DVD-VCR Receiver

MX5100VR/00/02/05

Service
Service
Service

Service Manual

CLASS 1
LASER PRODUCT

CONTENTS

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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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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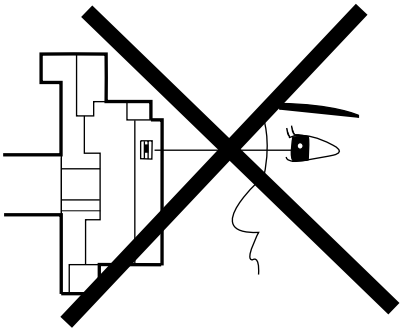
LASER BEAM SAFETY PRECAUTIONS

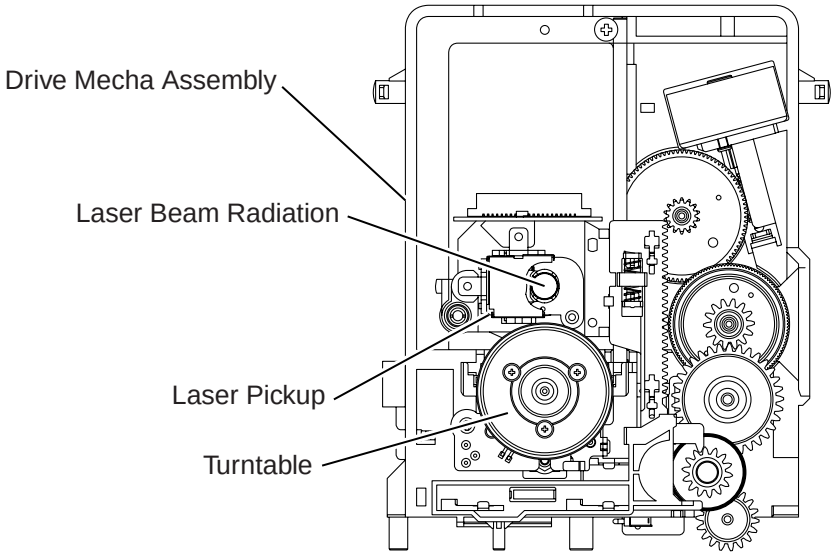
This DVD player uses a pickup that emits a laser beam.



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	≥ 3 mm(d) ≥ 6 mm(d')

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

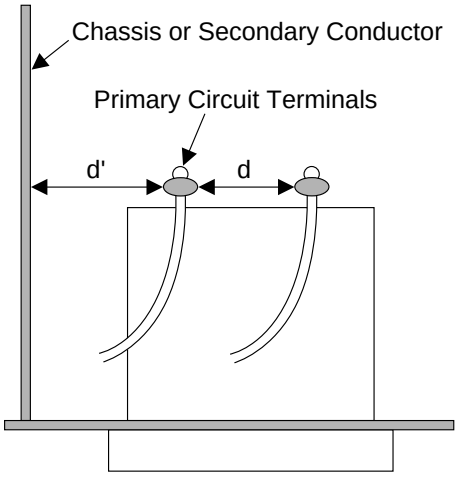


Fig. 1

2. Leakage Current Test

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

Measuring Method (Power ON) :

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

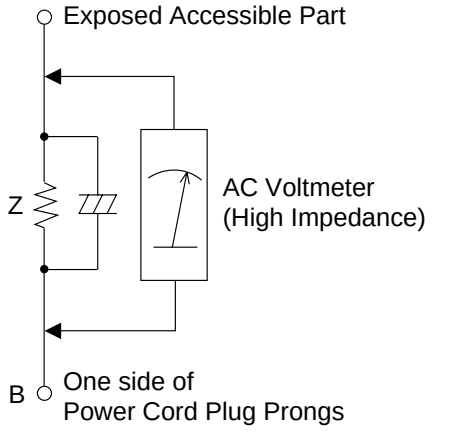


Fig. 2

Table 2: Leakage current ratings for selected areas

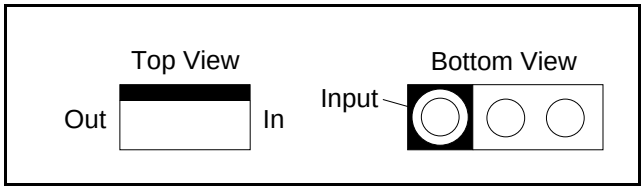
AC Line Voltage	Load Z	Leakage Current (i)	One side of power cord plug prongs (B) to:
110 to 240 V	2kΩ RES. Connected in parallel	i≤0.7mA AC Peak i≤2mA DC	RF or Antenna terminals
	50kΩ RES. Connected in parallel	i≤0.7mA AC Peak i≤2mA DC	A/V Input, Output

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

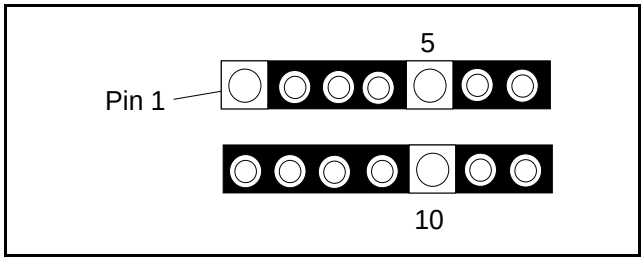
STANDARD NOTES FOR SERVICING

Circuit Board Indications

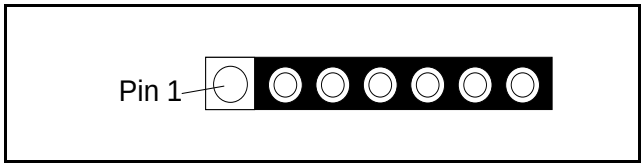
a. The output pin of the 3 pin Regulator ICs is indicated as shown.



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

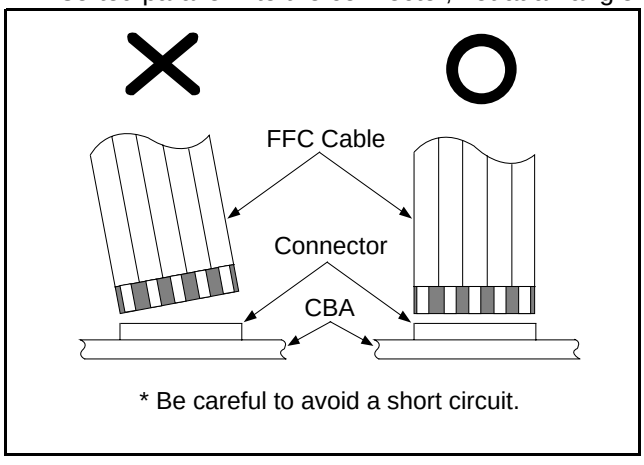


c. The 1st pin of every male connector is indicated as shown.



Instructions for Connectors

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



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)

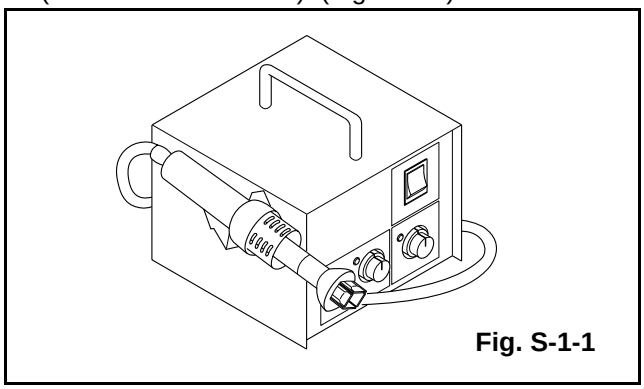


Fig. S-1-1

(2) Remove the flat pack-IC with tweezers while applying the hot air.

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

(4) Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

Caution:

1. 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)
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.

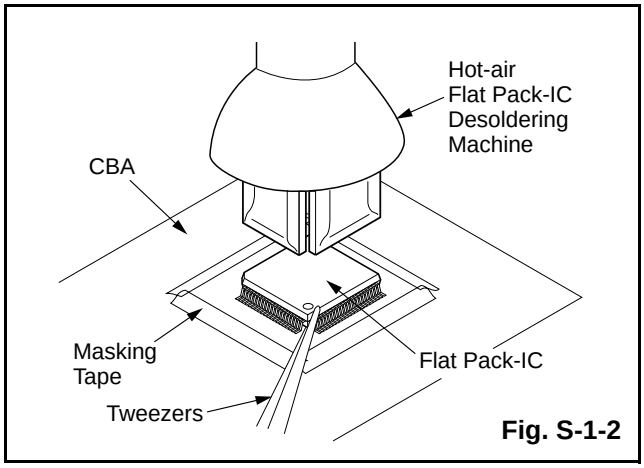


Fig. S-1-2

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)

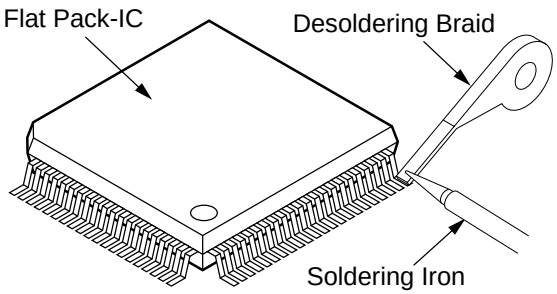


Fig. S-1-3

(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)

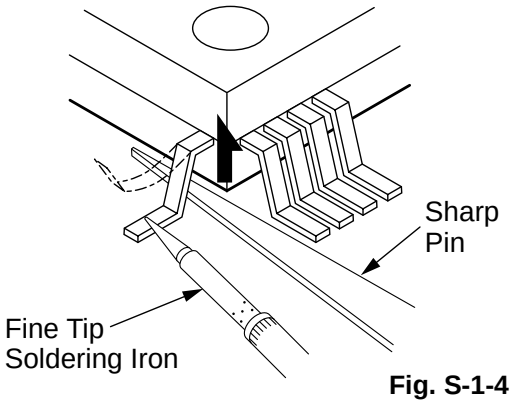


Fig. S-1-4

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

(4) Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

With Iron Wire:

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

(2) Affix the wire to a workbench or solid mounting point, as shown in Fig. S-1-5.

(3) While heating the pins using a fine tip soldering iron or hot air blower, pull up the wire as the solder melts so as to lift the IC leads from the CBA contact pads as shown in Fig. S-1-5

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

(5) Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

Note:

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

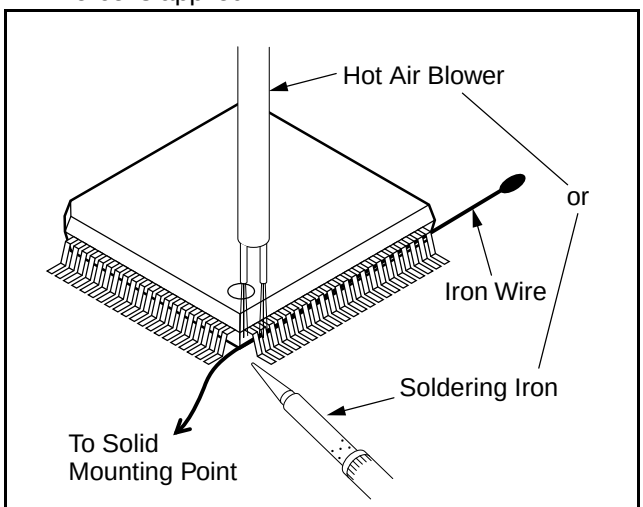


Fig. S-1-5

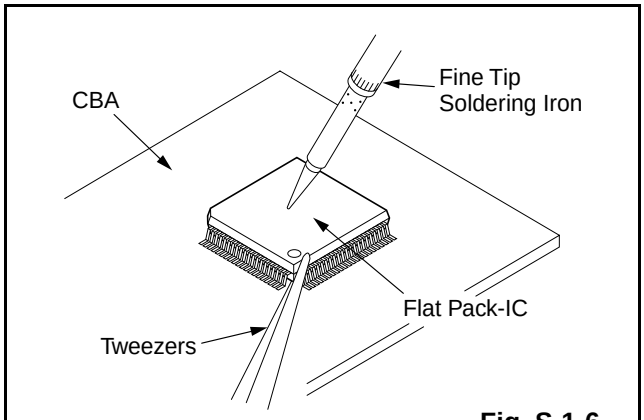


Fig. S-1-6

2. Installation

(1) Using desoldering braid, remove the solder from the foil of each pin of the flat pack-IC on the CBA so you can install a replacement flat pack-IC more easily.

(2) The " ● " mark on the flat pack-IC indicates pin 1. (See Fig. S-1-7.) Be sure this mark matches the 1 on the PCB when positioning for installation. Then presolder the four corners of the flat pack-IC. (See Fig. S-1-8.)

(3) Solder all pins of the flat pack-IC. Be sure that none of the pins have solder bridges.

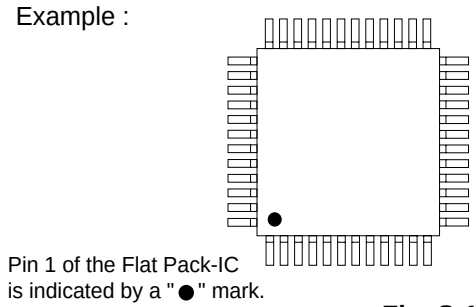


Fig. S-1-7

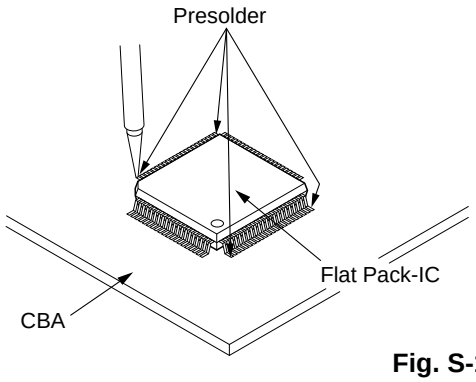


Fig. S-1-8

Instructions for Handling Semi-conductors

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

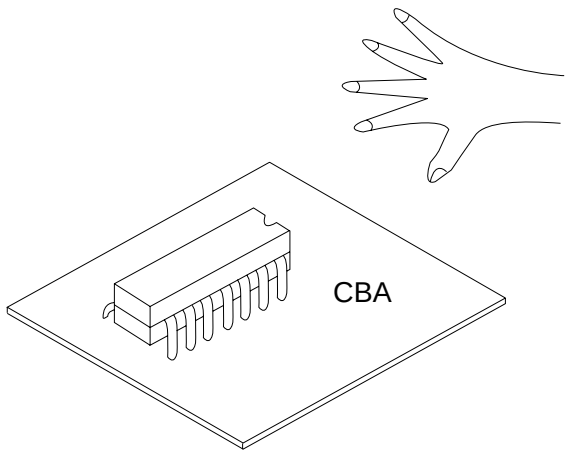
1. Ground for Human Body

Be sure to wear a grounding band (1MΩ) 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 (1MΩ) 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.

< Incorrect >



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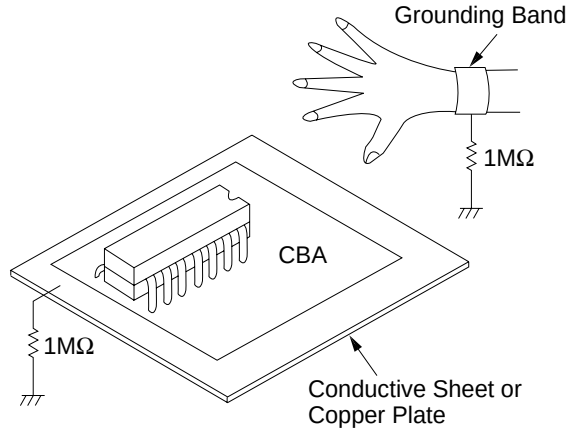


PREPARATION FOR SERVICING

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.

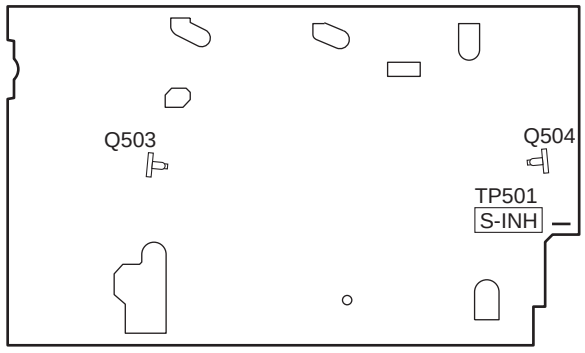
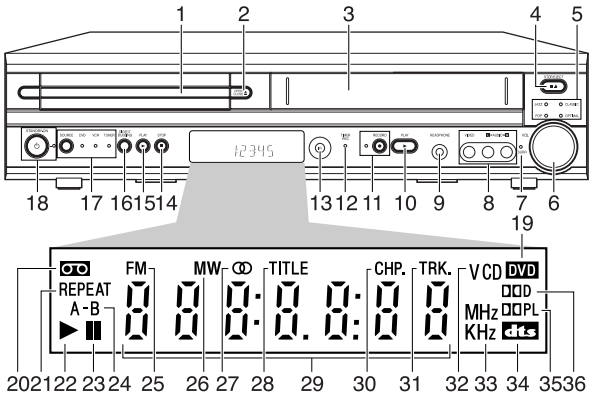


Fig. 1

OPERATING CONTROLS AND FUNCTIONS

[MX5100VR/00]

Front Panel

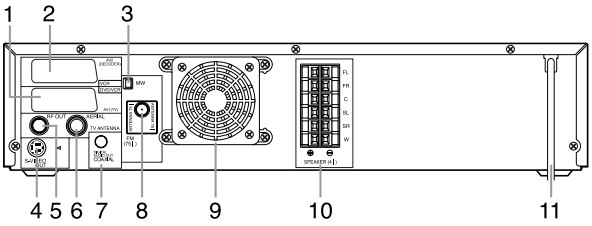


1. **Disc Tray (DVD)**
   insert a disc here
2. **OPEN/CLOSE ⏏ button (DVD)**
   to open/close the disc tray
3. **Cassette Compartment (VCR)**
   insert a tape here
4. **STOP/EJECT ■⏏ button (VCR)**
   when playback is stopped, press to eject the tape
5. **Sound lights**
   Each indicator lights according 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-clock-wise 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

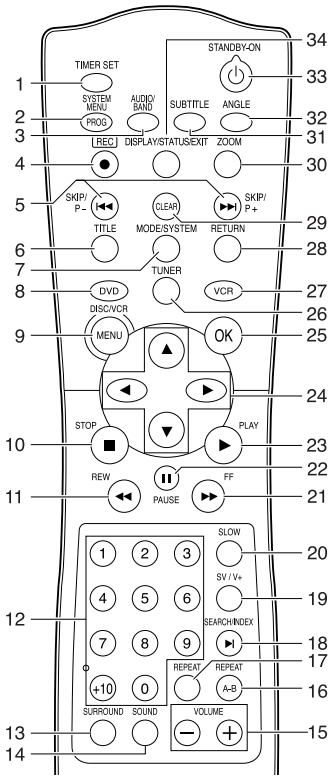
- - - -	Appears after the disc tray closes if the tray is empty, if there is an error reading the disc, or if an unacceptable disc is installed.
OPEN	Tray is opening or is open.
CLOSE	Tray is closing. This also may appear as the Player tries to load a Disc.
Load	Disc is loading.
Pbc	Lights up when a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

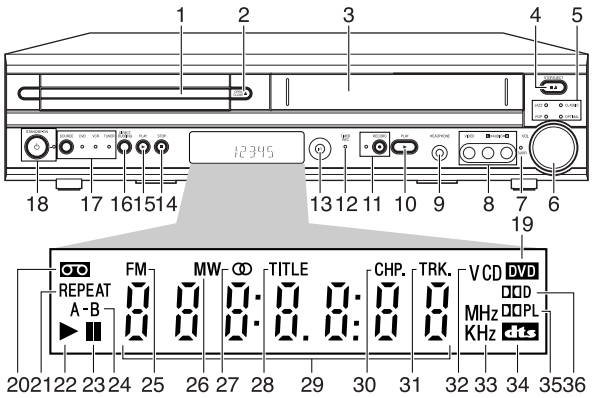


1. **TIMER SET**
   to put the System into standby mode for a timer recording
2. **SYSTEM MENU**
   to access or remove the DVD setup menu (DVD)
   PROG
   to preset radio stations in Tuner mode (TUNER)
3. **AUDIO/BAND**
   to choose audio languages or sound modes (DVD)
   to choose sound modes (VCR)
   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]

Front Panel

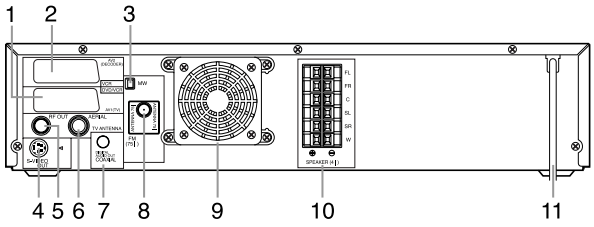


1. **Disc Tray (DVD)**
   insert a disc here
2. **OPEN/CLOSE ⏏ button (DVD)**
   to open/close the disc tray
3. **Cassette Compartment (VCR)**
   insert a tape here
4. **STOP/EJECT ■⏏ button (VCR)**
   when playback is stopped, press to eject the tape
5. **Sound lights**
   Each indicator lights according 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

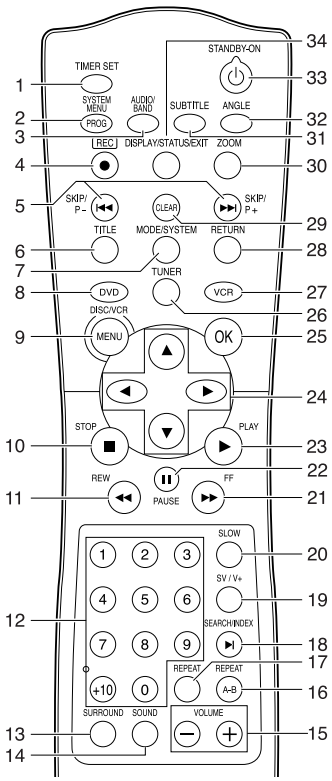
- - - -	Appears after the disc tray closes if the tray is empty, if there is an error reading the disc, or if an unacceptable disc is installed.
OPEN	Tray is opening or is open.
CLOSE	Tray is closing. This also may appear as the Player tries to load a Disc.
Load	Disc is loading.
Pbc	Lights up when a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

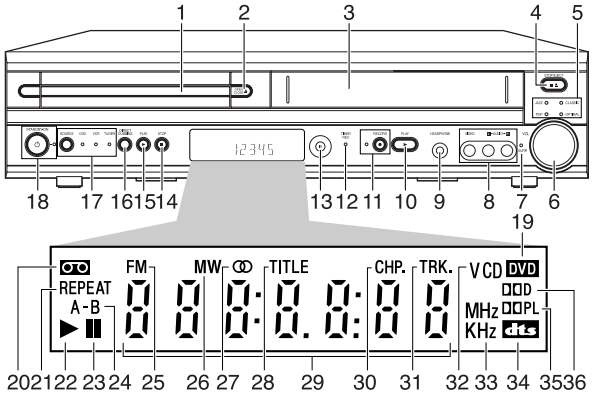
31. SUBTITLE
subtitle language selector (DVD)

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)

Front Panel

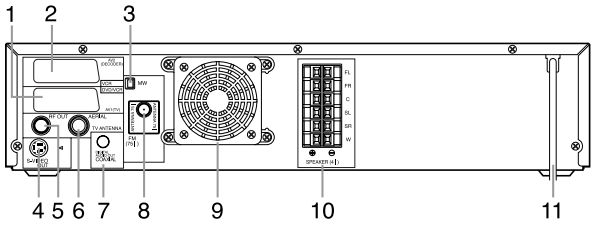


1. **Disc Tray (DVD)**
   insert a disc here
2. **OPEN/CLOSE ⏏ button (DVD)**
   to open/close the disc tray
3. **Cassette Compartment (VCR)**
   insert a tape here
4. **STOP/EJECT ■⏏ button (VCR)**
   when playback is stopped, press to eject the tape
5. **Sound lights**
   Each indicator lights according 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-clock-wise 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

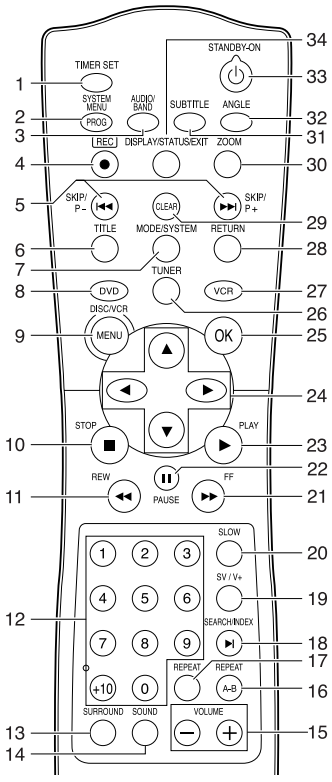
- - - - -	Appears after the disc tray closes if the tray is empty, if there is an error reading the disc, or if an unacceptable disc is installed.
OPEN	Tray is opening or is open.
CLOSE	Tray is closing. This also may appear as the Player tries to load a Disc.
Load	Disc is loading.
Pbc	Lights up when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

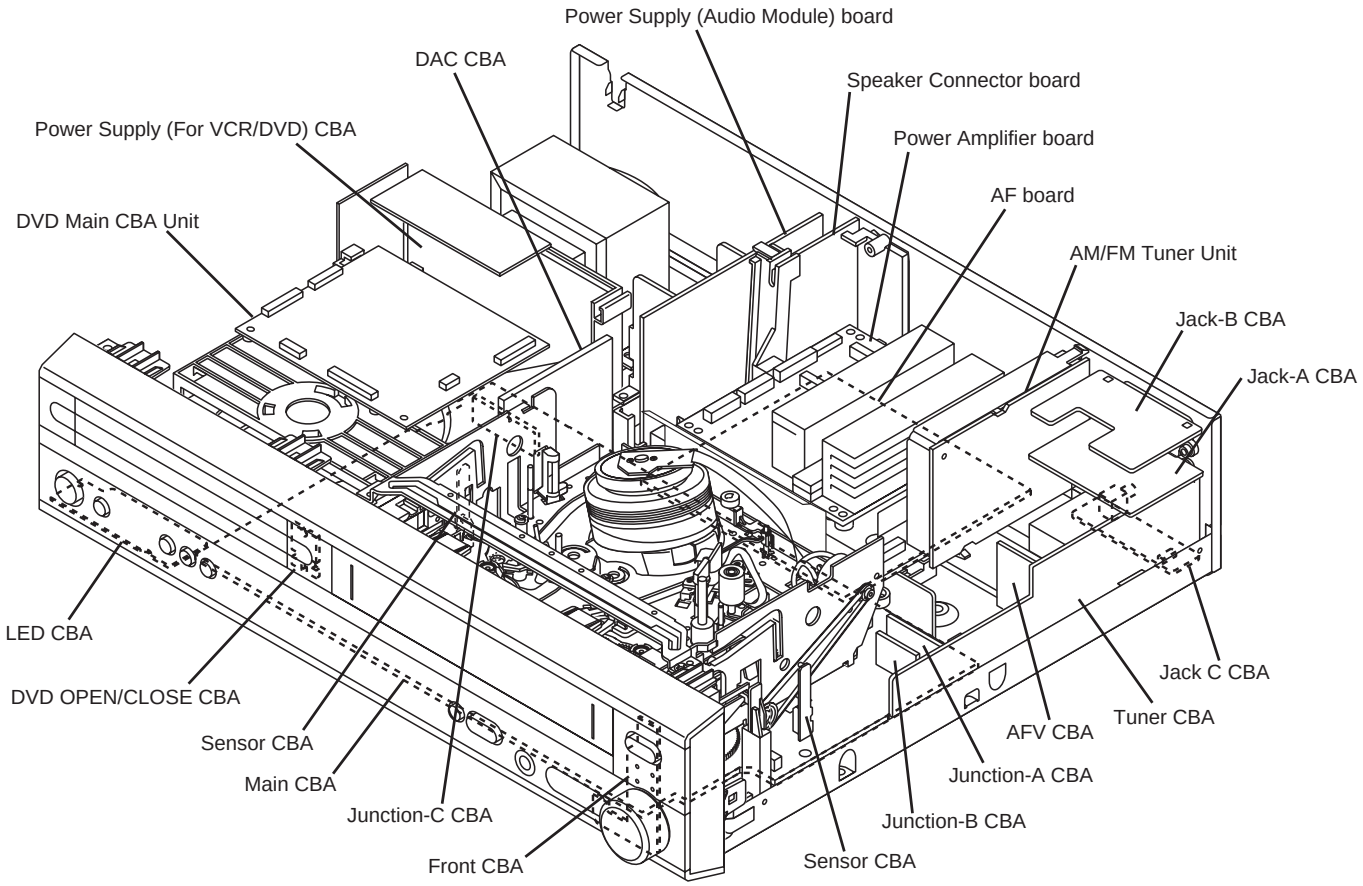
Signal Name	Function
DVD-8PIN-IN	SCART 8Pin DVD Input Control Signal
DVD-AUDIO	DVD Audio Control Signal
DVD-B-OUT	DVD Component Video Signal (blue)
DVD-G-OUT	DVD Component Video Signal (green)
DVD-LED	“DVD” LED Signal Output
DVD-P-ON+12V	+12V at DVD Power-On Signal
DVD-P-ON+3.3V	+3.3V at DVD Power-On 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
OSCin	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

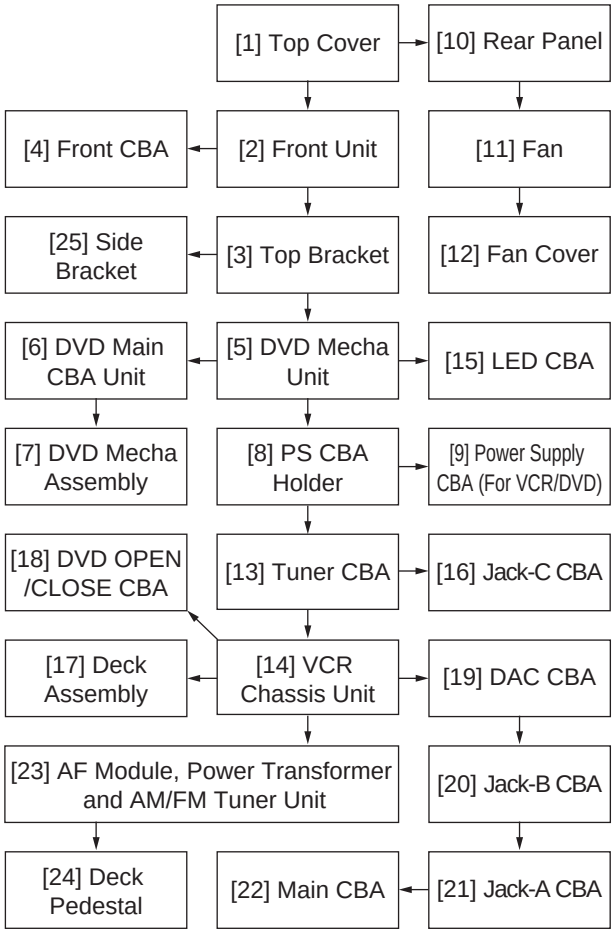
LOCATION OF CBAS (PC BOARDS)



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
[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.

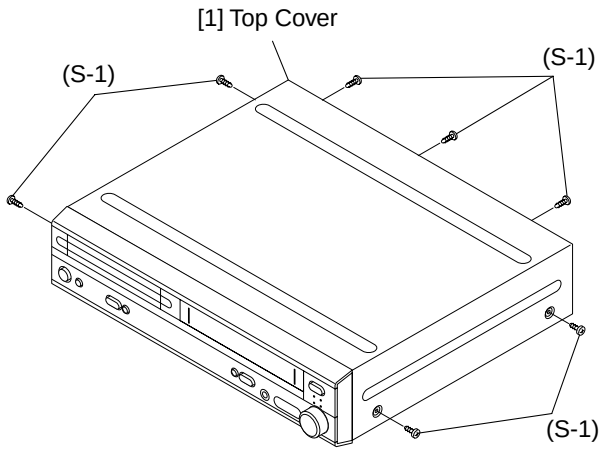


Fig. D1

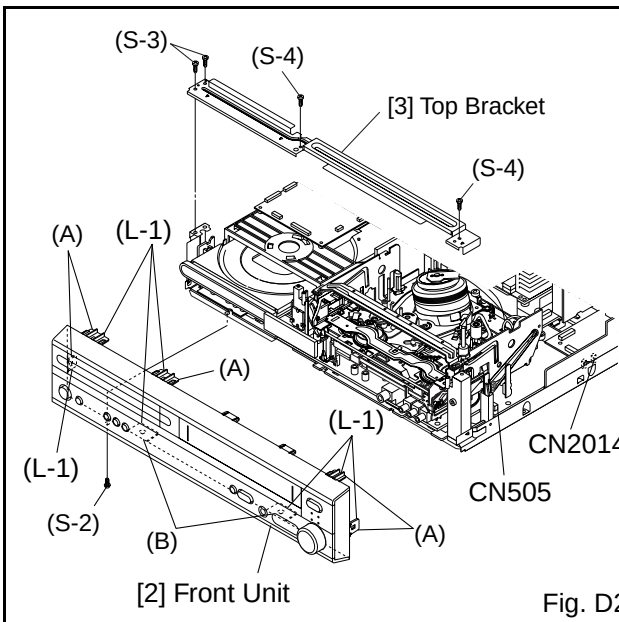


Fig. D2

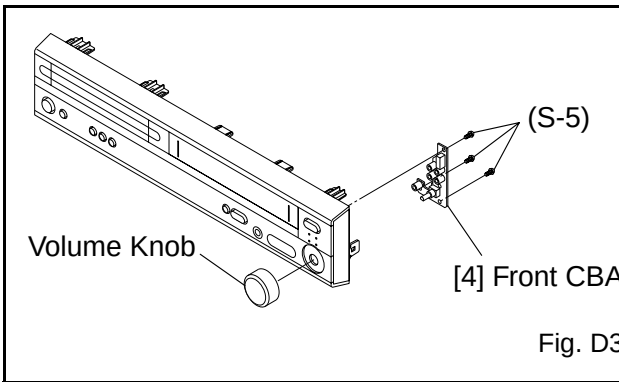


Fig. D3

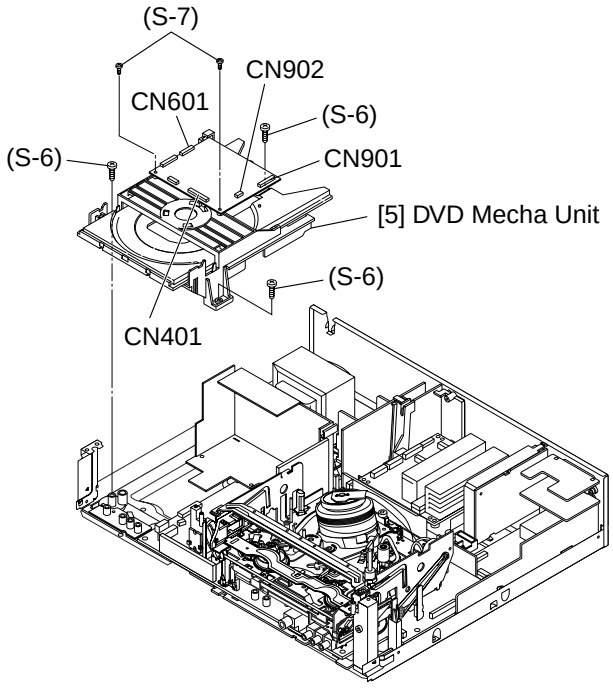


Fig. D4

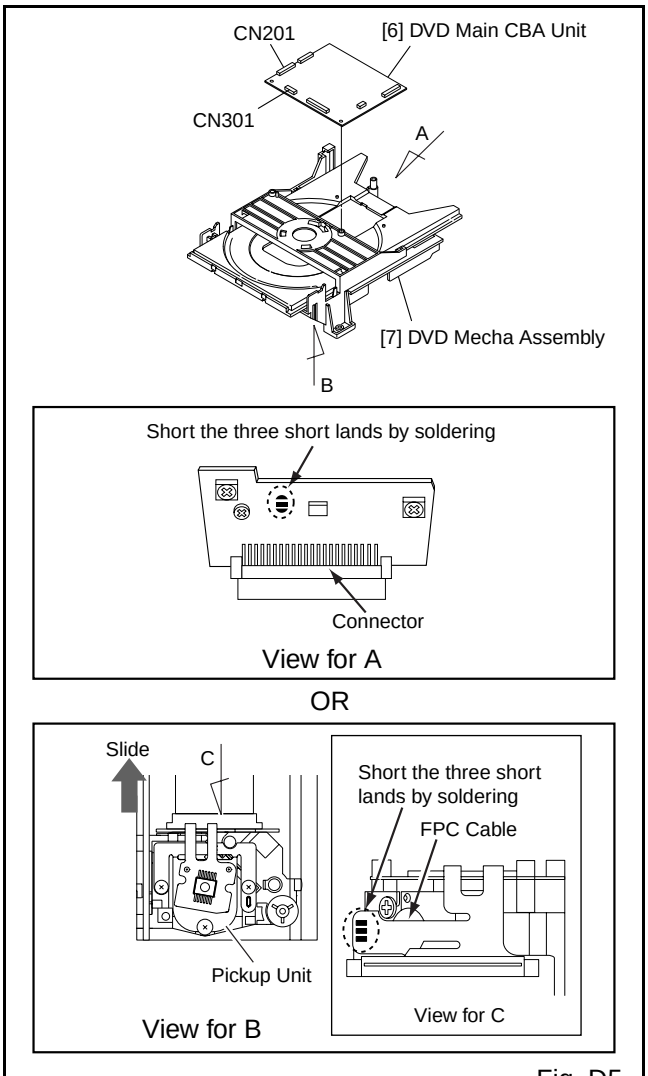


Fig. D5

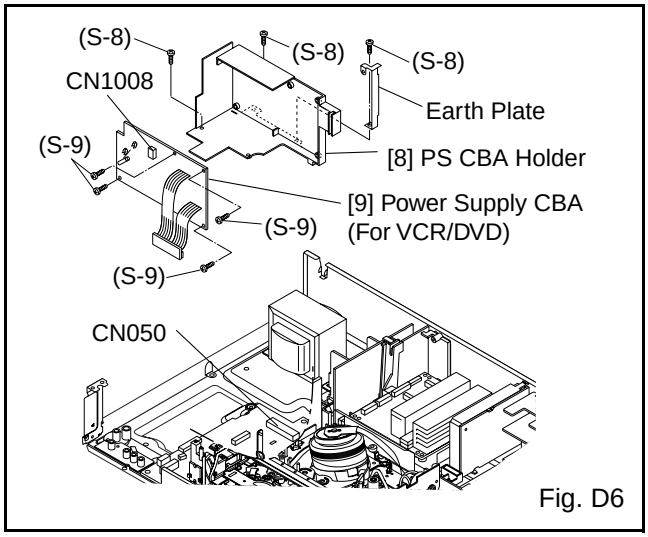


Fig. D6

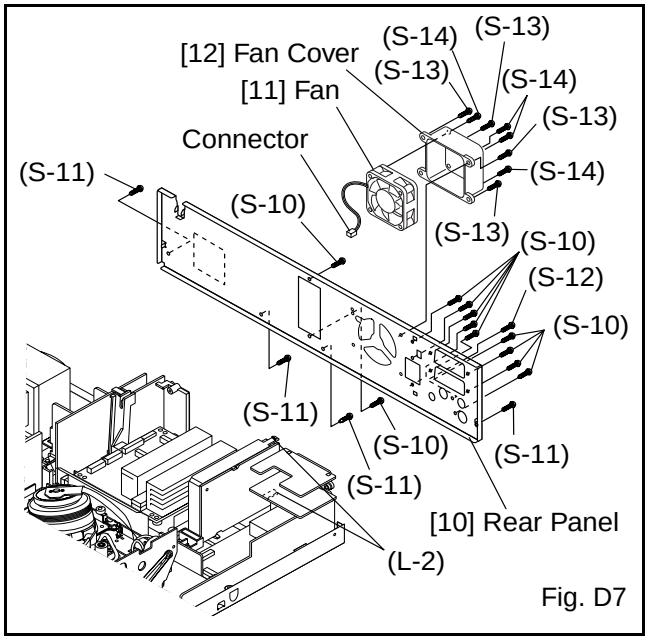


Fig. D7

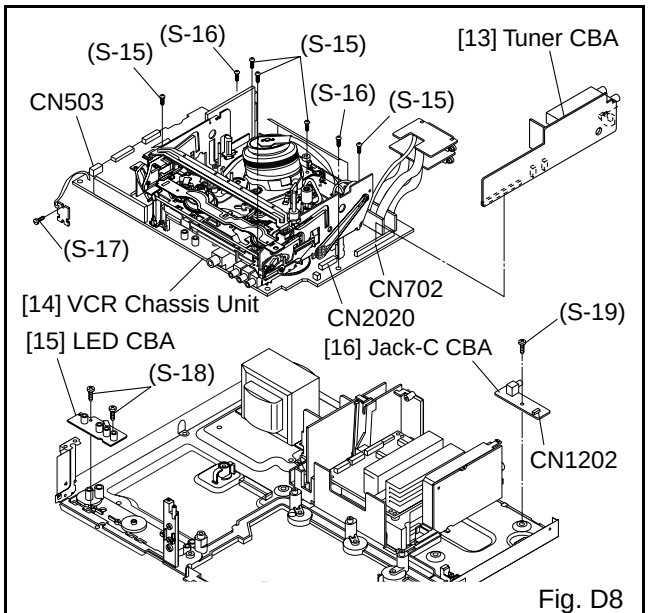
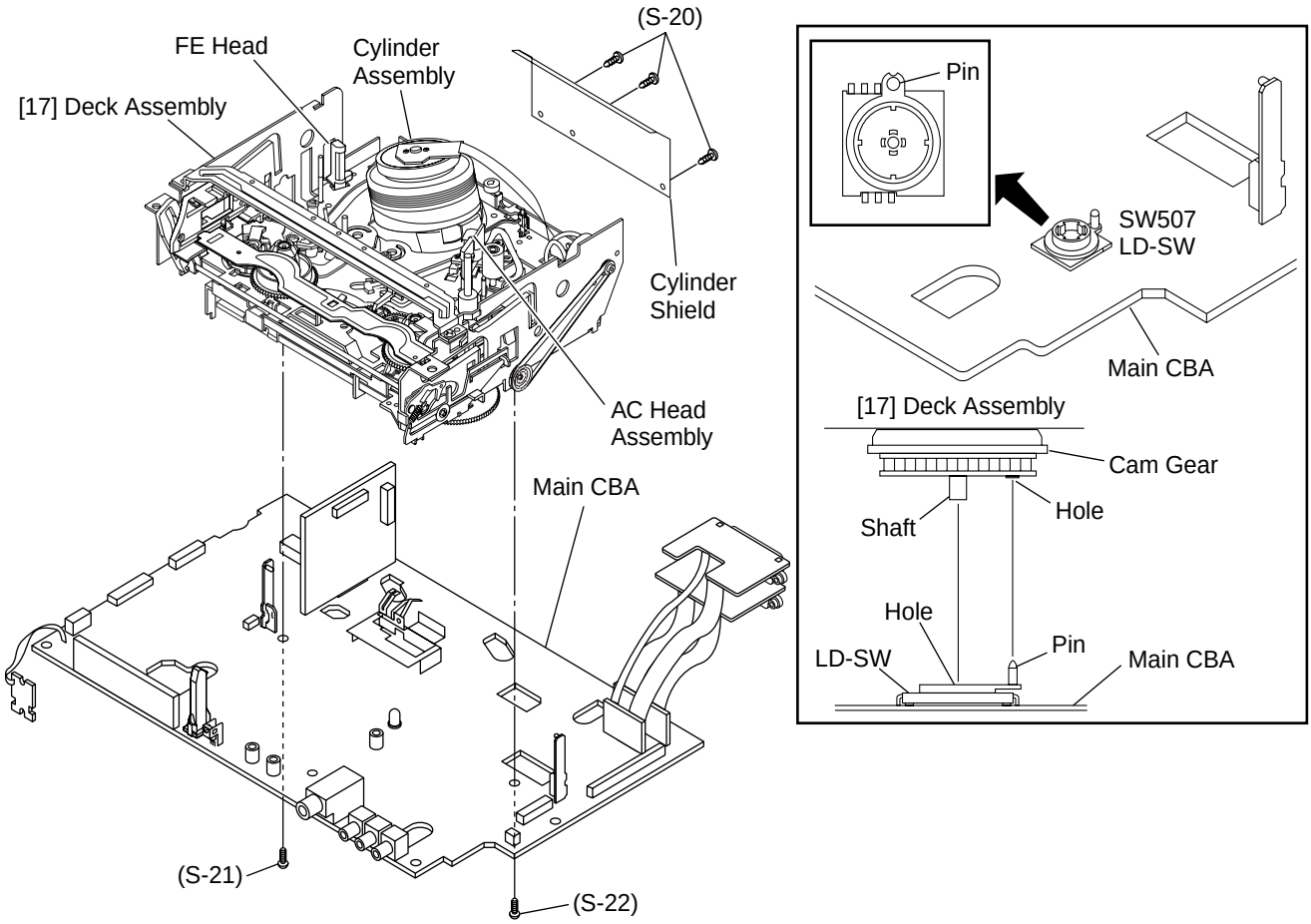
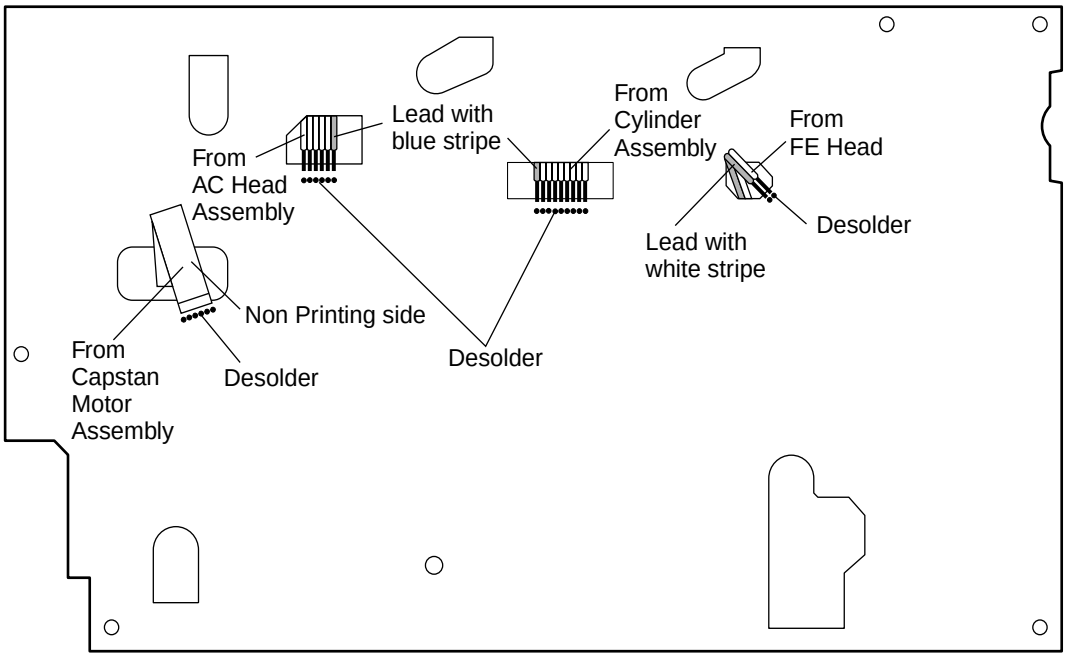


Fig. D8





BOTTOM VIEW

Lead connections of Deck Assembly and Main CBA

Fig. D9

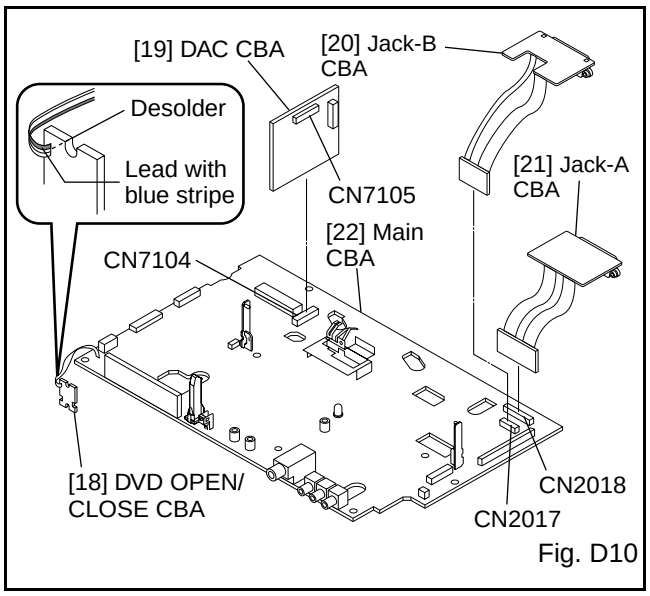


Fig. D10

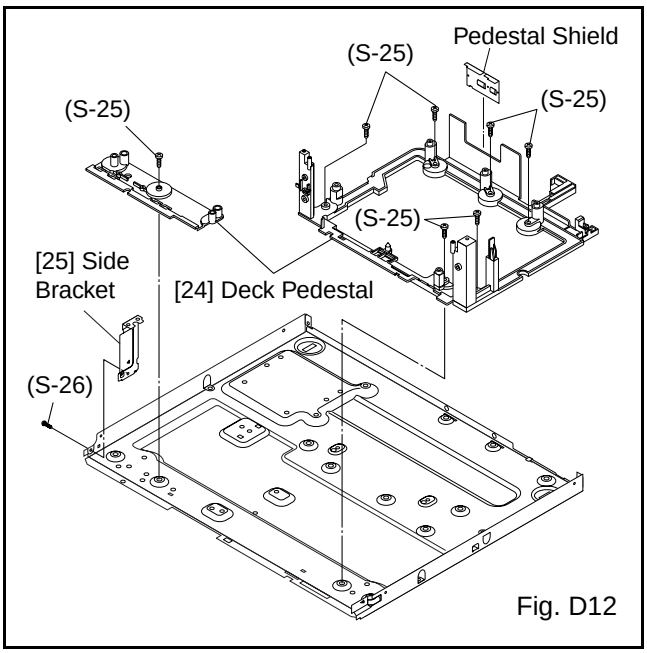


Fig. D12

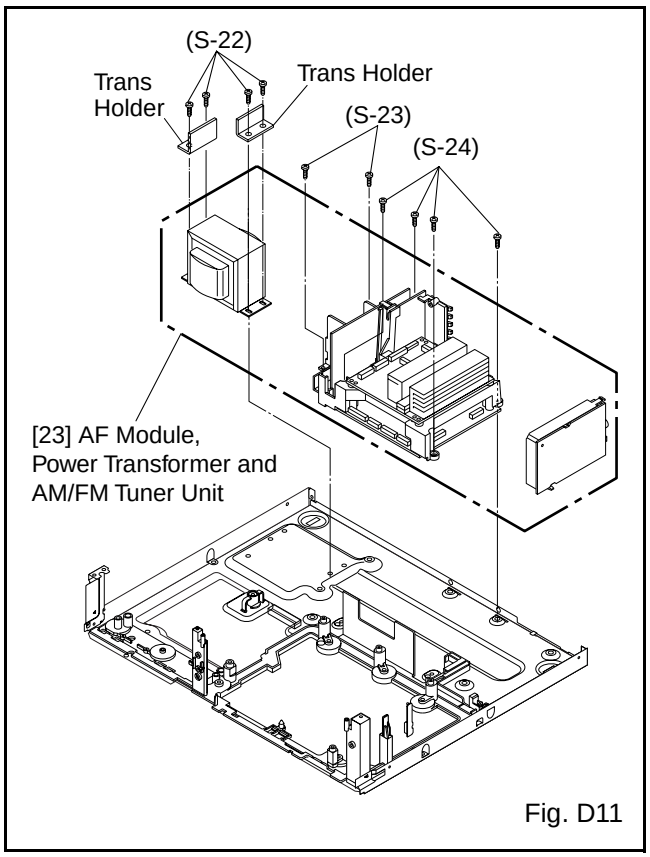
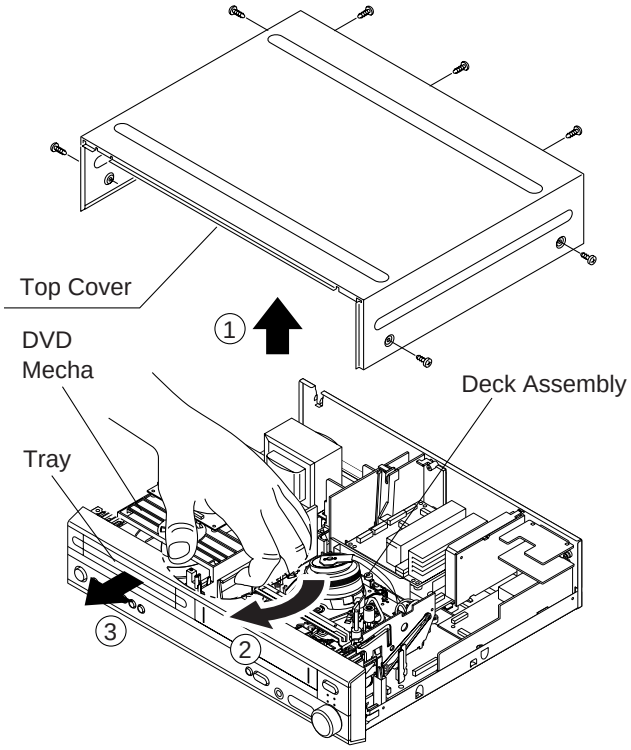
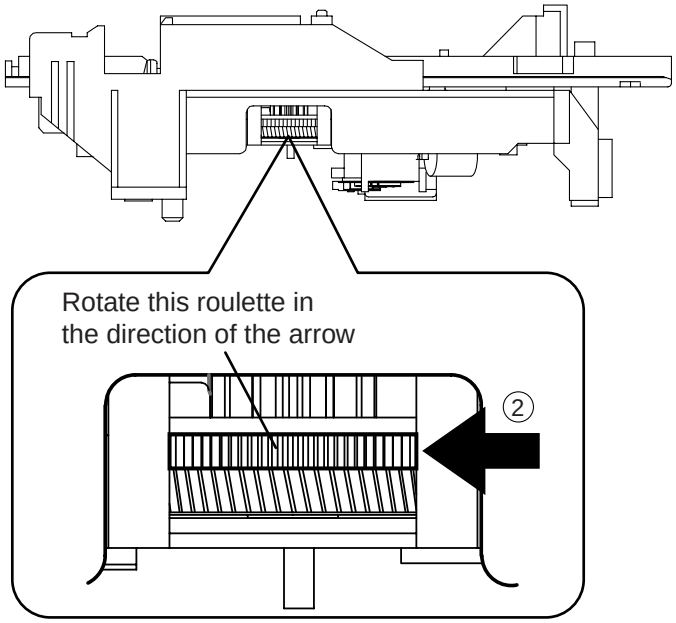


Fig. D11

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			

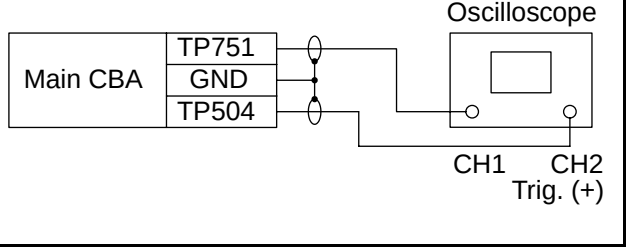
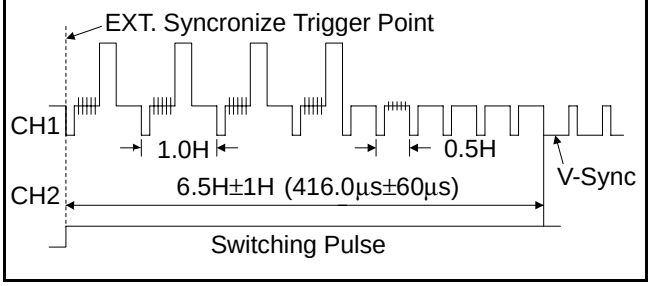


Figure 1



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.

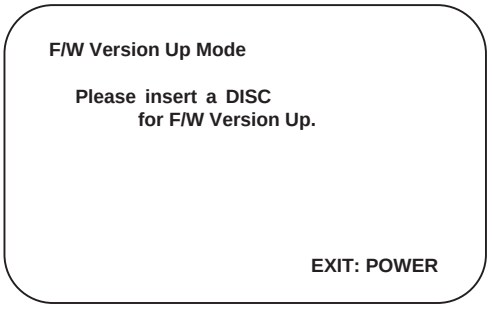


Fig. a Version Up Mode Screen

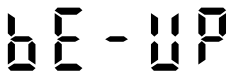


Fig. b VFD in Version Up Mode

   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.

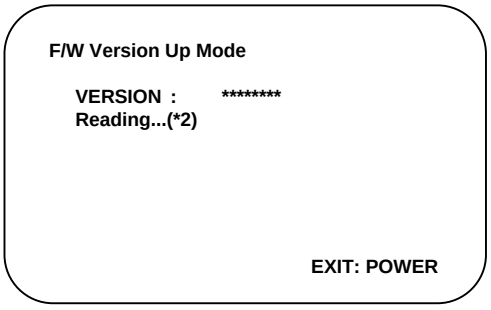


Fig. c Programming Mode Screen

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)

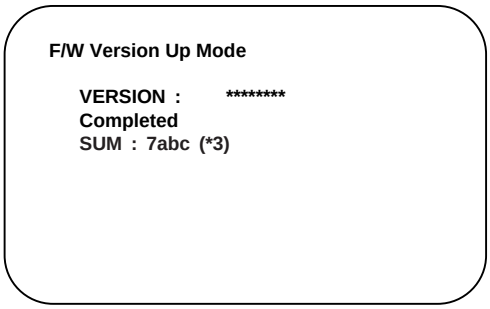


Fig. e Completed Program Mode Screen

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.

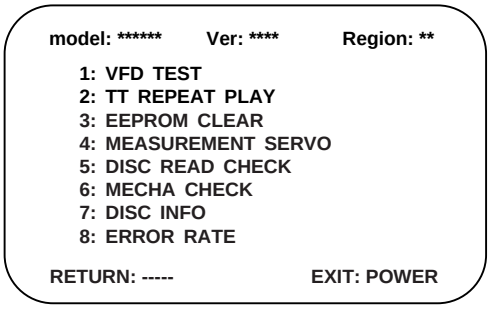


Fig. g

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

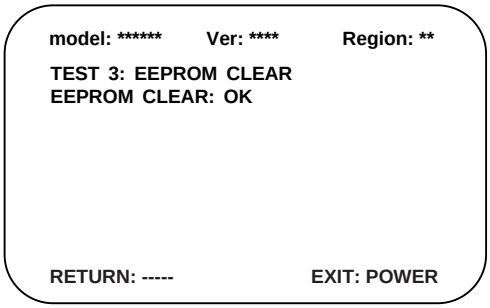


Fig. h

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)

AC HEAD ASSEMBLY
CONTROL HEAD
CL287: 5 CTL(+), 6 CTL(-)
CL504: 5, 6

SENSOR CBA
Q504 ST-S
Q503 END-S

CYLINDER ASSEMBLY
PG SENSOR
DRUM MOTOR M

CAPSTAN MOTOR
CAPSTAN MOTOR M

LOADING MOTOR M

MAIN CBA

SW507 LD-SW
TP502 END-S
Q506 T-REEL
PS502 S-REEL
Q515 RESET
TIMER+5V
AL+5V
P-ON+5V

TO DVD SYSTEM CONTROL/SERVO BLOCK <DVD SECTION>

TO VIDEO BLOCK
TU-VIDEO
V-IN1

IC775 (COMPARATOR)
Q775, Q776 LOGIC

CL502
1 AL+20.5V/+12V
2 P-ON+5V
3 C-FG
4 C-F/R
5 C-CONT
6 GND
7 LM-FWD/REV
8 D-CONT
9 D-PFG
10 GND
11 AL+12V(2)
12 P-ON+15V

TO POWER SUPPLY BLOCK

IC501 (SERVO/SYSTEM CONTROL)

9	LD-SW	KEY- 2	8
95	CTL(+)	KEY- 1	7
94	CTL(-)	POWER-LED	23
10	ST-S	TIMER-LED	25
4	END-S	DVD-LED	29
80	T-REEL	VCR-LED	30
79	S-REEL	REC-LED	26
34	RESET	TUNER-LED	22
12	DVD-PLAY	CTL	97
14	REMOTE-VIDEO	FF/REW-L	84
63	DISP-ON/OFF	REC-SAF-SW	31
21	DVD-POWER	PG-DELAY	2
70	DISPLAY-CLK	A-MUTE-H	83
68	DISPLAY-DATA	Hi-Fi-H-SW	19
69	DISPLAY-ENA	A-MODE	32
64	FTV-IN	LINE-MUTE	82
87	C-FG	IIC-BUS SDA	72
78	C-F/R	IIC-BUS SCL	71
76	C-CONT	DAVN-L	20
81	LM-FWD/REV	D-REC-H	33
77	D-CONT	RF-SW	18
90	D-PFG	C-ROTA	15
66	C-POW-SW	D-V-SYNC	13
67	P-ON-H	H-A-SW	16
86	P-DOWN-L	H-A-COMP	17
73	P-OFF-H	V-ENV	6
62	TUNER POWER	INPUT SELECT	41
24	FIL-ON/OFF	C-SYNC	58
11	LOAD-CONT	TRICK-H	65
		SECAM-H	61
		OUTPUT-SELECT	74

TP501 S-INH
KEY SWITCH ×2
Q507 POWER-LED
D501 TIMER
Q502 TIMER-LED
Q508 DVD-LED
Q509 VCR-LED
D504 REC
Q511 REC-LED
Q512 TUNER-LED
TP503 CTL
Q510
SW506 REC-SAFETY
VR501 SW-POINT
D555 S-LED

CN505: 1 STOP/EJECT 1 → CL508 FRONT CBA: KEY SWITCH

CN503 → CN651 LED CBA: KEY SWITCH, AL+5V
2 KEY-1 2 — D653 DVD
6 DVD-LED 6
5 VCR-LED 5 — D652 VCR
4 POWER-LED 4 — D651 POWER
7 TUNER-LED 7 — D654 TUNER

TUNER CBA TU701(TUNER UNIT)
CN702 → CN703
14 IIC-BUS SCL 14 — 12 SDA, 5 SCL
15 IIC-BUS SDA 15 — 11 SCL, 3 SDA

IC502 (MEMORY)
5 SDA
6 SCL

TO AUDIO BLOCK: IIC-BUS SDA, IIC-BUS SCL, A-MUTE-H

TO Hi-Fi AUDIO BLOCK: IIC-BUS SDA, IIC-BUS SCL, Hi-Fi-H-SW, A-MODE, LINE-MUTE, OUTPUT SELECT

TO VIDEO BLOCK: OUTPUT SELECT, IIC-BUS SDA, IIC-BUS SCL, DAVN-L, D-REC-H, RF-SW, C-ROTA, D-V-SYNC, H-A-SW, H-A-COMP, V-ENV, INPUT SELECT, C-SYNC, TRICK-H, SECAM-H

TO DVD VIDEO BLOCK <DVD SECTION>: OUTPUT-SELECT

Video Block Diagram

"● " = SMD

NOTE FOR WIRE CONNECTORS:
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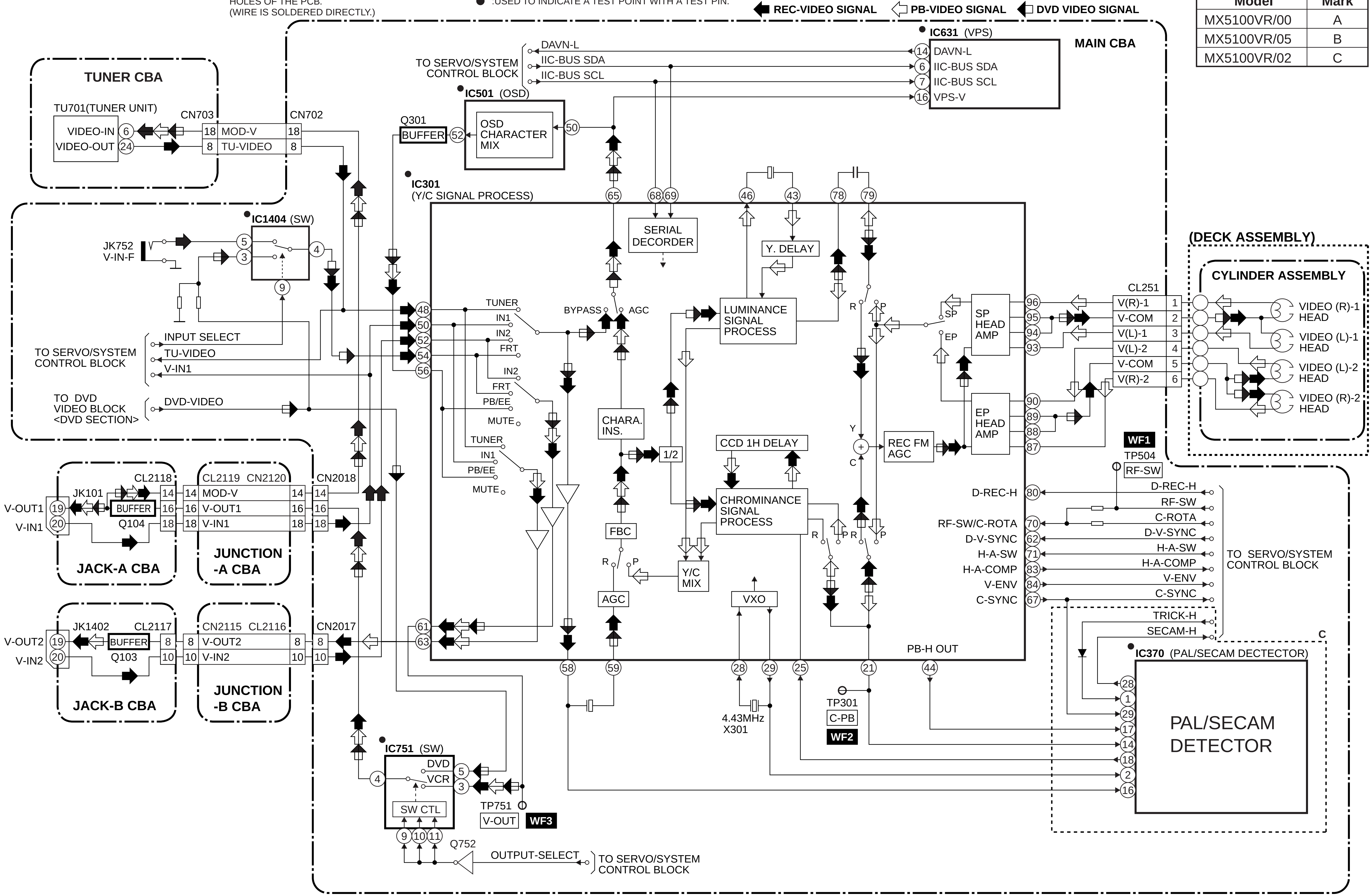
- :USED TO INDICATE A TEST POINT WITH NO TEST PIN.
- ● :USED TO INDICATE A TEST POINT WITH A TEST PIN.

MODE: SP/REC

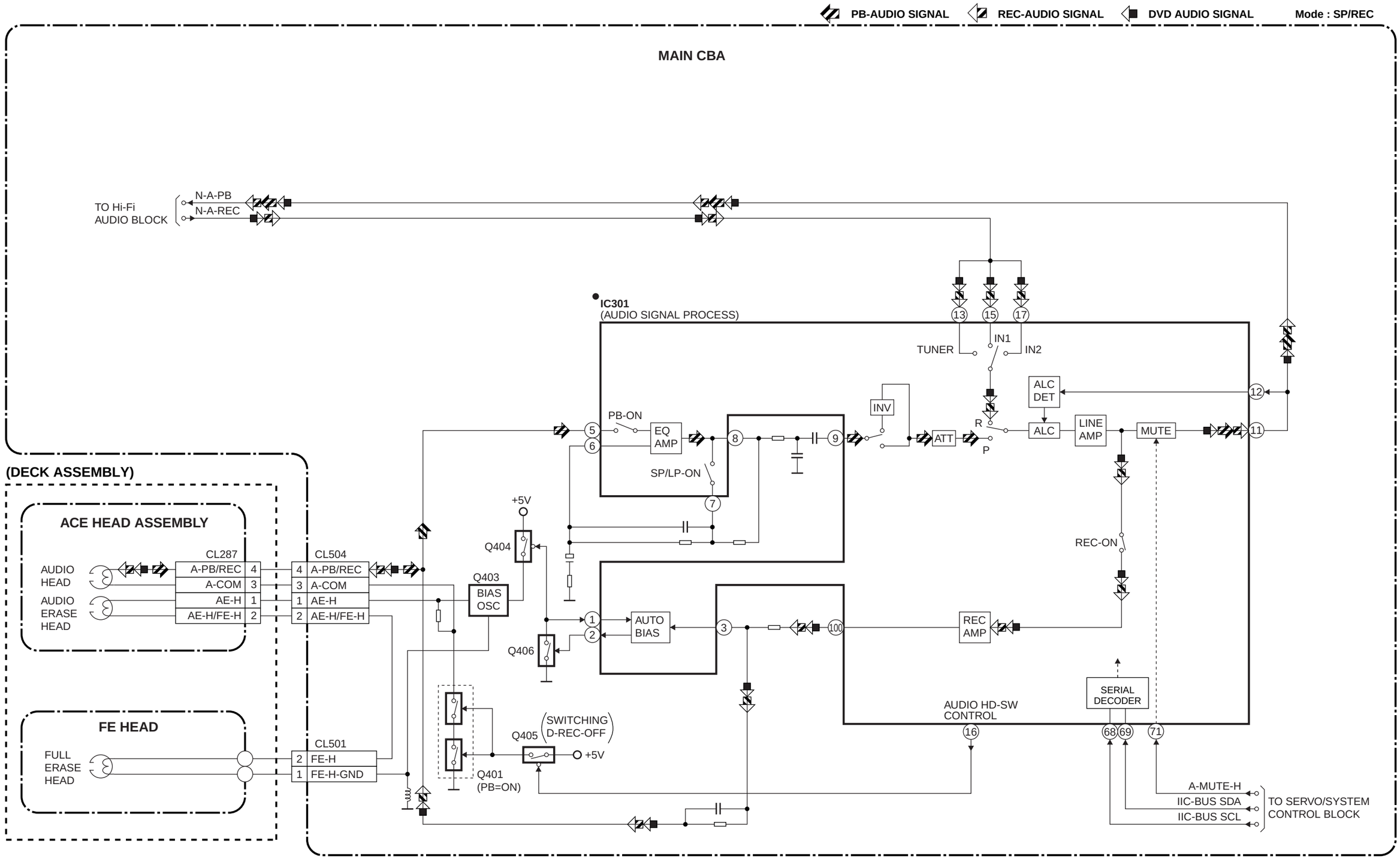
Comparison Chart of Models & Marks

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



REC-VIDEO SIGNAL
PB-VIDEO SIGNAL
DVD VIDEO SIGNAL
MAIN CBA
TUNER CBA
TU701(TUNER UNIT)
VIDEO-IN
VIDEO-OUT
CN703
CN702
MOD-V
TU-VIDEO
IC631 (VPS)
DAVN-L
IIC-BUS SDA
IIC-BUS SCL
VPS-V
TO SERVO/SYSTEM CONTROL BLOCK
IC501 (OSD)
OSD CHARACTER MIX
Q301
BUFFER
IC301 (Y/C SIGNAL PROCESS)
SERIAL DECORDER
Y. DELAY
LUMINANCE SIGNAL PROCESS
CHROMINANCE SIGNAL PROCESS
CCD 1H DELAY
CHARA. INS.
1/2
FBC
AGC
BYPASS
Y/C MIX
VXO
REC FM AGC
SP HEAD AMP
EP HEAD AMP
PB-H OUT
TUNER
IN1
IN2
FRT
PB/EE
MUTE
IC1404 (SW)
JK752
V-IN-F
INPUT SELECT
V-IN1
TO DVD VIDEO BLOCK <DVD SECTION>
DVD-VIDEO
JACK-A CBA
JK101
CL2118
Q104
V-OUT1
JUNCTION -A CBA
CL2119
CN2120
CN2018
JACK-B CBA
JK1402
CL2117
Q103
V-OUT2
V-IN2
JUNCTION -B CBA
CN2115
CL2116
CN2017
IC751 (SW)
DVD
VCR
SW CTL
Q752
OUTPUT-SELECT
TP751
V-OUT
WF3
4.43MHz
X301
TP301
C-PB
WF2
(DECK ASSEMBLY)
CYLINDER ASSEMBLY
CL251
V(R)-1
V-COM
V(L)-1
V(L)-2
V(R)-2
VIDEO (R)-1 HEAD
VIDEO (L)-1 HEAD
VIDEO (L)-2 HEAD
VIDEO (R)-2 HEAD
WF1
TP504
RF-SW
D-REC-H
RF-SW/C-ROTA
C-ROTA
D-V-SYNC
H-A-SW
H-A-COMP
V-ENV
C-SYNC
TRICK-H
SECAM-H
IC370 (PAL/SECAM DECTECTOR)
PAL/SECAM DETECTOR

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
- ⓘ :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

PB-AUDIO SIGNAL REC-AUDIO SIGNAL DVD AUDIO SIGNAL Mode : SP/REC

JACK-B CBA
JACK-A CBA
JUNCTION -B CBA
JUNCTION -A CBA
MAIN CBA
DAC CBA
TUNER CBA
AFV CBA
IC751 (SW)
IC451 (MTS/ SAP/ Hi-Fi AUDIO PROCESS/ Hi-Fi HEAD AMP)
(DECK ASSEMBLY)
CYLINDER ASSEMBLY

Audio Amp 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

PB-AUDIO SIGNAL
REC-AUDIO SIGNAL
DATA(AUDIO) SIGNAL
DVD AUDIO SIGNAL

AMP UNIT

AM
FM
AM/FM TUNER UNIT
FM/AM RADIO AUDIO SIGNAL PROCESS

CN2020
HDPH-R 12
HDPH-L 10
HDPH-DET 9
HDPH-GND 11
JK1405 HEADPHONE JACK
MAIN CBA

CN7102
9 PCM-BCK
7 PCM-DATA0
10 PCM-LRCK
12 ADAC-MD
11 ADAC-MC
13 ADAC-ML0
5 PCM-DATA1
14 ADAC-ML1
3 PCM-DATA2
20 ADAC-ML2
16 PCM-SCLK
18 A-MUTE2
19 M-MUTE
2 2CH-L/6CH-H

●IC7201 (AUDIO DAC)
●IC7202 (AUDIO DAC)
●IC7203 (AUDIO DAC)
AUDIO D/A CONVERTER

●IC7301 (AMP)
●IC7402 (AMP)
●IC7501 (AMP)

Q7305 Q7302 Q7301 Q7308
Q7405 Q7402 Q7401 Q7404
Q7505 Q7502 Q7501 Q7504
Q7506 Q7507

CN7105
13 6CH(L)
11 6CH(R)
4 2CH(L)
2 2CH(R)
7 SURROUND(L)
5 SURROUND(R)
8 CENTER
10 SUB WOOFER
1 2CH-L/6CH-H

TO Hi-Fi AUDIO BLOCK
2CH(L)
2CH(R)

TONE CONTROL

FRONT (L)
FRONT (R)
SURROUND (L)
SURROUND (R)
CENTER
SUB WOOFER

TO DVD AUDIO BLOCK DIAGRAM <DVD SECTION>

DAC CBA

D2011 JAZZ
D2012 CLASIC
D2013 POP
D2014 OPTIMAL
D2015 SURROWND
CL508
3 SURROUND-H
VR502 VOLUME
CN2015
DSC1 1
DSC2 2
DSC3 3
DSC4 4
DSC5 5
VOL-A 7
VOL-B 8
GND-D 9
FRONT CBA

CN2014 CN2013
TUNER CBA

CPU
MEMORY
AF BOARD

POWER AMPLIFIER BOARD
SPEAKER CONNECTOR BOARD

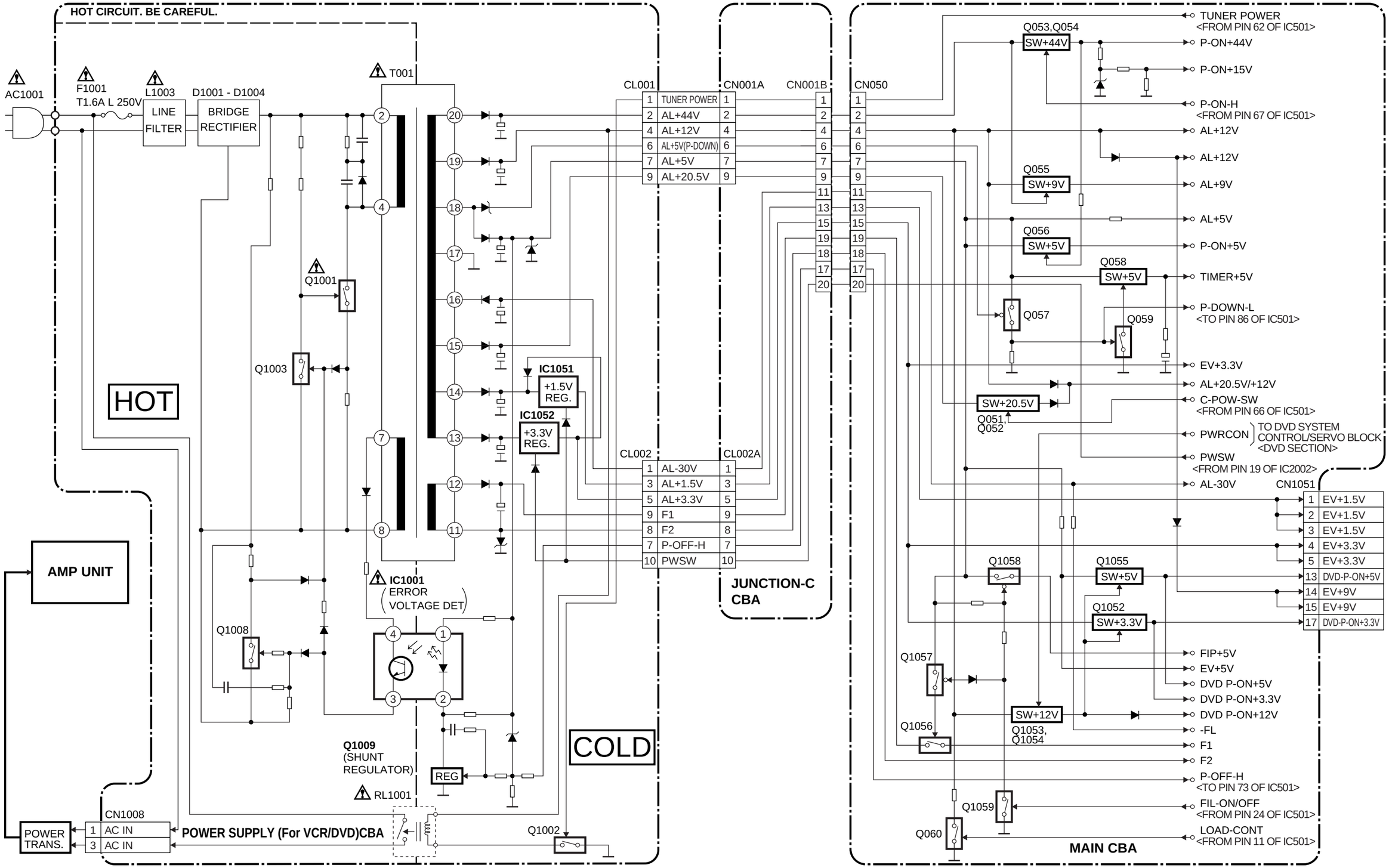
TO DVD SYSTEM CONTROL/SERVO BLOCK CN505 <DVD SECTION>

Power Supply (For VCR/DVD) Block Diagram

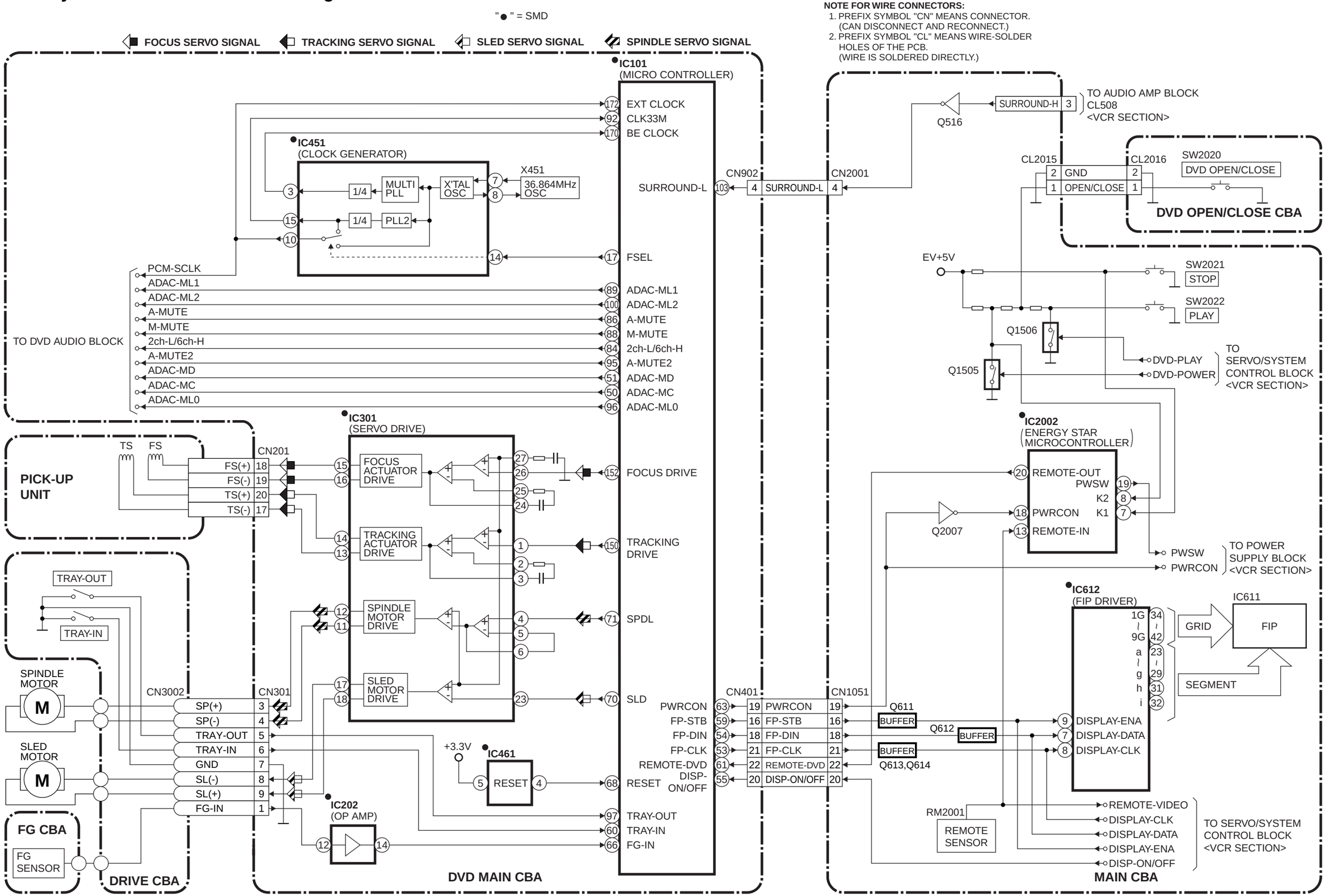
NOTE :
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

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

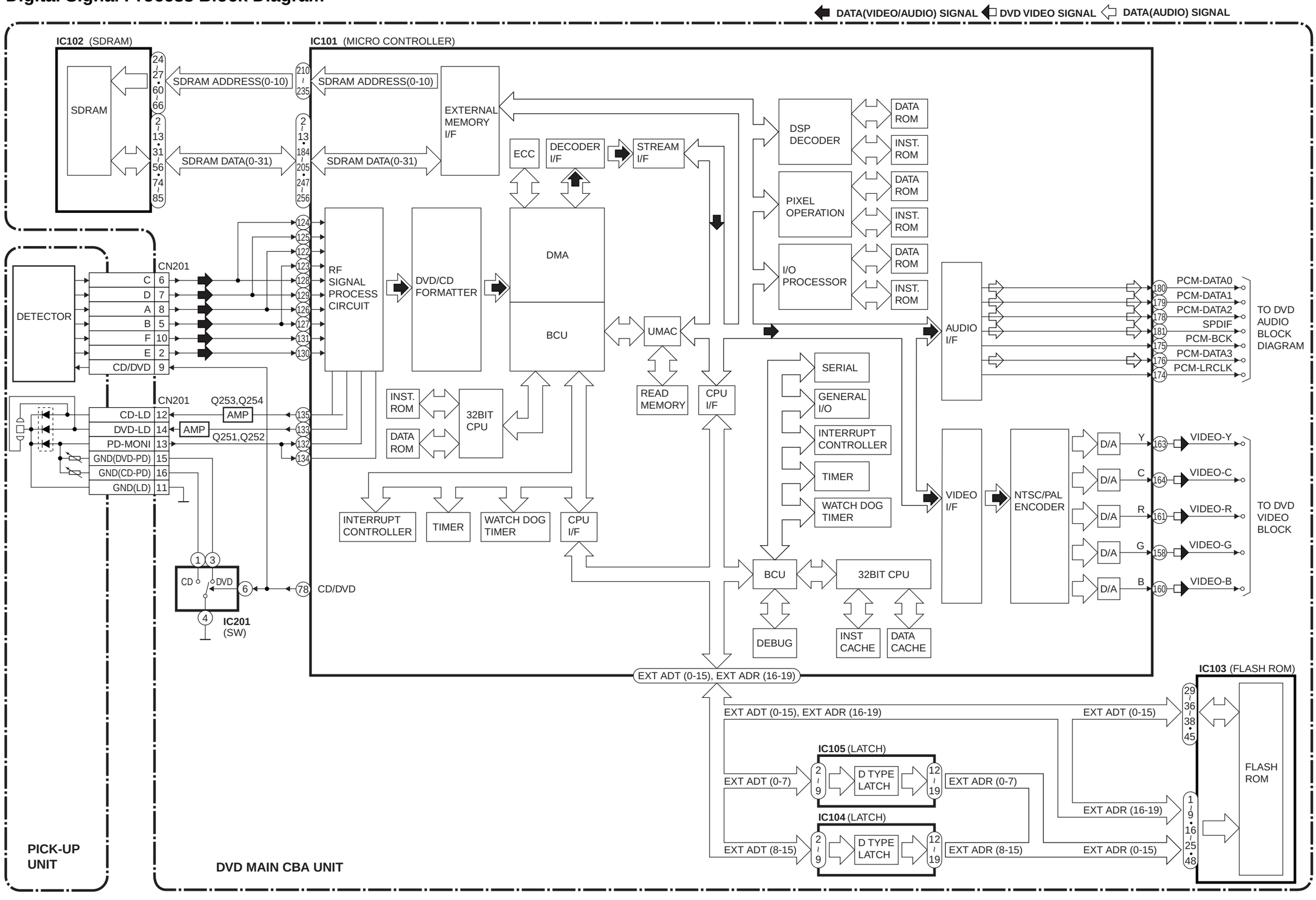
CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F1001) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in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



DVD System Control/Servo Block Diagram



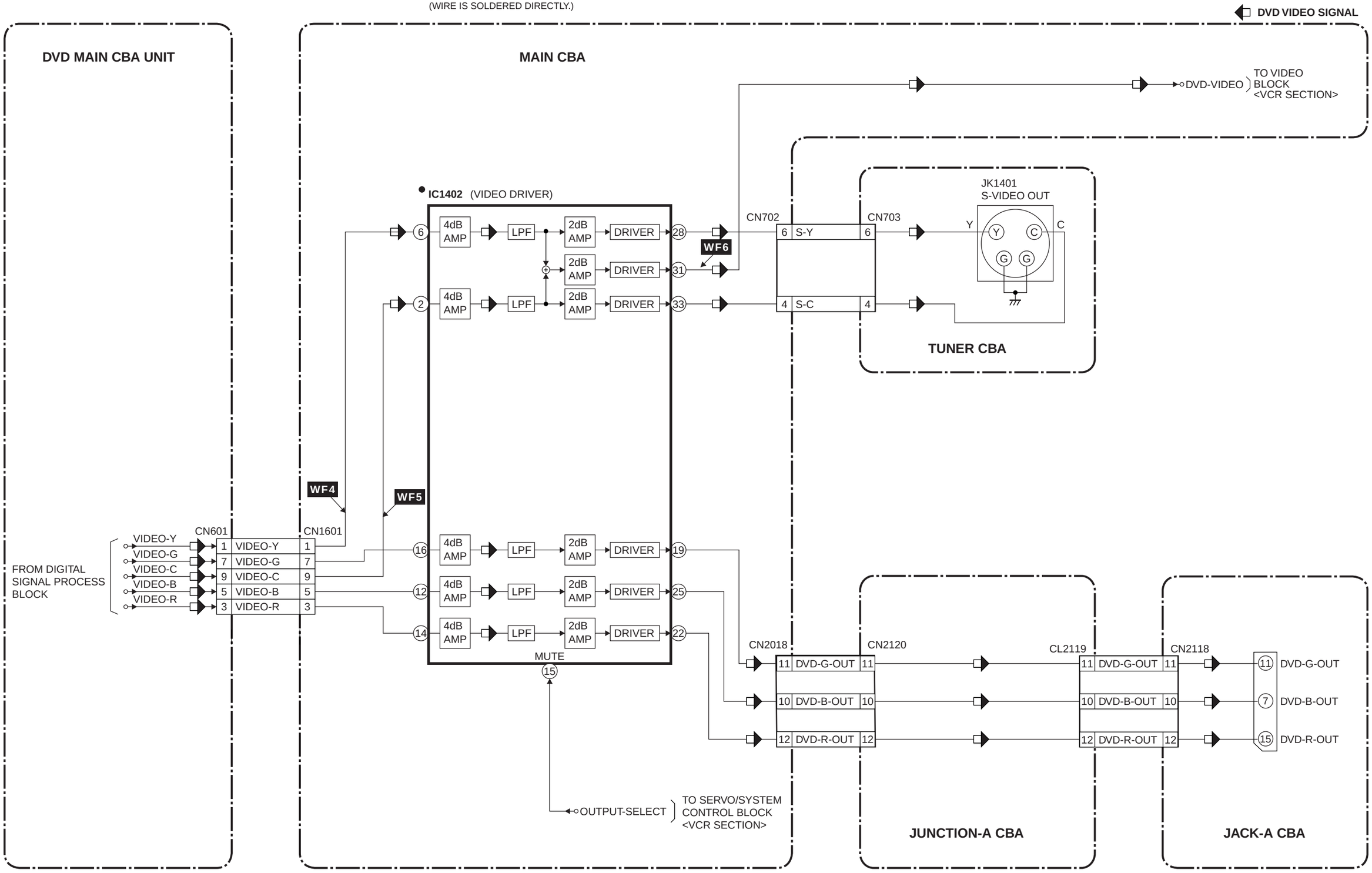
Digital Signal Process Block Diagram



DVD Video Block Diagram

"●" = SMD

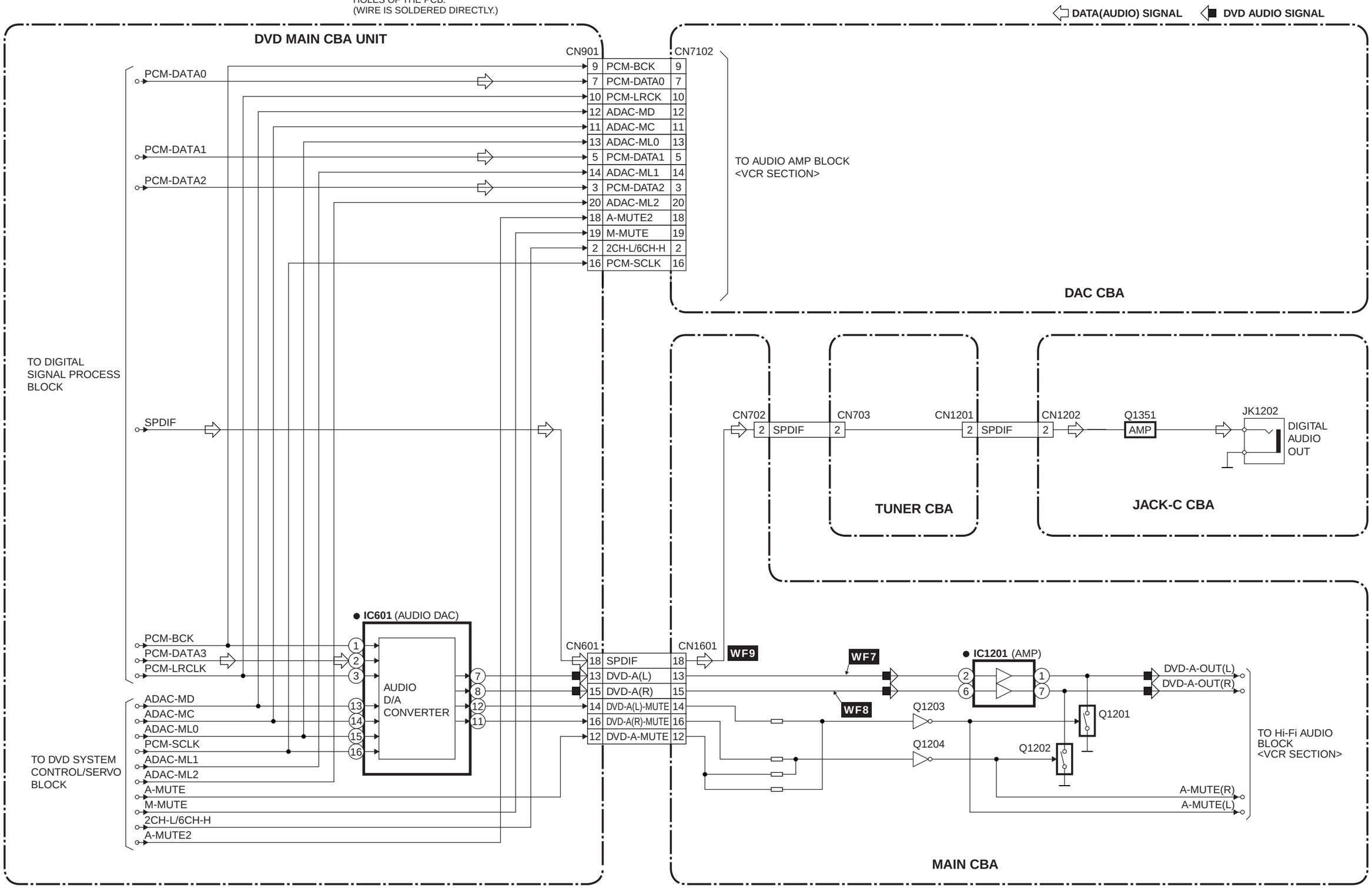
NOTE FOR WIRE CONNECTORS:
1. PREFIX SYMBOL "CN" MEANS CONNECTOR. (CAN DISCONNECT AND RECONNECT.)
2. PREFIX SYMBOL "CL" MEANS WIRE-SOLDER HOLES OF THE PCB. (WIRE IS SOLDERED DIRECTLY.)



DVD Audio Block Diagram

"● " = 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.)



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.

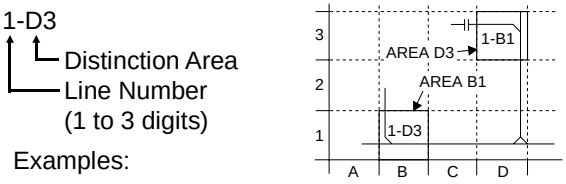
Capacitor Temperature Markings

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.

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.

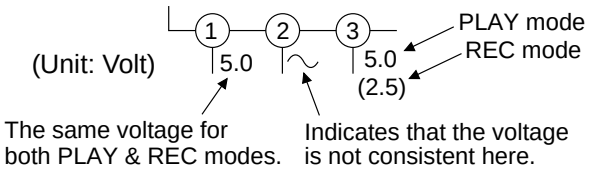


Examples:

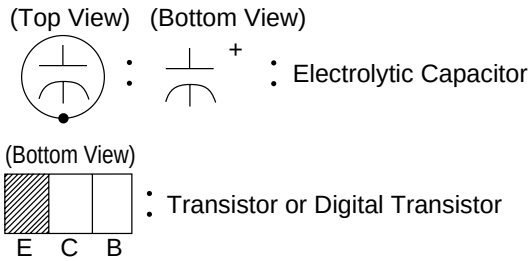
(1). "1-D3" means that line number "1" goes to area "D3."

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

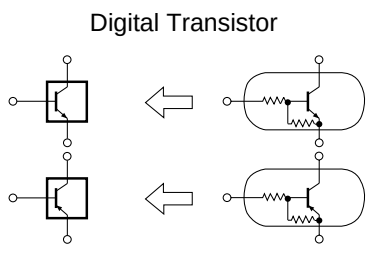
5. All resistance values are indicated in ohms ($K=10^3$, $M=10^6$).
6. Resistor wattages are 1/4W or 1/6W unless otherwise specified.
7. All capacitance values are indicated in μF ($P=10^{-6}$ μF).
8. All voltages are DC voltages unless otherwise specified.
9. Voltage indications for PLAY and REC modes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



< PCB Symbols >



< Schematic Diagram Symbols >

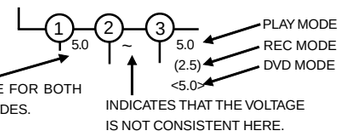


Main 1/11 Schematic Diagram Parts Location Guide

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

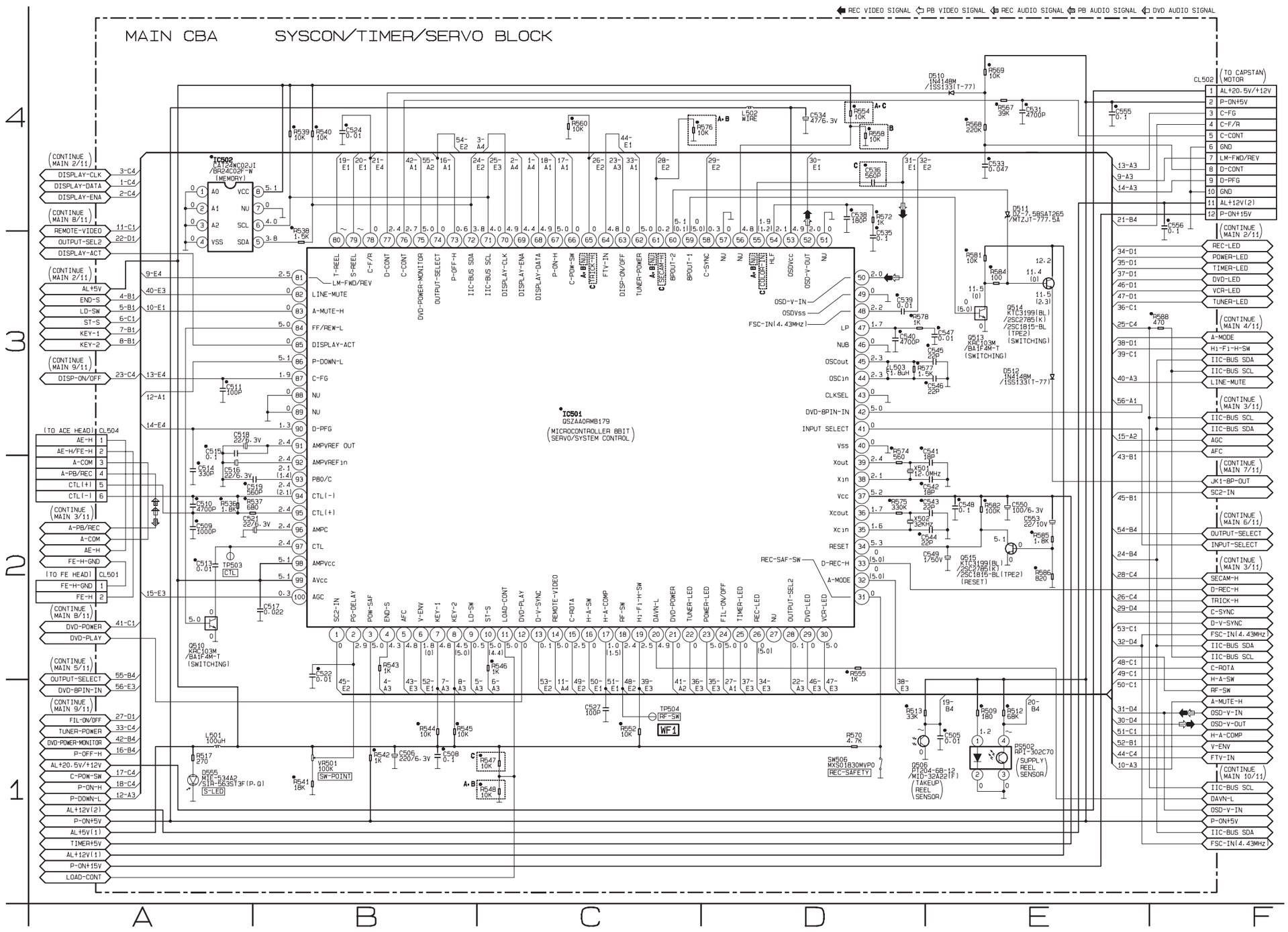


Comparison Chart of Models and Marks

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

IC501 KEY VOLTAGE CHART

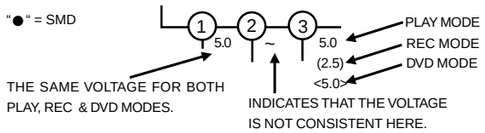
Pin No. / Voltage	KEY 1 (7 PIN)	KEY 2 (8 PIN)
0.00 ~ 0.51V	REC/OTR	----------
0.51 ~ 0.92V	POWER	----------
0.92 ~ 1.27V	OUTPUT	PLAY
1.27 ~ 1.61V	STOP/EJECT	----------
1.61 ~ 1.98V	----------	----------
1.98 ~ 2.39V	----------	----------
2.39 ~ 2.90V	----------	S-INH
2.90 ~ 3.60V	----------	----------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



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

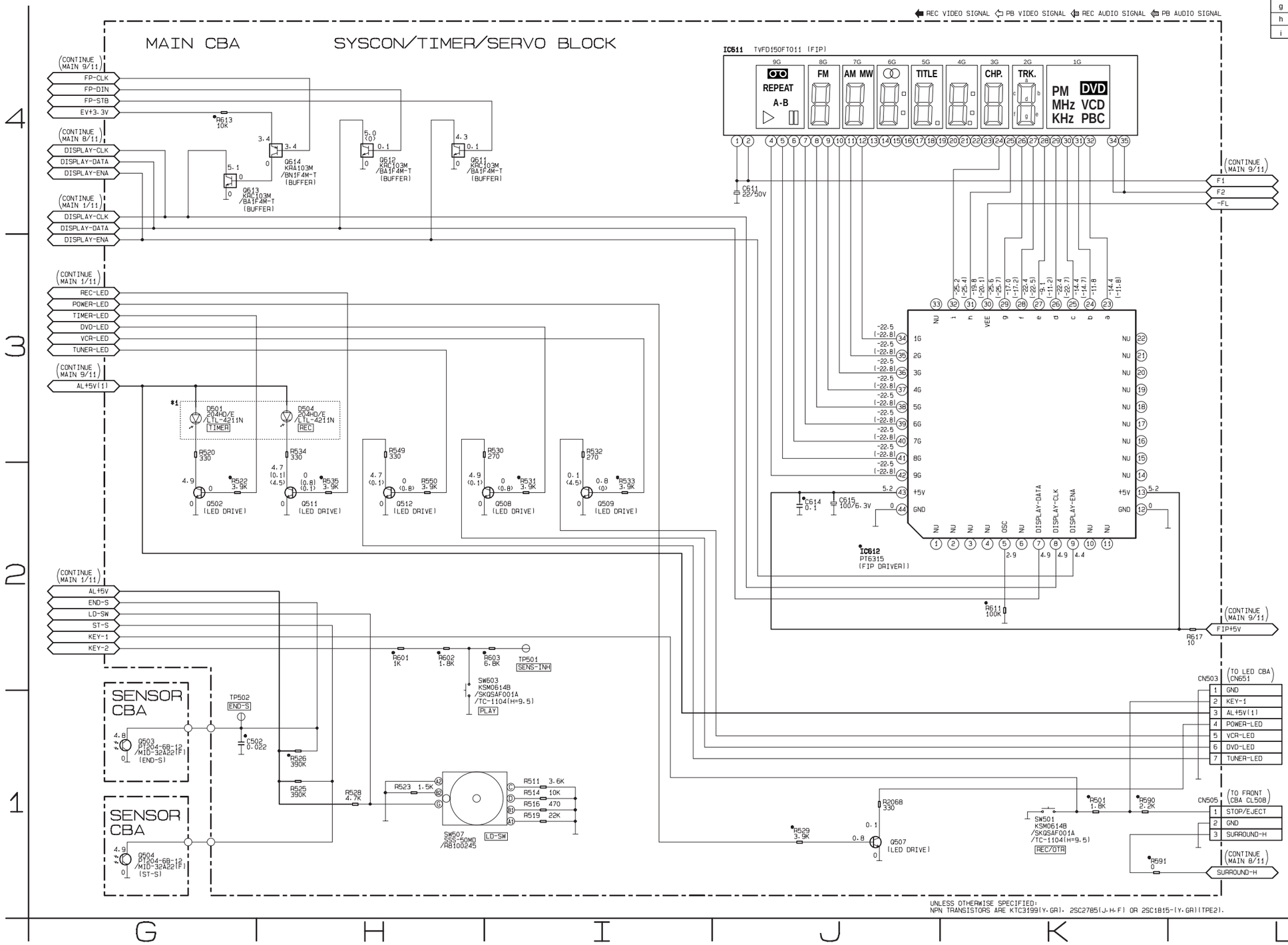
✱1 Note:
When replacing one of the following parts,
all of them should be replaced: D501, D504.

"●" = SMD



FL2001 MATRIX CHART

	9G	8G	7G	6G	5G	4G	3G	2G	1G
a	⊙⊙	a	a	a	a	a	a	a	DVD
b	REPEAT	b	b	b	b	b	b	b	CD
c	A	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	⁘	CHP.	TRK.	———
i	———	———	MW	◯◯	▪	▪	———	———	———



Main 2/11 Schematic Diagram Parts Location Guide

Ref No.	Position
CAPACITORS	
C502	G-1
C611	J-4
C614	J-2
C615	J-2
CONNECTORS	
CN503	L-2
CN505	L-1
DIODES	
D501	G-3
D504	H-3
ICS	
IC611	J-4
IC612	J-2
TRANSISTORS	
Q502	G-2
Q507	J-1
Q508	I-2
Q509	I-2
Q511	H-2
Q512	H-2
Q611	H-4
Q612	H-4
Q613	G-4
Q614	H-4
RESISTORS	
R501	K-1
R511	I-1
R514	I-1
R516	I-1
R519	I-1
R520	G-3

Ref No.	Position
RESISTORS	
R522	G-2
R523	H-1
R525	H-1
R526	H-1
R528	H-1
R529	J-1
R530	I-3
R531	I-2
R532	I-3
R533	I-2
R534	H-3
R535	H-2
R549	H-3
R550	H-2
R590	K-1
R591	K-1
R601	G-2
R602	G-2
R603	I-2
R611	K-2
R613	G-4
R617	L-2
R2068	J-1
SWITCHES	
SW501	K-1
SW507	H-1
SW603	H-2
TEST POINTS	
TP501	I-2
TP502	G-1

Main 3/11 Schematic Diagram Parts Location Guide

Ref No.	Position
CAPACITORS	
C251	N-3
C252	N-3
C253	N-3
C254	N-3
C301	P-1
C302	P-2
C303	P-1
C305	P-1
C306	P-2
C307	P-1
C308	P-1
C309	Q-4
C310	Q-4
C311	Q-3
C312	Q-3
C313	Q-3
C314	Q-3
C315	Q-2
C316	Q-3
C317	Q-3
C318	Q-2
C319	Q-3
C320	Q-4
C321	Q-4
C322	Q-3
C323	Q-3
C324	Q-3
C325	Q-2
C326	Q-3
C328	Q-3
C329	Q-2
C330	M-4
C331	N-4
C333	O-4
C334	O-4
C335	O-4
C336	O-4
C337	O-4
C339	O-4
C340	O-4
C341	O-4
C342	O-4
C343	P-4
C344	P-4
C345	P-4
C346	P-4

Ref No.	Position
CAPACITORS	
C347	P-4
C348	Q-4
C349	P-4
C350	N-4
C402	M-1
C403	M-2
C404	N-1
C405	N-2
C407	O-1
C408	O-2
C409	O-1
C410	O-1
C411	O-1
C412	O-2
C413	O-2
C414	O-1
C415	O-1
C416	O-1
C417	O-2
C418	O-1
C419	P-1
C420	P-2
C421	P-1
C775	Q-1
C776	Q-2
C777	Q-2
C778	R-2
C779	R-2
C780	R-1
C781	R-2
C782	R-2
CONNECTORS	
CL251	M-3
CN702	R-4
DIODE	
D301	N-4
ICS	
IC301	N-2
IC775	Q-1
COILS	
L251	N-3
L302	O-4
L401	M-2
L402	N-1
TRANSISTORS	
Q301	N-4

Ref No.	Position
TRANSISTORS	
Q302	N-3
Q401	M-1
Q403	N-1
Q404	N-2
Q405	N-1
Q406	N-1
Q775	R-1
Q776	R-1
RESISTORS	
R251	N-3
R252	N-3
R301	P-1
R303	P-1
R304	Q-4
R305	Q-2
R306	Q-3
R307	Q-4
R308	Q-2
R309	Q-4
R310	Q-3
R311	Q-4
R312	Q-2
R314	Q-2
R316	M-4
R317	M-4
R318	N-4
R319	N-3
R320	N-3
R321	N-4
R322	N-4
R323	N-4
R324	N-4
R325	O-4
R326	O-4
R327	O-4
R328	O-4
R330	O-4
R331	N-4
R332	N-4
R333	O-4
R334	O-4
R335	P-4
R336	P-4
R337	P-4
R339	P-4
R401	M-1

Ref No.	Position
RESISTORS	
R402	M-2
R404	N-1
R405	N-2
R406	N-2
R407	N-2
R408	N-2
R409	N-2
R410	N-2
R411	O-2
R412	O-1
R413	O-2
R414	O-1
R415	O-1
R416	O-1
R417	O-1
R418	O-1
R419	O-1
R420	O-1
R421	P-1
R775	Q-2
R776	Q-2
R777	Q-2
R778	Q-1
R779	Q-2
R780	Q-1
R781	Q-2
R782	Q-1
R783	Q-1
R784	Q-2
R785	Q-1
R786	Q-2
R787	R-2
R788	R-2
R789	R-2
R790	R-1
R791	R-1
CRYSTAL OSCILLATOR	
X301	P-2
TEST POINT	
TP301	M-3

Main 3/11 Schematic Diagram < VCR Section>

"●" = SMD

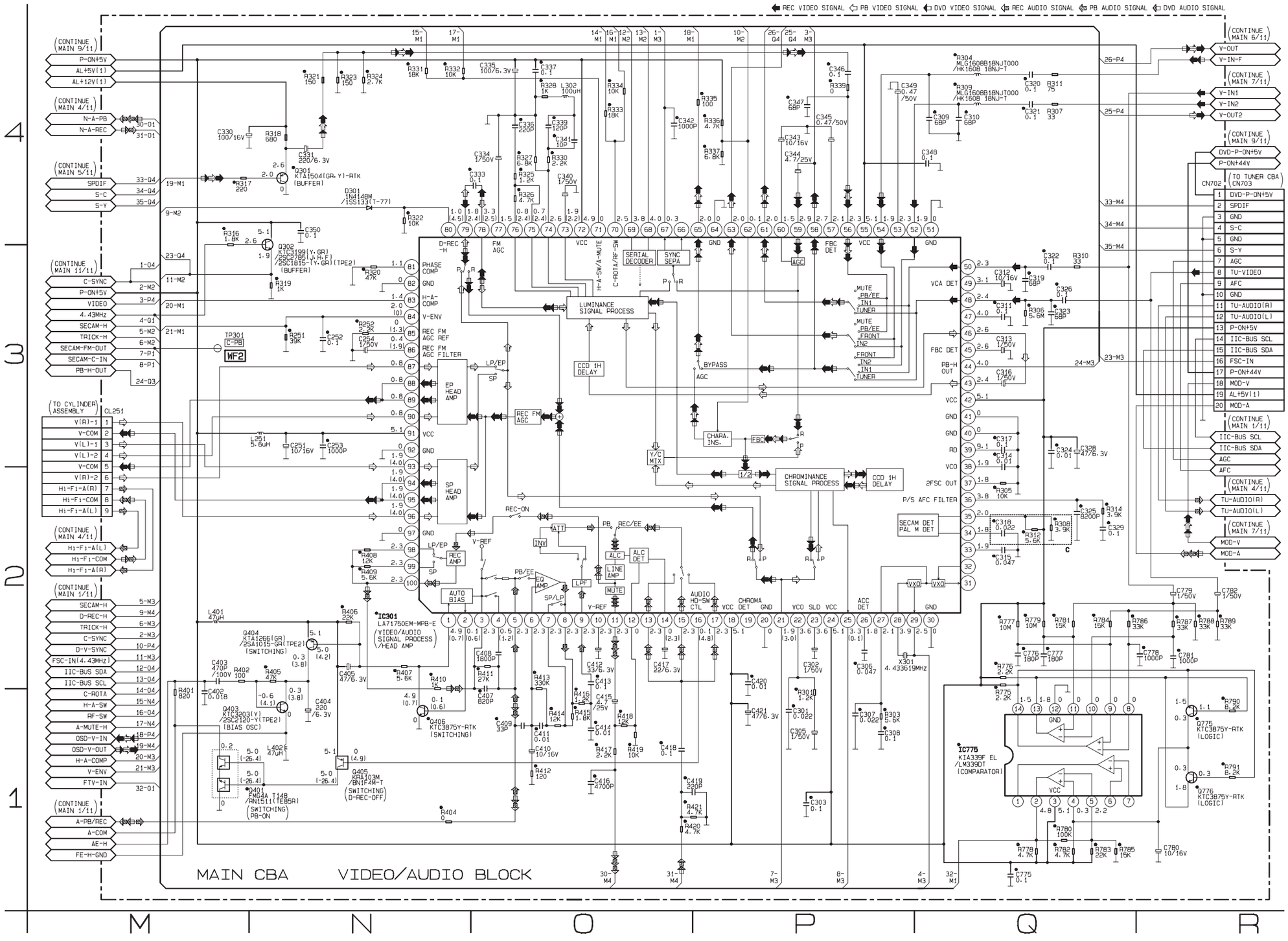
THE SAME VOLTAGE FOR BOTH PLAY, REC & DVD MODES.

INDICATES THAT THE VOLTAGE IS NOT CONSISTENT HERE.

PLAY MODE
REC MODE
DVD MODE

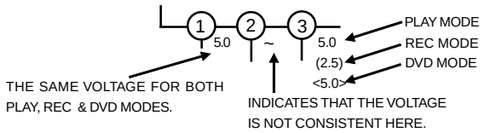
Comparison Chart of Models and Marks

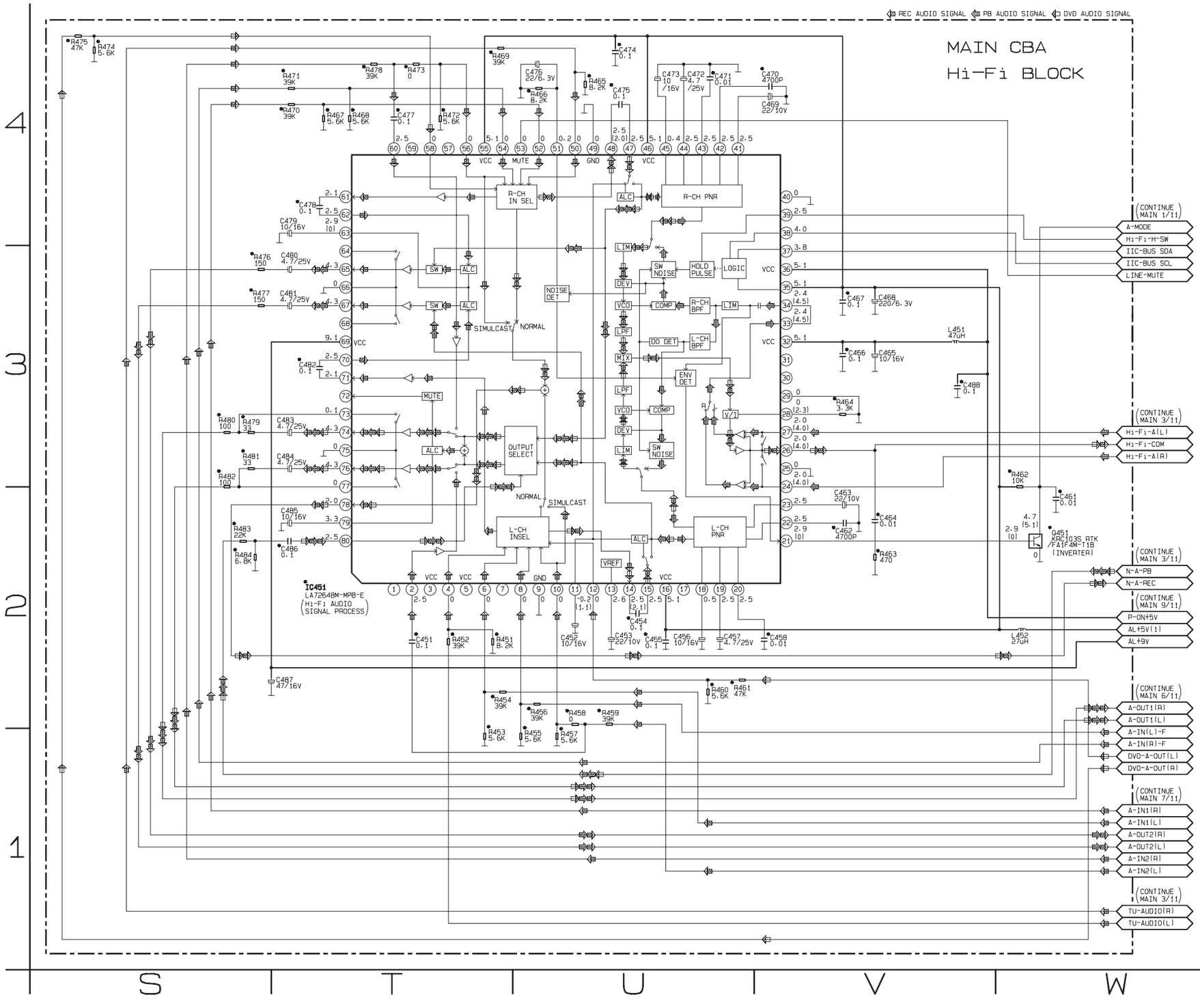
MODEL	MARK
MX5100VR/00	A
MX5100VR/05	B
MX5100VR/02	C



Main 4/11 Schematic Diagram < VCR Section >

"●" = SMD





Main 4/11 Schematic Diagram Parts Location Guide

Ref No.	Position
CAPACITORS	
C451	T-2
C452	U-2
C453	U-2
C454	U-2
C455	U-2
C456	U-2
C457	U-2
C458	V-2
C461	W-3
C462	V-2
C463	V-2
C464	V-2
C465	V-3
C466	V-3
C467	V-3
C468	V-3
C469	V-4
C470	V-4
C471	U-4
C472	U-4
C473	U-4
C474	U-4
C475	U-4
C476	U-4
C477	T-4
C478	T-4
C479	T-4
C480	T-3
C481	T-3
C482	T-3
C483	T-3
C484	T-3
C485	T-2
C486	T-2
C487	T-2
C488	V-3
IC	
IC451	T-2
COILS	
L451	V-3
L452	W-2

Ref No.	Position
TRANSISTORS	
Q451	W-2
RESISTORS	
R451	T-2
R452	T-2
R453	T-1
R454	T-2
R455	U-1
R456	U-2
R457	U-1
R458	U-2
R459	U-2
R460	U-2
R461	U-2
R462	W-3
R463	V-2
R464	V-3
R465	U-4
R466	U-4
R467	T-4
R468	T-4
R469	T-4
R470	T-4
R471	T-4
R472	T-4
R473	T-4
R474	S-4
R475	S-4
R476	S-3
R477	S-3
R478	T-4
R479	S-3
R480	S-3
R481	S-3
R482	S-3
R483	S-2
R484	S-2

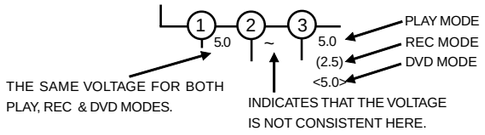
Main 5/11 Schematic Diagram Parts Location Guide

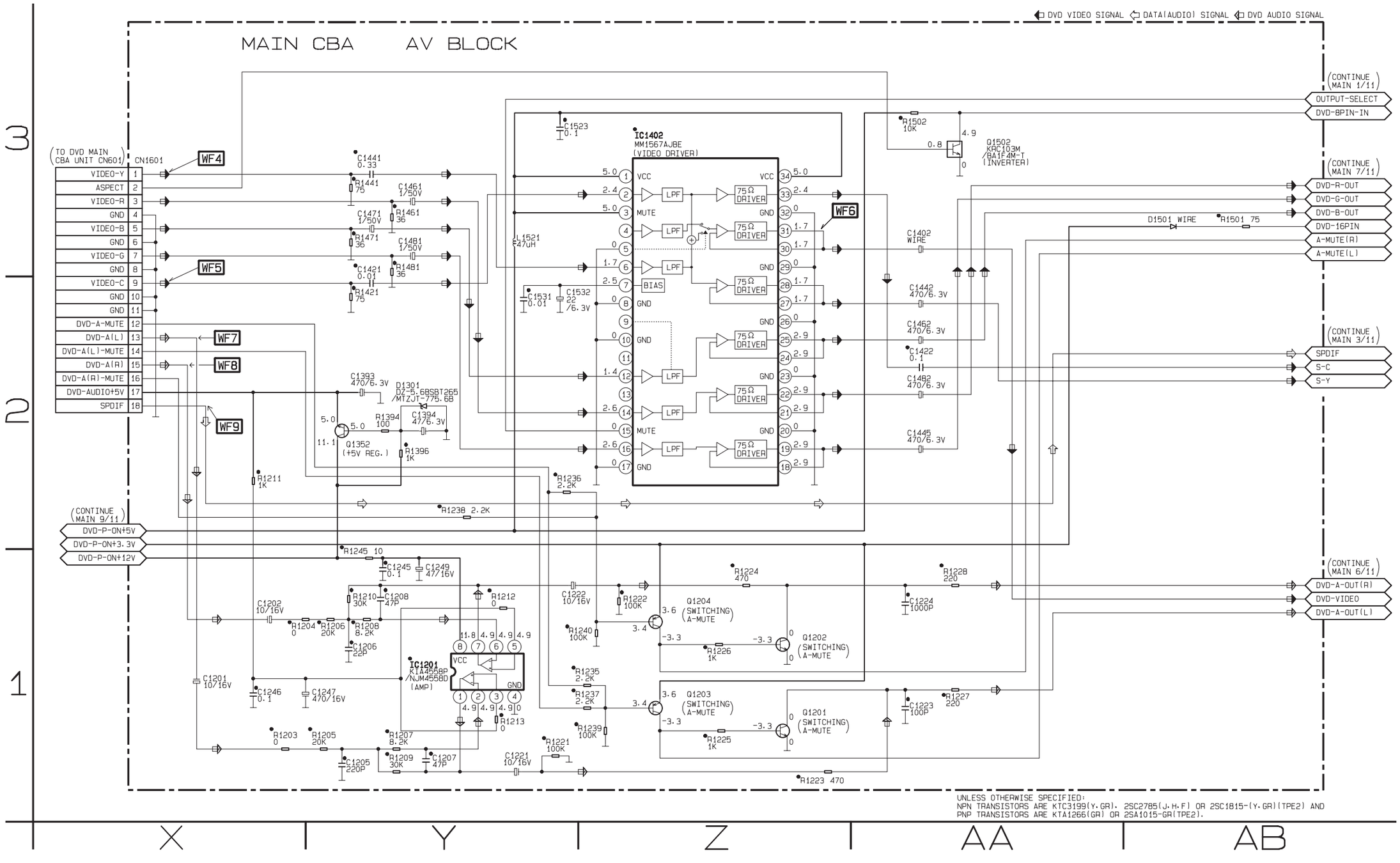
Ref No.	Position
CAPACITORS	
C1201	X-1
C1202	X-1
C1205	Y-1
C1206	Y-1
C1207	Y-1
C1208	Y-1
C1221	Y-1
C1222	Y-1
C1223	AA-1
C1224	AA-1
C1245	Y-1
C1246	X-1
C1247	Y-1
C1249	Y-1
C1393	Z-2
C1394	Z-2
C1402	AA-4
C1421	Y-4
C1422	AA-2
C1441	Y-4
C1442	AA-2
C1445	AA-2
C1461	Y-4
C1462	AA-2
C1471	Y-4
C1481	Y-4
C1482	AA-2
C1523	Y-4
C1531	Y-2
C1532	Y-2
CONNECTOR	
CN1601	X-3
DIODES	
D1301	Y-2
D1501	AB-4
ICS	
IC1201	Y-1
IC1402	Z-4
COIL	
L1521	Y-4
TRANSISTORS	
Q1201	Z-1

Ref No.	Position
TRANSISTORS	
Q1202	Z-1
Q1203	Z-1
Q1204	Z-1
Q1352	Y-2
Q1502	AA-4
RESISTORS	
R1203	X-1
R1204	X-1
R1205	Y-1
R1206	Y-1
R1207	Y-1
R1208	Y-1
R1209	Y-1
R1210	Y-1
R1211	X-2
R1212	Y-1
R1213	Y-1
R1221	Y-1
R1222	Z-1
R1223	Z-1
R1224	Z-1
R1225	Z-1
R1226	Z-1
R1227	AA-1
R1228	AA-1
R1235	Z-1
R1236	Y-2
R1237	Z-1
R1238	Y-2
R1239	Z-1
R1240	Z-1
R1245	Y-1
R1394	Y-2
R1396	Y-2
R1421	Y-2
R1441	Y-4
R1461	Y-4
R1471	Y-4
R1481	Y-4
R1501	AB-4
R1502	AA-4

Main 5/11 Schematic Diagram < VCR Section>

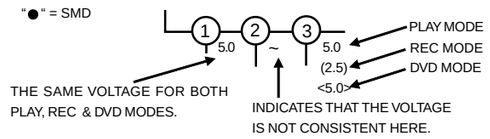
"●" = SMD

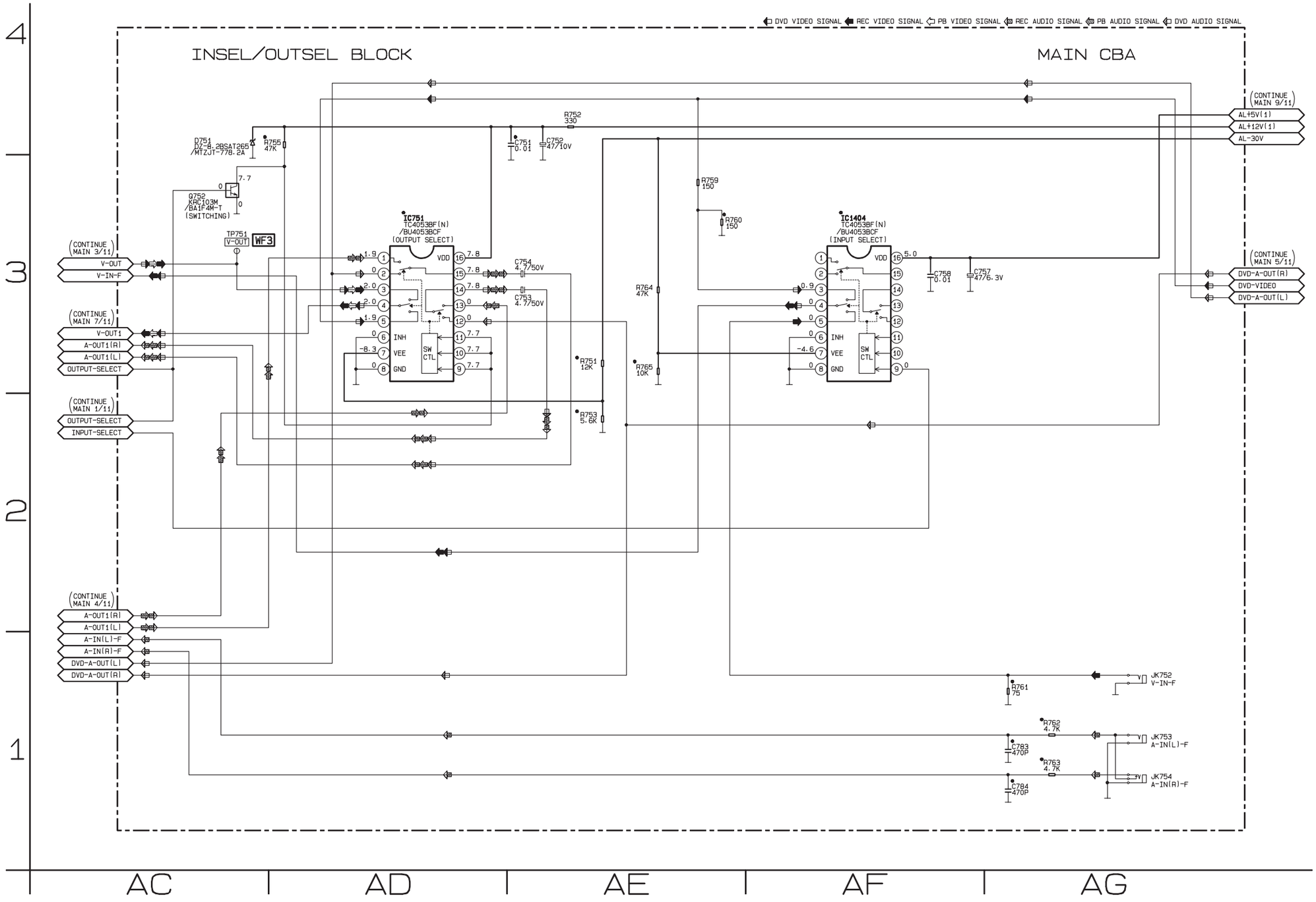




Main 6/11 Schematic Diagram < VCR Section >

"●" = SMD



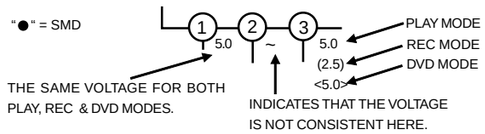


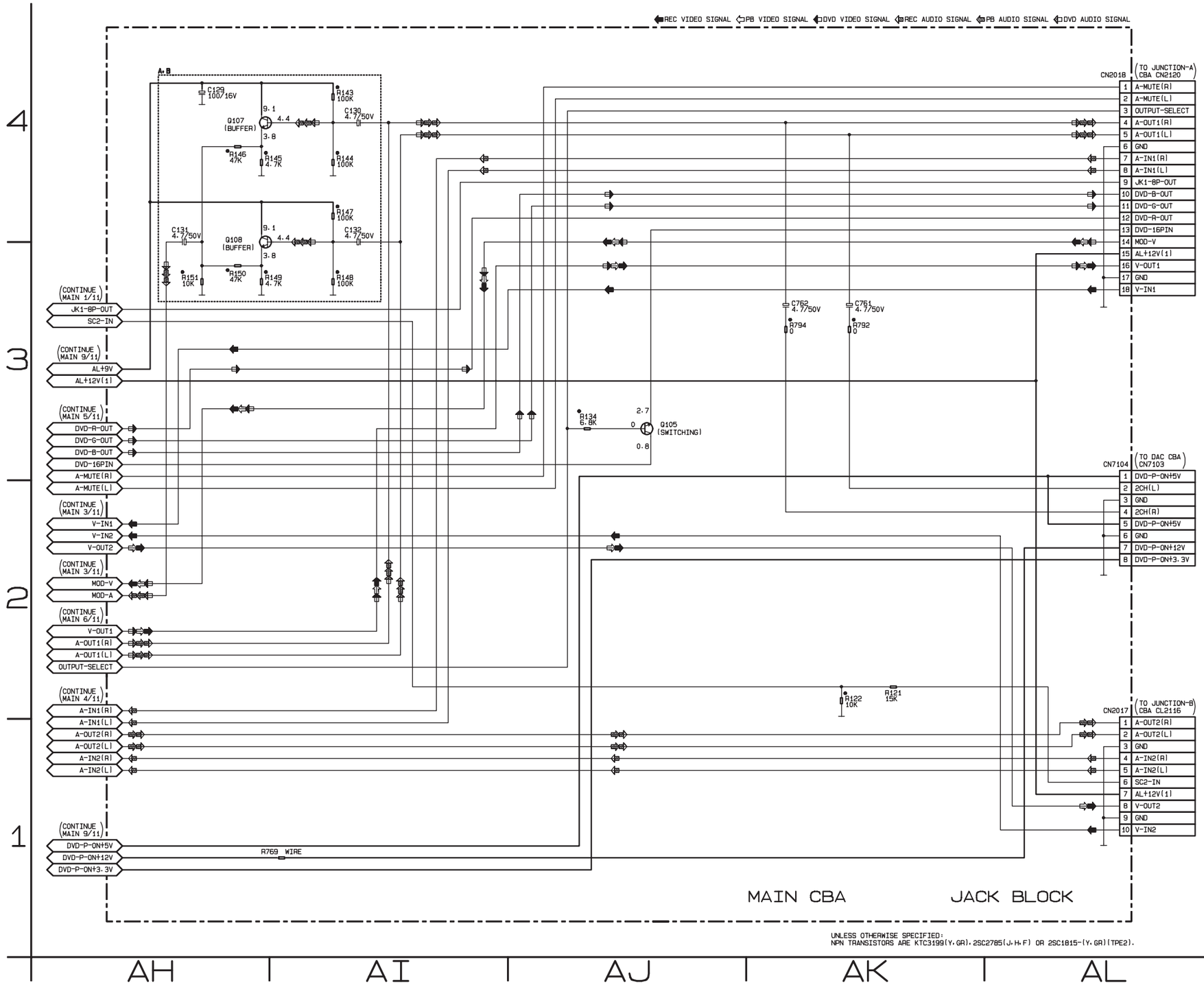
MAIN 6/11 Schematic Diagram

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

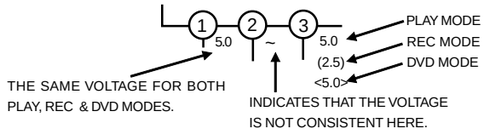
MODEL	MARK
MX5100VR/00	A
MX5100VR/05	B
MX5100VR/02	C

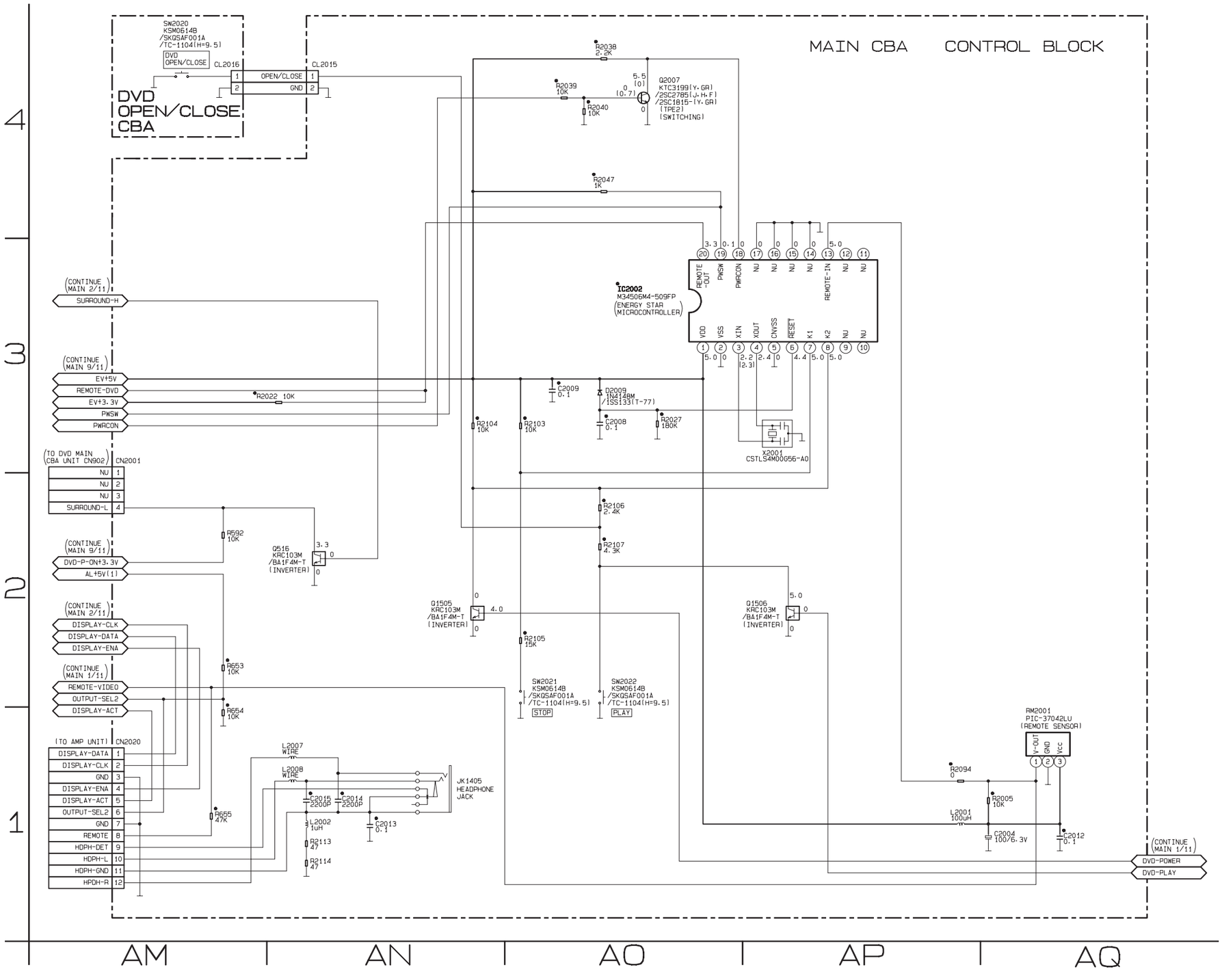
MAIN 7/11 Schematic Diagram
Parts Location Guide

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
R151	AH-3
R769	AI-1
R792	AK-3
R794	AK-3

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

"●" = SMD





Main 8/11 Schematic Diagram Parts Location Guide

Ref No.	Position
CAPACITORS	
C2004	AQ-1
C2008	AO-3
C2009	AO-3
C2012	AQ-1
C2013	AN-1
C2014	AN-1
C2015	AN-1
CONNECTORS	
CL2015	AN-4
CN2001	AM-2
CN2020	AM-1
DIODE	
D2009	AO-3
ICS	
IC1404	AF-3
IC2002	AO-3
COILS	
L2001	AP-1
L2002	AN-1
L2007	AN-1
L2008	AN-1
TRANSISTORS	
Q516	AN-2
Q1505	AN-2
Q1506	AP-2
Q2007	AO-4
RESISTORS	
R592	AM-2

Ref No.	Position
RESISTORS	
R653	AM-2
R654	AM-1
R655	AM-1
R2005	AQ-1
R2022	AN-3
R2027	AO-3
R2038	AO-4
R2039	AO-4
R2040	AO-4
R2047	AO-4
R2094	AP-1
R2103	AO-3
R2104	AN-3
R2105	AO-2
R2106	AO-2
R2107	AO-2
R2113	AN-1
R2114	AN-1
SWITCHES	
SW2021	AO-2
SW2022	AO-2
CRYSTAL OSCILLATOR	
X2001	AP-3
MISCELLANEOUS	
JK1405	AN-1
RM2001	AQ-1

Main 9/11 Schematic Diagram Parts Location Guide

Ref No.	Position
CAPACITORS	
C056	AU-4
C057	AU-3
C058	AU-3
C059	AU-3
C060	AU-3
C062	AU-3
C063	AU-3
C068	AU-3
C1056	AR-2
C1061	AR-4
CONNECTORS	
CN050	AR-4
CN1051	AR-3
DIODES	
D051	AU-4
D052	AU-4
D053	AU-3
D054	AU-3
D056	AV-4
D057	AU-3
D1052	AT-2
D1053	AS-2
D1054	AS-2
D1055	AS-2
D1056	AT-2
D1057	AU-1
D2010	AS-3
COILS	
L052	AU-4
L053	AT-3

Ref No.	Position
COILS	
L1052	AT-2
L2006	AT-2
TRANSISTORS	
Q051	AT-4
Q052	AT-4
Q053	AU-4
Q054	AU-4
Q055	AU-3
Q056	AV-3
Q057	AU-3
Q058	AT-3
Q059	AT-3
Q060	AV-2
Q1052	AT-1
Q1053	AS-1
Q1054	AS-1
Q1055	AU-2
Q1056	AS-3
Q1057	AS-3
Q1058	AS-4
Q1059	AS-3
RESISTORS	
R051	AT-4
R052	AT-4
R053	AT-4
R054	AV-4
R055	AU-4
R058	AV-3
R059	AV-3
R060	AV-3

Ref No.	Position
RESISTORS	
R061	AV-4
R062	AU-3
R064	AU-2
R065	AU-3
R066	AU-2
R067	AU-2
R070	AT-3
R072	AV-3
R1056	AS-3
R1057	AS-3
R1062	AR-2
R1065	AS-1
R1066	AS-1
R1067	AS-1
R1068	AU-2
R1069	AU-2
R1071	AR-1
R1072	AR-1
R1073	AR-3
R1074	AS-3
R1075	AS-3
R1076	AS-4
R1077	AS-4
R1078	AT-3
R1079	AT-2
R1080	AT-1
R2110	AV-4
R2111	AV-4

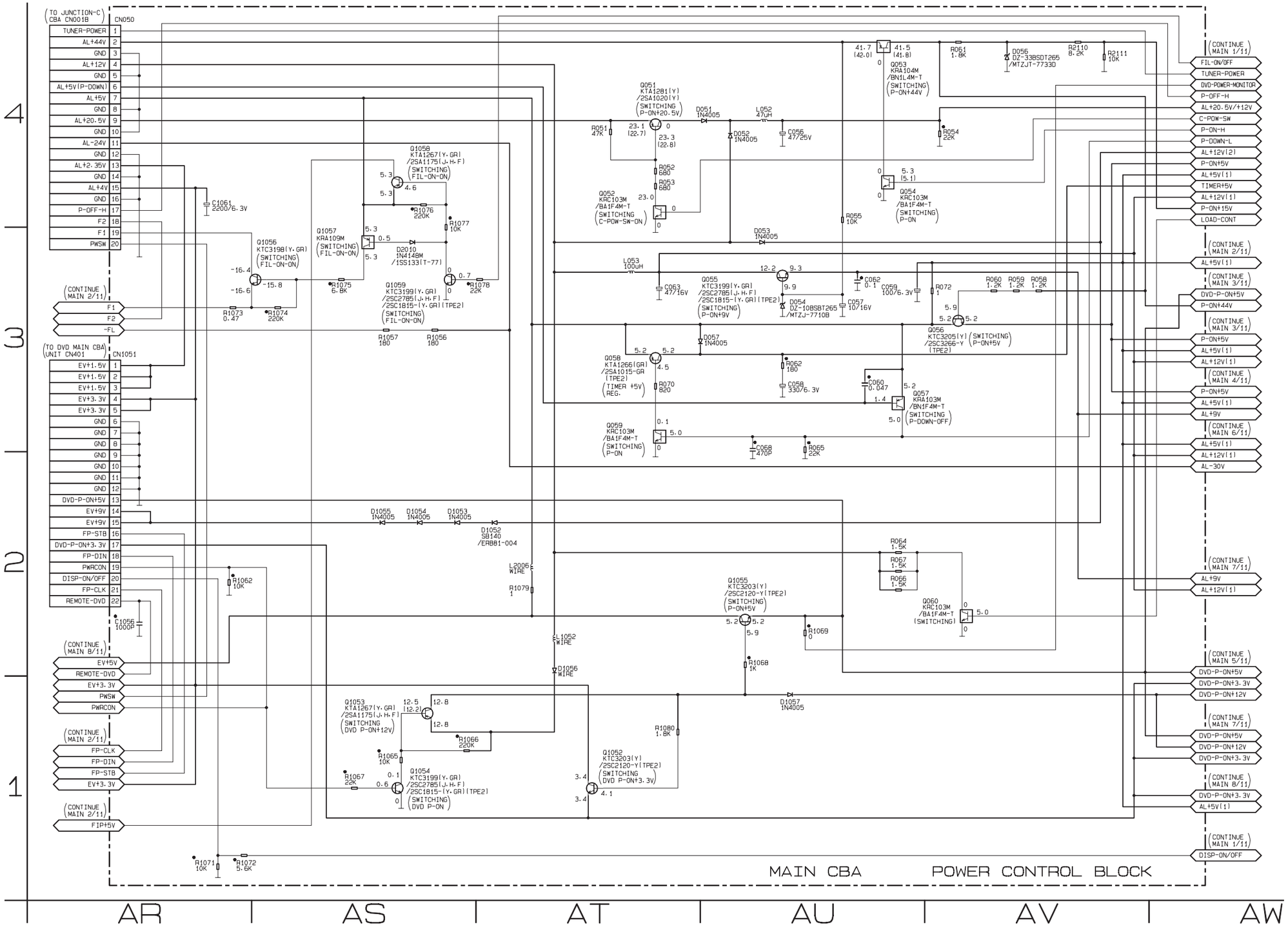
Main 9/11 Schematic Diagram < VCR Section >

"●" = SMD

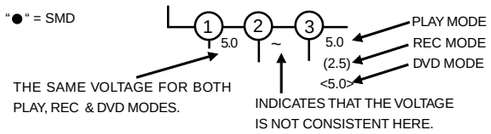
THE SAME VOLTAGE FOR BOTH PLAY, REC & DVD MODES.

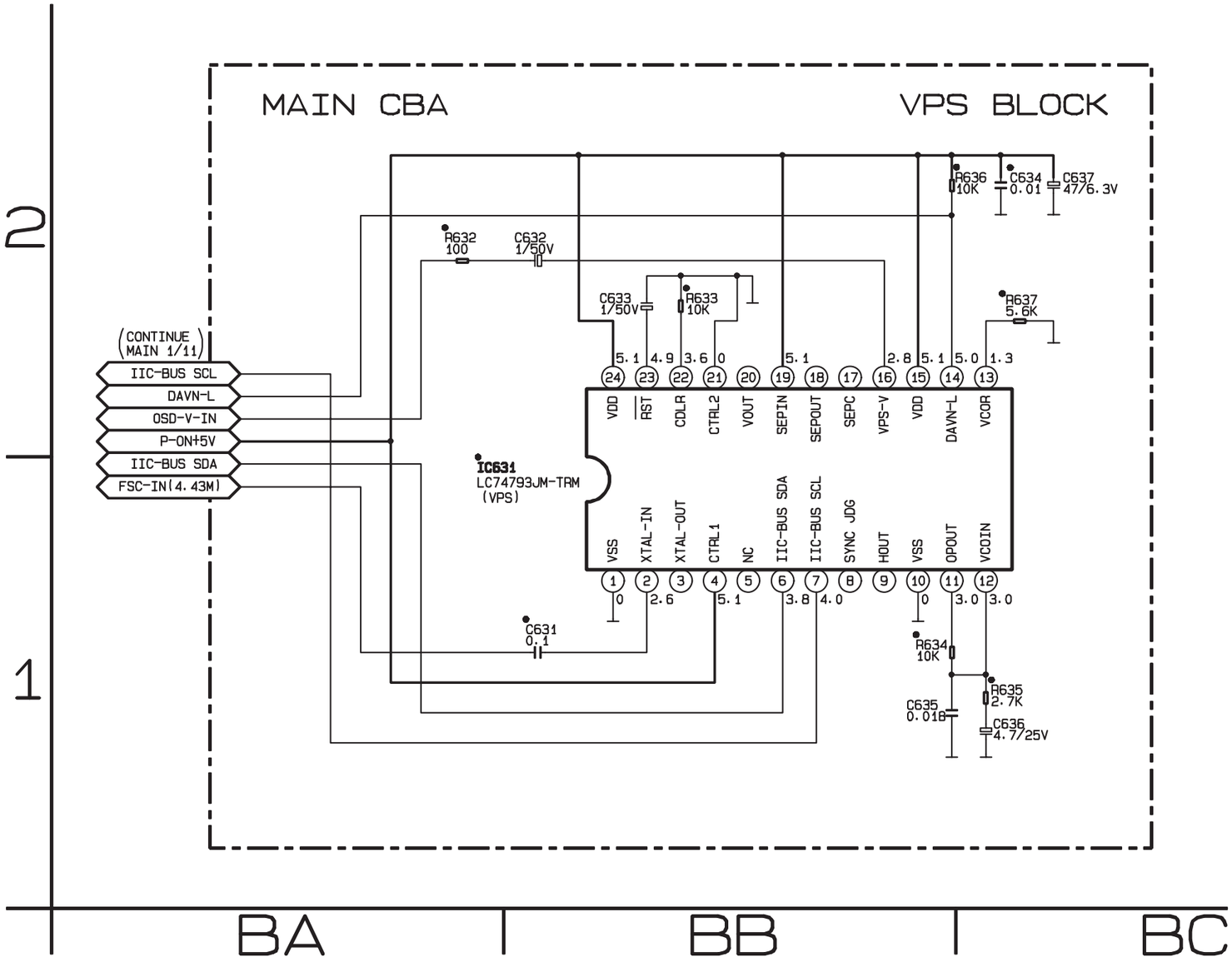
INDICATES THAT THE VOLTAGE IS NOT CONSISTENT HERE.

PLAY MODE
REC MODE
DVD MODE



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

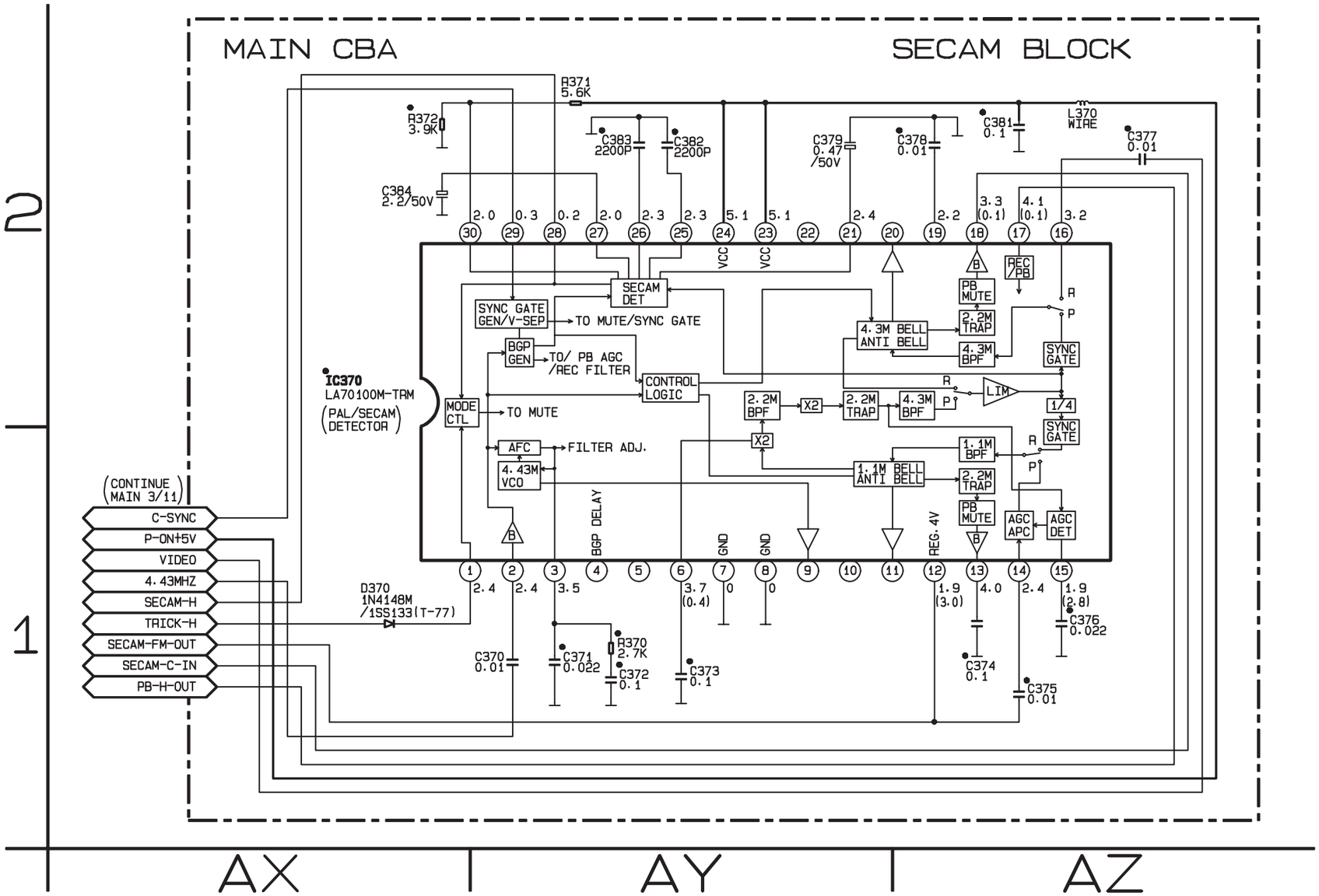
Main 11/11 Schematic Diagram < VCR Section >

"●" = SMD

THE SAME VOLTAGE FOR BOTH PLAY, REC & DVD MODES.

INDICATES THAT THE VOLTAGE IS NOT CONSISTENT HERE.

1	2	3	
5.0	~	5.0	PLAY MODE
		(2.5)	REC MODE
		<5.0>	DVD MODE



MAIN 11/11 Schematic Diagram

Parts Location Guide

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

Ref No.	Position
CAPACITORS	
C056	A-3
C057	A-3
C058	A-3
C059	A-3
C060	A-3
C062	A-3
C063	A-3
C068	A-3
C129	E-4
C130	E-4
C131	F-4
C132	E-4
C251	C-3
C252	C-3
C253	C-3
C254	C-3
C301	E-3
C302	D-3
C303	D-3
C305	D-3
C306	E-3
C307	E-3
C308	E-3
C309	D-2
C310	D-2
C311	D-2
C312	D-2
C313	D-2
C314	E-3
C315	E-3
C316	E-2
C317	E-3
C318	E-3
C319	D-2
C320	D-2
C321	E-2
C322	E-2
C323	E-2
C324	D-3
C325	E-2
C326	E-2
C328	D-3
C329	E-3
C330	E-2
C331	E-2
C333	C-3
C334	C-3
C335	C-3
C336	C-3
C337	C-3
C339	C-3
C340	C-3
C341	C-3
C342	E-2
C343	C-2
C344	D-3
C345	D-2
C346	D-2
C347	D-2

Ref No.	Position
CAPACITORS	
C348	D-2
C349	D-2
C350	E-3
C370	E-3
C371	E-3
C372	E-3
C373	E-3
C374	E-3
C375	E-3
C376	E-3
C377	E-3
C378	E-3
C379	F-3
C381	E-3
C382	E-3
C383	E-3
C384	F-3
C402	D-3
C403	D-3
C404	D-3
C405	E-3
C407	D-3
C408	D-3
C409	D-3
C410	D-3
C411	D-3
C412	D-3
C413	D-3
C414	D-3
C415	E-3
C416	B-3
C417	D-3
C418	E-3
C419	E-3
C420	C-3
C421	D-3
C451	D-3
C452	C-3
C453	C-3
C454	C-3
C455	C-3
C456	C-3
C457	C-3
C458	C-3
C461	C-3
C462	C-3
C463	C-3
C464	C-3
C465	C-3
C466	C-3
C467	C-3
C468	C-2
C469	C-2
C470	C-2
C471	C-2
C472	C-2
C473	C-2
C474	C-2
C475	C-3

Ref No.	Position
CAPACITORS	
C476	C-2
C477	C-2
C478	C-2
C479	C-2
C480	B-2
C481	C-3
C482	C-3
C483	C-3
C484	B-3
C485	B-3
C486	B-3
C487	B-3
C488	C-3
C501	G-3
C505	E-2
C506	C-1
C508	C-1
C509	E-1
C510	E-1
C511	E-1
C513	F-1
C514	E-1
C515	E-1
C516	E-1
C517	E-1
C518	E-1
C519	E-1
C521	E-1
C522	E-1
C524	E-2
C527	D-1
C531	E-1
C533	E-2
C534	C-2
C535	D-2
C536	D-2
C538	E-2
C539	D-2
C540	D-1
C541	D-1
C542	C-1
C543	C-1
C544	C-1
C545	D-1
C546	D-1
C547	D-1
C548	D-1
C549	C-1
C550	C-1
C553	C-1
C555	F-2
C556	F-2
C611	A-1
C614	A-1
C615	A-1
C631	B-1
C632	B-2
C633	B-1
C634	B-1

Ref No.	Position
CAPACITORS	
C635	B-1
C636	B-1
C637	B-1
C751	E-4
C752	E-4
C753	D-4
C754	D-4
C757	F-3
C758	F-4
C761	B-3
C762	B-4
C775	F-3
C776	F-3
C777	F-3
C778	F-3
C779	F-3
C780	F-2
C781	F-3
C782	F-3
C783	F-1
C784	F-1
C1056	A-2
C1061	A-3
C1201	A-4
C1202	A-4
C1205	B-4
C1206	A-4
C1207	A-4
C1208	A-4
C1221	B-4
C1222	B-4
C1223	B-4
C1224	B-4
C1245	B-4
C1246	A-4
C1247	A-4
C1249	B-4
C1393	A-4
C1394	A-4
C1402	D-4
C1421	C-4
C1422	C-4
C1441	C-4
C1442	C-4
C1445	C-4
C1461	C-4
C1462	D-4
C1471	C-4
C1481	C-4
C1482	C-4
C1523	C-4
C1531	C-4
C1532	C-4
C2004	C-1
C2008	A-1
C2009	A-1
C2012	C-1
C2014	E-1
C2015	E-1

Ref No.	Position
CONNECTORS	
CL251	C-3
CL501	C-3
CL502	F-2
CL504	E-3
CL2015	A-1
CN050	A-4
CN503	A-1
CN505	G-2
CN702	G-4
CN1051	A-2
CN1601	A-3
CN2001	B-2
CN2017	G-4
CN2018	G-4
CN2020	G-2
CN7104	B-4
DIODES	
D051	A-3
D052	A-3
D053	A-2
D054	A-3
D056	A-3
D057	A-3
D301	C-3
D370	E-3
D501	C-1
D504	D-1
D510	E-2
D511	C-1
D512	C-1
D555	D-2
D751	E-4
D1052	A-2
D1053	A-2
D1054	A-2
D1055	A-3
D1056	A-2
D1057	B-3
D1301	A-4
D1501	B-4
D2009	A-1
D2010	A-1
ICS	
IC301	D-3
IC370	E-3
IC451	C-3
IC501	E-1
IC502	E-1
IC611	B-1
IC612	A-1
IC631	B-1
IC751	E-4
IC775	F-3
IC1201	A-4
IC1402	C-4
IC1404	E-4
IC2002	A-1
COILS	
L052	A-3

Ref No.	Position
COILS	
L053	A-3
L251	C-3
L302	C-3
L370	F-3
L401	E-3
L402	D-3
L451	C-3
L452	C-2
L501	C-1
L502	C-1
L503	C-2
L1052	A-3
L1521	C-4
L2001	C-1
L2002	F-1
L2006	A-2
L2007	F-1
L2008	F-1
TRANSISTORS	
Q051	A-3
Q052	A-3
Q053	A-3
Q054	A-3
Q055	A-3
Q056	A-3
Q057	A-3
Q058	A-3
Q059	A-3
Q060	A-3
Q105	D-4
Q107	E-4
Q108	E-4
Q301	E-2
Q302	D-2
Q401	E-3
Q403	D-3
Q404	E-3
Q405	E-3
Q406	D-3
Q451	C-3
Q502	C-1
Q506	D-2
Q507	D-1
Q508	C-1
Q509	C-1
Q510	F-1
Q511	C-1
Q512	A-1
Q513	C-1
Q514	C-1
Q515	C-1
Q516	G-2
Q611	A-1
Q612	A-1
Q613	A-1
Q614	A-1
Q752	E-4
Q775	F-2
Q776	F-2

Ref No.	Position
TRANSISTORS	
Q1052	B-3
Q1053	A-2
Q1054	A-2
Q1055	A-2
Q1056	A-1
Q1057	A-1
Q1058	A-2
Q1059	A-2
Q1201	D-4
Q1202	E-4
Q1203	B-4
Q1204	B-4
Q1352	A-4
Q1502	A-3
Q1505	A-1
Q1506	A-1
Q2007	A-2
RESISTORS	
R051	A-4
R052	A-3
R053	A-3
R054	A-3
R055	A-4
R058	A-3
R059	A-3
R060	A-3
R061	A-3
R062	A-3
R064	A-3
R065	A-3
R066	A-3
R067	A-3
R070	A-3
R072	A-3
R121	G-4
R122	G-4
R134	D-4
R143	E-4
R144	E-4
R145	E-4
R146	F-4
R147	E-4
R148	E-4
R149	E-4
R150	E-4
R151	E-4
R251	C-3
R252	C-3
R301	D-3
R303	D-3
R304	D-2
R305	E-3
R306	D-2
R307	E-2
R308	E-3
R309	D-2
R310	E-2
R311	D-2
R312	E-3

Ref No.	Position
RESISTORS	
R314	E-2
R316	E-3
R317	E-2
R318	E-2
R319	E-3
R320	C-3
R321	D-2
R322	C-3
R323	D-2
R324	D-2
R325	C-3
R326	C-3
R327	C-3
R328	C-3
R330	C-3
R331	C-2
R332	C-2
R333	C-1
R334	C-1
R335	C-3
R336	C-2
R337	C-2
R339	D-2
R370	E-3
R371	F-3
R372	F-3
R401	E-3
R402	D-3
R404	D-3
R405	D-3
R406	E-3
R407	D-3
R408	D-3
R409	D-3
R410	D-3
R411	D-3
R412	D-3
R413	D-3
R414	D-3
R415	D-3
R416	D-3
R417	E-3
R418	E-3
R419	E-3
R420	E-3
R421	E-3
R451	B-3
R452	B-3
R453	B-3
R454	B-3
R455	B-3
R456	B-3
R457	C-3
R458	B-3
R459	B-3
R460	C-3
R461	B-3
R462	C-3
R463	C-3

Ref No.	Position
RESISTORS	
R464	C-3
R465	C-2
R466	C-2
R467	C-2
R468	C-2
R469	C-2
R470	B-2
R471	B-2
R472	C-2
R473	C-2
R474	C-2
R475	B-2
R476	B-2
R477	B-3
R478	C-2
R479	B-3
R480	B-3
R481	B-3
R482	B-3
R483	B-3
R484	B-3
R501	D-1
R509	C-1
R511	F-2
R512	C-1
R513	F-2
R514	F-2
R516	F-2
R517	D-2
R519	F-2
R520	C-1
R521	D-1
R522	D-1
R523	F-2
R525	F-1
R526	D-1
R528	F-1
R529	D-1
R530	C-1
R531	C-1
R532	C-1
R533	C-1
R534	C-1
R535	D-1
R536	E-1
R537	E-1
R538	E-1
R539	E-2
R540	E-2
R541	G-2
R542	F-1
R543	E-1
R544	D-1
R545	D-1
R546	F-1
R547	D-1
R548	D-1
R549	A-1
R550	A-1
R552	D-1

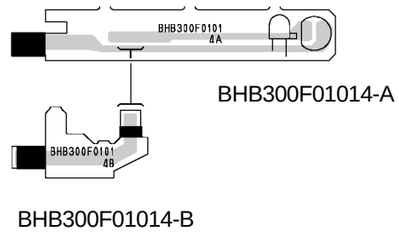
Ref No.	Position
RESISTORS	
R554	E-2
R555	C-1
R558	E-2
R560	E-1
R567	E-1
R568	E-2
R569	F-2
R570	C-1
R572	E-2
R574	D-1
R575	C-1
R576	E-2
R577	100
R578	D-1
R581	C-1
R582	C-1
R584	C-1
R585	C-1
R586	C-1
R588	C-2
R590	G-2
R591	G-2
R592	B-3
R601	D-1
R602	E-1
R603	D-1
R611	A-1
R613	A-1
R617	A-1
R632	B-2
R634	B-1
R635	C-1
R636	B-1
R637	C-1
R653	D-1
R654	D-1
R655	G-2
R751	E-4
R752	E-4
R753	E-4
R755	E-4
R759	E-4
R760	F-3
R761	F-1
R762	F-1
R763	F-1
R764	E-3
R765	E-3
R769	B-4
R775	F-3
R776	F-3
R777	F-3
R778	F-2
R779	F-3
R780	F-2
R781	F-3
R782	F-2
R783	F-2

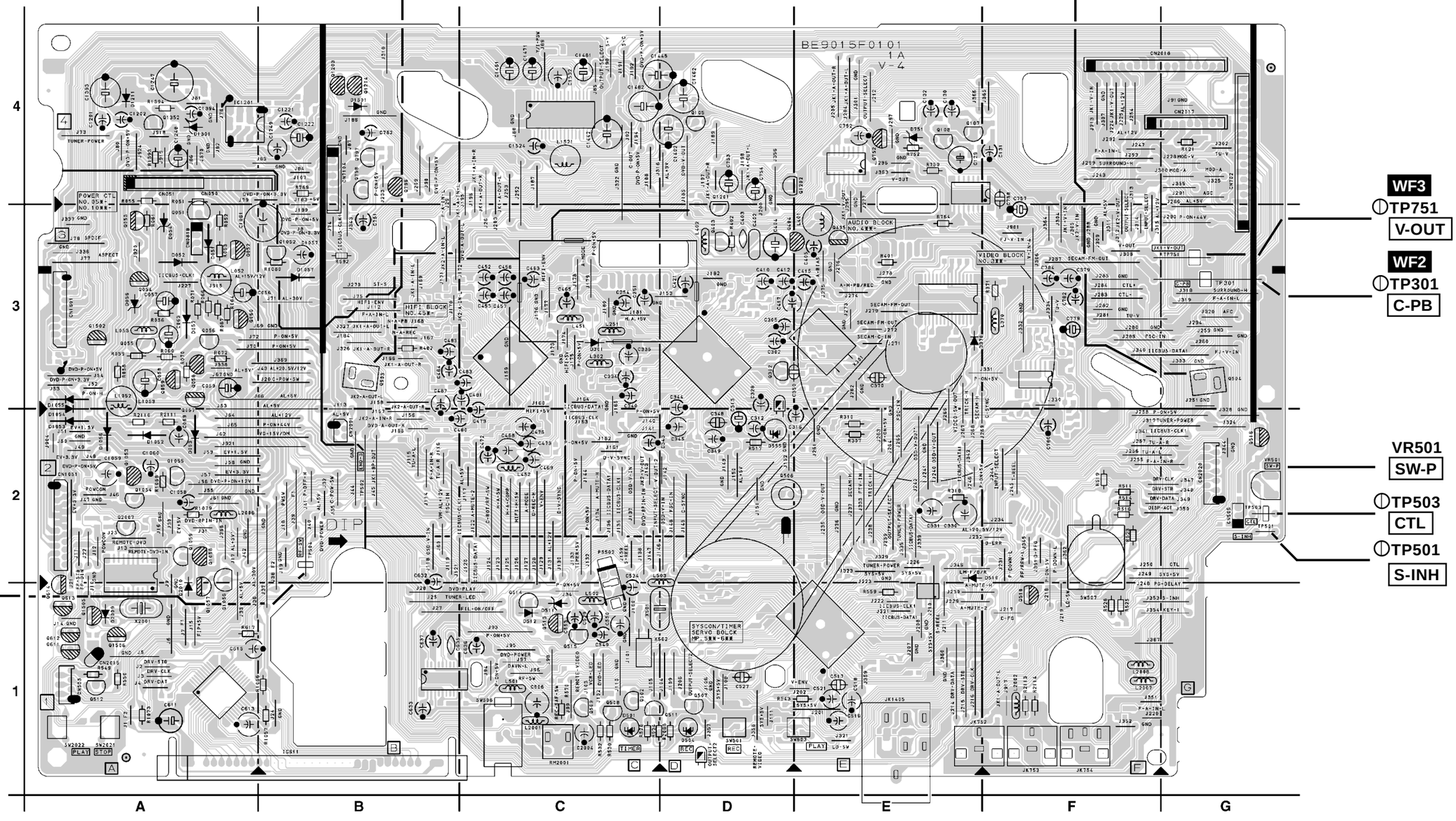
Ref No.	Position
RESISTORS	
R784	F-3
R785	F-2
R786	F-3
R787	F-3
R788	F-3
R789	F-3
R790	F-3
R791	F-2
R792	B-3
R794	B-4
R1056	B-1
R1057	B-1
R1062	A-2
R1065	A-2
R1066	A-2
R1067	A-2
R1068	A-2
R1069	A-2
R1071	A-2
R1072	A-2
R1073	A-1
R1074	A-1
R1075	A-1
R1076	A-2
R1077	A-2
R1078	A-2
R1079	A-2
R1080	B-3
R1203	B-4
R1204	A-4
R1205	B-4
R1206	A-4
R1207	B-4
R1208	A-4
R1209	B-4
R1210	A-4
R1211	A-4
R1212	A-4
R1213	A-4
R1221	B-4
R1222	B-4
R1223	B-4
R1224	B-4
R1225	D-4
R1226	D-4
R1227	D-4
R1228	D-4
R1235	A-3
R1236	A-3
R1237	A-3
R1238	A-3
R1239	A-3
R1240	A-3
R1245	B-4
R1394	A-4
R1396	A-4
R1421	A-3
R1441	A-4
R1461	A-3

Ref No.	Position
RESISTORS	
R1471	A-3
R1481	A-3
R1501	D-4
R1502	A-3
R2005	C-1
R2022	A-2
R2027	A-1
R2038	A-2
R2039	A-2
R2040	A-2
R2047	A-2
R2068	D-1
R2094	C-1
R2103	A-1
R2104	A-1
R2105	A-1
R2106	A-1
R2107	A-1
R2110	A-2
R2111	A-2
R2113	F-1
R2114	F-1
SWITCHES	
SW501	D-1
SW506	C-1
SW507	F-2
SW603	E-1
SW2021	A-1
SW2022	A-1
VARIABLE RESISTOR	
VR501	G-2
CRYSTAL OSCILLATORS	
X301	E-3
X501	C-1
X502	C-1
X2001	A-1
MISCELLANEOUS	
JK752	E-1
JK753	F-1
JK754	F-1
JK1405	E-1
PS502	C-2
RM2001	C-1
TEST POINTS	
TP301	G-3
TP501	G-2
TP502	B-2
TP503	G-2
TP504	B-2
TP751	G-3

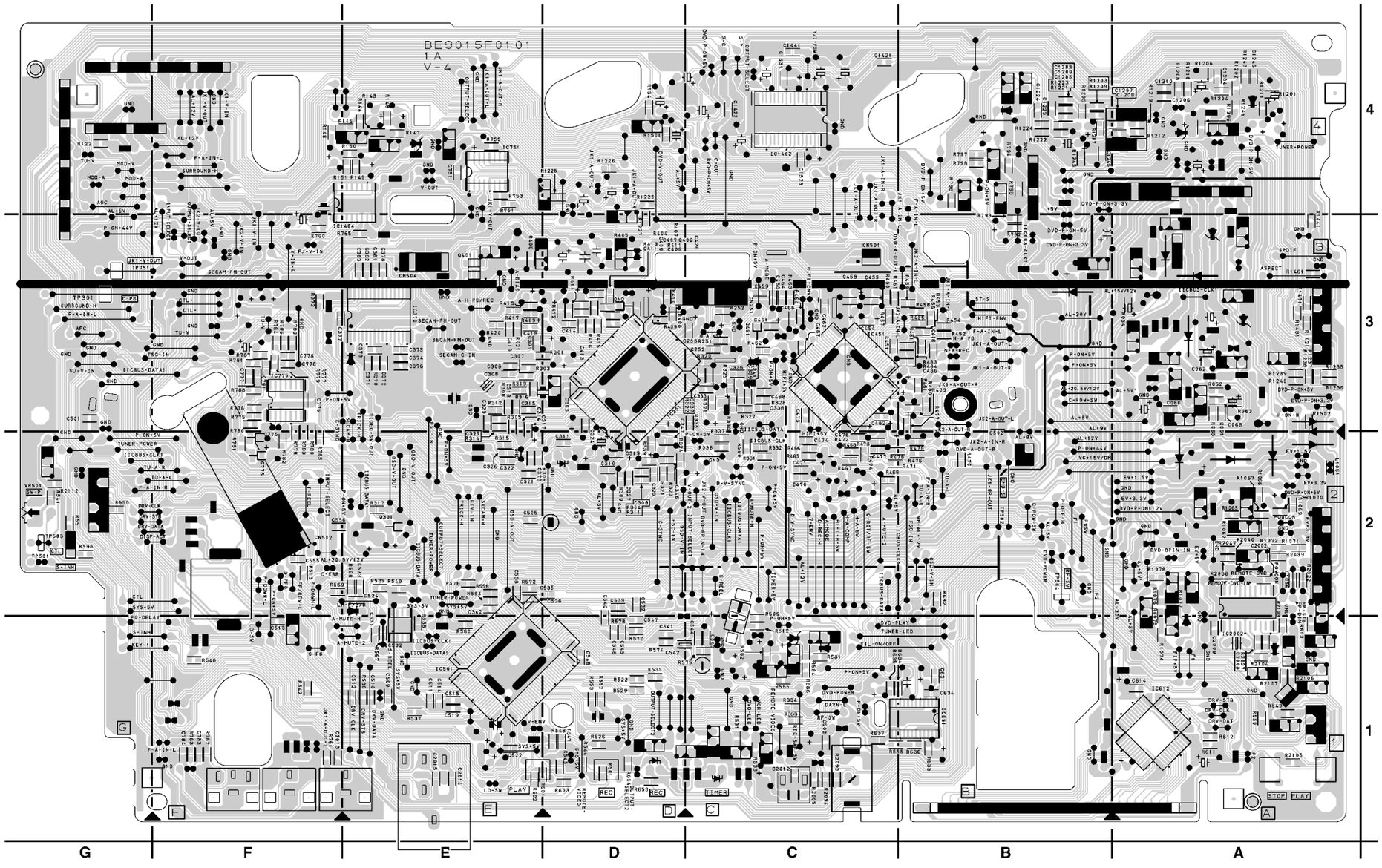
Main CBA Top View

Sensor CBA Top View





Main CBA Bottom View



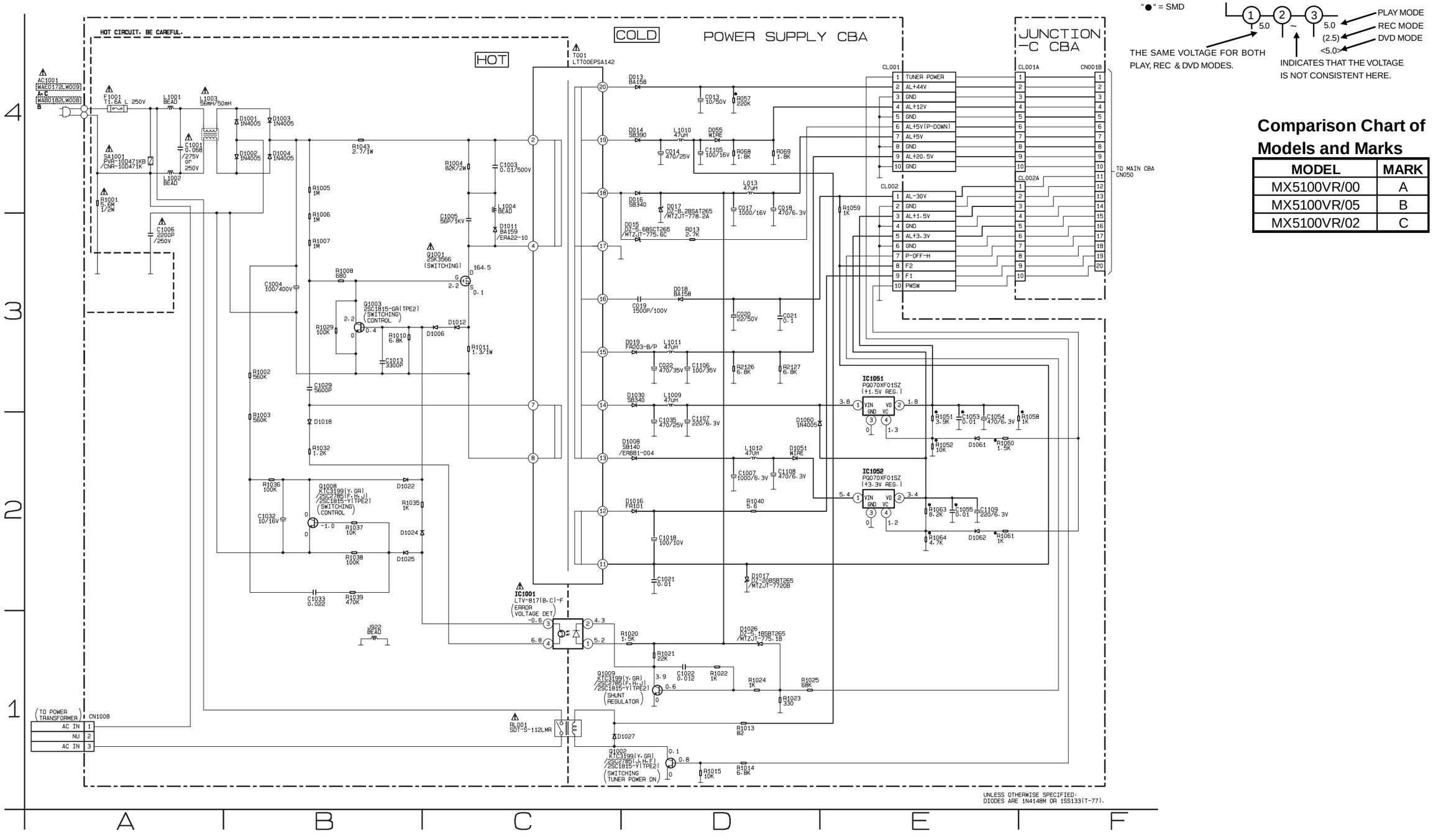
Power Supply (For VCR/DVD) & Junction-C Schematic Diagram < VCR Section >

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.



Comparison Chart of Models and Marks

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

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.

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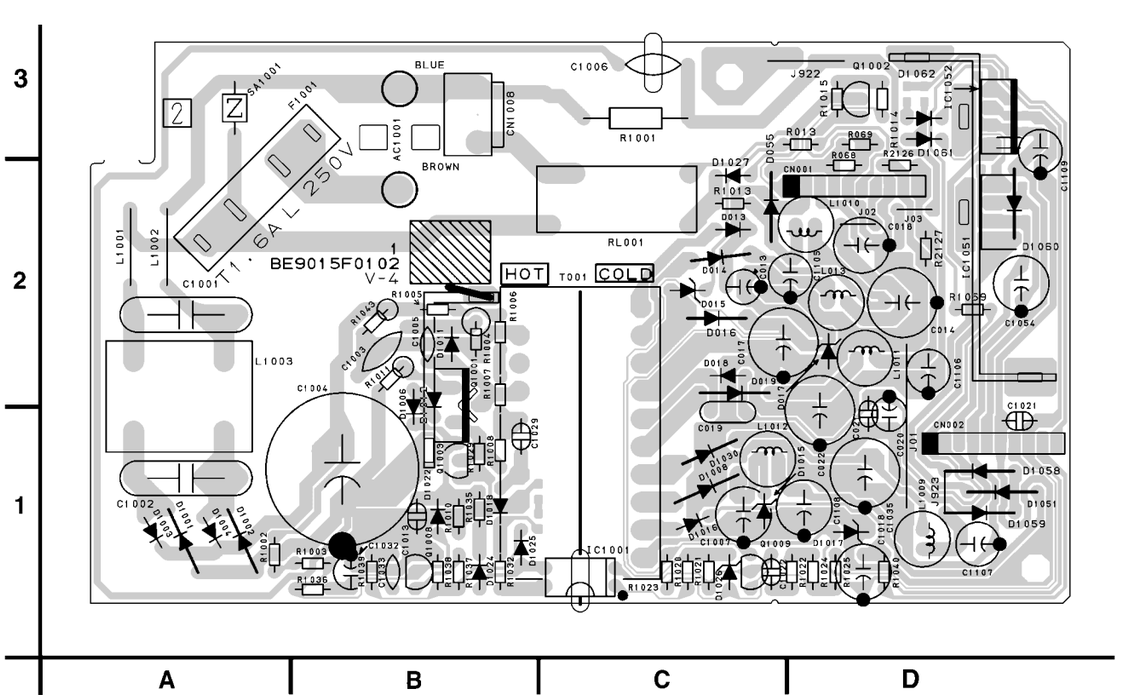
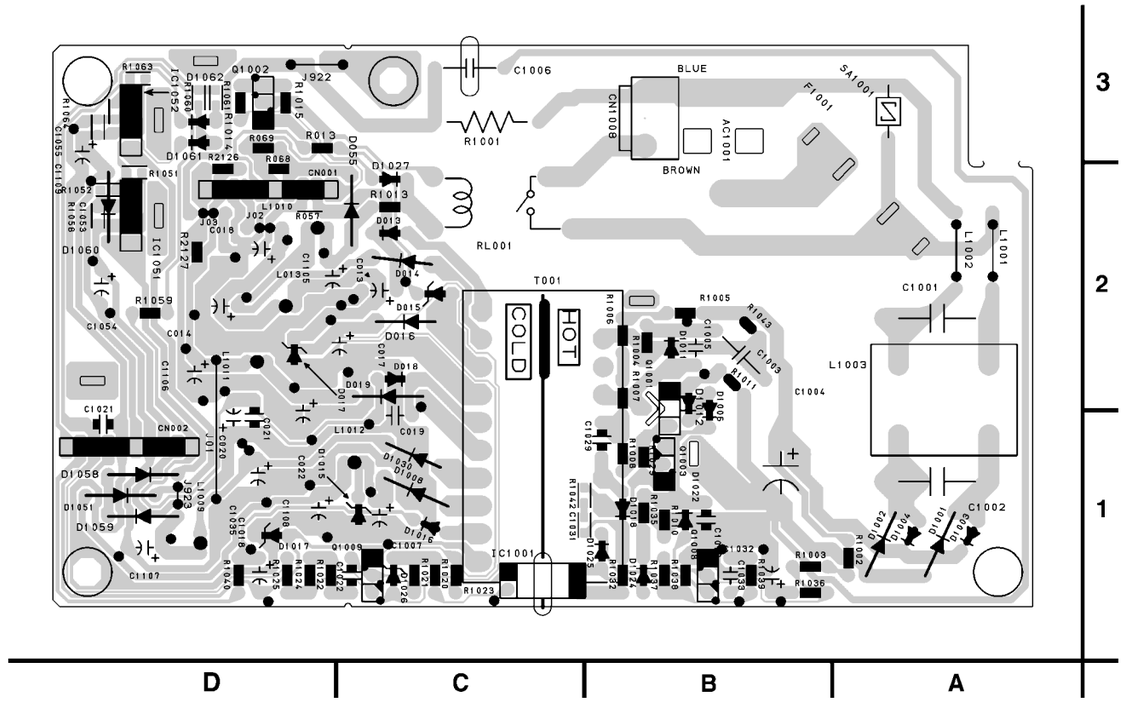
Power Supply (For VCR/DVD) CBA Bottom View

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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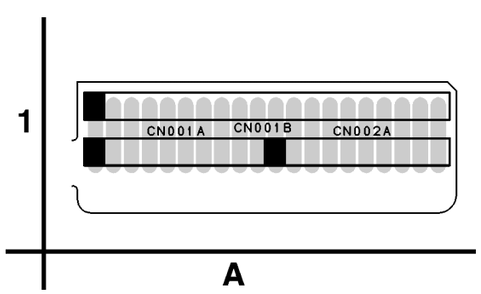
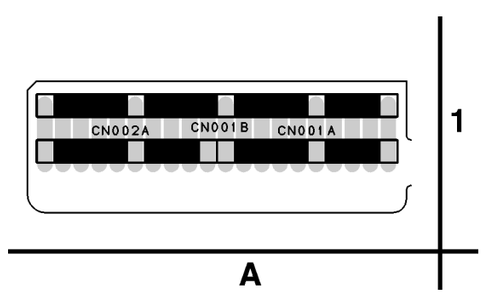
Junction-C CBA Top View



Junction-C CBA Bottom View



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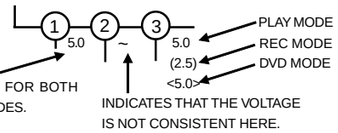
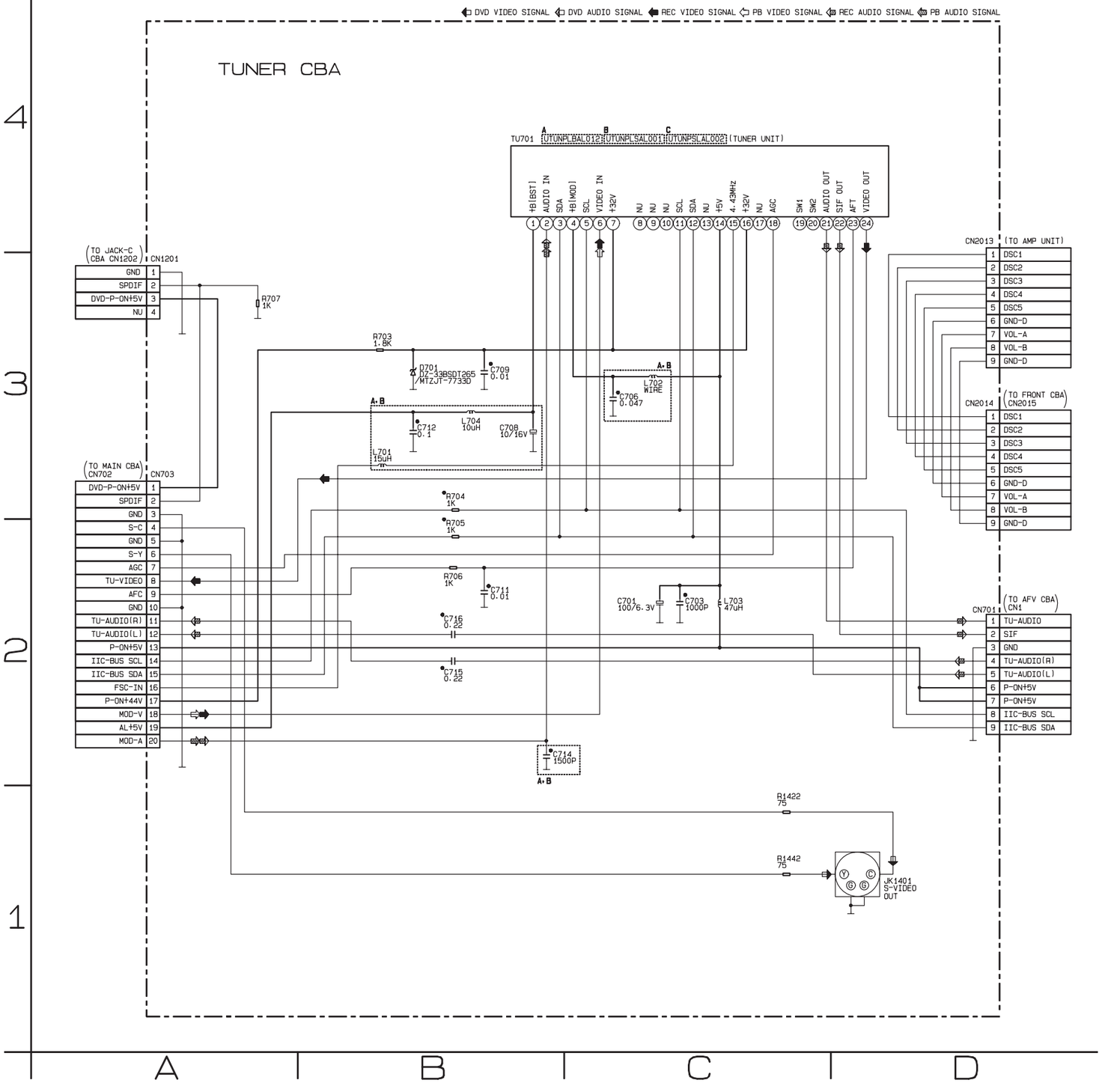
Tuner Schematic Diagram < VCR Section >

"●" = SMD





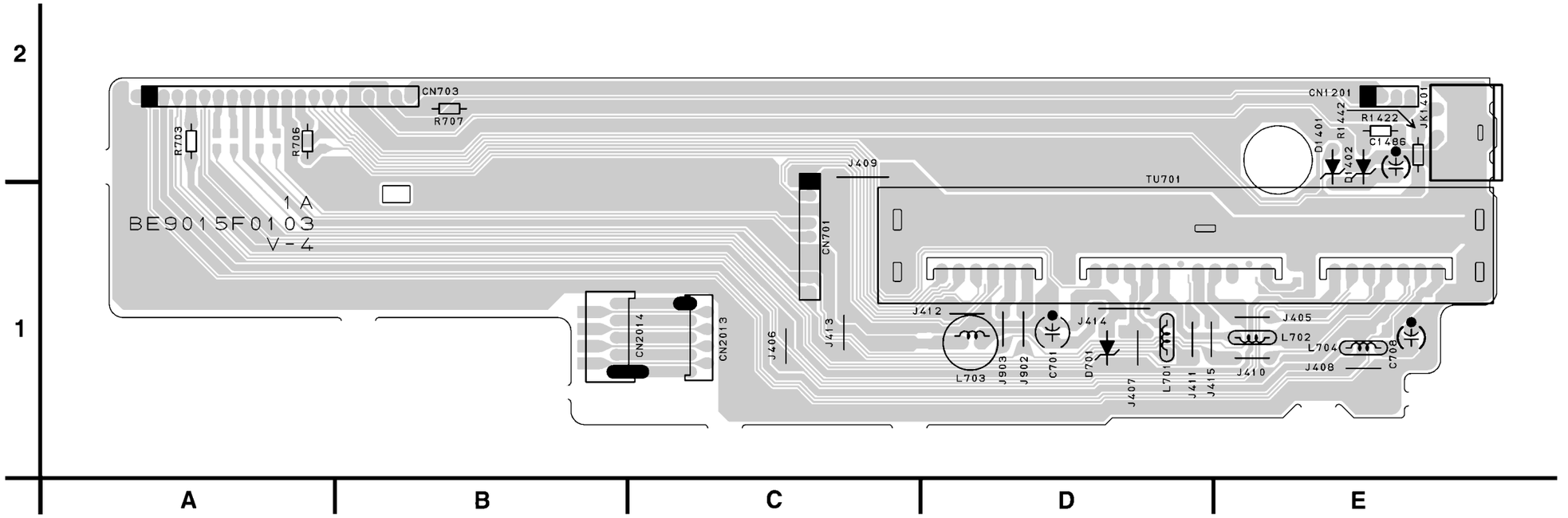
Comparison Chart of Models and Marks

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

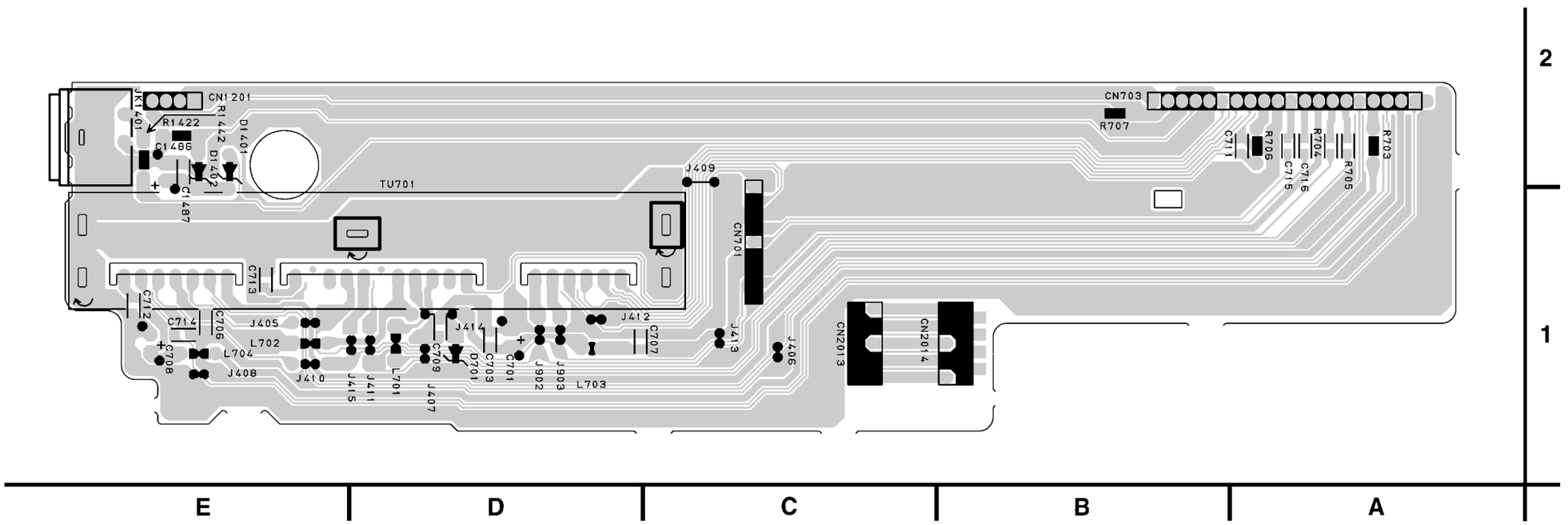
Tuner CBA Top View



TUNER CBA
Parts Location Guide

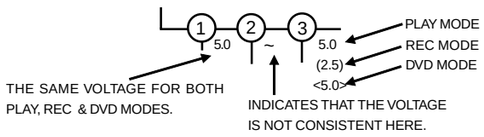
Ref No.	Position
CAPACITORS	
C701	D-1
C703	D-1
C706	E-1
C708	E-1
C709	E-1
C711	A-2
C712	E-1
C714	E-1
C715	A-2
C716	A-2
CONNECTORS	
CN701	C-1
CN703	B-2
CN1201	E-2
CN2013	C-1
CN2014	C-1
DIODE	
D701	D-1
COILS	
L701	D-1
L702	E-1
L703	D-1
L704	E-1
RESISTORS	
R703	A-2
R704	A-2
R705	A-2
R706	A-2
R707	B-2
R1422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

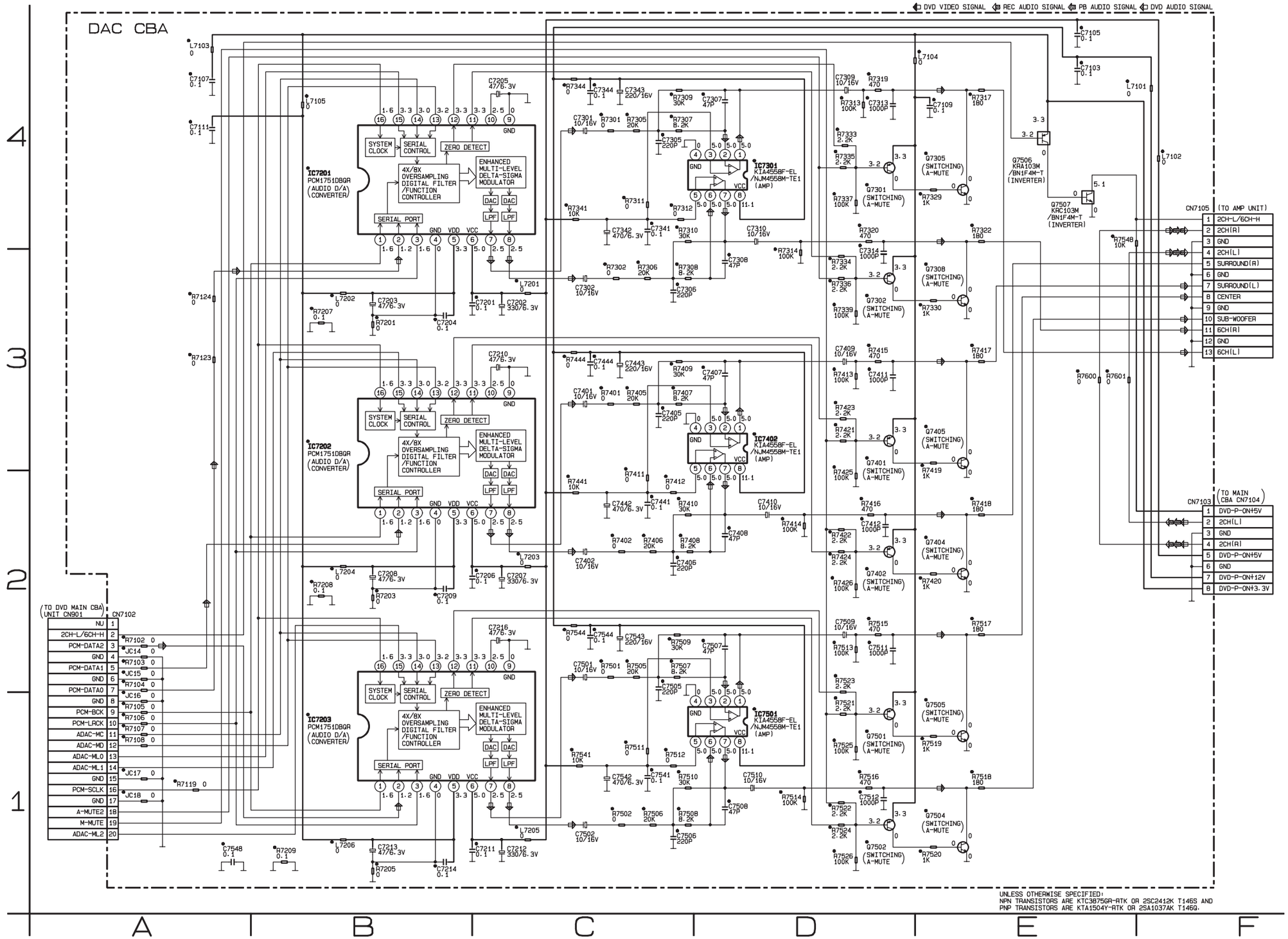
Tuner CBA Bottom View



DAC Schematic Diagram < VCR Section >

"●" = SMD

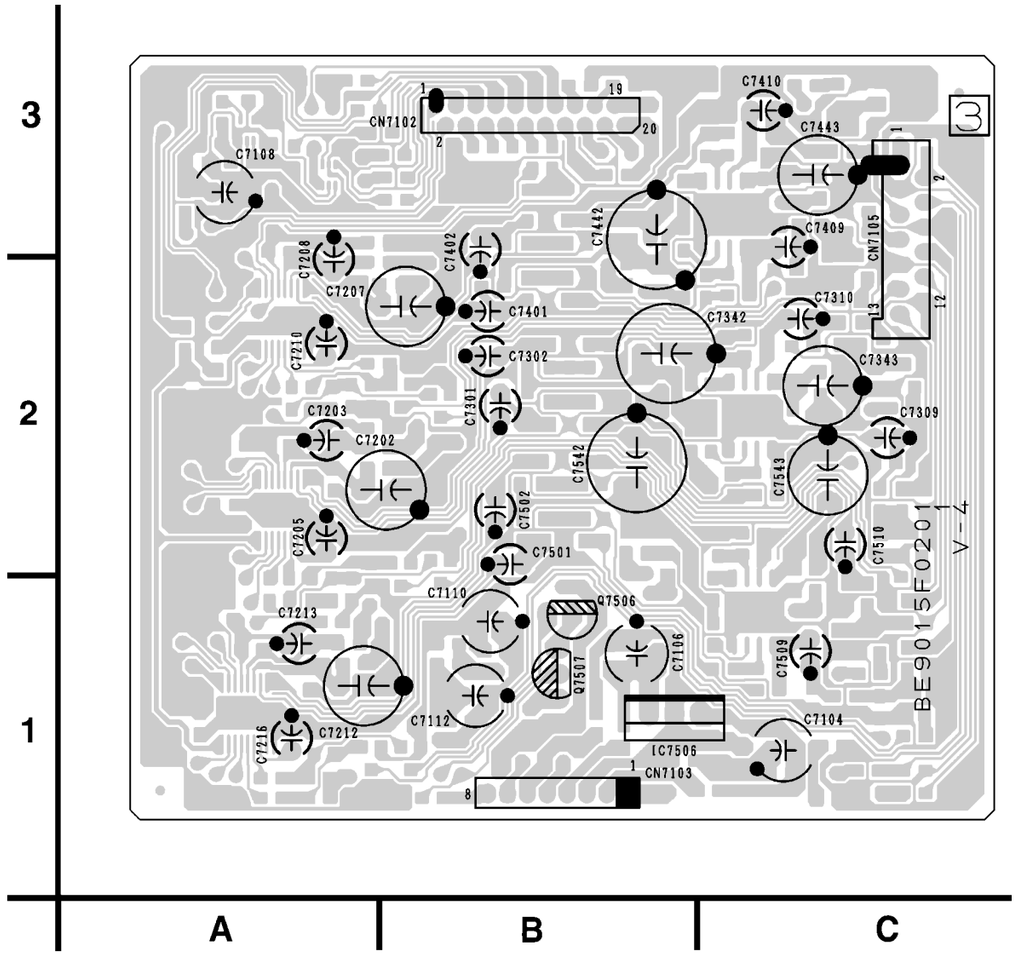




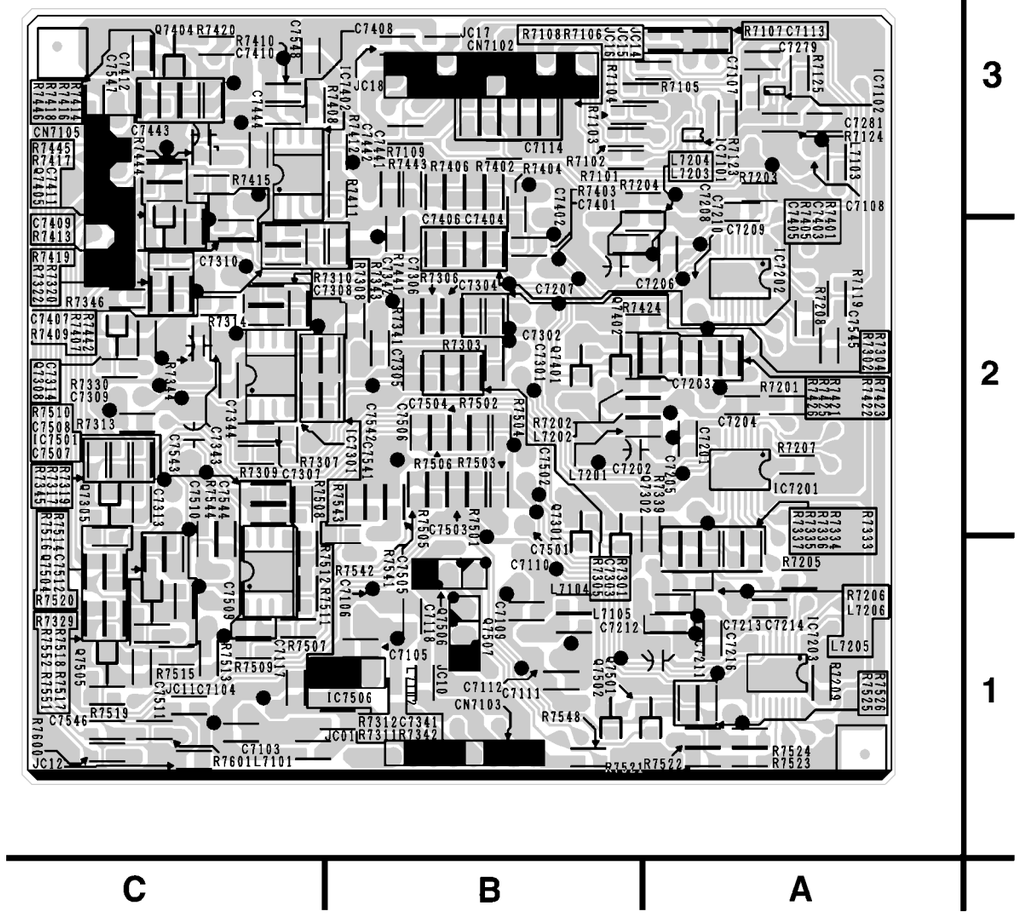
DAC Schematic Diagram Parts Location Guide

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		

DAC CBA Top View



DAC CBA Bottom View



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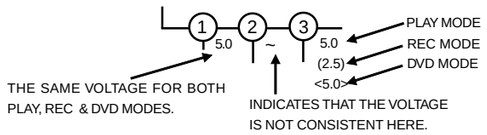
DAC CBA Parts Location Guide

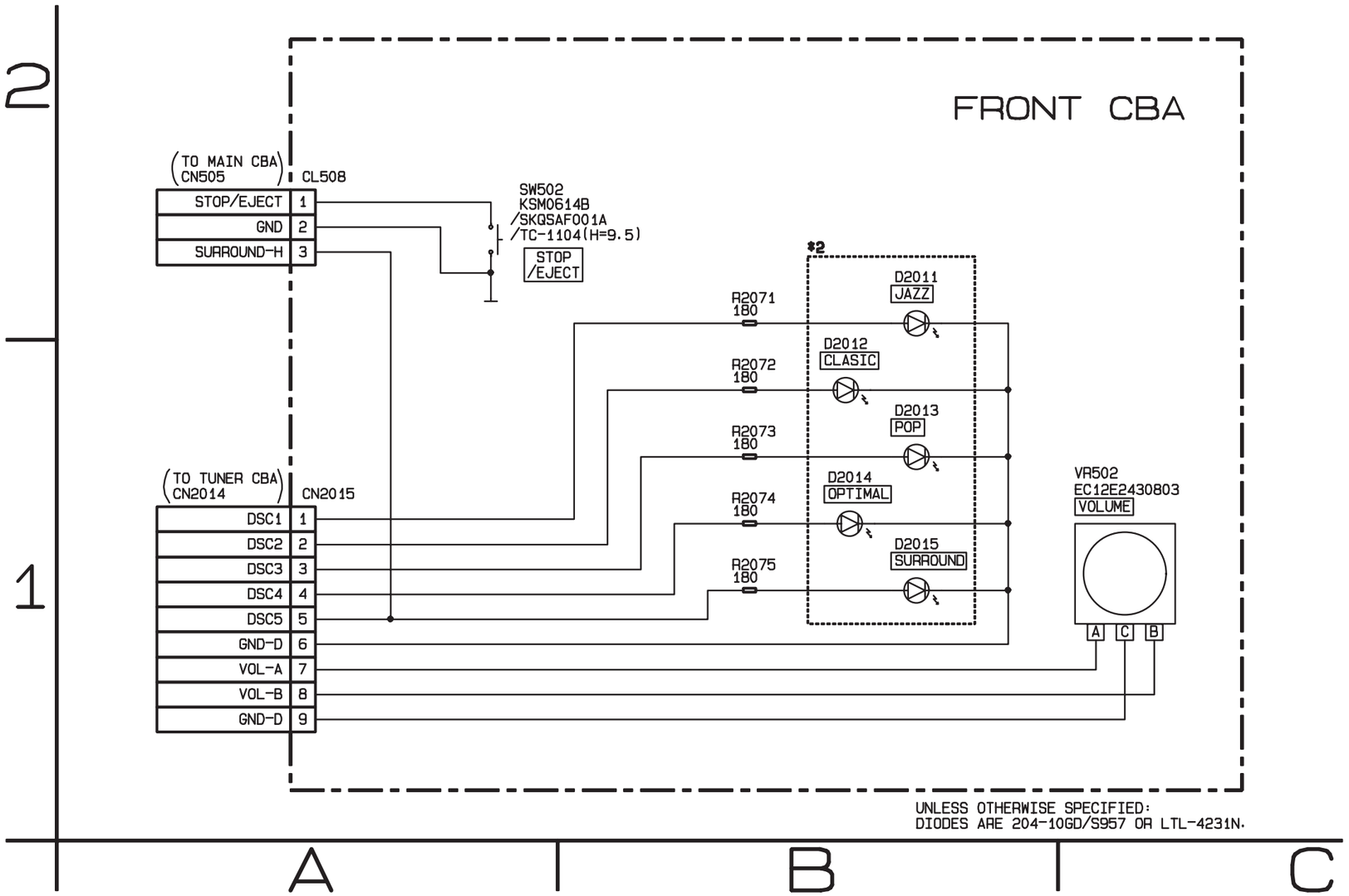
Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		CAPACITORS		CAPACITORS		TRANSISTORS		RESISTORS		RESISTORS		RESISTORS	
C7103	C-1	C7341	B-1	C7543	C-2	Q7308	C-2	R7207	A-2	R7402	B-3	R7508	C-2
C7105	B-1	C7342	B-2	C7544	C-2	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.

"●" = SMD

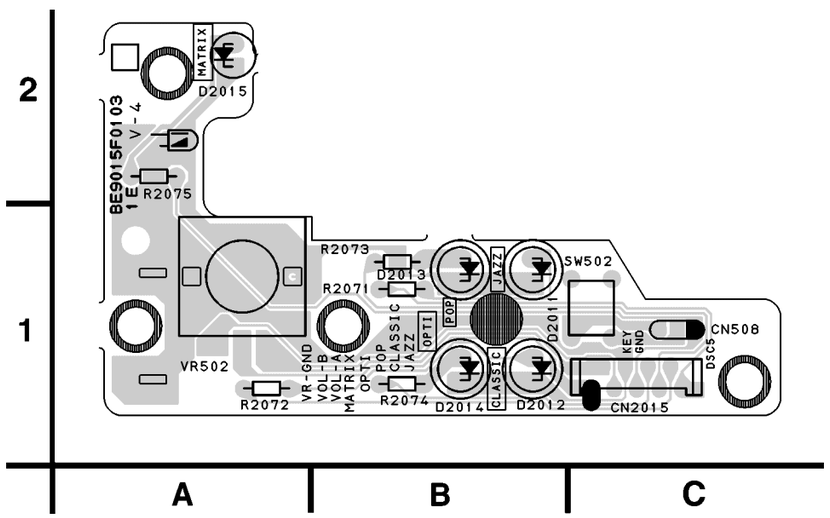




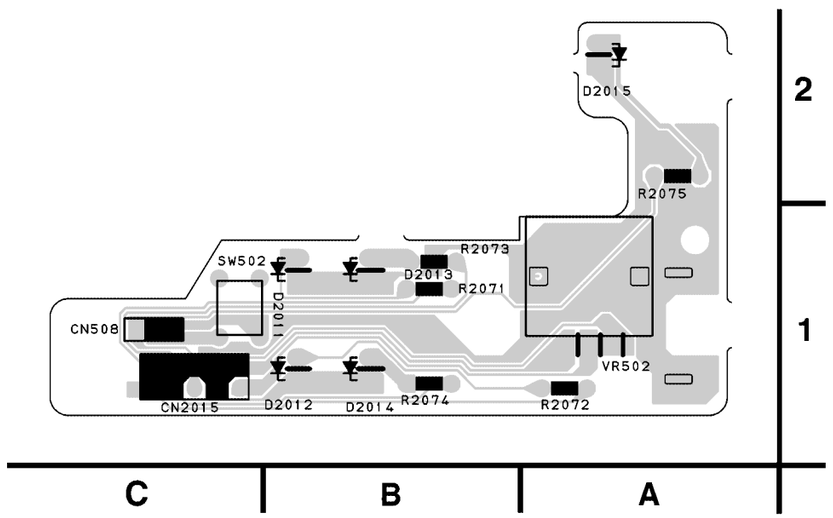
FRONT Schematic Diagram
Parts Location Guide

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



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

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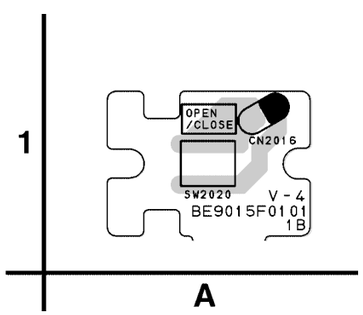
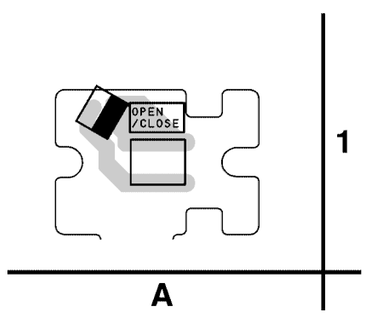
DVD OPEN/CLOSE CBA Top View



DVD OPEN /CLOSE CBA Bottom View



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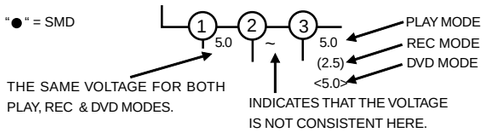
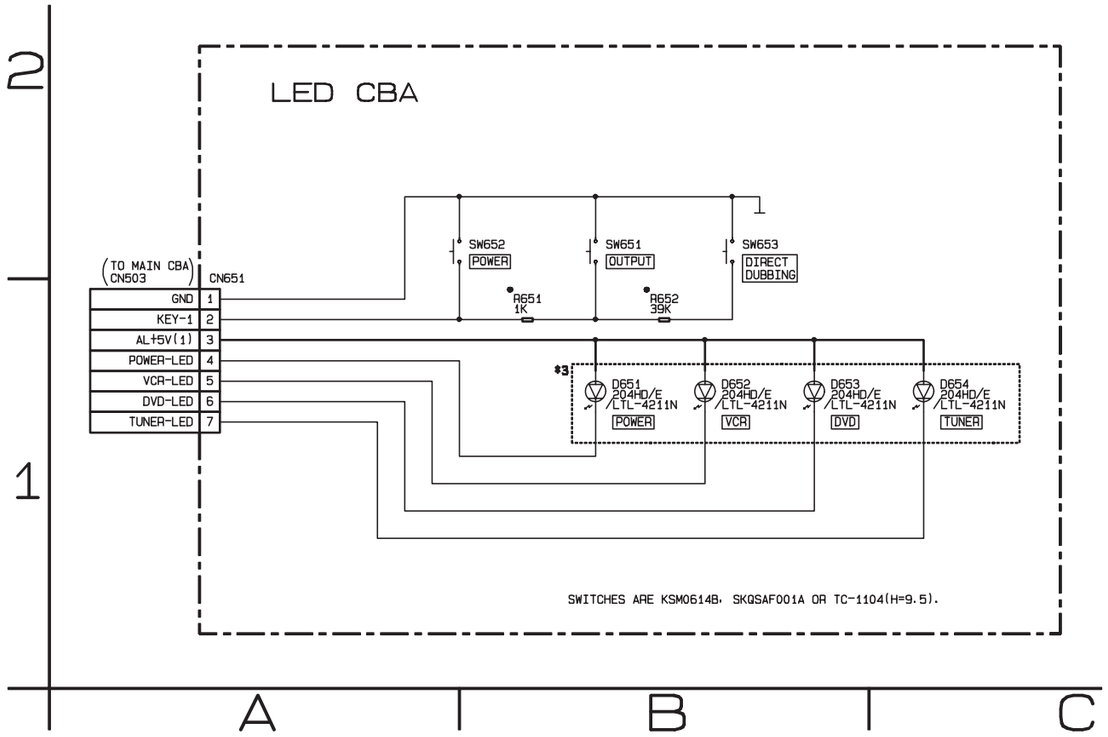
LED Schematic Diagram <VCR Section>

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

"●" = SMD





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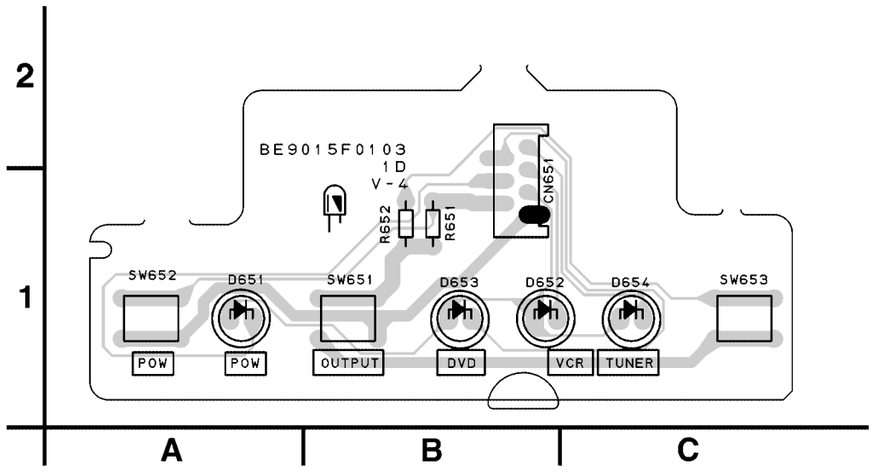
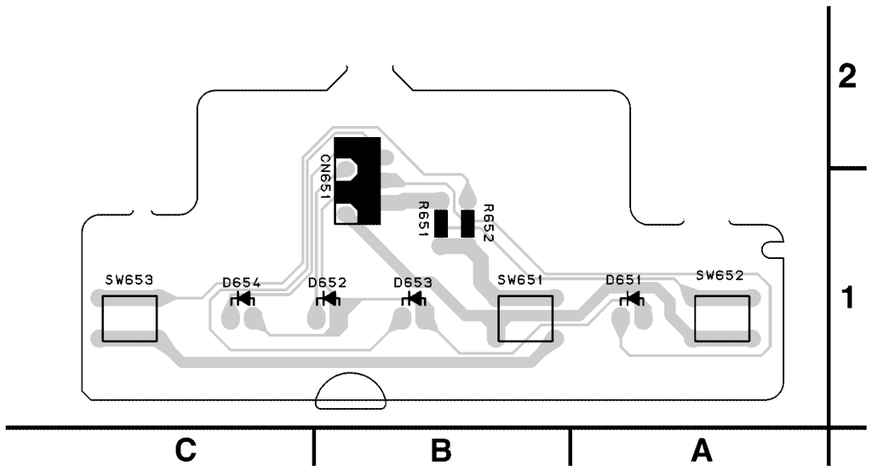
LED Schematic Diagram
Parts Location Guide

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



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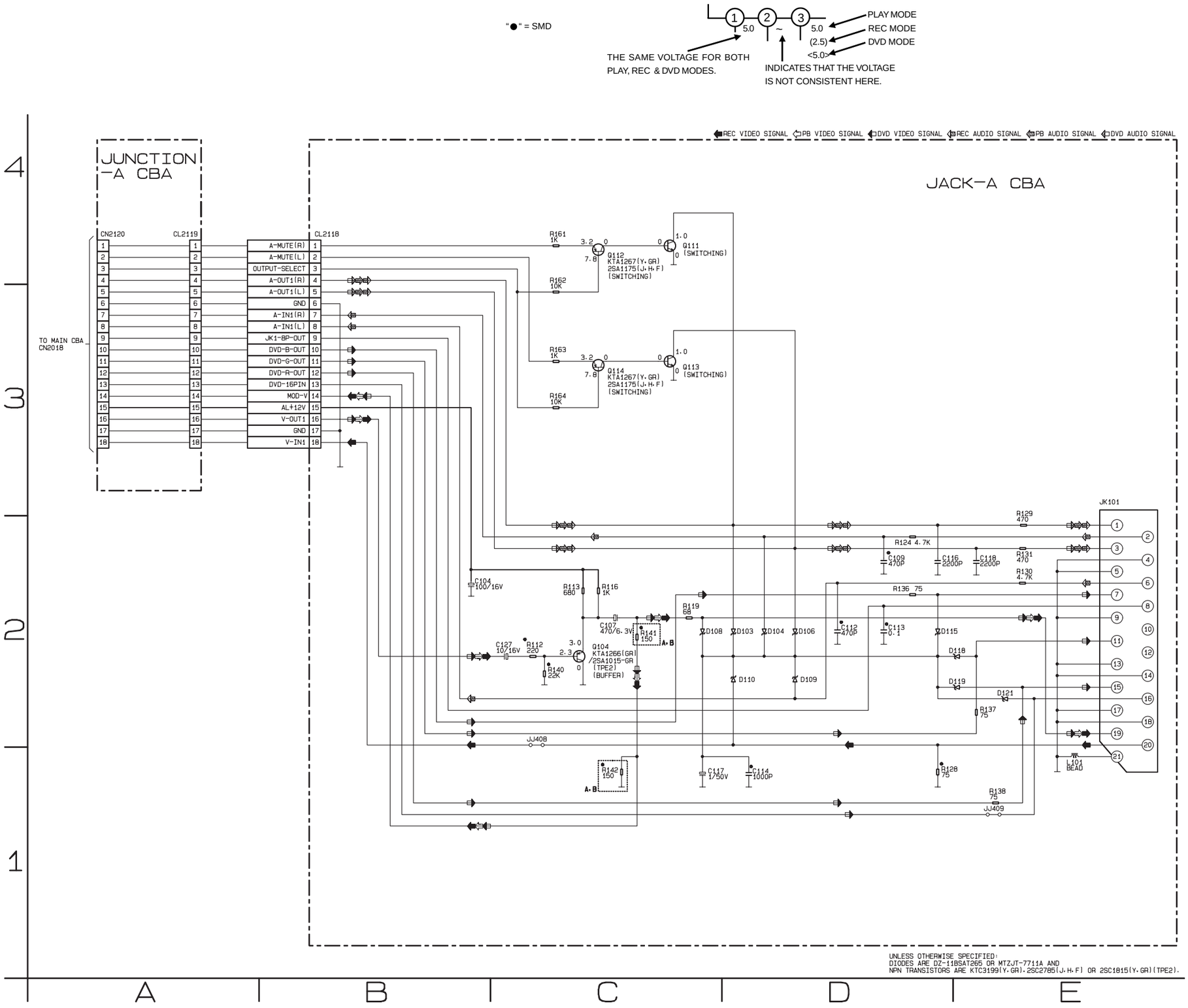
LED CBA
Parts Location Guide

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 >



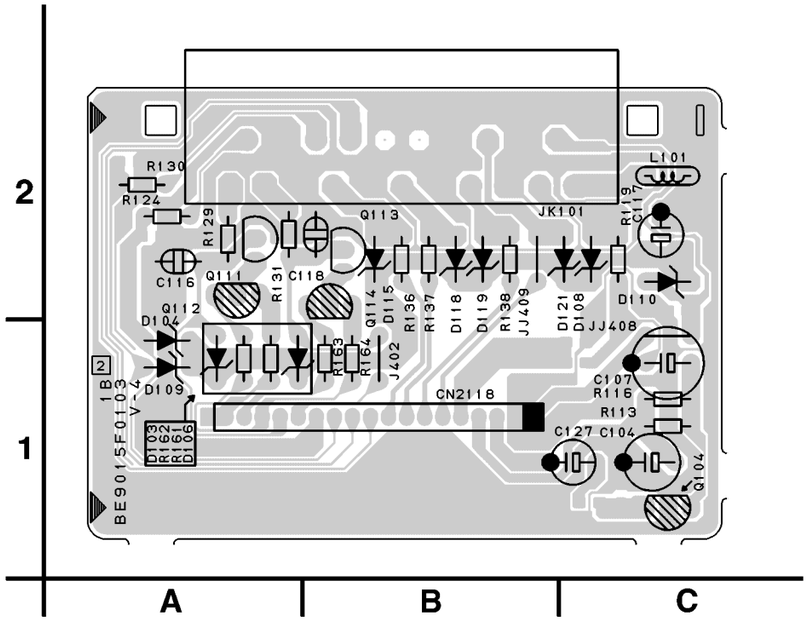
Comparison Chart of Models and Marks

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

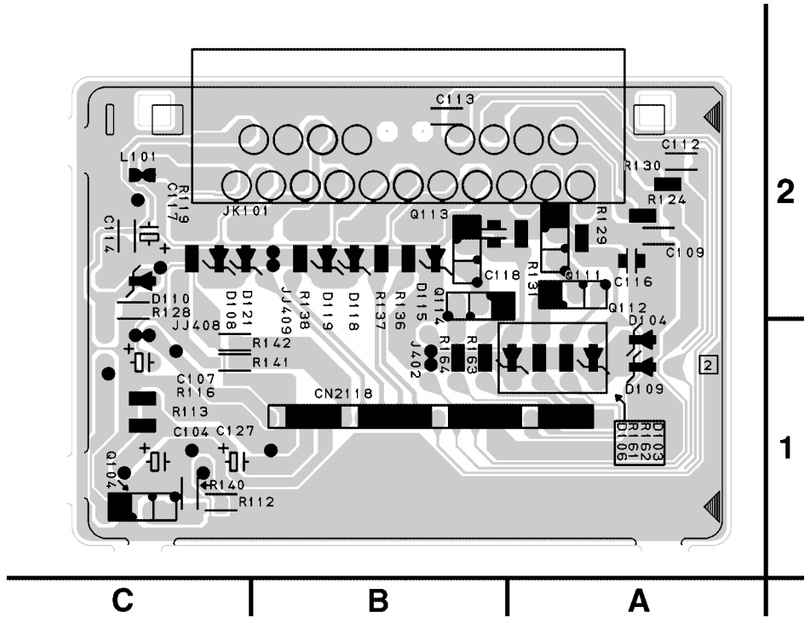
JACK-A Schematic Diagram Parts Location Guide

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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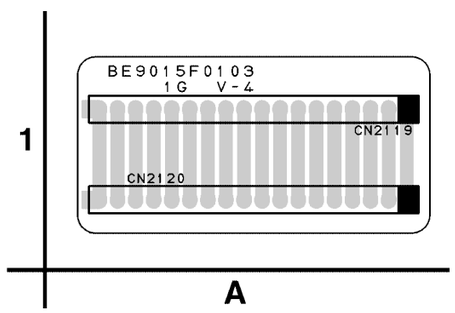
JACK-A CBA

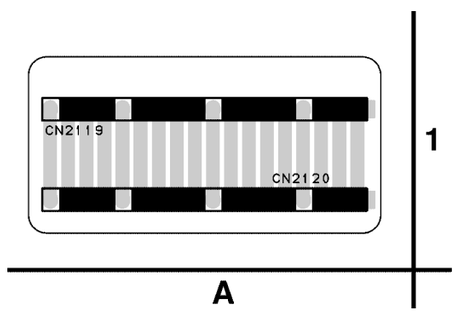
Parts Location Guide

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



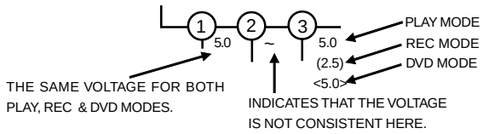
Junction-A CBA Bottom View

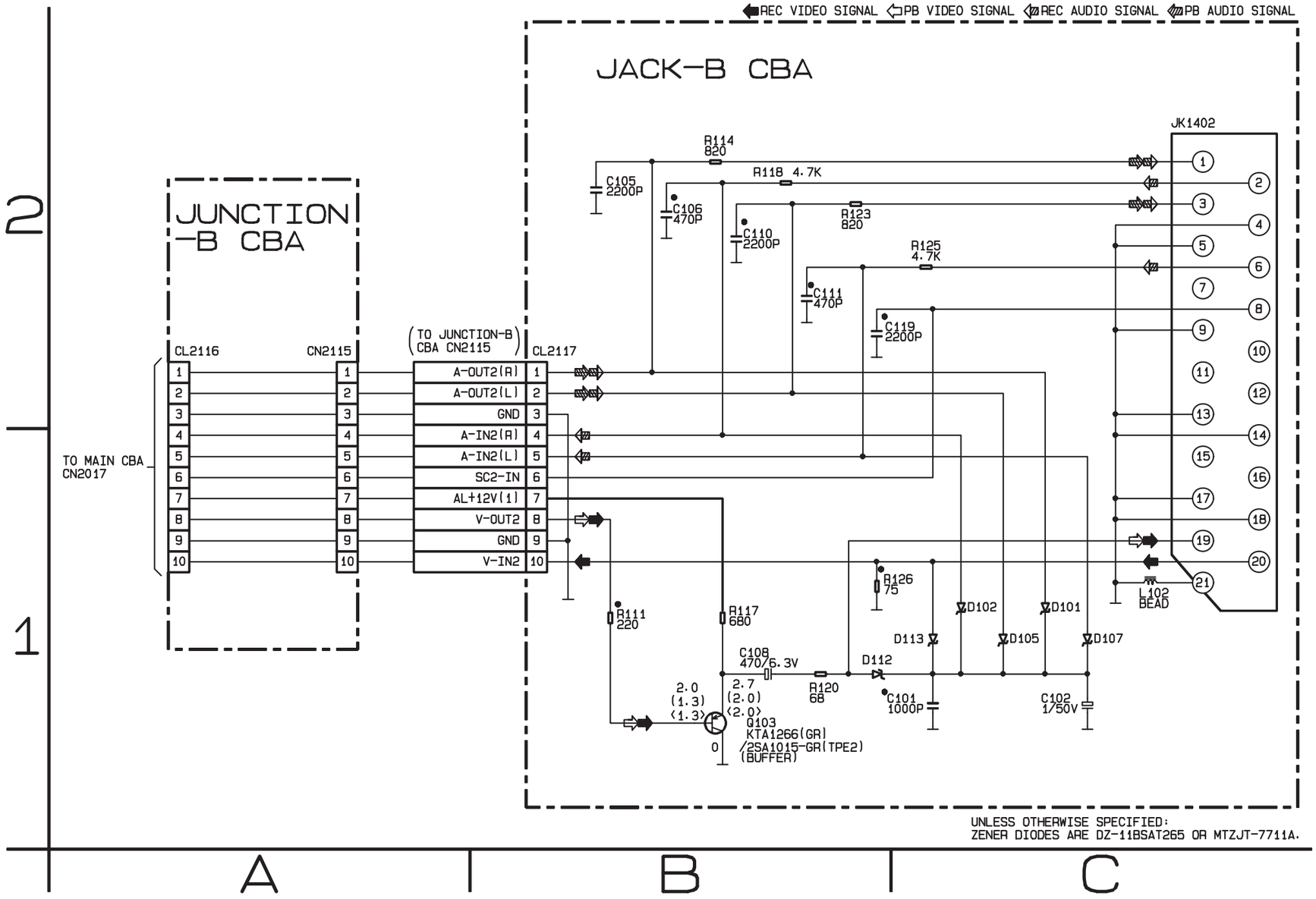


BE9015F01031G

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

"●" = SMD

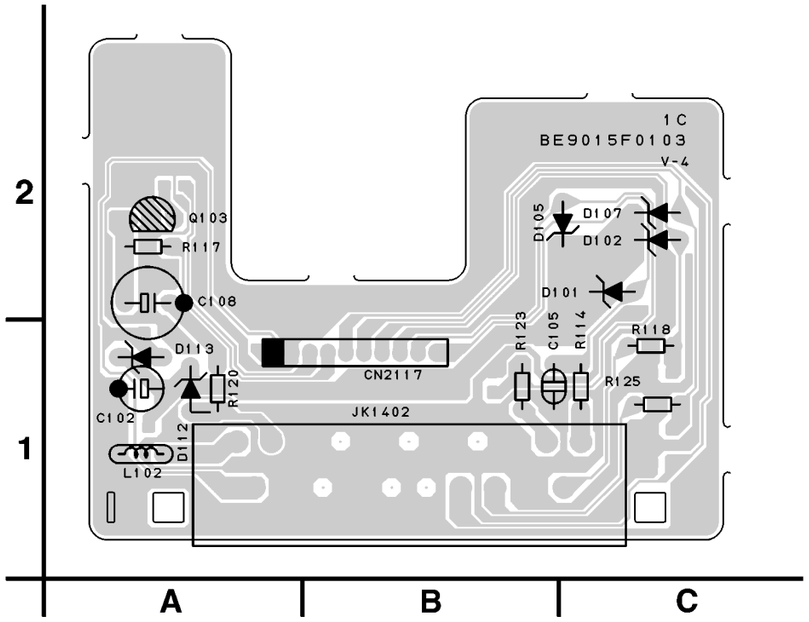




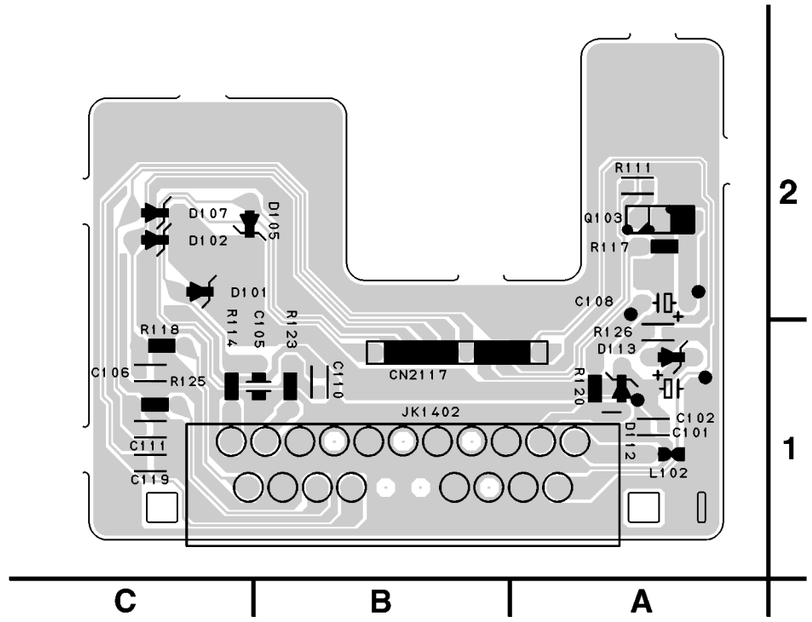
JACK-B Schematic Diagram
Parts Location Guide

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

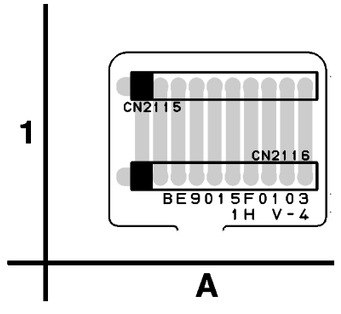


BE9015F01031C

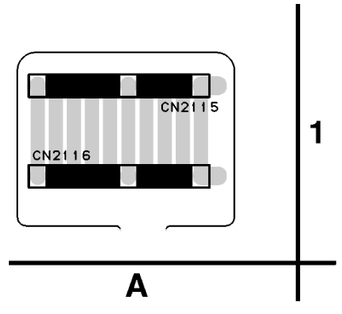
JACK-B CBA
Parts Location Guide

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

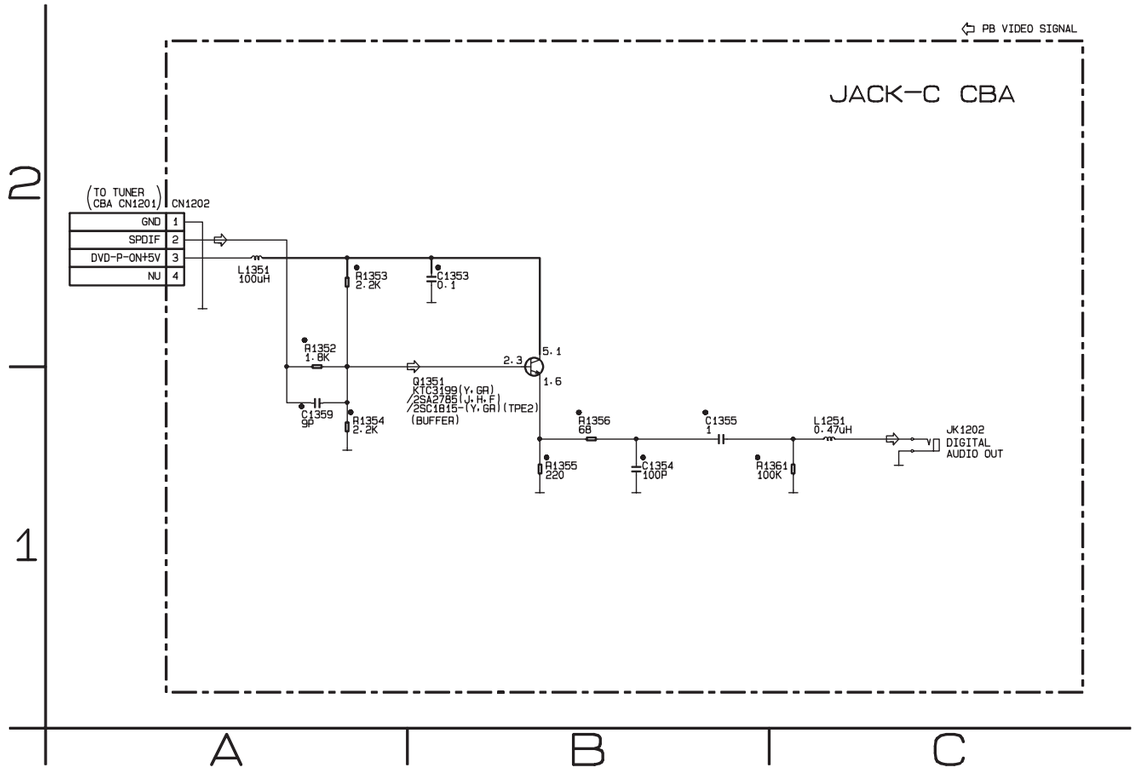


Junction-B CBA Bottom View



BE9015F01031H

JACK-C Schematic Diagram < VCR Section >

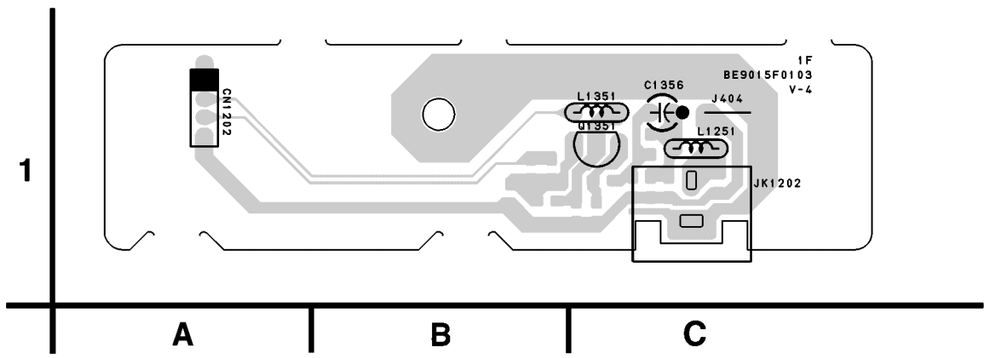


E9015SCJC

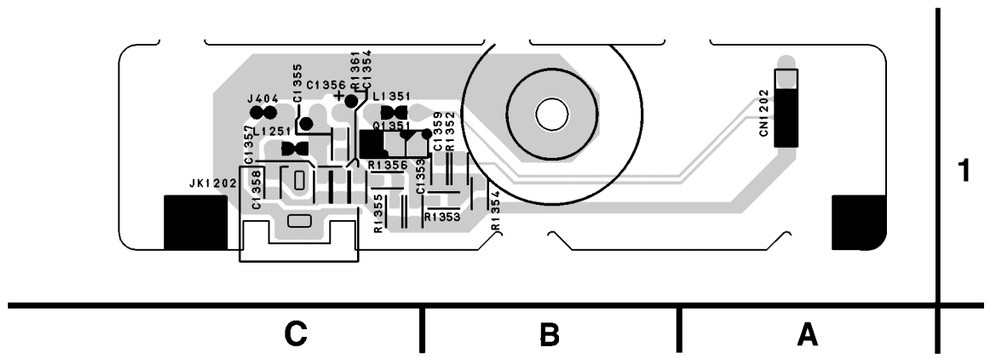
JACK-C Schematic Diagram
Parts Location Guide

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

Jack-C CBA Top View



Jack-C CBA Bottom View



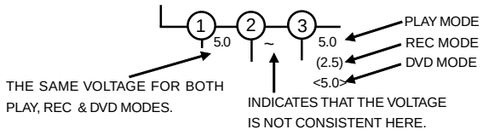
BE9015F01031F

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

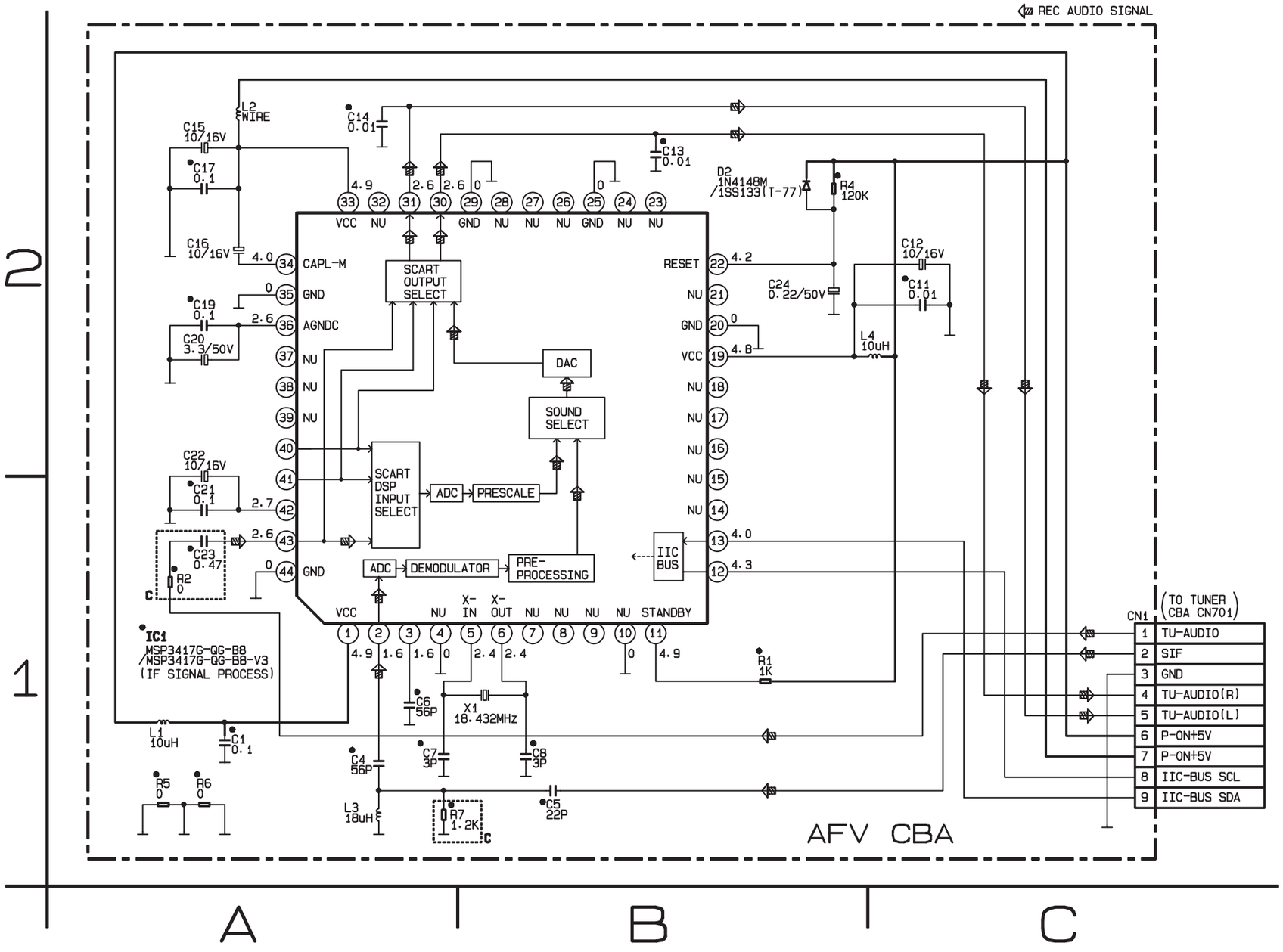
AFV Schematic Diagram < VCR Section >

"●" = SMD



Comparison Chart of Models and Marks

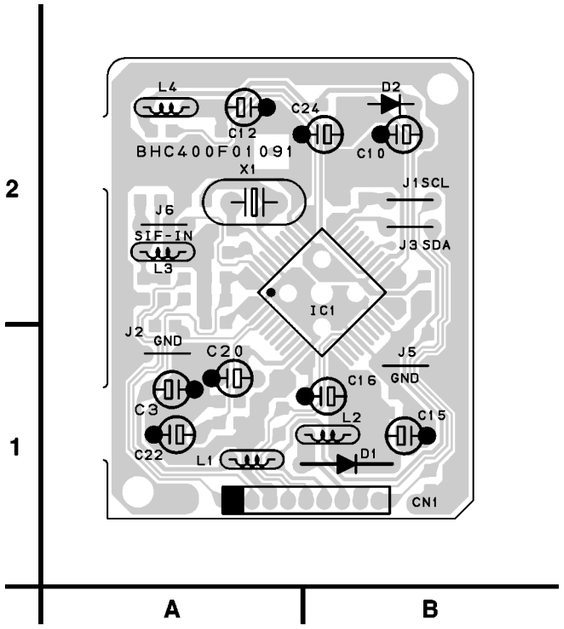
MODEL	MARK
MX5100VR/00	A
MX5100VR/05	B
MX5100VR/02	C



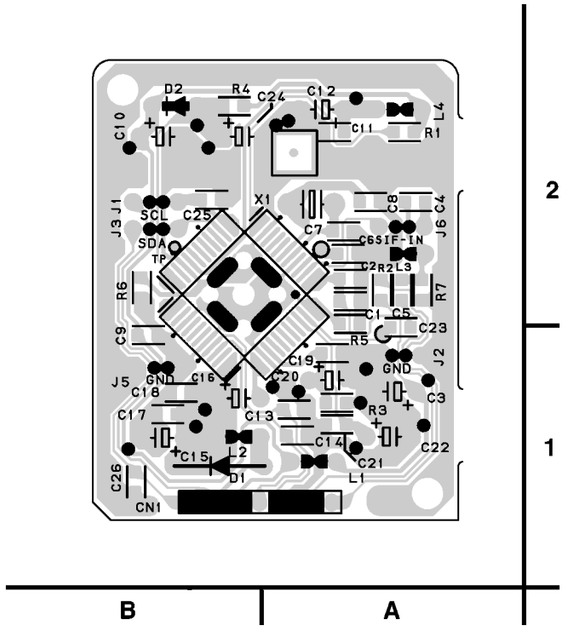
AFV Schematic Diagram
Parts Location Guide

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

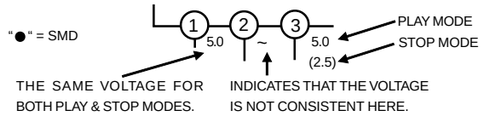
AFV CBA

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 >

"●" = SMD



DATA(VIDEO+AUDIO) SIGNAL | FOCUS SERVO SIGNAL | TRACKING SERVO SIGNAL | SPINDLE SERVO SIGNAL | SLED SERVO SIGNAL

DVD MAIN CBA UNIT

PICK UP UNIT

DRIVE CBA

FG CBA

IC202 KIA324F-EL (OP AMP)

IC301 SA5694 /BA5954FP-E2 (SERVO DRIVE)

IC201 NC7SB3157P6X (SW)

IC461 PST9129NR /BMR-110529 (RESET)

DVD Main 2/3 Schematic Diagram < DVD Section >

"●" = SMD

1 (5.0) 2 (~) 3 (5.0 / (2.5))

PLAY MODE
STOP MODE

THE SAME VOLTAGE FOR BOTH PLAY & STOP MODES.

INDICATES THAT THE VOLTAGE IS NOT CONSISTENT HERE.

DATA(VIDEO+AUDIO) SIGNAL | DATA(VIDEO) SIGNAL | VIDEO SIGNAL | FOCUS SERVO SIGNAL | TRACKING SERVO SIGNAL | SPINDLE SERVO SIGNAL | SLED SERVO SIGNAL | DATA(AUDIO) SIGNAL

IC101 MN35102 (MICRO CONTROLLER)

EXTERNAL MEMORY INTERFACE
AUDIO INTERFACE
ECC
DECODER INTERFACE
STREAM INTERFACE
I/O PROCESSOR
PIXEL OPERATION
DSP DECODERL
DMA
BCU
32BIT CPU
UMAC
READ MEMORY
INTERRUPT CONTROLLER
TIMER
WATCH DOG TIMER
CPU INTERFACE
VIDEO INTERFACE
NTSC/PAL ENCODER
SERIAL
GENERAL I/O
DEBUG
INST. CACHE
DATA CACHE
DVD/CD FORM
RF SIGNAL PROCESS CIRCUIT

DVD MAIN CBA UNIT

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 >

"●" = SMD

1 5.0 2 ~ 3 5.0 (2.5)

PLAY MODE
STOP MODE

THE SAME VOLTAGE FOR BOTH PLAY & STOP MODES.

INDICATES THAT THE VOLTAGE IS NOT CONSISTENT HERE.

VIDEO SIGNAL | DATA(AUDIO) SIGNAL | AUDIO SIGNAL

DVD MAIN CBA UNIT

IC102
HY57V643220CT-7
/HY57V643220CT-55
/K4S643232F-TC60
/MT48LC2M32B2TG-6
/P2V64S50DTP-75
/ZX32Y3VTW-6
(SDRAM)

IC103 (FLASH ROM)
MBM29LV160BE90TN-K
/MBM29LV160B90PFTNSFK
/HY29LV160BT-90
/MX29LV160BTC-90
/MX29LV160ABTC-90
/HY29LV160BT-90V
/M29W160EB70N6
/MBM29LV160B-90PFCN
/MBM29LV160BE70NC

IC104
74LVX573MTCX
/TC74LVX573FT(EL)
(LATCH)

IC105
74LVX573MTCX
/TC74LVX573FT(EL)
(LATCH)

IC451
BU2363FV-E2
(CLOCK GENERATOR)

IC601
PCM1751DBQR
(AUDIO D/A CONVERTER)

(CONTINUE DVD MAIN 2/3)
MA0~10
MDQ0~31
EXADT0~15
EXADR16~19

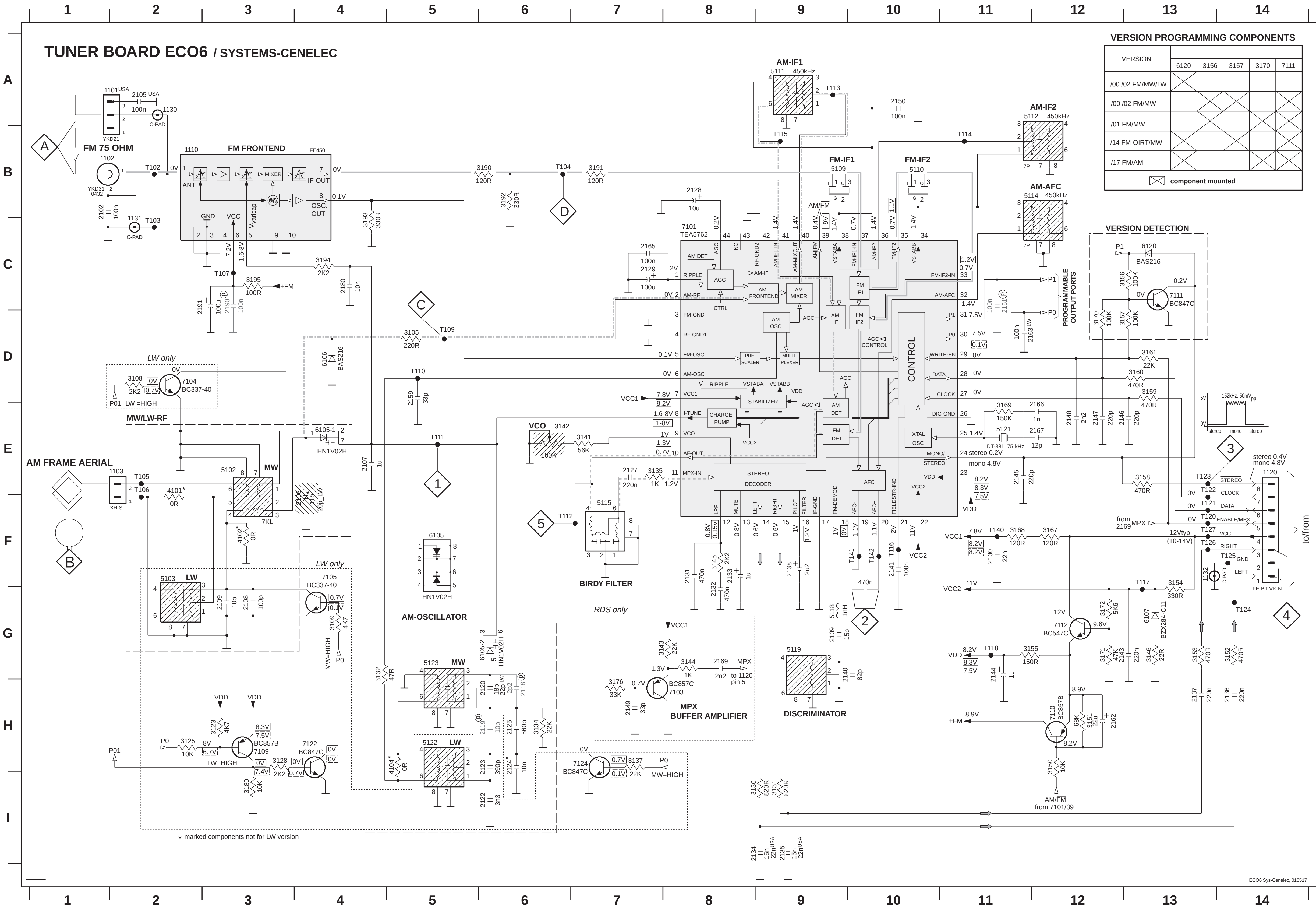
(CONTINUE DVD MAIN 1/3)
P-ON+3.3V
EV+3.3V

(CONTINUE DVD MAIN 2/3)
DQM0
DQM1
DQM2
DQM3
NWE
NCAS
NRAS
NCSM
BA0
BA1
MCK
EXT-WE
EXT-CE
EXT-OE

(CONTINUE DVD MAIN 2/3)
CLK33M
PLL ML
PCM-SCLK
BE CLOCK
PCM-LRCLK
PCM-DATA3
PCM-BCK
ADAC-MLO
ADAC-MC
ADAC-MD
SPDIF
DVD-A-MUTE
VIDEO-C
VIDEO-G
VIDEO-B
VIDEO-R
ASPECT
VIDEO-Y

(TO MAIN CBA CN1601)
CN601
1 VIDEO-Y
2 ASPECT
3 VIDEO-R
4 GND
5 VIDEO-B
6 GND
7 VIDEO-G
8 GND
9 VIDEO-C
10 GND
11 GND
12 DVD-A-MUTE
13 DVD-A(L)
14 DVD-A(L)-MUTE
15 DVD-A(R)
16 DVD-A(R)-MUTE
17 DVD-AUDIO+5V
18 SPDIF

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



Ref	Location
1101	A2
1102	B1
1103	E2
1110	B2
1120	E14
1130	A2
1131	C2
1132	F13
2102	B1
2105	A2
2106	E3
2107	E4
2108	G3
2109	G3
2118	H6
2119	H6
2120	H6
2122	I6
2123	H6
2124	H6
2125	H6
2127	E7
2128	B8
2129	C7
2130	F11
2131	F8
2132	F8
2133	F8
2134	I8
2135	I9
2136	H14
2137	H13
2138	F9
2139	G9
2140	G9
2141	F10
2143	G12
2144	G11
2145	E11
2146	E12
2147	E12
2148	E12
2149	H7
2150	A10
2159	D5
2161	C11
2162	H12
2163	D11
2164	G10
2165	C7
2166	E11
2167	E11
2169	G8
2180	C4
2190	C3
2191	C3
3105	D5
3108	D2
3109	G4
3123	H3
3125	H2
3128	H3
3130	I9
3131	I9
3132	G4
3134	H6
3135	E7
3137	H7
3141	E7
3142	E6
3143	G7
3144	G8
3145	F8
3146	G13
3150	H12
3151	H12
3152	G14
3153	G13
3154	F13
3155	G12
3156	C12
3157	D12
3158	E13
3159	D13
3160	D13
3161	D13
3167	F12
3168	F11
3169	E11
3170	D12
3171	G12
3172	G12
3176	H7
3180	I3
3190	B6
3191	B7
3192	B6
3193	B4
3194	C4
3195	C3
4101	E2
4102	F3
4104	H5
5102	E3
5103	F2
5109	B9
5110	B10
5111	A9
5112	A11
5114	B11
5115	E7
5118	G9
5119	G9
5121	E11
5122	H5
5123	G5
6105-1	E4
6105-2	G6
6106	D4
6107	G13
6120	C13
7101	C8
7103	H8
7104	D2
7105	F4
7109	H3
7110	H12
7111	C13
7112	G12
7122	H4
7124	H7
T102	B2
T103	B2
T104	B6
T105	E2
T106	E2
T107	C3
T109	D5
T110	D5
T111	E5
T112	F7
T113	A9
T114	B11
T116	F10
T117	F13
T118	G11
T120	F13
T121	F13
T122	E13
T123	E13
T124	G14
T125	F14
T126	F13
T127	F13
T140	F11
T141	F10
T142	F10

LEGEND

* ... only assembled in FM/AM-version
(P) ...for provision only
USA ... for USA version only
LW ... for LW version only

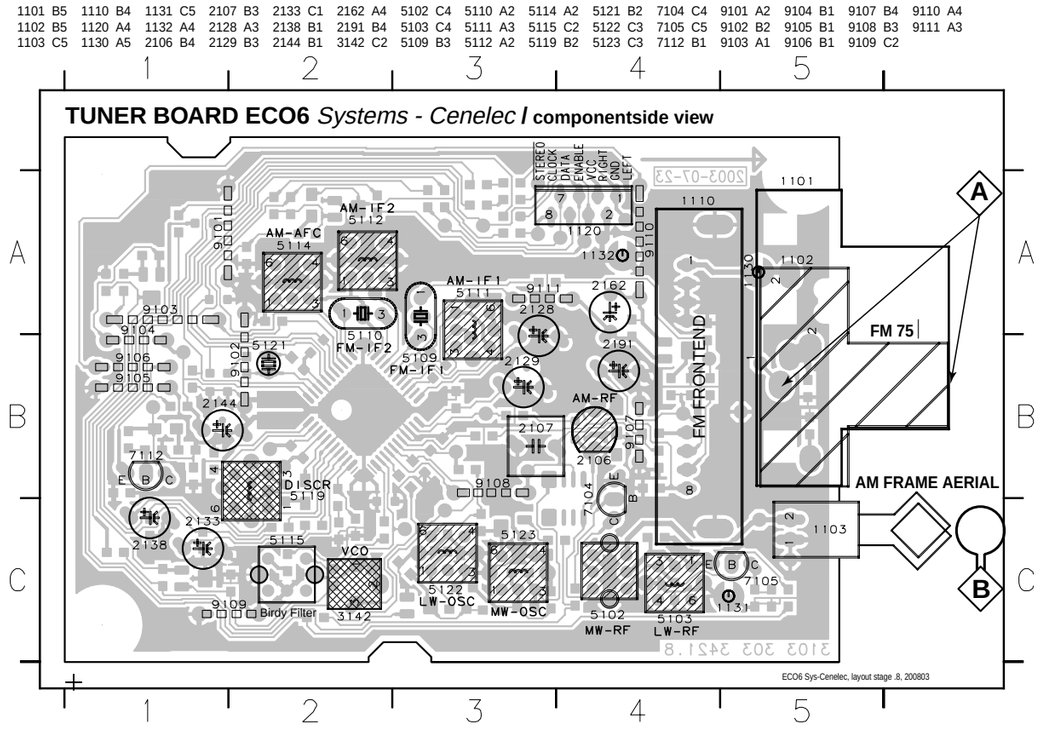
SMD jumper
41xx
0R

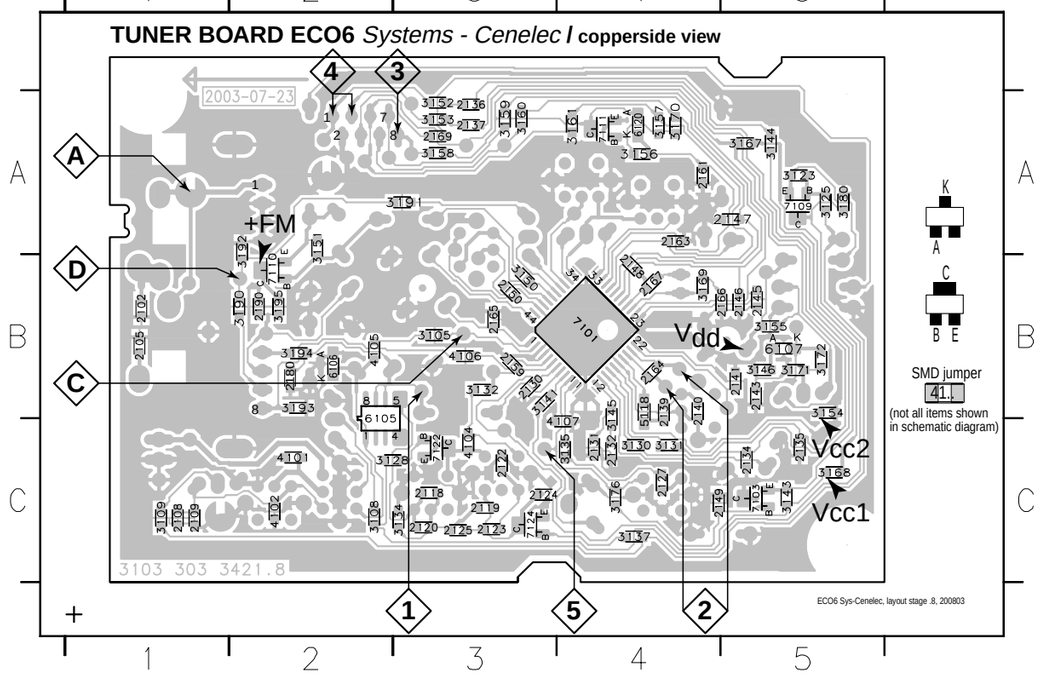
EVM

...V FM mode stereo
...V MW mode
...V LW mode
voltages measured while set is tuned to a strong transmitter

Signal path
FM
AM
MPX (Audio Frequency)
AF - left/right

AM/FM Tuner Unit Top & Bottom View





These assembly drawings show a summary of all possible versions.
For components used in a specific version see schematic diagram respectively partslist.

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	IC 7101 pin 21 shortcircuit to block AFC, 2141	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 Ω to Vcc	C Δf = ±10kHz V_{RF} = 0.5mV (as low as possible)	IC 7101 pin 36, 100nF, 220R	5111	5	max., f_o symmetric
			IC 7101 pin 40, 100nF, 220R, see remark [2]	5112		
AM AFC **MW**		C continuous wave V_{RF} = 2mV		5114	2	0mV ±2mV
AM RF [3]						
MW	1494kHz	B Δf = ±30kHz V_{RF} as low as possible	1494kHz	2106	5	max., f_o symmetric
	558kHz		558kHz	5102		
LW	198kHz		198kHz	5103		

ECO6 Sys Cenelec, 190599

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

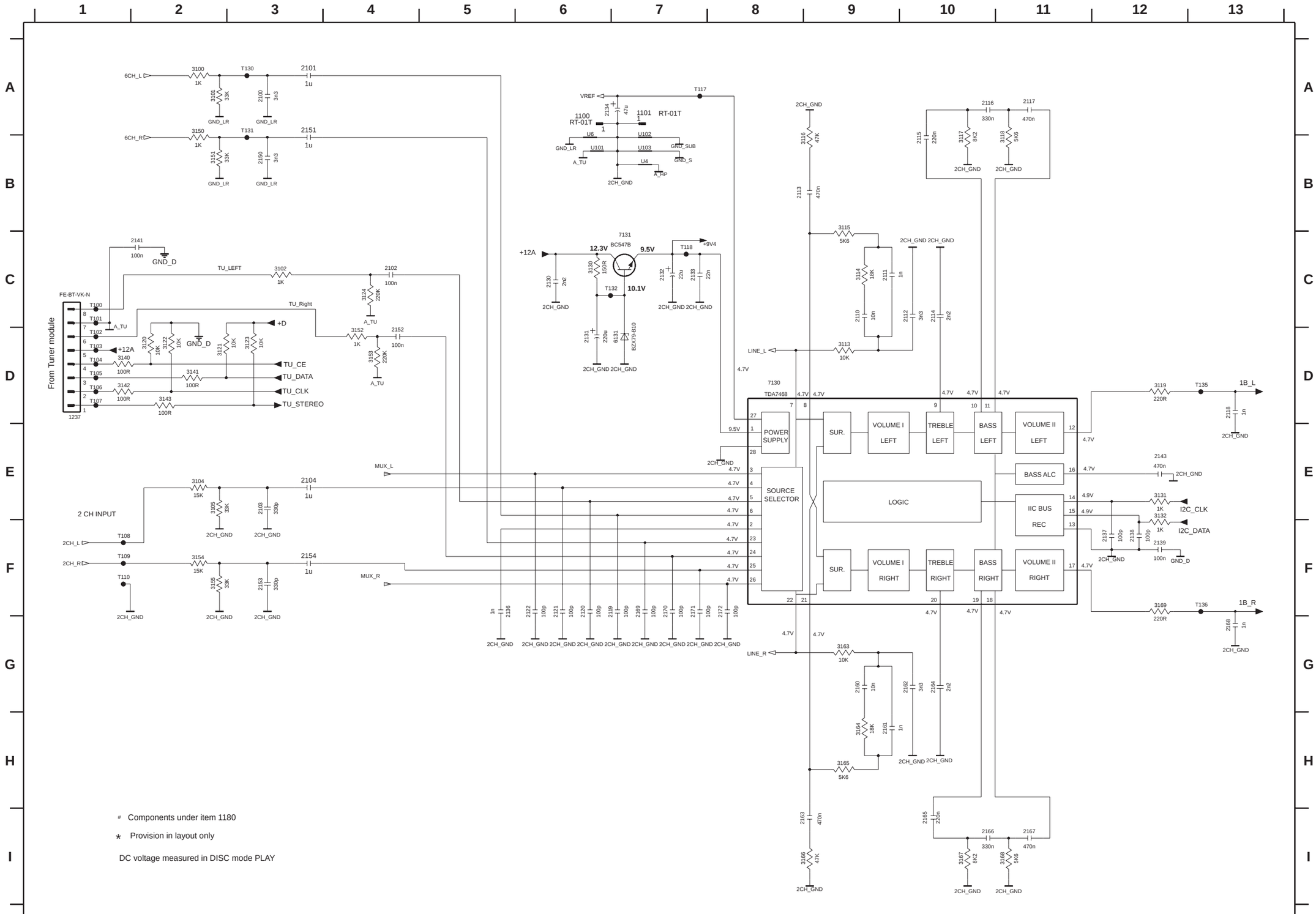
[1] If sensitivity of frequency counter is too low adjust to max. channel separation (input signal: stereo left 90% + 9%, adjust output on right channel to minimum)

[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

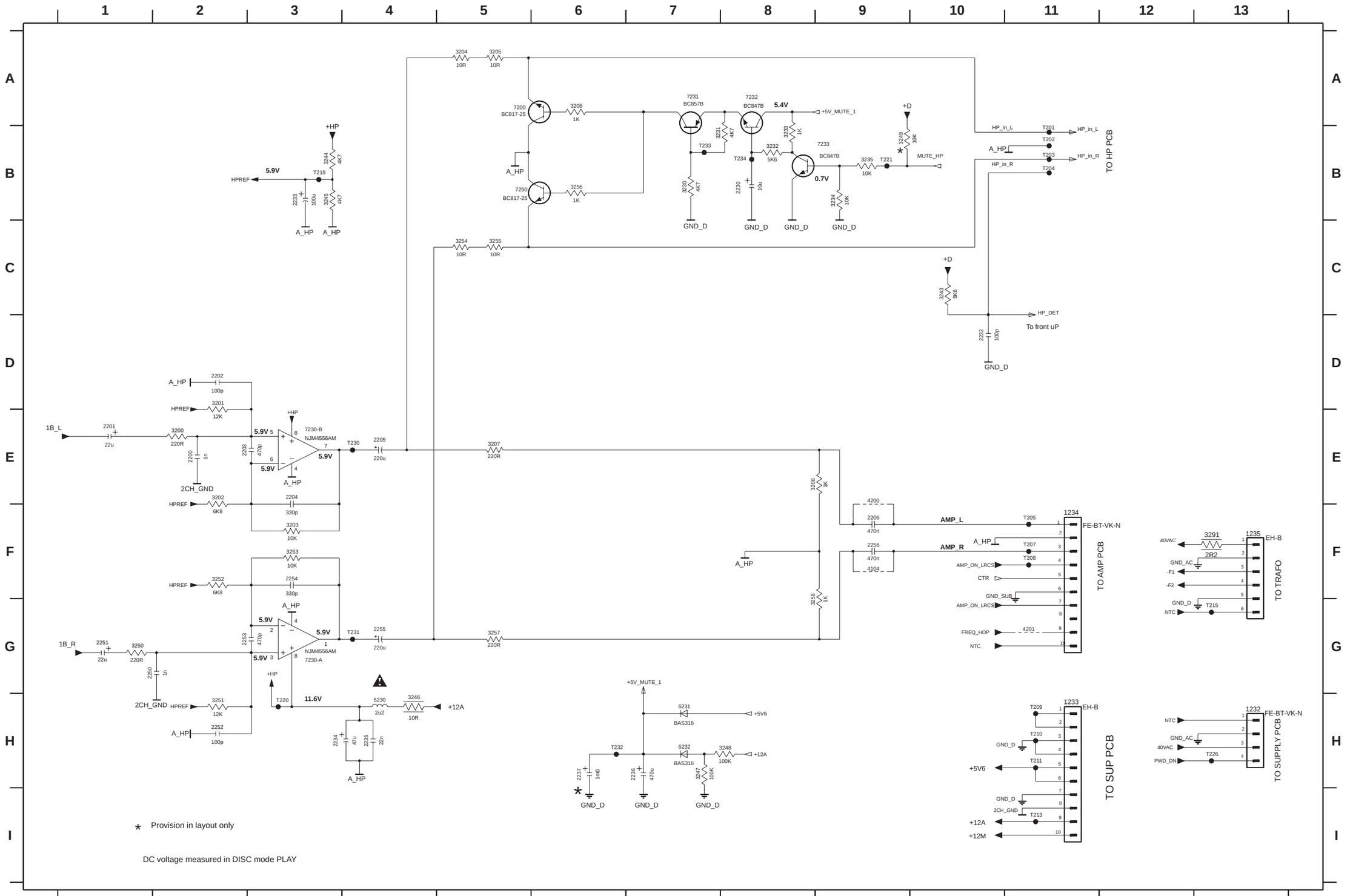
AF 1/4 Schematic Diagram < AMP UNIT Section >



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 3121 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

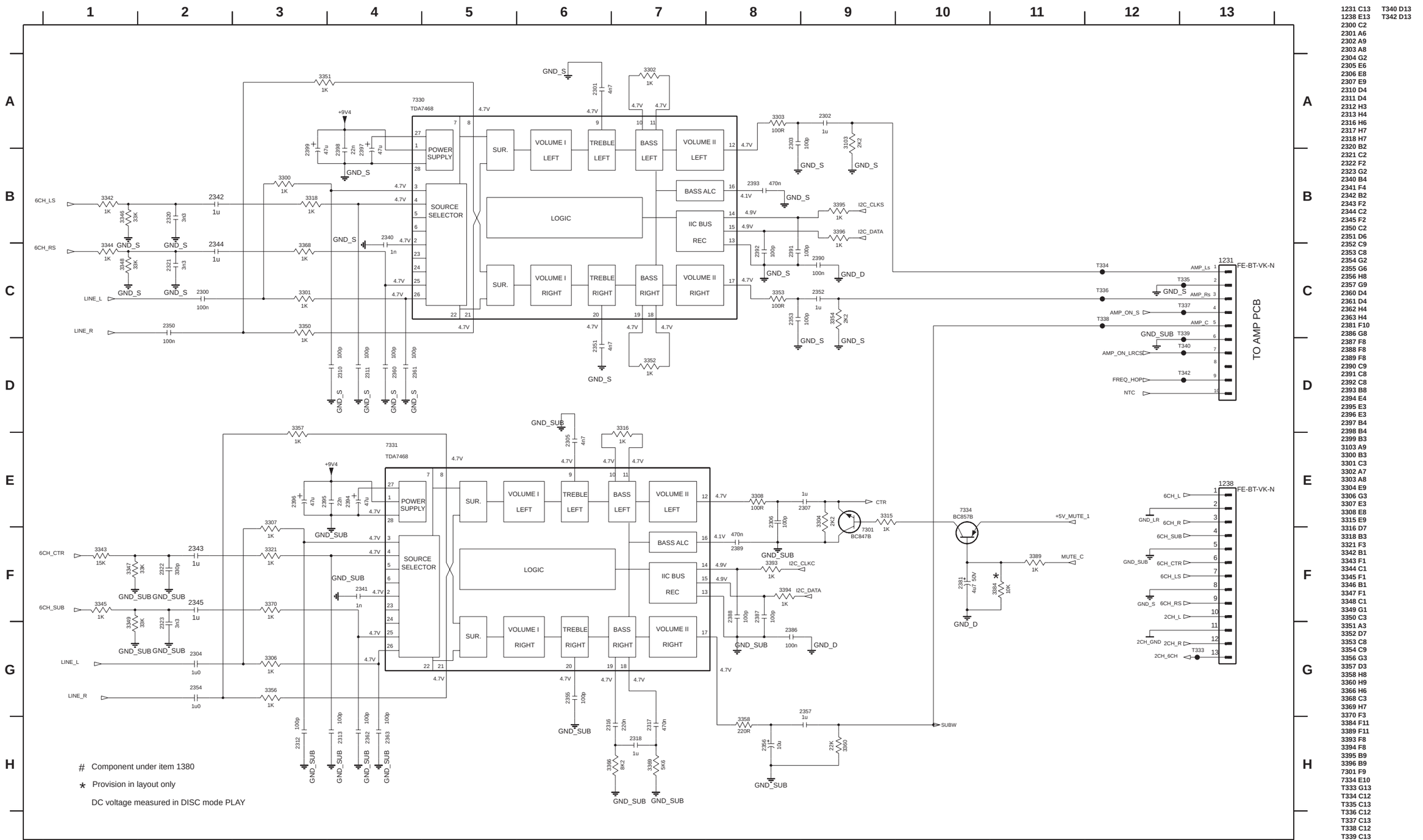
6131 D7 7131 C7 T100 C1 T101 C1 T102 D1 T103 D1 T104 D1 T105 D1 T106 D1 T107 D1 T108 F1 T109 F1 T110 F1 T117 A7 T118 C7 T119 I6 T121 I6 T130 A3 T131 A3 T132 C6 T135 D13 T136 F13 U101 B6 U102 B7 U103 B7

AF 2/4 Schematic Diagram < AMP UNIT Section >



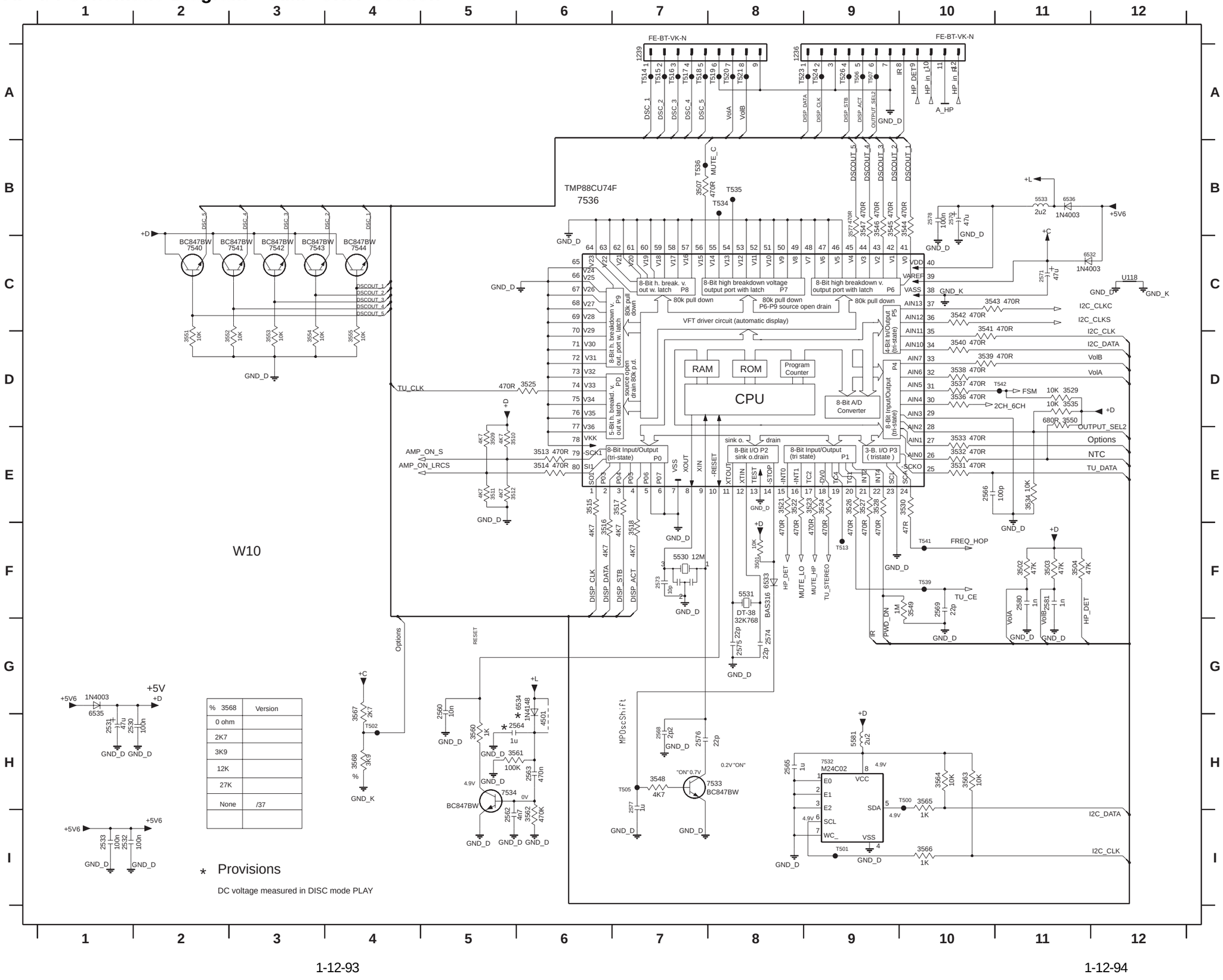
1232 H13
1233 H11
1234 F11
1235 F13
2200 E2
2201 E1
2202 D2
2203 E2
2204 E3
2205 E4
2206 F9
2230 B8
2232 D10
2233 B3
2234 H3
2235 H4
2236 H7
2237 H6
2250 G1
2251 G1
2252 H2
2253 G2
2254 F3
2255 G4
2256 F9
3200 E2
3201 D2
3202 E2
3203 F3
3204 A5
3205 A5
3206 A6
3207 E5
3208 E8
3230 B7
3231 B7
3232 B8
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
6232 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 I11
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 T340 D13
1238 E13 T342 D13
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 B2
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

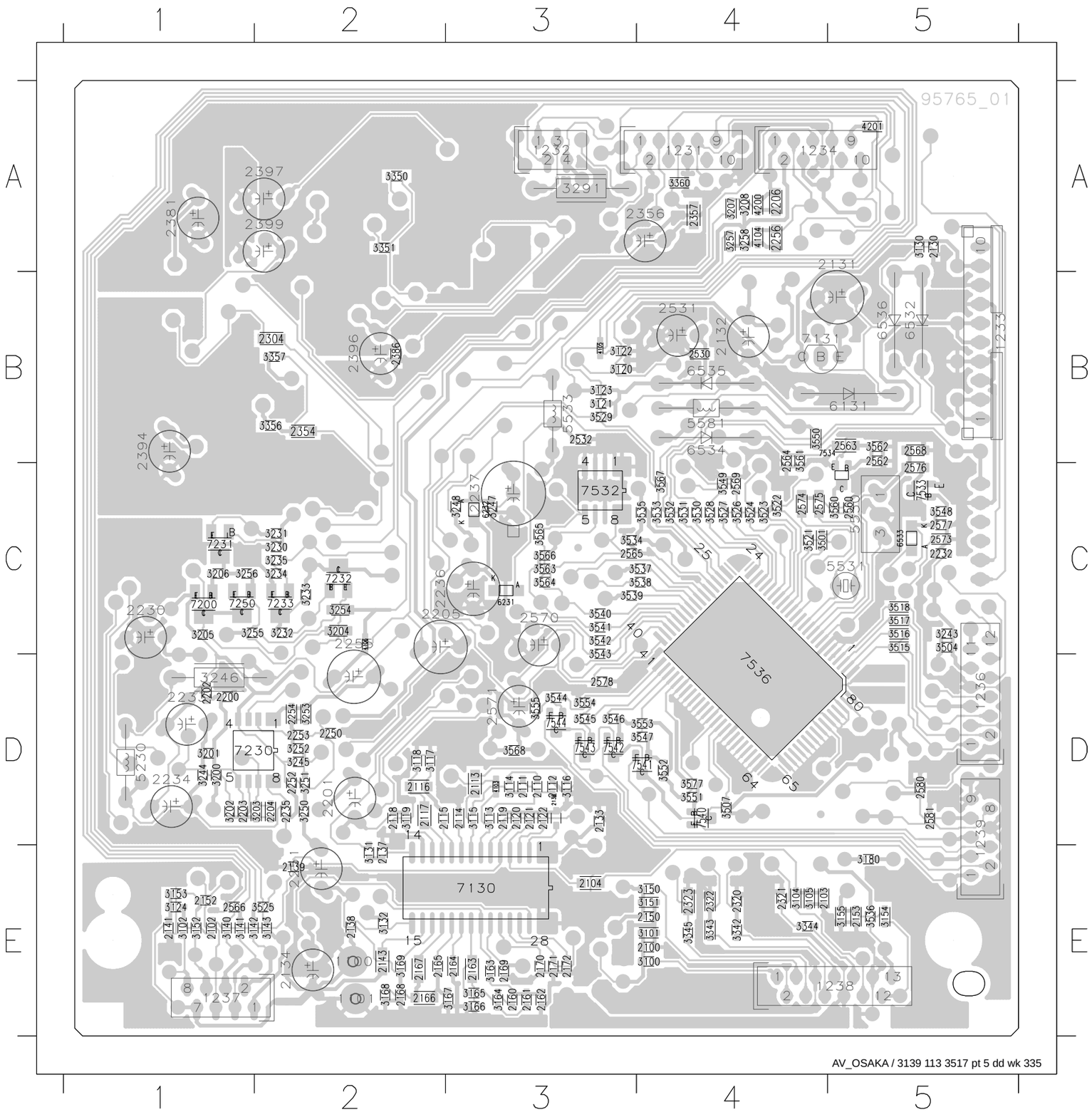
AF 4/4 Schematic Diagram < AMP UNIT Section >



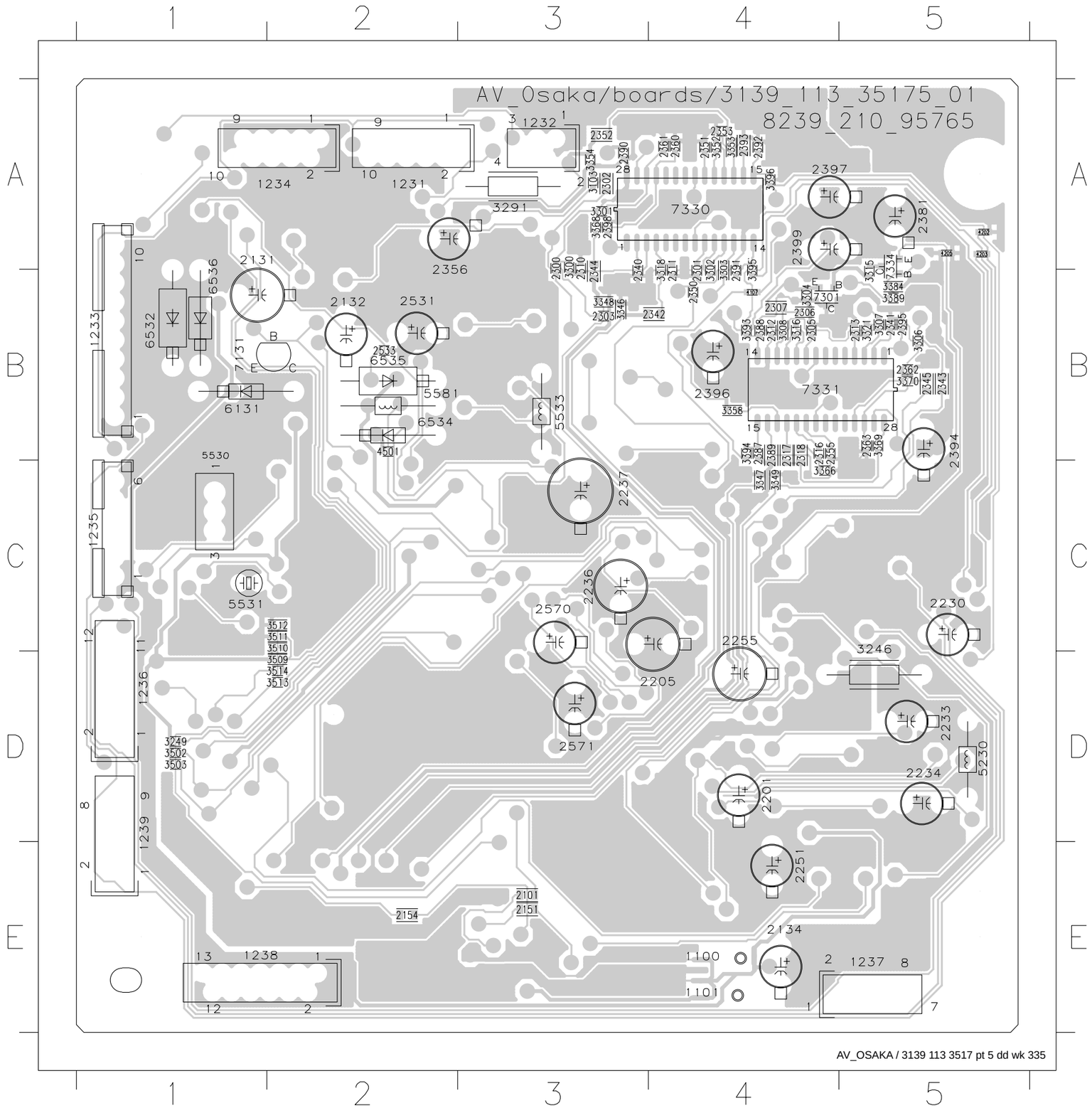
% 3568	Version
0 ohm	
2K7	
3K9	
12K	
27K	
None	/37

1236 A8 T516 A7
1239 A7 T517 A7
2530 H1 T518 A7
2531 H1 T519 A8
2532 I1 T520 A8
2533 I1 T521 A8
2560 G5 T523 A9
2562 I5 T524 A9
2563 H6 T526 A9
2564 H5 T534 B8
2565 H8 T535 B8
2566 E10 T536 B7
2568 H7 T539 F10
2569 F10 T541 F10
2570 B10 T542 D11
2571 C11 U118 C12
2573 F7
2574 G8
2575 G8
2576 H7
2577 I7
2578 B10
2580 F11
2581 F11
3501 F8
3502 F11
3503 F11
3504 F11
3507 B7
3509 E5
3510 E5
3511 E5
3512 E5
3513 E6
3514 E6
3515 E6
3516 F6
3517 E7
3518 F7
3521 E8
3522 E8
3523 E9
3524 E9
3525 D6
3526 E9
3527 E9
3528 E9
3529 D11
3530 E10
3531 E10
3532 E10
3533 E10
3534 E11
3535 D11
3536 D10
3537 D10
3538 D10
3539 D10
3540 D10
3541 C10
3542 C10
3543 C10
3544 B10
3545 B9
3546 B9
3547 B9
3548 H7
3549 F10
3550 D11
3551 D2
3552 D3
3553 D3
3554 D3
3555 D4
3560 H5
3561 H5
3562 I6
3563 H10
3564 H10
3565 H10
3566 I10
3567 G4
3568 H4
3577 B9
4501 H6
5530 F7
5531 F8
5533 B11
5581 H9
6532 C11
6533 F8
6534 G6
6535 G1
6536 B11
7532 H9
7533 H7
7534 H6
7536 B6
7540 C2
7541 C2
7542 C3
7543 C3
7544 C4
T500 H9
T501 I9
T502 H4
T505 H7
T506 A9
T507 A9
T513 F9
T514 A7
T515 A7

AF BOARD Top View



AF BOARD Bottom View



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

1301: 1 = LEFT (SUR_L)
3 = RIGHT (SUR_R)
5 = CENTER (SUBW)

1302: 1 = LEFT
3 = RIGHT
5 = CENTER

1305 & 1303: 1 = SUR_L
3 = SUR_R
5 = SUBW

To AV Board

To Supply Board

Over-Voltage protection

OPTIONAL

Clock Generator

Power Supply

DC-Detection

SCREENCOVER

RT-01T

△ Not for 75W version
✱ Not for 100W version
Provision only

Transfer cct 3104 213 3525pt 5 dd wk325

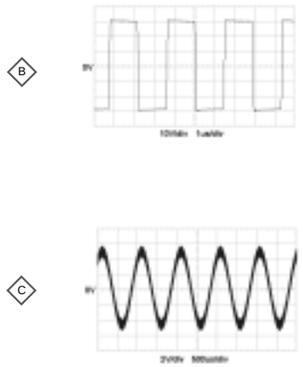
1301 B1
1302 B2
1303 E2
1304 G2
1305 E1
1309 G1
1312 G3
1320 I6
1400 I6
1600 E9
1601 G9
2400 H3
2401 H4
2402 H5
2403 H3
2404 H4
2405 H5
2406 H4
2407 H4
2408 B3
2409 B3
2410 B3
2411 D3
2412 D3
2413 D2
2414 D2
2415 F3
2416 F3
2417 F3
2418 F3
2419 I2
2420 D3
2421 F2
2422 F3
2423 I8
2425 B3
2500 A10
2501 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
7716 H12

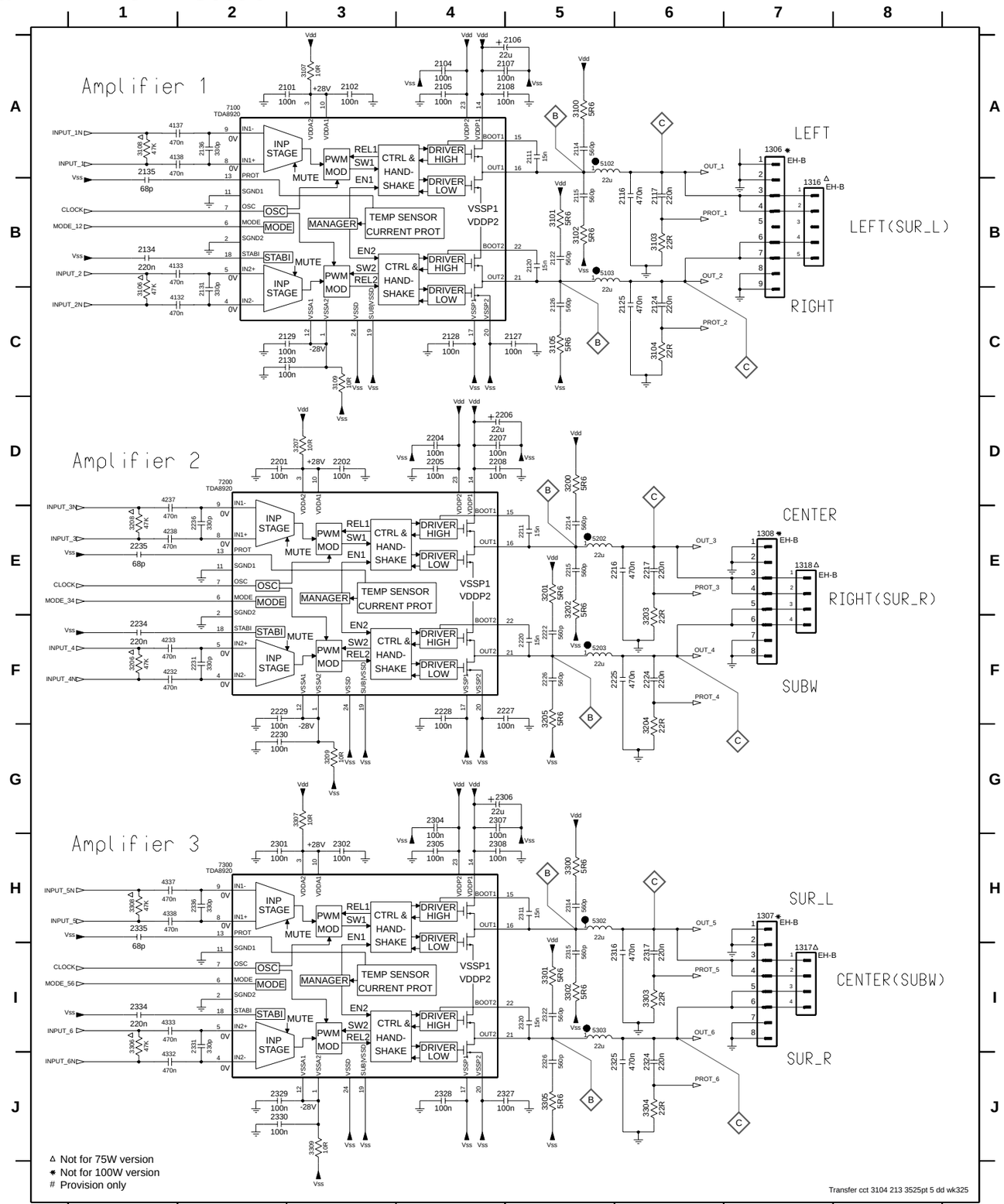
1-12-99

1-12-100

E9015SCPA1

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

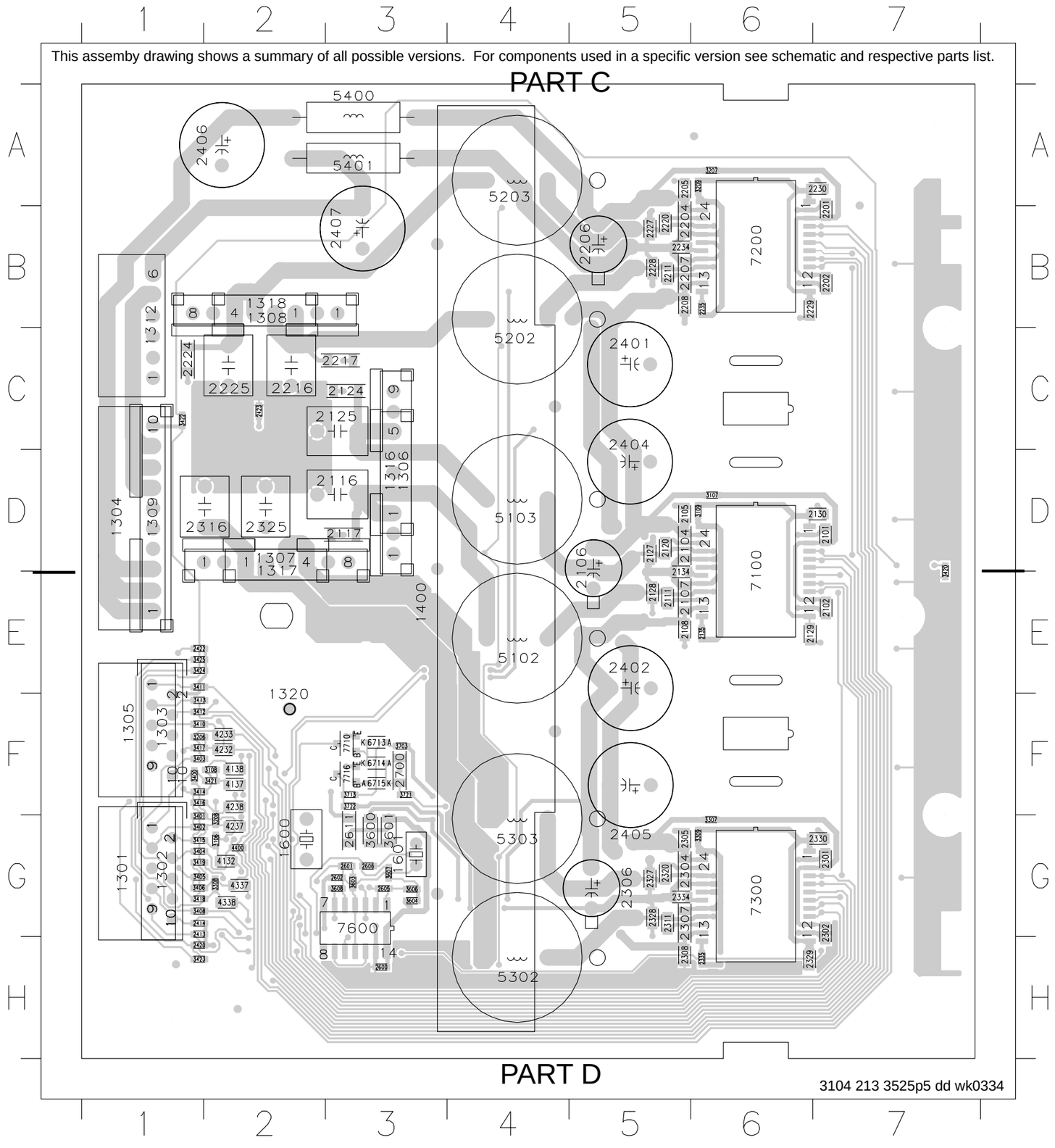




△ Not for 75W version
✱ Not for 100W version
Provision only

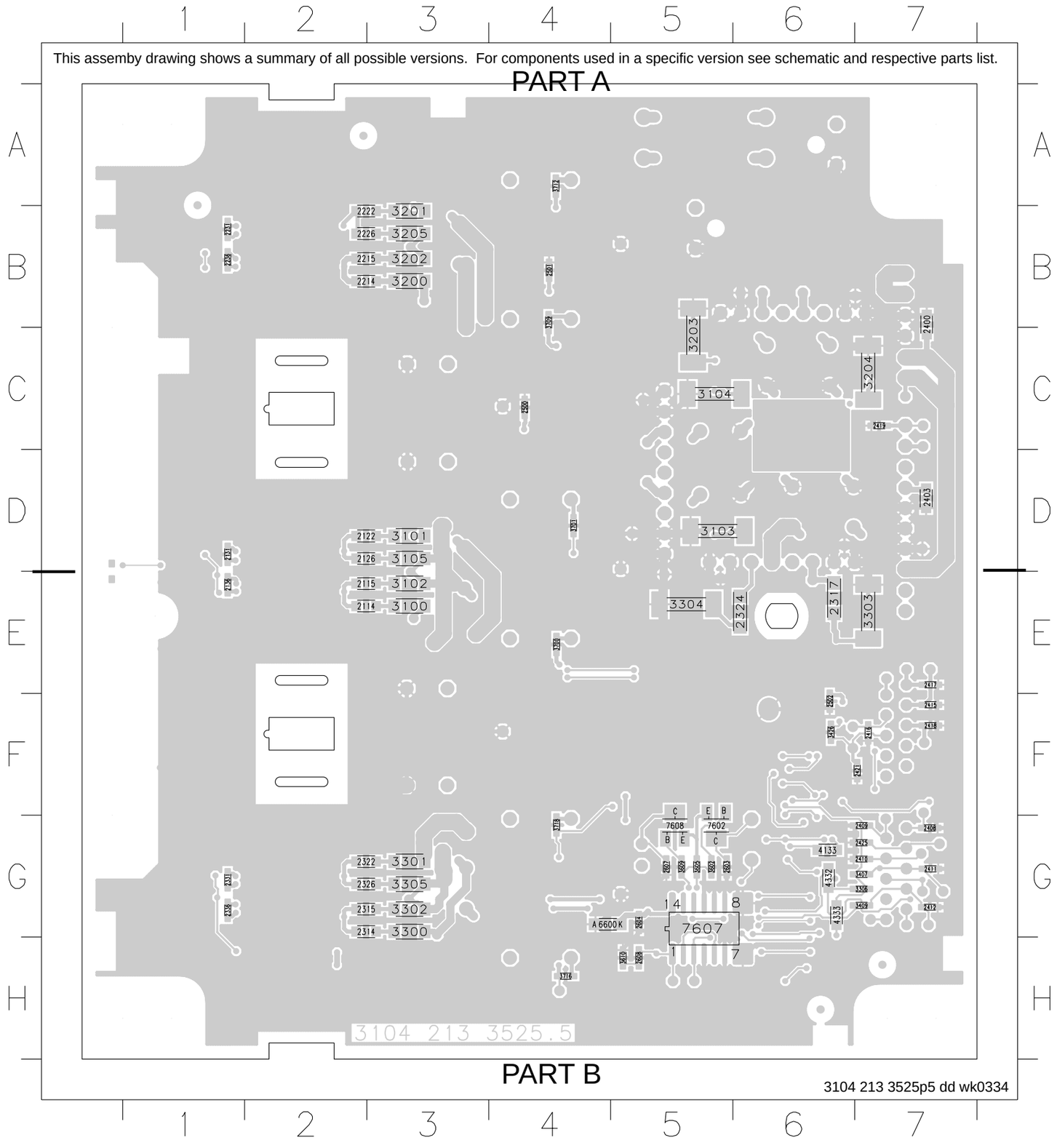
1306 A7 5303 I5
1307 H7 7100 A2
1308 E7 7200 D2
1316 B7 7300 H2
1317 I7
1318 E7
2101 A3
2102 A3
2104 A4
2105 A4
2106 A5
2107 A5
2108 A5
2111 A5
2114 A5
2115 B5
2116 B6
2117 B6
2120 B5
2122 B5
2124 C6
2125 C6
2126 C5
2127 C5
2128 C4
2129 C3
2130 C3
2131 C2
2134 B1
2135 A1
2136 A2
2201 D2
2202 D3
2204 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



1301	G1	2404	D5	5202	B4
1302	G1	2405	F5	5203	A4
1303	F1	2406	A2	5302	H4
1304	D1	2407	B3	5303	G4
1305	F1	2413	G1	5400	A3
1306	D3	2414	G1	5401	A3
1307	D2	2420	H1	6713	F3
1308	B2	2422	E1	6714	F3
1309	D1	2423	C2	6715	F3
1312	B1	2600	H3	7100	D6
1316	D3	2601	G3	7200	B6
1317	D2	2602	G3	7300	G6
1318	B2	2605	G3	7600	G3
1320	F2	2606	G3	7710	F3
1400	D4	2611	G3	7716	F3
1600	G2	2700	F3		
1601	G3	3106	G2		
2101	D7	3107	D6		
2102	E7	3108	F2		
2104	D5	3109	D6		
2105	D5	3206	F1		
2106	D5	3207	A6		
2107	E5	3208	G2		
2108	E5	3209	A6		
2111	E5	3307	G6		
2116	D3	3308	G2		
2117	D3	3309	G6		
2120	D5	3400	F1		
2124	C3	3401	G1		
2125	C3	3402	G1		
2127	D5	3403	F1		
2128	E5	3404	G1		
2129	E6	3405	G1		
2130	D7	3406	G1		
2134	E5	3408	G1		
2135	F6	3410	F1		
2201	B7	3411	F1		
2202	B7	3412	F1		
2204	B5	3413	F1		
2205	A5	3414	F1		
2206	B5	3415	G1		
2207	B5	3416	F1		
2208	B5	3417	F1		
2211	B5	3418	G1		
2216	C2	3419	G1		
2217	C3	3420	D7		
2220	B5	3421	F2		
2224	C1	3422	C1		
2225	C2	3423	H1		
2227	B5	3424	E1		
2228	B5	3425	E1		
2229	B6	3600	G3		
2230	A7	3601	G3		
2234	B5	3603	G3		
2235	B6	3604	G3		
2301	G7	3606	G3		
2302	G7	3607	G3		
2304	G5	3608	G3		
2305	G5	3703	F3		
2306	G5	3713	F3		
2307	G5	3721	F3		
2308	H5	3722	F3		
2311	G5	4132	G2		
2316	D2	4137	F2		
2320	G5	4138	F2		
2325	D2	4232	F2		
2327	G5	4233	F2		
2328	G5	4237	G2		
2329	H6	4238	F2		
2330	G7	4337	G2		
2334	G5	4338	G2		
2335	H6	4400	G2		
2401	C5	5102	E4		
2402	E5	5103	D4		

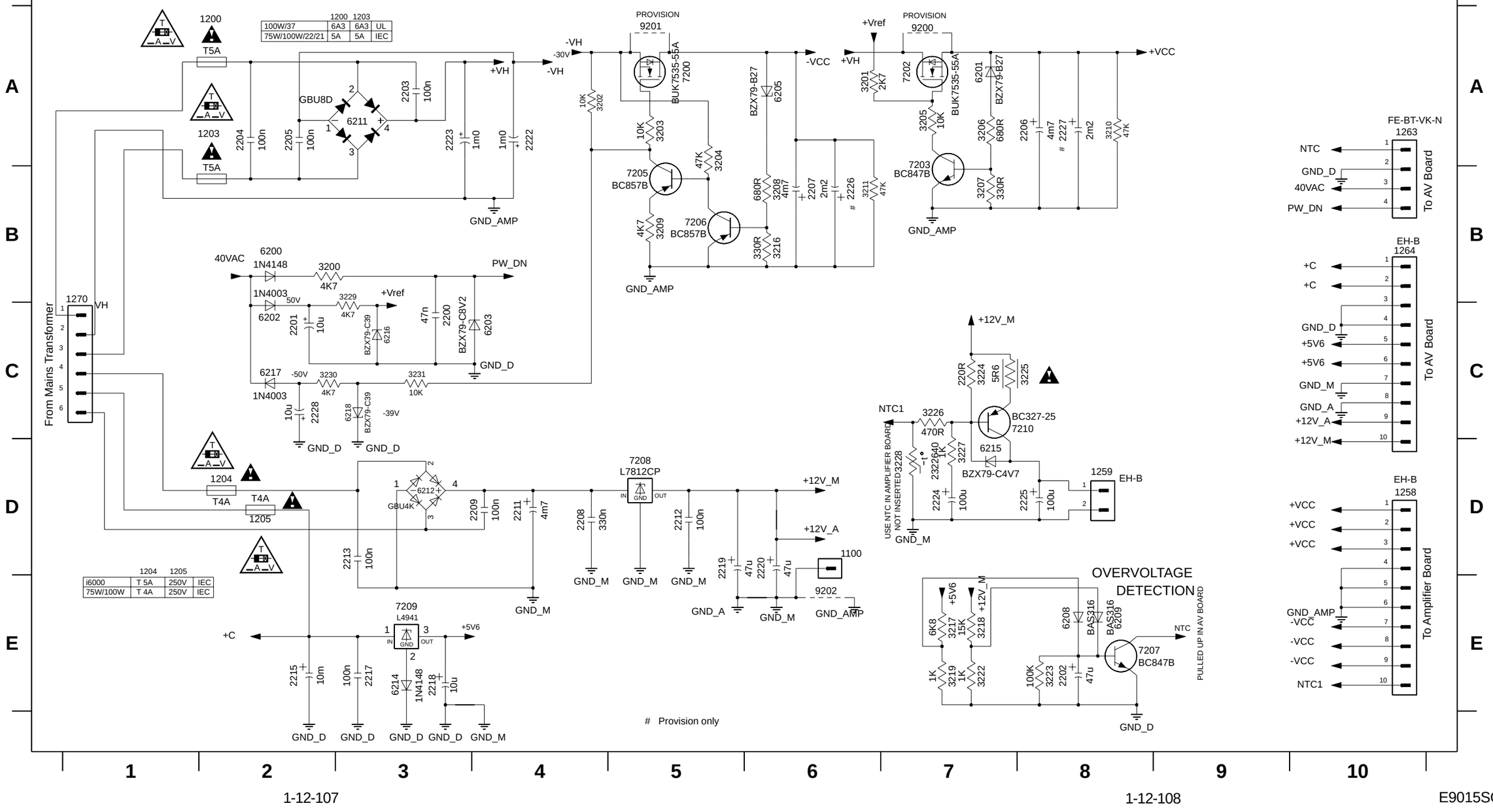
Power Amplifier BOARD Bottom View



2114	E2	4332	G6
2115	E2	4333	G6
2122	D2	6600	G4
2126	D2	7602	G5
2131	D1	7607	G5
2136	E1	7608	G5
2214	B2	F100	F7
2215	B2	F102	G7
2222	B2	F103	G7
2226	B2	F104	E5
2231	B1	F105	G7
2236	B1	F106	G7
2314	G2	F108	G7
2315	G2	F109	D5
2317	E6	F111	G7
2322	G2	F112	C5
2324	E6	F114	G7
2326	G2	F116	E7
2331	G1	F117	E7
2336	G1	F118	F6
2400	B7	F119	E7
2403	D7	F120	B6
2408	G7	F121	B6
2409	G7	F122	B6
2410	G7	F123	H5
2411	G7	F124	C7
2412	G7	F125	H5
2415	F7	F126	D7
2416	F7	F127	C7
2417	E7	F128	D6
2418	F7	F129	E6
2419	C7	F130	D6
2421	F7	F131	H4
2425	G7	F132	C7
2500	C4	F133	B7
2501	B4	F134	C5
2502	F6	F135	E5
2603	G5	F139	D5
2604	G5	F140	G7
2607	G5	F141	E7
2608	H5	F142	F6
3100	E3	F143	C6
3101	D3		
3102	E3		
3103	D5		
3104	C5		
3105	D3		
3200	B3		
3201	B3		
3202	B3		
3203	C5		
3204	C7		
3205	B3		
3300	G3		
3301	G3		
3302	G3		
3303	E7		
3304	E5		
3305	G3		
3306	G7		
3407	G7		
3409	G7		
3426	F6		
3602	G5		
3605	G5		
3609	G5		
3610	H5		
3700	E4		
3701	D4		
3709	B4		
3712	A4		
3716	H4		
3718	G4		
4133	G6		

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."



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.
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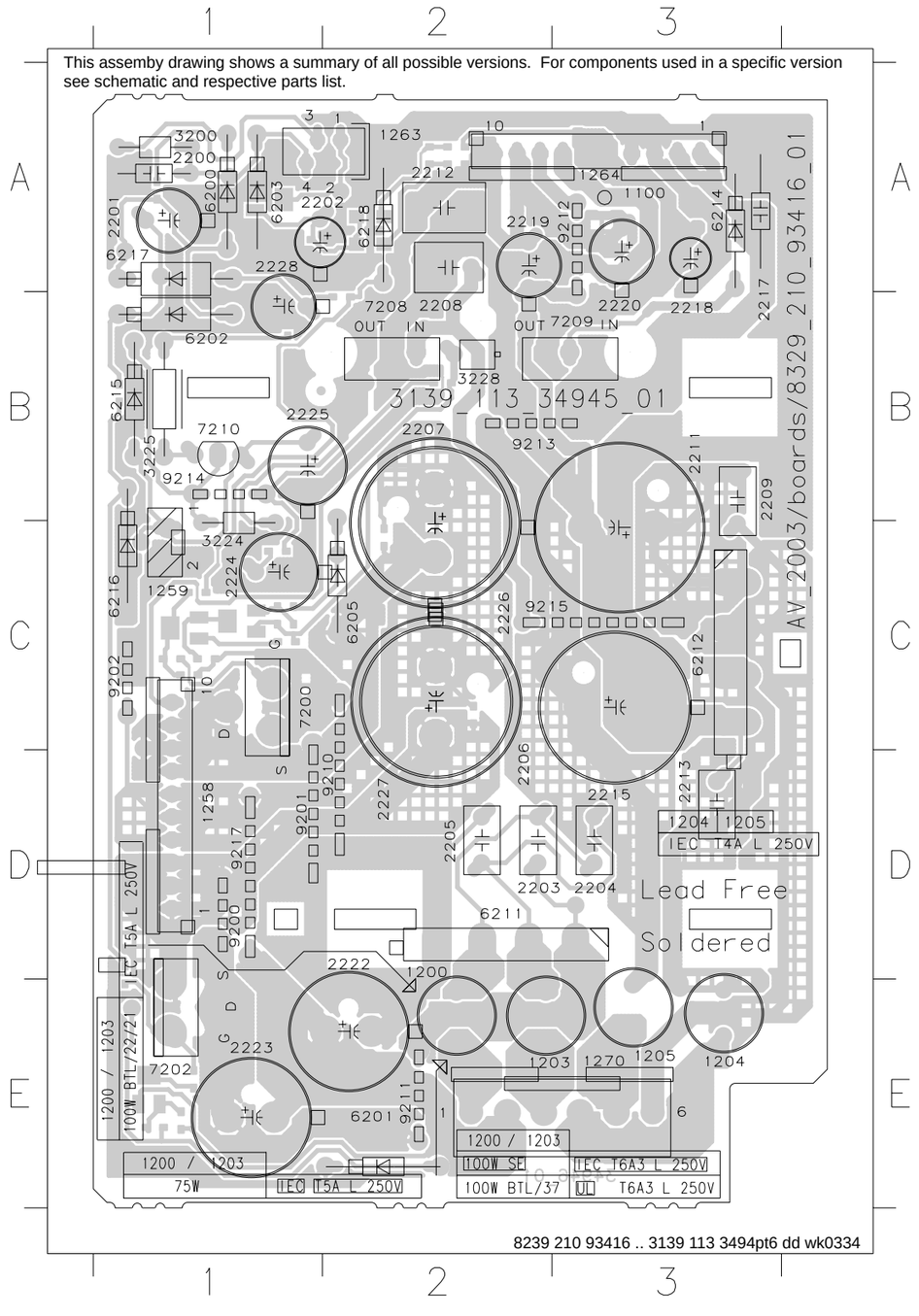
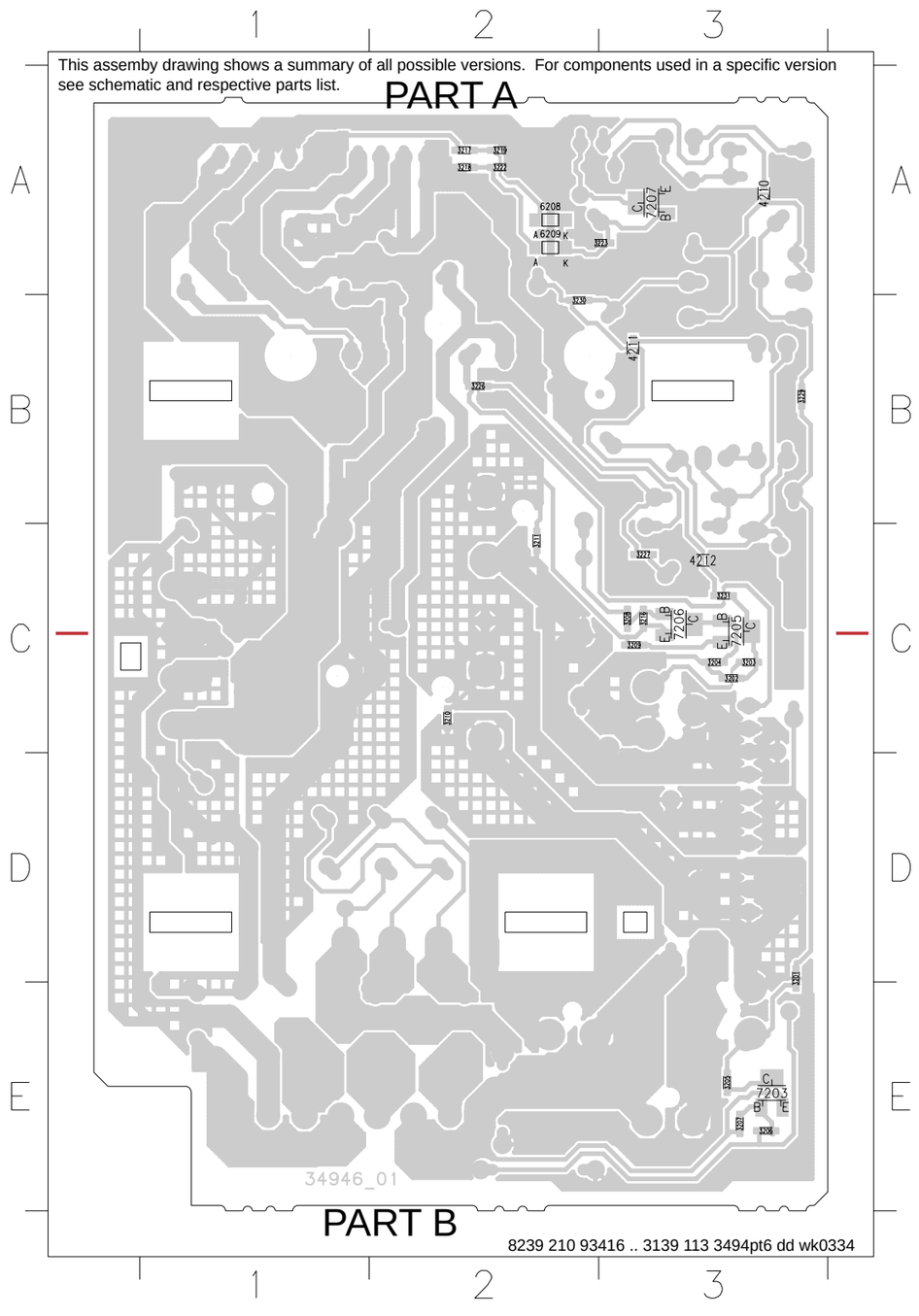
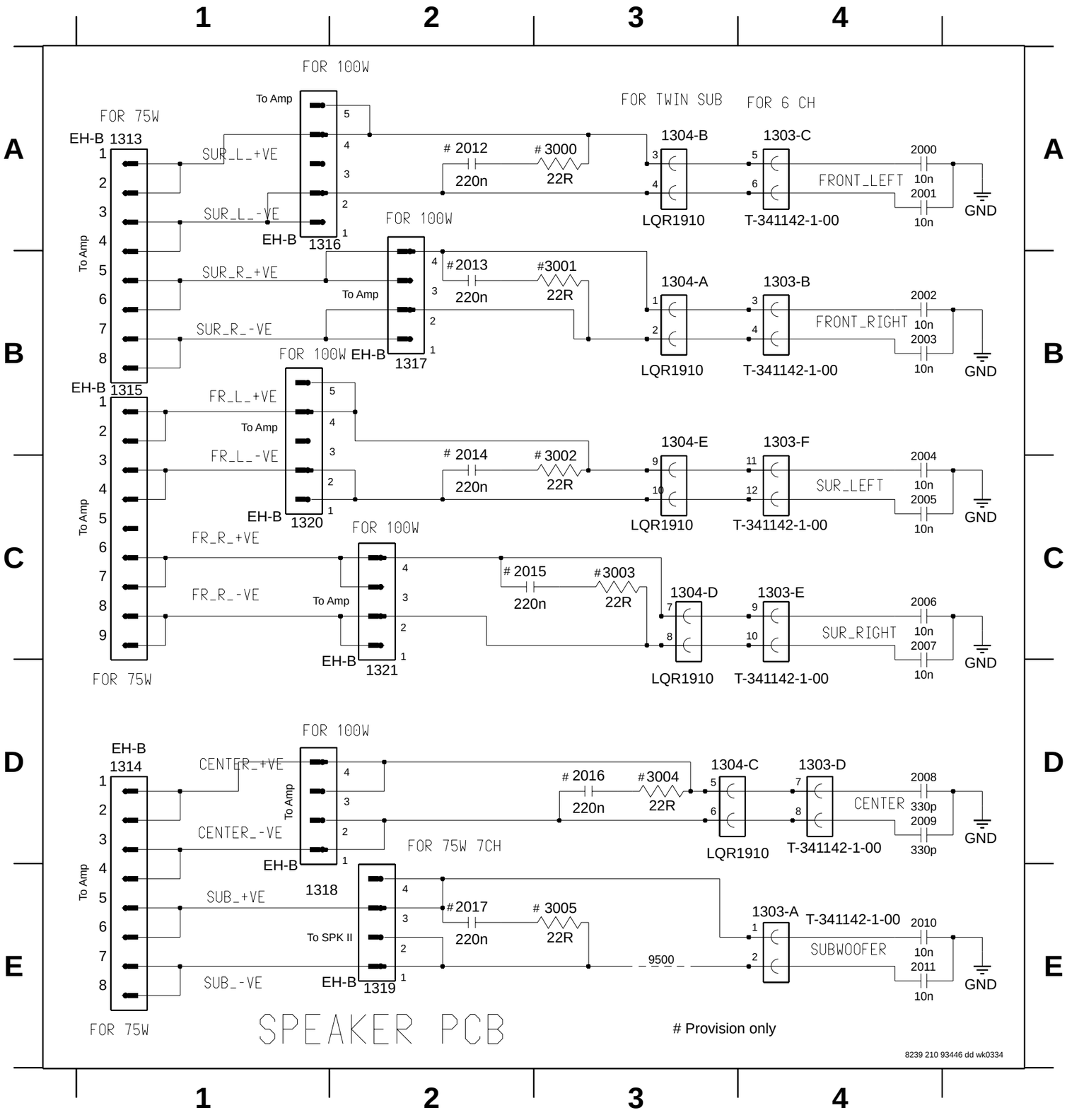


1100 A3
1200 D2
1203 E2
1204 E3
1205 E3
1258 D1
1259 C1
1263 A2
1264 A3
1270 E3
2200 A1
2201 A1
2202 A1
2203 D2
2204 D3
2205 D2
2206 D2
2207 B2
2208 B2
2209 B3
2211 B3
2212 A2
2213 D3
2215 D3
2217 B3
2218 B3
2219 A2
2220 B3
2222 D2
2223 E1
2224 C1
2225 B1
2226 C2
2227 D2
2228 A1
3200 A1
3224 C1
3225 B1
3228 B2
6200 A1
6201 E2
6202 B1
6203 A1
6205 C2
6211 D2
6212 C3
6214 A3
6215 B1
6216 C1
6217 A1
6218 A2
7200 C1
7202 E1
7208 B2
7209 B3
7210 B1
9200 D1
9201 D1
9202 C1
9210 D2
9211 E2
9212 A3
9213 B2
9214 B1
9215 C2
9217 D1



3201 D3
3202 C3
3203 C3
3204 C3
3205 E3
3206 E3
3207 E3
3208 C3
3209 C3
3210 C2
3211 C2
3216 C3
3217 A2
3218 A2
3219 A2
3222 A2
3223 A3
3226 B2
3227 C3
3229 B3
3230 B2
3231 C3
4210 A3
4211 B3
4212 C3
6208 A2
6209 A2
7203 E3
7205 C3
7206 C3
7207 A3

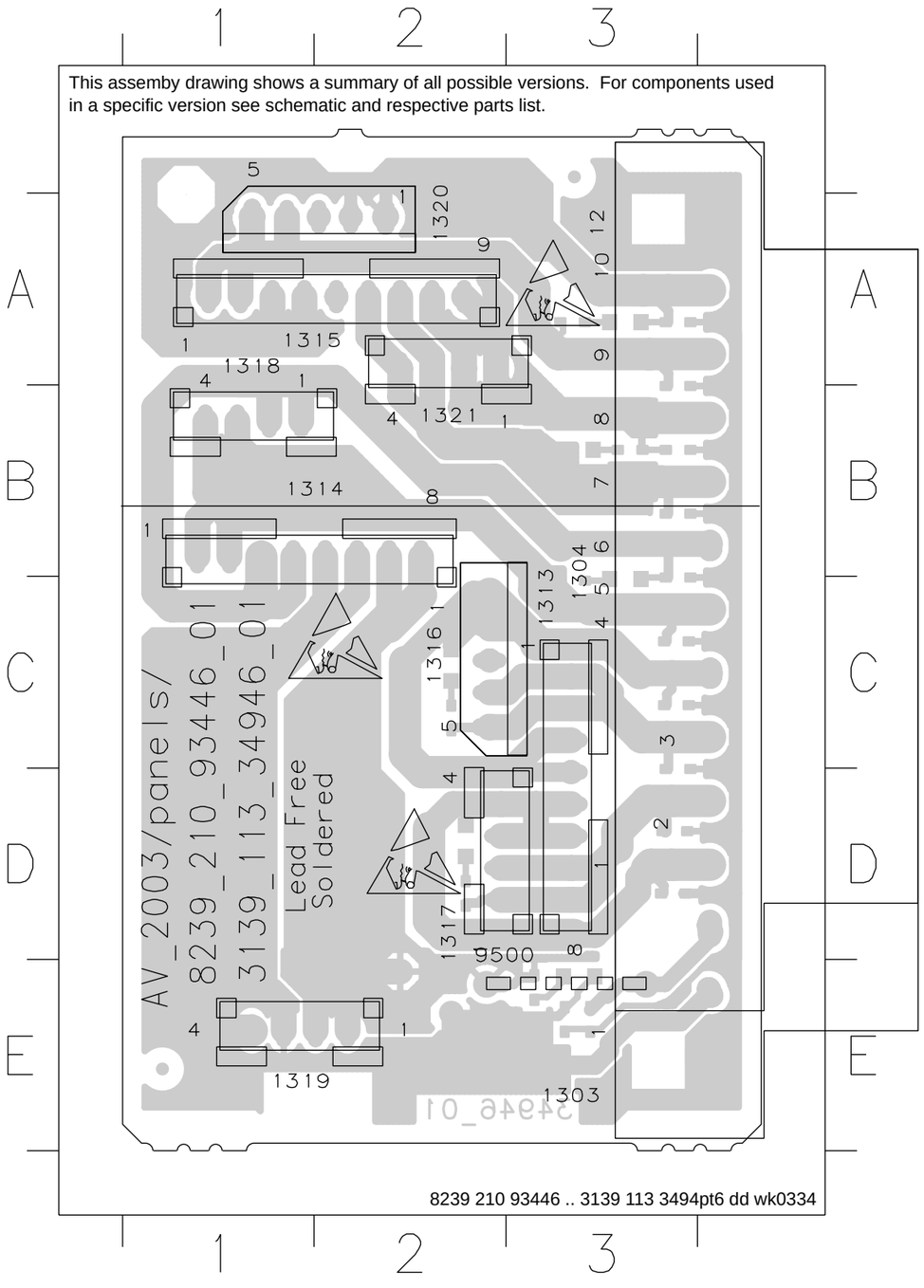
Speaker Connector Schematic Diagram < AMP UNIT Section >



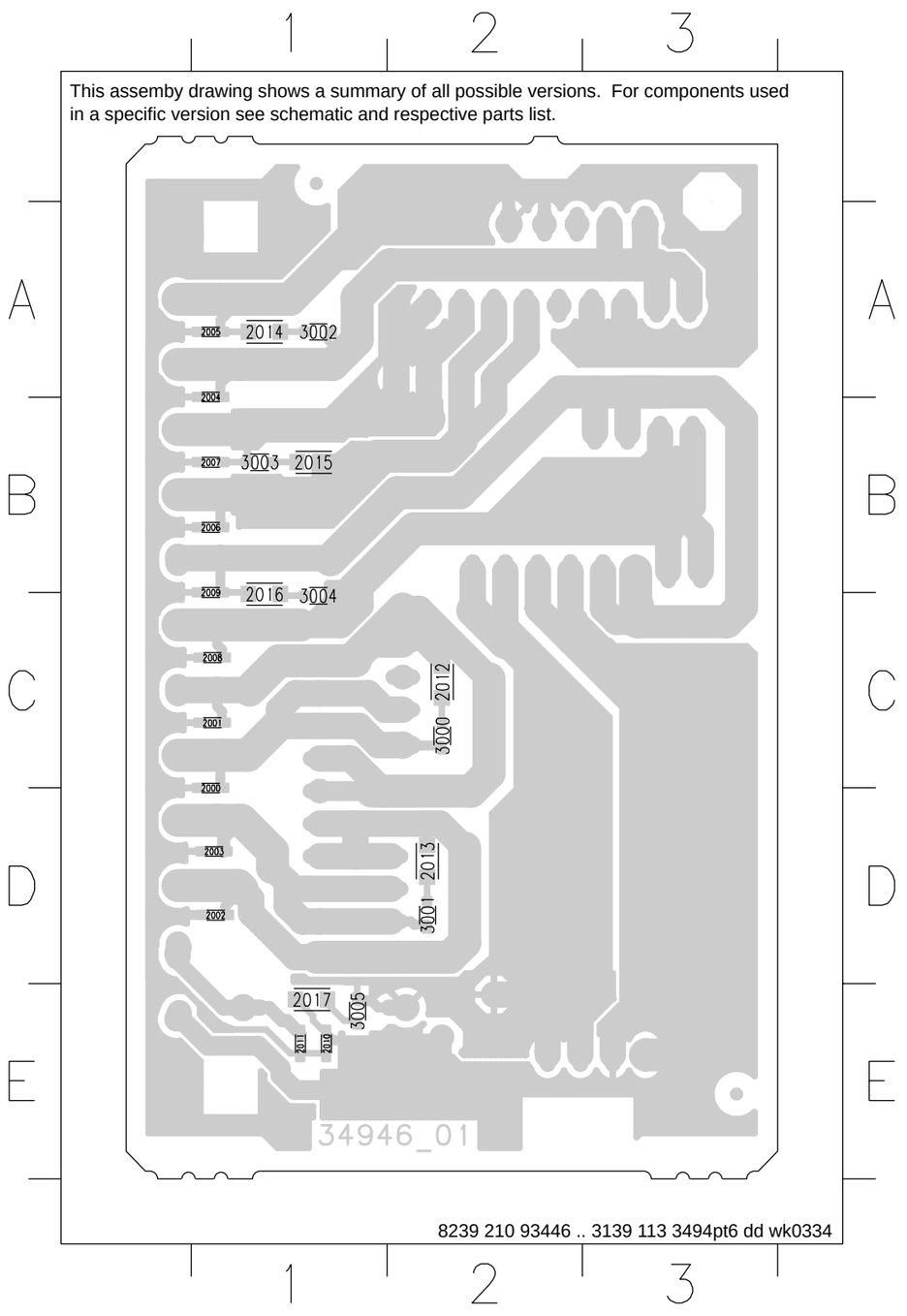
1303-A E4
1303-B B4
1303-C A4
1303-D D4
1303-E C4
1303-F B4
1304-A B3
1304-B A3
1304-C D3
1304-D C3
1304-E B3
1313 A1
1314 D1
1315 B1
1316 A2
1317 B2
1318 E2
1319 E2
1320 C1
1321 D2
2000 A4
2001 A4
2002 B4
2003 B4
2004 C4
2005 C4
2006 C4
2007 C4
2008 D4
2009 D4
2010 E4
2011 E4
2012 A2
2013 B2
2014 C2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

1303 E3	1314 B1	1317 D2	1320 A2
1304 B3	1315 A1	1318 A1	1321 B2
1313 C3	1316 C2	1319 E1	9500 D2



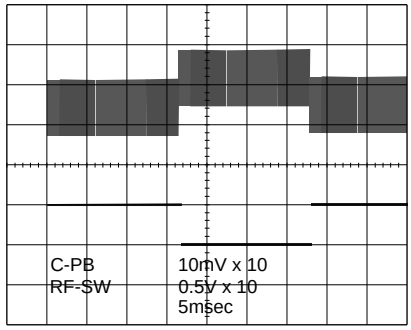
2000 C1	2006 B1	2012 C2	3000 C2
2001 C1	2007 B1	2013 D2	3001 D2
2002 D1	2008 C1	2014 A1	3002 A1
2003 D1	2009 B1	2015 B1	3003 B1
2004 A1	2010 E1	2016 C1	3004 C1
2005 A1	2011 E1	2017 E1	3005 E1



WAVEFORMS

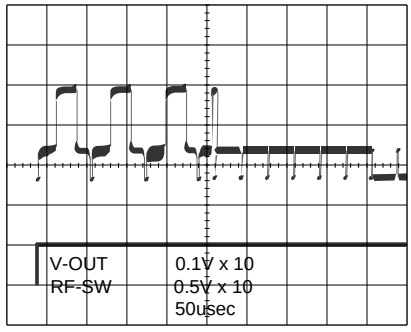
WF2 UPPER (TP301 of Main CBA)

WF1 LOWER (TP504 of Main CBA)

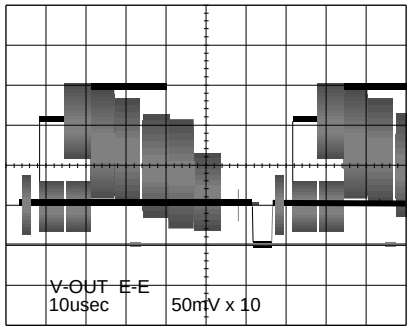


WF3 UPPER (TP751 of Main CBA)

WF1 LOWER (TP504 of Main CBA)



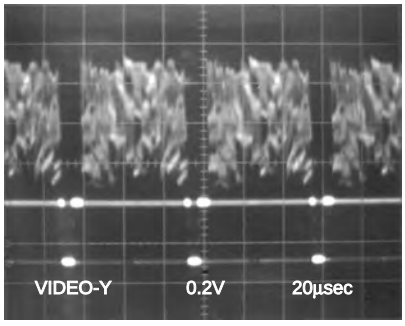
WF3 (TP751 of Main CBA)



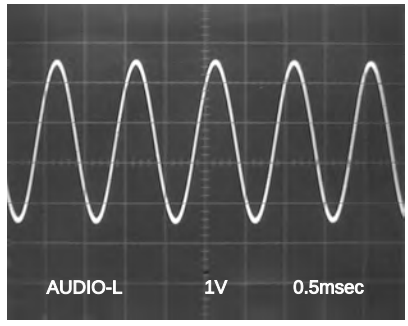
WAVEFORMS

NOTE:
Input
CD: 1kHz PLAY
(WF7~WF9)
DVD: POWER ON (STOP) MODE
(WF4~WF6)

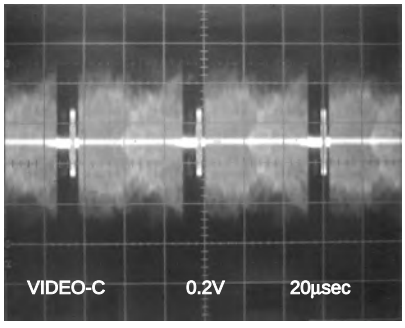
WF4 Pin 1 of CN1601



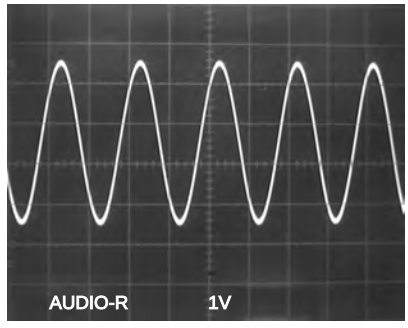
WF7 Pin 13 of CN1601



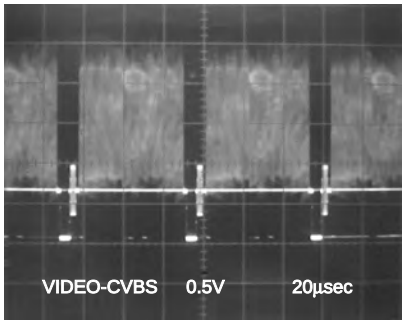
WF5 Pin 9 of CN1601



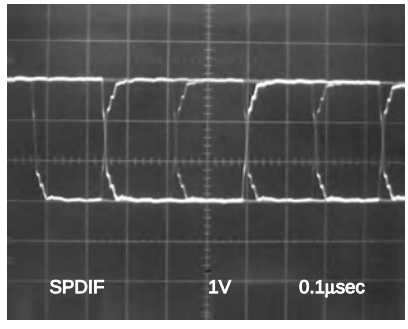
WF8 Pin 15 of CN1601



WF6 Pin 31 of IC1402

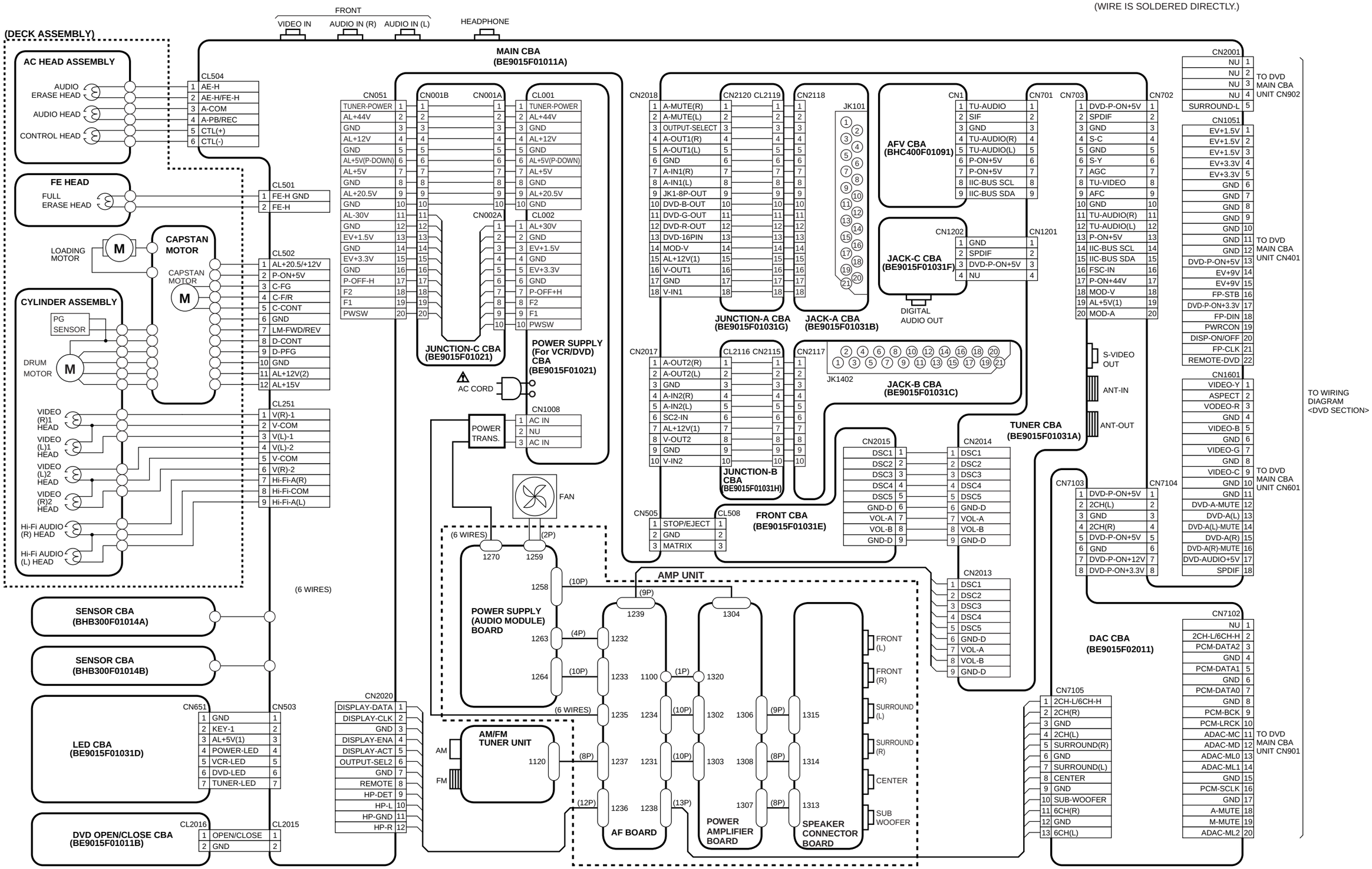


WF9 Pin 18 of CN1601



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.)

DVD MECHA

FG SENSOR

FG CBA

TRAY-OUT

TRAY-IN

SPINDLE MOTOR

SLED MOTOR

DRIVE CBA

CN301

1	FG-IN
2	P-ON+3.3V(D)
3	SP(+)
4	SP(-)
5	TRAY-OUT
6	TRAY-IN
7	GND
8	SL(-)
9	SL(+)

DVD MAIN CBA UNIT

CN901

NU	1
2CH-L/6CH-H	2
PCM-DATA2	3
GND	4
PCM-DATA1	5
GND	6
PCM-DATA0	7
GND	8
PCM-BCK	9
PCM-LRCK	10
ADAC-MC	11
ADAC-MD	12
ADAC-ML0	13
ADAC-ML1	14
GND	15
PCM-SCK	16
GND	17
A-MUTE	18
M-MUTE	19
ADAC-ML2	20

TO DAC CBA CN7102

TO WIRING DIAGRAM <VCR SECTION>

CN902

NU	1
NU	2
NU	3
NU	4
SURROUND-L	5

TO MAIN CBA CN2001

CN401

EV+1.5V	1
EV+1.5V	2
EV+1.5V	3
EV+3.3V	4
EV+3.3V	5
GND	6
GND	7
GND	8
GND	9
GND	10
GND	11
GND	12
DVD-P-ON+5V	13
EV+9V	14
EV+9V	15
FP-STB	16
DVD-P-ON+3.3V	17
FP-DIN	18
PWRCON	19
DISP-ON/OFF	20
FP-CLK	21
REMOTE-DVD	22

TO MAIN CBA CN1051

TO WIRING DIAGRAM <VCR SECTION>

CN601

VIDEO-Y	1
ASPECT	2
VODEO-R	3
GND	4
VIDEO-B	5
GND	6
VIDEO-G	7
GND	8
VIDEO-C	9
GND	10
GND	11
DVD-A-MUTE	12
DVD-A(L)	13
DVD-A(L)-MUTE	14
DVD-A(R)	15
DVD-A(R)-MUTE	16
DVD-AUDIO+5V	17
SPDIF	18

TO MAIN CBA CN1601

CN201

1	GND
2	E
3	P-ON+5V
4	VREF
5	B
6	C
7	D
8	A
9	CD/DVD
10	F
11	GND(LD)
12	CD-LD
13	PD-MONI
14	DVD-LD
15	GND(DVD-PD)
16	GND(CD-PD)
17	TS(-)
18	FS(+)
19	FS(-)
20	TS(+)

DETECTOR

TS

FS

PICK UP UNIT

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

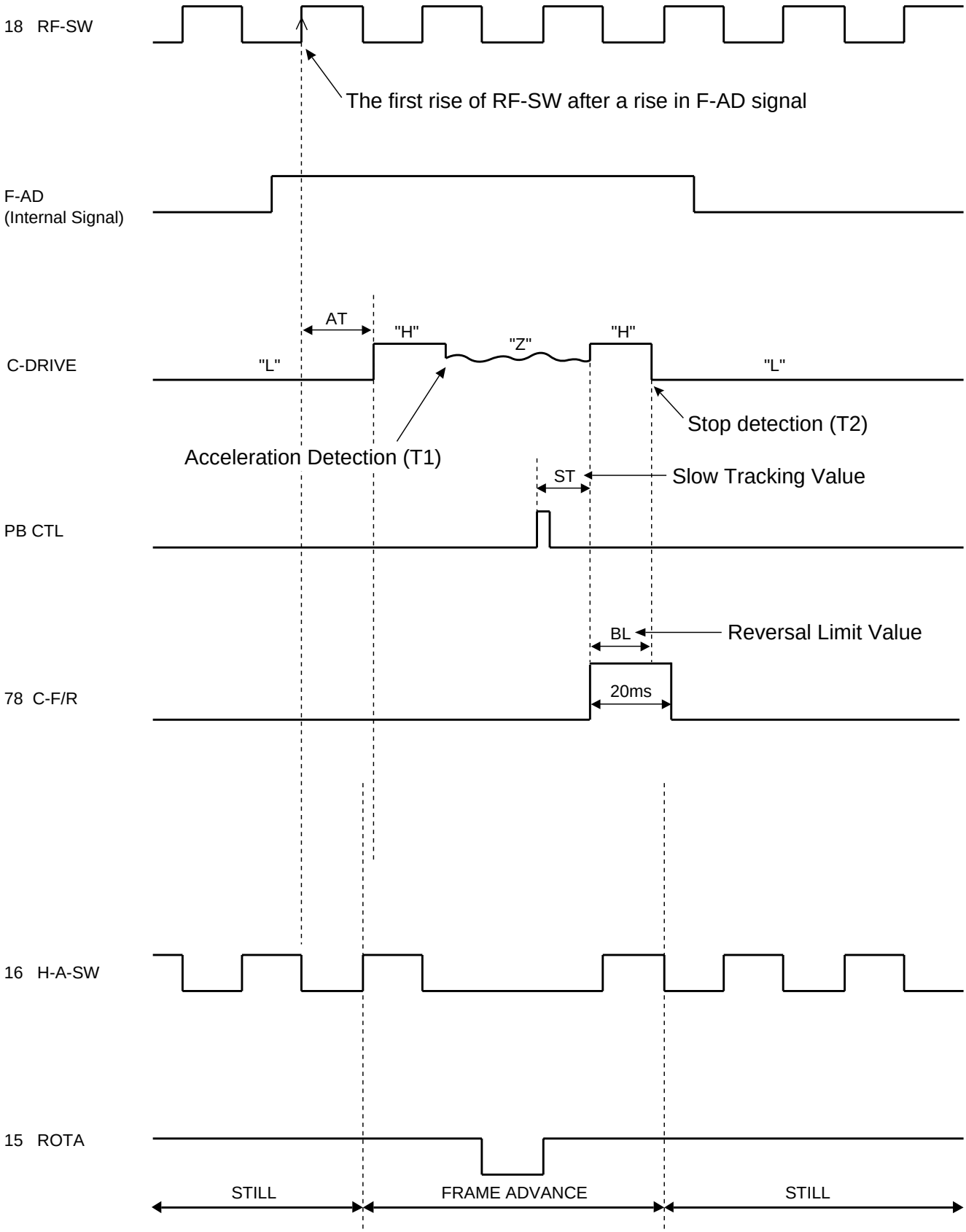


Fig. 1

2) LP/SLP Mode

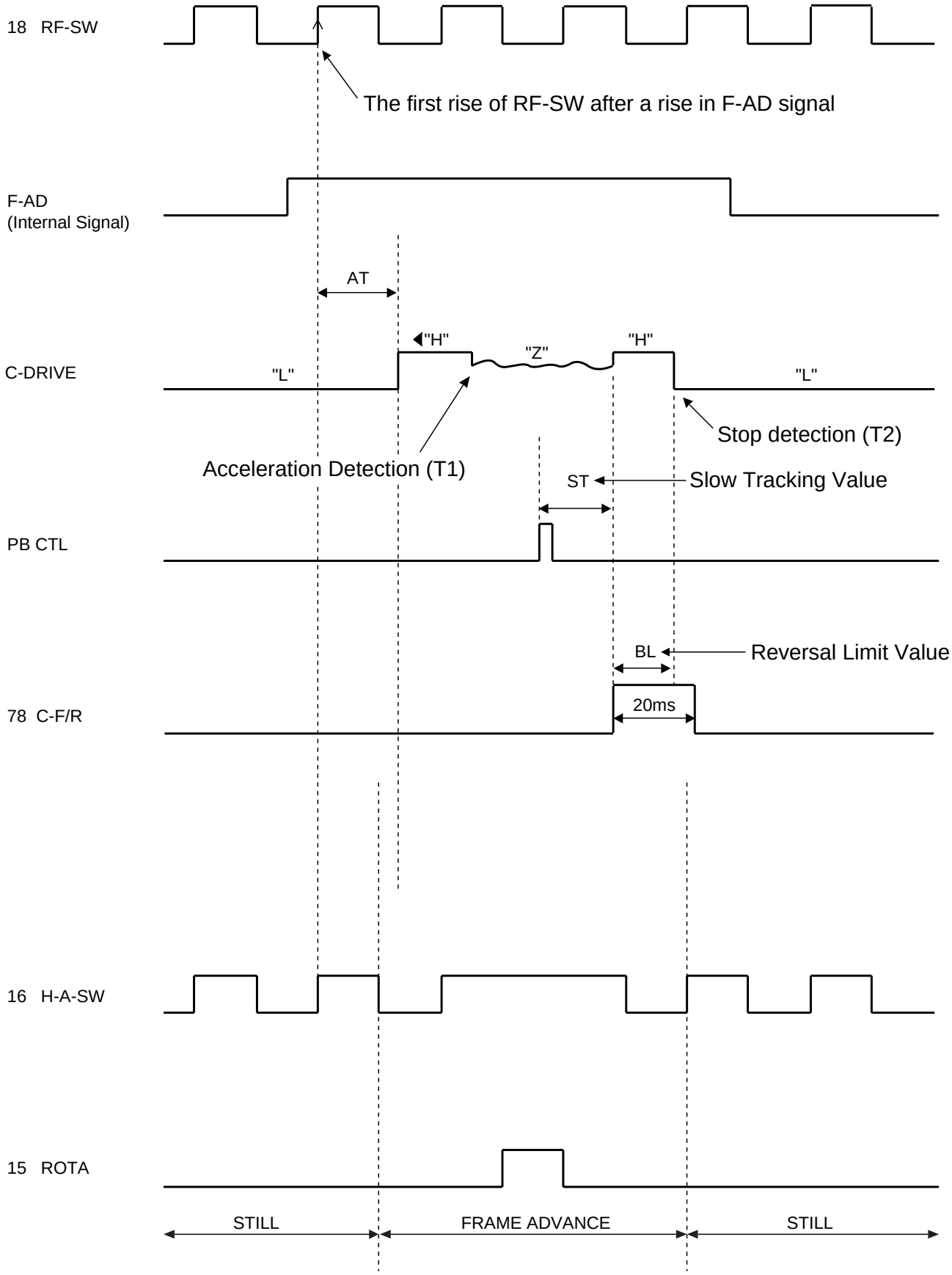


Fig. 2

1. EJECT (POWER OFF) -> CASSETTE IN (POWER ON) -> STOP(B) -> STOP(A) -> PLAY -> RS -> FS -> PLAY -> STILL -> PLAY -> STOP(A)

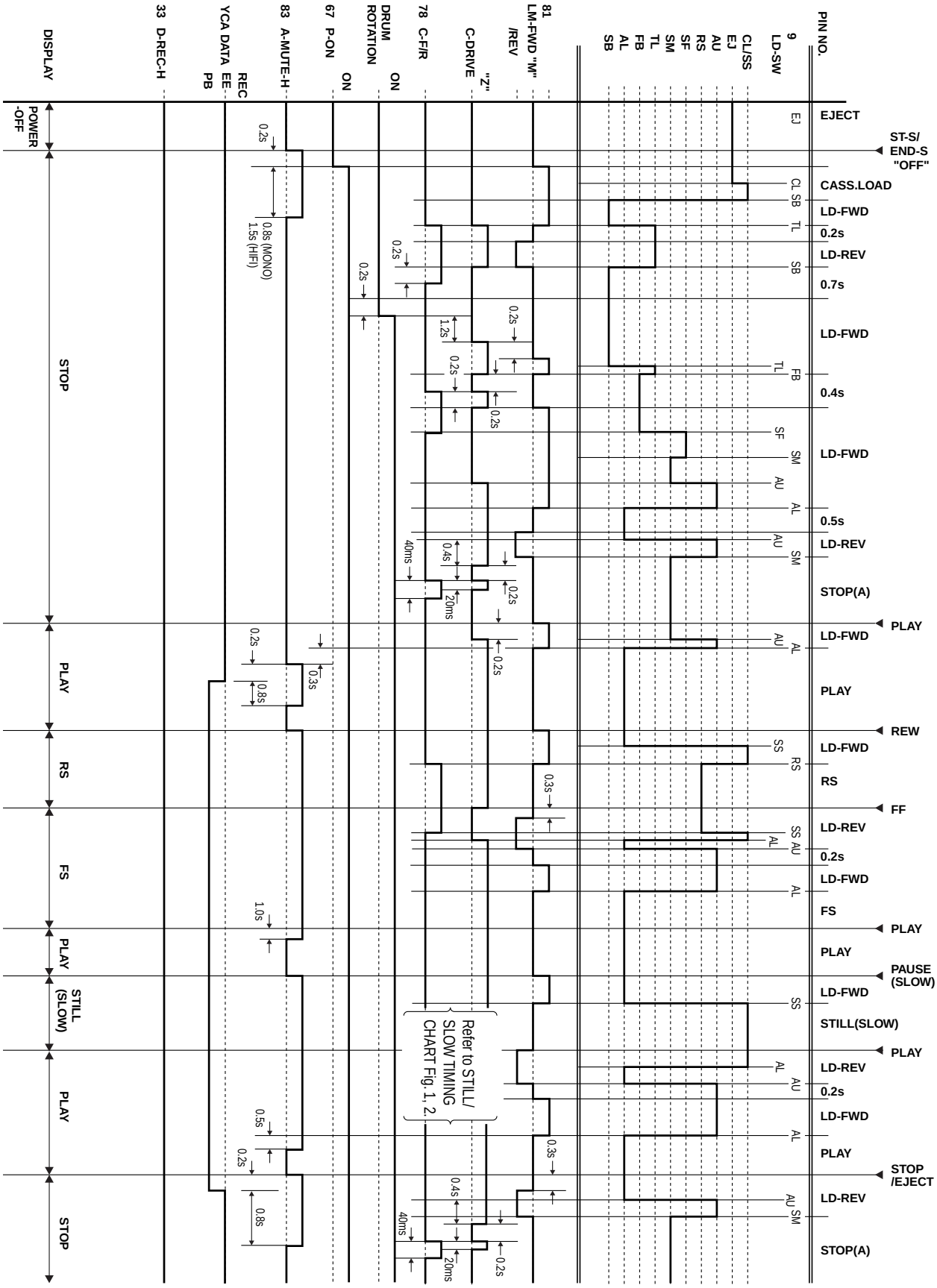


Fig. 3

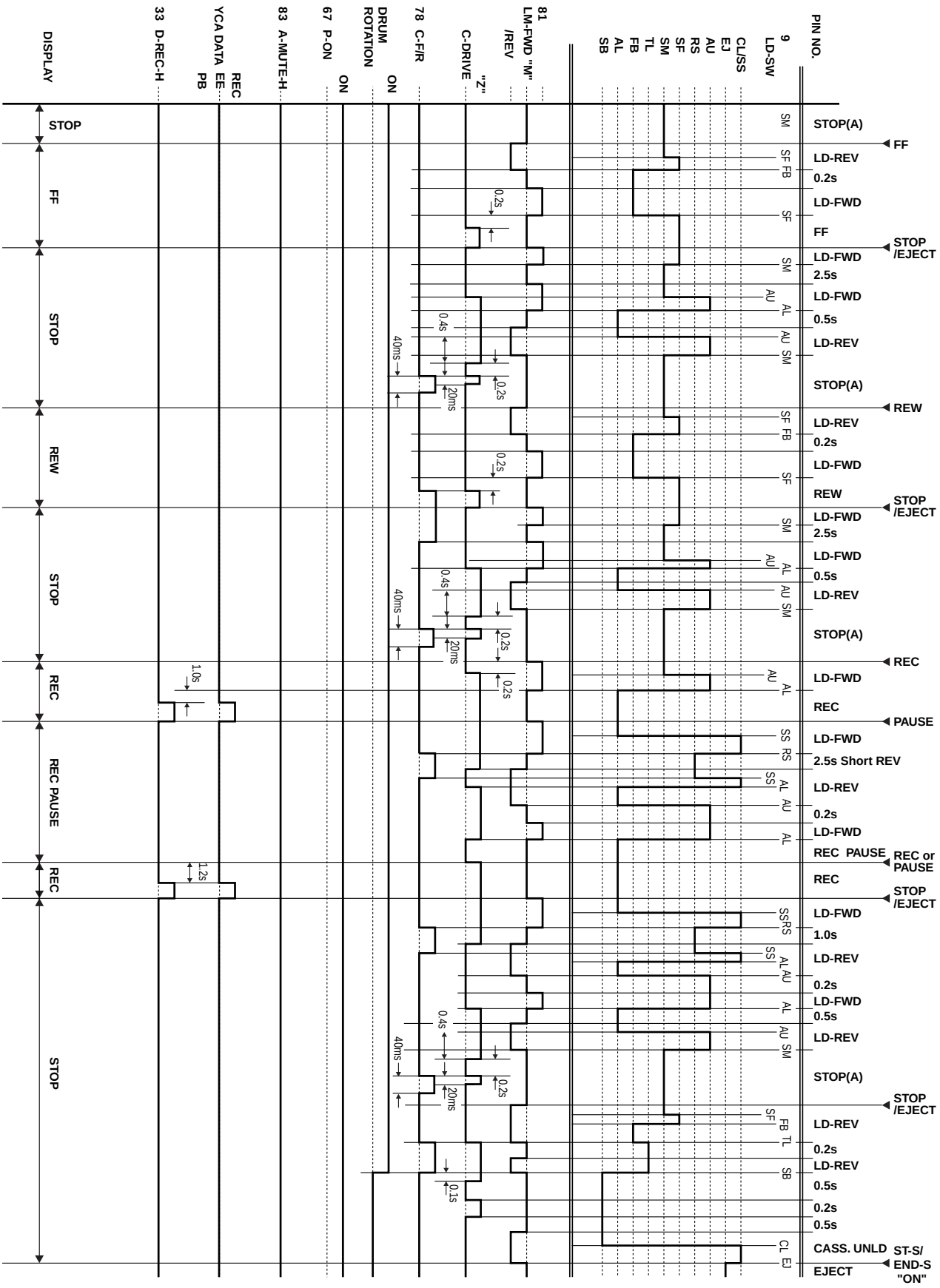
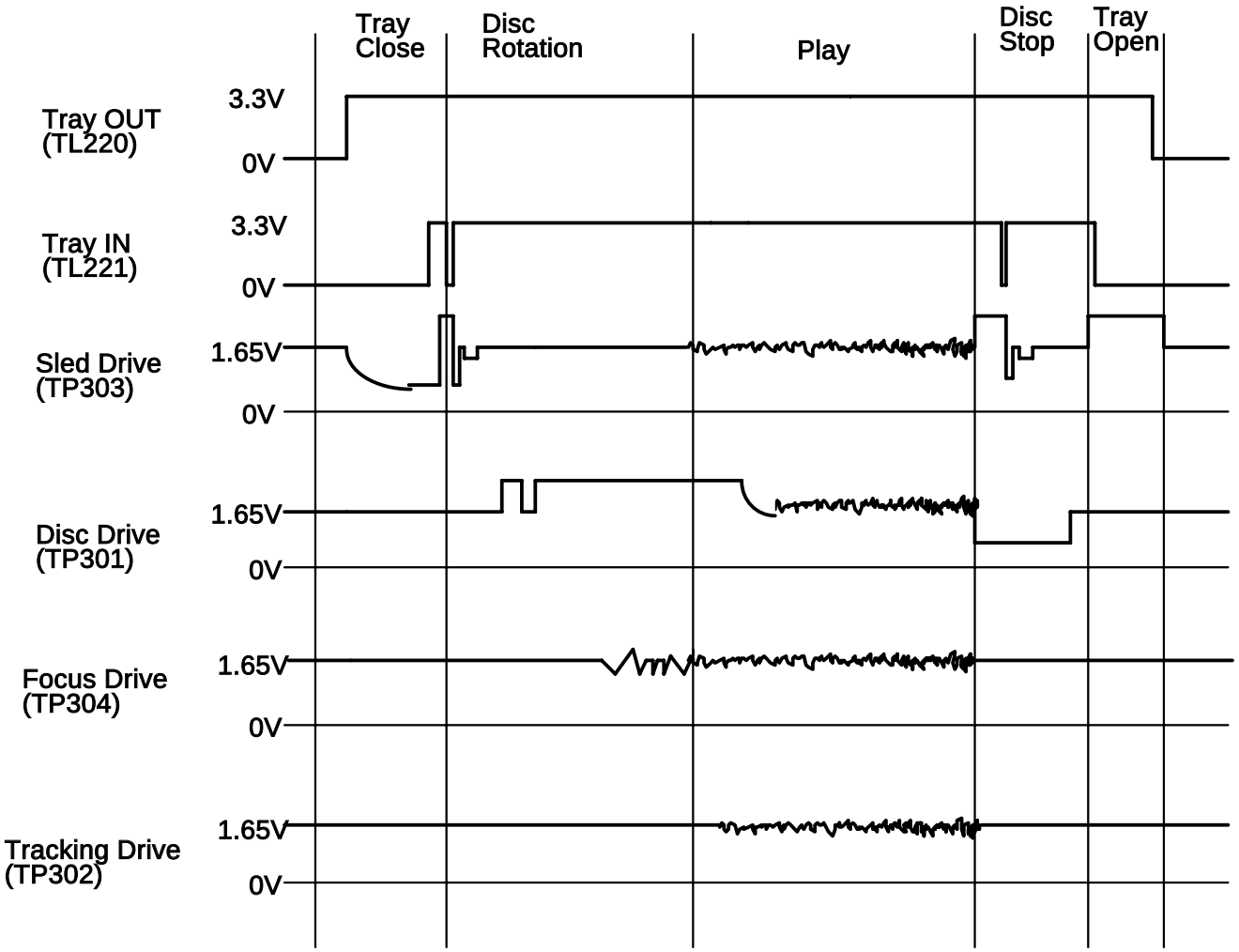

2. STOP(A) -> FF -> STOP(A) -> REW -> STOP(A) -> REC -> PAUSE -> PAUSE or REC -> STOP(A) -> EJECT
PIN NO.
9 LD-SW
CL/SS
EJ
AU
RS
SF
SM
TL
FB
AL
SB
81 LM-FWD "M" /REV
"Z" C-DRIVE
78 C-F/R
DRUM ROTATION
67 P-ON
83 A-MUTE-H
REC YCA DATA EE PB
33 D-REC-H
DISPLAY
ON
STOP(A)
FF
LD-REV
0.2s
LD-FWD
STOP /EJECT
2.5s
0.5s
REW
REC
PAUSE
2.5s Short REV
REC or PAUSE
1.0s
CASS. UNLD
ST-S/ END-S "ON"
EJECT
0.4s
40ms
20ms
0.1s
STOP
FF
REW
REC PAUSE

Fig. 4

[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
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	OSCin	Clock Input for letter size	-
45		OUT	OSCout	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		-	CTLAMPo ut	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

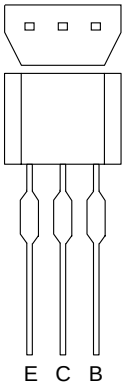
[DVD Section]

IC612 [PT6315]

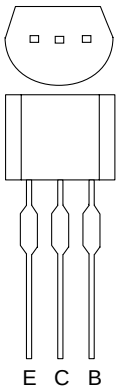
Pin No.	In/Out	Signal Name	Name Function
1	-	NU	Not Used
2	-	NU	Not Used
3	-	NU	Not Used
4	-	NU	Not Used
5	In	OSC	Oscillator Input
6	-	NU	Not Used
7	OUT	DISPLAY-DATA	VFD Driver IC Control Data
8	OUT	DISPLAY-CLK	VFD Driver IC Control Clock
9	OUT	DISPLAY-ENA	VFD Driver IC Chip Select Signal
10	-	NU	Not Used
11	-	NU	Not Used
12	-	GND	GND
13	-	+5V	Power Supply
14	-	NU	Not Used
15	-	NU	Not Used
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

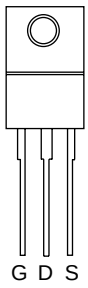


2SA1175(J,H,F)
KTA1267(GR,Y)
BA1F4M-T
BN1F4M-T
BN1L4M-T
KTA1266(GR)
KTC3199(Y,GR,BL)
2SC2785(J,H,F,K)
KRC103M
KRA103M
KRA104M
KRA109M



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)

2SK3566



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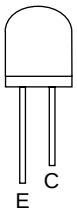
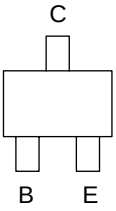
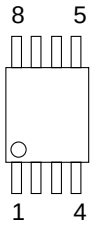
PT204-6B-12





2SA1037AK T146Q
2SC2412K T146S
KTA1504(GR,Y)-RTK
KTC3875(GR,Y)-RTK
FA1F4M-T1B
FMG4A T148
KRC103S RTK



NJM4558D
KIA4558P
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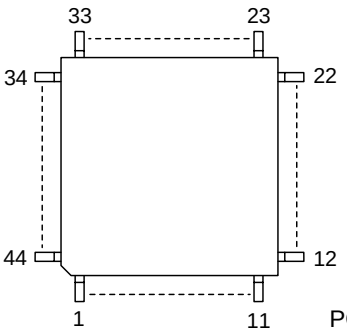
NJM4558M-TE1

PT6315
MSP3417G-QG-B8
MSP3417G-QG-B8-V3



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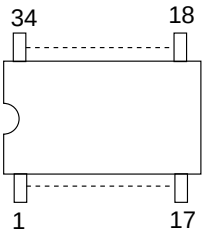

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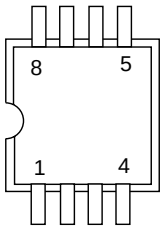

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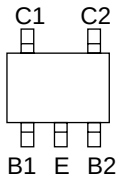
EL817(B,C)

RN1511(TE85R)



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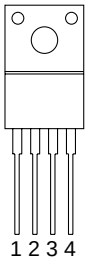

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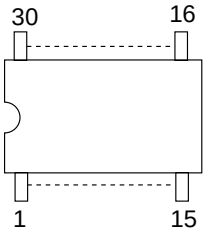

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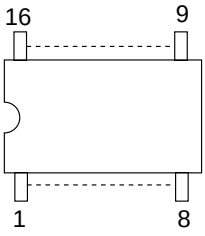
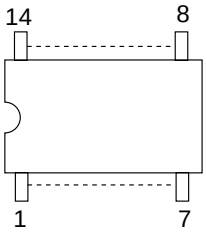
BU4053BCF



KIA339F EL
LM339DT



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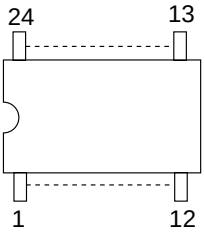

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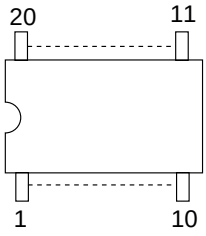

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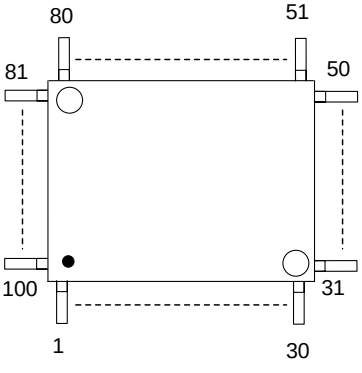

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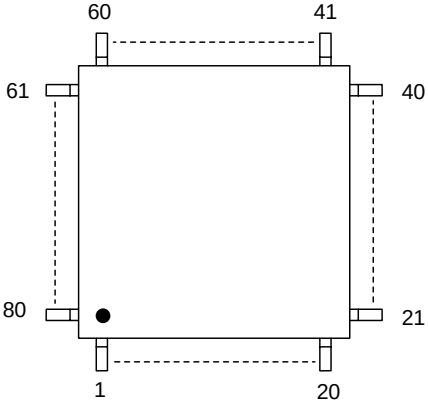

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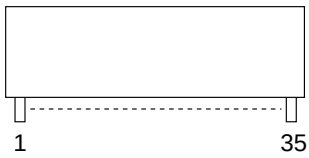


Note:
A: Anode
K: Cathode
E: Emitter
C: Collector
B: Base
R: Reference
S: Source
G: Gate
D: Drain

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	not for /02
C130	9965 000 19560	ELCAP 4.7UF/50V M H7	not for /02
C131	9965 000 19560	ELCAP 4.7UF/50V M H7	not for /02
C132	9965 000 19560	ELCAP 4.7UF/50V M H7	not for /02
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	/02
C384	9965 000 15301	ELCAP 2.2UF/50V M H	/02
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	
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
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	/02
D370	4822 130 32778	1SS133	/02
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
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	9965 000 09882	TRANSISTOR BN1L4M-T	
Q502	4822 130 41306	2SC1815GR	
Q506	9965 000 08630	PHOTO TRANSISTOR PT204-6B-12	
Q506	9965 000 18096	PHOTO TRANSISTOR MID-32A22	
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
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.

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

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
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

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 ⚠	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 ⚠	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	⚠	FUSE T5A 250V
1203	4822 071 55002	⚠	FUSE T5A 250V
1204	9965 000 07786	⚠	FUSE T4A 250V
1205	9965 000 07786	⚠	FUSE T4A 250V
1263	4822 267 10733		FLEX SOCKET 4P VERT
1270	2422 025 14044	⚠	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	⚠ 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	⚠	AC CORD	/00/02
AC1001!	9965 000 20990	⚠	AC CORD	/05
CN001B	9965 000 20924		CONNECTOR, 20P TUC-P20X-B1	
CN1008	9965 000 20943		CONNECTOR, 3P B3P-VH	
F1001!	9965 000 13786	⚠	FUSE T1.6A 250V	
RL001!	9965 000 20945	⚠	POWER RELAY SDT-S-112LMR	
SA1001!	9965 000 20946	⚠	SURGE ABSORBER PVR-10D471KB	
SA1001!	9965 000 08602	⚠	SURGE ABSORBER CNR-10D471K	
T001!	9965 000 19673	⚠	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	⚠	MET FILM CAP. 0.068UF/275V K
C1001!	9965 000 06521	⚠	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	⚠	SAFTY CAP. 2200PF/250V
C1006!	9965 000 11407	⚠	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

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	⚠	82K 5% 2W
R1004	4822 053 11823	⚠	82K 5% 2W
R1011	9965 000 19605	⚠	MET OXIDE RES. 1W J 1.3 OHM
R1011	9965 000 19606	⚠	MET OXIDE RES. 1W J 1.3 OHM
R1043	9965 000 19665	⚠	MET OXIDE RES. 1W J 2.7 OHM
R1043	9965 000 19607	⚠	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	⚠	LINE FILTER 50MH LF-4D-E503 OR
L1003!	9965 000 13005	⚠	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

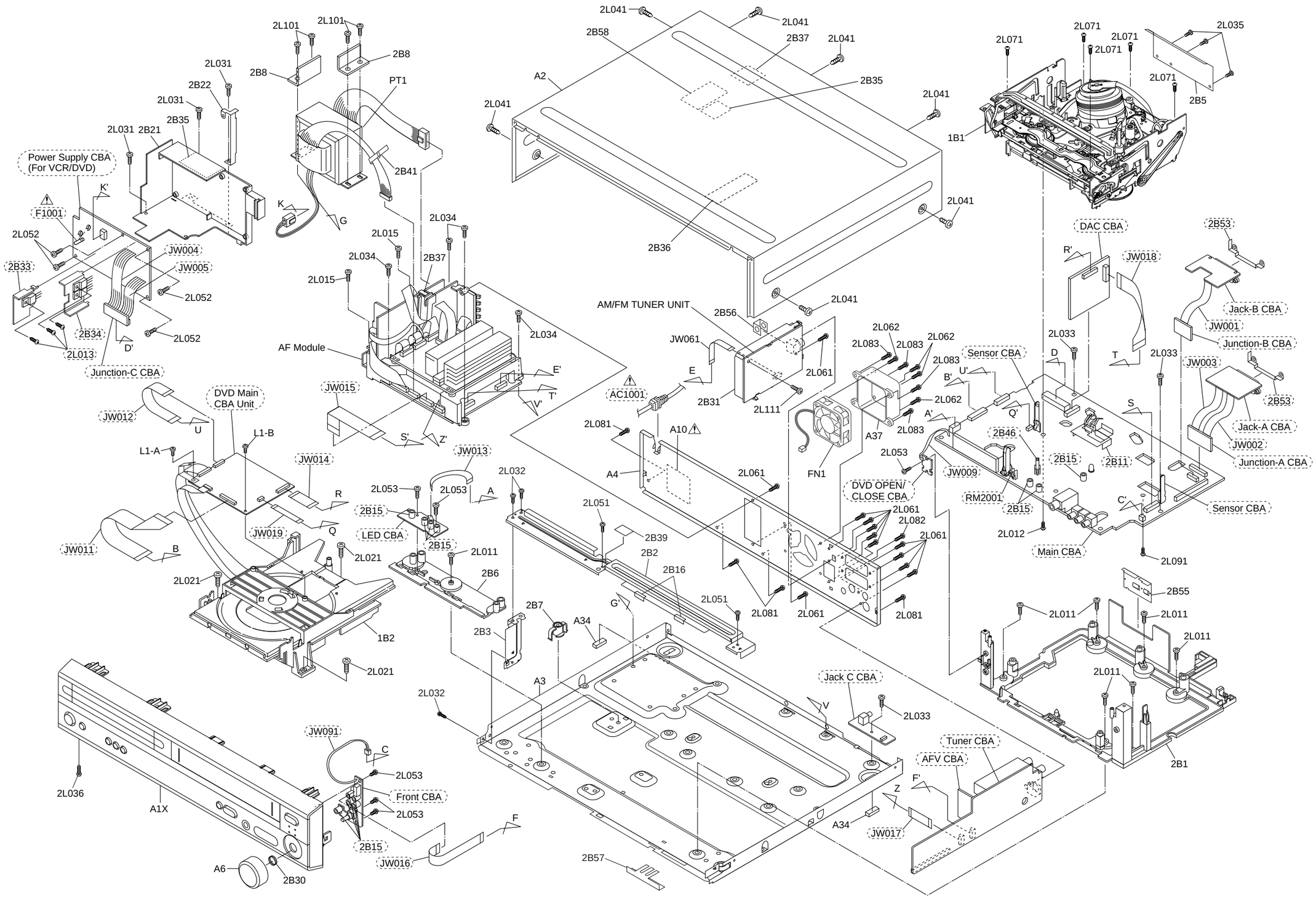
MISCELLANEOUS

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

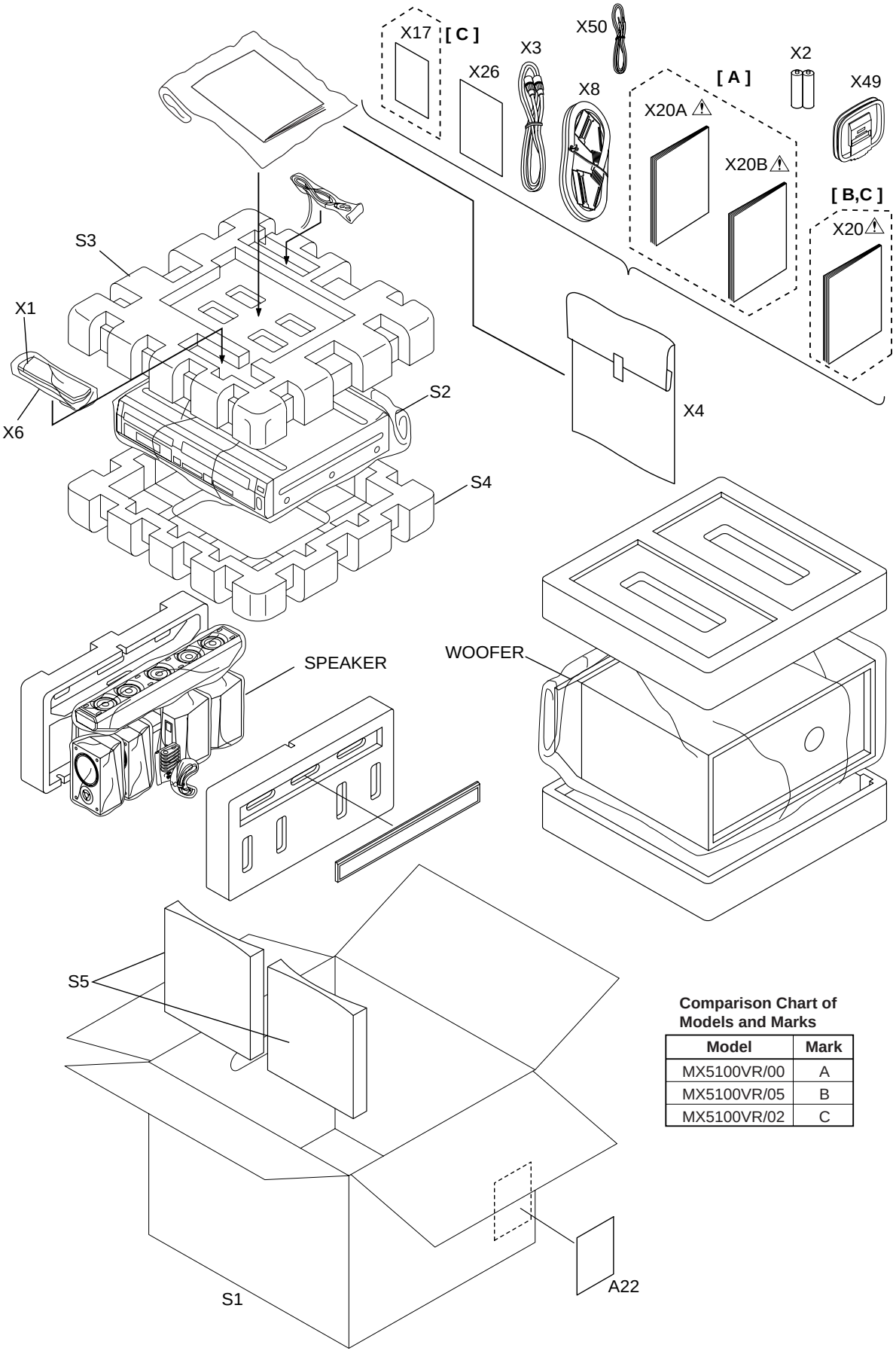
Note: Only the parts mentioned in this list are normal service spare parts.

EXPLODED VIEWS

Cabinet



Packing



Comparison Chart of Models and Marks

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

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**

TABLE OF CONTENTS

E9015CV

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% lsopropyl 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

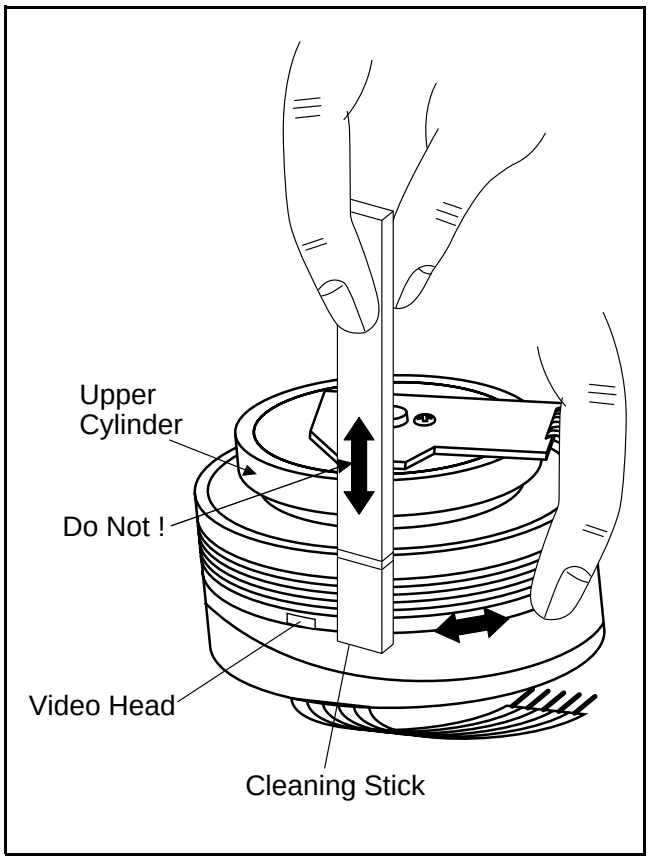
Clean the head with a head cleaning stick or chamois cloth.

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

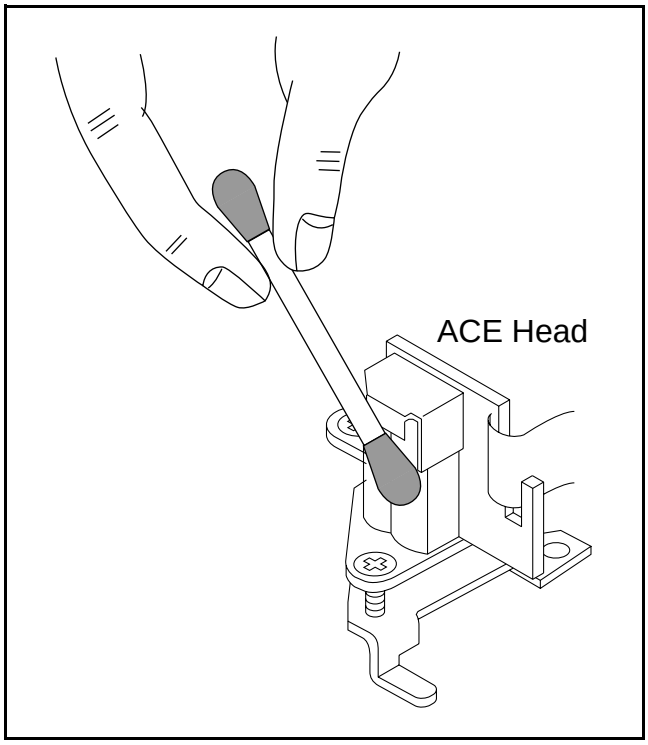
Clean the head with a cotton swab.

Procedure

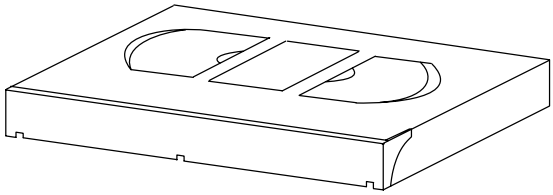
1. Remove the top cabinet.
2. Dip the cotton swab in 90% isopropyl alcohol and clean the audio control head. Be careful not to damage the upper drum and other tape running parts.

Notes:

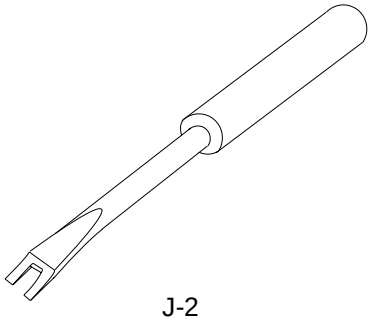
1. Avoid cleaning the audio control head vertically.
2. Wait for the cleaned part to dry thoroughly before operating the unit or damage may occur.



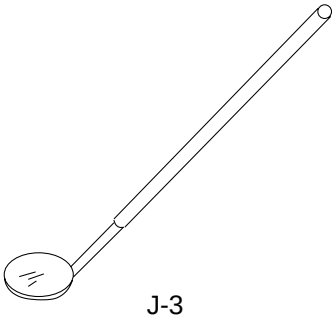
SERVICE FIXTURE AND TOOLS



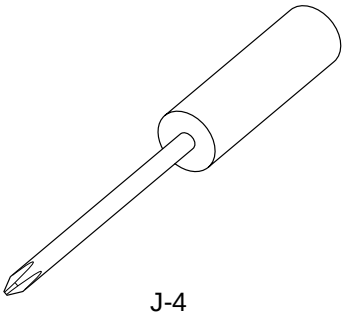
J-1-1, J-1-2



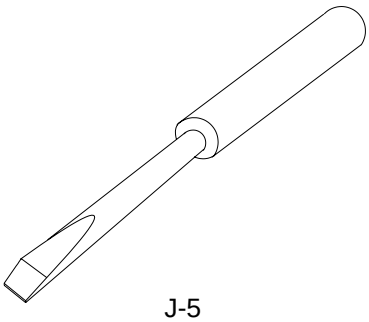
J-2



J-3



J-4



J-5

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.

Top View

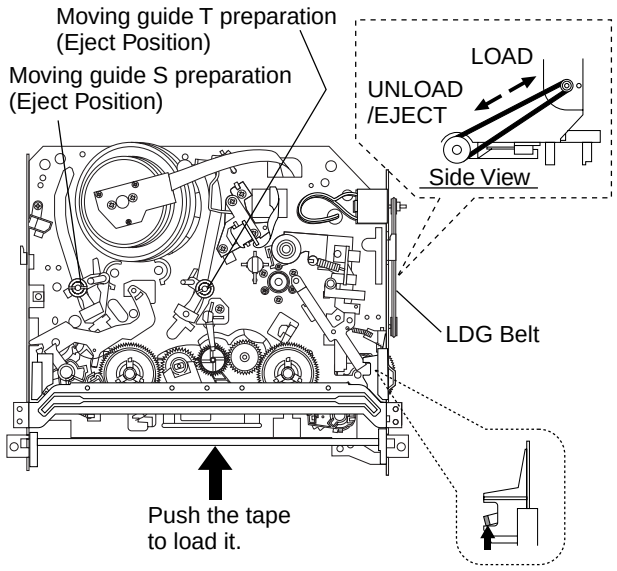


Fig. M1

Bottom View

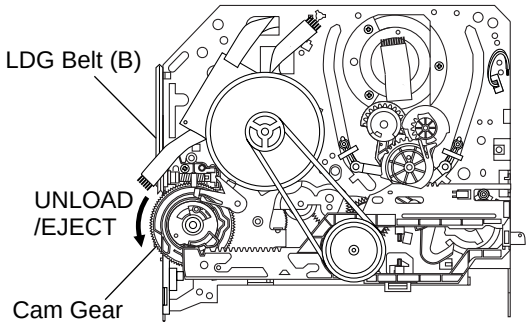


Fig. M2

1.Tape Interchangeability Alignment

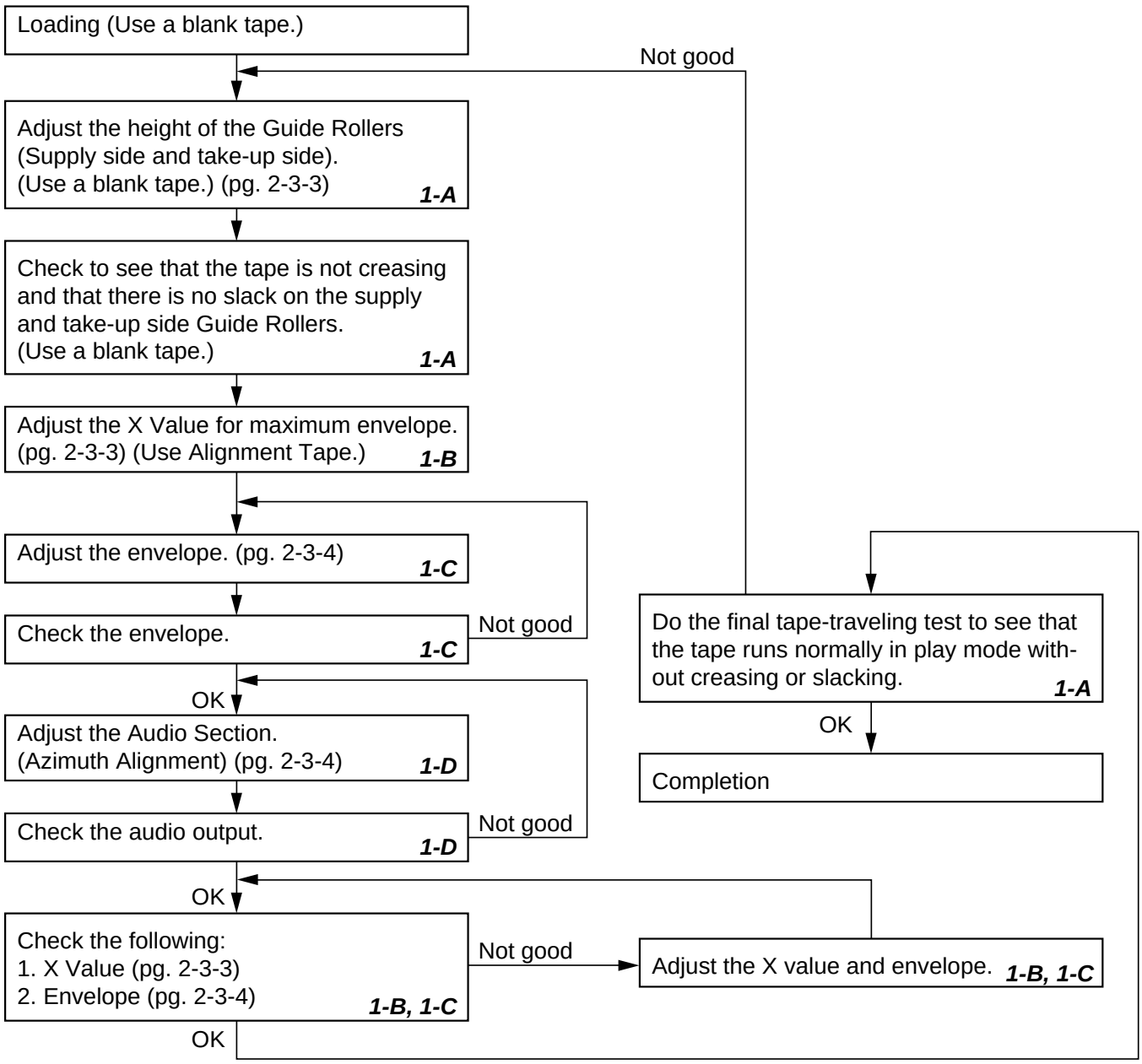
Note:
To do these alignment procedures, make sure that the Tracking Control Circuit is set to the center position every time a tape is loaded or unloaded. (Refer to page 2-3-4, procedure 1-C, step 2.)

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.)

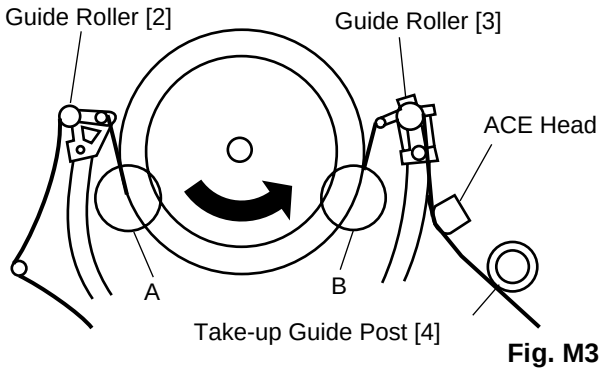


Fig. M3

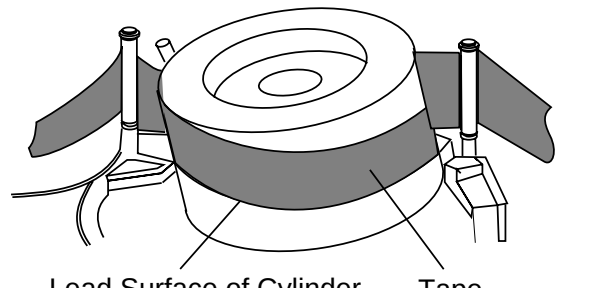


Fig. M4

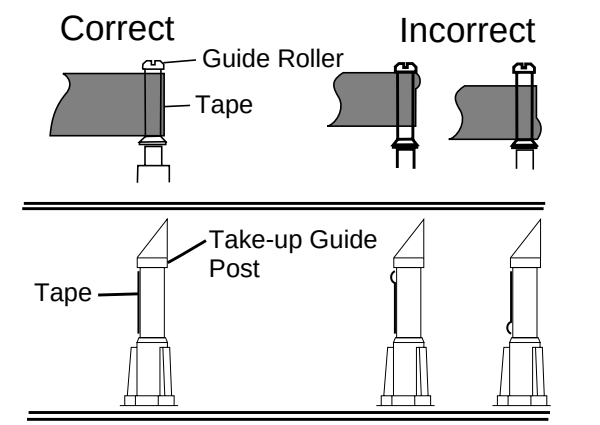


Fig. M5

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)

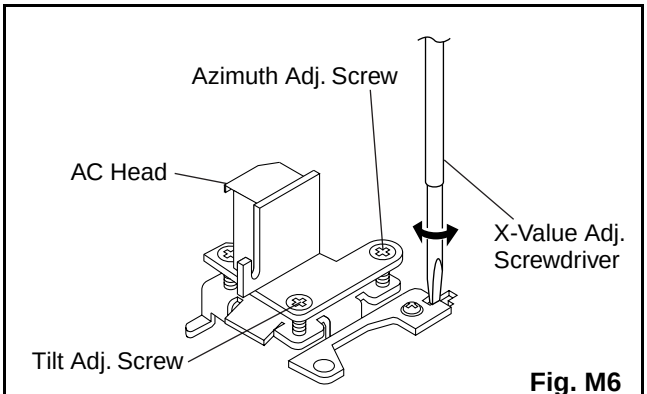


Fig. M6

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.

Dropping envelope level at the beginning of track.

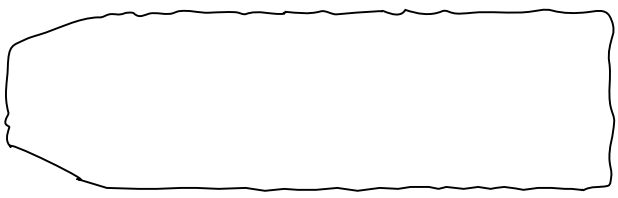


Fig. M7

Dropping envelope level at the end of track.

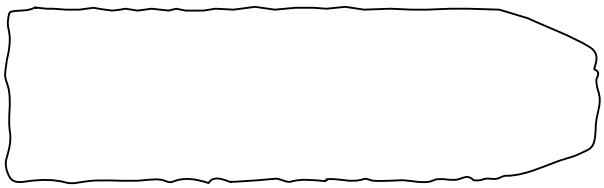


Fig. M8

Envelope is adjusted properly. (No envelope drop)

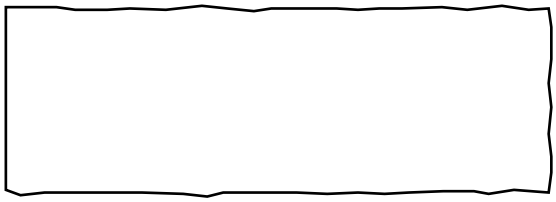


Fig. M9

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

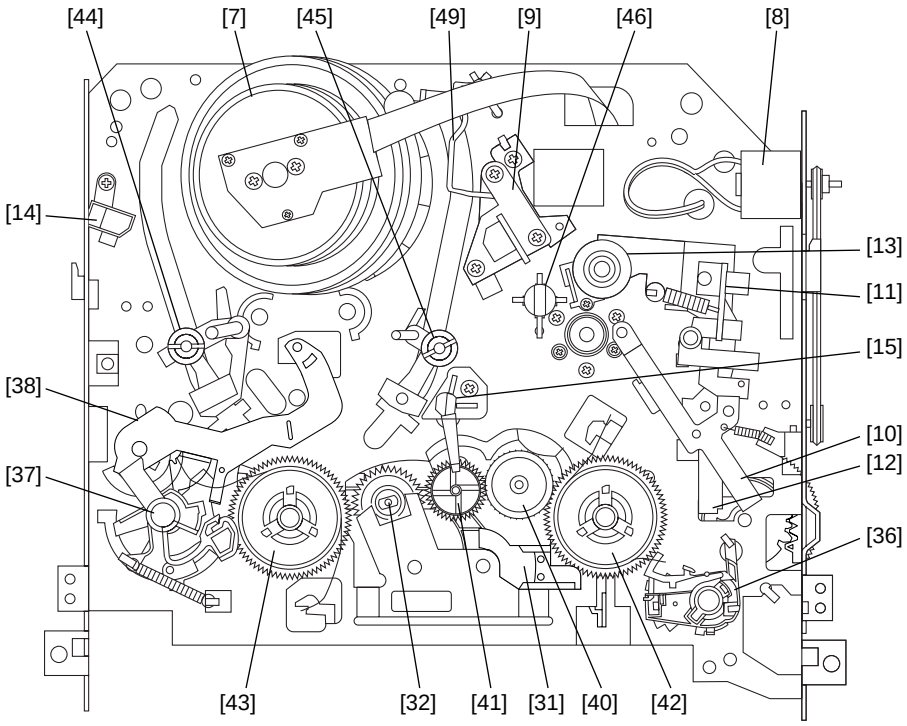


Fig. DM1

Bottom View

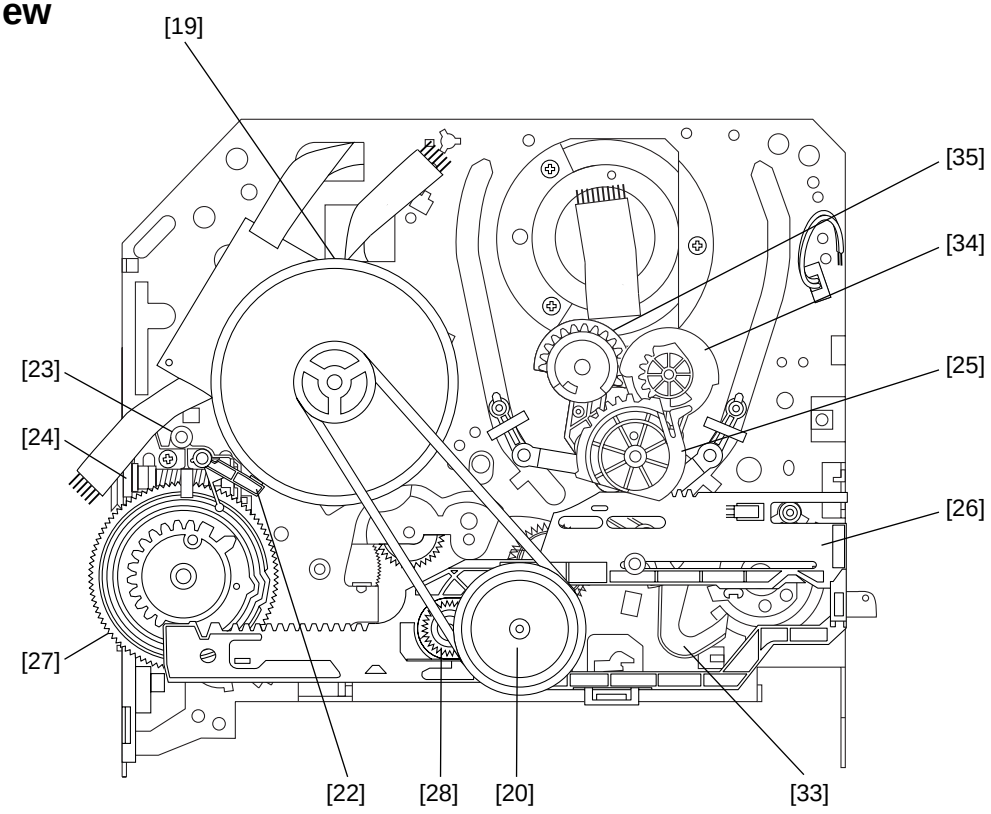


Fig. DM2

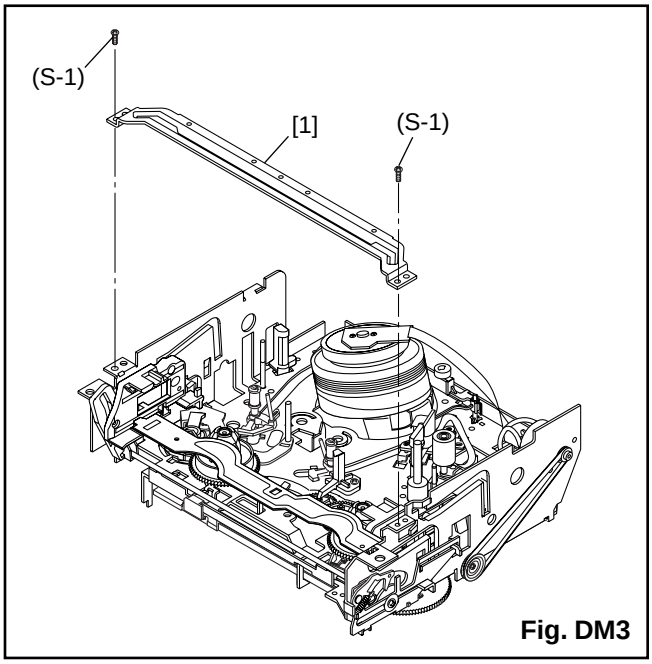


Fig. DM3

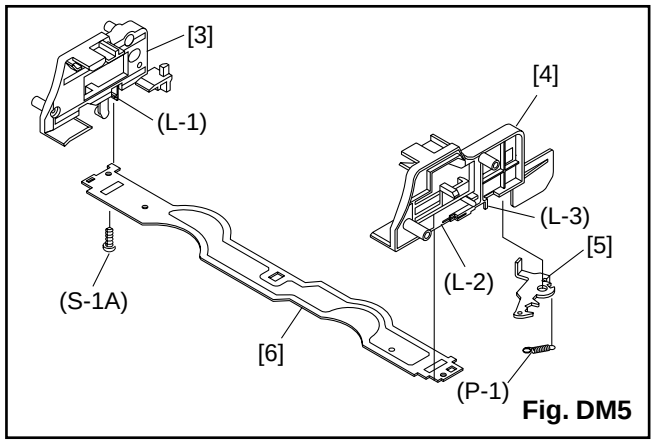
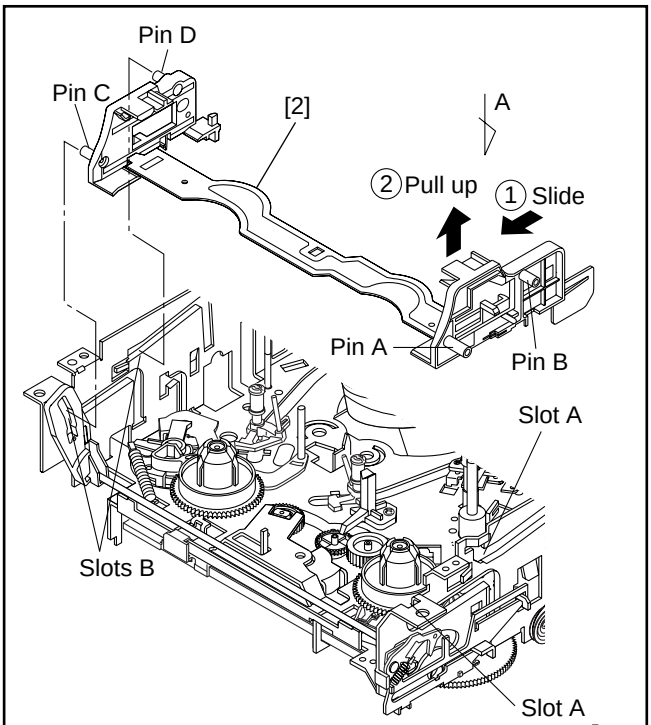


Fig. DM5



First, while pushing the locking tab as shown in the right, slide and pull up the right side on [2] to release Pin A and Pin B from the slots A.
Then, remove Pin C and Pin D on [2] from the slots B as shown.

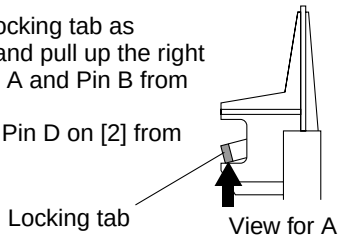


Fig. DM4

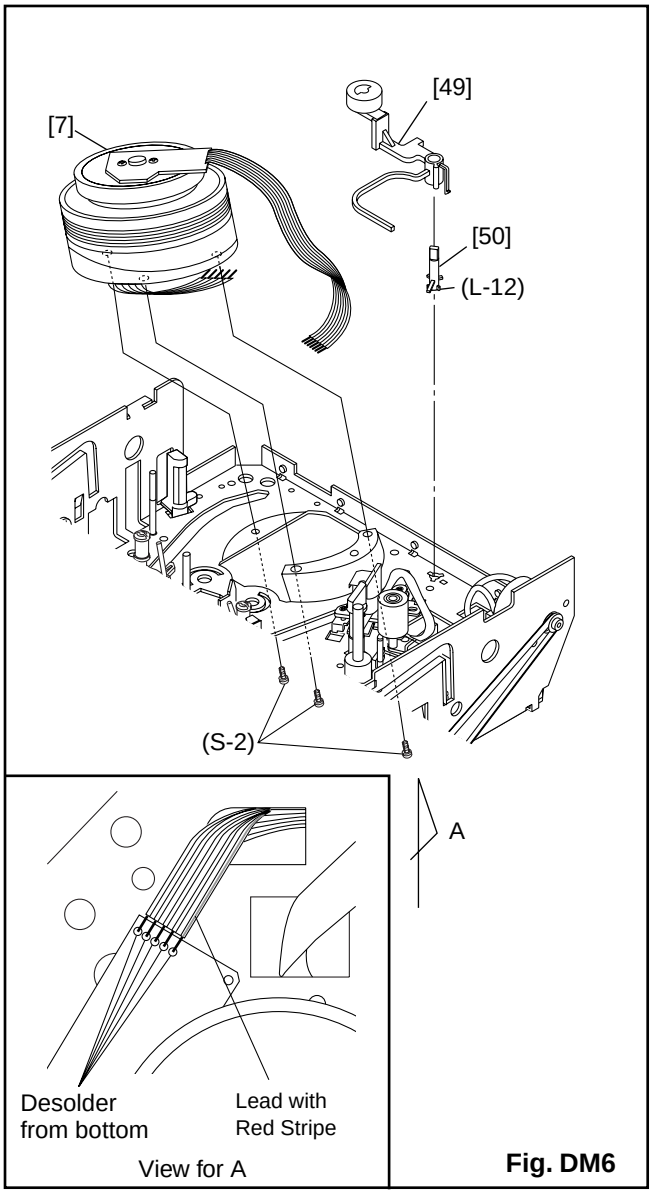


Fig. DM6

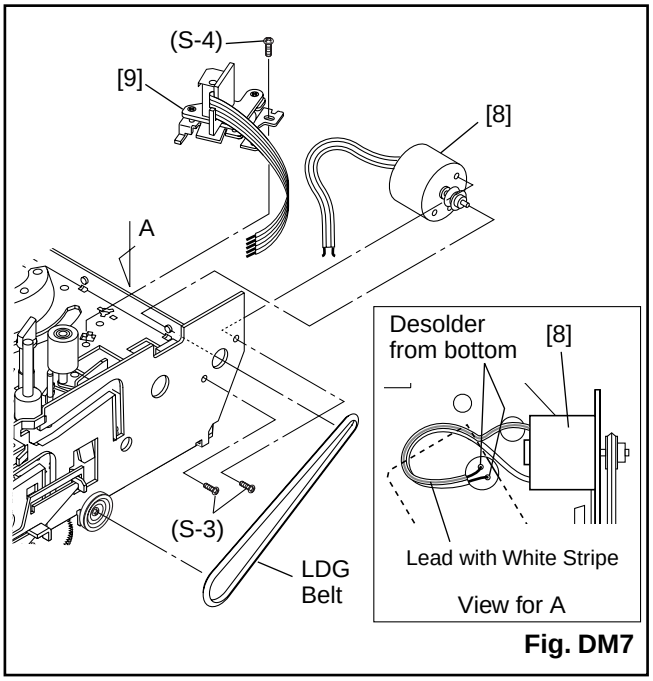


Fig. DM7

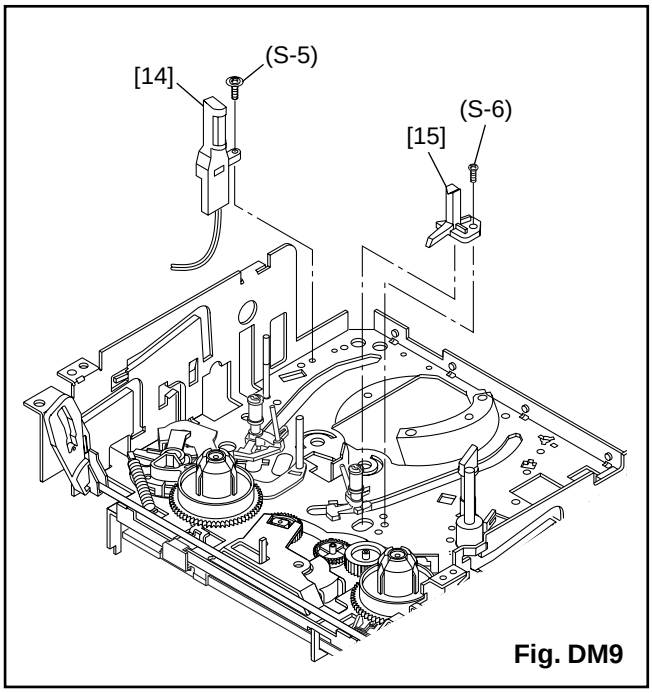


Fig. DM9

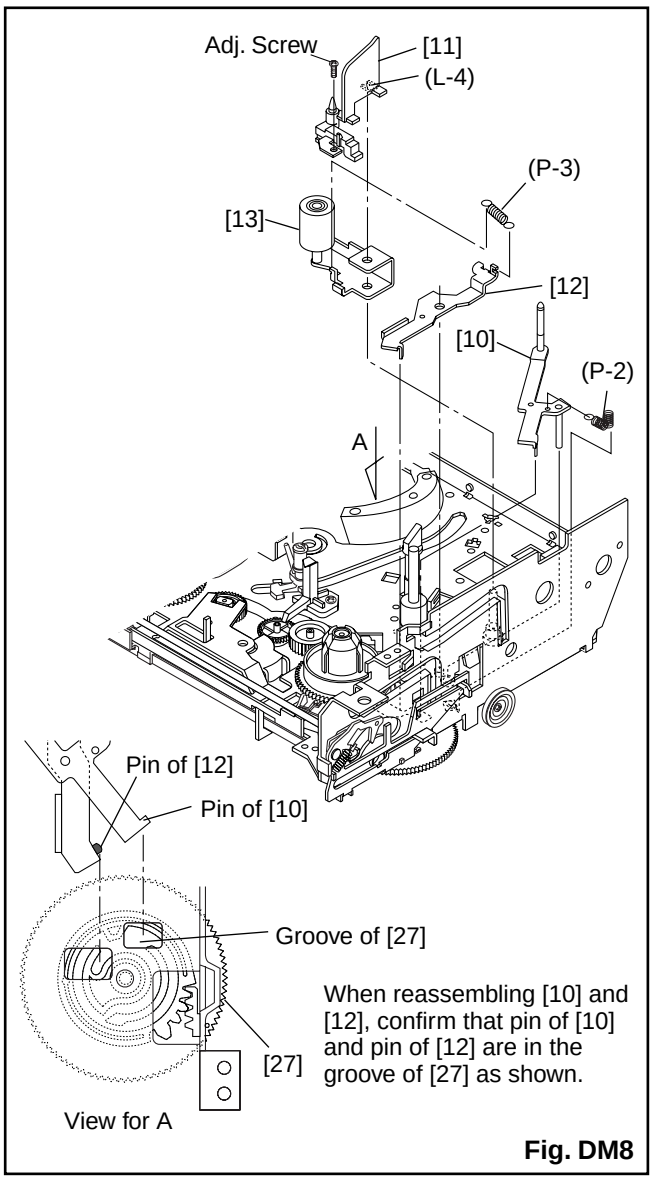


Fig. DM8

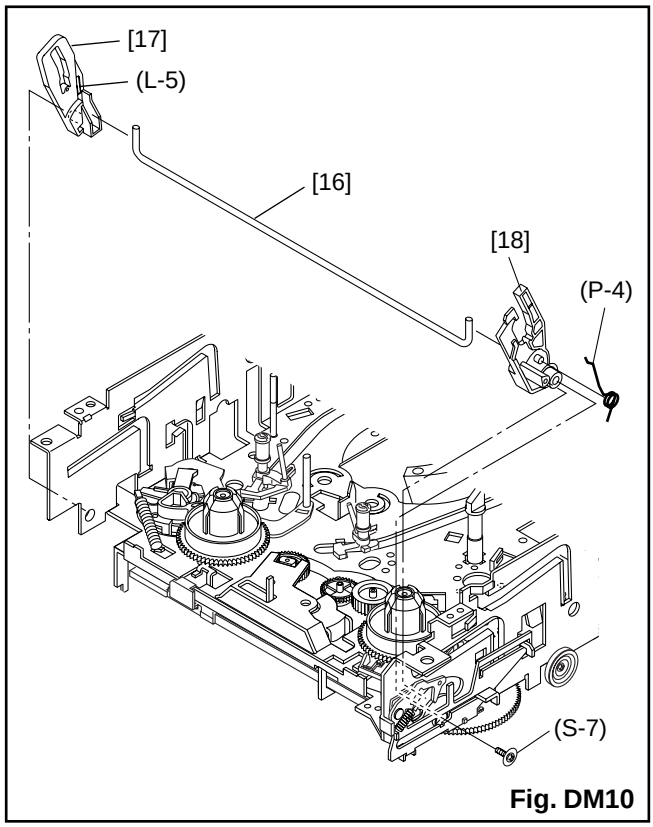


Fig. DM10

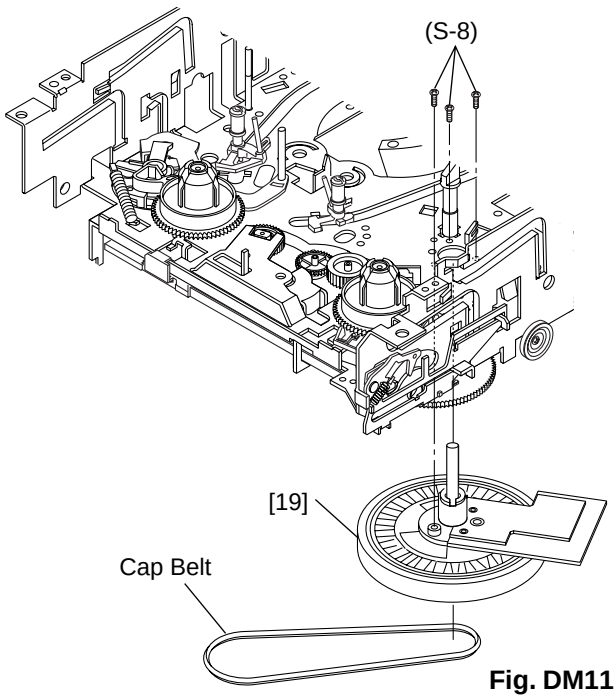
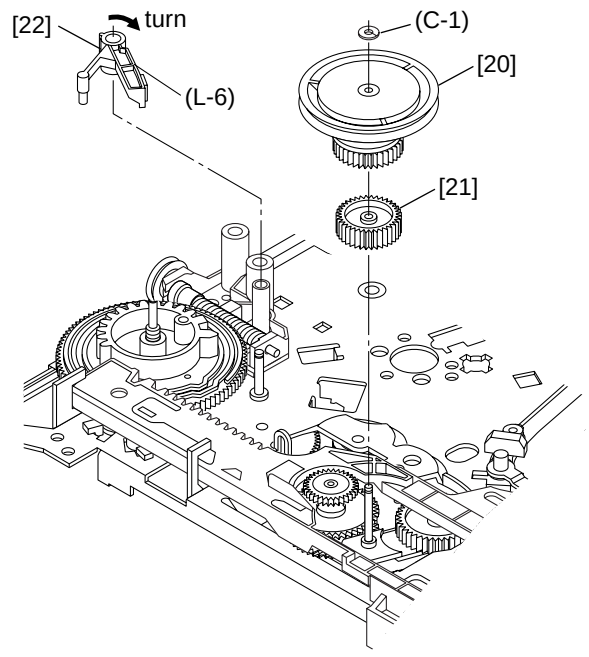


Fig. DM11



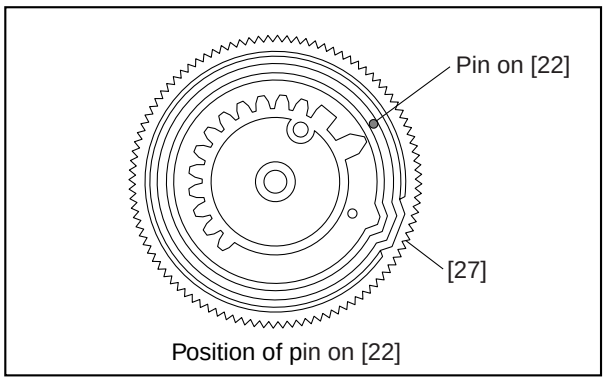
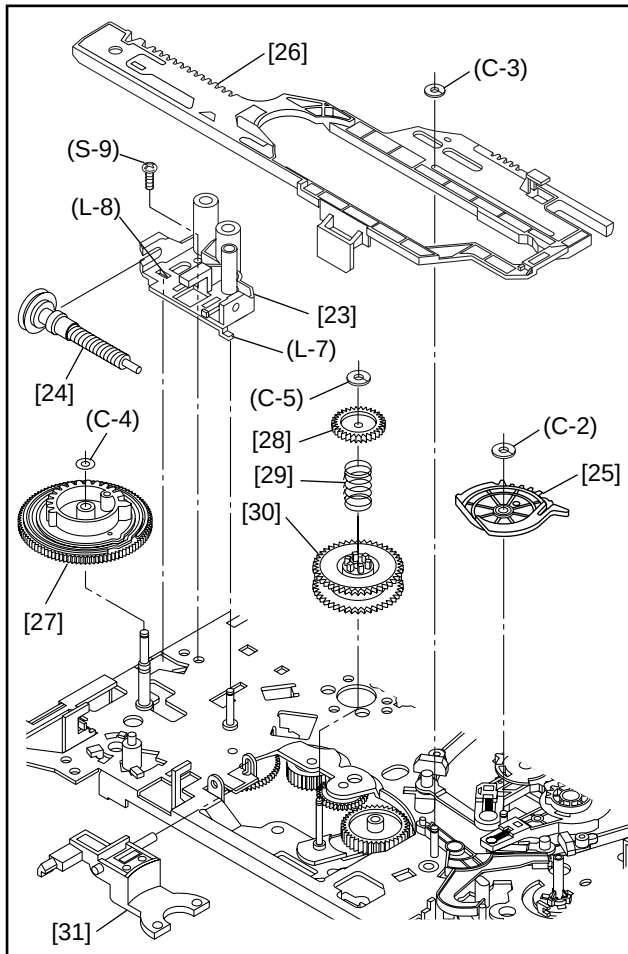
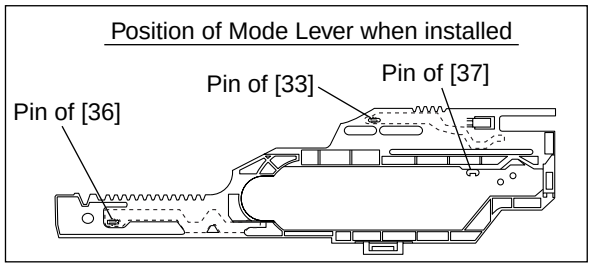
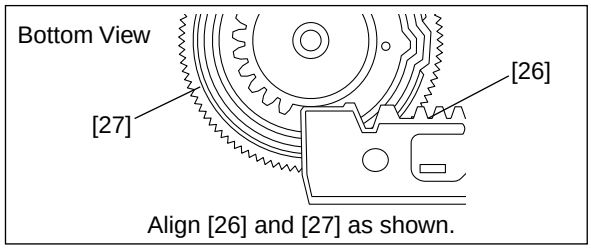


Fig. DM12







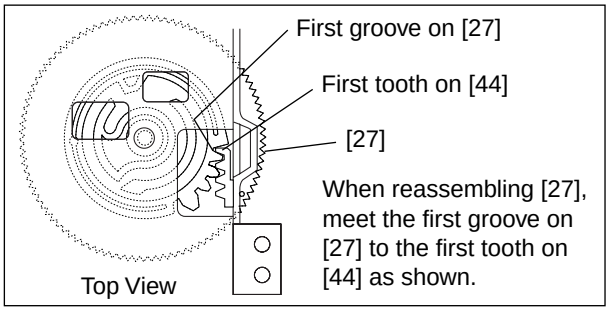


Fig. DM13

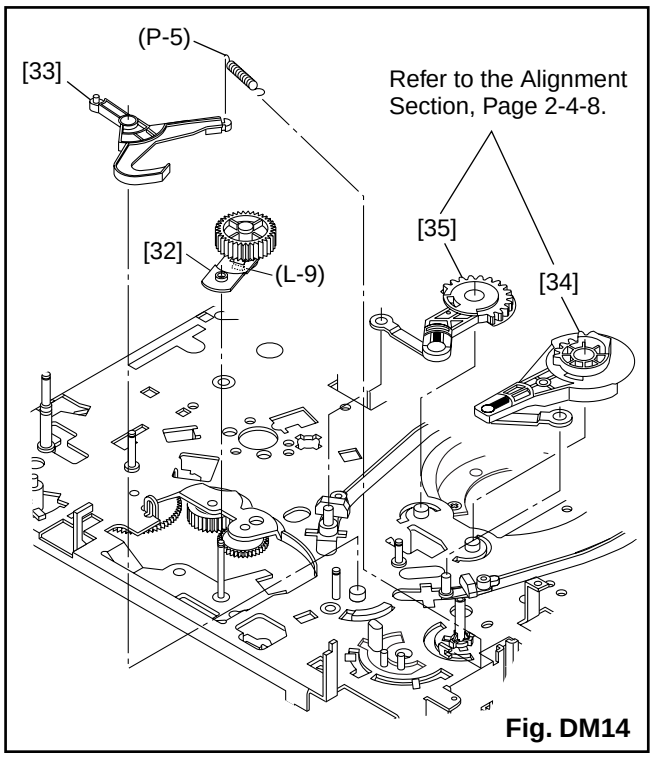


Fig. DM14

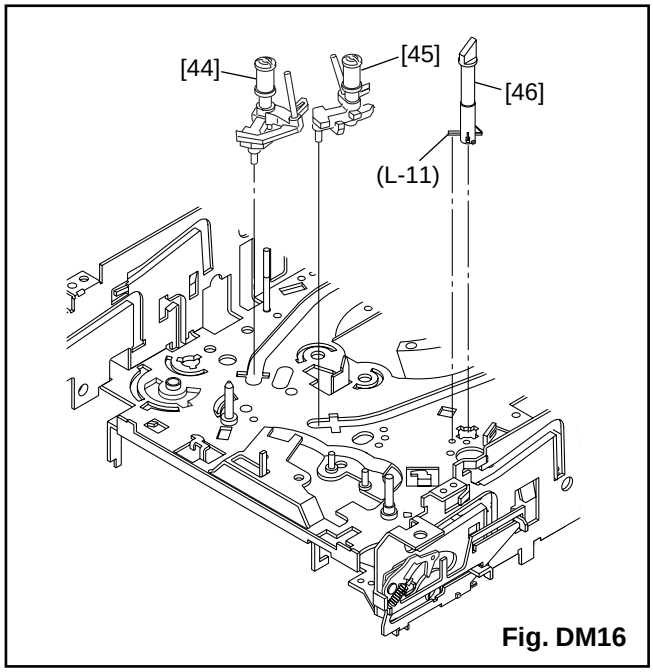


Fig. DM16

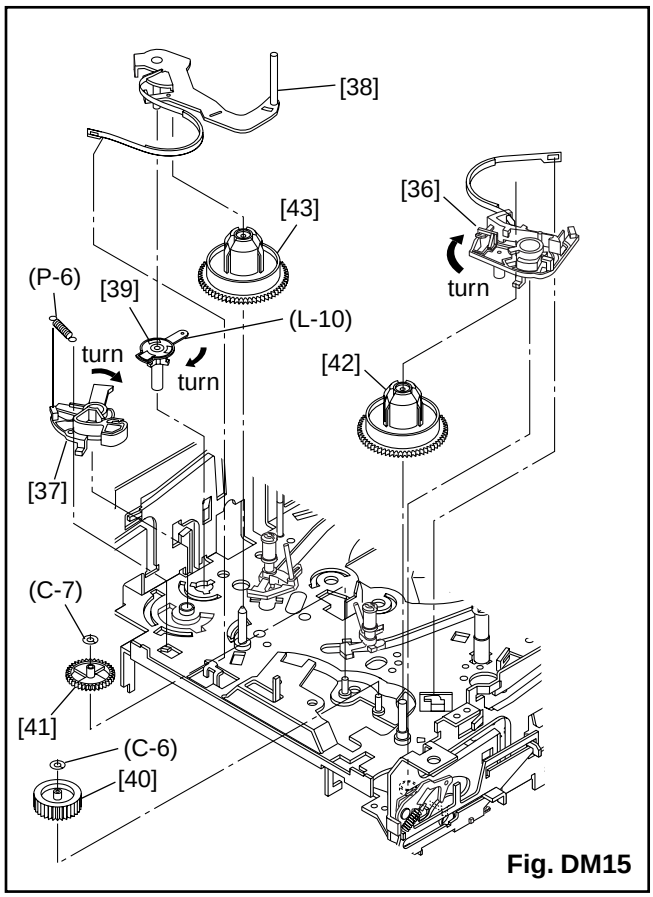


Fig. DM15

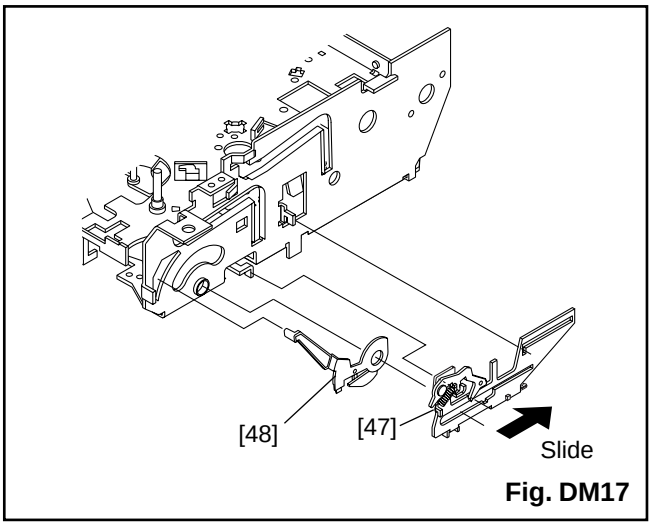


Fig. DM17

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

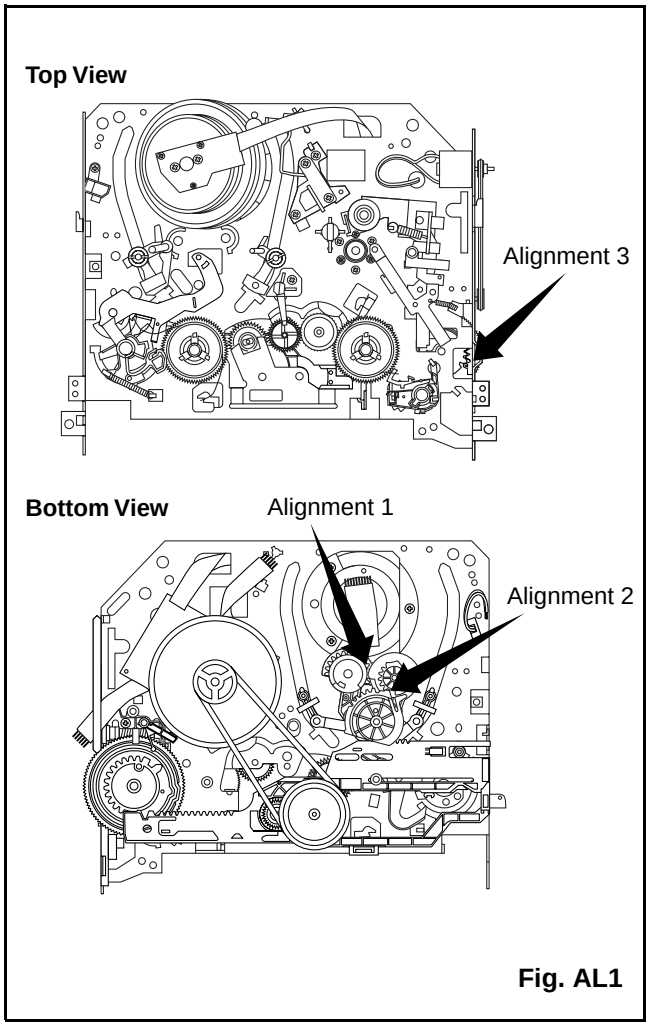


Fig. AL1

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.

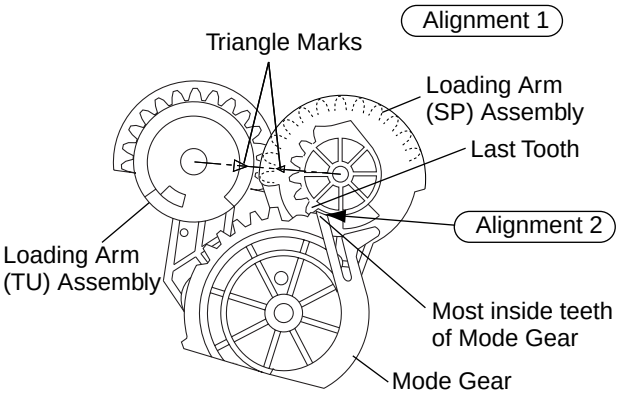


Fig. AL2

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.

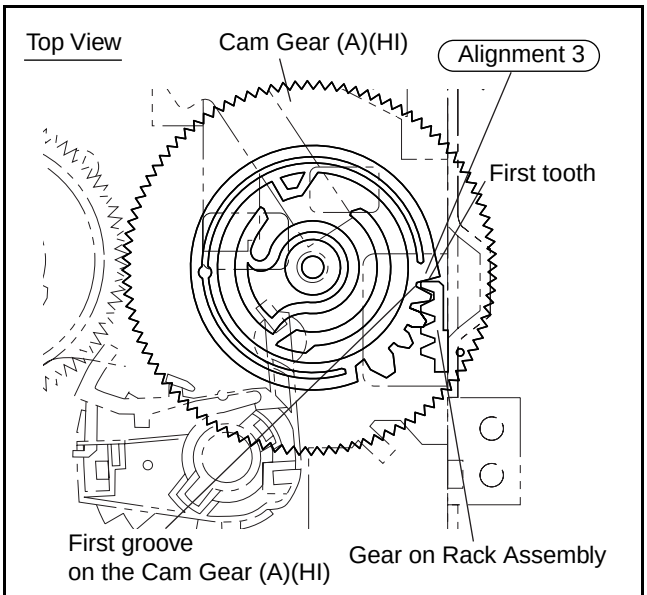
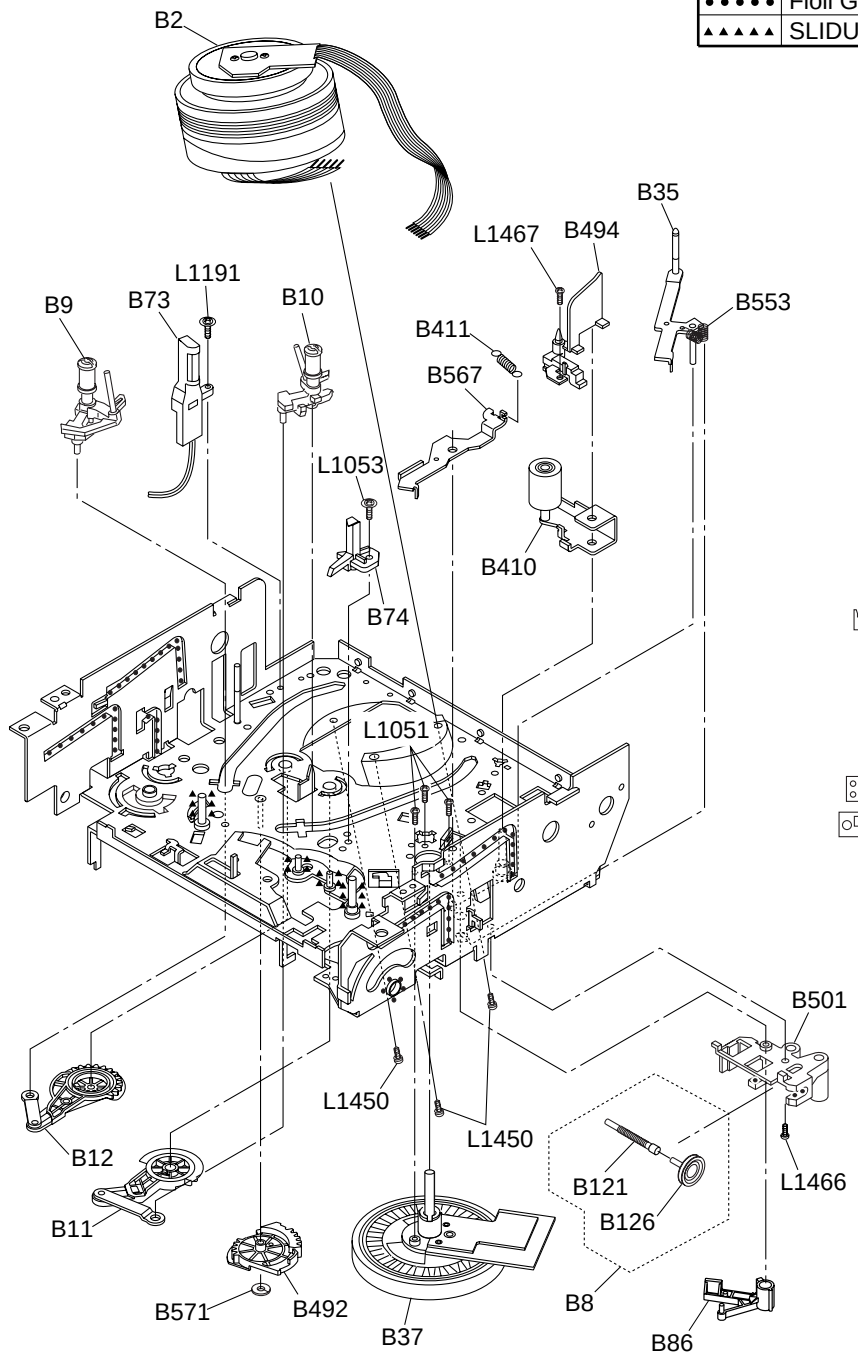


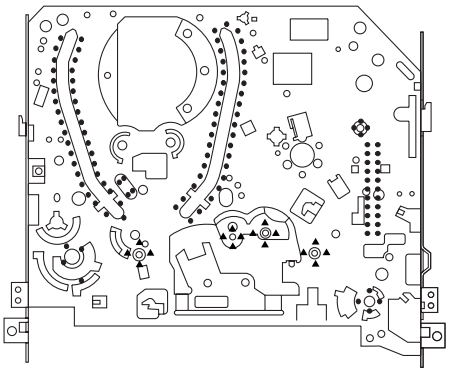
Fig. AL3

DECK EXPLODED VIEWS

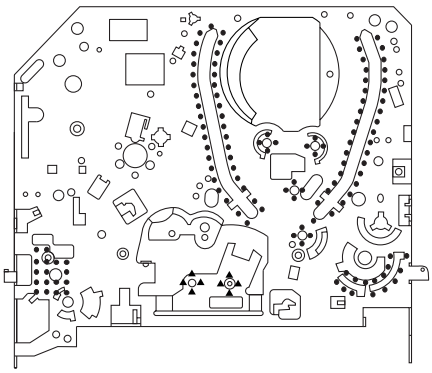
Deck Mechanism View 1

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





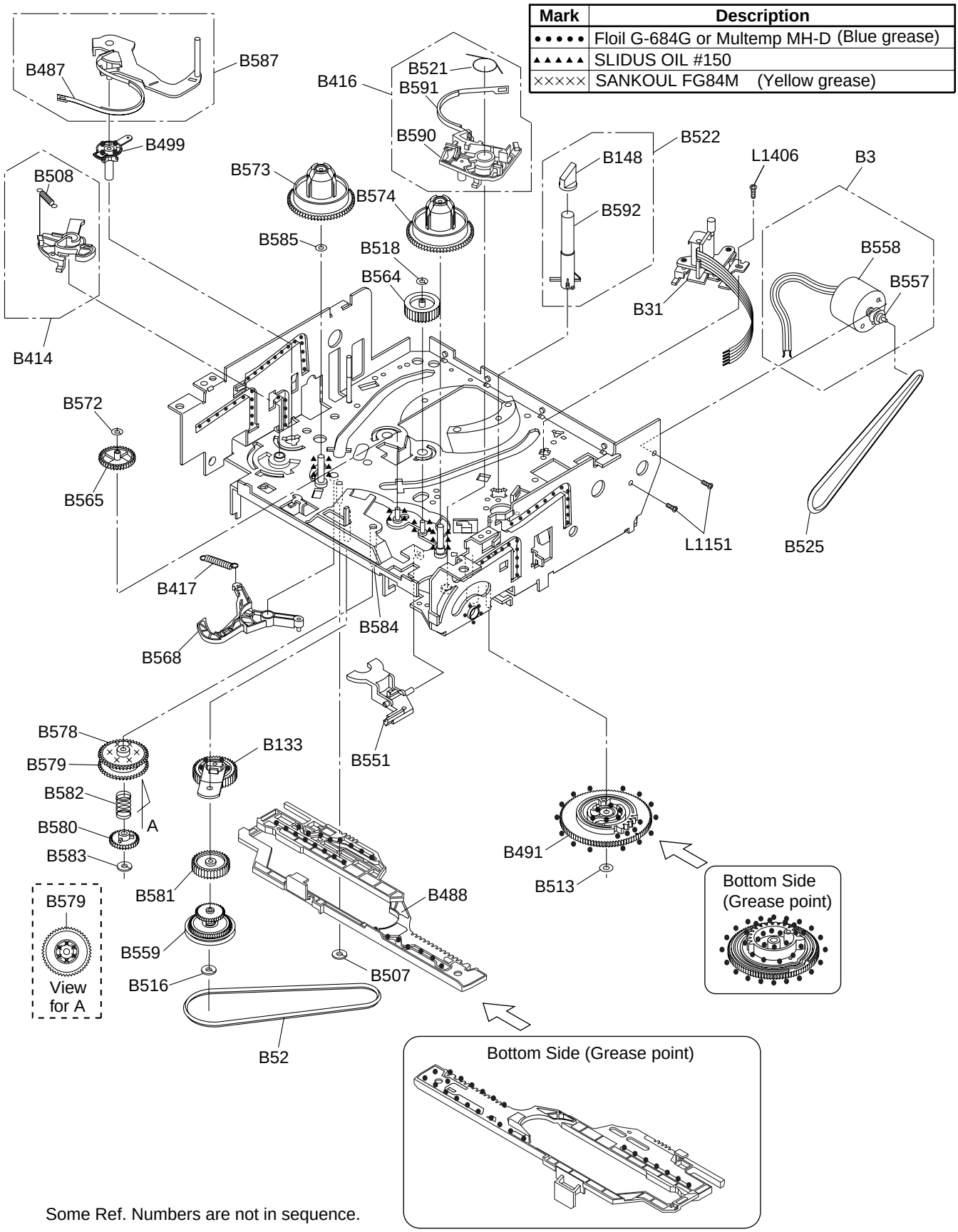
Chassis Assembly
Top View (Lubricating Point)



Chassis Assembly
Bottom View (Lubricating Point)

Some Ref. Numbers are not in sequence.

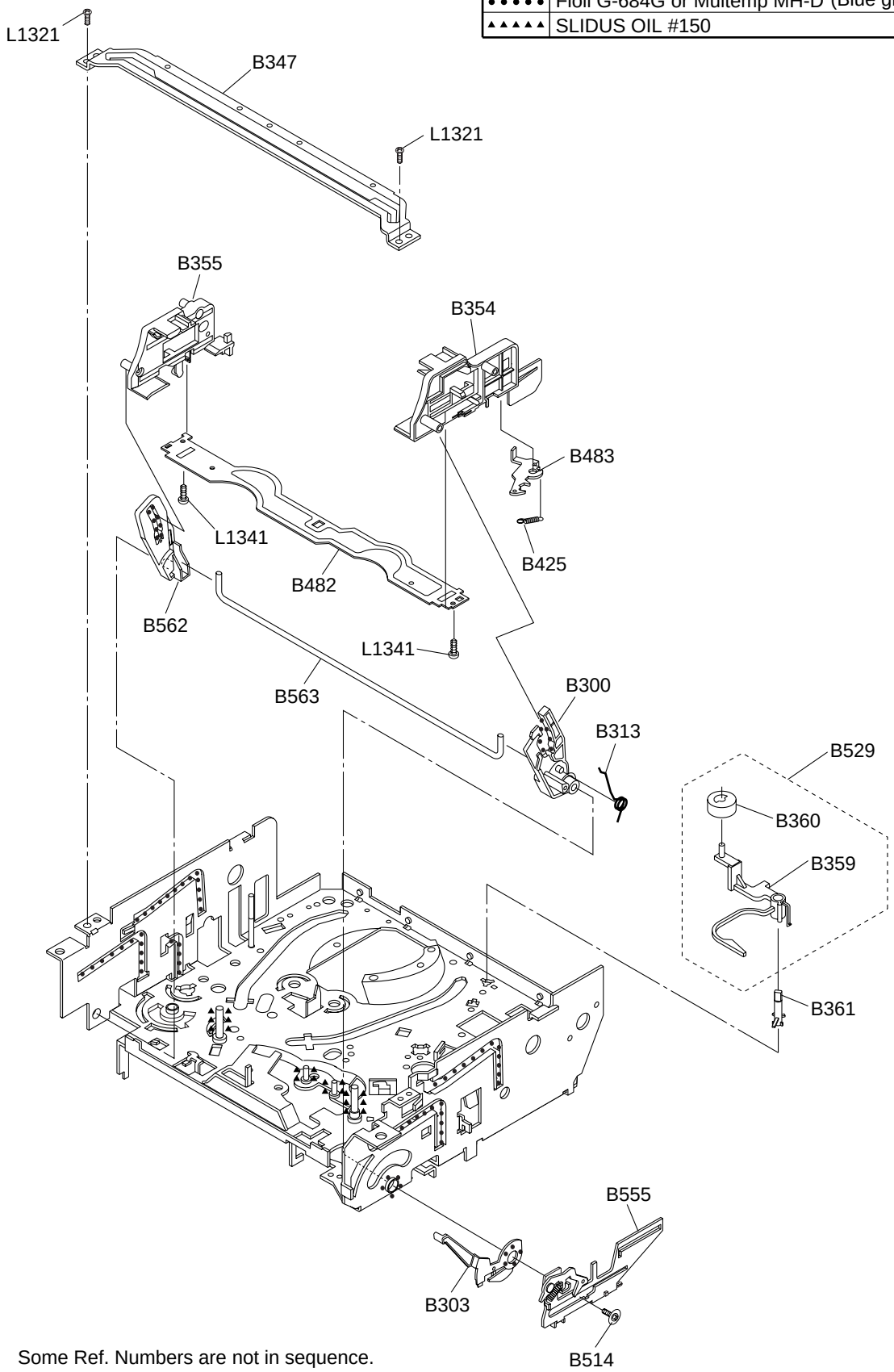
Deck Mechanism View 2



Some Ref. Numbers are not in sequence.

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