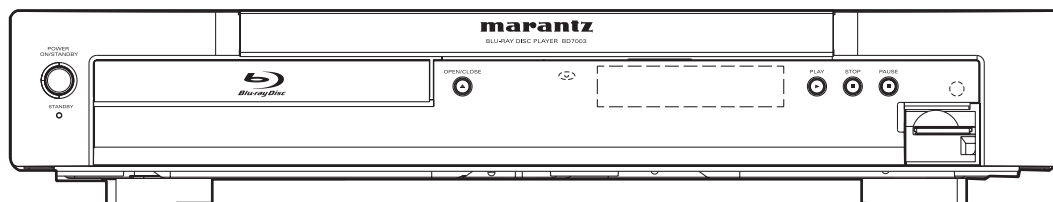


# Service Manual

BD7003 /N1B/R1B/S1B

BLU-RAY DISC Player



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Please use this service manual with referring to the user guide ( D.F.U. ) without fail.  
修理の際は、必ず取扱説明書を準備し操作方法を確認の上作業を行ってください。

# marantz®

## BD7003

## MARANTZ DESIGN AND SERVICE

Using superior design and selected high grade components, **MARANTZ** company has created the ultimate in stereo sound. Only original **MARANTZ** parts can insure that your **MARANTZ** product will continue to perform to the specifications for which it is famous.

Parts for your **MARANTZ** equipment are generally available to our National Marantz Subsidiary or Agent.

### ORDERING PARTS :

Parts can be ordered either by mail or by Fax.. In both cases, the correct part number has to be specified.

The following information must be supplied to eliminate delays in processing your order :

1. Complete address
2. Complete part numbers and quantities required
3. Description of parts
4. Model number for which part is required
5. Way of shipment
6. Signature : any order form or Fax. must be signed, otherwise such part order will be considered as null and void.

#### USA

**MARANTZ AMERICA, INC**  
100 CORPORATE DRIVE  
MAHWAH, NEW JERSEY 07430  
USA

#### EUROPE / TRADING

**D&M EUROPE B. V.**  
P. O. BOX 8744, BUILDING SILVERPOINT  
BEEMDSTRAAT 11, 5653 MA EINDHOVEN  
THE NETHERLANDS  
PHONE : +31 - 40 - 2507844  
FAX : +31 - 40 - 2507860

#### CANADA

**D&M Canada Inc.**  
5-505 APPLE CREEK BLVD.  
MARKHAM, ONTARIO L3R 5B1  
CANADA  
PHONE : 905 - 415 - 9292  
FAX : 905 - 475 - 4159

#### JAPAN

**D&M Holdings Inc.**  
D&M BUILDING, 2-1 NISSHIN-CHO,  
KAWASAKI-KU, KAWASAKI-SHI,  
KANAGAWA, 210-8569 JAPAN

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本社 〒210-8569  
神奈川県川崎市川崎区日進町2-1 D&Mビル



#### KOREA

**D&M SALES AND MARKETING KOREA LTD.**  
CHUNG JIN B/D., #1001,  
53-5, WONHYORO 3 GA, YONGSAN-GU,  
SEOUL, 140-719, KOREA  
PHONE : +82 - 2 - 323 - 2155  
FAX : +82 - 2 - 323 - 2154


#### CHINA

**D&M SALES AND MARKETING SHANGHAI LTD.**  
ROOM.808 SHANGHAI AIRPORT CITY TERMINAL  
NO.1600 NANJING (WEST) ROAD, SHANGHAI,  
CHINA. 200040  
TEL : 021 - 6248 - 5151  
FAX : 021 - 6248 - 4434

### NOTE ON SAFETY :

Symbol  Fire or electrical shock hazard. Only original parts should be used to replaced any part marked with symbol  . Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.

### 安全上の注意 :

 がついている部品は、安全上重要な部品です。必ず指定されている部品番号のものを使用して下さい。

### SHOCK, FIRE HAZARD SERVICE TEST :

**CAUTION :** After servicing this appliance and prior to returning to customer, measure the resistance between either primary AC cord connector pins ( with unit NOT connected to AC mains and its Power switch ON ), and the face or Front Panel of product and controls and chassis bottom.

Any resistance measurement less than 1 Megohms should cause unit to be repaired or corrected before AC power is applied, and verified before it is return to the user/customer.

In case of difficulties, do not hesitate to contact the Technical Department at above mentioned address.

# TECHNICAL SPECIFICATIONS

## SIGNAL SYSTEM

NTSC/PAL color

## APPLICABLE DISCS

- (1) BD/DVD-video Discs  
1-layer 12 cm single-sided discs, 2-layer 12 cm single-sided discs, 2-layer 12 cm double-sided discs  
(1 layer per side)  
1-layer 8 cm single-sided discs, 2-layer 8 cm single-sided discs, 2-layer 8 cm double-sided discs  
(1 layer per side)
- (2) BD-RE / BD-R (Recorded in BDMV format)  
1-layer 12 cm single-sided discs, 2-layer 12 cm single-sided discs  
1-layer 8 cm single-sided discs, 2-layer 8 cm single-sided discs
- (3) DVD-R  
1-layer 12 cm single-sided discs, 2-layer 12 cm single-sided discs  
1-layer 8 cm single-sided discs, 2-layer 8 cm single-sided discs
- (4) DVD-RW  
1-layer 12 cm single-sided discs  
1-layer 8 cm single-sided discs
- (5) Compact discs (audio CD)  
12 cm discs, 8 cm discs
- (6) CD-RW/-R  
12 cm discs, 8 cm discs

## APPLICABLE MEMORY CARDS

- (1) SD Memory Card
- (2) SDHC Memory Card
- (3) miniSD Card
- (4) microSD Card

## VIDEO OUTPUT

Y output level : 1 Vp-p (75 Ω)

Output connectors : Pin jack, 1 set

## COMPONENT OUTPUT

Y output level : 1 Vp-p (75 Ω)

P<sub>B</sub>/C<sub>B</sub> output level : 0.7 Vp-p (75 Ω)

P<sub>R</sub>/C<sub>R</sub> output level : 0.7 Vp-p (75 Ω)

Output connectors : Pin jacks, 1 set

## HDMI OUTPUT

Output jack : 19-pin HDMI terminal, 1 set

HDMI ver. 1.3a (Deep Color, Dolby Digital Plus, Dolby TrueHD, DTS-HD)

## ANALOG AUDIO OUTPUT

Output level : 2 V<sub>rms</sub> (10 kΩ)

2 channel (L, R) output connector : Pin jacks,

## AUDIO OUTPUT PROPERTIES

- (1) Frequency response
  - 1 BDs (linear PCM) : 20 Hz to 22 kHz (48 kHz sampling)  
: 20 Hz to 44 kHz (96 kHz sampling)  
: 20 Hz to 44 kHz (192 kHz sampling)
  - 2 DVDs (linear PCM) : 20 Hz to 22 kHz (48 kHz sampling)  
: 20 Hz to 44 kHz (96 kHz sampling)
  - 3 CDs : 20 Hz to 20 kHz
- (2) S/N ratio : 115 dB
- (3) Total harmonic distortion : 1 kHz 0.004 %
- (4) Dynamic range : 100 dB (BD/DVD) / 98dB (CD)

## DIGITAL AUDIO OUTPUT

Coaxial digital output : Pin jack, 1 set

## POWER SUPPLY

AC 110 V - 240 V, 50 Hz

## POWER CONSUMPTION

30 W (Standby : 0.8 W)

## MAXIMUM EXTERNAL DIMENSIONS

W : 440 mm (17-3/8")

H : 81.5 mm (3-1/4")

D : 368.2 mm (14-1/2")

(including protruding parts)

## MASS

4.2 kg (9.26 lb)

## REMOTE CONTROL : RC003BD

Infrared pulse type

Supply : DC 3 V, 2 R6P/AA batteries

External dimensions:

W : 52 mm (2-1/16")

H : 227 mm (8-15/16")

D : 30 mm (1-3/16")

Mass : 171 g (0.4 lb) (batteries included)

## Trademark Information



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"Blu-ray Disc" and  are trademarks.

 is a trademark of DVD Format/Logo Licensing Corporation.



is a trademark of Eastman Kodak Company.

## BONUS VIEW™

"BONUSVIEW" is a trademark of Blu-ray Disc Association.

### About Discs

#### Disc Handling

- Handle the discs so that fingerprints and dust do not adhere to the surfaces of the discs.
- Always store the disc in its protective case when it is not used.
- Note that discs with special shapes cannot be played on this product. Do not attempt to play back such discs, as they may damage the unit.



#### Cleaning Discs



- When a disc becomes dirty, clean it with a cleaning cloth. Wipe the disc from the centre to out. Do not wipe in a circular motion.
- Do not use solvents such as benzine, thinner, commercially available cleaners, detergent, abrasive cleaning agents or antistatic spray intended for analogue records.

## Playable Discs and Files

This unit is compatible to play back the following discs. To play back a BD or DVD, make sure that it meets the requirements for region codes and colour systems as described on page 5. You can play back discs that have the following logos on the disc. Other disc types are not guaranteed to play back.

Playable discs	Logos
Blu-ray Disc - BD-video - BD-RE (ver.3.0) (Recorded in BDMV format) - BD-R (ver.2.0) (Recorded in BDMV format) (Unclosed discs may not be played back.)	
DVD-video	
DVD-RW (Finalised discs only)	
DVD-R DVD-R DL (Finalised discs only)	
CD-DA (audio CD)	
CD-RW	

Playable discs	Logos
CD-R	
Kodak Picture CD	
DTS - CD (5.1 Music Disc)	—

Playable files	Logos	Media
MP3	—	DVD-RW/-R CD-RW/-R SD Memory Card (including SDHC) miniSD Card microSD Card
Windows Media™ Audio		
JPEG	—	
DivX®		DVD-RW/-R CD-RW/-R

### Note

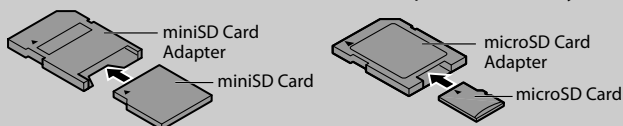
- Discs containing the DivX® files with the DivX® GMC (Global Motion Compensation) playback feature, which is DivX® supplemental function, cannot be played back on this unit.
- This unit cannot play back the disc contents protected by Windows Media™ Digital Rights Management (DRM).
- "WMA" (Windows Media™ Audio) is an audio codec developed by Microsoft® in the United States of America.



Readable cards	Playable files / data
SD Memory Card (8MB - 2GB)	MP3, Windows Media™ Audio,
SDHC Memory Card (4GB)	JPEG, Picture-in-picture
miniSD Card (8MB - 2GB)	commentary, subtitles or other
microSD Card (8MB - 2GB)	extras for BD-ROM Profile 1.1

### Note for SD Memory Cards

- Do not remove the SD Memory Card or turn off the unit while the contents of the card is in playback. It may result in malfunction or loss of the card's data.
- Please keep the SD Memory Cards in their cases when you are not using them.
- Do not try to open or modify the card.
- Do not touch the terminal surface with your fingers or any metals.
- Do not attach additional labels or stickers to cards.
- Do not remove the label of the SD Memory Cards.
- This unit supports SD Memory Card with FAT12/FAT16 file system, and SDHC Memory Card with FAT32 file system.
- This unit may not read the SD Memory Cards formatted on computer. If that is the case, please reformat the SD Memory Cards on this unit and try again.
- This unit does not support mini SDHC and micro SDHC Memory Card.
- For miniSD Card and microSD Card adapter is necessary.



- Portions of this product are protected under copyright law and are provided under license by ARIS/SOLANA/4C.

### Unplayable Discs

The following discs will not play back on this unit.

- BD-RE Ver.1.0 (BD-disc with cartridge)
- BD-RE (Ver.2.0) (Recorded in BDAV format)
- BD-R (Ver.1.0) (Recorded in BDAV format)
- BD contains MP3/ Windows Media™ Audio/ JPEG/ DivX® files
- BD/DVD hybrid disc (e.g., Total Hi Def hybrid disc)
- DVD-ROM/RAM (For DVD-ROM discs, data files in DivX® 3.11, 4.x, 5.x and 6 can be played)
- DVD-RW/-R recorded in non-compatible recording format
- CD-ROM (Data files in DivX® 3.11, 4.x, 5.x and 6 can be played)
- CDV (Only the audio part can be played)
- CD-G (Only the audio signals can be output)
- CompactDisc-Interactive (CD-I)
- Video Single Disc (VSD)
- Video CD, Super Video CD
- Super audio CD (Only the sound on the CD layer can be heard. The sound on the high-density super audio CD layer cannot be heard.)
- DVD-audio
- HD DVD
- Disc with recording area less than 55mm in diameter
- Unauthorised disc (Pirated disc)
- Unfinalised disc

### Colour Systems

BD and DVD are recorded in different colour systems throughout the world. The most common colour system, used primarily in the U.K. and other EU countries, is PAL. This unit uses the PAL system. However, it is also possible to play back BD and DVD using other colour systems, such as NTSC.

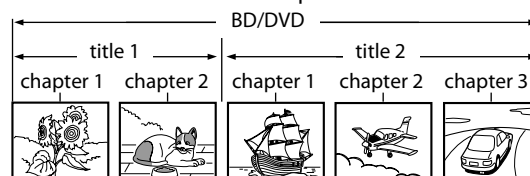
### Region Codes

This unit has been designed to play back BD with region B (N1B), C (R1B), A (S1B) and DVD-video with region 2 (N1B), 5 (R1B), 3 (S1B). You cannot play back BD or DVD-video that are labelled for other regions. Look for the symbols on the right on your BD or DVD-video. If these region symbols do not appear on your BD or DVD-video, you cannot play back the disc in this unit. The letter or number inside the globe refers to region of the world. A BD or DVD-video labelled for a specific region can only play back on the unit with the same region code.



### Structure of Disc/SD Memory Card Contents

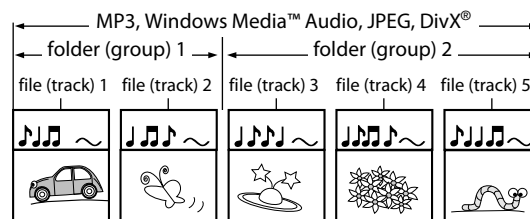
The contents of BD / DVD are generally divided into titles. Titles may be further subdivided into chapters.



Audio CDs are divided into tracks.



Data discs or SD Memory Cards containing MP3/Windows Media™ Audio/JPEG/DivX® is divided into folders, and the folders are subdivided into files.



### Symbols Used in this User Guide

To specify for which media type each function is, we put the following symbols at the beginning of each item to operate.

Symbol	Description
<b>BD-V</b>	Description refers to BD-video and BD-RE (ver. 3.0)/BD-R (ver.2.0) recorded in BDMV mode
<b>DVD-V</b>	Description refers to DVD-video and DVD-RW/-R recorded in video mode
<b>DVD-VR</b>	Description refers to DVD-RW/-R recorded in VR mode
<b>CD</b>	Description refers to audio CD and DTS-CD
<b>MP3</b>	Description refers to DVD-RW/-R, CD-RW/-R and SD Memory Card with MP3 files
<b>WMA</b>	Description refers to DVD-RW/-R, CD-RW/-R and SD Memory Card with Windows Media™ Audio files
<b>JPEG</b>	Description refers to DVD-RW/-R, CD-RW/-R and SD Memory Card with JPEG files
<b>DivX®</b>	Description refers to DVD-RW/-R and CD-RW/-R with DivX® files



# WARNING AND LASER SAFETY INSTRUCTION

## **(GB)** WARNING

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically.

When repairing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance.

Keep components and tools also at this potential.



## **(NL)** WAARSCHUWING

Alle IC's en vele andere halfgeleiders zijn gevoelig voor elektrostatische ontladingen (ESD).

Onzorgvuldig behandelen tijdens reparatie kan de levensduur drastisch doen verminderen.

Zorg ervoor dat u tijdens reparatie via een polsband met weerstand verbonden bent met hetzelfde potentiaal als de massa van het apparaat.

Houd componenten en hulpmiddelen ook op ditzelfde potentiaal.

## **(F)** ATTENTION

Tous les IC et beaucoup d'autres semi-conducteurs sont sensibles aux décharges statiques (ESD).

Leur longévité pourrait être considérablement écourtée par le fait qu'aucune précaution n'est prise à leur manipulation.

Lors de réparations, s'assurer de bien être relié au même potentiel que la masse de l'appareil et enfilé le braceleterti d'une résistance de sécurité.

Veiller à ce que les composants ainsi que les outils que l'on utilise soient également à ce potentiel.

## **(D)** WARNUNG

Alle IC und viele andere Halbleiter sind empfindlich gegen elektrostatische Entladungen (ESD).

Unvorsichtige Behandlung bei der Reparatur kann die Lebensdauer drastisch vermindern. Sorgen sie dafür, das Sie im Reparaturfall über ein Pulsarmband mit Widerstand mit dem Massepotential des Gerätes verbunden sind.

Halten Sie Bauteile und Hilfsmittel ebenfalls auf diesem Potential.

## **(I)** AVVERTIMENTO

Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD).

La loro longevità potrebbe essere fortemente ridotta in caso di non osservazione della più grande cauzione alla loro manipolazione.

Durante le riparazioni occorre quindi essere collegato allo stesso potenziale che quello della massa dell'apparecchio tramite un braccialetto a resistenza.

Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

## **(GB)**

Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified be used.

## **(NL)**

Veiligheidsbepalingen vereisen, dat het apparaat in zijn oorspronkelijke toestand wordt terug gebracht en dat onderdelen, identiek aan de gespecificeerde worden toegepast.

## **(D)**

Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Originalzustand des Gerats darf nicht verändert werden. Für Reparaturen sind Original-Ersatzteile zu verwenden.

## **(I)**

Le norme di sicurezza esigono che l'apparecchio venga rimesso nelle condizioni originali e che siano utilizzati pezzi di ricambio idetici a quelli specificati.

## **(F)**

Les normes de sécurité exigent que l'appareil soit remis à l'état d'origine et que soient utilisées les pièces de rechange identiques à celles spécifiées.

"Pour votre sécurité, ces documents doivent être utilisés par des spécialistes agréés, seuls habilités à réparer votre appareil en panne."

## LASER SAFETY

This unit employs a laser. Only a qualified service person should remove the cover or attempt to service this device, due to possible eye injury.



**USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURE OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.**

**AVOID DIRECT EXPOSURE TO BEAM**

## WARNING

**The use of optical instruments with this product will increase eye hazard.**

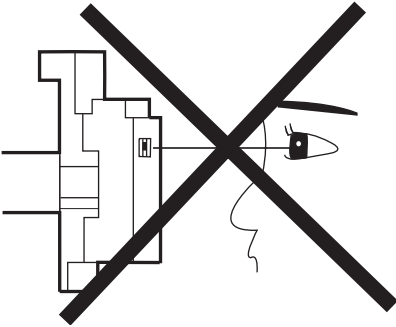
**Repair handling should take place as much as possible with a disc loaded inside the player**

## WARNING LOCATION: INSIDE ON LASER COVERSHEILD

**CAUTION** VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN AVOID EXPOSURE TO BEAM  
**ADVARSEL** SYNLIG OG USYNLIG LASERSTRÅLING VED ÅBNING UNDGÅ UDSÆTTELSE FOR STRÅLING  
**ADVARSEL** SYNLIG OG USYNLIG LASERSTRÅLING NÅR DEKSEL Å PNES UNNGÅ EKSPONERING FOR STRÅLEN  
**VARNING** SYNLIG OCH OSYNLIG LASERSTRÅLNING NÅR DENNA DEL ÅR ÖPPNAD BETRAKTA EJ STRÅLEN  
**VARO!** AVATT AESSA OLET ALTTIINA NÄKYVÄLLE JA NÄKYMÄTTÖMÄLLE LASER SÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN  
**VORSICHT** SICHTBARE UND UNSICHTBARE LASERSTRAHLUNG WENN ABDECKUNG GEÖFFNET NICHT DEM STRAHL AUSSETSEN  
**DANGER** VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN AVOID DIRECT EXPOSURE TO BEAM  
**ATTENTION** RAYONNEMENT LASER VISIBLE ET INVISIBLE EN CAS D'OUVERTURE EXPOSITION DANGEREUSE AU FAISCEAU

# LASER BEAM SAFETY PRECAUTIONS

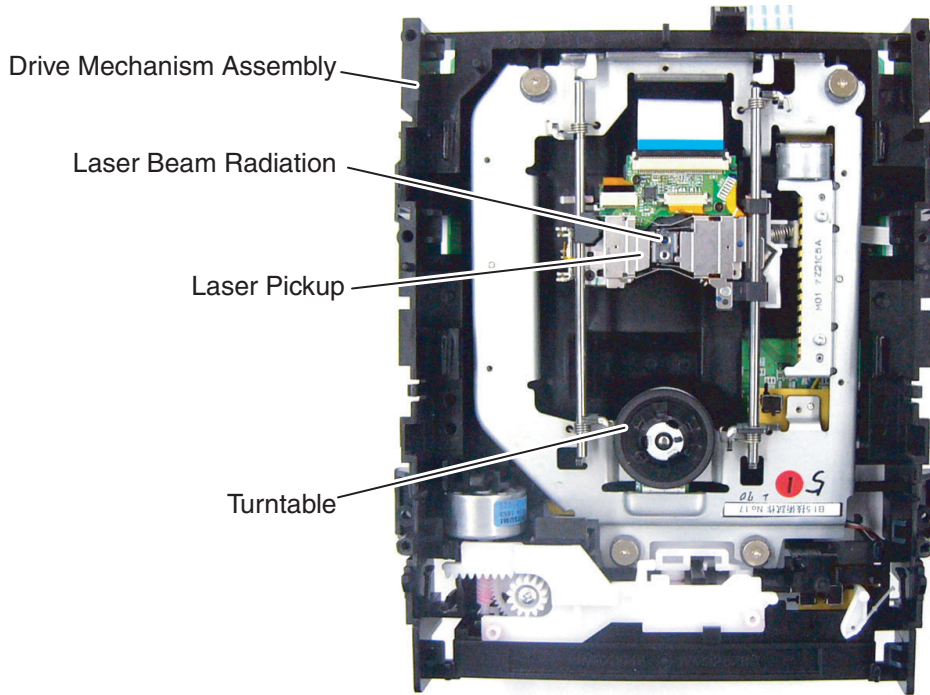
This BD player uses a pickup that emits a laser beam.



**Do not look directly at the laser beam coming from the pickup or allow it to strike against your skin.**

The laser beam is emitted from the location shown in the figure. When checking the laser diode, be sure to keep your eyes at least 30 cm away from the pickup lens when the diode is turned on. Do not look directly at the laser beam.

**CAUTION:** Use of controls and adjustments, or doing procedures other than those specified herein, may result in hazardous radiation exposure.




**CAUTION - CLASS 2 LASER RADIATION WHEN OPEN DO NOT STARE INTO THE BEAM**




**Location: Inside Top of BD mechanism.**

# IMPORTANT SAFETY PRECAUTIONS

## Product Safety Notice

Some electrical and mechanical parts have special safety-related characteristics which are often not evident from visual inspection, nor can the protection they give necessarily be obtained by replacing them with components rated for higher voltage, wattage, etc. Parts that have special safety characteristics are identified by a  on schematics and in parts lists. Use of a substitute replacement that does not have the same safety characteristics as the recommended replacement part might create shock, fire, and/or other hazards. The Product's Safety is under review continuously and new instructions are issued whenever appropriate. Prior to shipment from the factory, our products are carefully inspected to confirm with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

## Precautions during Servicing

- A.** Parts identified by the  symbol are critical for safety. Replace only with part number specified.
- B.** In addition to safety, other parts and assemblies are specified for conformance with regulations applying to spurious radiation. These must also be replaced only with specified replacements.  
Examples: RF converters, RF cables, noise blocking capacitors, and noise blocking filters, etc.
- C.** Use specified internal wiring. Note especially:
  - 1) Wires covered with PVC tubing
  - 2) Double insulated wires
  - 3) High voltage leads
- D.** Use specified insulating materials for hazardous live parts. Note especially:
  - 1) Insulation tape
  - 2) PVC tubing
  - 3) Spacers
  - 4) Insulators for transistors
- E.** When replacing AC primary side components (transformers, power cord, etc.), wrap ends of wires securely about the terminals before soldering.
- F.** Observe that the wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.).
- G.** Check that replaced wires do not contact sharp edges or pointed parts.
- H.** When a power cord has been replaced, check that 5 - 6 kg of force in any direction will not loosen it.
- I.** Also check areas surrounding repaired locations.
- J.** Use care that foreign objects (screws, solder droplets, etc.) do not remain inside the set.
- K.** When connecting or disconnecting the internal connectors, first, disconnect the AC plug from the AC outlet.

## Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts, and wires have been returned to their original positions. Afterwards, do the following tests and confirm the specified values to verify compliance with safety standards.

### 1. Clearance Distance

When replacing primary circuit components, confirm specified clearance distance ( $d$ ) and ( $d'$ ) between soldered terminals, and between terminals and surrounding metallic parts. (See Fig. 1)

**Table 1 : Ratings for selected area**

AC Line Voltage	Clearance Distance ( $d$ ), ( $d'$ )
230 V	$\geq 3 \text{ mm}(d)$ $\geq 6 \text{ mm}(d')$

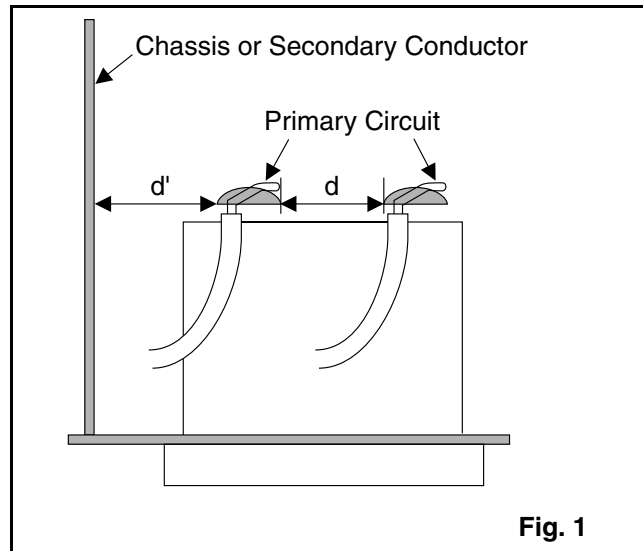
**Note:** This table is unofficial and for reference only. Be sure to confirm the precise values.

### 2. Leakage Current Test

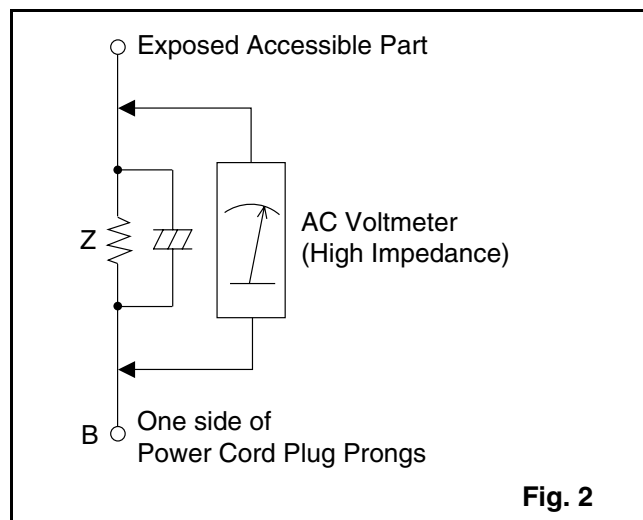
Confirm the specified (or lower) leakage current between B (earth ground, power cord plug prongs) and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.) is lower than or equal to the specified value in the table below.

#### Measuring Method (Power ON) :

Insert load  $Z$  between B (earth ground, power cord plug prongs) and exposed accessible parts. Use an AC voltmeter to measure across the terminals of load  $Z$ . See Fig. 2 and the following table.



**Fig. 1**



**Fig. 2**

**Table 2: Leakage current ratings for selected areas**

AC Line Voltage	Load $Z$	Leakage Current ( $i$ )	One side of power cord plug prongs (B) to:
230 V	2k $\Omega$ RES. Connected in parallel	$i \leq 0.7 \text{ mA AC Peak}$ $i \leq 2 \text{ mA DC}$	RF or Antenna terminals
	50k $\Omega$ RES. Connected in parallel	$i \leq 0.7 \text{ mA AC Peak}$ $i \leq 2 \text{ mA DC}$	A/V Input, Output

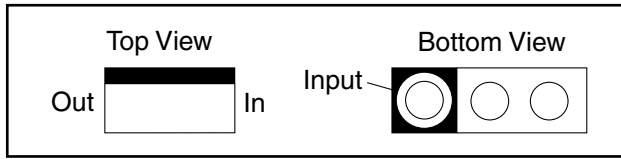
**Note:** This table is unofficial and for reference only. Be sure to confirm the precise values.



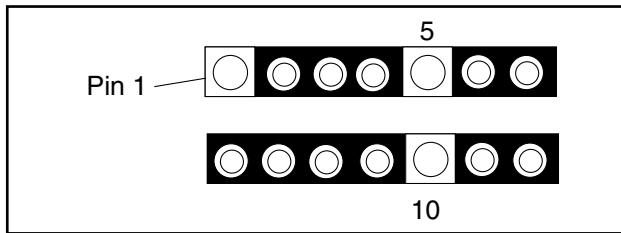
# STANDARD NOTES FOR SERVICING

## Circuit Board Indications

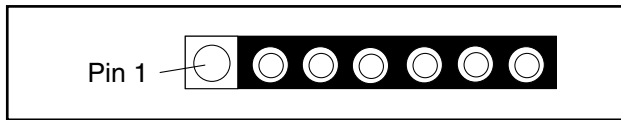
1. The output pin of the 3 pin Regulator ICs is indicated as shown.



2. For other ICs, pin 1 and every fifth pin are indicated as shown.

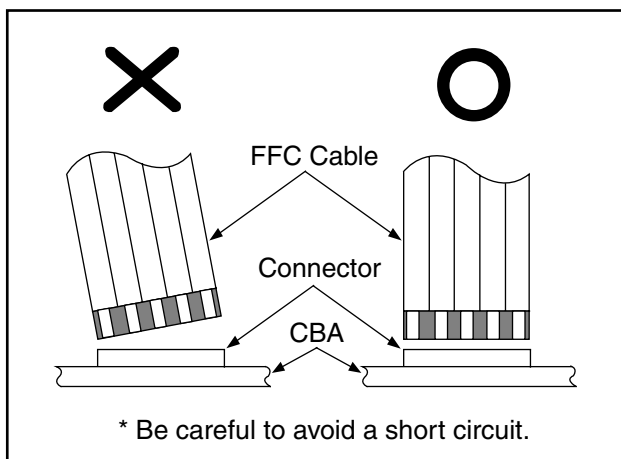


3. The 1st pin of every male connector is indicated as shown.



## Instructions for Connectors

1. When you connect or disconnect the FFC (Flexible Foil Connector) cable, be sure to first disconnect the AC cord.
2. FFC (Flexible Foil Connector) cable should be inserted parallel into the connector, not at an angle.



## Pb (Lead) Free Solder

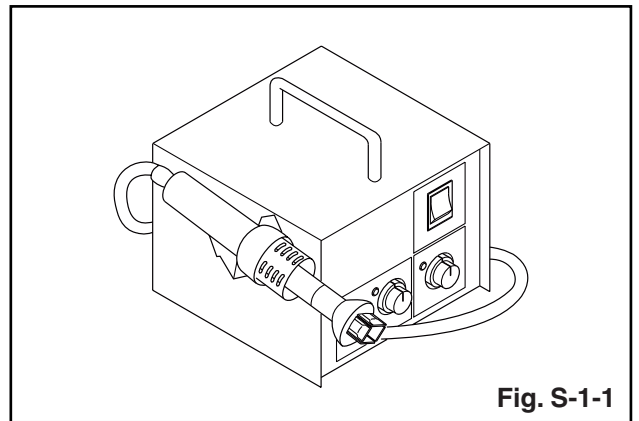
When soldering, be sure to use the Pb free solder.

## How to Remove / Install Flat Pack-IC

### 1. Removal

With Hot-Air Flat Pack-IC Desoldering Machine:

1. Prepare the hot-air flat pack-IC desoldering machine, then apply hot air to the Flat Pack-IC (about 5 to 6 seconds). (Fig. S-1-1)

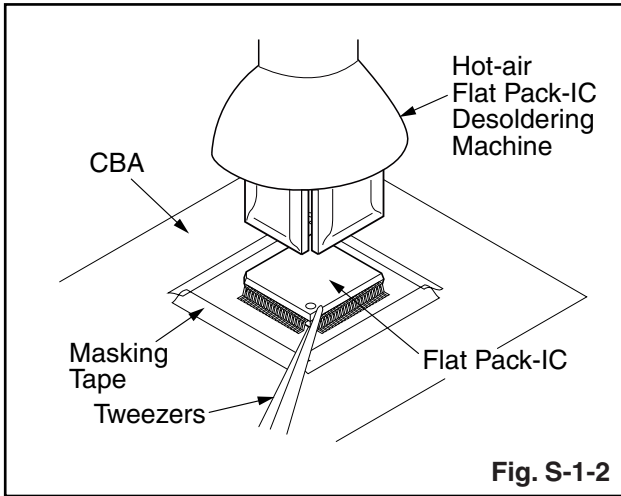


2. Remove the flat pack-IC with tweezers while applying the hot air.
3. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
4. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

### CAUTION:

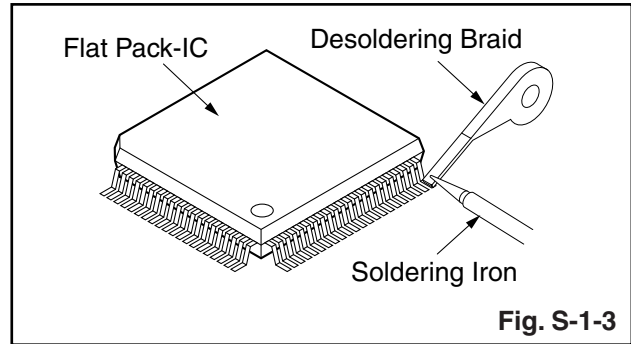
1. The Flat Pack-IC shape may differ by models. Use an appropriate hot-air flat pack-IC desoldering machine, whose shape matches that of the Flat Pack-IC.
2. Do not supply hot air to the chip parts around the flat pack-IC for over 6 seconds because damage to the chip parts may occur. Put masking tape around the flat pack-IC to protect other parts from damage. (Fig. S-1-2)

3. The flat pack-IC on the CBA is affixed with glue, so be careful not to break or damage the foil of each pin or the solder lands under the IC when removing it.

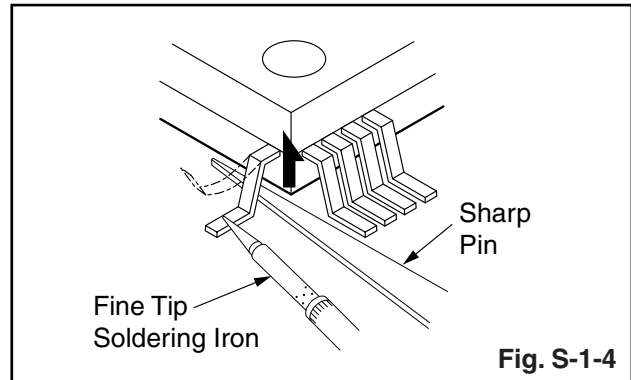


#### With Soldering Iron:

1. Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)



2. Lift each lead of the flat pack-IC upward one by one, using a sharp pin or wire to which solder will not adhere (iron wire). When heating the pins, use a fine tip soldering iron or a hot air desoldering machine. (Fig. S-1-4)



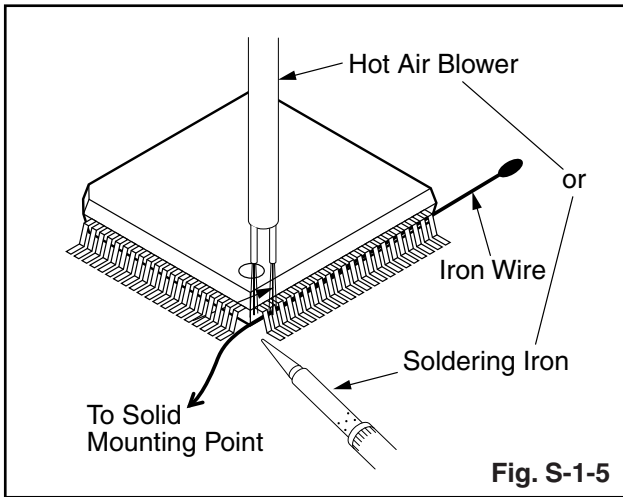
3. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
4. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)



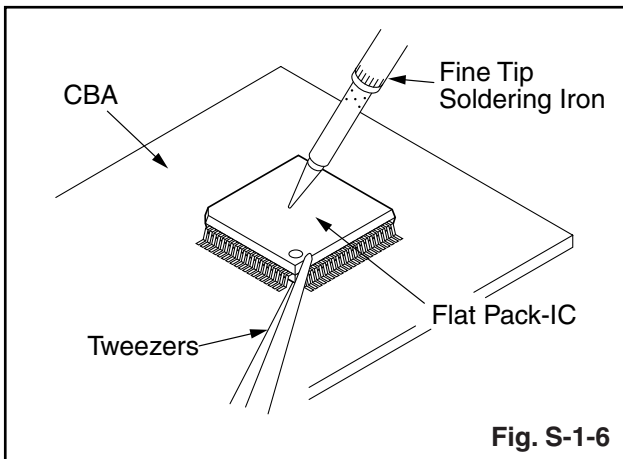
**With Iron Wire:**

1. Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)
2. Affix the wire to a workbench or solid mounting point, as shown in Fig. S-1-5.
3. While heating the pins using a fine tip soldering iron or hot air blower, pull up the wire as the solder melts so as to lift the IC leads from the CBA contact pads as shown in Fig. S-1-5.
4. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
5. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

**Note:** When using a soldering iron, care must be taken to ensure that the flat pack-IC is not being held by glue. When the flat pack-IC is removed from the CBA, handle it gently because it may be damaged if force is applied.



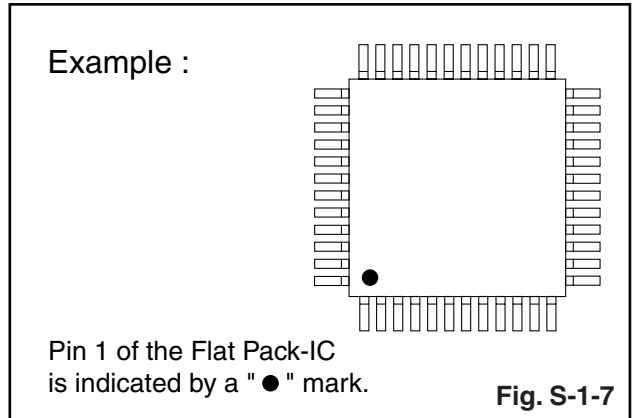
**Fig. S-1-5**



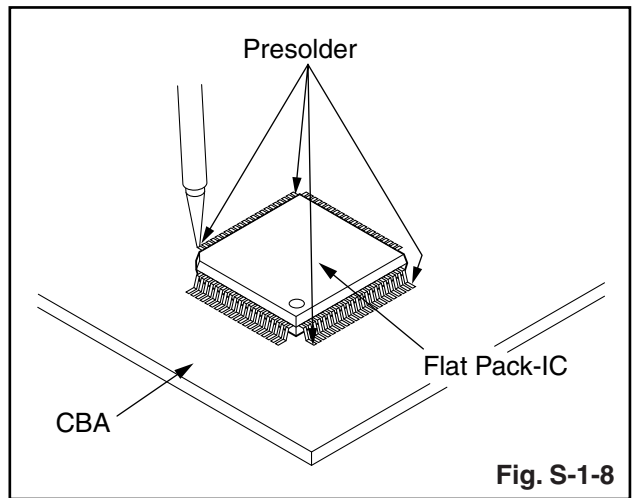
**Fig. S-1-6**

**2. Installation**

1. Using desoldering braid, remove the solder from the foil of each pin of the flat pack-IC on the CBA so you can install a replacement flat pack-IC more easily.
2. The "●" mark on the flat pack-IC indicates pin 1. (See Fig. S-1-7.) Be sure this mark matches the 1 on the PCB when positioning for installation. Then presolder the four corners of the flat pack-IC. (See Fig. S-1-8.)
3. Solder all pins of the flat pack-IC. Be sure that none of the pins have solder bridges.



**Fig. S-1-7**



**Fig. S-1-8**

# Instructions for Handling Semi-conductors

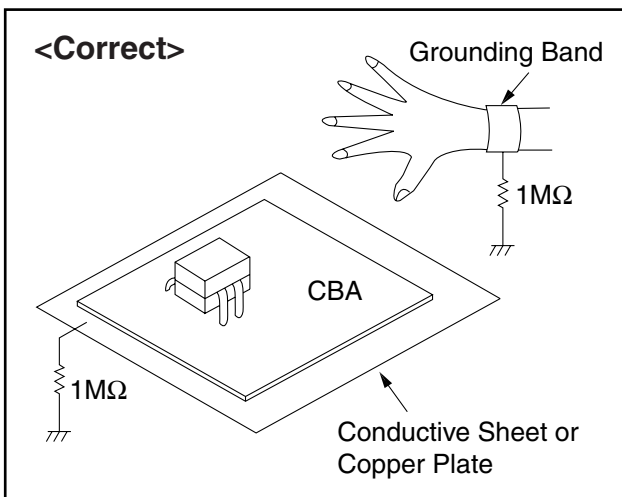
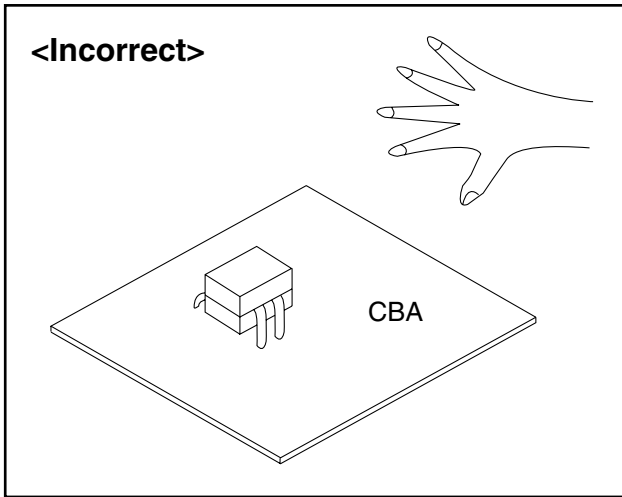
Electrostatic breakdown of the semi-conductors may occur due to a potential difference caused by electrostatic charge during unpacking or repair work.

## 1. Ground for Human Body

Be sure to wear a grounding band ( $1\text{ M}\Omega$ ) that is properly grounded to remove any static electricity that may be charged on the body.

## 2. Ground for Workbench

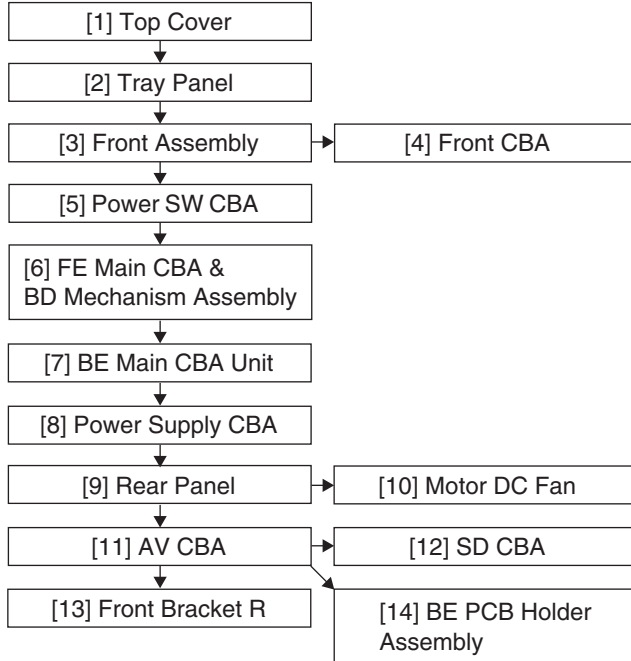
Be sure to place a conductive sheet or copper plate with proper grounding ( $1\text{ M}\Omega$ ) on the workbench or other surface, where the semi-conductors are to be placed. Because the static electricity charge on clothing will not escape through the body grounding band, be careful to avoid contacting semi-conductors with your clothing.



# CABINET DISASSEMBLY INSTRUCTIONS

## 1. Disassembly Flowchart

This flowchart indicates the disassembly steps to gain access to item(s) to be serviced. When reassembling, follow the steps in reverse order. Bend, route, and dress the cables as they were originally.



## 2. Disassembly Method

ID/ Loc. No.	Part	Removal		
		Fig. No.	Remove/*Unhook/ Unlock/Release/ Unplug/Desolder	Note
[1]	Top Cover	D1	6(S-1)	---
[2]	Tray Panel	D2	*2(L-1)	1
[3]	Front Assembly	D2	*5(L-2), *3(L-3), (S-2), *CN2001	1
[4]	Front CBA	D2	3(S-3), *CN3001	---
[5]	Power SW CBA	D2	(S-4), PCB Cover	---
[6]	FE Main CBA & BD Mechanism Assembly	D3	4(S-5), *CN2601, *CN6401	2
[7]	BE Main CBA Unit	D3	(S-6), (S-7), *CN7001, *CN7401, *CN7602, Locking Card Spacers, Mecha Earth Plate	---
[8]	Power Supply CBA	D4	4(S-8), (S-9), 2(S-10), *CN2600, Power PCB Holder	---
[9]	Rear Panel	D5	3(S-11), 3(S-12), *CN2004	---
[10]	Motor DC Fan	D5	2(S-13)	---

ID/ Loc. No.	Part	Removal		
		Fig. No.	Remove/*Unhook/ Unlock/Release/ Unplug/Desolder	Note
[11]	AV CBA	D5	5(S-14), (S-15)	---
[12]	SD CBA	D5	2(S-16), (S-17), SD Card Holder	---
[13]	Front Bracket R	D5	(S-18)	---
[14]	BE PCB Holder Assembly	D5	(S-19)	---

↓ (1)      ↓ (2)      ↓ (3)      ↓ (4)      ↓ (5)

### Note:

- (1) Identification (location) No. of parts in the figures
- (2) Name of the part
- (3) Figure Number for reference
- (4) Identification of parts to be removed, unhooked, unlocked, released, unplugged, unclamped, or desoldered.  
P = Spring, L = Locking Tab, S = Screw, CN = Connector  
\* = Unhook, Unlock, Release, Unplug, or Desolder  
e.g. 2(S-2) = two Screws (S-2),  
2(L-2) = two Locking Tabs (L-2)
- (5) Refer to "Reference Notes."

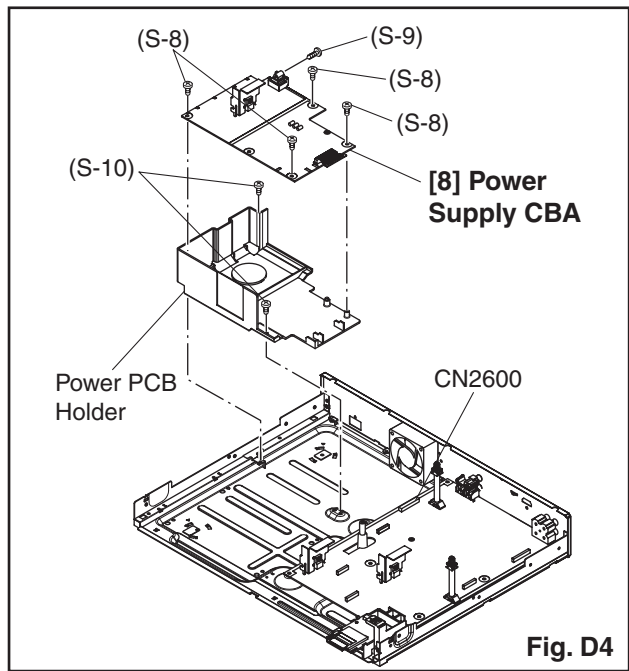
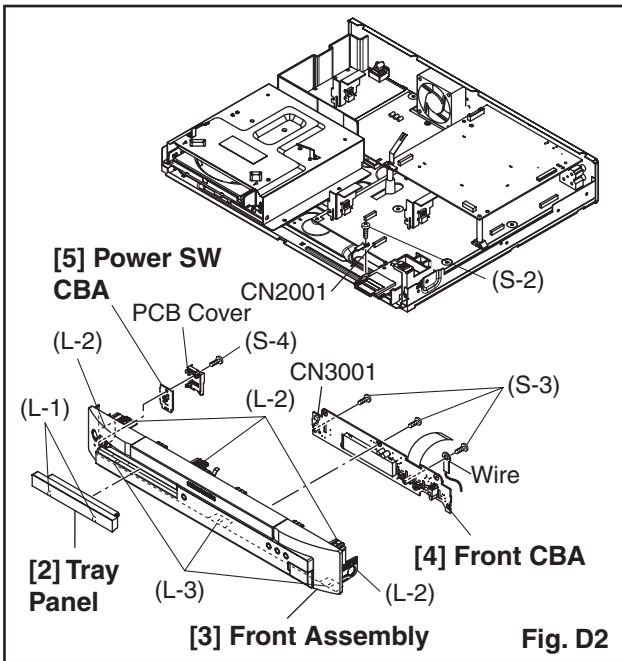
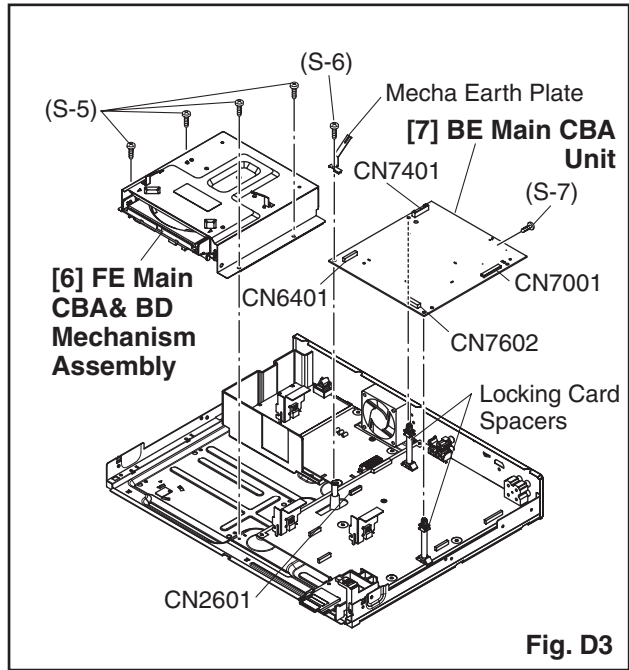
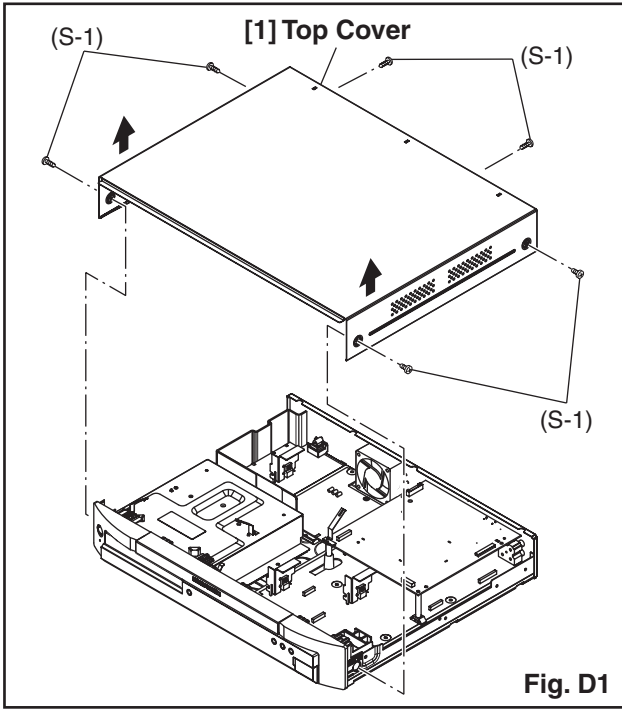
### About tightening screws

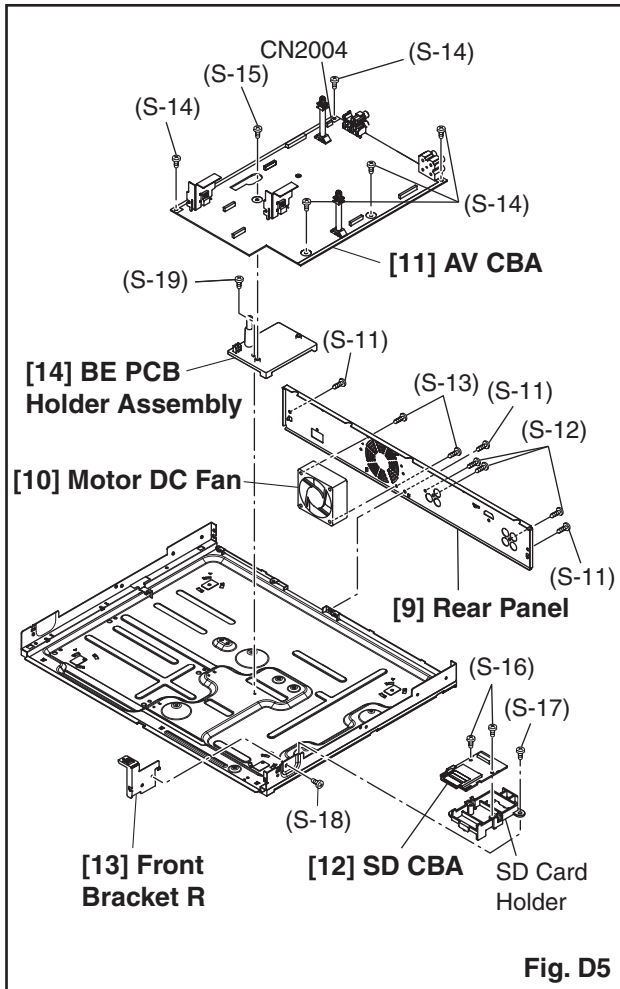
When tightening screws, tighten them with the following torque.

Torque
0.45 ± 0.05 N·m

### Reference Notes

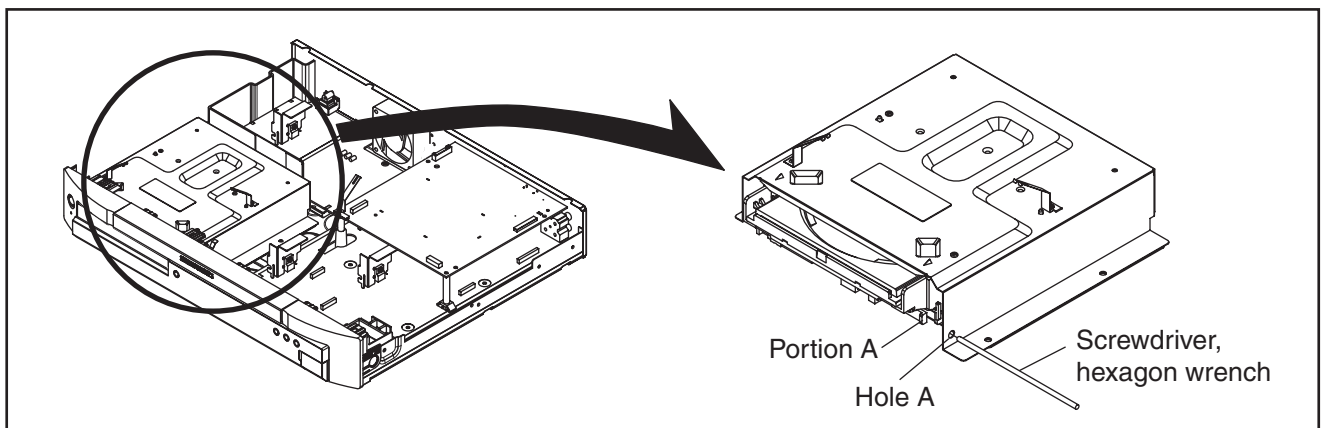
1. **CAUTION 1:** Locking Tabs (L-1), (L-2) and (L-3) are fragile. Be careful not to break them.
2. The FE Main CBA & BD Mechanism Assembly is adjusted as a unit at factory. Therefore, do not disassemble it. Replace the FE Main CBA & BD Mechanism Assembly as a unit.





### 3. How to Eject Manually

1. Remove the Top Cover.
2. Insert a screwdriver, etc. into the Hole A straightly so that the Portion A is pushed.
3. Pull the tray out manually and remove a disc.



## HOW TO INITIALIZE THE BLU-RAY DISC PLAYER

To put the program back at the factory-default, initialize the BD player as the following procedure.

1. Turn the power on.
2. Remove the disc on the tray and close the tray.
3. Press [1], [2], [3], [4], and [DISPLAY] buttons on the remote control unit in that order.  
Fig. a appears on the screen.

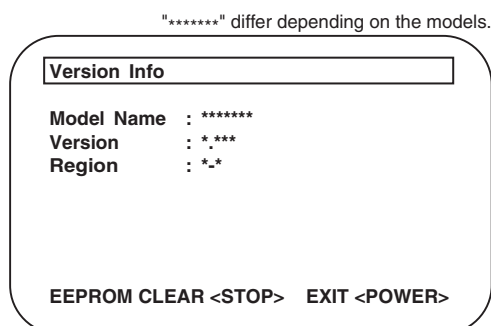


Fig. a

4. Press [STOP] button on the remote control unit.  
Fig. b appears on the screen and Fig. c appears on the VFD.

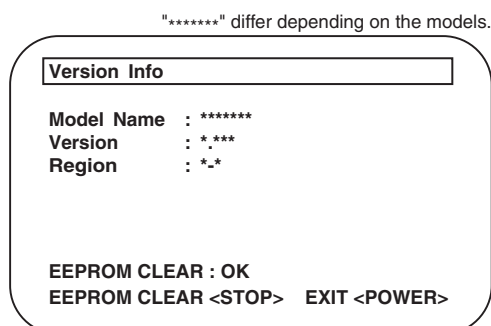


Fig. b

```
CLEAR
```

Fig. c

5. To exit this mode, press [POWER OFF] button.

## TRAY LOCK MODE

Tray Lock Mode prevents the tray opening or closing to prevent disc theft in demo mode.

Enter this mode using the following procedure.

1. Confirm that the TV Monitor is connected.
2. With playback stopped, press [SETUP], [TOP MENU], [3], [AUDIO], [0] and [SETUP] buttons on the remote control unit in that order. "Trade-On" appears in the upper right corner on the screen, and Fig. a appears on the VFD for 2 seconds.



Fig. a

3. To exit this mode, press [SETUP], [TOP MENU], [3], [AUDIO], [0] and [SETUP] buttons on the remote control unit in that order. "Trade-Off" appears in the upper right corner on the screen, and Fig. b appears on the VFD for 2 seconds.



Fig. b

# SERVICE MODE

## Entering Service Mode

In power on condition, no discs and tray close, it will be entered into service mode by the following operation using the remote controller. However, it will not be entered when Media Select Item is SD Memory.

## Service Mode by using remote controller

Press the following buttons on the remote controller in power on condition, no discs and tray close;

[2]->[5]->[8]->[0]->[CLEAR]

## Release from Service Mode

Press the [POWER OFF] button to turn off power.

## Screen saver/Auto Power Off in Service Mode

These functions are not performed in Service Mode.

After entering, Fig. k appears on the screen and Fig. l appears on the VFD.

\* Firmware Version differs depending on the models, and this indication is one example.

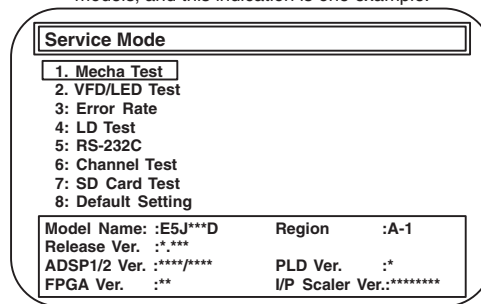


Fig. k Service Mode (Main menu)

Ver : 1000

Available button in service mode

Button	Condition
ENTER	Enter the next level
POWER	Turn the power off (when the service mode is completed)
1~8	Enter the selected item (next level)
OTHER	Not available

**Note:** Press the number key to select items. Or, press the cursor button (up/down) to select items and press [ENTER] button.

Indication	Description	Remark
Model Name	Model Name	E5J***D, etc.
Region	BD region - DVD region	A-1, etc.
Release Ver.	Release version	D.jpp, etc.



Available test in service mode

1st level		2nd level		3rd level		Description
1	Mecha test	1	Tray Aging		Aging of tray open/close	
		2	TOC Read		TOC reading	
		3	Heat Run		Tray close -> TT1 playback -> TT10 playback -> Tray open -> Tray close	
2	VFD/LED Test	1	All On		Turning on all VFD	
		2	All Off		Turning off all VFD	
3	Error Rate				Displaying Error rate, Jitter during playback	
4	LD Test	1	LD Power	1	Off	Turning off LD
				2	BD	Turning on BD LD
				3	DVD	Turning on DVD LD
				4	CD	Turning on CD LD
		2	Operating Time		Displaying LD Operation Time (with clear function)	
5	Channel Test	1	TEST TONE	1	Center/ Subwoofer/ Front LR	
				2	Surround LR/ Surround Back LR	
		2	Front Lch			
		3	Center			
		4	Front Rch			
		5	Surround Rch			
		6	Surround Back Rch			
		7	Surround Back Lch			
		8	Surround Lch			
9	Sub woofer					
6	RS-232C	1	Parity Setting	1	Even	Setting even parity
				2	Non	Setting non parity
		2	Version Up Mode		Realta Version up with connecting RS-232C	
7	SD Card Test					
8	Default Setting				Default setting	

**Note :** If some test are performed continuously, any error will occur.

# FIRMWARE RENEWAL MODE

1. Turn the power on and remove the disc on the tray.
2. To put the BD player into version up mode, press [9], [8], [7], [6], and [POP UP MENU/MENU] buttons on the remote control unit in that order. The tray will open automatically. Fig. a appears on the screen and Fig. b appears on the VFD.

"\*\*\*\*\*" differs depending on the models.

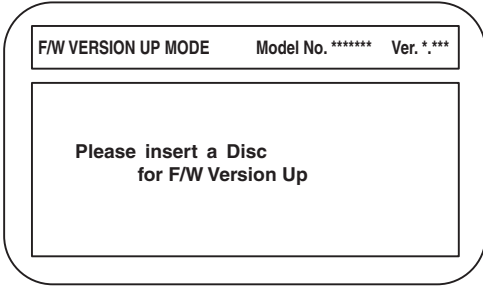


Fig. a Version Up Mode Screen



Fig. b VFD in Version Up Mode

The BD player can also enter the version up mode with the tray open. In this case, Fig. a will be shown on the screen while the tray is open.

3. Load the disc for version up.
4. The BD player enters the F/W version up mode automatically. Fig. c appears on the screen and Fig. d appears on the VFD. If you enter the F/W for different models, "Disc Error" will appear on the screen, then the tray will open automatically.

"\*\*\*\*\*" differs depending on the models.

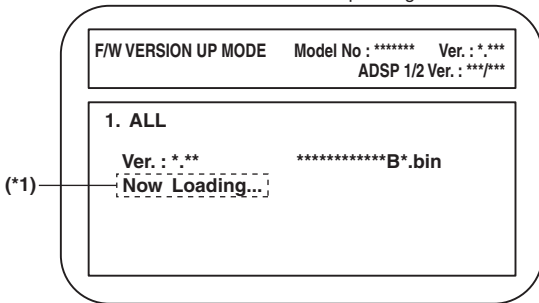


Fig. c Programming Mode Screen (Example)



Fig. d VFD in Programming Mode (Example)

The appearance shown in (\*1) of Fig. c is described as follows:

No.	Appearance	State
1	Now Loading...	Loading the disc
2	Reading...	Sending files into the memory. After reading, automatically the tray opens.
3	Remove the disc	Reading has finished. Remove the disc and close the tray.
4	See FL display	Writing new version data, the progress will be displayed as shown in Fig. e.



Fig. e VFD in Version Up Mode

5. After programming is finished, the checksum on the VFD (Fig. f).



Fig. f VFD upon Finishing the Programming Mode (Example)

At this time, no button is available.

6. Unplug the AC cord from the AC outlet. Then plug it again.
7. Turn the power on.
8. Press [1], [2], [3], [4], and [DISPLAY] buttons on the remote control unit in that order. Fig. g appears on the screen.

"\*\*\*\*\*" differ depending on the models.

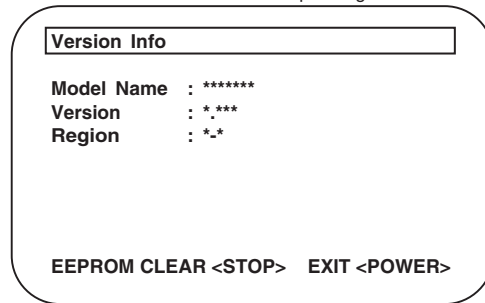


Fig. g

9. Press [STOP] button on the remote control unit. Fig. h appears on the screen and Fig. i appears on the VFD.

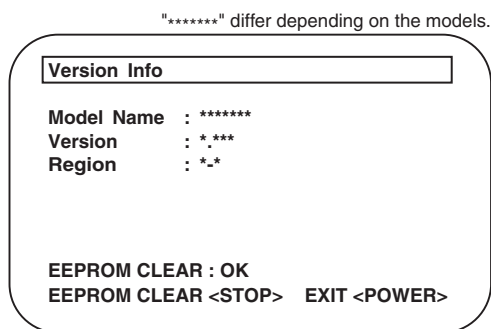


Fig. h



Fig. i

10. To exit this mode, press [POWER OFF] button.

## How to Verify the Firmware Version

1. Turn the power on.
2. Remove the disc on the tray and close the tray.
3. Press [1], [2], [3], [4], and [DISPLAY] buttons on the remote control unit in that order.

Fig. j appears on the screen.

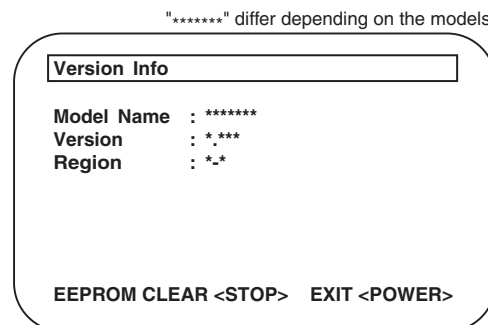
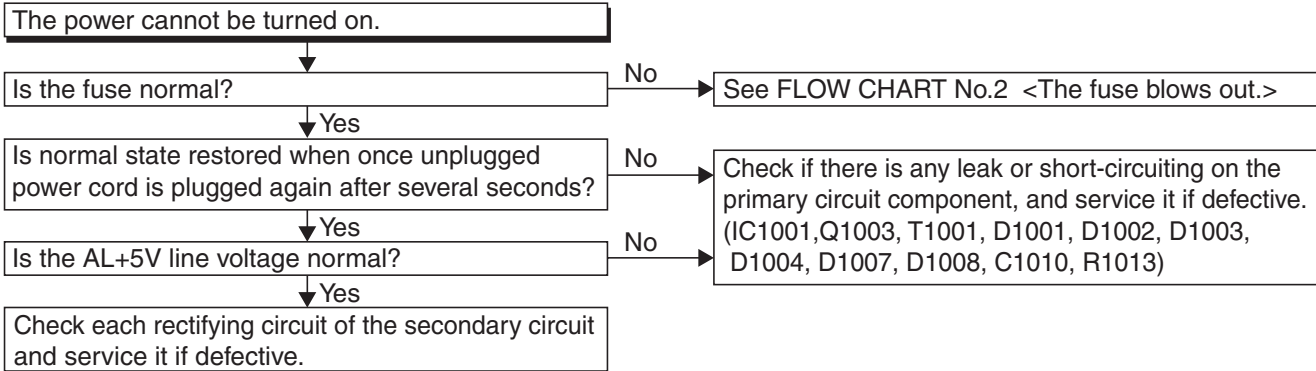


Fig. j

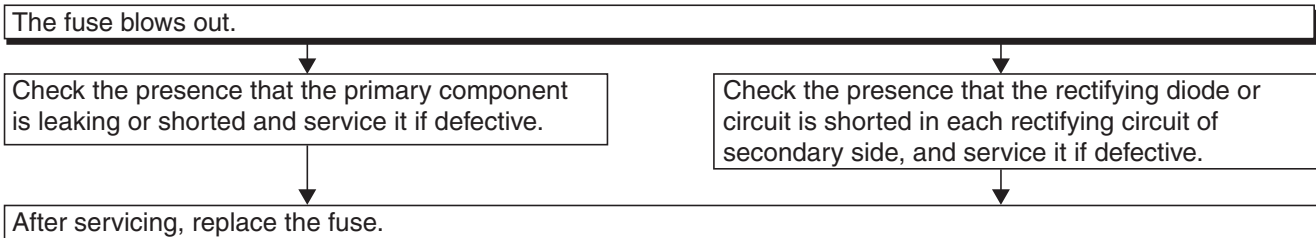
4. To exit this mode, press [POWER OFF] button.

# TROUBLESHOOTING

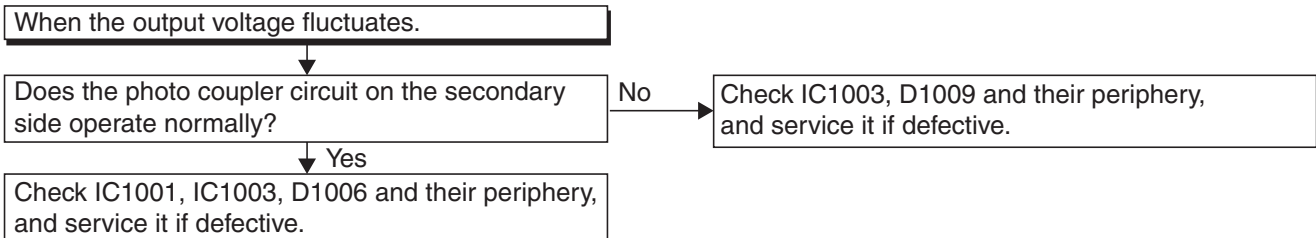
## FLOW CHART NO.1



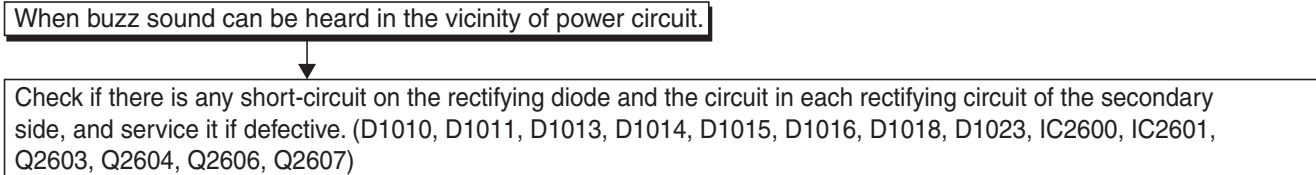
## FLOW CHART NO.2



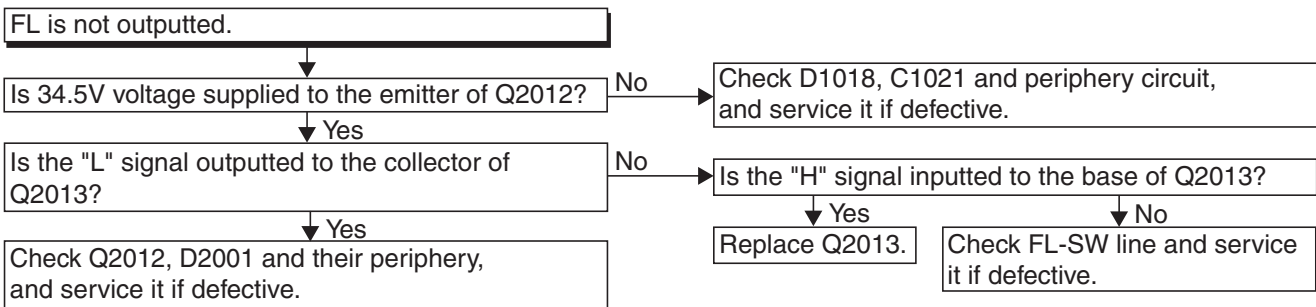
## FLOW CHART NO.3



## FLOW CHART NO.4



## FLOW CHART NO.5



**FLOW CHART NO.6**

P-ON+12V is not outputted.

Is 12V voltage supplied to the emitter of Q2603?

No → Check D1011, D1019, C1017, L1005 and their periphery circuit, and service it if defective.

Yes

Is the voltage of base on Q2603 lower than the voltage of emitter on Q2603 when turning the power on?

No → Check Q2601 and PWSW3 line and service it if defective.

Yes

Replace Q2603.

**FLOW CHART NO.7**

P-ON+5V (1) is not outputted.

Is 5V voltage inputted to the emitter of Q2606?

No → Check D1013, D1014, D1015, C1019, C1025, and their periphery, and service it if defective.

Yes

Is the voltage of base on Q2606 lower than the voltage of emitter on Q2606 when turning the power on?

No → Check Q2605 and PWSW3 line and service it if defective.

Yes

Replace Q2606.

**FLOW CHART NO.8**

P-ON+5V (2) is not outputted.

Is 5V voltage inputted to the emitter of Q2604?

No → Check D1013, D1014, D1015, C1019, C1025, and their periphery, and service it if defective.

Yes

Is the voltage of base on Q2604 lower than the voltage of emitter on Q2604 when turning the power on?

No → Check Q2605 and PWSW3 line and service it if defective.

Yes

Replace Q2604.

**FLOW CHART NO.9**

P-ON+10.5V is not outputted.

Is 13V voltage inputted to the collector of Q2607?

No → Check D1020, D1023, C1018, C1024, L1003 and their periphery, and service it if defective.

Yes

Is 11V voltage inputted to the base of Q2607?

No → Is 12V voltage inputted to the base of Q2602?

Yes

Replace Q2607.

Yes → Check Q2602, D2606, and their periphery, and service it if defective.

No → Check Q2601, D2613, and PWSW3 line, and service it if defective.

**FLOW CHART NO.10**

P-ON+1.2V is not outputted.

Is 2.5V voltage supplied to Pin(1) of IC2601?

No → Check D1016, C1020 and the periphery circuit, and service it if defective.

Yes

Replace IC2601.

### FLOW CHART NO.11

P-ON+3.3V is not outputted.

Is 5V voltage supplied to Pin(1) of IC2600?

No

Check D1013, D1014, D1015, D1021, C1025 and their periphery circuit, and service it if defective.

Yes

Replace IC2600.

### FLOW CHART NO.12

The fluorescent display tube does not light up.

Is 3.3V voltage supplied to Pin(24) of FL3000?

No

Check P-ON+3.3V line and service it if defective.

Yes

Is 8V voltage supplied to Pin(1,2) of FL3000?

No

Is 10V voltage supplied to the emitter of Q2014?

Yes

Is 9V voltage inputted to the base of Q2014?

Yes

Replace Q2014.

No

Check Q2013 and FL-SW line and service it if defective.

No

Check D1010, C1016, R1018 and their periphery, and service it if defective.

Yes

Is 5V voltage supplied to Pins(29,30) of FL3000?

No

Check F2 line and service it if defective.

Yes

Replace FL3000.

### FLOW CHART NO.13

The key operation is not functioning.

Are the contact point and the installation state of the key switches (SW3100, SW3002-3005) normal?

No

Re-install the switches (SW3100, SW3002-3005) correctly or replace the poor switch.

Yes

When pressing each switches (SW3100, SW3002-3005), do the voltage of Pin(4) of IC2000 increase?

No

Check the switches (SW3100, SW3002-3005) and their periphery, and service it if defective.

Yes

Replace IC2000.

### FLOW CHART NO.14

No operation is possible from the remote control unit. (Operation is possible from the unit.)

Is 5V voltage supplied to Pin(2) of RS3000 (remote control receiver) ?

No

Check AL+3.3V line and service it if defective.

Yes

Is the "L" pulse sent out Pin(1) of RS3000 (remote control receiver) when the remote control unit is activated?

No

Replace the RS3000 (remote control receiver) or remote control unit.

Yes

Is the "H" pulse inputted to the Pin(27) of IC2000?

No

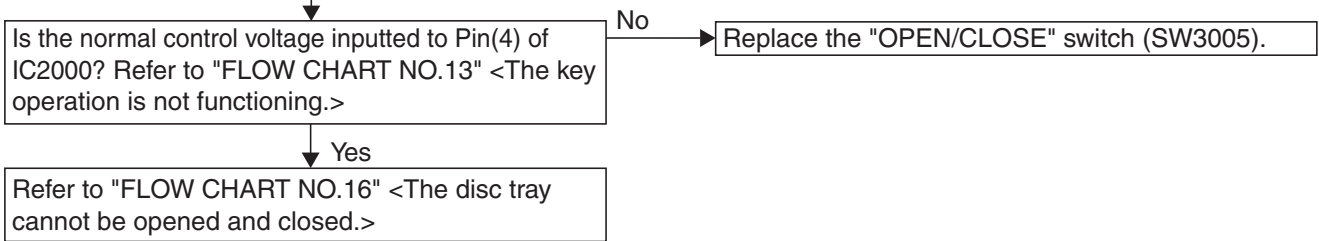
Check the line between the RS3000 (remote control receiver) and the Pin(27) of IC2000, and service it if defective.

Yes

Replace IC2000.

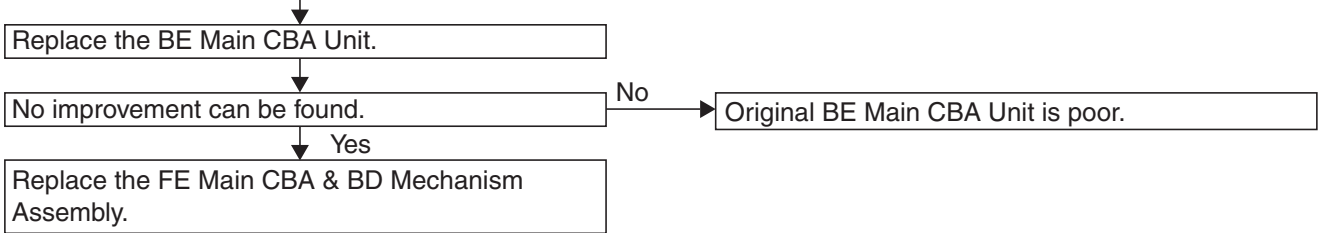
**FLOW CHART NO.15**

The disc tray cannot be opened and closed. (It can be done using the remote control unit.)



**FLOW CHART NO.16**

The disc tray cannot be opened and closed.  
[No Disc] indicated.  
Both functions of picture and sound do not operate normally.



**FLOW CHART NO.17**

Picture does not appear normally.

Set the disc on the disc tray, and playback.

Are the video signals outputted to each pin of CN2000? No → Replace the BE Main CBA Unit or FE Main CBA & BD Mechanism Assembly.

CN2000	9PIN	VIDEO
CN2000	1PIN	VIDEO-Y(I/P)
CN2000	3PIN	VIDEO-Pb/Cb
CN2000	5PIN	VIDEO-Pr/Cr

Yes

Are the video signals shown above inputted into each pin of IC2300 or IC2301? No → Check the line between each pin of CN2000 and each pin of IC2300 or IC2301, and service it if detective.

IC2301	3PIN	VIDEO
IC2300	1PIN	VIDEO-Y(I/P)
IC2300	3PIN	VIDEO-Pb/Cb
IC2300	5PIN	VIDEO-Pr/Cr

CN2000	9PIN	→ IC2301	3PIN	VIDEO
CN2000	1PIN	→ IC2300	1PIN	VIDEO-Y(I/P)
CN2000	3PIN	→ IC2300	3PIN	VIDEO-Pb/Cb
CN2000	5PIN	→ IC2300	5PIN	VIDEO-Pr/Cr

Yes

Are the video signals outputted to each pin of IC2300 or IC2301? No → Is 5V voltage supplied to the Pin(4,18) of IC2300 and Pin(4) of IC2301?

IC2300	20PIN	VIDEO-Y(I/P)
IC2300	17PIN	VIDEO-Pb/Cb
IC2300	15PIN	VIDEO-Pr/Cr
IC2301	5PIN	VIDEO-CVBS

Is 5V voltage supplied to the Pin(4,18) of IC2300 and Pin(4) of IC2301?

Yes

Replace IC2300 or IC2301.

No

Check P-ON+5V(2) line and service it if detective.

Yes

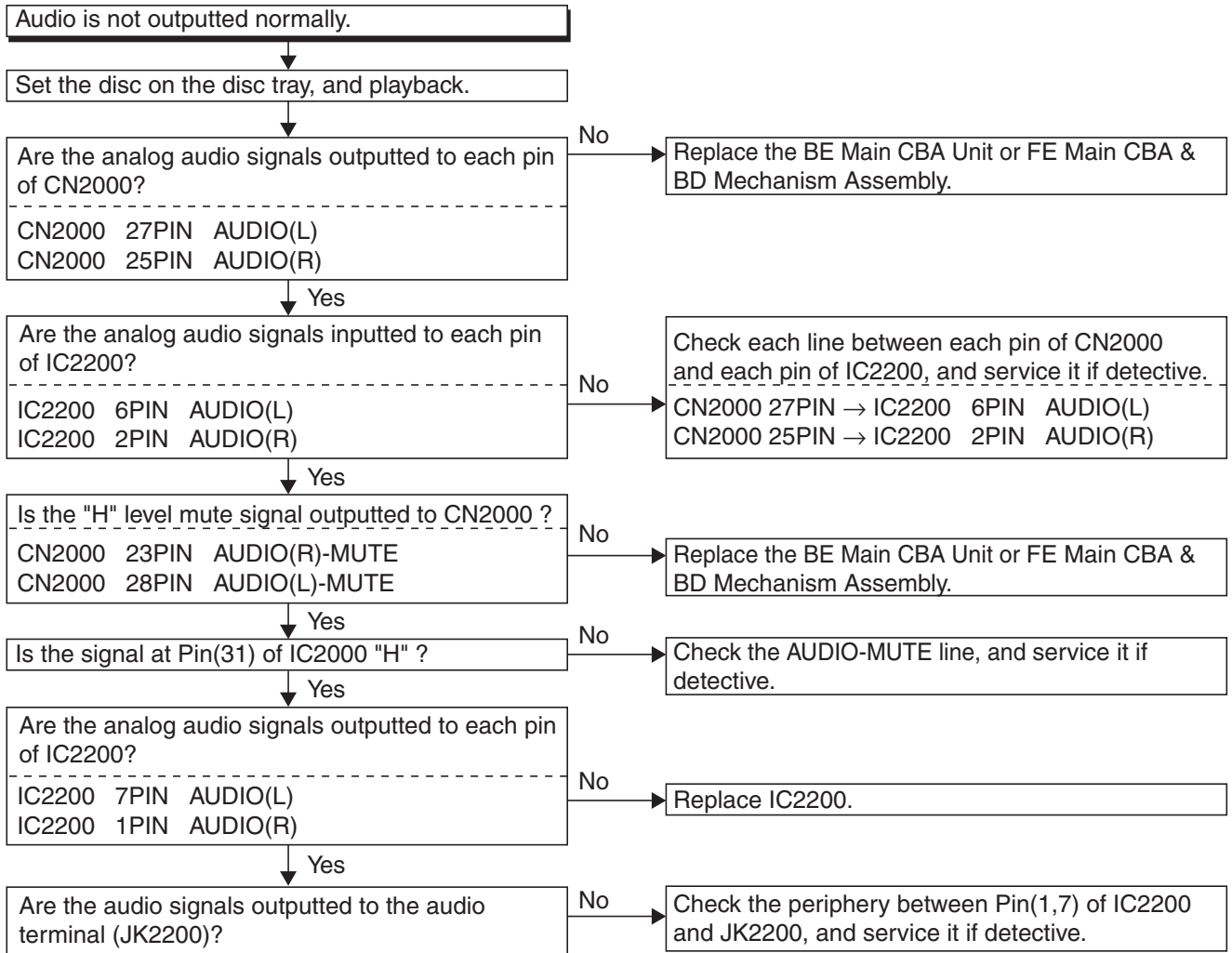
Are the video signals outputted to the specific output terminal? No → Check the periphery of JK2300 from Pin(15,17,20) of IC2300 and service it if detective.

Are the component video signals outputted to the VIDEO OUT terminal (JK2300)?

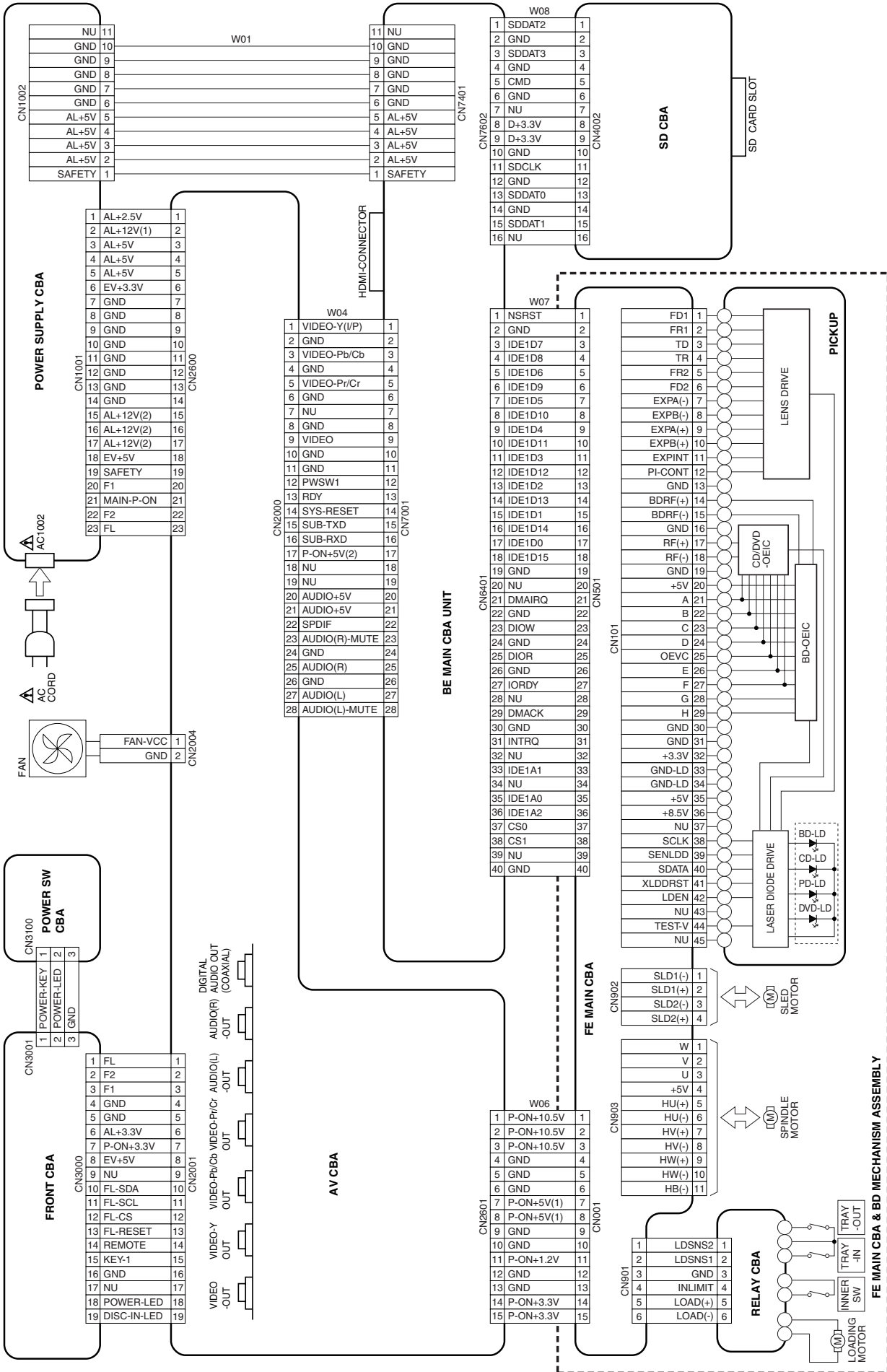
Are the composite video signals outputted to the VIDEO OUT terminal (JK2300)? No → Check the periphery of JK2300 from Pin(5) of IC2301 and service it if detective.



**FLOW CHART NO.18**

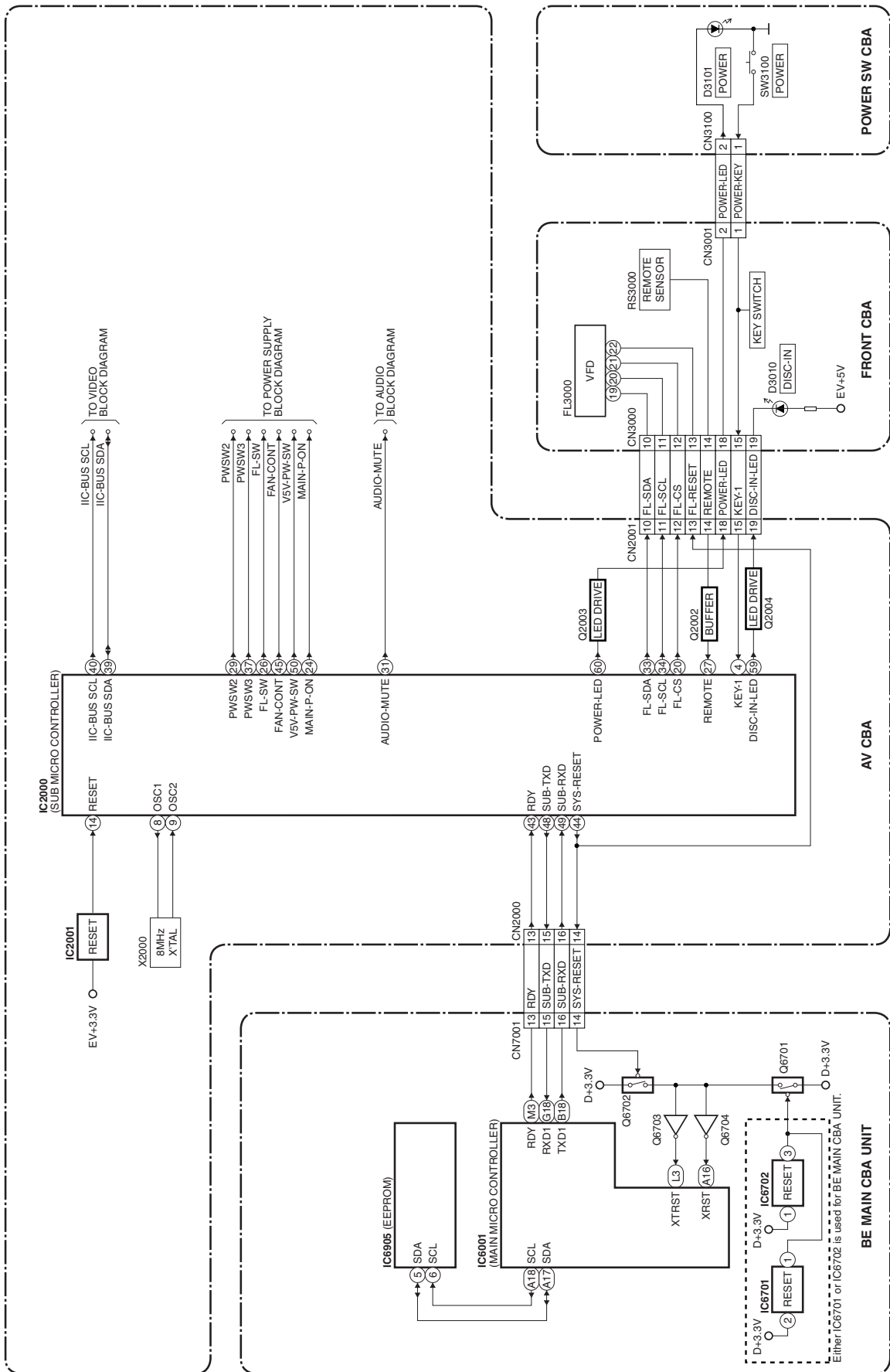


# WIRING DIAGRAM

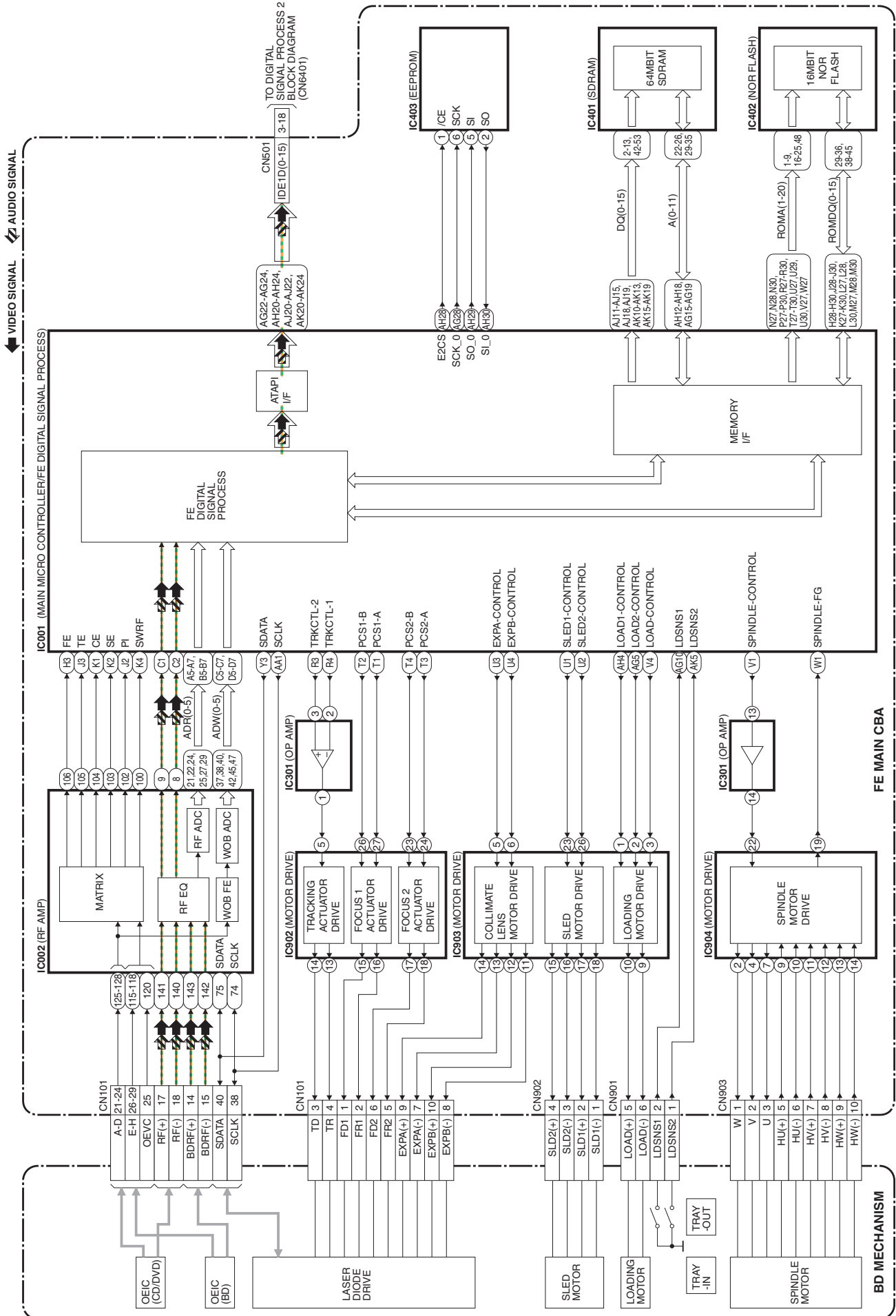


# BLOCK DIAGRAMS

## System Control Block Diagram

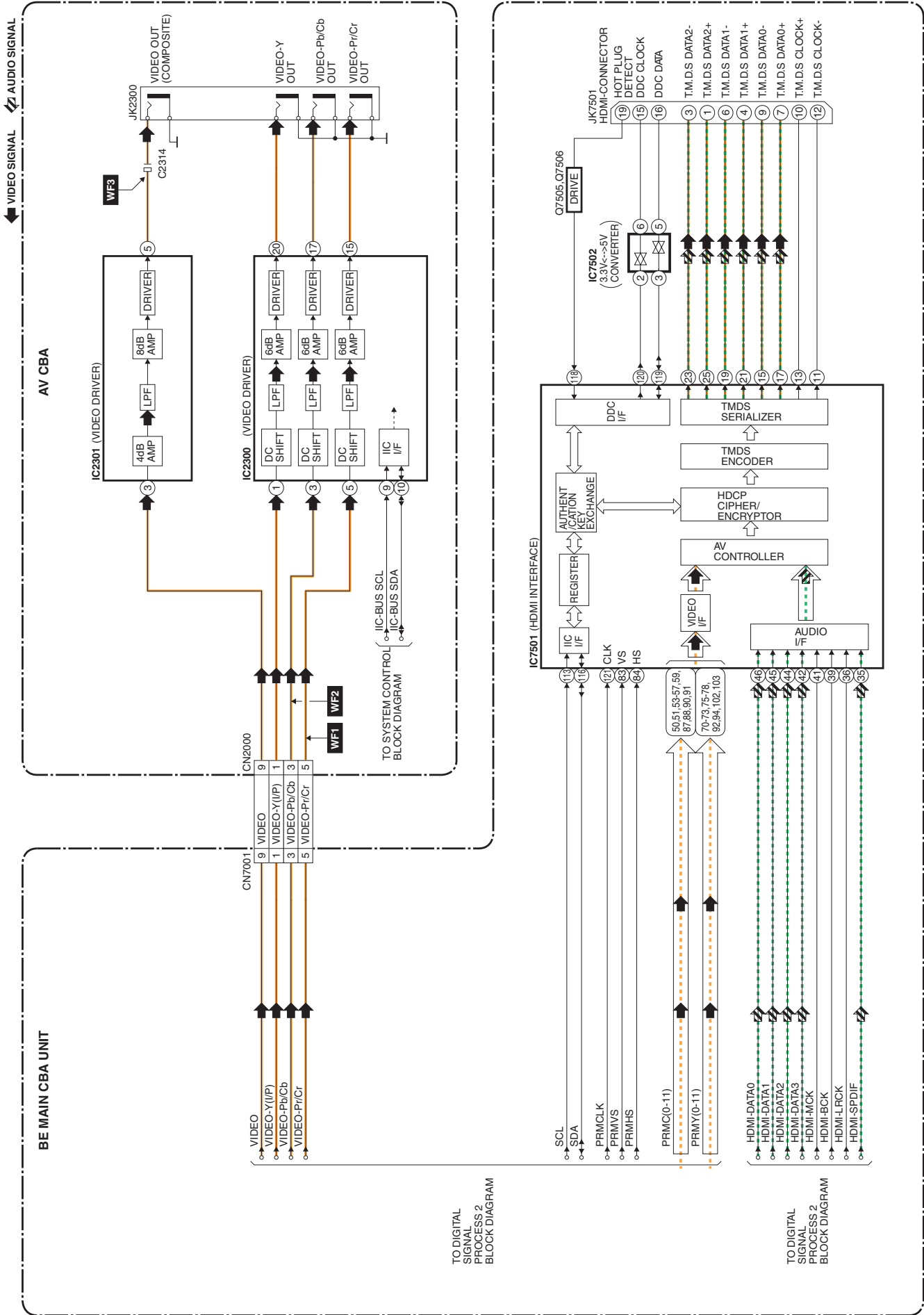


# Digital Signal Process 1 Block Diagram

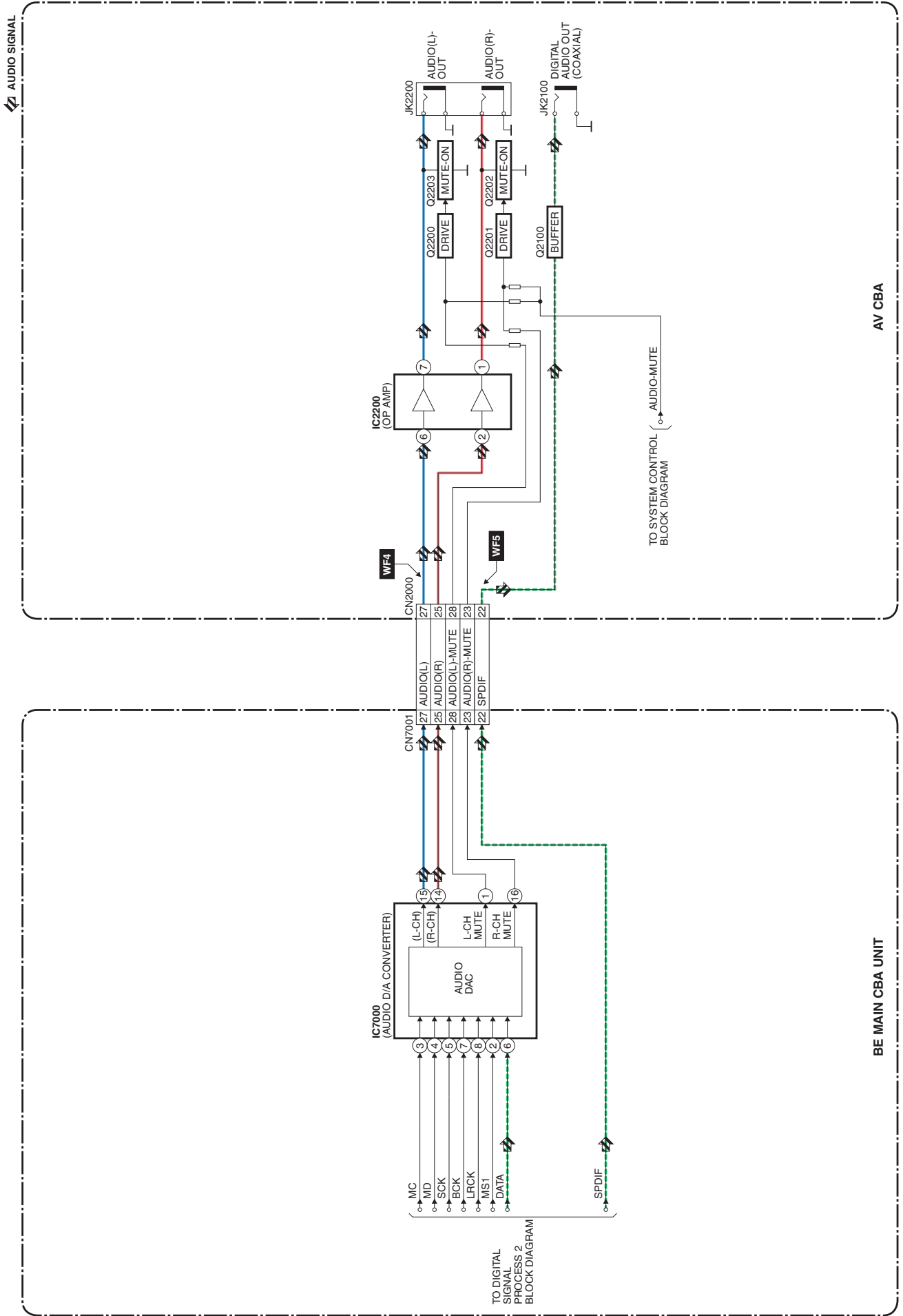




# Video Block Diagram



# Audio Block Diagram



# Power Supply Block Diagram

## CAUTION !

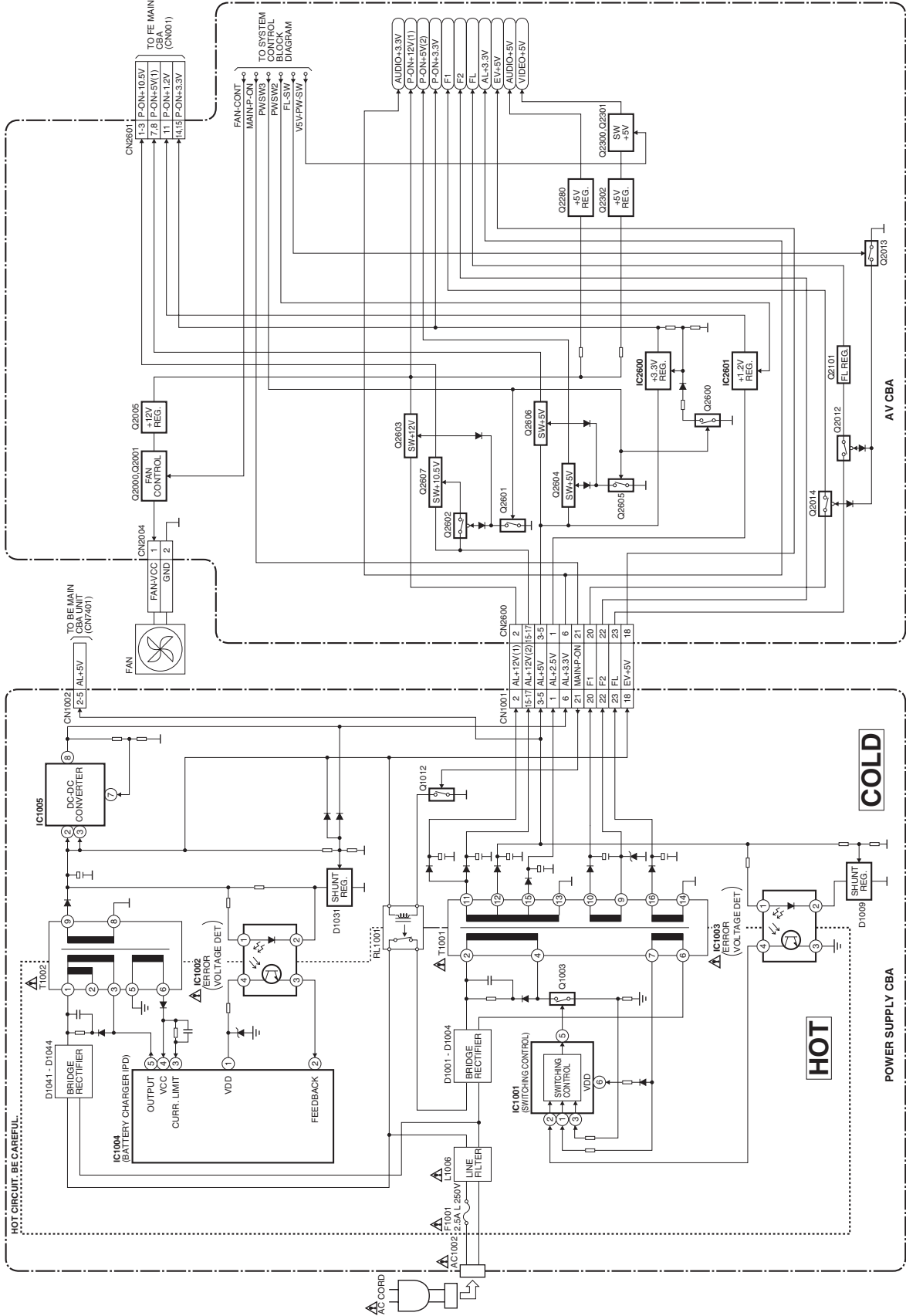
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit. If Main Fuse (F1001) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

## CAUTION !

For continued protection against fire hazard, replace only with the same type fuse.

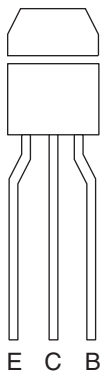
## NOTE:

The voltage for parts in hot circuit is measured using hot GND as a common terminal.

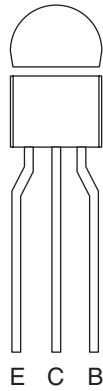




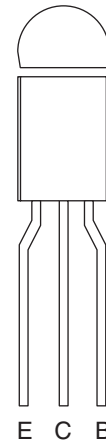
# LEAD IDENTIFICATIONS



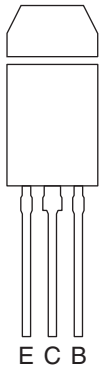
2SA1980M Y  
2SC5343M Y  
2SC5343MG-AT  
2SC5343Y-AT  
KRA105M-AT/P  
KRC102M-AT/P  
KRC103M-AT/P  
KTA1267-Y-AT/P  
KTC3199-(GR, Y)-AT/P  
SRA2205M  
SRC1203MAT



2SA1981Y-AT  
2SC1815-(GR, Y)(TE2 F T)  
2SC5344 Y  
KTA1266-Y-AT/P  
KTA1271-Y-AT/P  
KTC3198-Y-AT/P  
KTC3203-Y-AT/P

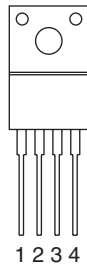


STB1277LY-AT

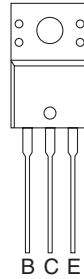


KTA1273-Y-AT/P  
KTC3205-Y-AT/P  
STD1862LY-AT

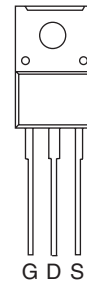
PQ070XF02SZH



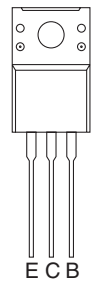
STC403



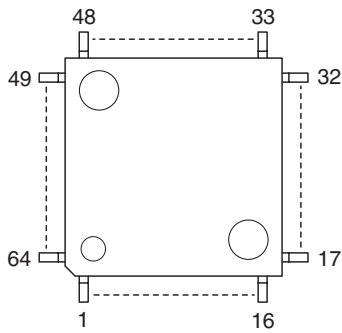
2SK3798(Q)  
2SK3798(Q.M)



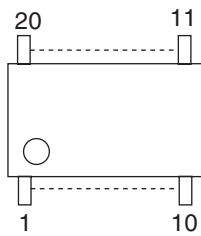
KTC2026-Y/P



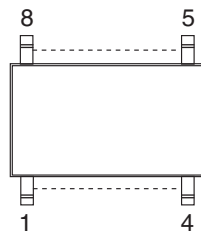
MN101C77AFS3



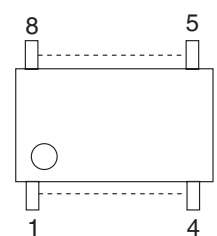
BH7602FS-E2



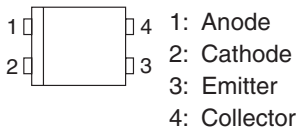
UTC4580E



MM1636XWRE

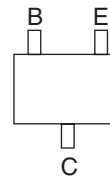


EL817B  
LTV-817B-F  
PS2561A-1(Q,W)

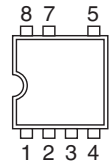


1: Anode  
2: Cathode  
3: Emitter  
4: Collector

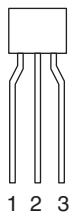
2SA1530A-T112-1Z  
2SA1980SFY  
KRC101S-RTK/P  
KTA1504S-Y-RTK/P  
SRC1201SF



MIP2F10MS

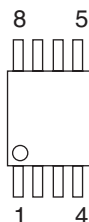


2SD2144S

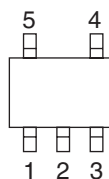


1: GND  
2: OUT  
3: IN

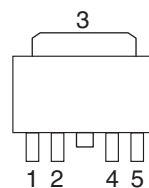
AZ4580MTR-E1  
FA5541N-A2-TE1  
S4580  
TB7102F



PST3630NR  
PST8430NR



PQ035ZN01ZPH

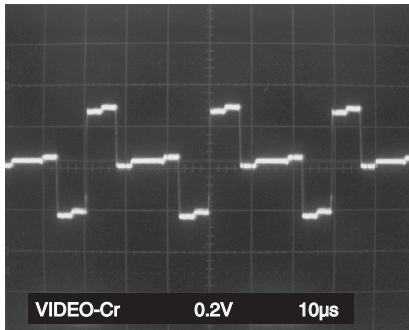


### Note:

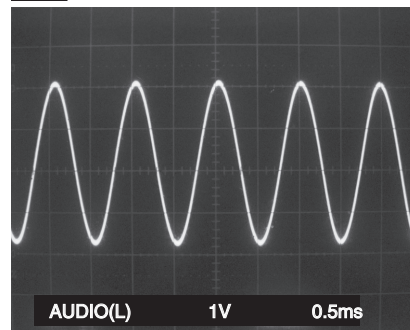
A: Anode  
K: Cathode  
E: Emitter  
C: Collector  
B: Base  
R: Reference  
G: Gate  
D: Drain  
S: Source

# WAVEFORMS

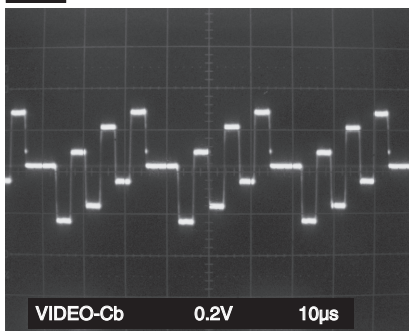
**WF1** Pin 5 of CN2000



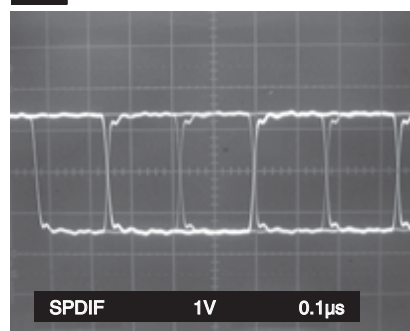
**WF4** Pin 27 of CN2000



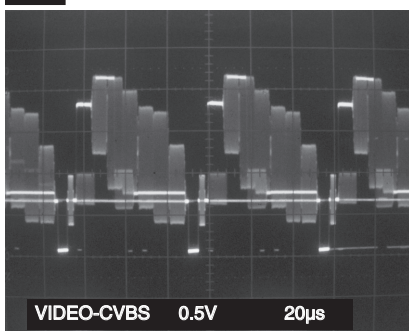
**WF2** Pin 3 of CN2000



**WF5** Pin 22 of CN2000



**WF3** C2314 PLUS LEAD



## NOTE:

Input Signal (DVD)

VIDEO: 75% COLOR BAR

AUDIO: 1kHz, 0dB

# SCHEMATIC DIAGRAMS AND TEST POINTS

## Standard Notes

### WARNING

Many electrical and mechanical parts in this chassis have special characteristics. These characteristics often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special safety characteristics are identified in this manual and its supplements; electrical components having such features are identified by the mark “⚠” in the schematic diagram and the parts list. Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock, fire, or other hazards.

### Notes:

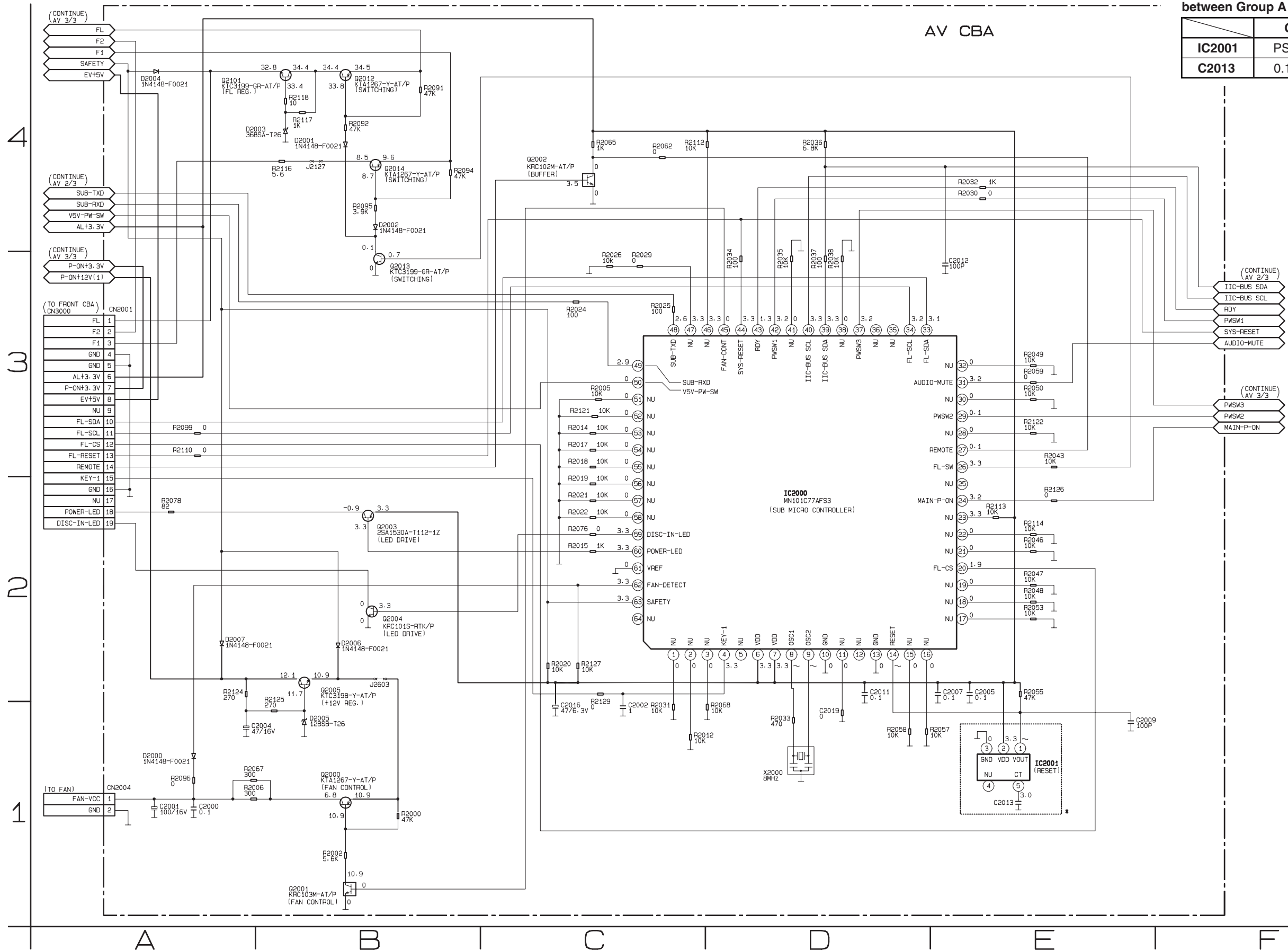
1. Do not use the part number shown on these drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since these drawings were prepared.
2. All resistance values are indicated in ohms ( $K = 10^3$ ,  $M = 10^6$ ).
3. Resistor wattages are 1/4W or 1/6W unless otherwise specified.
4. All capacitance values are indicated in  $\mu F$  ( $P = 10^{-6} \mu F$ ).
5. All voltages are DC voltages unless otherwise specified.
6. Electrical parts such as capacitors, connectors, diodes, IC's, transistors, resistors, switches, and fuses are identified by four digits. The first two digits are not shown for each component. In each block of the diagram, there is a note such as shown below to indicate these abbreviated two digits.



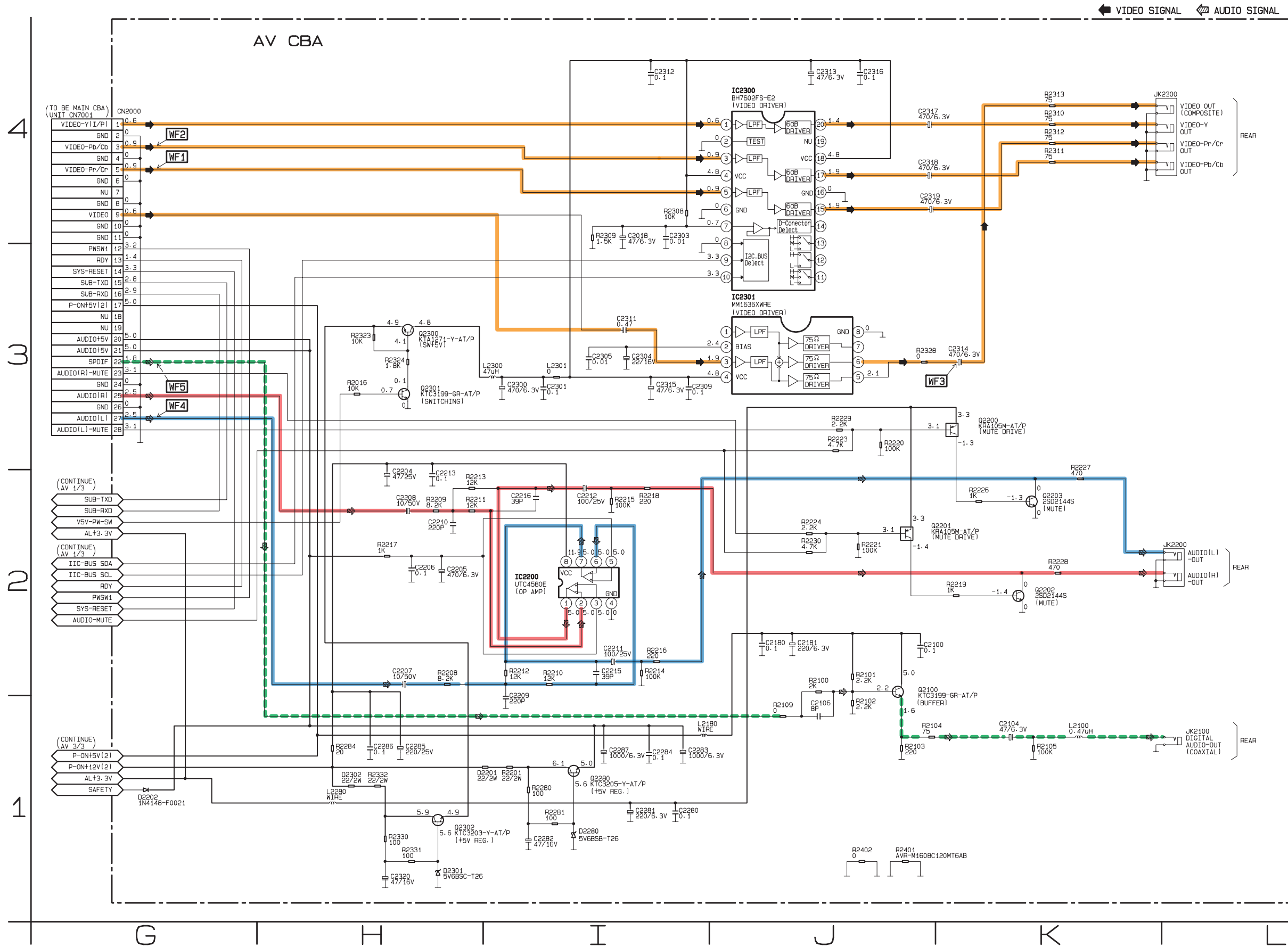
# AV 1/3 Schematic Diagram

**\* NOTE**  
 These components (IC2001, C2013) can be used in any models. However, you cannot mix components under Group A with the ones under Group B. You can choose either Group. The difference between Group A and Group B is shown below.

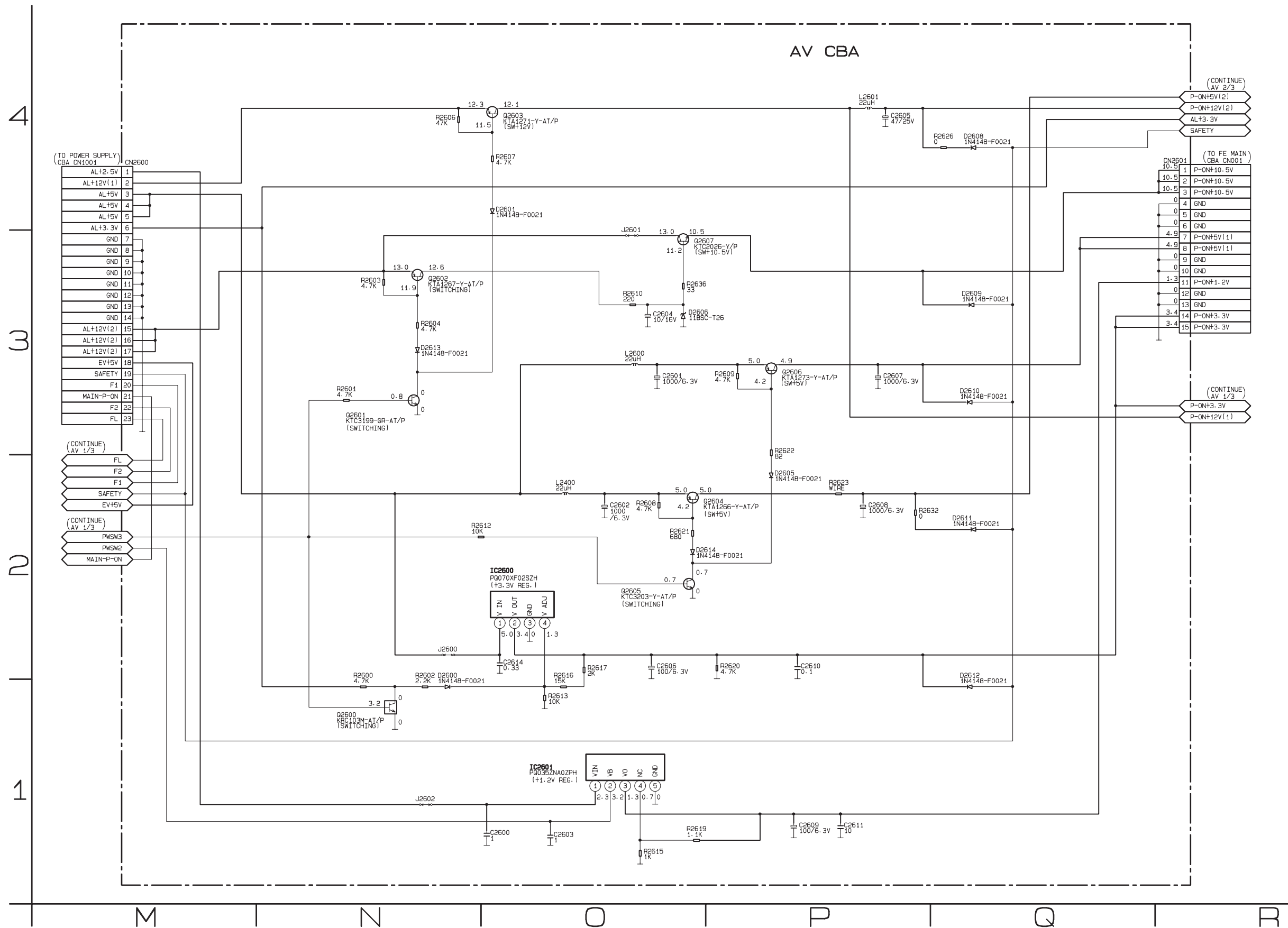
	Group A	Group B
IC2001	PST3630NR	PST8430NR
C2013	0.1	0.01



# AV 2/3 Schematic Diagram



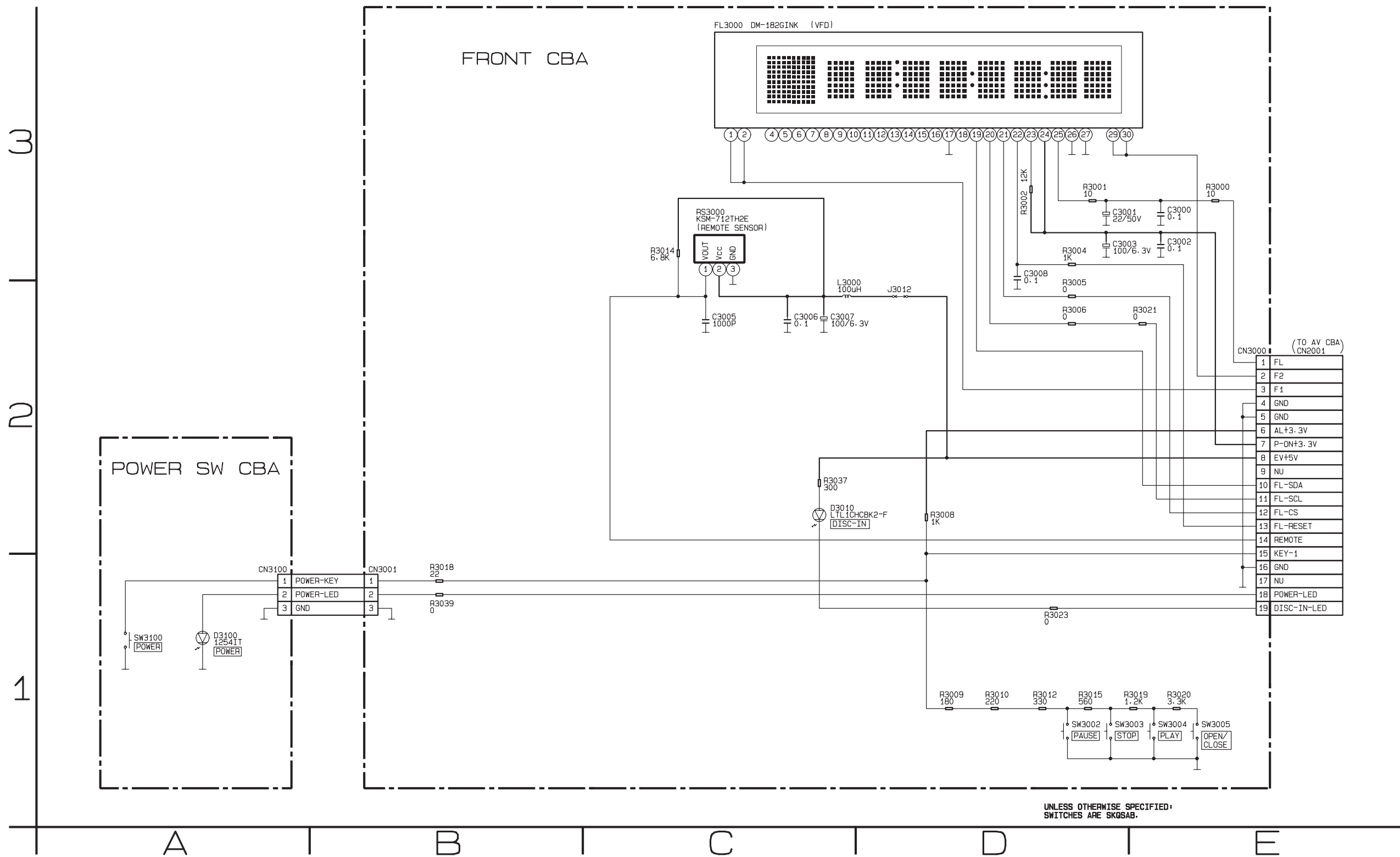
# AV 3/3 Schematic Diagram



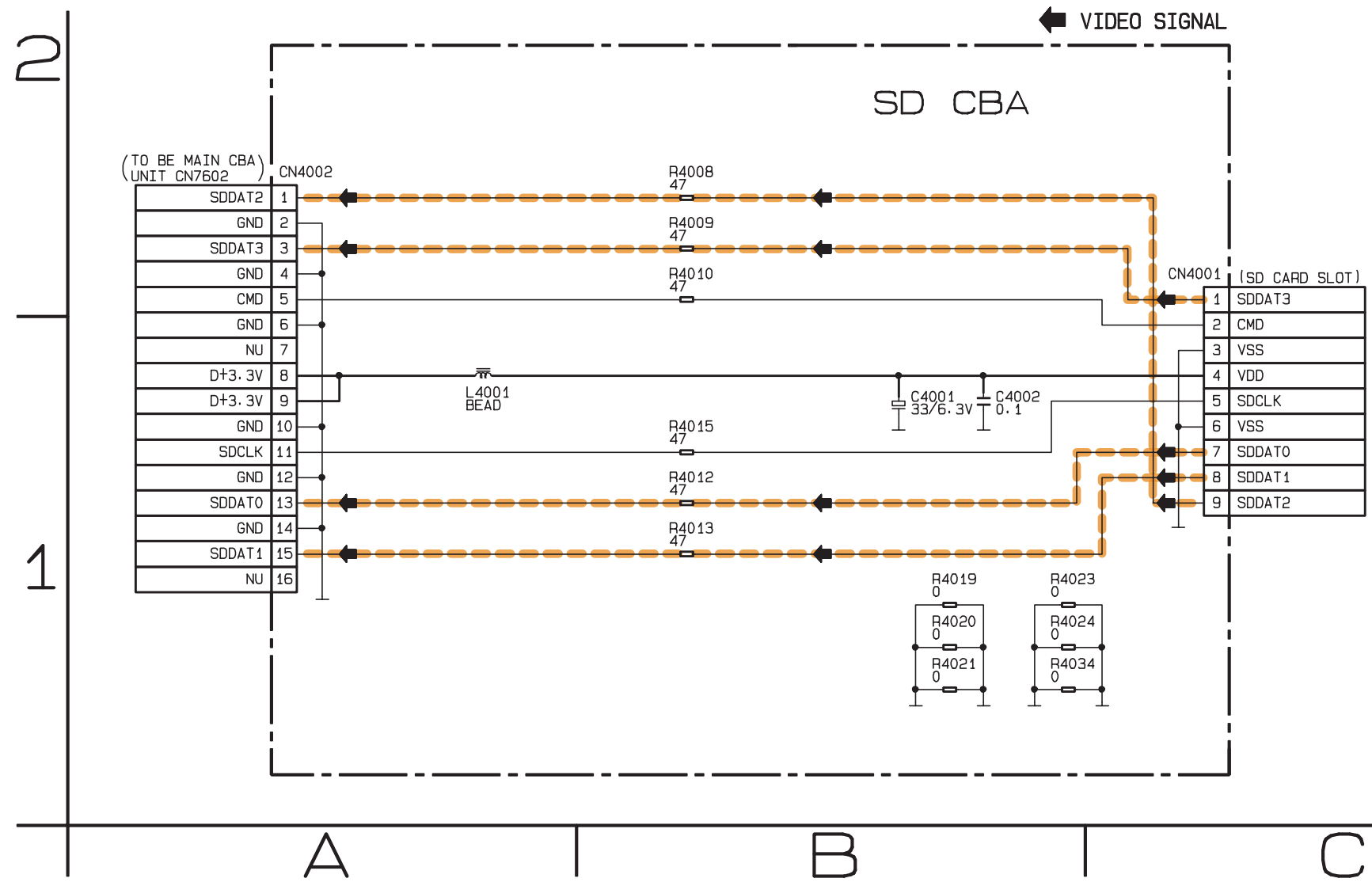




# Front & Power SW Schematic Diagram



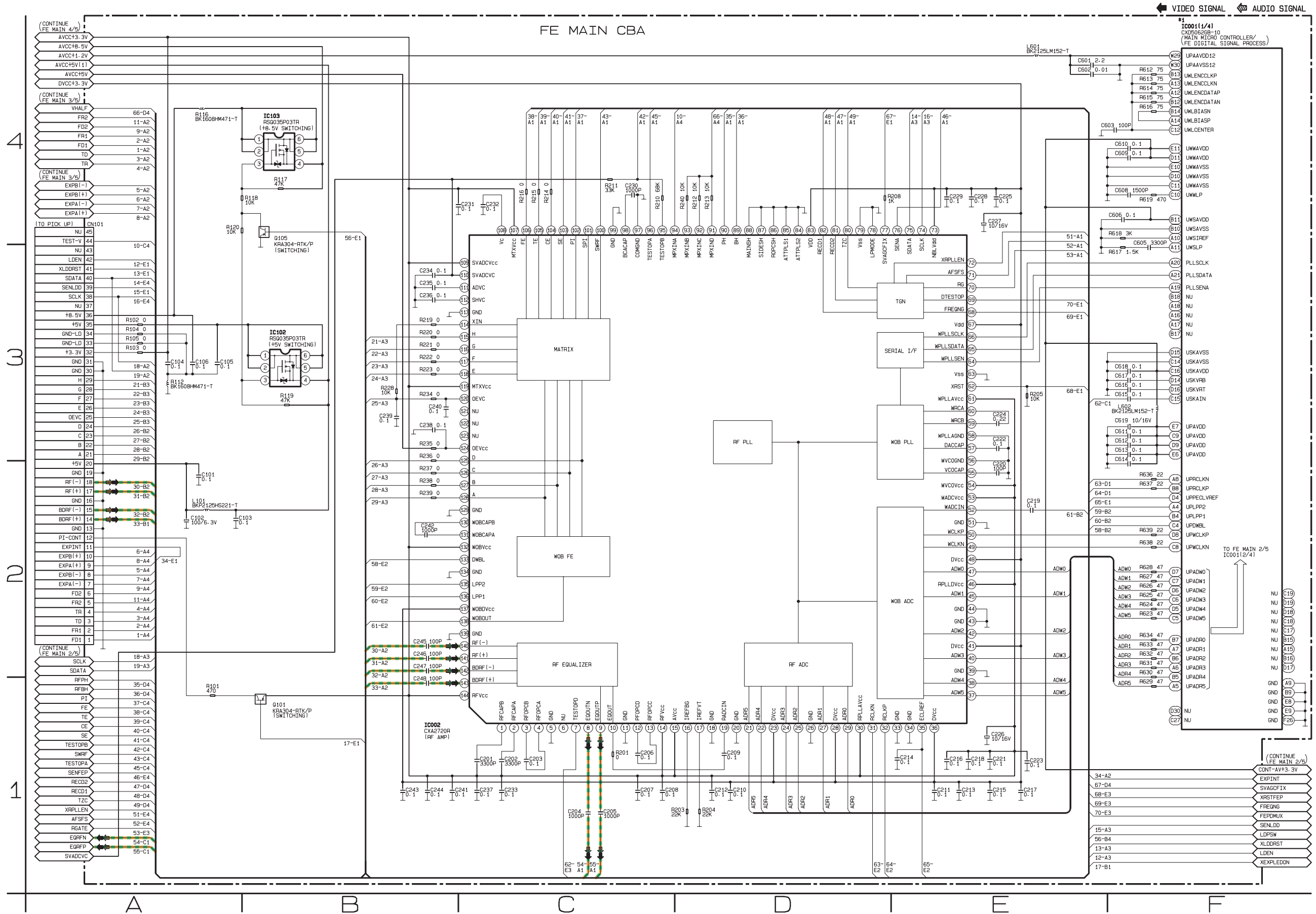
# SD Schematic Diagram



# FE Main 1/5 Schematic Diagram

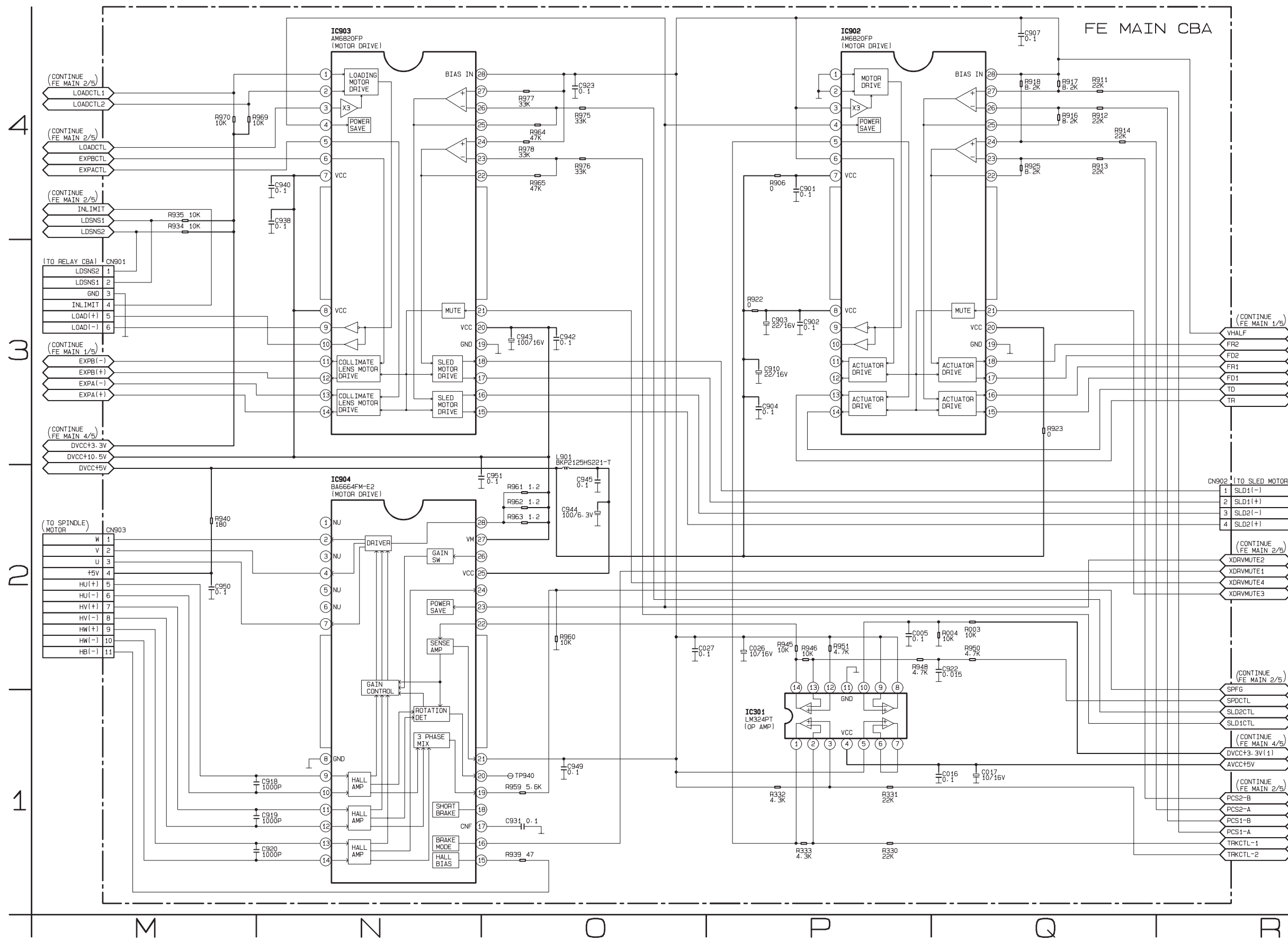
\*1 NOTE:

The order of pins shown in this diagram is different from that of actual IC001.  
IC001 is divided into four and shown as IC001 (1/4) ~ IC001 (4/4) in this FE Main Schematic Diagram Section.





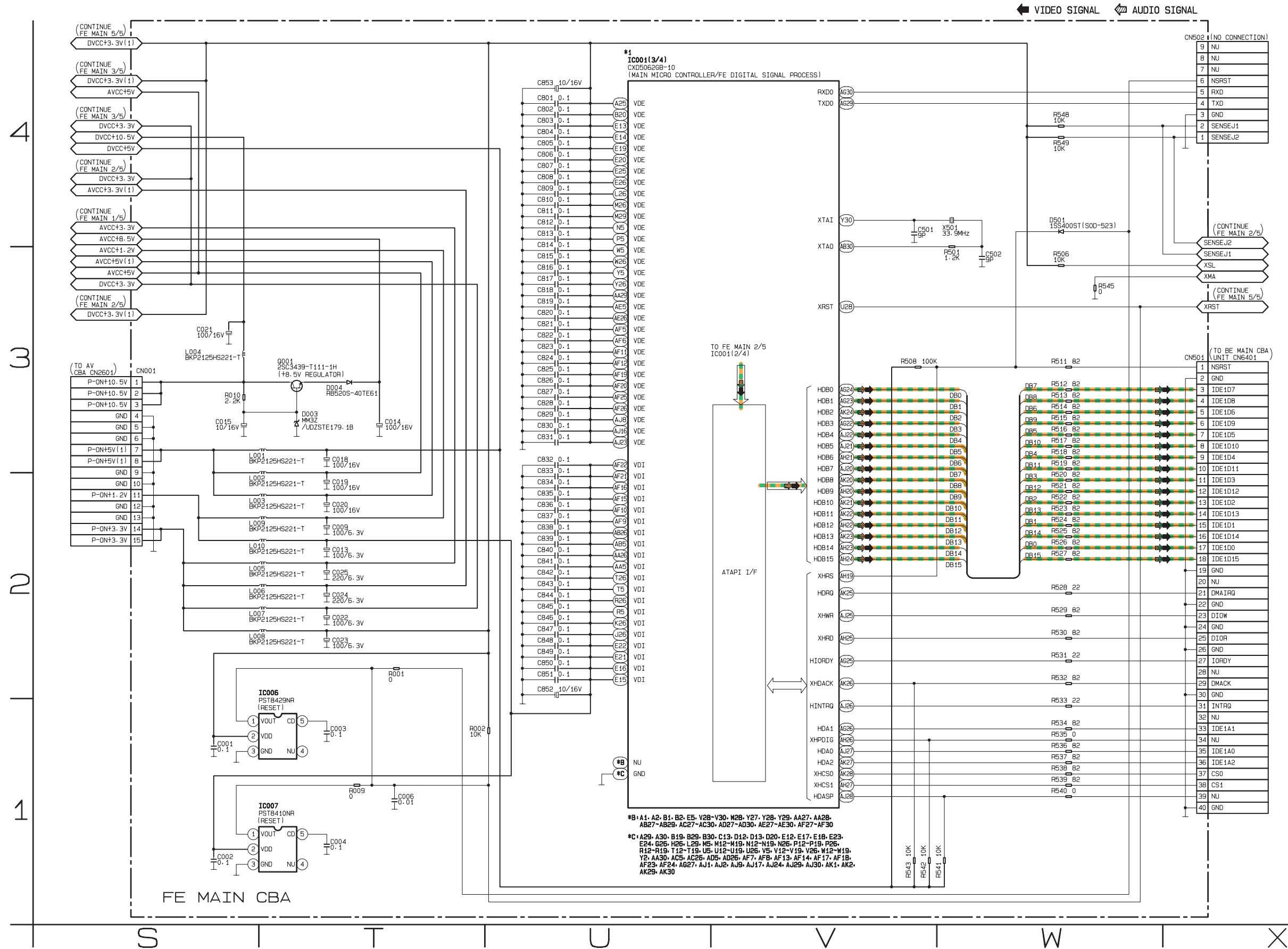
# FE Main 3/5 Schematic Diagram



# FE Main 4/5 Schematic Diagram

**\*1 NOTE:**

The order of pins shown in this diagram is different from that of actual IC001.  
IC001 is divided into four and shown as IC001 (1/4) ~ IC001 (4/4) in this FE Main Schematic Diagram Section.

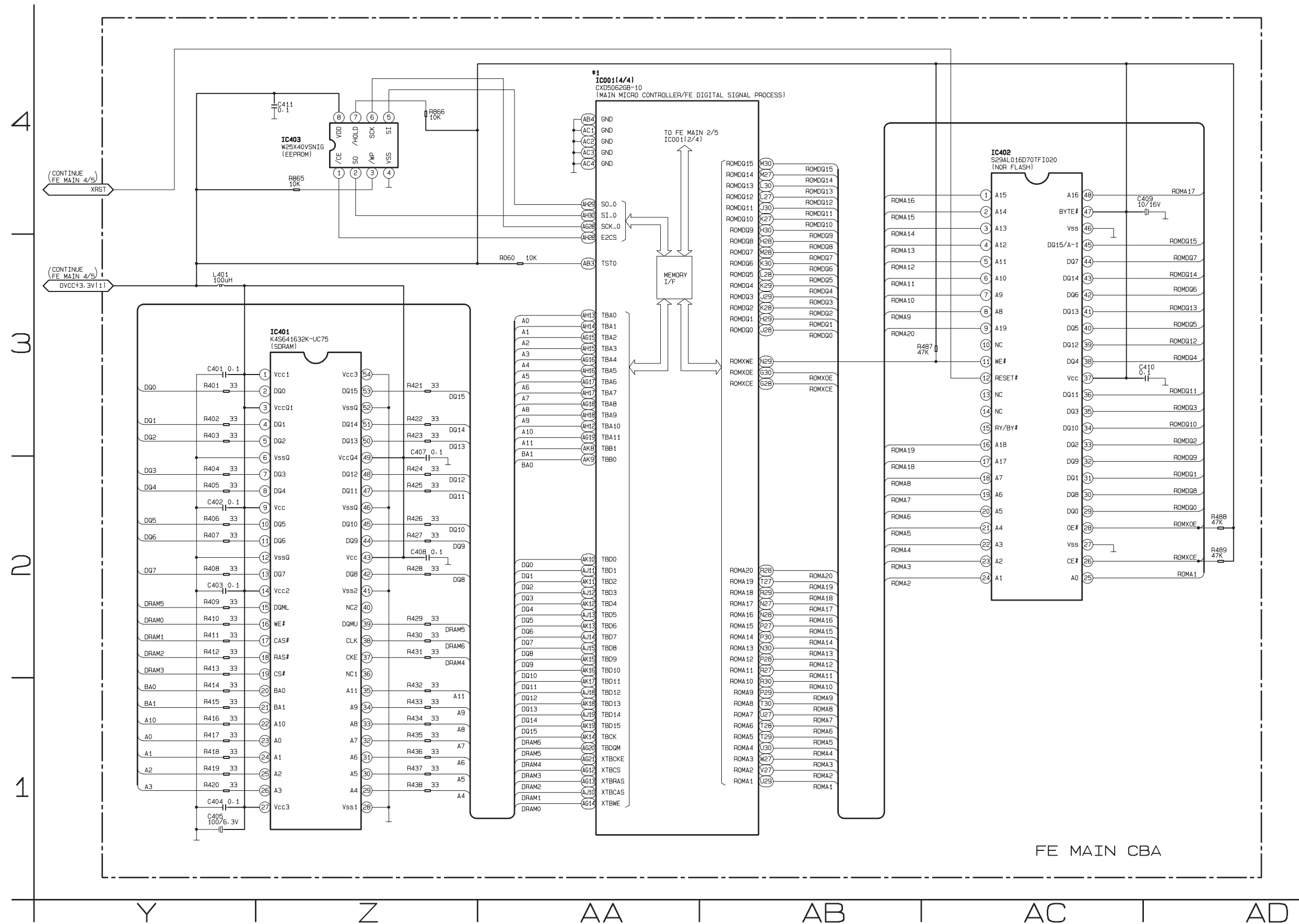




# FE Main 5/5 Schematic Diagram

**\*1 NOTE:**

The order of pins shown in this diagram is different from that of actual IC001.  
IC001 is divided into four and shown as IC001 (1/4) ~ IC001 (4/4) in this FE Main Schematic Diagram Section.

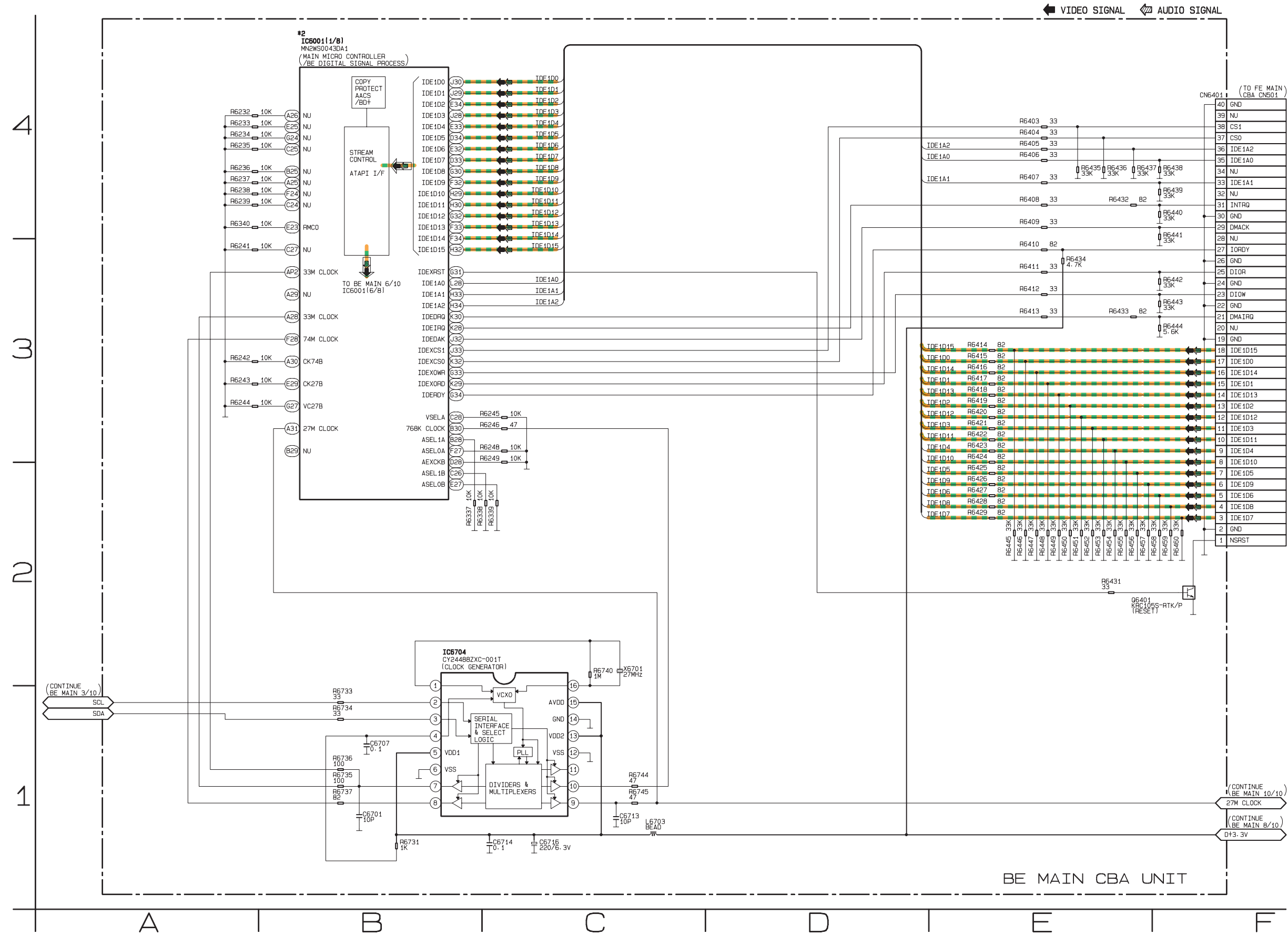


FE MAIN CBA

# BE Main 1/10 Schematic Diagram

**\*2 NOTE:**

The order of pins shown in this diagram is different from that of actual IC6001.  
 IC6001 is divided into eight and shown as IC6001 (1/8) ~ IC6001 (8/8) in this BE Main Schematic Diagram Section.



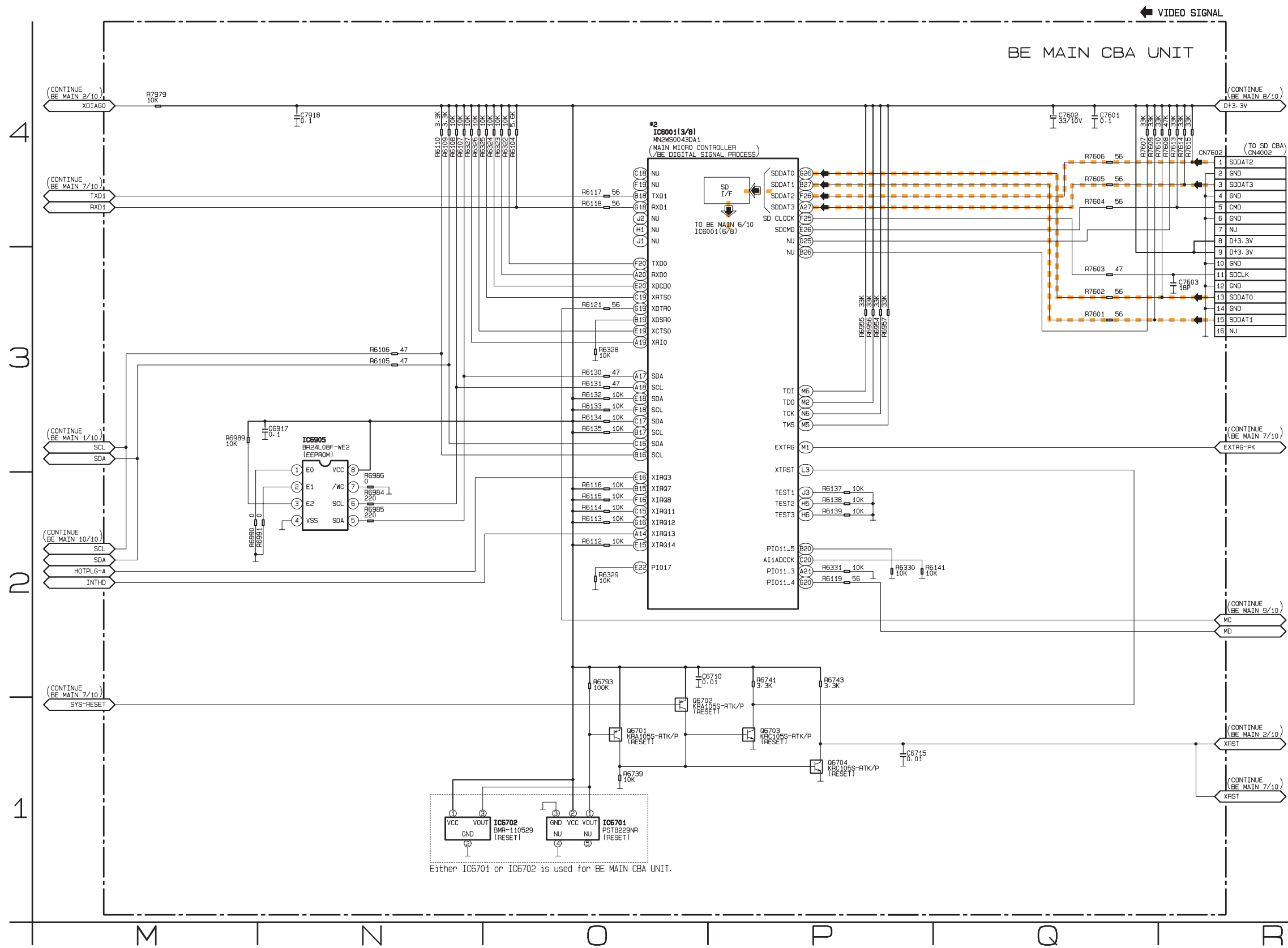




# BE Main 3/10 Schematic Diagram

**\*2 NOTE:**

The order of pins shown in this diagram is different from that of actual IC6001.  
IC6001 is divided into eight and shown as IC6001 (1/8) ~ IC6001 (8/8) in this BE Main Schematic Diagram Section.

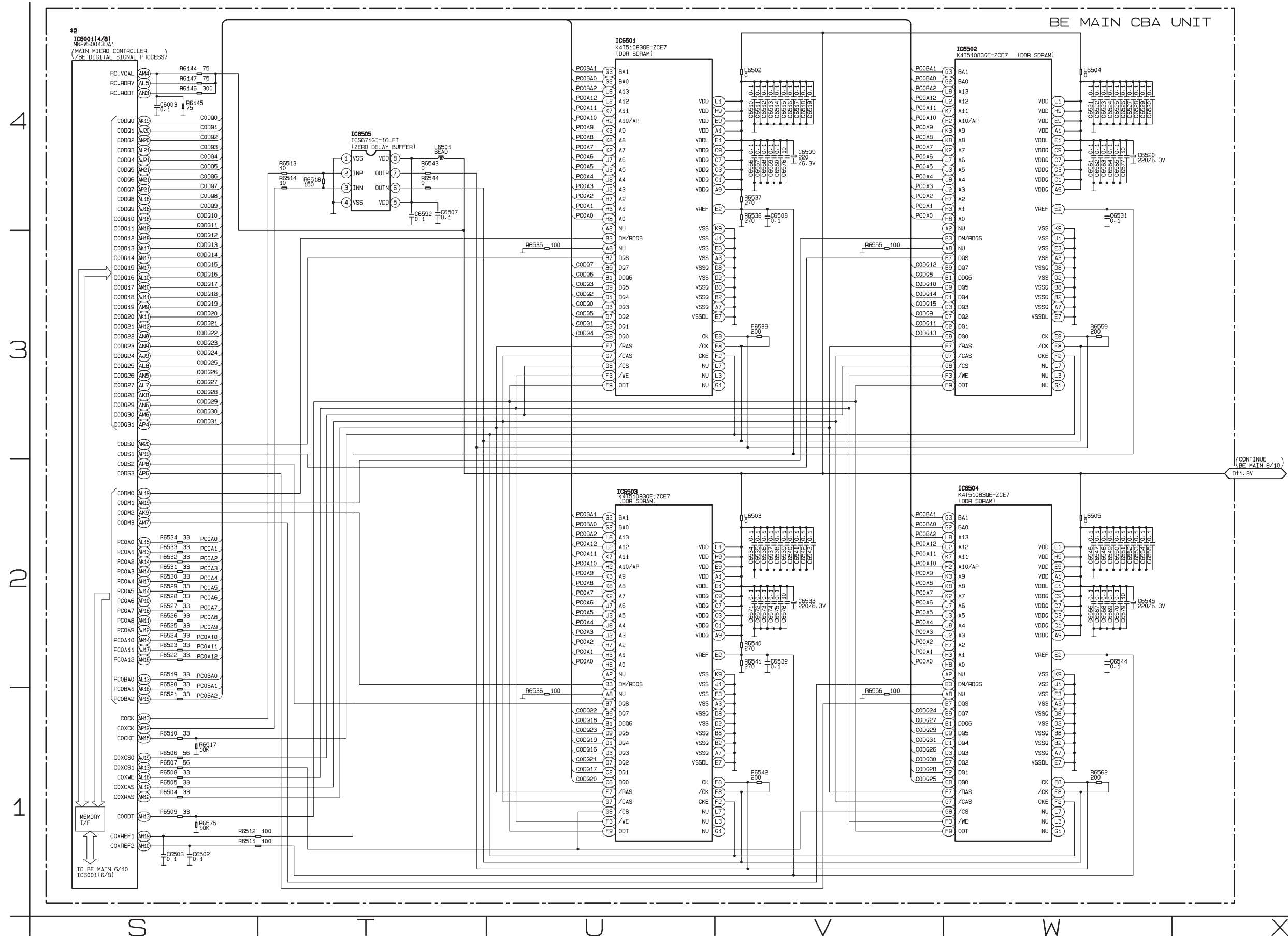


Either IC6701 or IC6702 is used for BE MAIN CBA UNIT.

# BE Main 4/10 Schematic Diagram

\*2 NOTE:

The order of pins shown in this diagram is different from that of actual IC6001.  
IC6001 is divided into eight and shown as IC6001 (1/8) ~ IC6001 (8/8) in this BE Main Schematic Diagram Section.

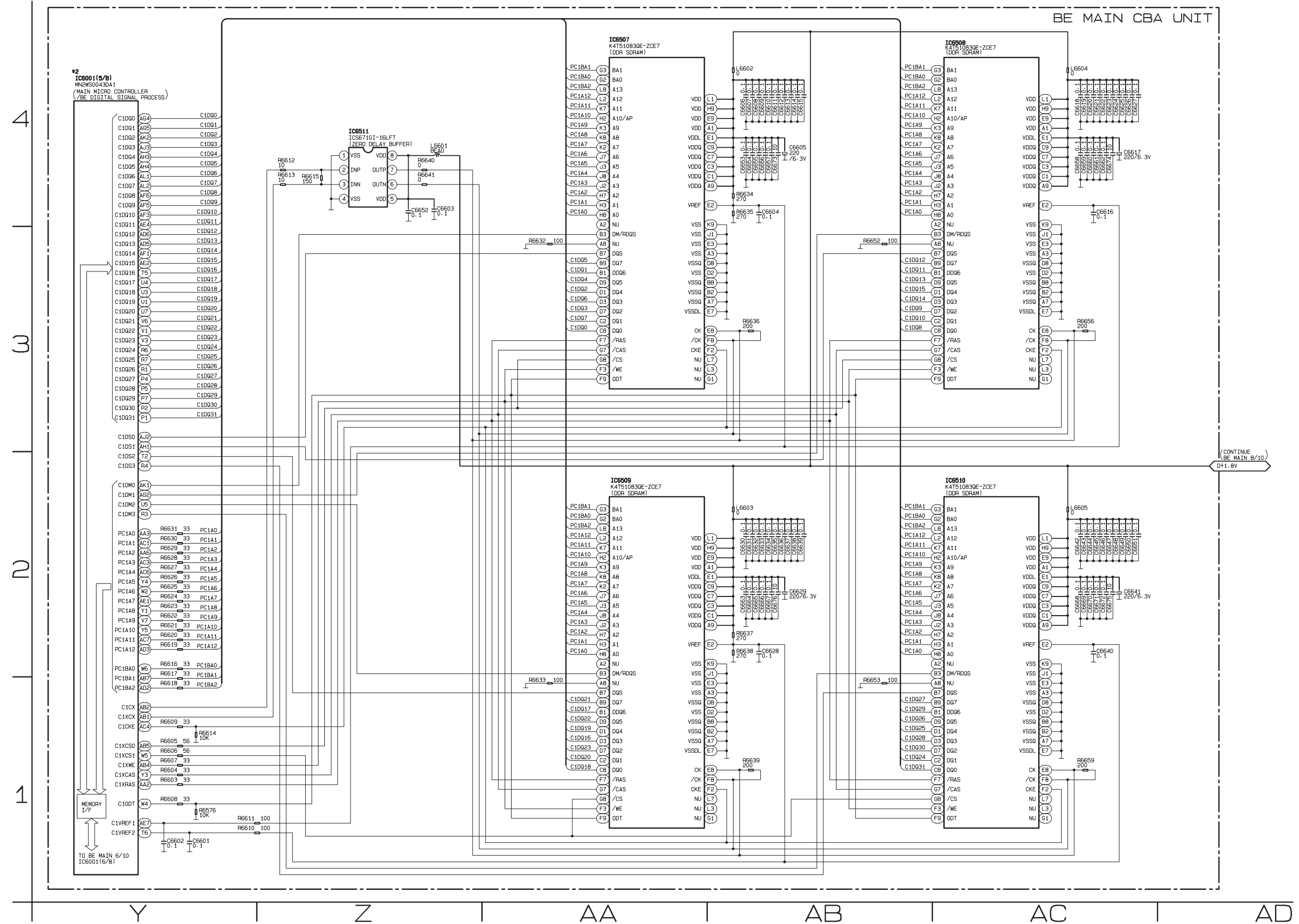


(CONTINUE  
BE MAIN 8/10)  
DH1.BV

# BE Main 5/10 Schematic Diagram

**\*2 NOTE:**

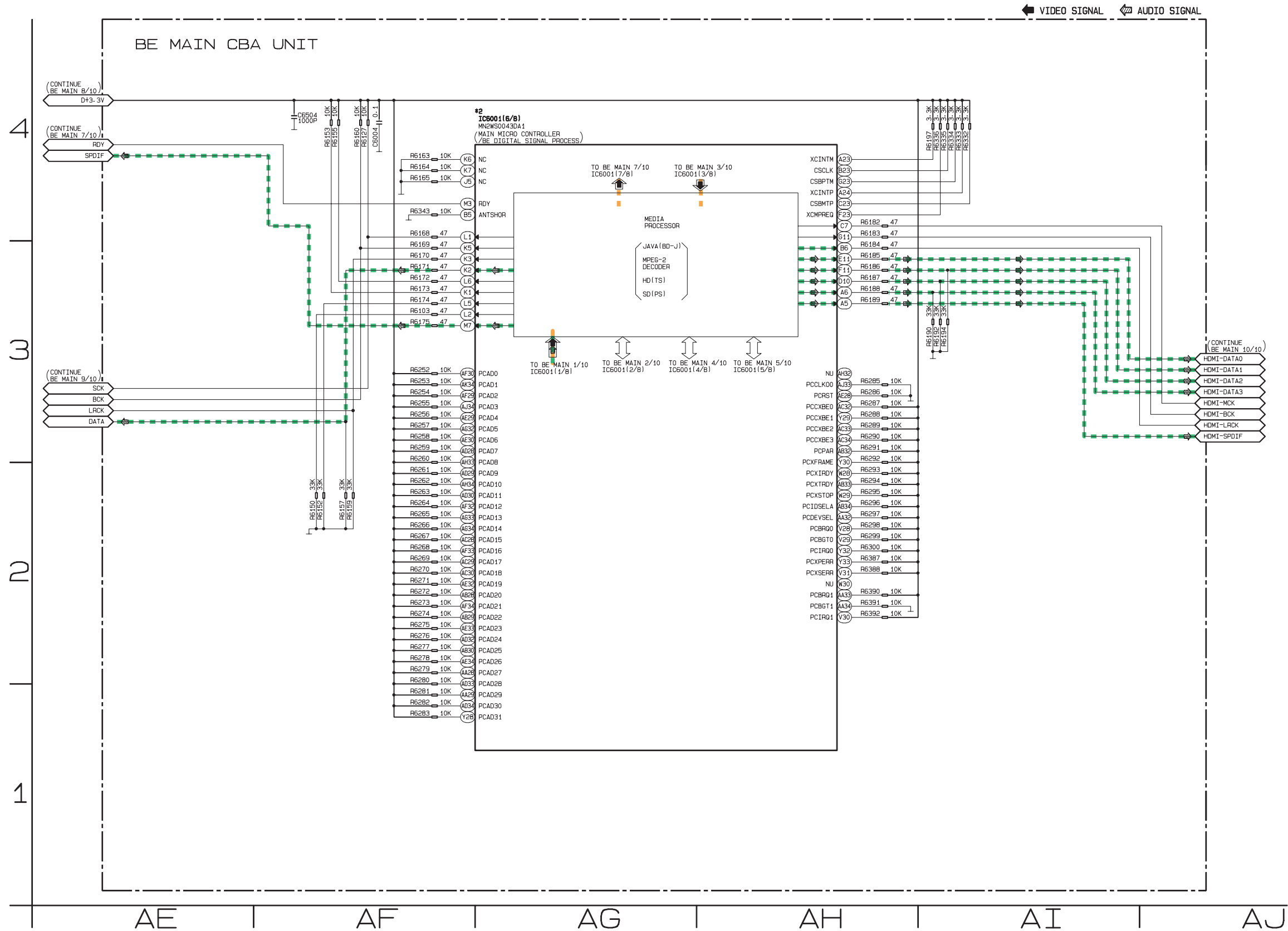
The order of pins shown in this diagram is different from that of actual IC6001.  
 IC6001 is divided into eight and shown as IC6001 (1/8) ~ IC6001 (8/8) in this BE Main Schematic Diagram Section.



# BE Main 6/10 Schematic Diagram

**\*2 NOTE:**

The order of pins shown in this diagram is different from that of actual IC6001.  
 IC6001 is divided into eight and shown as IC6001 (1/8) ~ IC6001 (8/8) in this BE Main Schematic Diagram Section.

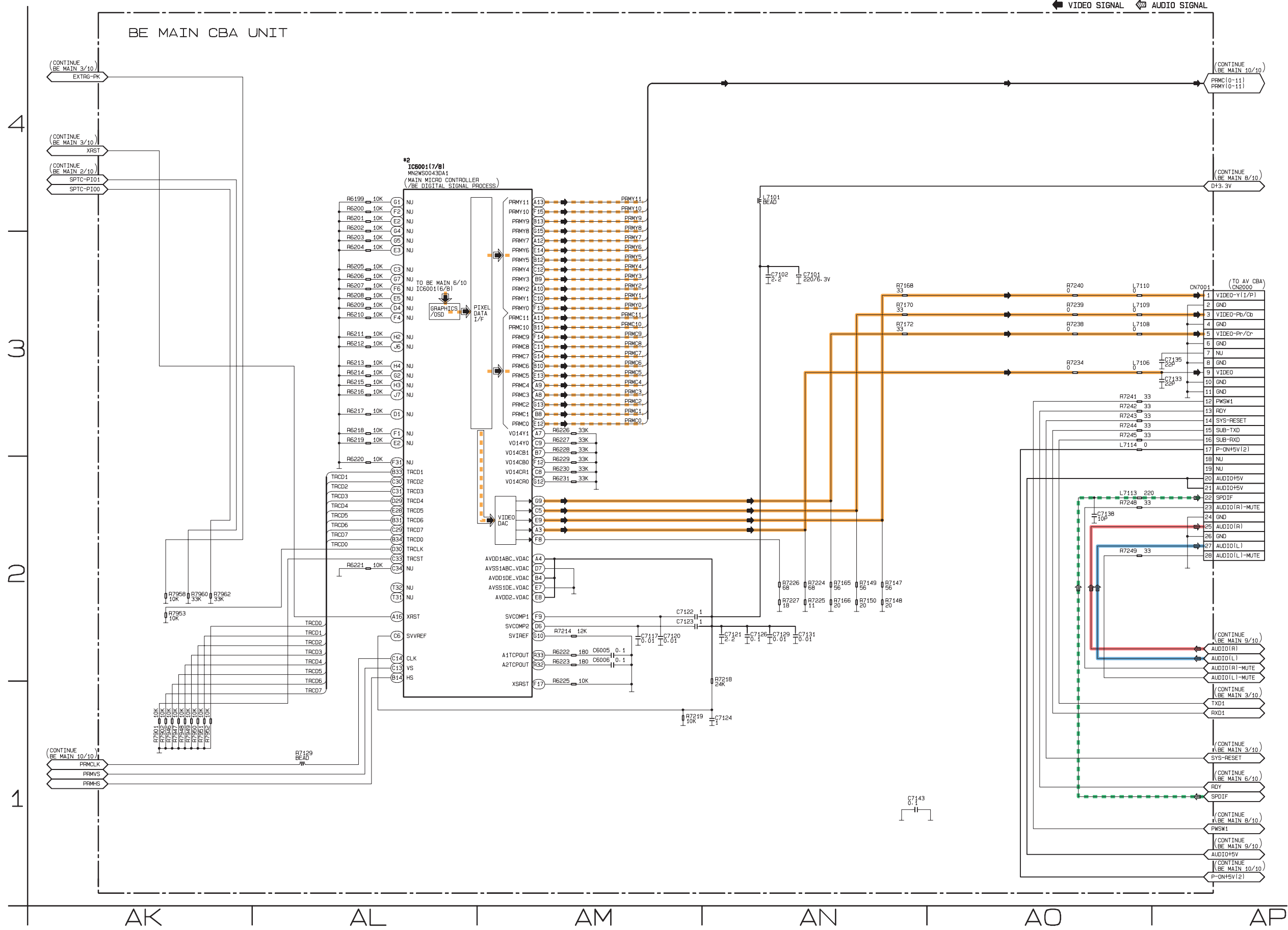




# BE Main 7/10 Schematic Diagram

**\*2 NOTE:**

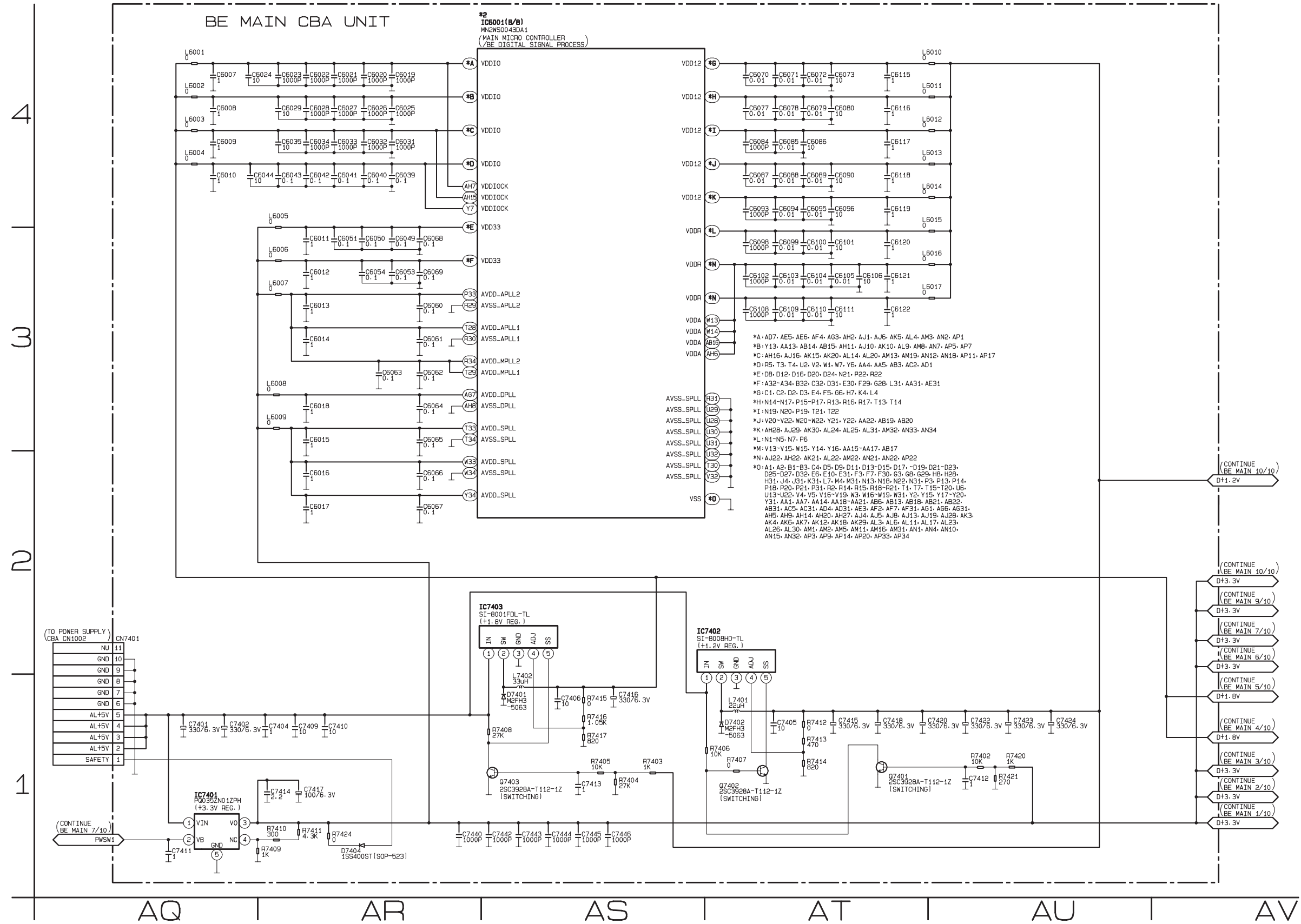
The order of pins shown in this diagram is different from that of actual IC6001.  
IC6001 is divided into eight and shown as IC6001 (1/8) ~ IC6001 (8/8) in this BE Main Schematic Diagram Section.



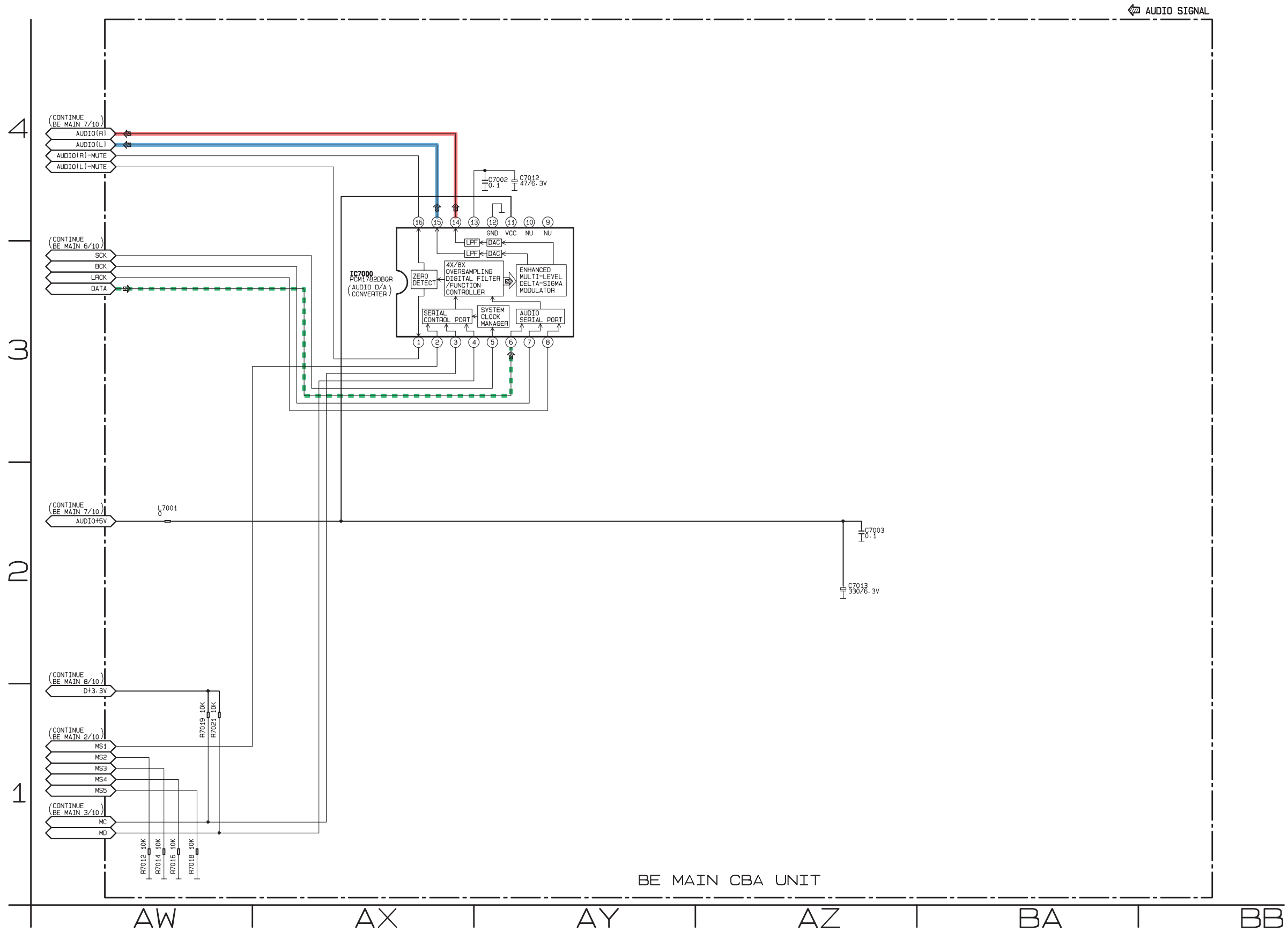
# BE Main 8/10 Schematic Diagram

**\*2 NOTE:**

The order of pins shown in this diagram is different from that of actual IC6001.  
IC6001 is divided into eight and shown as IC6001 (1/8) ~ IC6001 (8/8) in this BE Main Schematic Diagram Section.

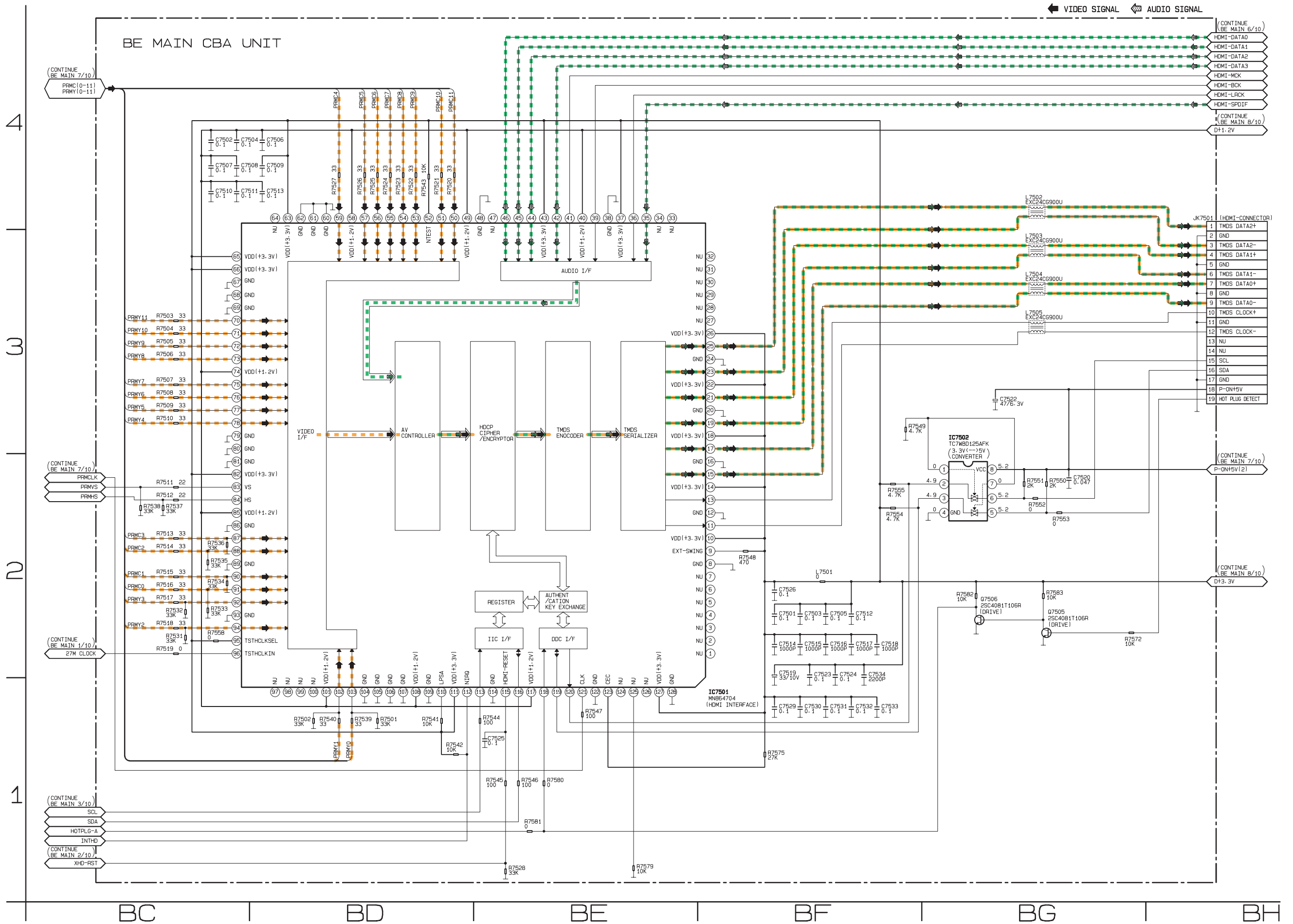


# BE Main 9/10 Schematic Diagram



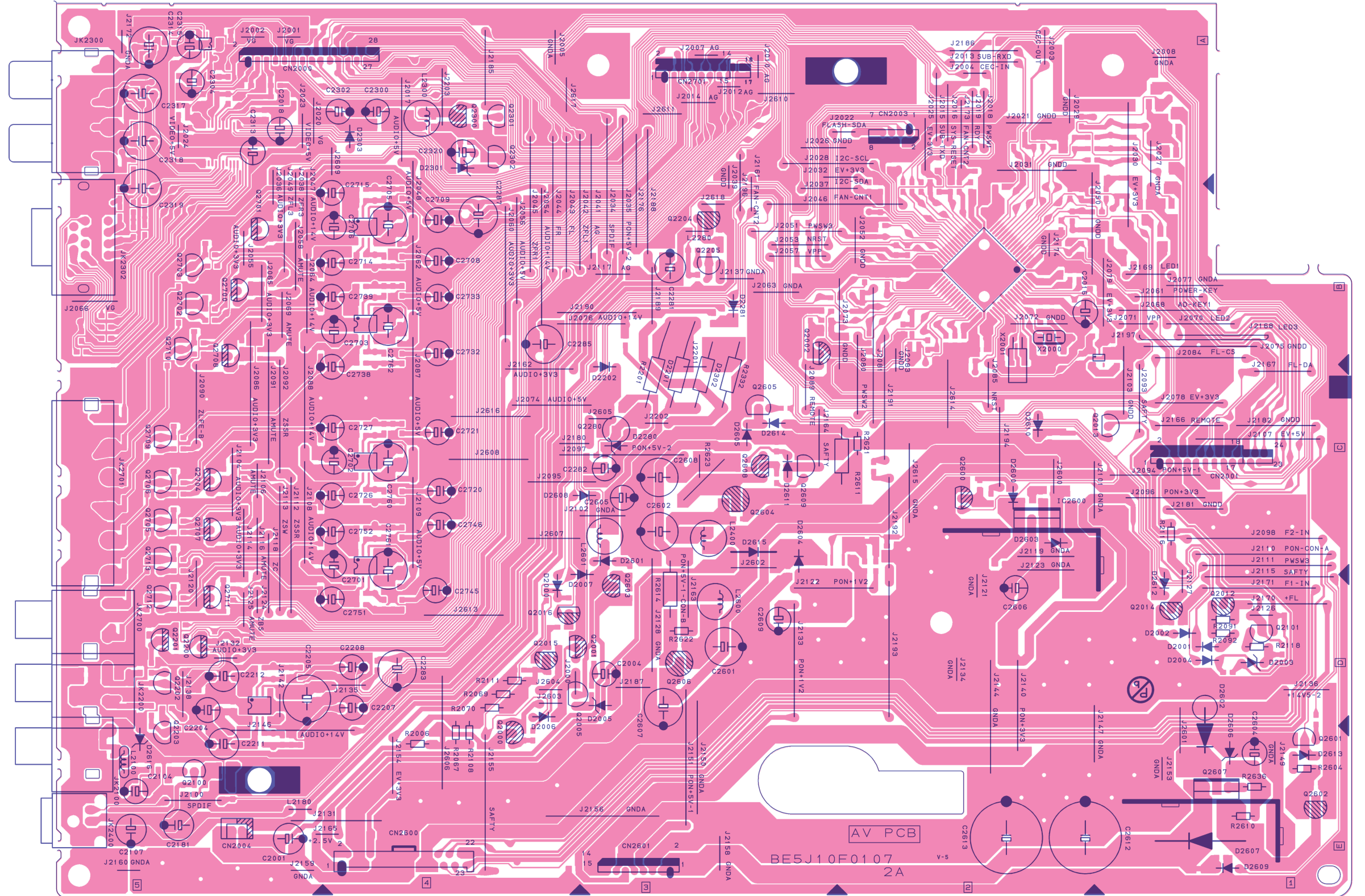


# BE Main 10/10 Schematic Diagram



# PARTS LOCATION

## AV CBA Top View

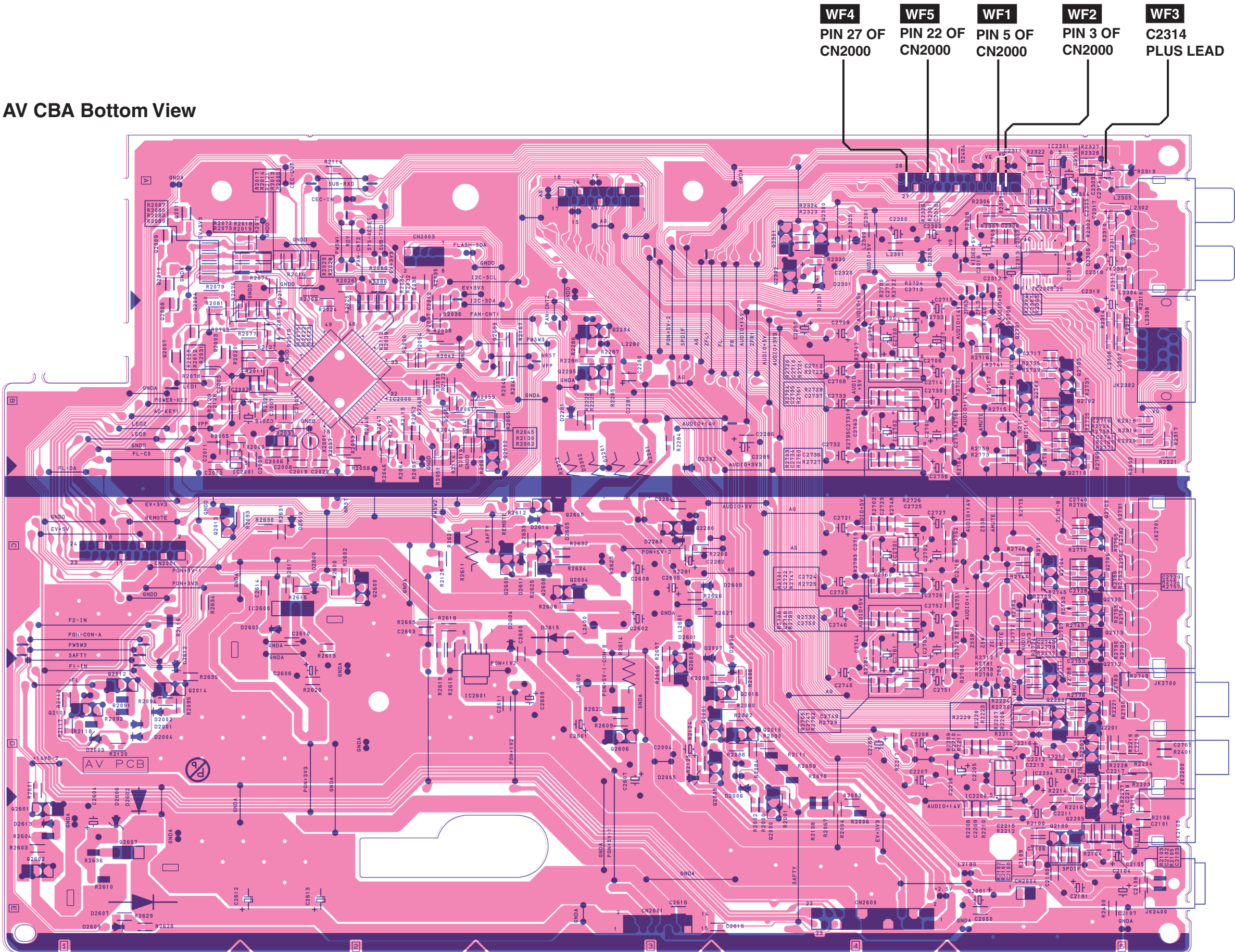


鉛フリー半田  
半田付けには、鉛フリー半田 (Sn-Ag-Cu) を使用してください。

**Lead-free Solder**  
When soldering, use the Lead-free Solder (Sn-Ag-Cu).



AV CBA Bottom View



**鉛フリー半田**  
 半田付けには、鉛フリー半田 (Sn-Ag-Cu) を使用してください。  
**Lead-free Solder**  
 When soldering, use the Lead-free Solder (Sn-Ag-Cu).

# Power Supply CBA Top View

**CAUTION !**

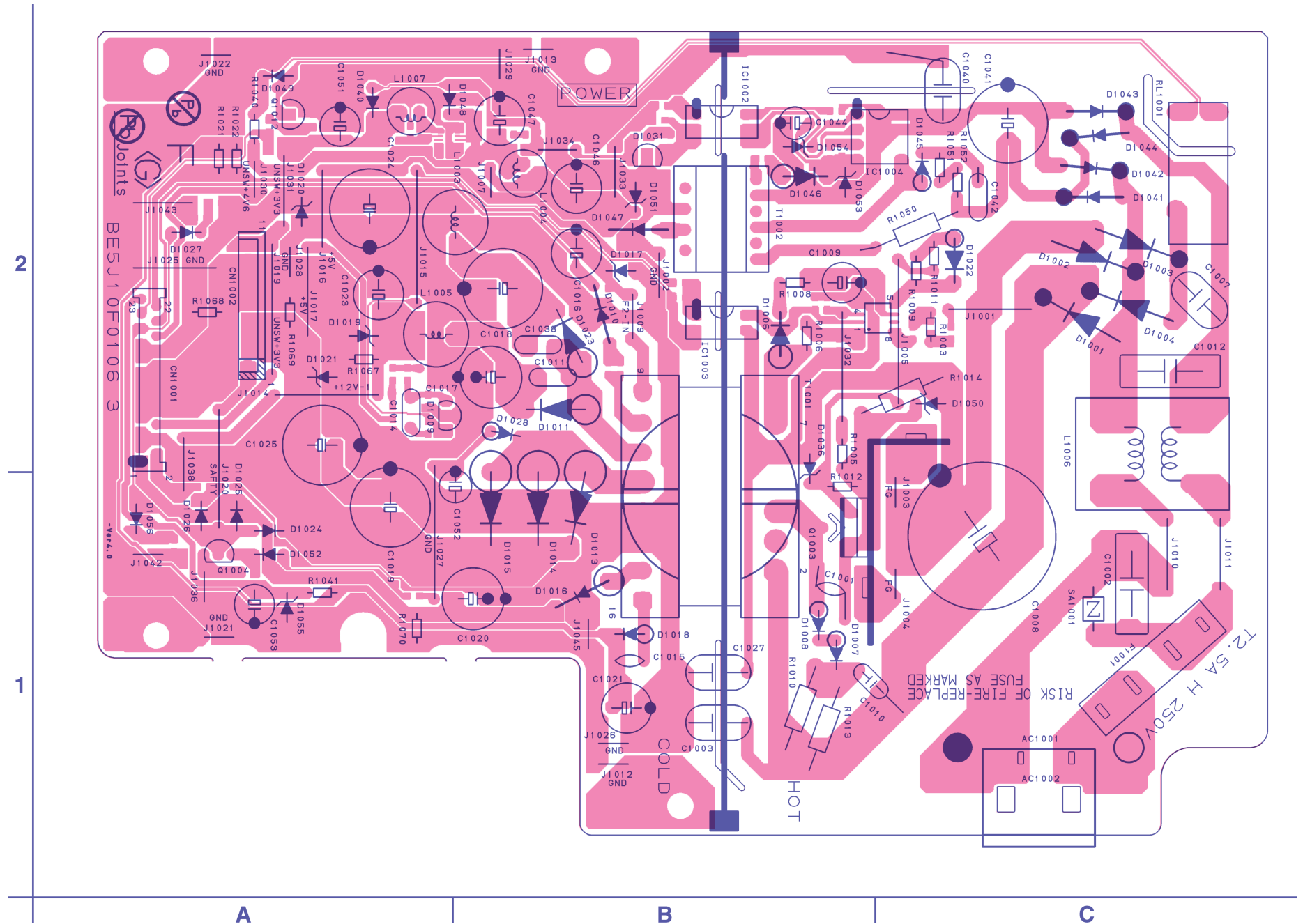
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.  
If Main Fuse (F1001) is blown , check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.  
Otherwise it may cause some components in the power supply circuit to fail.

**CAUTION !**

For continued protection against fire hazard,  
replace only with the same type fuse.

**NOTE:**

The voltage for parts in hot circuit is measured using  
hot GND as a common terminal.



**鉛フリー半田**  
半田付けには、鉛フリー半田 (Sn-Ag-Cu) を使用してください。  
**Lead-free Solder**  
When soldering, use the Lead-free Solder (Sn-Ag-Cu).

# Power Supply CBA Bottom View

### CAUTION !

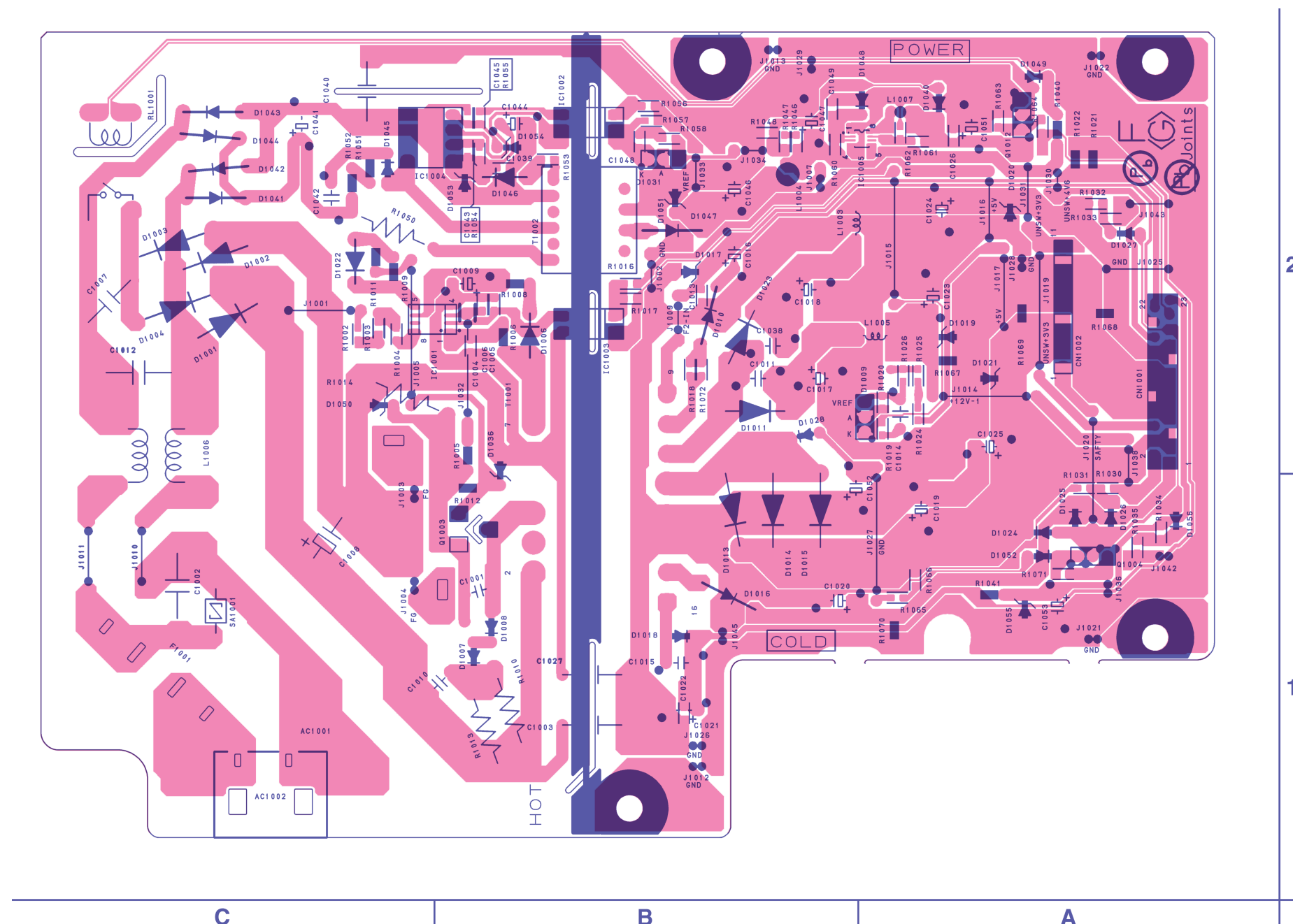
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.  
If Main Fuse (F1001) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.  
Otherwise it may cause some components in the power supply circuit to fail.

### CAUTION !

For continued protection against fire hazard,  
replace only with the same type fuse.

### NOTE:

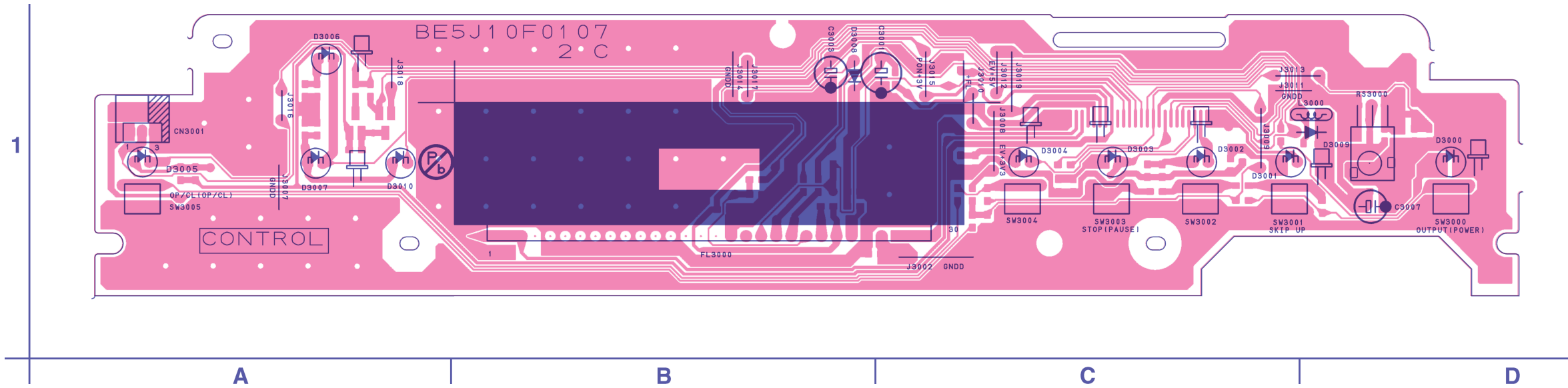
The voltage for parts in hot circuit is measured using  
hot GND as a common terminal.



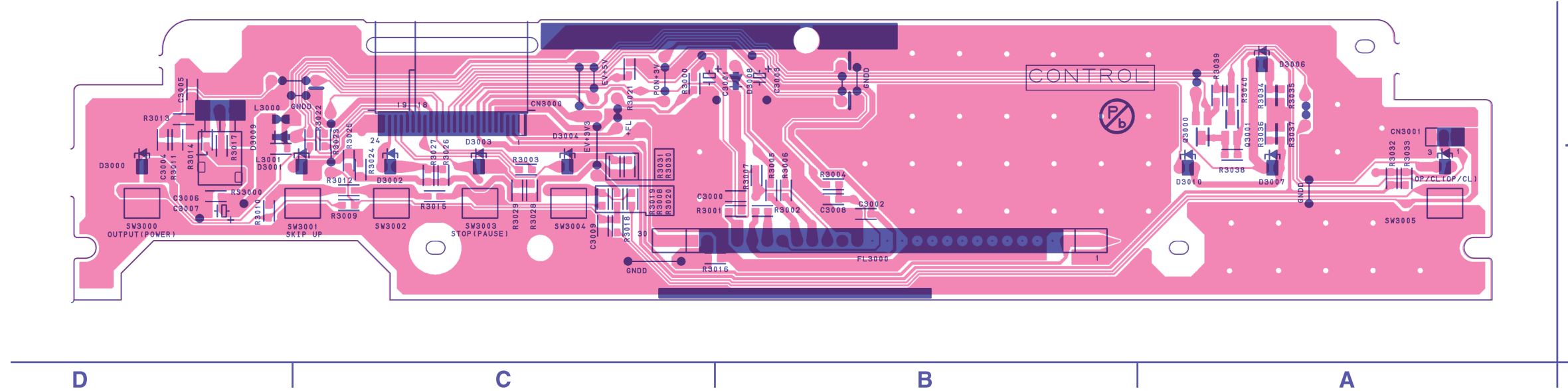
鉛フリー半田  
半田付けには、鉛フリー半田 (Sn-Ag-Cu) を使用してください。  
**Lead-free Solder**  
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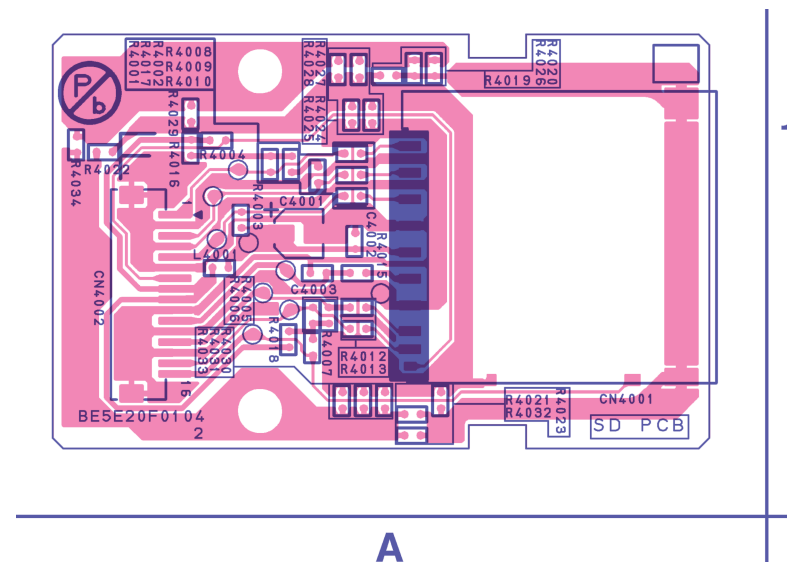
Front CBA Top View



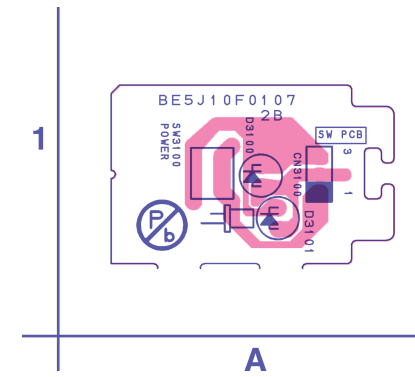
Front CBA Bottom View



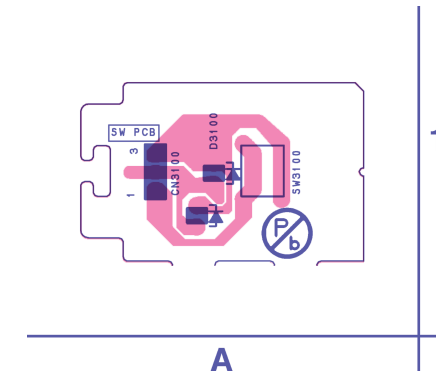
SD CBA Bottom View



Power SW CBA Top View



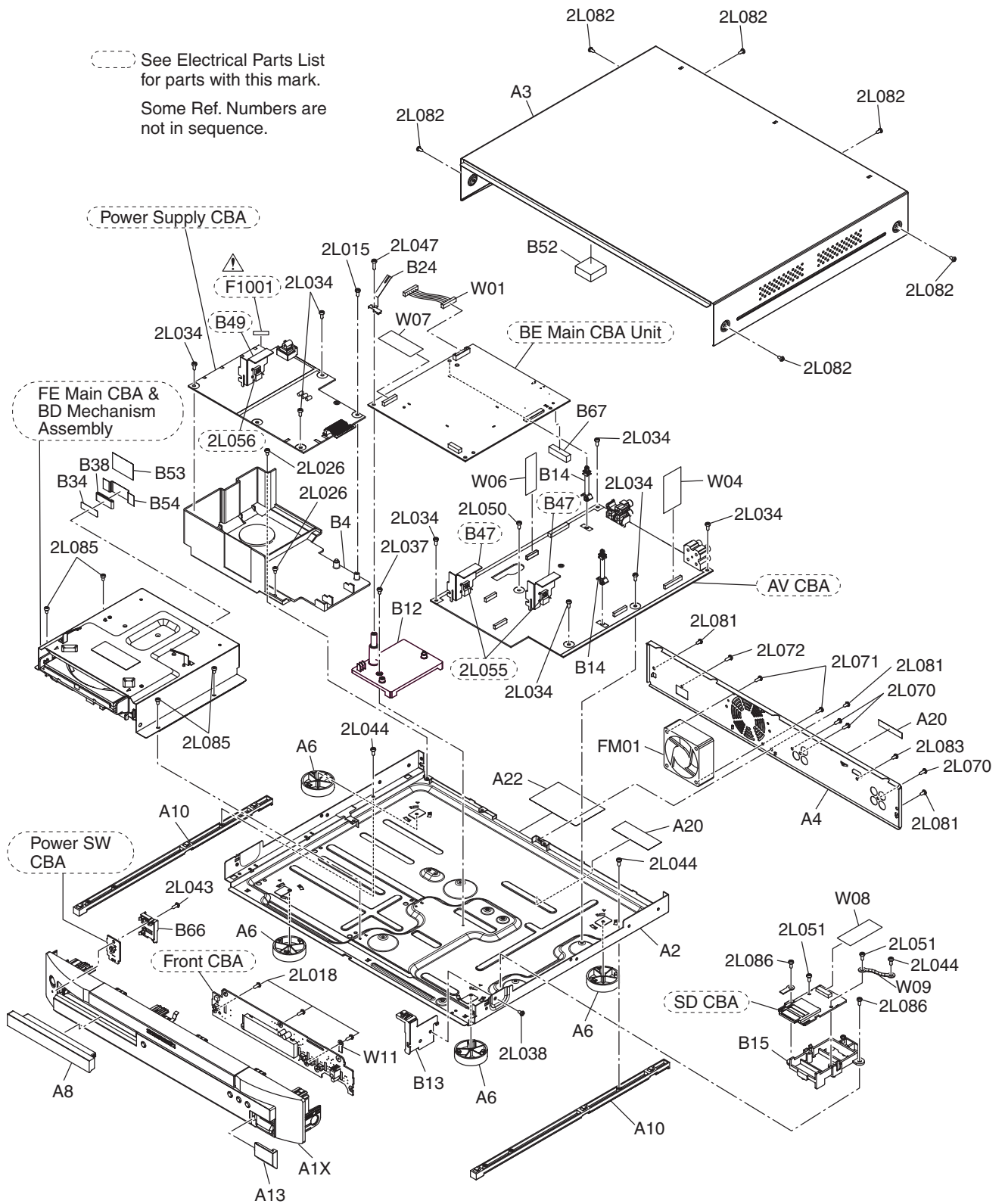
Power SW CBA Bottom View



鉛フリー半田  
半田付けには、鉛フリー半田 (Sn-Ag-Cu) を使用してください。  
**Lead-free Solder**  
When soldering, use the Lead-free Solder (Sn-Ag-Cu).

# EXPLODED VIEWS

## Cabinet



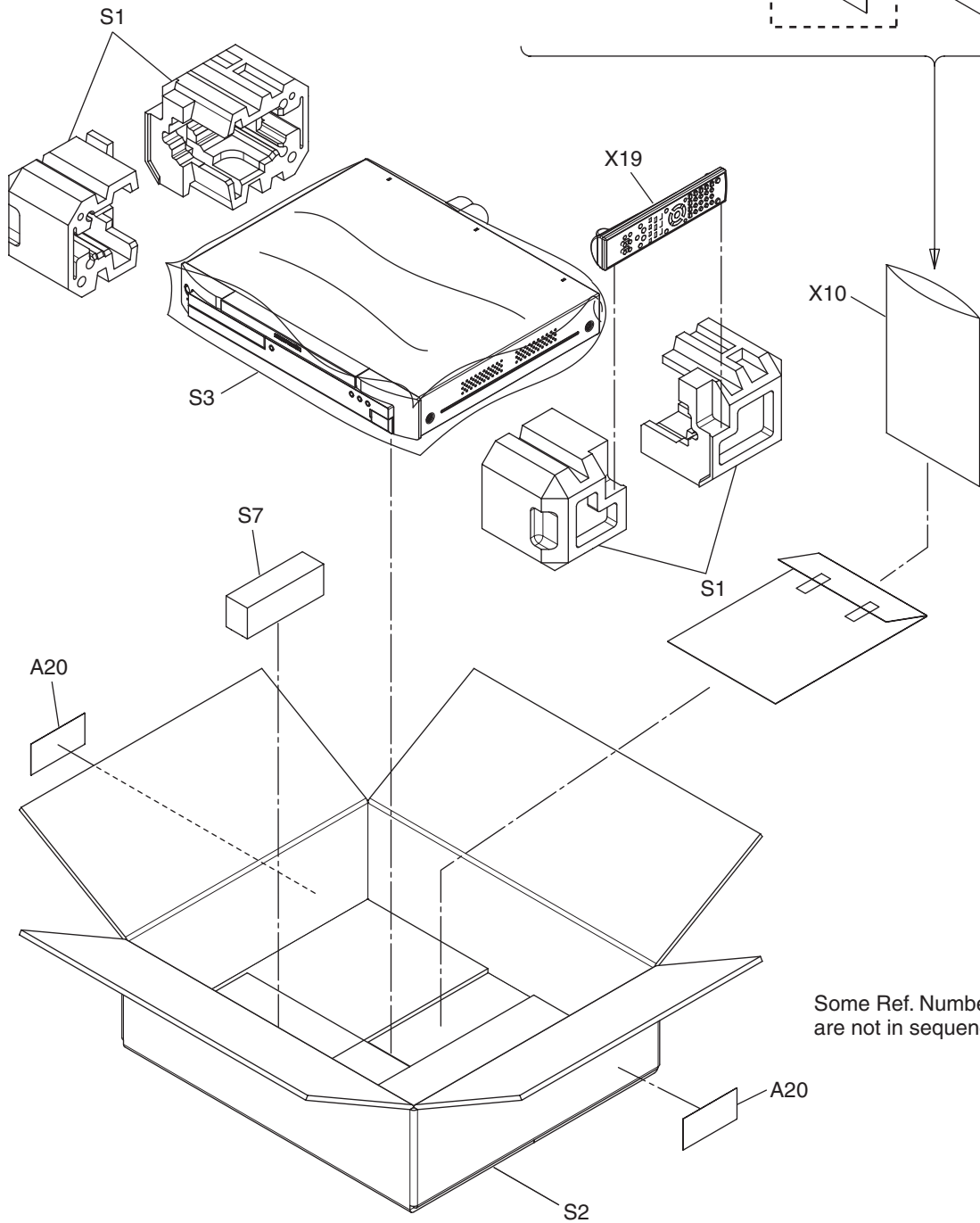
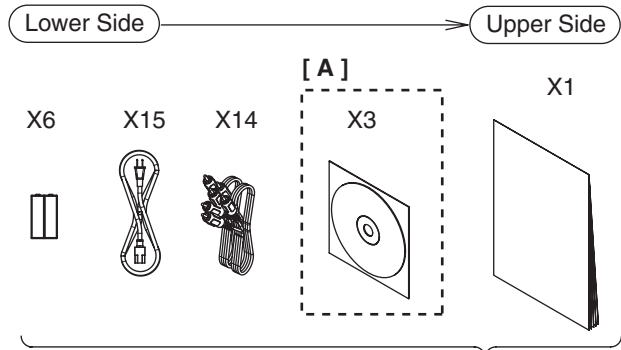
2L015	SCREW P-TIGHT M3X8 BIND HEAD+
2L018	SCREW P-TIGHT M3X8 BIND HEAD+
2L026	SCREW C-TIGHT M3X6 E5610UD
2L027	SCREW C-TIGHT M3X6 E5610UD
2L034	SCREW S-TIGHT M3X6 E5E10UD
2L037	SCREW C-TIGHT M3X6 E5610UD
2L038	SCREW C-TIGHT M3X6 E5610UD
2L043	SCREW P-TIGHT M3X8 BIND HEAD+
2L044	SCREW P-TIGHT M3X6 BIND HEAD+
2L045	SCREW P-TIGHT M3X8 BIND HEAD+
2L047	SCREW P-TIGHT M3X10 BIND HEAD+

2L050	SCREW P-TIGHT M3X8 BIND HEAD+
2L051	SCREW P-TIGHT M3X8 BIND HEAD+
2L070	B-TIGHT SCREW M3X8 E5E00UD
2L071	B-TIGHT SCREW M3X8 E5E00UD
2L072	SCREW TAP TIGHT M3X8 BIND PAN HEAD+BLK NI
2L081	S-TIGHT SCREW M3X6 E5E00UD
2L082	SCREW TAP TIGHT M3X5 BIND HEAD+BLK NI
2L083	S-TIGHT SCREW M3X6 E5E00UD
2L085	SCREW C-TIGHT M3X6 E5610UD
2L086	SCREW C-TIGHT M3X6 E5610UD

# Packing

**Comparison Chart of Models and Marks**

Model	Mark
BD7003/N1B	A
BD7003/R1B	B
BD7003/S1B	C



Some Ref. Numbers are not in sequence.



# PARTS LIST

P.W.B. NAME	POS. NO.	VERS. COLOR	PART NO. (FOR EUR)	PART NO. (MZ)	PART NAME	DESCRIPTION	
	A1X		9H2402001170M	9H2402001170M	PANEL	FRONT ASSEMBLY E5H70UD	1VM122241
	A2		nsp	nsp	CHASSIS	CHASSIS E5H50UD	1VM225696
	A3		9H2403001000D	9H2403001000D	LID	TOP COVER E5J20ED	1VM225860
	A4	/N1B	nsp	nsp	PANEL	REAR PANEL E5J70ED	1VM226376
	A4	/R1B	nsp	nsp	PANEL	REAR PANEL E5J71RD	1VM226578
	A4	/S1B	nsp	nsp	PANEL	REAR PANEL E5J72PD	1VM226580
	A6		9H2407001020S	9H2407001020S	LEG	FOOT ASSEMBLY E5H50UD	1VM430199
	A8		9H2418001180M	9H2418001180M	ESCUTCHEON	TRAY PANEL ASSEMBLY E5H70UD	1VM225861
	A10		nsp	nsp	GUIDE	BOTTOM GUIDE E5E20UD	1VM224296D
	A13		415510006008M	415510006008M	COVER	SD COVER E5H70UD	1VM327851
	FM01		9H2685001110S	9H2685001110S	MOTOR	MOTOR DC FAN 2D65BL100190	MMEZR12XNR08
	W01		nsp	nsp	CORD	WX1E5E10-001 11/110/AWG24	WX1E5E10-001
	W04		9H2606001190S	9H2606001190S	FPC	WX1E5E10-004 28/75/1.0	WX1E5E10-004
	W06		9H2606001200S	9H2606001200S	FPC	WIRE ASSEMBLY FFC 15/218/1.0	WX1E5E10-012
	W07		9H2606001210S	9H2606001210S	FPC	WX1E5E10-007 40/240/0.5	WX1E5E10-007
	W08		9H2606001220S	9H2606001220S	FPC	WIRE ASSEMBLY FFC 16/125/1.0	WX1E5E20-002
	W09		nsp	nsp	CORD	WIRE ASSEMBLY 15/BLACK	WX1E5E10-009
	W11		nsp	nsp	CORD	WIRE ASSEMBLY 38/BLACK	WX1E5E10-011
		/N1B	9H2304001630M	9H2304001630M	MECHANISM	FE MAIN CBA / BD MECHANISM ASSY N	N7JB9AEN
		/R1B	nsp	9H2304001640M	MECHANISM	FE MAIN CBA / BD MECHANISM ASSY R	N7JBZARN
		/S1B	nsp	9H2304001650M	MECHANISM	FE MAIN CBA / BD MECHANISM ASSY S	N7JBYAPN
		/N1B	9H2309001660M	9H2309001660M	PWB ASSY	BE MAIN CBA UNIT N	1VSA20525
		/R1B	nsp	9H2309001670M	PWB ASSY	BE MAIN CBA UNIT R	1VSA20587
		/S1B	nsp	9H2309001680M	PWB ASSY	BE MAIN CBA UNIT S	1VSA20588
			9H2309001690M	9H2309001690M	PWB ASSY	AV/FRONT/POWER SW CBA	1VSA20385
			9H2309001700M	9H2309001700M	PWB ASSY	POWER SUPPLY CBA	1VSA20388
			9H2189001100S	9H2189001100S	PWB ASSY	SD CBA	1VSA20070
<b>PACKING</b>							
	X1	/N1B	541110182034M	541110182034M	USER GUIDE	USER GUIDE BD7003 N E5J70ED	1VMN26613
	X1	/R1B	541110182041M	541110182041M	USER GUIDE	USER GUIDE BD7003 S E5J72PD	1VMN26674
	X1	/S1B	nsp	541110182041M	USER GUIDE	USER GUIDE BD7003 S E5J72PD	1VMN26674
	X2	/R1B	541110182096M	541110182096M	USER GUIDE	USER GUIDE BD7003 R (HANDRING BY MZE)	
	X3	/N1B	541510217035M	541510217035M	USER GUIDE	USER GUIDE BD7003 CD-ROM E5J70ED	1VM328837
	▲X15		00D9H26000869	00D9H26000869	MAINS CORD	# MAINS CORD W/O GND WIRE N	WAE0162LTE01
	X19		307010023039M	307010023039M	UNIT KIT	REMOTE CONTROLLER RC003BD	NA847ED
<b>NOT STANDARD SPARE PART</b>							
	S1		nsp	533610026008M	CUSHION	SIDE PAD E5H70UD	1VM122242
	S2		nsp	531210058003M	PACKING CASE	PACKING CASE BD7003 E5H70UD	1VM328437
	S7		nsp	00D9H26000938	CUSHION	REAR PAD E5E01UD	1VM427521
	X14		nsp	90M-ZD000470R	CORD	AV CORD TSCKA-Y/RW100	WPZ0102TM015
<b>ELECTRICAL PARTS</b>							
					<b>AV CBA</b>		
	JK2100		90M-YT003370R	90M-YT003370R	TERMINAL	CINCH (BLK) MSP-251V-01 NI FE LF	JXRL010LY125
	JK2200		9H2643001710S	9H2643001710S	TERMINAL	CINCH L 02 MSP-242V-01 NI FE	JXRL020LY152
	JK2300		9H2643001290S	9H2643001290S	TERMINAL	CINCH L MSP-244V10-46 NI FE	JXRL040LY145
					<b>POWER SUPPLY CBA</b>		
	▲AC1002		9H2641001720S	9H2641001720S	TERMINAL	! AC INLET YKE31-0148N	JTDC0P0JC003
	▲C1002		90M-DF100360R	90M-DF100360R	FILM CAP.	! LINE ACROSS CAP. 0.047UF/250V K	CT2E473DC016
	▲C1003		90M-DK100850R	90M-DK100850R	CER. CAP.	! SAFETY CAP. 2200PF/250V	CA2E222MR049
	▲F1001		9H2652001730S	9H2652001730S	FUSE	! TIME RAG TSC2.5A250VSVDEUC3CP	PDGAAB0W3252
	▲SA1001		90M-HV000050R	90M-HV000050R	VARISTOR	! SURGE ABSORBER PVR-10D471KB	NVQZ10D471KB
	▲T1001		9H2101001740S	9H2101001740S	TRANSF.	! TRANS BCK-35-0549	LTT3PE0XB042
	▲T1002		9H2101001760S	9H2101001760S	TRANSF.	! TRANS BCK-16-033T	LTT1PE0XB002

NOTE : \*nsp\* PART IS LISTED FOR REFERENCE ONLY, MARANTZ WILL NOT SUPPLY THESE PARTS.