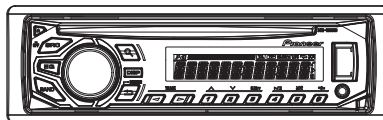


Service Manual



DEH-1600UB/XNEW5

ORDER NO.
CRT5367

CD RDS RECEIVER

DEH-1600UB

/XNEW5

DEH-1600UBA

/XNEW5

DEH-1600UBB

/XNEW5

DEH-1600UBG

/XNEW5

This service manual should be used together with the following manual(s):

Model No.	Order No.	Mech. Module	Remarks
CX-3287	CRT4759	S11.6STD	CD Mech. Module : Circuit Descriptions, Mech. Descriptions, Disassembly



SAFETY INFORMATION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual. Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

Where in a manufacturer's service documentation, for example in circuit diagrams or lists of components, a symbol is used to indicate that a specific component shall be replaced only by the component specified in that documentation for safety reasons, the following symbol shall be used:



Safety Precautions for those who Service this Unit.
When checking or adjusting the emitting power of the laser diode exercise caution in order to get safe, reliable results.

Caution:

1. During repair or tests, minimum distance of 13 cm from the focus lens must be kept.
2. During repair or tests, do not view laser beam for 10 seconds or longer.

CAUTION:
USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

CAUTION

This product is a class 1 laser product classified under the Safety of laser products, IEC 60825-1:2007.

CLASS 1 LASER PRODUCT

WARNING!

The AEL (accessible emission level) of the laser power output is less than CLASS 1 but the laser component is capable of emitting radiation exceeding the limit for CLASS 1.
A specially instructed person should do servicing operation of the apparatus.

Laser diode characteristics

Wave length : 785 nm to 814 nm

Maximum output : 1 190 μ W (Emitting period : unlimited)

Additional Laser Caution

Transistors Q101 in PCB drive the laser diodes.
When Q101 is shorted between their terminals, the laser diodes will radiate beam.
If the top cover is removed with no disc loaded while such short-circuit is continued, the naked eyes may be exposed to the laser beam.

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A

B

C

D

E

F

1. SERVICE PRECAUTIONS

1.1 SERVICE PRECAUTIONS



1. You should conform to the regulations governing the product (safety, radio and noise, and other regulations), and should keep the safety during servicing by following the safety instructions described in this manual.
2. Before disassembling the unit, be sure to turn off the power. Unplugging and plugging the connectors during power-on mode may damage the ICs inside the unit.
3. To protect the pickup unit from electrostatic discharge during servicing, take an appropriate treatment (shorting-solder) by referring to "the DISASSEMBLY".
4. After replacing the pickup unit, be sure to check the grating.
5. Be careful in handling ICs. Some ICs such as MOS type are so fragile that they can be damaged by electrostatic induction.

1.2 NOTES ON SOLDERING

- For environmental protection, lead-free solder is used on the printed circuit boards mounted in this unit. Be sure to use lead-free solder and a soldering iron that can meet specifications for use with lead-free solders for repairs accompanied by reworking of soldering.
 - Compared with conventional eutectic solders, lead-free solders have higher melting points, by approximately 40°C. Therefore, for lead-free soldering, the tip temperature of a soldering iron must be set to around 373°C in general, although the temperature depends on the heat capacity of the PC board on which reworking is required and the weight of the tip of the soldering iron.
 - Compared with eutectic solders, lead-free solders have higher bond strengths but slower wetting times and higher melting temperatures (hard to melt/easy to harden).
- The following lead-free solders are available as service parts:
- Parts numbers of lead-free solder:
 - GYP1006 1.0 in dia.
 - GYP1007 0.6 in dia.
 - GYP1008 0.3 in dia.

2. SPECIFICATIONS

2.1 SPECIFICATIONS

• DEH-1600UB/XNEW5, DEH-1600UBA/XNEW5, DEH-1600UBB/XNEW5, DEH-1600UBG/XNEW5

General

Power source14.4 V DC (10.8 V to 15.1 V al-

Grounding systemlowable)Negative type

Maximum current consumption

.....10.0 A

Backup current..... 4.0 mA or less

Dimensions (W × H × D):

DIN

Chassis 178 mm × 50 mm × 165 mm

Nose 188 mm × 58 mm × 16 mm

D

Chassis 178 mm × 50 mm × 165 mm

Nose 170 mm × 46 mm × 16 mm

Weight 1 kg

Audio

Maximum power output ... 50 W × 4

70 W × 1/2 Ω (for subwoofer)

Continuous power output

..... 22 W × 4 (50 Hz to 15 000 Hz,

5 % THD, 4 Ω load, both chan-
nels driven)

Load impedance 4 Ω (4 Ω to 8 Ω allowable)

Preout maximum output level

..... 2.0 V

Loudness contour +10 dB (100 Hz), +6.5 dB

(10 kHz) (volume: -30 dB)

Equalizer (5-Band Graphic Equalizer):

Frequency 80 Hz/250 Hz/800 Hz/2.5 kHz/

8 kHz

Equalization range ±12 dB (2 dB step)

Subwoofer (mono):

Frequency 50 Hz/63 Hz/80 Hz/100 Hz/

125 Hz/160 Hz/200 Hz

Slope-12 dB/oct,-24 dB/oct

Gain +6 dB to -24 dB

PhaseNormal/Reverse

CD player

SystemCompact disc audio system

Usable discsCompact disc

Signal-to-noise ratio 94 dB (1 kHz) (IEC-A network)

Number of channels 2(sterео)

MP3 decoding format MPEG-1 & 2 Audio Layer 3

WMA decoding format Ver. 7, 7.1, 8, 9, 10, 11, 12 (2 ch
audio)

(Windows Media Player)

WAV signal formatLinear PCM & MS ADPCM

(Non-compressed)

USB

USB standard specification

..... USB 2.0 full speed

Maximum current supply

..... 1 A

USB Class MSC (Mass Storage Class)

File system FAT12, FAT16, FAT32

MP3 decoding format MPEG-1 & 2 Audio Layer 3

WMA decoding format Ver. 7, 7.1, 8, 9, 10, 11, 12 (2 ch
audio)

(Windows Media Player)

WAV signal formatLinear PCM & MS ADPCM

(Non-compressed)

FM tuner

Frequency range 87.5 MHz to 108.0 MHz

Usable sensitivity 9 dBf (0.8 μV/75 Ω, mono, S/N:
30 dB)

Signal-to-noise ratio 72 dB (IEC-A network)

MW tuner

Frequency range 531 kHz to 1 602 kHz

Usable sensitivity 25 μV (S/N: 20 dB)

Signal-to-noise ratio 62 dB (IEC-A network)

LW tuner

Frequency range 153 kHz to 281 kHz

Usable sensitivity 28 μV (S/N: 20 dB)

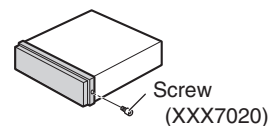
Signal-to-noise ratio 62 dB (IEC-A network)

Note

Specifications and the design are subject to
modifications without notice.

Securing the front panel

The front panel can be secured with the sup-
plied screw.



2.2 DISC/CONTENT FORMAT



3. BASIC ITEMS FOR SERVICE

3.1 CHECK POINTS AFTER SERVICING

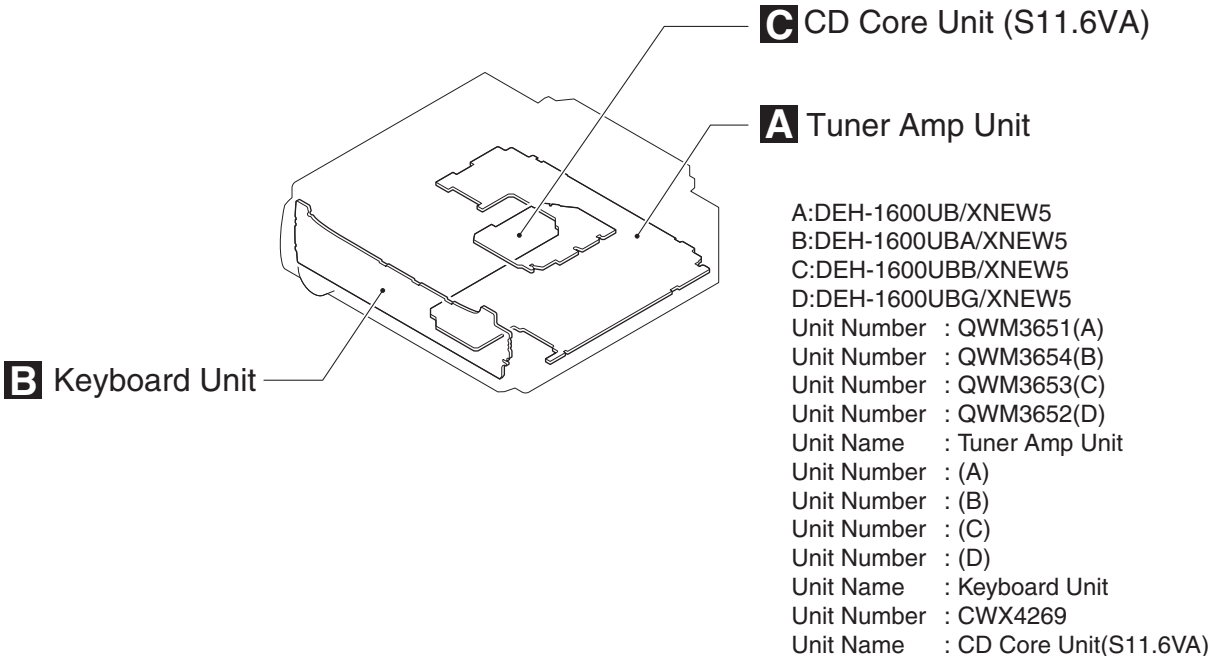
To keep the product quality after servicing, please confirm following check points.

No.		Procedures	Item to be confirmed
1		Confirm whether the customer complain has been solved. If the customer complain occurs with the specific media, use it for the operation check.	The customer complain must not be reappeared. Display, audio and operations must be normal.
2	CD	Play back a CD. (Track search)	No malfunction on display, audio and operation.
3	FM/AM tuner	Check FM/AM tuner action. (Seek, Preset) Switch band to check both FM and AM.	Display, audio and operations must be normal.
4		Check whether no disc is inside the product.	The media used for the operating check must be ejected.
5		Appearance check	No scratches or dirt on its appearance after receiving it for service.

See the table below for the items to be checked regarding audio:

Item to be checked regarding audio
Distortion
Noise
Volume too low
Volume too high
Volume fluctuating
Sound interrupted

3.2 PCB LOCATIONS



3.3 JIGS LIST

● Jigs List

Name	Jig No.	Remarks
16P FFC	GGD1310	Tuner Amp Unit - CD Core Unit
Test Disc	TCD-782	Checking the grating
L.P.F.		Checking the grating (Two pieces)

● Grease List

Name	Grease No.	Remarks
Grease	GEM1024	CD Mechanism Module
Grease	GEM1043	CD Mechanism Module

3.4 CLEANING



Before shipping out the product, be sure to clean the following portions by using the prescribed cleaning tools:

Portions to be cleaned	Cleaning tools
CD pickup lenses	Cleaning liquid : GEM1004 Cleaning paper : GED-008

4. BLOCK DIAGRAM

A

B

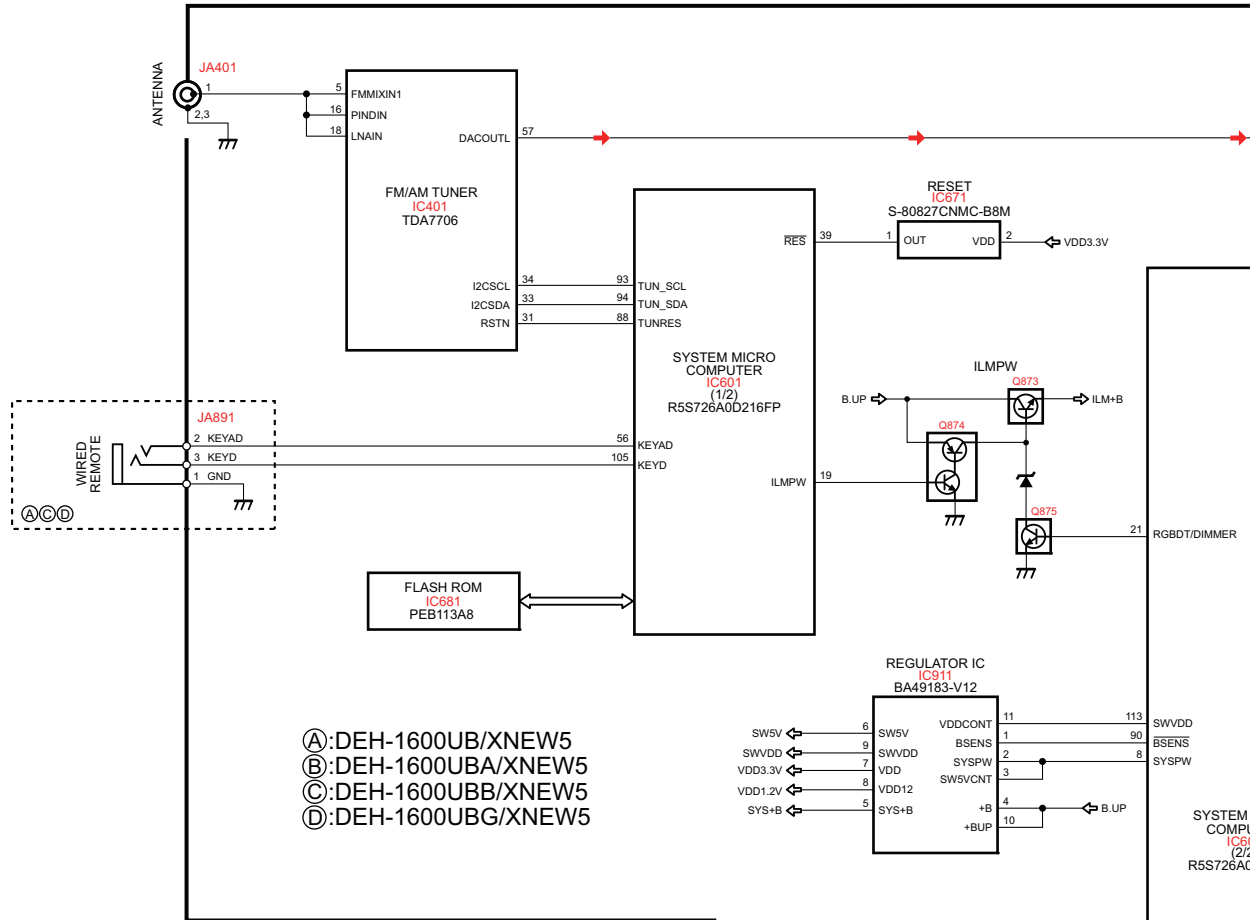
C

D

E

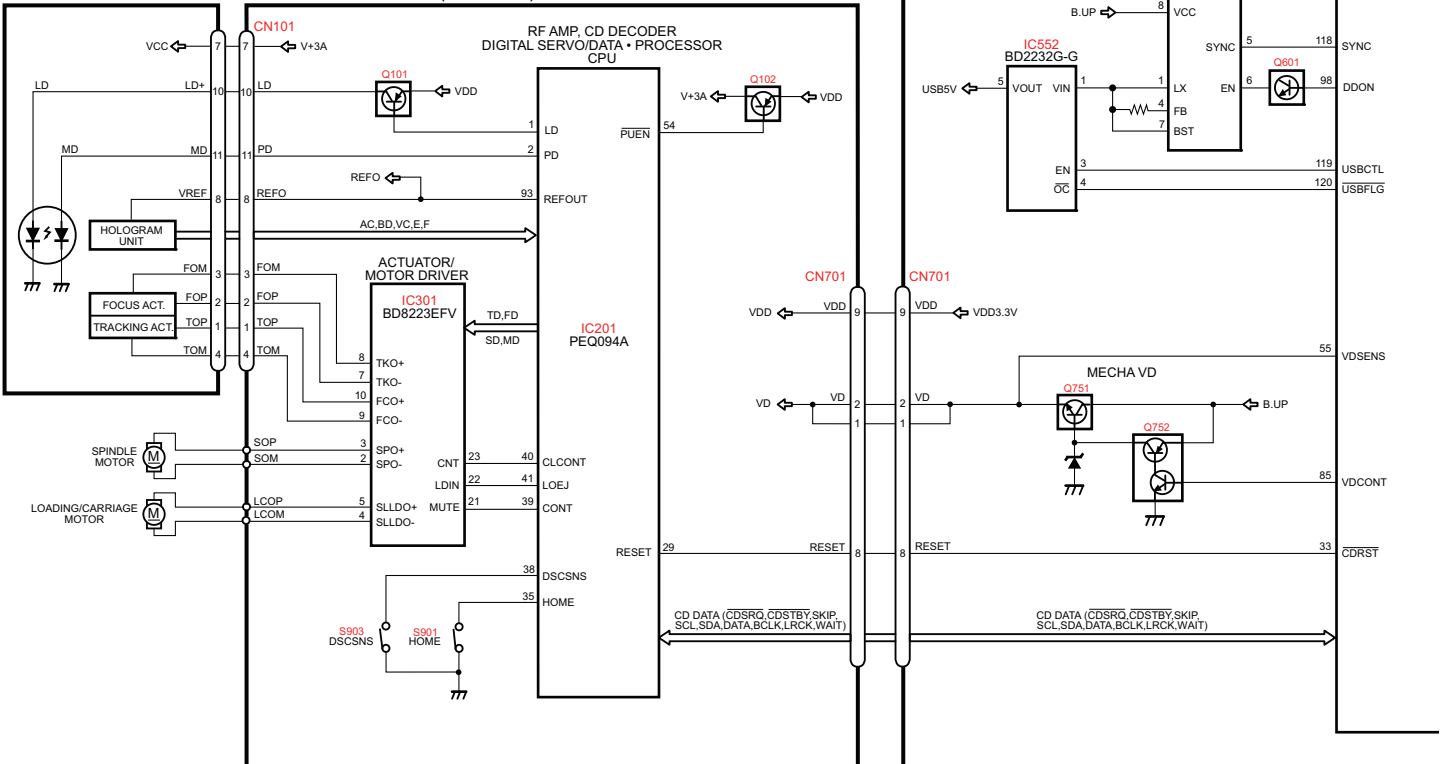
F

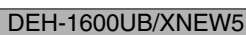
A TUNER AMP UNIT



PICKUP UNIT (P11)(SERVICE)

C CD CORE UNIT(S11.6 VA)



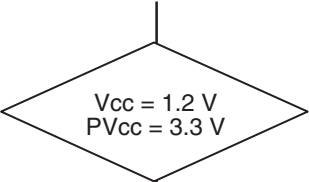


5. DIAGNOSIS

5.1 OPERATIONAL FLOWCHART

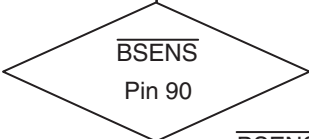
A

Power ON



Vcc : Pin 12, 20, 43, 78, 86, 109
PVcc : Pin 3, 16, 28, 36, 48, 69, 82,101, 112

B

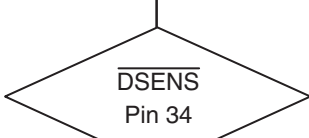


$\overline{\text{BSENS}} = \text{L}$

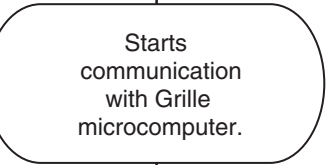


$\overline{\text{ASENS}} = \text{L}$

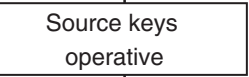
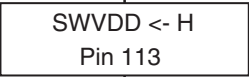
C



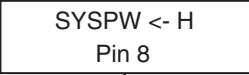
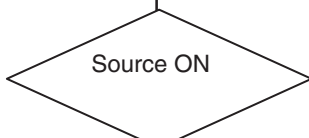
$\overline{\text{DSENS}} = \text{L}$



D



E



F

Completes power-on operation.
(After that, proceed to each source operation)



In case of the above signal, the communication with Grille microcomputer may fail.
If the time interval is not 300 msec, the oscillator may be defective.

5.2 ERROR CODE LIST

● ERROR CODES

If a CD memory device is inoperable, or operation of such media is stopped by an error, the error mode is established and a cause of the error is displayed by an error code. Indication of error codes is intended to reduce the number of calls from customers and facilitate failure analysis and repair work in servicing.

(1) DISPLAY METHOD

If "0xFD" error mode is displayed in CD MODE (CD MODE area for display), an error code will be displayed in the MIN (minute display) and SEC (second display) areas.

The same code is displayed in the MIN and SEC areas.

The TNO area is blank (#0FFH), as it conventionally was.

- Display example of the head unit

Depending on the display capability of LCDs, the display format varies, as shown below. XX denotes an error number.

Note: In a case of an OEM product, the error display format is subject to the specifications used by the equipment manufacturer.

8-digit display	6-digit display	4-digit display
ERROR-xx	ERR-xx	E-xx

(2) LIST OF CD ERROR CODES (Error Mode: 0xFD)

Code	Classification	Error code to be displayed	Details and possible causes
07	Servo	TOC reading NG	TOC information cannot be read. --> The partial disk or TOC content is illegal.
10	Servo	Carriage Home NG	The pickup cannot move toward the inner track. The CRG cannot move from the inner track. --> Defective HOME SW; Failure in CRG movement.
11	Servo	Focus NG	Focusing not available --> Disc placed upside-down; Stains on the disc; excessive vibration.
12	Servo	Spindle Lock NG Subcode NG RF-amp NG	Spindle not locked. Subcode not readable. Proper RF AMP gain not obtained. --> Defective spindle; Scratches or stains on the disc; excessive vibration. --> A CD-R/RW disc that does not contain data loaded, or in a rare case, disc placed upside-down. --> RF signal error.
15	Servo	RF NG	The digital signal from the disc cannot be detected. --> A CD-R/RW disc that does not contain data loaded.
17	Servo	Setup NG	The laser output cannot be adjusted. Focus can be easily lost. --> Scratches or stains on the disc; excessive vibration.
30	Servo	Search Time Out	Failed to reach a target address. And, the search became a timeout. --> Carriage/Tracking error; Scratches on the disc; Stains on the disc
50	Mechanism	Load NG Eject NG	Disc loading/ejection not completed --> A foreign object inserted in the mechanism; Disc jammed.
51	Mechanism	Failure in retried turning for ejection	Disc could not be ejected even after disc turning had been retried. --> A foreign object inserted in the mechanism; Disc jammed.

NOTES

- Indications of error codes are available only during disc operations, because CD operations are unavailable if a mechanical error is generated.
- If the TOC cannot be read, It stops because of error 07.
- If you design a new head unit, be sure to use one of the display formats indicated in "Display example of the head unit."
- The 2 high-order digits of an error code denote the main classification, shown below.

code	classification
0x	Servo-related errors
1x	
3x	
5x	Mechanism-related errors

- How to restore from each error is shown below.

Servo-related errors(0X, 1X, 3X) : Servo-related errors CD Off, Eject, ACC Off, Back-up Off, Communication reset, Reset

Load NG/Eject NG(50) : Reload, Eject, ACC Off, Back-up Off, Communication reset, Reset

Failure in retried turning for ejection : CD On, Eject, ACC Off, Back-up Off, Communication reset, Reset

- A Symptoms are written in bold and causes in regular, non-indented text. Regular, indented text is used to indicate actions to be taken.

Common

AMP ERROR

This unit fails to operate or the speaker connection is incorrect; the protective circuit is activated.

Check the speaker connection. If the message fails to disappear even after the engine is switched off/on, contact your dealer or an authorized Pioneer Service Station for assistance.

CD player

ERROR-07, 11, 12, 17, 30

The disc is dirty.

Clean the disc.

The disc is scratched.

Replace the disc.

ERROR-07, 10, 11, 12, 15, 17, 30, A0

There is an electrical or mechanical error.

Turn the ignition switch OFF and back ON, or switch to a different source, then back to the CD player.

ERROR-15

The inserted disc is blank.

Replace the disc.

ERROR-23

Unsupported CD format.

Replace the disc.

FORMAT READ

Sometimes there is a delay between the start of play-back and when you start to hear any sound.

Wait until the message disappears and you hear sound.

NO AUDIO

The inserted disc does not contain any playable files.

Replace the disc.

SKIPPED

The inserted disc contains DRM protected files.

The protected files are skipped.

PROTECT

All the files on the inserted disc are embedded with DRM.

Replace the disc.

USB storage device

FORMAT READ

Sometimes there is a delay between the start of play-back and when you start to hear any sound.

Wait until the message disappears and you hear sound.

NO AUDIO

There are no songs.

Transfer the audio files to the USB storage device and connect.

The connected USB storage device has security enabled.

Follow the USB storage device instructions to disable the security.

SKIPPED

The connected USB storage device contains DRM protected files.

The protected files are skipped.

PROTECT

All the files on the connected USB storage device are embedded with DRM.

Replace the USB storage device.

N/A USB

The connected USB device is not supported by this unit.

- Connect a USB Mass Storage Class compliant device.
- Disconnect your device and replace it with a compatible USB storage device.

CHECK USB

The USB connector or USB cable has short-circuited.

Check that the USB connector or USB cable is not caught in something or damaged.

The connected USB storage device consumes more than maximum allowable current.

Disconnect the USB storage device and do not use it. Turn the ignition switch to OFF, then to ACC or ON and then connect only compliant USB storage devices.

ERROR-19

Communication failed.

Perform one of the following operations.

- Turn the ignition switch OFF and back ON.
 - Disconnect the USB storage device.
 - Change to a different source.
- Then, return to the USB source.

ERROR-23

USB storage device was not formatted with FAT12, FAT16 or FAT32.

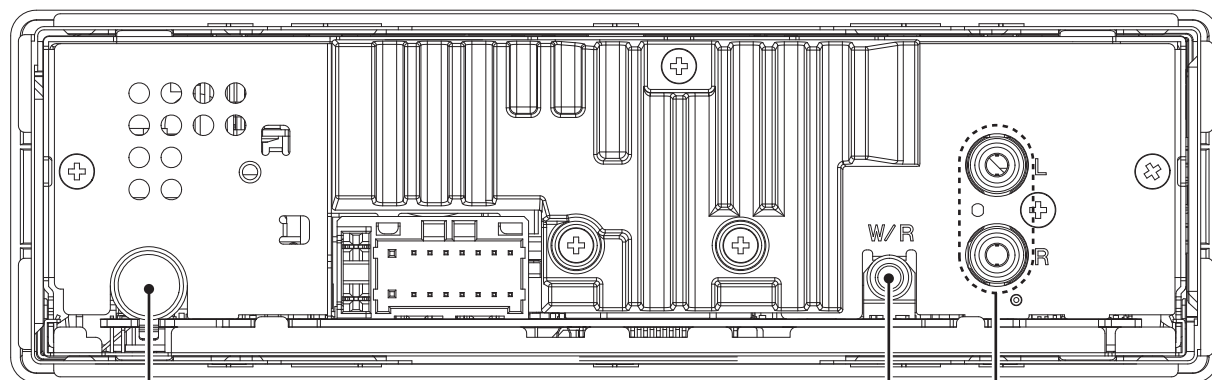
USB storage device should be formatted with FAT12, FAT16 or FAT32.

STOP

There are no songs in the current list.

Select a list that contains songs.

5.3 CONNECTOR FUNCTION DESCRIPTION



ANTENNA INPUT

WIRED
REMOTE
CONTROL

REAR OUTPUT or
SUBWOOFER OUTPUT

15	13	11	9	7	5	3	1
16	14	12	10	8	6	4	2

- | | |
|-------|-----------------------------|
| 1 FL+ | 9 MUTE (Except DEH-1600UBA) |
| 2 FR+ | NC (DEH-1600UBA Only) |
| 3 FL- | 10 NC |
| 4 FR- | 11 NC |
| 5 RL+ | 12 NC |
| 6 RR+ | 13 ACC |
| 7 RL- | 14 B.REM |
| 8 RR- | 15 B.UP |
| | 16 GND |

6. SERVICE MODE

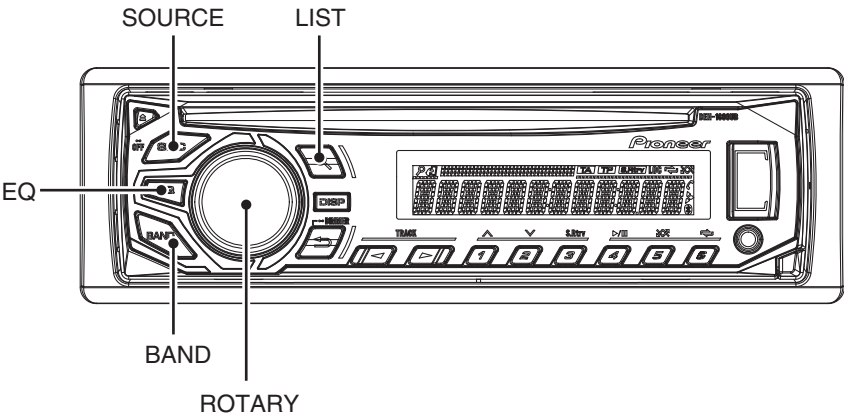
6.1 DISPLAY TEST MODE 1

A

[How to enter Test mode]

Press and hold "EQ" and "LIST" buttons together, and turn BUP and ACC on.

B



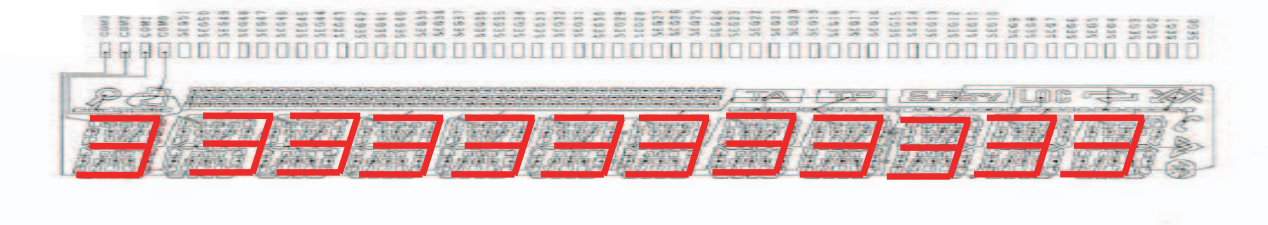
C

		Grille condition	
Conf. item	Operate	Show LCD	ILM
All light up	EQ + LIST	Draw 1	ILM(1)
All light off	SOURCE	No light Draw2	No light
Conf. LCD pattern 1 (* And change ILM color)	BAND	Draw 3	ILM(2) (If not have, ILM(1) light on)
Conf. LCD pattern 2	ROTARY center	Draw 4	ILM(1)

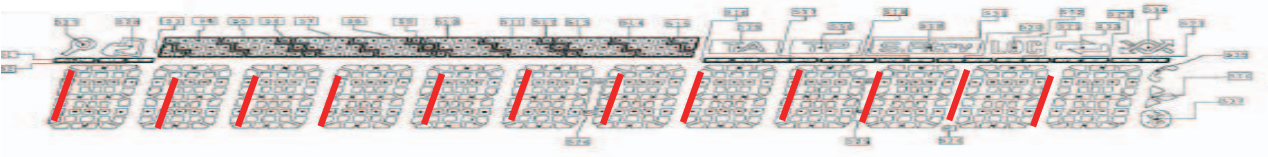
D

Drawings Style

Draw1 ALL light up
Draw2 ALL light off
Draw3



Draw4



E

F

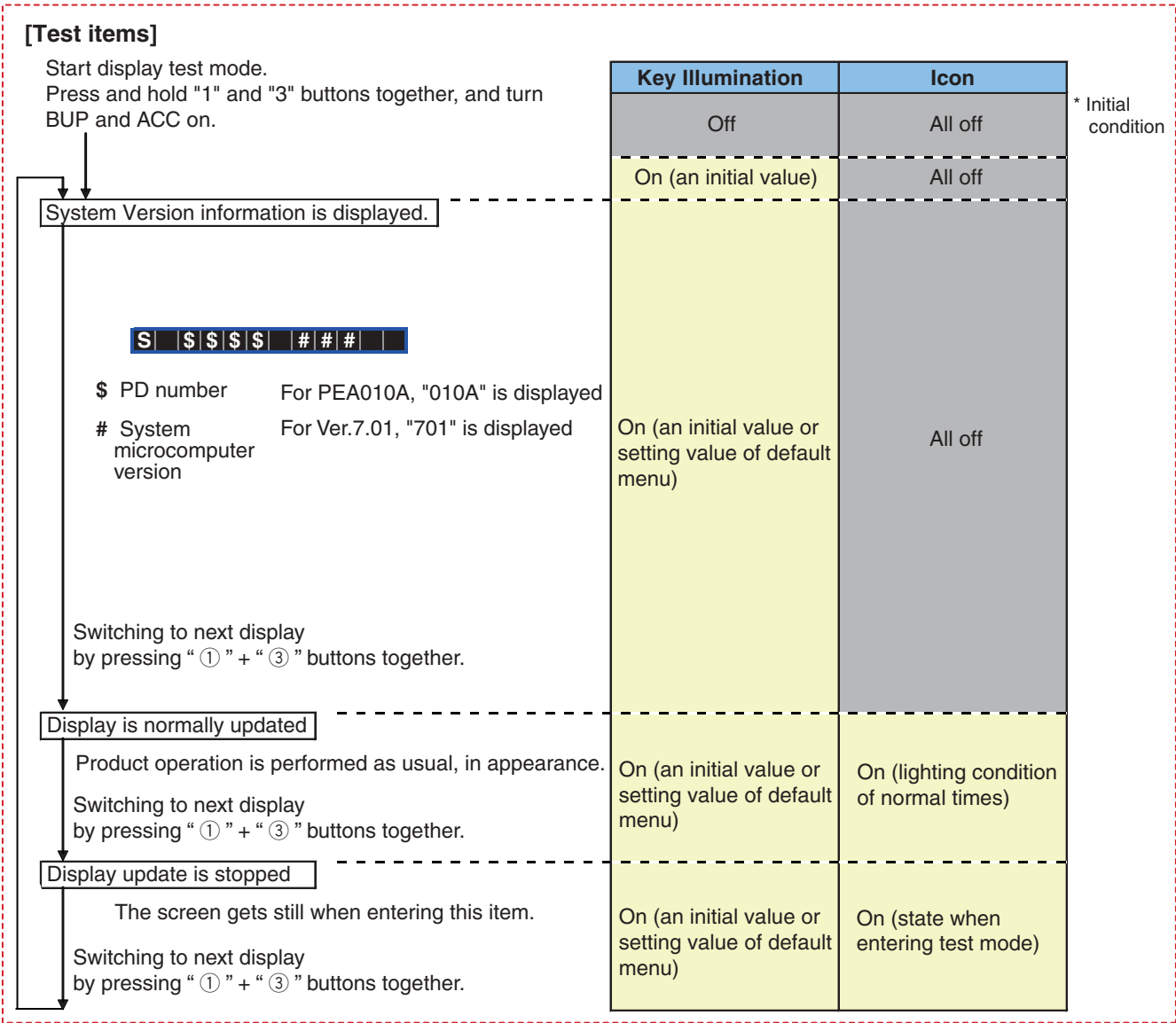
The information such as the system microcomputer version is checked.

[How to enter Test mode]

Press and hold "1" and "3" buttons together, and turn BUP and ACC on.

[Operation key]

Operation key	Processing	Remarks
① + ③	Enter display test mode Switch to next test mode	



1 2 3 4

6.3 SOFTWARE VERSION UP METHOD

A

Overview

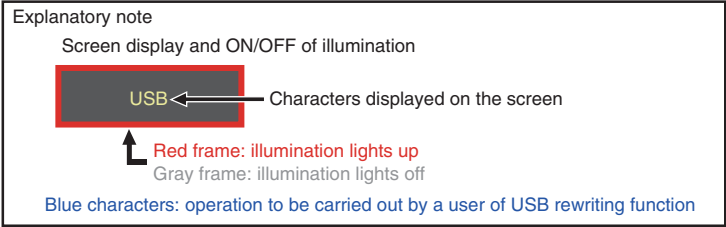
This mode is used for upgrading the MCU software of system using USB memory.

How to enter in USB rewriting mode

Press and hold "1" and "2" buttons together, and turn BUP and ACC on.

B

USB rewriting operation flow



Press and hold "1" and "2" buttons together, and turn BUP and ACC on.

START UPDT

Press LIST button
* After connecting USB memory in which upgrading file is stored, press LIST button.

(4) Retry count over

Retry rewriting

As the reset is internally carried out,
display and illumination go out

Check of upgrading file is started

CHECK FILE

(2) Upgrading file is not detected
Upgrading file error

First time

After retry

Rewriting is started

If the power supply is turned OFF
during rewriting, retry the rewriting.

DON'T STOP

Switched every
5 seconds

(3) Rewriting failed

PRG **/100

(1) Rewriting succeeded

CAN'T UPDT

COMPLETE

ERR->RETRY

FILE ERROR

ERR->RETRY

Display is continued until
the power supply is turned
OFF

In 5 seconds, usual operation
(OFF SOURCE)

In 5 seconds, rewriting
is retried

In 5 seconds, usual operation
(OFF SOURCE)

In 5 seconds, rewriting
is retried

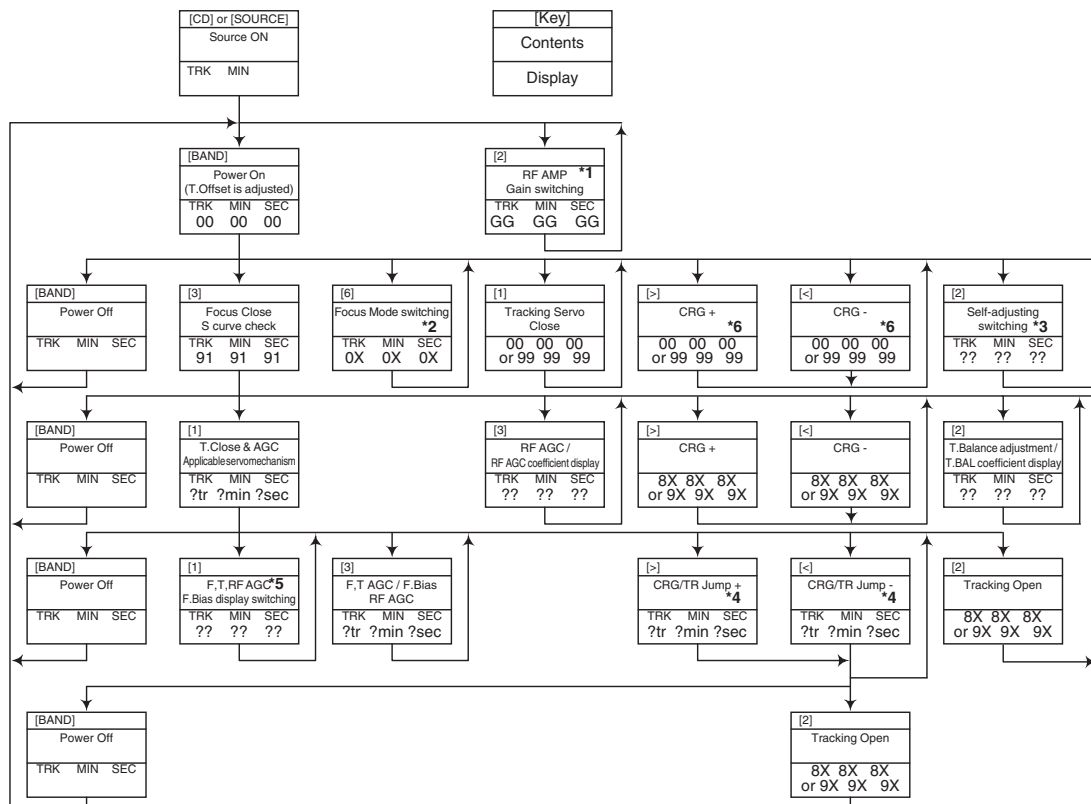
E

Result of rewriting

(1) Rewriting succeeded	Displayed when USB rewriting is normally terminated. In 5 seconds, usual operation (OFF SOURCE) is started.
(2) Upgrading file error Upgrading file is not detected	Displayed when there is no upgrading file in USB memory or the data of upgrading file is different. In 5 seconds, usual operation (OFF SOURCE) is started. If the upgrading file error is detected or the upgrading file is not detected after the rewriting is retried, the rewriting is failed. In 5 seconds, rewriting is retried.
(3) Rewriting failed	Displayed when the writing of upgrading file in serial Flash is not normally terminated. Or, displayed if the upgrading file error is detected or the upgrading file is not detected after the rewriting is retried. In 5 seconds, rewriting is retried.
(4) Retry count over	Displayed when the retry becomes unavailable because the retry count is exceeded. The display is continued until the power supply is turned OFF. If the power supply is turned ON again, the display is not changed. The upgrading using USB is disabled, so it is necessary to write programs in serial Flash using E10A.

● Flow Chart

To enter the test mode: [4] + [6] -> BUP + ACC ON



- *1) TYP — + 6 dB — + 12 dB
TRK MIN SEC TRK MIN SEC TRK MIN SEC
06 06 06 12 12 12
- *2) Focus Close — S. Curve — F EQ measurement setting
TRK MIN SEC TRK MIN SEC TRK MIN SEC
00 00 00 01 01 01 02 02 02
(TRK 99 MIN 99 SEC 99)
- *3) F.Offset Display — RF.Offset — T.Offset Display — Switch to the order of the original display
- *4) 100TR Jump
- *5) TRK/MIN/SEC — F.AGC — T.AGC Gain — F.Bias — RF AGC

*6) CRG motor voltage = 2 [V]

[Key]	Operation
	Test Mode
[BAND]	Power On/Off
[>]	CRG + / TR Jump + (Direction of the external surface)
[<]	CRG - / TR Jump - (Direction of the internal surface)
[1]	T. CLS & AGC & Applicable servomechanism / AGC, AGC display setting
[2]	RF Gain switching / Offset adjustment display / T.Balance adjustment / T. Open
[3]	F. Close, S. Curve / Rough Servo and RF AGC / F, T, RF AGC
[6]	F. Mode switching / Tracking Close

- After the [EJECT] key is pressed keys other than the [EJECT] key should not be pressed, until disc ejection is complete.
- When the key [2] or [3] is pressed during the Focus Search, the power supply should be immediately turned off (otherwise the lens sticks to Wall, causing the actuator to be damaged).
- In the case of 100TR Jump, the mechanism shall be set to the Tracking Close mode when the key is released.
- When the power is turned on/off the gain of the RFAMP is reset to 0 dB. At the same time all the self-adjusting values shall return to the default setting.
- Do not do Tracking Servo Close before doing Focus Servo Close. (Because the overcurrent flows)

7. DISASSEMBLY

While the photograph shown is slightly different from this model in shape, the disassembly procedure is the same.

● Removing the Panel Assy (Fig.1)

- ➡ 1 Release the two latches.
- ➡ 2 Release the two latches and then remove the Panel Assy.

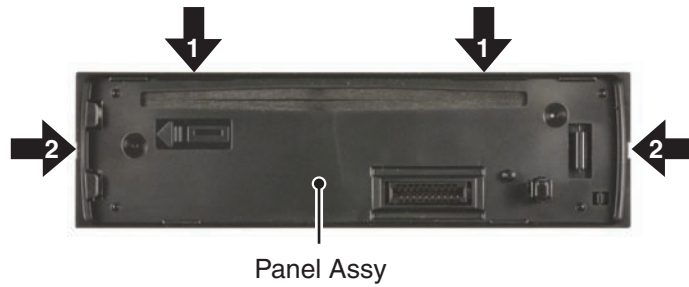
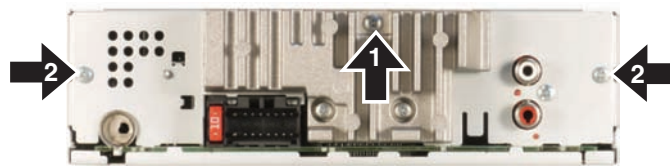


Fig.1

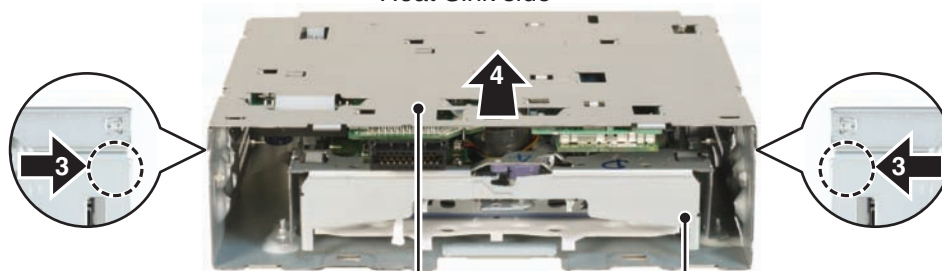
● Removing the CD Mechanism Module (Fig.2)

- ➡ 1 Remove the screw.
- ➡ 2 Remove the two screws.



The CD Mechanism Module side is made a bottom.

Heat Sink side



- ➡ 3 Push the area and remove the two hooks.
- ➡ 4 Slide the Tuner Amp Assy in the direction of the arrow.

Tuner Amp Assy CD Mechanism Module

Lift off the Tuner Amp Assy from the Heat Sink side.

- ➡ 5 The Tuner Amp Assy is fixed into the ditch.
- ➡ 6 Disconnect the FFC and then remove the CD Mechanism Module.

CD Mechanism Module

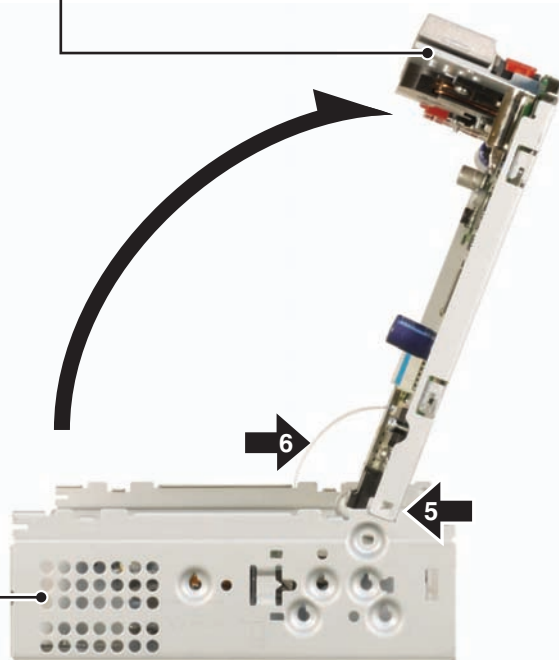


Fig.2

● Removing the Tuner Amp Unit (Fig.3)

- ➡ 1 Remove the two screws.
- ➡ 2 Remove the two screws and then remove the Tuner Amp Unit.

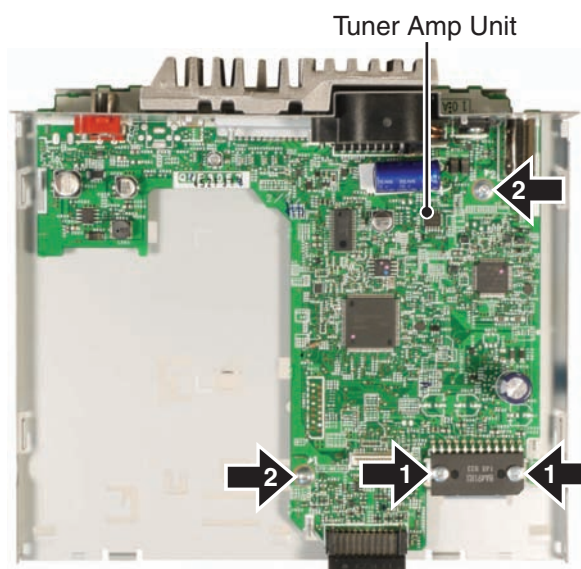


Fig.3

● Attention of removing (Fig.4)

Don't remove this screws excluding the dismantlement of the CD Mechanism Module.

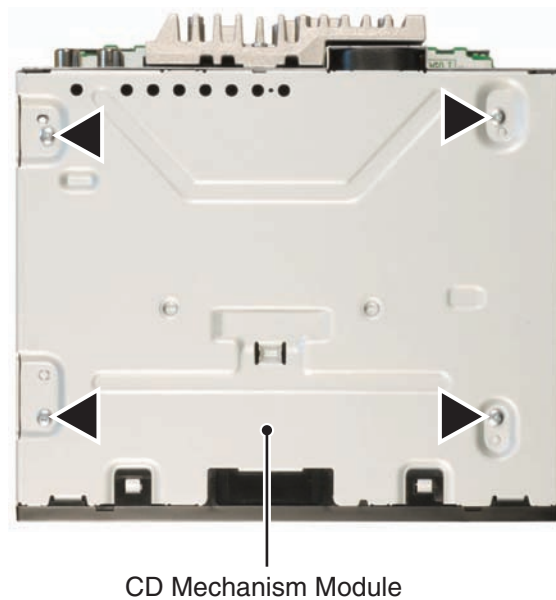


Fig.4

● Disassembling the Panel Part (Fig.5, 6)

1. Remove the arm while bending the rib of the panel upward.

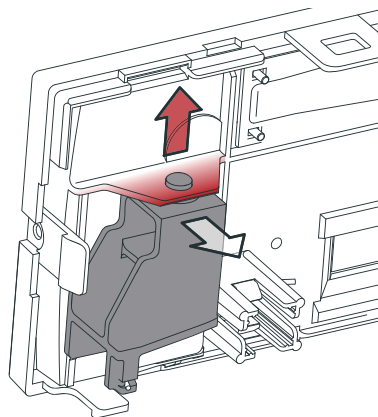


Fig.5

2. Press the upside hook and the bottom side hook of the button at the same time, and pull out the button.

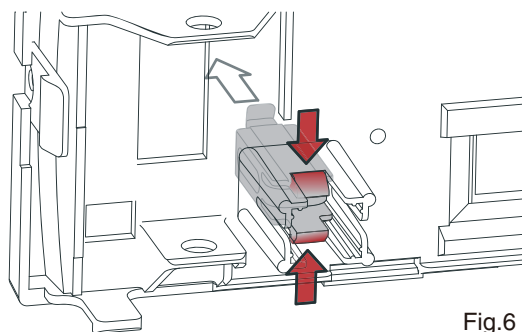


Fig.6

● Assembling the Panel Part (Fig.7, 8, 9)

1. Attach the button from the front side of the panel.

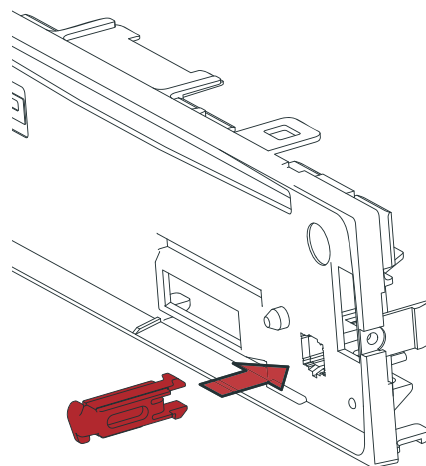


Fig.7

2. Attach the spring to the arm as shown in the figure.

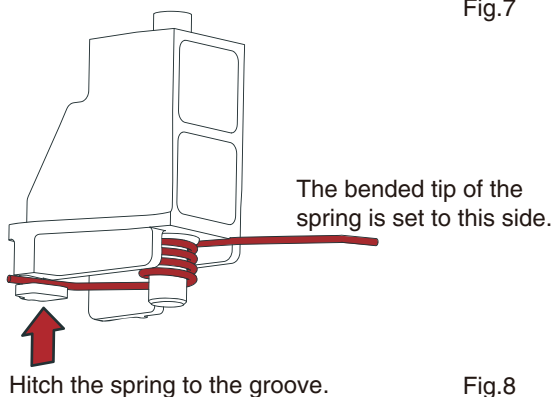


Fig.8

3. Fit the spring in the groove at the position shown in the figure.
4. Fit the boss on the lower side of the arm in the lower hole of the panel, and then warp the rib on the panel in the direction shown in the figure and fit the boss of the arm in the panel.

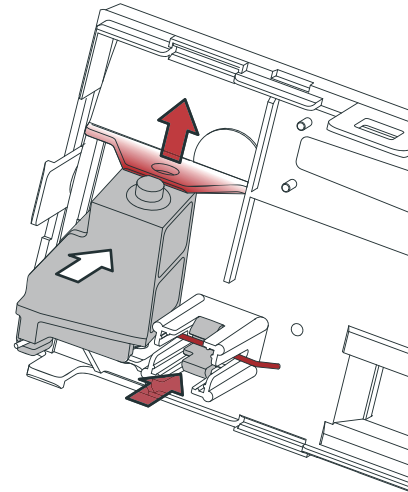
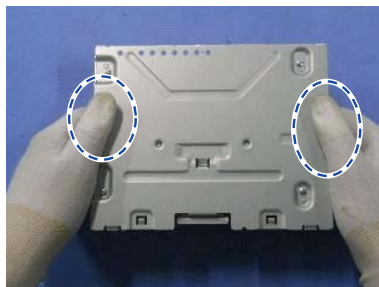


Fig.9

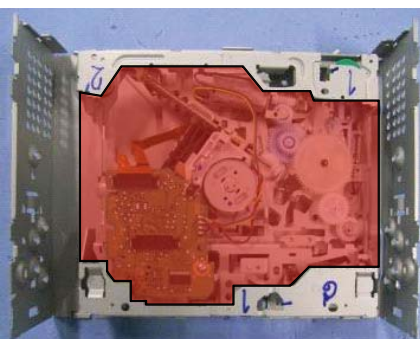
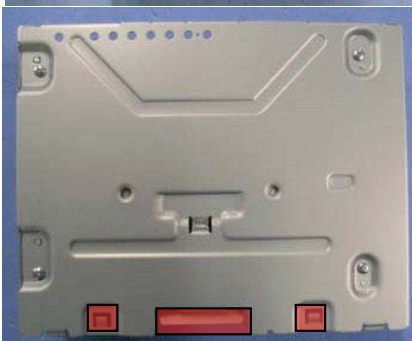
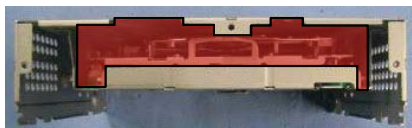
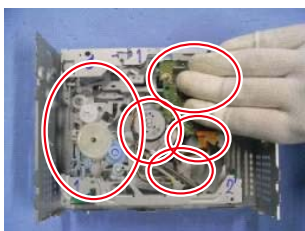
●How to carry the mecha unit

1. Hold the designated points (shown with dashed lines) of the upper chassis and the front/rear bracket.
2. Be careful not to hold the solid line portions or the CRG mecha part or insert foreign substances, to prevent distortion.
3. When holding the sides of the upper chassis, do not apply excessive force to prevent distortion. (Approx. 8N or less)

Handling OK



Handling NG



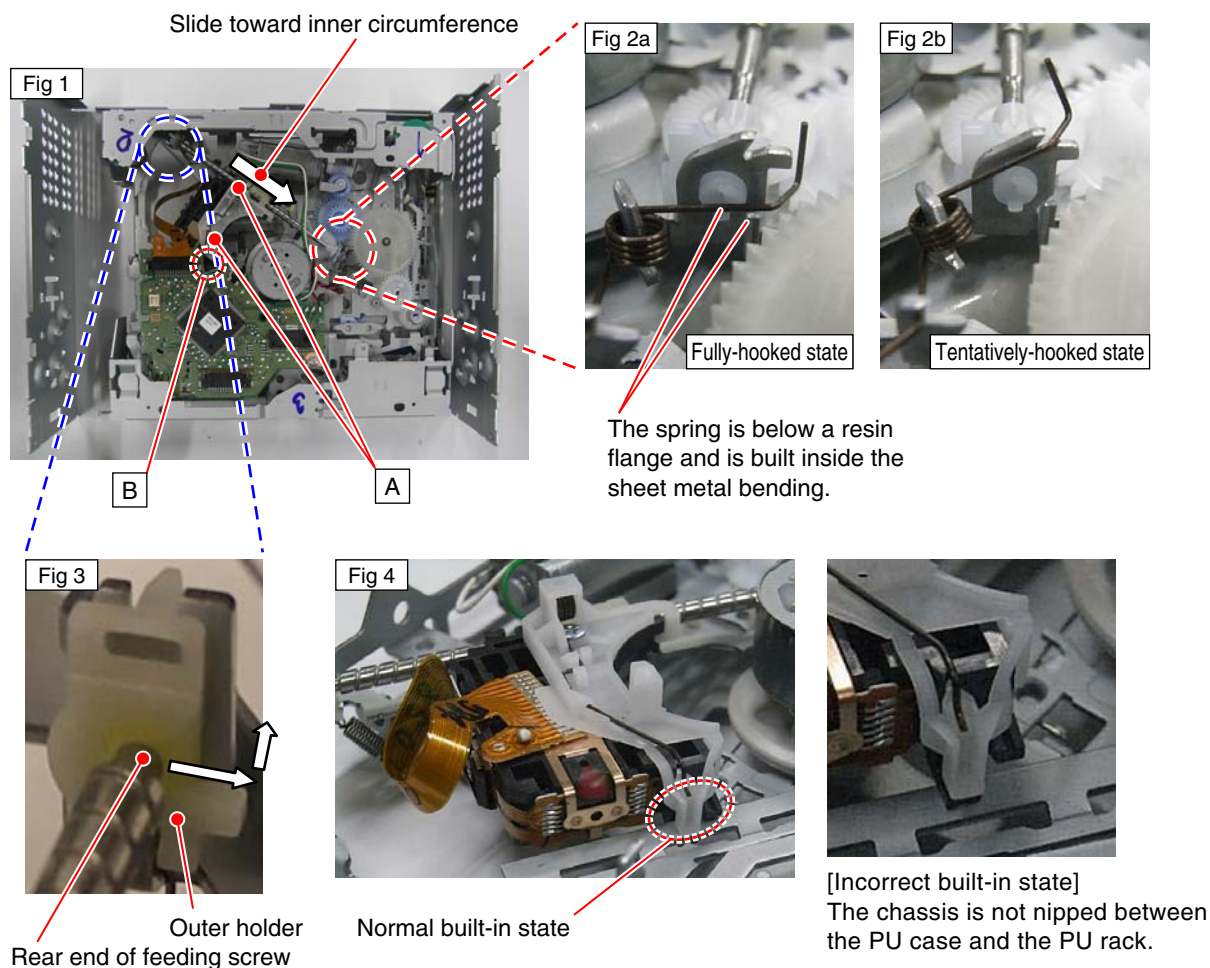
● How to remove the PU unit

1. Create an empty-clamp state according to "How to create empty clamp state (motor drive)".
2. Hook the feeding screw biasing spring to a tentative hooking portion (Fig 2b). Be careful not to get injured by the spring edge.
3. Hold the PU at the position A as shown in Fig 1. Slide the PU as far as possible toward the holder in the feeding screw so that a joint on the outer end of the feeding screw is loosened.
4. As shown in Fig 3, move the rear end of the feeding screw laterally and then upward, to remove it from the outer holder.
5. Lift the PU unit to disengage it from Part B of the chassis (Fig 4), and remove the PU unit.

(Cautions) When re-installing the PU, be sure to first nip the chassis and the PU unit (Fig 4) at the position B.

Also, make sure to fully hook the feeding screw biasing spring (Fig 2a).

Please follow the service manual for adjustment of the PU unit after the re-installation.



8. EACH SETTING AND ADJUSTMENT

8.1 CD ADJUSTMENT

1) Cautions on adjustments

- In this product the single voltage (3.3 V) is used for the regulator. The reference voltage is the REFO1 (1.65 V) instead of the GND.

If you should mistakenly short the REFO1 with the GND during adjustment, accurate voltage will not be obtained, and the servo's misoperation will apply excessive shock to the pickup. To avoid such problems:

a. Do not mix up the REFO1 with the GND when connecting the (-) probe of measuring instruments.

Especially on an oscilloscope, avoid connecting the (-) probe for CH1 to the GND.

b. In many cases, measuring instruments have the same potential as that for the (-) probe. Be sure to set the measuring instruments to the floating state.

c. If you have mistakenly connected the REFO1 to the GND, turn off the regulator or the power immediately.

- Before mounting and removing filters or leads for adjustment, be sure to turn off the regulator.

- For stable circuit operation, keep the mechanism operating for about one minute or more after the regulator is turned on.

- In the test mode, any software protections will not work. Avoid applying any mechanical or electrical shock to the mechanism during adjustment.

- The RFAGC and RFO signals with a wide frequency range are easy to oscillate. When observing the signals, insert a resistor of 1k ohms in series.

- The load and eject operation is not guaranteed with the mechanism upside down. If the mechanism is blocked due to mistaken eject operation, reset the product or turn off and on the ACC to restore it.

2) Test mode

This mode is used to adjust the CD mechanism module.

- To enter the test mode.

[4] + [6] -> BUP + ACC ON

CD Source ON

- To exit from the test mode.

Turn off the ACC and back up.

Notes:

a. During ejection, do not press any other keys than the EJECT key until the loaded disc is ejected.

b. If you have pressed the [2] key or [3] key during focus search, turn off the power immediately to protect the actuator from damage caused by the lens stuck.

c. For the TR jump modes except 100TR, the track jump operation will continue even if the key is released.

d. For the CRG move and 100TR jump modes, the tracking loop will be closed at the same time when the key is released.

e. When the power is turned off and on, the jump mode is reset to the single TR (91), the RF amp gain is set to 0 dB, and the auto-adjustment values are reset to the default settings.

8.2 CHECKING THE GRATING AFTER CHANGING THE PICKUP UNIT



• Note :

The grating angle of the PU unit cannot be adjusted after the PU unit is changed. The PU unit in the CD mechanism module is adjusted on the production line to match the CD mechanism module and is thus the best adjusted PU unit for the CD mechanism module. Changing the PU unit is thus best considered as a last resort. However, if the PU unit must be changed, the grating should be checked using the procedure below.

• Purpose :

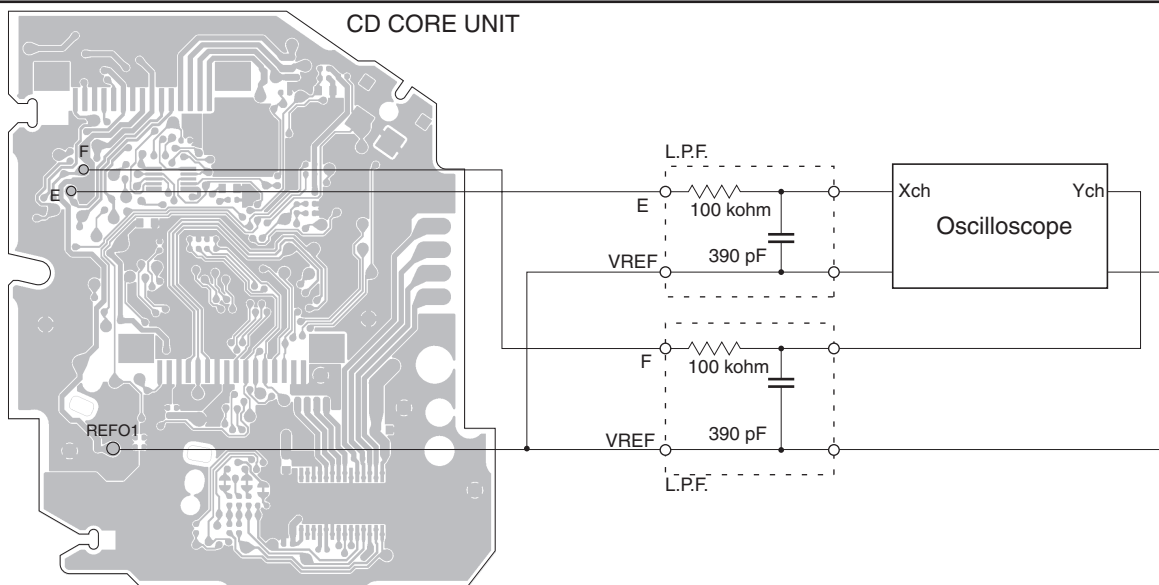
To check that the grating is within an acceptable range when the PU unit is changed.

• Symptoms of Mal-adjustment :

If the grating is off by a large amount symptoms such as being unable to close tracking, being unable to perform track search operations, or taking a long time for track searching.

• Method :

- | | |
|-----------------------|----------------------------|
| • Measuring Equipment | • Oscilloscope, Two L.P.F. |
| • Measuring Points | • E, F, REFO1 |
| • Disc | • TCD-782 |
| • Mode | • TEST MODE |



• Checking Procedure

1. In test mode, load the disc and switch the 3 V regulator on.
2. Using the > and < buttons, move the PU unit to the innermost track.
3. Press key **3** to close focus, the display should read "91". Press key **2** to implement the tracking balance adjustment the display should now read "81". Press key **3**. The display will change, returning to "81" on the fourth press.
4. As shown in the diagram above, monitor the LPF outputs using the oscilloscope and check that the phase difference is within 75° . Refer to the photographs supplied to determine the phase angle.
5. If the phase difference is determined to be greater than 75° try changing the PU unit to see if there is any improvement. If, after trying this a number of times, the grating angle does not become less than 75° then the mechanism should be judged to be at fault.

• Note

Because of eccentricity in the disc and a slight misalignment of the clamping center the grating waveform may be seen to "wobble" (the phase difference changes as the disc rotates). The angle specified above indicates the average angle.

• Hint

Reloading the disc changes the clamp position and may decrease the "wobble".

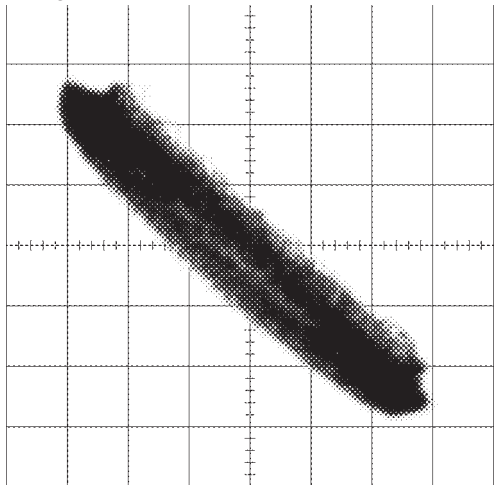
Grating waveform

Ech -> Xch 20 mV/div, AC

Fch -> Ych 20 mV/div, AC

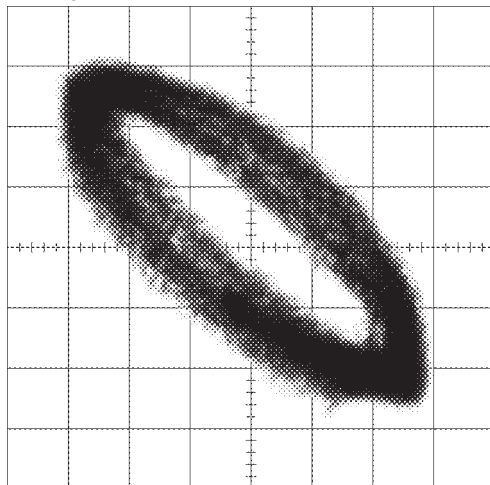
A

0 degrees



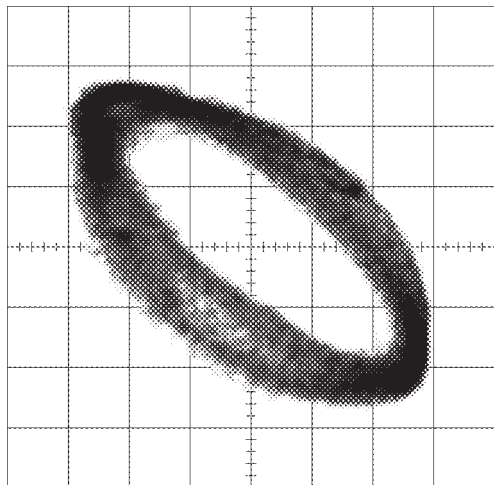
B

30 degrees



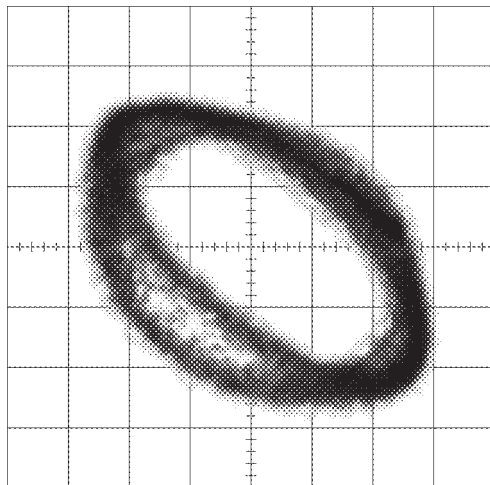
C

45 degrees



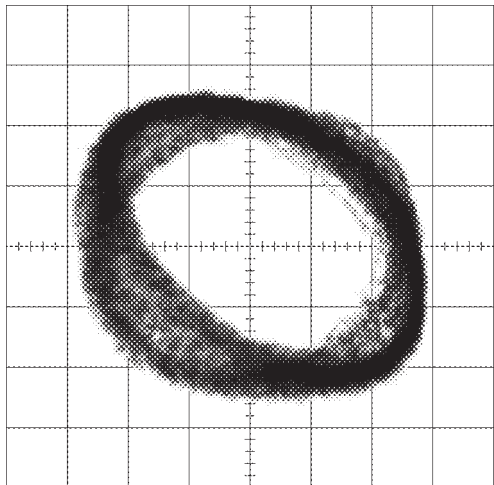
D

60 degrees



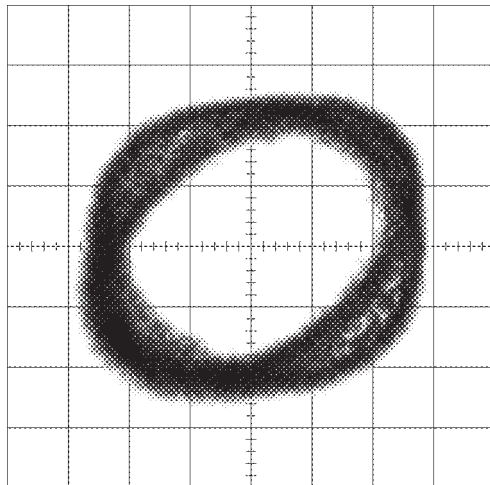
E

75 degrees



F

90 degrees



8.3 PCL OUTPUT CONFIRMATION



● PCL Output

In the normal operation mode (with the detachable panel installed, the ACC switched ON, the standby mode cancelled), shift the TESTIN IC601(Pin 99) terminal to H.

The clock signal is output from the PCL terminal IC601(Pin115).

The frequency of the clock signal is 600 kHz that is divided by 20th of the oscillation frequency of X601 (12MHz).

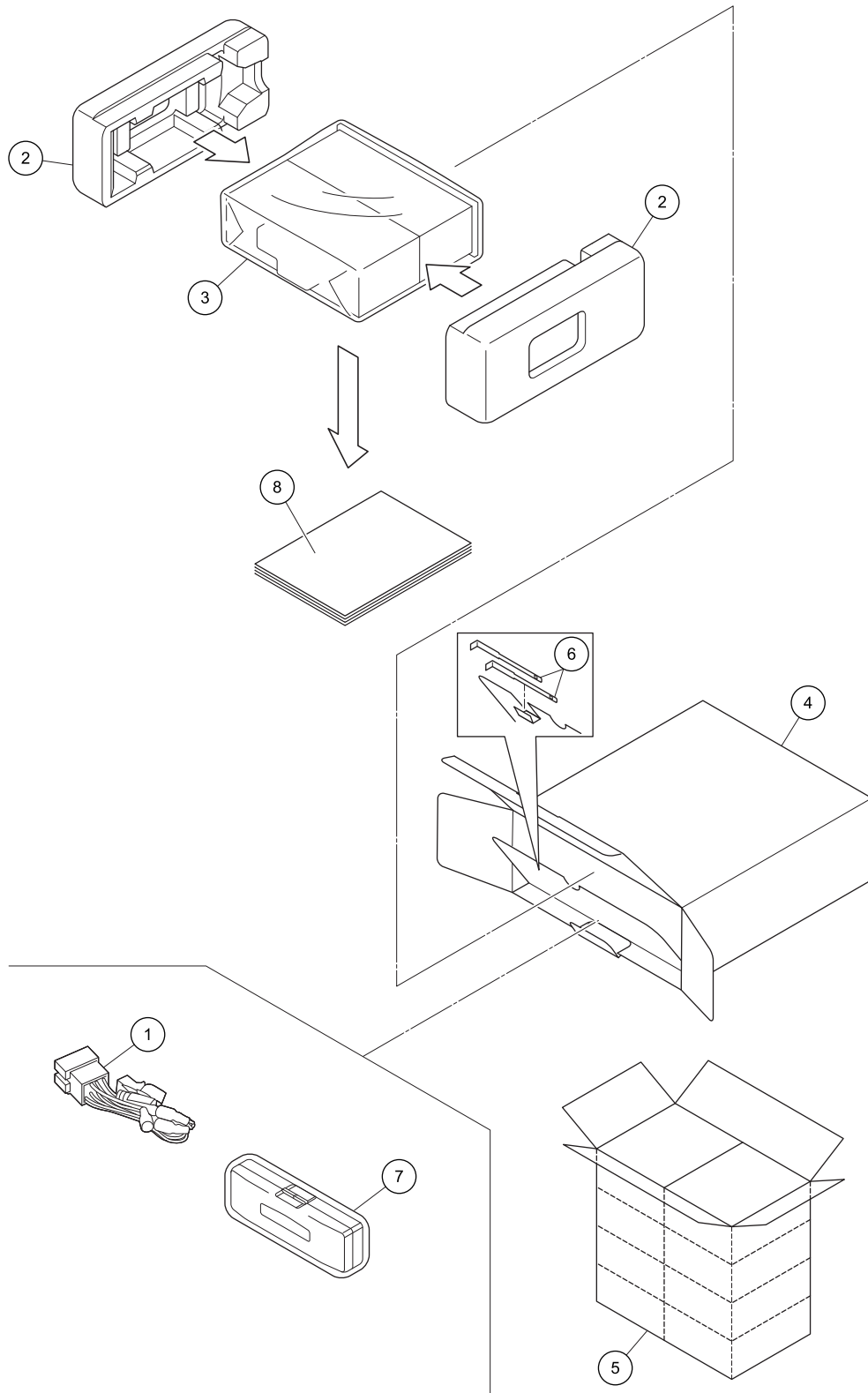
The clock signal should be 600 kHz(- 25 Hz, + 25 Hz).

If the clock signal is out of the range, the X'tal (X601) should be replaced with new one.

9. EXPLODED VIEWS AND PARTS LIST

- NOTES :
- Parts marked by " * " are generally unavailable because they are not in our Master Spare Parts List.
 - The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
 - Screw adjacent to ▽ mark on the product are used for disassembly.
 - For the applying amount of lubricants or glue, follow the instructions in this manual.
(In the case of no amount instructions, apply as you think it appropriate.)

9.1 PACKING



(1) PACKING SECTION PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Cord Assy	See Contrast table (2)	6	Handle	QNC3021
2	Protector	CHP4594	7	Case Assy	QXA3129
3	Polyethylene Bag	QEG3001	* 8-1	Warranty Card	CRY1376
4	Unit Box	See Contrast table (2)	8-2	Owner's Manual	QRD3204
5	Contain Box	See Contrast table (2)			

(2) CONTRAST TABLE

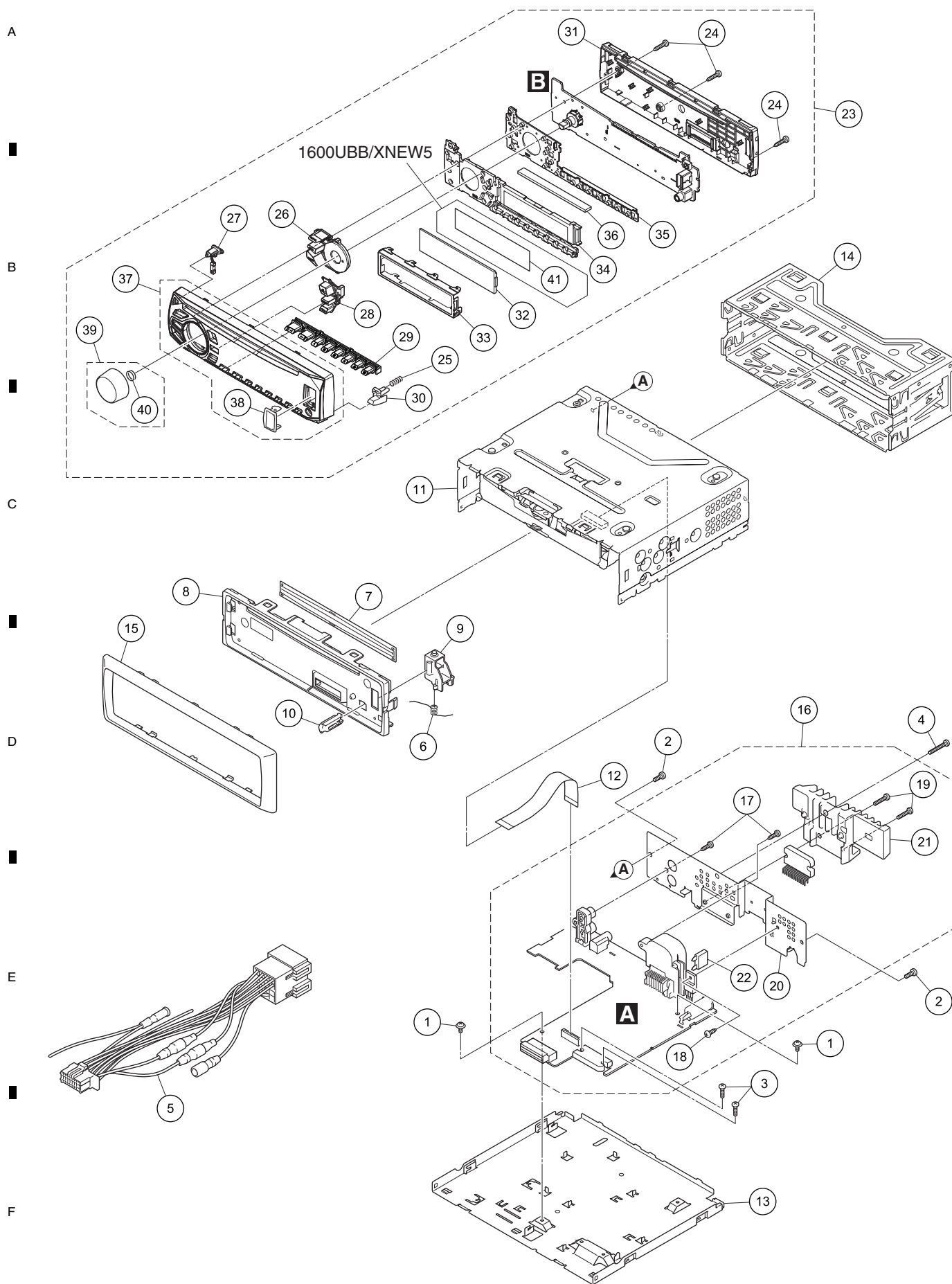
DEH-1600UB/XNEW5, DEH-1600UBA/XNEW5, DEH-1600UBB/XNEW5 and DEH-1600UBG/XNEW5 are constructed the same except for the following:

Mark	No.	Description	DEH-1600UB/ XNEW5	DEH-1600UBA/ XNEW5	DEH-1600UBB/ XNEW5	DEH-1600UBG/ XNEW5
	1	Cord Assy	QDP3012	QDP3014	QDP3012	QDP3012
	4	Unit Box	QHG3518	QHG3517	QHG3522	QHG3520
	5	Contain Box	QHL3518	QHL3517	QHL3522	QHL3520

Owner's Manual

Part No.	Language
QRD3204	English, French, Italian, Spanish(Espanol), German, Dutch, Russian

9.2 EXTERIOR



DEH-1600UB/XNEW5

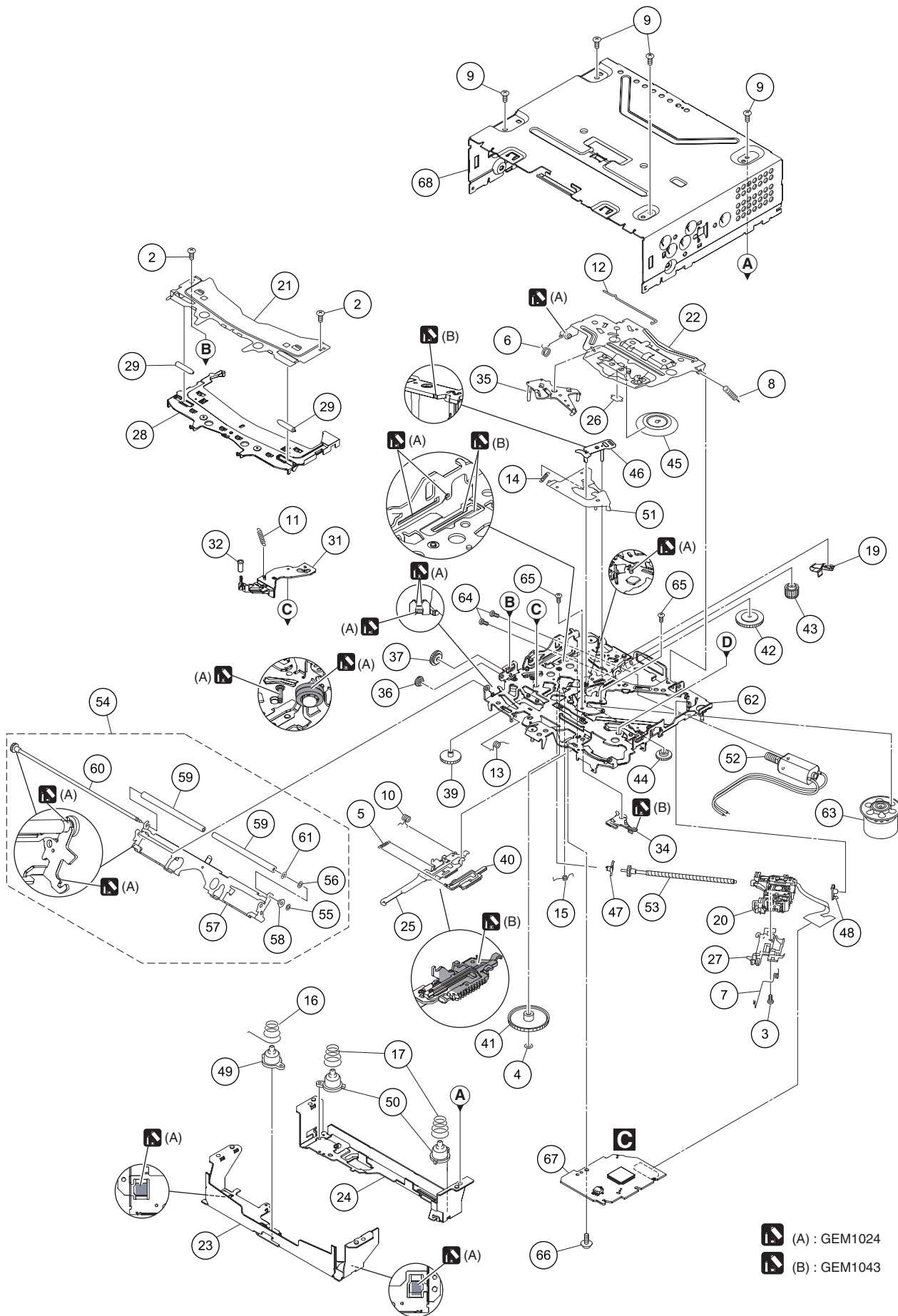
	5		6		7		8	
(1) EXTERIOR SECTION PARTS LIST								
Mark No.	Description	Part No.	Mark No.	Description	Part No.			
1	Screw	ASZ26P050FTC	⚠ 22	Fuse (10 A)	YEK5001			
2	Screw	BSZ26P060FTC	23	Detachable Grille Assy	See Contrast table (2)			
3	Screw	BSZ26P080FTC	24	Screw	BPZ20P100FTC			
4	Screw	BSZ26P120FTC	25	Spring	CBH2210			
5	Cord Assy	See Contrast table (2)						
6	Spring	QBH3001	26	Button (SRC, EQ, BAND)	QAC3122			
7	Cover	QNM3029	27	Button (EJECT)	QAC3124			
8	Panel	QNS3126	28	Button (LIST, DISP, BACK)	QAC3125			
9	Arm	QNV3025	29	Button (< > 1-6)	QAC3126			
10	Button	QNV3026	30	Button (DETACH)	QAC3127			
11	CD Mechanism Module (S11.6VA)	CXK5805	31	Cover	QNS3566			
12	FFC	QDE3029	32	Segment LCD (V1801)	See Contrast table (2)			
13	Case	QNB3013	33	Holder	QNC3067			
14	Holder	QNC3020	34	Lighting Conductor	QNV3069			
15	Panel	QNS3568	35	Contact Rubber	QNV3070			
16	Tuner Amp Unit	See Contrast table (2)	36	Rubber Connector	QNV3071			
17	Screw	BPZ26P080FTC	37	Grille Unit	See Contrast table (2)			
18	Screw	BSZ26P060FTC	38	Door	QAT3011			
19	Screw	BSZ26P120FTC	39	Knob Unit	QXA3670			
20	Holder	See Contrast table (2)	40	Spring	YBL5010			
21	Heat Sink	QNR3010	41	Sheet	See Contrast table (2)			

(2) CONTRAST TABLE

DEH-1600UB/XNEW5, DEH-1600UBA/XNEW5, DEH-1600UBB/XNEW5 and DEH-1600UBG/XNEW5 are constructed the same except for the following:

Mark	No.	Description	DEH-1600UB/ XNEW5	DEH-1600UBA/ XNEW5	DEH-1600UBB/ XNEW5	DEH-1600UBG/ XNEW5
	5	Cord Assy	QDP3012	QDP3014	QDP3012	QDP3012
	16	Tuner Amp Unit	QWM3651	QWM3654	QWM3653	QWM3652
	20	Holder	QNC3050	QNC3051	QNC3050	QNC3050
	23	Detachable Grille Assy	QXA3849	QXA3851	QXA3861	QXA3850
	32	Segment LCD (V1801)	CAW2024	CAW2024	CAW2027	CAW2024
	37	Grille Unit	QXA3881	QXA3883	QXA3884	QXA3882
	41	Sheet	Not used	Not used	QNM3074	Not used

9.3 CD MECHANISM MODULE



DEH-1600UB/XNEW5

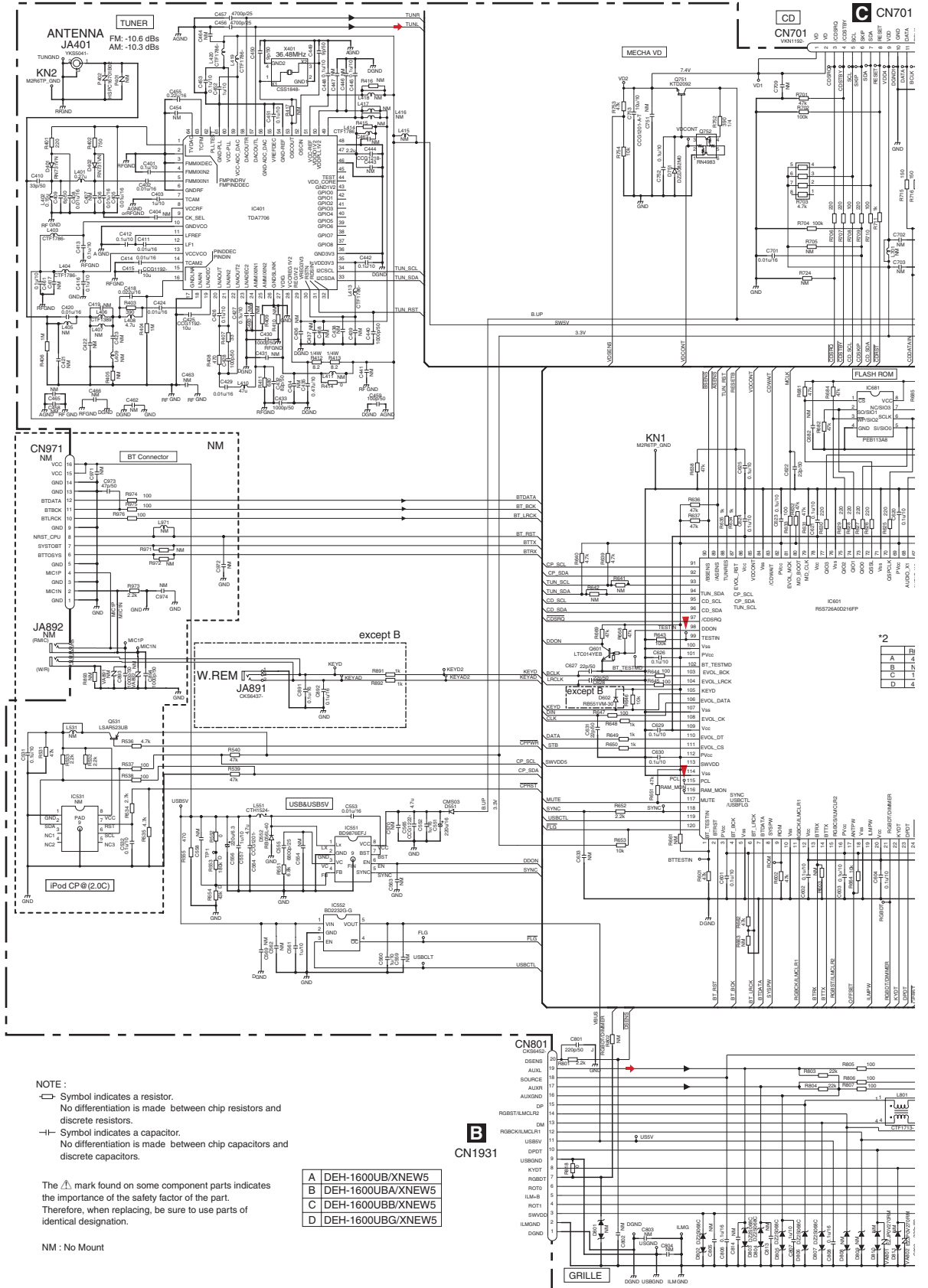
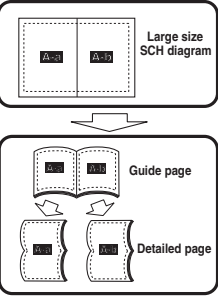
<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>	
1			50	Damper	CNW1198	
2	Screw	BSZ20P040FTC	51	Arm	CNW1726	A
3	Screw(M2 x 4)	CBA1835	52	Motor Unit(M2)(LOAD/CRG)	CXC4026	
4	Washer	CBF1038	53	Screw Unit	CXC8894	
5	Spring	CBH3010	54	Arm Assy	CXE6232	
6	Spring	CBH2855	55	Washer	CBF1037	
7	Spring	CBH2856				
8	Spring	CBH2860	56	Washer	CBF1038	
9	Screw	BSZ26P060FTC	57	Arm	CND6242	
10	Spring	CBH3011	58	Collar	CNW2444	
11	Coil Spring	CBH3095	59	Roller	CNW2500	
12	Spring	CBH3014	60	Gear Unit	CXE6225	B
13	Spring	CBH3015	61	Washer	YE15FTC	
14	Spring	CBH3016	62	Chassis Unit	CXE4528	
15	Spring	CBH3017	63	Motor Unit(M1)(SPDL)	CXE2273	
16	Spring	CBH3086	64	Screw	JFZ20P025FTC	
17	Spring	CBH3019	65	Screw	JGZ17P022FTC	
18			66	Screw	EBA1028	
19	Leaf Spring	CBL1824	67	CD Core Unit (S11.6VA)	CWX4269	
20	PU Unit(P11)(Service)	CXX4754	68	Chassis	CNA3181	C
21	Bracket	CND4553				
22	Arm	CND6406				
23	Bracket	CND6127				
24	Bracket	CND5710				
25	Lever	CND5398				
26	Sheet	CNN3678				
27	Rack	CNV8342				
28	Guide	CNW2240				
29	Roller	CNW1172				D
30						
31	Arm	CNW2241				
32	Roller	CNW1175				
33						
34	Arm	CNW1177				
35	Arm	CNW1178				
36	Gear	CNW1180				
37	Gear	CNW1181				
38						E
39	Gear	CNW1183				
40	Rack	CNW1184				
41	Gear	CNW1185				
42	Gear	CNW1186				
43	Gear	CNW1187				
44	Gear	CNW2287				
45	Clamper	CNW1190				
46	Arm	CNW1192				
47	Holder	CNW1193				F
48	Holder	CNW1194				
49	Damper	CNW1197				

10. SCHEMATIC DIAGRAM

10.1 TUNER AMP UNIT (GUIDE PAGE)

Note: When ordering service parts, be sure to refer to "EXPLODED VIEWS AND PARTS LIST" or "ELECTRICAL PARTS LIST".

A-a



NOTE :
 □ Symbol indicates a resistor.
 No differentiation is made between chip resistors and discrete resistors.
 □ Symbol indicates a capacitor.
 No differentiation is made between chip capacitors and discrete capacitors.

The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

NM : No Mount

A	DEH-1600UB/XNEW5
B	DEH-1600UBA/XNEW5
C	DEH-1600UBB/XNEW5
D	DEH-1600UBG/XNEW5

B CN1931

A

DEH-1600UB/XNEW5

A TUNER AMP UNIT

FM: -1.7 dBs
AM: -1.4 dBs
AUX: +9.1 dBs
CD: +9.3 dBs
USB: +9.3 dBs

REFERENCE AREA MAP	
EVOL	201 - 250
RCA	251 - 300
AMP	301 - 400
TUNER	401 - 470
IPd CP	531 - 550
USB&USBV	551 - 600
UCOM	601 - 670
RESET	671 - 680
FLASH ROM	681 - 690
DSENS	691 - 700
CD MECHA	701 - 750
W.REM&MC	891 - 900
IC REG	901 - 910
ASENS	941 - 950
TELIN	951 - 960
B.REM&S	961 - 970
A.ANT	971 - 990

FM: -1.7 dBs
AM: -1.4 dBs
AUX: +9.1 dBs
CD: +9.3 dBs
USB: +9.3 dBs

RCA
RL
RR
FL
FR

Set back chart

3.0A
CEK7386

100p50

22K

100p50

22K

100p50

22K

100p50

22K

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22K

100p50

22K

100p50

22K

100p50

22K

100p50

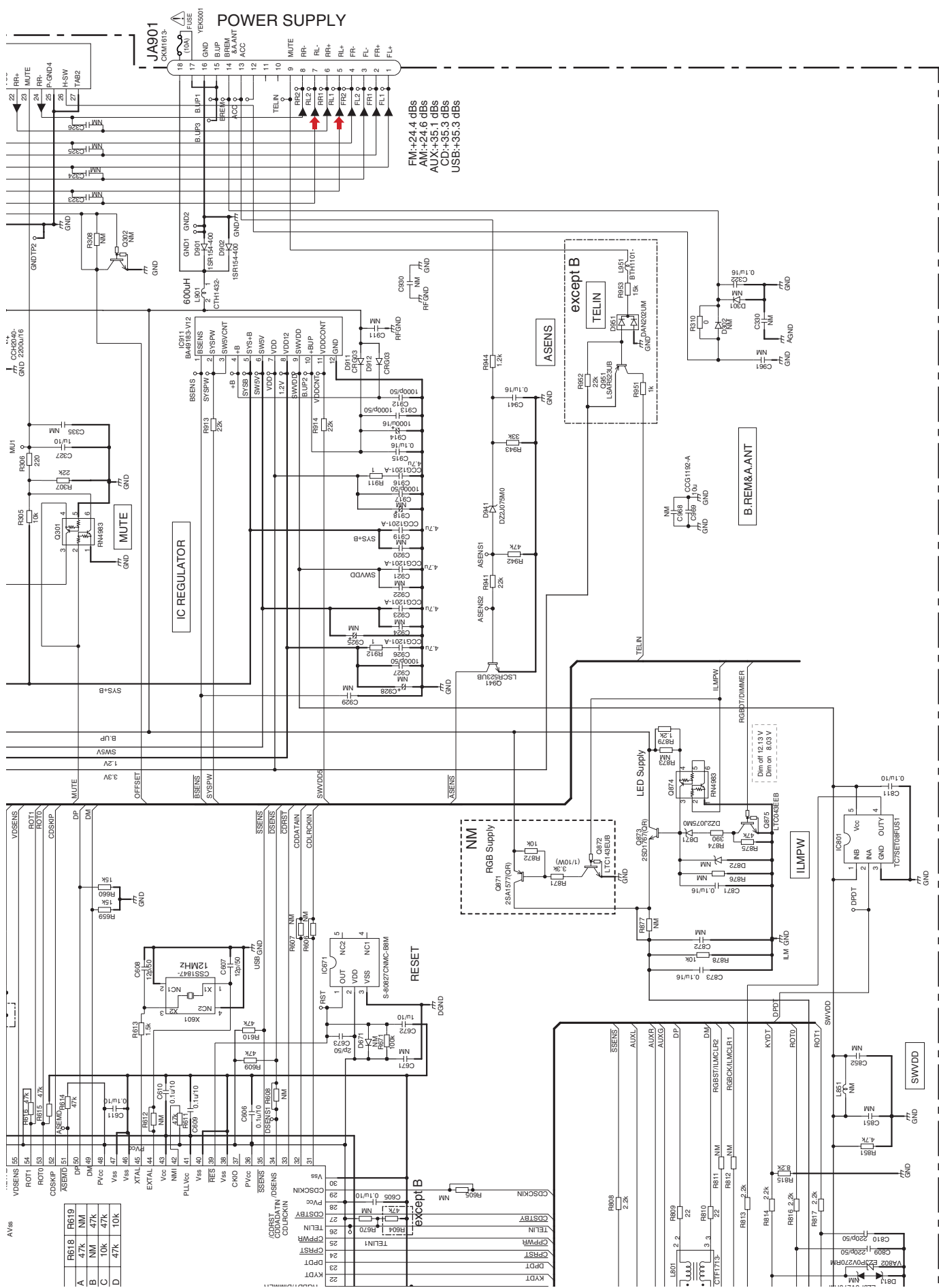
22K

100p50

22K

J701

DEH-1600UB/XNEW5



	A	B	C	D
R618	47K	47K	47K	47K
R619	10K	10K	10K	10K

DEH-1600UB/XNEW5

A-b

A-a

A
B
C
D
E
F

5

6

7

8

5

6

7

8

1

2

3

4

1

2

3

4

A-b

A

B

C

D

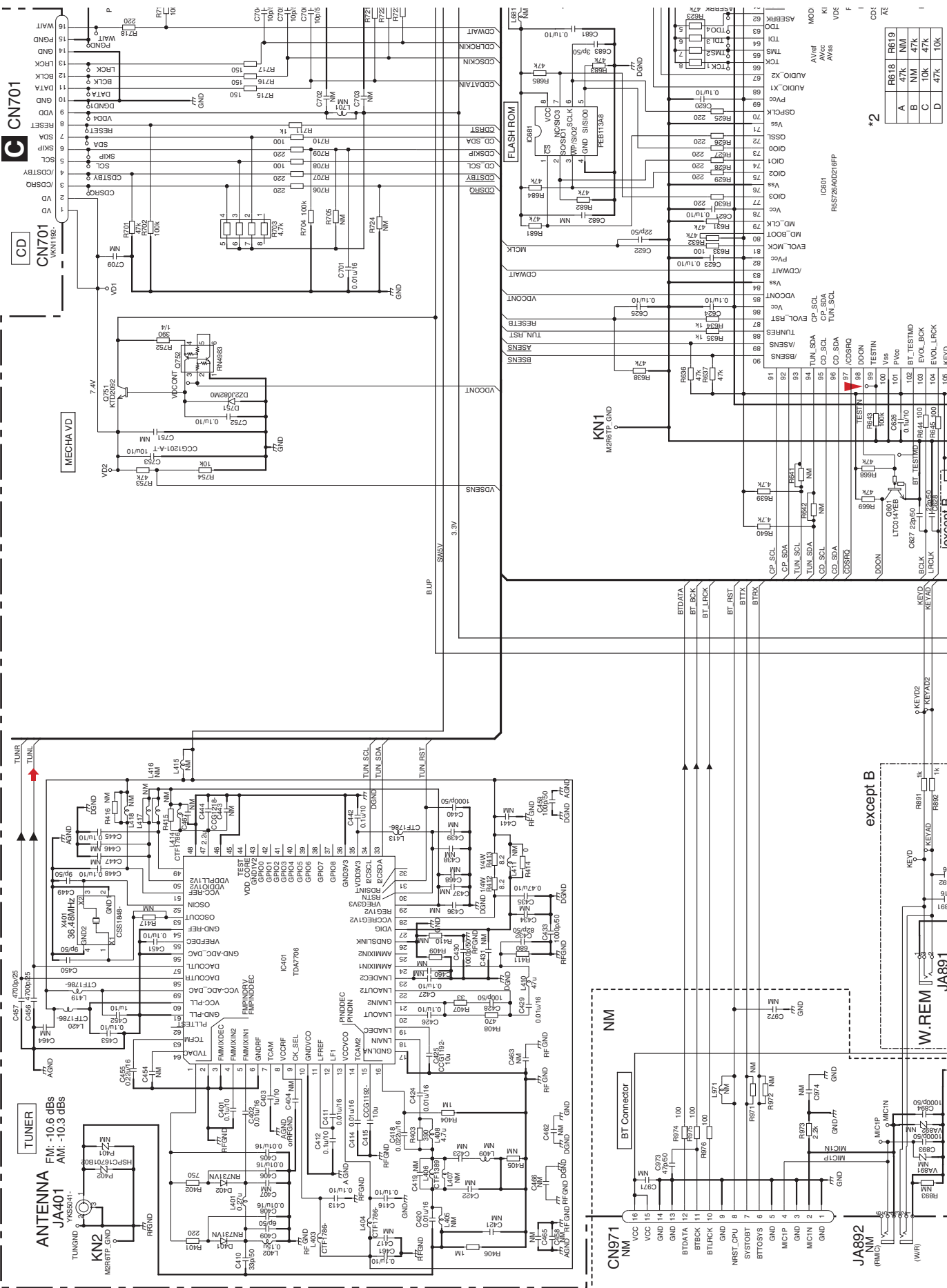
E

F

A-a

A-a

DEH-1600UB/XNEW5



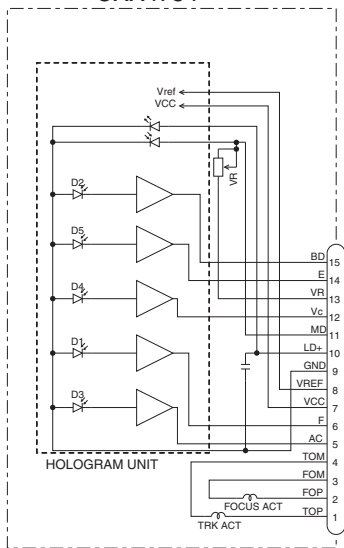
DEH-1600UB/XNEW5





10.3 CD CORE UNIT (S11.6VA)

PU UNIT(P11)(SERVICE)
CXX4754



F.ACT: Applying positive voltage to FOP,
the lens approaches DISC.
T.ACT: Applying positive voltage to TOP,
the lens moves outer circumference of DISC.

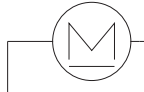
CN101
CKS4808-A

Land for manual soldering

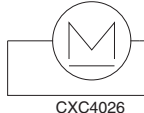
1608:PARTS
C205 C209 C238
C307 C308
C708
R101 R102 R103
R246
2125:PARTS
C104

Parts with Polarity
IC201 IC301
D101
Q101 Q102 Q201
C301

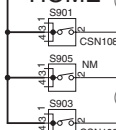
M1
SPDL MOTOR
CXE2273



M2
LOAD/CRG MOTOR
CXC4026



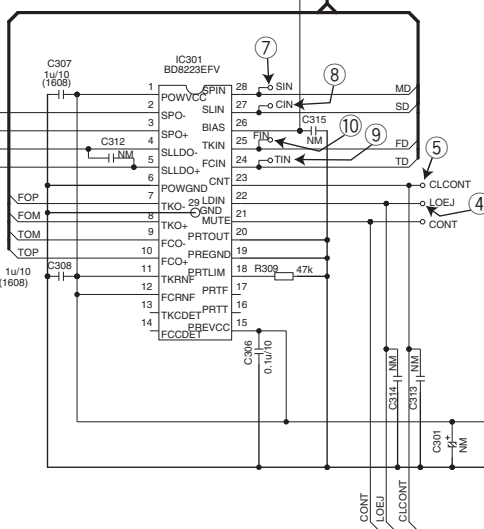
HOME



DSCSNS

SWITCHES:
CD CORE UNIT(S11.6VA)
S901:HOME SWITCH.....ON-OFF
S903:DSCSNS SWITCH.....ON-OFF

The underlined indicates the switch position.

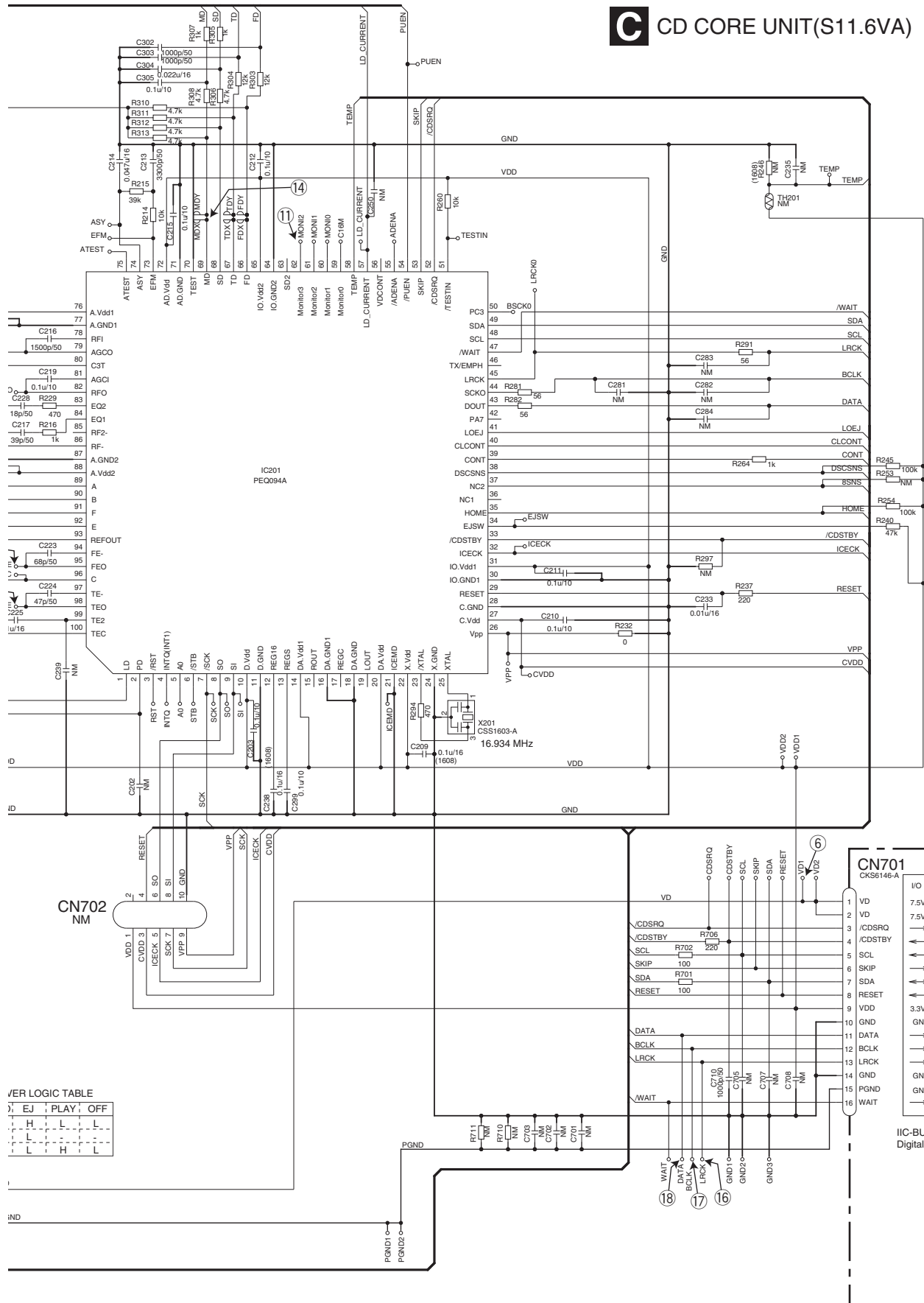


MOTOR DRIVER LOGIC TABLE

	LOAD	EJ	PLAY	OFF
CLCONT	H	H	L	L
LOEJ	H	L	H	L
CONT	L	L	H	L

CN702
NM

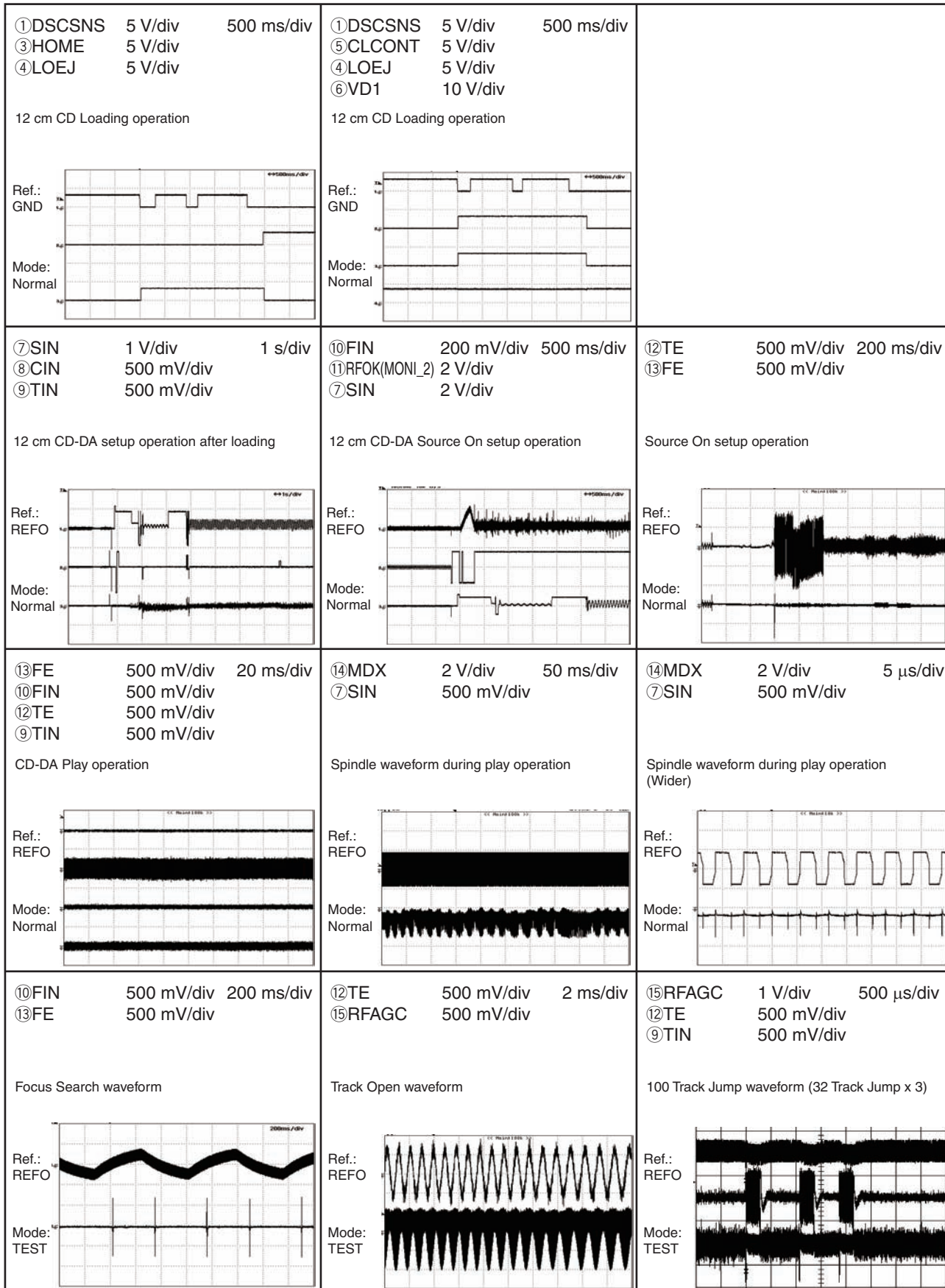
C CD CORE UNIT(S11.6VA)

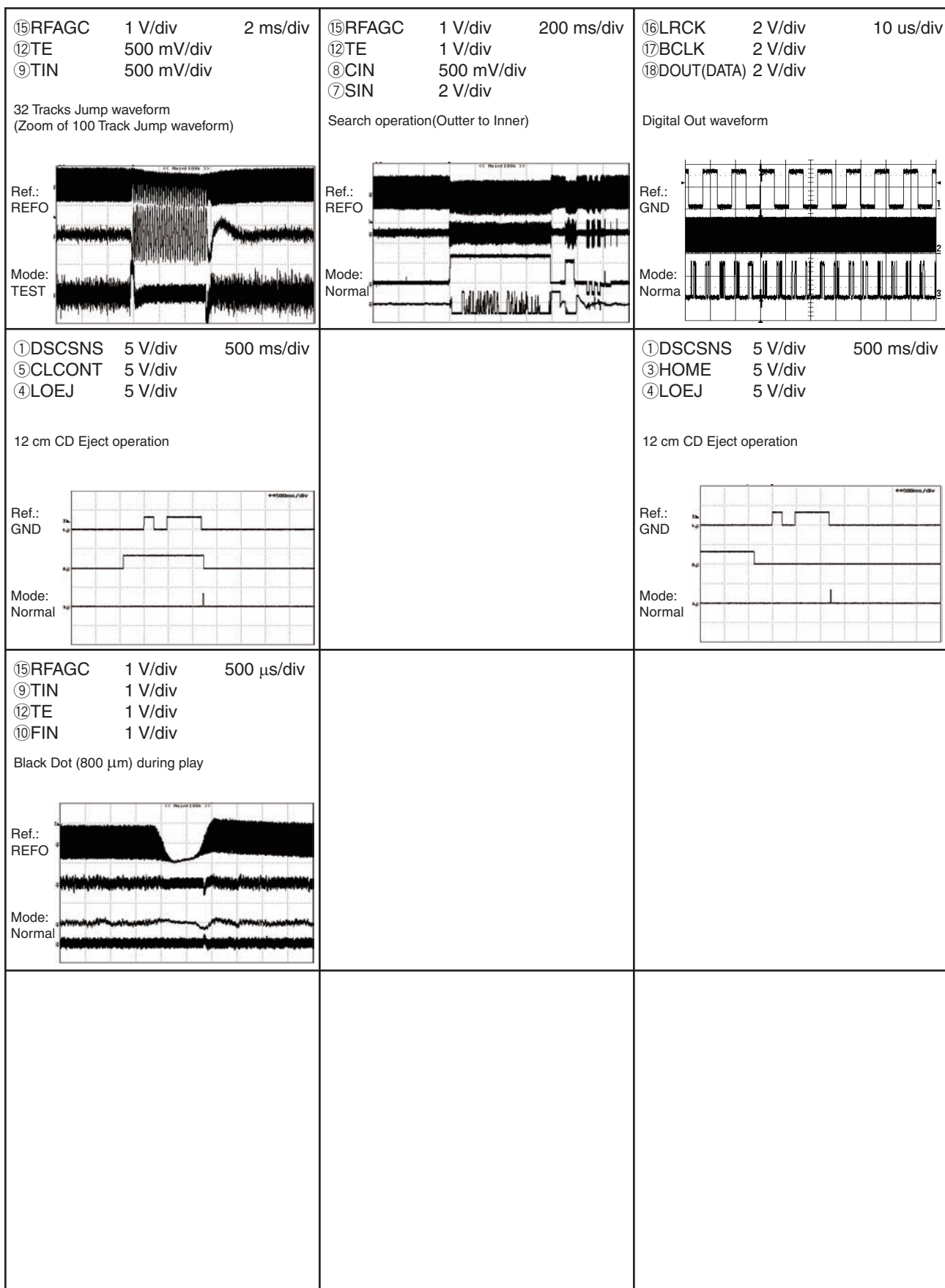


10.4 WAVEFORMS

● CD CORE UNIT(S11.6VA)

Note : 1. The encircled numbers denote measuring points in the circuit diagram.
2. Reference voltage REFO1(1.65 V)





11. PCB CONNECTION DIAGRAM

11.1 TUNER AMP UNIT

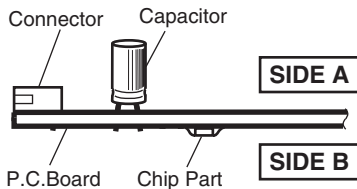
A

NOTE FOR PCB DIAGRAMS

1. The parts mounted on this PCB include all necessary parts for several destination.

For further information for respective destinations, be sure to check with the schematic diagram.

2. Viewpoint of PCB diagrams



B

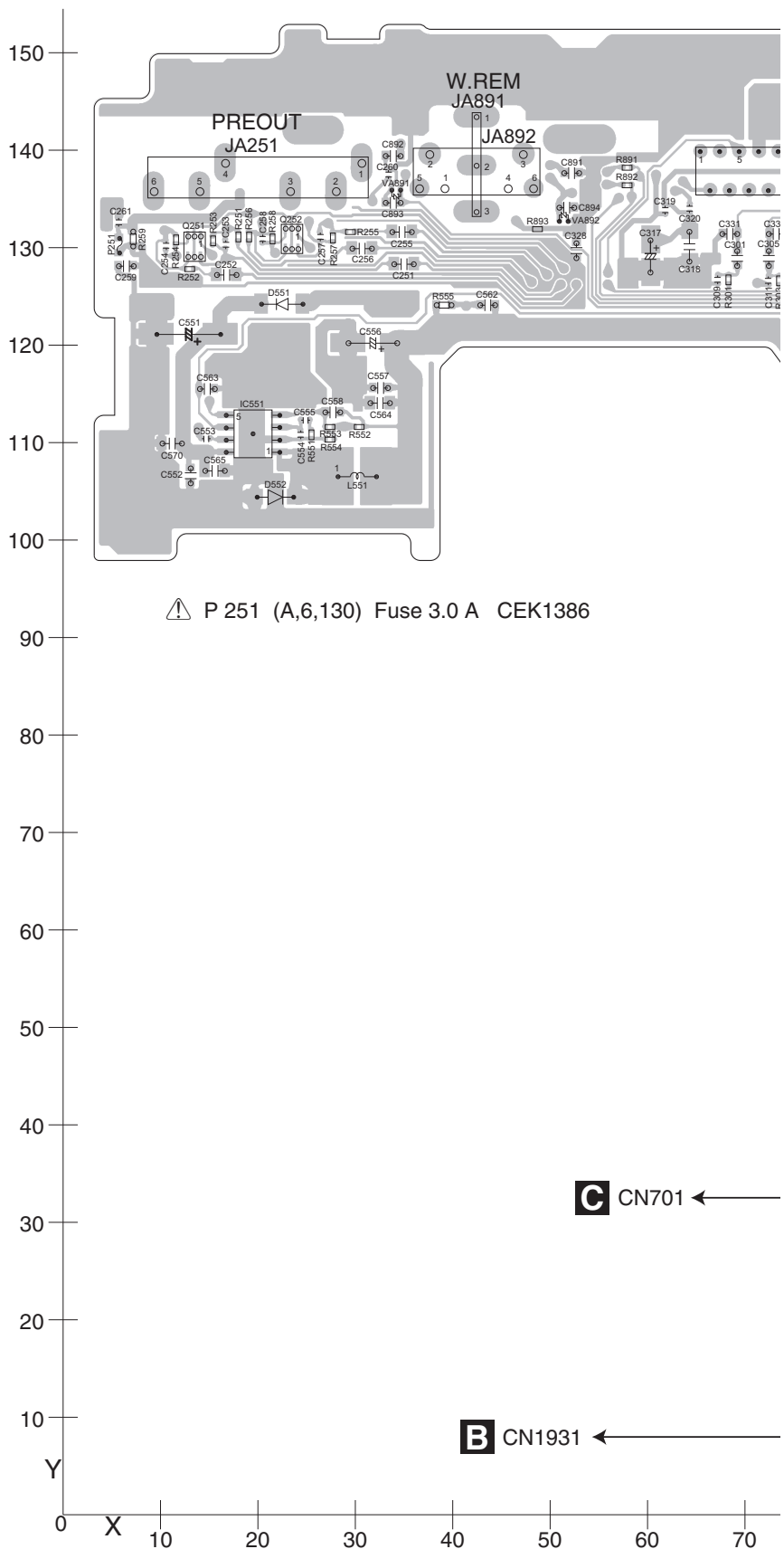
C

D

E

F

A TUNER AMP UNIT



A

SIDE A

A

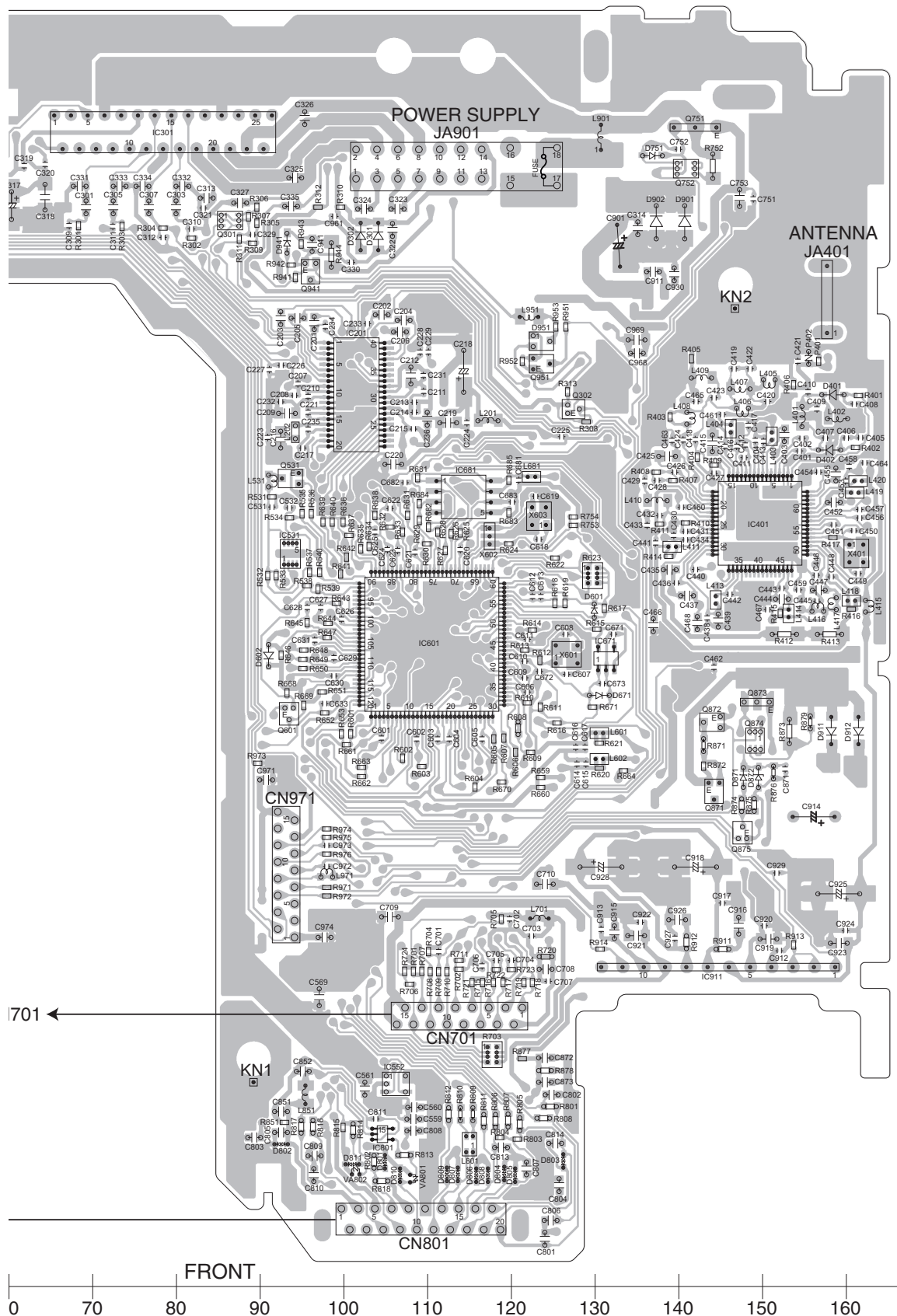
B

C

D

E

F



1

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4

A TUNER AMP UNIT

A

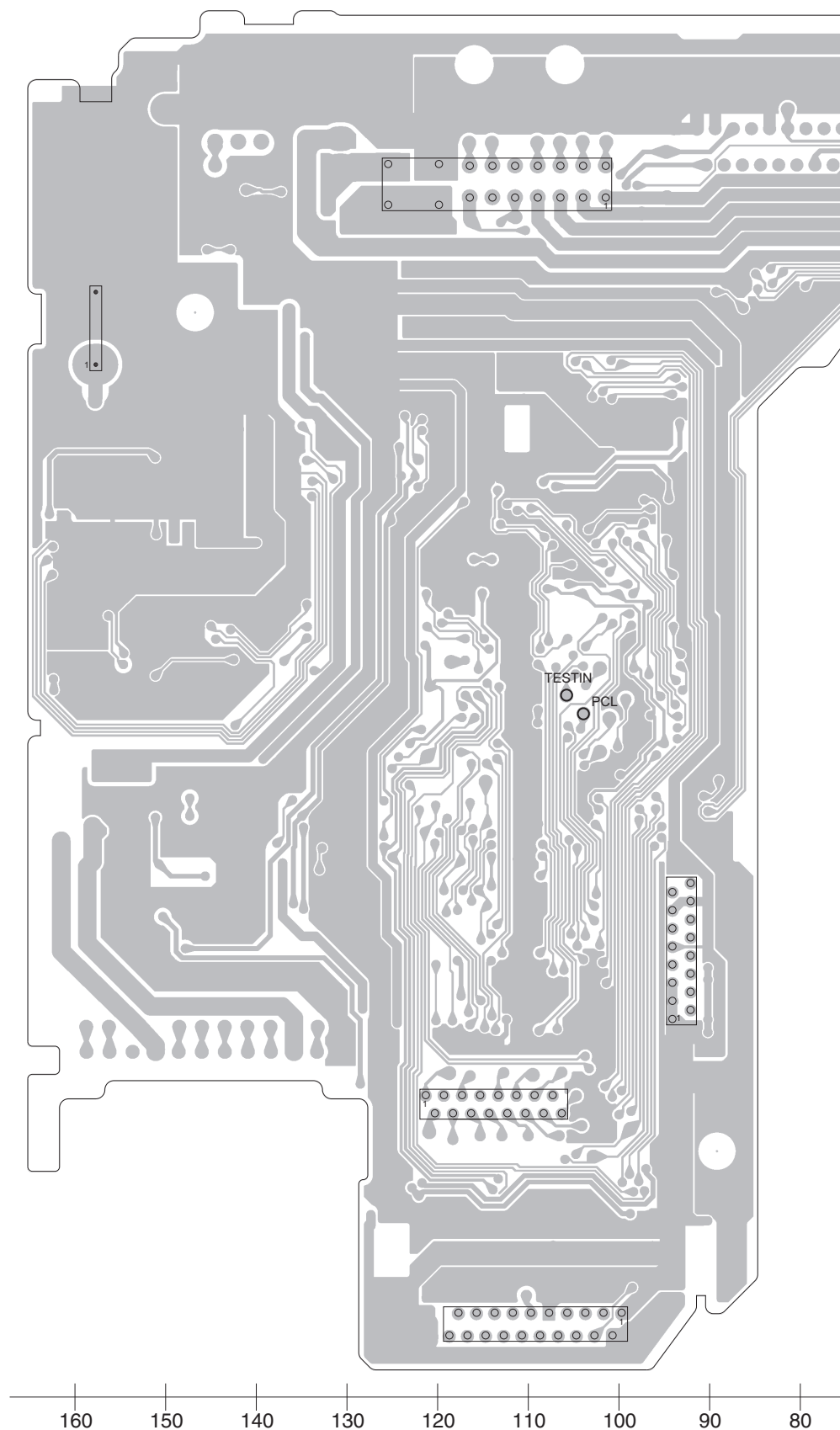
B

C

D

E

F



A

DEH-1600UB/XNEW5

1

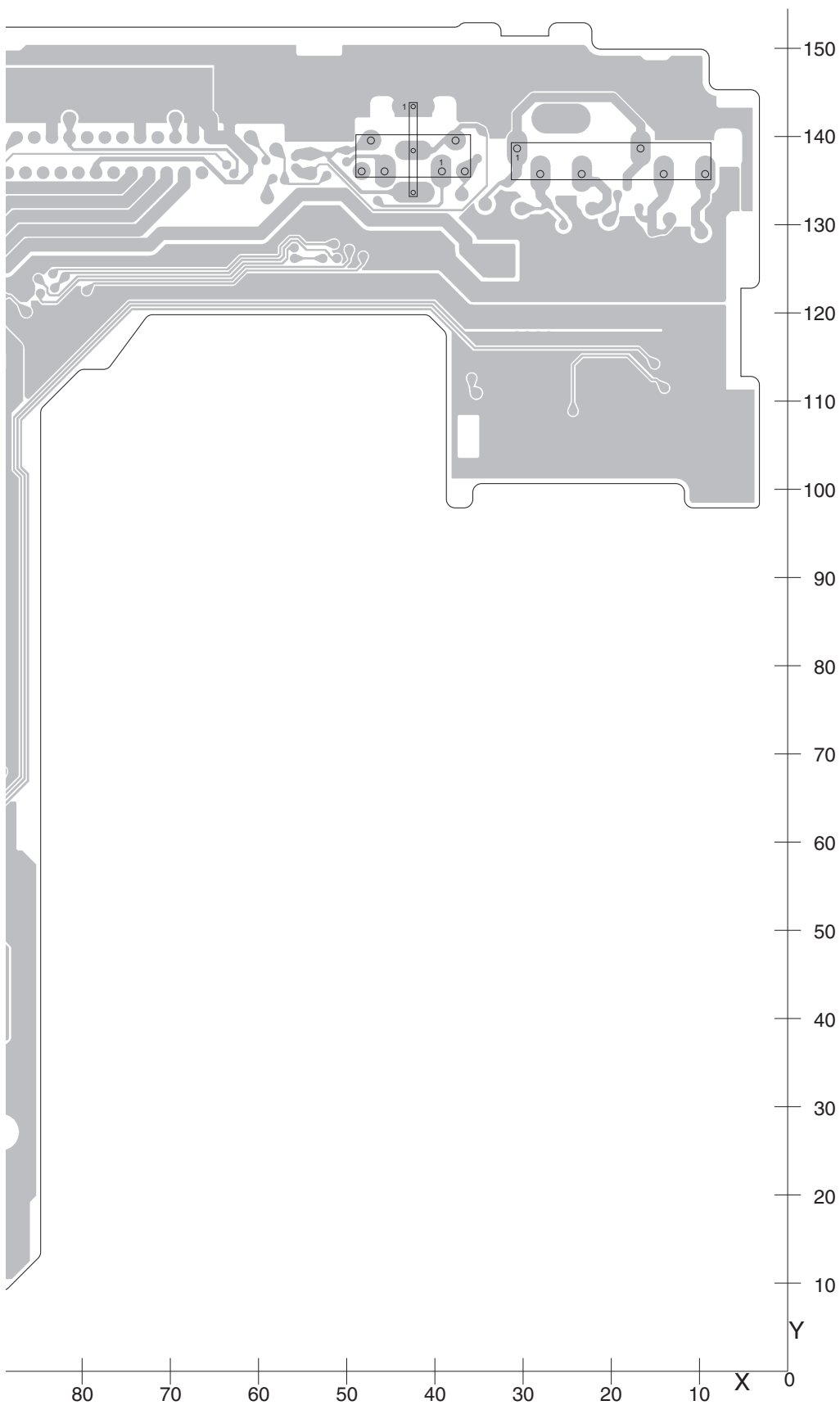
2

3

4

SIDE B

A



B

C

D

E

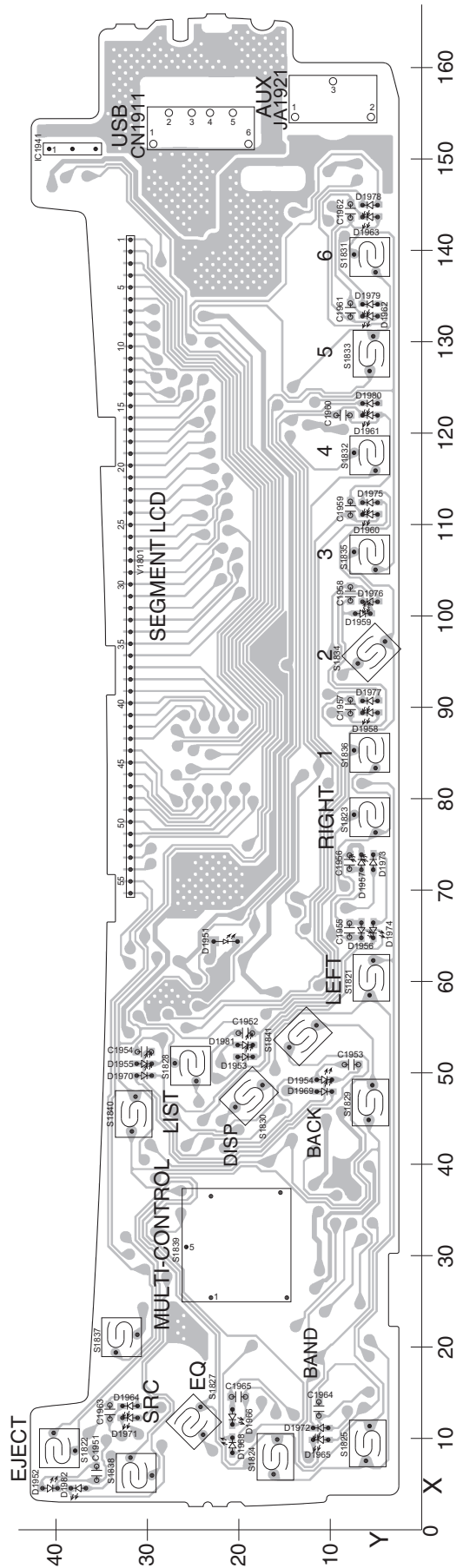
F

A

11.2 KEYBOARD UNIT

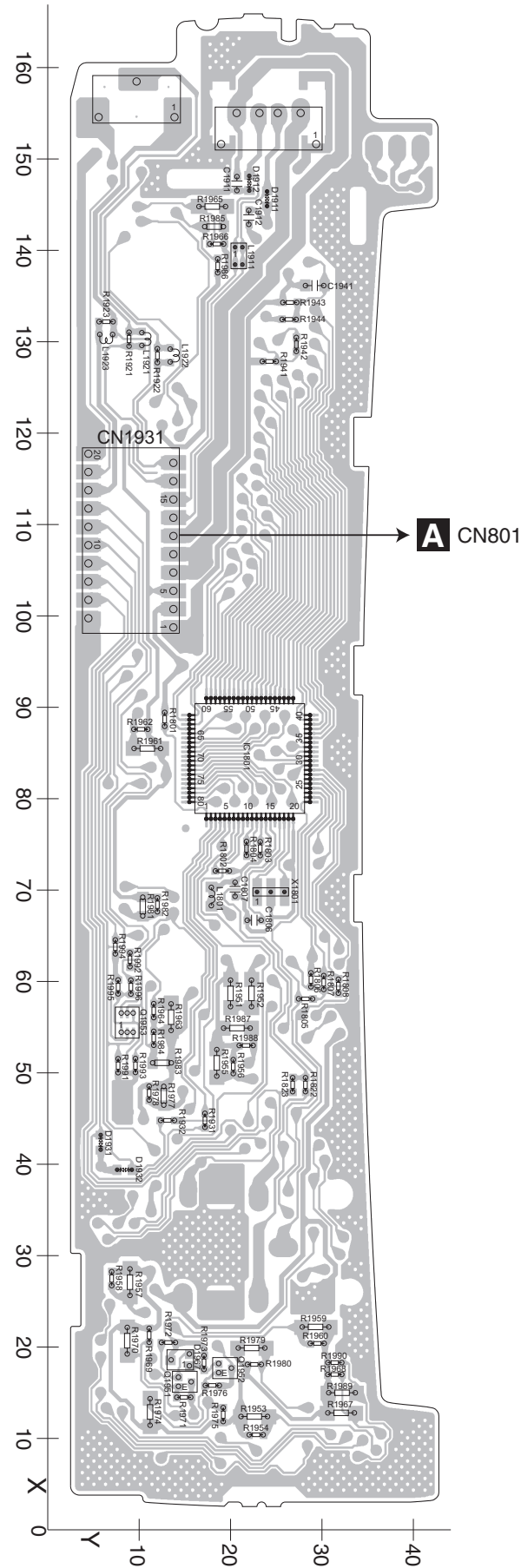
B KEYBOARD UNIT

SIDE A



B KEYBOARD UNIT

SIDE B



■

5

■

6

■

7

■

8

■

A

■

B

■

C

■

D

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E

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F

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■

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■

8

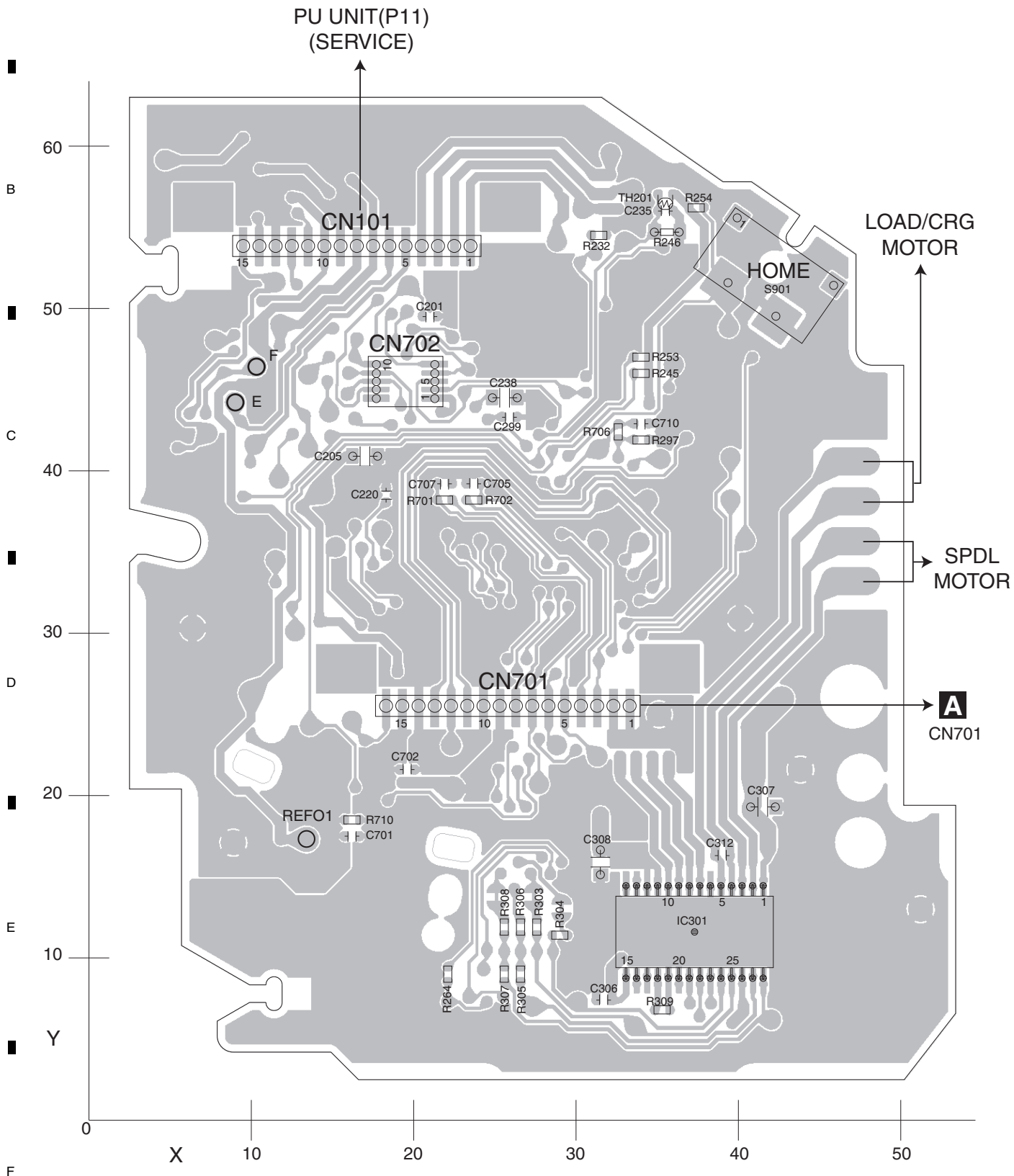
■

11.3 CD CORE UNIT (S11.6VA)

C CD CORE UNIT(S11.6VA)

SIDE A

A



C

DEH-1600UB/XNEW5

12. ELECTRICAL PARTS LIST

NOTE:

- Parts whose parts numbers are omitted are subject to being not supplied.
- The part numbers shown below indicate chip components.

Chip Resistor

RS1/○○○○○J, RS1/○○○○○J

Chip Capacitor (except for CQS.....)

CKS....., CCS....., CSZS.....

- The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Meaning of the figures and others in the parentheses in the parts list.

Example) IC 301 is on the point (face A, 91 of x-axis, and 111 of y-axis) of the corresponding PC board.

IC 301 (A, 91, 111) IC NJM2068V

- The expression of the unit in this manual is shown by u instead of μ . Please do not make a mistake.

	<u>Circuit Symbol and No.</u>	<u>Part No.</u>	<u>Circuit Symbol and No.</u>	<u>Part No.</u>
A	A:DEH-1600UB/XNEW5		IC 552 (A,106,24) IC	BD2232G-G
	B:DEH-1600UBA/XNEW5		IC 601 (A,111,77) IC	R5S726A0D216FP
	C:DEH-1600UBB/XNEW5		IC 671 (A,131,75) IC	S-80827CNMC-B8M
C	D:DEH-1600UBG/XNEW5		IC 681 (A,114,94) Flash ROM Unit	PEB113A8
	Unit Number: QWM3651(A)		IC 801 (A,105,18) L-MOS And Gate	TC7SET08FUS1
	Unit Number: QWM3654(B)		IC 911 (A,145,28) Regulator IC	BA49183-V12
	Unit Number: QWM3653(C)		Q 252 (A,24,131) Chip Transistor	RN1910
	Unit Number: QWM3652(D)		Q 301 (A,86,127) Chip Transistor	RN4983
	Unit Name : Tuner Amp Unit		Q 601 (A,93,68) Transistor	LTC014YEB
	Unit Number: (A)		Q 751 (A,142,139) Transistor	KTD2092
D	Unit Number: (B)		Q 752 (A,141,134) Chip Transistor	RN4983
	Unit Number: (C)		Q 873 (A,149,72) Transistor	2SD1767
	Unit Number: (D)		Q 874 (A,149,65) Chip Transistor	RN4983
	Unit Name : Keyboard Unit		Q 875 (A,148,54) Transistor	LTC043EEB
	Unit Number: CWX4269		Q 941 (A,96,121) Transistor	LSCR523UB
	Unit Name : CD Core Unit(S11.6VA)		Q 951 (A,124,110) Transistor(A,C,D)	LSAR523UB
			D 401 (A,158,107) Diode	RN731VN
			D 402 (A,158,100) Diode	RN731VN
			D 551 (A,23,124) Diode	CMS03
			D 552 (A,22,104) Diode	RB056L-40
			D 601 (A,130,81) Diode(A,C,D)	RB751SM-40
			D 602 (A,91,75) Diode(A,C,D)	RB551VM-30
			D 751 (A,137,135) Diode	DZ2J082M0
			D 802 (A,93,17) Diode	DZ2S068C
			D 803 (A,126,15) Diode	DZ2S068C
			D 804 (A,119,14) Diode	DZ2S068C
E	A		D 805 (A,120,13) Diode	DZ2S068C
	Unit Number: QWM3651(A)		D 806 (A,116,13) Diode	DZ2S068C
	Unit Number: QWM3654(B)		D 807 (A,114,13) Diode	DZ2S068C
	Unit Number: QWM3653(C)		D 871 (A,148,61) Diode	DZ2J075M0
	Unit Number: QWM3652(D)		D 901 (A,141,127) Diode	1SR154-400
	Unit Name : Tuner Amp Unit		D 902 (A,137,127) Diode	1SR154-400
			D 911 (A,158,66) Diode	CRG03
			D 912 (A,161,66) Diode	CRG03
			D 941 (A,93,125) Diode	DZ2J075M0
			D 951 (A,124,113) Diode(A,C,D)	DAN202UM
F	IC 201 (A,102,107) LSI	PM9013A	L 202 (A,94,102) Inductor	CTF1793
	IC 301 (A,78,142) IC	PAL012A	L 401 (A,155,104) Chip Coil	LCTAWR27J2520
	IC 401 (A,150,91) IC	TDA7706	L 402 (A,159,104) Chip Coil	LCTAWR15J2520
	IC 551 (A,20,111) Regulator IC	BD9876EFJ	L 403 (A,151,102) Inductor	CTF1786

5		6		7		8	
<u>Circuit Symbol and No.</u>		<u>Part No.</u>		<u>Circuit Symbol and No.</u>		<u>Part No.</u>	
L 404	(A,146,102) Inductor	CTF1786		R 555	(A,39,124)	RS1/10SR471J	
L 406	(A,148,105) Inductor	CTF1389		R 601	(A,101,66)	RS1/16SS473J	
L 408	(A,141,104) Inductor	LCTC4R7K1608		R 602	(A,107,63)	RS1/16SS473J	
L 410	(A,137,94) Chip Coil	LCTAW470J2520		R 604	(A,116,60) (A,C,D)	RS1/16SS473J	A
L 413	(A,144,82) Inductor	CTF1786		R 609	(A,122,64)	RS1/16SS473J	
L 414	(A,153,80) Inductor	CTF1786		R 610	(A,122,70)	RS1/16SS473J	
L 419	(A,161,95) Inductor	CTF1786		R 611	(A,123,69)	RS1/16SS473J	
L 420	(A,161,96) Inductor	CTF1786		R 613	(A,122,76)	RS1/16SS152J	
L 551	(A,30,107) Inductor	CTH1524		R 614	(A,123,78)	RS1/16SS473J	
L 801	(A,115,17) Inductor	CTF1713		R 615	(A,130,79)	RS1/16SS473J	
L 901	(A,112,141) Choke Coil 600 uH	CTH1432		R 616	(A,125,67)	RS1/16SS473J	
L 951	(A,122,116) Chip Coil(A,C,D)	BTH1101		R 617	(A,131,81)	RS1/16SS103J	
X 401	(A,161,88) Crystal Resonator 36.48 MHz	CSS1848		R 618	(A,125,82) (A,D)	RS1/16SS473J	
X 601	(A,127,76) Crystal Resonator 12 MHz	CSS1847			(A,125,82) (C)	RS1/16SS103J	
X 602	(A,117,90) Ceramic Resonator 16.934 MHz	CSS1603		R 619	(A,126,82) (B,C)	RS1/16SS473J	B
⚠ P251	(A,6,130) Fuse 3.0 A	CEK1386			(A,126,82) (D)	RS1/16SS103J	
				R 622	(A,125,87)	RS1/16SS473J	
P 402	(A,156,111) Surge Absorber	HSPC16701B02		R 623	(A,130,85)	RAB4CQ473J	
VA801	(A,108,13) SMD Varistor	MLV0402ES012V0010N		R 625	(A,114,90)	RS1/16SS221J	
VA802	(A,101,13) SMD Varistor	MLV0402ES012V0010N		R 626	(A,113,90)	RS1/16SS221J	
CN701	(A,114,32) Connector	VKN1192		R 627	(A,112,88)	RS1/16SS221J	
CN801	(A,109,4) Connector	CKS6452		R 628	(A,111,90)	RS1/16SS221J	
JA251	(A,19,138) Pin Jack	CKB1056		R 629	(A,109,92)	RS1/16SS221J	
JA401	(A,158,129) Antenna Jack	YKS5041		R 630	(A,110,89)	RS1/16SS221J	
JA891	(A,42,138) Jack(A,C,D)	CKS6437		R 631	(A,108,92)	RS1/16SS473J	
JA901	(A,114,141) Connector	CKM1613		R 632	(A,106,91)	RS1/16SS473J	C
⚠	Fuse (10 A)	YEK5001		R 633	(A,107,90)	RS1/16SS101J	
RESISTORS				R 634	(A,103,88)	RS1/16SS102J	
R 255	(A,30,132)	RS1/16SS821J		R 635	(A,102,88)	RS1/16SS102J	
R 256	(A,19,131)	RS1/16SS821J		R 636	(A,100,91)	RS1/16SS473J	
R 257	(A,28,131)	RS1/16SS223J		R 637	(A,101,90)	RS1/16SS473J	
R 258	(A,22,131)	RS1/16SS223J		R 638	(A,104,92)	RS1/16SS473J	
R 301	(A,68,127)	RS1/16SS471J		R 639	(A,98,91)	RS1/16SS472J	
R 302	(A,82,125)	RS1/16SS471J		R 640	(A,99,91)	RS1/16SS472J	
R 303	(A,74,127)	RS1/16SS471J		R 643	(A,99,82)	RS1/16SS104J	
R 304	(A,78,126)	RS1/16SS471J		R 644	(A,98,79)	RS1/16SS101J	
R 305	(A,90,127)	RS1/16SS103J		R 645	(A,96,79)	RS1/16SS101J	D
R 306	(A,90,129)	RS1/16SS221J		R 646	(A,93,75)	RS1/16SS103J	
R 307	(A,89,128)	RS1/16SS223J		R 647	(A,98,78)	RS1/16SS101J	
R 309	(A,89,125)	RS1/16SS103J		R 648	(A,95,76)	RS1/16SS102J	
R 310	(A,100,129)	RS1/16SS0R0J		R 649	(A,95,75)	RS1/16SS102J	
R 311	(A,88,125)	RS1/16SS473J		R 650	(A,95,74)	RS1/16SS102J	
R 401	(A,161,106)	RS1/16SS221J		R 651	(A,97,71)	RS1/16SS473J	
R 402	(A,161,100)	RS1/16SS751J		R 652	(A,98,69)	RS1/16SS222J	
R 403	(A,139,104)	RS1/16SS391J		R 653	(A,100,66)	RS1/16SS103J	
R 404	(A,142,99)	RS1/16SS105J		R 659	(A,124,61)	RS1/16SS153J	
R 406	(A,154,108)	RS1/16SS105J		R 660	(A,124,60)	RS1/16SS153J	
R 407	(A,139,96)	RS1/16SS330J		R 662	(A,102,61)	RS1/16SS473J	
R 408	(A,137,97)	RS1/16SS471J		R 664	(A,133,62)	RS1/16SS103J	
R 411	(A,138,91)	RS1/16SS681J		R 668	(A,93,71)	RS1/16SS473J	
R 412	(A,153,78)	RS1/4SA8R2J		R 669	(A,95,69)	RS1/16SS473J	
R 413	(A,158,78)	RS1/4SA8R2J		R 671	(A,130,69)	RS1/16SS104J	
R 414	(A,139,87)	RS1/16SS0R0J		R 681	(A,109,97)	RS1/16SS473J	
R 539	(A,97,83)	RS1/16SS473J		R 682	(A,110,91)	RS1/16SS473J	
R 540	(A,97,85)	RS1/16SS473J		R 683	(A,120,92)	RS1/16SS473J	
R 551	(A,26,111)	RS1/16SS682J		R 684	(A,109,94)	RS1/16SS473J	
R 552	(A,30,112)	RS1/16SS0R0J		R 685	(A,120,96)	RS1/16SS473J	
R 553	(A,27,112)	RS1/16SS1803D		R 701	(A,108,38)	RS1/16SS473J	F
R 554	(A,27,110)	RS1/16SS4302D		R 702	(A,114,38)	RS1/16SS104J	
				R 703	(A,118,28)	RAB4CQ472J	
				R 704	(A,110,40)	RS1/16SS104J	

1

2

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4

Circuit Symbol and No.**Part No.****Circuit Symbol and No.****Part No.**

R 706 (A,108,36) RS1/16SS221J

R 707 (A,109,38) RS1/16SS221J

R 708 (A,110,38) RS1/16SS101J

R 709 (A,111,38) RS1/16SS221J

R 710 (A,112,38) RS1/16SS101J

R 711 (A,114,39) RS1/16SS102J

R 715 (A,117,36) RS1/16SS151J

R 716 (A,118,36) RS1/16SS151J

R 717 (A,119,36) RS1/16SS151J

R 718 (A,123,36) RS1/16SS221J

R 719 (A,122,36) RS1/16SS104J

R 752 (A,144,134) RS1/4SA391J

R 753 (A,127,91) RS1/16SS473J

R 754 (A,127,92) RS1/16SS103J

R 801 (A,125,22) RS1/10SR222J

R 803 (A,121,18) RS1/16SS223J

R 804 (A,119,18) RS1/16SS223J

R 805 (A,121,19) RS1/10SR101J

R 806 (A,118,20) RS1/10SR101J

R 807 (A,120,20) RS1/10SR101J

R 808 (A,124,20) RS1/10SR222J

R 809 (A,115,21) RS1/10SR220J

R 810 (A,114,21) RS1/10SR220J

R 813 (A,107,16) RS1/10SR222J

R 814 (A,101,19) RS1/10SR222J

R 815 (A,100,19) RS1/16SS822J

R 816 (A,96,19) RS1/10SR222J

R 817 (A,95,19) RS1/10SR222J

R 818 (A,105,13) RS1/10SR0R0J

R 851 (A,93,20) RS1/16SS472J

R 874 (A,148,58) RS1/10SR391J

R 875 (A,149,58) RS1/10SR473J

R 878 (A,124,26) RS1/10SR103J

R 879 (A,156,67) RS1/10SR122J

R 891 (A,58,138) (A,C,D) RS1/16SS102J

R 892 (A,58,136) (A,C,D) RS1/16SS102J

R 911 (A,145,40) RS1/10SR1R0J

R 912 (A,141,41) RS1/10SR1R0J

R 913 (A,154,41) RS1/16SS223J

R 914 (A,131,40) RS1/16SS223J

R 941 (A,94,121) RS1/16SS223J

R 942 (A,94,122) RS1/16SS473J

R 943 (A,95,125) RS1/16SS333J

R 944 (A,99,123) RS1/4SA122J

R 951 (A,127,115) (A,C,D) RS1/16SS102J

R 952 (A,121,111) (A,C,D) RS1/16SS223J

R 953 (A,125,115) (A,C,D) RS1/16SS153J

CAPACITORS

C 201 (A,96,115) CKSRYB105K10

C 202 (A,105,116) CKSRYB105K10

C 203 (A,92,116) CKSRYB105K10

C 204 (A,107,115) CKSRYB105K10

C 205 (A,94,116) CKSRYB105K10

C 206 (A,107,114) CKSRYB105K10

C 207 (A,95,108) CKSSYB104K10

C 208 (A,94,106) CKSSYB104K10

C 209 (A,93,104) 10 uF CCG1192

C 212 (A,108,109) 10 uF CCG1192

C 213 (A,108,106)

C 214 (A,108,104)

C 215 (A,108,102)

C 216 (A,92,101) 10 uF

C 217 (A,95,100)

C 218 (A,114,109)

C 219 (A,112,103) 10 uF

C 220 (A,106,98) 10 uF

C 223 (A,91,101)

C 224 (A,115,103)

C 229 (A,110,112)

C 236 (A,110,104)

C 255 (A,35,132) 4.7 uF

C 256 (A,31,130) 4.7 uF

C 257 (A,26,131)

C 258 (A,21,131)

C 260 (A,33,138)

C 261 (A,6,133)

C 301 (A,69,129)

C 303 (A,80,129)

C 305 (A,72,129)

C 307 (A,77,129)

C 313 (A,84,130)

C 314 (A,135,126)

C 317 (A,60,129)

C 322 (A,106,126)

C 327 (A,88,129)

C 401 (A,154,100)

C 402 (A,155,101)

C 403 (A,153,102)

C 405 (A,162,101)

C 406 (A,160,101)

C 408 (A,161,105)

C 409 (A,157,105)

C 410 (A,155,107)

C 411 (A,148,99)

C 412 (A,148,101)

C 413 (A,150,101)

C 414 (A,146,100)

C 415 (A,144,101) 10 uF

C 416 (A,147,100)

C 418 (A,142,101)

C 420 (A,151,106)

C 424 (A,141,101)

C 425 (A,139,99) 10 uF

C 426 (A,140,97)

C 427 (A,144,97)

C 428 (A,137,96)

C 429 (A,136,96)

C 430 (A,139,90)

C 432 (A,138,92)

C 433 (A,136,91)

C 435 (A,139,86)

C 440 (A,142,86)

C 442 (A,146,83)

C 444 (A,152,82) 2.2 uF

C 445 (A,157,82)

C 448 (A,158,85)

C 449 (A,161,85)

C 450 (A,161,90)

CKSSYB104K10

CKSSYB104K10

CKSSYB104K10

CCG1192

CKSSYB104K10

XCEVW470M16

CCG1192

CCG1192

CKSSYB102K50

CKSSYB104K10

CKSSYB102K50

CKSRYB105K10

CCG1201

CCG1201

CCSSCH101J50

CCSSCH101J50

CKSSYB104K10

CKSSYB103K16

CKSRYB224K16

CKSRYB224K16

CKSRYB224K16

CKSRYB224K16

CKSRYB105K16

CKSRYB104K16

XCEVW100M16

CKSRYB104K16

CKSRYB105K10

CKSSYB104K10

CKSRYB103K16

CKSRYB105K10

CKSSYB103K16

CKSSYB103K16

CKSSYB103K16

CCSSCH6R0D50

CCSSCH330J50

CKSSYB103K16

CKSSYB104K10

CKSSYB104K10

CKSSYB103K16

CCG1192

CKSSYB104K10

CKSSYB223K16

CKSSYB103K16

CKSSYB103K16

CCG1192

CKSSYB104K10

CKSSYB104K10

CCSSCH101J50

CKSSYB103K16

CKSSYB102K50

CCSSCH820J50

CKSSYB102K50

CKSRYB474K10

CKSSYB102K50

CKSSYB104K10

CCG1218

CKSSYB104K10

CKSSYB104K10

CCSSCH9R0D50

CCSSCH9R0D50

Part No.

Circuit Symbol and No.**Part No.****Circuit Symbol and No.****Part No.**

D	1976	(A,112,6) LED(B)	SML-D12D8W(RS)
		(A,102,6) Red LED(A,C)	FC-1608SXXK630D08
		(A,102,6) LED(B)	SML-D12D8W(RS)
D	1977	(A,91,6) Red LED(A,C)	FC-1608SXXK630D08
		(A,91,6) LED(B)	SML-D12D8W(RS)
		(A,145,6) Red LED(A,C)	FC-1608SXXK630D08
		(A,145,6) LED(B)	SML-D12D8W(RS)
D	1979	(A,134,6) Red LED(A,C)	FC-1608SXXK630D08
		(A,134,6) LED(B)	SML-D12D8W(RS)
D	1980	(A,123,6) Red LED(A,C)	FC-1608SXXK630D08
		(A,123,6) LED(B)	SML-D12D8W(RS)
		(A,53,19) Red LED(A,C)	FC-1608SXXK630D08
		(A,53,19) LED(B)	SML-D12D8W(RS)
D	1982	(A,5,38) Red LED(A,C)	FC-1608SXXK630D08
		(A,5,38) LED(B)	SML-D12D8W(RS)
		(B,130,10) Inductor	CTF1389
		(B,129,13) Inductor	CTF1389
L	1923	(B,131,6) Inductor	CTF1389
X	1801	(B,70,24) Ceramic Resonator 5.00 MHz	CSS1547
		(A,31,19) Encoder(MULTI-CONTROL)	CSD1168
		CN1911 (A,155,24) Connector	CKS6443
		CN1931 (B,108,9) Connector	CKS6451
JA	1921	(A,155,10) Jack	CKN1090

V	1801	(A,141,32) Segment LCD(A,B,D)	CAW2024
		(A,141,32) Segment LCD(C)	CAW2027

RESISTORS

R	1801	(B,89,13)	RS1/10SR473J
		(B,72,19)	RS1/10SR473J
		(B,75,23)	RS1/10SR222J
		(B,58,28)	RS1/10SR473J
R	1806	(B,60,29)	RS1/10SR473J
R	1807	(B,60,30)	RS1/10SR473J
		(B,60,32)	RS1/10SR473J
		(B,49,27)	RS1/10SR273J
		(B,45,17)	RS1/10SR222J
R	1932	(B,45,13)	RS1/10SR222J
R	1941	(B,128,24)	RS1/10SR473J
		(B,59,20)	RS1/4SA221J
		(B,59,22)	RS1/4SA221J
		(B,12,23) (D)	RS1/4SA821J
R	1955	(B,51,19) (D)	RS1/4SA821J
R	1957	(B,27,9) (D)	RS1/4SA681J
		(B,22,29) (D)	RS1/4SA681J
		(B,86,11) (D)	RS1/4SA681J
		(B,56,14) (D)	RS1/4SA681J
R	1965	(B,145,18) (D)	RS1/4SA681J
R	1967	(B,13,32) (D)	RS1/4SA561J
		(B,21,9) (D)	RS1/4SA681J
		(B,15,15) (D)	RS1/10SR0R0J
		(B,13,19) (A,C)	RS1/10SR822J
R	1975	(B,13,19) (B)	RS1/10SR472J
		(B,16,18) (A,B,C)	RS1/10SR0R0J
		(B,48,13) (B)	RS1/8SQ102J
R	1978	(B,48,11) (A,C)	RS1/10SR122J
		(B,18,23) (A,C)	RS1/10SR682J
		(B,18,23) (B)	RS1/10SR392J
		(B,68,10) (B)	RS1/8SQ122J
R	1982	(B,68,12) (A,C)	RS1/10SR222J

R	1983	(B,51,13) (B)	RS1/8SQ821J
		(B,54,12) (A,C)	RS1/10SR182J
		(B,143,18) (B)	RS1/8SQ821J
		(B,138,19) (A,C)	RS1/10SR182J
R	1987	(B,55,21) (B)	RS1/4SA122J
R	1988	(B,53,22) (A,C)	RS1/10SR182J
		(B,15,32) (B)	RS1/4SA152J
		(B,18,31) (A,C)	RS1/10SR272J
		(B,51,8) (D)	RS1/10SR0R0J
R	1996	(B,59,9) (A,B,C)	RS1/10SR0R0J

CAPACITORS

C	1806	(B,67,23)	CKSRYB104K16
		(B,70,21)	CKSRYB105K10
		(B,147,21)	CKSRYB104K16
		(B,144,22)	CKSRYB104K16

**Unit Number : CWX4269****Unit Name : CD Core Unit(S11.6VA)****MISCELLANEOUS**

IC	201	(B,24,38) IC	PEQ094A
		(A,37,12) IC	BD8223EFV
		(B,12,54) Transistor	2SA1577
		(B,16,55) Chip Digital Transistor	LTA123JUB
X	201	(B,25,50) Ceramic Resonator 16.934 MHz	CSS1603
S	901	(A,43,54) Spring Switch(HOME)	CSN1080
		(B,22,13) Spring Switch(DSCSNS)	CSN1081
		(A,17,58) Connector	CKS4808
		(A,26,30) Connector	CKS6146

RESISTORS

R	101	(B,7,59)	RS1/10SR2R4J
		(B,8,59)	RS1/10SR2R4J
		(B,10,59)	RS1/10SR2R7J
		(B,14,58)	RS1/16SS105J
R	109	(B,15,50)	RS1/16SS152J
R	214	(B,18,28)	RS1/16SS103J
		(B,17,28)	RS1/16SS393J
		(B,13,36)	RS1/16SS102J
		(B,10,33)	RS1/16SS562J
R	218	(B,10,36)	RS1/16SS472J
R	229	(B,13,35)	RS1/16SS471J
		(A,31,55)	RS1/16SS0R0J
		(B,34,45)	RS1/16SS221J
		(B,35,40)	RS1/16SS473J
R	245	(A,34,46)	RS1/16SS104J
R	254	(A,37,56)	RS1/16SS104J
		(B,30,27)	RS1/16SS103J
		(A,22,9)	RS1/16SS102J
		(B,34,38)	RS1/16SS560J
R	282	(B,34,39)	RS1/16SS560J
R	291	(B,34,35)	RS1/16SS560J
		(B,28,49)	RS1/16SS471J
		(A,28,12)	RS1/16SS123J
		(A,29,11)	RS1/16SS123J
R	305	(A,27,9)	RS1/16SS102J

5		6	7	8
<u>Circuit Symbol and No.</u>		<u>Part No.</u>		
R 306	(A,27,12)	RS1/16SS472J		
R 307	(A,26,9)	RS1/16SS102J		
R 308	(A,26,12)	RS1/16SS472J		
R 309	(A,35,7)	RS1/16SS473J		
R 310	(B,31,9)	RS1/16SS472J		A
R 311	(B,31,10)	RS1/16SS472J		
R 312	(B,31,11)	RS1/16SS472J		
R 313	(B,31,12)	RS1/16SS472J		
R 701	(A,22,38)	RS1/16SS101J		
R 702	(A,24,38)	RS1/16SS101J		
R 706	(A,33,42)	RS1/16SS221J		

CAPACITORS

C 104	(B,15,52)	CKSQYB475K6R3		B
C 110	(B,11,44)	CKSSYB104K10		
C 111	(B,12,44)	CKSSYB103K16		
C 203	(B,22,47)	CKSSYB104K10		
C 205	(A,17,41)	CKSRYB105K10		
C 209	(B,29,48)	CKSRYB104K16		
C 210	(B,33,44)	CKSSYB104K10		
C 211	(B,34,42)	CKSSYB104K10		
C 212	(B,23,29)	CKSSYB104K10		
C 213	(B,18,26)	CKSSYB332K50		
C 214	(B,17,26)	CKSSYB473K16		
C 215	(B,19,29)	CKSSYB104K10		C
C 216	(B,13,33)	CKSSYB152K50		
C 217	(B,10,35)	CCSSCH390J50		
C 218	(B,10,37)	CCSSCH5R0C50		
C 219	(B,14,35)	CKSSYB104K10		
C 220	(A,18,39)	CKSSYB104K10		
C 221	(B,14,32)	CKSSYB104K10		
C 222	(B,14,37)	CKSSYB104K10		
C 223	(B,13,42)	CCSSCH680J50		
C 224	(B,14,45)	CCSSCH470J50		
C 225	(B,14,47)	CKSSYB103K16		
C 228	(B,10,34)	CCSSCH180J50		D
C 229	(B,9,41)	CKSSYB104K10		
C 233	(B,33,46)	CKSSYB103K16		
C 236	(B,8,41)	CKSSYB104K10		
C 238	(A,26,45)	CKSRYB104K16		
C 299	(A,26,43)	CKSSYB104K10		
C 302	(B,29,12)	CKSSYB102K50		
C 303	(B,30,12)	CKSSYB102K50		
C 304	(B,28,12)	CKSSYB223K16		
C 305	(B,27,12)	CKSSYB104K10		
C 306	(A,32,7)	CKSSYB104K10		
C 307	(A,42,19)	CKSRYB105K10		E
C 308	(A,32,16)	CKSRYB105K10		
C 710	(A,34,43)	CKSSYB102K50		