SCD-XB940

SERVICE MANUAL

AEP Model
UK Model

Ver 1.1 2002.05

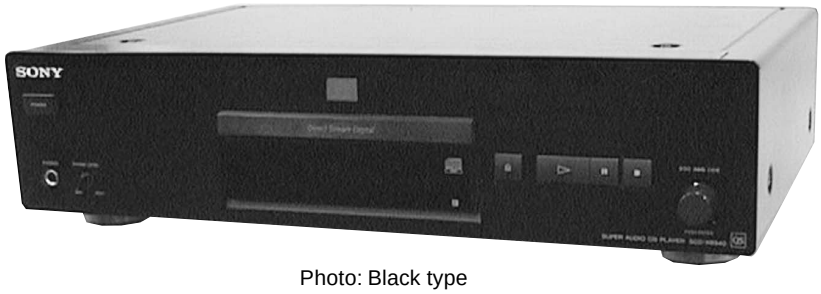


Photo: Black type

Model Name Using Similar Mechanism	NEW
CD Mechanism Type	CDM55B-DVBU3
Base Unit Name	DVBU3
Optical Pick-up Name	KHM-220AAA/J1N

SPECIFICATIONS

When a super audio CD is played

Playing frequency range 2 Hz to 100 kHz

Frequency response 2 Hz to 50 kHz (–3 dB)

Dynamic range 103 dB or more

Total harmonic distortion rate 0.0015 % or less

Wow and flutter Value of measurable limit (±0.001 % W. PEAK) or less

When a CD is played

Frequency response 2 Hz to 20 kHz

Dynamic range 99 dB or more

Total harmonic distortion rate 0.002 % or less

Wow and flutter Value of measurable limit (±0.001 % W. PEAK) or less

Output connector

	Jack type	Output level	Load impedance
ANALOG OUT	Phono jacks	2 Vrms (at 50 kilohms)	Over 10 kilohms
DIGITAL OUT CD OPTICAL*	Square optical output connector	–18 dBm	(Light emitting wave length: 660 nm)
DIGITAL OUT CD COAXIAL*	Coaxial output connector	0.5 Vp-p	75 ohms

*Output only the audio signals of the CD

– Continued on next page –

SUPER AUDIO CD PLAYER

9-929-212-12
2002E0500-1

Sony Corporation
Home Audio Company
Published by Sony Engineering Corporation

SONY®

General

Laser radiant power: 5.47 uW at 650 nm
*These output is the value measured at a distance of about 200mm from the objective lens surface on the optical pick-up.

Power requirements	230 V AC, 50/60 Hz
Power consumption	30 W
Dimensions (w/h/d)	430 × 115 × 290 mm incl. projecting parts
Mass (approx.)	5.5 kg

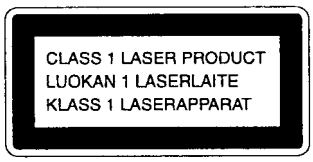
Supplied accessories

- Audio connecting cord (phono jack × 2 ⟷ phono jack × 2) (1)
- Remote commander (remote) RM-SX90 (1)
- R06 (size-AA) batteries (2)

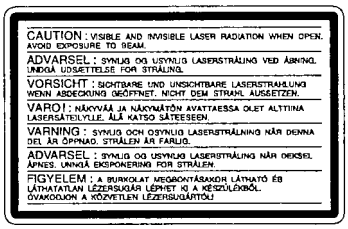
Design and specifications are subject to change without notice.

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

This appliance is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.



The following caution label is located inside the unit.



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.

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 the 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.

TABLE OF CONTENTS

SECTION 1
SERVICING NOTES

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

The laser diode in the optical pick-up block may suffer electrostatic break-down because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic break-down 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.

MODEL IDENTIFICATION

– Back Panel –

Model	Part No.
AEP	4-227-711-0□
UK	4-227-711-1□

ABOUT THE “E01” DISPLAY

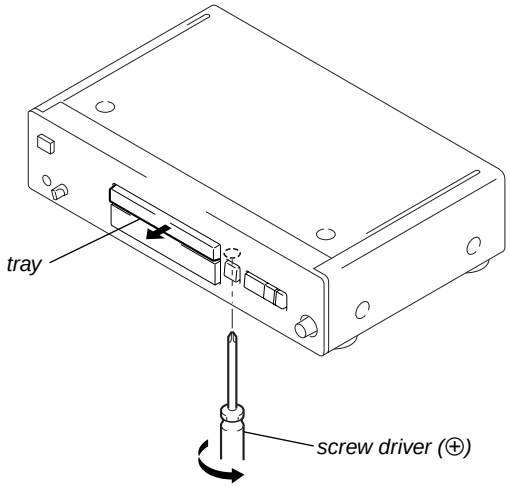
“E01” is displayed when the above occurs in communication with a system controller (IC605) and a display controller (IC203) at the time of starting.
In this case, please check soldering, disconnection, etc. of each IC.

HOW TO OPEN THE TRAY WHEN POWER SWITCH TURNS OFF

There are two different methods to open the tray.

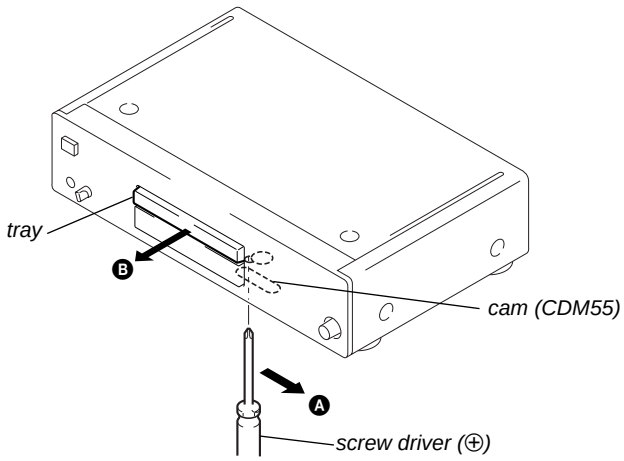
- **Method-1**

Insert a screw driver (⊕) into the aperture of the unit bottom, and turn it in the direction of the arrow (to OUT direction).



**To close the disc table, turn the screw driver (⊕) in the reverse direction (to IN direction).*

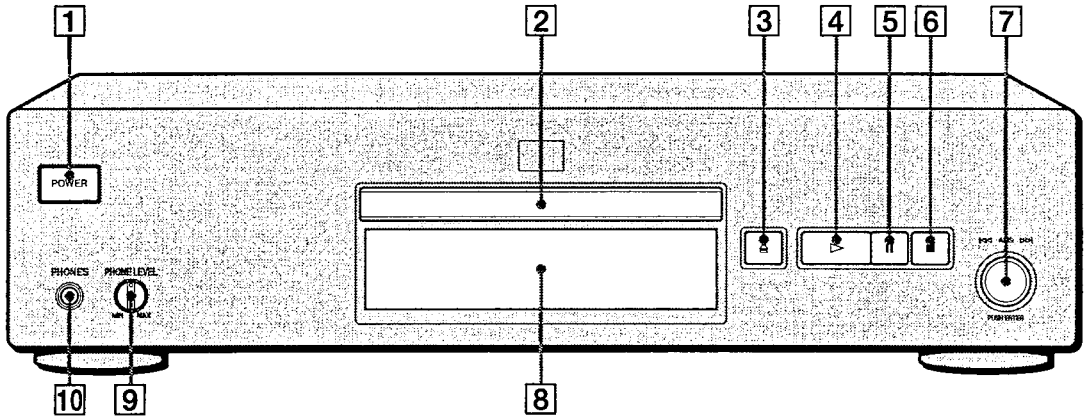
- **Method-2**



① Insert a screw driver (⊕) into the aperture of the unit bottom, and move the cam (CDM55) in the direction of arrow Ⓐ.
② Pull the tray in the direction of arrow Ⓑ.

This section is extracted from instruction manual.

Front Panel Parts Descriptions



1 **POWER switch (11)**
Press to turn on the player.

2 **Disc tray (11)**
Press ⏏ to open/close the disc tray.

3 **⏏ button (11)**
Press to open the disc tray.

4 **▷ button (11)**
Press to start play.

5 **II button (11)**
Press to pause play.

6 **■ button (11)**
Press to stop play.

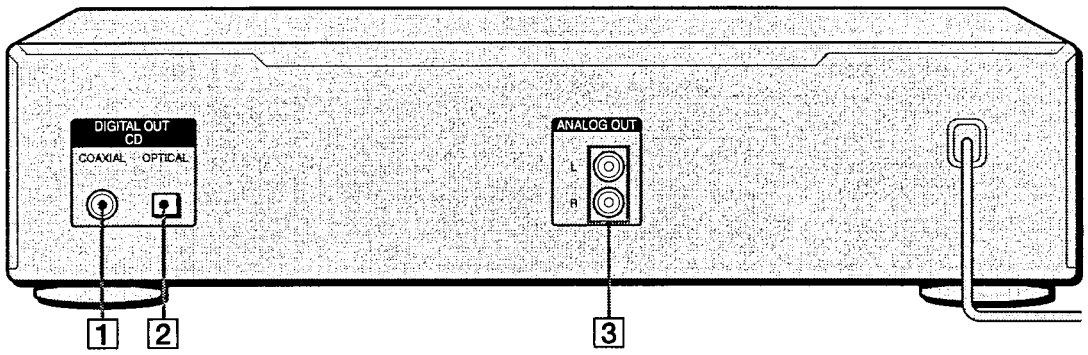
7 **⏮AMS⏭ controller (AMS: Automatic Music Senser) (11)**
Each time you press ⏮, you go back to the preceding track; each time you press ⏭, you go to the succeeding track.

8 **Display window (12)**
Shows various information.

9 **PHONE LEVEL**
Adjust the headphones volume.

10 **PHONES**
Connect the headphones.

Rear Panel Parts Descriptions



1 **DIGITAL OUT CD COAXIAL connector (5)**
Connect to an audio component using the coaxial digital cable.

2 **DIGITAL OUT CD OPTICAL connector (5)**
Connect to an audio component using an optical digital cable.

3 **ANALOG OUT jacks (5)**
Connect to an audio component using the audio connecting cord.

Note
Only the audio signals of the CD can be output from the DIGITAL OUT CD connectors shown in 1 and 2. Those of the Super Audio CD cannot be output through DIGITAL OUT CD.

Remote Parts Descriptions

[1] **CONTINUE button (17)**
Press to resume normal play from Shuffle Play or Programme Play.

SHUFFLE button (17)
Press to select Shuffle Play.

PROGRAM button (17)
Press to select Programme Play.

[2] **SACD/CD button (11)**
Each time you press the button, "SACD" or "CD" appears in the display. Select the type of CD you want to play.

[3] **DISPLAY MODE button (12)**
Press to turn off the information.

[4] **Number buttons (14)**
Press to enter the track numbers.

[5] **>10 button (14)**
Press to locate a track numbered over 10.

[6] **REPEAT button (16)**
Press repeatedly to play all tracks or only one track on the disc.

[7] **▷ button (11)**
Press to start play.

II button (12)
Press to pause play.

■ button (12)
Press to stop play.

[8] **AMS I◀◀ /▶▶I (AMS: Automatic Music Sensor) buttons (14)**
Press to locate a specific track.

[9] **◀◀/▶▶ buttons (15)**
Press to locate a portion you want to play within a track.

[10] **INDEX ▲/▼ buttons (15)**
Press to locate a specific point marked with an index signal when you play a disc that has index signals.

[11] **TIME/TEXT button (13)**
Each time you press the button, the playing time of the track and the remaining time on the disc appear in the display.

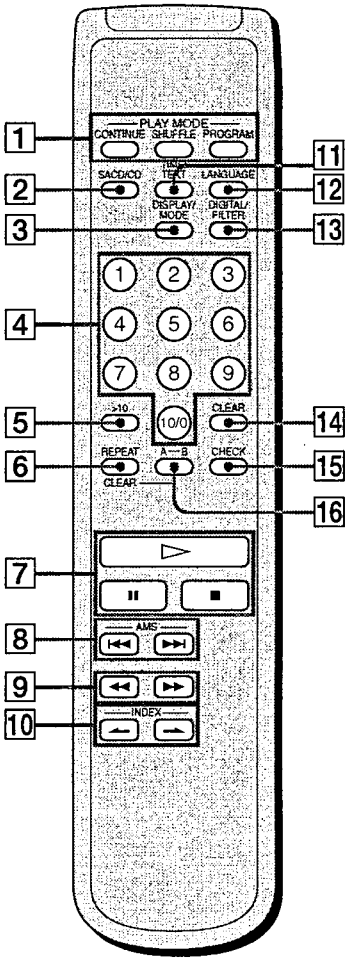
[12] **LANGUAGE button (14)**
Press to change the displayed language if the TEXT disc has several languages.

[13] **DIGITAL FILTER button (18)**
Press to select the digital filter type when a CD is played.

[14] **CLEAR button (17)**
Press to delete a programmed track number.

[15] **CHECK button (17)**
Press to check the programmed order.

[16] **A↔B button (16)**
Press to select Repeat A-B Play.

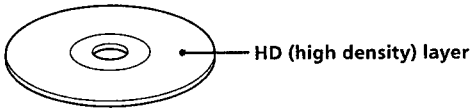


Compatible Disc Types

You can play the following discs with this player. Depending on the type of disc to be played, select the appropriate indicator by pressing SACD/CD on the remote (pages 11).

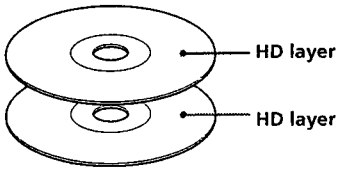
Super Audio CD (single layer disc)

This disc consists of a single HD layer*.
Press SACD/CD repeatedly so that "SACD" appears in the display.
*High density signal layer for the Super Audio CD



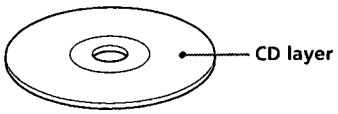
Super Audio CD (dual layer disc)

This disc consists of dual HD layers and is capable of extended play over long periods.
Press SACD/CD repeatedly so that "SACD" appears in the display.
Also, as the dual layer disc consists of dual HD layers on one side only, it is not necessary to turn the disc over.



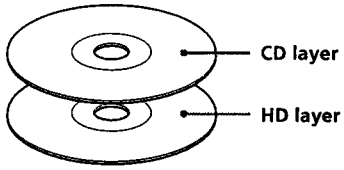
Conventional CD

This disc is the standard format.
Press SACD/CD repeatedly so that "CD" appears in the display.



Super Audio CD + CD (Hybrid disc)

This disc consists of an HD layer and a CD layer. Press SACD/CD to select the layer you want to listen to. Also, as the dual layers are on one side, it is not necessary to turn the disc over. You can play the CD layer using a conventional CD player.



Incompatible Discs

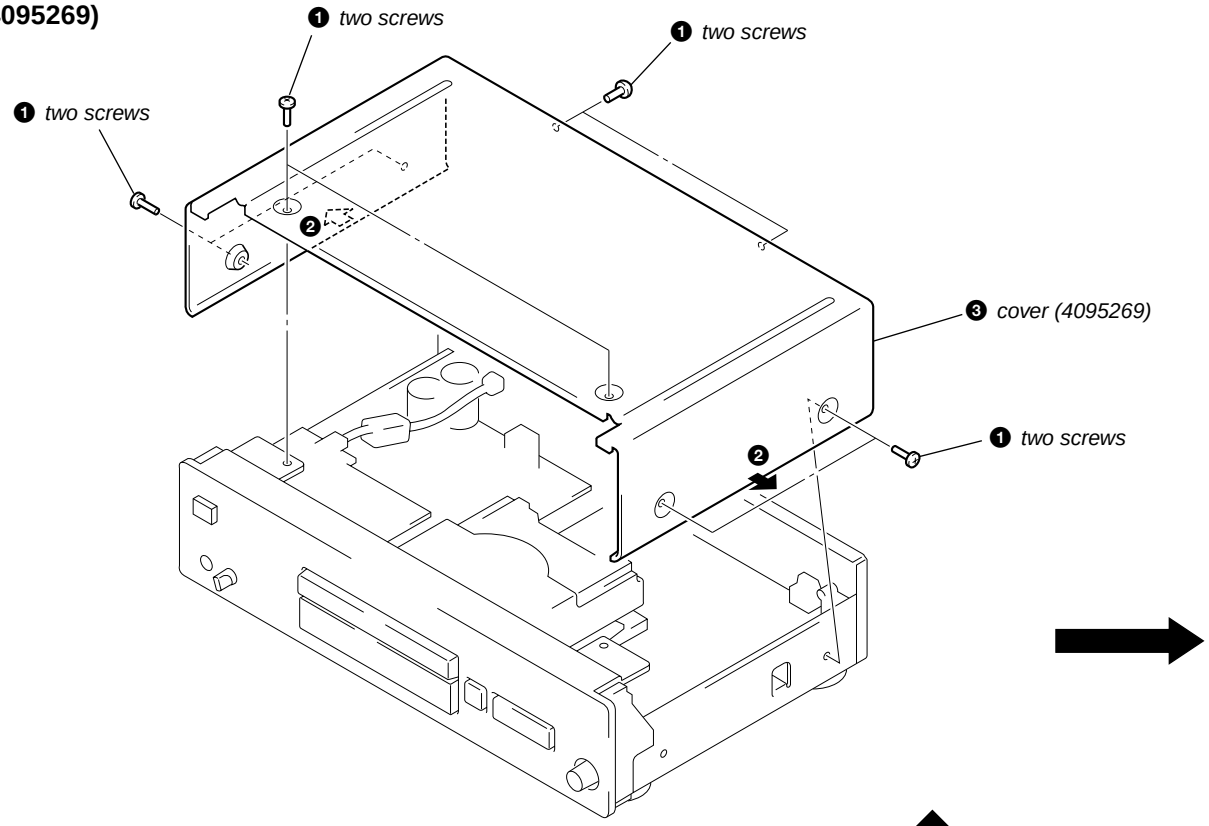
This player cannot play the following discs. If you try to play them, the error message "TOC Error" or "NO DISC" will appear or there will be no sound.

- CD-ROM
- CD-R
- CD-RW
- DVD, etc.

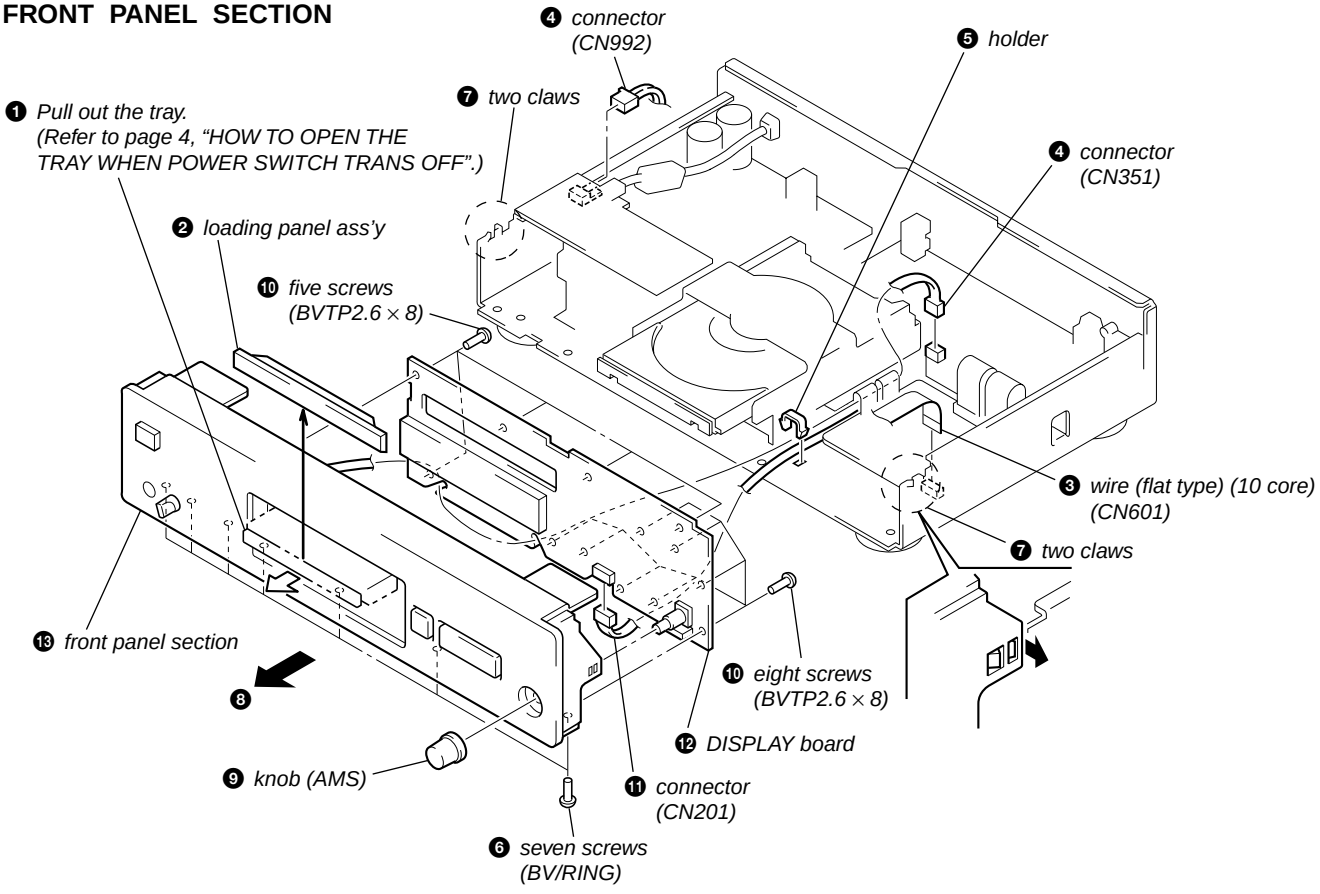
SECTION 3
DISASSEMBLY

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

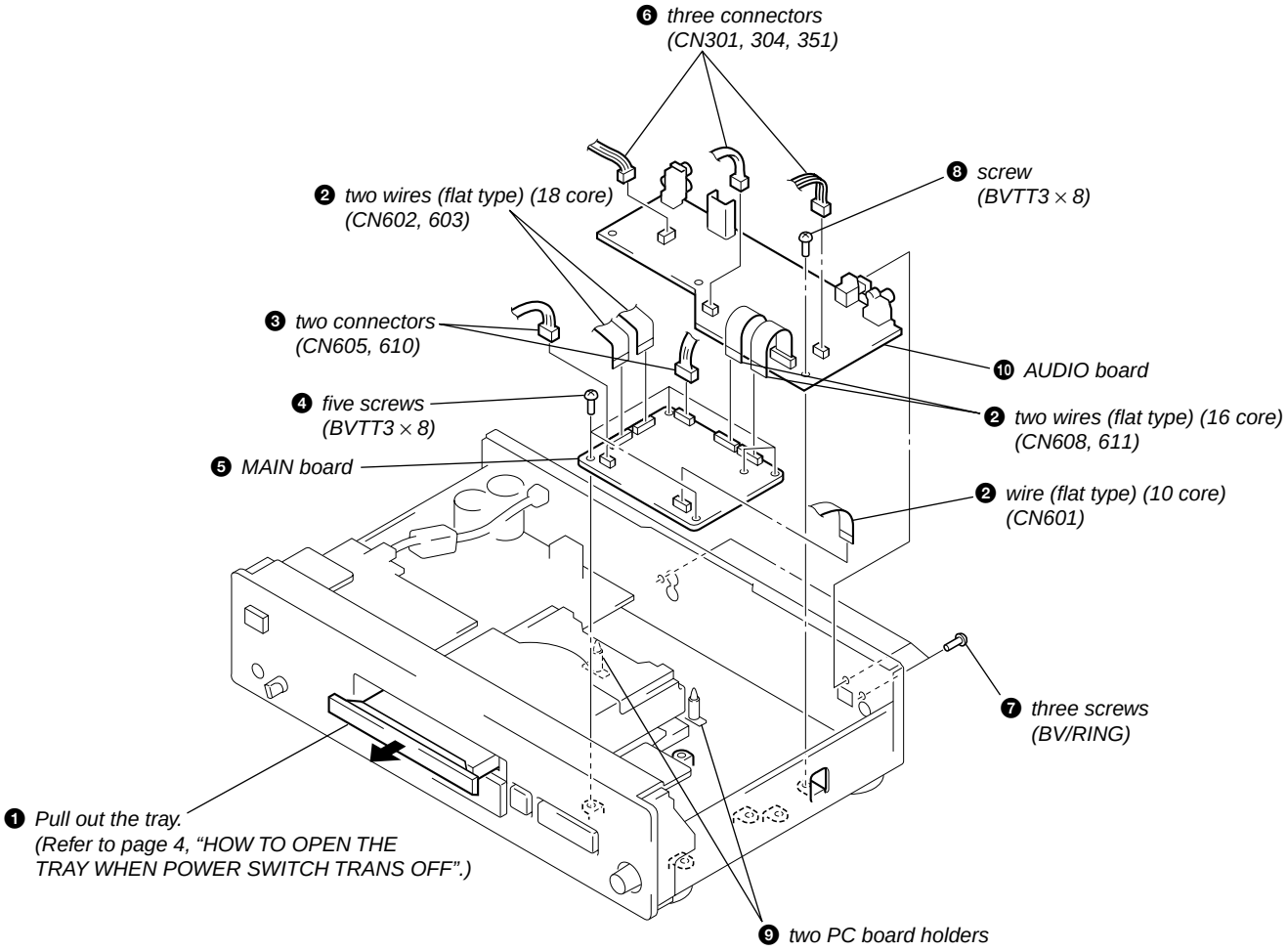
COVER (4095269)



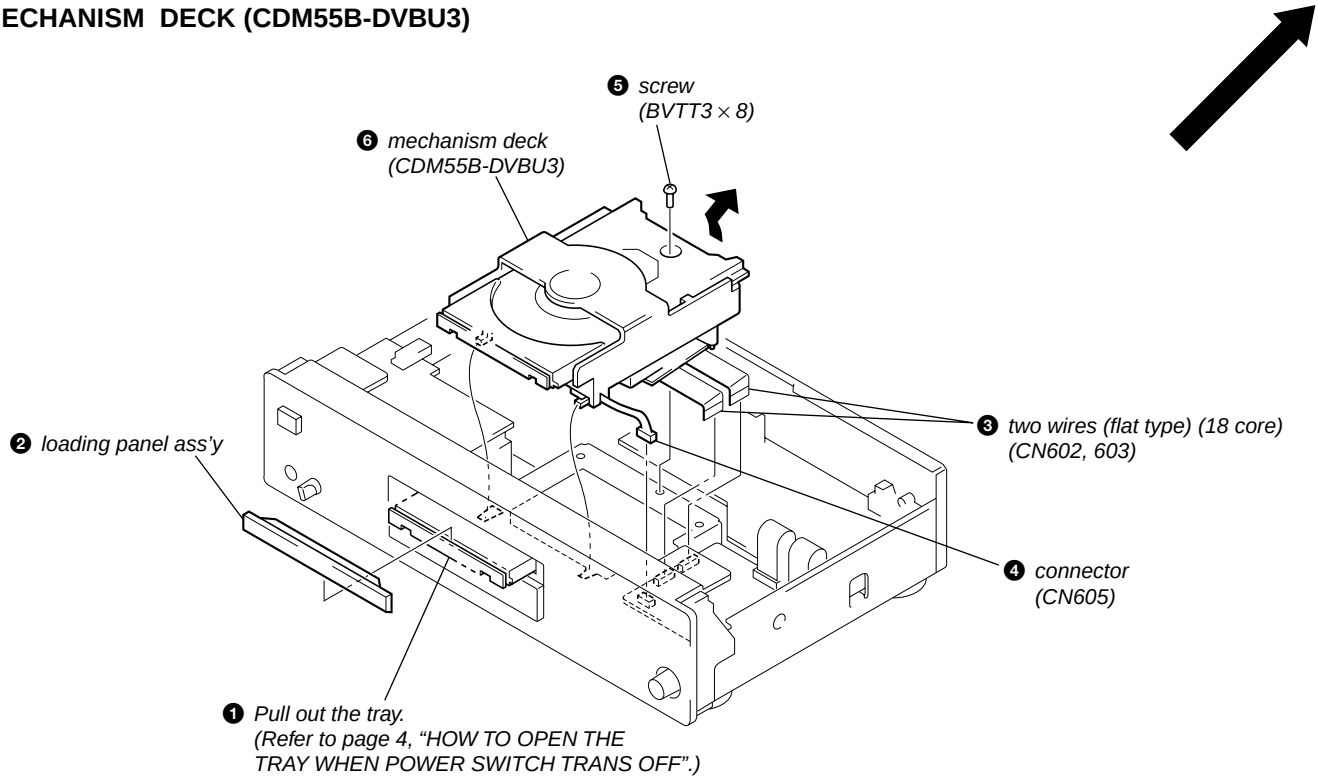
FRONT PANEL SECTION



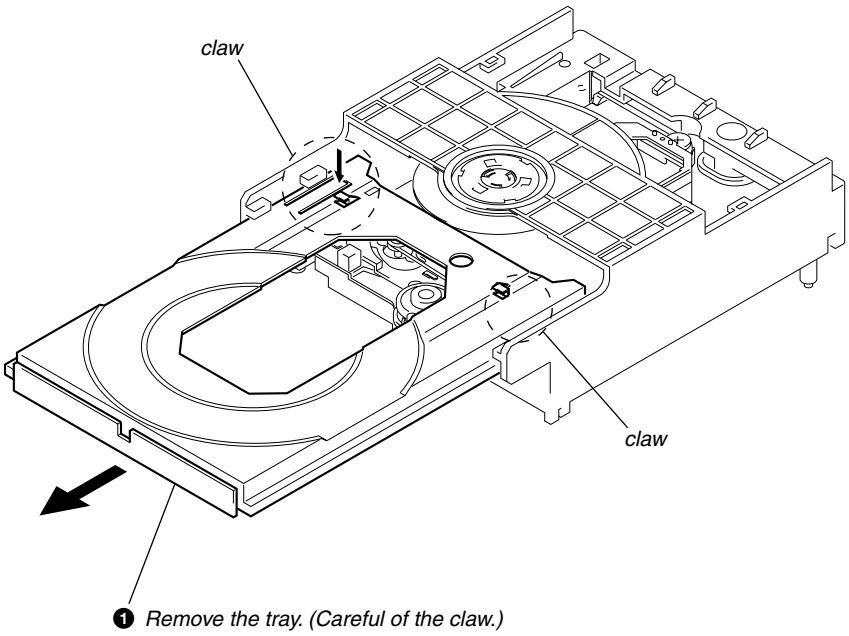
AUDIO/MAIN BOARD



MECHANISM DECK (CDM55B-DVBU3)



TRAY



❶ *Remove the tray. (Careful of the claw.)*

SECTION 4
DIAGRAMS

4-1. NOTE FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

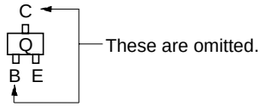
Note on Printed Wiring Board:

- ○——— : parts extracted from the component side.
- ——— : parts extracted from the conductor side.
- ○ : Through hole.
- ▒▒▒ : Pattern from the side which enables seeing.

(The other layers' patterns are not indicated.)

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

- Main board is multi-layer printed board.
  However, the patterns of intermediate-layer have not been included in the diagram.
- Indication of transistor



These are omitted.

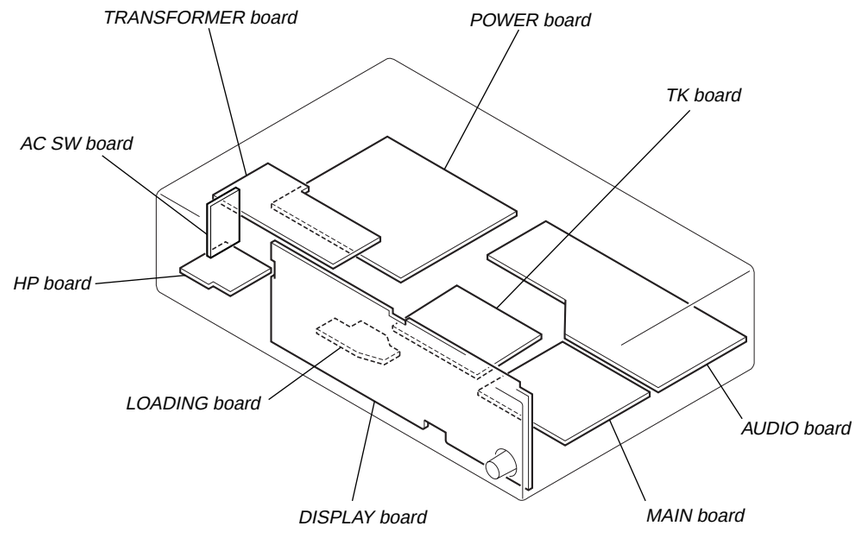
Note on Schematic Diagram:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- : fusible resistor.
- : panel designation.

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

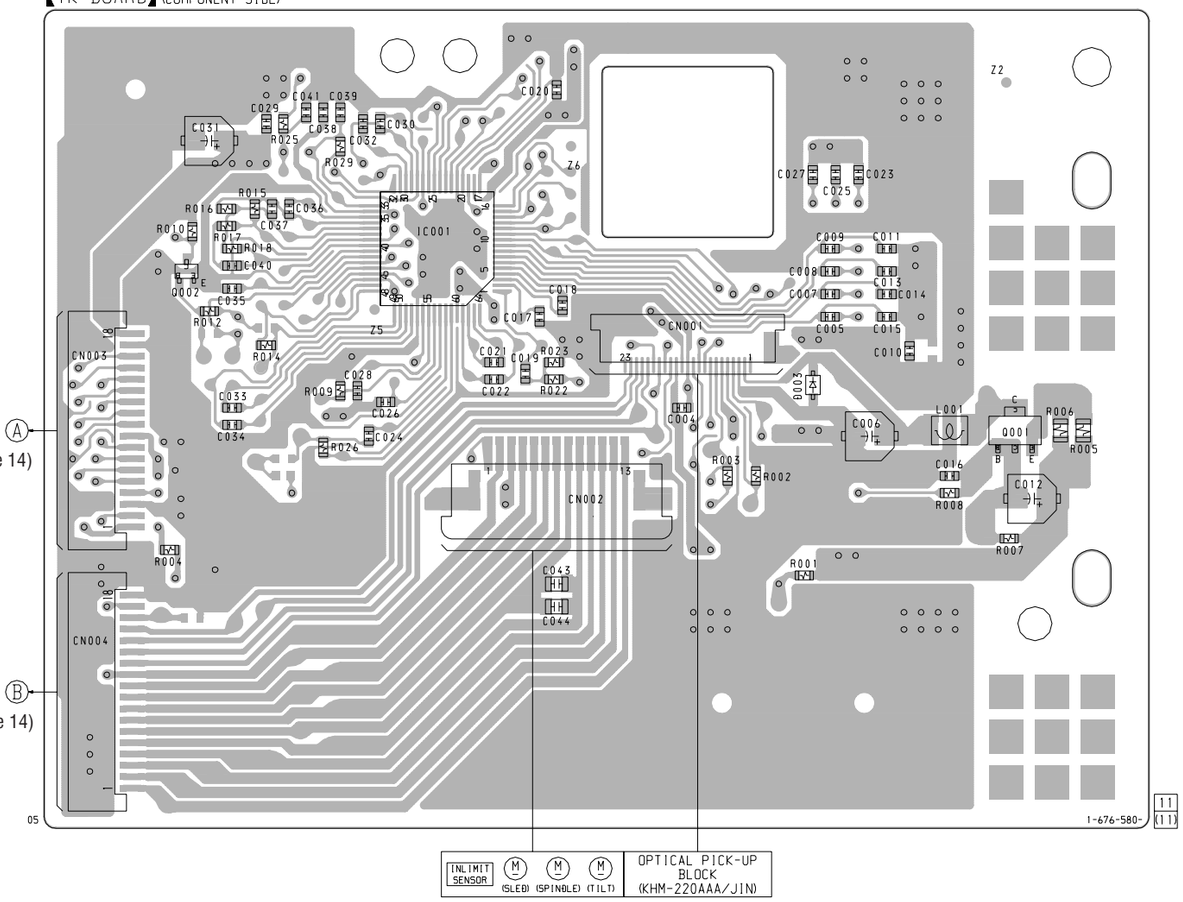
- B+ : B+ Line.
- B− : B– Line.
- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark : STOP
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
  Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  : SACD
  : CD
  : DIGITAL OUT

- **Circuit Boards Location**

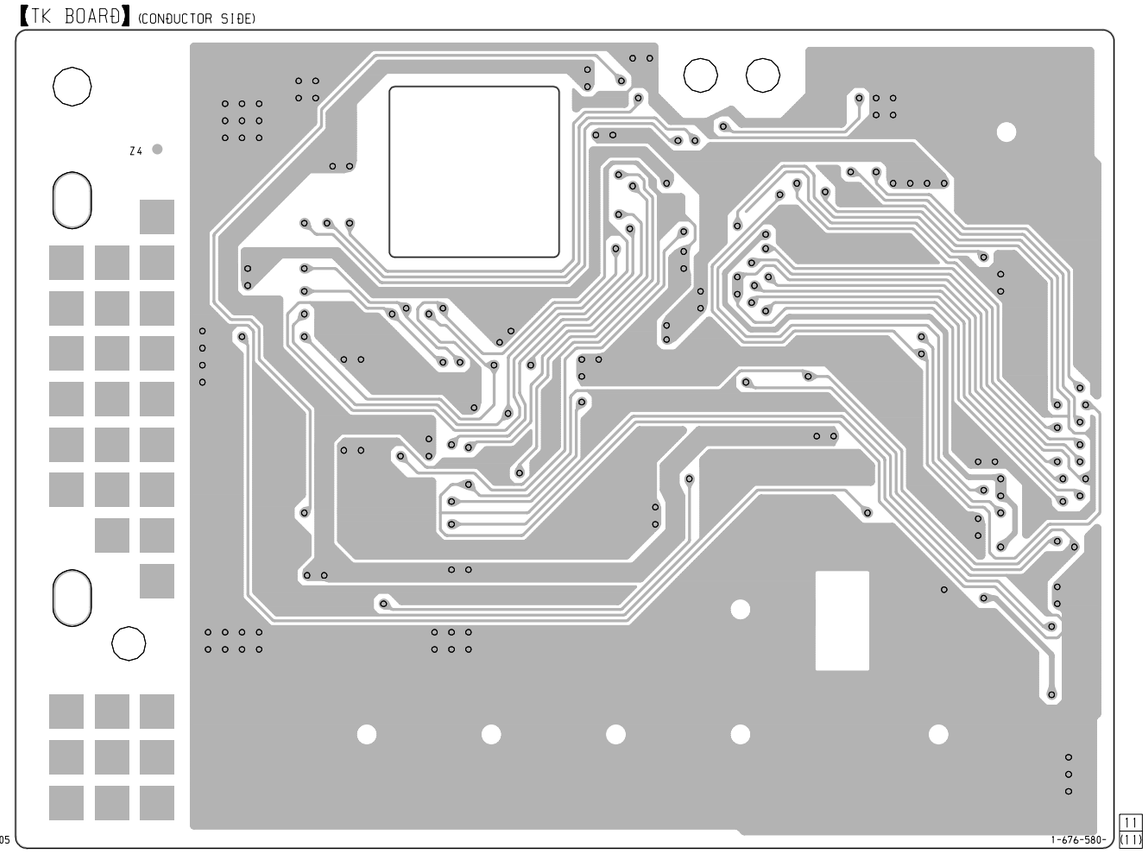


4-2. PRINTED WIRING BOARD – TK Board – • See page 11 for Circuit Boards Location.

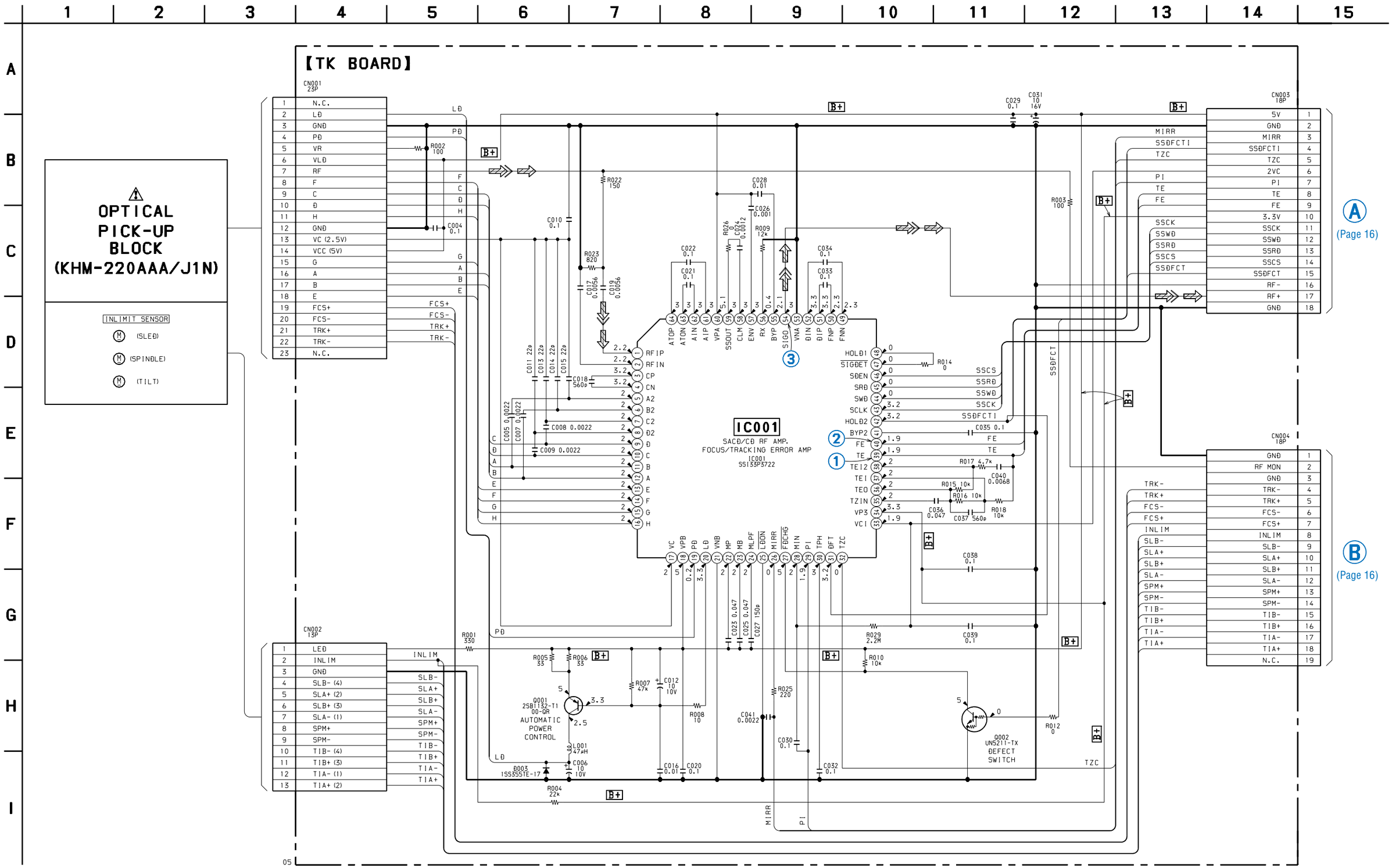
【TK BOARD】(COMPONENT SIDE)



【TK BOARD】(CONDUCTOR SIDE)



4-3. SCHEMATIC DIAGRAM – TK Board – • See page 32 for Waveforms.



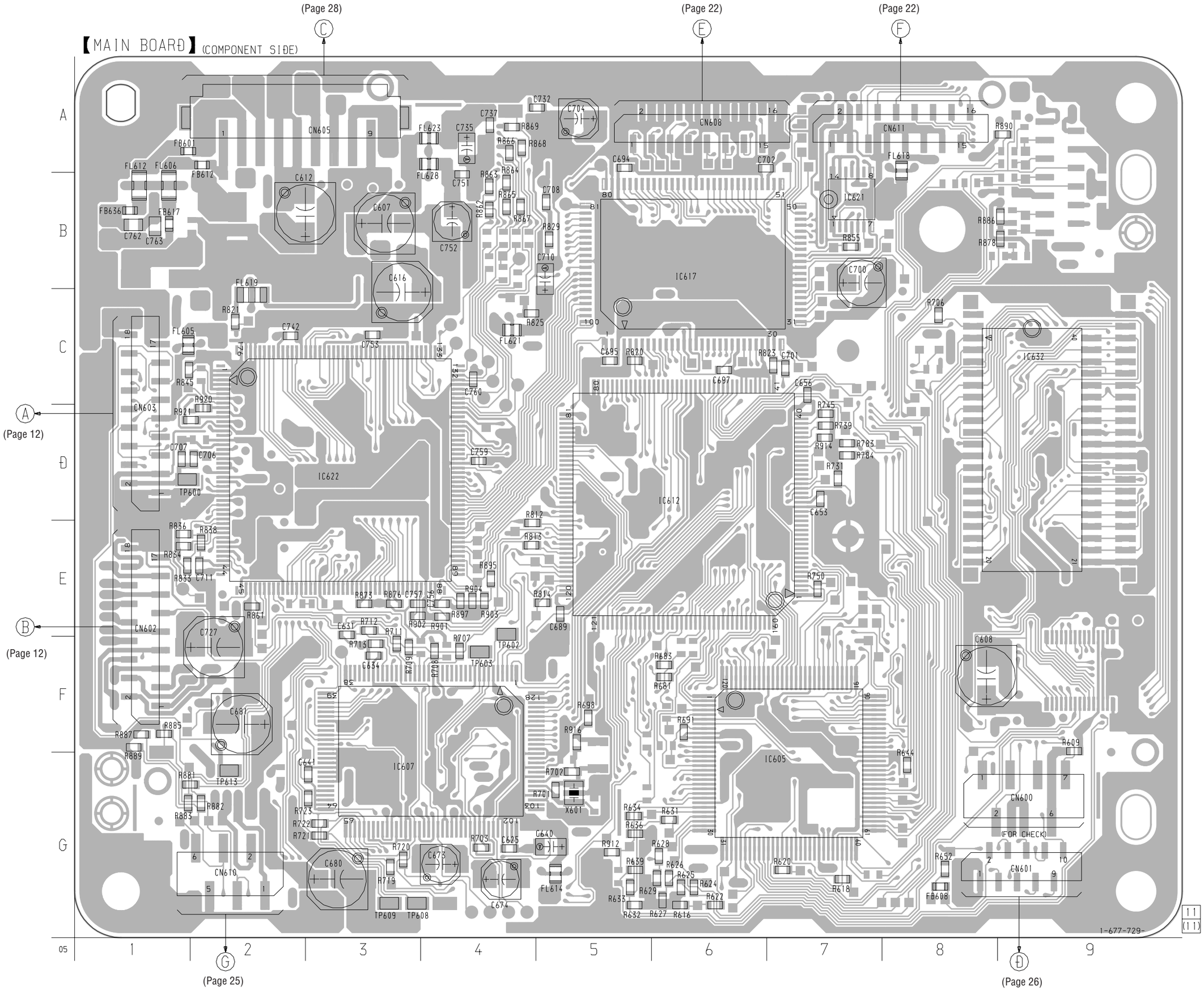
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

4-4. PRINTED WIRING BOARD – MAIN Board (Component Side) –

• See page 11 for Circuit Boards Location.

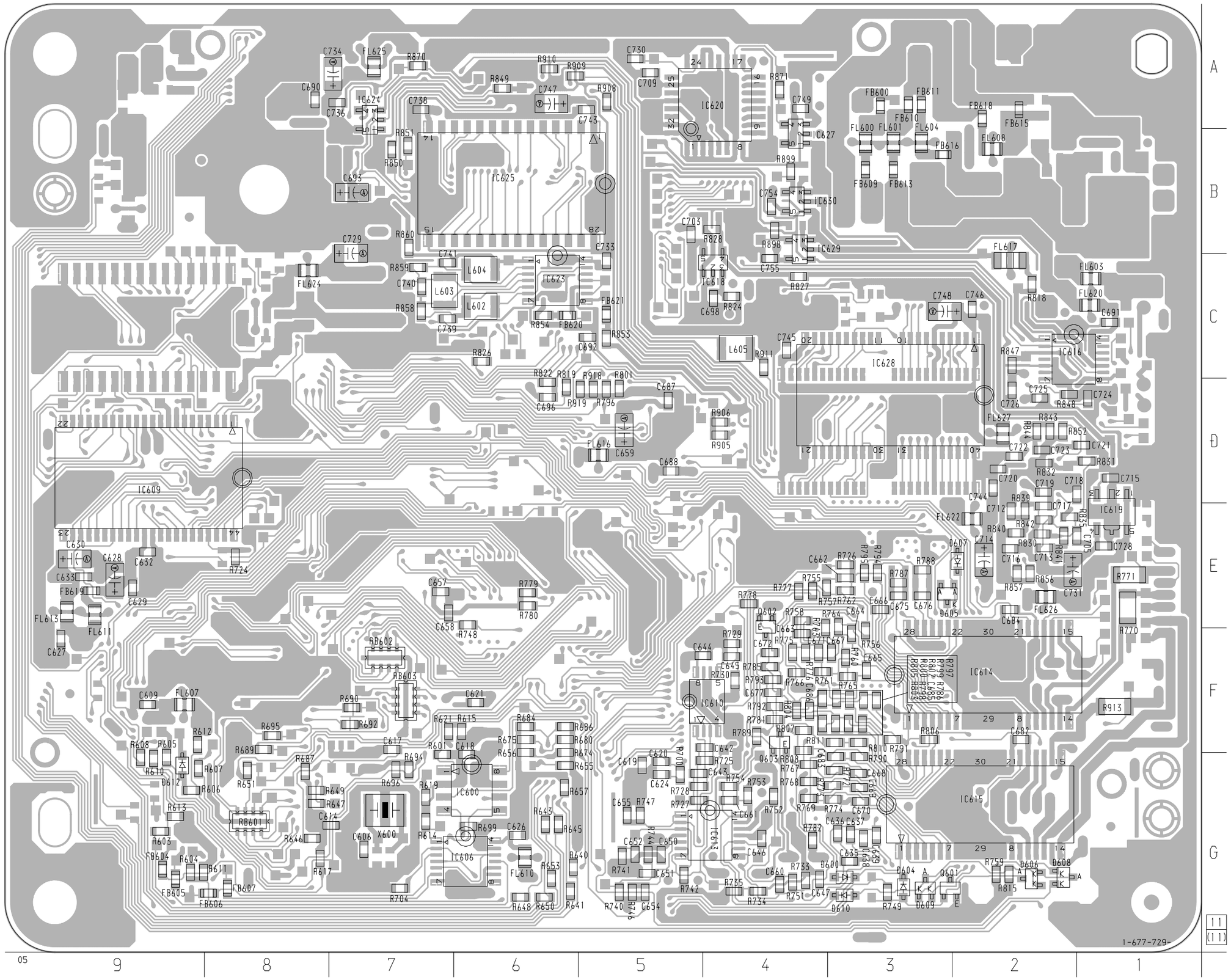
• **Semiconductor Location**

Ref. No.	Location
IC605	G-7
IC607	F-4
IC612	D-6
IC617	B-6
IC621	B-7
IC622	D-3
IC632	D-9



4-5. PRINTED WIRING BOARD – MAIN Board (Conductor Side) – • See page 11 for Circuit Boards Location.

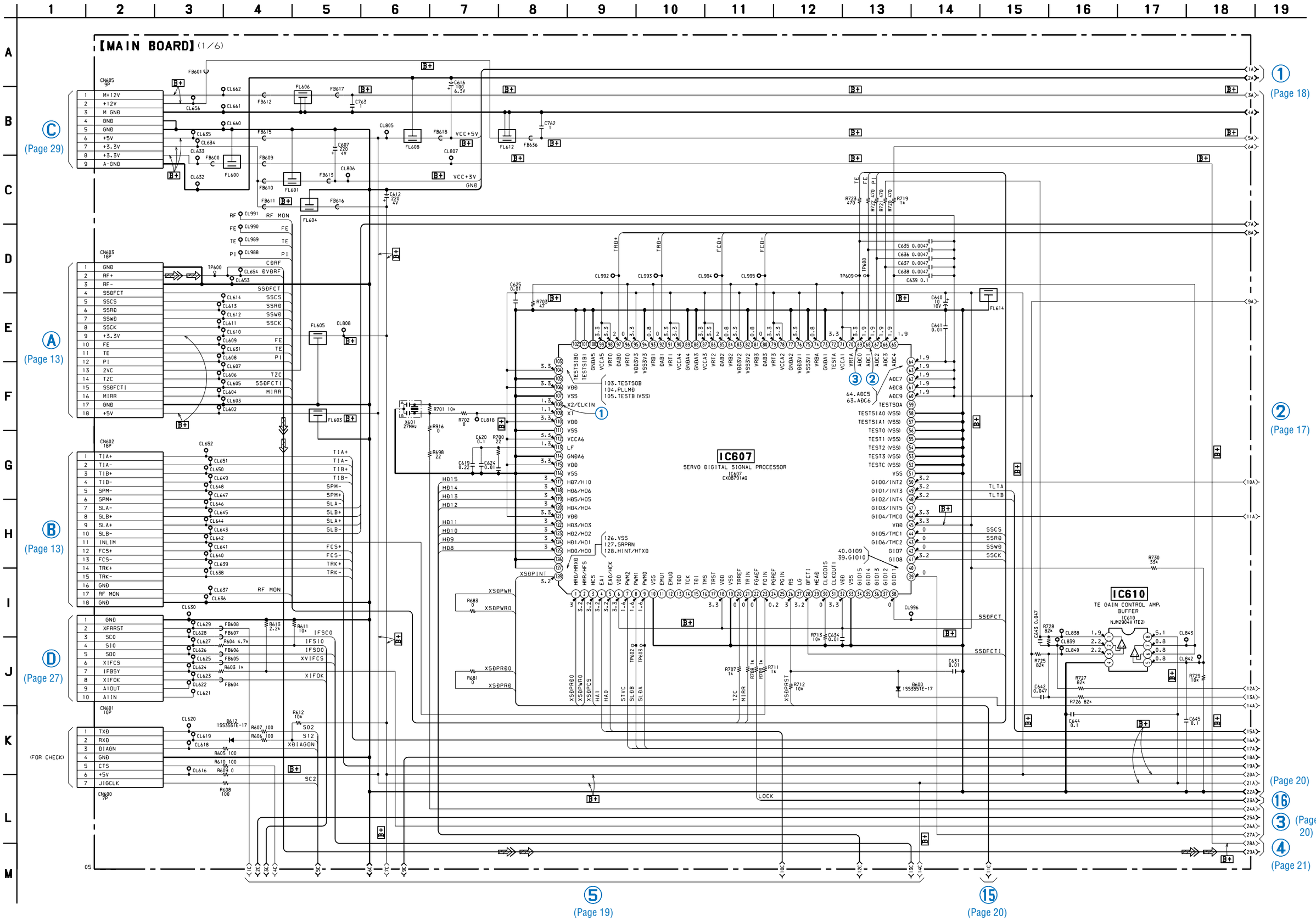
【MAIN BOARD】(CONDUCTOR SIDE)



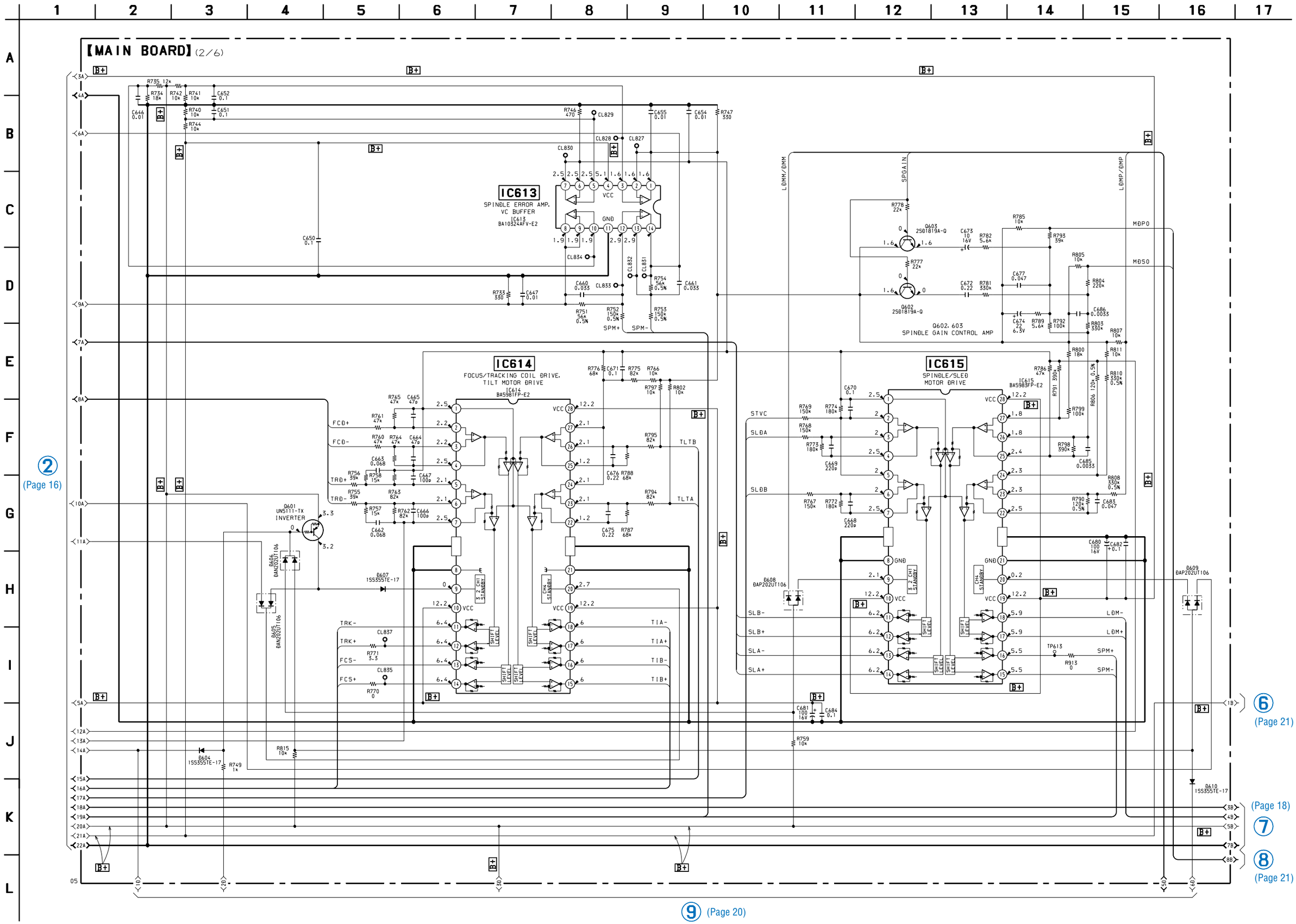
- **Semiconductor Location**

Ref. No.	Location
D600	G-3
D604	G-3
D605	E-3
D606	G-2
D607	E-2
D608	G-2
D609	G-3
D610	G-3
D612	G-9
IC600	G-6
IC606	G-6
IC609	D-9
IC610	F-4
IC613	G-4
IC614	F-2
IC615	G-2
IC616	C-2
IC618	C-4
IC619	E-1
IC620	A-4
IC623	C-6
IC624	A-7
IC625	B-6
IC627	B-4
IC628	D-3
IC629	B-4
IC630	B-4
Q601	G-3
Q602	E-4
Q603	F-4

4-6. SCHEMATIC DIAGRAM – MAIN Board (1/6) – • See page 32 for Waveforms.

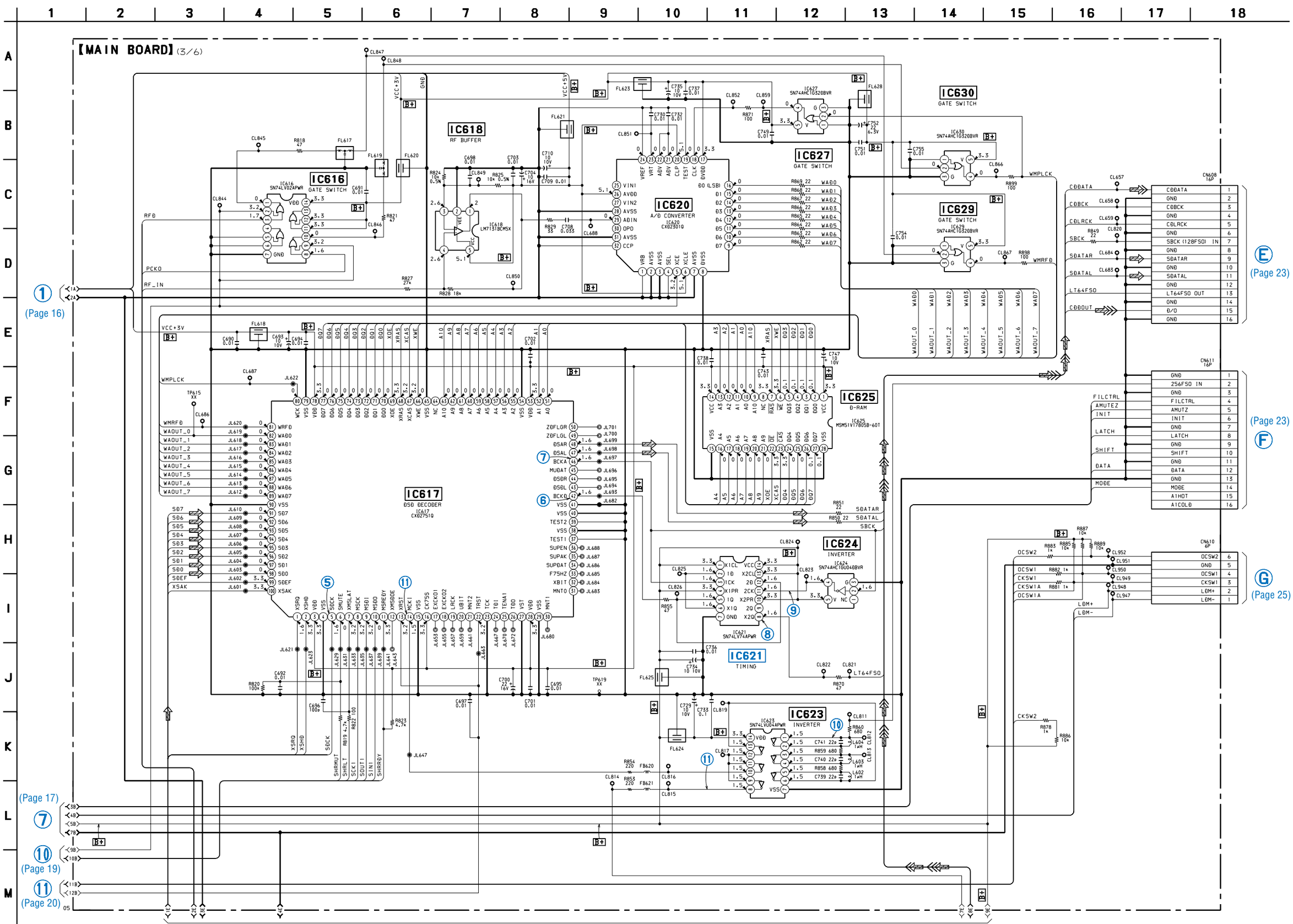


4-7. SCHEMATIC DIAGRAM – MAIN Board (2/6) –

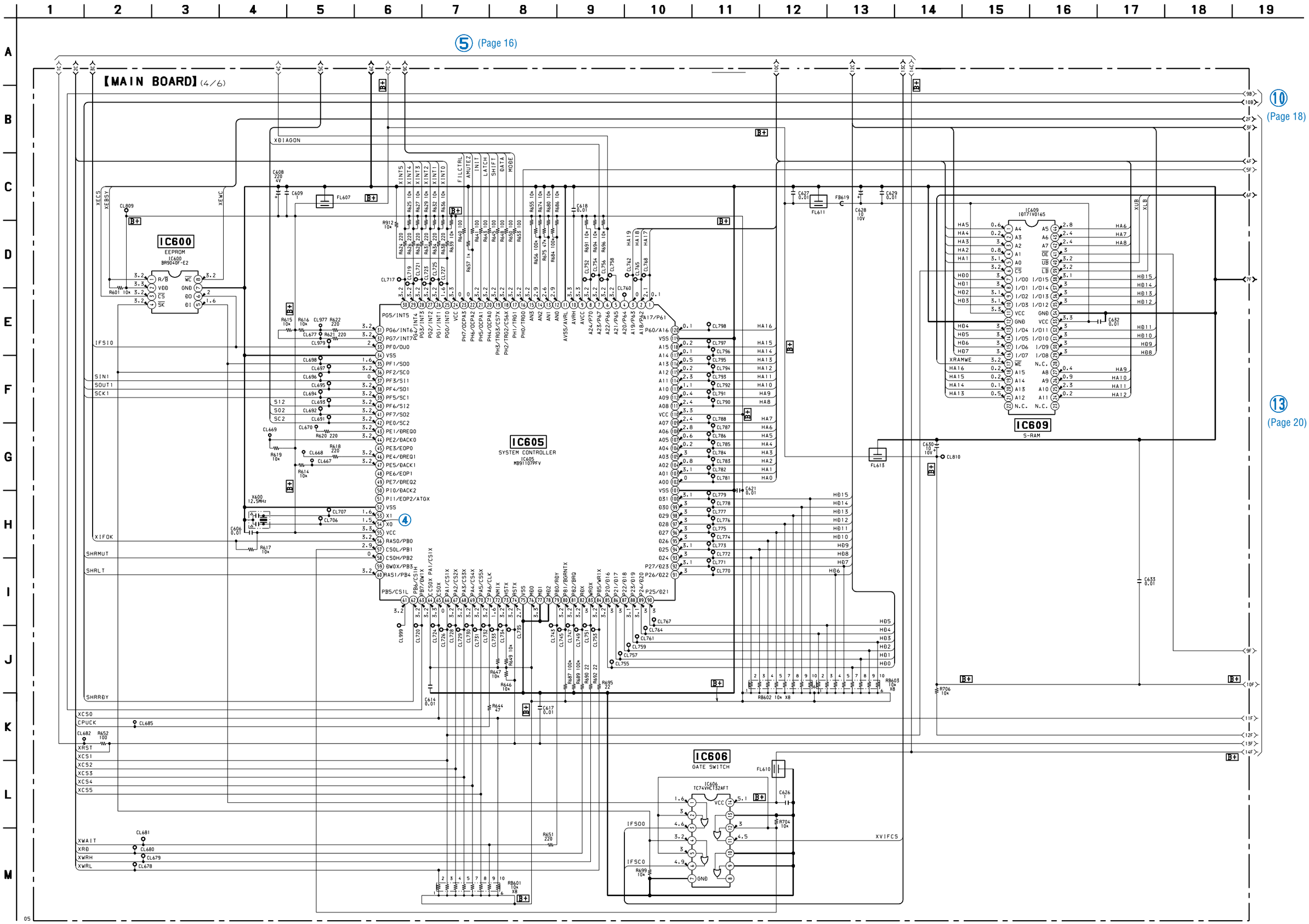


4-8. SCHEMATIC DIAGRAM – MAIN Board (3/6) –

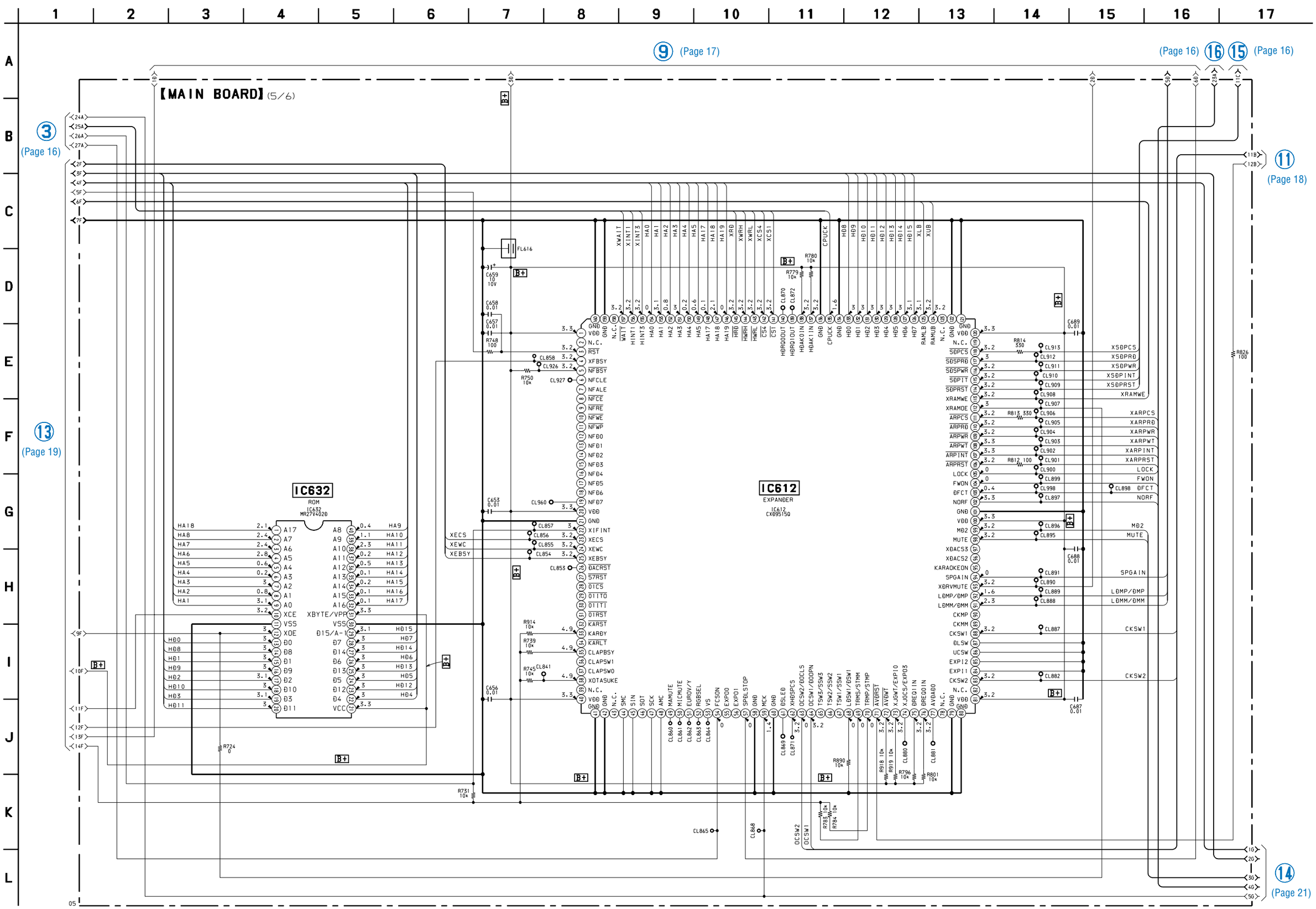
• See page 32 for Waveforms. • See page 34 for IC Block Diagram.



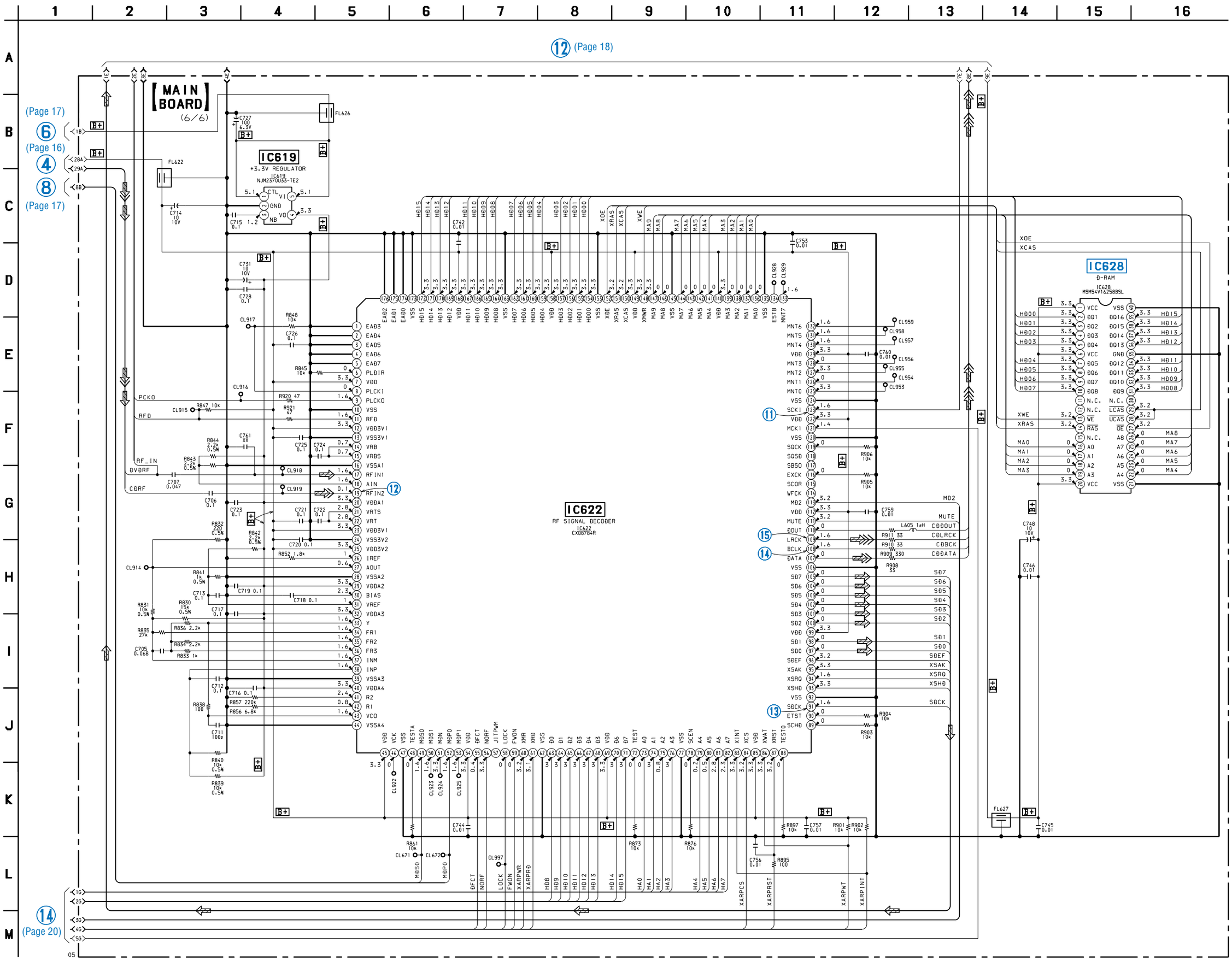
4-9. SCHEMATIC DIAGRAM – MAIN Board (4/6) – • See page 32 for Waveform.



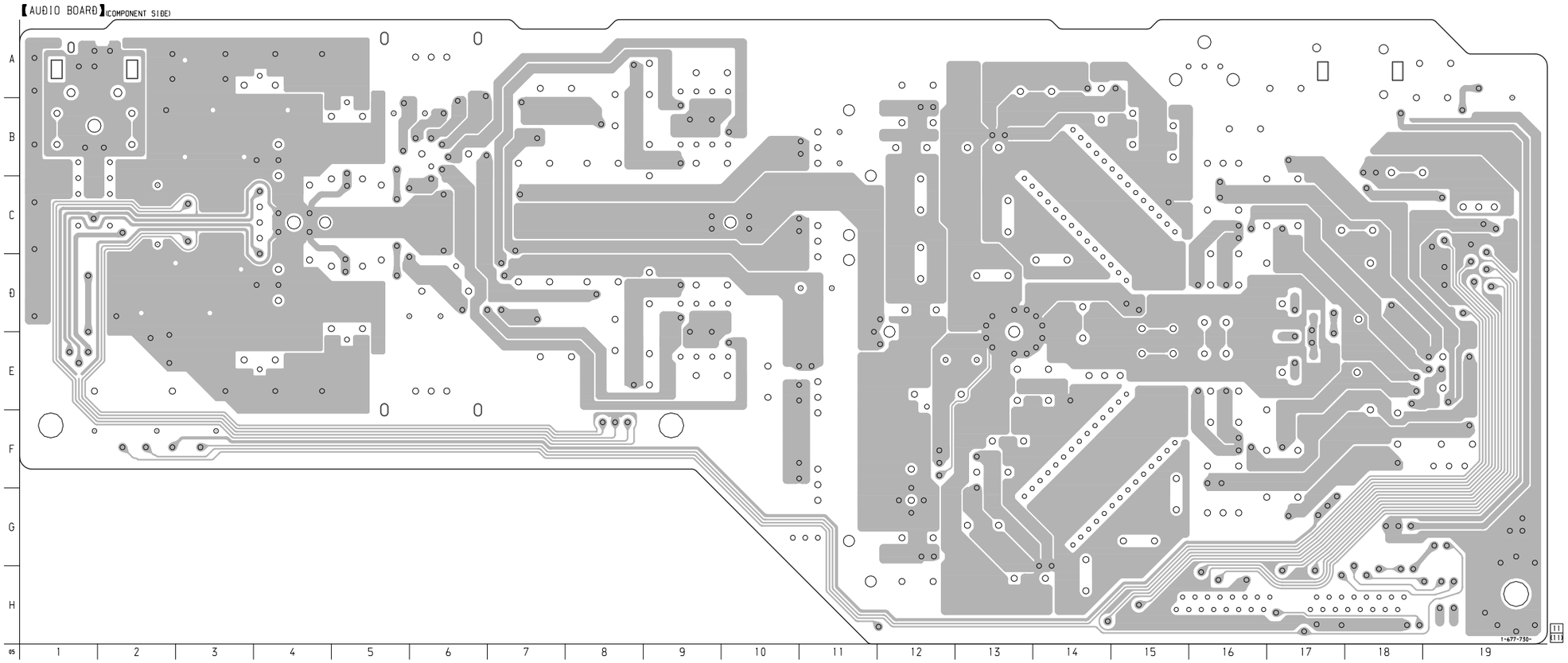
4-10. SCHEMATIC DIAGRAM – MAIN Board (5/6) –

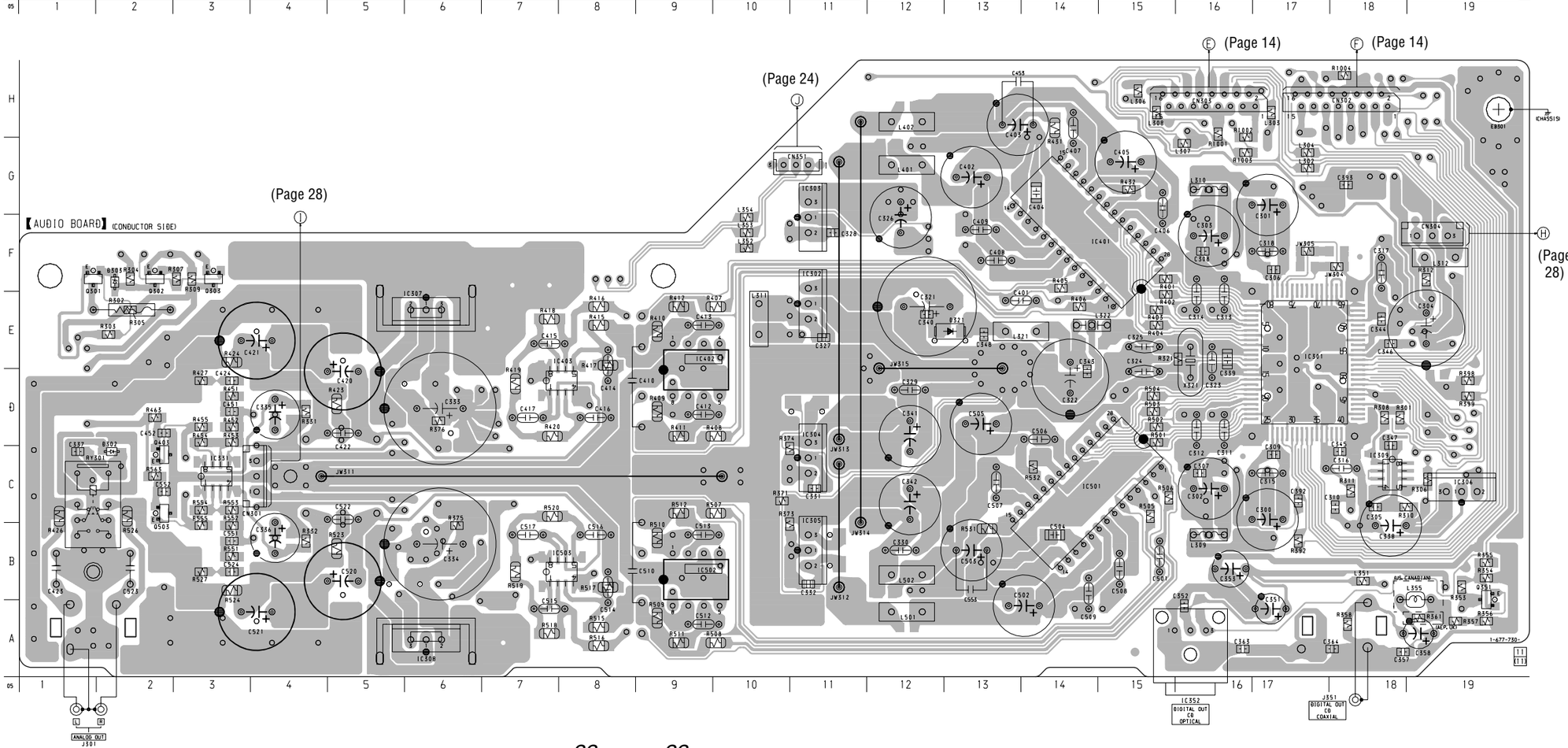


4-11. SCHEMATIC DIAGRAM – MAIN Board (6/6) – • See page 32 for Waveforms. • See page 34 for IC Block Diagram.



4-12. PRINTED WIRING BOARD – AUDIO Board – • See page 11 for Circuit Boards Location.

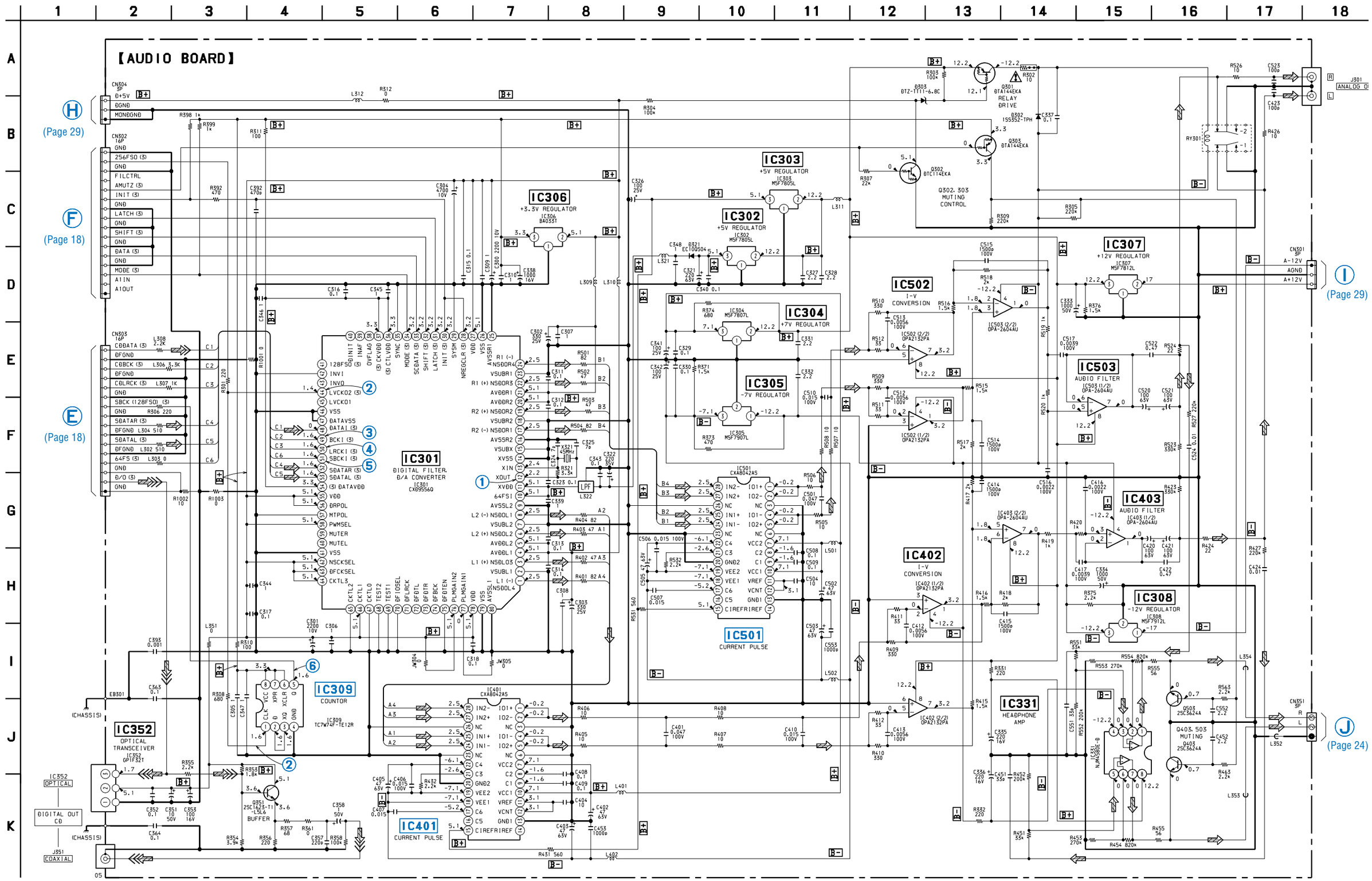




- **Semiconductor Location**

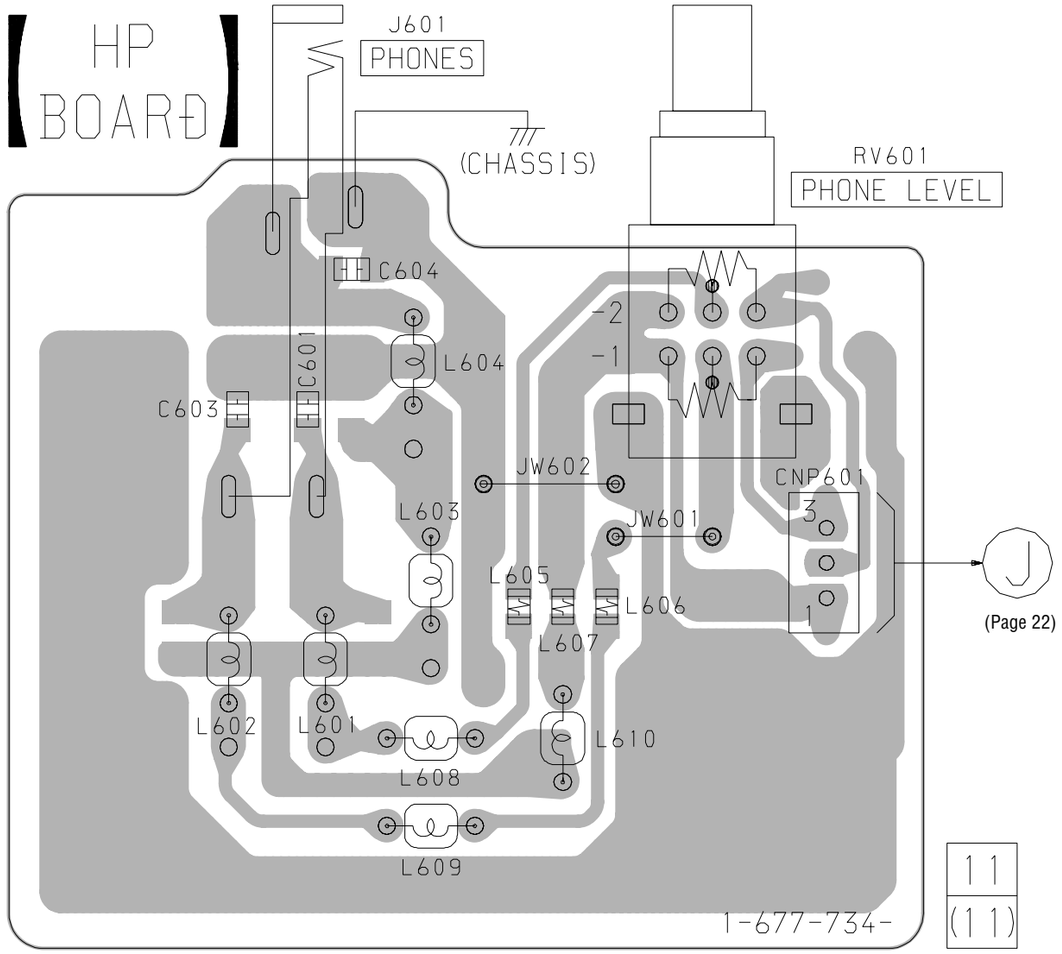
Ref. No.	Location
D302	C-2
D303	F-2
D321	E-13
IC301	E-17
IC302	E-11
IC303	F-11
IC304	C-11
IC305	B-11
IC306	C-19
IC307	E-6
IC308	A-6
IC309	C-18
IC331	C-3
IC352	A-16
IC401	F-15
IC402	D-9
IC403	D-7
IC501	C-14
IC502	B-9
IC503	B-7
Q301	F-1
Q302	F-2
Q303	F-3
Q351	A-19
Q403	C-2
Q503	C-2

4-13. SCHEMATIC DIAGRAM – AUDIO Board – • See page 32 for Waveforms. • See page 34 for IC Block Diagrams.

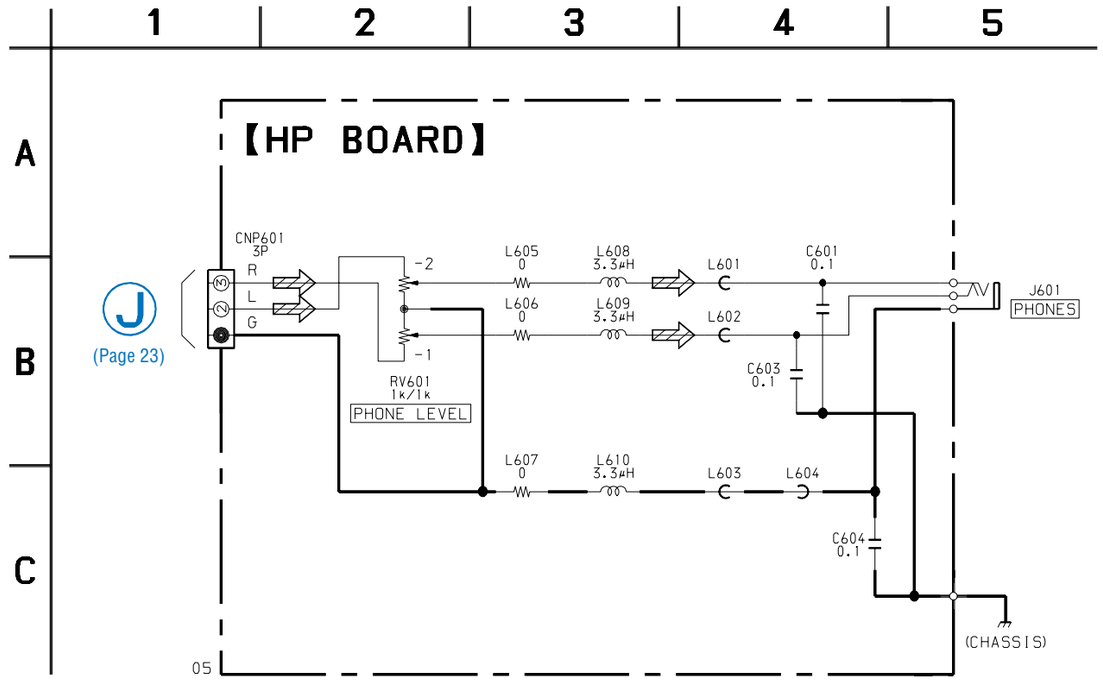


The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

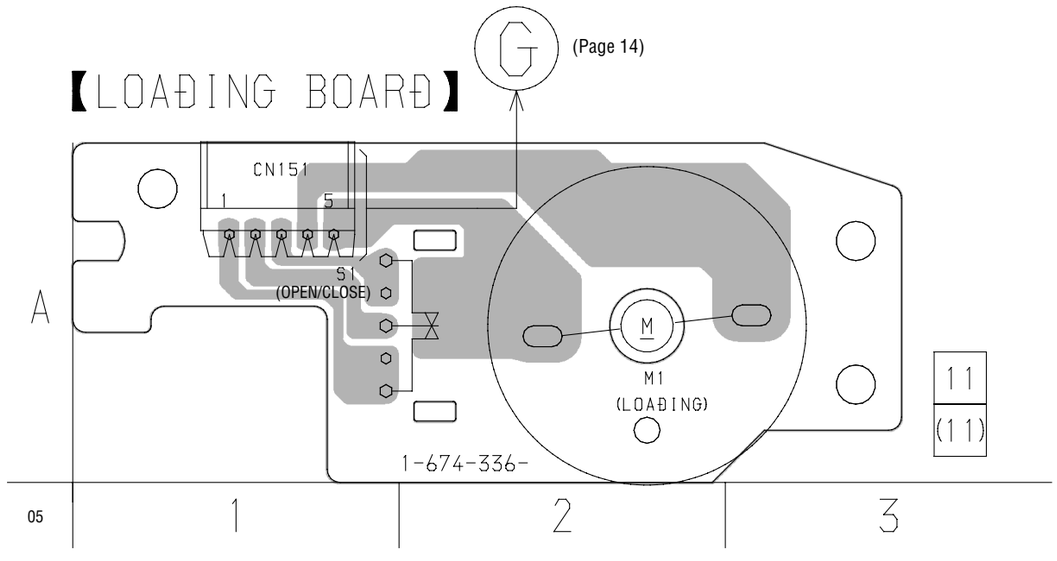
4-14. PRINTED WIRING BOARD – HP Board – • See page 11 for Circuit Boards Location.



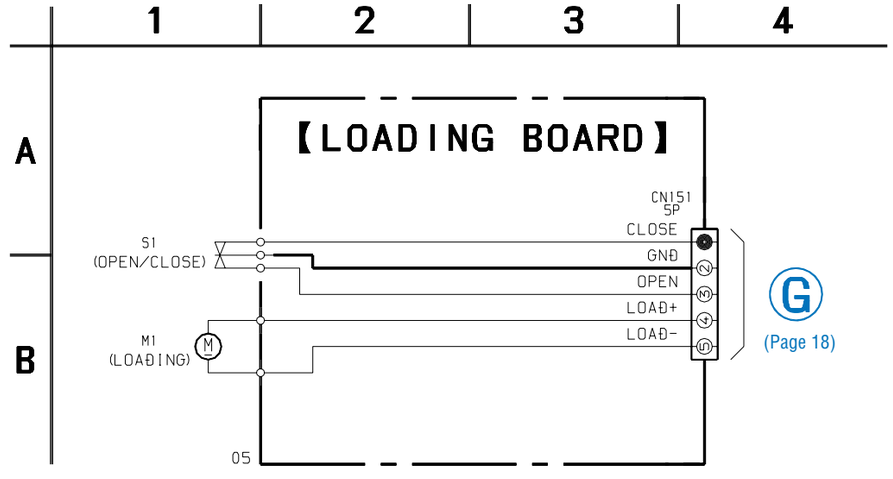
4-15. SCHEMATIC DIAGRAM – HP Board –



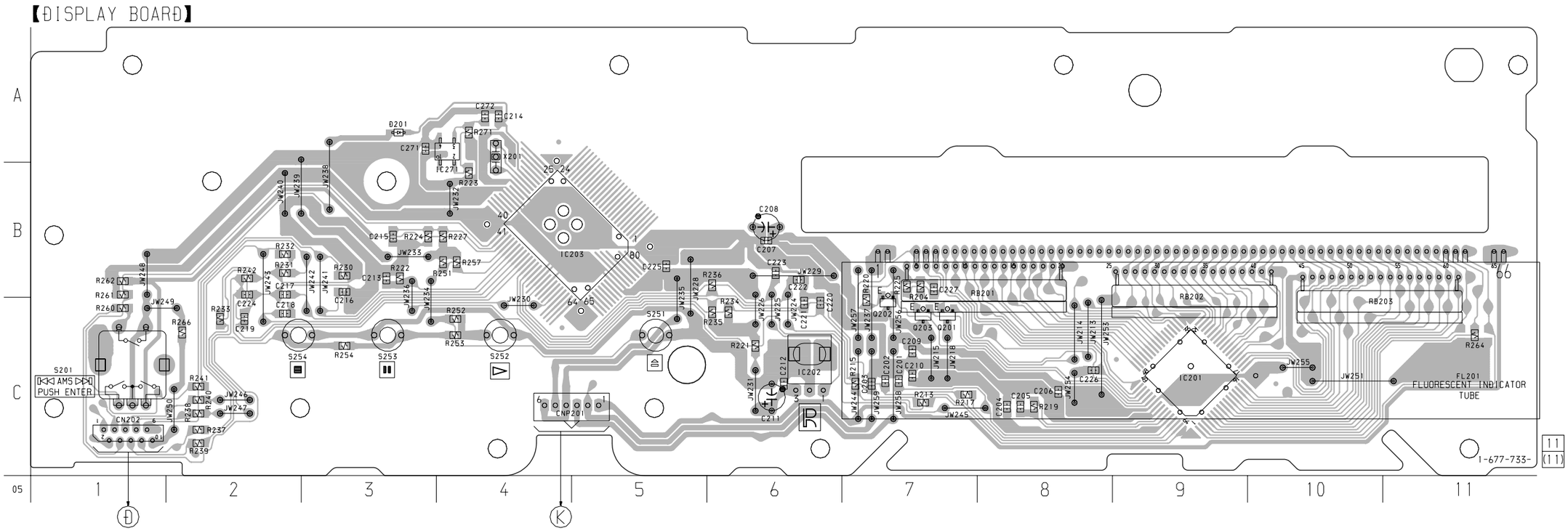
4-16. PRINTED WIRING BOARD – LOADING Board – • See page 11 for Circuit Boards Location.



4-17. SCHEMATIC DIAGRAM – LOADING Board –



4-18. PRINTED WIRING BOARD – DISPLAY Board – • See page 11 for Circuit Boards Location.



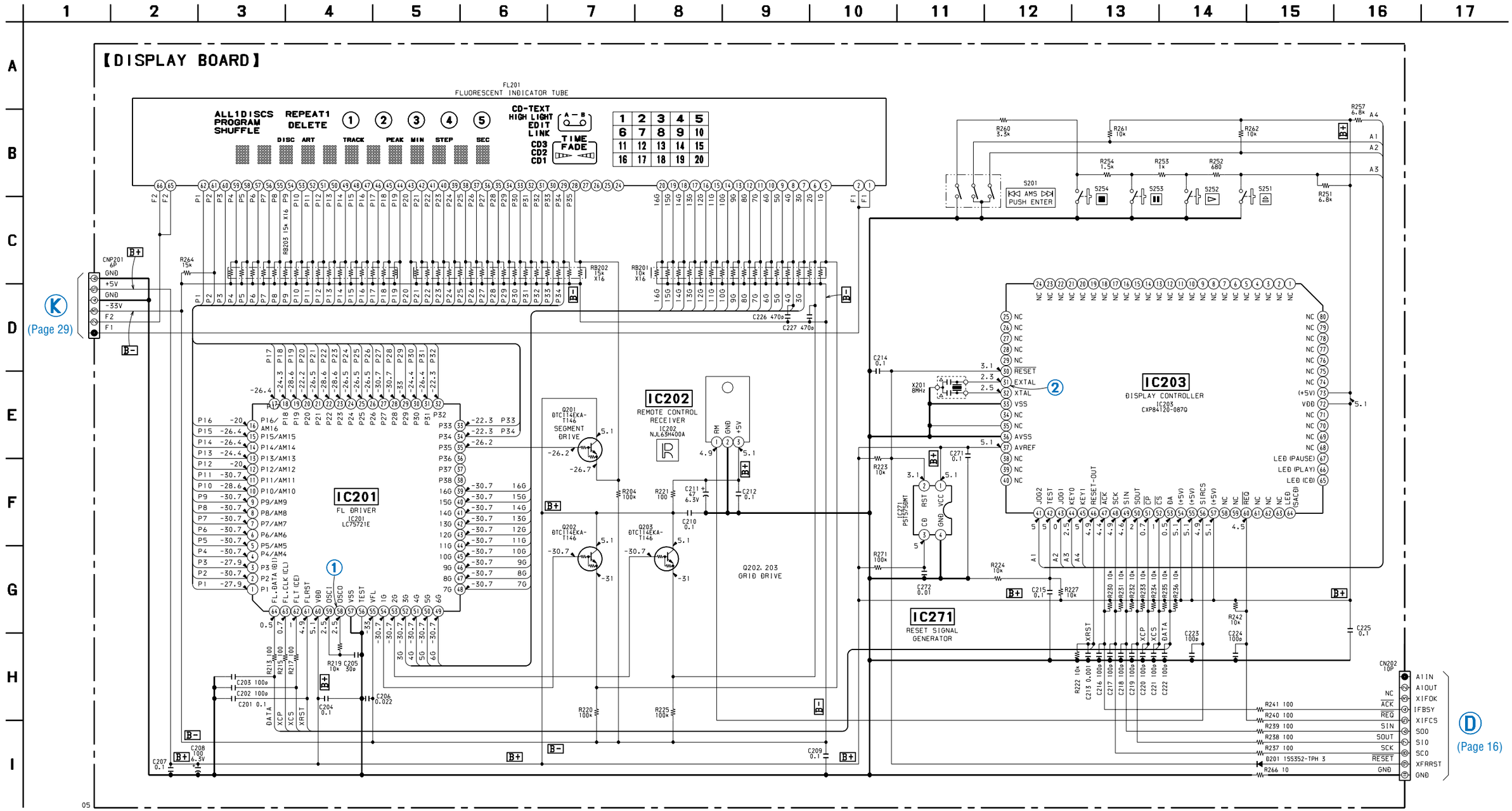
(Page 14)

(Page 28)

- **Semiconductor Location**

Ref. No.	Location
D201	A-3
IC201	C-9
IC202	C-6
IC203	B-4
IC271	A-4
Q201	C-7
Q202	C-7
Q203	C-7

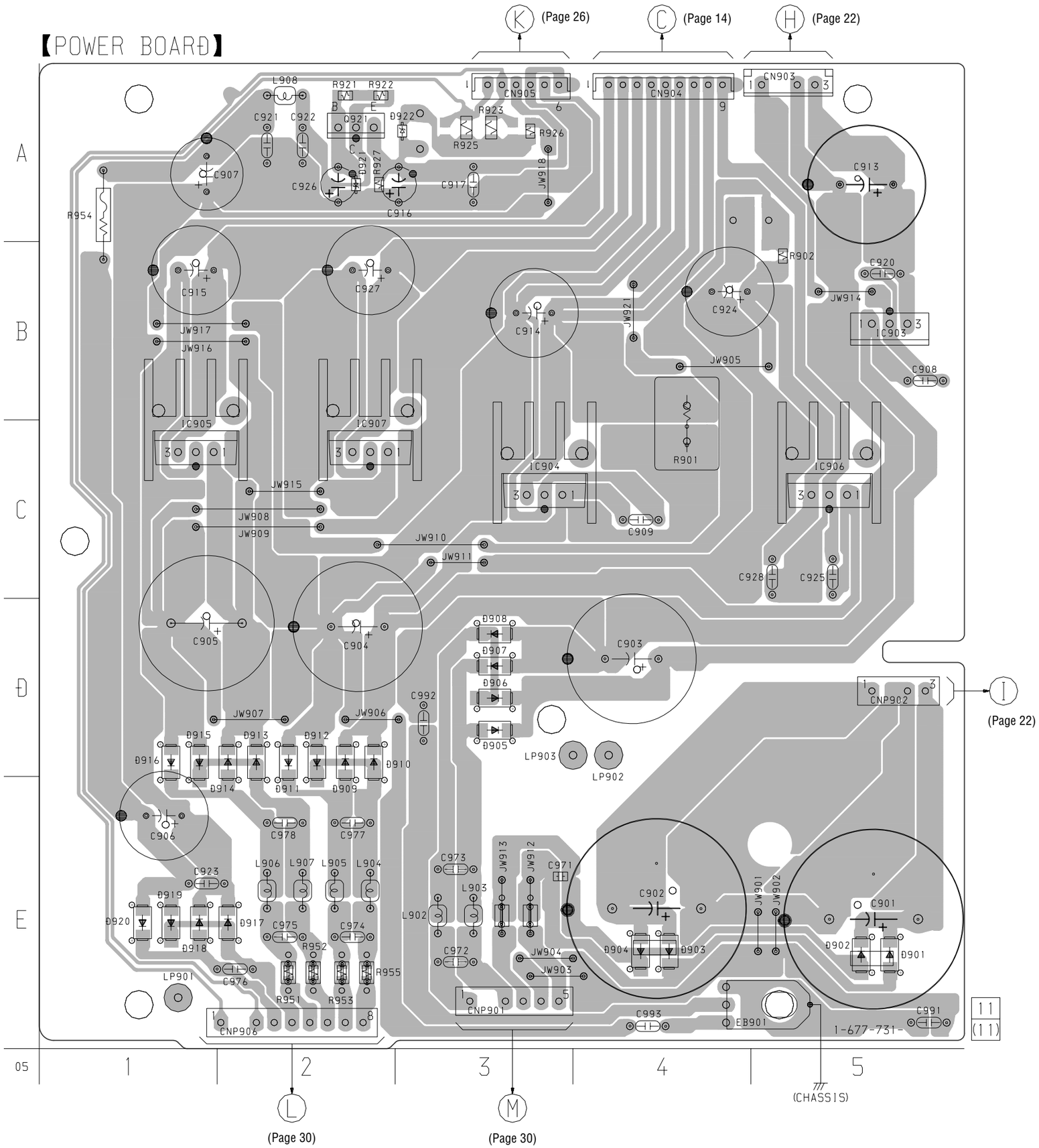
4-19. SCHEMATIC DIAGRAM – DISPLAY Board – • See page 32 for Waveforms.



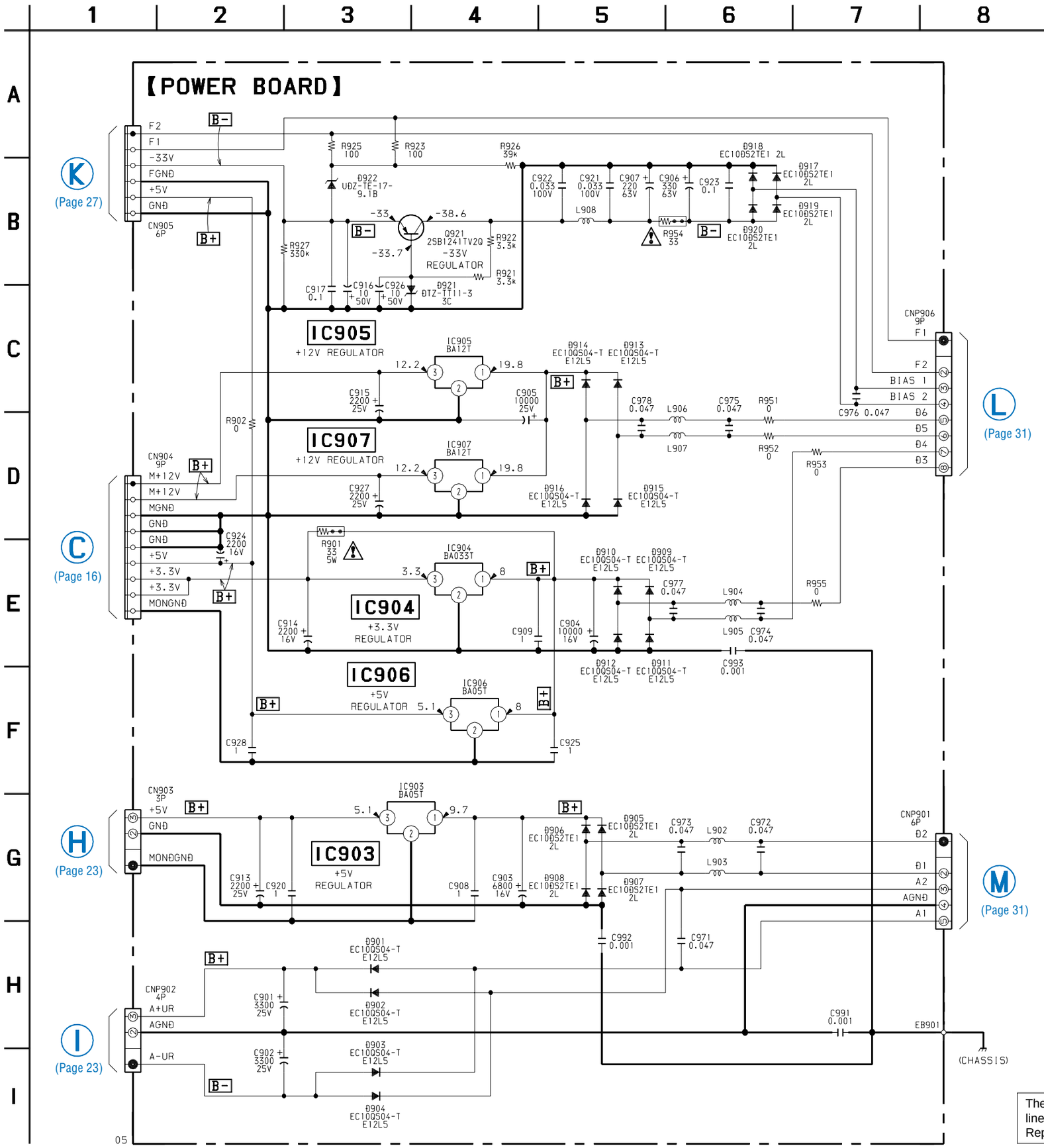
4-20. PRINTED WIRING BOARD – POWER Board – • See page 11 for Circuit Boards Location.

- **Semiconductor Location**

Ref. No.	Location
D901	E-5
D902	E-5
D903	E-4
D904	E-4
D905	D-3
D906	D-3
D907	D-3
D908	D-3
D909	D-2
D910	D-2
D911	D-2
D912	D-2
D913	D-2
D914	D-2
D915	D-1
D916	D-1
D917	E-2
D918	E-1
D919	E-1
D920	E-1
D921	A-2
D922	A-3
IC903	B-5
IC904	C-3
IC905	C-1
IC906	C-5
IC907	C-2
Q921	A-2

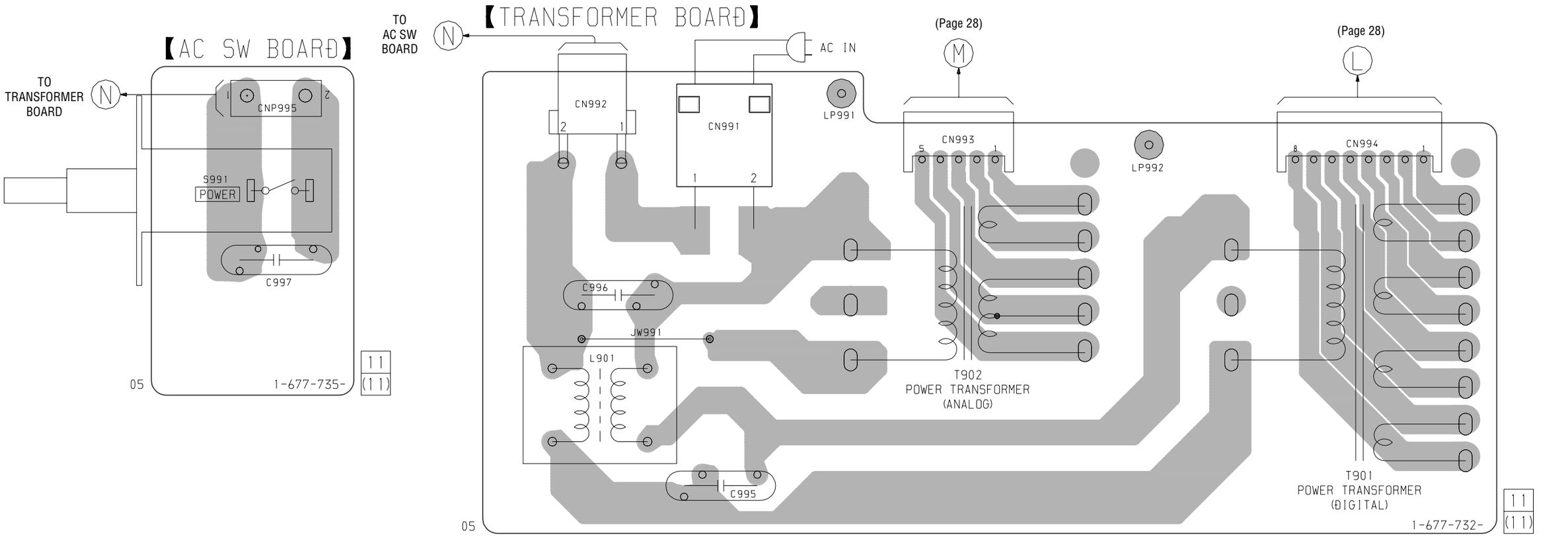


4-21. SCHEMATIC DIAGRAM – POWER Board –

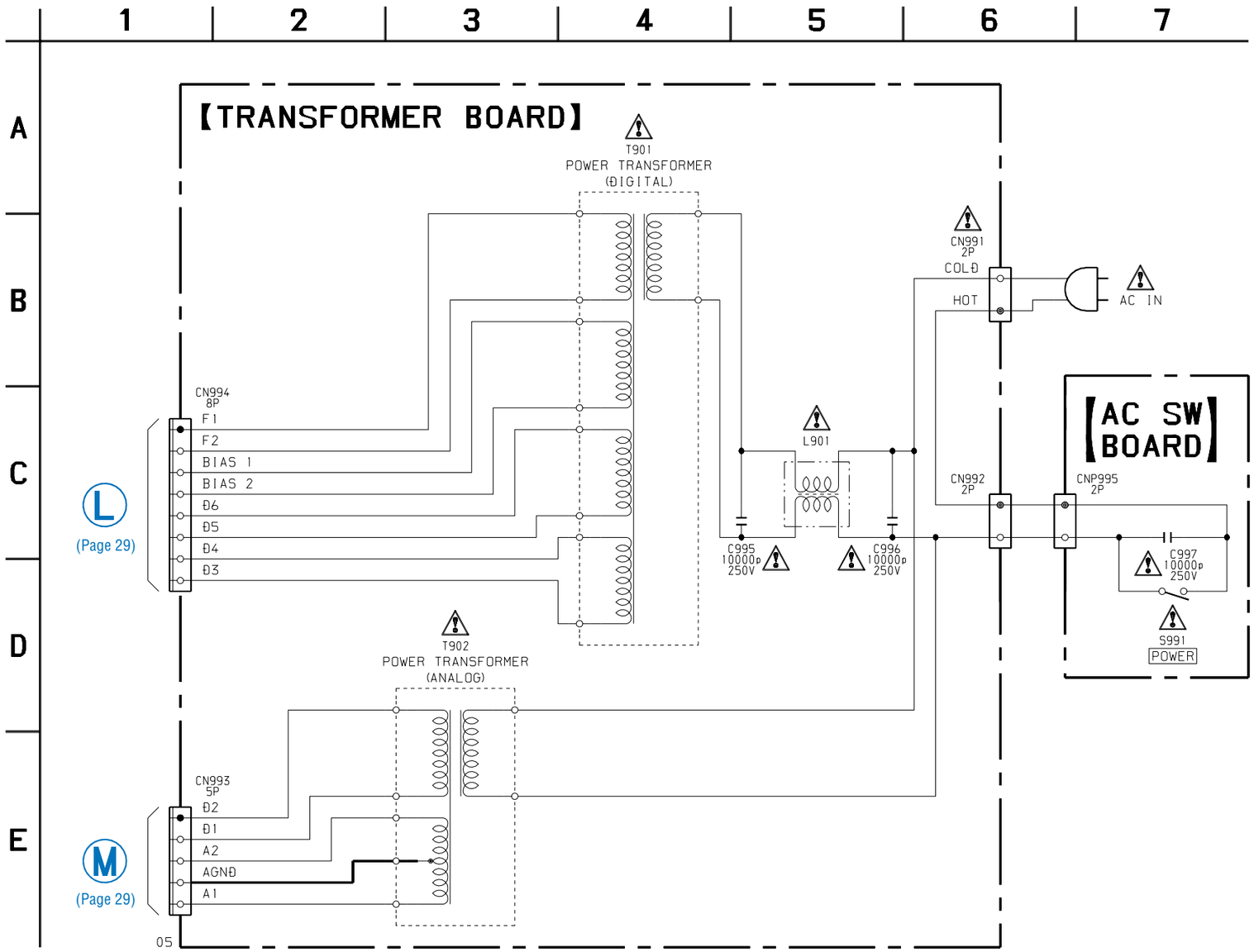


The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

4-22. PRINTED WIRING BOARDS – AC SW/TRANSFORMER Boards – **• See page 11 for Circuit Boards Location.**



4-23. SCHEMATIC DIAGRAM – AC SW/TRANSFORMER Boards –

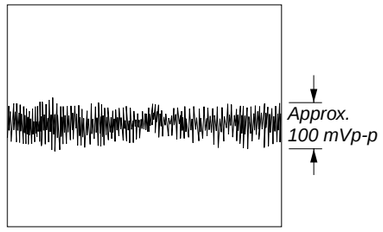


The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

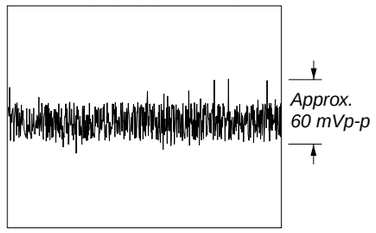
• **Waveforms**

– TK Board –

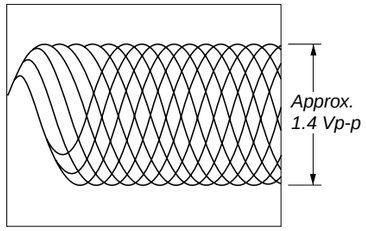
1 IC001 ㊴ (TE) (CD PLAY)



2 IC001 ㊵ (FE) (CD PLAY)

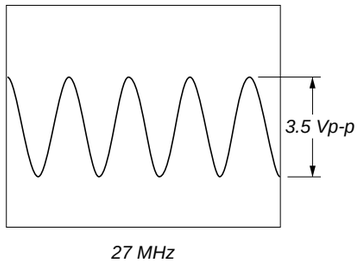


3 IC001 ㊺ (SIGO) (CD PLAY)

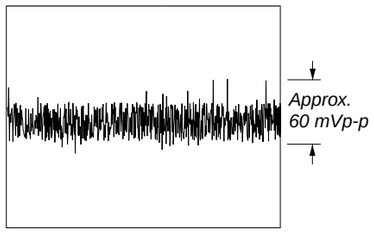


– MAIN Board –

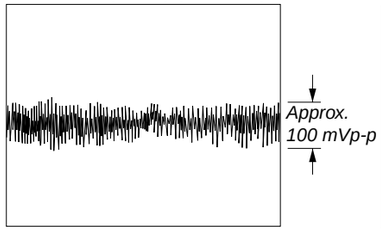
1 IC607 ㉛ (X2/CLKIN)



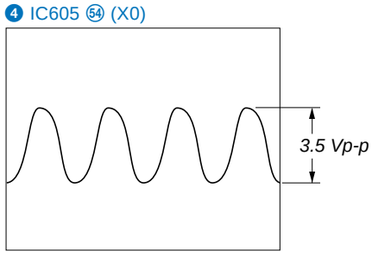
2 IC607 ㊽ (ADC1) (CD PLAY)



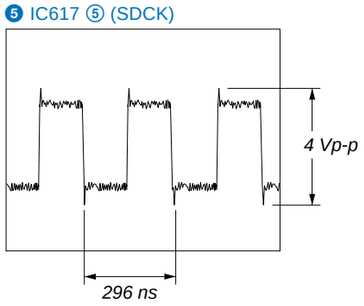
3 IC607 ㊾ (ADC0) (CD PLAY)



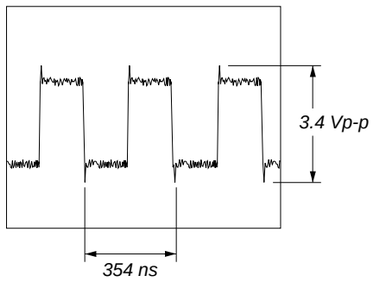
4 IC605 ㊹ (X0)



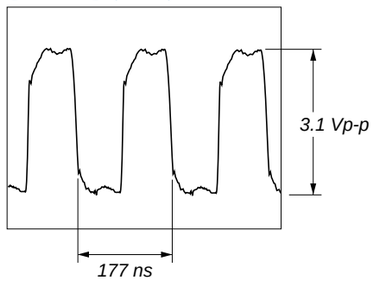
5 IC617 ⑤ (SDCK)



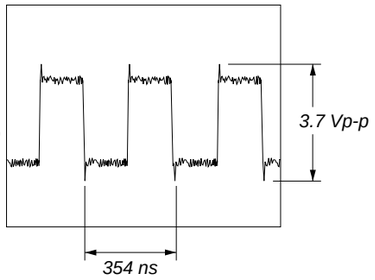
6 IC617 ㊷ (BCKD)



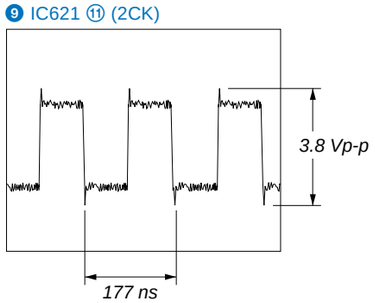
7 IC617 ㊻ (BCKA)



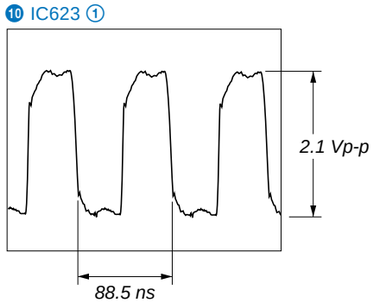
8 IC621 ⑧ (X2Q)



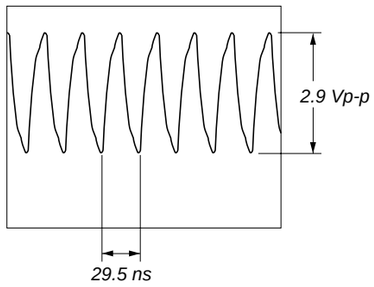
9 IC621 ⑪ (2CK)



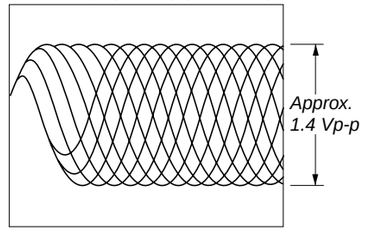
10 IC623 ①



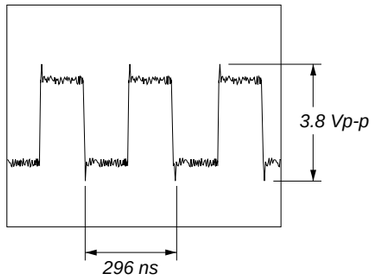
11 IC617 ⑭ (MCKI)
IC622 ⑫③ (SCKI), IC623 ⑧



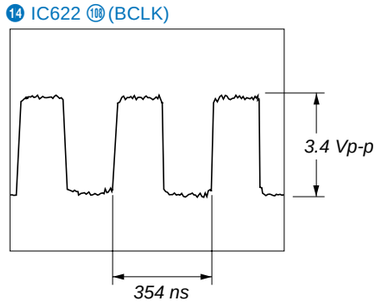
12 IC622 ⑲ (RFIN2) (CD PLAY)



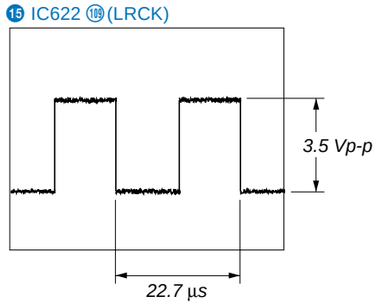
13 IC622 ㊶ (SDCK)



14 IC622 ㊽ (BCLK)

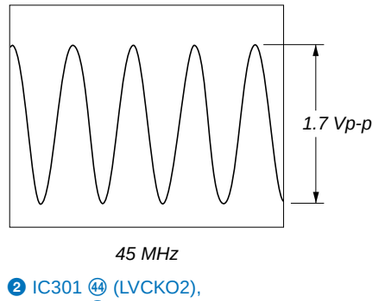


15 IC622 ㊾ (LRCK)

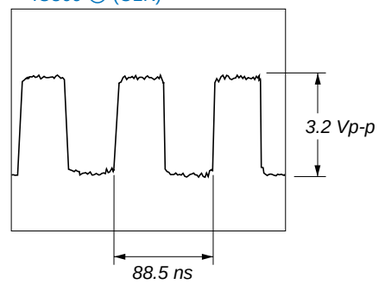


– AUDIO Board –

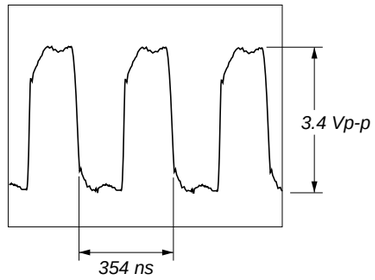
1 IC301 ⑫ (XOUT)



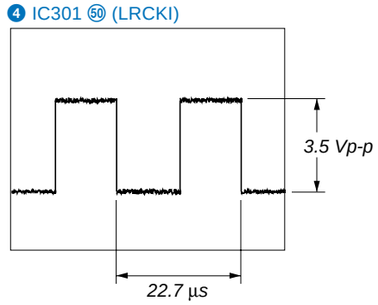
2 IC301 ㊹ (LVCKO2),
IC309 ① (CLK)



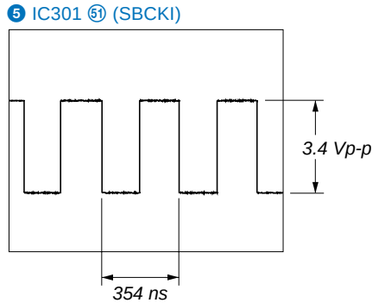
3 IC301 ㊾ (BCKI)



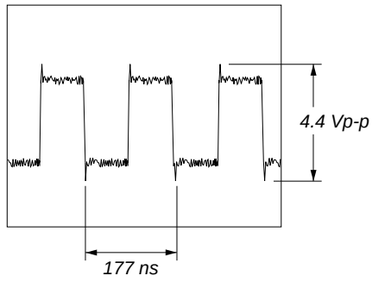
4 IC301 ㊿ (LRCKI)



5 IC301 ㊶ (SBCKI)

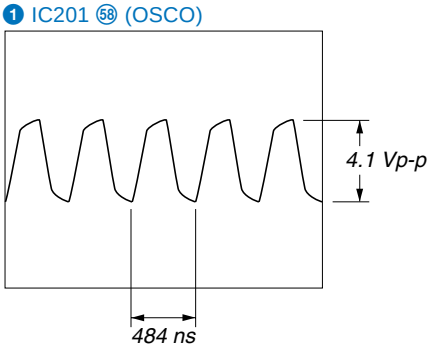


6 IC309 ⑤ (Q)

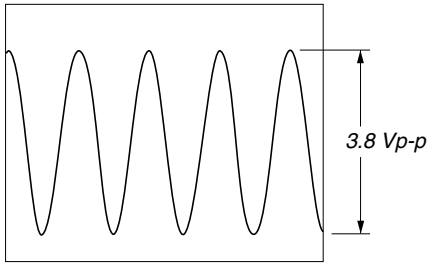


– DISPLAY Board –

❶ IC201 ㊽ (OSCO)

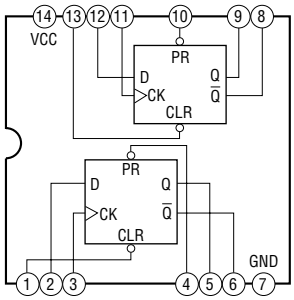


❷ IC203 ㉛ (EXTAL)

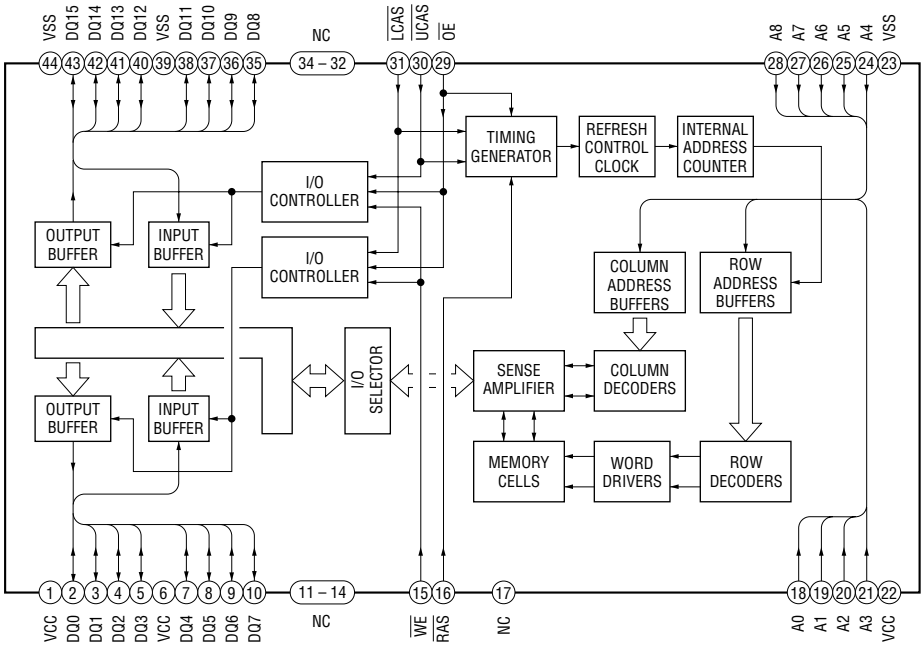


• **IC Block Diagrams**
– MAIN Board –

IC621 SN74LV74APWR

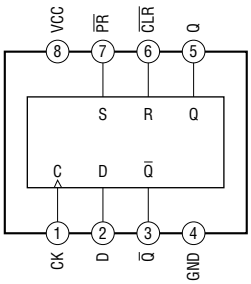


IC628 MSM54V16258BSL-40TS-K

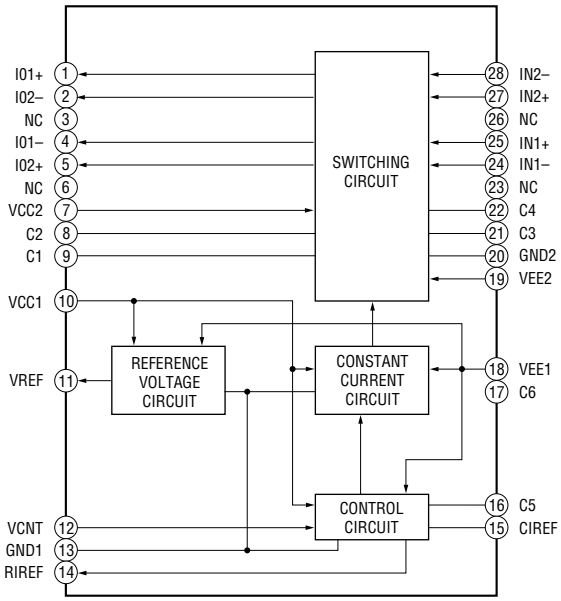


– AUDIO Board –

IC309 TC7W74F



IC401, 501 CXA8042AS

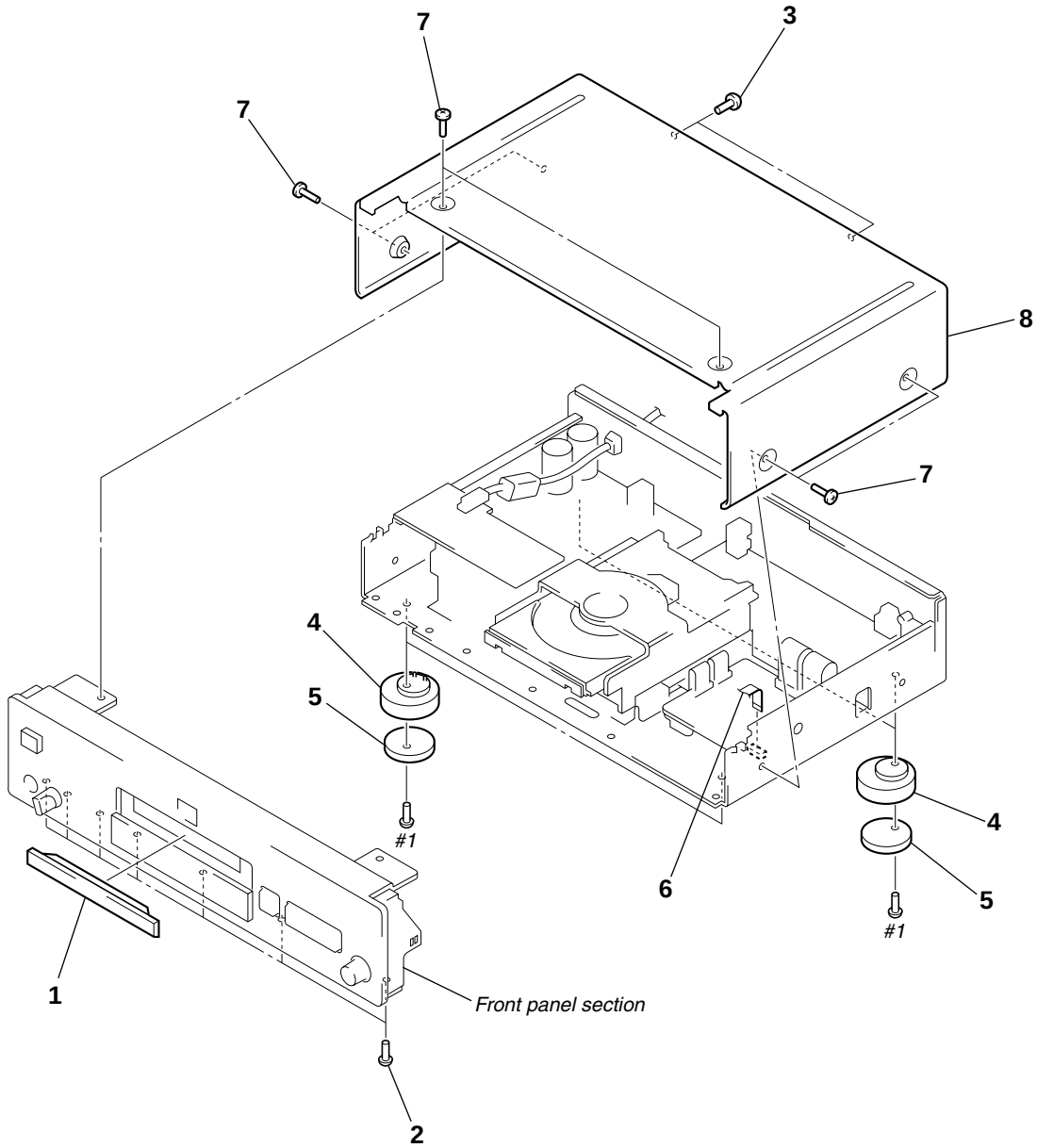


SECTION 5
EXPLODED VIEWS

NOTE:
- -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
- 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 the electrical parts list.

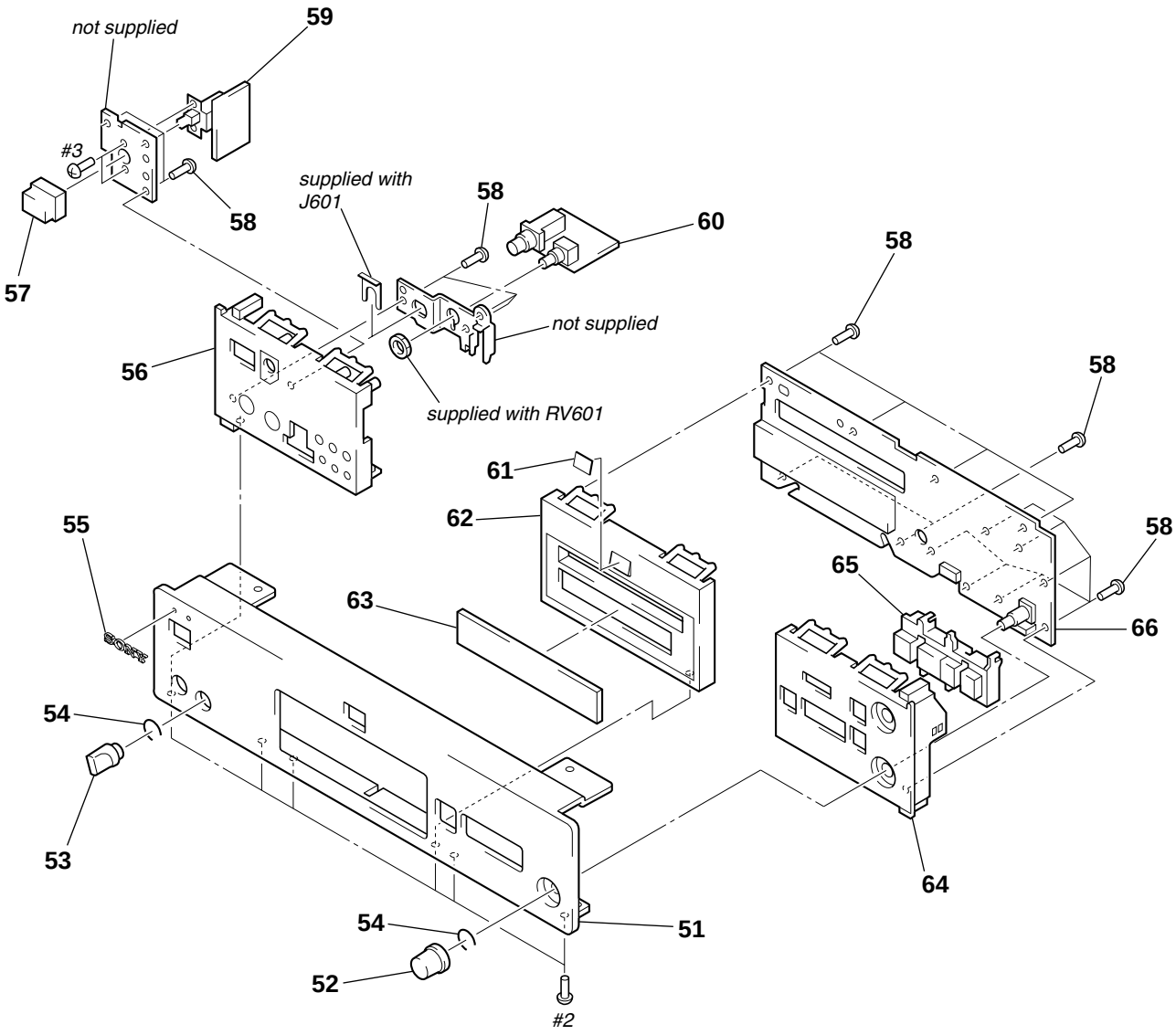
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

(1) COVER SECTION



Ref. No.	Part No.	Description	Remark
1	X-4952-805-1	PANEL ASSY, LOADING (BLACK)	
1	X-4952-806-1	PANEL ASSY, LOADING (SILVER)	
2	3-704-515-31	SCREW (BV/RING)	
3	4-210-291-01	SCREW (CASE3 TP2) (AEP: BLACK)	
3	4-210-291-11	SCREW (CASE3 TP2) (AEP: SILVER)	
3	4-210-082-01	SCREW (CASE) (UK)	
4	4-970-123-11	FOOT (F50180S) (BLACK)	
4	4-970-123-31	FOOT (F50180S) (SILVER)	
5	4-972-889-01	CUSHION	
6	1-792-598-11	WIRE (FLAT TYPE) (10 CORE)	
7	4-227-843-01	SCREW (TP), FLAT HEAD (AEP: BLACK)	
7	4-227-843-11	SCREW (TP), FLAT HEAD (AEP: SILVER)	
7	4-210-082-01	SCREW (CASE) (UK)	
* 8	4-997-138-02	COVER (4095269) (BLACK)	
* 8	4-997-138-42	COVER (4095269) (SILVER)	

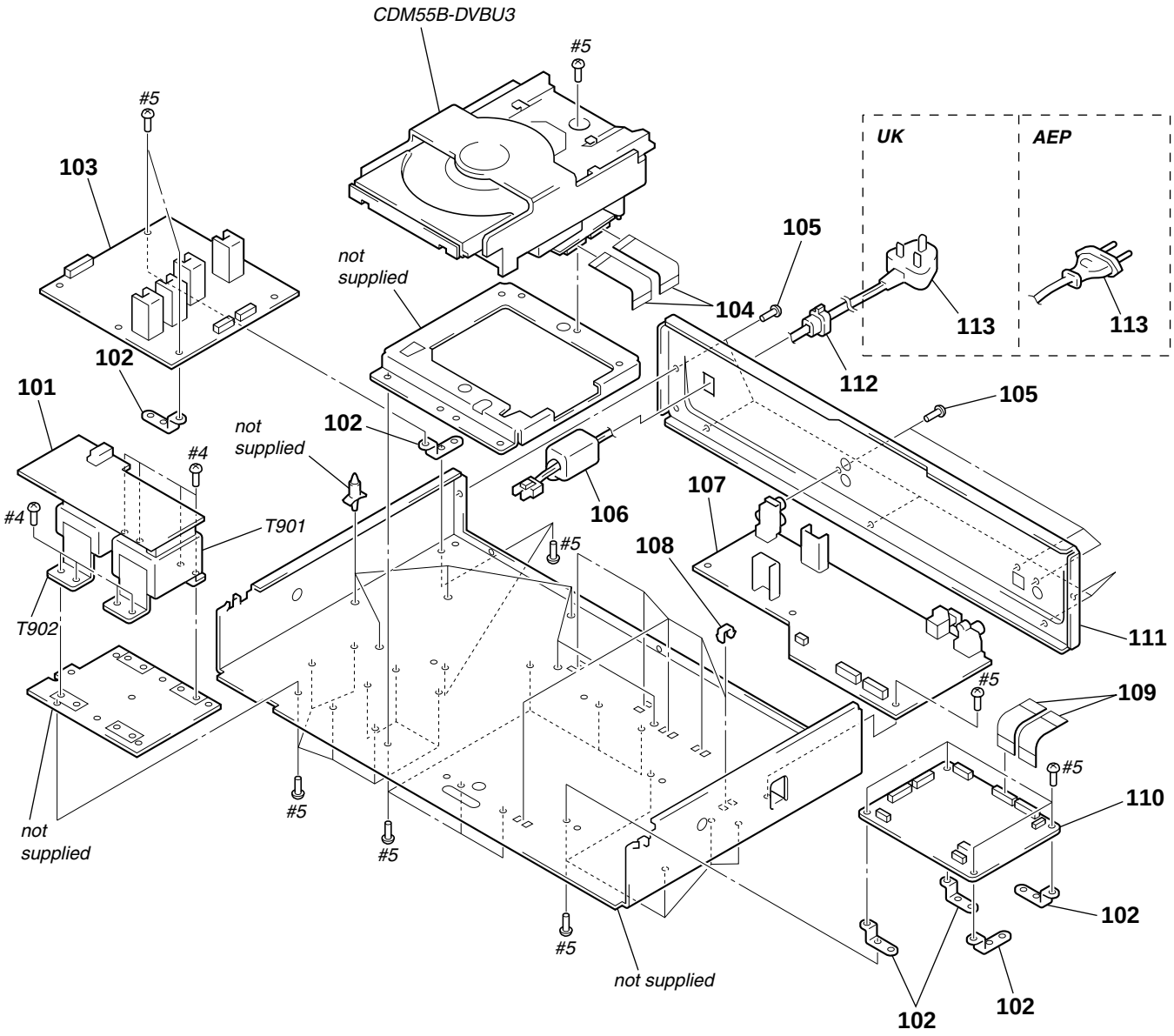
(2) FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark
51	4-227-839-01	PANEL, FRONT (BLACK)	
51	4-227-839-11	PANEL, FRONT (SILVER)	
52	4-227-834-01	KNOB (AMS) (BLACK)	
52	4-227-834-11	KNOB (AMS) (SILVER)	
53	3-354-931-01	KNOB (DIA. 10) (BLACK)	
53	3-354-931-41	KNOB (DIA. 10) (SILVER)	
54	3-354-981-01	SPRING (SUS), RING	
55	4-942-568-41	EMBLEM (NO. 5), SONY (for BLACK)	
55	4-942-568-61	EMBLEM (NO. 5), SONY (for SILVER)	
56	4-227-832-01	BASE (L), PANEL (BLACK)	
56	4-227-832-11	BASE (L), PANEL (SILVER)	
57	4-998-790-31	KNOB, POWER (BLACK)	
57	4-998-790-41	KNOB, POWER (SILVER)	

Ref. No.	Part No.	Description	Remark
58	4-951-620-01	SCREW (2.6X8), +BVTP	
59	1-677-735-11	AC SW BOARD	
60	1-677-734-11	HP BOARD	
61	4-227-841-01	EMBLEM (SACD) (for BLACK)	
61	4-227-841-11	EMBLEM (SACD) (for SILVER)	
62	4-227-184-01	BASE (M), PANEL (BLACK)	
62	4-227-184-11	BASE (M), PANEL (SILVER)	
63	4-227-835-01	PLATE, INDICATION	
64	4-227-183-01	BASE (R), PANEL (BLACK)	
64	4-227-183-11	BASE (R), PANEL (SILVER)	
65	4-227-833-01	BUTTON (PLAY) (⏏. ▷. ❚❚. ■) (BLACK)	
65	4-227-833-11	BUTTON (PLAY) (⏏. ▷. ❚❚. ■) (SILVER)	
66	A-4725-091-A	DISPLAY BOARD, COMPLETE	

(3) CHASSIS SECTION

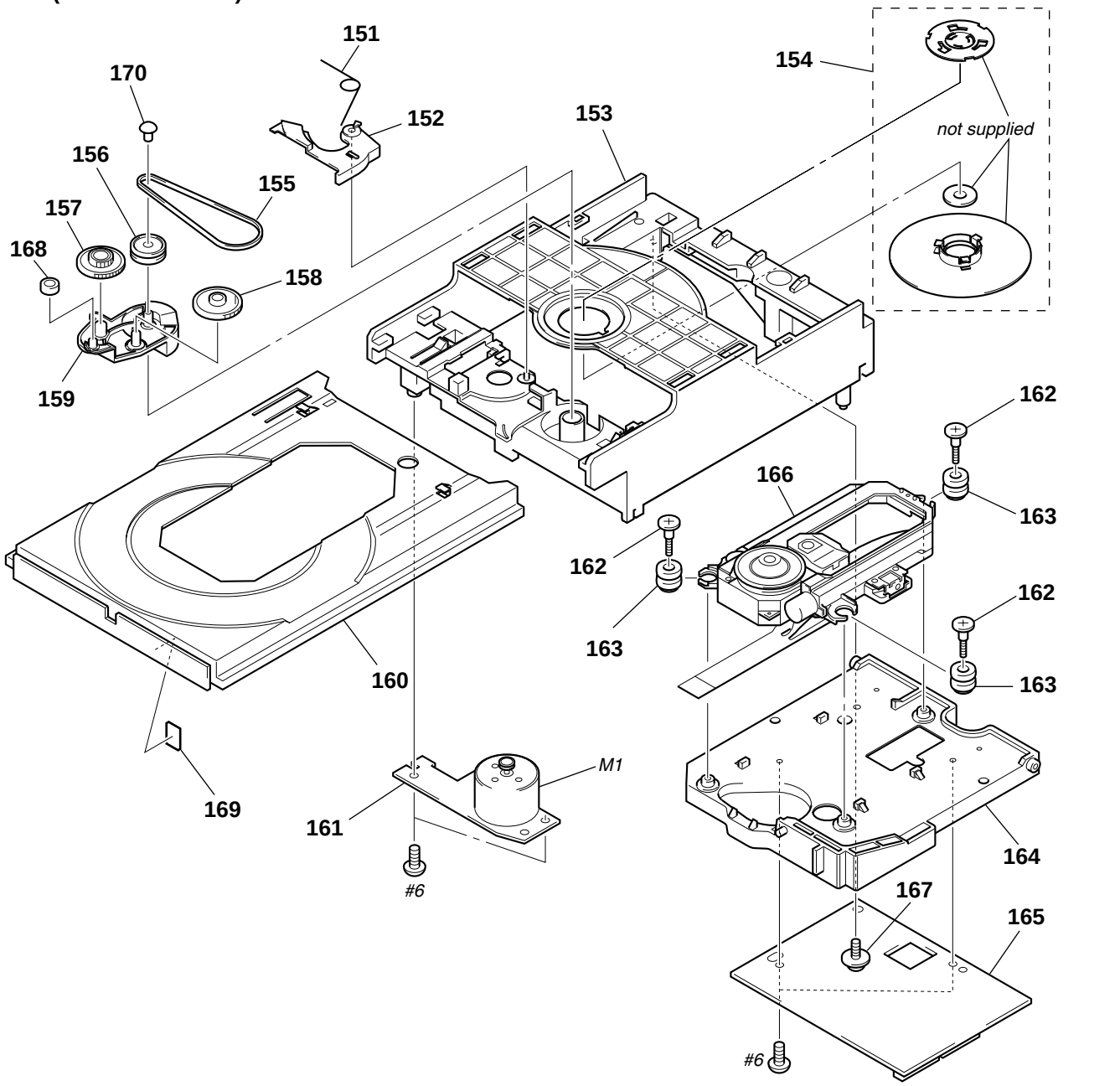


The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
101	1-677-732-11	TRANSFORMER BOARD	
* 102	3-332-563-01	BRACKET (P)	
103	A-4725-090-A	POWER BOARD, COMPLETE (AEP)	
103	A-4725-212-A	POWER BOARD, COMPLETE (UK)	
104	1-792-600-11	WIRE (FLAT TYPE) (18 CORE)	
105	3-704-515-21	SCREW (BV/RING)	
106	1-543-653-11	CORE ASSY, BEAD (DIVISION TYPE)	
107	A-4725-088-A	AUDIO BOARD, COMPLETE (AEP)	
107	A-4725-094-A	AUDIO BOARD, COMPLETE (UK)	
* 108	3-677-153-00	HOLDER	

Ref. No.	Part No.	Description	Remark
109	1-792-599-11	WIRE (FLAT TYPE) (16 CORE)	
110	A-4725-086-A	MAIN BOARD, COMPLETE	
111	4-227-711-01	PANEL, BACK (AEP)	
111	4-227-711-11	PANEL, BACK (UK)	
112	4-966-267-11	BUSHING (FBS001), CORD	
⚠113	1-558-568-21	CORD, POWER (AEP)	
⚠113	1-696-586-11	CORD, POWER (UK)	
⚠T901	1-435-459-11	TRANSFORMER, POWER (DIGITAL)	
⚠T902	1-435-460-11	TRANSFORMER, POWER (ANALOG)	

(4) MECHANISM DECK SECTION (CDM55B-DVBU3)



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	Remark
151	4-220-239-01	SPRING, TORSION	
152	4-220-229-01	LEVER (SW)	
153	4-224-895-01	HOLDER (KHM-220)	
154	A-4672-876-A	PULLEY (AT) ASSY	
155	4-221-816-01	BELT (CDM55)	
156	4-220-234-01	PULLEY (LDG)	
157	4-220-237-01	GEAR (A)	
158	4-220-238-01	GEAR (B)	
159	4-220-233-01	CAM (CDM55)	
160	4-226-180-11	TRAY (55-L)	
161	1-674-336-11	LOADING BOARD	

Ref. No.	Part No.	Description	Remark
162	4-981-923-01	SCREW (M), STEP	
163	3-053-847-01	INSULATOR	
164	4-220-230-01	CHASSIS	
165	A-4725-072-A	TK BOARD, COMPLETE	
⚠166	A-6062-397-A	OPTICAL PICK-UP KHM-220AAA	
167	4-985-672-01	SCREW (+PTPWH M2.6), FLOATING	
168	4-221-815-01	ROLLER	
169	4-925-315-31	DAMPER	
170	4-227-598-01	SPACER (55)	
M1	A-4672-771-A	MOTOR (LD) ASSY (LOADING)	

AC SW **AUDIO**

SECTION 6
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 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 ⚠ or dotted line with mark ⚠ 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
	1-677-735-11	AC SW BOARD			
		**********			
		< CAPACITOR >			
⚠C997	1-113-927-11	CERAMIC	10000PF	20%	250V
		< CONNECTOR >			
CNP995	1-690-122-31	REED (WITH CONNECTOR) (2 CORE)			
		< SWITCH >			
⚠S991	1-572-267-21	SWITCH, PUSH (AC POWER) (1 KEY)			(POWER)
**********					
	A-4725-088-A	AUDIO BOARD, COMPLETE (AEP)			
	A-4725-094-A	AUDIO BOARD, COMPLETE (UK)			
		**********			
*	3-309-144-21	HEAT SINK			
	7-685-871-01	SCREW +BVTT 3X6 (S)			
		< CAPACITOR >			
C300	1-126-927-11	ELECT	2200uF	20%	10V
C301	1-126-927-11	ELECT	2200uF	20%	10V
C302	1-124-700-11	ELECT	330uF	20%	25V
C303	1-124-700-11	ELECT	330uF	20%	25V
C304	1-126-929-11	ELECT	4700uF	20%	10V
C305	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C306	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C307	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C308	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C309	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C310	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C311	1-136-850-11	MYLAR	0.1uF	5%	63V
C312	1-136-850-11	MYLAR	0.1uF	5%	63V
C313	1-136-850-11	MYLAR	0.1uF	5%	63V
C314	1-136-850-11	MYLAR	0.1uF	5%	63V
C315	1-136-850-11	MYLAR	0.1uF	5%	63V
C316	1-136-850-11	MYLAR	0.1uF	5%	63V
C317	1-136-850-11	MYLAR	0.1uF	5%	63V
C318	1-136-850-11	MYLAR	0.1uF	5%	63V
C321	1-128-202-11	ELECT	220uF	20%	63V
C322	1-125-781-21	ELECT	220uF	20%	35V
C323	1-117-775-31	ELECT	0.1uF	10%	250V

Ref. No.	Part No.	Description			Remark
C324	1-102-944-00	CERAMIC	7PF	0.5PF	50V
C325	1-102-944-00	CERAMIC	7PF	0.5PF	50V
C326	1-115-197-11	ELECT	100uF	20%	25V
C327	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C328	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C329	1-136-850-11	MYLAR	0.1uF	5%	63V
C330	1-136-850-11	MYLAR	0.1uF	5%	63V
C331	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C332	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C333	1-128-091-11	ELECT	1000uF	20%	50V
C334	1-128-091-11	ELECT	1000uF	20%	50V
C335	1-126-024-11	ELECT	220uF	20%	25V
C336	1-126-024-11	ELECT	220uF	20%	25V
C337	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C338	1-126-013-11	ELECT	1000uF	20%	16V
C339	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C340	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C341	1-115-197-11	ELECT	100uF	20%	25V
C342	1-115-197-11	ELECT	100uF	20%	25V
C343	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C344	1-164-346-11	CERAMIC CHIP	1uF		16V
C345	1-164-346-11	CERAMIC CHIP	1uF		16V
C346	1-164-346-11	CERAMIC CHIP	1uF		16V
C347	1-164-346-11	CERAMIC CHIP	1uF		16V
C348	1-164-346-11	CERAMIC CHIP	1uF		16V
C351	1-126-059-11	ELECT	10uF	20%	50V
C352	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C353	1-126-009-81	ELECT	100uF	20%	16V
C357	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C358	1-126-960-11	ELECT	1uF	20%	50V
C363	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C364	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C392	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C393	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C401	1-137-420-11	FILM	0.047uF	5%	100V
C402	1-128-200-11	ELECT	47uF	20%	63V
C403	1-128-200-11	ELECT	47uF	20%	63V
C404	1-125-822-11	TANTALUM	10uF	20%	10V
C405	1-128-200-11	ELECT	47uF	20%	63V
C406	1-136-802-11	MYLAR	0.015uF	5%	100V
C407	1-130-892-00	FILM	0.015uF	5%	63V
C408	1-136-850-11	MYLAR	0.1uF	5%	63V
C409	1-136-850-11	MYLAR	0.1uF	5%	63V

Ref. No.	Part No.	Description			Remark
C410	1-130-892-00	FILM	0.015uF	3%	100V
C412	1-130-339-11	FILM	0.0056uF	3%	100V
C413	1-130-339-11	FILM	0.0056uF	3%	100V
C414	1-136-252-00	FILM	0.0015uF	3%	100V
C415	1-136-252-00	FILM	0.0015uF	3%	100V
C416	1-136-816-11	FILM	0.0022uF	5%	100V
C417	1-136-257-00	FILM	0.0039uF	3%	100V
C420	1-128-201-11	ELECT	100uF	20%	63V
C421	1-128-201-11	ELECT	100uF	20%	63V
C422	1-137-506-11	ELECT	0.47uF	10%	63V
C423	1-136-808-11	FILM	100PF	5%	100V
C424	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C451	1-163-239-11	CERAMIC CHIP	33PF	5%	50V
C452	1-164-505-11	CERAMIC CHIP	2.2 uF		16V
C453	1-125-859-21	FILM	0.001uF	5%	50V
C501	1-137-420-11	FILM	0.047uF	5%	100V
C502	1-128-200-11	ELECT	47uF	20%	63V
C503	1-128-200-11	ELECT	47uF	20%	63V
C504	1-125-822-11	TANTALUM	10uF	20%	10V
C505	1-128-200-11	ELECT	47uF	20%	63V
C506	1-136-802-11	MYLAR	0.015uF	5%	100V
C507	1-130-892-00	FILM	0.015uF	5%	63V
C508	1-136-850-11	MYLAR	0.1uF	5%	63V
C509	1-136-850-11	MYLAR	0.1uF	5%	63V
C510	1-130-892-00	FILM	0.015uF	3%	100V
C512	1-130-339-11	FILM	0.0056uF	3%	100V
C513	1-130-339-11	FILM	0.0056uF	3%	100V
C514	1-136-252-00	FILM	0.0015uF	3%	100V
C515	1-136-252-00	FILM	0.0015uF	3%	100V
C516	1-136-816-11	FILM	0.0022uF	5%	100V
C517	1-136-257-00	FILM	0.0039uF	3%	100V
C520	1-128-201-11	ELECT	100uF	20%	63V
C521	1-128-201-11	ELECT	100uF	20%	63V
C522	1-137-506-11	ELECT	0.47uF	10%	63V
C523	1-136-808-11	CERAMIC CHIP	100PF	5%	100V
C524	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C551	1-163-239-11	CERAMIC CHIP	33PF	5%	50V
C552	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C553	1-125-859-21	FILM	0.001uF	5%	50V
		< CONNECTOR >			
* CN301	1-564-506-11	PLUG, CONNECTOR 3P			
CN302	1-770-646-11	CONNECTOR, FFC/FPC 16P			
CN303	1-770-646-11	CONNECTOR, FFC/FPC 16P			
* CN304	1-564-506-11	PLUG, CONNECTOR 3P			
CN351	1-506-468-11	PIN, CONNECTOR 3P			
		< DIODE >			
D302	8-719-016-74	DIODE 1SS352-TPH3			
D303	8-719-977-13	DIODE DTZ-TT11-6.8C			
D321	8-719-210-39	DIODE EC10QS04-TE12L5			
		< GROUND TERMINAL >			
EB301	1-537-770-21	TERMINAL BOARD, GROUND			
		< IC >			
IC301	8-759-653-12	IC CXD9556Q			
IC302	8-759-231-53	IC M5F7805L			

Ref. No.	Part No.	Description			Remark
IC303	8-759-231-53	IC M5F7805L			
IC304	8-759-604-86	IC M5F7807L			
IC305	8-759-604-90	IC M5F7907L			
IC306	8-759-445-59	IC BA033T			
IC307	8-759-231-58	IC M5F7812L			
IC308	8-759-245-86	IC M5F7912L			
IC309	8-759-180-84	IC TC7W74F (TE12R)			
IC331	8-759-711-85	IC NJM4580E-D-TE2			
IC352	8-749-921-12	IC GP1F32T (DIGITAL OUT CD OPTICAL)			
IC401	8-759-371-51	IC CXA8042AS			
IC402	8-759-443-33	IC OPA2132PA			
IC403	8-759-686-08	IC OPA2604AU/2K5			
IC501	8-759-371-51	IC CXA8042AS			
IC502	8-759-443-33	IC OPA2132PA			
IC503	8-759-686-08	IC OPA2604AU/2K5			
		< JACK >			
J301	1-774-727-11	JACK, PIN 2P (ANALOG OUT)			
J351	1-770-905-21	JACK, PIN 1P (DIGITAL OUT CD COAXIAL)			
		< SHORT >			
JW304	1-216-295-00	SHORT	0		
JW305	1-216-295-00	SHORT	0		
		< RESISTOR/NOISE FILTER/FERRITE BEAD >			
L302	1-216-042-00	METAL CHIP	510	5%	1/10W
L303	1-216-295-00	SHORT	0		
L304	1-216-042-00	METAL CHIP	510	5%	1/10W
L306	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
L307	1-216-049-11	METAL CHIP	1K	5%	1/10W
L308	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
L309	1-424-122-11	FILTER, NOISE			
L310	1-424-122-11	FILTER, NOISE			
L311	1-424-122-11	FILTER, NOISE			
L312	1-424-122-11	FILTER, NOISE			
L321	1-424-122-11	FILTER, NOISE			
L322	1-424-153-11	FILTER, NOISE			
L351	1-216-295-00	SHORT	0		
L352	1-414-234-22	FERRITE BEAD			
L353	1-414-234-22	FERRITE BEAD			
L354	1-414-234-22	FERRITE BEAD			
L401	1-424-122-11	FILTER, NOISE			
L402	1-424-122-11	FILTER, NOISE			
L501	1-424-122-11	FILTER, NOISE			
L502	1-424-122-11	FILTER, NOISE			
		< TRANSISTOR >			
Q301	8-729-027-38	TRANSISTOR	DTA144EKA-T146		
Q302	8-729-900-53	TRANSISTOR	DTC114EKA-T146		
Q303	8-729-027-38	TRANSISTOR	DTA144EKA-T146		
Q351	8-729-120-28	TRANSISTOR	2SC1623-T1-L5L6		
Q403	8-729-141-74	TRANSISTOR	2SC3624A-T2L15L16		
Q503	8-729-141-74	TRANSISTOR	2SC3624A-T2L15L16		
		< RESISTOR >			
R301	1-216-033-00	METAL CHIP	220	5%	1/10W
⚠R302	1-212-857-00	FUSIBLE	10	5%	1/4W F

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

AUDIO DISPLAY

Ref. No.	Part No.	Description			Remark
R303	1-216-097-00	RES-CHIP	100K	5%	1/10W
R304	1-216-097-00	RES-CHIP	100K	5%	1/10W
R305	1-216-105-00	RES-CHIP	220K	5%	1/10W
R306	1-216-033-00	METAL CHIP	220	5%	1/10W
R307	1-216-081-00	METAL CHIP	22K	5%	1/10W
R308	1-216-045-00	RES-CHIP	680	5%	1/10W
R309	1-216-105-00	RES-CHIP	220K	5%	1/10W
R310	1-216-025-00	RES-CHIP	100	5%	1/10W
R311	1-216-025-00	RES-CHIP	100	5%	1/10W
R312	1-216-295-00	SHORT	0		
R321	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R331	1-216-033-00	METAL CHIP	220	5%	1/10W
R332	1-216-033-00	METAL CHIP	220	5%	1/10W
R353	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R354	1-216-063-00	RES-CHIP	3.9K	5%	1/10W
R355	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R356	1-216-033-00	METAL CHIP	220	5%	1/10W
R357	1-216-021-00	METAL CHIP	68	5%	1/10W
R358	1-216-097-00	RES-CHIP	100K	5%	1/10W
R361	1-216-295-00	SHORT	0		
R371	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R373	1-216-041-00	METAL CHIP	470	5%	1/10W
R374	1-216-045-00	METAL CHIP	680	5%	1/10W
R375	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R376	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R392	1-216-041-00	METAL CHIP	470	5%	1/10W
R398	1-216-049-11	RES-CHIP	1K	5%	1/10W
R399	1-216-049-11	RES-CHIP	1K	5%	1/10W
R401	1-216-023-00	METAL CHIP	82	5%	1/10W
R402	1-216-017-91	METAL CHIP	47	5%	1/10W
R403	1-216-017-91	METAL CHIP	47	5%	1/10W
R404	1-216-023-00	METAL CHIP	82	5%	1/10W
R405	1-216-001-00	METAL CHIP	10	5%	1/10W
R406	1-216-001-00	METAL CHIP	10	5%	1/10W
R407	1-259-971-11	CARBON MELF	10	2%	1/8W
R408	1-259-971-11	CARBON MELF	10	2%	1/8W
R409	1-259-989-11	CARBON MELF	330	2%	1/8W
R410	1-259-989-11	CARBON MELF	330	2%	1/8W
R411	1-259-977-11	CARBON MELF	33	2%	1/8W
R412	1-259-977-11	CARBON MELF	33	2%	1/8W
R415	1-259-997-11	CARBON MELF	1.5K	2%	1/8W
R416	1-259-997-11	CARBON MELF	1.5K	2%	1/8W
R417	1-259-926-11	CARBON MELF	2K	2%	1/8W
R418	1-259-926-11	CARBON MELF	2K	2%	1/8W
R419	1-259-995-11	CARBON MELF	1K	2%	1/8W
R420	1-259-995-11	CARBON MELF	1K	2%	1/8W
R423	1-260-026-11	CARBON MELF	330K	2%	1/8W
R424	1-259-975-11	CARBON MELF	22	2%	1/8W
R426	1-259-971-11	CARBON MELF	10	2%	1/8W
R427	1-216-105-00	RES-CHIP	220K	5%	1/10W
R431	1-259-992-11	CARBON MELF	560	2%	1/8W
R432	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R451	1-216-085-00	METAL CHIP	33K	5%	1/10W
R452	1-216-104-00	METAL CHIP	200K	5%	1/10W
R453	1-216-107-00	METAL CHIP	270K	5%	1/10W
R454	1-216-119-00	METAL CHIP	820K	5%	1/10W
R455	1-216-019-00	METAL CHIP	56	5%	1/10W
R463	1-216-057-00	METAL CHIP	2.2K	5%	1/10W

Ref. No.	Part No.	Description			Remark
R501	1-216-023-00	METAL CHIP	82	5%	1/10W
R502	1-216-017-91	METAL CHIP	47	5%	1/10W
R503	1-216-017-91	METAL CHIP	47	5%	1/10W
R504	1-216-023-00	METAL CHIP	82	5%	1/10W
R505	1-216-001-00	METAL CHIP	10	5%	1/10W
R506	1-216-001-00	METAL CHIP	10	5%	1/10W
R507	1-259-971-11	CARBON MELF	10	2%	1/8W
R508	1-259-971-11	CARBON MELF	10	2%	1/8W
R509	1-259-989-11	CARBON MELF	330	2%	1/8W
R510	1-259-989-11	CARBON MELF	330	2%	1/8W
R511	1-259-977-11	CARBON MELF	33	2%	1/8W
R512	1-259-977-11	CARBON MELF	33	2%	1/8W
R515	1-259-997-11	CARBON MELF	1.5K	2%	1/8W
R516	1-259-997-11	CARBON MELF	1.5K	2%	1/8W
R517	1-259-926-11	CARBON MELF	2K	2%	1/8W
R518	1-259-926-11	CARBON MELF	2K	2%	1/8W
R519	1-259-995-11	CARBON MELF	1K	2%	1/8W
R520	1-259-995-11	CARBON MELF	1K	2%	1/8W
R523	1-260-026-11	CARBON MELF	330K	2%	1/8W
R524	1-259-975-11	CARBON MELF	22	2%	1/8W
R526	1-259-971-11	CARBON MELF	10	2%	1/8W
R527	1-216-105-00	RES-CHIP	220K	5%	1/10W
R531	1-259-992-11	CARBON MELF	560	2%	1/8W
R532	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R551	1-216-085-00	METAL CHIP	33K	5%	1/10W
R552	1-216-104-00	METAL CHIP	200K	5%	1/10W
R553	1-216-107-00	METAL CHIP	270K	5%	1/10W
R554	1-216-119-00	METAL CHIP	820K	5%	1/10W
R555	1-216-019-00	METAL CHIP	56	5%	1/10W
R563	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R1001	1-216-295-00	SHORT	0		
R1002	1-216-001-00	METAL CHIP	10	5%	1/10W
R1003	1-216-295-00	SHORT	0		
		< RELAY >			
RY301	1-755-295-11	RELAY			
		< VIBRATOR >			
X321	1-760-955-11	VIBRATOR, CRYSTAL (45MHz)			
**********					
	A-4725-091-A	DISPLAY BOARD, COMPLETE			
		**********			
	3-350-124-11	CUSHION (EJECT)			
		< CAPACITOR >			
C201	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C202	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C203	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C204	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C205	1-163-104-00	CERAMIC CHIP	30PF	5%	50V
C206	1-163-033-00	CERAMIC CHIP	0.022uF		50V
C207	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C208	1-126-177-11	ELECT	100uF	20%	10V
C209	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C210	1-163-038-00	CERAMIC CHIP	0.1uF		25V

Ref. No.	Part No.	Description			Remark
C211	1-126-154-11	ELECT	47uF	20%	6.3V
C212	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C213	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C214	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C215	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C216	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C217	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C218	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C219	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C220	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C221	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C222	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C223	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C224	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C225	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C226	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C227	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C271	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C272	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
		< CONNECTOR >			
* CN202	1-770-641-11	CONNECTOR, FFC/FPC 10P			
		< DIODE >			
D201	8-719-016-74	DIODE 1SS352-TPH3			
		< FLUORESCENT INDICATOR TUBE >			
FL201	1-517-966-11	TUBE, FLUORESCENT INDICATOR			
		< IC >			
IC201	8-759-337-52	IC LC75721E			
IC202	8-759-459-85	IC NJL63H400A (R)			
IC203	8-752-915-71	IC CXP84120-087Q			
IC271	8-759-342-61	IC PST575DMT			
		< TRANSISTOR >			
Q201	8-729-900-53	TRANSISTOR	DTC114EKA-T146		
Q202	8-729-900-53	TRANSISTOR	DTC114EKA-T146		
Q203	8-729-900-53	TRANSISTOR	DTC114EKA-T146		
		< RESISTOR >			
R204	1-216-097-00	RES-CHIP	100K	5%	1/10W
R213	1-216-025-00	RES-CHIP	100	5%	1/10W
R215	1-216-025-00	RES-CHIP	100	5%	1/10W
R217	1-216-025-00	RES-CHIP	100	5%	1/10W
R219	1-216-073-00	METAL CHIP	10K	5%	1/10W
R220	1-216-097-00	RES-CHIP	100K	5%	1/10W
R221	1-216-025-00	RES-CHIP	100	5%	1/10W
R222	1-216-073-00	METAL CHIP	10K	5%	1/10W
R223	1-216-073-00	METAL CHIP	10K	5%	1/10W
R224	1-216-073-00	METAL CHIP	10K	5%	1/10W
R225	1-216-097-00	RES-CHIP	100K	5%	1/10W
R227	1-216-073-00	METAL CHIP	10K	5%	1/10W
R230	1-216-073-00	METAL CHIP	10K	5%	1/10W
R231	1-216-073-00	METAL CHIP	10K	5%	1/10W
R232	1-216-073-00	METAL CHIP	10K	5%	1/10W
R233	1-216-073-00	METAL CHIP	10K	5%	1/10W

Ref. No.	Part No.	Description			Remark
R234	1-216-073-00	METAL CHIP	10K	5%	1/10W
R235	1-216-073-00	METAL CHIP	10K	5%	1/10W
R236	1-216-073-00	METAL CHIP	10K	5%	1/10W
R237	1-216-025-00	RES-CHIP	100	5%	1/10W
R238	1-216-025-00	RES-CHIP	100	5%	1/10W
R239	1-216-025-00	RES-CHIP	100	5%	1/10W
R240	1-216-025-00	RES-CHIP	100	5%	1/10W
R241	1-216-025-00	RES-CHIP	100	5%	1/10W
R242	1-216-073-00	METAL CHIP	10K	5%	1/10W
R251	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R252	1-216-045-00	METAL CHIP	680	5%	1/10W
R253	1-216-049-11	RES-CHIP	1K	5%	1/10W
R254	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R257	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R260	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R261	1-216-073-00	METAL CHIP	10K	5%	1/10W
R262	1-216-073-00	METAL CHIP	10K	5%	1/10W
R264	1-216-077-00	RES-CHIP	15K	5%	1/10W
R266	1-216-001-00	METAL CHIP	10	5%	1/10W
R271	1-216-097-00	RES-CHIP	100K	5%	1/10W
		< COMPOSITION CIRCUIT BLOCK >			
RB201	1-234-520-11	CIRCUIT BLOCK, COMPOSITION 10K			
RB202	1-234-521-11	CIRCUIT BLOCK, COMPOSITION 15K			
RB203	1-234-521-11	CIRCUIT BLOCK, COMPOSITION 15K			
		< SWITCH >			
S201	1-475-543-11	ENCODER, ROTARY (⏮ AMS ⏭ PUSH ENTER)			
S251	1-762-875-21	SWITCH, KEYBOARD (⏏)			
S252	1-762-875-21	SWITCH, KEYBOARD (▷)			
S253	1-762-875-21	SWITCH, KEYBOARD (❚❚)			
S254	1-762-875-21	SWITCH, KEYBOARD (■)			
		< VIBRATOR >			
X201	1-781-472-21	VIBRATOR, CERAMIC (8MHz)			
**********					
	1-677-734-11	HP BOARD			
		*********			
		< CAPACITOR >			
C601	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C602	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C603	1-163-038-00	CERAMIC CHIP	0.1uF		25V
		< JACK >			
J601	1-770-307-11	JACK (LARGE TYPE) (PHONES)			
		< NOISE FILTER/SHORT/COIL >			
L601	1-424-122-11	FILTER, NOISE			
L602	1-424-122-11	FILTER, NOISE			
L603	1-424-122-11	FILTER, NOISE			
L604	1-424-122-11	FILTER, NOISE			
L605	1-216-295-00	SHORT	0		
L606	1-216-295-00	SHORT	0		
L607	1-216-295-00	SHORT	0		
L608	1-414-180-11	INDUCTOR	3.3uH		

HP LOADING MAIN

Ref. No.	Part No.	Description			Remark
L609	1-414-180-11	INDUCTOR	3.3uH		
L610	1-414-180-11	INDUCTOR	3.3uH		
		< VARIABLE RESISTOR >			
RV601	1-227-185-11	RES, VAR, CARBON 1K/1K (PHONE LEVEL)			
**********					
	1-674-336-11	LOADING BOARD			
		**********			
		< CONNECTOR >			
* CN151	1-568-943-11	PIN, CONNECTOR 5P			
		< SWITCH >			
S1	1-771-799-11	SWITCH, LEVER (SLIDE) (OPEN/CLOSE)			
**********					
	A-4725-086-A	MAIN BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C606	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C607	1-126-246-11	ELECT CHIP	220uF	20%	4V
C608	1-126-246-11	ELECT CHIP	220uF	20%	4V
C609	1-115-156-11	CERAMIC CHIP	1uF		10V
C612	1-126-246-11	ELECT CHIP	220uF	20%	4V
C614	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C616	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C617	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C618	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C619	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C620	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C621	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C624	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C625	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C626	1-115-156-11	CERAMIC CHIP	1uF		10V
C627	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C628	1-125-822-11	TANTALUM	10uF	20%	10V
C629	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C630	1-125-822-11	TANTALUM	10uF	20%	10V
C631	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C632	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C633	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C634	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C635	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C636	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C637	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C638	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C639	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C640	1-125-822-11	TANTALUM	10uF	20%	10V
C641	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C642	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C643	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C644	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C645	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C646	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C647	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C650	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C651	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C652	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C653	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C654	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C655	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C656	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C657	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C658	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C659	1-125-822-11	TANTALUM	10uF	20%	10V
C660	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C661	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C662	1-110-563-11	CERAMIC CHIP	0.068uF	10%	16V
C663	1-110-563-11	CERAMIC CHIP	0.068uF	10%	16V
C664	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C665	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C666	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C667	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C668	1-164-230-11	CERAMIC CHIP	220PF	5%	50V
C669	1-164-230-11	CERAMIC CHIP	220PF	5%	50V
C670	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C671	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C672	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C673	1-124-779-00	ELECT CHIP	10uF	20%	16V
C674	1-124-778-00	ELECT CHIP	22uF	20%	6.3V
C675	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C676	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C677	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C680	1-117-681-11	ELECT CHIP	100uF	20%	16V
C681	1-117-681-11	ELECT CHIP	100uF	20%	16V
C682	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C683	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C684	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C685	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C686	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C687	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C688	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C689	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C690	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C691	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C692	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C693	1-125-822-11	TANTALUM	10uF	20%	10V
C694	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C695	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C696	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C697	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C698	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C700	1-107-548-11	ELECT CHIP	22uF	20%	16V
C701	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C702	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C703	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C704	1-124-779-00	ELECT CHIP	10uF	20%	16V
C705	1-110-563-11	CERAMIC CHIP	0.068uF	10%	16V
C706	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C707	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C708	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C709	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C710	1-125-822-11	TANTALUM	10uF	20%	10V
C711	1-162-927-11	CERAMIC CHIP	100PF	5%	50V

Ref. No.	Part No.	Description			Remark
C712	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C713	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C714	1-125-822-11	TANTALUM	10uF	20%	10V
C715	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C716	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C717	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C718	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C719	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C720	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C721	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C722	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C723	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C724	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C725	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C726	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C727	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C728	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C729	1-125-822-11	TANTALUM	10uF	20%	10V
C730	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C731	1-125-822-11	TANTALUM	10uF	20%	10V
C732	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C733	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C734	1-125-822-11	TANTALUM	10uF	20%	10V
C735	1-125-822-11	TANTALUM	10uF	20%	10V
C736	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C737	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C738	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C739	1-162-945-11	CERAMIC CHIP	22PF	5%	50V
C740	1-162-945-11	CERAMIC CHIP	22PF	5%	50V
C741	1-162-945-11	CERAMIC CHIP	22PF	5%	50V
C742	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C743	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C744	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C745	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C746	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C747	1-125-822-11	TANTALUM	10uF	20%	10V
C748	1-125-822-11	TANTALUM	10uF	20%	10V
C749	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C751	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C752	1-124-778-00	ELECT CHIP	22uF	20%	6.3V
C753	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C754	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C755	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C756	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C757	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C759	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C760	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C762	1-164-346-11	CERAMIC CHIP	1uF		16V
C763	1-164-346-11	CERAMIC CHIP	1uF		16V
		< CONNECTOR >			
CN600	1-790-675-11	PIN, CONNECTOR (PC BOARD) 7P			
CN601	1-784-369-21	CONNECTOR, FFC/FPC 10P			
CN602	1-793-990-11	CONNECTOR, FFC/FPC 18P			
CN603	1-793-990-11	CONNECTOR, FFC/FPC 18P			
CN605	1-790-669-21	PIN, CONNECTOR (PC BOARD) 9P			
CN608	1-784-375-21	CONNECTOR, FFC/FPC 16P			
CN610	1-794-296-11	PIN, CONNECTOR (PC BOARD) 6P			
CN611	1-784-375-21	CONNECTOR, FFC/FPC 16P			
		< DIODE >			
D600	8-719-988-61	DIODE 1SS355TE-17			
D604	8-719-988-61	DIODE 1SS355TE-17			
D605	8-719-941-86	DIODE DAN202UT106			
D606	8-719-941-86	DIODE DAN202UT106			
D607	8-719-988-61	DIODE 1SS355TE-17			
D608	8-719-941-09	DIODE DAP202UT106			
D609	8-719-941-09	DIODE DAP202UT106			
D610	8-719-988-61	DIODE 1SS355TE-17			
D612	8-719-988-61	DIODE 1SS355TE-17			
		< FERRITE BEAD >			
FB600	1-500-283-11	FERRITE BEAD			
FB601	1-500-283-11	FERRITE BEAD			
FB604	1-500-283-11	FERRITE BEAD			
FB605	1-500-283-11	FERRITE BEAD			
FB606	1-500-283-11	FERRITE BEAD			
FB607	1-500-283-11	FERRITE BEAD			
FB608	1-500-283-11	FERRITE BEAD			
FB609	1-500-283-11	FERRITE BEAD			
FB610	1-500-283-11	FERRITE BEAD			
FB611	1-500-283-11	FERRITE BEAD			
FB612	1-500-283-11	FERRITE BEAD			
FB613	1-500-283-11	FERRITE BEAD			
FB615	1-500-283-11	FERRITE BEAD			
FB616	1-500-283-11	FERRITE BEAD			
FB617	1-500-283-11	FERRITE BEAD			
FB618	1-500-283-11	FERRITE BEAD			
FB619	1-500-283-11	FERRITE BEAD			
FB620	1-500-283-11	FERRITE BEAD			
FB621	1-500-283-11	FERRITE BEAD			
FB636	1-500-283-11	FERRITE BEAD			
		< EMI FILTER >			
FL600	1-234-177-21	FILTER, CHIP EMI			
FL601	1-234-177-21	FILTER, CHIP EMI			
FL603	1-234-177-21	FILTER, CHIP EMI			
FL604	1-234-177-21	FILTER, CHIP EMI			
FL605	1-234-177-21	FILTER, CHIP EMI			
FL606	1-233-893-21	FILTER, CHIP EMI			
FL607	1-234-177-21	FILTER, CHIP EMI			
FL608	1-234-177-21	FILTER, CHIP EMI			
FL610	1-234-177-21	FILTER, CHIP EMI			
FL611	1-234-177-21	FILTER, CHIP EMI			
FL612	1-233-893-21	FILTER, CHIP EMI			
FL613	1-234-177-21	FILTER, CHIP EMI			
FL614	1-234-177-21	FILTER, CHIP EMI			
FL616	1-234-177-21	FILTER, CHIP EMI			
FL617	1-239-400-11	FILTER, CHIP EMI			
FL618	1-234-177-21	FILTER, CHIP EMI			
FL619	1-239-400-11	FILTER, CHIP EMI			
FL620	1-234-177-21	FILTER, CHIP EMI			
FL621	1-234-177-21	FILTER, CHIP EMI			
FL622	1-234-177-21	FILTER, CHIP EMI			
FL623	1-234-177-21	FILTER, CHIP EMI			

MAIN

Ref. No.	Part No.	Description	Remark
FL624	1-234-177-21	FILTER, CHIP EMI	
FL625	1-234-177-21	FILTER, CHIP EMI	
FL626	1-234-177-21	FILTER, CHIP EMI	
FL627	1-234-177-21	FILTER, CHIP EMI	
FL628	1-234-177-21	FILTER, CHIP EMI	
		< IC >	
IC600	8-759-362-00	IC BR9040F-E2	
IC605	8-759-663-92	IC MB91107PFV-G-BND	
IC606	8-759-645-76	IC TC74VHCT32AFT	
IC607	8-759-598-87	IC CXD8791AQ	
IC609	8-759-573-65	IC IDT71V016S20PHAU-TL	
IC610	8-759-337-40	IC NJM2904V (TE2)	
IC612	8-759-591-83	IC CXD9515Q	
IC613	8-759-338-78	IC BA10324AFV-E2	
IC614	8-759-522-13	IC BA5981FP-E2	
IC615	8-759-567-26	IC BA5983FP-E2	
IC616	8-759-548-96	IC SN74LV02APWR	
IC617	8-752-400-60	IC CXD2751Q	
IC618	8-759-449-58	IC LM7131BCM5X	
IC619	8-759-486-55	IC NJM2370U33-TE2	
IC620	8-752-356-45	IC CXD2301Q	
IC621	8-759-549-23	IC SN74LV74APWR	
IC622	8-759-567-27	IC CXD8784R	
IC623	8-759-549-25	IC SN74LVU04APWR	
IC624	8-759-585-52	IC SN74AHC1GU04DBVR	
IC625	8-759-676-10	IC MSM51V17805B-60TS-K	
IC627	8-759-585-51	IC SN74AHC1G32DBVR	
IC628	8-759-597-78	IC MSM54V16258BSL-40TSK	
IC629	8-759-585-51	IC SN74AHC1G32DBVR	
IC630	8-759-585-51	IC SN74AHC1G32DBVR	
IC632	8-759-679-85	IC MR27V402D-16MPZ060	
		< COIL >	
L602	1-410-369-11	INDUCTOR CHIP 1uH	
L603	1-410-369-11	INDUCTOR CHIP 1uH	
L604	1-410-369-11	INDUCTOR CHIP 1uH	
L605	1-410-369-11	INDUCTOR CHIP 1uH	
		< TRANSISTOR >	
Q601	8-729-015-74	TRANSISTOR UN5111-TX	
Q602	8-729-230-63	TRANSISTOR 2SD1819A-QRS-TX	
Q603	8-729-230-63	TRANSISTOR 2SD1819A-QRS-TX	
		< RESISTOR >	
R601	1-216-833-11	RES-CHIP 10K 5%	1/16W
R603	1-216-821-11	METAL CHIP 1K 5%	1/16W
R604	1-216-829-11	METAL CHIP 4.7K 5%	1/16W
R605	1-216-809-11	METAL CHIP 100 5%	1/16W
R606	1-216-809-11	METAL CHIP 100 5%	1/16W
R607	1-216-809-11	METAL CHIP 100 5%	1/16W
R608	1-216-809-11	METAL CHIP 100 5%	1/16W
R609	1-216-864-11	METAL CHIP 0 5%	1/16W
R610	1-216-809-11	METAL CHIP 100 5%	1/16W
R611	1-216-833-11	RES-CHIP 10K 5%	1/16W
R612	1-216-833-11	RES-CHIP 10K 5%	1/16W
R613	1-216-825-11	METAL CHIP 2.2K 5%	1/16W
R614	1-216-833-11	RES-CHIP 10K 5%	1/16W
R615	1-216-833-11	RES-CHIP 10K 5%	1/16W

Ref. No.	Part No.	Description	Remark
R616	1-216-833-11	RES-CHIP 10K 5%	1/16W
R617	1-216-833-11	RES-CHIP 10K 5%	1/16W
R618	1-216-813-11	METAL CHIP 220 5%	1/16W
R619	1-216-833-11	RES-CHIP 10K 5%	1/16W
R620	1-216-813-11	METAL CHIP 220 5%	1/16W
R621	1-216-813-11	METAL CHIP 220 5%	1/16W
R622	1-216-813-11	METAL CHIP 220 5%	1/16W
R624	1-216-813-11	METAL CHIP 220 5%	1/16W
R625	1-216-833-11	RES-CHIP 10K 5%	1/16W
R626	1-216-813-11	METAL CHIP 220 5%	1/16W
R627	1-216-833-11	RES-CHIP 10K 5%	1/16W
R628	1-216-813-11	METAL CHIP 220 5%	1/16W
R629	1-216-833-11	RES-CHIP 10K 5%	1/16W
R631	1-216-813-11	METAL CHIP 220 5%	1/16W
R632	1-216-833-11	RES-CHIP 10K 5%	1/16W
R634	1-216-813-11	METAL CHIP 220 5%	1/16W
R636	1-216-833-11	RES-CHIP 10K 5%	1/16W
R638	1-216-813-11	METAL CHIP 220 5%	1/16W
R639	1-216-833-11	RES-CHIP 10K 5%	1/16W
R640	1-216-809-11	METAL CHIP 100 5%	1/16W
R641	1-216-809-11	METAL CHIP 100 5%	1/16W
R643	1-216-809-11	METAL CHIP 100 5%	1/16W
R644	1-216-805-11	METAL CHIP 47 5%	1/16W
R645	1-216-809-11	METAL CHIP 100 5%	1/16W
R646	1-216-833-11	RES-CHIP 10K 5%	1/16W
R647	1-216-833-11	RES-CHIP 10K 5%	1/16W
R648	1-216-809-11	METAL CHIP 100 5%	1/16W
R649	1-216-833-11	RES-CHIP 10K 5%	1/16W
R650	1-216-809-11	METAL CHIP 100 5%	1/16W
R651	1-216-813-11	METAL CHIP 220 5%	1/16W
R652	1-216-809-11	METAL CHIP 100 5%	1/16W
R653	1-216-809-11	METAL CHIP 100 5%	1/16W
R655	1-216-833-11	RES-CHIP 10K 5%	1/16W
R656	1-216-845-11	METAL CHIP 100K 5%	1/16W
R657	1-216-821-11	METAL CHIP 1K 5%	1/16W
R674	1-216-833-11	RES-CHIP 10K 5%	1/16W
R675	1-216-841-11	METAL CHIP 47K 5%	1/16W
R680	1-216-833-11	RES-CHIP 10K 5%	1/16W
R681	1-216-864-11	METAL CHIP 0 5%	1/16W
R683	1-216-864-11	METAL CHIP 0 5%	1/16W
R684	1-216-845-11	METAL CHIP 100K 5%	1/16W
R686	1-216-833-11	RES-CHIP 10K 5%	1/16W
R687	1-216-845-11	METAL CHIP 100K 5%	1/16W
R689	1-216-845-11	METAL CHIP 100K 5%	1/16W
R690	1-216-801-11	METAL CHIP 22 5%	1/16W
R691	1-216-833-11	RES-CHIP 10K 5%	1/16W
R692	1-216-801-11	METAL CHIP 22 5%	1/16W
R694	1-216-833-11	RES-CHIP 10K 5%	1/16W
R695	1-216-801-11	METAL CHIP 22 5%	1/16W
R696	1-216-833-11	RES-CHIP 10K 5%	1/16W
R698	1-216-801-11	METAL CHIP 22 5%	1/16W
R699	1-216-833-11	RES-CHIP 10K 5%	1/16W
R700	1-216-801-11	METAL CHIP 22 5%	1/16W
R701	1-216-833-11	RES-CHIP 10K 5%	1/16W
R702	1-216-864-11	METAL CHIP 0 5%	1/16W
R703	1-216-805-11	METAL CHIP 47 5%	1/16W
R704	1-216-833-11	RES-CHIP 10K 5%	1/16W

Ref. No.	Part No.	Description			Remark
R706	1-216-833-11	RES-CHIP	10K	5%	1/16W
R707	1-216-821-11	METAL CHIP	1K	5%	1/16W
R708	1-216-821-11	METAL CHIP	1K	5%	1/16W
R709	1-216-821-11	METAL CHIP	1K	5%	1/16W
R711	1-216-821-11	METAL CHIP	1K	5%	1/16W
R712	1-216-833-11	RES-CHIP	10K	5%	1/16W
R713	1-216-833-11	RES-CHIP	10K	5%	1/16W
R719	1-216-821-11	METAL CHIP	1K	5%	1/16W
R720	1-216-817-11	METAL CHIP	470	5%	1/16W
R721	1-216-817-11	METAL CHIP	470	5%	1/16W
R722	1-216-817-11	METAL CHIP	470	5%	1/16W
R723	1-216-817-11	METAL CHIP	470	5%	1/16W
R724	1-216-864-11	METAL CHIP	0	5%	1/16W
R725	1-216-844-11	METAL CHIP	82K	5%	1/16W
R726	1-216-844-11	METAL CHIP	82K	5%	1/16W
R727	1-216-844-11	METAL CHIP	82K	5%	1/16W
R728	1-216-844-11	METAL CHIP	82K	5%	1/16W
R729	1-216-833-11	RES-CHIP	10K	5%	1/16W
R730	1-216-839-11	METAL CHIP	33K	5%	1/16W
R731	1-216-833-11	RES-CHIP	10K	5%	1/16W
R733	1-216-815-11	METAL CHIP	330	5%	1/16W
R734	1-216-836-11	METAL CHIP	18K	5%	1/16W
R735	1-216-834-11	METAL CHIP	12K	5%	1/16W
R739	1-216-833-11	RES-CHIP	10K	5%	1/16W
R740	1-216-833-11	RES-CHIP	10K	5%	1/16W
R741	1-216-833-11	RES-CHIP	10K	5%	1/16W
R742	1-216-833-11	RES-CHIP	10K	5%	1/16W
R744	1-216-833-11	RES-CHIP	10K	5%	1/16W
R745	1-216-833-11	RES-CHIP	10K	5%	1/16W
R746	1-216-817-11	METAL CHIP	470	5%	1/16W
R747	1-216-815-11	METAL CHIP	330	5%	1/16W
R748	1-216-809-11	METAL CHIP	100	5%	1/16W
R749	1-216-821-11	METAL CHIP	1K	5%	1/16W
R750	1-216-833-11	RES-CHIP	10K	5%	1/16W
R751	1-218-889-11	METAL CHIP	56K	0.5%	1/16W
R752	1-218-899-11	METAL CHIP	150K	0.5%	1/16W
R753	1-218-899-11	METAL CHIP	150K	0.5%	1/16W
R754	1-218-889-11	METAL CHIP	56K	0.5%	1/16W
R755	1-216-840-11	METAL CHIP	39K	5%	1/16W
R756	1-216-840-11	METAL CHIP	39K	5%	1/16W
R757	1-216-835-11	METAL CHIP	15K	5%	1/16W
R758	1-216-835-11	METAL CHIP	15K	5%	1/16W
R759	1-216-833-11	RES-CHIP	10K	5%	1/16W
R760	1-216-841-11	METAL CHIP	47K	5%	1/16W
R761	1-216-841-11	METAL CHIP	47K	5%	1/16W
R762	1-216-844-11	METAL CHIP	82K	5%	1/16W
R763	1-216-844-11	METAL CHIP	82K	5%	1/16W
R764	1-216-841-11	METAL CHIP	47K	5%	1/16W
R765	1-216-841-11	METAL CHIP	47K	5%	1/16W
R766	1-216-833-11	RES-CHIP	10K	5%	1/16W
R767	1-216-847-11	METAL CHIP	150K	5%	1/16W
R768	1-216-847-11	METAL CHIP	150K	5%	1/16W
R769	1-216-847-11	METAL CHIP	150K	5%	1/16W
R770	1-216-296-00	SHORT	0		
R771	1-216-138-00	METAL CHIP	3.3	5%	1/8W
R772	1-216-848-11	METAL CHIP	180K	5%	1/16W
R773	1-216-848-11	METAL CHIP	180K	5%	1/16W
R774	1-216-848-11	METAL CHIP	180K	5%	1/16W
R775	1-216-844-11	METAL CHIP	82K	5%	1/16W
R776	1-216-843-11	METAL CHIP	68K	5%	1/16W
R777	1-216-837-11	METAL CHIP	22K	5%	1/16W
R778	1-216-837-11	METAL CHIP	22K	5%	1/16W
R779	1-216-833-11	RES-CHIP	10K	5%	1/16W
R780	1-216-833-11	RES-CHIP	10K	5%	1/16W
R781	1-216-851-11	METAL CHIP	330K	5%	1/16W
R782	1-216-830-11	METAL CHIP	5.6K	5%	1/16W
R783	1-216-833-11	RES-CHIP	10K	5%	1/16W
R784	1-216-833-11	RES-CHIP	10K	5%	1/16W
R785	1-216-833-11	RES-CHIP	10K	5%	1/16W
R786	1-216-841-11	METAL CHIP	47K	5%	1/16W
R787	1-216-843-11	METAL CHIP	68K	5%	1/16W
R788	1-216-843-11	METAL CHIP	68K	5%	1/16W
R789	1-216-830-11	METAL CHIP	5.6K	5%	1/16W
R790	1-218-897-11	METAL CHIP	120K	0.5%	1/16W
R791	1-216-852-11	METAL CHIP	390K	5%	1/16W
R792	1-216-845-11	METAL CHIP	100K	5%	1/16W
R793	1-216-840-11	METAL CHIP	39K	5%	1/16W
R794	1-216-844-11	METAL CHIP	82K	5%	1/16W
R795	1-216-844-11	METAL CHIP	82K	5%	1/16W
R796	1-216-833-11	RES-CHIP	10K	5%	1/16W
R797	1-216-833-11	RES-CHIP	10K	5%	1/16W
R798	1-216-852-11	METAL CHIP	390K	5%	1/16W
R799	1-216-845-11	METAL CHIP	100K	5%	1/16W
R800	1-216-836-11	METAL CHIP	18K	5%	1/16W
R801	1-216-833-11	RES-CHIP	10K	5%	1/16W
R802	1-216-833-11	RES-CHIP	10K	5%	1/16W
R803	1-216-851-11	METAL CHIP	330K	5%	1/16W
R804	1-216-849-11	METAL CHIP	220K	5%	1/16W
R805	1-216-833-11	RES-CHIP	10K	5%	1/16W
R806	1-218-897-11	METAL CHIP	120K	0.5%	1/16W
R807	1-216-833-11	RES-CHIP	10K	5%	1/16W
R808	1-218-907-11	METAL CHIP	330K	0.5%	1/16W
R810	1-218-907-11	METAL CHIP	330K	0.5%	1/16W
R811	1-216-833-11	RES-CHIP	10K	5%	1/16W
R812	1-216-809-11	METAL CHIP	100	5%	1/16W
R813	1-216-815-11	METAL CHIP	330	5%	1/16W
R814	1-216-815-11	METAL CHIP	330	5%	1/16W
R815	1-216-833-11	RES-CHIP	10K	5%	1/16W
R818	1-216-805-11	METAL CHIP	47	5%	1/16W
R819	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R820	1-216-845-11	METAL CHIP	100K	5%	1/16W
R821	1-216-805-11	METAL CHIP	47	5%	1/16W
R822	1-216-809-11	METAL CHIP	100	5%	1/16W
R823	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R824	1-218-871-11	METAL CHIP	10K	0.5%	1/16W
R825	1-218-871-11	METAL CHIP	10K	0.5%	1/16W
R826	1-216-809-11	METAL CHIP	100	5%	1/16W
R827	1-216-838-11	METAL CHIP	27K	5%	1/16W
R828	1-216-836-11	METAL CHIP	18K	5%	1/16W
R829	1-216-803-11	METAL CHIP	33	5%	1/16W
R830	1-218-875-11	METAL CHIP	15K	0.5%	1/16W
R831	1-218-871-11	METAL CHIP	10K	0.5%	1/16W
R832	1-218-831-11	METAL CHIP	220	0.5%	1/16W
R833	1-216-821-11	METAL CHIP	1K	5%	1/16W
R834	1-216-825-11	METAL CHIP	2.2K	5%	1/16W

MAIN POWER

Ref. No.	Part No.	Description			Remark
R835	1-216-838-11	METAL CHIP	27K	5%	1/16W
R836	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R838	1-216-809-11	METAL CHIP	100	5%	1/16W
R839	1-218-871-11	METAL CHIP	10K	0.5%	1/16W
R840	1-218-871-11	METAL CHIP	10K	0.5%	1/16W
R841	1-218-847-11	METAL CHIP	1K	0.5%	1/16W
R842	1-218-855-11	METAL CHIP	2.2K	0.5%	1/16W
R843	1-218-855-11	METAL CHIP	2.2K	0.5%	1/16W
R844	1-218-855-11	METAL CHIP	2.2K	0.5%	1/16W
R845	1-216-833-11	RES-CHIP	10K	5%	1/16W
R847	1-216-833-11	RES-CHIP	10K	5%	1/16W
R848	1-216-833-11	RES-CHIP	10K	5%	1/16W
R849	1-216-801-11	METAL CHIP	22	5%	1/16W
R850	1-216-801-11	METAL CHIP	22	5%	1/16W
R851	1-216-801-11	METAL CHIP	22	5%	1/16W
R852	1-218-853-11	METAL CHIP	1.8K	0.5%	1/16W
R853	1-216-813-11	METAL CHIP	220	5%	1/16W
R854	1-216-813-11	METAL CHIP	220	5%	1/16W
R855	1-216-805-11	METAL CHIP	47	5%	1/16W
R856	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R857	1-216-849-11	METAL CHIP	220K	5%	1/16W
R858	1-216-819-11	METAL CHIP	680	5%	1/16W
R859	1-216-819-11	METAL CHIP	680	5%	1/16W
R860	1-216-819-11	METAL CHIP	680	5%	1/16W
R861	1-216-833-11	RES-CHIP	10K	5%	1/16W
R862	1-216-801-11	METAL CHIP	22	5%	1/16W
R863	1-216-801-11	METAL CHIP	22	5%	1/16W
R864	1-216-801-11	METAL CHIP	22	5%	1/16W
R865	1-216-801-11	METAL CHIP	22	5%	1/16W
R866	1-216-801-11	METAL CHIP	22	5%	1/16W
R867	1-216-801-11	METAL CHIP	22	5%	1/16W
R868	1-216-801-11	METAL CHIP	22	5%	1/16W
R869	1-216-801-11	METAL CHIP	22	5%	1/16W
R870	1-216-805-11	METAL CHIP	47	5%	1/16W
R871	1-216-809-11	METAL CHIP	100	5%	1/16W
R873	1-216-833-11	RES-CHIP	10K	5%	1/16W
R876	1-216-833-11	RES-CHIP	10K	5%	1/16W
R878	1-216-821-11	METAL CHIP	1K	5%	1/16W
R881	1-216-821-11	METAL CHIP	1K	5%	1/16W
R882	1-216-821-11	METAL CHIP	1K	5%	1/16W
R883	1-216-821-11	METAL CHIP	1K	5%	1/16W
R885	1-216-833-11	RES-CHIP	10K	5%	1/16W
R886	1-216-833-11	RES-CHIP	10K	5%	1/16W
R887	1-216-833-11	RES-CHIP	10K	5%	1/16W
R889	1-216-833-11	RES-CHIP	10K	5%	1/16W
R890	1-216-833-11	RES-CHIP	10K	5%	1/16W
R895	1-216-809-11	METAL CHIP	100	5%	1/16W
R897	1-216-833-11	RES-CHIP	10K	5%	1/16W
R898	1-216-809-11	METAL CHIP	100	5%	1/16W
R899	1-216-809-11	METAL CHIP	100	5%	1/16W
R901	1-216-833-11	RES-CHIP	10K	5%	1/16W
R902	1-216-833-11	RES-CHIP	10K	5%	1/16W
R903	1-216-833-11	RES-CHIP	10K	5%	1/16W
R904	1-216-833-11	RES-CHIP	10K	5%	1/16W
R905	1-216-833-11	RES-CHIP	10K	5%	1/16W
R906	1-216-833-11	RES-CHIP	10K	5%	1/16W
R908	1-216-803-11	METAL CHIP	33	5%	1/16W
R909	1-216-815-11	METAL CHIP	330	5%	1/16W
R910	1-216-803-11	METAL CHIP	33	5%	1/16W
R911	1-216-803-11	METAL CHIP	33	5%	1/16W
R912	1-216-833-11	RES-CHIP	10K	5%	1/16W
R913	1-216-296-00	SHORT	0		
R914	1-216-833-11	RES-CHIP	10K	5%	1/16W
R916	1-216-864-11	METAL CHIP	0	5%	1/16W
R918	1-216-833-11	RES-CHIP	10K	5%	1/16W
R919	1-216-833-11	RES-CHIP	10K	5%	1/16W
R920	1-216-805-11	METAL CHIP	47	5%	1/16W
R921	1-216-805-11	METAL CHIP	47	5%	1/16W
		< COMPOSITION CIRCUIT BLOCK >			
* RB601	1-233-270-11	NETWORK, RES (8 GANG) 10K			
* RB602	1-233-270-11	NETWORK, RES (8 GANG) 10K			
* RB603	1-233-270-11	NETWORK, RES (8 GANG) 10K			
		< CHECKER TERMINAL >			
TP600	1-535-757-11	CHIP, CHECKER			
TP602	1-535-757-11	CHIP, CHECKER			
TP603	1-535-757-11	CHIP, CHECKER			
TP608	1-535-757-11	CHIP, CHECKER			
TP609	1-535-757-11	CHIP, CHECKER			
TP613	1-535-757-11	CHIP, CHECKER			
		< VIBRATOR >			
X600	1-781-185-21	VIBRATOR, CERAMIC (12.5MHz)			
X601	1-781-408-11	VIBRATOR, CERAMIC (27MHz)			
**********					
	A-4725-090-A	POWER BOARD, COMPLETE (AEP)			
	A-4725-212-A	POWER BOARD, COMPLETE (UK)			
		**********			
	7-685-871-01	SCREW +BVTT 3X6 (S)			
		< CAPACITOR >			
C901	1-110-578-11	ELECT (BLOCK)	3300uF	20%	25V
C902	1-110-578-11	ELECT (BLOCK)	3300uF	20%	25V
C903	1-126-017-11	ELECT	6800uF	20%	16V
C904	1-126-939-11	ELECT	10000uF	20%	16V
C905	1-111-235-61	ELECT	10000uF	20%	25V
C906	1-126-065-11	ELECT	330uF	20%	63V
C907	1-126-064-11	ELECT	220uF	20%	63V
C908	1-136-177-00	MYLAR	1uF	5%	50V
C909	1-136-177-00	MYLAR	1uF	5%	50V
C913	1-124-703-51	ELECT	2200uF	20%	25V
C914	1-126-768-11	ELECT	2200uF	20%	16V
C915	1-126-943-11	ELECT	2200uF	20%	25V
C916	1-126-964-11	ELECT	10uF	20%	50V
C917	1-136-850-11	MYLAR	0.1uF	5%	63V
C920	1-136-177-00	MYLAR	1uF	5%	50V
C921	1-137-352-11	MYLAR	0.033uF	5%	100V
C922	1-137-352-11	MYLAR	0.033uF	5%	100V
C923	1-136-850-11	MYLAR	0.1uF	5%	63V
C924	1-126-768-11	ELECT	2200uF	20%	16V
C925	1-136-177-00	MYLAR	1uF	5%	50V
C926	1-126-964-11	ELECT	10uF	20%	50V
C927	1-126-943-11	ELECT	2200uF	20%	25V

Ref. No.	Part No.	Description			Remark
C928	1-136-177-00	MYLAR	1uF	5%	50V
C971	1-104-760-11	CERAMIC CHIP	0.047uF	10%	50V
C972	1-136-161-00	MYLAR	0.047uF	5%	50V
C973	1-136-161-00	MYLAR	0.047uF	5%	50V
C974	1-136-161-00	MYLAR	0.047uF	5%	50V
C975	1-136-161-00	MYLAR	0.047uF	5%	50V
C976	1-136-161-00	MYLAR	0.047uF	5%	50V
C977	1-136-161-00	MYLAR	0.047uF	5%	50V
C978	1-136-161-00	MYLAR	0.047uF	5%	50V
C991	1-130-471-00	MYLAR	0.001uF	5%	50V
C992	1-130-471-00	MYLAR	0.001uF	5%	50V
C993	1-130-471-00	MYLAR	0.001uF	5%	50V
		< CONNECTOR >			
CN903	1-691-765-11	PLUG (MICRO CONNECTOR) 3P			
* CN904	1-568-936-11	PIN, CONNECTOR 9P			
* CN905	1-568-955-11	PIN, CONNECTOR 6P			
		< DIODE >			
D901	8-719-210-39	DIODE EC10QS04-TE12L5			
D902	8-719-210-39	DIODE EC10QS04-TE12L5			
D903	8-719-210-39	DIODE EC10QS04-TE12L5			
D904	8-719-210-39	DIODE EC10QS04-TE12L5			
D905	8-719-210-33	DIODE EC10DS2TE12L			
D906	8-719-210-33	DIODE EC10DS2TE12L			
D907	8-719-210-33	DIODE EC10DS2TE12L			
D908	8-719-210-33	DIODE EC10DS2TE12L			
D909	8-719-210-39	DIODE EC10QS04-TE12L5			
D910	8-719-210-39	DIODE EC10QS04-TE12L5			
D911	8-719-210-39	DIODE EC10QS04-TE12L5			
D912	8-719-210-39	DIODE EC10QS04-TE12L5			
D913	8-719-210-39	DIODE EC10QS04-TE12L5			
D914	8-719-210-39	DIODE EC10QS04-TE12L5			
D915	8-719-210-39	DIODE EC10QS04-TE12L5			
D916	8-719-210-39	DIODE EC10QS04-TE12L5			
D917	8-719-210-33	DIODE EC10DS2TE12L			
D918	8-719-210-33	DIODE EC10DS2TE12L			
D919	8-719-210-33	DIODE EC10DS2TE12L			
D920	8-719-210-33	DIODE EC10DS2TE12L			
D921	8-719-978-98	DIODE DTZ-TT11-33C			
D922	8-719-977-22	DIODE UDZ-TE-17-9.1B			
		< GROUND TERMINAL >			
EB901	1-537-770-21	TERMINAL BOARD, GROUND			
		< IC >			
IC903	8-759-450-47	IC BA05T			
IC904	8-759-445-59	IC BA033T			
IC905	8-759-394-35	IC BA12T			
IC906	8-759-450-47	IC BA05T			
IC907	8-759-394-35	IC BA12T			
		< NOISE FILTER >			
L902	1-424-122-11	FILTER, NOISE			
L903	1-424-122-11	FILTER, NOISE			
L904	1-424-122-11	FILTER, NOISE			
L905	1-424-122-11	FILTER, NOISE			
L906	1-424-122-11	FILTER, NOISE			

Ref. No.	Part No.	Description			Remark
L907	1-424-122-11	FILTER, NOISE			
L908	1-424-122-11	FILTER, NOISE			
		< TRANSISTOR >			
Q921	8-729-041-38	TRANSISTOR	2SB1241TV2Q		
		< RESISTOR >			
⚠ R901	1-217-796-11	FUSIBLE	33	5%	5W F
R902	1-216-295-00	SHORT	0		
R921	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R922	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R923	1-216-174-00	RES-CHIP	100	5%	1/8W
R925	1-216-174-00	RES-CHIP	100	5%	1/8W
R926	1-216-689-11	METAL CHIP	39K	0.5%	1/10W
R927	1-216-109-00	METAL CHIP	330K	5%	1/10W
R951	1-216-295-00	SHORT	0		
R952	1-216-295-00	SHORT	0		
R953	1-216-295-00	SHORT	0		
⚠ R954	1-212-869-00	FUSIBLE	33	5%	1/4W F
R955	1-216-295-00	SHORT	0		
**********					
	A-4725-072-A	TK BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C004	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C005	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C006	1-125-822-11	TANTALUM	10uF	20%	10V
C007	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C008	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C009	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C010	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C011	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C012	1-125-822-11	TANTALUM	10uF	20%	10V
C013	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C014	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C015	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C016	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C017	1-164-172-11	CERAMIC CHIP	0.0056uF	10%	25V
C018	1-164-739-11	CERAMIC CHIP	560PF	5%	50V
C019	1-164-172-11	CERAMIC CHIP	0.0056uF	10%	25V
C020	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C021	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C022	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C023	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C024	1-164-730-11	CERAMIC CHIP	0.0012uF	10%	50V
C025	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C026	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C027	1-164-217-11	CERAMIC CHIP	150PF	5%	50V
C028	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C029	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C030	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C031	1-125-822-11	TANTALUM	10uF	20%	10V
C032	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C033	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C034	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V

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

TK TRANSFORMER

Ref. No.	Part No.	Description			Remark
C035	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C036	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C037	1-164-739-11	CERAMIC CHIP	560PF	5%	50V
C038	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C039	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C040	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C041	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
		< CONNECTOR >			
CN001	1-573-363-21	CONNECTOR, FFC/FPC 23P			
CN002	1-566-529-11	CONNECTOR, FPC (ZIF) 13P			
CN003	1-784-870-21	CONNECTOR, FFC (LIF (NON-ZIF))18P			
CN004	1-784-870-21	CONNECTOR, FFC (LIF (NON-ZIF))18P			
		< DIODE >			
D003	8-719-988-61	DIODE 1SS355TE-17			
		< IC >			
IC001	8-759-567-24	IC SSI33P3722			
		< COIL >			
L001	1-412-031-11	INDUCTOR CHIP	47uH		
		< TRANSISTOR >			
Q001	8-729-903-46	TRANSISTOR	2SB1132-T100-QR		
Q002	8-729-015-76	TRANSISTOR	UN5211-TX		
		< RESISTOR >			
R001	1-216-815-11	METAL CHIP	330	5%	1/16W
R002	1-216-809-11	METAL CHIP	100	5%	1/16W
R003	1-216-809-11	METAL CHIP	100	5%	1/16W
R004	1-216-837-11	METAL CHIP	22K	5%	1/16W
R005	1-216-013-00	METAL CHIP	33	5%	1/10W
R006	1-216-013-00	METAL CHIP	33	5%	1/10W
R007	1-216-841-11	METAL CHIP	47K	5%	1/16W
R008	1-216-797-11	METAL CHIP	10	5%	1/16W
R009	1-216-834-11	METAL CHIP	12K	5%	1/16W
R010	1-216-833-11	RES-CHIP	10K	5%	1/16W
R012	1-216-864-11	METAL CHIP	0	5%	1/16W
R014	1-216-864-11	METAL CHIP	0	5%	1/16W
R015	1-216-833-11	RES-CHIP	10K	5%	1/16W
R016	1-216-833-11	RES-CHIP	10K	5%	1/16W
R017	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R018	1-216-833-11	RES-CHIP	10K	5%	1/16W
R022	1-216-811-11	METAL CHIP	150	5%	1/16W
R023	1-216-820-11	METAL CHIP	820	5%	1/16W
R025	1-216-813-11	METAL CHIP	220	5%	1/16W
R026	1-216-864-11	METAL CHIP	0	5%	1/16W
R029	1-216-861-11	METAL CHIP	2.2M	5%	1/16W

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	1-677-732-11	TRANSFORMER BOARD			
		**********			
		< CAPACITOR >			
⚠C995	1-113-927-11	CERAMIC	10000PF	20%	250V
⚠C996	1-113-927-11	CERAMIC	10000PF	20%	250V

Ref. No.	Part No.	Description	Remark
		< CONNECTOR >	
⚠CN991	1-573-047-11	PIN, CONNECTOR (PC BOARD) 2P	
CN992	1-568-226-11	PIN, CONNECTOR 2P	
* CN993	1-564-520-11	PLUG, CONNECTOR 5P	
* CN994	1-564-523-11	PLUG, CONNECTOR 8P	
		< LINE FILTER >	
⚠L901	1-424-485-11	FILTER, LINE	

****

		MISCELLANEOUS	
		**********	
6	1-792-598-11	WIRE (FLAT TYPE) (10 CORE)	
104	1-792-600-11	WIRE (FLAT TYPE) (18 CORE)	
106	1-543-653-11	CORE ASSY, BEAD (DIVISION TYPE)	
109	1-792-599-11	WIRE (FLAT TYPE) (16 CORE)	
⚠113	1-558-568-21	CORD, POWER (AEP)	
⚠113	1-696-586-11	CORD, POWER (UK)	
⚠166	A-6062-397-A	OPTICAL PICK-UP KHM-220AAA	
M1	A-4672-771-A	MOTOR (LD) ASSY (LOADING)	
⚠T901	1-435-459-11	TRANSFORMER, POWER (DIGITAL)	
⚠T902	1-435-460-11	TRANSFORMER, POWER (ANALOG)	

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		**********	
		HARDWARE LIST	
		**********	
#1	7-685-885-09	SCREW +BVTT 4X16 (S)	
#2	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
#3	7-685-871-01	SCREW +BVTT 3X6 (S)	
#4	7-685-870-01	SCREW +BVTT 3X5 (S)	
#5	7-685-872-09	SCREW +BVTT 3X8 (S)	
#6	7-685-533-19	SCREW +BTP 2.6X6 TYPE2 N-S	

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		ACCESSORIES & PACKING MATERIALS	
		**********	
	1-418-994-11	REMOTE COMMANDER (RM-SX90)	
	1-590-925-31	CORD, CONNECTION	
	4-227-858-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH)	
	4-227-858-21	MANUAL, INSTRUCTION (GERMAN, SPANISH, DUTCH) (AEP)	
	4-227-858-31	MANUAL, INSTRUCTION (SWEDISH, ITALIAN, PORTUGUESE) (AEP)	
	4-983-956-01	COVER, BATTERY (for RM-SX90)	

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

SCD-XB940

SONY

AEP Model
UK Model

SERVICE MANUAL

SUPPLEMENT-1

File this supplement with the service manual.

Subject:

1. **Addition of Test Mode**
2. **Addition of Block Diagram and IC Pin Function Description**

TABLE OF CONTENTS

1. TEST MODE

Jigs

• Disc

Model	Type *1	Category	Application
HLX-503/ HLX-504	SL	12 cm	adjustment and check
HLX-501/ HLX-505	DL	12 cm	adjustment and check
PATD-012	CD	12 cm	adjustment and check
*2	HYBRID -L1	12 cm	adjustment and check
	HYBRID -L0	12 cm	adjustment and check
	SL	8 cm	Check
	CD	8 cm	Check
	HYBRID -L1	8 cm	Check

*1 SL: Single Layer
DL: Dual Layer

*2 Normally do not use.

• Remote Commander

• Extension cable (MAIN board (CN601) ↔ DISPLAY board (CN202)) (Part No. J-2501-195-A)

How to Enter the Test Mode

With [I◁◁ AMS ▷▷I] controller pressed, turn the [POWER] switch ON. Then, immediately press [■] button. If [■] button is not pressed, the set will start in normal mode. When the Test mode is activated, "Test Mode Menu" is displayed.

How to Exit the Test Mode

Turn the [POWER] switch OFF, and the Test mode is deactivated.

Selection of Test Mode

To select "Test Mode Menu", perform as follows.

(1) Rotating [I◁◁ AMS ▷▷I] controller, select the menu and press [I◁◁ AMS ▷▷I] controller to enter. (If the remote commander is available, select and enter the number directly.)

(2) To return to the previous step, press [II] button.

Contents of "Test Mode Menu"

DISPLAY	Contents of Menu
0. Syscon Diag	Self diagnosis
1. Auto Adjust	Servo adjustment (Auto)
2. Manual Opr	Manual operation adjustment
3. Mecha Aging	Mechanism aging
4. Emg History	Servo emergency history information display
5. Ver Info	Version information display
6. RF Jit Disp	RF jitter measured value display
7. PDM Mode	Normally do not use
8. CDM Adjust	Normally do not use
9. Set Up Init	Initializing and restart
10. Sld Ship Pos	Sled ship position

Execution of Test Mode Menu

0. Syscon Diag menu

From the "Test Mode Menu", rotate [I◁◁ AMS ▷▷I] controller counterclockwise to select "0. Syscon Diag". Press [I◁◁ AMS ▷▷I] controller, and "SELF DIAG Menu" will be displayed. Rotating [I◁◁ AMS ▷▷I] controller can select the following menu.

DISPLAY	Contents of Menu
0. All (SELF)	Self diagnosis of all items 1. – 7.
1. SRAM	Self diagnosis of SRAM
2. EEPROM	Self diagnosis of EEPROM
3. HGA	Self diagnosis of HGA
4. Servo DSP	Self diagnosis of servo DSP
5. ARP	Self diagnosis of ARP
6. SACD Chip	Self diagnosis of SACD chip
7. SD Bus	Self diagnosis of SD Bus
8. Diag Hist	Self diagnosis emergency history display

(1) 0. All (SELF)

From the "SELF DIAG Menu" display, rotate [I◁◁ AMS ▷▷I] controller clockwise to select "0. All (SELF)", and press [I◁◁ AMS ▷▷I] controller. Then, the self diagnosis of items 1. –7. will be executed in the following order. At successful completion, "All Success" is displayed and the set returns to the first step.

"0. All (SELF)" → "SRAM Check" → "ExSRAM Start" → "ExRAM OK" → "EEPROM Check" → "EEPROM Start" → "Check 00" → "Check 10" → "Check 20" → "Check 30" → "Check 40" → "Check 50" → "Check 60" → "Check 70" → "Check 80" → "Check 90" → "Check A0" → "Check B0" → "Check C0" → "Check D0" → "Check E0" → "Check F0" → " EEPROM OK" → "HGA Check" → "HGA Start" → "HGA OK" → "Servo DSP" → "SDSP Start" → "SDSP OK" → "ARP Register" → "ARP Reg Start" → "ARP Reg OK" → "ARP Data" → " ARP DBus Start" → "ARP DBus OK" → "ARP Address" → " ARP ABus Start" → "ARP ABus OK" → "ARP DRAM" → "ARP DRAM Start" → "Wait ..." → "ARP DRAM OK" → "DSD Chp Bus" → "DSD Bus Start" → "DSD Bus OK" → "DSD Chp DRAM" → "DSD DRAM Start" → "Wait ..." → "DSD DRAM OK" → "SDBus Check" → "SDBus Start" → "Wait ..." → "SDBus OK" → "All Success" → " 0. All (SELF)"

In case of an error in the Self Diag mode, the diagnosis restarting method can be selected in three ways, "QUIT", "REPEAT" and "CONTINUE", which function as follows:

QUIT : Quit diagnosis and return to the menu.
REPEAT : Restart diagnosis from the address where an error occurred.
CONTINUE : Restart diagnosis from the address next to the one where an error occurred.

• The error codes are listed in Self diagnosis error code list. (see page 8)

(2) 1. SRAM

From the "SELF DIAG Menu" display, rotate [I◁◁ AMS ▷▷I] controller clockwise to select "1. SRAM" and press [I◁◁ AMS ▷▷I] controller.
Then, "ExSRAM Start" → "ExRAM OK" → "1. SRAM" will be displayed and the check will finish.

(3) 2. EEPROM

From the "SELF DIAG Menu" display, rotate [I◁◁ AMS ▷▷I] controller clockwise to select "2. EEPROM" and press [I◁◁ AMS ▷▷I] controller.
Then, the following will be displayed and the check will finish.
"EEPROM Start" → "Check 00" → "Check 10" → "Check 20" → "Check 30" → "Check 40" → "Check 50" → "Check 60" → "Check 70" → "Check 80" → "Check 90" → "Check A0" → "Check B0" → "Check C0" → "Check D0" → "Check E0" →

"Check F0" → "EEPROM OK" → "2. EEPROM"

(4) 3. HGA
From the "SELF DIAG Menu" display, rotate [I◁◁ AMS ▷▷I] controller clockwise to select "3. HGA" and press [I◁◁ AMS ▷▷I] controller.
Then, "HGA Start" → "HGA OK" → "3. HGA" will be displayed and the check will finish.

(5) 4. Servo DSP
From the "SELF DIAG Menu" display, rotate [I◁◁ AMS ▷▷I] controller clockwise to select "4. Servo DSP" and press [I◁◁ AMS ▷▷I] controller.
Then, "SDSP Start" → "SDSP OK" → "4. Servo DSP" will be displayed and the check will finish.

(6) 5. ARP Check
From the "SELF DIAG Menu" display, rotate [I◁◁ AMS ▷▷I] controller clockwise to select "5. ARP".
• Checking items

DISPLAY	Contents of Check
0. All Check	Check of all items 1. – 4.
1. ARP Register	ARP register check
2. ARP Data	ARP data check
3. ARP Address	ARP address check
4. ARP DRAM	ARM DRAM check

① 1. ARP Register
From the "5. ARP" display, press [I◁◁ AMS ▷▷I] controller, and then "1. ARP Register" will be displayed.
Press [I◁◁ AMS ▷▷I] controller once more, and then "ARP Reg Start" → "ARP Reg OK" will be displayed and the check will finish.

② 2. ARP Data
From the "1. ARP Register" display, rotate [I◁◁ AMS ▷▷I] controller clockwise to select "2. ARP Data".
Press [I◁◁ AMS ▷▷I] controller, and then "ARP DBus Start" → "ARP DBus OK" → "2. ARP Data" will be displayed and the check will finish.

③ 3. ARP Address
From the "1. ARP Register" display, rotate [I◁◁ AMS ▷▷I] controller clockwise to select "3. ARP Address".
Press [I◁◁ AMS ▷▷I] controller, and then "ARP ABus Start" → "ARP ABus OK" → "3. ARP Address" will be displayed and the check will finish.

④ 4. ARP DRAM
From the "1. ARP Register" display, rotate [I◁◁ AMS ▷▷I] controller clockwise to select "4. ARP DRAM".
Press [I◁◁ AMS ▷▷I] controller, and then "ARP DRAM Start" → "Wait ..." → "ARP DRAM OK" → "4. ARP DRAM" will be displayed and the check will finish.

⑤ 0. All Check
From the "1. ARP Register" display, rotate [I◁◁ AMS ▷▷I] controller counterclockwise to select "0. All Check".
Press [I◁◁ AMS ▷▷I] controller, and then the following will be displayed and the check will finish.
"ARP Register" → "ARP Reg Start" → "ARP Reg OK" → "ARP Data" → "ARP DBus Start" → "ARP DBus OK" → "ARP Address" → "ARP ABus Start" → "ARP ABus OK" → "ARP DRAM" → "ARP DRAM Start" → "Wait ..." → "ARP DRAM OK" → "Diag Success" → "0. All Check"

(7) 6. SACD Chip
From the "SELF DIAG Menu" display, rotate [I◁◁ AMS ▷▷I] controller clockwise to select "6. SACD Chip".
• Checking items

DISPLAY	Contents of Check
0. All Check	Check of all items 1. and 2.
1. DSD Chp Bus	Check presence of error in SACD DSD Chp Bus
2. DSD Chp DRAM	Check presence of error in SACD DSD Chp DRAM

① 1. DSD Chp Bus
From the "6. SACD Chip" display, press [I◁◁ AMS ▷▷I] controller, and then "1. DSD Chp Bus" will be displayed.
Press [I◁◁ AMS ▷▷I] controller once more, and then "DSD Bus Start" → "DSD Bus OK" → "1. DSD Chp Bus" will be displayed and the check will finish.

② 2. DSD Chp DRAM
From the "1. DSD Chp Bus" display, rotate [I◁◁ AMS ▷▷I] controller clockwise to select "2. DSD Chp DRAM".
Press [I◁◁ AMS ▷▷I] controller, and then "DSD DRAM Start" → "Wait ..." → "DSD DRAM OK" → "DSD Chp DRAM" will be displayed and the check will finish.

③ 0. All Check
From the "1. DSD Chp Bus" display, rotate [I◁◁ AMS ▷▷I] controller counterclockwise to select "0. All Check".
Press [I◁◁ AMS ▷▷I] controller, and then the following will be displayed and the check will finish.
"DSD Chp Bus" → "DSD Bus Start" → "DSD Bus OK" → "DSD Chp DRAM" → "DSD DRAM Start" → "Wait ..." → "DSD DRAM OK" → "Diag Success" → "0. All Check"

(8) 7. SDBus
From the "SELF DIAG Menu" display, rotate [I◁◁ AMS ▷▷I] controller clockwise to select "7. SDBus".
Press [I◁◁ AMS ▷▷I] controller, and then "SDBus Start" → "Wait ..." → "SDBus OK" → "7. SDBus" will be displayed and the check will finish.

(9) 8. Diag Hist
From the "SELF DIAG Menu" display, rotate [I◁◁ AMS ▷▷I] controller clockwise to select "8. Diag Hist".
Press [I◁◁ AMS ▷▷I] controller, and then "1." will be displayed, and as the [I◁◁ AMS ▷▷I] controller is rotated clockwise, "2." – "10." will be displayed.

1. Auto Adjust Menu
From the "Test Mode Menu", rotate [I◁◁ AMS ▷▷I] controller clockwise to select "1. Auto Adjust".
Press [I◁◁ AMS ▷▷I] controller, and then "Auto Adj Menu" will be displayed, where you can select the following menu by rotating the [I◁◁ AMS ▷▷I] controller.

DISPLAY	Contents of Adjustment
0. All (Adjust)	Adjustment of all items 1. – 3.
1. SACD-SL	SACD-SL adjustment
2. CD	CD adjustment
3. SACD-DL	SACD-DL adjustment
4. HYBRID	HYBRID adjustment
5. All-Adj LFO	Adjustment of all items 1. – 3. with LFO value
6. Memory Check	Memory check

(1) 0. All (Adjust)
From the “Auto Adj Menu”, rotate [⏮AMS⏭] controller clockwise to select “0. All (Adjust)”. Press [⏮AMS⏭] controller, and then the servo setting data in the EEPROM will be cleared and initialized. After that, set the disc following the message and press [⏮AMS⏭] controller, so that the adjustments 1. – 3. are executed in order.

① In setting a disc, the disc type and size necessary for adjustment are displayed such as “Set SACD-SL 12”, and accordingly set the specified disc.
② Each time the adjustment for one disc finished, the disc is ejected. Replace it with the disc specified by the message.
③ In performing auto adjustment that requires the Loop Filter Offset value to be adjusted, from the “Auto Adj Menu”, rotate [⏮AMS⏭] controller clockwise to select “5. All-Adj LFO”. Set default value to the servo setting in the EEPROM, and then perform the Loop Filter Offset adjustment.
For details of the adjustment, see (6) 5. All-Adj LFO.

(2) 1. SACD-SL (Single Layer Disc) Adjustment
From the “Auto Adj Menu”, rotate [⏮AMS⏭] controller to select “1. SACD-SL”, and press [⏮AMS⏭] controller. Following the message “Set SACD-SL 12”, insert the disc and press [⏮AMS⏭] controller. Then, the adjustment will be executed in the adjustment values will be written to the EEPROM.
Upon completion, “Remove Disc” message is displayed and the CD is ejected.

(3) 2. CD (CD Disc) Adjustment
From the “Auto Adj Menu”, rotate [⏮AMS⏭] controller to select “2. CD”, and press [⏮AMS⏭] controller. Following the message “Set CD 12”, insert the disc and press [⏮AMS⏭] controller. Then, the adjustment will be executed in theadjustment values will be written to the EEPROM.
Upon completion, “Remove Disc” message is displayed and the CD is ejected.

(4) 3. SACD-DL (Dual Layer Disc) Adjustment
From the “Auto Adj Menu”, rotate [⏮AMS⏭] controller to select “3. SACD-DL”, and press [⏮AMS⏭] controller. Following the message “Set SACD-DL 12”, insert the disc and press [⏮AMS⏭] controller. Then, the adjustment will be executed in the following steps and the adjustment values will be written to the EEPROM.
Upon completion, “Remove Disc” message is displayed and the CD is ejected.

(5) 4. HYBRID (Hybrid Disc CD Layer) Adjustment
From the “Auto Adj Menu”, rotate [⏮AMS⏭] controller to select “4. HYBRID”, and press [⏮AMS⏭] controller. Following the message “Set HYBRID 12”, insert the disc and press [⏮AMS⏭] controller. Then, the adjustment will be executed in the following steps and the adjustment values will be written to the EEPROM.
However, if a hybrid disc (12 cm) is not available, skip this adjustment. In this case, press the [■] button to quit the adjustment.
Upon completion, “Remove Disc” message is displayed and the CD is ejected.

(6) 5. All-Adj LFO
From the “Auto Adj Menu”, rotate [⏮AMS⏭] controller clockwise to select “5. All-Adj LFO”.
Press [⏮AMS⏭] controller, and then “Press Enter” will be displayed, and press it once more, and then “EepDfltSet” → “L.F. OFFSET=09” will be displayed. From the “L.F. OFFSET=09” display, rotate [⏮AMS⏭] controller, and then the L.F.OFFSET value can be increased or decreased as shown below.

“L.F. OFFSET = 09”
└ Offset value
(00 ← 01 ← 02 ← 03 ← 04 ← 05 ← 06 ← 07 ← 08 ← 09 → 0A → 0B → 0C → 0D → 0E → 0F → 10 → 11 → 12 → 13 → 14 → 15 → 16 →17 → 18 → 19 → 1A → 1B → 1C → 1D .... → F8 → F9 → FA → FB → FC → FD → FE → FF)

Select L.F. OFFSET value and press [⏮AMS⏭] controller, and then the CD, SACD-SL and SACD-DL will be adjusted with the L.F. OFFSET value specified here.
The subsequent operation is similar to that in (1) 0. All (Adjust).

(7) 6. Memory Check
The Memory Check displays the contents of servo setting stored in the EEPROM.
From the “Auto Adj Menu”, rotate [⏮AMS⏭] controller clockwise to select “6. Memory Check”. “EEPROM Data” will be displayed if [⏮AMS⏭] controller is pressed, or “CD” → “HYBR” → “SL” → “DL-L0” → “DL-L1” will be displayed if [⏮AMS⏭] controller is rotated clockwise.
At each mode display, press [⏮AMS⏭] controller and rotate [⏮AMS⏭] controller, and then the following will be displayed. (oo: HEX)

① Contents of CD servo setting
CD FG = oo TG = oo
CD F0 = oo T0 = oo
CD L0 = oo EB = oo
CD JT = oo MT = oo

② Contents of HYBR servo setting
H1 FG = oo TG = oo
H1 F0 = oo T0 = oo
H1 L0 = oo EB = oo
H1 JT = oo

③ Contents of SL servo setting
SL FG = oo TG = oo
SL F0 = oo T0 = oo
SL L0 = oo EB = oo
SL JT = oo MT = oo

④ Contents of DL-L0 servo setting
D0 FG = oo TG = oo
D0 F0 = oo T0 = oo
D0 L0 = oo EB = oo
D0 JT = oo MT = oo

⑤ Contents of DL-L1 servo setting
D1 FG = oo TG = oo
D1 F0 = oo T0 = oo
D1 L0 = oo EB = oo
D1 JT = oo

• How to See Error Code
If a fatal error occurred during adjustment and the adjustment could not continue, the adjustment is interrupted and the error is displayed.
[Example]
Error 15 11 35
└DSP error code
Mechanism error
Service command
This case shows “Focus ON command, DSP error, Sequence interrupted during Focus ON operation”.

Mechanism error code list (see page 7)
Service command list (see page 8)
DSP error code list (see page 8)

• Error Detection at the End of Adjustment

At the end of adjustment, whether the jitter is proper, and whether the adjustment value is within allowable range are judged and displayed as a whole. If all parameters are within allowable range, "Param Chk OK" will be displayed. If parameters out of the range are detected, an error message such as "3 Errs occur" will be displayed (this case shows three errors occurred). Press [⏮◁ AMS ▷⏭] controller once to switch the display to the error list.

[Example]

1. SL TG High
   - Error No.
   - Disc type
   - Parameter type

This case shows "the track gain exceeds the upper limit in single layer disc adjustment". If you want to know more details, with the above display, press again the [⏮◁ AMS ▷⏭] controller to display details.

Err: SL TG Prm

In this state, rotate again the [⏮◁ AMS ▷⏭] controller clockwise, and the following will be displayed.

M:7C E:3F U:27
- Adjustment value
- Value stored in EEPROM
- Limit value (U: Upper limit, L: Lower limit)

This case shows "adjustment value 7C exceeds the upper limit, and EEPROM holds the last value 3F".

In this state, rotate again the [⏮◁ AMS ▷⏭] controller clockwise, and the judge result message will be displayed as follows:

"TG Too High"

To return to the previous step, or to exit from the error display, press the [▮▮] button.

2. Manual Opr Menu

From the "Test Mode Menu", rotate [⏮◁ AMS ▷⏭] controller clockwise to select "2. Manual Opr". Press [⏮◁ AMS ▷⏭] controller, and then "TiltSledReset" → "Manual Opr" will be displayed, where you can select the following menu by rotating the [⏮◁ AMS ▷⏭] controller clockwise.

DISPLAY	Contents of Menu
1. Disc Type	Disc type check
2. Srv Control	Servo control
3. T/L Jump	Tracking jump
4. Manual Adj	Manual adjustment
5. Auto Adj	Auto adjustment
6. Mem Check	Servo memory check
0. Disc Chk Mem	Disc check

(1) 1. Disc Type

From the "Manual Opr" menu, rotate [⏮◁ AMS ▷⏭] controller clockwise to select "1. Disc Type". Press [⏮◁ AMS ▷⏭] controller, and then "Disc Type" will be displayed, where you can select the following menu by rotating the [⏮◁ AMS ▷⏭] controller and also can check each menu item by pressing the [⏮◁ AMS ▷⏭] controller.

DISPLAY	Contents of Menu
1. Type Auto	Disc type is checked and the mode for that disc is set.
2. SACD SL 12cm	Disc type is set.
3. SACD DL 12cm	
4. CD 12cm	
5. HYBR-L1 12cm	
6. HYBR-L0 12cm	
7. SACD SL 8cm	
8. CD 8cm	
9. HYBR-L1 8cm	
0. RST Sld/Tlt	Tilt/Sled are reset.

Note: For the hybrid disc, the HL1 (CD layer) mode is activated, and if HD layer is to be played, use 6. HYBR-L0. However, for hybrid disc (8 cm), only the CD layer can be played.

(2) 2. Srv Control

From the "Manual Opr" menu, rotate [⏮◁ AMS ▷⏭] controller clockwise to select "2. Srv Control".

Press [⏮◁ AMS ▷⏭] controller, and then "Srv Con" → "NO DISC" → "Srv Con 0000000" will be displayed, where you can select the following menu by rotating the [⏮◁ AMS ▷⏭] controller clockwise.

Note: Before "Servo Control", "Disc Type Set" is needed.

DISPLAY	Contents of Menu
1. LD	(1: ON, 0: OFF)
2. SD	
3. Focus	
4. TRK	
5. SLED	
6. CLVA	
7. F-Sch	Focus search
8. R S/T	Tilt/Sled are reset.

FF/FR move up and down the Tilt respectively, while Prev/Next Index move the Sled inward and outward respectively. The operation stops when the [■] button is pressed. Until then, the commands are issued successively, which could cause a trouble. Therefore, normally do not use this menu.

• Checking method

Select each menu, and press the [⏮◁ AMS ▷⏭] controller, and then the following will be displayed for checking.

"1. LD" 1 0 0 0 0 0 0 0
- Execution command
- LD ON
- Spindle ON
- Focus ON
- Tracking ON
- Sled ON
- CLVA ON
- Focus Search ON

The above case is that only the LD is turned on. Rotating [⏮◁ AMS ▷⏭] controller clockwise, turn on the servo in order of 1. – 6. to check the servo.

Also, with the servo of 1. – 6. turned on, press the [CHECK] button on the remote commander, so that you can check the disc type, jitter, etc. To return to original display, press the [CHECK] button again.

[Example]

SL 18 2A 020520
- SL: Disc type
- 18: Jitter value
- 2A: CLV status
- 020520: Sector address

CAUTION: In 7. F-Sch menu, the servo is not applied, thus causing optical system to be damaged if used together with other menu. Never use it.

(3) 3. T/L Jump

This adjustment is not normally used.

(4) 4. Manual Adj

This adjustment is not normally used.

(5) 5. Auto Adj

This adjustment is not normally used.

(6) 6. Mem Check

From the "Manual Opr" menu, rotate [⏮◁ AMS ▷⏭] controller clockwise to select "6. Mem Check". Press [⏮◁ AMS ▷⏭] controller, and then "EEPROM Data" will be displayed, where you can select the following menu by rotating the [⏮◁ AMS ▷⏭] controller clockwise.

DISPLAY	Contents of Menu
CD	Servo setting check
HYBR	
SL	
DL-L0	
DL-L1	

① Select each menu and press [⏮◁ AMS ▷⏭] controller, and then the contents of servo setting stored in the EEPROM will be displayed.

② The contents of servo setting are same as those in (7) 6. Memory Check of Auto Adjust menu. (See page 4)

③ In this menu, default value can be written to the EEPROM. Press the [CLEAR] buttonon on the Remote commander, "Deflt Set? Y/N" message will be displayed, and then press [⏮◁ AMS ▷⏭] controller. When "EepDfltSet" message is displayed, default value can be written to the EEPROM. To cancel default value setting, press the [❚❚] button.

CAUTION: If you do "EepDfltSet", after "EepDfltSet", "Auto Adjustment" is needed. (see page 3)

(7) 7. Disc Chk Mem

From the "Manual Opr" menu, rotate [⏮◁ AMS ▷⏭] controller clockwise to select "0. Disc Chk Mem". Press [⏮◁ AMS ▷⏭] controller, and then "Disc Check" will be displayed, where you can select the following menu by rotating the [⏮◁ AMS ▷⏭] controller clockwise.

DISPLAY	Contents of Menu
1. SL Disc Chk	Disc Type Check
2. CD Disc Chk	
3. DL Disc Chk	
0. Rst Sld/Tlt	Tilt and Sled are reset.

- Select the menu 1. – 3. and press the [⏮◁ AMS ▷⏭] controller, and "New 3D" will be displayed, and then each display corresponding to the selected menu 1. – 3. will return.

3. Mecha Aging Menu

This is the mechanism aging mode.

From the "Test Mode Menu", rotate [⏮◁ AMS ▷⏭] controller clockwise to select "3. Mecha Aging". Press [⏮◁ AMS ▷⏭] controller, and "Mecha Aging" → "Abort Stop Key" → "Press Open Key" will be displayed. Press [⏏] button → [▷] button in this order, and the tray will be opened and closed repeatedly, and its count will be displayed. Up to 2,147,483,647 times can be counted. In such a case, the disc type is also checked.

[Example]

C: 2526

Number of counts

To quit this operation, press [■] and [❚❚] buttons. (Simultaneously, the count is cleared.)

4. Emg History Menu

From the "Test Mode Menu", rotate [⏮◁ AMS ▷⏭] controller clockwise to select "4. Emg History". Press [⏮◁ AMS ▷⏭] controller, and "EMG History" message will be displayed. Rotating the [⏮◁ AMS ▷⏭] controller clockwise switches to the following display where the servo emergency history (1. – 10.) and the laser lighting hours are displayed.

1. 1F 06080000
2. 2F 06080000
3. 00 00000000
4. 00 00000000
5. 00 00000000
6. 00 00000000
7. 00 00000000
8. 00 00000000
9. 00 00000000
10. 00 00000000

LASR 0h
CD 0h
SACD 0h
Clear History?

① How to see code

[Example]

11 06 04 C701
- 11: Mechanism error code (see page 7)
- 06: Mechanism mode (see page 8)
- 04: History disc type (see page 8)
- C701: History buffer 2byte DSP error code (see page 8)

This case shows "DSP error, Spin up mode, SL 12cm, CLV unlock at Sled ON".

Also, at this time, pressing [⏮◁ AMS ▷⏭] controller causes all emergency information (16 bytes) to be displayed every 4 bytes for 4 items.

[Example]

1-1 00000000
- 1-1: Item No.: Variable each time the [⏮◁ AMS ▷⏭] controller is pressed
- 00000000: Emergency information 1

② Laser lighting hours

[Example]

LASR 14h
CD 6h
SACD 8h

LASR displayed value is the total of CD and SACD laser lighting hours. (The time less than minutes is omitted.)

③ History clear

• How to clear all history data

For the items with "Clear History?" message, press [I◁◁AMS▷▷I] controller, and all emergency history data and all laser lighting hours are cleared to 0.

• How to clear individual data

① Emergency history clear

Press [DISPLAY MODE], [CLEAR] buttons on the remote commander in this order.

② Laser lighting hour clear

Press [SACD/CD], [CLEAR] buttons on the remote commander in this order.

③ Setup clear

Press [REPEAT], [CLEAR] buttons on the remote commander in this order.

Five backup data of [PLAY MODE], [CLEAR], [SACD/CD], [TIME/TEXT], [DIGITAL FILTER] are cleared to the initial data.

5. Ver Info Menu

From the "Test Mode Menu", rotate [I◁◁AMS▷▷I] controller clockwise to select "5. Ver Info". Press [I◁◁AMS▷▷I] controller, and "Version Info" message will be displayed. Rotating the [I◁◁AMS▷▷I] controller clockwise switches to the following display where the ROM version, date of creation, servo DSP version, and checksum are displayed.

[Example]

V1.00 00/02/14
SrvDSP 1.000
RomCsum 711C

6. RF Jit Disp

From the "Test Mode Menu", rotate [I◁◁AMS▷▷I] controller clockwise to select "6. RF Jit Disp". Press [I◁◁AMS▷▷I] controller, and then "Set Disc" message will be displayed. Set a disc and press [I◁◁AMS▷▷I] controller, and "Sinup..." will be displayed, then the jitter will be measured and displayed. To exit from this mode, press the [▮▮] button.

<Jitter measurement and display example>

CD 22 2A 000000
- Sector address
- CLV status
- Jitter value
- Disc type (auto check)

SL : Single layer disc
HC : Hybrid layer disc, CD layer
HD : Hybrid layer disc, SACD layer
DL : Dual layer disc
CD : CD disc

① The disc type is checked automatically.

② For a hybrid disc, rotating the [I◁◁AMS▷▷I] controller can switch the layer during jitter adjustment. Also, rotating the [I◁◁AMS▷▷I] controller can jump to inner track, middle track, or outer track.However, the address is fixed. Music cannot be searched. For a dual layer disc, a jump between layers is possible.

1. Play HD-HL0
2. Play CD-HL1
3. Jp Md1 Track
4. Jp Inn Track
5. Jp Out Track
6. Jp DL0 -> DL1
7. Jp DL1 -> DL0

③ Press [⏏] button to change the disc.

7. PDM Mode Menu

This mode is not normally used.

8. CDM Adj Menu

This mode is not normally used.

9. Set Up Init Menu

From the "Test Mode Menu", rotate [I◁◁AMS▷▷I] controller clockwise to select "7. Set Up Init". Press [I◁◁AMS▷▷I] controller, and "Initialized" will be displayed, then "Reset? Y/N" will be displayed. Press again [I◁◁AMS▷▷I] controller, and "Restart ..." will be displayed, and then the player will be reset and restarted. (At the restart, the set exits from the Test mode.)

10. Sld Ship Pos Menu

Moving sled the fuctory set up position.

Mechanism error code

Category	Emergancy Name	Emergency Code
Electrical	SSI ERR	10
	DSP ERR	11
	EEP ERR	12
	EEP HOURS METER WRITE ERR	13
	DSP BUSY TIME OUT	14
	EEP CHECK SUM NG	15
	DSP BUSY TIME OUT ESCAPE	16
Mechanism	TILT SLED RESET NG	20
	TILT MOVE NG	21
	TILT REQ POSI NG	22
	SLED MOVE NG	23
	SLED REQ POSI NG	24
Adjustment	ADJ TRK BAL NG	30
	ADJ TRK GAIN	31
	ADJ FCS BAL NG	32
	ADJ FCS BIAS NG	33
	ADJ FCS GAIN	34
	ADJ TILT NG	35
	ADJ EQ BOOST NG	36
	ADJ GD NG	37
	ADJ LAST JITTER NG	38
	ADJ GAIN RANGE OVER	3F
Focus	FOCUS NG	F1
	FOCUS JUMP COUNT OVER	41
Spindle	CLV LOCK NG	1F
	SPDL BRAKE COUNT OVER	51
Sheek	SACD REQ ADR NG	60
	CD REQ ADR NG	61
	CD REQ INDEX NG	62
	SACD SEEK COUNT OVER	63
	CD SA SEARCH COUNT OVER	64
	CD INDEX SEARCH COUNT OVER	65
Date	SACD INFO NG	70
	CD INFO TIME OUT	71
Other	RECOVERY DISC CHECK NG	DF
	RECOVERY COUNT OVER	81
	DISC CHECK ERR	DF
	DISC CHECK TIME OUT	83
	INVALID CMD CODE	84
	INVALID CMD	85
	DUMMY JOB	86
	NEXT MODE NONE	87

History disc type

Display	Contents
0x00	TBD
0x01	CheckErr
0x02	NoDisc
0x03	SacdSl08
0x04	SacdSl12
0x05	SacdDl08
0x06	SacdDl12
0x07	Cd08
0x08	Cd12
0x09	Hl08
0x0a	Hl12

0x: Hex.

Mechanism mode

Display	Contents
0x00	Reset
0x01	DriveInit
0x02	PonReady
0x03	MechInit
0x04	Stop
0x05	DiscCheck
0x06	SpinUp
0x07	SpinDown
0x08	Seek
0x09	Trace
0x0a	Pause
0x0b	Recovery
0x0c	RecoDc
0x0d	SrvcStop
0x0e	Srvc

0x: Hex.

Self diagnosis error code

Display	Contents
00	Normal end
01	SRAM Read/Write NG
02	HGA NG
03	EEPROM NG
04	ARP Resister NG
05	ARP DATA BUS NG
06	ARP ADDRESS BUS NG
07	ARP RAM Read/Write NG
08	Servo DSP Resister NG
09	SACD CHIP DRAM NG
10	SACD CHIP DRAM TIME OUT
11	SACD CHIP BUS NG
12	SDBUS NG
13	SDBUS TIME OUT

Service command

Display	Contents	code
Tray Open	Tray open	01
Tray Close	Tray close	02
Set Disc Type	Set Disc Type	03
Sled Go Home	Sled move Home position	04
Tilt Go Home	Tilt move Home Position	05
Sled Tilt Reset	Sled/Tilt Reset	06
Tray Down	Tray chuck Down	07
All Servo Stop	All Servo stop	10
Ld On	Laser diode ON	11
Ld Off	Laser diode OFF	12
Focus Search	Focus Search	13
Focus Off	Focus Servo OFF	14
Focus Search On	Focus Servo ON	15
Tracking On	Tracking Servo ON	17
Tracking Off	Tracking Servo OFF	18
Sled On	Sled Servo ON	19
Sled Off	Sled Servo OFF	1A
Sled Move Fwd	Sled Move Foward	1B
Sled Move Rev	Sled Move Reverse	1C
Sled Direct Move	Sled Direct Move	1D
Spdl Start	disc size cheking and spendle start	20
Spdl Stop	Spingdle stop	21
Cav On	Spindle with normal speed ON	22
Clva On	CLVA Servo ON	26
Tilt Move Down	Tilt Move Down	2B
Tilt Move Up	Tilt Move Up	2C
Tilt Direct Move	Tilt Direct Move	2D
Lj (L0 -> L1)	LayerJump (Tracking/Sled Servo ON)	3A
Lj (L1 -> L0)		3B
Fj (L0 -> L1)	FocusJump (Tracking/Sled Servo OFF)	3C
Fj (L1 -> L0)		3D

DSP error code

Task code (Upper Column)

Code*	Contents
2	Traking balance adjustment
3	Focus Search
4	Focus jump
5	Traking ON
6	1, 2 Track jump
7	Middle Track jump
8	Large Track jump
9	Sled move
c	Sled ON
d	Sereal

*Code: Hex.

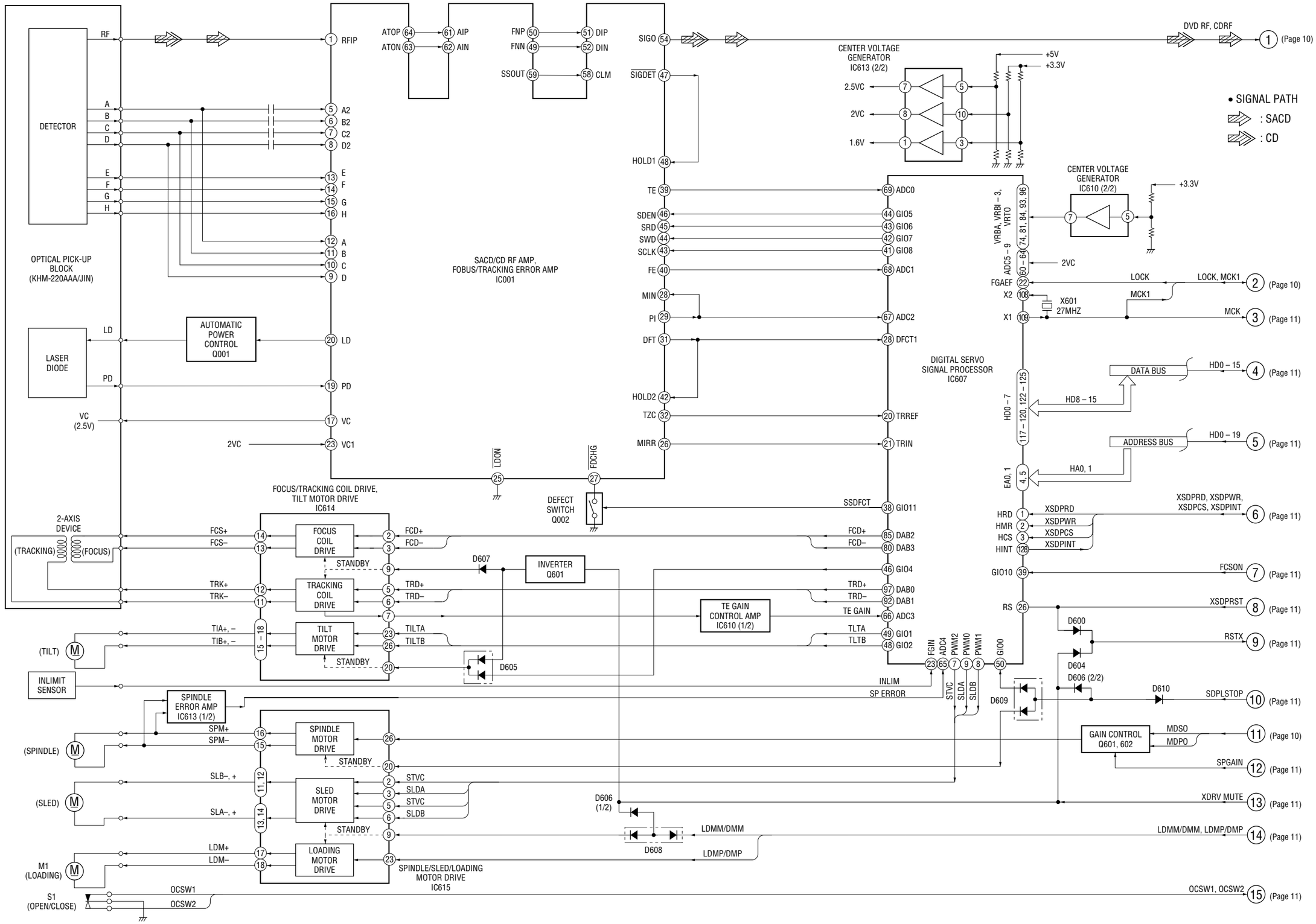
Error code (Lower column)

Code*	Contents
2	Sequence Command in Sequence
3	Invalid Parameter
4	Sequence Stop by “time out”
5	Sequence Stop except “time out”
6	Not FOK
7	Not LOCK
8	Servo ON in servo ON
9	Defect Continuation Detect
a	Focus OFF
b	Tracking OFF
c	ACK Error

*Code: Hex.

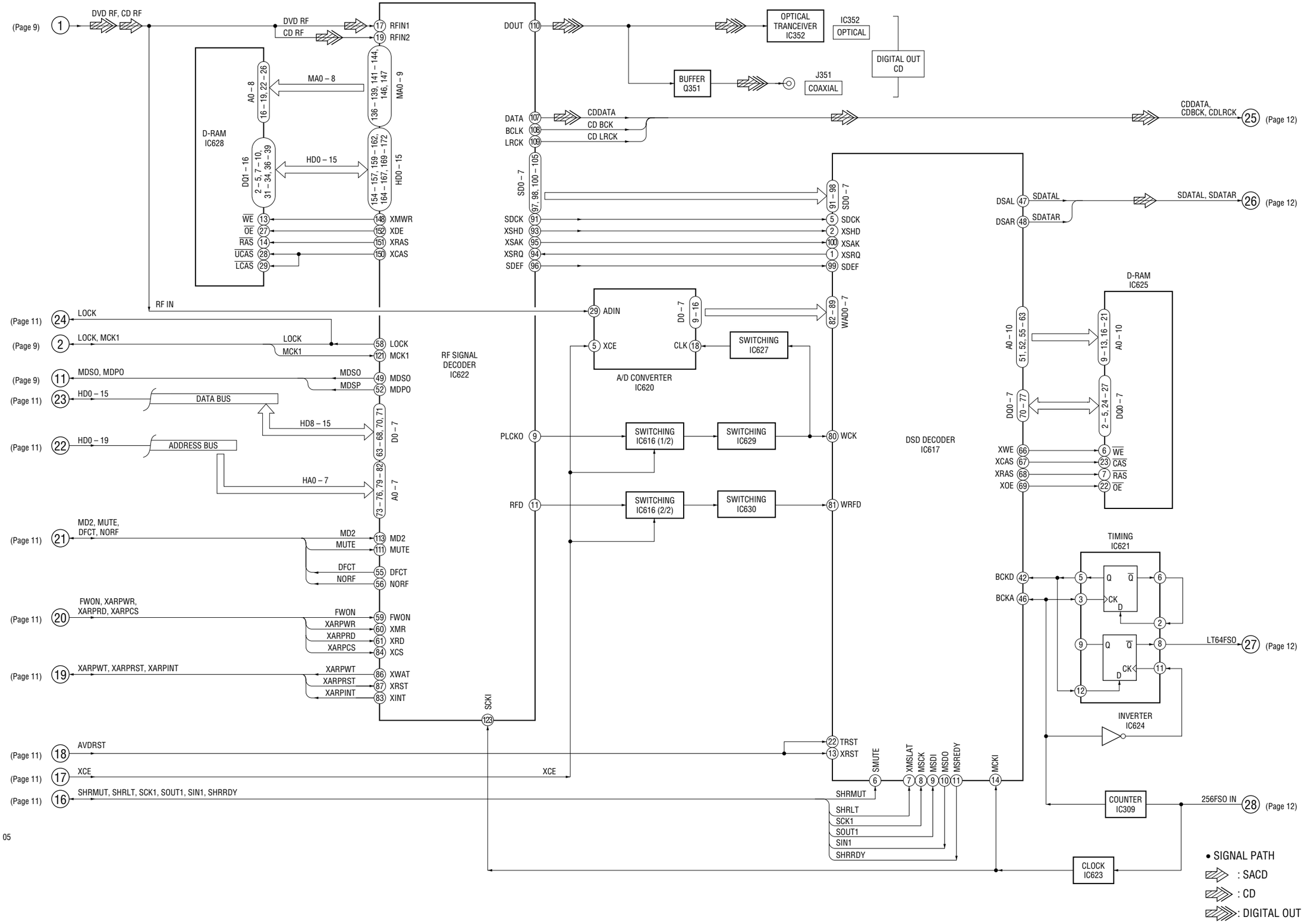
2. DIAGRAMS

2-1. BLOCK DIAGRAM – RF/SERVO Section –



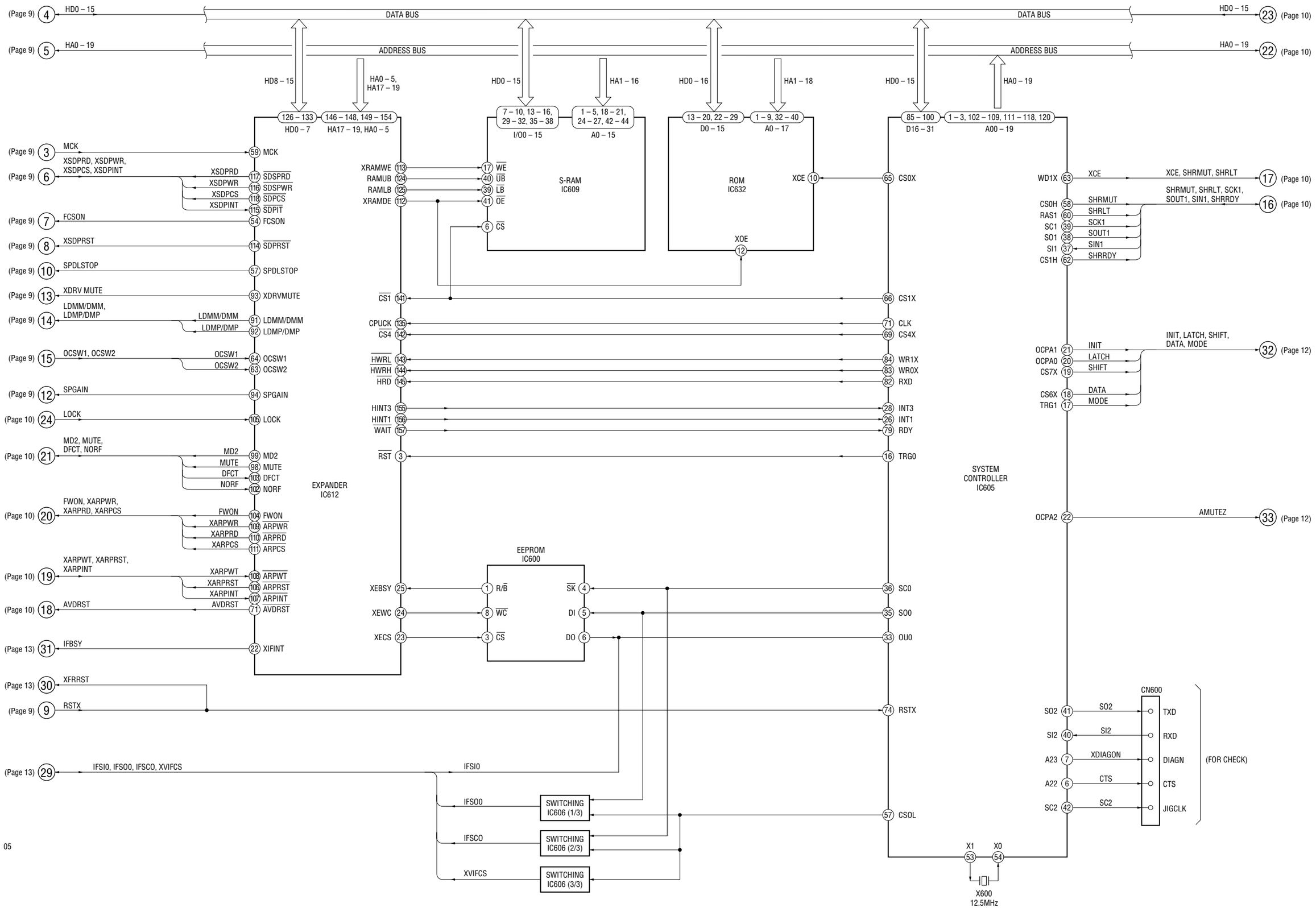
05

2-2. BLOCK DIAGRAM – MAIN Section (1/2) –

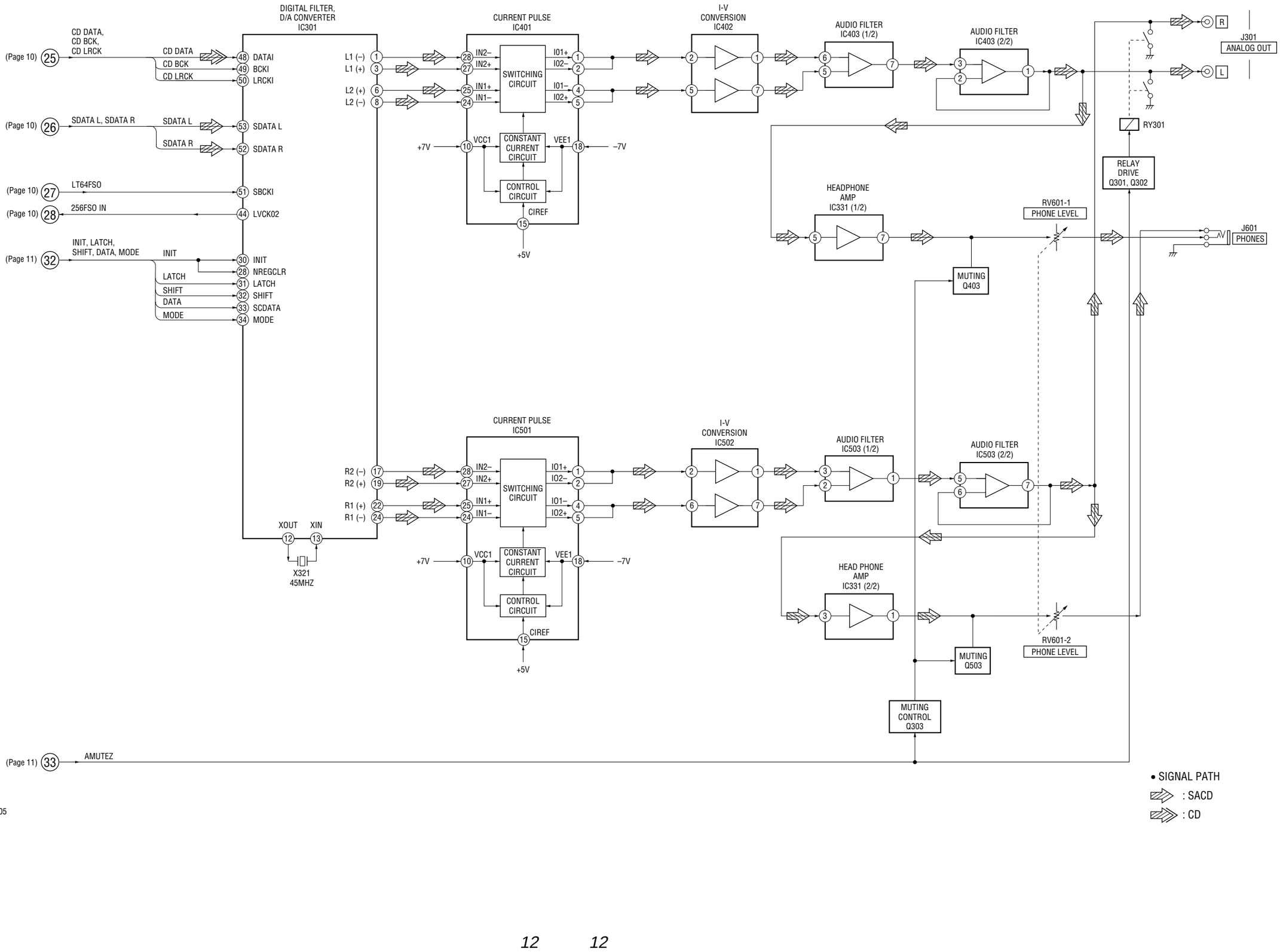


05

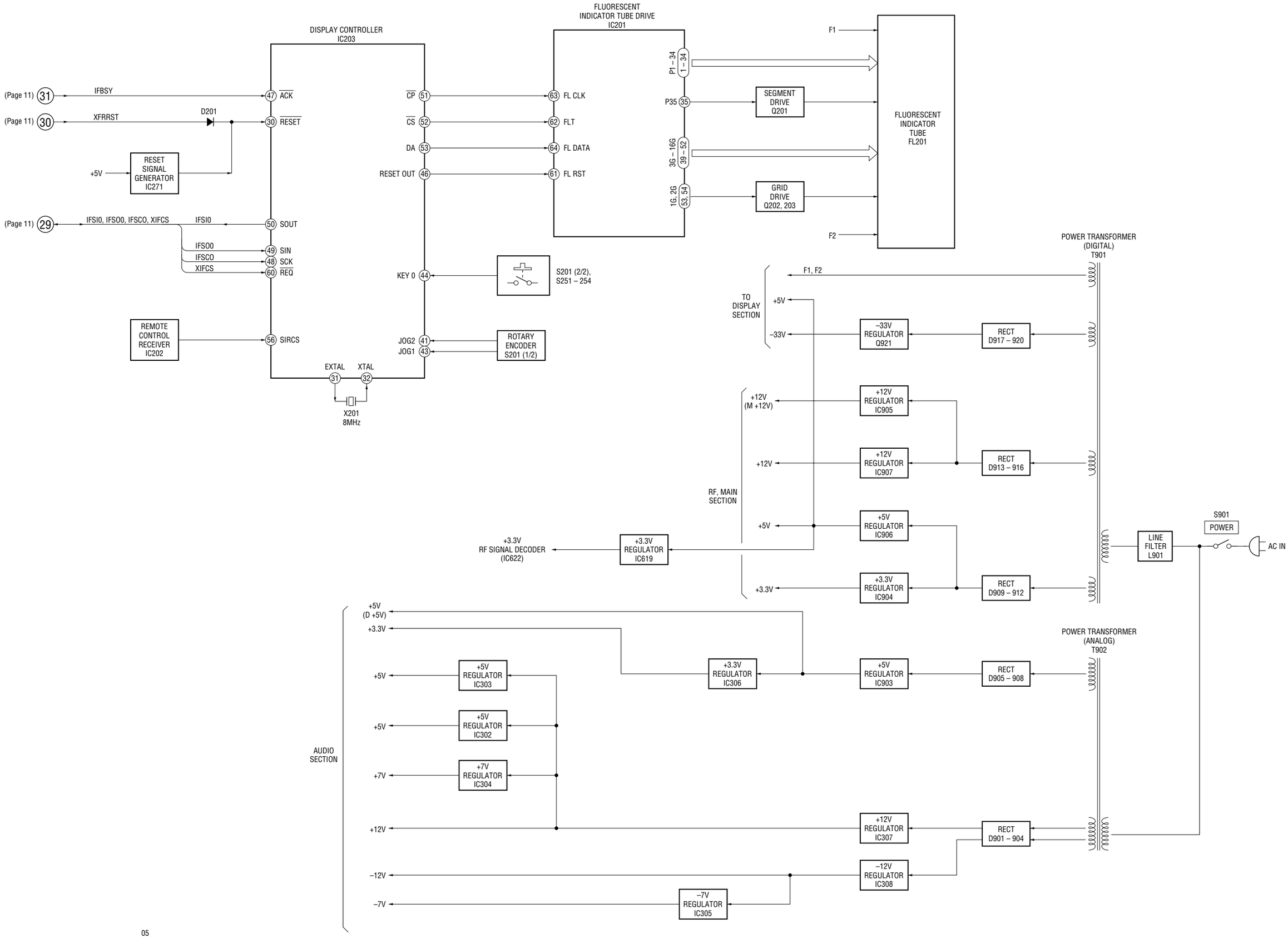
2-3. BLOCK DIAGRAM – MAIN Section (2/2) –



2-4. BLOCK DIAGRAM – AUDIO Section –



2-5. BLOCK DIAGRAM – DISPLAY/POWER SUPPLY Section –



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2-6. IC PIN FUNCTION DESCRIPTION

• MAIN BOARD IC605 MB91107PFV-G-BND (SYSTEM CONTROLLER)

Pin No.	Pin Name	I/O	Description
1, 2	A17/P61, A18/P62	O	Address signal output to the expander (IC612) and ROM (IC632)
3	A19/P63	O	Address signal output to the expander (IC612)
4, 5	A20/P64, A21/P65	O	Address signal output terminal Not used (open)
6, 7	A22/P66, A23/P67	O	Test signal output terminal for check (fixed at “H” in this set)
8	A24/P70	O	Address signal output terminal (fixed at “H” in this set)
9	AVCC	—	Power supply terminal (+3.3V) (for A/D converter)
10	AVRH	—	Reference voltage input (high) terminal (for A/D converter)
11	AVSS/AVRL	—	Ground terminal (for A/D converter) and Reference voltage input (low) terminal
12 to 15	AN0 to AN3	I	Analog input terminal (for A/D converter)
16	TRG0/PH0	O	Reset signal output to the expander (IC612) “L”: reset
17	TRG1/PH1	O	SACD/CD mode signal output to the digital filter (IC301)
18	TRG2/PH2/CS6X	O	Serial data output to the digital filter (IC301)
19	TRG3/PH3/CS7X	O	Shift signal output to the digital filter (IC301)
20	OCPA0/PH4	O	Latch signal output to the digital filter (IC301)
21	OCPA1/PH5	O	Initial signal output to the digital filter (IC301)
22	OCPA2/PH6	O	Audio muting signal output terminal “L”: muting
23	OCPA3/PH7	O	Filter control signal output terminal
24	VCC	—	Power supply terminal (+3.3V) (digital system)
25	INT0/PG0	I	External interrupt request signal input terminal Not used (fixed at “H”)
26	INT1/PG1	I	Interrupt request 1 signal input from the expander (IC612)
27	INT2/PG2	I	External interrupt request signal input terminal Not used (fixed at “H”)
28	INT3/PG3	I	Interrupt request 3 signal input from the expander (IC612)
29 to 32	INT4/PG4 to INT7/PG7	I	External interrupt request signal input terminal Not used (fixed at “H”)
33	SI0/RF0	I	Serial data input from the display controller (IC203) and EEPROM (IC600)
34	VSS	—	Ground terminal (digital system)
35	SO0/PF1	O	Serial data output to the display controller (IC203) and EEPROM (IC600)
36	SC0/PF2	O	Clock signal output to the display controller (IC203) and EEPROM (IC600)
37	SI1/PF3	I	Serial data input from the DSD decoder (IC617)
38	SO1/PF4	O	Serial data output to the DSD decoder (IC617)
39	SC1/PF5	O	Clock signal output to the DSD decoder (IC617)
40	SI2/PF6	I	Serial data input terminal for check
41	SO2/PF7	O	Serial data output terminal for check
42	SC2/PE0	O	Clock signal output terminal for check
43	DREQ0/PE1	I	External transfer request signal input terminal
44	DACK0/PE2	O	External transfer request acknowledge signal output terminal
45	EOP0/PE3	O	Not used (open)
46	DREQ1/PE4	I	External transfer request signal input terminal Not used (fixed at “H”)
47	DACK1/PE5	O	External transfer request acknowledge signal output terminal Not used (fixed at “H”)
48	EOP1/PE6	O	Not used (open)
49	DREQ2/PE7	I	External transfer request signal input terminal Not used (open)
50	DACK2/PI0	O	External transfer request acknowledge signal output terminal Not used (open)
51	EOP2/PI1/ATGX	O	Not used (open)
52	VSS	—	Ground terminal (digital system)
53	X1	O	System clock output terminal (12.5MHz)
54	X0	I	System clock input terminal (12.5MHz)
55	VCC	—	Power supply terminal (+3.3V) (digital system)
56	RAS0/PB0	O	Control signal output terminal Not used (fixed at “H”)
57	CS0L/PB1	O	Interrupt request signal output to the display controller (IC203)
58	CS0H/PB2	O	Muting signal output to the DSD decoder (IC617) “L”: muting
59	DW0X/PB3	O	Not used (open)
60	RAS1/PB4	O	Latch signal output to the DSD decoder (IC617)
61	CS1L/PB5	O	Not used (open)
62	CS1H/PB6	I	Ready signal input from the DSD decoder (IC617) “L”: ready
63	DW1X/PB7	O	Write enable signal output terminal “L”: active
64	C	—	Bypass capacitor terminal for internal capacitor
65	CS0X	O	Chip select signal output to the ROM (IC632) “L”: active
66	CS1X/PA1	O	Chip select signal output to the expander (IC612) and S-RAM (IC632) “L”: active
67, 68	CS2X/PA2, CS3X/PA3	O	Chip select signal output terminal “L”: active (fixed at “H” in this set)
69	CS4X/PA4	O	Chip select signal output to the expander (IC612) “L”: active
70	CS5X/PA5	O	Chip select signal output terminal “L”: active (fixed at “H” in this set)
71	CLK/PA6	O	Clock signal output to the expander (IC612)
72	NMIX	I	Non maskable interrupt signal input terminal “L”: active (fixed at “H” in this set)
73	HSTX	I	Hardware standby signal input terminal “L”: active (fixed at “H” in this set)
74	RSTX	I	Reset signal input from the display controller (IC203)
75	VSS	—	Ground terminal (digital system)
76	MD0	I	Mode set signal input terminal (fixed at “H”)
77, 78	MD1, MD2	I	Mode set signal input terminal (fixed at “L”)
79	RDY/P80	I	Wait signal input from the expander (IC612)
80	BGRNTX/P81	O	External bus release acknowledge signal output terminal (fixed at “H” in this set)
81	BRQ/P82	I	External bus release request signal input terminal (fixed at “L” in this set)
82	RDX	O	Read strobe signal output to the expander (IC612)
83	WR0X	O	Write strobe 0 signal output to the expander (IC612)
84	WR1X/P85	O	Write strobe 1 signal output to the expander (IC612)
85 to 92	D16/P20 to D23/P27	I/O	Two-way data bus with the S-RAM (IC609) and ROM (IC632)
93 to 100	D24 to D31	I/O	Two-way data bus with the servo digital signal processor (IC607), S-RAM (IC609), expander (IC612) , RF signal decoder (IC622), and ROM (IC632)
101	VSS	—	Ground terminal (digital system)
102	A00	O	Address signal output to the servo digital signal processor (IC607), expander (IC612) , and RF signal decoder (IC622)
103	A01	O	Address signal output to the servo digital signal processor (IC607), S-RAM (IC609), expander (IC612) , RF signal decoder (IC622), and ROM (IC632)
104 to 107	A02 to A05	O	Address signal output to the S-RAM (IC609), expander (IC612), RF signal decoder (IC622), and ROM (IC632)
108, 109	A06, A07	O	Address signal output to the S-RAM (IC609), RF signal decoder (IC622), and ROM (IC632)
110	VCC	—	Power supply terminal (+3.3V) (digital system)
111 to 118	A08 to A15	O	Address signal output to the S-RAM (IC609) and ROM (IC632)
119	VSS	—	Ground terminal (digital system)
120	A16/P60	O	Address signal output to the S-RAM (IC609) and ROM (IC632)

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- **MAIN BOARD IC607 CXD8791AQ (DIGITAL SERVO SIGNAL PROCESSOR)**

Pin No.	Pin Name	I/O	Description
1	HRD/HRXD	I	Data read strobe signal input from the expander (IC612)
2	HWR/HFS	I	Data write strobe signal input from the expander (IC612)
3	HCS	I	Chip select signal input from the expander (IC612)
4, 5	HA1, HA0/HCK	I	Address signal input from the system controller (IC605)
6	VDD	—	Power supply terminal (+3.3V) (digital system)
7 to 9	PWM0 to PWM2	O	Sled motor control signal output to the sled motor drive (IC615)
10	VSS	—	Ground terminal (digital system)
11, 12	EMU1, EMU0	I/O	Emulator signal input/output terminal Not used (open)
13	TDO	O	Test data output terminal Not used (open)
14	TCK	I	Test clock input terminal Not used (open)
15	TDI	I	Test data input terminal Not used (open)
16	TMS	I	Test mode select signal input terminal Not used (open)
17	TRST	I	Test reset signal input terminal Not used (open)
18	VDD	—	Power supply terminal (+3.3V) (digital system)
19	VSS	—	Ground terminal (digital system)
20	TRREF	I	Tracking reference signal input from the SSI33P3722 (IC001)
21	TRIN	I	Mirror detect signal input from the SSI33P3722 (IC001)
22	FGREF	I	FG reference clock signal input from the RF signal decoder (IC622)
23	FGIN	I	FG signal input terminal
24	PGREF	I	PG reference signal input terminal Not used (open)
25	PGIN	I	PG signal input terminal Not used (open)
26	RS	I	Reset signal input from the expander (IC612)
27	LG	I	Not used (open)
28	DFCT1	I	Defect signal input terminal
29	HEAD	I	Head signal input terminal Not used (open)
30	CLKODIS	I	CLKOUT1 (pin ㉛) disable signal input terminal "H": disable (fixed at "L" in this set)
31	CLKOUT1	O	Master clock output terminal Not used (open)
32	VDD	—	Power supply terminal (+3.3V) (digital system)
33	VSS	—	Ground terminal (digital system)
34 to 37	GIO15 to GIO12	—	Not used (open)
38	GIO11	O	Defect control signal output terminal
39	GIO10	O	Function control signal input from the expander (IC612)
40	GIO9	—	Not used (open)
41	GIO8	O	Clock signal output to the SSI33P3722 (IC001)
42	GIO7	O	Serial write data output to the SSI33P3722 (IC001)
43	GIO6/TMC2	I	Serial read data input from the SSI33P3722 (IC001)
44	GIO5/TMC1	O	Serial data enable output to the SSI33P3722 (IC001)
45	VDD	—	Power supply terminal (+3.3V) (digital system)
46	GIO4/TMC0	I	Standby signal input from the tilt motor drive (IC614)
47	GIO3/INT5	—	Not used (open)
48	GIO2/INT4	O	Tilt motor control signal output to the tilt motor drive (IC614)
49	GIO1/INT3	O	Tilt motor control signal output to the tilt motor drive (IC614)
50	GIO0/INT2	I	Interrupt signal input terminal
51	VSS	—	Ground terminal (digital system)
52	TESTC	I	Test signal input terminal (fixed at "L")

Pin No.	Pin Name	I/O	Description
53 to 56	TEST3 to TEST0	I	Test signal input terminal (fixed at “L”)
57, 58	TESTSIA1, TESTSIA0	I	Test signal input terminal (fixed at “L”)
59	TESTSOA	O	Test signal output terminal (open)
60 to 64	ADC9 to ADC5	I	Reference voltage input terminal
65	ADC4	I	Spindle error signal input terminal
66	ADC3	I	TE gain control signal input terminal
67	ADC2	I	PI signal input from the SSI33P3722 (IC001)
68	ADC1	I	FE signal input from the SSI33P3722 (IC001)
69	ADC0	I	TE signal input from the SSI33P3722 (IC001)
70	VRTA	I	Reference voltage (top) input terminal (for A/D converter)
71	VCCA1	—	Power supply terminal (+3.3V) (analog system)
72	TESTA	O	Test signal output terminal (open)
73	GNDA1	—	Ground terminal (analog system)
74	VRBA	I	Reference voltage (bottom) input terminal (for A/D converter)
75	VSS3V1	—	Ground terminal (analog system)
76	VDD3V1	—	Power supply terminal (+3.3V) (analog system)
77	GNDA2	—	Ground terminal (analog system)
78	VCCA2	—	Power supply terminal (+3.3V) (analog system)
79	VRT3	I	Reference voltage (top) input terminal (for D/A converter)
80	DAB3	O	Focus coil control signal output to the focus coil drive (IC614)
81	VRB3	I	Reference voltage (bottom) input terminal (for D/A converter)
82	VSS3V2	—	Ground terminal (analog system)
83	VDD3V2	—	Power supply terminal (+3.3V) (analog system)
84	VRB2	I	Reference voltage (bottom) input terminal (for D/A converter)
85	DAB2	O	Focus coil control signal output to the focus coil drive (IC614)
86	VRT2	I	Reference voltage (top) input terminal (for D/A converter)
87	VCCA3	—	Power supply terminal (+3.3V) (analog system)
88	GNDA3	—	Ground terminal (analog system)
89	GNDA4	—	Ground terminal (analog system)
90	VCCA4	—	Power supply terminal (+3.3V) (analog system)
91	VRT1	I	Reference voltage (top) input terminal (for D/A converter)
92	DAB1	O	Tracking coil control signal output to the tracking coil drive (IC614)
93	VRB1	I	Reference voltage (bottom) input terminal (for D/A converter)
94	VSS3V3	—	Ground terminal (analog system)
95	VDD3V3	—	Power supply terminal (+3.3V) (analog system)
96	VRB0	I	Reference voltage (bottom) input terminal (for D/A converter)
97	DAB0	O	Tracking coil control signal output to the tracking coil drive (IC614)
98	VRT0	I	Reference voltage (top) input terminal (for D/A converter)
99	VCCA5	—	Power supply terminal (+3.3V) (analog system)
100	GNDA5	—	Ground terminal (analog system)
101, 102	TESTSIB1, TESTSIB0	I	Test signal input terminal (fixed at “L”)
103	TESTSOB	O	Test signal output terminal (open)
104	PLLMD	I	PLL mode select signal output terminal Not used (fixed at “H”)
105	TESTB	I	Test signal input terminal (fixed at “L”)

Pin No.	Pin Name	I/O	Description
106	VDD	—	Power supply terminal (+3.3V) (digital system)
107	VSS	—	Ground terminal (digital system)
108	X2/CLKIN	I	Clock input terminal (27MHz)
109	X1	O	Clock output terminal (27MHz)
110	VDD	—	Power supply terminal (+3.3V) (digital system)
111	VSS	—	Ground terminal (digital system)
112	VCCA6	—	Power supply terminal (+3.3V) (analog system)
113	LF	I/O	LF signal input/output terminal
114	GNDA6	—	Ground terminal (analog system)
115	VDD	—	Power supply terminal (+3.3V) (digital system)
116	VSS	—	Ground terminal (digital system)
117	HD7/HIO	I/O	Two-way data bus with the system controller (IC605), S-RAM (IC609), expander (IC612) , RF signal decoder (IC622), and ROM (IC632)
118 to 120	HD6/HO6, HD4/HO4	I/O	Two-way data bus with the system controller (IC605), S-RAM (IC609), expander (IC612) , RF signal decoder (IC622), and ROM (IC632)
121	VDD	—	Power supply terminal (+3.3V) (digital system)
122 to 125	HD3/HO3, HD0/HO0	I/O	Two-way data bus with the system controller (IC605), S-RAM (IC609), expander (IC612) , RF signal decoder (IC622), and ROM (IC632)
126	VSS	—	Ground terminal (digital system)
127	SRPRN	I	Parallel/serial mode select signal input terminal “L”: parallel mode (fixed at “L” in this set)
128	HINT/HTXD	O	Interrupt signal output to the expander (IC612)

• **MAIN BOARD IC612 CXD9515Q (EXPANDER)**

Pin No.	Pin Name	I/O	Description
1	VDD	—	Power supply terminal (+3.3V)
2	NC	—	Not used (open)
3	$\overline{\text{RST}}$	I	Reset signal input from the system controller (IC605) "L": reset
4	XFBSY	I	Busy signal input terminal "L": busy
5	$\overline{\text{NFBSY}}$	I	Not used (fixed at "H")
6	NFCLE	O	Not used (open)
7	NFALE	O	Not used (open)
8	$\overline{\text{NFCE}}$	O	Not used (open)
9	$\overline{\text{NFRE}}$	O	Not used (open)
10	$\overline{\text{NFWE}}$	O	Not used (open)
11	$\overline{\text{NFWP}}$	O	Not used (open)
12 to 19	NFD0 to NFD7	I/O	Not used (open)
20	VDD	—	Power supply terminal (+3.3V)
21	GND	—	Ground terminal
22	XIFBSY	I	Busy signal input from the display controller (IC203) "L": busy
23	XECS	O	Chip select signal output to the EEPROM (IC600)
24	XEWC	O	Write control signal output to the EEPROM (IC600)
25	XEBSY	I	Busy signal input from the EEPROM (IC600) "L": busy
26	$\overline{\text{DACRST}}$	O	Not used (open)
27	$\overline{\text{57RST}}$	O	Not used (open)
28	$\overline{\text{01CS}}$	O	Not used (open)
29, 30	$\overline{\text{01IT0}}$, $\overline{\text{01IT1}}$	I	Not used (open)
31	$\overline{\text{01RST}}$	O	Not used (open)
32	$\overline{\text{KRRST}}$	O	Not used (open)
33	XKRDY	I	Not used (fixed at "H")
34	$\overline{\text{KARLT}}$	O	Not used (open)
35	$\overline{\text{CLAPBSY}}$	I	Not used (fixed at "H")
36	CLAPSW1	O	Not used (open)
37	CLAPSW0	O	Not used (open)
38	OTASUKE	I	Not used (fixed at "H")
39	NC	—	Not used (open)
40	VDD	—	Power supply terminal (+3.3V)
41, 42	GND	—	Ground terminal (digital system)
43	NC	—	Not used (open)
44	SMC	I	Not used (fixed at "L")
45	SIN	I	Not used (fixed at "L")
46	SOT	O	Not used (open)
47	SCK	I	Not used (fixed at "L")
48	AMC	I	Not used (fixed at "L")
49	MAMUTE	O	Not used (open)
50	MICMUTE	O	Not used (open)
51	EUROV/Y	O	Not used (open)
52	RGBSEL	O	Not used (open)
53	VS	O	Not used (open)
54	FCSON	I	Function control signal input from the servo digital signal processor (IC607)

Pin No.	Pin Name	I/O	Description
55, 56	EXPO0, EXPO1	O	Not used (open)
57	SPDLSTOP	O	Spindle motor control signal output terminal
58	GND	—	Ground terminal
59	MCK	I	Clock input terminal (27MHz)
60	GND	—	Ground terminal
61	DSLED	O	Not used (open)
62	XHDSPCS	O	Not used (open)
63	OSCW2	I	Open/close switch (S1) (close) input terminal
64	OSCW1	I	Open/close switch (S1) (open) input terminal
65 to 67	TSW3 to TSW1	I	Not used (open)
68	DSW1	I	Not used (fixed at “L”)
69, 70	TRNS, TRMP	O	Not used (fixed at “H”)
71	$\overline{\text{AVDRST}}$	O	Reset signal output to the DSD decoder (IC617) “L”: reset
72	$\overline{\text{AVDWT}}$	I	Not used (fixed at “H”)
73	XJGWT	I	Not used (fixed at “H”)
74	XJGCS	O	Not used (open)
75	AVDRQ1IN	I	Not used (fixed at “H”)
76	AVDRQ0IN	I	Not used (fixed at “H”)
77	AVDADO	O	Not used (open)
78	NC	—	Not used (open)
79, 80	GND	—	Ground terminal
81	VDD	—	Power supply terminal (+3.3V)
82	NC	—	Not used (open)
83	CKSW2	I	Not used (fixed at “H”)
84, 85	EXPI1, EXPI2	I	Not used (fixed at “L”)
86	UCSW	I	Not used (fixed at “L”)
87	DLSW	I	Not used (fixed at “L”)
88	CKSW1	I	Not used (fixed at “H”)
89, 90	CKMM, CKMP	O	Not used (open)
91, 92	LDMM, LDMP	O	Loading motor (M1) control signal output to the loading motor drive (IC615)
93	XDRVMUTE	O	Muting signal output terminal “L”: muting
94	SPGAIN	O	Spindle gain control signal output terminal
95	KARAOKEON	O	Not used (open)
96	XDACS2	O	Not used (open)
97	XDACS3	O	Not used (open)
98	MUTE	O	Muting signal output to the RF signal decoder (IC622)
99	MD2	O	Mode control signal output to the RF signal decoder (IC622)
100	VDD	—	Power supply terminal (+3.3V)
101	GND	—	Ground terminal
102	NORF	I	RF signal input from the RF signal decoder (IC622)
103	DFCT	O	Defect signal output to the RF signal decoder (IC622)
104	FWON	I	Control signal input from the RF signal decoder (IC622)
105	LOCK	I	FG reference clock signal input from the RF signal decoder (IC622)
106	$\overline{\text{ARPRST}}$	O	Reset signal output to the RF signal decoder (IC622) “L”: reset
107	$\overline{\text{ARPINT}}$	I	Interrupt signal input from the RF signal decoder (IC622)
108	$\overline{\text{ARPWT}}$	I	Wait signal input from the RF signal decoder (IC622)
109	$\overline{\text{ARPWR}}$	O	Write enable signal output to the RF signal decoder (IC622)

Pin No.	Pin Name	I/O	Description
110	$\overline{\text{ARPRD}}$	O	Read data output to the RF signal decoder (IC622)
111	$\overline{\text{ARPCS}}$	O	Chip select signal output to the RF signal decoder (IC622) "L": active
112	XRAMOE	O	Data enable signal output to the S-RAM (IC609) and ROM (IC632)
113	XRAMWE	O	Data write enable signal output to the S-RAM (IC609)
114	$\overline{\text{SDPRST}}$	O	Reset signal output to the servo digital signal processor (IC607) "L": reset
115	$\overline{\text{SDPINT}}$	I	Interrupt signal input from the servo digital signal processor (IC607)
116	$\overline{\text{SDPWR}}$	O	Data write strobe signal output to the servo digital signal processor (IC607)
117	$\overline{\text{SDPRD}}$	O	Data read strobe signal output to the servo digital signal processor (IC607)
118	$\overline{\text{SDPCS}}$	O	Chip select signal output to the servo digital signal processor (IC607) "L": active
119	NC	—	Not used (open)
120	VDD	—	Power supply terminal (+3.3V)
121, 122	GND	—	Ground terminal
123	NC	—	Not used (open)
124	RAMUB	O	Upper byte write enable signal output to the S-RAM (IC609)
125	RAMLB	O	Low byte write enable signal output to the S-RAM (IC609)
126 to 133	HD7 to HD0	I/O	Two-way data bus with the system controller (IC605), S-RAM (IC609), RF signal decoder (IC622), and ROM (IC632)
134	GND	—	Ground terminal
135	CPUCK	I	Clock signal input from the system controller (IC605)
136	GND	—	Ground terminal
137	HDAK1IN	I	Not used (fixed at "H")
138	HDAK0IN	I	Not used (fixed at "H")
139	HDRQ1OUT	O	Not used (open)
140	HDRQ0OUT	O	Not used (open)
141	$\overline{\text{CS1}}$	I	Chip select signal output to the system controller (IC605) "L": active
142	$\overline{\text{CS4}}$	I	Chip select signal output to the system controller (IC605) "L": active
143	$\overline{\text{LWR}}$	I	Write strobe 1 signal output to the system controller (IC605)
144	$\overline{\text{HWR}}$	I	Write strobe 0 signal output to the system controller (IC605)
145	$\overline{\text{HRD}}$	I	Read strobe signal output to the system controller (IC605)
146 to 154	HA19 to HA18, HA5 to HA0	I	Address signal output to the system controller (IC605)
155	XINT3	O	Interrupt signal 3 output to the system controller (IC605)
156	XINT1	O	Interrupt signal 1 output to the system controller (IC605)
157	$\overline{\text{WAIT}}$	O	Wait signal output to the system controller (IC605)
158	NC	—	Not used (open)
159, 160	GND	—	Ground terminal

- **MAIN BOARD IC617 CXD2751Q (DSD DECODER)**

Pin No.	Pin Name	I/O	Description
1	XSRQ	O	Data request signal output to the RF signal decoder (IC622)
2	XSHD	I	Header flag signal input from the RF signal decoder (IC622)
3	VDD	—	Power supply terminal (+3.3V)
4	VSS	—	Ground terminal
5	SDCK	I	Serial data clock signal input from the RF signal decoder (IC622)
6	SMUTE	I	Muting signal input from the system controller (IC605) "L": muting
7	XMSLAT	I	Latch signal input from the system controller (IC605)
8	MSCK	I	Clock signal input from the system controller (IC605)
9	MSDATI	I	Serial data input from the system controller (IC605)
10	MSDATO	O	Serial data output to the system controller (IC605)
11	MSREDY	O	Ready signal input from the system controller (IC605) "L": ready
12	XMSDOE	O	Data enable signal output terminal Not used (open)
13	XRST	I	Reset signal input from the expander (IC612)
14	MCKI	I	Master clock signal input terminal
15	VSS	—	Ground terminal
16	CK75S	I	Master clock select signal input terminal "L": 512fs, "H": 768fs (fixed at "H" in this set)
17	EXCKO1	O	External clock 1 signal output terminal Not used (open)
18	EXCKO2	O	External clock 2 signal output terminal Not used (open)
19	LRCK	I/O	Clock signal input/output terminal (44.1kHz) Not used (open)
20	NC	—	Not used (open)
21	MNT2	O	Monitor 2 signal output terminal Not used (open)
22	TRST	I	Reset signal input from the expander (IC612) "L": reset
23	TCK	I	Clock signal input terminal for test (normally: fixed at "L")
24	TDI	I	Data input terminal for test (normally: open)
25	TENA1	I	Data enable signal input terminal for test (normally: open)
26	TDO	O	Data output terminal for test (normally: open)
27	VST	—	Ground terminal for test (normally: fixed at "L")
28	VDD	—	Power supply terminal (+3.3V)
29	VSS	—	Ground terminal
30	MNT1	O	Monitor 1 signal output terminal Not used (open)
31	MNT0	O	Monitor 0 signal output terminal Not used (open)
32	XBIT	O	Monitor signal output terminal Not used (open)
33	F75HZ	O	Clock output terminal (75Hz) Not used (open)
34	SUPDAT	O	Serial data output terminal Not used (open)
35	XSUPAK	O	Data flag signal output terminal Not used (open)
36	SUPEN	O	Data enable signal output terminal Not used (open)
37	TEST1	I	Test 1 signal input terminal for test (normally: fixed at "L")
38	VSS	—	Ground terminal
39	TEST2	I	Test 2 signal input terminal for test (normally: fixed at "L")
40, 41	VSS	—	Ground terminal
42	BCKD	I	Phase reference signal input terminal
43 to 45	NC	—	Not used (open)
46	BCKA	I	Shift clock signal input terminal
47	DSAL	O	DSD data (Lch) output terminal
48	DSAR	O	DSD data (Rch) output terminal
49	ZDFLGL	O	Data (Lch) flag detect signal output terminal

Pin No.	Pin Name	I/O	Description
50	ZDFLGR	O	Data (Rch) flag detect signal output terminal
51, 52	A0, A1	O	Address signal output to the D-RAM (IC625)
53	VDD	—	Power supply terminal (+3.3V)
54	VSS	—	Ground terminal
55 to 63	A2 to A10	O	Address signal output to the D-RAM (IC625)
64	NC	—	Not used (open)
65	VSS	—	Ground terminal
66	XWE	O	Write enable signal output to the D-RAM (IC625)
67	XCAS	O	Column address strobe signal output to the D-RAM (IC625)
68	XRAS	O	Row address strobe signal output to the D-RAM (IC625)
69	XOE	O	Read enable signal output to the D-RAM (IC625)
70 to77	DQ0 to DR7	I/O	Two-way data bus with the D-RAM (IC625)
78	VDD	—	Power supply terminal (+3.3V)
79	VSS	—	Ground terminal
80	WCK	I	Clock signal input terminal for disk mark detect
81	WRFD	I	RF data signal input terminal for disk mark detect
82 to 89	WAD0 to WAD7	I	A/D data signal input from the A/D converter (IC620) for disk mark detect
90	VSS	—	Ground terminal
91 to 98	SD7 to SD0	I	Stream data signal input from the RF signal decoder (IC622)
99	SDEF	I	Error flag signal input from the RF signal decoder (IC622)
100	XSAK	I	Data flag signal input from the RF signal decoder (IC622)

REVISION HISTORY

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Ver.	Date	Description of Revision
1.0	2000.04	New
	2000.05	Supplement-1
1.1	2002.05	Addition of ABOUT THE “E01” DISPLAY to the servicing notes (SPM-02026)