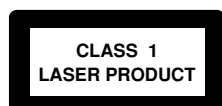


Service Service Service



Service Manual



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Schematic Diagrams and CBAs (PC Boards)
Exploded Views
Electrical & Mechanical Parts List

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Mechanical alignment Procedures
Disassembly / Assembly of Mechanism
Deck Exploded views
Mechanism Parts List

Section 3

Revision List

SURVEY OF VERSIONS:

/00 PAL I
/05 PAL B/G
/02 PAL B/G,L,L' & SECAM B/G,L,L'

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3139 785 30490

Version 1.0



PHILIPS

MAIN SECTION

DIGITAL VIDEO DISC PLAYER, VIDEO CASSETTE RECORDER & FM/MW RADIO TUNER

Sec. 1: Main Section

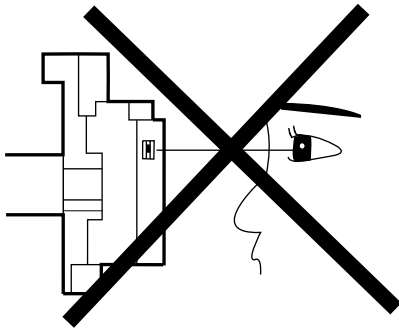
- Adjustment Procedures
- Schematic Diagrams and CBA's
- Exploded Views
- Mechanical and Electrical Parts List

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LASER BEAM SAFETY PRECAUTIONS

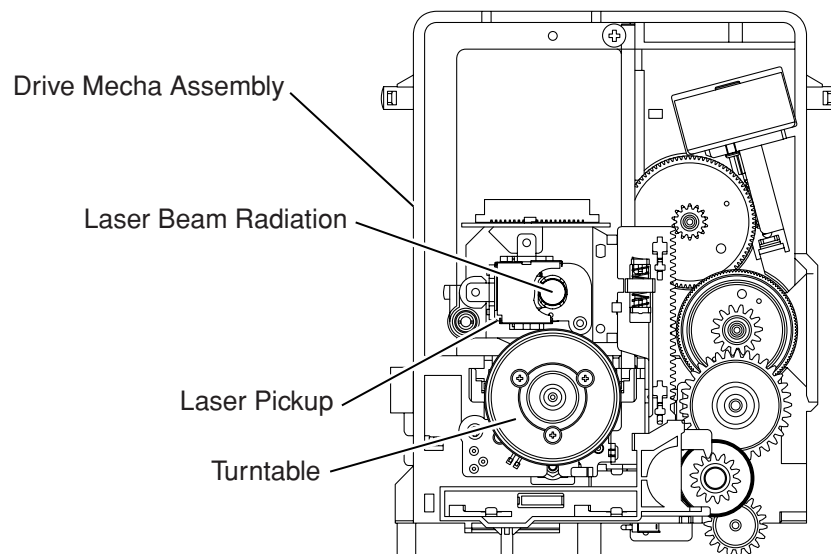
This DVD player uses a pickup that emits a laser beam.



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 30cm 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.



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. Crimp type wire connector
The power transformer uses crimp type connectors which connect the power cord and the primary side of the transformer. When replacing the transformer, follow these steps carefully and precisely to prevent shock hazards.
Replacement procedure
 - 1) Remove the old connector by cutting the wires at a point close to the connector.
Important: Do not re-use a connector. (Discard it.)
 - 2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.
 - 3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.
 - 4) Use a crimping tool to crimp the metal sleeve at its center. Be sure to crimp fully to the complete closure of the tool.
- L. 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')
110 to 240 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.

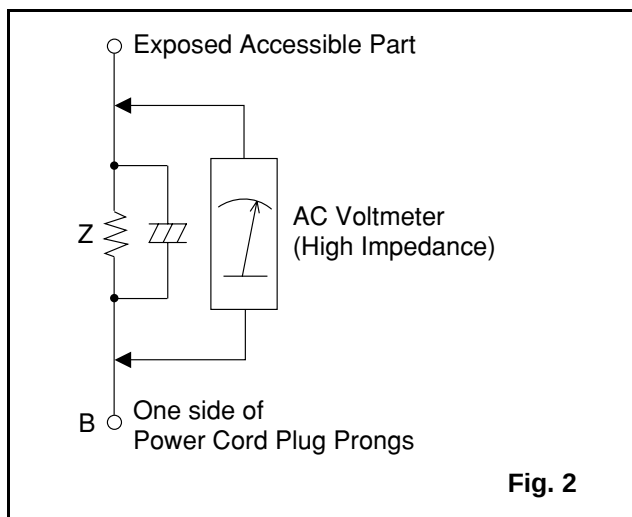
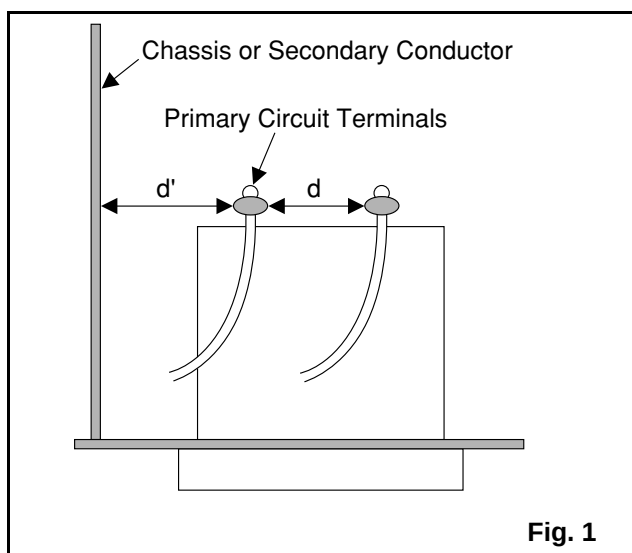


Table 2: Leakage current ratings for selected areas

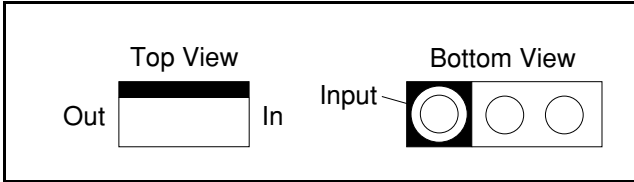
AC Line Voltage	Load Z	Leakage Current (i)	One side of power cord plug prongs (B) to:
110 to 240 V	2k Ω RES. Connected in parallel	$i \leq 0.7 \text{ mA AC Peak}$ $i \leq 2 \text{ mA DC}$	RF or Antenna terminals
	50k Ω RES. Connected in parallel	$i \leq 0.7 \text{ mA AC Peak}$ $i \leq 2 \text{ mA DC}$	A/V Input, Output

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

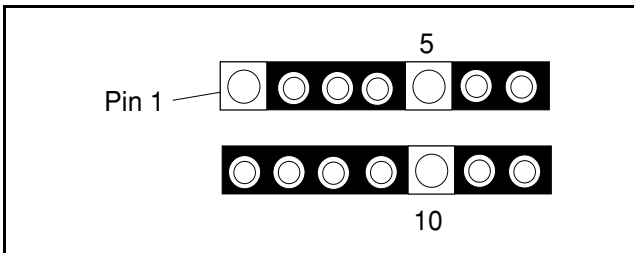
STANDARD NOTES FOR SERVICING

Circuit Board Indications

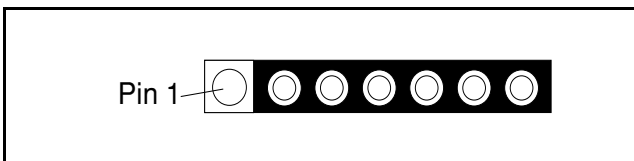
- a. The output pin of the 3 pin Regulator ICs is indicated as shown.



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

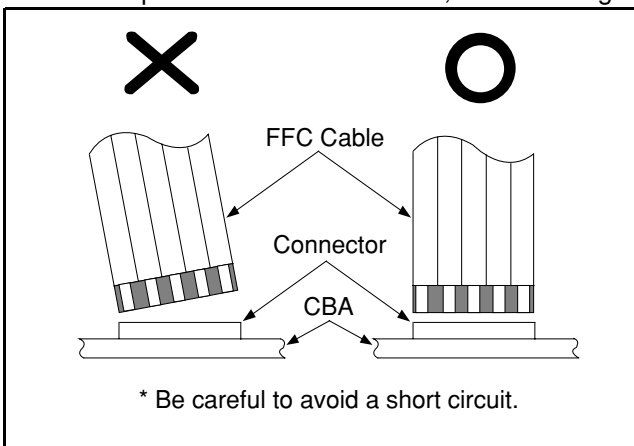


- c. The 1st pin of every male connector is indicated as shown.



Instructions for Connectors

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

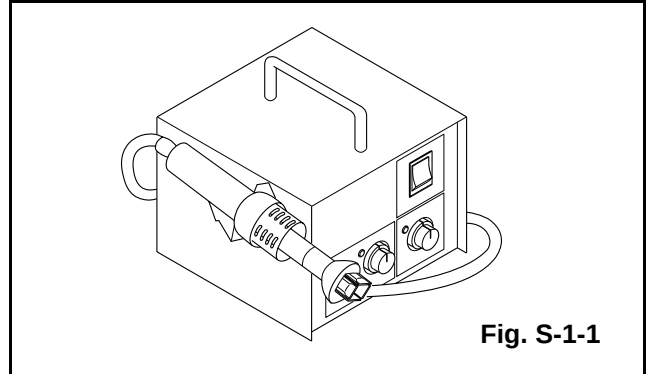


How to Remove / Install Flat Pack-IC

1. Removal

With Hot-Air Flat Pack-IC Desoldering Machine:

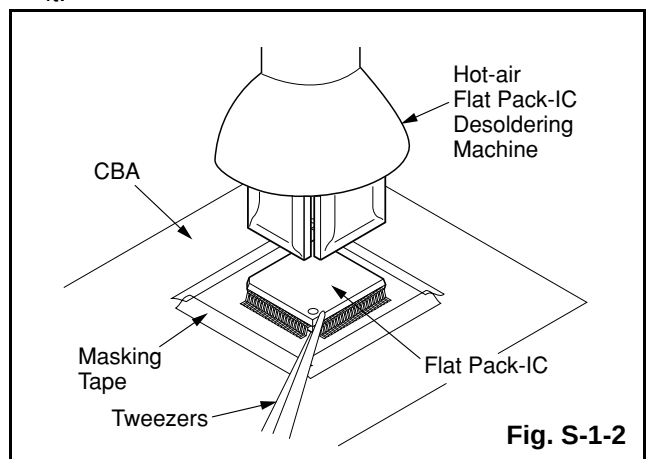
- (1) Prepare the hot-air flat pack-IC desoldering machine, then apply hot air to the Flat Pack-IC (about 5 to 6 seconds). (Fig. S-1-1)



- (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)

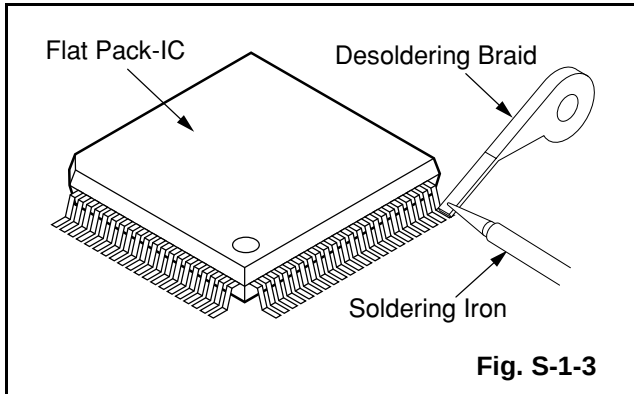
Caution:

- 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)
- 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.

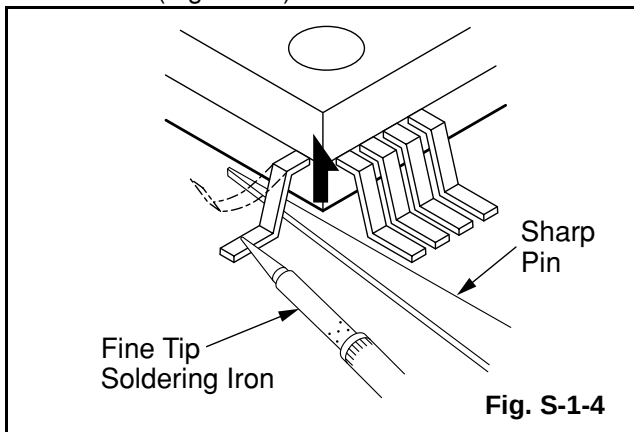


With Soldering Iron:

- (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)

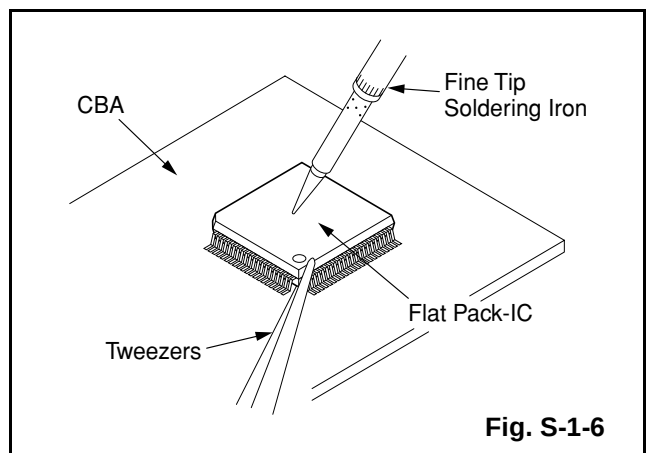
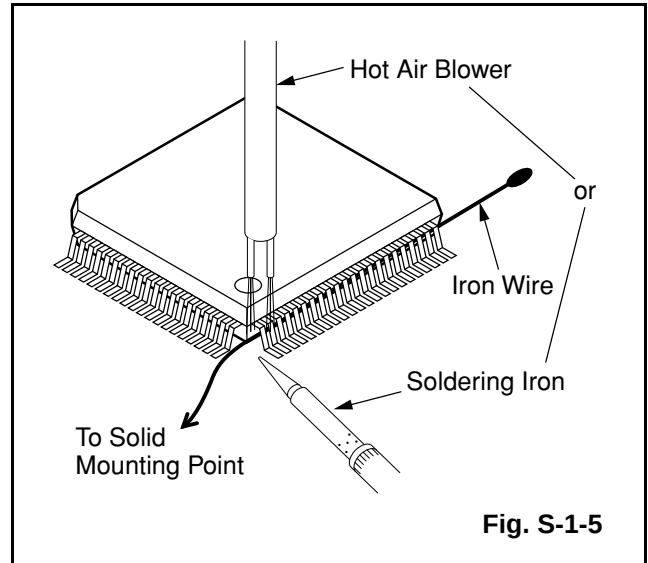
With Iron Wire:

- (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)

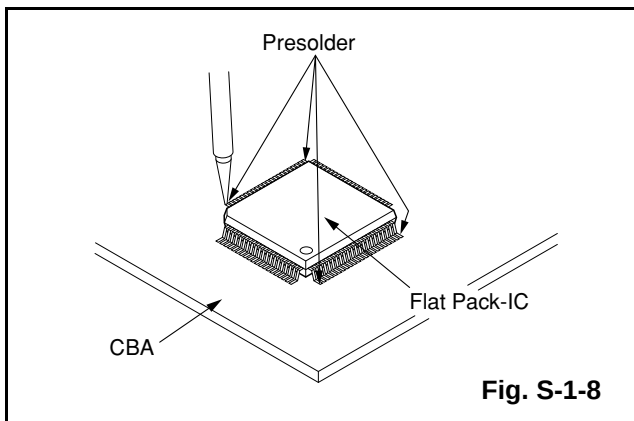
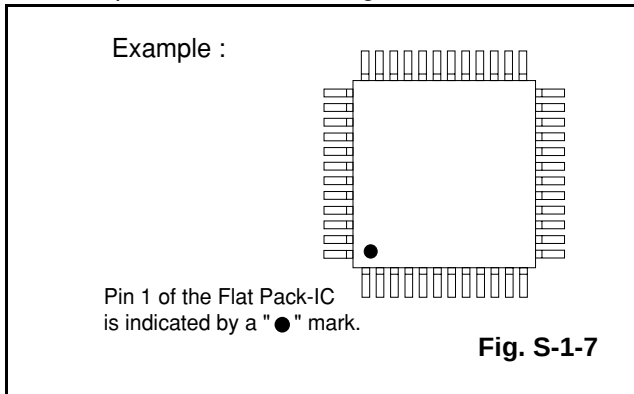
Note:

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.



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.



Instructions for Handling Semi-conductors

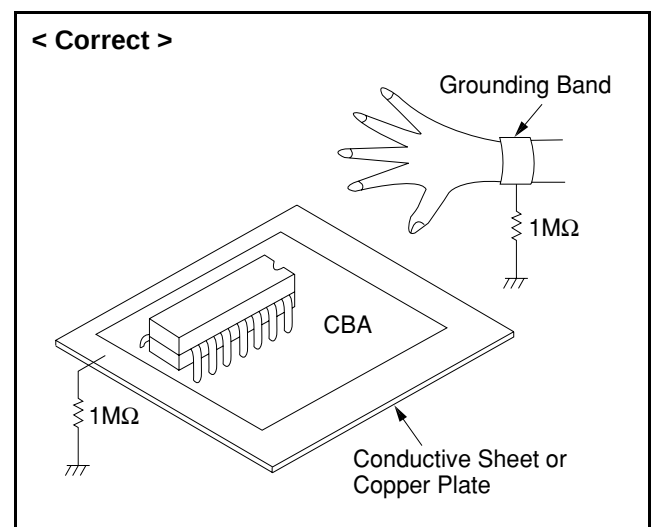
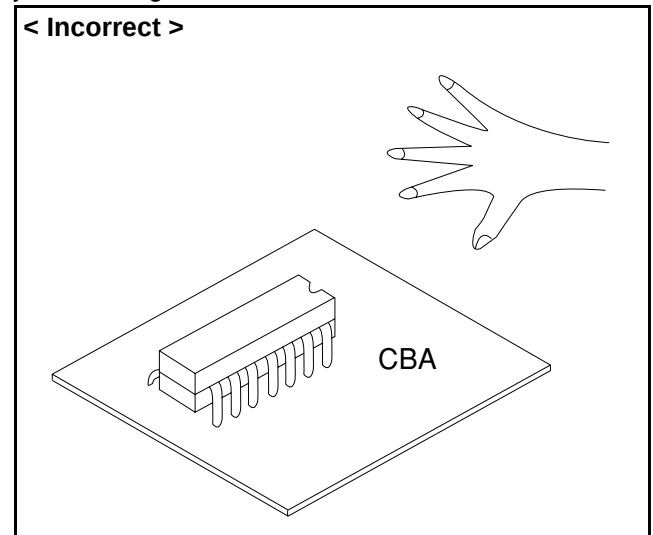
Electrostatic breakdown of the semi-conductors may occur due to a potential difference caused by electrostatic charge during unpacking or repair work.

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.



PREPARATION FOR SERVICING

How to Enter the Service Mode

About Optical Sensors

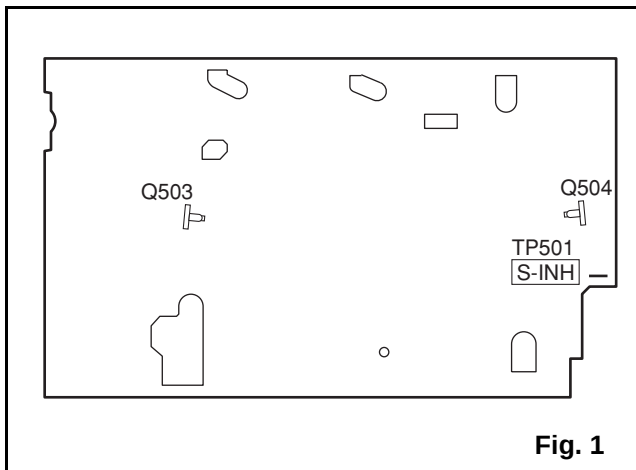
Caution:

An optical sensor system is used for the Tape Start and End Sensors on this equipment. Carefully read and follow the instructions below. Otherwise the unit may operate erratically.

What to do for preparation

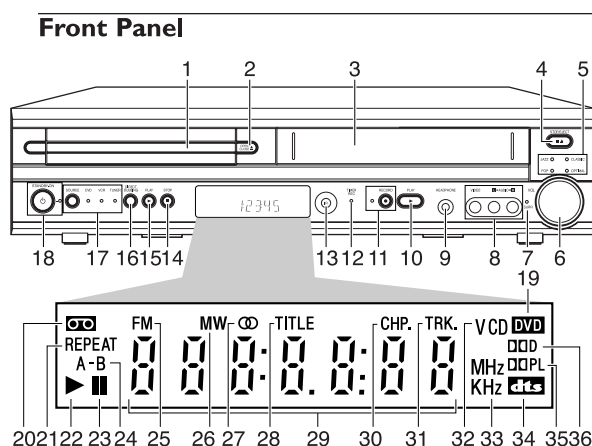
Insert a tape into the Deck Mechanism Assembly and press the PLAY button. The tape will be loaded into the Deck Mechanism Assembly. Make sure the power is on, connect TP501 (SENSOR INHIBITION) to GND. This will stop the function of Tape Start Sensor, Tape End Sensor and Reel Sensors. (If these TPs are connected before plugging in the unit, the function of the sensors will stay valid.) See Fig. 1.

Note: Because the Tape End Sensors are inactive, do not run a tape all the way to the start or the end of the tape to avoid tape damage.



OPERATING CONTROLS AND FUNCTIONS

[MX5100VR/00]



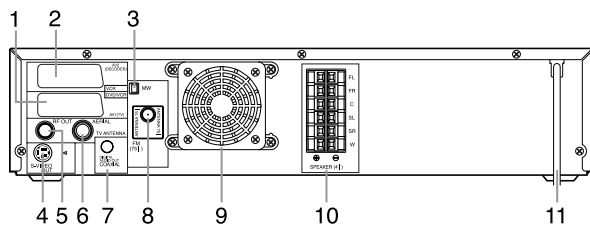
1. **Disc Tray (DVD)**
insert a disc here
2. **OPEN/CLOSE ▲ button (DVD)**
to open/close the disc tray
3. **Cassette Compartment (VCR)**
insert a tape here
4. **STOP/EJECT ■▲ button (VCR)**
when playback is stopped, press to eject the tape
5. **Sound lights**
Each indicator lights according to the sound effect you select by pressing the SOUND button on the remote
6. **VOLUME dial**
turn clockwise to increase the volume; turn counter-clockwise to decrease the volume
7. **SURR light**
light appears when Surround Sound is On
8. **AUDIO and VIDEO in jacks**
connect to AUDIO and VIDEO OUT of an audio source
9. **HEADPHONE jack**
connect headphones (not supplied) here
10. **PLAY ► button (VCR)**
to play a tape
11. **RECORD button and light (VCR)**
Press once to start recording, repeatedly to start an One Touch Recording
light appears during recording, it flashes when a recording is paused
12. **TIMER REC light (VCR)**
light appears when the System is in standby mode for a timer recording (also light appears during timer recording)
13. **IR (Infrared) Remote Sensor (DVD,VCR,TUNER)**
receive signals from remote control
14. **STOP ■ button (DVD)**
to stop playback
15. **PLAY ► button (DVD)**
to start, pause or resume disc playback
16. **DIRECT DUBBING button (VCR)**
to play DVD disc and record its' content to video cassette tape at the same time
17. **SOURCE button and lights (DVD,VCR,TUNER)**
to select DVD,VCR and TUNER mode
DVD light appears when the System in DVD mode
VCR light appears when the System in VCR mode
TUNER light appears when the System in TUNER mode
18. **STANDBY-ON ○ button and light (DVD,VCR, TUNER)**
to switch the player to ON or OFF
light appears when the System turns on.
19. **DVD**
Lights up when a DVD is inserted on the tray.

20. **○○ (VCR)**
Appears when a videotape is loaded.
21. **REPEAT (DVD)**
Stays on when the repeat function is on.
22. **► (DVD,VCR)**
Stays on when the inserted disc or cassette is being played back.
23. **|| (DVD,VCR)**
Lights up when the inserted disc comes to a pause. (DVD)
Lights up when the playback is in a still or in a slow mode. (VCR)
24. **A-B (DVD)**
Stays on when the A-B repeat function is on.
25. **FM (TUNER)**
Indicates an FM station
26. **MW (TUNER)**
Indicates an MW station
27. **∞ (TUNER)**
Indicates a stereo broadcast
28. **TITLE (DVD)**
Stays on when repeat title function is on.
29. **Digital Display (DVD,VCR,TUNER)**
Displays how long a current title or track has been played back. When a chapter or track has switched, the number of a new title, chapter or track is displayed. (DVD)
Works as a clock, or a tape counter. Also displays a channel number, and remaining time for OTR. (VCR)
Displays a current radio frequency (station number). (TUNER)
30. **CHP. (DVD)**
Stays on when repeat chapter function is on.
31. **TRK. (DVD)**
Stays on when repeat track function is on.
32. **CD**
Lights up when a CD is inserted on the tray.
VCD
Lights up when a VCD is inserted on the tray.
33. **MHz**
Indicates an FM station.
KHz
Indicates an MW station.
34. **dts**
Indicates DTS is available.
35. **DDPL**
Indicates Dolby ProLogic is available.
36. **DDD**
Indicates Dolby Digital is available.

Display Message

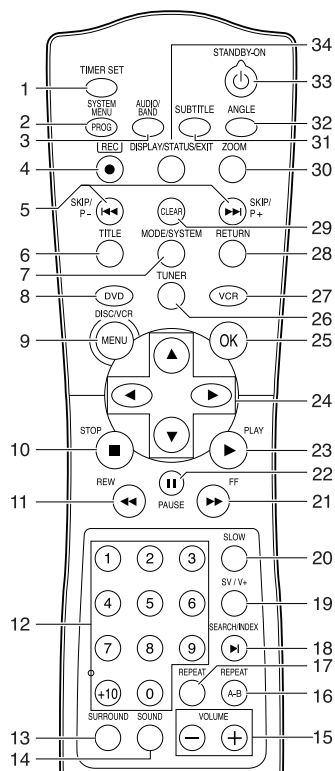
- - - -	Appears after the disc tray closes if the tray is empty, if there is an error reading the disc, or if an unacceptable disc is installed.
OPEN	Tray is opening or is open.
CLOSE	Tray is closing. This also may appear as the Player tries to load a Disc.
Load	Disc is loading.
Pbc	Lights up when a playback control is activated.

Rear Panel



1. **AV1 (TV) jack**
connect SCART cable to a TV
2. **AV2 (DECODER) jack (VCR only)**
connect SCART cable from another DVD/VCR, camcorder or an audio/video source
3. **MW antenna jack**
connect the supplied MW antenna to the MW jack
4. **S-Video Out jack (DVD only)**
connect to a TV with S-Video inputs
5. **RF OUT jack**
use the supplied RF coaxial cable to connect to the ANTENNA IN on your TV, cable box or Direct Broadcast System
6. **AERIAL jack**
connect to an antenna or cable
7. **COAXIAL (Digital audio out) jack (DVD only)**
connect to AUDIO inputs of a digital (coaxial) audio equipment
8. **FM antenna jack**
connect the supplied FM antenna to the FM jack
9. **Fan**
10. **SPEAKER jacks**
connect the supplied speakers using the supplied speaker wires.
11. **MAINS (AC Power Cord)**
connect to a standard AC outlet

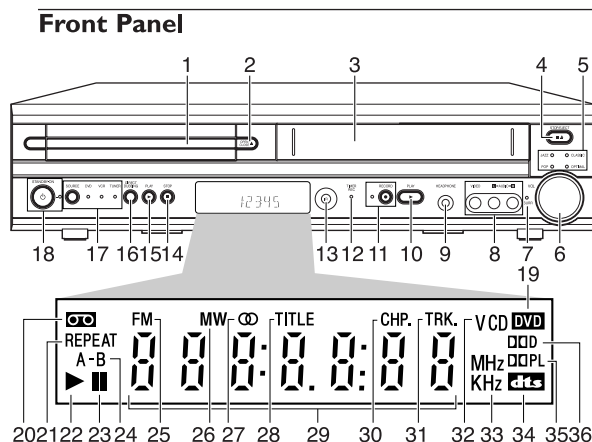
Remote Control



1. **TIMER SET**
to put the System into standby mode for a timer recording
2. **SYSTEM MENU**
to access or remove the DVD setup menu (DVD)
PROG
to preset radio stations in Tuner mode (TUNER)
3. **AUDIO/BAND**
to choose audio languages or sound modes (DVD)
to choose sound modes (VCR)
to choose FM or MW in Tuner mode (TUNER)
4. **REC** ●
to record the TV channel selected at this moment or press repeatedly to start a One Touch Recording (VCR)
5. **SKIP/P- ◀◀ / SKIP/P+ ▶▶**
to skip chapter/tracks (DVD)
to change TV channels (VCR)
press and hold to search radio station
or press to increase or decrease the frequency by one-tenth (TUNER)
6. **TITLE**
to display title menu of a disc (DVD)
7. **MODE/SYSTEM**
to set up programmed or random playback (DVD, Audio CD)
not use (VCR)
8. **DVD**
press to put the System in DVD mode and before using the remote control for DVD features
9. **DISC/VCR MENU**
to display the menu of the DVD disc or to access VCR menu
10. **STOP ■**
to stop a DVD disc playback (DVD)
to stop playback, recording (VCR)
to erase a preset (TUNER)
11. **REW ◀◀**
to view DVD picture in fast reverse motion (DVD)
to rewind the tape (VCR)
12. **0-9 numerical key pads/+10**
select numbered items in a menu
use +10 button to enter number 10 and above (DVD)
to select TV channels / to enter the SHOWVIEW number (VCR)
to choose a preset radio station (TUNER)
13. **SURROUND**
to turn Surround Sound on or off
14. **SOUND**
to choose a Digital Sound effect
15. **VOLUME**
to adjust the volume
16. **REPEAT A-B**
repeat a specific segment (DVD)
17. **REPEAT**
repeat chapter, track, title, disc (DVD)
18. **SEARCH/INDEX ▶**
to access or remove search display (DVD)
to fast forward or rewind the tape at index number (VCR)
19. **SV/V+**
to programme timer recording with the SHOWVIEW system (VCR)
20. **SLOW**
to view tape playback in slow motion (VCR)
21. **FF ▶▶**
to view DVD picture in fast forward motion (DVD)
to fast forward the tape (VCR)
22. **PAUSE ■■**
pause playback temporarily / frame-by-frame playback (DVD)
pause playback and recording temporarily (VCR)
23. **PLAY ▶**
to start a DVD disc playback (DVD)
to start a tape playback (VCR)

- 24. ◀▶ ▲ ▼
(left/right/up/down) select an item in the menu
◀▶ to choose a preset radio station (TUNER)
- 25. **OK**
acknowledge menu selection (DVD)
- 26. **TUNER**
press to put the System in TUNER mode and before using the remote control for TUNER features
- 27. **VCR**
press to put the System in VCR mode and before using the remote control for VCR features
- 28. **RETURN**
to return previous or remove setup menu (DVD)
- 29. **CLEAR**
to reset the setting (DVD)
to reset the counter (VCR)
to delete last entry/Clear programmed recording (TIMER) (VCR)
- 30. **ZOOM**
enlarge DVD video image (DVD)
- 31. **SUBTITLE**
subtitle language selector (DVD)
- 32. **ANGLE**
select DVD camera angle (DVD)
- 33. **STANDBY-ON** ⏻
switch the System ON or OFF
- 34. **DISPLAY/STATUS/EXIT**
to access or remove the display screen during DVD or Audio CD playback (DVD)
to access or remove VCR's on-screen status display/ to remove VCR's menu (VCR)

[MX5100VR/05]



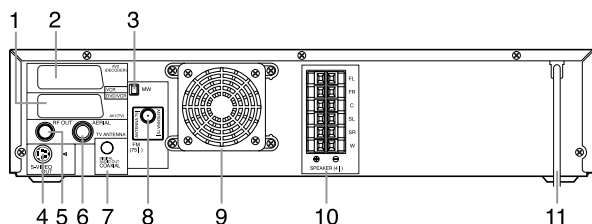
1. **Disc Tray (DVD)**
insert a disc here
2. **OPEN/CLOSE ▲ button (DVD)**
to open/close the disc tray
3. **Cassette Compartment (VCR)**
insert a tape here
4. **STOP/EJECT ■▲ button (VCR)**
when playback is stopped, press to eject the tape
5. **Sound lights**
Each indicator lights according to the sound effect you select by pressing the SOUND button on the remote
6. **VOLUME dial**
turn clockwise to increase the volume; turn counter-clockwise to decrease the volume
7. **SURR light**
light appears when Surround Sound is On
8. **AUDIO and VIDEO in jacks**
connect to AUDIO and VIDEO OUT of an audio source
9. **HEADPHONE jack**
connect headphones (not supplied) here
10. **PLAY ► button (VCR)**
to play a tape
11. **RECORD button and light (VCR)**
Press once to start recording, repeatedly to start an One Touch Recording
light appears during recording, it flashes when a recording is paused
12. **TIMER REC light (VCR)**
light appears when the System is in standby mode for a timer recording (also light appears during timer recording)
13. **IR (Infrared) Remote Sensor (DVD,VCR,TUNER)**
receive signals from remote control
14. **STOP ■ button (DVD)**
to stop playback
15. **PLAY ► button (DVD)**
to start, pause or resume disc playback
16. **DIRECT DUBBING button (VCR)**
to play DVD disc and record its' content to video cassette tape at the same time
17. **SOURCE button and lights (DVD,VCR,TUNER)**
to select DVD,VCR and TUNER mode
DVD light appears when the System in DVD mode
VCR light appears when the System in VCR mode
TUNER light appears when the System in TUNER mode
18. **STANDBY-ON ○ button and light (DVD,VCR, TUNER)**
to switch the player to ON or OFF
light appears when the System turns on.
19. **DVD**
Lights up when a DVD is inserted on the tray.

20. **VCR**
Appears when a videotape is loaded.
21. **REPEAT (DVD)**
Stays on when the repeat function is on.
22. **► (DVD,VCR)**
Stays on when the inserted disc or cassette is being played back.
23. **■ (DVD,VCR)**
Lights up when the inserted disc comes to a pause. (DVD)
Lights up when the playback is in a still or in a slow mode. (VCR)
24. **A-B (DVD)**
Stays on when the A-B repeat function is on.
25. **FM (TUNER)**
Indicates an FM station
26. **MW (TUNER)**
Indicates an MW station
27. **⊕ (TUNER)**
Indicates a stereo broadcast
28. **TITLE (DVD)**
Stays on when repeat title function is on.
29. **Digital Display (DVD,VCR,TUNER)**
Displays how long a current title or track has been played back. When a chapter or track has switched, the number of a new title, chapter or track is displayed. (DVD)
Works as a clock, or a tape counter. Also displays a channel number, and remaining time for OTR. (VCR)
Displays a current radio frequency (station number). (TUNER)
30. **CHP. (DVD)**
Stays on when repeat chapter function is on.
31. **TRK (DVD)**
Stays on when repeat track function is on.
32. **CD**
Lights up when a CD is inserted on the tray.
- VCD**
Lights up when a VCD is inserted on the tray.
33. **MHz**
Indicates an FM station.
- KHz**
Indicates an MW station.
34. **dts**
Indicates DTS is available.
35. **DDPL**
Indicates Dolby ProLogic is available.
36. **DDD**
Indicates Dolby Digital is available.

Display Message

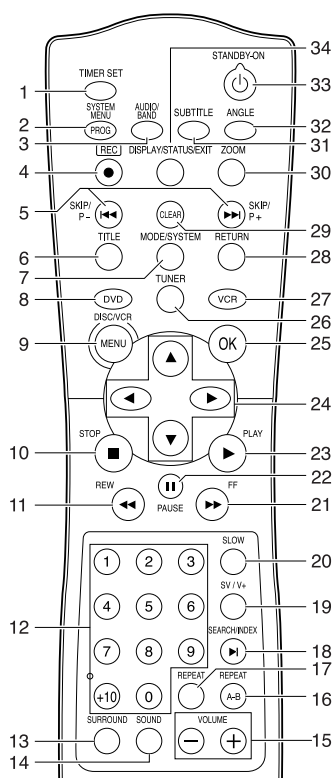
- - - -	Appears after the disc tray closes if the tray is empty, if there is an error reading the disc, or if an unacceptable disc is installed.
OPEN	Tray is opening or is open.
CLOSE	Tray is closing. This also may appear as the Player tries to load a Disc.
Load	Disc is loading.
Phc	Lights up when a playback control is activated.

Rear Panel



1. **AVI (TV) jack**
connect SCART cable to a TV
2. **AV2 (DECODER) jack (VCR only)**
connect SCART cable from another DVD/VCR, camcorder or an audio/video source
3. **MW antenna jack**
connect the supplied MW antenna to the MW jack
4. **S-Video Out jack (DVD only)**
connect to a TV with S-Video inputs
5. **RF OUT jack**
use the supplied RF coaxial cable to connect to the ANTENNA IN on your TV, cable box or Direct Broadcast System
6. **AERIAL jack**
connect to an antenna or cable
7. **COAXIAL (Digital audio out) jack (DVD only)**
connect to AUDIO inputs of a digital (coaxial) audio equipment
8. **FM antenna jack**
connect the supplied FM antenna to the FM jack
9. **Fan**
10. **SPEAKER jacks**
connect the supplied speakers using the supplied speaker wires.
11. **MAINS (AC Power Cord)**
connect to a standard AC outlet

Remote Control

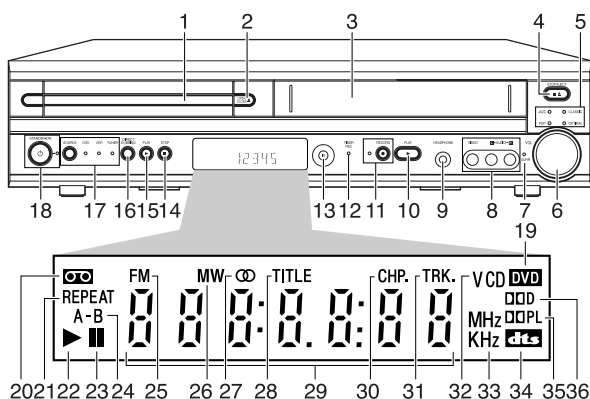


1. **TIMER SET**
to put the System into standby mode for a timer recording
2. **SYSTEM MENU**
to access or remove the DVD setup menu (DVD)
PROG
to preset radio stations in Tuner mode (TUNER)
3. **AUDIO/BAND**
to choose audio languages or sound modes (DVD)
to choose sound modes (VCR)
to choose FM or MW in Tuner mode (TUNER)
4. **REC ●**
to record the TV channel selected at this moment or press repeatedly to start a One Touch Recording (VCR)
5. **SKIP/P- ◀◀ / SKIP/P+ ▶▶**
to skip chapter/tracks (DVD)
to change TV channels (VCR)
press and hold to search radio station
or press to increase or decrease the frequency by one-tenth (TUNER)
6. **TITLE**
to display title menu of a disc (DVD)
7. **MODE/SYSTEM**
to set up programmed or random playback (DVD, Audio CD)
not use (VCR)
8. **DVD**
press to put the System in DVD mode and before using the remote control for DVD features
9. **DISC/VCR MENU**
to display the menu of the DVD disc or to access VCR menu
10. **STOP ■**
to stop a DVD disc playback (DVD)
to stop playback, recording (VCR)
to erase a preset (TUNER)
11. **REW ◀◀**
to view DVD picture in fast reverse motion (DVD)
to rewind the tape (VCR)
12. **0-9 numerical key pads/+10**
select numbered items in a menu
use +10 button to enter number 10 and above (DVD)
to select TV channels / to enter the PlusCode programming number (VCR)
to choose a preset radio station (TUNER)
13. **SURROUND**
to turn Surround Sound on or off
14. **SOUND**
to choose a Digital Sound effect
15. **VOLUME**
to adjust the volume
16. **REPEAT A-B**
repeat a specific segment (DVD)
17. **REPEAT**
repeat chapter, track, title, disc (DVD)
18. **SEARCH/INDEX ▶**
to access or remove search display (DVD)
to fast forward or rewind the tape at index number (VCR)
19. **SV/V+**
to programme timer recording with the VIDEO Plus+ system (VCR)
20. **SLOW**
to view tape playback in slow motion (VCR)
21. **FF ▶▶**
to view DVD picture in fast forward motion (DVD)
to fast forward the tape (VCR)
22. **PAUSE ||**
pause playback temporarily / frame-by-frame playback (DVD)
pause playback and recording temporarily (VCR)
23. **PLAY ▶**
to start a DVD disc playback (DVD)
to start a tape playback (VCR)

- 24. ◀▶ ▲ ▼
(left/right/up/down) select an item in the menu
◀▶ to choose a preset radio station (TUNER)
- 25. **OK**
acknowledge menu selection (DVD)
- 26. **TUNER**
press to put the System in TUNER mode and before using the remote control for TUNER features
- 27. **VCR**
press to put the System in VCR mode and before using the remote control for VCR features
- 28. **RETURN**
to return previous or remove setup menu (DVD)
- 29. **CLEAR**
to reset the setting (DVD)
to reset the counter (VCR)
to delete last entry/Clear programmed recording (TIMER) (VCR)
- 30. **ZOOM**
enlarge DVD video image (DVD)
- 31. **SUBTITLE**
subtitle language selector (DVD)
- 32. **ANGLE**
select DVD camera angle (DVD)
- 33. **STANDBY-ON** ⏻
switch the System ON or OFF
- 34. **DISPLAY/STATUS/EXIT**
to access or remove the display screen during DVD or Audio CD playback (DVD)
to access or remove VCR's on-screen status display/ to remove VCR's menu (VCR)

[MX5100VR/02]

Front Panel



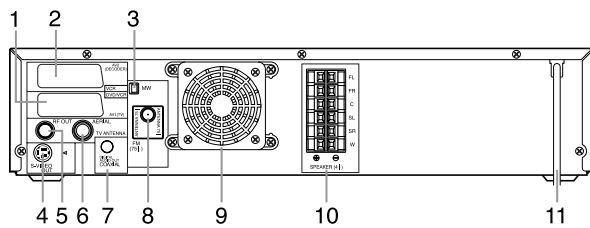
1. **Disc Tray (DVD)**
insert a disc here
2. **OPEN/CLOSE ▲ button (DVD)**
to open/close the disc tray
3. **Cassette Compartment (VCR)**
insert a tape here
4. **STOP/EJECT ■▲ button (VCR)**
when playback is stopped, press to eject the tape
5. **Sound lights**
Each indicator lights according to the sound effect you select by pressing the SOUND button on the remote
6. **VOLUME dial**
turn clockwise to increase the volume; turn counter-clockwise to decrease the volume
7. **SURR light**
light appears when Surround Sound is On
8. **AUDIO and VIDEO in jacks**
connect to AUDIO and VIDEO OUT of an audio source
9. **HEADPHONE jack**
connect headphones (not supplied) here
10. **PLAY ► button (VCR)**
to play a tape
11. **RECORD button and light (VCR)**
Press once to start recording, repeatedly to start an One Touch Recording
light appears during recording, it flashes when a recording is paused
12. **TIMER REC light (VCR)**
light appears when the System is in standby mode for a timer recording (also light appears during timer recording)
13. **IR (Infrared) Remote Sensor (DVD,VCR,TUNER)**
receive signals from remote control
14. **STOP ■ button (DVD)**
to stop playback
15. **PLAY ► button (DVD)**
to start, pause or resume disc playback
16. **DIRECT DUBBING button (VCR)**
to play DVD disc and record its' content to video cassette tape at the same time
17. **SOURCE button and lights (DVD,VCR,TUNER)**
to select DVD,VCR and TUNER mode
DVD light appears when the System in DVD mode
VCR light appears when the System in VCR mode
TUNER light appears when the System in TUNER mode
18. **STANDBY-ON ○ button and light (DVD,VCR, TUNER)**
to switch the player to ON or OFF
light appears when the System turns on.
19. **DVD**
Lights up when a DVD is inserted on the tray.

20. **Ⓜ (VCR)**
Appears when a videotape is loaded.
21. **REPEAT (DVD)**
Stays on when the repeat function is on.
22. **► (DVD,VCR)**
Stays on when the inserted disc or cassette is being played back.
23. **⏸ (DVD,VCR)**
Lights up when the inserted disc comes to a pause. (DVD)
Lights up when the playback is in a still or in a slow mode. (VCR)
24. **A-B (DVD)**
Stays on when the A-B repeat function is on.
25. **FM (TUNER)**
Indicates an FM station
26. **MW (TUNER)**
Indicates an MW station
27. **Ⓢ (TUNER)**
Indicates a stereo broadcast
28. **TITLE (DVD)**
Stays on when repeat title function is on.
29. **Digital Display (DVD,VCR,TUNER)**
Displays how long a current title or track has been played back. When a chapter or track has switched, the number of a new title, chapter or track is displayed. (DVD)
Works as a clock, or a tape counter. Also displays a channel number, and remaining time for OTR. (VCR)
Displays a current radio frequency (station number). (TUNER)
30. **CHP. (DVD)**
Stays on when repeat chapter function is on.
31. **TRK (DVD)**
Stays on when repeat track function is on.
32. **CD**
Lights up when a CD is inserted on the tray.
- VCD**
Lights up when a VCD is inserted on the tray.
33. **MHz**
Indicates an FM station.
- KHz**
Indicates an MW station.
34. **dts**
Indicates DTS is available.
35. **DDPL**
Indicates Dolby ProLogic is available.
36. **DDD**
Indicates Dolby Digital is available.

Display Message

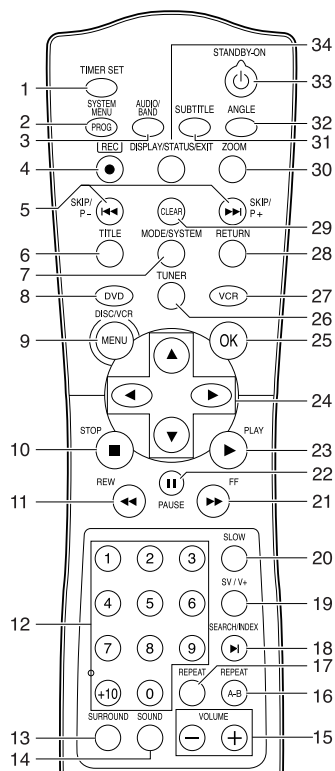
- - - -	Appears after the disc tray closes if the tray is empty, if there is an error reading the disc, or if an unacceptable disc is installed.
OPEN	Tray is opening or is open.
CLOSE	Tray is closing. This also may appear as the Player tries to load a Disc.
Load	Disc is loading.
Pbc	Lights up when a playback control is activated.

Rear Panel



1. **AV1 (TV) jack**
connect SCART cable to a TV
2. **AV2 (DECODER) jack (VCR only)**
connect SCART cable from another DVD/VCR, camcorder or an audio/video source
3. **MW antenna jack**
connect the supplied MW antenna to the MW jack
4. **S-Video Out jack (DVD only)**
connect to a TV with S-Video inputs
5. **RF OUT jack**
use the supplied RF coaxial cable to connect to the ANTENNA IN on your TV, cable box or Direct Broadcast System
6. **AERIAL jack**
connect to an antenna or cable
7. **COAXIAL (Digital audio out) jack (DVD only)**
connect to AUDIO inputs of a digital (coaxial) audio equipment
8. **FM antenna jack**
connect the supplied FM antenna to the FM jack
9. **Fan**
10. **SPEAKER jacks**
connect the supplied speakers using the supplied speaker wires.
11. **MAINS (AC Power Cord)**
connect to a standard AC outlet

Remote Control



1. **TIMER SET**
to put the System into standby mode for a timer recording
2. **SYSTEM MENU**
to access or remove the DVD setup menu (DVD)
PROG
to preset radio stations in Tuner mode (TUNER)
3. **AUDIO/BAND**
to choose audio languages or sound modes (DVD)
to choose sound modes (VCR)
to choose FM or MW in Tuner mode (TUNER)
4. **REC ●**
to record the TV channel selected at this moment or press repeatedly to start a One Touch Recording (VCR)
5. **SKIP/P- ◀◀ / SKIP/P+ ▶▶**
to skip chapter/tracks (DVD)
to change TV channels (VCR)
press and hold to search radio station
or press to increase or decrease the frequency by one-tenth (TUNER)
6. **TITLE**
to display title menu of a disc (DVD)
7. **MODE/SYSTEM**
to set up programmed or random playback (DVD, Audio CD)
to change the System for matching recorded colour system (SECAM, ME-SECAM or PAL) (VCR)
8. **DVD**
press to put the System in DVD mode and before using the remote control for DVD features
9. **DISC/VCR MENU**
to display the menu of the DVD disc or to access VCR menu
10. **STOP ■**
to stop a DVD disc playback (DVD)
to stop playback, recording (VCR)
to erase a preset (TUNER)
11. **REW ◀◀**
to view DVD picture in fast reverse motion (DVD)
to rewind the tape (VCR)
12. **0-9 numerical key pads/+10**
select numbered items in a menu
use +10 button to enter number 10 and above (DVD)
to select TV channels / to enter the SHOWVIEW number (VCR)
to choose a preset radio station (TUNER)
13. **SURROUND**
to turn Surround Sound on or off
14. **SOUND**
to choose a Digital Sound effect
15. **VOLUME**
to adjust the volume
16. **REPEAT A-B**
repeat a specific segment (DVD)
17. **REPEAT**
repeat chapter, track, title, disc (DVD)
18. **SEARCH/INDEX ▶**
to access or remove search display (DVD)
to fast forward or rewind the tape at index number (VCR)
19. **SV/V+**
to programme timer recording with the SHOWVIEW system (VCR)
20. **SLOW**
to view tape playback in slow motion (VCR)
21. **FF ▶▶**
to view DVD picture in fast forward motion (DVD)
to fast forward the tape (VCR)
22. **PAUSE ||**
pause playback temporarily / frame-by-frame playback (DVD)
pause playback and recording temporarily (VCR)
23. **PLAY ▶**
to start a DVD disc playback (DVD)
to start a tape playback (VCR)

- 24. ◀▶ ▲ ▼
(left/right/up/down) select an item in the menu
◀▶ to choose a preset radio station (TUNER)
- 25. **OK**
acknowledge menu selection (DVD)
- 26. **TUNER**
press to put the System in TUNER mode and before using the remote control for TUNER features
- 27. **VCR**
press to put the System in VCR mode and before using the remote control for VCR features
- 28. **RETURN**
to return previous or remove setup menu (DVD)
- 29. **CLEAR**
to reset the setting (DVD)
to reset the counter (VCR)
to delete last entry/Clear programmed recording (TIMER) (VCR)
- 30. **ZOOM**
enlarge DVD video image (DVD)
- 31. **SUBTITLE**
subtitle language selector (DVD)
- 32. **ANGLE**
select DVD camera angle (DVD)
- 33. **STANDBY-ON** ☺
switch the System ON or OFF
- 34. **DISPLAY/STATUS/EXIT**
to access or remove the display screen during DVD or Audio CD playback (DVD)
to access or remove VCR's on-screen status display/ to remove VCR's menu (VCR)

SIGNAL NAME ABBREVIATIONS

Signal Name	Function
-FL	FIP Drive Power Supply
2CH	2 Channel Audio Signal
33/36M	DA Converter Clock
6CH	Dolby Digital 5.1ch Audio Signal
8POUT-1/2	Control SCART 1 8Pin Level by using 8POUT-1 and 8POUT-2
A-COM	Audio Head Common
A-IN	Audio Signal Input
A-MODE	Hi-Fi Tape Detection Signal
A-MUTE-H	Audio Mute Control Signal (Mute = "H")
A-OUT	Audio Signal Output
A-PB/REC	Normal Audio Play Back/Record Signal
AC IN	AC Power Supply Input
ADAC	Advanced Digital audio Acoustic Coding
AE-H	Audio Erase Head
AFC	Automatic Frequency Control Signal
AGC	IF AGC Control Signal
AL+12V	Always +12V with AC Plug Connected
AL+2.35V	Always +2.35V with AC Plug Connected
AL+20.5V/+12V	Always +15V/+12V with AC Plug Connected
AL+4V	Always +4V with AC Plug Connected
AL+5V	Always +5V with AC Plug Connected
AL+9V	Always +9V with AC Plug Connected
AL-30V	Always -30V with AC Plug Connected
AMPC	CTL AMP Connected Terminal
AMPVcc	AMPVcc
AMPVREF in	V-Ref for CTL AMP
AMPVREF OUT	V-Ref for CTL AMP
ASPECT	Aspect Switching Signal

Signal Name	Function
AVcc	A/D Converter Power Input/ Standard Voltage Input
C-CONT	Capstan Motor Control Signal
C-F/R	Capstan Motor FWD/REV Control Signal (FWD="L"/REV="H")
C-FG	Capstan Motor Rotation Detection Pulse
C-POW-SW	Capstan Power Switching Signal
C-ROTA	Color Phase Rotary Changeover Signal
C-SYNC	Composite Synchronized Pulse
CENTER	Center Speaker Signal
CLKSEL	Clock Select (GND)
COLOR-IN	SECAM or MESECAM Chroma Video Input Signal at Super Impose
CTL (+)	Playback/Record Control Signal (+)
CTL (-)	Playback/Record Control Signal (-)
CTLAMPout	To Monitor for CTL AMP Output
D-CONT	Drum Motor Control Signal
D-PFG	Drum Motor Phase/Frequency Generator
D-REC-H	Delayed Record Signal
D-V- SYNC	Dummy V-sync Output
DAVN-L	VPS/PDC Data Receive = "L"
DISPLAY- ON/OFF	DVD FIP ON/OFF Signal
DISPLAY-ACT	Tuner (AMP) VFD Indicating Interrupt Input Signal
DISPLAY-CLK	VFD Driver IC Control Clock
DISPLAY-DATA	VFD Driver IC Control Data
DISPLAY-DATA	VFD Driver IC Control Data
DISPLAY-ENA	VFD Driver IC Chip Select Signal
DSC	LED Control Signal
DVD A	DVD Audio Signal
DVD LED	"DVD" LED Signal Output
DVD PLAY	DVD Play at High
DVD-16PIN	SCART 16Pin DVD Control Signal

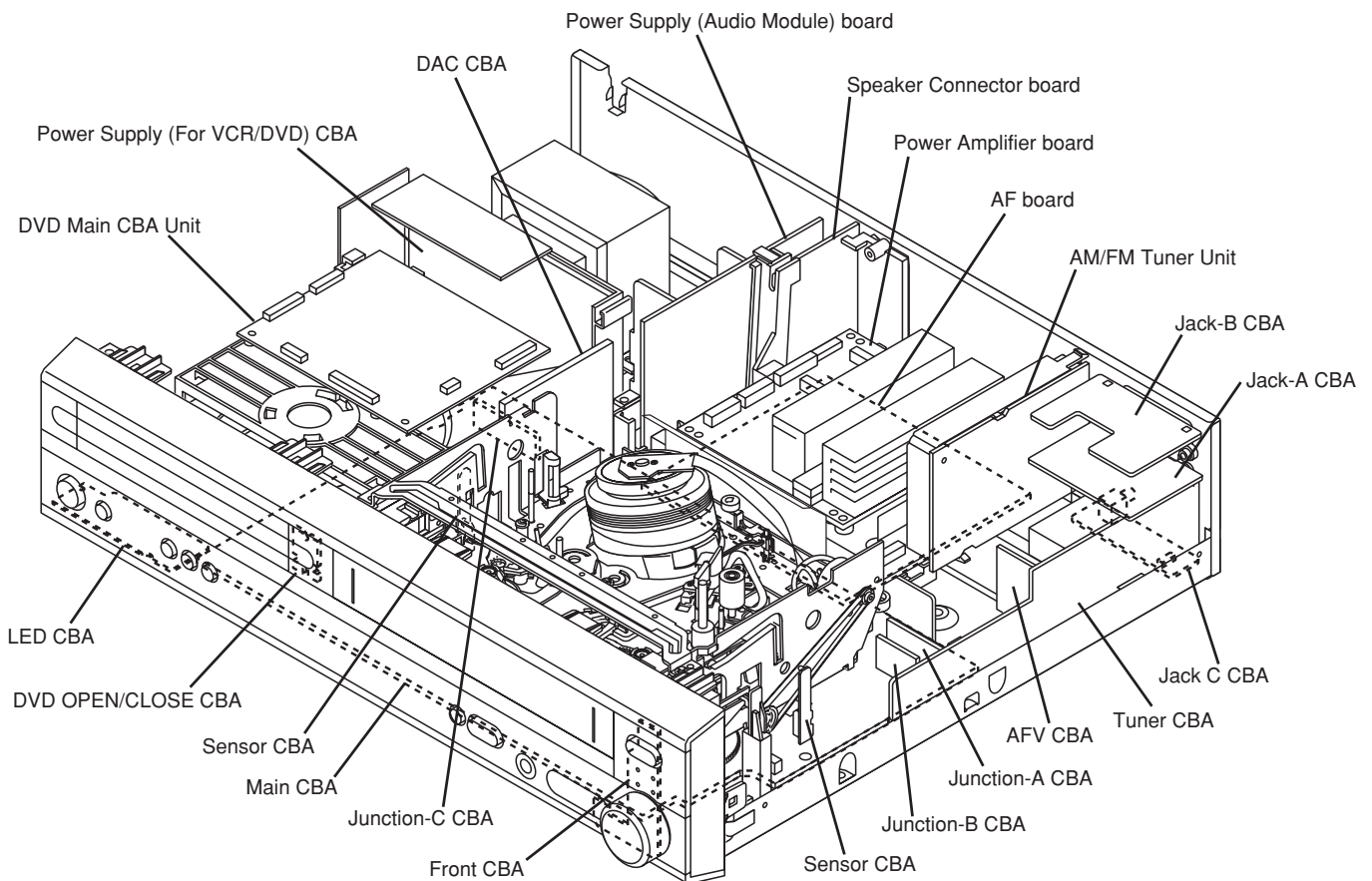
Signal Name	Function
DVD-8PIN-IN	SCART 8Pin DVD Input Control Signal
DVD-AUDIO	DVD Audio Control Signal
DVD-B-OUT	DVD Component Video Signal (blue)
DVD-G-OUT	DVD Component Video Signal (green)
DVD-LED	"DVD" LED Signal Output
DVD-P-ON+12V	+12V at DVD Power-On Signal
DVD-P-ON+3.3V	+3.3V at DVD Power-On Signal
DVD-P-ON+5V	+5V at DVD Power-On Signal
DVD-PLAY	DVD Playback Control Signal
DVD-POWER	DVD Power Control Signal
DVD-POWERMONITOR	DVD Power Monitor Signal (P-off="H", P-on="L")
DVD-R-OUT	DVD Component Video Signal (red)
DVD-VIDEO	DVD Video Control Signal
END-S	Tape End Position Detect Signal
EV+1.5V	+3.3V Power Supply
EV+3.3V	+3.3V Power Supply
EV+5V	+5V Power Supply
F1	Filament Power Supply 1
F2	Filament Power Supply 2
FE-H GND	Ground for Full Erase Head
FF/REW-L	CTL Frequency Characteristics Switching Signal (FF/REW="L")
FIL-ON/OFF	Filament ON/OFF Control Signal
FIP+5V	FIP IC Power Supply
FP-CLK	Clock Input
FP-DIN	Serial Data Input
FP-DOUT	Serial Data Output
FP-STB	Serial Interface Strobe
FSC-IN [4.43MHz]	4.43MHz Clock Input
FTV-IN	Comparator Input of Video Signal for Follow TV
H-A-COMP	Head Amp Comparator Signal
H-A-SW	Video Head Amp Switching Pulse

Signal Name	Function
HDPH-DET	Headphone Detecting Signal
HDPH-L/R	Headphone Left/Right Output Signal
Hi-Fi-A	Hi-Fi Audio Head
Hi-Fi-COM	Hi-Fi Audio Head Common
Hi-Fi-H-SW	Hi-Fi Audio Head Switching Pulse
HLF	LPF Connected Terminal (Slicer)
IIC-BUS- SCL	IIC BUS Control Clock
IIC-BUS- SDA	IIC BUS Control Data
INPUT SELECT	Input Select
JK1-8P-OUT	SCART 8Pin Output Control Signal
KEY-1	Key Scan Input Signal 1
KEY-2	Key Scan Input Signal 2
LD-SW	Deck Mode Position Detector Signal
LINE MUTE	Audio Mute Control Signal
LM-FWD/REV	Loading Motor Control Signal
LOAD-CONT	Load Power Supply Switching Signal
LP	LP
MOD-A	Modulator Audio Output Signal
MOD-V	Modulator Video Output Signal
N-A-PB	Normal Audio Playback
N-A-REC	Normal Audio Recording
OSC	Oscillator Input
OSCIin	Clock Input for letter size
OSCOut	Clock Output for letter size
OSD-V-IN	OSD Video Signal Input
OSD-V-OUT	OSD Video Signal Output
OSDVcc	OSDVcc
OSDVss	OSDVss
OUTPUT-SEL2	Output Select, "L"=VCR/Tuner, "H"=DVD
OUTPUT-SELECT	Output Select
P-DOWN-L	Power Voltage Down Detector Signal
P-OFF-H	Power Off at High

Signal Name	Function
P-OFF-H	Power Off at High
P-ON+15V	+15V at Power-On Signal
P-ON+44V	+44V at Power-On Signal
P-ON+5V	+5V at Power-On Signal
P-ON-H	Power On Signal at High
P80/C	P80/C Terminal
PB-H-OUT	Playback Signal Output at High
PCM-DATA	Pulse Code Modulation Data
PG-DELAY	Video Head Switching Pulse Signal Adjusted Voltage
POW-SAF	P-ON Power Detection Input Signal
POWER- LED	“POWER” LED Signal Output
PWRCON	Power Down
PWSW	Data IN/OUT Signal
REC-LED	“REC” LED Signal Output
REC-SAF-SW	Recording Safety SW Detect (With Record tab=“L”/ With out Record tab=“H”)
REMOTE-DVD	DVD Remote Control Sensor
REMOTE-VIDEO	Video Remote Control Sensor
RESET	System Reset Signal (Reset=“L”)
RF-SW	Video Head Switching Pulse
RGB-THROUGH1	SCART 2 RGB Through Control Signal
S-REEL	Supply Reel Rotation Signal
SC2-IN	Input Signal from Pin 8 of SCART2
SECAM-C-IN	SECAM Chroma Signal Input
SECAM-FM-OUT	SECAM FM Signal Output
SECAM-H	SECAM Mode at High
SIF	Source Input Format
SORROUND	Surround Speaker Signal
SPDIF	Digital Audio Interface Format Signal
ST-S	Tape Start Position Detector Signal
STOP/EJECT	Tape Stop/Eject Signal
SUB-WOOFER	Sub Woofer Signal

Signal Name	Function
T-REEL	Take Up Reel Rotation Signal
TIMER LED	“TIMER” LED Signal Output
TIMER+5V	+5V at Timer
TIMER- LED	“TIMER” LED Signal Output
TRICK-H	Special Playback = “H” in SECAM Mode
TU-AUDIO	Tuner Audio Input Signal
TU-VIDEO	Tuner Video Input Signal
TUNER- LED	“TUNER” LED Signal Output
TUNER-POWER	Receiver Main Power Supply Control Signal (OFF=“L”, ON=“H”)
V-COM	Video Head Common
V-ENV	Video Envelope Comparator Signal
V-IN	Video Signal Input
V-OUT	Video Signal Output
Vcc	Vcc
VCR-LED	“VCR” LED Signal Output
VIDEO	Video Signal
VOL-A/B	Volume Control Signal
VSS	GND
XCin	Sub Clock
XCout	Sub Clock
Xin	Main Clock Input
Xout	Main Clock Input

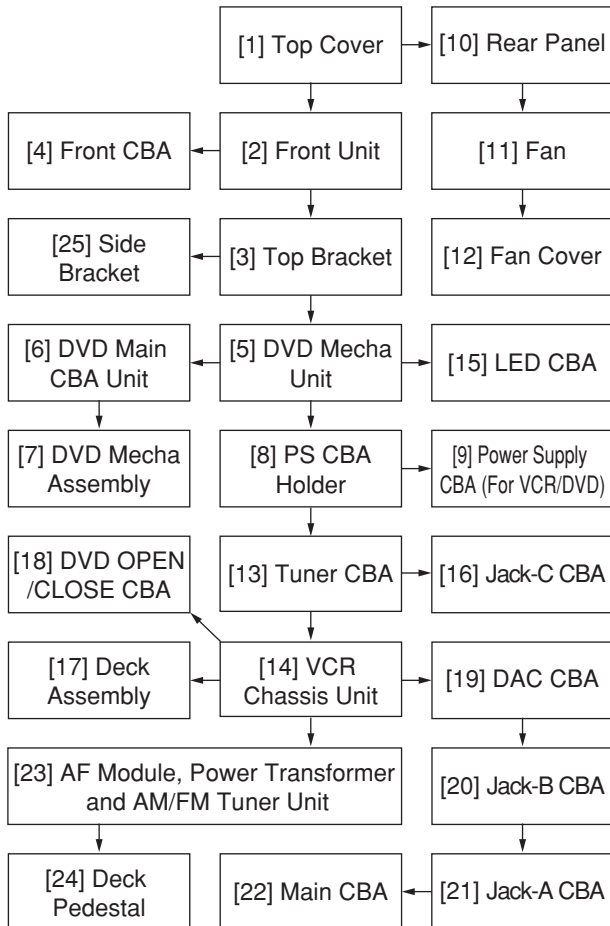
LOCATION OF CBAS (PC BOARDS)



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	7(S-1)	-
[2]	Front Unit	D2	(S-2), *7(L-1), *CN505, *CN2014	1 1-1 1-2 1-3
[3]	Top Bracket	D2	2(S-3), 2(S-4)	-
[4]	Front CBA	D3	3(S-5), Volume Knob	-
[5]	DVD Mecha Unit	D4	3(S-6), 2(S-7), *CN401, *CN601, *CN901, *CN902	2

ID/ LOC. No.	PART	REMOVAL		
		Fig. No.	REMOVE/*UNHOOK/ UNLOCK/RELEASE/ UNPLUG/DESOLDER	Note
[6]	DVD Main CBA Unit	D5	*CN201, *CN301	3 3-1 3-2 4
[7]	DVD Mecha Assembly	D5	-----	-
[8]	PS CBA Holder	D6	3(S-8), Earth Plate, *CN050, *CN1008	-
[9]	Power Supply CBA (For VCR/DVD)	D6	4(S-9)	-
[10]	Rear Panel	D7	11(S-10), 4(S-11), (S-12), *2(L-2)	-
[11]	Fan	D7	4(S-13), 4(S-14), Connector	-
[12]	Fan Cover	D7	-----	-
[13]	Tuner CBA	D8	*CN702, *CN1202	-
[14]	VCR Chassis Unit	D8	5(S-15), 2(S-16), (S-17), *CN503, *CN2020	-
[15]	LED CBA	D8	2(S-18)	-
[16]	Jack-C CBA	D8	(S-19)	-
[17]	Deck Assembly	D9	Desolder, 3(S-20), Cylinder Shield (S-21), (S-22)	4,5
[18]	DVD OPEN/CLOSE CBA	D10	Desolder	-
[19]	DAC CBA	D10	*CN7105, *CN7104	-
[20]	Jack-B CBA	D10	*CN2017	-
[21]	Jack-A CBA	D10	*CN2018	-
[22]	Main CBA	D10	-----	-
[23]	AF Module, Power Transformer and AM/FM Tuner Unit	D11	4(S-22), 2(S-23), 4(S-24), Trans Holders	-
[24]	Deck Pedestal	D12	7(S-25), Pedestal Shield	-
[25]	Side Bracket	D12	(S-26)	-

(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."

Reference Notes

CAUTION 1: Locking Tabs (L-1) are fragile. Be careful not to break them.

- 1-1. Remove Screw (S-2).
- 1-2. Disconnect connectors CN505 on the Main CBA and CN2014 on the Tuner CBA.
- 1-3. Release seven Locking Tabs (L-1) (to do this, first release five Locking Tabs (A) at the side and top, and then release two Locking Tabs (B) at the bottom.)

CAUTION 2: Do not disconnect connector CN201 until the three short lands of FPC is shorted as shown in Fig. D5. Refer to below.

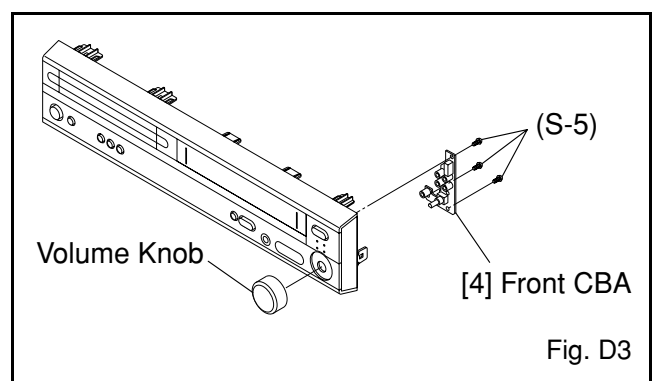
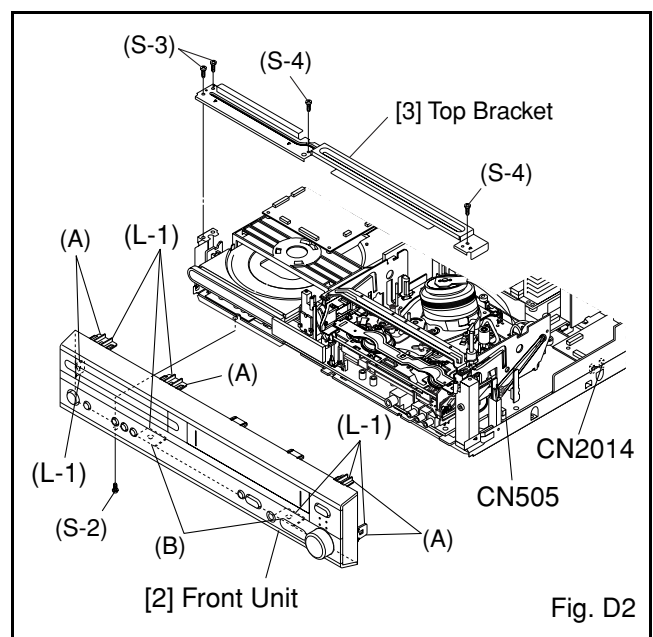
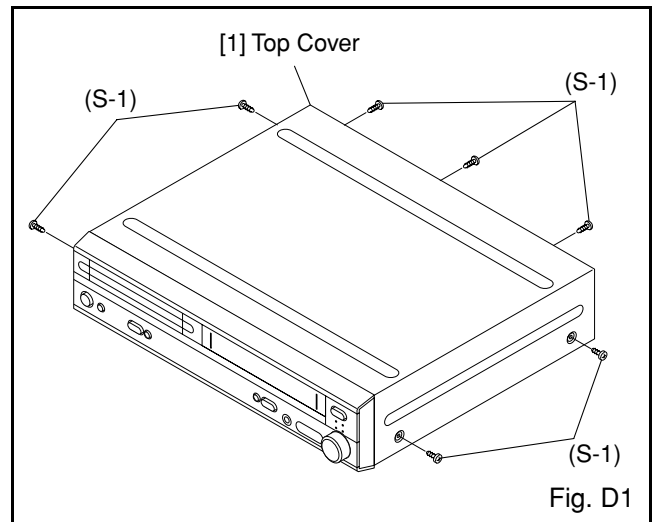
CAUTION 3: Electrostatic breakdown of the laser diode in the optical system block may occur as a potential difference caused by electrostatic charge accumulated on cloth, human body etc., during unpacking or repair work.

To avoid damage of pickup follow next procedures.

- 3-1. Short the three short lands of FPC cable with solder before removing the FFC cable (CN201) from it. If you disconnect the FFC cable (CN201), the laser diode of pickup will be destroyed. (Fig. D5)
- 3-2. Disconnect Connector (CN301) and lift the DVD Main CBA Unit. (Fig. D5)

CAUTION 4: When reassembling, confirm the FFC cable (CN301) is connected completely. Then remove the solder from the three short lands of FPC cable. (Fig. D5)

- 4. When reassembling, solder wire jumpers as shown in Fig. D9.
- 5. Before installing the Deck Assembly, be sure to place the pin of LD-SW on Main CBA as shown in Fig. D9. Then, install the Deck Assembly while aligning the hole of Cam Gear with the pin of LD-SW, the shaft of Cam Gear with the hole of LD-SW as shown in Fig. D9.



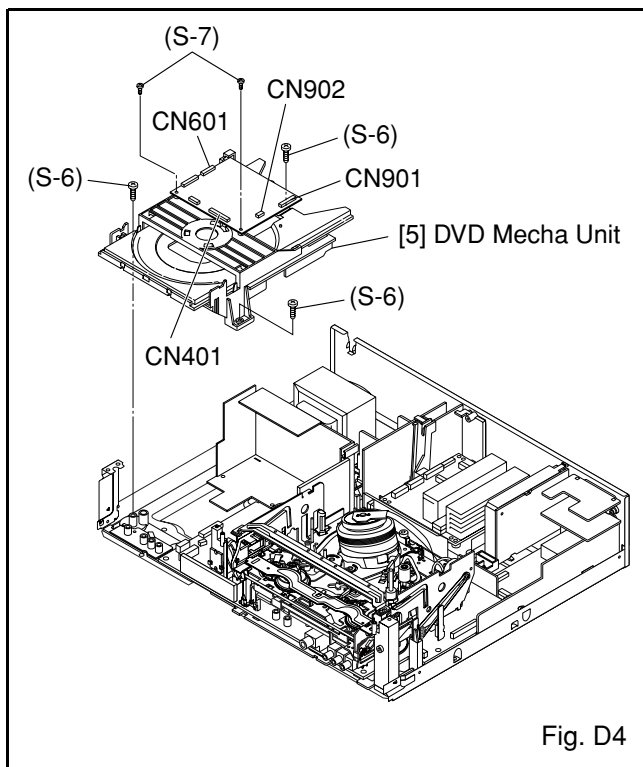
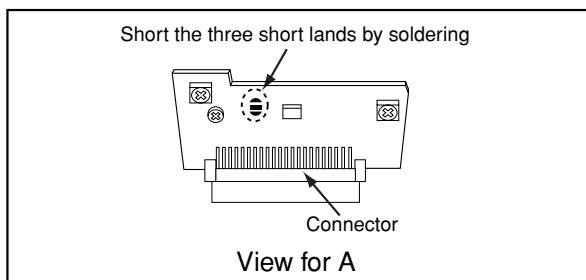
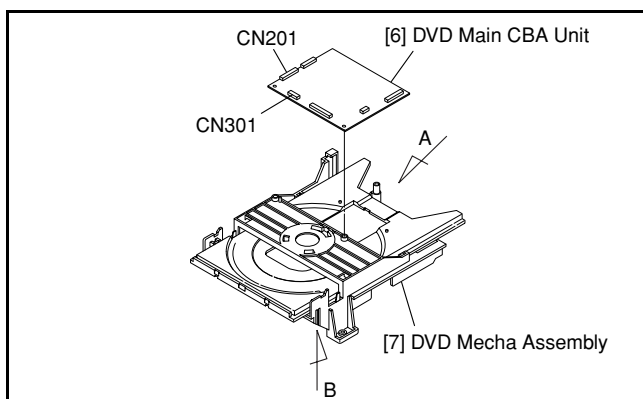


Fig. D4



OR

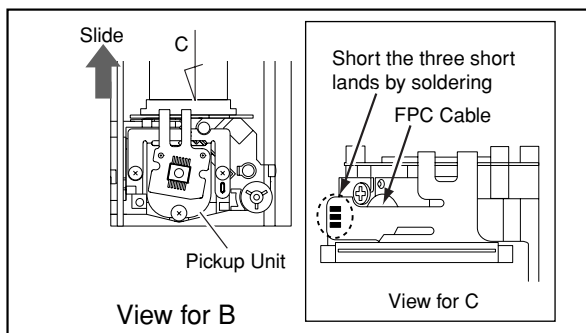


Fig. D5

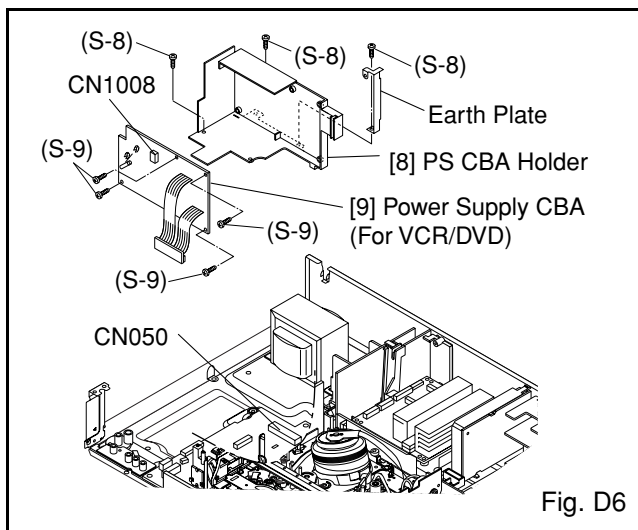


Fig. D6

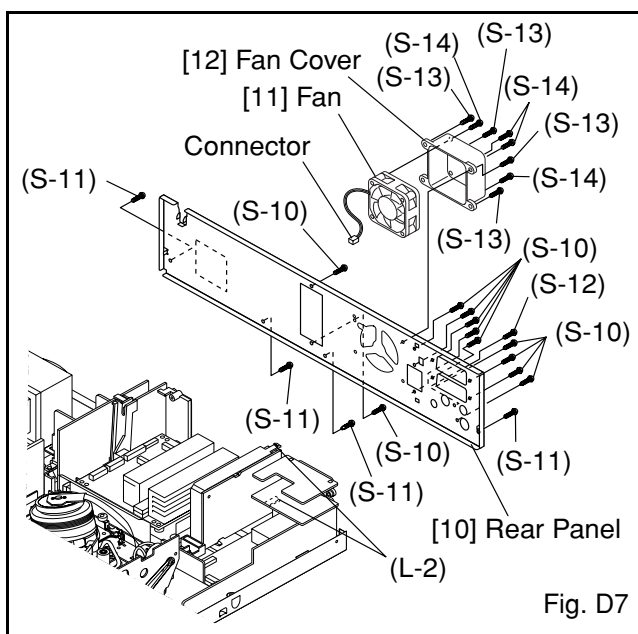


Fig. D7

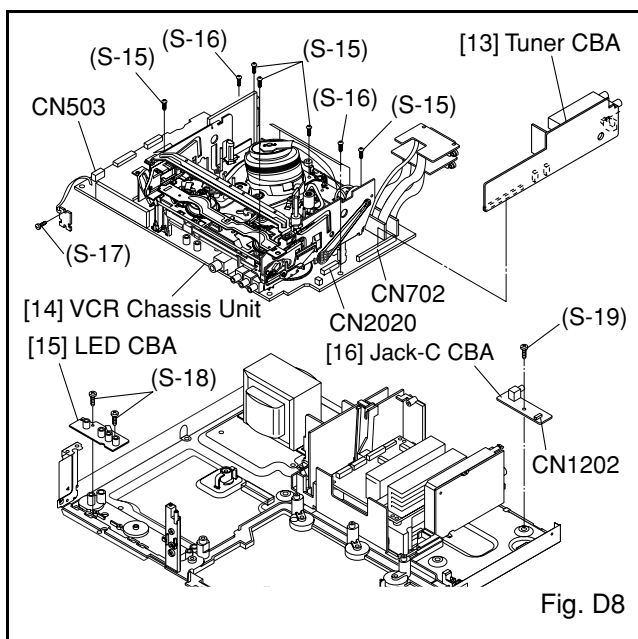


Fig. D8

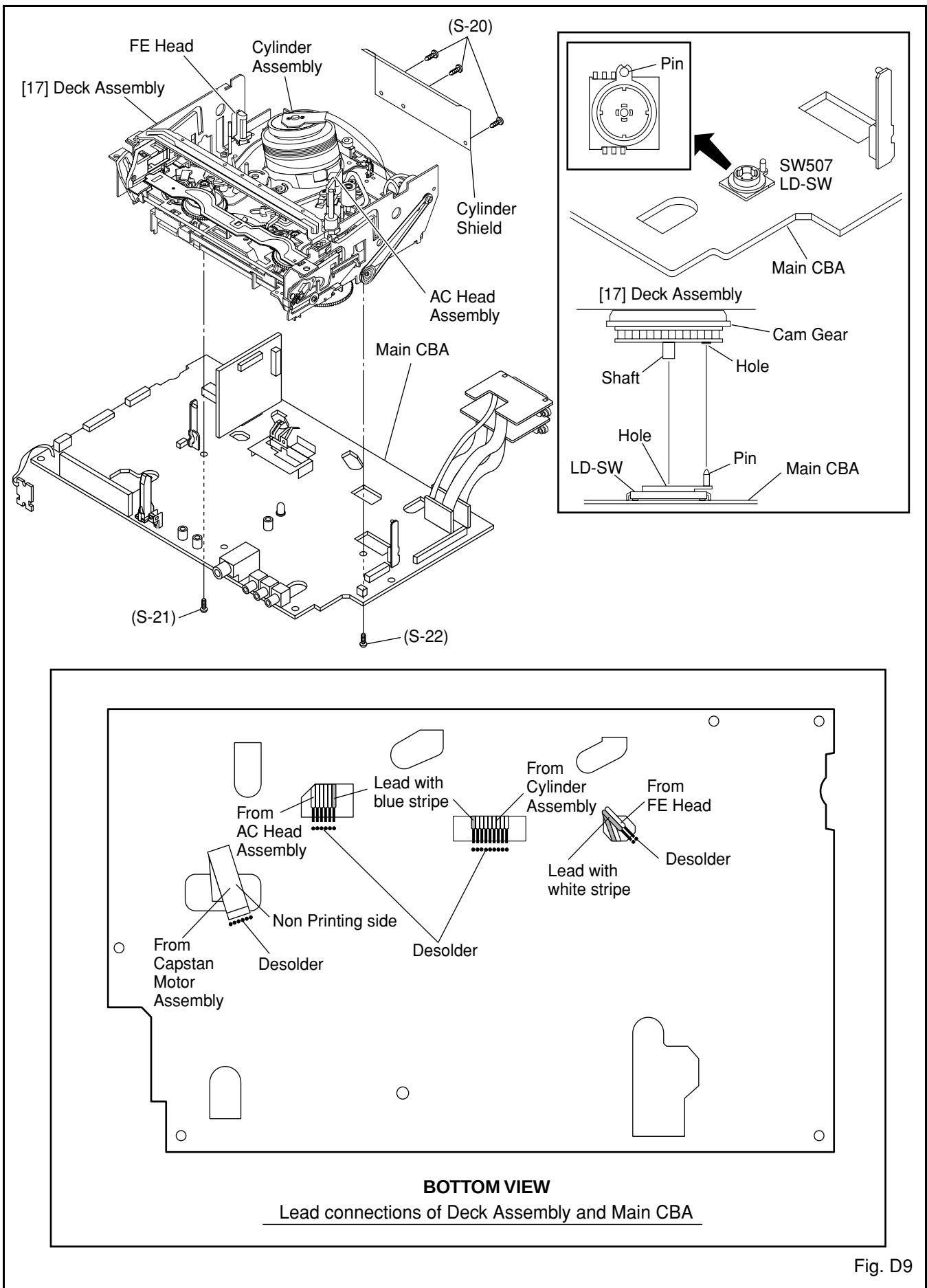
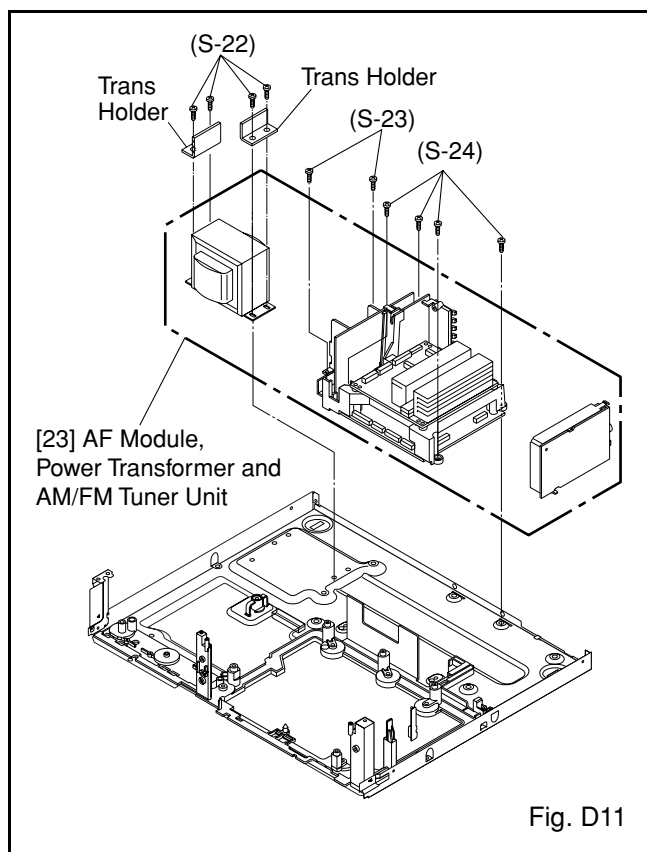
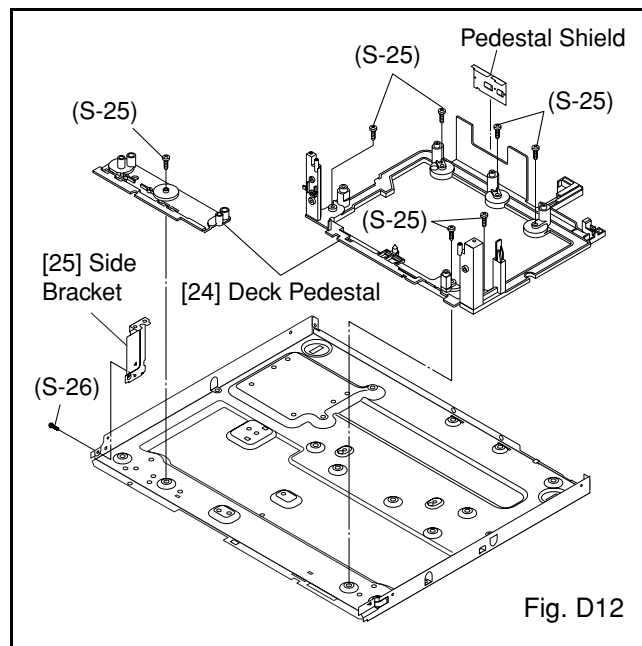
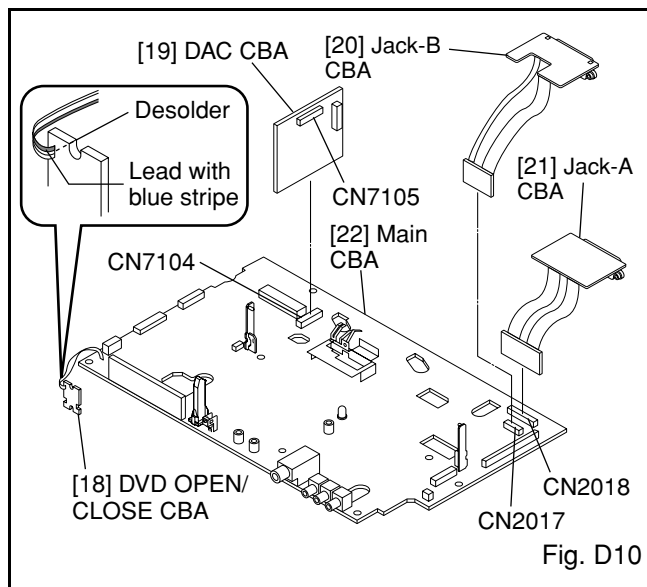
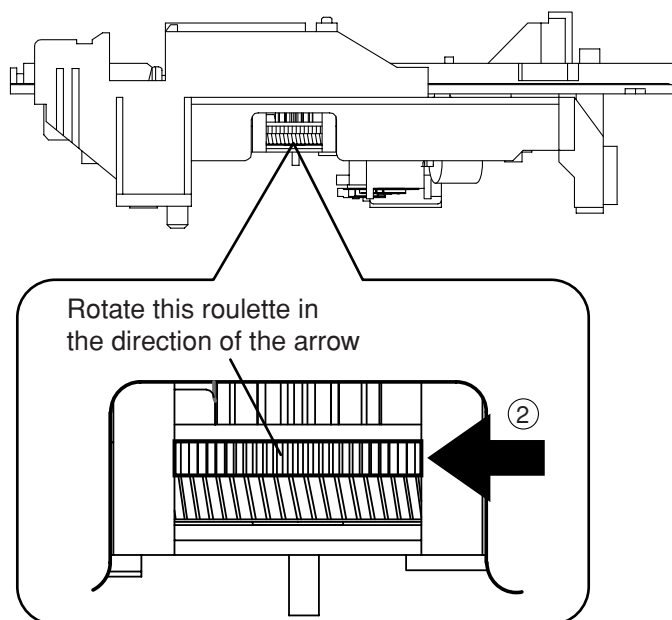
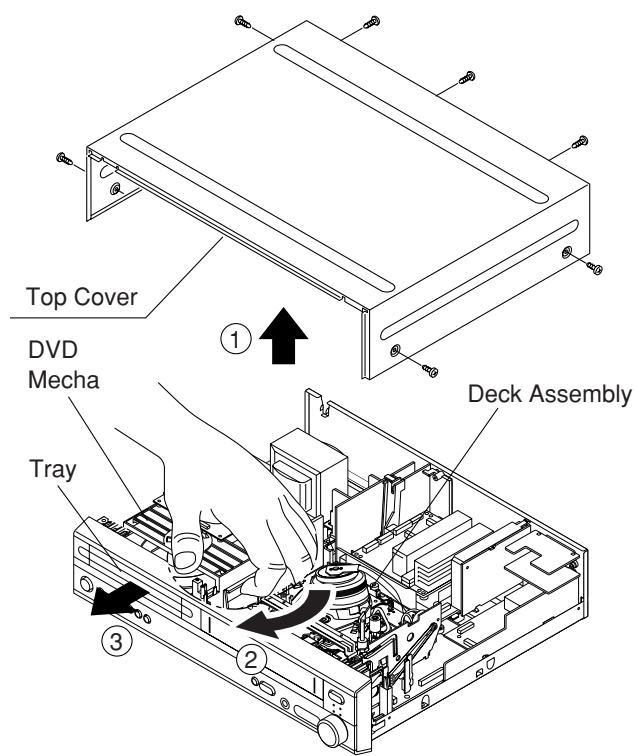


Fig. D9



HOW TO MANUAL EJECT

1. Remove the Top Case.
2. Rotate this roulette in the direction of the arrow as shown below.



ELECTRICAL ADJUSTMENT INSTRUCTIONS

General Note: "CBA" is an abbreviation for "Circuit Board Assembly."

NOTE:

1. Electrical adjustments are required after replacing circuit components and certain mechanical parts. It is important to do these adjustments only after all repairs and replacements have been completed. Also, do not attempt these adjustments unless the proper equipment is available.
2. To perform these alignment / confirmation procedures, make sure that the tracking control is set in the center position: First, press the "VCR" button on the remote control unit to put the System in VCR mode. Second, press either "▼CH" or "▲CH" button on the remote control unit, then press the "PLAY" button on the front panel.

Test Equipment Required

1. Oscilloscope: Dual-trace with 10:1 probe,
V-Range: 0.001~50V/Div.,
F-Range: DC~AC-20MHz
2. Alignment Tape (FL6A)

Head Switching Position Adjustment

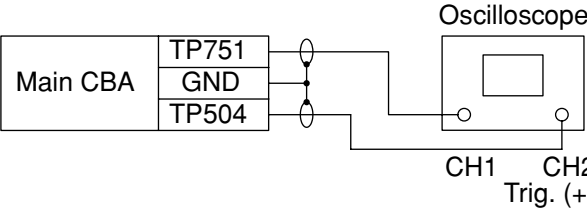
Purpose:

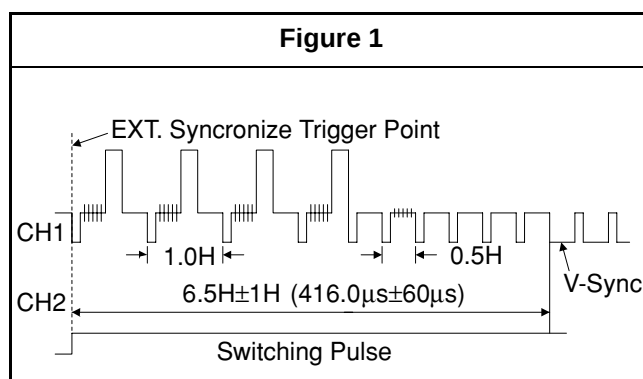
To determine the Head Switching point during playback.

Symptom of Misadjustment:

May cause Head Switching noise or vertical jitter in the picture.

Test point	Adj.Point	Mode	Input
TP751(V-OUT) TP504(RF-SW) GND	VR501 (Switching Point) (MAIN CBA)	PLAY (SP)	-----
Tape	Measurement Equipment	Spec.	
FL6A	Oscilloscope	6.5H±1H (416.0μs±60μs)	

Connections of Measurement Equipment			
			



Reference Notes:

Playback the Alignment tape and adjust VR501 so that the V-sync front edge of the CH1 video output waveform is at the 6.5H±1H (416.0µs±60µs) delayed position from the rising edge of the CH2 head switching pulse waveform.

FIRMWARE RENEWAL MODE

1. Turn the power on and remove the disc on the tray.
2. To put the DVD player into version up mode, press [9], [8], [7], [6], and [SEARCH MODE] 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.

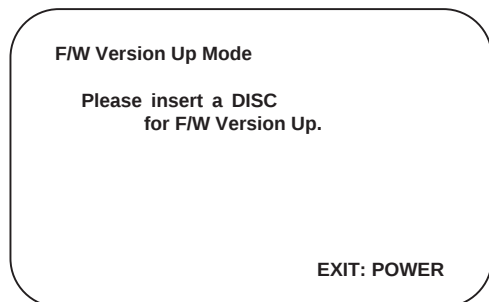


Fig. a Version Up Mode Screen

6E-UP

Fig. b VFD in Version Up Mode

The DVD 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 DVD player enters the F/W version up mode automatically. Fig. c appears on the screen and Fig. d appears on the VFD.

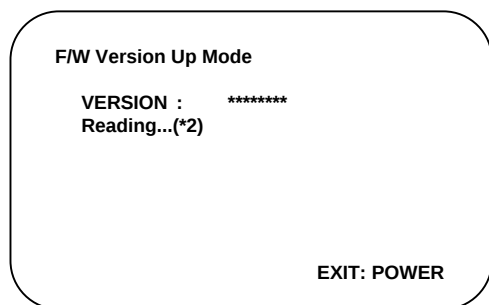


Fig. c Programming Mode Screen

1.223

Fig. d VFD in Programming Mode (Example)

The appearance shown in (*2) of Fig. c is described as follows:

No.	Appearance	State
1	Reading...	Sending files into the memory
2	Erasing...	Erasing previous version data
3	Programming...	Writing new version data

5. After programming is finished, the tray opens automatically. Fig. e appears on the screen and the checksum in (*3) of Fig. e appears on the VFD. (Fig. f)

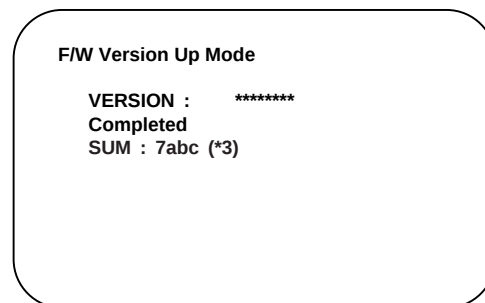


Fig. e Completed Program Mode Screen

7AbC

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

At this time, no buttons are available.

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

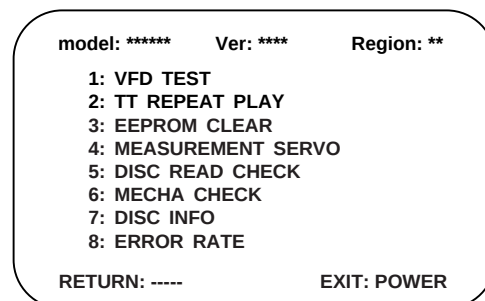


Fig. g

9. Press [3] button on the remote control unit. Fig. h appears on the screen.

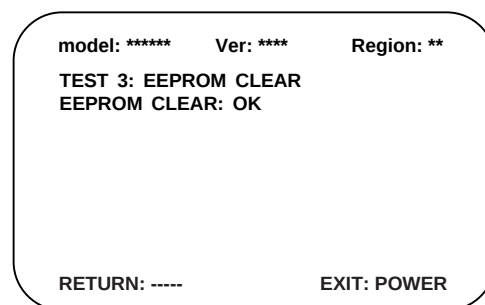


Fig. h

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

BLOCK DIAGRAMS <VCR SECTION>

Servo/System Control Block Diagram

"●" = SMD

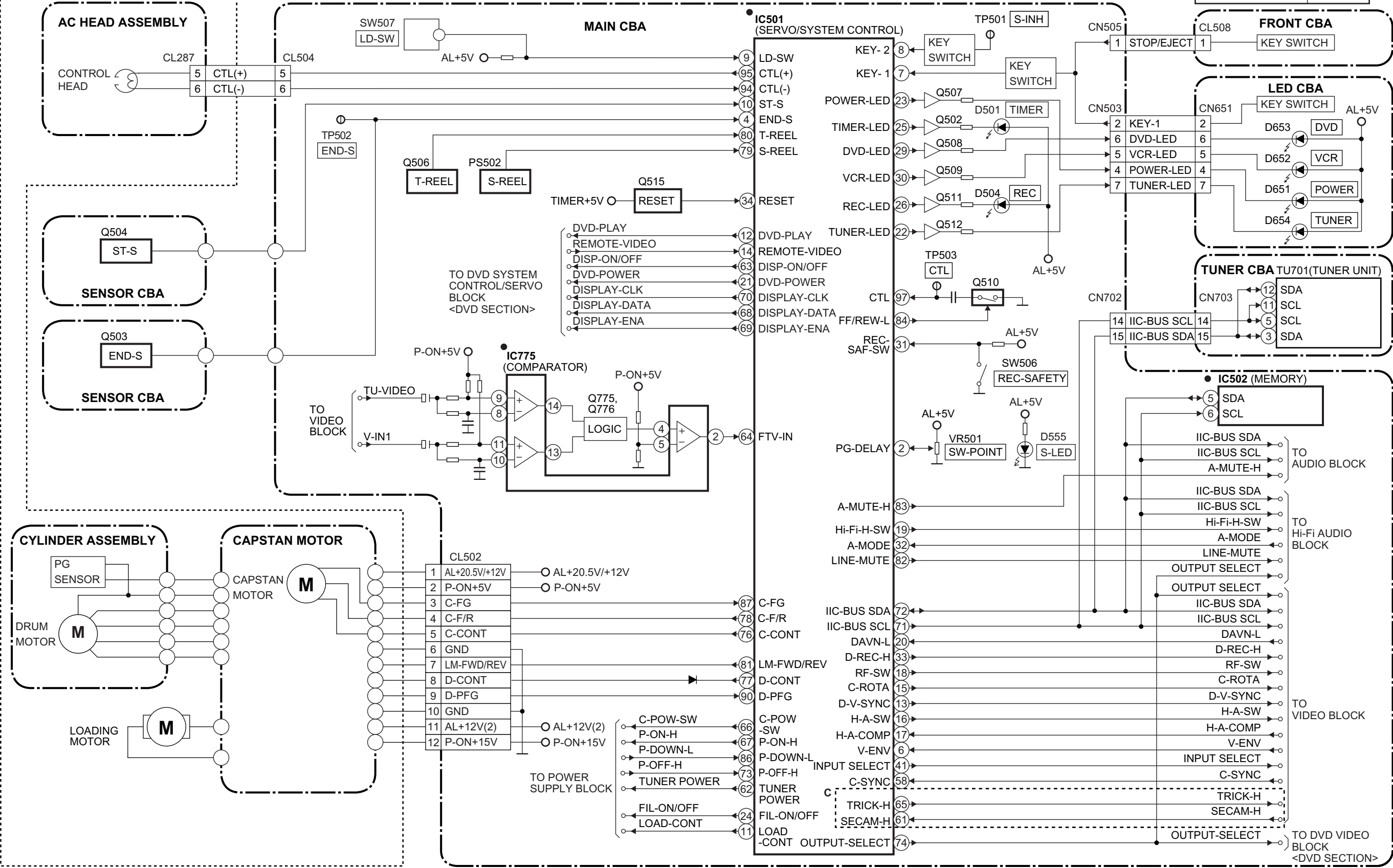
NOTE FOR WIRE CONNECTORS:
1. PREFIX SYMBOL "CN" MEANS CONNECTOR.
(CAN DISCONNECT AND RECONNECT.)
2. PREFIX SYMBOL "CL" MEANS WIRE-SOLDER
HOLES OF THE PCB.
(WIRE IS SOLDERED DIRECTLY.)

TEST POINT INFORMATION
○ :INDICATES A TEST POINT WITH A JUMPER WIRE ACROSS A HOLE IN THE PCB.
□ :USED TO INDICATE A TEST POINT WITH A COMPONENT LEAD ON FOIL SIDE.
⊗ :USED TO INDICATE A TEST POINT WITH NO TEST PIN.
● :USED TO INDICATE A TEST POINT WITH A TEST PIN.

Comparison Chart of
Models & Marks

Model	Mark
MX5100VR/00	A
MX5100VR/05	B
MX5100VR/02	C

(DECK ASSEMBLY)

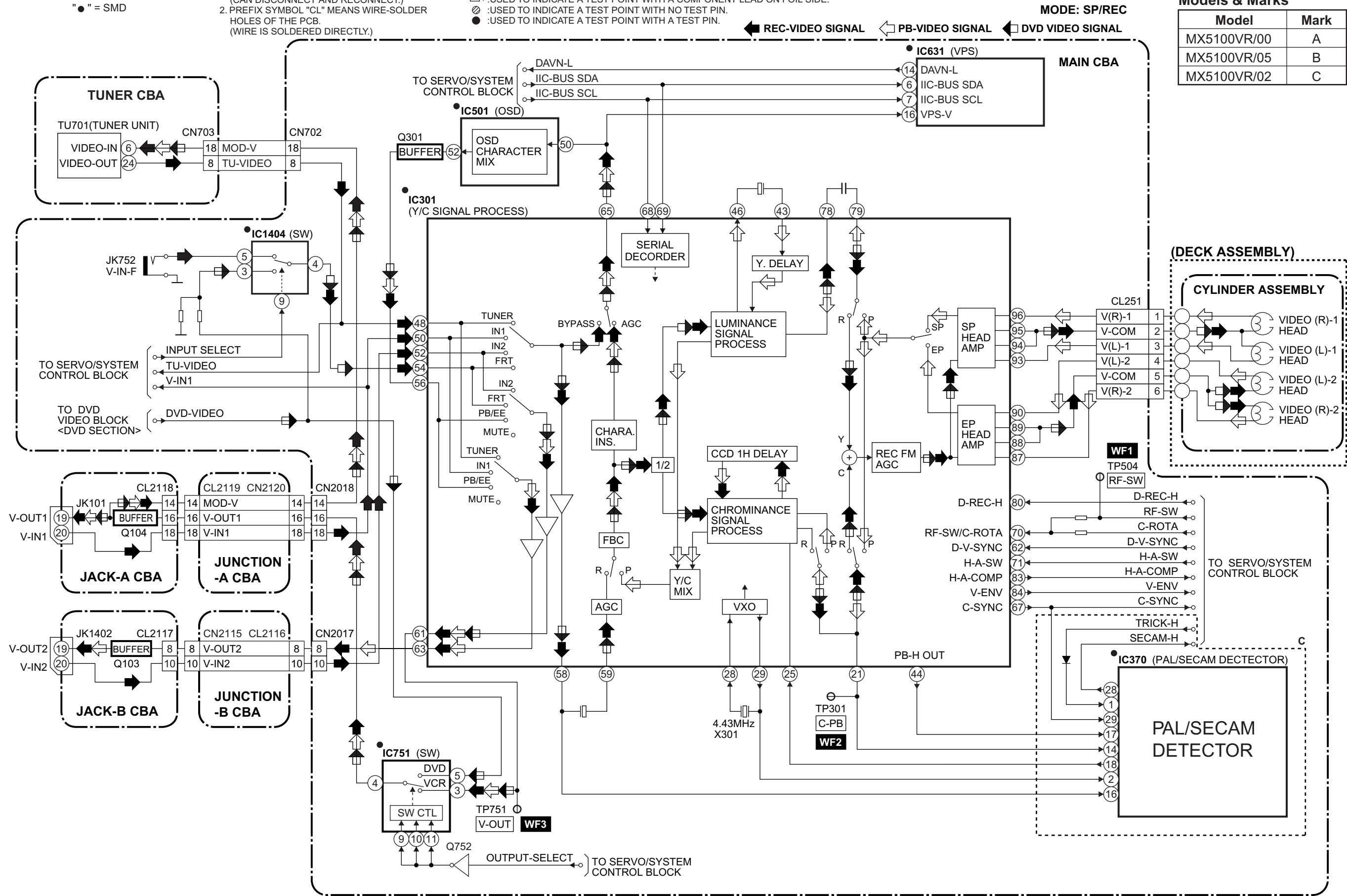


Video Block Diagram

"●" = SMD

NOTE FOR WIRE CONNECTORS:
1. PREFIX SYMBOL "CN" MEANS CONNECTOR.
(CAN DISCONNECT AND RECONNECT.)
2. PREFIX SYMBOL "CL" MEANS WIRE-SOLDER
HOLES OF THE PCB.
(WIRE IS SOLDERED DIRECTLY.)

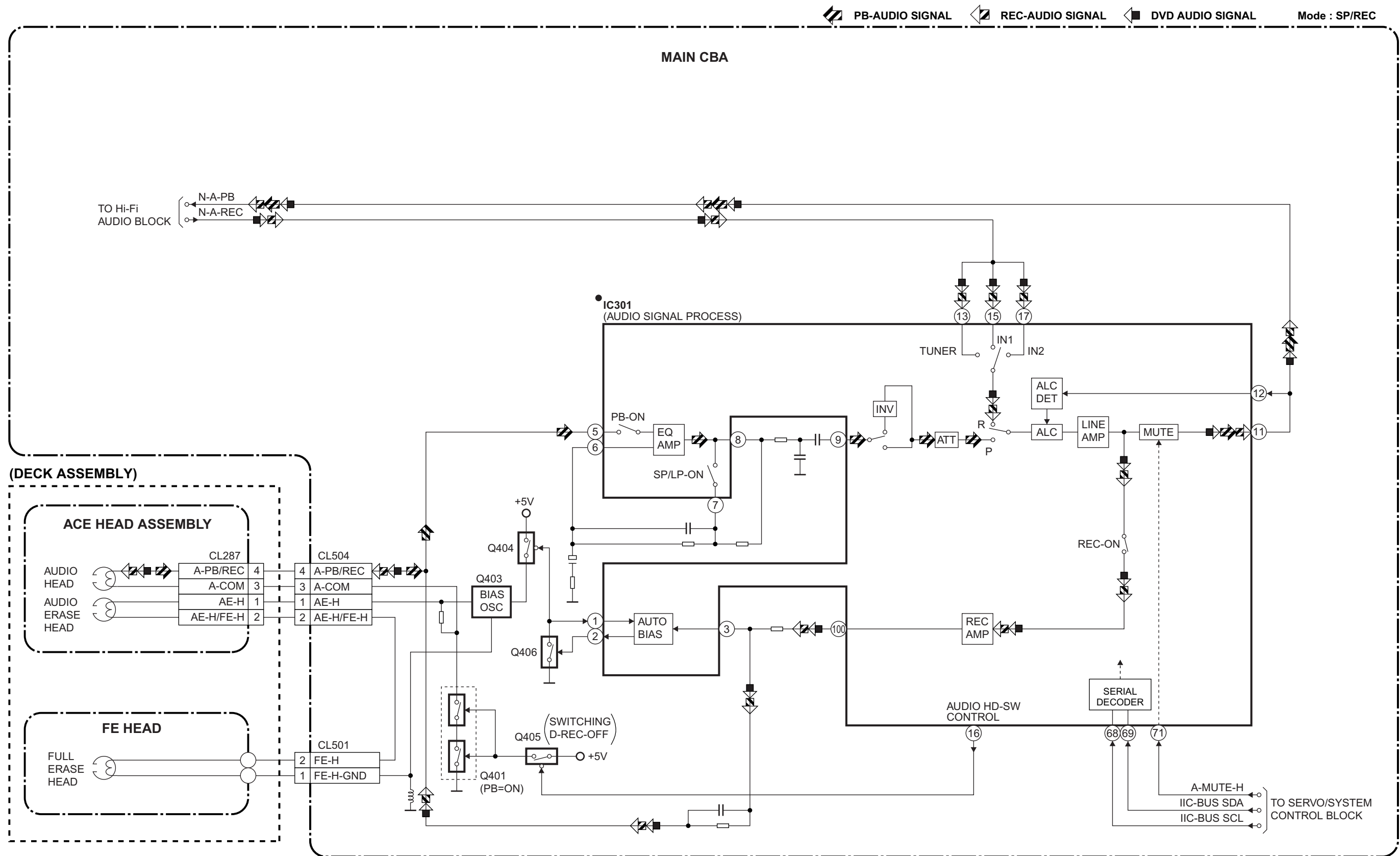
TEST POINT INFORMATION
① :INDICATES A TEST POINT WITH A JUMPER WIRE ACROSS A HOLE IN THE PCB.
⇨ :USED TO INDICATE A TEST POINT WITH A COMPONENT LEAD ON FOIL SIDE.
⊗ :USED TO INDICATE A TEST POINT WITH NO TEST PIN.
● :USED TO INDICATE A TEST POINT WITH A TEST PIN.



Comparison Chart of Models & Marks

Model	Mark
MX5100VR/00	A
MX5100VR/05	B
MX5100VR/02	C

Audio Block Diagram



Hi-Fi Audio Block Diagram

NOTE FOR WIRE CONNECTORS:

1. PREFIX SYMBOL "CN" MEANS CONNECTOR.
(CAN DISCONNECT AND RECONNECT.)
2. PREFIX SYMBOL "CL" MEANS WIRE-SOLDER
HOLES OF THE PCB.
(WIRE IS SOLDERED DIRECTLY.)

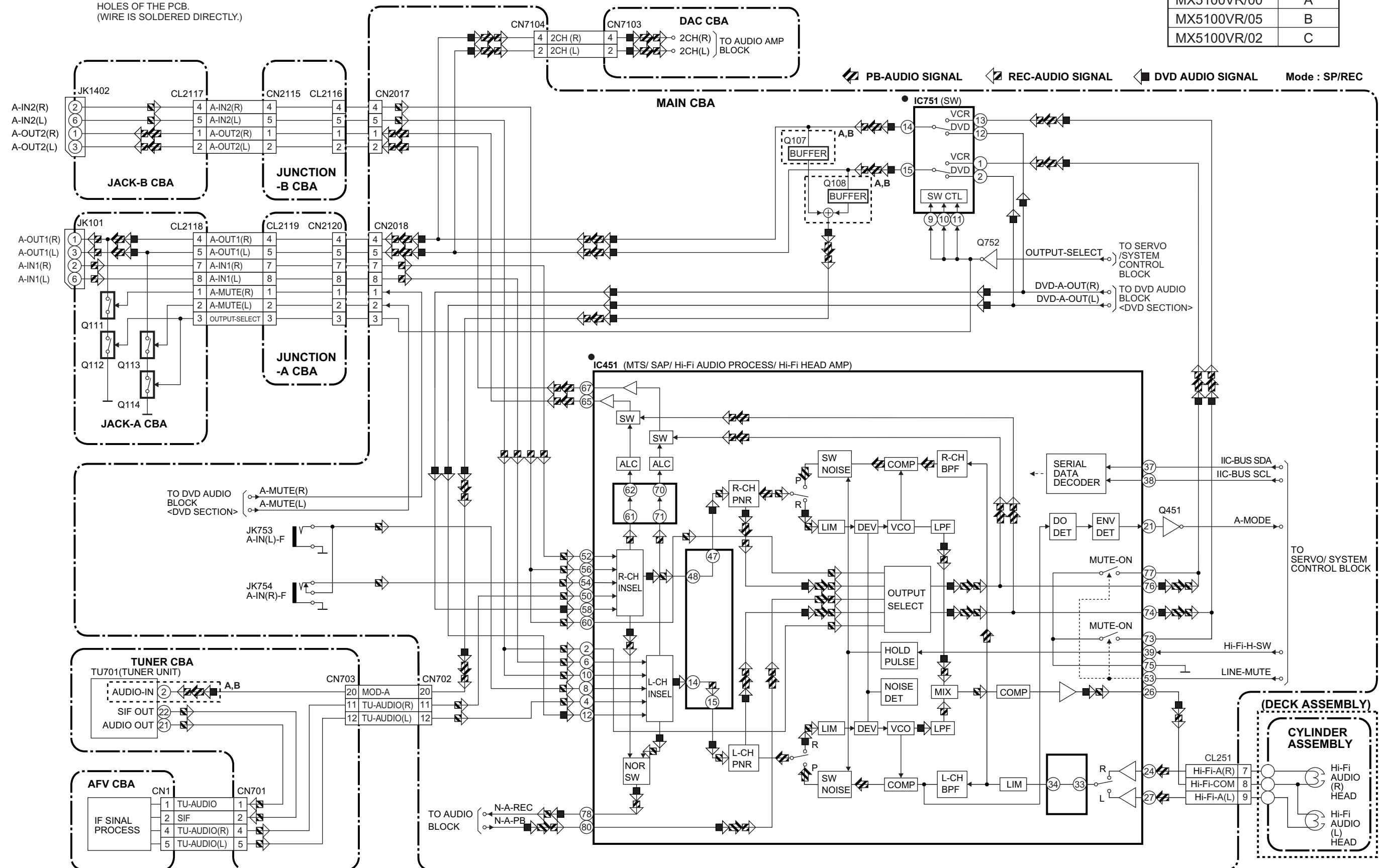
"●" = SMD

TEST POINT INFORMATION

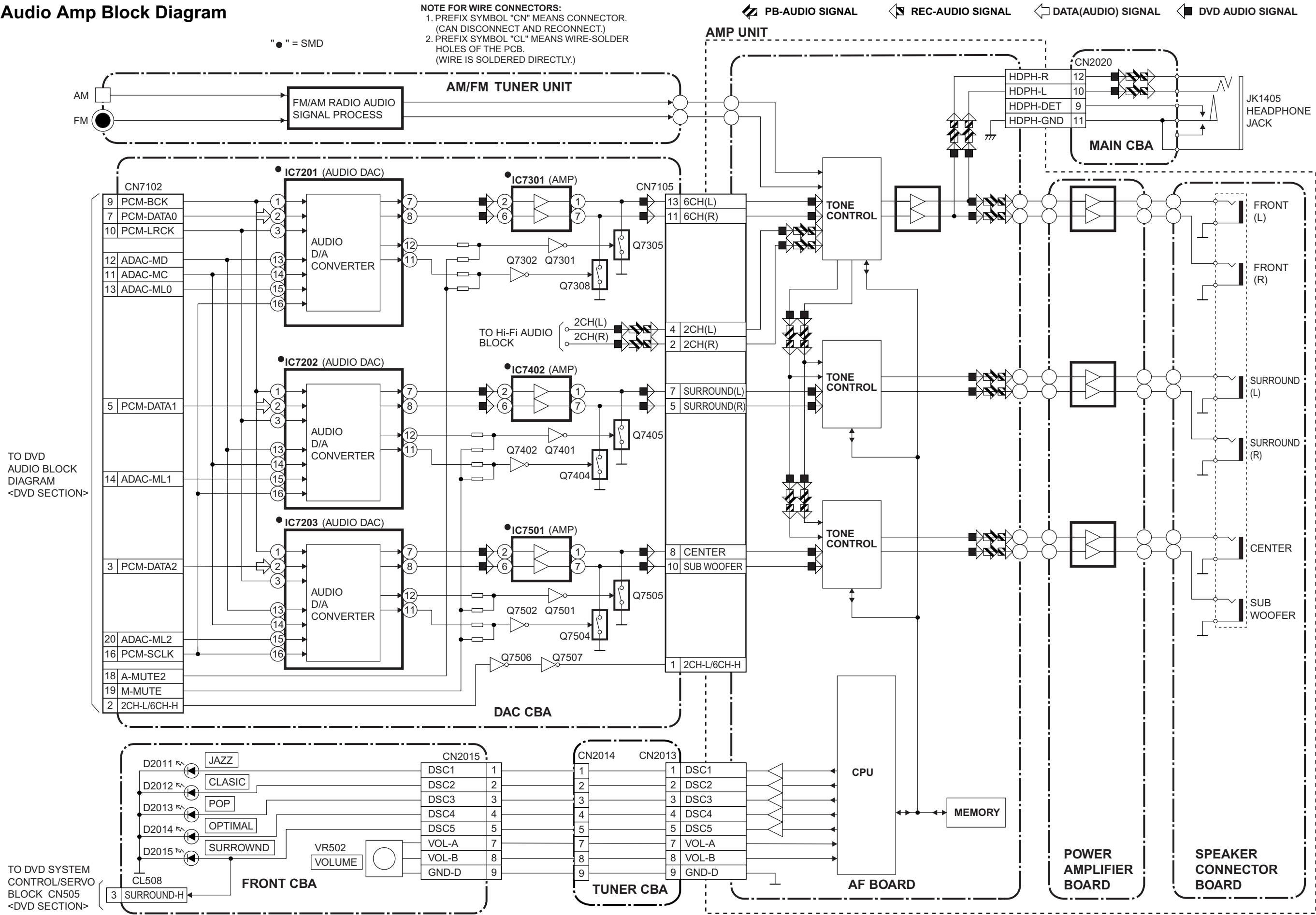
- ① :INDICATES A TEST POINT WITH A JUMPER WIRE ACROSS A HOLE IN THE PCB.
 ➡ :USED TO INDICATE A TEST POINT WITH A COMPONENT LEAD ON FOIL SIDE.
 ⦿ :USED TO INDICATE A TEST POINT WITH NO TEST PIN.
 ● :USED TO INDICATE A TEST POINT WITH A TEST PIN.

Comparison Chart of Models & Marks

Model	Mark
MX5100VR/00	A
MX5100VR/05	B
MX5100VR/02	C



Audio Amp Block Diagram



Power Supply (For VCR/DVD) Block Diagram

NOTE :

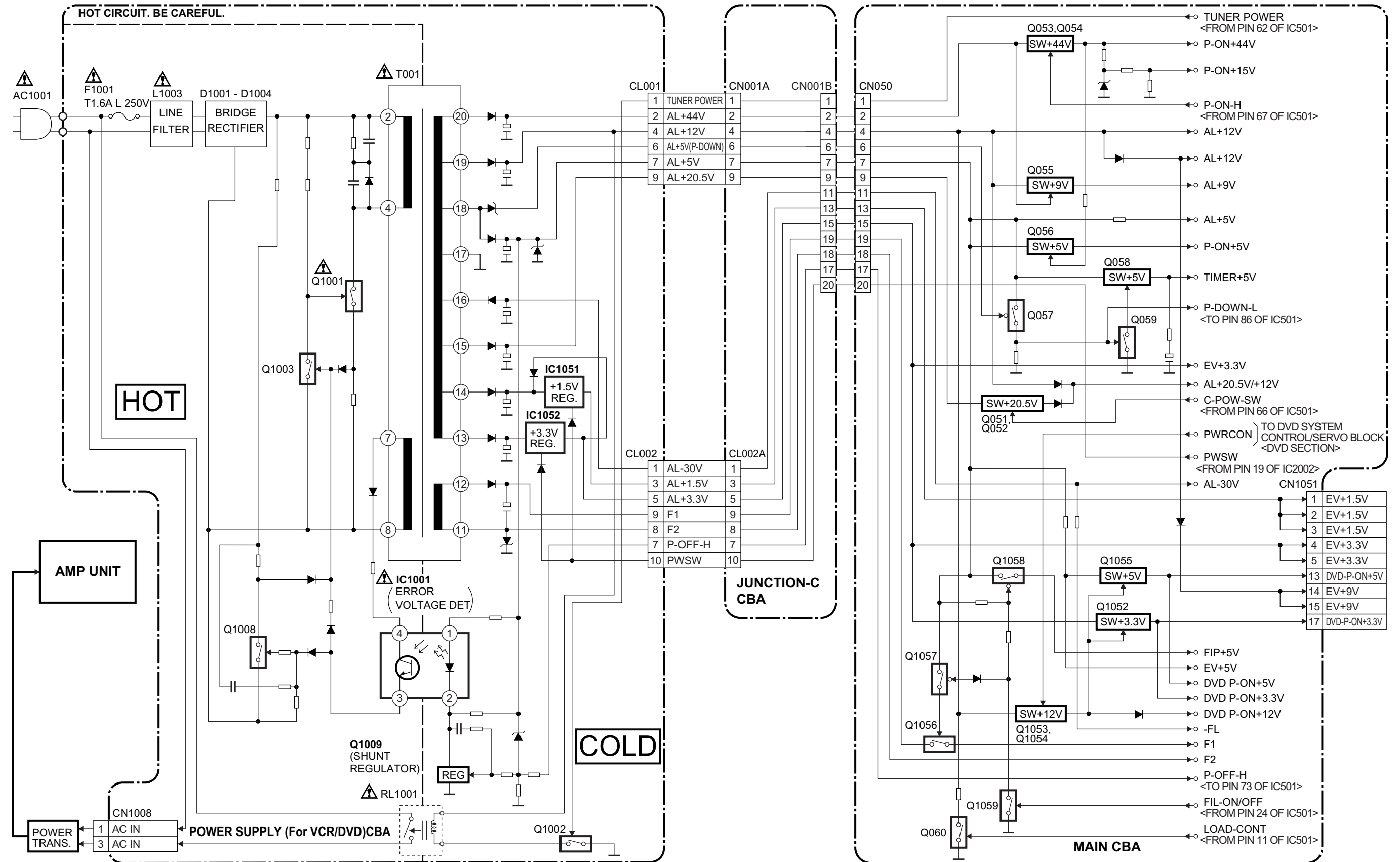
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

CAUTION

FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,
REPLACE ONLY WITH THE SAME TYPE T1.6A L 250V FUSE.

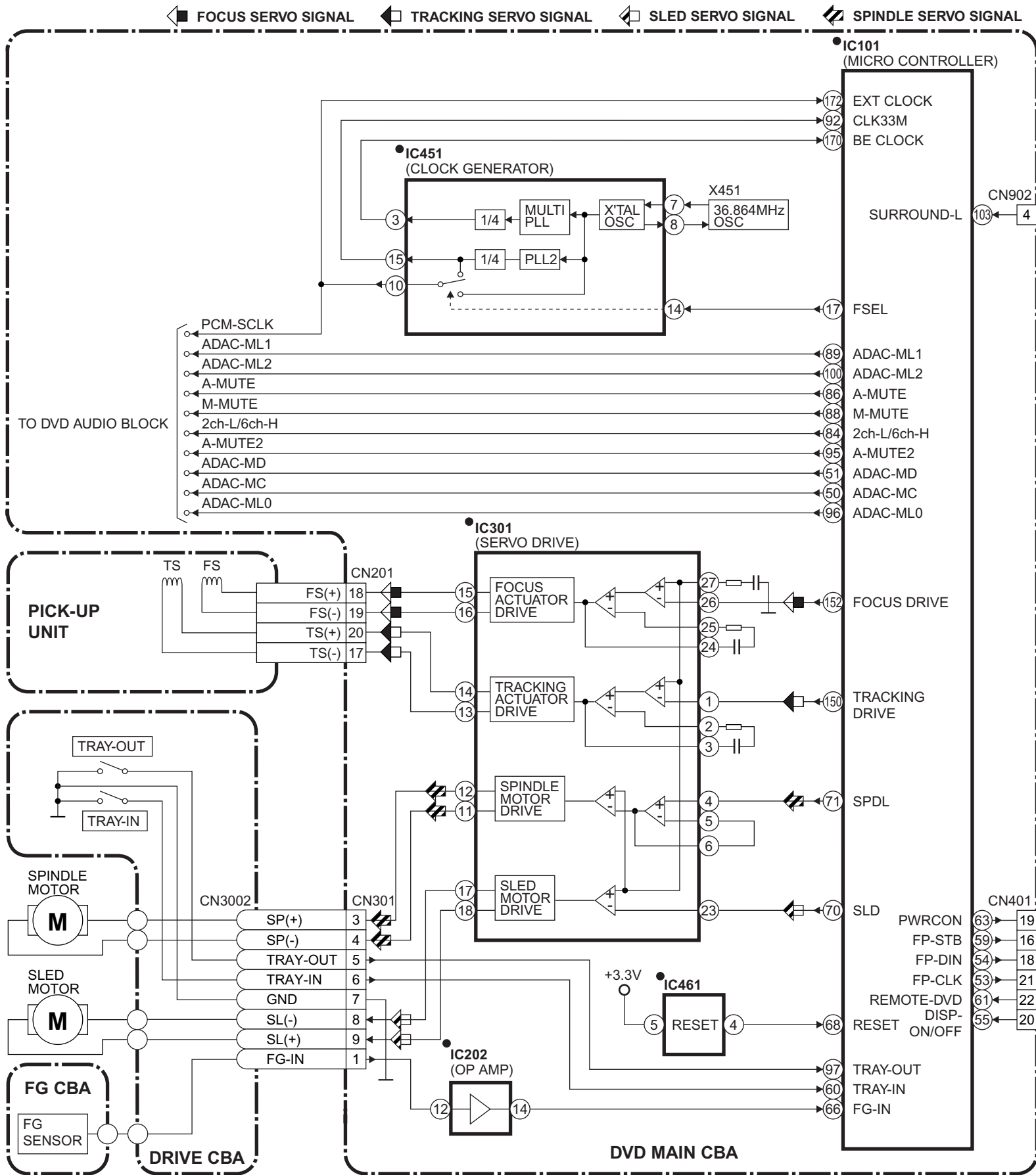
CAUTION !

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.

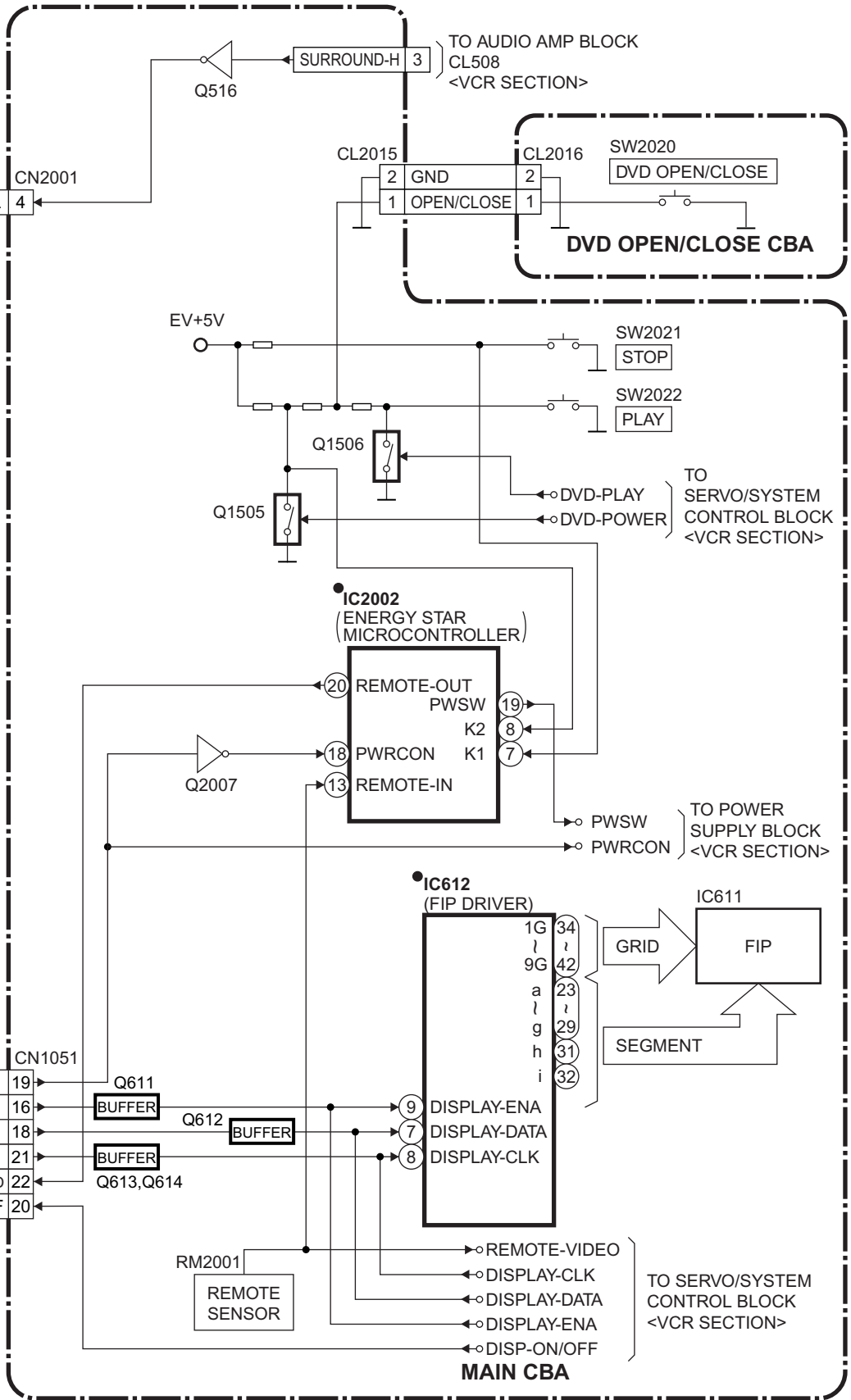


DVD System Control/Servo Block Diagram

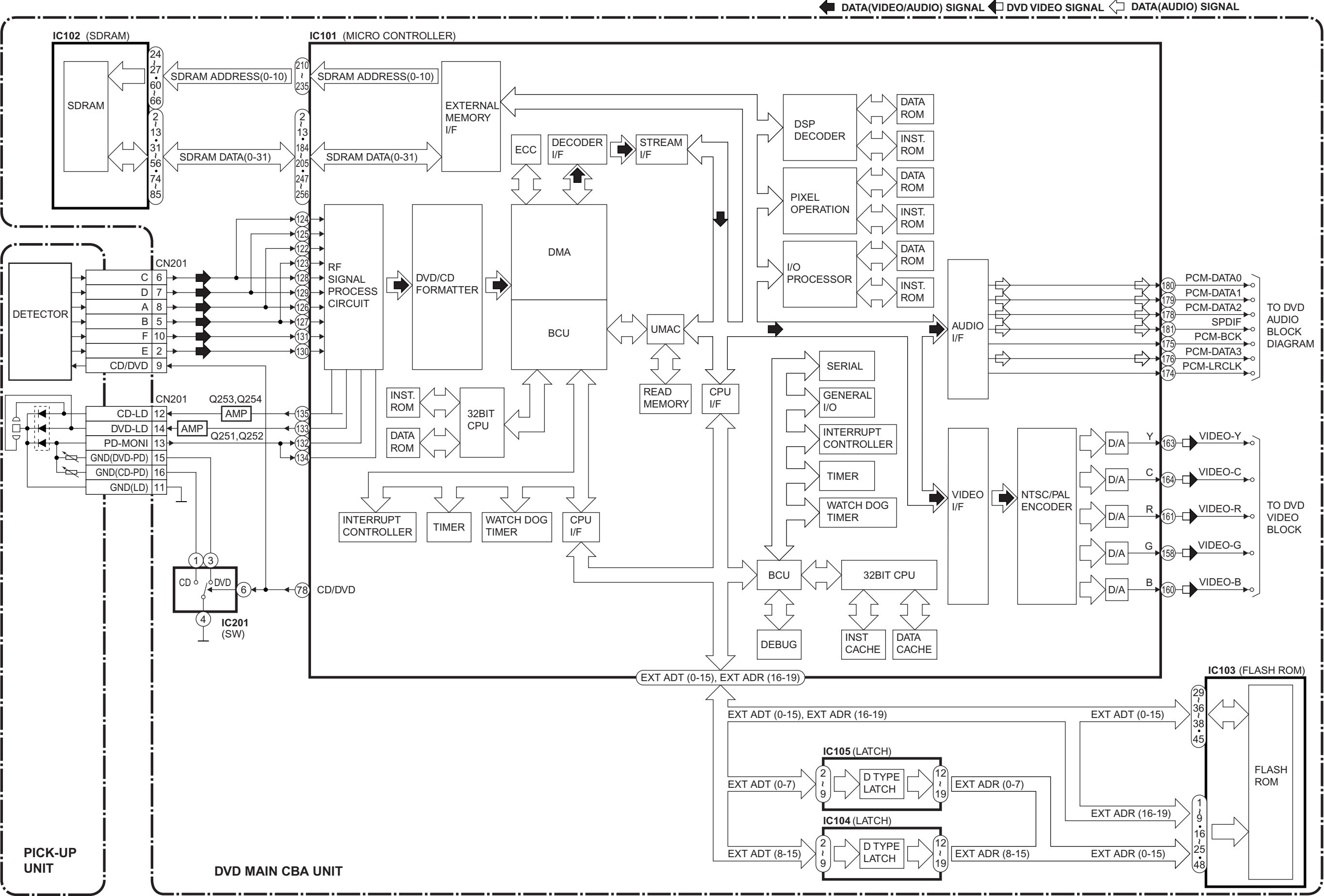
"●" = SMD



NOTE FOR WIRE CONNECTORS:
1. PREFIX SYMBOL "CN" MEANS CONNECTOR.
(CAN DISCONNECT AND RECONNECT.)
2. PREFIX SYMBOL "CL" MEANS WIRE-SOLDER HOLES OF THE PCB.
(WIRE IS SOLDERED DIRECTLY.)



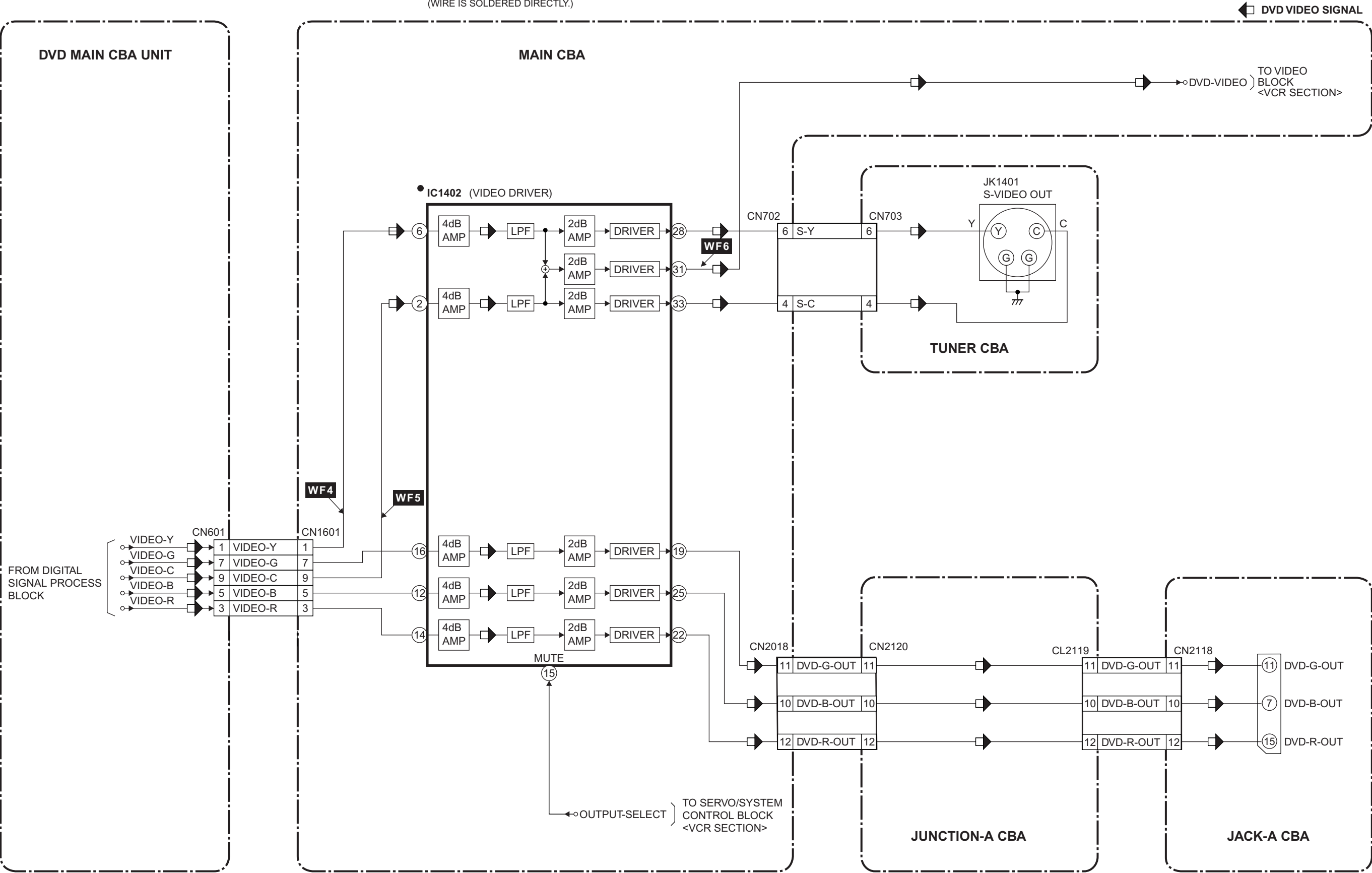
Digital Signal Process Block Diagram



DVD Video Block Diagram

"●" = SMD

NOTE FOR WIRE CONNECTORS:
1. PREFIX SYMBOL "CN" MEANS CONNECTOR.
(CAN DISCONNECT AND RECONNECT.)
2. PREFIX SYMBOL "CL" MEANS WIRE-SOLDER
HOLES OF THE PCB.
(WIRE IS SOLDERED DIRECTLY.)

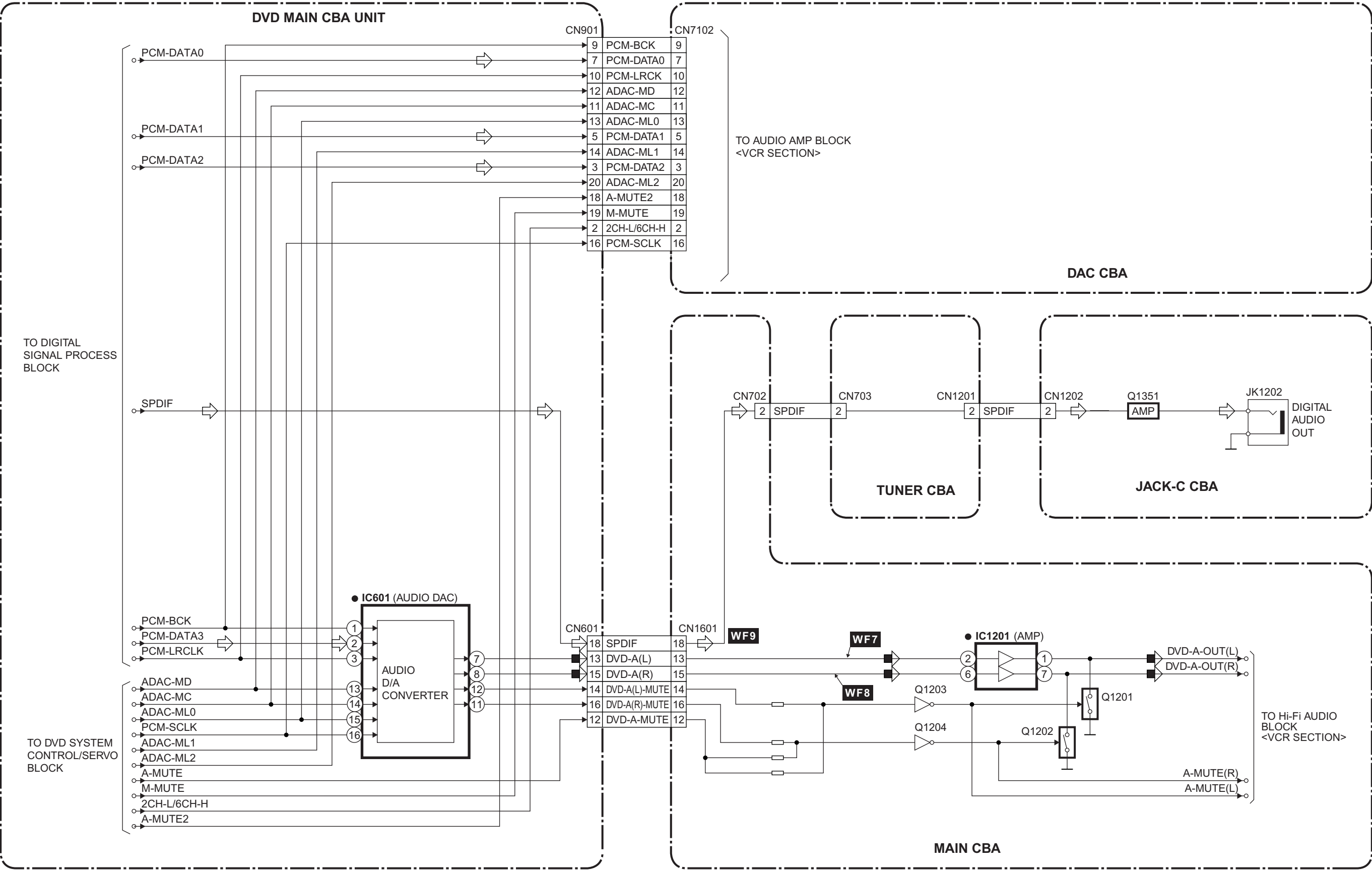


DVD Audio Block Diagram

NOTE FOR WIRE CONNECTORS:
1. PREFIX SYMBOL "CN" MEANS CONNECTOR.
(CAN DISCONNECT AND RECONNECT.)
2. PREFIX SYMBOL "CL" MEANS WIRE-SOLDER
HOLES OF THE PCB.
(WIRE IS SOLDERED DIRECTLY.)

"●" = SMD

DATA(AUDIO) SIGNAL DVD AUDIO SIGNAL



SCHEMATIC DIAGRAMS / CBA'S AND TEST POINTS

Standard Notes

WARNING

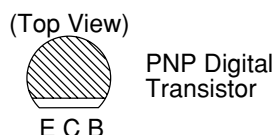
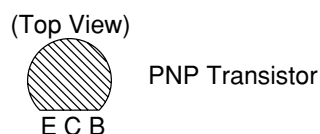
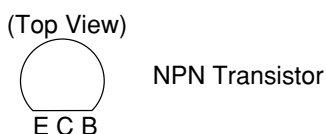
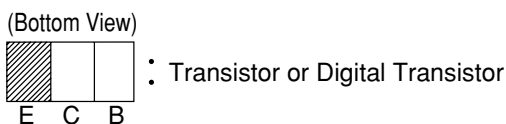
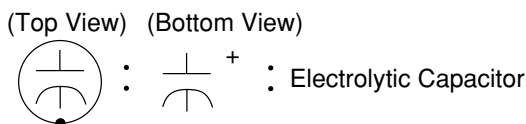
Many electrical and mechanical parts in this chassis have special characteristics. These characteristics often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special 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.

Capacitor Temperature Markings

Mark	Capacity change rate	Standard temperature	Temperature range
(B)	±10%	20°C	-25~+85°C
(F)	±30 - 80%	20°C	-25~+85°C
(SR)	±15%	20°C	-25~+85°C
(Y)	±22.5%	20°C	-25~+85°C

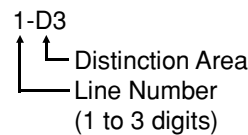
Capacitors and transistors are represented by the following symbols.

< PCB Symbols >



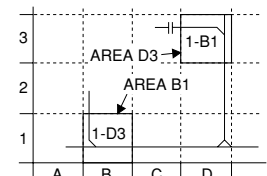
Notes:

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. To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list section of the service manual.
3. Prefix symbol "CN" means "connector" (can disconnect and reconnect).
Prefix symbol "CL" means "wire-solder holes of the PCB" (wire is soldered directly).
4. How to read converged lines.

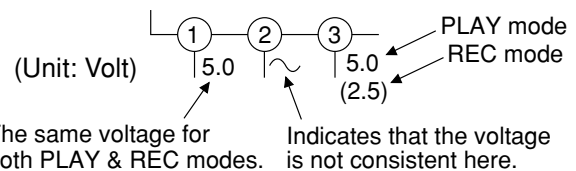


Examples:

- (1). "1-D3" means that line number "1" goes to area "D3."
- (2). "1-B1" means that line number "1" goes to area "B1."

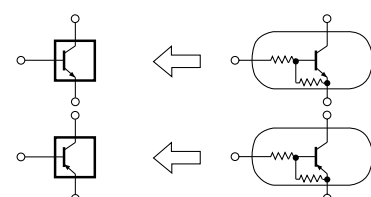


5. All resistance values are indicated in ohms ($K=10^3$, $M=10^6$).
6. Resistor wattages are 1/4W or 1/6W unless otherwise specified.
7. All capacitance values are indicated in μF ($P=10^{-6} \mu F$).
8. All voltages are DC voltages unless otherwise specified.
9. Voltage indications for PLAY and REC modes on the schematics are as shown below.



< Schematic Diagram Symbols >

Digital Transistor

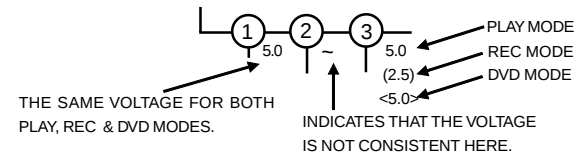


Main 1/11 Schematic Diagram Parts Location Guide

Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		CAPACITORS		RESISTORS	
C505	E-1	C556	F-4	R545	B-1
C506	B-1	CONNECTORS		R546	C-2
C508	B-1	CL501	A-2	R547	C-1
C509	A-2	CL502	F-4	R548	C-1
C510	A-2	CL504	A-3	R552	C-1
C511	A-3	DIODES		R554	D-4
C513	A-2	D510	E-4	R555	D-2
C514	A-2	D511	E-4	R558	D-4
C515	A-3	80	E-3	R560	C-4
C516	A-2	D555	A-1	R567	E-4
C517	B-2	ICS		R568	E-4
C518	A-3	IC501	C-3	R569	E-4
C519	B-2	IC502	A-4	R570	D-1
C521	B-2	COILS		R572	D-4
C522	B-2	L501	A-1	R574	D-2
C524	B-4	L502	D-4	R575	D-2
C527	C-1	L503	D-3	R576	C-4
C531	E-4	TRANSISTORS		R577	D-3
C533	E-4	Q506	D-1	R578	D-3
C534	D-4	Q510	A-2	R581	E-3
C535	D-3	Q513	E-3	R582	E-2
C536	D-4	Q514	E-3	R584	E-3
C538	D-4	Q515	E-2	R585	E-2
C539	D-3	RESISTORS		R586	E-2
C540	D-3	R509	E-1	R588	F-3
C541	E-2	R512	E-1	SWITCHE	
C542	E-2	R513	D-1	SW506	D-1
C543	E-2	R517	A-1	VARIABLE RESISTOR	
C544	E-2	R536	A-2	VR501	B-1
C545	E-3	R537	A-2	CRYSTAL OSCILLATORS	
C546	E-3	R538	B-3	X501	D-2
C547	E-3	R539	B-4	X502	D-2
C548	E-2	R540	B-4	MISCELLANEOUS	
C549	E-2	R541	B-1	PS502	E-1
C550	E-2	R542	B-1	TEST POINTS	
C553	E-2	R543	B-2	TP503	A-2
C555	E-4	R544	B-1	TP504	C-1

Main 1/11 Schematic Diagram < VCR Section >

“●” = SMD

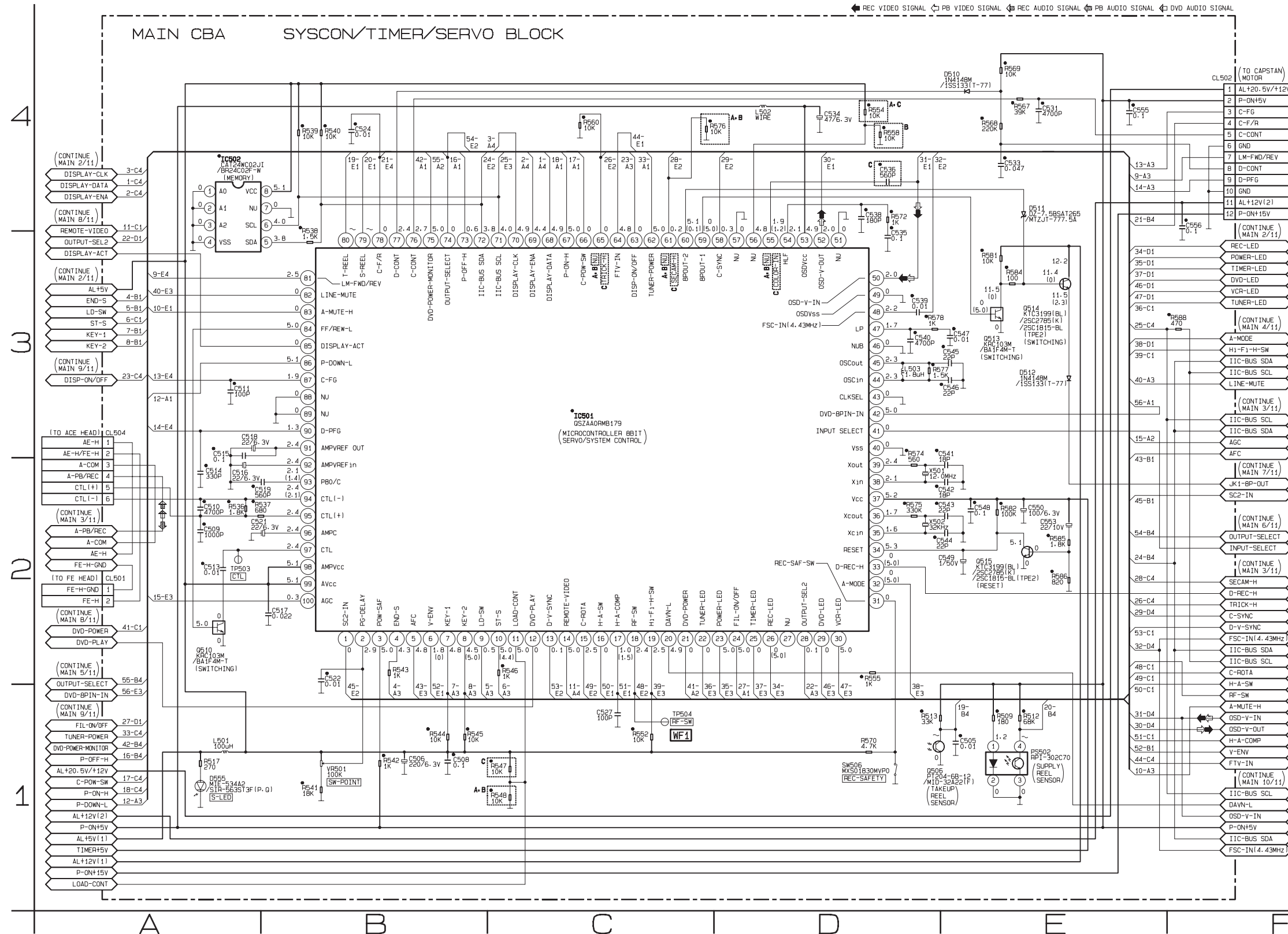


Comparison Chart of Models and Marks

MODEL	MARK
MX5100VR/00	A
MX5100VR/05	B
MX5100VR/02	C

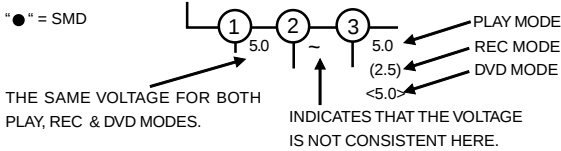
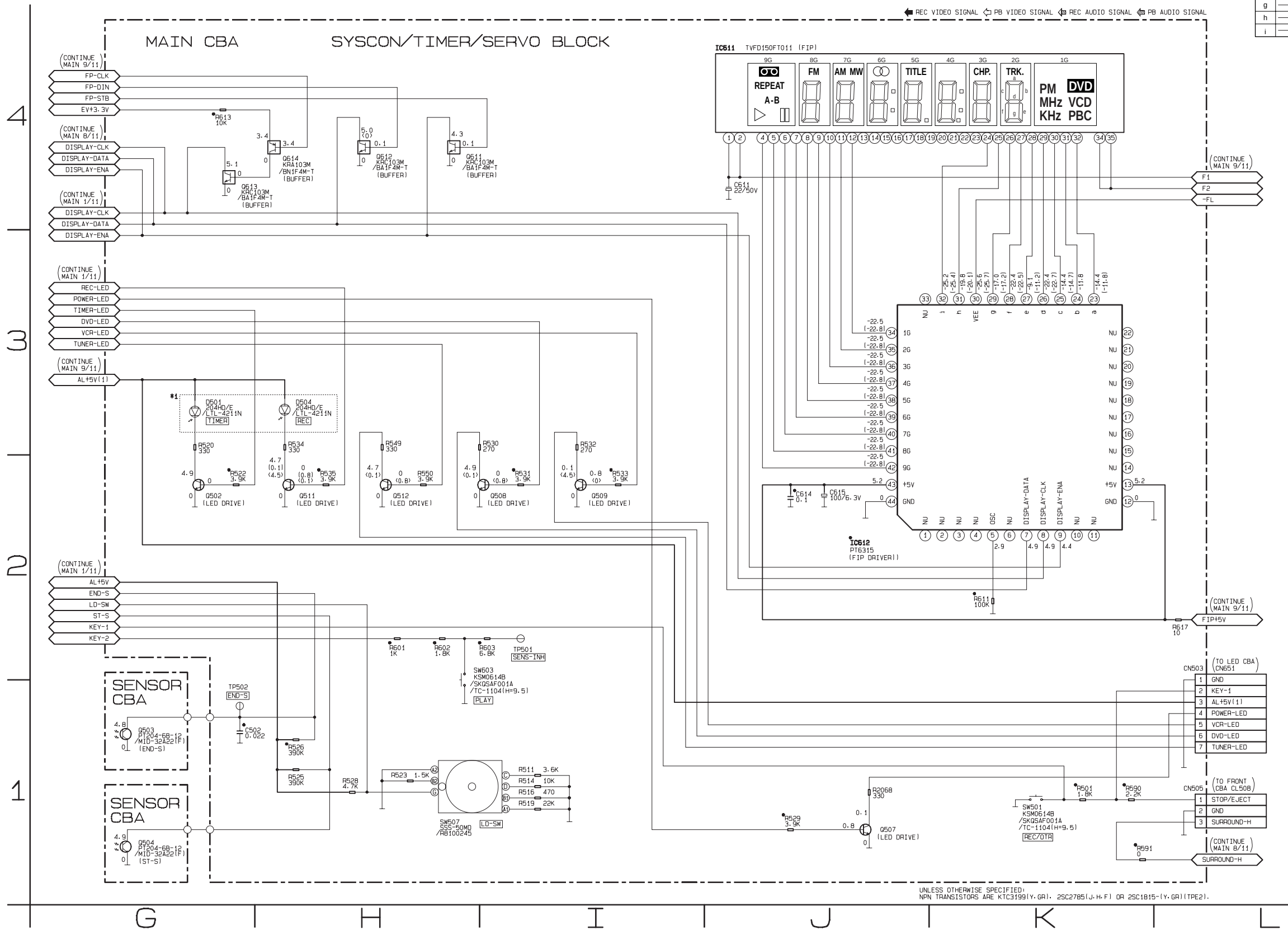
IC501 KEY VOLTAGE CHART

Pin No. Voltage	KEY 1 (7 PIN)	KEY 2 (8 PIN)
0.00 ~ 0.51V	REC/OTR	-----
0.51 ~ 0.92V	POWER	-----
0.92 ~ 1.27V	OUTPUT	PLAY
1.27 ~ 1.61V	STOP/EJECT	-----
1.61 ~ 1.98V	-----	-----
1.98 ~ 2.39V	-----	-----
2.39 ~ 2.90V	-----	S-INH
2.90 ~ 3.60V	-----	-----
3.60 ~ 4.30V	DIRECT DUBBING	-----
4.30 ~ 5.00V	KEY OFF	KEY OFF



Main 2/11 & Sensor Schematic Diagram < VCR Section >

*1 Note:
When replacing one of the following parts,
all of them should be replaced: D501, D504.



FL2001 MATRIX CHART

	9G	8G	7G	6G	5G	4G	3G	2G	1G
a	REPEAT	a	a	a	a	a	a	a	DVD
b	A	b	b	b	b	b	b	b	CD
c	B	c	c	c	c	c	c	c	V
d	-B	d	d	d	d	d	d	d	PM
e		e	e	e	e	e	e	e	MHz
f		f	f	f	f	f	f	f	KHz
g		g	g	g	g	g	g	g	PBC
h	FM	AM	TITLE	TRK.	CHP.	TRK.			
i	MW								

UNLESS OTHERWISE SPECIFIED:
NPN TRANSISTORS ARE KTC3199(I.Y.GR), 2SC2785(J.H.F) OR 2SC1815-(I.Y.GR)(TPE2).

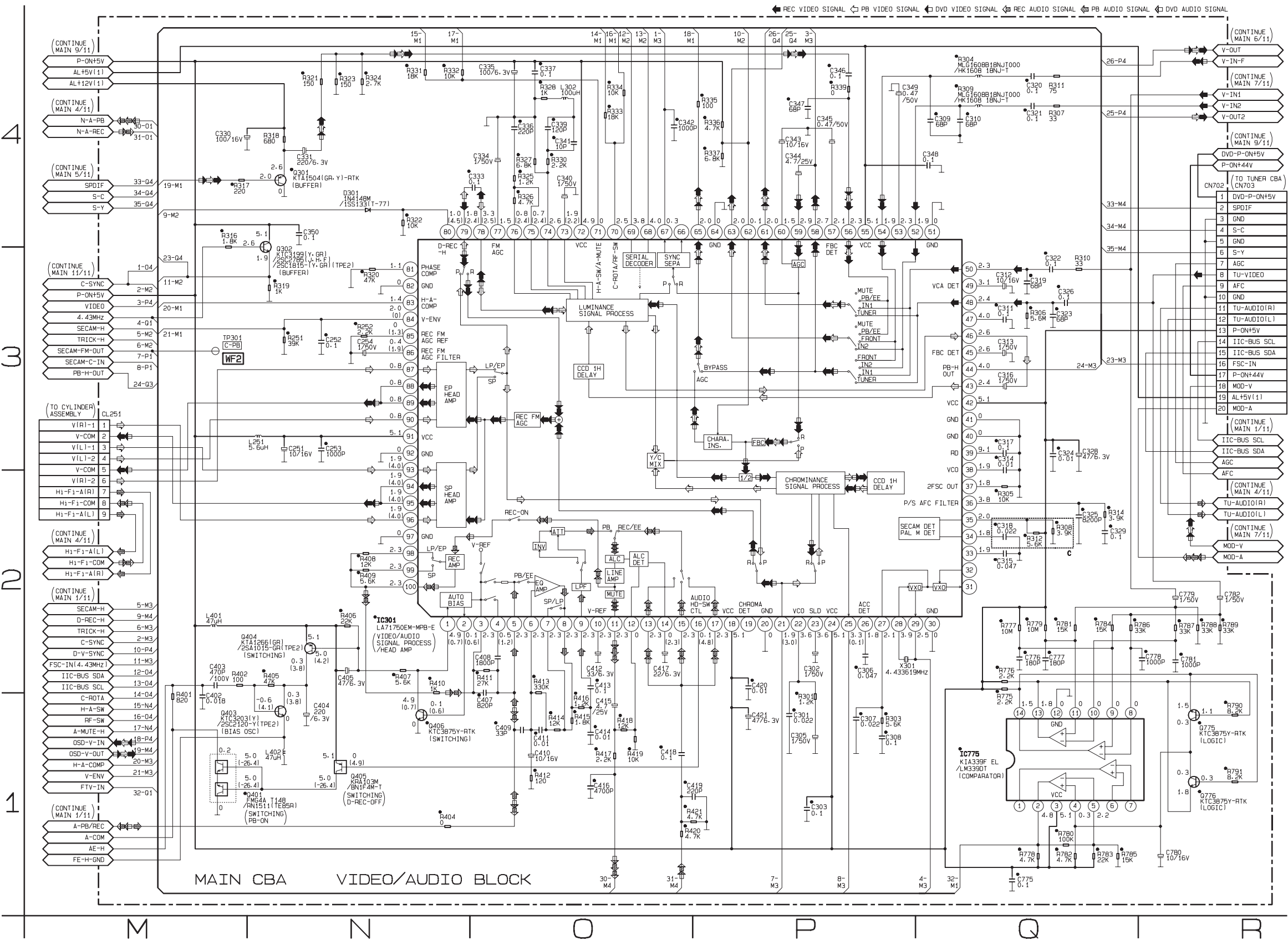
Main 2/11 Schematic Diagram Parts Location Guide

Ref No.	Position	Ref No.	Position
CAPACITORS		RESISTORS	
C502	G-1	R522	G-2
C611	J-4	R523	H-1
C614	J-2	R525	H-1
C615	J-2	R526	H-1
CONNECTORS		R528	H-1
CN503	L-2	R529	J-1
CN505	L-1	R530	I-3
DIODES		R531	I-2
D501	G-3	R532	I-3
D504	H-3	R533	I-2
ICS		R534	H-3
IC611	J-4	R535	H-2
IC612	J-2	R549	H-3
TRANSISTORS		R550	H-2
Q502	G-2	R590	K-1
Q507	J-1	R591	K-1
Q508	I-2	R601	G-2
Q509	I-2	R602	G-2
Q511	H-2	R603	I-2
Q512	H-2	R611	K-2
Q611	H-4	R613	G-4
Q612	H-4	R617	L-2
Q613	G-4	R2068	J-1
Q614	H-4	SWITCHES	
RESISTORS		SW501	K-1
R501	K-1	SW507	H-1
R511	I-1	SW603	H-2
R514	I-1	TEST POINTS	
R516	I-1	TP501	I-2
R519	I-1	TP502	G-1
R520	G-3		

Main 3/11 Schematic Diagram Parts Location Guide

Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		CAPACITORS		TRANSISTORS		RESISTORS	
C251	N-3	C347	P-4	Q302	N-3	R402	M-2
C252	N-3	C348	Q-4	Q401	M-1	R404	N-1
C253	N-3	C349	P-4	Q403	N-1	R405	N-2
C254	N-3	C350	N-4	Q404	N-2	R406	N-2
C301	P-1	C402	M-1	Q405	N-1	R407	N-2
C302	P-2	C403	M-2	Q406	N-1	R408	N-2
C303	P-1	C404	N-1	Q775	R-1	R409	N-2
C305	P-1	C405	N-2	Q776	R-1	R410	N-2
C306	P-2	C407	O-1	RESISTORS		R411	O-2
C307	P-1	C408	O-2	R251	N-3	R412	O-1
C308	P-1	C409	O-1	R252	N-3	R413	O-2
C309	Q-4	C410	O-1	R301	P-1	R414	O-1
C310	Q-4	C411	O-1	R303	P-1	R415	O-1
C311	Q-3	C412	O-2	R304	Q-4	R416	O-1
C312	Q-3	C413	O-2	R305	Q-2	R417	O-1
C313	Q-3	C414	O-1	R306	Q-3	R418	O-1
C314	Q-3	C415	O-1	R307	Q-4	R419	O-1
C315	Q-2	C416	O-1	R308	Q-2	R420	O-1
C316	Q-3	C417	O-2	R309	Q-4	R421	P-1
C317	Q-3	C418	O-1	R310	Q-3	R775	Q-2
C318	Q-2	C419	P-1	R311	Q-4	R776	Q-2
C319	Q-3	C420	P-2	R312	Q-2	R777	Q-2
C320	Q-4	C421	P-1	R314	Q-2	R778	Q-1
C321	Q-4	C775	Q-1	R316	M-4	R779	Q-2
C322	Q-3	C776	Q-2	R317	M-4	R780	Q-1
C323	Q-3	C777	Q-2	R318	N-4	R781	Q-2
C324	Q-3	C778	R-2	R319	N-3	R782	Q-1
C325	Q-2	C779	R-2	R320	N-3	R783	Q-1
C326	Q-3	C780	R-1	R321	N-4	R784	Q-2
C328	Q-3	C781	R-2	R322	N-4	R785	Q-1
C329	Q-2	C782	R-2	R323	N-4	R786	Q-2
C330	M-4	CONNECTORS		R324	N-4	R787	R-2
C331	N-4	CL251	M-3	R325	O-4	R788	R-2
C333	O-4	CN702	R-4	R326	O-4	R789	R-2
C334	O-4	DIODE		R327	O-4	R790	R-1
C335	O-4	D301	N-4	R328	O-4	R791	R-1
C336	O-4	ICS		R330	O-4	CRYSTAL OSCILLATOR	
C337	O-4	IC301	N-2	R331	N-4	X301	P-2
C339	O-4	IC775	Q-1	R332	N-4	TEST POINT	
C340	O-4	COILS		R333	O-4	TP301	M-3
C341	O-4	L251	N-3	R334	O-4		
C342	O-4	L302	O-4	R335	P-4		
C343	P-4	L401	M-2	R336	P-4		
C344	P-4	L402	N-1	R337	P-4		
C345	P-4	TRANSISTORS		R339	P-4		
C346	P-4	Q301	N-4	R401	M-1		

Main 3/11 Schematic Diagram < VCR Section >



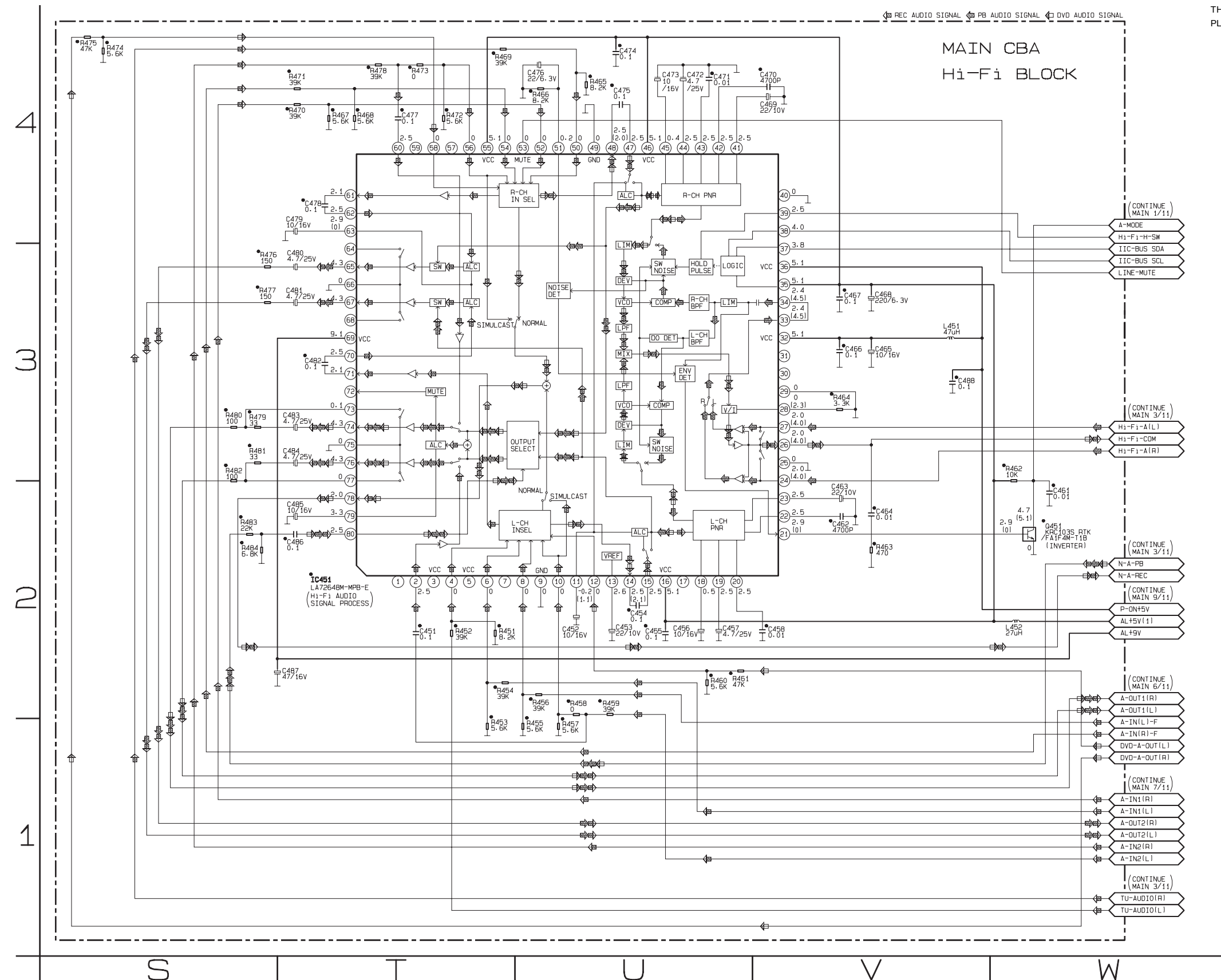
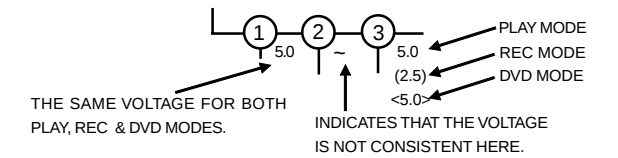
"●" = SMD
THE SAME VOLTAGE FOR BOTH
PLAY, REC & DVD MODES.
INDICATES THAT THE VOLTAGE
IS NOT CONSISTENT HERE.

Comparison Chart of
Models and Marks

MODEL	MARK
MX5100VR/00	A
MX5100VR/05	B
MX5100VR/02	C

Main 4/11 Schematic Diagram < VCR Section >

“●” = SMD



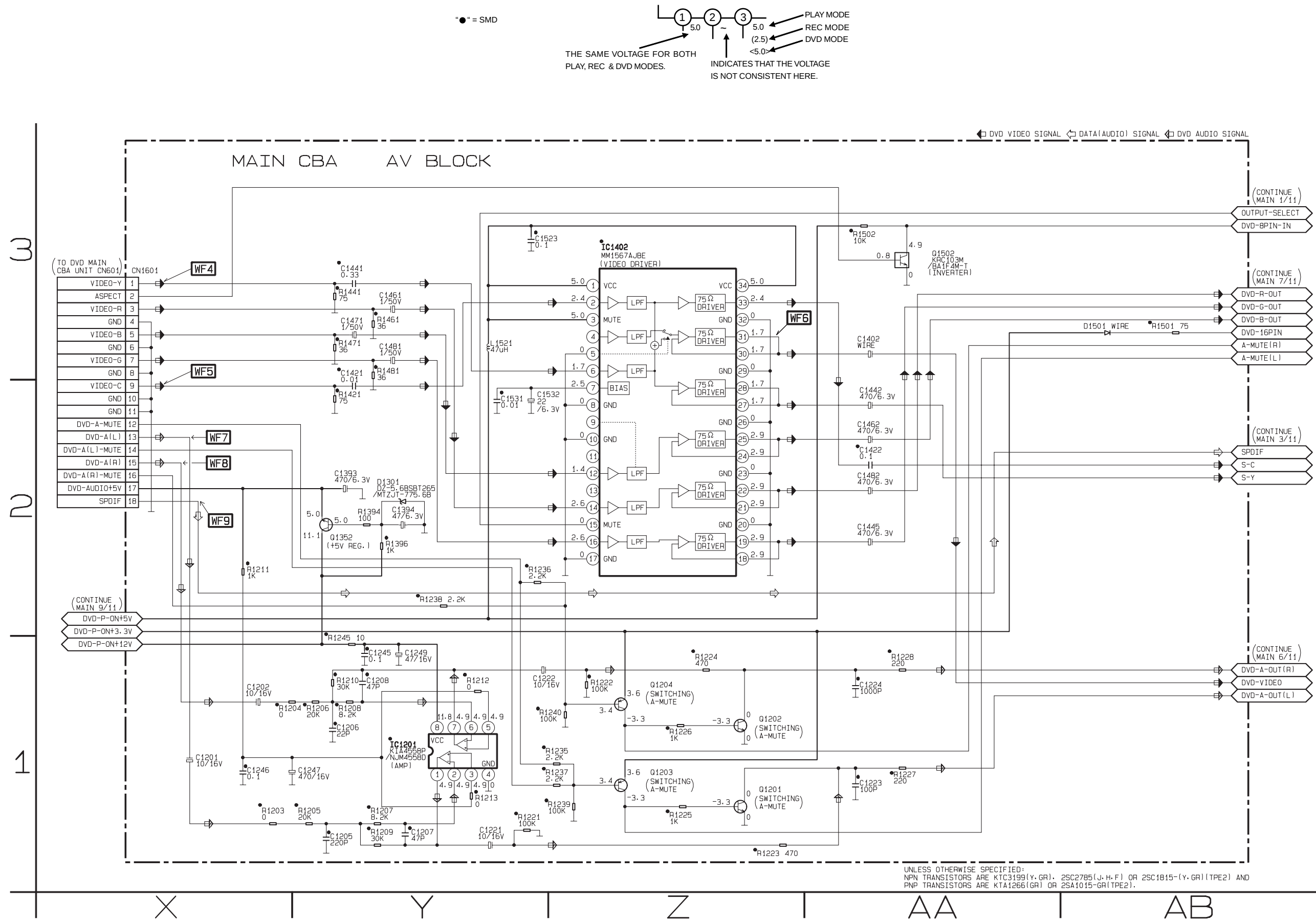
Main 4/11 Schematic Diagram Parts Location Guide

Ref No.	Position	Ref No.	Position
CAPACITORS		TRANSISTORS	
C451	T-2	Q451	W-2
C452	U-2	RESISTORS	
C453	U-2	R451	T-2
C454	U-2	R452	T-2
C455	U-2	R453	T-1
C456	U-2	R454	T-2
C457	U-2	R455	U-1
C458	V-2	R456	U-2
C461	W-3	R457	U-1
C462	V-2	R458	U-2
C463	V-2	R459	U-2
C464	V-2	R460	U-2
C465	V-3	R461	U-2
C466	V-3	R462	W-3
C467	V-3	R463	V-2
C468	V-3	R464	V-3
C469	V-4	R465	U-4
C470	V-4	R466	U-4
C471	U-4	R467	T-4
C472	U-4	R468	T-4
C473	U-4	R469	T-4
C474	U-4	R470	T-4
C475	U-4	R471	T-4
C476	U-4	R472	T-4
C477	T-4	R473	T-4
C478	T-4	R474	S-4
C479	T-4	R475	S-4
C480	T-3	R476	S-3
C481	T-3	R477	S-3
C482	T-3	R478	T-4
C483	T-3	R479	S-3
C484	T-3	R480	S-3
C485	T-2	R481	S-3
C486	T-2	R482	S-3
C487	T-2	R483	S-2
C488	V-3	R484	S-2
IC			
IC451	T-2		
COILS			
L451	V-3		
L452	W-2		

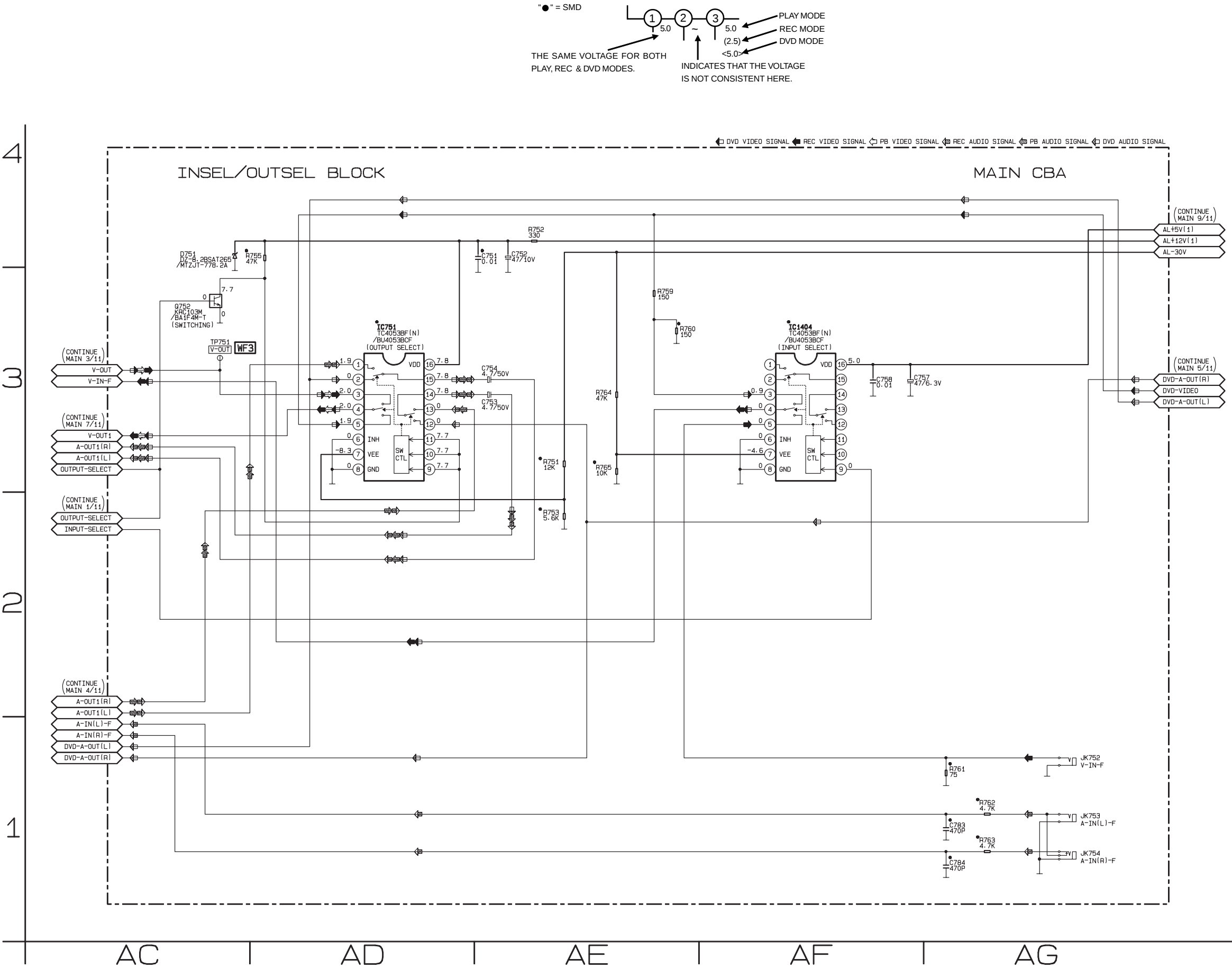
Main 5/11 Schematic Diagram Parts Location Guide

Ref No.	Position	Ref No.	Position
CAPACITORS		TRANSISTORS	
C1201	X-1	Q1202	Z-1
C1202	X-1	Q1203	Z-1
C1205	Y-1	Q1204	Z-1
C1206	Y-1	Q1352	Y-2
C1207	Y-1	Q1502	AA-4
C1208	Y-1	RESISTORS	
C1221	Y-1	R1203	X-1
C1222	Y-1	R1204	X-1
C1223	AA-1	R1205	Y-1
C1224	AA-1	R1206	Y-1
C1245	Y-1	R1207	Y-1
C1246	X-1	R1208	Y-1
C1247	Y-1	R1209	Y-1
C1249	Y-1	R1210	Y-1
C1393	Z-2	R1211	X-2
C1394	Z-2	R1212	Y-1
C1402	AA-4	R1213	Y-1
C1421	Y-4	R1221	Y-1
C1422	AA-2	R1222	Z-1
C1441	Y-4	R1223	Z-1
C1442	AA-2	R1224	Z-1
C1445	AA-2	R1225	Z-1
C1461	Y-4	R1226	Z-1
C1462	AA-2	R1227	AA-1
C1471	Y-4	R1228	AA-1
C1481	Y-4	R1235	Z-1
C1482	AA-2	R1236	Y-2
C1523	Y-4	R1237	Z-1
C1531	Y-2	R1238	Y-2
C1532	Y-2	R1239	Z-1
CONNECTOR		R1240	Z-1
CN1601	X-3	R1245	Y-1
DIODES		R1394	Y-2
D1301	Y-2	R1396	Y-2
D1501	AB-4	R1421	Y-2
ICS		R1441	Y-4
IC1201	Y-1	R1461	Y-4
IC1402	Z-4	R1471	Y-4
COIL		R1481	Y-4
L1521	Y-4	R1501	AB-4
TRANSISTORS		R1502	AA-4
Q1201	Z-1		

Main 5/11 Schematic Diagram < VCR Section>



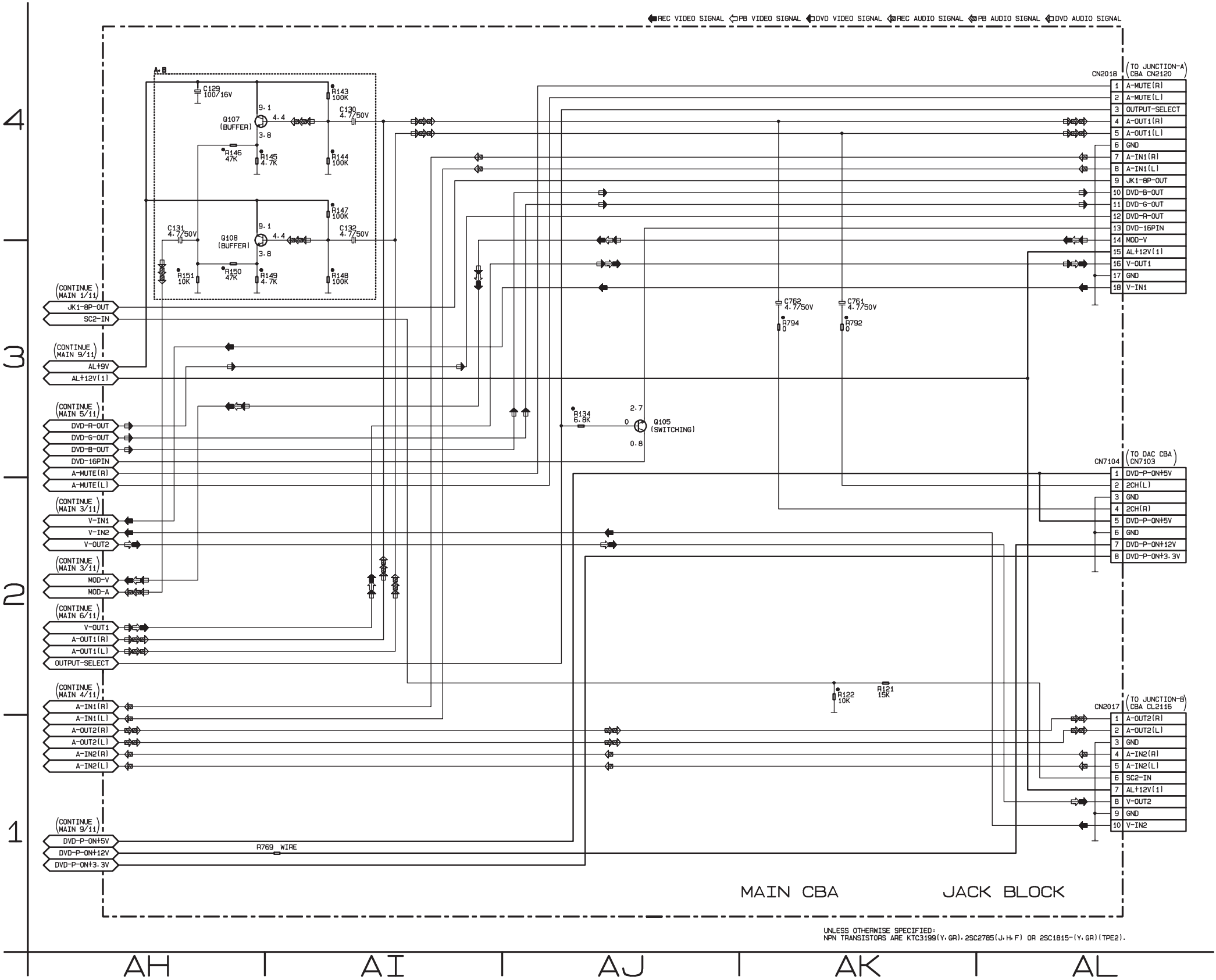
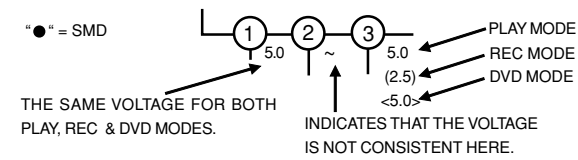
Main 6/11 Schematic Diagram < VCR Section >



MAIN 6/11 Schematic Diagram
Parts Location Guide

Ref No.	Position
CAPACITORS	
C751	AE-4
C752	AE-4
C753	AE-3
C754	AE-3
C757	AF-3
C758	AF-3
C783	AG-1
C784	AG-1
DIODE	
D751	AC-4
IC	
IC751	AD-3
TRANSISTOR	
Q752	AC-3
RESISTORS	
R751	AE-3
R752	AE-4
R753	AE-2
R755	AD-4
R759	AE-3
R760	AE-3
R761	AG-1
R762	AG-1
R763	AG-1
R764	AE-3
R765	AE-3
MISCELLANEOUS	
JK752	AG-1
JK753	AG-1
JK754	AG-1
TEST POINT	
TP751	AC-3

Main 7/11 Schematic Diagram < VCR Section >



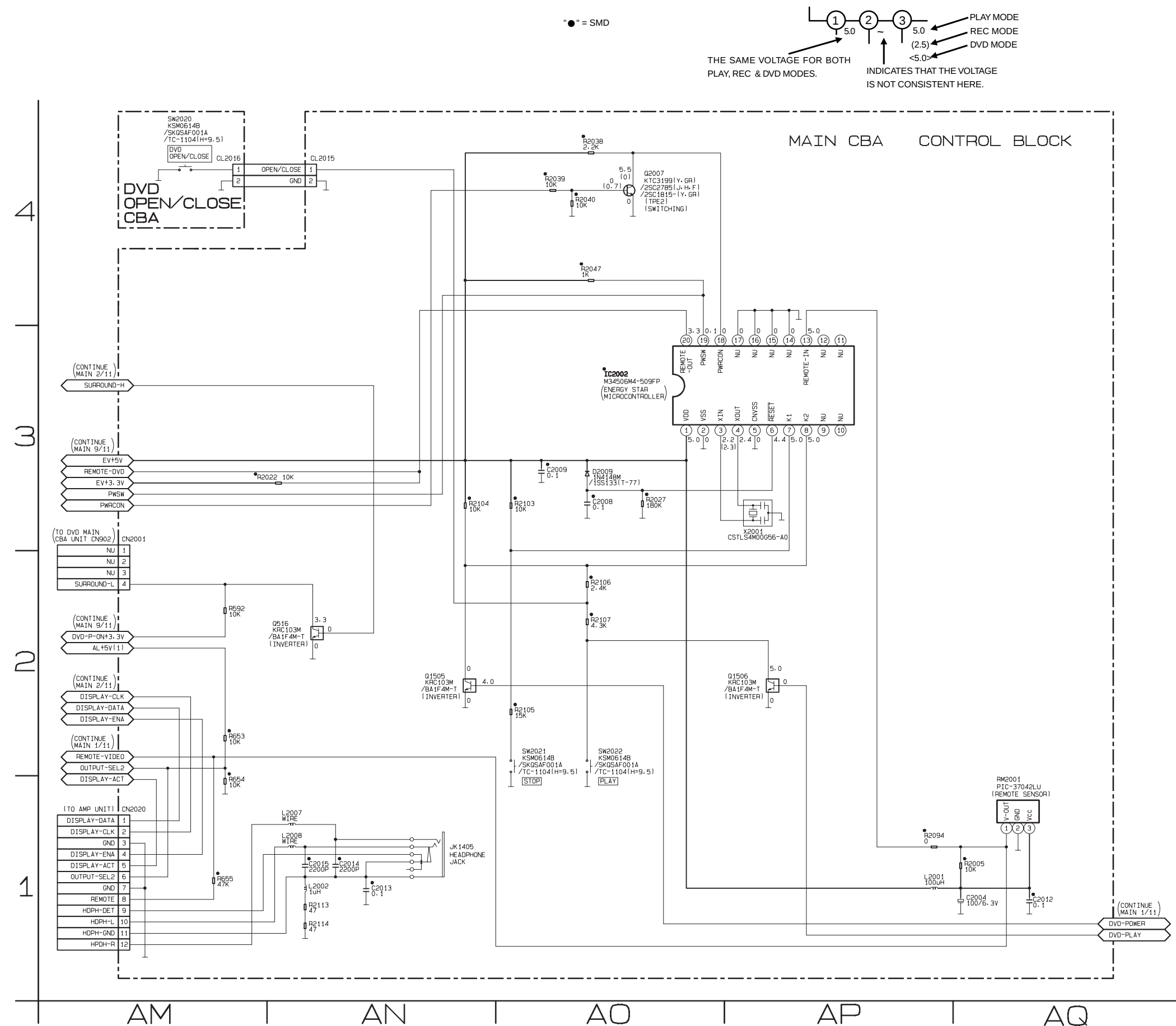
Comparison Chart of Models and Marks

MODEL	MARK
MX5100VR/00	A
MX5100VR/05	B
MX5100VR/02	C

MAIN 7/11 Schematic Diagram Parts Location Guide

Ref No.	Position
CAPACITORS	
C129	AH-4
C130	AI-4
C131	AH-4
C132	AI-4
C761	AK-3
C762	AK-3
CONNECTORS	
CN2017	AL-1
CN2018	AL-4
CN7104	AL-3
TRANSISTORS	
Q105	AJ-3
Q107	AH-4
Q108	AH-4
RESISTORS	
R121	AK-2
R122	AK-2
R134	AJ-3
R143	AI-4
R144	AI-4
R145	AH-4
R146	AH-4
R147	AI-4
R148	AI-3
R149	AH-3
R150	AH-3
R769	AI-1
R792	AK-3
R794	AK-3

Main 8/11 & DVD OPEN/CLOSE Schematic Diagram < VCR Section >



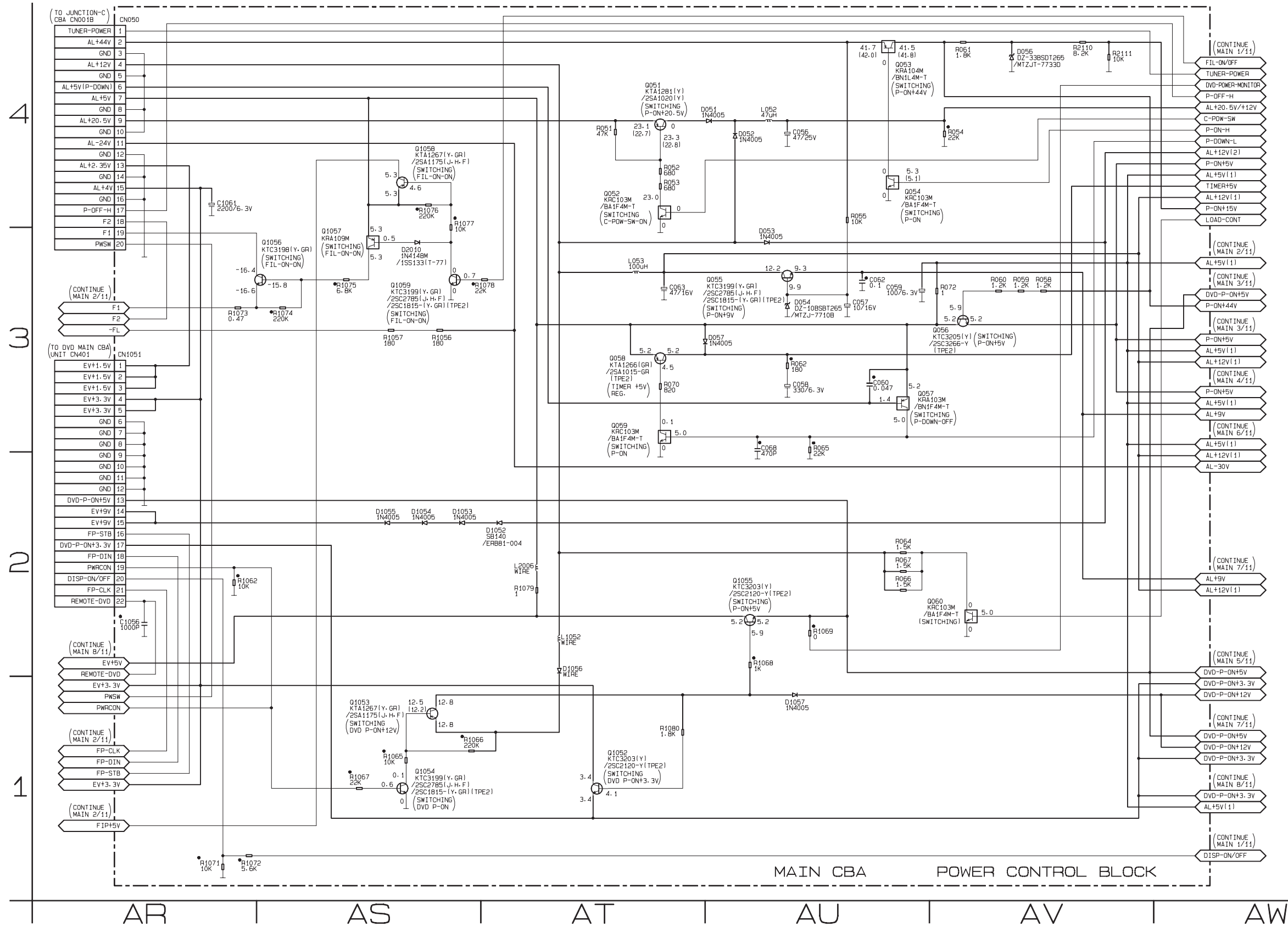
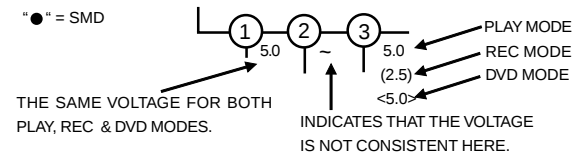
Main 8/11 Schematic Diagram Parts Location Guide

Ref No.	Position	Ref No.	Position
CAPACITORS		RESISTORS	
C2004	AQ-1	R653	AM-2
C2008	AO-3	R654	AM-1
C2009	AO-3	R655	AM-1
C2012	AQ-1	R2005	AQ-1
C2013	AN-1	R2022	AN-3
C2014	AN-1	R2027	AO-3
C2015	AN-1	R2038	AO-4
CONNECTORS		R2039	AO-4
CL2015	AN-4	R2040	AO-4
CN2001	AM-2	R2047	AO-4
CN2020	AM-1	R2094	AP-1
DIODE		R2103	AO-3
D2009	AO-3	R2104	AN-3
ICS		R2105	AO-2
IC1404	AF-3	R2106	AO-2
IC2002	AO-3	R2107	AO-2
COILS		R2113	AN-1
L2001	AP-1	R2114	AN-1
L2002	AN-1	SWITCHES	
L2007	AN-1	SW2021	AO-2
L2008	AN-1	SW2022	AO-2
TRANSISTORS		CRYSTAL OSCILLATOR	
Q516	AN-2	X2001	AP-3
Q1505	AN-2	MISCELLANEOUS	
Q1506	AP-2	JK1405	AN-1
Q2007	AO-4	RM2001	AQ-1
RESISTORS			
R592	AM-2		

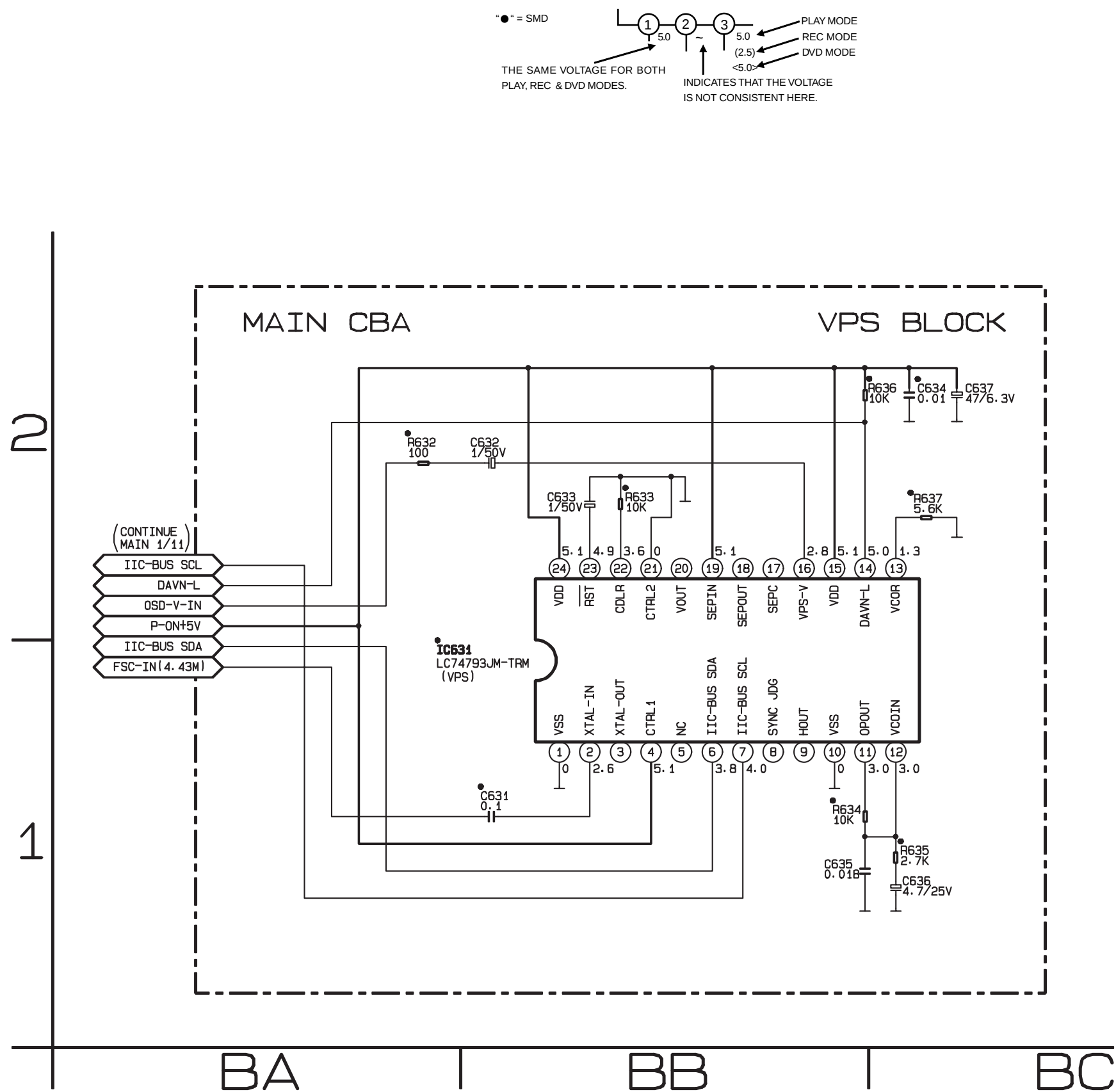
Main 9/11 Schematic Diagram Parts Location Guide

Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		COILS		RESISTORS	
C056	AU-4	L1052	AT-2	R061	AV-4
C057	AU-3	L2006	AT-2	R062	AU-3
C058	AU-3	TRANSISTORS		R064	AU-2
C059	AU-3	Q051	AT-4	R065	AU-3
C060	AU-3	Q052	AT-4	R066	AU-2
C062	AU-3	Q053	AU-4	R067	AU-2
C063	AU-3	Q054	AU-4	R070	AT-3
C068	AU-3	Q055	AU-3	R072	AV-3
C1056	AR-2	Q056	AV-3	R1056	AS-3
C1061	AR-4	Q057	AU-3	R1057	AS-3
CONNECTORS		Q058	AT-3	R1062	AR-2
CN050	AR-4	Q059	AT-3	R1065	AS-1
CN1051	AR-3	Q060	AV-2	R1066	AS-1
DIODES		Q1052	AT-1	R1067	AS-1
D051	AU-4	Q1053	AS-1	R1068	AU-2
D052	AU-4	Q1054	AS-1	R1069	AU-2
D053	AU-3	Q1055	AU-2	R1071	AR-1
D054	AU-3	Q1056	AS-3	R1072	AR-1
D056	AV-4	Q1057	AS-3	R1073	AR-3
D057	AU-3	Q1058	AS-4	R1074	AS-3
D1052	AT-2	Q1059	AS-3	R1075	AS-3
D1053	AS-2	RESISTORS		R1076	AS-4
D1054	AS-2	R051	AT-4	R1077	AS-4
D1055	AS-2	R052	AT-4	R1078	AT-3
D1056	AT-2	R053	AT-4	R1079	AT-2
D1057	AU-1	R054	AV-4	R1080	AT-1
D2010	AS-3	R055	AU-4	R2110	AV-4
COILS		R058	AV-3	R2111	AV-4
L052	AU-4	R059	AV-3		
L053	AT-3	R060	AV-3		

Main 9/11 Schematic Diagram < VCR Section >



Main 10/11 Schematic Diagram < VCR Section>



MAIN 10/11 Schematic Diagram
Parts Location Guide

Ref No.	Position
CAPACITORS	
C631	BB-1
C632	BB-2
C633	BB-2
C634	BC-2
C635	BB-1
C636	BC-1
C637	BC-2
IC	
IC631	BB-1
RESISTORS	
R632	BA-2
R633	BB-2
R634	BB-1
R635	BC-1
R636	BB-2
R637	BC-2

2



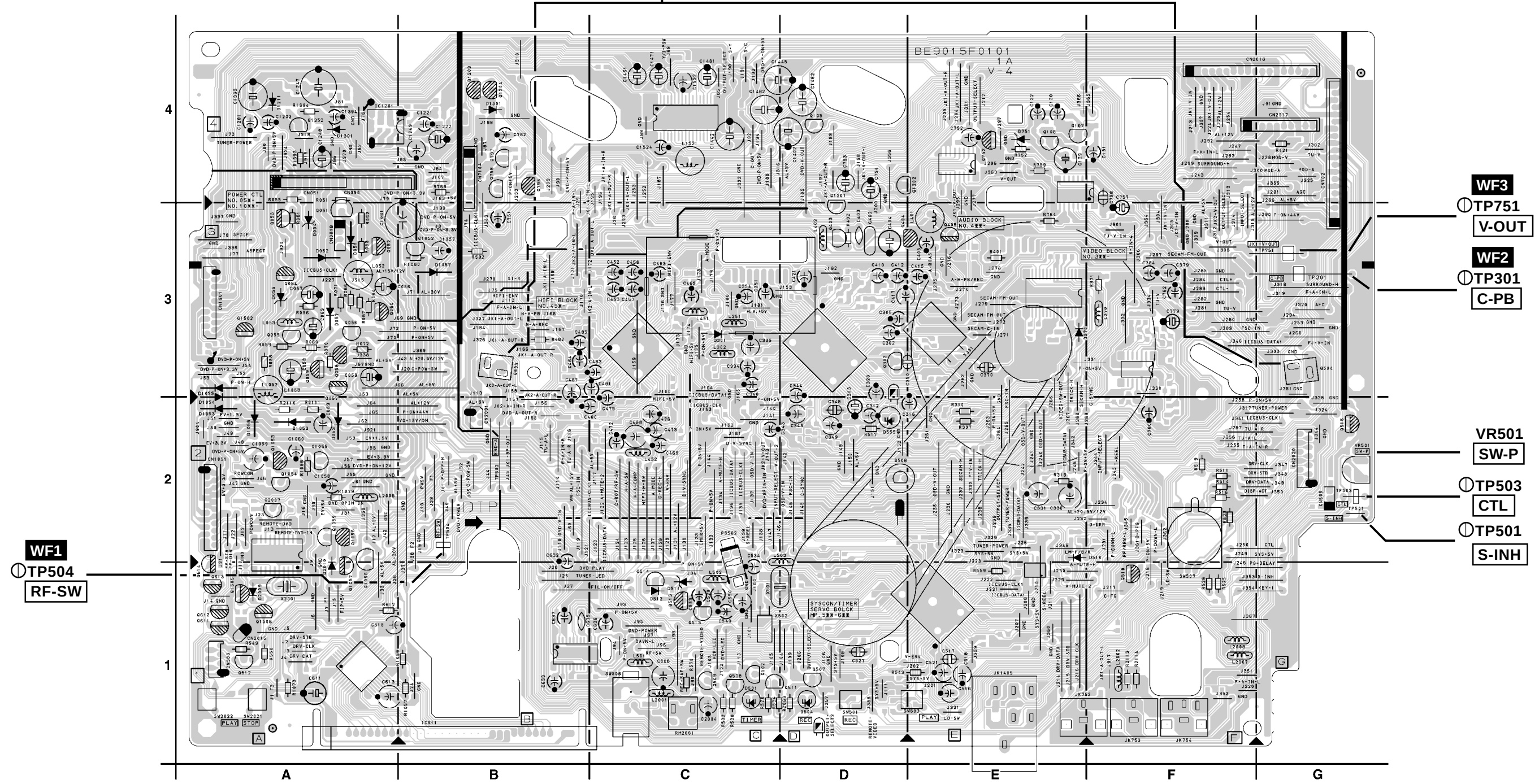
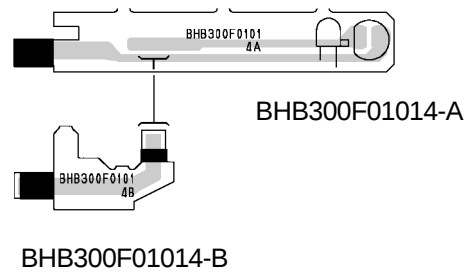
Ref No.	Position
CAPACITORS	
C370	AY-1
C371	AY-1
C372	AY-1
C373	AY-1
C374	AZ-1
C375	AZ-1
C376	AZ-1
C377	AZ-2
C378	AZ-2
C379	AY-2
C381	AZ-2
C382	AY-2
C383	AY-2
C384	AX-2
DIODE	
D370	AX-1
IC	
IC370	AX-2
COIL	
L370	AZ-2
RESISTORS	
R370	AY-1
R371	AY-2
R372	AX-2

Main CBA Parts Location Guide

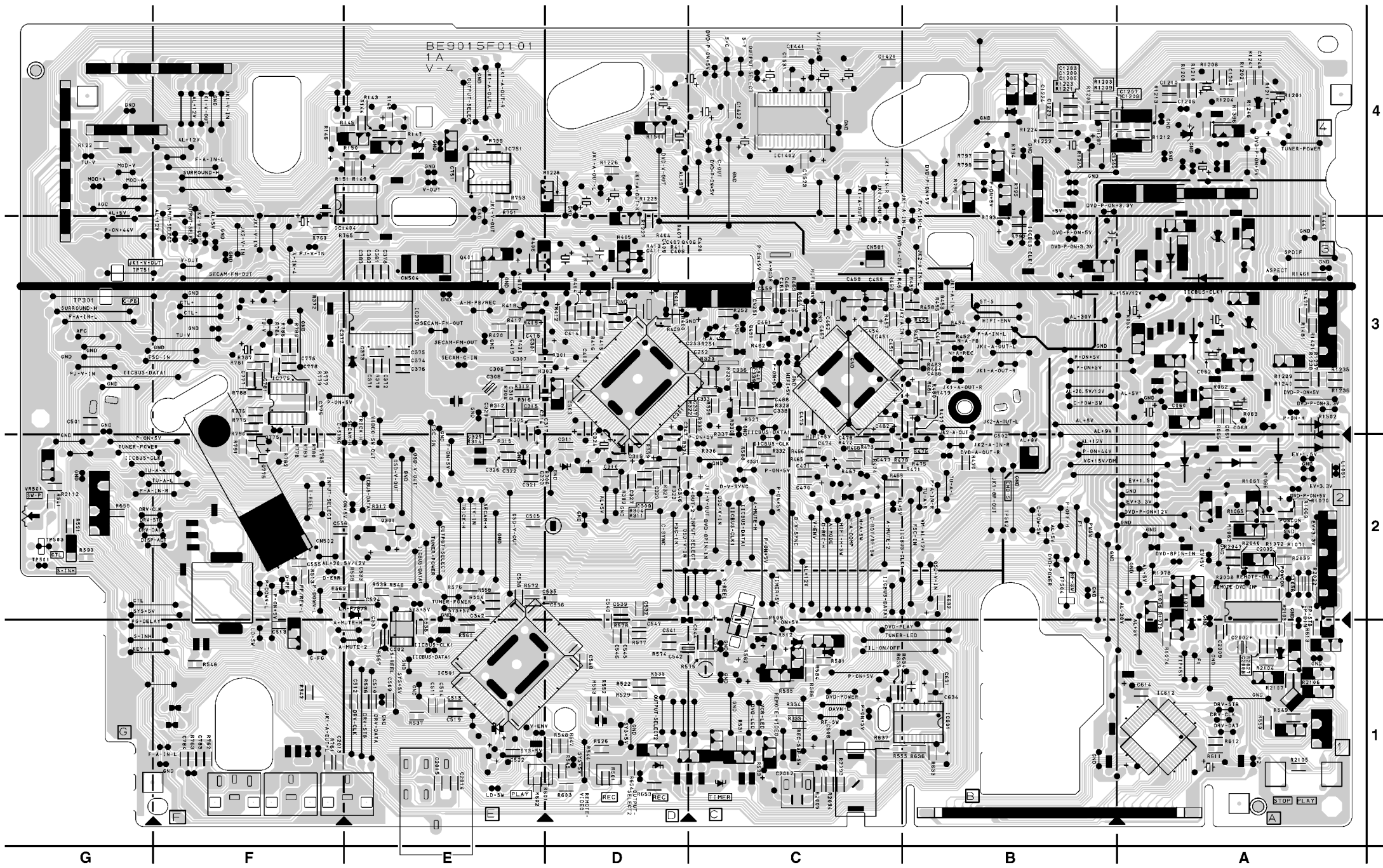
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CAPACITORS		CAPACITORS		CAPACITORS		CAPACITORS		CONNECTORS		COILS		TRANSISTORS		RESISTORS		RESISTORS		RESISTORS		RESISTORS		RESISTORS	
C056	A-3	C348	D-2	C476	C-2	C635	B-1	CL251	C-3	L053	A-3	Q1052	B-3	R314	E-2	R464	C-3	R554	E-2	R784	F-3	R1471	A-3
C057	A-3	C349	D-2	C477	C-2	C636	B-1	CL501	C-3	L251	C-3	Q1053	A-2	R316	E-3	R465	C-2	R555	C-1	R785	F-2	R1481	A-3
C058	A-3	C350	E-3	C478	C-2	C637	B-1	CL502	F-2	L302	C-3	Q1054	A-2	R317	E-2	R466	C-2	R558	E-2	R786	F-3	R1501	D-4
C059	A-3	C370	E-3	C479	C-2	C751	E-4	CL504	E-3	L370	F-3	Q1055	A-2	R318	E-2	R467	C-2	R560	E-1	R787	F-3	R1502	A-3
C060	A-3	C371	E-3	C480	B-2	C752	E-4	CL2015	A-1	L401	E-3	Q1056	A-1	R319	E-3	R468	C-2	R567	E-1	R788	F-3	R2005	C-1
C062	A-3	C372	E-3	C481	C-3	C753	D-4	CN050	A-4	L402	D-3	Q1057	A-1	R320	C-3	R469	C-2	R568	E-2	R789	F-3	R2022	A-2
C063	A-3	C373	E-3	C482	C-3	C754	D-4	CN503	A-1	L451	C-3	Q1058	A-2	R321	D-2	R470	B-2	R569	F-2	R790	F-3	R2027	A-1
C068	A-3	C374	E-3	C483	C-3	C757	F-3	CN505	G-2	L452	C-2	Q1059	A-2	R322	C-3	R471	B-2	R570	C-1	R791	F-2	R2038	A-2
C129	E-4	C375	E-3	C484	B-3	C758	F-4	CN702	G-4	L501	C-1	Q1201	D-4	R323	D-2	R472	C-2	R572	E-2	R792	B-3	R2039	A-2
C130	E-4	C376	E-3	C485	B-3	C761	B-3	CN1051	A-2	L502	C-1	Q1202	E-4	R324	D-2	R473	C-2	R574	D-1	R794	B-4	R2040	A-2
C131	F-4	C377	E-3	C486	B-3	C762	B-4	CN1601	A-3	L503	C-2	Q1203	B-4	R325	C-3	R474	C-2	R575	C-1	R1056	B-1	R2047	A-2
C132	E-4	C378	E-3	C487	B-3	C775	F-3	CN2001	B-2	L1052	A-3	Q1204	B-4	R326	C-3	R475	B-2	R576	E-2	R1057	B-1	R2068	D-1
C251	C-3	C379	F-3	C488	C-3	C776	F-3	CN2017	G-4	L1521	C-4	Q1352	A-4	R327	C-3	R476	B-2	R577	100	R1062	A-2	R2094	C-1
C252	C-3	C381	E-3	C501	G-3	C777	F-3	CN2018	G-4	L2001	C-1	Q1502	A-3	R328	C-3	R477	B-3	R578	D-1	R1065	A-2	R2103	A-1
C253	C-3	C382	E-3	C505	E-2	C778	F-3	CN2020	G-2	L2002	F-1	Q1505	A-1	R330	C-3	R478	C-2	R581	C-1	R1066	A-2	R2104	A-1
C254	C-3	C383	E-3	C506	C-1	C779	F-3	CN7104	B-4	L2006	A-2	Q1506	A-1	R331	C-2	R479	B-3	R582	C-1	R1067	A-2	R2105	A-1
C301	E-3	C384	F-3	C508	C-1	C780	F-2	DIODES		L2007	F-1	Q2007	A-2	R332	C-2	R480	B-3	R584	C-1	R1068	A-2	R2106	A-1
C302	D-3	C402	D-3	C509	E-1	C781	F-3	D051	A-3	L2008	F-1	RESISTORS		R333	C-1	R481	B-3	R585	C-1	R1069	A-2	R2107	A-1
C303	D-3	C403	D-3	C510	E-1	C782	F-3	D052	A-3	TRANSISTORS		R051	A-4	R334	C-1	R482	B-3	R586	C-1	R1071	A-2	R2110	A-2
C305	D-3	C404	D-3	C511	E-1	C783	F-1	D053	A-2	Q051	A-3	R052	A-3	R335	C-3	R483	B-3	R588	C-2	R1072	A-2	R2111	A-2
C306	E-3	C405	E-3	C513	F-1	C784	F-1	D054	A-3	Q052	A-3	R053	A-3	R336	C-2	R484	B-3	R590	G-2	R1073	A-1	R2113	F-1
C307	E-3	C407	D-3	C514	E-1	C1056	A-2	D056	A-3	Q053	A-3	R054	A-3	R337	C-2	R501	D-1	R591	G-2	R1074	A-1	R2114	F-1
C308	E-3	C408	D-3	C515	E-1	C1061	A-3	D057	A-3	Q054	A-3	R055	A-4	R339	D-2	R509	C-1	R592	B-3	R1075	A-1	SWITCHES	
C309	D-2	C409	D-3	C516	E-1	C1201	A-4	D301	C-3	Q055	A-3	R058	A-3	R370	E-3	R511	F-2	R601	D-1	R1076	A-2	SW501	D-1
C310	D-2	C410	D-3	C517	E-1	C1202	A-4	D370	E-3	Q056	A-3	R059	A-3	R371	F-3	R512	C-1	R602	E-1	R1077	A-2	SW506	C-1
C311	D-2	C411	D-3	C518	E-1	C1205	B-4	D501	C-1	Q057	A-3	R060	A-3	R372	F-3	R513	F-2	R603	D-1	R1078	A-2	SW507	F-2
C312	D-2	C412	D-3	C519	E-1	C1206	A-4	D504	D-1	Q058	A-3	R061	A-3	R401	E-3	R514	F-2	R611	A-1	R1079	A-2	SW603	E-1
C313	D-2	C413	D-3	C521	E-1	C1207	A-4	D510	E-2	Q059	A-3	R062	A-3	R402	D-3	R516	F-2	R613	A-1	R1080	B-3	SW2021	A-1
C314	E-3	C414	D-3	C522	E-1	C1208	A-4	D511	C-1	Q060	A-3	R064	A-3	R404	D-3	R517	D-2	R617	A-1	R1203	B-4	SW2022	A-1
C315	E-3	C415	E-3	C524	E-2	C1221	B-4	D512	C-1	Q105	D-4	R065	A-3	R405	D-3	R519	F-2	R632	B-2	R1204	A-4	VARIABLE RESISTOR	
C316	E-2	C416	B-3	C527	D-1	C1222	B-4	D555	D-2	Q107	E-4	R066	A-3	R406	E-3	R520	C-1	R633	B-1	R1205	B-4	VR501	G-2
C317	E-3	C417	D-3	C531	E-1	C1223	B-4	D751	E-4	Q108	E-4	R067	A-3	R407	D-3	R522	D-1	R634	B-1	R1206	A-4	CRYSTAL OSCILLATORS	
C318	E-3	C418	E-3	C533	E-2	C1224	B-4	D1052	A-2	Q301	E-2	R070	A-3	R408	D-3	R523	F-2	R635	C-1	R1207	B-4	X301	E-3
C319	D-2	C419	E-3	C534	C-2	C1245	B-4	D1053	A-2	Q302	D-2	R072	A-3	R409	D-3	R525	F-1	R636	B-1	R1208	A-4	X501	C-1
C320	D-2	C420	C-3	C535	D-2	C1246	A-4	D1054	A-2	Q401	E-3	R121	G-4	R410	D-3	R526	D-1	R637	C-1	R1209	B-4	X502	C-1
C321	E-2	C421	D-3	C536	D-2	C1247	A-4	D1055	A-3	Q403	D-3	R122	G-4	R411	D-3	R528	F-1	R653	D-1	R1210	A-4	X2001	A-1
C322	E-2	C451	D-3	C538	E-2	C1249	B-4	D1056	A-2	Q404	E-3	R134	D-4	R412	D-3	R529	D-1	R654	D-1	R1211	A-4	MISCELLANEOUS	
C323	E-2	C452	C-3	C539	D-2	C1393	A-4	D1057	B-3	Q405	E-3	R143	E-4	R413	D-3	R530	C-1	R655	G-2	R1212	A-4	JK752	E-1
C324	D-3	C453	C-3	C540	D-1	C1394	A-4	D1301	A-4	Q406	D-3	R144	E-4	R414	D-3	R531	C-1	R751	E-4	R1213	A-4	JK753	F-1
C325	E-2	C454	C-3	C541	D-1	C1402	D-4	D1501	B-4	Q451	C-3	R145	E-4	R415	D-3	R532	C-1	R752	E-4	R1221	B-4	JK754	F-1
C326	E-2	C455	C-3	C542	C-1	C1421	C-4	D2009	A-1	Q502	C-1	R146	F-4	R416	D-3	R533	C-1	R753	E-4	R1222	B-4	JK1405	E-1
C328	D-3	C456	C-3	C543	C-1	C1422	C-4	D2010	A-1	Q506	D-2	R147	E-4	R417	E-3	R534	C-1	R755	E-4	R1223	B-4	PS502	C-2
C329	E-3	C457	C-3	C544	C-1	C1441	C-4	ICS		Q507	D-1	R148	E-4	R418	E-3	R535	D-1	R759	E-4	R1224	B-4	RM2001	C-1
C330	E-2	C458	C-3	C545	D-1	C1442	C-4	IC301	D-3	Q508	C-1	R149	E-4	R419	E-3	R536	E-1	R760	F-3	R1225	D-4	TEST POINTS	
C331	E-2	C461	C-3	C546	D-1	C1445	C-4	IC370	E-3	Q509	C-1	R150	E-4	R420	E-3	R537	E-1	R761	F-1	R1226	D-4	TP301	G-3
C333	C-3	C462	C-3	C547	D-1	C1461	C-4	IC451	C-3	Q510	F-1	R151	E-4	R421	E-3	R538	E-1	R762	F-1	R1227	D-4	TP501	G-2
C334	C-3	C463	C-3	C548	D-1	C1462	D-4	IC501	E-1	Q511	C-1	R251	C-3	R451	B-3	R539	E-2	R763	F-1	R1228	D-4	TP502	B-2
C335																							

Main CBA Top View

Sensor CBA Top View



Main CBA Bottom View



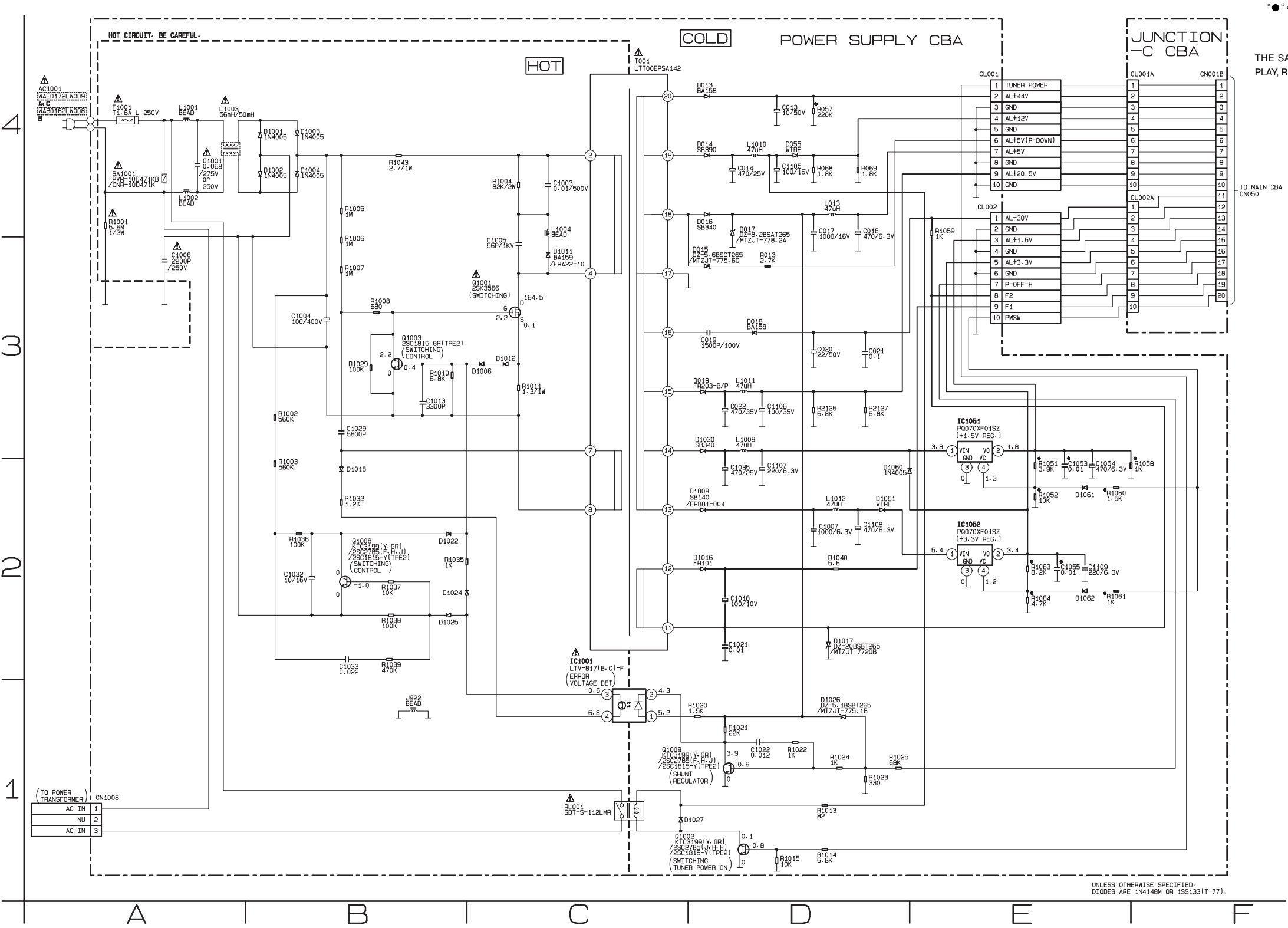
Power Supply (For VCR/DVD) & Junction-C Schematic Diagram < VCR Section >

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.

BECAUSE A HOT CHASSIS GROUND IS PRESENT IN THE POWER SUPPLY CIRCUIT , AN ISOLATION TRANSFORMER MUST BE USED. ALSO , IN ORDER TO HAVE THE ABILITY TO INCREASE THE INPUT SLOWLY , WHEN TROUBLESHOOTING THIS TYPE POWER SUPPLY CIRCUIT , A VARIABLE ISOLATION TRANSFORMER IS REQUIRED.

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.



● = SMD
THE SAME VOLTAGE FOR BOTH PLAY, REC & DVD MODES.
INDICATES THAT THE VOLTAGE IS NOT CONSISTENT HERE.

Comparison Chart of Models and Marks

MODEL	MARK
MX5100VR/00	A
MX5100VR/05	B
MX5100VR/02	C

TO MAIN CBA
CN050

UNLESS OTHERWISE SPECIFIED:
DIODES ARE 1N4148M OR 1SS133(T-771).

Power Supply (For VCR/DVD) Schematic Diagram Parts Location Guide

POWER SUPPLY Schematic Diagram Parts Location Guide

Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		DIODES		COILS		RESISTORS	
C013	D-4	D014	D-4	L1003	A-4	R1029	B-3
C014	D-4	D015	D-3	L1004	C-4	R1032	B-2
C017	D-4	D016	D-4	L1009	D-3	R1035	B-2
C018	D-4	D017	D-4	L1010	D-4	R1036	B-2
C019	D-3	D018	D-3	L1011	D-3	R1037	B-2
C020	D-3	D019	D-3	L1012	D-2	R1038	B-2
C021	D-3	D055	D-4	TRANSISTORS		R1039	B-2
C022	D-3	D1001	B-4	Q1001	C-3	R1040	D-2
C1001	A-4	D1002	B-4	Q1002	D-1	R1043	B-4
C1003	C-4	D1003	B-4	Q1003	B-3	R1051	E-2
C1004	B-3	D1004	B-4	Q1008	B-2	R1052	E-2
C1005	C-3	D1006	C-3	Q1009	D-1	R1058	F-2
C1006	A-3	D1008	D-2	RESISTORS		R1059	E-4
C1007	D-2	D1011	C-3	R013	D-3	R1060	E-2
C1013	B-3	D1012	C-3	R057	D-4	R1061	E-2
C1018	D-2	D1016	D-2	R068	D-4	R1063	E-2
C1021	D-2	D1017	D-2	R069	D-4	R1064	E-2
C1022	D-1	D1018	B-2	R1001	A-4	R2126	D-3
C1029	B-3	D1022	B-2	R1002	B-3	R2127	D-3
C1032	B-2	D1024	B-2	R1003	B-2	MISCELLANEOUS	
C1033	B-2	D1025	B-2	R1004	C-4	AC1001	A-4
C1035	D-2	D1026	D-1	R1005	B-4	F1001	A-4
C1053	E-2	D1027	C-1	R1006	B-3	J922	B-1
C1054	E-2	D1030	D-3	R1007	B-3	RL001	C-1
C1055	E-2	D1051	D-2	R1008	B-3	SA1001	A-4
C1105	D-4	D1060	D-2	R1010	B-3	T001	C-4
C1106	D-3	D1061	E-2	R1011	C-3		
C1107	D-2	D1062	E-2	R1013	D-1		
C1108	D-2	ICS		R1014	D-1		
C1109	E-2	IC1001	C-1	R1015	D-1		
CONNECTORS		IC1051	E-3	R1020	D-1		
CL001	E-4	IC1052	E-2	R1021	D-1		
CL002	E-4	COILS		R1022	D-1		
CN1008	A-1	L013	D-4	R1023	D-1		
DIODES		L1001	A-4	R1024	D-1		
D013	D-4	L1002	A-4	R1025	D-1		

Power Supply (For VCR/DVD) CBA Parts Location Guide

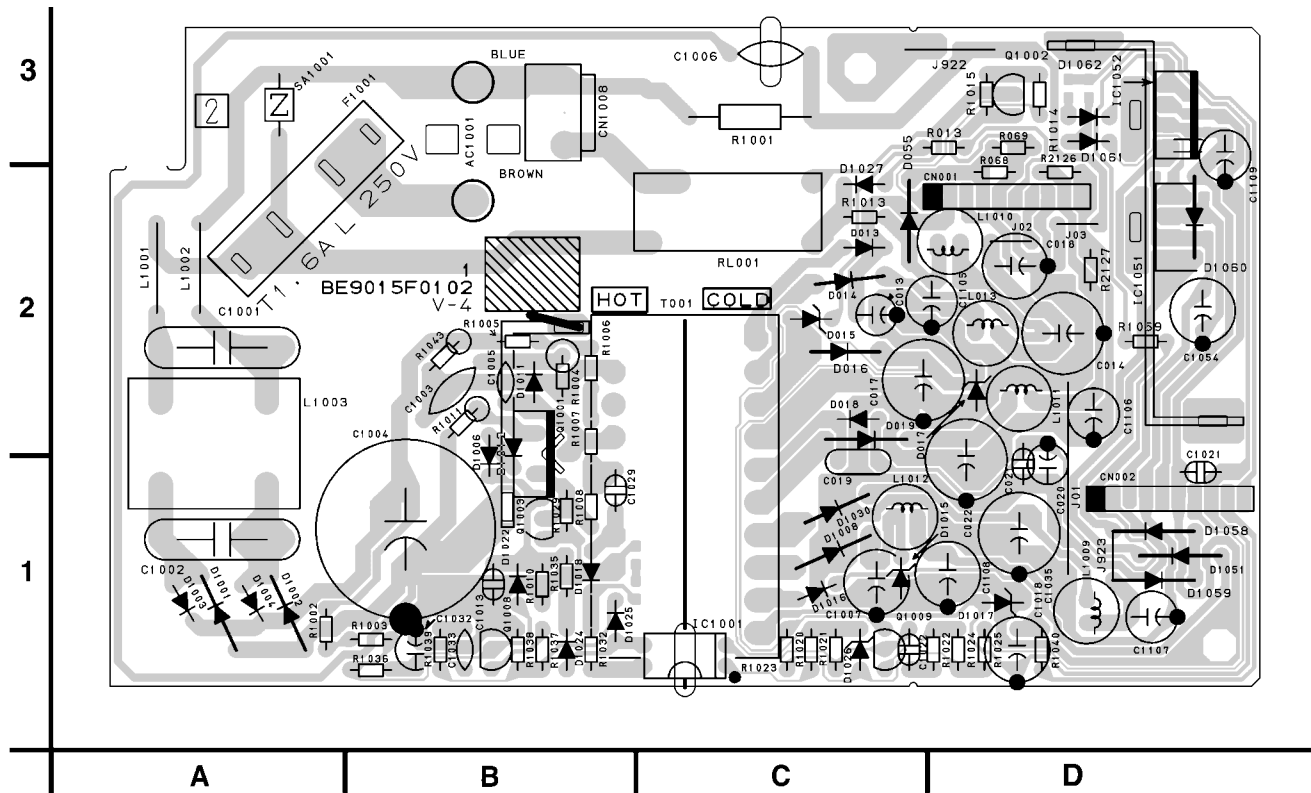
POWER SUPPLY CBA Parts Location Guide

Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		DIODES		COILS		RESISTORS	
C013	C-2	D014	C-2	L1003	A-2	R1029	B-1
C014	D-2	D015	C-2	L1004	B-2	R1032	B-1
C017	C-2	D016	C-2	L1009	D-1	R1035	B-1
C018	D-2	D017	C-2	L1010	D-2	R1036	B-1
C019	C-1	D018	C-2	L1011	D-2	R1037	B-1
C020	D-1	D019	C-2	L1012	C-1	R1038	B-1
C021	D-1	D055	C-3	TRANSISTORS		R1039	B-1
C022	D-1	D1001	A-1	Q1001	B-2	R1040	D-1
C1001	A-2	D1002	A-1	Q1002	D-3	R1043	B-2
C1003	B-2	D1003	A-1	Q1003	B-1	R1051	D-2
C1004	B-2	D1004	A-1	Q1008	B-1	R1052	D-2
C1005	B-2	D1006	B-2	Q1009	C-1	R1058	D-2
C1006	C-3	D1008	C-1	RESISTORS		R1059	D-2
C1007	C-1	D1011	B-2	R013	D-3	R1060	D-3
C1013	B-1	D1012	B-2	R057	D-2	R1061	D-3
C1018	D-1	D1016	C-1	R068	D-3	R1063	D-3
C1021	D-1	D1017	D-1	R069	D-3	R1064	D-3
C1022	C-1	D1018	B-1	R1001	C-3	R2126	D-3
C1029	B-1	D1022	B-1	R1002	A-1	R2127	D-2
C1032	B-1	D1024	B-1	R1003	B-1	MISCELLANEOUS	
C1033	B-1	D1025	B-1	R1004	B-2	AC1001	B-3
C1035	D-1	D1026	C-1	R1005	B-2	F1001	B-3
C1053	D-2	D1027	C-2	R1006	B-2	J922	D-3
C1054	D-2	D1030	C-1	R1007	B-2	RL001	C-2
C1055	D-3	D1051	D-1	R1008	B-1	SA1001	A-3
C1105	D-2	D1060	D-2	R1010	B-1	T001	C-2
C1106	D-2	D1061	D-3	R1011	B-2		
C1107	D-1	D1062	D-3	R1013	C-2		
C1108	D-1	ICS		R1014	D-3		
C1109	D-2	IC1001	C-1	R1015	D-3		
CONNECTORS		IC1051	D-2	R1020	C-1		
CL001	D-2	IC1052	D-3	R1021	C-1		
CL002	D-1	COILS		R1022	D-1		
CN1008	B-3	L013	D-2	R1023	C-1		
DIODES		L1001	A-2	R1024	D-1		
D013	C-2	L1002	A-2	R1025	D-1		

Power Supply (For VCR/DVD) 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.

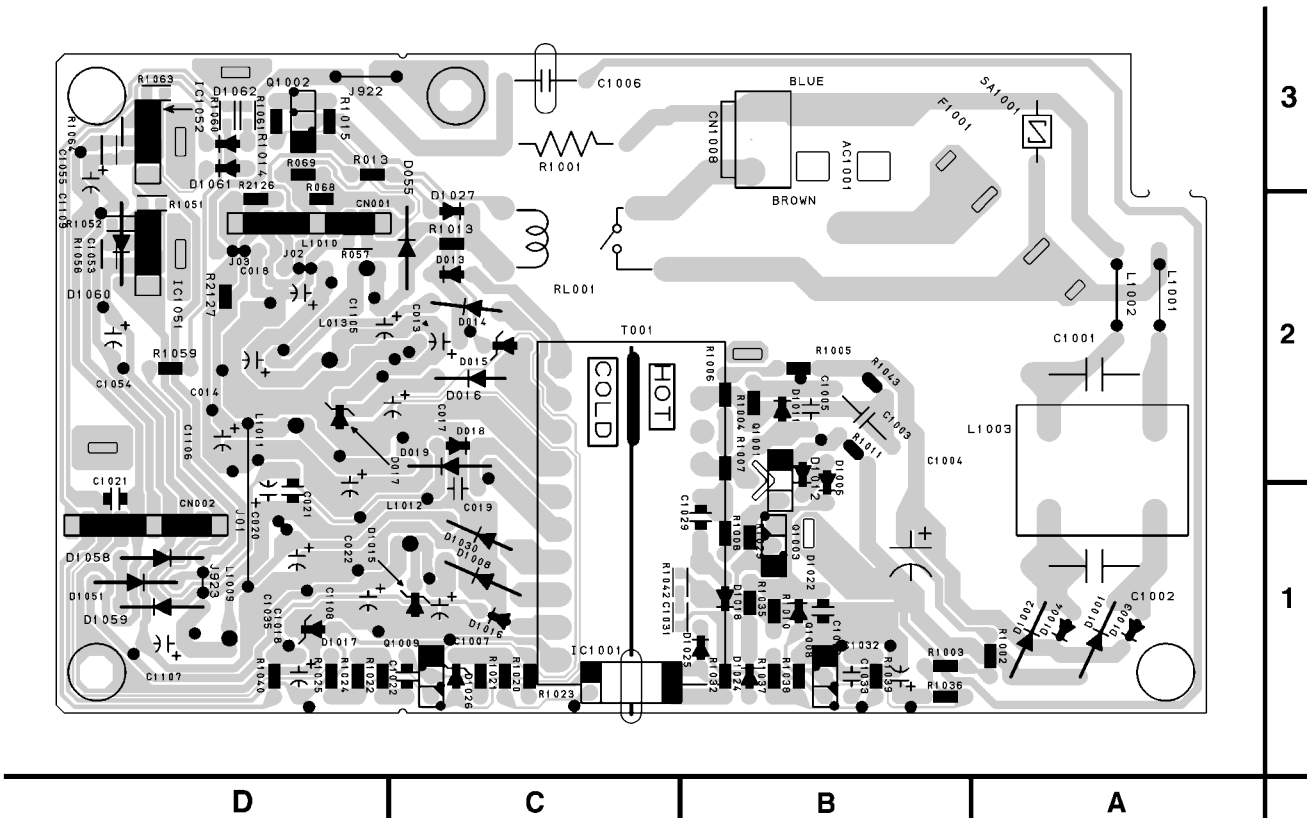
BECAUSE A HOT CHASSIS GROUND IS PRESENT IN THE POWER SUPPLY CIRCUIT , AN ISOLATION TRANSFORMER MUST BE USED. ALSO , IN ORDER TO HAVE THE ABILITY TO INCREASE THE INPUT SLOWLY , WHEN TROUBLESHOOTING THIS TYPE POWER SUPPLY CIRCUIT , A VARIABLE ISOLATION TRANSFORMER IS REQUIRED.



Power Supply (For VCR/DVD) CBA Bottom View

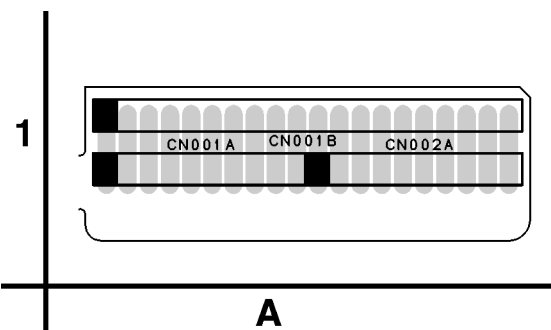
CAUTION !
For continued protection against fire hazard, replace only with the same type fuse.

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

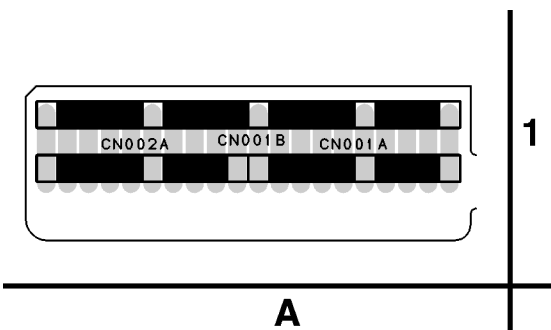


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Junction-C CBA Top View

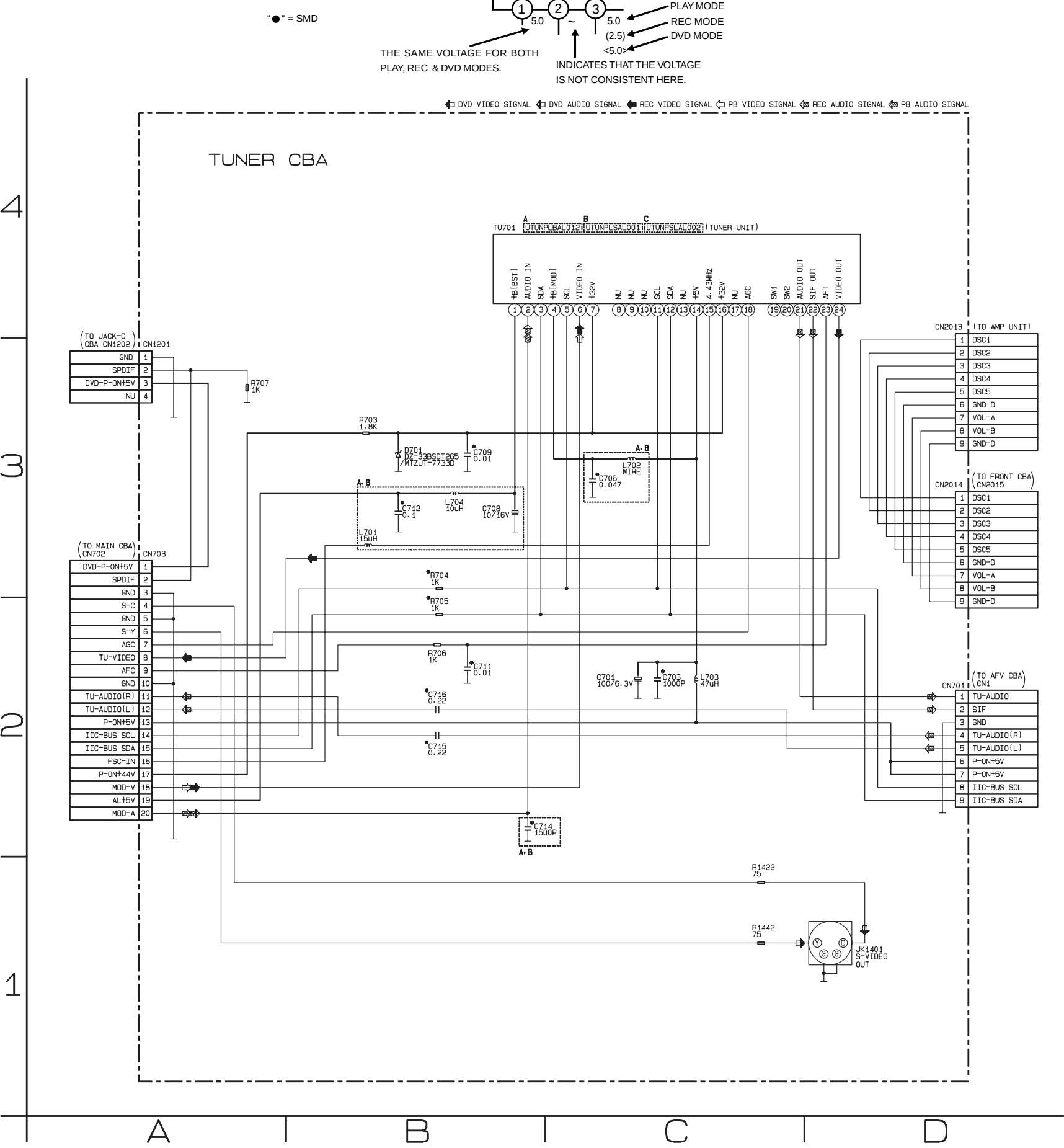


Junction-C CBA Bottom View



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Tuner Schematic Diagram < VCR Section >



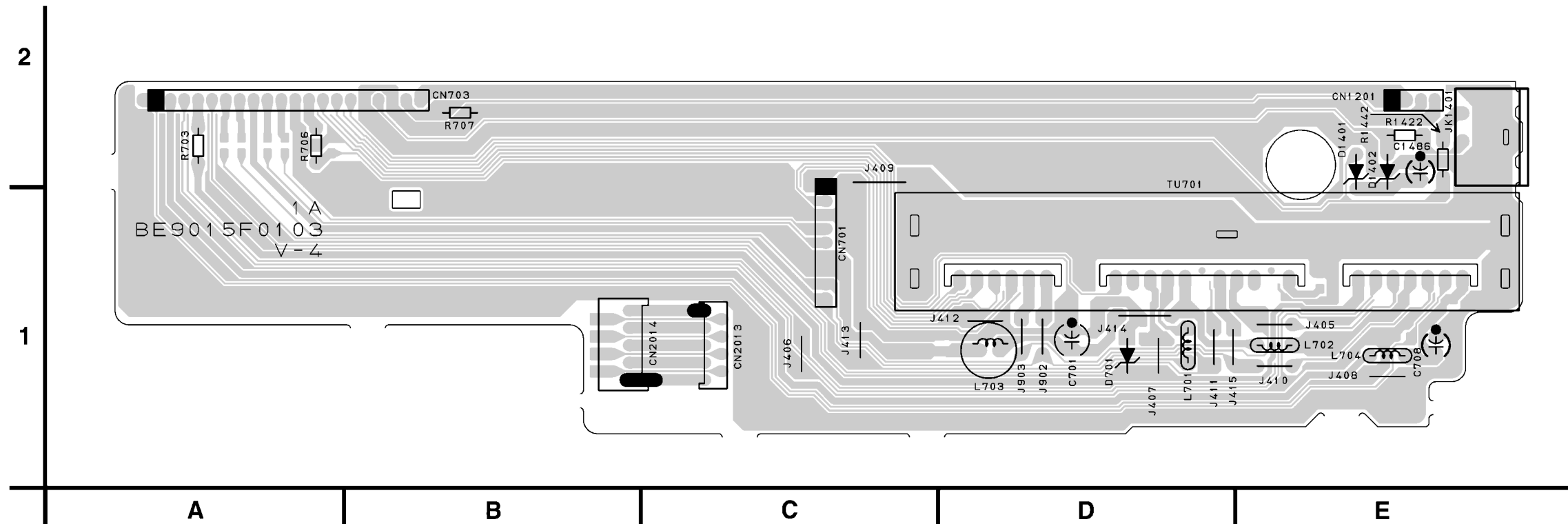
Comparison Chart of
Models and Marks

MODEL	MARK
MX5100VR/00	A
MX5100VR/05	B
MX5100VR/02	C

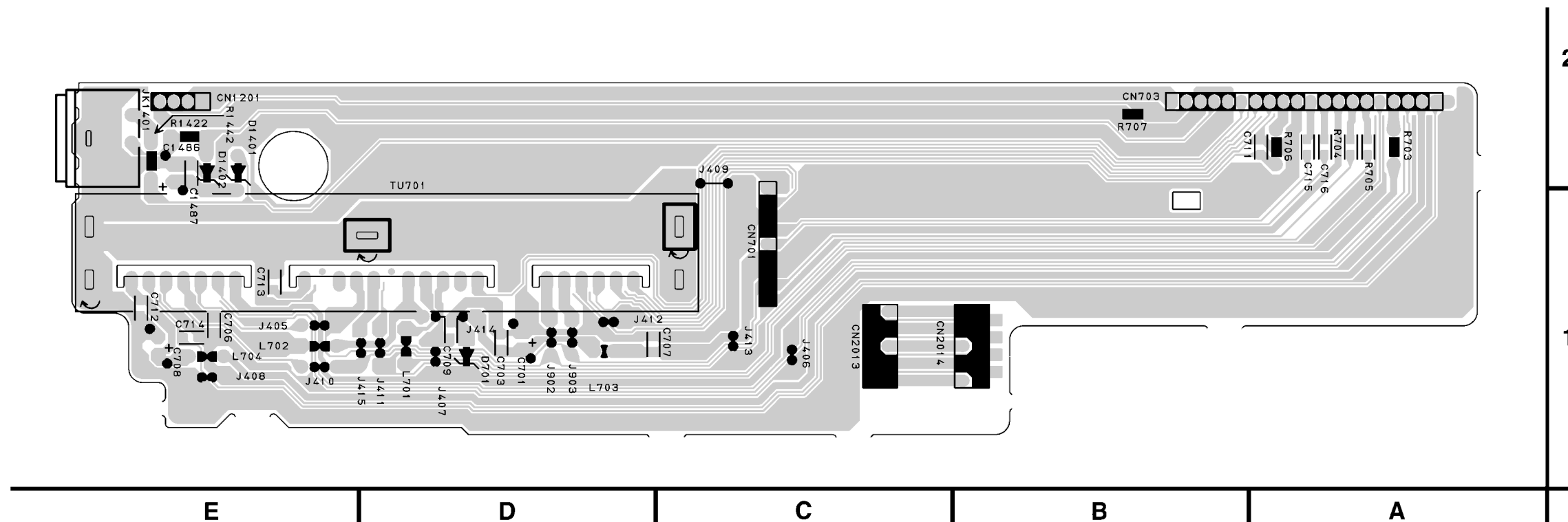
TUNER Schematic Diagram
Parts Location Guide

Ref No.	Position
CAPACITORS	
C701	C-2
C703	C-2
C706	C-3
C708	B-3
C709	B-3
C711	B-2
C712	B-3
C714	B-2
C715	B-2
C716	B-2
CONNECTORS	
CN701	D-2
CN703	A-3
CN1201	A-3
CN2013	D-4
CN2014	D-3
DIODE	
D701	B-3
COILS	
L701	B-3
L702	C-3
L703	C-2
L704	B-3
RESISTORS	
R703	B-3
R704	B-3
R705	B-2
R706	B-2
R707	A-3
R1422	C-1
R1442	C-1
MISCELLANEOUS	
JK1401	D-1
TU701	B-4

Tuner CBA Top View



Tuner CBA Bottom View

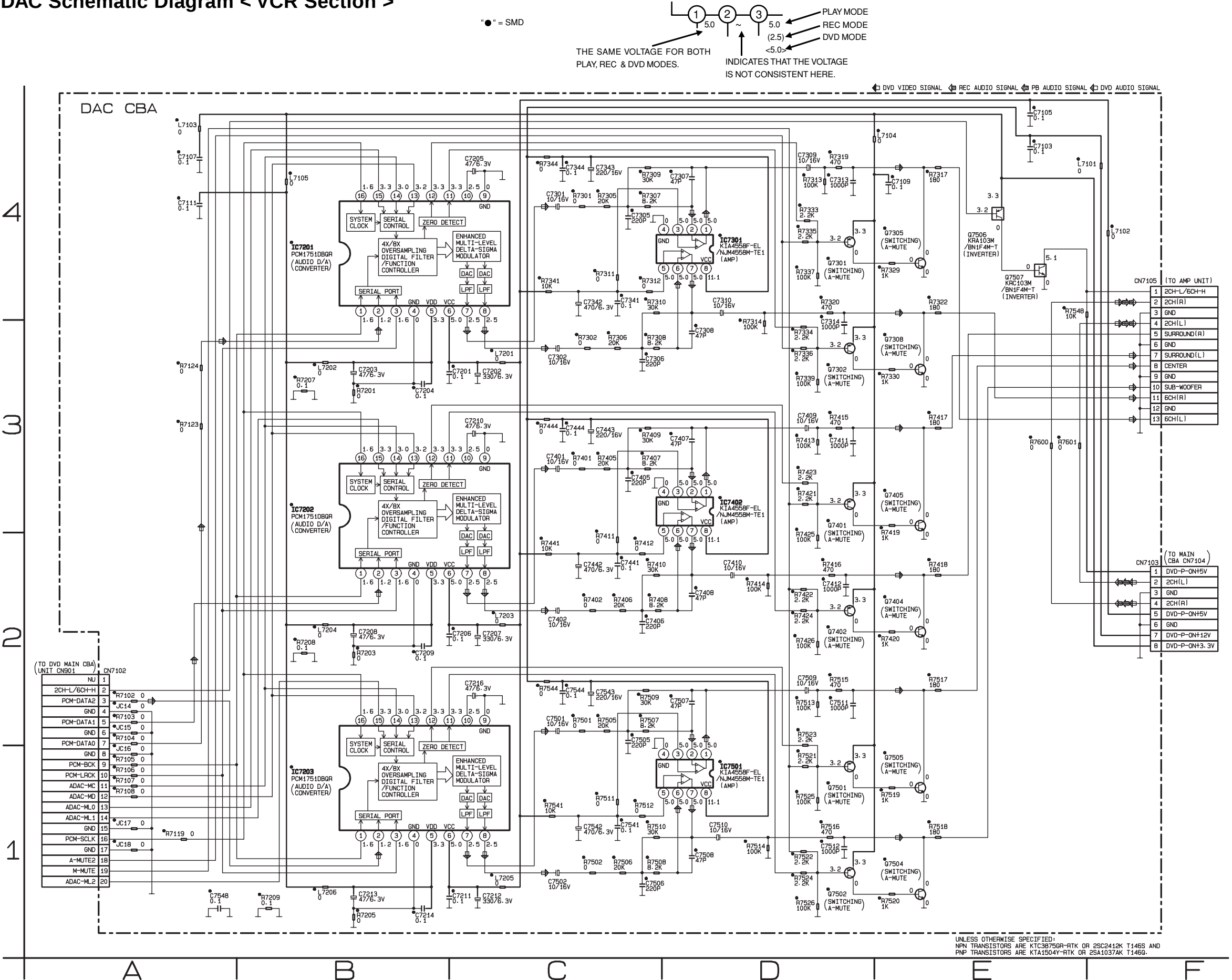


TUNER CBA

Parts Location Guide

Ref No.	Position
CAPACITORS	
C701	D-1
C703	D-1
C706	E-1
C708	E-1
C709	E-1
C711	A-2
C712	E-1
C714	E-1
C715	A-2
C716	A-2
CONNECTORS	
CN701	C-1
CN703	B-2
CN1201	E-2
CN2013	C-1
CN2014	C-1
DIODE	
D701	D-1
COILS	
L701	D-1
L702	E-1
L703	D-1
L704	E-1
RESISTORS	
R703	A-2
R704	A-2
R705	A-2
R706	A-2
R707	B-2
R1422	E-2
R1442	E-2
MISCELLANEOUS	
JK1401	E-2
TU701	D-1

DAC Schematic Diagram < VCR Section >



DAC Schematic Diagram Parts Location Guide

Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		CAPACITORS		CAPACITORS		TRANSISTORS		RESISTORS		RESISTORS		RESISTORS	
C7103	E-4	C7341	C-4	C7543	C-2	Q7308	E-3	R7207	B-3	R7402	C-2	R7508	C-1
C7105	E-4	C7342	C-4	C7544	C-2	Q7401	D-3	R7208	B-2	R7405	C-3	R7509	C-2
C7107	A-4	C7343	C-4	C7548	A-1	Q7402	D-2	R7209	B-1	R7406	C-2	R7510	C-1
C7109	E-4	C7344	C-4	CONNECTORS		Q7404	E-2	R7301	C-4	R7407	C-3	R7511	C-1
C7111	A-4	C7401	C-3	CN7102	A-2	Q7405	E-3	R7302	C-3	R7408	C-2	R7512	C-1
C7201	C-3	C7402	C-2	CN7103	F-2	Q7501	D-1	R7305	C-4	R7409	C-3	R7513	D-2
C7202	C-3	C7405	C-3	CN7105	F-4	Q7502	D-1	R7306	C-3	R7410	C-2	R7514	D-1
C7203	B-3	C7406	C-2	ICS		Q7504	E-1	R7307	C-4	R7411	C-2	R7515	D-2
C7204	B-3	C7407	D-3	IC7201	B-4	Q7505	E-1	R7308	C-3	R7412	C-2	R7516	D-1
C7205	C-4	C7408	D-2	IC7202	B-3	Q7506	E-4	R7309	C-4	R7413	D-3	R7517	E-2
C7206	C-2	C7409	D-3	IC7203	B-1	Q7507	E-4	R7310	C-4	R7414	D-2	R7518	E-1
C7207	C-2	C7410	D-2	IC7301	D-4	RESISTORS		R7311	C-4	R7415	D-3	R7519	E-1
C7208	B-2	C7411	D-3	IC7402	D-3	JC14	A-2	R7312	C-4	R7416	D-2	R7520	E-1
C7209	B-2	C7412	D-2	IC7501	D-1	JC15	A-2	R7313	D-4	R7417	E-3	R7521	D-1
C7210	C-3	C7441	C-2	COILS		JC16	A-1	R7314	D-3	R7418	E-2	R7522	D-1
C7211	C-1	C7442	C-2	L7101	F-4	JC17	A-1	R7317	E-4	R7419	E-3	R7523	D-2
C7212	C-1	C7443	C-3	L7102	F-4	JC18	A-1	R7319	D-4	R7420	E-2	R7524	D-1
C7213	B-1	C7444	C-3	L7103	A-4	R7102	A-2	R7320	D-4	R7421	D-3	R7525	D-1
C7214	B-1	C7501	C-2	L7104	E-4	R7103	A-2	R7322	E-4	R7422	D-2	R7526	D-1
C7216	C-2	C7502	C-1	L7105	B-4	R7104	A-2	R7329	E-4	R7423	D-3	R7541	C-1
C7301	C-4	C7505	C-2	L7201	C-3	R7105	A-1	R7330	E-3	R7424	D-2	R7544	C-2
C7302	C-3	C7506	C-1	L7202	B-3	R7106	A-1	R7333	D-4	R7425	D-2	R7548	E-4
C7305	C-4	C7507	D-2	L7203	C-2	R7107	A-1	R7334	D-3	R7426	D-2	R7600	E-3
C7306	C-3	C7508	D-1	L7204	B-2	R7108	A-1	R7335	D-4	R7441	C-2	R7601	E-3
C7307	D-4	C7509	D-2	L7205	C-1	R7119	A-1	R7336	D-3	R7444	C-3		
C7308	D-3	C7510	D-1	L7206	B-1	R7123	A-3	R7337	D-4	R7501	C-2		
C7309	D-4	C7511	D-2	TRANSISTORS		R7124	A-3	R7339	D-3	R7502	C-1		
C7310	D-4	C7512	D-1	Q7301	D-4	R7201	B-3	R7341	C-4	R7505	C-2		
C7313	D-4	C7541	C-1	Q7302	D-3	R7203	B-2	R7344	C-4	R7506	C-1		
C7314	D-3	C7542	C-1	Q7305	E-4	R7205	B-1	R7401	C-3	R7507	C-2		

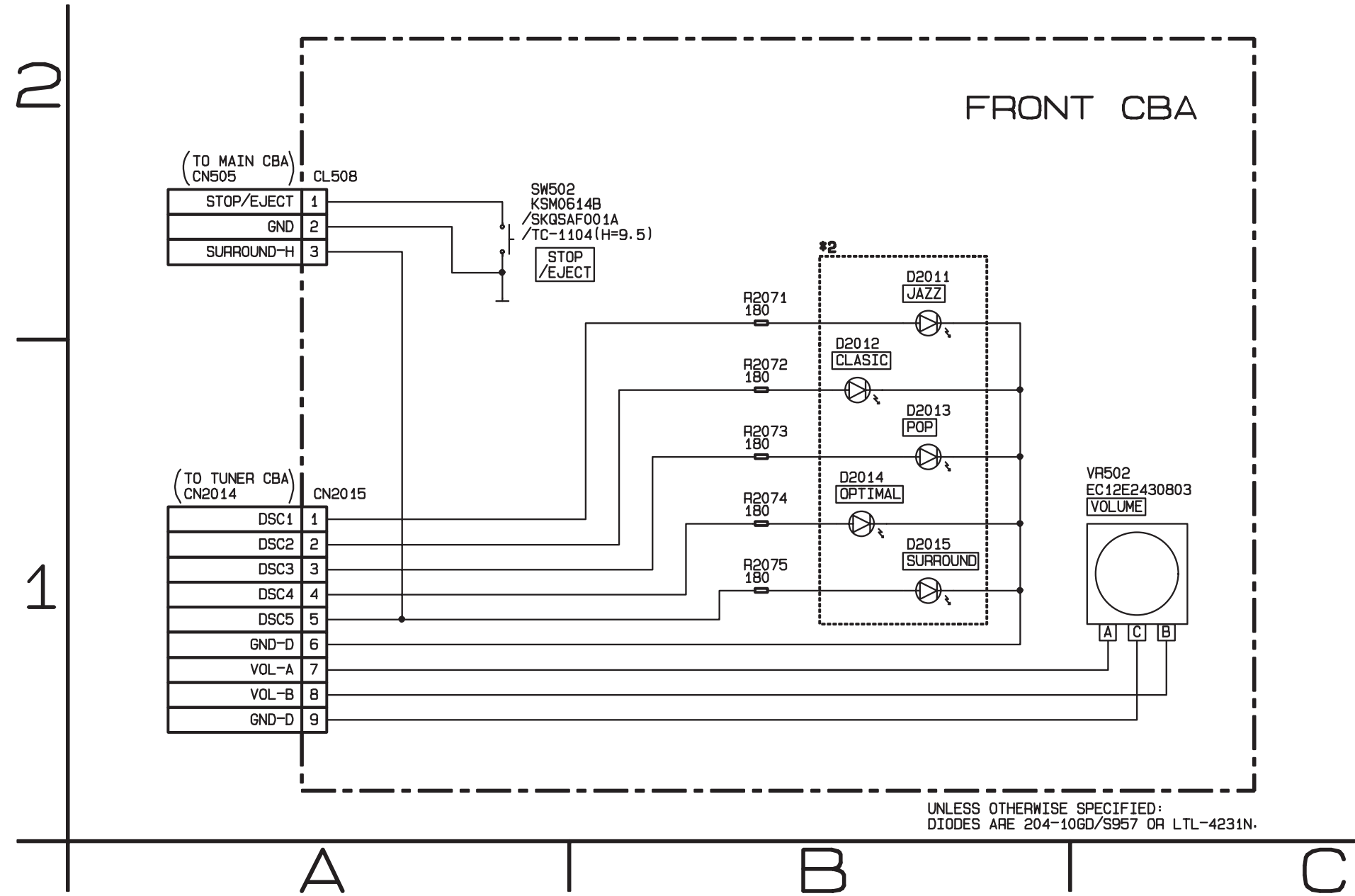
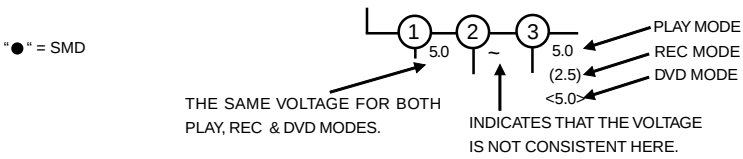
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DAC CBA Parts Location Guide

Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		CAPACITORS		CAPACITORS		TRANSISTORS		RESISTORS		RESISTORS		RESISTORS	
C7103	C-1	C7341	B-1	C7543	C-2	Q7308	C-2	R7207	A-2	R7402	B-3	R7508	C-2
C7105	B-1	C7342	B-2	C7544	C-2	Q7401	B-2	R7208	A-2	R7405	A-3	R7509	C-1
C7107	A-3	C7343	C-2	C7548	C-3	Q7402	B-2	R7209	A-1	R7406	B-3	R7510	C-2
C7109	B-1	C7344	C-2	CONNECTORS		Q7404	C-3	R7301	B-1	R7407	C-2	R7511	C-1
C7111	B-1	C7401	B-3	CN7102	B-3	Q7405	C-3	R7302	A-2	R7408	B-3	R7512	C-1
C7201	A-2	C7402	B-3	CN7103	B-1	Q7501	B-1	R7305	B-1	R7409	C-2	R7513	C-1
C7202	B-2	C7405	A-3	CN7105	C-3	Q7502	B-1	R7306	B-2	R7410	C-3	R7514	C-1
C7203	A-2	C7406	B-2	ICS		Q7504	C-1	R7307	C-2	R7411	B-3	R7515	C-1
C7204	A-2	C7407	C-2	IC7201	A-2	Q7505	C-1	R7308	B-2	R7412	B-3	R7516	C-1
C7205	A-2	C7408	B-3	IC7202	A-2	Q7506	B-1	R7309	C-2	R7413	C-2	R7517	C-1
C7206	A-2	C7409	C-2	IC7203	A-1	Q7507	B-1	R7310	C-2	R7414	C-3	R7518	C-1
C7207	B-2	C7410	C-3	IC7301	B-2	RESISTORS		R7311	B-1	R7415	C-3	R7519	C-1
C7208	A-3	C7411	C-3	IC7402	B-3	JC14	B-3	R7312	B-1	R7416	C-3	R7520	C-1
C7209	A-2	C7412	C-3	IC7501	C-2	JC15	B-3	R7313	C-2	R7417	C-3	R7521	B-1
C7210	A-3	C7441	B-3	COILS		JC16	B-3	R7314	C-2	R7418	C-3	R7522	A-1
C7211	A-1	C7442	B-3	L7101	C-1	JC17	B-3	R7317	C-2	R7419	C-2	R7523	A-1
C7212	B-1	C7443	C-3	L7102	B-1	JC18	B-3	R7319	C-2	R7420	C-3	R7524	A-1
C7213	A-1	C7444	C-3	L7103	A-3	R7102	B-3	R7320	C-2	R7421	A-2	R7525	A-1
C7214	A-1	C7501	B-1	L7104	B-1	R7103	B-3	R7322	C-2	R7422	A-2	R7526	A-1
C7216	A-1	C7502	B-2	L7105	B-1	R7104	B-3	R7329	C-1	R7423	A-2	R7541	B-1
C7301	B-2	C7505	B-1	L7201	B-2	R7105	A-3	R7330	C-2	R7424	B-2	R7544	C-2
C7302	B-2	C7506	B-2	L7202	B-2	R7106	B-3	R7333	A-2	R7425	A-2	R7548	B-1
C7305	B-2	C7507	C-2	L7203	A-3	R7107	A-3	R7334	A-2	R7426	A-2	R7600	C-1
C7306	B-2	C7508	C-2	L7204	A-3	R7108	B-3	R7335	A-2	R7441	B-2	R7601	C-1
C7307	C-2	C7509	C-1	L7205	A-1	R7119	A-2	R7336	A-2	R7444	C-3		
C7308	C-2	C7510	C-2	L7206	A-1	R7123	A-3	R7337	A-2	R7501	B-2		
C7309	C-2	C7511	C-1	TRANSISTORS		R7124	A-3	R7339	A-2	R7502	B-2		
C7310	C-2	C7512	C-1	Q7301	B-2	R7201	A-2	R7341	B-2	R7505	B-2		
C7313	C-2	C7541	B-2	Q7302	A-2	R7203	A-3	R7344	C-2	R7506	B-2		
C7314	C-2	C7542	B-2	Q7305	C-2	R7205	A-1	R7401	A-3	R7507	C-1		

Front Schematic Diagram < VCR Section >

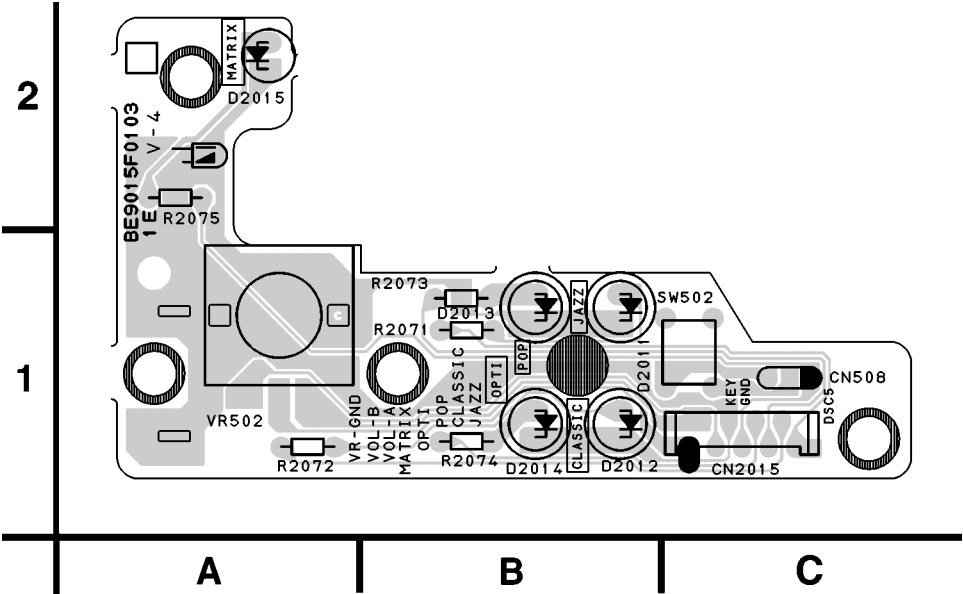
***2 Note:**
When replacing one of the following parts,
all of them should be replaced: D2011, D2012, D2013, D2014, D2015.



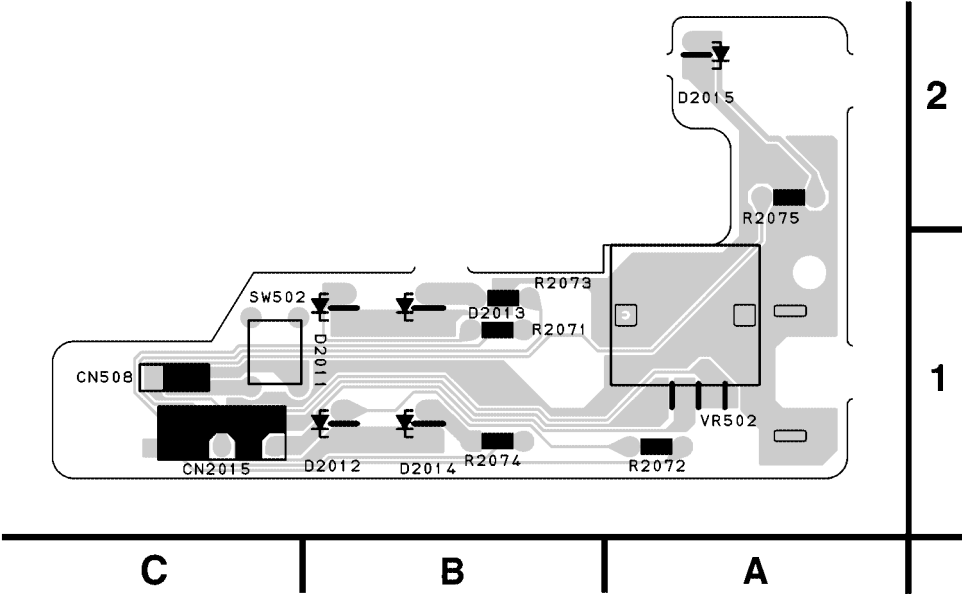
FRONT Schematic Diagram
Parts Location Guide

Ref No.	Position
CONNECTOR	
CL508	A-2
CN2015	A-1
DIODES	
D2011	B-2
D2012	B-1
D2013	B-1
D2014	B-1
D2015	B-1
RESISTORS	
R2071	B-2
R2072	B-1
R2073	B-1
R2074	B-1
R2075	B-1
SWITCH	
SW502	A-2
VARIABLE RESISTOR	
VR502	C-1

Front CBA Top View



Front CBA Bottom View

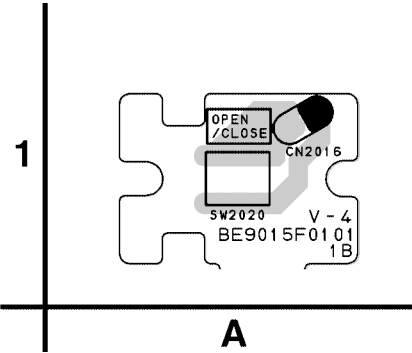


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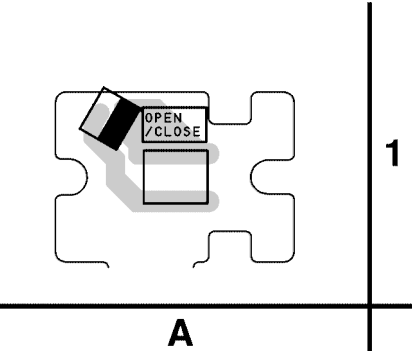
FRONT CBA
Parts Location Guide

Ref No.	Position
CONNECTOR	
CL508	C-1
CN2015	C-1
DIODES	
D2011	B-1
D2012	B-1
D2013	B-1
D2014	B-1
D2015	A-2
RESISTORS	
R2071	B-1
R2072	A-1
R2073	B-1
R2074	B-1
R2075	A-2
SWITCH	
SW502	C-1
VARIABLE RESISTOR	
VR502	A-1

DVD OPEN/CLOSE CBA Top View



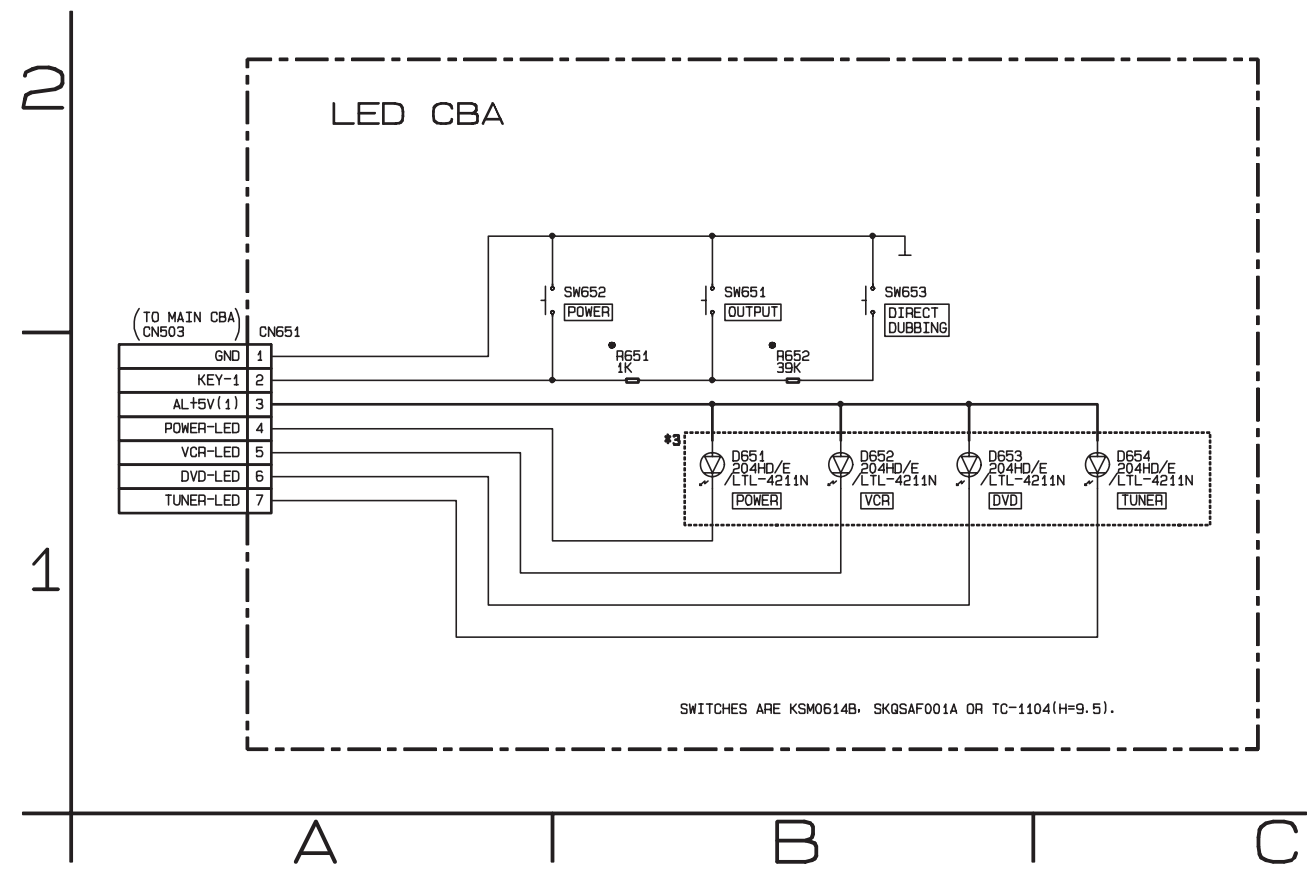
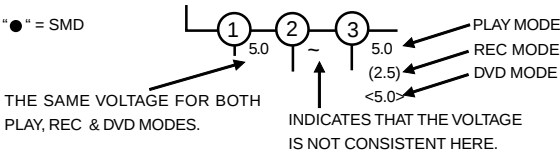
DVD OPEN /CLOSE CBA Bottom View



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LED Schematic Diagram <VCR Section>

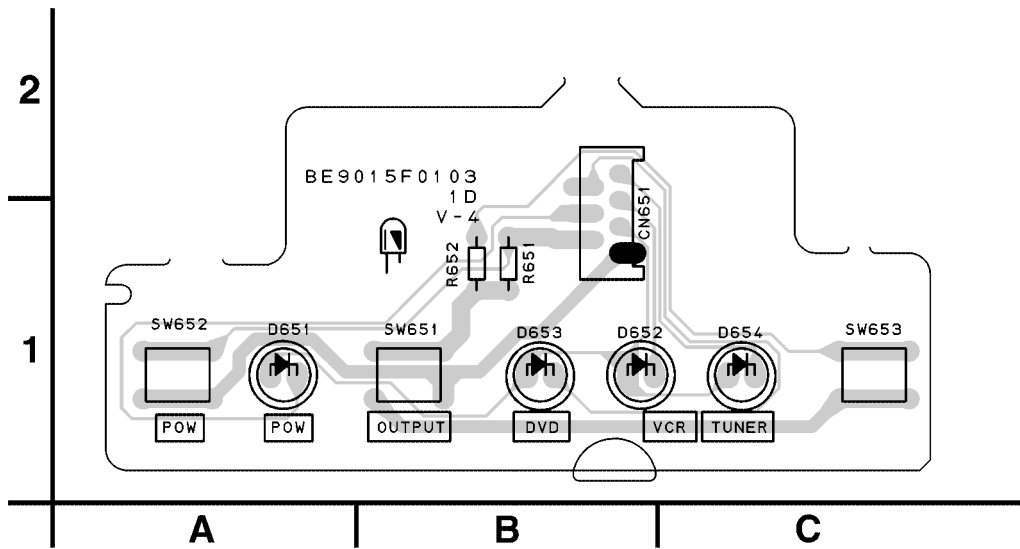
*3 Note:
When replacing one of the following parts,
all of them should be replaced: D651, D652, D653, D654.



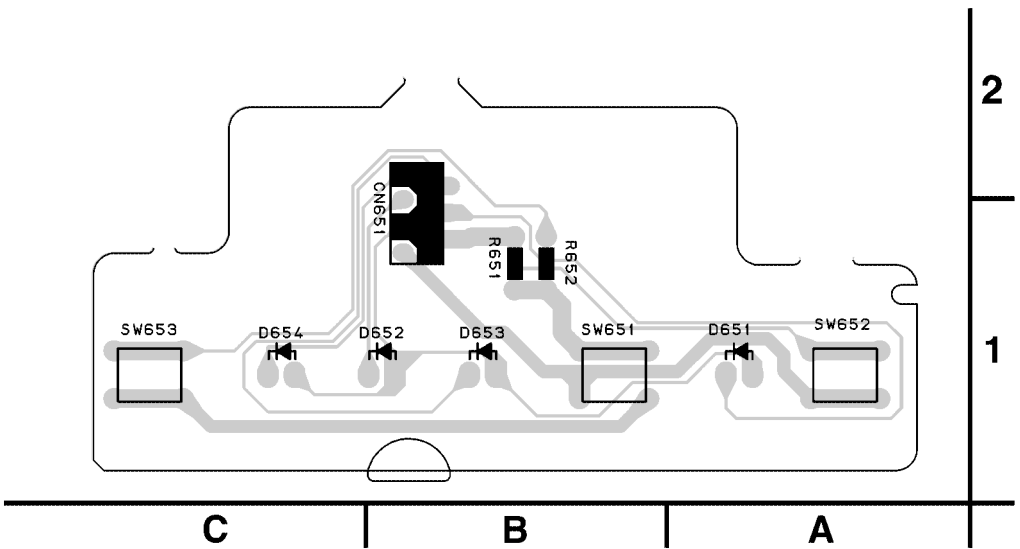
LED Schematic Diagram
Parts Location Guide

Ref No.	Position
CONNECTOR	
CN651	A-1
DIODES	
D651	B-1
D652	B-1
D653	B-1
D654	C-1
RESISTORS	
R651	B-1
R652	B-1
SWITCHES	
SW651	B-2
SW652	B-2
SW653	B-2

LED CBA Top View



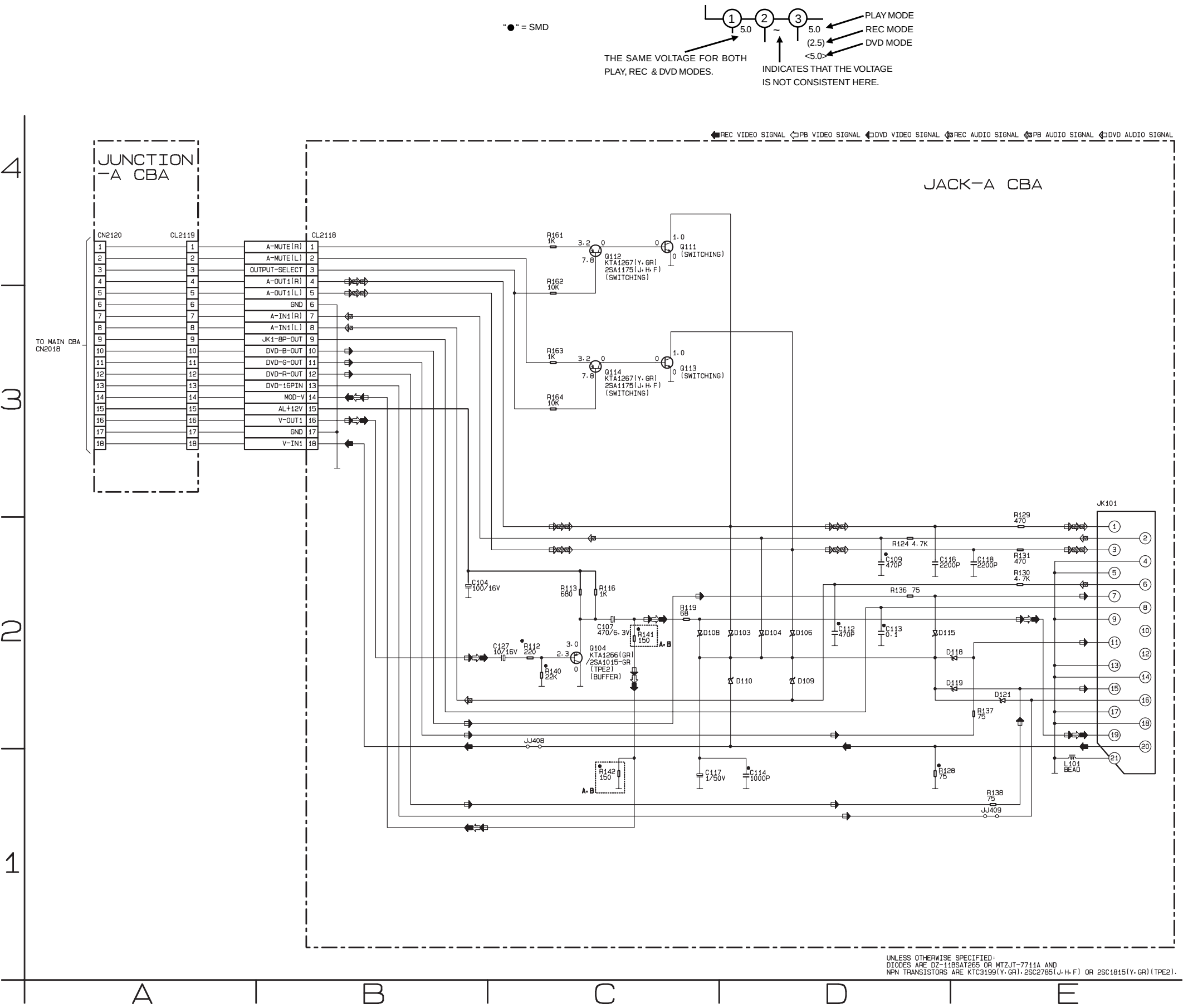
LED CBA Bottom View



LED CBA
Parts Location Guide

Ref No.	Position
CONNECTOR	
CN651	B-2
DIODES	
D651	A-1
D652	B-1
D653	B-1
D654	C-1
RESISTORS	
R651	B-1
R652	B-1
SWITCHES	
SW651	B-1
SW652	A-1
SW653	C-1

JACK-A & Junction-A Schematic Diagram < VCR Section >



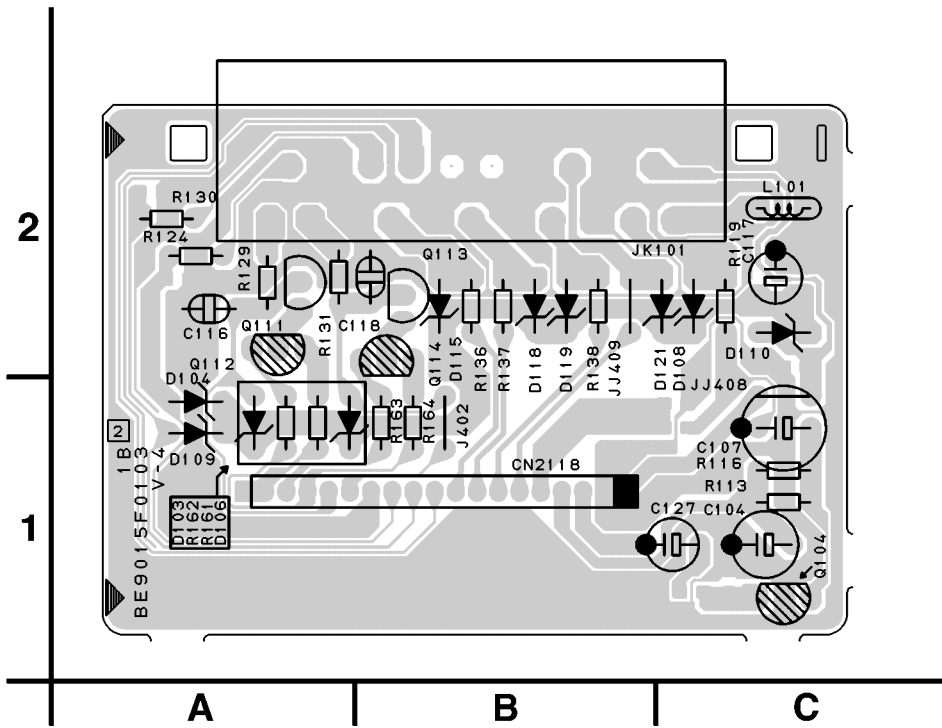
Comparison Chart of Models and Marks

MODEL	MARK
MX5100VR/00	A
MX5100VR/05	B
MX5100VR/02	C

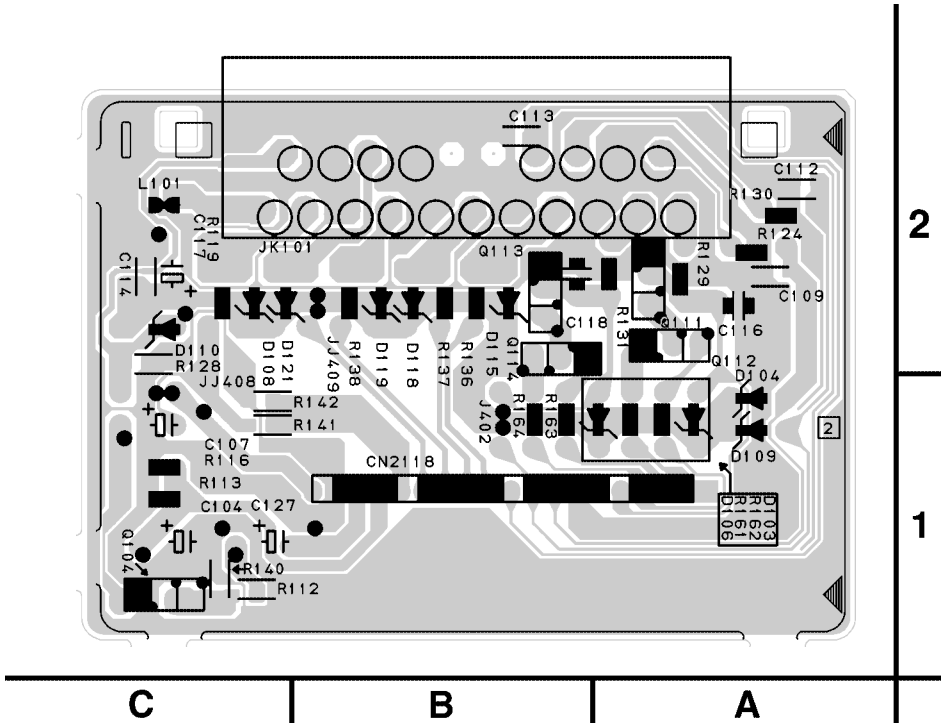
JACK-A Schematic Diagram Parts Location Guide

Ref No.	Position	Ref No.	Position
CAPACITORS		TRANSISTOR	
C104	B-2	Q111	C-4
C107	C-2	Q112	C-3
C109	D-2	Q113	C-3
C112	D-2	Q114	C-3
C113	D-2	RESISTORS	
C114	D-1	R112	C-2
C116	D-2	R113	C-2
C117	C-1	R116	C-2
C118	E-2	R119	C-2
C127	C-2	R124	D-2
CONNECTOR		R128	D-1
CL2118	B-4	R129	E-2
DIODES		R130	E-2
D103	D-2	R131	E-2
D104	D-2	R136	D-2
D106	D-2	R137	E-2
D108	C-2	R138	E-1
D109	D-2	R140	C-2
D110	D-2	R141	C-2
D115	D-2	R142	C-1
D118	E-2	R161	C-4
D119	E-2	R162	C-3
D121	E-2	R163	C-3
COIL		R164	C-3
L101	E-1	MISCELLANEOUS	
TRANSISTOR		JK101	E-2
Q104	C-2		

Jack-A CBA Top View



Jack-A CBA Bottom View

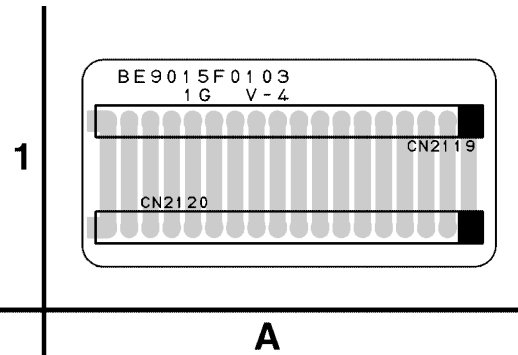


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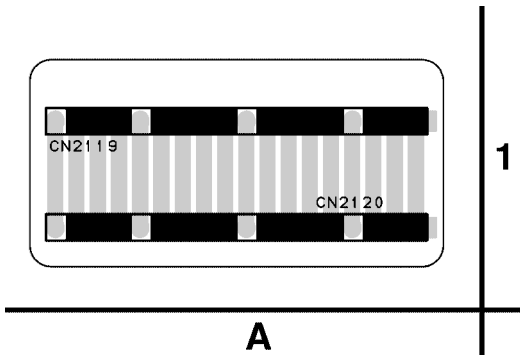
JACK-A CBA
Parts Location Guide

Ref No.	Position	Ref No.	Position
CAPACITORS		TRANSISTORS	
C104	C-1	Q111	A-2
C107	C-1	Q112	A-2
C109	A-2	Q113	B-2
C112	A-2	Q114	B-2
C113	B-2	RESISTORS	
C114	C-2	R112	C-1
C116	A-2	R113	C-1
C117	C-2	R116	C-1
C118	B-2	R119	C-2
C127	C-1	R124	A-2
CONNECTOR		R128	C-2
CL2118	B-1	R129	A-2
DIODES		R130	A-2
D103	A-1	R131	A-2
D104	A-1	R136	B-2
D106	A-1	R137	B-2
D108	C-2	R138	B-2
D109	A-1	R140	C-1
D110	C-2	R141	B-1
D115	B-2	R142	B-1
D118	B-2	R161	A-1
D119	B-2	R162	A-1
D121	C-2	R163	B-1
COIL		R164	B-1
L101	C-2	MISCELLANEOUS	
TRANSISTORS		JK101	C-2
Q104	C-1		

Junction-A CBA Top View

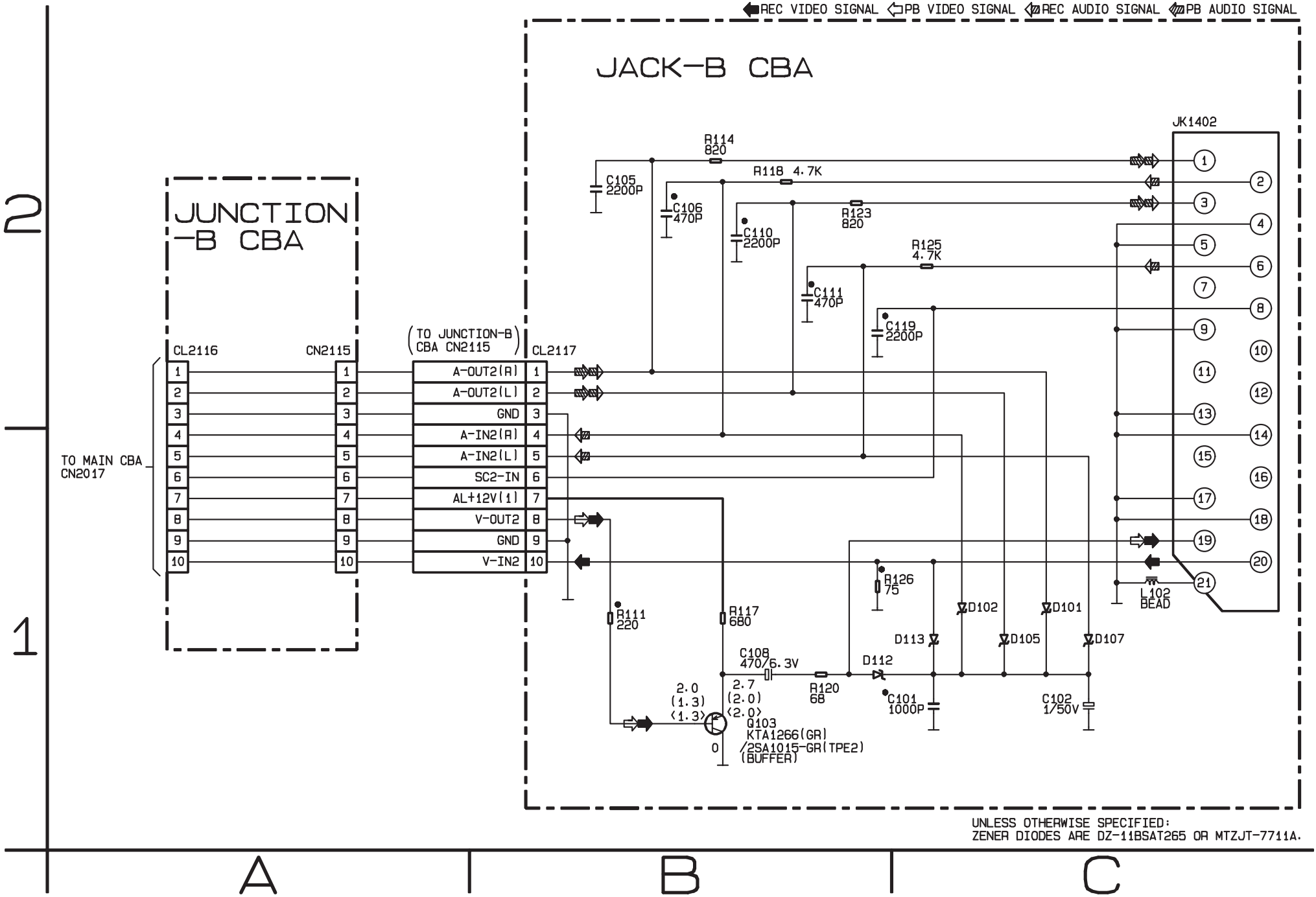
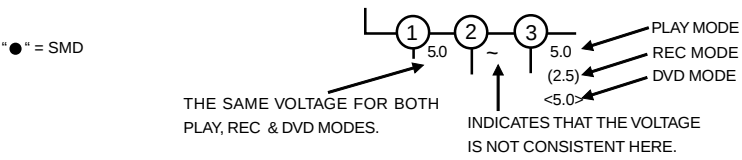


Junction-A CBA Bottom View



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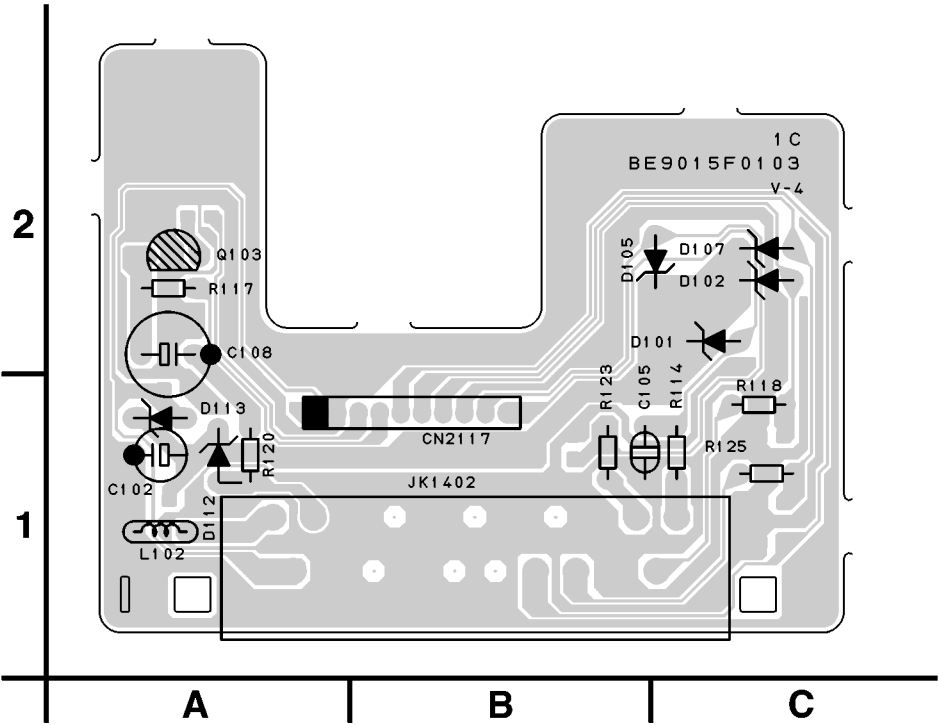
JACK-B & Junction-B Schematic Diagram < VCR Section >



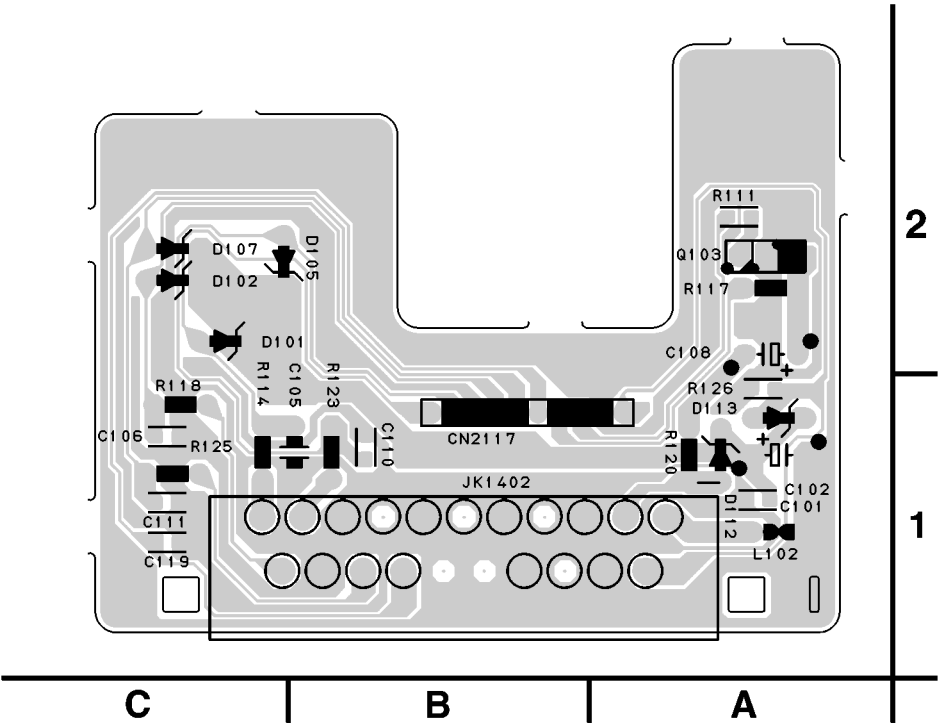
JACK-B Schematic Diagram
Parts Location Guide

Ref No.	Position
CAPACITORS	
C101	C-1
C102	C-1
C105	B-2
C106	B-2
C108	B-1
C110	B-2
C111	B-2
C119	B-2
CONNECTOR	
CL2117	A-2
DIODES	
D101	C-1
D102	C-1
D105	C-1
D107	C-1
D112	B-1
D113	C-1
COIL	
L102	C-1
TRANSISTOR	
Q103	B-1
RESISTORS	
R111	B-1
R114	B-2
R117	B-1
R118	B-2
R120	B-1
R123	B-2
R125	C-2
R126	B-1
MISCELLANEOUS	
JK1402	C-2

Jack-B CBA Top View



Jack-B CBA Bottom View

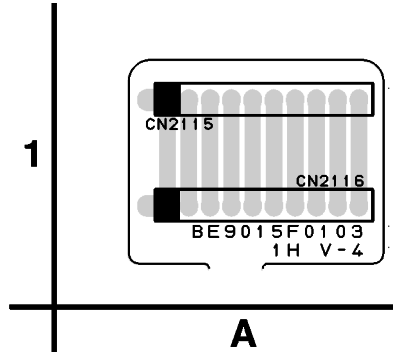


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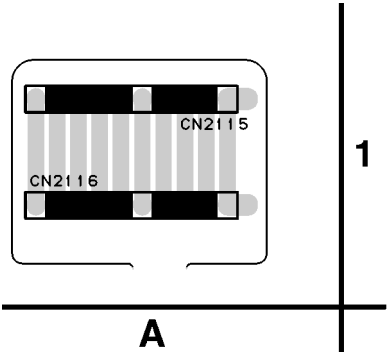
JACK-B CBA
Parts Location Guide

Ref No.	Position
CAPACITORS	
C101	A-1
C102	A-1
C105	B-1
C106	C-1
C108	A-2
C110	B-1
C111	C-1
C119	C-1
CONNECTOR	
CL2117	B-1
DIODES	
D101	C-2
D102	C-2
D105	B-2
D107	C-2
D112	A-1
D113	A-1
COIL	
L102	A-1
TRANSISTOR	
Q103	A-2
RESISTORS	
R111	A-2
R114	C-1
R117	A-2
R118	C-1
R120	A-1
R123	B-1
R125	C-1
R126	A-1
MISCELLANEOUS	
JK1402	B-1

Junction-B CBA Top View

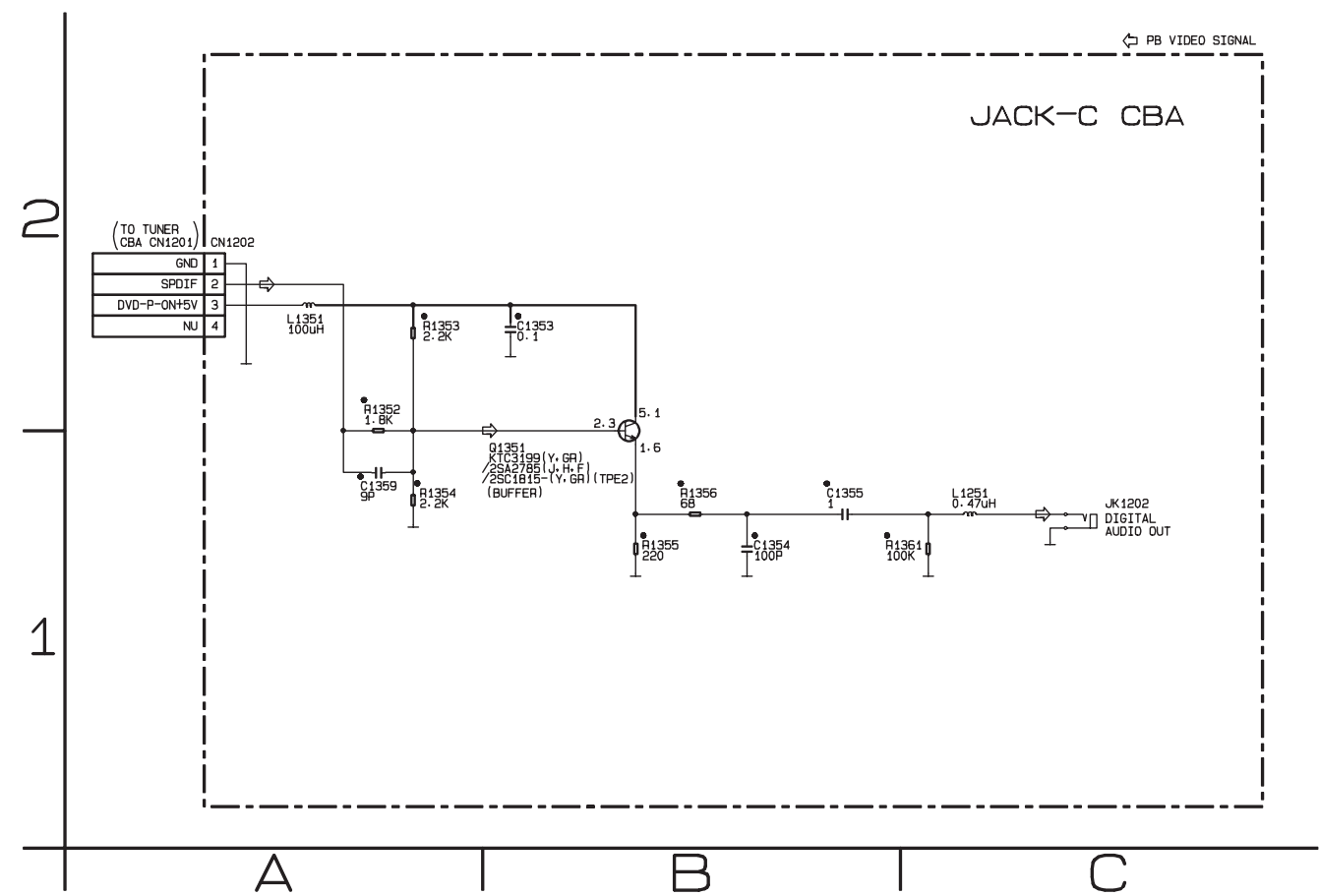


Junction-B CBA Bottom View



BE9015F01031H

JACK-C Schematic Diagram < VCR Section >

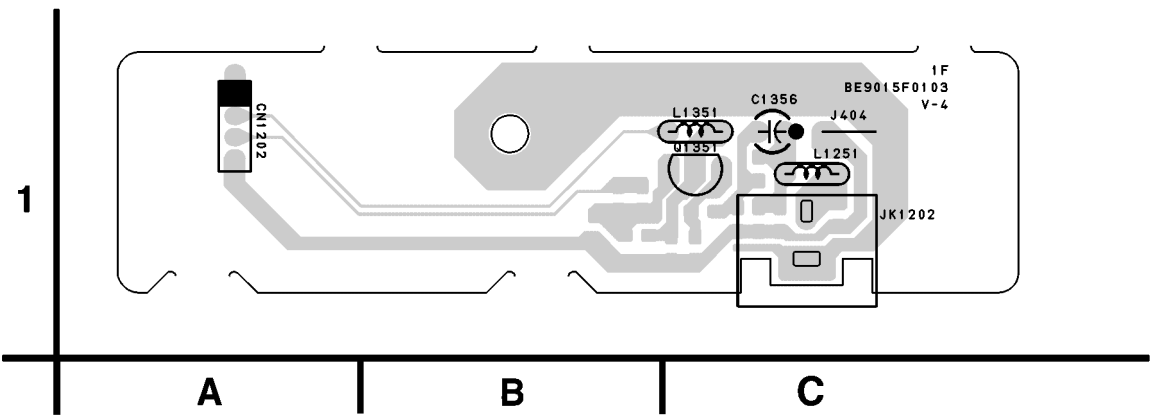


JACK-C Schematic Diagram
Parts Location Guide

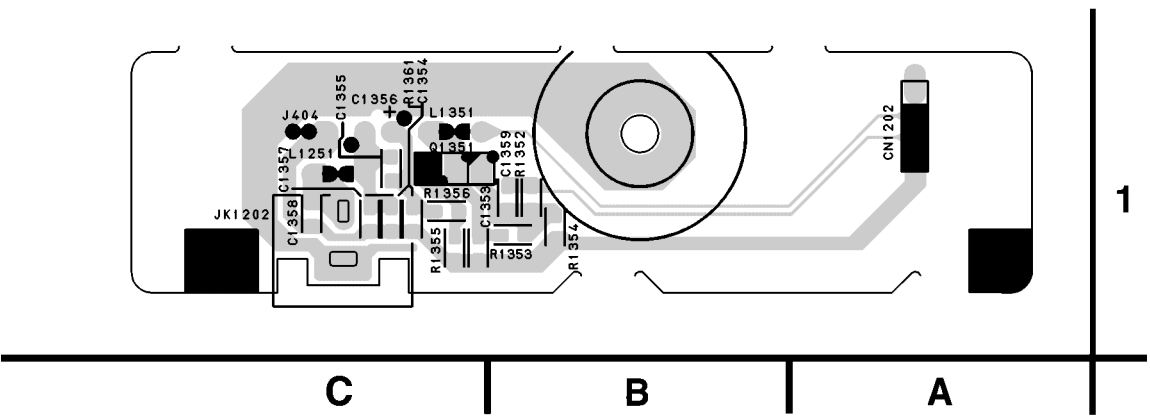
Ref No.	Position
CAPACITORS	
C1353	B-2
C1354	B-1
C1355	B-1
C1359	A-1
CONNECTOR	
CN1202	A-2
COILS	
L1251	C-1
L1351	A-2
TRANSISTOR	
Q1351	B-1
RESISTORS	
R1352	A-2
R1353	A-2
R1354	A-1
R1355	B-1
R1356	B-1
R1361	C-1
MISCELLANEOUS	
JK1202	C-1

E9015SCJC

Jack-C CBA Top View



Jack-C CBA Bottom View

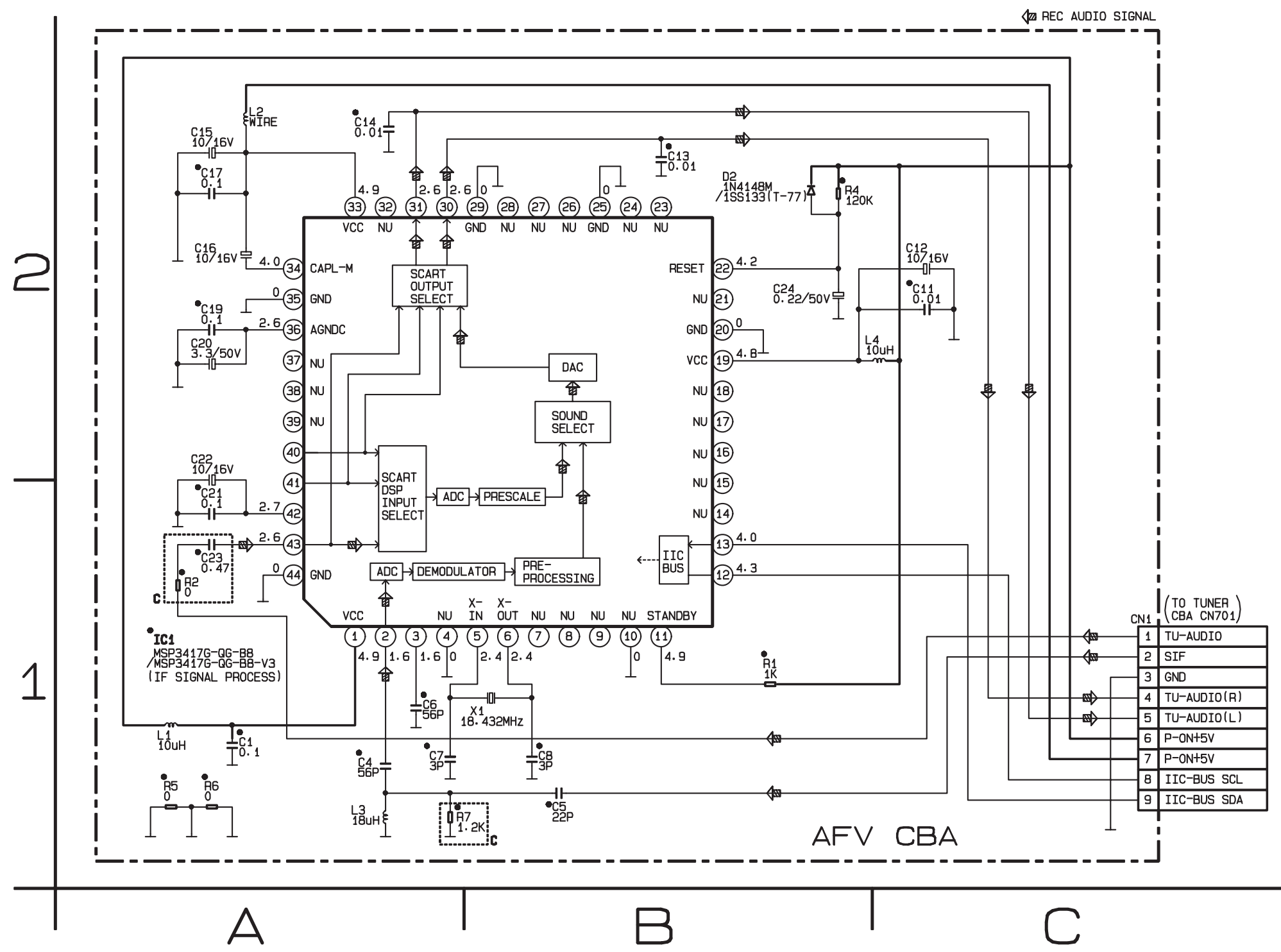


BE9015F01031F

JACK-C CBA
Parts Location Guide

Ref No.	Position
CAPACITORS	
C1353	B-1
C1354	C-1
C1355	C-1
C1359	B-1
CONNECTOR	
CN1202	A-1
COILS	
L1251	C-1
L1351	C-1
TRANSISTOR	
Q1351	C-1
RESISTORS	
R1352	B-1
R1353	B-1
R1354	B-1
R1355	C-1
R1356	C-1
R1361	C-1
MISCELLANEOUS	
JK1202	C-1

AFV Schematic Diagram < VCR Section >



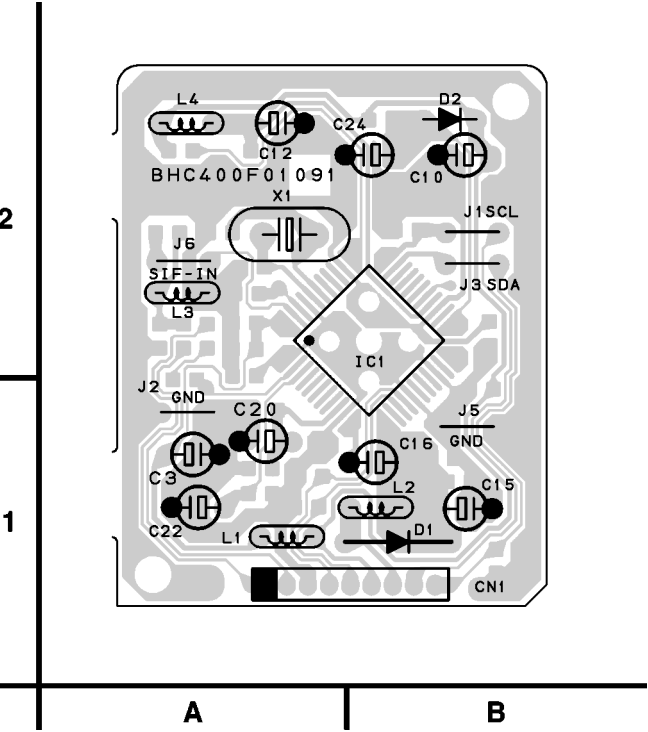
Comparison Chart of Models and Marks

MODEL	MARK
MX5100VR/00	A
MX5100VR/05	B
MX5100VR/02	C

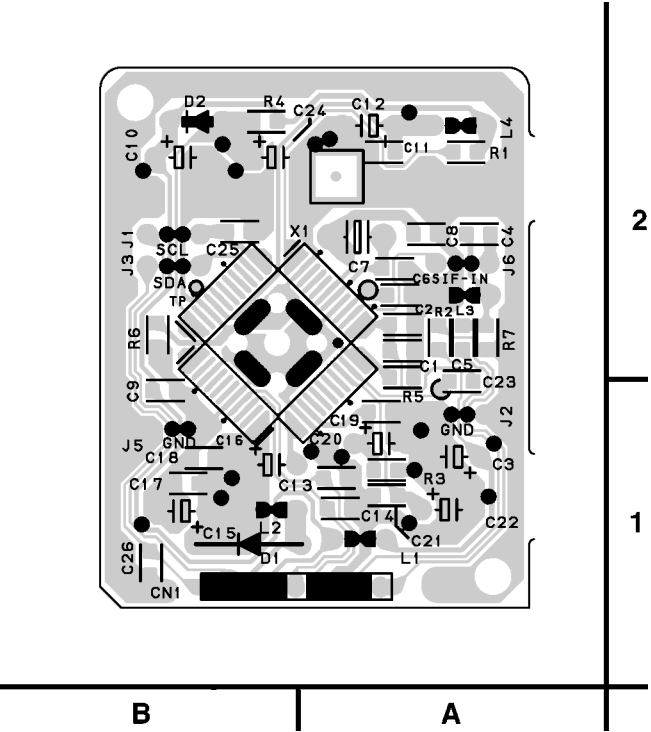
AFV Schematic Diagram
Parts Location Guide

Ref No.	Position
CAPACITORS	
C1	A-1
C4	A-1
C5	B-1
C6	A-1
C7	A-1
C8	B-1
C11	C-2
C12	C-2
C13	B-2
C14	A-2
C15	A-2
C16	A-2
C17	A-2
C19	A-2
C20	A-2
C21	A-1
C22	A-2
C23	A-1
C24	B-2
CONNECTOR	
CN1	C-1
DIODE	
D2	B-2
IC	
IC1	A-1
COILS	
L1	A-1
L2	A-2
L3	A-1
L4	C-2
RESISTORS	
R1	B-1
R2	A-1
R4	B-2
R5	A-1
R6	A-1
R7	A-1
MISCELLANEOUS	
X1	B-1

AFV CBA Top View



AFV CBA Bottom View

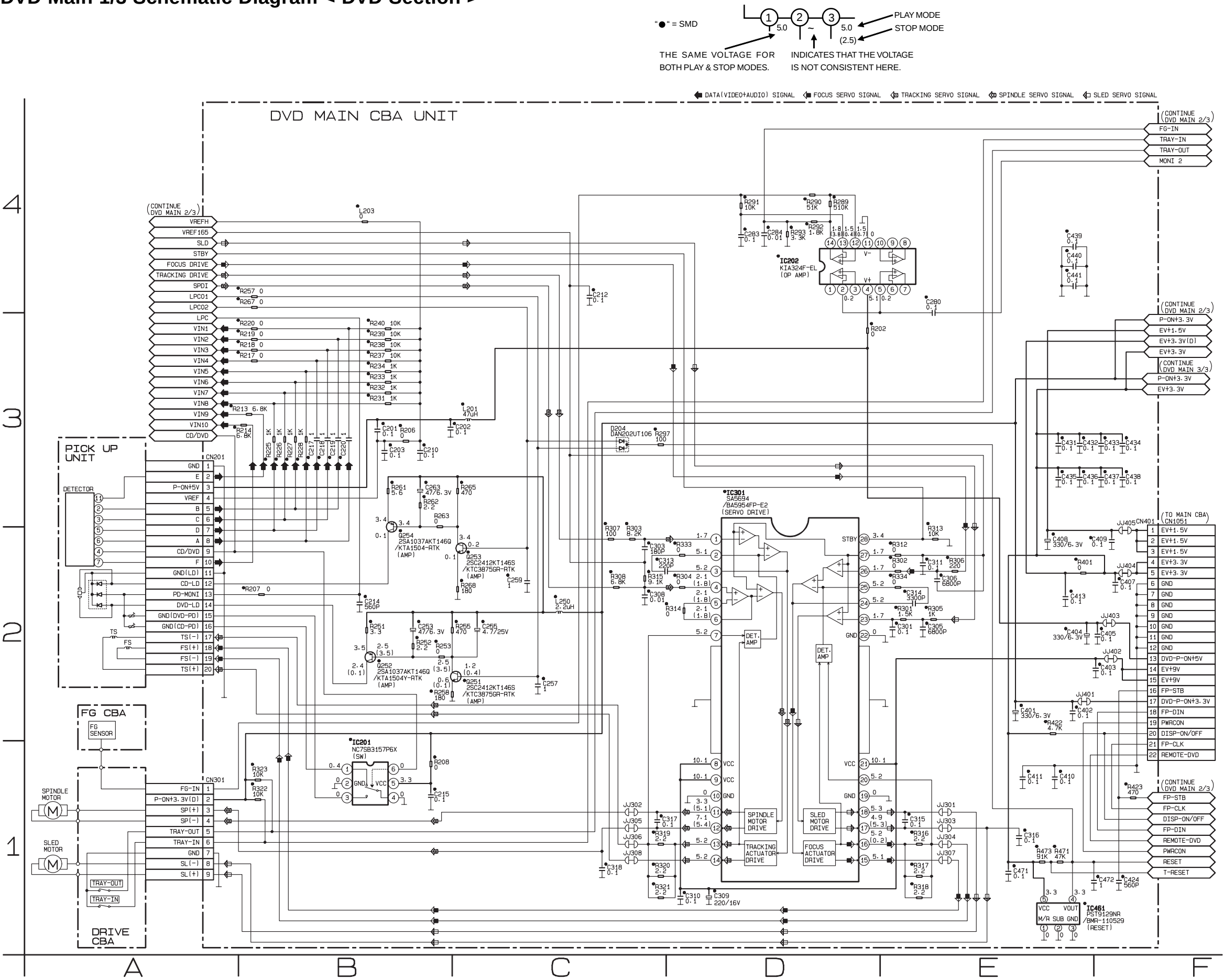


BHC400F01091

AFV CBA
Parts Location Guide

Ref No.	Position
CAPACITORS	
C1	A-2
C4	A-2
C5	A-2
C6	A-2
C7	A-2
C8	A-2
C11	A-2
C12	A-2
C13	A-1
C14	A-1
C15	B-1
C16	B-1
C17	B-1
C19	B-1
C20	A-1
C21	A-1
C22	A-1
C23	A-1
C24	A-2
CONNECTOR	
CN1	B-1
DIODE	
D2	B-2
IC	
IC1	B-2
COILS	
L1	A-1
L2	B-2
L3	A-2
L4	A-2
RESISTORS	
R1	A-2
R2	A-2
R4	B-2
R5	A-1
R6	B-2
R7	A-2
MISCELLANEOUS	
X1	A-2

DVD Main 1/3 Schematic Diagram < DVD Section >



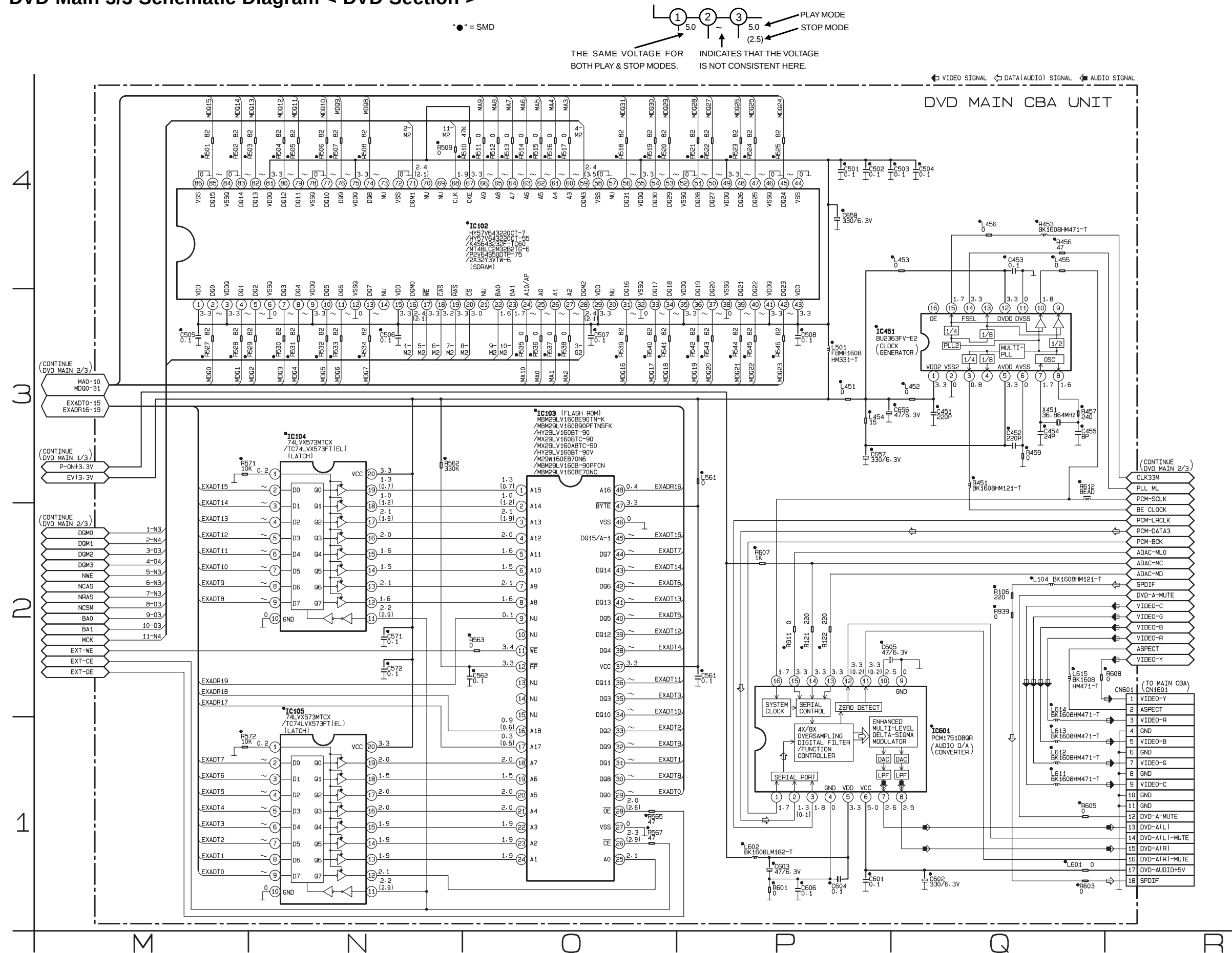
A vertical axis with tick marks labeled 1, 2, 3, and 4.



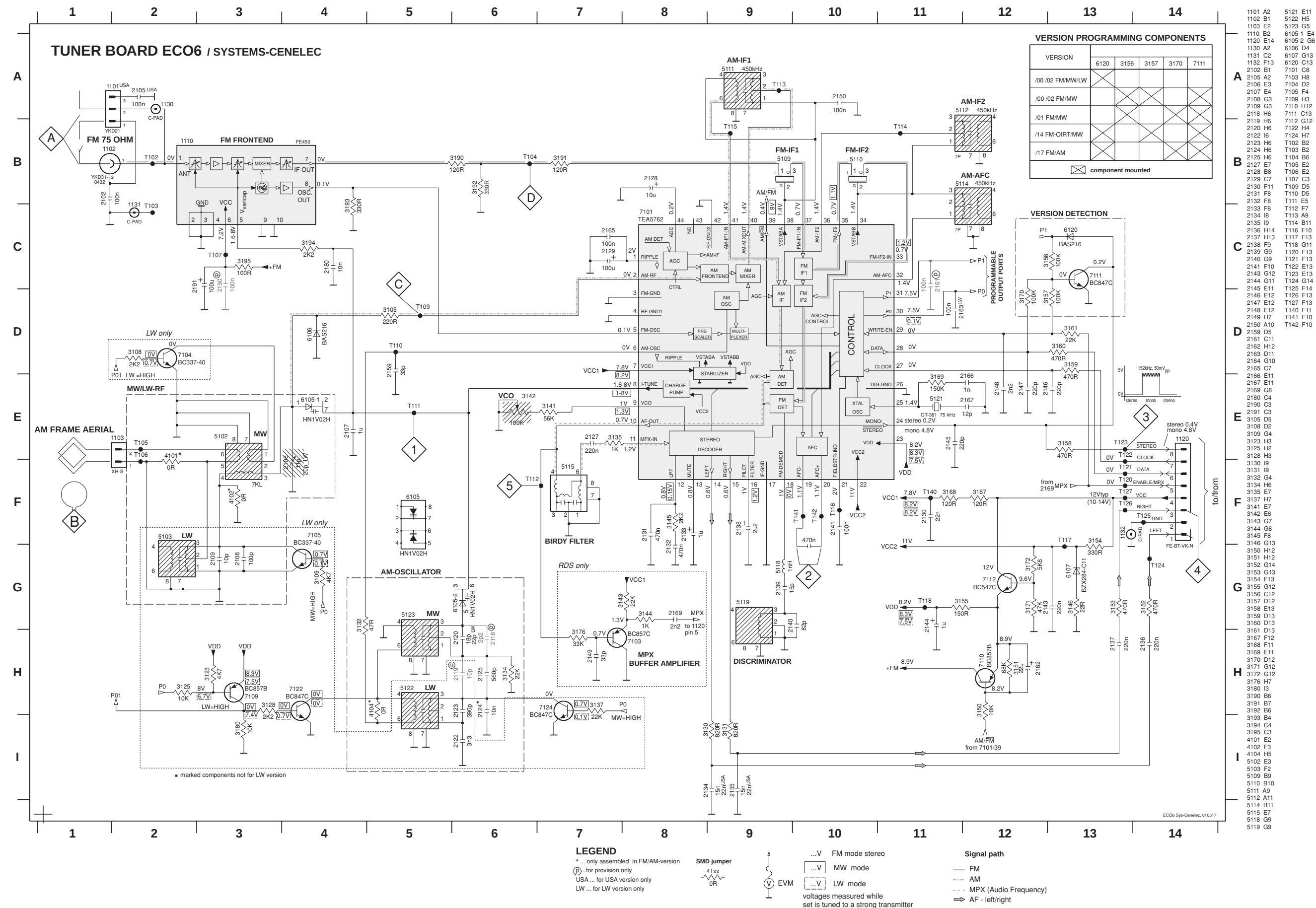
IC101 VOLTAGE CHART

PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP
1	3.3	3.3	33	2.2	2.9	65	0.1	0.1	97	3.4	3.4	129	2.0	2.0	161	0.5	0.5	193	~	~	225	1.9	1.9
2	~	~	34	~	~	66	1.2	2.5	98	1.6	1.6	130	2.2	2.2	162	1.4	1.4	194	0	0	226	3.3	3.3
3	~	~	35	~	~	67	1.6	1.6	99	0	0	131	2.3	2.3	163	0.5	0.5	195	3.3	3.3	227	~	~
4	0	0	36	~	~	68	3.4	3.4	100	3.4	3.4	132	0.4	0.1	164	0.9	0.9	196	~	~	228	~	~
5	~	~	37	~	~	69	0	0	101	0.1	0.1	133	1.2	0.4	165	3.3	3.3	197	~	~	229	~	~
6	~	~	38	0.3	0.5	70	1.7	1.7	102	-----	-----	134	0.4	0.1	166	1.5	1.5	198	0	0	230	0	0
7	3.3	3.3	39	0.1	0.1	71	2.4	1.7	103	3.3	3.3	135	0.2	0.2	167	0	0	199	~	~	231	-----	-----
8	~	~	40	~	~	72	-----	-----	104	3.3	3.3	136	2.3	2.3	168	2.1	2.1	200	~	~	232	3.3	3.3
9	~	~	41	~	~	73	-----	-----	105	0.9	0.9	137	1.7	1.7	169	0	0	201	~	~	233	3.3	3.3
10	~	~	42	3.3	3.3	74	-----	-----	106	0	0	138	0	0	170	0.8	0.8	202	3.3	3.3	234	1.6	1.6
11	0	0	43	0	0	75	3.4	3.4	107	0.8	0.8	139	1.7	1.7	171	3.3	3.3	203	~	~	235	~	~
12	~	~	44	~	~	76	-----	-----	108	1.6	1.6	140	1.7	1.7	172	1.6	1.6	204	~	~	236	0	0
13	~	~	45	~	~	77	-----	-----	109	2.1	2.1	141	1.7	1.7	173	-----	-----	205	~	~	237	1.7	1.7
14	3.3	3.3	46	2.0	2.6	78	0.1	0.1	110	2.6	2.6	142	1.7	1.7	174	1.8	1.8	206	0	0	238	3.0	3.0
15	1.5	1.5	47	1.0	0.8	79	3.3	3.3	111	2.0	2.0	143	0.5	0.5	175	1.7	1.7	207	2.4	3.5	239	3.3	3.3
16	0	0	48	-----	-----	80	0	0	112	0.7	0.9	144	1.6	1.6	176	1.4	0.1	208	2.4	2.1	240	3.3	3.3
17	3.4	3.4	49	1.2	0.8	81	-----	-----	113	0	0	145	3.3	3.3	177	0	0	209	3.3	3.3	241	0	0
18	3.4	3.4	50	3.4	3.4	82	-----	-----	114	1.8	1.8	146	0	0	178	0.9	0.1	210	~	~	242	3.2	3.2
19	~	~	51	3.4	3.4	83	-----	-----	115	1.4	1.4	147	-----	-----	179	1.4	0.1	211	0	0	243	2.4	2.1
20	~	~	52	1.2	1.2	84	2.4	2.4	116	0.3	0.3	148	-----	-----	180	1.4	0.1	212	~	~	244	1.5	1.5
21	~	~	53	3.4	3.4	85	-----	-----	117	1.6	1.6	149	3.3	3.3	181	1.7	1.7	213	1.5	1.5	245	0	0
22	~	~	54	3.4	3.4	86	3.4	0.1	118	3.3	3.3	150	1.7	1.7	182	3.3	3.3	214	~	~	246	2.4	2.1
23	3.3	3.3	55	3.3	3.3	87	-----	-----	119	0	0	151	0	0	183	0	0	215	0	0	247	~	~
24	0	0	56	3.3	3.3	88	0.1	0.1	120	1.9	1.9	152	1.7	1.7	184	~	~	216	~	~	248	0	0
25	0.4	0.4	57	0	0	89	3.4	3.4	121	1.9	1.9	153	3.3	3.3	185	~	~	217	~	~	249	~	~
26	0.9	0.6	58	0	0	90	-----	-----	122	2.4	2.4	154	1.4	1.4	186	1.5	1.5	218	3.3	3.3	250	3.3	3.3
27	~	~	59	3.3	3.3	91	3.3	3.3	123	2.4	2.4	155	0	0	187	~	~	219	~	~	251	~	~
28	~	~	60	3.4	3.4	92	1.7	1.5	124	2.4	2.4	156	2.2	2.2	188	~	~	220	~	~	252	~	~
29	3.3	3.3	61	3.1	3.1	93	0	0	125	2.4	2.4	157	3.3	3.3	189	3.3	3.3	221	0	0	253	~	~
30	0	0	62	-----	-----	94	-----	-----	126	2.0	2.0	158	0.7	0.7	190	~	~	222	1.5	1.5	254	0	0
31	~	~	63	3.4	3.4	95	3.4	0.1	127	2.0	2.0	159	0	0	191	~	~	223	1.9	1.9	255	~	~
32	~	~	64	0.8	0.8	96	3.4	3.4	128	2.0	2.0	160	0.5	0.5	192	~	~	224	0	0	256	~	~

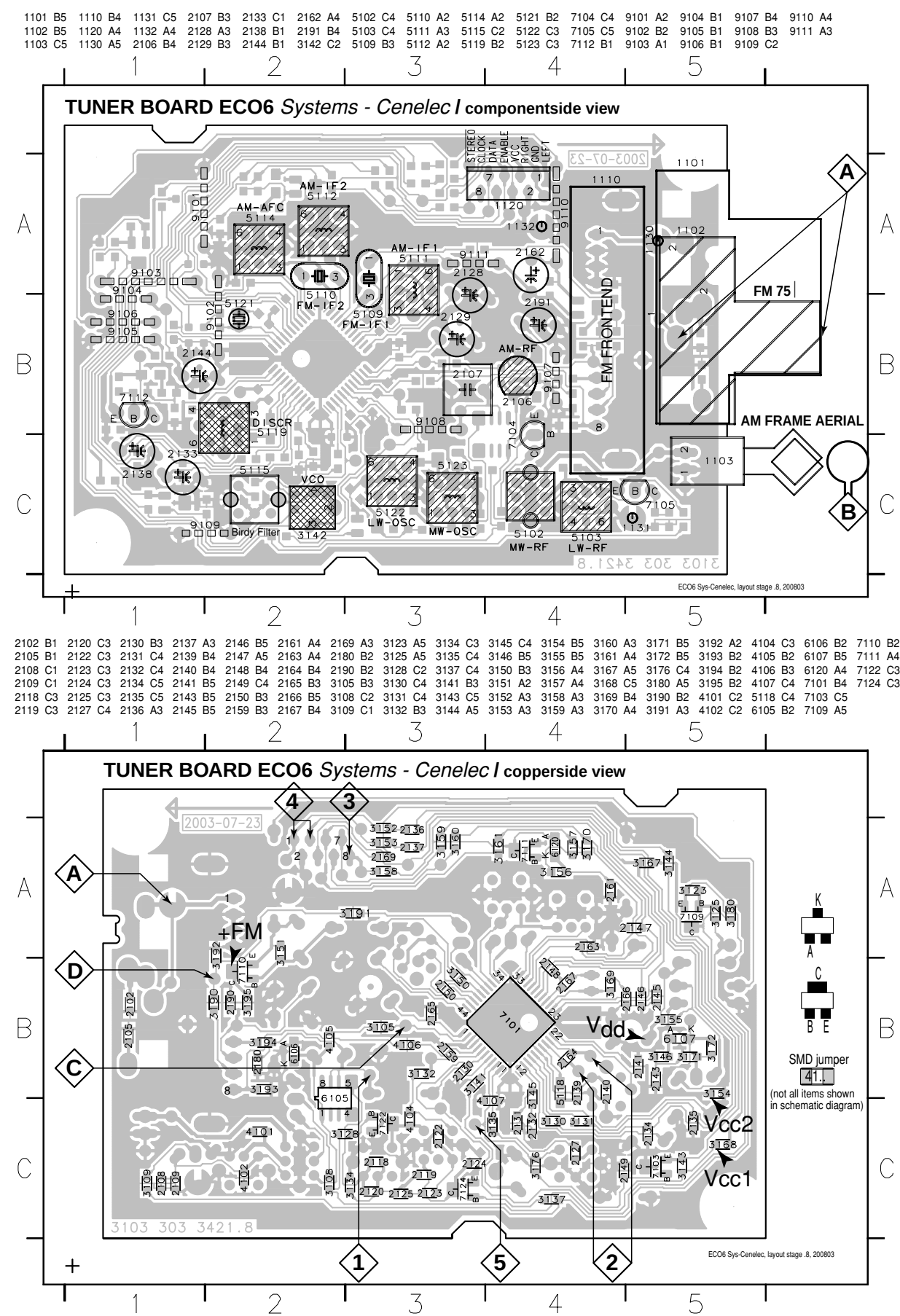
DVD Main 3/3 Schematic Diagram < DVD Section >



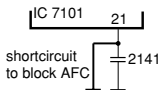
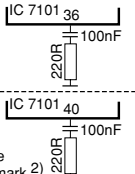
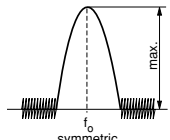
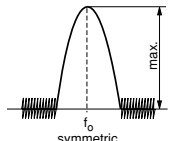
AM/FM Tuner Unit Schematic Diagram < AMP UNIT Section >



AM/FM Tuner Unit Top & Bottom View



TUNER ADJUSTMENT TABLE (ECO6 Cenelec FM/MW - and FM/MW/LW - versions with AM-frame aerial)

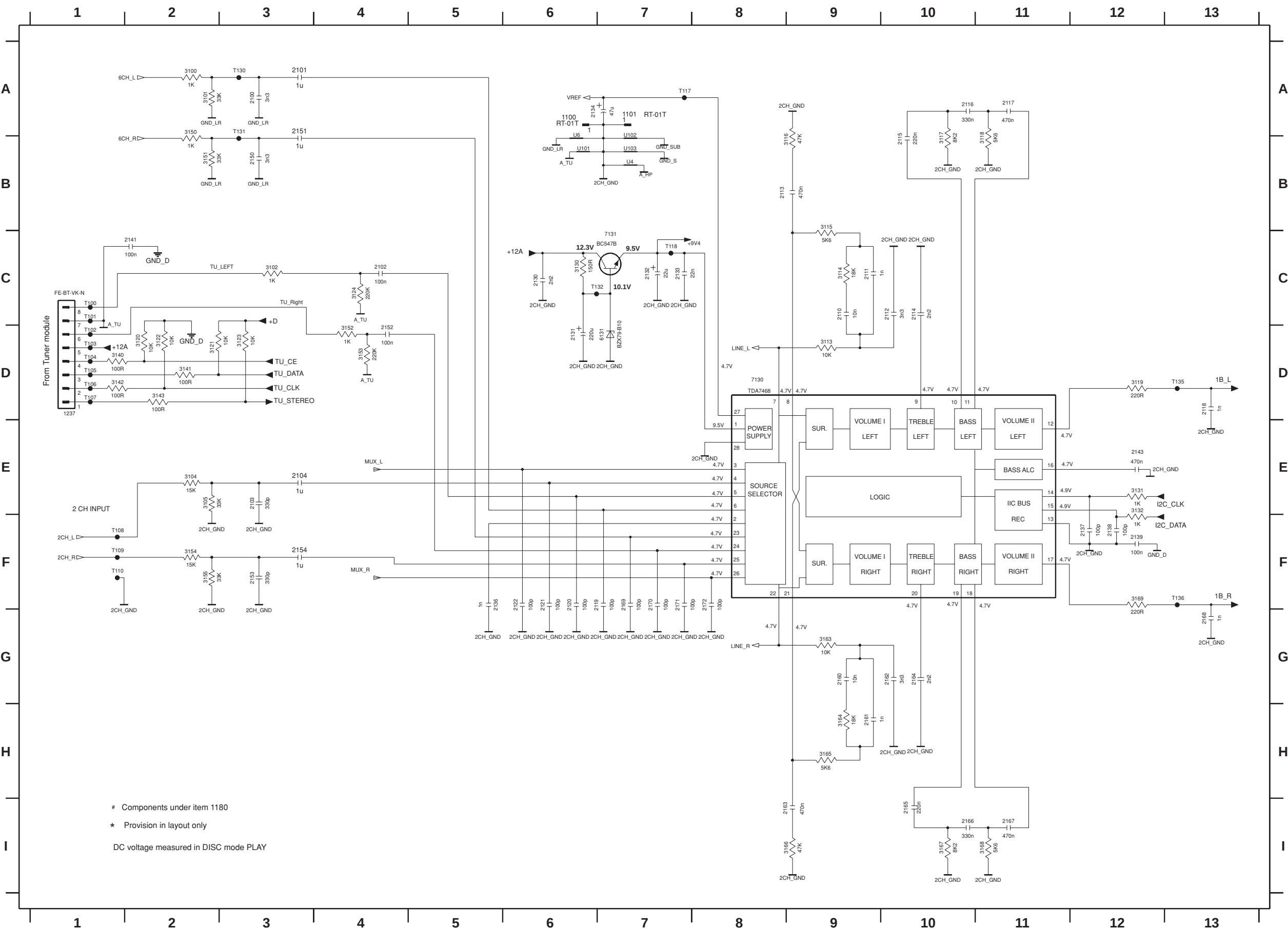
Waverange	Input frequency	Input	Tuned to	Adjust	Output	Scope/Voltmeter
VARICAP ALIGNMENT						
FM 87.5 - 108MHz (50kHz grid)			108MHz	check	1	8V ±1.2V
			87.5MHz	check		1.6V ±0.5V
MW 531 - 1602kHz (9kHz grid)			1602kHz	5123		8V ±0.2V 3-band 6.9V ±0.2V 2-band
			531kHz	check		1.1V ±0.4V
LW 153 - 279kHz (3kHz grid)			279kHz	5122		8V ±0.2V
			153kHz	check		1.1V ±0.4V
FM - IF						
FM	10.7MHz, 45mV continuous wave	D		5119	2	0mV ±3mV
FM - VCO						
FM	98MHz, 1mV continuous wave	A	98MHz	3142	3	152kHz ±1kHz ¹⁾
FM RF (channel separation) Note: The FM-frontend unit has already been adjusted by the factory and needs therefore no further adjustments for service purposes.						
FM	98MHz, 1mV 90% Left + 9% pilot mod=1kHz	A	98MHz	IF coil inside FM frontend 1110	4	right channel min.
AM IF						
MW	450kHz connect pin 6 of IC 7101 (AM Osc.) with 3.3k to Vcc	C Δf = ±10kHz V _{RF} = 0.5mV (as low as possible)		5111	5	
			5112			
AM AFC MW		C continuous wave V _{RF} = 2mV		5114	2	0mV ±2mV
AM RF ³⁾						
MW	1494kHz	B 	1494kHz	2106	5	
	558kHz		558kHz	5102		
LW	198kHz		Δf = ±30kHz V _{RF} as low as possible	198kHz		

Use Service Testprogram. By selecting the TUNER TEST test frequencies will be stored as preset frequencies automatically.

- 1) If sensitivity of frequency counter is too low adjust to max. channel separation
(input signal: stereo left 90% + 9%, adjust output on right channel to minimum)
- 2) RC network serves for damping the IF-filter while adjusting the other one.
- 3) For AM RF adjustments the original frame antenna has to be used!
MW has to be aligned before LW.

↑ Repeat

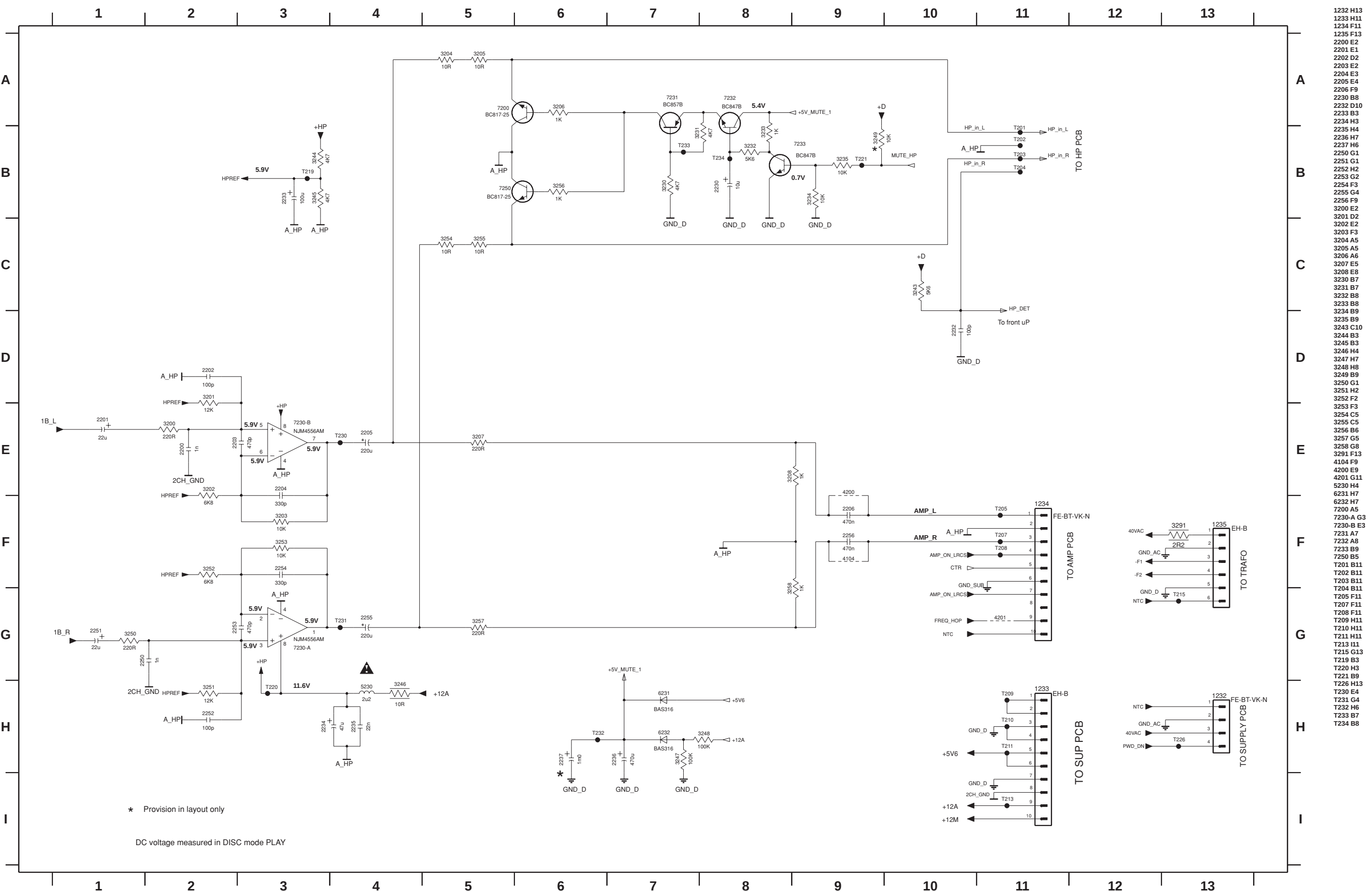
AF 1/4 Schematic Diagram < AMP UNIT Section >



Components under item 1180
* Provision in layout only
DC voltage measured in DISC mode PLAY

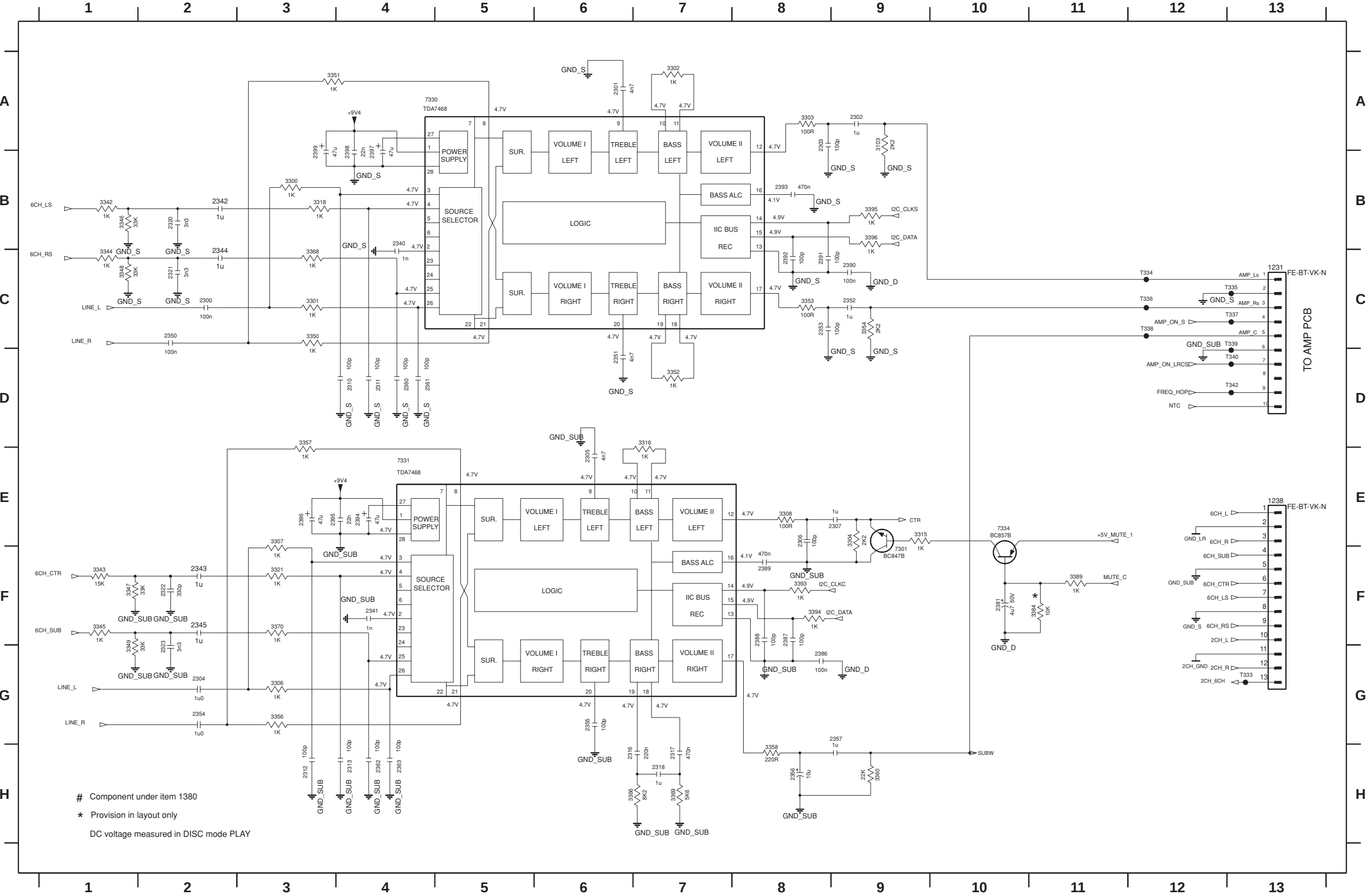
- U4 B7
- U6 B6
- 1100 A6
- 1101 A7
- 1237 D1
- 2100 A3
- 2101 A3
- 2102 C4
- 2103 E3
- 2104 E3
- 2110 C9
- 2111 C9
- 2112 C10
- 2113 B8
- 2114 C10
- 2115 B10
- 2116 A10
- 2117 A11
- 2118 D13
- 2119 F7
- 2120 F6
- 2121 F6
- 2122 F6
- 2130 C6
- 2131 D6
- 2132 C7
- 2133 C7
- 2134 A6
- 2136 F5
- 2137 F12
- 2138 F12
- 2139 F12
- 2141 C2
- 2143 E12
- 2150 B3
- 2151 A3
- 2152 D4
- 2153 F3
- 2154 F3
- 2160 G9
- 2161 H9
- 2162 G10
- 2163 I9
- 2164 G10
- 2165 I10
- 2166 I10
- 2167 I11
- 2168 G13
- 2169 F7
- 2170 F7
- 2171 F7
- 2172 F8
- 3100 A2
- 3101 A2
- 3102 C3
- 3104 E2
- 3105 E2
- 3113 D9
- 3114 C9
- 3115 B9
- 3116 B9
- 3117 B10
- 3118 B11
- 3119 D12
- 3120 D2
- 3122 D2
- 3123 D3
- 3124 C4
- 3130 C6
- 3131 E12
- 3132 E12
- 3140 D1
- 3141 D2
- 3142 D1
- 3143 D2
- 3150 A2
- 3151 B2
- 3152 D4
- 3153 D4
- 3154 F2
- 3155 F2
- 3163 G9
- 3164 H9
- 3165 H9
- 3166 I9
- 3167 I10
- 3168 I11
- 3169 F12
- 6131 D7
- 7131 C7
- T100 C1
- T101 C1
- T102 D1
- T103 D1
- T104 D1
- T105 D1
- T106 D1
- T107 D1
- T108 F1
- T109 F1
- T110 F1
- T117 A7
- T118 C7
- T119 I6
- T121 I6
- T130 A3
- T131 A3
- T132 C6
- T135 D13
- T136 F13
- U101 B6
- U102 B7
- U103 B7

AF 2/4 Schematic Diagram < AMP UNIT Section >



- 1232 H13
- 1233 H11
- 1234 F11
- 1235 F13
- 2200 E2
- 2201 E1
- 2202 D2
- 2203 E2
- 2204 E3
- 2205 E4
- 2206 F9
- 2230 B8
- 2232 D10
- 2233 B3
- 2234 H3
- 2235 H4
- 2236 H7
- 2237 H6
- 2250 G1
- 2251 G1
- 2252 H2
- 2253 G2
- 2254 F3
- 2255 G4
- 2256 F9
- 3200 E2
- 3201 D2
- 3202 E2
- 3203 F3
- 3204 A5
- 3205 A5
- 3206 A6
- 3207 E5
- 3208 E8
- 3230 B7
- 3231 B7
- 3232 B8
- 3233 B8
- 3234 B9
- 3235 B9
- 3243 C10
- 3244 B3
- 3245 B3
- 3246 H4
- 3247 H7
- 3248 H8
- 3249 B9
- 3250 G1
- 3251 H2
- 3252 F2
- 3253 F3
- 3254 C5
- 3255 C5
- 3256 B6
- 3257 G5
- 3258 G8
- 3291 F13
- 4104 F9
- 4200 E9
- 4201 G11
- 5230 H4
- 6231 H7
- 7200 A5
- 7230-A G3
- 7230-B E3
- 7231 A7
- 7232 A8
- 7233 B9
- 7250 B5
- T201 B11
- T202 B11
- T203 B11
- T204 B11
- T205 F11
- T207 F11
- T208 F11
- T209 H11
- T210 H11
- T211 H11
- T213 H11
- T215 G13
- T219 B3
- T220 H3
- T221 B9
- T226 H13
- T230 E4
- T231 G4
- T232 H6
- T233 B7
- T234 B8

AF 3/4 Schematic Diagram < AMP UNIT Section >



- 1231 C13
- 1238 E13
- 2300 C2
- 2301 A6
- 2302 A9
- 2303 A8
- 2304 G2
- 2305 E6
- 2306 E8
- 2307 E9
- 2310 D4
- 2311 D4
- 2312 H3
- 2313 H4
- 2316 H6
- 2317 H7
- 2318 H7
- 2320 B2
- 2321 C2
- 2322 F2
- 2323 G2
- 2340 B4
- 2341 F4
- 2342 E2
- 2343 F2
- 2344 C2
- 2345 F2
- 2350 C2
- 2351 D6
- 2352 C9
- 2353 C8
- 2354 G2
- 2355 G6
- 2356 H8
- 2357 G9
- 2360 D4
- 2361 D4
- 2362 H4
- 2363 H4
- 2381 F10
- 2386 G8
- 2387 F8
- 2388 F8
- 2389 F8
- 2390 C9
- 2391 C8
- 2392 C8
- 2393 B8
- 2394 E4
- 2395 E3
- 2396 E3
- 2397 B4
- 2398 B4
- 2399 B3
- 3103 A9
- 3300 B3
- 3301 C3
- 3302 A7
- 3303 A8
- 3304 E9
- 3306 G3
- 3307 E3
- 3308 E8
- 3315 E9
- 3316 D7
- 3318 B3
- 3321 F3
- 3342 B1
- 3343 F1
- 3344 C1
- 3345 F1
- 3346 B1
- 3347 F1
- 3348 C1
- 3349 G1
- 3350 C3
- 3351 A3
- 3352 D7
- 3353 C8
- 3354 C9
- 3356 G3
- 3357 D3
- 3358 H8
- 3360 H9
- 3366 H6
- 3368 C3
- 3369 H7
- 3370 F3
- 3384 F11
- 3389 F11
- 3393 F8
- 3394 F8
- 3395 B9
- 3396 B9
- 7301 F9
- 7334 E10
- T333 G13
- T334 C12
- T335 C13
- T336 C12
- T337 C13
- T338 C12
- T339 C13
- T340 D13
- T342 D13

W10

%	3568	Version
0	ohm	
2	K7	
3	K9	
12	K	
27	K	
None	/37	

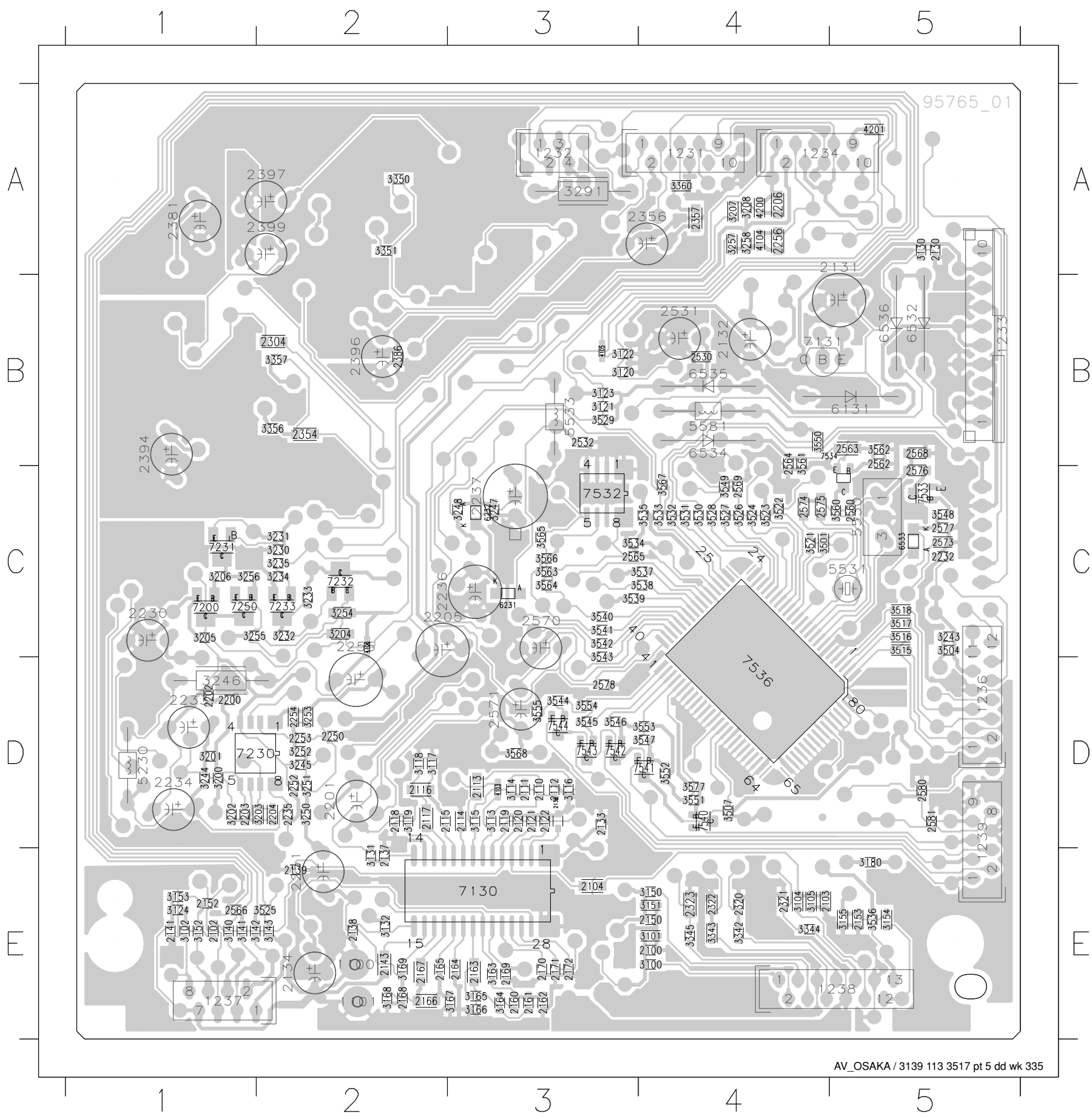
* Provisions
DC voltage measured in DISC mode PLAY

* Provisions

DC voltage measured in DISC mode PLAY

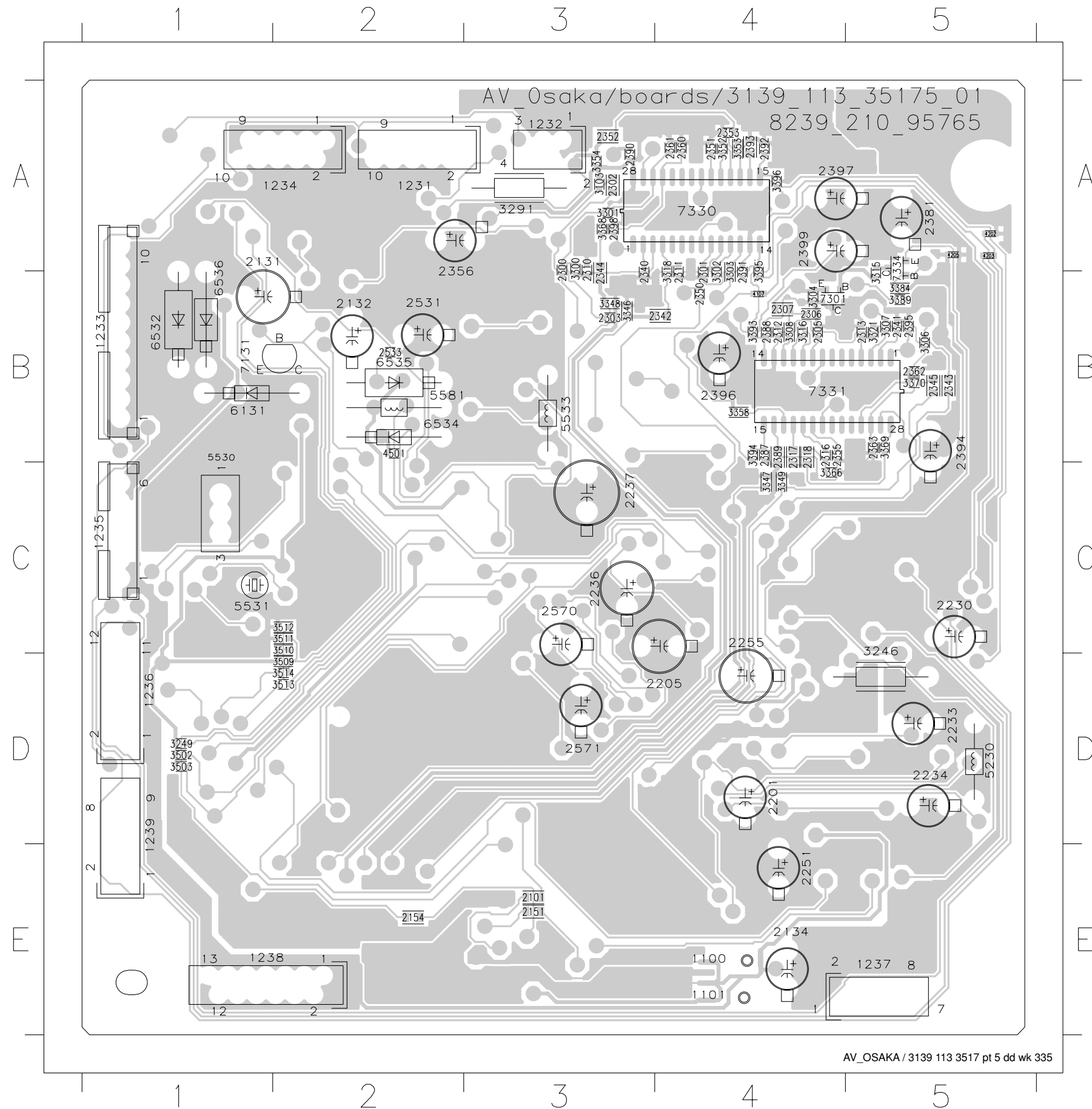
E9015SCAF4

AF BOARD Top View

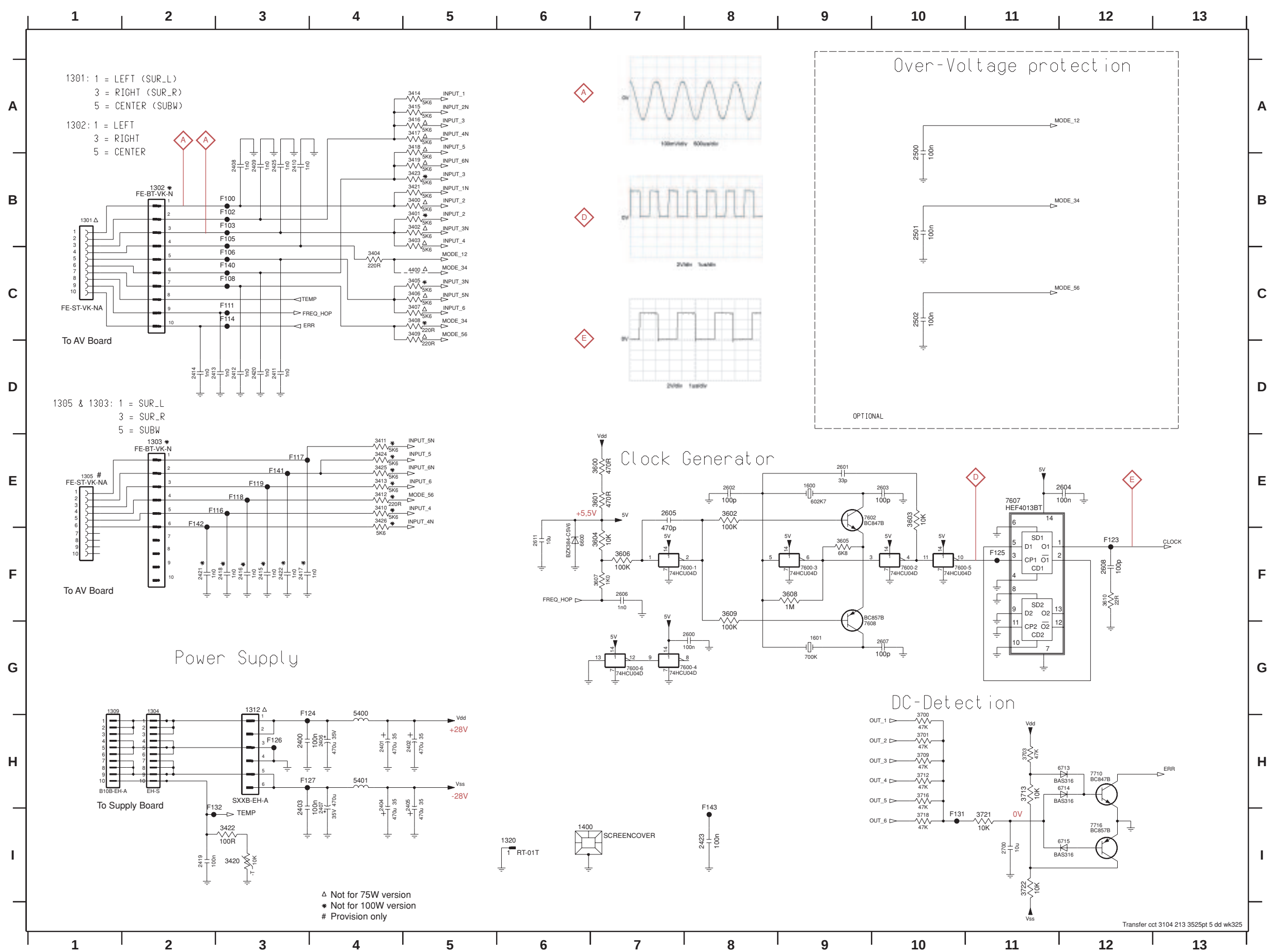


AV_OSAKA / 3139 113 3517 pt 5 dd wk 335

AF BOARD Bottom View

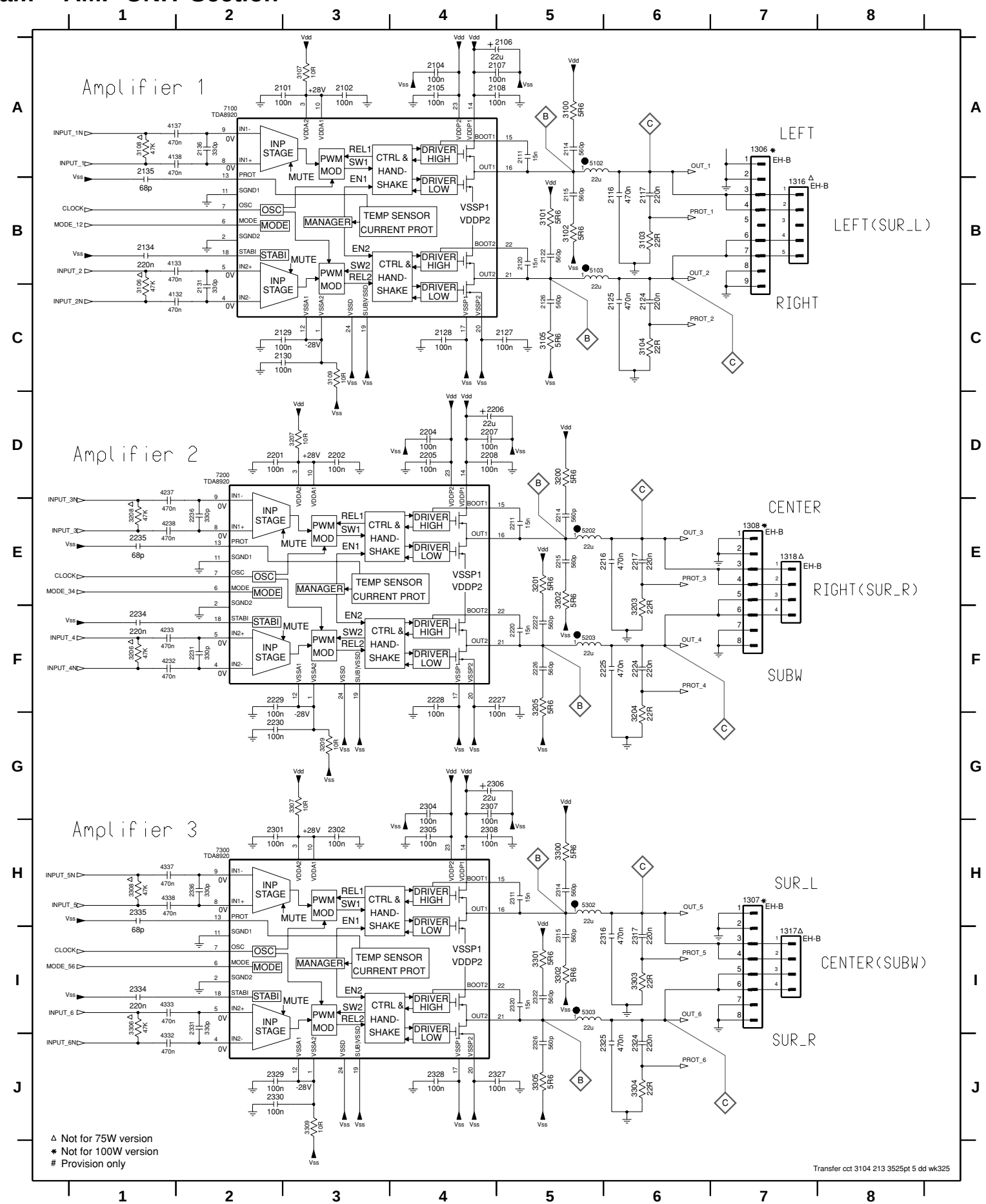
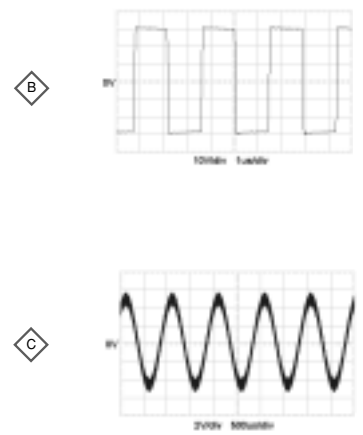


Power Amplifier 1/2 Schematic Diagram < AMP UNIT Section >



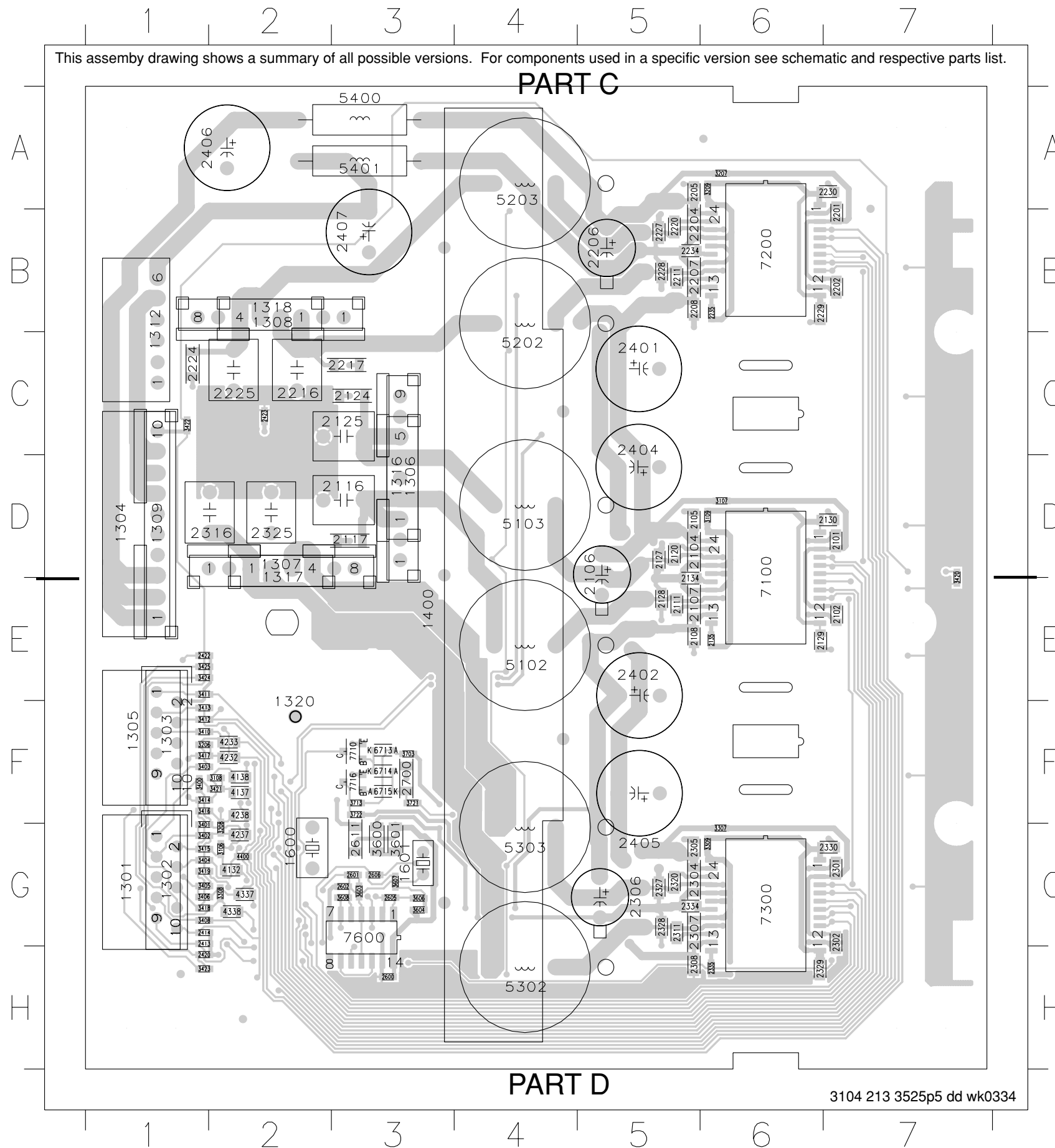
1301 B1	7716 I12
1302 B2	F100 B3
1303 E2	F102 B3
1304 G2	F103 B3
1305 E1	F105 B3
1309 G1	F106 C3
1312 G3	F108 C3
1320 I6	F111 C3
1400 I6	F114 C3
1600 E9	F116 E3
1601 G9	F117 E3
2400 H3	F118 E3
2401 H4	F119 E3
2402 H5	F123 F12
2403 H3	F124 H3
2404 H4	F125 F11
2405 H5	F126 H3
2406 H4	F127 H3
2407 H4	F131 I10
2408 B3	F132 I2
2409 B3	F140 C3
2410 B3	F141 E3
2411 D3	F142 E2
2412 D3	F143 I8
2413 D2	
2414 D2	
2415 F3	
2416 F3	
2417 F3	
2418 F3	
2419 I2	
2420 D3	
2421 F2	
2422 F3	
2423 I8	
2425 B3	
2500 A10	
2501 B10	
2502 C10	
2600 G8	
2601 E9	
2602 E8	
2603 E10	
2604 E12	
2605 E7	
2606 F7	
2607 G10	
2608 F12	
2611 F6	
2700 I11	
3400 B5	
3401 B5	
3402 B5	
3403 B5	
3404 C4	
3405 C5	
3406 C5	
3407 C5	
3408 C5	
3409 C5	
3410 E4	
3411 E4	
3412 E4	
3413 E4	
3414 A5	
3415 A5	
3416 A5	
3417 A5	
3418 A5	
3419 B5	
3420 I3	
3421 B5	
3422 I3	
3423 B5	
3424 E4	
3425 E4	
3426 E4	
3600 E7	
3601 E7	
3602 E8	
3603 E10	
3604 F7	
3605 F9	
3606 F7	
3607 F7	
3608 F9	
3609 F8	
3610 F12	
3700 H10	
3701 H10	
3703 H11	
3709 H10	
3712 H10	
3713 H11	
3716 H10	
3718 I10	
3721 I11	
3722 I11	
4400 C5	
5400 H4	
5401 H4	
6600 F6	
6713 H12	
6714 H12	
6715 I12	
7600-1 F8	
7600-2 F10	
7600-3 F9	
7600-4 G8	
7600-5 F11	
7600-6 G7	
7602 E9	
7607 E11	
7608 G9	
7710 H12	

Power Amplifier 2/2 Schematic Diagram < AMP UNIT Section >



1306 A7	5303 I5
1307 H7	7100 A2
1308 E7	7200 D2
1316 B7	7300 H2
1317 I7	
1318 E7	
2101 A3	
2102 A3	
2104 A4	
2105 A4	
2106 A5	
2107 A5	
2108 A5	
2111 A5	
2114 A5	
2115 B5	
2116 B6	
2117 B6	
2120 B5	
2122 B5	
2124 C6	
2125 C6	
2126 C5	
2127 C5	
2128 C4	
2129 C3	
2130 C3	
2131 C2	
2134 B1	
2135 A1	
2136 A2	
2201 D2	
2202 D3	
2204 D4	
2205 D4	
2206 D4	
2207 D4	
2208 D4	
2211 E5	
2214 E5	
2215 E5	
2216 E6	
2217 E6	
2220 F5	
2222 F5	
2224 F6	
2225 F6	
2226 F5	
2227 F5	
2228 F4	
2229 F2	
2230 G2	
2231 F2	
2234 F1	
2235 E1	
2236 E2	
2301 H2	
2302 H3	
2304 G4	
2305 H4	
2306 G4	
2307 G4	
2308 H4	
2311 H5	
2314 H5	
2315 I5	
2316 I6	
2317 I6	
2320 I5	
2322 I5	
2324 J6	
2325 J6	
2326 J5	
2327 J5	
2328 J4	
2329 J2	
2330 J2	
2331 I2	
2334 I1	
2335 H1	
2336 H2	
3100 A5	
3101 B5	
3102 B5	
3103 B6	
3104 C6	
3105 C5	
3106 C1	
3107 A3	
3108 A1	
3109 C3	
3200 D5	
3201 E5	
3202 E5	
3203 F6	
3204 G6	
3205 F5	
3206 F1	
3207 D3	
3208 E1	
3209 G3	
3300 H5	
3301 I5	
3302 I5	
3303 I6	
3304 J6	
3305 J5	
3306 I1	
3307 G3	
3308 H1	
3309 J3	
4132 C2	
4133 B2	
4137 A2	
4138 A2	
4232 F1	
4233 F1	
4237 D1	
4238 E1	
4332 J1	
4333 I1	
4337 H1	
4338 H1	
5102 A5	
5103 B5	
5202 E5	
5203 F5	
5302 H5	

Power Amplifier BOARD Top View



3104 213 3525p5 dd wk0334

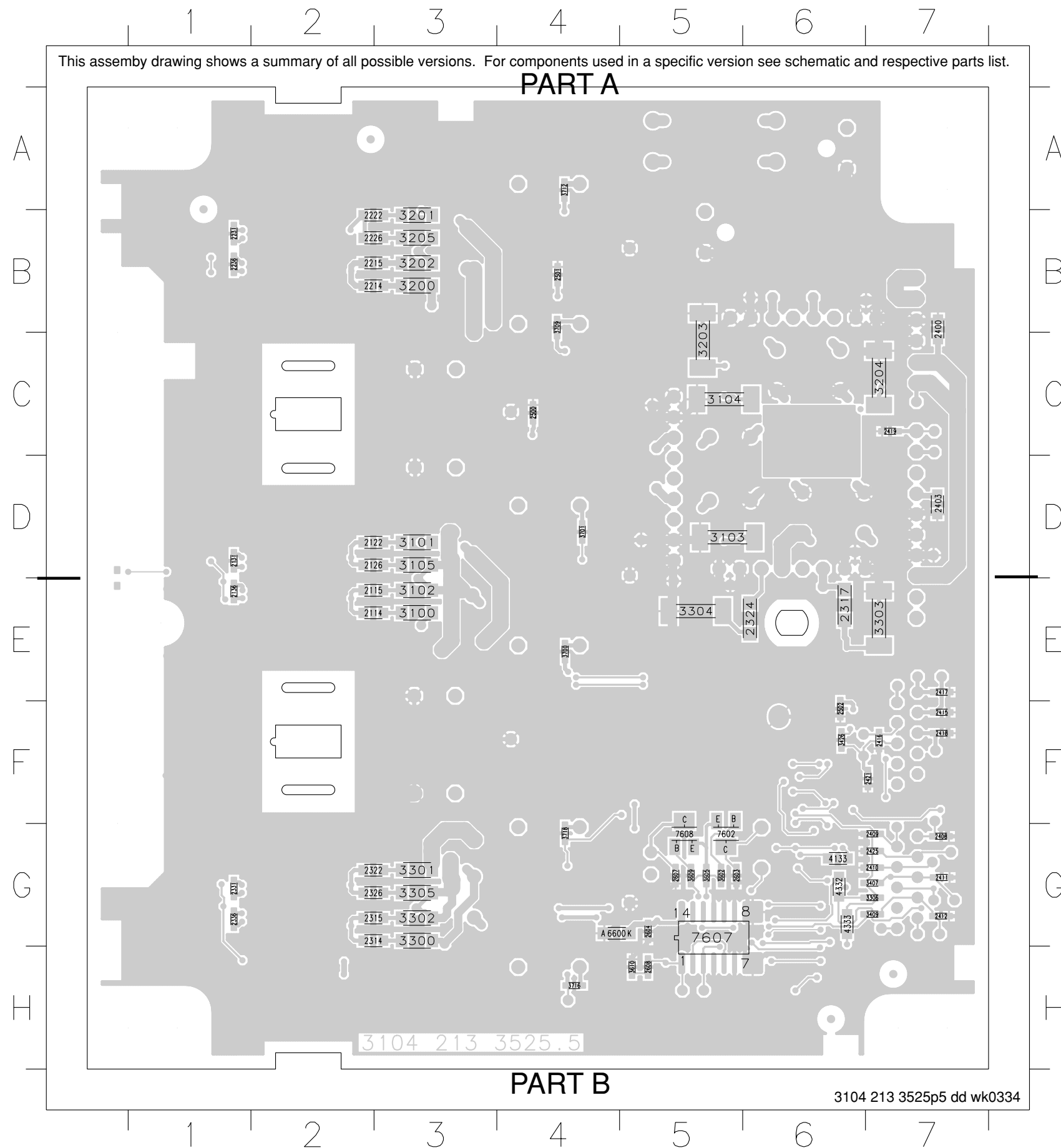
1-12-103

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1	30	3	1	F	1	2	4	0	6	A	2	5	3	0	H	4	
1	30	4	1	D	1	2	4	0	7	B	2	3	3	0	G	4	
1	30	5	1	F	1	2	2	4	1	G	1	1	4	0	A	3	
1	30	6	1	D	3	2	2	4	1	G	1	1	5	4	A	3	
1	30	7	1	D	2	2	2	4	2	G	1	1	6	5	A	3	
1	30	8	1	B	2	2	2	4	2	F	1	1	7	7	F	3	
1	30	9	1	D	1	2	2	4	2	C	2	2	8	7	F	3	
1	31	1	1	B	1	2	2	6	0	H	3	3	9	1	D	6	
1	31	6	1	D	3	2	2	6	0	1	G	3	0	0	B	6	
1	31	7	1	D	2	2	2	6	0	2	G	3	1	0	G	6	
1	31	8	1	B	2	2	2	6	0	5	G	3	2	0	G	3	
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1	60	1	1	G	3	3	3	7	0	1	G	2	6	1	F	3	
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2	1	2	5	C	3	3	3	4	0	2	G	1	9	4	G	1	
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2	1	2	9	F	6	3	3	4	0	5	G	1	2	7	G	1	
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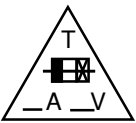
1-12-104

31042133525p5

Power Amplifier BOARD Bottom View

[illegible]

Power Supply (AUDIO MODULE) Schematic Diagram < AMP UNIT Section >



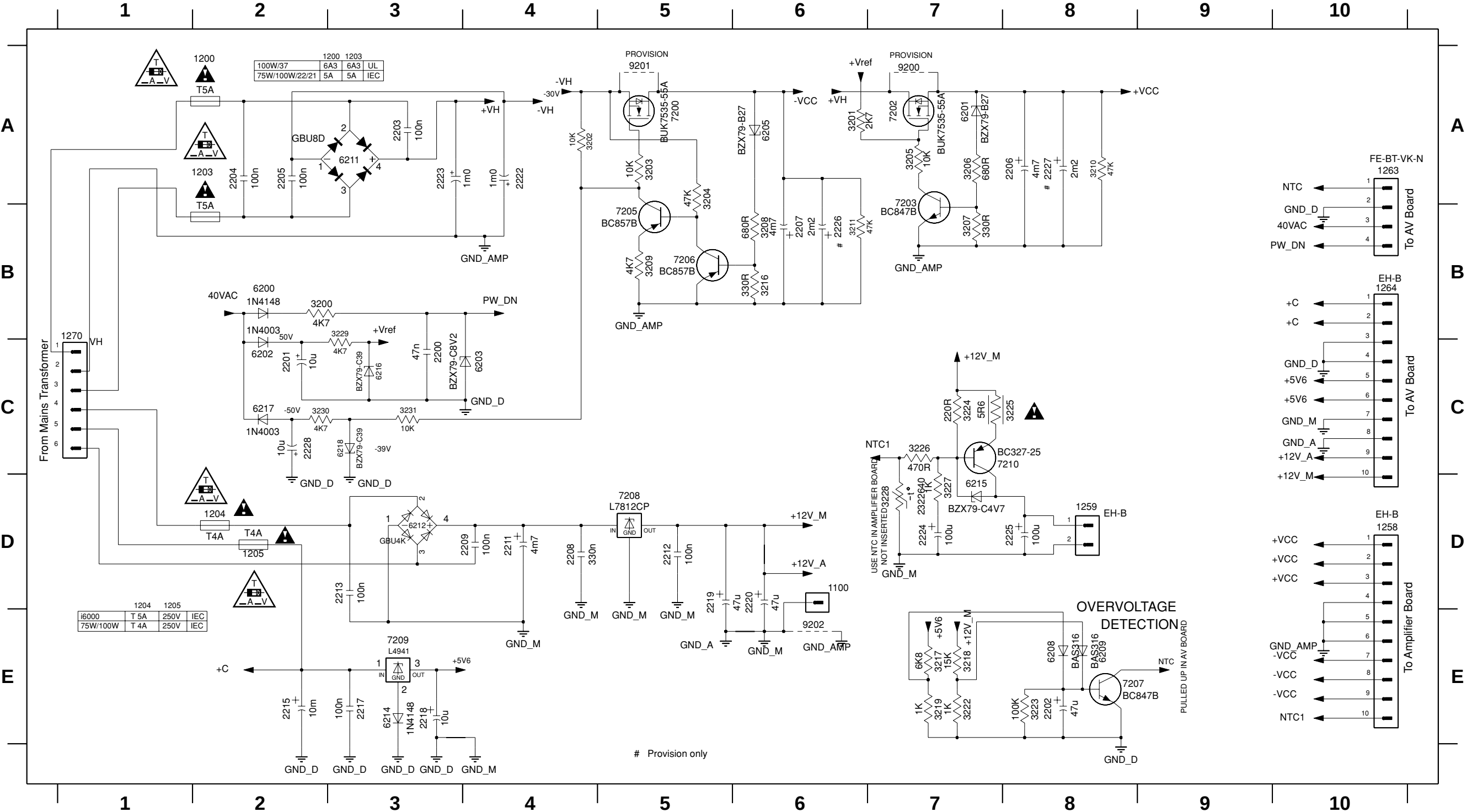
CAUTION
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE FUSE. 1200,1203: T5A 250V, 1204,1205: T4A 250V
Mfr: WICKMANN-WERKE GMBH TYPE NO.: 372.

ATTENTION
AFIN D'ASSURER UNE PROTECTION CONTINUE CONTRE LES RISQUES D'INCENDIE, UTILISER UNIQUEMENT UN FUSIBLE DU MEME TYPE POUR LE REMPLACEMENT.
1200, 1203 : T5A 250 V
1204, 1205 : T4A 250 V
Fabricant : WICKMANN-WERKE GMBH TYPE NO. : 372

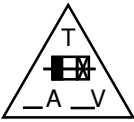
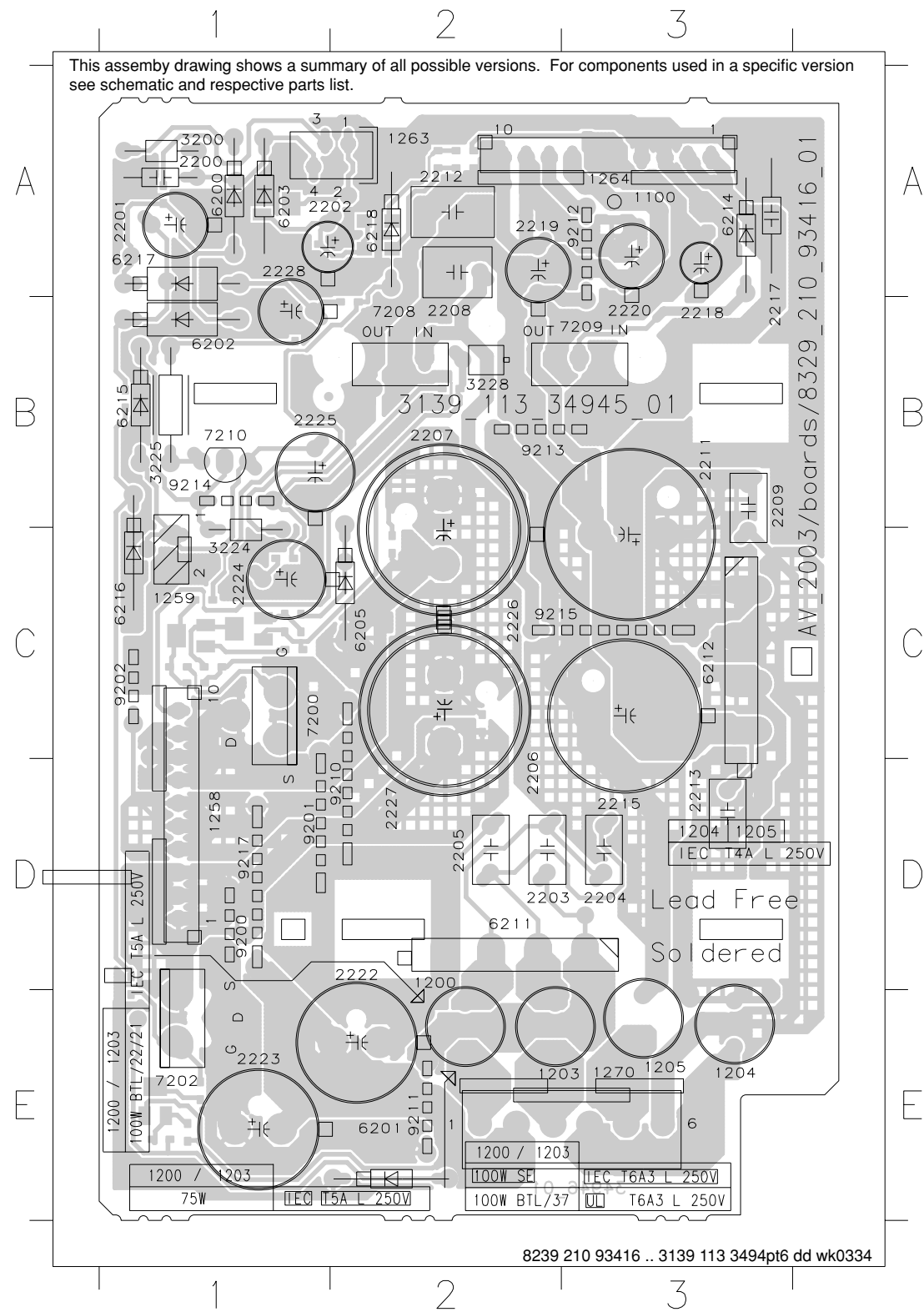
RISK OF FIRE-REPLACE FUSE AS MARKED.

 "This symbol means slow operating fuse."
"Ce symbole signifie fusible à action lente."

1100 D6	1205 D2	1264 B10	2202 E8	2206 A8	2211 D4	2217 E3	2222 A4	2226 B6	3201 A6	3205 A7	3209 B5	3217 E7	3223 E8	3227 D7	3231 C3	6203 C4	6211 A3	6216 C3	7202 A7	7207 E8	9200 A7
1200 A2	1258 D10	1270 C1	2203 A3	2207 B6	2212 D5	2218 E3	2223 A3	2227 A8	3202 A4	3206 A7	3210 A8	3218 E7	3224 C7	3228 D7	3202 B2	6205 A6	6212 D3	6217 C2	7203 B7	7208 D5	9201 A5
1203 A2	1259 D8	2200 C3	2204 A2	2208 D4	2213 D3	2219 D5	2224 D7	2228 C2	3203 A5	3207 B7	3211 B6	3219 E7	3225 C8	3229 B3	6201 A7	6208 E8	6214 E3	6218 C3	7205 B5	7209 E3	9202 E6
1204 D2	1263 A10	2201 C2	2205 A2	2209 D4	2215 E2	2220 D6	2225 D8	3200 B2	3204 A5	3208 B6	3216 B6	3222 E7	3226 C7	3230 C2	6202 C2	6209 E8	6215 D7	7200 A5	7206 B5	7210 C7	



Power Supply (AUDIO MODULE) BOARD Top & Bottom View

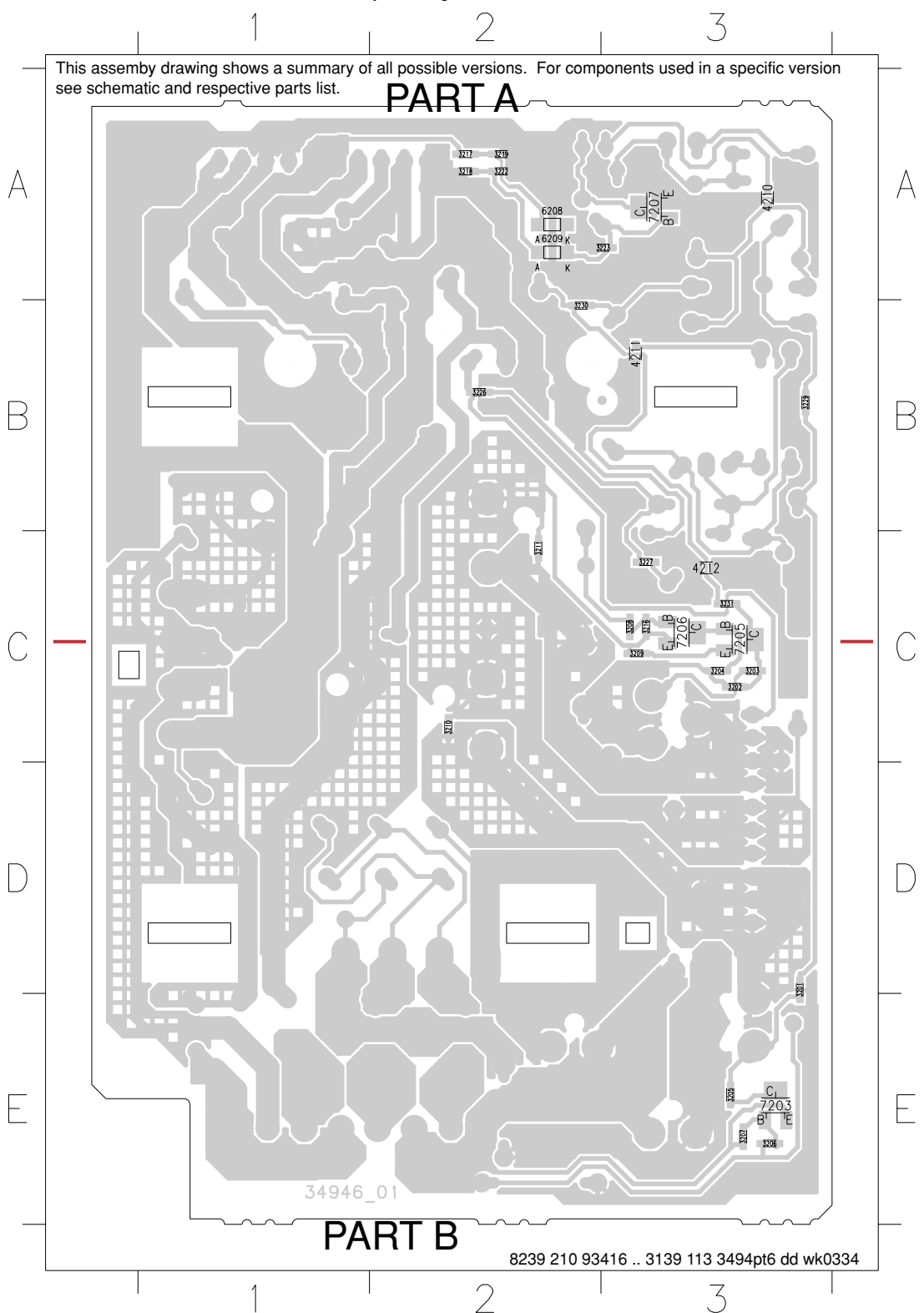


CAUTION
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY
WITH THE SAME TYPE FUSE. 1200,1203: T5A 250V,
1204,1205: T4A 250V
Mfr: WICKMANN-WERKE GMBH TYPE NO.: 372.

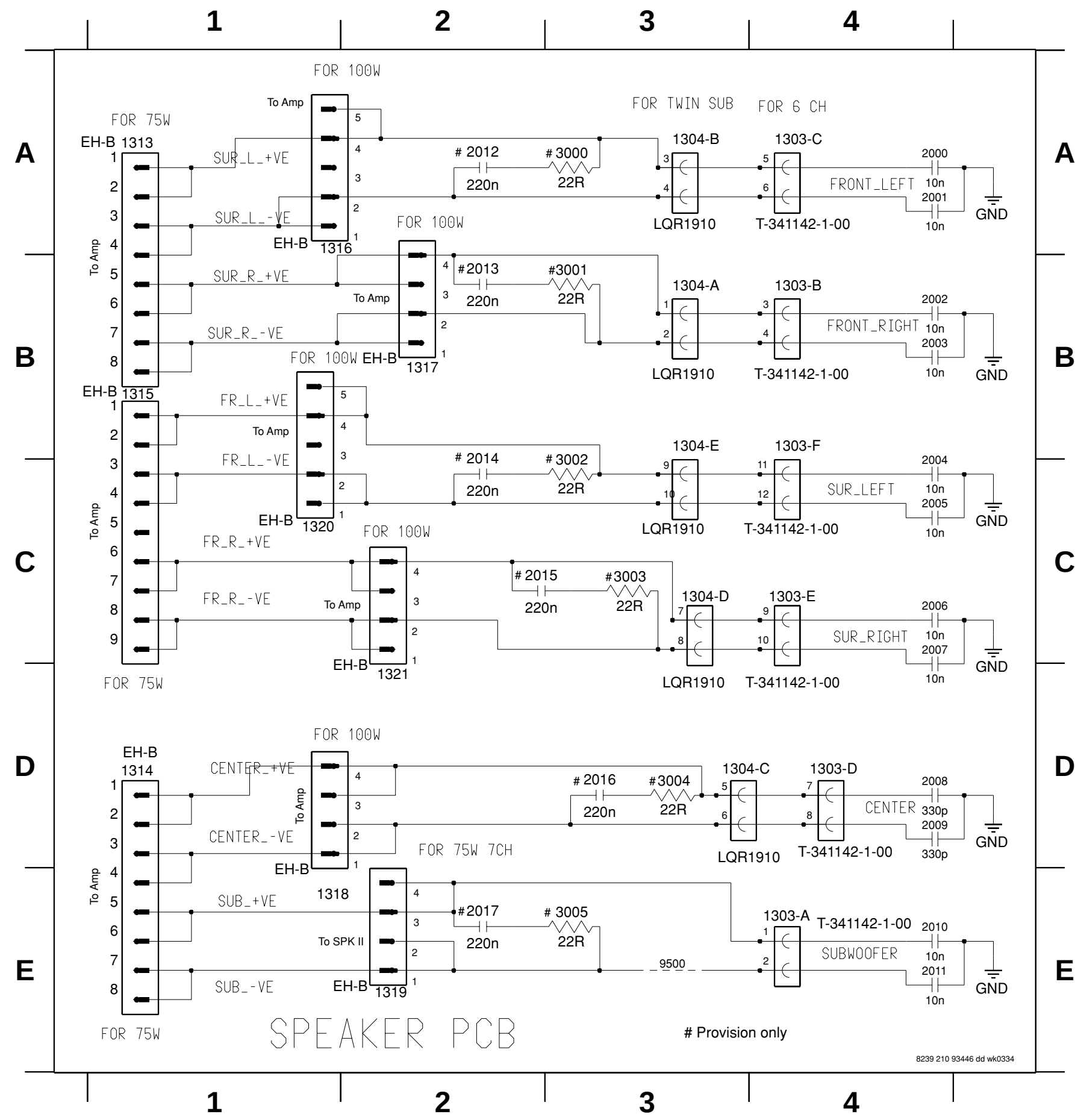
ATTENTION
AFIN D'ASSURER UNE PROTECTION CONTINUE CONTRE LES RISQUES D'INCENDIE, UTILISER
UNIQUEMENT UN FUSIBLE DU MEME TYPE POUR LE REMPLACEMENT.
1200, 1203 : T5A 250 V
1204, 1205 : T4A 250 V
Fabricant : WICKMANN-WERKE GMBH TYPE NO. : 372

RISK OF FIRE-REPLACE FUSE AS MARKED.

 "This symbol means slow operating fuse."
"Ce symbole signifie fusible à action lente."

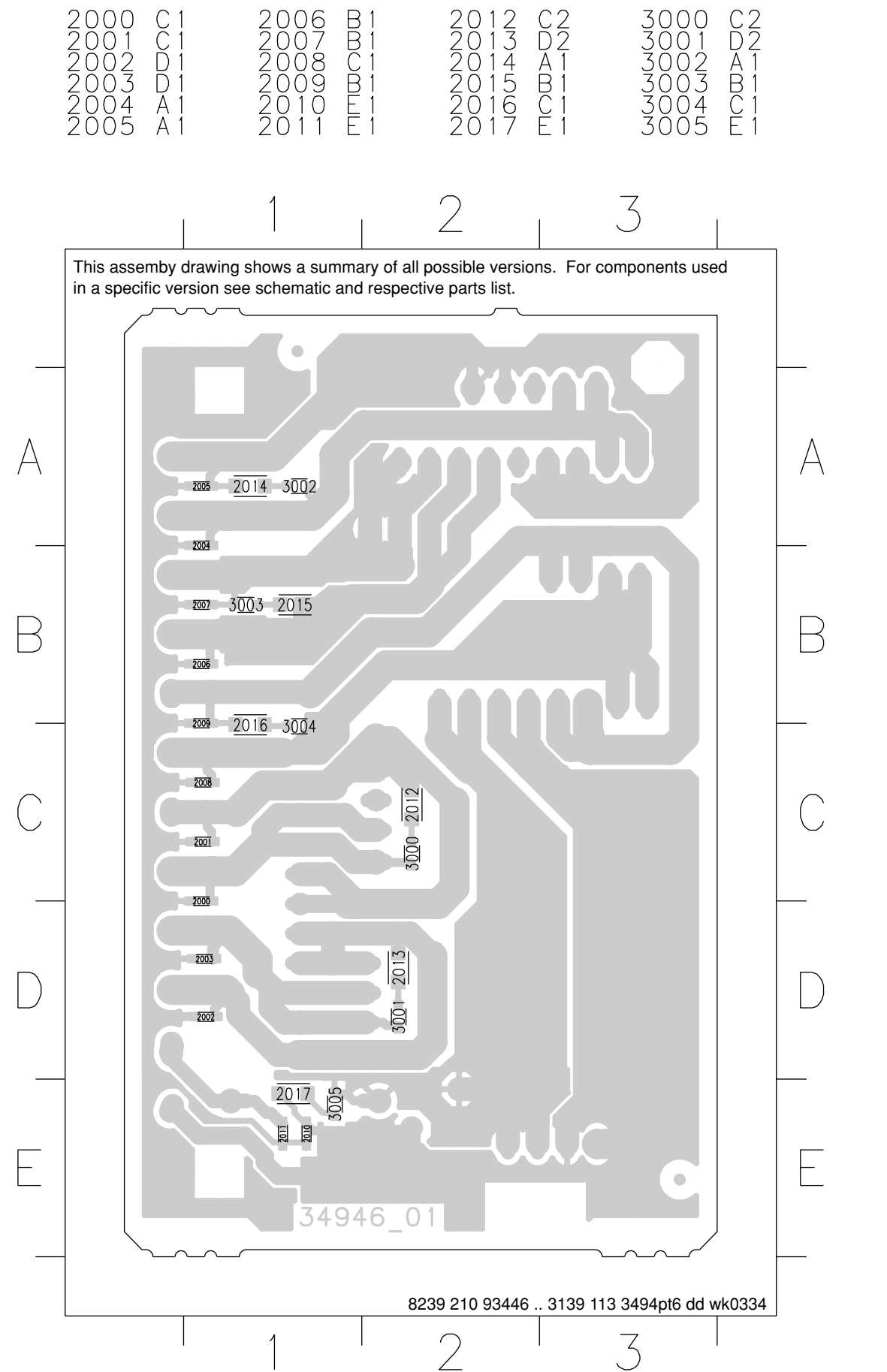
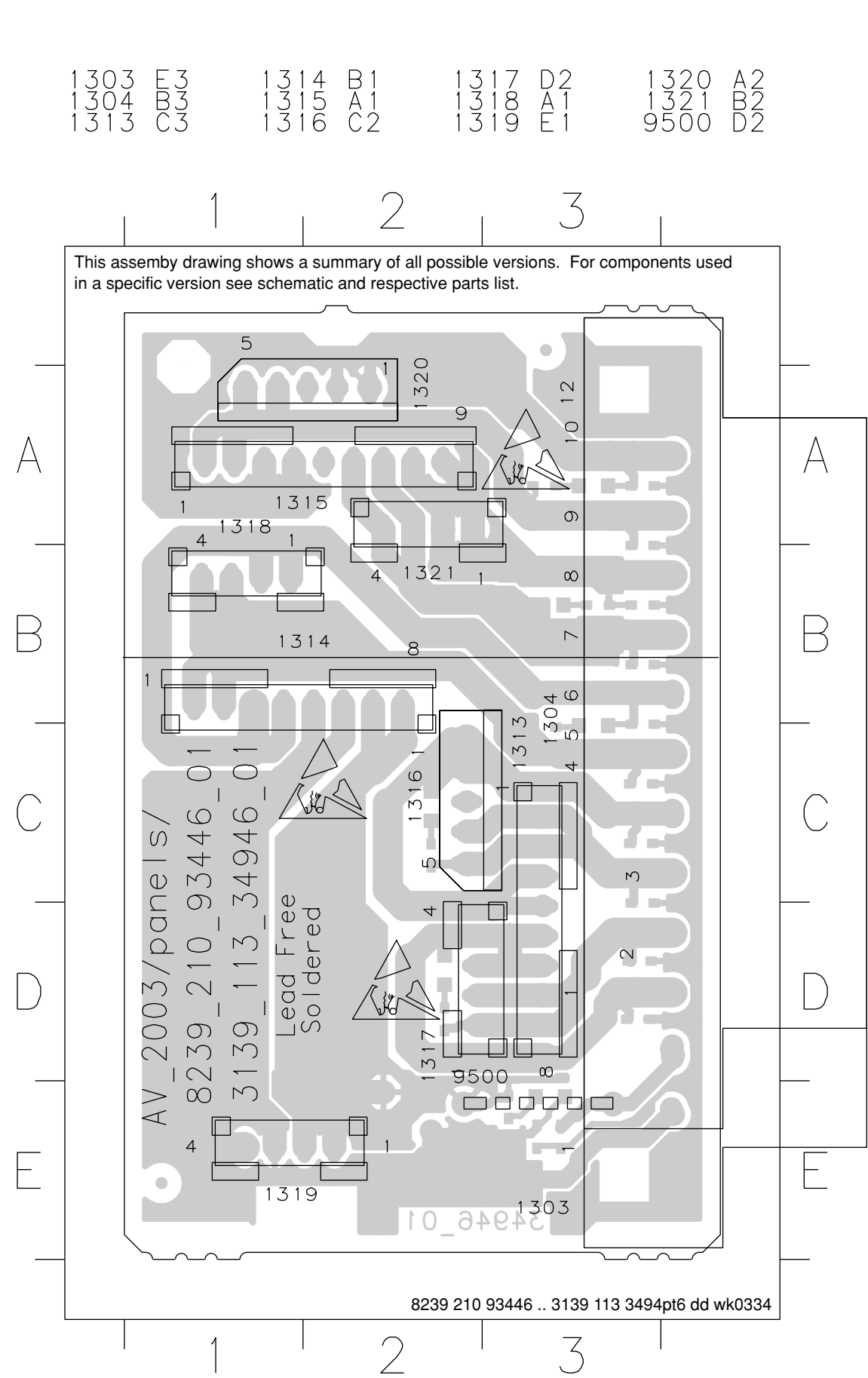


Speaker Connector Schematic Diagram < AMP UNIT Section >



- 1303-A E4
- 1303-B B4
- 1303-C A4
- 1303-D D4
- 1303-E C4
- 1303-F B4
- 1304-A B3
- 1304-B A3
- 1304-C D3
- 1304-D C3
- 1304-E B3
- 1313 A1
- 1314 D1
- 1315 B1
- 1316 A2
- 1317 B2
- 1318 E2
- 1319 E2
- 1320 C1
- 1321 D2
- 2000 A4
- 2001 A4
- 2002 B4
- 2003 B4
- 2004 C4
- 2005 C4
- 2006 C4
- 2007 C4
- 2008 D4
- 2009 D4
- 2010 E4
- 2011 E4
- 2012 A2
- 2013 B2
- 2014 C2
- 2015 C2
- 2016 D3
- 2017 E2
- 3000 A3
- 3001 B3
- 3002 C3
- 3003 C3
- 3004 D3
- 3005 E3
- 9500 E3

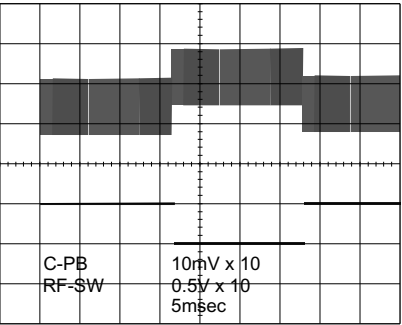
Speaker Connector BOARD Top & Bottom View



WAVEFORMS

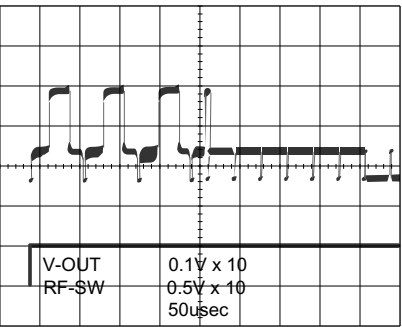
WF2 UPPER (TP301 of Main CBA)

WF1 LOWER (TP504 of Main CBA)

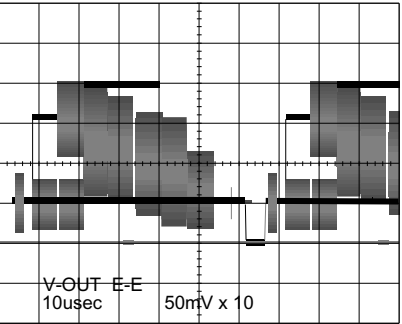


WF3 UPPER (TP751 of Main CBA)

WF1 LOWER (TP504 of Main CBA)



WF3 (TP751 of Main CBA)



WAVEFORMS

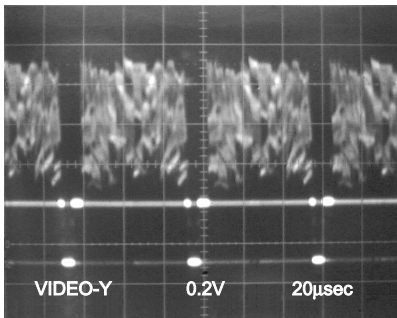
NOTE:

Input

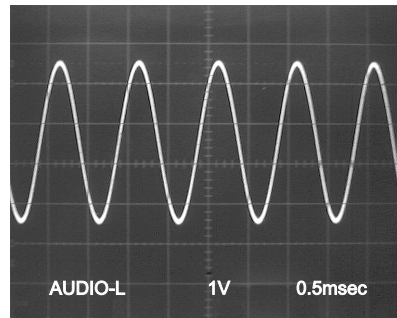
CD: 1kHz PLAY
(WF7~WF9)

DVD: POWER ON (STOP) MODE
(WF4~WF6)

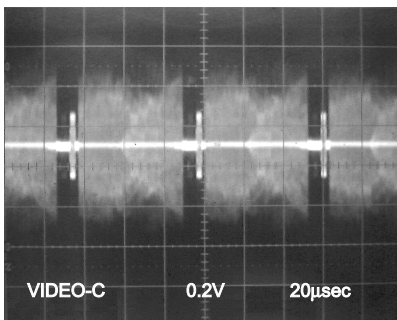
WF4 Pin 1 of CN1601



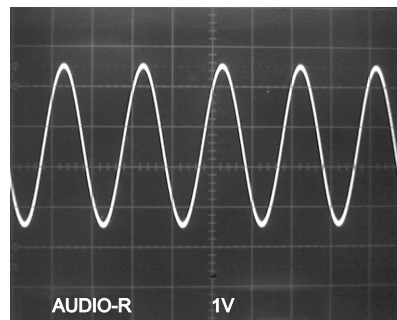
WF7 Pin 13 of CN1601



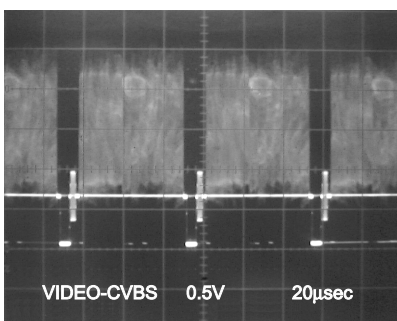
WF5 Pin 9 of CN1601



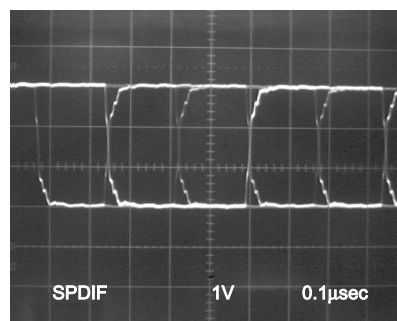
WF8 Pin 15 of CN1601



WF6 Pin 31 of IC1402



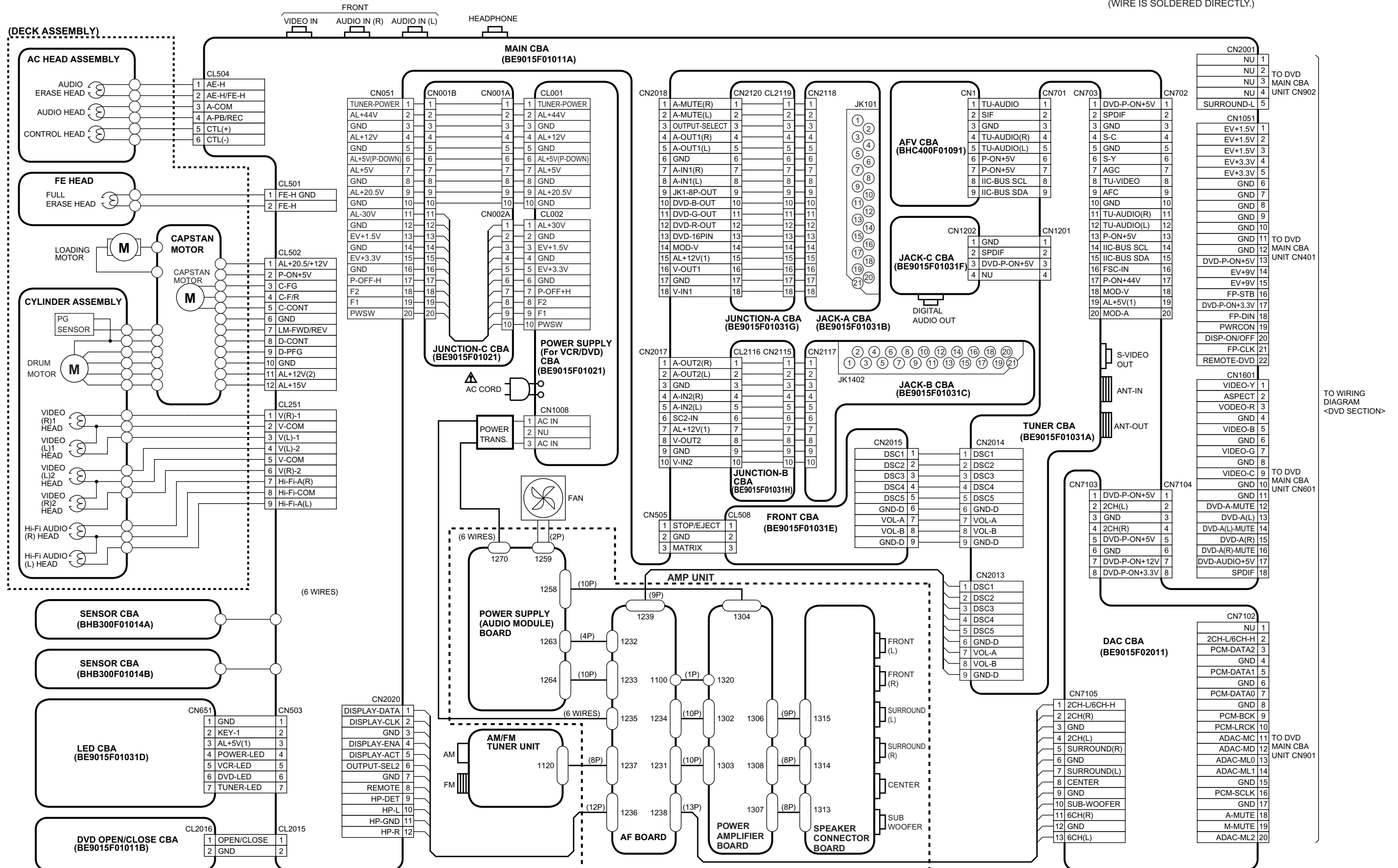
WF9 Pin 18 of CN1601



WIRING DIAGRAM < VCR SECTION >

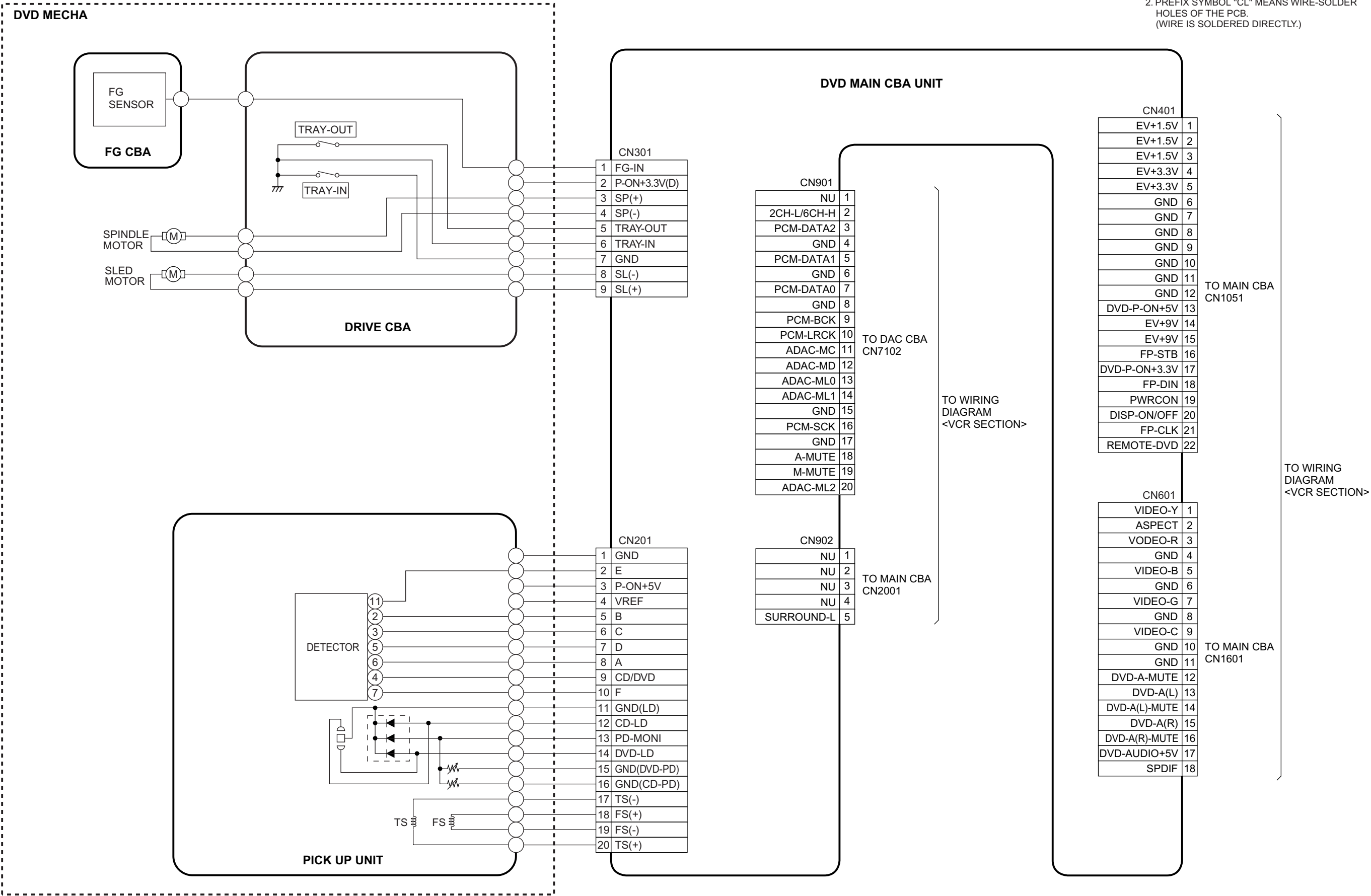
NOTE FOR WIRE CONNECTORS:

1. PREFIX SYMBOL "CN" MEANS CONNECTOR.
(CAN DISCONNECT AND RECONNECT.)
2. PREFIX SYMBOL "CL" MEANS WIRE-SOLDER
HOLES OF THE PCB.
(WIRE IS SOLDERED DIRECTLY.)



WIRING DIAGRAM < DVD SECTION >

NOTE FOR WIRE CONNECTORS:
1. PREFIX SYMBOL "CN" MEANS CONNECTOR.
(CAN DISCONNECT AND RECONNECT.)
2. PREFIX SYMBOL "CL" MEANS WIRE-SOLDER
HOLES OF THE PCB.
(WIRE IS SOLDERED DIRECTLY.)



SYSTEM CONTROL TIMING CHARTS

[VCR Section]

Mode SW : LD-SW

LD-SW Position detection A/D Input voltage Limit (Calculated voltage)	Symbol
3.76V~4.50V (4.12V)	EJ
4.51V~5.00V (5.00V)	CL
0.00V~0.25V (0.00V)	SB
1.06V~1.50V (1.21V)	TL
0.66V~1.05V (0.91V)	FB
1.99V~2.60V (2.17V)	SF
1.51V~1.98V (1.80V)	SM
3.20V~3.75V (3.40V)	AU
0.26V~0.65V (0.44V)	AL
4.51V~5.00V (5.00V)	SS
2.61V~3.19V (2.97V)	RS

↑ Note:

Note:

EJ → RS: Loading FWD (LM-FWD/REV "H")

RS → EJ: Loading REV (LM-FWD/REV "L")

Stop (A) = Loading

Stop (B) = Unloading

Note:

Symbol	Loading Status
EJ	Eject
CL	Eject ~ REW Reel
SB	REW Reel ~ Stop(B)
TL	Stop(B) ~ Brake Cancel
FB	Brake Cancel ~ FF / REW
SF	FF / REW ~ Stop(M), (FF / REW)
SM	Stop(M), (FF / REW) ~ Stop(A)
AU	Stop(A) ~ Play / REC
AL	Play / REC ~ Still / Slow
SS	Still / Slow ~ RS (REW Search)
RS	RS (REW Search)

Still/Slow Control
Frame Advance Timing Chart

1) SP Mode

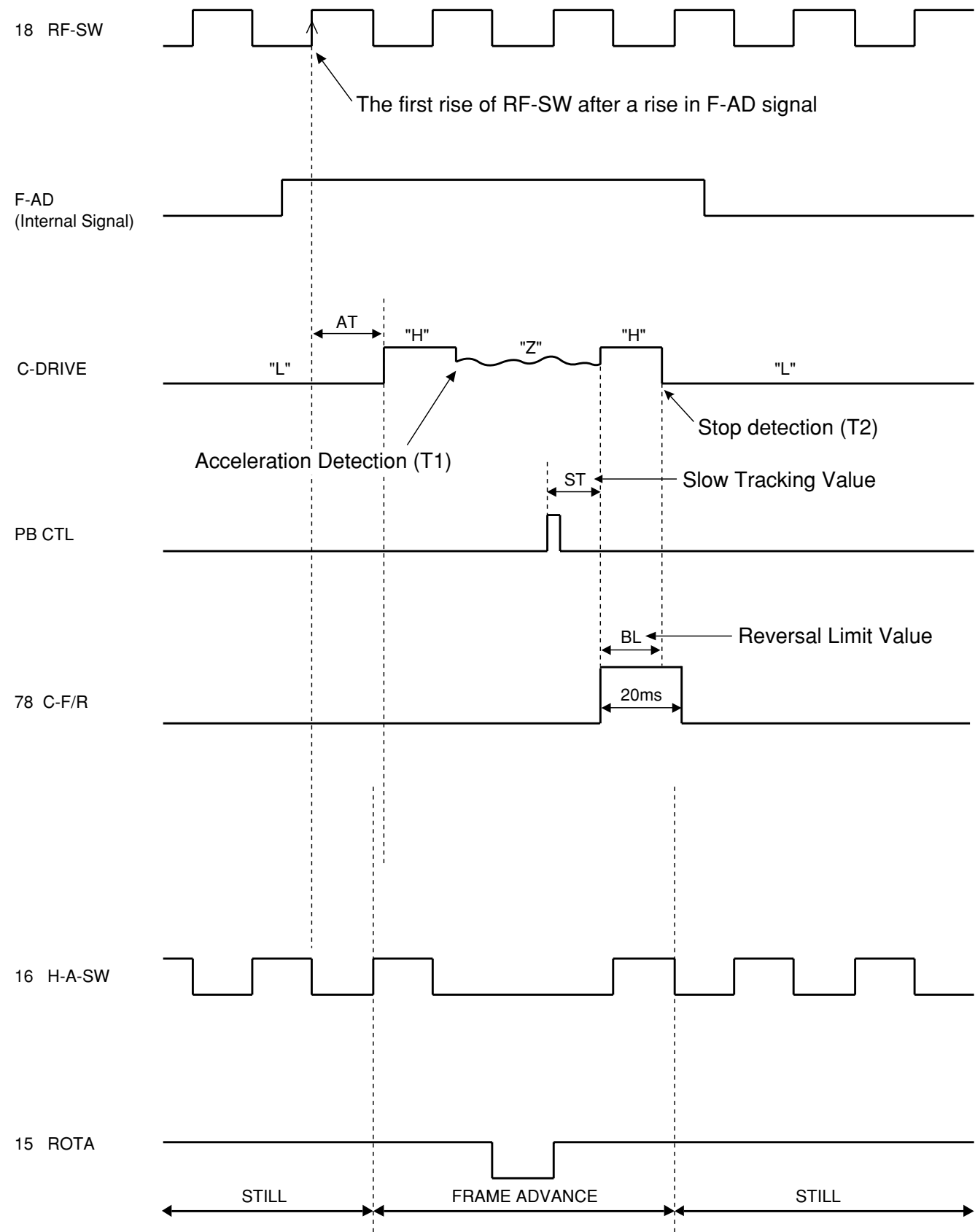


Fig. 1

2) LP/SLP Mode

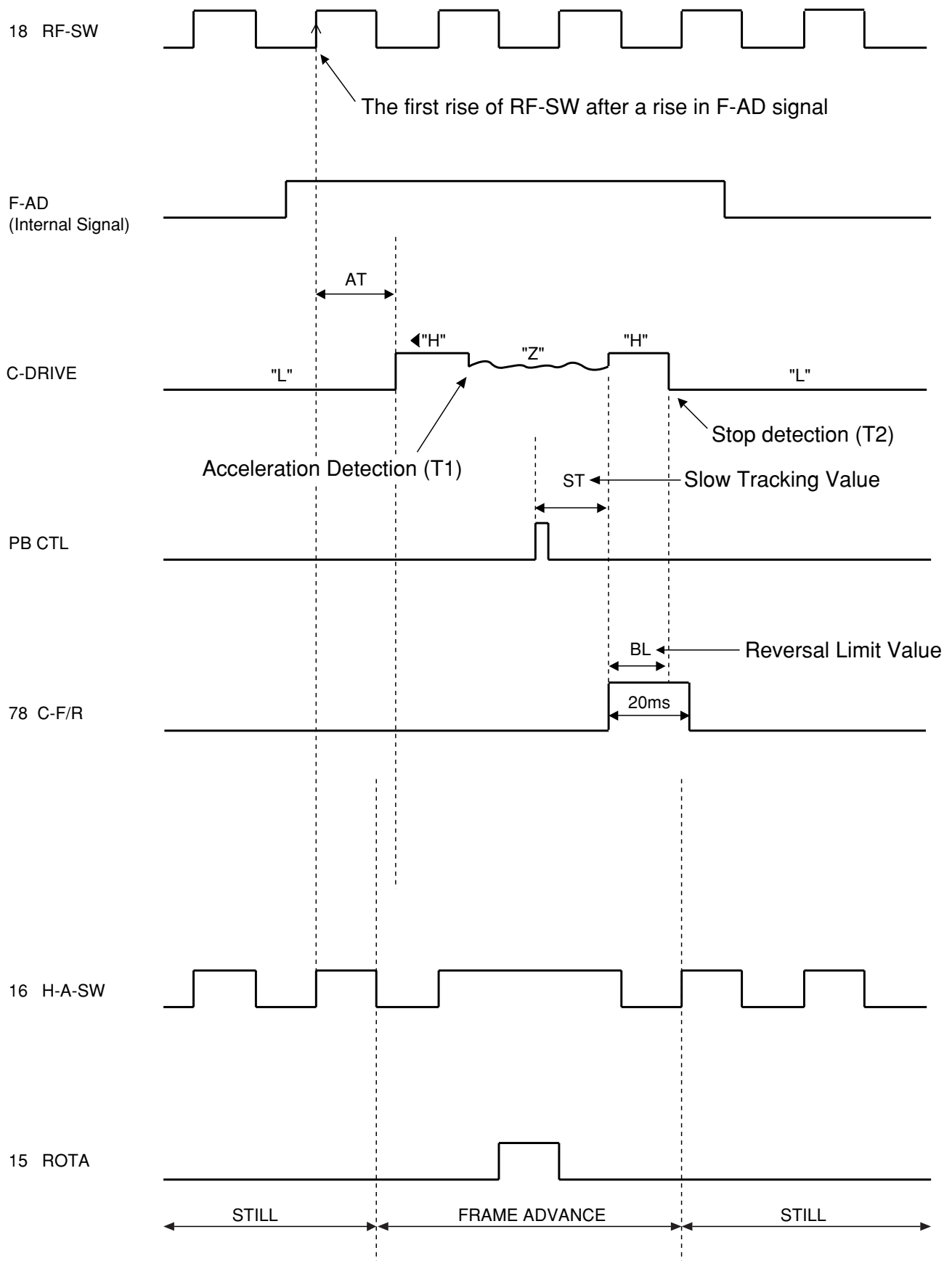
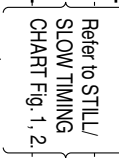


Fig. 2

ST-S/
END-S
"OFF"



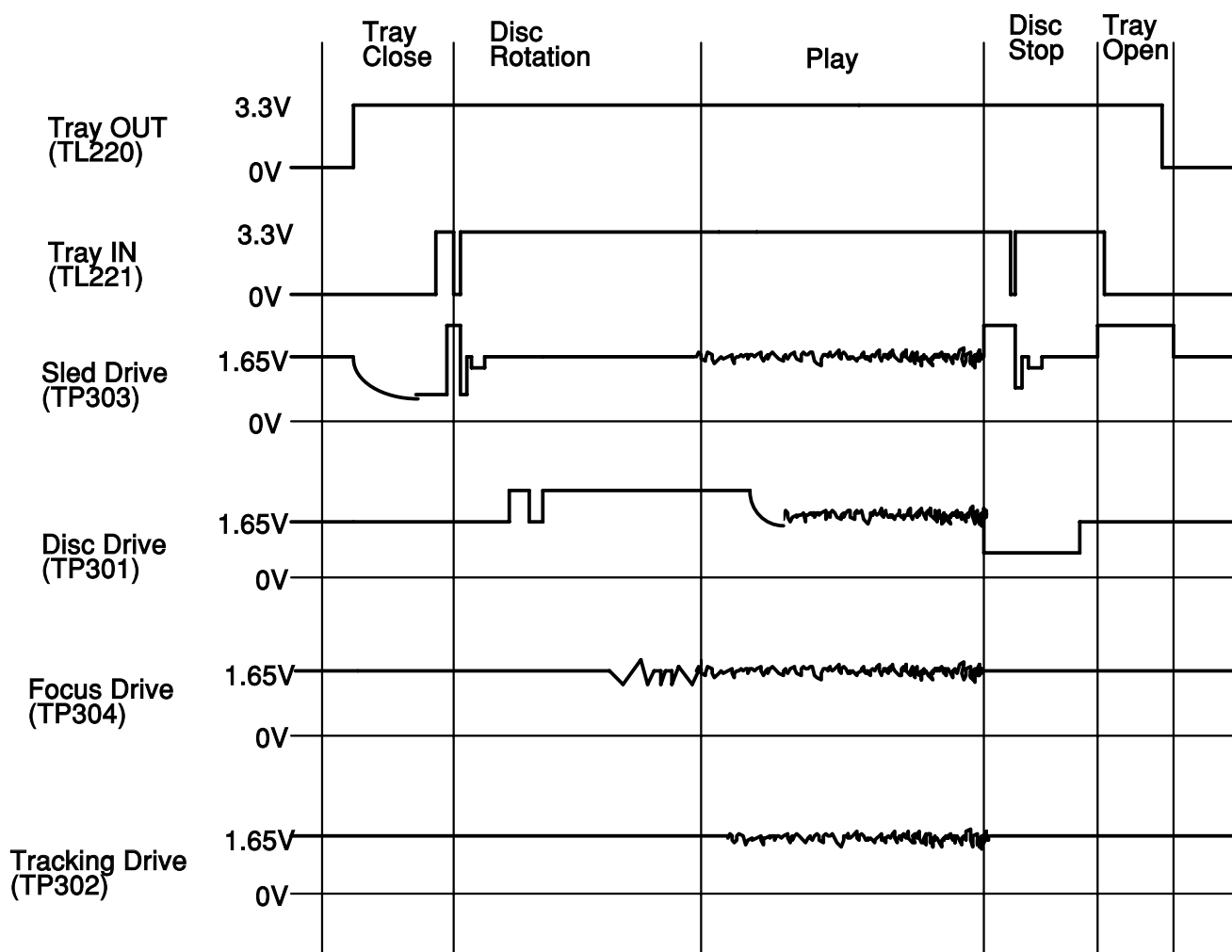
1-15-4

[illegible]

1-15-5

[DVD Section]

Tray Close ~ Play / Play ~ Tray Open



IC PIN FUNCTION DESCRIPTIONS

Comparison Chart of Models and Marks

Model	Mark
MX5100VR/00	A
MX5100VR/05	B
MX5100VR/02	C

[VCR Section]

IC501(SERVO / SYSTEM CONTROL IC)

“H” ≥ 4.5V, “L” ≤ 1.0V

Pin No.	Mark	IN/ OUT	Signal Name	Function	Active Level
1		IN	SC2-IN	Input Signal from Pin 8 of SCART2	A/D
2		IN	PG-DELAY	Video Head Switching Pulse Signal Adjusted Voltage	A/D
3		IN	POW-SAF	P-ON Power Detection Input Signal	A/D
4		IN	END-S	Tape End Position Detect Signal	A/D
5		IN	AFC	Automatic Frequency Control Signal	A/D
6		IN	V-ENV	Video Envelope Comparator Signal	A/D
7		IN	KEY-1	Key Scan Input Signal 1	A/D
8		IN	KEY-2	Key Scan Input Signal 2	A/D
9		IN	LD-SW	Deck Mode Position Detector Signal	A/D
10		IN	ST-S	Tape Start Position Detector Signal	A/D
11		OUT	LOAD-CONT	Load Power Supply Switching Signal	L
12		OUT	DVD-PLAY	DVD Playback Control Signal	L
13		OUT	D-V-SYNC	Dummy V-sync Output	H/ Hi-z
14		IN	REMOTE-VIDEO	Remote Control Sensor	L
15		OUT	C-ROTA	Color Phase Rotary Changeover Signal	H/L

Pin No.	Mark	IN/ OUT	Signal Name	Function	Active Level
16		OUT	H-A-SW	Video Head Amp Switching Pulse	H/L
17		IN	H-A-COMP	Head Amp Comparator Signal	H/L
18		OUT	RF-SW	Video Head Switching Pulse	H/L
19		OUT	Hi-Fi-H-SW	Hi-Fi Audio Head Switching Pulse	H/L
20		IN	DAVN-L	VPS/PDC Data Receive = “L”	L
21		OUT	DVD-POWER	DVD Power Control Signal	H
22		OUT	TUNER-LED	“TUNER” LED Signal Output	H/L
23		OUT	POWER-LED	“POWER” LED Signal Output	H/L
24		OUT	FIL-ON/OFF	Filament ON/OFF Control Signal	L
25		OUT	TIMER-LED	“TIMER” LED Signal Output	H/L
26		OUT	REC-LED	“REC” LED Signal Output	H/L
27		-	NU	Not Used	-
28		OUT	OUTPUT-SEL2	Output Select, “L”=VCR/Tuner, “H”=DVD	H/L
29		OUT	DVD-LED	“DVD” LED Signal Output	H/L
30		OUT	VCR-LED	“VCR” LED Signal Output	H/L
31		IN	REC-SAF-SW	Recording Safety SW Detect (With Record tab=“L”/ With out Record tab=“H”)	H/L
32		IN	A-MODE	Hi-Fi Tape Detection Signal	L
33		OUT	D-REC-H	Delayed Record Signal	H
34		IN	RESET	System Reset Signal (Reset=“L”)	L
35		IN	XCin	Sub Clock	-
36		OUT	XCout	Sub Clock	-
37		-	Vcc	Vcc	-

Pin No.	Mark	IN/ OUT	Signal Name	Function	Active Level
38		IN	Xin	Main Clock Input	-
39		OUT	Xout	Main Clock Input	-
40		-	Vss	Vss(GND)	-
41		OUT	INPUT SELECT	Input Select	H/L
42		IN	DVD-8PIN-IN	SCART 8Pin DVD Input Control Signal	H/L
43		IN	CLKSEL	Clock Select (GND)	L
44		IN	OSCIin	Clock Input for letter size	-
45		OUT	OSCOout	Clock Output for letter size	-
46		-	NUB	Not Used	-
47		-	LP	LP	-
48		IN	FSC-IN [4.43MHz]	4.43MHz Clock Input	-
49		-	OSDVss	OSDVss	-
50		IN	OSD-V-IN	OSD Video Signal Input	-
51		-	NU	Not Used	-
52		OUT	OSD-V-OUT	OSD Video Signal Output	-
53		-	OSDVcc	OSDVcc	-
54		-	HLF	LPF Connected Terminal (Slicer)	-
55	A,B	-	NU	Not Used	-
	C	IN	COLOR-IN	SECAM or MESECAM Chroma Video Input Signal at Super Impose	Z/L
56		-	NU	Not Used	-
57		-	NU	Not Used	-
58		IN	C-SYNC	Composite Synchronized Pulse	PULSE
59		OUT	8POUT-1	Control SCART 1 8Pin Level by using 8POUT-1 and 8POUT-2	H/L
60		OUT	8POUT-2		
61	A,B	-	NU	Not Used	-
	C	IN	SECAM-H	SECAM Mode at High	H/L

Pin No.	Mark	IN/ OUT	Signal Name	Function	Active Level
62		OUT	TUNER-POWER	Receiver Main Power Supply Control Signal (OFF="L", ON="H")	H
63		OUT	DISPLAY-ON/OFF	DVD FIP ON/OFF Signal	H
64		IN	FTV-IN	Comparator Input of Video Signal for Follow TV	L/Hi-z
65	A,B	-	NU	Not Used	-
	C	OUT	TRICK-H	Special Playback = "H" in SECAM Mode	H
66		OUT	C-POW-SW	Capstan Power Switching Signal	H/L
67		OUT	P-ON-H	Power On Signal at High	H
68		OUT	DISPLAY-DATA	VFD Driver IC Control Data	H/L
69		OUT	DISPLAY-ENA	VFD Driver IC Chip Enable Signal	H/L
70		OUT	DISPLAY-CLK	VFD Driver IC Control Clock	H/L
71		OUT	IIC-BUS-SCL	IIC BUS Control Clock	H/L
72		IN/ OUT	IIC-BUS-SDA	IIC BUS Control Data	H/L
73		OUT	P-OFF-H	Power Off at High	H
74		OUT	OUTPUT-SELECT	Output Select	H/L
75		IN	DVD-POWERMONITOR	DVD Power Monitor Signal (P-off="L", P-on="H")	H/L
76		OUT	C-CONT	Capstan Motor Control Signal	PWM
77		OUT	D-CONT	Drum Motor Control Signal	PWM
78		OUT	C-F/R	Capstan Motor FWD/REV Control Signal (FWD="L"/REV="H")	H/L
79		IN	S-REEL	Supply Reel Rotation Signal	PULSE
80		IN	T-REEL	Take Up Reel Rotation Signal	PULSE
81		OUT	LM-FWD/REV	Loading Motor Control Signal	H/L/Hi-z
82		OUT	LINE-MUTE	Audio Mute Control Signal	H

Pin No.	Mark	IN/OUT	Signal Name	Function	Active Level
83		OUT	A-MUTE-H	Audio Mute Control Signal (Mute = "H")	H
84		OUT	FF/REW-L	CTL Frequency Characteristics Switching Signal (FF/REW="L")	L
85		IN	DISPLAY-ACT	Tuner (AMP) VFD Indicating Interrupt Input Signal	L
86		IN	P-DOWN-L	Power Voltage Down Detector Signal	L
87		IN	C-FG	Capstan Motor Rotation Detection Pulse	PULSE
88		-	NU	Not Used	-
89		-	NU	Not Used	-
90		IN	D-PFG	Drum Motor Phase/Frequency Generator	PULSE
91		-	AMPVREF OUT	V-Ref for CTL AMP	-
92		-	AMPVREF in	V-Ref for CTL AMP	-
93		-	P80/C	P80/C Terminal	-
94		IN/OUT	CTL (-)	Playback/Record Control Signal (-)	H/L
95		IN/OUT	CTL (+)	Playback/Record Control Signal (+)	H/L
96		-	AMPC	CTL AMP Connected Terminal	-
97		-	CTLAMPout	To Monitor for CTL AMP Output	PULSE
98		-	AMPVcc	AMPVcc	-
99		-	AVcc	A/D Converter Power Input/Standard Voltage Input	-
100		IN	AGC	IF AGC Control Signal	A/D

Notes:

Abbreviation for Active Level:

PWM -----Pulse Wide Modulation

A/D-----Analog - Digital Converter

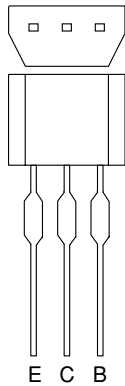
[DVD Section]

IC612 [PT6315]

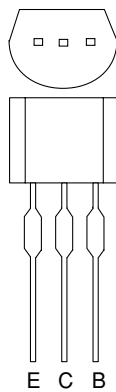
Pin No.	In/Out	Signal Name	Name Function
1	-	NU	Not Used
2	-	NU	Not Used
3	-	NU	Not Used
4	-	NU	Not Used
5	In	OSC	Oscillator Input
6	-	NU	Not Used
7	OUT	DISPLAY-DATA	VFD Driver IC Control Data
8	OUT	DISPLAY-CLK	VFD Driver IC Control Clock
9	OUT	DISPLAY-ENA	VFD Driver IC Chip Select Signal
10	-	NU	Not Used
11	-	NU	Not Used
12	-	GND	GND
13	-	+5V	Power Supply
14	-	NU	Not Used
15	-	NU	Not Used
16	-	NU	Not Used
17	-	NU	Not Used
18	-	NU	Not Used
20	-	NU	Not Used
21	-	NU	Not Used
22	-	NU	Not Used
23	Out	a	Display Segment
24	Out	b	Display Segment
25	Out	c	Display Segment
26	Out	d	Display Segment
27	OUT	e	Display Segment
28	OUT	f	Display Segment
29	OUT	g	Display Segment
30	OUT	h	Display Segment
31	OUT	i	Display Segment
32	OUT	j	Display Segment

Pin No.	In/Out	Signal Name	Name Function
33	-	NU	Not Used
34	OUT	1G	Grid Output
35	OUT	2G	Grid Output
36	OUT	3G	Grid Output
37	OUT	4G	Grid Output
38	OUT	5G	Grid Output
39	OUT	6G	Grid Output
40	OUT	7G	Grid Output
41	OUT	8G	Grid Output
42	OUT	9G	Grid Output
43	-	+5V	Power Supply
44	-	VSS	GND

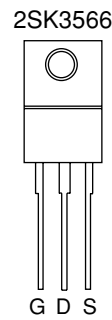
LEAD IDENTIFICATIONS



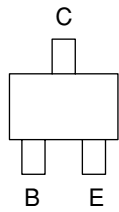
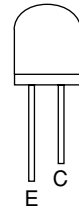
2SA1175(J,H,F)
KTA1267(GR,Y)
BA1F4M-T
BN1F4M-T
BN1L4M-T
KTA1266(GR)
KTC3199(Y,GR,BL)
2SC2785(J,H,F,K)
KRC103M
KRA103M
KRA104M
KRA109M



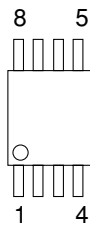
2SC1815-BL(TPE2)
2SC1815-Y(TPE2)
2SC1815-GR(TPE2)
2SC2120-Y(TPE2)
KTC3203(Y)
2SA1015-GR(TPE2)
KTC3198(Y,GR)
KTA1266(GR)
2SA1020(Y)
2SC3266-Y(TPE2)
KTA1281(Y)
KTC3205(Y)



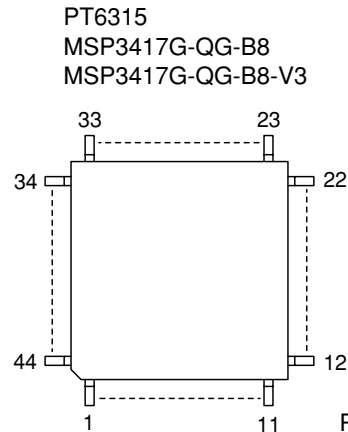
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PT204-6B-12



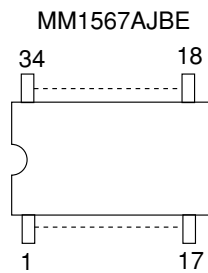
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2SC2412K T146S
KTA1504(GR,Y)-RTK
KTC3875(GR,Y)-RTK
FA1F4M-T1B
FMG4A T148
KRC103S RTK



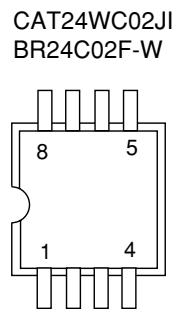
NJM4558D
KIA4558P
KIA4558F-EL
NJM4558M-TE1



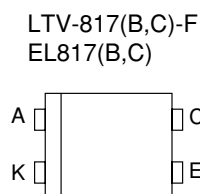
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MSP3417G-QG-B8
MSP3417G-QG-B8-V3



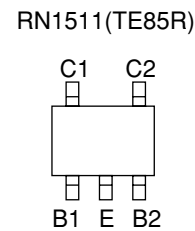
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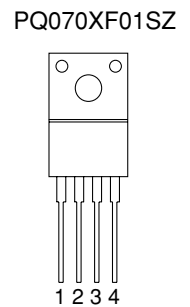
CAT24WC02JI
BR24C02F-W



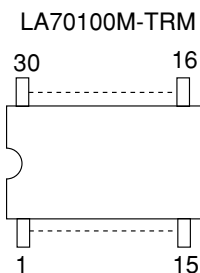
LTV-817(B,C)-F
EL817(B,C)



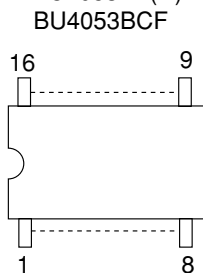
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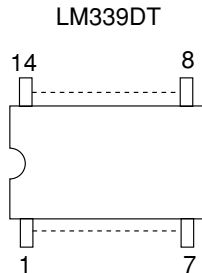
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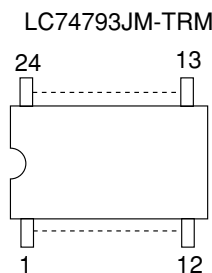
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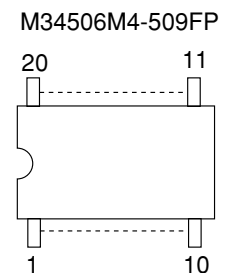
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TC4053BF(N)
BU4053BCF



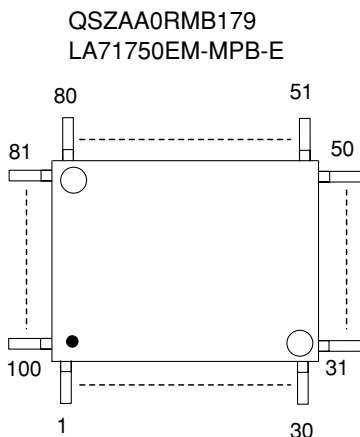
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LM339DT



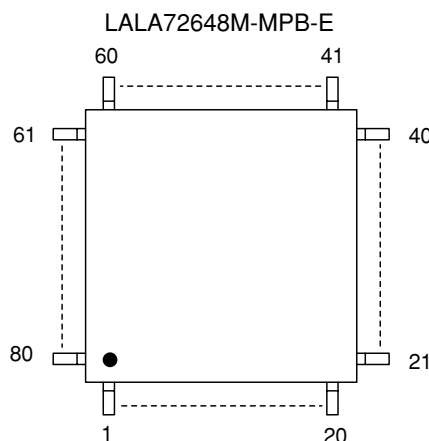
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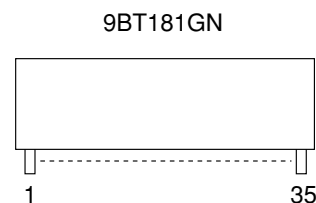
M34506M4-509FP



QSZAA0RMB179
LA71750EM-MPB-E



LALA72648M-MPB-E



9BT181GN

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

ELECTRICAL PARTS LIST - MAIN CBA

MISCELLANEOUS

CN503	9965 000 05245	FE CONN.TOP 7P 07FE-BT-VK-N
CN1051	9965 000 19569	FMN CONN. SIDE 22P 22FMN-STRK
CN1601	9965 000 19570	FMN CONN., SIDE 18P 18FMN-STK
CN2001	9965 000 20915	FMN CONN TOP 4P 04FMN-BTRK
CN2020	9965 000 20916	FE CONN TOP 12P 12FE-BT-VK-N
JK752	4822 265 11659	RCA JACK(YELLOW) MSP-281V4-B
JK753	4822 265 11661	RCA JACK(WHITE) MSP-281V1-B
JK754	9965 000 00423	MSP-281V3-A RCA JACK(RED)
JK1405	9965 000 20921	PHONE JACK JY-6303*01-060
PS502	9965 000 12189	PHOTO INTERRUPTER RPI-302C70
RM2001	9965 000 10857	REMOTE RECEIVER
SW501	4822 276 13954	KSM0614B
SW501	4822 276 14127	SKQSAF001A
SW501	9965 000 19590	TACT SWITCH TC-1104(H=9.5)
SW506	9965 000 16625	LEAF SWITCH MXS01830MVP0
SW507	9965 000 16626	ROTARY MODE SWITCH SSS-50MD
SW507	9965 000 19591	ROTARY MODE SWITCH R8100245
SW603	4822 276 13954	KSM0614B
SW603	4822 276 14127	SKQSAF001A
SW603	9965 000 19590	TACT SWITCH TC-1104(H=9.5)
SW2021	4822 276 13954	KSM0614B
SW2021	4822 276 14127	SKQSAF001A
SW2021	9965 000 19590	TACT SWITCH TC-1104(H=9.5)
SW2022	4822 276 13954	KSM0614B
SW2022	4822 276 14127	SKQSAF001A
SW2022	9965 000 19590	TACT SWITCH TC-1104(H=9.5)
X301	9965 000 05629	X'TAL 4.433619MHZ
X301	4822 242 10695	4 433 619 MHZ
X501	9965 000 12194	X'TAL 12.000MHZ
X502	9965 000 12288	X'TAL 32.768KHZ(20PPM)
X502	9965 000 19592	X'TAL 32.768KHZ(20PPM)
X2001	9965 000 19593	CER RES.(47PF) CSTLS4M G56-A0

CAPACITORS

C056	9965 000 14863	ELCAP 47UF/25V M
C056	9965 000 19553	ELCAP 47UF/25V M
C057	9965 000 09762	ELCAP 220UF/6.3V M H7
C057	9965 000 19554	ELCAP 10UF/16V M
C058	9965 000 19555	ELCAP 330UF/6.3V M
C058	9965 000 19556	ELCAP 330UF/6.3V M
C059	9965 000 09843	CAP(AX) SL J 56PF/50V
C059	9965 000 09844	CAP(AX) B J 1000PF/50V
C063	9965 000 15244	ELCAP 47UF/16V M
C063	9965 000 19557	ELCAP 47UF/16V M
C129	9965 000 15293	ELCAP 100UF/16V M H7
C130	9965 000 19560	ELCAP 4.7UF/50V M H7
C131	9965 000 19560	ELCAP 4.7UF/50V M H7
C132	9965 000 19560	ELCAP 4.7UF/50V M H7
C251	9965 000 15290	ELCAP 10UF/16V M H7
C254	9965 000 15291	ELCAP 1UF/50V M H7
C302	9965 000 15291	ELCAP 1UF/50V M H7
C305	9965 000 15291	ELCAP 1UF/50V M H7

C312	9965 000 15290	ELCAP 10UF/16V M H7
C313	9965 000 19561	ELCAP 1UF/50V M H7
C316	9965 000 15291	ELCAP 1UF/50V M H7
C328	9965 000 15292	ELCAP 47UF/6.3V M H7
C330	9965 000 15293	ELCAP 100UF/16V M H7
C331	4822 124 12052	220UF 20% 6,3V
C334	9965 000 15291	ELCAP 1UF/50V M H7
C335	9965 000 15295	ELCAP 100UF/6.3V H7
C340	9965 000 15291	ELCAP 1UF/50V M H7
C343	9965 000 15290	ELCAP 10UF/16V M H7
C344	9965 000 15296	ELCAP 4.7UF/25V M NP
C345	9965 000 15297	ELCAP 0.47UF/50V M H
C349	9965 000 15297	ELCAP 0.47UF/50V M H
C379	9965 000 15297	ELCAP 0.47UF/50V M H
C384	9965 000 15301	ELCAP 2.2UF/50V M H
C402	9965 000 19548	FILM CAP.(P) 0.018UF/50V J
C403	9965 000 06523	CERAMIC CAP. B K 470PF/100V
C404	9965 000 09760	CHIP CAP F Z 0.1UF/50V
C405	9965 000 15292	ELCAP 47UF/6.3V M H7
C410	9965 000 15290	ELCAP 10UF/16V M H7
C412	9965 000 15299	ELCAP 33UF/6.3V M H7
C415	9965 000 15298	ELCAP 4.7UF/25V M H7
C417	9965 000 15300	ELCAP 22UF/6.3V M H7
C421	9965 000 15292	ELCAP 47UF/6.3V M H7
C452	9965 000 15290	ELCAP 10UF/16V M H7
C453	9965 000 15303	ELCAP 22UF/10V M H7
C456	9965 000 15290	ELCAP 10UF/16V M H7
C457	9965 000 15298	ELCAP 4.7UF/25V M H7
C463	9965 000 15303	ELCAP 22UF/10V M H7
C465	9965 000 15290	ELCAP 10UF/16V M H7
C468	4822 124 12052	220UF 20% 6,3V
C469	9965 000 15303	ELCAP 22UF/10V M H7
C472	9965 000 15298	ELCAP 4.7UF/25V M H7
C473	9965 000 15290	ELCAP 10UF/16V M H7
C476	9965 000 15300	ELCAP 22UF/6.3V M H7
C479	9965 000 15290	ELCAP 10UF/16V M H7
C480	9965 000 15298	ELCAP 4.7UF/25V M H7
C481	9965 000 15298	ELCAP 4.7UF/25V M H7
C483	9965 000 15298	ELCAP 4.7UF/25V M H7
C484	9965 000 15298	ELCAP 4.7UF/25V M H7
C485	9965 000 15290	ELCAP 10UF/16V M H7
C487	9965 000 15302	ELCAP 47UF/16V M H7
C506	4822 124 12052	220UF 20% 6,3V
C516	9965 000 15300	ELCAP 22UF/6.3V M H7
C518	9965 000 15300	ELCAP 22UF/6.3V M H7
C521	9965 000 15300	ELCAP 22UF/6.3V M H7
C534	9965 000 15292	ELCAP 47UF/6.3V M H7
C549	9965 000 15291	ELCAP 1UF/50V M H7
C550	9965 000 15295	ELCAP 100UF/6.3V H7
C553	9965 000 15303	ELCAP 22UF/10V M H7
C611	9965 000 14855	ELCAP 22UF/50V M
C611	9965 000 19549	ELCAP 22UF/50V M

ELECTRICAL PARTS LIST - MAIN CBA

C615	9965 000 15295	ELCAP 100UF/6.3V H7
C632	9965 000 19562	ELCAP 1UF/50V M H7 NP
C633	9965 000 15291	ELCAP 1UF/50V M H7
C636	9965 000 15298	ELCAP 4.7UF/25V M H7
C637	9965 000 15292	ELCAP 47UF/6.3V M H7
C752	9965 000 19563	ELCAP 47UF/10V M H7
C753	9965 000 09821	CHIP CAP B K 0.022UF/25V
C754	9965 000 09821	CHIP CAP B K 0.022UF/25V
C757	9965 000 20914	ELCAP 47UF/6.3V M H7
C761	9965 000 19560	ELCAP 4.7UF/50V M H7
C762	9965 000 19560	ELCAP 4.7UF/50V M H7
C779	9965 000 19561	ELCAP 1UF/50V M H7
C780	9965 000 15290	ELCAP 10UF/16V M H7
C782	9965 000 15291	ELCAP 1UF/50V M H7
C1061	9965 000 19566	ELCAP 2200UF/6.3V M
C1201	9965 000 15290	ELCAP 10UF/16V M H7
C1202	9965 000 15290	ELCAP 10UF/16V M H7
C1221	9965 000 15290	ELCAP 10UF/16V M H7
C1222	9965 000 09762	ELCAP 220UF/6.3V M H7
C1222	9965 000 19554	ELCAP 10UF/16V M
C1247	9965 000 14853	ELCAP 470UF/16V M
C1247	9965 000 19567	ELCAP 470UF/16V M
C1249	9965 000 15302	ELCAP 47UF/16V M H7
C1393	9965 000 14862	ELCAP 470UF/6.3V M
C1393	9965 000 19558	ELCAP 470UF/6.3V M
C1394	9965 000 15292	ELCAP 47UF/6.3V M H7
C1442	9965 000 14862	ELCAP 470UF/6.3V M
C1442	9965 000 19558	ELCAP 470UF/6.3V M
C1445	9965 000 14862	ELCAP 470UF/6.3V M
C1445	9965 000 19558	ELCAP 470UF/6.3V M
C1461	9965 000 15289	ELCAP 1UF/50V M
C1461	9965 000 19559	ELCAP 1UF/50V M
C1462	9965 000 14862	ELCAP 470UF/6.3V M
C1462	9965 000 19558	ELCAP 470UF/6.3V M
C1471	9965 000 15289	ELCAP 1UF/50V M
C1471	9965 000 19559	ELCAP 1UF/50V M
C1481	9965 000 15289	ELCAP 1UF/50V M
C1481	9965 000 19559	ELCAP 1UF/50V M
C1482	9965 000 14862	ELCAP 470UF/6.3V M
C1482	9965 000 19558	ELCAP 470UF/6.3V M
C1532	9965 000 15300	ELCAP 22UF/6.3V M H7
C2004	9965 000 15295	ELCAP 100UF/6.3V H7

RESISTORS

R304	9965 000 08652	INDUCTOR 5.6UH-K-26T
R304	9965 000 19589	CHIP IND. HK1608 18NJ-T
R309	9965 000 08652	INDUCTOR 5.6UH-K-26T
R309	9965 000 19589	CHIP IND. HK1608 18NJ-T
VR501	9965 000 05260	CARBON P.O.T. 100K OHM B

COILS & FILTERS

L052	9965 000 05627	CHOKE COIL 47UH-K
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L052	9965 000 05702	CHOKE COIL 47UH-K
L053	9965 000 13681	INDUCTOR 100UH-J-5FT
L251	9965 000 08652	INDUCTOR 5.6UH-K-26T
L302	4822 157 10649	100UH
L401	9965 000 05627	CHOKE COIL 47UH-K
L401	9965 000 05702	CHOKE COIL 47UH-K
L402	9965 000 05705	INDUCTOR 47UH-K-5FT
L451	9965 000 05705	INDUCTOR 47UH-K-5FT
L452	9965 000 16621	INDUCTOR 27UH-K-5FT
L501	4822 157 10649	100UH
L503	9965 000 08629	INDUCTOR 1.8UH-K-26T
L1521	9965 000 05627	CHOKE COIL 47UH-K
L1521	9965 000 05702	CHOKE COIL 47UH-K
L2001	4822 157 10649	100UH
L2002	4822 157 11511	15UH-K-26T

DIODES

D051	4822 130 31933	1N5061
D052	4822 130 31933	1N5061
D053	4822 130 31933	1N5061
D054	9965 000 09283	ZENER DZ-10BSBT265
D054	4822 130 80998	MTZJ10C
D056	9965 000 09183	ZENER DZ-33BSDT265
D056	4822 130 81729	MTZJ33D
D057	4822 130 31933	1N5061
D301	4822 130 30621	1N4148
D301	4822 130 32778	1SS133
D370	4822 130 30621	1N4148
D370	4822 130 32778	1SS133
D501*	9965 000 08621	LED(RED) 204HD/E
D501*	4822 130 82978	LTL-16KPE-P
D504*	9965 000 08621	LED(RED) 204HD/E
D504*	4822 130 82978	LTL-16KPE-P

* Note: If any of the LED set (D501 & D504) has to be replaced, both the LEDs must be replaced together.

D510	4822 130 30621	1N4148
D510	4822 130 32778	1SS133
D511	9965 000 15309	ZENER DZ-7.5BSAT265
D511	4822 130 10094	UZ7.5BSA
D512	4822 130 30621	1N4148
D512	4822 130 32778	1SS133
D555	9965 000 19572	LED MIE-534A2
D555	9965 000 05250	LED SIR-563ST3F P
D555	9965 000 05648	LED SIR-563ST3F Q
D751	9965 000 15310	ZENER DZ-8.2BSAT265
D751	9965 000 05248	ZENER MTZJT-778.2A
D1052	5322 130 81917	SB140
D1052	4822 130 80601	ERB81-004
D1053	4822 130 31933	1N5061
D1054	4822 130 31933	1N5061
D1055	4822 130 31933	1N5061
D1057	4822 130 31933	1N5061

ELECTRICAL PARTS LIST - MAIN CBA

DIODES

D1301	9965 000 08622	ZENER DZ-5.6BSBT265
D1301	4822 130 33948	MTZJ5.6B
D2009	4822 130 30621	1N4148
D2009	4822 130 32778	1SS133
D2010	4822 130 30621	1N4148
D2010	4822 130 32778	1SS133

INTEGRATED CIRCUITS

IC301	9965 000 12180	IC:Y/C/A LA71750AM-MTB
IC370	9965 000 12255	IC: SECAM LA70100M-TRM /02
IC451	9965 000 16618	IC:HIFI LA72648M
IC501	9965 000 20917	MICROP. 16BIT M37762MFA-AC7GP
IC502	9965 000 16620	IC:EEPROM CAT24WC02JI
IC502	9965 000 06554	IC:MEMORY BR24C02F-W
IC611	9965 000 20918	V.F.D. 9BT181GN
IC612	9965 000 20919	FL DRIVER IC PT6315
IC631	9965 000 12198	IC:VPS/PDC SLICER LC74793JM-TRM
IC751	9965 000 13852	IC:SWITCH TC4053BF(N) OR
IC751	9965 000 02111	BU4053BCF
IC775	9965 000 12184	IC:COMPARATOR KIA339F EL
IC775	9965 000 12410	IC:COMPARATOR LM339DT
IC1201	9965 000 15314	IC:OP AMP KIA4558P
IC1201	4822 209 83631	NJM4558DD
IC1402	9965 000 15319	DRIVER FOR DVD(6CH) MM1567AJBE
IC1404	9965 000 13852	IC:SWITCH TC4053BF(N) OR
IC1404	9965 000 02111	BU4053BCF
IC2002	9965 000 20920	P-ON MICROP M34506M4-509FP

TRANSISTORS

Q051	9965 000 12190	TRANSISTOR KTA1281(Y)
Q051	4822 130 42371	2SA1020Y
Q052	4822 130 10098	KRC103M
Q052	9965 000 05389	TRANSISTOR BA1F4M-T
Q053	4822 130 42292	2SC2120Y
Q053	9965 000 09287	TRANSISTOR 2SC536NG-NPA-AT
Q054	4822 130 10098	KRC103M
Q054	9965 000 05389	TRANSISTOR BA1F4M-T
Q055	4822 130 10103	KTC3199Y
Q055	9965 000 10994	2SC3199-GR/KTC3199-GR
Q055	4822 130 11647	2SC2785J
Q055	9965 000 19583	TRANSISTOR 2SC2785(H)
Q055	9965 000 05643	TRANSISTOR 2SC2785(F)
Q055	9965 000 09882	TRANSISTOR BN1L4M-T
Q055	4822 130 41306	2SC1815GR
Q056	9965 000 11122	KTC3205Y
Q056	9965 000 19584	TRANSISTOR 2SC3266-Y(TPE2)
Q057	4822 130 10145	KRA103M
Q057	9965 000 05388	TRANSISTOR BN1F4M-T
Q058	4822 130 42959	2SA1015Y
Q058	4822 130 11101	2SA1015GR
Q059	4822 130 10098	KRC103M
Q059	9965 000 05389	TRANSISTOR BA1F4M-T

Q060	4822 130 10098	KRC103M
Q060	9965 000 05389	TRANSISTOR BA1F4M-T
Q105	4822 130 10103	KTC3199Y
Q105	9965 000 10994	2SC3199-GR/KTC3199-GR
Q105	4822 130 11647	2SC2785J
Q105	9965 000 19583	TRANSISTOR 2SC2785(H)
Q105	9965 000 05643	TRANSISTOR 2SC2785(F)
Q105	9965 000 09882	TRANSISTOR BN1L4M-T
Q105	4822 130 41306	2SC1815GR
Q107	4822 130 10103	KTC3199Y not for /02
Q107	9965 000 10994	2SC3199-GR/KTC3199-GR not for /02
Q107	4822 130 11647	2SC2785J not for /02
Q107	9965 000 19583	TRANSISTOR 2SC2785(H) not for /02
Q107	9965 000 05643	TRANSISTOR 2SC2785(F) not for /02
Q107	9965 000 09882	TRANSISTOR BN1L4M-T not for /02
Q107	4822 130 41306	2SC1815GR not for /02
Q107	4822 130 10103	KTC3199Y not for /02
Q107	9965 000 10994	2SC3199-GR/KTC3199-GR not for /02
Q107	4822 130 11647	2SC2785J not for /02
Q107	9965 000 19583	TRANSISTOR 2SC2785(H) not for /02
Q107	9965 000 05643	TRANSISTOR 2SC2785(F) not for /02
Q107	9965 000 09882	TRANSISTOR BN1L4M-T not for /02
Q108	4822 130 10103	KTC3199Y not for /02
Q108	9965 000 10994	2SC3199-GR/KTC3199-GR not for /02
Q108	4822 130 11647	2SC2785J not for /02
Q108	9965 000 19583	TRANSISTOR 2SC2785(H) not for /02
Q108	9965 000 05643	TRANSISTOR 2SC2785(F) not for /02
Q108	9965 000 09882	TRANSISTOR BN1L4M-T not for /02
Q108	4822 130 41306	2SC1815GR not for /02
Q301	9965 000 16622	CHIP TRANSISTOR KTA1504GR-RTK
Q301	9965 000 19585	CHIP TRANSISTOR KTA1504Y-RTK
Q302	4822 130 10103	KTC3199Y
Q302	9965 000 10994	2SC3199-GR/KTC3199-GR
Q302	4822 130 11647	2SC2785J
Q302	9965 000 19583	TRANSISTOR 2SC2785(H)
Q302	9965 000 05643	TRANSISTOR 2SC2785(F)
Q302	9965 000 09882	TRANSISTOR BN1L4M-T
Q302	4822 130 41306	2SC1815GR
Q401	9965 000 16623	CHIP TRANSISTOR FMG4A T148
Q401	9965 000 12361	CHIP TRANSISTOR RN1511(TE85R)
Q403	4822 130 42292	2SC2120Y
Q403	4822 130 42292	2SC2120Y
Q404	4822 130 42959	2SA1015Y
Q404	4822 130 11101	2SA1015GR
Q405	4822 130 10145	KRA103M
Q405	9965 000 05388	TRANSISTOR BN1F4M-T
Q406	9965 000 13683	CHIP TRANSISTOR KTC3875Y-RTK
Q451	9965 000 16624	CHIP TRANSISTOR KRC103S RTK
Q451	9965 000 19586	CHIP TRANSISTOR FA1F4M-T1B
Q502	4822 130 10103	KTC3199Y
Q502	9965 000 10994	2SC3199-GR/KTC3199-GR
Q502	4822 130 11647	2SC2785J
Q502	9965 000 19583	TRANSISTOR 2SC2785(H)
Q502	9965 000 05643	TRANSISTOR 2SC2785(F)
Q502	4822 130 41306	2SC1815GR
Q506	9965 000 08630	PHOTO TRANSISTOR PT204-6B-12
Q506	9965 000 18096	PHOTO TRANSISTOR MID-32A22

ELECTRICAL PARTS LIST - MAIN CBA

Q506	9965 000 20922	PHOTO TRANSISTOR MID-32A22F
Q507	4822 130 10103	KTC3199Y
Q507	9965 000 10994	2SC3199-GR/KTC3199-GR
Q507	4822 130 11647	2SC2785J
Q507	9965 000 19583	TRANSISTOR 2SC2785(H)
Q507	9965 000 05643	TRANSISTOR 2SC2785(F)
Q507	9965 000 09882	TRANSISTOR BN1L4M-T
Q507	4822 130 41306	2SC1815GR
Q508	4822 130 10103	KTC3199Y
Q508	9965 000 10994	2SC3199-GR/KTC3199-GR
Q508	4822 130 11647	2SC2785J
Q508	9965 000 19583	TRANSISTOR 2SC2785(H)
Q508	9965 000 05643	TRANSISTOR 2SC2785(F)
Q508	9965 000 09882	TRANSISTOR BN1L4M-T
Q508	4822 130 41306	2SC1815GR
Q509	4822 130 10103	KTC3199Y
Q509	9965 000 10994	2SC3199-GR/KTC3199-GR
Q509	4822 130 11647	2SC2785J
Q509	9965 000 19583	TRANSISTOR 2SC2785(H)
Q509	9965 000 05643	TRANSISTOR 2SC2785(F)
Q509	9965 000 09882	TRANSISTOR BN1L4M-T
Q509	4822 130 41306	2SC1815GR
Q510	4822 130 10098	KRC103M
Q510	9965 000 05389	TRANSISTOR BA1F4M-T
Q511	4822 130 10103	KTC3199Y
Q511	9965 000 10994	2SC3199-GR/KTC3199-GR
Q511	4822 130 11647	2SC2785J
Q511	9965 000 19583	TRANSISTOR 2SC2785(H)
Q511	9965 000 05643	TRANSISTOR 2SC2785(F)
Q511	9965 000 09882	TRANSISTOR BN1L4M-T
Q511	4822 130 41306	2SC1815GR
Q512	4822 130 10103	KTC3199Y
Q512	9965 000 10994	2SC3199-GR/KTC3199-GR
Q512	4822 130 11647	2SC2785J
Q512	9965 000 19583	TRANSISTOR 2SC2785(H)
Q512	9965 000 05643	TRANSISTOR 2SC2785(F)
Q512	9965 000 09882	TRANSISTOR BN1L4M-T
Q512	4822 130 41306	2SC1815GR
Q513	4822 130 10098	KRC103M
Q513	9965 000 05389	TRANSISTOR BA1F4M-T
Q514	4822 130 10923	KTC3199(BL)
Q514	4822 130 11692	2SC2785K
Q514	4822 130 41319	2SC1815BL
Q515	4822 130 10923	KTC3199(BL)
Q515	4822 130 11692	2SC2785K
Q515	4822 130 41319	2SC1815BL
Q516	4822 130 10098	KRC103M
Q516	9965 000 05389	TRANSISTOR BA1F4M-T
Q611	4822 130 10098	KRC103M
Q611	9965 000 05389	TRANSISTOR BA1F4M-T
Q612	4822 130 10098	KRC103M
Q612	9965 000 05389	TRANSISTOR BA1F4M-T

Q613	4822 130 10098	KRC103M
Q613	9965 000 05389	TRANSISTOR BA1F4M-T
Q614	4822 130 10145	KRA103M
Q614	9965 000 05388	TRANSISTOR BN1F4M-T
Q752	4822 130 10098	KRC103M
Q752	9965 000 05389	TRANSISTOR BA1F4M-T
Q775	9965 000 13683	CHIP TRANSISTOR KTC3875Y-RTK
Q776	9965 000 13683	CHIP TRANSISTOR KTC3875Y-RTK
Q1052	4822 130 42292	2SC2120Y
Q1052	4822 130 42292	2SC2120Y
Q1053	4822 130 63144	2SA1267(YG)
Q1053	4822 130 10462	KTA1267-GR
Q1053	4822 130 11646	2SA1175J
Q1053	9965 000 19587	TRANSISTOR 2SA1175(H)
Q1053	9965 000 05644	TRANSISTOR 2SA1175(F)
Q1054	4822 130 10103	KTC3199Y
Q1054	9965 000 10994	2SC3199-GR/KTC3199-GR
Q1054	4822 130 11647	2SC2785J
Q1054	9965 000 19583	TRANSISTOR 2SC2785(H)
Q1054	9965 000 05643	TRANSISTOR 2SC2785(F)
Q1054	9965 000 09882	TRANSISTOR BN1L4M-T
Q1054	4822 130 41306	2SC1815GR
Q1055	4822 130 42292	2SC2120Y
Q1055	4822 130 42292	2SC2120Y
Q1056	4822 130 63485	KTC3198-Y
Q1056	4822 130 63773	KTC3198-GR
Q1057	4822 130 10101	KRA109M
Q1058	4822 130 63144	2SA1267(YG)
Q1058	4822 130 10462	KTA1267-GR
Q1058	4822 130 11646	2SA1175J
Q1058	9965 000 19587	TRANSISTOR 2SA1175(H)
Q1058	9965 000 05644	TRANSISTOR 2SA1175(F)
Q1059	4822 130 10103	KTC3199Y
Q1059	9965 000 10994	2SC3199-GR/KTC3199-GR
Q1059	4822 130 11647	2SC2785J
Q1059	9965 000 19583	TRANSISTOR 2SC2785(H)
Q1059	9965 000 05643	TRANSISTOR 2SC2785(F)
Q1059	9965 000 09882	TRANSISTOR BN1L4M-T
Q1059	4822 130 41306	2SC1815GR
Q1201	4822 130 10103	KTC3199Y
Q1201	9965 000 10994	2SC3199-GR/KTC3199-GR
Q1201	4822 130 11647	2SC2785J
Q1201	9965 000 19583	TRANSISTOR 2SC2785(H)
Q1201	9965 000 05643	TRANSISTOR 2SC2785(F)
Q1201	9965 000 09882	TRANSISTOR BN1L4M-T
Q1201	4822 130 41306	2SC1815GR
Q1202	4822 130 10103	KTC3199Y
Q1202	9965 000 10994	2SC3199-GR/KTC3199-GR
Q1202	4822 130 11647	2SC2785J
Q1202	9965 000 19583	TRANSISTOR 2SC2785(H)
Q1202	9965 000 05643	TRANSISTOR 2SC2785(F)
Q1202	9965 000 09882	TRANSISTOR BN1L4M-T

ELECTRICAL PARTS LIST - MAIN CBA

TRANSISTORS

Q1202	4822 130 41306	2SC1815GR
Q1203	4822 130 42959	2SA1015Y
Q1203	4822 130 11101	2SA1015GR
Q1204	4822 130 42959	2SA1015Y
Q1204	4822 130 11101	2SA1015GR
Q1352	4822 130 10103	KTC3199Y
Q1352	9965 000 10994	2SC3199-GR/KTC3199-GR
Q1352	4822 130 11647	2SC2785J
Q1352	9965 000 19583	TRANSISTOR 2SC2785(H)
Q1352	9965 000 05643	TRANSISTOR 2SC2785(F)
Q1352	9965 000 09882	TRANSISTOR BN1L4M-T
Q1352	4822 130 41306	2SC1815GR
Q1502	4822 130 10098	KRC103M
Q1502	9965 000 05389	TRANSISTOR BA1F4M-T
Q1505	4822 130 10098	KRC103M
Q1505	9965 000 05389	TRANSISTOR BA1F4M-T
Q1506	4822 130 10098	KRC103M
Q1506	9965 000 05389	TRANSISTOR BA1F4M-T
Q2007	4822 130 10103	KTC3199Y
Q2007	9965 000 10994	2SC3199-GR/KTC3199-GR
Q2007	4822 130 11647	2SC2785J
Q2007	9965 000 19583	TRANSISTOR 2SC2785(H)
Q2007	9965 000 05643	TRANSISTOR 2SC2785(F)
Q2007	9965 000 09882	TRANSISTOR BN1L4M-T
Q2007	4822 130 41306	2SC1815GR

Note: Only the parts mentioned in this list are normal service spare parts.

ELECTRICAL PARTS LIST - AM/FM TUNER UNIT

MISCELLANEOUS

1102	4822 267 10283	SOCKET COAX, IEC 75R
1103	4822 265 31184	JST CONNECTOR, 2P
1110	2422 542 90071	FM FRONTEND FE450-G01
1120	4822 265 11515	FLEX SOCKET 8P VERT.

CAPACITORS

2102	4822 126 13838	100NF +80/-20% 50V
2106	2020 800 00191	TRIMCAP. 3P-11P N450
2107	4822 121 51319	1UF 10% 63V
2120	4822 126 13689	18PF 1% 63V
2124	4822 122 33177	10NF 20% 50V
2125	2020 552 96199	560PF 1% 50V
2127	4822 126 14076	220NF +80/-20% 25V
2128	4822 124 40248	10UF 20% 63V
2129	4822 124 41584	100UF 20% 10V
2130	5322 122 32654	22NF 10% 63V
2131	4822 126 13482	470NF +80/-20% 16V
2132	4822 126 13482	470NF +80/-20% 16V
2133	4822 124 21913	1UF 20% 63V
2134	4822 122 33893	18NF 10% 63V
2134	3198 017 31530	15NF 10% 50V
2135	3198 017 31530	15NF 10% 50V
2135	4822 122 33893	18NF 10% 63V
2136	4822 126 14076	220NF +80/-20% 25V
2137	4822 126 14076	220NF +80/-20% 25V
2138	4822 124 22652	2,2UF 20% 50V
2139	4822 126 14236	15PF 5% 50V
2140	4822 126 13695	82PF 1% 63V
2141	4822 126 13838	100NF +80/-20% 50V
2143	4822 126 14076	220NF +80/-20% 25V
2144	4822 124 21913	1UF 20% 63V
2145	4822 122 33575	220PF 5% 63V
2146	4822 122 33575	220PF 5% 63V
2147	4822 122 33575	220PF 5% 63V
2148	4822 122 33127	2,2NF 10% 63V
2149	5322 122 32659	33PF 5% 50V
2150	4822 126 13838	100NF +80/-20% 50V
2159	5322 122 32659	33PF 5% 50V
2162	4822 124 81151	22UF 50V
2164	4822 126 13482	470NF +80/-20% 16V
2165	4822 126 13838	100NF +80/-20% 50V
2166	5322 122 31647	1NF 10% 63V
2167	4822 122 33926	12PF 50V
2169	4822 122 33127	2,2NF 10% 63V
2180	5322 126 11583	10NF 10% 50V
2191	4822 124 41584	100UF 20% 10V

RESISTORS

3105	4822 117 11503	220R 1% 0.1W
3130	4822 117 12968	820R 5% 0,62W
3131	4822 117 12968	820R 5% 0,62W
3132	4822 051 20479	47R 5% 0,1W

ELECTRICAL PARTS LIST - AM/FM TUNER UNIT

3134	4822 051 20223	22K 5% 0,1W
3135	4822 051 30102	1K 5% 0,062W
3141	4822 117 11148	56K 1% 0,1W
3142	4822 100 12159	100K 30%
3143	4822 051 20223	22K 5% 0,1W
3144	4822 051 10102	1K 2% 0,25W
3145	4822 117 11449	2K2 5% 0,1W
3146	4822 051 20229	22R 5% 0,1W
3150	4822 117 10833	10K 1% 0,1W
3151	4822 051 20683	68K 5% 0,1W
3152	4822 051 20471	470R 5% 0,1W
3153	4822 051 20471	470R 5% 0,1W
3154	4822 117 13577	330R 1% 0,1W
3155	4822 117 10353	150R 1% 0,1W
3156	4822 117 10837	100K 1% 0.1W
3157	4822 117 10837	100K 1% 0.1W
3158	4822 051 20471	470R 5% 0,1W
3159	4822 051 20471	470R 5% 0,1W
3160	4822 051 20471	470R 5% 0,1W
3161	4822 051 20223	22K 5% 0,1W
3167	4822 051 20121	120R 5% 0,1W
3168	4822 051 20121	120R 5% 0,1W
3169	4822 051 20154	150K 5% 0,1W
3171	4822 117 10834	47K 1% 0,1W
3172	4822 051 20562	5K6 5% 0,1W
3176	4822 051 20333	33K 5% 0,1W
3190	4822 051 20121	120R 5% 0,1W
3191	4822 051 20121	120R 5% 0,1W
3192	4822 117 13577	330R 1% 0,1W
3193	4822 117 13577	330R 1% 0,1W
3194	4822 117 11449	2K2 5% 0,1W
3195	4822 051 20101	100R 5% 0,1W
4101	4822 051 20008	0R JUMPER 0805
4102	4822 051 20008	0R JUMPER 0805
4104	4822 051 20008	0R JUMPER 0805
4105	4822 051 20008	0R JUMPER 0805
4106	4822 051 20008	0R JUMPER 0805
4107	4822 051 20008	0R JUMPER 0805

COILS & FILTERS

5102	4822 157 71634	RF-COIL MW
5109	4822 157 71639	FM-FI FILTER 10,7MHZ
5110	4822 242 70665	FM-FI FILTER 10,7MHZ
5111	2422 549 44023	AM-IF FILTER 450KHZ
5112	4822 157 70302	AM-IF FILTER 450KHZ
5114	4822 157 70302	AM-IF FILTER 450KHZ
5115	4822 157 71636	ANIT BIRDY FILTER
5118	2422 535 95881	FIXED IND. 0,1UH 5%
5119	4822 157 11443	DISCRIMINATOR COIL
5121	4822 242 10261	QUARTZ 75KHZ
5123	2422 549 44108	RF-COIL MW-OSCILLATOR

DIODES

6105	4822 130 83075	HN1V02H-B
6106	4822 130 83757	BAS216
6107	9340 386 90115	BZX284-C11

TRANSISTORS & INTEGRATED CIRCUITS

7101	4822 209 90315	TEA5762H/V1
7103	5322 130 42756	BC857C
7110	4822 130 60373	BC857B
7111	5322 130 42755	BC847C
7112	4822 130 44503	BC547C

Note: Only the parts mentioned in this list are normal service spare parts.

ELECTRICAL PARTS LIST - TUNER CBA

MISCELLANEOUS

CN1201	9965 000 05261	CONNECTOR 4P TUC-P04X-B1	
CN2013	9965 000 05246	FE CONN.TOP 9P 09FE-BT-VK-N	
CN2014	9965 000 05246	FE CONN.TOP 9P 09FE-BT-VK-N	
CN701	9965 000 15351	AFV PCB ASSEMBLY CP2500/9311/00/05	
CN701	9965 000 15376	AFV PCB ASSEMBLY CP2500/9307	/02
CN703	9965 000 20924	CONNECTOR, 20P TUC-P20X-B1	
JK1401	9965 000 15323	S TYPE JACK MDC-050V-2.4	
TU701	9965 000 12265	TUNER UNIT TMDG2-631A	/00
TU701	9965 000 12256	TUNER UNIT TMDZ2-731A	/02
TU701	9965 000 12193	TUNER UNIT TMDG2-632A	/05

CAPACITORS

C701	9965 000 15295	ELCAP 100UF/6.3V H7	
C708	9965 000 15290	ELCAP 10UF/16V M H7	not for /02

COILS & FILTERS

L701	4822 157 11511	15UH-K-26T	not for /02
L703	9965 000 05627	CHOKE COIL 47UH-K	
L703	9965 000 05702	CHOKE COIL 47UH-K	
L704	4822 157 10889	10UH	not for /02

DIODES

D701	9965 000 09183	ZENER DZ-33BSDT265	
D701	4822 130 81729	MTZJ33D	

TRANSISTORS

Q111	4822 130 10103	KTC3199Y	
Q111	9965 000 10994	2SC3199-GR/KTC3199-GR	
Q111	4822 130 11647	2SC2785J	
Q111	9965 000 19583	TRANSISTOR 2SC2785(H)	
Q111	9965 000 05643	TRANSISTOR 2SC2785(F)	
Q111	9965 000 09882	TRANSISTOR BN1L4M-T	
Q111	4822 130 41306	2SC1815GR	
Q112	4822 130 10103	KTC3199Y	
Q112	9965 000 10994	2SC3199-GR/KTC3199-GR	
Q112	4822 130 11647	2SC2785J	
Q112	9965 000 19583	TRANSISTOR 2SC2785(H)	
Q112	9965 000 05643	TRANSISTOR 2SC2785(F)	
Q112	9965 000 09882	TRANSISTOR BN1L4M-T	
Q112	4822 130 41306	2SC1815GR	
Q113	4822 130 10103	KTC3199Y	
Q113	9965 000 10994	2SC3199-GR/KTC3199-GR	
Q113	4822 130 11647	2SC2785J	
Q113	9965 000 19583	TRANSISTOR 2SC2785(H)	
Q113	9965 000 05643	TRANSISTOR 2SC2785(F)	
Q113	9965 000 09882	TRANSISTOR BN1L4M-T	
Q113	4822 130 41306	2SC1815GR	
Q114	4822 130 10103	KTC3199Y	
Q114	9965 000 10994	2SC3199-GR/KTC3199-GR	
Q114	4822 130 11647	2SC2785J	
Q114	9965 000 19583	TRANSISTOR 2SC2785(H)	
Q114	9965 000 05643	TRANSISTOR 2SC2785(F)	

Q114	9965 000 09882	TRANSISTOR BN1L4M-T	
Q114	4822 130 41306	2SC1815GR	
Note:	Only the parts mentioned in this list are normal service spare parts.		

ELECTRICAL PARTS LIST - DAC CBA

MISCELLANEOUS

CN7102	9965 000 20948	FMN CONN SIDE 20P 20FMN-STK	
CN7103	9965 000 13916	CONNECTOR 8P TUC-P08X-B1	
CN7105	9965 000 20949	FE CONN TOP 13P 13FE-BT-VK-N	

CAPACITORS

C7202	9965 000 09834	CHIP CAP CG J 220PF/50V	
C7203	9965 000 15292	ELCAP 47UF/6.3V M H7	
C7205	9965 000 15292	ELCAP 47UF/6.3V M H7	
C7207	9965 000 09834	CHIP CAP CG J 220PF/50V	
C7208	9965 000 15292	ELCAP 47UF/6.3V M H7	
C7210	9965 000 15292	ELCAP 47UF/6.3V M H7	
C7212	9965 000 09834	CHIP CAP CG J 220PF/50V	
C7213	9965 000 15292	ELCAP 47UF/6.3V M H7	
C7216	9965 000 15292	ELCAP 47UF/6.3V M H7	
C7301	9965 000 15290	ELCAP 10UF/16V M H7	
C7302	9965 000 15290	ELCAP 10UF/16V M H7	
C7309	9965 000 15290	ELCAP 10UF/16V M H7	
C7310	9965 000 15290	ELCAP 10UF/16V M H7	
C7342	9965 000 14862	ELCAP 470UF/6.3V M	
C7342	9965 000 19558	ELCAP 470UF/6.3V M	
C7343	9965 000 14864	ELCAP 220UF/16V M	
C7343	9965 000 20947	ELCAP 220UF/16V M	
C7401	9965 000 15290	ELCAP 10UF/16V M H7	
C7402	9965 000 15290	ELCAP 10UF/16V M H7	
C7409	9965 000 15290	ELCAP 10UF/16V M H7	
C7410	9965 000 15290	ELCAP 10UF/16V M H7	
C7442	9965 000 14862	ELCAP 470UF/6.3V M	
C7442	9965 000 19558	ELCAP 470UF/6.3V M	
C7443	9965 000 14864	ELCAP 220UF/16V M	
C7443	9965 000 20947	ELCAP 220UF/16V M	
C7501	9965 000 15290	ELCAP 10UF/16V M H7	
C7502	9965 000 15290	ELCAP 10UF/16V M H7	
C7509	9965 000 15290	ELCAP 10UF/16V M H7	
C7510	9965 000 15290	ELCAP 10UF/16V M H7	
C7542	9965 000 14862	ELCAP 470UF/6.3V M	
C7542	9965 000 19558	ELCAP 470UF/6.3V M	
C7543	9965 000 14864	ELCAP 220UF/16V M	
C7543	9965 000 20947	ELCAP 220UF/16V M	

INTEGRATED CIRCUITS

IC7201	9965 000 20950	AUD D/A CONVERTER PCM1751DBQR	
IC7202	9965 000 20950	AUD D/A CONVERTER PCM1751DBQR	
IC7203	9965 000 20950	AUD D/A CONVERTER PCM1751DBQR	
IC7301	9965 000 20951	IC:OP AMP KIA4558F-EL	
IC7301	9965 000 20952	IC:OP AMP NJM4558M-TE1	
IC7402	9965 000 20951	IC:OP AMP KIA4558F-EL	
IC7402	9965 000 20952	IC:OP AMP NJM4558M-TE1	
IC7501	9965 000 20951	IC:OP AMP KIA4558F-EL	
IC7501	9965 000 20952	IC:OP AMP NJM4558M-TE1	

TRANSISTORS

Q7301	9965 000 19585	CHIP TRANSISTOR KTA1504Y-RTK	
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Q7301	4822 130 11671	2SA1037AKT146-QR	
Q7302	9965 000 19585	CHIP TRANSISTOR KTA1504Y-RTK	
Q7302	4822 130 11671	2SA1037AKT146-QR	
Q7305	9965 000 20953	CHIP TR KTC3875GR-RTK	
Q7308	9965 000 20953	CHIP TR KTC3875GR-RTK	
Q7401	9965 000 19585	CHIP TRANSISTOR KTA1504Y-RTK	
Q7401	4822 130 11671	2SA1037AKT146-QR	
Q7402	9965 000 19585	CHIP TRANSISTOR KTA1504Y-RTK	
Q7402	4822 130 11671	2SA1037AKT146-QR	
Q7404	9965 000 20953	CHIP TR KTC3875GR-RTK	
Q7405	9965 000 20953	CHIP TR KTC3875GR-RTK	
Q7501	9965 000 19585	CHIP TRANSISTOR KTA1504Y-RTK	
Q7501	4822 130 11671	2SA1037AKT146-QR	
Q7502	9965 000 19585	CHIP TRANSISTOR KTA1504Y-RTK	
Q7502	4822 130 11671	2SA1037AKT146-QR	
Q7504	9965 000 20953	CHIP TR KTC3875GR-RTK	
Q7505	9965 000 20953	CHIP TR KTC3875GR-RTK	
Q7506	4822 130 10145	KRA103M	
Q7506	9965 000 05388	TRANSISTOR BN1F4M-T	
Q7507	4822 130 10098	KRC103M	
Q7507	9965 000 05389	TRANSISTOR BA1F4M-T	

Note:	Only the parts mentioned in this list are normal service spare parts.		
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ELECTRICAL PARTS LIST - JACK-A & JUNCTION-A, JACK-B & JUNCTION-B and JACK-C CBAs

JACK-A & JUNCTION-A CBA

MISCELLANEOUS

CN2120	9965 000 20932	CONNECTOR, 18P TUC-P18X-B1
JK101	9965 000 20716	RGB CONNECTOR MRC-021V-03

CAPACITORS

C104	9965 000 15246	ELCAP 100UF/16V M
C104	9965 000 09789	CHIP CAP CG J 68PF/50V
C107	9965 000 14862	ELCAP 470UF/6.3V M
C107	9965 000 19558	ELCAP 470UF/6.3V M
C117	9965 000 15289	ELCAP 1UF/50V M
C117	9965 000 19559	ELCAP 1UF/50V M
C127	9965 000 09762	ELCAP 220UF/6.3V M H7
C127	9965 000 19554	ELCAP 10UF/16V M

DIODES

D103	9965 000 12178	ZENER DZ-11BSAT265
D103	9965 000 19571	ZENER MTZJT-7711A
D104	9965 000 12178	ZENER DZ-11BSAT265
D104	9965 000 19571	ZENER MTZJT-7711A
D106	9965 000 12178	ZENER DZ-11BSAT265
D106	9965 000 19571	ZENER MTZJT-7711A
D108	9965 000 12178	ZENER DZ-11BSAT265
D108	9965 000 19571	ZENER MTZJT-7711A
D109	9965 000 12178	ZENER DZ-11BSAT265
D109	9965 000 19571	ZENER MTZJT-7711A
D110	9965 000 12178	ZENER DZ-11BSAT265
D110	9965 000 19571	ZENER MTZJT-7711A
D115	9965 000 12178	ZENER DZ-11BSAT265
D115	9965 000 19571	ZENER MTZJT-7711A
D118	9965 000 12178	ZENER DZ-11BSAT265
D118	9965 000 19571	ZENER MTZJT-7711A
D119	9965 000 12178	ZENER DZ-11BSAT265
D119	9965 000 19571	ZENER MTZJT-7711A
D121	9965 000 12178	ZENER DZ-11BSAT265
D121	9965 000 19571	ZENER MTZJT-7711A

COILS & FILTERS

L101	4822 526 10685	BEAD CORE B16 RH 3.5X10X1.3
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TRANSISTORS

Q104	4822 130 42959	2SA1015Y
Q104	4822 130 11101	2SA1015GR

JACK-B & JUNCTION-B CBA

MISCELLANEOUS

CN2115	9965 000 20933	CONNECTOR, 10P TUC-P10X-B1
JK1402	9965 000 20716	RGB CONNECTOR MRC-021V-03

CAPACITORS

C102	9965 000 15289	ELCAP 1UF/50V M
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C102	9965 000 19559	ELCAP 1UF/50V M
C108	9965 000 14862	ELCAP 470UF/6.3V M
C108	9965 000 19558	ELCAP 470UF/6.3V M

COILS & FILTERS

L102	4822 526 10685	BEAD CORE B16 RH 3.5X10X1.3
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DIODES

D101	9965 000 12178	ZENER DZ-11BSAT265
D101	9965 000 19571	ZENER MTZJT-7711A
D102	9965 000 12178	ZENER DZ-11BSAT265
D102	9965 000 19571	ZENER MTZJT-7711A
D105	9965 000 12178	ZENER DZ-11BSAT265
D105	9965 000 19571	ZENER MTZJT-7711A
D107	9965 000 12178	ZENER DZ-11BSAT265
D107	9965 000 19571	ZENER MTZJT-7711A
D112	9965 000 12178	ZENER DZ-11BSAT265
D112	9965 000 19571	ZENER MTZJT-7711A
D113	9965 000 12178	ZENER DZ-11BSAT265
D113	9965 000 19571	ZENER MTZJT-7711A

TRANSISTORS

Q103	4822 130 42959	2SA1015Y
Q103	4822 130 11101	2SA1015GR

JACK-C CBA

MISCELLANEOUS

CN1202	9965 000 05247	CONNECTOR BASE 4P TUC-P04P-B1
JK1202	9965 000 15322	RCA JACK(BLACK) MSP-281V2-B

COILS & FILTERS

L1251	9965 000 15331	INDUCTOR 0.47UH-K-26T
L1351	4822 157 10649	100UH

TRANSISTORS

Q1351	4822 130 10103	KTC3199Y
Q1351	9965 000 10994	2SC3199-GR/KTC3199-GR
Q1351	4822 130 11647	2SC2785J
Q1351	9965 000 19583	TRANSISTOR 2SC2785(H)
Q1351	9965 000 05643	TRANSISTOR 2SC2785(F)
Q1351	9965 000 09882	TRANSISTOR BN1L4M-T
Q1351	4822 130 41306	2SC1815GR

Note: Only the parts mentioned in this list are normal service spare parts.

ELECTRICAL PARTS LIST - LED, FRONT, AFV, SENSOR and DVD OPEN/CLOSE CBAs

LED CBA

MISCELLANEOUS

CN651	9965 000 05245	FE CONN.TOP 7P 07FE-BT-VK-N
SW651	4822 276 13954	KSM0614B
SW651	4822 276 14127	SKQSAF001A
SW651	9965 000 19590	TACT SWITCH TC-1104(H=9.5)
SW652	4822 276 13954	KSM0614B
SW652	4822 276 14127	SKQSAF001A
SW652	9965 000 19590	TACT SWITCH TC-1104(H=9.5)
SW653	4822 276 13954	KSM0614B
SW653	4822 276 14127	SKQSAF001A
SW653	9965 000 19590	TACT SWITCH TC-1104(H=9.5)

DIODES

D651*	9965 000 08621	LED(RED) 204HD/E
D651*	4822 130 82978	LTL-16KPE-P
D652*	9965 000 08621	LED(RED) 204HD/E
D652*	4822 130 82978	LTL-16KPE-P
D653*	9965 000 08621	LED(RED) 204HD/E
D653*	4822 130 82978	LTL-16KPE-P
D654*	9965 000 08621	LED(RED) 204HD/E
D654*	4822 130 82978	LTL-16KPE-P

* Note: If any of the LED set (D651 - D654) has to be replaced, all the four LEDs must be replaced together.

FRONT CBA

MISCELLANEOUS

CN2015	9965 000 05246	FE CONN.TOP 9P 09FE-BT-VK-N
SW502	4822 276 13954	KSM0614B
SW502	4822 276 14127	SKQSAF001A
SW502	9965 000 19590	TACT SWITCH TC-1104(H=9.5)
VR502	9965 000 20930	ROTARY ENCODER EC12E2430803

DIODES

D2011*	9965 000 08623	LED(GREEN) 204-10GD/S957
D2011*	4822 130 10685	LTL4231N-001
D2012*	9965 000 08623	LED(GREEN) 204-10GD/S957
D2012*	4822 130 10685	LTL4231N-001
D2013*	9965 000 08623	LED(GREEN) 204-10GD/S957
D2013*	4822 130 10685	LTL4231N-001
D2014*	9965 000 08623	LED(GREEN) 204-10GD/S957
D2014*	4822 130 10685	LTL4231N-001
D2015*	9965 000 08623	LED(GREEN) 204-10GD/S957
D2015*	4822 130 10685	LTL4231N-001

* Note: If any of the LED set (D2011 - D2015) has to be replaced, all the five LEDs must be replaced together.

AFV CBA

MISCELLANEOUS

CN1	4822 265 11267	ANGLE PIN HEADER 9P
X1	9965 000 12200	X'TAL 18.432MHZ

CAPACITORS

C12	9965 000 14891	ELCAP 10UF/16V M H7
C15	9965 000 14891	ELCAP 10UF/16V M H7
C16	9965 000 14891	ELCAP 10UF/16V M H7
C20	9965 000 14892	ELCAP 3.3UF/50V M H7
C22	9965 000 14891	ELCAP 10UF/16V M H7
C24	9965 000 14893	ELCAP 0.22UF/50V M H

COILS & FILTERS

L1	4822 157 10889	10UH
L3	4822 157 11318	18UH 10%
L4	4822 157 10889	10UH

DIODES

D2	4822 130 30621	1N4148
D2	4822 130 32778	1SS133

INTEGRATED CIRCUITS

IC1	9965 000 14760	AUD UP MSP3417G-QG-B8-V3
IC1	9965 000 14760	AUD UP MSP3417G-QG-B8-V3

SENSOR CBA

	9965 000 20894	SENSOR CBA (COMPLETE ASSY)
Q503	9965 000 08630	PHOTO TRANSISTOR PT204-6B-12
Q503	9965 000 18096	PHOTO TRANSISTOR MID-32A22
Q503	9965 000 20922	PHOTO TRANSISTOR MID-32A22F
Q504	9965 000 08630	PHOTO TRANSISTOR PT204-6B-12
Q504	9965 000 18096	PHOTO TRANSISTOR MID-32A22
Q504	9965 000 20922	PHOTO TRANSISTOR MID-32A22F

DVD OPEN/CLOSE CBA

SW2020	4822 276 13954	KSM0614B
SW2020	4822 276 14127	SKQSAF001A
SW2020	9965 000 19590	TACT SWITCH TC-1104(H=9.5)

Note: Only the parts mentioned in this list are normal service spare parts.

ELECTRICAL PARTS LIST - AF BOARD

MISCELLANEOUS

1231	4822 267 10729	FLEX SOCKET 10P VERT
1232	4822 267 10733	FLEX SOCKET 4P VERT
1234	4822 267 10729	FLEX SOCKET 10P VERT
1236	4822 267 10732	FLEX SOCKET 12P VERT
1237	4822 265 11515	FLEX SOCKET 8P VERT
1238	4822 267 10738	FLEX SOCKET 13P VERT
1239	2422 025 14518	FLEX SOCKET 9P VERT

CAPACITORS

2100	5322 126 11579	3,3NF 10% 63V
2101	4822 126 14043	1UF +80/-20% 16V
2102	2238 586 59812	100NF +80/-20% 50V
2103	4822 126 14241	330PF 50V
2104	4822 126 14043	1UF +80/-20% 16V
2110	5322 126 11583	10NF 10% 50V
2111	3198 016 31020	1NF 25V
2112	5322 126 11579	3,3NF 10% 63V
2113	4822 126 14583	470NF 10% 16V
2114	4822 126 14238	2,2NF 50V
2115	4822 126 13879	220NF +80/-20% 16V
2116	2020 552 96327	330NF 10% 16V
2117	2020 552 96684	470NF 10% 25V
2118	3198 016 31020	1NF 25V
2119	2020 552 94427	100PF 5% 50V
2120	2020 552 94427	100PF 5% 50V
2121	2020 552 94427	100PF 5% 50V
2122	2020 552 94427	100PF 5% 50V
2130	4822 126 14238	2,2NF 50V
2131	4822 124 40196	220UF 20% 16V
2132	4822 124 81151	22UF 50V
2133	2238 916 15641	22NF 10% 25V
2134	4822 124 40433	47UF 20% 25V
2136	3198 016 31020	1NF 25V
2137	2020 552 94427	100PF 5% 50V
2138	2020 552 94427	100PF 5% 50V
2139	2238 586 59812	100NF +80/-20% 50V
2141	2238 586 59812	100NF +80/-20% 50V
2143	4822 126 14583	470NF 10% 16V
2150	5322 126 11579	3,3NF 10% 63V
2151	4822 126 14043	1UF +80/-20% 16V
2152	2238 586 59812	100NF +80/-20% 50V
2153	4822 126 14241	330PF 50V
2154	4822 126 14043	1UF +80/-20% 16V
2160	5322 126 11583	10NF 10% 50V
2161	3198 016 31020	1NF 25V
2162	5322 126 11579	3,3NF 10% 63V
2163	4822 126 14583	470NF 10% 16V
2164	4822 126 14238	2,2NF 50V
2165	4822 126 13879	220NF +80/-20% 16V
2166	2020 552 96327	330NF 10% 16V
2167	2020 552 96684	470NF 10% 25V
2168	3198 016 31020	1NF 25V

2169	2020 552 94427	100PF 5% 50V
2170	2020 552 94427	100PF 5% 50V
2171	2020 552 94427	100PF 5% 50V
2172	2020 552 94427	100PF 5% 50V
2200	3198 016 31020	1NF 25V
2201	4822 124 81151	22UF 50V
2202	2020 552 94427	100PF 5% 50V
2203	4822 126 13881	470PF 5% 50V
2204	4822 126 14241	330PF 50V
2205	4822 124 40196	220UF 20% 16V
2206	4822 126 13482	470NF +80/-20% 16V
2230	4822 124 40248	10UF 20% 63V
2232	2020 552 94427	100PF 5% 50V
2233	4822 124 41584	100UF 20% 10V
2234	4822 124 40433	47UF 20% 25V
2235	2238 916 15641	22NF 10% 25V
2236	4822 124 81044	470UF 20% 6,3V
2237	4822 124 40184	1000UF 20% 10V
2250	3198 016 31020	1NF 25V
2251	4822 124 81151	22UF 50V
2252	2020 552 94427	100PF 5% 50V
2253	4822 126 13881	470PF 5% 50V
2254	4822 126 14241	330PF 50V
2255	4822 124 40196	220UF 20% 16V
2256	4822 126 13482	470NF +80/-20% 16V
2300	2238 586 59812	100NF +80/-20% 50V
2301	4822 126 13193	4,7NF10% 63V
2302	4822 126 14043	1UF +80/-20% 16V
2303	2020 552 94427	100PF 5% 50V
2304	4822 126 14043	1UF +80/-20% 16V
2305	4822 126 13193	4,7NF10% 63V
2306	2020 552 94427	100PF 5% 50V
2307	4822 126 14043	1UF +80/-20% 16V
2310	2020 552 94427	100PF 5% 50V
2311	2020 552 94427	100PF 5% 50V
2312	2020 552 94427	100PF 5% 50V
2313	2020 552 94427	100PF 5% 50V
2316	4822 126 13879	220NF +80/-20% 16V
2317	4822 126 14583	470NF 10% 16V
2318	4822 126 14472	1UF 10% 10V
2320	5322 126 11579	3,3NF 10% 63V
2321	5322 126 11579	3,3NF 10% 63V
2322	4822 126 14241	330PF 50V
2323	5322 126 11579	3,3NF 10% 63V
2340	3198 016 31020	1NF 25V
2341	3198 016 31020	1NF 25V
2342	4822 126 14043	1UF +80/-20% 16V
2343	4822 126 14043	1UF +80/-20% 16V
2344	4822 126 14043	1UF +80/-20% 16V
2345	4822 126 14043	1UF +80/-20% 16V
2350	2238 586 59812	100NF +80/-20% 50V
2351	4822 126 13193	4,7NF10% 63V

ELECTRICAL PARTS LIST - AF BOARD

2352	4822 126 14043	1UF +80/-20% 16V
2353	2020 552 94427	100PF 5% 50V
2354	4822 126 14043	1UF +80/-20% 16V
2355	2020 552 94427	100PF 5% 50V
2356	4822 124 40248	10UF 20% 63V
2357	4822 126 14043	1UF +80/-20% 16V
2360	2020 552 94427	100PF 5% 50V
2361	2020 552 94427	100PF 5% 50V
2362	2020 552 94427	100PF 5% 50V
2363	2020 552 94427	100PF 5% 50V
2381	4822 124 40769	4,7UF 20% 100V
2386	2238 586 59812	100NF +80/-20% 50V
2387	2020 552 94427	100PF 5% 50V
2388	2020 552 94427	100PF 5% 50V
2389	4822 126 14583	470NF 10% 16V
2390	2238 586 59812	100NF +80/-20% 50V
2391	2020 552 94427	100PF 5% 50V
2392	2020 552 94427	100PF 5% 50V
2393	4822 126 14583	470NF 10% 16V
2394	4822 124 40433	47UF 20% 25V
2395	2238 916 15641	22NF 10% 25V
2396	4822 124 40433	47UF 20% 25V
2397	4822 124 40433	47UF 20% 25V
2398	2238 916 15641	22NF 10% 25V
2399	4822 124 40433	47UF 20% 25V
2530	2238 586 59812	100NF +80/-20% 50V
2531	4822 124 40433	47UF 20% 25V
2532	2238 586 59812	100NF +80/-20% 50V
2533	2238 586 59812	100NF +80/-20% 50V
2560	5322 126 11583	10NF 10% 50V
2562	4822 126 13193	4,7NF10% 63V
2563	4822 126 14583	470NF 10% 16V
2564	3198 017 41050	1UF 10V
2565	3198 017 41050	1UF 10V
2566	2020 552 94427	100PF 5% 50V
2568	4822 126 14223	2,2PF +/-0,25PF 50V
2569	4822 122 33761	22PF 5% 50V
2570	4822 124 40433	47UF 20% 25V
2571	4822 124 40433	47UF 20% 25V
2573	4822 122 33741	10PF10% 50V
2574	4822 122 33761	22PF 5% 50V
2575	4822 122 33761	22PF 5% 50V
2576	4822 122 33761	22PF 5% 50V
2577	3198 017 41050	1UF 10V
2578	2238 586 59812	100NF +80/-20% 50V
2580	5322 126 11578	1NF 10% 50V
2581	5322 126 11578	1NF 10% 50V

RESISTORS

3100	4822 051 30102	1K 5% 0,062W
3101	4822 051 30333	33K 5% 0,062W
3102	4822 051 30102	1K 5% 0,062W

3103	4822 051 30222	2K2 5% 0,062W
3104	4822 051 30153	15K 5% 0,062W
3105	4822 051 30333	33K 5% 0,062W
3113	4822 051 30103	10K 5% 0,062W
3114	4822 051 30183	18K 5% 0,062W
3115	4822 051 30562	5K6 5% 0,063W
3116	4822 117 12925	47K 1% 0.063W
3117	4822 117 12902	8K2 1% 0.063W
3118	4822 051 30562	5K6 5% 0,063W
3119	4822 051 30221	220R 5% 0,062W
3120	4822 051 30103	10K 5% 0,062W
3121	4822 051 30103	10K 5% 0,062W
3122	4822 051 30103	10K 5% 0,062W
3123	4822 051 30103	10K 5% 0,062W
3124	4822 117 12891	220K 1% 0,062W
3130	4822 051 30151	150R 5% 0,062W
3131	4822 051 30102	1K 5% 0,062W
3132	4822 051 30102	1K 5% 0,062W
3140	4822 051 30101	100R 5% 0,062W
3141	4822 051 30101	100R 5% 0,062W
3142	4822 051 30101	100R 5% 0,062W
3143	4822 051 30101	100R 5% 0,062W
3150	4822 051 30102	1K 5% 0,062W
3151	4822 051 30333	33K 5% 0,062W
3152	4822 051 30102	1K 5% 0,062W
3153	4822 117 12891	220K 1% 0,062W
3154	4822 051 30153	15K 5% 0,062W
3155	4822 051 30333	33K 5% 0,062W
3163	4822 051 30103	10K 5% 0,062W
3164	4822 051 30183	18K 5% 0,062W
3165	4822 051 30562	5K6 5% 0,063W
3166	4822 117 12925	47K 1% 0.063W
3167	4822 117 12902	8K2 1% 0.063W
3168	4822 051 30562	5K6 5% 0,063W
3169	4822 051 30221	220R 5% 0,062W
3180	4822 051 30102	1K 5% 0,062W
3200	4822 051 30221	220R 5% 0,062W
3201	4822 051 30123	12K 5% 0,062W
3202	4822 051 30682	6K8 5% 0,062W
3203	4822 051 30103	10K 5% 0,062W
3204	4822 051 30109	10R 5% 0,062W
3205	4822 051 30109	10R 5% 0,062W
3206	4822 051 30102	1K 5% 0,062W
3207	4822 051 30221	220R 5% 0,062W
3208	4822 051 30102	1K 5% 0,062W
3230	4822 051 30472	4K7 5% 0,062W
3231	4822 051 30472	4K7 5% 0,062W
3232	4822 051 30562	5K6 5% 0,063W
3233	4822 051 30102	1K 5% 0,062W
3234	4822 051 30103	10K 5% 0,062W
3235	4822 051 30103	10K 5% 0,062W
3243	4822 051 30562	5K6 5% 0,063W

ELECTRICAL PARTS LIST - AF BOARD

RESISTORS

3244	4822 051 30472	4K7 5% 0,062W
3245	4822 051 30472	4K7 5% 0,062W
3246	4822 052 10109 Δ	10R 5% 0,33W
3247	4822 117 13632	100K 1% 0.62W
3248	4822 117 13632	100K 1% 0.62W
3249	4822 051 30103	10K 5% 0,062W
3250	4822 051 30221	220R 5% 0,062W
3251	4822 051 30123	12K 5% 0,062W
3252	4822 051 30682	6K8 5% 0,062W
3253	4822 051 30103	10K 5% 0,062W
3254	4822 051 30109	10R 5% 0,062W
3255	4822 051 30109	10R 5% 0,062W
3256	4822 051 30102	1K 5% 0,062W
3257	4822 051 30221	220R 5% 0,062W
3258	4822 051 30102	1K 5% 0,062W
3291	4822 052 10228 Δ	2R2 5% 0,33W
3300	4822 051 30102	1K 5% 0,062W
3301	4822 051 30102	1K 5% 0,062W
3302	4822 051 30102	1K 5% 0,062W
3303	4822 051 30101	100R 5% 0,062W
3304	4822 051 30222	2K2 5% 0,062W
3306	4822 051 30102	1K 5% 0,062W
3307	4822 051 30102	1K 5% 0,062W
3308	4822 051 30101	100R 5% 0,062W
3315	4822 051 30102	1K 5% 0,062W
3316	4822 051 30102	1K 5% 0,062W
3318	4822 051 30102	1K 5% 0,062W
3321	4822 051 30102	1K 5% 0,062W
3342	4822 051 30102	1K 5% 0,062W
3343	4822 051 30153	15K 5% 0,062W
3344	4822 051 30102	1K 5% 0,062W
3345	4822 051 30102	1K 5% 0,062W
3346	4822 051 30333	33K 5% 0,062W
3347	4822 051 30333	33K 5% 0,062W
3348	4822 051 30333	33K 5% 0,062W
3349	4822 051 30333	33K 5% 0,062W
3350	4822 051 30102	1K 5% 0,062W
3351	4822 051 30102	1K 5% 0,062W
3352	4822 051 30102	1K 5% 0,062W
3353	4822 051 30101	100R 5% 0,062W
3354	4822 051 30222	2K2 5% 0,062W
3356	4822 051 30102	1K 5% 0,062W
3357	4822 051 30102	1K 5% 0,062W
3358	4822 051 30221	220R 5% 0,062W
3360	4822 051 30223	22K 5% 0,062W
3366	4822 117 12902	8K2 1% 0.063W
3368	4822 051 30102	1K 5% 0,062W
3369	4822 051 30562	5K6 5% 0,063W
3370	4822 051 30102	1K 5% 0,062W
3384	4822 051 30102	1K 5% 0,062W
3389	4822 051 30102	1K 5% 0,062W
3393	4822 051 30102	1K 5% 0,062W

3394	4822 051 30102	1K 5% 0,062W
3395	4822 051 30102	1K 5% 0,062W
3396	4822 051 30102	1K 5% 0,062W
3501	4822 051 30103	10K 5% 0,062W
3502	4822 117 12925	47K 1% 0.063W
3503	4822 117 12925	47K 1% 0.063W
3504	4822 117 12925	47K 1% 0.063W
3507	4822 051 30471	470R 5% 0,062W
3509	4822 051 30472	4K7 5% 0,062W
3510	4822 051 30472	4K7 5% 0,062W
3511	4822 051 30472	4K7 5% 0,062W
3512	4822 051 30472	4K7 5% 0,062W
3513	4822 051 30471	470R 5% 0,062W
3514	4822 051 30471	470R 5% 0,062W
3515	4822 051 30472	4K7 5% 0,062W
3516	4822 051 30472	4K7 5% 0,062W
3517	4822 051 30472	4K7 5% 0,062W
3518	4822 051 30472	4K7 5% 0,062W
3521	4822 051 30471	470R 5% 0,062W
3522	4822 051 30471	470R 5% 0,062W
3523	4822 051 30471	470R 5% 0,062W
3524	4822 051 30471	470R 5% 0,062W
3525	4822 051 30471	470R 5% 0,062W
3526	4822 051 30471	470R 5% 0,062W
3527	4822 051 30471	470R 5% 0,062W
3528	4822 051 30471	470R 5% 0,062W
3529	4822 051 30103	10K 5% 0,062W
3530	4822 051 30479	47R 5% 0,062W
3531	4822 051 30471	470R 5% 0,062W
3532	4822 051 30471	470R 5% 0,062W
3533	4822 051 30471	470R 5% 0,062W
3534	4822 051 30103	10K 5% 0,062W
3535	4822 051 30103	10K 5% 0,062W
3536	4822 051 30471	470R 5% 0,062W
3537	4822 051 30471	470R 5% 0,062W
3538	4822 051 30471	470R 5% 0,062W
3539	4822 051 30471	470R 5% 0,062W
3540	4822 051 30471	470R 5% 0,062W
3541	4822 051 30471	470R 5% 0,062W
3542	4822 051 30471	470R 5% 0,062W
3543	4822 051 30471	470R 5% 0,062W
3544	4822 051 30471	470R 5% 0,062W
3545	4822 051 30471	470R 5% 0,062W
3546	4822 051 30471	470R 5% 0,062W
3547	4822 051 30471	470R 5% 0,062W
3548	4822 051 30472	4K7 5% 0,062W
3549	4822 051 30105	1M 5% 0,062W
3550	4822 051 30681	680R 5% 0,062W
3551	4822 051 30103	10K 5% 0,062W
3552	4822 051 30103	10K 5% 0,062W
3553	4822 051 30103	10K 5% 0,062W
3554	4822 051 30103	10K 5% 0,062W

ELECTRICAL PARTS LIST - AF BOARD

3555	4822 051 30103	10K 5% 0,062W
3560	4822 051 30102	1K 5% 0,062W
3561	4822 117 13632	100K 1% 0.62W
3562	4822 051 30474	470K 5% 0,062W
3563	4822 051 30103	10K 5% 0,062W
3564	4822 051 30103	10K 5% 0,062W
3565	4822 051 30102	1K 5% 0,062W
3566	4822 051 30102	1K 5% 0,062W
3567	4822 051 30272	2K7 5% 0,062W
3577	4822 051 30471	470R 5% 0,062W
4103	4822 051 30008	0R JUMPER
4104	4822 051 30008	0R JUMPER
4105	4822 051 30008	0R JUMPER
4106	4822 051 30008	0R JUMPER
4107	4822 051 30008	0R JUMPER
4200	4822 051 30008	0R JUMPER
4201	4822 051 30008	0R JUMPER
4202	4822 051 30008	0R JUMPER
4203	4822 051 30008	0R JUMPER
4205	4822 051 30008	0R JUMPER
4501	4822 051 30008	0R JUMPER

COILS & FILTERS

5230	4822 157 62552	FIXED INDUCTOR 2,2UH
5530	5322 242 73686	CERAM RES 12MHZ
5531	2422 543 01069	X'TAL RESONATOR 32,768KHZ
5533	4822 157 62552	FIXED INDUCTOR 2,2UH
5581	4822 157 62552	FIXED INDUCTOR 2,2UH

DIODES

6131	4822 130 61219	BZX79-B10
6231	4822 130 11397	BAS316
6232	4822 130 11397	BAS316
6532	4822 130 31878	1N4003G
6533	4822 130 11397	BAS316
6534	4822 130 30621	1N4148
6535	4822 130 31878	1N4003G
6536	4822 130 31878	1N4003G

TRANSISTORS & INTEGRATED CIRCUITS

7130	9322 150 74668	TDA7468D (ST00) R
7131	4822 130 40959	BC547B
7200	4822 130 42804	BC817-25
7230	4822 209 31378	NJM4556MB
7231	4822 130 60373	BC856B
7232	5322 130 60159	BC846B
7233	5322 130 60159	BC846B
7250	4822 130 42804	BC817-25
7301	5322 130 60159	BC846B
7330	9322 150 74668	TDA7468D (ST00) R
7331	9322 150 74668	TDA7468D (ST00) R
7334	4822 130 60373	BC856B

7532	9322 145 26668	M24C02-WMN6
7533	3198 010 42310	BC847BW
7534	3198 010 42310	BC847BW
7536	3139 110 53581	IC TMP88CS74YF - MRD500
7540	3198 010 42310	BC847BW
7541	3198 010 42310	BC847BW
7542	3198 010 42310	BC847BW
7543	3198 010 42310	BC847BW
7544	3198 010 42310	BC847BW

Note: Only the parts mentioned in this list are normal service spare parts.

ELECTRICAL PARTS LIST - POWER SUPPLY (AUDIO MODULE) & SPEAKER CONNECTION BOARDS

MISCELLANEOUS

	4822 492 11735	SPRING TRANS
1200	4822 071 55002 Δ	FUSE T5A 250V
1203	4822 071 55002 Δ	FUSE T5A 250V
1204	9965 000 07786 Δ	FUSE T4A 250V
1205	9965 000 07786 Δ	FUSE T4A 250V
1263	4822 267 10733	FLEX SOCKET 4P VERT
1270	2422 025 14044 Δ	CONN SOCKET 6P
1303	2422 015 19885	SPEAKER SOCKET 12P

CAPACITORS

2000	5322 126 11583	10NF 10% 50V
2001	5322 126 11583	10NF 10% 50V
2002	5322 126 11583	10NF 10% 50V
2003	5322 126 11583	10NF 10% 50V
2004	5322 126 11583	10NF 10% 50V
2005	5322 126 11583	10NF 10% 50V
2006	5322 126 11583	10NF 10% 50V
2007	5322 126 11583	10NF 10% 50V
2008	5322 126 11583	10NF 10% 50V
2009	5322 126 11583	10NF 10% 50V
2010	5322 126 11583	10NF 10% 50V
2011	5322 126 11583	10NF 10% 50V
2200	4822 126 12785	47NF TUB 50V
2201	5322 124 40641	10UF 20% 100V
2202	4822 124 80231	47UF 20% 16V
2203	5322 121 42578	100NF 5% 250V
2204	5322 121 42578	100NF 5% 250V
2205	5322 121 42578	100NF 5% 250V
2206	4822 124 80563	4700UF 20% 35V
2207	4822 124 80563	4700UF 20% 35V
2208	5322 121 42661	330NF 5% 63V
2209	5322 121 42578	100NF 5% 250V
2211	4822 124 80563	4700UF 20% 35V
2212	5322 121 42386	100NF 5% 63V
2213	5322 121 42578	100NF 5% 250V
2215	2020 012 93745	10000UF 20% 16V
2217	2020 561 90365	100NF +80/-20% 50V
2218	4822 124 11947	10UF 20% 16V
2219	4822 124 81286	47UF 20% 16V
2220	4822 124 81286	47UF 20% 16V
2222	4822 124 12056	1000UF 20% 35V
2223	4822 124 12056	1000UF 20% 35V
2224	4822 124 41643	100UF 20% 16V
2225	4822 124 41643	100UF 20% 16V
2228	5322 124 40641	10UF 20% 100V

RESISTORS

3200	4822 116 52283	4K7 5% 0.5W
3201	4822 051 30272	2K7 5% 0,062W
3202	4822 051 30103	10K 5% 0,062W
3203	4822 051 30103	10K 5% 0,062W
3204	4822 117 12925	47K 1% 0.063W

3205	4822 051 30103	10K 5% 0,062W
3206	4822 051 30681	680R 5% 0,062W
3207	4822 051 30331	330R 5% 0,062W
3208	4822 051 30681	680R 5% 0,062W
3209	4822 051 30472	4K7 5% 0,062W
3216	4822 051 30331	330R 5% 0,062W
3217	4822 051 30682	6K8 5% 0,062W
3218	4822 051 30153	15K 5% 0,062W
3219	4822 051 30102	1K 5% 0,062W
3222	4822 051 30102	1K 5% 0,062W
3223	4822 117 13632	100K 1% 0.62W
3224	4822 116 83872	220R 5% 0.5W
3225	4822 052 10828 Δ	8R2 5% 0,33W
3226	4822 051 30471	470R 5% 0,062W
3227	4822 051 30102	1K 5% 0,062W
3229	4822 051 30472	4K7 5% 0,062W
3230	4822 051 30472	4K7 5% 0,062W
4210	4822 051 30008	0R JUMPER
4211	4822 051 30008	0R JUMPER
4212	4822 051 30008	0R JUMPER

DIODES

6200	4822 130 30621	1N4148
6201	3198 010 52790	DIO REG BZX79-B27 A COL A
6202	4822 130 31878	1N4003G
6203	4822 130 34382	BZX79-B8V2
6205	3198 010 52790	DIO REG BZX79-B27 A COL A
6208	4822 130 11397	BAS316
6209	4822 130 11397	BAS316
6211	4822 130 11139	GBU8D
6212	3198 010 10640	BRIDGE REC GBU4K COL
6214	4822 130 30621	1N4148
6215	4822 130 34174	BZX79-B4V7
6216	4822 130 34145	BZX79-B39
6217	4822 130 31878	1N4003G
6218	4822 130 34145	BZX79-B39

TRANSISTORS & INTEGRATED CIRCUITS

7200	9340 561 95127	FET POW BUK7535-55A (PHSE) L
7202	9340 561 95127	FET POW BUK7535-55A (PHSE) L
7203	5322 130 60159	BC846B
7205	4822 130 60373	BC856B
7206	4822 130 60373	BC856B
7207	5322 130 60159	BC846B
7208	4822 209 33575	L7812CP
7209	4822 209 12335	L4941
7210	4822 130 41246	BC327-25

Note: Only the parts mentioned in this list are normal service spare parts.

ELECTRICAL PARTS LIST - POWER SUPPLY (FOR VCR/DVD) & JUNCTION-C CBAs

MISCELLANEOUS

AC1001!	9965 000 20940 Δ	AC CORD	/00/02
AC1001!	9965 000 20990 Δ	AC CORD	/05
CN001B	9965 000 20924	CONNECTOR, 20P TUC-P20X-B1	
CN1008	9965 000 20943	CONNECTOR, 3P B3P-VH	
F1001!	9965 000 13786 Δ	FUSE T1.6A 250V	
RL001!	9965 000 20945 Δ	POWER RELAY SDT-S-112LMR	
SA1001!	9965 000 20946 Δ	SURGE ABSORBER PVR-10D471KB	
SA1001!	9965 000 08602 Δ	SURGE ABSORBER CNR-10D471K	
T001!	9965 000 19673 Δ	SW TRANSFORMER CSA-SW0274B	

CAPACITORS

C013	9965 000 14852	ELCAP 10UF/50V M
C013	9965 000 19661	ELCAP 10UF/50V M
C014	9965 000 19662	ELCAP 470UF/25V M
C014	9965 000 19654	ELCAP 470UF/25V M
C017	9965 000 14857	ELCAP 1000UF/16V M
C018	9965 000 14862	ELCAP 470UF/6.3V M
C018	9965 000 19558	ELCAP 470UF/6.3V M
C019	9965 000 20941	FILM CAP.(P) 0.0015UF/100V J
C020	9965 000 14855	ELCAP 22UF/50V M
C020	9965 000 19549	ELCAP 22UF/50V M
C022	9965 000 19663	ELCAP 470UF/35V M
C022	9965 000 19655	ELCAP 470UF/35V M
C1001!	9965 000 14854 Δ	MET FILM CAP. 0.068UF/275V K
C1001!	9965 000 06521 Δ	METALLIZED FILM CAP. 0.068UF/250
C1003	4822 126 14142	0.01UF 500V
C1004	9965 000 13677	ELCAP 100UF/400V M
C1004	9965 000 20942	ELCAP 100UF/400V M
C1005	4822 126 14141	56PF 1KV
C1005	9965 000 06567	CERAMIC CAP. SL J 56PF/1KV
C1006!	9965 000 06522 Δ	SAFTY CAP. 2200PF/250V
C1006!	9965 000 11407 Δ	SAFETY CAPACITOR 2200PF
C1007	9965 000 19664	ELCAP 1000UF/6.3V M
C1018	4822 124 41584	100UF 20% 10V
C1018	9965 000 19666	ELCAP 100UF/10V M
C1032	9965 000 09762	ELCAP 220UF/6.3V M H7
C1032	9965 000 19554	ELCAP 10UF/16V M
C1033	9965 000 09752	ELCAP 1000UF/16V M
C1033	9965 000 09751	ELCAP 100UF/16V M
C1035	9965 000 19662	ELCAP 470UF/25V M
C1035	9965 000 19654	ELCAP 470UF/25V M
C1054	9965 000 14862	ELCAP 470UF/6.3V M
C1054	9965 000 19558	ELCAP 470UF/6.3V M
C1105	9965 000 15246	ELCAP 100UF/16V M
C1105	9965 000 09789	CHIP CAP CG J 68PF/50V
C1106	9965 000 19667	ELCAP 100UF/35V M
C1106	9965 000 19656	ELCAP 100UF/35V M
C1107	9965 000 09827	CHIP CAP CH J 100PF/50V
C1107	9965 000 19660	ELCAP 220UF/6.3V M
C1108	9965 000 14862	ELCAP 470UF/6.3V M
C1108	9965 000 19558	ELCAP 470UF/6.3V M
C1109	9965 000 09827	CHIP CAP CH J 100PF/50V

C1109	9965 000 19660	ELCAP 220UF/6.3V M
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RESISTORS

R1001	9965 000 08653	CARBON RES. 1/2W K 5.6M OHM
R1001	9965 000 20944	GL GLAZE RES. 1/2W J 5.6MOHM
R1004	4822 053 11823 Δ	82K 5% 2W
R1004	4822 053 11823 Δ	82K 5% 2W
R1011	9965 000 19605 Δ	MET OXIDE RES. 1W J 1.3 OHM
R1011	9965 000 19606 Δ	MET OXIDE RES. 1W J 1.3 OHM
R1043	9965 000 19665 Δ	MET OXIDE RES. 1W J 2.7 OHM
R1043	9965 000 19607 Δ	MET OXIDE RES. 1W J 2.7 OHM

COILS & FILTERS

J922	4822 526 10685	BEAD CORE B16 RH 3.5X10X1.3
L013	9965 000 05627	CHOKE COIL 47UH-K
L013	9965 000 05702	CHOKE COIL 47UH-K
L1001	4822 526 10685	BEAD CORE B16 RH 3.5X10X1.3
L1002	4822 526 10685	BEAD CORE B16 RH 3.5X10X1.3
L1003!	9965 000 13005 Δ	LINE FILTER 50MH LF-4D-E503 OR
L1003!	9965 000 13005 Δ	LINE FILTER 50MH LF-4D-E503 OR
L1004	4822 526 10685	BEAD CORE B16 RH 3.5X10X1.3
L1009	9965 000 05627	CHOKE COIL 47UH-K
L1009	9965 000 05702	CHOKE COIL 47UH-K
L1010	9965 000 05627	CHOKE COIL 47UH-K
L1010	9965 000 05702	CHOKE COIL 47UH-K
L1011	9965 000 05627	CHOKE COIL 47UH-K
L1011	9965 000 05702	CHOKE COIL 47UH-K
L1012	9965 000 05627	CHOKE COIL 47UH-K
L1012	9965 000 05702	CHOKE COIL 47UH-K

DIODES

D013	4822 130 11654	BA158
D014	9965 000 19668	SCHOTTKY BARRIER DIODE SB390
D015	9965 000 08649	ZENER DZ-5.6BSCT265
D015	4822 130 10926	UZ5.6BSC
D016	4822 130 32715	SB340
D017	9965 000 15310	ZENER DZ-8.2BSAT265
D017	9965 000 05248	ZENER MTZJT-778.2A
D018	4822 130 11654	BA158
D019	9965 000 19669	RECTIFIER DIODE FR2 3
D1001	4822 130 31933	1N5061
D1002	4822 130 31933	1N5061
D1003	4822 130 31933	1N5061
D1004	4822 130 31933	1N5061
D1006	4822 130 30621	1N4148
D1006	4822 130 32778	1SS133
D1008	5322 130 81917	SB140
D1008	4822 130 80601	ERB81-004
D1011	5322 130 34979	BYV96E
D1011	4822 130 81244	ERA22-10
D1012	4822 130 30621	1N4148

ELECTRICAL PARTS LIST - POWER SUPPLY (FOR VCR/DVD) & JUNCTION-C CBAs

DIODES

D1012	4822 130 32778	1SS133
D1016	9965 000 14882	RECTIFIER DIODE FR101
D1017	9965 000 19670	ZENER DZ-20BSBT265
D1017	9965 000 11210	MTZJ20B
D1018	4822 130 30621	1N4148
D1018	4822 130 32778	1SS133
D1022	4822 130 30621	1N4148
D1022	4822 130 32778	1SS133
D1024	4822 130 30621	1N4148
D1024	4822 130 32778	1SS133
D1025	4822 130 30621	1N4148
D1025	4822 130 32778	1SS133
D1026	9965 000 12904	ZENER DZ-5.1BSBT265 OR
D1026	4822 130 82703	MTZ5.1B
D1027	4822 130 30621	1N4148
D1027	4822 130 32778	1SS133
D1030	4822 130 32715	SB340
D1060	4822 130 31933	1N5061
D1061	4822 130 30621	1N4148
D1061	4822 130 32778	1SS133
D1062	4822 130 30621	1N4148
D1062	4822 130 32778	1SS133

INTEGRATED CIRCUITS

IC1001!	9965 000 19657	△	PHOTOCOUPLER EL817B
IC1001!	9965 000 19658	△	PHOTOCOUPLER EL817C
IC1001!	4822 130 11655	△	LTV817B-F
IC1001!	9965 000 09187	△	PHOTOCOUPLER LTV-817C-F
IC1051	9965 000 19659		VOLTAGE REGULATOR PQ070XF01SZ
IC1052	9965 000 19659		VOLTAGE REGULATOR PQ070XF01SZ

TRANSISTORS

Q1001	9965 000 17186	FET 2SK3566
Q1002	4822 130 10103	KTC3199Y
Q1002	9965 000 10994	2SC3199-GR/KTC3199-GR
Q1002	4822 130 11647	2SC2785J
Q1002	9965 000 19583	TRANSISTOR 2SC2785(H)
Q1002	9965 000 05643	TRANSISTOR 2SC2785(F)
Q1002	9965 000 09882	TRANSISTOR BN1L4M-T
Q1003	4822 130 41306	2SC1815GR
Q1008	4822 130 10103	KTC3199Y
Q1008	9965 000 10994	2SC3199-GR/KTC3199-GR
Q1008	4822 130 11647	2SC2785J
Q1008	9965 000 19583	TRANSISTOR 2SC2785(H)
Q1008	9965 000 05643	TRANSISTOR 2SC2785(F)
Q1008	9965 000 09882	TRANSISTOR BN1L4M-T
Q1009	4822 130 10103	KTC3199Y
Q1009	9965 000 10994	2SC3199-GR/KTC3199-GR
Q1009	4822 130 11647	2SC2785J
Q1009	9965 000 19583	TRANSISTOR 2SC2785(H)
Q1009	9965 000 05643	TRANSISTOR 2SC2785(F)

Q1009 9965 000 09882 TRANSISTOR BN1L4M-T

Note: Only the parts mentioned in this list are normal service spare parts.

ELECTRICAL PARTS LIST - POWER AMPLIFIER BOARD

MISCELLANEOUS

0008	3104 211 29861	
1302	4822 267 10729	FLEX SOCKET 10P VERT
1303	4822 267 10729	FLEX SOCKET 10P VERT
1600	2422 540 98514	CERAM RESONATOR 602KHZ7
1601	2422 540 98568	CERAM RESONATOR 700KHZ

CAPACITORS

2101	2222 580 15649	100NF 10% 50V
2102	2222 580 15649	100NF 10% 50V
2104	2222 601 55649	100NF 10% 100V
2105	2222 580 15649	100NF 10% 50V
2106	2020 021 91431	22UF 20% 100V
2107	2222 601 55649	100NF 10% 100V
2108	2222 580 15649	100NF 10% 50V
2111	4822 126 13188	15NF 5% 63V
2114	5322 116 80853	560PF 5% 63V
2115	5322 116 80853	560PF 5% 63V
2116	4822 121 51252	470NF 5% 63V
2117	2222 581 15654	220NF 10% 50V
2120	4822 126 13188	15NF 5% 63V
2122	5322 116 80853	560PF 5% 63V
2124	2222 581 15654	220NF 10% 50V
2125	4822 121 51252	470NF 5% 63V
2126	5322 116 80853	560PF 5% 63V
2127	2222 580 15649	100NF 10% 50V
2128	2222 580 15649	100NF 10% 50V
2129	2222 580 15649	100NF 10% 50V
2130	2222 580 15649	100NF 10% 50V
2131	4822 126 14241	330PF 50V
2134	2238 780 55654	220NF 10% 16V
2135	4822 126 13956	68PF 5% 63V
2136	4822 126 14241	330PF 50V
2201	2222 580 15649	100NF 10% 50V
2202	2222 580 15649	100NF 10% 50V
2204	2222 601 55649	100NF 10% 100V
2205	2222 580 15649	100NF 10% 50V
2206	2020 021 91431	22UF 20% 100V
2207	2222 601 55649	100NF 10% 100V
2208	2222 580 15649	100NF 10% 50V
2211	4822 126 13188	15NF 5% 63V
2214	5322 116 80853	560PF 5% 63V
2215	5322 116 80853	560PF 5% 63V
2216	4822 121 51252	470NF 5% 63V
2217	2222 581 15654	220NF 10% 50V
2220	4822 126 13188	15NF 5% 63V
2222	5322 116 80853	560PF 5% 63V
2224	2222 581 15654	220NF 10% 50V
2225	4822 121 51252	470NF 5% 63V
2226	5322 116 80853	560PF 5% 63V
2227	2222 580 15649	100NF 10% 50V
2228	2222 580 15649	100NF 10% 50V
2229	2222 580 15649	100NF 10% 50V

2230	2222 580 15649	100NF 10% 50V
2231	4822 126 14241	330PF 50V
2234	2238 780 55654	220NF 10% 16V
2235	4822 126 13956	68PF 5% 63V
2236	4822 126 14241	330PF 50V
2301	2222 580 15649	100NF 10% 50V
2302	2222 580 15649	100NF 10% 50V
2304	2222 601 55649	100NF 10% 100V
2305	2222 580 15649	100NF 10% 50V
2306	2020 021 91431	22UF 20% 100V
2307	2222 601 55649	100NF 10% 100V
2308	2222 580 15649	100NF 10% 50V
2311	4822 126 13188	15NF 5% 63V
2314	5322 116 80853	560PF 5% 63V
2315	5322 116 80853	560PF 5% 63V
2316	4822 121 51252	470NF 5% 63V
2317	2222 581 15654	220NF 10% 50V
2320	4822 126 13188	15NF 5% 63V
2322	5322 116 80853	560PF 5% 63V
2324	2222 581 15654	220NF 10% 50V
2325	4822 121 51252	470NF 5% 63V
2326	5322 116 80853	560PF 5% 63V
2327	2222 580 15649	100NF 10% 50V
2328	2222 580 15649	100NF 10% 50V
2329	2222 580 15649	100NF 10% 50V
2330	2222 580 15649	100NF 10% 50V
2331	4822 126 14241	330PF 50V
2334	2238 780 55654	220NF 10% 16V
2335	4822 126 13956	68PF 5% 63V
2336	4822 126 14241	330PF 50V
2400	2222 580 15649	100NF 10% 50V
2401	4822 124 80062	470UF 20% 35V
2402	4822 124 80062	470UF 20% 35V
2403	2222 580 15649	100NF 10% 50V
2404	4822 124 80062	470UF 20% 35V
2405	4822 124 80062	470UF 20% 35V
2406	4822 123 14026	35V 470U 20%
2407	4822 123 14026	35V 470U 20%
2408	5322 126 11578	1NF 10% 50V
2409	5322 126 11578	1NF 10% 50V
2410	5322 126 11578	1NF 10% 50V
2411	5322 126 11578	1NF 10% 50V
2412	5322 126 11578	1NF 10% 50V
2413	5322 126 11578	1NF 10% 50V
2414	5322 126 11578	1NF 10% 50V
2415	5322 126 11578	1NF 10% 50V
2416	5322 126 11578	1NF 10% 50V
2417	5322 126 11578	1NF 10% 50V
2418	5322 126 11578	1NF 10% 50V
2419	2238 586 59812	100NF +80/-20% 50V
2420	5322 126 11578	1NF 10% 50V
2421	5322 126 11578	1NF 10% 50V

ELECTRICAL PARTS LIST - POWER AMPLIFIER BOARD

CAPACITORS

2422	5322 126 11578	1NF 10% 50V
2423	2238 586 59812	100NF +80/-20% 50V
2425	5322 126 11578	1NF 10% 50V
2600	2238 586 59812	100NF +80/-20% 50V
2602	2020 552 94427	100PF 5% 50V
2603	2020 552 94427	100PF 5% 50V
2604	2238 586 59812	100NF +80/-20% 50V
2605	4822 126 13881	470PF 5% 50V
2606	5322 126 11578	1NF 10% 50V
2607	2020 552 94427	100PF 5% 50V
2608	2020 552 94427	100PF 5% 50V
2611	2020 552 96507	10UF +80/-20% 10V
2700	2020 552 96507	10UF +80/-20% 10V

RESISTORS

3100	4822 051 10568	5R6 5% 0,25W
3101	4822 051 10568	5R6 5% 0,25W
3102	4822 051 10568	5R6 5% 0,25W
3103	2322 762 60229	RST SM 2512 PRC221 22R PM5 R
3104	2322 762 60229	RST SM 2512 PRC221 22R PM5 R
3105	4822 051 10568	5R6 5% 0,25W
3107	4822 051 30109	10R 5% 0,062W
3109	4822 051 30109	10R 5% 0,062W
3200	4822 051 10568	5R6 5% 0,25W
3201	4822 051 10568	5R6 5% 0,25W
3202	4822 051 10568	5R6 5% 0,25W
3203	2322 762 60229	RST SM 2512 PRC221 22R PM5 R
3204	2322 762 60229	RST SM 2512 PRC221 22R PM5 R
3205	4822 051 10568	5R6 5% 0,25W
3207	4822 051 30109	10R 5% 0,062W
3209	4822 051 30109	10R 5% 0,062W
3300	4822 051 10568	5R6 5% 0,25W
3301	4822 051 10568	5R6 5% 0,25W
3302	4822 051 10568	5R6 5% 0,25W
3303	2322 762 60229	RST SM 2512 PRC221 22R PM5 R
3304	2322 762 60229	RST SM 2512 PRC221 22R PM5 R
3305	4822 051 10568	5R6 5% 0,25W
3307	4822 051 30109	10R 5% 0,062W
3309	4822 051 30109	10R 5% 0,062W
3401	4822 051 30562	5K6 5% 0,063W
3404	4822 051 30221	220R 5% 0,062W
3405	4822 051 30562	5K6 5% 0,063W
3408	4822 051 30221	220R 5% 0,062W
3410	4822 051 30562	5K6 5% 0,063W
3411	4822 051 30562	5K6 5% 0,063W
3412	4822 051 30221	220R 5% 0,062W
3413	4822 051 30562	5K6 5% 0,063W
3414	4822 051 30562	5K6 5% 0,063W
3415	4822 051 30562	5K6 5% 0,063W
3420	2322 615 23103	NTC 10K 5% 0,125W
3421	4822 051 30562	5K6 5% 0,063W
3422	4822 051 30101	100R 5% 0,062W

3423	4822 051 30562	5K6 5% 0,063W
3424	4822 051 30562	5K6 5% 0,063W
3425	4822 051 30562	5K6 5% 0,063W
3426	4822 051 30562	5K6 5% 0,063W
3600	4822 051 30222	2K2 5% 0,062W
3600	4822 051 10821	820R 2% 0,25W
3601	4822 051 30222	2K2 5% 0,062W
3601	4822 051 10821	820R 2% 0,25W
3602	4822 117 13632	100K 1% 0.62W
3604	4822 051 30103	10K 5% 0,062W
3605	4822 051 30682	6K8 5% 0,062W
3606	4822 117 13632	100K 1% 0.62W
3607	4822 051 30102	1K 5% 0,062W
3608	4822 051 30105	1M 5% 0,062W
3609	4822 117 13632	100K 1% 0.62W
3610	4822 117 12139	22R 5% 0,062W
3700	4822 117 12925	47K 1% 0.063W
3701	4822 117 12925	47K 1% 0.063W
3703	4822 117 12925	47K 1% 0.063W
3709	4822 117 12925	47K 1% 0.063W
3712	4822 117 12925	47K 1% 0.063W
3713	4822 051 30103	10K 5% 0,062W
3716	4822 117 12925	47K 1% 0.063W
3718	4822 117 12925	47K 1% 0.063W
3721	4822 051 30103	10K 5% 0,062W
3722	4822 051 30103	10K 5% 0,062W
4132	4822 051 20008	0R JUMPER 0805
4133	4822 051 20008	0R JUMPER 0805
4137	4822 051 20008	0R JUMPER 0805
4138	4822 051 20008	0R JUMPER 0805
4232	4822 051 20008	0R JUMPER 0805
4233	4822 051 20008	0R JUMPER 0805
4237	4822 051 20008	0R JUMPER 0805
4238	4822 051 20008	0R JUMPER 0805
4332	4822 051 20008	0R JUMPER 0805
4333	4822 051 20008	0R JUMPER 0805
4337	4822 051 20008	0R JUMPER 0805
4338	4822 051 20008	0R JUMPER 0805

COILS & FILTERS

5102	2422 536 00496	FIXED INDUCTOR 22UH 10%
5103	2422 536 00496	FIXED INDUCTOR 22UH 10%
5202	2422 536 00496	FIXED INDUCTOR 22UH 10%
5203	2422 536 00496	FIXED INDUCTOR 22UH 10%
5302	2422 536 00496	FIXED INDUCTOR 22UH 10%
5303	2422 536 00496	FIXED INDUCTOR 22UH 10%
5400	4822 157 11411	BEAD 100MHZ 80R
5401	4822 157 11411	BEAD 100MHZ 80R

DIODES

6600	3198 020 55680	BZX384-C5V6 COL R
6713	4822 130 11397	BAS316

ELECTRICAL PARTS LIST - POWER AMPLIFIER BOARD

6714	4822 130 11397	BAS316
6715	4822 130 11397	BAS316

TRANSISTORS & INTEGRATED CIRCUITS

7100	9352 705 74518	TDA8920TH/N1 (PHSE) R
7200	9352 705 74518	TDA8920TH/N1 (PHSE) R
7300	9352 705 74518	TDA8920TH/N1 (PHSE) R
7600	5322 209 11517	PC74HCU04T
7602	5322 130 60159	BC846B
7607	5322 209 14477	HEF4013BT
7608	4822 130 60373	BC856B
7710	5322 130 60159	BC846B
7716	4822 130 60373	BC856B

Note: Only the parts mentioned in this list are normal service spare parts.

ELECTRICAL PARTS LIST - AUDIO MODULE

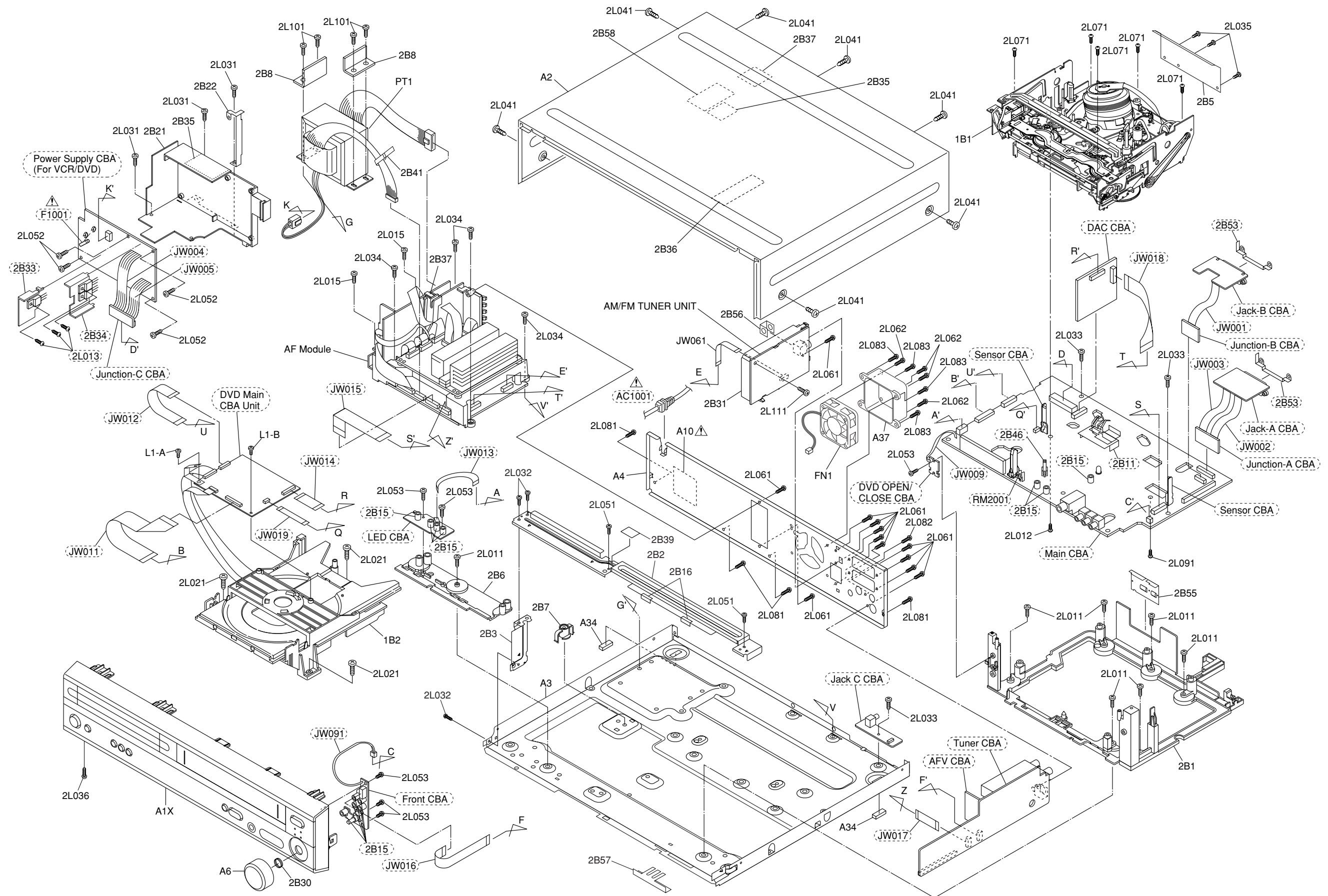
MISCELLANEOUS

8013	3139 111 02651	FLEX CABLE 10P/100/10P AD
8014	3139 111 02651	FLEX CABLE 10P/100/10P AD
8016	3139 110 36140	FLEX CABLE 04P/180/04P AD

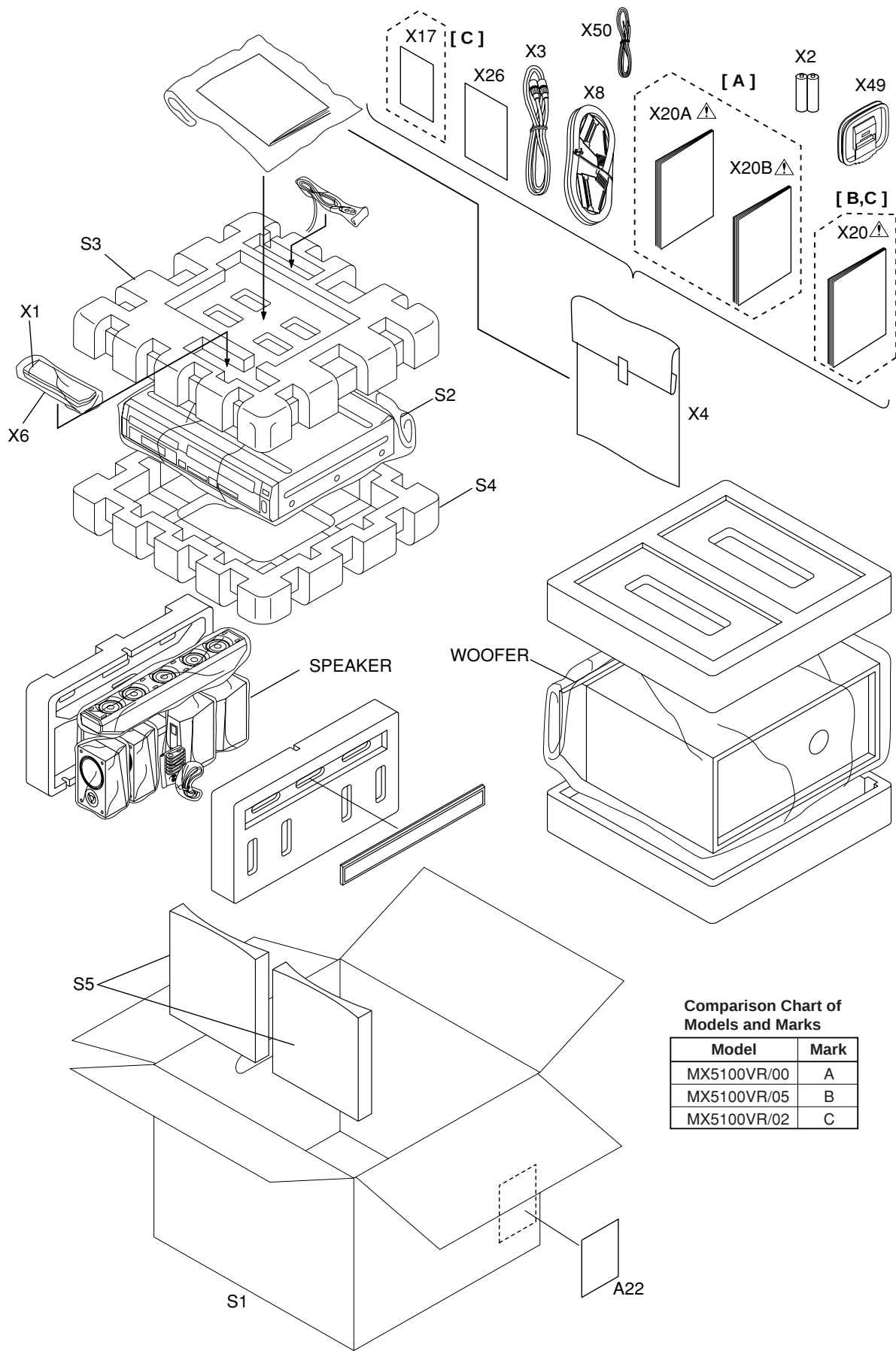
Note: Only the parts mentioned in this list are normal service spare parts.

Cabinet

EXPLODED VIEWS



Packing



MECHANICAL PARTS LIST - MAIN ASSEMBLY + ACCESSORIES

	9965 000 20891	DVD MAIN CBA UNIT	/00/05
	9965 000 20960	DVD MAIN CBA UNIT	/02
	9965 000 20894	SENSOR CBA	
1B1	9965 000 19477	DECK ASSEMBLY CZD012/VM17E0	
1B2	9965 000 19478	DVD MECHA 0838 VCDVM040	
2B1	9965 000 20865	DECK PEDESTAL-1 E9000UD	
2B6	9965 000 20866	DECK PEDESTAL-2 E9000UD	
2B7	9965 000 20867	DECK PEDESTAL-3 E9000UD	
2B22	9965 000 20868	PLATE, EARTH(PB) E9015ED	
2B30	9965 000 20869	SPRING, KNOB E9000UD	
2B46	9965 000 12173	ROHM HOLDER H7770JD	
2B53	9965 000 20926	PLATE, GROUND(21PIN) H9500ED	
A1X	9965 000 20861	FRONT ASSEMBLY E9015ED	/00
A1X	9965 000 20958	FRONT ASSEMBLY E9017FD	/02
A1X	9965 000 20976	FRONT ASSEMBLY E9016BD	/05
A6	9965 000 20862	KNOB, VOLUME E9010UD	
A34	9965 000 20863	FOOT K7010UA	
A37	9965 000 20864	FAN COVER E9000UD	
FN1	9965 000 20879	DC BRUSHLESS FAN	
JW011	9965 000 20882	FFC CABLE, 22P FFC/P1.00/200	
JW012	9965 000 20883	FFC CABLE, 18P FFC/P1.00/160	
JW013	9965 000 20884	FFC CABLE, 7P FFC/P1.25/80	
JW014	9965 000 20889	FFC CABLE, 20P FFC/P1.00/60	
JW015	9965 000 20885	FFC CABLE, 12P FFC/P1.25/300	
JW016	9965 000 20886	FFC CABLE, 9P FFC/P1.25/300	
JW017	9965 000 20887	FFC CABLE, 9P FFC/P1.25/190	
JW018	9965 000 20890	FFC CABLE, 13P FFC/P1.25/240	
JW019	9965 000 20888	FFC CABLE, 4P FFC/P1.00/100	
JW061	9965 000 20881	FFC CABLE, 8P FFC/P1.25/150	
8013	3139 111 02651	FLEX CABLE 10P/100/10P AD	
8014	3139 111 02651	FLEX CABLE 10P/100/10P AD	
8016	3139 110 36140	FLEX CABLE 04P/180/04P AD	
PT1	9965 000 20878	△ POWER TRANSFORMER	
X1	9965 000 20870	REMOTE CONTROL 842/CDVR040	
X3	4822 320 50377	CONNECT. CABLE PAL	
X3	9965 000 17134	RF CABLE CC1001020012010	
X6	9965 000 14782	SCART CABLE 1.5M CE1013020085710	
X49	9965 000 20872	AM LOOP ANTENNA LAN-006	
X50	9965 000 20873	FM ANTENNA CABLE	
X20!	9965 000 20871	OWNER'S MANUAL E9015ED	/00
X20!	9965 000 20959	OWNER'S MANUAL E9017FD	/02
X20!	9965 000 20977	OWNER'S MANUAL E9016BD	/05
LS	9965 000 20880	SATELLITE LS PACK + SUBWOOFER	
Note:	Only the parts mentioned in this list are normal service spare parts.		

ELECTRICAL PARTS LIST - LOUDSPEAKER BREAKDOWN

9A	9965 000 21037	FRONT LS BOX LEFT
9B	9965 000 21038	FRONT LS BOX RIGHT
10A	9965 000 21039	REAR LS BOX LEFT
10B	9965 000 21040	REAR LS BOX RIGHT
32	9965 000 21041	CENTER LS BOX
34	9965 000 17045	FRONT GRILLE ASSY CENTER SPK
37	9965 000 17046	PHILIPS LOGO
51	9965 000 17047	KEYHOLE BRACKET PACK SET
60	9965 000 21042	SUBWOOFER BOX
69	9965 000 17048	FRONT GRILLE ASSY SUBWOOFER
70	9965 000 17046	PHILIPS LOGO

Note: Only the parts mentioned in this list are normal service spare parts.

DECK MECHANISM SECTION

DIGITAL VIDEO DISC PLAYER, VIDEO CASSETTE RECORDER & FM/MW RADIO TUNER

Sec. 2: Deck Mechanism Section
● Standard Maintenance
● Mechanism Alignment Procedures
● Disassembly / Assembly of Mechanism
● Deck Exploded Views
● Deck Parts List

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STANDARD MAINTENANCE

Service Schedule of Components

H: Hours ○: Check ●: Change

Deck		Periodic Service Schedule			
Ref.No.	Part Name	1,000 H	2,000 H	3,000 H	4,000 H
B2	Cylinder Assembly	○	●	○	●
B3	Loading Motor Assembly			●	
B8	Pulley Assembly		●		●
B587	Tension Lever Assembly		●		●
B31	AC Head Assembly			●	
B573,B574	Reel S, Reel T			●	
B37	Capstan Motor		●		●
B52	Cap Belt		●		●
*B73	FE Head Assembly			●	
*B86	F Brake Assembly (HI)		●		●
B133	Idler Assembly (HI)		●		●
B410	Pinch Arm Assembly		●		●
B414	M Brake (SP) Assembly (HI)		●		●
B416	M Brake (TU) Assembly (HI)		●		●
B525	LDG Belt		●		●

Notes:

- 1.Clean all parts for the tape transport (Upper Drum with Video Head / Pinch Roller / Audio Control Head / Full Erase Head) using 90% Isopropyl Alcohol.
- 2.After cleaning the parts, do all DECK ADJUSTMENTS.
- 3.For the reference numbers listed above, refer to Deck Exploded Views.
 - * B73 ----- Recording model only
 - * B86 ----- Not used in 2 head model.

Cleaning

Cleaning of Video Head

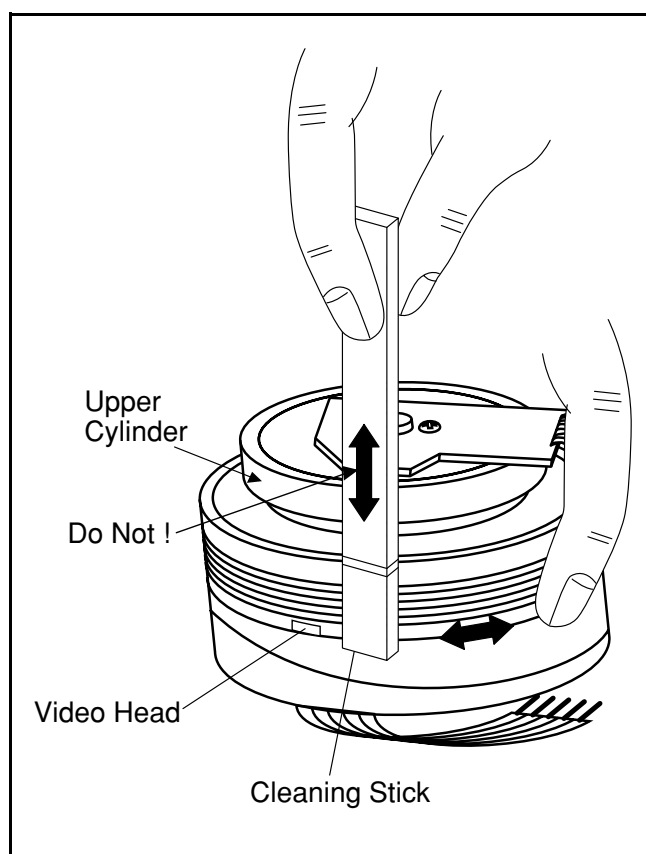
Clean the head with a head cleaning stick or chamois cloth.

Procedure

1. Remove the top cabinet.
2. Put on a glove (thin type) to avoid touching the upper and lower drum with your bare hand.
3. Put a few drops of 90% Isopropyl alcohol on the head cleaning stick or on the chamois cloth and, by slightly pressing it against the head tip, turn the upper drum to the right and to the left.

Notes:

1. The video head surface is made of very hard material, but since it is very thin, avoid cleaning it vertically.
2. Wait for the cleaned part to dry thoroughly before operating the unit.
3. Do not reuse a stained head cleaning stick or a stained chamois cloth.



Cleaning of Audio Control Head

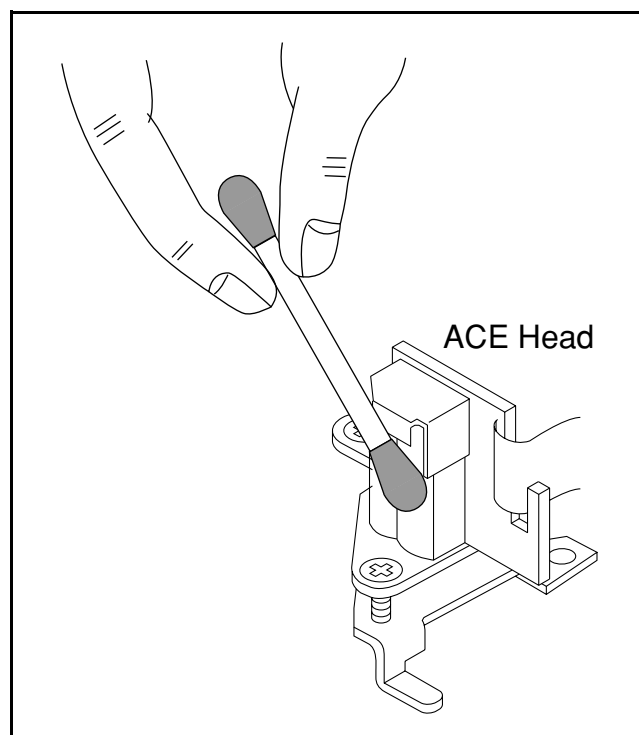
Clean the head with a cotton swab.

Procedure

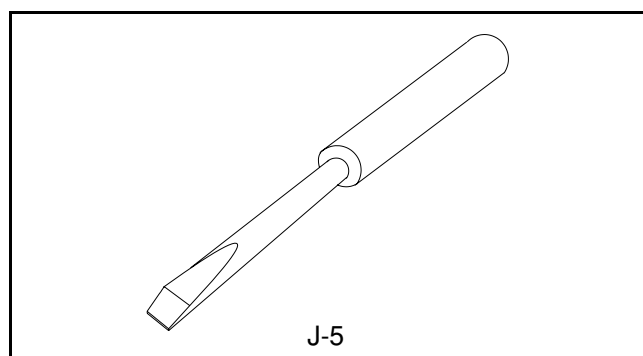
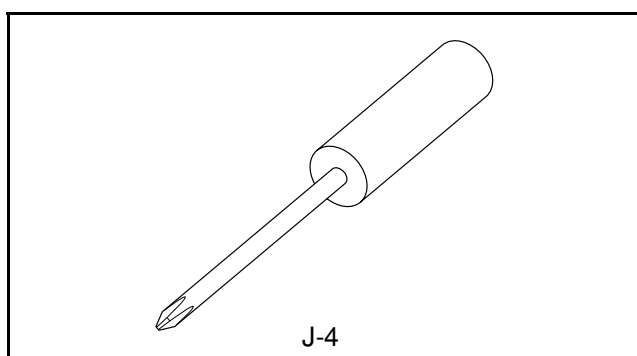
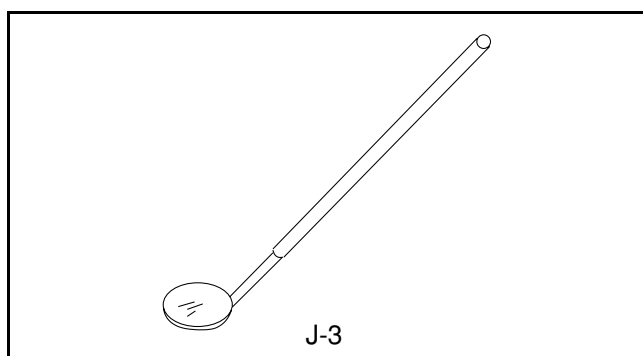
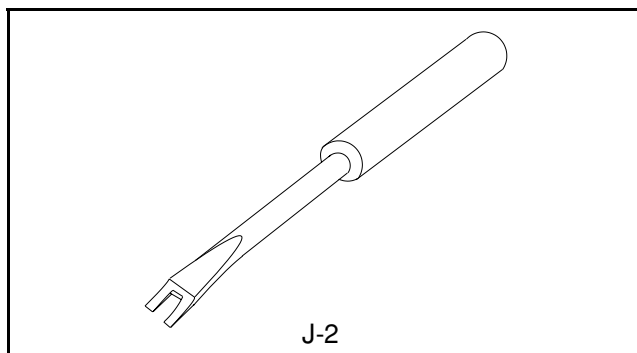
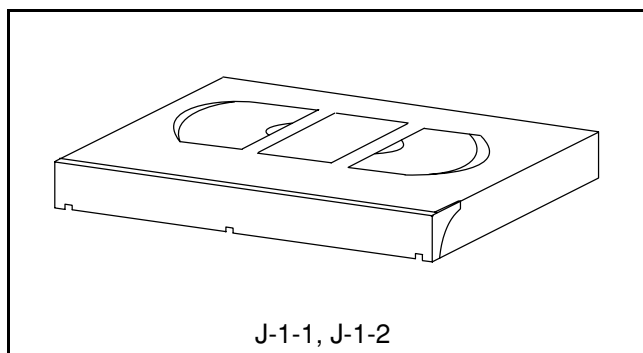
1. Remove the top cabinet.
2. Dip the cotton swab in 90% isopropyl alcohol and clean the audio control head. Be careful not to damage the upper drum and other tape running parts.

Notes:

1. Avoid cleaning the audio control head vertically.
2. Wait for the cleaned part to dry thoroughly before operating the unit or damage may occur.



SERVICE FIXTURE AND TOOLS



Ref. No.	Name	Part No.	Adjustment
J-1-1	Alignment Tape	FL6A	Electrical Adjustments
J-1-2	Alignment Tape	FL6N8 (2 Head model) FL6NS8 (4 Head model)	Azimuth and X Value Adjustment of Audio Control Head / Adjustment of Envelope Waveform
J-2	Guide Roller Adj.Screwdriver	Available Locally	Guide Roller
J-3	Mirror	Available Locally	Tape Transportation Check
J-4	Azimuth Adj.Screwdriver +	Available Locally	A/C Head Height
J-5	X Value Adj.Screwdriver -	Available Locally	X Value

MECHANICAL ALIGNMENT PROCEDURES

Explanation of alignment for the tape to correctly run starts on the next page. Refer to the information below on this page if a tape gets stuck, for example, in the mechanism due to some electrical trouble of the unit.

Service Information

A. Method for Manual Tape Loading/Unloading

To load a cassette tape manually:

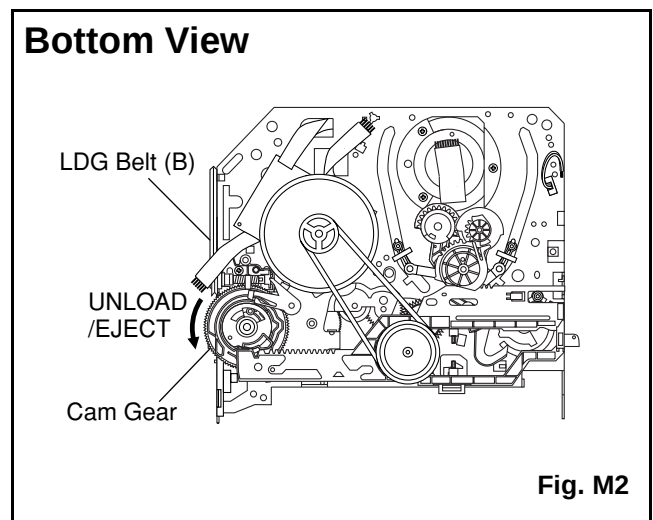
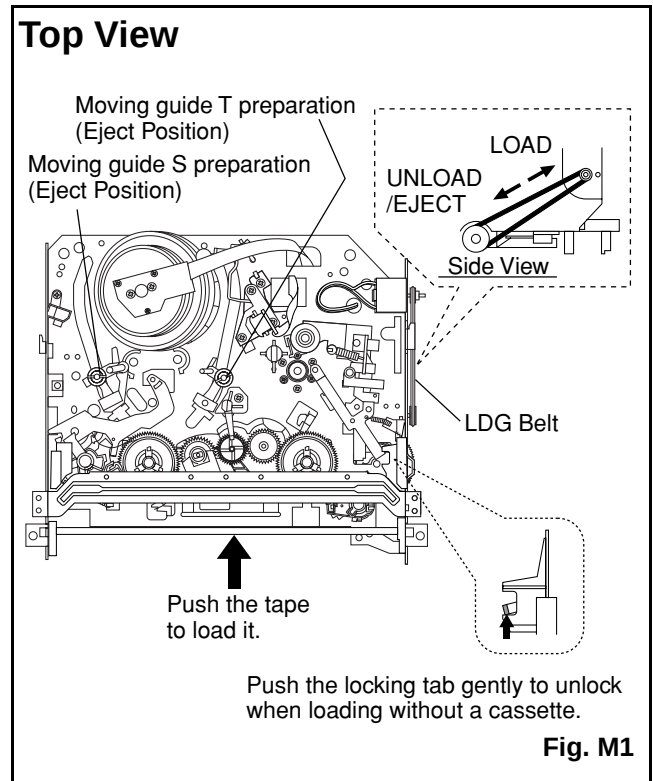
1. Disconnect the AC plug.
2. Remove the Top Case and Front Assembly.
3. Insert a cassette tape. Though the tape will not be automatically loaded, make sure that the cassette tape is all the way in at the inlet of the Cassette Holder. To confirm this, lightly push the cassette tape further in and see if the tape comes back out, by a spring motion, just as much as you have pushed in.
4. Turn the LDG Belt in the appropriate direction shown in Fig. M1 for a minute or two to complete this task.

To unload a cassette tape manually:

1. Disconnect the AC plug.
2. Remove the Top Case and Front Assembly.
3. Make sure that the Moving guide preparations are in the Eject Position.
4. Turn the LDG Belt in the appropriate direction shown in Fig. M1 until the Moving guide preparations come to the Eject Position. Stop turning when the preparations begin clicking or can not be moved further. However, the tape will be left wound around the cylinder.
5. Turn the LDG Belt in the appropriate direction continuously, and the cassette tape will be ejected. Allow a minute or two to complete this task.

B. Method to place the Cassette Holder in the tape-loaded position without a cassette tape

1. Disconnect the AC Plug.
2. Remove the Top Case and Front Assembly.
3. Turn the LDG Belt in the appropriate direction shown in Fig. M1. Release the locking tabs shown in Fig. M1 and continue turning the LDG Belt until the Cassette Holder comes to the tape-loaded position. Allow a minute or two to complete this task.



1.Tape Interchangeability Alignment

Note:

To do these alignment procedures, make sure that the Tracking Control Circuit is set to the center position every time a tape is loaded or unloaded. (Refer to page 2-3-4, procedure 1-C, step 2.)

Equipment required:

Dual Trace Oscilloscope

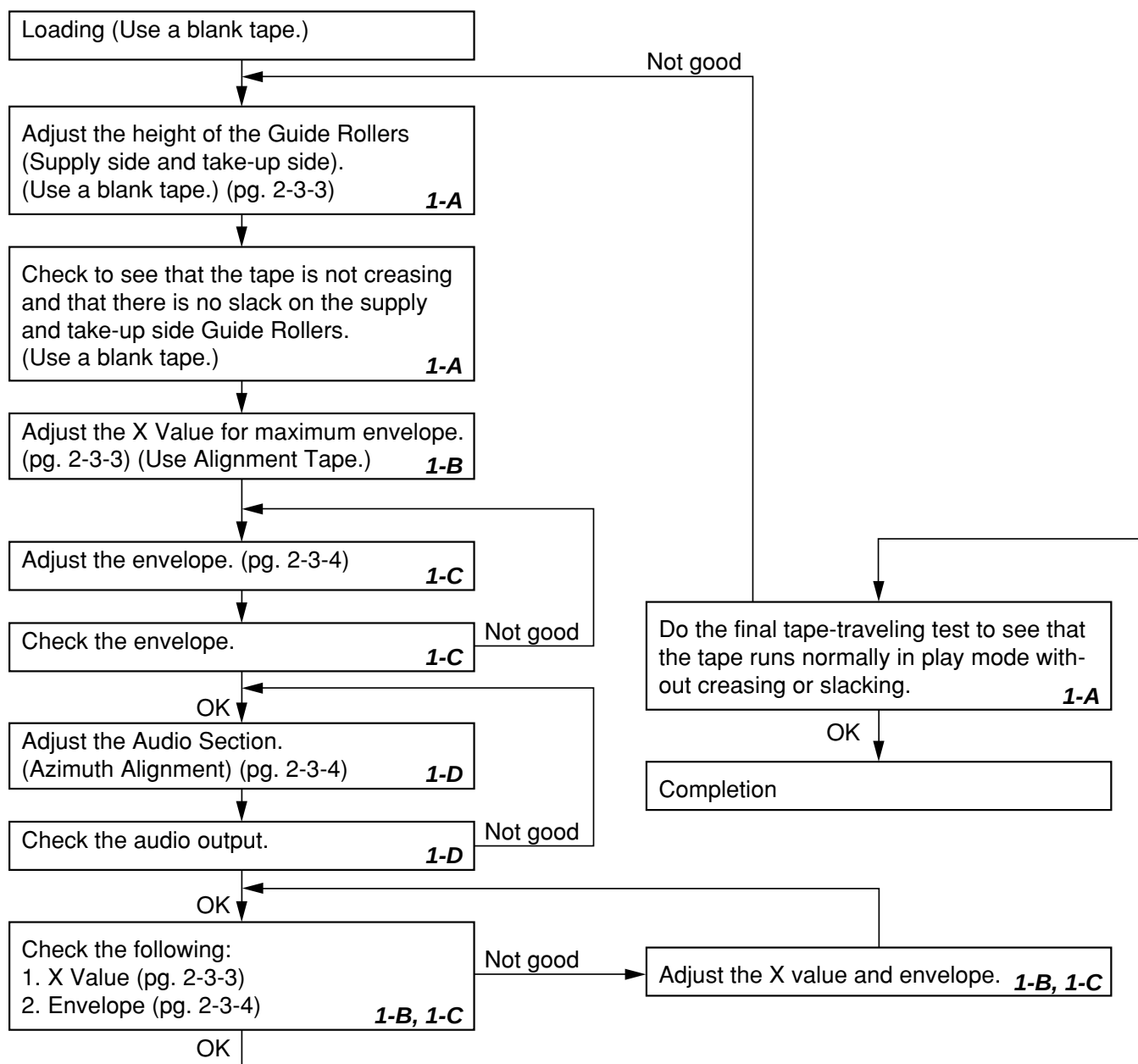
VHS Alignment Tape (FL6NS8)

Guide Roller Adj. Screwdriver

X-Value Adj. Screwdriver

Note: Before starting this Mechanical Alignment, do all Electrical Adjustment procedures.

Flowchart of Alignment for tape traveling



1-A. Preliminary/Final Checking and Alignment of Tape Path

Purpose:

To make sure that the tape path is well stabilized.

Symptom of Misalignment:

If the tape path is unstable, the tape will be damaged.

Note: Do not use an Alignment Tape for this procedure. If the unit is not correctly aligned, the tape may be damaged.

1. Playback a blank cassette tape and check to see that the tape runs without creasing at Guide Rollers [2] and [3], and at points A and B on the lead surface. (Refer to Fig. M3 and M4.)
2. If creasing is apparent, align the height of the guide rollers by turning the top of Guide Rollers [2] and [3] with a Guide Roller Adj. Screwdriver. (Refer to Fig. M3 and M5.)

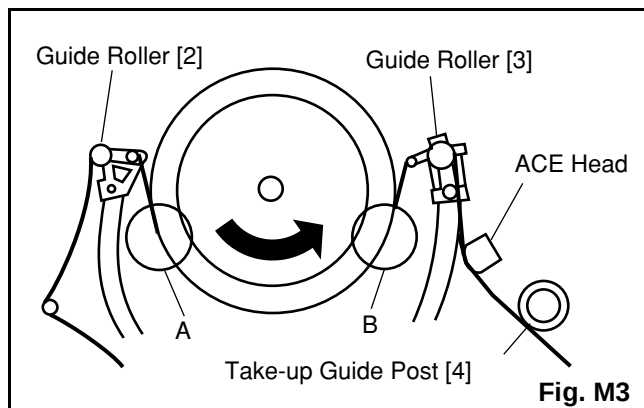


Fig. M3

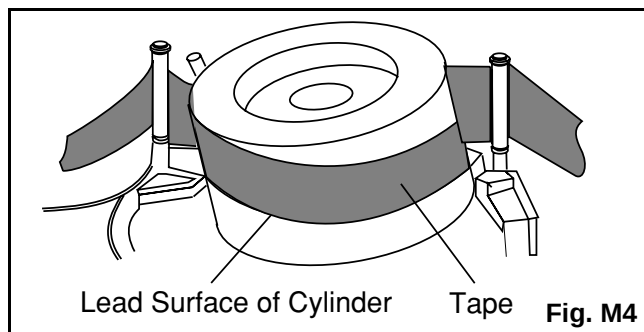


Fig. M4

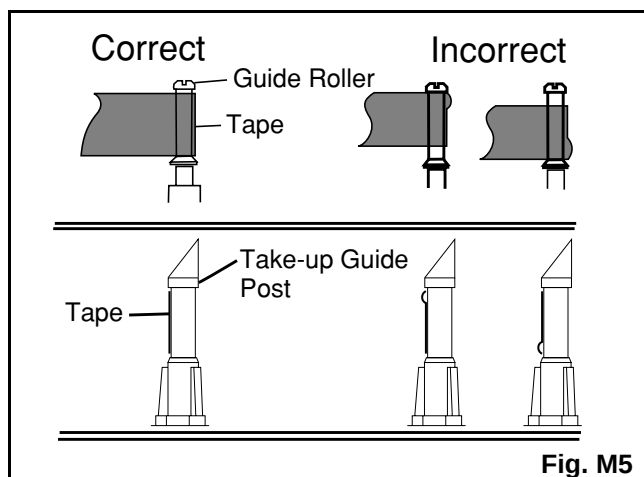


Fig. M5

3. Check to see that the tape runs without creasing at Take-up Guide Post [4] or without snaking between Guide Roller [3] and AC Head. (Fig. M3 and M5)
4. If creasing or snaking is apparent, adjust the Tilt Adj. Screw of the AC Head. (Fig. M6)

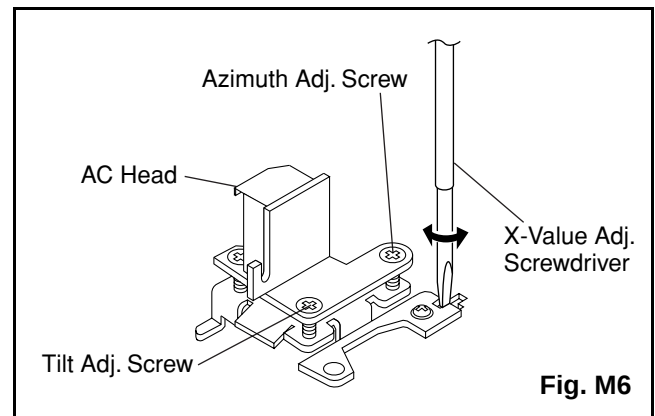


Fig. M6

1-B. X Value Alignment

Purpose:

To align the Horizontal Position of the Audio/Control/Erase Head.

Symptom of Misalignment:

If the Horizontal Position of the Audio/Control/Erase Head is not properly aligned, maximum envelope cannot be obtained at the Neutral position of the Tracking Control Circuit.

1. Connect the oscilloscope to TP301 (C-PB) and TP503 (CTL) on the Main CBA. Use TP504 (RF-SW) as a trigger.
2. Playback the Gray Scale of the Alignment Tape (FL6NS8) and confirm that the PB FM signal is present.
3. Set the Tracking Control Circuit to the center position by pressing "VCR" button and "▲CH" button on the remote control unit then pressing "PLAY" button on the unit. (Refer to note on bottom of page 2-3-4.)
4. Use the X-Value Adj. Screwdriver so that the PB FM signal at TP301 (C-PB) is maximum. (Fig. M6)
5. Press "▲CH" button on the remote control unit until the CTL waveform has shifted by approx. +2msec. Make sure that the envelope is simply attenuated (shrinks in height) during this process so that you will know the envelope has been at its peak.

6. Press "▼CH" button on the remote control unit until the CTL waveform has shifted from its original position (not the position achieved in step 5, but the position of CTL waveform in step 4) by approximately -2msec. Make sure that the envelope is simply attenuated (shrinks in height) once CTL waveform passes its original position and is further brought in the minus direction.
7. Set the Tracking Control Circuit to the center position by pressing "VCR" button and "▲CH" button on the remote control unit then pressing "PLAY" button on the unit.

1-C. Checking/Adjustment of Envelope Waveform

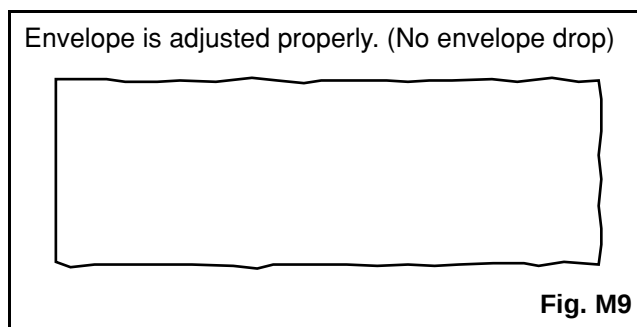
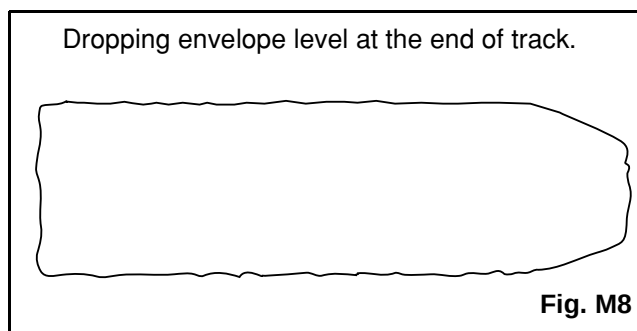
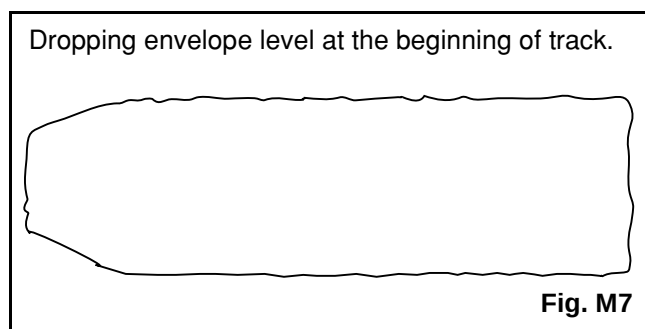
Purpose:

To achieve a satisfactory picture and precise tracking.

Symptom of Misalignment:

If the envelope output is poor, noise will appear in the picture. The tracking will then lose precision and the playback picture will be distorted by any slight variation of the Tracking Control Circuit.

1. Connect the oscilloscope to TP301 (C-PB) on the Main CBA. Use TP504 (RF-SW) as a trigger.
2. Playback the Gray Scale on the Alignment Tape (FL6NS8). Set the Tracking Control Circuit to the center position by pressing "VCR" button and "▲CH" button on the remote control unit then pressing "PLAY" button on the unit. Adjust the height of Guide Rollers [2] and [3] (Fig. M3, Page 2-3-3) watching the oscilloscope display so that the envelope becomes as flat as possible. To do this adjustment, turn the top of the Guide Roller with the Guide Roller Adj. Screwdriver.
3. If the envelope is as shown in Fig. M7, adjust the height of Guide Roller [2] (Refer to Fig. M3) so that the waveform looks like the one shown in Fig. M9.
4. If the envelope is as shown in Fig. M8, adjust the height of Guide Roller [3] (Refer to Fig. M3) so that the waveform looks like the one shown in Fig. M9.
5. When Guide Rollers [2] and [3] (Refer to Fig. M3) are aligned properly, there is no envelope drop either at the beginning or end of track as shown in Fig. M9.



Note: Upon completion of the adjustment of Guide Rollers [2] and [3] (Refer to Fig. M3), check the X Value by pushing the "▲CH" or "▼CH" buttons alternately, to check the symmetry of the envelope. Check the number of pushes to ensure center position. The number of pushes "▲CH" button to achieve 1/2 level of envelope should match the number of pushes "▼CH" button from center. If required, redo the "X Value Alignment."

1-D. Azimuth Alignment of Audio/Control/Erase Head

Purpose:

To correct the Azimuth alignment so that the Audio/Control/Erase Head meets tape tracks properly.

Symptom of Misalignment:

If the position of the Audio/Control/Erase Head is not properly aligned, the Audio S/N Ratio or Frequency Response will be poor.

1. Connect the oscilloscope to the audio output jack on the rear side of the deck.
2. Playback the alignment tape (FL6NS8) and confirm that the audio signal output level is 6kHz.
3. Adjust Azimuth Adj. Screw so that the output level on the AC Voltmeter or the waveform on the oscilloscope is at maximum. (Fig. M6)

DISASSEMBLY/ASSEMBLY PROCEDURES OF DECK MECHANISM

Before following the procedures described below, be sure to remove the deck assembly from the cabinet. (Refer to CABINET DISASSEMBLY INSTRUCTIONS on page 1-7-1.)

All the following procedures, including those for adjustment and replacement of parts, should be done in Eject mode; see the positions of [44] and [45] in Fig. DM1 on page 2-4-3. When reassembling, follow the steps in reverse order.

STEP /LOC. No.	START- ING No.	PART		REMOVAL		INSTALLATION
				Fig. No.	REMOVE/*UNHOOK/ UNLOCK/RELEASE/ UNPLUG/DESOLDER	ADJUSTMENT CONDITION
[1]	[1]	Guide Holder A	T	DM3	2(S-1)	
[2]	[1]	Cassette Holder Assembly	T	DM4		
[3]	[2]	Slider (SP)	T	DM5	*(L-1), (S-1A)	
[4]	[2]	Slider (TU)	T	DM5	*(L-2)	
[5]	[4]	Lock Lever	T	DM5	*(L-3), *(P-1)	
[6]	[2]	Cassette Plate	T	DM5		
[7]	[7]	Cylinder Assembly	T	DM1,DM6	Desolder, 3(S-2)	
[8]	[8]	Loading Motor Assembly	T	DM1,DM7	Desolder, LDG Belt, 2(S-3)	
[9]	[9]	AC Head Assembly	T	DM1,DM7	(S-4)	
[10]	[2]	Tape Guide Arm Assembly	T	DM1,DM8	*(P-2)	
[11]	[10]	C Door Opener	T	DM1,DM8	*(L-4)	
[12]	[11]	Pinch Arm (B)	T	DM1,DM8	*(P-3)	
[13]	[12]	Pinch Arm Assembly	T	DM1,DM8		
[14]	[14]	FE Head Assembly	T	DM1,DM9	(S-5)	
[15]	[15]	Prism	T	DM1,DM9	(S-6)	
[16]	[2]	Slider Shaft	T	DM10	*(L-5)	
[17]	[16]	C Drive Lever (SP)	T	DM10		
[18]	[16]	C Drive Lever (TU)	T	DM10	(S-7),*(P-4)	
[19]	[19]	Capstan Motor	B	DM2,DM11	3(S-8), Cap Belt	
[20]	[20]	Clutch Assembly (HI)	B	DM2,DM12	(C-1)	
[21]	[20]	Center Gear	B	DM12		
[22]	[22]	F Brake Assembly (HI)	B	DM2,DM12	*(L-6)	
[23]	[22]	Worm Holder	B	DM2,DM13	(S-9),*(L-7),*(L-8)	
[24]	[22]	Pulley Assembly (HI)	B	DM2,DM13		
[25]	[25]	Mode Gear	B	DM2,DM13	(C-2)	
[26]	[20],[25]	Mode Lever (HI)	B	DM2,DM13	(C-3)	
[27]	[22],[23], [26]	Cam Gear (A) (HI)	B	DM2,DM13	(C-4)	(+)Refer to Alignment Sec.Pg.2-4-8
[28]	[26]	TR Gear C	B	DM2,DM13	(C-5)	
[29]	[28]	TR Gear Spring	B	DM13		
[30]	[29]	TR Gear A/B	B	DM13		
[31]	[31]	FF Arm (HI)	B	DM1,DM13		
[32]	[26]	Idler Assembly (HI)	B	DM1,DM14	*(L-9)	
[33]	[26]	BT Arm	B	DM2,DM14	*(P-5)	

STEP /LOC. No.	START- ING No.	PART		REMOVAL		INSTALLATION
				Fig. No.	REMOVE/*UNHOOK/ UNLOCK/RELEASE/ UNPLUG/DESOLDER	ADJUSTMENT CONDITION
[34]	[26]	Loading Arm (SP) Assembly	B	DM2,DM14		(+)Refer to Alignment Sec.Pg.2-4-8
[35]	[34]	Loading Arm (TU) Assembly	B	DM2,DM14		(+)Refer to Alignment Sec.Pg.2-4-8
[36]	[16],[26]	M Brake (TU) Assembly (HI)	T	DM1,DM15		
[37]	[2],[26]	M Brake (SP) Assembly (HI)	T	DM1,DM15	*(P-6)	
[38]	[37]	Tension Lever Assembly	T	DM1,DM15		
[39]	[38]	T Lever Holder	T	DM15	*(L-10)	
[40]	[40]	M Gear (HI)	T	DM1,DM15	(C-6)	
[41]	[15],[40]	Sensor Gear (HI)	T	DM1,DM15	(C-7)	
[42]	[36],[40]	Reel T	T	DM1,DM15		
[43]	[38]	Reel S	T	DM1,DM15		
[44]	[34],[38]	Moving Guide S Preparation	T	DM1,DM16		
[45]	[35]	Moving Guide T Preparation	T	DM1,DM16		
[46]	[19]	TG Post Assembly	T	DM1,DM16	*(L-11)	
[47]	[27]	Rack Assembly	R	DM17		(+)Refer to Alignment Sec.Pg.2-4-8
[48]	[47]	F Door Opener	R	DM17		
[49]	[49]	Cleaner Assembly	T	DM1,DM6		
[50]	[49]	CL Post	T	DM6	*(L-12)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)

(1): Follow steps in sequence. When reassembling, follow the steps in reverse order.

These numbers are also used as identification (location) No. of parts in the figures.

(2): Indicates the part to start disassembling with in order to disassemble the part in column (1).

(3): Name of the part

(4): Location of the part: T=Top B=Bottom R=Right L=Left

(5): Figure Number

(6): Identification of parts to be removed, unhooked, unlocked, released, unplugged, unclamped, or desoldered.

P=Spring, W=Washer, C=Cut Washer, S=Screw, *=Unhook, Unlock, Release, Unplug, or Desolder

e.g., 2(L-2) = two Locking Tabs (L-2).

(7): Adjustment Information for Installation

(+):Refer to Deck Exploded Views for lubrication.

Top View

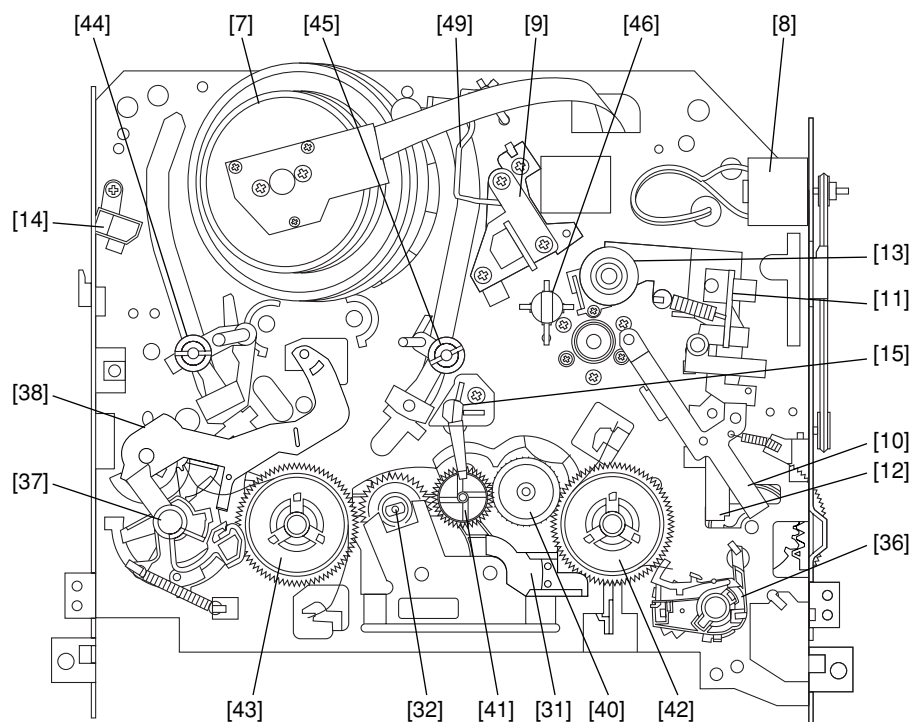


Fig. DM1

Bottom View

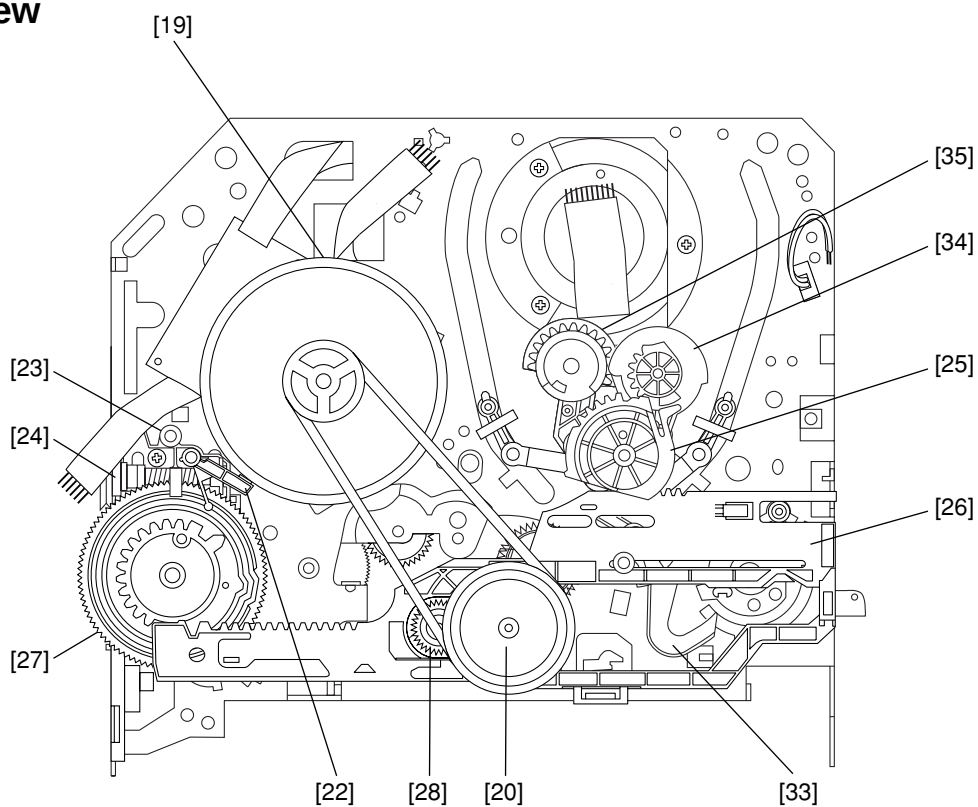
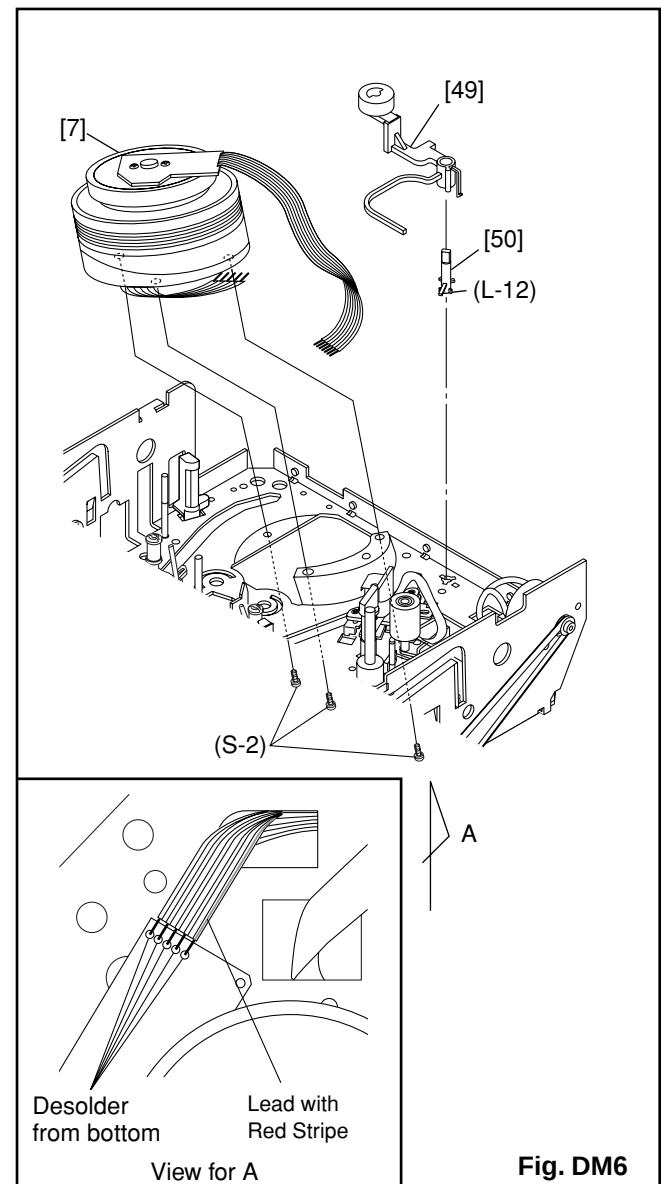
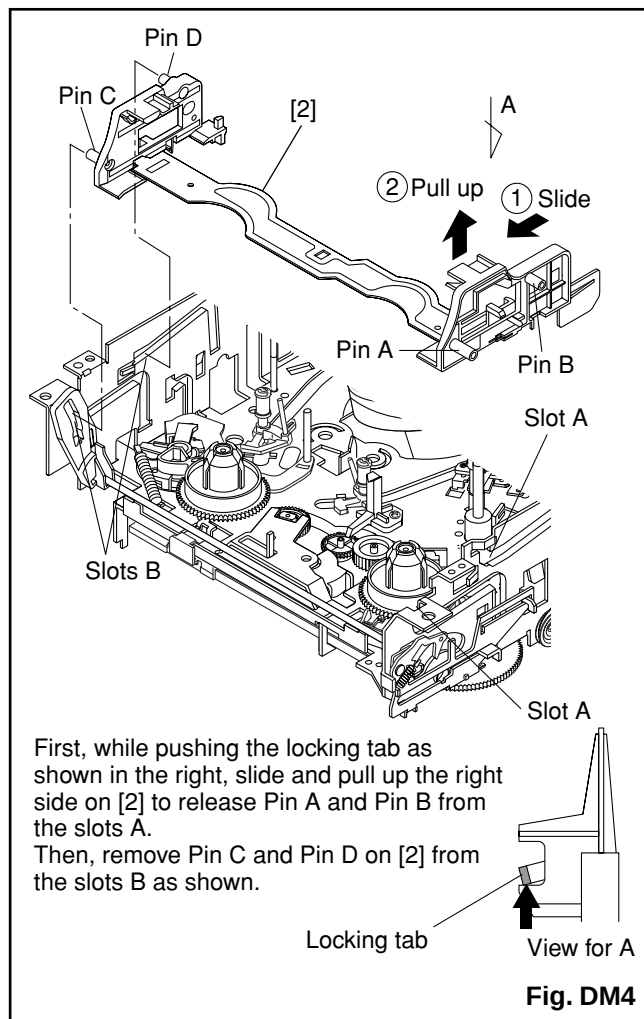
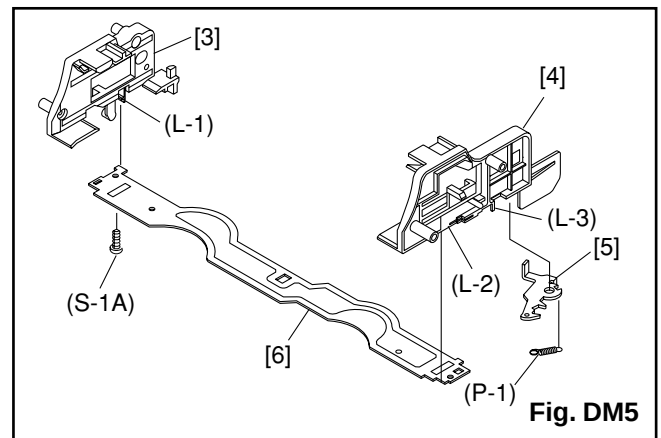
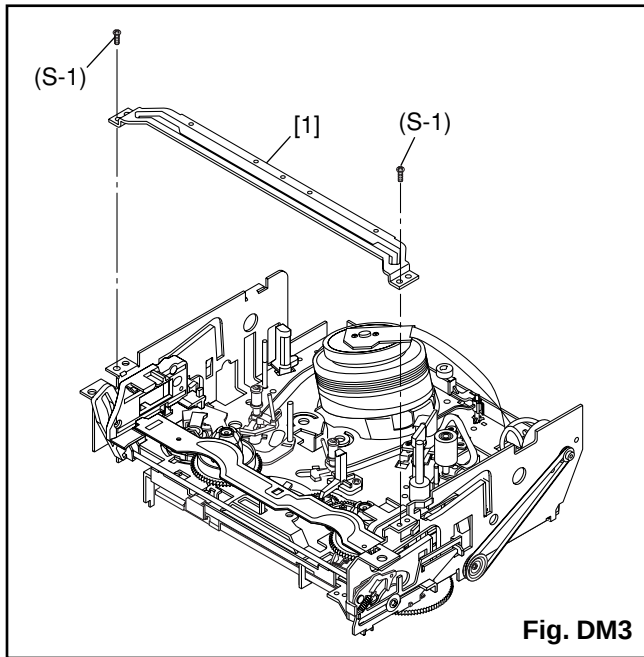
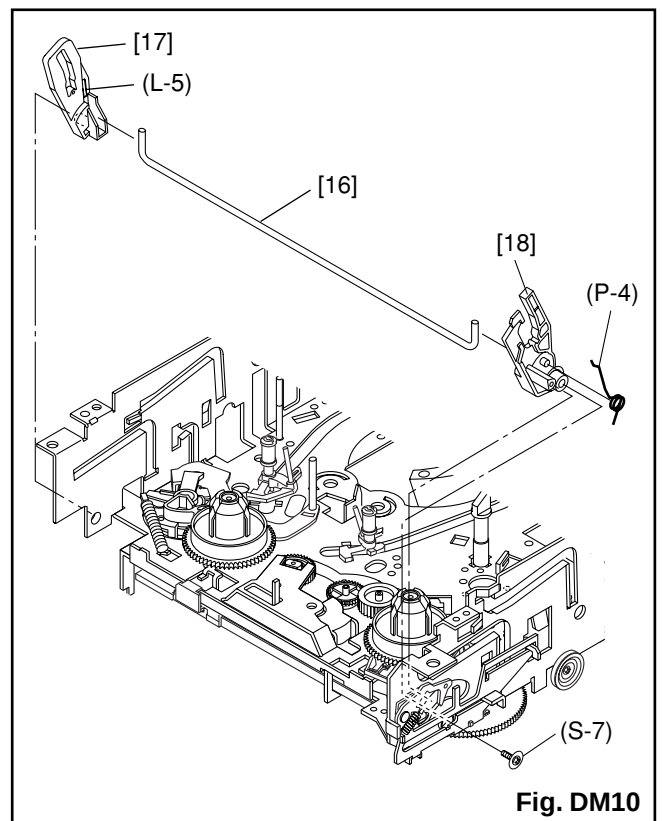
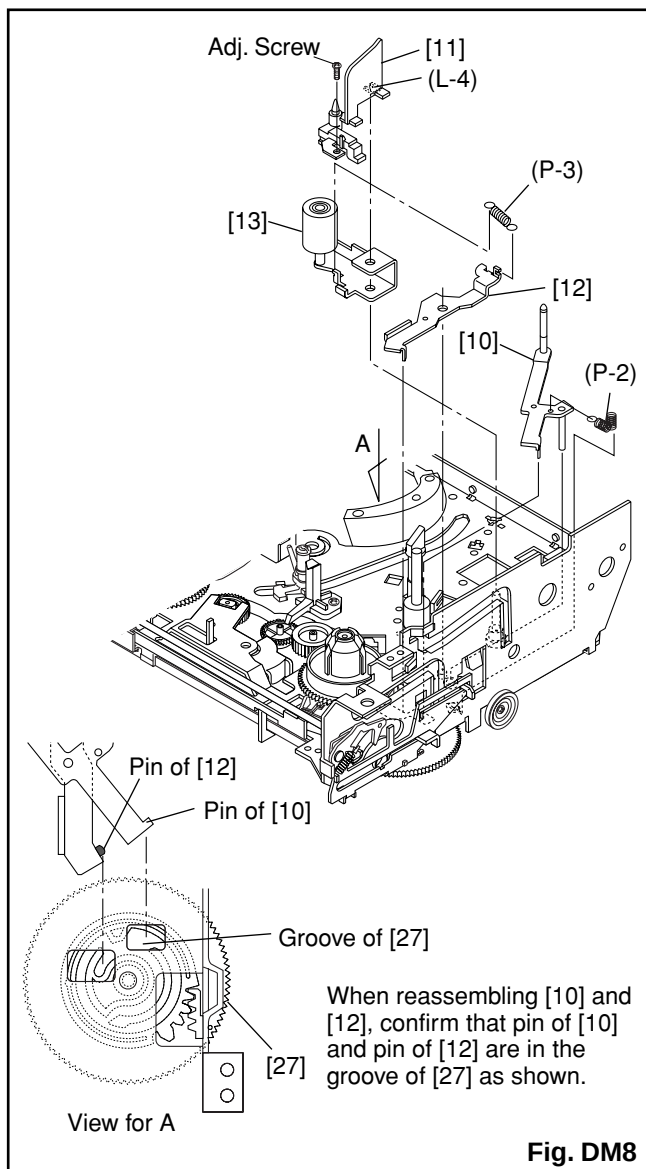
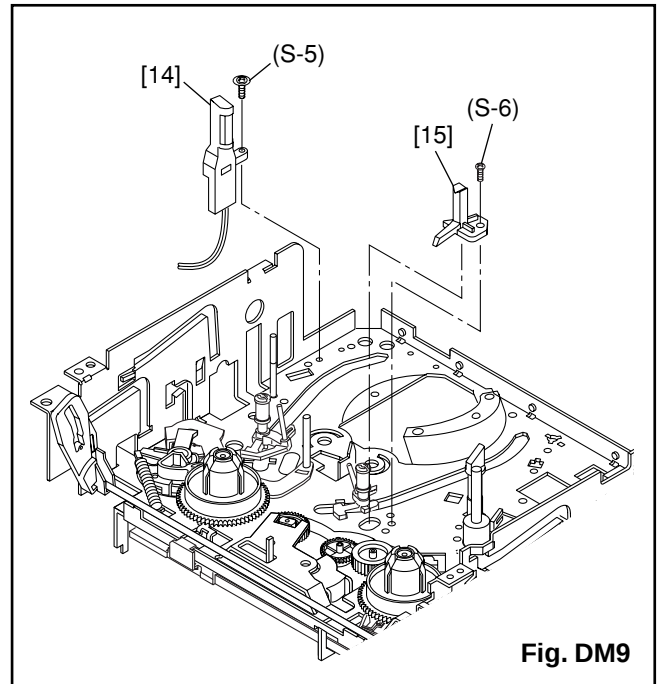
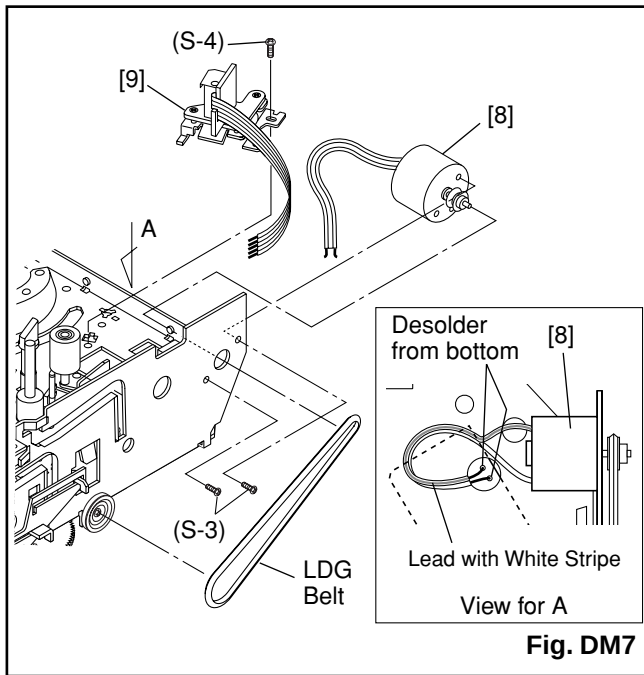


Fig. DM2





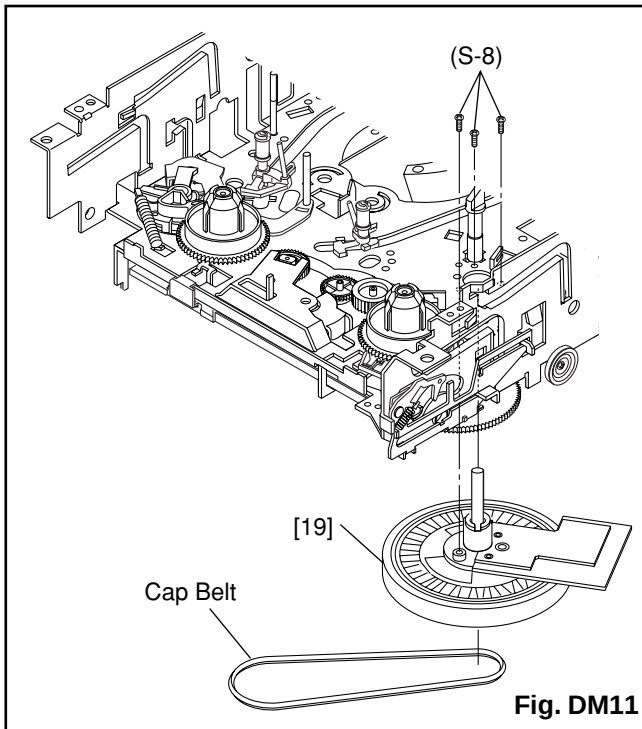
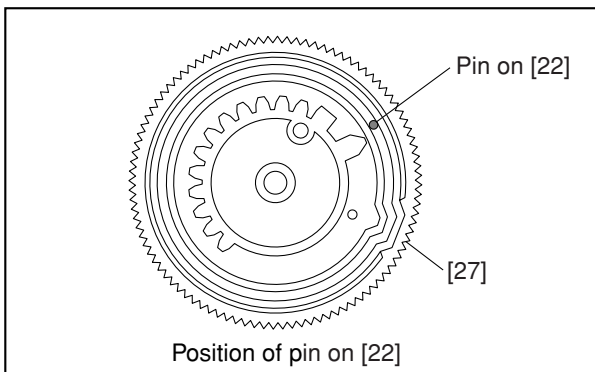
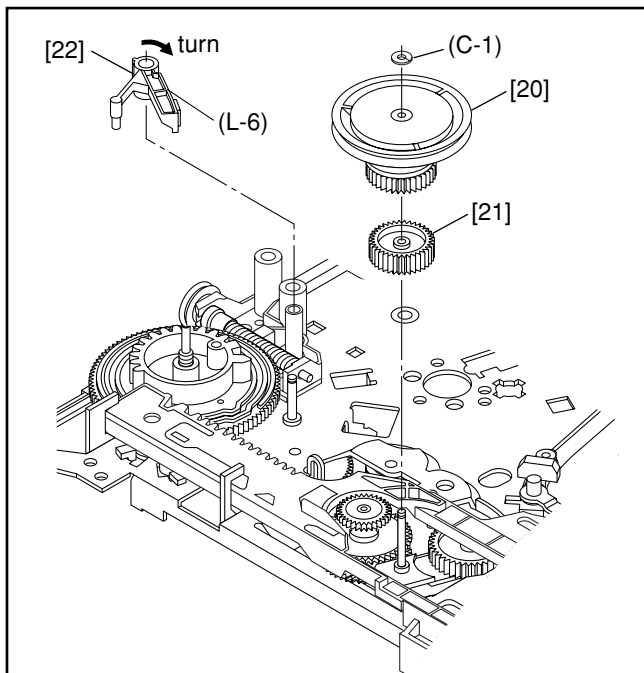
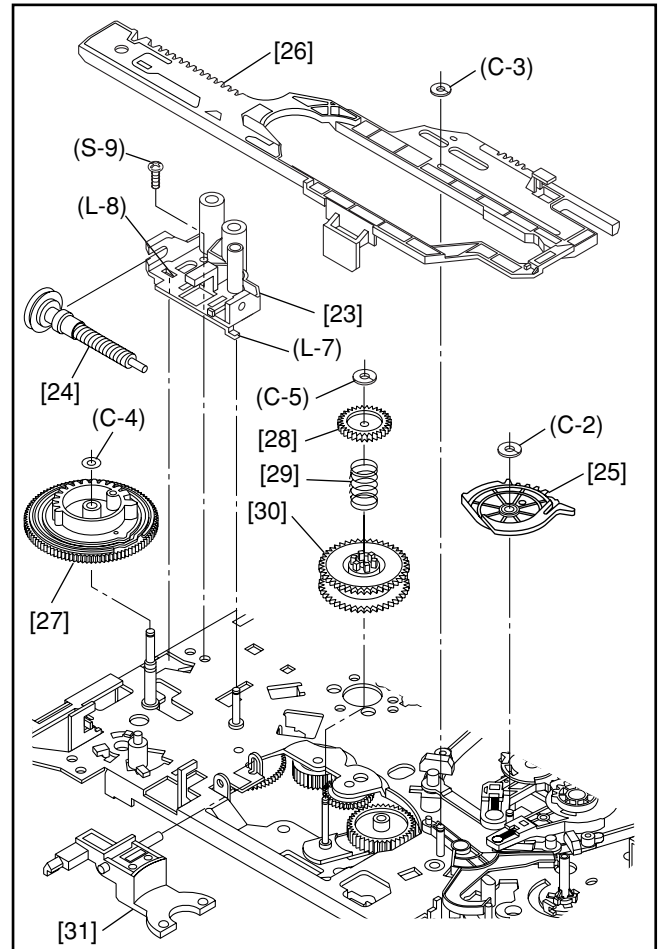


Fig. DM11

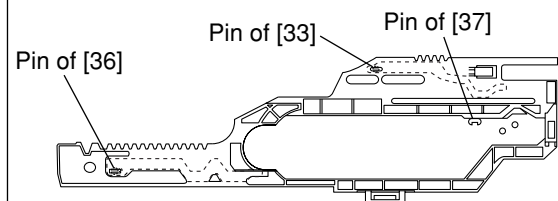


Position of pin on [22]

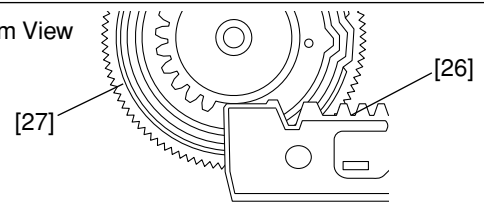
Fig. DM12



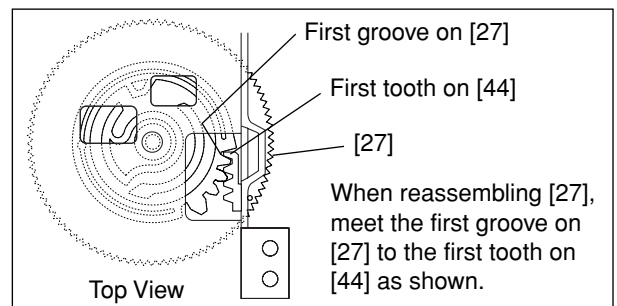
Position of Mode Lever when installed



Bottom View

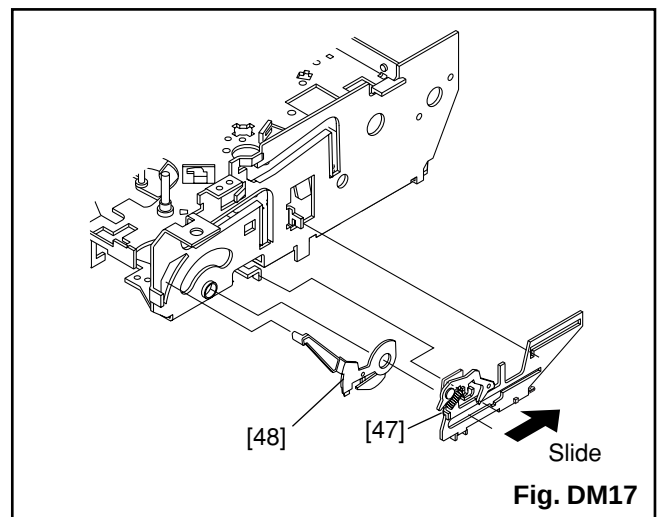
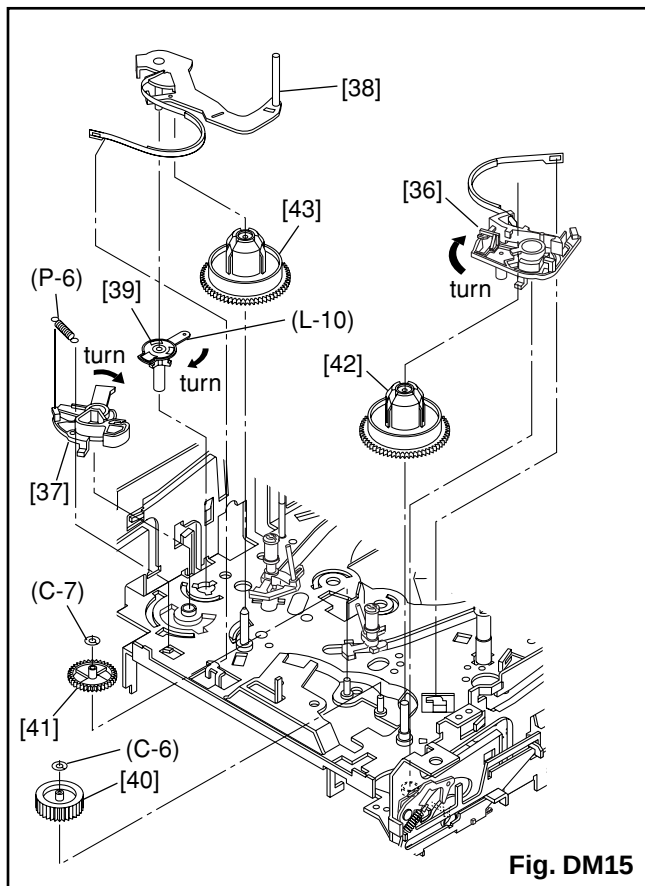
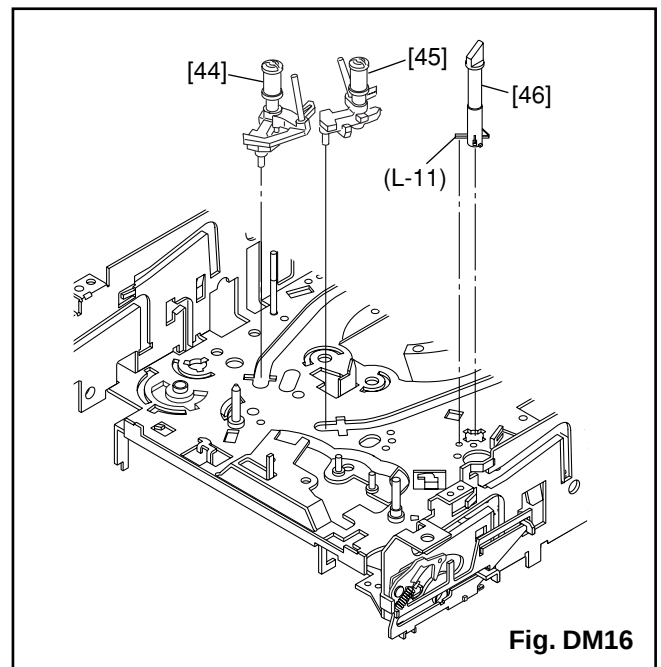
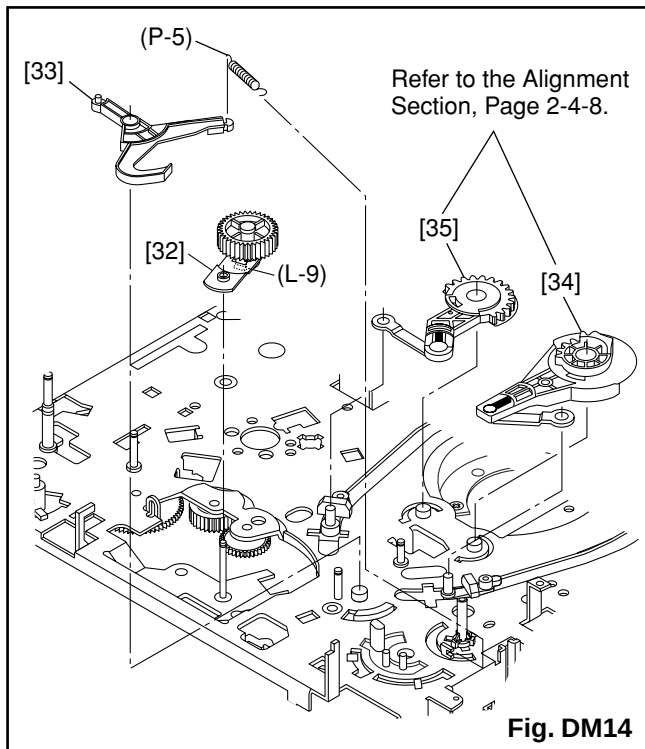


Align [26] and [27] as shown.



When reassembling [27], meet the first groove on [27] to the first tooth on [44] as shown.

Fig. DM13



ALIGNMENT PROCEDURES OF MECHANISM

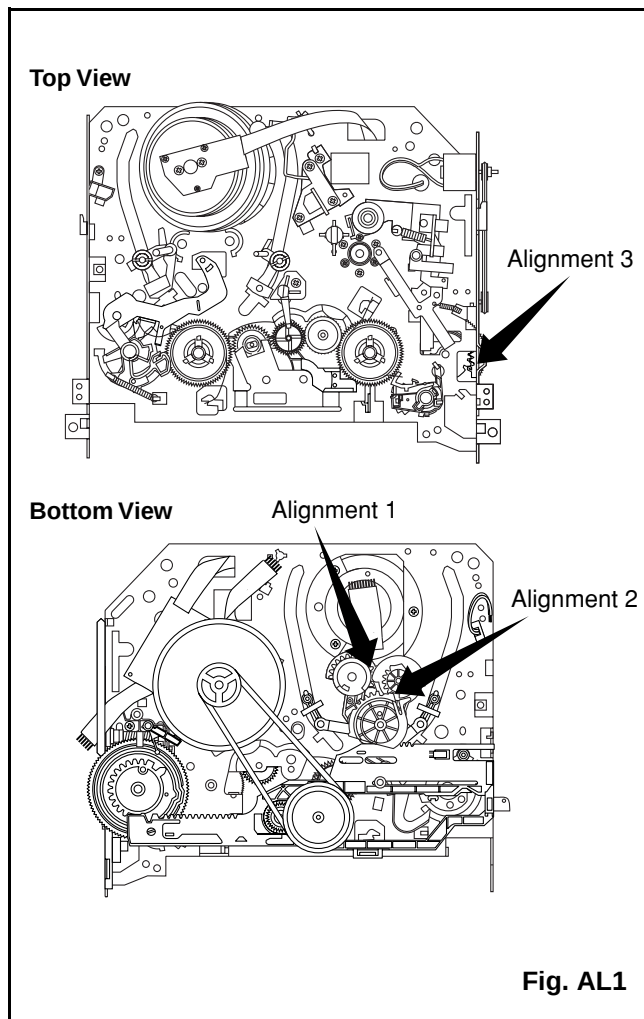
The following procedures describe how to align the individual gears and levers that make up the tape loading/unloading mechanism. Since information about the state of the mechanism is provided to the System Control Circuit only through the Mode Switch, it is essential that the correct relationship between individual gears and levers be maintained.

All alignments are to be performed with the mechanism in Eject mode, in the sequence given. Each procedure assumes that all previous procedures have been completed.

IMPORTANT:

If any one of these alignments is not performed properly, even if off by only one tooth, the unit will unload or stop and it may result in damage to the mechanical or electrical parts.

Alignment points in Eject Position



Alignment 1

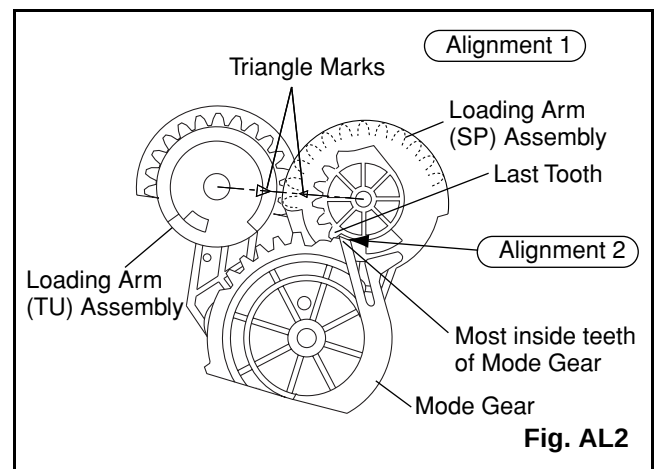
Loading Arm (SP) and (TU) Assembly

Install Loading Arm (SP) and (TU) Assembly so that their triangle marks point to each other as shown in Fig. AL2.

Alignment 2

Mode Gear

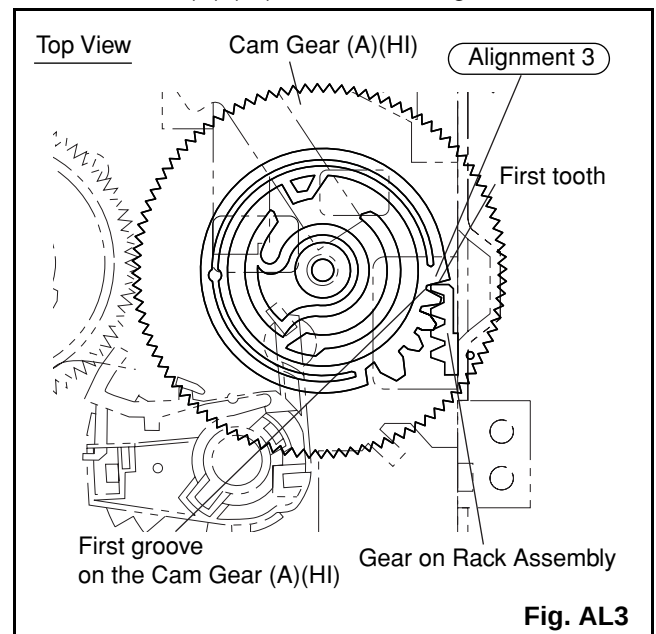
Keeping the two triangles pointing at each other, install the Loading Arm (SP) Assembly so that the last tooth of the gear meets the most inside teeth of the Mode Gear. See Fig. AL2.



Alignment 3

Cam Gear (A) (HI), Rack Assembly

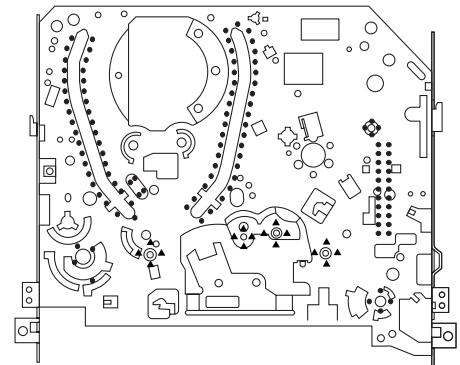
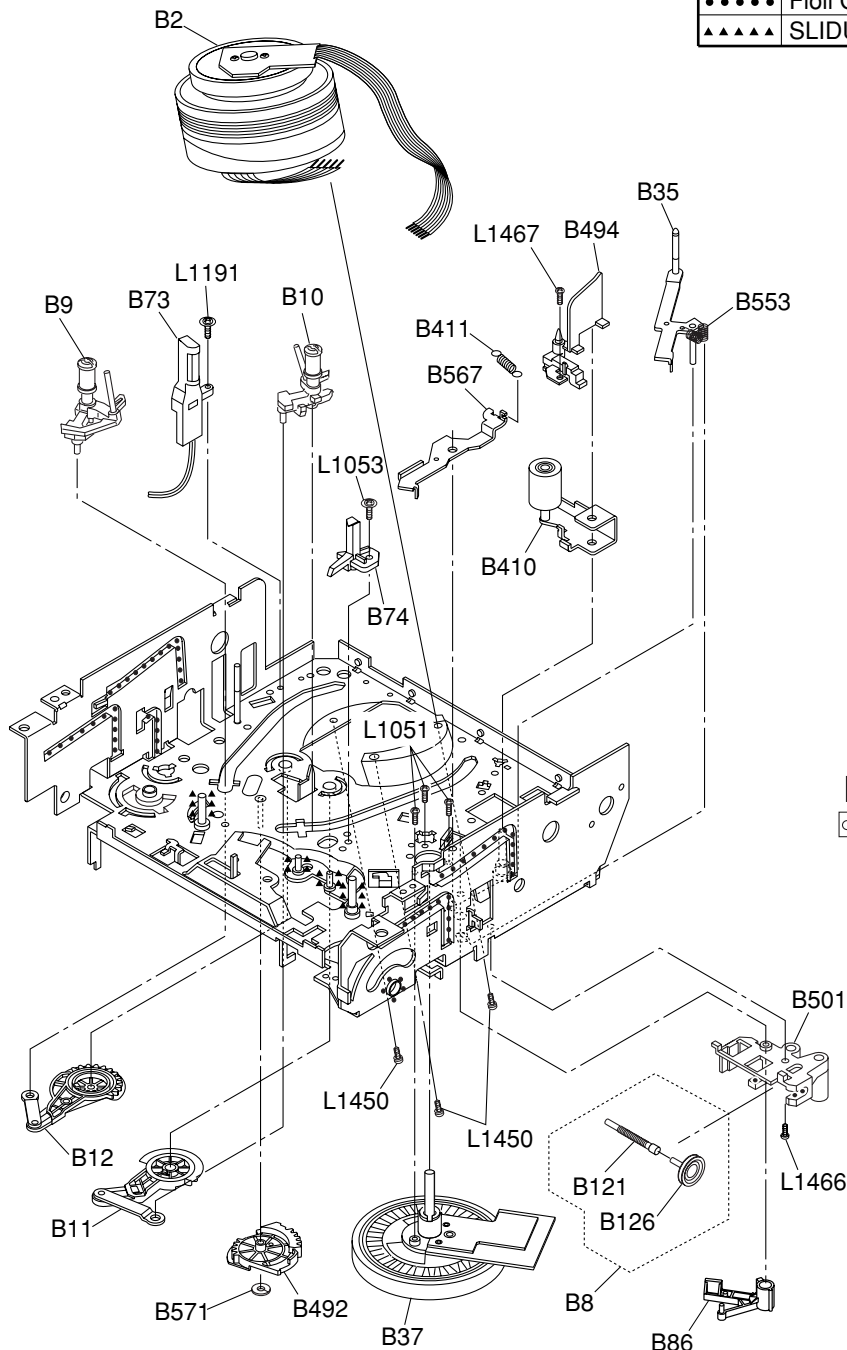
Install the Rack Assembly so that the first tooth on the gear of the Rack Assembly meets the first groove on the Cam Gear (A) (HI) as shown in Fig. AL3.



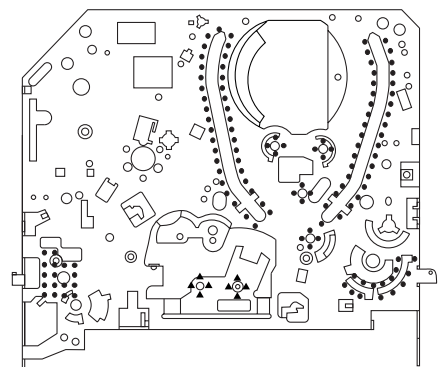
DECK EXPLODED VIEWS

Deck Mechanism View 1

Mark	Description
.....	Floil G-684G or Multemp MH-D (Blue grease)
▲▲▲▲	SLIDUS OIL #150



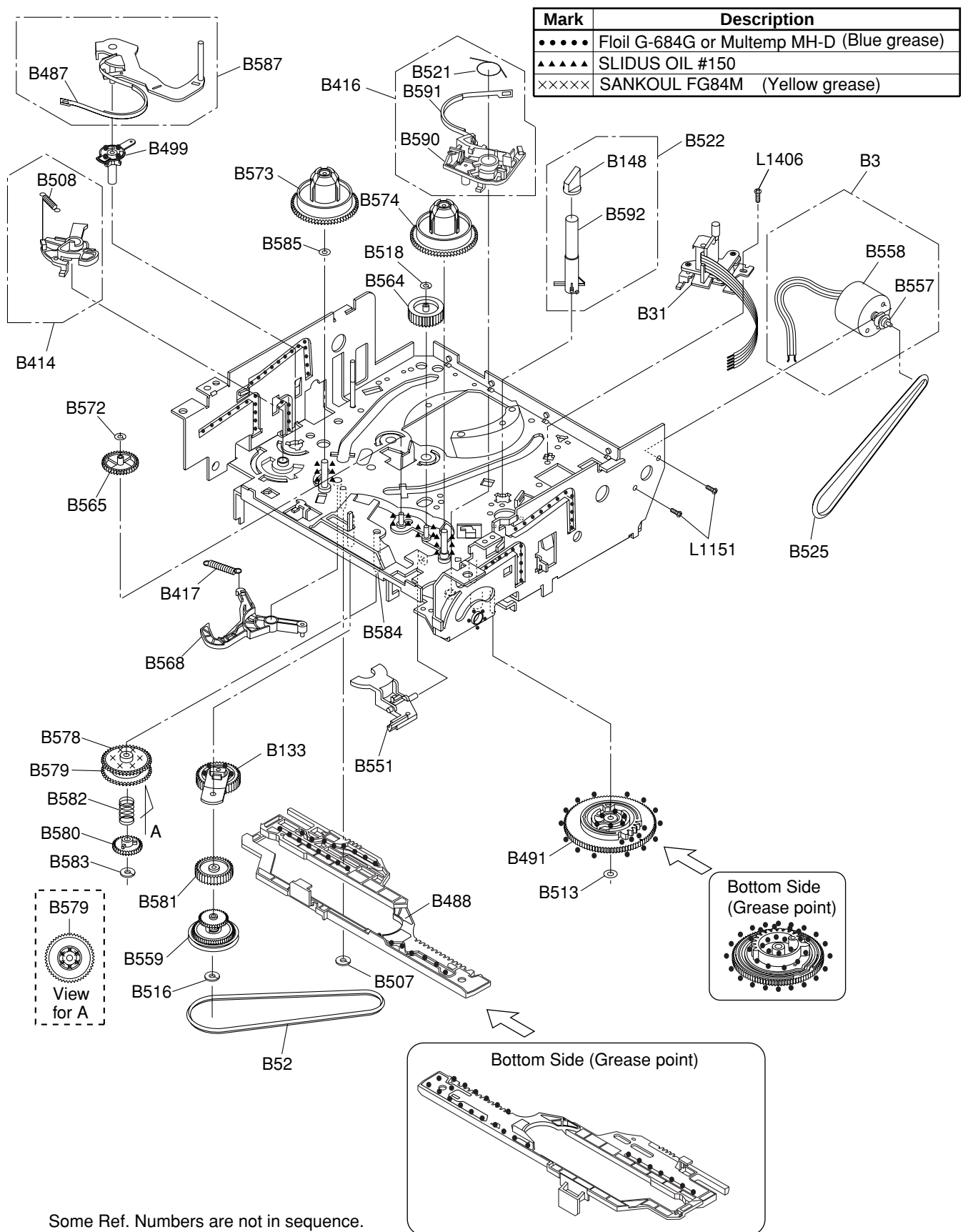
Chassis Assembly
Top View (Lubricating Point)



Chassis Assembly
Bottom View (Lubricating Point)

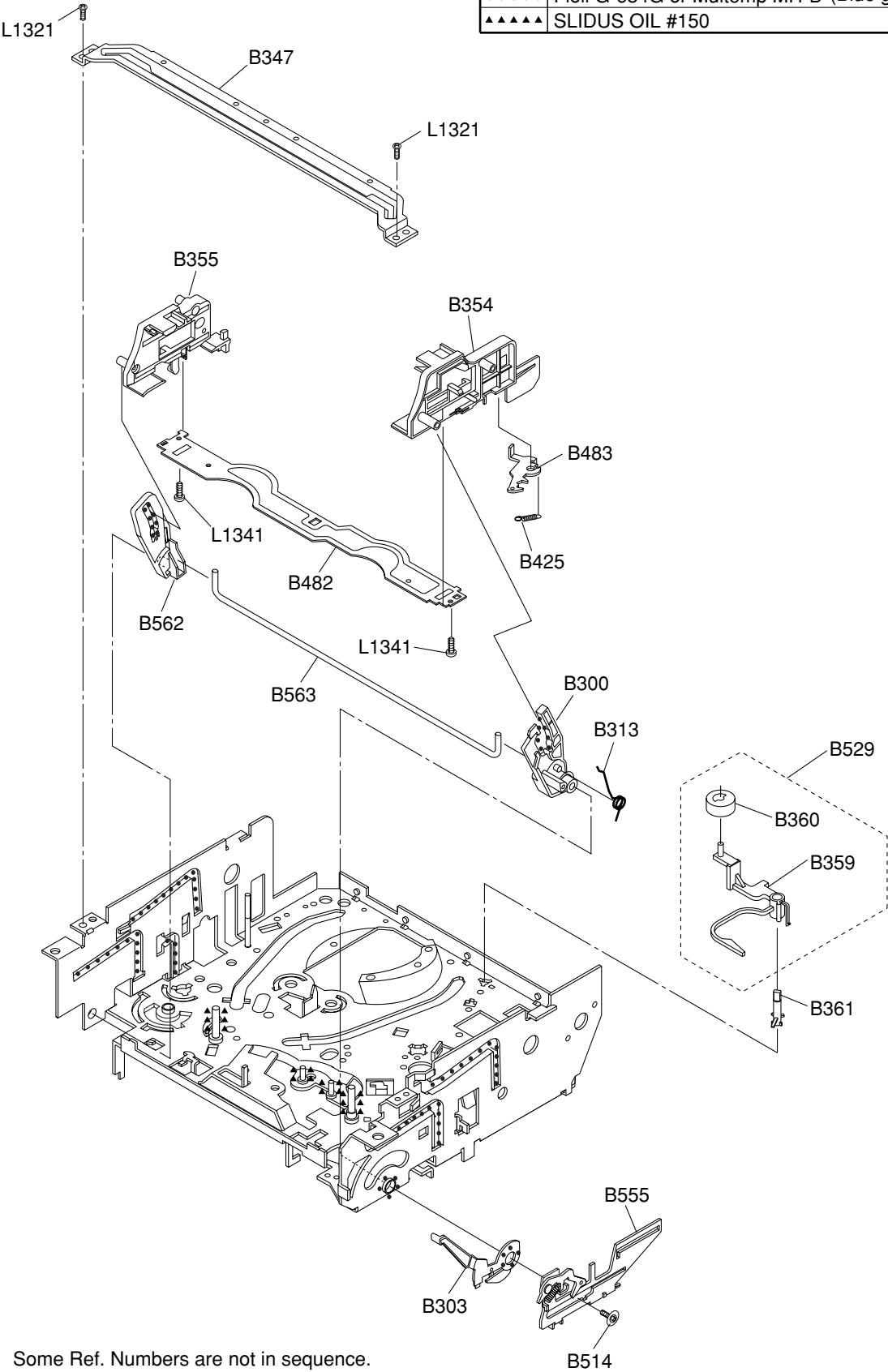
Some Ref. Numbers are not in sequence.

Deck Mechanism View 2



Deck Mechanism View 3

Mark	Description
.....	Floil G-684G or Multemp MH-D (Blue grease)
▲▲▲▲	SLIDUS OIL #150



Some Ref. Numbers are not in sequence.

MECHANICAL PARTS LIST - VCR TAPE MECHANISM

NOTE:

Four different, but interchangeable types of B558 (Loading Motor) may be installed in these models. Please confirm B558 (Loading Motor) type by a part number on it. B558 (Loading Motor) type varies in combination with L1151. Please see Table 1 for details and combination

Table 1 : B558 and L1151 Combination

Loading Motor (B558)		Screw (L1151)	
Description	Part Code	Description	Part code
M31E-1 R-14 7376	9965 000 19631 (MMDZB12MM003)	M2.6x4	9965 000 08642
M31E-1 R-14 7391	9965 000 18131 (MMDZB12MM004)	M2.6x4	9965 000 08642
MDB2B80	9965 000 19637 (MMDZB12SJ008)	M3x4	4822 502 14013
MDB2B82	9965 000 17222 (MMDZB10SJ001)	M3x4	4822 502 14013

B2 9965 000 16630 CYLINDER ASSEMBLY MK12 PAL 4HD H
 B2 9965 000 19632 CYLINDER ASSY(V) MK12 PAL 4HD
 B3 9965 000 17217 LOADING MOTOR ASSY MK11 TVCR
 B8 9965 000 16631 PULLEY ASSEMBLY(HI) MK12
 B9 9965 000 16632 MOVING GUIDE S PREPARATION MK12

B10 9965 000 16633 MOVING GUIDE T PREPARATION MK12
 B11 9965 000 16634 LOADING ARM(TU) ASSEMBLY MK12
 B12 9965 000 16635 LOADING ARM(SP) ASSEMBLY MK12
 B31 9965 000 16636 AC HEAD ASSEMBLY MK12
 B35 9965 000 16637 TAPE GUIDE ARM ASSEMBLY MK12

B37 9965 000 16638 CAPSTAN MOTOR 288/VCCM012
 B52 9965 000 08593 CAP BELT MK10
 B73 9965 000 12210 FE HEAD ASSEMBLY MK11
 B73 9965 000 12896 FE HEAD ASS'Y MK11
 B73 9965 000 19633 FE HEAD(MK11) MH-131SF11

B73 9965 000 19626 FE HEAD(MK11) VTR-1X2ERS11-148
 B74 9965 000 08555 PRISM MK10
 B86 9965 000 16639 F BRAKE ASSEMBLY(HI) MK12
 B121 9965 000 16640 WORM MK12
 B126 9965 000 18128 PULLEY MK12

B133 9965 000 16642 IDLER ASSEMBLY(HI) MK12
 B148 4822 462 11189 TG CAP
 B300 9965 000 16643 C DRIVE LEVER(TU) MK12
 B303 9965 000 18129 F DOOR OPENER MK12
 B303 9965 000 16644 F DOOR OPENER MK12

B313 9965 000 16645 C DRIVE SPRING MK12
 B347 9965 000 08445 GUIDE HOLDER MK10
 B354 9965 000 18130 SLIDER(TU) MK12
 B355 9965 000 19634 SLIDER(SP) MK12
 B355 9965 000 19629 SLIDER(SP) SUB ASSY MK12

B359 9965 000 08449 CLEANER LEVER MK10
 B360 9965 000 06561 CLEANER ROLLER MK9
 B361 9965 000 08450 CL POST MK10
 B410 9965 000 16648 PINCH ARM(A) ASSEMBLY(4) MK12
 B410 9965 000 19635 PINCH ARM(A) ASSY(5) MK12

B411 9965 000 16649 PINCH SPRING MK12
 B414 9965 000 17218 M BRAKE(SP) ASSEMBLY(HI) MK12
 B416 9965 000 16651 M BRAKE(TU) ASSEMBLY(HI) MK12
 B417 9965 000 17197 TENSION SPG(3002654) MK12
 B425 9965 000 08457 LOCK LEVER SPRING MK10

B482 9965 000 16653 CASSETTE PLATE MK12
 B483 9965 000 16654 LOCK LEVER MK12
 B487 9965 000 16655 BAND BRAKE(SP) MK12
 B488 9965 000 18145 MODE LEVER(HI) MK12
 B491 9965 000 16657 CAM GEAR(A)(HI) MK12

B492 9965 000 19636 MODE GEAR(LM) MK12
 B494 9965 000 16659 C DOOR OPENER MK12
 B499 9965 000 16660 T LEVER HOLDER MK12
 B501 9965 000 16661 WORM HOLDER MK12
 B507 9965 000 05342 REEL WASHER MK9 5*2.1*0.5

B508 9965 000 17219 S BRAKE SPRING(HI) MK12
 B513 4822 532 13158 P.S.W. F
 B514 9965 000 08641 SCREW RACK MK10
 B516 9965 000 05342 REEL WASHER MK9 5*2.1*0.5
 B518 4822 532 13159 P.S.W. 1.6X4.0X0.5T

B521 9965 000 17220 REV BRAKE SPG(HI) MK12
 B522 9965 000 08483 TG POST ASSEMBLY MK10
 B525 9965 000 12230 LDG BELT MK11
 B529 9965 000 08504 CLEANER ASSEMBLY MK10
 B551 9965 000 17221 FF ARM(HI) MK12

B553 9965 000 12233 REV SPRING MK11
 B555 9965 000 16663 RACK ASSEMBLY MK12
 B557 9965 000 08519 MOTOR PULLEY U5
 B558 9965 000 17222 LOADING MOTOR MDB2B82
 B558 9965 000 19637 LOADING MOTOR MDB2B80

B558 9965 000 19631 LOADING MOTOR M31E-1 R-14 7376
 B558 9965 000 18131 LOADING MOTOR M31E-1 R14 7391
 B559 9965 000 16664 CLUTCH ASSEMBLY(HI) MK12
 B562 9965 000 16665 C DRIVE LEVER(SP) MK12
 B563 9965 000 16666 SLIDER SHAFT MK12

B564 9965 000 16667 M GEAR(HI) MK12
 B565 9965 000 16668 SENSOR GEAR(HI) MK12
 B567 9965 000 16669 PINCH ARM(B) MK12
 B568 9965 000 16670 BT ARM MK12
 B571 4822 532 13159 P.S.W. 1.6X4.0X0.5T

MECHANICAL PARTS LIST - VCR TAPE MECHANISM

B572	4822 532 13159	P.S.W. 1.6X4.0X0.5T
B573	9965 000 12241	REEL S MK11
B574	9965 000 12376	REEL T MK10
B578	9965 000 12243	TR GEAR A MK10
B579	9965 000 16671	TR GEAR B MK12
B580	9965 000 19638	TR GEAR C MK12
B581	9965 000 16673	CENTER GEAR MK11
B582	9965 000 12247	TR GEAR SPRING MK10
B583	9965 000 17201	CAM WASHER MK12
B584	9965 000 12248	TR GEAR SHAFT MK10
B585	9965 000 13687	PSW(317505) MK11
B587	9965 000 16674	TENSION LEVER ASSEMBLY MK12
B590	9965 000 18132	BRAKE ARM(TU) MK12
B591	9965 000 17210	BAND BRAKE(TU) MK12
B592	9965 000 16678	TG POST MK10
L1051	9965 000 05359	SCREW, M2.6X6 PAN HEAD+
L1053	9965 000 05375	SCREW, M2.6X8 WASHER HEAD+
L1151	4822 502 14013	M 3 X 4
L1151	9965 000 08642	SCREW, SEMS M2.6X4 PAN +
L1191	9965 000 05375	SCREW, M2.6X8 WASHER HEAD+
L1321	4822 502 14009	M 3 X 6
L1341	9965 000 19639	SCR, P-TIGHT 2X8 PAN HEAD +
L1406	9965 000 08643	AC HEAD SCREW MK9
L1450	4822 502 14671	SCREW M2.6X5
L1466	9965 000 05364	SCREW, M2.6X6 BIND HEAD+
L1467	9965 000 12251	SCREW, S-TIGHT M2.6X5 WASHER HEA

Note: Only the parts mentioned in this list are normal service spare parts.

REVISION LIST

Version 1.0

- * Initial release