MDX-F5800

SERVICE MANUAL

Ver 1.1 2004.09

US Model
AEP Model
UK Model

US and foreign patents licensed from Dolby Laboratories.

Model Name Using Similar Mechanism	NEW
MD Mechanism Type	MG-165A-138
Optical Pick-up Name	KMS-242E

SPECIFICATIONS

AUDIO POWER SPECIFICATIONS (US model)

POWER OUTPUT AND TOTAL HARMONIC DISTORTION 23.2 watts per channel minimum continuous average power into 4 ohms, 4 channels driven from 20 Hz to 20 kHz with no more than 5% total harmonic distortion.

MD Player section

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

Tuner section

FM

Tuning range	87.5 – 107.9 MHz
Antenna terminal	External antenna 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 (US model)

Tuning range	530 – 1,710 kHz
Antenna terminal	External antenna connector
Intermediate frequency	10.7 MHz/450 kHz
Sensitivity	30 µV

MW/LW (AEP, UK models)

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

Power amplifier section

Outputs	Speaker outputs (sure seal connectors)
Speaker impedance	4 – 8 ohms
Maximum power output	52 W × 4 (at 4 ohms)

General

Outputs	Audio output terminals (front, rear/sub switchable) Power antenna relay control terminal Power amplifier control terminal
Inputs	Telephone ATT control terminal Remote controller input terminal BUS control input terminal BUS audio input terminal Antenna input terminal
Tone controls	Low: ±10 dB at 60 Hz (XPLOD) Mid: ±10 dB at 1 kHz (XPLOD) High: ±10 dB at 10 kHz (XPLOD)
Power requirements	12 V DC car battery (negative ground)
Dimensions	Approx. 178 × 50 × 181 mm ($7\ ^1/_8 \times 2 \times 7\ ^1/_4$ in) (w/h/d)
Mounting dimensions	Approx. 182 × 53 × 161 mm ($7\ ^1/_4 \times 2\ ^1/_8 \times 6\ ^3/_8$ in) (w/h/d)
Mass	Approx. 1.2 kg (2 lb 10 oz)
Supplied accessories	Parts for installation and connections (1 set) Front panel case (1)

Note

This unit cannot be connected to a digital preamplifier or an equalizer which is Sony BUS system compatible.

Design and specifications are subject to change without notice.

FM/AM (MW/LW) MINIDISC PLAYER

9-877-611-02
2004I05-1

Sony Corporation
e Vehicle Company
Published by Sony Engineering Corporation

SONY®

TABLE OF CONTENTS

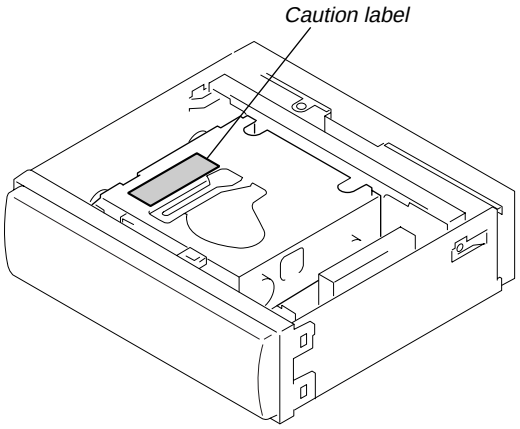
CLASS 1
LASER PRODUCT

This product is classified as a CLASS 1 LASER PRODUCT.
This label is located on the bottom of the chassis.

CAUTION—INVISIBLE LASER RADIATION WHEN OPEN
DO NOT STARE INTO BEAM OR
VIEW DIRECTLY WITH OPTICAL INSTRUMENTS

This label is located on the drive unit's internal chassis. (Refer to below figure)

– Upper view –



During service do not take the Optical Pick-up Block apart and do not adjust the APC circuit. If there is a breakdown in the APC circuit (including laser diode), replace the entire Optical Pick-up Block (including SERVO board).

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.

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.

SECTION 1
SERVICING NOTES

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

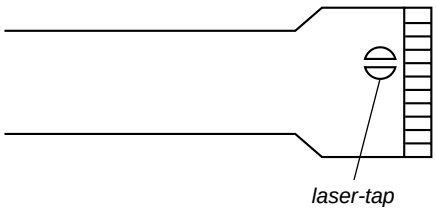
The laser diode in the optical pick-up block may suffer electrostatic break-down because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic break-down and also use the procedure in the printed matter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

Never look into the laser diode emission from right avove when checking it for adustment. It is feared that you will lose your sight.

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK (KMS-242E).

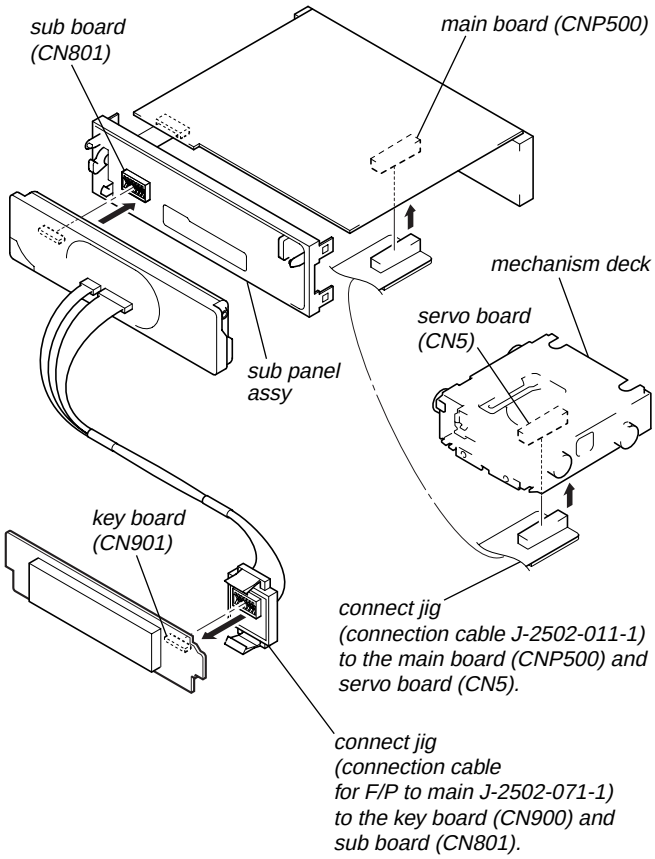
The laser diode in the optical pick-up block may suffer electrostatic break-down easily. When handling it, perform soldering bridge to the laser-tap on the flexible board. Also perform measures against electrostatic break-down sufficiently before the operation. The flexible board is easily damaged and should be handled with care.



OPTICAL PICK-UP FLEXIBLE BOARD

SERVICE POSITION

In checking the key board and main board, prepare two jigs (connection cable J-2502-011-1 and
connection cable for F/P to main J-2502-071-1).



NOTE FOR REPLACING THE IC600

There are two types of IC600 on the MAIN board. In case IC600 is replaced, after surely checking which type of IC600 is mounted on the set, it exchanges according to the following procedure.

In case of type1:

After surely checking the type of IC600 newly mounted on the MAIN board, it replaces in the procedure according to each type.

Replacing procedur to type1

1. IC600 is replaced for MN101E01KDJ (PART No. 6-804-093-01).

Replacing procedur to type2

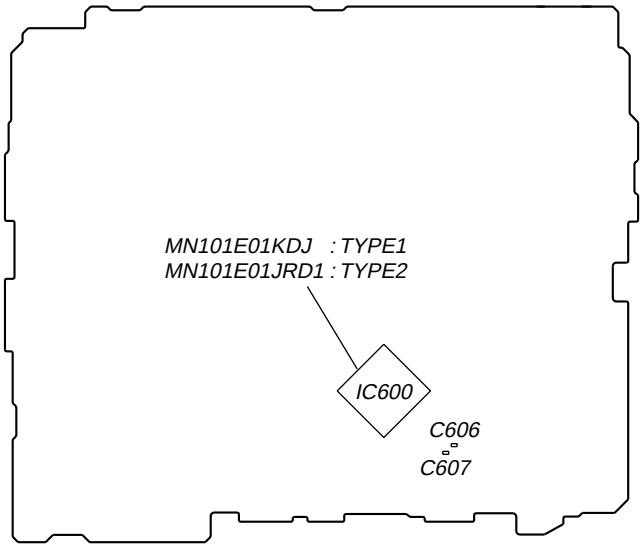
1. IC600 is replaced for MN101E01JRD1 (PART No. 6-804-511-02).
2. C606 is replaced for ceramic chip 15PF (PART No. 1-162-917-11).
3. C607 is replaced for ceramic chip 12PF (PART No. 1-162-916-11).

In case of type2:

Replacing procedure

1. IC600 is replaced for MN101E01JRD1 (PART No. 6-804-511-02).

– MAIN Board (Conductor Side) –

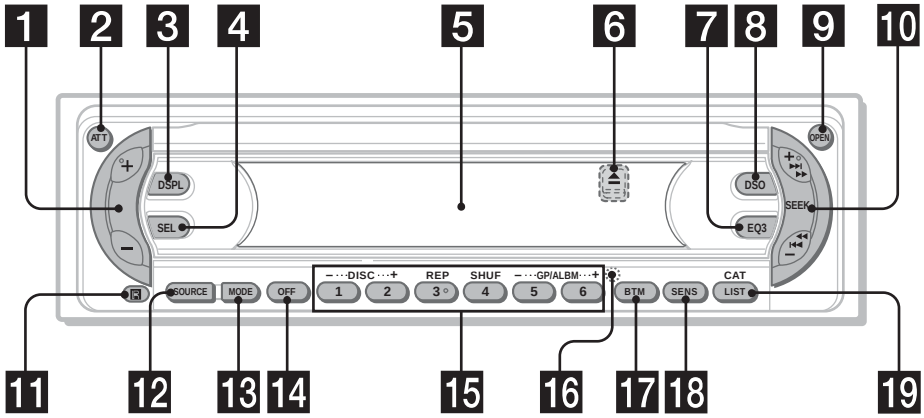


SECTION 2
GENERAL

This section is extracted from instruction manual.

Location of controls

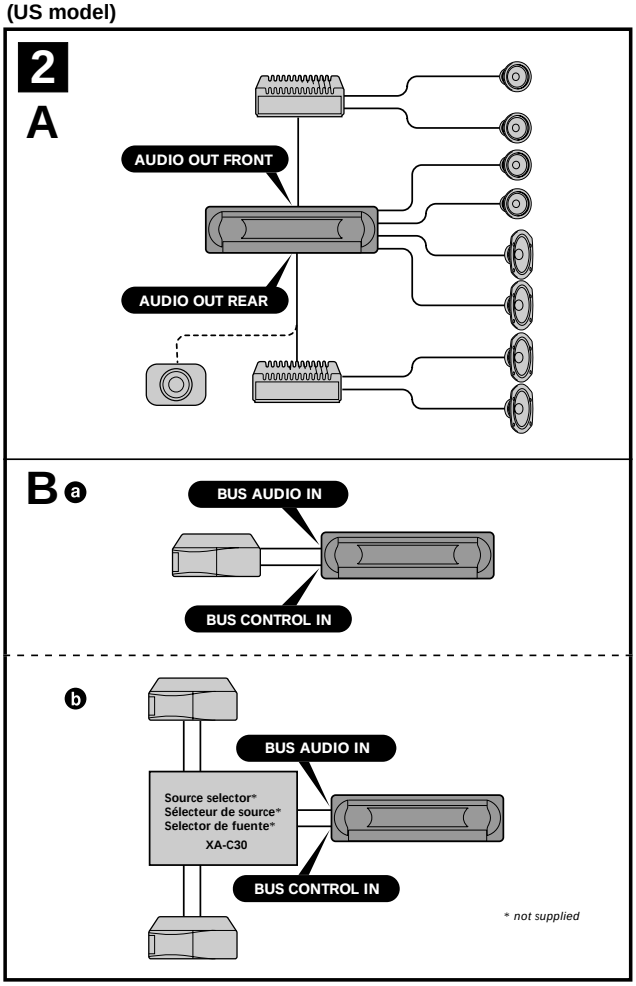
Refer to the pages listed for details.



1 Volume +/– button
2 ATT (attenuate) button
3 DSPL (display mode change) button
4 SEL (select) button
To select items.
5 Display window
6 ⏏ (eject) button (located on the front side of the unit, behind the front panel)
7 EQ3 button
8 DSO button
9 OPEN button
10 SEEK +/– button
Radio:
To tune in stations automatically/find a station manually.
MD/CD (MP3 files*1):
To skip tracks/fast-forward, reverse a track.
11 Receptor for the card remote commander
12 SOURCE (Power on/Radio/MD/CD*2) button
To select the source.
13 MODE button
To change operation.
14 OFF (Stop/Power off) button*3
15 Number buttons
Radio:
To store the desired station on each number button.
MD/CD (MP3 files*1):
(1): **DISC –**
(2): **DISC +**
(3): **REP** *11*
(4): **SHUF** *12*
(5): **GP*4/ALBM*1 –**
(6): **GP*4/ALBM*1 +**
16 RESET button (located on the front side of the unit, behind the front panel)
17 BTM button (US model)
AF/TA button (AEP, UK models)
18 SENS button (US model)
SENS/BTM button (AEP, UK models)
19 LIST/CAT*5 button (US model)
PTY (programme type)/LIST button (AEP, UK models)

*1 *Available only when an optional CD unit with the MP3 file control function is connected, and MP3 file is played.*
*2 *When an optional CD unit is connected.*
*3 **Warning when installing in a car without an ACC (accessory) position on the ignition switch***
After turning off the ignition, be sure to press and hold (OFF) on the unit until the display disappears.
Otherwise, the display does not turn off and this causes battery drain.
*4 *Available only when an MD containing groups is inserted in this unit and played.*
*5 *The CAT button is available only when the XM tuner is connected.*

(US model)



Connection example (2)

***Notes* (2-A)**
- *Be sure to connect the ground lead 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- b)**
For connecting two or more MD/CD changers, the source selector XA-C30 (optional) is necessary.

Connection diagram (3)

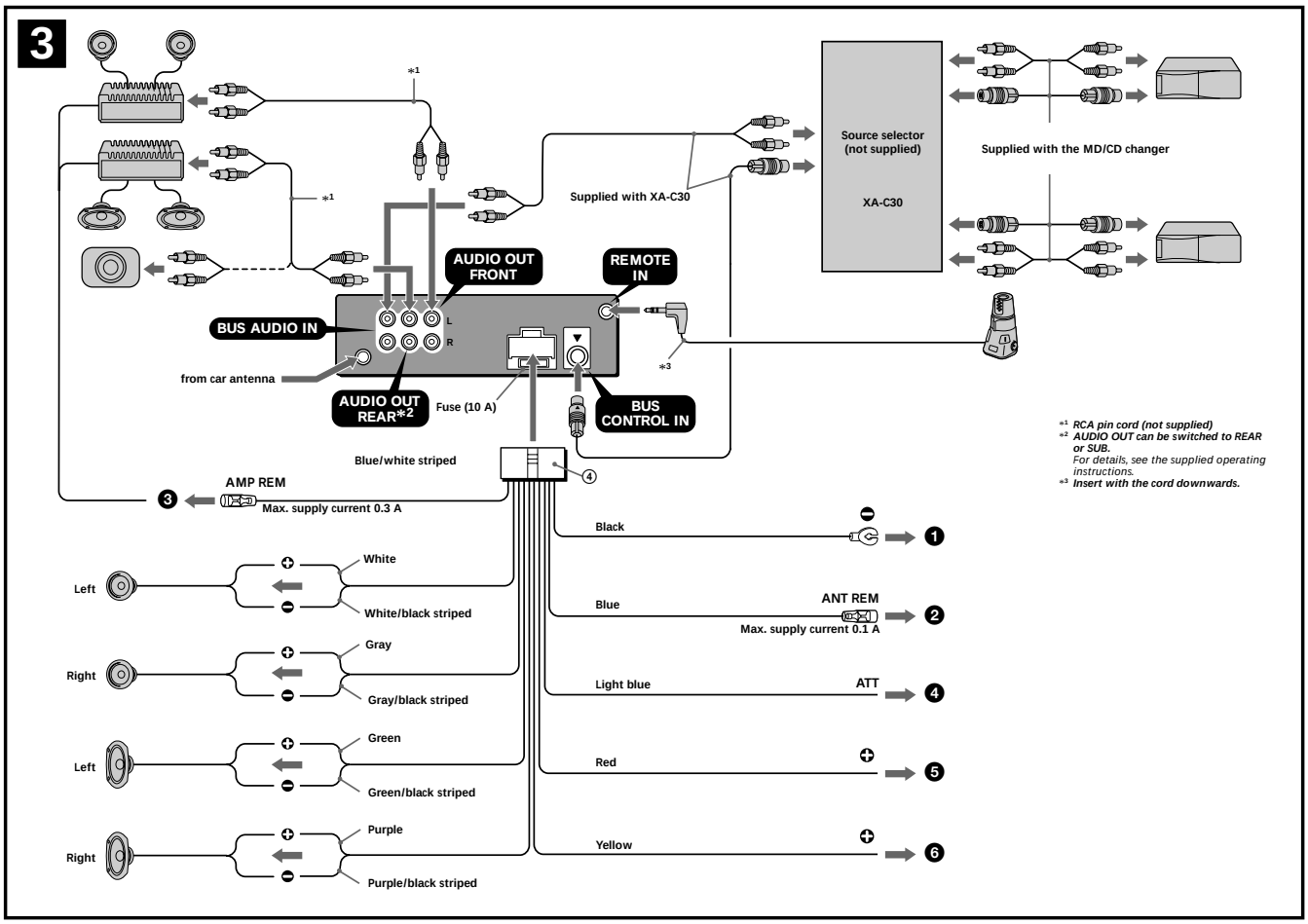
1. **To a metal surface of the car**
   First connect the black ground lead, then connect the yellow and red power input leads.
2. **To the power antenna control lead or power supply lead of antenna booster amplifier**
   Notes
   - *It is not necessary to connect this lead if there is no power antenna or antenna booster, or with a manually-operated telescopic antenna.*
   - *When your car has a built-in FM/AM antenna in the rear/side glass, see "Notes on the control and power supply leads."*
3. **To AMP REMOTE IN of an optional power amplifier**
   This connection is only for amplifiers. Connecting any other system may damage the unit.
4. **To the interface cable of a car telephone**
5. **To the +12 V power terminal which is energized 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 energized 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 FM/AM antenna in the rear/side glass, see "Notes on the control and power supply leads."*
6. **To the +12 V power terminal which is energized at all times**
   Be sure to connect the black ground lead to a metal surface of the car first.

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

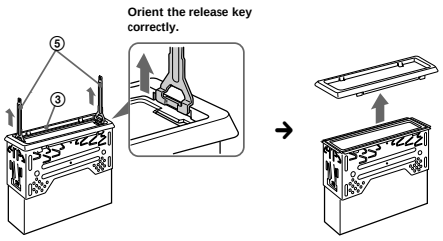
Memory hold connection
When the yellow power input lead is connected, power will always be supplied to the memory circuit even when the ignition switch is turned off.

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 ground 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 leads 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 leads to each other.*

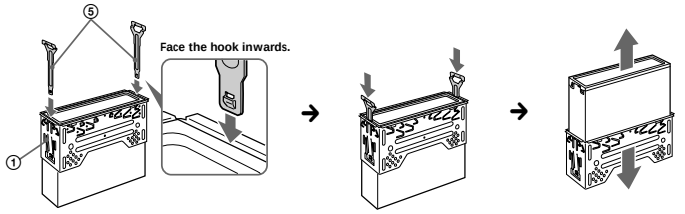
Note on connection
If speaker and amplifier are not connected correctly, "FAILURE" appears in the display. In this case, make sure the speaker and amplifier are connected correctly.



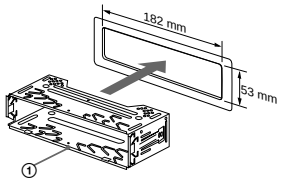
4 1



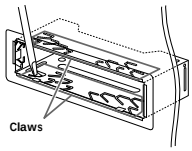
2



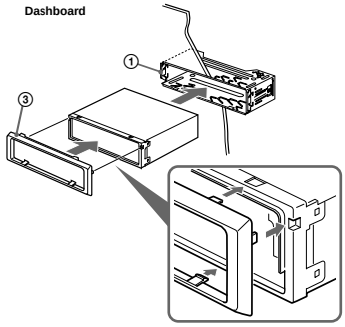
5 1



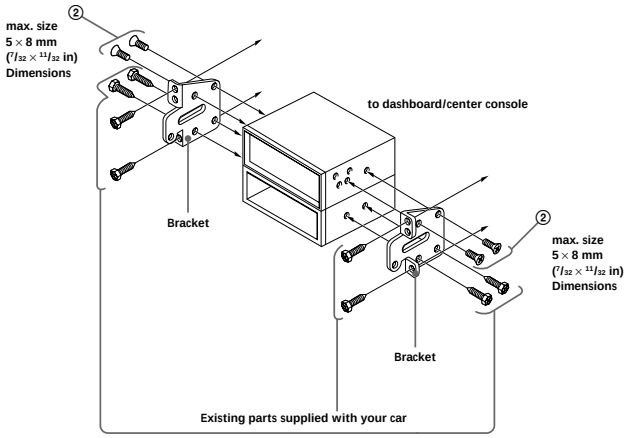
2



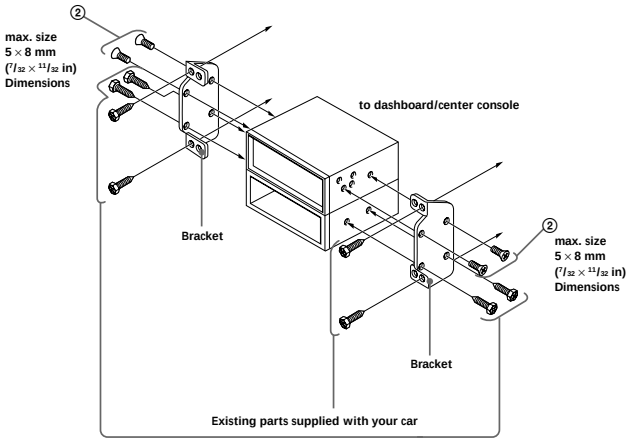
3



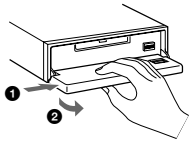
6 A TOYOTA



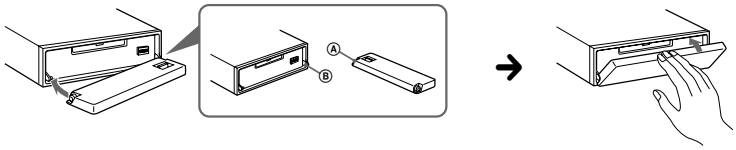
B NISSAN



7 A



B



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 45°.

Removing the protection collar and the bracket (4)

Before installing the unit, remove the protection collar ③ and the bracket ① from the unit.

1 **Remove the protection collar ③.**
   ❶ Engage the release keys ⑤ together with the protection collar ③.
   ❷ Pull out the release keys ⑤ to remove the protection collar ③.

2 **Remove the bracket ①.**
   ❶ Insert both release keys ⑤ together between the unit and the bracket ① until they click.
   ❷ Pull down the bracket ①, then pull up the unit to separate.

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 ③ 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 ②.

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 (OPEN), then slide the front panel to the right side, and pull out the left side.

7-B To attach

Place the hole Ⓐ in the front panel onto the spindle Ⓑ on the unit as illustrated, then push the left side in.

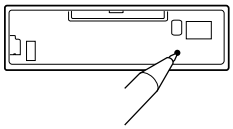
Warning when installing in a car without ACC (accessory) position on the ignition key switch

After turning off the ignition, be sure to press and hold (OFF) on the unit until the display disappears.

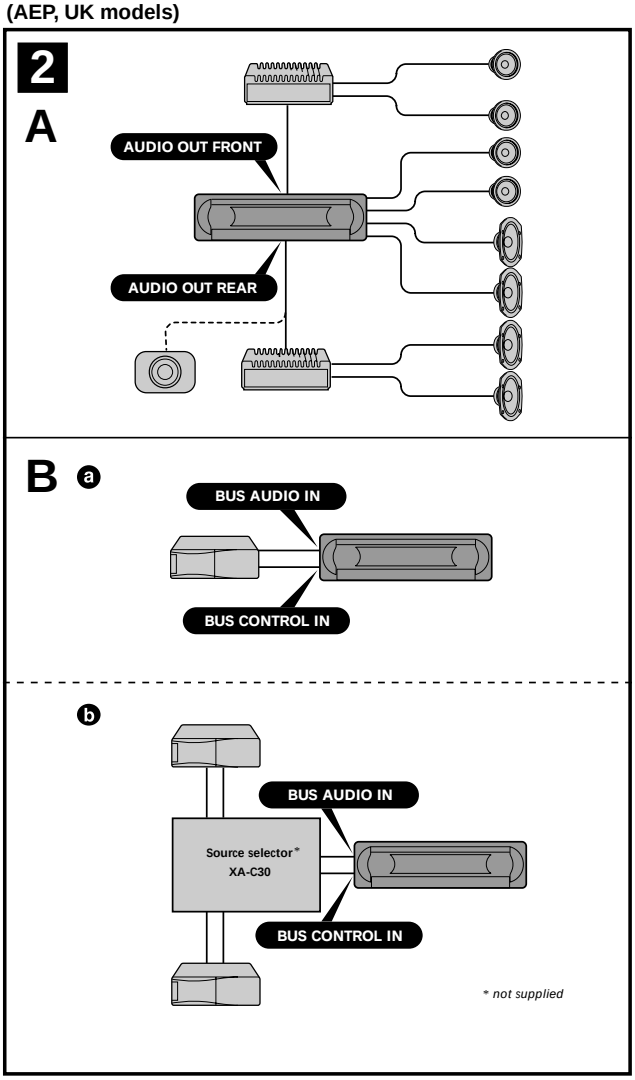
Otherwise, the display does not turn off and this causes battery drain.

RESET button

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



(AEP, UK models)



Connection example (2)

***Notes* (2-A)**
- *Be sure to connect the earth lead 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-b)**
For connecting two or more MD/CD changers, the source selector XA-C30 (optional) is necessary.

Connection diagram (3)

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

B To the interface cable of a car telephone

Warning

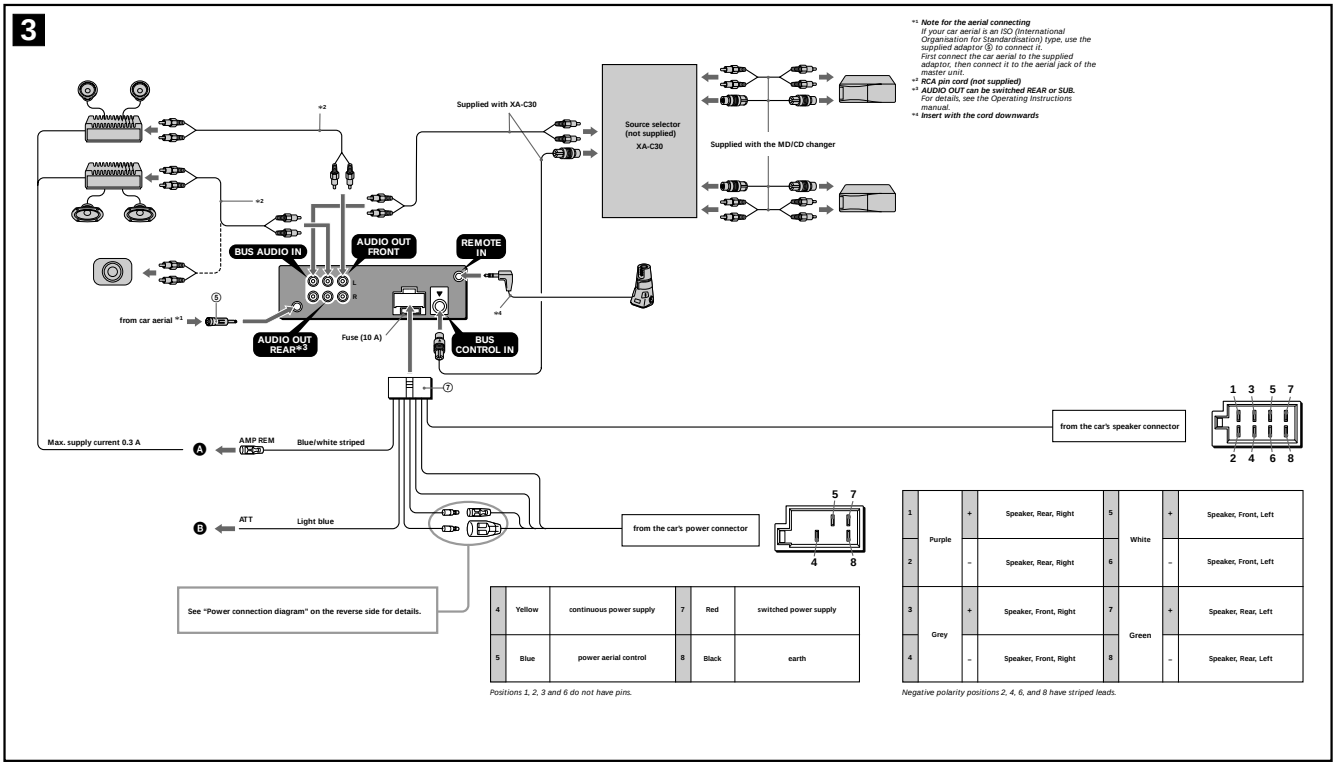
If you have a power aerial without a relay box, connecting this unit with the supplied power connecting lead ⑦ may damage the aerial.

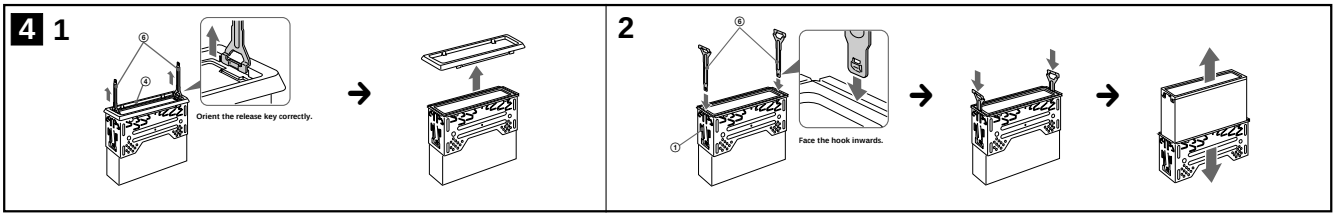
Notes on the control leads
- *The power aerial control lead (blue) supplies +12 V DC when you turn on the tuner, or when you activate the AF (Alternative Frequency) or TA (Traffic Announcement) function.*
- *When your car has built-in FM/MW/LW aerial in the rear/side glass, connect the power aerial control 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 a relay box cannot be used with this unit.*

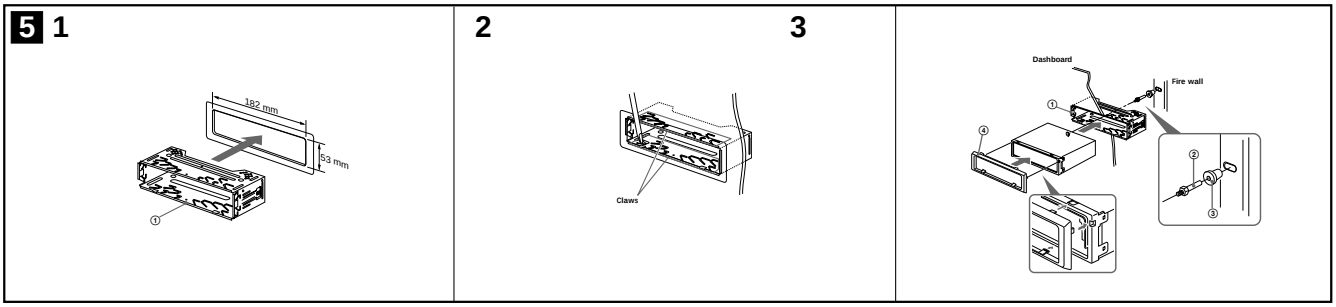
Memory hold connection
When the yellow power input lead is connected, power will always be supplied to the memory circuit even when the ignition switch is turned off.

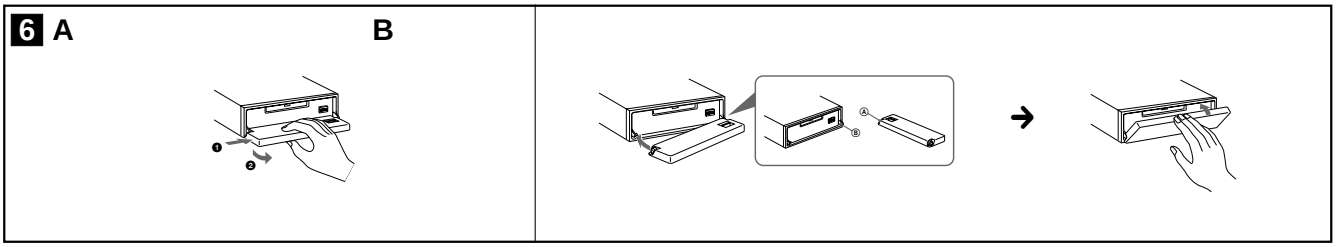
Notes on speaker connection
- *Before connecting the speakers, turn the unit off.*
- *Use speakers with an impedance of 4 to 8 ohms, and with adequate power handling capacities to avoid its damage.*
- *Do not connect the speaker terminals to the car chassis, or connect the terminals of the right speakers 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 leads 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 leads to each other.*

Note on connection
If speaker and amplifier are not connected correctly, "FAILURE" appears in the display. In this case, make sure the speaker and amplifier are connected correctly.









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 temperature, 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 45°.

Removing the protection collar and the bracket (4)

Before installing the unit, remove the protection collar ④ and the bracket ① from the unit.

1 Remove the protection collar ④.
❶ Engage the release keys ⑥ together with the protection collar ④.
❷ Pull out the release keys ⑥ to remove the protection collar ④.

2 Remove the bracket ①.
❶ Insert both release keys ⑥ together between the unit and the bracket ① until they click.
❷ Pull down the bracket ①, then pull up the unit to separate.

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).*

How to detach and attach the front panel (6)

Before installing the unit, detach the front panel.

6-A To detach
Before detaching the front panel, be sure to press (OFF). Press (OPEN), then slide the front panel to the right side, and pull out the left side.

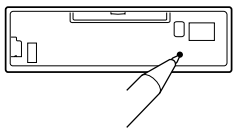
6-B To attach
Place the hole Ⓐ in the front panel onto the spindle Ⓑ on the unit as illustrated, then push the left side in.

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

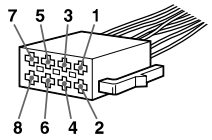
After turning off the ignition, be sure to press and hold (OFF) on the unit until the display disappears.
Otherwise, the display does not turn off and this causes battery drain.

RESET button

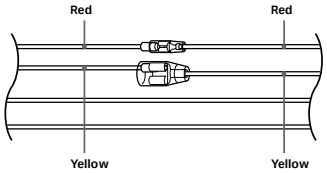
When the installation and connections are completed, be sure to press the RESET button with a ballpoint pen, etc., after detaching the front panel.



Auxiliary power connector

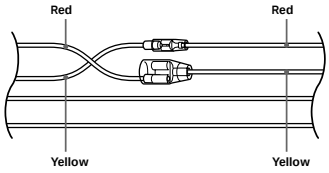


a



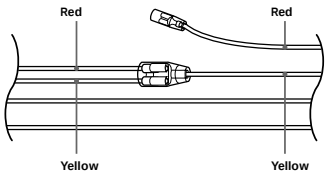
4	Yellow	continuous power supply	7	Red	switched power supply

b



4	Yellow	switched power supply	7	Red	continuous power supply

c



the car without ACC position

Power connection diagram

Auxiliary power connector may vary depending on the car. Check your car's auxiliary power connector diagram to make sure the connections match correctly. There are three basic types (illustrated below). You may need to switch the positions of the red and yellow leads in the car stereo's power connecting lead.
After matching the connections and switched power supply leads correctly, connect the unit to the car's power supply. If you have any questions and problems connecting your unit that are not covered in this manual, please consult the car dealer.

SECTION 3
DISASSEMBLY

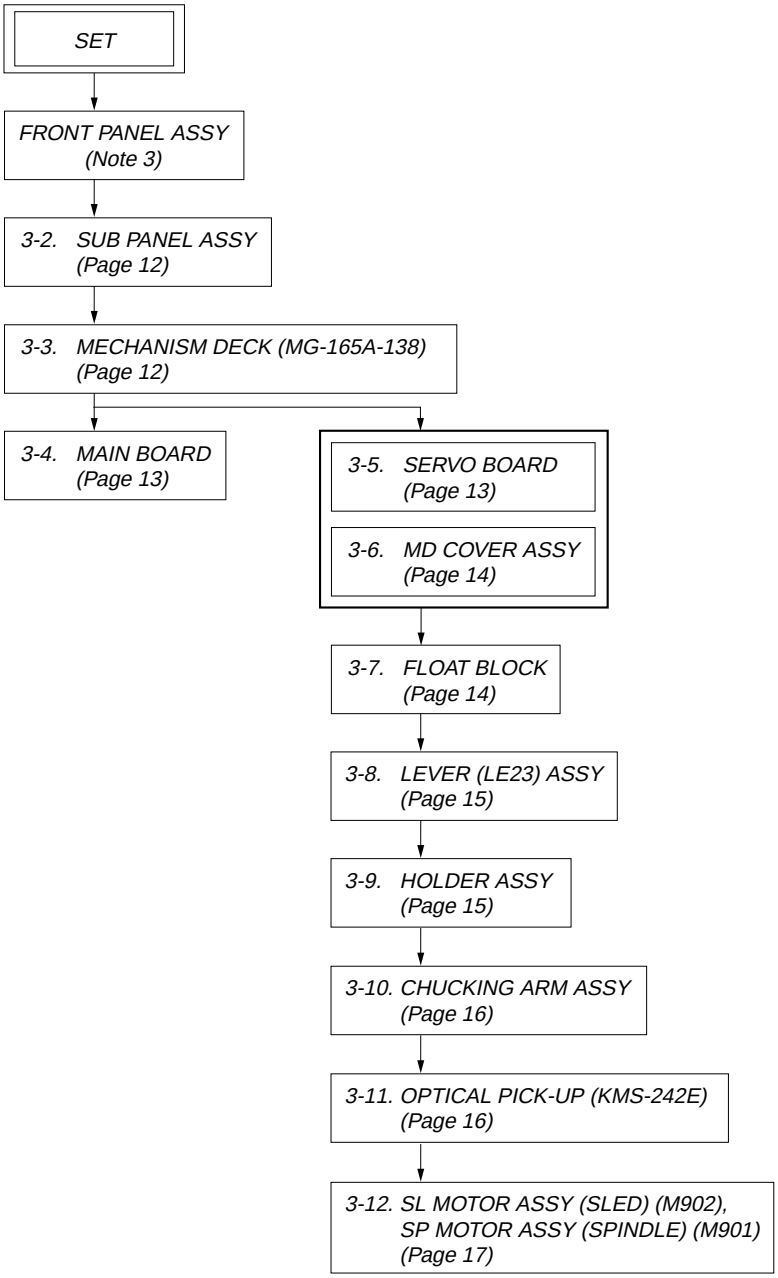
• This set can be disassembled in the order shown below.

3-1. DISASSEMBLY FLOW

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

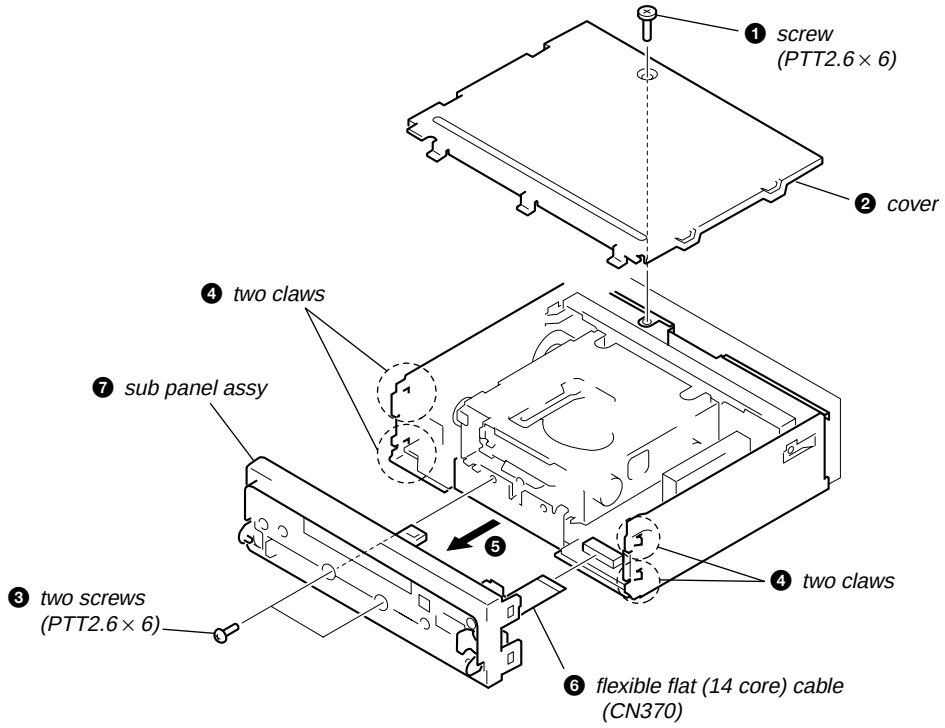
Note 2: *Without completing the process described in* ▣*, the next process can not be performed.*

Note 3: *Illustration of disassembly is omitted.*

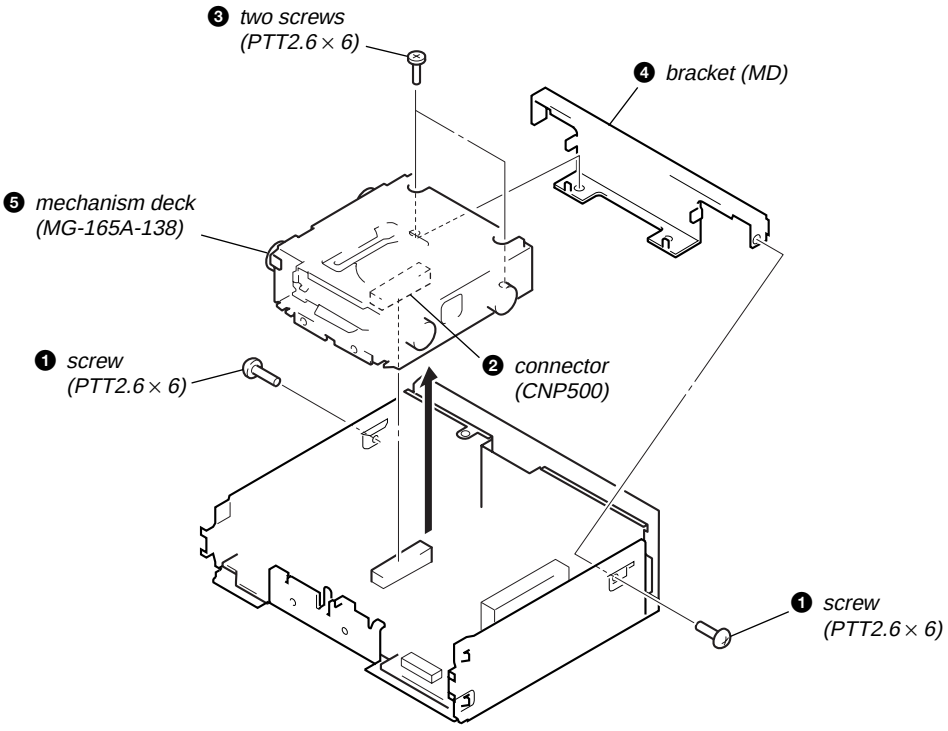


Note: Follow the disassembly procedure in the numerical order given.

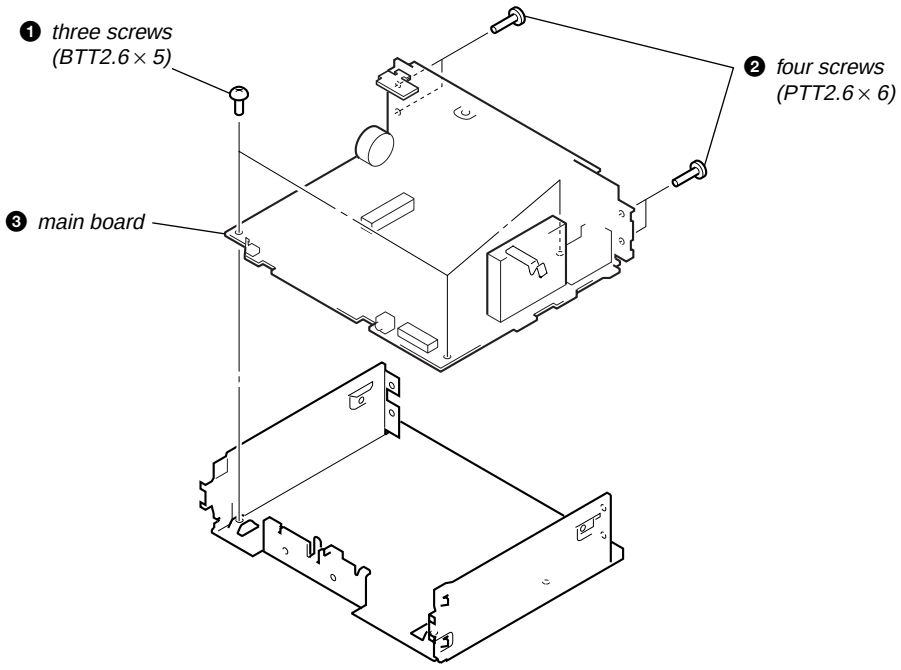
3-2. SUB PANEL ASSY



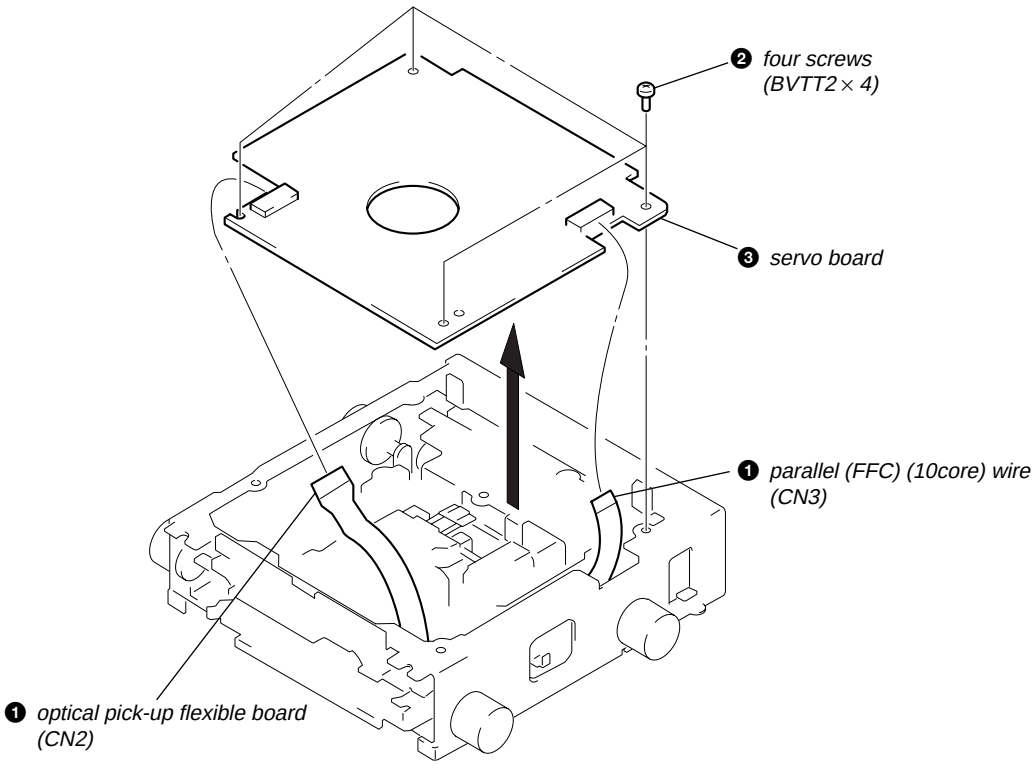
3-3. MECHANISM DECK (MG-165A-138)



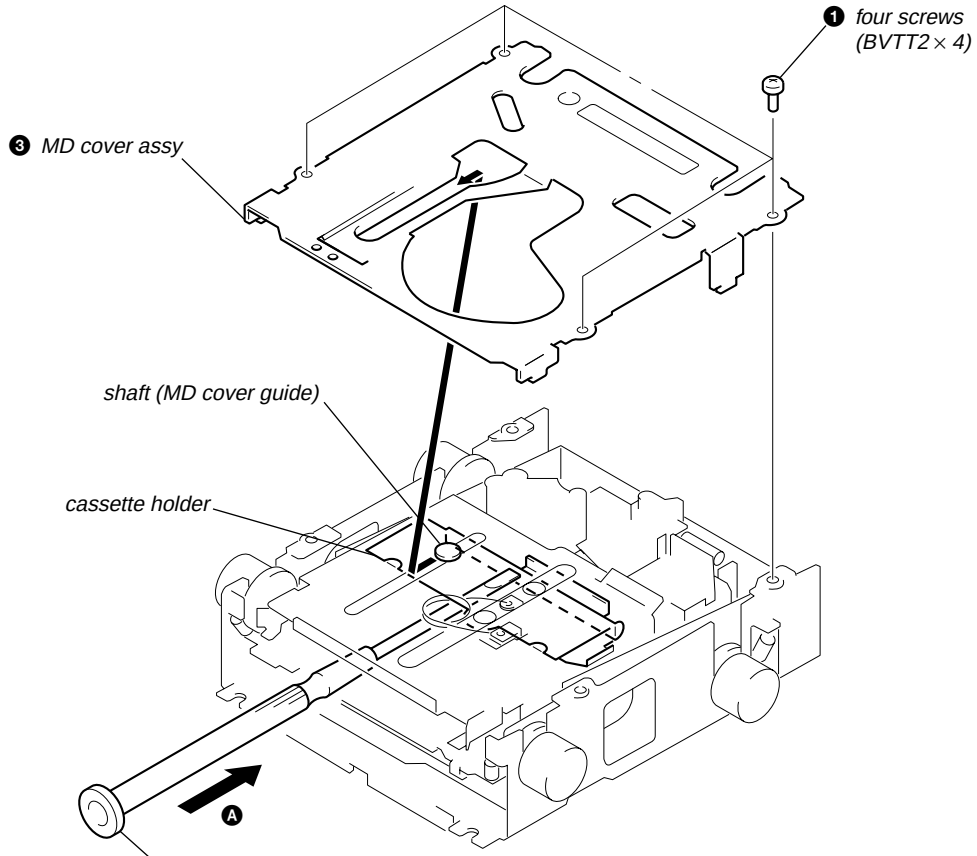
3-4. MAIN BOARD



3-5. SERVO BOARD



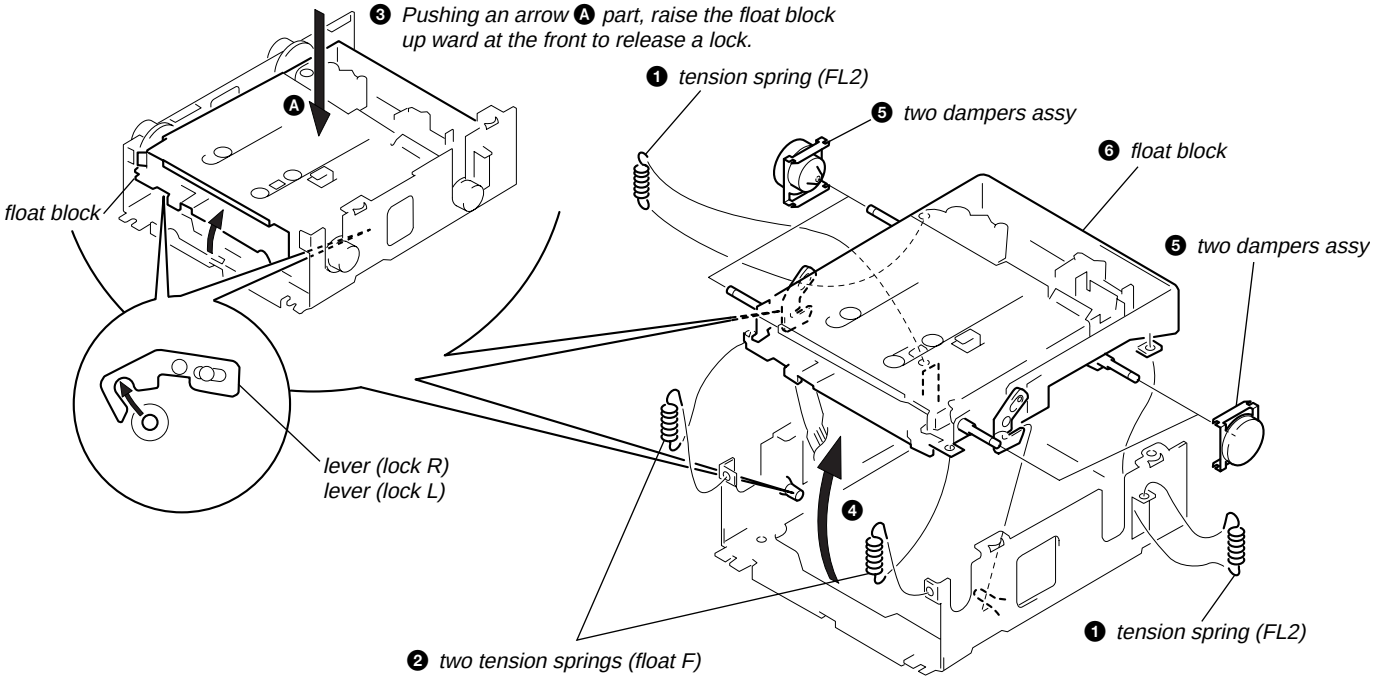
3-6. MD COVER ASSY



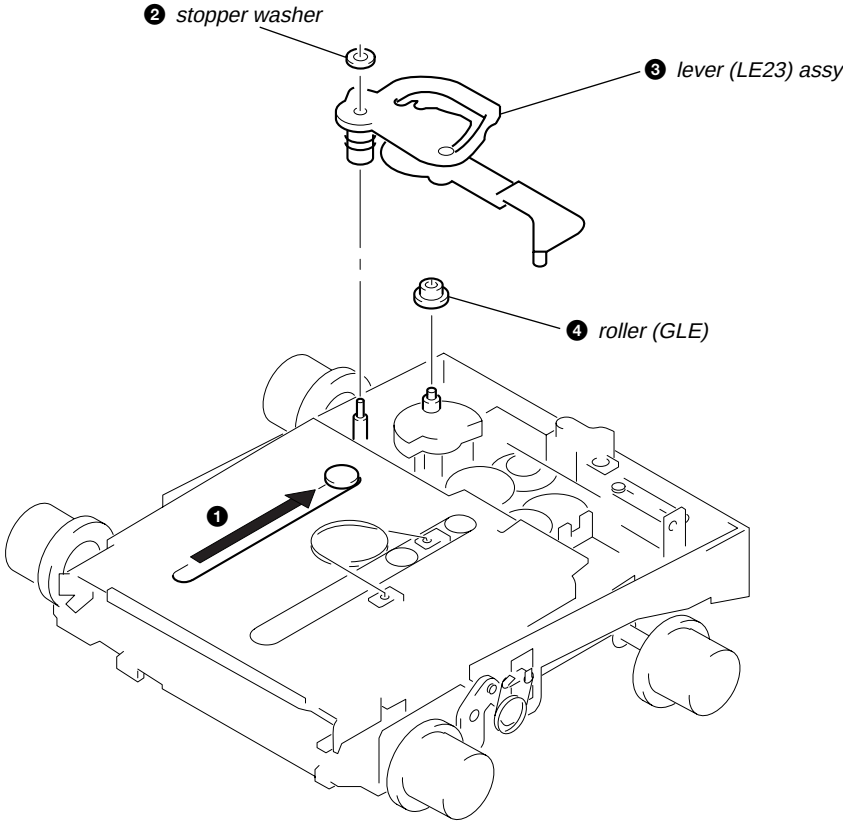
❷ *Pushing the cassette holder in the direction of the arrow Ⓐ with a screwdriver, etc., disengage the shaft (MD cover guide) from the slot in the MD cover assy.*

Note: Take care not to scratch the optiocal pick-up when pushing the cassette holder with a screwdriver. etc.

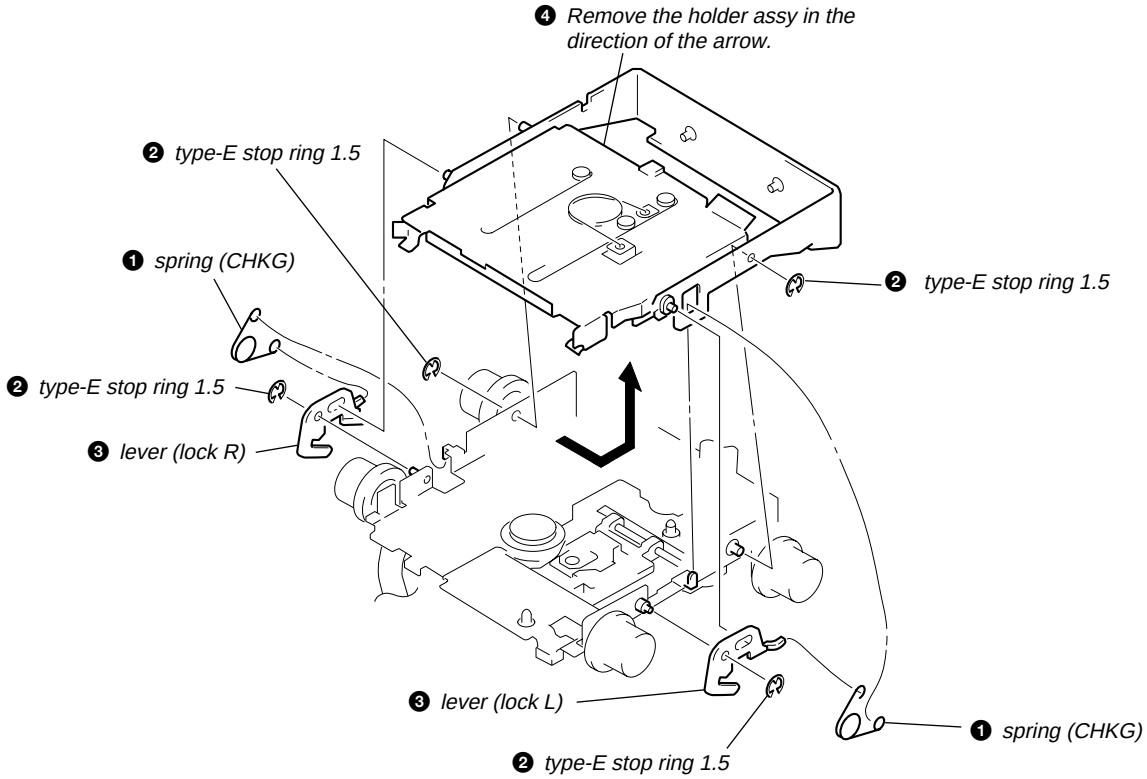
3-7. FLOAT BLOCK



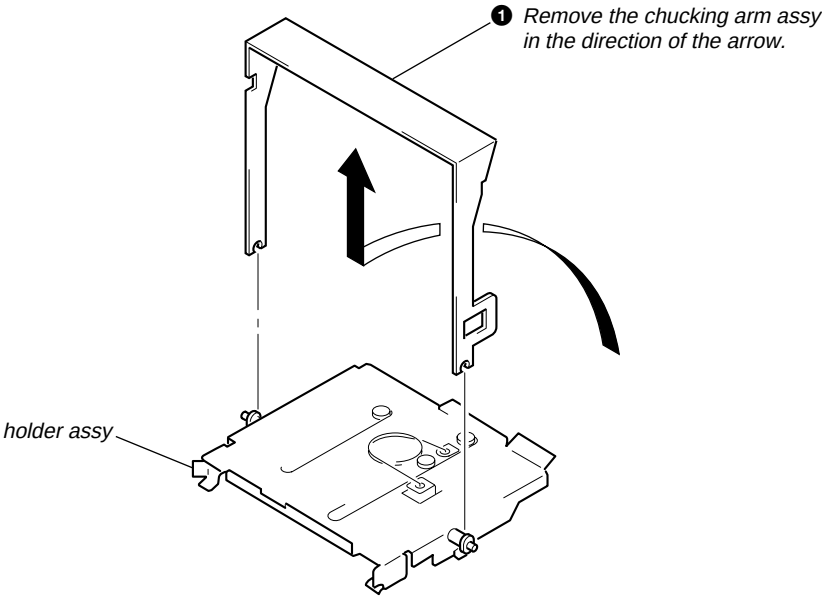
3-8. LEVER (LE23) ASSY



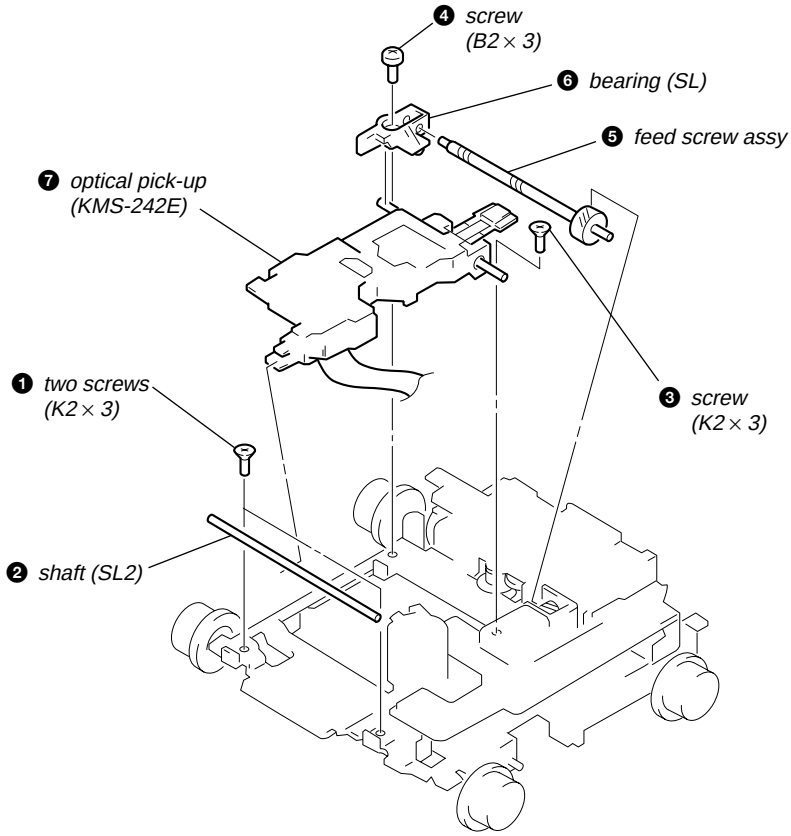
3-9. HOLDER ASSY



3-10. CHUCKING ARM ASSY

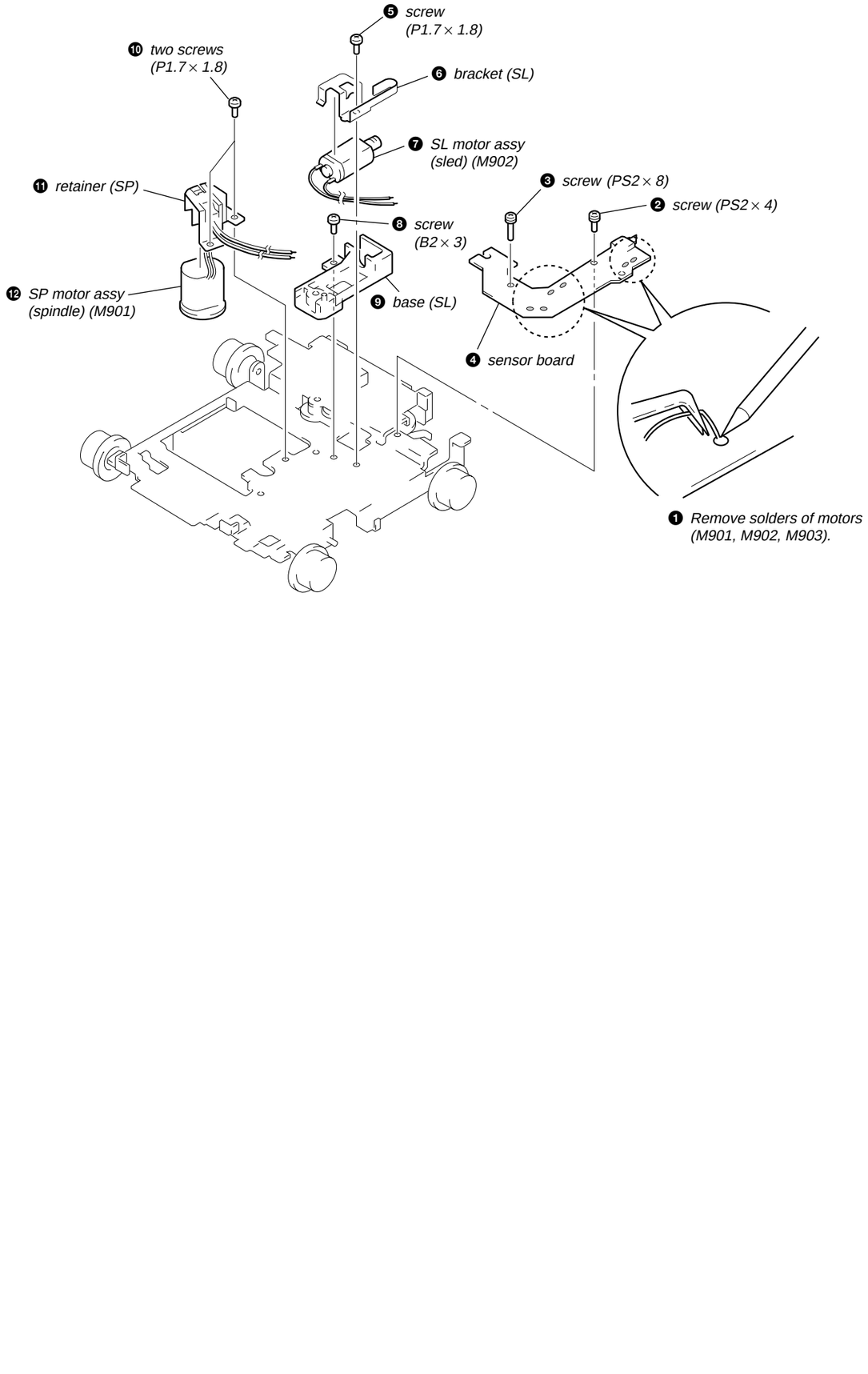


3-11. OPTICAL PICK-UP (KMS-242E)



SECTION 4
ELECTRICAL ADJUSTMENTS

3-12. SL MOTOR ASSY (SLED) (M902), SP MOTOR ASSY (SPINDLE) (M901)



TEST MODE

This set have the test mode function.

<Set the Test Mode>

1. Turn ON the regulated power supply. (The clock is displayed)
   Note: Press the [OFF] button, if the clock is not displayed.
2. Push the preset [4] button.
3. Push the preset [5] button.
4. Press the preset [1] button for more than two seconds.
5. Then the display indicates all lights, the test mode is set.

<Release the Test mode>

1. Push the [OFF] button.

MD SECTION

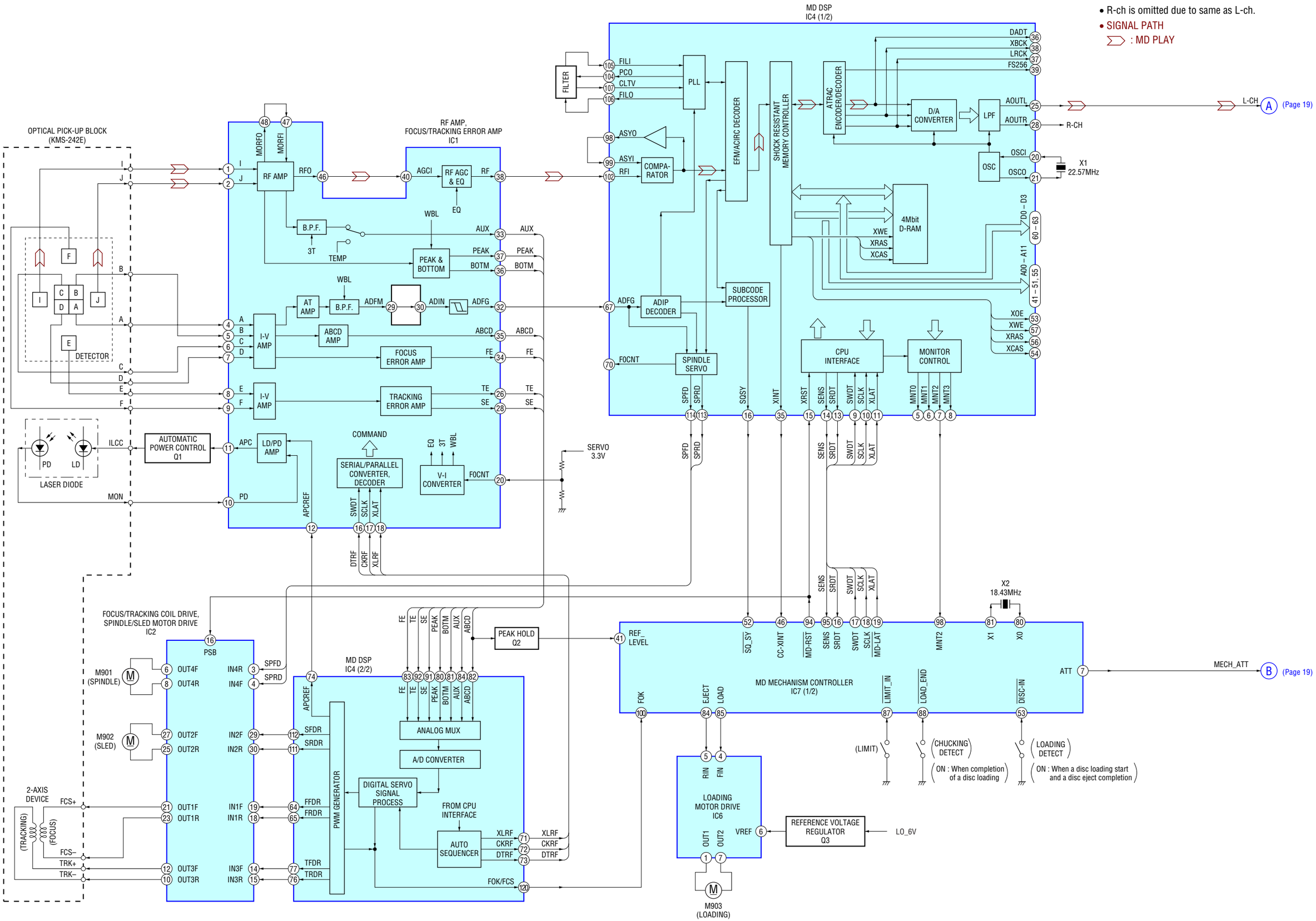
MD section adjustments are done automatically in this set.

TUNER SECTION

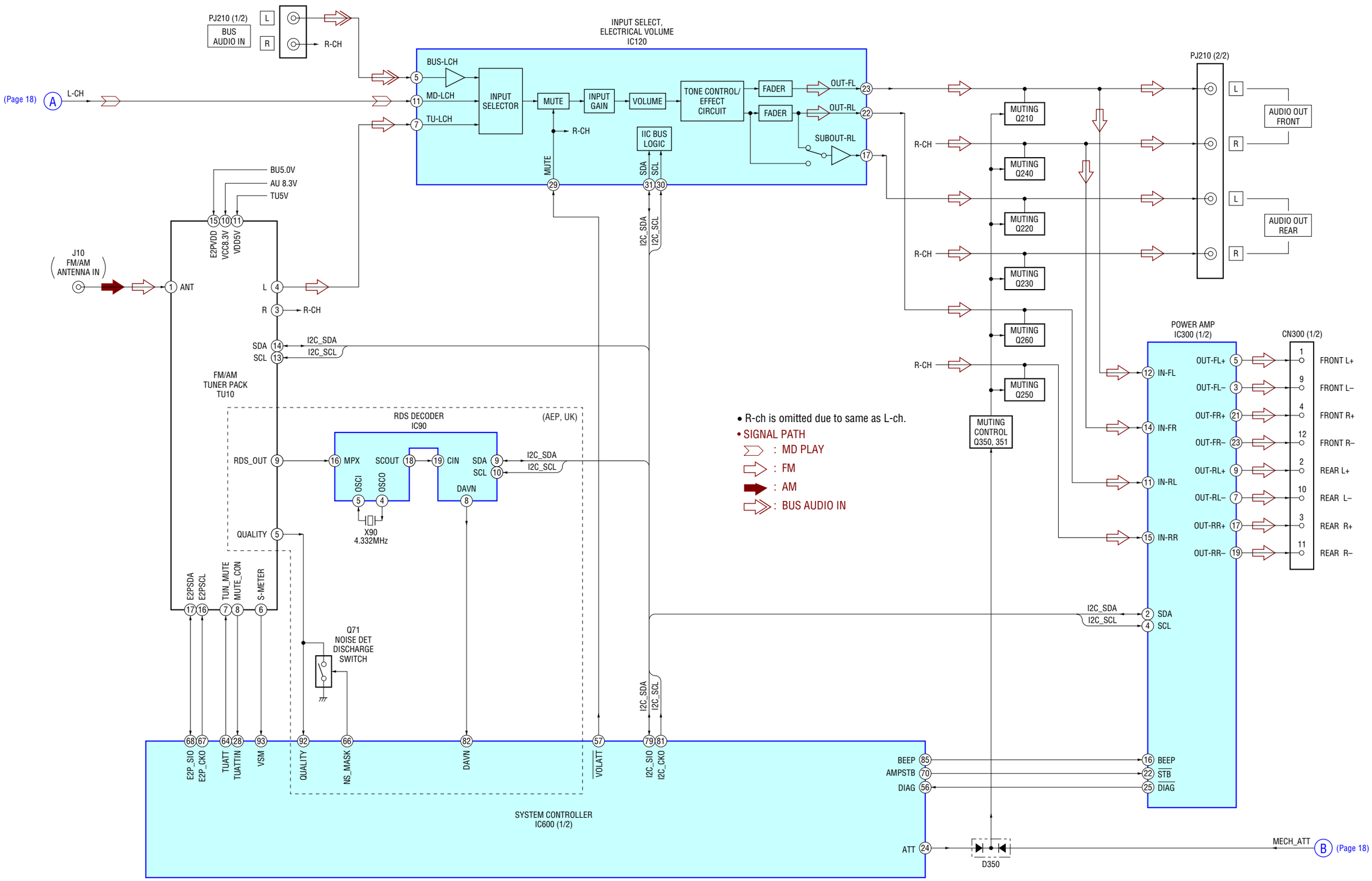
Tuner section adjustments are done automatically in this set.

SECTION 5
DIAGRAMS

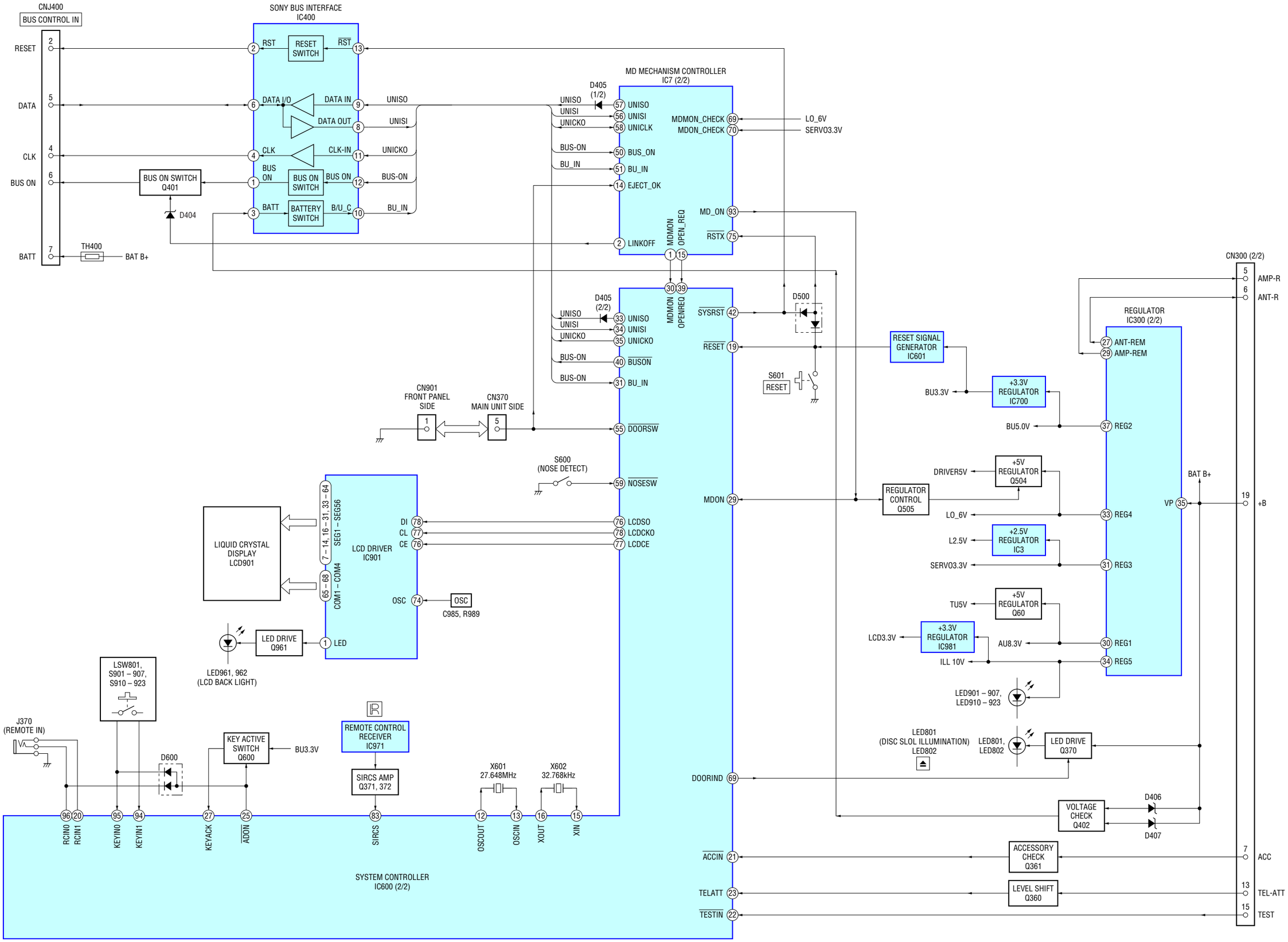
5-1. BLOCK DIAGRAM – SERVO Section –



5-2. BLOCK DIAGRAM – MAIN Section –



5-3. BLOCK DIAGRAM – PANEL/BUS CONTROL/POWER SUPPLY Section –



5-4. 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.
- △ : internal component.
- ▬ : Pattern from the side which enables seeing.

(The other layers' patterns are not indicated.)

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

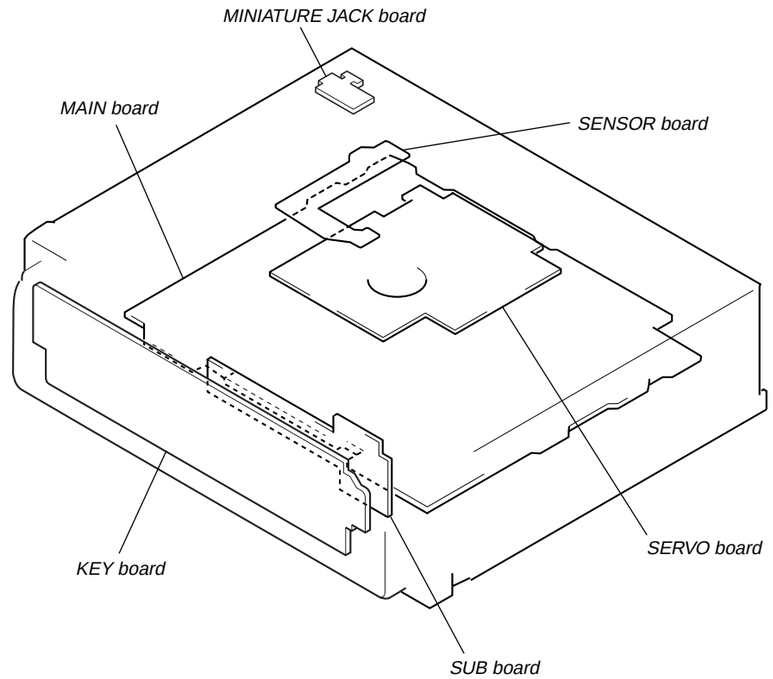
Note on Schematic Diagram:

- 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.
- ▭ : panel designation.

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

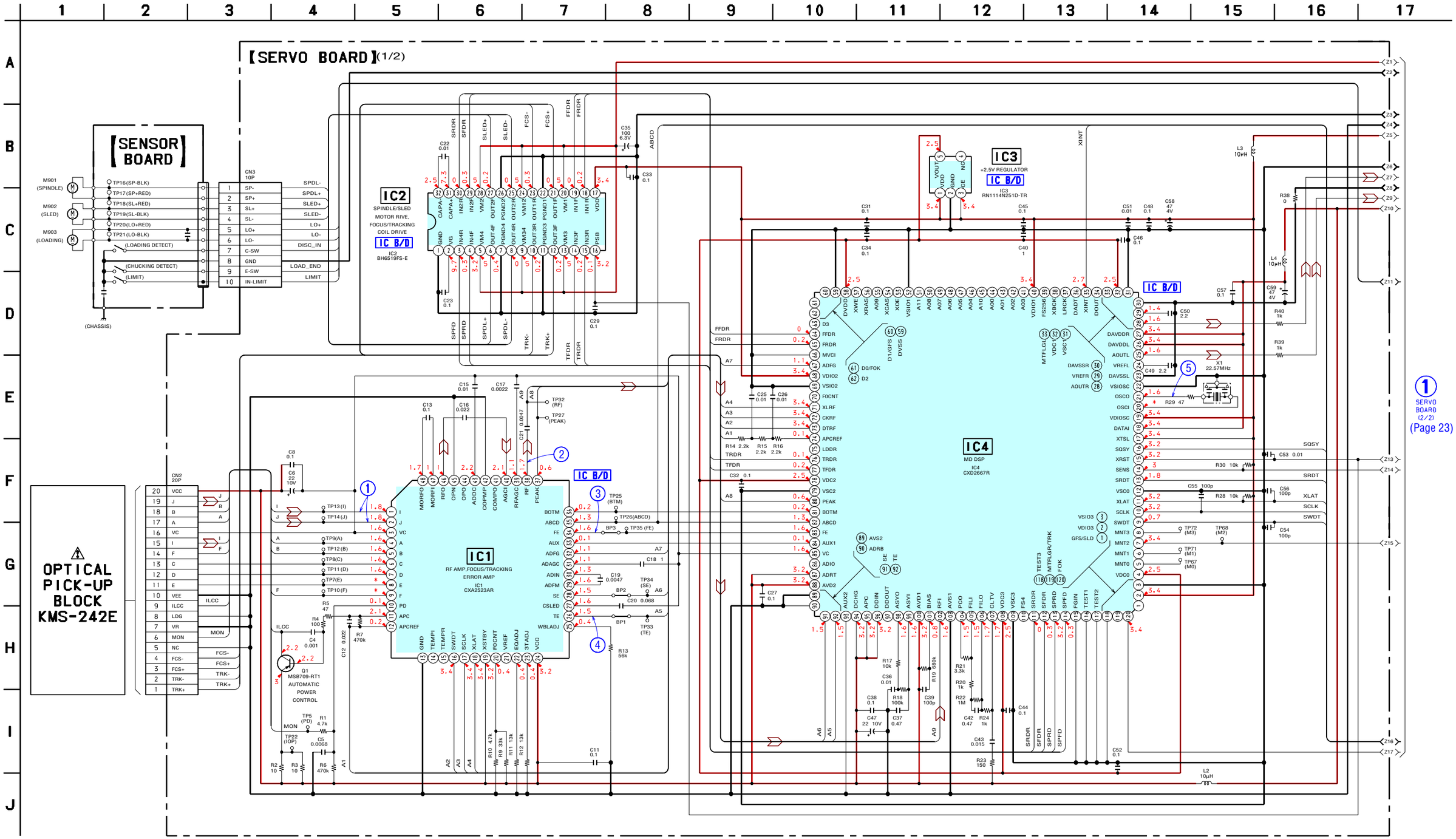
- ▬ : B+ Line.
- Power voltage is dc 14.4V and fed with regulated dc power supply from ACC and BATT cords.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  – SERVO Section –
  no mark : MD PLAY
  – MAIN/KEY Section –
  no mark : FM
  ⟨⟨ ⟩⟩ : AM (MW/LW)
  ( ) : MD PLAY
- 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.
  ⇨ : MD PLAY
  ⇨ : FM
  ➡ : AM (MW/LW)
  ⇨ : BUS AUDIO IN

- **Circuit Boards Location**



5-5. SCHEMATIC DIAGRAM – SERVO Section (1/2) –

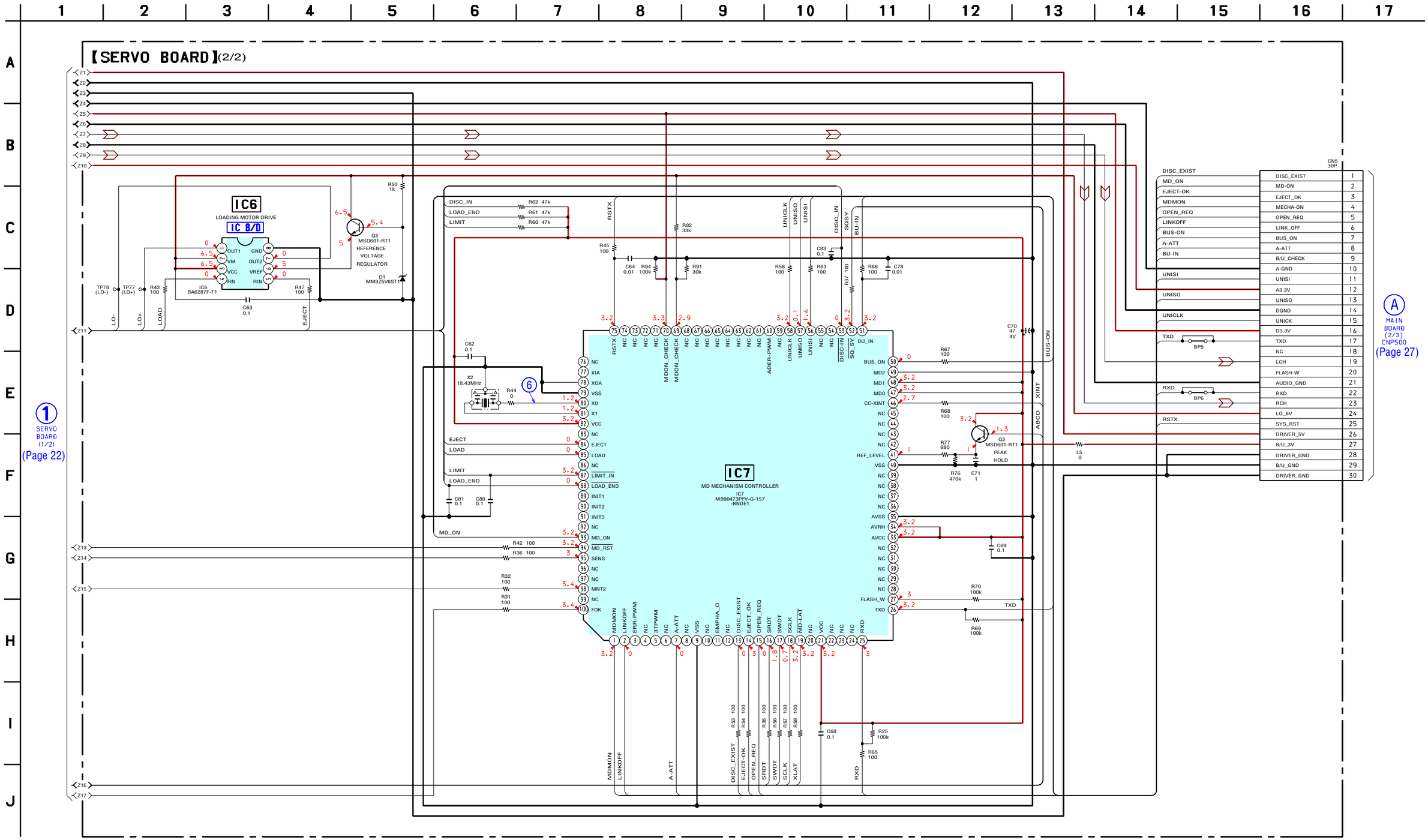
• See page 29 for Waveforms. • See page 32 for IC Block Diagrams. • See page 37 for IC Pin Function Description.



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

5-6. SCHEMATIC DIAGRAM – SERVO Section (2/2) –

• See page 29 for Waveform. • See page 32 for IC Block Diagram. • See page 37 for IC Pin Function Description.



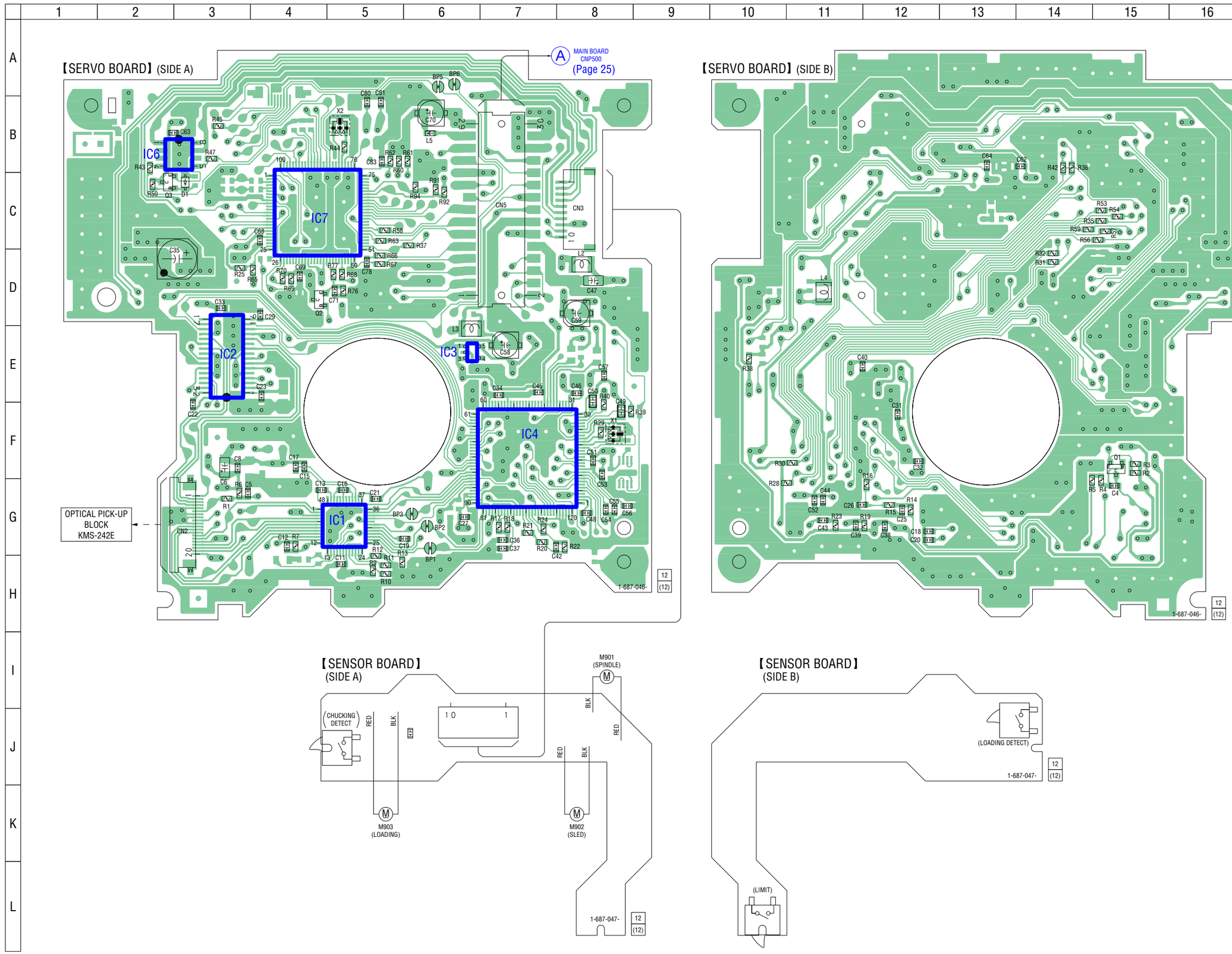
5-7. PRINTED WIRING BOARDS – SERVO Section –

• See page 21 for Circuit Boards Location.

:Uses unleaded solder.

- **Semiconductor Location**

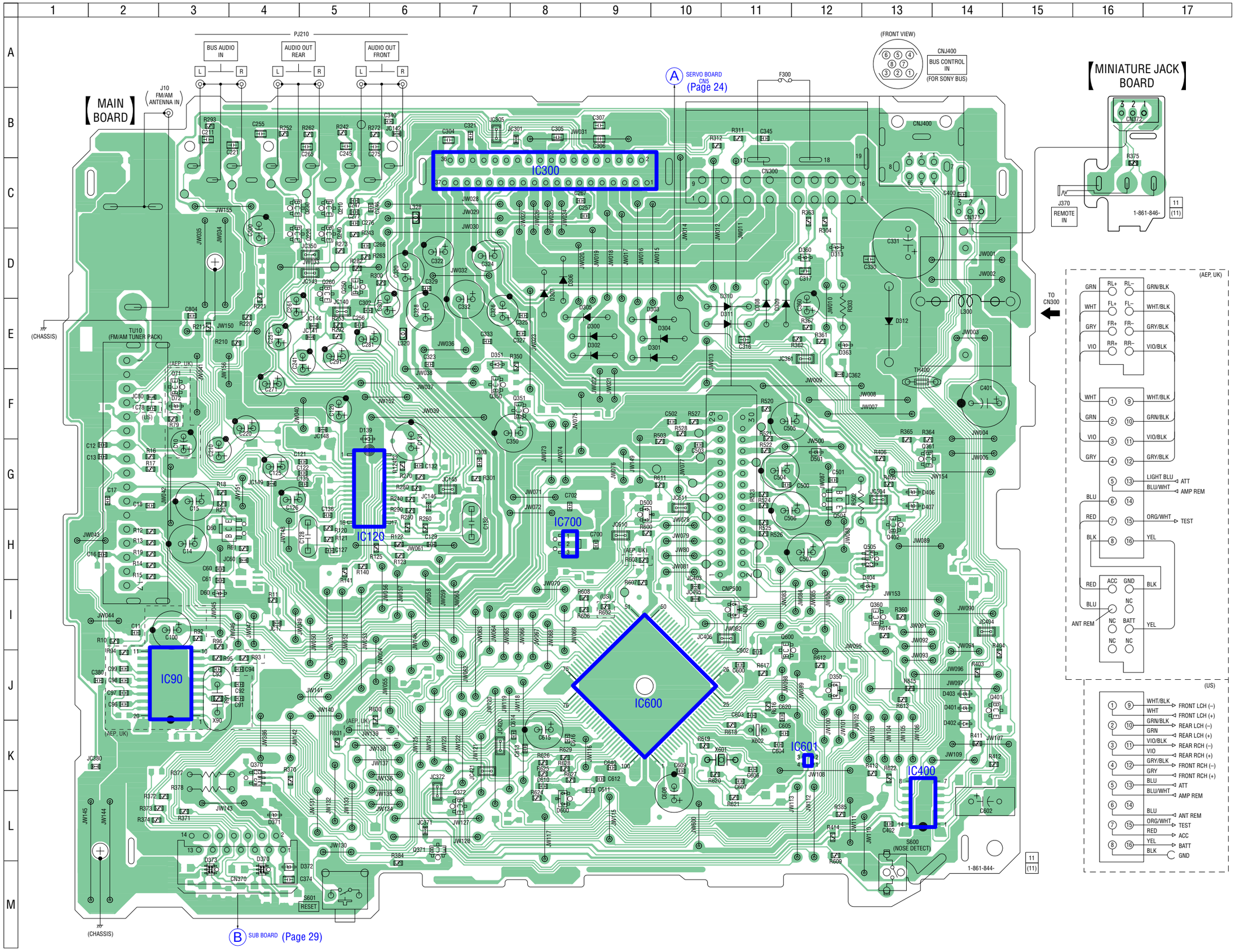
Ref. No.	Location
D1	C-3
IC1	G-5
IC2	E-3
IC3	E-6
IC4	F-7
IC6	B-3
IC7	C-4
Q1	F-15
Q2	D-4
Q3	C-2



5-8. PRINTED WIRING BOARDS – MAIN Section –

• See page 21 for Circuit Boards Location.

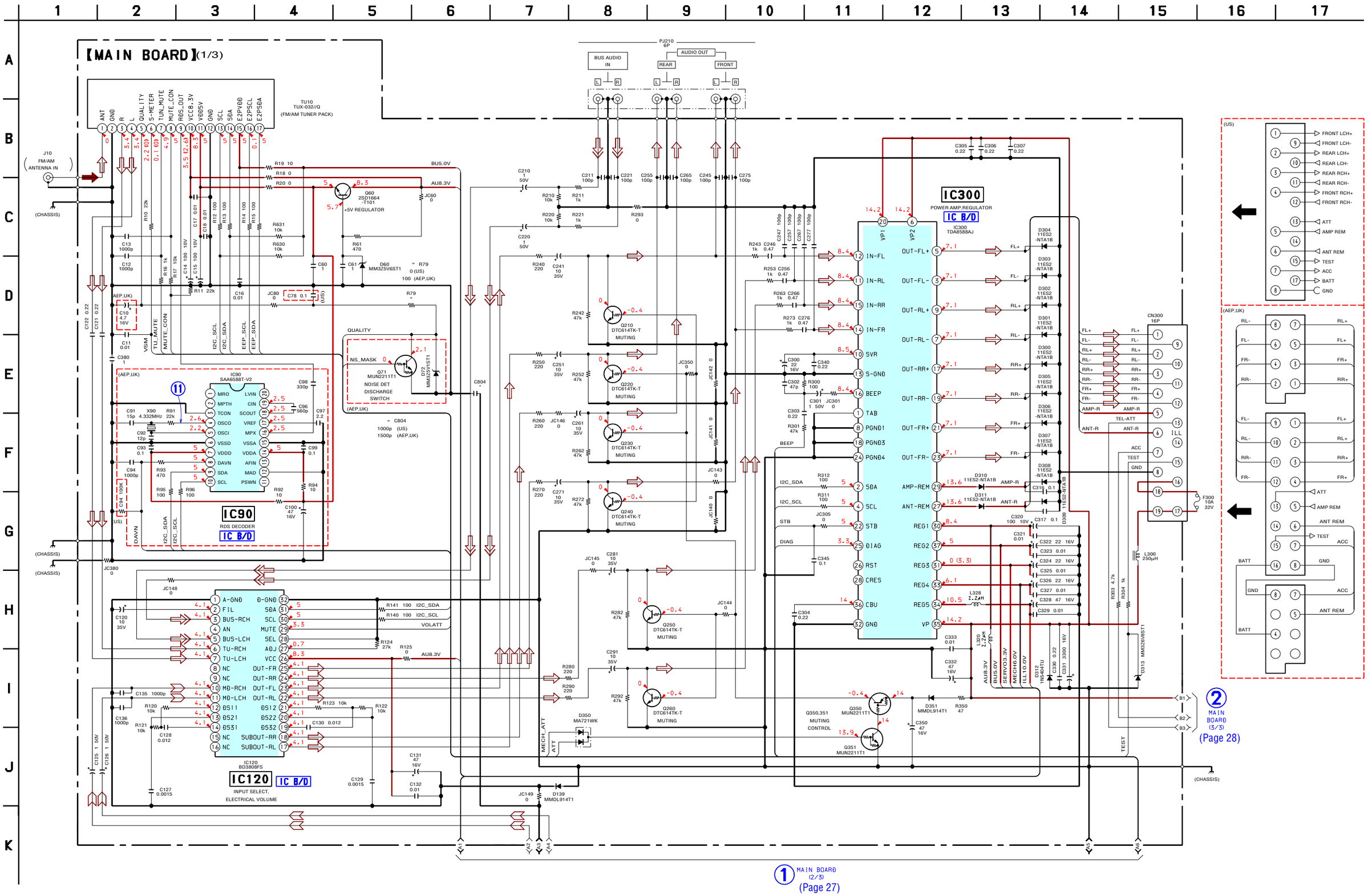
:Uses unleaded solder.



• **Semiconductor Location**

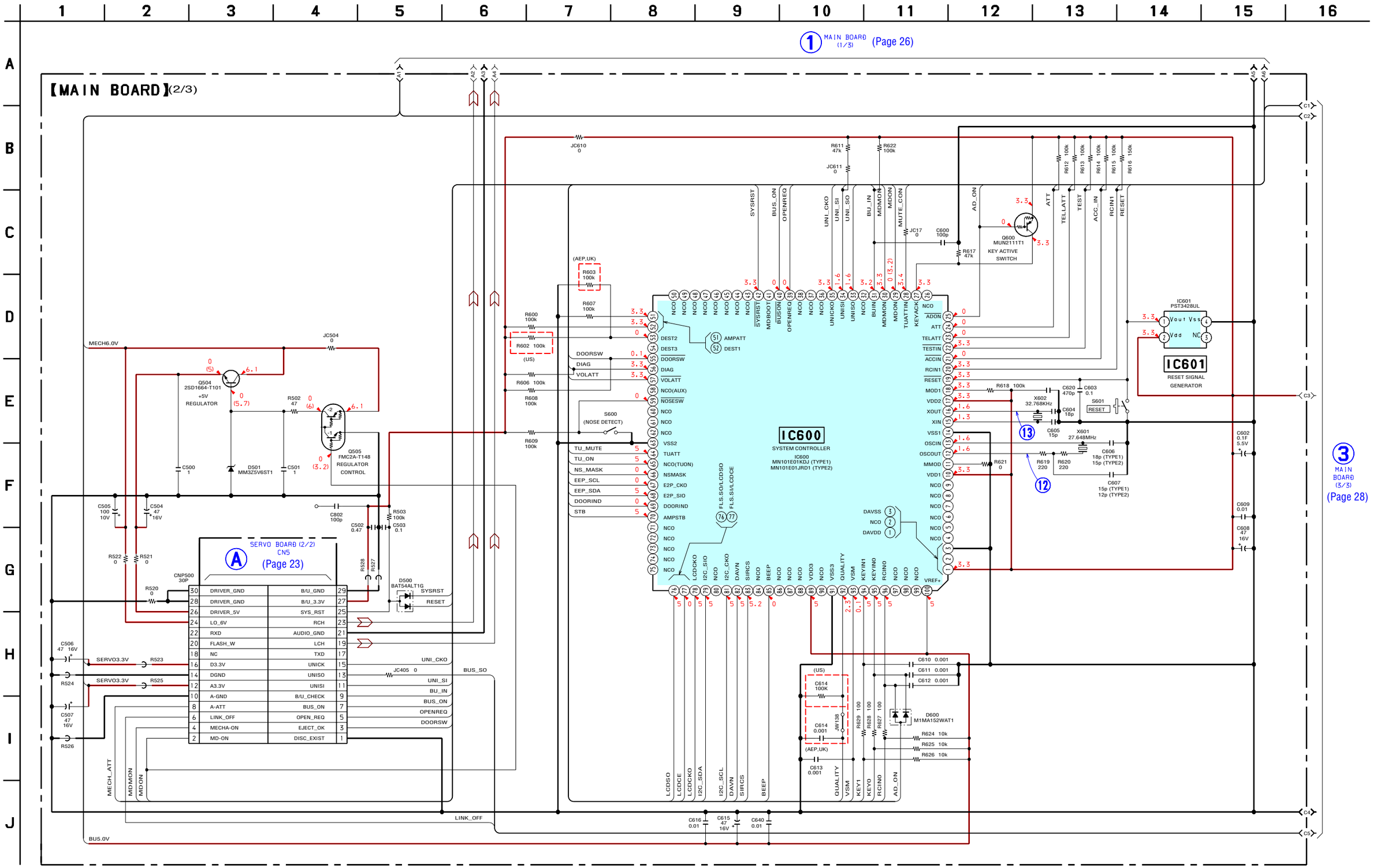
Ref. No.	Location
D60	I-3
D72	F-3
D139	G-5
D300	E-9
D301	E-10
D302	E-9
D303	E-10
D304	E-10
D305	E-9
D306	D-8
D307	D-8
D308	E-11
D309	E-11
D310	E-11
D311	E-11
D312	E-13
D313	D-12
D350	J-12
D351	E-7
D360	D-12
D363	E-12
D370	M-4
D371	L-4
D372	M-4
D373	M-3
D401	J-14
D402	K-14
D403	J-14
D404	I-13
D405	I-11
D406	G-13
D407	G-13
D500	H-9
D501	G-12
D600	L-8
IC90	J-3
IC120	G-5
IC300	C-8
IC400	L-13
IC600	J-9
IC601	K-12
IC700	H-8
Q60	H-4
Q71	F-3
Q210	C-5
Q220	D-4
Q230	C-4
Q240	D-5
Q250	D-5
Q260	D-5
Q350	F-7
Q351	F-8
Q360	I-13
Q361	G-13
Q370	K-4
Q371	L-6
Q372	L-7
Q401	J-14
Q402	H-13
Q504	G-12
Q505	H-13
Q600	J-11

5-9. SCHEMATIC DIAGRAM – MAIN Section (1/3) – • See page 29 for Waveform. • See page 32 for IC Block Diagrams.



5-10. SCHEMATIC DIAGRAM – MAIN Section (2/3) –

• See page 29 for Waveforms. • See page 37 for IC Pin Function Description.



Note: Refer to "NOTE FOR REPLACING THE IC600" in the servicing notes about TYPE1 and 2.

5-11. SCHEMATIC DIAGRAM – MAIN Section (3/3) – • See page 32 for IC Block Diagram.

【MAIN BOARD】(3/3)

2 MAIN BOARD (1/3) (Page 26)

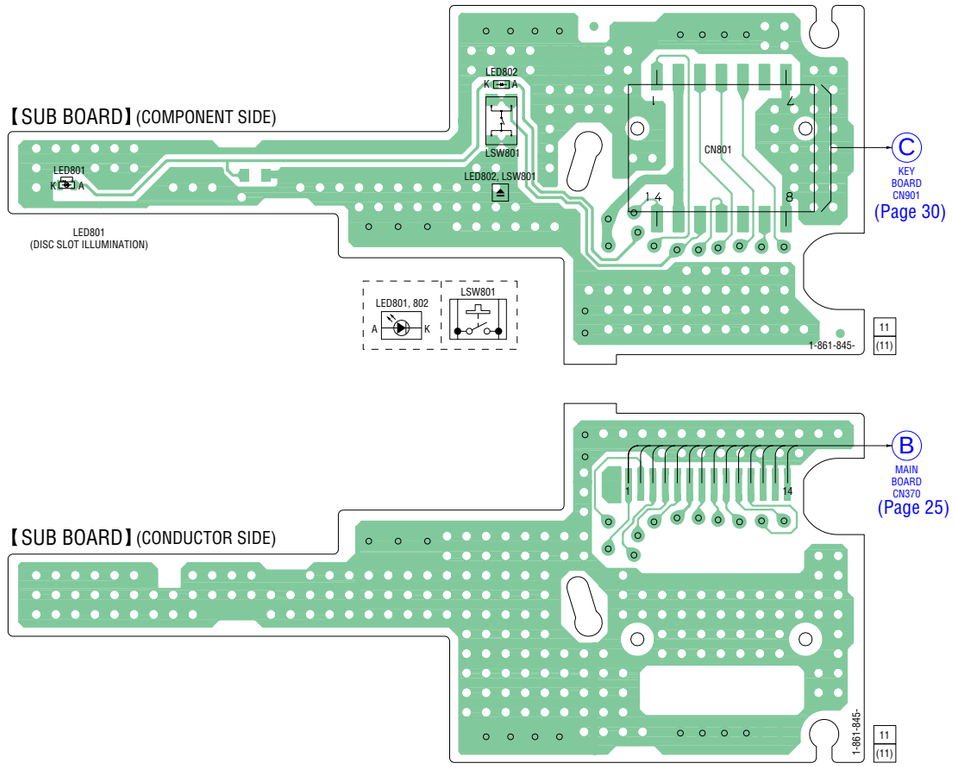
3 MAIN BOARD (2/3) (Page 27)

B SUB BOARD (Page 29)

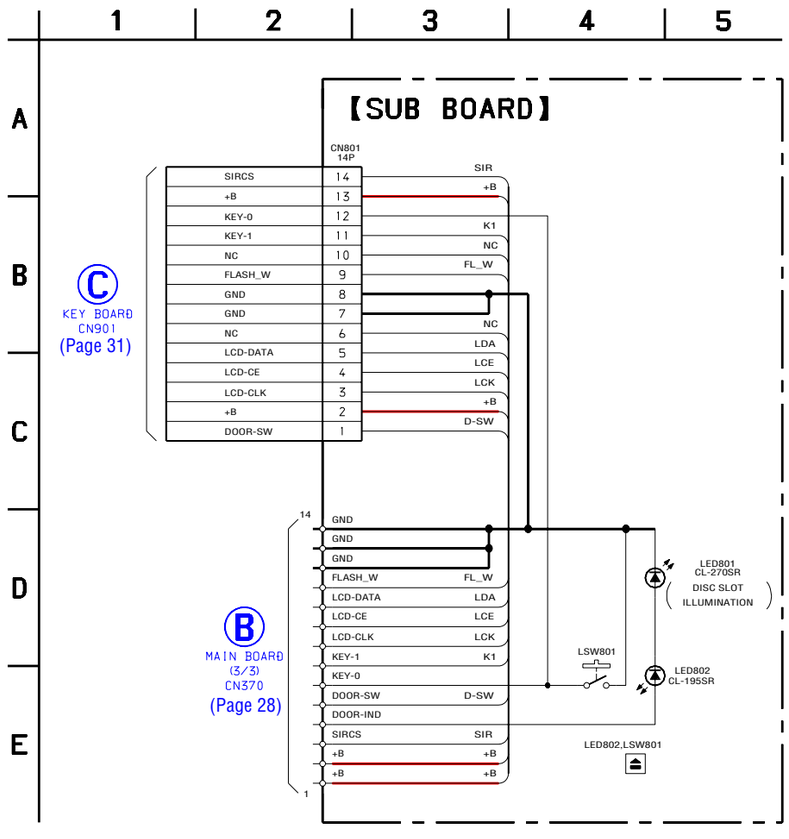
TEL.LATT
AU8.3V
ACC_IN
SIRCS
BUS5.0V
JC361 0
R362 47k
R363 1k
R361 10k
Q360 MSD601-RT1 LEVEL SHIFT
R360 10k
D360 MM2Z18VST1
Q361 MSD601-RT1 ACCESSORY CHECK
R365 47k
JC362 0
R364 4.7k
C360 1 50V
R367 47k
D363 MM3Z18VST1
R385 10k
Q371,372 SIRCS AMP
JC371 0
JC372 0
Q372 MUN2111T1
Q371 MSD601-RT1
R384 47k
R377 1k
R378 1k
Q370 FMC2A-T148 LED DRIVE
IC700
+3.3V REGULATOR
IC700 MM3123DN
C700 0.1
C702 0.1
BU5.0V
IC400
SONY BUS INTERFACE
IC B/D
IC400 BA8271F-E2
DATA OUT
DATA IN
B/U-C
CLK-IN
BUS. IN
RST
VCC
GND
DATA I/O
VREF
CLK
BATT
RST
BUS. ON
UNI_SI
BU_IN
UNI_SO
BUS_SO
UNI_CKO
BUS_ON
SYSRST
BU5.0V
JC403 0
JC406 0
JC420 0
JC421 0
D405 MA721WK
R412 1k
R403 100
R404 100
JC404 0
Q401 MUN2111T1 BUS ON SWITCH
D406 MM3Z6V2ST1
R405 15k
Q402 MUN2211T1 VOLTAGE CHECK
D407 MM3Z18VST1
R406 1k
LINK_OFF
D404 MM3Z3V3T1
R414 220k
R413 220k
C402 0.01
D403 MM3Z18VST1
D402 MA2ZD14001SO
D401 MM3Z18VST1
R411 1k
C400 0.22
C401 470 16V
TH400
(CHASSIS)
D370 DF5A6.8FU
D371 MM3Z18VST1
D372 MM3Z18VST1
C374 0.22
CN370 14P
ILL10.0V
JW386
R370 1k
DOORSW
KEY0
KEY1
LCDCKO
LCDCE
LCDSO
R371 1k
R372 100
R373 100
R374 100
D373 DF5A6.8FU
1 +B
2 +B
3 SIRCS
4 DOOR-IND
5 DOOR SW
6 KEY-IN0
7 KEY-IN1
8 LCD-CLK
9 LCD-CE
10 LCD-DATA
11 FLASH-W
12 GND
13 GND
14 GND
MINIATURE JACK BOARD
CN371 3P
CN372 3P
R375 100
J370 REMOTE IN
RCIN0
RCIN1
DOORIND
RESET
GND
CNJ400 8P
BUS CONTROL IN
BUS ON
BUS DATA
BUS CLK
B+

5-12. PRINTED WIRING BOARD – SUB Board – • See page 21 for Circuit Boards Location.

: Uses unleaded solder.



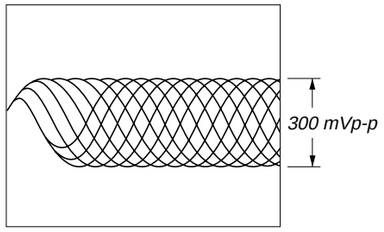
5-13. SCHEMATIC DIAGRAM – SUB Board –



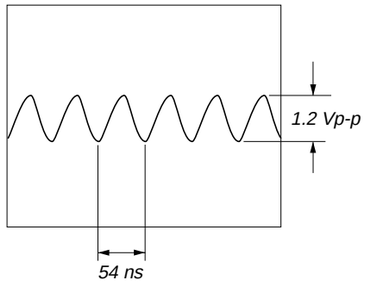
• **Waveforms**

– SERVO Board –

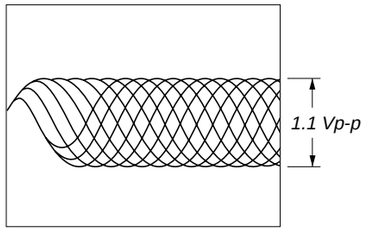
① IC1 ①, ② (I, J)



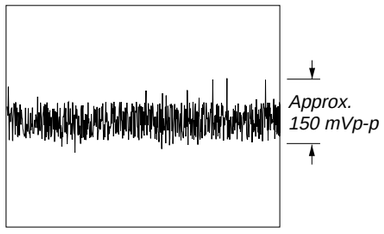
⑥ IC7 ⑧⓪ (X0)



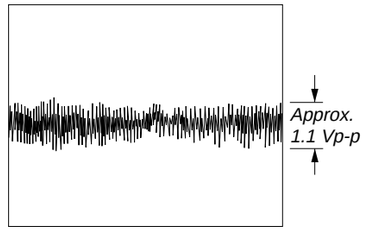
② IC1 ㊳ (RF)



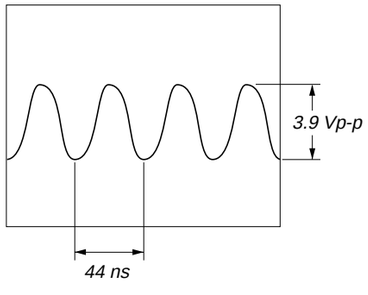
③ IC1 ㉞ (FE)



④ IC1 ㉖ (TE)

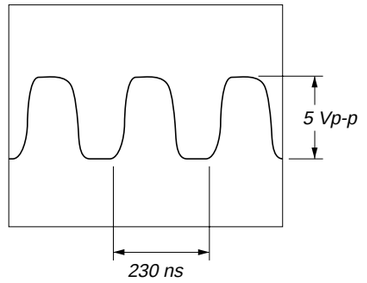


⑤ IC4 ㉑ (OSCO)

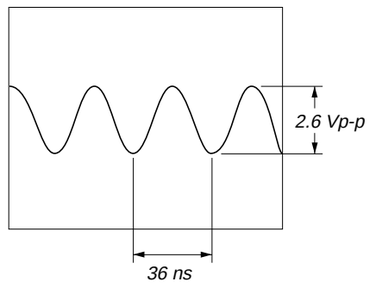


– MAIN Board –

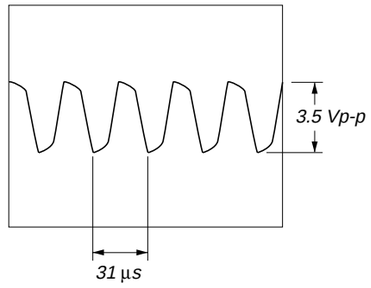
⑪ IC90 ④ (OSCO)



⑫ IC600 ⑫ (OSCOUT)

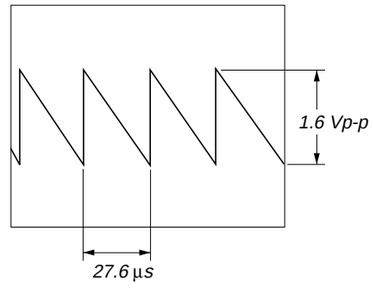


⑬ IC600 ⑯ (XOUT)



– KEY Board –

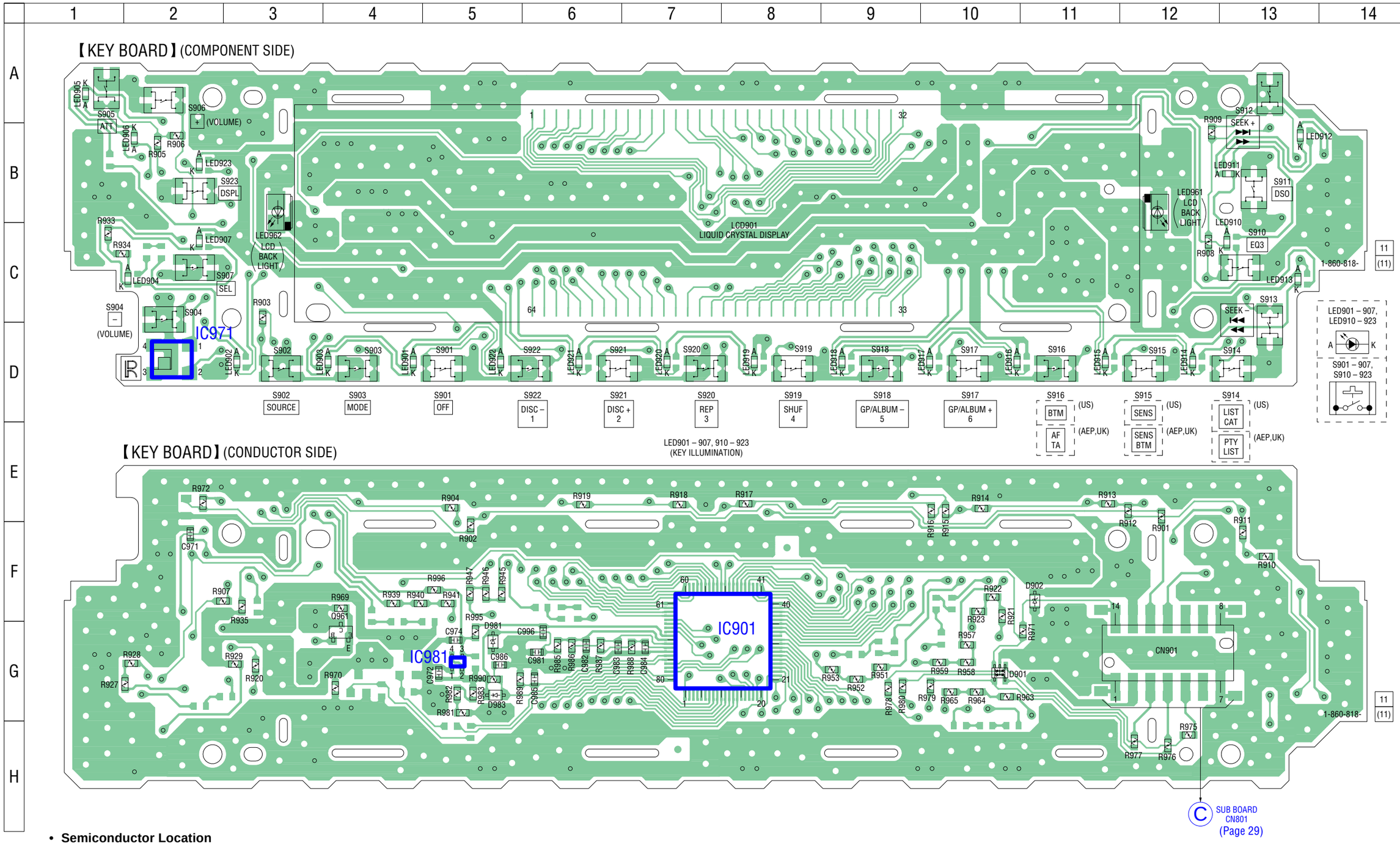
⑭ IC901 ⑭ (OSC)



5-14. PRINTED WIRING BOARD – KEY Board –

• See page 21 for Circuit Boards Location.

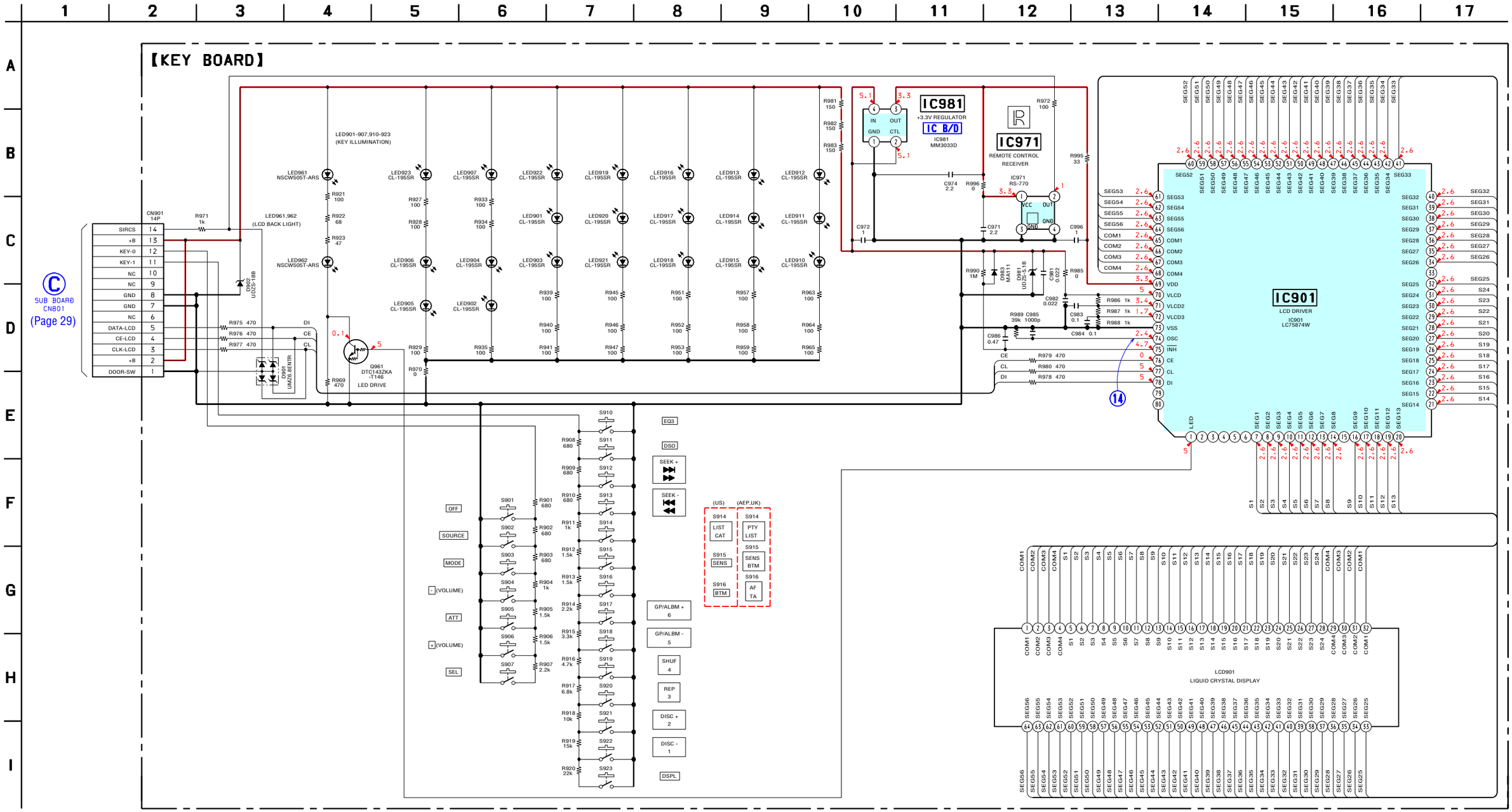
:Uses unleaded solder.



• **Semiconductor Location**

Ref. No.	Location	Ref. No.	Location	Ref. No.	Location
D901	G-10	LED904	C-2	LED918	D-9
D902	F-11	LED905	A-1	LED919	D-8
D981	G-5	LED906	B-2	LED920	D-7
D983	G-5	LED907	C-2	LED921	D-6
		LED910	C-13	LED922	D-5
IC901	G-8	LED911	B-13	LED923	B-2
IC971	D-2	LED912	B-13	LED961	B-12
IC981	G-5	LED913	C-13	LED962	B-3
		LED914	D-12		
LED901	D-4	LED915	D-11	Q961	G-4
LED902	D-3	LED916	D-10		
LED903	D-4	LED917	D-10		

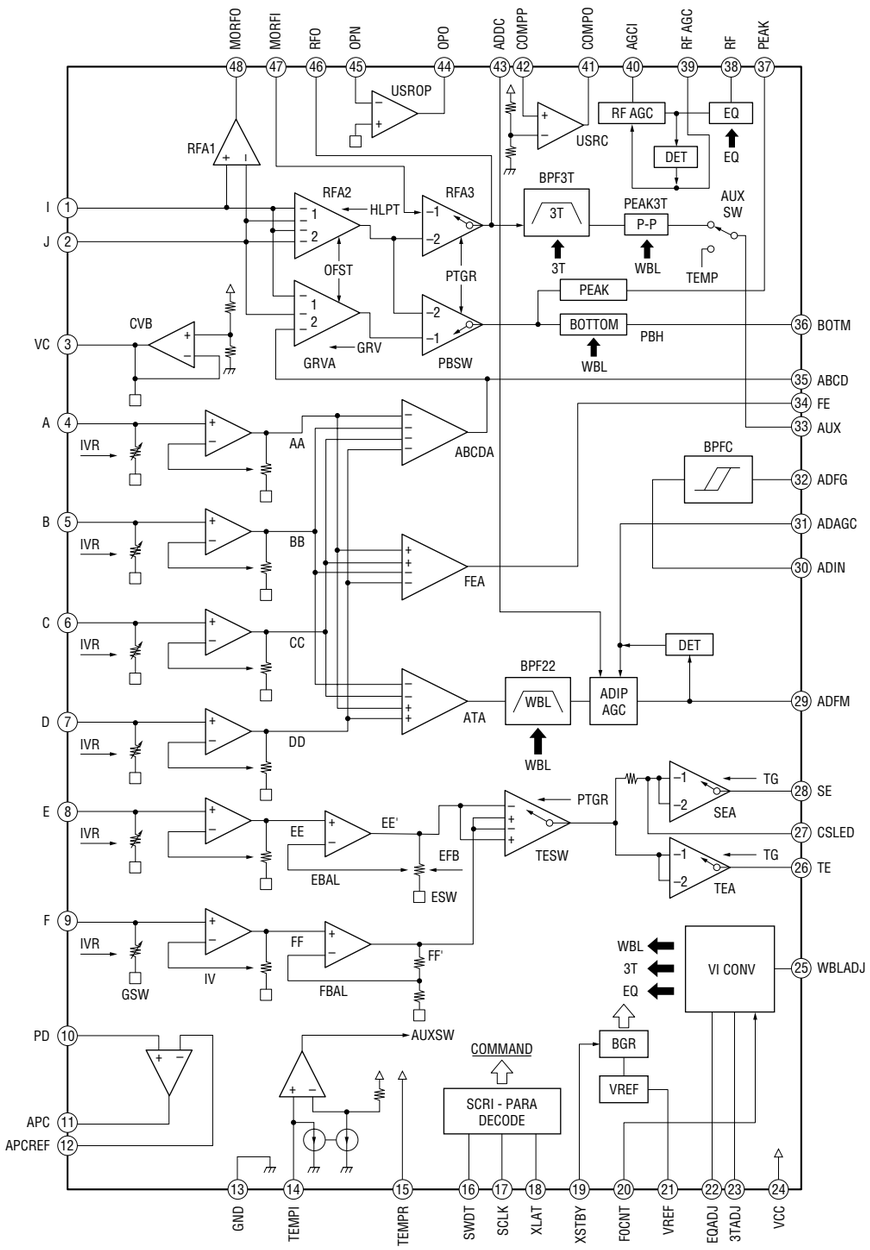
5-15. SCHEMATIC DIAGRAM – KEY Board – • See page 29 for Waveform. • See page 32 for IC Block Diagram.



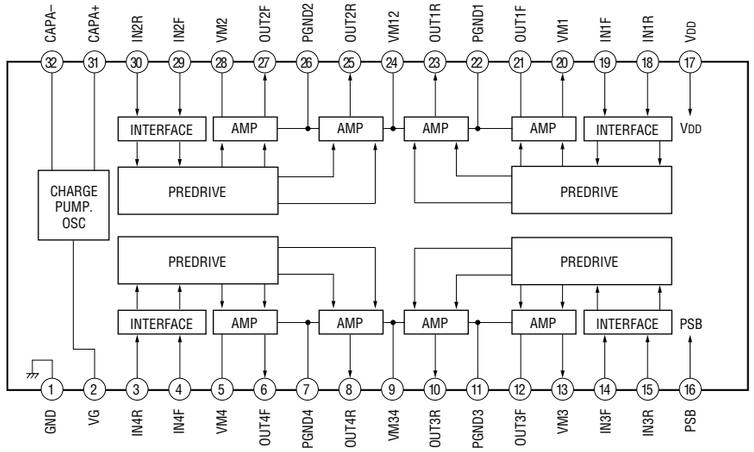
- **IC Block Diagrams**

– SERVO Board –

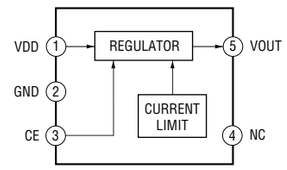
IC1 CXA2523AR



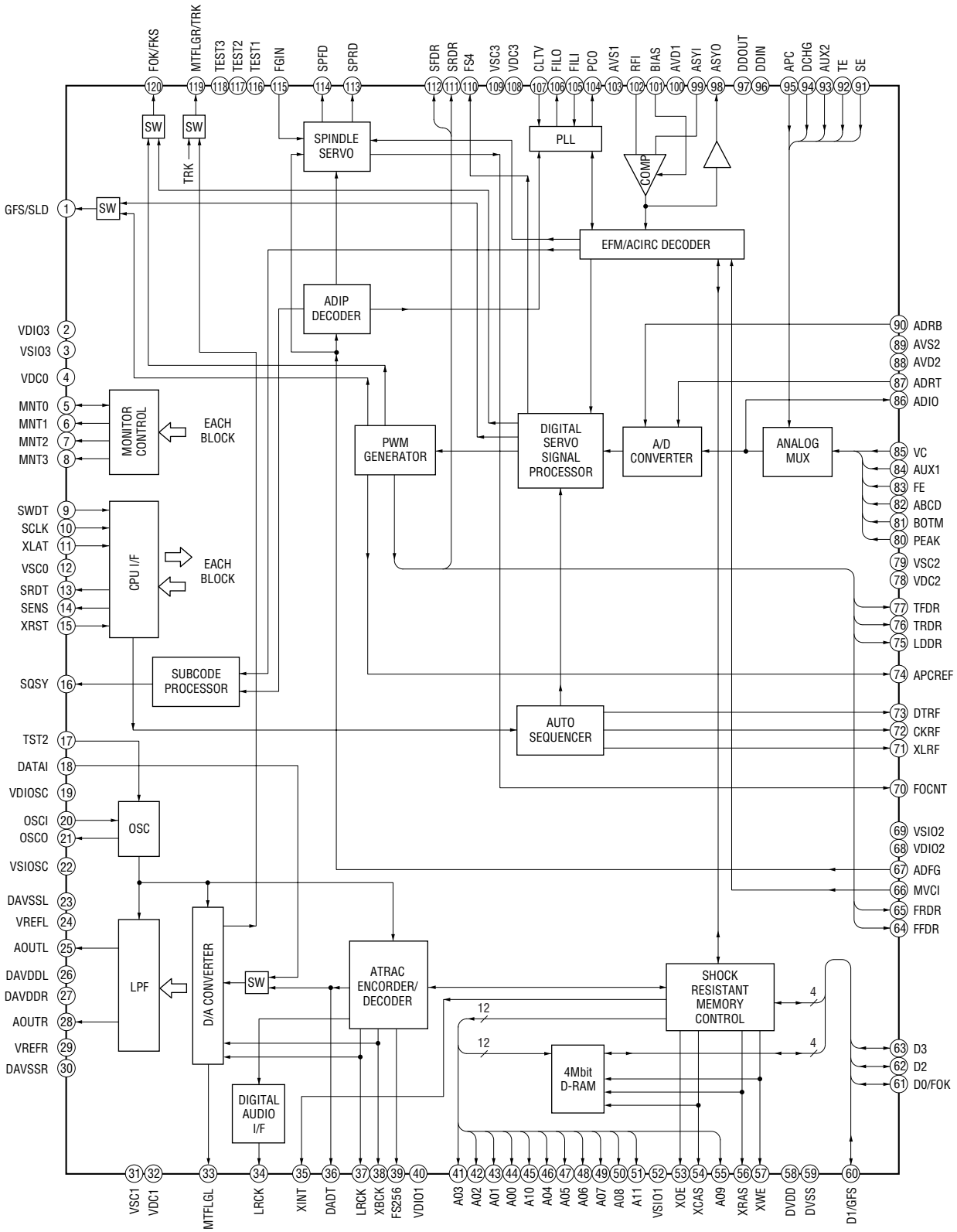
IC2 BH6519FS-E2



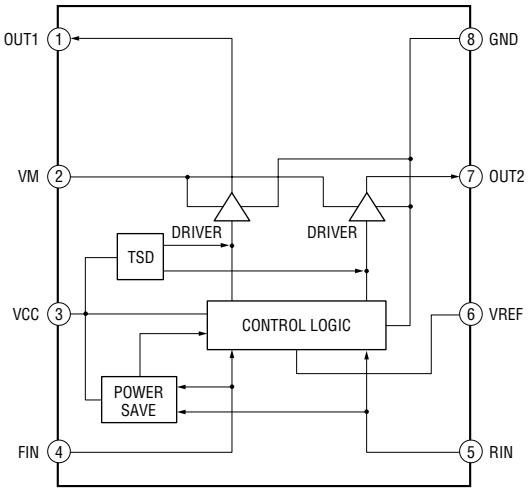
IC3 R1114N251D-TR-FA



IC4 CXD2667R

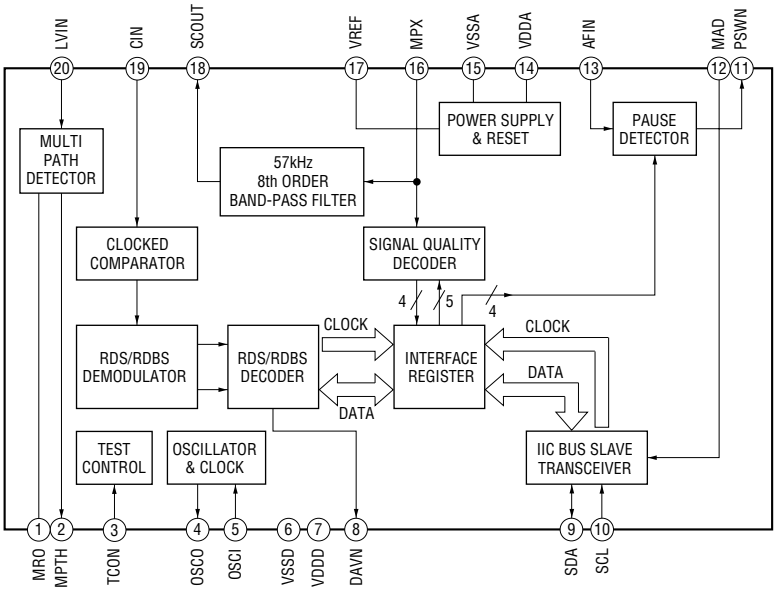


IC6 BA6287F

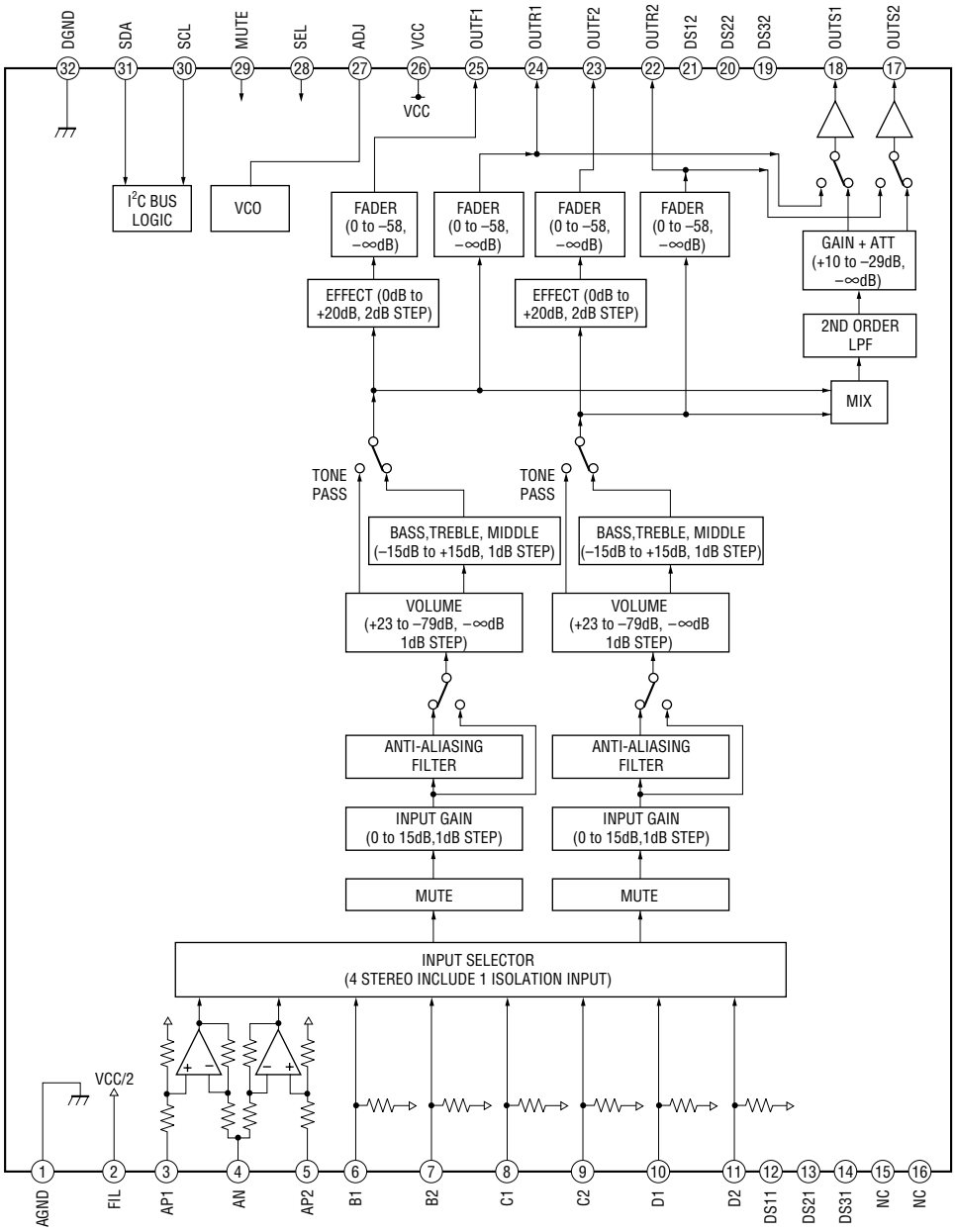


– **MAIN Board** –

IC90 SAA6588T/V2-518

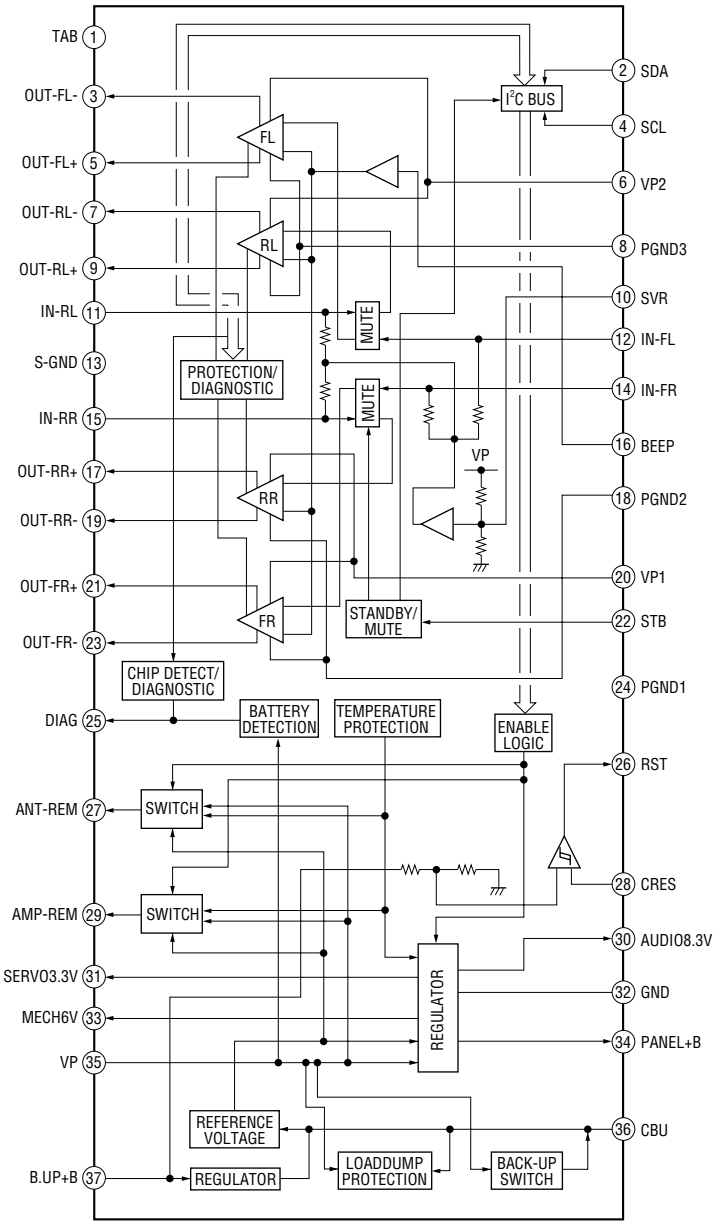


IC120 BD3802F-FE2

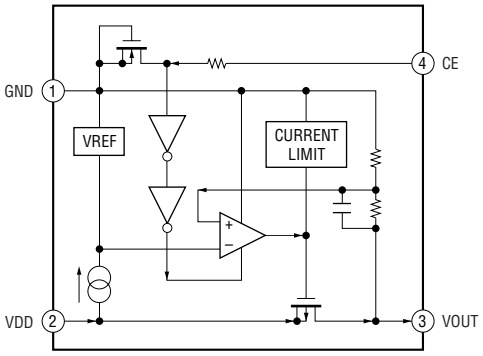


– KEY Board –

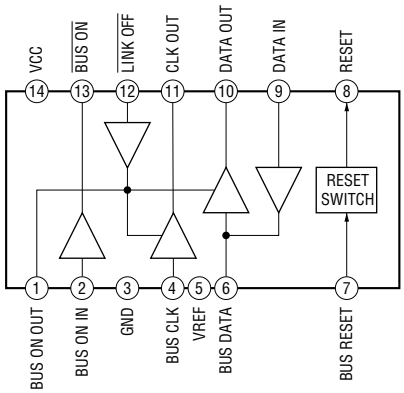
IC300 TDA8588AJ/N2/R1



IC981 MM3033DULE



IC400 BA8271F-E2



• **IC Pin Function Description**

SERVO BOARD IC1 CXA2523AR (RF AMP, FOCUS/TRACKING ERROR AMP)

Pin No.	Pin Name	I/O	Description
1	I	I	I-V converted RF signal I input from the optical pick-up block detector
2	J	I	I-V converted RF signal J input from the optical pick-up block detector
3	VC	O	Middle point voltage (+1.65V) generation output terminal
4 to 9	A to F	I	Signal input from the optical pick-up detector
10	PD	I	Light amount monitor input from the optical pick-up block laser diode
11	APC	O	Laser amplifier output terminal to the automatic power control circuit
12	APCREF	I	Reference voltage input terminal for setting laser power
13	GND	—	Ground terminal
14	TEMPI	I	Connected to the temperature sensor Not used
15	TEMPR	O	Output terminal for a temperature sensor reference voltage Not used
16	SWDT	I	Writing serial data input from the MD DSP
17	SCLK	I	Serial data transfer clock signal input from the MD DSP
18	XLAT	I	Serial data latch pulse signal input from the MD DSP
19	XSTBY	I	Standby signal input terminal "L": standby (fixed at "H" in this set)
20	F0CNT	I	Center frequency control voltage input terminal of internal circuit (BPF22, BPF3T, EQ) input terminal
21	VREF	O	Reference voltage output terminal Not used
22	EQADJ	I	Center frequency setting terminal for the internal circuit (EQ)
23	3TADJ	I	Center frequency setting terminal for the internal circuit (BPF3T)
24	VCC	—	Power supply terminal (+3.3V)
25	WBLADJ	I	Center frequency setting terminal for the internal circuit (BPF22)
26	TE	O	Tracking error signal output terminal
27	CSLED	I	Connected to the external capacitor for low-pass filter of the sled error signal
28	SE	O	Sled error signal output terminal
29	ADFM	O	FM signal output of the ADIP
30	ADIN	I	Receives a ADIP FM signal in AC coupling
31	ADAGC	I	Connected to the external capacitor for ADIP AGC
32	ADFG	O	ADIP duplex signal (22.05 kHz ± 1 kHz) output terminal
33	AUX	O	Auxiliary signal (I_3 signal/temperature signal) output terminal
34	FE	O	Focus error signal output terminal
35	ABCD	O	Light amount signal (ABCD) output terminal
36	BOTM	O	Light amount signal (RF/ABCD) bottom hold output terminal
37	PEAK	O	Light amount signal (RF/ABCD) peak hold output terminal
38	RF	O	Playback EFM RF signal output terminal
39	RFAGC	I	Connected to the external capacitor for RF auto gain control circuit
40	AGCI	I	Receives a RF signal in AC coupling
41	COMPO	O	User comparator output terminal Not used
42	COMPP	I	User comparator input terminal Not used
43	ADDC	I	Connected to the external capacitor for cutting the low band of the ADIP amplifier
44	OPO	O	User operational amplifier output terminal Not used
45	OPN	I	User operational amplifier inversion input terminal Not used
46	RFO	O	RF signal output
47	MORFI	I	Receives a MO RF signal in AC coupling
48	MORFO	O	MO RF signal output

SERVO BOARD IC4 CXD2667R (MD DSP)

Pin No.	Pin Name	I/O	Description
1	GFS/SLD	O	GFS output or sled servo drive signal output terminal Not used
2	VDIO3	—	Power supply terminal (+3.3V)
3	VSIO3	—	Ground terminal
4	VDC0	—	Power supply terminal (+2.5V)
5	MNT0	I/O	Busy monitor signal input or output terminal Not used
6	MNT1	O	Busy monitor signal output terminal Not used
7	MNT2	O	Busy monitor signal output to the MD mechanism controller (reserve terminal)
8	MNT3	O	Busy monitor signal output terminal Not used
9	SWDT	I	Writing serial data input from the MD mechanism controller
10	SCLK	I	Serial data transfer clock signal input from the MD mechanism controller
11	XLAT	I	Serial data latch pulse input from the MD mechanism controller
12	VSC0	—	Ground terminal
13	SRDT	O	Reading serial data output to the MD mechanism controller
14	SENS	O	Internal status (SENSE) output to the MD mechanism controller
15	XRST	I	System reset signal input from the MD mechanism controller “L”: reset
16	SQSY	O	Subcode Q sync (SCOR) output to the MD mechanism controller “L” is output every 13.3 msec Almost all, “H” is output
17	XTSL	I	Frequency setting terminal for the system clock “L”: 45.1584 MHz, “H”: 22.5792 MHz (fixed at “H” in this set)
18	DATAI	I	Digital audio signal input terminal when recording mode Not used
19	VDIOSC	O	Power supply terminal (+3.3V)
20	OSCI	I	System clock input terminal (22.57 MHz)
21	OSCO	O	System clock output terminal (22.57 MHz)
22	VSIOSC	—	Ground terminal
23	DAVSSL	—	Ground terminal
24	VREFL	O	Capacitor connecting terminal for reference voltage of internal D/A converter
25	AOUTL	O	L-ch analog audio signal output terminal
26	DAVDDL	—	Power supply terminal (+3.3V)
27	DAVDDR	—	Power supply terminal (+3.3V)
28	AOUTR	O	R-ch analog audio signal output terminal
29	VREFR	O	Capacitor connecting terminal for reference voltage of internal D/A converter
30	DAVSSR	—	Ground terminal
31	VSC1	—	Ground terminal
32	VDC1	—	Power supply terminal (+2.5V)
33	MTFLGL	O	L-ch zero-data or L-ch + R-ch zero-data detection flag output terminal Not used
34	DOUT	O	Digital audio signal output terminal when playback mode Not used
35	XINT	O	Interrupt request signal output to the MD mechanism controller
36	DADT	O	Playback data output to the D/A converter Not used
37	LRCK	O	L/R sampling clock signal (44.1 kHz) output to the D/A converter Not used
38	XBCK	O	Bit clock signal (2.8224 MHz) output to the D/A converter Not used
39	FS256	O	256Fs = 11.2896 MHz clock signal output terminal Not used
40	VDIO1	—	Power supply terminal (+3.3V)
41 to 44	A03 to A00	O	Address signal output terminal Not used
45	A10	O	Address signal output terminal Not used
46 to 50	A04 to A08	O	Address signal output terminal Not used

Pin No.	Pin Name	I/O	Description
51	A11	O	Address signal output terminal Not used
52	VSIO1	—	Ground terminal
53	XOE	O	Output enable signal output terminal Not used
54	XCAS	O	Column address strobe signal output terminal Not used
55	A09	O	Address signal output terminal Not used
56	XRAS	O	Row address strobe signal output terminal Not used
57	XWE	O	Write enable signal output terminal Not used
58	DVDD	—	Power supply terminal (+3.3V)
59	DVSS	—	Ground terminal
60	D1/GFS	I/O	Two-way data bus or GFS output terminal Not used
61	D0/FOK	I/O	Two-way data bus or focus OK signal output terminal Not used
62, 63	D2, D3	I/O	Two-way data bus terminal Not used
64	FFDR	O	Focus servo drive PWM signal (+) output terminal
65	FRDR	O	Focus servo drive PWM signal (–) output terminal
66	MVCI	I	Digital in PLL oscillation input from the external VCO Not used
67	ADFG	I	ADIP duplex FM signal (22.05 kHz ± 1 kHz) input terminal
68	VDIO2	—	Power supply terminal (+3.3V)
69	VSIO2	—	Ground terminal
70	F0CNT	O	Filter cut-off control signal output terminal Not used
71	XLRF	O	Serial data latch pulse signal output to the RF AMP
72	CKRF	O	Serial data transfer clock signal output to the RF AMP
73	DTRF	O	Two-way data bus with the RF AMP
74	APCREF	O	Control signal output to the reference voltage generator circuit for the laser automatic power control
75	LDDR	O	PWM signal output for laser automatic power control Not used
76	TRDR	O	Tracking servo drive PWM signal (–) output terminal
77	TFDR	O	Tracking servo drive PWM signal (+) output terminal
78	VDC2	—	Power supply terminal (+2.5V)
79	VSC2	—	Ground terminal
80	PEAK	I	Light amount signal (RF/ABCD) peak hold input terminal
81	BOTM	I	Light amount signal (RF/ABCD) bottom hold input terminal
82	ABCD	I	Light amount signal (ABCD) input terminal
83	FE	I	Focus error signal input terminal
84	AUX1	I	Auxiliary signal (I_3 signal/temperature signal) input terminal
85	VC	I	Middle point voltage (+1.65V) input terminal
86	ADIO	O	Monitor output of the A/D converter input signal Not used (open)
87	ADRT	I	A/D converter operational range upper limit voltage input terminal (fixed at “H” in this set)
88	AVD2	—	Power supply terminal (+3.3V)
89	AVS2	—	Ground terminal
90	ADRB	I	A/D converter operational range lower limit voltage input terminal (fixed at “L” in this set)
91	SE	I	Sled error signal input terminal
92	TE	I	Tracking error signal input terminal
93	AUX2	I	Auxiliary signal (I_3 signal/temperature signal) input terminal Not used
94	DCHG	I	Connected to the +3.3V power supply in this set
95	APC	I	Error signal input for the laser automatic power control Not used
96	DDIN	I	Connected to the +3.3V power supply in this set

Pin No.	Pin Name	I/O	Description
97	DDOUT	O	Open terminal in this set
98	ASYO	O	Playback EFM full-swing output terminal
99	ASYI	I	Playback EFM asymmetry comparator voltage input terminal
100	AVD1	—	Power supply terminal (+3.3V)
101	BIAS	I	Playback EFM asymmetry circuit constant current input terminal
102	RFI	I	Playback EFM RF signal input terminal
103	AVS1	—	Ground terminal
104	PCO	O	Phase comparison output for master clock of the recording/playback EFM master PLL
105	FILI	I	Filter input for master clock of the recording/playback master PLL
106	FILO	O	Filter output for master clock of the recording/playback master PLL
107	CLTV	I	Internal VCO control voltage input of the recording/playback master PLL
108	VDC3	—	Power supply terminal (+2.5V)
109	VSC3	—	Ground terminal
110	FS4	O	176.4 kHz clock signal output terminal Not used
111	SRDR	O	Sled servo drive PWM signal (–) output terminal
112	SFDR	O	Sled servo drive PWM signal (+) output terminal
113	SPRD	O	Spindle servo drive PWM signal (–) output terminal
114	SPFD	O	Spindle servo drive PWM signal (+) output terminal
115	FGIN	I	FG input for spindle CAV servo Not used
116 to 118	TEST1 to TEST3	I	For test terminal
119	MTFLGR/TRK	O	R-ch zero-data detection flag output or tracking servo drive signal output terminal Not used
120	FOK	O	Focus OK signal output terminal “H”: focus OK

SERVO BOARD IC7 MB90473PFV-G-157-BNDE1 (MD MECHANISM CONTROLLER)

Pin No.	Pin Name	I/O	Description
1	MDMON	O	Power supply on/off control signal output of the MD mechanism deck section
2	LINKOFF	O	Uni-link on/off control signal output for the SONY bus interface "L": link on
3	ERR-PWM	O	Error rate PWM output terminal Not used
4	NC	O	Not used
5	3TPWM	O	3T jitter PWM output terminal Not used
6	NC	O	Not used
7	A-ATT	O	Audio muting on/off control signal output terminal "H": muting
8	NC	O	Not used
9	VSS	—	Ground terminal
10	NC	O	Not used
11	EMPHA_0	O	MD emphasis control signal output terminal "H": emphasis on Not used
12	NC	O	Not used
13	DISC_EXIST	I	Disc detection sensor input terminal Not used
14	EJECT_OK	I	Front panel open/close detection input terminal "L": close
15	OPEN_REQ	O	Eject request signal output terminal "L": close request, "H": open request
16	SRDT	I	Reading serial data signal input from the MD DSP
17	SWDT	O	Writing serial data signal output to the MD DSP
18	SCLK	O	Serial data transfer clock signal output to the MD DSP
19	$\overline{\text{MD-LAT}}$	O	Serial data latch pulse output to the RF amplifier and MD DSP
20	NC	O	Not used
21	VCC	—	Power supply terminal (+3.3V)
22 to 24	NC	O	Not used
25	RXD	I	Receive data input terminal for UART communication when data writing to the internal flash memory
26	TXD	O	Transmit data output terminal for UART communication when data writing to the internal flash memory
27	FLASH_W	I	Mode select terminal for data writing to the internal flash memory
28 to 32	NC	O	Not used
33	AVCC	—	Power supply terminal (+3.3V)
34	AVRH	I	Reference voltage input for the internal A/D converter
35	AVSS	—	Ground terminal
36 to 39	NC	O	Not used
40	VSS	—	Ground terminal
41	REF_LEVEL	I	Light amount signal (ABCD) input terminal
42 to 45	NC	O	Not used
46	CC-XINT	I	Interrupt status input from the MD DSP
47 to 49	MD0 to MD2	—	Setting terminal for the CPU operational mode
50	BUS_ON	I	SONY bus on/off control signal input terminal "L": bus on
51	BU_IN	I	Back up power supply detection signal input terminal "L" is input at low voltage
52	$\overline{\text{SQ\_SY}}$	I	Subcode Q sync (SCOR) input from the MD DSP "L" is input every 13.3 msec Almost all, "H" is input
53	$\overline{\text{DISC-IN}}$	I	Disc loading detection switch input terminal "L": loading
54, 55	NC	O	Not used
56	UNISI	I	Serial data input from the SONY bus interface IC
57	UNISO	O	Serial data output to the SONY bus interface IC
58	UNICLK	I	Serial data transfer clock signal input from the system controller

Pin No.	Pin Name	I/O	Description
59	NC	O	Not used
60	ADER-PWM	O	ADIP error PWM output terminal Not used
61 to 68	NC	O	For test terminal Not used
69	MDMON_CHECK	I	Power supply detection of MD mechanism deck section (MDMON)
70	MDON_CHECK	I	Power supply detection of servo section (MDON)
71 to 74	NC	O	Not used
75	RSTX	I	System reset signal input from the reset signal generator and reset switch "L": reset For several hundreds msec. after the power supply rises, "L" is input, then it changes to "H"
76	NC	O	Not used
77	XIA	I	System clock input terminal Not used
78	XOA	O	System clock output terminal Not used
79	VSS	—	Ground terminal
80	X0	I	System clock input terminal (18.43 MHz)
81	X1	O	System clock output terminal (18.43 MHz)
82	VCC	—	Power supply terminal (+3.3V)
83	NC	O	Not used
84	EJECT	O	Loading motor control signal output terminal (eject direction)
85	LOAD	O	Loading motor control signal output terminal (loading direction)
86	NC	O	Not used
87	$\overline{\text{LIMIT\_IN}}$	I	Detection input from the sled limit-in detect switch The optical pick-up is inner position when "L"
88	$\overline{\text{LOAD\_END}}$	I	Chucking completed detection switch input terminal "L": chucking completion
89	INIT1	I	Analog/digital model setting terminal "L": digital Not used
90, 91	INIT2, INIT3	I	Digital word size setting terminal Not used
92	NC	O	Not used
93	MD_ON	O	Power supply on/off control signal output of the servo section "H": power on
94	$\overline{\text{MD\_RST}}$	O	System reset signal output to the servo section
95	SENS	I	Internal status (SENS) input from the MD DSP
96	NC	O	Not used
97	NC	I	Not used
98	MNT2	I	Monitor signal input from the MD DSP (for reserve terminal)
99	NC	O	Not used
100	FOK	I	Focus OK signal input terminal "H": focus OK

MAIN BOARD IC600 MN101E01KDJ (SYSTEM CONTROLLER)

Pin No.	Pin Name	I/O	Description
1	DAVDD	—	Power supply terminal (+3.3V)
2	NCO	O	Not used
3	DAVSS	—	Ground terminal
4 to 9	NCO	O	Not used
10	VDD1	—	Power supply terminal (+3.3V)
11	MMOD	I	Internal flash memory data write mode detection signal input terminal Not used
12	OSCOUT	O	System clock output terminal (27.648 MHz)
13	OSCIN	I	System clock input terminal (27.648 MHz)
14	VSS1	—	Ground terminal
15	XIN	I	System clock input terminal (32.768 kHz)
16	XOUT	O	System clock output terminal (32.768 kHz)
17	VDD2	—	Power supply terminal (+3.3V)
18	MOD1	I	Setting terminal for the CPU operational mode fixed at "H"
19	$\overline{\text{RESET}}$	I	System reset signal input from the reset signal generator and reset switch "L": reset For several hundreds msec. after the power supply rises, "L" is input, then it changes to "H"
20	RCIN1	I	Rotary remote commander shift key input terminal
21	$\overline{\text{ACCIN}}$	I	Accessory power detection signal input terminal "L": accessory power on
22	$\overline{\text{TESTIN}}$	I	Test mode setting terminal "L": test mode, normally fixed at "H"
23	TELLATT	I	Telephone muting detection signal input terminal At input of "H", the audio signal is attenuated by 20 dB
24	ATT	O	Audio muting on/off control signal output terminal
25	$\overline{\text{ADON}}$	O	A/D converter power control signal output When the KEY ACK (pin 27) that controls reference voltage power for key A/D conversion input is active, "L" is output from this terminal to enable the input
26	NCO	—	Not used
27	KEYACK	I	Acknowledge signal (wake up signal) input terminal for the key entry Acknowledge signal is input to accept any function key in the standby status On at input of "H"
28	TUATTIN	I	Tuner muting zero-cross detection signal input terminal
29	MDON	I	Power supply on/off control signal input of the servo section
30	MDMON	I	Power supply on/off control signal input of the MD mechanism deck section
31	BUIN	I	Back up power supply detection signal input terminal "L" is input at low voltage
32	NCO	O	Not used
33	UNISO	O	Serial data output to the SONY bus interface IC
34	UNISI	I	Serial data input from the SONY bus interface IC
35	UNICKO	O	Serial data transfer clock signal output to the SONY bus interface IC and MD mechanism controller
36 to 38	NCO	O	Not used
39	OPENREQ	O	Front panel open request signal output terminal Not used
40	$\overline{\text{BUSON}}$	O	SONY bus on/off control signal output terminal "L": bus on
41	MDBOOT	O	Internal flash memory data write control signal output terminal Not used
42	$\overline{\text{SYSRST}}$	O	System reset signal output to the MD mechanism controller and SONY bus interface IC
43 to 50	NCO	O	Not used
51	AMPATT	O	Amplifier muting on/off control signal output terminal Not used
52	DEST1	I	Setting terminal for the destination
53, 54	DEST2, DEST3	I	Setting terminal for model discrimination Not used
55	$\overline{\text{DOORSW}}$	I	Front panel open/close detection input terminal "L": close

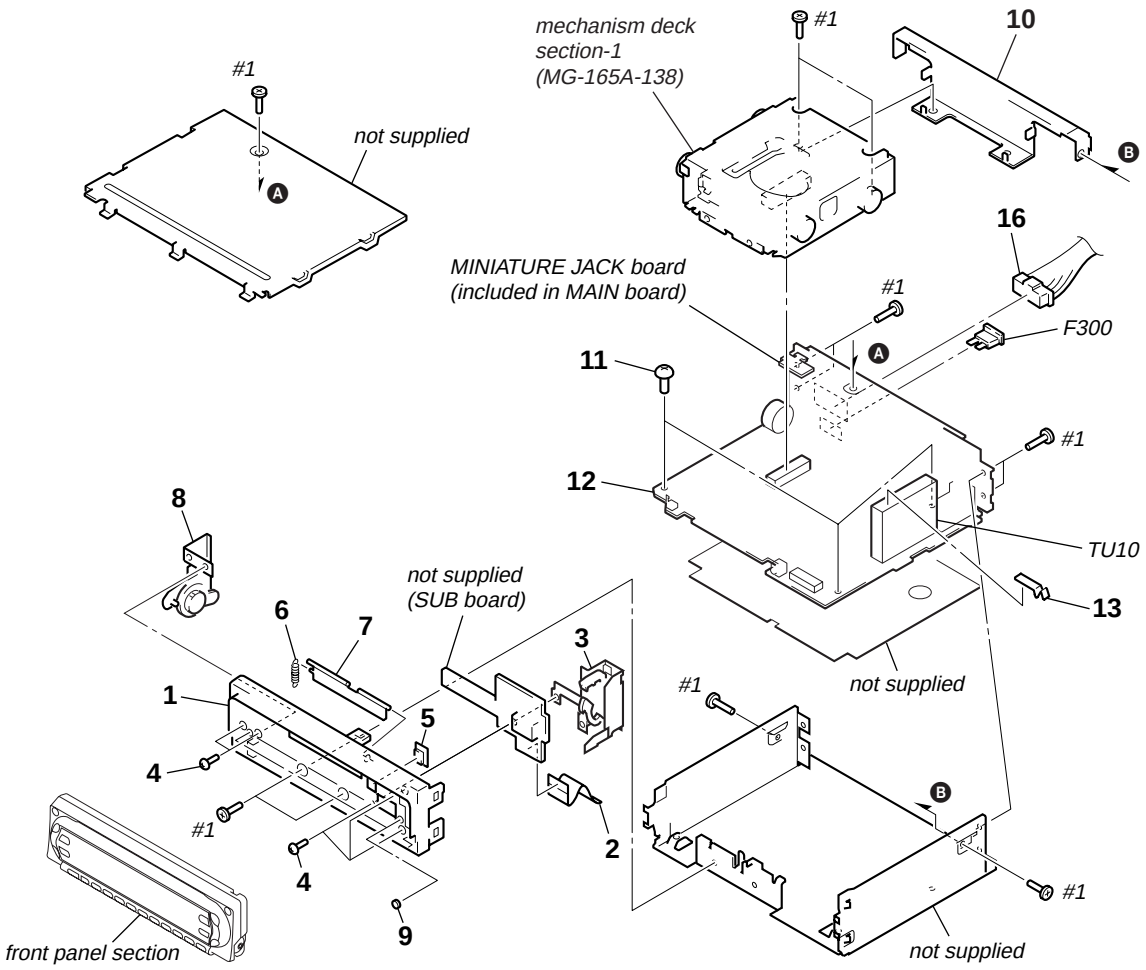
Pin No.	Pin Name	I/O	Description
56	DIAG	I	DIAG signal input from the power amplifier
57	$\overline{\text{VOLATT}}$	O	Muting on/off control signal output to the electrical volume
58	NCO (AUX)	O	Not used
59	$\overline{\text{NOSESW}}$	I	Front panel remove/attach detection signal input terminal "L": front panel is attached
60 to 62	NCO	O	Not used
63	VSS2	O	Ground terminal
64	TUATT	O	Tuner muting on/off control signal output terminal
65	NCO (TUON)	O	Not used
66	NSMASK	O	Discharge control signal output for the noise detection circuit "H": discharge (AEP, UK models only)
67	E2P_CKO	O	Serial data transfer clock signal output to the EEPROM in tuner unit
68	E2P_SIO	I/O	Two-way data bus with the EEPROM in tuner unit
69	DOORIND	O	Illumination LED drive signal output of the sub panel
70	AMPSTB	O	Standby on/off control signal output to the power amplifier
71 to 75	NCO	O	Not used
76	LCDSO	O	Serial data output to the LCD controller
77	LCDCE	O	Chip enable signal output to the LCD controller
78	LCDCKO	O	Serial data transfer clock signal output to the LCD controller
79	I2C_SIO	I/O	IIC two-way data bus with the tuner unit, electrical volume and power amplifier
80	NCO	O	Not used
81	I2C_CKO	O	IIC bus clock signal output to the tuner unit, electrical volume and power amplifier
82	DAVN	I	Data transmit completed detection signal input terminal (AEP, UK models only)
83	SIRCS	I	SIRCS signal input terminal
84	NCO	O	Not used
85	BEEP	O	Beep sound drive signal output terminal
86 to 88	NCO	O	Not used
89	VDD3	—	Power supply terminal (+5V)
90	NCO	O	Not used
91	VSS3	—	Ground terminal
92	QUALITY	I	Noise level detection signal input at SEEK mode (A/D input) (AEP, UK models only)
93	VSM	I	FM and AM signal-meter voltage detection signal input from the tuner unit (A/D input)
94	KEYIN1	I	Front panel key input terminal (A/D input)
95	KEYIN0	I	Front panel key input terminal (A/D input)
96	RCIN0	I	Rotary remote commander key input terminal (A/D input)
97 to 99	NCO	O	Not used
100	VREF+	I	Reference voltage (+5V) input terminal

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.

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

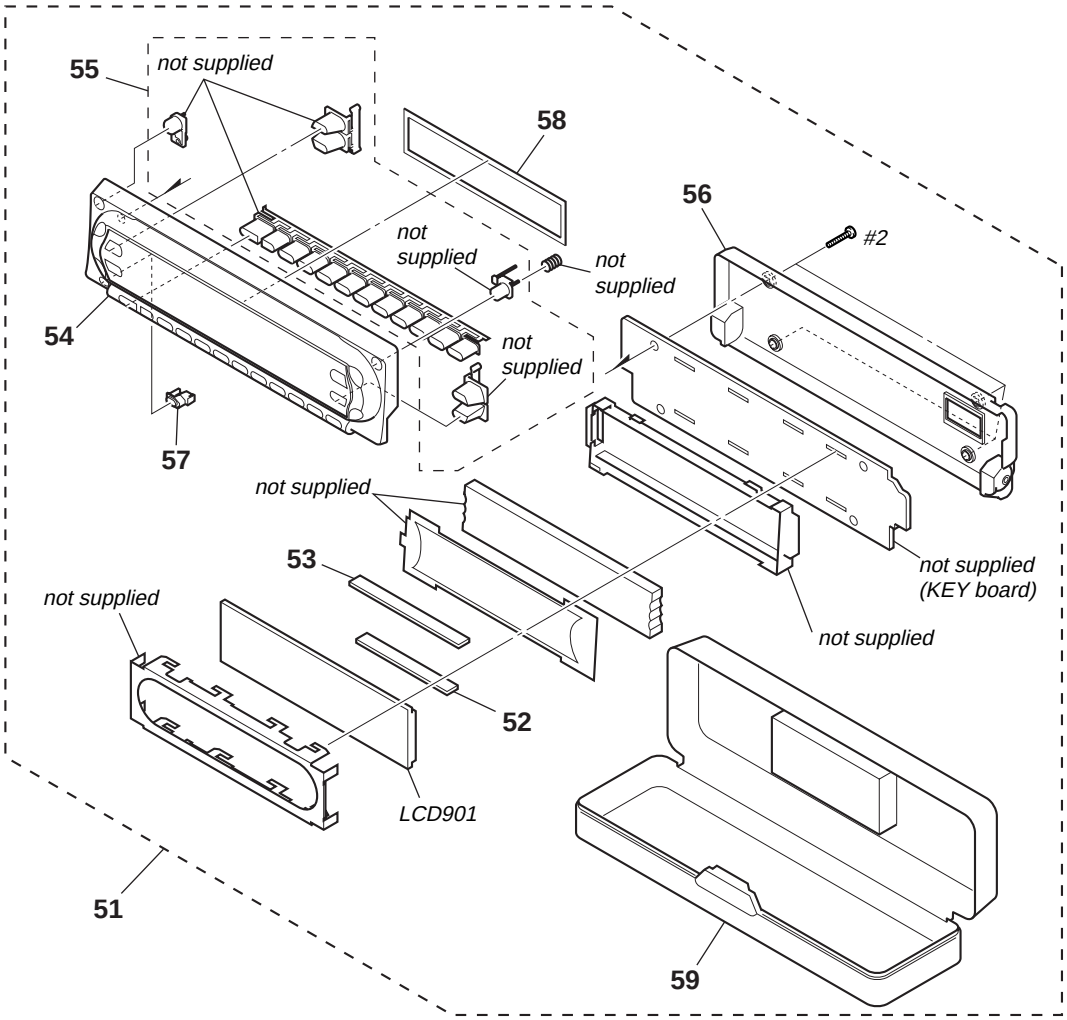
6-1. CHASSIS SECTION



Ref. No.	Part No.	Description	Remark
1	X-3384-714-1	PANEL ASSY, SUB	
2	1-792-195-11	CABLE, FLEXIBLE FLAT (14CORE)	
3	X-3384-259-1	LOCK ASSY	
4	3-042-244-01	SCREW (T)	
5	3-040-990-01	BUTTON (EJECT) (⏏)	
6	3-034-086-01	SPRING (DOOR)	
7	3-033-750-03	DOOR (MD)	
8	X-3384-203-1	GEAR ASSY	
9	3-260-247-01	CUSHION (SUB PANEL)	
10	3-248-458-02	BRACKET (MD)	
11	2-050-124-01	SCREW +BTT 2.6 × 5	

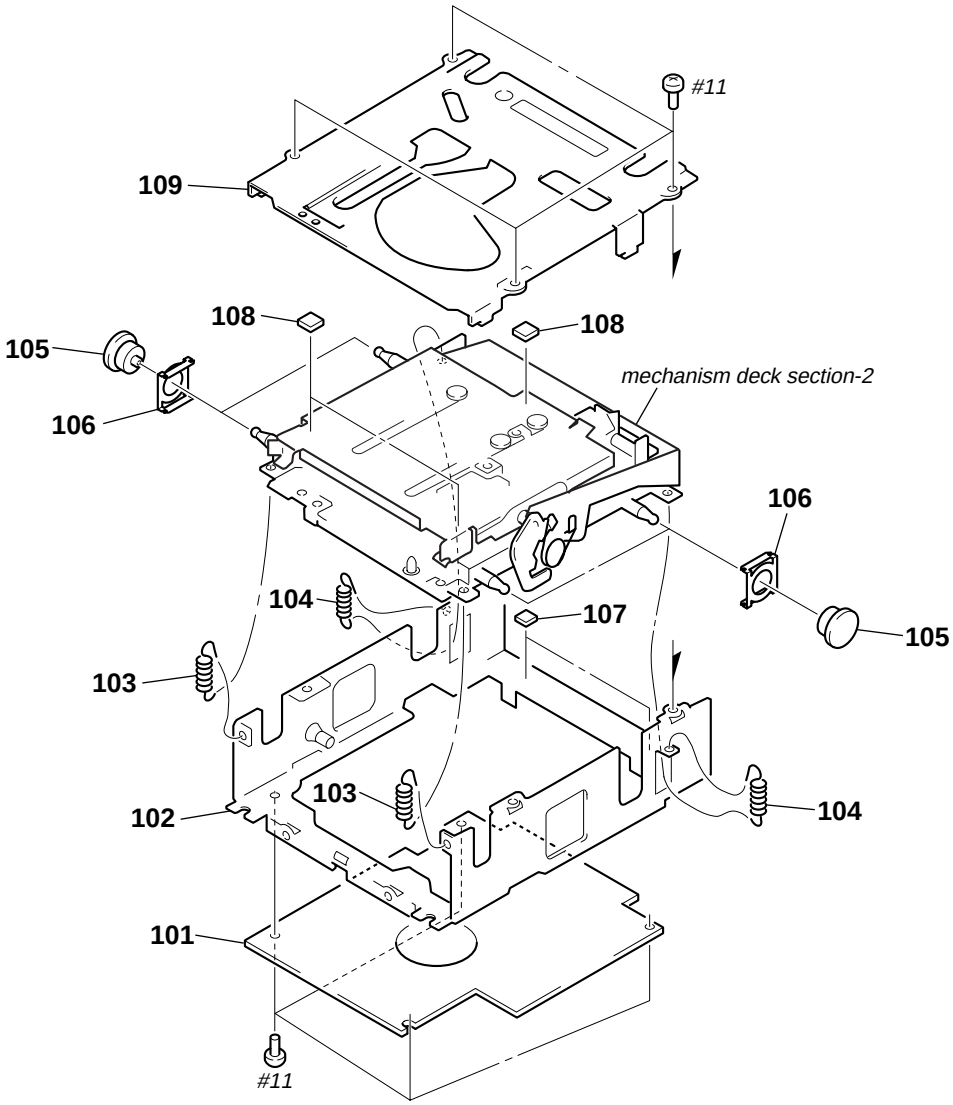
Ref. No.	Part No.	Description	Remark
12	A-3283-609-A	MAIN BOARD, COMPLETE (Including the MINIATURE JACK board)	(AEP, UK)
12	A-3283-610-A	MAIN BOARD, COMPLETE (Including the MINIATURE JACK board)	(US)
13	2-021-848-01	SHEET (TU), GROUND	
16	1-776-207-82	CORD (WITH CONNECTOR) (POWER)	(US)
16	1-776-527-61	CORD (WITH CONNECTOR) (ISO) (POWER)	(AEP, UK)
F300	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) (10A/32V)	
TU10	A-3220-961-A	TUNER UNIT (TUX-032//Q3)	
#1	7-685-792-09	SCREW +PTT 2.6 × 6 (S)	

6-2. FRONT PANEL SECTION



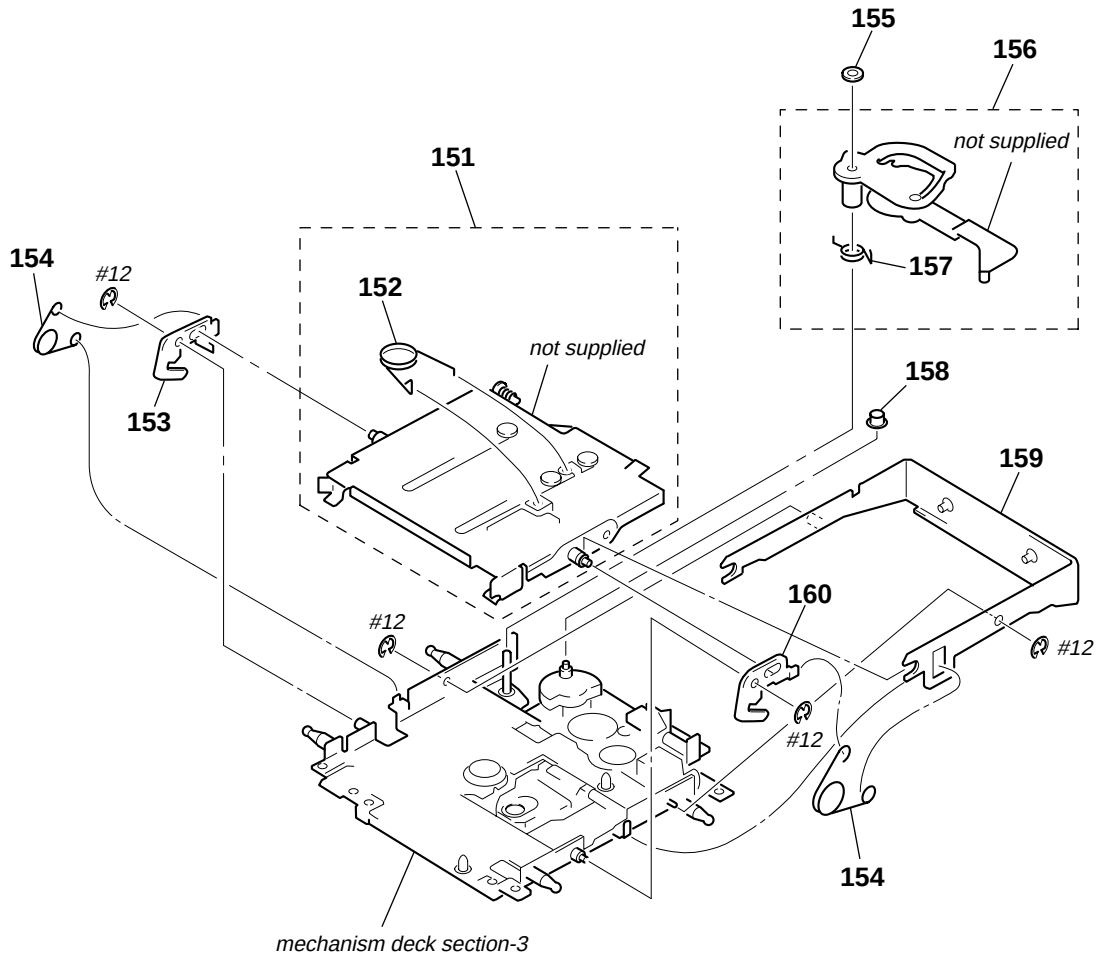
Ref. No.	Part No.	Description	Remark
51	A-3373-050-A	OVERALL ASSY, FRONT PANEL (AEP, UK)	
51	A-3373-059-A	OVERALL ASSY, FRONT PANEL (US)	
52	1-780-104-11	CONDUCTIVE BOARD, CONNECTION	
53	1-780-095-11	CONDUCTIVE BOARD, CONNECTION	
54	X-3385-252-1	PANEL (SV) ASSY, FRONT (AEP, UK)	
54	X-3385-254-1	PANEL (SV) ASSY, FRONT (US)	
55	X-3385-253-1	BUTTON ASSY (S) (AEP, UK)	
55	X-3384-473-4	BUTTON ASSY (S) (US)	
56	X-3384-367-1	PANEL ASSY, FRONT BACK	
57	3-260-227-01	FILTER (IR)	
58	3-260-250-01	CUSHION, DUST PROTECTION	
59	X-3385-058-1	CASE ASSY	
LCD901	1-805-453-11	DISPLAY PANEL, LIQUID CRYSTAL	
#2	7-685-106-19	SCREW +P 2 × 10 TYPE2 NON-SLIT	

6-3. MECHANISM DECK SECTION-1 (MG-165A-138)



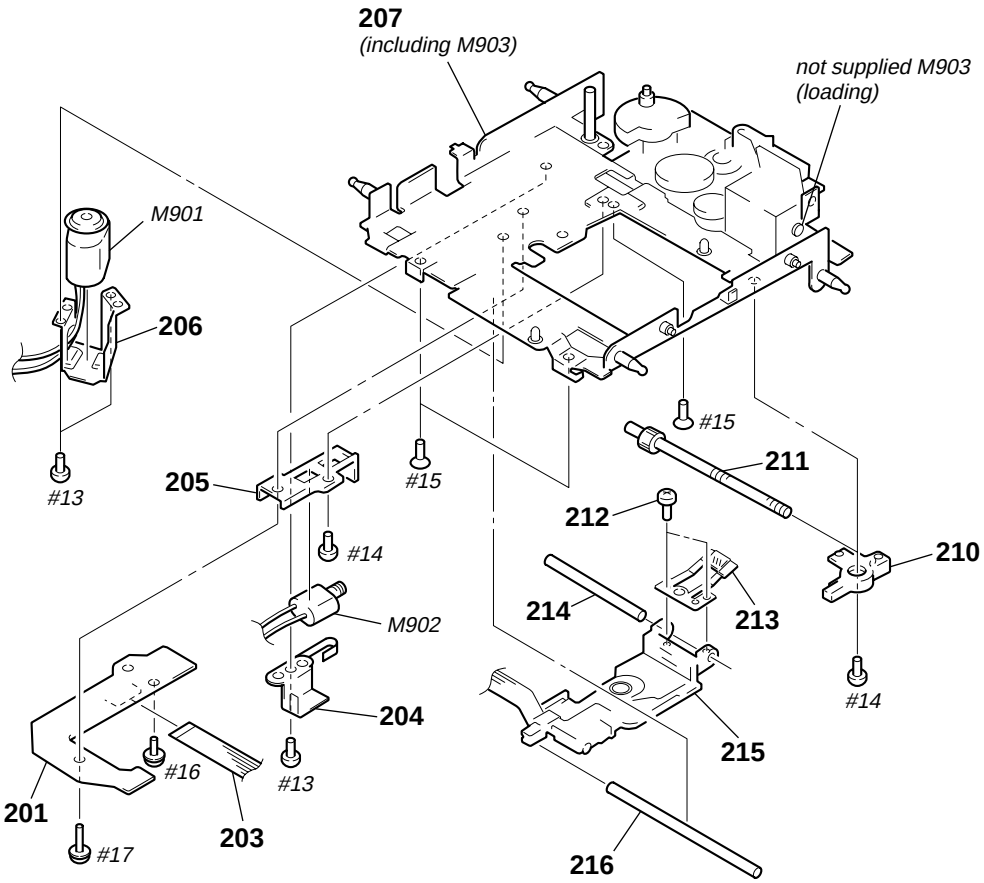
Ref. No.	Part No.	Description	Remark
101	A-3274-602-A	SERVO BOARD, COMPLETE	
* 102	X-3379-367-4	CHASSIS ASSY, MD	
103	3-032-714-02	SPRING (FLOAT F), TENSION	
104	3-921-111-01	SPRING (FL2), TENSION	
105	3-931-897-71	DAMPER (T)	
* 106	3-220-096-03	BRACKET (DAMPER)	
* 107	3-034-301-02	CUSHION (EJ2)	
* 108	3-034-302-02	CUSHION (EJ3)	
* 109	X-3379-368-2	COVER ASSY, MD	
#11	7-685-851-04	SCREW +BVTT 2 × 4 (S)	

6-4. MECHANISM DECK SECTION-2 (MG-165A-138)



Ref. No.	Part No.	Description	Remark
151	X-3383-582-1	HOLDER ASSY	
152	3-032-682-01	SPRING (HOLDER)	
* 153	3-032-712-01	LEVER (LOCK R)	
154	3-919-281-01	SPRING (CHKG)	
155	3-035-932-01	WASHER, STOPPER	
* 156	X-3379-362-4	LEVER (LE23) ASSY	
157	3-032-707-01	SPRING (LEVER LE)	
158	3-925-034-01	ROLLER (GLE)	
* 159	X-3376-798-3	ARM ASSY, CHUCKING	
* 160	3-032-711-01	LEVER (LOCK L)	
#12	7-624-102-04	STOP RING 1.5, TYPE-E	

6-5. MECHANISM DECK SECTION-3 (MG-165A-138)



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
201	A-3274-600-A	SENSOR BOARD, COMPLETE	
203	1-827-113-11	WIRE, PARALLEL (FFC) (10 CORE)	
* 204	3-919-283-01	BRACKET (SL)	
* 205	3-032-704-02	BASE (SL)	
* 206	3-919-297-01	RETAINER (SP)	
207	A-3315-218-D	CHASSIS (OP) ASSY (including M903 (LOADING))	
* 210	3-032-705-01	BEARING (SL)	
211	X-3373-213-1	SCREW ASSY, FEED	
212	3-939-590-07	SCREW (IB LOCK)	
213	3-026-082-11	SPRING (SL OUTSERT), FEED	
* 214	3-919-293-01	SHAFT (SL)	
⚠215	8-583-116-03	OPTICAL PICK-UP KMS-242E/Q-RP	
* 216	3-920-537-01	SHAFT (SL2)	
M901	A-3301-407-A	MOTOR ASSY, SP (SPINDLE)	
M902	A-3291-190-A	MOTOR ASSY, SL (SLED)	
#13	7-627-852-37	PRECISION SCREW +P 1.7 × 1.8 TYPE 3	
#14	7-621-772-08	SCREW +B 2 × 3	
#15	7-621-555-10	SCREW +K 2 × 3	
#16	7-628-253-00	SCREW +PS 2 × 4	
#17	7-628-253-35	SCREW +PS 2 × 8	

SECTION 7
ELECTRICAL PARTS LIST

KEY

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
		KEY BOARD			
		**********			
		< CAPACITOR >			
C971	1-135-834-11	CERAMIC CHIP	2.2UF		6.3V
C972	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C974	1-135-834-11	CERAMIC CHIP	2.2UF		6.3V
C981	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C982	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C983	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C984	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C985	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C986	1-125-891-11	CERAMIC CHIP	0.47uF	10%	10V
C996	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
		< CONNECTOR >			
CN901	1-817-158-21	PLUG, CONNECTOR 14P			
		< DIODE >			
D901	8-719-085-72	DIODE UMZ6.8ENTR			
D902	8-719-083-66	DIODE UDZSTE-1718B			
D981	8-719-069-54	DIODE UDZSTE-175.1B			
D983	8-719-404-50	DIODE MA111-TX			
		< IC >			
IC901	8-759-826-21	IC LC75874W			
IC971	6-600-163-01	IC RS-770			
IC981	6-705-374-01	IC MM3033DULE			
		< LED >			
LED901	6-500-450-01	LED CL-195SR-CD-T (KEY ILLUMINATION)			
LED902	6-500-450-01	LED CL-195SR-CD-T (KEY ILLUMINATION)			
LED903	6-500-450-01	LED CL-195SR-CD-T (KEY ILLUMINATION)			
LED904	6-500-450-01	LED CL-195SR-CD-T (KEY ILLUMINATION)			
LED905	6-500-450-01	LED CL-195SR-CD-T (KEY ILLUMINATION)			
LED906	6-500-450-01	LED CL-195SR-CD-T (KEY ILLUMINATION)			
LED907	6-500-450-01	LED CL-195SR-CD-T (KEY ILLUMINATION)			
LED910	6-500-450-01	LED CL-195SR-CD-T (KEY ILLUMINATION)			
LED911	6-500-450-01	LED CL-195SR-CD-T (KEY ILLUMINATION)			
LED912	6-500-450-01	LED CL-195SR-CD-T (KEY ILLUMINATION)			
LED913	6-500-450-01	LED CL-195SR-CD-T (KEY ILLUMINATION)			
LED914	6-500-450-01	LED CL-195SR-CD-T (KEY ILLUMINATION)			
LED915	6-500-450-01	LED CL-195SR-CD-T (KEY ILLUMINATION)			
LED916	6-500-450-01	LED CL-195SR-CD-T (KEY ILLUMINATION)			
LED917	6-500-450-01	LED CL-195SR-CD-T (KEY ILLUMINATION)			
LED918	6-500-450-01	LED CL-195SR-CD-T (KEY ILLUMINATION)			
LED919	6-500-450-01	LED CL-195SR-CD-T (KEY ILLUMINATION)			
LED920	6-500-450-01	LED CL-195SR-CD-T (KEY ILLUMINATION)			
LED921	6-500-450-01	LED CL-195SR-CD-T (KEY ILLUMINATION)			
LED922	6-500-450-01	LED CL-195SR-CD-T (KEY ILLUMINATION)			
LED923	6-500-450-01	LED CL-195SR-CD-T (KEY ILLUMINATION)			
LED961	6-500-459-01	LED NSCW505T-ARS (LCD BACK LIGHT)			
LED962	6-500-459-01	LED NSCW505T-ARS (LCD BACK LIGHT)			
		< TRANSISTOR >			
Q961	8-729-027-58	TRANSISTOR DTC143ZKA-T146			
		< RESISTOR >			
R901	1-216-819-11	METAL CHIP	680	5%	1/10W
R902	1-216-819-11	METAL CHIP	680	5%	1/10W
R903	1-216-819-11	METAL CHIP	680	5%	1/10W
R904	1-216-821-11	METAL CHIP	1K	5%	1/10W
R905	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R906	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R907	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R908	1-216-819-11	METAL CHIP	680	5%	1/10W
R909	1-216-819-11	METAL CHIP	680	5%	1/10W
R910	1-216-819-11	METAL CHIP	680	5%	1/10W
R911	1-216-821-11	METAL CHIP	1K	5%	1/10W
R912	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R913	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R914	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R915	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R916	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R917	1-218-867-11	METAL CHIP	6.8K	0.5%	1/10W
R918	1-216-833-11	METAL CHIP	10K	5%	1/10W
R919	1-216-835-11	METAL CHIP	15K	5%	1/10W
R920	1-216-837-11	METAL CHIP	22K	5%	1/10W
R921	1-216-809-11	METAL CHIP	100	5%	1/10W
R922	1-216-807-11	METAL CHIP	68	5%	1/10W
R923	1-216-805-11	METAL CHIP	47	5%	1/10W
R927	1-216-809-11	METAL CHIP	100	5%	1/10W
R928	1-216-809-11	METAL CHIP	100	5%	1/10W
R929	1-216-809-11	METAL CHIP	100	5%	1/10W
R933	1-216-809-11	METAL CHIP	100	5%	1/10W
R934	1-216-809-11	METAL CHIP	100	5%	1/10W
R935	1-216-809-11	METAL CHIP	100	5%	1/10W

Ref. No.	Part No.	Description			Remark
R939	1-216-809-11	METAL CHIP	100	5%	1/10W
R940	1-216-809-11	METAL CHIP	100	5%	1/10W
R941	1-216-809-11	METAL CHIP	100	5%	1/10W
R945	1-216-809-11	METAL CHIP	100	5%	1/10W
R946	1-216-809-11	METAL CHIP	100	5%	1/10W
R947	1-216-809-11	METAL CHIP	100	5%	1/10W
R951	1-216-809-11	METAL CHIP	100	5%	1/10W
R952	1-216-809-11	METAL CHIP	100	5%	1/10W
R953	1-216-809-11	METAL CHIP	100	5%	1/10W
R957	1-216-809-11	METAL CHIP	100	5%	1/10W
R958	1-216-809-11	METAL CHIP	100	5%	1/10W
R959	1-216-809-11	METAL CHIP	100	5%	1/10W
R963	1-216-809-11	METAL CHIP	100	5%	1/10W
R964	1-216-809-11	METAL CHIP	100	5%	1/10W
R965	1-216-809-11	METAL CHIP	100	5%	1/10W
R969	1-216-817-11	METAL CHIP	470	5%	1/10W
R970	1-216-864-11	SHORT CHIP	0		
R971	1-216-821-11	METAL CHIP	1K	5%	1/10W
R972	1-216-809-11	METAL CHIP	100	5%	1/10W
R975	1-216-817-11	METAL CHIP	470	5%	1/10W
R976	1-216-817-11	METAL CHIP	470	5%	1/10W
R977	1-216-817-11	METAL CHIP	470	5%	1/10W
R978	1-216-817-11	METAL CHIP	470	5%	1/10W
R979	1-216-817-11	METAL CHIP	470	5%	1/10W
R980	1-216-817-11	METAL CHIP	470	5%	1/10W
R981	1-216-811-11	METAL CHIP	150	5%	1/10W
R982	1-216-811-11	METAL CHIP	150	5%	1/10W
R983	1-216-811-11	METAL CHIP	150	5%	1/10W
R985	1-216-864-11	SHORT CHIP	0		
R986	1-216-821-11	METAL CHIP	1K	5%	1/10W
R987	1-216-821-11	METAL CHIP	1K	5%	1/10W
R988	1-216-821-11	METAL CHIP	1K	5%	1/10W
R989	1-216-840-11	METAL CHIP	39K	5%	1/10W
R990	1-216-857-11	METAL CHIP	1M	5%	1/10W
R995	1-216-803-11	METAL CHIP	33	5%	1/10W
R996	1-216-864-11	SHORT CHIP	0		
		< SWITCH >			
S901	1-771-884-31	SWITCH, TACTILE (OFF)			
S902	1-771-884-31	SWITCH, TACTILE (SOURCE)			
S903	1-771-884-31	SWITCH, TACTILE (MODE)			
S904	1-771-884-31	SWITCH, TACTILE (– (VOLUME))			
S905	1-771-884-31	SWITCH, TACTILE (ATT)			
S906	1-771-884-31	SWITCH, TACTILE (+ (VOLUME))			
S907	1-771-884-31	SWITCH, TACTILE (SEL)			
S910	1-771-884-31	SWITCH, TACTILE (EQ3)			
S911	1-771-884-31	SWITCH, TACTILE (DSO)			
S912	1-771-884-31	SWITCH, TACTILE (SEEK +, ▶▶I ▶▶)			
S913	1-771-884-31	SWITCH, TACTILE (SEEK –, I◀◀ ◀◀)			
S914	1-771-884-31	SWITCH, TACTILE (LIST, CAT) (US)			
S914	1-771-884-31	SWITCH, TACTILE (PTY, LIST) (AEP, UK)			
S915	1-771-884-31	SWITCH, TACTILE (SENS) (US)			
S915	1-771-884-31	SWITCH, TACTILE (SENS, BTM) (AEP, UK)			
S916	1-771-884-31	SWITCH, TACTILE (BTM) (US)			
S916	1-771-884-31	SWITCH, TACTILE (AF, TA) (AEP, UK)			
S917	1-771-884-31	SWITCH, TACTILE (GP/ALBM +, 6)			
S918	1-771-884-31	SWITCH, TACTILE (GP/ALBM –, 5)			
S919	1-771-884-31	SWITCH, TACTILE (SHUF, 4)			
S920	1-771-884-31	SWITCH, TACTILE (REP, 3)			
S921	1-771-884-31	SWITCH, TACTILE (DISC +, 2)			
S922	1-771-884-31	SWITCH, TACTILE (DISC –, 1)			
S923	1-771-884-31	SWITCH, TACTILE (DSPL)			
**********					
	A-3283-609-A	MAIN BOARD, COMPLETE (Including the MINIATURE JACK board)			(AEP, UK)
	A-3283-610-A	MAIN BOARD, COMPLETE (Including the MINIATURE JACK board) (US)			
		**********			
	7-685-134-19	SCREW +P 2.6X8 TYPE2 NON-SLIT			
	7-685-793-09	SCREW +PTT 2.6X8 (S)			
	7-685-795-09	SCREW +PTT 2.6X12 (S)			
		< CAPACITOR >			
C10	1-124-231-61	ELECT	4.7uF	20%	16V (AEP, UK)
C11	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C12	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C13	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C14	1-124-584-00	ELECT	100uF	20%	10V
C15	1-124-584-00	ELECT	100uF	20%	10V
C16	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C17	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C18	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C60	1-115-156-11	CERAMIC CHIP	1uF		10V
C61	1-115-156-11	CERAMIC CHIP	1uF		10V
C78	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V (US)
C91	1-162-917-11	CERAMIC CHIP	15PF	5%	50V (AEP, UK)
C92	1-162-916-11	CERAMIC CHIP	12PF	5%	50V (AEP, UK)
C93	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V (AEP, UK)
C94	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V (AEP, UK)
C94	1-216-845-11	METAL CHIP	100K	5%	1/10W (US)
C96	1-164-739-11	CERAMIC CHIP	560PF	5%	50V (AEP, UK)
C97	1-135-834-11	CERAMIC CHIP	2.2uF		6.3V (AEP, UK)
C98	1-162-959-11	CERAMIC CHIP	330PF	5%	50V (AEP, UK)
C99	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V (AEP, UK)
C100	1-124-589-11	ELECT	47uF	20%	16V (AEP, UK)
C120	1-128-428-11	ELECT	10uF	20%	35V
C121	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V
C122	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V
C125	1-104-942-11	ELECT	1uF	20%	50V
C126	1-104-942-11	ELECT	1uF	20%	50V
C127	1-162-965-11	CERAMIC CHIP	0.0015uF	10%	50V
C128	1-136-154-00	FILM	0.012uF	5%	50V
C129	1-162-965-11	CERAMIC CHIP	0.0015uF	10%	50V
C130	1-136-154-00	FILM	0.012uF	5%	50V

MAIN

Ref. No.	Part No.	Description			Remark
C131	1-124-589-11	ELECT	47uF	20%	16V
C132	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C135	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C136	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C210	1-104-942-11	ELECT	1uF	20%	50V
C211	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C220	1-104-942-11	ELECT	1uF	20%	50V
C221	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C241	1-128-428-11	ELECT	10uF	20%	35V
C245	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C246	1-125-891-11	CERAMIC CHIP	0.47uF	10%	10V
C247	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C251	1-128-428-11	ELECT	10uF	20%	35V
C255	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C256	1-125-891-11	CERAMIC CHIP	0.47uF	10%	10V
C257	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C261	1-128-428-11	ELECT	10uF	20%	35V
C265	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C266	1-125-891-11	CERAMIC CHIP	0.47uF	10%	10V
C267	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C271	1-128-428-11	ELECT	10uF	20%	35V
C275	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C276	1-125-891-11	CERAMIC CHIP	0.47uF	10%	10V
C277	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C281	1-128-428-11	ELECT	10uF	20%	35V
C291	1-128-428-11	ELECT	10uF	20%	35V
C300	1-124-234-00	ELECT	22uF	20%	16V
C301	1-126-160-11	ELECT	1uF	20%	50V
C302	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C303	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V
C304	1-115-340-11	CERAMIC CHIP	0.22uF	10%	25V
C305	1-115-340-11	CERAMIC CHIP	0.22uF	10%	25V
C306	1-115-340-11	CERAMIC CHIP	0.22uF	10%	25V
C307	1-115-340-11	CERAMIC CHIP	0.22uF	10%	25V
C316	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C317	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C320	1-124-584-00	ELECT	100uF	20%	10V
C321	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C322	1-124-234-00	ELECT	22uF	20%	16V
C323	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C324	1-124-234-00	ELECT	22uF	20%	16V
C325	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C326	1-124-234-00	ELECT	22uF	20%	16V
C327	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C328	1-124-589-11	ELECT	47uF	20%	16V
C329	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C330	1-115-340-11	CERAMIC CHIP	0.22uF	10%	25V
C331	1-135-473-21	ELECT	3300uF	20%	16V
C332	1-124-589-11	ELECT	47uF	20%	16V
C333	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C340	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V
C345	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C350	1-124-589-11	ELECT	47uF	20%	16V
C360	1-126-160-11	ELECT	1uF	20%	50V
C374	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C380	1-115-156-11	CERAMIC CHIP	1uF		10V
C400	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V
C401	1-126-935-11	ELECT	470uF	20%	16V

Ref. No.	Part No.	Description			Remark
C402	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C500	1-115-156-11	CERAMIC CHIP	1uF		10V
C501	1-115-156-11	CERAMIC CHIP	1uF		10V
C502	1-125-891-11	CERAMIC CHIP	0.47uF	10%	10V
C503	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C504	1-124-589-11	ELECT	47uF	20%	16V
C505	1-124-584-00	ELECT	100uF	20%	10V
C506	1-124-589-11	ELECT	47uF	20%	16V
C507	1-124-589-11	ELECT	47uF	20%	16V
C600	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C602	1-125-710-11	DOUBLE LAYER	0.1F		5.5V
C603	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C604	1-162-918-11	CERAMIC CHIP	18PF	5%	50V
C605	1-162-917-11	CERAMIC CHIP	15PF	5%	50V
C606	1-162-918-11	CERAMIC CHIP	18PF	5%	50V (TYPE1)
C606	1-162-917-11	CERAMIC CHIP	15PF	5%	50V (TYPE2)
C607	1-162-917-11	CERAMIC CHIP	15PF	5%	50V (TYPE1)
C607	1-162-916-11	CERAMIC CHIP	12PF	5%	50V (TYPE2)
C608	1-124-589-11	ELECT	47uF	20%	16V
C609	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C610	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C611	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C612	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C613	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C614	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V (AEP, UK)
C614	1-216-845-11	METAL CHIP	100K	5%	1/10W (US)
C615	1-124-589-11	ELECT	47uF	20%	16V
C616	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C620	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C640	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C700	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C702	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C802	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C804	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V (US)
C804	1-162-965-11	CERAMIC CHIP	0.0015uF	10%	50V (AEP, UK)

< CONNECTOR >

CN300	1-774-701-21	PIN, CONNECTOR 16P
CN370	1-784-456-11	CONNECTOR, FFC/FPC 14P
CNJ400	1-580-907-31	PLUG, CONNECTOR (BUS CONTROL IN)
CNP500	1-764-617-12	PIN, CONNECTOR (PC BOARD) 30P

< DIODE >

D60	8-719-036-94	DIODE RD5.6SB-T1
D72	8-719-976-99	DIODE DTZ5.1B (AEP, UK)
D139	8-719-081-97	DIODE MMDL914T1
D300	8-719-200-82	DIODE 11ES2
D301	8-719-200-82	DIODE 11ES2
D302	8-719-200-82	DIODE 11ES2
D303	8-719-200-82	DIODE 11ES2
D304	8-719-200-82	DIODE 11ES2

Note: Refer to “NOTE FOR REPLACING THE IC600” in the servicing notes about TYPE1 and 2.

Ref. No.	Part No.	Description	Remark
D305	8-719-200-82	DIODE 11ES2	
D306	8-719-200-82	DIODE 11ES2	
D307	8-719-200-82	DIODE 11ES2	
D308	8-719-200-82	DIODE 11ES2	
D309	8-719-200-82	DIODE 11ES2	
D310	8-719-200-82	DIODE 11ES2	
D311	8-719-200-82	DIODE 11ES2	
D312	8-719-049-38	DIODE 1N5404TU	
D313	8-719-056-83	DIODE UDZ-TE-17-6.8B	
D350	8-719-040-04	DIODE MA721WK-(TX)	
D351	8-719-081-97	DIODE MMDL914T1	
D360	8-719-056-93	DIODE UDZ-TE-17-18B	
D363	8-719-056-93	DIODE UDZ-TE-17-18B	
D370	8-719-078-81	DIODE DF5A6.8FU (TE85R)	
D371	8-719-056-93	DIODE UDZ-TE-17-18B	
D372	8-719-056-93	DIODE UDZ-TE-17-18B	
D373	8-719-078-81	DIODE DF5A6.8FU (TE85R)	
D401	8-719-056-93	DIODE UDZ-TE-17-18B	
D402	8-719-072-70	DIODE MA2ZD14001S0	
D403	8-719-056-93	DIODE UDZ-TE-17-18B	
D404	6-500-600-01	DIODE MM3Z3V3T1	
D405	8-719-040-04	DIODE MA721WK-(TX)	
D406	8-719-056-82	DIODE UDZ-TE-17-6.2B	
D407	8-719-056-93	DIODE UDZ-TE-17-18B	
D500	6-501-013-01	DIODE BAT54ALT1G	
D501	8-719-036-94	DIODE RD5.6SB-T1	
D600	8-719-050-37	DIODE M1MA152WA-T1	
		< IC >	
IC90	6-703-809-01	IC SAA6588T/V2-518 (AEP, UK)	
IC120	6-705-372-01	IC BD3808FS-FE2	
IC300	6-705-359-02	IC TDA8588AJ/N2/R1	
IC400	6-703-884-01	IC BA8271F-E2	
IC600	6-804-093-01	IC MN101E01KDJ (TYPE1)	
IC600	6-804-511-02	IC MN101E01JRD1 (TYPE2)	
IC601	8-759-659-13	IC PST3428UL	
IC700	6-705-373-01	IC MM3123DPLE	
		<JACK >	
J10	1-815-185-13	JACK (ANT) (FM/AM ANTENNA IN)	
		< SHORT >	
JC17	1-216-864-11	SHORT CHIP 0	
JC60	1-216-864-11	SHORT CHIP 0	
JC80	1-216-864-11	SHORT CHIP 0	
JC140	1-216-296-11	SHORT CHIP 0	
JC141	1-216-864-11	SHORT CHIP 0	
JC142	1-216-864-11	SHORT CHIP 0	
JC143	1-216-296-11	SHORT CHIP 0	
JC144	1-216-864-11	SHORT CHIP 0	
JC145	1-216-296-11	SHORT CHIP 0	
JC146	1-216-864-11	SHORT CHIP 0	
JC148	1-216-864-11	SHORT CHIP 0	
JC149	1-216-864-11	SHORT CHIP 0	
JC301	1-216-864-11	SHORT CHIP 0	
JC305	1-216-296-11	SHORT CHIP 0	
JC350	1-216-296-11	SHORT CHIP 0	

Ref. No.	Part No.	Description	Remark
JC361	1-216-296-11	SHORT CHIP 0	
JC362	1-216-864-11	SHORT CHIP 0	
JC371	1-216-864-11	SHORT CHIP 0	
JC372	1-216-296-11	SHORT CHIP 0	
JC380	1-216-864-11	SHORT CHIP 0	
JC403	1-216-864-11	SHORT CHIP 0	
JC404	1-216-296-11	SHORT CHIP 0	
JC405	1-216-864-11	SHORT CHIP 0	
JC406	1-216-296-11	SHORT CHIP 0	
JC420	1-216-296-11	SHORT CHIP 0	
JC421	1-216-296-11	SHORT CHIP 0	
JC504	1-216-296-11	SHORT CHIP 0	
JC610	1-216-296-11	SHORT CHIP 0	
JC611	1-216-296-11	SHORT CHIP 0	
		< COIL >	
L300	1-456-617-11	COIL, CHOKE 250uH	
L320	1-469-844-11	INDUCTOR 2.2uH	
L328	1-469-844-11	INDUCTOR 2.2uH	
		< JACK >	
PJ210	1-774-700-11	JACK, PIN 6P (AUDIO OUT FRONT/REAR, BUS AUDIO IN)	
		< TRANSISTOR >	
Q60	8-729-920-85	TRANSISTOR 2SD1664-QR	
Q71	8-729-421-22	TRANSISTOR UN2211 (AEP, UK)	
Q210	6-550-752-01	TRANSISTOR DTC614TKT146	
Q220	6-550-752-01	TRANSISTOR DTC614TKT146	
Q230	6-550-752-01	TRANSISTOR DTC614TKT146	
Q240	6-550-752-01	TRANSISTOR DTC614TKT146	
Q250	6-550-752-01	TRANSISTOR DTC614TKT146	
Q260	6-550-752-01	TRANSISTOR DTC614TKT146	
Q350	8-729-424-08	TRANSISTOR UN2111	
Q351	8-729-421-22	TRANSISTOR UN2211	
Q360	8-729-010-25	TRANSISTOR MSD601-RT1	
Q361	8-729-010-25	TRANSISTOR MSD601-RT1	
Q370	8-729-047-76	TRANSISTOR FMC2A-T148	
Q371	8-729-010-25	TRANSISTOR MSD601-RT1	
Q372	8-729-424-08	TRANSISTOR UN2111	
Q401	8-729-424-08	TRANSISTOR UN2111	
Q402	8-729-421-22	TRANSISTOR UN2211	
Q504	8-729-920-85	TRANSISTOR 2SD1664-QR	
Q505	8-729-047-76	TRANSISTOR FMC2A-T148	
Q600	8-729-424-08	TRANSISTOR UN2111	
		< RESISTOR/FERRITE BEAD >	
R10	1-216-837-11	METAL CHIP 22K 5% 1/10W	
R11	1-216-837-11	METAL CHIP 22K 5% 1/10W	
R12	1-216-809-11	METAL CHIP 100 5% 1/10W	
R13	1-216-809-11	METAL CHIP 100 5% 1/10W	
R14	1-216-809-11	METAL CHIP 100 5% 1/10W	
R15	1-216-809-11	METAL CHIP 100 5% 1/10W	
R16	1-216-821-11	METAL CHIP 1K 5% 1/10W	
R17	1-216-833-11	METAL CHIP 10K 5% 1/10W	
R18	1-216-864-11	SHORT CHIP 0	
R19	1-216-797-11	METAL CHIP 10 5% 1/10W	
R20	1-216-864-11	SHORT CHIP 0	

Note: Refer to “NOTE FOR REPLACING THE IC600” in the servicing notes about TYPE1 and 2.

MAIN

Ref. No.	Part No.	Description			Remark
R61	1-216-817-11	METAL CHIP	470	5%	1/10W
R79	1-216-809-11	METAL CHIP	100	5%	1/10W (AEP, UK)
R79	1-216-864-11	SHORT CHIP	0 (US)		
R91	1-216-837-11	METAL CHIP	22K	5%	1/10W (AEP, UK)
R92	1-216-797-11	METAL CHIP	10	5%	1/10W (AEP, UK)
R93	1-216-817-11	METAL CHIP	470	5%	1/10W (AEP, UK)
R94	1-216-797-11	METAL CHIP	10	5%	1/10W (AEP, UK)
R95	1-216-809-11	METAL CHIP	100	5%	1/10W (AEP, UK)
R96	1-216-809-11	METAL CHIP	100	5%	1/10W (AEP, UK)
R120	1-216-833-11	METAL CHIP	10K	5%	1/10W
R121	1-216-833-11	METAL CHIP	10K	5%	1/10W
R122	1-216-833-11	METAL CHIP	10K	5%	1/10W
R123	1-216-833-11	METAL CHIP	10K	5%	1/10W
R124	1-216-838-11	METAL CHIP	27K	5%	1/10W
R125	1-216-864-11	SHORT CHIP	0		
R140	1-216-809-11	METAL CHIP	100	5%	1/10W
R141	1-216-809-11	METAL CHIP	100	5%	1/10W
R210	1-216-833-11	METAL CHIP	10K	5%	1/10W
R211	1-216-821-11	METAL CHIP	1K	5%	1/10W
R220	1-216-833-11	METAL CHIP	10K	5%	1/10W
R221	1-216-821-11	METAL CHIP	1K	5%	1/10W
R240	1-216-813-11	METAL CHIP	220	5%	1/10W
R242	1-216-841-11	METAL CHIP	47K	5%	1/10W
R243	1-216-821-11	METAL CHIP	1K	5%	1/10W
R250	1-216-813-11	METAL CHIP	220	5%	1/10W
R252	1-216-841-11	METAL CHIP	47K	5%	1/10W
R253	1-216-821-11	METAL CHIP	1K	5%	1/10W
R260	1-216-813-11	METAL CHIP	220	5%	1/10W
R262	1-216-841-11	METAL CHIP	47K	5%	1/10W
R263	1-216-821-11	METAL CHIP	1K	5%	1/10W
R270	1-216-813-11	METAL CHIP	220	5%	1/10W
R272	1-216-841-11	METAL CHIP	47K	5%	1/10W
R273	1-216-821-11	METAL CHIP	1K	5%	1/10W
R280	1-216-813-11	METAL CHIP	220	5%	1/10W
R282	1-216-841-11	METAL CHIP	47K	5%	1/10W
R290	1-216-813-11	METAL CHIP	220	5%	1/10W
R292	1-216-841-11	METAL CHIP	47K	5%	1/10W
R293	1-216-864-11	SHORT CHIP	0		
R300	1-216-809-11	METAL CHIP	100	5%	1/10W
R301	1-216-841-11	METAL CHIP	47K	5%	1/10W
R303	1-249-425-11	CARBON	4.7K	5%	1/4W
R304	1-216-821-11	METAL CHIP	1K	5%	1/10W
R311	1-216-809-11	METAL CHIP	100	5%	1/10W
R312	1-216-809-11	METAL CHIP	100	5%	1/10W
R350	1-216-805-11	METAL CHIP	47	5%	1/10W
R360	1-216-833-11	METAL CHIP	10K	5%	1/10W
R361	1-216-833-11	METAL CHIP	10K	5%	1/10W
R362	1-216-841-11	METAL CHIP	47K	5%	1/10W
R363	1-216-821-11	METAL CHIP	1K	5%	1/10W
R364	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R365	1-216-841-11	METAL CHIP	47K	5%	1/10W
R367	1-216-841-11	METAL CHIP	47K	5%	1/10W
R370	1-216-821-11	METAL CHIP	1K	5%	1/10W
R371	1-216-821-11	METAL CHIP	1K	5%	1/10W
R372	1-216-809-11	METAL CHIP	100	5%	1/10W
R373	1-216-809-11	METAL CHIP	100	5%	1/10W
R374	1-216-809-11	METAL CHIP	100	5%	1/10W
R377	1-249-417-11	CARBON	1K	5%	1/4W
R378	1-249-417-11	CARBON	1K	5%	1/4W
R384	1-216-841-11	METAL CHIP	47K	5%	1/10W
R385	1-216-833-11	METAL CHIP	10K	5%	1/10W
R403	1-216-809-11	METAL CHIP	100	5%	1/10W
R404	1-216-809-11	METAL CHIP	100	5%	1/10W
R405	1-216-835-11	METAL CHIP	15K	5%	1/10W
R406	1-216-821-11	METAL CHIP	1K	5%	1/10W
R411	1-216-821-11	METAL CHIP	1K	5%	1/10W
R412	1-216-821-11	METAL CHIP	1K	5%	1/10W
R413	1-216-849-11	METAL CHIP	220K	5%	1/10W
R414	1-216-849-11	METAL CHIP	220K	5%	1/10W
R502	1-249-401-11	CARBON	47	5%	1/4W
R503	1-216-845-11	METAL CHIP	100K	5%	1/10W
R520	1-216-864-11	SHORT CHIP	0		
R521	1-216-864-11	SHORT CHIP	0		
R522	1-216-864-11	SHORT CHIP	0		
R523	1-414-228-11	INDUCTOR, FERRITE BEAD			
R524	1-469-876-11	INDUCTOR, FERRITE BEAD			
R525	1-414-228-11	INDUCTOR, FERRITE BEAD			
R526	1-469-876-11	INDUCTOR, FERRITE BEAD			
R527	1-469-876-11	INDUCTOR, FERRITE BEAD			
R528	1-414-228-11	INDUCTOR, FERRITE BEAD			
R600	1-216-845-11	METAL CHIP	100K	5%	1/10W
R602	1-216-845-11	METAL CHIP	100K	5%	1/10W (US)
R603	1-216-845-11	METAL CHIP	100K	5%	1/10W (AEP, UK)
R606	1-216-845-11	METAL CHIP	100K	5%	1/10W
R607	1-216-845-11	METAL CHIP	100K	5%	1/10W
R608	1-216-845-11	METAL CHIP	100K	5%	1/10W
R609	1-216-845-11	METAL CHIP	100K	5%	1/10W
R611	1-216-841-11	METAL CHIP	47K	5%	1/10W
R612	1-216-845-11	METAL CHIP	100K	5%	1/10W
R613	1-216-845-11	METAL CHIP	100K	5%	1/10W
R614	1-216-845-11	METAL CHIP	100K	5%	1/10W
R615	1-216-845-11	METAL CHIP	100K	5%	1/10W
R616	1-216-847-11	METAL CHIP	150K	5%	1/10W
R617	1-216-841-11	METAL CHIP	47K	5%	1/10W
R618	1-216-845-11	METAL CHIP	100K	5%	1/10W
R619	1-216-813-11	METAL CHIP	220	5%	1/10W
R620	1-216-813-11	METAL CHIP	220	5%	1/10W
R621	1-216-864-11	SHORT CHIP	0		
R622	1-216-845-11	METAL CHIP	100K	5%	1/10W
R624	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R625	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R626	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R627	1-216-809-11	METAL CHIP	100	5%	1/10W
R628	1-216-809-11	METAL CHIP	100	5%	1/10W
R629	1-216-809-11	METAL CHIP	100	5%	1/10W
R630	1-216-833-11	METAL CHIP	10K	5%	1/10W
R631	1-216-833-11	METAL CHIP	10K	5%	1/10W

MAIN **MINIATURE JACK** **SENSOR** **SERVO**

Ref. No.	Part No.	Description			Remark
		< SWITCH >			
S600	1-786-458-11	SWITCH, PUSH (1 KEY) (NOSE DETECT)			
S601	1-692-431-21	SWITCH, TACTILE (RESET)			
		< THERMISTOR >			
TH400	1-803-350-21	THERMISTOR, POSITIVE			
		< TUNER UNIT >			
TU10	A-3220-961-A	TUNER UNIT (TUX-032//Q3)			
		< VIBRATOR >			
X90	1-579-242-41	VIBRATOR, CRYSTAL (4.332MHz) (AEP, UK)			
X601	1-795-877-11	VIBRATOR, CRYSTAL (27.648MHz)			
X602	1-567-098-41	VIBRATOR, CRYSTAL (32.768kHz)			
**********					
		MINIATURE JACK BOARD (Included in the mounted MAIN board) **********			
		< JACK >			
J370	1-566-822-41	JACK (REMOTE IN)			
		< RESISTOR >			
R375	1-216-809-11	METAL CHIP	100	5% 1/10W	
**********					
	A-3274-600-A	SENSOR BOARD, COMPLETE **********			
For the parts on SENSOR board, replace the entire mounted board.					
**********					
	A-3274-602-A	SERVO BOARD, COMPLETE **********			
		< CAPACITOR >			
C4	1-162-964-11	CERAMIC CHIP	0.001uF	10% 50V	
C5	1-162-969-11	CERAMIC CHIP	0.0068uF	10% 25V	
C6	1-165-897-11	TANTALUM CHIP	22uF	20% 10V	
C8	1-107-826-11	CERAMIC CHIP	0.1uF	10% 16V	
C11	1-107-826-11	CERAMIC CHIP	0.1uF	10% 16V	
C12	1-164-227-11	CERAMIC CHIP	0.022uF	10% 25V	
C13	1-107-826-11	CERAMIC CHIP	0.1uF	10% 16V	
C15	1-162-970-11	CERAMIC CHIP	0.01uF	10% 25V	
C16	1-164-227-11	CERAMIC CHIP	0.022uF	10% 25V	
C17	1-162-966-11	CERAMIC CHIP	0.0022uF	10% 50V	
C18	1-125-837-11	CERAMIC CHIP	1uF	10% 6.3V	
C19	1-162-968-11	CERAMIC CHIP	0.0047uF	10% 50V	
C20	1-110-563-11	CERAMIC CHIP	0.068uF	10% 16V	
C21	1-162-968-11	CERAMIC CHIP	0.0047uF	10% 50V	
C22	1-162-970-11	CERAMIC CHIP	0.01uF	10% 25V	
C23	1-164-360-11	CERAMIC CHIP	0.1uF	16V	
C25	1-162-970-11	CERAMIC CHIP	0.01uF	10% 25V	
C26	1-162-970-11	CERAMIC CHIP	0.01uF	10% 25V	
C27	1-107-826-11	CERAMIC CHIP	0.1uF	10% 16V	
C29	1-164-360-11	CERAMIC CHIP	0.1uF	16V	
C31	1-164-360-11	CERAMIC CHIP	0.1uF	16V	
C32	1-164-360-11	CERAMIC CHIP	0.1uF	16V	
C33	1-164-360-11	CERAMIC CHIP	0.1uF	16V	
C34	1-164-360-11	CERAMIC CHIP	0.1uF	16V	
C35	1-126-206-11	ELECT CHIP	100uF	20% 6.3V	
C36	1-162-970-11	CERAMIC CHIP	0.01uF	10% 25V	
C37	1-117-863-11	CERAMIC CHIP	0.47uF	10% 6.3V	
C38	1-107-826-11	CERAMIC CHIP	0.1uF	10% 16V	
C39	1-162-927-11	CERAMIC CHIP	100PF	5% 50V	
C40	1-125-837-11	CERAMIC CHIP	1uF	10% 6.3V	
C42	1-117-863-11	CERAMIC CHIP	0.47uF	10% 6.3V	
C43	1-164-245-11	CERAMIC CHIP	0.015uF	10% 25V	
C44	1-164-360-11	CERAMIC CHIP	0.1uF	16V	
C45	1-164-360-11	CERAMIC CHIP	0.1uF	16V	
C46	1-164-360-11	CERAMIC CHIP	0.1uF	16V	
C47	1-165-897-11	TANTALUM CHIP	22uF	20% 10V	
C48	1-164-360-11	CERAMIC CHIP	0.1uF	16V	
C49	1-125-838-11	CERAMIC CHIP	2.2uF	10% 6.3V	
C50	1-125-838-11	CERAMIC CHIP	2.2uF	10% 6.3V	
C51	1-162-970-11	CERAMIC CHIP	0.01uF	10% 25V	
C52	1-164-360-11	CERAMIC CHIP	0.1uF	16V	
C53	1-162-970-11	CERAMIC CHIP	0.01uF	10% 25V	
C54	1-162-927-11	CERAMIC CHIP	100PF	5% 50V	
C55	1-162-927-11	CERAMIC CHIP	100PF	5% 50V	
C56	1-162-927-11	CERAMIC CHIP	100PF	5% 50V	
C57	1-107-826-11	CERAMIC CHIP	0.1uF	10% 16V	
C58	1-126-208-21	ELECT CHIP	47uF	20% 4V	
C59	1-126-208-21	ELECT CHIP	47uF	20% 4V	
C62	1-164-360-11	CERAMIC CHIP	0.1uF	16V	
C63	1-164-360-11	CERAMIC CHIP	0.1uF	16V	
C64	1-162-970-11	CERAMIC CHIP	0.01uF	10% 25V	
C68	1-164-360-11	CERAMIC CHIP	0.1uF	16V	
C69	1-107-826-11	CERAMIC CHIP	0.1uF	10% 16V	
C70	1-126-208-21	ELECT CHIP	47uF	20% 4V	
C71	1-125-837-11	CERAMIC CHIP	1uF	10% 6.3V	
C78	1-162-970-11	CERAMIC CHIP	0.01uF	10% 25V	
C80	1-164-360-11	CERAMIC CHIP	0.1uF	16V	
C81	1-164-360-11	CERAMIC CHIP	0.1uF	16V	
C83	1-164-360-11	CERAMIC CHIP	0.1uF	16V	
		< CONNECTOR >			
CN2	1-794-522-21	CONNECTOR, FFC/FPC (ZIF) 20P			
CN3	1-784-862-21	CONNECTOR, FFC (LIF (NON-ZIF)) 10P			
CN5	1-764-616-41	HOUSING, CONNECTOR (PC BOARD) 30P			
		< DIODE >			
D1	8-719-036-94	DIODE RD5.6SB-T1			
		< IC >			
IC1	8-752-080-95	IC CXA2523AR			
IC2	8-759-836-79	IC BH6519FS-E2			
IC3	6-703-825-01	IC R1114N251D-TR-FA			
IC4	8-752-405-14	IC CXD2667R			
IC6	8-759-040-83	IC BA6287F			
IC7	6-802-860-03	IC MB90473PFV-G-157-BNDE1			
		< COIL/SHORT >			
L2	1-414-398-11	INDUCTOR	10uH		

SERVO | SUB

Ref. No.	Part No.	Description			Remark
L3	1-414-398-11	INDUCTOR	10uH		
L4	1-414-398-11	INDUCTOR	10uH		
L5	1-216-864-11	SHORT CHIP	0		
		< TRANSISTOR >			
Q1	8-729-010-05	TRANSISTOR	MSB709-RT1		
Q2	8-729-010-25	TRANSISTOR	MSD601-RT1		
Q3	8-729-010-25	TRANSISTOR	MSD601-RT1		
		< RESISTOR >			
R1	1-218-863-11	METAL CHIP	4.7K	0.5%	1/10W
R2	1-216-797-11	METAL CHIP	10	5%	1/10W
R3	1-216-797-11	METAL CHIP	10	5%	1/10W
R4	1-216-809-11	METAL CHIP	100	5%	1/10W
R5	1-216-805-11	METAL CHIP	47	5%	1/10W
R6	1-218-911-11	METAL CHIP	470K	0.5%	1/10W
R7	1-218-911-11	METAL CHIP	470K	0.5%	1/10W
R9	1-216-839-11	METAL CHIP	33K	5%	1/10W
R10	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R11	1-216-994-11	METAL CHIP	13K	5%	1/10W
R12	1-216-994-11	METAL CHIP	13K	5%	1/10W
R13	1-216-842-11	METAL CHIP	56K	5%	1/10W
R14	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R15	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R16	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R17	1-216-833-11	METAL CHIP	10K	5%	1/10W
R18	1-216-845-11	METAL CHIP	100K	5%	1/10W
R19	1-216-855-11	METAL CHIP	680K	5%	1/10W
R20	1-216-821-11	METAL CHIP	1K	5%	1/10W
R21	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R22	1-216-857-11	METAL CHIP	1M	5%	1/10W
R23	1-216-811-11	METAL CHIP	150	5%	1/10W
R24	1-216-821-11	METAL CHIP	1K	5%	1/10W
R25	1-216-845-11	METAL CHIP	100K	5%	1/10W
R28	1-216-833-11	METAL CHIP	10K	5%	1/10W
R29	1-216-805-11	METAL CHIP	47	5%	1/10W
R30	1-216-833-11	METAL CHIP	10K	5%	1/10W
R31	1-216-809-11	METAL CHIP	100	5%	1/10W
R32	1-216-809-11	METAL CHIP	100	5%	1/10W
R35	1-216-809-11	METAL CHIP	100	5%	1/10W
R36	1-216-809-11	METAL CHIP	100	5%	1/10W
R37	1-216-809-11	METAL CHIP	100	5%	1/10W
R38	1-216-864-11	SHORT CHIP	0		
R39	1-216-821-11	METAL CHIP	1K	5%	1/10W
R40	1-216-821-11	METAL CHIP	1K	5%	1/10W
R42	1-216-809-11	METAL CHIP	100	5%	1/10W
R43	1-216-809-11	METAL CHIP	100	5%	1/10W
R44	1-216-864-11	SHORT CHIP	0		
R45	1-216-809-11	METAL CHIP	100	5%	1/10W
R47	1-216-809-11	METAL CHIP	100	5%	1/10W
R50	1-216-821-11	METAL CHIP	1K	5%	1/10W
R53	1-216-809-11	METAL CHIP	100	5%	1/10W
R54	1-216-809-11	METAL CHIP	100	5%	1/10W
R56	1-216-809-11	METAL CHIP	100	5%	1/10W
R57	1-216-809-11	METAL CHIP	100	5%	1/10W
R58	1-216-809-11	METAL CHIP	100	5%	1/10W
R59	1-216-809-11	METAL CHIP	100	5%	1/10W
R60	1-216-841-11	METAL CHIP	47K	5%	1/10W
R61	1-216-841-11	METAL CHIP	47K	5%	1/10W
R62	1-216-841-11	METAL CHIP	47K	5%	1/10W
R63	1-216-809-11	METAL CHIP	100	5%	1/10W
R65	1-216-809-11	METAL CHIP	100	5%	1/10W
R66	1-216-809-11	METAL CHIP	100	5%	1/10W
R67	1-216-809-11	METAL CHIP	100	5%	1/10W
R68	1-216-809-11	METAL CHIP	100	5%	1/10W
R69	1-216-845-11	METAL CHIP	100K	5%	1/10W
R70	1-216-845-11	METAL CHIP	100K	5%	1/10W
R76	1-216-853-11	METAL CHIP	470K	5%	1/10W
R77	1-216-819-11	METAL CHIP	680	5%	1/10W
R91	1-218-727-11	METAL CHIP	30K	0.5%	1/10W
R92	1-216-839-11	METAL CHIP	33K	5%	1/10W
R94	1-216-845-11	METAL CHIP	100K	5%	1/10W
		< VIBRATOR >			
X1	1-795-821-21	VIBRATOR, CERAMIC (22.57MHz)			
X2	1-795-822-21	VIBRATOR, CERAMIC (18.43MHz)			
**********					
		SUB BOARD			
		**********			
		< CONNECTOR >			
CN801	1-817-159-11	SOCKET, CONNECTOR 14P			
		< LED >			
LED801	8-719-082-38	LED CL-270SR-C-TS (DISC SLOT ILLUMINATION)			
LED802	6-500-450-01	LED CL-195SR-CD-T (⏏)			
		< SWITCH >			
LSW801	1-771-884-31	SWITCH, TACTILE (⏏)			
**********					
		MISCELLANEOUS			
		**********			
2	1-792-195-11	CABLE, FLEXIBLE FLAT (14CORE)			
16	1-776-207-82	CORD (WITH CONNECTOR) (POWER) (US)			
16	1-776-527-61	CORD (WITH CONNECTOR) (ISO) (POWER) (AEP, UK)			
52	1-780-104-11	CONDUCTIVE BOARD, CONNECTION			
53	1-780-095-11	CONDUCTIVE BOARD, CONNECTION			
203	1-827-113-11	WIRE, PARALLEL (FFC) (10 CORE)			
207	A-3315-218-D	CHASSIS (OP) ASSY (including M903 (LOADING))			
⚠215	8-583-116-03	OPTICAL PICK-UP KMS-242E/Q-RP			
F300	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) (10A/32V)			
LCD901	1-805-453-11	DISPLAY PANEL, LIQUID CRYSTAL			
M901	A-3301-407-A	MOTOR ASSY, SP (SPINDLE)			
M902	A-3291-190-A	MOTOR ASSY, SL (SLED)			
**********					

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
		ACCESSORIES	
		**********	
	3-262-943-11	MANUAL, INSTRUCTION INSTALL (ENGLISH, FRENCH, SPANISH) (US)	
	3-262-943-21	MANUAL, INSTRUCTION INSTALL (ENGLISH, FRENCH, GERMAN, ITALIAN, DUTCH) (AEP, UK)	
	3-262-950-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH) (US)	
	3-262-950-21	MANUAL, INSTRUCTION (ENGLISH, FRENCH, GERMAN, ITALIAN, DUTCH) (AEP, UK)	
**********			
		PARTS FOR INSTALLATION AND CONNECTIONS	
		**********	
501	X-3382-647-1	FRAME ASSY, FITTING	
502	3-260-236-01	COLLAR	
503	3-246-471-01	KEY (FRAME)	
504	1-776-207-82	CORD (WITH CONNECTOR) (POWER) (US)	
505	3-934-325-01	SCREW, +K (5X8) TAPPING (US)	
506	1-776-527-61	CORD (WITH CONNECTOR) (ISO) (POWER) (AEP, UK)	
507	1-465-459-31	ADAPTER, ANTENNA (AEP, UK)	
508	X-3382-926-1	SCREW ASSY (BS), FITTING (AEP, UK)