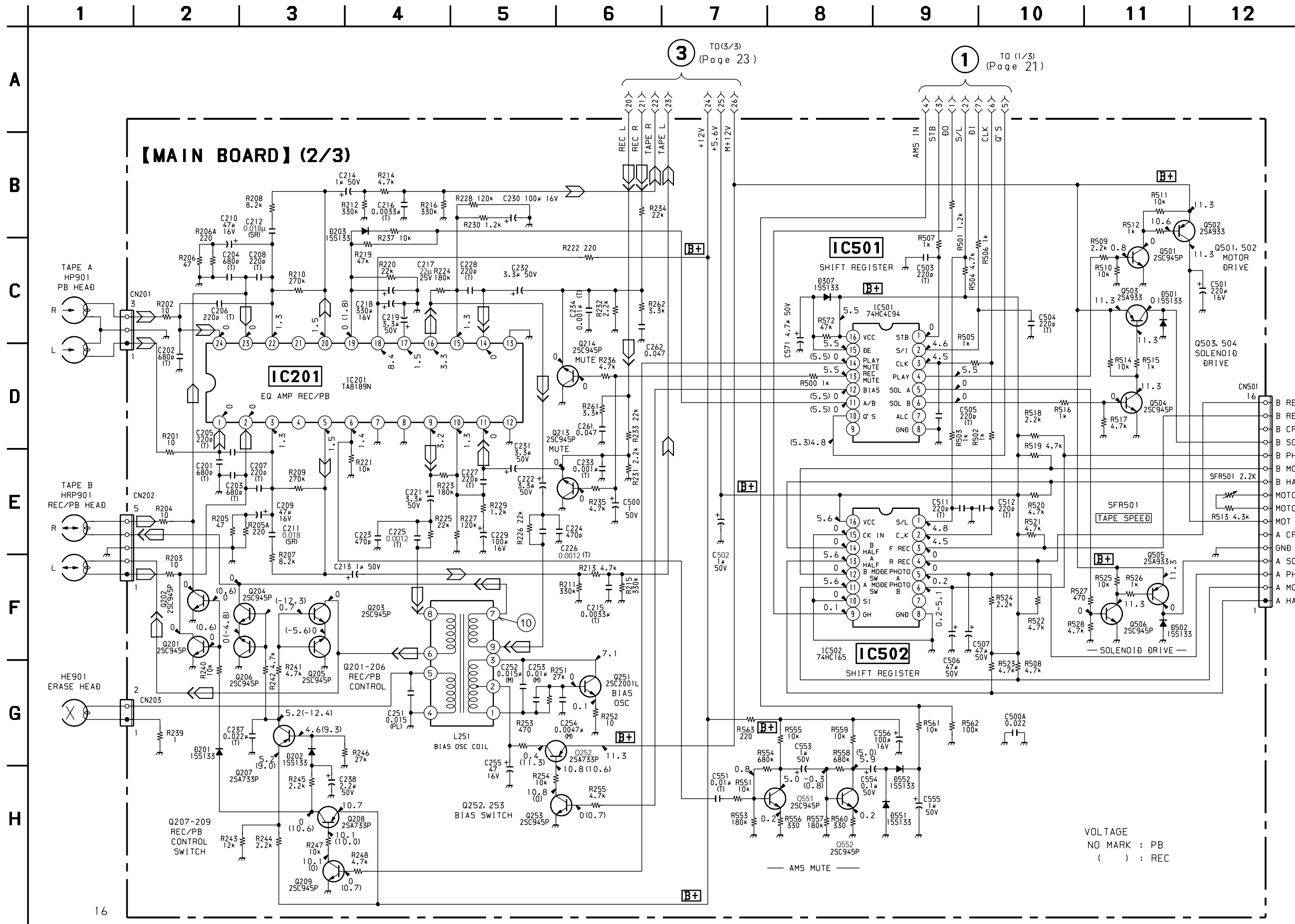
• Semiconductor Location

Ref. No.	Location
D101	D-2
D102	D-2
D103	B-2
D104	B-2
D109	D-4
D110	B-8
D111	A-8
D201	E-9
D202	D-8
D203	E-11
D301	H-8
D302	C-10
D303	F-5
D304	G-4
D305	H-10
D306	H-10
D307	D-10
D501	F-10
D502	C-10
D551	D-12
D552	D-12
IC102	B-6
IC103	D-3
IC201	F-8
IC301	D-3
IC302	G-10
IC501	D-11
IC502	F-11
Q101	C-4
Q108	A-3
Q114	D-2
Q116	B-7
Q117	B-7
Q201	G-9
Q202	F-9
Q203	G-9
Q204	E-9
Q205	G-9
Q206	E-9
Q207	E-7
Q208	D-8
Q209	D-7
Q213	G-7
Q214	F-7
Q251	D-9
Q252	D-8
Q301	G-3
Q302	G-3
Q305	G-5
Q306	F-5
Q307	H-3
Q308	B-10
Q309	G-5
Q314	E-5
Q315	E-5
Q320	G-5
Q501	C-11
Q502	C-11
Q503	C-11
Q504	C-11
Q505	C-11
Q506	C-11
Q523	C-10
Q551	G-11
Q552	H-11



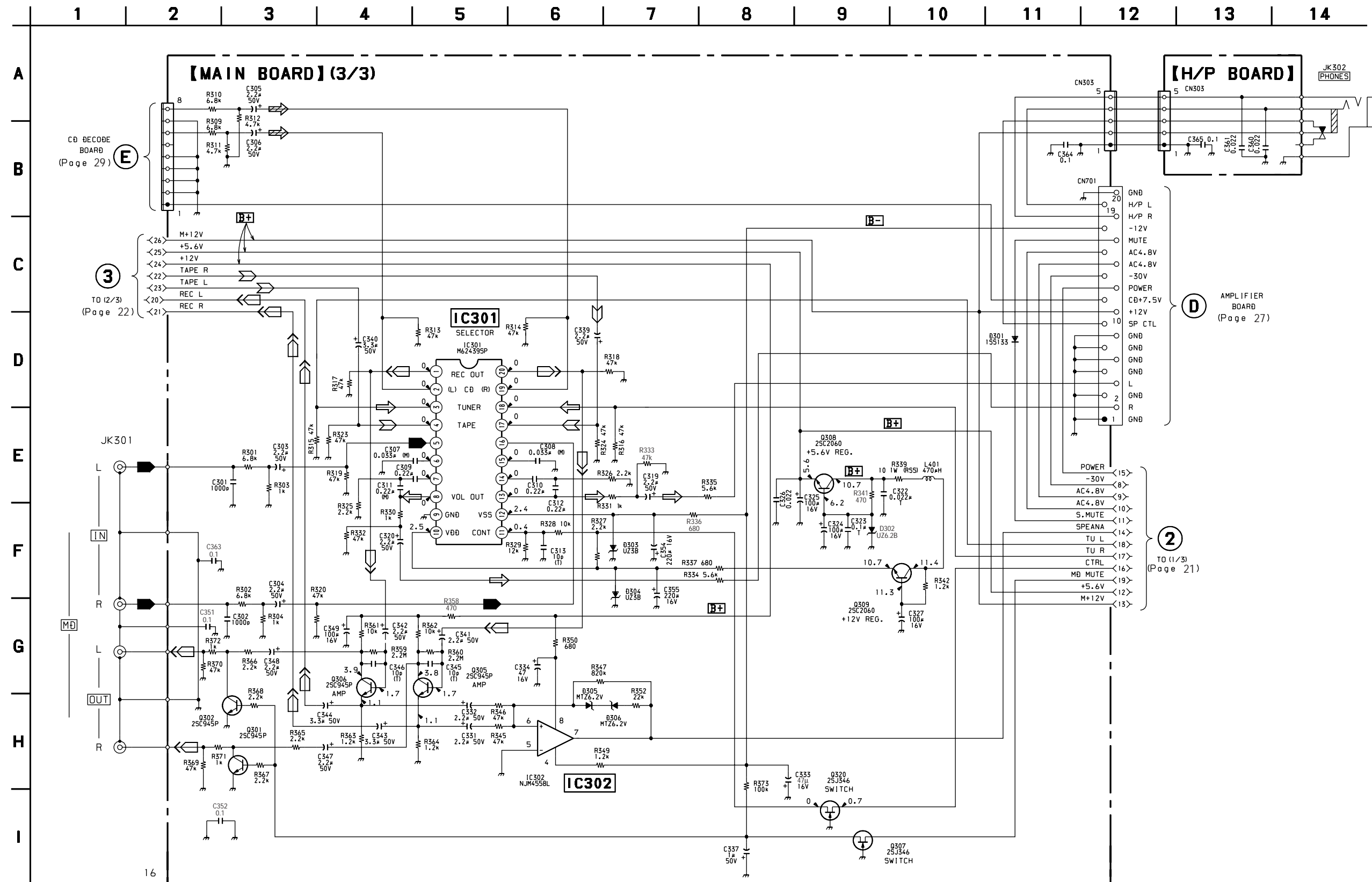
6-4. SCHEMATIC DIAGRAM MAIN (1/3) SECTION • Refer to page 19 for Waveforms. • Refer to page 33 for IC Block Diagrams. • Refer to page 19 for Note on Schematic Diagram.



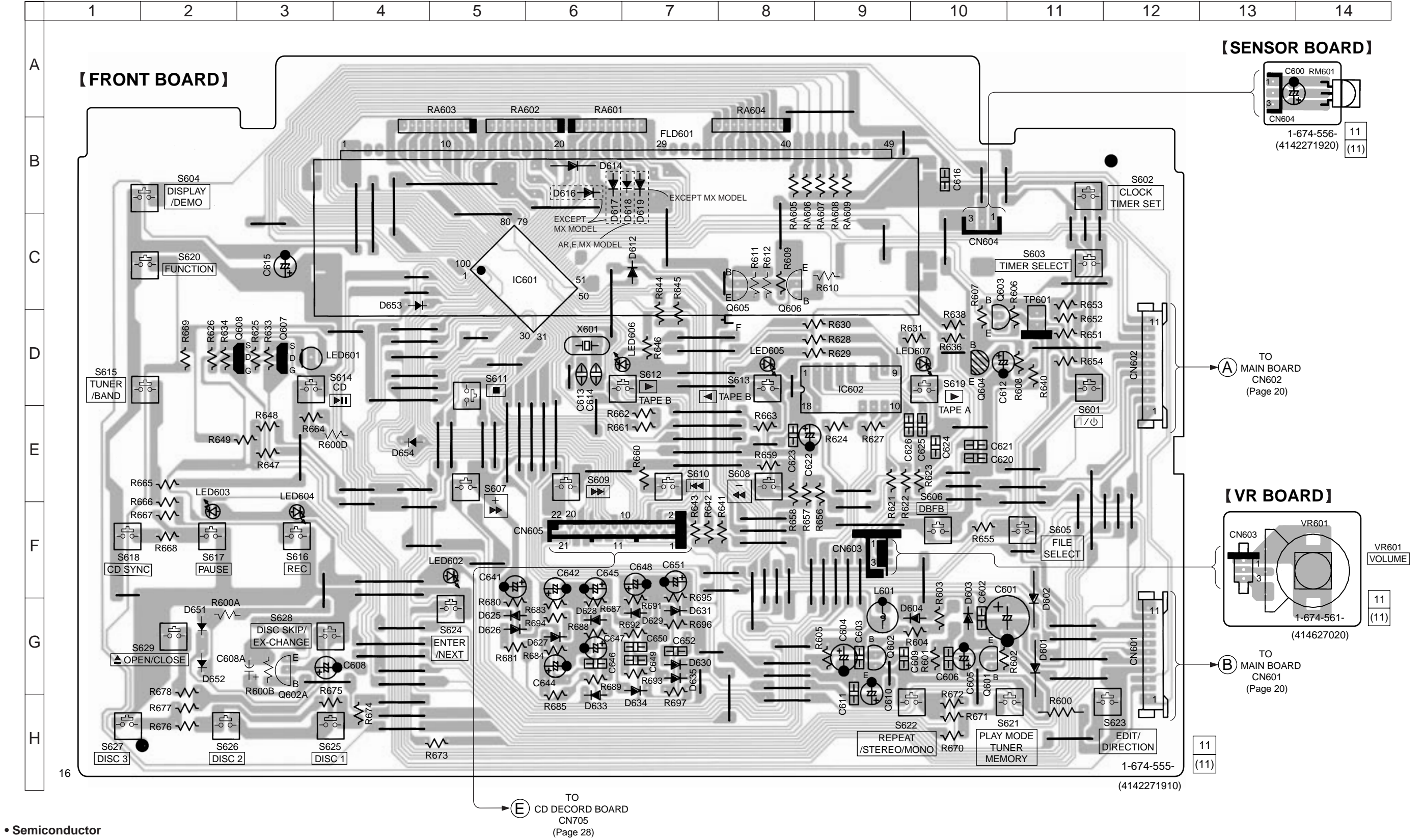


6-6. SCHEMATIC DIAGRAM MAIN (3/3) SECTION

• Refer to page 33 for IC Block Diagrams. • Refer to page 19 for Note on Schematic Diagram.



6-7. PRINTED WIRING BOARD FRONT PANEL SECTION • Refer to page 16 for Circuit Boards Location. • Refer to page 19 for Note on Printed Wiring Board.

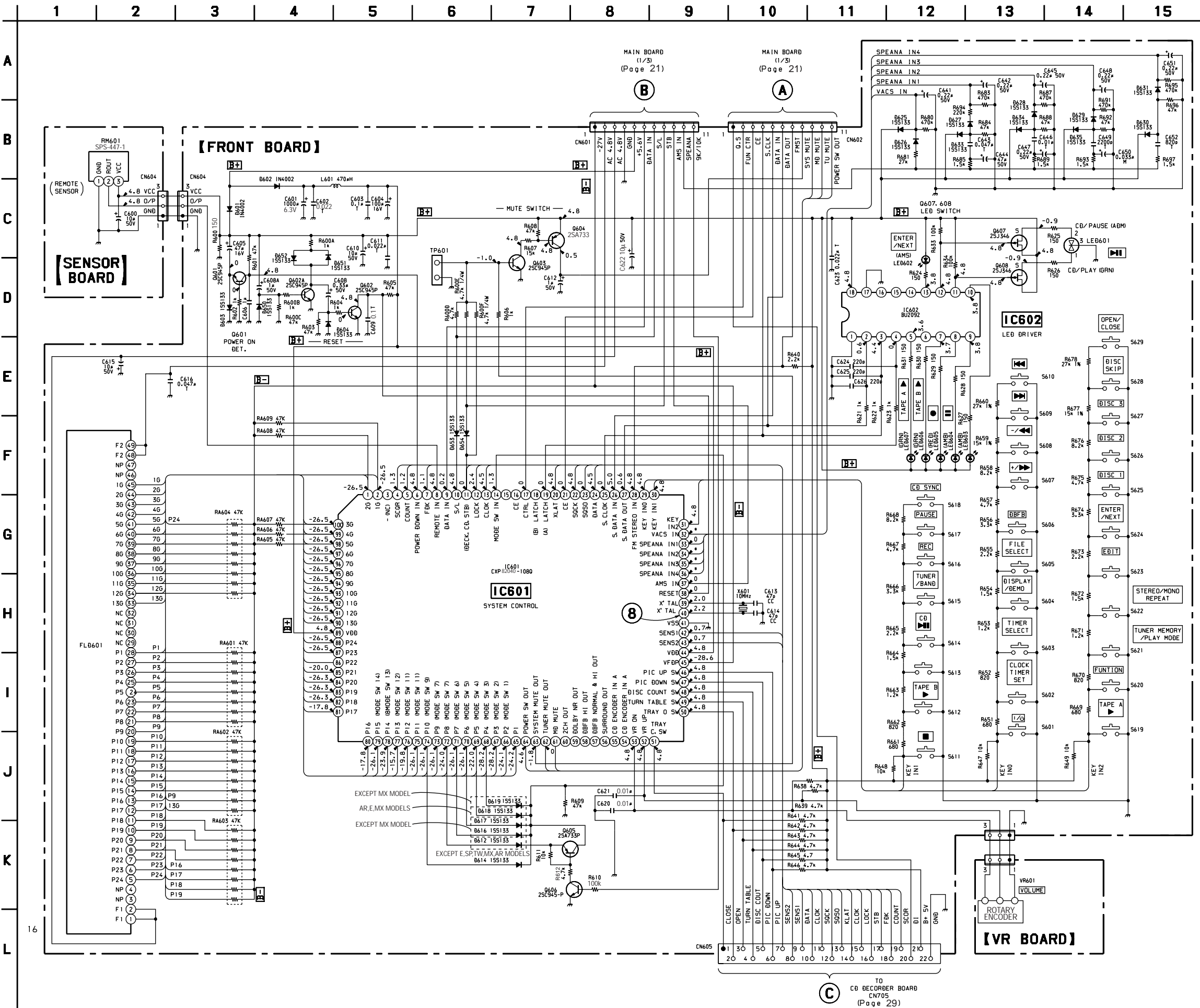


• Semiconductor Location

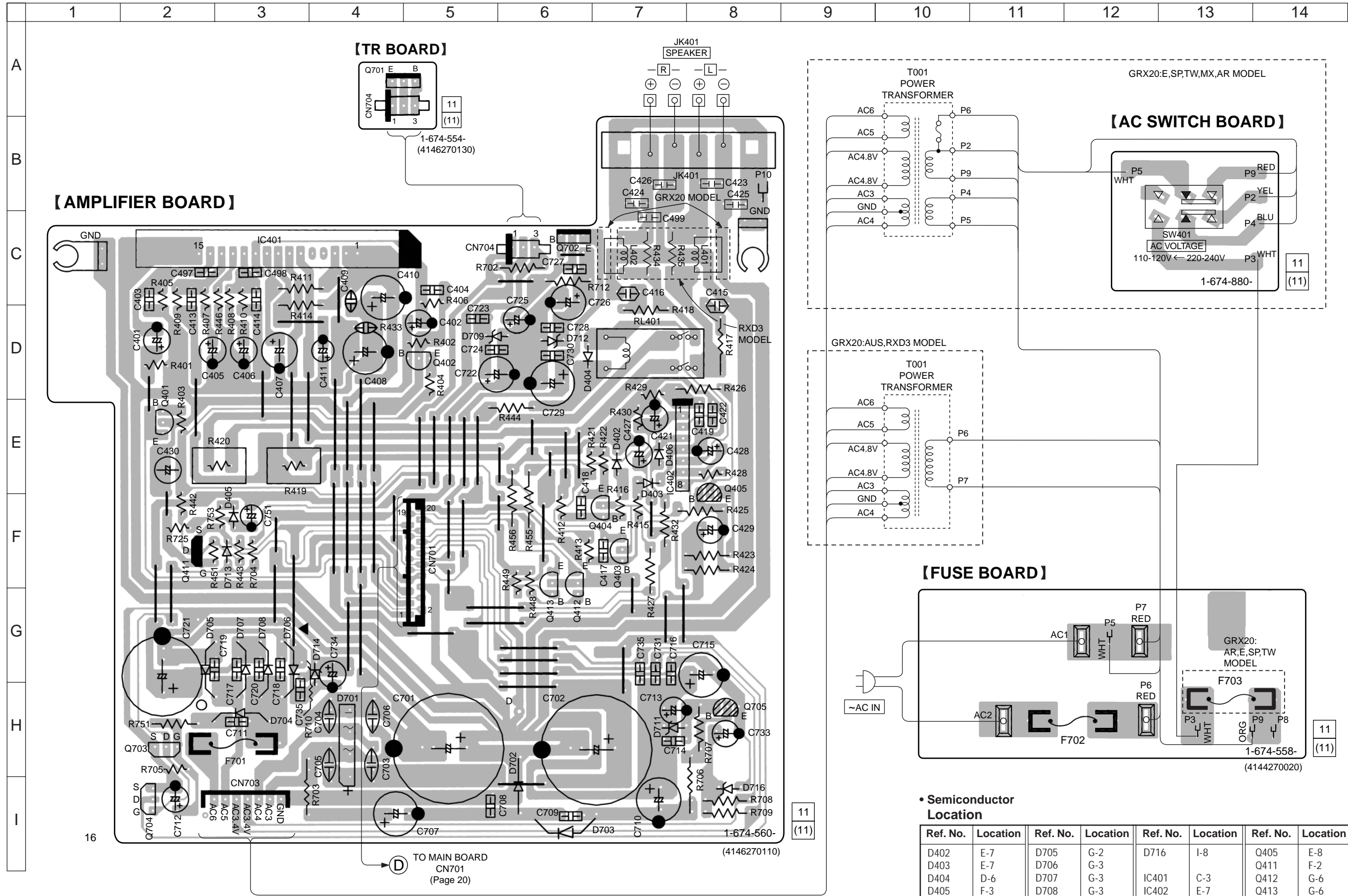
Ref. No.	Location	Ref. No.	Location	Ref. No.	Location	Ref. No.	Location	Ref. No.	Location	Ref. No.	Location
D601	G-11	D615	B-6	D623	B-5	D633	H-6	IC601	C-5	Q605	C-8
D602	G-11	D616	B-6	D625	G-5	D634	G-7	IC602	D-9	Q606	C-8
D603	G-10	D617	B-6	D626	G-5	D635	G-7			Q607	D-3
D604	G-10	D618	B-6	D627	G-6	D651	G-2	Q601	G-10	Q608	D-3
D611	B-5	D619	B-7	D628	G-6	D652	G-2	Q602	G-9		
D612	C-7	D620	B-7	D629	G-7	D653	C-4	Q602A	G-3		
D613	B-5	D621	B-7	D630	G-7	D654	E-4	Q603	D-10		
D614	B-6	D622	B-5	D631	G-7			Q604	D-10		

6-8. SCHEMATIC DIAGRAM FRONT PANEL SECTION

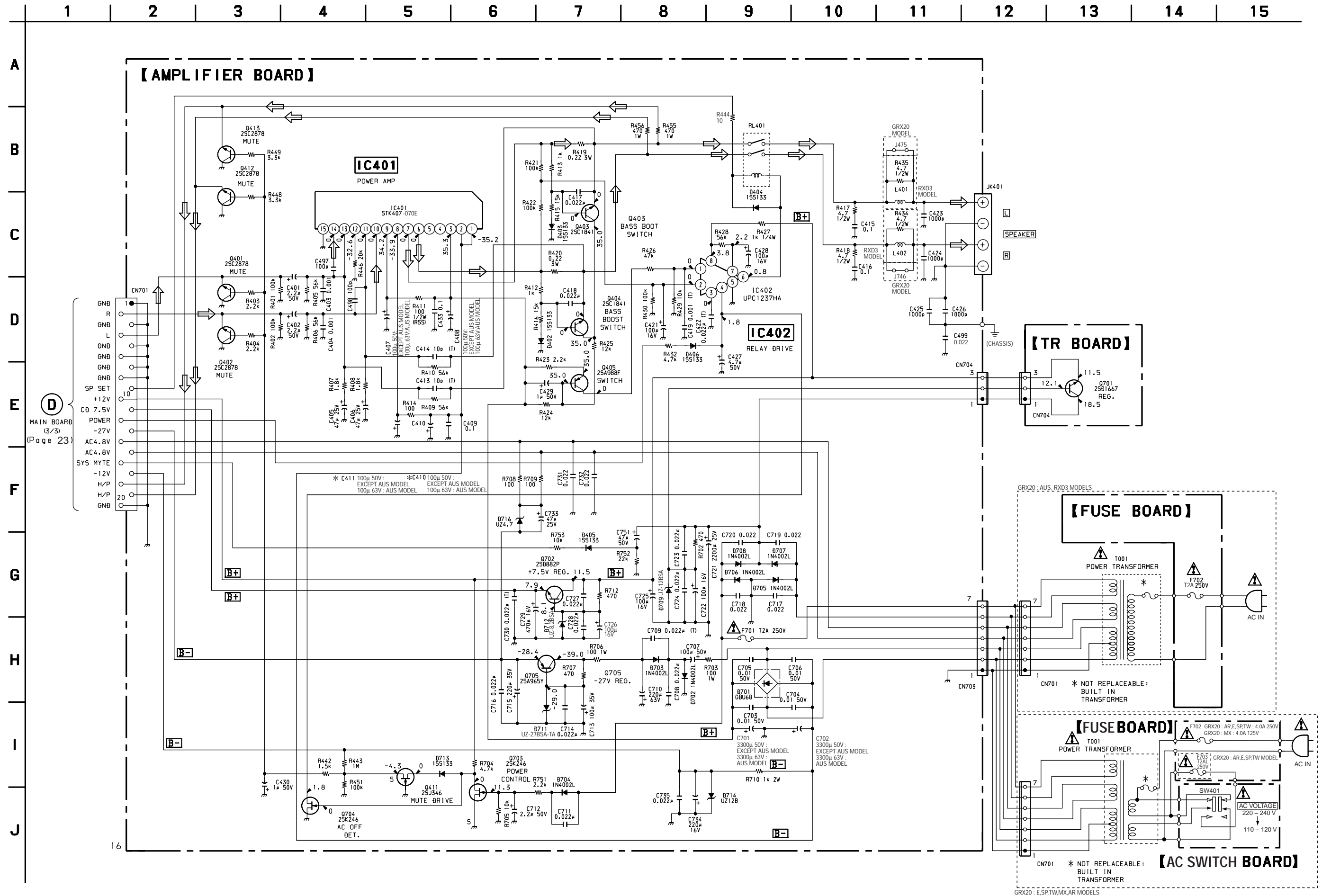
• Refer to page 19 for Waveforms. • Refer to page 30 for IC Pin Function. • Refer to page 19 for Note on Schematic Diagram.



6-9. PRINTED WIRING BOARD **AMPLIFIER SECTION** • Refer to page 16 for Circuit Boards Location. • Refer to page 19 for Note on Printed Wiring Board.



6-10. SCHEMATIC DIAGRAM AMPLIFIER SECTION • Refer to page 19 for Note on Schematic Diagram.



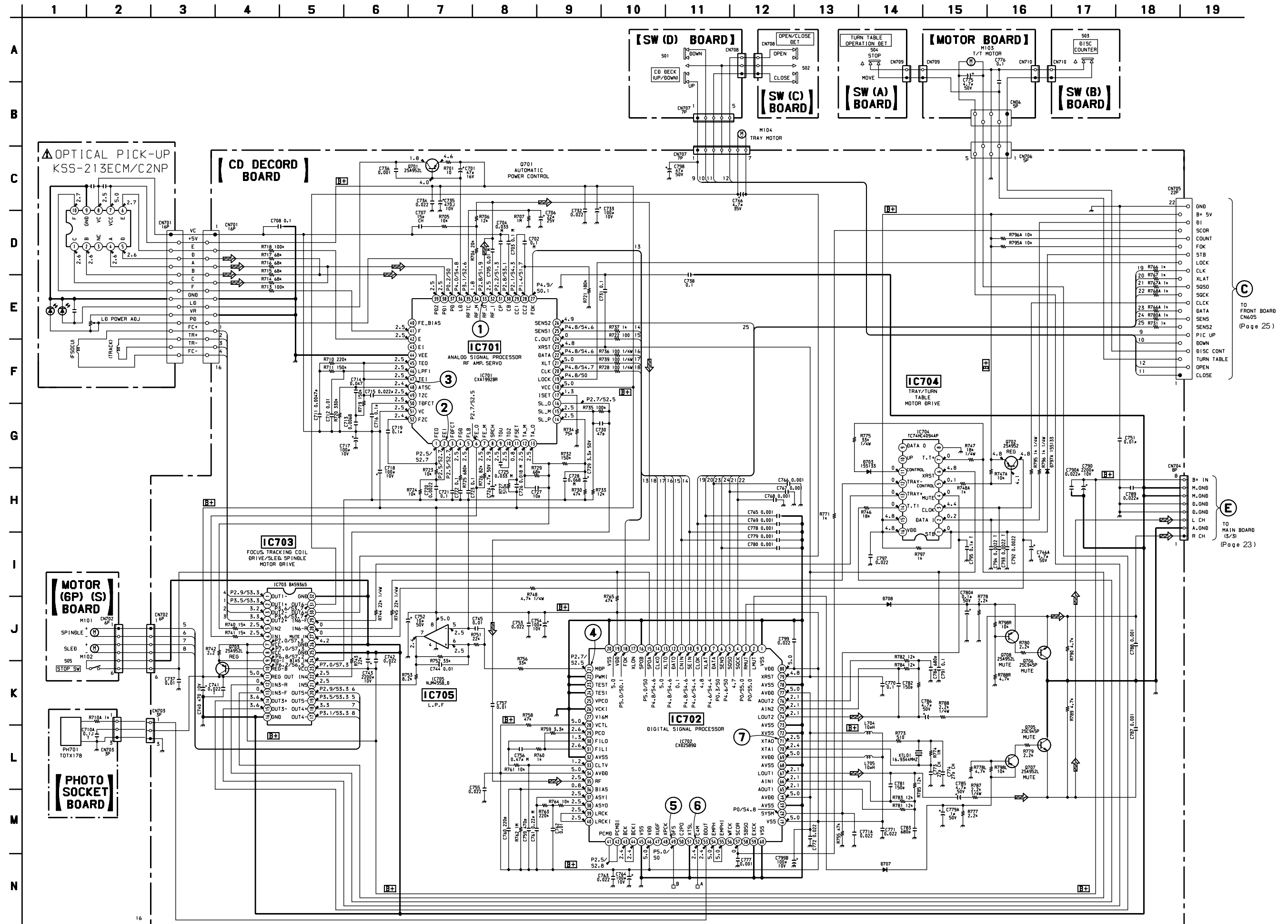
6-11. PRINTED WIRING BOARD CD SECTION

• Refer to page 16 for Circuit Boards Location. • Refer to page 19 for Note on Printed Wiring Board.

Ref. No.	Location
D703	G-7
D707	E-7
D708	F-7
D797A	E-6
IC701	H-9
IC702	E-10
IC703	I-7
IC704	F-7
IC705	H-6
Q701	H-8
Q702	G-6
Q703	I-6
Q705	E-6
Q706	F-6
Q707	E-7
Q708	E-7



6-12. SCHEMATIC DIAGRAM CD SECTION • Refer to page 19 for Waveforms. • Refer to page 31,32 for IC Block Diagrams. • Refer to page 19 for Note on Schematic Diagram.



6-13. IC PIN FUNCTION
IC601 CXP82040-108Q(SYSTEM CONTROL) FRONT BOARD

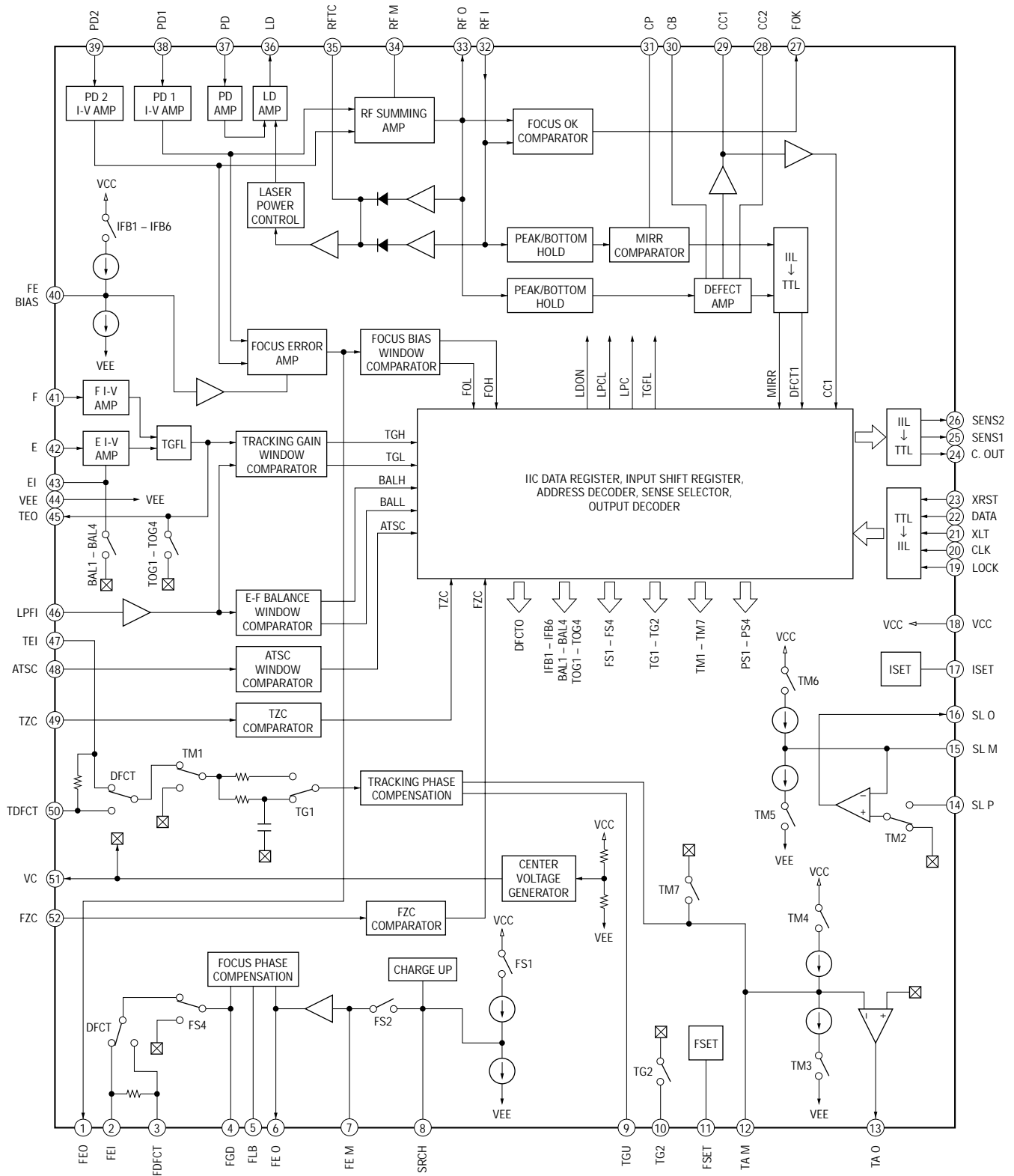
Pin No.	Pin Name	I/O	Description
1,2	2G,1G	O	FLD grid output.
3	NC	—	Not used.
4	SCOR	I	CXD2589Q SCOR input.
5	COUNT	I	CXD2589Q COUNT input.
6	POWER DOWN IN	I	Power data input.
7	FOK	I	FOK input.
8	REMOTE IN	I	Remote signal input.
9	DATA IN	I	Data input.(DECK section)
10	S/L	O	S/L output.(DECK section)
11	DECK,CD STB	O	STB output.(CD,DECK section)
12	LOCK	O	CXA1992BR LOCK output.
13	CLOCK	O	CXD2589Q CLOCK output.
14	MODE SW IN	O	Mode switch input.
15	NC	O	Not used.
16	CE	O	Not used.
17	CTRL	O	Function control output.
18	LATCH B	O	Not used.
19	LATCH A	O	LATCH output.
20	XLAT	O	CXD2589Q XLAT output.
21	CE	O	LC72131 CE output.
22	SQCK	O	CXD2589Q SQCK output.
23	SQSO	O	CXD2589Q SQSO output.
24	DATA	O	CXD2589Q DATA output.
25	S.CLOCK	O	S.CLOCK output.
26	S,DATA IN	I	S.DATA input.
27	S,DATA OUT	O	S.DATA output.
28	FM STEREO IN	I	FM Stereo input.
29 to 31	KEY IN O to 2	I	Key input 0 to 2.
32	VACS IN	I	Not used.
33 to 36	SPEANA IN 1 to 4	I	Not used.
37	ANS IN	I	AMS input.
38	RESET	I	RESET input.
39	EXTAL	—	X`TAL 10MHz
40	XTAL	—	X`TAL 10MHz
41	VSS	—	Ground.
42	SENS1	I	CXD2589Q SENS1 input.
43	SENS2	I	CXD2589Q SENS2 input.
44	VDD	—	VDD.
45	VFDP	—	VFDP.
46	PICK UP SW	I	Pick-up up switch signal input.
47	PICK DOWN SW	I	Pick-up down switch signal input.
48	DISC COUNT SW	I	Disc count switch signal input.
49	TURN TABLE SW	I	Turn Table switch signal input.
50	TRAY O. SW	I	Tray open switch signal input.

Pin No.	Pin Name	I/O	Description
51	TRAY C. SW	I	Tray close switch signal input.
52	VR UP	I	Volume up signal input.
53	VR DN	I	Volume down signal input.
54	CD ENCODER IN A	I	Not used.
55	CD ENCODER IN B	I	Not used.
56	SURROUND OUT	O	Not used.
57	DBFB NOR&HI OUT	O	Not used.
58	DBFB HI OUT	O	Not used.
59	DOLBY NR OUT	O	Not used.
60	2CH OUT	O	Not used.
61	MD MUTE	O	Not used.
62	TUNER MUTE OUT	O	Tuner Mute output.
63	SYSTEM MUTE OUT	O	System Mute output.
64	POWER SW OUT	O	POWER switch output.
65	P1	O	FLD segment output.
66	P2(MODE SW 1)	O	FLD segment output. Mode switch 1.
67	P3(MODE SW 2)	O	FLD segment output. Mode switch 2.
68	P4(MODE SW 3)	O	FLD segment output. Mode switch 3.
69	P5(MODE SW 4)	O	FLD segment output. Mode switch 4.
70	P6(MODE SW 5)	O	FLD segment output. Mode switch 5.
71	P7(MODE SW 6)	O	FLD segment output. Mode switch 6.
72	P8(MODE SW 7)	O	FLD segment output. Mode switch 7.
73	P9(MODE SW 8)	O	FLD segment output. Mode switch 8.
74	P10(MODE SW 9)	O	FLD segment output. Mode switch 9.
75	P11(MODE SW 10)	O	FLD segment output. Mode switch 10.
76	P12(MODE SW 11)	O	FLD segment output. Mode switch 11.
77	P13(MODE SW 12)	O	FLD segment output. Mode switch 12.
78	P14(MODE SW 13)	O	FLD segment output. Mode switch 13.
79	P15(MODE SW 14)	O	FLD segment output. Mode switch 14.
80 to 85	P16 to 21	O	FLD segment output.
86	NC	—	Not used.
87,88	15G,14G	O	FLD grid output.
89	VDD	—	VDD.
90 to 100	13G to 3G	O	FLD grid output.

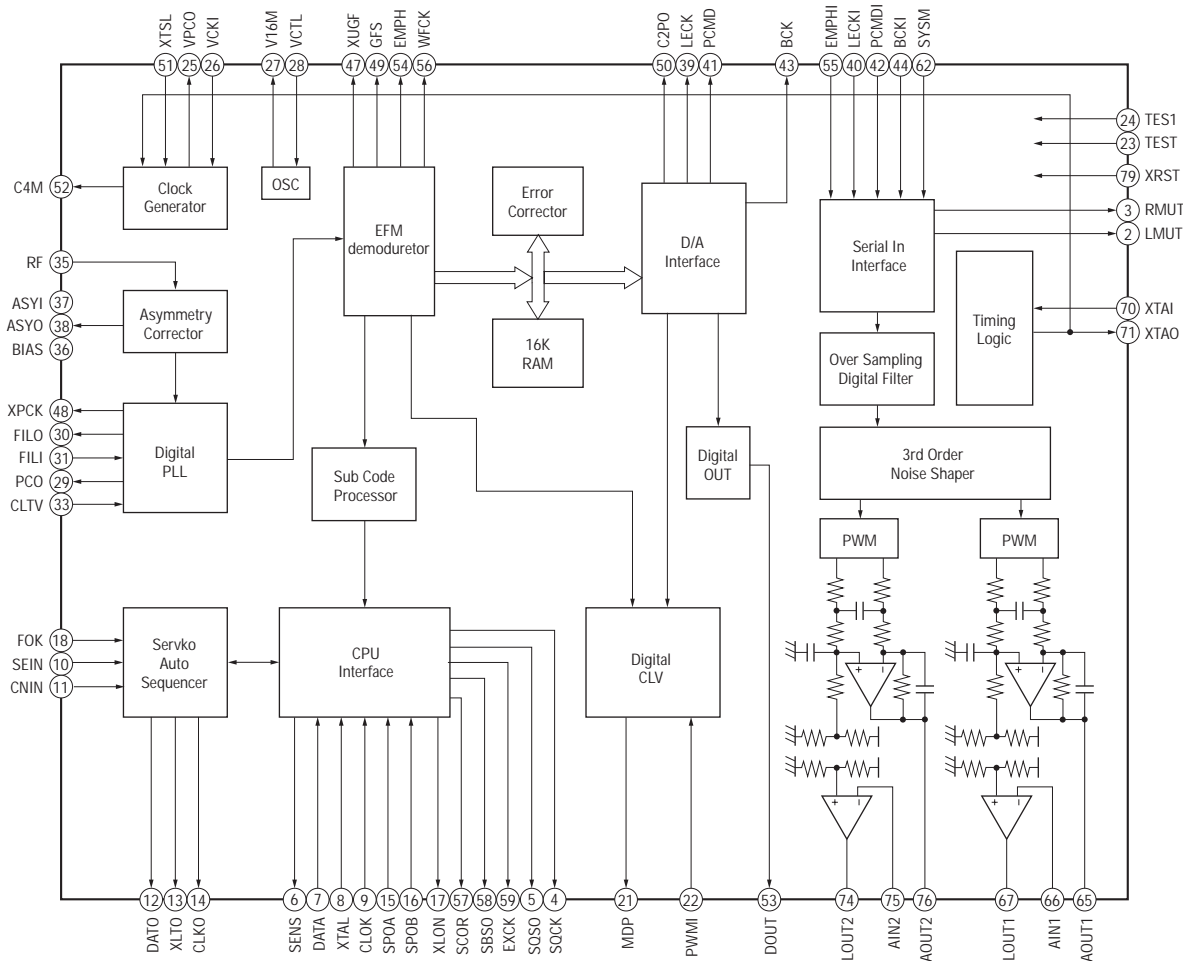
6-14. IC BLOCK DIAGRAMS

— CD RECORD SECTION —

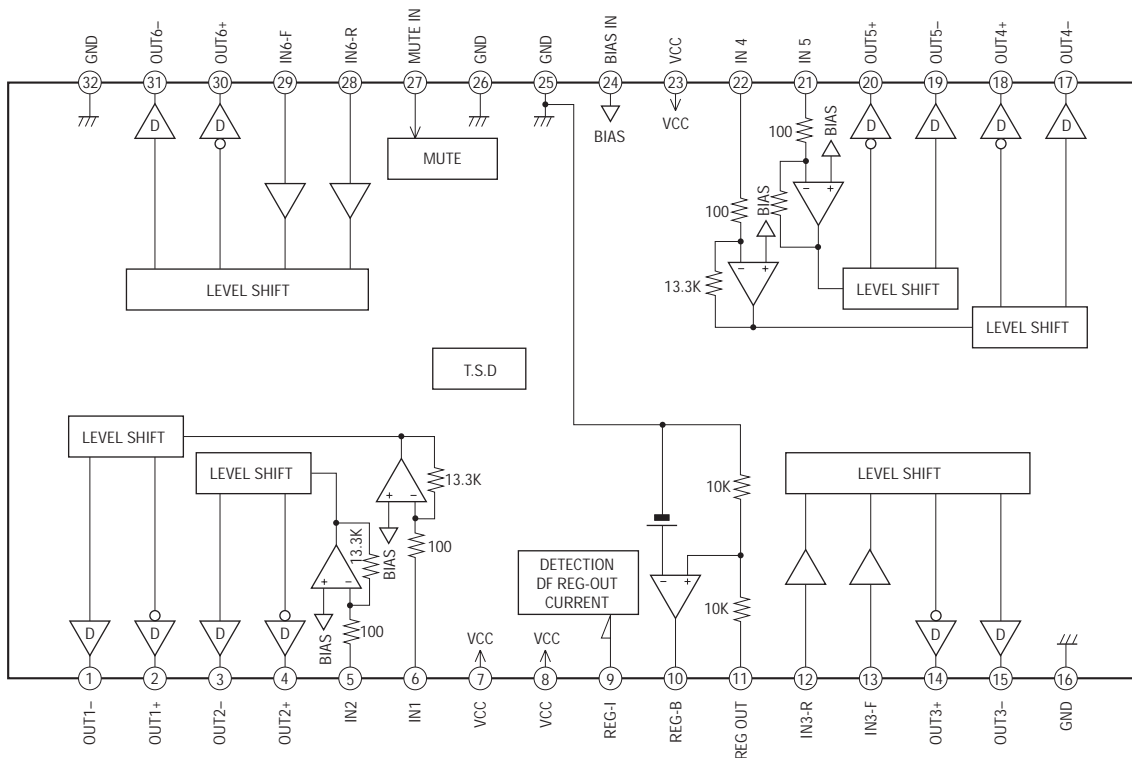
IC701 CXA1992BR



IC702 CXD2589Q



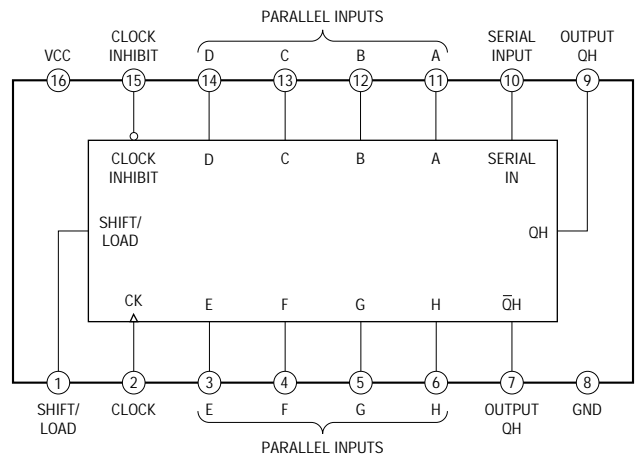
IC703 BA5936S



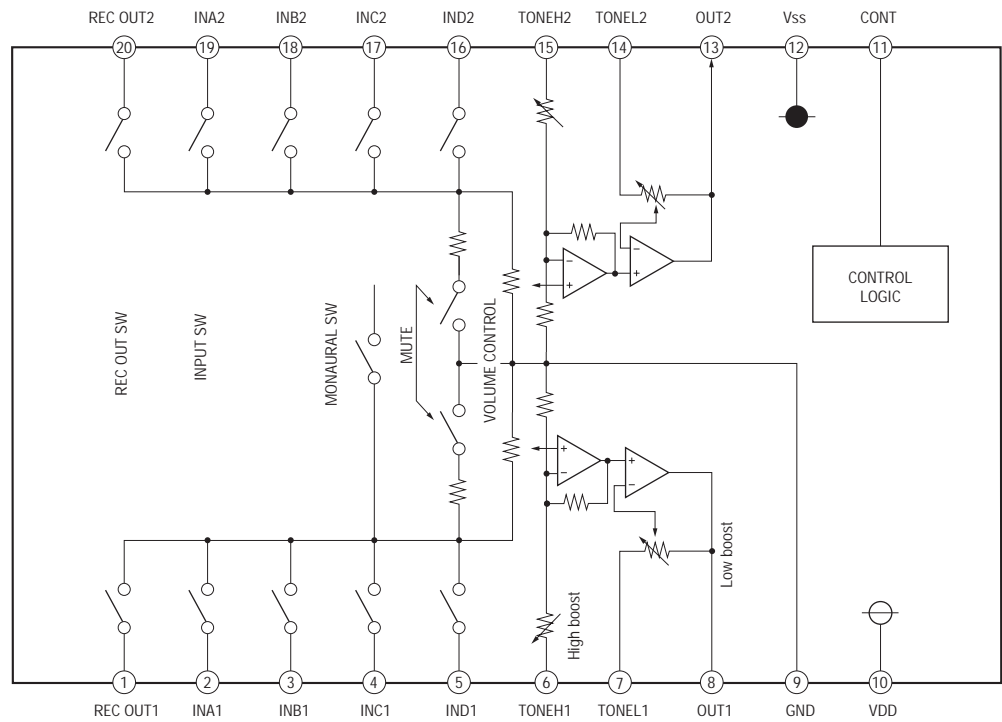
IC103 LC72131



IC252 74HC165

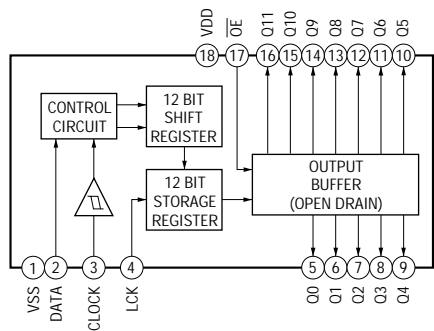


IC301 M62439SP



— FRONT BOARD —

IC602 BU2092



SECTION 7 EXPLODED VIEWS

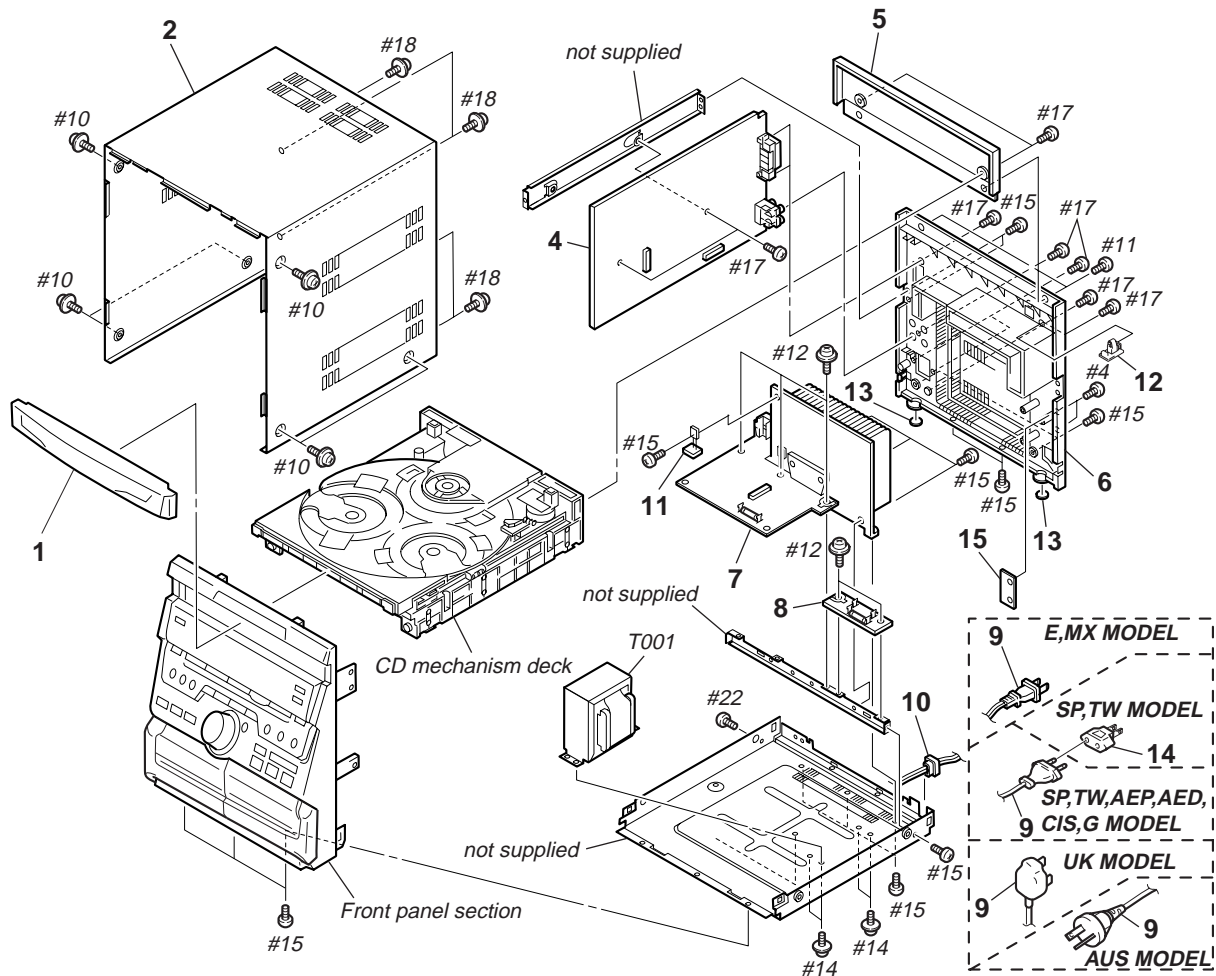
NOTE:

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

- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.
- Abbreviation
 AUS : Australian model
 G : German model
 SP : Singapore model
 MX : Mexican model
 AR : Argentina model
 TW : Taiwan model
 AED : North European model

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

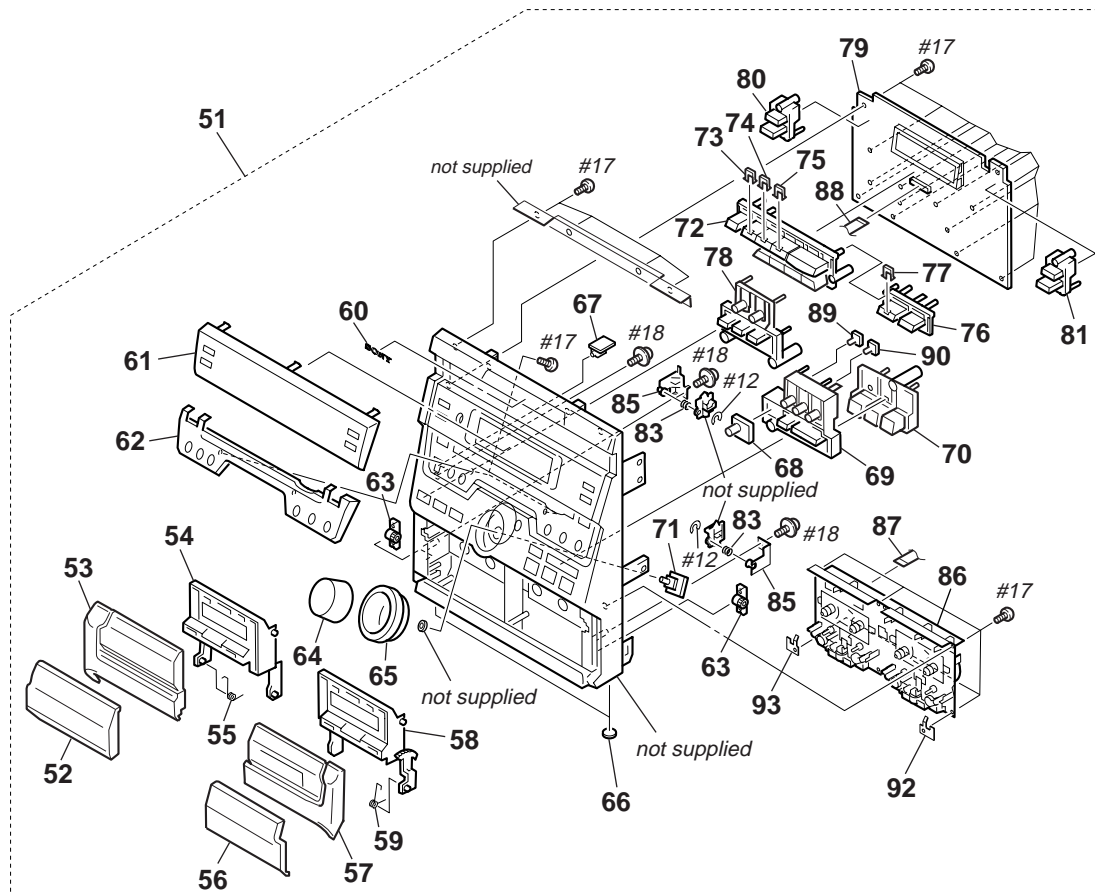
7-1. CABINET SECTION



Ref. No.	Part No.	Description	Remarks
1	4-220-797-01	DOOR,CD (RXD3)	
1	4-221-607-01	DOOR,CD (GRX20)	
2	4-220-799-01	COVER, TOP	
4	A-4426-302-A	MAIN BOARD ,COMPLETE (RXD3)	
4	A-4426-303-A	MAIN BOARD ,COMPLETE (GRX20)	
* 5	4-210-591-01	CABINET (A), REAR	
6	4-221-603-01	CABINET, REAR (RXD3)	
6	4-221-604-01	CABINET, REAR (GRX20:AUS)	
6	4-221-605-01	CABINET, REAR (GRX20:AR,E,SP,TW)	
6	4-221-606-01	CABINET, REAR (GRX20:MX)	
7	A-4426-292-A	AMPLIFIER BOARD ,COMPLETE (RXD3)	
7	A-4426-293-A	AMPLIFIER BOARD ,COMPLETE (GRX20:AUS)	
7	A-4426-294-A	AMPLIFIER BOARD ,COMPLETE (GRX20:AR,E,MX,SP,TW)	
8	1-674-558-11	FUSE BOARD	
\triangle 9	1-551-506-99	CORD, POWER (GRX20:E,MX)	

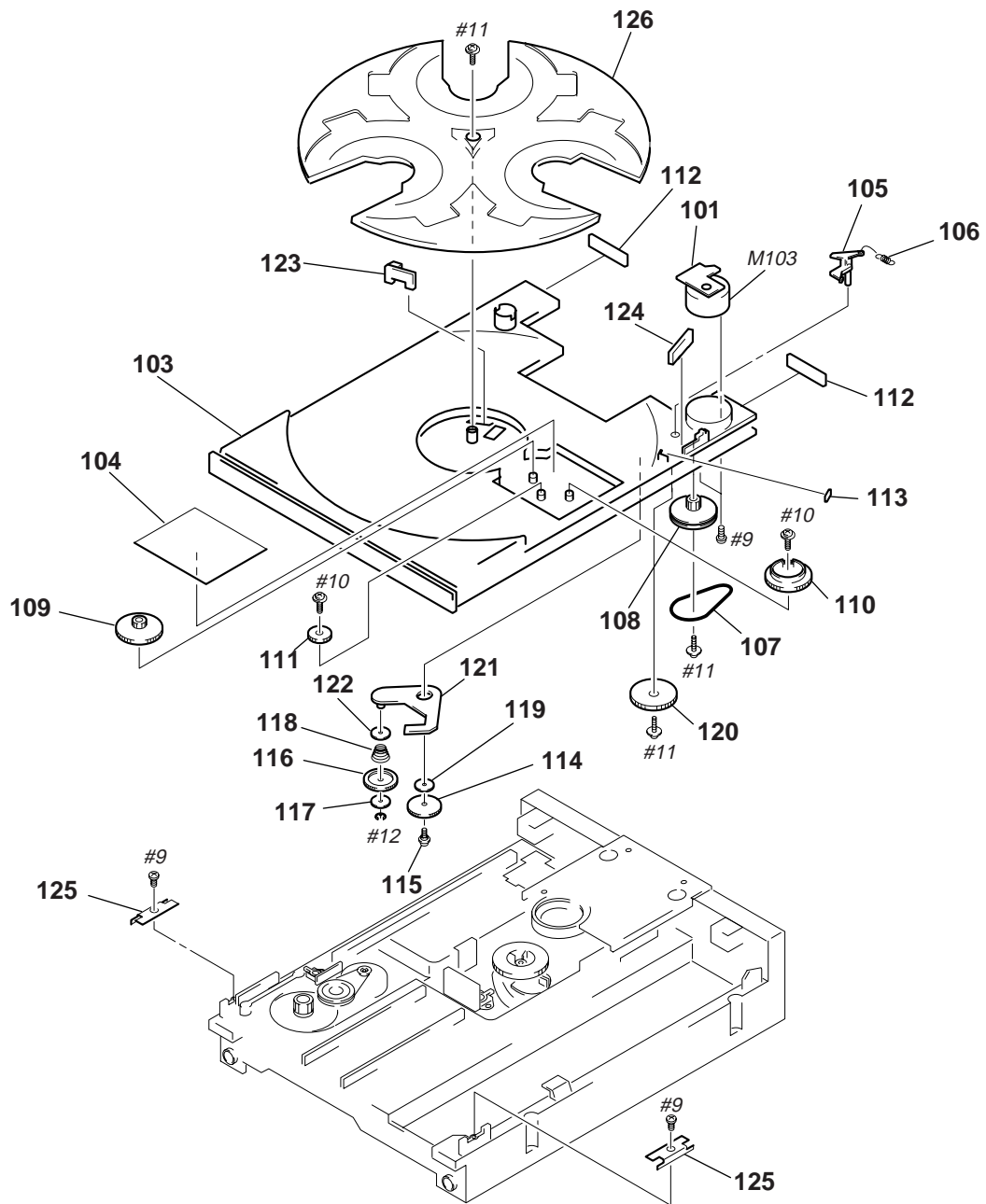
Ref. No.	Part No.	Description	Remarks
\triangle 9	1-555-795-00	CORD, POWER (GRX20:SP,TW/RXD3:AED,AEP,CIS,G)	
\triangle 9	1-696-572-21	CORD, POWER (RXD3:UK)	
\triangle 9	1-696-966-11	CORD, POWER (GRX20:AUS)	
\triangle 9	1-783-941-41	CORD, POWER (GRX20:AR)	
10	3-703-244-21	BUSHING, CORD	
11	1-674-554-11	TR BOARD	
12	1-674-794-11	PHOTO SOCKET BOARD	
13	4-220-602-01	RUBBER, FOOT	
\triangle 14	1-569-008-21	ADAPTOR, CONVERSION 2P (SP,TW)	
15	1-674-880-11	AC SWITCH BOARD (GRX20:AR,E,MX,SP,TW)	
\triangle T001	1-433-917-11	TRANSFORMER, POWER (GRX20:MX)	
\triangle T001	1-433-918-11	TRANSFORMER, POWER (RXD3)	
\triangle T001	1-433-919-11	TRANSFORMER, POWER (GRX20:AR,E,SP,TW)	
\triangle T001	1-433-920-11	TRANSFORMER, POWER (GRX20:AUS)	

7-2. FRONT PANEL SECTION



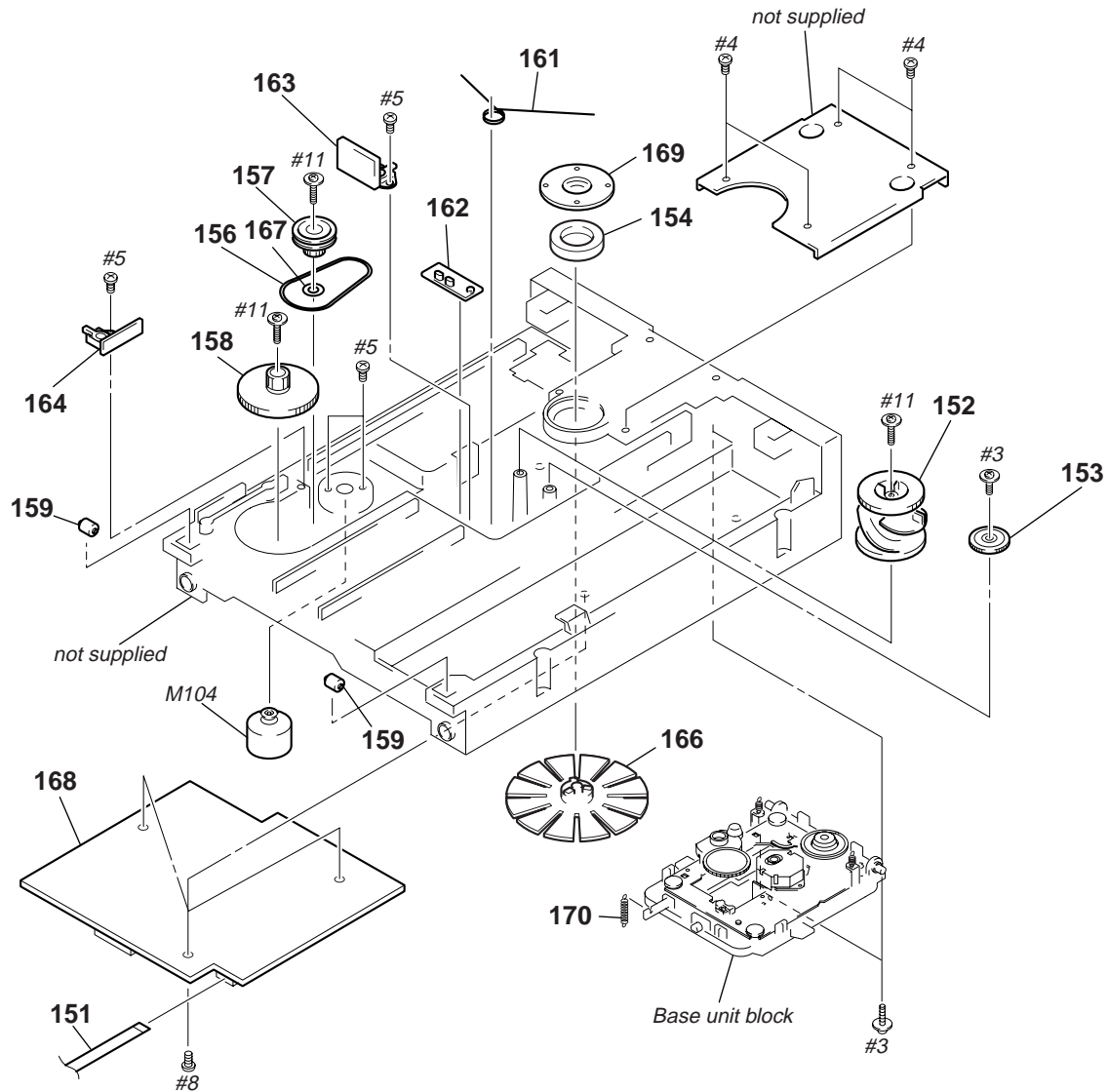
Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
51	A-4411-712-A	PANEL ASSY, FRONT (GRX20:AUS/RXD3)		71	1-674-561-11	VR BOARD	
51	A-4411-741-A	PANEL ASSY, FRONT (GRX20:SP,TW)		72	4-220-805-01	BUTTON, FUNCTION	
51	A-4411-739-A	PANEL ASSY, FRONT (GRX20:AR,E)		73	4-220-617-01	LENS(A), BUTTON	
51	A-4411-740-A	PANEL ASSY, FRONT (GRX20:MX)		74	4-220-618-01	LENS(B/L), BUTTON	
52	4-220-592-01	WINDOW (L), CASSETTE		75	4-220-619-01	LENS(B/R), BUTTON	
53	4-220-595-01	DOOR(L), CASSETTE		76	4-220-806-01	BUTTON, TUNER	
54	4-220-626-01	HOLDER (L), CASSETTE		77	4-220-807-01	LENS(CD), BUTTON	
55	4-220-623-01	SPRING (L), DOOR		78	4-220-609-01	BUTTON, FILE SELECT	
56	4-220-593-01	WINDOW (R), CASSETTE		79	A-4426-056-A	FRONT BOARD ,COMPLETE(GRX20:AUS/RXD3)	
57	4-220-796-01	DOOR(R), CASSETTE		79	A-4426-289-A	FRONT BOARD ,COMPLETE (GRX20:AR,E)	
58	4-220-627-01	HOLDER (R), CASSETTE		79	A-4426-290-A	FRONT BOARD ,COMPLETE (GRX20:MX)	
59	4-220-624-01	SPRING (R), DOOR		79	A-4426-291-A	FRONT BOARD ,COMPLETE (GRX20:SP,TW)	
60	4-220-614-01	EMBLEM, LOGO		80	4-220-616-01	BUTTON, CLOCK	
61	4-220-605-01	WINDOW, DISPLAY		81	4-220-606-01	BUTTON, DISPLAY	
62	4-220-804-01	COVER, FRONT		83	4-220-628-01	SPRING, EJECT LEVER	
63	4-220-622-01	DAMPER (GRY), GEAR		85	4-220-629-01	LEVER, EJECT	
64	4-220-594-01	KNOB, VOLUME		86	1-772-163-11	DECK, MECH	
65	4-220-621-01	RING, VOLUME		87	1-783-579-11	WIRE(FLAT TYPE) (16 CORE)	
66	4-220-602-01	RUBBER, FOOT		88	1-769-273-11	WIRE(FLAT TYPE) (22 CORE)	
67	1-674-559-11	H/P BOARD		89	4-220-613-01	BUTTON, REC	
68	4-220-612-01	BUTTON, ENTER/NEXT		90	4-220-615-01	LENS, PAUSE BUTTON	
69	4-220-611-01	BUTTON, CASS/REC		92	4-220-811-01	SPRING (R), BUSHING	
70	4-220-610-01	BUTTON, DISC		93	4-220-810-01	SPRING (L), BUSHING	

7-3. CD MECHANISM DECK SECTION-1



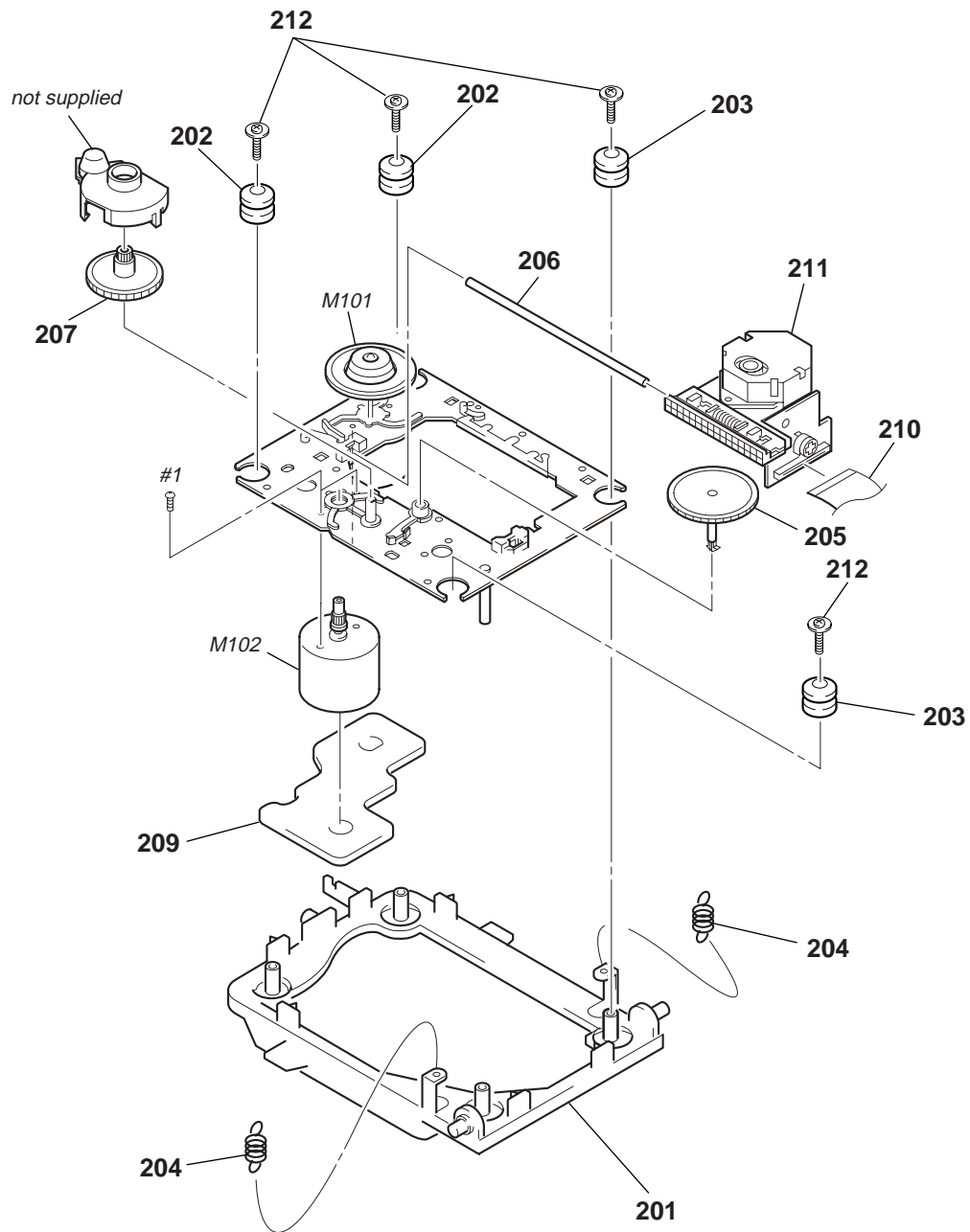
Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
101	1-674-792-11	MOTOR BOARD		115	4-992-183-01	SCREW, RELAY GEAR (B)	
103	4-221-891-01	BASE CHANGER		116	4-992-174-01	GEAR, CHANGE	
104	4-221-895-01	SHEET, BLIND		117	4-992-184-01	WASHER, CHANGE GEAR	
105	4-221-896-01	LEVER, SENSOR (SW)		118	4-992-176-01	SPRING, CHANGE GEAR	
106	4-992-182-01	SPRING, SENSOR (SW) LEVER		119	4-992-185-01	WASHER, CHANGE PLATE	
107	4-992-170-01	BELT, LOADING		120	4-992-172-01	GEAR (A), RELAY	
108	4-992-171-01	PULLEY, GEAR		121	4-221-902-01	PLATE, T/T	
109	4-221-894-01	GEAR, TR		122	4-992-201-01	WASHER, POLYETHYLENE	
110	4-221-892-01	GEAR, TR LOCK		123	1-674-789-11	SW (B) BOARD	
111	4-221-893-01	GEAR (C), RELAY		124	1-674-788-11	SW (A) BOARD	
112	4-992-187-01	CUSHION		* 125	4-993-034-01	GUIDE, RAIL	
113	4-992-186-01	CUSHION, SW LEVER		126	4-221-901-01	TURNTABLE	
114	4-992-173-01	GEAR (B), RELAY		M103	X-4948-765-1	MOTOR ASSY	

7-4. CD MECHANISM DECK SECTION-2



Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
151	1-769-856-11	WIRE (FLAT TYPE) (5 CORE)		162	1-674-791-11	SW (D) BOARD	
152	4-221-897-01	UD-CAM		163	1-674-790-11	SW (C) BOARD	
153	4-992-191-01	UD-GEAR		164	4-992-194-01	CLAMP	
154	4-992-195-01	MAGNET		165	4-992-201-01	WASHER, POLYETHYLENE	
156	4-992-197-01	BELT, LOADING GEAR		166	4-221-898-01	HOLDER, MAGNET	
157	4-992-198-01	PULLEY (B), GEAR		168	A-4426-391-A	CD DECORD BOARD, COMPLETE	
158	4-992-199-01	GEAR, SLIDE		169	4-221-900-01	COVER, MAGNET	
159	4-992-200-01	ROLLER		170	4-221-903-01	SPRING, MECHANICAL BASE	
160	4-992-192-01	SPRING, BRAKE CAM		M104	X-4948-766-1	MOTOR ASSY (A)	
161	4-992-193-01	LEVER, SW					

7-5. BASE UNIT SECTION (KSM-213ECM)



Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
201	4-992-164-01	BASE, KSM MECHANICAL		207	2-627-003-02	GEAR (B)	
202	4-992-165-01	DAMPER (GREEN)		209	1-639-678-12	MOTOR (6P)(S) BOARD	
203	4-992-166-01	DAMPER (RED)		210	1-783-740-11	WIRE (FLAT TYPE)	
204	4-992-167-01	SPRING, MECHANICAL BASE		△ 211	8-820-054-03	OPTICAL PICK-UP KSS-213ECM/C2NP	
205	2-626-907-01	GEAR (A)(S)		212	3-319-501-51	SCREW (+PTPWH) (2.6 × 16)	
206	2-626-908-01	SHAFT, SLED		M101	X-2625-877-1	MOTOR ASSY (SPINDLE)	
				M102	X-2625-769-1	MOTOR ASSY (SLED)	

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

AC SWITCH

AMPLIFIER

SECTION 8
ELECTRICAL PARTS LIST

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, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- CAPACITORS:
uF: μ F
- RESISTORS
All resistors are in ohms.
METAL: metal-film resistor
METAL OXIDE: Metal Oxide-film resistor
F: nonflammable
- COILS
uH: μ H
- Abbreviation
AUS : Australian model
G : German model
SP : Singapore model
MX : Mexican model
AR : Argentina model
TW : Taiwan model
AED : North European model

- SEMICONDUCTORS
In each case, u: μ , for example:
uA...: μ A..., uPA..., μ PA...,
uPB..., μ PB..., uPC..., μ PC...,
uPD..., μ PD...

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

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

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
	1-674-880-1	AC SWITCH BOARD (GRX20:AR,E,MX,SP,TW) *****		C423	1-162-294-31	CERAMIC 0.001uF 10% 50V	
		< SWITCH >		C424	1-162-294-31	CERAMIC 0.001uF 10% 50V	
Δ SW401	1-771-477-11	SELECTOR, VOLTAGE (VOLTAGE SELECTOR) (GRX20:AR,E,MX,SP,TW) *****		C425	1-162-294-31	CERAMIC 0.001uF 10% 50V	
	A-4426-292-A	AMPLIFIER BOARD, COMPLETE (RXD3) *****		C426	1-162-294-31	CERAMIC 0.001uF 10% 50V	
	A-4426-293-A	AMPLIFIER BOARD, COMPLETE (GRX20:AUS) *****		C427	1-126-963-11	ELECT 4.7uF 20% 50V	
	A-4426-294-A	AMPLIFIER BOARD, COMPLETE (GRX20:AR,E,MX,SP,TW) *****		C428	1-126-933-11	ELECT 100uF 20% 16V	
*	1-533-213-31	HOLDER, FUSE < CAPACITOR >		C429	1-126-960-11	ELECT 1uF 20% 50V	
	C401	1-126-961-11 ELECT 2.2uF 20% 50V		C430	1-109-889-11	ELECT 1uF 20% 50V	
	C402	1-126-961-11 ELECT 2.2uF 20% 50V		C433	1-130-495-11	MYLAR 0.1uF 5% 50V	
	C403	1-162-294-31 CERAMIC 0.001uF 10% 50V		C497	1-162-282-31	CERAMIC 100PF 10% 50V	
	C404	1-162-294-31 CERAMIC 0.001uF 10% 50V					
	C405	1-104-664-11 ELECT 47uF 20% 25V		C498	1-162-282-31	CERAMIC 100PF 10% 50V	
	C406	1-104-664-11 ELECT 47uF 20% 25V		C499	1-161-494-00	CERAMIC 0.022uF 25V	
	C407	1-126-968-11 ELECT 100uF 20% 50V (GRX20:AR,E,MX,SP,TW/RXD3)		C701	1-126-974-11	ELECT 3300uF 20% 50V (GRX20:AR,E,MX,SP,TW/RXD3)	
	C407	1-128-576-11 ELECT 100uF 20% 63V (GRX20:AUS)		C701	1-127-812-11	ELECT 3300uF 20% 63V (GRX20:AUS)	
	C408	1-126-968-11 ELECT 100uF 20% 50V (GRX20:AR,E,MX,SP,TW/RXD3)		C702	1-126-974-11	ELECT 3300uF 20% 50V (GRX20:AR,E,MX,SP,TW/RXD3)	
	C408	1-128-576-11 ELECT 100uF 20% 63V (GRX20:AUS)					
	C409	1-130-495-11 MYLAR 0.1uF 5% 50V		C702	1-127-812-11	ELECT 3300uF 20% 63V (GRX20:AUS)	
	C410	1-126-968-11 ELECT 100uF 20% 50V (GRX20:AR,E,MX,SP,TW/RXD3)		C703	1-130-483-00	MYLAR 0.01uF 5% 50V	
	C410	1-128-576-11 ELECT 100uF 20% 63V (GRX20:AUS)		C704	1-130-483-00	MYLAR 0.01uF 5% 50V	
	C411	1-126-968-11 ELECT 100uF 20% 50V (GRX20:AR,E,MX,SP,TW/RXD3)		C705	1-130-483-00	MYLAR 0.01uF 5% 50V	
	C411	1-128-576-11 ELECT 100uF 20% 63V (GRX20:AUS)		C706	1-130-483-00	MYLAR 0.01uF 5% 50V	
	C413	1-162-199-31 CERAMIC 10PF 5% 50V					
	C414	1-162-199-31 CERAMIC 10PF 5% 50V		C707	1-126-968-11	ELECT 100uF 20% 50V	
	C415	1-137-399-11 FILM 0.1uF 5% 100V		C708	1-161-494-00	CERAMIC 0.022uF 25V	
	C416	1-137-399-11 FILM 0.1uF 5% 100V		C709	1-161-494-00	CERAMIC 0.022uF 25V	
	C417	1-161-494-00 CERAMIC 0.022uF 25V		C710	1-128-553-11	ELECT 220uF 20% 63V	
	C418	1-161-494-00 CERAMIC 0.022uF 25V		C711	1-161-494-00	CERAMIC 0.022uF 25V	
	C419	1-162-294-31 CERAMIC 0.001uF 10% 50V					
	C421	1-126-933-11 ELECT 100uF 20% 16V		C712	1-126-961-11	ELECT 2.2uF 20% 50V	
	C422	1-161-494-00 CERAMIC 0.022uF 25V		C713	1-126-948-11	ELECT 100uF 20% 35V	
				C714	1-161-494-00	CERAMIC 0.022uF 25V	
				C715	1-126-949-11	ELECT 220uF 20% 35V	
				C716	1-161-494-00	CERAMIC 0.022uF 25V	
				C717	1-161-494-00	CERAMIC 0.022uF 25V	
				C718	1-161-494-00	CERAMIC 0.022uF 25V	
				C719	1-161-494-00	CERAMIC 0.022uF 25V	
				C720	1-161-494-00	CERAMIC 0.022uF 25V	
				C721	1-126-943-11	ELECT 2200uF 20% 25V	
				C722	1-126-933-11	ELECT 100uF 20% 16V	
				C723	1-161-494-00	CERAMIC 0.022uF 25V	
				C724	1-161-494-00	CERAMIC 0.022uF 25V	
				C725	1-126-933-11	ELECT 100uF 20% 16V	
				C726	1-126-933-11	ELECT 100uF 20% 16V	
				C727	1-161-494-00	CERAMIC 0.022uF 25V	
				C728	1-161-494-00	CERAMIC 0.022uF 25V	
				C729	1-126-935-11	ELECT 470uF 20% 16V	
				C730	1-161-494-00	CERAMIC 0.022uF 25V	
				C731	1-161-494-00	CERAMIC 0.022uF 25V	

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
C732	1-161-494-00	CERAMIC 0.022uF	25V	Q703	8-729-202-67	TRANSISTOR 2SK246-GR3	
C733	1-104-664-11	ELECT 47uF 20%	25V	Q704	8-729-202-67	TRANSISTOR 2SK246-GR3	
C734	1-126-934-11	ELECT 220uF 20%	16V	Q705	8-729-232-32	TRANSISTOR 2SA965-0/Y(TPE6)	
C735	1-161-494-00	CERAMIC 0.022uF	25V	< RESISTOR >			
C751	1-126-967-11	ELECT 47uF 20%	50V				
< CONNECTOR >				R401	1-247-879-11	CARBON 100K 5%	1/4W
* CN701	1-568-837-11	SOCKET, CONNECTOR 20P		R402	1-247-879-11	CARBON 100K 5%	1/4W
* CN703	1-564-510-11	PLUG, CONNECTOR 7P		R403	1-247-839-11	CARBON 2.2K 5%	1/4W
< DIODE >				R404	1-247-839-11	CARBON 2.2K 5%	1/4W
				R405	1-249-438-11	CARBON 56K 5%	1/4W
D402	8-719-991-33	DIODE 1SS133T-77		R406	1-249-438-11	CARBON 56K 5%	1/4W
D403	8-719-991-33	DIODE 1SS133T-77		R407	1-249-420-11	CARBON 1.8K 5%	1/4W F
D404	8-719-991-33	DIODE 1SS133T-77		R408	1-249-420-11	CARBON 1.8K 5%	1/4W F
D405	8-719-991-33	DIODE 1SS133T-77		R409	1-249-438-11	CARBON 56K 5%	1/4W
D406	8-719-991-33	DIODE 1SS133T-77		R410	1-249-438-11	CARBON 56K 5%	1/4W
D701	8-719-027-23	DIODE GBU6D		R411	1-260-087-11	CARBON 100 5%	1/2W
D702	8-719-200-02	DIODE 1N4002		R412	1-249-417-11	CARBON 1K 5%	1/4W F
D703	8-719-200-02	DIODE 1N4002		R413	1-249-417-11	CARBON 1K 5%	1/4W F
D704	8-719-200-02	DIODE 1N4002		R414	1-260-087-11	CARBON 100 5%	1/2W
D705	8-719-200-02	DIODE 1N4002		R415	1-249-431-11	CARBON 15K 5%	1/4W
D706	8-719-200-02	DIODE 1N4002		R416	1-249-431-11	CARBON 15K 5%	1/4W
D707	8-719-200-02	DIODE 1N4002		R417	1-260-072-11	CARBON 4.7 5%	1/2W
D708	8-719-200-02	DIODE 1N4002		R418	1-260-072-11	CARBON 4.7 5%	1/2W
D709	8-719-010-73	DIODE UZ-12BSA		R419	1-220-889-11	METAL 0.22 10%	3W
D711	8-719-012-33	DIODE UZ-27BSA-TA		R420	1-220-889-11	METAL 0.22 10%	3W
D712	8-719-010-57	DIODE UZ-8.2BSA		R421	1-247-879-11	CARBON 100K 5%	1/4W
D713	8-719-991-33	DIODE 1SS133T-77		R422	1-247-879-11	CARBON 100K 5%	1/4W
D714	8-719-010-73	DIODE UZ-12BSA		R423	1-247-839-11	CARBON 2.2K 5%	1/4W
D716	8-719-947-12	DIODE UZ-4.7BSA		R424	1-249-430-11	CARBON 12K 5%	1/4W
				R425	1-249-430-11	CARBON 12K 5%	1/4W
< FUSE >				R426	1-247-871-11	CARBON 47K 5%	1/4W
△F701	1-532-388-31	FUSE TL2.0A 250V	(GRX20:AR,AUS,E,SP,TW/RXD3)	R427	1-249-417-11	CARBON 1K 5%	1/4W F
△F701	1-576-104-11	FUSE 2.0A 250V	(GRX20:MX)	R428	1-249-438-11	CARBON 56K 5%	1/4W
< IC >				R429	1-247-855-11	CARBON 10K 5%	1/4W
IC401	8-749-015-44	IC STK407-070E		R430	1-247-879-11	CARBON 100K 5%	1/4W
IC402	8-759-111-68	IC uPC1237HA		R432	1-247-847-11	CARBON 4.7K 5%	1/4W
< JACK >				R434	1-260-072-11	CARBON 4.7 5%	1/2W (RXD3)
JK401	1-694-443-11	TERMINAL BOARD (SPEAKER)		R435	1-260-072-11	CARBON 4.7 5%	1/2W (RXD3)
< COIL >				R442	1-247-835-11	CARBON 1.5K 5%	1/4W
L401	1-420-872-00	COIL, AIR-CORE (RXD3)		R443	1-247-903-00	CARBON 1M 5%	1/4W
L402	1-420-872-00	COIL, AIR-CORE (RXD3)		R444	1-249-393-11	CARBON 10 5%	1/4W F
< TRANSISTOR >				R446	1-247-862-11	CARBON 20K 5%	1/4W
Q401	8-729-231-55	TRANSISTOR 2SC2878-A		R448	1-247-843-11	CARBON 3.3K 5%	1/4W
Q402	8-729-231-55	TRANSISTOR 2SC2878-A		R449	1-247-843-11	CARBON 3.3K 5%	1/4W
Q403	8-729-184-53	TRANSISTOR 2SC1841-EA		R451	1-247-879-11	CARBON 100K 5%	1/4W
Q404	8-729-184-53	TRANSISTOR 2SC1841-EA		R455	1-215-867-00	METAL OXIDE 470 5%	1W F
Q405	8-729-140-82	TRANSISTOR 2SA988-FA		R456	1-215-867-00	METAL OXIDE 470 5%	1W F
Q411	8-729-026-29	TRANSISTOR 2SJ346		R702	1-249-413-11	CARBON 470 5%	1/4W F
Q412	8-729-231-55	TRANSISTOR 2SC2878-A		R703	1-215-863-11	METAL OXIDE 100 5%	1W F
Q413	8-729-231-55	TRANSISTOR 2SC2878-A		R704	1-247-847-11	CARBON 4.7K 5%	1/4W
Q701	8-729-822-89	TRANSISTOR 2SD1667		R705	1-247-855-11	CARBON 10K 5%	1/4W
Q702	8-729-188-23	TRANSISTOR 2SD882-P		R706	1-215-863-11	METAL OXIDE 100 5%	1W F
				R707	1-249-413-11	CARBON 470 5%	1/4W F
				R708	1-247-807-11	CARBON 100 5%	1/4W
				R709	1-247-807-11	CARBON 100 5%	1/4W

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

AMPLIFIER

CD DECORD

Ref. No.	Part No.	Description			Remarks
R710	1-215-892-11	METAL OXIDE	1K	5%	2W F
R712	1-249-413-11	CARBON	470	5%	1/4W F
R751	1-247-839-11	CARBON	2.2K	5%	1/4W
R752	1-247-863-11	CARBON	22K	5%	1/4W
R753	1-247-855-11	CARBON	10K	5%	1/4W
< RELAY >					
RL401	1-515-921-11	RELAY	12V		

A-4426-391-A		CD DECORD BOARD, COMPLETE			

< CAPACITOR >					
C701	1-104-664-11	ELECT	47uF	20%	16V
C702	1-137-399-11	FILM	0.1uF	5%	100V
C703	1-137-399-11	FILM	0.1uF	5%	100V
C704	1-137-352-11	FILM	0.033uF	5%	100V
C705	1-137-393-11	FILM	0.01uF	5%	100V
C706	1-128-551-11	ELECT	22uF	20%	25V
C707	1-162-203-31	CERAMIC	15PF	5%	50V
C708	1-164-159-11	CERAMIC	0.1uF		50V
C711	1-162-600-11	CERAMIC	0.0047uF	30%	16V
C712	1-162-306-11	CERAMIC	0.01uF	20%	16V
C713	1-136-291-11	FILM	0.0068uF	5%	100V
C714	1-137-397-11	FILM	0.047uF	5%	100V
C715	1-161-494-00	CERAMIC	0.022uF		25V
C716	1-137-399-11	FILM	0.1uF	5%	100V
C717	1-104-665-11	ELECT	100uF	20%	10V
C718	1-104-665-11	ELECT	100uF	20%	10V
C719	1-137-399-11	FILM	0.1uF	5%	100V
C720	1-137-389-11	FILM	0.0022uF	5%	100V
C721	1-137-399-11	FILM	0.1uF	5%	100V
C722	1-137-399-11	FILM	0.1uF	5%	100V
C723	1-137-399-11	FILM	0.1uF	5%	100V
C724	1-107-713-11	ELECT	4.7uF	20%	50V
C725	1-137-352-11	FILM	0.033uF	5%	100V
C726	1-137-462-11	FILM	0.018uF	5%	100V
C727	1-162-199-31	CERAMIC	10PF	5%	50V
C728	1-137-398-11	FILM	0.068uF	5%	100V
C729	1-126-962-11	ELECT	3.3uF	20%	50V
C730	1-162-215-31	CERAMIC	47PF	5%	50V
C731	1-164-159-11	CERAMIC	0.1uF		50V
C732	1-161-494-00	CERAMIC	0.022uF		25V
C733	1-104-665-11	ELECT	100uF	20%	10V
C734	1-161-494-00	CERAMIC	0.022uF		25V
C735	1-126-925-11	ELECT	470uF	20%	10V
C736	1-162-294-31	CERAMIC	0.001uF	10%	50V
C737	1-162-306-11	CERAMIC	0.01uF	20%	16V
C738	1-164-159-11	CERAMIC	0.1uF		50V
C740	1-126-925-11	ELECT	470uF	20%	10V
C741	1-161-494-00	CERAMIC	0.022uF		25V
C742	1-161-494-00	CERAMIC	0.022uF		25V
C743	1-126-927-11	ELECT	2200uF	20%	10V
C744	1-162-306-11	CERAMIC	0.01uF	20%	16V
C745	1-162-306-11	CERAMIC	0.01uF	20%	16V
C746	1-107-713-11	ELECT	4.7uF	20%	35V
C746A	1-126-963-11	ELECT	4.7uF	20%	50V
C751	1-162-306-11	CERAMIC	0.01uF	20%	16V

Ref. No.	Part No.	Description	Remarks
C752	1-126-964-11	ELECT 10uF 20%	50V
C753	1-161-494-00	CERAMIC 0.022uF	25V
C754	1-104-665-11	ELECT 100uF 20%	10V
C755	1-161-494-00	CERAMIC 0.022uF	25V
C756	1-136-173-00	FILM 0.47uF 5%	50V
C757	1-162-306-11	CERAMIC 0.01uF 20%	16V
C759	1-162-290-31	CERAMIC 470PF 10%	50V
C760	1-162-286-31	CERAMIC 220PF 10%	50V
C761	1-136-169-00	FILM 0.22uF 5%	50V
C762	1-137-393-11	FILM 0.01uF 5%	100V
C763	1-161-494-00	CERAMIC 0.022uF	25V
C764	1-104-665-11	ELECT 100uF 20%	10V
C765	1-162-294-31	CERAMIC 0.001uF 10%	50V
C766	1-162-294-31	CERAMIC 0.001uF 10%	50V
C767	1-162-294-31	CERAMIC 0.001uF 10%	50V
C768	1-162-294-31	CERAMIC 0.001uF 10%	50V
C769	1-162-294-31	CERAMIC 0.001uF 10%	50V
C770	1-164-159-11	CERAMIC 0.1uF	50V
C771	1-161-494-00	CERAMIC 0.022uF	25V
C771A	1-161-494-00	CERAMIC 0.022uF	25V
C772	1-161-494-00	CERAMIC 0.022uF	25V
C773	1-102-961-00	CERAMIC 27PF 5%	50V
C774	1-102-961-00	CERAMIC 27PF 5%	50V
C777	1-162-294-31	CERAMIC 0.001uF 10%	50V
C778	1-162-294-31	CERAMIC 0.001uF 10%	50V
C779	1-162-282-31	CERAMIC 100PF 10%	50V
C779A	1-126-960-11	ELECT 1uF 20%	50V
C780	1-162-294-31	CERAMIC 0.001uF 10%	50V
C780A	1-126-960-11	ELECT 1uF 20%	50V
C781	1-162-284-31	CERAMIC 150PF 10%	50V
C782	1-162-284-31	CERAMIC 150PF 10%	50V
C783	1-162-292-31	CERAMIC 680PF 10%	50V
C784	1-162-292-31	CERAMIC 680PF 10%	50V
C785	1-126-963-11	ELECT 4.7uF 20%	50V
C786	1-126-963-11	ELECT 4.7uF 20%	50V
C787	1-162-294-31	CERAMIC 0.001uF 10%	50V
C788	1-162-294-31	CERAMIC 0.001uF 10%	50V
C789	1-161-494-00	CERAMIC 0.022uF	25V
C790	1-126-927-11	ELECT 2200uF 20%	10V
C790A	1-161-494-00	CERAMIC 0.022uF	25V
C791	1-164-159-11	CERAMIC 0.1uF	50V
C792	1-162-302-11	CERAMIC 0.0022uF 30%	16V
C793	1-162-302-11	CERAMIC 0.0022uF 30%	16V
C794	1-162-302-11	CERAMIC 0.0022uF 30%	16V
C795	1-164-159-11	CERAMIC 0.1uF	50V
C797	1-161-494-00	CERAMIC 0.022uF	25V
C798	1-126-963-11	ELECT 4.7uF 20%	50V
C799	1-161-494-00	CERAMIC 0.022uF	25V
C799B	1-104-665-11	ELECT 100uF 20%	10V
< CONNECTOR >			
CN701	1-580-475-11	SOCKET, CONNECTOR 16P	
CN705	1-568-822-21	SOCKET, CONNECTOR 22P	
* CN706	1-568-824-11	SOCKET, CONNECTOR 5P	
* CN707	1-564-709-11	PIN, CONNECTOR (SMALL TYPE) 7P	
< DIODE >			
D703	8-719-991-33	DIODE 1SS133T-77	
D707	8-719-991-33	DIODE 1SS133T-77	
D708	8-719-991-33	DIODE 1SS133T-77	

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
< IC >				R746	1-249-432-11	CARBON	18K 5% 1/4W
IC701	8-752-082-14	IC CXA1992BR		R747	1-249-432-11	CARBON	18K 5% 1/4W
IC702	8-752-384-13	IC CXD2589Q		R747A	1-247-855-11	CARBON	10K 5% 1/4W
IC703	8-759-579-80	IC BA5936S		R748	1-247-847-11	CARBON	4.7K 5% 1/4W
IC704	8-759-234-75	IC TC74HC4094AP		R748A	1-249-417-11	CARBON	1K 5% 1/4W F
IC705	8-759-505-55	IC NJM4558L		R751	1-247-863-11	CARBON	22K 5% 1/4W
< COIL >				R752	1-247-867-11	CARBON	33K 5% 1/4W
L704	1-410-509-11	INDUCTOR 10uH		R753	1-249-428-11	CARBON	8.2K 5% 1/4W F
L705	1-410-509-11	INDUCTOR 10uH		R755	1-247-871-11	CARBON	47K 5% 1/4W
< TRANSISTOR >				R756	1-247-867-11	CARBON	33K 5% 1/4W
Q701	8-729-195-23	TRANSISTOR 2SA952-L		R758	1-247-871-11	CARBON	47K 5% 1/4W
Q702	8-729-195-23	TRANSISTOR 2SA952-L		R759	1-247-843-11	CARBON	3.3K 5% 1/4W
Q703	8-729-195-23	TRANSISTOR 2SA952-L		R760	1-249-417-11	CARBON	1K 5% 1/4W F
Q705	8-729-194-57	TRANSISTOR 2SC945TP-P		R761	1-249-855-11	CARBON	10K 5% 1/4W
Q706	8-729-194-57	TRANSISTOR 2SC945TP-P		R762	1-247-903-00	CARBON	1M 5% 1/4W
Q707	8-729-195-23	TRANSISTOR 2SA952-L		R763	1-247-887-00	CARBON	220K 5% 1/4W
Q708	8-729-195-23	TRANSISTOR 2SA952-L		R764	1-247-855-11	CARBON	10K 5% 1/4W
< RESISTOR >				R765	1-247-871-11	CARBON	47K 5% 1/4W
R701	1-249-393-11	CARBON 10 5%	1/4W F	R766	1-249-417-11	CARBON	1K 5% 1/4W F
R704	1-247-862-11	CARBON 20K 5%	1/4W	R766A	1-249-417-11	CARBON	1K 5% 1/4W F
R705	1-247-855-11	CARBON 10K 5%	1/4W	R767	1-249-417-11	CARBON	1K 5% 1/4W F
R706	1-249-430-11	CARBON 12K 5%	1/4W	R767A	1-249-417-11	CARBON	1K 5% 1/4W F
R707	1-247-903-00	CARBON 1M 5%	1/4W	R768A	1-249-417-11	CARBON	1K 5% 1/4W F
R710	1-247-887-00	CARBON 220K 5%	1/4W	R771	1-249-417-11	CARBON	1K 5% 1/4W F
R710A	1-249-417-11	CARBON 1K 5%	1/4W F	R773	1-249-442-11	CARBON	510 5% 1/4W
R711	1-247-883-00	CARBON 150K 5%	1/4W	R774	1-247-903-00	CARBON	1M 5% 1/4W
R713	1-247-879-11	CARBON 100K 5%	1/4W	R775	1-247-867-11	CARBON	33K 5% 1/4W
R714	1-249-439-11	CARBON 68K 5%	1/4W	R777	1-247-839-11	CARBON	2.2K 5% 1/4W
R715	1-249-439-11	CARBON 68K 5%	1/4W	R778	1-247-839-11	CARBON	2.2K 5% 1/4W
R716	1-249-439-11	CARBON 68K 5%	1/4W	R778L	1-247-847-11	CARBON	4.7K 5% 1/4W
R717	1-249-439-11	CARBON 68K 5%	1/4W	R778R	1-247-847-11	CARBON	4.7K 5% 1/4W
R718	1-247-879-11	CARBON 100K 5%	1/4W	R779	1-247-839-11	CARBON	2.2K 5% 1/4W
R719	1-247-883-00	CARBON 150K 5%	1/4W	R780	1-247-839-11	CARBON	2.2K 5% 1/4W
R720	1-247-891-00	CARBON 330K 5%	1/4W	R780A	1-249-417-11	CARBON	1K 5% 1/4W F
R721	1-247-885-00	CARBON 180K 5%	1/4W	R781	1-249-430-11	CARBON	12K 5% 1/4W
R722	1-247-807-11	CARBON 100 5%	1/4W	R782	1-249-430-11	CARBON	12K 5% 1/4W
R723	1-247-855-11	CARBON 10K 5%	1/4W	R783	1-249-430-11	CARBON	12K 5% 1/4W
R724	1-247-855-11	CARBON 10K 5%	1/4W	R784	1-249-430-11	CARBON	12K 5% 1/4W
R725	1-247-899-11	CARBON 680K 5%	1/4W	R785	1-249-430-11	CARBON	12K 5% 1/4W
R726	1-249-440-11	CARBON 82K 5%	1/4W	R786	1-249-430-11	CARBON	12K 5% 1/4W
R727	1-247-896-11	CARBON 510K 5%	1/4W	R787	1-247-839-11	CARBON	2.2K 5% 1/4W
R728	1-247-807-11	CARBON 100 5%	1/4W	R788	1-247-839-11	CARBON	2.2K 5% 1/4W
R729	1-249-439-11	CARBON 68K 5%	1/4W	R789	1-247-847-11	CARBON	4.7K 5% 1/4W
R730	1-247-871-11	CARBON 47K 5%	1/4W	R790	1-247-847-11	CARBON	4.7K 5% 1/4W
R731	1-249-417-11	CARBON 1K 5%	1/4W F	R795	1-249-417-11	CARBON	1K 5% 1/4W F
R732	1-247-883-00	CARBON 150K 5%	1/4W	R795A	1-247-855-11	CARBON	10K 5% 1/4W
R733	1-249-430-11	CARBON 12K 5%	1/4W	R796	1-249-417-11	CARBON	1K 5% 1/4W F
R734	1-247-876-11	CARBON 75K 5%	1/4W	R796A	1-247-855-11	CARBON	10K 5% 1/4W
R735	1-247-879-11	CARBON 100K 5%	1/4W	R797	1-249-417-11	CARBON	1K 5% 1/4W F
R736	1-247-807-11	CARBON 100 5%	1/4W	R798L	1-247-855-11	CARBON	10K 5% 1/4W
R737	1-249-417-11	CARBON 1K 5%	1/4W F	R798R	1-247-855-11	CARBON	10K 5% 1/4W
R739	1-247-807-11	CARBON 100 5%	1/4W	< VIBRATOR >			
R740	1-249-431-11	CARBON 15K 5%	1/4W	XTL01	1-567-908-11	VIBRATOR, CRYSTAL (16.9344MHz)	*****
R741	1-249-431-11	CARBON 15K 5%	1/4W				
R742	1-249-385-11	CARBON 2.2 5%	1/6W F				
R743	1-247-863-11	CARBON 22K 5%	1/4W				
R744	1-247-863-11	CARBON 22K 5%	1/4W				
R745	1-247-863-11	CARBON 22K 5%	1/4W				

FRONT

Ref. No.	Part No.	Description	Remarks
	A-4426-056-A	FRONT BOARD, COMPLETE (GRX20:AUS/RXD3)	*****
	A-4426-289-A	FRONT BOARD, COMPLETE (GRX20:AR,E)	*****
	A-4426-290-A	FRONT BOARD, COMPLETE (GRX20:MX)	*****
	A-4426-291-A	FRONT BOARD, COMPLETE (GRX20:SP,TW)	*****
	4-220-812-01	HOLDER, DISPLAY	
		< CAPACITOR >	
C601	1-126-916-11	ELECT	1000uF 20% 6.3V
C602	1-161-494-00	CERAMIC	0.022uF 25V
C603	1-164-159-11	CERAMIC	0.1uF 50V
C604	1-126-933-11	ELECT	100uF 20% 16V
C605	1-104-664-11	ELECT	47uF 20% 16V
C606	1-164-159-11	CERAMIC	0.1uF 50V
C608	1-126-958-11	ELECT	0.33uF 20% 50V
C608A	1-126-960-11	ELECT	1uF 20% 50V
C609	1-164-159-11	CERAMIC	0.1uF 50V
C610	1-126-964-11	ELECT	10uF 20% 50V
C611	1-161-494-00	CERAMIC	0.022uF 25V
C612	1-126-960-11	ELECT	1uF 20% 50V
C613	1-102-852-91	CERAMIC	47PF 5% 50V
C614	1-102-852-91	CERAMIC	47PF 5% 50V
C615	1-126-964-11	ELECT	10uF 20% 50V
C616	1-164-206-41	CERAMIC	0.047uF 99% 50V
C620	1-162-306-11	CERAMIC	0.01uF 30% 16V
C621	1-162-306-11	CERAMIC	0.01uF 30% 16V
C622	1-126-964-11	ELECT	10uF 20% 50V
C623	1-161-494-00	CERAMIC	0.022uF 25V
C624	1-162-286-31	CERAMIC	220PF 10% 50V
C625	1-162-286-31	CERAMIC	220PF 10% 50V
C626	1-162-286-31	CERAMIC	220PF 10% 50V
C641	1-126-957-11	ELECT	0.22uF 20% 50V
C642	1-126-957-11	ELECT	0.22uF 20% 50V
C643	1-164-206-41	CERAMIC	0.047uF 99% 50V
C644	1-126-959-11	ELECT	0.47uF 20% 50V
C645	1-126-957-11	ELECT	0.22uF 20% 50V
C646	1-162-306-11	CERAMIC	0.01uF 30% 16V
C647	1-126-957-11	ELECT	0.22uF 20% 50V
C648	1-126-957-11	ELECT	0.22uF 20% 50V
C649	1-162-302-11	CERAMIC	0.0022uF 30% 16V
C650	1-130-489-11	MYLAR	0.033uF 5% 50V
C651	1-126-957-11	ELECT	0.22uF 20% 50V
C652	1-162-293-31	CERAMIC	820PF 10% 50V
		< CONNECTOR >	
CN601	1-770-404-11	HOUSING,CONNECTOR(PC BOARD)11P	
CN602	1-770-404-11	HOUSING,CONNECTOR(PC BOARD)11P	
CN603	1-568-822-21	SOCKET, CONNECTOR 22P	
		< DIODE >	
D601	8-719-200-02	DIODE	1N4002
D602	8-719-200-02	DIODE	1N4002
D603	8-719-911-19	DIODE	1SS133T-72
D604	8-719-911-19	DIODE	1SS133T-72
D612	8-719-911-19	DIODE	1SS133T-72 (GRX20:AUS/RXD3)

Ref. No.	Part No.	Description	Remarks
D614	8-719-911-19	DIODE	1SS133T-72
D616	8-719-911-19	DIODE	1SS133T-72 (GRX20:AR,AUS,E,SP,TW/RXD3)
D617	8-719-911-19	DIODE	1SS133T-72 (GRX20:AR,AUS,E,SP,TW/RXD3)
D618	8-719-911-19	DIODE	1SS133T-72 (GRX20:AR,E,MX)
D619	8-719-911-19	DIODE	1SS133T-72 (GRX20:AR,AUS,E,SP,TW/RXD3)
D625	8-719-911-19	DIODE	1SS133T-72
D626	8-719-911-19	DIODE	1SS133T-72
D627	8-719-911-19	DIODE	1SS133T-72
D628	8-719-911-19	DIODE	1SS133T-72
D629	8-719-911-19	DIODE	1SS133T-72
D630	8-719-911-19	DIODE	1SS133T-72
D631	8-719-911-19	DIODE	1SS133T-72
D633	8-719-911-19	DIODE	1SS133T-72
D634	8-719-911-19	DIODE	1SS133T-72
D635	8-719-911-19	DIODE	1SS133T-72
D650	8-719-911-19	DIODE	1SS133T-72 (GRX20:AUS/RXD3)
D651	8-719-911-19	DIODE	1SS133T-72 (GRX20:AUS/RXD3)
D652	8-719-911-19	DIODE	1SS133T-72 (GRX20:AUS/RXD3)
D653	8-719-911-19	DIODE	1SS133T-72 (GRX20:AUS/RXD3)
D654	8-719-911-19	DIODE	1SS133T-72 (GRX20:AUS/RXD3)
		< FLUORESCENT INDICATOR >	
FLD601	1-517-731-11	INDICATOR TUBE, FLUORESCENT	
		< IC >	
IC601	8-759-593-40	IC	CXP82040-108Q
IC602	8-759-275-23	IC	BU2092
		< COIL >	
L601	1-414-151-11	INDUCTOR	470uH
		< LED >	
LED601	8-719-046-80	LED	SML19416W-TP4 (▶▶▶)
LED602	8-719-311-60	LED	SEL2810D-C (ENTER/NEXT)
LED603	8-719-311-60	LED	SEL2810D-C (■)
LED604	8-719-321-10	LED	SEL2110R (●)
LED605	8-719-301-42	LED	SEL2410E (TAPE B ◀)
LED606	8-719-301-42	LED	SEL2410E (TAPE B ▶▶)
LED607	8-719-301-42	LED	SEL2410E (TAPE A ▶▶)
		< TRANSISTOR >	
Q601	8-729-194-57	TRANSISTOR	2SC945TP-P
Q602	8-729-194-57	TRANSISTOR	2SC945TP-P
Q603	8-729-194-57	TRANSISTOR	2SC945TP-P
Q604	8-729-119-76	TRANSISTOR	2SA733-P
Q605	8-729-119-76	TRANSISTOR	2SA733-P (GRX20:AR,E,SP,TW)
Q606	8-729-194-57	TRANSISTOR	2SC945TP-P (GRX20:AR,E,SP,TW)
Q607	8-729-026-29	TRANSISTOR	2SJ346
Q608	8-729-026-29	TRANSISTOR	2SJ346

Ref. No.	Part No.	Description	Remarks				Ref. No.	Part No.	Description	Remarks			
< RESISTOR >							R662	1-249-416-11	CARBON	820	5%	1/4W	F
R600	1-249-407-11	CARBON	150	5%	1/4W	F	R663	1-249-418-11	CARBON	1.2K	5%	1/4W	F
R600A	1-249-417-11	CARBON	1K	5%	1/4W	F	R664	1-247-835-11	CARBON	1.5K	5%	1/4W	
R600B	1-249-417-11	CARBON	1K	5%	1/4W	F	R665	1-247-839-11	CARBON	2.2K	5%	1/4W	
R600C	1-247-871-11	CARBON	47K	5%	1/4W		R666	1-247-843-11	CARBON	3.3K	5%	1/4W	
R600D	1-247-847-11	CARBON	4.7K	5%	1/4W		R667	1-247-847-11	CARBON	4.7K	5%	1/4W	
R600E	1-247-847-11	CARBON	4.7K	5%	1/4W		R668	1-249-428-11	CARBON	8.2K	5%	1/4W	F
R600F	1-247-847-11	CARBON	4.7K	5%	1/4W		R669	1-247-827-11	CARBON	680	5%	1/4W	
R601	1-247-871-11	CARBON	47K	5%	1/4W		R670	1-249-416-11	CARBON	820	5%	1/4W	F
R602	1-249-417-11	CARBON	1K	5%	1/4W	F	R671	1-249-418-11	CARBON	1.2K	5%	1/4W	F
R603	1-247-871-11	CARBON	47K	5%	1/4W		R672	1-247-835-11	CARBON	1.5K	5%	1/4W	
R604	1-249-417-11	CARBON	1K	5%	1/4W	F	R673	1-247-839-11	CARBON	2.2K	5%	1/4W	
R605	1-247-871-11	CARBON	47K	5%	1/4W		R674	1-247-843-11	CARBON	3.3K	5%	1/4W	
R606	1-249-417-11	CARBON	1K	5%	1/4W	F	R675	1-247-847-11	CARBON	4.7K	5%	1/4W	
R607	1-249-431-11	CARBON	15K	5%	1/4W		R676	1-249-428-11	CARBON	8.2K	5%	1/4W	F
R608	1-247-871-11	CARBON	47K	5%	1/4W		R677	1-249-951-11	CARBON	15K	1%	1/4W	
R609	1-247-871-11	CARBON	47K	5%	1/4W		R678	1-249-957-11	CARBON	27K	1%	1/4W	
R610	1-247-879-11	CARBON	100K	5%	1/4W		R680	1-247-895-00	CARBON	470K	5%	1/4W	
R611	1-247-879-11	CARBON	100K	(GRX20:AR,E,SP,TW) 5%	1/4W		R681	1-249-957-11	CARBON	27K	1%	1/4W	
R612	1-247-847-11	CARBON	4.7K	(GRX20:AR,E,SP,TW) 5%	1/4W		R683	1-247-895-00	CARBON	470K	5%	1/4W	
R621	1-249-417-11	CARBON	1K	(GRX20:AR,E,SP,TW) 5%	1/4W	F	R684	1-247-871-11	CARBON	47K	5%	1/4W	
R622	1-249-417-11	CARBON	1K	5%	1/4W	F	R685	1-247-835-11	CARBON	1.5K	5%	1/4W	
R623	1-249-417-11	CARBON	1K	5%	1/4W	F	R687	1-247-895-00	CARBON	470K	5%	1/4W	
R624	1-249-407-11	CARBON	150	5%	1/4W	F	R688	1-247-871-11	CARBON	47K	5%	1/4W	
R625	1-249-407-11	CARBON	150	5%	1/4W	F	R689	1-247-835-11	CARBON	1.5K	5%	1/4W	
R626	1-249-407-11	CARBON	150	5%	1/4W	F	R691	1-247-895-00	CARBON	470K	5%	1/4W	
R627	1-249-407-11	CARBON	150	5%	1/4W	F	R692	1-247-871-11	CARBON	47K	5%	1/4W	
R628	1-249-407-11	CARBON	150	5%	1/4W	F	R693	1-247-835-11	CARBON	1.5K	5%	1/4W	
R629	1-249-407-11	CARBON	150	5%	1/4W	F	R694	1-247-887-00	CARBON	220K	5%	1/4W	
R630	1-249-407-11	CARBON	150	5%	1/4W	F	R695	1-247-895-00	CARBON	470K	5%	1/4W	
R631	1-249-407-11	CARBON	150	5%	1/4W	F	R696	1-247-871-11	CARBON	47K	5%	1/4W	
R633	1-247-879-11	CARBON	100K	5%	1/4W		R697	1-247-835-11	CARBON	1.5K	5%	1/4W	
R634	1-247-879-11	CARBON	100K	5%	1/4W		RA605	1-247-871-11	CARBON	47K	5%	1/4W	
R638	1-247-847-11	CARBON	4.7K	5%	1/4W		RA606	1-247-871-11	CARBON	47K	5%	1/4W	
R639	1-247-847-11	CARBON	4.7K	5%	1/4W		RA607	1-247-871-11	CARBON	47K	5%	1/4W	
R640	1-247-839-11	CARBON	2.2K	5%	1/4W		RA608	1-247-871-11	CARBON	47K	5%	1/4W	
R641	1-247-847-11	CARBON	4.7K	5%	1/4W		RA609	1-247-871-11	CARBON	47K	5%	1/4W	
R642	1-247-847-11	CARBON	4.7K	5%	1/4W		< SWITCH >						
R643	1-247-847-11	CARBON	4.7K	5%	1/4W		S601	1-572-647-11	SWITCH, KEY BOARD (I/⏻)				
R644	1-247-847-11	CARBON	4.7K	5%	1/4W		S602	1-572-647-11	SWITCH, KEY BOARD (CLOCK/TIMER SHOT)				
R645	1-247-847-11	CARBON	4.7K	5%	1/4W		S603	1-572-647-11	SWITCH, KEY BOARD (TIMER SELECT)				
R646	1-247-847-11	CARBON	4.7K	5%	1/4W		S604	1-572-647-11	SWITCH, KEY BOARD (DISPLAY/DEMO)				
R647	1-247-855-11	CARBON	10K	5%	1/4W		S605	1-572-647-11	SWITCH, KEY BOARD (FILE SELECT)				
R648	1-247-855-11	CARBON	10K	5%	1/4W		S606	1-572-647-11	SWITCH, KEY BOARD (DBFB)				
R649	1-247-855-11	CARBON	10K	5%	1/4W		S607	1-572-647-11	SWITCH, KEY BOARD (+, ▶▶)				
R651	1-247-827-11	CARBON	680	5%	1/4W		S608	1-572-647-11	SWITCH, KEY BOARD (-, ◀◀)				
R652	1-249-416-11	CARBON	820	5%	1/4W	F	S609	1-572-647-11	SWITCH, KEY BOARD (▶▶I)				
R653	1-249-418-11	CARBON	1.2K	5%	1/4W	F	S610	1-572-647-11	SWITCH, KEY BOARD (I◀◀)				
R654	1-247-835-11	CARBON	1.5K	5%	1/4W		S611	1-572-647-11	SWITCH, KEY BOARD (■)				
R655	1-247-839-11	CARBON	2.2K	5%	1/4W		S612	1-572-647-11	SWITCH, KEY BOARD (TAPE B ▶▶)				
R656	1-247-843-11	CARBON	3.3K	5%	1/4W		S613	1-572-647-11	SWITCH, KEY BOARD (TAPE B ▶▶)				
R657	1-247-847-11	CARBON	4.7K	5%	1/4W		S614	1-572-647-11	SWITCH, KEY BOARD (CD ▶▶I)				
R658	1-249-428-11	CARBON	8.2K	5%	1/4W	F	S615	1-572-647-11	SWITCH, KEY BOARD (TUNER/BAND)				
R659	1-249-951-11	CARBON	15K	1%	1/4W								
R660	1-249-957-11	CARBON	27K	1%	1/4W								
R661	1-247-827-11	CARBON	680	5%	1/4W								

FRONT

FUSE

H/P

MAIN

Ref. No.	Part No.	Description	Remarks
S616	1-572-647-11	SWITCH, KEY BOARD (REC)	
S617	1-572-647-11	SWITCH, KEY BOARD (PAUSE)	
S618	1-572-647-11	SWITCH, KEY BOARD (CD SYNC)	
S619	1-572-647-11	SWITCH, KEY BOARD (TAPE A ►)	
S620	1-572-647-11	SWITCH, KEY BOARD (FUNCTION)	
S621	1-572-647-11	SWITCH, KEY BOARD (PLAY MODE,TUNER MEMORY)	
S622	1-572-647-11	SWITCH, KEY BOARD (REPEAT,STEREO/MONO)	
S623	1-572-647-11	SWITCH, KEY BOARD (EDIT/DIRECTION)	
S624	1-572-647-11	SWITCH, KEY BOARD (ENTER/NEXT)	
S625	1-572-647-11	SWITCH, KEY BOARD (DISC 1)	
S626	1-572-647-11	SWITCH, KEY BOARD (DISC 2)	
S627	1-572-647-11	SWITCH, KEY BOARD (DISC 3)	
S628	1-572-647-11	SWITCH, KEY BOARD (DISC SKIP/EX-CHANGE)	
S629	1-572-647-11	SWITCH, KEY BOARD (▲ OPEN/CLOSE)	
< VIBRATOR >			
X601	1-567-925-11	VIBRATOR, CRYSTAL (10MHz)	

	1-674-558-11	FUSE BOARD *****	
*	1-533-213-31	HOLDER, FUSE < FUSE >	
△F702	1-532-504-31	FUSE 4.0A 250V (GRX20:AR,AUS,E,SP,TW)	
△F702	1-576-108-11	FUSE 4.0A 125V (GRX20:MX)	
△F702	1-532-388-31	FUSE 2.0A 250V (RXD3)	
△F703	1-532-388-31	FUSE 2.0A 250V (GRX20:AR,AUS,E,SP,TW)	

	1-674-559-11	H/P BOARD ***** < CAPACITOR >	
C360	1-161-494-00	CERAMIC 0.022uF	25V
C361	1-161-494-00	CERAMIC 0.022uF	25V
C365	1-164-159-11	CERAMIC 0.1uF	50V
< JACK >			
JK302	1-569-612-11	JACK, MINIATURE (PHONES)	

A-4426-303-A	MAIN BOARD, COMPLETE (GRX20) *****		
A-4426-302-A	MAIN BOARD, COMPLETE (RXD3) ***** < CAPACITOR >		
C100	1-162-294-31	CERAMIC 0.001uF	10% 50V
C107	1-162-306-11	CERAMIC 0.01uF	20% 16V (RXD3)
C108	1-126-933-11	ELECT 100uF	20% 16V
C113	1-161-494-00	CERAMIC 0.022uF	25V
C114	1-130-495-11	MYLAR 0.1uF	5% 50V
C115	1-161-494-00	CERAMIC 0.022uF	25V
C116	1-130-467-00	MYLAR 470PF	5% 50V
C117	1-162-205-31	CERAMIC 18PF	5% 50V
C118	1-126-933-11	ELECT 100uF	20% 16V
C120	1-130-491-00	MYLAR 0.047uF	5% 50V

Ref. No.	Part No.	Description	Remarks
C121	1-162-203-31	CERAMIC 15PF	5% 50V
C122	1-126-960-11	ELECT 1uF	20% 50V
C123	1-126-959-11	ELECT 0.47uF	20% 50V
C124	1-162-206-31	CERAMIC 20PF	5% 50V
C125	1-126-960-11	ELECT 1uF	20% 50V
C126	1-130-491-00	MYLAR 0.047uF	5% 50V
C128	1-161-494-00	CERAMIC 0.022uF	25V
C129	1-126-964-11	ELECT 10uF	20% 50V
C130	1-130-489-11	MYLAR 0.033uF	5% 50V
C131	1-130-489-11	MYLAR 0.033uF	5% 50V
C135	1-161-494-00	CERAMIC 0.022uF	25V (GRX20)
C135	1-162-291-31	CERAMIC 560PF	10% 50V (RXD3)
C137	1-126-959-11	ELECT 0.47uF	20% 50V
C138	1-164-159-11	CERAMIC 0.1uF	50V
C139	1-161-494-00	CERAMIC 0.022uF	25V
C140	1-126-933-11	ELECT 100uF	20% 16V
C141	1-161-494-00	CERAMIC 0.022uF	25V
C142	1-126-933-11	ELECT 100uF	20% 16V
C143	1-130-499-00	MYLAR 0.22uF	5% 50V
C144	1-136-153-00	FILM 0.01uF	5% 50V
C146	1-162-294-31	CERAMIC 0.001uF	10% 50V
C148	1-161-494-00	CERAMIC 0.022uF	25V
C149	1-162-294-31	CERAMIC 0.001uF	10% 50V
C150	1-161-494-00	CERAMIC 0.022uF	25V
C151	1-128-551-11	ELECT 22uF	20% 25V
C152	1-162-282-31	CERAMIC 100PF	10% 50V
C154	1-164-159-11	CERAMIC 0.1uF	50V
C155	1-162-294-31	CERAMIC 0.001uF	10% 50V
C156	1-162-209-31	CERAMIC 27PF	5% 50V
C157	1-162-209-31	CERAMIC 27PF	5% 50V
C158	1-104-664-11	ELECT 47uF	20% 16V
C159	1-162-306-11	CERAMIC 0.01uF	20% 16V
C160	1-126-963-11	ELECT 4.7uF	20% 50V
C161	1-126-963-11	ELECT 4.7uF	20% 50V
C162	1-161-494-00	CERAMIC 0.022uF	25V
C163	1-161-494-00	CERAMIC 0.022uF	25V
C164	1-126-962-11	ELECT 3.3uF	20% 50V
C166	1-162-294-31	CERAMIC 0.001uF	10% 50V (RXD3)
C167	1-162-199-31	CERAMIC 10PF	5% 50V (RXD3)
C177	1-161-494-00	CERAMIC 0.022uF	25V
C179	1-130-491-00	MYLAR 0.047uF	5% 50V
C185	1-161-494-00	CERAMIC 0.022uF	25V
C186	1-162-294-31	CERAMIC 0.001uF	10% 50V
C187	1-161-494-00	CERAMIC 0.022uF	25V
C188	1-164-159-11	CERAMIC 0.1uF	50V
C189	1-162-600-11	CERAMIC 0.0047uF	30% 16V
C193	1-164-159-11	CERAMIC 0.1uF	50V
C194	1-162-286-31	CERAMIC 220PF	10% 50V
C195	1-162-286-31	CERAMIC 220PF	10% 50V
C196	1-162-286-31	CERAMIC 220PF	10% 50V
C197	1-162-286-31	CERAMIC 220PF	10% 50V
C198	1-126-959-11	ELECT 0.47uF	20% 50V
C199	1-130-491-00	MYLAR 0.047uF	5% 50V
C201	1-162-292-31	CERAMIC 680PF	10% 50V
C202	1-162-292-31	CERAMIC 680PF	10% 50V

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

Ref. No.	Part No.	Description	Remarks			Ref. No.	Part No.	Description	Remarks		
C203	1-162-292-31	CERAMIC	680PF	10%	50V	C327	1-126-933-11	ELECT	100uF	20%	16V
C204	1-162-292-31	CERAMIC	680PF	10%	50V	C331	1-126-961-11	ELECT	2.2uF	20%	50V
C205	1-162-286-31	CERAMIC	220PF	10%	50V	C332	1-126-961-11	ELECT	2.2uF	20%	50V
C206	1-162-286-31	CERAMIC	220PF	10%	50V	C333	1-104-664-11	ELECT	47uF	20%	16V
C207	1-162-286-31	CERAMIC	220PF	10%	50V	C334	1-104-664-11	ELECT	47uF	20%	16V
C208	1-162-286-31	CERAMIC	220PF	10%	50V	C337	1-109-889-11	ELECT	1uF	20%	50V
C209	1-104-664-11	ELECT	47uF	20%	16V	C339	1-126-961-11	ELECT	2.2uF	20%	50V
C210	1-104-664-11	ELECT	47uF	20%	16V	C340	1-126-962-11	ELECT	3.3uF	20%	50V
C211	1-136-156-00	FILM	0.018uF	5%	50V	C341	1-109-953-11	ELECT	2.2uF	20%	50V
C212	1-136-156-00	FILM	0.018uF	5%	50V	C342	1-109-953-11	ELECT	2.2uF	20%	50V
C213	1-126-960-11	ELECT	1uF	20%	50V	C343	1-126-962-11	ELECT	3.3uF	20%	50V
C214	1-126-960-11	ELECT	1uF	20%	50V	C344	1-126-962-11	ELECT	3.3uF	20%	50V
C215	1-162-303-11	CERAMIC	0.0033uF	30%	16V	C345	1-162-199-31	CERAMIC	10PF	5%	50V
C216	1-162-303-11	CERAMIC	0.0033uF	30%	16V	C346	1-162-199-31	CERAMIC	10PF	5%	50V
C217	1-128-551-11	ELECT	22uF	20%	25V	C347	1-126-961-11	ELECT	2.2uF	20%	50V
C218	1-126-940-11	ELECT	330uF	20%	16V	C348	1-126-961-11	ELECT	2.2uF	20%	50V
C219	1-126-962-11	ELECT	3.3MF	20%	50V	C349	1-126-933-11	ELECT	100uF	20%	16V
C221	1-126-962-11	ELECT	3.3MF	20%	50V	C351	1-164-159-11	CERAMIC	0.1uF		50V
C222	1-126-962-11	ELECT	3.3MF	20%	50V	C352	1-164-159-11	CERAMIC	0.1uF		50V
C223	1-162-290-31	CERAMIC	470PF	10%	50V	C354	1-126-934-11	ELECT	220uF	20%	16V
C224	1-162-290-31	CERAMIC	470PF	10%	50V	C355	1-126-934-11	ELECT	220uF	20%	16V
C225	1-164-736-31	CERAMIC	0.0012uF	10%	50V	C363	1-164-159-11	CERAMIC	0.1uF		50V
C226	1-164-736-31	CERAMIC	0.0012uF	10%	50V	C364	1-164-159-11	CERAMIC	0.1uF		50V
C227	1-162-286-31	CERAMIC	220PF	10%	50V	C378	1-126-961-11	ELECT	2.2uF	20%	50V
C228	1-162-286-31	CERAMIC	220PF	10%	50V	C379	1-126-961-11	ELECT	2.2uF	20%	50V
C229	1-126-933-11	ELECT	100uF	20%	16V	C500	1-126-960-11	ELECT	1uF	20%	50V
C230	1-126-933-11	ELECT	100uF	20%	16V	C501	1-126-934-11	ELECT	220uF	20%	16V
C231	1-126-962-11	ELECT	3.3MF	20%	50V	C502	1-126-960-11	ELECT	1uF	20%	50V
C232	1-126-962-11	ELECT	3.3MF	20%	50V	C503	1-162-286-31	CERAMIC	220PF	10%	50V
C233	1-162-294-31	CERAMIC	0.001uF	10%	50V	C504	1-162-286-31	CERAMIC	220PF	10%	50V
C234	1-162-294-31	CERAMIC	0.001uF	10%	50V	C505	1-162-286-31	CERAMIC	220PF	10%	50V
C237	1-161-494-00	CERAMIC	0.022uF		25V	C506	1-126-967-11	ELECT	47uF	20%	50V
C238	1-126-961-11	ELECT	2.2uF	20%	50V	C507	1-126-967-11	ELECT	47uF	20%	50V
C251	1-130-485-00	MYLAR	0.015uF	5%	50V	C511	1-162-286-31	CERAMIC	220PF	10%	50V
C252	1-137-371-11	FILM	0.015uF	5%	50V	C512	1-162-286-31	CERAMIC	220PF	10%	50V
C253	1-130-483-00	MYLAR	0.01uF	5%	50V	C551	1-162-306-11	CERAMIC	0.01uF	20%	16V
C254	1-137-368-11	FILM	0.0047uF	5%	50V	C553	1-126-960-11	ELECT	1uF	20%	50V
C255	1-104-664-11	ELECT	47uF	20%	16V	C554	1-126-956-11	ELECT	0.1uF	20%	50V
C261	1-137-374-11	FILM	0.047uF	5%	50V	C555	1-126-960-11	ELECT	1uF	20%	50V
C262	1-137-374-11	FILM	0.047uF	5%	50V	C556	1-126-933-11	ELECT	100uF	20%	16V
C301	1-162-294-31	CERAMIC	0.001uF	10%	50V	C571	1-126-963-11	ELECT	4.7uF	20%	50V
C302	1-162-294-31	CERAMIC	0.001uF	10%	50V	C193A	1-161-494-00	CERAMIC	0.022uF		25V
C303	1-126-961-11	ELECT	2.2uF	20%	50V	C500A	1-161-494-00	CERAMIC	0.022uF		25V
C304	1-126-961-11	ELECT	2.2uF	20%	50V	< FILTER >					
C305	1-126-961-11	ELECT	2.2uF	20%	50V	CF101	1-579-568-11	FILTER, CERAMIC (GRX20)			
C306	1-126-961-11	ELECT	2.2uF	20%	50V	CF101	1-567-415-11	FILTER, CERAMIC (RXD3)			
C307	1-130-489-00	MYLAR	0.033uF	5%	50V	CF102	1-567-390-11	FILTER, CERAMIC 10.7M (GRX20)			
C309	1-130-499-00	MYLAR	0.22uF	5%	50V	CF102	1-567-415-11	FILTER, CERAMIC (RXD3)			
C310	1-130-499-00	MYLAR	0.22uF	5%	50V	CF103	1-527-996-11	FILTER, CERAMIC			
C311	1-130-499-00	MYLAR	0.22uF	5%	50V	CF104	1-579-856-31	DISCRIMINATOR, CERAMIC			
C312	1-130-499-00	MYLAR	0.22uF	5%	50V	< CONNECTOR >					
C308	1-130-489-00	MYLAR	0.033uF	5%	50V	* CN201	1-564-705-11	PIN, CONNECTOR (SMALL TYPE) 3P			
C313	1-162-199-31	CERAMIC	10PF	5%	50V	* CN501	1-568-835-11	SOCKET, CONNECTOR 16P			
C319	1-126-961-11	ELECT	2.2uF	20%	50V	CN601	1-770-395-11	PIN, CONNECTOR (PC BOARD) 11P			
C320	1-126-961-11	ELECT	2.2uF	20%	50V	CN602	1-770-395-11	PIN, CONNECTOR (PC BOARD) 11P			
C322	1-161-494-00	CERAMIC	0.022uF		25V	* CN701	1-568-837-11	SOCKET, CONNECTOR 20P			
C323	1-164-159-11	CERAMIC	0.1uF		50V						
C324	1-126-933-11	ELECT	100uF	20%	16V						
C325	1-126-933-11	ELECT	100uF	20%	16V						
C326	1-161-494-00	CERAMIC	0.022uF		25V						

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
< DIODE >				Q201	8-729-194-57	TRANSISTOR 2SC945TP-P	
D101	8-719-991-33	DIODE 1SS133T-77		Q202	8-729-194-57	TRANSISTOR 2SC945TP-P	
D102	8-719-991-33	DIODE 1SS133T-77		Q203	8-729-194-57	TRANSISTOR 2SC945TP-P	
D103	8-719-991-33	DIODE 1SS133T-77		Q204	8-729-194-57	TRANSISTOR 2SC945TP-P	
D104	8-719-991-33	DIODE 1SS133T-77		Q205	8-729-194-57	TRANSISTOR 2SC945TP-P	
D109	8-719-991-33	DIODE 1SS133T-77		Q206	8-729-194-57	TRANSISTOR 2SC945TP-P	
D110	8-719-109-89	DIODE RD5.6EB1T		Q207	8-729-119-76	TRANSISTOR 2SA733TP-P	
D111	8-719-991-33	DIODE 1SS133T-77		Q208	8-729-119-76	TRANSISTOR 2SA733TP-P	
D201	8-719-991-33	DIODE 1SS133T-77		Q209	8-729-194-57	TRANSISTOR 2SC945TP-P	
D202	8-719-991-33	DIODE 1SS133T-77		Q213	8-729-194-57	TRANSISTOR 2SC945TP-P	
D203	8-719-991-33	DIODE 1SS133T-77		Q214	8-729-194-57	TRANSISTOR 2SC945TP-P	
D301	8-719-991-33	DIODE 1SS133T-77		Q251	8-729-142-46	TRANSISTOR 2SC2001TP-K1	
D302	8-719-010-45	DIODE UZ-6.2BSA		Q252	8-729-119-76	TRANSISTOR 2SA733TP-P	
D303	8-719-010-16	DIODE UZ-3.0BSA		Q253	8-729-194-57	TRANSISTOR 2SC945TP-P	
D304	8-719-010-16	DIODE UZ-3.0BSA		Q301	8-729-194-57	TRANSISTOR 2SC945TP-P	
D305	8-719-921-49	DIODE MTZJ-6.2		Q302	8-729-194-57	TRANSISTOR 2SC945TP-P	
D306	8-719-921-49	DIODE MTZJ-6.2		Q305	8-729-194-57	TRANSISTOR 2SC945TP-P	
D307	8-719-991-33	DIODE 1SS133T-77		Q306	8-729-194-57	TRANSISTOR 2SC945TP-P	
D501	8-719-991-33	DIODE 1SS133T-77		Q307	8-729-026-29	TRANSISTOR 2SJ346	
D502	8-719-991-33	DIODE 1SS133T-77		Q308	8-729-140-96	TRANSISTOR 2SC2060-R	
D551	8-719-991-33	DIODE 1SS133T-77		Q309	8-729-140-96	TRANSISTOR 2SC2060-R	
D552	8-719-991-33	DIODE 1SS133T-77		Q320	8-729-026-29	TRANSISTOR 2SJ346	
D553	8-719-053-11	DIODE KV1560-TZ		Q501	8-729-194-57	TRANSISTOR 2SC945TP-P	
< FRONTEND >				Q502	8-729-903-32	TRANSISTOR 2SA933-R	
FE101	1-693-469-11	FRONTEND (EXCEPT AEP)		Q503	8-729-903-32	TRANSISTOR 2SA933-R	
FE101	1-693-422-11	FRONTEND (AEP)		Q504	8-729-194-57	TRANSISTOR 2SC945TP-P	
< IC >				Q505	8-729-903-32	TRANSISTOR 2SA933-R	
IC102	8-759-590-14	IC LA1833L		Q506	8-729-194-57	TRANSISTOR 2SC945TP-P	
IC103	8-759-590-13	IC LC72131D		Q551	8-729-194-57	TRANSISTOR 2SC945TP-P	
IC201	8-759-242-58	IC TA8189N		Q552	8-729-194-57	TRANSISTOR 2SC945TP-P	
IC301	8-759-595-08	IC M62439SP		< RESISTOR >			
IC302	8-759-505-55	IC NJM4558L		R100	1-249-427-11	CARBON 6.8K	5% 1/4W F
IC502	8-759-916-52	IC TC74HC165AP		R104	1-247-807-11	CARBON 100	5% 1/4W
< JACK >				R105	1-249-409-11	CARBON 220	5% 1/4W F (GRX20)
JK101	1-694-092-21	TERMINAL BOARD (SPEAKER) (GRX20)		R105	1-249-417-11	CARBON 1K	5% 1/4W F (RXD3)
JK101	1-694-126-11	TERMINAL BOARD (SPEAKER) (RXD3)		R106	1-247-849-11	CARBON 5.6K	5% 1/4W (GRX20)
JK301	1-770-613-11	JACK, PIN 4P (MD IN/OUT)		R106	1-247-807-11	CARBON 100	5% 1/4W (RXD3)
< COIL >				R107	1-249-427-11	CARBON 6.8K	5% 1/4W F
L104	1-411-901-11	COIL, ANTENNA		R112	1-247-698-11	CARBON 68	5% 1/4W F
L105	1-429-555-11	TRANSFORMER, MW OSC		R113	1-249-417-11	CARBON 1K	5% 1/4W F
L106	1-408-611-31	INDUCTOR 47μH		R115	1-249-417-11	CARBON 1K	5% 1/4W F
L108	1-410-091-31	INDUCTOR 22μH		R116	1-249-397-11	CARBON 22	5% 1/4W F
L109	1-412-503-11	INDUCTOR 22μH		R117	1-247-855-11	CARBON 10K	5% 1/4W
L113	1-412-503-11	INDUCTOR 22μH		R118	1-247-807-11	CARBON 100	5% 1/4W
L114	1-412-503-11	INDUCTOR 22μH		R119	1-249-410-11	CARBON 270	5% 1/4W F
L251	1-429-552-11	TRANSFORMER, BIAS OSCILLATION		R120	1-247-843-11	CARBON 3.3K	5% 1/4W
L401	1-408-096-00	INDUCTOR 470μH		R121	1-249-432-11	CARBON 18K	5% 1/4W
< TRANSISTOR >				R123	1-249-428-11	CARBON 8.2K	5% 1/4W F
Q101	1-807-810-21	TRANSISTOR 2SC1675TP-L		R124	1-247-843-11	CARBON 3.3K	5% 1/4W
Q108	8-729-041-83	TRANSISTOR 2SK544E		R126	1-247-843-11	CARBON 3.3K	5% 1/4W
Q114	8-729-026-29	TRANSISTOR 2SJ346		R127	1-247-843-11	CARBON 3.3K	5% 1/4W
Q116	8-729-194-57	TRANSISTOR 2SC945TP-P		R128	1-249-431-11	CARBON 15K	5% 1/4W
Q117	8-729-194-57	TRANSISTOR 2SC945TP-P		R129	1-249-431-11	CARBON 15K	5% 1/4W
				R130	1-249-405-11	CARBON 100	5% 1/4W F
				R131	1-249-417-11	CARBON 1K	5% 1/4W F
				R132	1-247-855-11	CARBON 10K	5% 1/4W

Ref. No.	Part No.	Description			Remarks	Ref. No.	Part No.	Description			Remarks
R133	1-247-849-11	CARBON	5.6K	5%	1/4W	R241	1-247-847-11	CARBON	4.7K	5%	1/4W
R134	1-247-855-11	CARBON	10K	5%	1/4W	R242	1-247-847-11	CARBON	4.7K	5%	1/4W
R135	1-249-417-11	CARBON	1K	5%	1/4W F	R243	1-249-430-11	CARBON	12K	5%	1/4W
R136	1-247-879-11	CARBON	100K	5%	1/4W	R244	1-247-839-11	CARBON	2.2K	5%	1/4W
R137	1-247-855-11	CARBON	10K	5%	1/4W	R245	1-247-839-11	CARBON	2.2K	5%	1/4W
R138	1-247-807-11	CARBON	100	5%	1/4W	R246	1-249-434-11	CARBON	27K	5%	1/4W
R139	1-247-855-11	CARBON	10K	5%	1/4W	R247	1-247-855-11	CARBON	10K	5%	1/4W
R140	1-247-839-11	CARBON	2.2K	5%	1/4W	R248	1-247-847-11	CARBON	4.7K	5%	1/4W
R141	1-247-839-11	CARBON	2.2K	5%	1/4W	R251	1-249-434-11	CARBON	27K	5%	1/4W
R142	1-247-839-11	CARBON	2.2K	5%	1/4W	R252	1-249-393-11	CARBON	10	5%	1/4W F
R143	1-247-839-11	CARBON	2.2K	5%	1/4W	R253	1-249-413-11	CARBON	470	5%	1/4W F
R144	1-249-409-11	CARBON	220	5%	1/4W F	R254	1-247-855-11	CARBON	10K	5%	1/4W
R147	1-247-843-11	CARBON	3.3K	5%	1/4W	R255	1-247-847-11	CARBON	4.7K	5%	1/4W
R151	1-247-843-11	CARBON	3.3K	5%	1/4W	R261	1-247-843-11	CARBON	3.3K	5%	1/4W
R155	1-247-843-11	CARBON	3.3K	5%	1/4W	R262	1-247-843-11	CARBON	3.3K	5%	1/4W
R156	1-247-863-11	CARBON	22K	5%	1/4W	R301	1-249-427-11	CARBON	6.8K	5%	1/4W F
R157	1-247-863-11	CARBON	22K	5%	1/4W	R302	1-249-427-11	CARBON	6.8K	5%	1/4W F
R172	1-247-847-11	CARBON	4.7K	5%	1/4W	R303	1-249-417-11	CARBON	1K	5%	1/4W F
R173	1-247-867-11	CARBON	33K	5%	1/4W	R304	1-249-417-11	CARBON	1K	5%	1/4W F
R174	1-249-409-11	CARBON	220	5%	1/4W F	R309	1-249-427-11	CARBON	6.8K	5%	1/4W F
R175	1-249-431-11	CARBON	15K	5%	1/4W	R310	1-249-427-11	CARBON	6.8K	5%	1/4W F
R201	1-249-393-11	CARBON	10	5%	1/4W F	R311	1-247-847-11	CARBON	4.7K	5%	1/4W
R202	1-249-393-11	CARBON	10	5%	1/4W F	R312	1-247-847-11	CARBON	4.7K	5%	1/4W
R203	1-249-393-11	CARBON	10	5%	1/4W F	R313	1-247-871-11	CARBON	47K	5%	1/4W
R204	1-249-393-11	CARBON	10	5%	1/4W F	R314	1-247-871-11	CARBON	47K	5%	1/4W
R205	1-249-401-11	CARBON	47	5%	1/4W F	R315	1-247-871-11	CARBON	47K	5%	1/4W
R205A	1-249-409-11	CARBON	220	5%	1/4W F	R316	1-247-871-11	CARBON	47K	5%	1/4W
R206	1-249-401-11	CARBON	47	5%	1/4W F	R317	1-247-871-11	CARBON	47K	5%	1/4W
R206A	1-249-409-11	CARBON	220	5%	1/4W F	R318	1-247-871-11	CARBON	47K	5%	1/4W
R207	1-249-428-11	CARBON	8.2K	5%	1/4W F	R319	1-247-871-11	CARBON	47K	5%	1/4W
R208	1-249-428-11	CARBON	8.2K	5%	1/4W F	R320	1-247-871-11	CARBON	47K	5%	1/4W
R209	1-247-889-00	CARBON	270K	5%	1/4W	R323	1-247-871-11	CARBON	47K	5%	1/4W
R210	1-247-889-00	CARBON	270K	5%	1/4W	R324	1-247-871-11	CARBON	47K	5%	1/4W
R211	1-247-891-00	CARBON	330K	5%	1/4W	R325	1-247-839-11	CARBON	2.2K	5%	1/4W
R212	1-247-891-00	CARBON	330K	5%	1/4W	R326	1-247-839-11	CARBON	2.2K	5%	1/4W
R213	1-247-847-11	CARBON	4.7K	5%	1/4W	R327	1-247-839-11	CARBON	2.2K	5%	1/4W
R214	1-247-847-11	CARBON	4.7K	5%	1/4W	R328	1-247-855-11	CARBON	10K	5%	1/4W
R215	1-247-891-00	CARBON	330K	5%	1/4W	R329	1-249-430-11	CARBON	12K	5%	1/4W
R216	1-247-891-00	CARBON	330K	5%	1/4W	R330	1-249-417-11	CARBON	1K	5%	1/4W F
R219	1-247-871-11	CARBON	47K	5%	1/4W	R331	1-249-417-11	CARBON	1K	5%	1/4W F
R220	1-247-863-11	CARBON	22K	5%	1/4W	R332	1-247-871-11	CARBON	47K	5%	1/4W
R221	1-247-855-11	CARBON	10K	5%	1/4W	R333	1-247-871-11	CARBON	47K	5%	1/4W
R222	1-249-409-11	CARBON	220	5%	1/4W F	R334	1-247-849-11	CARBON	5.6K	5%	1/4W
R223	1-247-885-00	CARBON	180K	5%	1/4W	R335	1-247-849-11	CARBON	5.6K	5%	1/4W
R224	1-247-885-00	CARBON	180K	5%	1/4W	R336	1-247-827-11	CARBON	680	5%	1/4W
R225	1-247-863-11	CARBON	22K	5%	1/4W	R337	1-247-827-11	CARBON	680	5%	1/4W
R226	1-247-863-11	CARBON	22K	5%	1/4W	R339	1-215-857-11	METAL OXIDE	10	5%	1W F
R227	1-247-881-00	CARBON	120K	5%	1/4W	R341	1-249-413-11	CARBON	470	5%	1/4W F
R228	1-247-881-00	CARBON	120K	5%	1/4W	R342	1-249-418-11	CARBON	1.2K	5%	1/4W F
R229	1-249-418-11	CARBON	1.2K	5%	1/4W F	R345	1-247-871-11	CARBON	47K	5%	1/4W
R230	1-249-418-11	CARBON	1.2K	5%	1/4W F	R346	1-247-871-11	CARBON	47K	5%	1/4W
R231	1-247-839-11	CARBON	2.2K	5%	1/4W	R347	1-247-901-11	CARBON	820K	5%	1/4W
R232	1-247-839-11	CARBON	2.2K	5%	1/4W	R349	1-249-418-11	CARBON	1.2K	5%	1/4W F
R233	1-247-863-11	CARBON	22K	5%	1/4W	R350	1-247-827-11	CARBON	680	5%	1/4W
R234	1-247-863-11	CARBON	22K	5%	1/4W	R352	1-247-863-11	CARBON	22K	5%	1/4W
R235	1-247-847-11	CARBON	4.7K	5%	1/4W	R358	1-249-413-11	CARBON	470	5%	1/4W F
R236	1-247-847-11	CARBON	4.7K	5%	1/4W	R359	1-202-463-00	SOLID	2.2M	5%	1/4W
R237	1-247-855-11	CARBON	10K	5%	1/4W	R360	1-202-463-00	SOLID	2.2M	5%	1/4W
R239	1-249-381-11	CARBON	1	5%	1/4W F	R361	1-247-855-11	CARBON	10K	5%	1/4W
R240	1-247-855-11	CARBON	10K	5%	1/4W	R362	1-247-855-11	CARBON	10K	5%	1/4W

MAIN	MOTOR	MOTOR (6P) (S)	PHOTO SOCKET
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Ref. No.	Part No.	Description	Remarks				Ref. No.	Part No.	Description	Remarks					
R363	1-249-418-11	CARBON	1.2K	5%	1/4W	F	T102	1-429-554-11	< TRANSFORMER >						
R364	1-249-418-11	CARBON	1.2K	5%	1/4W	F									
R365	1-247-839-11	CARBON	2.2K	5%	1/4W				TRANSFORMER, AM IFT						
R366	1-247-839-11	CARBON	2.2K	5%	1/4W										
R367	1-247-839-11	CARBON	2.2K	5%	1/4W				< TRIMMER CAP >						
R368	1-247-839-11	CARBON	2.2K	5%	1/4W		TC102	1-141-304-21	CAP, TRIMMER	10PF					
R369	1-247-871-11	CARBON	47K	5%	1/4W		TC104	1-141-304-21	CAP, TRIMMER	10PF					
R370	1-247-871-11	CARBON	47K	5%	1/4W										
R371	1-249-417-11	CARBON	1K	5%	1/4W	F	< VIBRATOR >								
R372	1-249-417-11	CARBON	1K	5%	1/4W	F	X101	1-579-585-11	VIBRATOR, CRYSTAL (7.2MHz)	*****					
R373	1-247-879-11	CARBON	100K	5%	1/4W										
R500	1-249-417-11	CARBON	1K	5%	1/4W	F			1-674-792-11	MOTOR BOARD					
R501	1-249-418-11	CARBON	1.2K	5%	1/4W	F				*****					
R502	1-249-417-11	CARBON	1K	5%	1/4W	F				< CAPACITOR >					
R503	1-249-417-11	CARBON	1K	5%	1/4W	F									
R504	1-247-847-11	CARBON	4.7K	5%	1/4W		C775	1-124-259-11		ELECT	4.7uF	20%	50V		
R505	1-249-417-11	CARBON	1K	5%	1/4W	F			C776	1-164-159-11	CERAMIC	0.1uF	50V		
R506	1-249-417-11	CARBON	1K	5%	1/4W	F									
R507	1-249-417-11	CARBON	1K	5%	1/4W	F					< CONNECTOR >				
R508	1-247-847-11	CARBON	4.7K	5%	1/4W										
R509	1-247-839-11	CARBON	2.2K	5%	1/4W		* CN06	1-568-824-11			SOCKET, CONNECTOR 5P	*****			
R510	1-247-855-11	CARBON	10K	5%	1/4W		*	1-639-678-12	MOTOR (6P) (S) BOARD	*****					
R511	1-247-855-11	CARBON	10K	5%	1/4W				< CONNECTOR >						
R512	1-249-417-11	CARBON	1K	5%	1/4W	F									
R513	1-247-846-11	CARBON	4.3K	5%	1/4W										
R514	1-247-855-11	CARBON	10K	5%	1/4W				CN1	1-564-722-11	PIN, CONNECTOR (SMALL TYPE) 6P				
R515	1-249-417-11	CARBON	1K	5%	1/4W	F	< MOTOR >								
R516	1-249-417-11	CARBON	1K	5%	1/4W	F									
R517	1-247-847-11	CARBON	4.7K	5%	1/4W										
R518	1-247-839-11	CARBON	2.2K	5%	1/4W		M101	X-2625-877-1			MOTOR ASSY (SPINDLE)				
R519	1-247-847-11	CARBON	4.7K	5%	1/4W		M102	X-2625-769-1	MOTOR ASSY (SLED)						
R520	1-247-847-11	CARBON	4.7K	5%	1/4W		< SWITCH >								
R521	1-247-847-11	CARBON	4.7K	5%	1/4W		S1	1-572-085-11	SWITCH, LEAF (LIMIT)	*****					
R522	1-247-847-11	CARBON	4.7K	5%	1/4W										
R523	1-247-847-11	CARBON	4.7K	5%	1/4W										
R524	1-247-839-11	CARBON	2.2K	5%	1/4W				1-674-794-11	PHOTO SOCKET BOARD	*****				
R525	1-247-855-11	CARBON	10K	5%	1/4W					< CAPACITOR >					
R526	1-249-417-11	CARBON	1K	5%	1/4W	F	C710A	1-164-159-11		CERAMIC	0.1uF	50V			
R527	1-249-413-11	CARBON	470	5%	1/4W	F				< CONNECTOR >					
R528	1-247-847-11	CARBON	4.7K	5%	1/4W										
R551	1-247-855-11	CARBON	10K	5%	1/4W										
R553	1-247-885-00	CARBON	180K	5%	1/4W				* CN703	1-564-705-11	PIN, CONNECTOR (SMALL TYPE) 3P				
R554	1-247-899-11	CARBON	680K	5%	1/4W		< IC >								
R555	1-247-855-11	CARBON	10K	5%	1/4W										
R556	1-249-411-11	CARBON	330	5%	1/4W		PH701	8-749-923-04			IC TOTX178A	*****			
R557	1-247-885-00	CARBON	180K	5%	1/4W										
R558	1-247-899-11	CARBON	680K	5%	1/4W										
R559	1-247-855-11	CARBON	10K	5%	1/4W										
R560	1-249-411-11	CARBON	330	5%	1/4W										
R561	1-247-855-11	CARBON	10K	5%	1/4W										
R562	1-247-879-11	CARBON	100K	5%	1/4W		*****								
R563	1-249-409-11	CARBON	220	5%	1/4W	F									
R572	1-247-871-11	CARBON	47K	5%	1/4W										
< ADJUSTABLE RESISTOR >															
SRF101	1-228-996-00	RES, ADJ, METAL47K													
SRF501	1-228-991-00	RES, ADJ, METAL2.2K													
< SWITCH>															
SW101	1-762-735-11	SWITCH, SLIDE (9kH/10kHz)(E,AUS,SP,TW)													

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

