

XR-CA360/CA360X

SERVICE MANUAL

Ver 1.2 2003.12

E Model
XR-CA360/CA360X

Saudi Arabia Model
XR-CA360



Photo: XR-CA360

Model Name Using Similar Mechanism	NEW
Tape Transport Mechanism Type	MG-36SZ13-32

SPECIFICATIONS

Cassette player section

Tape track	4-track 2-channel stereo
Wow and flutter	0.13 % (WRMS)
Frequency response	30 – 15,000 Hz
Signal-to-noise ratio	55 dB

Tuner section

FM

Tuning range (E model)	FM tuning interval: 50 kHz/200 kHz switchable 87.5 – 108.0 MHz (at 50 kHz step) 87.5 – 107.9 MHz (at 200 kHz step) 87.5 – 108.0 MHz
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Tuning range (Saudi Arabia model)	87.5 – 108.0 MHz
Aerial terminal	External aerial connector
Intermediate frequency	10.7 MHz/450 kHz
Usable sensitivity	9 dBf
Selectivity	75 dB at 400 kHz
Signal-to-noise ratio	67 dB (stereo), 69 dB (mono)
Harmonic distortion at 1 kHz	0.5 % (stereo), 0.3 % (mono)
Separation	35 dB at 1 kHz
Frequency response	30 – 15,000 Hz

AM (E model)

Tuning range	AM tuning interval: 9 kHz/10 kHz switchable 531 – 1,602 kHz (at 9 kHz step) 530 – 1,710 kHz (at 10 kHz step)
Aerial terminal	External aerial connector
Intermediate frequency	10.7 MHz/450 kHz
Sensitivity	30 μ V

MW/SW (Saudi Arabia model)

Tuning range	MW: 531 – 1,602 kHz SW1: 2,940 – 7,735 kHz SW2: 9,500 – 18,135 kHz (except for 10,140 – 11,575 kHz)
Aerial terminal	External aerial connector
Intermediate frequency	10.7 MHz/450 kHz
Sensitivity	30 μ V

Power amplifier section

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

General

Outputs	Audio output Power aerial relay control lead Power amplifier control lead
Inputs	BUS control input terminal BUS audio input terminal
Tone controls	Low: \pm 10 dB at 60 Hz (Xplod) Mid: \pm 10 dB at 1 kHz (Xplod) High: \pm 10 dB at 10 kHz (Xplod)
Power requirements	12 V DC car battery (negative earth)
Dimensions	Approx. 178 \times 50 \times 178 mm (w/h/d)
Mounting dimensions	Approx. 182 \times 53 \times 161 mm (w/h/d)
Mass	Approx. 1.2 kg
Supplied accessories	Parts for installation and connections (1 set) Front panel case (1)

Design and specifications are subject to change without notice.

E model
FM/AM/CASSETTE CAR STEREO
Saudi Arabia model
FM/MW/SW CASSETTE CAR STEREO

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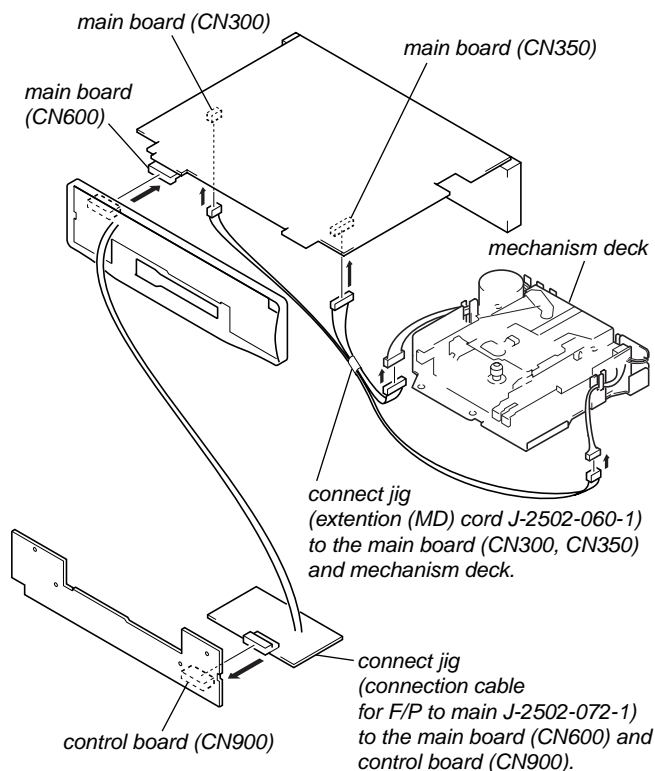
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SERVICING NOTES

SERVICE POSITION

In checking the control board and main board, prepare two jigs (extension (MD) cord J-2502-060-1 and connection cable for F/P to main J-2502-072-1).



Note of replacing of the IC1

In this set, the IC1 on the MAIN board is changed from the mid-way of the production. When the replacing of the IC1, be sure to check the model name printed by IC, and replace the IC1 by following the instructions below.

- When replacing of the IC1 (MN101C49HAS)
Replace the IC1 with the MN101C49HEA (Part No.: 6-603-178-01), and replace the TU101 (A-3220-944-A) simultaneously.
- When replacing of the IC1 (MN101C49HEA)
Perform the usual replacing.

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.

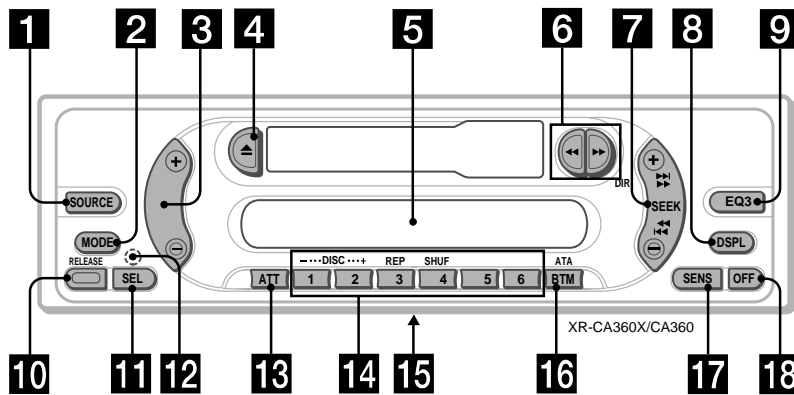
Notes on chip component replacement

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

SECTION 1
GENERAL

This section is extracted from instruction manual.

Location of controls



Refer to the pages listed for details.

- 1** SOURCE (Radio/CD/MD) button
- 2** MODE button
During radio reception:
Band select
During CD/MD playback:
CD/MD unit select
- 3** Volume +/- button
- 4** ▲ (eject) button
- 5** Display window
- 6** ◀▶ (fast winding)/DIR (tape transport direction change) buttons
- 7** SEEK button
Seek
Automatic Music Sensor
Manual search
- 8** DSPL (display mode change) button
- 9** EQ3 button
- 10** RELEASE (front panel release) button
- 11** SEL (select) button
- 12** RESET button (located on the front side of the unit behind the front panel)
- 13** ATT (attenuate) button

- 14** Number buttons
During radio reception:
Preset number select
During CD/MD playback:
① DISC -
② DISC +
③ REP
④ SHUF
- 15** Frequency select switch (E model) (located on the bottom of the unit)
See "Frequency select switch" in the Installation/Connections manual.
- 16** BTM/ATA button
- 17** SENS button
- 18** OFF button*

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

Setting the clock

The clock uses a 12-hour digital indication.

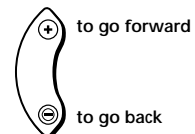
Example: To set the clock to 10:08

- 1** Press (DSPL) for 2 seconds.



The hour indication flashes.

- 1** Press either side of the volume button to set the hour.

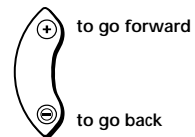


- 2** Press (SEL).

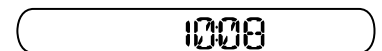


The minute indication flashes.

- 3** Press either side of the volume button to set the minute.

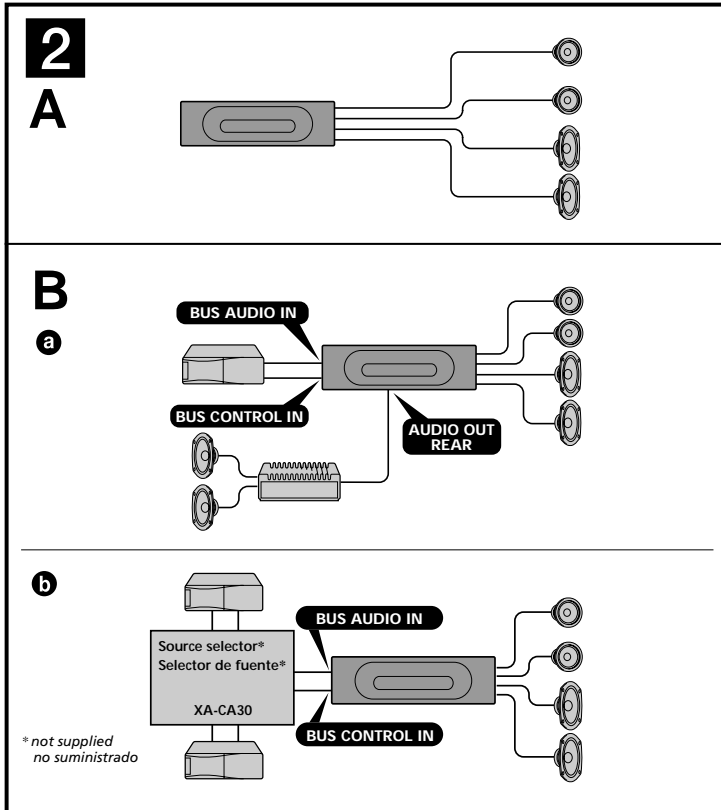


- 2** Press (DSPL).



The clock starts.

After the clock setting is complete, the display returns to normal play mode.



Cautions

- This unit is designed for negative earth 12 V DC operation only.
- Do not get the wires under a screw, or caught in moving parts (e.g. seat railing).
- Before making connections, turn the car ignition off to avoid short circuits.
- Connect the **yellow** and **red** power input leads only after all other leads have been connected.
- **Run all earth wires to a common earth point.**
- Be sure to insulate any loose unconnected wires with electrical tape for safety.

Notes on the power supply cord (yellow)

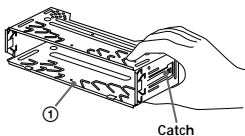
- When connecting this unit in combination with other stereo components, the connected car circuit's rating must be higher than the sum of each component's fuse.
- When no car circuits are rated high enough, connect the unit directly to the battery.

Parts list (1)

- The numbers in the list are keyed to those in the instructions.
- The bracket ① and the protection collar ⑤ are attached to the unit before shipping. Before mounting the unit, use the release keys ② to remove the bracket ① and the protection collar ⑤ from the unit. For details, see "Removing the protection collar and the bracket (4)" on the reverse side of the sheet.
- **Keep the release keys ⑦ for future use as they are also necessary if you remove the unit from your car.**

Caution

Handle the bracket ① carefully to avoid injuring your fingers.



Note
Before installing, make sure that the catches on both sides of the bracket ① are bent inwards 2 mm. If the catches are straight or bent outwards, the unit will not be installed securely and may spring out.

Connection example (2)

Notes (2-B-①)

- Be sure to connect the earth cord before connecting the amplifier.
- If you connect an optional power amplifier and do not use the built-in amplifier, the beep sound will be deactivated.

Tip (2-B-②)

For connecting two or more CD/MD changers, the source selector XA-C30 (optional) is necessary.

Notes on the control and power supply leads

- The power aerial control lead (blue) supplies +12 V DC when you turn on the tuner.
- When your car has built-in FMIAM aerial in the rear side glass, connect the power aerial control lead (blue) or the accessory power input lead (red) to the power terminal of the existing aerial booster. For details, consult your dealer.
- A power aerial without relay box cannot be used with this unit.

Memory hold connection

When the yellow power input lead is connected, power will always be supplied to the memory circuit even when the ignition key is turned off.

Notes on speaker connection

- Before connecting the speakers, turn the unit off.
- Use speakers with an impedance of 4 to 8 ohms, and with adequate power handling capacities to avoid its damage.
- Do not connect the speaker terminals to the car chassis, or connect the terminals of the right speakers with those of the left speaker.
- Do not connect the earth lead of this unit to the negative (-) terminal of the speaker.
- Do not attempt to connect the speakers in parallel.
- Connect only passive speakers. Connecting active speakers (with built-in amplifiers) to the speaker terminals may damage the unit.
- To avoid a malfunction, do not use the built-in speaker wires installed in your car if the unit shares a common negative (-) lead for the right and left speakers.
- Do not connect the unit's speaker cords to each other.

Connection diagram (3)

- To a metal surface of the car
First connect the black earth lead, then connect the yellow and red power input leads.
- To the power aerial control lead or power supply lead of aerial booster amplifier

Notes

- It is not necessary to connect this lead if there is no power aerial or aerial booster, or with a manually-operated telescopic aerial.
- When your car has a built-in FMIAM aerial in the rear side glass, see "Notes on the control and power supply leads."

- To AMP REMOTE IN of an optional power amplifier
This connection is only for amplifiers. Connecting any other system may damage the unit.

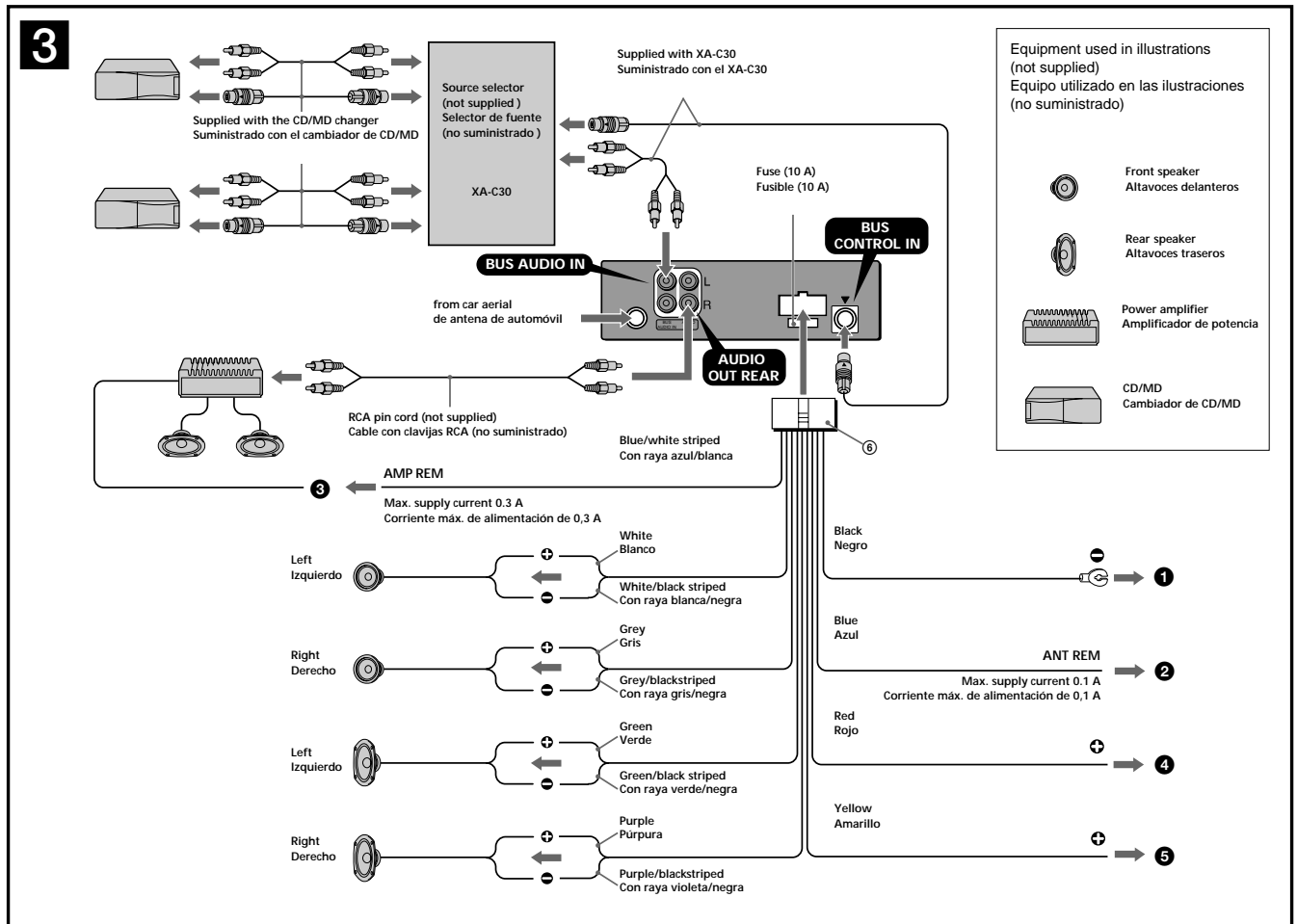
- To the +12 V power terminal which is energised in the accessory position of the ignition key switch

Notes

- If there is no accessory position, connect to the +12 V power (battery) terminal which is energised at all times.
Be sure to connect the black ground lead to a metal surface of the car first.
- When your car has a built-in FMIAM aerial in the rear side glass, see "Notes on the control and power supply leads."

- To the +12 V power terminal which is energised at all times

Be sure to connect the black ground lead to a metal surface of the car first.



Precautions

- Choose the installation location carefully so that the unit will not interfere with normal driving operations.
- Avoid installing the unit in areas subject to dust, dirt, excessive vibration, or high temperatures, such as in direct sunlight or near heater ducts.
- Use only the supplied mounting hardware for a safe and secure installation.

Mounting angle adjustment

Adjust the mounting angle to less than 20°.

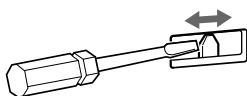
Removing the protection collar and the bracket (4)

Before installing the unit, remove the protection collar (4) and the bracket (5) from the unit.

- 1 Remove the protection collar (4).**
 - Engage the release keys (7) together with the protection collar (4).
 - Pull out the release keys (7) to remove the protection collar (4).
- 2 Remove the bracket (5).**
 - Insert both release keys (7) together between the unit and the bracket until they click.
 - Pull down the bracket (5), then pull up the unit to separate.

Frequency select switch (E model)

The AM (FM) tuning interval is factory-set to the 9 k (50 k) position. If the frequency allocation system of your country is based on 10 kHz (200 kHz) interval, set the switch on the bottom of the unit to the 10 k (200 k) position before making connections.



Mounting example (5)

Installation in the dashboard

Notes

- Bend these claws outward for a tight fit, if necessary (5-2).
- Make sure that the 4 catches on the protection collar (4) are properly engaged in the slots of the unit (5-3).

Mounting the unit in a Japanese car (6)

You may not be able to install this unit in some makes of Japanese cars. In such a case, consult your Sony dealer.

Note

To prevent malfunction, install only with the supplied screws (6).

How to detach and attach the front panel (7)

Before installing the unit, detach the front panel.

7-A To detach

Before detaching the front panel, be sure to press (OFF). Press (RELEASE), then slide the front panel to the left, and pull it off towards you.

7-B To attach

Attach part (A) of the front panel to part (B) of the unit as illustrated and push the left side into position until it clicks.

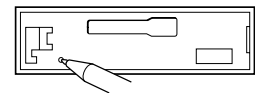
Warning when installing in a car without ACC (accessory) position on the ignition key switch

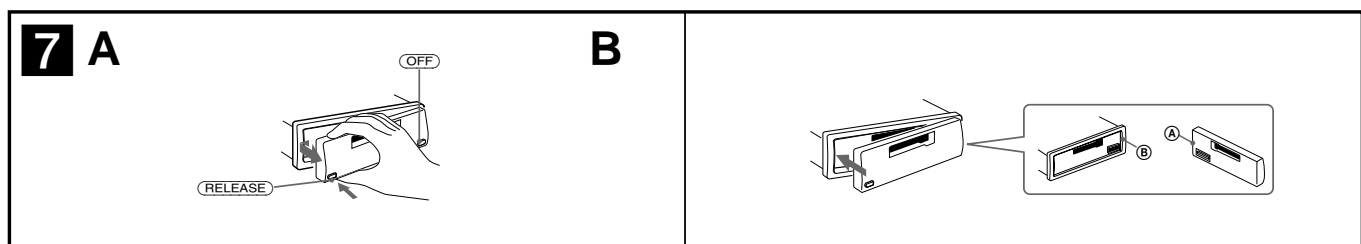
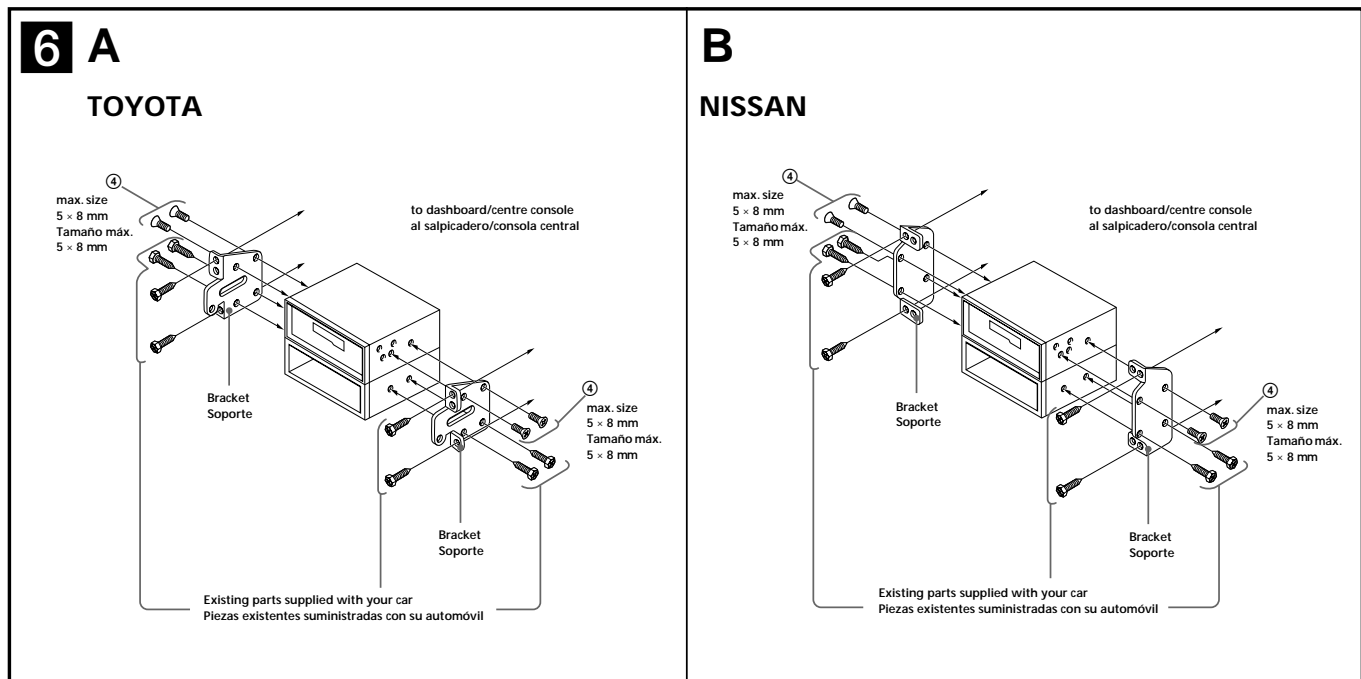
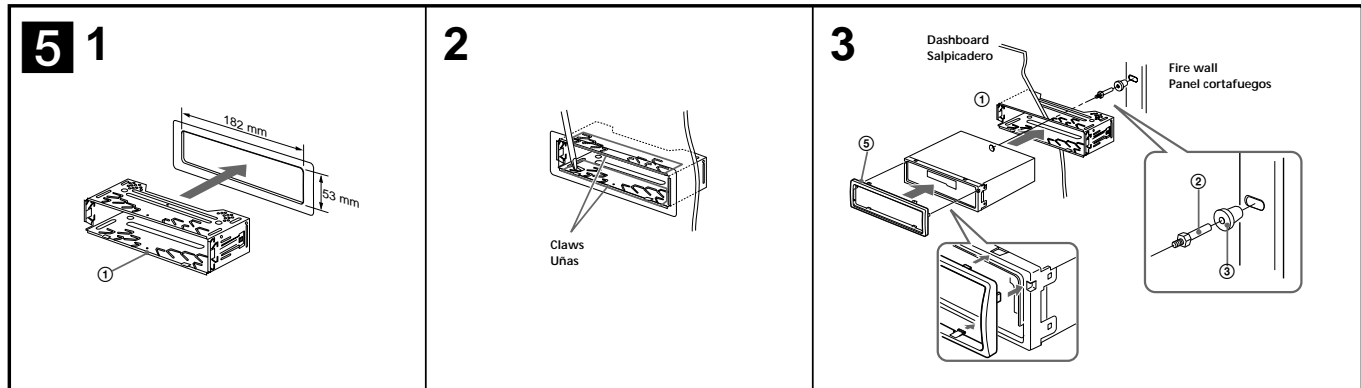
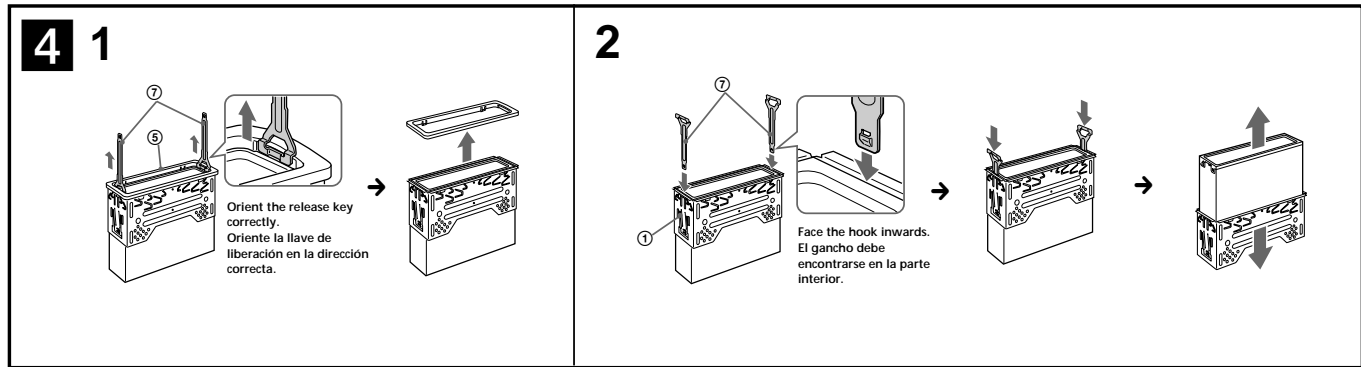
Be sure to press (OFF) on the unit for two seconds to turn off the clock display after turning off the engine.

When you press (OFF) only momentarily, the clock display does not turn off and this causes battery wear.

RESET button

When the installation and connections are completed, be sure to press the RESET button with a ballpoint pen, etc., after detaching the front panel.






SECTION 2 DISASSEMBLY

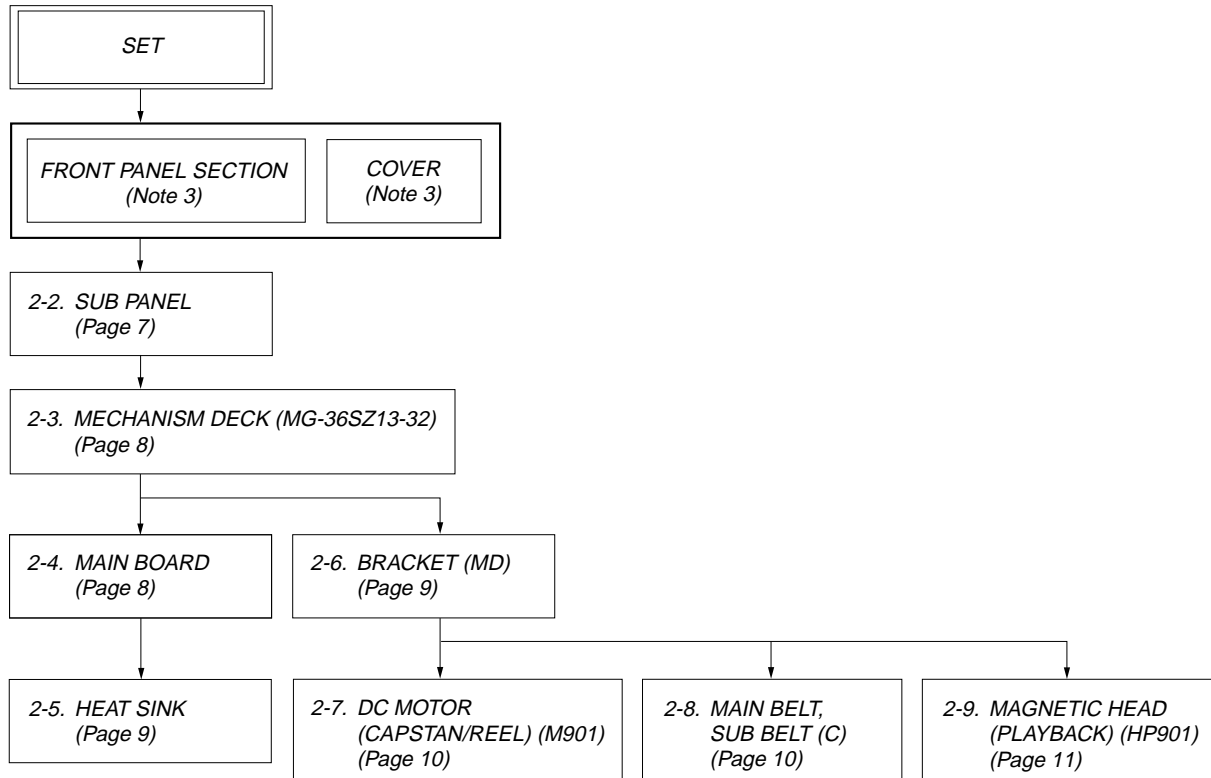
• This set can be disassembled in the order shown below.

2-1. DISASSEMBLY FLOW

Note 1: The process described in  can be performed in any order.

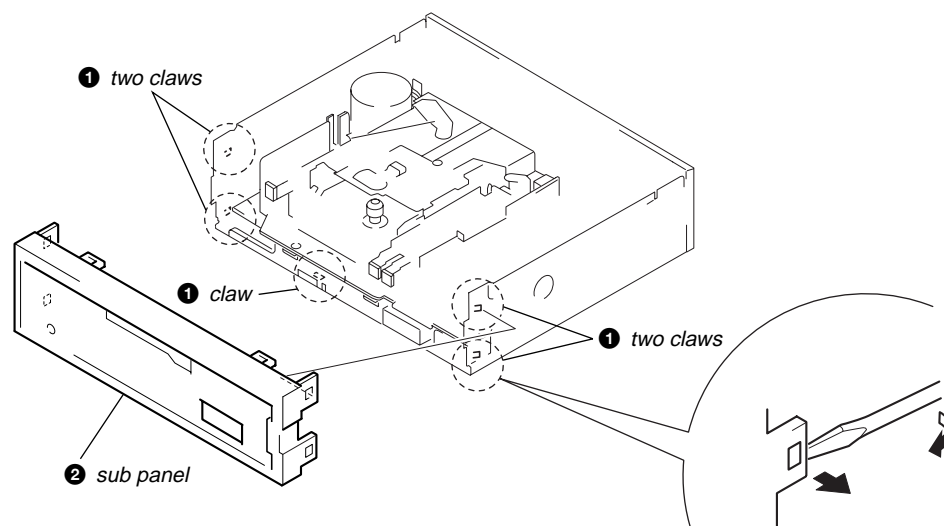
Note 2: Without completing the process described in , the next process can not be performed.

Note 3: Illustration of disassembly is omitted.

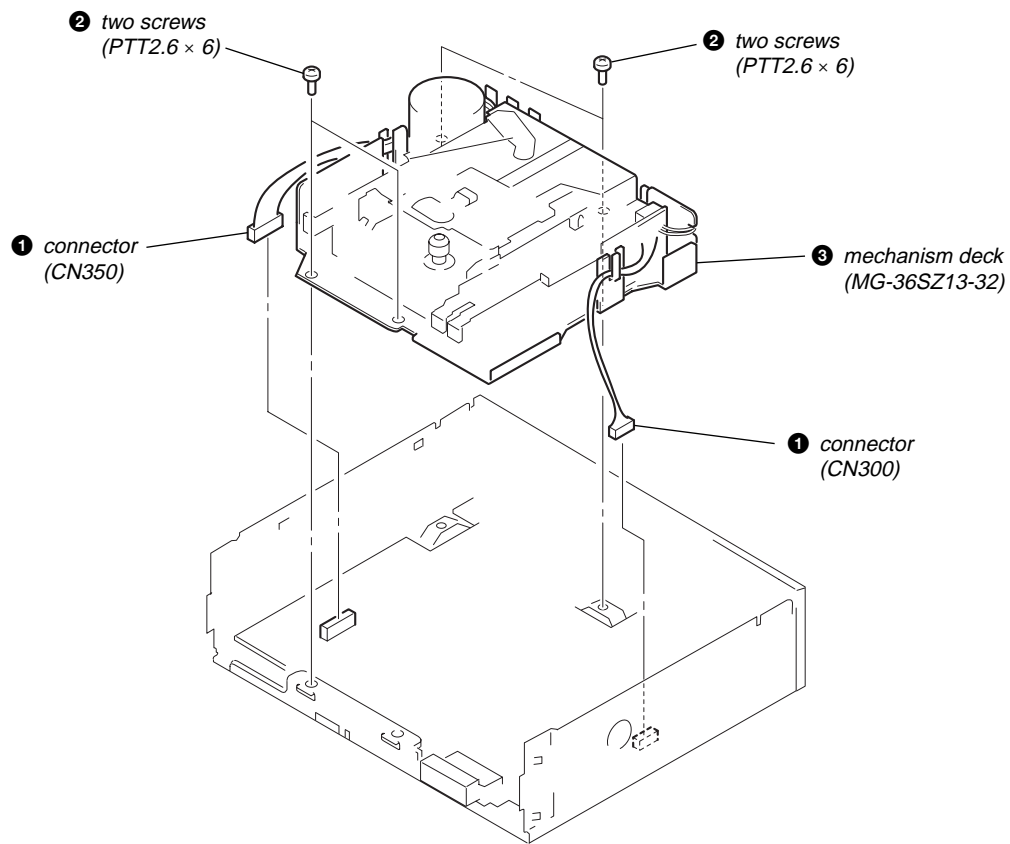


Note: Follow the disassembly procedure in the numerical order given.

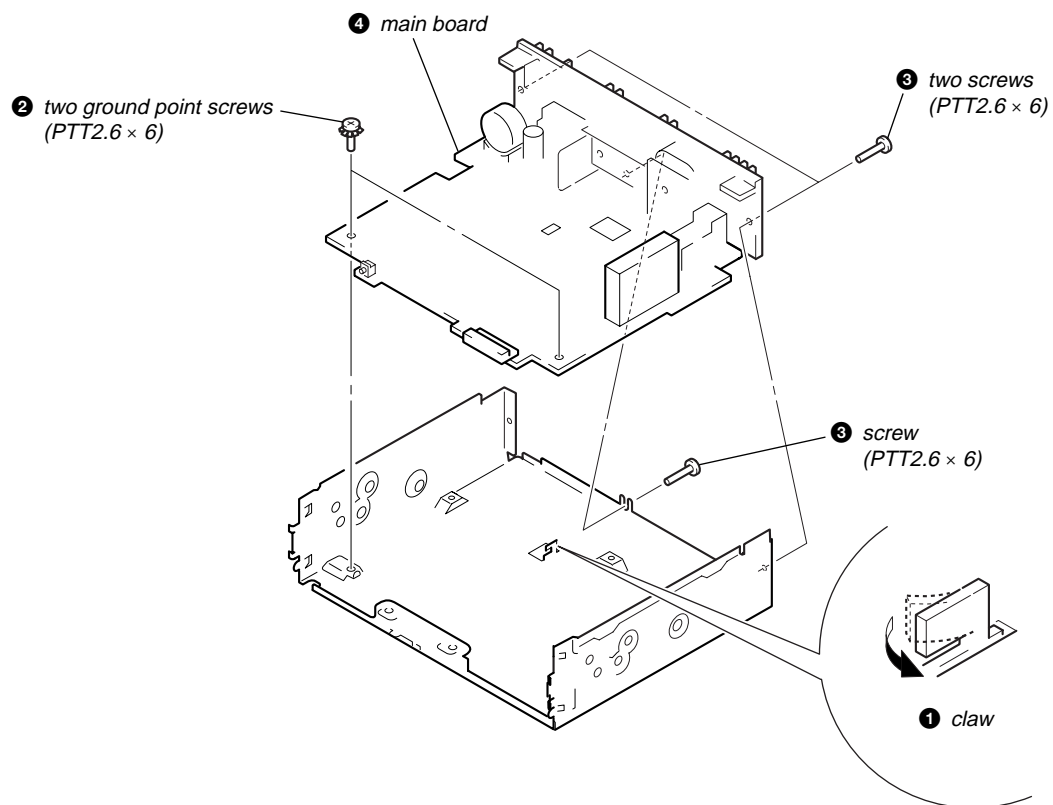
2-2. SUB PANEL



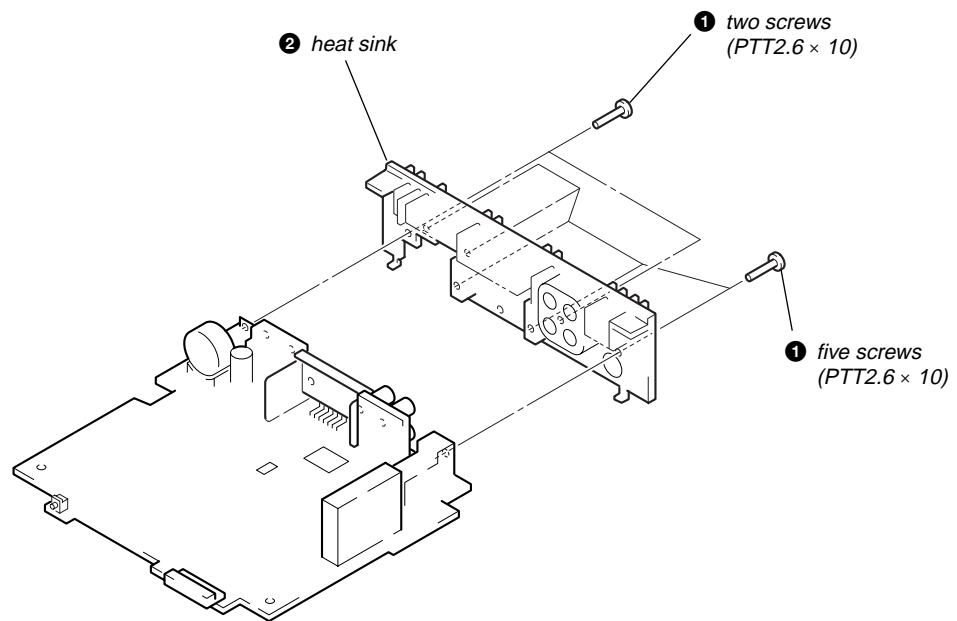
2-3. MECHANISM DECK (MG-36SZ13-32)



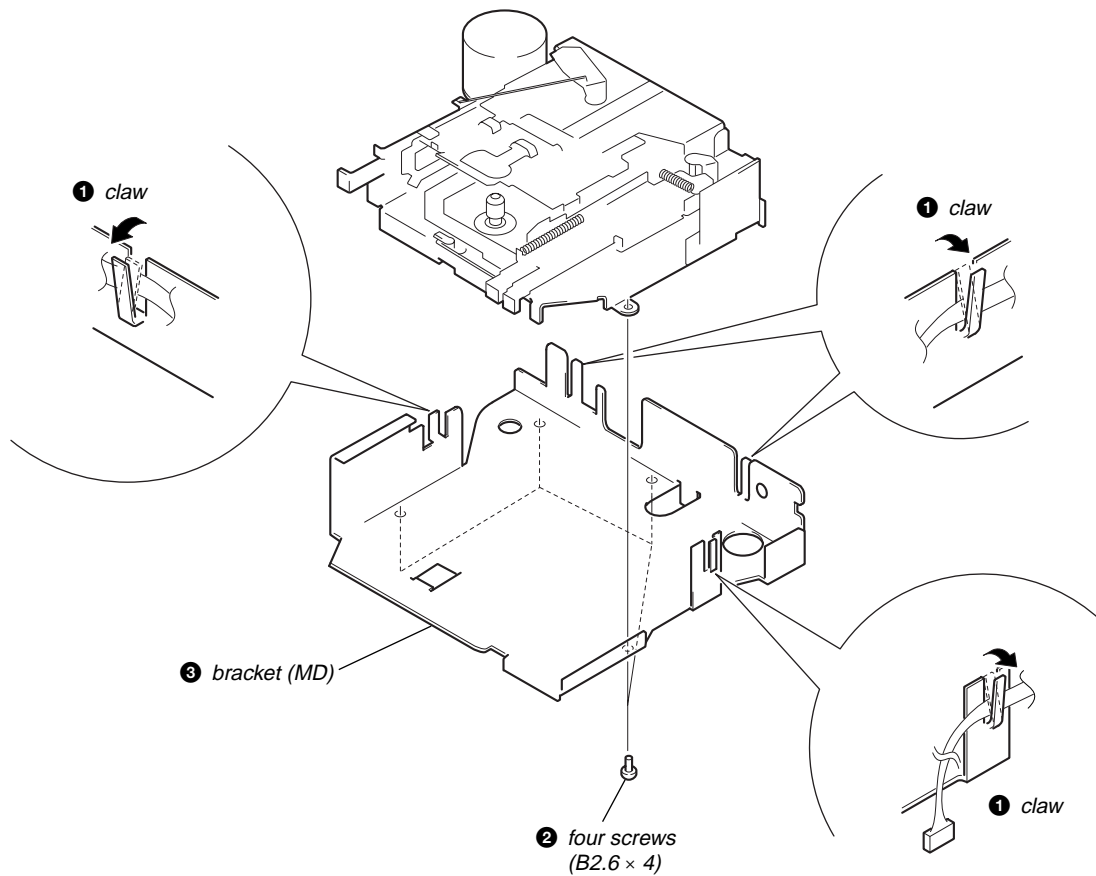
2-4. MAIN BOARD



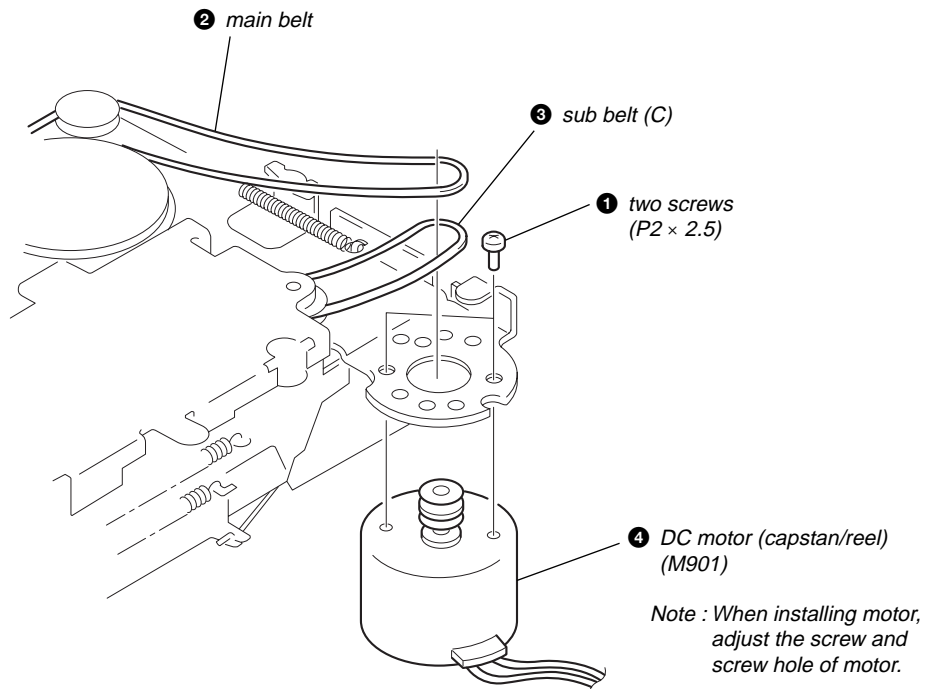
2-5. HEAT SINK



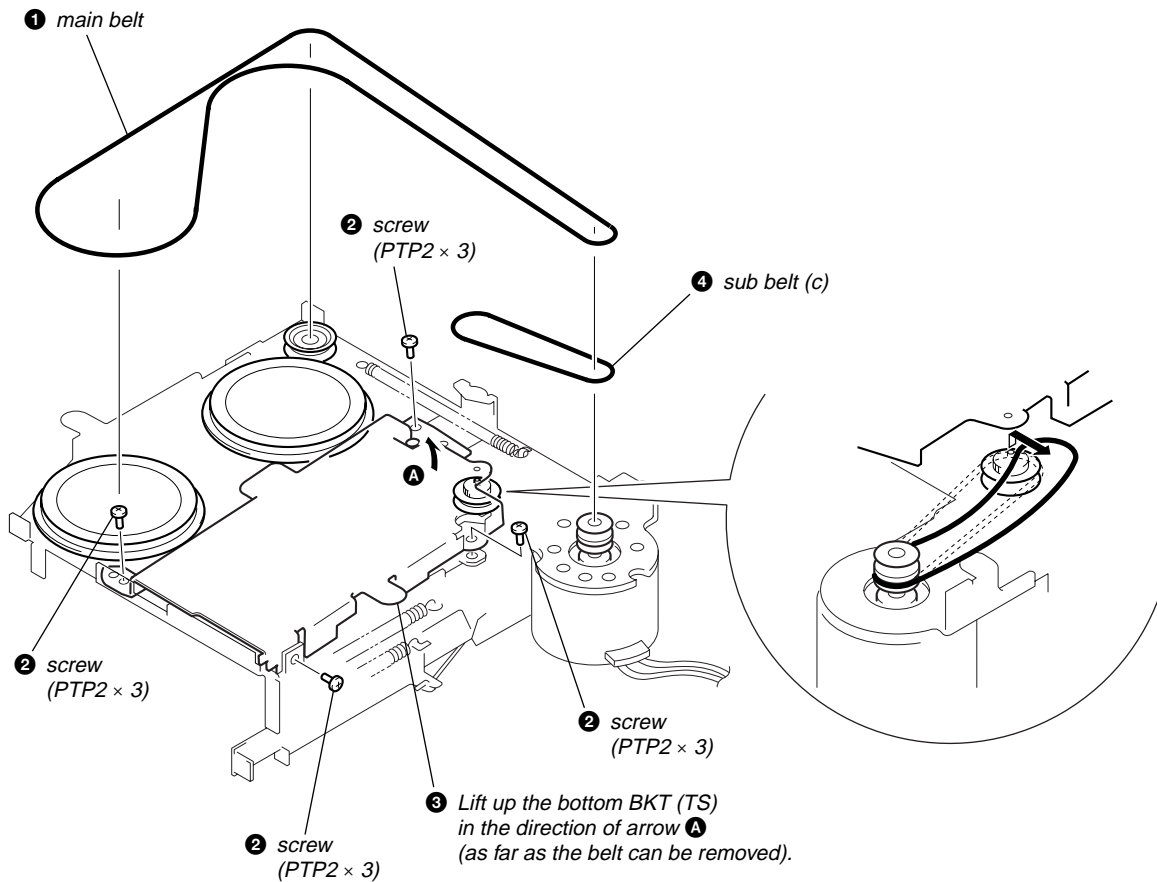
2-6. BRACKET (MD)



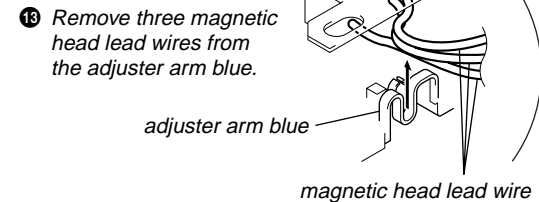
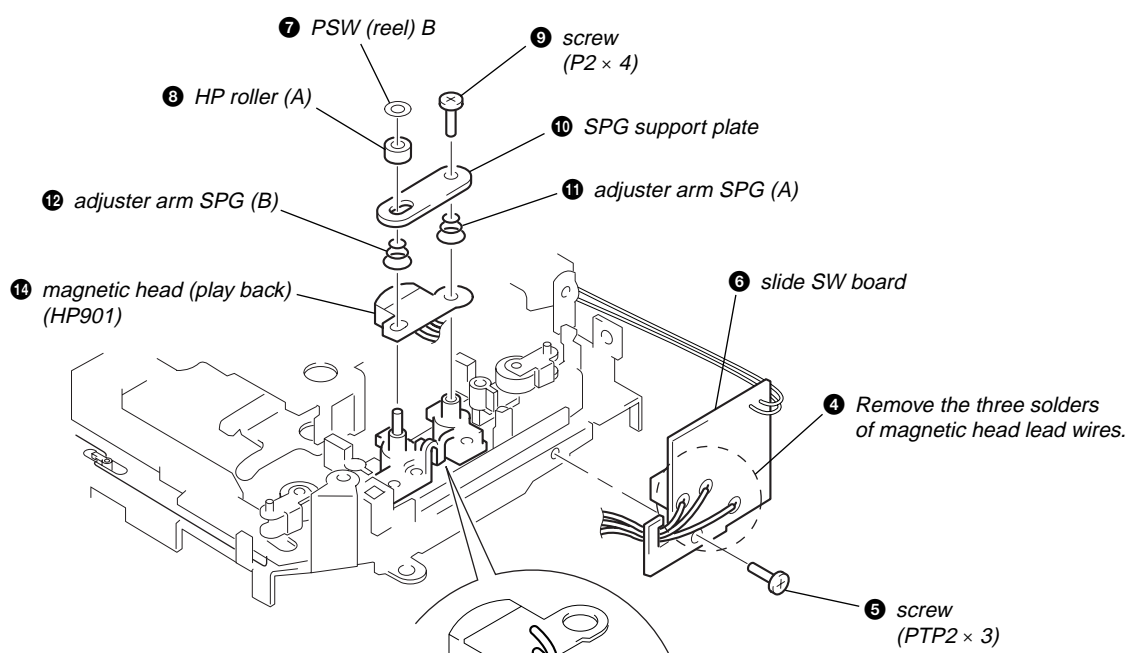
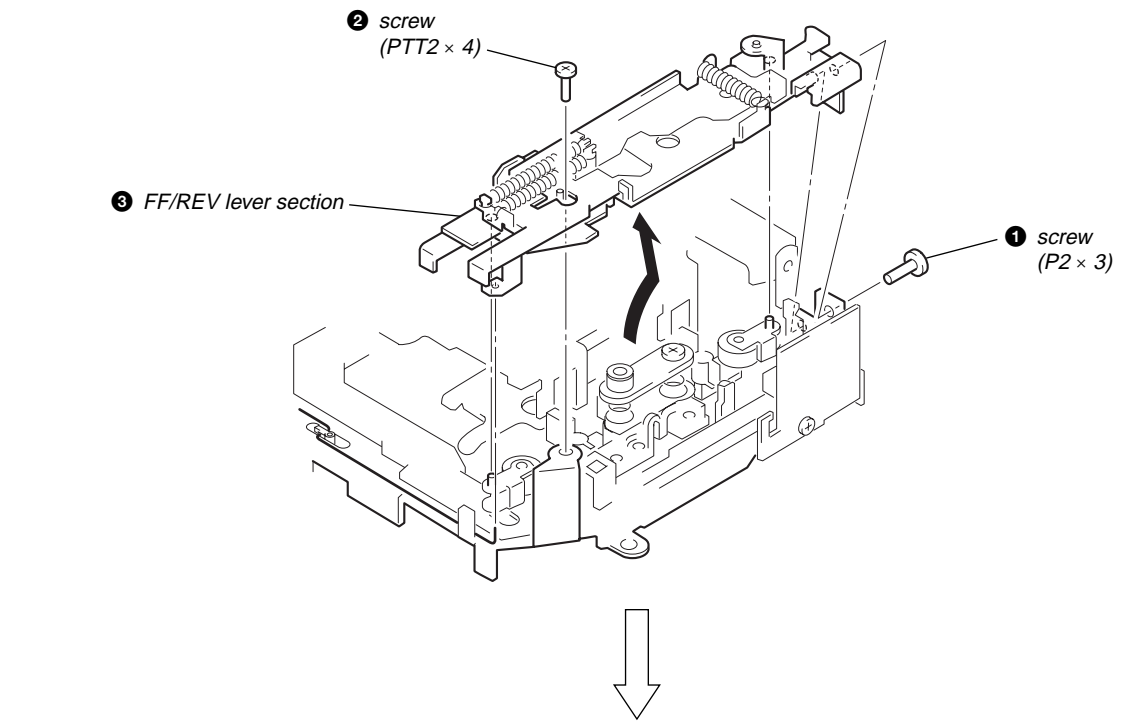
2-7. DC MOTOR (CAPSTAN/REEL) (M901)



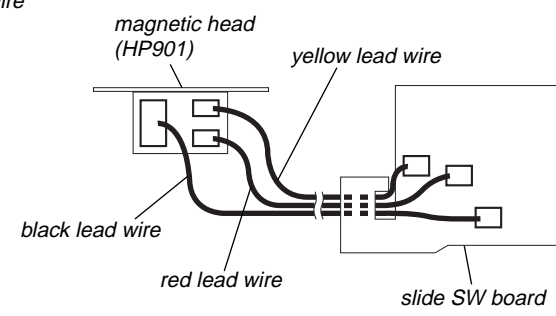
2-8. MAIN BELT, SUB BELT (C)



2-9. MAGNETIC HEAD (PLAYBACK) (HP901)



• MAGNETIC HEAD LEAD WIRE COLOR INDICATION ON HEAD (HP901) AND SLIDE SW BOARD.



SECTION 3 MECHANICAL ADJUSTMENTS

1. Clean the following parts with a denatured-alcohol-moistened swab:
 - playback head pinch roller
 - rubber belt capstan
 - idler
2. Demagnetize the playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. The adjustments should be performed with the power supply voltage (14.4 V) unless otherwise noted.

Note: With this set, it is not necessary to apply suitable locking compound to the parts after the azimuth adjustment.

•TORQUE MEASUREMENT

Mode	Torque Meter	Meter Reading
Forward	CQ-102C	2.46 – 5.39 mN•m (25 – 55 g•cm) (0.35 – 0.76 oz•inch)
Forward Back Tension	CQ-102C	0.15 – 0.39 mN•m (1.5 – 4 g•cm) (0.02 – 0.06 oz•inch)
Reverse	CQ-102RC	2.46 – 5.39 mN•m (25 – 55 g•cm) (0.35 – 0.76 oz•inch)
Reverse Back Tension	CQ-102RC	0.15 – 0.39 mN•m (1.5 – 4 g•cm) (0.02 – 0.06 oz•inch)
FF, REW	CQ-201B	4.91 – 14.70 mN•m (50 – 150 g•cm) (0.69 – 2.08 oz•inch)

•TAPE TENSION MEASUREMENT

Mode	Tension Meter	Meter Reading
Forward	CQ-403A	more than 5.89 mN•m (more than 60 g)
Reverse	CQ-403R	(more than 2.12 oz)

SECTION 4 ELECTRICAL ADJUSTMENTS

TAPE DECK SECTION 0 dB= 0.775 V

1. The adjustments should be performed in the order given in this service manual.
2. The adjustments should be performed for both L-CH and R-CH.

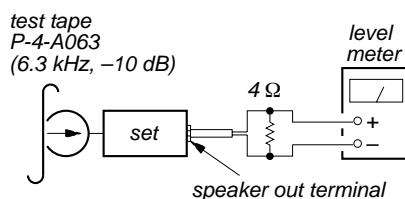
TEST TAPE

Type	Signal	Used for
P-4-A063	6.3 kHz, -10 dB	head azimuth adjustment
WS-48A	3 kHz, 0 dB	tape speed adjustment

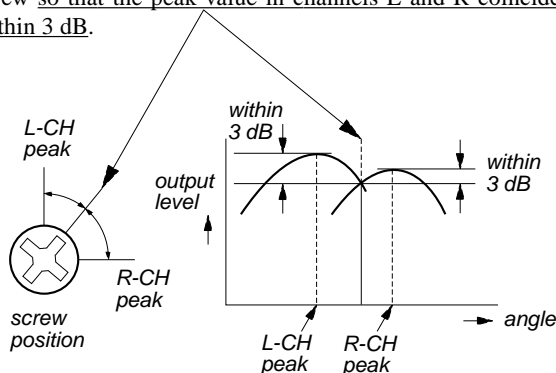
PB HEAD AZIMUTH ADJUSTMENT

Procedure:

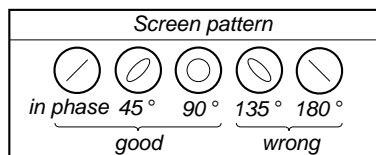
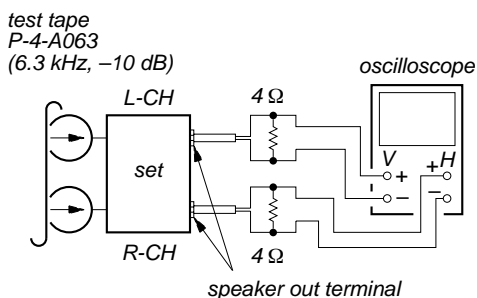
1. Put the set into the FWD PB mode.



2. Turn the screw and check the output peak value. Adjust the screw so that the peak value in channels L and R coincides within 3 dB.



3. Check the phase in the FWD PB mode.

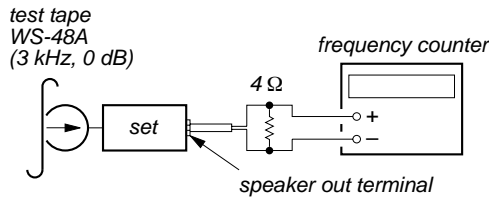


4. Repeat the above adjustment for the REV PB mode.
5. Check that output level difference between FWD PB mode and REV PB mode is within 4 dB.

Adjustment Location: PB head (See page 13)

TAPE SPEED ADJUSTMENT

Setting:



Procedure:

1. Put the set into the FWD PB mode.
2. Adjust adjustment resistor for inside capstan motor so that the reading on the frequency counter becomes in 3,015 Hz.

Specified Value: 2,940 to 3,090 Hz

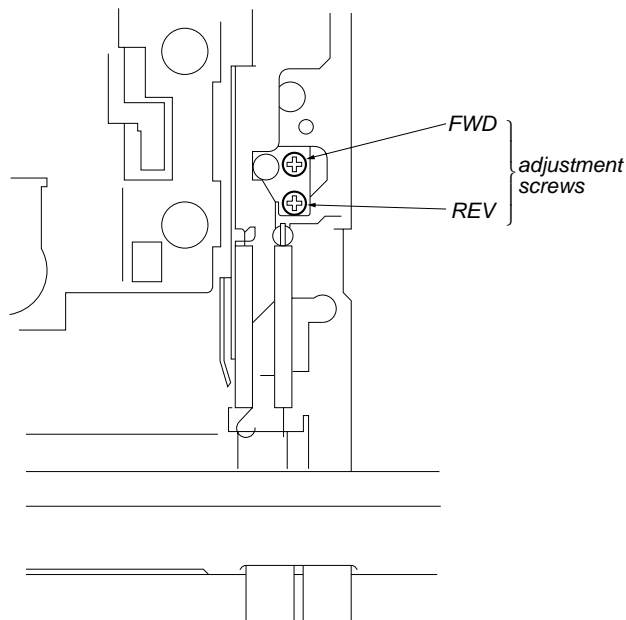
Adjustment Location: DC motor

TUNER SECTION

Tuner section adjustments are done automatically in this set.

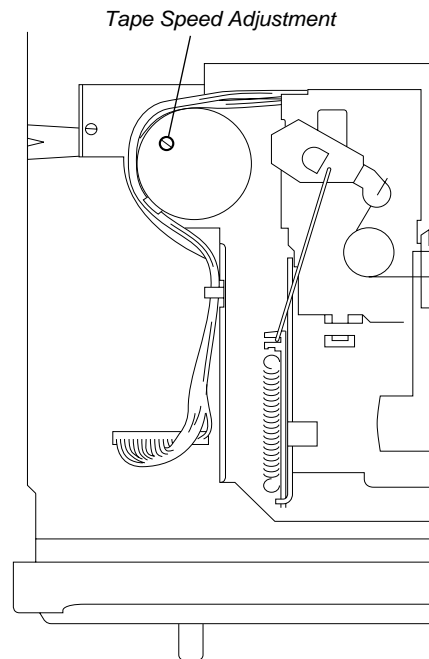
Adjustment Location: PB head

– Set Upper View –



Adjustment Location: DC motor

– Set Upper View –



SECTION 5 DIAGRAMS

5-1. 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.
- : Carbon pattern.

(The other layers' patterns are not indicated.)

Caution:

Pattern face side: Parts on the pattern face side seen from the pattern face are indicated.

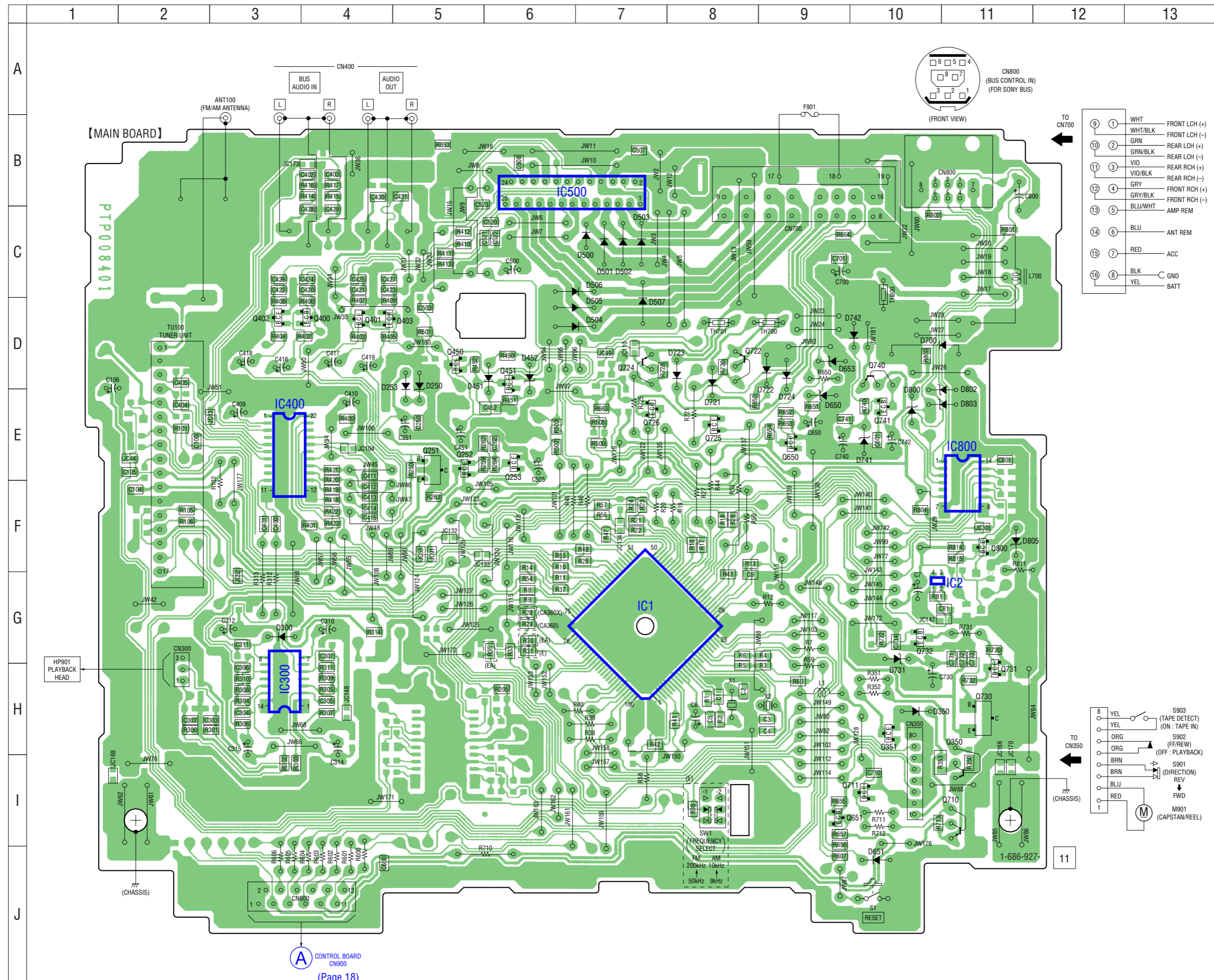
Parts face side: Parts on the parts face side seen from the parts face are indicated.

- Abbreviation
EA : Saudi Arabia model
- When replacing the IC1, refer to servicing note (Page 2 "When replacing the IC1").

Note on Schematic Diagram:

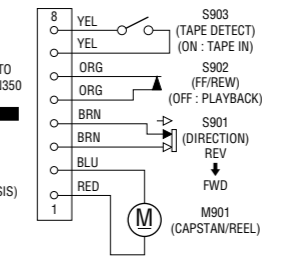
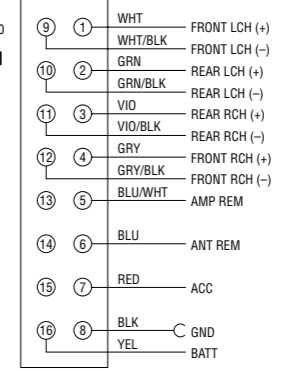
- All capacitors are in μF unless otherwise noted. pF: $\mu\mu\text{F}$ 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $1/4\text{ W}$ or less unless otherwise specified.
- □ : panel designation.
- — : B+ Line.
- Power voltage is dc 14.4V and fed with regulated dc power supply from ACC and BATT cords.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
no mark : FM
⟨⟨ ⟩⟩ : TAPE PLAYBACK
- Voltages are taken with a VOM (Input impedance 10 M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with an oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
⇒ : FM
➡ : AM
∑ : TAPE PLAYBACK
⇒⇒ : BUS AUDIO IN
- Abbreviation
EA : Saudi Arabia model
- When replacing the IC1, refer to servicing note (Page 2 "When replacing the IC1").

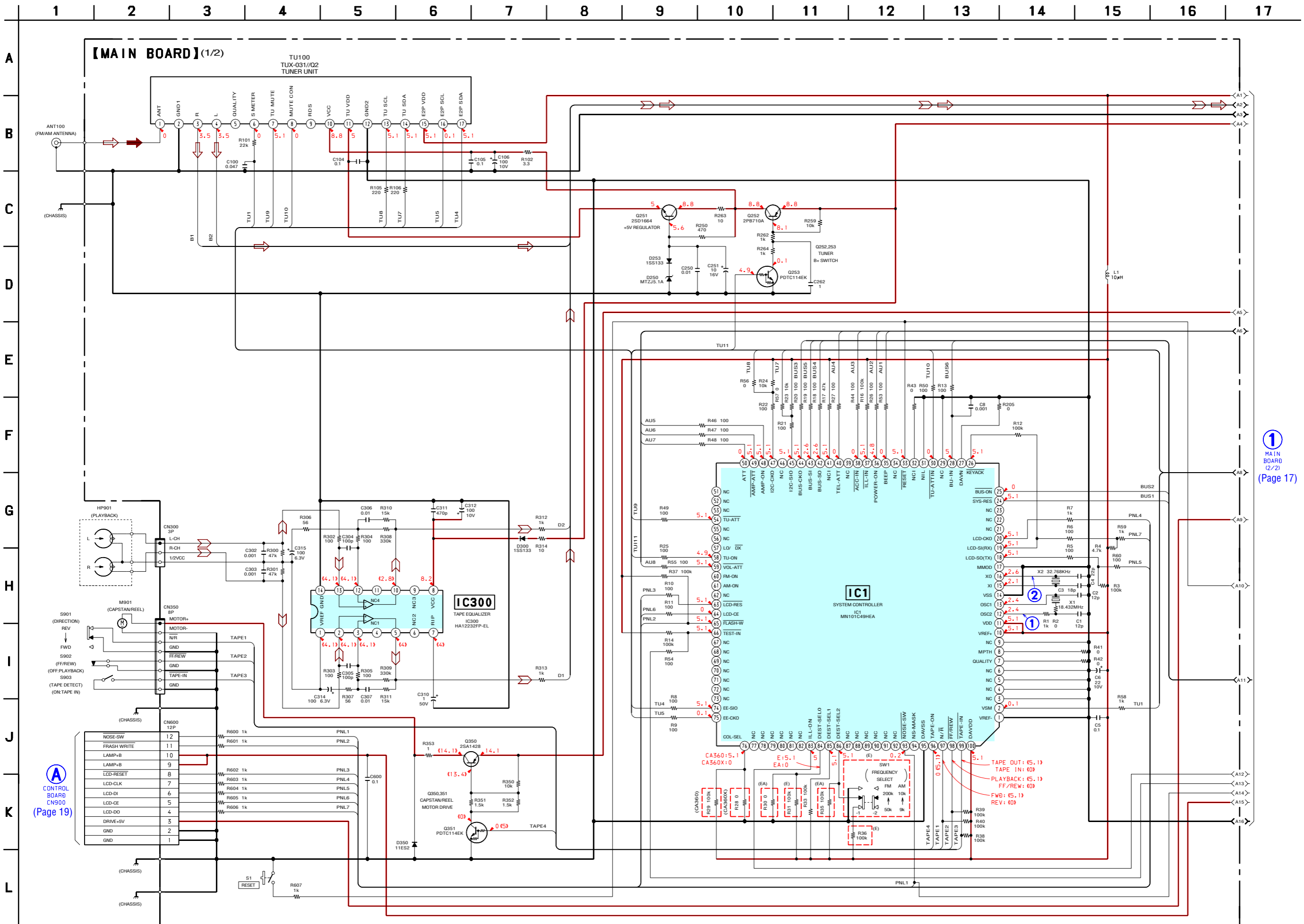
5-2. PRINTED WIRING BOARD – MAIN Board – Note: When replacing the IC1, refer to servicing note (Page 2 “When replacing the IC1”).



• Semiconductor Location

Ref. No.	Location
D250	D-5
D253	D-5
D300	G-3
D350	H-10
D451	D-6
D452	D-6
D500	C-7
D501	C-7
D502	C-7
D503	C-7
D504	D-7
D505	D-7
D506	C-7
D507	D-7
D650	E-9
D651	J-10
D653	D-9
D700	D-10
D721	D-8
D722	D-9
D723	D-8
D724	D-9
D731	H-11
D741	E-10
D742	D-10
D800	E-10
D802	E-11
D803	E-11
D805	F-11
IC1	G-7
IC2	G-11
IC300	H-3
IC400	E-3
IC500	B-6
IC800	E-11
Q251	E-5
Q252	E-5
Q253	E-6
Q350	I-11
Q351	H-10
Q400	D-4
Q401	D-4
Q402	D-3
Q403	D-4
Q450	D-5
Q451	D-6
Q650	E-9
Q651	I-9
Q710	I-11
Q711	I-10
Q722	D-8
Q724	D-7
Q725	E-8
Q726	E-7
Q730	H-11
Q731	G-11
Q732	G-10
Q740	D-10
Q741	E-10
Q800	F-11

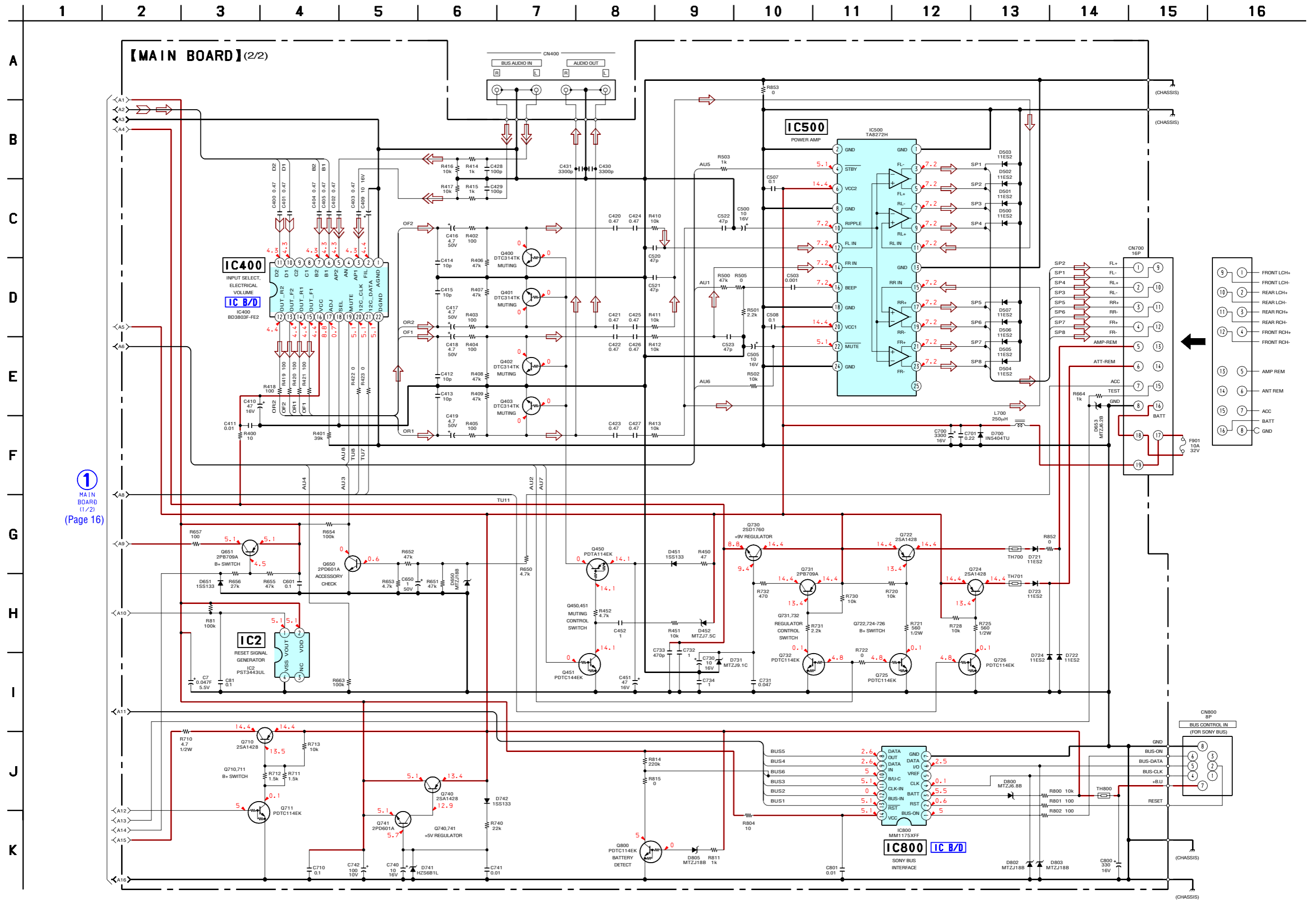




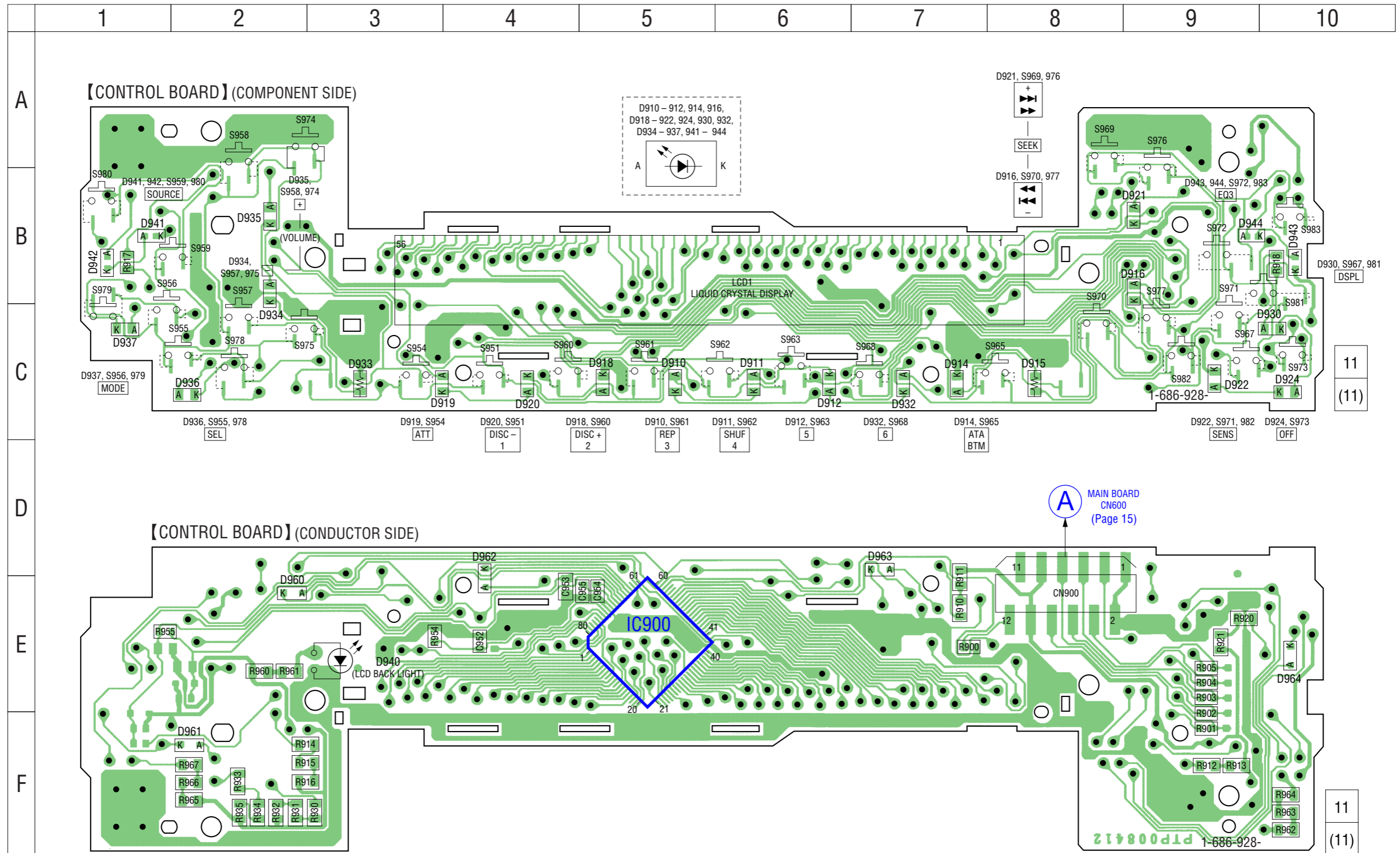
1 MAIN BOARD (2/2) (Page 17)

A CONTROL BOARD CN900 (Page 19)

5-4. SCHEMATIC DIAGRAM – MAIN Board (2/2) – • See page 20 for IC Block Diagrams.



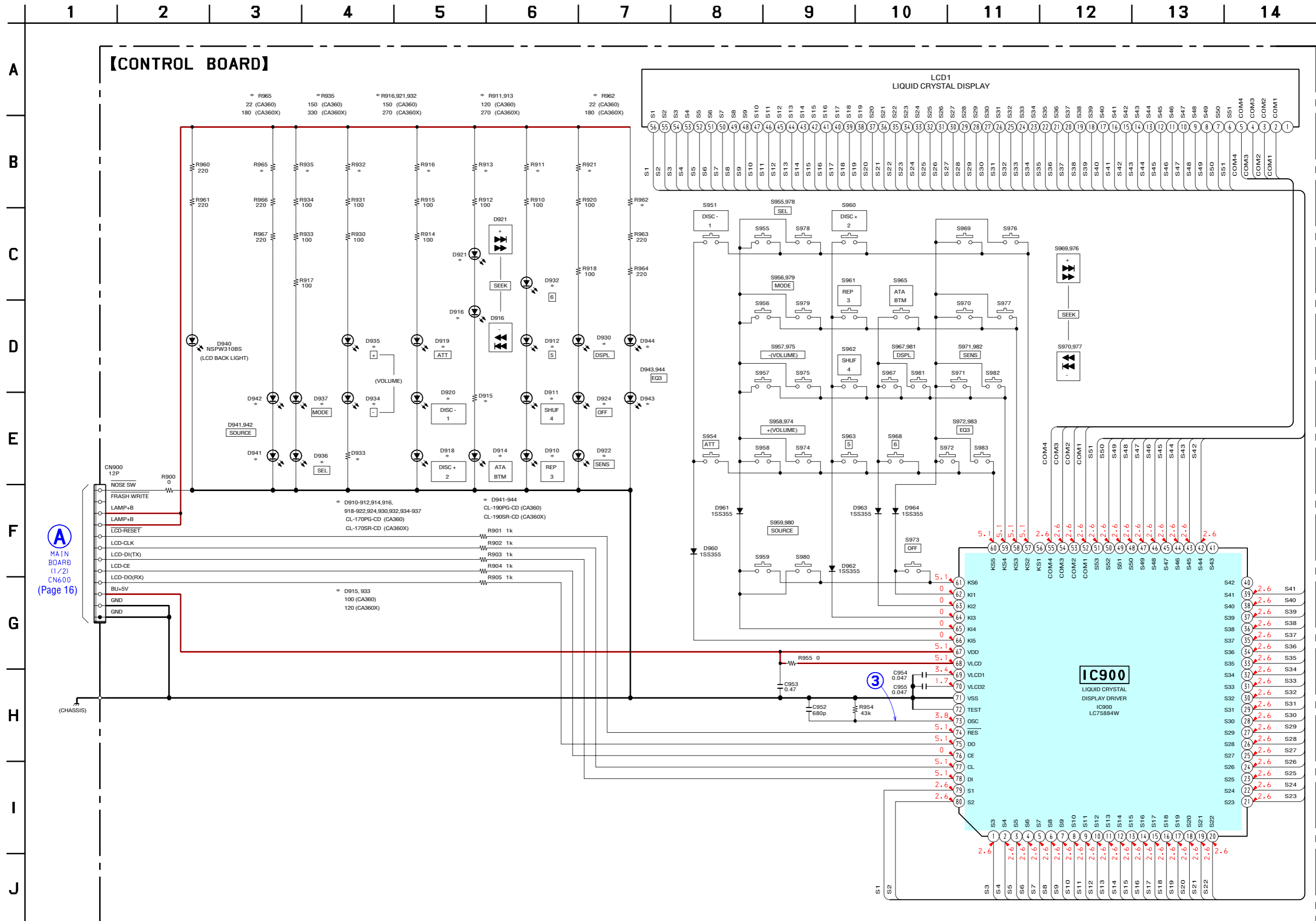
5-5. PRINTED WIRING BOARD – CONTROL Board –



• Semiconductor Location

Ref. No.	Location	Ref. No.	Location	Ref. No.	Location
D910	C-5	D924	C-10	D943	B-10
D911	C-6	D930	C-10	D944	B-9
D912	C-6	D932	C-7	D960	E-2
D914	C-7	D934	B-2	D961	F-2
D916	B-9	D935	B-2	D962	D-4
D918	C-5	D936	C-2	D963	D-7
D919	C-3	D937	C-1	D964	E-10
D920	C-4	D940	E-3		
D921	B-9	D941	B-1	IC900	E-5
D922	C-9	D942	B-1		

5-6. SCHEMATIC DIAGRAM – CONTROL Board – • See page 20 for Waveform.

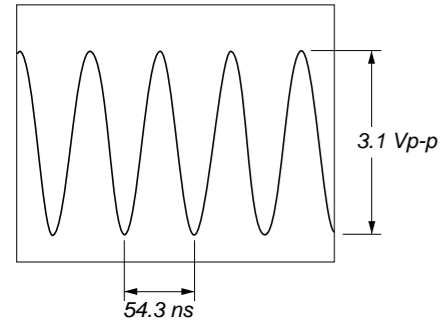


A
MAIN BOARD (1/2)
CN600
(Page 16)

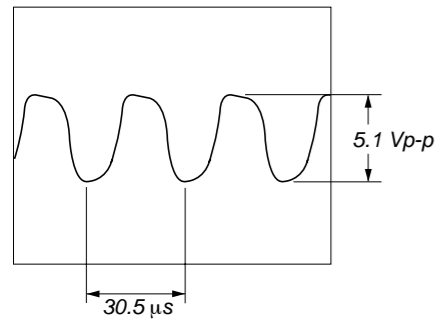
XR-CA360/CA360X

• Waveforms – MAIN Board –

1 IC1 ⑫ (OSC2)

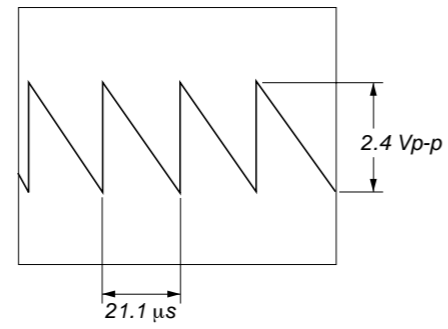


2 IC1 ⑩ (XO)



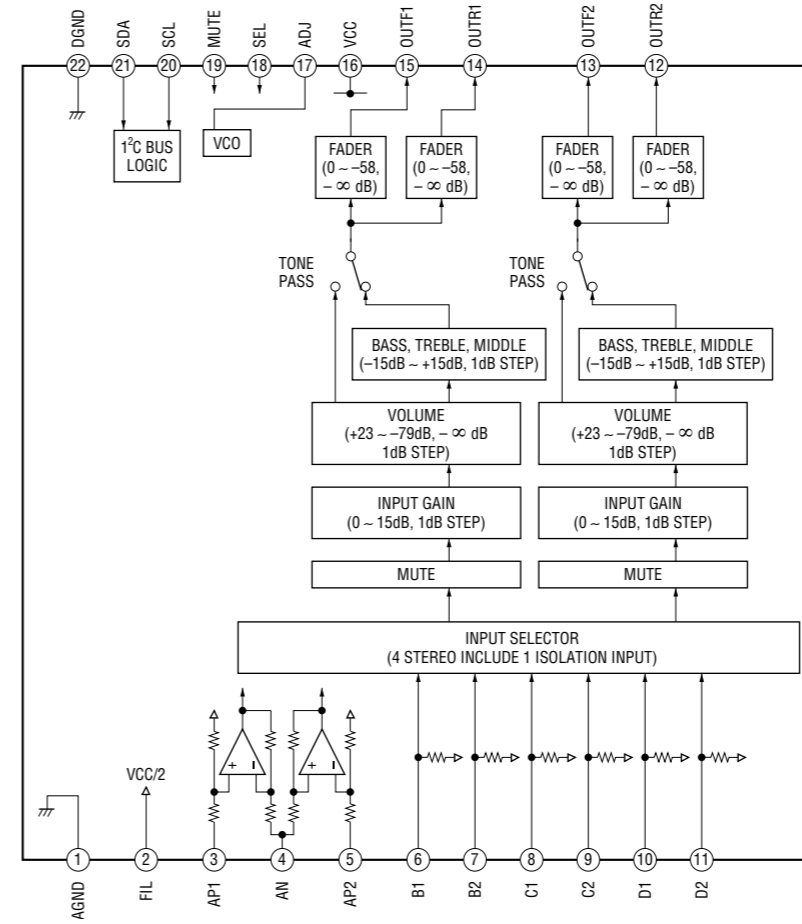
– CONTROL Board –

3 IC900 ⑬ (OSC)

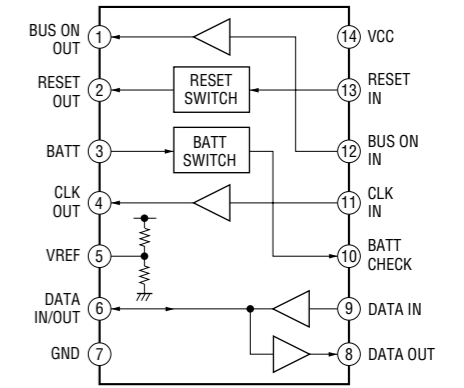


• IC Block Diagrams – MAIN Board –

IC400 BD3803F-FE2



IC800 MM1175XFF



5-7. IC PIN FUNCTION DESCRIPTION

• MAIN BOARD IC1 MN101C49HAS (SYSTEM CONTROLLER)

Pin No.	Pin Name	I/O	Description
1	VREF -	—	Reference voltage (0V) terminal (for A/D converter)
2	VSM	I	FM and AM signal meter voltage detection input from the tuner unit (A/D input)
3 to 6	NC	I	Not used
7	QUALITY	I	Not used
8	MPTH	I	Not used
9	NC	I	Not used
10	VREF +	—	Reference voltage (+5V) terminal (for A/D converter)
11	VDD	—	Power supply terminal (+5V)
12	OSC2	O	Main system clock output terminal (18.432 MHz)
13	OSC1	I	Main system clock input terminal (18.432 MHz)
14	VSS	—	Ground terminal
15	XI	I	Sub system clock input terminal (32.768 kHz)
16	XO	O	Sub system clock output terminal (32.768 kHz)
17	MMOD	I	Setting terminal for the single chip mode “L”: single chip (fixed at “L” in this set)
18	LCD-SO (TX)	O	LCD serial data output to the liquid crystal display driver
19	LCD-SI (RX)	I	LCD serial data input from the liquid crystal display driver
20	LCD-CKO	O	LCD serial transfer clock signal output to the liquid crystal display driver
21 to 23	NC	O	Not used
24	SYS-RES	O	System reset signal output to the SONY bus interface “L”: reset
25	BUS-ON	O	Bus interface control signal output to the SONY bus interface “L”: uni-link on
26	KEYACK	I	Key acknowledge signal detection input from the liquid crystal display driver
27	DAVN	I	Not used
28	BU-IN	I	Battery detection signal input from the bus interface and battery detect circuit “L” is input at low voltage
29	NC	I	Not used
30	TU-ATTIN	I	Tuner muting on/off control signal input from the tuner unit “L”: muting on
31, 32	NC	I	Not used
33	RESET	I	System reset signal input from the reset signal generator and reset switch “L”: reset “L” is input for several 100 msec after power on, then it changes to “H”
34	NC	O	Not used
35	BEEP	O	Beep sound drive signal output to the power amplifier “H”: beep on
36	POWER-ON	O	Main system power supply on/off control signal output “H”: power on
37	ILL-IN	I	Illuminate line detection signal input terminal “L”: ill on Not used
38	ACC-IN	I	Accessory detection signal input “L”: accessory on “H” is input for several 200 msec after accessory on, then it changes to “L”
39	NC	O	Not used
40	TEL-ATT	I	Telephone muting signal input terminal At input of “H”, the signal is attenuated by -20 dB Not used
41	NCI	I	Not used
42	BUS-SO	O	Serial data output to the SONY bus interface
43	BUS-SI	I	Serial data input from the SONY bus interface
44	BUS-CKO	O	Serial data transfer clock signal output to the SONY bus interface
45	I2C-SIO	I/O	Two-way data bus with the tuner unit and electrical volume
46	NC	O	Not used
47	I2C-CKO	O	Serial data transfer clock signal output to the tuner unit and electrical volume
48	AMP-ON	O	Standby on/off control signal output to the power amplifier “L”: standby mode, “H”: amplifier on
49	AMP-ATT	O	Muting on/off control signal output to the power amplifier “L”: muting on

Pin No.	Pin Name	I/O	Description
50	ATT	O	Audio line muting on/off control signal output "H": muting on
51 to 53	NC	O	Not used
54	TU-ATT	O	Tuner muting on/off control signal output to the tuner unit "L": muting on
55, 56	NC	O	Not used
57	LO/DX	O	Local/DX selection signal output terminal "L": DX, "H": local Not used
58	TU-ON	O	Tuner system power supply on/off control signal output "H": tuner power on
59	VOL-ATT	O	Electrical volume muting on/off control signal output to the electrical volume "L": muting on
60	FM-ON	O	FM system power supply on/off control signal output terminal "H": FM power on Not used
61	AM-ON	O	AM system power supply on/off control signal output terminal "H": AM power on Not used
62	NC	O	Not used
63	LCD-RES	O	LCD reset signal output to the liquid crystal display driver "L": reset
64	LCD-CE	O	Chip enable signal output to the liquid crystal display driver "H" active
65	FLASH-W	I	Internal flash memory data write mode detection signal input "L": data write mode Normally: fixed at "H"
66	TEST-IN	I	Setting terminal for the test mode "L": test mode Normally: fixed at "H"
67 to 73	NC	O	Not used
74	EE-SIO	I/O	Two-way data bus with the tuner unit
75	EE-CKO	O	Serial data transfer clock signal output to the tuner unit
76	COL-SEL	I	Illumination color selection signal input "L": red illumination "H": green illumination (XR-CA360: fixed at "H" in this set, XR-CA360X: fixed at "L" in this set)
77 to 82	NC	O	Not used
83	ILL-ON	O	Power on/off control signal output of the illumination LED and LCD back light "H": power on
84	DEST-SEL0	I	Destination setting terminal (E model: fixed at "H" in this set, Saudi Arabia model: fixed at "L" in this set)
85	DEST-SEL1	I	Destination setting terminal (fixed at "H" in this set)
86	DEST-SEL2	I	Destination setting terminal (E model: input terminal for the frequency select switch, Saudi Arabia model: fixed at "H" in this set)
87 to 92	NC	O	Not used
93	NOSE-SW	I	Front panel block remove/attach detection signal input "L": front panel is attached
94	NS-MASK	O	Not used
95	DAVSS	—	Ground terminal (for D/A converter)
96	TAPE-ON	O	Capstan/reel motor drive signal output "H": motor on
97	N/R	I	Tape direction switch input terminal "L": reverse direction, "H": forward direction
98	FF/REW	I	FF/REW detection switch input terminal "L": FF/REW mode, "H": PLAYBACK mode
99	TAPE-IN	I	Tape in detection switch input terminal "L": tape in
100	DAVDD	—	Power supply terminal (+5V) (for D/A converter)

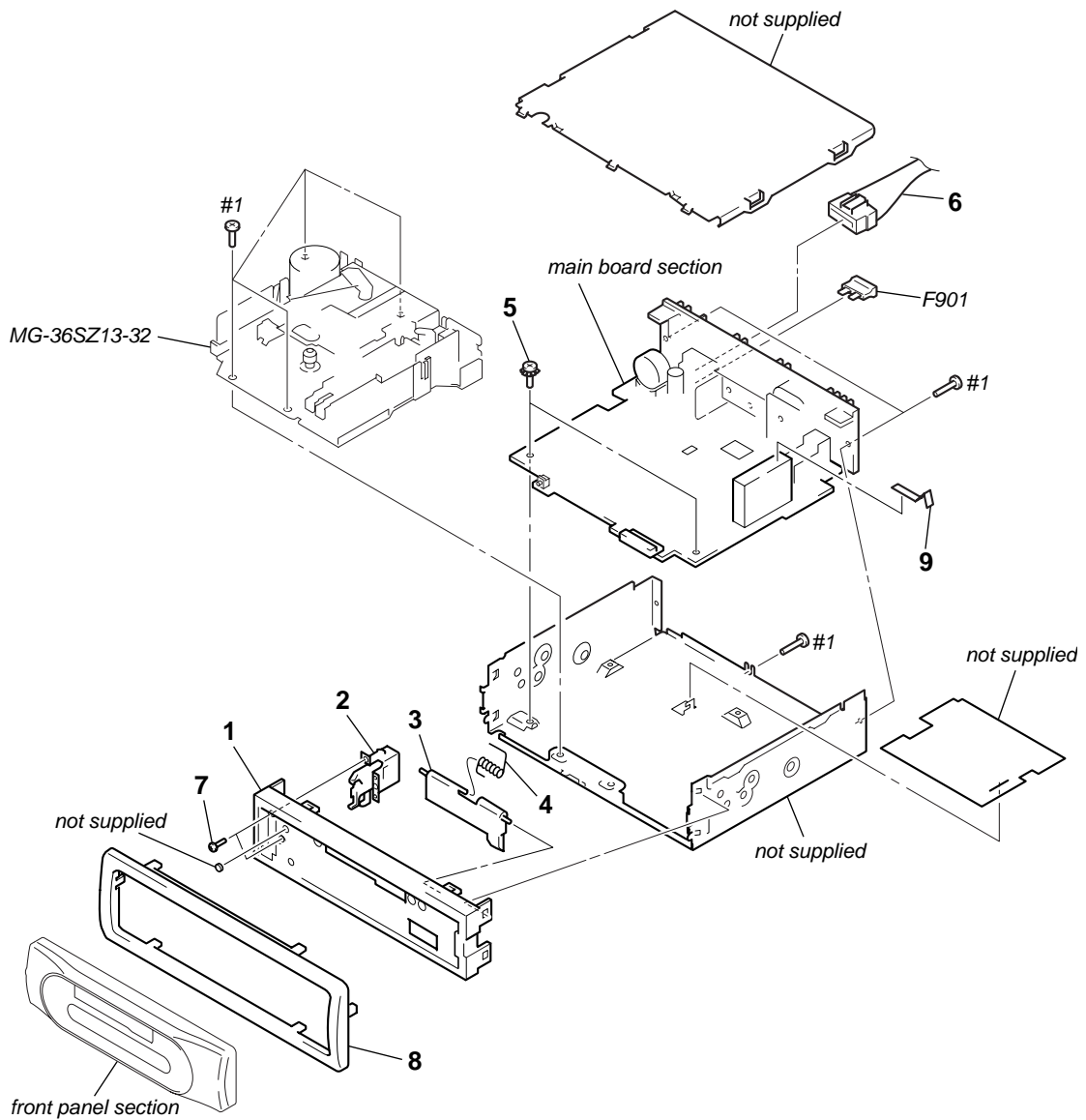
SECTION 6 EXPLODED VIEWS

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

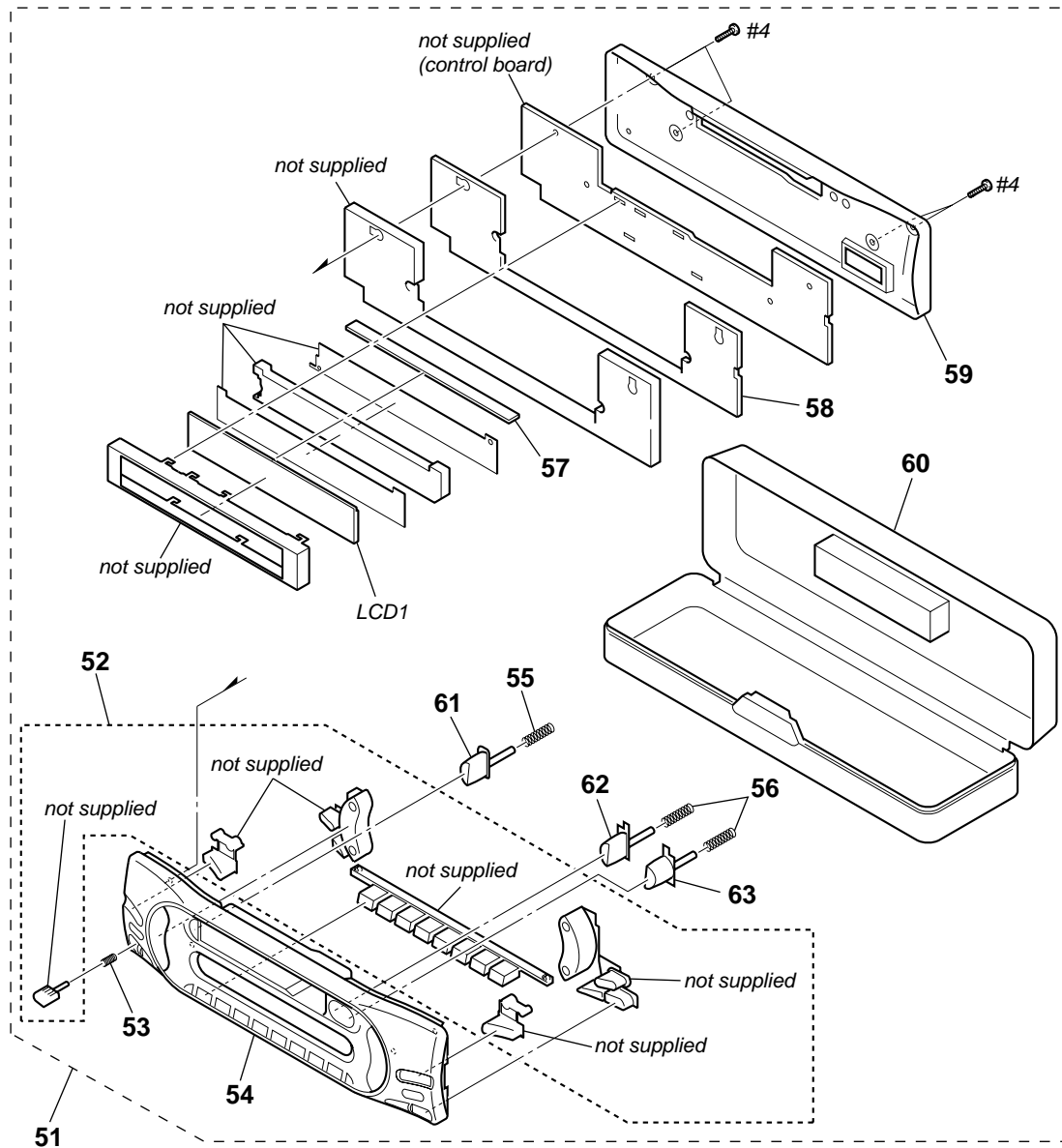
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Accessories are given in the last of the electrical parts list.

6-1. GENERAL SECTION



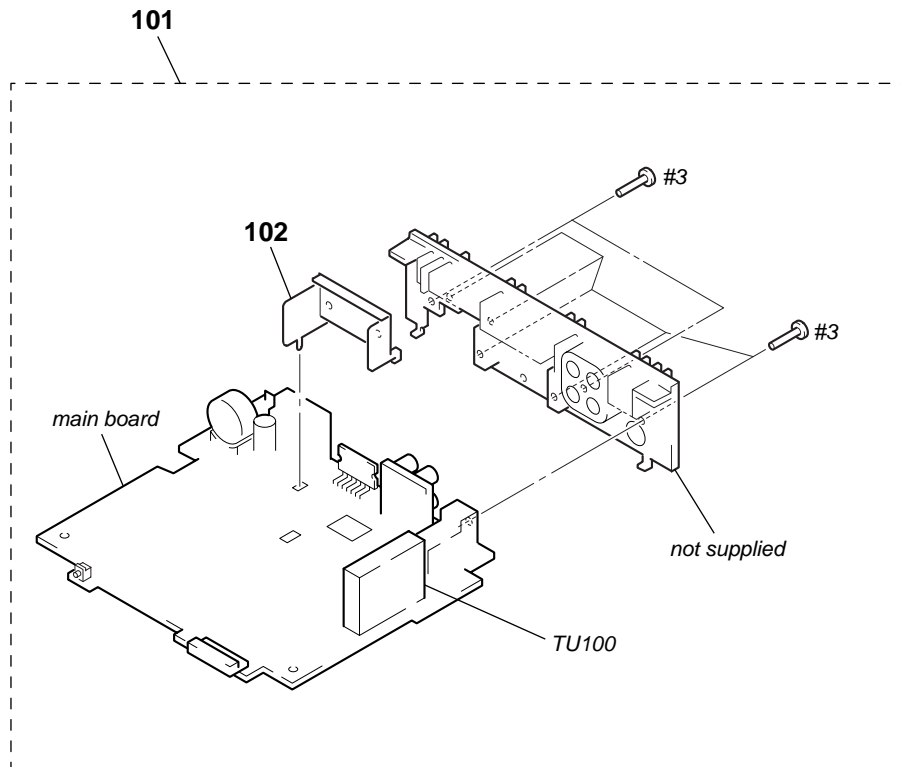
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
1	3-246-741-01	PANEL, SUB		7	3-042-244-01	SCREW (T)	
2	X-3383-739-1	LOCK ASSY (S)		8	3-246-758-01	COLLAR	
3	3-041-581-11	DOOR, CASSETTE		9	3-256-779-01	PLATE (C), GROUND	
4	3-044-125-01	SPRING, TORSION		F901	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) (10A/32V)	
5	3-376-464-11	SCREW (+PTT 2.6X6), GROUND POINT		#1	7-685-792-09	SCREW +PTT 2.6X6 (S)	
6	1-776-207-31	CORD (WITH CONNECTOR) (POWER)					

6-2. FRONT PANEL SECTION



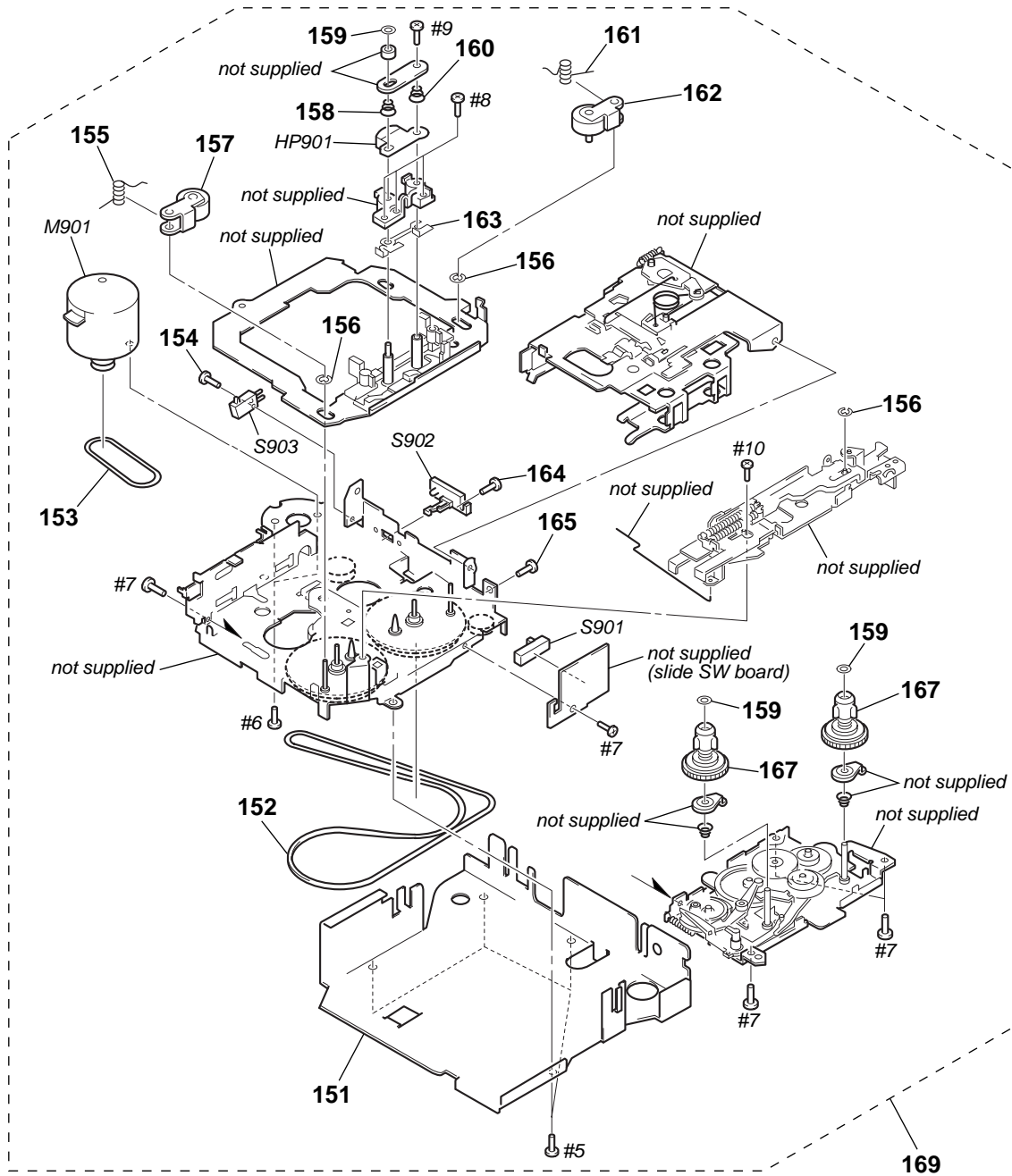
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	A-3337-197-A	PANEL ASSY, FRONT (CA360X)		58	1-786-464-11	SWITCH, SHEET	
51	A-3337-363-A	PANEL ASSY, FRONT (CA360)		59	3-246-739-01	PANEL, FRONT BACK	
52	X-3383-132-1	BUTTON KIT (SVX) ASSY		60	X-3378-490-2	CASE (PANEL) ASSY	
53	3-231-816-01	SPRING (RELEASE)		61	3-246-744-01	BUTTON (EJECT) (▲)	
54	3-246-738-11	PANEL, FRONT (CA360X)		62	3-246-743-01	BUTTON (REW) (◀◀)	
54	3-246-738-21	PANEL, FRONT (CA360)		63	3-246-742-01	BUTTON (FF) (▶▶)	
55	3-029-327-01	SPRING (EJECT)		LCD1	1-805-131-11	DISPLAY PANEL, LIQUID CRYSTAL	
56	3-375-372-01	SPRING (F/R)		#4	7-685-105-19	SCREW +P 2X8 TYPE2 NON-SLIT	
57	1-780-021-11	CONDUCTIVE BOARD, CONNECTION					

6-3. MAIN BOARD SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
101	A-3274-648-A	MAIN BOARD, COMPLETE (CA360X)		* 102	3-041-578-01	BRACKET (IC)	
101	A-3274-708-A	MAIN BOARD, COMPLETE (CA360: E)		TU100	A-3220-944-A	TUNER UNIT (TUX-031//Q2)	
101	A-3274-711-A	MAIN BOARD, COMPLETE (CA360: Saudi Arabia)		#3	7-685-794-09	SCREW +PTT 2.6X10 (S)	

6-4. MECHANISM DECK SECTION
(MG-36SZ13-32)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
151	3-246-754-01	BRACKET (MD)		165	3-713-786-51	SCREW +P 2X3	
152	3-045-943-01	MAIN BELT		167	3-045-893-01	REEL SPINDLE	
153	3-045-945-01	SUB BELT (C)		169	A-3220-926-B	MECHANISM DECK ASSY (MG-36SZ13-32)	
154	3-045-953-01	+MACHINE SCREW M1.7X6		HP901	1-500-661-11	HEAD, MAGNETIC (PLAYBACK)	
155	3-045-940-01	PINCH ARM SPG (R)		M901	1-763-507-11	MOTOR, DC (CAPSTAN/REEL)	
156	3-045-950-01	E-RING (DIA. 2)		S901	1-771-928-11	SWITCH, SLIDE (DIRECTION)	
157	3-045-890-01	PINCH ARM (R)		S902	1-771-926-11	SWITCH, LEAF (FF/REW)	
158	3-045-933-01	ADJUSTER ARM SPG (B)		S903	1-771-927-11	SWITCH, LEAF (TAPE DETECT)	
159	3-045-949-01	PSW (REEL) B		#5	7-621-775-10	SCREW +B 2.6X4	
160	3-045-932-01	ADJUSTER ARM SPG (A)		#6	7-627-854-08	PRECISION SCREW +P 2X2.5 TYPE 3	
161	3-045-939-01	PINCH ARM SPG (F)		#7	7-685-101-11	SCREW +PTP 2X3 NON-SLIT	
162	3-045-891-01	PINCH ARM (F)		#8	7-621-255-35	SCREW +P 2X5	
163	3-045-906-01	ADJUSTER SHIM (X)		#9	7-621-772-18	SCREW +P 2X4	
164	3-045-952-01	+MACHINE SCREW M1.7X4		#10	7-685-781-09	SCREW +PTT 2X4 (S)	

SECTION 7
ELECTRICAL PARTS LIST

CONTROL

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
- Abbreviation
EA : Saudi Arabia model

- 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, μ : μ , for example:
 $\mu A. . : \mu A. .$ $\mu PA. . : \mu PA. .$
 $\mu PB. . : \mu PB. .$ $\mu PC. . : \mu PC. .$
 $\mu PD. . : \mu PD. .$
- CAPACITORS
 $\mu F: \mu F$
- COILS
 $\mu H: \mu H$

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

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
		CONTROL BOARD *****		D924	8-719-078-39	LED CL-170SR-CD-T (OFF) (CA360X)	
				D930	8-719-033-14	LED CL-170PG-CD-T (DSPL)(CA360)	
	1-780-021-11	CONDUCTIVE BOARD, CONNECTION		D930	8-719-078-39	LED CL-170SR-CD-T (DSPL) (CA360X)	
	1-786-464-11	SWITCH, SHEET		D932	8-719-033-14	LED CL-170PG-CD-T (6) (CA360)	
		< CAPACITOR >		D932	8-719-078-39	LED CL-170SR-CD-T (6) (CA360X)	
C952	1-115-412-11	CERAMIC CHIP 680PF 5% 25V		D933	1-216-025-11	RES-CHIP 100 5% 1/10W (CA360)	
C953	1-107-823-11	CERAMIC CHIP 0.47 μ F 10% 16V		D933	1-216-027-00	RES-CHIP 120 5% 1/10W (CA360X)	
C954	1-165-176-11	CERAMIC CHIP 0.047 μ F 10% 16V		D934	8-719-033-14	LED CL-170PG-CD-T (- (VOLUME)) (CA360)	
C955	1-165-176-11	CERAMIC CHIP 0.047 μ F 10% 16V		D934	8-719-078-39	LED CL-170SR-CD-T (- (VOLUME)) (CA360X)	
		< CONNECTOR >		D935	8-719-033-14	LED CL-170PG-CD-T (+ (VOLUME)) (CA360)	
CN900	1-794-312-11	PIN, CONNECTOR 12P		D935	8-719-078-39	LED CL-170SR-CD-T (+ (VOLUME)) (CA360X)	
		< RESISTOR/DIODE >		D936	8-719-033-14	LED CL-170PG-CD-T (SEL) (CA360)	
D910	8-719-033-14	LED CL-170PG-CD-T (REP, 3) (CA360)		D936	8-719-078-39	LED CL-170SR-CD-T (SEL) (CA360X)	
D910	8-719-078-39	LED CL-170SR-CD-T (REP, 3) (CA360X)		D937	8-719-033-14	LED CL-170PG-CD-T (MODE) (CA360)	
D911	8-719-033-14	LED CL-170PG-CD-T (SHUF, 4) (CA360)		D937	8-719-078-39	LED CL-170SR-CD-T (MODE) (CA360X)	
D911	8-719-078-39	LED CL-170SR-CD-T (SHUF, 4) (CA360X)		D940	6-500-491-01	LED NSPW310BST (LCD BACK LIGHT)	
D912	8-719-033-14	LED CL-170PG-CD-T (5) (CA360)		D941	8-719-038-07	LED CL-190PG-CD-T (SOURCE) (CA360)	
D912	8-719-078-39	LED CL-170SR-CD-T (5) (CA360X)		D941	8-719-061-16	LED CL-190SR-CD-T (SOURCE) (CA360X)	
D914	8-719-033-14	LED CL-170PG-CD-T (ATA, BTM) (CA360)		D942	8-719-038-07	LED CL-190PG-CD-T (SOURCE) (CA360)	
D914	8-719-078-39	LED CL-170SR-CD-T (ATA, BTM) (CA360X)		D942	8-719-061-16	LED CL-190SR-CD-T (SOURCE) (CA360X)	
D915	1-216-025-11	RES-CHIP 100 5% 1/10W (CA360)		D943	8-719-038-07	LED CL-190PG-CD-T (EQ3) (CA360)	
D915	1-216-027-00	RES-CHIP 120 5% 1/10W (CA360X)		D943	8-719-061-16	LED CL-190SR-CD-T (EQ3) (CA360X)	
D916	8-719-033-14	LED CL-170PG-CD-T (- ◀◀ ◀◀, SEEK) (CA360)		D944	8-719-038-07	LED CL-190PG-CD-T (EQ3) (CA360)	
D916	8-719-078-39	LED CL-170SR-CD-T (- ◀◀ ◀◀, SEEK) (CA360X)		D944	8-719-061-16	LED CL-190SR-CD-T (EQ3) (CA360X)	
D918	8-719-033-14	LED CL-170PG-CD-T (DISC +, 2) (CA360)		D960	8-719-988-61	DIODE 1SS355TE-17	
D918	8-719-078-39	LED CL-170SR-CD-T (DISC +, 2) (CA360X)		D961	8-719-988-61	DIODE 1SS355TE-17	
D919	8-719-033-14	LED CL-170PG-CD-T (ATT) (CA360)		D962	8-719-988-61	DIODE 1SS355TE-17	
D919	8-719-078-39	LED CL-170SR-CD-T (ATT) (CA360X)		D963	8-719-988-61	DIODE 1SS355TE-17	
D920	8-719-033-14	LED CL-170PG-CD-T (DISC -, 1) (CA360)		D964	8-719-988-61	DIODE 1SS355TE-17	
D920	8-719-078-39	LED CL-170SR-CD-T (DISC -, 1) (CA360X)				< IC >	
D921	8-719-033-14	LED CL-170PG-CD-T (+ ▶▶ ▶▶) (CA360)		IC900	8-759-657-06	IC LC75884W	
D921	8-719-078-39	LED CL-170SR-CD-T (+ ▶▶ ▶▶) (CA360X)				< LIQUID CRYSTAL DISPLAY >	
D922	8-719-033-14	LED CL-170PG-CD-T (SENS) (CA360)		LCD1	1-805-131-11	DISPLAY PANEL, LIQUID CRYSTAL	
D922	8-719-078-39	LED CL-170SR-CD-T (SENS) (CA360X)				< RESISTOR >	
D924	8-719-033-14	LED CL-170PG-CD-T (OFF) (CA360)		R900	1-216-864-11	SHORT CHIP 0	
				R901	1-216-821-11	METAL CHIP 1K 5% 1/10W	
				R902	1-216-821-11	METAL CHIP 1K 5% 1/10W	
				R903	1-216-821-11	METAL CHIP 1K 5% 1/10W	

XR-CA360/CA360X

Ver 1.1

CONTROL

MAIN

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
R904	1-216-821-11	METAL CHIP	1K 5% 1/10W		7-685-794-09	SCREW +PTT 2.6X10 (S)	
R905	1-216-821-11	METAL CHIP	1K 5% 1/10W			< JACK >	
R910	1-216-025-11	RES-CHIP	100 5% 1/10W				
R911	1-216-027-00	RES-CHIP	120 5% 1/10W	ANT100	1-815-185-13	JACK (ANT) (FM/AM ANTENNA)	
R911	1-216-814-11	METAL CHIP	270 5% 1/10W (CA360X)			< CAPACITOR >	
R912	1-216-025-11	RES-CHIP	100 5% 1/10W	C1	1-162-916-11	CERAMIC CHIP 12PF 5% 50V	
R913	1-216-027-00	RES-CHIP	120 5% 1/10W	C2	1-162-916-11	CERAMIC CHIP 12PF 5% 50V	
R913	1-216-814-11	METAL CHIP	270 5% 1/10W (CA360X)	C3	1-162-918-11	CERAMIC CHIP 18PF 5% 50V	
R914	1-216-025-11	RES-CHIP	100 5% 1/10W	C4	1-162-919-11	CERAMIC CHIP 22PF 5% 50V	
R915	1-216-025-11	RES-CHIP	100 5% 1/10W	C5	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
R916	1-216-029-00	RES-CHIP	150 5% 1/10W (CA360)	C6	1-124-234-00	ELECT 22uF 20% 10V	
R916	1-216-814-11	METAL CHIP	270 5% 1/10W (CA360X)	C7	1-125-701-11	DOUBLE LAYER 0.047F 5.5V	
R917	1-216-809-11	METAL CHIP	100 5% 1/10W	C8	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
R918	1-216-809-11	METAL CHIP	100 5% 1/10W	C81	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
R920	1-216-025-11	RES-CHIP	100 5% 1/10W	C100	1-165-176-11	CERAMIC CHIP 0.047uF 10% 16V	
R921	1-216-029-00	RES-CHIP	150 5% 1/10W (CA360)	C101	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	(EA)
R921	1-216-035-00	RES-CHIP	270 5% 1/10W (CA360X)	C104	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
R930	1-216-025-11	RES-CHIP	100 5% 1/10W	C105	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
R931	1-216-025-11	RES-CHIP	100 5% 1/10W	C106	1-124-584-00	ELECT 100uF 20% 10V	
R932	1-216-029-00	RES-CHIP	150 5% 1/10W (CA360)	C250	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
R932	1-216-035-00	RES-CHIP	270 5% 1/10W (CA360X)	C251	1-126-157-11	ELECT 10uF 20% 16V	
R933	1-216-025-11	RES-CHIP	100 5% 1/10W	C262	1-165-908-11	CERAMIC CHIP 1uF 10% 10V	
R934	1-216-025-11	RES-CHIP	100 5% 1/10W	C302	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
R935	1-216-029-00	RES-CHIP	150 5% 1/10W (CA360)	C303	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
R935	1-216-815-11	METAL CHIP	330 5% 1/10W (CA360X)	C304	1-162-927-11	CERAMIC CHIP 100PF 5% 50V	
R954	1-218-731-11	METAL CHIP	43K 0.5% 1/10W	C305	1-162-927-11	CERAMIC CHIP 100PF 5% 50V	
R955	1-216-864-11	SHORT CHIP	0	C306	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
R960	1-216-033-00	RES-CHIP	220 5% 1/10W	C307	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
R961	1-216-033-00	RES-CHIP	220 5% 1/10W	C310	1-104-942-11	ELECT 1uF 20% 50V	
R962	1-216-009-00	RES-CHIP	22 5% 1/10W (CA360)	C311	1-164-315-11	CERAMIC CHIP 470PF 5% 50V	
R962	1-216-031-00	RES-CHIP	180 5% 1/10W (CA360X)	C312	1-124-584-00	ELECT 100uF 20% 10V	
R963	1-216-033-00	RES-CHIP	220 5% 1/10W	C314	1-124-584-00	ELECT 100uF 20% 6.3V	
R964	1-216-033-00	RES-CHIP	220 5% 1/10W	C315	1-124-584-00	ELECT 100uF 20% 6.3V	
R965	1-216-009-00	RES-CHIP	22 5% 1/10W (CA360)	C400	1-125-891-11	CERAMIC CHIP 0.47uF 10% 10V	
R965	1-216-812-11	METAL CHIP	180 5% 1/10W (CA360X)	C401	1-125-891-11	CERAMIC CHIP 0.47uF 10% 10V	
R966	1-216-813-11	METAL CHIP	220 5% 1/10W	C402	1-125-891-11	CERAMIC CHIP 0.47uF 10% 10V	
R967	1-216-813-11	METAL CHIP	220 5% 1/10W	C403	1-125-891-11	CERAMIC CHIP 0.47uF 10% 10V	
*****				C404	1-125-891-11	CERAMIC CHIP 0.47uF 10% 10V	
A-3274-648-A MAIN BOARD, COMPLETE (CA360X)				C405	1-125-891-11	CERAMIC CHIP 0.47uF 10% 10V	
A-3274-708-A MAIN BOARD, COMPLETE (CA360: E)				C409	1-126-157-11	ELECT 10uF 20% 16V	
A-3274-711-A MAIN BOARD, COMPLETE (EA)				C410	1-124-589-11	ELECT 47uF 20% 16V	
*****				C411	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
* 3-041-578-01 BRACKET (IC)				C412	1-162-915-11	CERAMIC CHIP 10PF 0.5PF 50V	
				C413	1-162-915-11	CERAMIC CHIP 10PF 0.5PF 50V	
				C414	1-162-915-11	CERAMIC CHIP 10PF 0.5PF 50V	
				C415	1-162-915-11	CERAMIC CHIP 10PF 0.5PF 50V	
				C416	1-126-163-11	ELECT 4.7uF 20% 50V	
				C417	1-126-163-11	ELECT 4.7uF 20% 50V	
				C418	1-126-163-11	ELECT 4.7uF 20% 50V	
				C419	1-126-163-11	ELECT 4.7uF 20% 50V	
				C420	1-125-891-11	CERAMIC CHIP 0.47uF 10% 10V	
				C421	1-125-891-11	CERAMIC CHIP 0.47uF 10% 10V	
				C422	1-125-891-11	CERAMIC CHIP 0.47uF 10% 10V	
				C423	1-125-891-11	CERAMIC CHIP 0.47uF 10% 10V	
				C424	1-125-891-11	CERAMIC CHIP 0.47uF 10% 10V	

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C425	1-125-891-11	CERAMIC CHIP	0.47uF 10% 10V	D650	8-719-110-49	DIODE RD18ESB2	
C426	1-125-891-11	CERAMIC CHIP	0.47uF 10% 10V	D651	8-719-991-33	DIODE 1SS133T-77	
C427	1-125-891-11	CERAMIC CHIP	0.47uF 10% 10V	D653	8-719-109-93	DIODE RD6.2ESB2	
C428	1-162-927-11	CERAMIC CHIP	100PF 5% 50V	D700	8-719-049-38	DIODE 1N5404TU	
C429	1-162-927-11	CERAMIC CHIP	100PF 5% 50V	D721	8-719-200-82	DIODE 11ES2	
C430	1-162-967-11	CERAMIC CHIP	0.0033uF 10% 50V	D722	8-719-200-82	DIODE 11ES2	
C431	1-162-967-11	CERAMIC CHIP	0.0033uF 10% 50V	D723	8-719-200-82	DIODE 11ES2	
C451	1-124-589-11	ELECT	47uF 20% 16V	D724	8-719-200-82	DIODE 11ES2	
C452	1-109-982-11	CERAMIC CHIP	1uF 10% 10V	D731	8-719-110-14	DIODE RD9.1ESB3	
C500	1-126-157-11	ELECT	10uF 20% 16V	D741	8-719-935-39	DIODE HZS6B1LTD	
C503	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V	D742	8-719-991-33	DIODE 1SS133T-77	
C505	1-126-157-11	ELECT	10uF 20% 16V	D800	8-719-109-97	DIODE RD6.8ESB2	
C507	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V	D802	8-719-110-49	DIODE RD18ESB2	
C508	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V	D803	8-719-110-49	DIODE RD18ESB2	
C520	1-162-923-11	CERAMIC CHIP	47PF 5% 50V	D805	8-719-110-49	DIODE RD18ESB2	
C521	1-162-923-11	CERAMIC CHIP	47PF 5% 50V			< IC >	
C522	1-162-923-11	CERAMIC CHIP	47PF 5% 50V	IC1	6-803-178-01	IC MN101C49HEA	
C523	1-162-923-11	CERAMIC CHIP	47PF 5% 50V	IC2	6-701-405-01	IC PST3443UL	
C600	1-164-156-11	CERAMIC CHIP	0.1uF 25V	IC300	6-802-510-01	IC HA12232FP-EL	
C601	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V	IC400	6-703-302-02	IC BD3803AF-FE2	
C650	1-104-942-11	ELECT	1uF 20% 50V	IC500	8-759-827-12	IC TA8272H	
C700	1-126-936-11	ELECT	3300uF 20% 16V	IC800	8-759-096-16	IC MM1175XF	
C701	1-165-128-11	CERAMIC CHIP	0.22uF 16V			< SHORT >	
C710	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V	JC30	1-216-864-11	SHORT CHIP 0	
C730	1-126-157-11	ELECT	10uF 20% 16V	JC44	1-216-864-11	SHORT CHIP 0	
C731	1-165-176-11	CERAMIC CHIP	0.047uF 10% 16V	JC49	1-216-864-11	SHORT CHIP 0	
C732	1-165-908-11	CERAMIC CHIP	1uF 10% 10V	JC52	1-216-864-11	SHORT CHIP 0	
C733	1-164-315-11	CERAMIC CHIP	470PF 5% 50V	JC53	1-216-864-11	SHORT CHIP 0	
C734	1-165-908-11	CERAMIC CHIP	1uF 10% 10V	JC83	1-216-864-11	SHORT CHIP 0	
C740	1-126-157-11	ELECT	10uF 20% 16V	JC91	1-216-864-11	SHORT CHIP 0	
C741	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V	JC104	1-216-864-11	SHORT CHIP 0	
C742	1-124-584-00	ELECT	100uF 20% 10V	JC110	1-216-864-11	SHORT CHIP 0	
C800	1-126-940-11	ELECT	330uF 20% 25V	JC132	1-216-864-11	SHORT CHIP 0	
C801	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V	JC133	1-216-864-11	SHORT CHIP 0	
		< CONNECTOR >		JC134	1-216-864-11	SHORT CHIP 0	
* CN300	1-564-705-11	PIN, CONNECTOR (PC BOARD) 3P		JC147	1-216-864-11	SHORT CHIP 0	
* CN350	1-573-486-11	PIN, CONNECTOR (PC BOARD) 8P		JC148	1-216-864-11	SHORT CHIP 0	
CN400	1-774-699-12	JACK, PIN 4P (BUS AUDIO IN, AUDIO OUT)		JC166	1-216-864-11	SHORT CHIP 0	
CN600	1-794-311-21	PLUG, CONNECTOR 12P		JC169	1-216-864-11	SHORT CHIP 0	
CN700	1-774-701-11	PIN, CONNECTOR 16P		JC170	1-216-864-11	SHORT CHIP 0	
CN800	1-580-907-31	PLUG, CONNECTOR (BUS CONTROL IN)		JC173	1-216-864-11	SHORT CHIP 0	
		< DIODE >				< COIL >	
D250	8-719-921-42	DIODE MTZJ-5.1A		L1	1-410-509-11	INDUCTOR 10uH	
D253	8-719-991-33	DIODE 1SS133T-77		L700	1-419-476-11	COIL, CHOKE 250uH	
D300	8-719-991-33	DIODE 1SS133T-77				< TRANSISTOR >	
D350	8-719-200-82	DIODE 11ES2		Q251	8-729-920-85	TRANSISTOR 2SD1664-QR	
D451	8-719-991-33	DIODE 1SS133T-77		Q252	8-729-049-85	TRANSISTOR 2PB710AR-115	
D452	8-719-110-03	DIODE RD7.5ESB2		Q253	8-729-043-27	TRANSISTOR PDTC114EK-115	
D500	8-719-200-82	DIODE 11ES2		Q350	8-729-205-95	TRANSISTOR 2SA1428-Y	
D501	8-719-200-82	DIODE 11ES2		Q351	8-729-043-27	TRANSISTOR PDTC114EK-115	
D502	8-719-200-82	DIODE 11ES2		Q400	8-729-920-21	TRANSISTOR DTC314TK-T-146	
D503	8-719-200-82	DIODE 11ES2		Q401	8-729-920-21	TRANSISTOR DTC314TK-T-146	
D504	8-719-200-82	DIODE 11ES2		Q402	8-729-920-21	TRANSISTOR DTC314TK-T-146	
D505	8-719-200-82	DIODE 11ES2					
D506	8-719-200-82	DIODE 11ES2					
D507	8-719-200-82	DIODE 11ES2					

When replacing the IC1, refer to servicing note (Page 2 "When replacing the IC1").

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MAIN

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
Q403	8-729-920-21	TRANSISTOR	DTC314TK-T-146	R39	1-249-441-11	CARBON	100K 5% 1/4W
Q450	8-729-043-32	TRANSISTOR	PDTA114EK-115	R40	1-249-441-11	CARBON	100K 5% 1/4W
Q451	8-729-043-29	TRANSISTOR	PDTC144EK-115	R41	1-216-864-11	SHORT CHIP	0
Q650	8-729-422-33	TRANSISTOR	2SD601A-Q-TX	R42	1-216-864-11	SHORT CHIP	0
Q651	8-729-216-22	TRANSISTOR	2SA1162-G	R43	1-216-864-11	SHORT CHIP	0
Q710	8-729-205-95	TRANSISTOR	2SA1428-Y	R44	1-247-807-31	CARBON	100 5% 1/4W
Q711	8-729-043-27	TRANSISTOR	PDTC114EK-115	R46	1-247-807-31	CARBON	100 5% 1/4W
Q722	8-729-205-95	TRANSISTOR	2SA1428-Y	R47	1-216-809-11	METAL CHIP	100 5% 1/10W
Q724	8-729-205-95	TRANSISTOR	2SA1428-Y	R48	1-247-807-31	CARBON	100 5% 1/4W
Q725	8-729-043-27	TRANSISTOR	PDTC114EK-115	R49	1-216-809-11	METAL CHIP	100 5% 1/10W
Q726	8-729-043-27	TRANSISTOR	PDTC114EK-115	R50	1-247-807-31	CARBON	100 5% 1/4W
Q730	8-729-921-48	TRANSISTOR	2SD1760F5-Q	R53	1-247-807-31	CARBON	100 5% 1/4W
Q731	8-729-216-22	TRANSISTOR	2SA1162-G	R54	1-216-809-11	METAL CHIP	100 5% 1/10W
Q732	8-729-043-27	TRANSISTOR	PDTC114EK-115	R55	1-216-809-11	METAL CHIP	100 5% 1/10W
Q740	8-729-205-95	TRANSISTOR	2SA1428-Y	R56	1-216-864-11	SHORT CHIP	0
Q741	8-729-422-33	TRANSISTOR	2SD601A-Q-TX	R57	1-216-864-11	SHORT CHIP	0
Q800	8-729-043-27	TRANSISTOR	PDTC114EK-115	R58	1-249-417-11	CARBON	1K 5% 1/4W
		< RESISTOR >		R59	1-249-417-11	CARBON	1K 5% 1/4W
R1	1-216-821-11	METAL CHIP	1K 5% 1/10W	R60	1-216-809-11	METAL CHIP	100 5% 1/10W
R2	1-216-864-11	SHORT CHIP	0	R81	1-216-845-11	METAL CHIP	100K 5% 1/10W
R3	1-216-845-11	METAL CHIP	100K 5% 1/10W	R101	1-216-837-11	METAL CHIP	22K 5% 1/10W
R4	1-216-829-11	METAL CHIP	4.7K 5% 1/10W	R102	1-249-387-11	CARBON	3.3 5% 1/4W
R5	1-216-809-11	METAL CHIP	100 5% 1/10W	R105	1-216-813-11	METAL CHIP	220 5% 1/10W
R6	1-216-809-11	METAL CHIP	100 5% 1/10W	R106	1-216-813-11	METAL CHIP	220 5% 1/10W
R7	1-249-417-11	CARBON	1K 5% 1/4W	R205	1-216-864-11	SHORT CHIP	0
R8	1-216-809-11	METAL CHIP	100 5% 1/10W	R250	1-216-817-11	METAL CHIP	470 5% 1/10W
R9	1-216-809-11	METAL CHIP	100 5% 1/10W	R259	1-216-833-11	METAL CHIP	10K 5% 1/10W
R10	1-216-809-11	METAL CHIP	100 5% 1/10W	R262	1-216-821-11	METAL CHIP	1K 5% 1/10W
R11	1-216-809-11	METAL CHIP	100 5% 1/10W	R263	1-216-797-11	METAL CHIP	10 5% 1/10W
R12	1-249-441-11	CARBON	100K 5% 1/4W	R264	1-216-821-11	METAL CHIP	1K 5% 1/10W
R13	1-216-809-11	METAL CHIP	100 5% 1/10W	R300	1-216-841-11	METAL CHIP	47K 5% 1/10W
R14	1-216-845-11	METAL CHIP	100K 5% 1/10W	R301	1-216-841-11	METAL CHIP	47K 5% 1/10W
R16	1-216-845-11	METAL CHIP	100K 5% 1/10W	R302	1-216-809-11	METAL CHIP	100 5% 1/10W
R17	1-216-841-11	METAL CHIP	47K 5% 1/10W	R303	1-216-809-11	METAL CHIP	100 5% 1/10W
R18	1-216-809-11	METAL CHIP	100 5% 1/10W	R304	1-216-809-11	METAL CHIP	100 5% 1/10W
R19	1-247-807-31	CARBON	100 5% 1/4W	R305	1-216-809-11	METAL CHIP	100 5% 1/10W
R20	1-247-807-31	CARBON	100 5% 1/4W	R306	1-216-806-11	METAL CHIP	56 5% 1/10W
R21	1-216-809-11	METAL CHIP	100 5% 1/10W	R307	1-216-806-11	METAL CHIP	56 5% 1/10W
R22	1-216-809-11	METAL CHIP	100 5% 1/10W	R308	1-216-851-11	METAL CHIP	330K 5% 1/10W
R23	1-216-833-11	METAL CHIP	10K 5% 1/10W	R309	1-216-851-11	METAL CHIP	330K 5% 1/10W
R24	1-216-833-11	METAL CHIP	10K 5% 1/10W	R310	1-216-835-11	METAL CHIP	15K 5% 1/10W
R25	1-216-809-11	METAL CHIP	100 5% 1/10W	R311	1-216-835-11	METAL CHIP	15K 5% 1/10W
R26	1-216-809-11	METAL CHIP	100 5% 1/10W	R312	1-249-417-11	CARBON	1K 5% 1/4W
R27	1-247-807-31	CARBON	100 5% 1/4W	R313	1-249-417-11	CARBON	1K 5% 1/4W
R28	1-216-864-11	SHORT CHIP	0 (CA360X)	R314	1-216-797-11	METAL CHIP	10 5% 1/10W
R29	1-216-845-11	METAL CHIP	100K 5% 1/10W (CA360)	R350	1-216-833-11	METAL CHIP	10K 5% 1/10W
R30	1-216-864-11	SHORT CHIP	0 (EA)	R351	1-249-419-11	CARBON	1.5K 5% 1/4W
R31	1-216-845-11	METAL CHIP	100K 5% 1/10W (E)	R352	1-249-419-11	CARBON	1.5K 5% 1/4W
R33	1-216-845-11	METAL CHIP	100K 5% 1/10W (EA)	R353	1-217-671-11	RES-CHIP	1 5% 1/10W
R35	1-216-845-11	METAL CHIP	100K 5% 1/10W (E)	R400	1-216-797-11	METAL CHIP	10 5% 1/10W
R36	1-216-845-11	METAL CHIP	100K 5% 1/10W (E)	R401	1-216-840-11	METAL CHIP	39K 5% 1/10W
R37	1-216-845-11	METAL CHIP	100K 5% 1/10W	R402	1-216-809-11	METAL CHIP	100 5% 1/10W
R38	1-249-441-11	CARBON	100K 5% 1/4W	R403	1-216-809-11	METAL CHIP	100 5% 1/10W
				R404	1-216-809-11	METAL CHIP	100 5% 1/10W
				R405	1-216-809-11	METAL CHIP	100 5% 1/10W
				R406	1-216-841-11	METAL CHIP	47K 5% 1/10W
				R407	1-216-841-11	METAL CHIP	47K 5% 1/10W
				R408	1-216-841-11	METAL CHIP	47K 5% 1/10W

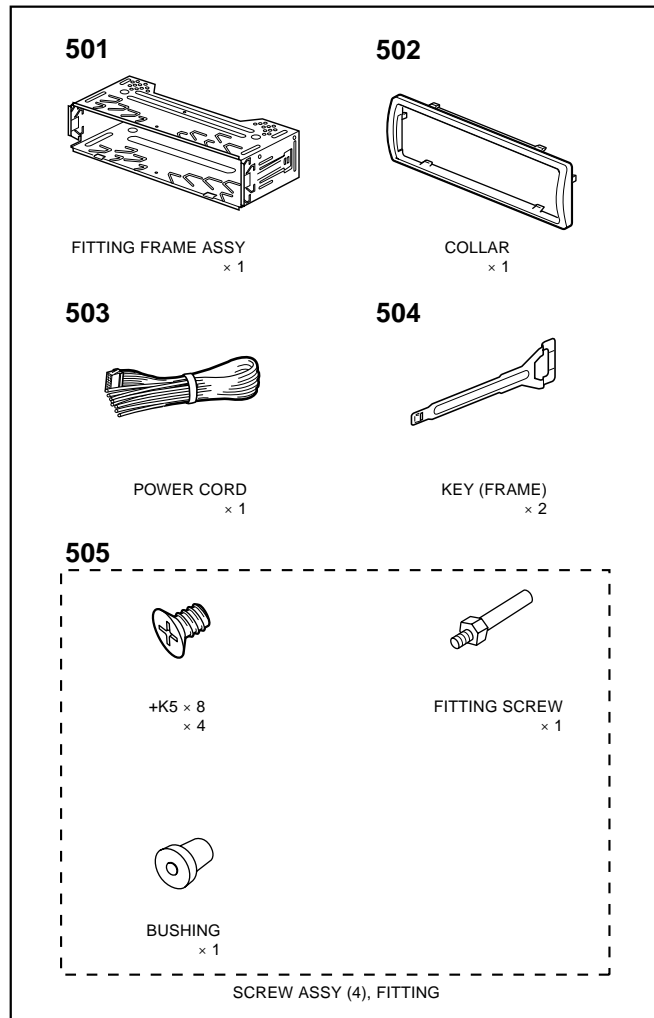
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
R409	1-216-841-11	METAL CHIP	47K 5% 1/10W	R804	1-216-797-11	METAL CHIP	10 5% 1/10W
R410	1-216-833-11	METAL CHIP	10K 5% 1/10W	R811	1-249-417-11	CARBON	1K 5% 1/4W
R411	1-216-833-11	METAL CHIP	10K 5% 1/10W	R814	1-216-849-11	METAL CHIP	220K 5% 1/10W
R412	1-216-833-11	METAL CHIP	10K 5% 1/10W	R815	1-216-864-11	SHORT CHIP	0
R413	1-216-833-11	METAL CHIP	10K 5% 1/10W	R852	1-216-864-11	SHORT CHIP	0
R414	1-216-821-11	METAL CHIP	1K 5% 1/10W	R853	1-216-864-11	SHORT CHIP	0
R415	1-216-821-11	METAL CHIP	1K 5% 1/10W			< SWITCH >	
R416	1-216-833-11	METAL CHIP	10K 5% 1/10W	S1	1-692-431-21	SWITCH, TACTILE (RESET)	
R417	1-216-833-11	METAL CHIP	10K 5% 1/10W	SW1	1-572-552-11	SWITCH, SLIDE (FREQUENCY SELECT) (E)	
R418	1-216-809-11	METAL CHIP	100 5% 1/10W			< TUNER UNIT >	
R419	1-216-809-11	METAL CHIP	100 5% 1/10W	TU100	A-3220-944-A	TUNER UNIT (TUX-031//Q2)	
R420	1-216-809-11	METAL CHIP	100 5% 1/10W			< THERMISTOR >	
R421	1-216-809-11	METAL CHIP	100 5% 1/10W	TH700	1-801-726-11	THERMISTOR, POSITIVE	
R422	1-216-864-11	SHORT CHIP	0	TH701	1-801-726-11	THERMISTOR, POSITIVE	
R423	1-216-864-11	SHORT CHIP	0	TH800	1-801-792-21	THERMISTOR, POSITIVE	
R450	1-216-805-11	METAL CHIP	47 5% 1/10W			< VIBRATOR >	
R451	1-216-833-11	METAL CHIP	10K 5% 1/10W	X1	1-795-539-11	VIBRATOR, CRYSTAL (18.432MHz)	
R452	1-216-829-11	METAL CHIP	4.7K 5% 1/10W	X2	1-567-098-41	VIBRATOR, CRYSTAL (32.768kHz)	
R500	1-216-841-11	METAL CHIP	47K 5% 1/10W			*****	
R501	1-216-825-11	METAL CHIP	2.2K 5% 1/10W			MISCELLANEOUS	
R502	1-216-833-11	METAL CHIP	10K 5% 1/10W			*****	
R503	1-216-821-11	METAL CHIP	1K 5% 1/10W	6	1-776-207-31	CORD (WITH CONNECTOR) (POWER)	
R505	1-216-864-11	SHORT CHIP	0	57	1-780-021-11	CONDUCTIVE BOARD, CONNECTION	
R600	1-249-417-11	CARBON	1K 5% 1/4W	58	1-786-464-11	SWITCH, SHEET	
R601	1-249-417-11	CARBON	1K 5% 1/4W	169	A-3220-926-B	MECHANISM DECK ASSY (MG-36SZ13-32)	
R602	1-249-417-11	CARBON	1K 5% 1/4W	F901	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) (10A/32V)	
R603	1-249-417-11	CARBON	1K 5% 1/4W	HP901	1-500-661-11	HEAD, MAGNETIC (PLAYBACK)	
R604	1-249-417-11	CARBON	1K 5% 1/4W	LCD1	1-805-131-11	DISPLAY PANEL, LIQUID CRYSTAL	
R605	1-249-417-11	CARBON	1K 5% 1/4W	M901	1-763-507-11	MOTOR, DC (CAPSTAN/REEL)	
R606	1-249-417-11	CARBON	1K 5% 1/4W	S901	1-771-928-11	SWITCH, SLIDE (DIRECTION)	
R607	1-216-821-11	METAL CHIP	1K 5% 1/10W	S902	1-771-926-11	SWITCH, LEAF (FF/REW)	
R650	1-249-425-11	CARBON	4.7K 5% 1/4W	S903	1-771-927-11	SWITCH, LEAF (TAPE DETECT)	
R651	1-216-841-11	METAL CHIP	47K 5% 1/10W			*****	
R652	1-216-841-11	METAL CHIP	47K 5% 1/10W			ACCESSORIES	
R653	1-216-829-11	METAL CHIP	4.7K 5% 1/10W			*****	
R654	1-216-845-11	METAL CHIP	100K 5% 1/10W	3-246-852-22	MANUAL, INSTRUCTION (ENGLISH, SPANISH, TRADITIONAL CHINESE) (E)		
R655	1-216-841-11	METAL CHIP	47K 5% 1/10W	3-246-852-32	MANUAL, INSTRUCTION (ENGLISH, ARABIC) (EA)		
R656	1-216-838-11	METAL CHIP	27K 5% 1/10W	3-246-853-21	MANUAL, INSTRUCTION, INSTALL (ENGLISH, SPANISH, TRADITIONAL CHINESE) (E)		
R657	1-216-809-11	METAL CHIP	100 5% 1/10W	3-246-853-31	MANUAL, INSTRUCTION, INSTALL (ENGLISH, ARABIC) (EA)		
R663	1-216-845-11	METAL CHIP	100K 5% 1/10W			*****	
R664	1-216-821-11	METAL CHIP	1K 5% 1/10W				
R710	1-260-300-11	CARBON	4.7 5% 1/2W				
R711	1-249-419-11	CARBON	1.5K 5% 1/4W				
R712	1-249-419-11	CARBON	1.5K 5% 1/4W				
R713	1-216-833-11	METAL CHIP	10K 5% 1/10W				
R720	1-216-833-11	METAL CHIP	10K 5% 1/10W				
R721	1-247-749-11	CARBON	560 5% 1/2W				
R722	1-216-864-11	SHORT CHIP	0				
R725	1-247-749-11	CARBON	560 5% 1/2W				
R728	1-216-833-11	METAL CHIP	10K 5% 1/10W				
R730	1-216-833-11	METAL CHIP	10K 5% 1/10W				
R731	1-249-421-11	CARBON	2.2K 5% 1/4W				
R732	1-216-817-11	METAL CHIP	470 5% 1/10W				
R740	1-216-837-11	METAL CHIP	22K 5% 1/10W				
R800	1-216-833-11	METAL CHIP	10K 5% 1/10W				
R801	1-216-809-11	METAL CHIP	100 5% 1/10W				
R802	1-216-809-11	METAL CHIP	100 5% 1/10W				

XR-CA360/CA360X

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

501	X-3382-647-1	FRAME ASSY, FITTING	
502	3-246-758-01	COLLAR	
503	1-776-207-31	CORD (WITH CONNECTOR) (POWER)	
504	3-246-471-01	KEY (FRAME)	
505	X-3382-759-1	SCREW ASSY (4), FITTING	



XR-CA360/CA360X

SONY®

SERVICE MANUAL

Ver 1.2 2003.12

E Model
XR-CA360/CA360X

Saudi Arabia Model
XR-CA360

SUPPLEMENT-1

File this supplement with the service manual.

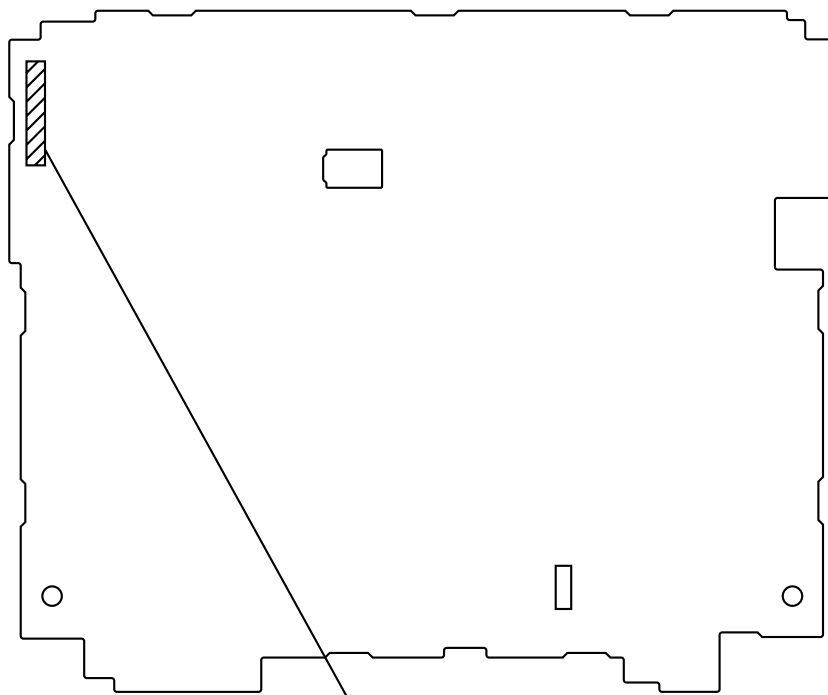
Subject: Change of MAIN board.

(ECN-CSA07576)

In this set, MAIN board have been changed in the midway of production.
Printed wiring boards and schematic diagrams of type B, and changed parts list are described in this supplement-1.
Refer to original service manual for other information.

• TYPE A/B DISCRIMINATION

– MAIN BOARD (Conductor Side) –








Type A: PTP008401
Type B: PTP008402

1 DIAGRAMS

1-1. 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.
-  : Carbon pattern.

(The other layers' patterns are not indicated.)

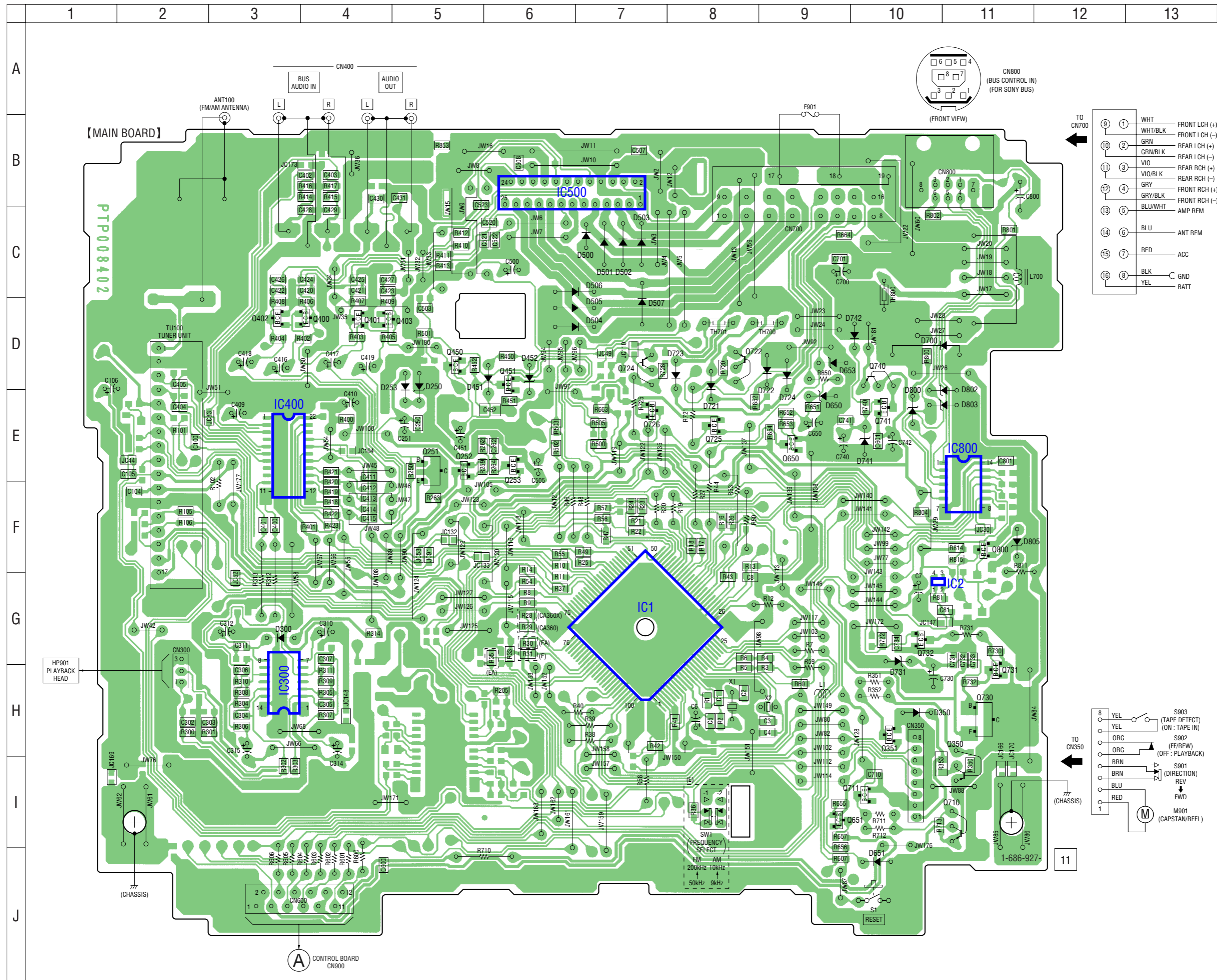
Caution:
 Pattern face side: Parts on the pattern face side seen from (Conductor Side) the pattern face are indicated.
 Parts face side: Parts on the parts face side seen from (Component Side) the parts face are indicated.

- Abbreviation
 EA : Saudi Arabia model
- When replacing the IC1, refer to servicing note (Page 2 "When replacing the IC1").

Note on Schematic Diagram:

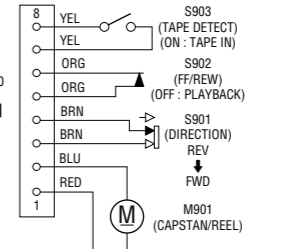
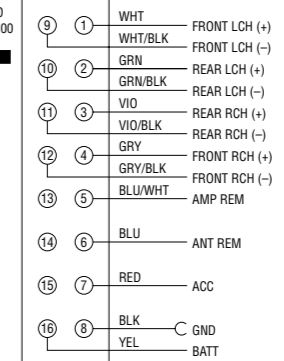
- All capacitors are in μF unless otherwise noted. pF: $\mu\mu\text{F}$ 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $1/4\text{ W}$ or less unless otherwise specified.
-  : panel designation.
-  : B+ Line.
- Power voltage is dc 14.4V and fed with regulated dc power supply from ACC and BATT cords.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
 no mark : FM
 : TAPE PLAYBACK
- Voltages are taken with a VOM (Input impedance 10 M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with an oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
 : FM
 : AM
 : TAPE PLAYBACK
 : BUS AUDIO IN
- Abbreviation
 EA : Saudi Arabia model
- When replacing the IC1, refer to servicing note (Page 2 "When replacing the IC1").

1-2. PRINTED WIRING BOARD – MAIN Board – Note: When replacing the IC1, refer to servicing note (Page 2 “When replacing the IC1”).

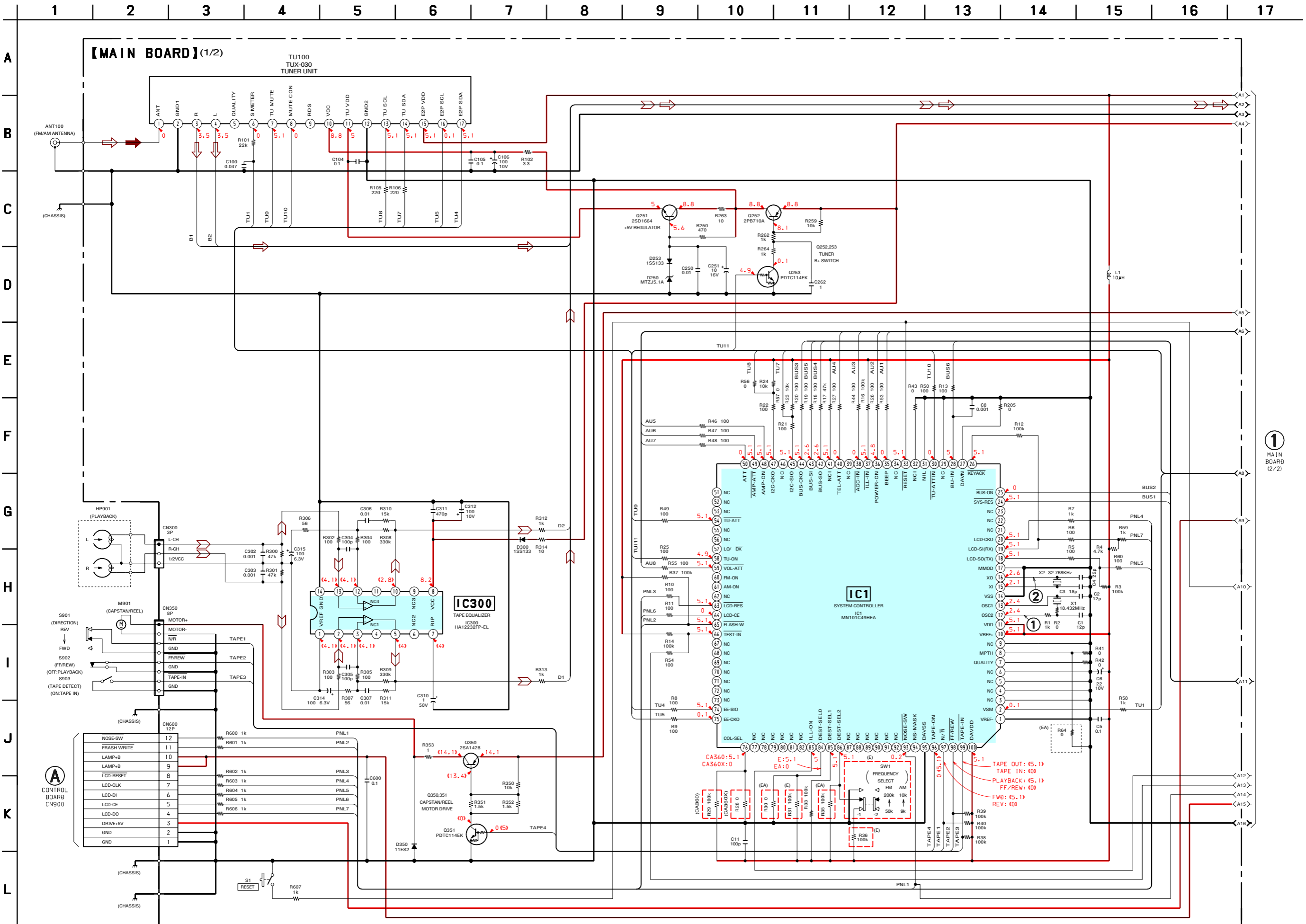


• Semiconductor Location

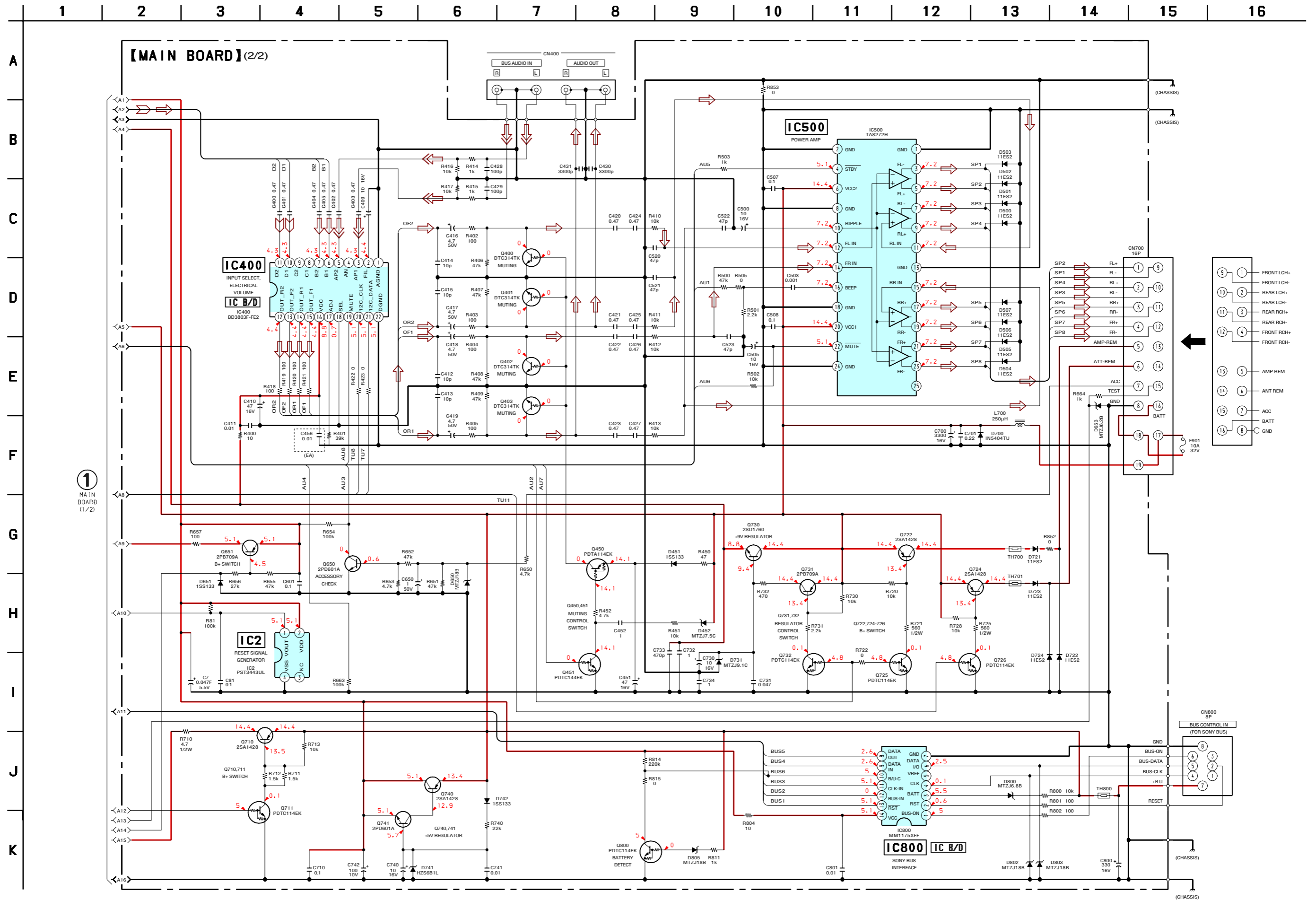
Ref. No.	Location
D250	D-5
D253	D-5
D300	G-3
D350	H-10
D451	D-6
D452	D-6
D500	C-7
D501	C-7
D502	C-7
D503	C-7
D504	D-7
D505	D-7
D506	C-7
D507	D-7
D650	E-9
D651	J-10
D653	D-9
D700	D-10
D721	D-8
D722	D-9
D723	D-8
D724	D-9
D731	H-11
D741	E-10
D742	D-10
D800	E-10
D802	E-11
D803	E-11
D805	F-11
IC1	G-7
IC2	G-11
IC300	H-3
IC400	E-3
IC500	B-6
IC800	E-11
Q251	E-5
Q252	E-5
Q253	E-6
Q350	I-11
Q351	H-10
Q400	D-4
Q401	D-4
Q402	D-3
Q403	D-4
Q450	D-5
Q451	D-6
Q650	E-9
Q651	I-9
Q710	I-11
Q711	I-10
Q722	D-8
Q724	D-7
Q725	E-8
Q726	E-7
Q730	H-11
Q731	G-11
Q732	G-10
Q740	D-10
Q741	E-10
Q800	F-11



1-3. SCHEMATIC DIAGRAM – MAIN Board (1/2) – Note: When replacing the IC1, refer to servicing note (Page 2 “When replacing the IC1”).



1-4. SCHEMATIC DIAGRAM – MAIN Board (2/2) –



1 MAIN BOARD (1/2)

MEMO

2 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
- Abbreviation
EA : Saudi Arabia model

- 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. . : μ A. . uPA. . : μ PA. .
uPB. . : μ PB. . uPC. . : μ PC. .
uPD. . : μ PD. .
- CAPACITORS
uF: μ F
- COILS
uH: μ H

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

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
	A-3274-648-A	MAIN BOARD, COMPLETE (CA360X)		C402	1-125-891-11	CERAMIC CHIP 0.47uF 10%	10V
	A-3274-708-A	MAIN BOARD, COMPLETE (CA360: E)		C403	1-125-891-11	CERAMIC CHIP 0.47uF 10%	10V
	A-3274-711-A	MAIN BOARD, COMPLETE (EA)		C404	1-125-891-11	CERAMIC CHIP 0.47uF 10%	10V
		*****		C405	1-125-891-11	CERAMIC CHIP 0.47uF 10%	10V
*	3-041-578-01	BRACKET (IC)		C409	1-126-157-11	ELECT 10uF 20%	16V
	7-685-794-09	SCREW +PTT 2.6X10 (S)		C410	1-124-589-11	ELECT 47uF 20%	16V
		< JACK >		C411	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V
				C412	1-162-915-11	CERAMIC CHIP 10PF 0.5PF	50V
				C413	1-162-915-11	CERAMIC CHIP 10PF 0.5PF	50V
ANT100	1-815-185-13	JACK (ANT) (FM/AM ANTENNA)		C414	1-162-915-11	CERAMIC CHIP 10PF 0.5PF	50V
		< CAPACITOR >		C415	1-162-915-11	CERAMIC CHIP 10PF 0.5PF	50V
C1	1-162-916-11	CERAMIC CHIP 12PF 5%	50V	C416	1-126-163-11	ELECT 4.7uF 20%	50V
C2	1-162-916-11	CERAMIC CHIP 12PF 5%	50V	C417	1-126-163-11	ELECT 4.7uF 20%	50V
C3	1-162-918-11	CERAMIC CHIP 18PF 5%	50V	C418	1-126-163-11	ELECT 4.7uF 20%	50V
C4	1-162-919-11	CERAMIC CHIP 22PF 5%	50V	C419	1-126-163-11	ELECT 4.7uF 20%	50V
C5	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V	C420	1-125-891-11	CERAMIC CHIP 0.47uF 10%	10V
C6	1-124-234-00	ELECT 22uF 20%	10V	C421	1-125-891-11	CERAMIC CHIP 0.47uF 10%	10V
C7	1-125-701-11	DOUBLE LAYER 0.047F	5.5V	C422	1-125-891-11	CERAMIC CHIP 0.47uF 10%	10V
C8	1-162-964-11	CERAMIC CHIP 0.001uF 10%	50V	C423	1-125-891-11	CERAMIC CHIP 0.47uF 10%	10V
C11	1-162-927-11	CERAMIC CHIP 100PF 5%	50V	C424	1-125-891-11	CERAMIC CHIP 0.47uF 10%	10V
C81	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V	C425	1-125-891-11	CERAMIC CHIP 0.47uF 10%	10V
C100	1-165-176-11	CERAMIC CHIP 0.047uF 10%	16V	C426	1-125-891-11	CERAMIC CHIP 0.47uF 10%	10V
C101	1-162-964-11	CERAMIC CHIP 0.001uF 10%	50V	C427	1-125-891-11	CERAMIC CHIP 0.47uF 10%	10V
			(EA)	C428	1-162-927-11	CERAMIC CHIP 100PF 5%	50V
C104	1-164-156-11	CERAMIC CHIP 0.1uF	25V	C429	1-162-927-11	CERAMIC CHIP 100PF 5%	50V
C105	1-164-156-11	CERAMIC CHIP 0.1uF	25V	C430	1-162-967-11	CERAMIC CHIP 0.0033uF 10%	50V
C106	1-124-584-00	ELECT 100uF 20%	10V	C431	1-162-967-11	CERAMIC CHIP 0.0033uF 10%	50V
C250	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V	C451	1-124-589-11	ELECT 47uF 20%	16V
C251	1-126-157-11	ELECT 10uF 20%	16V	C452	1-109-982-11	CERAMIC CHIP 1uF 10%	10V
C262	1-165-908-11	CERAMIC CHIP 1uF 10%	10V	C456	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V
C302	1-162-964-11	CERAMIC CHIP 0.001uF 10%	50V				(EA)
C303	1-162-964-11	CERAMIC CHIP 0.001uF 10%	50V	C500	1-126-157-11	ELECT 10uF 20%	16V
C304	1-162-927-11	CERAMIC CHIP 100PF 5%	50V	C503	1-162-964-11	CERAMIC CHIP 0.001uF 10%	50V
C305	1-162-927-11	CERAMIC CHIP 100PF 5%	50V	C505	1-126-157-11	ELECT 10uF 20%	16V
C306	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V	C507	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V
C307	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V	C508	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V
C310	1-104-942-11	ELECT 1uF 20%	50V	C520	1-162-923-11	CERAMIC CHIP 47PF 5%	50V
C311	1-164-315-11	CERAMIC CHIP 470PF 5%	50V	C521	1-162-923-11	CERAMIC CHIP 47PF 5%	50V
C312	1-124-584-00	ELECT 100uF 20%	10V	C522	1-162-923-11	CERAMIC CHIP 47PF 5%	50V
C314	1-124-584-00	ELECT 100uF 20%	6.3V	C523	1-162-923-11	CERAMIC CHIP 47PF 5%	50V
C315	1-124-584-00	ELECT 100uF 20%	6.3V	C600	1-164-156-11	CERAMIC CHIP 0.1uF	25V
C400	1-125-891-11	CERAMIC CHIP 0.47uF 10%	10V	C601	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V
C401	1-125-891-11	CERAMIC CHIP 0.47uF 10%	10V	C650	1-104-942-11	ELECT 1uF 20%	50V
				C700	1-126-936-11	ELECT 3300uF 20%	16V

MAIN

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C701	1-165-128-11	CERAMIC CHIP 0.22uF	16V	IC500	8-759-827-12	IC TA8272H	
C710	1-107-826-11	CERAMIC CHIP 0.1uF	10% 16V	IC800	8-759-096-16	IC MM1175XFF	
C730	1-126-157-11	ELECT 10uF	20% 16V			< SHORT >	
C731	1-165-176-11	CERAMIC CHIP 0.047uF	10% 16V	JC30	1-216-864-11	SHORT CHIP	0
C732	1-165-908-11	CERAMIC CHIP 1uF	10% 10V	JC44	1-216-864-11	SHORT CHIP	0
C733	1-164-315-11	CERAMIC CHIP 470PF	5% 50V	JC49	1-216-864-11	SHORT CHIP	0
C734	1-165-908-11	CERAMIC CHIP 1uF	10% 10V	JC52	1-216-864-11	SHORT CHIP	0
C740	1-126-157-11	ELECT 10uF	20% 16V	JC53	1-216-864-11	SHORT CHIP	0
C741	1-162-970-11	CERAMIC CHIP 0.01uF	10% 25V	JC83	1-216-864-11	SHORT CHIP	0
C742	1-124-584-00	ELECT 100uF	20% 10V	JC91	1-216-864-11	SHORT CHIP	0
C800	1-126-940-11	ELECT 330uF	20% 25V	JC104	1-216-864-11	SHORT CHIP	0
C801	1-162-970-11	CERAMIC CHIP 0.01uF	10% 25V	JC110	1-216-864-11	SHORT CHIP	0
		< CONNECTOR >		JC132	1-216-864-11	SHORT CHIP	0
* CN300	1-564-705-11	PIN, CONNECTOR (PC BOARD) 3P		JC133	1-216-864-11	SHORT CHIP	0
* CN350	1-573-486-11	PIN, CONNECTOR (PC BOARD) 8P		JC134	1-216-864-11	SHORT CHIP	0
CN400	1-774-699-12	JACK, PIN 4P (BUS AUDIO IN, AUDIO OUT)		JC147	1-216-864-11	SHORT CHIP	0
CN600	1-794-311-21	PLUG, CONNECTOR 12P		JC148	1-216-864-11	SHORT CHIP	0
CN700	1-774-701-11	PIN, CONNECTOR 16P		JC166	1-216-864-11	SHORT CHIP	0
CN800	1-580-907-31	PLUG, CONNECTOR (BUS CONTROL IN)		JC169	1-216-864-11	SHORT CHIP	0
		< DIODE >		JC170	1-216-864-11	SHORT CHIP	0
D250	8-719-921-42	DIODE MTZJ-5.1A		JC173	1-216-864-11	SHORT CHIP	0
D253	8-719-991-33	DIODE 1SS133T-77				< COIL >	
D300	8-719-991-33	DIODE 1SS133T-77		L1	1-410-509-11	INDUCTOR	10uH
D350	8-719-200-82	DIODE 11ES2		L700	1-419-476-11	COIL, CHOKE	250uH
D451	8-719-991-33	DIODE 1SS133T-77				< TRANSISTOR >	
D452	8-719-110-03	DIODE RD7.5ESB2		Q251	8-729-920-85	TRANSISTOR	2SD1664-QR
D500	8-719-200-82	DIODE 11ES2		Q252	8-729-049-85	TRANSISTOR	2PB710AR-115
D501	8-719-200-82	DIODE 11ES2		Q253	8-729-043-27	TRANSISTOR	PDTC114EK-115
D502	8-719-200-82	DIODE 11ES2		Q350	8-729-205-95	TRANSISTOR	2SA1428-Y
D503	8-719-200-82	DIODE 11ES2		Q351	8-729-043-27	TRANSISTOR	PDTC114EK-115
D504	8-719-200-82	DIODE 11ES2		Q400	8-729-920-21	TRANSISTOR	DTC314TK-T-146
D505	8-719-200-82	DIODE 11ES2		Q401	8-729-920-21	TRANSISTOR	DTC314TK-T-146
D506	8-719-200-82	DIODE 11ES2		Q402	8-729-920-21	TRANSISTOR	DTC314TK-T-146
D507	8-719-200-82	DIODE 11ES2		Q403	8-729-920-21	TRANSISTOR	DTC314TK-T-146
D650	8-719-110-49	DIODE RD18ESB2		Q450	8-729-043-32	TRANSISTOR	PDTA114EK-115
D651	8-719-991-33	DIODE 1SS133T-77		Q451	8-729-043-29	TRANSISTOR	PDTC144EK-115
D653	8-719-109-93	DIODE RD6.2ESB2		Q650	8-729-422-33	TRANSISTOR	2SD601A-Q-TX
D700	8-719-049-38	DIODE 1N5404TU		Q651	8-729-216-22	TRANSISTOR	2SA1162-G
D721	8-719-200-82	DIODE 11ES2		Q710	8-729-205-95	TRANSISTOR	2SA1428-Y
D722	8-719-200-82	DIODE 11ES2		Q711	8-729-043-27	TRANSISTOR	PDTC114EK-115
D723	8-719-200-82	DIODE 11ES2		Q722	8-729-205-95	TRANSISTOR	2SA1428-Y
D724	8-719-200-82	DIODE 11ES2		Q724	8-729-205-95	TRANSISTOR	2SA1428-Y
D731	8-719-110-14	DIODE RD9.1ESB3		Q725	8-729-043-27	TRANSISTOR	PDTC114EK-115
D741	8-719-935-39	DIODE HZS6B1LTD		Q726	8-729-043-27	TRANSISTOR	PDTC114EK-115
D742	8-719-991-33	DIODE 1SS133T-77		Q730	8-729-921-48	TRANSISTOR	2SD1760F5-Q
D800	8-719-109-97	DIODE RD6.8ESB2		Q731	8-729-216-22	TRANSISTOR	2SA1162-G
D802	8-719-110-49	DIODE RD18ESB2		Q732	8-729-043-27	TRANSISTOR	PDTC114EK-115
D803	8-719-110-49	DIODE RD18ESB2		Q740	8-729-205-95	TRANSISTOR	2SA1428-Y
D805	8-719-110-49	DIODE RD18ESB2		Q741	8-729-422-33	TRANSISTOR	2SD601A-Q-TX
		< IC >		Q800	8-729-043-27	TRANSISTOR	PDTC114EK-115
IC1	6-803-178-01	IC MN101C49HEA				< RESISTOR >	
IC2	6-701-405-01	IC PST3443UL		R1	1-216-821-11	METAL CHIP	1K 5% 1/10W
IC300	6-802-510-01	IC HA12232FP-EL		R2	1-216-864-11	SHORT CHIP	0
IC400	6-703-302-02	IC BD3803AF-FE2					

When replacing the IC1, refer to servicing note (Page 2 "When replacing the IC1").

Ref. No.	Part No.	Description	Quantity	Unit	Remark	Ref. No.	Part No.	Description	Quantity	Unit	Remark
R3	1-216-845-11	METAL CHIP	100K		5% 1/10W	R81	1-216-845-11	METAL CHIP	100K		5% 1/10W
R4	1-216-829-11	METAL CHIP	4.7K		5% 1/10W	R101	1-216-837-11	METAL CHIP	22K		5% 1/10W
R5	1-216-809-11	METAL CHIP	100		5% 1/10W	R102	1-249-387-11	CARBON	3.3		5% 1/4W
R6	1-216-809-11	METAL CHIP	100		5% 1/10W	R105	1-216-813-11	METAL CHIP	220		5% 1/10W
R7	1-249-417-11	CARBON	1K		5% 1/4W	R106	1-216-813-11	METAL CHIP	220		5% 1/10W
R8	1-216-809-11	METAL CHIP	100		5% 1/10W	R205	1-216-864-11	SHORT CHIP	0		
R9	1-216-809-11	METAL CHIP	100		5% 1/10W	R250	1-216-817-11	METAL CHIP	470		5% 1/10W
R10	1-216-809-11	METAL CHIP	100		5% 1/10W	R259	1-216-833-11	METAL CHIP	10K		5% 1/10W
R11	1-216-809-11	METAL CHIP	100		5% 1/10W	R262	1-216-821-11	METAL CHIP	1K		5% 1/10W
R12	1-249-441-11	CARBON	100K		5% 1/4W	R263	1-216-797-11	METAL CHIP	10		5% 1/10W
R13	1-216-809-11	METAL CHIP	100		5% 1/10W	R264	1-216-821-11	METAL CHIP	1K		5% 1/10W
R14	1-216-845-11	METAL CHIP	100K		5% 1/10W	R300	1-216-841-11	METAL CHIP	47K		5% 1/10W
R16	1-216-845-11	METAL CHIP	100K		5% 1/10W	R301	1-216-841-11	METAL CHIP	47K		5% 1/10W
R17	1-216-841-11	METAL CHIP	47K		5% 1/10W	R302	1-216-809-11	METAL CHIP	100		5% 1/10W
R18	1-216-809-11	METAL CHIP	100		5% 1/10W	R303	1-216-809-11	METAL CHIP	100		5% 1/10W
R19	1-247-807-31	CARBON	100		5% 1/4W	R304	1-216-809-11	METAL CHIP	100		5% 1/10W
R20	1-247-807-31	CARBON	100		5% 1/4W	R305	1-216-809-11	METAL CHIP	100		5% 1/10W
R21	1-216-809-11	METAL CHIP	100		5% 1/10W	R306	1-216-806-11	METAL CHIP	56		5% 1/10W
R22	1-216-809-11	METAL CHIP	100		5% 1/10W	R307	1-216-806-11	METAL CHIP	56		5% 1/10W
R23	1-216-833-11	METAL CHIP	10K		5% 1/10W	R308	1-216-851-11	METAL CHIP	330K		5% 1/10W
R24	1-216-833-11	METAL CHIP	10K		5% 1/10W	R309	1-216-851-11	METAL CHIP	330K		5% 1/10W
R25	1-216-809-11	METAL CHIP	100		5% 1/10W	R310	1-216-835-11	METAL CHIP	15K		5% 1/10W
R26	1-216-809-11	METAL CHIP	100		5% 1/10W	R311	1-216-835-11	METAL CHIP	15K		5% 1/10W
R27	1-247-807-31	CARBON	100		5% 1/4W	R312	1-249-417-11	CARBON	1K		5% 1/4W
R28	1-216-864-11	SHORT CHIP	0 (CA360X)			R313	1-249-417-11	CARBON	1K		5% 1/4W
R29	1-216-845-11	METAL CHIP	100K		5% 1/10W (CA360)	R314	1-216-797-11	METAL CHIP	10		5% 1/10W
R30	1-216-864-11	SHORT CHIP	0 (EA)			R350	1-216-833-11	METAL CHIP	10K		5% 1/10W
R31	1-216-845-11	METAL CHIP	100K		5% 1/10W (E)	R351	1-249-419-11	CARBON	1.5K		5% 1/4W
R33	1-216-845-11	METAL CHIP	100K		5% 1/10W	R352	1-249-419-11	CARBON	1.5K		5% 1/4W
R35	1-216-845-11	METAL CHIP	100K		5% 1/10W (EA)	R353	1-217-671-11	RES-CHIP	1		5% 1/10W
R36	1-216-845-11	METAL CHIP	100K		5% 1/10W (E)	R400	1-216-797-11	METAL CHIP	10		5% 1/10W
R37	1-216-845-11	METAL CHIP	100K		5% 1/10W	R401	1-216-840-11	METAL CHIP	39K		5% 1/10W
R38	1-249-441-11	CARBON	100K		5% 1/4W	R402	1-216-809-11	METAL CHIP	100		5% 1/10W
R39	1-249-441-11	CARBON	100K		5% 1/4W	R403	1-216-809-11	METAL CHIP	100		5% 1/10W
R40	1-249-441-11	CARBON	100K		5% 1/4W	R404	1-216-809-11	METAL CHIP	100		5% 1/10W
R41	1-216-864-11	SHORT CHIP	0			R405	1-216-809-11	METAL CHIP	100		5% 1/10W
R42	1-216-864-11	SHORT CHIP	0			R406	1-216-841-11	METAL CHIP	47K		5% 1/10W
R43	1-216-864-11	SHORT CHIP	0			R407	1-216-841-11	METAL CHIP	47K		5% 1/10W
R44	1-247-807-31	CARBON	100		5% 1/4W	R408	1-216-841-11	METAL CHIP	47K		5% 1/10W
R46	1-247-807-31	CARBON	100		5% 1/4W	R409	1-216-841-11	METAL CHIP	47K		5% 1/10W
R47	1-216-809-11	METAL CHIP	100		5% 1/10W	R410	1-216-833-11	METAL CHIP	10K		5% 1/10W
R48	1-247-807-31	CARBON	100		5% 1/4W	R411	1-216-833-11	METAL CHIP	10K		5% 1/10W
R49	1-216-809-11	METAL CHIP	100		5% 1/10W	R412	1-216-833-11	METAL CHIP	10K		5% 1/10W
R50	1-247-807-31	CARBON	100		5% 1/4W	R413	1-216-833-11	METAL CHIP	10K		5% 1/10W
R53	1-247-807-31	CARBON	100		5% 1/4W	R414	1-216-821-11	METAL CHIP	1K		5% 1/10W
R54	1-216-809-11	METAL CHIP	100		5% 1/10W	R415	1-216-821-11	METAL CHIP	1K		5% 1/10W
R55	1-216-809-11	METAL CHIP	100		5% 1/10W	R416	1-216-833-11	METAL CHIP	10K		5% 1/10W
R56	1-216-864-11	SHORT CHIP	0			R417	1-216-833-11	METAL CHIP	10K		5% 1/10W
R57	1-216-864-11	SHORT CHIP	0			R418	1-216-809-11	METAL CHIP	100		5% 1/10W
R58	1-249-417-11	CARBON	1K		5% 1/4W	R419	1-216-809-11	METAL CHIP	100		5% 1/10W
R59	1-249-417-11	CARBON	1K		5% 1/4W	R420	1-216-809-11	METAL CHIP	100		5% 1/10W
R60	1-216-809-11	METAL CHIP	100		5% 1/10W	R421	1-216-809-11	METAL CHIP	100		5% 1/10W
R64	1-216-809-11	METAL CHIP	100		5% 1/10W (EA)	R422	1-216-864-11	SHORT CHIP	0		
						R423	1-216-864-11	SHORT CHIP	0		
						R450	1-216-805-11	METAL CHIP	47		5% 1/10W
						R451	1-216-833-11	METAL CHIP	10K		5% 1/10W
						R452	1-216-829-11	METAL CHIP	4.7K		5% 1/10W
						R500	1-216-841-11	METAL CHIP	47K		5% 1/10W

XR-CA360/CA360X

MAIN

Ref. No.	Part No.	Description	Remark
R501	1-216-825-11	METAL CHIP	2.2K 5% 1/10W
R502	1-216-833-11	METAL CHIP	10K 5% 1/10W
R503	1-216-821-11	METAL CHIP	1K 5% 1/10W
R505	1-216-864-11	SHORT CHIP	0
R600	1-249-417-11	CARBON	1K 5% 1/4W
R601	1-249-417-11	CARBON	1K 5% 1/4W
R602	1-249-417-11	CARBON	1K 5% 1/4W
R603	1-249-417-11	CARBON	1K 5% 1/4W
R604	1-249-417-11	CARBON	1K 5% 1/4W
R605	1-249-417-11	CARBON	1K 5% 1/4W
R606	1-249-417-11	CARBON	1K 5% 1/4W
R607	1-216-821-11	METAL CHIP	1K 5% 1/10W
R650	1-249-425-11	CARBON	4.7K 5% 1/4W
R651	1-216-841-11	METAL CHIP	47K 5% 1/10W
R652	1-216-841-11	METAL CHIP	47K 5% 1/10W
R653	1-216-829-11	METAL CHIP	4.7K 5% 1/10W
R654	1-216-845-11	METAL CHIP	100K 5% 1/10W
R655	1-216-841-11	METAL CHIP	47K 5% 1/10W
R656	1-216-838-11	METAL CHIP	27K 5% 1/10W
R657	1-216-809-11	METAL CHIP	100 5% 1/10W
R663	1-216-845-11	METAL CHIP	100K 5% 1/10W
R664	1-216-821-11	METAL CHIP	1K 5% 1/10W
R710	1-260-300-11	CARBON	4.7 5% 1/2W
R711	1-249-419-11	CARBON	1.5K 5% 1/4W
R712	1-249-419-11	CARBON	1.5K 5% 1/4W
R713	1-216-833-11	METAL CHIP	10K 5% 1/10W
R720	1-216-833-11	METAL CHIP	10K 5% 1/10W
R721	1-247-749-11	CARBON	560 5% 1/2W
R722	1-216-864-11	SHORT CHIP	0
R725	1-247-749-11	CARBON	560 5% 1/2W
R728	1-216-833-11	METAL CHIP	10K 5% 1/10W
R730	1-216-833-11	METAL CHIP	10K 5% 1/10W
R731	1-249-421-11	CARBON	2.2K 5% 1/4W
R732	1-216-817-11	METAL CHIP	470 5% 1/10W
R740	1-216-837-11	METAL CHIP	22K 5% 1/10W
R800	1-216-833-11	METAL CHIP	10K 5% 1/10W
R801	1-216-809-11	METAL CHIP	100 5% 1/10W
R802	1-216-809-11	METAL CHIP	100 5% 1/10W
R804	1-216-797-11	METAL CHIP	10 5% 1/10W
R811	1-249-417-11	CARBON	1K 5% 1/4W
R814	1-216-849-11	METAL CHIP	220K 5% 1/10W
R815	1-216-864-11	SHORT CHIP	0
R852	1-216-864-11	SHORT CHIP	0
R853	1-216-864-11	SHORT CHIP	0
< SWITCH >			
S1	1-692-431-21	SWITCH, TACTILE (RESET)	
SW1	1-572-552-11	SWITCH, SLIDE (FREQUENCY SELECT) (E)	
< TUNER UNIT >			
TU100	A-3220-944-A	TUNER UNIT TUX-031	
< THERMISTOR >			
TH700	1-801-726-11	THERMISTOR, POSITIVE	
TH701	1-801-726-11	THERMISTOR, POSITIVE	
TH800	1-801-792-21	THERMISTOR, POSITIVE	

Ref. No.	Part No.	Description	Remark
< VIBRATOR >			
X1	1-795-539-11	VIBRATOR, CRYSTAL (18.432MHz)	
X2	1-567-098-41	VIBRATOR, CRYSTAL (32.768kHz)	

MEMO

