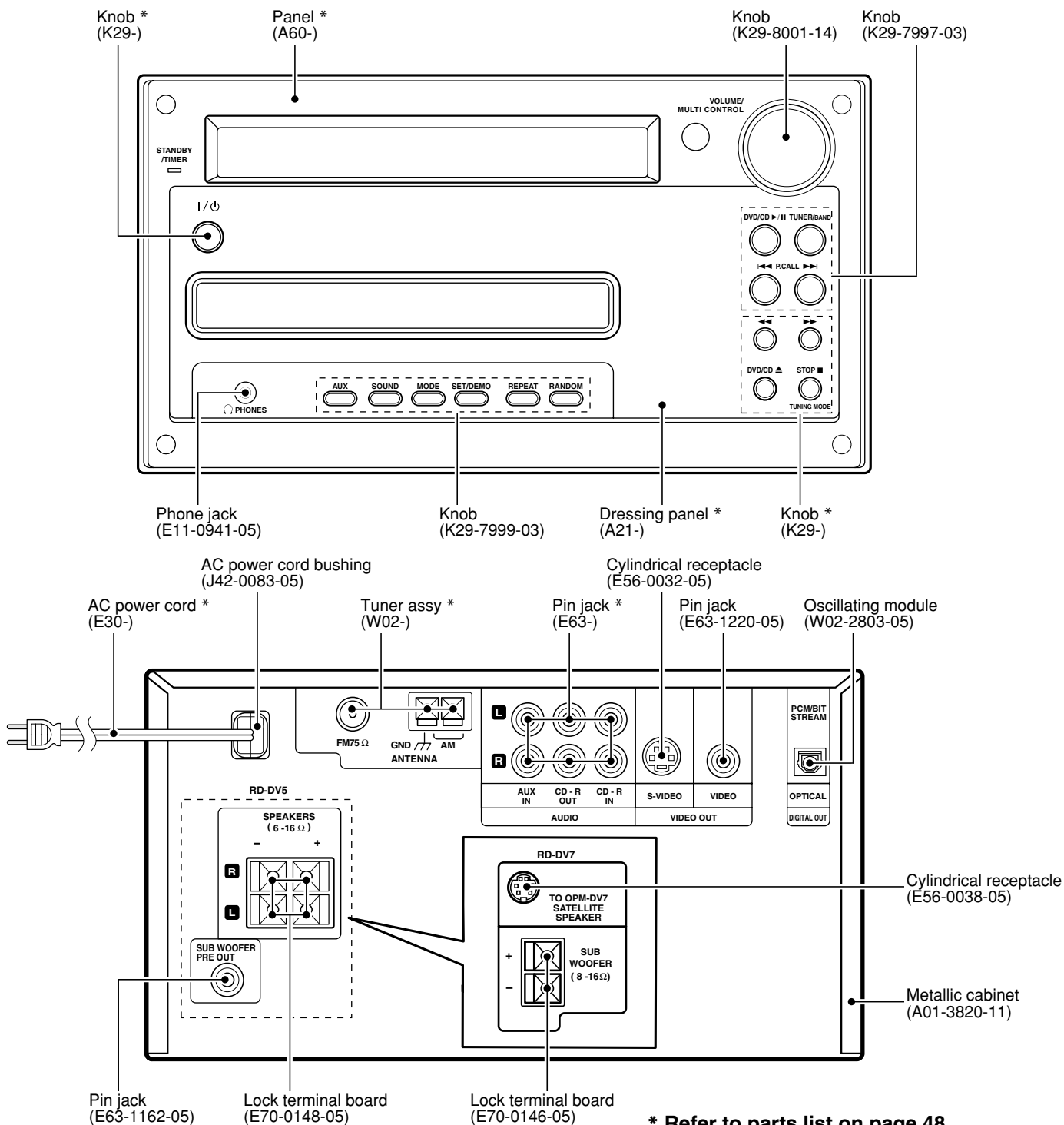


RD-DV5-S/DV7-L RD-DV5MD-S SERVICE MANUAL

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B51-5754-00 (K/K) 2345



*** Refer to parts list on page 48 .
Illustration is RD-DV5-S/DV7-L.**

In compliance with Federal Regulations, following are reproduction of labels on, or inside the product relating to laser product safety.

KENWOOD-Corp. certifies this equipment conforms to DHHS Regulations No.21 CFR 1040. 10, Chapter 1, subchapter J.

**DANGER : Laser radiation when open and interlock defeated.
AVOID DIRECT EXPOSURE TO BEAM.**



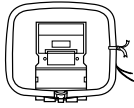
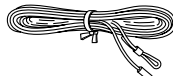
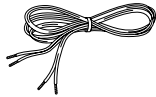
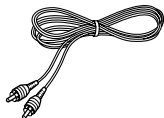
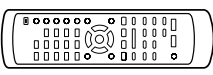
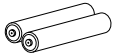
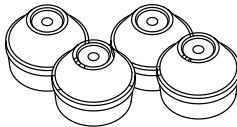
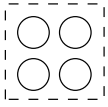
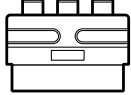
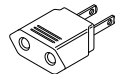
RD-DV5-S/DV7-L/DV5MD-S

CONTENTS / ACCESSORIES / CAUTIONS

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Accessories

| | | | |
|--|---|---|---|
| <p>AM loop antenna(1) (T90-0852-05)</p>  | <p>FM indoor antenna (1) (T90-0855-05)</p>  | <p>Speaker cord(2)</p>  | <p>Video cord(1) (E30-7226-05)</p>  |
| <p>Remote control unit(1) (A70-1521-05): M (A70-1522-05): TE (A70-1524-05): M2X2V2 (A70-1525-05): T2E2</p>  | <p>Batteries (R6/AA)(2)</p>  | <p>Feet for speaker(4) (J02-0034-08)</p>  | <p>Cushion for satellite speaker(4) (W01-1178-08)</p>  |
| <p>SCAT plug adaptor for TV(1) (For EUROPE and U.K.) (E69-0012-05)</p>  | <p>AC Plug Adaptor (1) (E03-0115-05)</p>  <p>Use to adapt the plug on the power cord to the shape of the wall outlet. (Accessory only for regions where use is necessary.)</p> | | |

System configurations

| SYSTEM | MAIN UNIT | DESTINATION | SPEAKER | SP CORD PARTS No. |
|----------|------------|-------------|-----------|-------------------|
| HM-DV6MD | RD-DV5MD-S | M | LS-DV6-S | E30-5500-05 |
| HM-DV5 | RD-DV5-S | TE | LS-DV5-S | E30-5941-04 |
| HM-DV6 | RD-DV5-S | E | LS-DV6-S | E30-5500-05 |
| HM-DV7 | RD-DV7-L | T2E2M2X2V2 | OPM-DV7-L | E30-5943-08 |

Remote controller

| REMOTE CONTROLLER | MODEL NAME | MAIN UNIT | DESTINATION |
|-------------------|------------|------------|-------------|
| A70-1521-05 | RC-M0513 | RD-DV5MD-S | M |
| A70-1522-05 | RC-F0504E | RD-DV5-S | TE |
| A70-1524-05 | RC-F0505 | RD-DV7-L | M2X2V2 |
| A70-1525-05 | RC-F0505E | RD-DV7-L | T2E2 |

Cautions

Operation to reset

The microcomputer may fall into malfunction (impossibility to operate, erroneous display, etc.) when the power cord is unplugged while unit is ON or due to an external factor. In this case, execute the following procedure to reset the microcomputer and return it to normal condition.

Unplug the power cord from the power outlet then, while holding the STOP ■ /TUNING MODE key depressed, plug the power cord again.

- Please note that resetting the microcomputer clears the contents stored in and it returns to condition when it left the factory.

The marking of products using lasers (For countries other than U.S.A., U.S.-Military and Canada)

**CLASS 1
LASER PRODUCT**

The marking this product has been classified as Class 1. It means that there is no danger of hazardous radiation outside the product.
Location: Back panel

**CAUTION
VISIBLE LASER RADIATION
WHEN OPEN. DO NOT
STARE INTO BEAM.**

Inside this laser product, a laser diode classified as Class 2 laser radiation is contained as alerted by the internal caution label shown above. Do not stare into beam.
Location: DVD laser pick-up unit cover inside this product

**CAUTION
VISIBLE LASER
RADIATION WHEN OPEN.
AVOID EXPOSURE TO BEAM.**

Inside this laser product, a laser diode classified as Class 3B laser radiation is contained as alerted by the internal caution label shown above. Avoid exposure to laser beams.
Location: MD laser pick-up unit cover inside this product

RD-DV5-S/DV7-L/DV5MD-S

DISASSEMBLY FOR REPAIR

How to open the tray if it does not come out.

1. Insert a jig and turn it fully ccw in the drawing through the hole on the loading chassis bottom.
2. Pull out the tray frontward by hand when it comes just out.

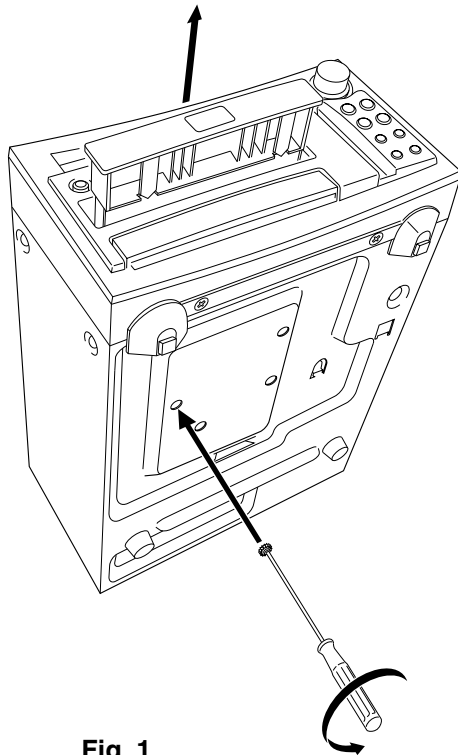


Fig. 1

* How to make a jig
Insert a hex wrench to a hole of gear (W05-0881-00) in the drawing below.
If you lost the gear use it which located on DVD mechanism in the drawing (Fig .3).

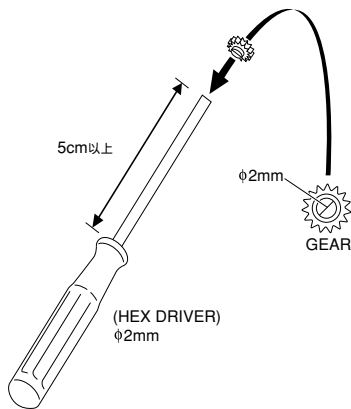


Fig. 2

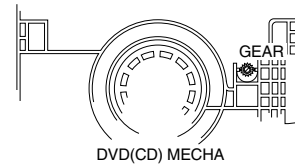


Fig. 3

How to open the tray and a clamber.

1. Pull out the tray slightly frontward by hand.
(Refer to Fig .1)
2. Remove the tray.
3. Remove the clamber in the arrow direction.

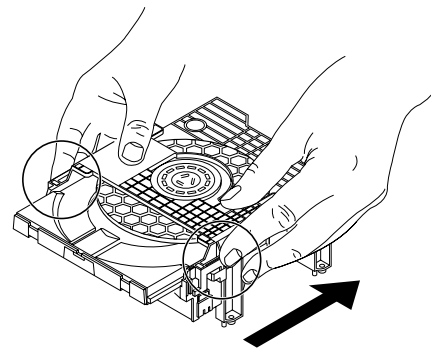


Fig. 4

4. Remove the tray and clamber upward.

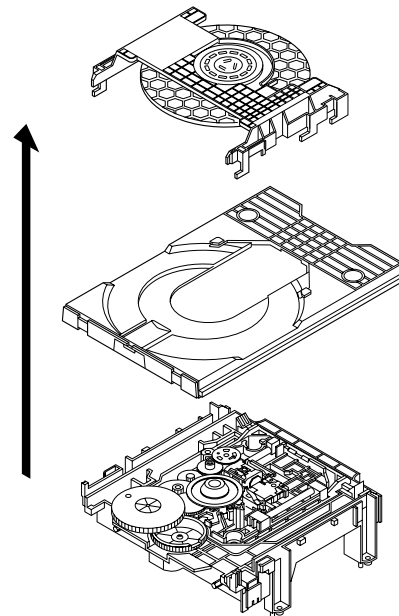


Fig. 5

RD-DV5-S/DV7-L/DV5MD-S

DISASSEMBLY FOR REPAIR

How to attach the tray and the clamber.

1. Turn the traverse gear A in the direction of the arrow in the drawing so that the traverse unit will reach the highest position.

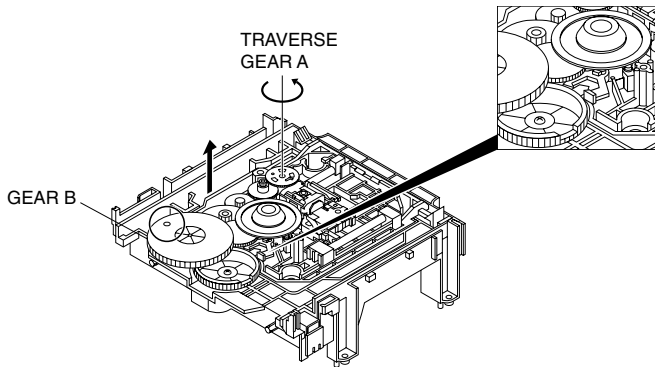


Fig. 6

2. Attach the tray in the arrow direction.

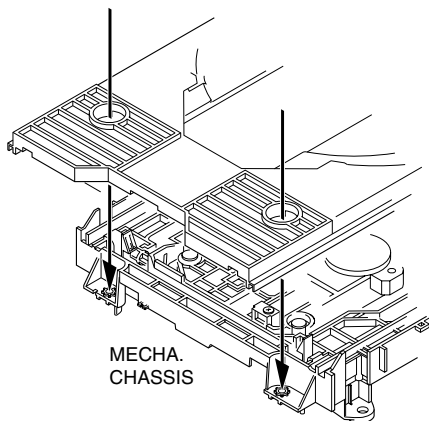


Fig. 7

3. Attach the clamber in the arrow direction.

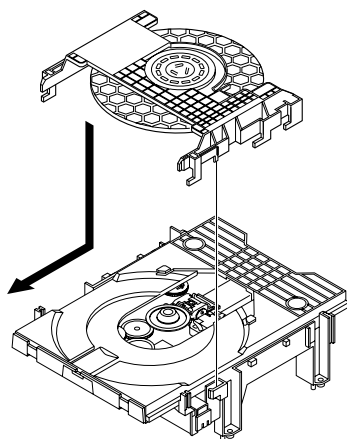


Fig. 8

Assembling and Disassembling the Optical Pickup

The optical pickup can be damaged by static electricity from your body.

Be sure to take static electricity countermeasures when working around the optical pickup.

Handling the Optical Pickup

1. The optical pickup is an extremely high-precision mechanism. Do not subject it to strong damage.
2. Testers cannot be used to check the laser diode of the optical pickup. The power supply inside the tester can easily damage the laser diode.
3. Take care when handling the flexible cable because excessive force can cause it to break.
4. To preserve the quality of the optical pickup replacement parts during transport and installation, the terminals of the laser diode are short-circuited. After replacing the parts, use the proper procedure to return the laser diode to its original condition.

Static Electricity Countermeasures

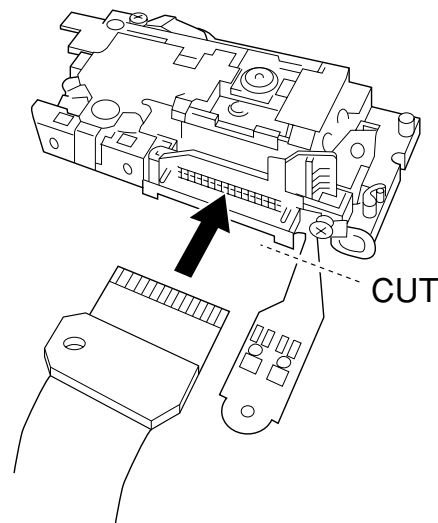
The laser diode inside the traverse unit (optical pickup) can be damaged by static electricity from your body. Be sure to take static electricity countermeasures when working around the optical pickup.

Static Electricity Countermeasure Methods

1. Ground yourself
Use an anti-static wrist strap to discharge static electricity from your body.
2. Ground the workbench
Lay a conductive material (sheet) or steel sheet on the surface where the traverse unit (optical pickup) is to be placed, then ground the sheet.

Assembling the Optical Pickup

1. Insert a flexible cable in the arrow direction in the drawing.
2. Cut the flexible cable.

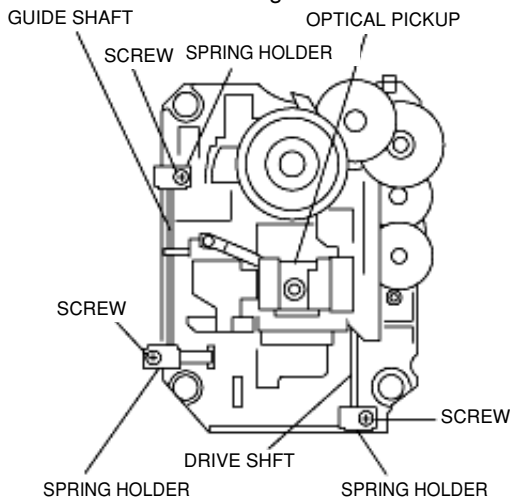


RD-DV5-S/DV7-L/DV5MD-S

DISASSEMBLY FOR REPAIR

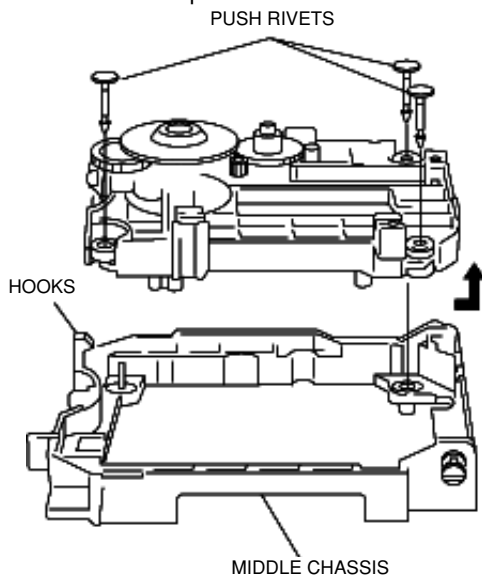
Disassembling the Optical Pickup

1. Remove screws.
2. Remove spring holder and spring.
3. Pull out the drive-shaft and guide shaft.



Disassembling the Middle Chassis

1. Remove 3 push rivets.
2. Remove the hooks.
3. Lift the traverse unit upward to remove the middle chassis.

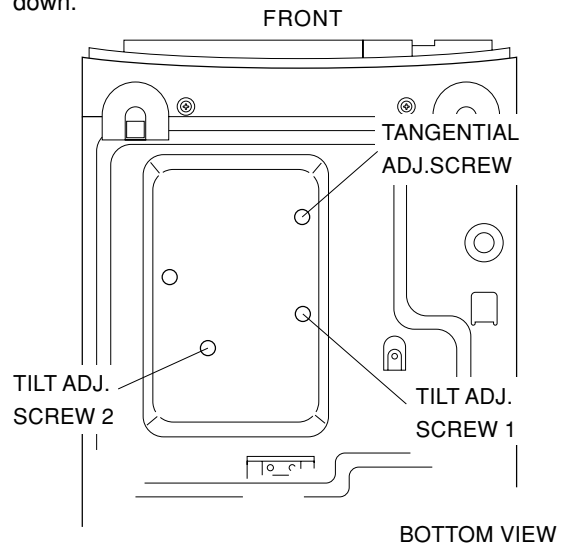


1. Optical pickup Tilt Adjustment

1-1 Adjustment

1. Insert the AC power plug to AC wall outlet with pressing the DVD/CD play key.
(The tray opens automatically)
2. Load a DVD disc and press DVD/CD play key.
3. Press "SOUND" key.
(Jitter value is displayed.)
JITT XXX % XXX is present jitter value
- *4. Play DVD disc first chapter (inner periphery).
5. Adjust to the minimum jitter value.
(Tangential adjustment screw)

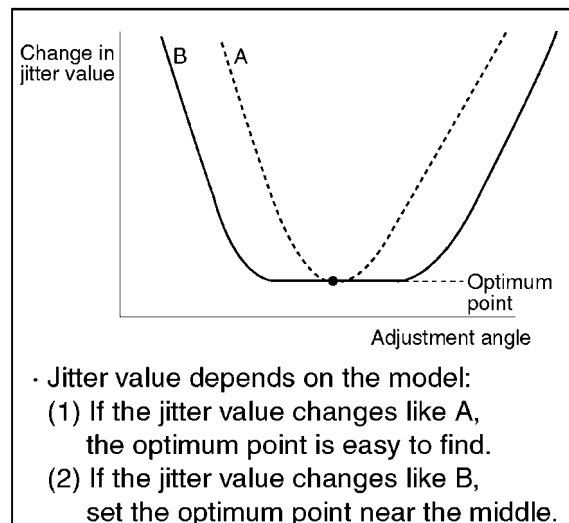
- *6. Play DVD disc last chapter (outer periphery).
7. Adjust to the minimum jitter value.
(Tilt adjustment screw1)
- *8. Play DVD disc last chapter (outer periphery).
9. Adjust to the minimum jitter value.
(Tilt adjustment screw2)
10. Repeat adjusting tilt adjustment screws 1 and 2 alternately, two or three times.
- * Press "SKIP UP/SKIP DOWN" keys for Tno. up or down.



Do item 5~10 from the bottom of the main unit using a hex wrench.

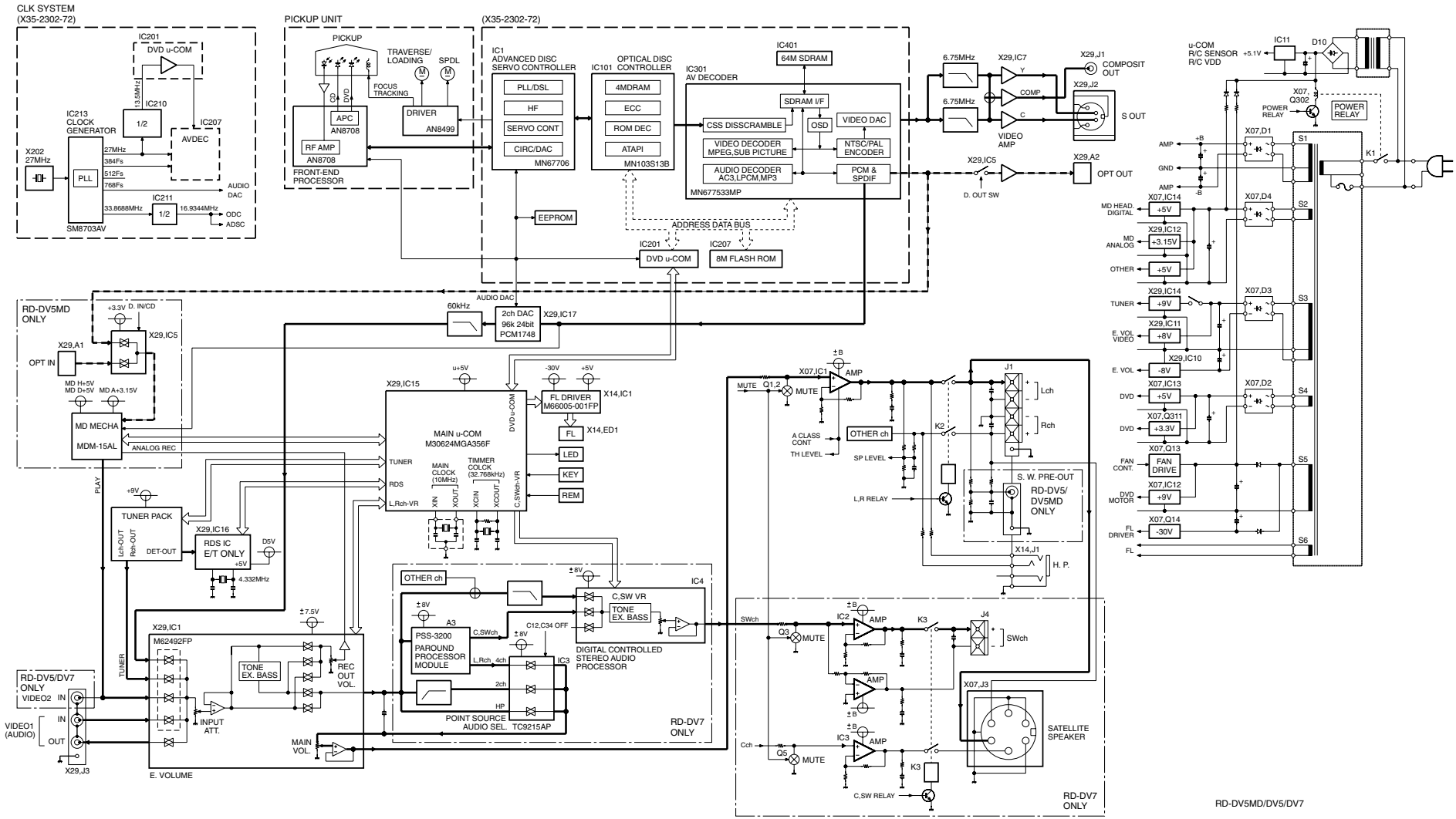
1-2 Point

1. First of all adjust tangential adjustment then adjust tilt adjustment.
2. To get optimum point, repeat item 1 adjustment alternately, two or three times.
3. Finally, adjust the tilt adjustment.



1-3 Check condition after adjustment

1. Play the disc to make sure there is no picture degradation in the inner, middle and outer peripheries, and no audio skipping.
2. Lock the adjustment screw in position using screw lock.



BLOCK DIAGRAM

RD-DV5-S/DV7-L/DV5MD-S

RD-DV5MD/DV5/DV7

RD-DV5-S/DV7-L/DV5MD-S

CIRCUIT DESCRIPTION

1. Initializing

1-1 Initialization Method

- While pressing the [STOP] key, turn the AC on.

1-2 Initialization Operation

- During the initial operation, the display shows "INITIALIZE" and after that it will be returned to standby condition.
- If any mechanisms error occurred, the error indication is displayed as "ERR" on the display.

1-3 Mechanism Initializations

① DVD Mechanism

- If a mechanism error occurred, the error indication is displayed as "DVD ERR" on the display.

② MD Mechanism

- If a mechanism error occurred, the error indication is displayed as "MD ERR" on the display.
- The disc will be unloaded from MD mechanism automatically, if a disc is its in.

2. Discrimination of the Model and Destination for Tuner

2-1 Discrimination of the Model

| Models | Destination | Destination SW3 | Destination SW4 |
|----------|-------------|-----------------|-----------------|
| RD-DV5MD | M | 0 | 0 |
| RD-DV5 | E/T | 0 | 0 |
| RD-DV7 | T/E1/M1/X/V | 1 | 1 |

2-2 Tuner Destination

| Destination | Destination SW | | | u-COM Destination | BAND | Receiving Frequency Range | Channel Space | IF | RF |
|-------------|----------------|---|---|-------------------|----------|------------------------------------|-----------------|---------------------|----------------|
| | 2 | 1 | 0 | | | | | | |
| M | 0 | 1 | 1 | K2 | FM AM | 87.5MHz~108.0MHz 530kHz~1610kHz | 100kHz 10kHz | +10.7MHz +450kHz | 25kHz 10kHz |
| | | | | E1 | FM AM | 87.5MHz~108.0MHz 531kHz~1602kHz | 50kHz 9kHz | +10.7MHz +450kHz | 25kHz 9kHz |
| X | 0 | 0 | 1 | E1 | FM AM | 87.5MHz~108.0MHz 531kHz~1602kHz | 50kHz 9kHz | +10.7MHz +450kHz | 25kHz 9kHz |
| E/T (RDS) | 1 | 0 | 1 | E3 | FM AM | 87.5MHz~108.0MHz 531kHz~1602kHz | 50kHz 9kHz | +10.7MHz +450kHz | 25kHz 9kHz |
| V | 1 | 1 | 1 | K2 | FM AM | 87.5MHz~108.0MHz 530kHz~1610kHz | 100kHz 10kHz | +10.7MHz +450kHz | 25kHz 10kHz |
| | | | | E1 | FM AM | 87.5MHz~108.0MHz 531kHz~1602kHz | 50kHz 9kHz | +10.7MHz +450kHz | 25kHz 9kHz |

* Destination SW

SW0 : (78)Pin SW1 : (77)Pin SW2 : (76)Pin SW3 : (75)Pin SW4 : (74)Pin

() Pin No. of System Microcomputer : X29,IC15

3. Tuner Preset Frequency

| P.CH | Frequency | | | P.CH | Frequency | | |
|------|-------------|-------------|-------------|------|-------------|-------------|-------------|
| | K1 | K2 | E1/E3 | | K1 | K2 | E1/E3 |
| 1 | FM 87.50MHz | FM 87.50MHz | FM 87.50MHz | 21 | AM 530kHz | AM 530kHz | AM 531kHz |
| 2 | FM 108.0MHz | FM 108.0MHz | FM 108.0MHz | 22 | FM 87.50MHz | FM 87.50MHz | FM 87.50MHz |
| 3 | FM 98.00MHz | FM 98.00MHz | FM 98.00MHz | 23 | FM 87.50MHz | FM 87.50MHz | FM 87.50MHz |
| 4 | FM 108.0MHz | FM 108.0MHz | FM 89.10MHz | 24 | FM 87.50MHz | FM 87.50MHz | FM 87.50MHz |
| 5 | FM 90.00MHz | FM 90.00MHz | FM 90.00MHz | 25 | FM 87.50MHz | FM 87.50MHz | FM 87.50MHz |
| 6 | FM 87.50MHz | FM 87.50MHz | FM 87.50MHz | 26 | FM 87.50MHz | FM 87.50MHz | FM 87.50MHz |
| 7 | FM 87.50MHz | FM 87.50MHz | FM 87.50MHz | 27 | FM 87.50MHz | FM 87.50MHz | FM 87.50MHz |
| 8 | AM 530kHz | AM 530kHz | AM 531kHz | 28 | FM 87.50MHz | FM 87.50MHz | FM 87.50MHz |
| 9 | AM 1700kHz | AM 1610kHz | AM 1602kHz | 29 | FM 87.50MHz | FM 87.50MHz | FM 87.50MHz |
| 10 | AM 1000kHz | AM 1000kHz | AM 999kHz | 30 | FM 106.0MHz | FM 106.0MHz | FM 106.0MHz |
| 11 | AM 530kHz | AM 630kHz | AM 531kHz | 31 | FM 87.50MHz | FM 87.50MHz | FM 87.50MHz |
| 12 | AM 1440kHz | AM 1440kHz | AM 1440kHz | 32 | FM 87.50MHz | FM 87.50MHz | FM 87.50MHz |
| 13 | FM 106.0MHz | FM 106.0MHz | FM 106.0MHz | 33 | FM 87.50MHz | FM 87.50MHz | FM 87.50MHz |
| 14 | AM 530kHz | AM 530kHz | AM 531kHz | 34 | FM 87.50MHz | FM 87.50MHz | FM 87.50MHz |
| 15 | FM 87.50MHz | FM 87.50MHz | FM 87.50MHz | 35 | FM 87.50MHz | FM 87.50MHz | FM 87.50MHz |
| 16 | FM 98.00MHz | FM 98.00MHz | FM 98.00MHz | 36 | FM 87.50MHz | FM 87.50MHz | FM 87.50MHz |
| 17 | FM 98.50MHz | FM 98.50MHz | FM 98.50MHz | 37 | FM 87.50MHz | FM 87.50MHz | FM 87.50MHz |
| 18 | FM 87.50MHz | FM 87.50MHz | FM 87.50MHz | 38 | FM 87.50MHz | FM 87.50MHz | FM 87.50MHz |
| 19 | AM 990kHz | AM 990kHz | AM 990kHz | 39 | FM 108.0MHz | FM 108.0MHz | FM 108.0MHz |
| 20 | FM 97.40MHz | FM 97.40MHz | FM 97.70MHz | 40 | AM 1000kHz | AM 1000kHz | AM 945kHz |

RD-DV5-S/DV7-L/DV5MD-S

CIRCUIT DESCRIPTION

4. Test Mode

4-1 Setting method of the Test Mode

| TEST MODE | KEY | SETTING |
|-------------------------------|----------------|--|
| DVD TEST MODE | DVD PLAY/PAUSE | Insert the AC cord to AC wall outlet with pressing the left key. |
| MD TEST MODE | MD PLAY/PAUSE | |
| MD MECHA. ADJ. MODE | MD REC | |
| FCT & SUB CLOCK OSC DIAGNOSIS | SET/DEMO | |

4-2 Cancel of the test mode

- By turning the AC off, the system is initialized and the test mode is canceled.
- Cancel the test mode only if the power switch is turned off.

4-3 Contents of the Test Mode

- The muting during mode selection is not controlled in the test mode.
- During the test mode, it can be operated in a special manner that is different from an ordinary operation by using the keys on the main body, specifically as shown in the following tables.

4-4 FCT(Factory) and Sub clock OSC Diagnosis Mode

4-4-1 Sub clock OSC Diagnosis Mode

The oscillation diagnosis (existence of oscillation and measurement of period) of a sub clock is performed before the test mode is entered. If the diagnosis result is OK, the system enters the test mode.

If the diagnosis result is NG, the oscillation of the sub clock is diagnosed again. If the result is OK, the system enters the test mode. If the diagnosis result is continuously NG 5 times, the system stops with "ERR1" and "ERR2" displayed.

4-4-2 Operation in the Test Mode

| KEY | LCD | OPERATION |
|--------|------------------|---|
| REPEAT | OK or **** ERROR | Self diagnosis mode (Refer to servo error code) |

**** ERROR

Ex : ADSC ERROR

(Advanced Digital Servo Controller) ... X35, IC1

4-5 DVD Test Mode

| KEYS | DISPLAY | OPERATION |
|---|------------------|--|
| DVD PLAY/PAUSE (Cyclically changed the mode play and pause by pressing the key.) | Usual Indication | Disc playback |
| STOP(in playback mode) | DVD TEST | Stop the playback and return to first step of this test mode |
| STOP(in stop mode) | Region code | Indicated the region code |
| SKIP UP/SKIP DOWN | Usual Indication | Skip up/down operation in the DVD playback. |
| SOUND | J ITT *** % | Shows jitter value (binary values vs time deviation of PLL clock). |
| MD REC | Usual Indication | FF Operation (triple speed) |
| REC MODE | Usual Indication | FB Operation (triple speed) |

4-6 MD Test Mode

| KEYS | DISPLAY | OPERATION |
|---------------|------------------|--|
| MD PLAY/PAUSE | Usual Indication | MD playback/pause |
| STOP | MD TEST | Stop the MD operation. |
| SKIP UP/DOWN | Usual Indication | MD track up/down |
| REC MODE | Usual Indication | Hi-speed O.T.E.(DVD → MD) operation in the stop mode. Start the MD recording with LP4 mode. |
| MD REC | Usual Indication | Start analog recording (DVD → MD). |
| MODE | Usual Indication | Start digital recording (D. AUX → MD). |
| SET | ALL ERASE | Stop the MD operation , and start operation of ALL- ERASE if disc is recordable. |

4-7 MD Mecha. Adjustment

1. Preparation for Adjustment

You have to carry out the following test mode items if replace MD mechanism, pickup, head and pc board.

1-1 Procedure

1. Short-circuit #4(vss) and #7(wp) of IC1402(EEPROM).
2. Set the unit to test mode and carry out the every adjustment in test mode.
3. Stop the test mode by pressing the STOP key for 3 secs
4. Remove the short circuit of IC1402. Carry out reset start.

RD-DV5-S/DV7-L/DV5MD-S

CIRCUIT DESCRIPTION

| Repair (replace) | TEMP Standard Set | EEPROM Set value check | * EEPROM data write | AUTO Pre adjustment | AUTO adjustment | AUTO AFB adjustment | * EEPROM data write | ** Operation check | |
|-------------------|-------------------|------------------------|---------------------|---------------------|-----------------|---------------------|---------------------|--------------------|----------|
| | TEMP | EEPROM SET | Cancel Test Mode | AUTO YOBI | AUTO ADJ | AUTO AFB | Cancel Test Mode | TEST PLAY | TEST REC |
| Pickup | - | ① | ② | ③ | ④ | ⑤ | ⑥ | ⑦ | ⑧ |
| Recording head | - | - | - | - | - | - | - | - | ① |
| Mechanism | - | ① | ② | ③ | ④ | ⑤ | ⑥ | ⑦ | ⑧ |
| PCB parts | ① | ② | ③ | ④ | ⑤ | ⑥ | ⑦ | ⑧ | ⑨ |
| MD microprocessor | - | ① | ② | - | - | - | - | ③ | ④ |
| MD LSI | - | - | - | ① | ② | ③ | ④ | ⑤ | ⑥ |
| RF IC | ① | ② | ③ | ④ | ⑤ | ⑥ | ⑦ | ⑧ | ⑨ |
| EEPROM | ① | ② | ③ | ④ | ⑤ | ⑥ | ⑦ | ⑧ | ⑨ |

note: figures order of steps." -" no need.

* Result of EEPROM

- OK_EEPROM Write the data of setting values and AUTO-pre adjustment perfectly.
- WR_EEPROM Write the data of setting values perfectly however not write AUTO pre-adjustment.
Carry out AUTO pre-adjustment and write data to EEPROM.
- NG_EEPROM Not write the data of setting values.
Check the connection of MD microprocessor and EEPROM.

** Carry out the TEST-PLAY , TEST-REC and C1 error in test mode after AUTO_ADJ and AUTO_AFB.

1-2 Test disc

| | Type | Test disc |
|---|----------------------|----------------------------|
| 1 | High reflection disc | TGYS1 (SONY) |
| 2 | Low reflection disc | Recording minidisc |
| 3 | ————— | Head Adjusting transparent |

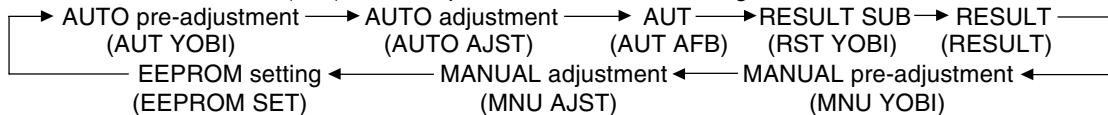
2. Test Mode

1. Holding down the MD rec button and turn the power on. (State ㉑)
2. To enter the test mode stop state(State ㉒), press the STOP button.
3. Load the playback disc 1(high reflection disc) or recording disc 2(low reflection disc).

- ㉑ MECHA TEST
↓ (Press STOP key)
- ㉒ tsm ○○○○e○○ ---- TEST MODE STOP STATE ○○ represents version of MD microcomputer
↓ (MD DISC LOAD IN)
- ㉓ LOADING
↓
- ㉔ AUTO AJST (When the STOP button is pressed in the ㉔ state, the indication ㉒ state is restored.
To restore ㉔ state again, press the SKIP DOWN key once.

Entering the specific mode

Whenever the SKIP DOWN(⏪) button is pressed, the mode is changed.



RD-DV5-S/DV7-L/DV5MD-S

CIRCUIT DESCRIPTION

• Canceling the test mode

When the POWER button is pressed, the test mode is canceled, and the POWER OFF state is set.

• Test Mode

| | |
|-----------------------------------|---|
| 1. AUTO pre-adjustment mode | <ul style="list-style-type: none"> Automatic pre-adjustment is performed. (After adjustment the grating adjustment mode is set.) The adjustment value is output with the aid of system controller interface. |
| 2. AUTO adjustment mode | <ul style="list-style-type: none"> Automatic adjustment is performed. The adjustment value is output with the aid of system controller interface. Continuous playback is performed. (Error rate indication, jump test) |
| 3. AFB adjustment | <ul style="list-style-type: none"> Focus Balance adjustment is performed auto matically. |
| 4. RESULT sub-mode | <ul style="list-style-type: none"> The measurement value, set value and calculated value are indicated. The set value is changed manually (in servo OFF state). |
| 5. RESULT mode (final adjustment) | <ul style="list-style-type: none"> The set value (after calculation) is indicated. The set value is changed manually (in servo OFF state). |
| 6. MANUAL pre-adjustment mode | <ul style="list-style-type: none"> RF side manual adjustment is performed. Focus and tracking signal offset setting is performed. |
| 7. MANUAL adjustment mode | <ul style="list-style-type: none"> Focus and tracking signal ATT manual adjustment is performed. |
| 8. EEPROM setting mode | <ul style="list-style-type: none"> EEPROM setting |
| 9. TEST-PLAY mode | <ul style="list-style-type: none"> Continuous playback from the specified address is performed. C1 error rate measurement. |
| 10. TEST-REC mode | <ul style="list-style-type: none"> Continuous recording from the specified address is performed. Change of record laser output (servo gain is also changed according to laser output) |
| 11. EJECT mode | <ul style="list-style-type: none"> TEMP setting (of EEPROM setting) Laser power adjustment |

1. AUTO pre-adjustment mode (Low reflection disc only)

| Step No. | Setting Method | Remarks | Display |
|----------|---|--|-----------------------|
| Step 1 | Test mode STOP state | | [t s m○○○○ e ○○] |
| Step 2 | Press once the SKIP DOWN(◀) button eight times. | AUTO pre-adjustment menu | [_ AUT_ YOBI _ _ _] |
| Step 3 | Press once the MD PLAY button. End of adjustment | The slide moves to the innermost periphery, and automatic pre-adjustment is started. • During automatic adjustment *** changes as follows. HAo→RFg→SAg→SBg→PTG→PCH→GTG→GCH→RCG→SEG→RFG→SAG→HAO→HEO→TCO→LAO If adjustment is OK, Step 4. If adjustment is NG, Step 5. | [*** : _ _ _ _ _] |
| Step 4 | Grating adjustment, adjustment value output Press once the MD STOP button. | STEP 2 | [_ COMPLETE _] |
| Step 5 | Adjustment value output Press once the MD STOP button. | STEP 2 AUTO pre-adjustment menu | [AUT YOBI] |

• *** : Adjustment name, □□□□ : Address

2. AUTO adjustment mode

| Step No. | Setting Method | Remarks | Display |
|----------|---|---|---|
| Step 1 | Test mode STOP state | | [t s m○○○○ e ○○] |
| Step 2 | Press the SKIP DOWN(◀) button one times. | AUTO adjustment menu | [A U T O _ A J S T _] |
| Step 3 | Press once the MD PLAY button. End of adjustment | The slide moves to the innermost periphery, and automatic adjustment is started. • In case of high reflection disc *** changes as follows. PEG→HAG • In case of low reflection disc *** changes as follows. PEG→LAG→GCG→GEG→LAG If adjustment is OK, Step 4. If adjustment is NG, Step 7. | [*** : _ _ _ _ _] [COMPLETE] |
| Step 4 | Adjustment value output Press the MD PLAY button. Press the MD STOP button. | STEP 5 STEP 2 | |
| Step 5 | Continuous playback (groove section) | | [a□□□□c○○○○] |
| Step 6 | Press the MD STOP button. | STEP 2 AUTO adjustment menu | |
| Step 7 | Adjustment value output Press the MD STOP button. | STEP 2 AUTO adjustment menu | [C a n ' t _ A D J .] |

10 • *** : Adjustment name, ○○ : Measurement value, □□□□ : Address

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CIRCUIT DESCRIPTION

3. AUTO FAB adjusting mode

| Step No. | Setting Method | Remarks | Display |
|----------|--|--|----------------|
| Step 1 | Test mode STOP state | | [tsm○○○○e○○] |
| Step 2 | Press the SKIP DOWN(◀◀) button two times | AUTO FAB adjustment menu | [_AUT_AFB_]] |
| Step 3 | Press the MD PLAY button 1 time | End of automatic adj. → step 4 High reflection disc → step 5 | [AFB□□_△△△△] |
| Step 4 | Press the MD STOP button | AUTO AFB adjustment menu, step 2 | [●●_△△△△○○○] |
| Step 5 | | Message output for 1 sec. → AUTO AFB. Adjustment menu(high reflection disc) | [PB_DISC_ _ _] |

- ○○○○: measurement value □□: AFB value in measurement, △△△△: C1 error value in measurement, ●●: AFB value
- If the STOP button is pressed twice while the AUTO AFB adjustment is displayed, the state is change to the TEST mode STOP state.

4. RESULT sub-mode

| Step No. | Setting Method | Remarks | Display |
|----------|---|--|-------------------------|
| Step 1 | Test mode STOP state | | [t s m○○○○ e ○○] |
| Step 2 | Press the SKIP DOWN(◀◀) button three times. | RESULT sub-menu | [_ R S T _ Y O B I _] |
| Step 3 | Press once the MD PLAY button. | Indication of measurement value | [P C H : _ _ _ _ ●●] |
| Step 4 | Press once the SKIP DOWN(◀◀) button. | Indication of measurement value | [G C H : _ _ _ _ ●●] |
| Step 5 | Press once the SKIP DOWN(◀◀) button. | Indication of measurement value | [S A G : _ _ _ _ ●●●] |
| Step 6 | Press once the SKIP DOWN(◀◀) button. | Indication of measurement value | [S B G : _ _ _ _ ●●●] |
| Step 7 | Press once the SKIP DOWN(◀◀) button. | Indication of measurement value | [S E G : _ _ _ _ ●●●] |
| Step 8 | Press once the SKIP DOWN(◀◀) button. | Indication of measurement value | [S F G : _ _ _ _ ●●●] |
| Step 9 | Press once the SKIP DOWN(◀◀) button. | Indication of measurement value | [H A O : ○○○ _ _ _] |
| Step 10 | Press once the SKIP DOWN(◀◀) button. | Indication of measurement value | [H B O : ○○○ _ _ _] |
| Step 11 | Press once the SKIP DOWN(◀◀) button. | Indication of measurement value | [H E O : ○○○ _ _ _] |
| Step 12 | Press once the SKIP DOWN(◀◀) button. | Indication of measurement value | [H F O : ○○○ _ _ _] |
| Step 13 | Press once the SKIP DOWN(◀◀) button. | Indication of measurement value | [T C O : _ ○○ _ _ _] |
| Step 14 | Press once the SKIP DOWN(◀◀) button. | Indication of pre-adjustment not completed (00)/completed (4B) | [A D J : _ □□ _ _ _] |
| Step 15 | Press once the MD STOP button. | RESULT sub-menu state | [_ R S T _ Y O B I _] |

- ○○ : Measurement value, ●● : Adjustment value, □□ : Other various informations
- When the (▶▶)button in remote controller is pressed while the setting is displayed, the setting increases, and a new setting is stored in RAM.
- When the (◀◀)button in remote controller is pressed while the setting is displayed, the setting increases, and a new setting is stored in RAM.
- When the (▶▶) or (◀◀)button in remote controller is pressed continuously, steps is change by 100ms period.

5. RESULT mode (final adjustment)

| Step No. | Setting Method | Remarks | Display |
|----------|--|-------------------------|-------------------------|
| Step 1 | Test mode STOP state | | [t s m○○○○ e ○○] |
| Step 2 | Press the SKIP DOWN(◀◀) button four times. | RESULT menu | [_ R S T U L T _ _ _] |
| Step 3 | Press once the MD PLAY button. | Indication of set value | [H A G : _ _ _ _ ●●●] |
| Step 4 | Press once the SKIP DOWN(◀◀) button. | Indication of set value | [H B G : _ _ _ _ ●●●] |
| Step 5 | Press once the SKIP DOWN(◀◀) button. | Indication of set value | [L A G : _ _ _ _ ●●●] |
| Step 6 | Press once the SKIP DOWN(◀◀) button. | Indication of set value | [L B G : _ _ _ _ ●●●] |
| Step 7 | Press once the SKIP DOWN(◀◀) button. | Indication of set value | [P E G : _ _ _ _ ●●●] |
| Step 8 | Press once the SKIP DOWN(◀◀) button. | Indication of set value | [P F G : _ _ _ _ ●●●] |
| Step 9 | Press once the SKIP DOWN(◀◀) button. | Indication of set value | [G E G : _ _ _ _ ●●●] |
| Step 10 | Press once the SKIP DOWN(◀◀) button. | Indication of set value | [G F G : _ _ _ _ ●●●] |
| Step 11 | Press once the SKIP DOWN(◀◀) button. | Indication of set value | [G C G : _ _ _ _ ●●] |
| Step 12 | Press once the MD STOP button. | RESULT menu state | [_ R E S U L T _ _ _] |

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CIRCUIT DESCRIPTION

- : Measurement value
- When the (▶▶) button in remote controller is pressed while the setting is displayed, the setting increases, and a new setting is stored in RAM.
- When the (◀◀) button in remote controller is pressed while the setting is displayed, the setting decreases, and a new setting is stored in RAM.
- When the (▶▶) or (◀◀) button in remote controller is pressed continuously, steps is change by 100ms period.

6. MANUAL auxiliary adjustment mode (only low reflection disc)

| Step No. | Setting Method | Remarks | Display |
|----------|---|--|----------------------|
| Step 1 | Test mode STOP state | | [tsm○○○○e○○] |
| Step 2 | Press SKIP DOWN (◀◀) button five times. | MANUAL auxiliary adjustment mode | [_MNU_YOBI] |
| Step 3 | Press once the MD PLAY button. | Initial setting → Temperature measuring mode | [TMP : _ △△ _ _ _] |
| Step 4 | Press SKIP DOWN (◀◀) button. | Offset "0" setting → A signal offset tentative measurement | [HAO : △△△ * _ _] |
| Step 5 | Press SKIP DOWN (◀◀) button. | B signal offset tentative measurement | [HBo : △△△ * _ _] |
| Step 6 | Press SKIP DOWN (◀◀) button. | E signal offset tentative measurement | [HEO : △△△ * _ _] |
| Step 7 | Press SKIP DOWN (◀◀) button. | F signal offset tentative measurement | [HFO : △△△ * _ _] |
| Step 8 | Press SKIP DOWN (◀◀) button. | Laser ON | [LON : _ _ _ _ _] |
| Step 9 | Press SKIP DOWN (◀◀) button. | ABMAXO measurement | [ABM : △△△ * _ _] |
| Step 10 | Press SKIP DOWN (◀◀) button. | Focus ATT (A signal) tentative setting | [SAg : △△△ ○○○] |
| Step 11 | Press SKIP DOWN (◀◀) button. | Focus ATT (B signal) tentative setting | [SBg : △△△ ○○○] |
| Step 12 | Press SKIP DOWN (◀◀) button. | Pit section LPFEFO measurement | [PEF : △△△ * _ _] |
| Step 13 | Press SKIP DOWN (◀◀) button. | Pit section COUT measurement | [PCH : △△△ _ ○○] |
| Step 14 | Press SKIP DOWN (◀◀) button. | Groove section LPFEFO measurement | [GEF : △△△ * _ _] |
| Step 15 | Press SKIP DOWN (◀◀) button. | Groove section COUT level measurement | [GCH : △△△ _ ○○] |
| Step 16 | Press SKIP DOWN (◀◀) button. | TCRMIO measurement | [TCR : △△△ * _ _] |
| Step 17 | Press SKIP DOWN (◀◀) button. | Tracking ATT (E signal) setting | [SEG : △△△ ○○○] |
| Step 18 | Press SKIP DOWN (◀◀) button. | Tracking ATT (F signal) setting | [SFG : △△△ ○○○] |
| Step 19 | Press SKIP DOWN (◀◀) button. | Indication of tracking EFMIO measurement | [g MI : △△△ _ _ _] |
| Step 20 | Press SKIP DOWN (◀◀) button. | LPFABO measurement | [ABL : △△△ * _ _] |
| Step 21 | Press SKIP DOWN (◀◀) button. | Focus ATT (A signal) setting | [SAG : △△△ ○○○] |
| Step 22 | Press SKIP DOWN (◀◀) button. | Focus ATT (B signal) setting | [SAB : △△△ ○○○] |
| Step 23 | Press SKIP DOWN (◀◀) button. | TCRS signal offset measurement | [TCO : △△△ * _ _] |
| Step 24 | Press once the MD STOP button. | MNU YOBI state | [_MNU_YOBI] |

- △△△ : Measurement value, ● : Set value ○○○ : Account value
 - When the (▶▶) or (◀◀) button in remote controller is pressed while the setting is displayed, the setting increases or decreases, and a new setting is stored in ROM.
 - When the (▶▶) or (◀◀) button in remote controller is pressed continuously, steps is change by 100ms period.
If the measurement value is within the OK range, "*" appears on the 8th character.
- OK range HAO, HB0, HEO, HFO : 0 0 0 h±2 0 0 h
 ABM : 1E2h ~ 9C7h PEF : 20Dh ~ 785h
 GEF : 20Dh ~ 785h TCR : 030h ~ 239h
 ABL : 1E2h ~ 9C7h TCO : 00h±20h

7. MANUAL adjustment mode High reflection disc

| Step No. | Setting Method | Remarks | Display |
|----------|---|--|-------------------------|
| Step 1 | Test mode STOP state | | [t s m○○○○e○○] |
| Step 2 | Press the SKIP DOWN(◀◀) button six times. | MANUAL adjustment menu | [_ M N U _ A J S T _] |
| Step 3 | Press once the MD PLAY button. | Initial setting → Temperature measuring mode | [T M P : _ △△ _ _ _] |
| Step 4 | Press once the SKIP DOWN(◀◀) button. | Laser ON | [L O N : _ _ _ _ _] |
| Step 5 | Press once the SKIP DOWN(◀◀) button. | Innermost periphery move → Tracking ATT (E signal) setting | [P E G : △△△○○○] |
| Step 6 | Press once the SKIP DOWN(◀◀) button. | Tracking ATT (F signal) setting | [P F G : △△△○○○] |
| Step 7 | Press once the SKIP DOWN(◀◀) button. | Indication of tracking EFMIO measurement | [P M I : △△△ _ _ _] |
| Step 8 | Press once the SKIP DOWN(◀◀) button. | Focus ATT (A signal) setting | [H A G : △△△○○○] |
| Step 9 | Press once the SKIP DOWN(◀◀) button. | Focus ATT (B signal) setting | [H B G : △△△○○○] |

- If the MD STOP button is pressed twice while the MANUAL adjustment menu is displayed, the state is changed to the TEST mode STOP state.

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CIRCUIT DESCRIPTION

Low reflection disc

| Step No. | Setting Method | Remarks | Display |
|----------|---|--|-------------------------|
| Step 1 | Test mode STOP state | | [t s m○○○○ e○○] |
| Step 2 | Press the SKIP DOWN(◀◀) button six times. | MANUAL adjustment menu | [_ M N U _ A J S T _] |
| Step 3 | Press once the MD PLAY button. | Initial setting → Temperature measuring mode | [T M P : _ ΔΔ _ _ _] |
| Step 4 | Press once the SKIP DOWN(◀◀) button. | Laser ON | [L O N : _ _ _ _ _] |
| Step 5 | Press once the SKIP DOWN(◀◀) button. | Innermost periphery move → Tracking ATT (E signal) setting | [P E G : ΔΔΔ○○○] |
| Step 6 | Press once the SKIP DOWN(◀◀) button. | Tracking ATT (F signal) setting | [P F G : ΔΔΔ○○○] |
| Step 7 | Press once the SKIP DOWN(◀◀) button. | Indication of tracking EFMIO measurement (pit section) | [P M I : ΔΔΔ _ _ _] |
| Step 8 | Press once the SKIP DOWN(◀◀) button. | Focus ATT (A signal) setting | [L A g : ΔΔΔ○○○] |
| Step 9 | Press once the SKIP DOWN(◀◀) button. | Focus ATT (B signal) setting | [L B g : ΔΔΔ○○○] |
| Step 10 | Press once the SKIP DOWN(◀◀) button. | Outside periphery move → Track cross setting | [G C G : ΔΔΔ○○○] |
| Step 11 | Press once the SKIP DOWN(◀◀) button. | Tracking ATT (E signal) setting | [G E G : ΔΔΔ○○○] |
| Step 12 | Press once the SKIP DOWN(◀◀) button. | Tracking ATT (F signal) setting | [G F G : ΔΔΔ○○○] |
| Step 13 | Press once the SKIP DOWN(◀◀) button. | Indication of tracking EFMIO measurement (groove section) | [G M I : ΔΔΔ _ _ _] |
| Step 14 | Press once the SKIP DOWN(◀◀) button. | Focus ATT (A signal) setting | [L A G : ΔΔΔ○○○] |
| Step 15 | Press once the SKIP DOWN(◀◀) button. | Focus ATT (B signal) setting | [L B G : ΔΔΔ○○○] |

- If the MD STOP button is pressed twice while the MANUAL adjustment menu is displayed, the state is changed to the TEST mode STOP state.

8. TEST-PLAY mode

| Step No. | Setting Method | Remarks | Display |
|----------|--|--|--|
| Step 1 | Test mode STOP state | | [t s m○○○○ e○○] |
| Step 2 | Press once the SKIP UP(▶▶)button. Press MD PLAY button. | | [T E S T _ P L A Y _] ↓ [a □□□□ c○○○○] |
| Step 3 | Press the STOP button. | | [T E S T _ P L A Y _] |
| Step 4 | Press once the MD PLAY button. Continuous playback (groove section) | During search the search output is set to "H", and it is returned to "L" when continuous playback is started. (Address + C1 error indication) | |
| Step 5 | Press once the MD STOP button. | TEST-PLAY menu | [T E S T _ P L A Y _] |

- If the MD STOP button is pressed while the TEST-PLAY menu is displayed, TEST mode STOP state is set.
- If the MD PLAY button is pressed while the TEST-PLAY menu is displayed, continuous playback is started from the current pickup position.

• □□□□ : Address, ○○○○ : Error late

9. TEST-REC mode

| Step No. | Setting Method | Remarks | Display |
|----------|--|--|---|
| Step 1 | Test mode STOP state | | [t s m○○○○ e○○] |
| Step 2 | Press the SKIP UP(▶▶)button twice. Press MD PLAY button. | | [T E S T _ R E C _ _] ↓ [a □□□□ p w ▽▽] |
| Step 3 | Press the STOP button. | | [T E S T _ R E C _ _] |
| Step 4 | Press once the MD PLAY button. Continuous playback (groove section) | During search the search output is set to "H", and it is returned on "L" when continuous playback is started. (Address+ C1 error indication) | [a □□□□ p w ▽▽] |
| Step 5 | Press once the MD STOP button. | TEST-REC menu | [T E S T _ R E C _ _] |

- If the MD STOP button is pressed while the TEST-PLAY menu is displayed, TEST mode STOP state is set.
- If the MD PLAY button is pressed while the TEST-REC menu is displayed, continuous record is started from the current pickup position.
- If the (▶▶) or (◀◀) button in remote controller is pressed in TEST-REC mode and continuous record mode, the laser record power changes.

(Servo gain changes also according to the record power.)

• □□□□ : Address, ▽▽ : Laser power cord

10. EJECT mode

| Step No. | Setting Method | Remarks | Display |
|----------|---------------------------|-------------------------------------|-------------------------|
| Step 1 | Test mode STOP state | | |
| Step 2 | Test mode EJECT state | Eject of MD disc | [_ _ E J E C T _ _ _] |
| Step 3 | Press SKIP UP(▶▶) button. | Temperature standard value setting. | [T E M P ○○ ●●] |
| Step 4 | Press STOP button. | | [_ _ E J E C T _ _ _] |

• ○○ : Measurement value, ●● : Setting value.

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CIRCUIT DESCRIPTION

5. Port Description of Microcomputer (X29, IC15)

| Port No. | Port Name | I/O | Function | Active | |
|----------|--------------|-----|---|-----------------|------------------|
| | | | | H | L |
| 1 | FL DATA | O | Data output to FL driver. | | |
| 2 | FL CLK | O | Clock output to FL driver. | | |
| 3 | FAN CONT | O | Fan control port. | | |
| 4 | DVD MUTE4 | O | Mute control port for DVD. | | |
| 5 | ROM DATA | - | Unused. | | |
| 6 | ROM CLK | - | Unused. | | |
| 7 | NC | - | Unused. | | |
| 8 | BYTE | - | Connected to ground. | | |
| 9 | CNVSS | - | Connected to ground. | | |
| 10 | XCIN | I | Clock input (32.768kHz). | | |
| 11 | XCOUT | O | Clock output (32.768kHz). | | |
| 12 | RESET | I | Reset signal input. | | |
| 13 | XOUT | O | Main clock output (10MHz). | | |
| 14 | VSS | - | Connected to ground. | | |
| 15 | XIN | I | Main clock input (10MHz). | | |
| 16 | VCC | - | Supply voltage (+5V) | | |
| 17 | NMI | - | Connected to VCC. | | |
| 18 | u-COM CE | I | Detection port for power failure | | |
| 19 | REMOCON | I | Remote control signal input. | | |
| 20 | RDS CLK | I | RDS clock signal input. (E/T type only) | | |
| 21 | FL STB | O | Strobe signal output to FL driver. | | |
| 22 | DVD NRST | I | Reset signal input of DAC for DVD. (Unused) | | |
| 23 | DVD POWER | O | DVD power on port. | | |
| 24 | DVD A | O | On/off port of high voltage for DVD tray motor. | | |
| 25 | DVD TRAY/TRV | O | Control port that sense of rotation for DVD motor driver. | | |
| 26 | DVD B | O | On/off port of low voltage for DVD tray motor. | | |
| 27 | DVD OPEN SW | I | Input port of tray switch for DVD. | | |
| 28 | DVD CLK | I | Clock signal input for DVD communication. | | |
| 29 | DVD SIN | I | Data input for DVD communication. | | |
| 30 | DVD SO0 | O | Data output for DVD communication. | | |
| 31~34 | NC | - | Unused. | | |
| 35 | KDATA | O | Data output for MD communication. | | |
| 36 | MD DATA | I | Data input for MD communication. | | |
| 37 | MD DSCK | O | Clock output for MD communication. | | |
| 38 | MD DSTR | O | Strobe output for MD communication. | | |
| 39 | MD SEARCH | O | MD search output. | | |
| 40 | MD RST | O | Reset signal output to MD mecha. Microprocessor. | | |
| 41 | NC | - | Unused. | | |
| 42 | MD ST | O | Strobe signal output to MD mecha. Microprocessor. | | |
| 43 | NC | - | Unused. | | |
| 44 | HP IN | I | Detection port of headphones jack. | | |
| 45 | ENPH CONT | - | Unused. | | |
| 46 | NC | - | Unused. | | |
| 47 | RDS DT | O | RDS synchronized data output. (E/T type only) | | |
| 48 | CS-SP | O | Relay control port of center and sub woofer speakers. (RD-DV7 only) | 4ch SP. On | 4ch SP. Off |
| 49 | F-SP | O | Relay control port of front speaker. | Front SP. On | Front SP. Off |
| 50 | AMUTE | O | Audio mute control port. | Mute off | Mute on |
| 51 | MD MUTE | O | MD search mute. | MD search | Others |
| 52 | AMP SW | O | Control port of A class amplifier. | | |
| 53 | POWER | O | Control port of power relay. | Power on | Power off |
| 54 | S VIDEO SW2 | O | Change-over the video switch 2. | | |

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CIRCUIT DESCRIPTION

| Port No. | Port Name | I/O | Function | Active | |
|----------|-----------------|-----|--|-------------------|----------------|
| | | | | H | L |
| 55 | S VIDEO SW1 | O | Change-over the video switch 1. | | |
| 56 | ST | I | Detection port of stereo signal for tuner. | mono | stereo |
| 57 | SD | I | Detection port of SD signal for tuner. | | |
| 58 | PLL DO | I | IF count input of PLL IC for tuner. | | |
| 59 | PLL CE | O | CE output of PLL IC for tuner. | | |
| 60 | PLL CLK | O | Clock output of PLL IC for tuner. | | |
| 61 | PLL DATA | O | Data output of PLL IC for tuner. | | |
| 62 | VCC | - | Supply voltage (+5V) | | |
| 63 | TU PROT(9V) | - | Protection signal input for tuner. | | |
| 64 | GND | - | Ground port. | | |
| 65 | V MUTE | O | Video mute control port. | | |
| 66 | TU DC OFF | O | Port of supply voltage for tuner. | | |
| 67~69 | SEL SW(0~2) | O | Control port of TC9215AF (X29, IC3). (RD-DV7 only) | | |
| 70 | DIG SEL1 | O | Digital selector 1 output. | | |
| 71 | CVOL CLK | O | Clock output to TDA7309 (X29, IC4). (RD-DV7 only) | | |
| 72 | CVOL DATA | O | Data output to TDA7309 (X29, IC4). (RD-DV7 only) | | |
| 73 | PROTECT | I | Protection signal input. | | |
| 74 | INI SW4 | I | Discrimination port of MD. | without MD | with MD |
| 75 | INI SW3 | I | Discrimination port of 4ch /2ch for amplifier. | 4ch mode | 2ch mode |
| 76~78 | INI SW2~INI SW0 | I | Discrimination port of tuner destination. | | |
| 79 | DIN ON/OFF SW | O | Control port of digital input on/off. | analog input | digital input |
| 80 | DOUT ON/OFF SW | O | Control port of digital output. | No digital output | digital output |
| 81 | DIG SEL2 | O | Change-over the digital input selector for MD. | | |
| 82 | PVOL STB | O | Strobe signal output to M62492 (X29, IC1). | | |
| 83 | PVOL CLK | O | Clock output to M62492 (X29, IC1). | | |
| 84 | PVOL DATA | O | Data output to M62492 (X29, IC1). | | |
| 85 | STANDBY LED | O | Control port of standby led (red). | power off | power on |
| 86 | TIMER LED | O | Control port of timer led (green). | Timer standby | Others |
| 87 | ENCODER CW | I | Encoder (Vol/Multi Cont.) signal input for CW. | | |
| 88 | ENCODER CCW | I | Encoder (Vol/Multi Cont.) signal input for CCW. | | |
| 89 | TH PROT2 | I | Detection port for temperature. | | |
| 90 | PROT(3.3V) | I | Detection port of protection for current. | | |
| 91 | TU SLEVEL | I | Signal level input for tuner. | | |
| 92 | TH PROT2 | I | Detection port of protection for temperature. | | |
| 93 | SP LEVEL | I | Signal level input for audio. | | |
| 94,95 | KEY0,KEY1 | I | A/D key signal input. | | |
| 96 | GND | - | Ground port. | | |
| 97 | DVD IN SW | I | Close switch input of tray for DVD mecha. | | |
| 98 | VREF | - | Port for the A/D, D/A reference voltage (+5.0V). | | |
| 99 | AVCC | - | Port for the A/D, D/A supply voltage (+5.0V). | | |
| 100 | FL RES | O | Reset signal output to FL driver. | | |

RD-DV5-S/DV7-L/DV5MD-S

CIRCUIT DESCRIPTION

6. Port Function of DVD Microcomputer : MN102L62GGB (X35, IC201)

| Port No. | Port Name | I/O | Function | Active | |
|----------|------------------------------|-----|---|---------------|--------|
| | | | | H | L |
| 1 | WAIT | I | Bus wait port. | | |
| 2 | NRD(ODC/AVDEC/SRAM) | O | Bus read port. | | |
| 3 | NWEL | O | Unused. | | |
| 4 | NWEH (ODC/AVDEC/SRAM/ROM) | O | Bus read port. | | |
| 5 | RAMCS(SRAM) | O | SRAM chip select. | | |
| 6 | ODCCS | O | ODC chip select. | | |
| 7 | AVCS(AVDEC) | O | AV decoder chip select. | | |
| 8 | ROMCS(ROM) | O | Flash ROM chip select. | | |
| 9 | SCLOCK(VDAC) | O | Clock output to VDAC (X35, IC600). | | |
| 10 | SDATA(VDAC) | O | Data output to VDAC (X35, IC600) | | |
| 11 | FRD(ROM) | O | Flash ROM read port. | | |
| 12 | WORD | - | Connected to VDD (+3.3V). | | |
| 13~16 | CPUADR0~3 | O | Bus address (0~3). | | |
| 17 | VDD | - | Supply voltage (+3.3V). | | |
| 18 | SYSCLK(AVDEC) | O | Clock output to AV decoder (X35, IC300). | | |
| 19 | VSS | - | Connected to GND. | | |
| 20 | XI | I | Connected to GND. | | |
| 21 | XO | O | Unused. | | |
| 22 | VDD | - | Supply voltage (+3.3V). | | |
| 23 | OSCI(CLK135) | I | System clock input (13.5MHz). | | |
| 24 | OSCO | O | Unused. | | |
| 25 | MODE | I | Processor mode selection. | Expan Mode | |
| 26~33 | CPUADR4~11 | O | Bus address (4~11). | | |
| 34 | AVDD | - | Supply voltage (+3.3V). | | |
| 35~42 | CPUADR12~19 | O | Bus address (12~19). | | |
| 43 | VSS | - | Connected to GND. | | |
| 44 | CPUADR20 | O | Bus address (20). | | |
| 45 | 25BSY | O | Busy data output. | Normal | Busy |
| 46 | STBPSL | O | Unused. | | |
| 47 | HFMON | O | HF monitor output. | | |
| 48 | KMODE | O | Selection for writing the ROM. | Writing | Normal |
| 49 | AMUTE | O | Audio mute control. | | |
| 50 | CIRCEN(ENC) | O | Enable to Digital Servo Controller (X35, IC1). | | |
| 51 | PROGSW | I | Change-over the component terminal. | | |
| 52 | STBTI | O | Strobe output to MP3 decoder (X35, IC900). | | |
| 53 | FRSW | O | Flash ROM 1, 2 (X35, IC207, 215) change-over. | Default | |
| 54 | VDD | - | Supply voltage (+3.3V). | | |
| 55 | FEPEN | O | Enable to FEP (traverse). | | |
| 56 | CLKSEL | O | Clock selection. | | |
| 57 | STBDAC2 | O | Strobe output to ADAC (X25, IC205). | | |
| 58 | STBSP1 | O | Strobe output to serial-parallel converter (X25, IC224). | | |
| 59 | STBDAC1 | O | Strobe output to ADAC (X25, IC204). | | |
| 60 | ADSCEN(ENS) | O | Enable to Digital Servo Controller (X35, IC1). | | |
| 61 | VSS | - | Connected to GND. | | |
| 62 | WMINT | I | Interruption port from Water Mark Detector (X35, IC500). | | |
| 63 | E2CS | O | Chip select to EEPROM (X33, IC206). | | |
| 64 | SCSIBN | O | Enable control to jig for writing the ROM. | | |
| 65 | 196BSY | I | Busy data input. | Normal | Busy |
| 66 | VDD | - | Supply voltage (+3.3V). | | |
| 67 | SCLK0 | O | SIO0 clock output to communicate between main microcomputer and DVD system microcomputer. | | |

RD-DV5-S/DV7-L/DV5MD-S

CIRCUIT DESCRIPTION

| Port No. | Port Name | I/O | Function | Active | |
|----------|-----------|-----|--|--------|---|
| | | | | H | L |
| 68 | SIO | I | SIO0 data input to communicate between main microcomputer and DVD system microcomputer. | | |
| 69 | SO0 | O | SIO0 data output to communicate between main microcomputer and DVD system microcomputer. | | |
| 70 | SCLK1 | O | SIO1 clock output for control ICs. | | |
| 71 | SI1 | I | SIO1 data input for control ICs. | | |
| 72 | SO1 | O | SIO1 data output for control ICs. | | |
| 73 | PULL UP0 | I | Unused. | | |
| 74 | PULL UP1 | I | Unused. | | |
| 75 | NMI | I | Unused. | | |
| 76 | ADSCINT | I | Interruption port from Digital Servo Controller (X33, IC1). | | |
| 77 | ODCINT | I | Interruption port from Optical Disc Controller (X33, IC101). | | |
| 78 | AVINT | I | Interruption port from AV decoder (X33, IC301). | | |
| 79 | ICRST | O | Reset signal output to periphery ICs. | | |
| 80 | MP3INT | I | Interruption port from MP3 decoder (X33, IC900). | | |
| 81 | ADSEP | I | Unused. | | |
| 82 | RST | I | Reset signal input. | | |
| 83 | VDD | - | Supply voltage (+3.3V). | | |
| 84~91 | CPUDT0~7 | I/O | Bus data (0~7) input and output. | | |
| 92 | VSS | - | Connected to GND. | | |
| 93~100 | CPUDT8~15 | I/O | Bus data (8~15) input and output. | | |

RD-DV5-S/DV7-L/DV5MD-S

CIRCUIT DESCRIPTION

7. Port Function of AV decoder : MN677533MP (X35, IC301)

| Port No. | Port Name | I/O | Function |
|--|-----------|-----|---|
| 1,9,32,46,53,73,104 116,142,156,160,166 172,179,184,191,197 205 | VDD | - | Digital supply voltage (+3.3V). |
| 2~4,6~8,10,201 203,204,206,207 | MA0~MA11 | O | SDRAM address 0~11 |
| 5,14,27,42,52,60,70 83,92,105,120,147 157,163,169,176,182 186,194,200,208 | VSS | - | Digital ground. |
| 11 | CLK121 | - | Connected to digital ground. |
| 12,37,66,79,96,112 145,174,188,202 | LVDD | - | Digital supply voltage (+2.5V) for internal logic. |
| 13 | XRST | I | System reset input. L : Reset |
| 15 | CLK81 | - | Connected to digital ground. |
| 16 | PLLAVDD | - | Main PLL supply voltage (+3.3v). |
| 17 | TCPOUT | O | Unused. |
| 18 | PLLAVSS | - | Connected to digital ground. |
| 19 | CLK27 | I | System clock input (27MHz). |
| 20 | PLLTEST | I | Test input port for main PLL. L : Fixed |
| 21 | CKIO | I | Decode clock change-over. |
| 22 | PLLVDD | - | Supply voltage (+2.5V) of internal logic for main PLL.. |
| 23,24 | HMD1,HMD0 | - | Connected to digital supply voltage (+3.3V). |
| 25 | XHINT | O | Interruption to DVD microcomputer. L : Active |
| 26 | XDK | O | Acknowledgment to DVD microcomputer. L : Active |
| 28 | XWR | I | Write enable from DVD microcomputer. |
| 29 | XRD | I | Read enable from DVD microcomputer. |
| 30 | XCS | I | Chip select from DVD microcomputer. |
| 31 | HCLK | I | Clock input from DVD microcomputer. |
| 33~36,38~41 43~45 | HA1~HA11 | I | Address input from DVD microcomputer. |
| 47~51,54~59 61~65 | HD0~HD15 | I/O | DVD microcomputer data bus 0~15. |
| 67 | AUDSTR | I | Valid signal of bit stream input data. |
| 68 | ARQ | O | Unused. |
| 69 | VSTR | I | Clock signal input for bit stream. |
| 71 | VRQ | O | Request of program stream. |
| 72 | AVRTM | I | Signal input of punctuation for sector. |
| 74~78,80~82 | STD0~STD7 | I | Bit stream parallel input 0~7. |
| 84 | EXTCK | I | Audio clock input. fs= 48kHz: 768fs= 36.864MHz output fs= 96kHz: 384fs= 36.864MHz output fs= 192kHz: 192fs= 36.864MHz output fs= 44.1kHz: 768fs= 33.8688MHz output fs= 88.2kHz: 384fs= 33.8688MHz output fs= 176.4kHz: 192fs= 33.8688MHz output |
| 85 | APLLVDD | - | Supply voltage (+2.5V) of internal logic for Audio PLL.. |
| 86 | P5481 | - | Audio PLL ground. |
| 87 | PHCOPMO | O | Audio PLL phase comparison output. |
| 88 | APLLAVSS | - | Audio PLL ground. |
| 89 | NC | - | Unused. |
| 90 | APLLAVDD | - | Supply voltage (+3.3V) for Audio PLL.. |
| 91 | ACKIO | - | Connected to digital ground. |
| 92 | VSS | - | Digital ground. |
| 93 | DCTEST | - | Connected to digital ground. |

RD-DV5-S/DV7-L/DV5MD-S

CIRCUIT DESCRIPTION

| Port No. | Port Name | I/O | Function |
|--|--------------------------|-----|--|
| 94,95 | TESTSEL1,0 | - | Connected to digital ground. |
| 97~102,106,108 109 | TEST4~TEST9 TEST3,1,0 | O | Unused. |
| 103 | CLKMON | O | Unused. |
| 107 | RFF | O | Unused. |
| 110 | IECOUT | O | IEC958 format data output. |
| 111 | DMIX | O | Audio down mix signal output. |
| 113 | DACCK | O | Over sampling DAC clock output. fs= 48kHz: 384fs= 18.432MHz output fs= 96kHz: 384fs= 36.864MHz output fs= 192kHz: 192fs= 36.864MHz output fs= 44.1kHz: 384fs= 16.9344MHz output fs= 88.2kHz: 384fs= 33.8688MHz output fs= 176.4kHz: 192fs= 33.8688MHz output |
| 114 | LRCK | O | LR clock output. |
| 115 | SRCK | O | Bit clock output. |
| 117~119 | ADOUT(0~2) | O | Audio data output (0~2). |
| 121 | XPOWD | I | DAC power down control input. |
| 122 | VREFC | I | DAC reference voltage input for C signal. |
| 123 | IREFC | I | DAC bias current setting port for C signal. |
| 124 | COMPC | I | Capacitance connection for DAC (C signal) stabilization. |
| 125 | VCOUT | O | Unused. |
| 126,136 | AVDD | - | Analog supply voltage (+3.3V) for DAC. |
| 127 | VREFCB | I | DAC reference voltage input for CB signal. |
| 128 | IREFCB | I | DAC bias current setting port for CB signal. |
| 129 | COMPCB | I | Capacitance connection for DAC (CB signal) stabilization. |
| 130 | VCBOUT | O | Unused. |
| 131,141 | AVSS | - | Analog ground for DAC. |
| 132 | VREFCR | I | DAC reference voltage input for CR signal. |
| 133 | IREFCR | I | DAC bias current setting port for CR signal. |
| 134 | COMPCR | I | Capacitance connection for DAC (CR signal) stabilization. |
| 135 | VCROUT | O | Unused. |
| 137 | VREFY | I | DAC reference voltage input for Y signal. |
| 138 | IREFY | I | DAC bias current setting port for Y signal. |
| 139 | COMPY | I | Capacitance connection for DAC (Y signal) stabilization. |
| 140 | VYOUT | O | Unused. |
| 143 | XYSYNCO | I/O | Vertical synchronizing signal input/output. |
| 144 | XHSYNCO | I/O | Horizontal synchronizing signal input/output. |
| 146 | VCLK | O | Clock output for digital video data output. |
| 148~155 | VD0~VD7 | O | Digital video data output (0~7). |
| 158,159,161,162,164 165,167,168,170,171 173,175,177,178,180 181 | MDQ0~MDQ15 | I/O | SDRAM data bus (0~15). |
| 183 | MCKI | I | Clock input from SDRAM. |
| 185 | MCK | O | Clock output to SDRAM. |
| 187 | DQMLE | O | Lower bite data, mask signal of expander SDRAM. |
| 189 | DQMLM | O | Lower bite data, mask signal of main SDRAM. |
| 190 | DQMUE | O | Upper bite data, mask signal of expander SDRAM. |
| 192 | DQMUM | O | Upper bite data, mask signal of main SDRAM. |
| 193 | XWE | O | Write enable signal of SDRAM. |
| 195 | XCAS | O | CAS signal of SDRAM. |
| 196 | XRAS | O | RAS signal of SDRAM. |
| 198 | XCSE | O | Chip select signal of expander SDARM. |
| 199 | XCSM | O | Chip select signal of main SDARM. |

* MN677521HB X35-229, IC300 DV-5900M/DVF-R9050

* MN677533MP X35-230, IC301 DV-5050M/DVF-J6050, RMD-SJ5, RD-DV5/7

RD-DV5-S/DV7-L/DV5MD-S

CIRCUIT DESCRIPTION

8. IC Port Function

8-1 4ch/2ch/HP Control Port

Port Function List

| u-com Port | Port No. | 67 | 68 | 69 |
|------------------|-------------|-------------|-------------|------|
| | Name SW0 | SEL. SW1 | SEL. SW2 | SEL. |
| TC9215 Port Name | HP/4ch | | 2ch | 2ch |
| P.S.A. OFF (2ch) | | L | H | H |
| P.S.A. ON (4ch) | | H | L | L |
| HP | | L | L | L |

8-2 S Video Control Port

Port Function List

| u-com Port | Port No. | 55 | 54 |
|--------------|----------|----------------|----------------|
| | Name | S VIDEO SW1 | S VIDEO SW2 |
| Video Signal | | L | L |
| Letter Box | | L | H |
| 16 : 9 | | H | H |

8-3 System IC : M62492FP (X29, IC1)

Port Function List

| Port No. | Port Name | Function |
|----------|-----------|--------------------------|
| 1 | TU L | TUNER Lch input |
| 2 | DVD L | DVD Lch input |
| 3 | MD/AUX2 L | MD Lch input |
| 4 | AUX1 L | AUX Lch input |
| 5 | A OUT L | AUX Lch REC output |
| 26 | REC OUT | MD analog Lch REC output |
| 29 | VOUT | Front Vol. Lch output |
| 36 | VOUT | Front Vol. Rch output |
| 39 | REC OUT | MD analog Rch REC output |
| 60 | A OUT R | AUX Lch REC output |
| 61 | AUX1 R | AUX Rch input |
| 62 | MD/AUX2 R | MD Rch input |
| 63 | DVD R | DVD Rch input |
| 64 | TU R | TUNER Rch input |

8-4 Paround Processor Module : PSS3200 (X29, A3)

Port Function List

| Port No. | Port Name | I/O | Function |
|----------|-----------|-----|--|
| 1 | VEE | I | Supply voltage (-8.0V) |
| 2 | GND | O | GND |
| 3 | VCC | I | Supply voltage (+8.0V) |
| 4 | SB00 | I | Ope amp (-) input of 1st LPF and gain setting for sub woofer |
| 5 | SB01 | O | Ope amp (+) input of 1st LPF and gain setting for sub woofer |
| 6 | SB02 | I | Ope amp (+) input of 2nd LPF for sub woofer |
| 7 | SB03 | O | Ope amp output of 2nd LPF for sub woofer |
| 8 | SB04 | I | Ope amp (+) input of 2nd HPF for sub woofer |
| 9 | SB05 | O | Ope amp output of 2nd HPF for sub woofer |
| 10 | PHSEL | - | GND |
| 11 | SBOUT | O | Sub woofer output |
| 12 | CPC | - | Center channel phase correction |
| 13 | CENT.OUT | O | Center channel output |
| 14 | ROUT | O | Rch output |
| 15 | CX | - | Capacitance connection for enhance band setting |
| 16 | LOUT | O | Lch output |
| 17 | RX | - | Resistance connection for enhance level setting |
| 18 | TEST | - | Unused |
| 19 | REQ | - | Rch gain balance adjusting port |
| 20 | LEQ | - | Lch gain balance adjusting port |
| 21 | RG | - | Unused |
| 22 | RIN | I | Rch input |
| 23 | LG | - | Unused |
| 24 | LIN | I | Lch input |

CIRCUIT DESCRIPTION

8-5 Digital Controlled Stereo Audio Processor : TDA7309 (X29, IC4)

Port Function List

| Port No. | Port Name | I/O | Function |
|----------|-----------|-----|-----------------------|
| 1 | RECOUTL | O | Unused |
| 2 | SW OUT | O | Sub woofer output |
| 3 | CSM | - | Soft mute port |
| 4 | SDA | I | Data input |
| 5 | SCL | I | Clock input |
| 6 | DGND | - | GND |
| 7 | GND | - | GND |
| 8 | ADD | - | GND |
| 9 | COUT | O | Center speaker output |
| 10 | RECOUTR | O | Unused |
| 11 | NC | I | Unused |
| 12 | LOUDR | - | Unused |
| 13 | NC | I | Unused |
| 14 | CIN | I | Center speaker input |
| 15 | CREF | I | Reference voltage |
| 16 | VS | - | Supply voltage |
| 17 | SW IN1 | I | Sub woofer 1 output |
| 18 | SW IN2 | I | Sub woofer 2 output |
| 19 | NC | - | Unused |
| 20 | NC | - | Unused |

• POWER

| Display | TOC recording power | Actual power output | |
|---------|---------------------|---------------------|---------|
| | | Value | Voltage |
| 00H | 2.50 mW | 6E H | 1.354 V |
| 01H | 2.60 mW | 74 H | 1.427 V |
| 02H | 2.70 mW | 7B H | 1.513 V |
| 03H | 2.85 mW | 83 H | 1.612 V |
| 04H | 3.00 mW | 8A H | 1.698 V |
| 05H | 3.15 mW | 93 H | 1.809 V |
| 06H | 3.30 mW | 93 H | 1.809 V |
| 07H | 3.45 mW | 9C H | 1.920 V |
| 08H | 3.60 mW | A6 H | 2.043 V |
| 09H | 3.75 mW | AE H | 2.141 V |
| 0AH | 3.95 mW | B9 H | 2.289 V |
| 0BH | 4.15 mW | B9 H | 2.289 V |
| 0CH | 4.35 mW | C4 H | 2.412 V |
| 0DH | 4.55 mW | CF H | 2.547 V |
| 0EH | 4.75 mW | DB H | 2.695 V |
| 0FH | 5.00 mW | DB H | 2.695 V |

9. MD mechanism error message

| DISPLAY | DESCRIPTION |
|--------------|---|
| BLANK DISC | Non Recorded disc |
| CAN'T COPY | Inhibit to record by SCMS |
| CAN'T EDIT | Inhibit to edit by MD standard |
| CAN'T REC | Inhibit to record by disc damage(10 or more defects/recordable cluster is 0) |
| DISC ERROR** | OR : UTOC read error or FTNO>LTNO (edit/record) permit ALL ERASE only DO : Start address TNO>endless TNO (playback) handle poor TNO as 1SG (edit/record) permit ALL ERASE only C0 : Write poor data in UTOC0 C1 : Write poor data in UTOC1 C2 : Write poor data in UTOC2 C4 : Write poor data in UTOC4 (play back) playback even if address roof(C0) (edit/record) permit ALL ERASE only |
| DISC FULL | No recordable area |
| MECH ERR** | 10-13 : head poor down 20-23 : head poor up |
| no disc | No disc in the unit |
| NO TRACKS | Disc recorded title only |
| NOT AUDIO | Disc recorded audio signal. |
| PLAY ONLY | Record to music disc |
| PROTECTED | Record disc inhibited to record |
| READING | In mode of reading TOC or UTOC |
| SRCH ERR** | 30 : Search time over in playback, FF or FB 31 : Search time over in REC-PAUSE 32 : Search time over in record |
| TEMP OVER | High temperature |
| TITLE FULL | Input over letter of title |
| UNIT ERROR | Hardware damage |
| UTOC W ERR | Error of writing to UTOC |
| WRITING | In writing to UTOC |

CIRCUIT DESCRIPTION

ERROR CODE OF CIRCUIT BY SELF CHECK MODE (TEST MODE)

| DEFINITION | CONTENTS | CODE | BLOCK | TIMING |
|------------------------------------|--------------------------------------|-----------|-------------------------|---|
| <i>ODC(Optical Device Control)</i> | | | | |
| MOD_NOT_CRCOK | No CRCOK signal | 0x4303 | (ADSC,ODC,disc ,pickup) | Read address error at lead in or focus jump. |
| MAS_ECC_ERR | Abnormal ODC | ODC ERROR | ODC | No emission OK on disc and host in 5 secs. |
| LAYER_CMP_ERR | Abnormal LAYER in seek mode | - | (ADSC,ODC,disc ,pickup) | |
| OUT_PB_AREA_NG | OUT of PB AREA | - | | |
| DATA_TR_PLAY_NG | DATA Track Play | - | | |
| SEEK_NG_CHGNV | No data caused seek error | - | | |
| UNCORRECT_ERR | No control data by demodulator error | - | | |
| INVALID_CMD_ERR | Out of sector ID | 0xD601 | ODC,disc | Over data from disc(DVD : 0xFF)(VCD : 00:02:00 less)(CD : 0xFF) |
| UNCORRECT_LEADIN | No lead-in data by demodulator error | 0xD602 | | Time over in lead-in. |
| UNCORRECT_KEYDET | No lead-in data by demodulator error | 0xD603 | | |

| DEFINITION | CONTENTS | CODE | BLOCK | TIMING |
|------------------|---|------------|-------------------------------------|--|
| <i>SERVO</i> | | | | |
| TRAY_LOADING_ERR | Tray Loading Error. | 0x4000 | ADSC, TRAY Mechanism, Motor LSI | DCM_TRAYCTL_T(time out 5secs) |
| FOCUS_SVERR | Focus Servo Error. | 0x4100 | ADSC, pickup & actuator, Driver LSI | DCM_FCON_T(time out 5secs), Lock NG, NG of seek. |
| SPINDLE_SVERR | Spindle Servo Error. | 0x4101 | ADSC, Driver LSI, disc Motor | DCM_DMON_T(time out 10 secs),Time out of checking stop,Time out of start to turn. |
| DSC_DM_ERR | DSC Disc Motor Error. Abnormal FG-period in DVD, Abnormal turn of disc motor, | 0x4102 | ADSC, Driver LSI, disc Motor | DCM_DMOF_T(time out 10secs), DCM_DMMODE_T(time out100ms) Abnormal turn of disc motor., |
| CDC_CLV_ERR | 6626 CLVS Failure. Abnormal FG-period in CD | 0x4103 | ADSC, Driver LSI, disc Motor | DCM_DMOF_T(time out 10secs) Setting abnormal CLV |
| TRAVERSE_ERR | Traverse Motor Error. | 0x4104 | ADSC, Driver LSI, feed Motor | DCM_INNER_T(time out 5secs) |
| TRACK_SVERR | Tracking Servo Error | 0x4105 | ADSC, pickup & actuator, Driver LSI | DCM_TRON_T(time out 1sec) Command error,Focus jump Lock NG (ReSartServo) NG of |
| SEEK_TIMEOUT_ERR | Seek Time Out Error | 0x4106 | ADSC, pickup & actuator, Driver LSI | Over 200 seek times |
| DSC_ERROR | DSC Error (status data error) | ADSC ERROR | ADSC | Command error |
| DSC_NOTREADY | DSC Not Ready Error | ADSC ERROR | ADSC | ADSC REDY time out |
| DSC_TIM_ERR | DSC TimeOut Error. | ADSC ERROR | ADSC | Over of CLV OK Over of command end |
| DSC_COM_ERR | DSC Communication Failure. | ADSC ERROR | ADSC | No use |
| DSC_ATN_ERR | DSC Attention Error. | ADSC ERROR | ADSC | Error of CD-trick play and CD/DVD seek. FC jump in DVD-play. |
| INVALID_MDTYP | Out of Media | 0x4300 | ADSC | No check of media, Error after servo retry. Abnormal disc. |
| DONOT_QREAD_ERR | 6626 QCODE do not Read Error. | 0x4302 | ADSC | Read error in Cue or Rev play of CD |
| DSC_ESCAPE | DSC Command Escape | - | ADSC | Stop servo operation after setting the ESC flug in mode register of ADSC. |
| <i>FEP</i> | | | | |
| FEP_IC_ERR | Adjustment error on data slice offset | FEP ERROR | ADSC ,FEP | jitter and data slice offset adjustment error |

RD-DV5-S/DV7-L/DV5MD-S

CIRCUIT DESCRIPTION

| DEFINITION | CONTENTS | CODE | BLOCK | TIMING |
|------------------------|--------------------------------------|--------|-------------|--|
| <i>DISC</i> | | | | |
| DISERR_UDF | UDF Bridge NG | 0x2100 | Disc format | 1. No CD-ROM Volume Descriptor Set, No Primary Volume Descriptor 2. No Beginning Extended Area Descriptor 3. No NSR Descriptor of "NSR02" 4. Length error of Main Volume Descriptor Sequence 5. Directry of length error on VIDEO_TS/AUDIO_TS after root |
| DISERR_TT_SRP_NO | TT_SRP=0 | 0x2111 | Disc format | |
| ISERR_TT_SRP_OVER | Value >TT_SRP | 0x2112 | Disc code | |
| DISERR_TT_SRP_MISS | SRP is not meet with VTSN or VTS TTN | 0x2113 | | |
| DISERR_TT_SRP_PTT_OVER | Value >TT_SRP.PTT_Ns | 0x2114 | | |
| DISERR_TTU_SRP_NO | TTU_SRP=0 | 0x2120 | Disc format | |
| DISERR_TTU_SRP_OVER | Value >TTU_SRP | 0x2121 | Disc code | |
| DISERR_PGCI_SRP_NO | PGCI_SRP=0 | 0x2131 | Disc format | |
| DISERR_PGCI_SRP_OVER | Value>PGCI_SRP | 0x2132 | Disc code | |
| DISERR_TMAP_SRP_OVER | Value>TMAP_SRP | 0x2141 | | |
| DISERR_TMAP_SA_NO | TMAP_SA=0 | 0x2142 | | |
| DISERR_TMAP_EN_NO | MAP_EN=0 | 0x2143 | Disc format | |
| DISERR_PGC_PGMAP_NO | C_POSIT is OK, No PGMAP in PGC | 0x2150 | | |
| DISERR_PGC_PG_NO | C POSIT is OK, PG=0 in PGC. | 0x2151 | Disc code | |
| DISERR_PGC_PG_OVER | Value >PG in PGC | 0x2152 | | |
| DISERR_PGC_C_PBIT_NO | C_POSIT is OK, No C_PBIT in PGC | 0x2153 | Disc format | |
| DISERR_PGC_C_NO | C_POSITis OK, Cell=0 in PGC | 0x2154 | | |
| DISERR_PGC_CN_NO | Cell=0 | 0x2155 | Disc code | |
| DISERR_PGC_C_OVER | Value >Cell in PGC | 0x2156 | | |
| DISERR_PGC_BLK_NO | Block Cell only | 0x2157 | | |
| DISERR_SEARCH_CN_NO | No Cell# in search. | 0x2160 | Disc format | |

ADJUSTMENT

| No. | ITEM | INPUT SETTING | OUTPUT SETTING | ALIGNMENT POINT | ALIGNMENT FOR | FIG. |
|-----|-------------|---|--|-----------------|----------------------------|-------|
| 1 | Y LEVEL | 100% COLOR BAR DISC | Connect the oscilloscope to COMPOSITE(X29, J1) output with 75-ohms resistor | VR301 | Y-signal = 1000mV ±30mV | FIG.1 |
| 2 | CHROM LEVEL | 100% COLOR BAR DISC PAL DISC (PAL MODE) | Connect the oscilloscope to COMPOSITE output(X29, J1) with 75- ohms resistor | VR304 | Chrom-signal = 286mV ±14mV | FIG.2 |

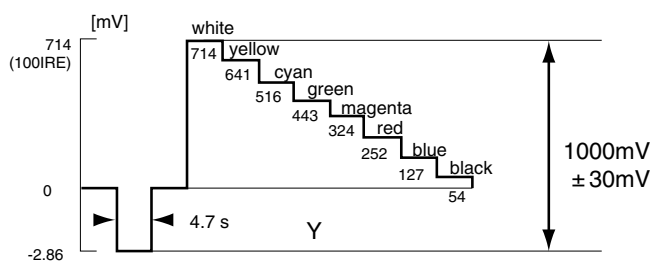


Fig. 1

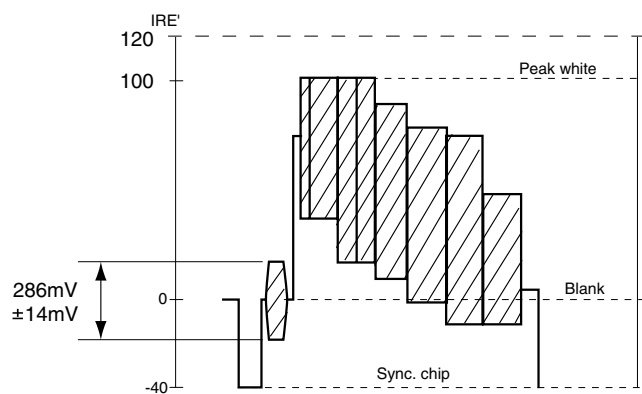
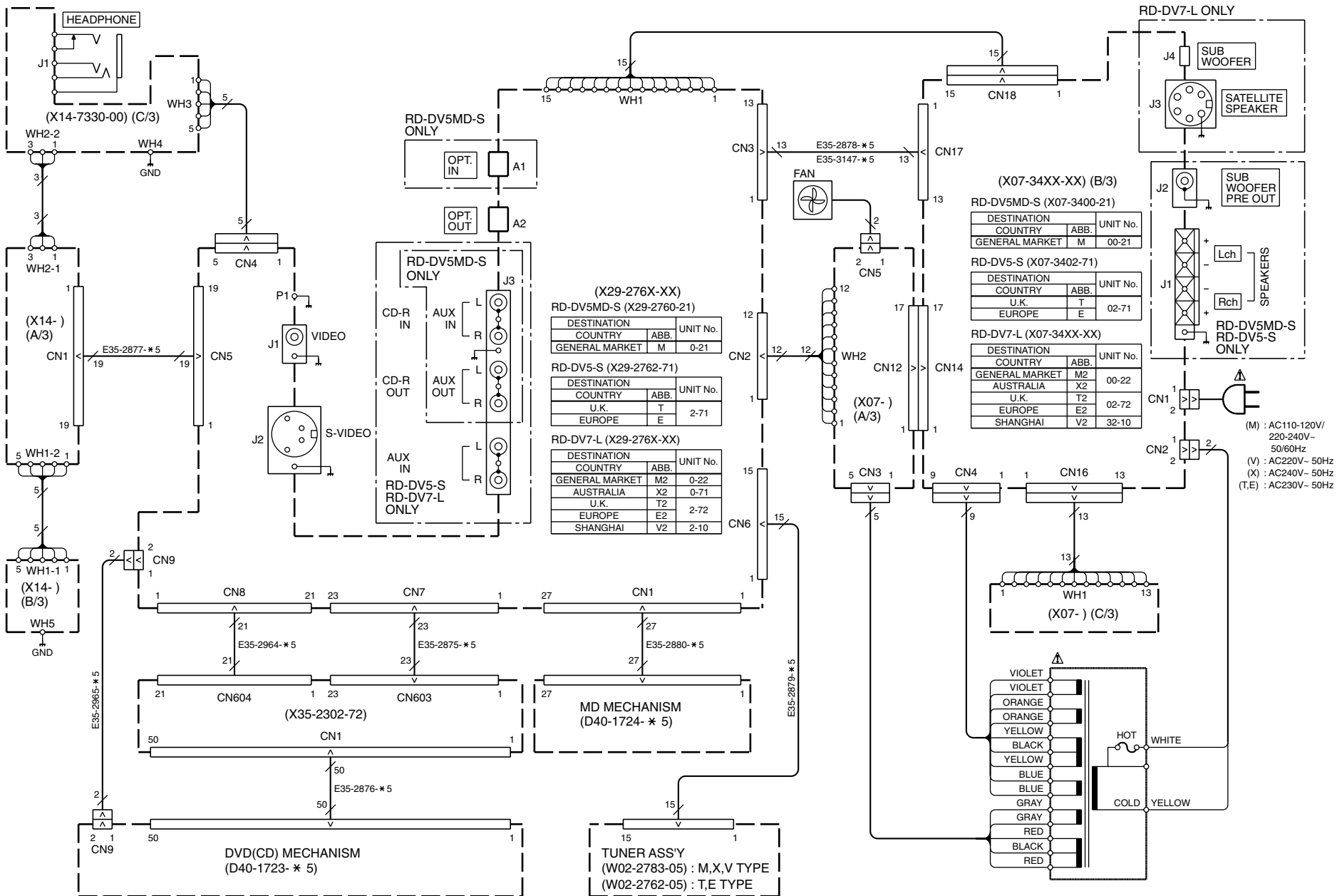


Fig. 2

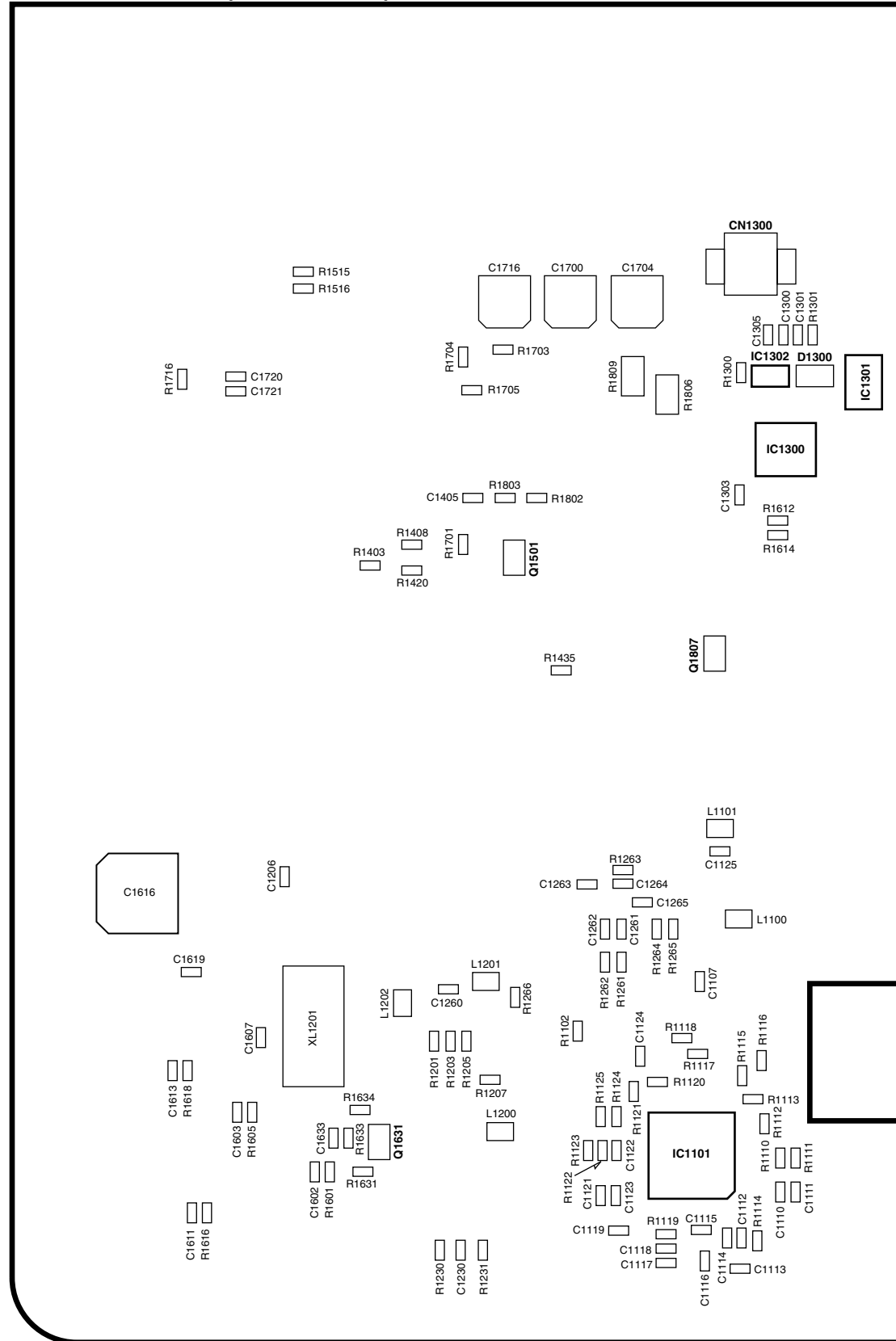
RD-DV5-S/DV7-L/DV5MD-S

WIRING DIAGRAM



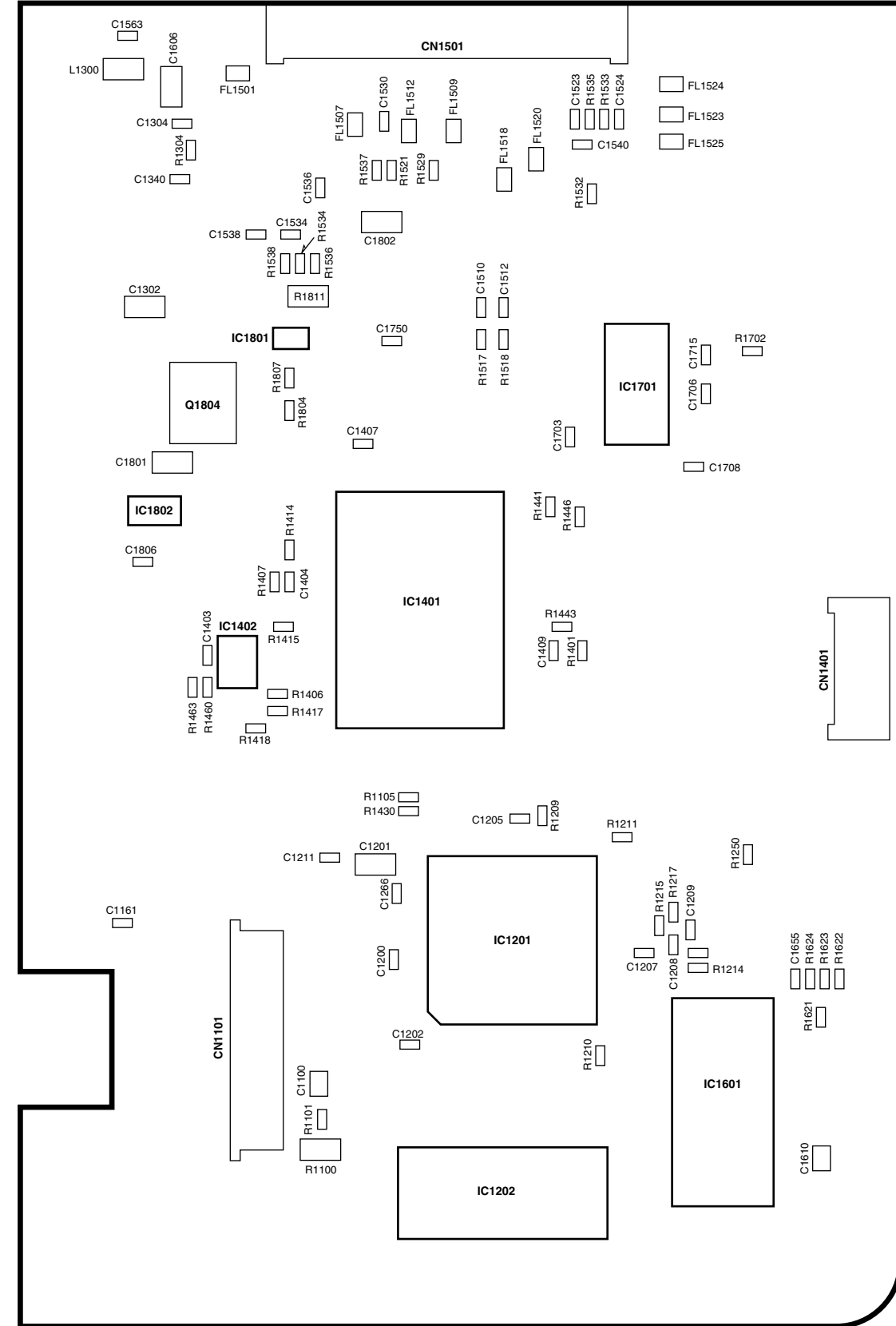
PC BOARD (Parts layout) Side-A

MD MECHANISM (D40-1724-x5)



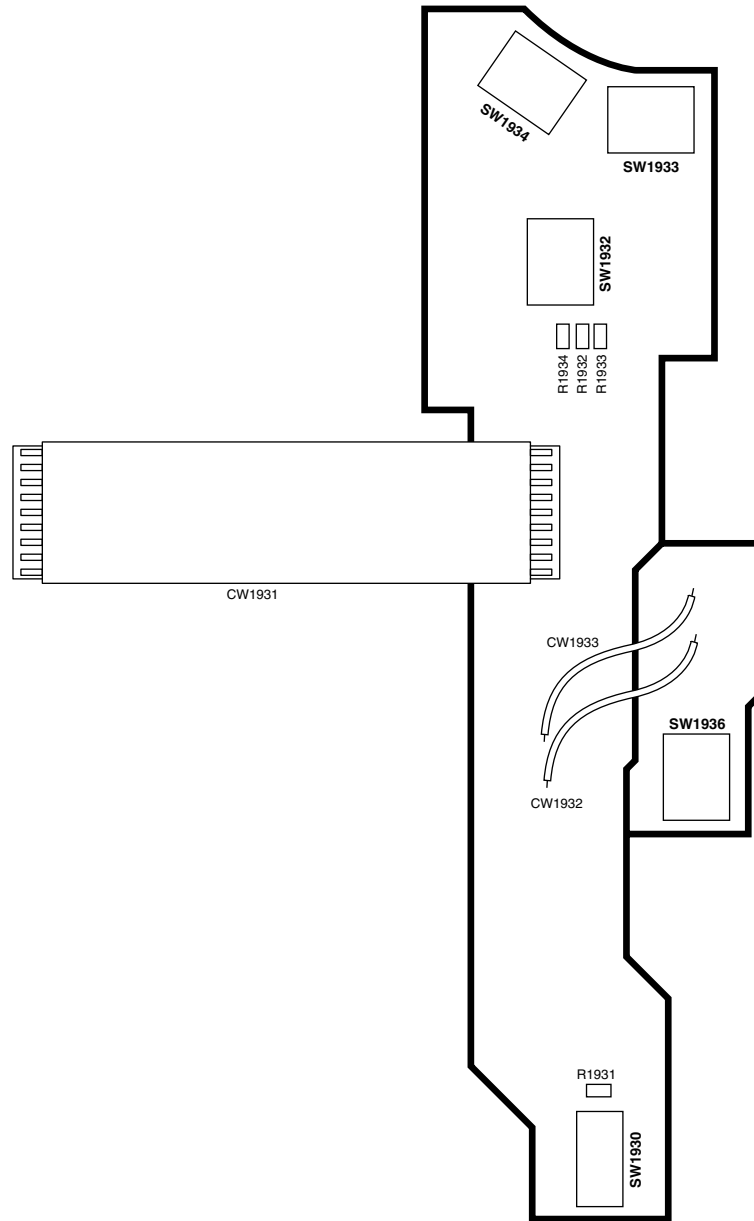
PC BOARD (Parts layout) Side-B

MD MECHANISM (D40-1724-x5)

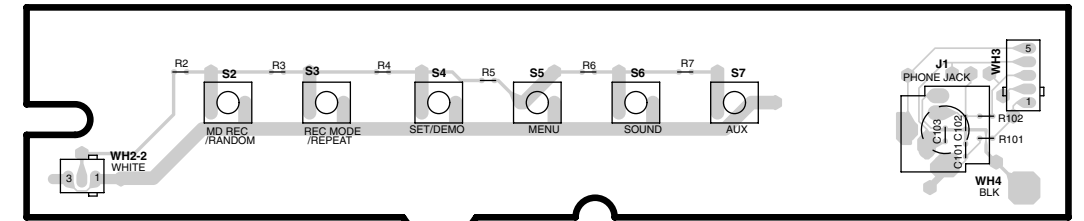


PC BOARD (Parts layout) MD MECHANISM

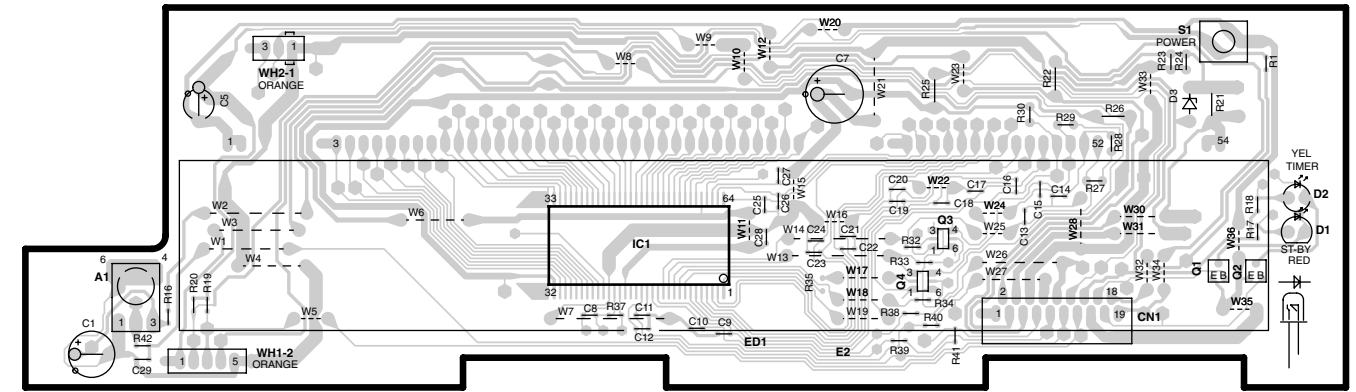
PC BOARD (Component side view)



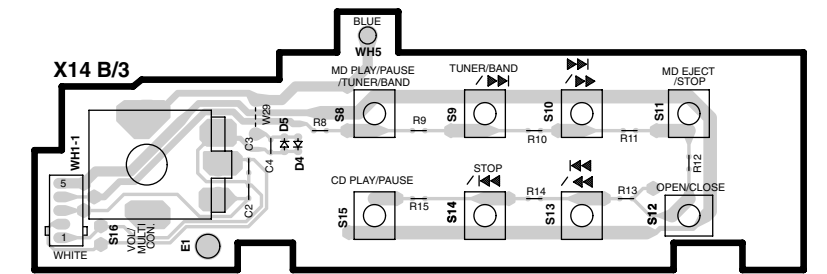
X14 C/3



X14-733/740 A/3 (J70-1535-02)



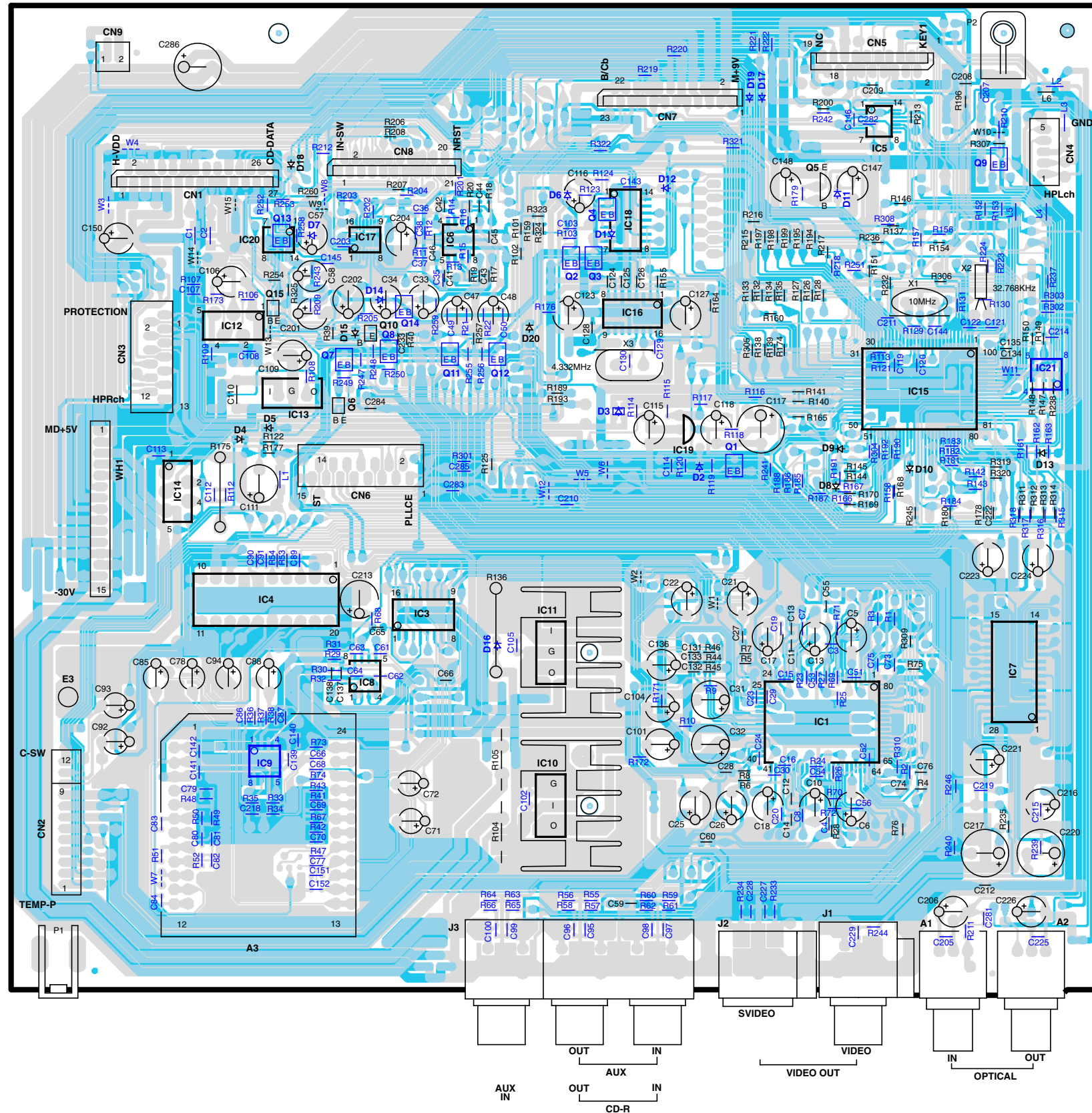
X14 B/3



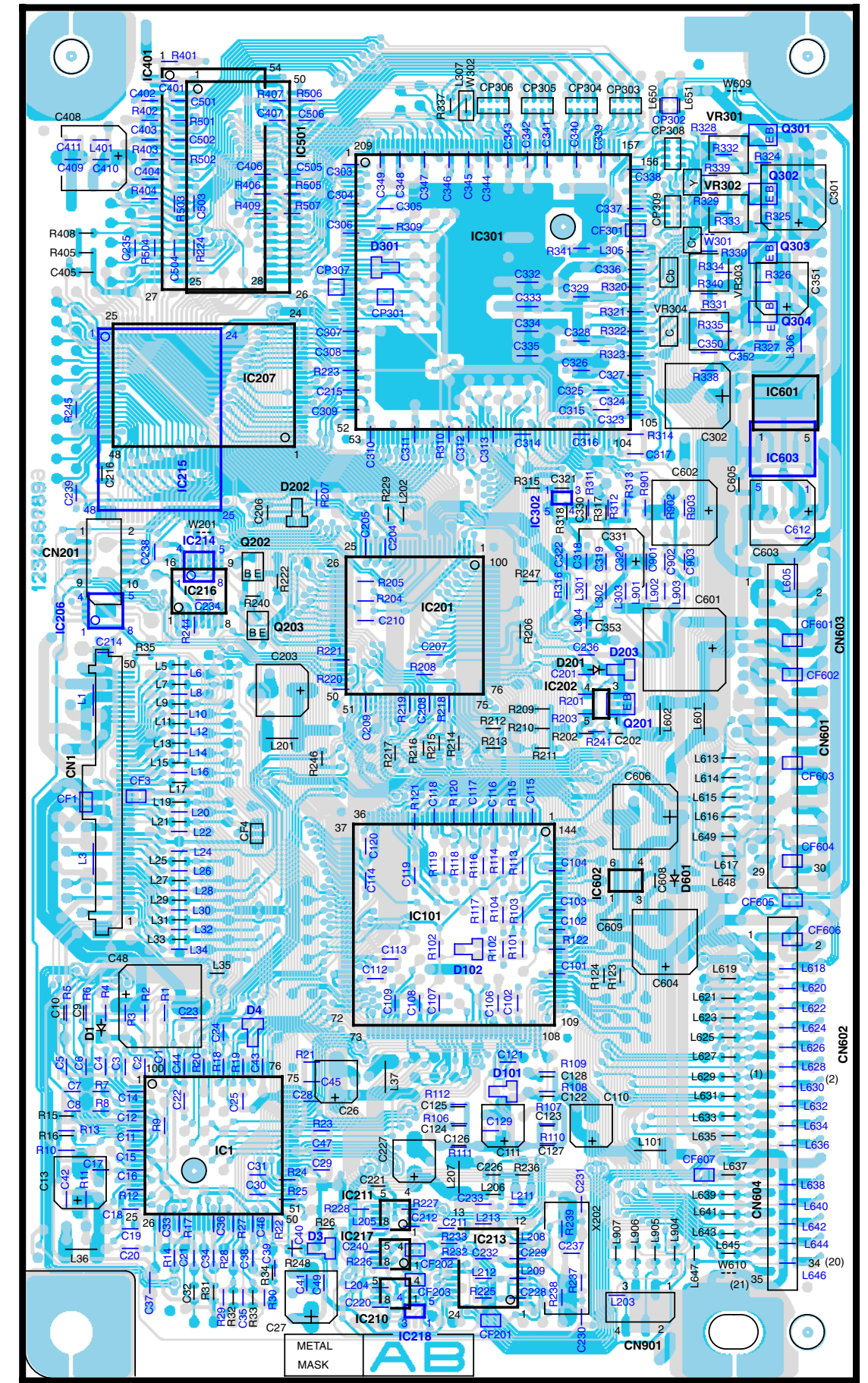
Refer to the schematic diagram for the value of resistors and capacitors.

PC BOARD(Component side view)

X29-276/283 (J70-1534-11)

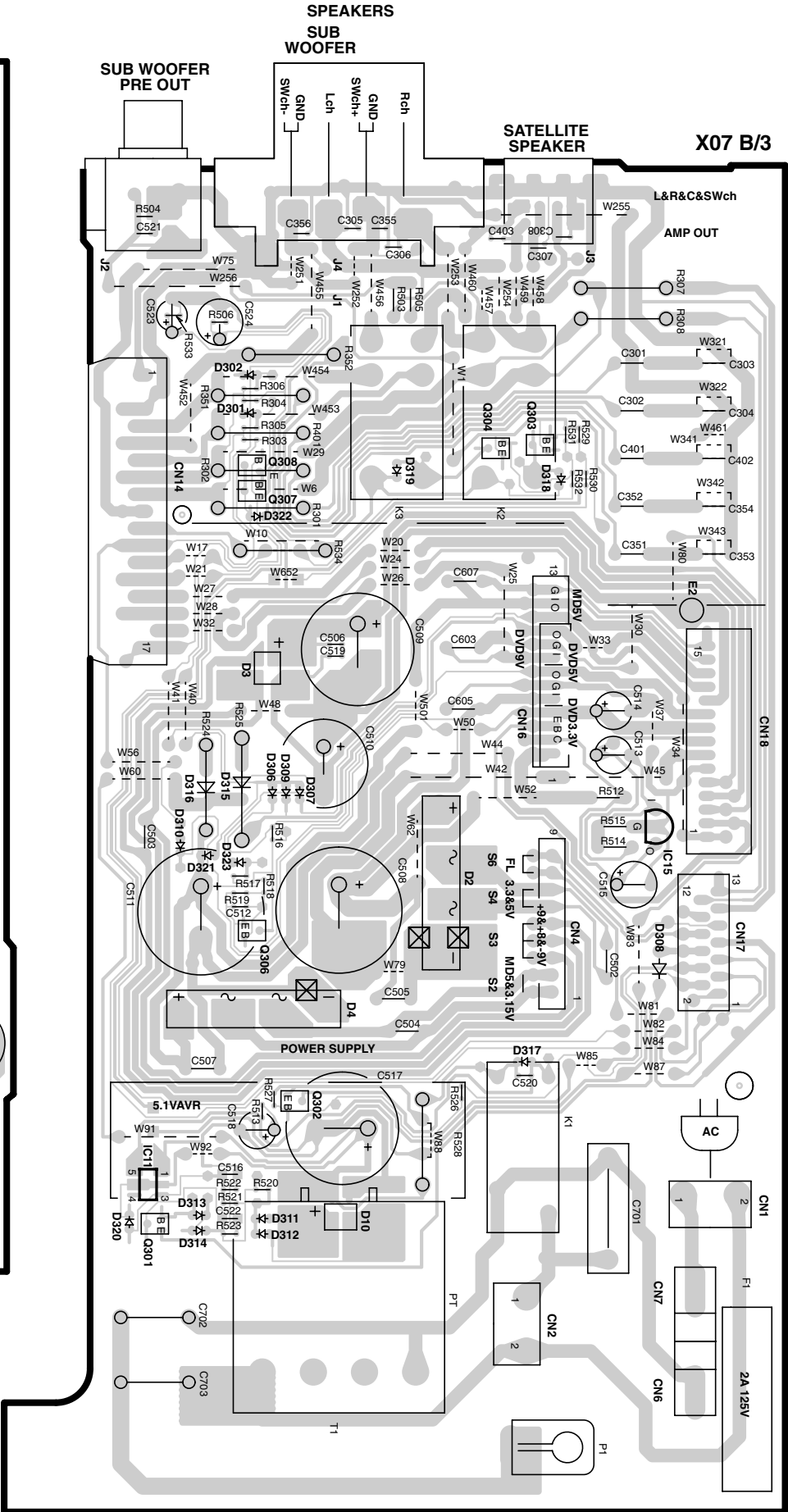
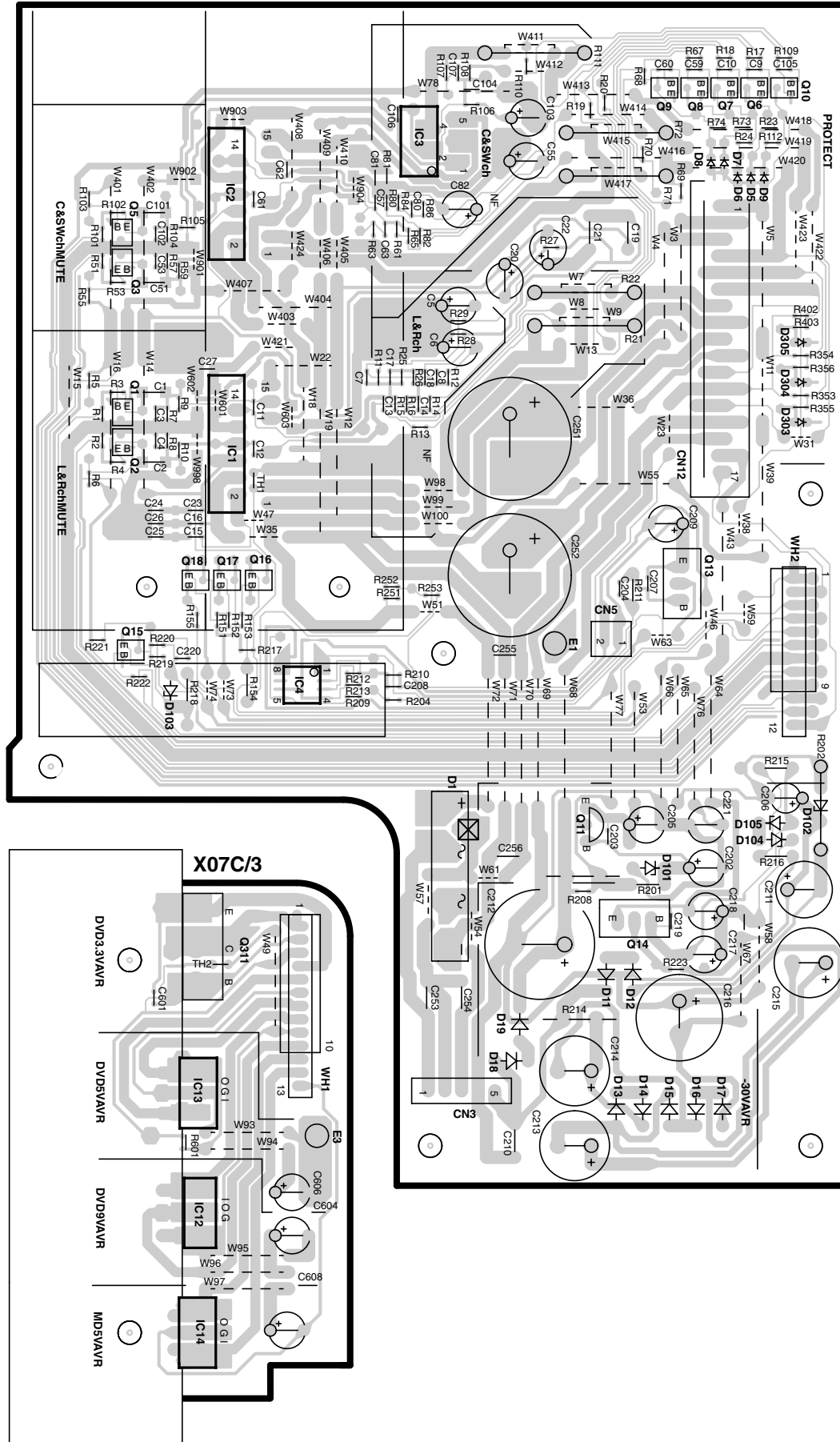


X35-230/232 (J70-1521-12)

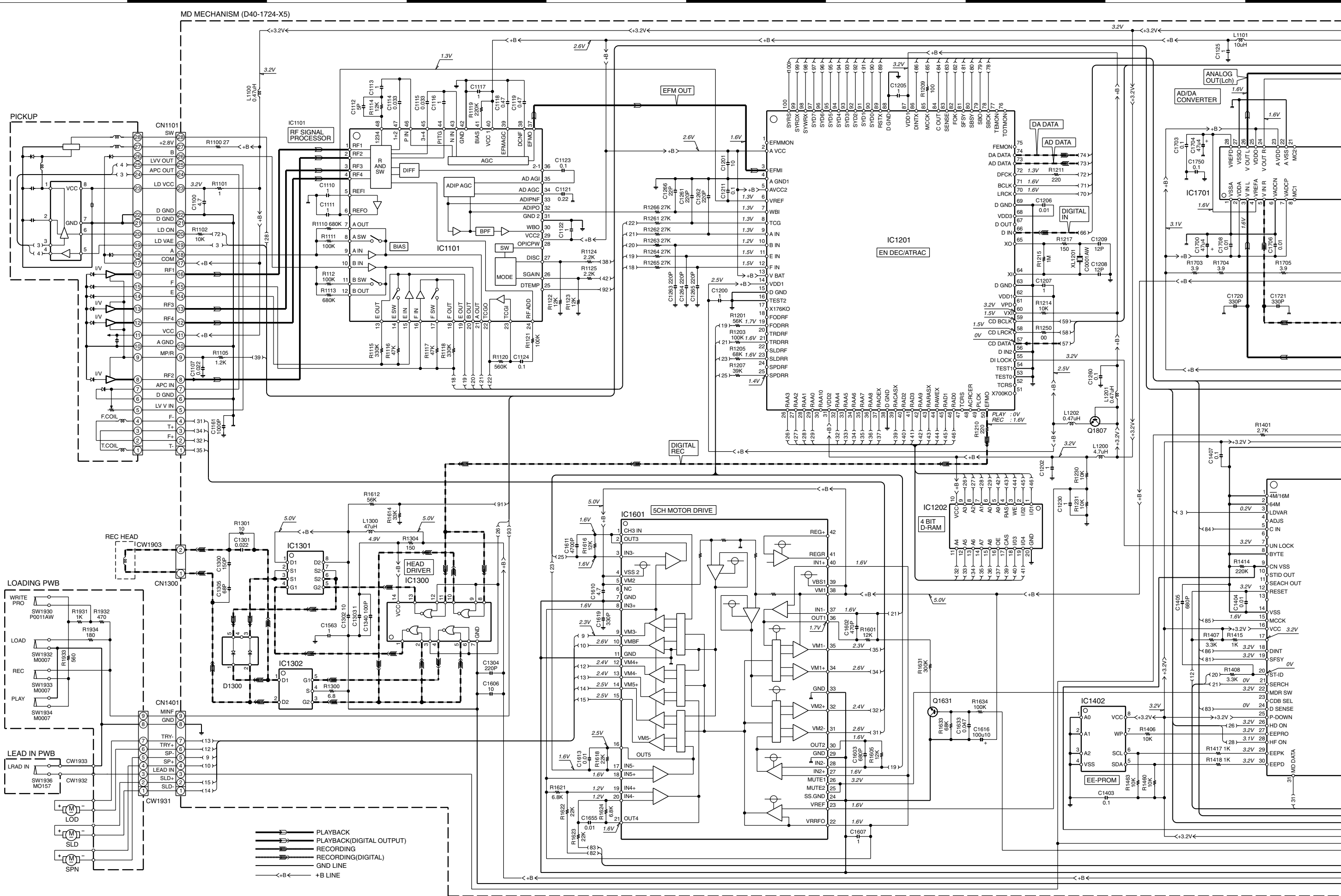


PC BOARD (Component side view)

X07-340/343 A/3
(J70-1502-11)

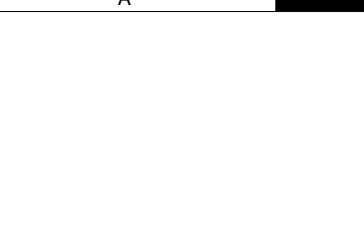
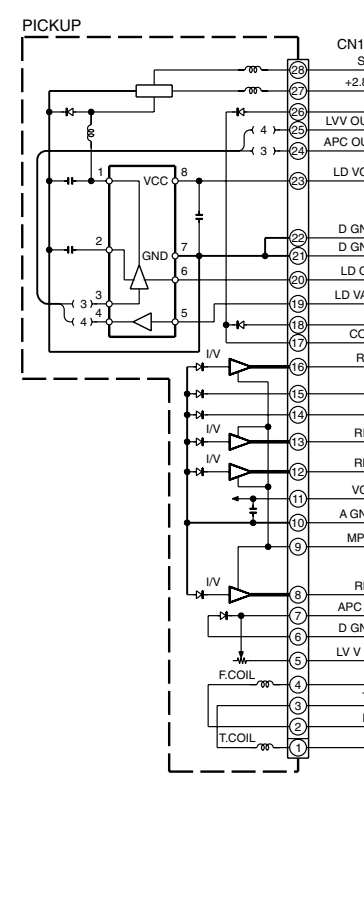
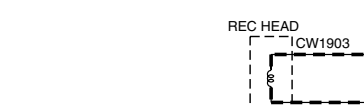
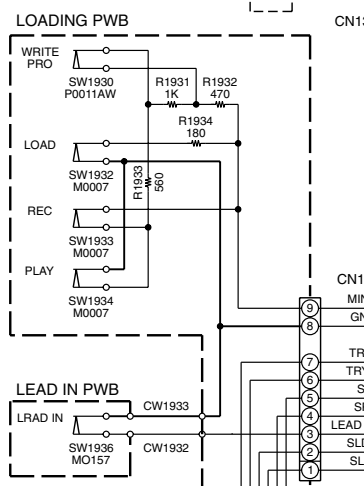


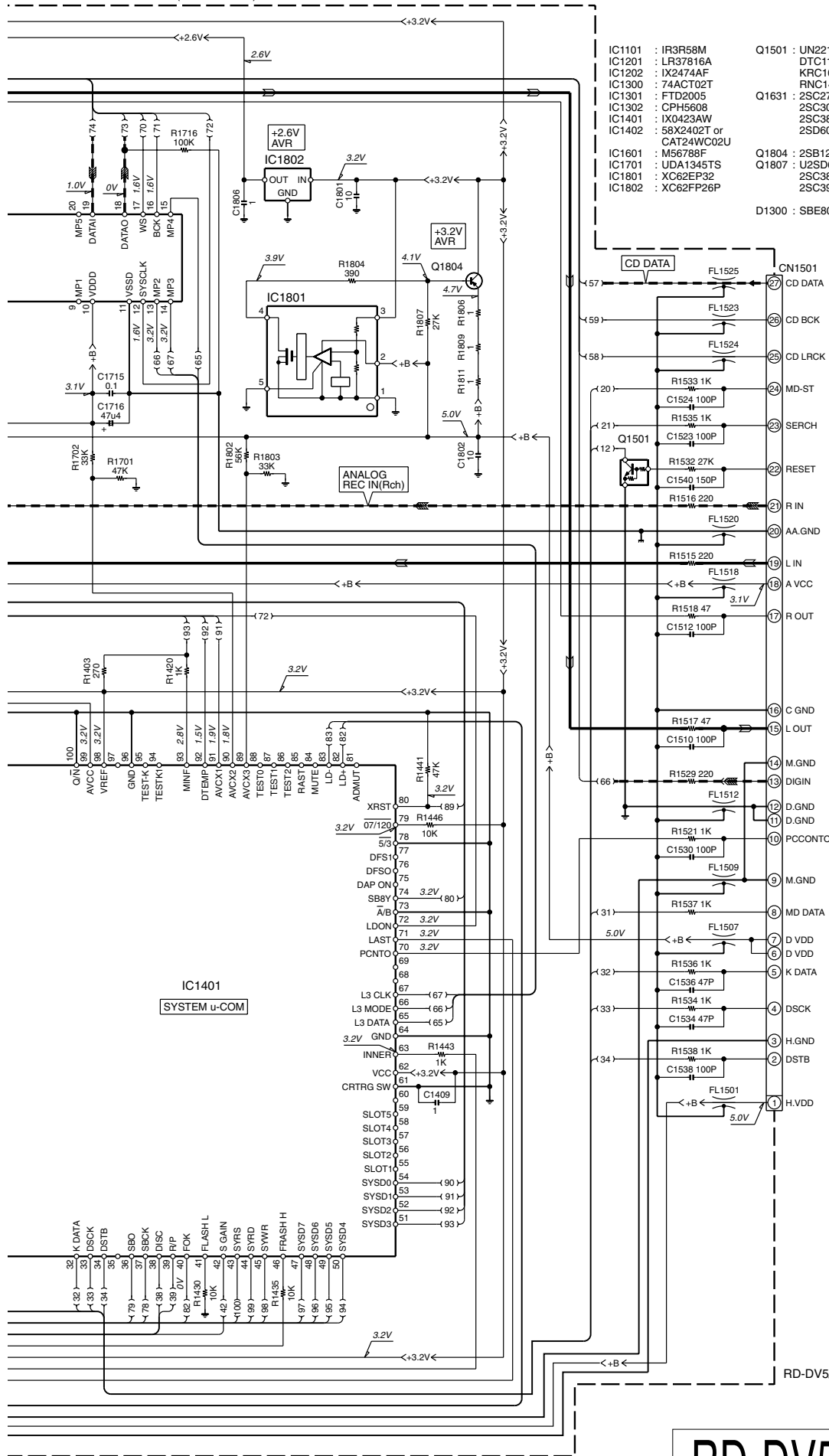
1
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MD MECHANISM (D40-1724-X5)

→ PLAYBACK (DIGITAL OUTPUT)
 → RECORDING (DIGITAL)
 — GND LINE
 — +B LINE

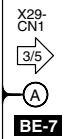




- IC1101 : IR3R58M
- IC1201 : LR37816A
- IC1202 : IX2474AF
- IC1300 : 74ACT02T
- IC1301 : FTD2005
- IC1302 : CPH5608
- IC1401 : IX0423AW
- IC1402 : 58X2402T or CAT24WC02U
- IC1601 : M56788F
- IC1701 : UDA1345TS
- IC1801 : XC62EP32
- IC1802 : XC62FP26P
- Q1501 : UN2214 or DTC114YK or KRC107S or RNC1407
- Q1631 : 2SC2712GR or 2SC3052F or 2SC3875GR or 2SD601AR
- Q1804 : 2SB1205
- Q1807 : U2SD601AR or 2SC3875GR or 2SC3928AR
- D1300 : SBE803

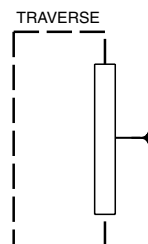
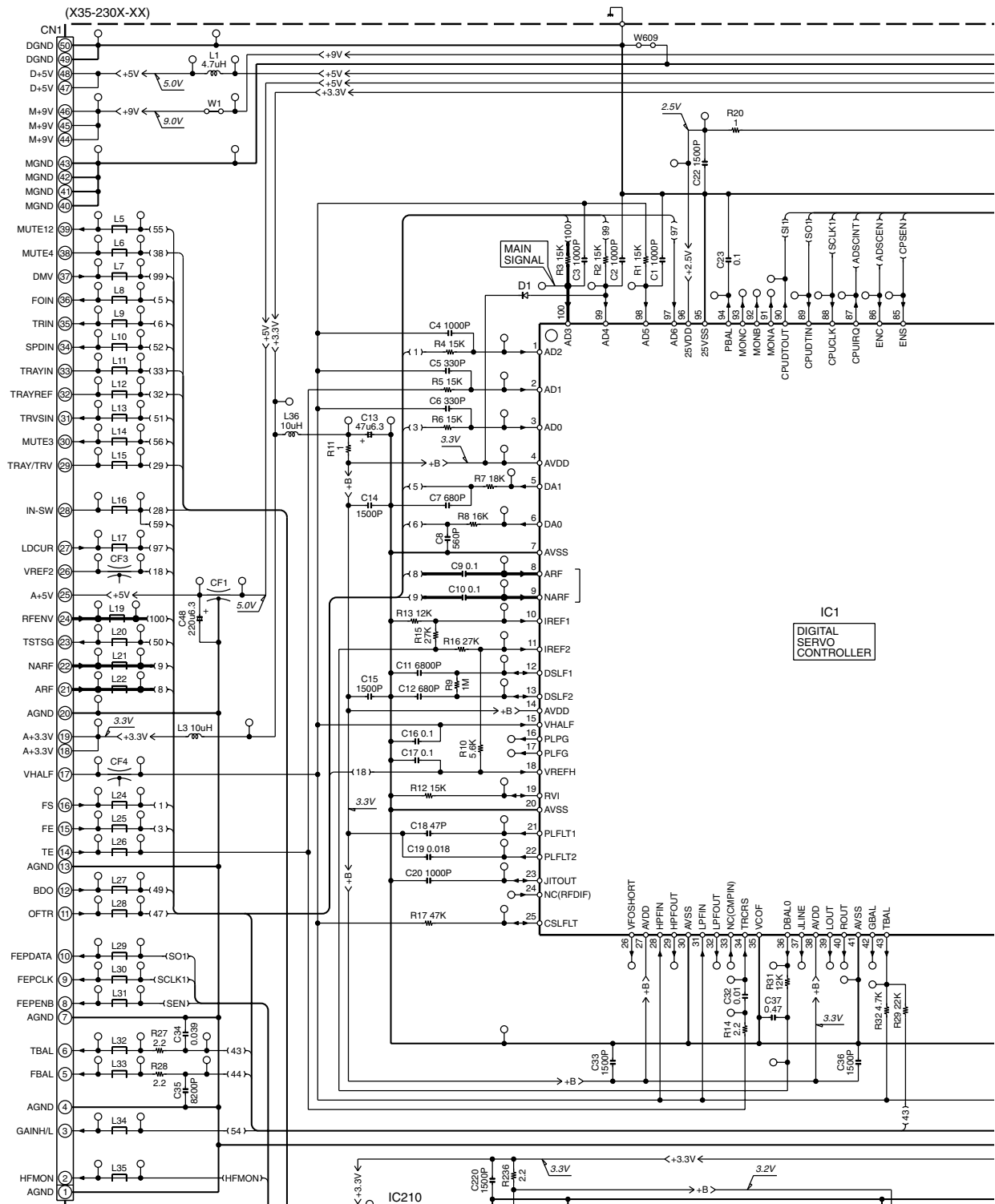
CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). Δ indicates safety critical components. For continued protection against risk of fire, replace only with same type and rating use(s). To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

The DC voltage is an actual reading measured with a high impedance type voltmeter with no signal input. The measurement value may vary depending on the measuring instruments used or on the product.

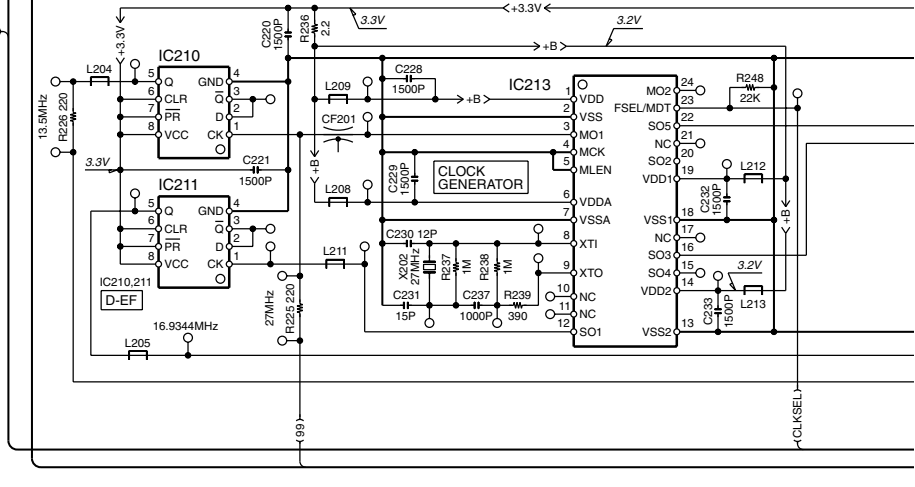


RD-DV5/DV7/DV5MD (1/5)

RD-DV5-S/DV7-L/DV5MD



- IC1 : MN67706EC
- IC101 : MN103S13BGA
- IC201 : MN120L62GGB
- IC202 : PST596JNR
- IC206 : X25057M-2.7
- IC207 : 49LV8192A90T
- IC210,211 : TC7WH74FU
- IC213 : SM8703AV
- IC217 : TC7WH157FU
- IC218,302 : TC7SHU04FU
- IC301 : MN677533MP
- IC401 : K4S641632ET75 or IS42S16400-7T or 57V641620HGTH
- IC601 : PQ025E201ZP
- IC602 : PQ1R33
- IC603 : PQ018EZ01ZP
- Q201 : 2SC4081(R,S)
- Q202,301,304 : 2SA1576A(R,S)
- Q203 : DTC124EUA
- D1,201,601 : MA111
- D3,4,101,102,202,203,301 : DA204U



1

2

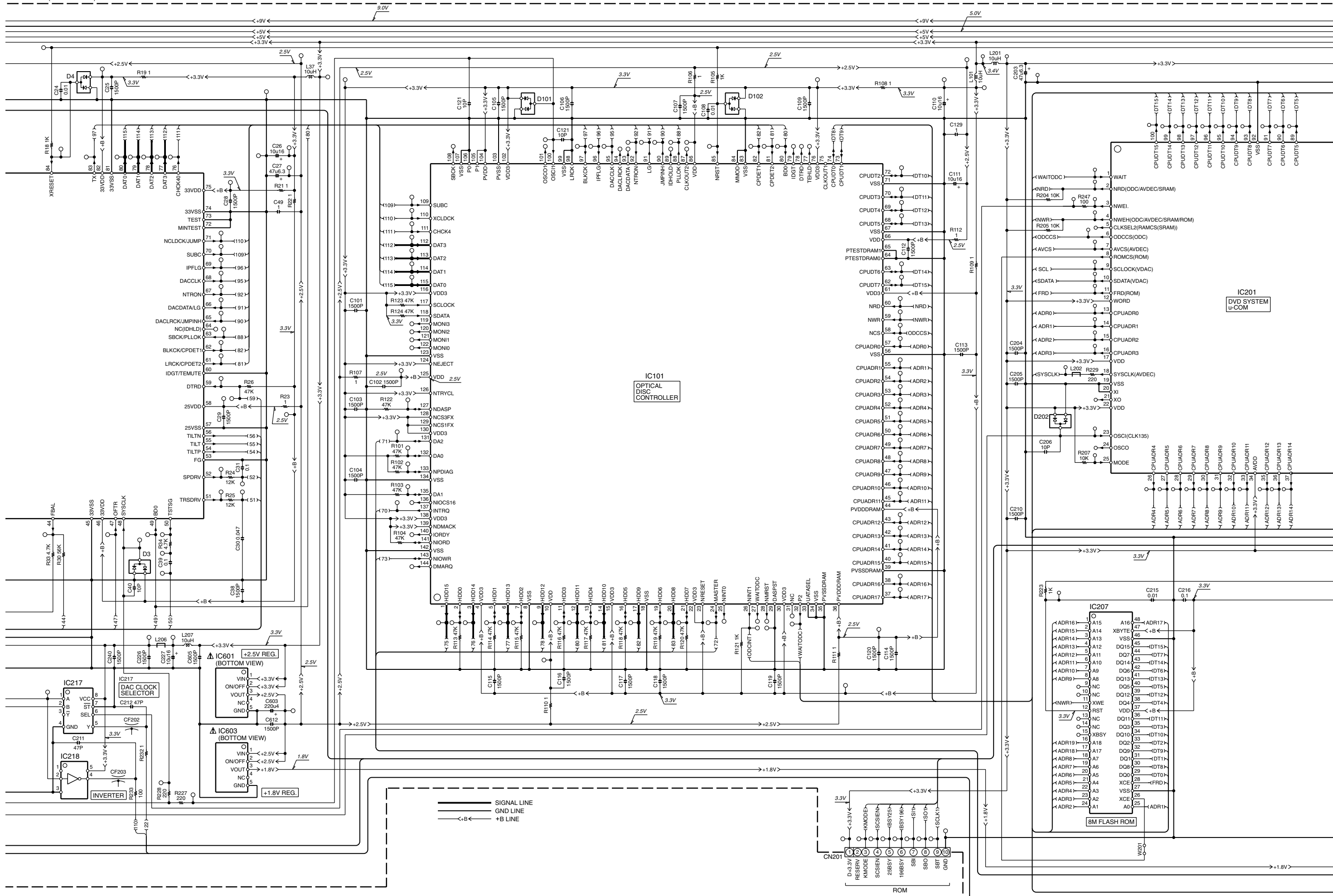
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— SIGNAL LINE
 — GND LINE
 — +B LINE

ROM

IC201
 DVD SYSTEM
 u-COM

IC207
 8M FLASH ROM

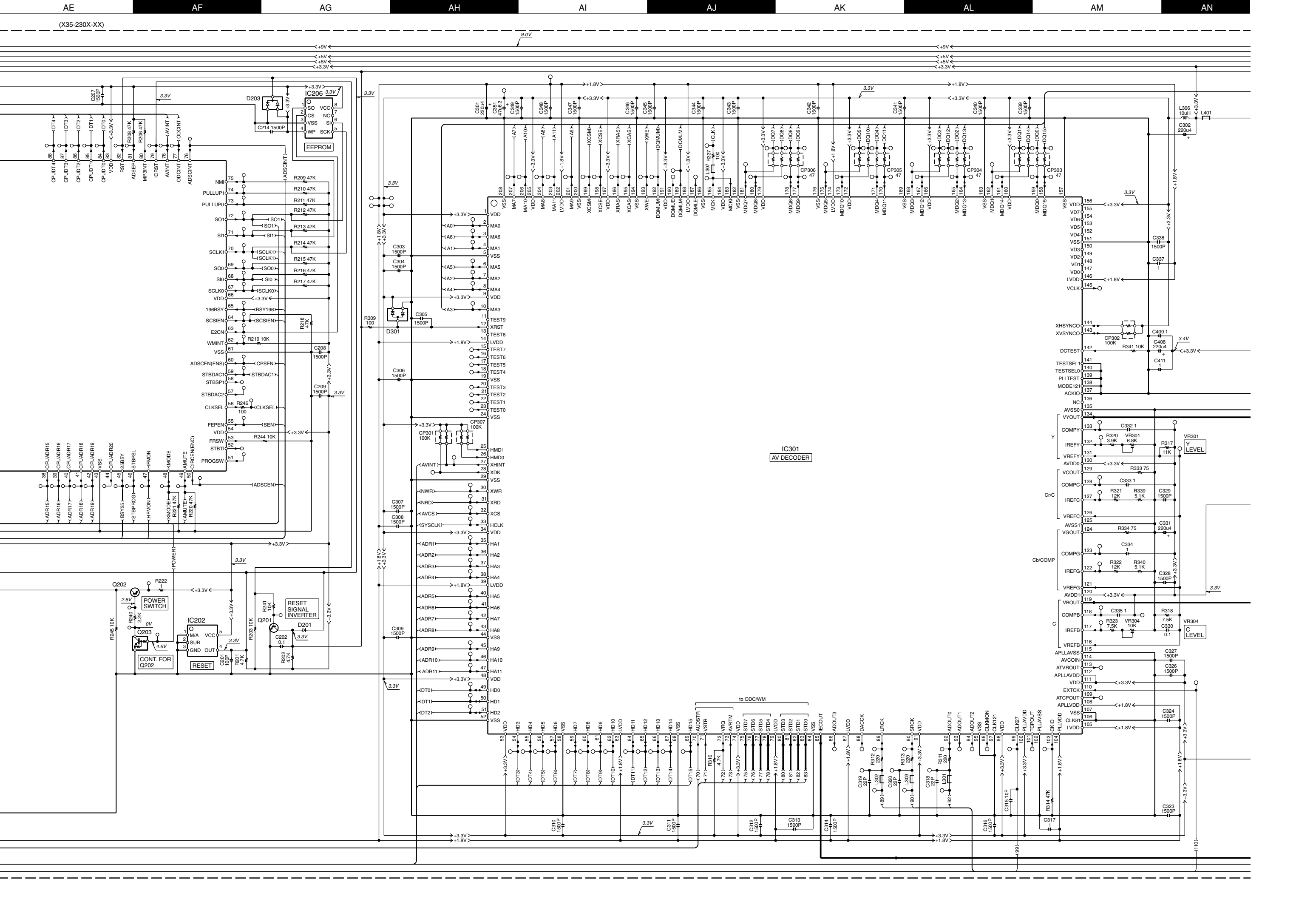
IC101
 OPTICAL
 DISC
 CONTROLLER

IC601
 +2.5V REG.
 (BOTTOM VIEW)

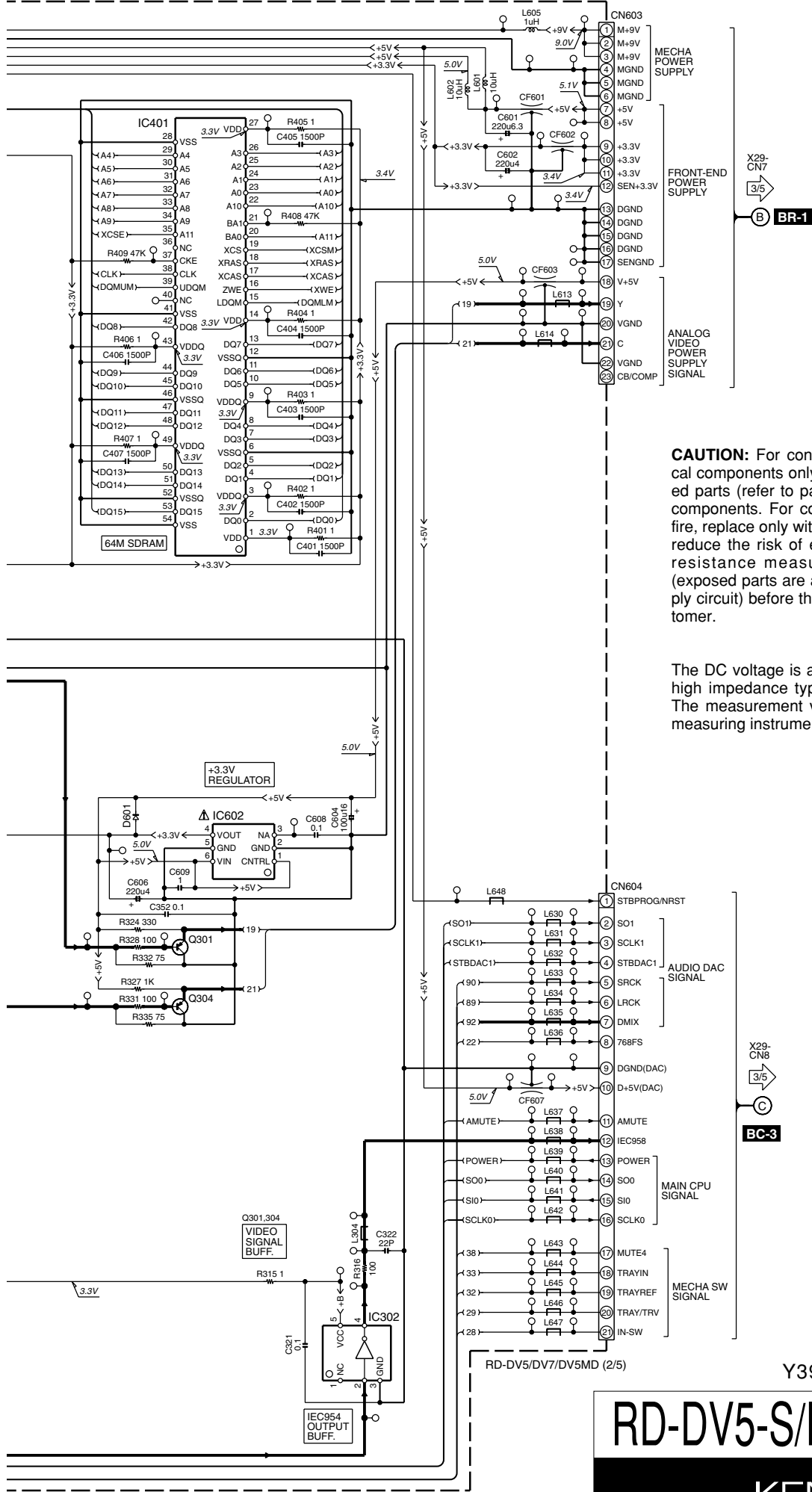
IC603
 +1.8V REG.
 (BOTTOM VIEW)

IC217
 DAC CLOCK
 SELECTOR

IC218
 INVERTER



(X35-230X-XX)



CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). Δ indicates safety critical components. For continued protection against risk of fire, replace only with same type and rating fuse(s). To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

The DC voltage is an actual reading measured with a high impedance type voltmeter with no signal input. The measurement value may vary depending on the measuring instruments used or on the product.

Y39-3950-21

RD-DV5-S/DV7-L/DV5MD-S

KENWOOD

X35-CN603

B

AQ-1

RD-DV5MD-S (X29-2760-21)

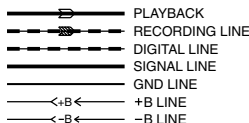
| DESTINATION | | UNIT No. | (A) | (B) | (C) | (D) | (E) | (B) | C145 | C285 | CN2 | IC20 | O6,15 | R3,4 | R124 | R132,135,139,141,200,243,313,318,319 | R301,311,312,316,319 | W1,2,9 | |
|----------------|------|----------|-----|-----|-----|-----|-----|-----|------|------|-----|------|-------|------|------|--------------------------------------|----------------------|--------|-----|
| COUNTRY | ABB. | | NO | YES | NO | YES | NO | YES | NO | YES | NO | YES | NO | YES | NO | YES | NO | YES | |
| GENERAL MARKET | M | 0-21 | NO | YES | NO | YES | NO | YES | NO | 9P | YES | NO | NO | 8.2K | 47K | NO | NO | YES | YES |

RD-DV5-S (X29-2762-71)

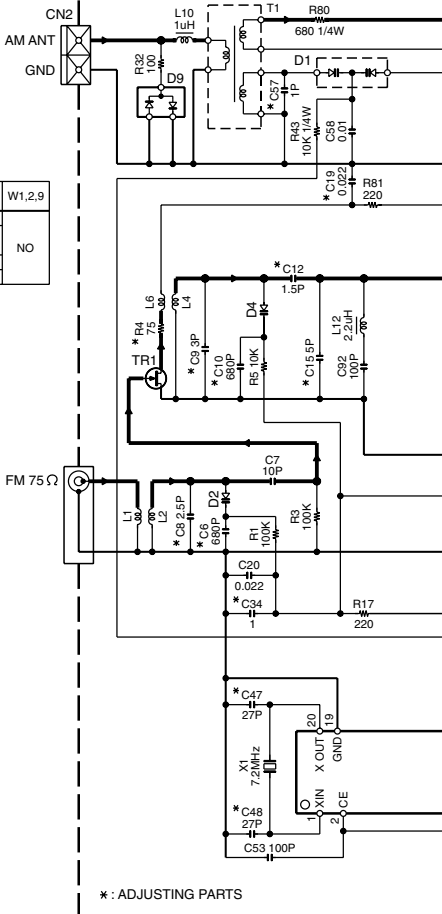
| DESTINATION | | UNIT No. | (A) | (B) | (C) | (D) | (E) | (B) | C145 | C285 | CN2 | IC20 | O6,15 | R3,4 | R124 | R132,135,139,141,200,243,311,313,317,320,325 | R301,312,316,318,319 | W1,2 | W9 |
|-------------|------|----------|-----|-----|-----|-----|-----|-----|------|------|-----|------|-------|------|------|--|----------------------|------|-----|
| COUNTRY | ABB. | | NO | YES | NO | YES | NO | YES | NO | YES | NO | YES | NO | YES | NO | YES | NO | YES | NO |
| U.K. | T | 2-71 | NO | YES | NO | YES | NO | NO | NO | NO | NO | NO | NO | 8.2K | 47K | NO | NO | YES | YES |
| EUROPE | E2 | 2-72 | YES | YES | NO | NO | NO | NO | YES | 12P | NO | NO | NO | 8.2K | 10K | NO | NO | YES | NO |
| AUSTRALIA | X2 | 0-71 | NO | YES | NO | YES | NO | NO | NO | NO | NO | NO | NO | 8.2K | 47K | NO | NO | YES | YES |
| SHANGHAI | V2 | 2-10 | NO | YES | NO | YES | NO | NO | NO | NO | NO | NO | NO | 8.2K | 47K | NO | NO | YES | NO |

RD-DV7-L (X29-276X-XX)

| DESTINATION | | UNIT No. | (A) | (B) | (C) | (D) | (E) | (B) | C145 | C285 | CN2 | IC20 | O6,15 | R3,4 | R124 | R132,135,139,141,200,243,318,320,325 | R301,311,319 | R312 | R313 | R316 | R317 | W1,2,9 |
|----------------|------|----------|-----|-----|-----|-----|-----|-----|------|------|-----|------|-------|------|------|--------------------------------------|--------------|------|------|------|------|--------|
| COUNTRY | ABB. | | NO | YES | NO | YES | NO | YES | NO | YES | NO | YES | NO | YES | NO | YES | NO | YES | NO | YES | NO | YES |
| GENERAL MARKET | M2 | 0-22 | NO | YES | NO | YES | NO | NO | NO | NO | NO | NO | NO | 8.2K | 10K | NO | NO | NO | YES | NO | YES | NO |
| U.K. | T2 | 2-72 | YES | YES | NO | NO | NO | NO | NO | NO | NO | NO | NO | 8.2K | 10K | NO | NO | NO | YES | NO | YES | NO |
| EUROPE | E2 | 2-72 | YES | YES | NO | NO | NO | NO | NO | NO | NO | NO | NO | 8.2K | 10K | NO | NO | NO | YES | NO | YES | NO |
| AUSTRALIA | X2 | 0-71 | NO | YES | NO | YES | NO | NO | NO | NO | NO | NO | NO | 8.2K | 10K | NO | NO | NO | YES | NO | YES | NO |
| SHANGHAI | V2 | 2-10 | NO | YES | NO | YES | NO | NO | NO | NO | NO | NO | NO | 8.2K | 10K | NO | NO | NO | YES | NO | YES | NO |

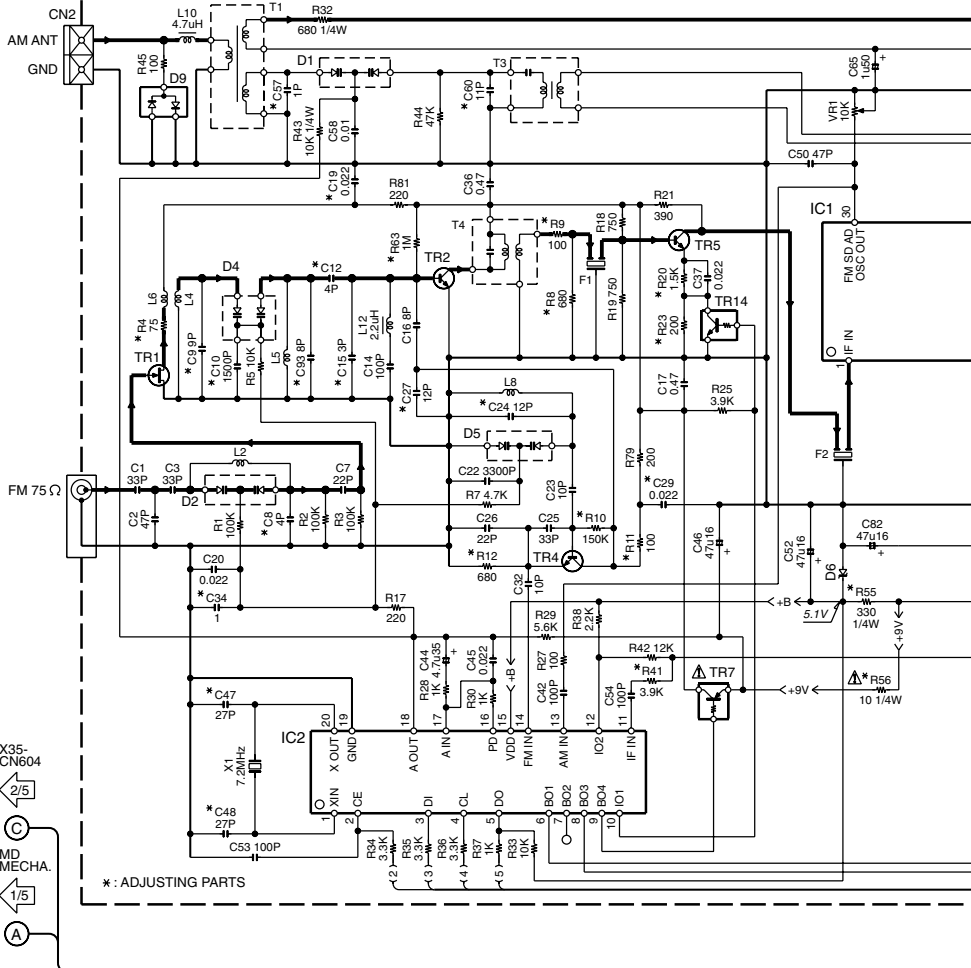


(W02-2783-05) USED M,X,V TYPE



* : ADJUSTING PARTS

(W02-2762-05) USED E,T TYPE



* : ADJUSTING PARTS

X35-CN604

N-7

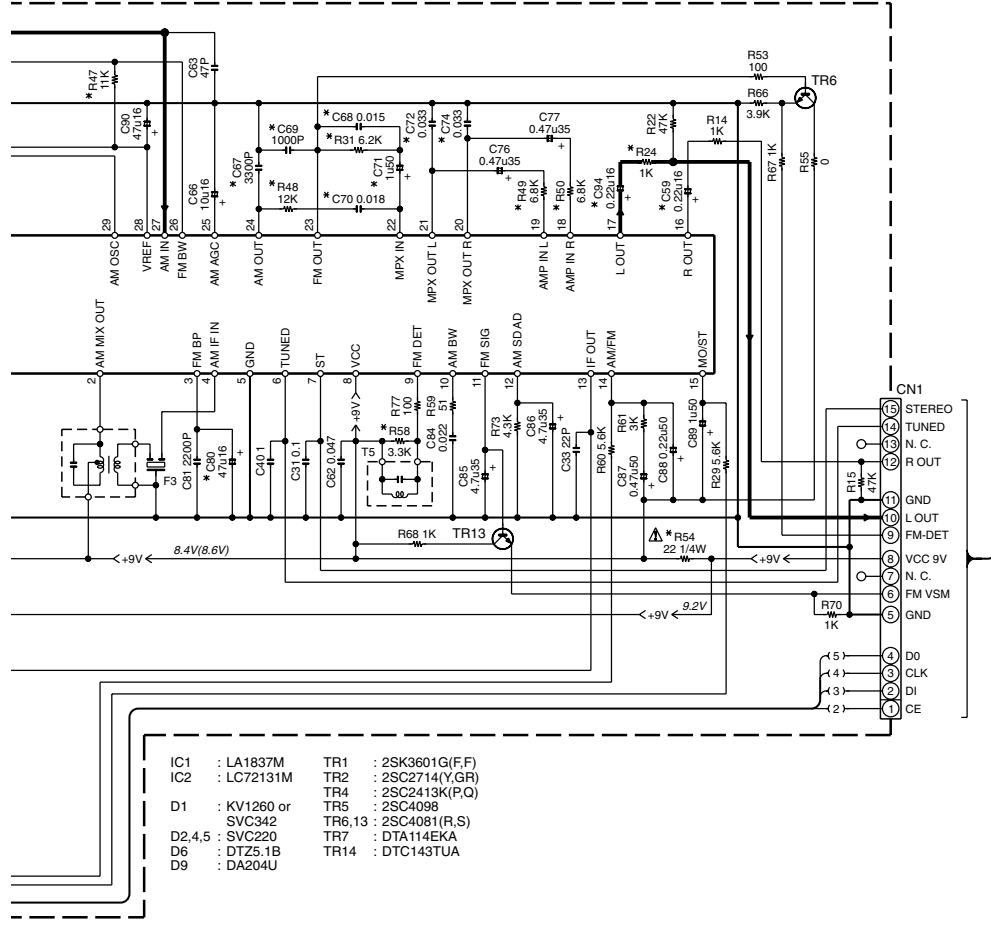
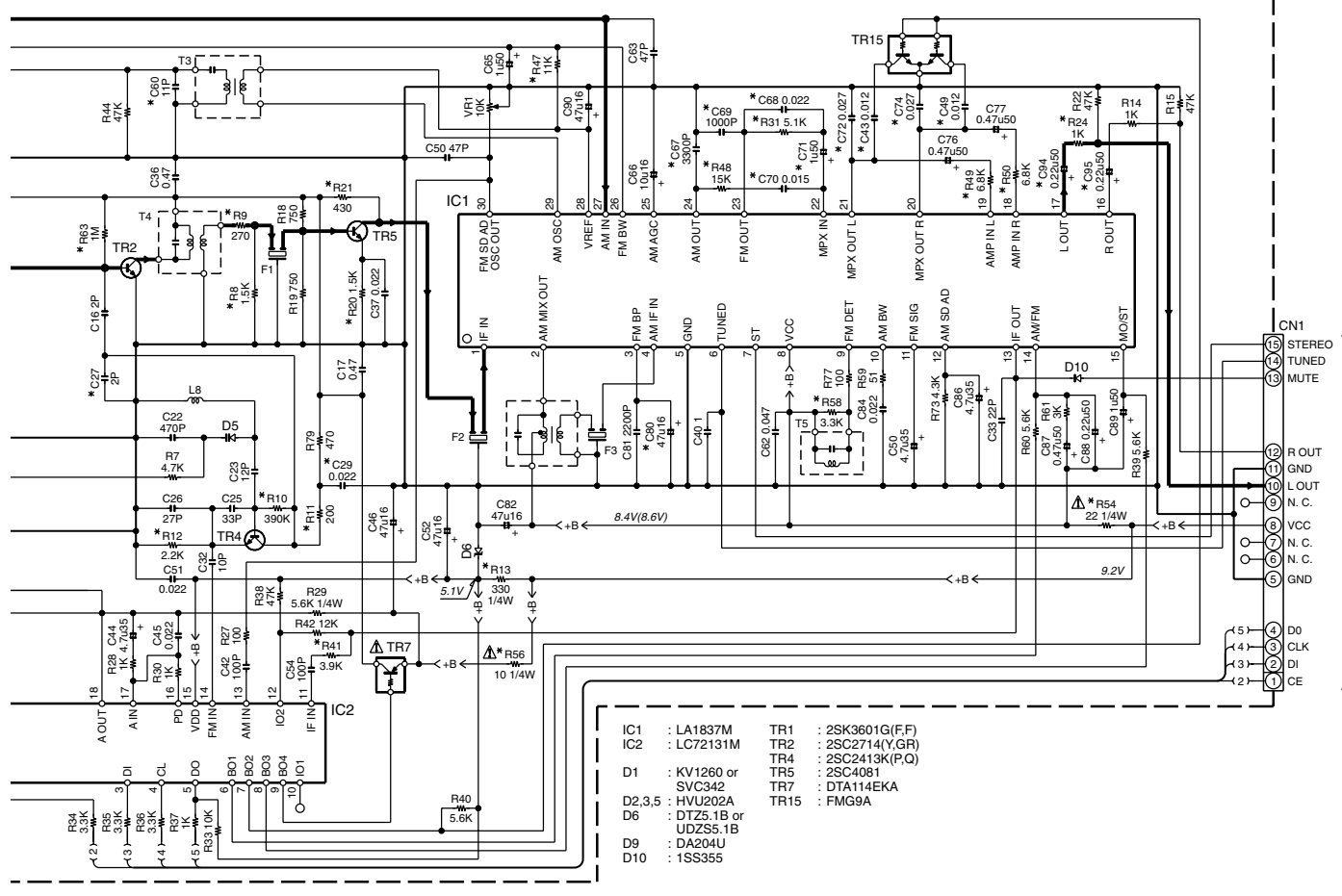
MD MECHA.

AQ-5

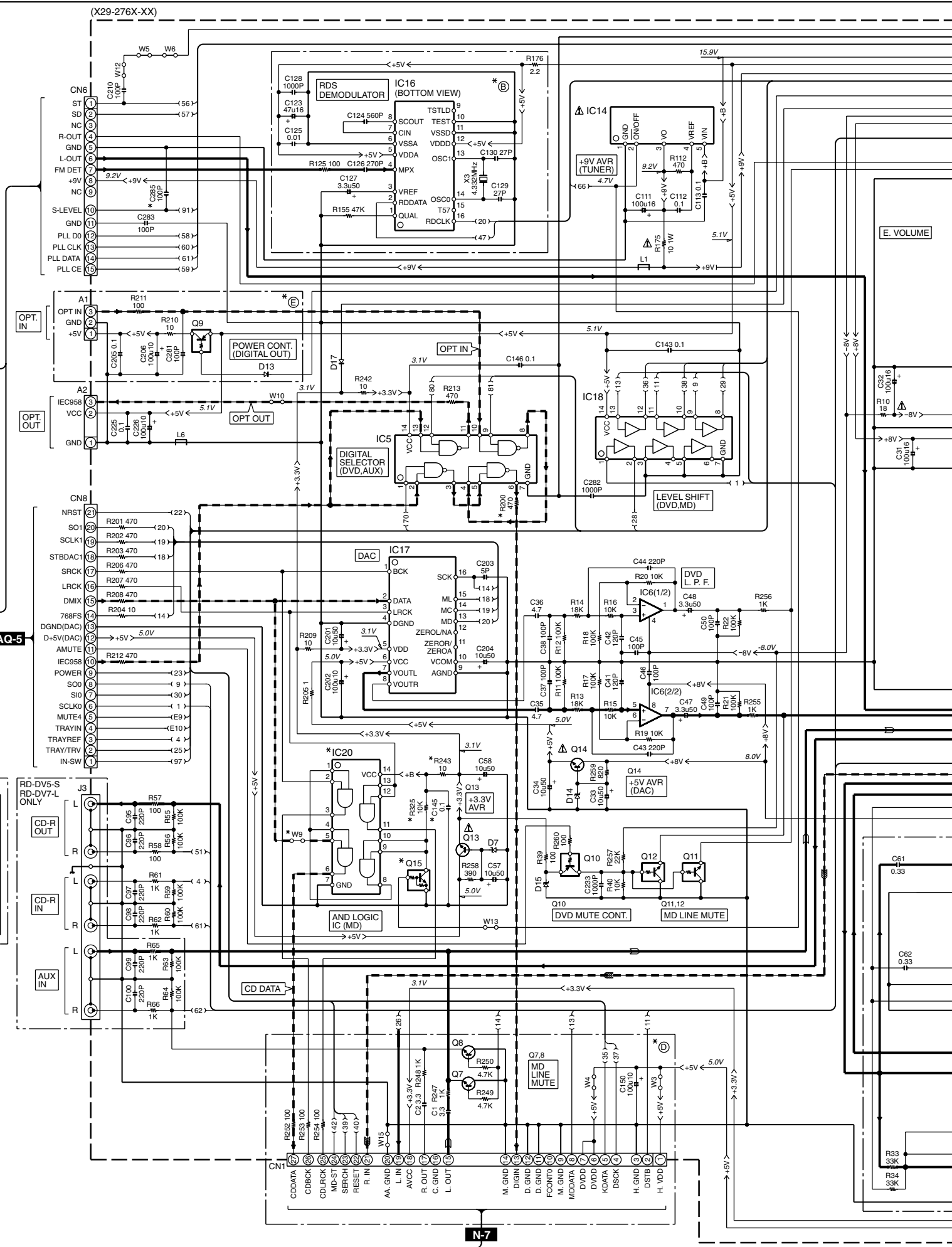
2/5

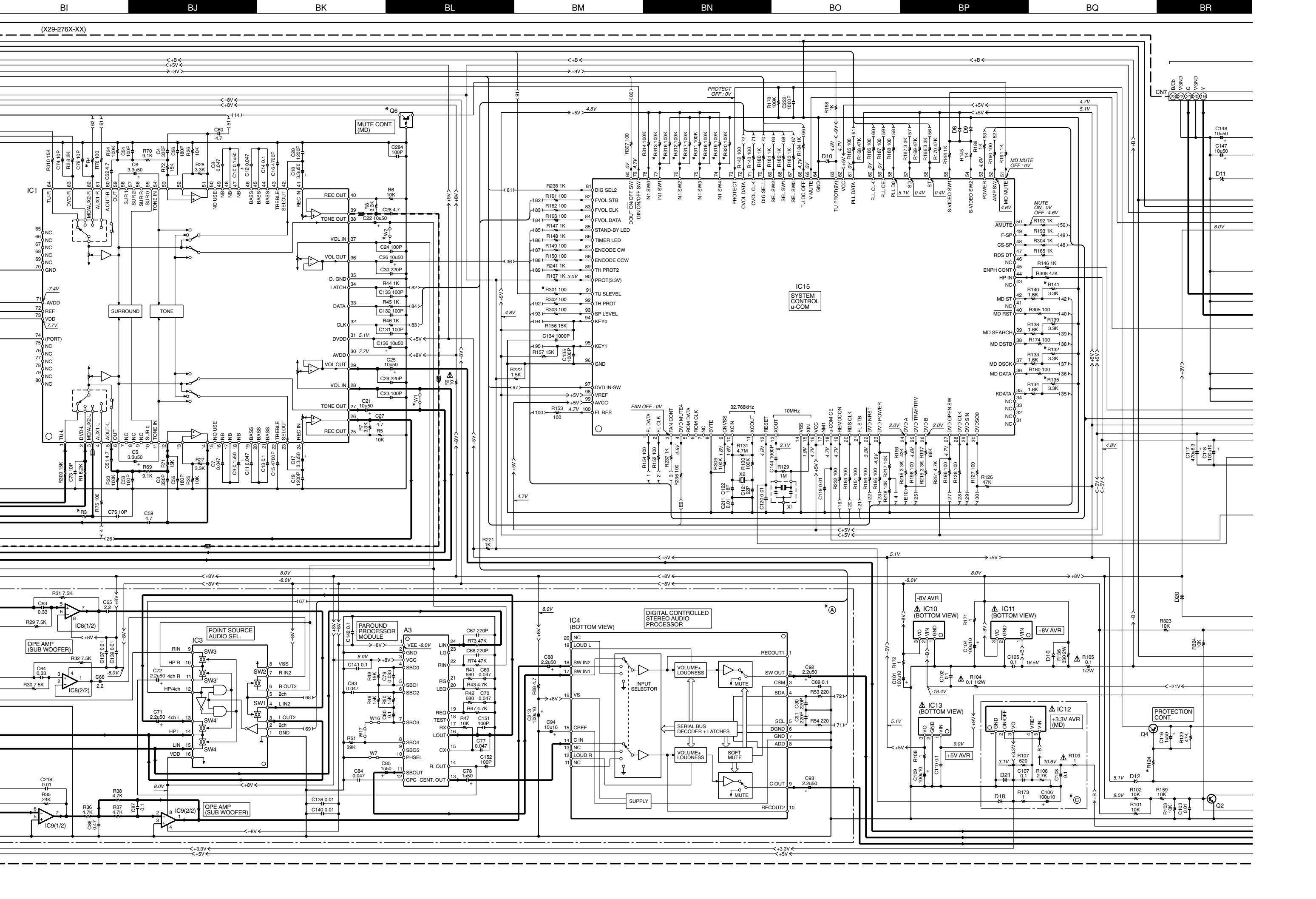
1/5

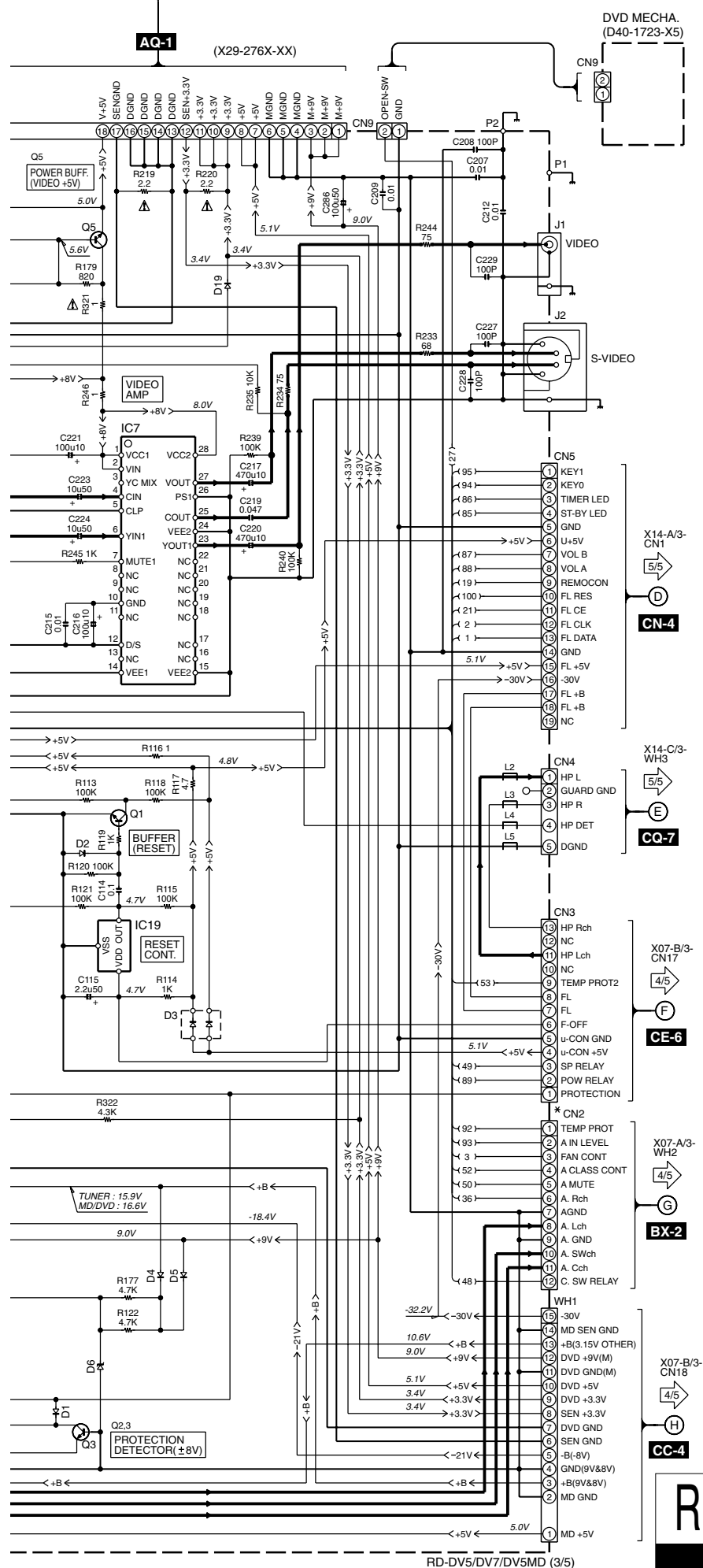
A



- IC1 : M62492FP
 IC3 : TC9215AF
 IC4 : TDA7309
 IC5 : HD74LVC00T
 IC5,8,9 : NJM4558MD
 IC7 : MM1539AFBE
 IC10 : TA79008S
 IC11 : TA7808S
 IC12 : SI-3025F(1109)
 IC13 : UPC2905HF
 IC14 : SI-3090C(1109)
 IC15 : M30624MGA356F
 IC16 : BU1923F
 IC17 : PCM1748E
 IC18 : TC74HCT7007AF
 IC19 : S-80840ANY
 IC20 : HD74LVC08T
- Q1-3,13,14 : 2SC4081(R,S) or 2SC4116(Y,GR)
 Q4 : 2SA1576A(R,S) or 2SA1586(Y,GR)
 Q5 : 2SC2003(L,K)
 Q6,9,10 : DTA143TUA or UN5116
 Q7,8 : 2SC4213(B)
 Q11,12 : DTC143TUA or UN5216
 Q15 : DTC124EUA or UN5212
- D1,2,4,5,8,9,12,13,16-20 : MA111
 D3 : 1SS402
 D6,10 : UDZS4.7B or UDZ4.7B
 D7 : UDZS3.9B or UDZ3.9B
 D11,14 : UDZS5.6B or UDZ5.6B
 D15 : UDZS2.7B or UDZ2.7B or HZU2.7(B2) or RD2.7S(B2)
 D21 : MTZJ4.7(B2) or RD4.7ES(B2)







CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). Δ indicates safety critical components. For continued protection against risk of fire, replace only with same type and rating fuse(s). To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

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Y39-3950-21

RD-DV5-S/DV7-L/DV5MD-S

KENWOOD

(X07-34XX-XX) (A/3)

X29-WH1

3/5

H

BU-6

X29-CN2

3/5

G

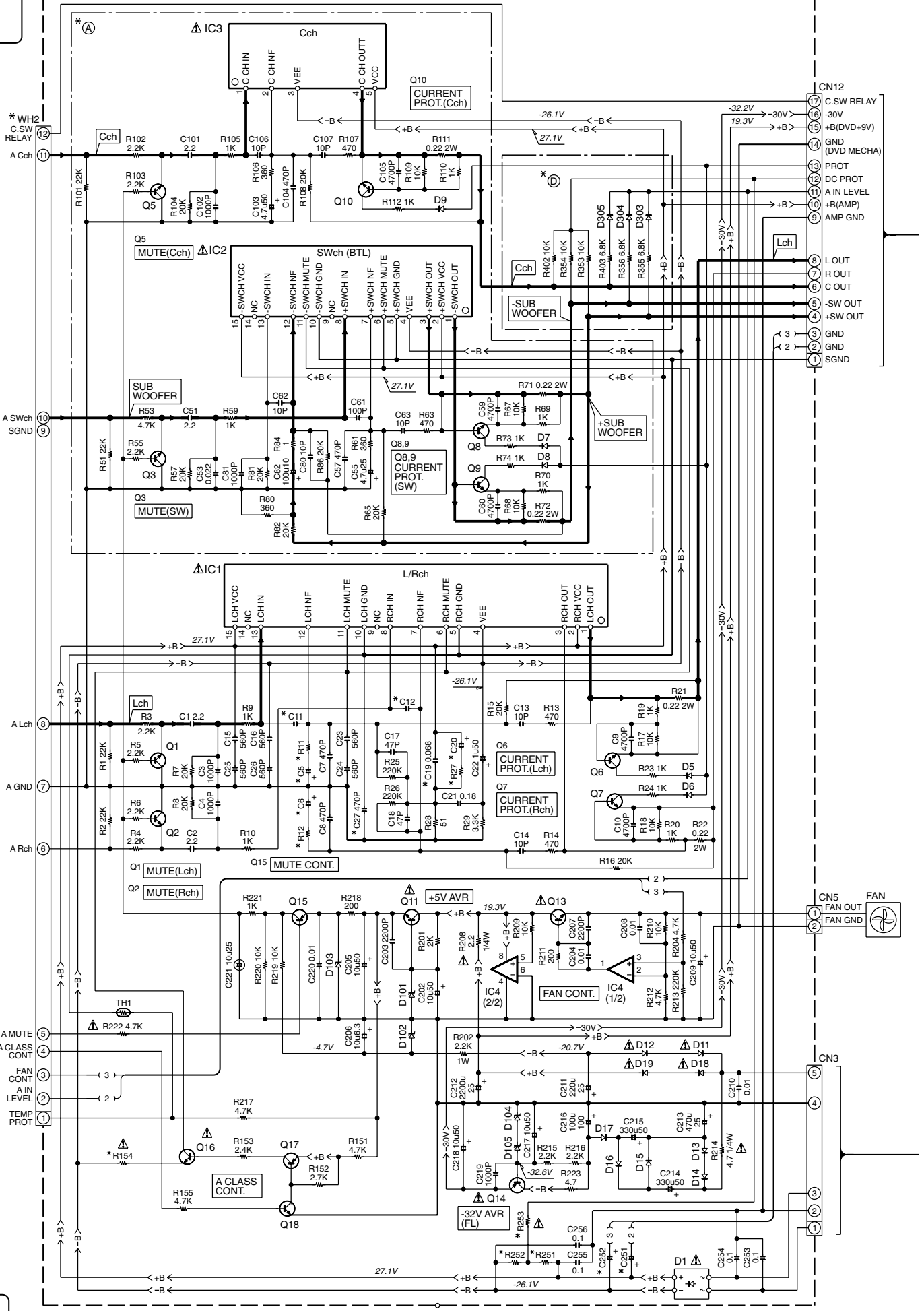
BU-6

X29-CN3

3/5

F

BU-5



- 17 C.SW RELAY
- 16 -30V
- 15 +(DVD+9V)
- 14 GND (DVD MECHA)
- 13 PROT
- 12 DC PROT
- 11 A IN LEVEL
- 10 +(AMP)
- 9 AMP GND

- 8 LOUT
- 7 ROUT
- 6 COUT
- 5 -SW OUT
- 4 +SW OUT
- 3 GND
- 2 GND
- 1 SGND

- 1 FAN
- 2 FAN OUT
- 3 FAN GND

- 5
- 4
- 3
- 2
- 1

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2

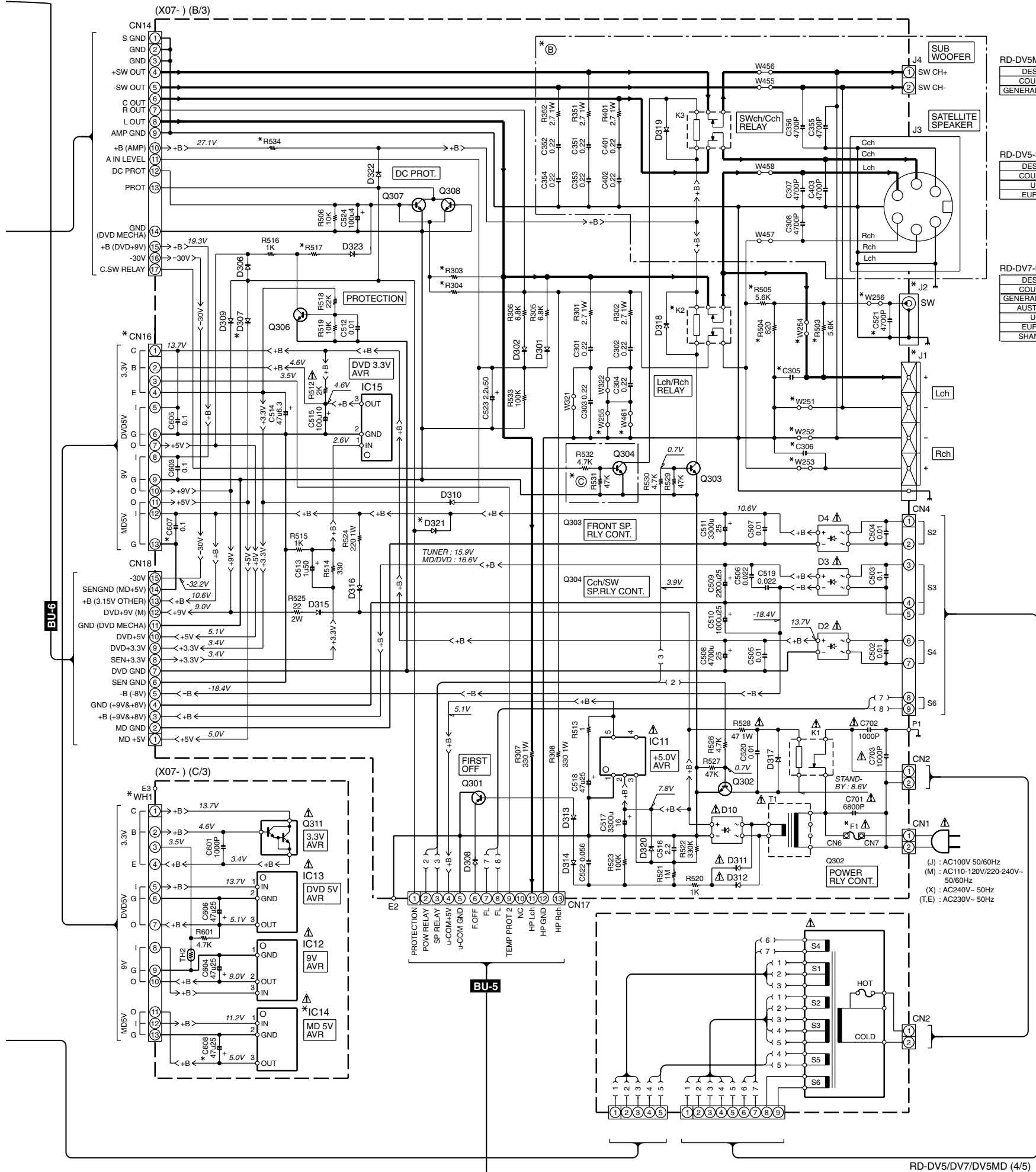
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RD-DV5MD-S (X07-3400-21)

| DESTINATION COUNTRY | ABB. | UNIT No. | (A) | (B) | (C) | (D) | C5,6 | C11,12 | C19,27 | C20 | C251,252 | C303-306,521,607,608 | C305,306 | CN16 | D307 | D321 |
|---------------------|------|----------|-----|-----|-----|-----|-------|--------|--------|------|----------|----------------------|----------|-------|------|------|
| GENERAL MARKET | M | 0-21 | | | | | 10u50 | 10P | NO | 1u50 | 3300u35 | YES | 4700P | 13PIN | YES | NO |

| F1 | IC14 | J1,2 | K2 | R11,12 | R27 | R154,517 | R251-253,303,304 | R503-505 | R534 | WH1 | WH2 | W251-256 | W461 |
|-------------|------|------|-----|--------|-----|----------|------------------|----------|-------|-------|------|----------|------|
| F06-1022-05 | YES | YES | 24V | 360 | 16K | 10K | 47K | YES | 82 1W | 13PIN | 9PIN | YES | NO |

RD-DV5-S (X07-3402-71)

| DESTINATION COUNTRY | ABB. | UNIT No. | (A) | (B) | (C) | (D) | C5,6 | C11,12 | C20 | C19,27,607,608 | C251,252 | C305,306 | C521 | CN16 | D307 | D321 |
|---------------------|------|----------|-----|-----|-----|-----|-------|--------|------|----------------|----------|----------|------|-------|------|------|
| U.K. | T | 2-71 | | | | | 10u50 | 47P | 1u50 | NO | 3300u35 | 5600P | YES | 10PIN | NO | YES |
| EUROPE | E | | | | | | | | | | | | | | | |

| F1 | IC14 | J1,2 | K2 | R11,12 | R27 | R154,517 | R251-253,303,304 | R503-505 | R534 | WH1 | WH2 | W251-256 | W461 |
|-------------|------|------|-----|--------|-----|----------|------------------|----------|-------|-------|------|----------|------|
| F06-1022-05 | NO | YES | 24V | 360 | 16K | 10K | 47K | YES | 82 1W | 10PIN | 9PIN | YES | NO |

RD-DV7-L (X07-34XX-XX)

| DESTINATION COUNTRY | ABB. | UNIT No. | (A) | (B) | (C) | (D) | C5,6,20 | C11,12 | C19,27 | C251 | C252 | C305,306,521,607,608 | CN16 | D307 | D321 |
|---------------------|------|----------|-----|-----|-----|-----|---------|--------|--------|---------|------|----------------------|-------|------|------|
| GENERAL MARKET | M2 | 00-22 | | | | | | | | | | | | | |
| AUSTRALIA | X2 | | | | | | | | YES | 2700u25 | | NO | 10PIN | NO | YES |
| U.K. | T2 | | YES | | | | 4.7u50 | 10P | YES | | | | | | |
| EUROPE | E2 | | | | | | | | | | | | | | |
| SHANGHAI | V2 | 32-10 | | | | | | | | | | | | | |

| F1 | IC14 | J1,2 | K2 | R11,12 | R27 | R154 | R303,304 | R503-505 | R517 | R534 | WH1 | WH2 | W251-256 | W461 |
|-------------|------|------|-----|--------|------|------|----------|----------|------|-------|-------|-------|----------|------|
| F06-1022-05 | NO | NO | 12V | 560 | 4.7K | 3.3K | 10K | NO | 1K | 56 1W | 10PIN | 12PIN | NO | YES |

CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). Δ indicates safety critical components. For continued protection against risk of fire, replace only with same type and rating fuse(s). To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

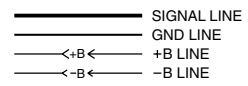
The DC voltage is an actual reading measured with a high impedance type voltmeter with no signal input. The measurement value may vary depending on the measuring instruments used or the product.

- IC1,2 : LM4766TK
- IC3 : LM1875
- IC4 : NJM2904M
- IC11 : XC62HR5102P
- IC12 : SI-3092N
- IC13,14 : uPC2905HF
- IC15 : TL431CLP

- Q1-3,5 : 2SC4213(B)
- Q6-10,16,18,306-308 : 2SC4116(Y,GR) or 2SC4177(L5,L6)
- Q11 : 2SC2003(L,K)
- Q13 : 2SD2012
- Q14 : 2SB1640
- Q15,17,301 : 2SA1586(Y,GR) or 2SA1611(M5,M6)
- Q302-304 : 2SC4097(Q,R)
- Q311 : 2SD2493LF114

- D1,2,4 : D4SBL20UF03
- D3,10 : S1ZB20(4072)
- D5-9,301-307,309-314,317-323 : MA111
- D11-19,315,316 : S5688B(TPB5)
- D101 : RD5.6ES(B2) or MTZJ5.6(B)
- D102 : RD4.7ES(B2) or MTZJ4.7(B)
- D103 : RD3.9ES(B2) or MTZJ3.9(B)
- D104 : RD1.5ES(B2) or MTZJ1.5(B)
- D105 : RD1.8ES(B2) or MTZJ1.8(B)
- D308 : 1SS133 or HSS104A

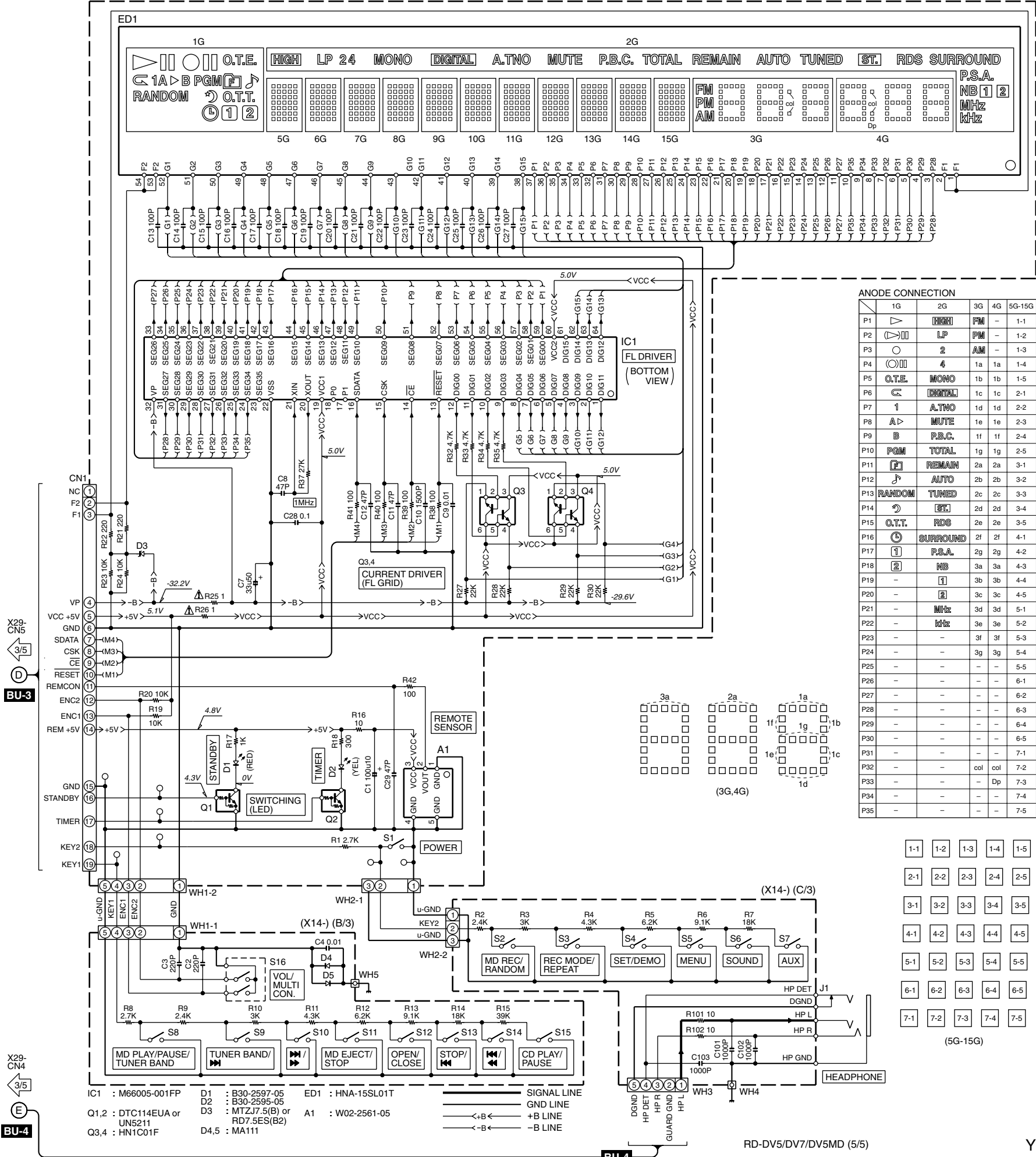
RD-DV5/DV7/DV5MD (4/5)



Y39-3950-21

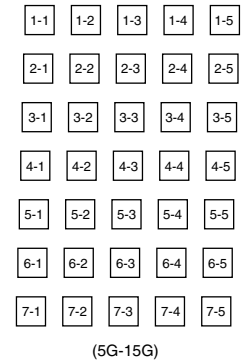
RD-DV5-S/DV7-L/DV5MD-S
KENWOOD

(X14-7330-00) (A/3)



ANODE CONNECTION

| | 1G | 2G | 3G | 4G | 5G-15G |
|-----|----|----------|-----|-----|--------|
| P1 | ▶ | FM | FM | - | 1-1 |
| P2 | ◀ | LP | FM | - | 1-2 |
| P3 | ○ | 2 | AM | - | 1-3 |
| P4 | ◻ | 4 | 1a | 1a | 1-4 |
| P5 | ◻ | MONO | 1b | 1b | 1-5 |
| P6 | ◻ | DIGITAL | 1c | 1c | 2-1 |
| P7 | 1 | A.TNO | 1d | 1d | 2-2 |
| P8 | ▶ | MUTE | 1e | 1e | 2-3 |
| P9 | ◻ | P.B.C. | 1f | 1f | 2-4 |
| P10 | ◻ | TOTAL | 1g | 1g | 2-5 |
| P11 | ◻ | REMAIN | 2a | 2a | 3-1 |
| P12 | ◻ | AUTO | 2b | 2b | 3-2 |
| P13 | ◻ | TUNED | 2c | 2c | 3-3 |
| P14 | ◻ | ST. | 2d | 2d | 3-4 |
| P15 | ◻ | RDS | 2e | 2e | 3-5 |
| P16 | ◻ | SURROUND | 2f | 2f | 4-1 |
| P17 | 1 | P.S.A. | 2g | 2g | 4-2 |
| P18 | 2 | NB | 3a | 3a | 4-3 |
| P19 | - | 1 | 3b | 3b | 4-4 |
| P20 | - | 2 | 3c | 3c | 4-5 |
| P21 | - | MHz | 3d | 3d | 5-1 |
| P22 | - | kHz | 3e | 3e | 5-2 |
| P23 | - | - | 3f | 3f | 5-3 |
| P24 | - | - | 3g | 3g | 5-4 |
| P25 | - | - | - | - | 5-5 |
| P26 | - | - | - | - | 6-1 |
| P27 | - | - | - | - | 6-2 |
| P28 | - | - | - | - | 6-3 |
| P29 | - | - | - | - | 6-4 |
| P30 | - | - | - | - | 6-5 |
| P31 | - | - | - | - | 7-1 |
| P32 | - | - | col | col | 7-2 |
| P33 | - | - | - | Dp | 7-3 |
| P34 | - | - | - | - | 7-4 |
| P35 | - | - | - | - | 7-5 |

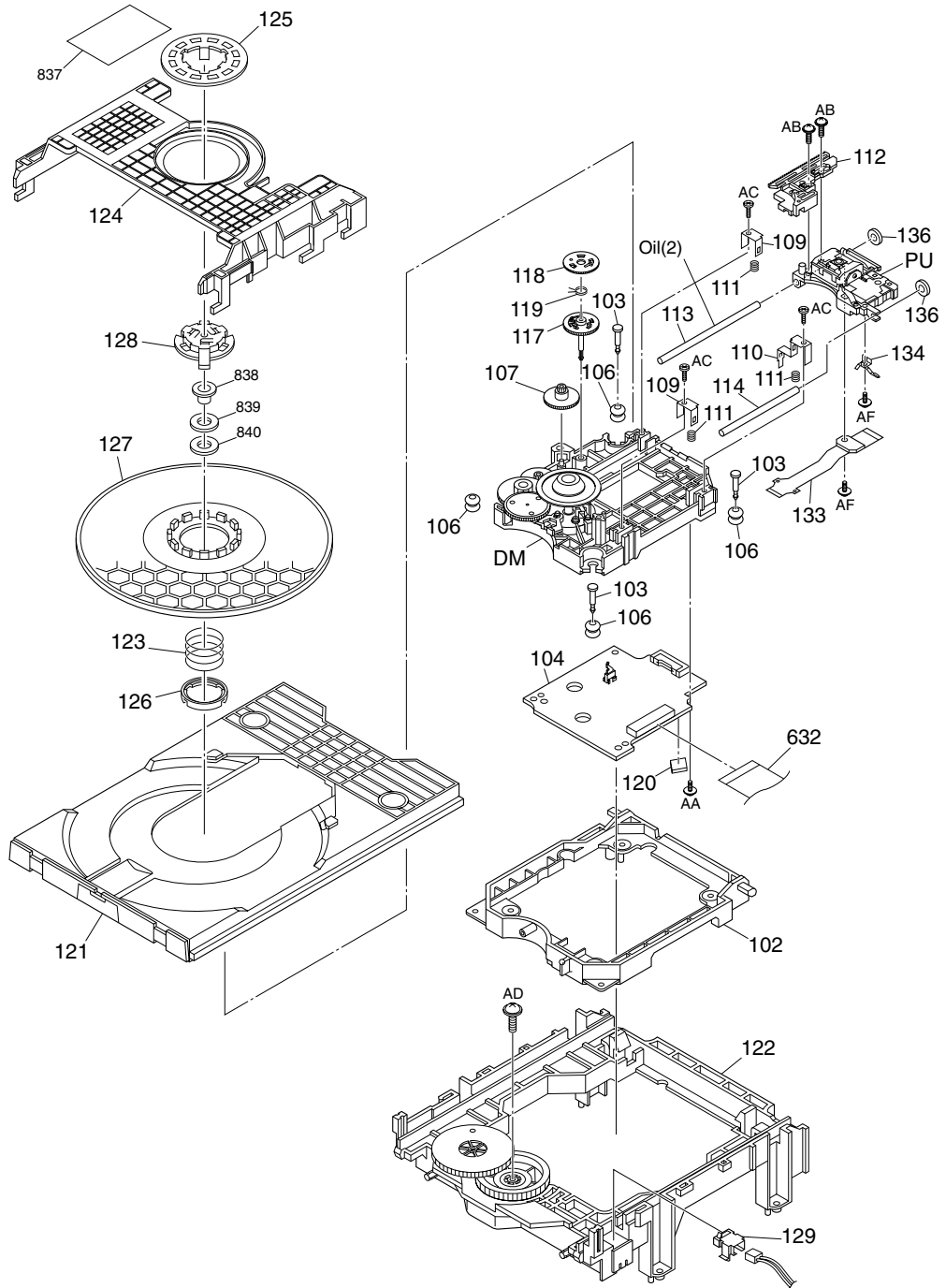


CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). ⚠ indicates safety critical components. For continued protection against risk of fire, replace only with same type and rating fuse(s). To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

The DC voltage is an actual reading measured with a high impedance type voltmeter with no signal input. The measurement value may vary depending on the measuring instruments used or on the product.

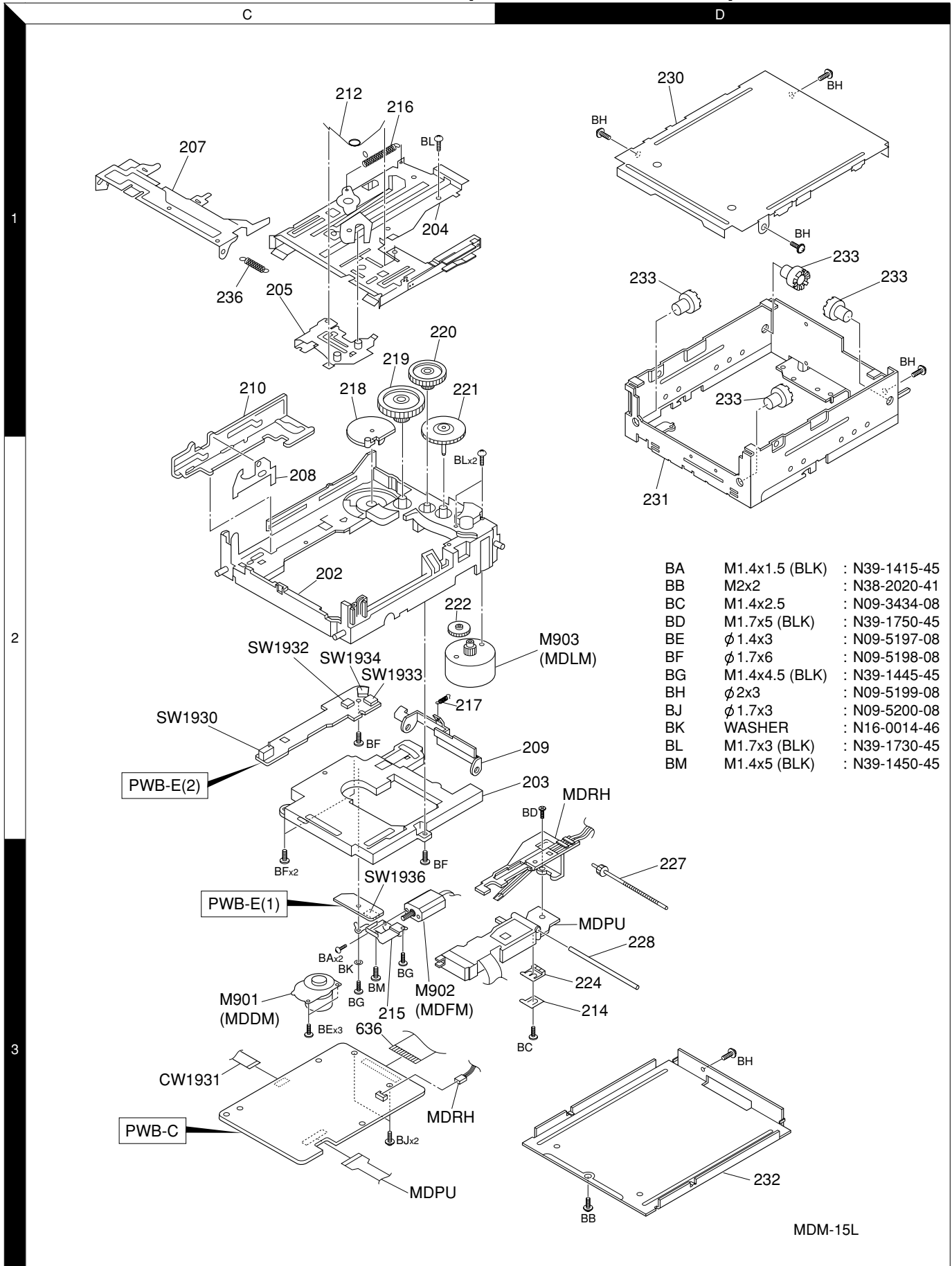
EXPLODED VIEW(DVD MECHANISM)

- AA $\phi 2 \times 8$: N09-5392-08
- AB M2x5 : N09-5393-08
- AC $\phi 2 \times 6$: N09-5162-08
- AD $\phi 3 \times 11$: N09-5394-08
- AF M1.5x4 : N09-3462-08



RD-DV5-S/DV7-L/DV5MD-S

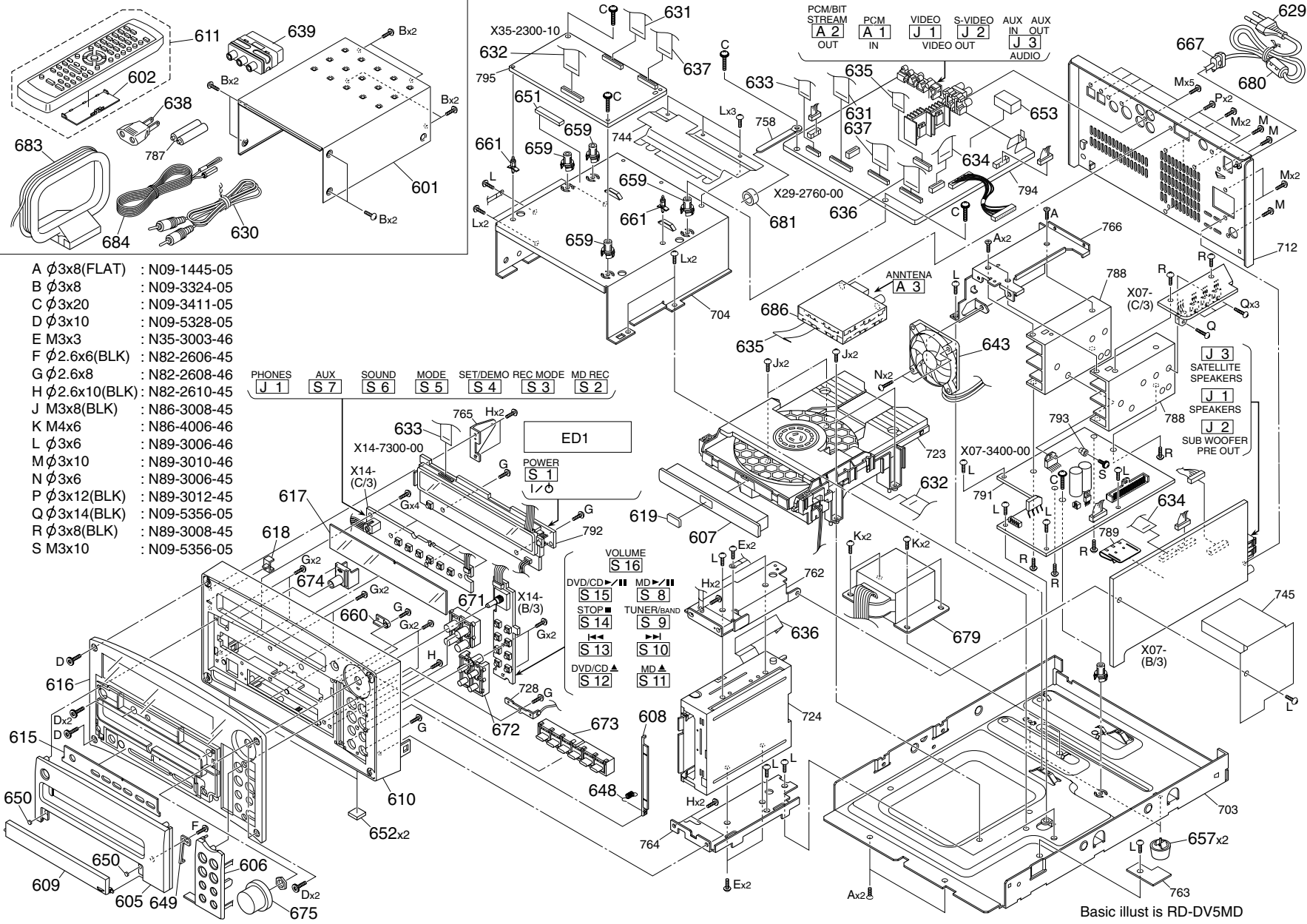
EXPLODED VIEW(MD MECHANISM)



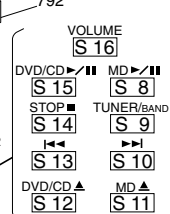
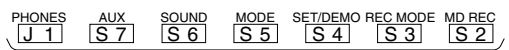
EXPLODED VIEW(UNIT)

RD-DV5-S/DV7-L/DV5MD-S

Basic illust is RD-DV5MD



- A ϕ 3x8(FLAT) : N09-1445-05
- B ϕ 3x8 : N09-3324-05
- C ϕ 3x20 : N09-3411-05
- D ϕ 3x10 : N09-5328-05
- E M3x3 : N35-3003-46
- F ϕ 2.6x6(BLK) : N82-2606-45
- G ϕ 2.6x8 : N82-2608-46
- H ϕ 2.6x10(BLK) : N82-2610-45
- J M3x8(BLK) : N86-3008-45
- K M4x6 : N86-4006-46
- L ϕ 3x6 : N89-3006-46
- M ϕ 3x10 : N89-3010-46
- N ϕ 3x6 : N89-3006-45
- P ϕ 3x12(BLK) : N89-3012-45
- Q ϕ 3x14(BLK) : N09-5356-05
- R ϕ 3x8(BLK) : N89-3008-45
- S M3x10 : N09-5356-05



Parts with exploded numbers larger than 700 are not supplied.

* New Parts
Parts without **Parts No.** are not supplied.
Les articles non mentionnes dans le **Parts No.** ne sont pas fournis.
Teile ohne **Parts No.** werden nicht geliefert.

19

Table with columns: Ref. No, Add-ress, New Parts, Parts No., Description, Desti-nation, Re-marks. Contains various electronic components and their specifications.

L : Scandinavia Y : PX(Far East,Hawaii) Y : AAFES(Europe) K : USA T : England X : Australia P : Canada E : Europe Q : Russia R : Mexico G : Germany H : Korea C : China V : China(Shanghai) M : Other Areas I : Malaysia A indicates safety critical components .

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20

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HOW TO READ THE PARTS LIST

ABBREVIATION OF MODEL AND MASS PRODUCTION'S DESTINATIONS

| MODEL | ABB. | Australia | Canada | China | England | Europe | Germany | Korea | Malaysia |
|------------|------|-----------|--------|-------|---------|--------|---------|-------|----------|
| RD-DV5MD-S | - | - | - | - | - | - | - | - | - |
| RD-DV5-S | - | - | - | - | T | E | - | - | - |
| RD-DV7-L | - | X2 | - | - | T2 | E2 | - | - | - |

| MODEL | ABB. | Mexico | PX/AAFES | Russia | Scandinavia | Shanghai | USA | Other area |
|------------|------|--------|----------|--------|-------------|----------|-----|------------|
| RD-DV5MD-S | - | - | - | - | - | - | - | M |
| RD-DV5-S | - | - | - | - | - | - | - | - |
| RD-DV7-L | - | - | - | - | - | V2 | - | M2 |

* New Parts

Parts without **Parts No.** are not supplied.

Les articles non mentionnés dans le **Parts No.** ne sont pas fournis.

Teile ohne **Parts No.** werden nicht geliefert.

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| Ref. No | Add-ress | New Parts | Parts No. | Description | Desti-nation | Re-marks |
|-----------------------------------|----------|-----------|-------------|------------------------------|----------------|----------|
| PU | 1B | * | T25-0121-08 | PICK-UP RAF3020A-1C | | |
| MD MECHANISM (D40-1724-05) | | | | | | |
| 202 | 2C | | A10-3517-08 | CHASSIS | LCHSM0089AWZZ | |
| 203 | 2D | | A11-1179-08 | SUB CHASSIS | LCHSM0090AWZZ | |
| 204 | 1C | | J19-6075-08 | HOLDER ASS'Y | LHLDX3009AWM1 | |
| 205 | 1C | | D10-3941-08 | SLIDER ASS'Y | MLEVF0051AWM1 | |
| 207 | 1C | | D10-3942-08 | ARM | MLEVF0046AWFW | |
| 208 | 2C | | D10-3943-08 | ARM | MLEVF0047AWFW | |
| 209 | 2D | * | D10-5022-08 | ARM | MLEVF0082AWFW | |
| 210 | 1C | | D10-3945-08 | SLIDER | MLEVP0095AWZZ | |
| 212 | 1C | | G01-4200-08 | TORSION COIL SPMSPRD0132AWFJ | | |
| 214 | 3D | | G02-1703-08 | FLAT SP | MSPRP0030AWFJ | |
| 215 | 3C | | G02-1704-08 | FLAT SP | MSPRP0031AWFJ | |
| 216 | 1C | | G01-4201-08 | EXTENSION SP | MSPRT0031AWFJ | |
| 217 | 2C | | G01-4202-08 | EXTENSION SP | MSPRT0032AWFJ | |
| 218 | 1C | | D13-1992-08 | GEAR | NGERH0147AWZZ | |
| 219 | 1C | | D13-1993-08 | GEAR | NGERH0086AWZZ | |
| 220 | 1C | | D13-1994-08 | GEAR | NGERH0087AWZZ | |
| 221 | 1C | | D13-1995-08 | GEAR | NGERH0088AWZZ | |
| 222 | 2C | | D13-1996-08 | GEAR | NGERH0089AWZZ | |
| 224 | 3D | | D13-1997-08 | RACK (GEAR) | NGERR0004AWZZ | |
| 227 | 3D | | D19-0322-08 | LEAD SCREW | NSFTD0006AWM1 | |
| 228 | 3D | | D10-3946-08 | ROD | NSFTM0019AWFW | |
| 230 | 1D | | A01-3756-08 | METALLIC CABI | PCOV3029AWFW | |
| 231 | 2D | * | A01-3846-08 | METALLIC CABI | PCOV3035AWFW | |
| 232 | 3D | * | A01-3847-08 | METALLIC CABI | PCOV3036AWFW | |
| 233 | 1D | | J02-1478-08 | INSULATOR | PCUSG0045AWZZ | |
| 236 | 1C | | G01-4203-08 | EXTENSION SP | MSPRT0034AWFJ | |
| PWB-E | 2C,3C | * | J70-1579-08 | PRINTED WIRING | QPWBF0649AWZZ | |
| CW1931 | 3C | * | E35-3171-08 | FLAT CABLE | QCNWN1742AWZZ | |
| BC | | | N09-3434-08 | MACHINE SCREW | LX-BZ0800AFZZ | |
| BF | | | N09-5198-08 | MACHINE SCREW | LX-JZ0022AWZZ | |
| BH | | | N09-5199-08 | MACHINE SCREW | XBPSD20P03K00 | |
| BJ | | | N09-5200-08 | MACHINE SCREW | XSPSN17P03K00 | |
| DE | | | N09-5197-08 | MACHINE SCREW | LX-JZ0020AWZZ | |
| M901 | 3C | | T42-0974-08 | MOTOR ASS'Y | RMOTV0038AWZZ | |
| M902 | 3C | | T42-0975-08 | MOTOR ASS'Y | 92LMTR3167BASY | |
| M903 | 2D | | T42-0976-08 | MOTOR ASS'Y | 92LMTR3167AASY | |
| MDPU | 3D | | T25-0099-08 | OPTICAL PICKUP | RCTRH8198AFZZ | |
| MDRH | 2D | * | T30-0032-08 | RECORD HEAD | RCILH0005AWZZ | |

L : Scandinavia

K : USA

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R : Mexico

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Y : PX(Far East,Hawaii)

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G : Germany

V : China(Shanghai)

Y : AAFES(Europe)

X : Australia

Q : Russia

H : Korea

M : Other Areas

⚠ indicates safety critical components.

PARTS LIST

RD-DV5-S/DV7-L/DV5MD-S

RD-DV5-S/DV7-L/DV5MD-S

SPECIFICATIONS

RD-DV5

Main unit

[Amplifier section]

Effective output power (P.S.A. on, one channel driven)
(1 kHz, 10% T.H.D., at 6 Ω) (RMS) .. 20 W + 20 W

[Tuner section]

FM tuner section

Tuning frequency range 87.5 MHz ~ 108 MHz

MW (AM) tuner section

Tuning frequency range 531 kHz ~ 1,602 kHz

[DVD/CD player section]

Laser Semiconductor laser

Laser wave length 643 to 683 nm

Laser power class Class 2 (IEC)

D/A Conversion 1 Bit

Video output format NTSC/PAL

[General]

Power consumption 75 W

Dimensions W : 240 mm (9-7/16")

H : 139 mm (5-1/2")

D : 360 mm (14-3/16")

Weight (net) 5.7 kg (12.6 lb)

RD-DV7

Main unit

[Amplifier section]

Effective output power (P.S.A. on, one channel driven)
Right, Left (1 kHz, 10% T.H.D., at 8 Ω) (RMS)

..... 5 W + 5 W

Center (1 kHz, 10% T.H.D., at 8 Ω) (RMS) 5 W

Subwoofer (100 Hz, 10% T.H.D., at 8 Ω) (RMS)

..... 20 W

[Tuner section]

FM tuner section

Tuning frequency range 87.5 MHz ~ 108 MHz

MW (AM) tuner section

Tuning frequency range

9 kHz step 531 kHz ~ 1,602 kHz

10 kHz step 530 kHz ~ 1,610 kHz

[DVD/CD player section]

Laser Semiconductor laser

Laser wave length 643 to 683 nm

Laser power class Class 2 (IEC)

D/A Conversion 1 Bit

Frequency response

Sampling frequency

44.1kHz (CD only) 20 Hz~20 kHz

48 kHz 20 Hz~22 kHz

96 kHz 20 Hz~40 kHz

[General]

Power consumption 75 W

Dimensions W : 240 mm (9-7/16")

H : 139 mm (5-1/2")

D : 360 mm (14-3/16")

Weight (net) 5.7 kg (12.6 lb)

RD-DV5MD

Main unit

[Amplifier section]

Effective output power (P.S.A. on, one channel driven)
(1 kHz, 10% T.H.D., at 6 Ω) 20 W + 20 W

[Tuner section]

FM tuner section

Tuning frequency range 87.5 MHz ~ 108 MHz

MW (AM) tuner section

Tuning frequency range

9 kHz step 531 kHz ~ 1,602 kHz

10 kHz step 530 kHz ~ 1,610 kHz

[MD recorder section]

Laser Semiconductor laser

Laser wave length 770 to 800 nm

Laser power class Class 3B (IEC)

Recording method

..... Field modulation overwrite method

Audio compression ATRAC, ATRAC 3

D/A Conversion 1 Bit

[DVD/CD player section]

Laser Semiconductor laser

Laser wave length 643 to 683 nm

Laser power class Class 2 (IEC)

D/A Conversion 1 Bit

Video output format NTSC/PAL

[General]

Power consumption 75 W

Dimensions W: 240 mm (9-7/16")

H : 139 mm (5-1/2")

D : 360 mm (14-3/16")

Weight (net) 6.1 kg (13.4 lb)



KENWOOD follows a policy of continuous advancements in development. For this reason specifications may be changed without notice. Sufficient performance may not be exhibited at extremely cold locations (where water freezes).

Note:

Component and circuit are subject to modification to insure best operation under differing local conditions. This manual is based on Europe (E) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

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