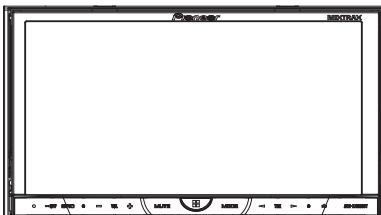


**Pioneer**

# **Service Manual**



ORDER NO.  
**CRT5254**

DVD RDS AV RECEIVER

**AVH-X4500BT** /XNUC  
**AVH-X4500DVD** /XNUW5  
**AVH-X4550DVD** /XNRC  
**AVH-X4550DVD** /XNRD  
**AVH-X4550DVD** /XNRI  
**AVH-X4590DVD** /XNID

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

Model No.	Order No.	Mech.Module	Remarks
CX-3283	CRT4843	LS2	DVD Mech. Module : Circuit Descriptions, Mech. Descriptions, Disassembly



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# SAFETY INFORMATION

## A **CAUTION**

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.

## B **WARNING**

This product may contain a chemical known to the State of California to cause cancer, or birth defects or other reproductive harm.  
Health & Safety Code Section 25249.6 - Proposition 65

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:



### C **● 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.

#### D **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.**

#### E **CAUTION**

This product is a class 1 laser product classified under the Safety of laser products, IEC 60825-1:2007, and contains a class 1M laser module. To ensure continued safety, do not remove any covers or attempt to gain access to the inside of the product. Refer all servicing to qualified personnel.

**CLASS 1 LASER PRODUCT**

**CAUTION—CLASS 1M INVISIBLE LASER  
RADIATION WHEN OPEN, DO NOT VIEW  
DIRECTLY WITH OPTICAL INSTRUMENTS.**

## F **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:

DVD:660 nm to 670 nm

CD:780 nm to 800 nm

Focus lens on Maximum output:

CD:6.26 mW(Emitting period :9 sec.)

DVD:1.27 mW (Emitting period : unlimited)

**Additional Laser Caution**

Transistors Q1103 and Q1104 in PCB drive the laser diodes for DVD and CD respectively. When Q1103 or Q1104 is shorted between their terminals, the laser diodes for DVD or CD 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.

**CAUTION**

Danger of explosion if battery is incorrectly replaced.

Replaced only with the same or equivalent type recommended by the manufacturer.

Discard used batteries according to the manufacturer's instructions.

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# 1. SERVICE PRECAUTIONS

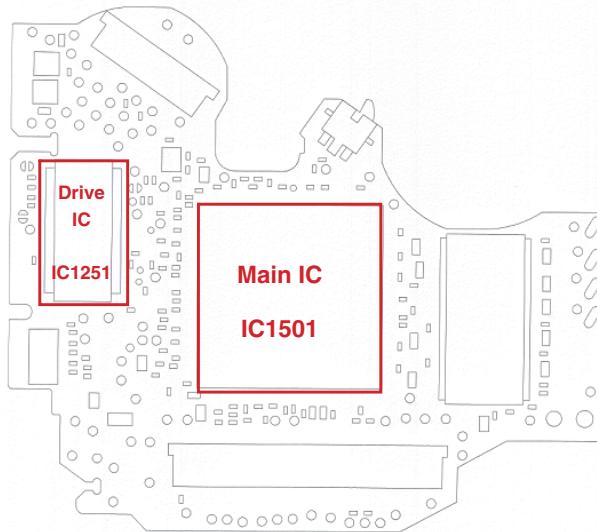
## 1.1 SERVICE PRECAUTIONS



A

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. Be careful in handling ICs. Some ICs such as MOS type are so fragile that they can be damaged by electrostatic induction.
3. Please be sure to conduct line process to original status if you make assembling after repair.
4. Please be careful of not to imply static charge onto integrated circuits, etc, when you conduct repair work. Especially, please use soldering iron with its tip grounded.  
Also, please use a pair of tweezers with static charge protection capability if there is the possibility of contacting to device terminals, and avoid the use of metal-made tweezers.
5. 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.
6. To protect the pickup unit from electrostatic discharge during servicing, take an appropriate treatment (shorting-solder) by referring to "the DISASSEMBLY".
7. Please keep the distance of more than 13 cm from focus lens for safety when you check pickup and make adjustment, and do not look straight at Laser Beam for more than 10 seconds.
8. Please power adjustment when you replaced mechanical area of DVD Mecha Module or DVD core unit.
9. Graphically-illustrated areas become hot . Be careful not to burn yourself.

B



C

10. On this mechanism, Pickup and Spindle Motor can not be replaced at the service site, because a special facility is required for the adjustment after replacing them.  
So, if Pickup or Spindle Motor is defective, replace the Mechanism Unit.
11. EJECT LOCK MODE for DVD mechanism  
In order to change the EJECT LOCK status of the mechanism, please perform following procedure.  
[FORWARD] + [EJECT] -> ACC ON

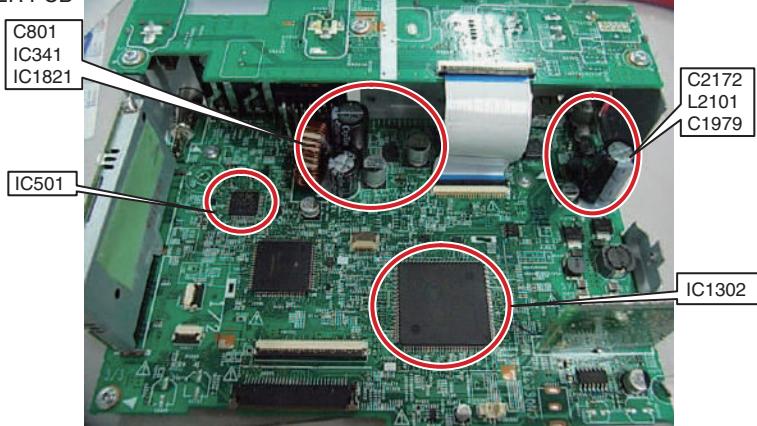
D

E

F

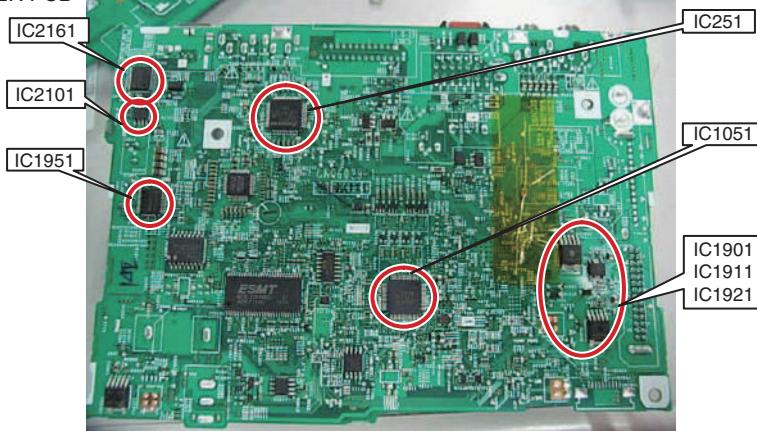
A 12.  area and a heat sink becomes hot areas. Be careful not to burn yourself.

MOTHER PCB



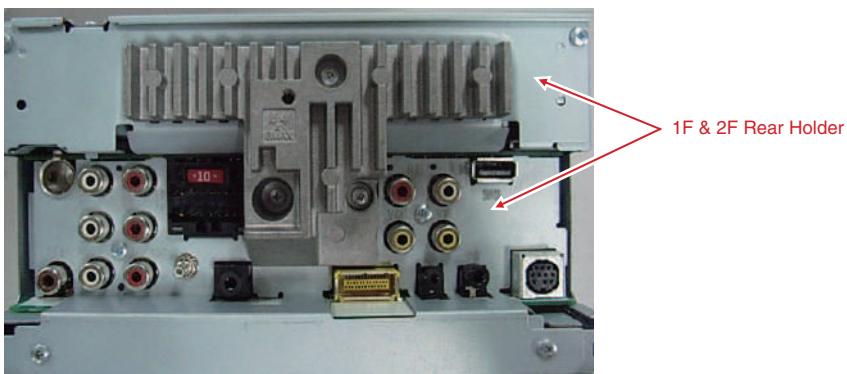
B

MOTHER PCB



C

D



E



F

## 1.2 NOTES ON SOLDERING

A

- 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).

B

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.

C

D

E

F

## 2. SPECIFICATIONS

### 2.1 SPECIFICATIONS

#### A • UC Type

##### General

Power source ..... 14.4 V DC (10.8 V to 15.1 V allowable)

Grounding system ..... Negative type

Maximum current consumption

..... 10.0 A

Backup current ..... 5 mA or less

Dimensions (W × H × D):

D

Chassis ..... 178 mm × 100 mm × 165 mm

(7 in. × 3-7/8 in. × 6-1/2 in.)

Nose ..... 171 mm × 97 mm × 18 mm

(6-3/4 in. × 3-7/8 in. × 3/4 in.)

Weight ..... 2.0 kg (4.4 lbs)

#### B ■ Display

Screen size/aspect ratio ... 6.95 inch wide/16:9  
(effective display area:

156.6 mm × 81.6 mm)

Pixels ..... 1 152 000 (2 400 × 480)

Display method ..... TFT active matrix, driving type

C Color system ..... NTSC/PAL/PAL-M/PAL-N/  
SECAM compatible

Durable temperature range (power off)  
..... -4 °F to +176 °F

#### D ■ Audio

Maximum power output ... 50 W × 4

70 W × 1/2 Ω (for subwoofer)

#### E Continuous power output

..... 22 W × 4 (50 Hz to 15 000 Hz,  
5 % THD, 4 Ω load, both channels driven)

Load impedance ..... 4 Ω (4 Ω to 8 Ω (2 Ω for 1 ch)  
allowable)

Preout maximum output level

..... 4.0 V

#### F Equalizer (8-Band Graphic Equalizer):

Frequency ..... 40 Hz/80 Hz/200 Hz/400 Hz/  
1 kHz/2.5 kHz/8 kHz/10 kHz

Gain ..... ±12 dB

#### G HPF:

Frequency ..... 50 Hz/63 Hz/80 Hz/100 Hz/  
125 Hz

Slope ..... -12 dB/oct

#### H Subwoofer (mono):

Frequency ..... 50 Hz/63 Hz/80 Hz/100 Hz/  
125 Hz

Slope ..... -18 dB/oct

Gain ..... +6 dB to -24 dB

Phase ..... Normal/Reverse

#### I Bass boost:

Gain ..... +12 dB to 0 dB

#### J DVD Player

System ..... DVD video, Video CD, CD,  
WMA, MP3, AAC, DivX, JPEG,  
MPEG player

Usable discs ..... DVD video, Video CD, CD, CD-R/RW, DVD-R/RW/R DL

Region number ..... 1

Frequency response ..... 5 Hz to 44 000 Hz (with DVD,  
at sampling frequency 96 kHz)

Signal-to-noise ratio ..... 96 dB (1 kHz) (IHF-A network)  
(RCA level)

#### K Output level:

Video ..... 1.0 Vp-p/75Ω(±0.2 V)

Number of channels ..... 2 (stereo)

MP3 decoding format ..... MPEG-1 & 2 Audio Layer 3

#### • UC Type

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

AAC decoding format ..... MPEG-4 AAC (iTunes encoded only) (.m4a)  
 (Ver. 10.6 and earlier)

JPEG:

JPEG decoding format ..... jpeg, jpg, .jpe

Pixel Sampling ..... 4:2:2, 4:2:0

Decode Size ..... MAX:8 192(H) x 7 680(W),  
 MIN:32(H) x 32(W)

DivX decoding format ..... Home Theater Ver. 3, 4, 5.2, 6  
 (Except ultra and HD) (.avi, .divx)

MPEG video decoding format ..... MPEG1, MPEG2, MPEG4

#### USB

USB standard specification ..... USB 1.1, USB 2.0 full speed  
 (For video files)

USB 2.0 high speed (For audio files)

Maximum current supply ..... 1.0 A

USB Class ..... MSC (Mass Storage Class)

File system ..... 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)

AAC decoding format ..... MPEG-4 AAC (iTunes encoded only)  
 (Ver. 10.6 and earlier)

WAV:

WAV signal format .... Linear PCM, MS ADPCM (.wav)

Sampling Frequency ..... Linear PCM:16 kHz,  
 22.05 kHz, 24 kHz, 32 kHz,  
 44.1 kHz, 48 kHz

MS ADPCM:22.05 kHz,  
 44.1 kHz

JPEG:

JPEG decoding format ..... jpeg, jpg, .jpe

Pixel Sampling ..... 4:2:2, 4:2:0

Decode Size ..... MAX:8 192(H) x 7 680(W),  
 MIN:32(H) x 32(W)

DivX decoding format ..... Home Theater Ver. 3, 4, 5.2, 6  
 (Except ultra and HD) (.avi, .divx)

MPEG video decoding format ..... MPEG1, MPEG2, MPEG4

#### FM tuner

Frequency range ..... 87.9 MHz to 107.9 MHz

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

Signal-to-noise ratio ..... 80 dB (digital broadcasting)  
 (IHF-A network)

#### AM tuner

Frequency range ..... 530 kHz to 1 710 kHz (10 kHz)

Usable sensitivity ..... 25 µV (S/N: 20 dB)

Signal-to-noise ratio ..... 80 dB (digital broadcasting)  
 (IHF-A network)

#### Bluetooth

(AVH-X5500BHS/AVH-X4500BT/AVH-X3500BHS/AVH-X2500BT)

Version ..... Bluetooth 3.0 certified

Output power ..... +4 dBm Maximum  
 (Power class 2)

#### CEA2006 Specifications



Power output ..... 14 W RMS × 4 Channels (4 Ω and ≤ 1 % THD+N)

S/N ratio ..... 91 dBA (reference: 1 W into 4 Ω)

#### Note

Specifications and the design are subject to modifications without notice.

**A • UW5 Type**

**Общие**

Номинальный источник питания

..... 14,4 В постоянного тока  
(допустимый диапазон напряжения: от 10,8 В до 15,1 В постоянного тока)

Система заземления ..... Заземление отрицательного полюса

Максимальный потребляемый ток ..... 10,0 А

Backup current ..... 5 mA or less

B Размеры (Ш × В × Г):

DIN

Шасси ..... 178 мм × 100 мм × 157 мм  
Передняя панель ..... 188 мм × 118 мм × 26 мм

D

Шасси ..... 178 мм × 100 мм × 165 мм  
Передняя панель ..... 171 мм × 97 мм × 18 мм

C Масса ..... 2,0 кг

**Дисплей**

Размер экрана/соотношение

..... 6,95 дюйм ширины/16:9  
(эффективная площадь изображения: 156,6 мм × 81,6 мм)

Пиксели ..... 1152 000 (2 400 × 480)

Тип технологии дисплея ..... активная матрица TFT управляющего типа

D Система цветопередачи ..... совместимая с NTSC/PAL/  
PAL-M/PAL-N/SECAM

Диапазон допустимых температур хранения (при выключенном питании) ..... от -20 °C до +80 °C

**Аудио**

Максимальная выходная мощность

..... 50 Вт × 4  
70 Вт × 1/2 Ω (для сабвуфера)

E Номинальная выходная мощность

..... 22 Вт × 4 (от 50 Гц до 15 000 Гц, суммарное значение коэффициента нелинейных искажений 5 %, нагрузка 4 Ω для обоих каналов)

Сопротивление нагрузки

..... 4 Ω (допустимо 4 Ω – 8 Ω (2 Ω на 1 канал))

Максимальная выходная мощность

..... 4,0 В

Эквалайзер (8-полосный графический эквалайзер):

Частота ..... 40 Гц/80 Гц/200 Гц/400 Гц  
1 кГц/2,5 кГц/8 кГц/10 кГц

Усиление ..... ±12 дБ

HPF:

Частота ..... 50 Гц/63 Гц/80 Гц/100 Гц/  
125 Гц  
Крутизна характеристики ..... -12 дБ/окт

Сабвуфер (моно):

Частота ..... 50 Гц/63 Гц/80 Гц/100 Гц/  
125 Гц

Крутизна характеристики

..... -18 дБ/окт

Усиление ..... +6 дБ до -24 дБ

Фаза ..... Нормальная/Обратная

Усиление нижних звуковых частот:

Усиление ..... от +12 дБ до 0 дБ

**Проигрыватель DVD**

Система ..... проигрыватель DVD video,  
Video CD, CD, WMA, MP3,  
AAC, DivX, JPEG, MPEG

Используемые диски ..... DVD video, Video CD, CD,  
CD-R/RW, DVD-R/RW/R DL

Код региона ..... 5

Амплитудно-частотная характеристика  
..... от 5 до 44 000 Гц (для дисков DVD при частоте дискретизации 96 кГц)

Отношение сигнал/шум

..... 96 дБ (1 кГц) (сеть IEC-A)  
(уровень RCA)

Выходная мощность:

Видео ..... 1,0 Vp-p/75 Ω (±0,2 В)

Число каналов ..... 2 (стерео)

Формат декодирования файлов MP3  
..... MPEG-1 и 2 Audio Layer 3

Формат декодирования файлов WMA

..... Версии 7, 7.1, 8, 9, 10, 11, 12  
(двухканальный звук)  
(Windows Media Player)

Формат декодирования файлов AAC

..... MPEG-4 AAC (только кодированных с помощью iTunes) (.m4a)  
(Версии 10,6 и более ранних)

JPEG:

Формат декодирования файлов JPEG  
..... jpeg, jpg, .jpe

Дискретизация пикселей

..... 4:2:2, 4:2:0

Размер при декодировании

..... макс.: 8 192(В) x 7 680(Ш),  
мин.: 32(В) x 32(Ш)

Формат декодирования файлов DivX

..... Home Theater версий 3, 4,  
5.2, 6 (кроме ultra и HD)  
.avi, .divx)

Формат декодирования видео MPEG

..... MPEG1, MPEG2, MPEG4

• UW5 Type

**USB**

Стандартная спецификация USB

.....	USB 1.1, USB 2.0 полноскоростной (для видеофайлов)
.....	USB 2.0 полноскоростной (для аудиофайлов)

Максимальный ток питания

.....	1,0 А
-------	-------

Класс USB ..... MSC (Mass Storage Class)

Файловая система ..... FAT16, FAT32

Формат декодирования файлов MP3

.....	MPEG-1 и 2 Audio Layer 3
-------	--------------------------

Формат декодирования файлов WMA

.....	Версии 7, 7.1, 8, 9, 10, 11, 12 (двухканальный звук) (Windows Media Player)
-------	-----------------------------------------------------------------------------------

Формат декодирования файлов AAC

.....	MPEG-4 AAC (только кодированных с помощью iTunes) (Версии 10,6 и более ранних)
-------	-----------------------------------------------------------------------------------

WAV:

Формат сигнала WAV	.....	Linear PCM, MS ADPCM (.wav)
--------------------	-------	-----------------------------

Частота дискретизации

.....	Линейная ИКМ:16 кГц, 22,05 кГц, 24 кГц, 32 кГц, 44,1 кГц, 48 кГц MS ADPCM: 22,05 кГц, 44,1 кГц
-------	------------------------------------------------------------------------------------------------------------

JPEG:

Формат декодирования файлов JPEG	.....	.jpeg, .jpg, .jpe
Дискретизация пикселей	.....	4:2:2, 4:2:0
Размер при декодировании	.....	макс.:8 192(В) x 7 680(Ш), мин.:32(В) x 32(Ш)

Формат декодирования файлов DivX

.....	Home Theater версий 3, 4, 5.2, 6 (кроме ultra и HD) (.avi, .divx)
-------	-------------------------------------------------------------------------

Формат декодирования видео MPEG

.....	MPEG1, MPEG2, MPEG4
-------	---------------------

**FM-тюнер**

Диапазон частот ..... от 87,5 МГц до 108,0 МГц

Полезная чувствительность

.....	9 дБФ (0,8 мкВ/75 Ω, моно, отношение сигнал/шум: 30 дБ)
-------	---------------------------------------------------------------

Отношение сигнал/шум

.....	72 дБ (сеть IEC-A)
-------	--------------------

**MW-тюнер**

Диапазон частот ..... от 531 кГц до 1 602 кГц  
(9 кГц)

Полезная чувствительность

.....	25 мкВ (отношение сигнал/шум: 20 дБ)
-------	--------------------------------------

Отношение сигнал/шум

.....	62 дБ (сеть IEC-A)
-------	--------------------

**LW-тюнер**

Диапазон частот ..... от 153 кГц до 281 кГц

Полезная чувствительность

.....	28 мкВ (отношение сигнал/шум: 20 дБ)
-------	--------------------------------------

Отношение сигнал/шум

.....	62 дБ (сеть IEC-A)
-------	--------------------

**Bluetooth**

(AVH-X2500BT)

Версия ..... Bluetooth 3.0 certified

Выходная мощность ..... +4 дБм макс.

(Класс мощности 2)

**Примечание:**

В соответствии со статьей 5 закона Российской Федерации «О защите прав потребителей» и постановлением правительства Российской Федерации № 720 от 16.06.97 компания Pioneer Europe NV оговаривает следующий срок службы изделий, официально поставляемых на российский рынок.  
Автомобильная электроника: 6 лет  
Прочие изделия (наушники, микрофоны и т.п.): 5 лет

**Примечания**

- Характеристики и конструкция могут быть изменены без предварительного уведомления.
- Данное устройство произведено в Таиланде.

## A • RC Type

### General

Power source ..... 14.4 V DC (12.0 V to 14.4 V allowable)

Grounding system ..... Negative type

Maximum current consumption

..... 10.0 A

Backup current ..... 5 mA or less

Dimensions (W x H x D):

D

Chassis ..... 178 mm x 100 mm x  
165 mm

Nose ..... 171 mm x 97 mm x  
18 mm

Weight ..... 2.0 kg

### Display

Screen size/aspect ratio ... 6.95 inch wide/16:9  
(effective display area:  
156.6 mm x 81.6 mm)

Pixels ..... 1 152 000 (2 400 x 480)

Display method ..... TFT active matrix, driving type

Color system ..... NTSC/PAL/PAL-M/PAL-N/  
SECAM compatible

### C Durable temperature range (power off)

..... -20 °C to +80 °C

### Audio

Maximum power output ... 50 W x 4

..... 70 W x 1/2 Ω (for subwoofer)

Continuous power output

..... 22 W x 4 (50 Hz to 15 000 Hz,  
5 % THD, 4 Ω load, both channels driven)

Load impedance ..... 4 Ω (4 Ω to 8 Ω (2 Ω for 1 ch)  
allowable)

Preout maximum output level

..... 4.0 V

Equalizer (8-Band Graphic Equalizer):

Frequency ..... 40 Hz/80 Hz/200 Hz/400 Hz/  
1 kHz/2.5 kHz/8 kHz/10 kHz

Gain ..... ±12 dB

HPF:

Frequency ..... 50 Hz/63 Hz/80 Hz/100 Hz/  
125 Hz

Slope ..... -12 dB/oct

Subwoofer (mono):

Frequency ..... 50 Hz/63 Hz/80 Hz/100 Hz/  
125 Hz

Slope ..... -18 dB/oct

Gain ..... +6 dB to -24 dB

Phase ..... Normal/Reverse

Bass boost:

Gain ..... +12 dB to 0 dB

### DVD Player

System ..... DVD video, Video CD, CD,  
WMA, MP3, AAC, DivX, JPEG,  
MPEG player

Usable discs ..... DVD video, Video CD, CD, CD-R/RW, DVD-R/RW/R DL

Region number ..... 3

Frequency response ..... 5 Hz to 44 000 Hz (with DVD,  
at sampling frequency 96 kHz)

Signal-to-noise ratio ..... 96 dB (1 kHz) (IEC-A network)  
(RCA level)

Output level:

Video ..... 1.0 Vp-p/75 Ω (±0.2 V)

Number of channels ..... 2 (stereo)

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)

AAC decoding format ..... MPEG-4 AAC (iTunes encoded  
only) (.m4a)

(Ver. 10.6 and earlier)

JPEG:

JPEG decoding format

..... .jpeg, .jpg, .jpe

Pixel Sampling ..... 4:2:2, 4:2:0

Decode Size ..... MAX:8 192(H) x 7 680(W),  
MIN:32(H) x 32(W)

• **RC Type**

DivX decoding format ..... Home Theater Ver. 3, 4, 5.2, 6  
 (Except ultra and HD) (.avi,  
 .divx)  
 MPEG video decoding format  
 ..... MPEG1, MPEG2, MPEG4

**USB**

USB standard specification

..... USB 1.1, USB 2.0 full speed  
 (For video files)  
 USB 2.0 high speed (For  
 audio files)  
 Maximum current supply  
 ..... 1.0 A  
 USB Class ..... MSC (Mass Storage Class)  
 File system ..... FAT16, FAT32  
 MP3 decoding format ..... MPEG-1 & 2 Audio Layer 3  
 WMA decoding format ..... Ver. 7, 7.1, 8, 9, 10, 11, 12 (2ch  
 audio)  
 (Windows Media Player)  
 AAC decoding format ..... MPEG-4 AAC (iTunes encoded  
 only)  
 (Ver. 10.6 and earlier)

WAV:

WAV signal format .... Linear PCM, MS ADPCM  
 (.wav)  
 Sampling Frequency  
 ..... Linear PCM:16 kHz,  
 22.05 kHz, 24 kHz, 32 kHz,  
 44.1 kHz, 48 kHz  
 MS ADPCM:22.05 kHz,  
 44.1 kHz

JPEG:

JPEG decoding format  
 ..... jpeg, jpg, .jpe  
 Pixel Sampling ..... 4:2:2, 4:2:0  
 Decode Size ..... MAX:8 192(H) x 7 680(W),  
 MIN:32(H) x 32(W)  
 DivX decoding format ..... Home Theater Ver. 3, 4, 5.2, 6  
 (Except ultra and HD) (.avi,  
 .divx)  
 MPEG video decoding format  
 ..... MPEG1, MPEG2, MPEG4

**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)

**AM tuner**

Frequency range ..... 530 kHz to 1 640 kHz (10 kHz)  
 531 kHz to 1 602 kHz (9 kHz)  
 Usable sensitivity ..... 25 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.

## A • RD Type

### General

Power source ..... 14.4 V DC (12.0 V to 14.4 V allowable)

Grounding system ..... Negative type

Maximum current consumption

..... 10.0 A

Backup current ..... 5 mA or less

Dimensions (W × H × D):

D

Chassis ..... 178 mm × 100 mm × 165 mm

Nose ..... 171 mm × 97 mm × 18 mm

Weight ..... 2.0 kg

### Display

Screen size/aspect ratio ... 6.95 inch wide/16:9  
(effective display area:  
156.6 mm × 81.6 mm)

(AVH-X5550BT/AVH-X4550DVD)

Screen size/aspect ratio ... 6.1 inch wide/16:9  
(effective display area:  
136.2 mm × 72.0 mm)

(AVH-X2550BT/AVH-X1550DVD)

Pixels ..... 1 152 000 (2 400 × 480)

Display method ..... TFT active matrix, driving type

Color system ..... NTSC/PAL/PAL-M/PAL-N/  
SECAM compatible

Durable temperature range (power off)  
..... -20 °C to +80 °C

### 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 channels driven)

Load impedance ..... 4 Ω (4 Ω to 8 Ω (2 Ω for 1 ch)  
allowable)

Preout maximum output level

..... 4.0 V

Equalizer (8-Band Graphic Equalizer):

Frequency ..... 40 Hz/80 Hz/200 Hz/400 Hz/  
1 kHz/2.5 kHz/8 kHz/10 kHz

Gain ..... ±12 dB

HPF:

Frequency ..... 50 Hz/63 Hz/80 Hz/100 Hz/  
125 Hz

Slope ..... -12 dB/oct

Subwoofer (mono):

Frequency ..... 50 Hz/63 Hz/80 Hz/100 Hz/  
125 Hz

Slope ..... -18 dB/oct

Gain ..... +6 dB to -24 dB

Phase ..... Normal/Reverse

Bass boost:

Gain ..... +12 dB to 0 dB

### DVD Player

System ..... DVD video, Video CD, CD,  
WMA, MP3, AAC, DivX, JPEG,  
MPEG player

Usable discs ..... DVD video, Video CD, CD, CD-R/RW, DVD-R/RW/R DL

Region number ..... 4

Frequency response ..... 5 Hz to 44 000 Hz (with DVD,  
at sampling frequency 96 kHz)

Signal-to-noise ratio ..... 96 dB (1 kHz) (IEC-A network)  
(RCA level)

Output level:

Video ..... 1.0 Vp-p/75Ω(±0.2 V)

Number of channels ..... 2 (stereo)

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)

AAC decoding format ..... MPEG-4 AAC (iTunes encoded  
only) (.m4a)

(Ver. 10.6 and earlier)

JPEG:

JPEG decoding format

..... jpeg, .jpg, .jpe

Pixel Sampling ..... 4:2:2, 4:2:0

Decode Size ..... MAX:8 192(H) x 7 680(W),  
MIN:32(H) x 32(W)

- RD Type

DivX decoding format .....	Home Theater Ver. 3, 4, 5.2, 6 (Except ultra and HD) (.avi, .divx)
MPEG video decoding format .....	MPEG1, MPEG2, MPEG4

USB

USB standard specification	USB 1.1, USB 2.0 full speed (For video files) USB 2.0 high speed (For audio files)
Maximum current supply	1.0 A
USB Class	MSC (Mass Storage Class)
File system	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)
AAC decoding format	MPEG-4 AAC (iTunes encoded only) (Ver. 10.6 and earlier)

WAV:  
WAV signal format .... Linear PCM, MS ADPCM  
(.wav)  
Sampling Frequency  
..... Linear PCM:16 kHz,  
22.05 kHz, 24 kHz, 32 kHz,  
44.1 kHz, 48 kHz  
MS ADPCM:22.05 kHz,  
44.1 kHz

JPEG:	JPEG decoding format
	..... jpeg, jpg, .jpeg
Pixel Sampling .....	4:2:2, 4:2:0
Decode Size.....	MAX:8 192(H) x 7 680(W), MIN:32(H) x 32(W)
DivX decoding format .....	Home Theater Ver. 3, 4, 5.2, (Except ultra and HD) (.avi, .divx)
MPEG video decoding format	MPEG1, MPEG2, MPEG4
	.....

## FM tuner

Frequency range ..... 87.5 MHz to 108.0 MHz  
 Usable sensitivity ..... 9 dBf (0.8  $\mu$ V/75  $\Omega$ , mono, S/N:  
                           30 dB)  
 Signal-to-noise ratio ..... 72 dB (IEC-A network)

## AM tuner

Frequency range ..... 530 kHz to 1 640 kHz (10 kHz)  
 ..... 531 kHz to 1 602 kHz (9 kHz)  
 Usable sensitivity ..... 25 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.

## A • RI Type

### General

Power source ..... 14.4 V DC (12.0 V to 14.4 V allowable)

Grounding system ..... Negative type

Maximum current consumption

..... 10.0 A

Backup current ..... 5 mA or less

Dimensions (W × H × D):

DIN

Chassis ..... 178 mm × 100 mm ×  
157 mm

Nose ..... 188 mm × 118 mm ×  
26 mm

D

Chassis ..... 178 mm × 100 mm ×  
165 mm

Nose ..... 171 mm × 97 mm ×  
18 mm

Weight ..... 2.0 kg

## Display

Screen size/aspect ratio ... 6.95 inch wide/16:9

(effective display area:

156.6 mm × 81.6 mm)

Pixels ..... 1 152 000 (2 400 × 480)

Display method ..... TFT active matrix, driving type

Color system ..... NTSC/PAL/PAL-M/PAL-N/  
SECAM compatible

Durable temperature range (power off)

..... −20 °C to + 80 °C

D

E

F

## 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 (2 Ω for 1 ch)  
allowable)

Preout maximum output level

..... 4.0 V

Equalizer (8-Band Graphic Equalizer):

Frequency ..... 40 Hz/80 Hz/200 Hz/400 Hz/  
1 kHz/2.5 kHz/8 kHz/10 kHz

Gain ..... ±12 dB

HPE:

Frequency ..... 50 Hz/63 Hz/80 Hz/100 Hz/  
125 Hz

Slope ..... −12 dB/oct

Subwoofer (mono):

Frequency ..... 50 Hz/63 Hz/80 Hz/100 Hz/  
125 Hz

Slope ..... −18 dB/oct

Gain ..... +6 dB to −24 dB

Phase ..... Normal/Reverse

Bass boost:

Gain ..... +12 dB to 0 dB

## DVD Player

System ..... DVD video, Video CD, CD,  
WMA, MP3, AAC, DivX, JPEG,  
MPEG player

Usable discs ..... DVD video, Video CD, CD, CD-  
R/RW, DVD-R/RW/R DL

Region number ..... 2

Frequency response ..... 5 Hz to 44 000 Hz (with DVD,  
at sampling frequency 96 kHz)

Signal-to-noise ratio ..... 96 dB (1 kHz) (IEC-A network)  
(RCA level)

Output level:

Video ..... 1.0 Vp-p/75 Ω (±0.2 V)

Number of channels ..... 2 (stereo)

MP3 decoding format ..... MPEG-1 & 2 Audio Layer 3

• **RI Type**

WMA decoding format .....	Ver. 7, 7.1, 8, 9, 10, 11, 12 (2 ch audio) (Windows Media Player)
AAC decoding format .....	MPEG-4 AAC (iTunes encoded only) (.m4a) (Ver. 10.6 and earlier)
JPEG:	
JPEG decoding format	
..... jpeg, .jpg, .jpe	
Pixel Sampling .....	4:2:2, 4:2:0
Decode Size.....	MAX:8 192(H) x 7 680(W), MIN:32(H) x 32(W)
DivX decoding format.....	Home Theater Ver. 3, 4, 5.2, 6 (Except ultra and HD) (.avi, .divx)
MPEG video decoding format	
..... MPEG1, MPEG2, MPEG4	

**USB**

USB standard specification	..... USB 1.1, USB 2.0 full speed (For video files)
	..... USB 2.0 high speed (For audio files)
Maximum current supply	..... 1.0 A
USB Class .....	MSC (Mass Storage Class)
File system.....	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)
AAC decoding format .....	MPEG-4 AAC (iTunes encoded only) (Ver. 10.6 and earlier)

WAV:

WAV signal format ....	Linear PCM, MS ADPCM .wav)
Sampling Frequency	..... Linear PCM:16 kHz, 22.05 kHz, 24 kHz, 32 kHz, 44.1 kHz, 48 kHz MS ADPCM:22.05 kHz, 44.1 kHz

JPEG:

JPEG decoding format	
..... jpeg, .jpg, .jpe	
Pixel Sampling .....	4:2:2, 4:2:0
Decode Size.....	MAX:8 192(H) x 7 680(W), MIN:32(H) x 32(W)

DivX decoding format..... Home Theater Ver. 3, 4, 5.2, 6  
(Except ultra and HD) (.avi, .divx)

MPEG video decoding format  
..... MPEG1, MPEG2, MPEG4

**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)

**AM tuner**

Frequency range ..... 530 kHz to 1 640 kHz (10 kHz)  
531 kHz to 1 602 kHz (9 kHz)  
Usable sensitivity ..... 25 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.

## A • ID Type

### General

Power source ..... 14.4 V DC (12.0 V to 14.4 V allowable)

Grounding system ..... Negative type

Maximum current consumption

..... 10.0 A

Backup current ..... 5 mA or less

Dimensions (W × H × D):

D

Chassis ..... 178 mm × 100 mm × 165 mm

Nose ..... 171 mm × 97 mm × 18 mm

Weight ..... 2.0 kg

### Display

Screen size/aspect ratio ... 176.5 mm wide/16:9

(effective display area:  
156.6 mm × 81.6 mm)

Pixels ..... 1 152 000 (2 400 × 480)

Display method ..... TFT active matrix, driving type

Color system ..... NTSC/PAL/PAL-M/PAL-N/SECAM compatible

Durable temperature range (power off)

..... -20 °C to +80 °C

### 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 channels driven)

Load impedance ..... 4 Ω (4 Ω to 8 Ω (2 Ω for 1 ch)  
allowable)

Preout maximum output level

..... 4.0 V

Equalizer (8-Band Graphic Equalizer):

Frequency ..... 40 Hz/80 Hz/200 Hz/400 Hz/  
1 kHz/2.5 kHz/8 kHz/10 kHz

Gain ..... ±12 dB

HPF:

Frequency ..... 50 Hz/63 Hz/80 Hz/100 Hz/  
125 Hz

Slope ..... -12 dB/oct

Subwoofer (mono):

Frequency ..... 50 Hz/63 Hz/80 Hz/100 Hz/  
125 Hz

Slope ..... -18 dB/oct

Gain ..... +6 dB to -24 dB

Phase ..... Normal/Reverse

Bass boost:

Gain ..... +12 dB to 0 dB

### DVD Player

System ..... DVD video, Video CD, CD,  
WMA, MP3, AAC, DivX, JPEG,  
MPEG player

Usable discs ..... DVD video, Video CD, CD, CD-R/RW, DVD-R/RW/R DL

Region number ..... 5

Frequency response ..... 5 Hz to 44 000 Hz (with DVD,  
at sampling frequency 96 kHz)

Signal-to-noise ratio ..... 96 dB (1 kHz) (IEC-A network)  
(RCA level)

Output level:

Video ..... 1.0 Vp-p/75 Ω (±0.2 V)

Number of channels ..... 2 (stereo)

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)

AAC decoding format ..... MPEG-4 AAC (iTunes encoded  
only) (.m4a)

(Ver. 10.6 and earlier)

JPEG:

JPEG decoding format

..... .jpeg, .jpg, .jpe

Pixel Sampling ..... 4:2:2, 4:2:0

Decode Size ..... MAX:8 192(H) x 7 680(W),  
MIN:32(H) x 32(W)

• **ID Type**

DivX decoding format ..... Home Theater Ver. 3, 4, 5.2, 6  
 (Except ultra and HD) (.avi, .divx)  
 MPEG video decoding format ..... MPEG1, MPEG2, MPEG4

**USB**

USB standard specification ..... USB 1.1, USB 2.0 full speed  
 (For video files)  
 USB 2.0 high speed (For audio files)

Maximum current supply ..... 1.0 A

USB Class ..... MSC (Mass Storage Class)  
 File system ..... 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)

AAC decoding format ..... MPEG-4 AAC (iTunes encoded only)  
 (Ver. 10.6 and earlier)

WAV:

WAV signal format .... Linear PCM, MS ADPCM (.wav)

Sampling Frequency ..... Linear PCM:16 kHz, 22.05 kHz, 24 kHz, 32 kHz, 44.1 kHz, 48 kHz  
 MS ADPCM:22.05 kHz, 44.1 kHz

JPEG:

JPEG decoding format ..... jpeg, jpg, jpe

Pixel Sampling ..... 4:2:2, 4:2:0

Decode Size ..... MAX:8 192(H) x 7 680(W),  
 MIN:32(H) x 32(W)

DivX decoding format ..... Home Theater Ver. 3, 4, 5.2, 6  
 (Except ultra and HD) (.avi, .divx)

MPEG video decoding format ..... MPEG1, MPEG2, MPEG4

**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)

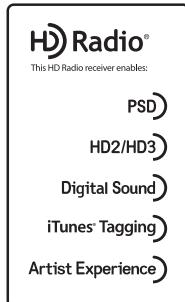
**AM tuner**

Frequency range ..... 530 kHz to 1 640 kHz (10 kHz)  
 531 kHz to 1 602 kHz (9 kHz)  
 Usable sensitivity ..... 25 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.

## 2.2 DISC/CONTENT FORMAT



DVD is a trademark of DVD Format/Logo Licensing Corporation.



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### 3. BASIC ITEMS FOR SERVICE

#### 3.1 CHECK POINTS AFTER SERVICING

A

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, video, audio and operations must be normal.
2	Flap-mecha	Check the operation of the flap mechanism.	The flap mechanism operation must be smooth without making the noise and scratches.
3	DVD	Measure playback error rates at the innermost and outermost tracks by using the test mode with the following disc. DVD test disc (TDV-582)	Deterioration of mecha-drive can be checked. The error rate must be less than the threshold value. (Refer to the chapter of DIAGNOSIS for the threshold value.)
4	DVD	Play back a DVD. (Menu operation; Title/chapter search)	Display, video, audio and operations must be normal.
5	CD	Play back a CD. (Track search)	Display, audio and operations must be normal.
6	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. * If the reception sensitivity is poorer than normal, the gasket on the FM/AM tuner unit may be damaged or lost.
7		Check whether no disc is inside the product.	The media used for the operating check must be ejected.
8		Appearance check	No scratches or dirt on its appearance after receiving it for service.

For check items concerning image and voice, please refer to the followings:

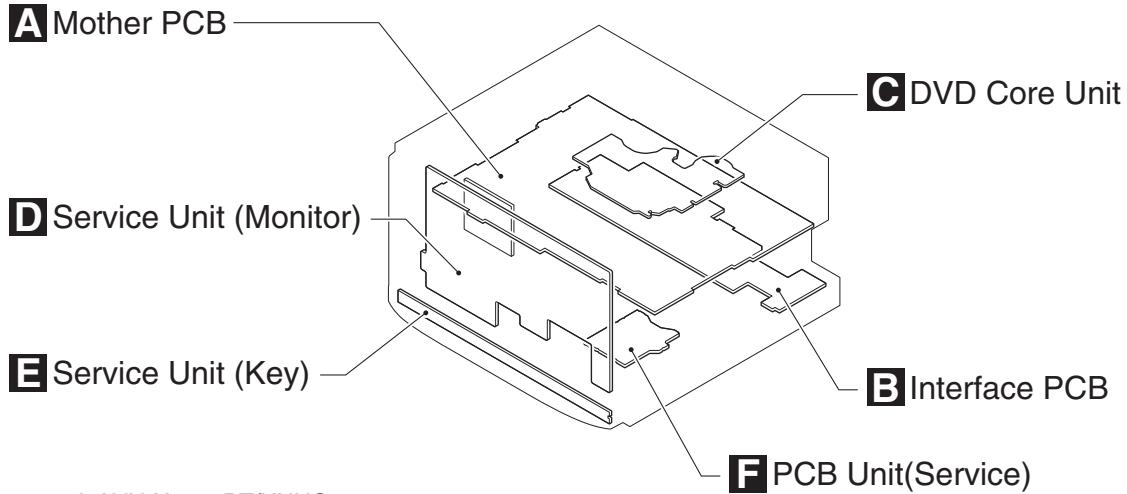
Check items concerning image	Check items concerning voice
Block-noise	Distortion
Crosscut noise	Noise
Dot noise	Low volume
Distorted image (Image skip)	High volume
Low brightness	Changes in level
Too bright	Pause of sound
Color fading	
Partial discoloration	

D

E

F

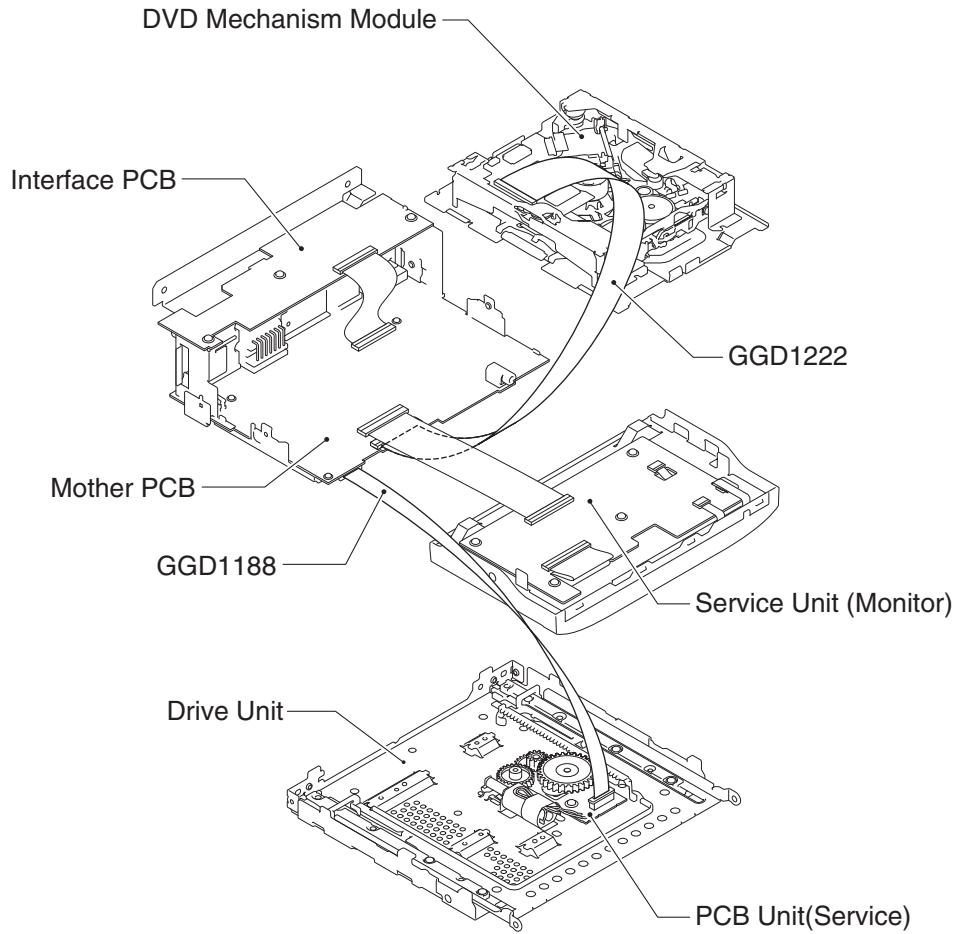
## 3.2 PCB LOCATIONS



A:AVH-X4500BT/XNUC  
 B:AVH-X4500DVD/XNUW5  
 C:AVH-X4550DVD/XNRC  
 D:AVH-X4550DVD/XNRD  
 E:AVH-X4550DVD/XNRI  
 F:AVH-X4590DVD/XNID

Service Unit(Mother I/F)  
 Consists of  
 Mother PCB  
 Interface PCB  
 Unit Number : CXX4971(A)  
 Unit Number : CXX4964(B)  
 Unit Number : CXX4965(C)  
 Unit Number : CXX4966(D)  
 Unit Number : CXX4967(E)  
 Unit Number : CXX4968(F)  
 Unit Name : Service Unit(Mother I/F)  
 Unit Number : YWX5032  
 Unit Name : DVD Core Unit  
 Unit Number : CXX4997  
 Unit Name : Service Unit(Monitor)  
 Unit Number : CXX5005  
 Unit Name : Service Unit(Key)  
 Unit Number : EXX2001  
 Unit Name : PCB Unit(Service)

### 3.3 JIGS LIST



#### ● Jigs List

Name	Jig No.	Remarks
Disc	TDV-582	Skew adjustment, Check points after servicing, Inspection method of Pickup Unit
Disc	TCD-782	Inspection method of Pickup Unit
30P FFC	GGD1222	DVD CORE UNIT <-> MOTHER PCB
10P FFC	GGD1188	PCB UNIT (SERVICE) <-> MOTHER PCB

#### ● Grease List

Name	Jig No.	Remarks
Grease	GEM1024	DVD Mechanism Module, Drive Unit
Grease	GEM1038	DVD Mechanism Module
Grease	GEM1045	DVD Mechanism Module
Grease	GEM1043	Drive Unit

### 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
DVD pickup lenses	Cleaning liquid : GEM1004 Cleaning paper : GED-008

■ 5

■ 6

■ 7

■ 8

A

B

C

D

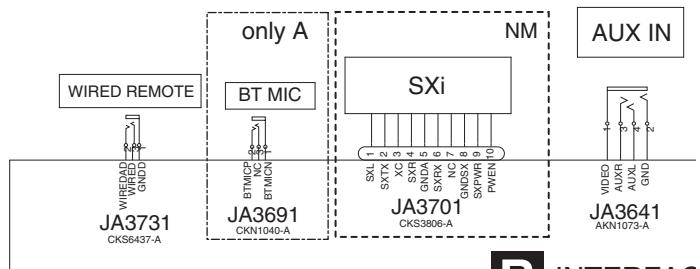
E

F

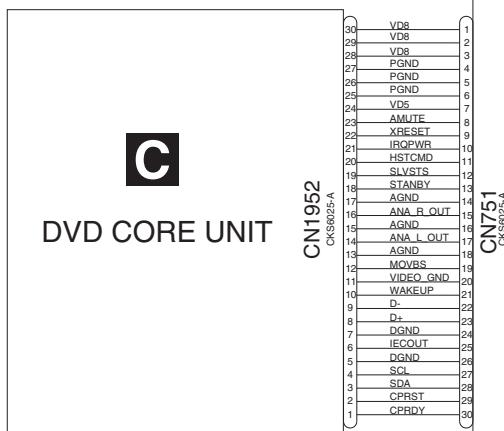
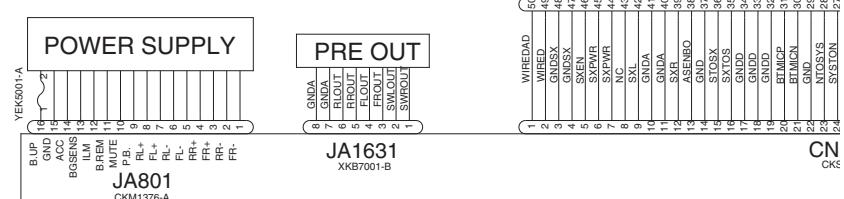
## 4. BLOCK DIAGRAM

#### 4.1 OVERALL CONNECTION DIAGRAM

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



A	AVH-X4500BT/XNUC
B	AVH-X4500DVD/XNUW5
C	AVH-X4550DVD/XNRC
D	AVH-X4550DVD/XNRD
E	AVH-X4550DVD/XNRI
F	AVH-X4590DVD/XNID



A MOTHEF

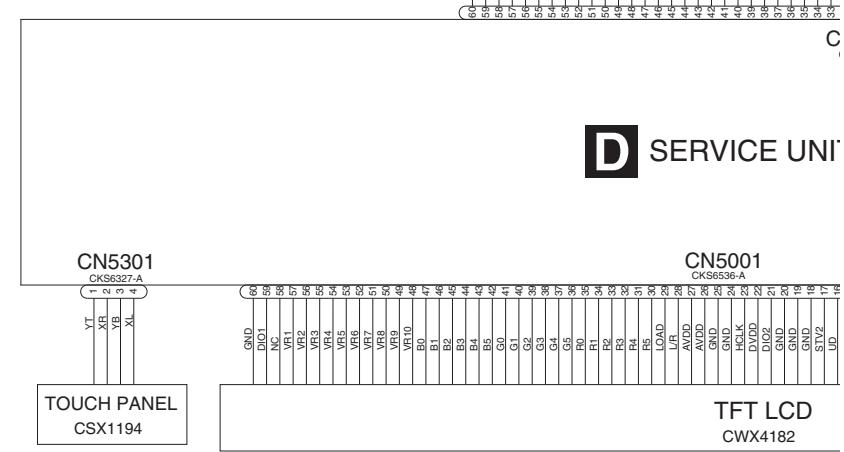
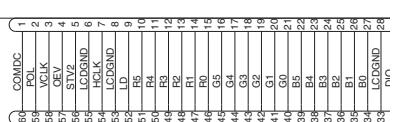
# A 1/6 ANALOG

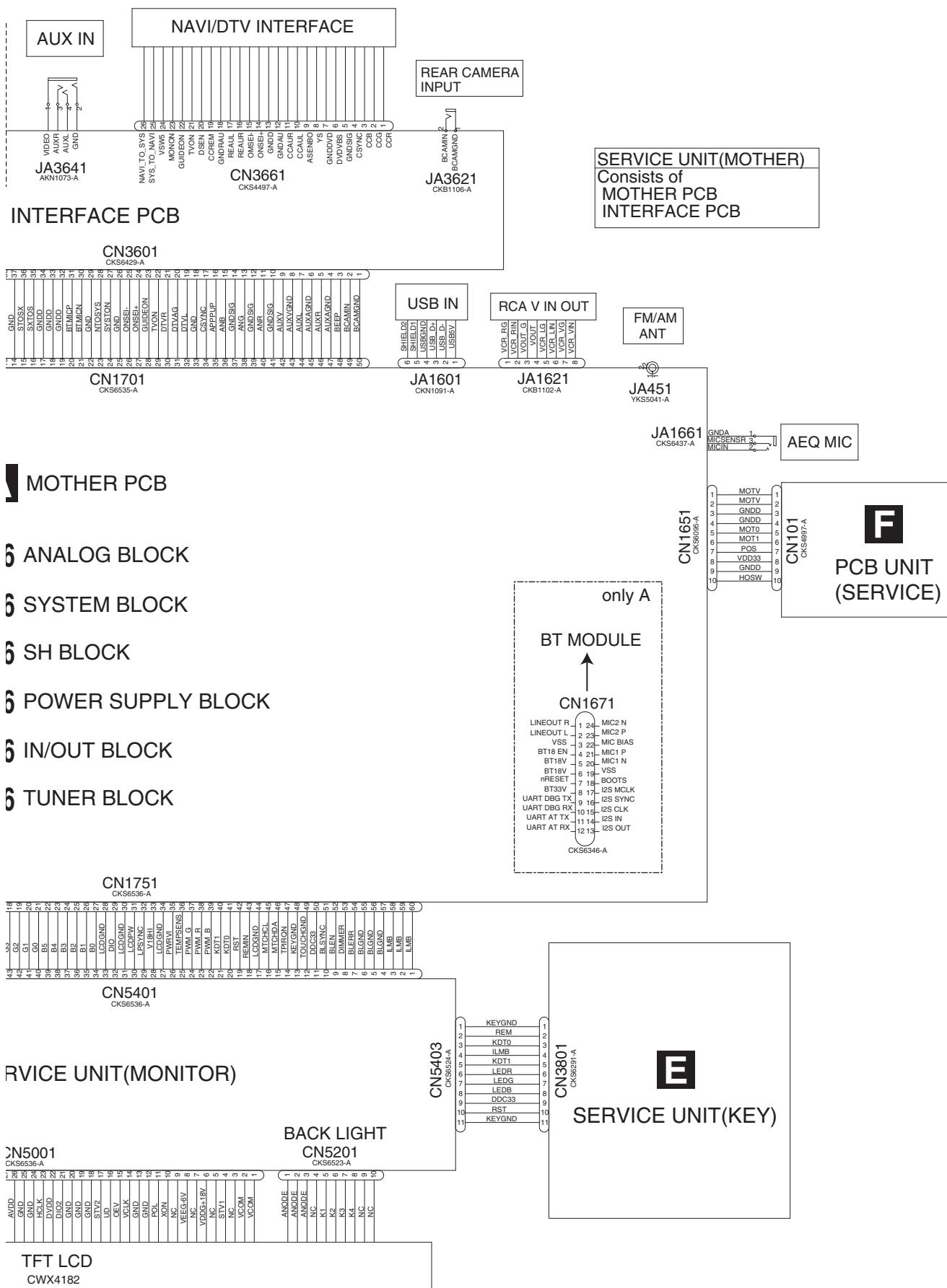
**A 2/6 SYSTEM**  
**A 3/6 SH BLOC**

A4/6 POWER :

A 5/6 IN/OUT B

A 6/6 TUNER E





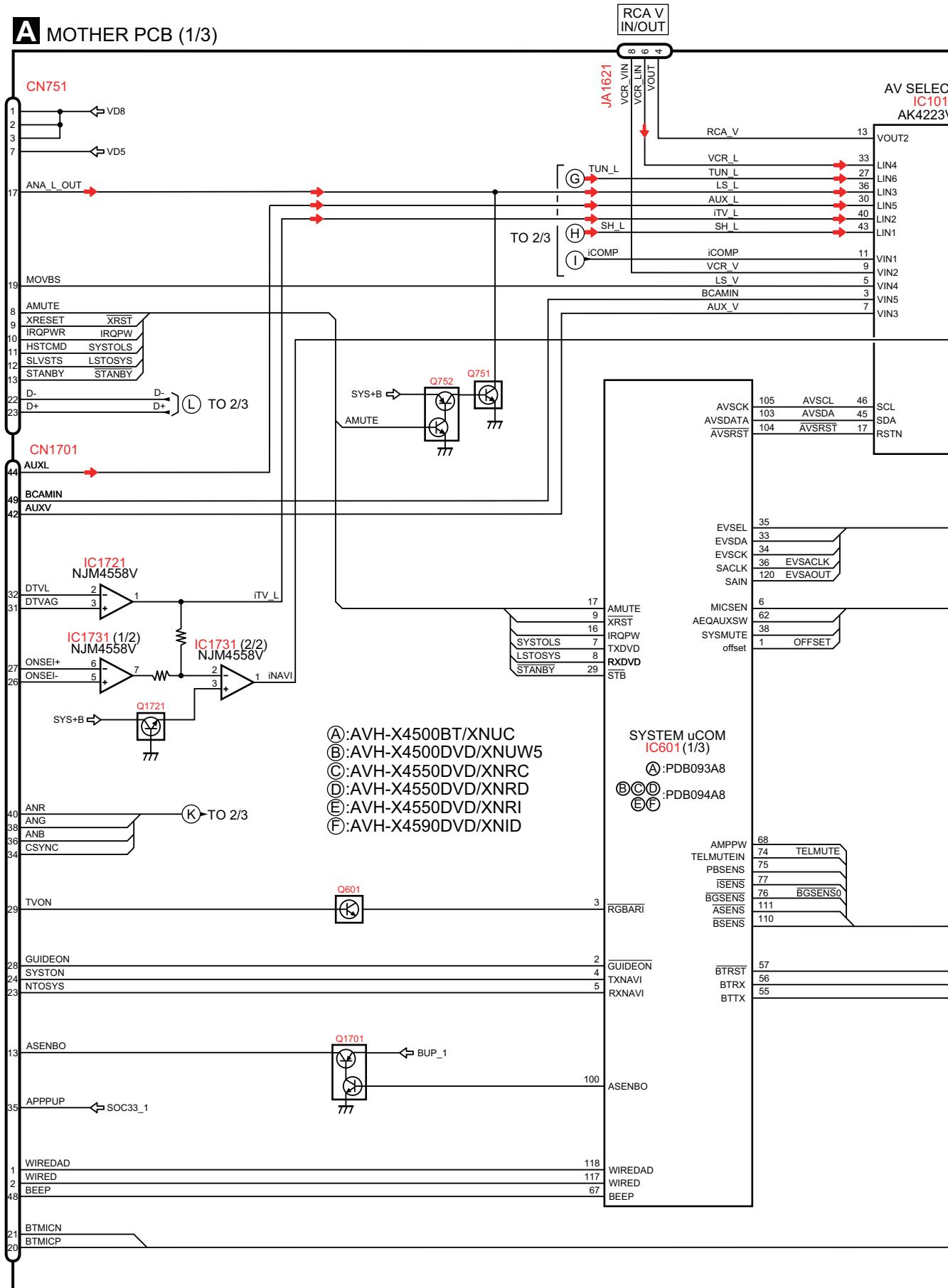
## 4.2 BLOCK DIAGRAM

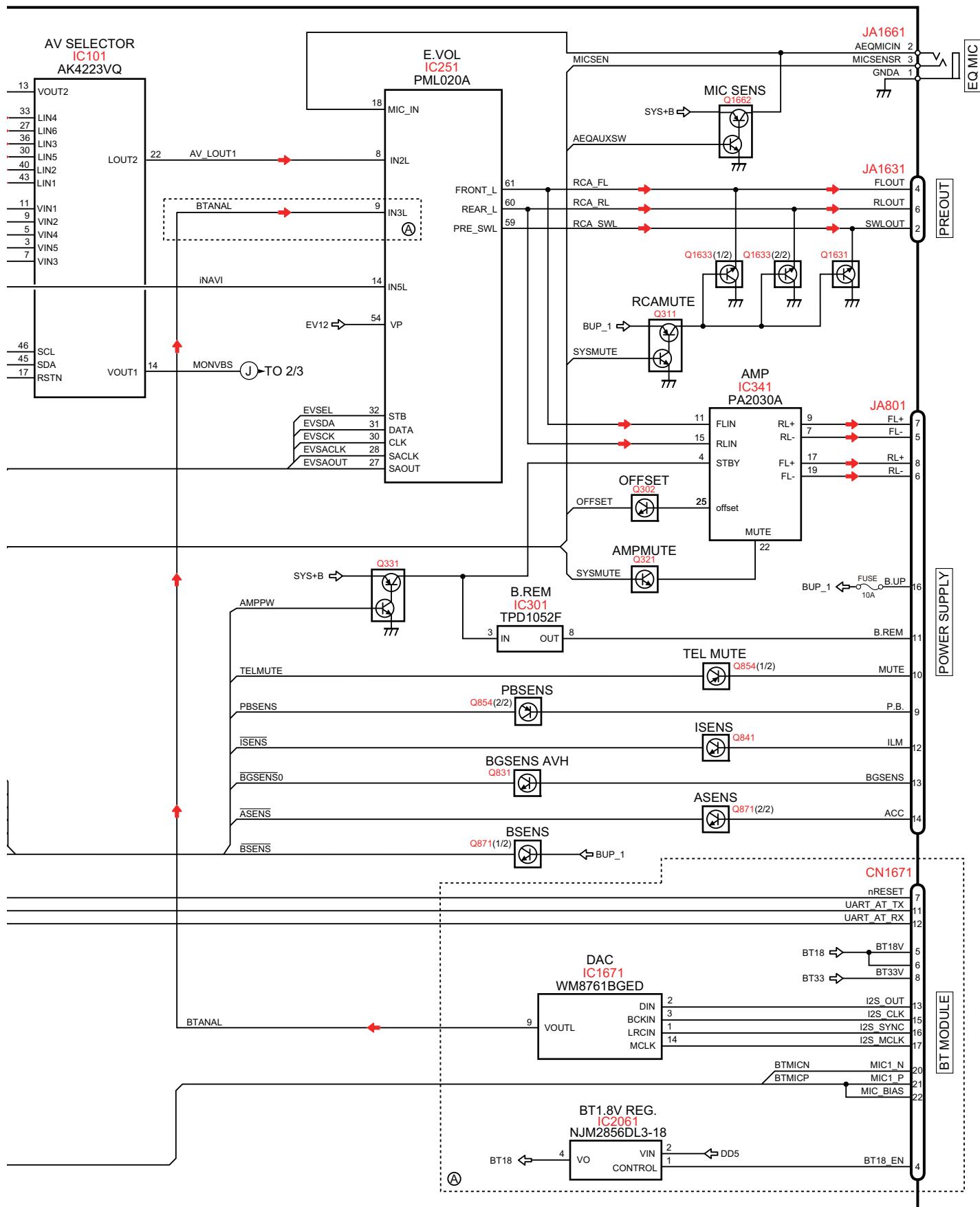
1

4

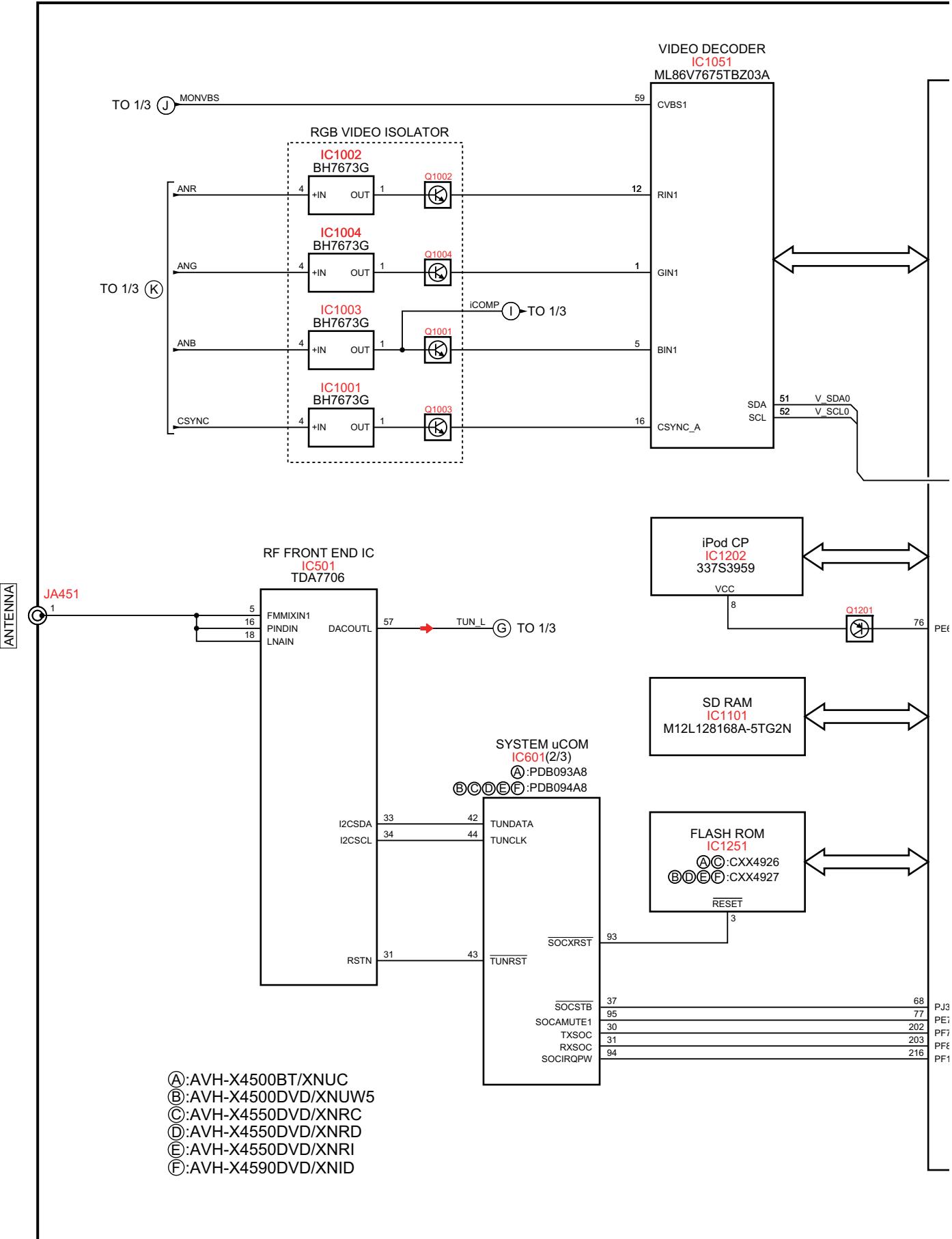
A

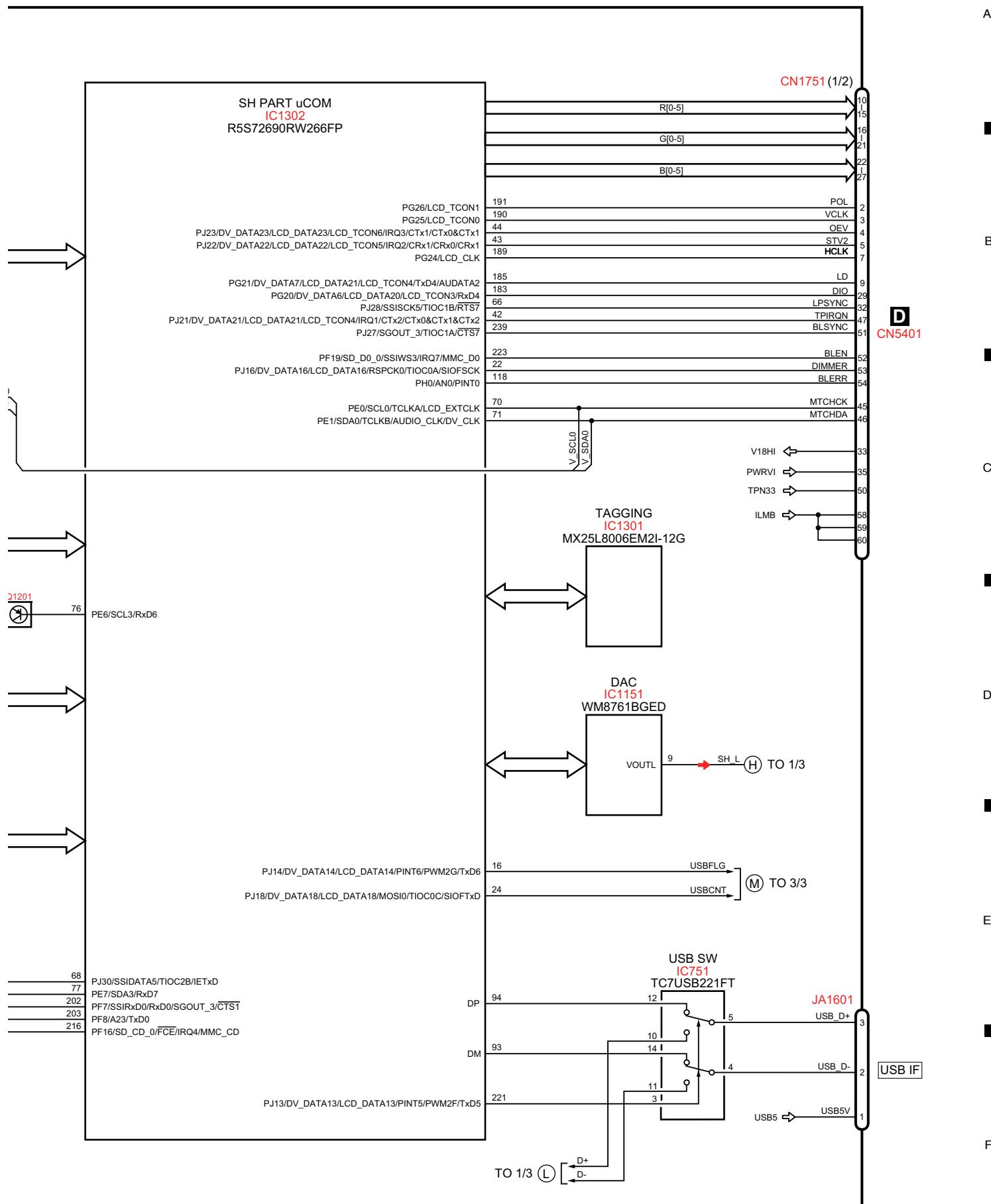
## A MOTHER PCB (1/3)



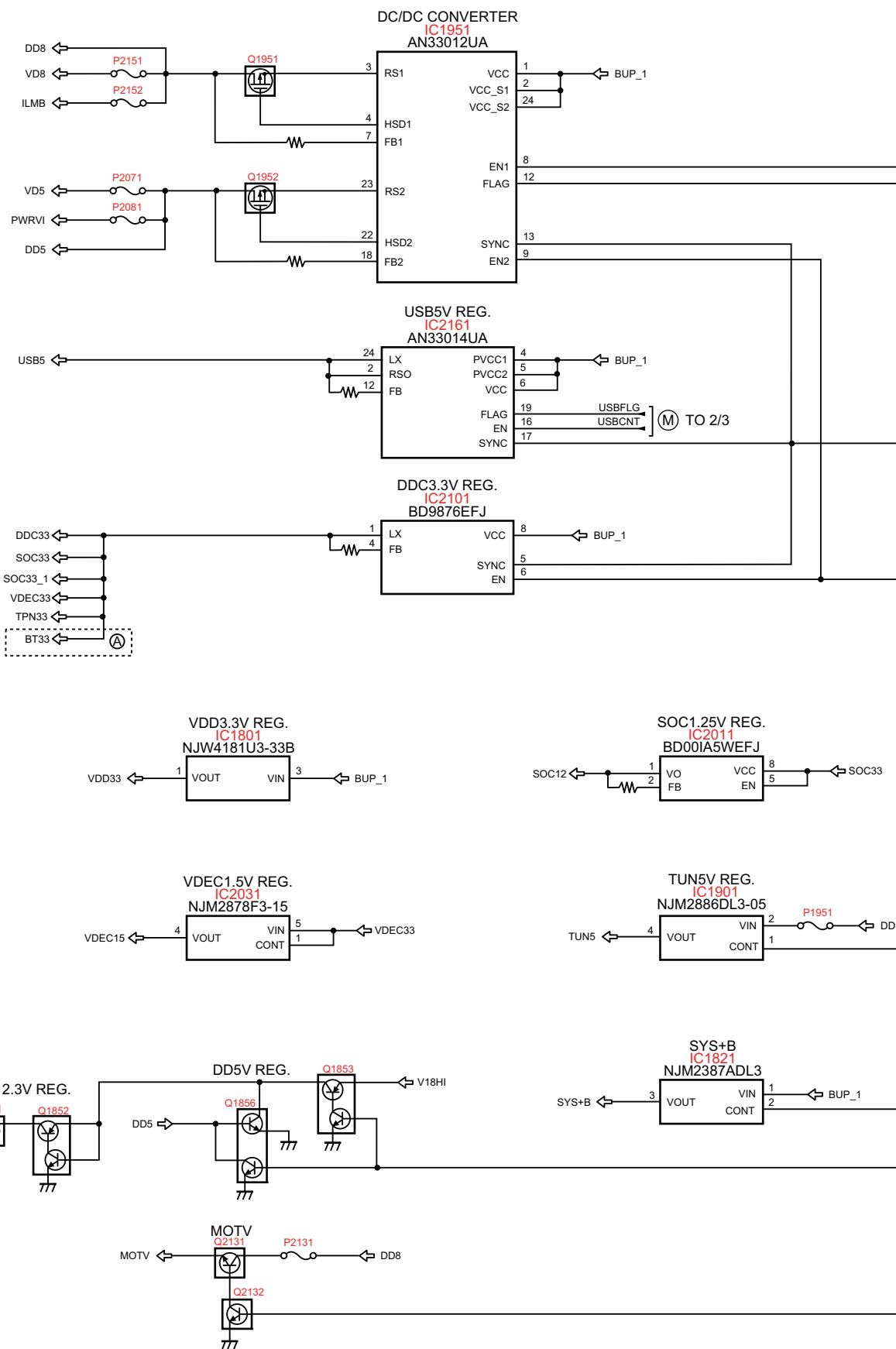


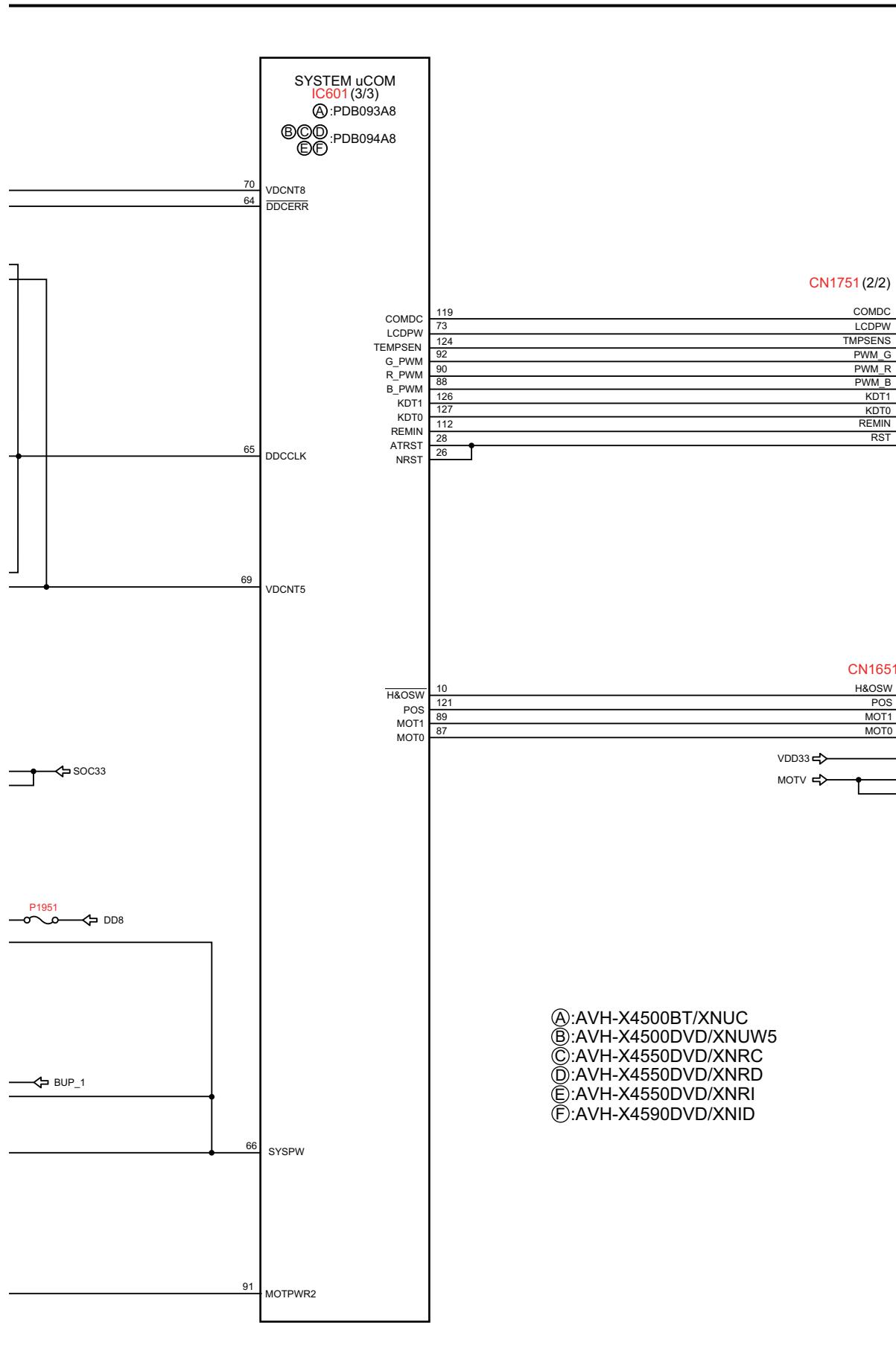
## A MOTHER PCB (2/3)



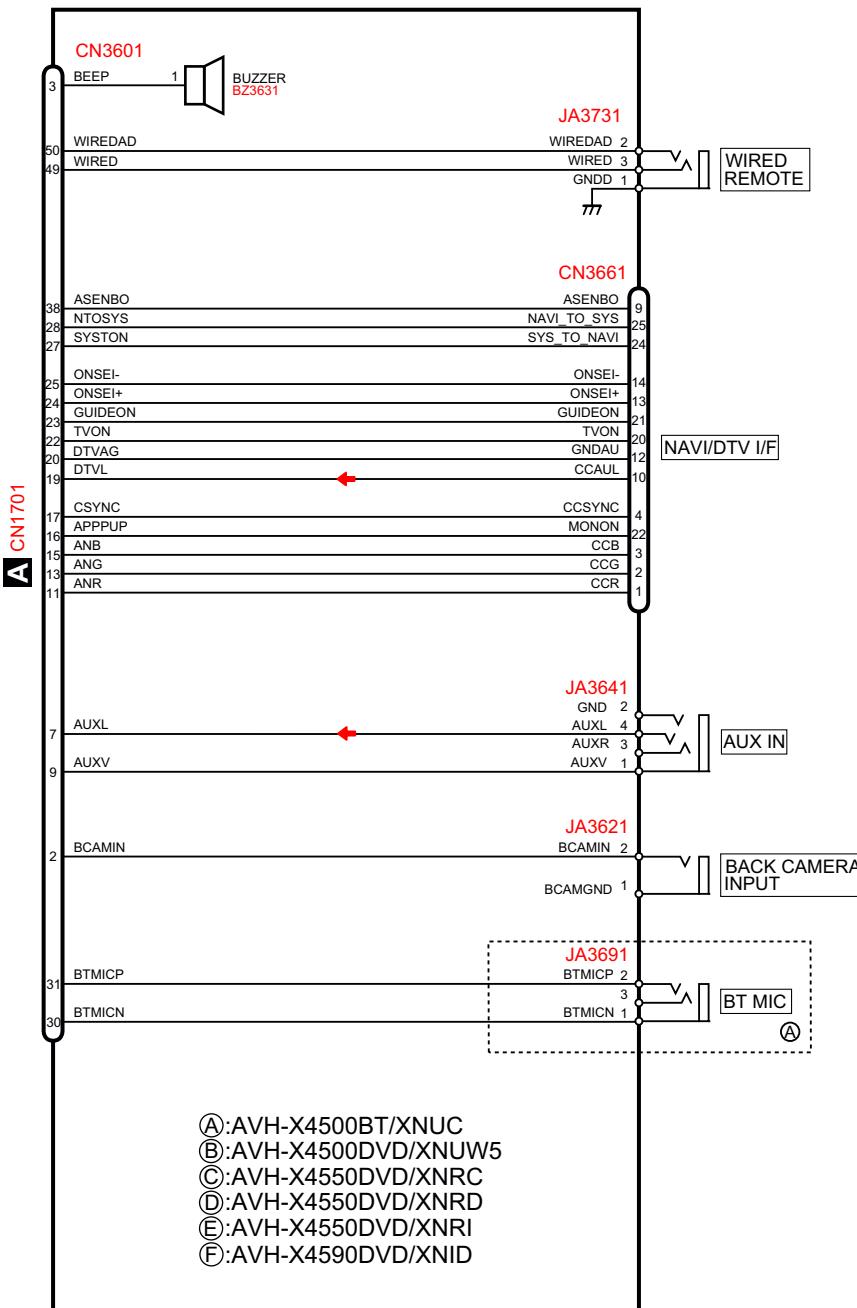


## A MOTHER PCB (3/3)

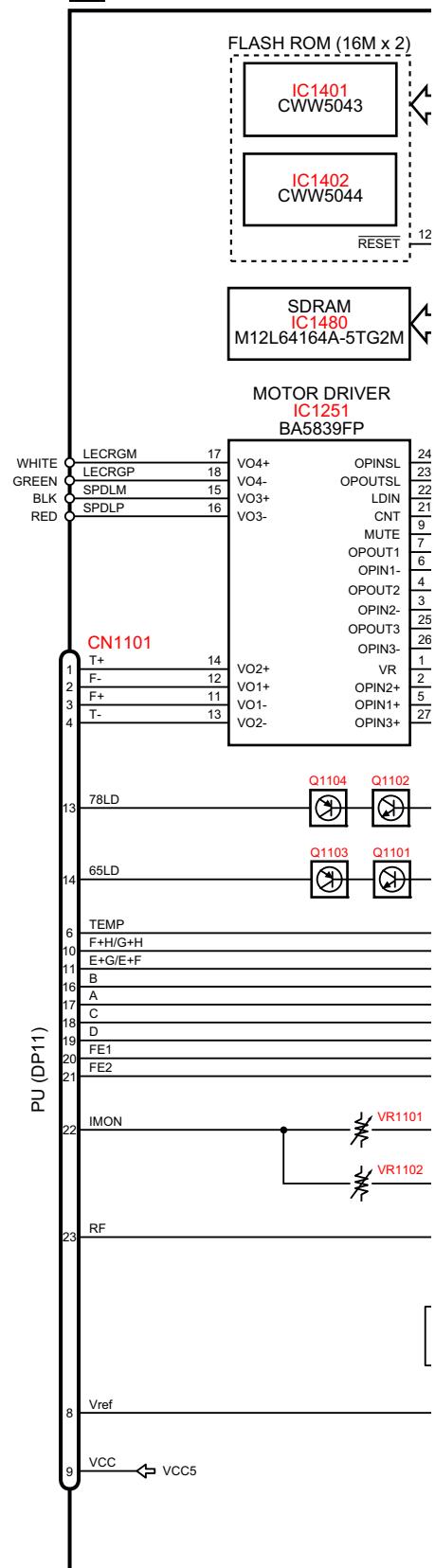


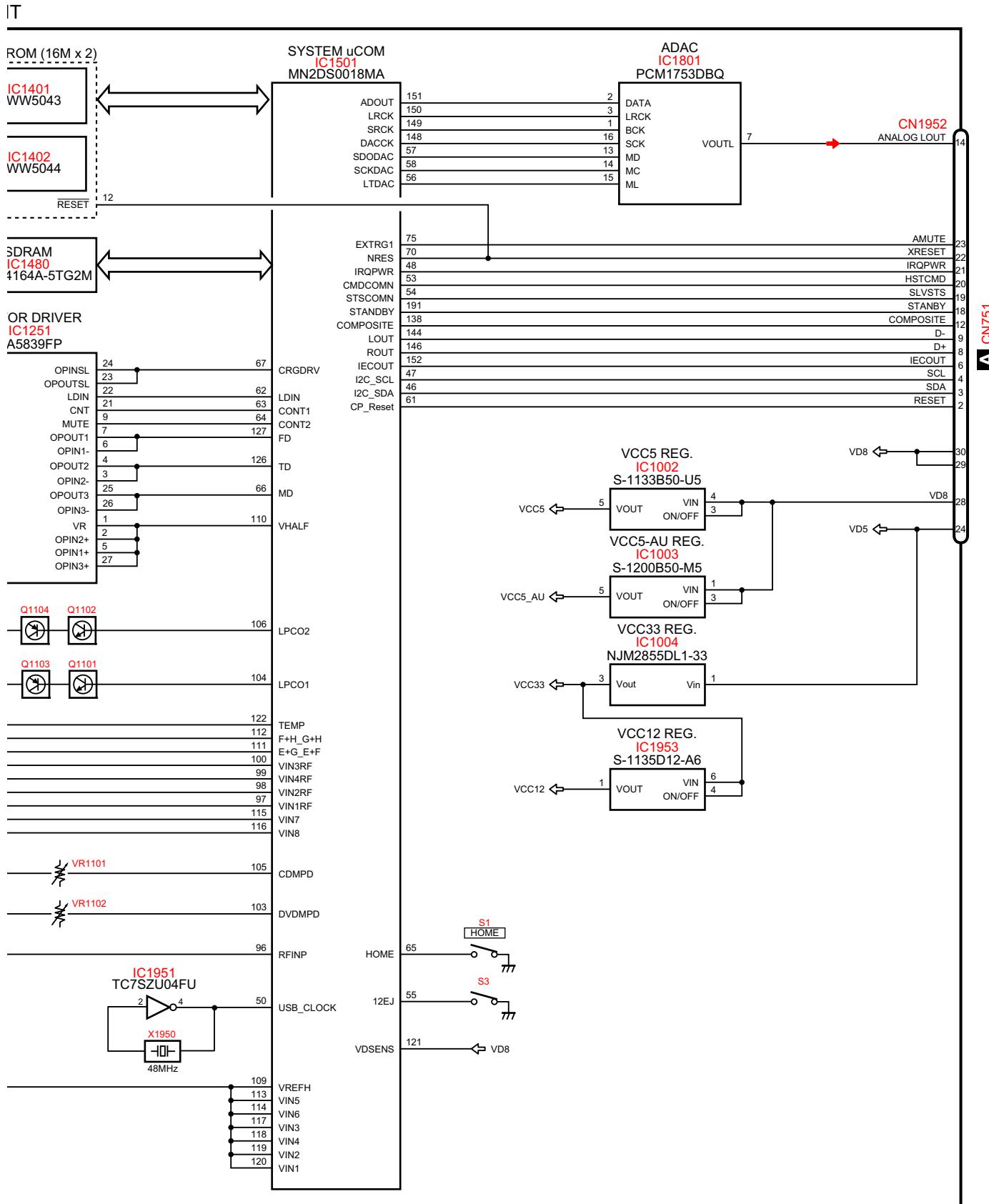


## **B** INTERFACE PCB



C DVD CORE UNIT

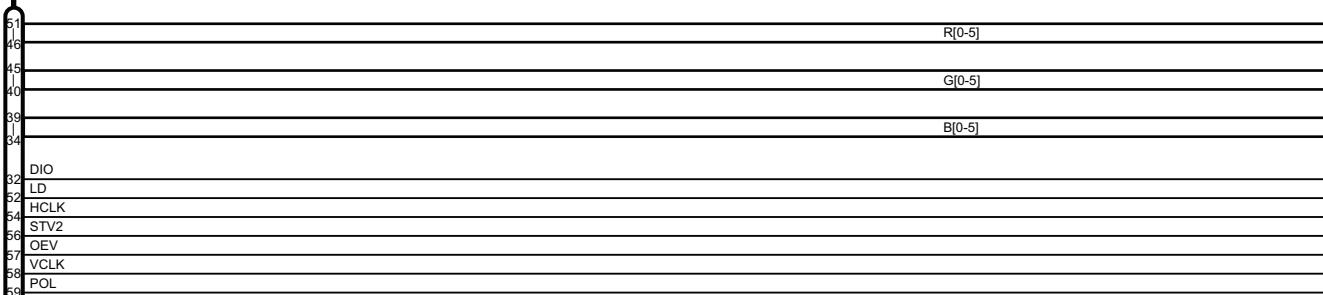




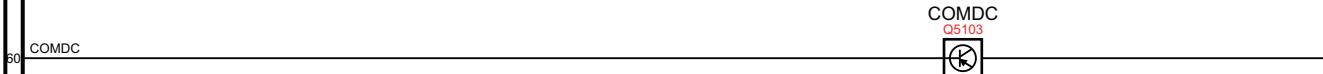
## D SERVICE UNIT(MONITOR)

A

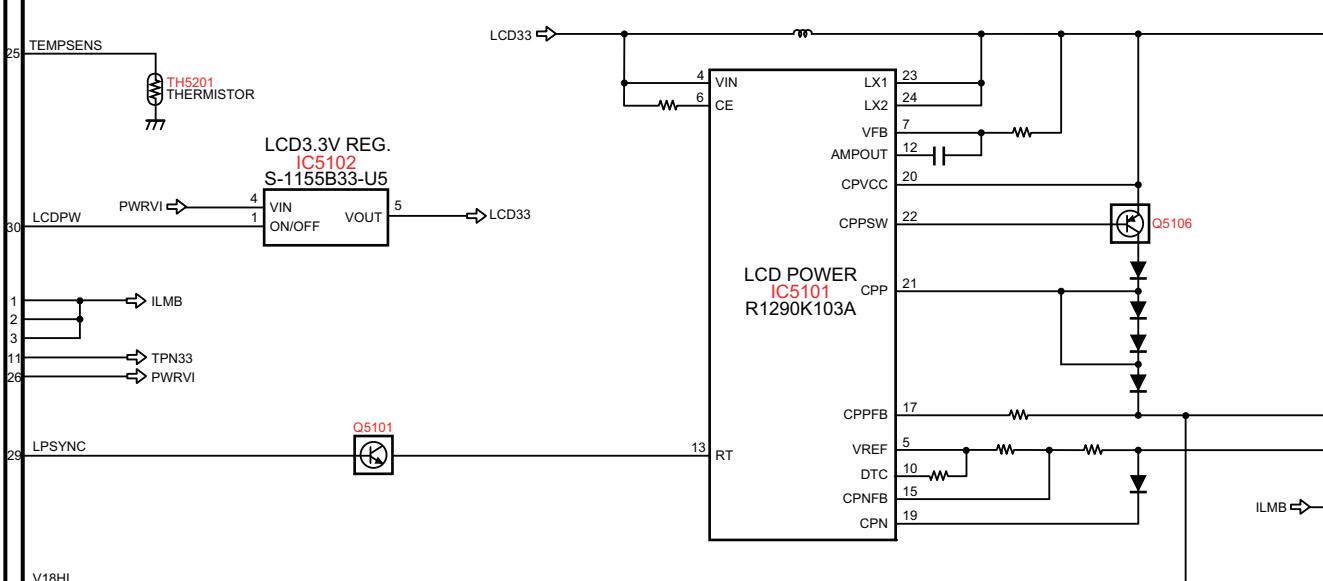
CN5401



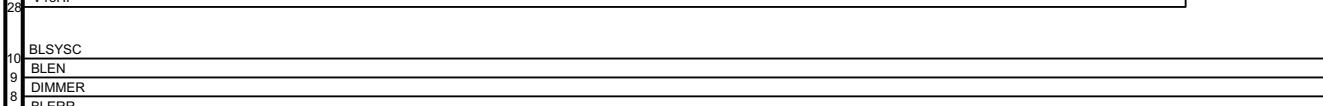
B



C



A CN1751



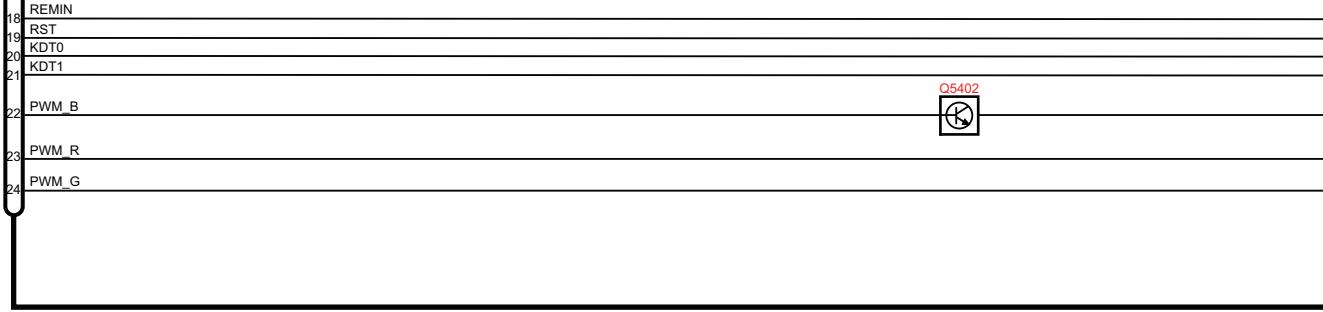
D

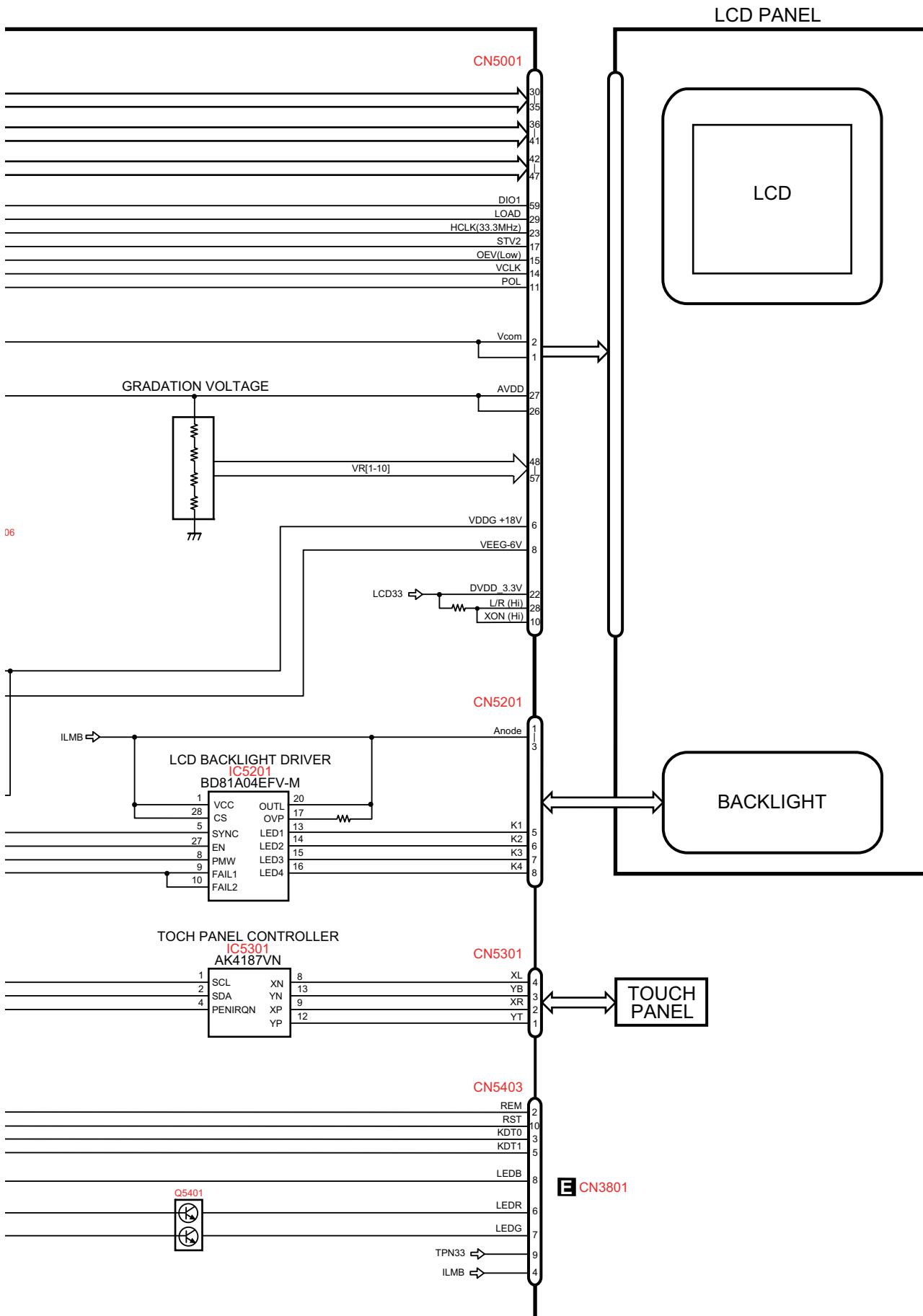


E

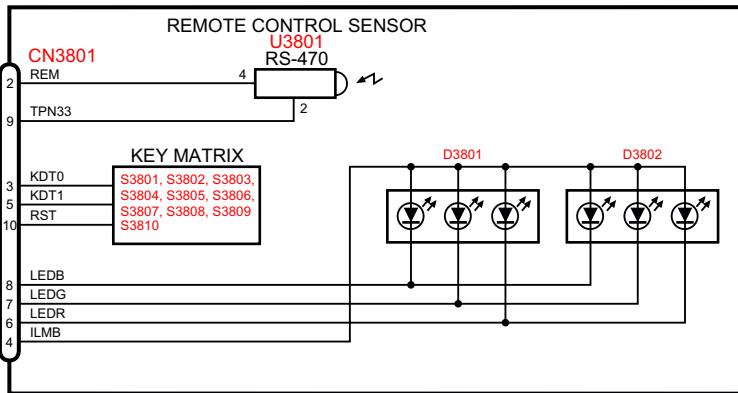


F

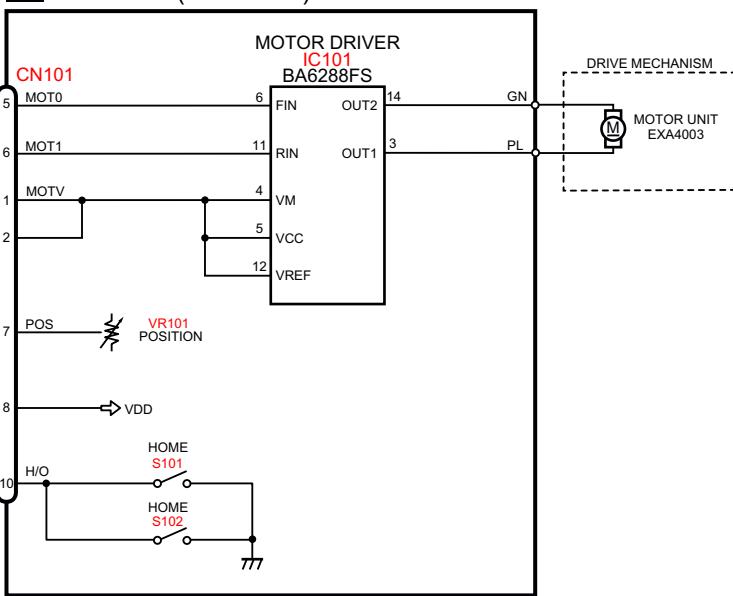




### E SERVICE UNIT(KEY)

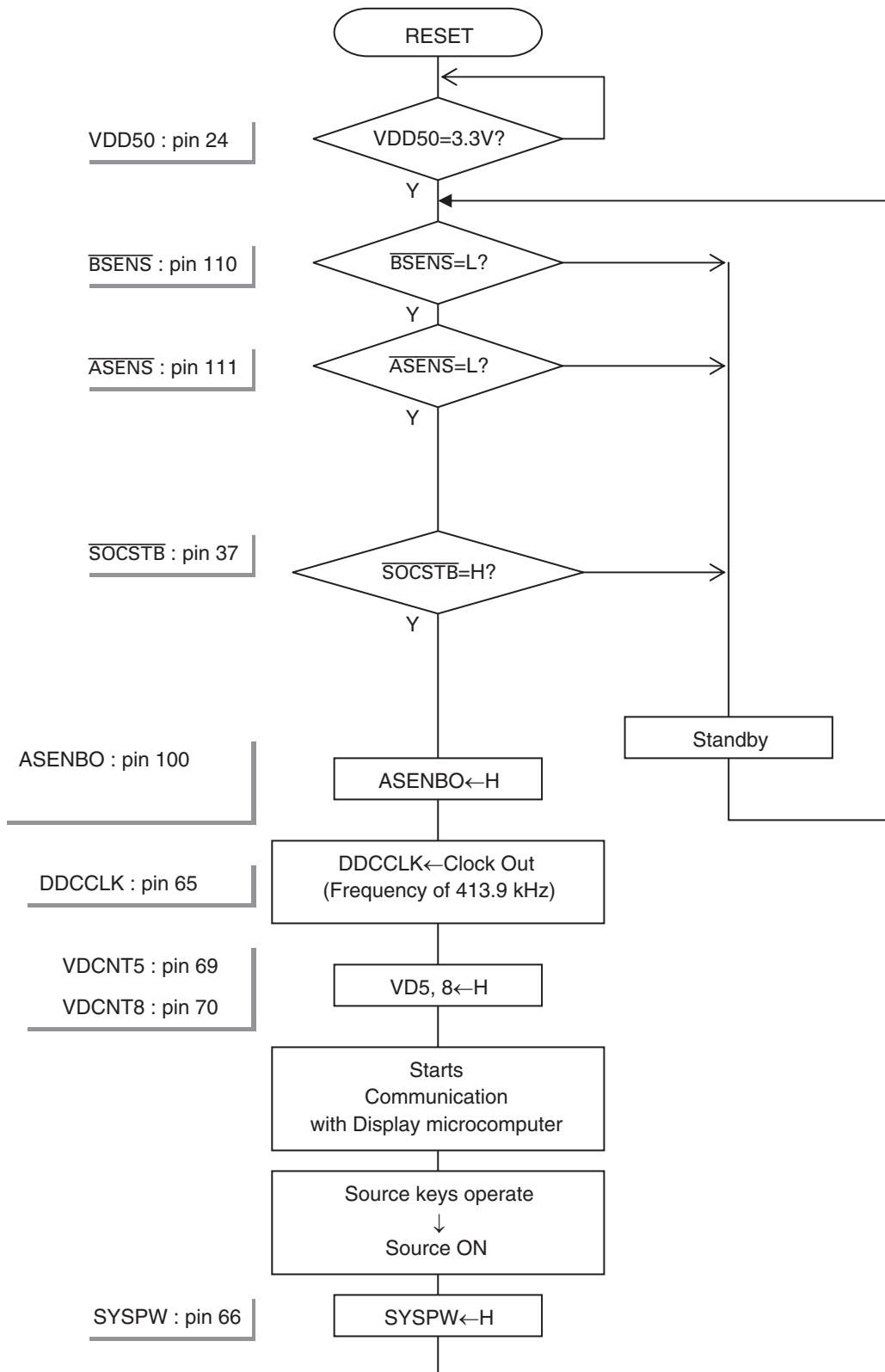


### F PCB UNIT(SERVICE)



## 5. DIAGNOSIS

### 5.1 OPERATIONAL FLOWCHART



## **5.2 INSPECTION METHOD OF PICKUP UNIT**

## **Disc to be used**

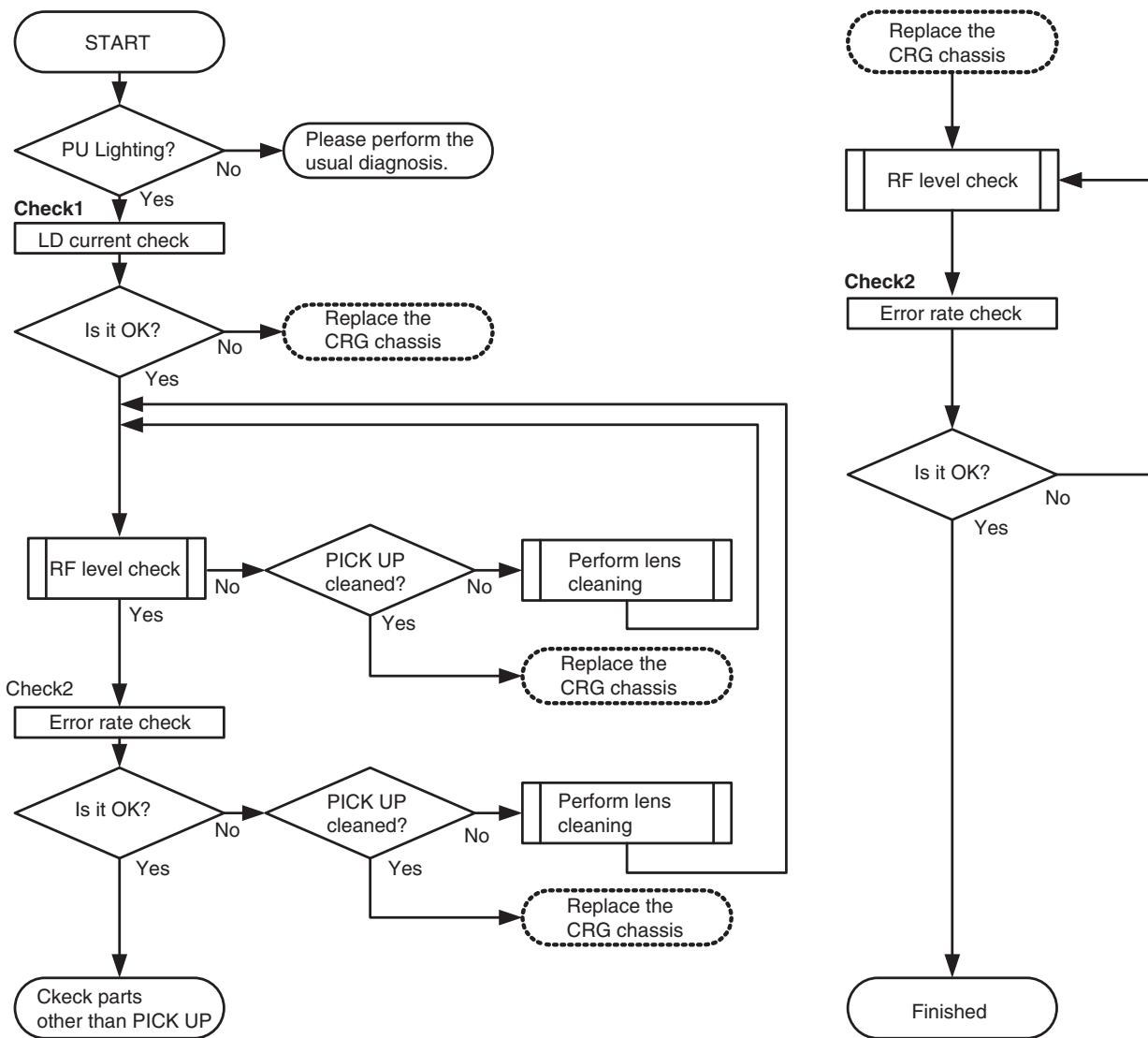
CD-DA : TCD-782

DVD-Video : TDV-582(GGV1025)

Exact judgment cannot be performed if the disk to be used has a crack and dirt.  
Be careful of handling of a disk enough.

### Execution method

Refer to the following page for the details of the check 1 and the check 2.

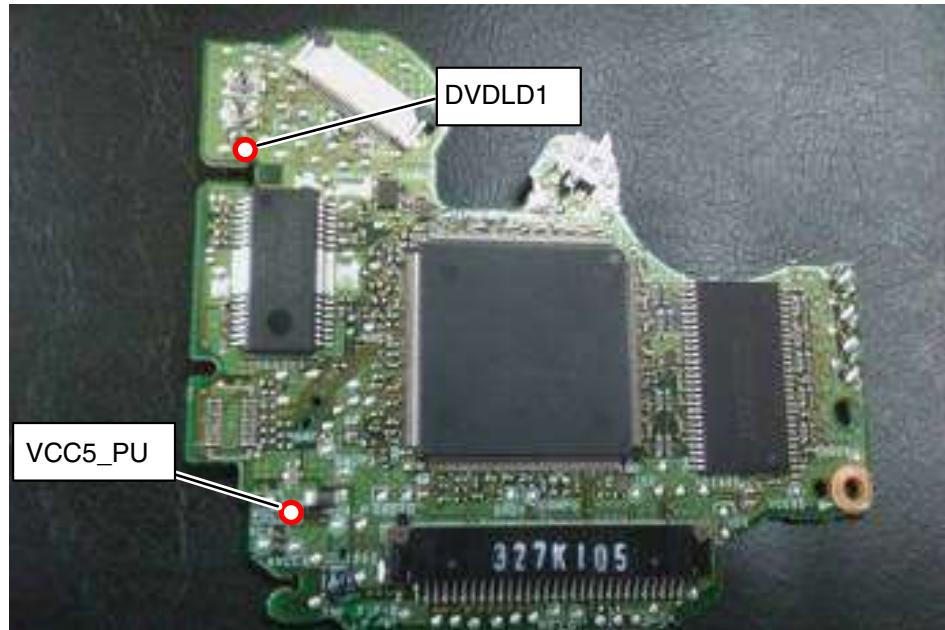


### Check1 : LD current check

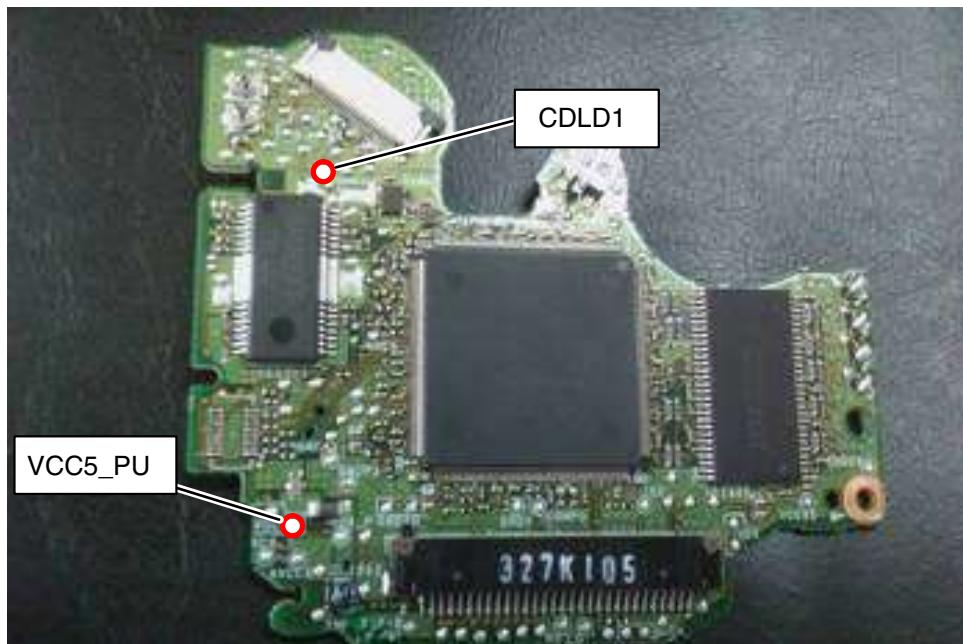
<Check>

Status: [Foucs closed] of TEST MODE

No.	Disc	Check Point	Threshold	Remarks: LD current
1	GGV1025	DVDLD1 - VCC5_PU	120 - 780 (mV)	10 - 65 (mA)



No.	Disc	Check Point	Threshold	Remarks: LD current
2	TCD-782	CDLD1 - VCC5_PU	150 - 900 (mV)	10 - 60 (mA)



Notes: Please pay attention to the laser diode damage by static electricity.

A

### Check : RF level

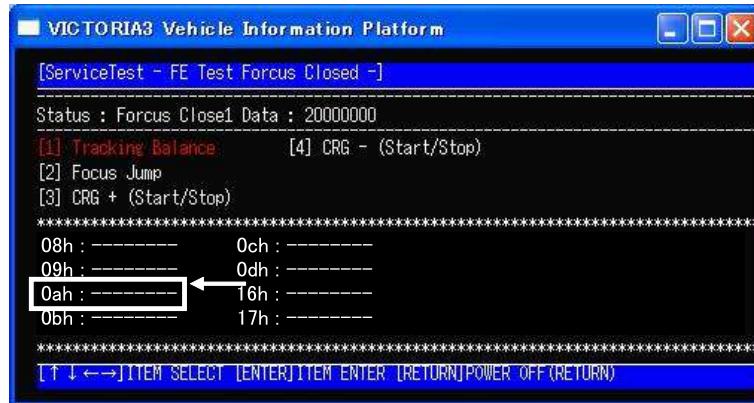
#### <Check>

ASMAX value shows the value of RF level.

Status: [Foucs closed] of TEST MODE

No.	Disc	Check Point	Threshold	Remarks
1	GGV1025	8 digits value of ASMAX on display	more than 0000 0B00	
2	TCD-782	8 digits value of ASMAX on display	more than 0000 0E00	

B



C

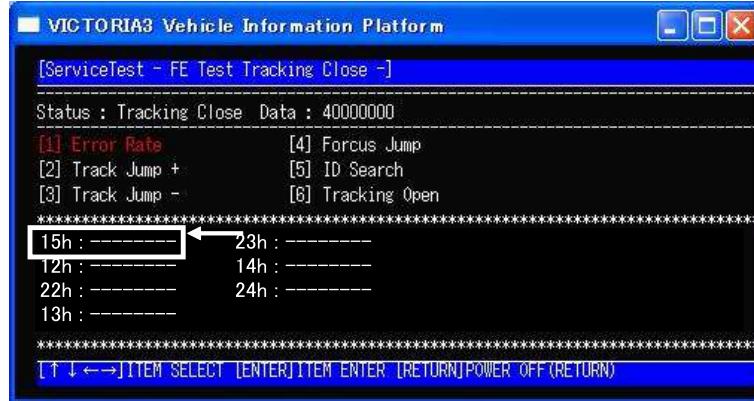
### Check2 : Error rate check

#### <Check>

Status: [Tracking Closed] of TEST MODE

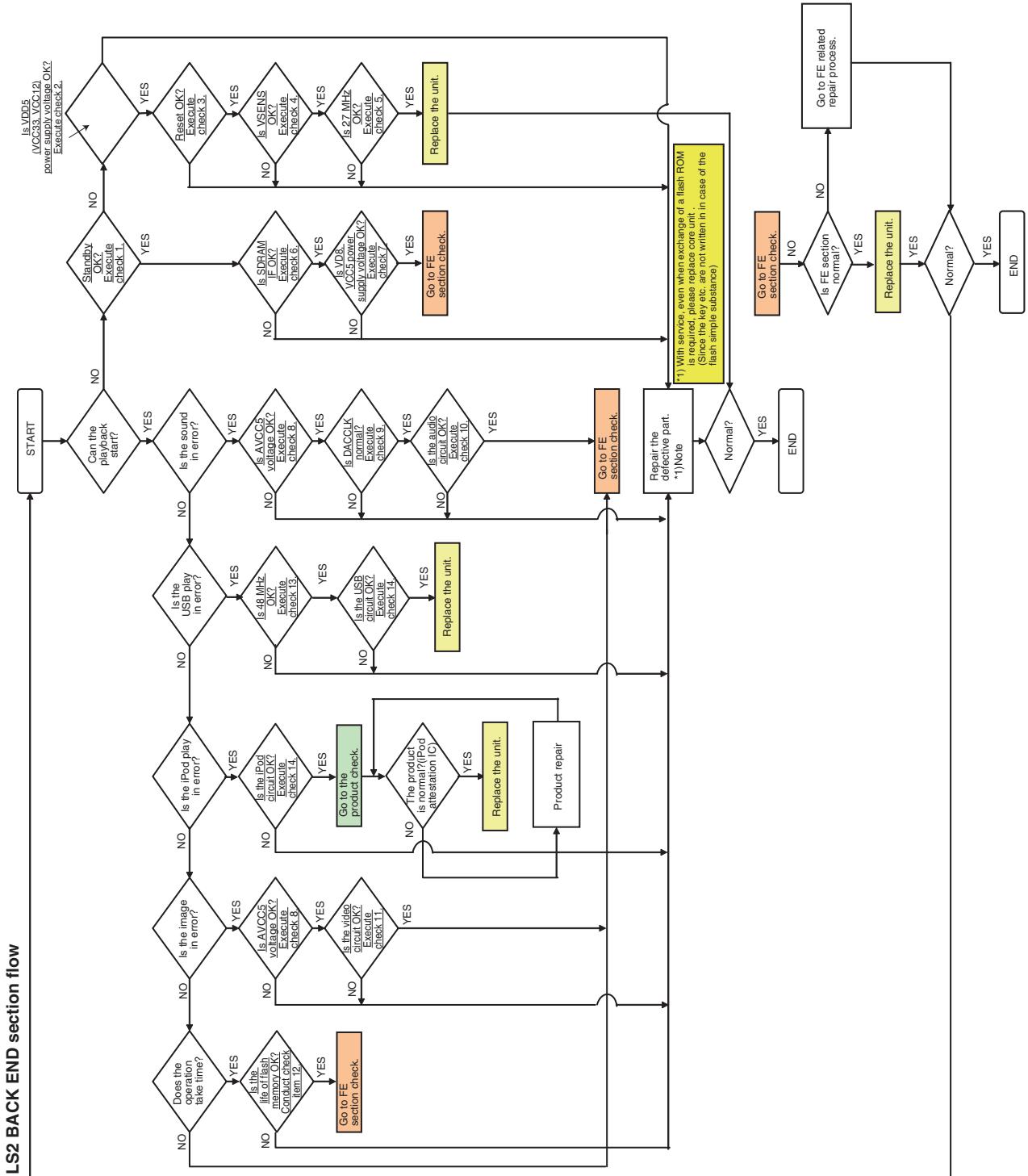
No.	Disc	Check Point	Threshold	Remarks
1	GGV1025	ID:40000	less than 1.000E-3	
2	GGV1025	ID:200000	less than 1.000E-3	
3	TCD-782	ID:HOME Position	less than 2.500E-3	

D



E

## 5.3 DIAGNOSIS FLOWCHART



## Check 1: Standby OK?

A

<Check> Check the voltage at the “STANBY” test point while the power is on.  
Use the “DGND1” test point at the reference.

No.	Check point	Module No.	Specification value	Unit
1	STANBY - DGND1	ALL	VCC33 - 0.6 V or more	V

Side A

B

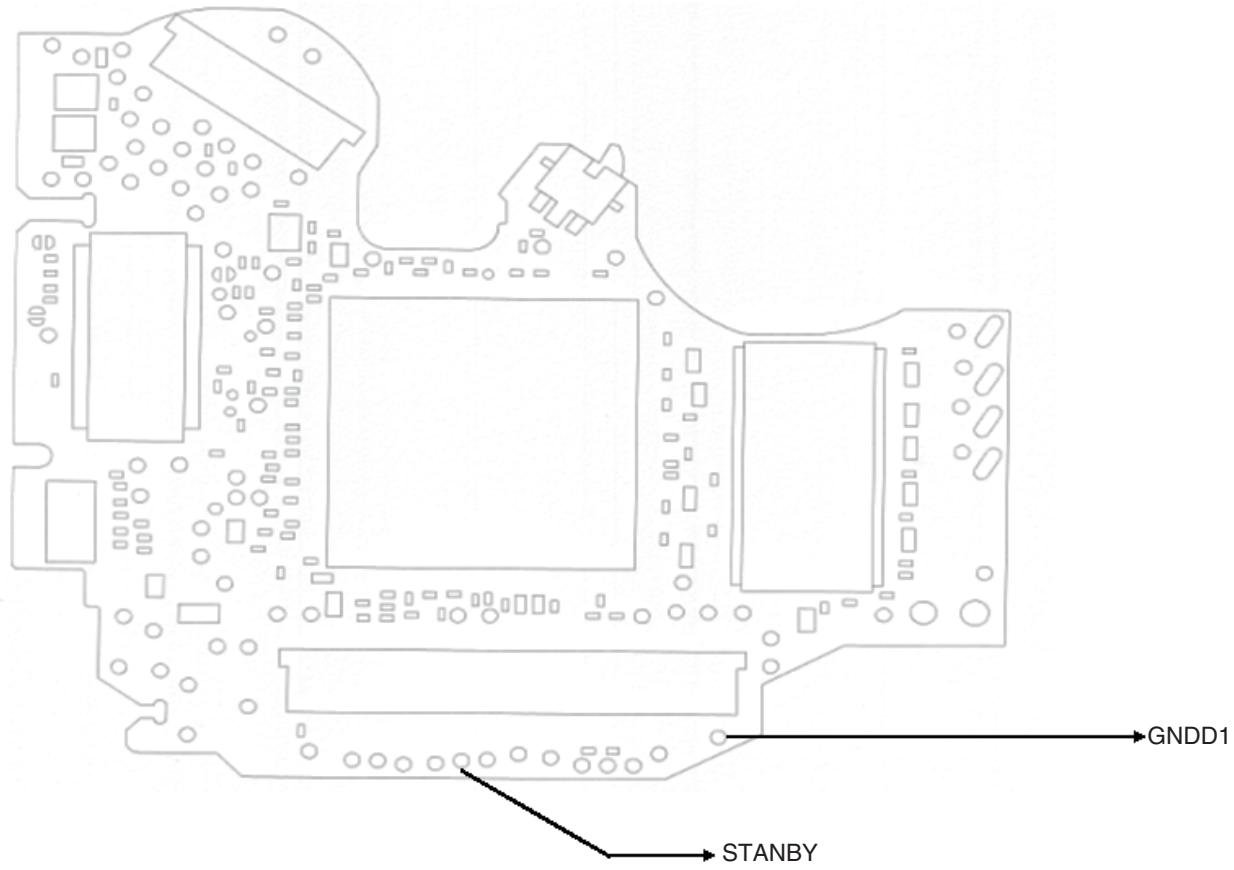


Fig 1.1: STANBY check point

E

F

## Check 2: Is VDD5 (VCC33, VCC12) power supply voltage OK?

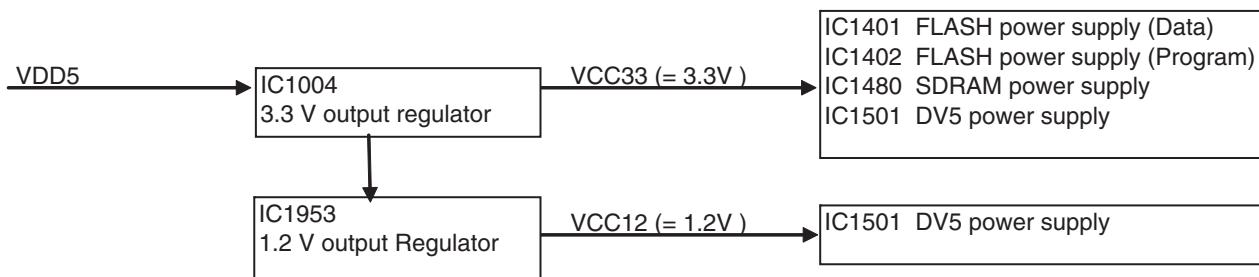


Fig 2.1: Power supply configuration

<Check> Check the voltage at the “VDD5\_1, VCC33\_1 and VCC12\_1” test point while the power is on.  
Use the “DGND1” test point at the reference.

No.	Check point	Module No.	Specification value	Unit
1	VDD5_1 - DGND1	ALL	$5.0 \pm 0.4$	V
2	VCC33_1 - DGND1	ALL	$3.3 \pm 0.033$	V
3	VCC12_1 - DGND1	ALL	$1.2 \pm 0.015$	V

Side A

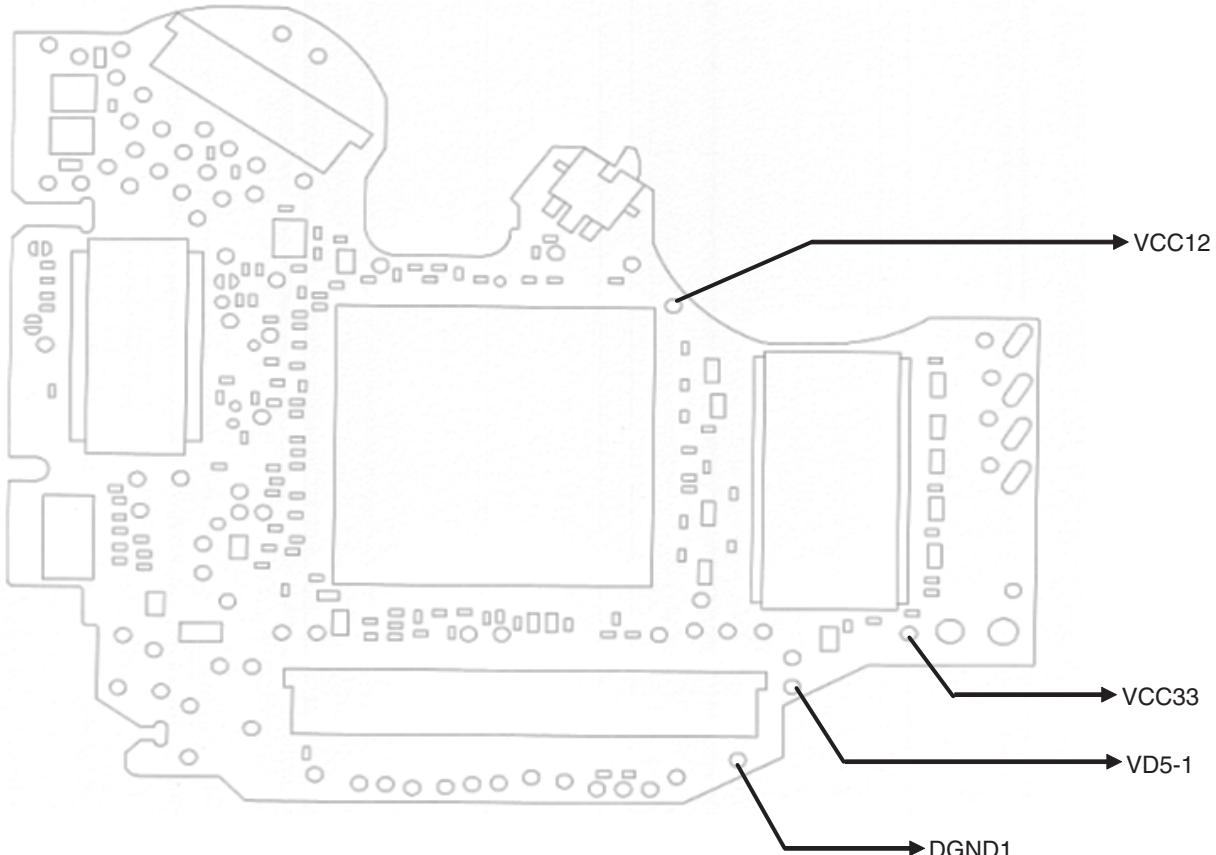


Fig 2.2: VDD5, VCC33, VCC12 voltage check points

## Check 3: Reset OK?

A

<Check> Check the voltage at the "XRES" test point while the power is on.  
Use the "DGND1" test point at the reference.

No.	Check point	Module No.	Specification value	Unit
1	NRES - DGND1	ALL	VCC33 × 0.7 or more	V

B

Side A

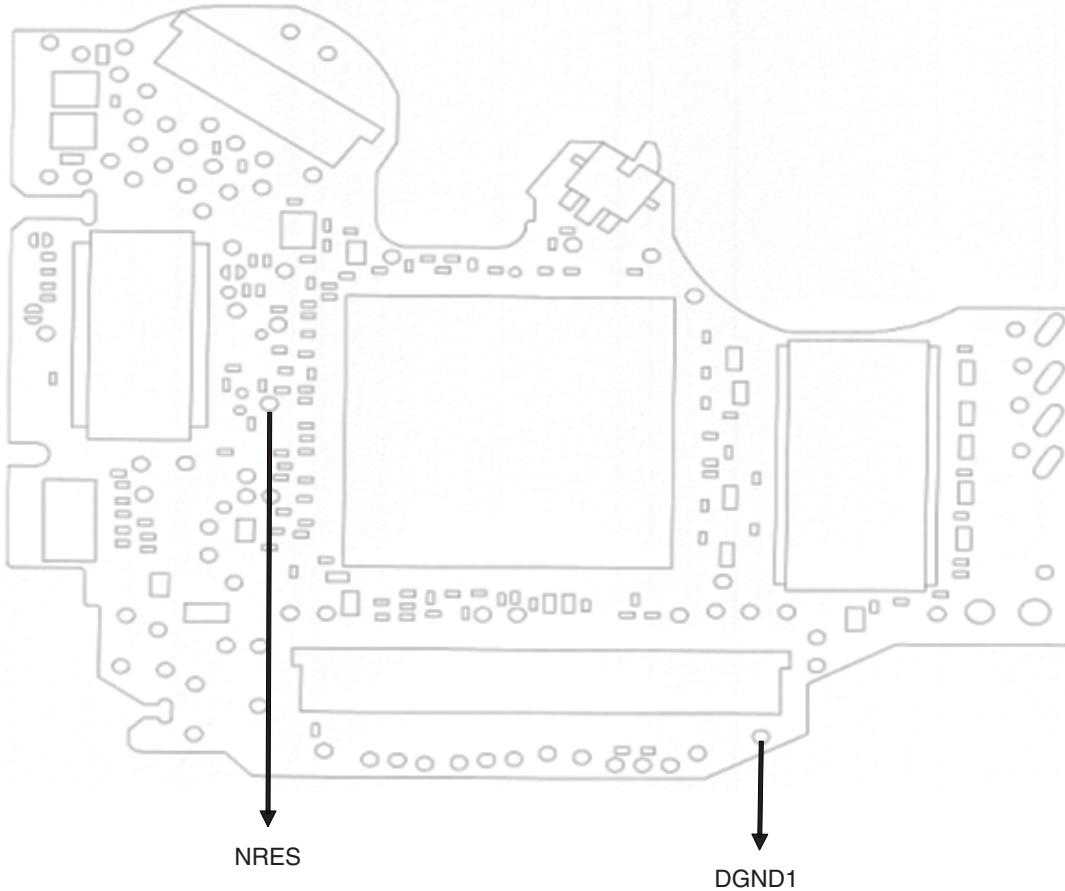


Fig 3.1: RESET check point

E

F

## Check 4: Is VSENS OK?

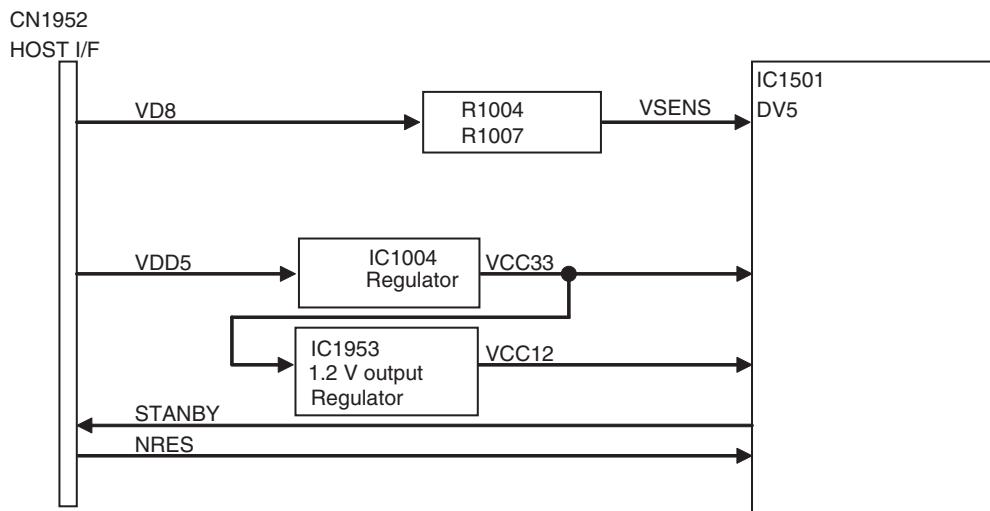


Fig 4.1: Power supply configuration and VSENS

<Check> Check the voltage at the "VSENS" test point while the power is on.  
Use the "DGND1" test point at the reference.

No.	Check point	Module No.	Specification value	Unit
1	VSENS - DGND1	ALL	0.95 - 1.07	V

$$VD8 = 8.0 \pm 0.4 \text{ V}$$

Side A

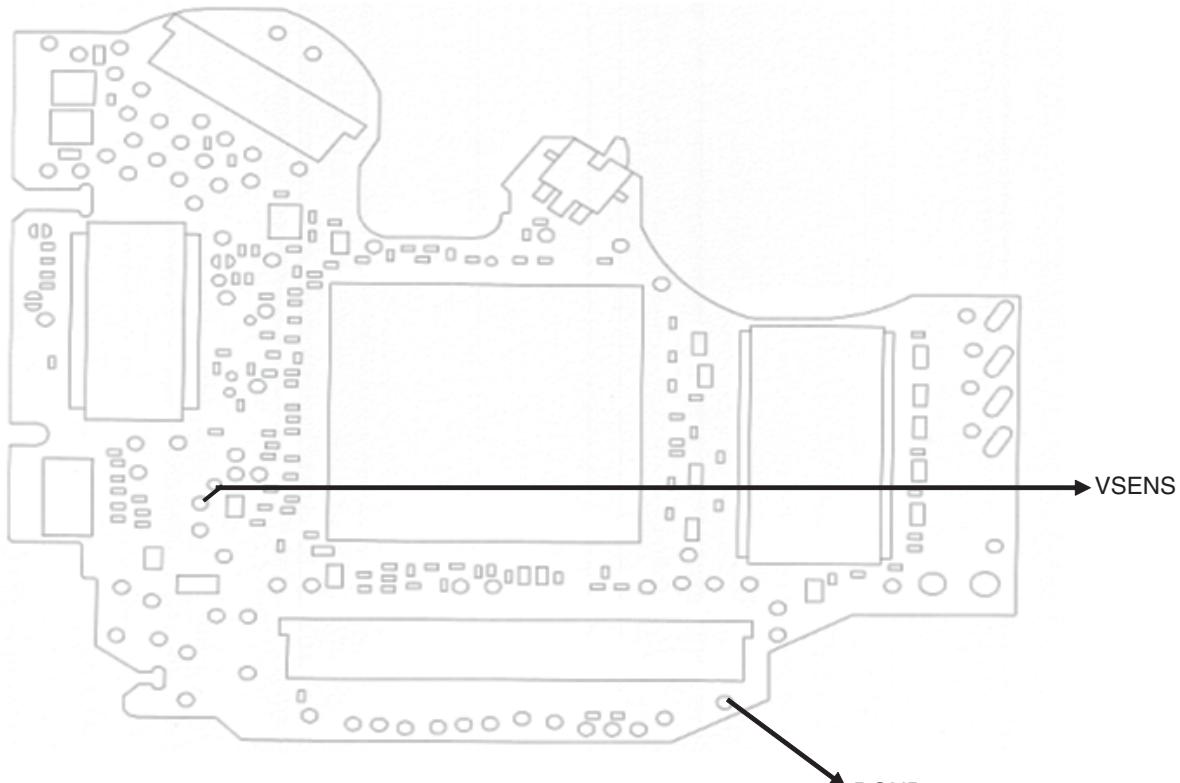
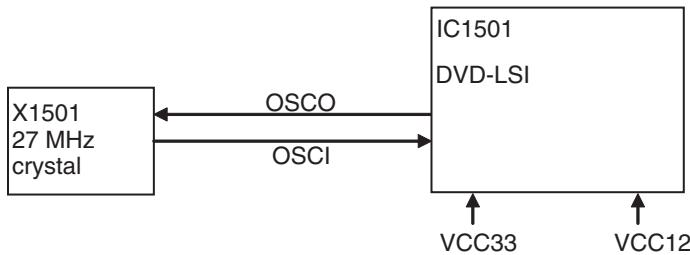


Fig 4.2: VSENS check point

## Check 5: 27 MHz Normal?

A

<Outline> Each clock is created inside the IC1501 using the 27 MHz master crystal oscillator (X1501).



B

Fig 5.1: Clock configuration

<Check method> Turn the power on, and check with DGND being the reference.

In case of NG, check the applicable line, periphery of IC1501, soldering of the peripheral components and defective components.

No.	Check point	Module No.	Specification value	Unit
2	IC1501 156pin - DGND1	ALL	27 MHz ± 50 ppm	ppm

C

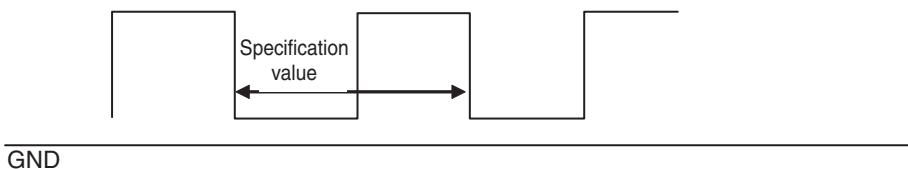
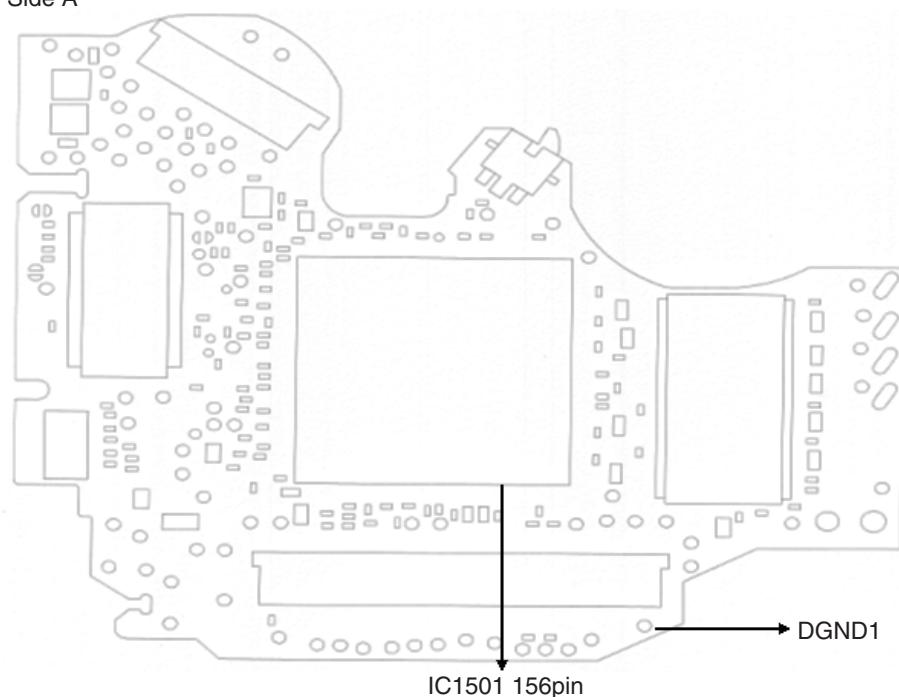


Fig 5.2: Clock specification value

D



E

Fig 5.3: 27 MHz check point

## Check 6: Is SDRAM I/F OK?

<Outline> In order to secure the MPEG stream data as the buffer, the capacity of communication I/F SDRAM between the LSI and the memory is 64Mbit. Be careful as XCSM, XWE, XCAS and XRAS of IC1480 are called differently in IC1501, namely NCSM, NWE, NCAS, NRAS.

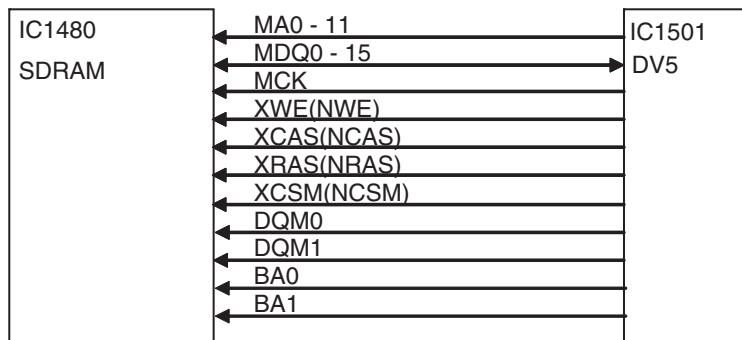


Fig 6.1: SDRAM I/F

<Check> Check the conductivity at “check point 1” and “check point 2” without power. In case of NG, check the soldering and defective components throughout the “output → input” of the applicable section.

No.	Signal name	Check point 1	Check point 2	Specification value
1	MA0	IC1480 23pin	IC1501 201pin	56 ohm ± 5%
2	MA1	IC1480 24pin	IC1501 203pin	56 ohm ± 5%
3	MA2	IC1480 25pin	IC1501 207pin	56 ohm ± 5%
4	MA3	IC1480 26pin	IC1501 209pin	56 ohm ± 5%
5	MA4	IC1480 29pin	IC1501 208pin	56 ohm ± 5%
6	MA5	IC1480 30pin	IC1501 206pin	56 ohm ± 5%
7	MA6	IC1480 31pin	IC1501 202pin	56 ohm ± 5%
8	MA7	IC1480 32pin	IC1501 200pin	56 ohm ± 5%
9	MA8	IC1480 33pin	IC1501 198pin	56 ohm ± 5%
10	MA9	IC1480 34pin	IC1501 194pin	56 ohm ± 5%
11	MA10	IC1480 22pin	IC1501 199pin	56 ohm ± 5%
12	MA11	IC1480 35pin	IC1501 192pin	56 ohm ± 5%
13	MDQ0	IC1480 2pin	IC1501 160pin	56 ohm ± 5%
14	MDQ1	IC1480 4pin	IC1501 162pin	56 ohm ± 5%
15	MDQ2	IC1480 5pin	IC1501 164pin	56 ohm ± 5%
16	MDQ3	IC1480 7pin	IC1501 168pin	56 ohm ± 5%
17	MDQ4	IC1480 8pin	IC1501 170pin	56 ohm ± 5%
18	MDQ5	IC1480 10pin	IC1501 172pin	56 ohm ± 5%
19	MDQ6	IC1480 11pin	IC1501 176pin	56 ohm ± 5%
20	MDQ7	IC1480 13pin	IC1501 178pin	56 ohm ± 5%
21	MDQ8	IC1480 42pin	IC1501 177pin	56 ohm ± 5%
22	MDQ9	IC1480 44pin	IC1501 175pin	56 ohm ± 5%
23	MDQ10	IC1480 45pin	IC1501 171pin	56 ohm ± 5%
24	MDQ11	IC1480 47pin	IC1501 169pin	56 ohm ± 5%
25	MDQ12	IC1480 48pin	IC1501 167pin	56 ohm ± 5%
26	MDQ13	IC1480 50pin	IC1501 163pin	56 ohm ± 5%
27	MDQ14	IC1480 51pin	IC1501 161pin	56 ohm ± 5%
28	MDQ15	IC1480 53pin	IC1501 159pin	56 ohm ± 5%
29	MCK	IC1480 38pin	IC1501 183pin	47 ohm ± 5%
30	XWE	IC1480 16pin	IC1501 181pin	56 ohm ± 5%
31	XCAS	IC1480 17pin	IC1501 188pin	56 ohm ± 5%
32	XRAS	IC1480 18pin	IC1501 189pin	56 ohm ± 5%
33	XCSM	IC1480 19pin	IC1501 190pin	56 ohm ± 5%
34	DQM0	IC1480 15pin	IC1501 179pin	56 ohm ± 5%
35	DQM1	IC1480 39pin	IC1501 180pin	56 ohm ± 5%
36	BA0	IC1480 20pin	IC1501 193pin	56 ohm ± 5%
37	BA1	IC1480 21pin	IC1501 197pin	56 ohm ± 5%

Side A

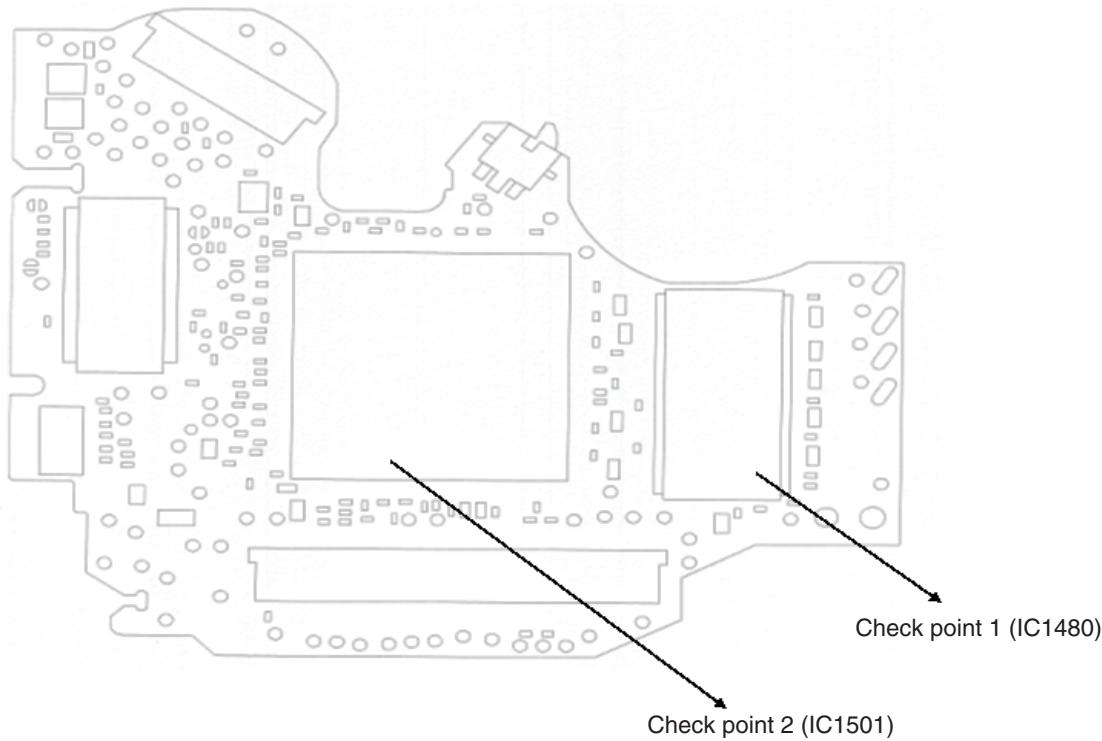


Fig 6.2: SDRAM I/F check point

## Check 7: Is VD8, VCC5 power supply voltage OK?

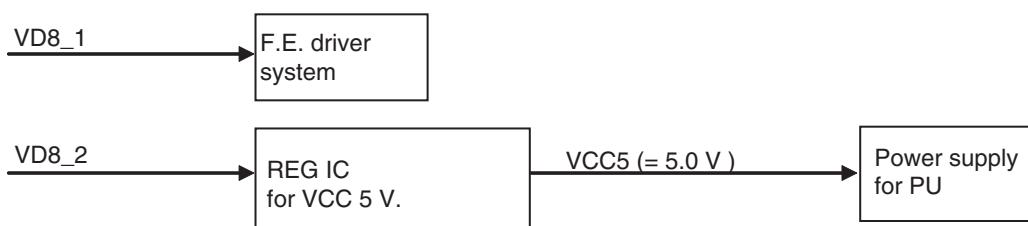


Fig 7.1: Power supply configuration

<Check> Check the voltage at the “VD8\_P, VD8\_A and VCC5\_1” test point while the power is on.  
Use the “PGND1 and AGND1” test point at the reference.

No.	Check point	Module No.	Specification value	Unit
1	VD8_P - PGND1	ALL	$8.0 \pm 0.4$	V
2	VD8_A - AGND1	ALL	$8.0 \pm 0.4$	V
3	VCC5_1 - AGND1	ALL	$5.0 \pm 0.05$	V

Side A

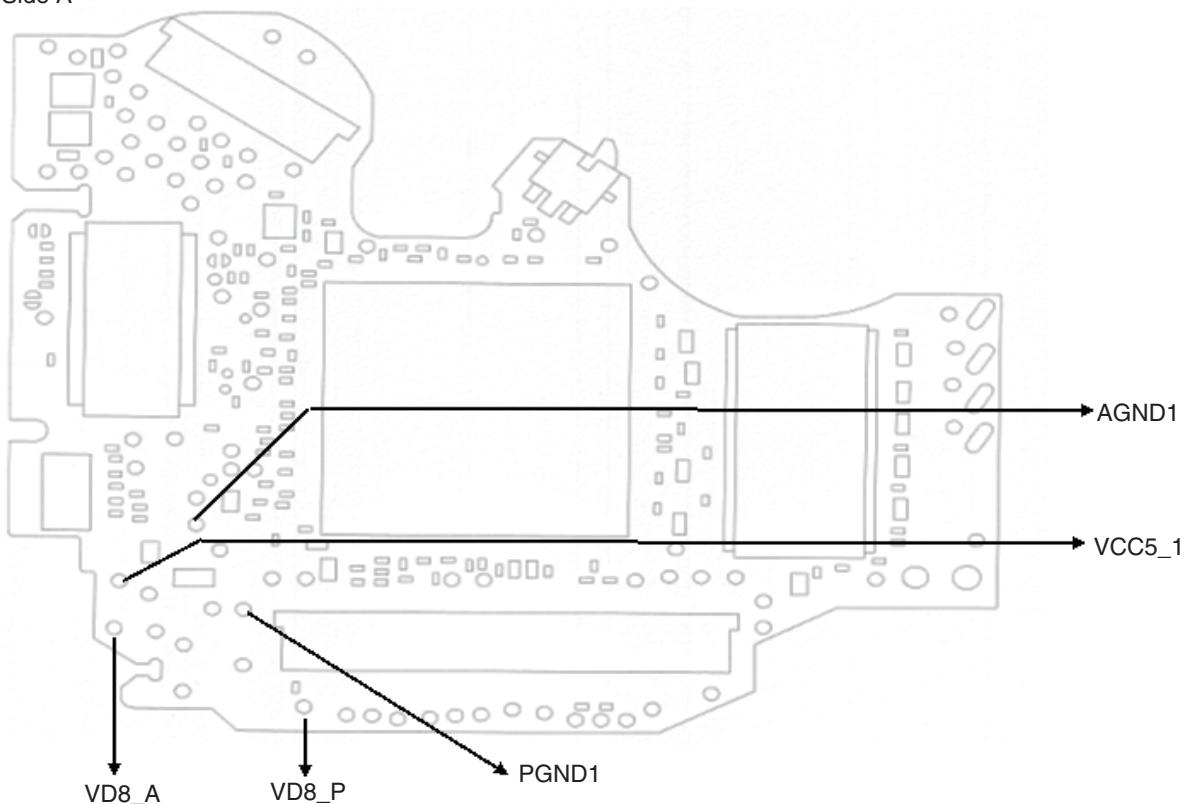


Fig 7.2: VD8, VCC5 voltage check points

## Check 8: Is AVCC5 voltage OK?

A

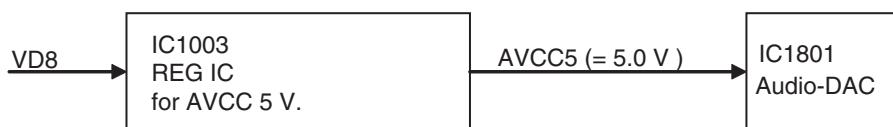


Fig 8.1: Power supply configuration

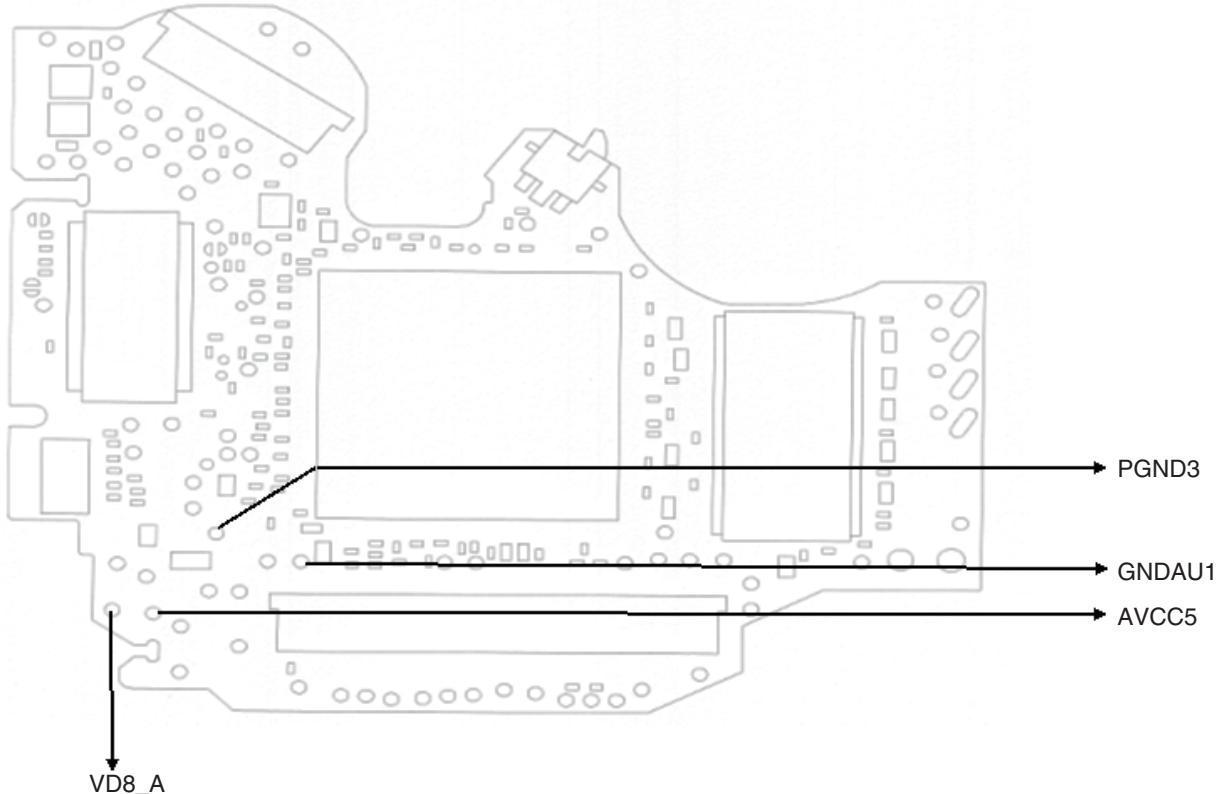
B

<Check> Playback DVD-REF-A1 TITLE 1 and check the voltage at the stylus.  
Check with PGND\_3 and GNDAU1 being the reference.

No.	Check point	Module No.	Specification value	Unit
1	VD8_A - PGND_3	ALL	$8.0 \pm 0.4$	V
2	AVCC5 - GNDAU1	ALL	$5.0 \pm 0.05$	V

Side A

C



D

E

Fig 8.2: VD8, AVCC5 voltage check points

F

## Check 9: Is DACCLK normal?

<Outline> DACCLK for Audio-DAC is created by IC1501 using the 27 MHz master crystal oscillator (X1501).

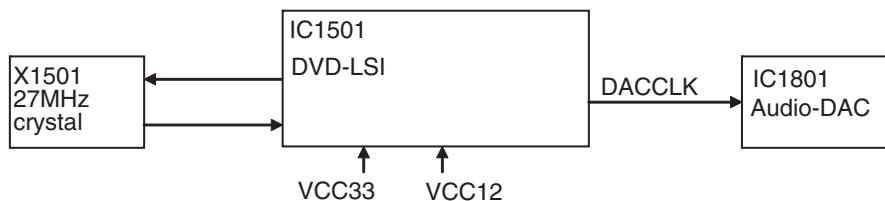


Fig 9.1: Clock configuration

<Check method>

DVD: DVD-REF-A1 TITLE 1

CD: Playback a normal CDDA.

Common to all DVD-V compatible modules.

Check with DGND being the reference.

In case of NG, check the applicable line, the periphery of IC1501, soldering of the peripheral components and defective components.

No.	Check point 1 (stylus)	Media	Specification value 1	Specification value 2	Specification value 3
1	DACCK	DVD	2.0 V - VCC33V	DGND - 0.8 V	36.8640 MHz ± 300 ppm
2	DACCK	CD	2.0 V - VCC33V	DGND - 0.8 V	33.8688 MHz ± 300 ppm

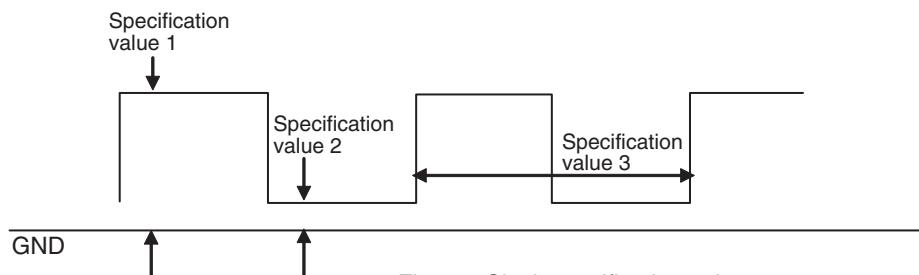


Fig 9.2: Clock specification value

Side A

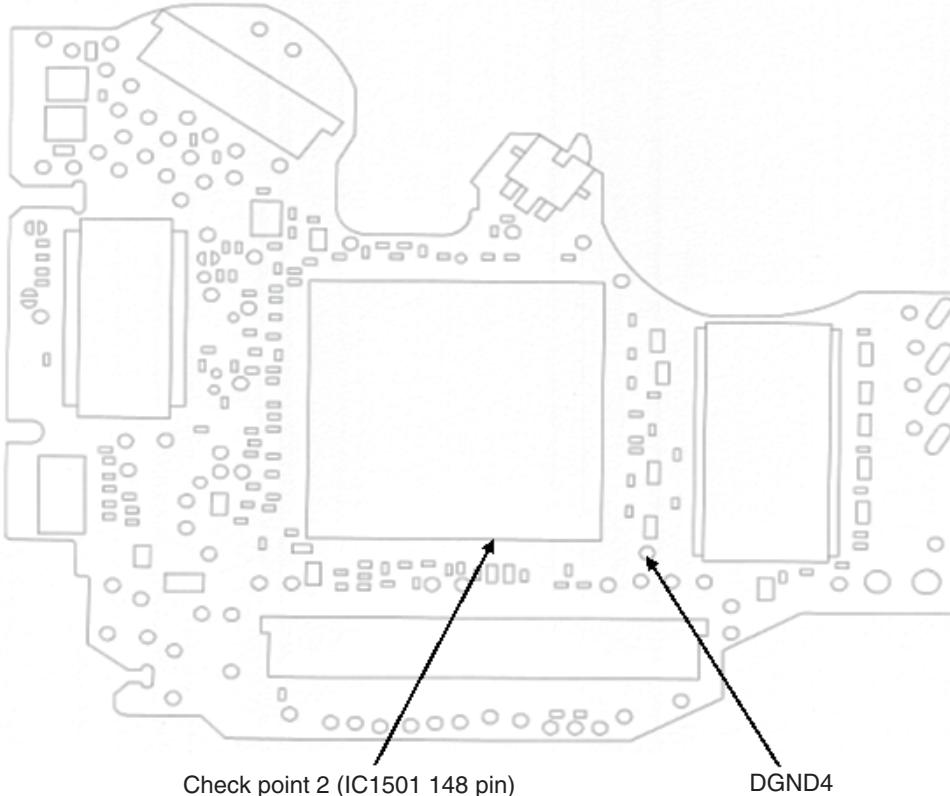


Fig 9.3: DACCLK check point

## Check 10: Is the audio circuit OK?

**A** <Outline> The serial 3 lines digital output + DACCLK, output from DVD-LSI (IC1501), are converted to analog audio signal at Audio-DAC (IC1801) and are output from the HOST I/F (CN1952). Simultaneously, the analog MUTE signal is also output from DVD-LSI (IC1501) via the HOST I/F. The digital audio signal (IECOUT), output from DVD-LSI (IC1501).

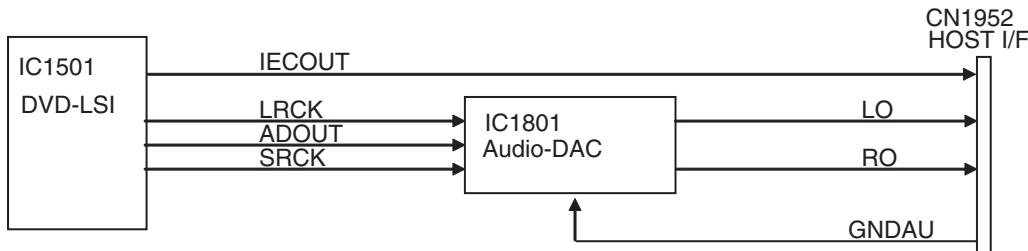


Fig 10.1: Audio circuit

<Check method> Playback DVD-REF-A1 TITLE 2 CHAPTER 1 (48 k/16 bit 1 kHz 0 dB), and check with DGND1 being the reference.

In case of NG, check the applicable line, periphery of major components as described in the above drawing, soldering of the peripheral components and defective components.

No.	Check point 1 (stylus)	Specification value 1	Specification value 2	Reference waveform
1	ADOUT	VCC33V - 0.6 V or higher	0.4 V or lower	Waveform 1
2	SRCK	VCC33V - 0.6 V or higher	0.4 V or lower	Waveform 2
3	LRCK	VCC33V - 0.6 V or higher	0.4 V or lower	Waveform 3

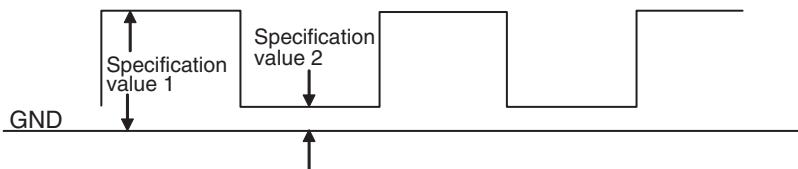


Fig 10.2: Serial 3 lines specification value

Side A

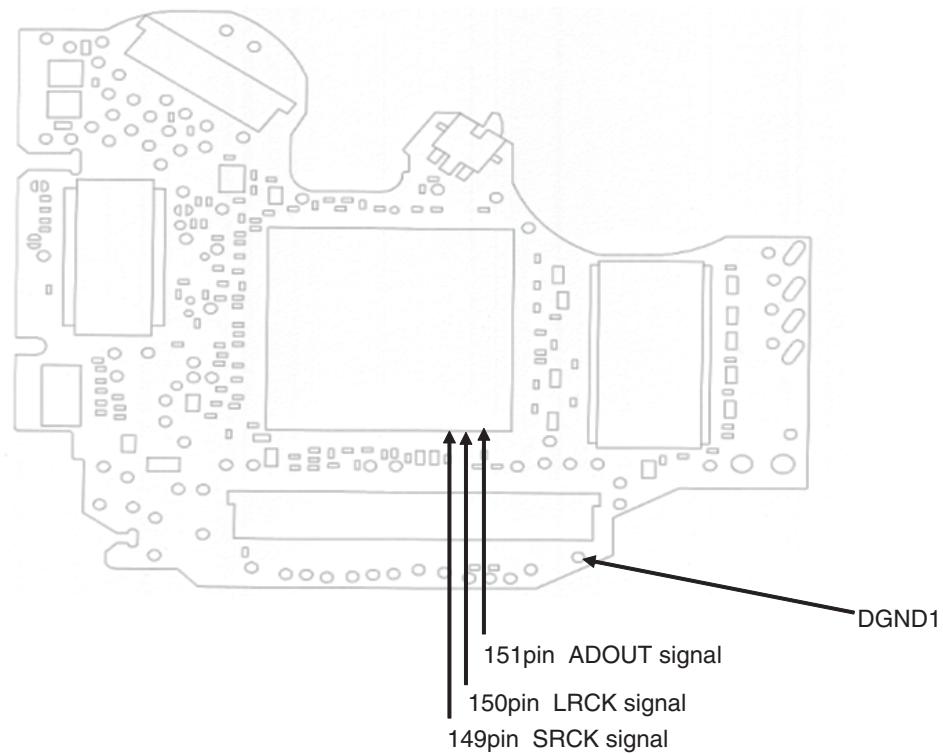
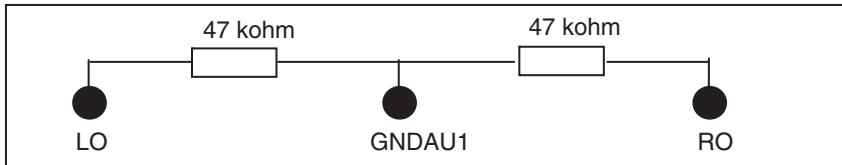


Fig 10.3: Serial 3 lines check points

The following checks shall be conducted using the following measurement circuits with GNDAU1 being the reference.



No.	Check point 1 (stylus)	Specification value (rms)	Reference waveform
4	LO	$1400 \pm 150$ mV	Waveform 4
5	RO	$1400 \pm 150$ mV	Waveform 4

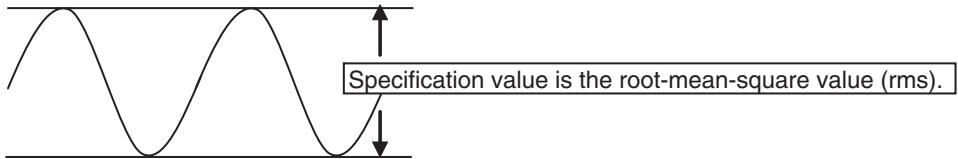


Fig 10.4: Analog audio out (LO, RO) specification value.

Side A

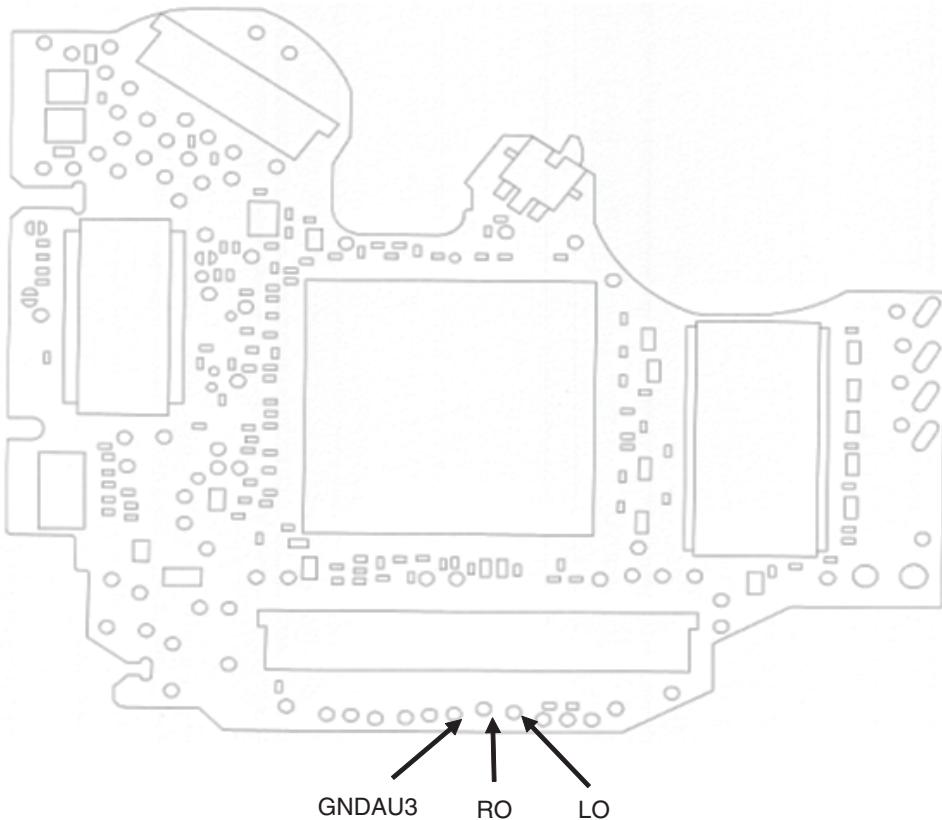
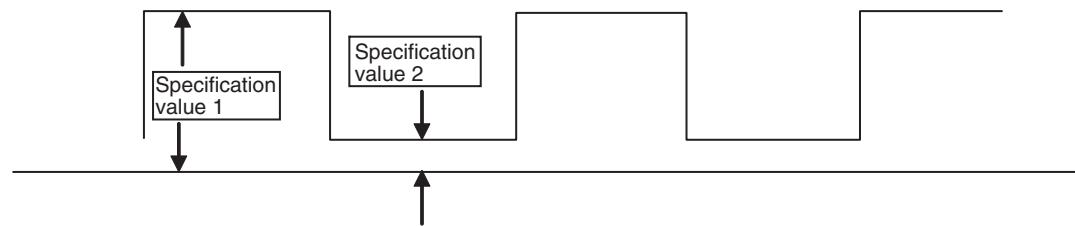


Fig 10.5: Analog audio out check point

A

Check with DGND1 being the reference.

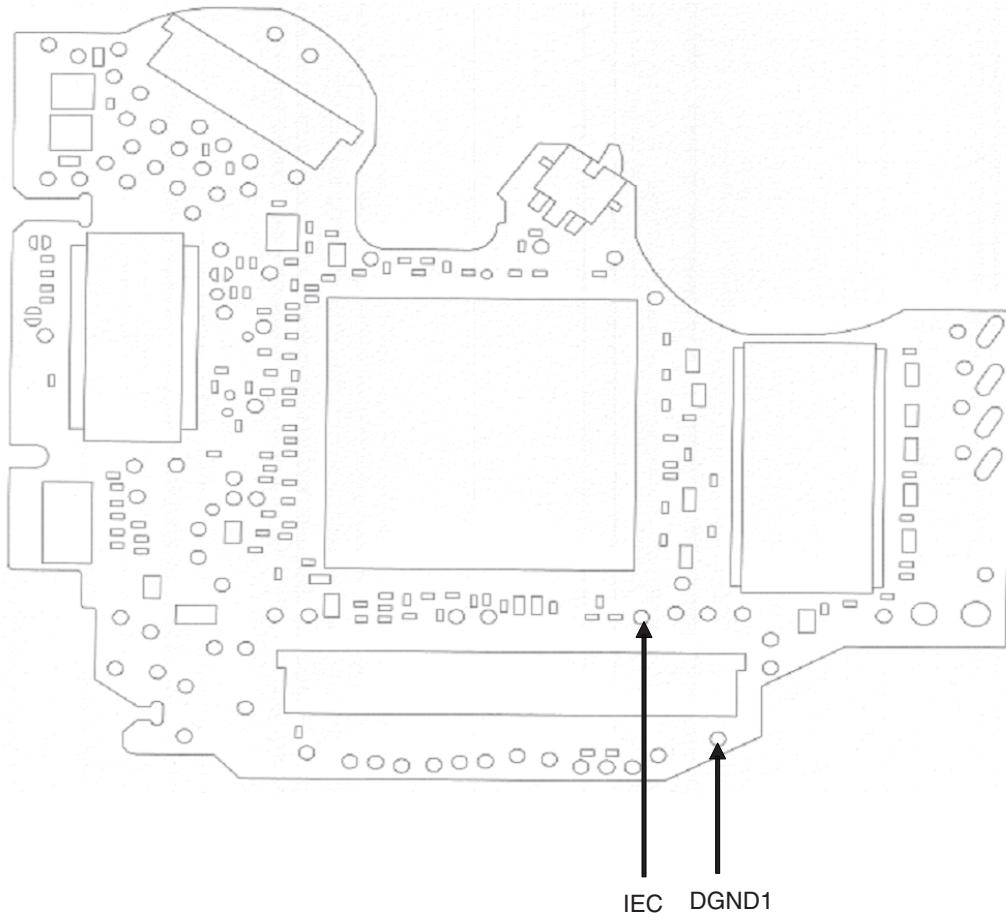
No.	Check point 1 (stylus)	Specification value 1	Specification value 2	Reference waveform
6	IEC	VCC33V - 0.6 V or higher	0.4 V or lower	Waveform 5



B

10.6: Digital audio signal (IECOUT) specification value

Side A



C

D

E

Fig 10.7: Digital audio signal (IECOUT) check point

## Check 11: Is the video circuit OK?

<Outline> Composite signal and component signal are output from DVD-LSI (IC1501), and are output from the HOST I/F (CN1952) via a buffer circuit.

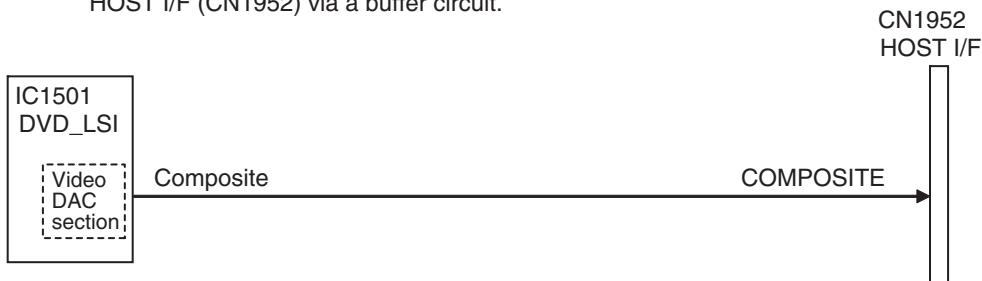


Fig 11.1: Video circuit

<Checking method> Playback DVD-REF-A1 TITLE2 CHAPTER5 (WHITE 100%), and monitor COMPOSITE signal with an oscilloscope with GNDV (stylus) being the reference. Set the trigger mode to “TV trigger” and the trigger line to “150 line”.

No.	Check point 1 (stylus)	Specification value	Reference waveform
1	COMPOSITE	1000 mVpp ± 5%	Waveform 6

In case of NG, check the applicable line, the periphery of the major components in the drawing above, soldering of the peripheral components and defective components.

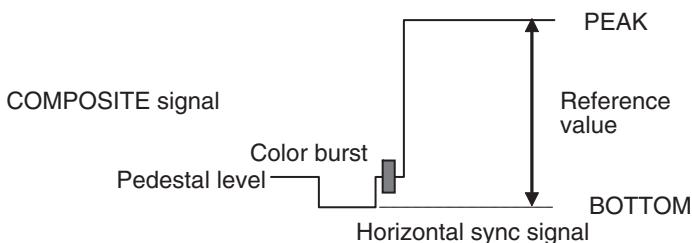


Fig 11.2: Waveform for the case of composite white 100% output

Side A

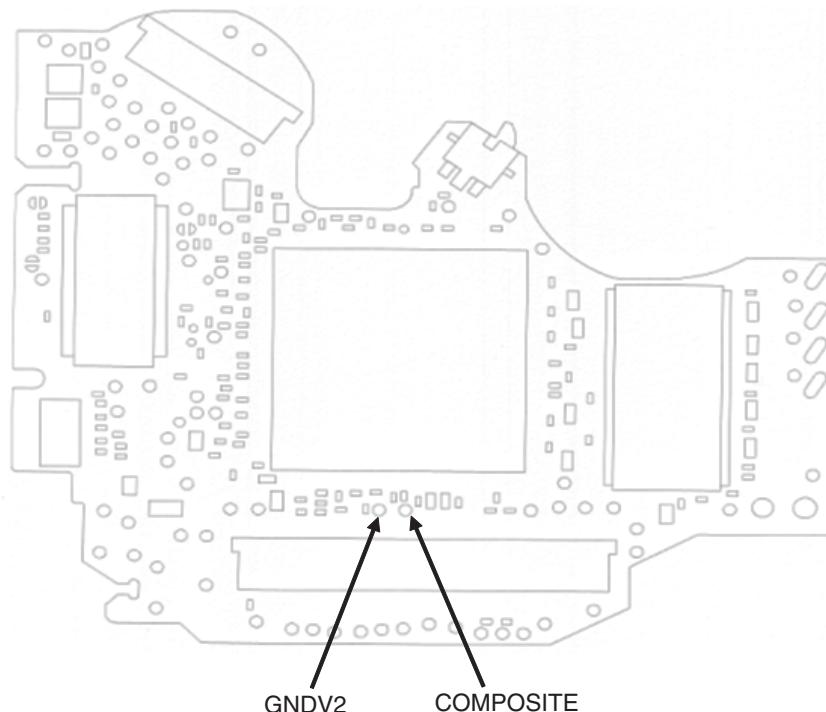


Fig 11.3: VIDEO signal check point

## Check 12:How to judge whether the flash memory has reached its life or not.

A

If the reaction to user operation is slow or operation is slow in general, there is a possibility that the flash memory has reached its life.

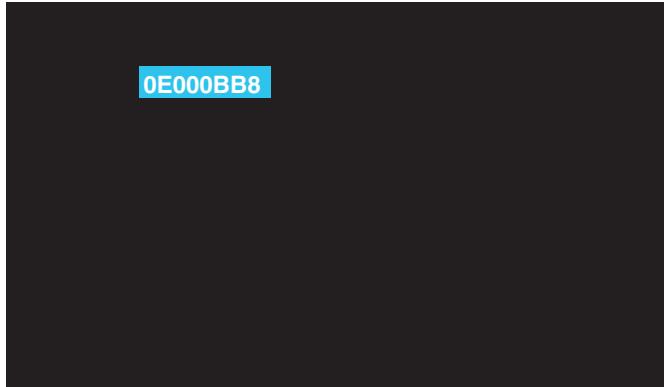
Make judgment regarding the flash memory life by looking at the display of the LD power on time mode.

1. Let the LD energizing time displayed.

(Refer to the LD power on time mode for the method of displaying the LD energizing time.)

2. If the second digit from the left of the energizing time display is showing E,  
such as "E", it means that the flash memory has reached its life.

B Example:



B

C

D

E

F

## Check 13: 48 MHz Normal?

<Outline> CLOCK of a USB circuit is made using the 48 MHz master crystal oscillator (X1950).

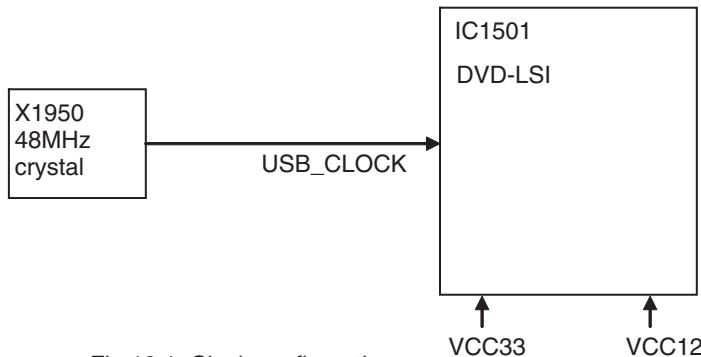


Fig 13.1: Clock configuration

<Check method> Turn the power on, and check with DGND1 being the reference.  
In case of NG, check the applicable line, periphery of IC1501,  
soldering of the peripheral components and defective components.

No.	Check point	Module No.	Specification value	Unit
2	IC1501 50pin - DGND1	ALL	48 MHz ± 200 ppm	ppm

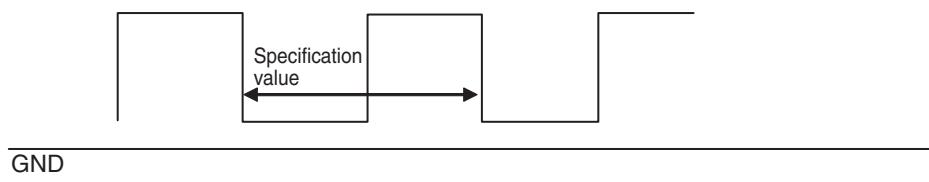


Fig 13.2: Clock specification value

Side A

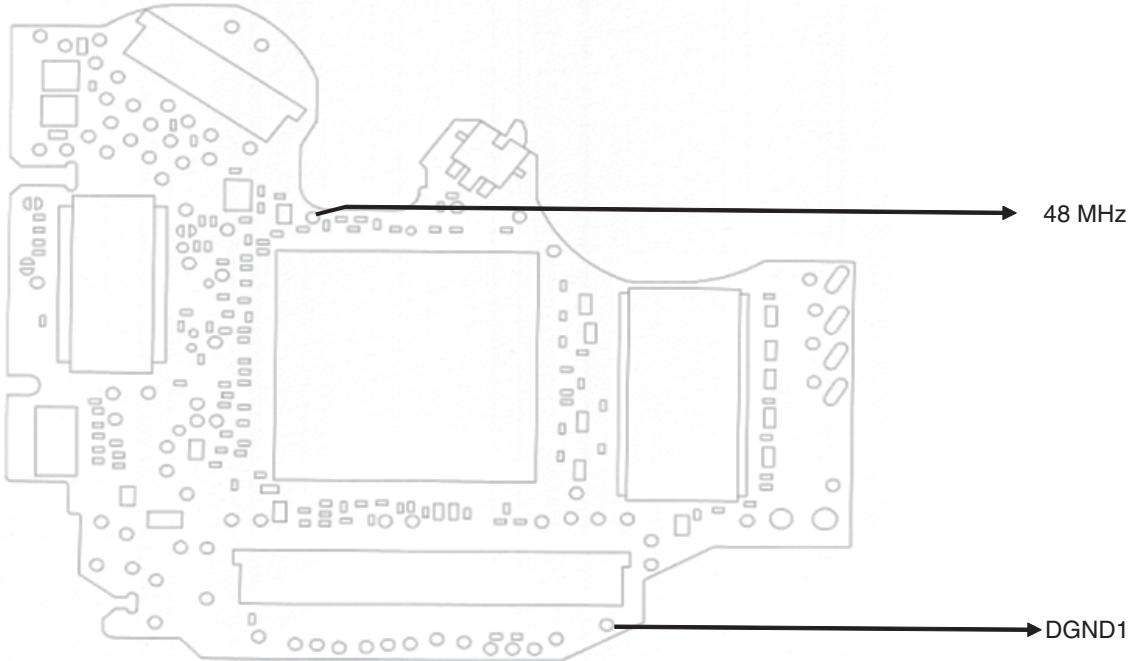


Fig 13.3: 48 MHz check point

## Check 14: Is USB Circuit OK?

A

### <Outline>

The data is transmitted through D+, D- and SDA of HOST I/F while playing USB/IPOD.

USB memory uses only D+ and D-, but IPOD uses SDA (DATA) and SCL (CLOCK) in addition to D+ and D-.

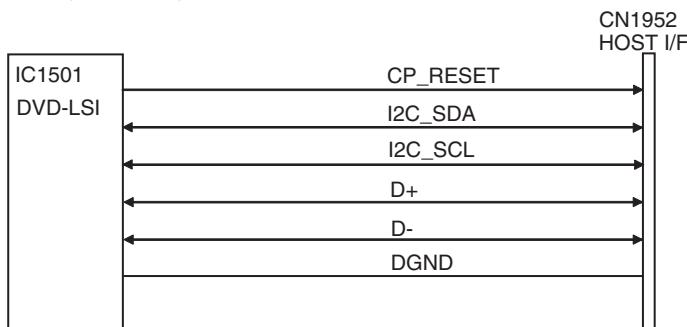


Fig. 14-1: USB Circuit

B

### <Check Method>

1. USB Memory: Play a song from USB memory and check D+ and D- with the DGND1 standards.
2. iPod: Connect iPod and check CP\_RESET, SDATA and SCLOCK with the DGND1 standards until the Pioneer log appears. When iPod Touch or iPhone is connected, the logo is not displayed but only a check mark is displayed.

Play a song from iPod and check D+/D- with the DGND1 standards.

When it does not conform to the standards, check appropriate line, main parts shown in the above figure, soldering of peripheral parts and malfunctions in parts.

C

No.	Checking spot (stylus)	Standard value 1	Standard value 2
1	CP_RESET	VCC33*0.7 or more	
2	SDATA	VCC33*0.7 or more	VCC33*0.2 or less
3	SCLOCK	VCC33*0.7 or more	VCC33*0.2 or less
4	D+	VCC33*0.7 or more	VCC33*0.3 or less
5	D-	VCC33*0.7 or more	VCC33*0.3 or less

\*Until the pioneer log appears after connecting the iPod

\*Until the pioneer log appears after connecting the iPod

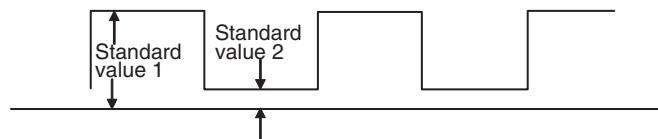
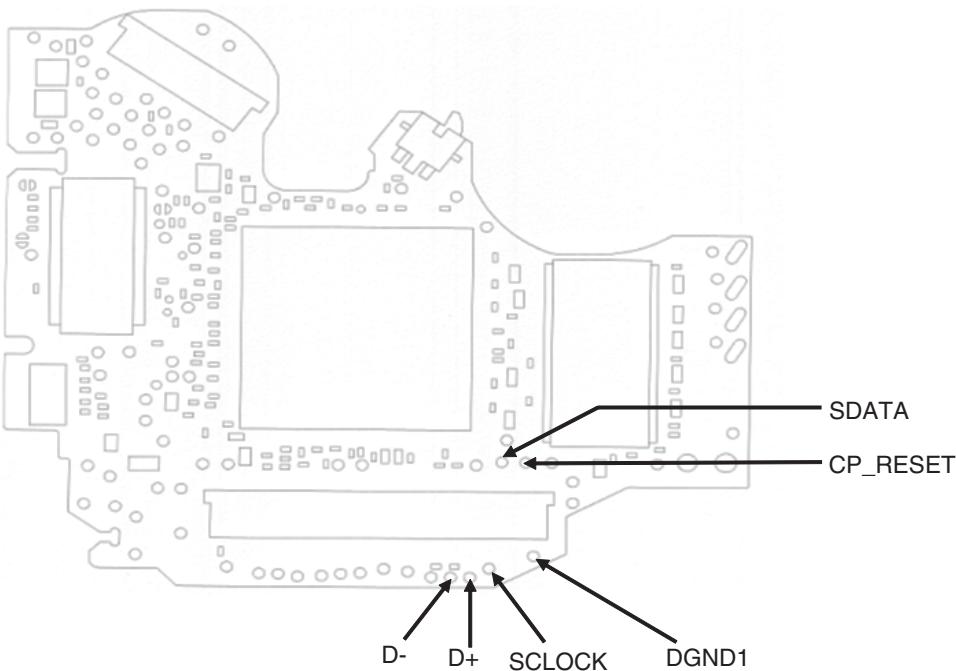


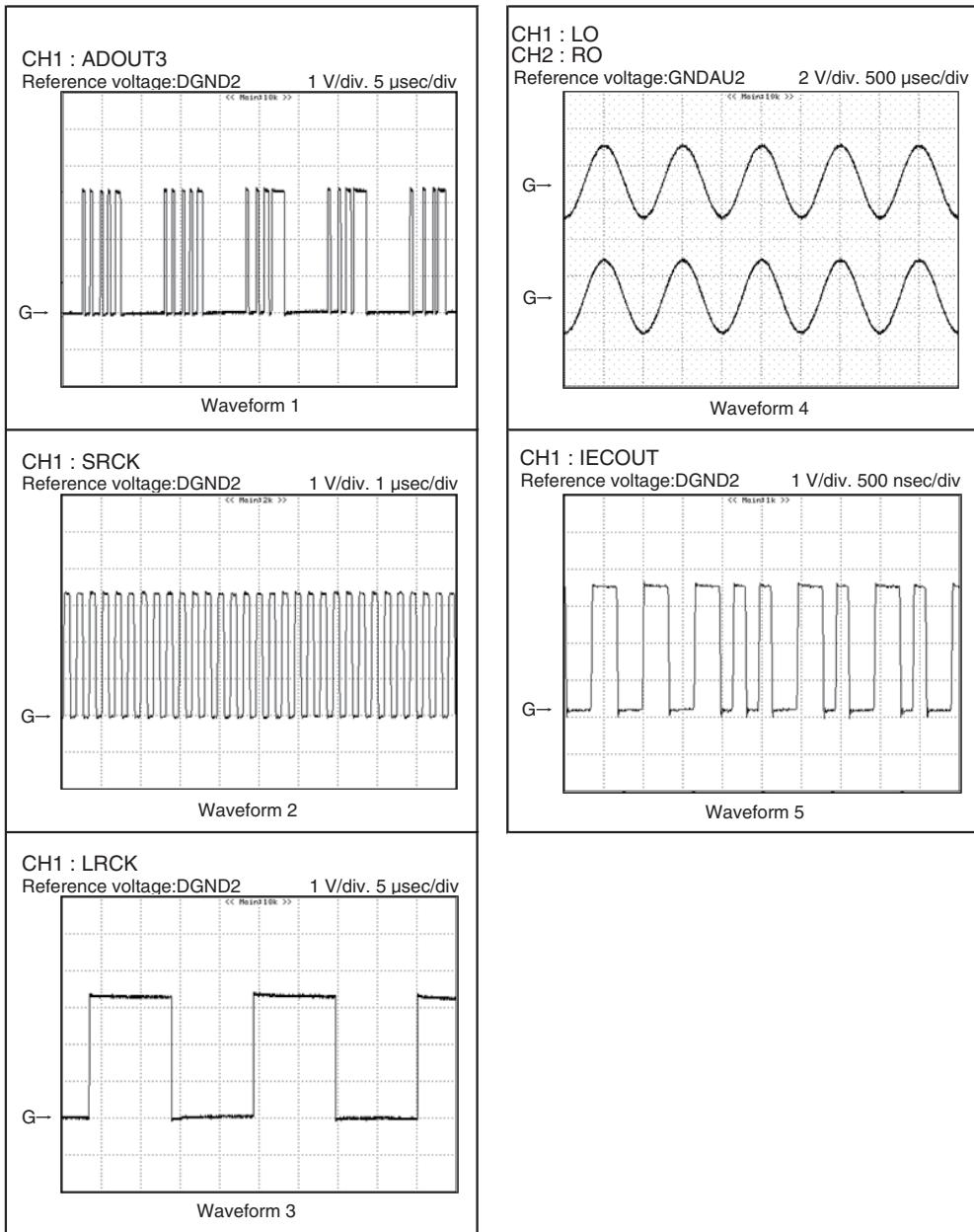
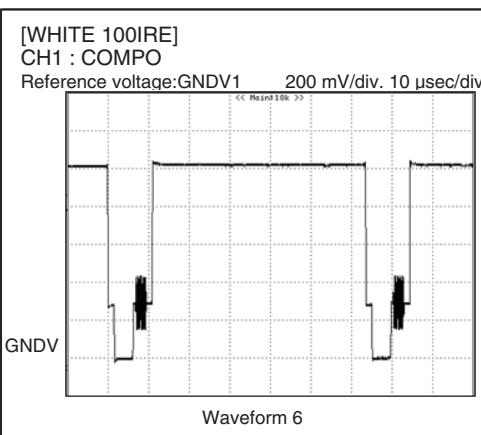
Fig.14.2: USB Circuit Communication Wave

D

Side A



E

**AUDIO****VIDEO**

## USB, IPOD

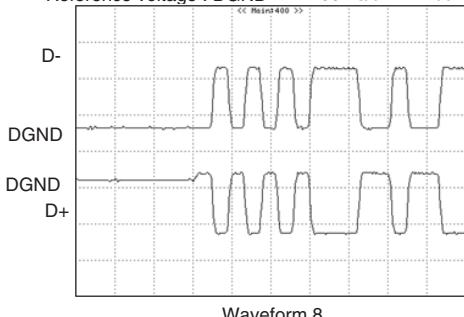
A

USB memory  
D+/D- communication waveform  
It checks with an oscilloscope.  
Reference voltage : DGND 1 ms/div 2 V/div



Waveform 7

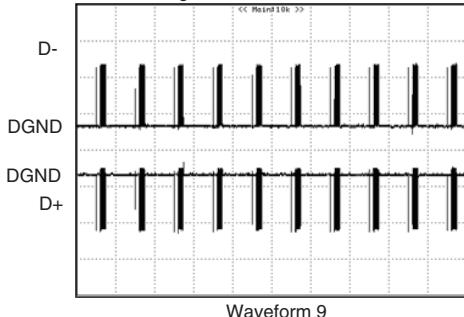
USB memory  
D+/D- communication waveform  
It checks with an oscilloscope.  
Reference voltage : DGND 200 ns/div 2 V/div



Waveform 8

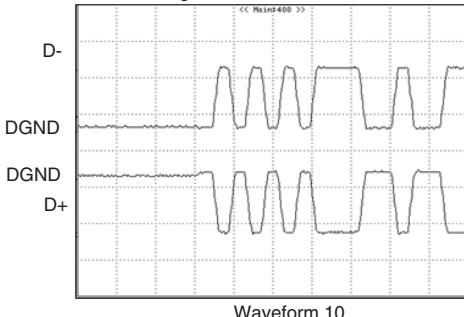
B

IPOD  
D+/D- communication waveform  
It checks with an oscilloscope.  
Reference voltage : DGND 1 ms/div 2 V/div



Waveform 9

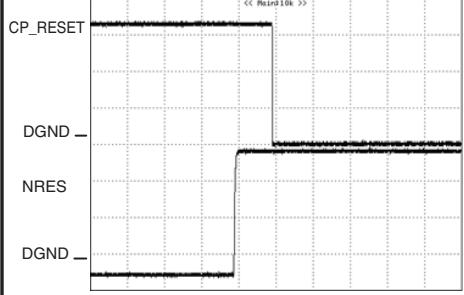
IPOD  
D+/D- communication waveform  
It checks with an oscilloscope.  
Reference voltage : DGND 200 ns/div 2 V/div



Waveform 10

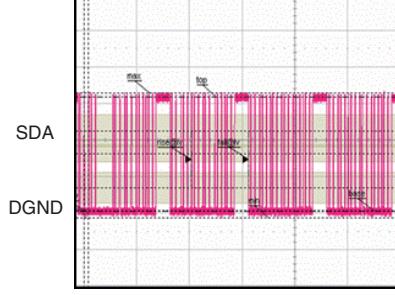
C

IPOD  
CP\_RESET signal  
A relation with NRES, At the time of RESET release  
(It checks with an oscilloscope.)  
Reference voltage : DGND 20 ms/div 1 V/div



Waveform 11

IPOD  
SDA signal  
It checks by LECORY.  
Reference voltage : DGND 2 ms/div 1 V/div

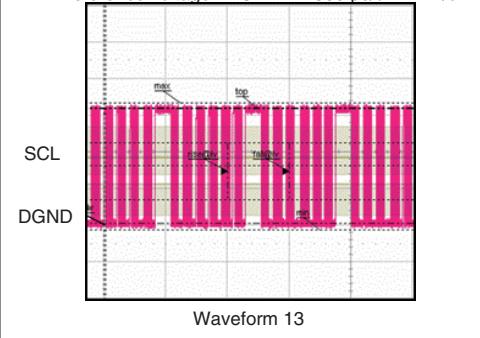


Waveform 12

D

E

IPOD  
SCL signal  
It checks by LECORY.  
Reference voltage : DGND 500 µs/div 1 V/div



Waveform 13

## 5.4 ERROR CODE LIST

Error status	OSD *1	UART *2	Meaning	Generation source			Method of reset			
				Disc	USB (MSC)	USB (iPod)	ACC Off/On	Source Off/On	Eject/With no device	Play Key
Media Error	UNPLAYABLE DISC	00h	A disc containing the unplayable format only	X	-	-	X	X	X	-
	INCOMPATIBLE DEVICE	00h	USB device that doesn't respond	-	X	X	X	X	X	-
	UNPLAYABLE FILE	00h	USB device of format alone that cannot be reproduced	-	X	-	X	X	X	-
Open (No display)		10h	Door open error	X	-	-	*	*	*	*
Read Error	ERROR-02-99	20h	Transfer start error	X	-	-	X	X	X	X
Focus Error(Focus Error in mechanism set up)	ERROR-02-90	21h	Focus error	X	-	-	X	X	X	X
Surface Error	ERROR-02-9E	22h	Focus error during set up (A focus has never been achieved with that disc.)	X	-	-	-	-	X	-
Address not found (Invalid Track)	ERROR-02-80	23h	Address not found.	X	-	-	X	X	X	X
Spindle Lock	ERROR-02-91	24h	Spindle lock NG(the disc cannot rotate)	X	-	-	X	X	X	X
Carriage HOME	ERROR-02-92	25h	Carriage home NG (The pick up tries to return to carriage home, but it cannot go back and stopped.)	X	-	-	X	X	X	X
ID/SUBCODE Read Error	ERROR-02-94	26h	ID/SUBCODE Read Error (ID/SUBCODE cannot be read due to scratch or stain.)	X	-	-	X	X	X	X
AV CHIP decode Error	ERROR-02-9A	2Ah	AV CHIP decode NG(AV chip cannot be decoded.)	X	X	X	X	X	X	X
AV CHIP Recovery NG	ERROR-02-9B	2Bh	AV CHIP recovery NG	X	X	-	X	X	X	X
Error of PLAY BACK Mode Status	ERROR-02-9C	2Ch	Playback state error (An error due to software bug.)	X	X	-	X	X	X	X
Disc Data Error	ERROR-02-9D	2Dh	Disc Data NG	X	-	-	X	X	X	X
Temp Error(In Case of High Temperature)	THERMAL PROTECTION IN MOTION	30h	High temperature(Playback is stopped because the pick up temperature is 89 C or higher.)	X	-	-	X	-	-	-
No Disc (including Disc loading and ejecting)	(No display)	40h	Disc has not been inserted. (Including Load in process or Eject in process.)	X	-	-	*	*	*	*
Loading_Mecha Error	(No display)	50h	Loading mechanism error (The disc cannot be clamped.)	X	X *11	X *11	X	-	X *12	-
Communication fault attesting iPod	ERROR-02-60	60h	Communication fault attesting iPod	X *13	-	X	X	-	X *14	-
iPod authentication data is abnormal	ERROR-02-61	61h	iPod authentication data is abnormal	X *13	-	X	X	-	X *14	-
iPod attestation retrying failure	ERROR-02-62	62h	iPod attestation retrying failure	X *13	-	X	X	-	X *14	-
iPod attestation time out	ERROR-02-63	63h	iPod attestation time out	X *13	-	X	X	-	X *14	-
Error when iPod is connected/ It is generated STALL by the USB communication	ERROR-02-64	64h	Error when iPod is connected/ It is generated STALL by the USB communication	-	-	X	X	-	X	-
Error setting iPod	ERROR-02-65	65h	Error setting iPod	-	-	X	X	-	X	-
Demand timeout when initial is communicated	ERROR-02-66	66h	Demand timeout when initial is communicated	-	-	X	X	-	X	-
Protocol version non-correspondence	ERROR-02-67	67h	Protocol version non-correspondence (It is necessary to Version Up the iPod by iTunes.)	-	-	X	X	-	X	-
Timeout when protocol version is judged	ERROR-02-68	68h	Timeout when protocol version is judged	-	-	X	X	-	X	-
No songs error	(No display)	69h	iPod does not have music. (It is necessary to put music into iPod by iTunes)	-	-	X	X	-	X	-
iPod control forwarding/ Intarapta forwarding error	ERROR-02-6A	6Ah	iPod control forwarding / Intarapta forwarding error	-	-	X	X	-	X	-
Demand timeout iPod's reproducing	ERROR-02-6B	6Bh	Demand timeout iPod's reproducing	-	-	X	X	-	X	-
Remote switch error	ERROR-02-6C	6Ch	Remote switch error	-	-	X	X	-	X	-
Remote switch demand timeout	ERROR-02-6D	6Dh	Remote switch demand timeout	-	-	X	X	-	X	-
Demand timeout to an iPodApI(Pandora)	ERROR-02-6E	6Eh	Demand timeout to an iPodApI(Pandora)	-	-	X	X	-	X	-
DRM Error	PROTECTED DISC	70h	DRM error (All music cannot be played back due to DRM.)	X	-	-	X	X	X	-
	NO ACCESSIBLE DATA AVAILABLE	70h	DRM error (All music cannot be played back due to DRM.)	-	X	-	X	X	X	-
Region code Error	DIFFERENT REGION DISC	90h	Region code NG (Unable to be played back due to incorrect mechanism region.)	X	-	-	X	X	X	-
CPRM*7 Key Error *8	UNPLAYABLE DISC	93h	Key Error for playback	X	-	-	X	-	X	-
REQUEST Error	ERROR-02-A0	A0h	REQUEST_error	X	-	-	X	X	X	X
Failure in issuing read command (chip dependent)	ERROR-02-A1	A1h	Failure in issuing the read command	X	-	-	X	X	X	X
Adjustment of L0 is NG	ERROR-02-A2	A2h	L0 adjustment is NG.	X	-	-	X	X	X	X
Adjustment of L1 is NG	ERROR-02-A3	A3h	L1 adjustment is NG.	X	-	-	X	X	X	X
LD system NG	ERROR-02-A4	A4h	LD system NG	X	-	-	X	X	X	X
Gain adjustment system NG.	ERROR-02-A5	A5h	Gain adjustment system NG.	X	-	-	X	X	X	X
Gain determining system NG.	ERROR-02-A6	A6h	Gain determining system NG.	X	-	-	X	X	X	X
Servo initial setting related items NG.	ERROR-02-A7	A7h	Servo initial setting related items NG.	X	-	-	X	X	X	X
Disc is not clamped yet.	ERROR-02-A8	A8h	Disc is not clamped yet.	X	-	-	X	X	X	X
Tracking system NG	ERROR-02-A9	A9h	Tracking system NG	X	-	-	X	X	X	X
Media setting system NG.	ERROR-02-AA	AAh	Media setting system NG	X	-	-	X	X	X	X
Focus Error	ERROR-02-AB	ABh	JUMP over layers NG	X	-	-	X	X	X	X
Error of PLAY BACK Mode Status	ERROR-02-B0	B0h	Navigation command error	X	-	-	X	X	X	X
Error of PLAY BACK Mode Status	ERROR-02-B1	B1h	Retry over	X	-	-	X	X	X	X
DivX DRM Information Update Error *10	ERROR-02-C1	C1h	DivX DRM information update error	X	-	-	X	-	-	-
Error when MCS is connected/ It is generated STALL by the USB communication	ERROR-02-D0	D0h	Error when MCS is connected / It is generated STALL by the USB communication	-	X	-	-	-	X	-
CBW and CSW forwarding error	ERROR-02-D1	D1h	CBW and CSW forwarding error	-	X	-	-	-	X	-
Audio class band securing failure	ERROR-02-D8	D8h	Audio class band securing failure	-	-	X	X	-	X	-
Audio class FS setting failure	ERROR-02-D9	D9h	Audio class FS setting failure	-	-	X	X	-	X	-
Undefined Error	ERROR-FF-FF	FFh	Undefined error	X	-	-	X	X	X	X

X : Cancel the error by operation. - : Error is not cancelled by operation. \* : No setting

\*1 A content displayed on OSD. As for the items having multiple display patterns, the upper row is for the Japanese version Full GUI, and the lower row is for the Touch Panel model and Full GUI (English version).

\*2 A parameter of UART command, such as "receipt error notice", that the DVD mechanism transmits.

\*7 CPRM(Content Protection for Recordable Media) : A copyright protection technique for digital contents used for re-writable DVD or memory card.

\*8 DVD-VR model only.

\*10 This occurs when the DRM information update notice is sent from the DVD mecha but no DRM information update response is returned.

\*11 Although it is USB source, it notifies as an error of DISC source.

\*12 Although it is USB source, it cancels only by Disc eject.

\*13 Although it is DISC source, it notifies as an error of USB source.

\*14 Although it is DISC source, it cancels only without Device.

A

B

C

E

F

**A External storage device (USB)**

Message	Cause	Action
<b>Unplayable File</b>	This type of file cannot be played on this unit.	Select a file that can be played.
	There are no songs.	Transfer the audio files to the USB portable audio player/USB memory and connect.
	Security for the connected USB memory is enabled.	Follow the USB memory instructions to disable security.

Message	Cause	Action
<b>Format Read</b>	Sometimes there is a delay between the start of playback and when you start to hear any sound.	Wait until the message disappears and you hear sound.
<b>Skipped</b>	The connected USB portable audio player/USB memory contains WMA files that are protected by Windows Media™ DRM 9/10.	Play an audio file not embedded with Windows Media™ DRM 9/10.
<b>Protect</b>	All the files on the connected USB portable audio player/USB memory are protected by Windows Media DRM 9/10.	Transfer audio files not protected by Windows Media DRM 9/10 to the USB portable audio player/USB memory and connect.

Message	Cause	Action
<b>Check USB</b>	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 portable audio player/USB memory and do not use it. Turn the ignition switch to OFF, then to ACC or ON and then connect a compliant USB portable audio player/USB memory.
--	--------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

<b>Error-02-9X-DX</b>	Communication failed.	Perform one of the following operations. –Turn the ignition switch OFF and back ON. –Disconnect the USB portable audio player/USB memory. –Change to a different source. Then, return to the USB portable audio player/USB memory.

<b>This DivX rental has expired.</b>	The inserted external storage device contains expired DivX VOD content.	Select a file that can be played.
--------------------------------------	-------------------------------------------------------------------------	-----------------------------------

B

C

D

E

F

**iPod**

Message	Cause	Action
<b>Format Read</b>	Sometimes there is a delay between the start of playback and when you start to hear any sound.	Wait until the message disappears and you hear sound.
<b>Error-02-6X-9X-DX</b>	Communication failed.	Disconnect the cable from the iPod. Once the iPod's main menu is displayed, reconnect the iPod and reset it.

	iPod failure.	Disconnect the cable from the iPod. Once the iPod's main menu is displayed, reconnect the iPod and reset it.
	<b>Error-02-67</b>	The iPod firmware version is old.

<b>Stop</b>	There are no songs.	Transfer songs to the iPod.
	There are no songs in the current list.	Select a list that contains songs.
<b>Not Found</b>	No related songs.	Transfer songs to the iPod.

**iTunes tagging**

Message	Cause	Action
<b>iPod full. Tags not transferred.</b>	Memory used for tag information on the iPod is full.	Sync the iPod with iTunes and clean up the tagged playlist.

<b>Memory full. Tags not stored. Connect iPod.</b>	This unit's flash memory used as the temporary storage area is full.	The tag information on this unit is transferred to the iPod automatically when an iPod is connected.
----------------------------------------------------	----------------------------------------------------------------------	------------------------------------------------------------------------------------------------------

<b>Tag transfer failed. Re-connect your iPod.</b>	This unit's tag information cannot transfer to the iPod.	Check the iPod and try again.
---------------------------------------------------	----------------------------------------------------------	-------------------------------

<b>Tag store failed.</b>	Tag information cannot be stored in this unit.	Try again.
--------------------------	------------------------------------------------	------------

<b>Error-8D</b>	Built-in FLASH ROM encountered an error	Turn the ignition OFF or ON.
-----------------	-----------------------------------------	------------------------------

<b>Already stored</b>	This tag information is already stored in memory.	Tag information can only be saved once for any given song. Tag information cannot be saved for the same song more than once.
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**Bluetooth**

Message	Cause	Action
Error-10	The power failed for the Bluetooth module of this unit.  If the error message is still displayed after performing the above action, please contact your dealer or an authorized Pioneer Service Station.	Turn the ignition switch OFF and then to ACC or ON.  If the error message is still displayed after performing the above action, please contact your dealer or an authorized Pioneer Service Station.

**Pandora®**

Message	Cause	Action
Error-19	Communication failed.	Disconnect the cable from the iPod. Once the iPod's main menu is displayed, reconnect the iPod and reset it.
Start up the Pandora Application from your Device.	The Pandora application has not started running yet.	Start up the Pandora application from your iPhone.
Unable to save thumb rating. Try again later.	Unable to save thumb rating.	Try again later.
Unable to save Bookmark. Try again later.	Unable to save Bookmark.	Try again later.

Message	Cause	Action
Pandora system maintenance. Try again later.	Pandora system is undergoing maintenance.	Try again later.

Message	Cause	Action
Skip limit reached.	Skip limit reached.	Do not exceed the skip limit.

Message	Cause	Action
This version of the Pandora Application is not supported.	This version of the Pandora application is not supported.	Connect an iPhone that has a compatible version of the Pandora application installed.

Message	Cause	Action
Check Device	Device error message displayed in the Pandora application.	Please check your iPhone.

Message	Cause	Action
Pandora is unable to play music. Please see your Device.	Unable to play music from Pandora.	Please check your iPhone.

Message	Cause	Action
Create station within the Pandora Application on Device.	No station found.	Create a station in the Pandora application on your iPhone.

Message	Cause	Action
No Active Station	No station selected.	Select a station.

Message	Cause	Action
Communication error occurred. Please reconnect your device.	If there is no ACK after 10 attempts, the accessory should assume that communication is interrupted and disconnect from PandoraLink.	Please reconnect your iPhone and try again.

Message	Cause	Action
Device has not been registered.	No Bluetooth device found.	Follow the instructions that appear on the screen.

Message	Cause	Action
Go to Bluetooth Connection Menu to register.	Bluetooth connection failed.	Follow the instructions that appear on the screen.

Message	Cause	Action
BT error. Press BAND key to retry.	Bluetooth connection failed.	Follow the instructions that appear on the screen.

Message	Cause	Action
Start up Pandora. Press BAND key to retry.	Connection to the Pandora application failed.	Follow the instructions that appear on the screen.

Message	Cause	Action
Check Pandora. Press BAND key to retry.	Connection to the Pandora application failed.	Follow the instructions that appear on the screen.

Message	Cause	Action
Disconnect. Press BAND key to retry.	Bluetooth connection lost.	Follow the instructions that appear on the screen.

**Understanding auto EQ error messages**

When correct measurement of the car's interior acoustic characteristics is not possible using auto EQ, an error message may appear on the display. In such cases, refer to the table below to see what the problem is and how it may be corrected. After checking, try again.

Message	Cause	Action
Error. Please check battery.	Power is not being supplied from the battery to this unit.	<ul style="list-style-type: none"> <li>• Connect the battery correctly.</li> <li>• Check the battery voltage.</li> </ul>

Messages	Translation
Screen image may appear reversed.	Pioneer recommends the use of a camera which outputs mirror-reversed images. Otherwise, the screen image will appear reversed.

Message	Cause	Action
Please connect the microphone for measurement. When finished, please push HOME key.	The microphone is not connected.	Plug the optional microphone securely into the jack.
Error. Please check xxxx speaker.	The microphone cannot pick up the measuring tone of a speaker.	<ul style="list-style-type: none"> <li>• Confirm that the speakers are connected correctly.</li> <li>• Correct the input level setting of the power amp connected to the speakers.</li> <li>• Plug the microphone securely into the jack.</li> </ul>

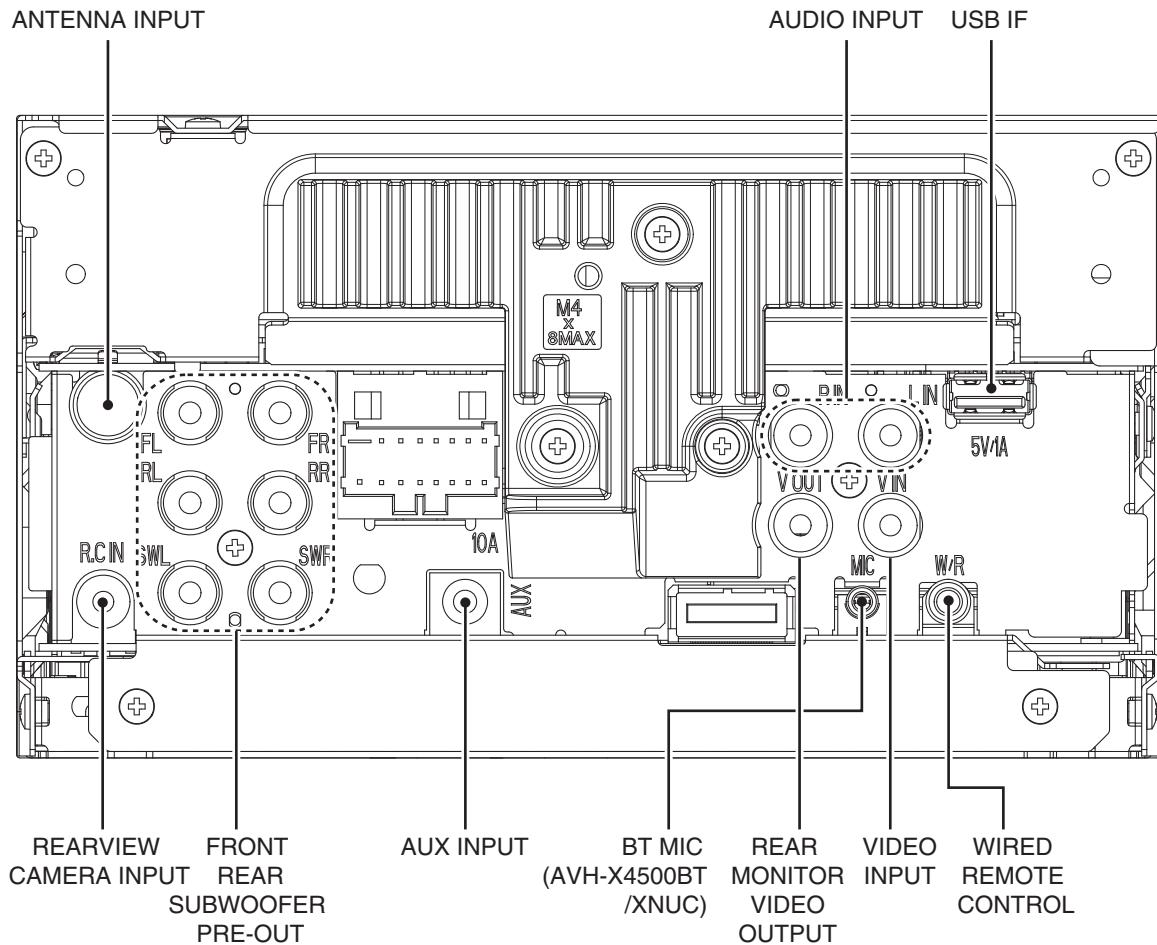
Message	Cause	Action
Error. Please check noise.	The surrounding noise level is too high.	<ul style="list-style-type: none"> <li>• Stop your car in a place that is quiet, and switch off the engine, air conditioner and heater.</li> <li>• Set the microphone correctly.</li> </ul>

**Understanding messages**

Messages	Translation
Screen image may appear reversed.	Pioneer recommends the use of a camera which outputs mirror-reversed images. Otherwise, the screen image will appear reversed.

## 5.5 CONNECTOR FUNCTION DESCRIPTION

A



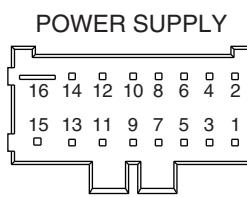
B

C

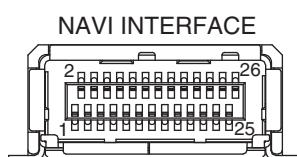
D

E

F



- |        |             |
|--------|-------------|
| 1. FR- | 9. P. BRAKE |
| 2. RR- | 10. MUTE    |
| 3. FR+ | 11. B.REM   |
| 4. RR+ | 12. ILM     |
| 5. FL- | 13. BGSENS  |
| 6. RL- | 14. ACC     |
| 7. FL+ | 15. GND     |
| 8. RL+ | 16. B.UP    |



- |                 |                  |                  |
|-----------------|------------------|------------------|
| 1 : CCR         | 10 : CCAUL       | 19 : GNDD (DSEN) |
| 2 : CCG         | 11 : CCAUR       | 20 : TVON        |
| 3 : CCB         | 12 : GNDAU       | 21 : GUIDE ON    |
| 4 : CSYNC       | 13 : ONSEI+      | 22 : MONON       |
| 5 : GNDSIG      | 14 : ONSEI-      | 23 : NC (VSW5)   |
| 6 : NC (DVDVBS) | 15 : NC (REAUR)  | 24 : SYS_TO_NAVI |
| 7 : NC (GNDDVD) | 16 : NC (REAUL)  | 25 : NAVI_TO_SYS |
| 8 : NC (YS)     | 17 : NC (GNDRAU) | 26 : GNDD        |
| 9 : ASENBO      | 18 : NC (CCREM)  |                  |

## 6. SERVICE MODE

### 6.1 MONITOR TEST MODE

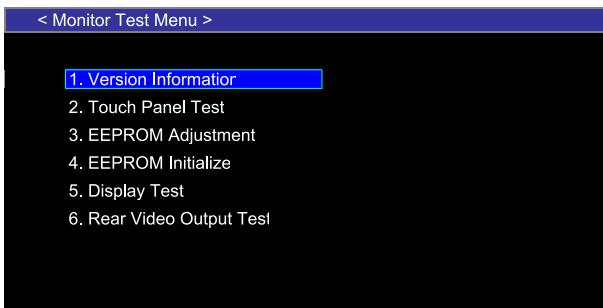
#### MONITOR TEST MODE MENU SCREEN

A

##### Method for Mode IN

While pressing [Mute] + [Reverse] key, restart the system.

##### Display specification



B

Operational description	Remote controller key
Selection cursor up movement	Up
Selection cursor down movement	Down
Menu enter	Band

C

D

E

F

## 1. Version Information

### Method for Mode IN

While pressing [Mute] + [Reverse] key, restart the system.  
Choose “1. Version Information” among the Monitor Test Menu screen.

### Display specification

#### Page: 1

< Version Information >			Page : 1 / 5
	Ver.	Unit No.	
System	: XX.XX	XXXXXXXXXX	
MMD	: XX.XX (RXXX)	XXXXXXXXXX	
	Ver.	Region	Model
DVD	: XX.XX.XX.XX	X	XX
Bluetooth	: XXXXXXXXXXXXXXXX		
< State >			
Navi	: Connect	Eject Lock	: OFF
EEPROM	: Init OK		

#### <Navi>

- When Navi is connected : Connect
- When Navi is not connected : -

#### <EEPROM>

- When set value initialization is performed normally : Init OK
- When set value initialization is not performed normally : -

#### <Eject Lock>

- When Eject Lock is on : ON
- When Eject Lock is canceled : OFF

### Operational description

Operational description	Remote controller key
Return to test mode menu	RETURN
Page up	NEXT 
Page down	PREV 

#### Page: 2

< Version Information >		Page : 2 / 5
	Ver.	
Audio SDK	: XX.XX	
Display SDK	: XX.XX	
SH-4A USB MSC Driver	: XX.XX	
SH-4A iACS Middleware	: XX.XX	
Sound Designer Middleware	: XX.XX	
Zlib	: XX.XX	
PNG	: XX.XX	

#### Page: 3

< Version Information >		Page : 3 / 5
	Ver.	
1.Logical Driver	: XXXXXXXX	
2.File System	: XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	
3.SD Card Driver	: XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	
4.VPU5F Common	: XXXXXXXX	
5.VPU5F MP4	: XXXXXXXX	
6.SH4-A MP4 File	: XXXXXXXX	
7.VPU4 MP4&H.264 Decode	: XXXXXXXX	
8.VPU5F DivX Decoder	: XXXXXXXX	

#### Page: 4

< Version Information >		Page : 4 / 5
	Ver.	
9.VPU4WM WMV9 Decode	: XXXXXXXX	
10.SH Super Resolution	: XXXXXXXX	
11.JPU Driver	: XXXXXXXX	
12.JPU Middle	: XXXXXXXX	
13.SH4-A AAC Decode	: XXXXXXXX	
14.SH4-A MP3 Decode	: XXXXXXXX	
15.SH4-A WMA Decode	: XXXXXXXX	
16.SPU2 AAC Decode	: XXXXXXXX	

#### Page: 5

< Version Information >		Page : 5 / 5
	Ver.	
17.SPU2 WMA Decode	: XXXXXXXX	
18.SPU2 Dolby Digital Decoder	: XXXXXXXX	
19.SPU2 MP3 Decode	: XXXXXXXX	

A

B

C

D

E

F

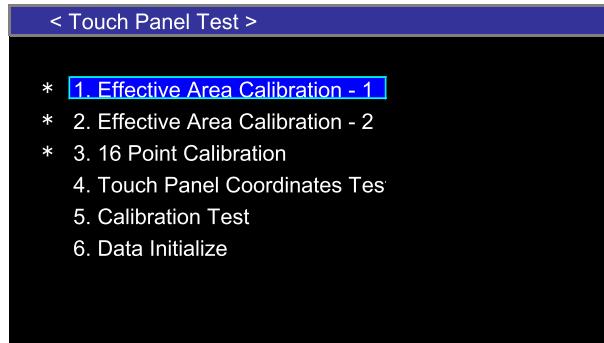
## 2. Touch Panel Test

### Method for Mode IN

While pressing [Mute] + [Reverse] key, restart the system.  
Choose "2. Touch Panel Test" among the Monitor Test Menu screen.

### Display specification

#### Top menu



◆ Condition that the mark meaning adjustment is completed, (\*) is lit  
(the mark is lit when any of one condition is satisfied)

◇ Outermost circle check -1

- When "Outermost circle check of line calibration-1" is finished normally
- When "Outermost circle check of line calibration-2" is finished normally

-> Since "Outermost circle check of line calibration-2" includes "Outermost circle check of line calibration-1."

◇ Outermost circle check -2

- When "Outermost circle check of line calibration-2" is finished normally

◇ Calibration check

- When "Calibration check of line calibration" is finished normally

◆ Condition that the mark meaning adjustment is completed, (\*) is extinguished  
(the mark is extinguished when any of one condition is satisfied)

◇ Outermost circle check -1

- When "conditions that the mark is lit" are not satisfied
- When "Data Initialize is executed"
- When "EEPROM initialize is executed"

◇ Outermost circle check -2

- When "conditions that the mark is lit" are not satisfied
- When "Outermost circle check of line calibration-1" is finished abnormally

-> Since "Outermost circle check of line calibration-2" includes "Outermost circle check of line calibration-1."

- When "Data Initialize is executed"

- When "EEPROM initialize is executed"

◇ Calibration check

- When "conditions that the mark is lit" are not satisfied
- When "Data Initialize is executed"

- When "EEPROM initialize is executed"

Operational description	Remote controller key
Return to test mode menu	RETURN
Selection cursor up movement	Up
Selection cursor down movement	Down
Menu enter	Band

## 1. Effective Area Calibration - 1

A

### Outermost circle check screen

First point

	before	after
Sampling Max	( FFFF , FFFF )	( FFFF , FFFF )
Sampling Min	( FFFF , FFFF )	( FFFF , FFFF )
Offset	( FFFF , FFFF )	( FFFF , FFFF )
Gain	( FFFF , FFFF )	( FFFF , FFFF )
Distance	( FFFF , FFFF )	( FFFF , FFFF )
DistanceBase	( FFFF , FFFF )	( FFFF , FFFF )

Second point

	before	after
Sampling Max	( FFFF , FFFF )	( FFFF , FFFF )
Sampling Min	( FFFF , FFFF )	( FFFF , FFFF )
Offset	( FFFF , FFFF )	( FFFF , FFFF )
Gain	( FFFF , FFFF )	( FFFF , FFFF )
Distance	( FFFF , FFFF )	( FFFF , FFFF )
DistanceBase	( FFFF , FFFF )	( FFFF , FFFF )

B

Operational description	Remote controller key
Check is interrupted	Band

### Outermost circle check result screen

Finished normally

	before	after
Sampling Max	( FFFF , FFFF )	( FFFF , FFFF )
Sampling Min	( FFFF , FFFF )	( FFFF , FFFF )
Offset	( FFFF , FFFF )	( FFFF , FFFF )
Gain	( FFFF , FFFF )	( FFFF , FFFF )
Distance	( FFFF , FFFF )	( FFFF , FFFF )
DistanceBase	( FFFF , FFFF )	( FFFF , FFFF )

Result : O.K.

Finished abnormally

	before	after
Sampling Max	( FFFF , FFFF )	( FFFF , FFFF )
Sampling Min	( FFFF , FFFF )	( FFFF , FFFF )
Offset	( FFFF , FFFF )	( FFFF , FFFF )
Gain	( FFFF , FFFF )	( FFFF , FFFF )
Distance	( FFFF , FFFF )	( FFFF , FFFF )
DistanceBase	( FFFF , FFFF )	( FFFF , FFFF )

Result : N G

D

Operational description	Remote controller key
Check is finished	Band

## 2. Effective Area Calibration - 2

E

### Outermost circle check screen

First point

	before	after
Sampling Max	( FFFF , FFFF )	( FFFF , FFFF )
Sampling Min	( FFFF , FFFF )	( FFFF , FFFF )
Offset	( FFFF , FFFF )	( FFFF , FFFF )
Gain	( FFFF , FFFF )	( FFFF , FFFF )
Distance	( FFFF , FFFF )	( FFFF , FFFF )
DistanceBase	( FFFF , FFFF )	( FFFF , FFFF )

Second point

	before	after
Sampling Max	( FFFF , FFFF )	( FFFF , FFFF )
Sampling Min	( FFFF , FFFF )	( FFFF , FFFF )
Offset	( FFFF , FFFF )	( FFFF , FFFF )
Gain	( FFFF , FFFF )	( FFFF , FFFF )
Distance	( FFFF , FFFF )	( FFFF , FFFF )
DistanceBase	( FFFF , FFFF )	( FFFF , FFFF )

F

3rd point

	before	after
Sampling Max	( FFFF , FFFF )	( FFFF , FFFF )
Sampling Min	( FFFF , FFFF )	( FFFF , FFFF )
Offset	( FFFF , FFFF )	( FFFF , FFFF )
Gain	( FFFF , FFFF )	( FFFF , FFFF )
Distance	( FFFF , FFFF )	( FFFF , FFFF )
DistanceBase	( FFFF , FFFF )	( FFFF , FFFF )

4th point

	before	after
Sampling Max	( FFFF , FFFF )	( FFFF , FFFF )
Sampling Min	( FFFF , FFFF )	( FFFF , FFFF )
Offset	( FFFF , FFFF )	( FFFF , FFFF )
Gain	( FFFF , FFFF )	( FFFF , FFFF )
Distance	( FFFF , FFFF )	( FFFF , FFFF )
DistanceBase	( FFFF , FFFF )	( FFFF , FFFF )

Operational description	Remote controller key
Check is interrupted	Band

**Outermost circle check result screen**

Finished normally

	before	after
Sampling Max	( FFFF , FFFF )	( FFFF , FFFF )
Sampling Min	( FFFF , FFFF )	( FFFF , FFFF )
Offset	( FFFF , FFFF )	( FFFF , FFFF )
Gain	( FFFF , FFFF )	( FFFF , FFFF )
Distance	( FFFF , FFFF )	( FFFF , FFFF )
DistanceBase	( FFFF , FFFF )	( FFFF , FFFF )

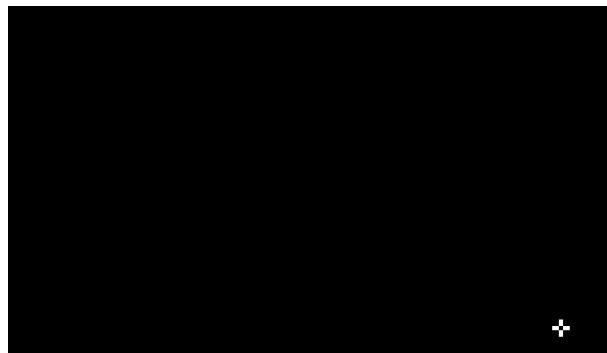
Result : O.K.

Finished abnormally

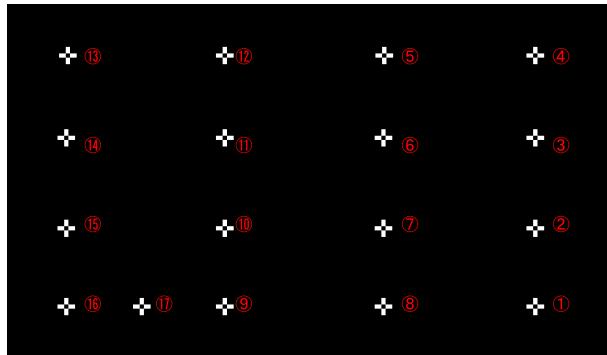
	before	after
Sampling Max	( FFFF , FFFF )	( FFFF , FFFF )
Sampling Min	( FFFF , FFFF )	( FFFF , FFFF )
Offset	( FFFF , FFFF )	( FFFF , FFFF )
Gain	( FFFF , FFFF )	( FFFF , FFFF )
Distance	( FFFF , FFFF )	( FFFF , FFFF )
DistanceBase	( FFFF , FFFF )	( FFFF , FFFF )

Result : N G

Operational description	Remote controller key
Check is finished	Band

**3. 16 Point Calibration****Calibration check screen**

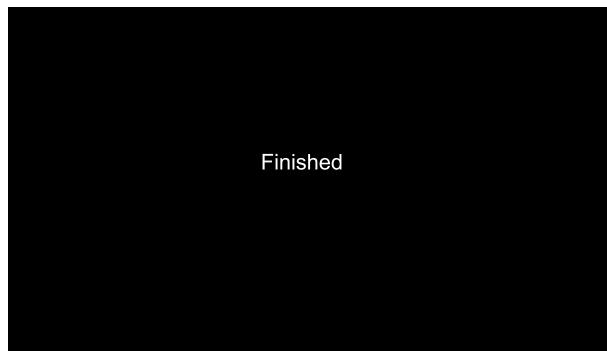
Touch the cursor [+] displayed on the screen. By touching it correctly, it disappears and another cursor appears. By repeating this action 16 times, obtain calibration value of each [+]. When touching the last 17th cursor, calibration values at 16 points and information of normal finish in 17 bytes are written in EEPROM and the screen returns to TOP menu by pressing a key.



A

<b>Operational description</b>	<b>Remote controller key</b>
Return to top menu	Band

### Calibration check result screen

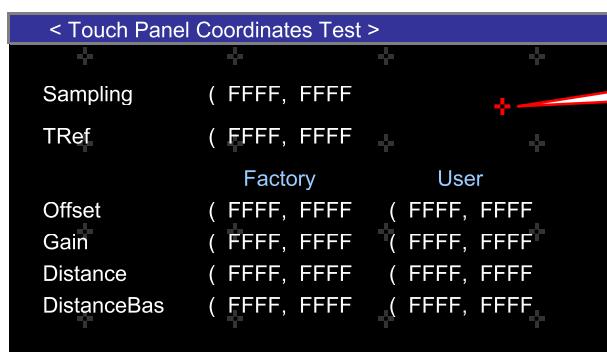


B

<b>Operational description</b>	<b>Remote controller key</b>
Return to top menu	Band

C

### 4. Touch Panel Coordinates Test



[+] is displayed at a touched place.  
(Two [+] are displayed by touching two places.)

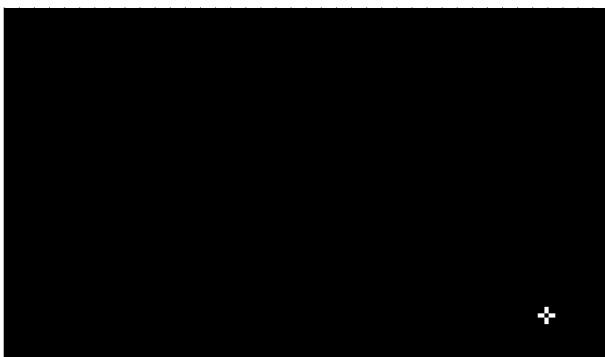
D

<b>Operational description</b>	<b>Remote controller key</b>
Return to top menu	RETURN

E

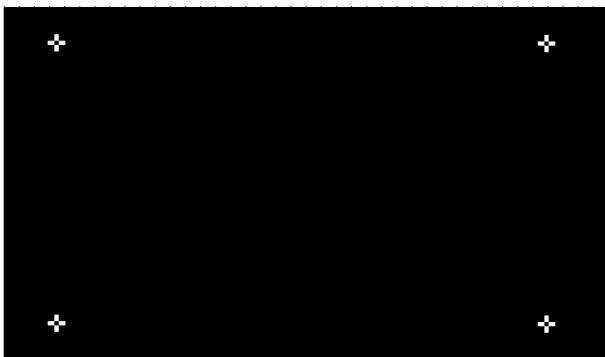
## 5. Calibration Test

Calibration confirmation screen



A

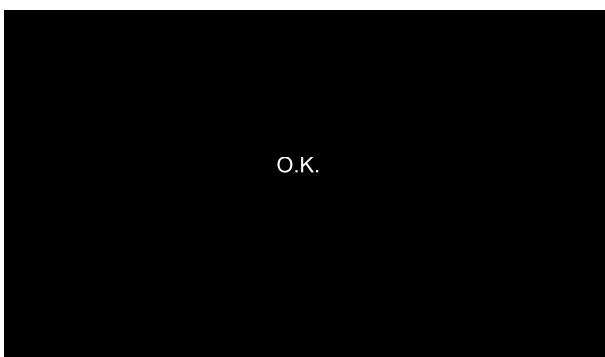
Touch the cursor [+] displayed on the screen. By touching it correctly, it disappears and another cursor appears. Otherwise, the cursor is displayed in red.  
Repeating this action for 4 points and by pressing the last 4th point, "O.K." is displayed.



B

Operational description	Remote controller key
Return to top menu	RETURN

Calibration confirmation result screen



C

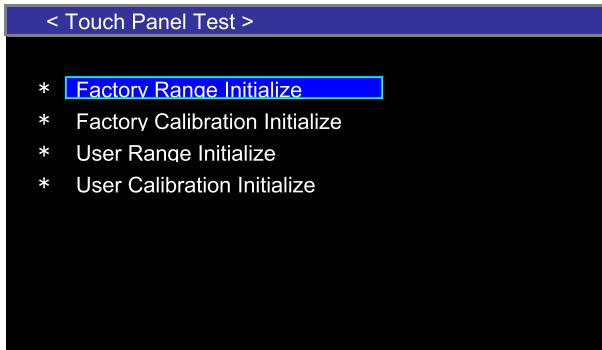
Operational description	Remote controller key
Return to top menu	RETURN

D

E

## 6. Data Initialize

A



B

- ◆ Condition that the mark meaning adjustment is completed, (\*) is lit  
(the mark is lit when any of one condition is satisfied)
  - ◇ Outermost circle check
    - When "Outermost circle check of line calibration-1" is finished normally
    - When "Outermost circle check of line calibration-2" is finished normally
  - ◇ Calibration check
    - When "Calibration check of line calibration" is finished normally
  - ◇ Outermost circle check of user calibration
    - When "Outermost circle check of user calibration" is finished normally
  - ◇ User calibration check
    - When "Calibration check of user calibration" is finished normally

C

- ◆ Condition that the mark meaning adjustment is completed, (\*) is extinguished  
(the mark is extinguished when any of one condition is satisfied)

◇ Outermost circle check

- When "conditions that the mark is lit" are not satisfied
- When "Data Initialize is executed"
- When "EEPROM initialize is executed"

◇ Calibration check

- When "conditions that the mark is lit" are not satisfied
- When "Data Initialize is executed"
- When "EEPROM initialize is executed"

◇ Outermost circle check of user calibration

- When "conditions that the mark is lit" are not satisfied
- When "Data initialize is executed"
- When "EEPROM initialize is executed"
- When Outermost circle check of line calibration or 16-point adjustment is finished normally after Outermost circle check of user calibration is finished normally

◇ User calibration check

- When "conditions that the mark is lit" are not satisfied
- When "Data initialize is executed"
- When "EEPROM initialize is executed"
- When Outermost circle check of line calibration or 16-point adjustment is finished normally after 16-point adjustment of user calibration is finished normally

D

Operational description	Remote controller key
Return to test mode menu	RETURN
Selection cursor up movement	Up
Selection cursor down movement	Down
Menu enter	Band

F

### 3. EEPROM Adjustment

#### Method for Mode IN

Choose “3. EEPROM Adjustment” among the Monitor Test Menu screen.

#### Display specification

##### Top menu

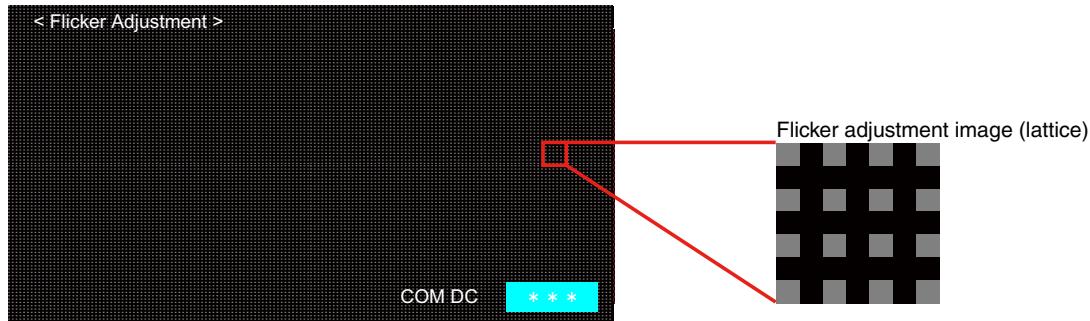
- < EEPROM Adjustment >
- 1. Flicker Adjustment**
  2. Backlight Setting
  3. Color Management Setting
  4. Gamma Setting
  5. V.Decoder Setting
  6. V.Encoder Setting
  7. Composite Signal Noise Check

- < EEPROM Adjustment >
4. Gamma Setting
  5. V.Decoder Composite Setting
  6. V.Decoder Component Setting
  7. V.Decoder RGB Setting
  8. V.Encoder Setting
  9. Composite Signal Noise Check
  - 10. Visual Adjustment Check**

Operational description	Remote controller key
Return to test mode menu	RETURN
Selection cursor up movement	Up 
Selection cursor down movement	Down 
Menu enter	Band

#### 1. Flicker Adjustment

1 dot stripe image of black and gray (50% white) will appear.  
Adjust the number to minimize the flicker.



Operational description	Remote controller key
Return to top menu	RETURN
-1	REV 
+1	FF 

Following items in EEPROM Adjustment menu are not used on service.

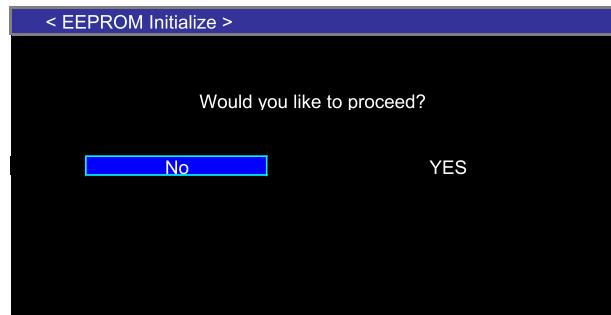
## 4. EEPROM Initialize

### A Method for Mode IN

Choose “4. EEPROM Initialize” among the Monitor Test Menu screen.

### B Display specification

#### C Confirmation screen



Operational description	Remote controller key
Return to test mode menu	RETURN
Selection cursor left movement	REV
Selection cursor right movement	FF
Menu enter	Band

B

C

D

E

F

## 5. Display Test

### Method for Mode IN

Choose “5. Display Test” among the Monitor Test Menu screen.

### Display specification

#### Top menu

< Display Test Menu >

- 1. RGB**
- 2. Monochrome Stripe
- 3. Color Bar
- 4. Ramp & 10step
- 5. Raster Signal
- 6. Contrast
- 7. Center Marker

#### Operational description

Return to test mode menu

#### Remote controller key

RETURN

Selection cursor up movement

Up



Selection cursor down movement

Down



Menu enter

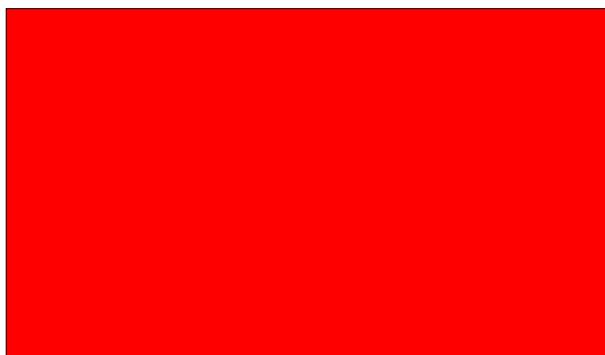
Band

### 1. RGB

RGB is plotted in the following pattern:

R:100% -> R:50% -> G:100% -> G:50% -> B:100% -> B:50% -> Magenta:100% -> Magenta:50% -> Cyan:100% -> Cyan:50% -> Yellow:100% -> Yellow:50% -> Black -> Gray -> White -> Green & Magenta dot signal  
(The display of the screen will be changed in 1 second.)

#### R: 100%



#### Operational description

Return to test mode menu

#### Remote controller key

RETURN

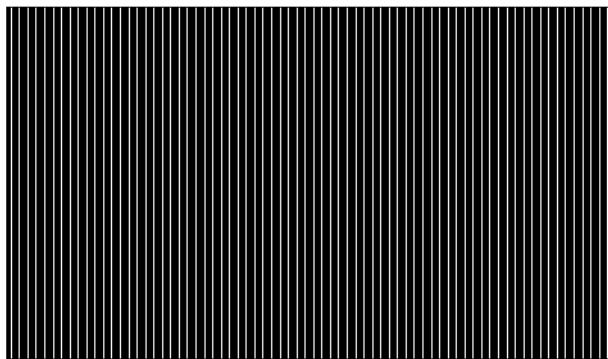
Stop / restart of auto display

Band

## 2. Monochrome Stripe

A Display of monochrome stripe signals.

**Monochrome stripe (Vertical)**

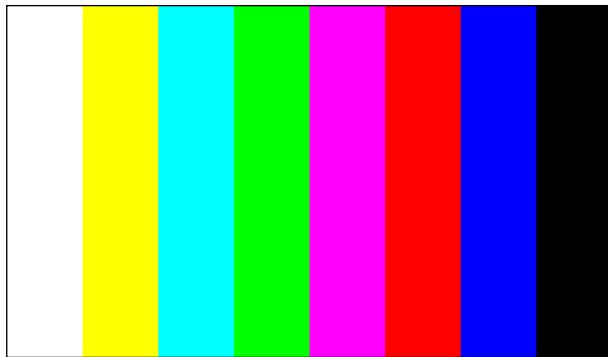


Operational description	Remote controller key
Return to test mode menu	RETURN
Pattern change	Band

## 3. Color Bar

C Display of color bar signals.

**Color bar (Vertical)**

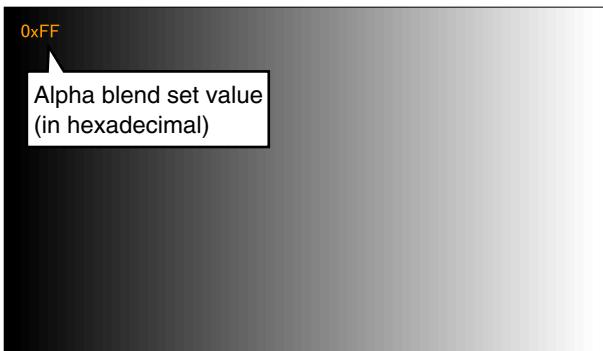


Operational description	Remote controller key
Return to test mode menu	RETURN
Pattern change	Band

## 4. Ramp & 10step

Display of step signals and signals for alpha blend check.

### Right-white 64step

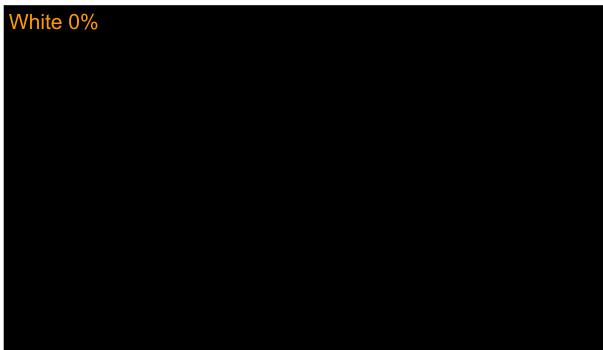


Operational description	Remote controller key
Return to test mode menu	RETURN
Alpha blend Up (+0x10)	Up
Alpha blend Down (-0x10)	Down
Alpha blend Up (+0x01)	FF
Alpha blend Down (-0x01)	REV
Pattern change	Band

## 5. Raster Signal

Display of signals for step confirmation.

### White 0%



Operational description	Remote controller key
Return to test mode menu	RETURN
Pattern change	Band

## 6. Contrast

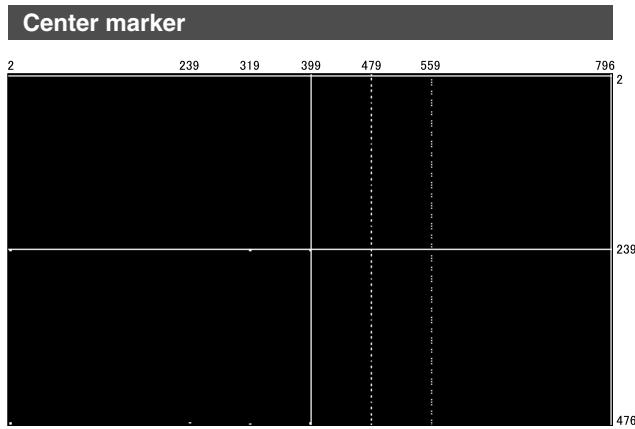
A Display of Black / White signals.



Operational description	Remote controller key
Return to test mode menu	RETURN
Pattern change	Band

## 7. Center Marker

C Display of signal for screen central location setting.



Operational description	Remote controller key
Return to test mode menu	RETURN

E

F

## 6. Rear Video Output Test

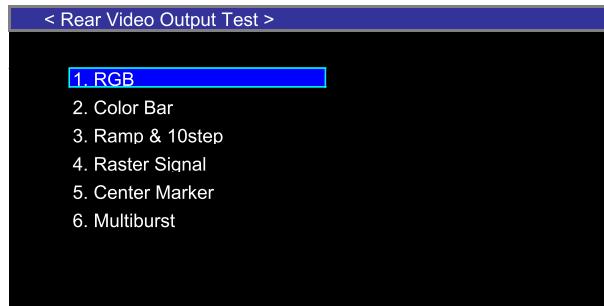
### Method for Mode IN

Choose "6. Rear Video Output Test" among the Monitor Test Menu screen.

### Display specification

On this Rear Video Output Test mode, test signals appear only on the rear video output terminal.

#### Top menu



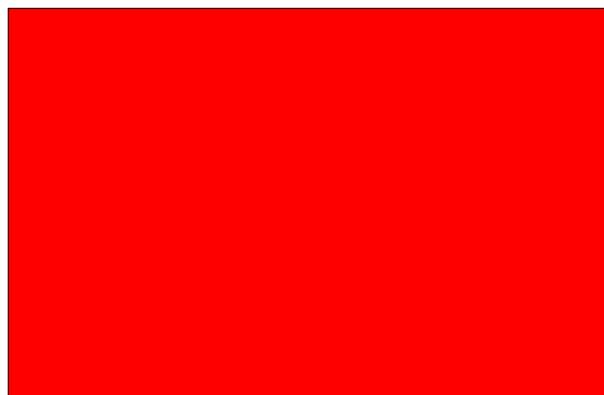
Operational description	Remote controller key
Return to test mode menu	RETURN
Selection cursor up movement	Up
Selection cursor down movement	Down
Menu enter	Band

### 1. RGB

RGB is plotted in the following pattern:

R:100% -> R:50% -> G:100% -> G:50% -> B:100% -> B:50% -> Black -> Gray -> White signal  
(The display of the screen will be changed in 1 second.)

#### R: 100%

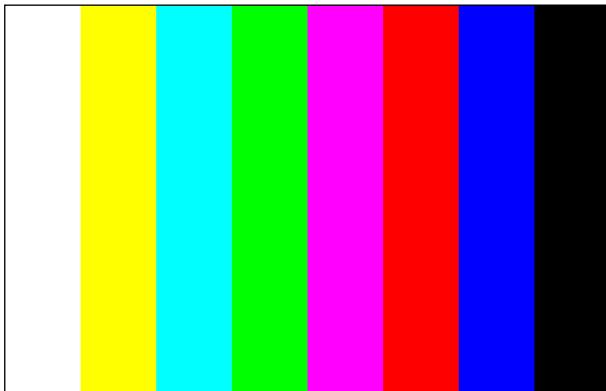


Operational description	Remote controller key
Return to test mode menu	RETURN
Stop / restart of auto display	Band

## 2. Color bar

A Display of color bar signals.

**Color bar (Vertical)**

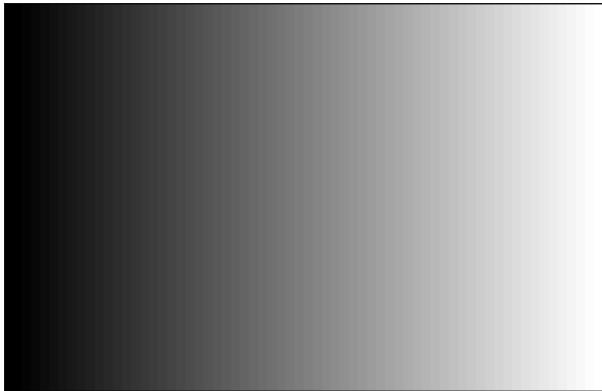


Operational description	Remote controller key
Return to test mode menu	RETURN

## 3. Ramp & 10step

C Display of step signals and signals for alpha blend check.

**Right-white 64step**

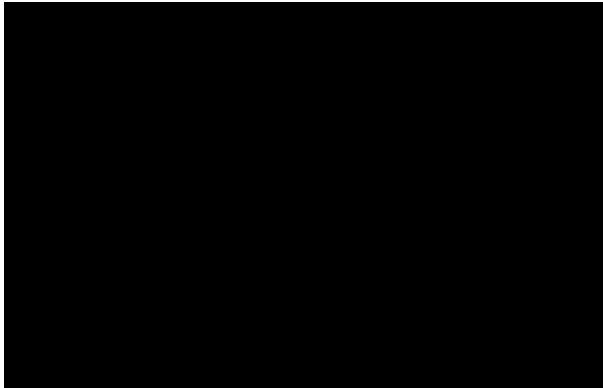


Operational description	Remote controller key
Return to test mode menu	RETURN
Alpha blend Up (+0x10)	Up
Alpha blend Down (-0x10)	Down
Alpha blend Up (+0x01)	FF
Alpha blend Down (-0x01)	REV
Pattern change	Band

#### 4. Raster Signal

Display of signals for step confirmation.

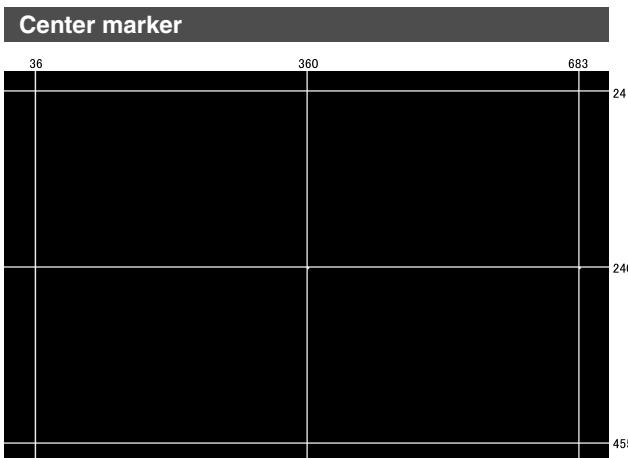
White 0%



Operational description	Remote controller key
Return to test mode menu	RETURN
Pattern change	Band

#### 5. Center Marker

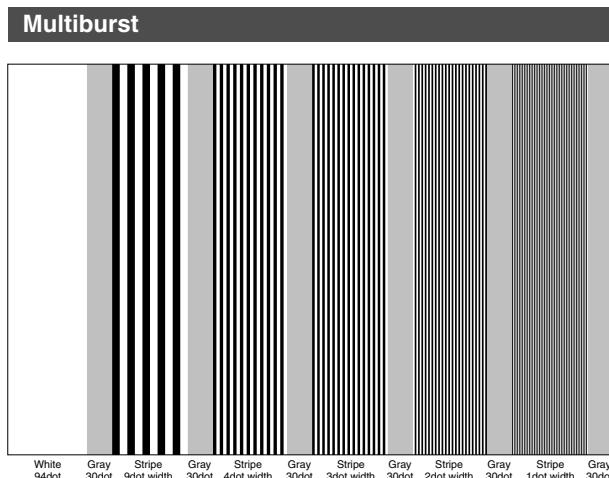
Display of signal for screen central location setting.



Operational description	Remote controller key
Return to test mode menu	RETURN

## 6. Multiburst

A Display of multiburst signal.



Operational description	Remote controller key
Return to test mode menu	RETURN

C

D

E

F

## 6.2 DVD TEST MODE

The service test mode is used to check functions in fault diagnosis by a serviceman in case of any defect found in the DVD mecha.

This mode is enabled only when the test mode is activated. At this time, no normal operation is executed.

### 1. Outline

The service test mode is used to check functions in fault diagnosis by a serviceman in case of any defect found in the DVD mecha. No general user goes into this mode.

The mode is implemented mainly to check the FE part. It is originally the test mode at the FE part implemented in the PC communication, which is modified to allow implementation in the HOST communication.

The command for the test mode received in the HOST communication is interpreted by the application part, converted to the PC communication command and transferred to the OS.

The OS transfers this command to the PC task as if it received the command in the PC communication.

The execution result is noticed to the application part by an e-mail instead of the PC communication.

The application part then transmits the result in the HOST communication to display OSD.

A

### 2. Conditions for operation

(1) This service test mode is enabled only when the test mode is activated. At this time, no normal operation is executed.

B

### 3. To enter the test mode.

- (1) [MUTE] key + [FORWARD] key -> Turn on BUP and ACC.
- (2) DVD SOURCE -> ON
- (3) Execute the test mode using each key.

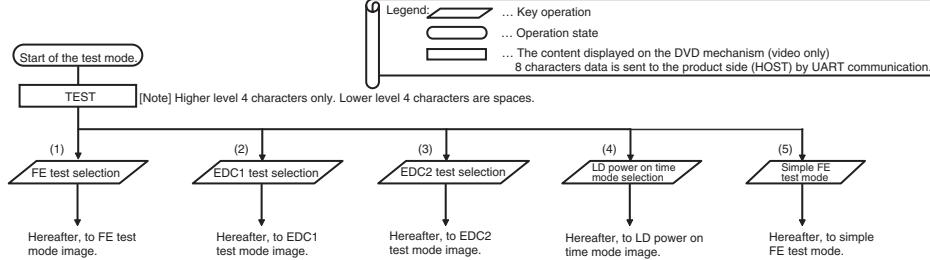
C

Display on function flow	Operation Key
(1)	+
(2)	MUTE
(3)	MENU
(4)	TOP MENU
(5)	AUDIO
(6)	SUB TITLE
(7)	ANGLE
(8)	RETURN
EJECT	EJECT

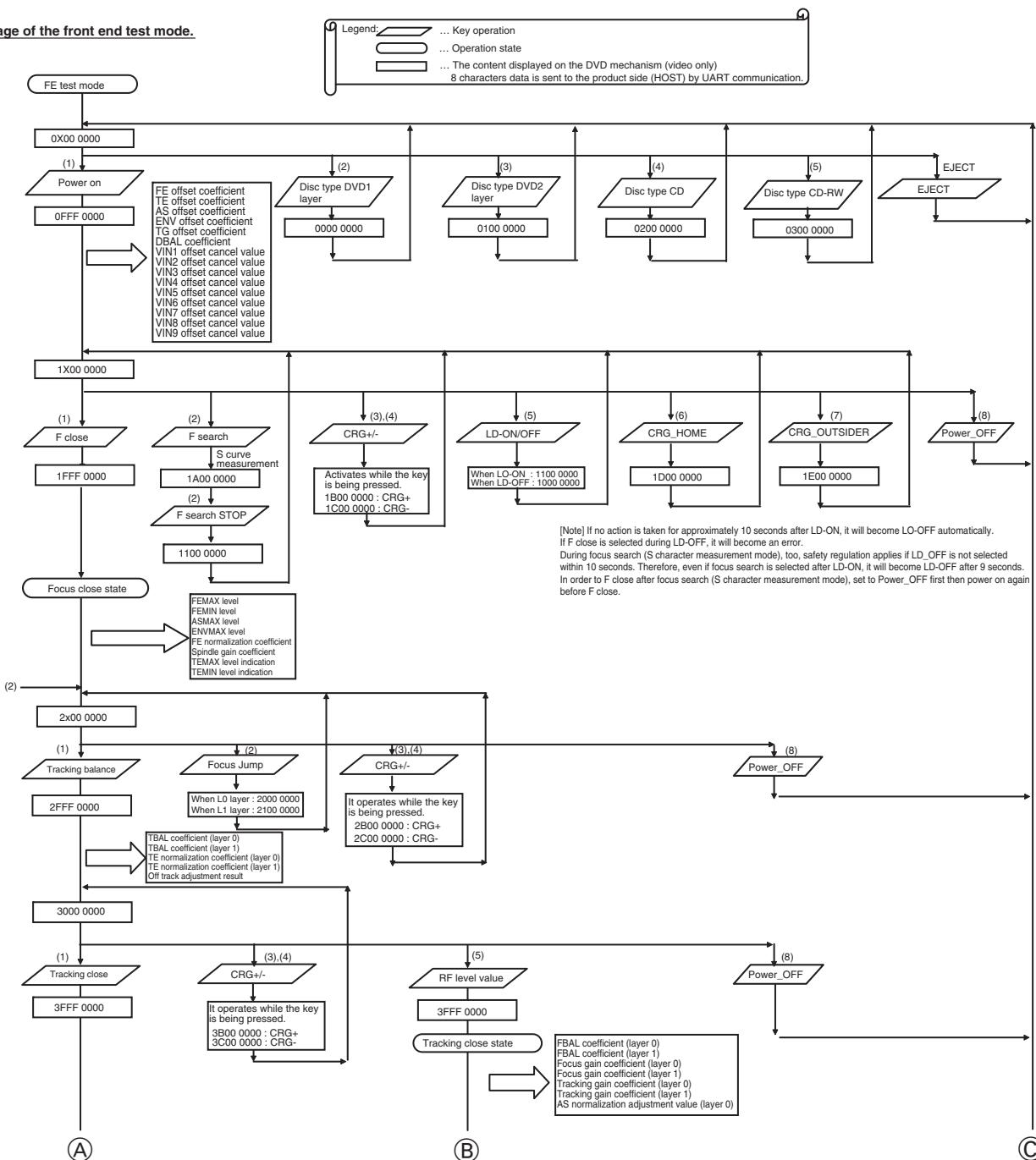
D

E

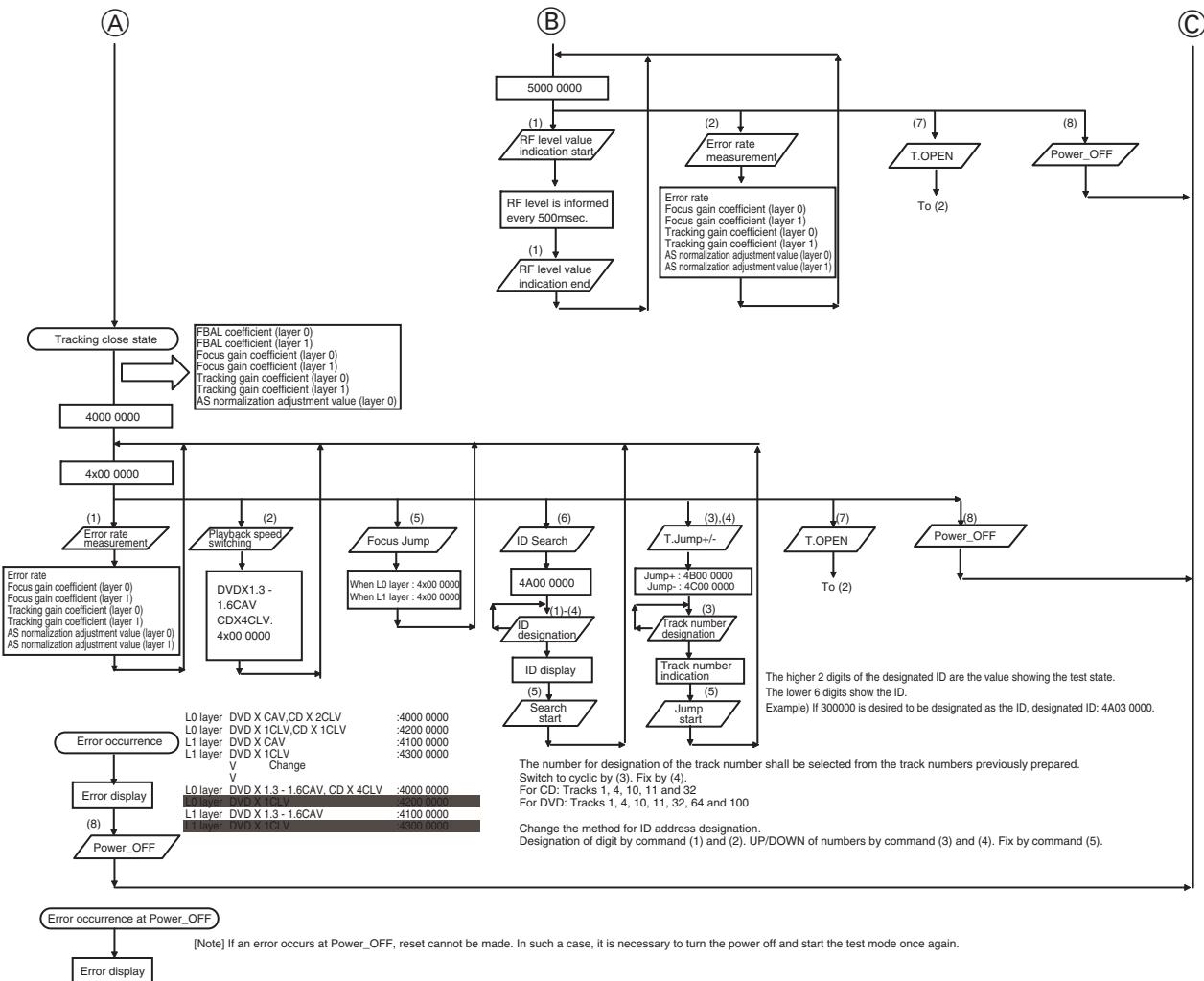
F

**Image of the test mode.**

A

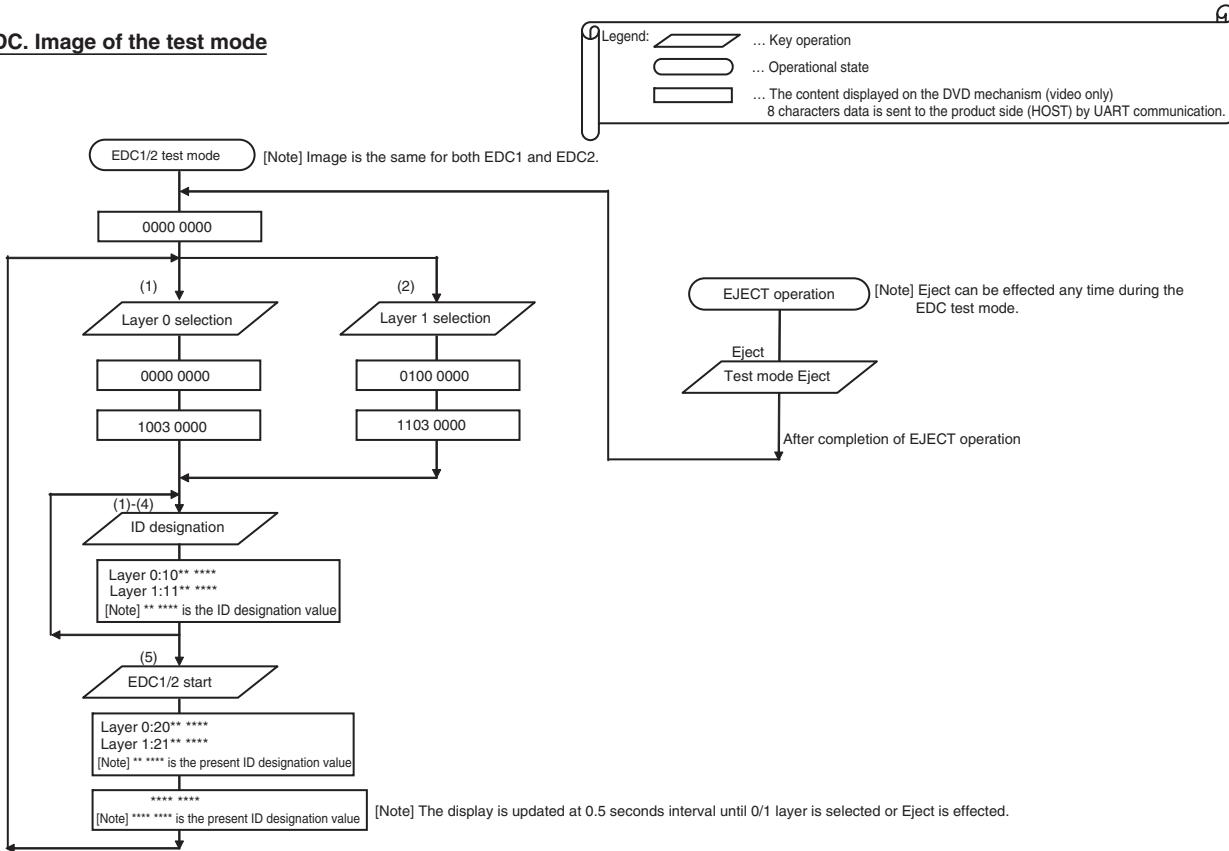
**Image of the front end test mode.**

B



### EDC. Image of the test mode

A



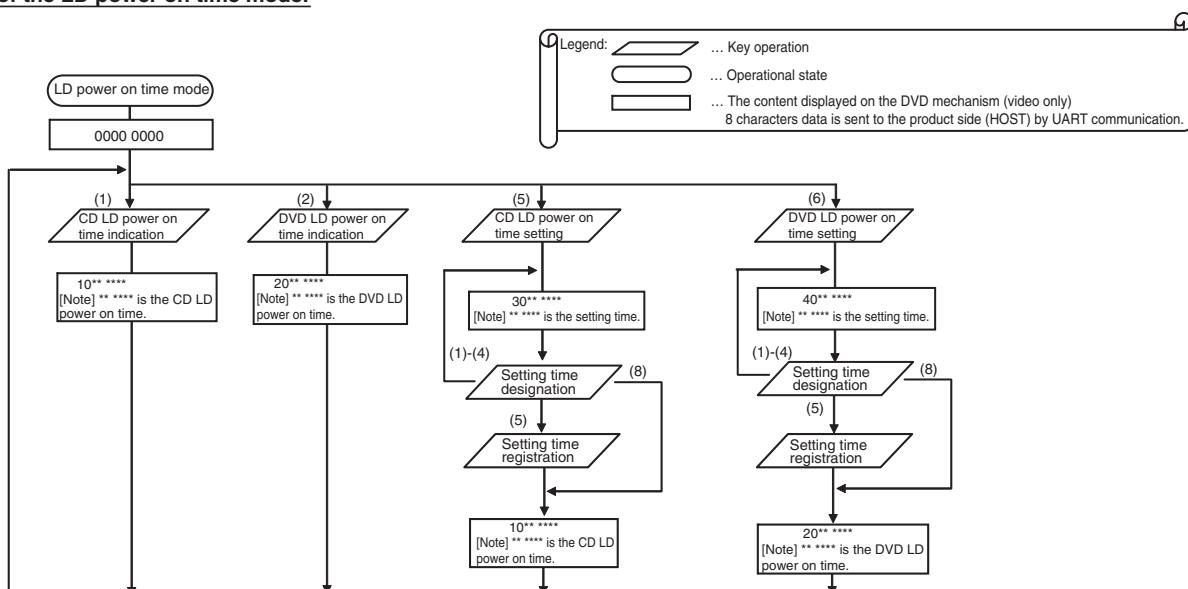
B

C

### Image of the LD power on time mode.

D

E



[Method of setting time designation]  
 Designate the digit by command (1) and (2). UP/DOWN of numbers by command (3) and (4). Fix by command (5). Cancel by command (8).

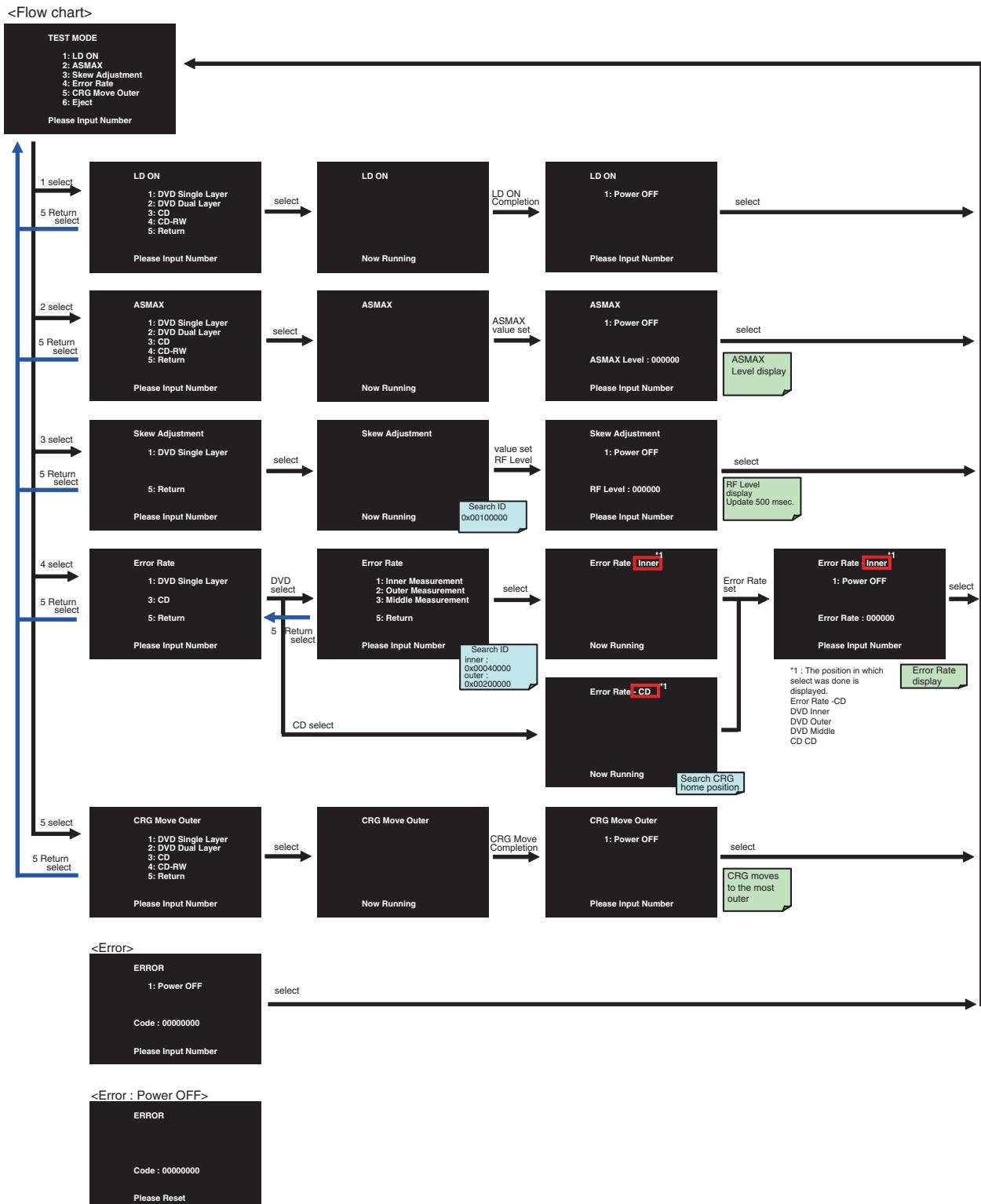
[Note] If the power on time is 999999 hours or more, it is always reported as 999999 hours.

[Note] If the power on time is "E\*\*\*\*", the value may not be correct due to the life of the flash memory.

F

## Simple test mode

The selection of the figure of each screen can be selected by "Key command for the test".



## 7. DISASSEMBLY

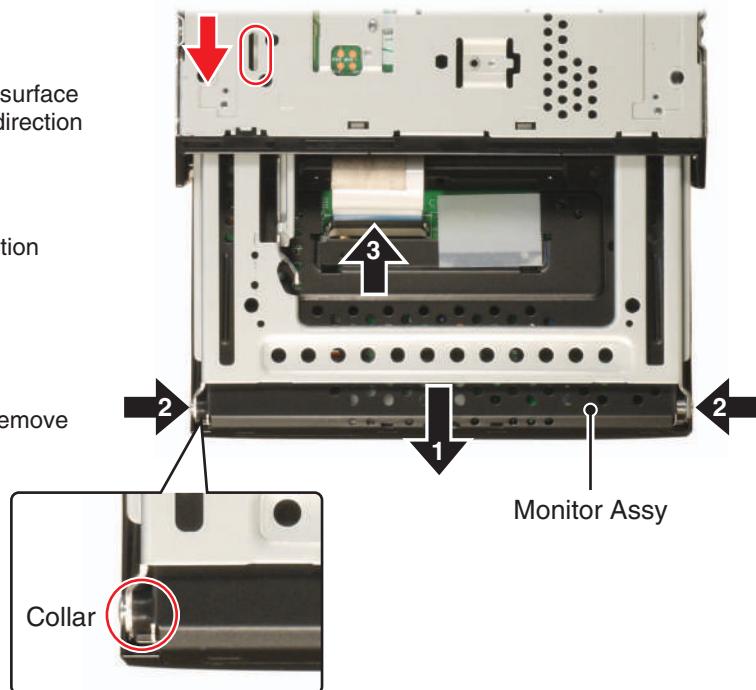
A While the photograph shown is slightly different from this model in shape, the disassembly procedure is the same.

### ● Removing the Monitor Assy (Fig.1)

#### Method for opening the flap manually

Insert a tip of screwdriver whose diameter is approximately 2mm into the slit at the bottom surface of the product and slide the flame part to the direction indicated by an arrow.

- B  1 Pull out the Monitor Assy in the direction indicated by an arrow.
-  2 Remove the two screws.
-  3 Disconnect the connector and then remove the Monitor Assy.



C Attention at assembly:

Mount the Collar for preventing Monitor Assy backlash on the red circle section.

Fig.1

### ● Removing the Panel (Fig.2)

-  1 Push the two tabs and then remove the Cover.
-  2 Remove the four screws.
- E  3 Release the six latches and then remove the Panel.

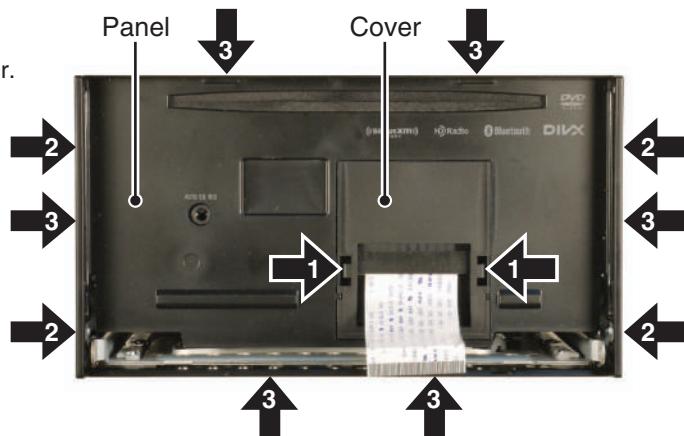


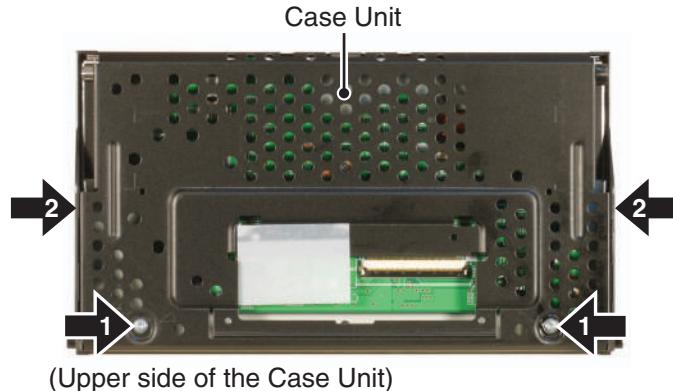
Fig.2

### ● Removing the Case Unit (Fig.3)

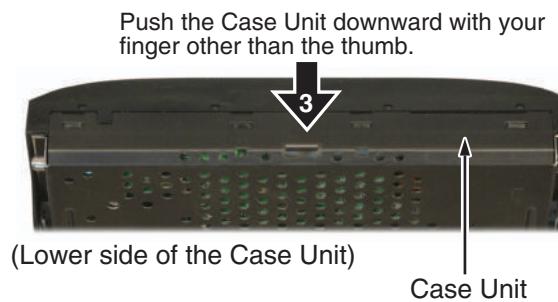
Remove the Case Unit according to the following procedures, as it is difficult to release the latches on the lower side of the Grille Assy.

**1** Remove the two screws.

**2** Remove the two screws.



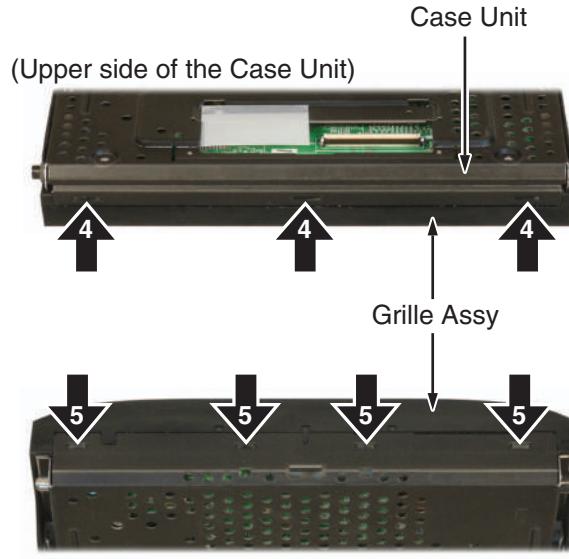
**3** Push upward/downward the Grille Assy with your right thumb and the Case Unit with your finger other than the thumb.



(Upper side of the Case Unit)



**4** Release the three latches on the upper side of the Grille Assy with your left hand.



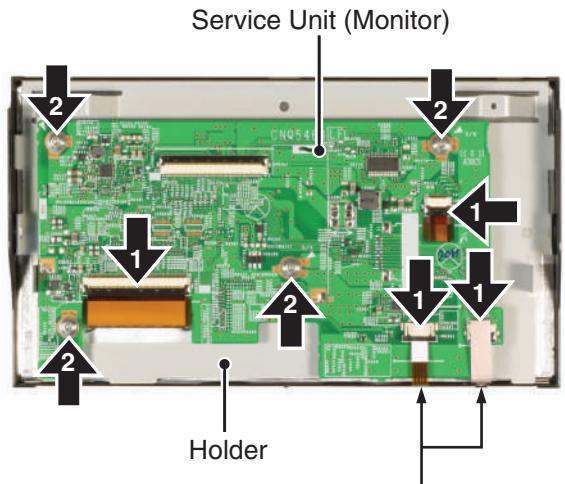
**5** Release the four latches on the lower side of the Grille Assy and then remove the Case Unit.

(Lower side of the Case Unit)

Fig.3

### A ● Removing the Service Unit (Monitor) (Fig.4)

- 1 Disconnect the four connectors.
- 2 Remove the four screws and then remove the Service Unit (Monitor).



**Attention at assembly:**  
Be careful of not pinching FPC and FFC from Service Unit (Monitor) when you mount the Case Unit.

B

C

Fig.4

### D ● Removing the Service Unit (Key) (Fig.4)

Remove the Holder, LCD and the Touch Panel.

- 1 Release the five latches and then remove the Holder.

Remove the Service Unit (Key).

After the Service Unit (Key) is replaced, check the following items.

- Check whether all LED's light up
- Check the operation of all switches
- Check the operation of light receiving part of the remote controller

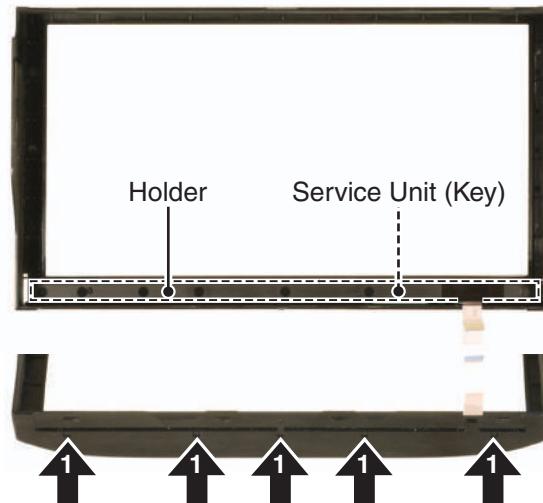
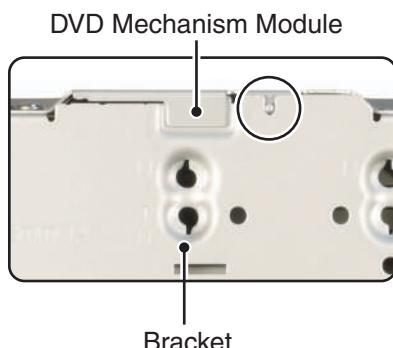


Fig.5

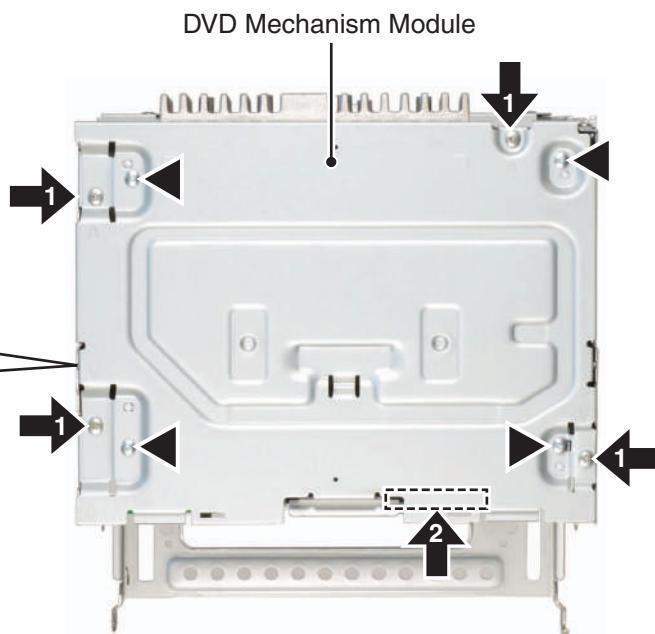
E

## ● Removing the DVD Mechanism Module (Fig.6)

- ▶ 1 Remove the four screws.
- ▶ 2 Disconnect the connector and then remove the DVD Mechanism Module.



**Attention at assembly)**  
When installing the DVD Mechanism Module,  
pulling the side Bracket to the DVD  
Mechanism Module, tighten the screws.  
Put the dowels of the DVD Mechanism  
Module in the slits of the side Bracket  
securely.



## ● Attention of removing

- ▶ Don't remove this screws excluding the dismantlement of the DVD Mechanism Module.

Fig.6

## ● Removing the Heat Sink and the Holder (Fig.7)

- ▶ 1 Remove the three screws and then remove the Heat Sink.
- ▶ 2 Remove the two screws and then remove the Holder.

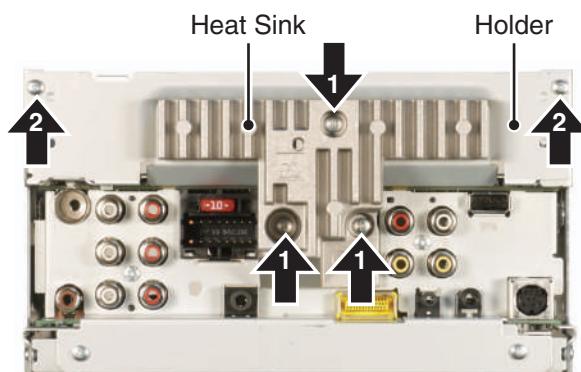
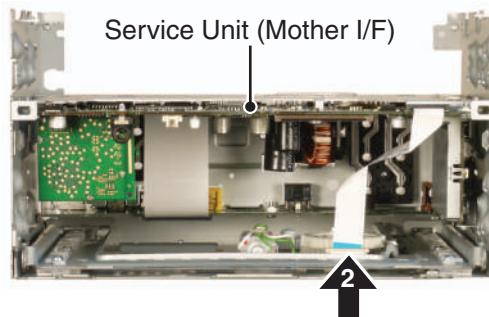
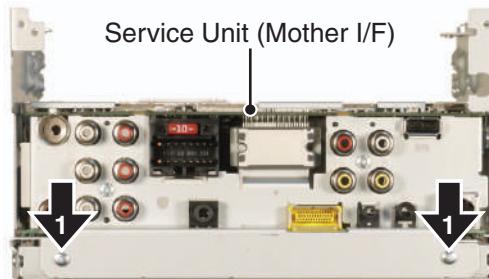


Fig.7

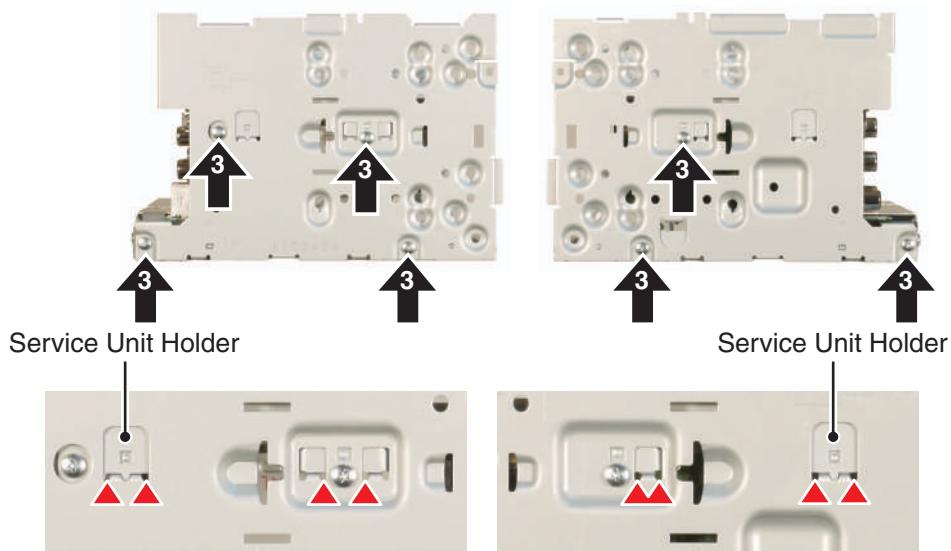
### ● Removing the Service Unit (Mother I/F) (Fig.8)

**1** Remove the two screws.

**2** Disconnect the connector.



**3** Remove the seven screws and then remove the Service Unit (Mother I/F).



▶ Note)

Remove the Service Unit Holder with tweezers.  
If forcefully removed, it may be deformed.

E  
Attention at assembly)

- ▶ When you assemble the Service Unit Holder and the Bracket,  
the Claw enters the hole.  
They are hardly separated, so pay attention to the deformation.



▶ The Service Unit Holder should contact the Bracket.

Fig.8

## ● Removing the Interface PCB and the Mother PCB (Fig.9)

- 1 Disconnect the connector.
- 2 Remove the three screws and then remove the Interface PCB.
- 3 Straighten the tab at location indicated.
- 4 Remove the three screws and then remove the Mother PCB.

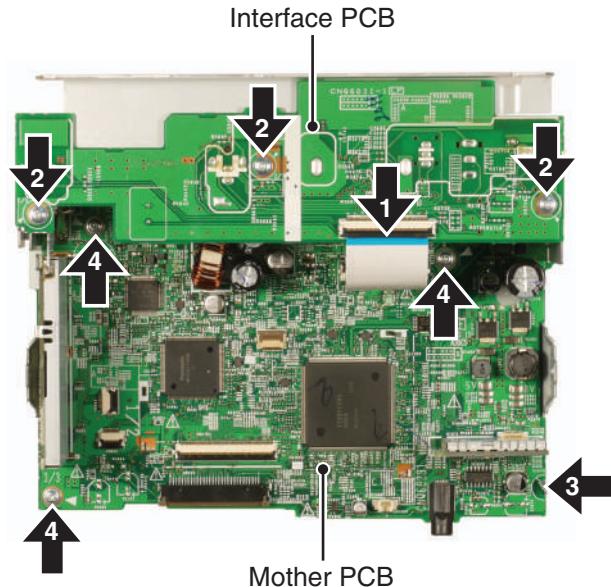
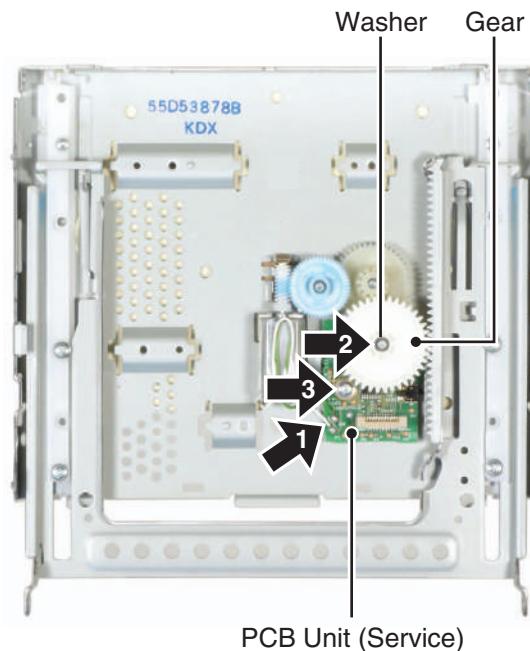


Fig.9

## ● Removing the PCB Unit (Service) (Fig.10)

- 1 Remove the two solders and then remove the two cords.
- 2 Remove the Washer and then remove the Gear.
- 3 Remove the screw and then remove the PCB Unit (Service).



PCB Unit (Service)

### Precautions on attachment of Motor Unit.

While withdrawing a Motor Unit to the direction indicated by an arrow and tighten the screw to fix it. If you tighten the screw after withdrawing it to the opposite direction of the arrow, the pitch between Worm Gear and Worm Wheel opens up and the gear jumps due to drop of package and abnormal sound may be generated.

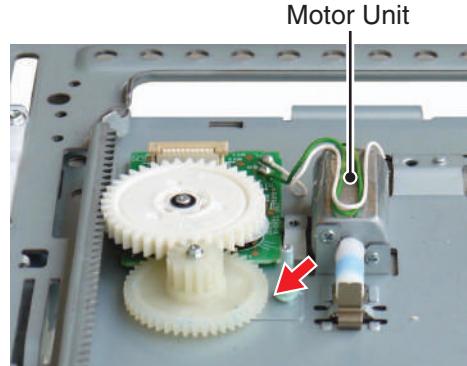
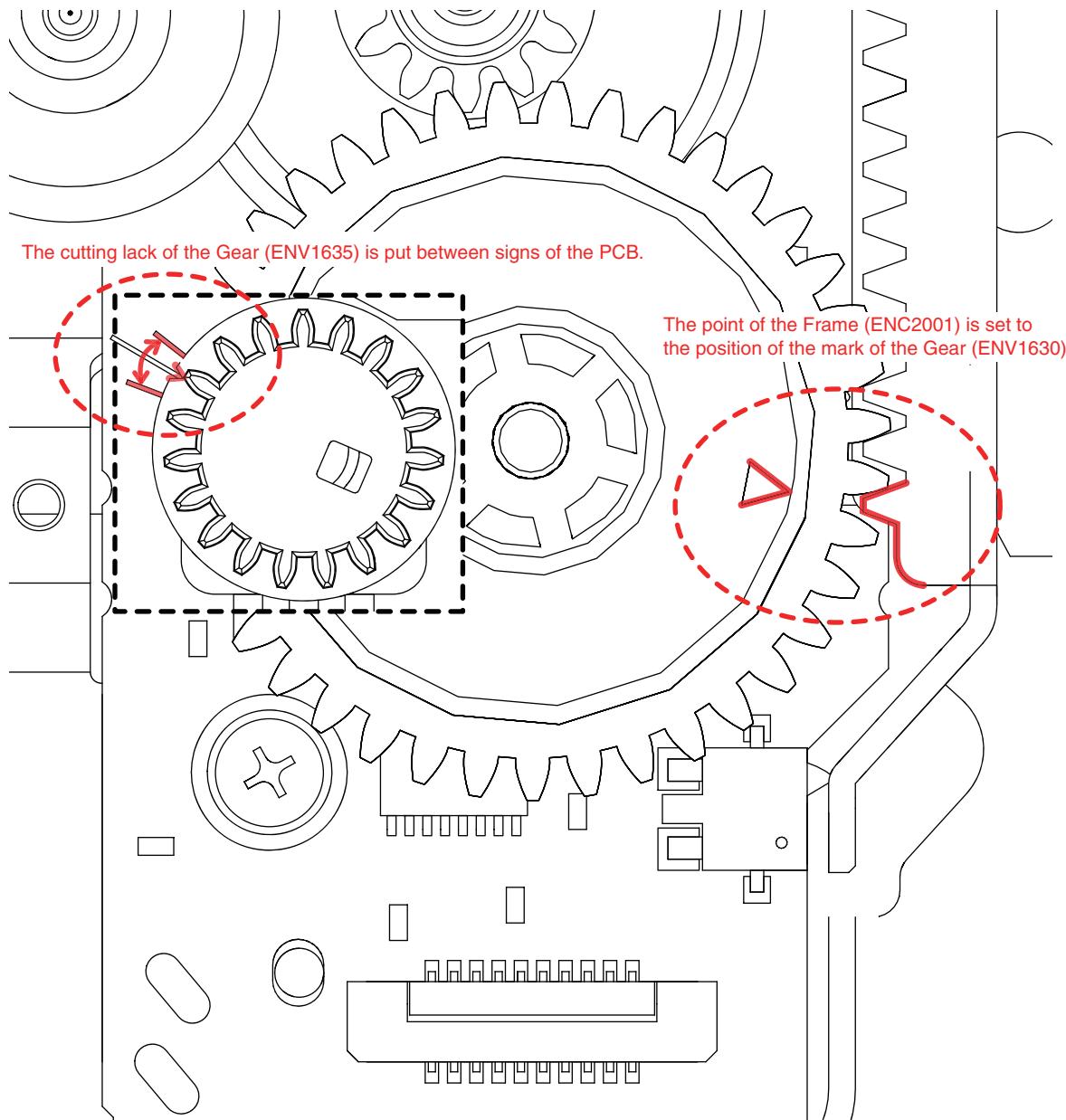


Fig.10

## A <<Drive Unit Gear set position>>



## 8. EACH SETTING AND ADJUSTMENT

### 8.1 DVD ADJUSTMENT



This product uses 5 V and 3.3 V as standard voltages.

The electrical potential that is the reference for signals, is not GND, but VREF (approximately 2.2 V) and VHALF (approximately 1.65 V).

During product adjustments, if the reference voltage is mistakenly taken as GND, and a grounding contact is made, not only would it be impossible to measure the accurate electrical potential, but also the servo motor would malfunction, resulting in the application of a strong impact on the pick up.

The following precautionary measures should be strictly adhered to, in order to avoid such problems.

The reference voltage and GND should not be confused when using the minus probe of a measurement device.

When an oscilloscope is being used special care should be taken to make sure that the reference voltage is not connected to the probe of ch1 (on the minus side), while the probe of ch2 (on the minus side), is connected to GND. Further, since the body frame of most measurement devices have the same electrical potential as the minus side of the probe, the body frame of the measurement device should be set to floating ground.

If the reference voltage is connected to GND by mistake, turn the regulator OFF immediately, or turn the power OFF.

- Remove the filters and wires used for measurements only after the regulator has been turned OFF.
- After the power supply is turned on, regulator ON the following adjustment and measurement are promptly done.
- Whenever the product is in the test mode, the software will not take any protective action. For this reason, special care should be taken to make sure that no mechanical or electrical shock could be applied to the product when taking measurements in the test mode.
- Whenever the EJECT key is pressed to eject the disk, no other keys, other than the EJECT key, should be pressed until the disk eject action has been completed.
- Press the EJECT key only after the disk has stopped completely.
- If the product hangs up turn the power OFF immediately.
- Don't touch the volume for laser power adjustment other than the time of POWER adjustment.  
(Laser diode may be damaged.)

A

B

C

D

E

F

## ● Power Adjustment

### A ■ Power Adjustment

To turn VR of the circuit for Power adjustment and adjust the optical output level of PU laser diode to make the level of signal (RF signal) read from the media appropriate level during the reproduction of media, CD and DVD.

It has been decided that Power adjustment circuit (circuit from IMON to CDMP, DVDM) which adjusts the optical output level of PU laser diode should be installed on DVD Core Unit in the DVD mecha module.

Therefore, in the replacement of CRG mecha (with PU unit) and DVD Core Unit, Power adjustment should be implemented.

The Power adjustment method of mecha module is shown below.

### B ■ Items to be Prepared

Measuring instrument: Oscilloscope (digital or analog)

Frequency band of oscilloscope in DVD whose frequency is higher than CD Adjustable 10 MHz and higher (enough to check the level)

(In LS2, DVD (x 1.5CLV) MAX RF 6.55 MHz / DVD (x 1.5CLV) MIN RF 1.40 MHz)

DISC: DVD TEST DISC (TDV-582 or TDV-520) Almedio

CD TEST DISC (TCD-782 or TCD-792) Almedio

Adjustment screwdriver : crosshead, No.0, nonmetal (ceramic screwdriver for adjustment)

### C ■ Line Locating

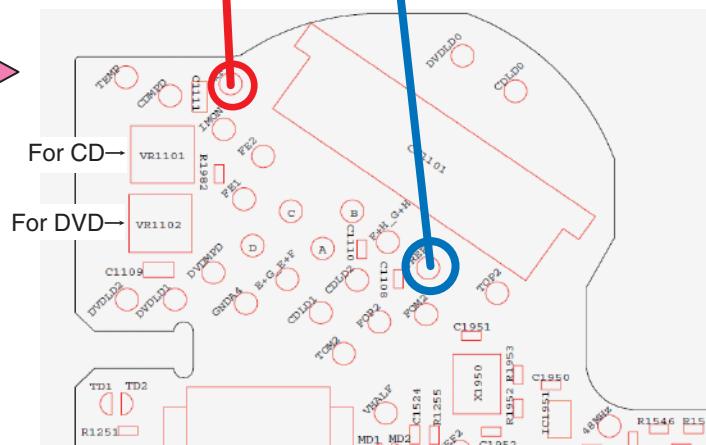
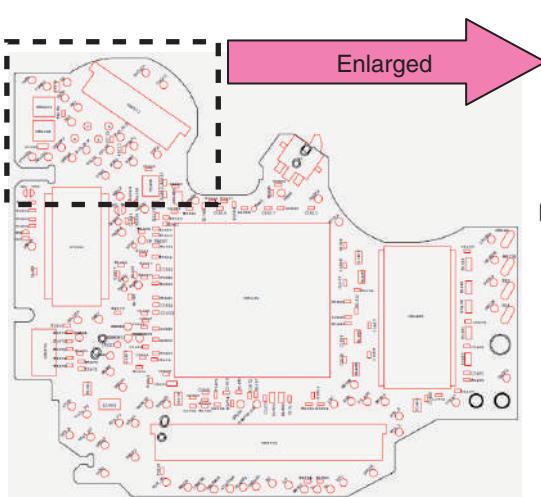
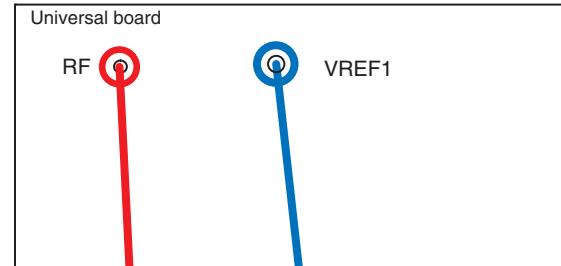
The following line locating is required.

1	RF	Power adjustment
2	VREF1	Power adjustment

### D ■ Connection Diagram

○ : Checking terminal for oscilloscope

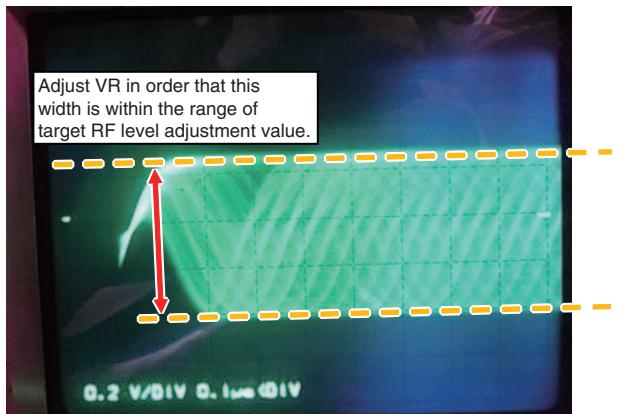
The figure in parentheses of resistor / capacitor is constant.



## ■ Method of Power Adjustment

1. Monitor RF by using the analog oscilloscope. (line locating of RF and VREF1)
2. Turn VR1101 and VR1102 to set the PP value of RF at the value shown in the right lower table.

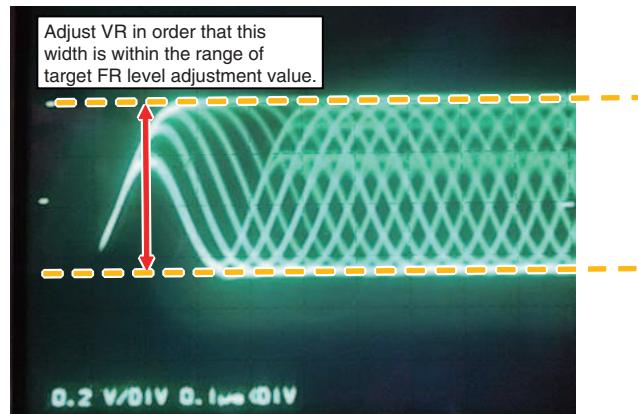
▼ RF waveform after F-ON / before T-ON (waveform measured by analog oscilloscope)



Power adjustment standard  
RF level adjustment value  
(F-ON STEP 10, 24)

DVD	200 mV to 1200 mV
CD	200 mV to 1200 mV

▼ RF waveform after the completion of all adjustment (waveform measured by analog oscilloscope)



Power adjustment standard  
RF level adjustment value  
(The setup is completed. STEP 12, 26)

DVD	848 mV to 892 mV
CD	658 mV to 702 mV

## ■ Procedure of Power Adjustment

### A ■ Flow

1. DVD Power adjustment in the state where F is ON
2. DVD Power adjustment in the state where the setup is completed
3. CD Power adjustment in the state where F is ON
4. CD Power adjustment in the state where the setup is completed

## ■ Procedure of Adjustment

STEP No.

1. Set the mecha to clockwise.
2. Turn on power.
3. Test Mode In
4. Insert DVD TDV-582 (or TDV-520).
5. Set the mecha to counterclockwise.
6. Adjustment of the initial position of VR for Power adjustment

	1st	2nd	3rd
CD (VR1101)		-30°	
DVD (VR1102)	-30°	-45°	-90°

Adjust the angle at the D cut position to the initial position (initial position shown in Fig.1).

7. Set DISC TYPE to DVD single layer.

8. Power on.

9. LD-ON

10. Execute until Focus close state is reached.

▼ If the waveform is similar to RF waveform after F-ON and before T-ON (waveform measured by analog oscilloscope), Focus Close is reached.  
Go to STEP 9.  
If the RF waveform does not appear, Focus Close is not reached.  
Return to STEP 7 and change the angle of initial position of DVD VR (VR 1102). If Focus Close is not reached after the 3rd VR adjustment, replace the whole CRG mecha (including PU unit) and start again from STEP 1.

DVD	200 mV to 1200 mV
-----	-------------------

11. Conduct Power adjustment. (Conduct the adjustment in the state of Focus Close.)

DVD	848 mV to 892 mV
-----	------------------

12. Execute until Tracking Close is reached.

13. Conduct Power adjustment. (Conduct the adjustment in the state of Tracking Close.)

DVD	2.0E – 4 and under
-----	--------------------

14. Check the ERR rate after Power adjustment.

DVD	820 mV to 917 mV
DVD	2.0E – 4 and under

15. Power off.

16. Return the state of mecha to clockwise.

17. Set up again (state of mecha to clockwise / setting of DVD single layer) and conduct the final check of RF level and ERR rate.  
(Check in the state of Tracking Close)

18. Eject.

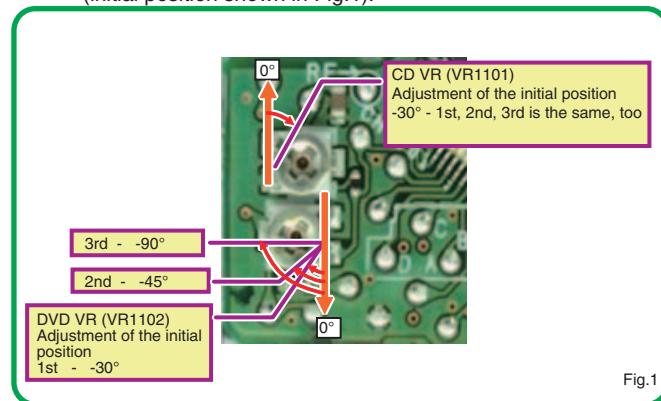


Fig.1

[Refer to FE test mode function flow.](#)

[Refer to FE test mode function flow.](#)

[Refer to FE test mode function flow.](#)

19. Take out DVD TDV-582 (or TDV-520).  
Insert CD TCD-782 (or TCD-792).

20. Set the mecha counterclockwise.

21. Adjustment of the initial position of VR for Power adjustment

	1st	2nd	3rd
CD (VR1101)	-30°	-45°	-90°
DVD (VR1102)	As the adjustment is completed, never change.		

Adjust the angle at the D cut position to the initial position (initial position shown in Fig.2).

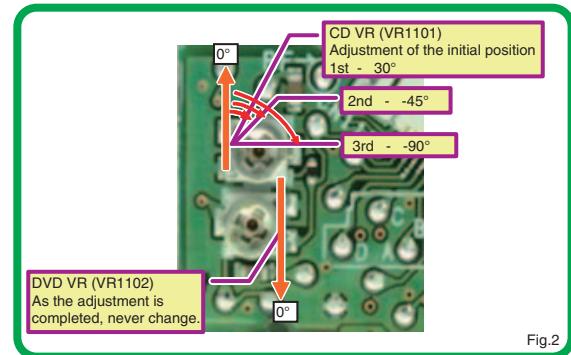


Fig.2

22. Set DISC TYPE to CD.

[Refer to FE test mode function flow.](#)

23. Power on.

[Refer to FE test mode function flow.](#)

24. Execute until Focus Close 1 is reached.

[Refer to FE test mode function flow.](#)

- ▼ If the waveform is similar to RF waveform after F-ON and before T-ON (waveform measured by analog oscilloscope), Focus Close is reached.  
Go to STEP 20.
- If the RF waveform does not appear, Focus Close is not reached. Return to STEP 21 and change the angle of initial position of CD VR (VR1101).  
If Focus Close is not reached after the 3rd VR adjustment, replace the whole CRG mecha (including PU unit) and start again from STEP 1.

25. Conduct Power adjustment. (Conduct the adjustment in the state of Focus Close.)

CD	200 mV to 1200 mV
----	-------------------

26. Execute until Tracking Close is reached.

[Refer to FE test mode function flow.](#)

27. Conduct Power adjustment. (Conduct the adjustment in the state of Focus Close.)

CD	658 mV to 702 mV
----	------------------

28. Check ERR rate.

CD	1.0E – 2 and under
----	--------------------

[Refer to FE test mode function flow.](#)

29. Power off.

[Refer to FE test mode function flow.](#)

30. Return the state of mecha to clockwise.

31. Set up again (state of mecha to clockwise / setting of CD layer), and conduct the final check of RF level and ERR rate.  
(Check in the state of Tracking Close)

CD	528 mV to 832 mV
CD	1.0E – 2 and under

[Refer to FE test mode function flow.](#)

32. Eject.

[Refer to FE test mode function flow.](#)

33. Take out CD TCD-782 (or TCD-792).

34. Power off.

A

B

C

D

E

F

## 8.2 PCL OUTPUT CONFIRMATION

A



### PCL Output

With the TESTIN (72 pin) status of IC601 to be "H", it is shifted to PCL Output Test mode after reset started.  
The clock signal is output from the CLKOUT terminal IC601 (Pin 78).

The frequency of the clock signal is 9.375 MHz.

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

B

C

D

E

F

■ 5

■ 6

■ 7

■ 8

A

B

C

D

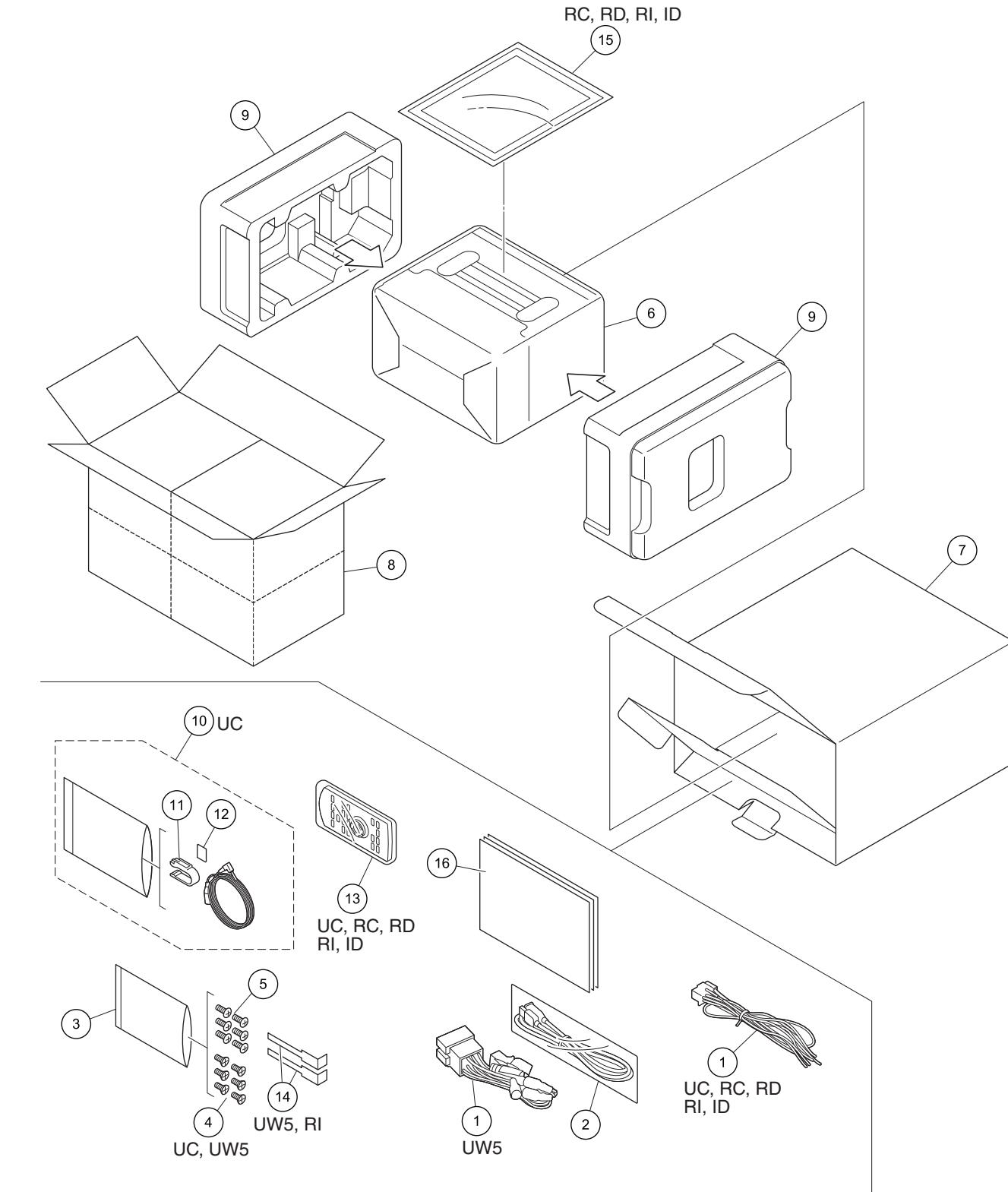
E

F

# 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**

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
1	Cord Assy	See Contrast table (2)	11	Holder	See Contrast table (2)
2	USB Extended Cable	CDP1585	12	Cushion	See Contrast table (2)
3	Polyethylene Bag	CEG1160	13	Card Remote Control Unit	See Contrast table (2)
4	Screw	See Contrast table (2)	14	Handle	See Contrast table (2)
5	Screw	TRZ50P080FTC	15	Panel	See Contrast table (2)
6	Cover	See Contrast table (2)	16-1	Owner's Manual	See Contrast table (2)
7	Unit Box	See Contrast table (2)	* 16-2	Warranty Card	See Contrast table (2)
8	Contain Box	See Contrast table (2)	* 16-3	Service Network	See Contrast table (2)
9	Protector	See Contrast table (2)			
10	Microphone Assy	See Contrast table (2)			

**(2) CONTRAST TABLE**

AVH-X4500BT/XNUC, AVH-X4500DVD/XNUW5, AVH-X4550DVD/XNRC, AVH-X4550DVD/XNRD, AVH-X4550DVD/XNRI and AVH-X4590DVD/XNID are constructed the same except for the following:

<b>Mark</b>	<b>No.</b>	<b>Description</b>	<b>AVH-X4500BT/XNUC</b>	<b>AVH-X4500DVD/ XNUW5</b>	<b>AVH-X4550DVD/XNRC</b>
	1	Cord Assy	CDP1435	CDP1436	CDP1435
	4	Screw	CRZ50P090FTC	CRZ50P090FTC	Not used
	6	Cover	CEG1359	CEG1356	CEG1356
	7	Unit Box	CHG8158	CHG8164	CHG8159
	8	Contain Box	CHL8158	CHL8164	CHL8159
	9	Protector	CHP4598	CHP4599	CHP4598
	10	Microphone Assy	CPM1083	Not used	Not used
	11	Holder	CZN7192	Not used	Not used
	12	Cushion	CZN7193	Not used	Not used
	13	Card Remote Control Unit	CXE5116	Not used	CXE5116
	14	Handle	Not used	CND6289	Not used
	15	Panel	Not used	Not used	CNS9475
*	16-1	Owner's Manual	CRD4703	CRB4057	CRD4704
*	16-2	Warranty Card	QRY3001	CRY1330	Not used
*	16-3	Service Network	Not used	Not used	Not used

<b>Mark</b>	<b>No.</b>	<b>Description</b>	<b>AVH-X4550DVD/XNRD</b>	<b>AVH-X4550DVD/XNRI</b>	<b>AVH-X4590DVD/XNID</b>
	1	Cord Assy	CDP1435	CDP1435	CDP1435
	4	Screw	Not used	Not used	Not used
	6	Cover	CEG1356	CEG1356	CEG1356
	7	Unit Box	CHG8160	CHG8165	CHG8161
	8	Contain Box	CHL8160	CHL8165	CHL8161
	9	Protector	CHP4598	CHP4599	CHP4598
	10	Microphone Assy	Not used	Not used	Not used
	11	Holder	Not used	Not used	Not used
	12	Cushion	Not used	Not used	Not used
	13	Card Remote Control Unit	CXE5116	CXE5116	CXE5116
	14	Handle	Not used	CND6289	Not used
	15	Panel	CNS9475	CNS9475	CNS9475
*	16-1	Owner's Manual	CRD4706	CRD4705	CRB4065
*	16-2	Warranty Card	Not used	Not used	CRY1304
*	16-3	Service Network	Not used	Not used	CRY1305

**Owner's Manual, Installation Manual**

Part No.	Language
CRD4703	English, French, Spanish(Espanol)
CRD4704	English, Traditional Chinese
CRD4705	English, Arabic, Persian
CRD4706	English, Spanish(Espanol), Portuguese(B)
CRB4057	Russian
CRB4065	English

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■ 8

A

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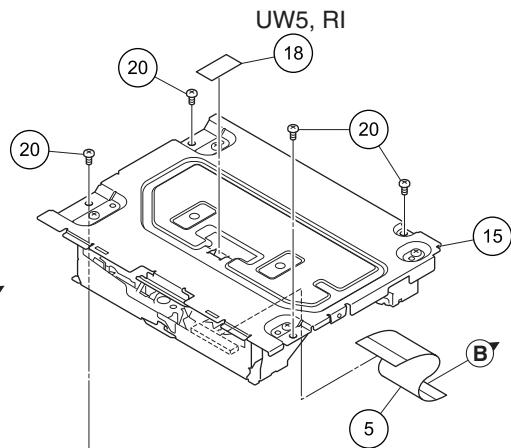
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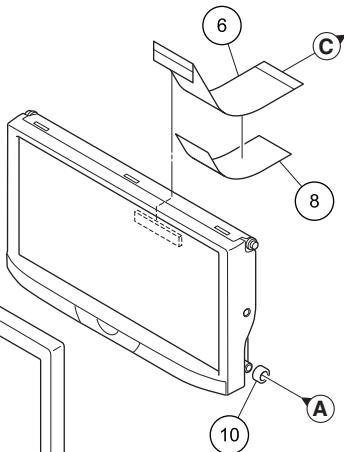
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## 9.2 EXTERIOR (1)

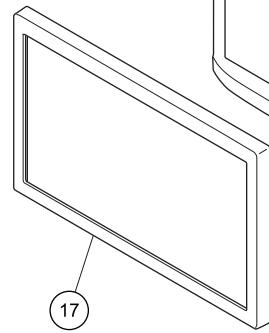
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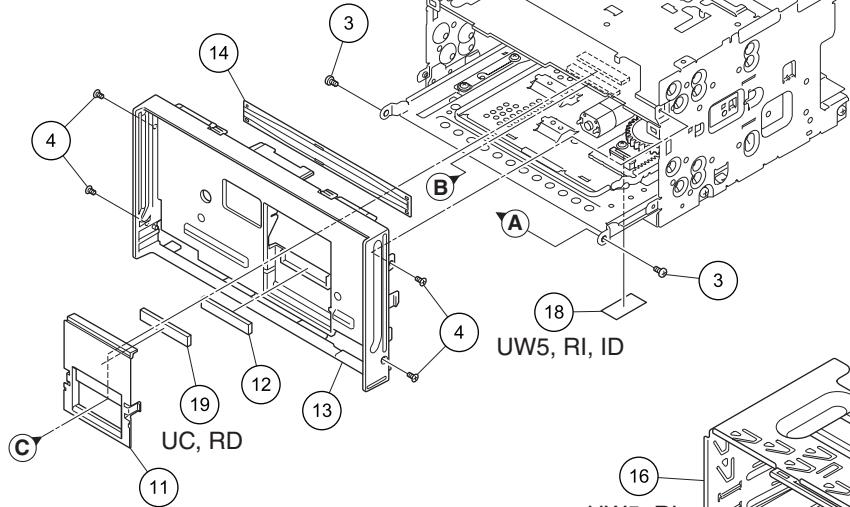
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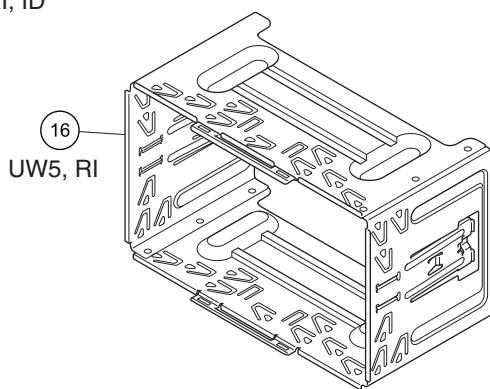
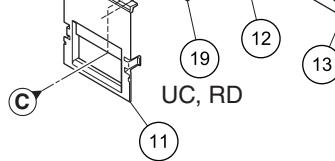
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**(1) EXTERIOR (1) SECTION PARTS LIST**

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
1	Screw	BSZ26P050FTC	11	Cover	CNW2316
2	Screw	BSZ26P120FTC	12	Cushion	CNN3206
3	Screw	CBA1735	13	Panel	See Contrast table (2)
4	Screw (M2 x 3)	CBA1877	14	Cover	QNM3029
5	FFC	CDE9765	15	DVD Mechanism Module (LS2)	CXK8002
6	FFC	CDE9769	16	Holder	See Contrast table (2)
7	Holder	CND6246	17	Panel	See Contrast table (2)
8	Sheet	CNN4247	18	Label	See Contrast table (2)
9	Heat Sink	CNR2147	19	Cushion	See Contrast table (2)
10	Collar	CNW2038	20	Screw	BSZ26P060FTC

**(2) CONTRAST TABLE**

AVH-X4500BT/XNUC, AVH-X4500DVD/XNUW5, AVH-X4550DVD/XNRC, AVH-X4550DVD/XNRD, AVH-X4550DVD/XNRI and AVH-X4590DVD/XNID are constructed the same except for the following:

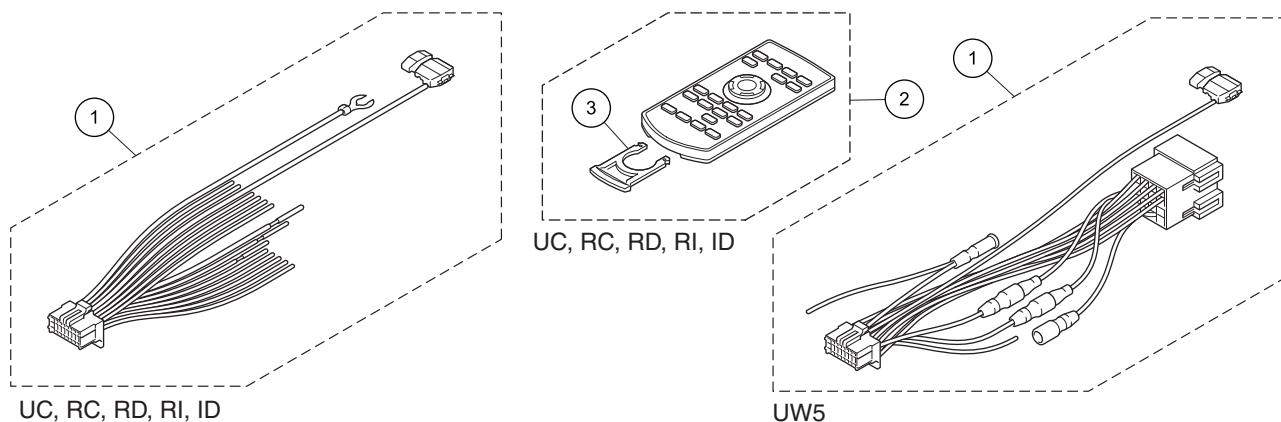
<b>Mark</b>	<b>No.</b>	<b>Description</b>	<b>AVH-X4500BT/XNUC</b>	<b>AVH-X4500DVD/ XNUW5</b>	<b>AVH-X4550DVD/XNRC</b>
	13	Panel	CNU2049	CNU2050	CNU2051
	16	Holder	Not used	CND6288	Not used
	17	Panel	Not used	CNS9952	Not used
	18	Label	Not used	CNN3533	Not used
	19	Cushion	CNN3206	Not used	Not used

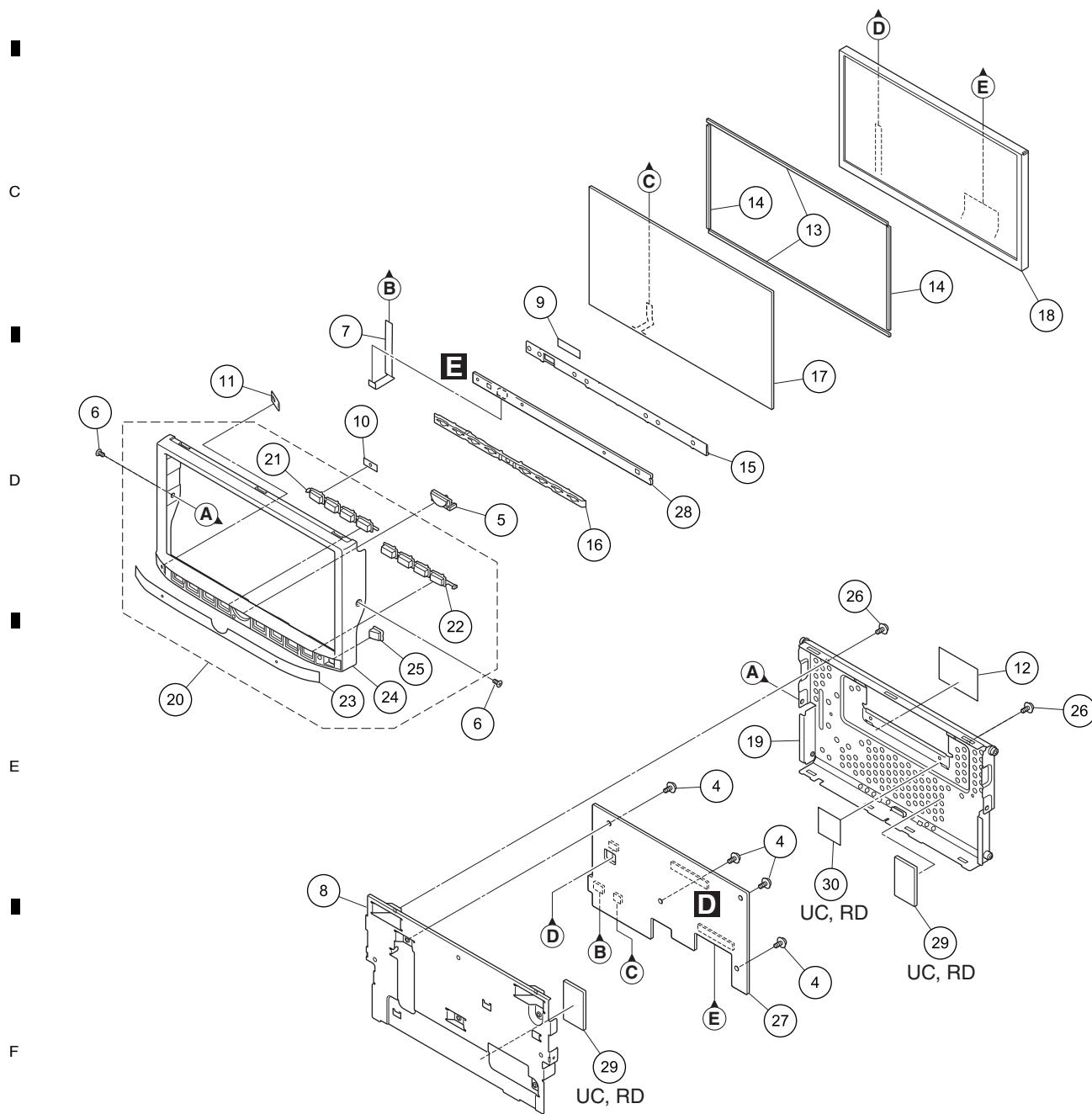
<b>Mark</b>	<b>No.</b>	<b>Description</b>	<b>AVH-X4550DVD/XNRD</b>	<b>AVH-X4550DVD/XNRI</b>	<b>AVH-X4590DVD/XNID</b>
	13	Panel	CNU2051	CNU2051	CNU2051
	16	Holder	Not used	CND6288	Not used
	17	Panel	Not used	CNS9952	Not used
	18	Label	Not used	CNN3533	CNN3533
	19	Cushion	CNN3206	Not used	Not used

■ 1 2 3 4  
9.3 EXTERIOR (2)

A



B



**(1) EXTERIOR (2) SECTION PARTS LIST**

<b>Mark No.</b>	<b>Description</b>	<b>Part No.</b>	<b>Mark No.</b>	<b>Description</b>	<b>Part No.</b>
1	Cord Assy	See Contrast table (2)	16	Lighting Conductor	CNW2312
2	Card Remote Control Unit	See Contrast table (2)	17	Touch Panel	CSX1194
3	Battery Cover	See Contrast table (2)	18	TFT LCD	CWX4182
4	Screw	AMZ26P040FTC	19	Case Unit	CXE4761
5	Button (HOME)	CAI3846	20	Grille Assy	See Contrast table (2)
6	Screw (M2 x 3)	CBA1877	21	Button (SRC, VOL+/-, MUTE)	CAI3613
7	FFC	CDE9393	22	Button (MODE, TRK UP/DOWN, EJECT)	CAI3690
8	Holder	CND6526	23	Plate	See Contrast table (2)
9	Sheet	CNN3991	24	Grille	CNU2015
10	Sheet	CNN4033	25	Lighting Conductor	CNW2313
11	Sheet	CNN4196	26	Screw	IMS20P030FTC
12	Sheet	CNN4232	27	Service Unit (Monitor)	CXX4997
13	Cushion	CNN4271	28	Service Unit (Key)	CXX5005
14	Cushion	CNN4272	29	Gasket	See Contrast table (2)
15	Holder	CNU1756	30	Sheet	See Contrast table (2)

**(2) CONTRAST TABLE**

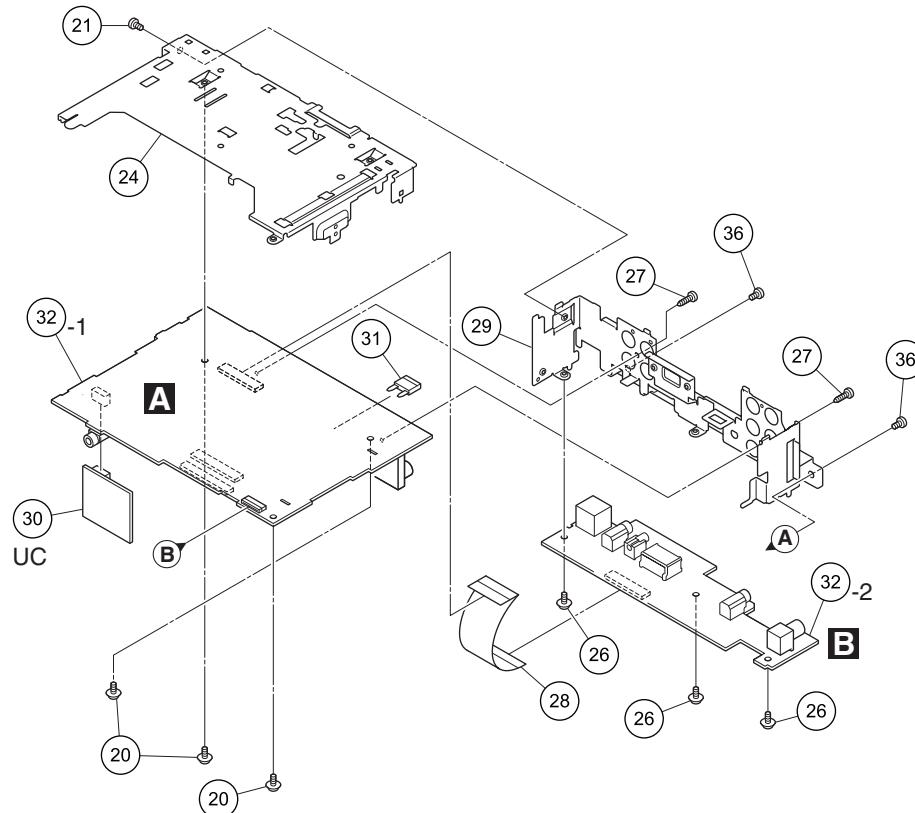
AVH-X4500BT/XNUC, AVH-X4500DVD/XNUW5, AVH-X4550DVD/XNRC, AVH-X4550DVD/XNRD, AVH-X4550DVD/XNRI and AVH-X4590DVD/XNID are constructed the same except for the following:

<b>Mark</b>	<b>No.</b>	<b>Description</b>	<b>AVH-X4500BT/XNUC</b>	<b>AVH-X4500DVD/XNUW5</b>	<b>AVH-X4550DVD/XNRC</b>
1	Cord Assy	CDP1435	CDP1436	CDP1435	
2	Card Remote Control Unit	CXE5116	Not used	CXE5116	
3	Battery Cover	CNU1624	Not used	CNU1624	
20	Grille Assy	CXE5625	CXE5624	CXE5626	
23	Plate	CNN4181	CNN4180	CNN4182	
29	Gasket	CNN4360	Not used	Not used	
30	Sheet	CNN3881	Not used	Not used	

<b>Mark</b>	<b>No.</b>	<b>Description</b>	<b>AVH-X4550DVD/XNRD</b>	<b>AVH-X4550DVD/XNRI</b>	<b>AVH-X4590DVD/XNID</b>
1	Cord Assy	CDP1435	CDP1435	CDP1435	
2	Card Remote Control Unit	CXE5116	CXE5116	CXE5116	
3	Battery Cover	CNU1624	CNU1624	CNU1624	
20	Grille Assy	CXE5626	CXE5626	CXE5627	
23	Plate	CNN4182	CNN4182	CNN4183	
29	Gasket	CNN4360	Not used	Not used	
30	Sheet	CNN3881	Not used	Not used	

■ 1 2 3 4  
9.4 EXTERIOR (3)

A



B

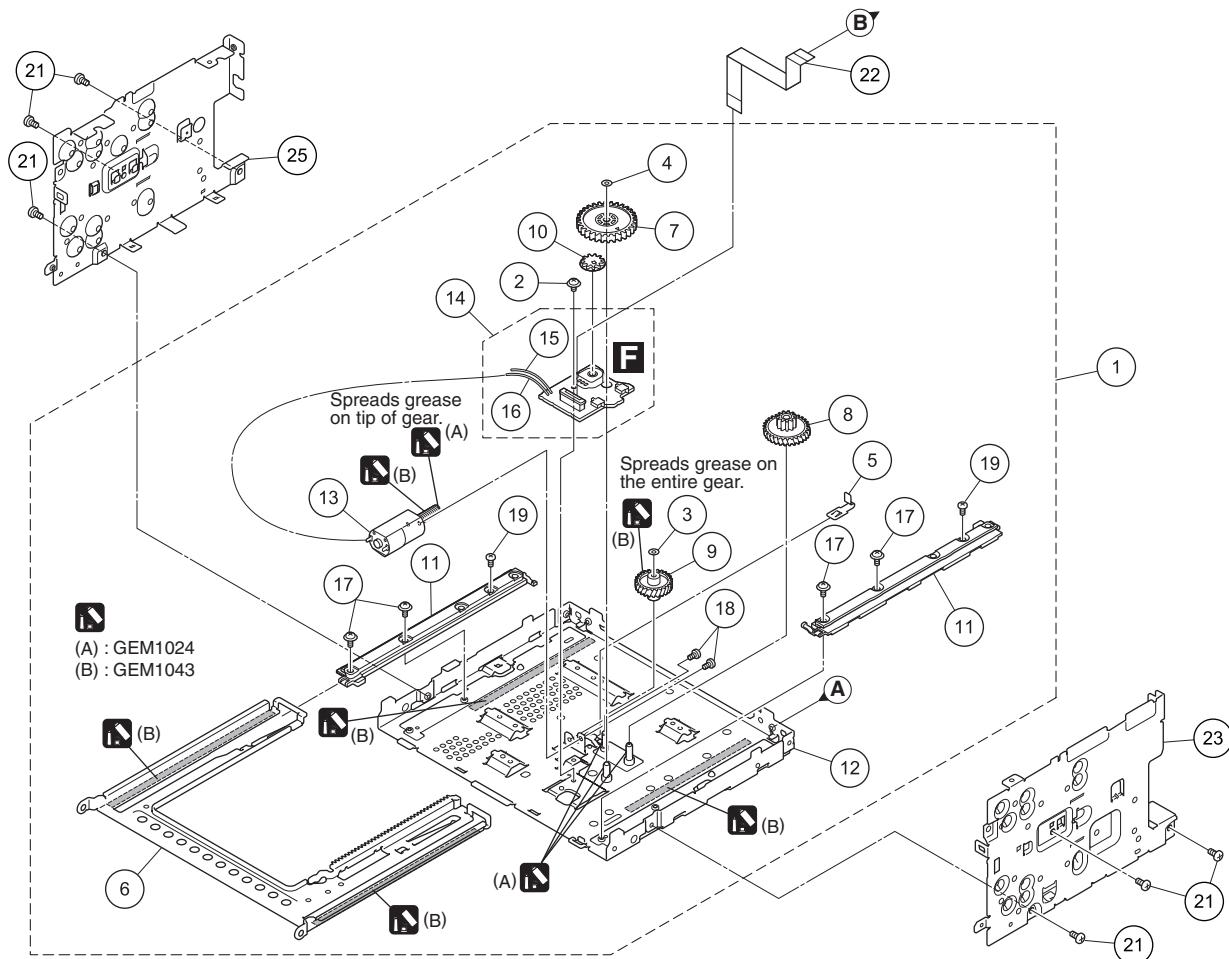
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**(1) EXTERIOR (3) SECTION PARTS LIST**

<b>Mark No.</b>	<b>Description</b>	<b>Part No.</b>	<b>Mark No.</b>	<b>Description</b>	<b>Part No.</b>
1	Drive Mechanism Unit	CXE3878	18	Screw	JFZ20P025FTC
2	Screw	AMZ26P030FTC	19	Screw	EBA2002
3	Washer	CBF1039	20	Screw	ASZ26P050FTC
4	Washer	CBF1064			A
5	Spring	EBL1034	21	Screw	BSZ26P050FTC
			22	FFC	CDE9554
6	Frame	ENC2001	23	Bracket	CND6335
7	Gear	ENV1630	24	Holder	CND6530
8	Gear	ENV1631	25	Bracket	CND6636
9	Gear	ENV1632			B
10	Gear	ENV1635	26	Screw	ASZ26P050FTC
			27	Screw	BPZ26P080FTC
11	Guide	ENV3001	28	FFC	CDE9766
12	Chassis Unit	EXA4001	29	Holder	See Contrast table (2)
13	Motor Unit	EXA4003	30	BT Module (U1671)	See Contrast table (2)
14	PCB Unit (Service)	EXX2001			
*	15	Cord (Green)	CDC1056	⚠ 31	Fuse (10A)
*	16	Cord (White)	CDC1057	32	Service Unit (Mother I/F)
17	Screw	IMS26P060FTC	33	Screw	BSZ26P060FTC

**(2) CONTRAST TABLE**

AVH-X4500BT/XNUC, AVH-X4500DVD/XNUW5, AVH-X4550DVD/XNRC, AVH-X4550DVD/XNRD, AVH-X4550DVD/XNRI and AVH-X4590DVD/XNID are constructed the same except for the following:

<b>Mark</b>	<b>No.</b>	<b>Description</b>	<b>AVH-X4500BT/XNUC</b>	<b>AVH-X4500DVD/XNUW5</b>	<b>AVH-X4550DVD/XNRC</b>
	29	Holder	CND6531	CND6555	CND6555
	30	BT Module (U1671)	CWX4306	Not used	Not used
*	32	Service Unit (Mother I/F)	CXX4971	CXX4964	CXX4965

<b>Mark</b>	<b>No.</b>	<b>Description</b>	<b>AVH-X4550DVD/XNRD</b>	<b>AVH-X4550DVD/XNRI</b>	<b>AVH-X4590DVD/XNID</b>
	29	Holder	CND6555	CND6555	CND6555
	30	BT Module (U1671)	Not used	Not used	Not used
*	32	Service Unit (Mother I/F)	CXX4966	CXX4967	CXX4968

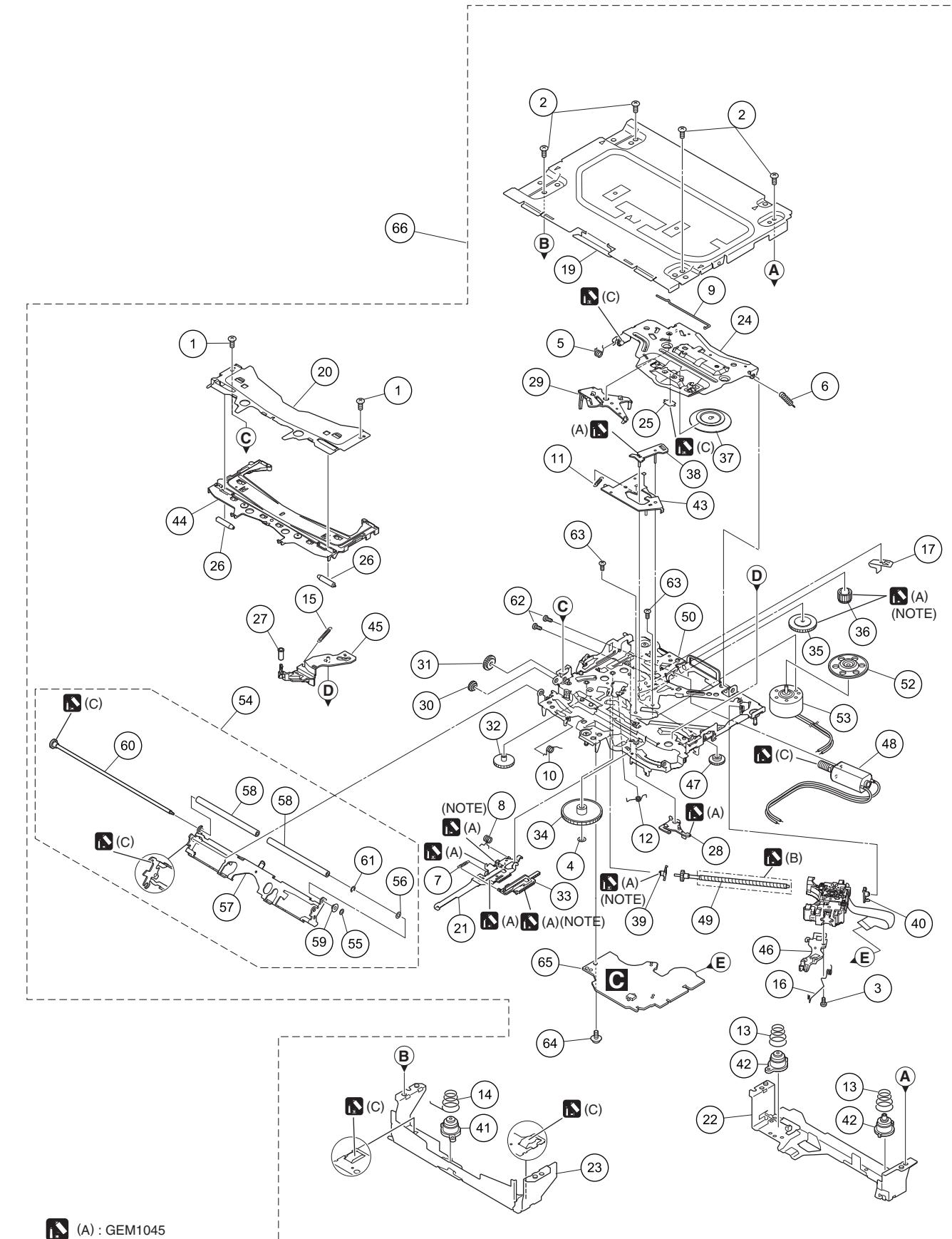
C

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## **9.5 DVD MECHANISM MODULE (1)**



-  (A) : GEM1045
-  (B) : GEM1038
-  (C) : GEM1024

(NOTE) Apply grease to the whole part.

## DVD MECHANISM MODULE (1) SECTION PARTS LIST

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
1	Screw	BSZ20P040FTC	35	Gear	CNW1186
2	Screw	BSZ26P060FTC			
3	Screw (M2 x 4)	CBA1835	36	Gear	CNW1187
4	Washer	CBF1038	37	Clamper	CNW1190
5	Spring	CBH2855	38	Arm	CNW1192
			39	Holder	CNW1193
6	Spring	CBH2860	40	Holder	CNW1194
7	Spring	CBH3010			
8	Spring	CBH3011	41	Damper	CNW2439
9	Spring	CBH3014	42	Damper	CNW2440
10	Spring	CBH3015	43	Arm	CNW1726
			44	Guide	CNW2240
11	Spring	CBH3016	45	Arm	CNW2241
12	Spring	CBH3017			
13	Spring	CBH3019	46	Rack	CNW2265
14	Spring	CBH3086	47	Gear	CNW2287
15	Spring	CBH3095	48	Motor Unit(M1)(CRG(L/E))	CXC4026
			49	Screw Unit	CXC8894
16	Spring	CBH3096	*	50 Chassis Unit	CXE6044
17	Plate Spring	CBL1824			
18	*****		51	*****	
19	Case	CNB3762	*	52 Support Wheel	CNW2052
20	Bracket	CND4553	*	53 Spindle Motor(M2)(SPINDLE)	EXM2002
			54	Arm Assy	CXE6232
21	Lever	CND5398	55	Washer	CBF1037
22	Bracket	CND5710			
23	Bracket	CND6127	56	Washer	CBF1038
24	Arm	CND6406	57	Arm	CND6242
25	Sheet	CNN3678	58	Roller	CNW2500
			59	Collar	CNW2444
26	Roller	CNW1172	60	Gear Unit	CXE6225
27	Roller	CNW1175			
28	Arm	CNW1177	61	Washer	YE15FTC
29	Arm	CNW1178	62	Screw	JFZ20P025FTC
30	Gear	CNW1180	63	Screw	JGZ17P020FTC
			64	Screw (M2 x 5)	EBA1028
31	Gear	CNW1181	65	DVD Core Unit	YWX5032
32	Gear	CNW1183			
33	Rack	CNW1184	66	Mechanism Unit(Service)	CXX4549
34	Gear	CNW1185			

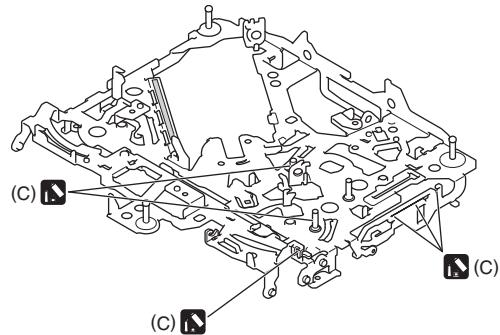
On this mechanism, Pickup and Spindle Motor can not be replaced at the service site, because a special facility is required for the adjustment after replacing them.

So, if Pickup or Spindle Motor is defective, replace the Mechanism Unit.

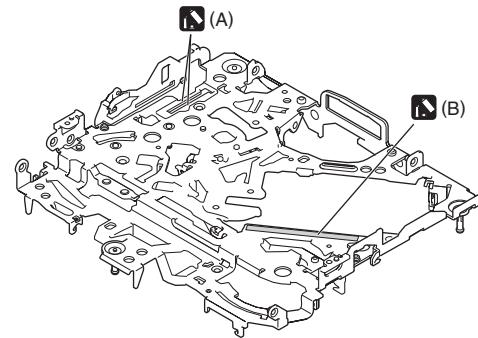
E

## 9.6 DVD MECHANISM MODULE (2)

A



B



C

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- (A) : GEM1045
- (B) : GEM1038
- (C) : GEM1024

E

F

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A

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C

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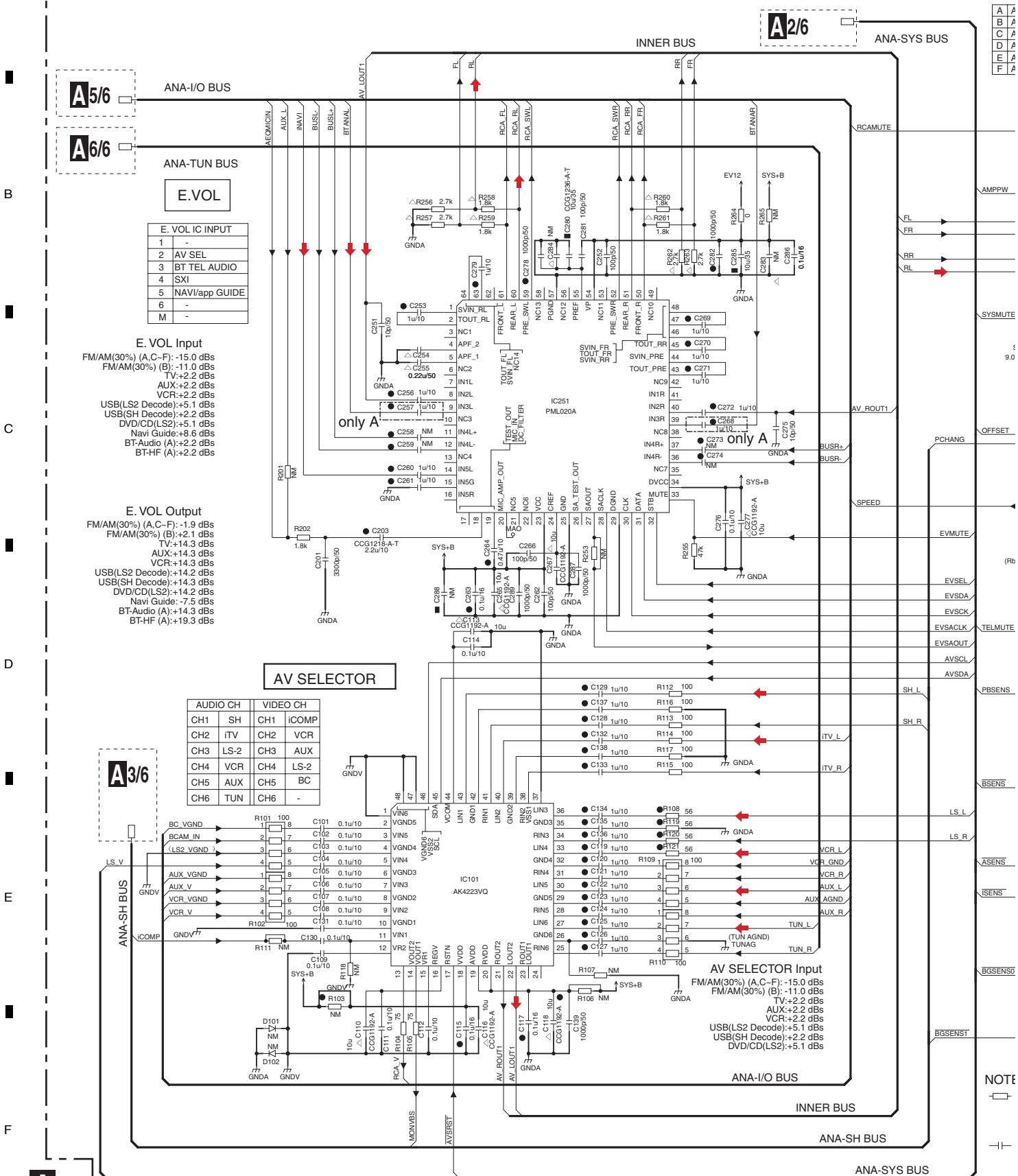
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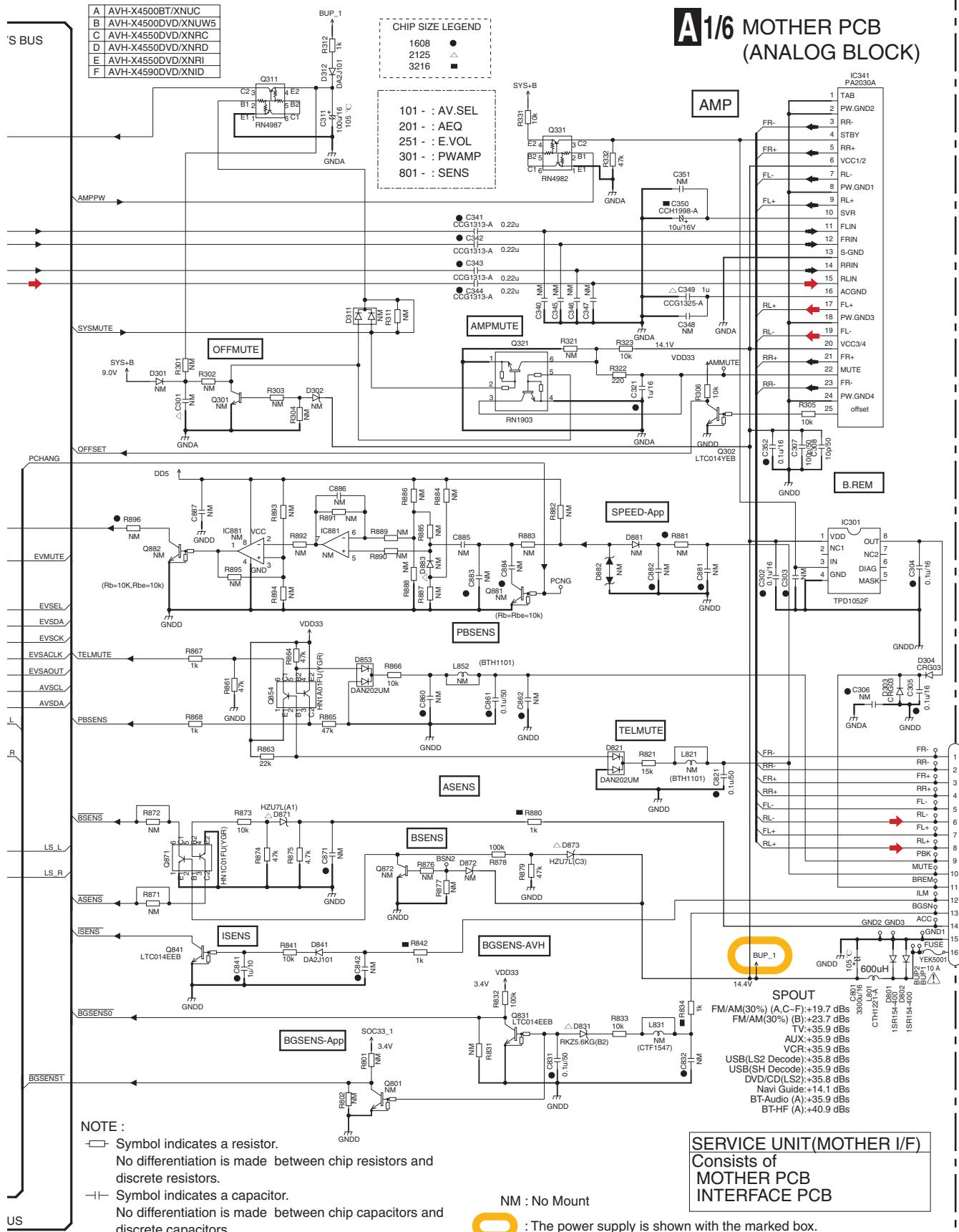
# 10. SCHEMATIC DIAGRAM

## 10.1 MOTHER PCB (ANALOG BLOCK)

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



## **A** 1/6 MOTHER PCB (ANALOG BLOCK)



**NOTE :**

- - - Symbol indicates a resistor.

No differentiation is made between chip resistors and discrete resistors.

→ II- Symbol indicates a capacitor.

No differentiation is made between chip capacitors and discrete capacitors.

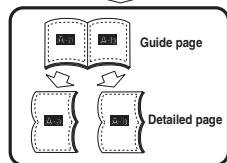
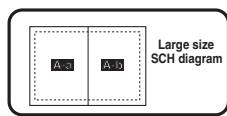
NM : No Mount

**SERVICE UNIT(MOTHER I/F)**  
Consists of  
**MOTHER PCB**  
**INTERFACE PCB**

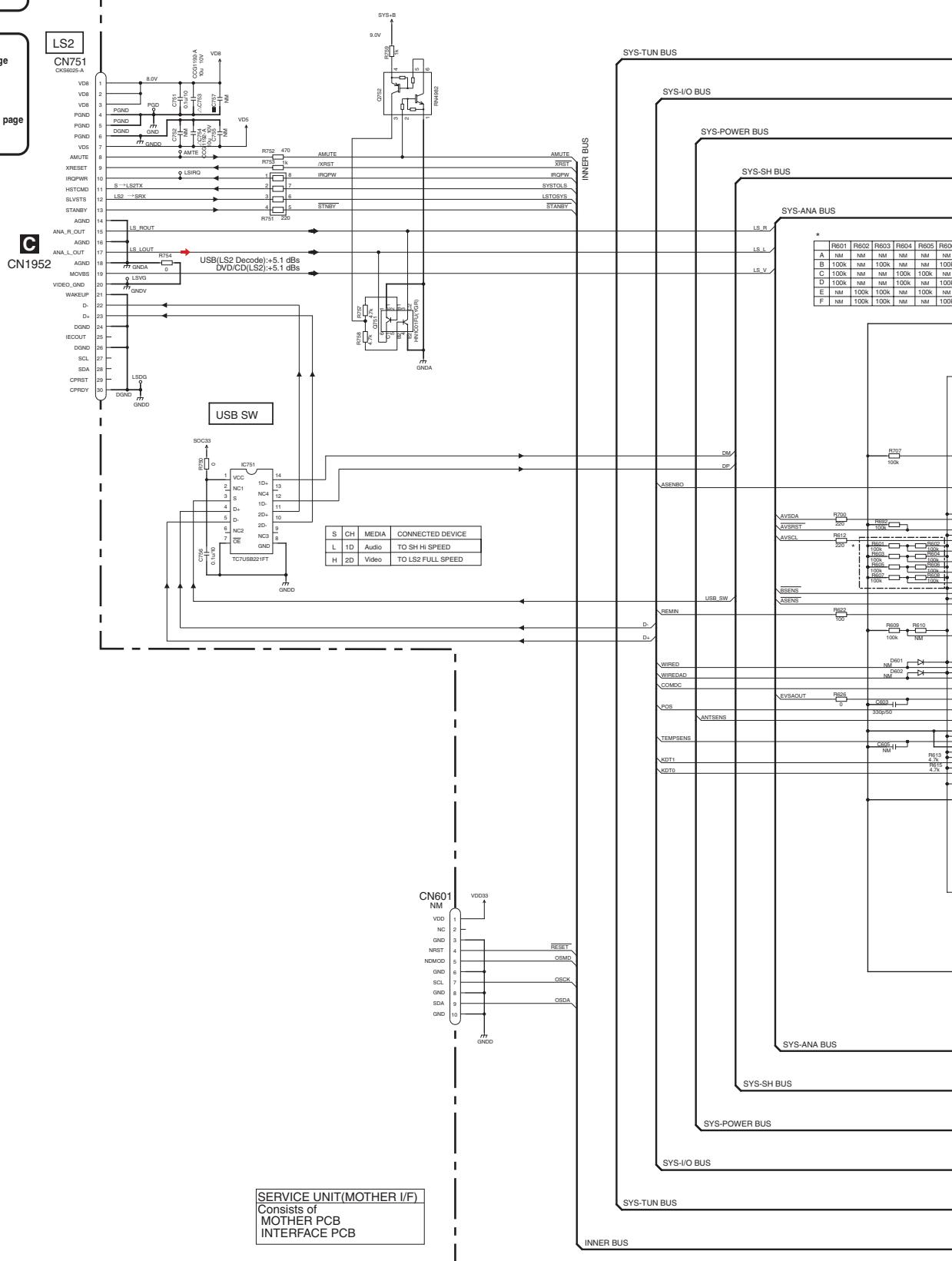
**Q**: The power supply is shown with the marked box.

## 10.2 MOTHER PCB (SYSTEM BLOCK) (GUIDE PAGE)

A


**A-a 2/6**

B

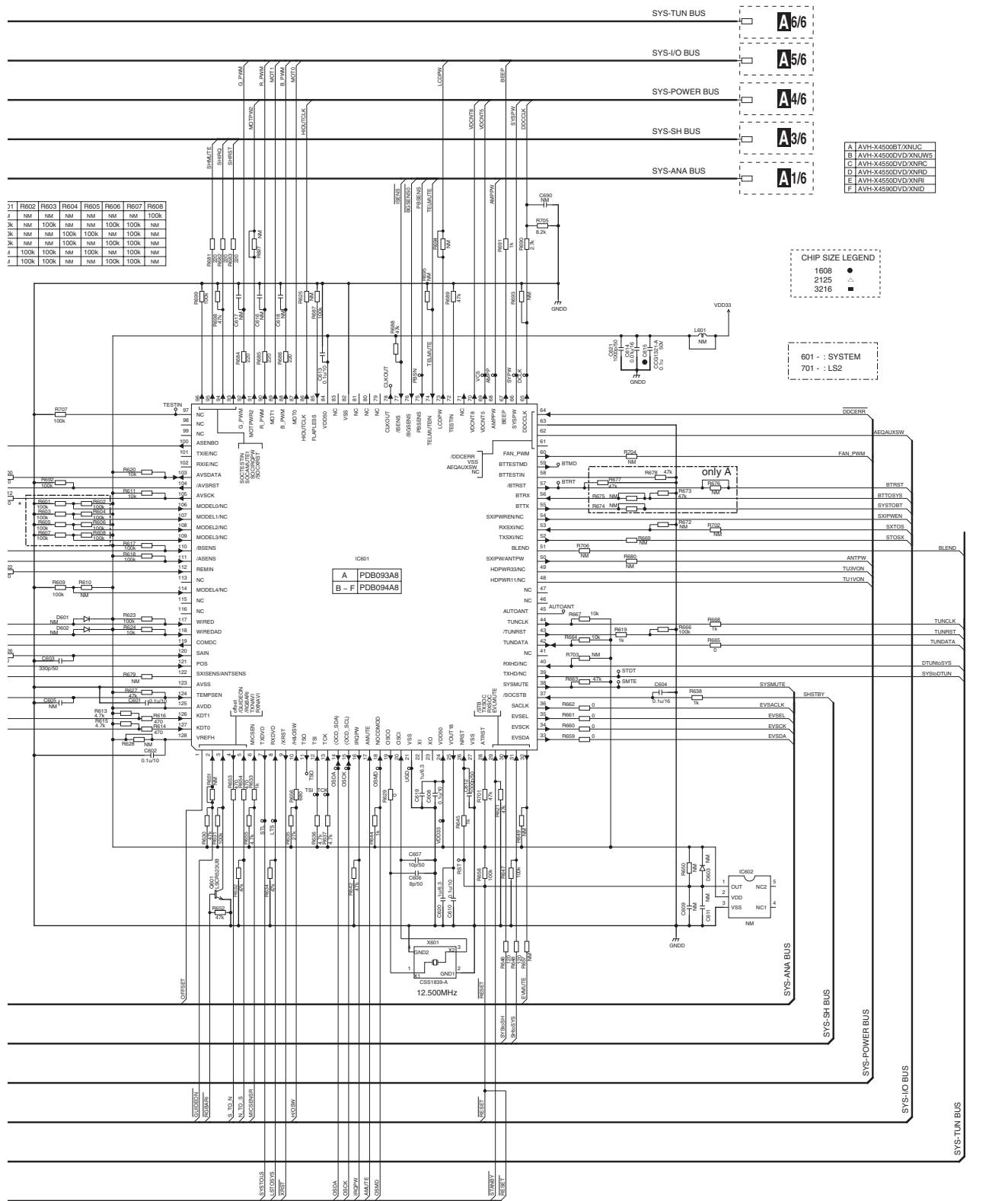


F

**A 2/6**

A-b 2/6

**A2/6** MOTHER PCB  
(SYSTEM BLOCK)



A

B

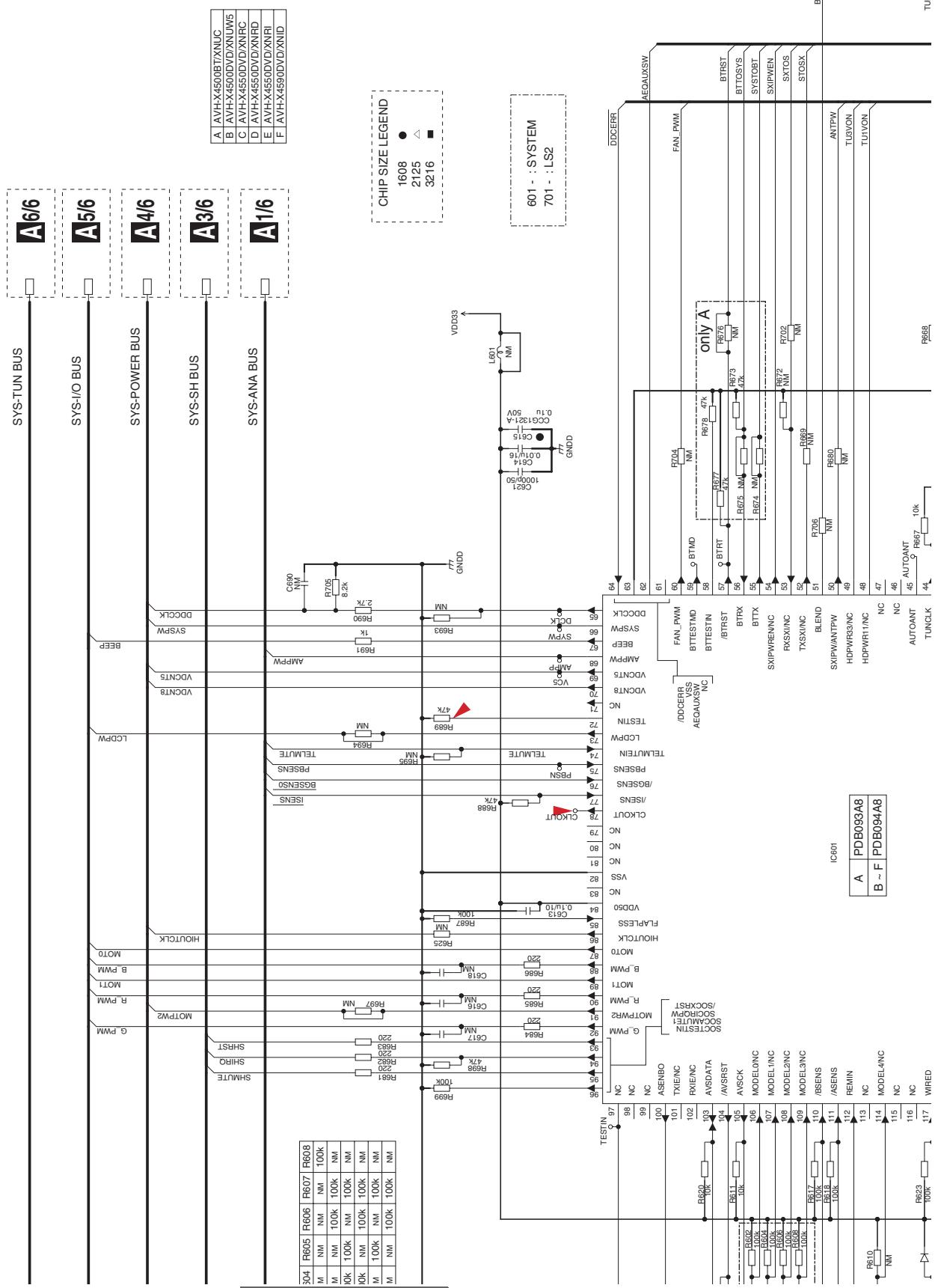
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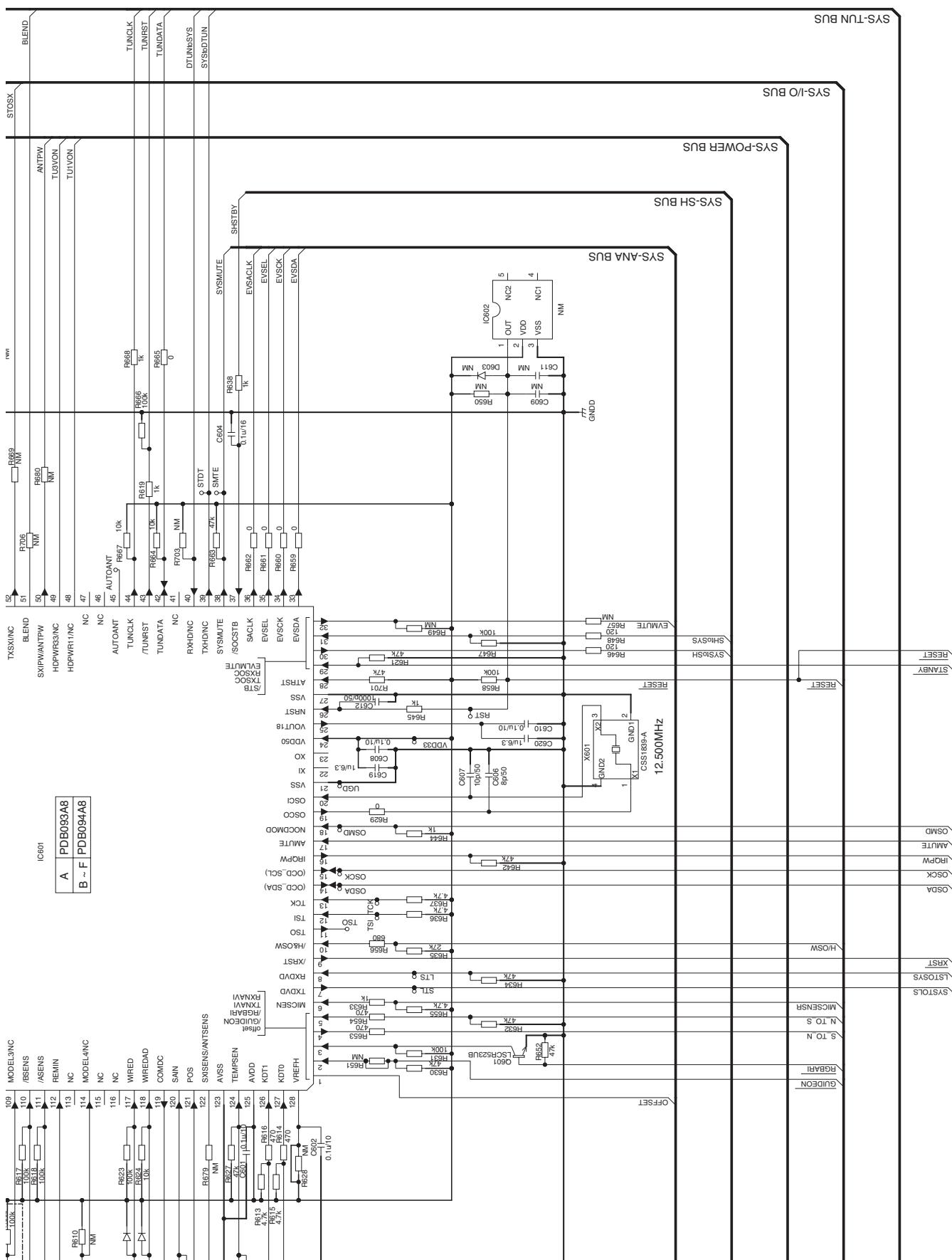
D

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**A2/6 MOTHER PCB  
(SYSTEM BLOCK)**





AVH-X4500BT/XNUC

2/6

21

**A-b 2/6**

A

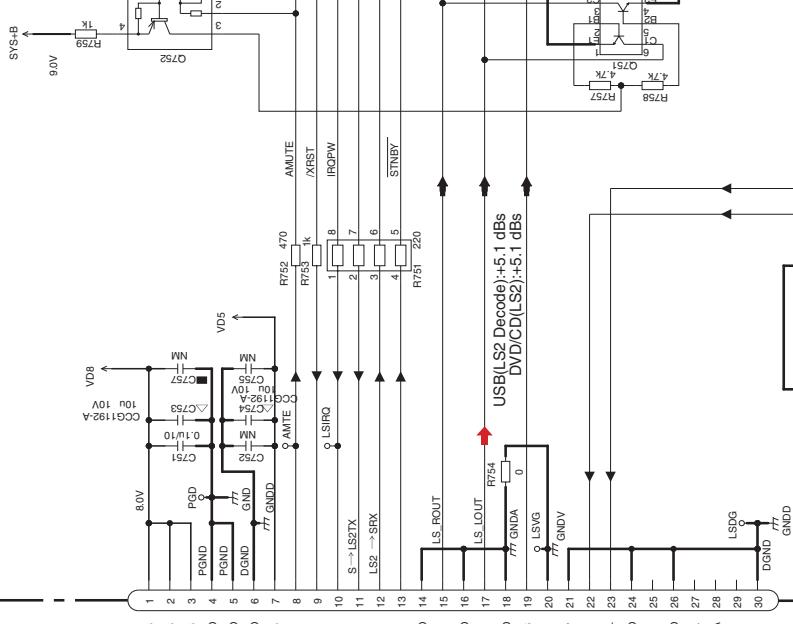
B

C

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**LS2****CN751**  
CIS8025-A**C****CN1952****AVH-X4500BT/XNUC**

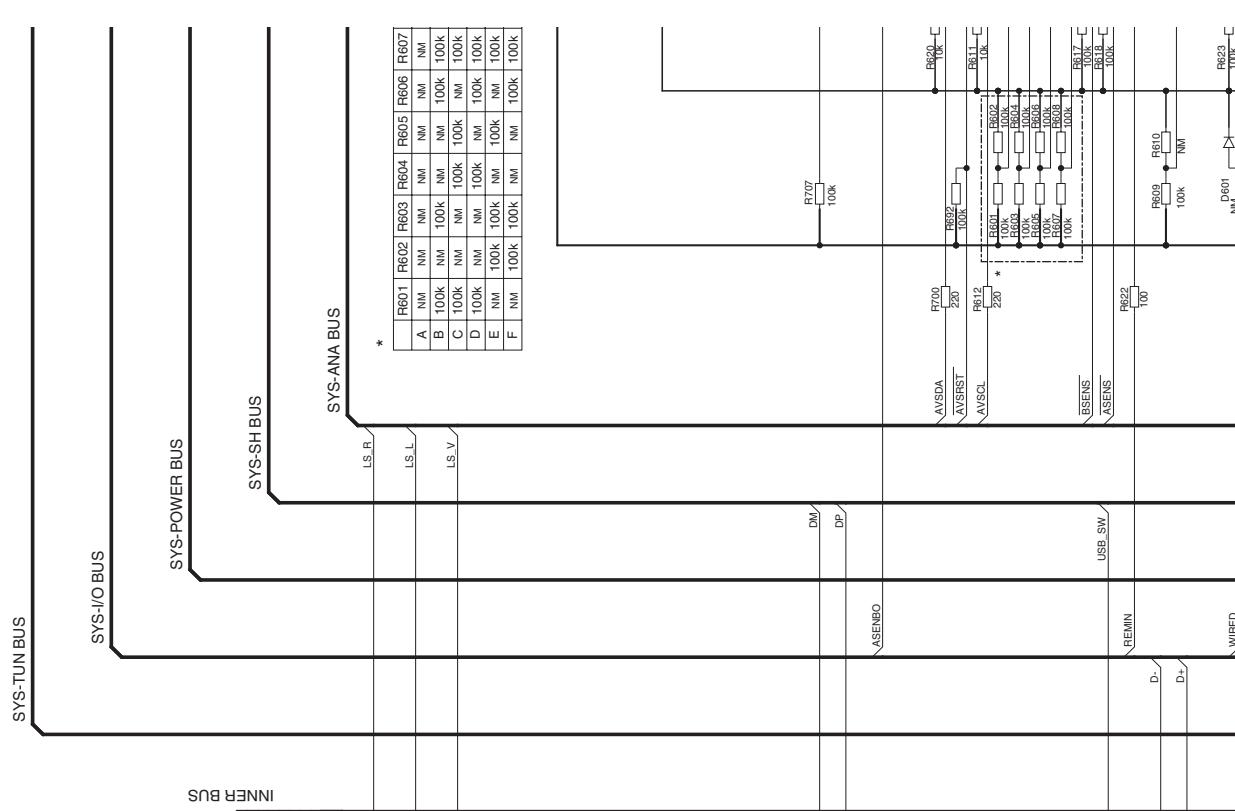
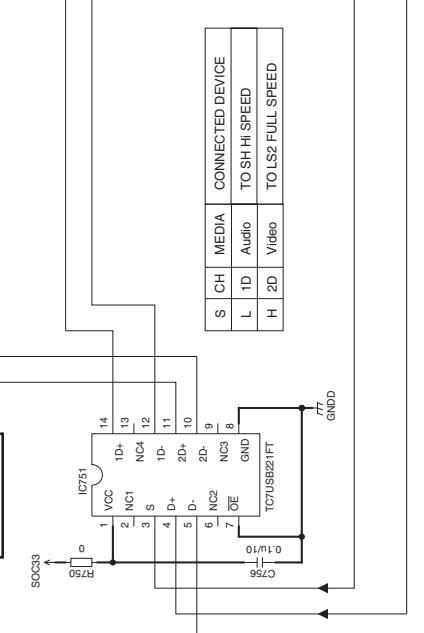
S	CH	MEDIA	CONNECTED DEVICE
L	1D	Audio	TO SH HI SPEED
H	2D	Video	TO LS2 FULL SPEED

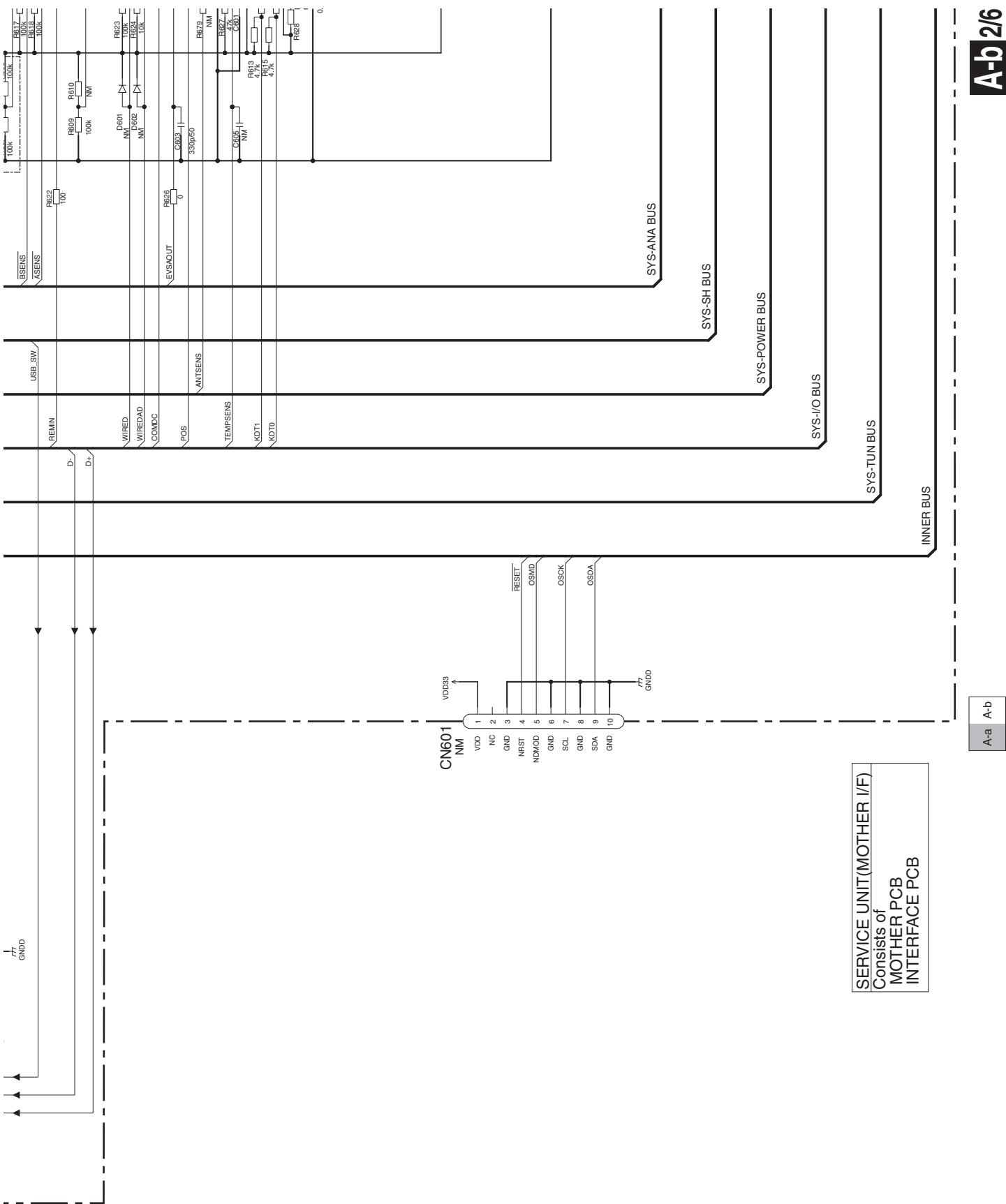
C756

Q1-Q10

TC7USB221FT

GND

**USB SW****A-a 2/6**



**SERVICE UNIT(MOTHER I/F)**  
Consists of  
MOTHER PCB  
INTERFACE PCB

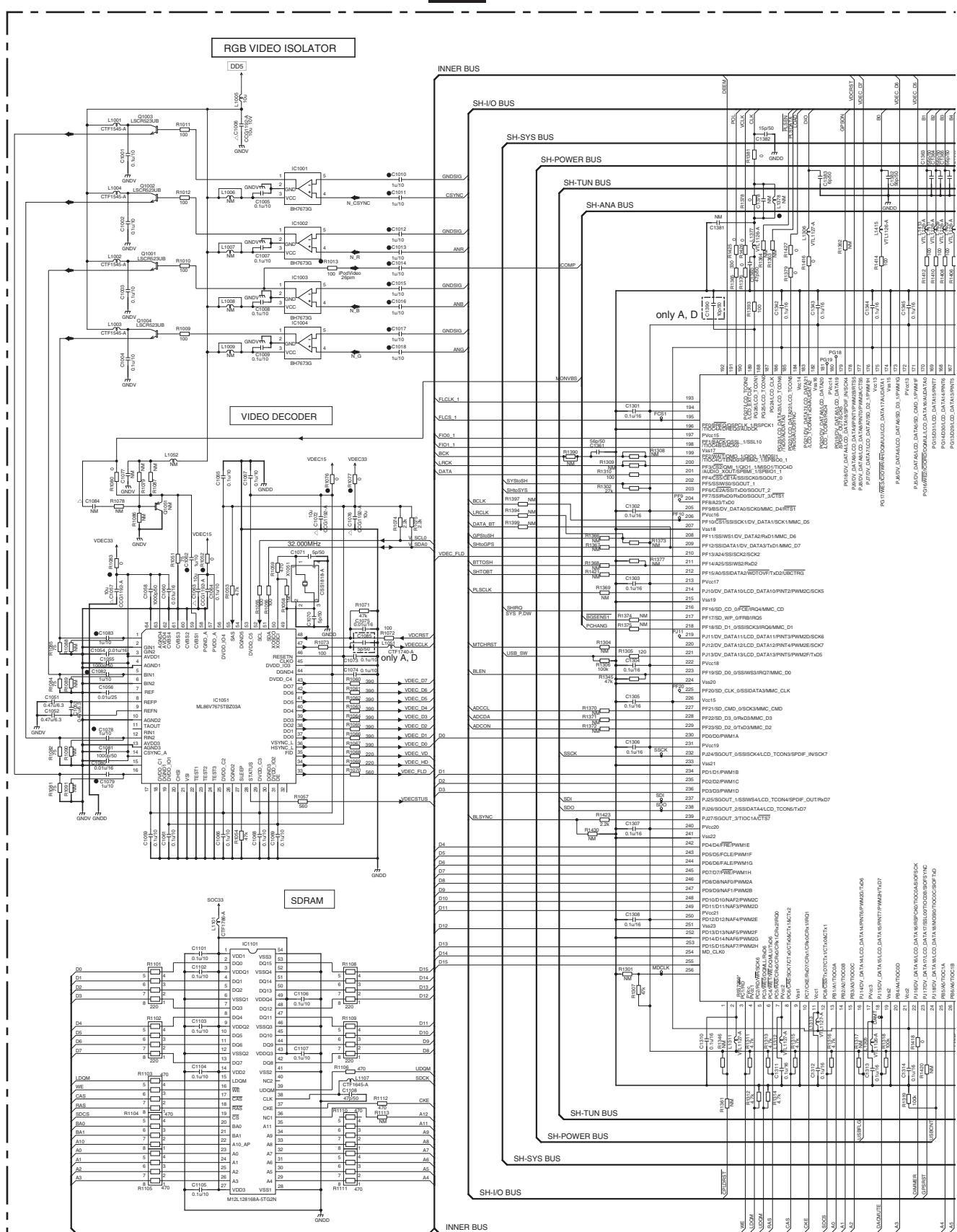
A-a A-b

**A-b 2/6**

## 10.3 MOTHER PCB (SH BLOCK) (GUIDE PAGE)

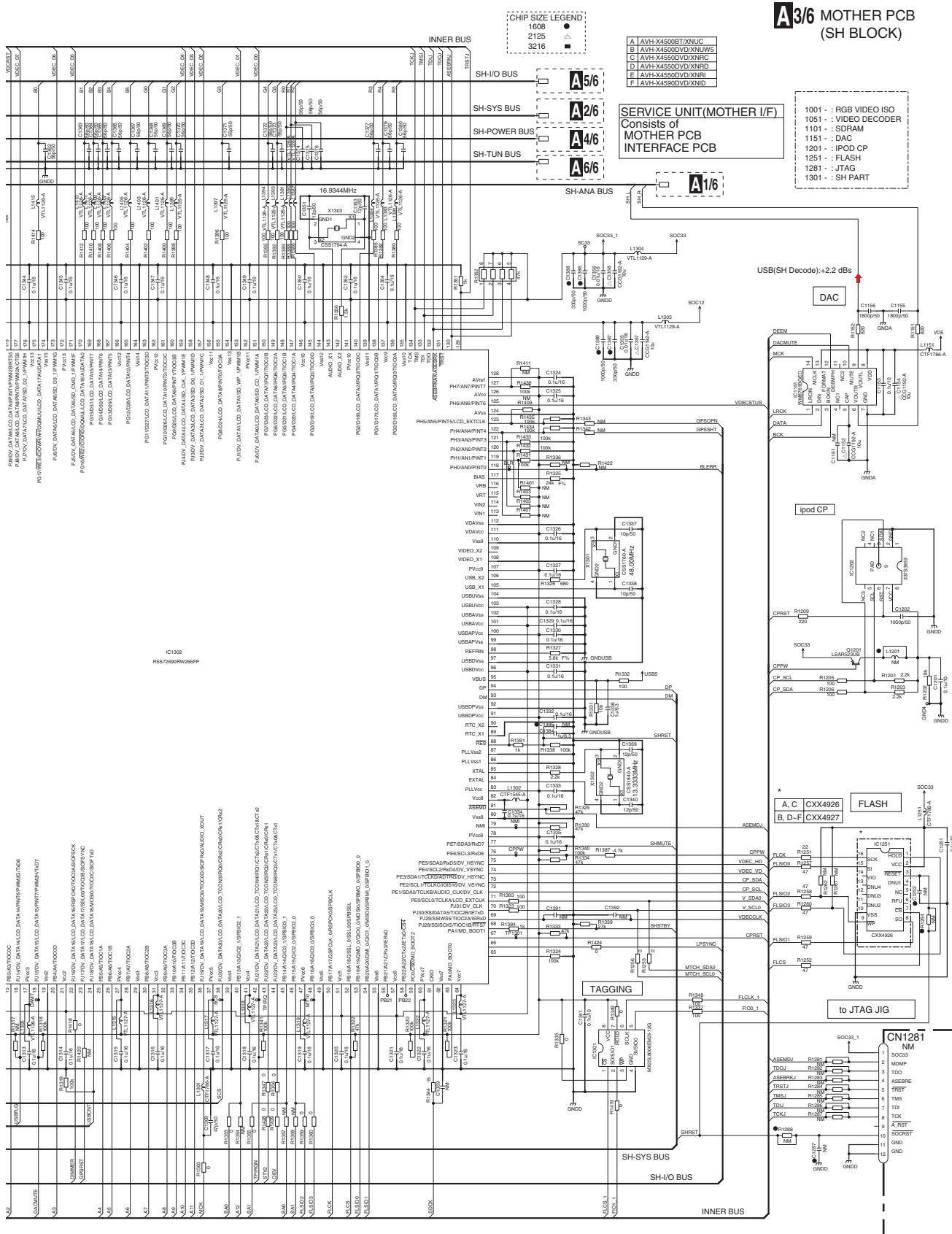
A

**A-a 3/6**



**A 3/6**

A-b 3/6



A3/6 MOTHER PCB  
(SH BLOCK)

**SERVICE UNIT(MOTHER I/F)**  
Consists of  
**MOTHER PCB**  
**INTERFACE PCB**

**E** VIDEO DECODE  
**E** SDRAM  
**E** DAC  
**E** IPOD CP  
**E** FLASH  
**E** JTAG  
**E** SH PART

A

B

6

D

E

6

A

B

C

D

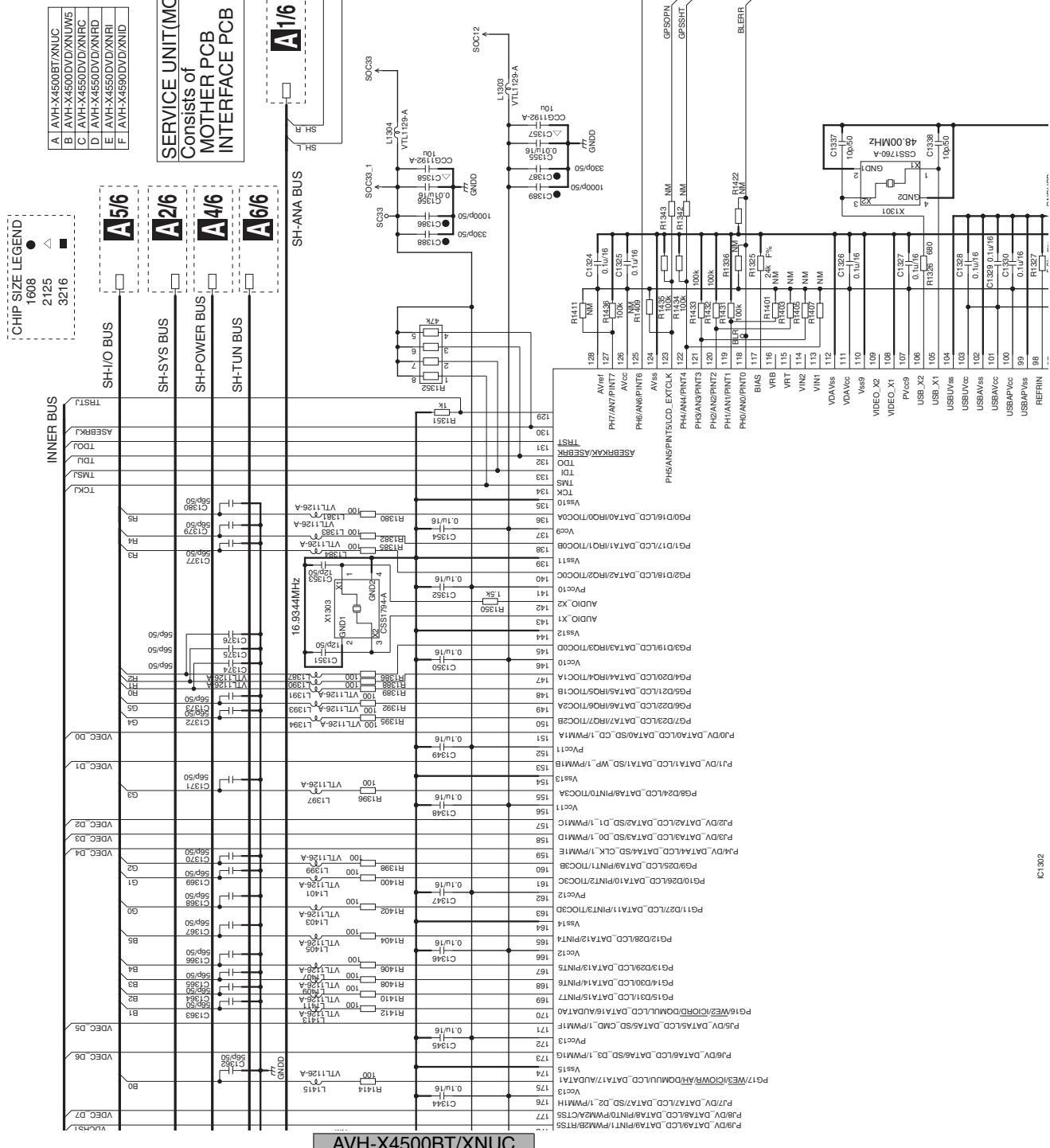
E

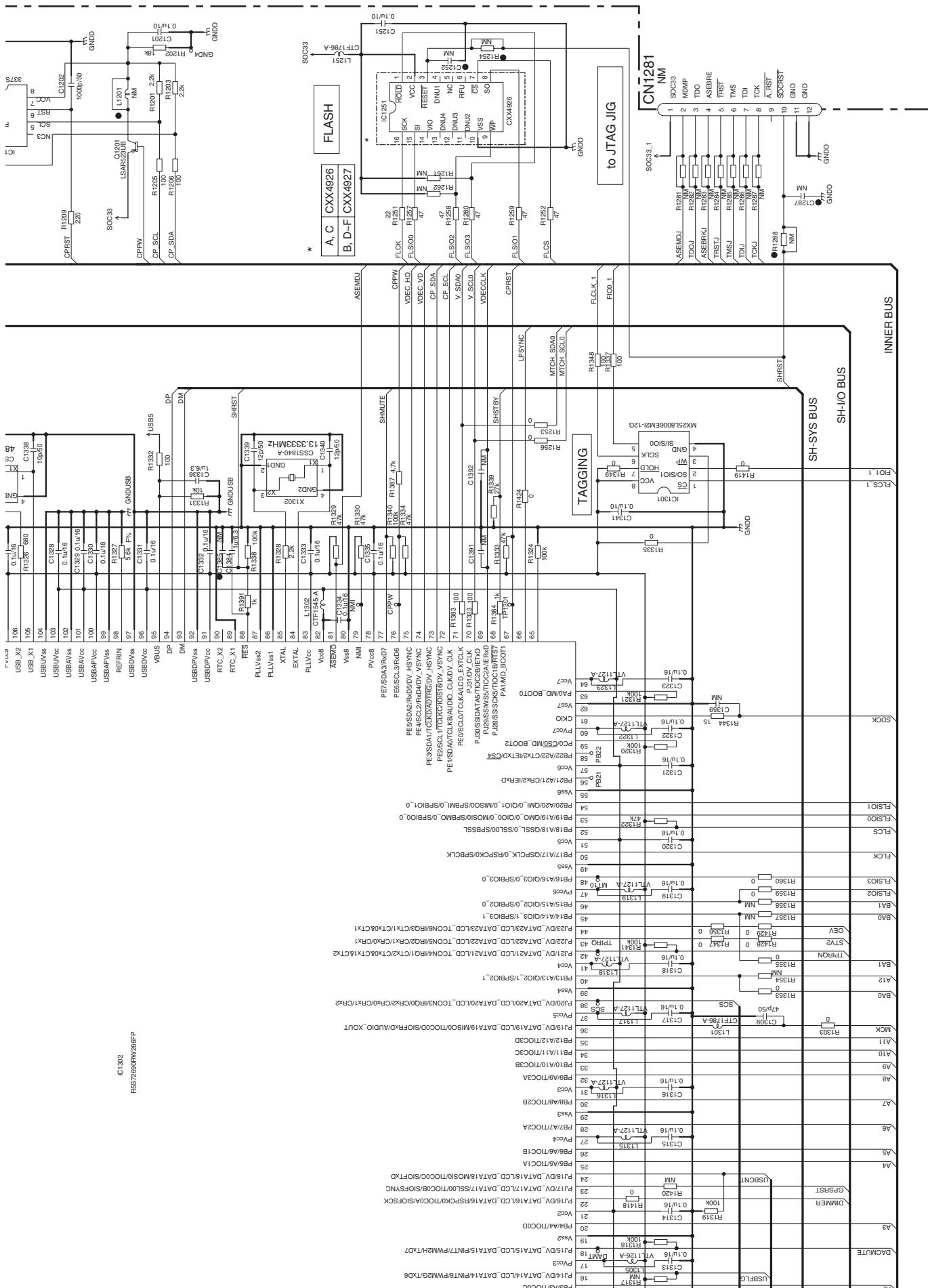
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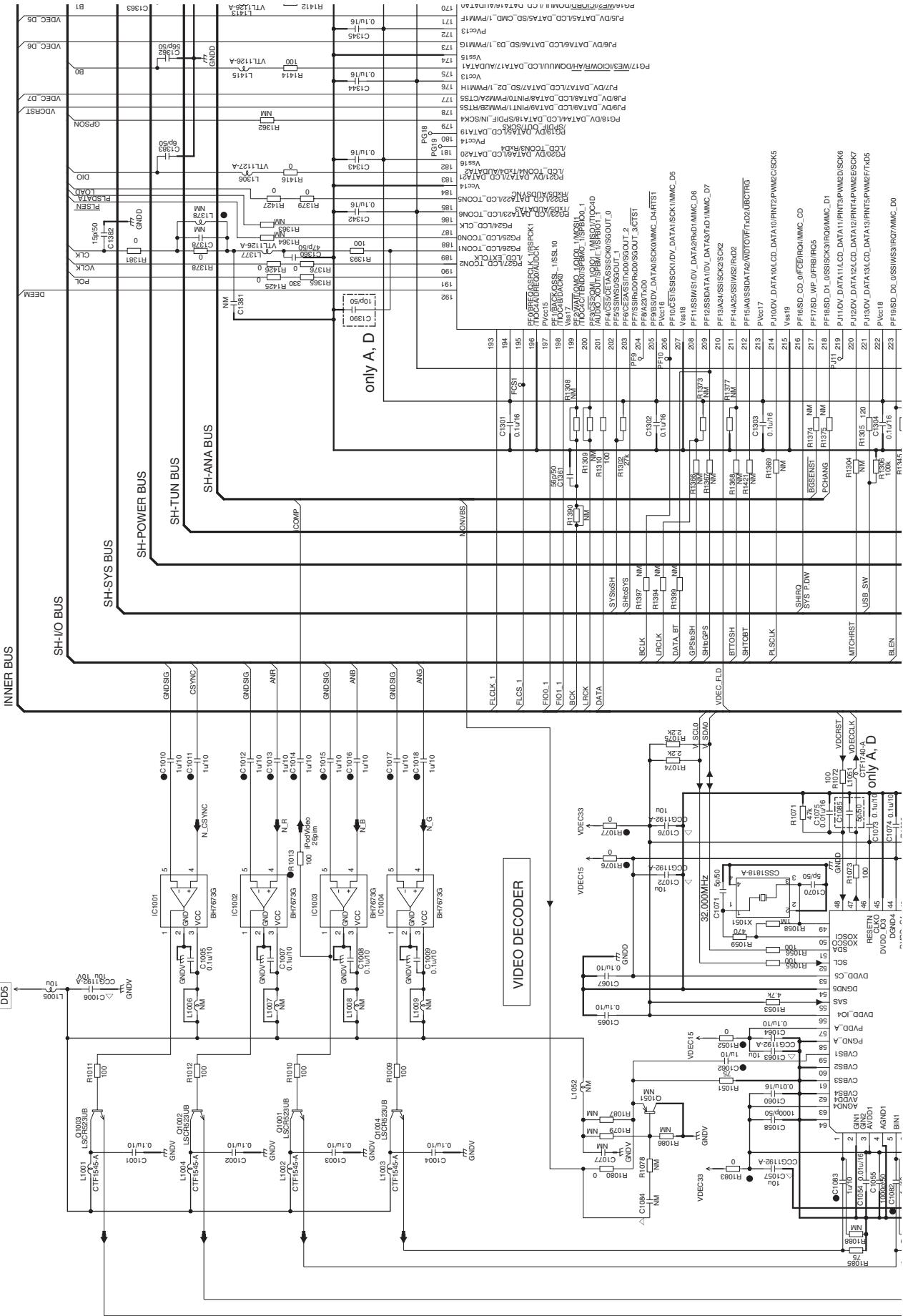
**A-b 3/6**

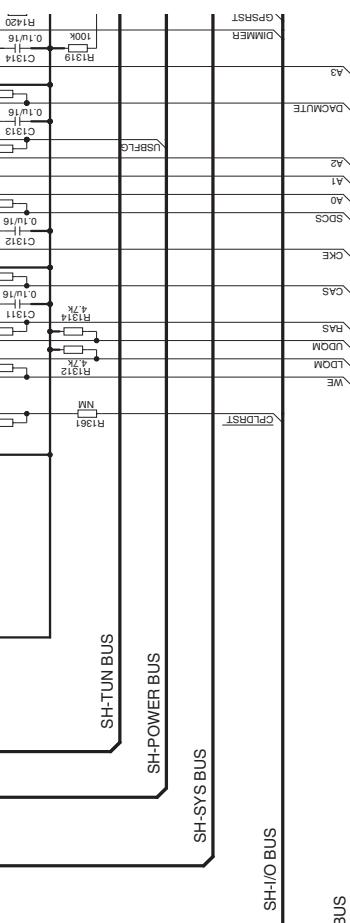
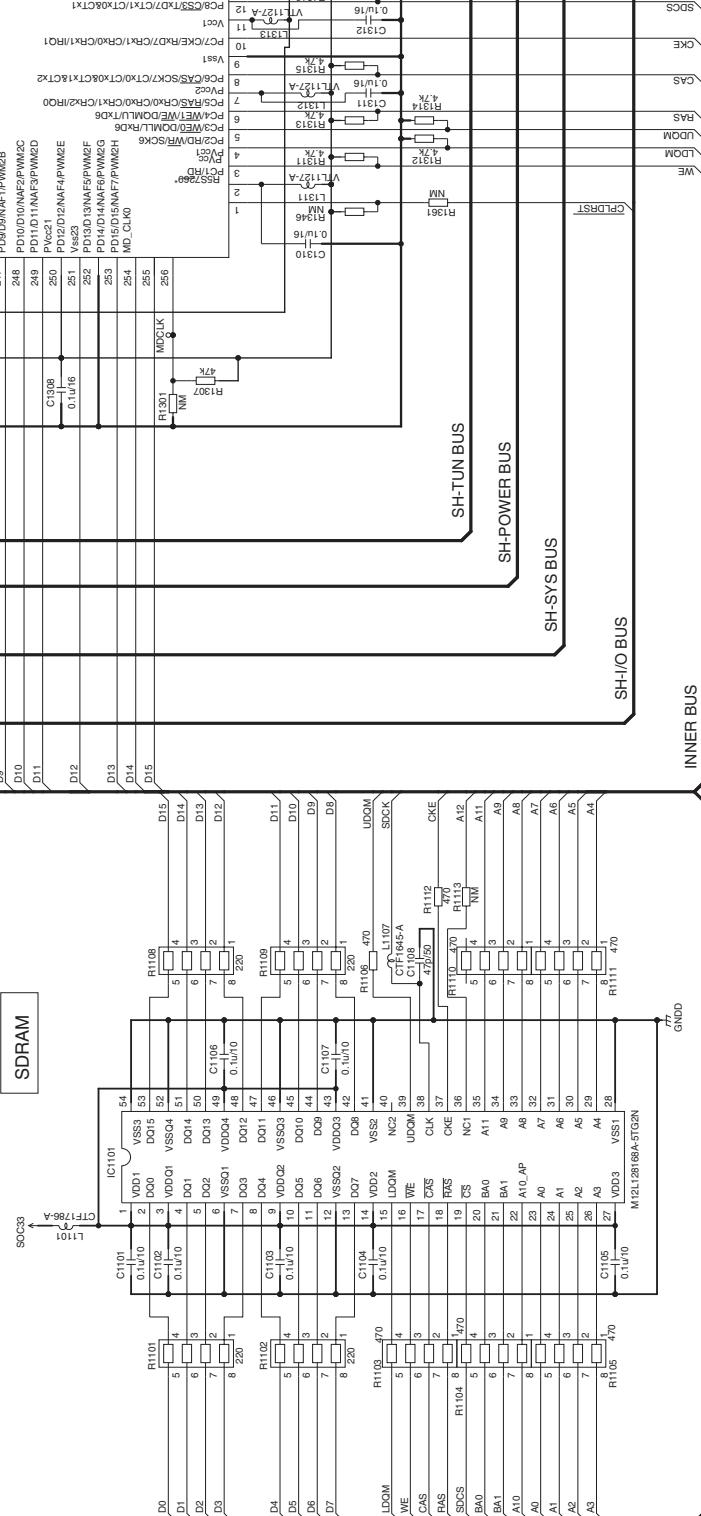
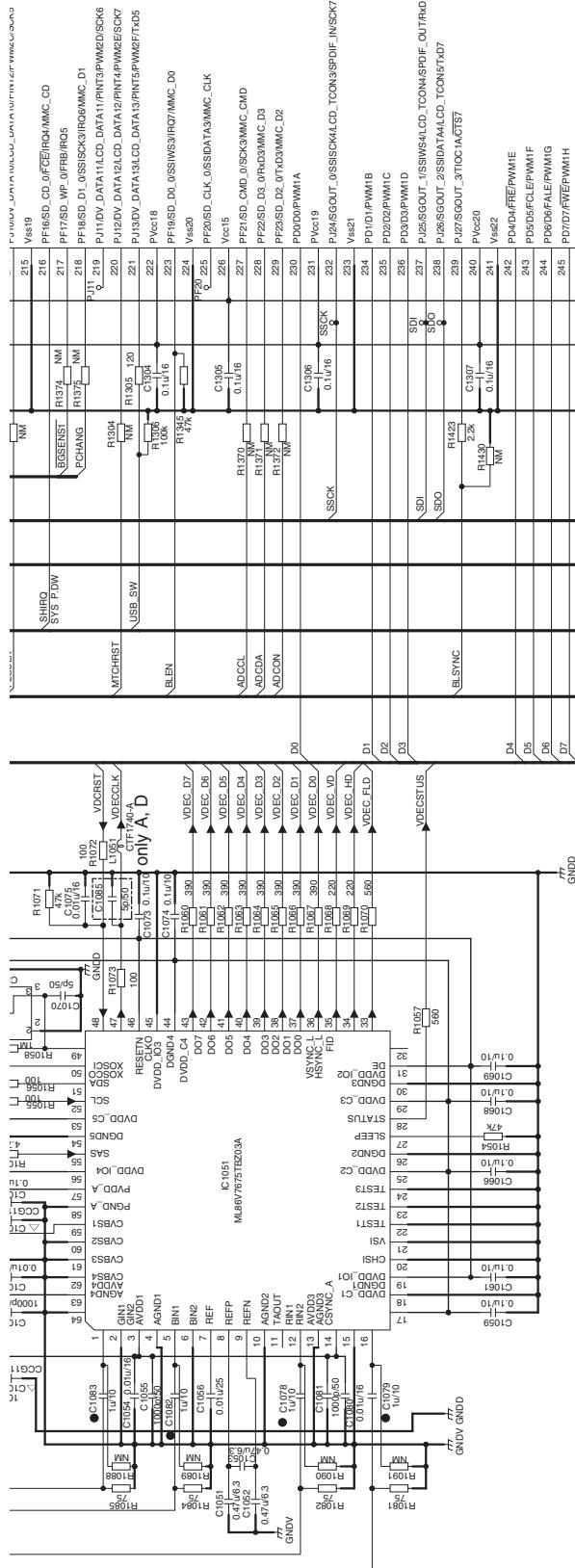
## A 3/6 MOTHER PCB (SH BLOCK)

A-a A-b





**A-b 3/6**



A-b 3/6

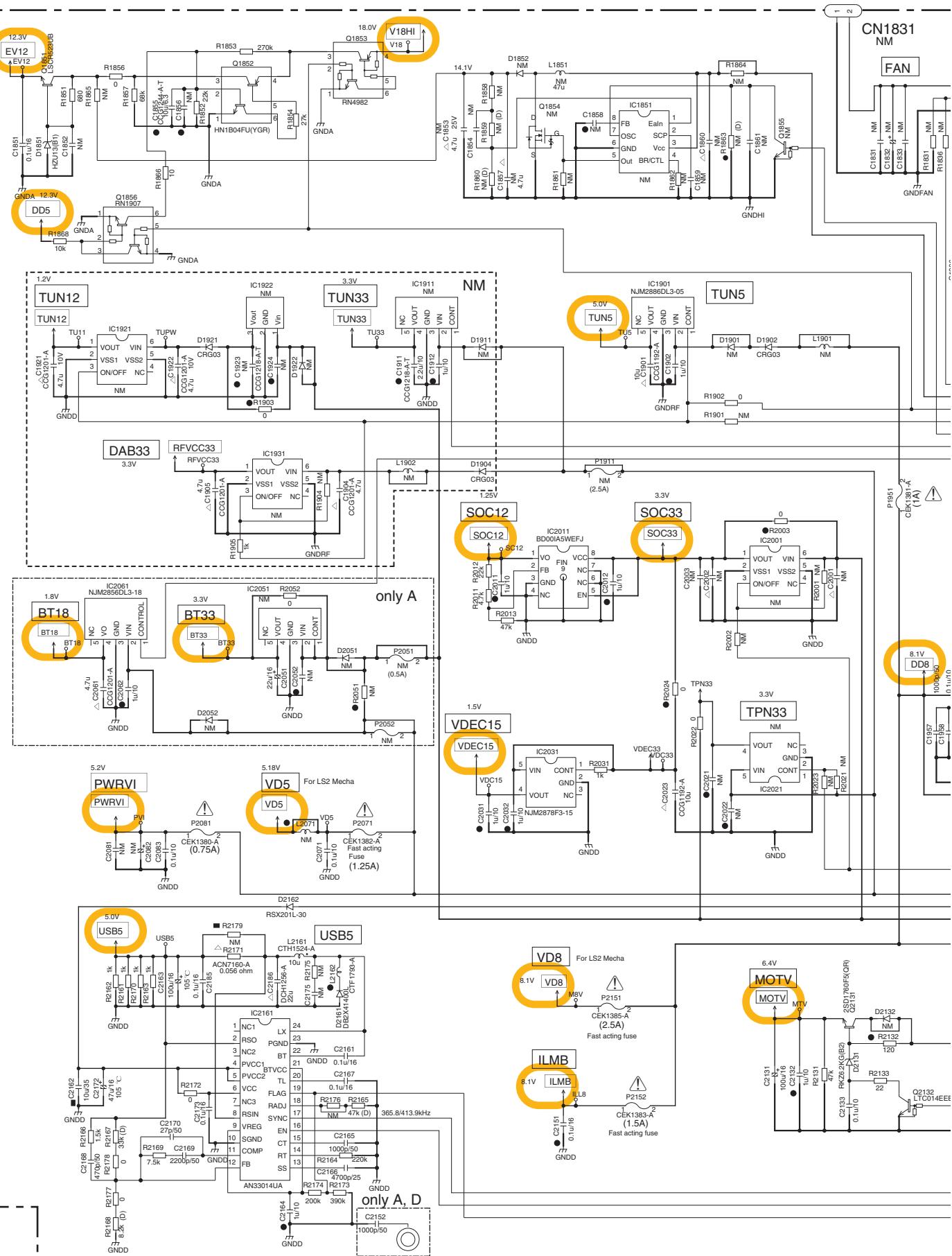
A

E

F

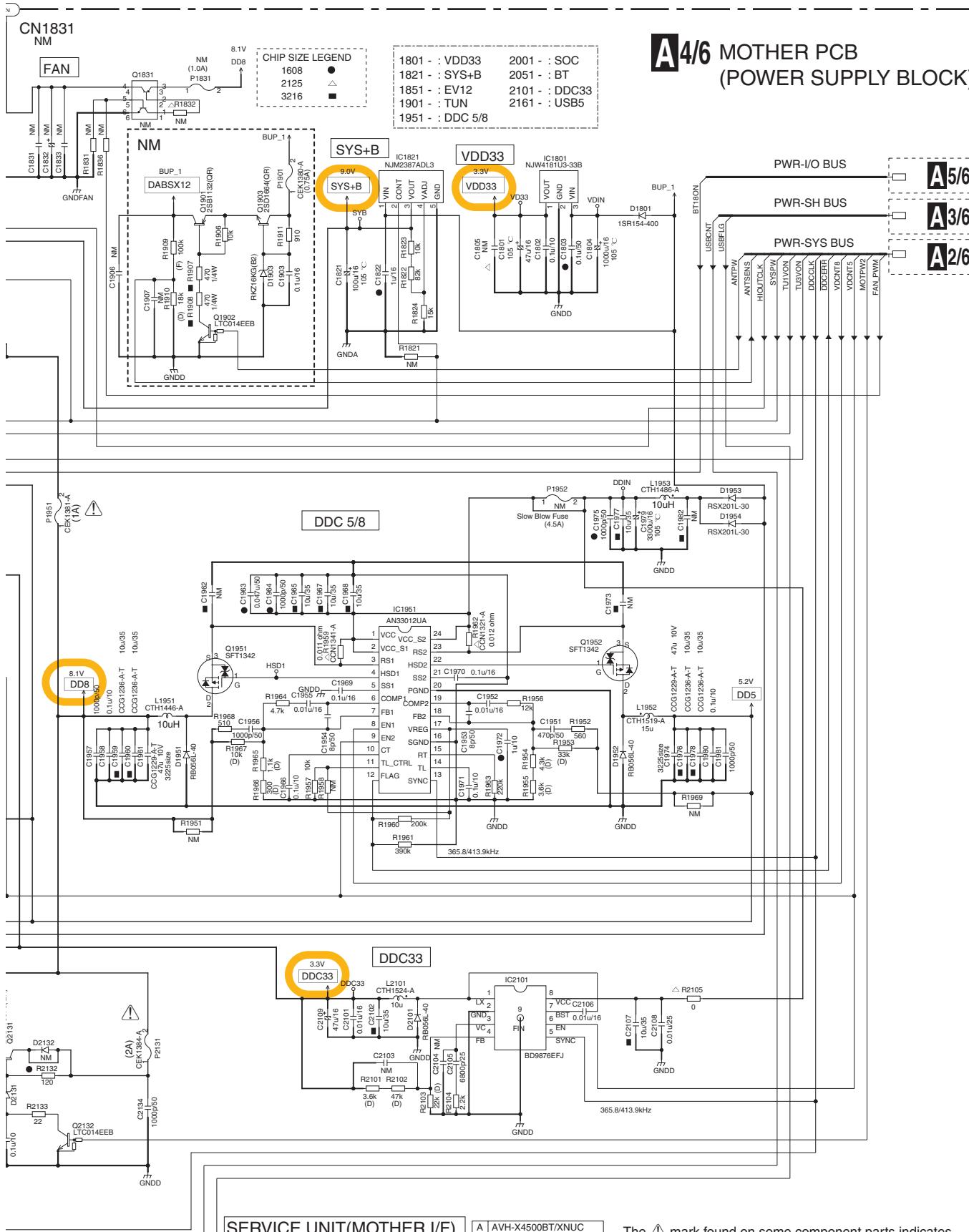
AVH-X4500BT/XNUC

## 10.4 MOTHER PCB (POWER SUPPLY BLOCK)



**A 4/6**

## **A** 4/6 MOTHER PCB (POWER SUPPLY BLOCK)



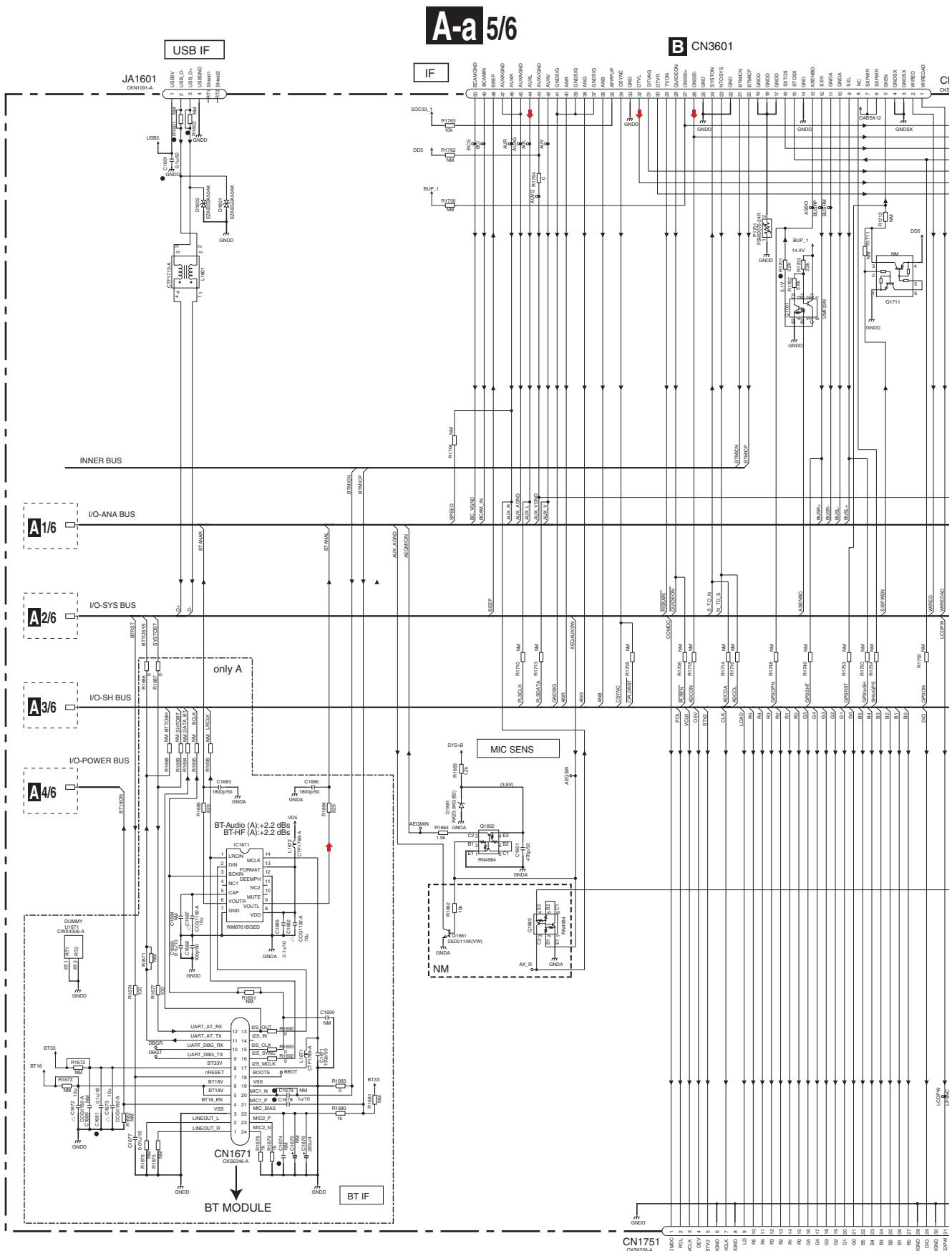
**SERVICE UNIT(MOTHER I/F)**  
Consists of  
**MOTHER PCB**  
**INTERFACE PCB**

- A AVH-X4500BT/XNUC
- B AVH-X4500DVD/XNUW
- C AVH-X4550DVD/XNRC
- D AVH-X4550DVD/XNRD
- E AVH-X4550DVD/XNRI
- F AVH-X4590DVD/XNID

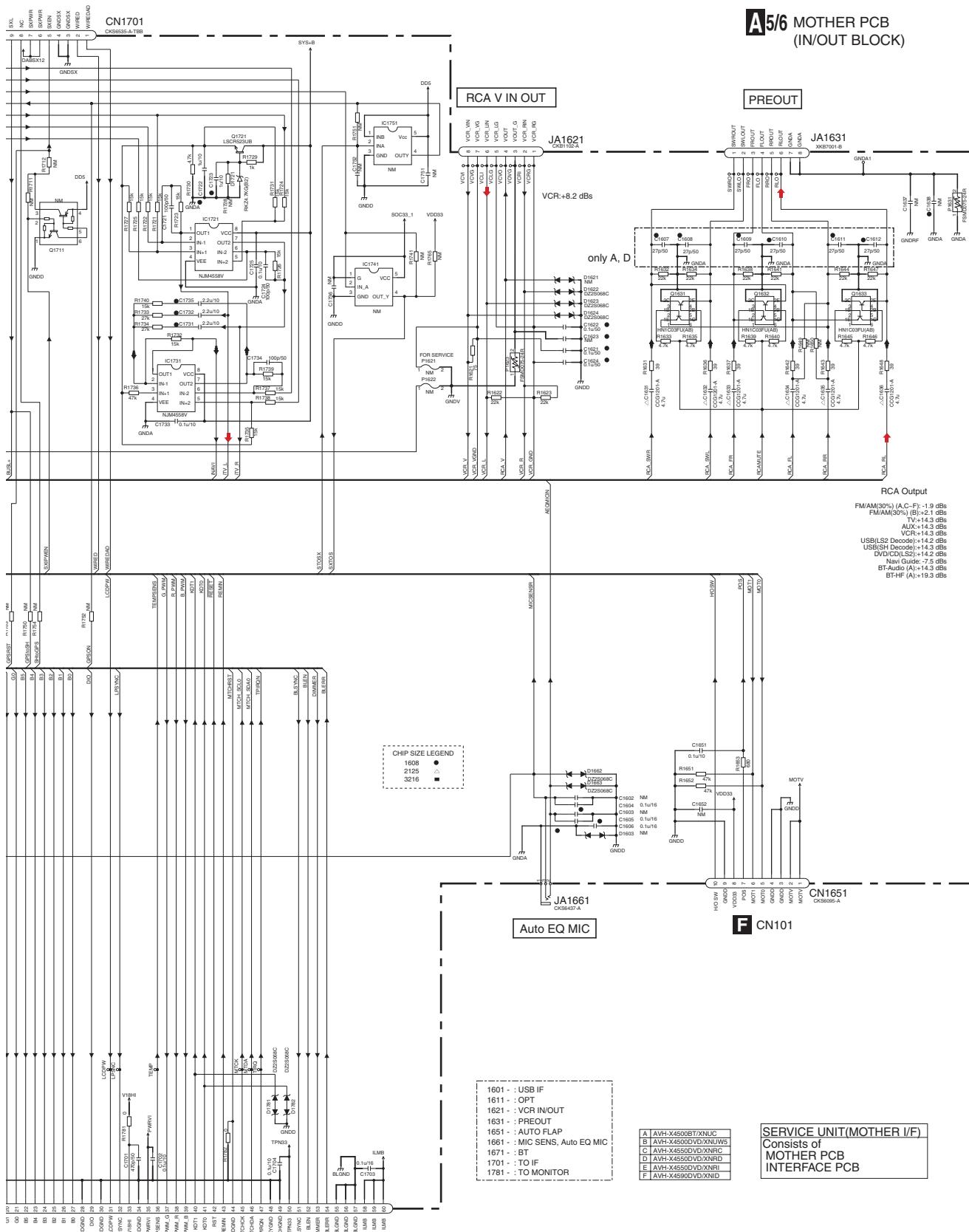
The  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

## 10.5 MOTHER PCB (IN/OUT BLOCK) (GUIDE PAGE)

A

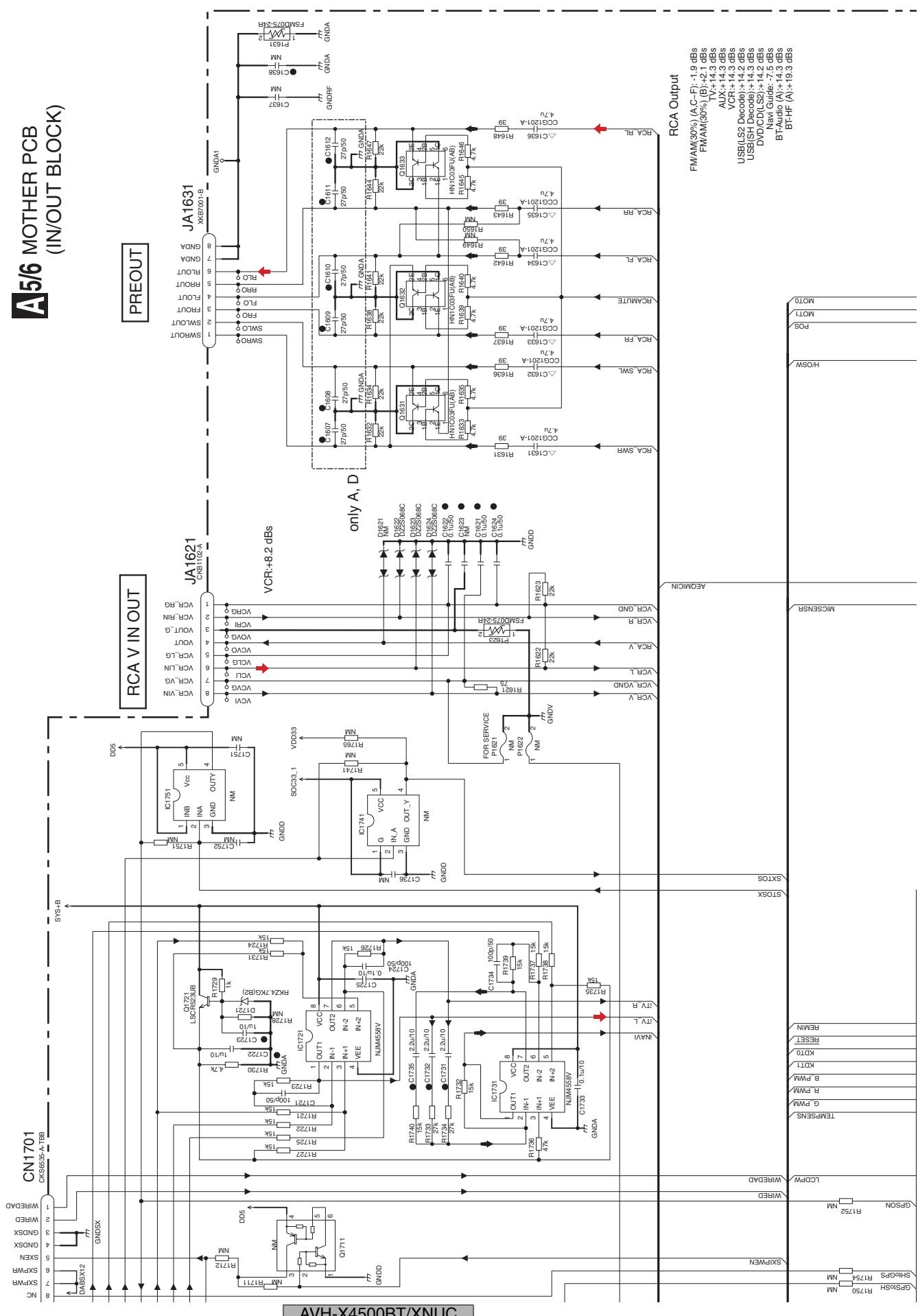
**A 5/6****D****C**

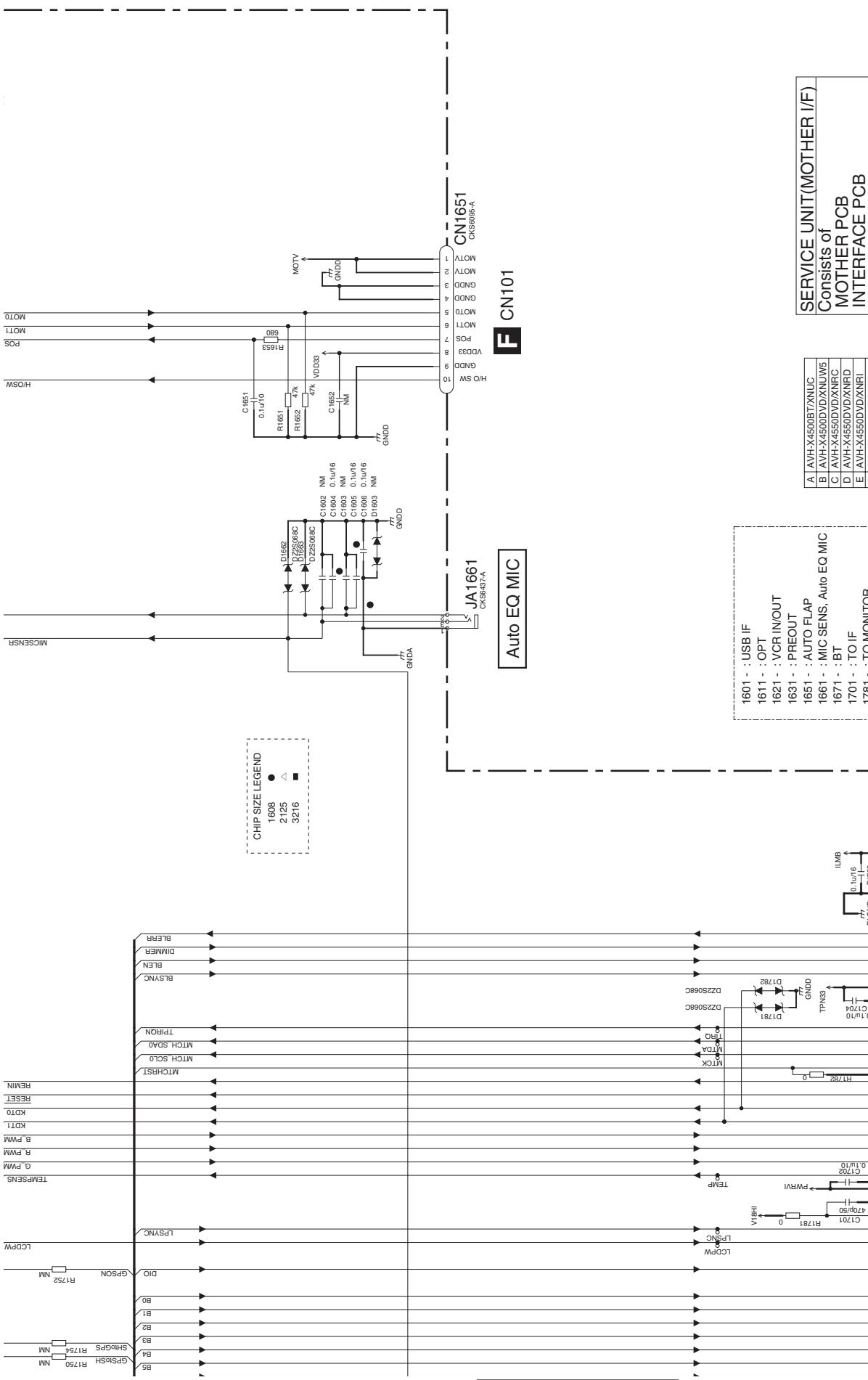
A-b 5/6

**A5/6 MOTHER PCB  
(IN/OUT BLOCK)**
**D CN5401****A5/6**

A

## A 5/6 MOTHER PCB (IN/OUT BLOCK)





4

1

1

1

a A-b

CN5401

A-5 5/6

1

2

2

4

A

A-b 5/6

**CN3601**

A-a 5/6

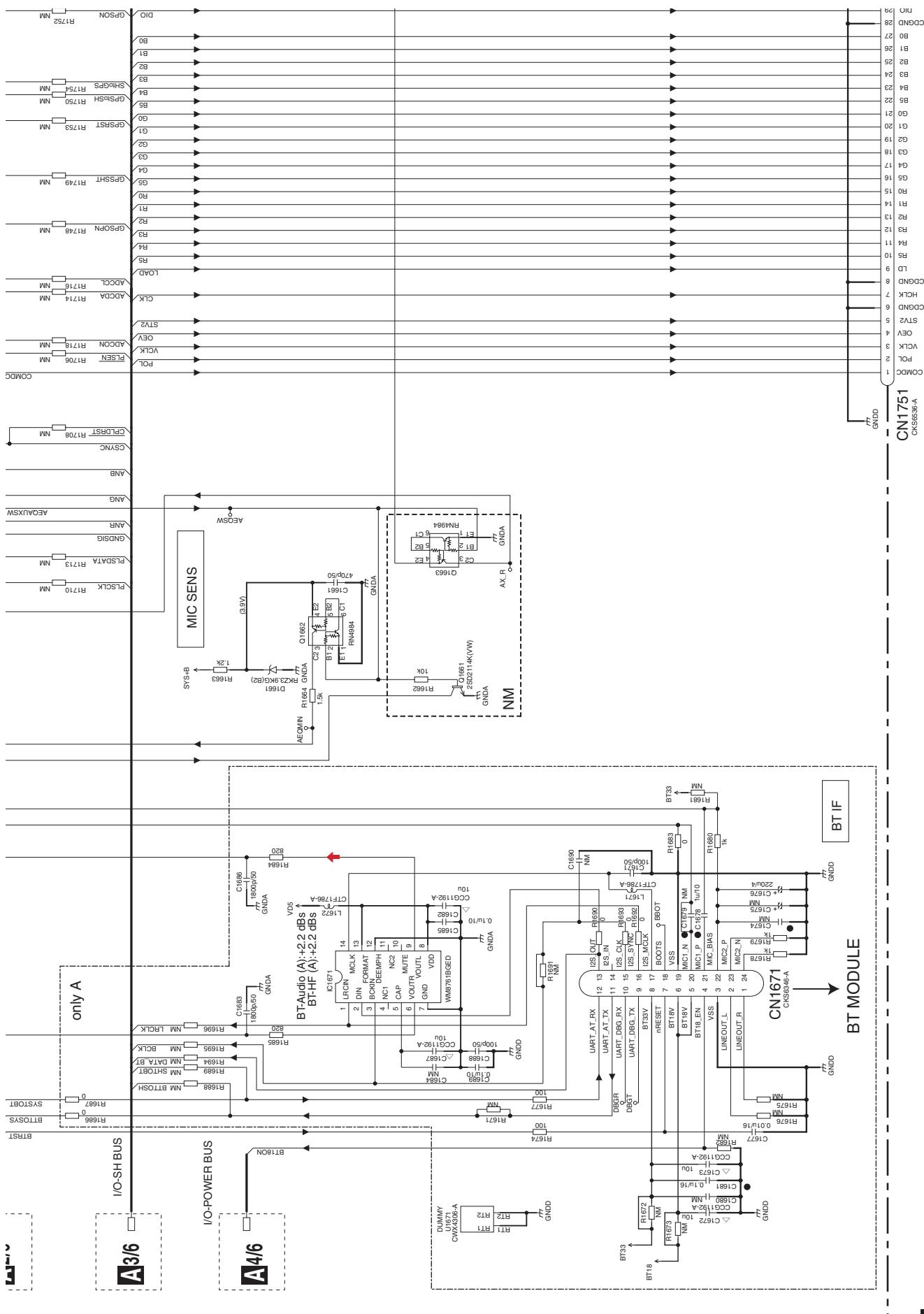
AVH-X4500BT/XNUC

136

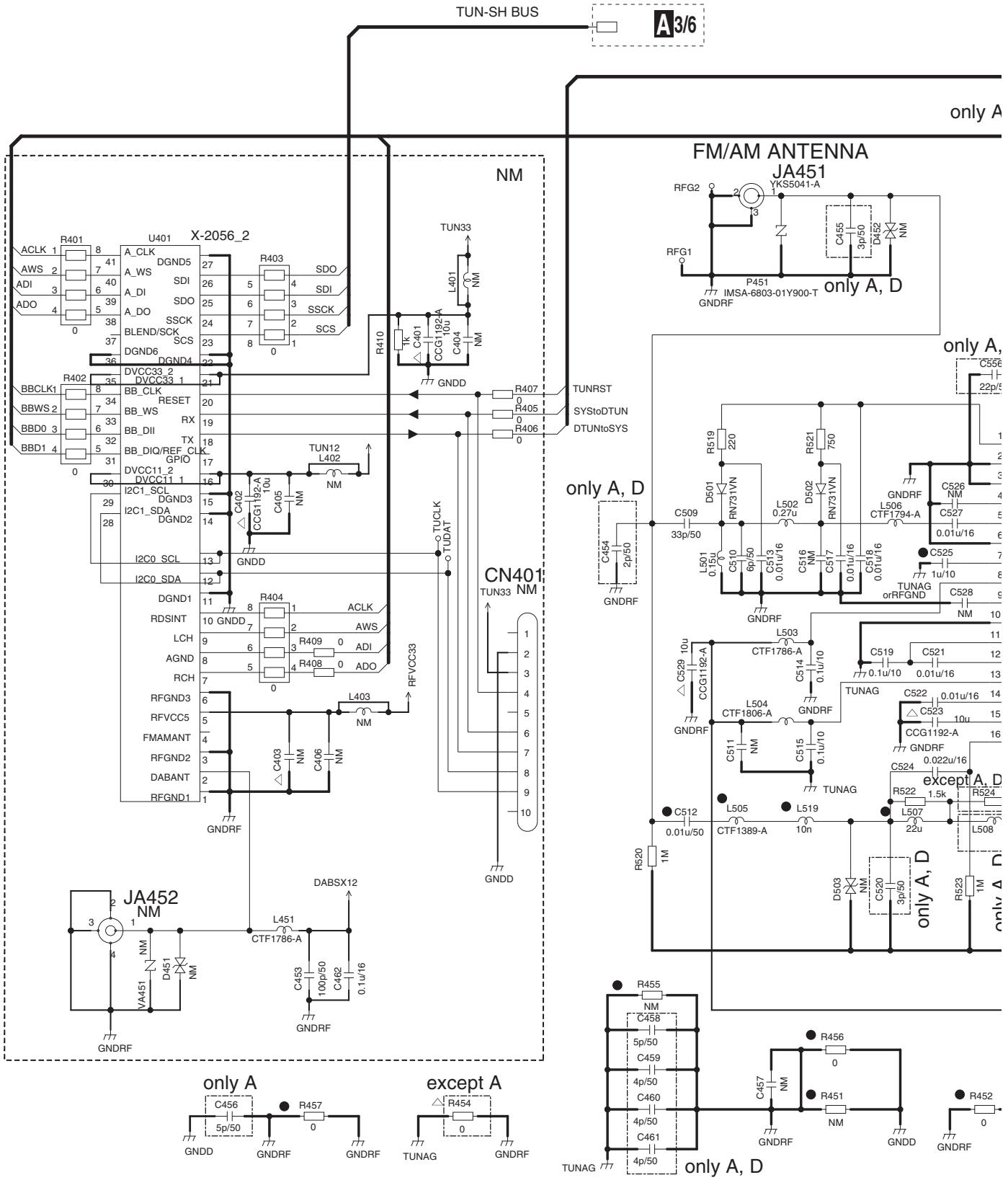
2

3

4

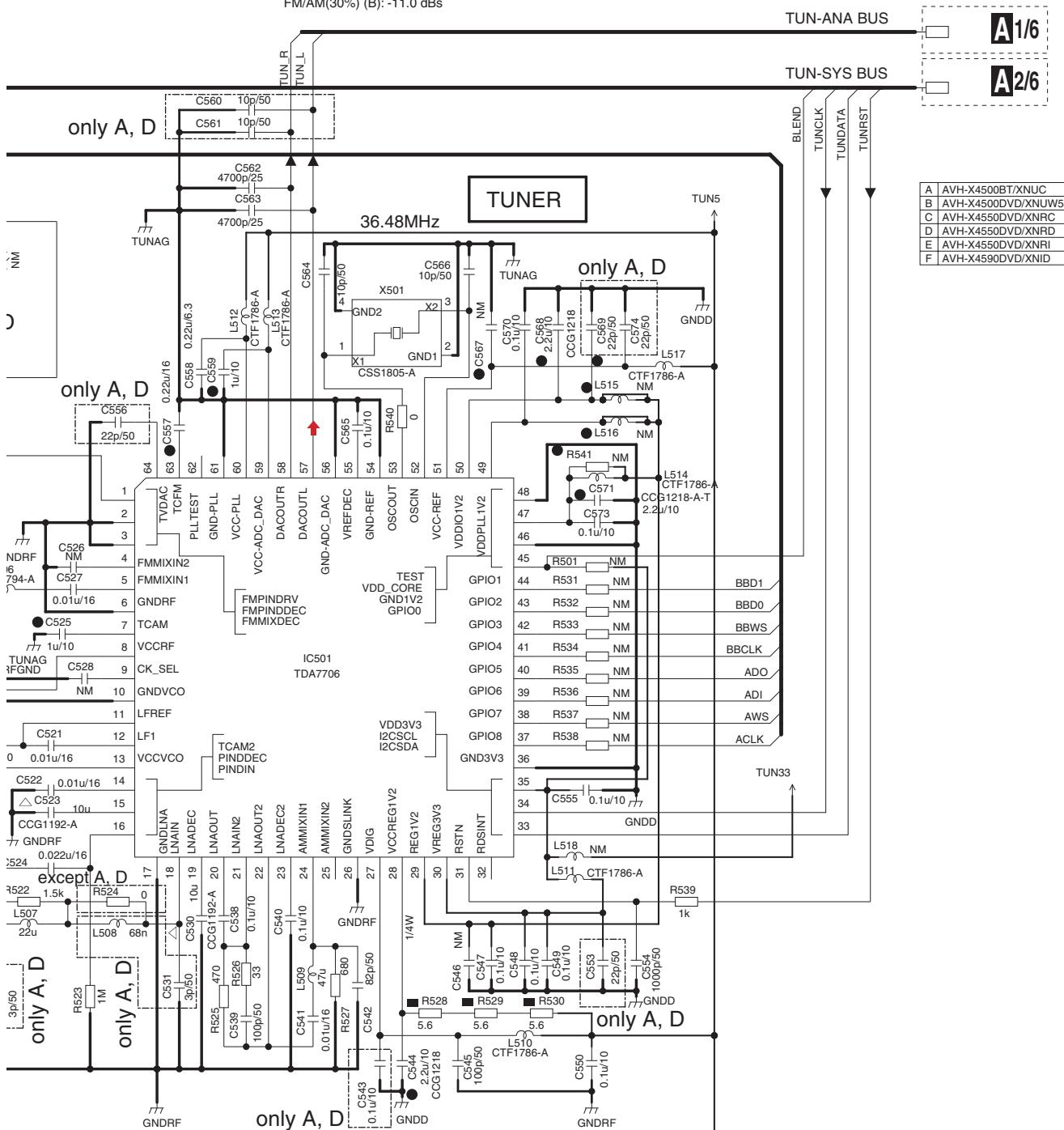


## 10.6 MOTHER PCB (TUNER BLOCK)



## **A6/6** MOTHER PCB (TUNER BLOCK)

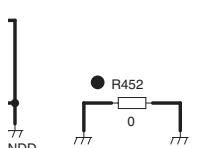
FM/AM(30%) (A,C~F): -15.0 dBs  
FM/AM(30%) (B): -11.0 dBs



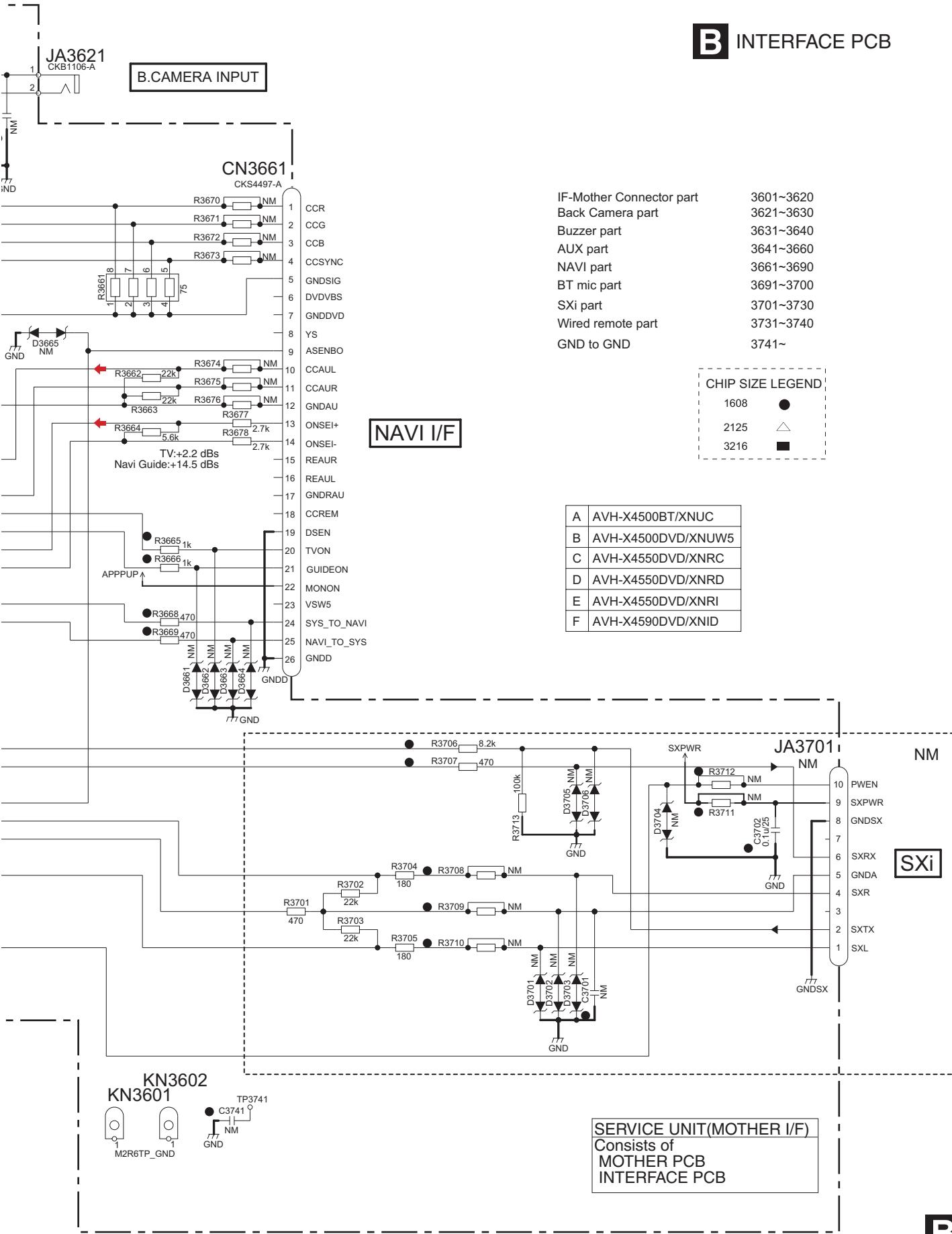
401 - : HD TUNER UNIT  
451 - : ANT PART  
501 - : HIT2 PART

## CHIP SIZE LEGEND

**SERVICE UNIT(MOTHER I/F)**  
Consists of  
**MOTHER PCB**  
**INTERFACE PCB**



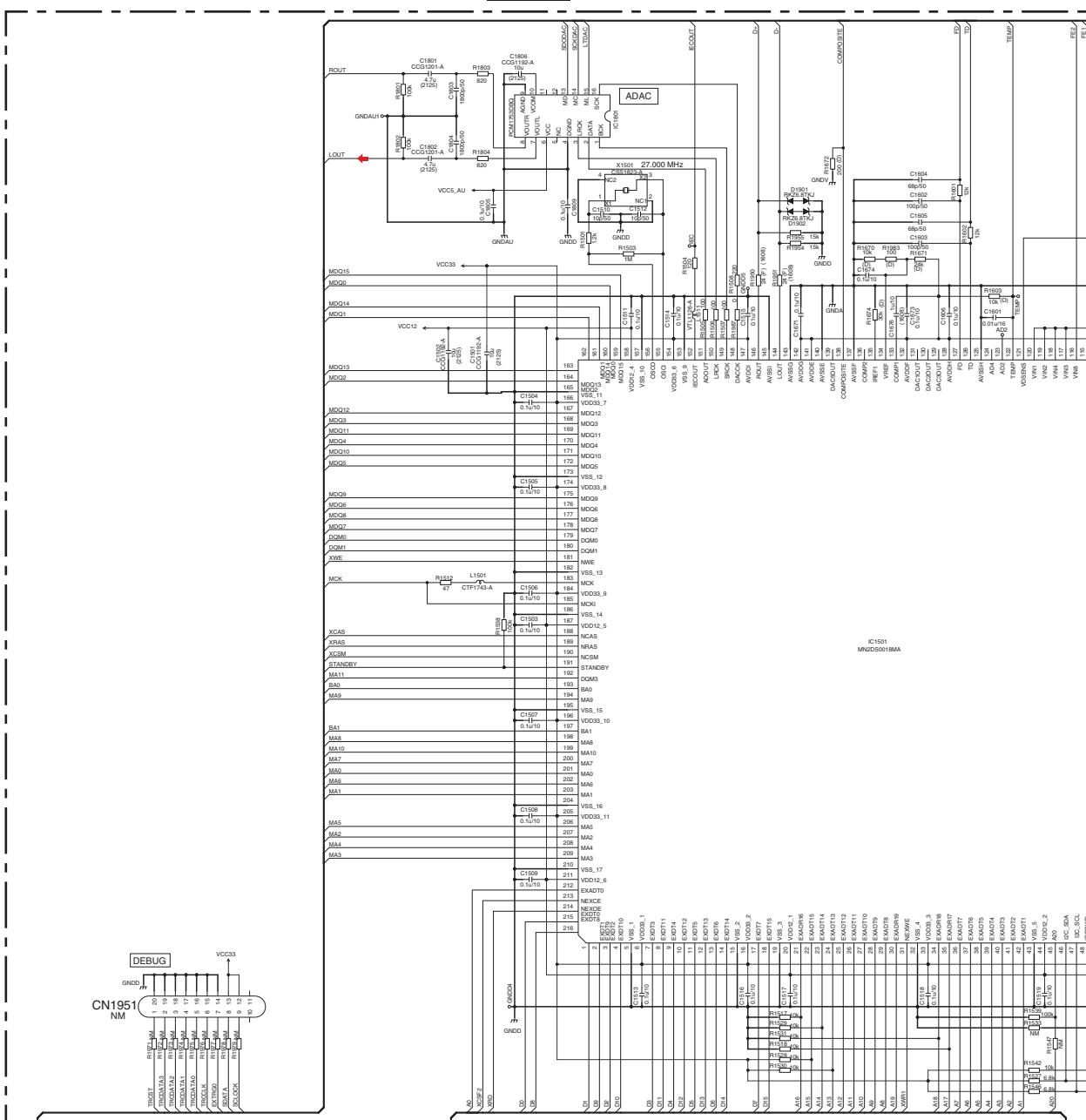




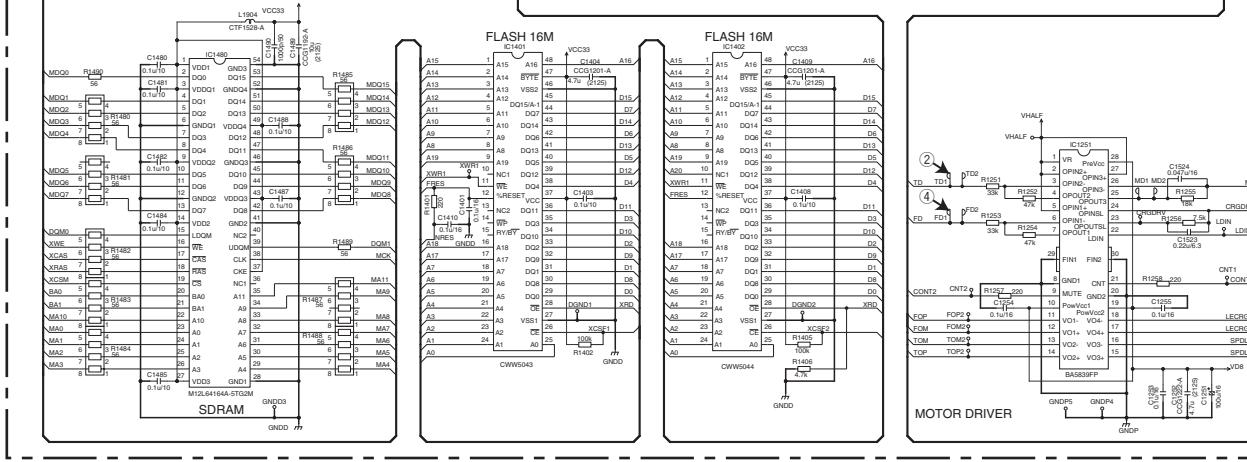
## 10.8 DVD CORE UNIT (GUIDE PAGE)

A

C-a



B



C

AVH-X4500BT/XNUC

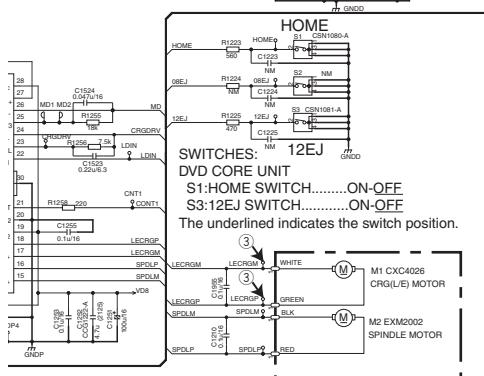
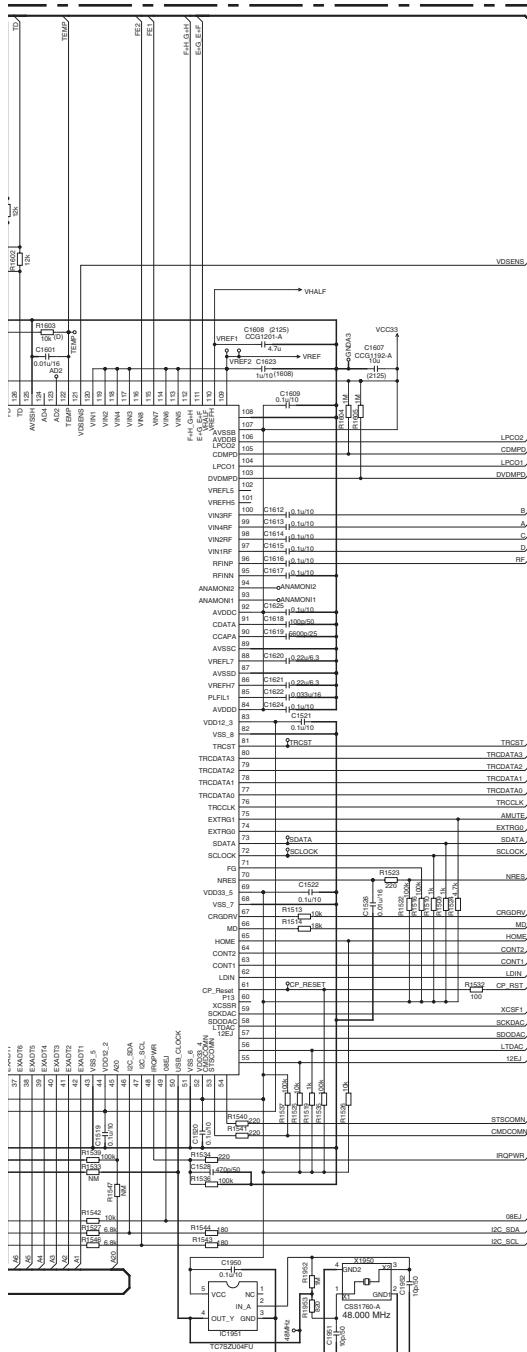
D

E

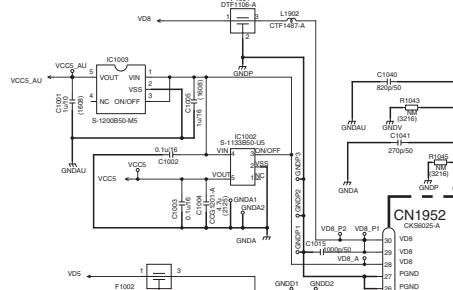
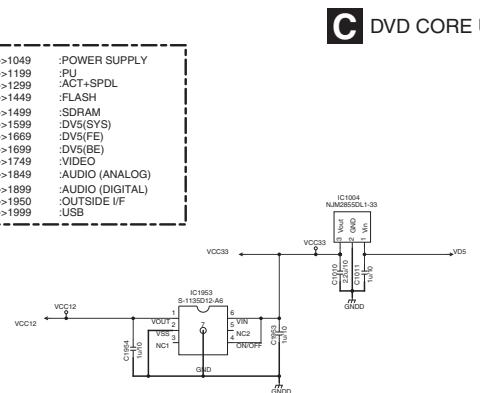
F

C

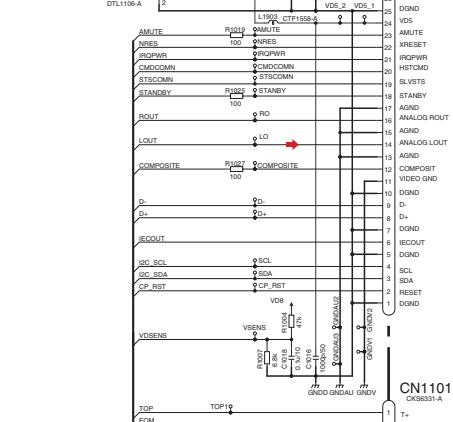
C-b



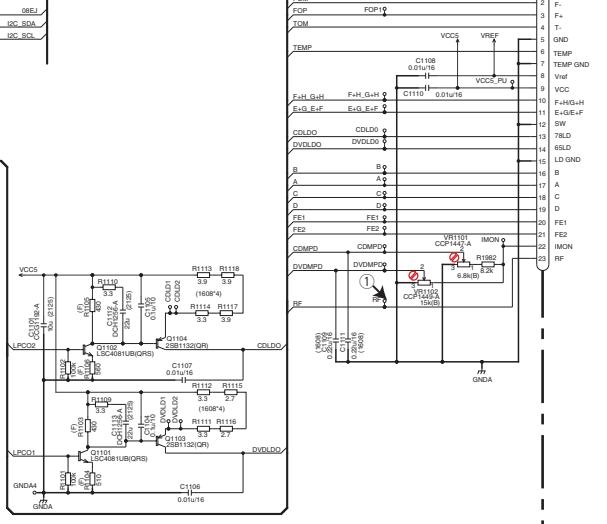
1000->1049	:POWER SUPPLY
1100-1199	:PU
1200->1299	:ACT+SPDL
1400->1449	:FLASH
1480->1499	:SDRAM
1500->1599	:DV5(SYS)
1600->1669	:DV5(FE)
1670-1699	:DV5(BE)
1700->1749	:VIDEO
1800->1849	:AUDIO (ANALOG)
1850->1899	:AUDIO (DIGITAL)
1900->1950	:OUTSIDE I/F
1950->1999	:USB



A2/6  
CN751



PU UNIT (DP11)



AVH-X4500BT/XNUC

A

B

C

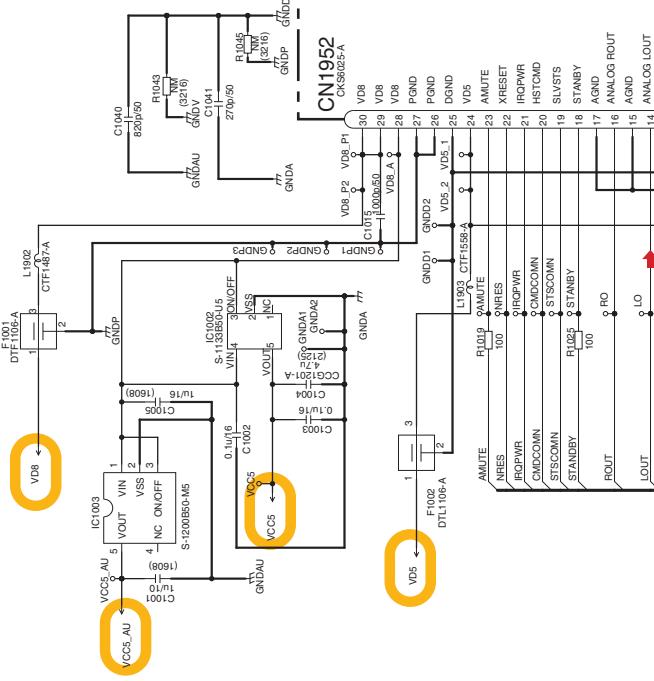
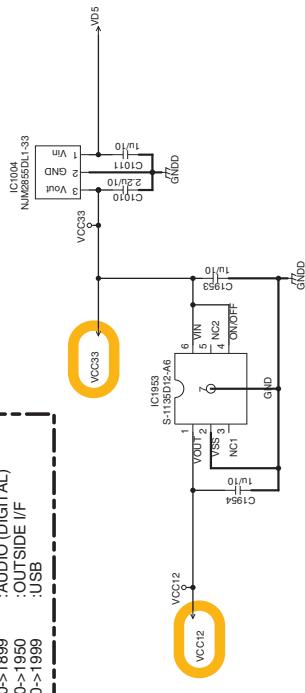
D

E

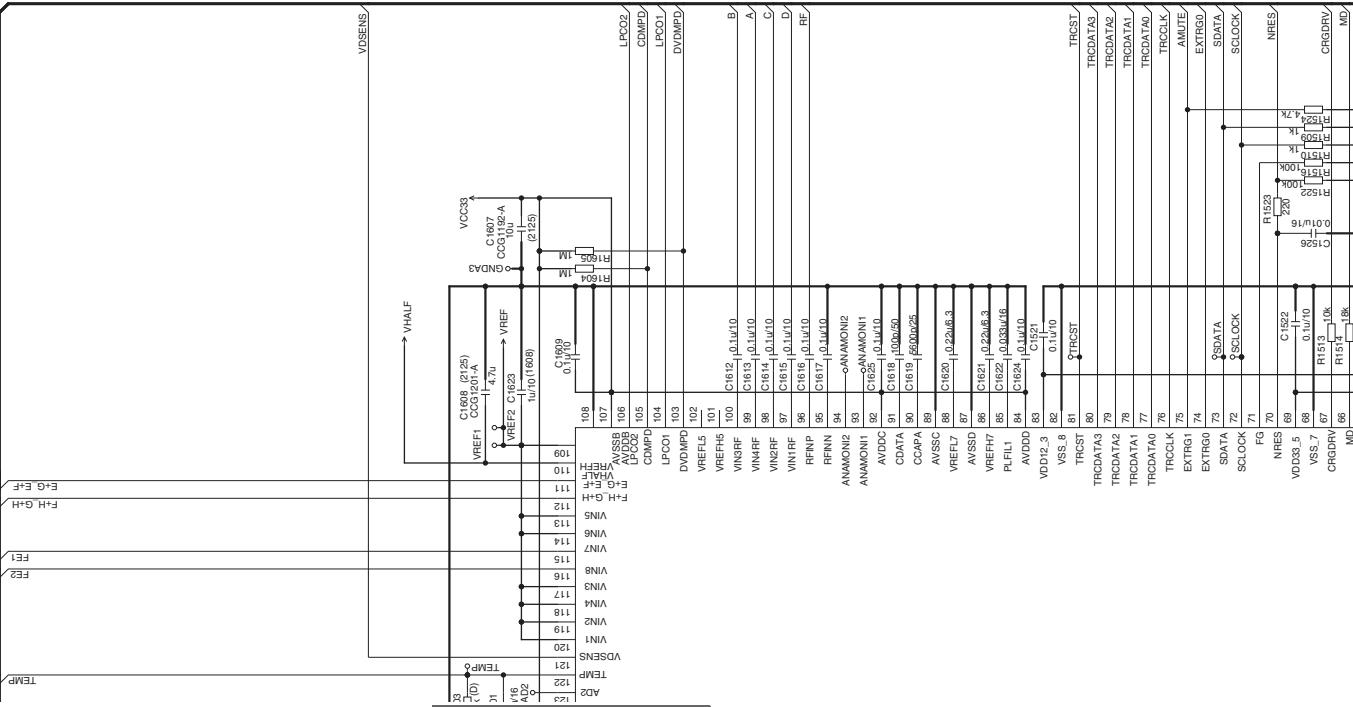
F

## C DVD CORE UNIT

1000->1049 :POWER SUPPLY  
 1100->1198 :PU  
 1200->1299 :ACT+SPDL  
 1400->1449 :FLASH  
 1480->1499 :SDRAM  
 1500->1599 :DV5(SV)  
 1600->1699 :DV5(FE)  
 1670->1699 :DV5(BE)  
 1700->1749 :VIDEO  
 1800->1849 :AUDIO (ANALOG)  
 1850->1899 :AUDIO (DIGITAL)  
 1900->1950 :OUTSIDE I/F  
 1950->1999 :USB

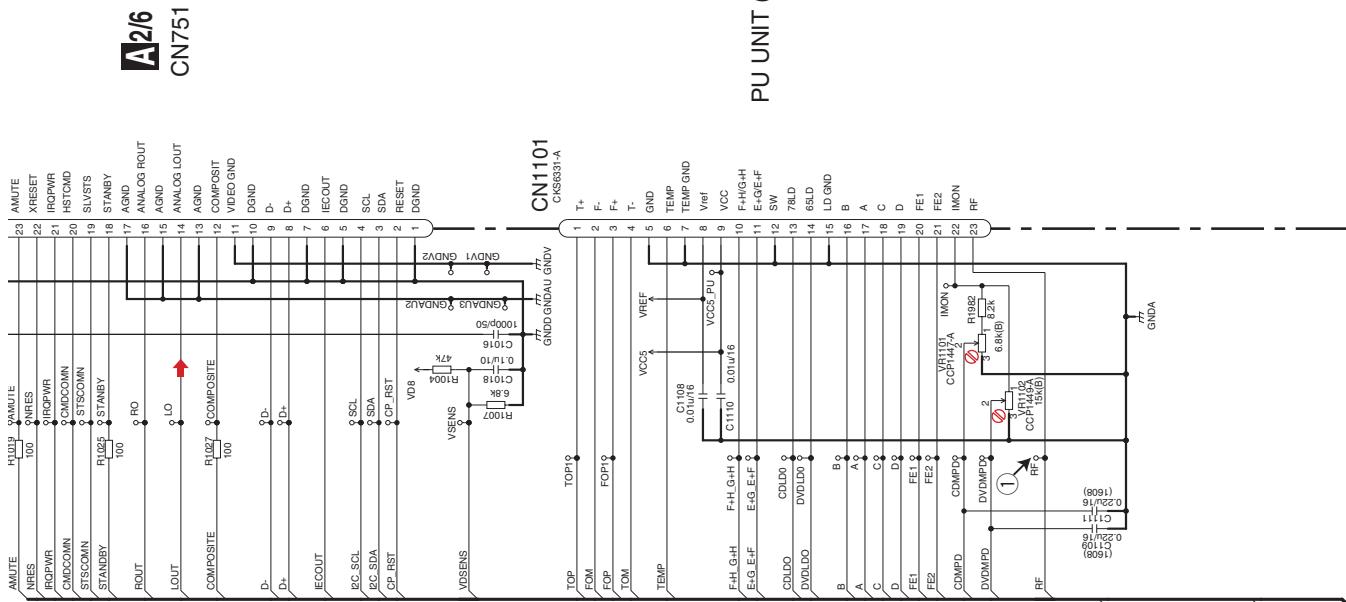
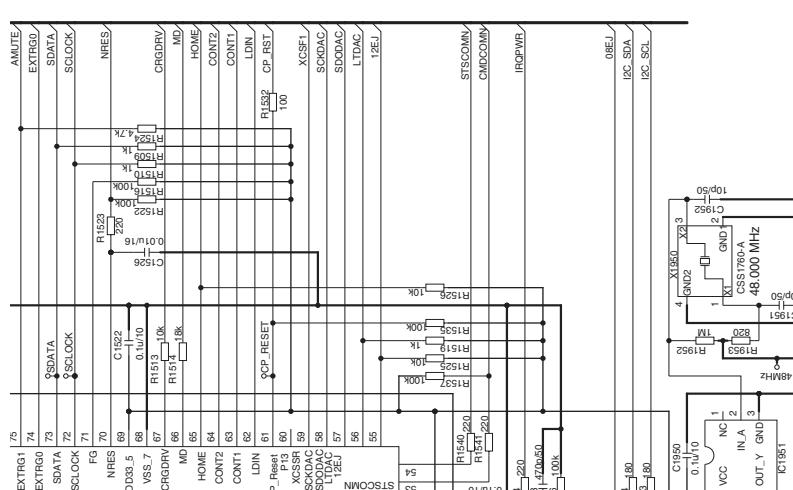


C-a C-b



C-b

**A26**  
 CN751



PU UNIT (DP11)

10

1

6

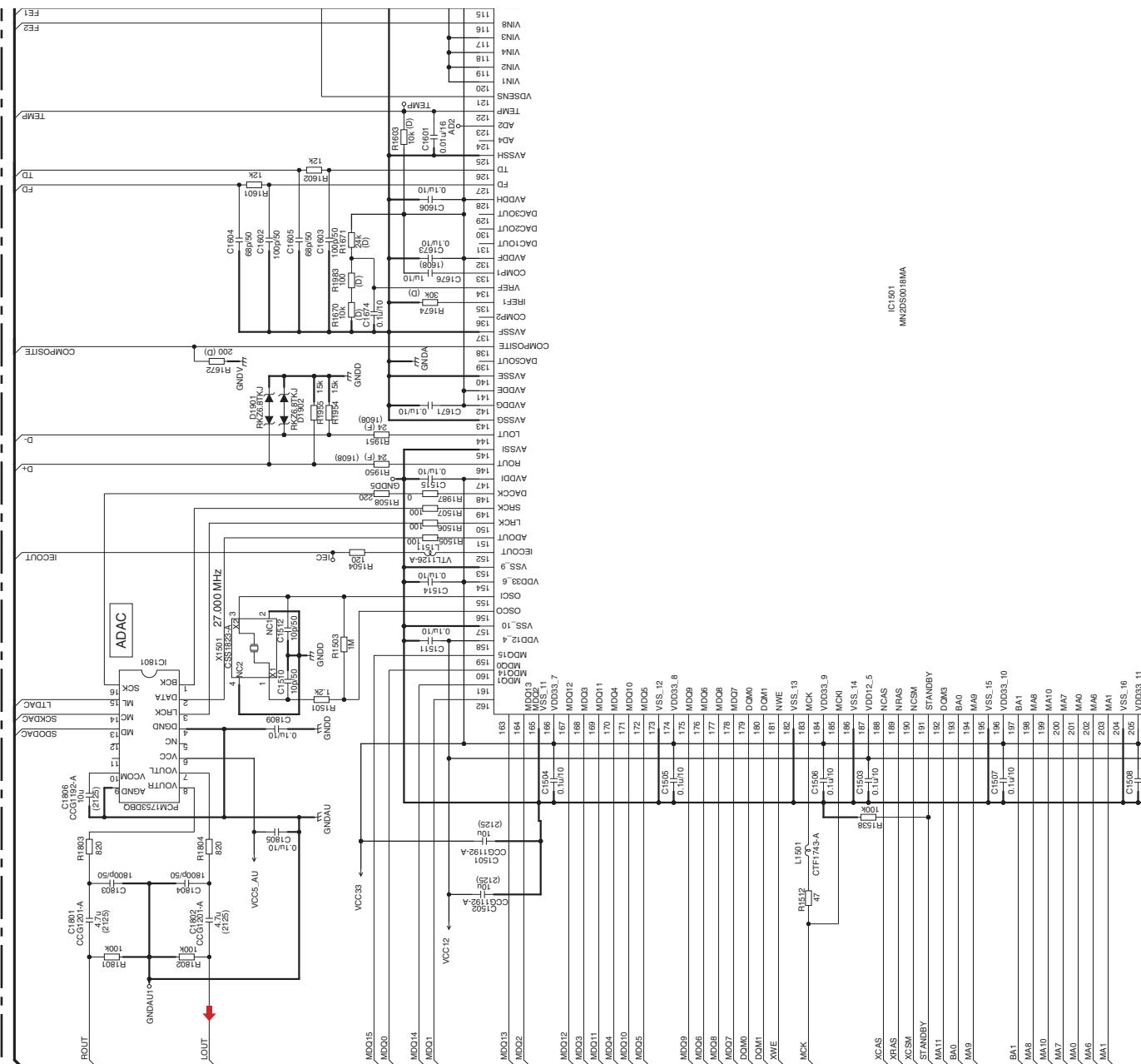
3

3

0

三

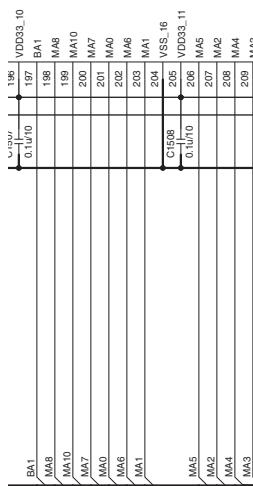
1



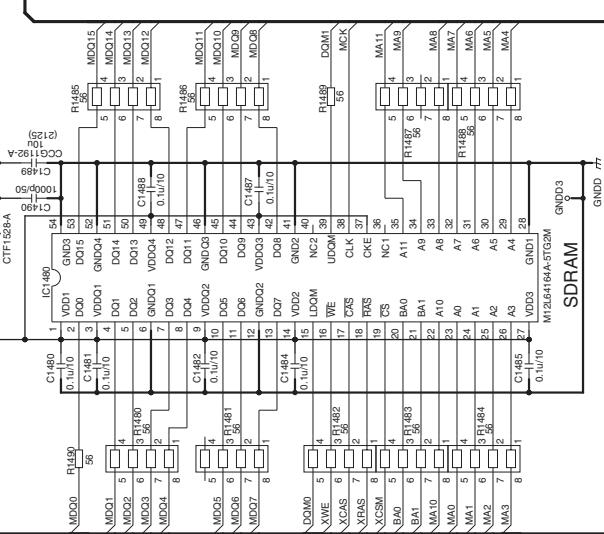
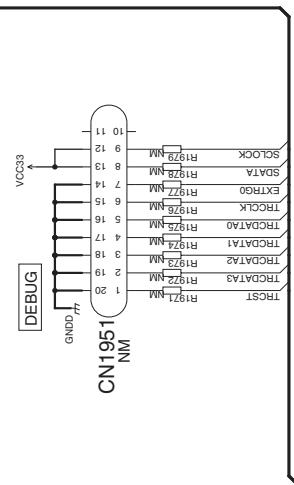
46

AVH-X4500BT/XNUC

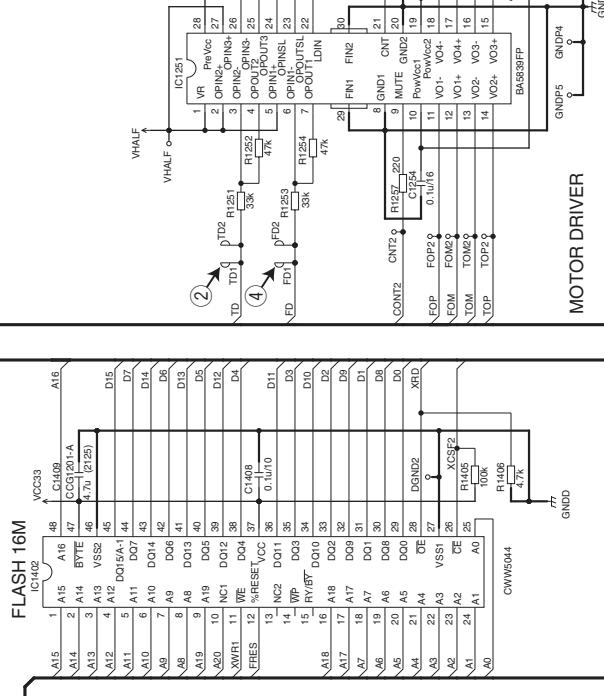
4



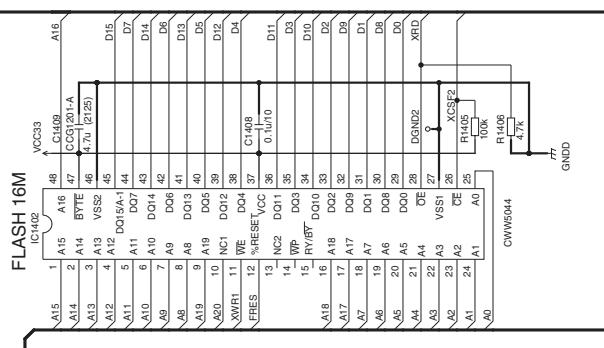
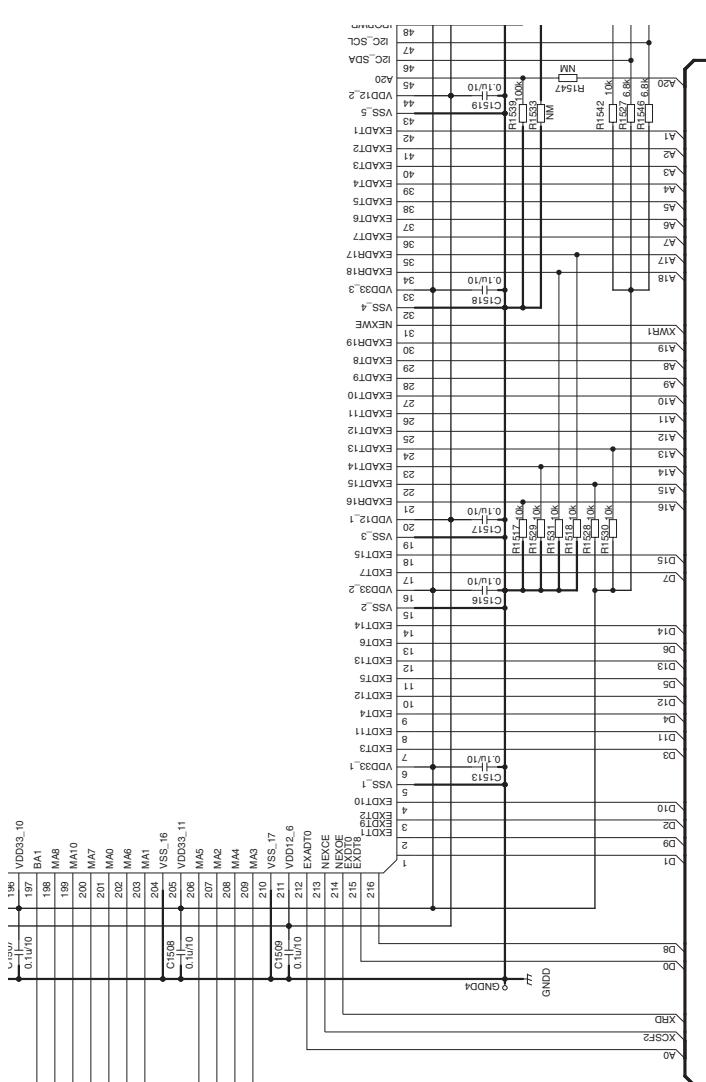
**CN1951 NM**



**FLASH 16M**



**FLASH 16M**



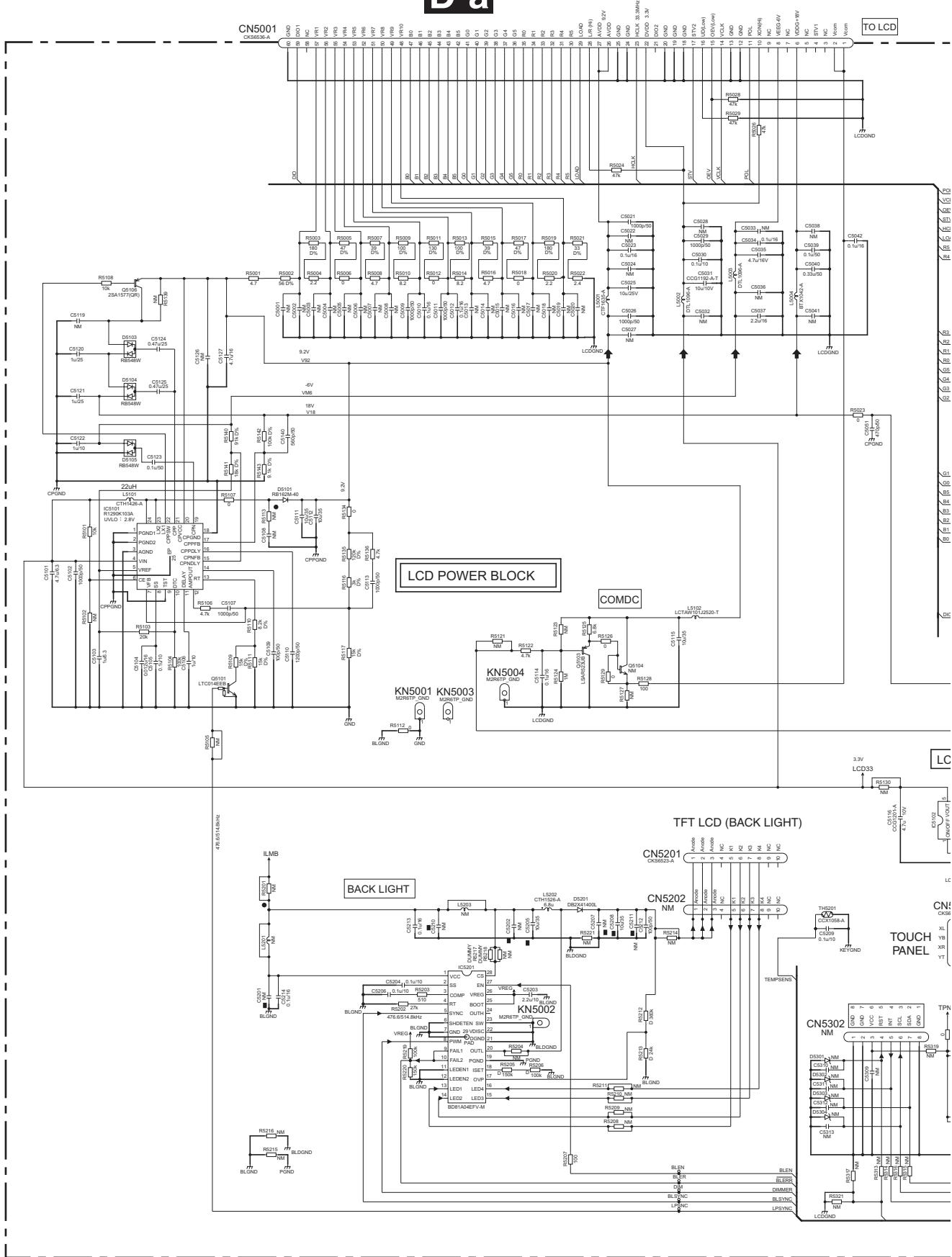
**FLASH 16M**

## **10.9 SERVICE UNIT(MONITOR) (GUIDE PAGE)**

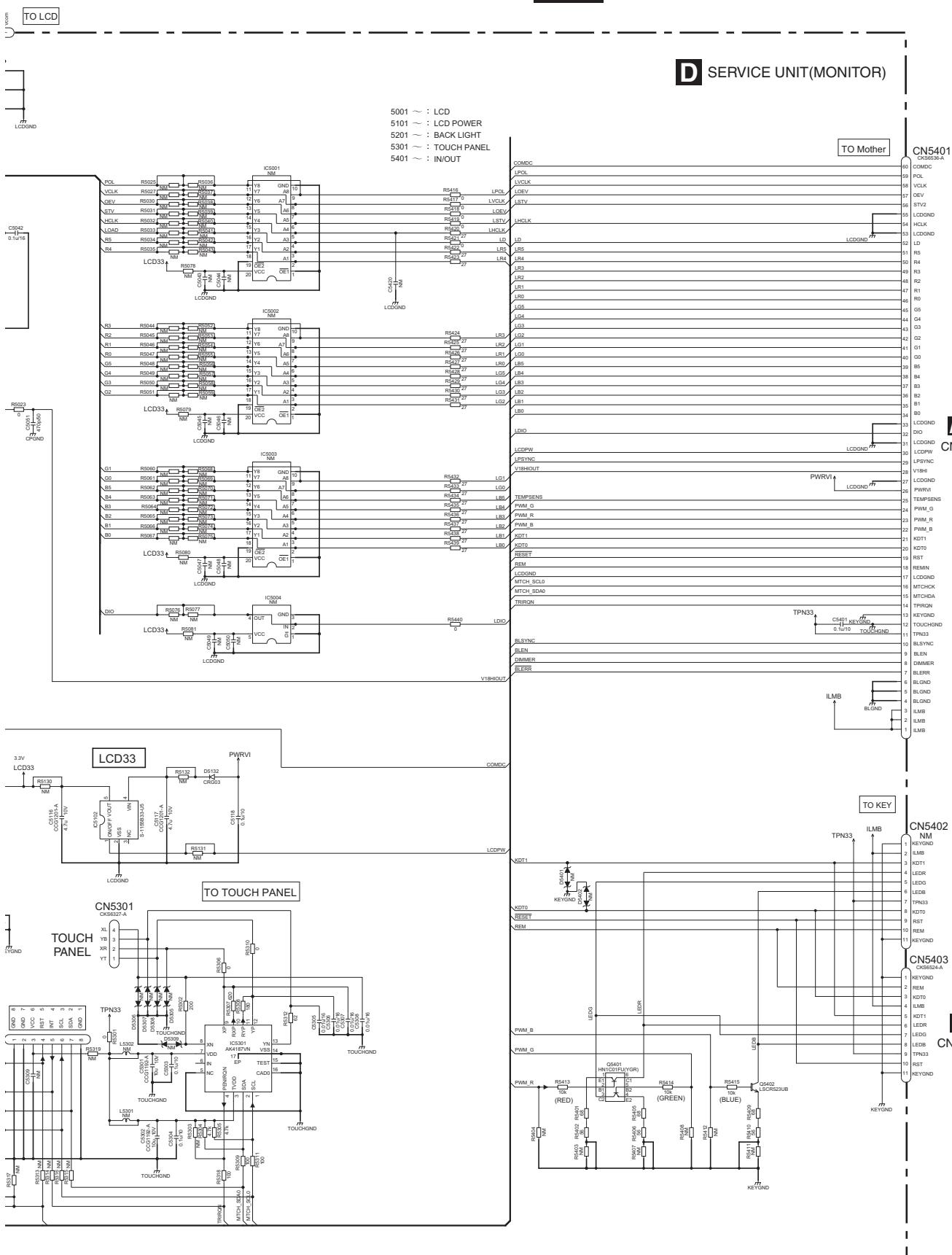
A

D-a

## TFT LCD



D-b



AVH-X4500BT/XNUC

A

B

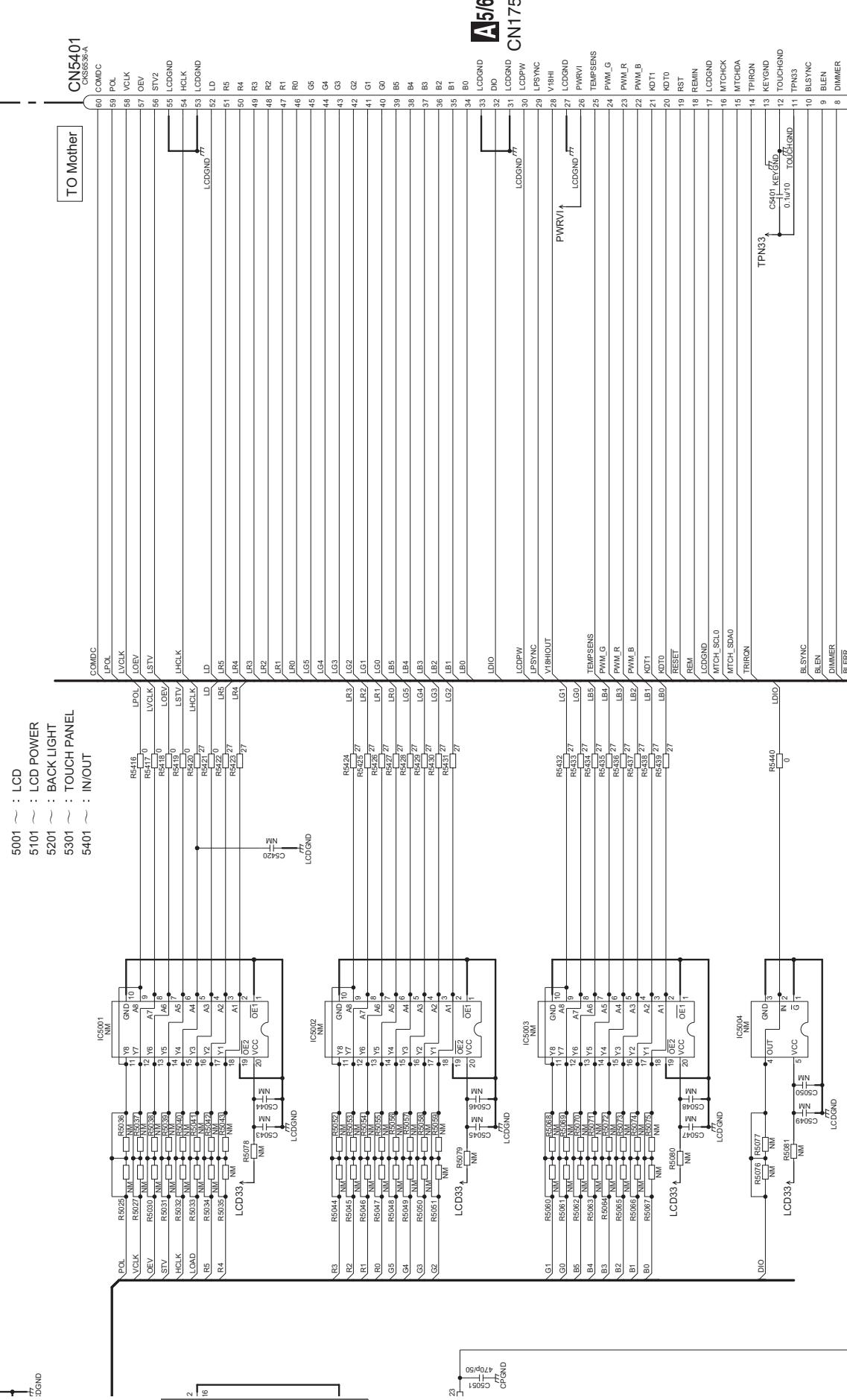
C

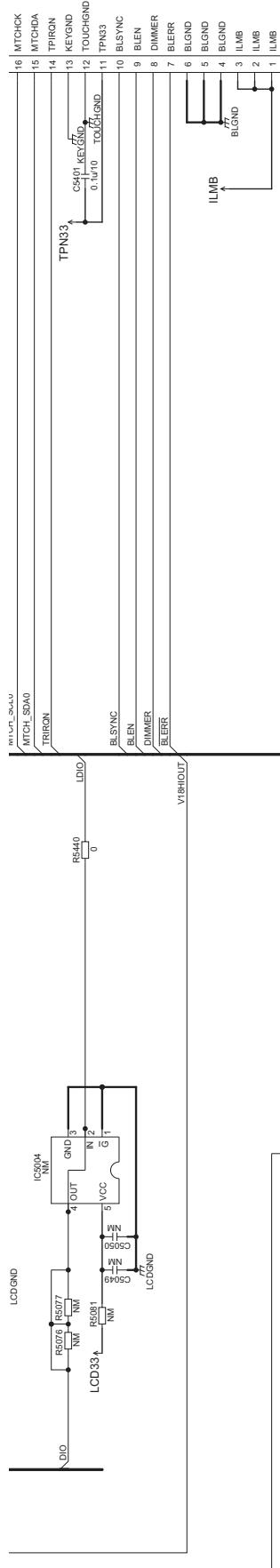
D

E

F

D SERVICE UNIT(MONITOR)



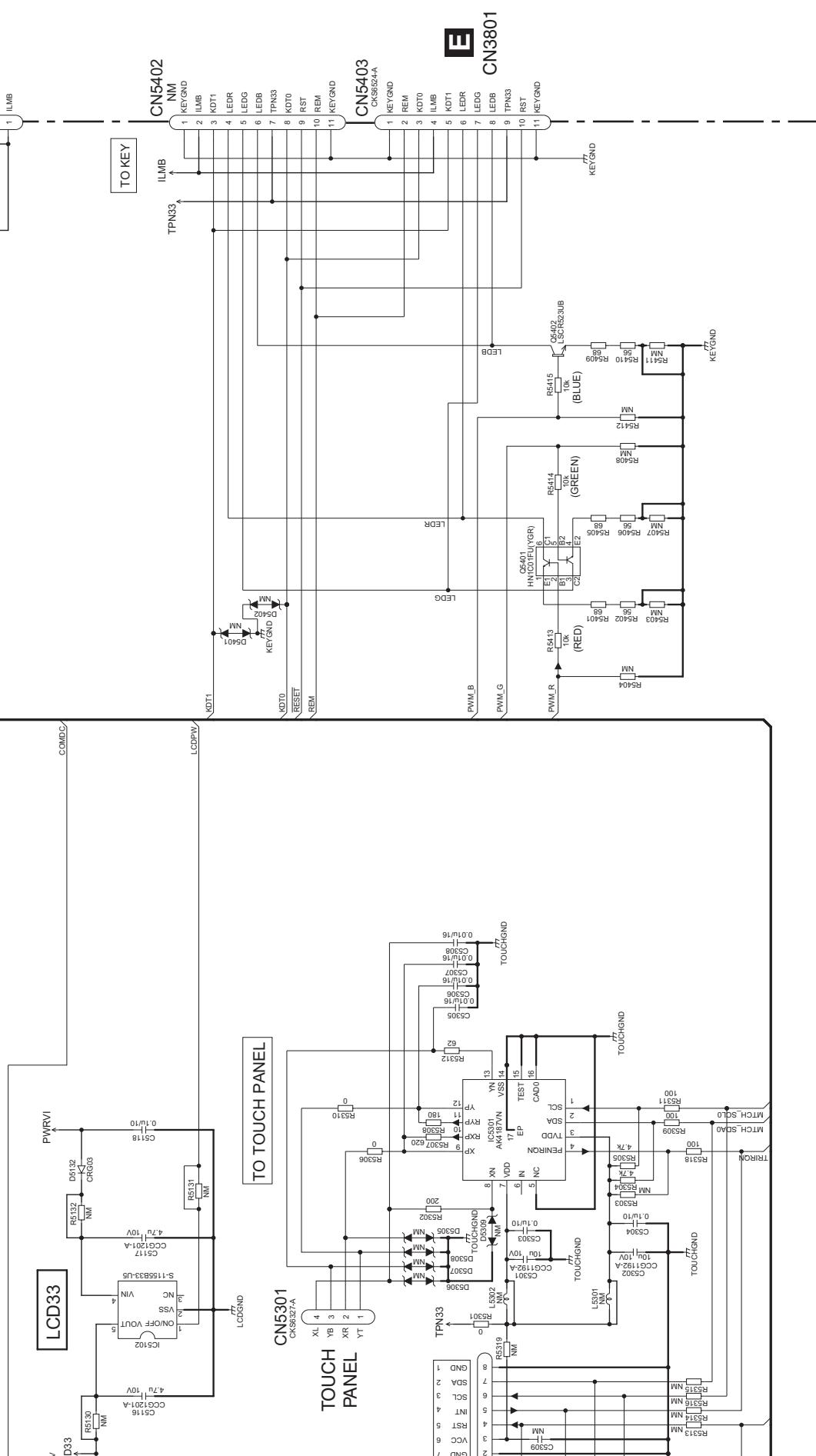


5

6

7

8



AVH-X4500BT/XNUC

2

5

E

0

4

D-a D-b

1

?

3

4

D-b

B

C

D

E

F

TFT LCD

D-a D-b

COMDC

LCD FÜHRERBLICK

AVH-X4500BT/XNUC



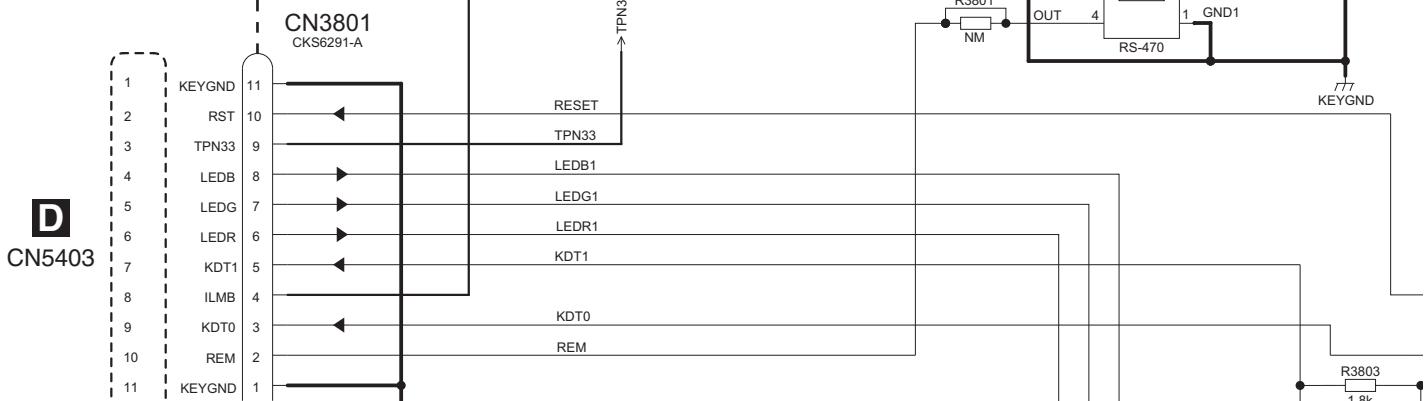
## 10.10 SERVICE UNIT (KEY)

A

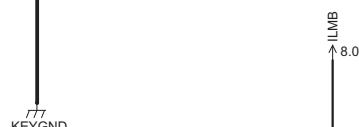
CHIP SIZE LEGEND

- 1608 ●
- 2125 ▲
- 3216 ■

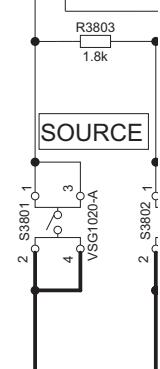
B



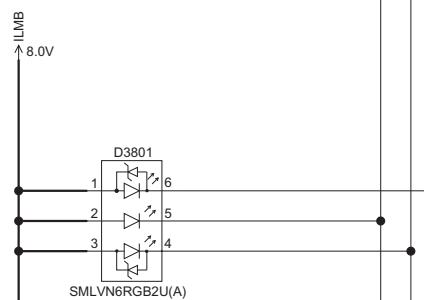
D



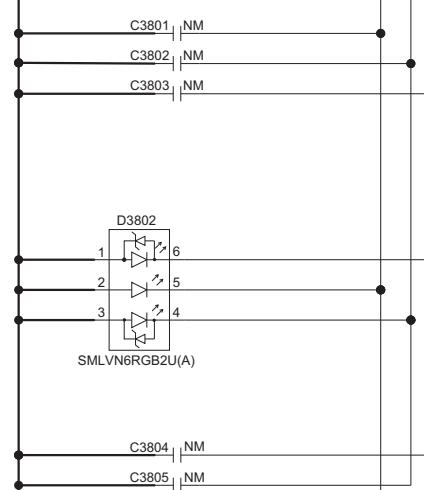
C



D



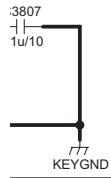
E



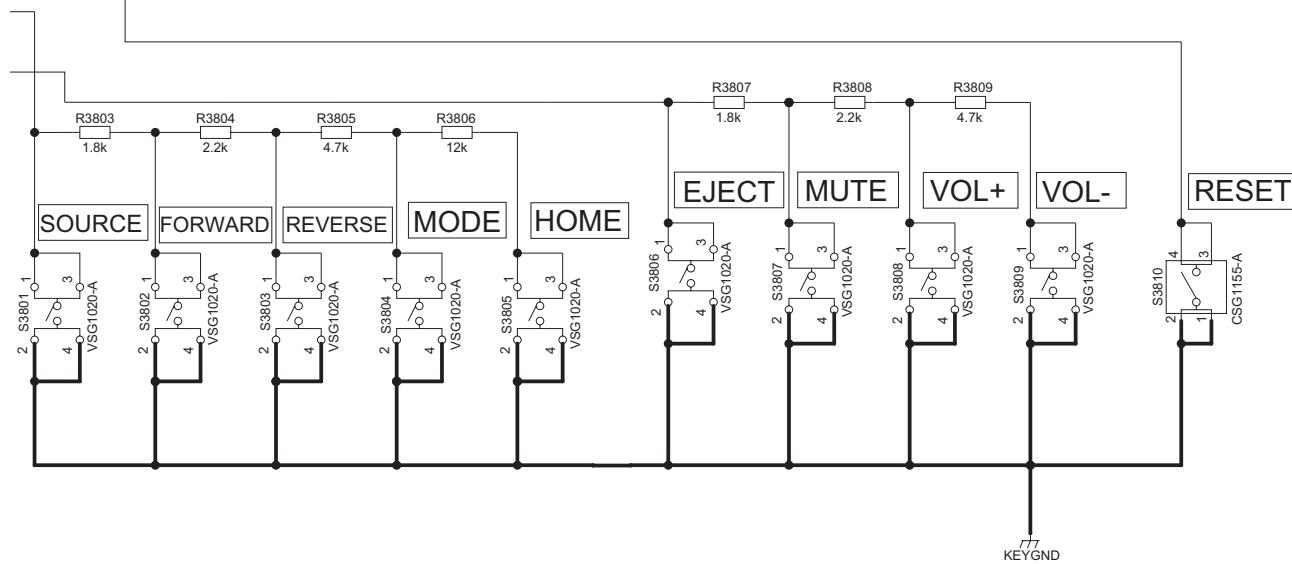
F

E

## E SERVICE UNIT(KEY)



	0.0~0.5V	0.5~1.2V	1.2~1.8V	1.8~2.4V	2.4~3.0V	3.0~3.3V
KDT0	EJECT	MUTE	VOL+	VOL-	x	x
KDT1	SOURCE	FORWARD	REVERSE	MODE	HOME	x



E

A

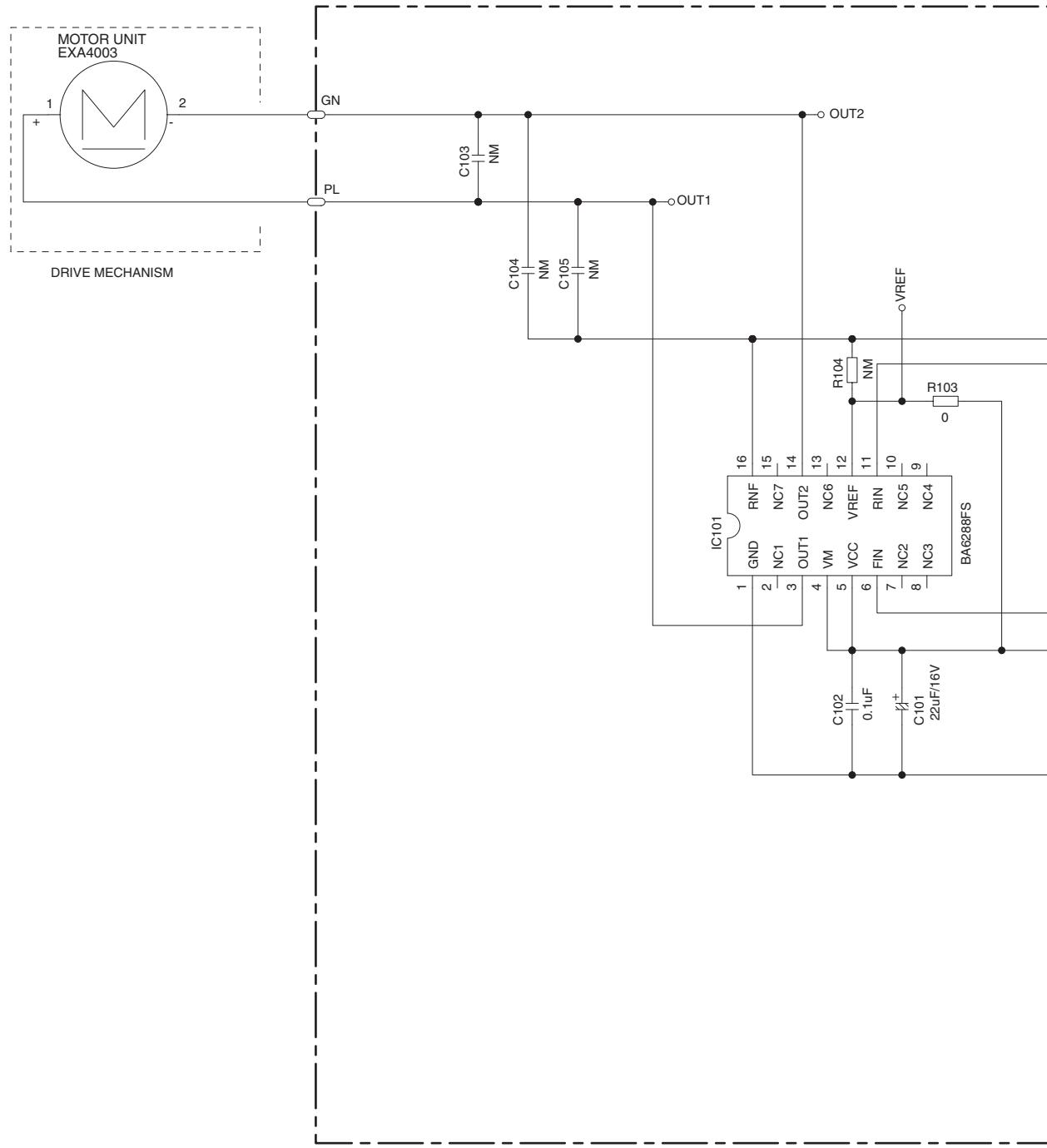
B

C

D

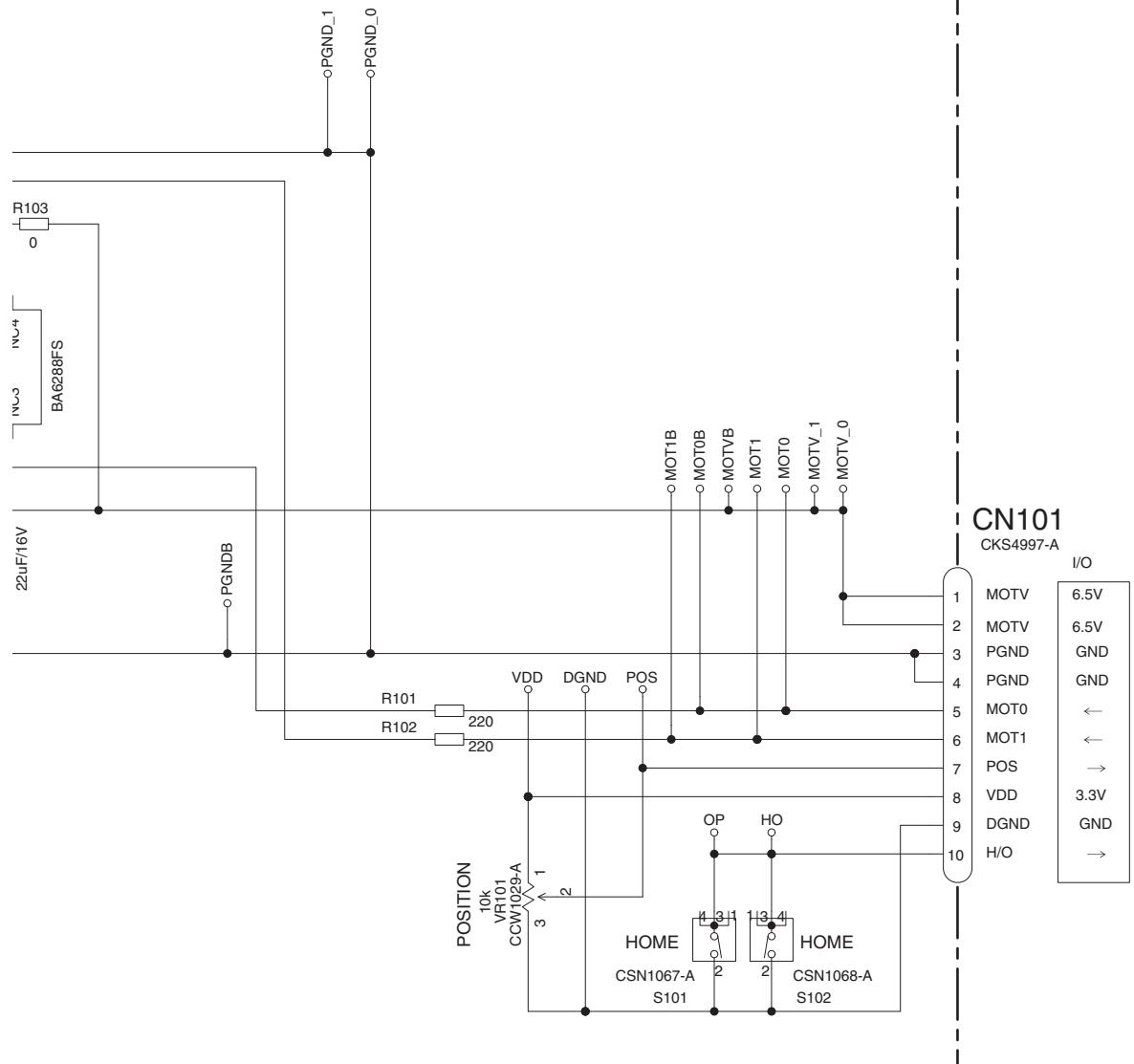
E

F



AVH-X4500BT/XNUC

**F** PCB UNIT(SERVICE)



**A5/6**  
CN1651

## 10.12 WAVEFORMS

### ● DVD Core Unit

Note:1. The encircled number denote measuring points in the circuit diagram.

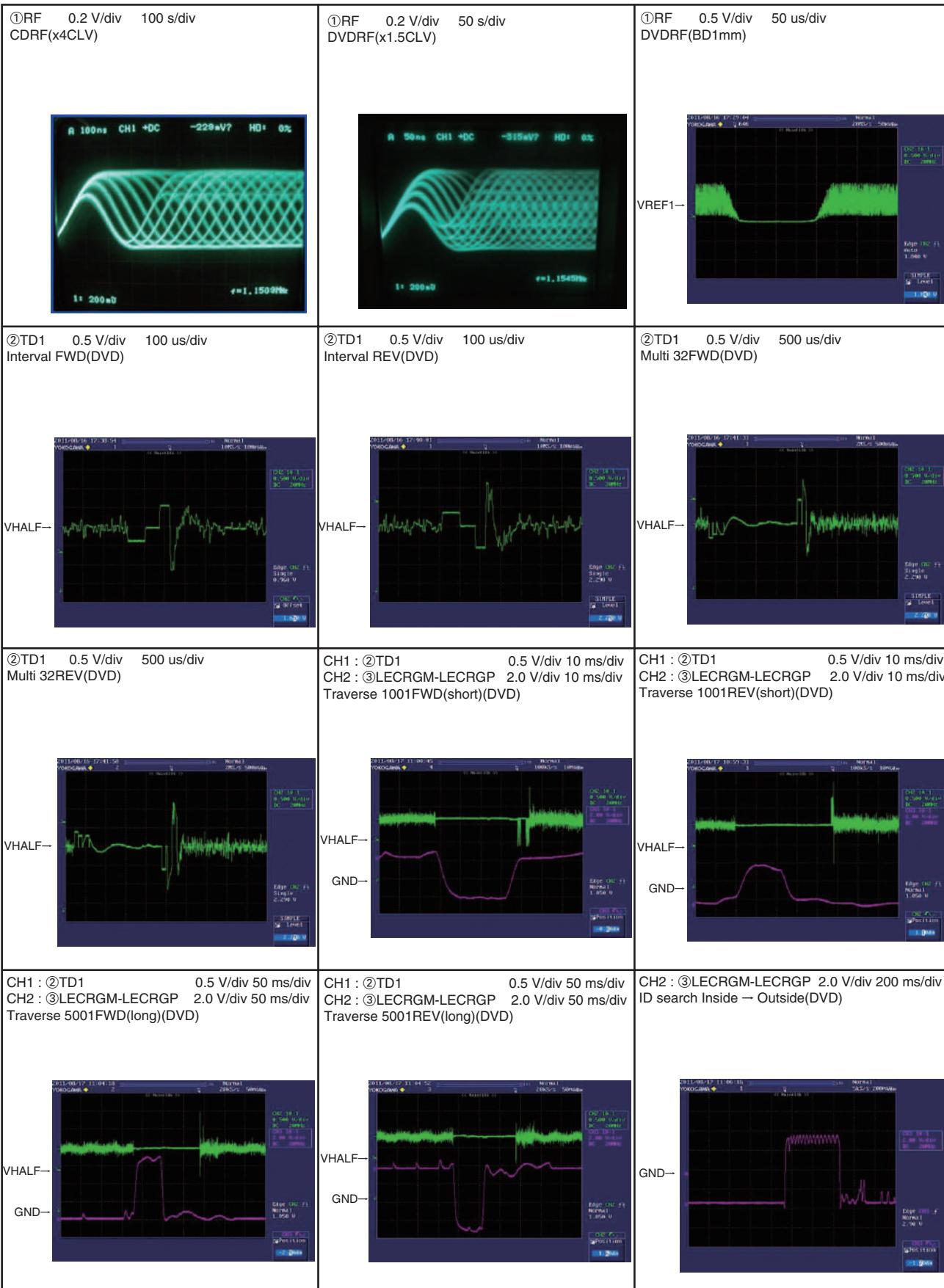
2. Reference voltage: 1.65 V(TD1,FD1)(=VHALF)

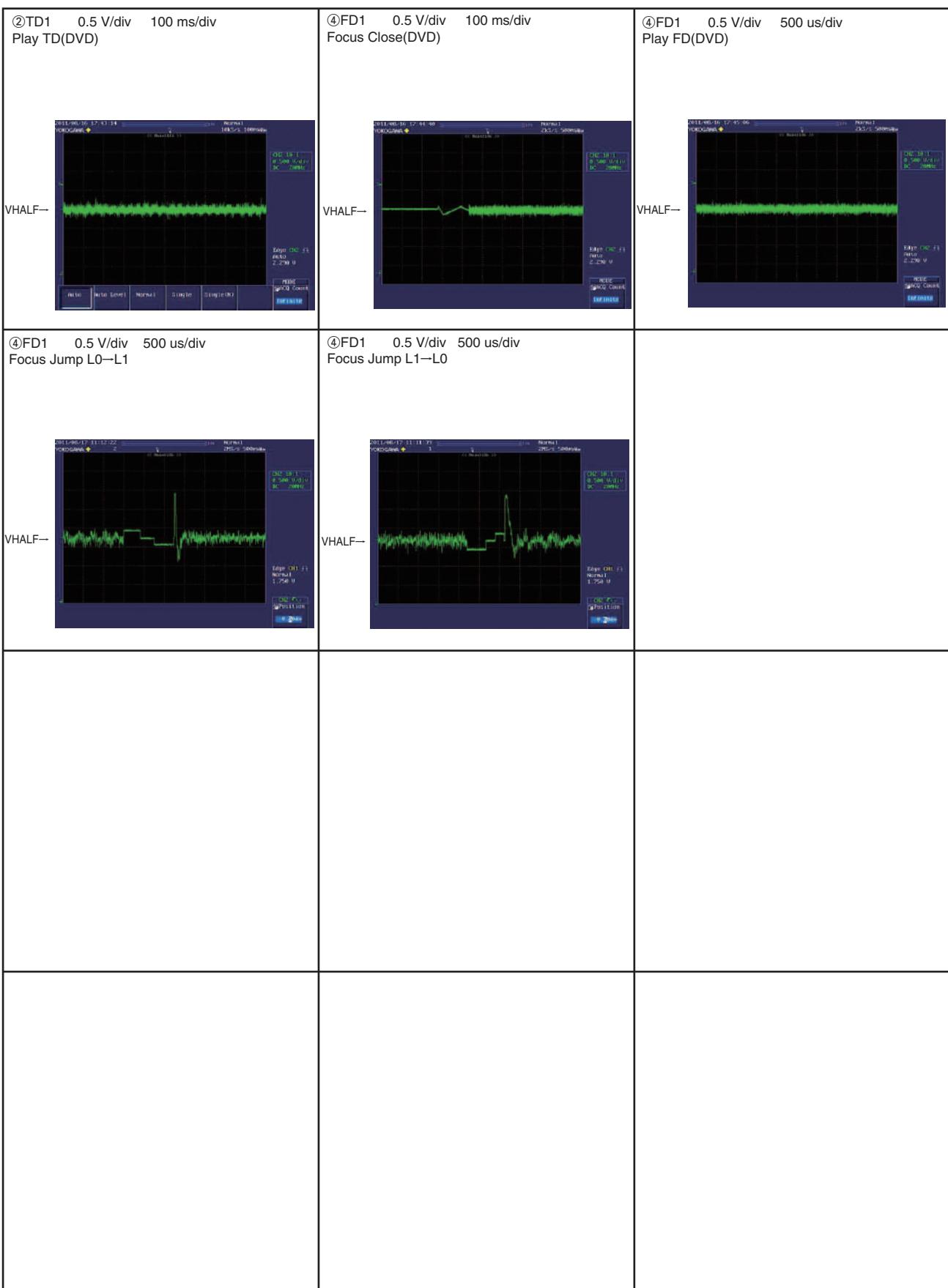
2.2 V(RF)(=VREF)

In the waveform, it is seeing on the GND standard.

Offset of 1.65 V or 2.2 V is put in.

A





# 11. PCB CONNECTION DIAGRAM

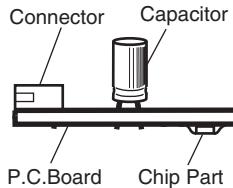
## 11.1 MOTHER PCB

### A NOTE FOR PCB DIAGRAMS

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

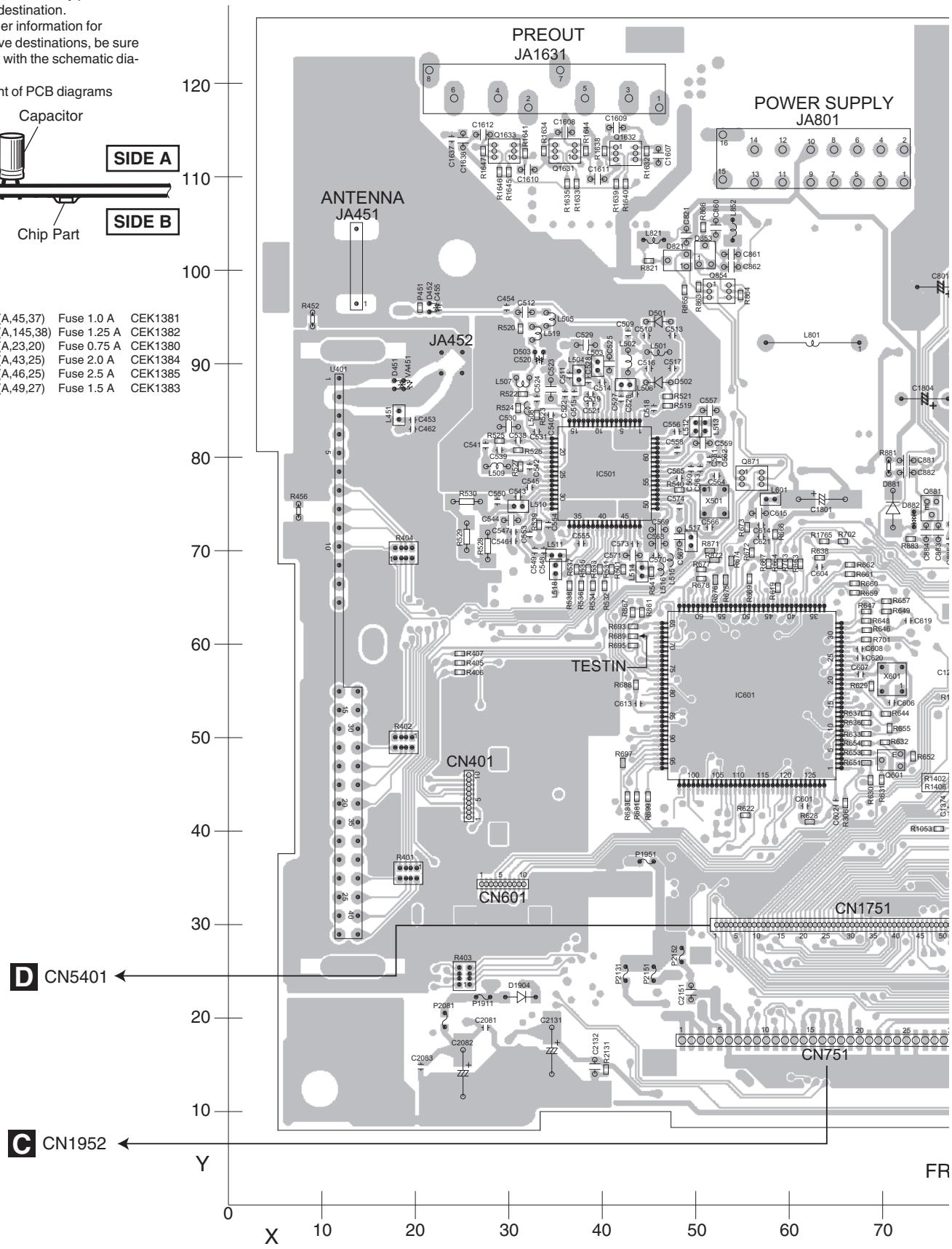
For further information for respective destinations, be sure to check with the schematic diagram.

2.Viewpoint of PCB diagrams



- ⚠ P 1951 (A,45,37) Fuse 1.0 A CEK1381
- ⚠ P 2071 (A,145,38) Fuse 1.25 A CEK1382
- ⚠ P 2081 (A,23,20) Fuse 0.75 A CEK1380
- ⚠ P 2131 (A,43,25) Fuse 2.0 A CEK1384
- ⚠ P 2151 (A,46,25) Fuse 2.5 A CEK1385
- ⚠ P 2152 (A,49,27) Fuse 1.5 A CEK1383

### A MOTHER PCB

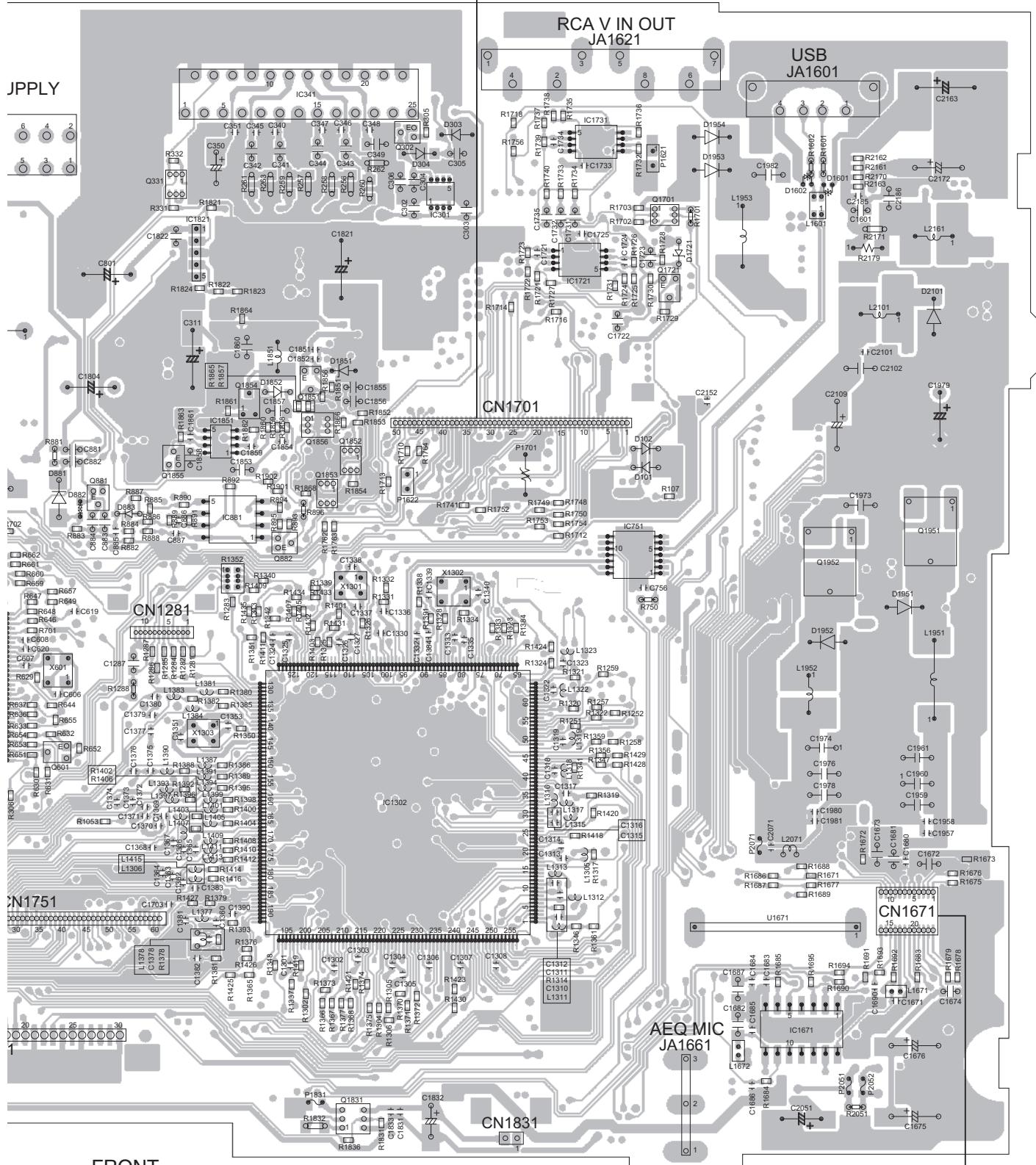


**A**

**B** CN3601

SIDE A

JPPLY



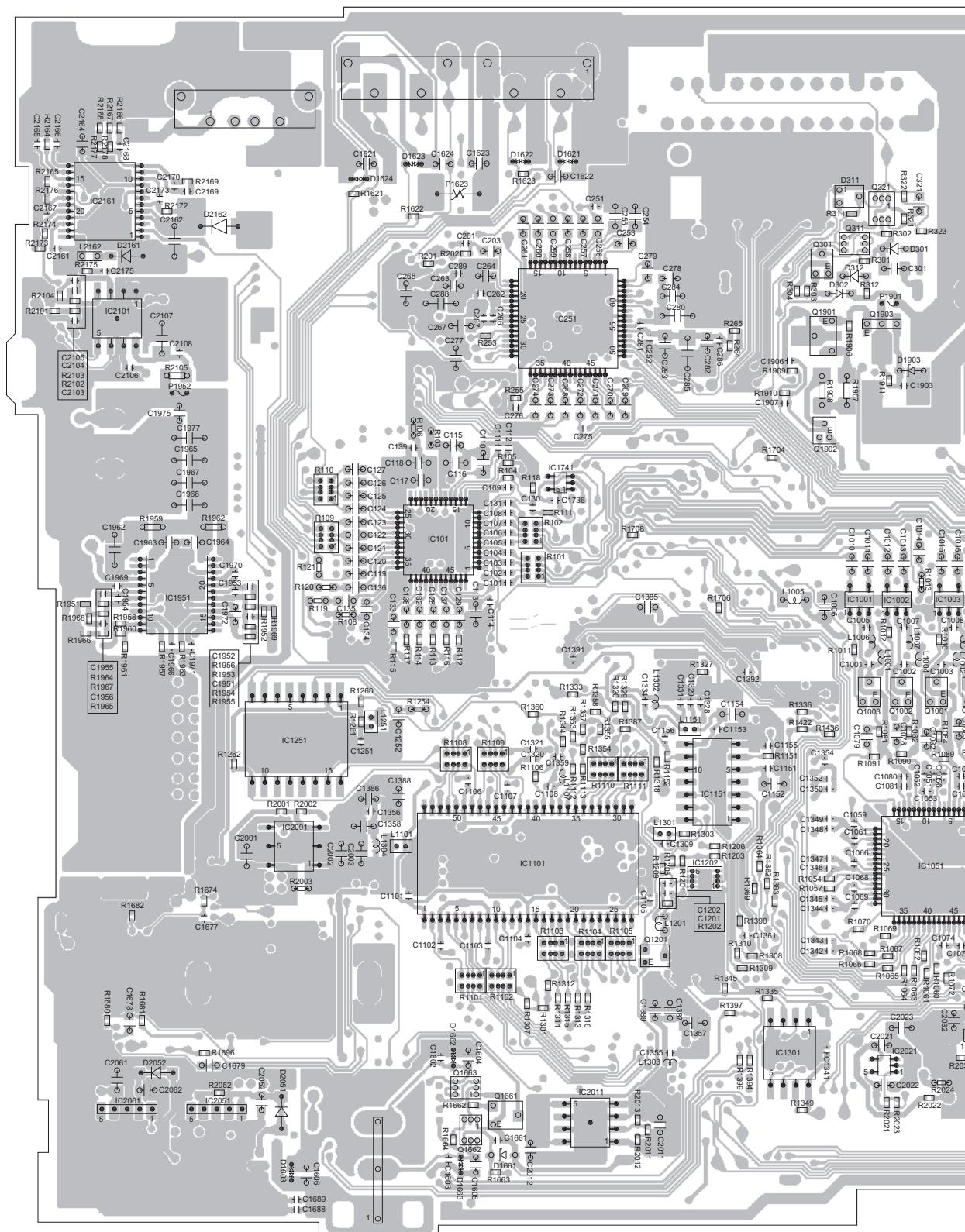
FRONT

BT MODULE

**A**

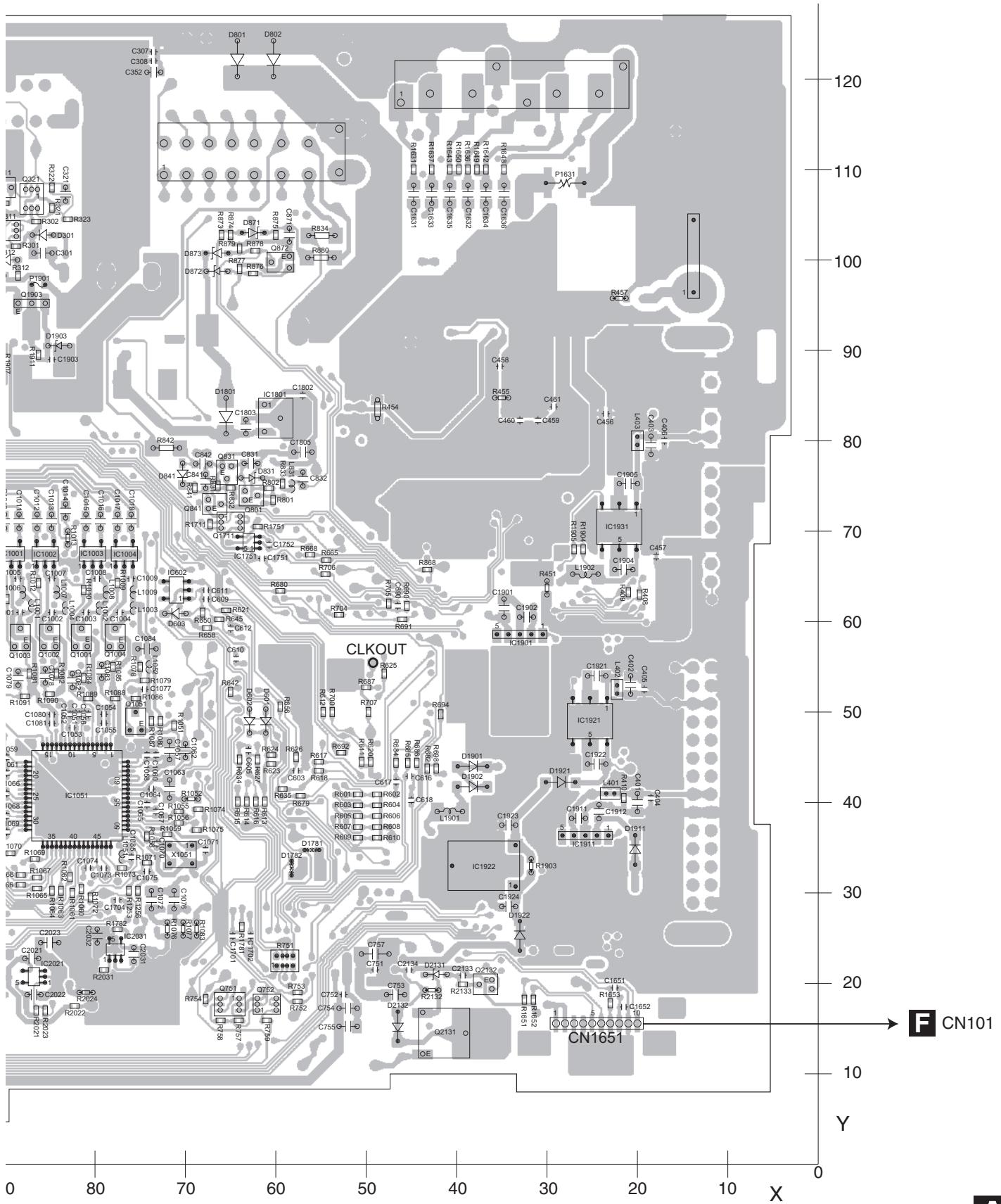
A

**A** MOTHER PCB



170      160      150      140      130      120      110      100      90      80

SIDE B



## 11.2 INTERFACE PCB

B INTERFACE PCB

SIDE A

A

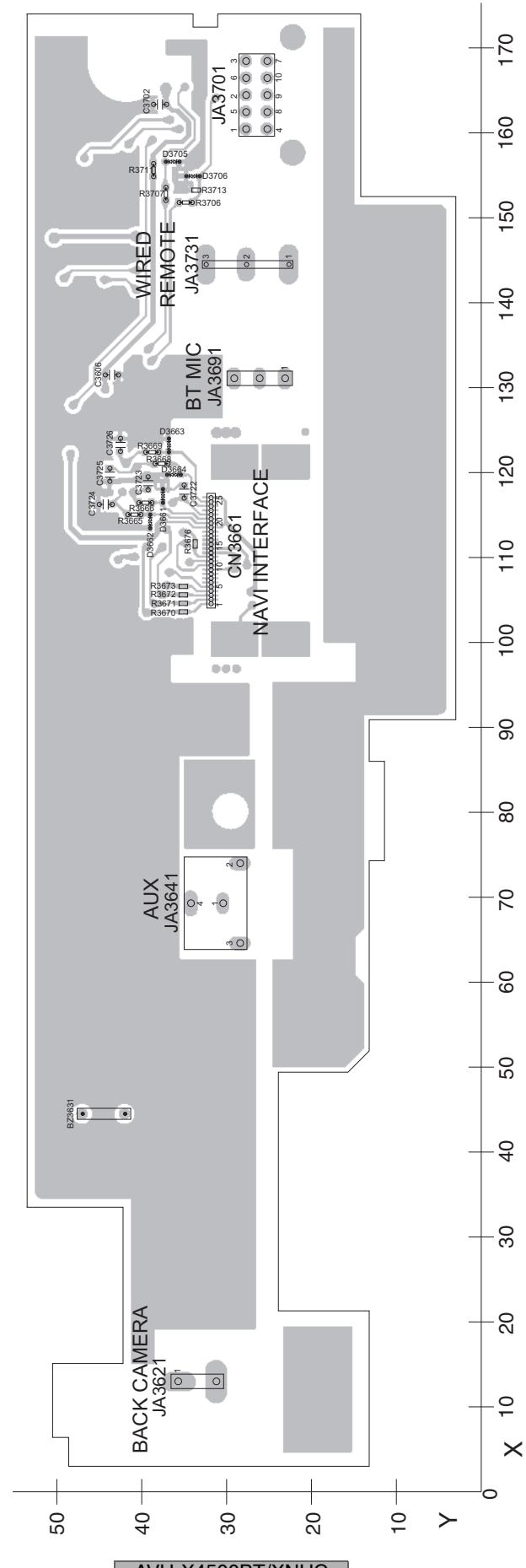
B

C

D

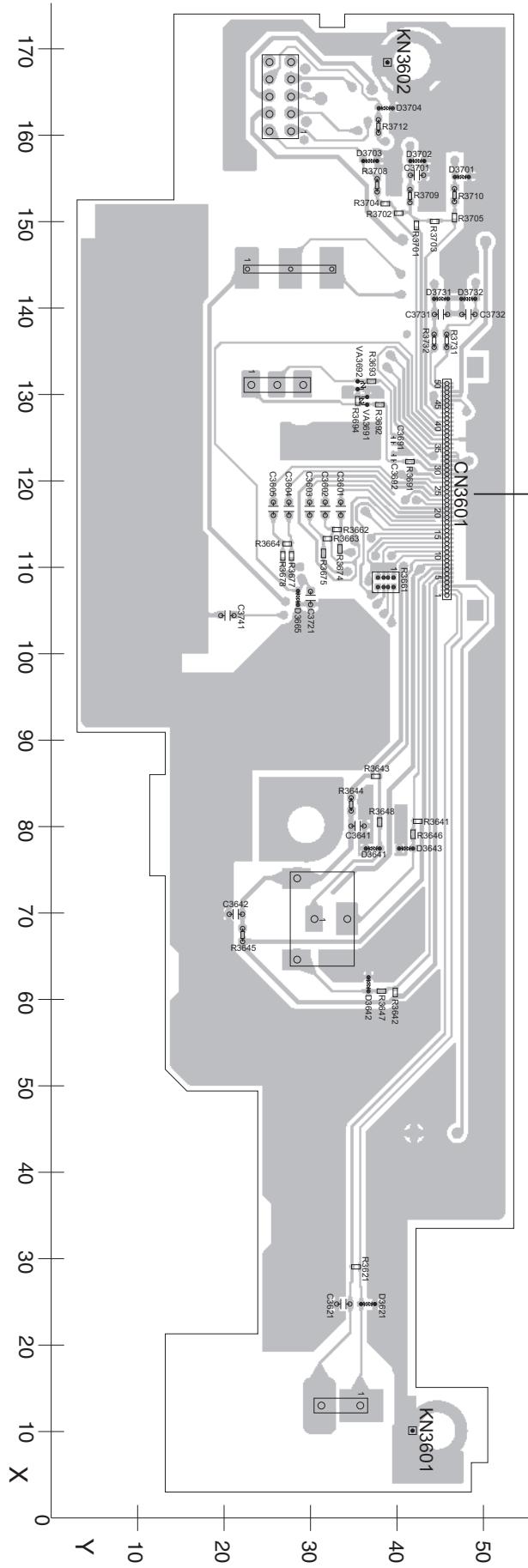
三

F



# B INTERFACE PCB

SIDE B

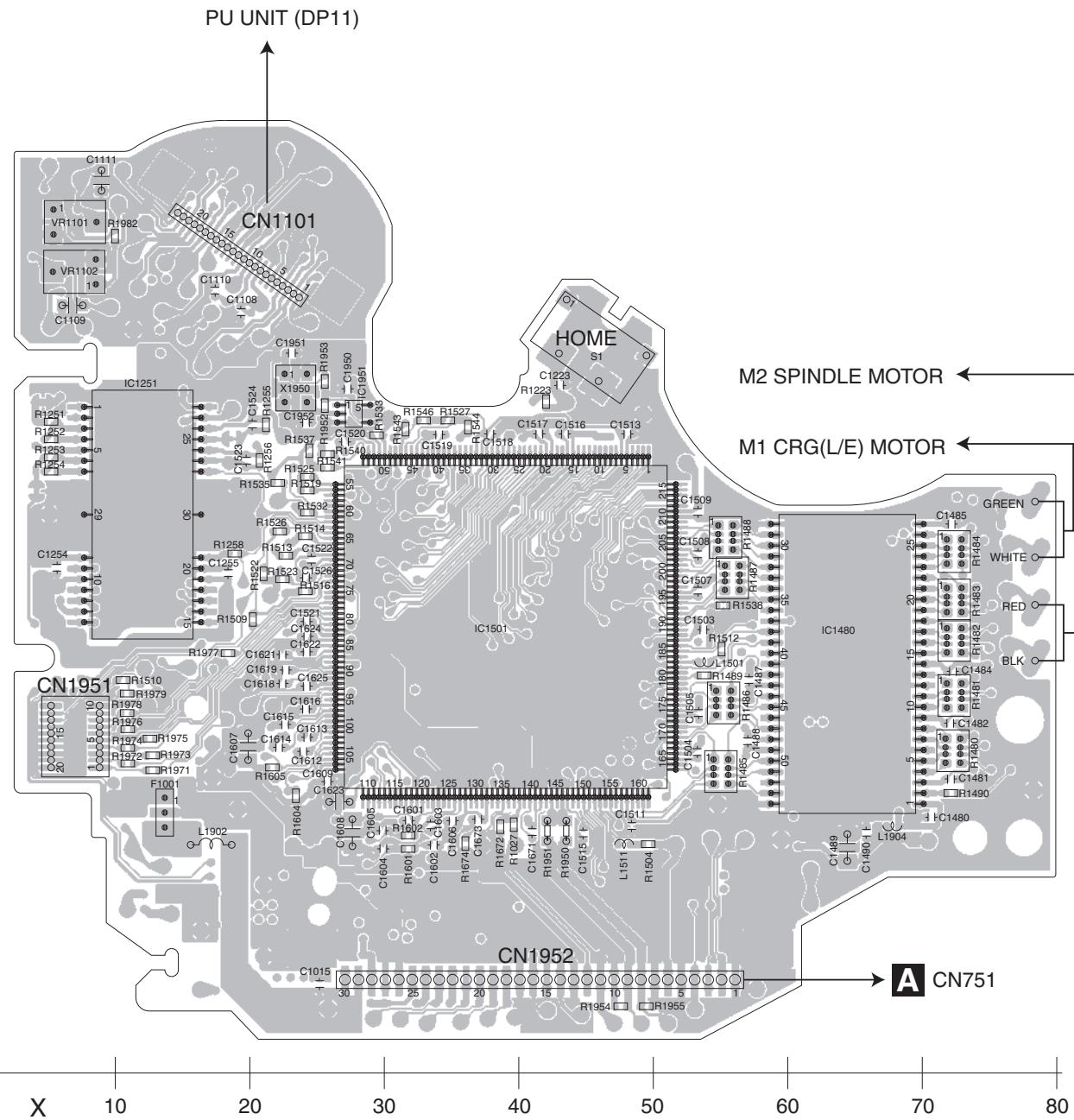


A CN1701

1

A

□



AVH-X4500BT/XNUC

**C** DVD CORE UNIT

SIDE B

A

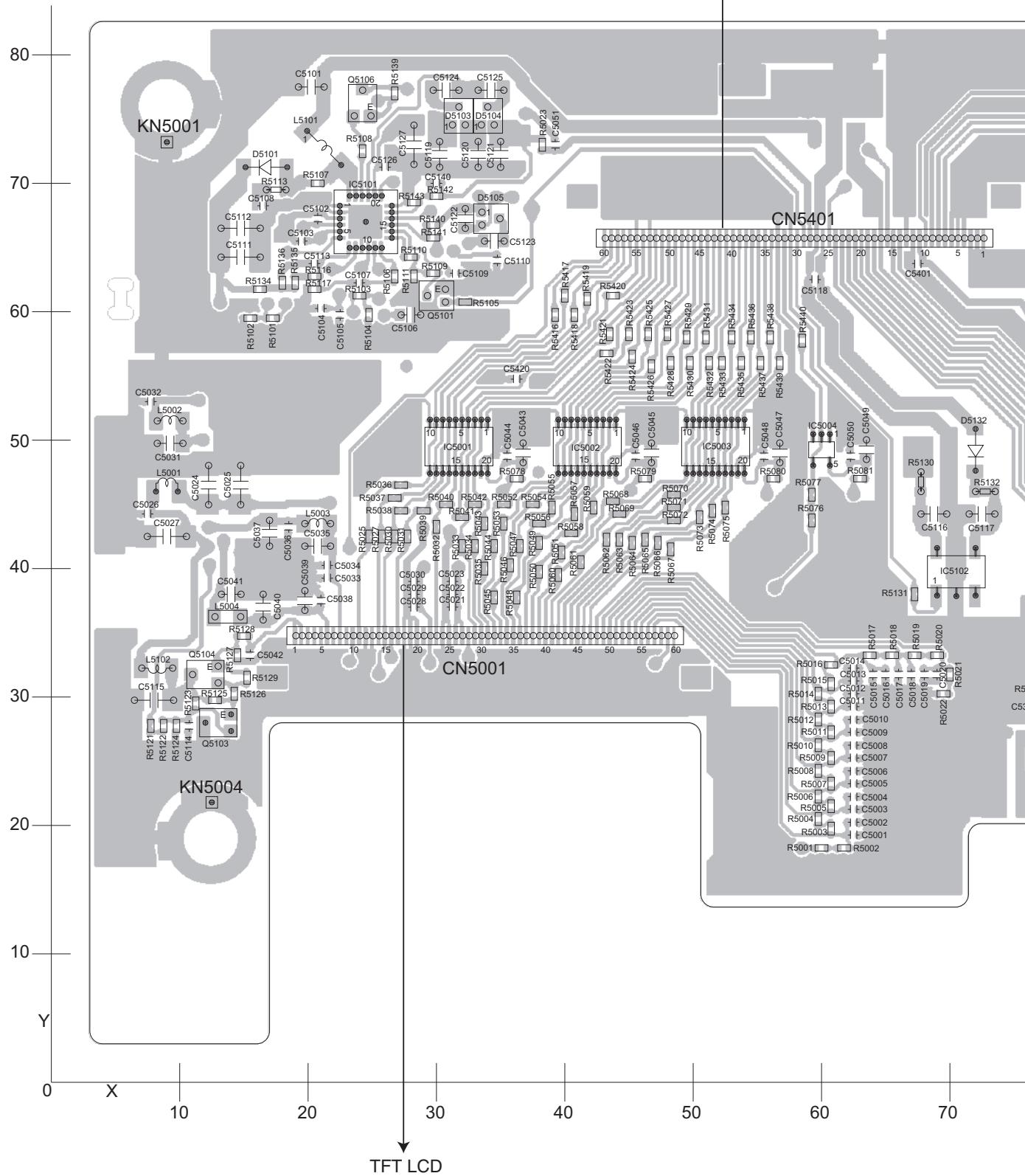


C

## **11.4 SERVICE UNIT (MONITOR)**

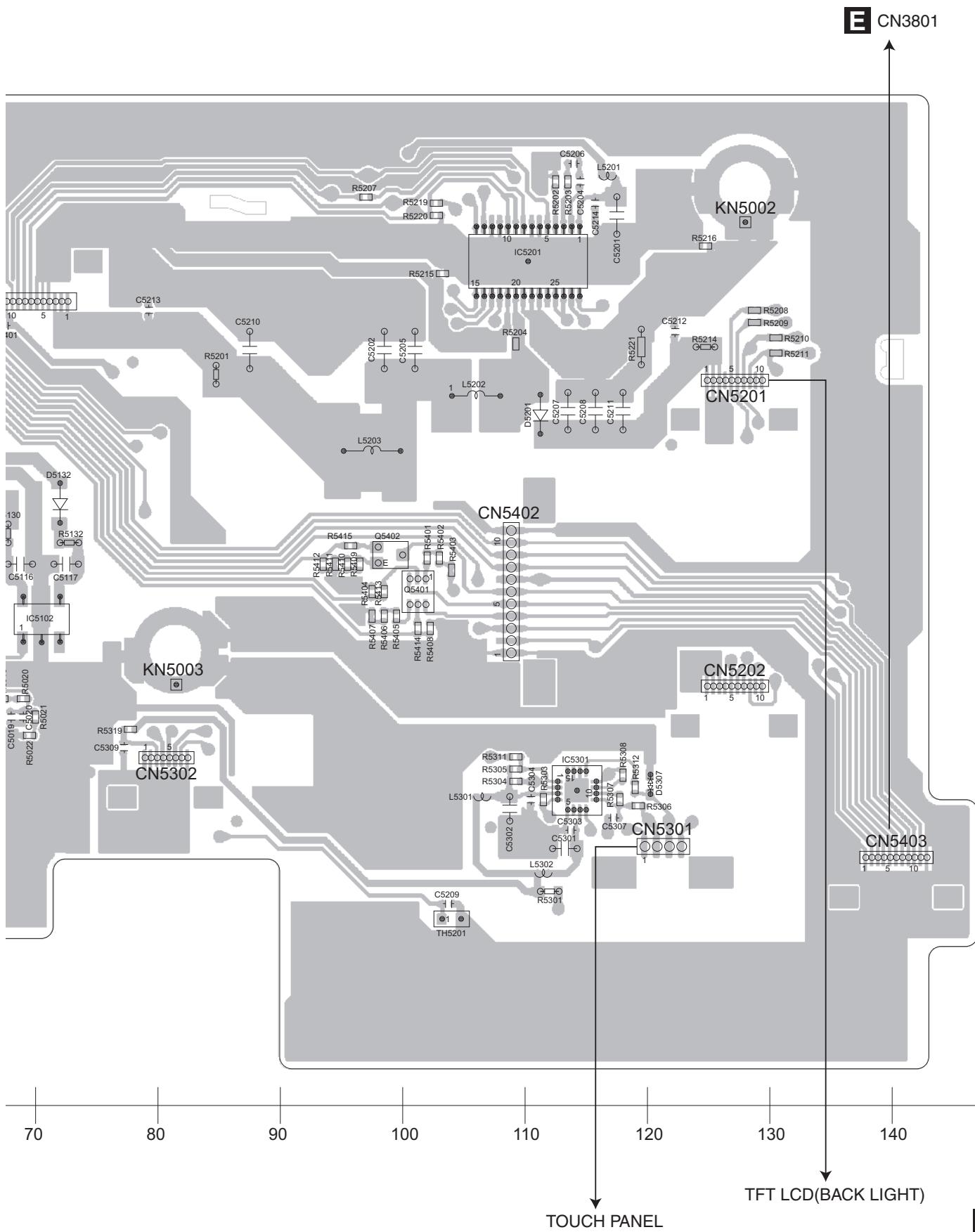
## D SERVICE UNIT(MONITOR)

A CN1751



AVH-X4500BT/XNUC

SIDE A



1

2

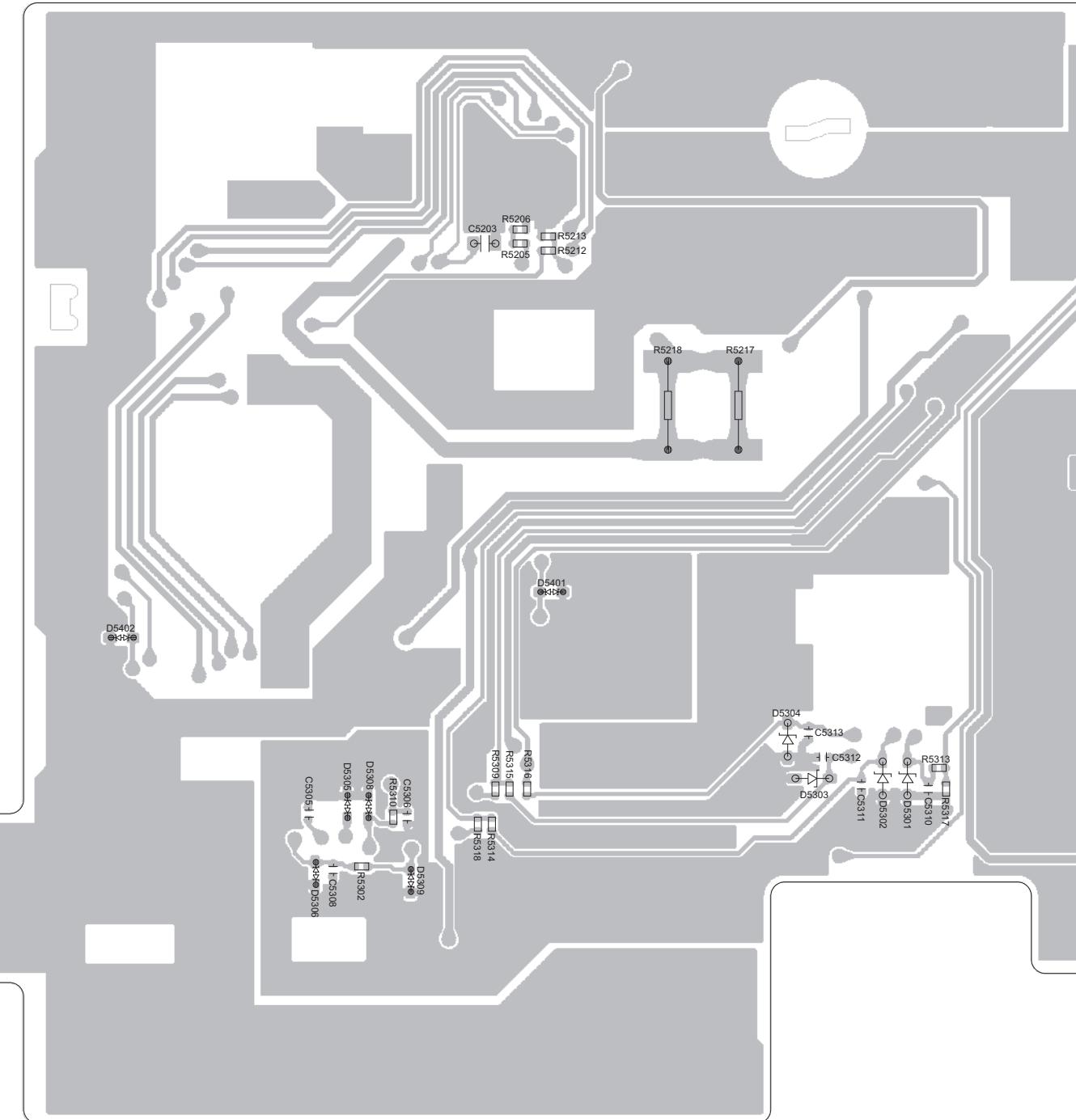
3

4

A

## D SERVICE UNIT(MONITOR)

B



D

E

F

D

170

AVH-X4500BT/XNUC

1

2

3

4

5

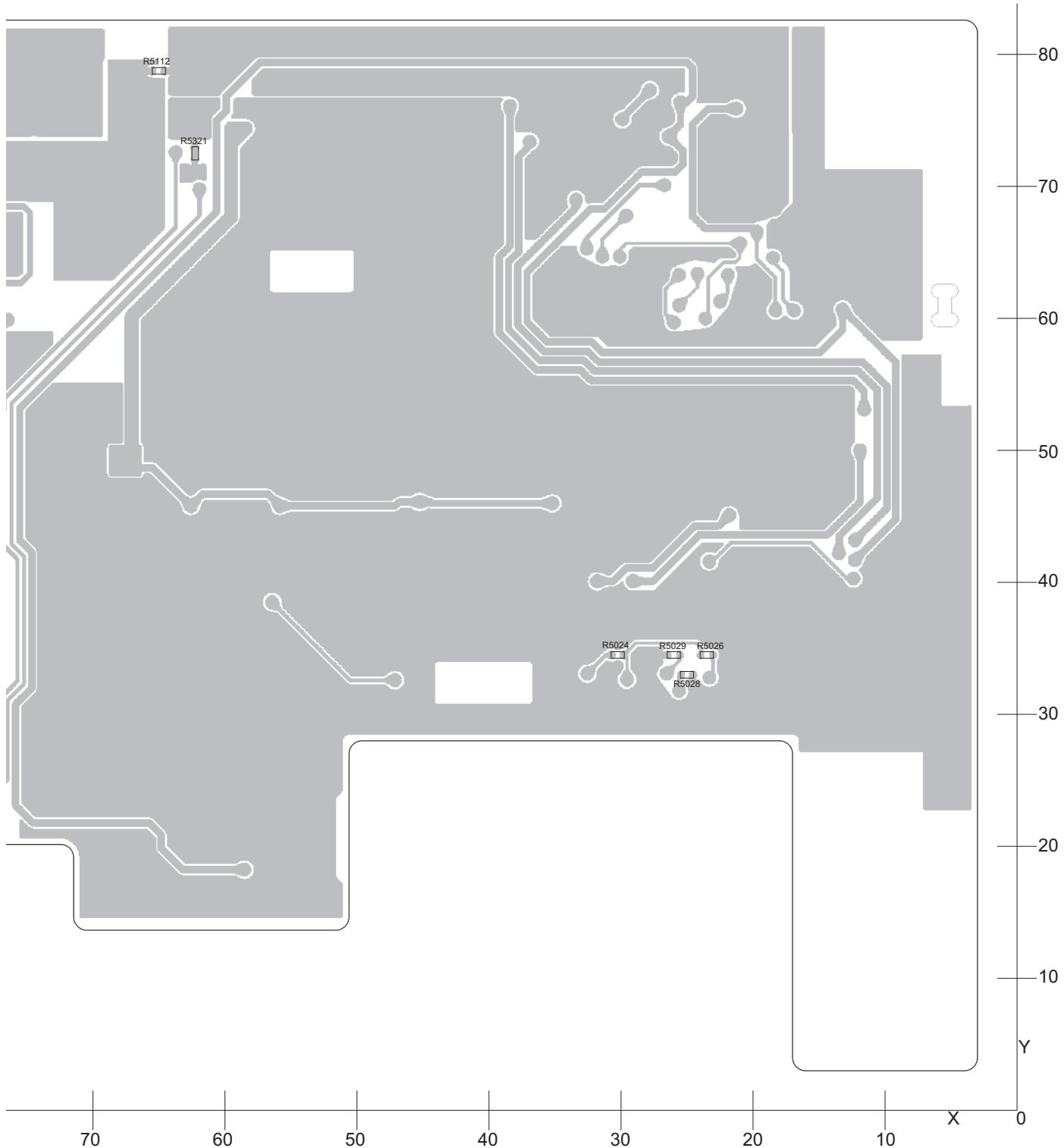
6

7

8

**SIDE B**

A

**D**

AVH-X4500BT/XNUC

5

6

7

8

171

■ 1 ■ 2 ■ 3 ■ 4

## 11.5 PCB UNIT (SERVICE)

**F** PCB UNIT(SERVICE)

SIDE A

A

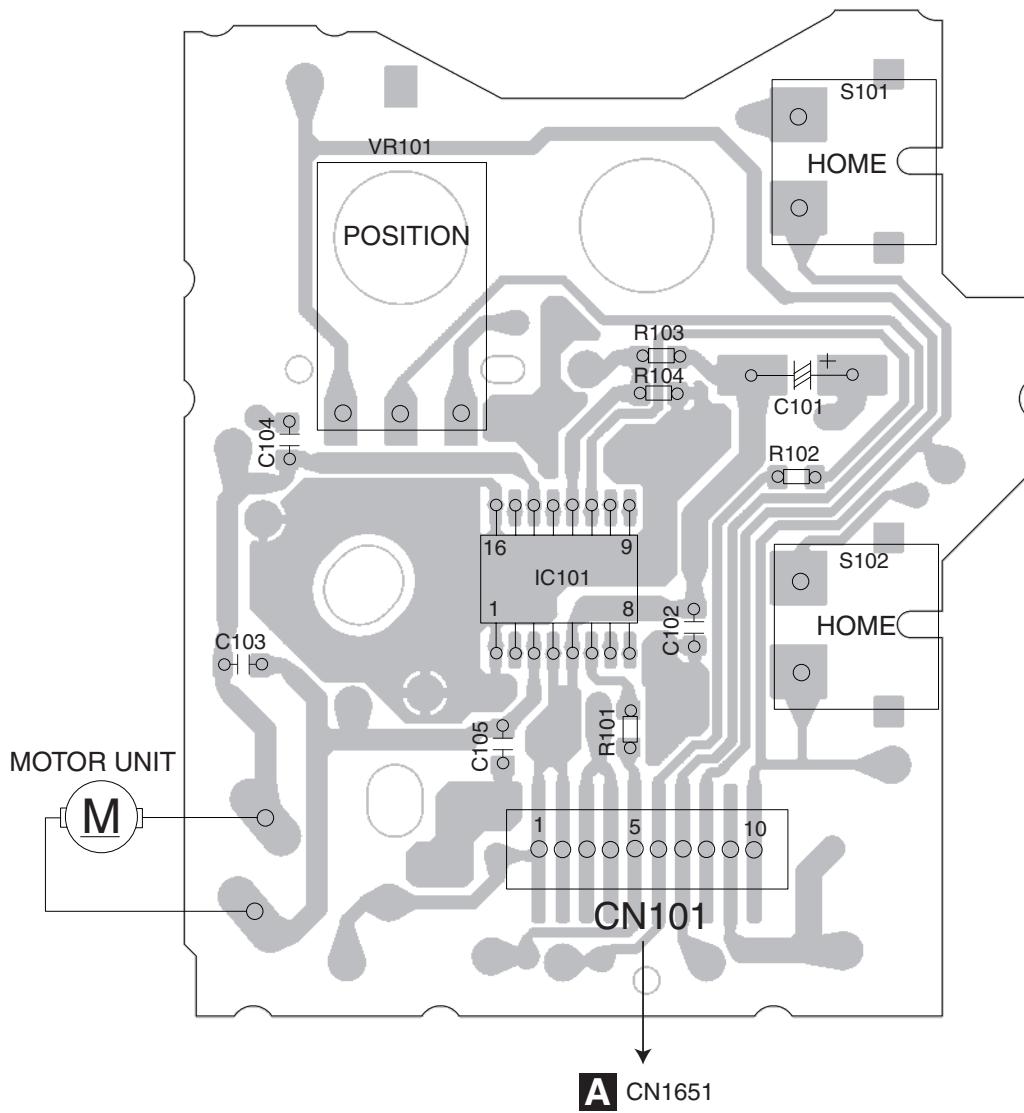
B

C

D

E

F

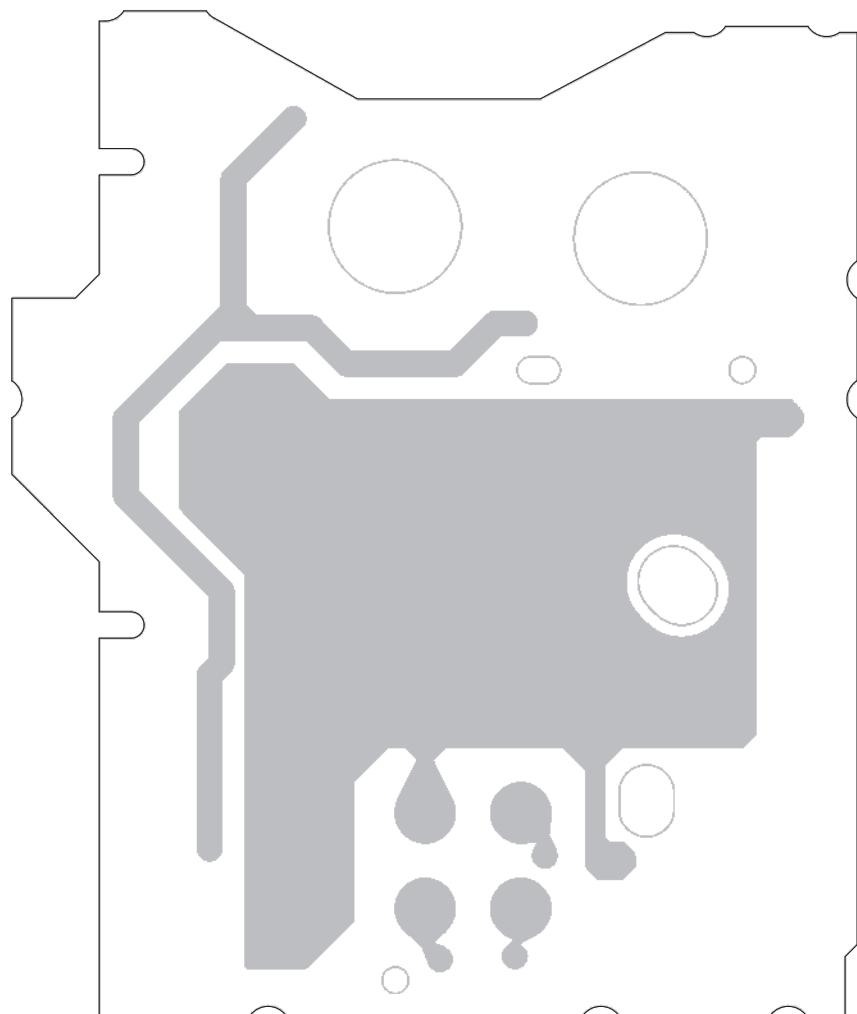


**F** PCB UNIT(SERVICE)

SIDE B

A

B



C

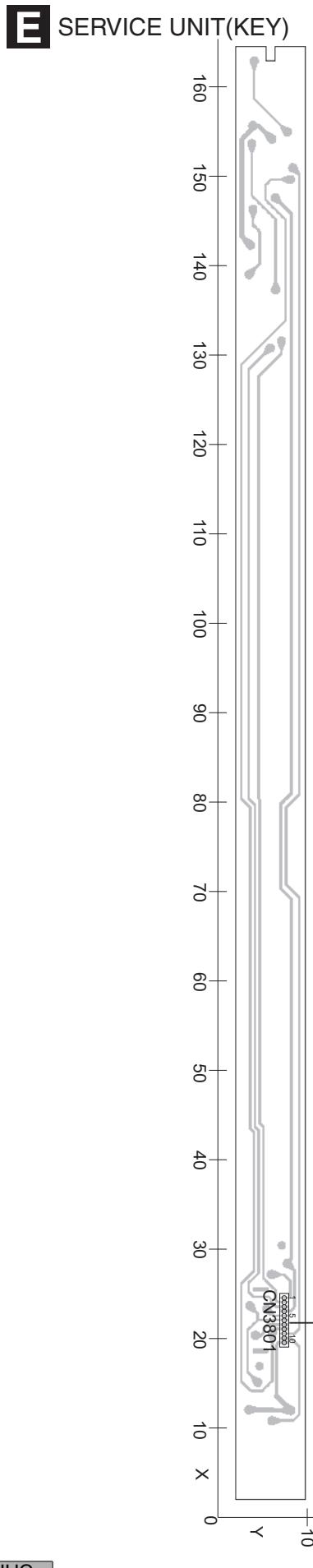
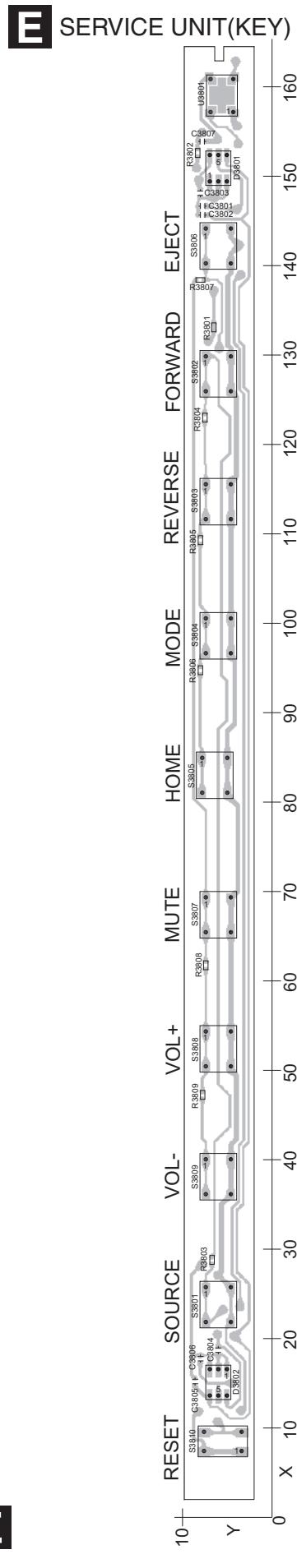
D

E

F

**F**

## 11.6 SERVICE UNIT (KEY)



D  
CN5403

## **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/○S○○○J, RS1/○○S○○○J*

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

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

- The  $\triangle$  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  $\mu$ . 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:AVH-X4500BT/XNUC		<b>A</b>	
B:AVH-X4500DVD/XNUW5		<b>B</b>	
C:AVH-X4550DVD/XNRC		Unit Number : CXX4971(A)	
D:AVH-X4550DVD/XNRD		Unit Number : CXX4964(B)	
E:AVH-X4550DVD/XNRI		Unit Number : CXX4965(C)	
F:AVH-X4590DVD/XNID		Unit Number : CXX4966(D)	
Unit Number : CXX4971(A)		Unit Number : CXX4967(E)	
Unit Number : CXX4964(B)		Unit Number : CXX4968(F)	
Unit Number : CXX4965(C)		Unit Name : Service Unit(Mother I/F)	
Unit Number : CXX4966(D)			
Unit Number : CXX4967(E)			
Unit Number : CXX4968(F)			
Unit Name : Service Unit(Mother I/F)			
Unit Number : YWX5032			
Unit Name : DVD Core Unit			
Unit Number : CXX4997			
Unit Name : Service Unit(Monitor)			
Unit Number : CXX5005			
Unit Name : Service Unit(Key)			
Unit Number : EXX2001			
Unit Name : PCB Unit(Service)			
<u>Service Unit(Mother I/F)</u>			
<u>Consists of</u>			
<u>Mother PCB</u>			
<u>Interface PCB</u>			
		<b>A B</b>	
		Unit Number : CXX4971(A)	
		Unit Number : CXX4964(B)	
		Unit Number : CXX4965(C)	
		Unit Number : CXX4966(D)	
		Unit Number : CXX4967(E)	
		Unit Number : CXX4968(F)	
		Unit Name : Service Unit(Mother I/F)	
		<b>MISCELLANEOUS</b>	
	IC 101	(B,132,74) IC	AK4223VQ
	IC 251	(B,119,96) IC	PML020A
	IC 301	(A,112,107) IC	TPD1052F
	IC 341	(A,97,121) IC	PA2030A
	IC 501	(A,40,78) IC	TDA7706
	IC 601	(A,56,55) IC(A) (A,56,55) IC(B,C,D,E,F)	PDB093A8 PDB094A8
	IC 751	(A,132,69) Logic IC	TC7USB221FT
	IC 1001	(B,89,68) IC	BH7673G
	IC 1002	(B,86,68) IC	BH7673G
	IC 1003	(B,80,68) IC	BH7673G
	IC 1004	(B,77,68) IC	BH7673G
	IC 1051	(B,82,41) LSI	ML86V7675TBZ03A
	IC 1101	(B,123,41) IC	M12L128168A-5TG2N
	IC 1151	(B,104,49) IC	WM8761BGED
	IC 1202	(B,105,40) IC	337S3959
	IC 1251	(B,146,54)Flash ROM Unit(Service) (A,C) CXX4926 (B,146,54)Flash ROM Unit(Service) (B,D,E,F) CXX4927	
	IC 1301	(B,96,22)Serial Flash Memory	MX25L8006EM2I-12G
	IC 1302	(A,107,42) IC	R5S72690RW266FP
	IC 1671	(A,150,18) IC(A)	WM8761BGED
	IC 1721	(A,126,100) IC	NJM4558V
	IC 1731	(A,128,112) IC	NJM4558V
	IC 1801	(B,60,83) Regulator IC	NJW4181U3-33B
	IC 1821	(A,91,101) IC	NJM2387ADL3
	IC 1901	(B,33,53) IC	NJM2886DL3-05
	IC 1951	(B,158,68) IC	AN33012UA
	IC 2011	(B,116,15) Regulator IC	BD001A5WEFJ

	<b>1</b> <b>Circuit Symbol and No.</b>	<b>2</b> <b>Part No.</b>	<b>3</b> <b>Circuit Symbol and No.</b>	<b>4</b> <b>Part No.</b>
A	IC 2031 (B,78,24) Regulator IC	NJM2878F3-15	D 1902 (B,38,42) Diode	CRG03
	IC 2061 (B,163,11) Regulator IC(A)	NJM2856DL3-18	D 1951 (A,161,63) Diode	RB056L-40
	IC 2101 (B,164,96) Regulator IC	BD9876EFJ	D 1952 (A,153,59) Diode	RB056L-40
	IC 2161 (B,165,108) IC	AN33014UA	D 1953 (A,140,109) Diode	RSX201L-30
	Q 302 (A,108,113) Transistor	LTC014YEB	D 1954 (A,140,113) Diode	RSX201L-30
	Q 311 (B,90,103) Transistor	RN4987	D 2101 (A,164,94) Diode	RB056L-40
	Q 321 (B,87,107) Chip Transistor	RN1903	D 2131 (B,42,21) Diode	RKZ6.2KG(B2)
	Q 331 (A,84,108) Chip Transistor	RN4982	D 2161 (B,163,102) Diode	DB2X41400
B	Q 601 (A,71,48) Transistor	LSCR523UB	D 2162 (B,154,105) Diode	RSX201L-30
	Q 751 (B,65,18) Chip Transistor	HN1C01FU	D 3641 (B,77,37) Diode	DZ2S068C
	Q 752 (B,61,18) Chip Transistor	RN4982	D 3642 (B,62,37) Diode	DZ2S068C
	Q 831 (B,65,77) Transistor	LTC014EEB	D 3643 (B,77,41) Diode	DZ2S068C
	Q 841 (B,67,73) Transistor	LTC014EEB	L 501 (A,46,91) Chip Coil	LCTAWR15J2520
	Q 854 (A,53,98) Chip Transistor	HN1A01FU	L 502 (A,43,90) Chip Coil	LCTAWR27J2520
	Q 871 (A,56,78) Chip Transistor	HN1C01FU	L 503 (A,40,90) Inductor	CTF1786
	Q 1001 (B,82,58) Transistor	LSCR523UB	L 504 (A,38,89) SMD Ferrite Beads	CTF1806
C	Q 1002 (B,85,58) Transistor	LSCR523UB	L 505 (A,34,95) Inductor	CTF1389
	Q 1003 (B,88,58) Transistor	LSCR523UB	L 506 (A,43,88) Inductor	CTF1794
	Q 1004 (B,78,58) Transistor	LSCR523UB	L 507 (A,32,89) Inductor	LCY220K1608
	Q 1201 (B,110,32) Transistor	LSAR523UB	L 508 (A,32,85) Inductor(A,D)	LCYB68NJ1005
	Q 1631 (A,36,113) Chip Transistor	HN1C03FU	L 509 (A,29,79) Chip Coil	LCTAW470J2520
	Q 1632 (A,43,113) Chip Transistor	HN1C03FU	L 510 (A,31,75) Inductor	CTF1786
	Q 1633 (A,30,113) Chip Transistor	HN1C03FU	L 511 (A,35,70) Inductor	CTF1786
	Q 1662 (B,128,14) Transistor	RN4984	L 512 (A,50,83) Inductor	CTF1786
D	Q 1701 (A,135,105) Transistor	UMF23N	L 513 (A,51,83) Inductor	CTF1786
	Q 1721 (A,136,97) Transistor	LSCR523UB	L 514 (A,44,68) Inductor	CTF1786
	Q 1851 (A,98,87) Transistor	LSCR523UB	L 517 (A,50,71) Inductor	CTF1786
	Q 1852 (A,102,79) Chip Transistor	HN1B04FU	L 519 (A,33,93) Inductor	LCYB10NJ1608
	Q 1853 (A,100,75) Chip Transistor	RN4982	L 801 (A,63,92) Choke Coil 600 uH	CTH1221
	Q 1856 (A,99,82) Chip Transistor	RN1907	L 1001 (B,87,62) Inductor	CTF1545
	Q 1951 (A,163,70) FET	SFT1342	L 1002 (B,80,62) Inductor	CTF1545
	Q 1952 (A,153,67) FET	SFT1342	L 1003 (B,76,62) Inductor	CTF1545
E	Q 2131 (B,39,15) Transistor	2SD1760F5	L 1004 (B,83,62) Inductor	CTF1545
	Q 2132 (B,37,20) Transistor	LTC014EEB	L 1005 (B,96,68) Chip Coil	LCTAW100J2520
	D 303 (A,113,113) Diode	CRG03	L 1051 (B,77,34) Inductor	CTF1740
	D 304 (A,109,111) Diode	CRG03	L 1101 (B,135,43) Inductor	CTF1786
	D 312 (B,90,100) Diode	DA2J101	L 1107 (B,119,50) Inductor	CTF1645
	D 501 (A,46,95) Diode	RN731VN	L 1151 (B,106,55) Inductor	CTF1786
	D 502 (A,46,88) Diode	RN731VN	L 1251 (B,138,55) Inductor	CTF1786
	D 801 (B,64,122) Diode	1SR154-400	L 1301 (B,109,44) Inductor	CTF1786
F	D 802 (B,60,122) Diode	1SR154-400	L 1302 (B,110,57) Inductor	CTF1545
	D 821 (A,48,101) Diode	DAN202UM	L 1303 (B,108,21) Chip Beads	VTL1129
	D 831 (B,63,76) Diode	RKZ5.6KG(B2)	L 1304 (B,138,43) Chip Beads	VTL1129
	D 841 (B,70,76) Diode	DA2J101	L 1305 (A,127,37) Chip Beads	VTL1126
	D 853 (A,51,102) Diode	DAN202UM	L 1306 (A,86,34) Chip Beads	VTL1127
	D 871 (B,63,103) Diode	HZU7L(A1)	L 1311 (A,124,29) Chip Beads	VTL1127
	D 873 (B,67,101) Diode	HZU7L(C3)	L 1312 (A,126,32) Chip Beads	VTL1127
	D 1601 (A,153,108) Diode	EZAEG2A50AX	L 1313 (A,124,35) Chip Beads	VTL1127
G	D 1602 (A,150,108) Diode	EZAEG2A50AX	L 1315 (A,125,41) Chip Beads	VTL1127
	D 1622 (B,123,112) Diode	DZ2S068C	L 1316 (A,124,43) Chip Beads	VTL1127
	D 1623 (B,134,111) Diode	DZ2S068C	L 1317 (A,125,42) Chip Beads	VTL1127
	D 1624 (B,140,110) Diode	DZ2S068C	L 1318 (A,125,46) Chip Beads	VTL1127
	D 1661 (B,125,12) Diode	RKZ3.9KG(B2)	L 1319 (A,125,49) Chip Beads	VTL1127
	D 1662 (B,130,22) Diode	DZ2S068C	L 1322 (A,125,54) Chip Beads	VTL1127
	D 1663 (B,129,11) Diode	DZ2S068C	L 1323 (A,125,58) Chip Beads	VTL1127
	D 1721 (A,137,101) Diode	RKZ4.7KG(B2)	L 1377 (A,86,30) Chip Beads	VTL1126
H	D 1781 (B,56,35) Diode	DZ2S068C	L 1381 (A,87,54) Chip Beads	VTL1126
	D 1782 (B,58,33) Diode	DZ2S068C	L 1383 (A,83,54) Chip Beads	VTL1126
	D 1801 (B,66,83) Diode	1SR154-400	L 1384 (A,85,52) Chip Beads	VTL1126
	D 1851 (A,101,88) Diode	HZU13(B1)	L 1387 (A,87,46) Chip Beads	VTL1126

Circuit Symbol and No.

L 1390	(A,83,46)	Chip Beads	VTL1126
L 1391	(A,87,45)	Chip Beads	VTL1126
L 1393	(A,83,44)	Chip Beads	VTL1126
L 1394	(A,87,44)	Chip Beads	VTL1126
L 1397	(A,83,43)	Chip Beads	VTL1126
L 1399	(A,87,43)	Chip Beads	VTL1126
L 1401	(A,87,42)	Chip Beads	VTL1126
L 1403	(A,84,41)	Chip Beads	VTL1126
L 1405	(A,87,40)	Chip Beads	VTL1126
L 1407	(A,84,39)	Chip Beads	VTL1126
L 1409	(A,87,38)	Chip Beads	VTL1126
L 1411	(A,87,37)	Chip Beads	VTL1126
L 1413	(A,87,36)	Chip Beads	VTL1126
L 1415	(A,86,35)	Chip Beads	VTL1126
L 1601	(A,151,106)	Inductor	CTF1713
L 1671	(A,160,22)	Inductor(A)	CTF1786
L 1672	(A,143,16)	Inductor(A)	CTF1786
L 1951	(A,164,55)	Choke Coil 10 uH	CTH1446
L 1952	(A,151,54)	Inductor	CTH1519
L 1953	(A,144,102)	Choke Coil 10 uH	CTH1486
L 2101	(A,158,94)	Inductor	CTH1524
L 2161	(A,164,102)	Inductor	CTH1524
L 2162	(B,167,102)	Inductor	CTF1793
X 501	(A,52,75)	Resonator 36.480 MHz	CSS1805
X 601	(A,71,56)	Crystal Resonator 12.500 MHz	CSS1839
X 1051	(B,71,34)	Crystal Resonator 32.000 MHz	CSS1818
X 1301	(A,102,65)	Resonator 48.000 MHz	CSS1760
X 1302	(A,113,65)	Crystal Resonator 13.333 33 MHz	CSS1840
X 1303	(A,86,50)	Resonator 16.93 MHz	CSS1794
P 451	(A,21,96)	Surge Absorber	IMSA-6803-01Y900
P 1623	(B,130,108)	Poly Switch	FSMD075-24R
P 1631	(B,28,109)	Poly Switch	FSMD075-24R
P 1701	(A,121,77)	Poly Switch	FSMD075-24R
△ P1951	(A,45,37)	Fuse 1.0 A	CEK1381
△ P2071	(A,145,38)	Fuse 1.25 A	CEK1382
△ P2081	(A,23,20)	Fuse 0.75 A	CEK1380
△ P2131	(A,43,25)	Fuse 2.0 A	CEK1384
△ P2151	(A,46,25)	Fuse 2.5 A	CEK1385
△ P2152	(A,49,27)	Fuse 1.5 A	CEK1383
BZ3631	(A,45,44)	Buzzer	CPV1062
U 1671	(A,161,31)	BT Module(A)	CWX4306
CN751	(A,63,14)	Connector	CKS6025
CN1651	(B,25,12)	Connector	CKS6095
CN1671	(A,161,31)	Connector(A)	CKS6346
CN1701	(A,119,86)	Connector	CKS6535
CN1751	(A,67,27)	Connector	CKS6536
CN3601	(B,119,49)	Connector	CKS6429
CN3661	(A,111,25)	Connector	CKS4497
JA451	(A,14,111)	Antenna Jack	YKS5041
JA801	(A,62,118)	Plug	CKM1376
JA1601	(A,151,121)	USB Jack	CKN1091
JA1621	(A,129,121)	RCA Jack	CKB1102
JA1631	(A,35,120)	Pin Jack	XKB7001
JA1661	(A,138,10)	Jack	CKS6437
JA3621	(A,13,33)	RCA Jack	CKB1106
JA3641	(A,69,19)	Mini Jack	AKN1073
JA3691	(A,131,26)	Jack(A)	CKN1040
JA3731	(A,145,28)	Jack	CKS6437

**RESISTORS**Circuit Symbol and No.

R 101	(B,122,71)	RAB4CQ101J
R 102	(B,122,74)	RAB4CQ101J
R 104	(B,125,80)	RS1/16SS75R0F
R 105	(B,125,81)	RS1/16SS75R0F
R 108	(B,141,66)	RS1/10SR560J
R 109	(B,143,74)	RAB4CQ101J
R 110	(B,143,79)	RAB4CQ101J
R 112	(B,129,63)	RS1/16SS101J
R 113	(B,132,64)	RS1/16SS101J
R 114	(B,133,64)	RS1/16SS101J
R 115	(B,136,63)	RS1/16SS101J
R 116	(B,131,64)	RS1/16SS101J
R 117	(B,135,64)	RS1/16SS101J
R 119	(B,144,67)	RS1/10SR560J
R 120	(B,143,69)	RS1/10SR560J
R 121	(B,144,71)	RS1/10SR560J
R 202	(B,129,102)	RS1/16SS182J
R 255	(B,124,88)	RS1/16SS473J
R 256	(A,102,108)	RS1/8SQ272J
R 257	(A,98,108)	RS1/8SQ272J
R 258	(A,100,108)	RS1/8SQ182J
R 259	(A,96,108)	RS1/8SQ182J
R 260	(A,104,107)	RS1/8SQ182J
R 261	(A,92,108)	RS1/8SQ182J
R 262	(A,105,110)	RS1/8SQ272J
R 263	(A,94,108)	RS1/8SQ272J
R 264	(B,102,93)	RS1/16SS0R0J
R 305	(A,110,113)	RS1/16SS103J
R 306	(A,66,43)	RS1/16SS103J
R 312	(B,89,98)	RS1/16SS102J
R 322	(B,85,108)	RS1/16SS221J
R 323	(B,83,105)	RS1/16SS103J
R 331	(A,83,105)	RS1/16SS103J
R 332	(A,83,110)	RS1/16SS473J
R 452	(A,9,95)	RS1/10SR0R0J
R 454	(B,49,84) (B,C,D,E,F)	RS1/8SQ0R0J
R 456	(A,8,74)	RS1/10SR0R0J
R 457	(B,22,96)	RS1/10SR0R0J
R 519	(A,47,86)	RS1/16SS221J
R 520	(A,31,94)	RS1/16SS105J
R 521	(A,47,87)	RS1/16SS751J
R 522	(A,32,87)	RS1/16SS152J
R 523	(A,33,85)	RS1/16SS105J
R 524	(A,31,85) (B,C,E,F)	RS1/16SS0R0J
R 525	(A,29,82)	RS1/16SS471J
R 526	(A,31,81)	RS1/16SS330J
R 527	(A,31,79)	RS1/16SS681J
R 528	(A,28,71)	RS1/4SA5R6J
R 529	(A,26,72)	RS1/4SA5R6J
R 530	(A,26,75)	RS1/4SA5R6J
R 539	(A,33,73)	RS1/16SS102J
R 540	(A,48,77)	RS1/16SS0R0J
R 601	(B,51,41) (B,C,D)	RS1/16SS104J
R 602	(B,49,41) (E,F)	RS1/16SS104J
R 603	(B,51,40) (B,E,F)	RS1/16SS104J
R 604	(B,49,40) (C,D)	RS1/16SS104J
R 605	(B,51,39) (C,E)	RS1/16SS104J
R 606	(B,49,39) (B,D,F)	RS1/16SS104J
R 607	(B,51,37) (B,C,D,E,F)	RS1/16SS104J
R 608	(B,49,37) (A)	RS1/16SS104J

	<b>1</b> <b>Circuit Symbol and No.</b>	<b>2</b> <b>Part No.</b>	<b>3</b> <b>Circuit Symbol and No.</b>	<b>4</b> <b>Part No.</b>
A	R 609 (B,51,36)	RS1/16SS104J	R 689 (A,43,61)	RS1/16SS473J
	R 611 (B,51,45)	RS1/16SS103J	R 690 (B,46,62)	RS1/16SS272J
	R 612 (B,55,50)	RS1/16SS221J	R 691 (B,46,60)	RS1/16SS102J
	R 613 (B,61,40)	RS1/16SS472J	R 692 (B,53,46)	RS1/16SS104J
	R 614 (B,63,40)	RS1/16SS471J	R 698 (B,42,44)	RS1/16SS473J
	R 615 (B,64,40)	RS1/16SS472J	R 699 (A,45,44)	RS1/16SS104J
	R 616 (B,62,40)	RS1/16SS471J	R 700 (B,54,50)	RS1/16SS221J
	R 617 (B,55,45)	RS1/16SS104J	R 701 (A,68,61)	RS1/16SS473J
	R 618 (B,55,44)	RS1/16SS104J	R 705 (B,48,62)	RS1/16SS822J
B	R 619 (A,59,66)	RS1/16SS102J	R 707 (B,50,50)	RS1/16SS104J
	R 620 (B,50,45)	RS1/16SS103J	R 750 (A,134,64)	RS1/10SR0R0J
	R 621 (B,66,61)	RS1/16SS473J	R 751 (B,59,23)	RAB4CQ221J
	R 622 (A,55,42)	RS1/16SS101J	R 752 (B,58,18)	RS1/16SS471J
	R 623 (B,61,44)	RS1/16SS104J	R 753 (B,58,19)	RS1/16SS102J
C	R 624 (B,61,45)	RS1/16SS103J	R 754 (B,68,18)	RS1/16SS0R0J
	R 626 (B,58,45)	RS1/16SS0R0J	R 757 (B,64,16)	RS1/16SS472J
	R 627 (B,62,45)	RS1/16SS473J	R 758 (B,66,16)	RS1/16SS472J
	R 629 (A,69,56)	RS1/16SS0R0J	R 759 (B,61,16)	RS1/16SS102J
	R 630 (A,69,45)	RS1/16SS473J	R 821 (A,45,101)	RS1/16SS153J
D	R 631 (A,70,46)	RS1/16SS104J	R 832 (B,65,75)	RS1/16SS104J
	R 632 (A,70,50)	RS1/16SS473J	R 833 (B,59,75)	RS1/16SS103J
	R 633 (A,68,50)	RS1/16SS102J	R 834 (B,55,103)	RS1/4SA102J
	R 634 (B,64,45)	RS1/16SS473J	R 841 (B,69,75)	RS1/16SS103J
	R 635 (B,59,42)	RS1/16SS273J	R 842 (B,72,79)	RS1/4SA102J
E	R 636 (A,68,52)	RS1/16SS472J	R 861 (A,44,63)	RS1/16SS473J
	R 637 (A,68,53)	RS1/16SS472J	R 863 (A,50,98)	RS1/16SS223J
	R 638 (A,63,69)	RS1/16SS102J	R 864 (A,55,97)	RS1/16SS473J
	R 642 (B,65,52)	RS1/16SS473J	R 865 (A,49,98)	RS1/16SS473J
	R 644 (A,70,53)	RS1/16SS102J	R 866 (A,51,105)	RS1/16SS103J
F	R 645 (B,66,60)	RS1/16SS102J	R 867 (A,43,63)	RS1/16SS102J
	R 646 (A,68,62)	RS1/16SS121J	R 868 (B,43,66)	RS1/16SS102J
	R 647 (A,68,64)	RS1/16SS104J	R 873 (B,66,103)	RS1/16SS103J
	R 648 (A,68,63)	RS1/16SS121J	R 874 (B,65,103)	RS1/16SS473J
	R 652 (A,73,48)	RS1/16SS473J	R 875 (B,60,103)	RS1/16SS472J
G	R 653 (A,68,48)	RS1/16SS471J	R 878 (B,62,101)	RS1/16SS104J
	R 654 (A,68,49)	RS1/16SS471J	R 879 (B,64,101)	RS1/16SS473J
	R 655 (A,71,51)	RS1/16SS472J	R 880 (B,55,100)	RS1/4SA102J
	R 656 (B,60,51)	RS1/16SS681J	R 1009 (B,78,64)	RS1/16SS101J
	R 658 (B,68,59)	RS1/16SS104J	R 1010 (B,81,64)	RS1/16SS101J
H	R 659 (A,67,66)	RS1/16SS0R0J	R 1011 (B,90,63)	RS1/16SS101J
	R 660 (A,67,67)	RS1/16SS0R0J	R 1012 (B,86,64)	RS1/16SS101J
	R 661 (A,67,68)	RS1/16SS0R0J	R 1013 (B,83,69)	RS1/10SR101J
	R 662 (A,67,69)	RS1/16SS0R0J	R 1051 (B,71,49)	RS1/16SS750J
	R 663 (A,61,69)	RS1/16SS473J	R 1052 (B,69,40)	RS1/10SR0R0J
I	R 664 (A,59,69)	RS1/16SS103J	R 1053 (A,76,40)	RS1/16SS472J
	R 665 (B,54,67)	RS1/16SS0R0J	R 1054 (B,92,40)	RS1/16SS473J
	R 666 (A,59,72)	RS1/16SS104J	R 1055 (B,71,39)	RS1/16SS101J
	R 667 (A,58,69)	RS1/16SS103J	R 1056 (B,71,38)	RS1/16SS101J
	R 668 (B,56,67)	RS1/16SS102J	R 1057 (B,92,39)	RS1/16SS561J
J	R 673 (A,56,73) (A)	RS1/16SS473J	R 1058 (B,74,36)	RS1/16SS105J
	R 677 (A,51,68) (A)	RS1/16SS473J	R 1059 (B,72,37)	RS1/16SS471J
	R 678 (A,51,67) (A)	RS1/16SS473J	R 1060 (B,82,30)	RS1/16SS391J
	R 681 (A,44,44)	RS1/16SS221J	R 1061 (B,83,30)	RS1/16SS391J
	R 682 (B,43,44)	RS1/16SS221J	R 1062 (B,83,32)	RS1/16SS391J
K	R 683 (A,43,44)	RS1/16SS221J	R 1063 (B,84,30)	RS1/16SS391J
	R 684 (B,47,44)	RS1/16SS221J	R 1064 (B,85,30)	RS1/16SS391J
	R 685 (B,45,44)	RS1/16SS221J	R 1065 (B,86,31)	RS1/16SS391J
	R 686 (B,44,44)	RS1/16SS221J	R 1066 (B,88,31)	RS1/16SS391J
	R 687 (B,50,53)	RS1/16SS104J	R 1067 (B,86,32)	RS1/16SS391J
	R 688 (A,44,56)	RS1/16SS473J	R 1068 (B,88,32)	RS1/16SS221J

Circuit Symbol and No.

R 1069	(B,87,34)	RS1/16SS221J
R 1070	(B,89,34)	RS1/16SS561J
R 1071	(B,74,33)	RS1/16SS473J
R 1072	(B,81,30)	RS1/16SS101J

Part No.

R 1073	(B,77,33)	RS1/16SS101J
R 1074	(B,69,39)	RS1/16SS222J
R 1075	(B,69,37)	RS1/16SS222J
R 1076	(B,72,26)	RS1/10SR0R0J
R 1077	(B,70,26)	RS1/10SR0R0J

Circuit Symbol and No.

R 1324	(A,123,57)	RS1/16SS104J
R 1325	(A,100,59)	RS1/16SS2402F
R 1326	(A,103,61)	RS1/16SS681J
R 1327	(B,105,60)	RS1/16SS5601F

A

R 1080	(B,73,49)	RS1/16SS0R0J
R 1081	(B,87,54)	RS1/16SS750J
R 1082	(B,84,54)	RS1/16SS750J
R 1083	(B,69,26)	RS1/10SR0R0J
R 1084	(B,81,54)	RS1/16SS750J

R 1328	(A,112,62)	RS1/16SS222J
R 1329	(B,113,57)	RS1/16SS473J
R 1330	(B,114,57)	RS1/16SS473J
R 1331	(A,106,64)	RS1/16SS103J
R 1332	(A,106,65)	RS1/16SS101J

B

R 1085	(B,78,55)	RS1/16SS750J
R 1101	(B,128,29)	RAB4CQ221J
R 1102	(B,125,29)	RAB4CQ221J
R 1103	(B,120,33)	RAB4CQ471J
R 1104	(B,116,33)	RAB4CQ471J

R 1333	(B,118,58)	RS1/16SS473J
R 1334	(A,114,62)	RS1/16SS473J
R 1335	(B,99,28)	RS1/16SS0R0J
R 1337	(A,96,23)	RS1/16SS101J
R 1338	(A,109,64)	RS1/16SS104J

B

R 1105	(B,113,33)	RAB4CQ471J
R 1106	(B,122,50)	RS1/16SS471J
R 1108	(B,130,52)	RAB4CQ221J
R 1109	(B,126,52)	RAB4CQ221J
R 1110	(B,115,51)	RAB4CQ471J

R 1347	(A,129,46)	RS1/16SS0R0J
R 1348	(A,94,25)	RS1/16SS101J
R 1349	(B,95,16)	RS1/16SS0R0J
R 1350	(A,90,50)	RS1/16SS152J
R 1351	(A,92,60)	RS1/16SS102J

C

R 1111	(B,112,51)	RAB4CQ471J
R 1112	(B,118,51)	RS1/16SS471J
R 1151	(B,98,52)	RS1/16SS821J
R 1152	(B,109,52)	RS1/16SS821J
R 1201	(B,107,41)	RS1/16SS222J

R 1352	(A,90,66)	RAB4CQ473J
R 1353	(B,118,54)	RS1/16SS0R0J
R 1355	(B,115,55)	RS1/16SS0R0J
R 1356	(A,129,47)	RS1/16SS0R0J
R 1359	(A,128,49)	RS1/16SS0R0J

C

R 1202	(B,109,37)	RS1/16SS183J
R 1203	(B,104,42)	RS1/16SS222J
R 1205	(B,108,41)	RS1/16SS101J
R 1206	(B,104,43)	RS1/16SS101J
R 1209	(B,109,41)	RS1/16SS221J

R 1360	(B,122,56)	RS1/16SS0R0J
R 1365	(A,91,24)	RS1/16SS331J
R 1376	(A,91,27)	RS1/16SS0R0J
R 1378	(A,88,28)	RS1/16SS0R0J
R 1379	(A,87,32)	RS1/16SS0R0J

D

R 1251	(A,126,50)	RS1/16SS220J
R 1252	(A,130,52)	RS1/16SS470J
R 1253	(B,76,30)	RS1/16SS0R0J
R 1256	(B,75,30)	RS1/16SS0R0J
R 1257	(A,128,52)	RS1/16SS470J

R 1380	(A,89,54)	RS1/16SS101J
R 1381	(A,88,26)	RS1/16SS0R0J
R 1382	(A,85,53)	RS1/16SS101J
R 1383	(A,117,61)	RS1/16SS101J
R 1384	(A,120,61)	RS1/16SS102J

D

R 1258	(A,130,49)	RS1/16SS470J
R 1259	(A,129,56)	RS1/16SS470J
R 1260	(B,139,57)	RS1/16SS470J
R 1302	(A,97,22)	RS1/16SS273J
R 1303	(B,107,44)	RS1/16SS0R0J

R 1385	(A,89,53)	RS1/16SS101J
R 1386	(A,88,46)	RS1/16SS101J
R 1387	(B,113,55)	RS1/16SS472J
R 1388	(A,84,46)	RS1/16SS101J
R 1389	(A,88,45)	RS1/16SS101J

E

R 1305	(A,106,21)	RS1/16SS121J
R 1306	(A,106,19)	RS1/16SS104J
R 1307	(B,123,27)	RS1/16SS473J
R 1310	(B,102,32)	RS1/16SS101J
R 1311	(B,120,28)	RS1/16SS472J

R 1391	(A,111,62)	RS1/16SS102J
R 1392	(A,84,44)	RS1/16SS101J
R 1393	(A,90,30)	RS1/16SS101J
R 1395	(A,88,44)	RS1/16SS101J
R 1396	(A,85,43)	RS1/16SS101J

E

R 1312	(B,121,29)	RS1/16SS472J
R 1313	(B,118,28)	RS1/16SS472J
R 1314	(A,124,31)	RS1/16SS472J
R 1315	(B,119,28)	RS1/16SS472J
R 1316	(B,117,28)	RS1/16SS472J

R 1398	(A,89,43)	RS1/16SS101J
R 1400	(A,89,42)	RS1/16SS101J
R 1402	(A,86,41)	RS1/16SS101J
R 1404	(A,89,40)	RS1/16SS101J
R 1406	(A,86,40)	RS1/16SS101J

F

R 1318	(B,110,51)	RS1/16SS104J
R 1319	(A,128,43)	RS1/16SS104J
R 1320	(A,126,52)	RS1/16SS104J
R 1321	(A,126,56)	RS1/16SS104J
R 1322	(A,128,51)	RS1/16SS473J

R 1408	(A,89,38)	RS1/16SS101J
R 1410	(A,89,37)	RS1/16SS101J
R 1412	(A,89,36)	RS1/16SS101J
R 1414	(A,87,35)	RS1/16SS101J
R 1416	(A,87,34)	RS1/16SS0R0J

F

	<b>1</b> <b>Circuit Symbol and No.</b>	<b>2</b> <b>Part No.</b>	<b>3</b> <b>Circuit Symbol and No.</b>	<b>4</b> <b>Part No.</b>
A	R 1419 (A,97,25)	RS1/16SS0R0J	R 1725 (A,132,98)	RS1/16SS153J
	R 1423 (A,113,23)	RS1/16SS222J	R 1726 (A,132,100)	RS1/16SS153J
	R 1424 (A,123,59)	RS1/16SS0R0J	R 1727 (A,123,97)	RS1/16SS153J
	R 1425 (A,89,24)	RS1/16SS0R0J	R 1729 (A,135,94)	RS1/16SS102J
	R 1426 (A,91,26)	RS1/16SS0R0J	R 1730 (A,134,98)	RS1/16SS472J
	R 1427 (A,85,32)	RS1/16SS0R0J	R 1731 (A,130,97)	RS1/16SS153J
	R 1428 (A,130,46)	RS1/16SS0R0J	R 1732 (A,133,112)	RS1/16SS153J
	R 1429 (A,130,47)	RS1/16SS0R0J	R 1733 (A,124,107)	RS1/16SS273J
	R 1431 (A,100,61)	RS1/16SS104J	R 1734 (A,126,107)	RS1/16SS273J
	R 1432 (A,98,61)	RS1/16SS104J	R 1735 (A,125,115)	RS1/16SS153J
B	R 1433 (A,98,64)	RS1/16SS104J	R 1736 (A,133,113)	RS1/16SS473J
	R 1434 (A,96,64)	RS1/16SS104J	R 1737 (A,123,114)	RS1/16SS153J
	R 1435 (A,91,63)	RS1/16SS104J	R 1738 (A,124,115)	RS1/16SS153J
	R 1436 (B,92,54)	RS1/16SS104J	R 1739 (A,123,112)	RS1/16SS153J
	R 1621 (B,140,108)	RS1/16SS750J	R 1740 (A,123,107)	RS1/16SS153J
	R 1622 (B,134,106)	RS1/16SS223J	R 1763 (A,100,72)	RS1/16SS103J
	R 1623 (B,123,110)	RS1/16SS223J	R 1764 (A,109,80)	RS1/16SS0R0J
	R 1631 (B,45,110)	RS1/16SS390J	R 1781 (B,64,26)	RS1/16SS0R0J
	R 1632 (A,45,113)	RS1/16SS223J	R 1782 (B,78,26)	RS1/16SS0R0J
	R 1633 (A,37,109)	RS1/16SS472J	R 1822 (A,88,96)	RS1/16SS823J
	R 1634 (A,34,113)	RS1/16SS223J	R 1823 (A,90,96)	RS1/16SS103J
	R 1635 (A,36,109)	RS1/16SS472J	R 1824 (A,86,97)	RS1/16SS153J
	R 1636 (B,39,110)	RS1/16SS390J	R 1851 (A,100,86)	RS1/16SS681J
	R 1637 (B,43,110)	RS1/16SS390J	R 1852 (A,103,84)	RS1/16SS223J
	R 1638 (A,40,113)	RS1/16SS223J	R 1853 (A,103,83)	RS1/16SS274J
C	R 1639 (A,42,109)	RS1/16SS472J	R 1854 (A,102,76)	RS1/16SS273J
	R 1640 (A,43,109)	RS1/16SS472J	R 1856 (A,99,85)	RS1/16SS0R0J
	R 1641 (A,32,113)	RS1/16SS223J	R 1857 (A,98,84)	RS1/16SS683J
	R 1642 (B,37,110)	RS1/16SS390J	R 1866 (A,101,83)	RS1/16SS100J
	R 1643 (B,41,110)	RS1/16SS390J	R 1868 (A,97,75)	RS1/16SS103J
	R 1644 (A,38,113)	RS1/16SS223J	R 1902 (A,93,76)	RS1/16SS0R0J
	R 1645 (A,30,111)	RS1/16SS472J	R 1952 (B,149,66)	RS1/16SS561J
	R 1646 (A,29,111)	RS1/16SS472J	R 1953 (B,150,67)	RS1/16SS3302D
	R 1647 (A,27,113)	RS1/16SS223J	R 1954 (B,150,65)	RS1/16SS4301D
	R 1648 (B,35,110)	RS1/16SS390J	R 1955 (B,150,64)	RS1/16SS3601D
D	R 1651 (B,33,18)	RS1/16SS473J	R 1956 (B,150,68)	RS1/16SS123J
	R 1652 (B,32,18)	RS1/16SS473J	R 1957 (B,159,63)	RS1/16SS103J
	R 1653 (B,23,18)	RS1/16SS681J	R 1959 (B,160,75) 0.011 ohm	CCN1341
	R 1663 (B,126,10)	RS1/16SS122J	R 1960 (B,163,64)	RS1/16SS204J
	R 1664 (B,130,13)	RS1/16SS152J	R 1961 (B,163,63)	RS1/16SS394J
	R 1674 (B,155,37) (A)	RS1/16SS101J	R 1962 (B,154,75) 0.012 ohm	CCN1321
	R 1677 (A,151,34) (A)	RS1/16SS101J	R 1963 (B,157,63)	RS1/16SS224J
	R 1678 (A,166,24) (A)	RS1/16SS102J	R 1964 (B,165,67)	RS1/16SS472J
	R 1679 (A,165,24) (A)	RS1/16SS102J	R 1965 (B,165,64)	RS1/16SS1101D
	R 1680 (B,165,25) (A)	RS1/16SS102J	R 1966 (B,167,64)	RS1/16SS3000D
E	R 1683 (A,162,24) (A)	RS1/16SS0R0J	R 1967 (B,165,66)	RS1/16SS1002D
	R 1684 (A,146,13) (A)	RS1/16SS821J	R 1968 (B,167,66)	RS1/16SS511J
	R 1685 (A,147,23) (A)	RS1/16SS821J	R 2003 (B,145,39)	RS1/10SR0R0J
	R 1686 (A,147,35) (A)	RS1/16SS0R0J	R 2011 (B,111,14)	RS1/16SS472J
	R 1687 (A,147,34) (A)	RS1/16SS0R0J	R 2012 (B,112,13)	RS1/16SS223J
	R 1690 (A,154,23) (A)	RS1/16SS0R0J	R 2013 (B,112,15)	RS1/16SS473J
	R 1692 (A,160,24) (A)	RS1/16SS0R0J	R 2022 (B,82,18)	RS1/16SS0R0J
	R 1693 (A,158,24) (A)	RS1/16SS0R0J	R 2024 (B,81,19)	RS1/10SR0R0J
	R 1701 (A,138,104)	RS1/10SR222J	R 2031 (B,79,22)	RS1/16SS102J
	R 1702 (A,133,104)	RS1/16SS562J	R 2052 (B,154,18) (A)	RS1/16SS0R0J
F	R 1703 (A,133,105)	RS1/16SS332J	R 2101 (B,170,97)	RS1/16SS3601D
	R 1721 (A,122,98)	RS1/16SS153J	R 2102 (B,168,97)	RS1/16SS4702D
	R 1722 (A,121,99)	RS1/16SS153J	R 2103 (B,168,98)	RS1/16SS2202D
	R 1723 (A,121,101)	RS1/16SS153J	R 2104 (B,170,98)	RS1/16SS222J
	R 1724 (A,131,98)	RS1/16SS153J	R 2105 (B,158,90)	RS1/8SQ0R0J

Circuit Symbol and No.

R 2131	(A,40,15)
R 2132	(B,43,19)
R 2133	(B,39,20)
R 2161	(A,156,110)
R 2162	(A,156,111)
R 2163	(A,156,108)
R 2164	(B,171,113)
R 2165	(B,171,110)
R 2166	(B,164,115)
R 2167	(B,165,115)
R 2168	(B,166,115)
R 2169	(B,157,110)
R 2170	(A,156,109)
R 2171	(A,158,103) 0.056 ohm

Part No.

RS1/16SS473J
RS1/10SR121J
RS1/16SS220J
RS1/16SS102J
RS1/16SS102J
RS1/16SS102J
RS1/16SS224J
RS1/16SS4702D
RS1/16SS152J
RS1/16SS3302D
RS1/16SS8201D
RS1/16SS752J
RS1/16SS102J
ACN7160
RS1/16SS0R0J
RS1/16SS394J
RS1/16SS204J
RS1/16SS0R0J
RS1/16SS0R0J
RS1/16SS750J
RS1/16SS223J
RS1/16SS223J
RS1/16SS750J
RAB4CQ750J
RS1/16SS223J
RS1/16SS223J
RS1/16SS562J
RS1/10SR102J
RS1/10SR102J
RS1/10SR471J
RS1/10SR471J
RS1/16SS272J
RS1/16SS272J
RS1/10SR102J
RS1/10SR102J

Circuit Symbol and No.

C 123	(B,140,75)
C 124	(B,140,77)
C 125	(B,140,78)
C 126	(B,140,79)
C 127	(B,140,81)
C 128	(B,132,66)
C 129	(B,129,66)
C 130	(B,122,77)
C 131	(B,125,77)
C 132	(B,133,66)
C 133	(B,136,65)
C 134	(B,139,67)
C 135	(B,141,67)
C 136	(B,140,69)
C 137	(B,131,66)
C 138	(B,135,66)
C 139	(B,134,83)
C 201	(B,129,103)
C 203	(B,126,103) 2.2 uF

CKSRYB105K10
CKSRYB105K10
CKSSYB104K10
CKSRYB105K10
CKSRYB105K10
CKSRYB105K10
CCSSCH102J50
CKSSYB332K50

A

R 2172	(B,159,107)
R 2173	(B,172,103)
R 2174	(B,171,104)
R 2177	(B,166,113)
R 2178	(B,164,113)
R 3621	(B,29,35)
R 3641	(B,81,42)
R 3642	(B,61,40)
R 3643	(B,86,38)
R 3661	(B,108,39)
R 3662	(B,114,33)
R 3663	(B,113,32)
R 3664	(B,113,27)
R 3665	(A,115,41)
R 3666	(A,116,40)
R 3668	(A,121,38)
R 3669	(A,122,39)
R 3677	(B,111,28)
R 3678	(B,111,27)
R 3731	(B,136,46)
R 3732	(B,136,44)

C 251	(B,116,107)
C 252	(B,110,94)
C 253	(B,113,103)
C 254	(B,112,106)
C 255	(B,114,106)
C 256	(B,116,105)
C 257	(B,117,105) (A)
C 260	(B,122,105)
C 261	(B,123,105)
C 262	(B,127,98)
C 263	(B,130,99)
C 264	(B,127,100)
C 265	(B,135,98) 10 uF
C 266	(B,126,96)
C 267	(B,129,95) 10 uF
C 268	(B,119,87) (A)
C 269	(B,113,87)
C 270	(B,114,87)
C 271	(B,116,87)

CCG1218
CCSSCH100D50
CCSSCH101J50
CKSRYB105K10
CCSQCH223J50
CCSQCH223J50
CKSRYB105K10
CKSRYB105K10
CKSRYB105K10
CCG1192
CCSSCH101J50

B

<b>CAPACITORS</b>
C 101 (B,125,69)
C 102 (B,125,70)
C 103 (B,125,71)
C 104 (B,125,72)
C 105 (B,125,73)
C 106 (B,125,74)
C 107 (B,125,75)
C 108 (B,125,76)
C 109 (B,125,79)
C 110 (B,127,81) 10 uF
C 111 (B,126,83)
C 112 (B,125,83)
C 113 (B,128,66) 10 uF
C 114 (B,126,67)
C 115 (B,130,83)
C 116 (B,130,81) 10 uF
C 117 (B,133,80)
C 118 (B,134,81) 10 uF
C 119 (B,140,70)
C 120 (B,140,71)
C 121 (B,140,73)
C 122 (B,140,74)

CKSSYB104K10
CKSSYB104K10
CKSSYB104K10
CCG1192
CKSSYB104K10
CKSRYB104K16
CCG1192
CCG1192
CCG1192
CCSCH102J50
C 272 (B,117,87)
C 275 (B,117,85)
C 276 (B,124,87)
C 277 (B,130,92) 10 uF
C 278 (B,108,100)
C 279 (B,111,101)
C 280 (B,108,96) 10 uF
C 281 (B,111,95)
C 282 (B,105,93)
C 285 (B,107,92) 10 uF
C 286 (B,103,94)
C 287 (B,127,96)
C 289 (B,130,100)
C 302 (A,109,105)
C 304 (A,109,108)
C 305 (A,113,111)
C 307 (B,74,123)
C 308 (B,74,122)
C 311 (A,85,89) Capacitor
C 321 (B,83,107)
C 341 (A,95,111) 0.22 uF
C 342 (A,92,111) 0.22 uF

CKSRYB105K10
CCG1236
CCSSCH101J50
CCSCH102J50
CCSCH102J50
CCG1236
CKSRYB105K10
CKSRYB104K16
CCG1313
CCG1313

E

F

	<b>1</b> <b>Circuit Symbol and No.</b>	<b>2</b> <b>Part No.</b>	<b>3</b> <b>Circuit Symbol and No.</b>	<b>4</b> <b>Part No.</b>
	C 343 (A,102,112) 0.22 uF	CCG1313	C 571 (A,43,70) 2.2 uF	CCG1218
	C 344 (A,99,112) 0.22 uF	CCG1313	C 573 (A,44,71)	CKSSYB104K10
	C 349 (A,105,112) 1 uF	CCG1325	C 574 (A,48,75) (A,D)	CCSSCH220J50
A	C 350 (A,88,110) 10 uF/16 V	CCH1998	C 601 (A,62,43)	CKSSYB104K10
	C 352 (B,74,121)	CKSRYB104K16	C 602 (A,65,43)	CKSSYB104K10
	C 454 (A,30,96) (A,D)	CCSSCK2R0C50	C 603 (B,58,44)	CKSSYB331K50
	C 455 (A,23,96) (A,D)	CCSSCJ3R0C50	C 604 (A,63,68)	CKSSYB104K16
	C 456 (B,24,83) (A)	CCSSCH5R0C50	C 606 (A,71,54)	CCSSCH8R0D50
			C 607 (A,68,57)	CCSSCH100D50
	C 458 (B,35,88) (A,D)	CCSSCH5R0C50	C 608 (A,68,60)	CKSSYB104K10
	C 459 (B,31,82) (A,D)	CCSSCH4R0C50	C 610 (B,64,56)	CKSSYB104K10
	C 460 (B,33,82) (A,D)	CCSSCH4R0C50	C 612 (B,65,59)	CKSSYB102K50
	C 461 (B,29,84) (A,D)	CCSSCH4R0C50	C 613 (A,44,54)	CKSSYB104K10
	C 509 (A,43,93)	CCSSCH330J50	C 614 (A,57,73)	CKSSYB103K16
B	C 510 (A,45,93)	CCSSCH6R0D50	C 615 (A,57,74) 0.1 uF	CCG1321
	C 512 (A,32,96)	CKSRYB103K50	C 619 (A,73,63)	CKSSYB105K6R3
	C 513 (A,48,93)	CKSSYB103K16	C 620 (A,68,59)	CKSSYB105K6R3
	C 514 (A,40,88)	CKSSYB104K10	C 621 (A,57,72)	CCSSCH102J50
	C 515 (A,37,87)	CKSSYB104K10	C 751 (B,49,22)	CKSSYB104K10
	C 517 (A,48,90)	CKSSYB103K16		
	C 518 (A,46,85)	CKSSYB103K16	C 753 (B,47,19) 10 uF	CCG1192
	C 519 (A,39,87)	CKSSYB104K10	C 754 (B,52,17) 10 uF	CCG1192
	C 520 (A,33,90) (A,D)	CCSSCJ3R0C50	C 756 (A,133,65)	CKSSYB104K10
	C 521 (A,39,86)	CKSSYB103K16	C 801 (A,76,98)	XCEHAT332M16
			C 821 (A,49,104)	CKSRYB104K50
C	C 522 (A,36,87)	CKSSYB103K16		
	C 523 (A,35,87) 10 uF	CCG1192	C 831 (B,63,78)	CKSRYB104K50
	C 524 (A,33,86)	CKSSYB223K16	C 841 (B,68,76)	CKSRYB105K10
	C 525 (A,41,90)	CKSRYB105K10	C 861 (A,54,102)	CKSRYB104K50
	C 527 (A,42,86)	CKSSYB103K16	C 1001 (B,88,61)	CKSSYB104K10
			C 1002 (B,85,61)	CKSSYB104K10
	C 529 (A,38,92) 10 uF	CCG1192		
	C 530 (A,30,83) 10 uF	CCG1192	C 1003 (B,81,61)	CKSSYB104K10
	C 531 (A,33,83) (A,D)	CCSSCJ3R0C50	C 1004 (B,77,61)	CKSSYB104K10
	C 538 (A,31,82)	CKSSYB104K10	C 1005 (B,89,65)	CKSSYB104K10
	C 539 (A,29,81)	CCSSCH101J50	C 1006 (B,93,67) 10 uF	CCG1192
			C 1007 (B,85,65)	CKSSYB104K10
D	C 540 (A,35,85)	CKSSYB104K10		
	C 541 (A,28,81)	CKSSYB103K16	C 1008 (B,80,65)	CKSSYB104K10
	C 542 (A,32,79)	CCSSCH820J50	C 1009 (B,76,65)	CKSSYB104K10
	C 543 (A,31,76) (A,D)	CKSSYB104K10	C 1010 (B,90,71)	CKSRYB105K10
	C 544 (A,30,73) 2.2 uF	CCG1218	C 1011 (B,88,71)	CKSRYB105K10
			C 1012 (B,86,71)	CKSRYB105K10
	C 545 (A,32,77)	CCSSCH101J50		
	C 547 (A,31,72)	CKSSYB104K10	C 1013 (B,85,71)	CKSRYB105K10
	C 548 (A,34,70)	CKSSYB104K10	C 1014 (B,83,72)	CKSRYB105K10
	C 549 (A,33,70)	CKSSYB104K10	C 1015 (B,81,71)	CKSRYB105K10
	C 550 (A,29,75)	CKSSYB104K10	C 1016 (B,79,71)	CKSRYB105K10
			C 1017 (B,78,71)	CKSRYB105K10
E	C 553 (A,32,72) (A,D)	CCSSCH220J50		
	C 554 (A,34,73)	CKSSYB102K50	C 1018 (B,76,71)	CKSRYB105K10
	C 555 (A,38,71)	CKSSYB104K10	C 1051 (B,82,50)	CKSSYB474K6R3
	C 556 (A,48,83) (A,D)	CCSSCH220J50	C 1052 (B,83,50)	CKSSYB474K6R3
	C 557 (A,52,85)	CKSRYB224K16	C 1053 (B,83,48)	CKSSYB474K6R3
			C 1054 (B,79,50)	CKSSYB103K16
	C 558 (A,48,81)	CKSSYB224K6R3		
	C 559 (A,51,82)	CKSRYB105K10	C 1055 (B,79,49)	CKSSYB102K50
	C 560 (A,50,79) (A,D)	CCSSCH100D50	C 1056 (B,81,50)	CKSSYB103K25
	C 561 (A,52,80) (A,D)	CCSSCH100D50	C 1057 (B,72,46) 10 uF	CCG1192
	C 562 (A,53,80)	CKSSYB472K25	C 1058 (B,74,45)	CKSSYB102K50
			C 1059 (B,90,45)	CKSSYB104K10
F	C 563 (A,51,79)	CKSSYB472K25		
	C 564 (A,52,78)	CCSSCH100D50	C 1060 (B,73,45)	CKSSYB103K16
	C 565 (A,48,78)	CKSSYB104K10	C 1061 (B,90,43)	CKSSYB104K10
	C 566 (A,52,73)	CCSSCH100D50	C 1062 (B,70,46)	CKSRYB105K10
	C 568 (A,46,71) 2.2 uF	CCG1218	C 1063 (B,72,42) 10 uF	CCG1192
			C 1064 (B,74,42)	CKSSYB104K10
	C 569 (A,46,72) (A,D)	CCSRCH220J50		
	C 570 (A,46,70)	CKSSYB104K10	C 1065 (B,74,40)	CKSSYB104K10

Circuit Symbol and No.

C 1066 (B,90,41)  
 C 1067 (B,73,39)  
 C 1068 (B,90,39)  
 C 1069 (B,90,37)

Part No.

CKSSYB104K10  
 CKSSYB104K10  
 CKSSYB104K10  
 CKSSYB104K10

Circuit Symbol and No.

C 1327 (A,102,60)  
 C 1328 (B,105,57)  
 C 1329 (B,106,57)  
 C 1330 (A,105,60)

Part No.

CKSSYB104K16  
 CKSSYB104K16  
 CKSSYB104K16  
 CKSSYB104K16

A

C 1070 (B,73,35)  
 C 1071 (B,68,35)  
 C 1072 (B,74,29) 10 uF  
 C 1073 (B,79,33)  
 C 1074 (B,81,33)

CCSSCH5R0C50  
 CCSSCH5R0C50  
 CCG1192  
 CKSSYB104K10  
 CKSSYB104K10

C 1331 (B,107,57)  
 C 1332 (A,109,60)  
 C 1333 (A,113,60)  
 C 1334 (B,111,57)  
 C 1335 (A,114,60)

CKSSYB104K16  
 CKSSYB104K16  
 CKSSYB104K16  
 CKSSYB104K16  
 CKSSYB104K16

C 1075 (B,74,32)  
 C 1076 (B,71,29) 10 uF  
 C 1078 (B,86,54)  
 C 1079 (B,89,54)  
 C 1080 (B,85,50)

CKSSYB103K16  
 CCG1192  
 CKSRYB105K10  
 CKSRYB105K10  
 CKSSYB103K16

C 1336 (A,106,63)  
 C 1337 (A,103,63)  
 C 1338 (A,102,67)  
 C 1339 (A,110,64)  
 C 1340 (A,116,65)

CKSSYB105K6R3  
 CCSSCH100D50  
 CCSSCH100D50  
 CCSSCH120J50  
 CCSSCH120J50

B

C 1081 (B,85,49)  
 C 1082 (B,83,54)  
 C 1083 (B,79,55)  
 C 1085 (B,76,34) (A,D)  
 C 1101 (B,135,38)

CKSSYB102K50  
 CKSRYB105K10  
 CKSRYB105K10  
 CCSSCH5R0C50  
 CKSSYB104K10

C 1341 (B,93,22)  
 C 1342 (B,92,32)  
 C 1343 (B,92,33)  
 C 1344 (B,92,37)  
 C 1345 (B,92,38)

CKSSYB104K10  
 CKSSYB104K16  
 CKSSYB104K16  
 CKSSYB104K16  
 CKSSYB104K16

C 1102 (B,131,33)  
 C 1103 (B,127,33)  
 C 1104 (B,123,33)  
 C 1105 (B,110,38)  
 C 1106 (B,129,49)

CKSSYB104K10  
 CKSSYB104K10  
 CKSSYB104K10  
 CKSSYB104K10  
 CKSSYB104K10

C 1346 (B,92,41)  
 C 1347 (B,92,42)  
 C 1348 (B,92,45)  
 C 1349 (B,92,46)  
 C 1350 (B,92,49)

CKSSYB104K16  
 CKSSYB104K16  
 CKSSYB104K16  
 CKSSYB104K16  
 CKSSYB104K16

C

C 1107 (B,125,49)  
 C 1108 (B,120,49)  
 C 1152 (B,98,49) 10 uF  
 C 1153 (B,104,55)  
 C 1154 (B,102,56) 10 uF

CKSSYB104K10  
 CCSSCH470J50  
 CCG1192  
 CKSSYB104K10  
 CCG1192

C 1351 (A,84,49)  
 C 1352 (B,92,50)  
 C 1353 (A,89,50)  
 C 1354 (B,93,51)  
 C 1355 (B,108,22)

CCSSCH120J50  
 CKSSYB104K16  
 CCSSCH120J50  
 CKSSYB104K16  
 CKSSYB103K16

C

C 1155 (B,98,53)  
 C 1156 (B,109,54)  
 C 1201 (B,109,38)  
 C 1202 (B,109,39)  
 C 1251 (B,139,53)

CKSSYB182K50  
 CKSSYB182K50  
 CKSSYB104K10  
 CKSSYB102K50  
 CKSSYB104K10

C 1356 (B,138,46)  
 C 1357 (B,106,25) 10 uF  
 C 1358 (B,139,45) 10 uF  
 C 1360 (A,88,30)  
 C 1361 (B,101,34)

CKSSYB103K16  
 CCG1192  
 CCG1192  
 CCSSCH470J50  
 CCSSCH560J50

D

C 1301 (A,96,25)  
 C 1302 (A,100,25)  
 C 1303 (A,103,26)  
 C 1304 (A,106,25)  
 C 1305 (A,108,24)

CKSSYB104K16  
 CKSSYB104K16  
 CKSSYB104K16  
 CKSSYB104K16  
 CKSSYB104K16

C 1362 (A,84,34)  
 C 1363 (A,83,34)  
 C 1364 (A,82,35)  
 C 1365 (A,86,37)  
 C 1366 (A,84,37)

CCSSCH560J50  
 CCSSCH560J50  
 CCSSCH560J50  
 CCSSCH560J50  
 CCSSCH560J50

D

C 1306 (A,110,25)  
 C 1307 (A,114,25)  
 C 1308 (A,117,25)  
 C 1309 (B,109,43)  
 C 1310 (A,124,30)

CKSSYB104K16  
 CKSSYB104K16  
 CKSSYB104K16  
 CCSSCH470J50  
 CKSSYB104K16

C 1367 (A,83,38)  
 C 1368 (A,81,38)  
 C 1369 (A,82,41)  
 C 1370 (A,82,40)  
 C 1371 (A,80,41)

CCSSCH560J50  
 CCSSCH560J50  
 CCSSCH560J50  
 CCSSCH560J50  
 CCSSCH560J50

E

C 1311 (A,124,32)  
 C 1312 (A,124,34)  
 C 1313 (A,125,36)  
 C 1314 (A,124,38)  
 C 1315 (A,124,40)

CKSSYB104K16  
 CKSSYB104K16  
 CKSSYB104K16  
 CKSSYB104K16  
 CKSSYB104K16

C 1372 (A,80,42)  
 C 1373 (A,79,42)  
 C 1374 (A,77,42)  
 C 1375 (A,81,46)  
 C 1376 (A,79,46)

CCSSCH560J50  
 CCSSCH560J50  
 CCSSCH560J50  
 CCSSCH560J50  
 CCSSCH560J50

C 1316 (A,124,41)  
 C 1317 (A,125,43)  
 C 1318 (A,124,46)  
 C 1319 (A,124,49)  
 C 1320 (B,122,52)

CKSSYB104K16  
 CKSSYB104K16  
 CKSSYB104K16  
 CKSSYB104K16  
 CKSSYB104K16

C 1377 (A,81,50)  
 C 1379 (A,81,52)  
 C 1380 (A,81,54)  
 C 1382 (A,86,26)  
 C 1383 (A,86,33)

CCSSCH560J50  
 CCSSCH560J50  
 CCSSCH560J50  
 CCSSCH150J50  
 CCSSCH6R0D50

F

C 1321 (B,122,53)  
 C 1322 (A,123,54)  
 C 1323 (A,125,57)  
 C 1324 (A,94,60)  
 C 1325 (A,96,60)

CKSSYB104K16  
 CKSSYB104K16  
 CKSSYB104K16  
 CKSSYB104K16  
 CKSSYB104K16

C 1384 (A,110,60)  
 C 1386 (B,139,48)  
 C 1387 (B,108,26)  
 C 1388 (B,136,48)  
 C 1389 (B,110,26)

CKSSYB105K6R3  
 CCSRCH102J50  
 CCSRCH331J50  
 CCSRCH331J50  
 CCSRCH102J50

C 1326 (A,101,59)

CKSSYB104K16

C 1390 (A,90,31) (A,D)

CCSSCH100D50

	<b>1</b> <b>Circuit Symbol and No.</b>	<b>2</b> <b>Part No.</b>	<b>3</b> <b>Circuit Symbol and No.</b>	<b>4</b> <b>Part No.</b>
A	C 1601 (A,156,105)	CKSRYB104K50	C 1952 (B,150,69)	CKSSYB103K16
	C 1604 (B,129,22)	CKSRYB104K16	C 1953 (B,152,68)	CCSSCH8R0D50
	C 1605 (B,128,11)	CKSRYB104K16	C 1954 (B,164,68)	CCSSCH8R0D50
	C 1606 (B,145,10)	CKSRYB104K16	C 1955 (B,165,68)	CKSSYB103K16
	C 1607 (A,46,112) (A,D)	CCSRCH270J50	C 1956 (B,165,65)	CCSSCH102J50
	C 1608 (A,36,115) (A,D)	CCSRCH270J50	C 1957 (A,163,39)	CKSSYB102K50
	C 1609 (A,42,115) (A,D)	CCSRCH270J50	C 1958 (A,163,40)	CKSSYB104K10
	C 1610 (A,32,111) (A,D)	CCSRCH270J50	C 1959 (A,162,42) 10 uF	CCG1236
	C 1611 (A,40,110) (A,D)	CCSRCH270J50	C 1960 (A,162,44) 10 uF	CCG1236
	C 1612 (A,27,115) (A,D)	CCSRCH270J50	C 1961 (A,162,47) 47 uF	CCG1229
	C 1621 (B,139,111)	CKSRYB104K50	C 1963 (B,159,73)	CKSRYB473K50
	C 1622 (B,120,110)	CKSRYB104K50	C 1964 (B,156,73)	CKSRYB102K50
B	C 1624 (B,131,111)	CKSRYB104K50	C 1965 (B,157,82) 10 uF	CCG1236
	C 1631 (B,45,107) 4.7 uF	CCG1201	C 1966 (B,158,63)	CKSSYB104K10
	C 1632 (B,39,107) 4.7 uF	CCG1201	C 1967 (B,157,79) 10 uF	CCG1236
	C 1633 (B,43,107) 4.7 uF	CCG1201	C 1968 (B,157,77) 10 uF	CCG1236
	C 1634 (B,37,107) 4.7 uF	CCG1201	C 1969 (B,164,69)	CKSSYB104K16
	C 1635 (B,41,107) 4.7 uF	CCG1201	C 1970 (B,152,70)	CKSSYB104K16
	C 1636 (B,35,107) 4.7 uF	CCG1201	C 1971 (B,156,63)	CKSSYB104K10
	C 1651 (B,23,20)	CKSSYB104K10	C 1972 (B,152,66)	CKSRYB105K10
	C 1661 (B,126,13)	CKSSYB471K50	C 1974 (A,152,48) 47 uF	CCG1229
	C 1671 (A,160,21) (A)	CCSSCH101J50	C 1975 (B,158,86)	CKSRYB102K50
	C 1672 (A,163,36) 10 uF(A)	CCG1192	C 1976 (A,152,45) 10 uF	CCG1236
	C 1673 (A,158,37) 10 uF(A)	CCG1192	C 1977 (B,157,84) 10 uF	CCG1236
C	C 1676 (A,162,17) Capacitor(A)	CEVW221M4	C 1978 (A,152,43) 10 uF	CCG1236
	C 1677 (B,155,36) (A)	CKSSYB103K16	C 1979 (A,164,83)	XCEHAT332M16
	C 1678 (B,163,25) (A)	CKSRYB105K10	C 1980 (A,151,41)	CKSSYB104K10
	C 1681 (A,160,36) (A)	CKSRYB104K16	C 1981 (A,151,40)	CKSSYB102K50
	C 1682 (A,143,19) 10 uF(A)	CCG1192	C 2011 (B,109,15)	CKSRYB105K10
	C 1683 (A,146,23) (A)	CKSSYB182K50	C 2012 (B,122,12)	CKSRYB105K10
	C 1685 (A,145,18) (A)	CKSSYB104K10	C 2023 (B,85,25) 10 uF	CCG1192
	C 1686 (A,145,12) (A)	CKSSYB182K50	C 2031 (B,76,23)	CKSRYB105K10
	C 1687 (A,143,23) 10 uF(A)	CCG1192	C 2032 (B,80,25)	CKSRYB105K10
	C 1688 (B,146,6) (A)	CCSSCH101J50	C 2061 (B,164,19) 4.7 uF(A)	CCG1201
	C 1689 (B,146,7) (A)	CKSSYB104K10	C 2062 (B,161,18) (A)	CKSRYB105K10
	C 1701 (B,65,25)	CKSSYB471K50	C 2071 (A,147,38)	CKSSYB104K10
D	C 1702 (B,63,25)	CKSSYB104K10	C 2083 (A,21,15)	CKSSYB104K10
	C 1703 (A,83,32)	CKSSYB104K16	C 2101 (A,157,90)	CKSSYB103K16
	C 1704 (B,78,29)	CKSSYB104K10	C 2102 (A,156,88) 10 uF	CCG1236
	C 1721 (A,122,101)	CCSSCH101J50	C 2105 (B,168,100)	CKSSYB682K25
	C 1722 (A,130,93)	CKSRYB105K10	C 2106 (B,163,91)	CKSSYB103K16
	C 1723 (A,134,100)	CKSRYB105K10	C 2107 (B,159,94) 10 uF	CCG1236
E	C 1724 (A,131,100)	CCSSCH101J50	C 2108 (B,158,92)	CKSSYB103K25
	C 1725 (A,127,103)	CKSSYB104K10	C 2109 (A,154,82) Capacitor	CEVW470M16
	C 1731 (A,126,104) 2.2 uF	CCG1218	C 2131 (A,35,17)	CEVW101M16
	C 1732 (A,124,104) 2.2 uF	CCG1218	C 2132 (A,39,15)	CKSRYB105K10
	C 1733 (A,127,110)	CKSSYB104K10	C 2133 (B,39,21)	CKSSYB104K10
	C 1734 (A,124,112)	CCSSCH101J50	C 2134 (B,45,22)	CKSSYB102K50
	C 1735 (A,123,104) 2.2 uF	CCG1218	C 2151 (A,50,23)	CKSRYB104K16
	C 1801 (A,64,76) Capacitor	CEHVW470M16	C 2152 (A,140,85) (A,D)	CKSSYB102K50
	C 1802 (B,57,85)	CKSSYB104K10	C 2161 (B,170,103)	CKSSYB104K16
	C 1803 (B,63,82)	CKSRYB104K50	C 2162 (B,158,104) 10 uF	CCG1236
	C 1804 (A,75,86)	XCEHAT102M16	C 2163 (A,165,118) Capacitor	CEHVW101M16
	C 1821 (A,101,99) Capacitor	CEHVW101M16	C 2164 (B,167,113)	CKSRYB105K10
F	C 1822 (A,84,102)	CKSRYB105K16	C 2165 (B,172,113)	CKSSYB102K50
	C 1851 (A,98,90)	CKSSYB104K16	C 2166 (B,170,113)	CKSSYB472K25
	C 1855 (A,102,86) 10 uF	CCG1244	C 2167 (B,171,106)	CKSSYB104K16
	C 1901 (B,35,62) 10 uF	CCG1192	C 2168 (B,163,113)	CCSSCH471J50
	C 1902 (B,32,61)	CKSRYB105K10	C 2169 (B,157,109)	CKSSYB222K50
	C 1951 (B,150,66)	CCSSCH471J50	C 2170 (B,158,109)	CCSSCH270J50

Circuit Symbol and No.

C 2172	(A,164,110)	Capacitor	CEHVV470M16
C 2173	(B,160,108)		CKSSYB104K16
C 2185	(A,156,107)		CKSSYB104K16
C 2186	(A,159,106)	22 uF	DCH1256
C 3601	(B,117,34)	2.2 uF	CCG1218
C 3602	(B,117,32)	2.2 uF	CCG1218
C 3603	(B,117,30)	2.2 uF	CCG1218
C 3604	(B,117,28)	2.2 uF	CCG1218
C 3605	(B,117,26)	2.2 uF	CCG1218
C 3641	(B,80,35)		CKSRYB104K50
C 3642	(B,70,21)		CKSRYB104K50
C 3692	(B,123,40)	(A)	CKSSYB104K10
C 3721	(B,106,30)		CKSRYB102K50
C 3722	(A,118,35)		CKSRYB102K50
C 3723	(A,119,39)		CKSRYB102K50
C 3724	(A,116,44)		CKSRYB102K50
C 3725	(A,120,44)		CCSRCH180J50
C 3726	(A,123,43)		CCSRCH180J50

Circuit Symbol and No.

R 1004	(B,12,20)		RS1/16SS4702D
R 1007	(B,12,21)		RS1/16SS6801D
R 1019	(B,34,7)		RS1/16SS101J
R 1025	(B,36,6)		RS1/16SS101J
R 1027	(A,40,18)		RS1/16SS101J
R 1101	(B,15,57)		RS1/16SS104J
R 1102	(B,10,56)		RS1/16SS104J
R 1103	(B,14,61)		RS1/16SS4300F
R 1104	(B,11,59)		RS1/16SS5100F
R 1105	(B,17,54)		RS1/16SS4300F
R 1106	(B,10,57)		RS1/16SS5600F
R 1109	(B,6,57)		RS1/16SS3R3J
R 1110	(B,16,54)		RS1/16SS3R3J
R 1111	(B,6,63)		RS1/10SR3R3J
R 1112	(B,5,58)		RS1/10SR3R3J
R 1113	(B,15,59)		RS1/10SR3R9J
R 1114	(B,19,57)		RS1/10SR3R3J
R 1115	(B,6,61)		RS1/10SR2R7J
R 1116	(B,6,62)		RS1/10SR2R7J
R 1117	(B,17,59)		RS1/10SR3R9J

**C****Unit Number : YWX5032****Unit Name : DVD Core Unit****MISCELLANEOUS**

IC 1002	(B,15,13)	Regulator IC	S-1133B50-U5	R 1253	(A,5,46)	RS1/16SS333J
IC 1003	(B,37,11)	IC	S-1200B50-M5	R 1254	(A,5,45)	RS1/16SS473J
IC 1004	(B,64,28)	IC	NJM2855DL1-33	R 1255	(A,21,48)	RS1/16SS183J
IC 1251	(A,12,42)	IC	BA5839FP	R 1256	(A,21,46)	RS1/16SS752J
IC 1401	(B,27,41)	Flash ROM Unit	CWW5043	R 1257	(B,8,37)	RS1/16SS221J
IC 1402	(B,45,28)	Flash ROM Unit	CWW5044	R 1258	(A,19,39)	RS1/16SS221J
IC 1480	(A,64,30)	SDRAM(16M)	M12L64164A-5TG2M	R 1401	(B,34,28)	RS1/16SS221J
IC 1501	(A,39,33)	IC	MN2DS0018MA	R 1402	(B,34,47)	RS1/16SS104J
IC 1801	(B,34,16)	D/A Converter	PCM1753DBQ	R 1405	(B,55,35)	RS1/16SS104J
IC 1951	(A,28,49)	Logic IC	TC7SUZ04FU	R 1406	(B,39,45)	RS1/16SS472J
IC 1953	(B,57,17)	IC	S-1135D12-A6	R 1480	(A,72,24)	RAB4CQ560J
Q 1101	(B,13,59)	Transistor	LSC4081UB	R 1481	(A,72,28)	RAB4CQ560J
Q 1102	(B,13,56)	Transistor	LSC4081UB	R 1482	(A,72,32)	RAB4CQ560J
Q 1103	(B,10,63)	Transistor	2SB1132	R 1483	(A,72,35)	RAB4CQ560J
Q 1104	(B,22,54)	Transistor	2SB1132	R 1484	(A,72,39)	RAB4CQ560J
D 1901	(B,50,10)	Diode	RKZ6.8TKJ	R 1485	(A,55,22)	RAB4CQ560J
D 1902	(B,50,9)	Diode	RKZ6.8TKJ	R 1486	(A,55,28)	RAB4CQ560J
L 1501	(A,54,31)	Inductor	CTF1743	R 1487	(A,56,37)	RAB4CQ560J
L 1511	(A,48,17)	Chip Beads	VTL1126	R 1488	(A,55,40)	RAB4CQ560J
L 1902	(A,17,17)	Inductor	CTF1487	R 1489	(A,54,30)	RS1/16SS560J
L 1903	(B,63,16)	Inductor	CTF1558	R 1490	(A,72,21)	RS1/16SS560J
L 1904	(A,68,18)	Ferrite Bead	CTF1528	R 1501	(B,48,21)	RS1/16SS122J
X 1501	(B,48,18)	Oscillator 27.000 MHz	CSS1823	R 1503	(B,46,21)	RS1/16SS105J
X 1950	(A,23,51)	Oscillator 48.000 MHz	CSS1760	R 1504	(A,50,17)	RS1/16SS121J
F 1001	(A,14,19)	Chip EMI Filter	DTF1106	R 1505	(B,45,15)	RS1/16SS101J
F 1002	(B,63,18)	Chip EMI Filter	DTL1106	R 1506	(B,45,14)	RS1/16SS101J
S 1	(A,47,55)	Spring Switch(HOME)	CSN1080	R 1507	(B,43,17)	RS1/16SS101J
S 3	(B,25,13)	Spring Switch(12EJ)	CSN1081	R 1508	(B,42,18)	RS1/16SS221J
VR1101	(A,7,63)	Semi-fixed 6.8 kohm(B)	CCP1447	R 1509	(A,20,34)	RS1/16SS102J
VR1102	(A,7,60)	Semi-fixed 15 kohm(B)	CCP1449	R 1510	(A,11,29)	RS1/16SS102J
CN1101	(A,21,63)	Connector	CKS6331	R 1512	(A,55,32)	RS1/16SS470J
CN1952	(A,42,11)	Connector	CKS6025	R 1513	(A,23,38)	RS1/16SS103J
				R 1514	(A,24,40)	RS1/16SS183J
				R 1516	(A,24,36)	RS1/16SS104J
				R 1517	(B,57,22)	RS1/16SS103J

**RESISTORS**

	<u>1</u> <u>Circuit Symbol and No.</u>	<u>2</u> <u>Part No.</u>	<u>3</u> <u>Circuit Symbol and No.</u>	<u>4</u> <u>Part No.</u>
A	R 1518 (B,33,31)	RS1/16SS103J	C 1040 (B,51,7)	CCSRCH821J50
	R 1519 (A,24,43)	RS1/16SS102J	C 1041 (B,19,11)	CCSRCH271J50
	R 1522 (A,21,37)	RS1/16SS104J	C 1101 (B,14,53) 10 uF	CCG1192
	R 1523 (A,22,37)	RS1/16SS221J	C 1104 (B,7,57)	CKSSYB104K10
	R 1524 (B,29,33)	RS1/16SS472J	C 1105 (B,18,54)	CKSSYB104K10
B	R 1525 (A,24,44)	RS1/16SS103J	C 1106 (B,8,66)	CKSSYB103K16
	R 1526 (A,22,40)	RS1/16SS103J	C 1107 (B,25,53)	CKSSYB103K16
	R 1527 (A,35,49)	RS1/16SS682J	C 1108 (A,19,57)	CKSSYB103K16
	R 1528 (B,19,34)	RS1/16SS103J	C 1109 (A,7,57)	CKSRYB224K16
	R 1529 (B,35,21)	RS1/16SS103J	C 1110 (A,17,58)	CKSSYB103K16
C	R 1530 (B,17,34)	RS1/16SS103J	C 1111 (A,9,66)	CKSRYB224K16
	R 1531 (B,33,30)	RS1/16SS103J	C 1112 (B,17,52) 22 uF	DCH1256
	R 1532 (A,24,42)	RS1/16SS101J	C 1113 (B,8,58) 22 uF	DCH1256
	R 1534 (B,29,48)	RS1/16SS221J	C 1210 (B,77,34)	CKSSYB104K16
	R 1535 (A,22,44)	RS1/16SS104J	C 1251 (B,12,41)	CEVW101M16
D	R 1536 (B,32,48)	RS1/16SS104J	C 1252 (B,7,41) 4.7 uF	CCG1222
	R 1537 (A,24,46)	RS1/16SS104J	C 1253 (B,7,39)	CKSSYB104K16
	R 1538 (A,55,35)	RS1/16SS104J	C 1254 (A,6,38)	CKSSYB104K16
	R 1539 (B,33,48)	RS1/16SS104J	C 1255 (A,18,37)	CKSSYB104K16
	R 1540 (A,26,46)	RS1/16SS221J	C 1401 (B,34,27)	CKSSYB104K16
E	R 1541 (A,26,45)	RS1/16SS221J	C 1403 (B,39,40)	CKSSYB104K10
	R 1542 (B,26,34)	RS1/16SS103J	C 1404 (B,40,40) 4.7 uF	CCG1201
	R 1543 (A,32,48)	RS1/16SS181J	C 1408 (B,57,27)	CKSSYB104K10
	R 1544 (A,36,48)	RS1/16SS181J	C 1409 (B,58,29) 4.7 uF	CCG1201
	R 1546 (A,33,49)	RS1/16SS682J	C 1410 (B,33,29)	CKSSYB104K16
F	R 1601 (A,32,17)	RS1/16SS123J	C 1480 (A,71,19)	CKSSYB104K10
	R 1602 (A,32,18)	RS1/16SS123J	C 1481 (A,72,22)	CKSSYB104K10
	R 1603 (B,31,21)	RS1/16SS1002D	C 1482 (A,72,26)	CKSSYB104K10
	R 1604 (A,23,21)	RS1/16SS105J	C 1484 (A,72,30)	CKSSYB104K10
	R 1605 (A,22,23)	RS1/16SS105J	C 1485 (A,72,41)	CKSSYB104K10
G	R 1670 (B,40,21)	RS1/16SS1002D	C 1487 (A,57,29)	CKSSYB104K10
	R 1671 (B,42,19)	RS1/16SS2402D	C 1488 (A,57,25)	CKSSYB104K10
	R 1672 (A,39,18)	RS1/16SS2000D	C 1489 (A,64,17) 10 uF	CCG1192
	R 1674 (A,36,17)	RS1/16SS3002D	C 1490 (A,66,18)	CKSSYB102K50
	R 1801 (B,41,8)	RS1/16SS104J	C 1501 (B,61,20) 10 uF	CCG1192
H	R 1802 (B,43,8)	RS1/16SS104J	C 1502 (B,54,20) 10 uF	CCG1192
	R 1803 (B,37,13)	RS1/16SS821J	C 1503 (A,54,33)	CKSSYB104K10
	R 1804 (B,39,14)	RS1/16SS821J	C 1504 (A,53,24)	CKSSYB104K10
	R 1950 (A,44,18)	RS1/10SR24R0F	C 1505 (A,53,27)	CKSSYB104K10
	R 1951 (A,42,18)	RS1/10SR24R0F	C 1506 (B,52,35)	CKSSYB104K10
I	R 1952 (A,26,50)	RS1/16SS105J	C 1507 (A,53,36)	CKSSYB104K10
	R 1953 (A,26,51)	RS1/16SS821J	C 1508 (A,53,39)	CKSSYB104K10
	R 1954 (A,48,5)	RS1/16SS153J	C 1509 (A,53,42)	CKSSYB104K10
	R 1955 (A,50,5)	RS1/16SS153J	C 1510 (B,51,18)	CCSSCH100D50
	R 1982 (A,10,62)	RS1/16SS822J	C 1511 (A,48,18)	CKSSYB104K10
J	R 1983 (B,40,20)	RS1/16SS1000D	C 1512 (B,45,18)	CCSSCH100D50
	R 1987 (B,43,21)	RS1/16SS0R0J	C 1513 (A,48,48)	CKSSYB104K10
			C 1514 (B,45,21)	CKSSYB104K10
			C 1515 (A,45,18)	CKSSYB104K10
			C 1516 (A,43,48)	CKSSYB104K10
<b>CAPACITORS</b>				
K	C 1001 (B,34,10)	CKSRYB105K10	C 1517 (A,42,48)	CKSSYB104K10
	C 1002 (B,12,17)	CKSSYB104K16	C 1518 (A,38,48)	CKSSYB104K10
	C 1003 (B,15,19)	CKSSYB104K16	C 1519 (A,34,47)	CKSSYB104K10
	C 1004 (B,15,17) 4.7 uF	CCG1201	C 1520 (A,27,47)	CKSSYB104K10
	C 1005 (B,40,11)	CKSRYB105K16	C 1521 (A,24,34)	CKSSYB104K10
L	C 1010 (B,60,23)	CKSQYB225K10	C 1522 (A,25,38)	CKSSYB104K10
	C 1011 (B,64,22)	CKSRYB105K10	C 1523 (A,20,46)	CKSSYB224K6R3
	C 1015 (A,25,7)	CKSSYB102K50	C 1524 (A,20,48)	CKSSYB473K16
	C 1016 (B,64,15)	CKSSYB102K50	C 1526 (A,24,37)	CKSSYB103K16
	C 1018 (B,14,21)	CKSSYB104K10	C 1528 (B,30,48)	CCSSCH471J50

Circuit Symbol and No.Part No.

C 1601	(A,32,19)	CKSSYB103K16
C 1602	(A,34,17)	CCSSCH101J50
C 1603	(A,33,18)	CCSSCH101J50
C 1604	(A,30,17)	CCSSCH680J50
C 1605	(A,30,18)	CCSSCH680J50
C 1606	(A,35,19)	CKSSYB104K10
C 1607	(A,20,24) 10 uF	CCG1192
C 1608	(A,28,18) 4.7 uF	CCG1201
C 1609	(A,26,22)	CKSSYB104K10
C 1612	(A,24,24)	CKSSYB104K10
C 1613	(A,24,25)	CKSSYB104K10
C 1614	(A,22,24)	CKSSYB104K10
C 1615	(A,23,26)	CKSSYB104K10
C 1616	(A,24,27)	CKSSYB104K10
C 1617	(B,27,28)	CKSSYB104K10
C 1618	(A,22,29)	CCSSCH101J50
C 1619	(A,23,30)	CKSSYB562K25
C 1620	(B,27,30)	CKSSYB224K6R3
C 1621	(A,22,31)	CKSSYB224K6R3
C 1622	(A,24,31)	CKSSYB333K16
C 1623	(A,27,20)	CKSRYB105K10
C 1624	(A,24,32)	CKSSYB104K10
C 1625	(A,24,29)	CKSSYB104K10
C 1671	(A,41,18)	CKSSYB104K10
C 1673	(A,37,19)	CKSSYB104K10
C 1674	(B,42,20)	CKSSYB104K10
C 1676	(B,38,21)	CKSRYB105K10
C 1801	(B,42,10) 4.7 uF	CCG1201
C 1802	(B,46,10) 4.7 uF	CCG1201
C 1803	(B,42,12)	CCSRCH182J50
C 1804	(B,45,12)	CCSRCH182J50
C 1805	(B,34,13)	CKSSYB104K10
C 1806	(B,32,13) 10 uF	CCG1192
C 1809	(B,39,16)	CKSSYB104K10
C 1950	(A,27,51)	CKSSYB104K10
C 1951	(A,23,54)	CCSSCH100D50
C 1952	(A,24,48)	CCSSCH100D50
C 1953	(B,60,17)	CKSRYB105K10
C 1954	(B,54,17)	CKSRYB105K10
C 1955	(B,77,40)	CKSSYB104K16

Circuit Symbol and No.

D 5105	(A,34,67)	Diode	RB548W
D 5132	(A,72,49)	Diode	CRG03
D 5201	(A,111,57)	Diode	DB2X41400
L 5001	(A,9,46)	Inductor	CTF1635
L 5002	(A,9,52)	Inductor	DTL1096
L 5003	(A,21,44)	Inductor	DTL1096
L 5004	(A,14,36)	Chip Ferrite Bead	BTX1042
L 5101	(A,21,73)	Choke Coil 22 uH	CTH1426
L 5102	(A,8,32)	Inductor	LCTAW101J2520
L 5202	(A,106,58)	Inductor	CTH1526
TH5201	(A,104,15)	Thermistor	CCX1058
CN5001	(A,34,32)	Connector	CKS6536
CN5201	(A,127,56)	Connector	CKS6523
CN5301	(A,121,17)	Connector	CKS6327
CN5401	(A,58,69)	Connector	CKS6536
CN5403	(A,140,17)	Connector	CKS6524

**RESISTORS**

R 5001	(A,60,18)	RS1/16SS4R7J
R 5002	(A,62,18)	RS1/16SS56R0D
R 5003	(A,61,20)	RS1/16SS1800D
R 5004	(A,60,21)	RS1/16SS2R2J
R 5005	(A,61,22)	RS1/16SS47R0D
R 5006	(A,60,22)	RS1/16SS0R0J
R 5007	(A,61,23)	RS1/16SS39R0D
R 5008	(A,60,24)	RS1/16SS4R7J
R 5009	(A,61,25)	RS1/16SS1000D
R 5010	(A,60,26)	RS1/16SS8R2J
R 5011	(A,61,27)	RS1/16SS1300D
R 5012	(A,60,28)	RS1/16SS0R0J
R 5013	(A,61,29)	RS1/16SS1000D
R 5014	(A,60,30)	RS1/16SS8R2J
R 5015	(A,61,31)	RS1/16SS39R0D
R 5016	(A,61,33)	RS1/16SS4R7J
R 5017	(A,64,33)	RS1/16SS47R0D
R 5018	(A,66,33)	RS1/16SS0R0J
R 5019	(A,67,33)	RS1/16SS1800D
R 5020	(A,69,33)	RS1/16SS2R2J
R 5021	(A,70,32)	RS1/16SS33R0D
R 5022	(A,70,30)	RS1/16SS2R4J
R 5023	(A,38,73)	RS1/16SS0R0J
R 5024	(B,30,35)	RS1/16SS473J
R 5026	(B,24,35)	RS1/16SS473J
R 5028	(B,25,33)	RS1/16SS473J

**D****Unit Number : CXX4997****Unit Name : Service Unit(Monitor)****MISCELLANEOUS**

IC 5101	(A,25,67) IC	R1290K103A
IC 5102	(A,71,40) Regulator IC	S-1155B33-U5
IC 5201	(A,110,69) IC	BD81A04EFV-M
IC 5301	(A,114,26) IC	AK4187VN
Q 5101	(A,30,61) Transistor	LTC014EEB
Q 5103	(A,13,28) Transistor	LSAR523UB
Q 5106	(A,24,76) Transistor	2SA1577
Q 5401	(A,101,42) Chip Transistor	HN1C01FU
Q 5402	(A,99,45) Transistor	LSCR523UB
D 5101	(A,17,71) Diode	RB162M-40
D 5103	(A,32,75) Diode	RB548W
D 5104	(A,34,75) Diode	RB548W
R 5029	(B,26,35)	RS1/16SS473J
R 5101	(A,17,60)	RS1/16SS103J
R 5103	(A,24,61)	RS1/16SS203J
R 5104	(A,25,60)	RS1/16SS104J
R 5106	(A,27,63)	RS1/16SS472J
R 5107	(A,21,70)	RS1/16SS0R0J
R 5108	(A,24,73)	RS1/16SS103J
R 5109	(A,30,63)	RS1/16SS1502D
R 5110	(A,28,64)	RS1/16SS8201D
R 5111	(A,28,63)	RS1/16SS1502D
R 5112	(B,65,79)	RS1/16SS0R0J
R 5116	(A,21,63)	RS1/16SS3001D
R 5117	(A,21,62)	RS1/16SS1502D
R 5122	(A,9,28)	RS1/16SS472J
R 5124	(A,10,28)	RS1/16SS105J

	<b>1</b> <b>Circuit Symbol and No.</b>	<b>2</b> <b>Part No.</b>	<b>3</b> <b>Circuit Symbol and No.</b>	<b>4</b> <b>Part No.</b>
A	R 5125 (A,13,30)	RS1/16SS682J	R 5435 (A,54,56)	RS1/16SS270J
	R 5126 (A,14,30)	RS1/16SS0R0J	R 5436 (A,55,58)	RS1/16SS270J
	R 5128 (A,15,35)	RS1/16SS101J	R 5437 (A,55,56)	RS1/16SS270J
	R 5129 (A,15,32)	RS1/16SS0R0J	R 5438 (A,56,58)	RS1/16SS270J
	R 5134 (A,16,62)	RS1/16SS0R0J	R 5439 (A,57,56)	RS1/16SS270J
	R 5135 (A,19,62)	RS1/16SS1203D	R 5440 (A,59,58)	RS1/16SS0R0J
	R 5136 (A,18,62)	RS1/16SS472J		
	R 5140 (A,30,67)	RS1/16SS9102D		
	R 5141 (A,30,66)	RS1/16SS1802D		
	R 5142 (A,30,69)	RS1/16SS1003D		
B	R 5143 (A,28,69)	RS1/16SS9101D	C 5009 (A,63,27)	CKSSYB102K50
	R 5202 (A,113,76)	RS1/16SS273J	C 5010 (A,63,28)	CKSSYB104K16
	R 5203 (A,114,76)	RS1/16SS511J	C 5011 (A,63,29)	CKSSYB102K50
	R 5205 (B,108,66)	RS1/16SS1503D	C 5012 (A,63,30)	CKSSYB104K16
	R 5206 (B,108,67)	RS1/16SS1003D	C 5021 (A,31,37)	CKSSYB102K50
	R 5207 (A,97,74)	RS1/16SS101J	C 5023 (A,31,39)	CKSSYB104K16
	R 5212 (B,106,65)	RS1/16SS3603D	C 5025 (A,15,47) 10 uF	CCG1236
	R 5213 (B,106,66)	RS1/16SS2402D	C 5026 (A,8,44)	CKSSYB102K50
	R 5219 (A,103,74)	RS1/16SS104J	C 5029 (A,28,38)	CKSSYB102K50
	R 5220 (A,103,73)	RS1/16SS154J	C 5030 (A,28,39)	CKSSYB104K10
C	R 5301 (A,112,18)	RS1/10SR0R0J	C 5031 (A,9,50) 10 uF	CCG1192
	R 5302 (B,119,21)	RS1/16SS201J	C 5034 (A,22,40)	CKSSYB104K16
	R 5304 (A,109,27)	RS1/16SS472J	C 5035 (A,21,42) 4.7 uF	CCG1201
	R 5305 (A,109,28)	RS1/16SS472J	C 5037 (A,17,43)	CKSQYB225K16
	R 5306 (A,119,25)	RS1/16SS0R0J	C 5039 (A,20,38)	CKSRYB104K50
	R 5307 (A,118,25)	RS1/16SS621J	C 5040 (A,17,37)	CKSQYB334K50
	R 5308 (A,118,27)	RS1/16SS181J	C 5042 (A,16,33)	CKSSYB104K16
	R 5309 (B,110,27)	RS1/16SS101J	C 5051 (A,39,73)	CKSSYB471K50
	R 5310 (B,117,25)	RS1/16SS0R0J	C 5101 (A,20,78)	CKSQYB475K6R3
	R 5311 (A,109,29)	RS1/16SS101J	C 5102 (A,21,67)	CKSSYB102K50
D	R 5312 (A,119,26)	RS1/16SS620J	C 5103 (A,20,66)	CKSSYB105K6R3
	R 5318 (B,111,24)	RS1/16SS101J	C 5104 (A,21,60)	CKSSYB123K16
	R 5401 (A,102,45)	RS1/16SS680J	C 5105 (A,23,60)	CKSSYB104K10
	R 5402 (A,103,45)	RS1/16SS560J	C 5106 (A,28,60)	CKSRYB105K10
	R 5405 (A,100,40)	RS1/16SS680J	C 5107 (A,24,62)	CKSSYB102K50
	R 5406 (A,99,40)	RS1/16SS560J	C 5109 (A,32,63)	CCSSCH101J50
	R 5409 (A,97,44)	RS1/16SS680J	C 5111 (A,15,64) 10 uF	CCG1236
	R 5410 (A,96,44)	RS1/16SS560J	C 5112 (A,15,67) 10 uF	CCG1236
	R 5413 (A,99,42)	RS1/16SS103J	C 5113 (A,21,64)	CKSSYB102K50
	R 5414 (A,101,39)	RS1/16SS103J	C 5114 (A,11,28)	CKSSYB104K16
E	R 5415 (A,96,46)	RS1/16SS103J	C 5115 (A,8,30) 10 uF	CCG1236
	R 5416 (A,39,60)	RS1/16SS0R0J	C 5116 (A,69,44) 4.7 uF	CCG1201
	R 5417 (A,40,61)	RS1/16SS0R0J	C 5117 (A,73,44) 4.7 uF	CCG1201
	R 5418 (A,41,60)	RS1/16SS0R0J	C 5118 (A,60,63)	CKSSYB104K10
	R 5419 (A,42,61)	RS1/16SS0R0J	C 5120 (A,33,72)	CKSQYB105K25
	R 5420 (A,44,61)	RS1/16SS270J	C 5121 (A,35,72)	CKSQYB105K25
	R 5421 (A,44,58)	RS1/16SS0R0J	C 5122 (A,32,67)	CKSRYB105K10
	R 5422 (A,43,57)	RS1/16SS270J	C 5123 (A,35,66)	CKSRYB104K50
	R 5423 (A,45,58)	RS1/16SS270J	C 5124 (A,31,77)	CKSQYB474K25
	R 5424 (A,45,57)	RS1/16SS270J	C 5125 (A,34,77)	CKSQYB474K25
F	R 5425 (A,47,58)	RS1/16SS270J	C 5127 (A,28,73)	CKSYB475K16
	R 5426 (A,47,56)	RS1/16SS270J	C 5140 (A,30,70)	CKSSYB561K50
	R 5427 (A,48,58)	RS1/16SS270J	C 5203 (B,110,66) 2.2 uF	CCG1218
	R 5428 (A,48,56)	RS1/16SS270J	C 5204 (A,115,76)	CKSSYB104K10
	R 5429 (A,50,58)	RS1/16SS270J	C 5205 (A,101,62) 10 uF	CCG1236
	R 5430 (A,50,56)	RS1/16SS270J	C 5206 (A,114,77)	CKSSYB104K10
	R 5431 (A,51,58)	RS1/16SS270J	C 5208 (A,116,57) 10 uF	CCG1236
	R 5432 (A,51,56)	RS1/16SS270J	C 5209 (A,104,17)	CKSSYB104K10
	R 5433 (A,52,56)	RS1/16SS270J	C 5212 (A,122,63)	CCSSCH101J50
	R 5434 (A,53,58)	RS1/16SS270J	C 5213 (A,79,65)	CKSSYB104K16

5	Circuit Symbol and No.	6	Part No.	7	Circuit Symbol and No.	8	Part No.
C 5214	(A,116,74)		CKSSYB104K16	R 101			RS1/16S221J
C 5301	(A,113,21) 10 uF		CCG1192	R 102			RS1/16S221J
C 5302	(A,109,24) 10 uF		CCG1192	R 103			RS1/16S0R0J
C 5303	(A,114,23)		CKSSYB104K10				
C 5304	(A,111,25)		CKSSYB104K10				
C 5305	(B,123,25)		CKSSYB103K16				CEVW220M16
C 5306	(B,116,25)		CKSSYB103K16				CKSRYB104K16
C 5307	(A,117,24)		CKSSYB103K16				
C 5308	(B,121,21)		CKSSYB103K16				
C 5401	(A,68,64)		CKSSYB104K10				

## E

Unit Number : CXX5005

Unit Name : Service Unit(Key)

A

### MISCELLANEOUS

D 3801	(A,151,6) LED	SMLVN6RGB2U(A)
D 3802	(A,15,6) LED	SMLVN6RGB2U(A)
S 3801	(A,24,6) Switch	VSG1020
S 3802	(A,128,6) Switch	VSG1020
S 3803	(A,114,6) Switch	VSG1020
S 3804	(A,99,6) Switch	VSG1020
S 3805	(A,83,6) Switch	VSG1020
S 3806	(A,142,6) Switch	VSG1020
S 3807	(A,67,6) Switch	VSG1020
S 3808	(A,52,6) Switch	VSG1020
S 3809	(A,38,6) Switch	VSG1020
S 3810	(A,9,6) Push Switch	CSG1155
U 3801	(A,159,6) Remote Receiver Unit	RS-470
CN3801	(B,22,6) Connector	CKS6291

### RESISTORS

R 3802	(A,153,8)	RS1/16SS470J
R 3803	(A,29,7)	RS1/16SS182J
R 3804	(A,123,8)	RS1/16SS222J
R 3805	(A,109,8)	RS1/16SS472J
R 3806	(A,95,8)	RS1/16SS123J
R 3807	(A,138,8)	RS1/16SS182J
R 3808	(A,62,7)	RS1/16SS222J
R 3809	(A,47,8)	RS1/16SS472J

C

### CAPACITORS

C 3807	(A,154,8)	CKSSYB104K10
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D

## F

Unit Number : EXX2001

Unit Name : PCB Unit(Service)

E

### MISCELLANEOUS

IC 101	Driver IC	BA6288FS
VR101	Volume 10 kohm	CCW1029
S 101	Switch	CSN1067
S 102	Switch	CSN1068
CN101	Connector	CKS4997

F

### RESISTORS