

Service Manual

DV7000 /F1N, /K1G, /S1G, /U1G
F1B, /K1B, /N1B, /U1B
DVD Player

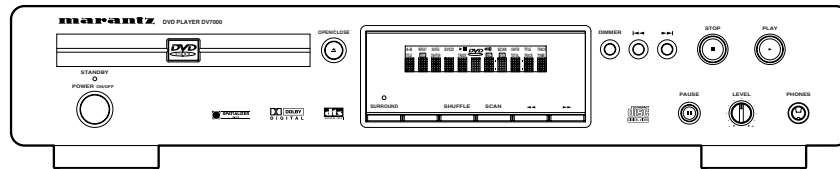


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Please use this service manual with referring to the user guide (D.F.U.) without fail.
修理の際は、必ず取扱説明書を準備し操作方法を確認の上作業を行ってください。

marantz®

DV7000

MARANTZ DESIGN AND SERVICE

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

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

ORDERING PARTS :

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

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

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

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PHONE : +822 - 3232 - 155
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SHOCK, FIRE HAZARD SERVICE TEST :

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

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

Ref. UL Standard No. 1492.

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

1. TECHNICAL SPECIFICATIONS

Discs played

DVD video disc	12 cm single sided, single layer 12 cm single sided, double layer 12 cm double sided, single layer 12 cm double sided, double layer (one layer per side) 8 cm single sided, single layer 8 cm single sided, double layer 8 cm double sided, single layer 8 cm double sided, double layer (one layer per side)
Compact disc (CD-DA, Video CD)	12 cm, 8 cm

Video system PAL (625/50) / NTSC (525/60)

Audio system Linear PCM audio
MPEG 1/2 audio
Dolby Digital (AC-3)
DTS audio (Digital output only)

Video output

Line output level	1.0 Vp-p / 75 ohms, unbalanced RCA pin Jack x 2
S1-output level	Y output: 1.0 Vp-p / 75 ohms unbalanced C output: 0.3 Vp-p / 75 ohms (PAL) 0.286 Vp-p / 75 ohms (NTSC) 4 pin mini DIN x 1
Color different output level	Y output: 1.0 Vp-p / 75 ohms unbalanced Cb, Cr output: 0.7 Vp-p / 75 ohms RCA pin Jack x 3 (/F1, /K1, /S1, /U1)
R/G/B output	R/G/B output: 0.7 Vp-p 21-pin SCART connector x 2 (/N1B)

Audio output

Line output 2.0 Vrms / 330 ohms
RCA pin Jack x 2 system

Digital audio output

Optical output Optical connector x 1
Coaxial output 0.5 Vp-p / 75 ohm RCA pin Jack x 1

DVD linear audio characteristics

Frequency response 4 Hz-22 kHz (Fs = 48 kHz)
4 Hz-44 kHz (Fs = 96 kHz)
S/N ratio More than 110 dB (Fs = 48 kHz / 24 bit PCM)
Dynamic range More than 100 dB (Fs = 48 kHz / 24 bit PCM)
Total harmonic distortion Less than 0.0025% (Fs = 48 kHz / 24 bit PCM)

CD audio characteristics:

Frequency response 4 Hz - 20 kHz (EIAJ)
S/N ratio More than 110 dB (EIAJ)
Dynamic range More than 100 dB (EIAJ)
Total harmonic distortion Less than 0.0025% (EIAJ)

Pickup Wavelength: 655 nm (DVD)
Wavelength: 790 nm (CD)

Power requirements 120V AC, 60 Hz (/U1)
100V AC, 50 / 60 Hz (/F1)
230V AC, 50 Hz (/N1)
220V AC, 50 Hz (/K1)
220 - 230V AC, 50 / 60 Hz (/S1)

Power consumption 22 W (standby mode = approx 5 W, power off = 0 W)

Operation temperature 5 °C - 35 °C

Operation humidity range 5% - 90% (no condensation)

Dimensions 440 (W) x 87 (H) x 304 (D) mm (excluding protrusions)

Weight 4.0 kg

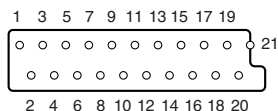
Supplied accessories

Auido / Video cable x 1
D-BUS remote cable x 1
Remote control unit x 1
Batteries x 2

• For improvement purposes, specifications and design are subject to change without notice

2. CONNECTION FACILITIES

2.1 Video performance (/N1 only)



2.1.1 SCART

Pin No. TV (OUT)

Pin 1	Audio R out : 2Vrms
Pin 2	Audio R in : 2Vrms
Pin 3	Audio L out : 2Vrms
Pin 4	GND
Pin 5	GND
Pin 6	Audio L in : 2Vrms
Pin 7	Blue out/C in Blue : 0.7Vpp ±0.1V into 75 Ohm *1 C : 300mVpp ±30 into 75 Ohm *2
Pin 8	function switching out <2V : TV >5/<8 : asp.ratio 16 : 9 DVD/AUX >9.5/<12 : asp.ratio 4 : 3 DVD/AUX
Pin 9	GND
Pin 10	not connected
Pin 11	Green out:0.7Vpp ±0.1V into 75 Ohm *1
Pin 12	not connected
Pin 13	GND
Pin 14	GND
Pin 15	Red/C out Red : 0.7Vpp ±0.1V into 75 Ohm *1 C : 300mVpp ±30 into 75 Ohm *2
Pin 16	fast switching out <0.4V into 75 Ohm=CVBS/S-Video 1</>3 into 75 Ohm=RGB
Pin 17	GND
Pin 18	GND
Pin 19	CVBS/Y out : 1Vpp ±0.1V *1
Pin 20	CVBS/Y in : 1Vpp ±0.1V *1
Pin 21	GND

Pin No. AUX (IN)

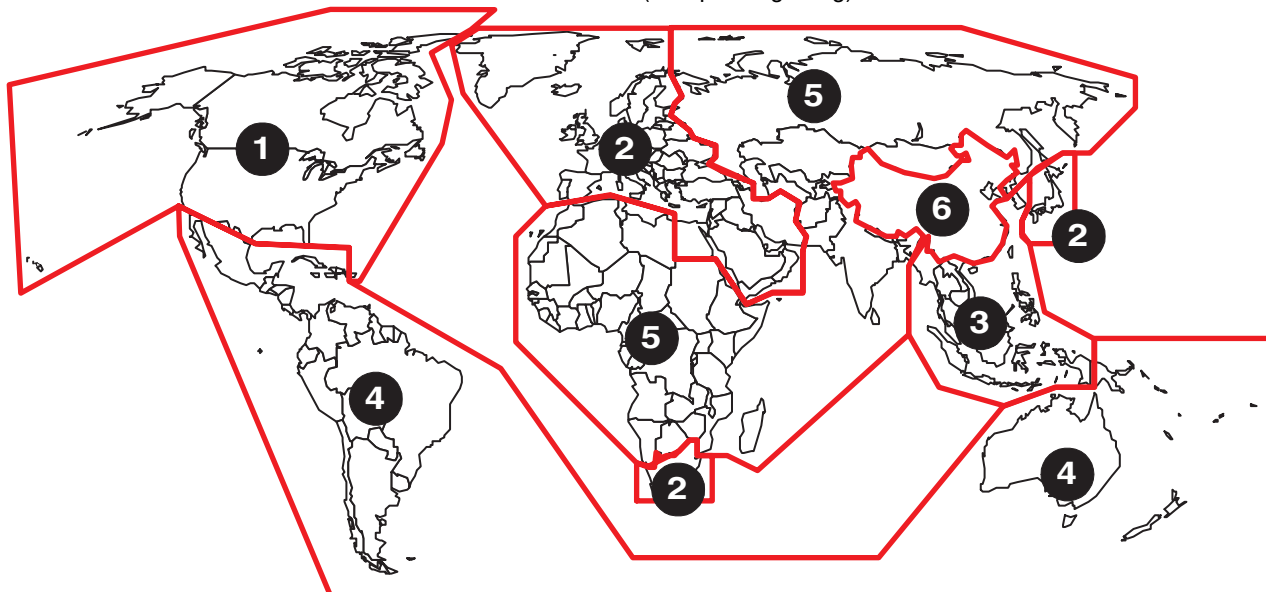
Pin 1	Audio R out : 2Vrms
Pin 2	Audio R in : 2Vrms
Pin 3	Audio L out : 2Vrms
Pin 4	GND
Pin 5	GND
Pin 6	Audio L in : 2Vrms
Pin 7	Blue in/C out Blue : 0.7Vpp ±0.1V into 75 Ohm *1 C : 300mVpp ±30 into 75 Ohm *2
Pin 8	function switching in<2V : DVD >5/<8 : asp.ratio 16 : 9 AUX >9.5/<12 : asp.ratio 4 : 3 AUX
Pin 9	GND
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Pin 14	GND
Pin 15	Red/C in Red : 0.7Vpp ±0.1V into 75 Ohm *1 C : 300mVpp ±30 into 75 Ohm *2
Pin 16	fast switching in <0.4V into 75 Ohm=CVBS/S-Video 1</>3 into 75 Ohm=RGB
Pin 17	GND
Pin 18	GND
Pin 19	CVBS/Y out : 1Vpp ±0.1V *1
Pin 20	CVBS/Y in : 1Vpp ±0.1V *1
Pin 21	GND

*1 : 100% White *2 : Burst Level *3 : color bar(chroma level : 75%)

What are "regional codes"?

Motion picture studios want to control the home release of movies in different countries because theater releases aren't simultaneous (a movie may come out on DVD in the US when it's just hitting screens in Europe). Therefore they have required that the DVD standard include codes which can be used to lock out the playback of certain discs in certain geo-graphical regions. Players sold in each region will have that region's code built into the player. The player will refuse to play these "region coded" discs which are not allowed in the region. However, regional codes are entirely optional. Discs without codes will play on any player in any country. Some studios have already announced that only their new releases will have regional codes. There are six regions:

- | | |
|------------------------------------|------------------------------|
| 1. United States and Canada | 2. Europe and Japan |
| 3. Far East (except Japan & China) | 4. South America and Oceania |
| 5. Africa and the Middle East | 6. China (except Hong Kong) |



Map of DVD Regions




3. INFORMATIONS

REGION CODE

VERSION	REGION CODE	COUNTRY
/FXX	2	JAPAN
/KXX	6	CHINA
/NXX	2	EUROPE
/SXX	3	SINGAPORE/HONGKONG
/UXX	1	USA/CANADA

THE DISCS THAT THE DV7000 CAN HANDLE

The following discs can be played back with a DV7000.

disc	mark	playback capability	size	side
DVD		Audio/Video	12 cm 8 cm	single/double
CD		Audio	12 cm 8 cm	single
VCD		Audio/Video	12 cm 8 cm	single

Note: The regional code of the discs must meet to the regional code of the DV7000.

DVD INFORMATION

Below is a glossary of the new terms related to DVD.

Title:

A disc may have more than one story/movie on it, so each story/movie is called a "title".

For example, if there are 2 movies on the disc, they are separated into Title 1 and Title 2.

Chapter:

A title may also be separated into chapters.

For example, a movie (title) may be separated into 3 scenes (chapters).

Title 1			Title 2		
Chapter 1	Chapter 2	Chapter 3	Chapter 1	Chapter 2	Chapter 3

Subtitles:

DVDs are recorded with up to 32 different subtitle languages. If a disc has more than one subtitle language, you can select the subtitle language that you want to read.

Soundtrack language:

DVDs are recorded with up to 8 different soundtrack languages. If a disc has more than one language, you can select the soundtrack language that you want to listen to.

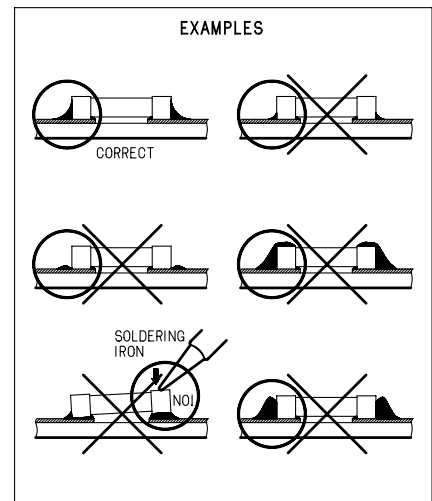
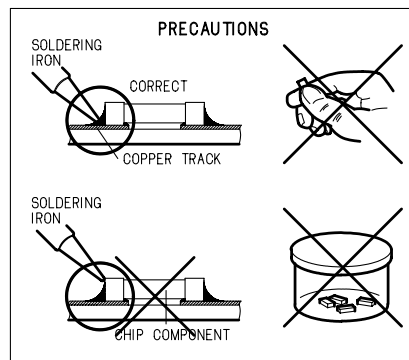
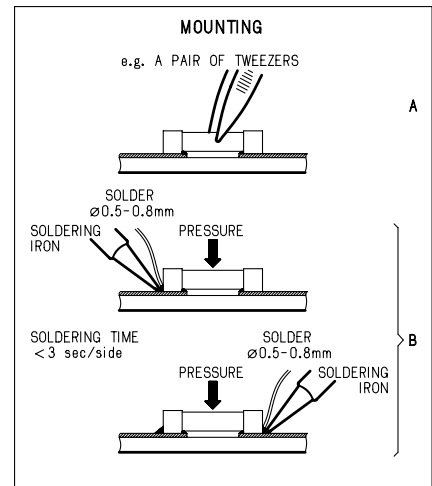
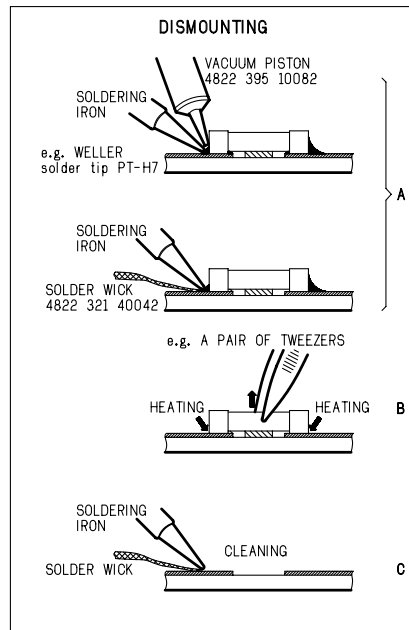
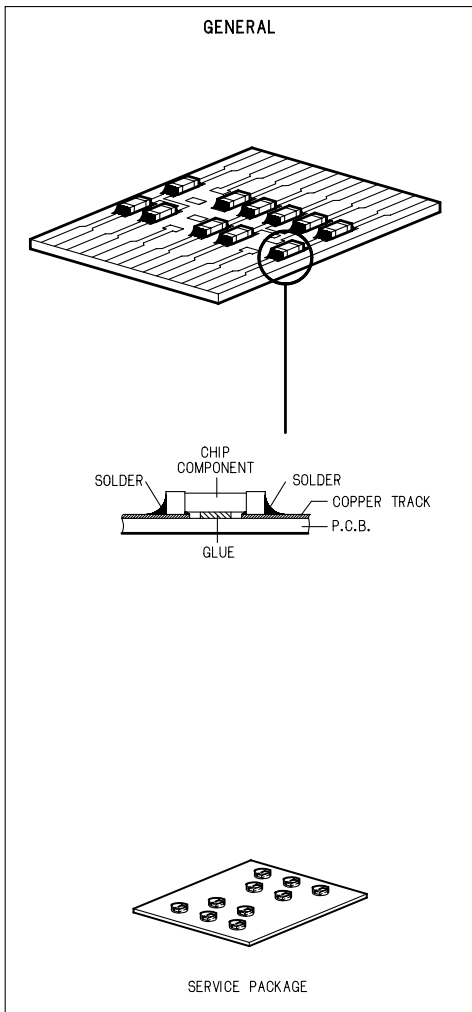
Multi-angles:

On some DVDs, scenes have been filmed from different angles (up to a maximum of 9). On these discs, you can select the angle that you want to watch. Please refer to the DVD's manual to see which scenes have multi-angles.

Cancelling password for parental press the DIMMER button and hold for 10 seconds while the player is stopped.

4. SERVICING HINT

SERVICE HINTS



SERVICE TOOLS

Audio signals disc	4822 397 30184
Disc without errors (SBC444)+	
Disc with DO errors, black spots and fingerprints (SBC444A)	4822 397 30245
Disc (65 min 1kHz) without no pause	4822 397 30155
Max. diameter disc (58.0 mm)	4822 397 60141
Torx screwdrivers	
Set (straight)	4822 395 50145
Set (square)	4822 395 50132
13th order filter	4822 395 30204
DVD test disc (PAL)	4822 397 10131
DVD test disc (NTSC) ALMEDIO	TDV-540

5. DISASSEMBLY

1. Open the tray and remove the escutcheon (050B).
REMARK : If the tray doesn't work, put a small screwdriver into the hole as shown in picture and slide the knob. Then the tray comes out. After the first centimeter it is possible to pull the tray out by hand. (see fig.1)
2. Remove 6 screws and remove the top cover.
3. Remove a top right side screw on the power supply PCB and remove the GND lug wire.
4. Remove 3 connectors of the wire harness from (or to) front panel assembly.
5. Remove 2 screws of left and right side of the front panel assembly.
6. Remove the front panel assembly.
7. Remove the retainer on the DVD mechanism.
8. Remove FFC and wire harness from the DVD main PCB which mounted under the DVD mechanism.
9. Remove 4 screws and remove DVD mechanism module.

5. DISASSEMBLY

1. 電源を入れ、トレーを引き出し、エスカッション(050B)を取り外します。
注意：トレーが出ない場合には下記の方法で手でトレーを引き出してください。
2. 本体を裏返し、細いドライバーでスライドノブを左側に押します。トレーが手前に出てきます。(fig.1 参照)
3. ネジを 6本外し、トップカバーを外します。
4. 電源基板の手前側右のネジを外し、アースラグの付いたケーブルを外します。
5. フロントパネルアッセンブリーに繋がっているケーブル3本を外します。
6. フロントパネルアッセンブリーの両端のネジ2本を外します。
7. フロントパネルアッセンブリーを外します。
8. DVDメカの上部のケーブルホルダーを外します。
9. DVDメイン基板に接続されているFFCとケーブルを外します。
- 10.ネジを4本外し、DVDモジュールを取り外します。

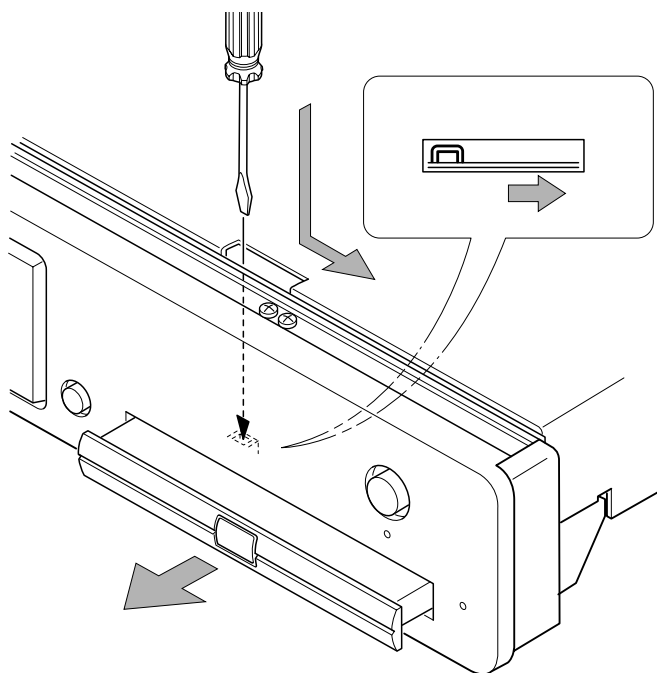


Fig. 1

6. REPLACEMENT OF PRINCIPAL COMPONENTS

6-1. Removal of the TRAVERSE MECHA.

6-1-1. Removal of the MECHANISM BLOCK

- 1) Turn the unit's power on and press the "EJECT" button to eject the DISC TRAY.
- 2) Disconnect the power cord and remove the DISC CLAMPER BLOCK.
- 3) Completely remove the DISC TRAY by pulling it outwards while pulling up both of the stopper tabs alternately.

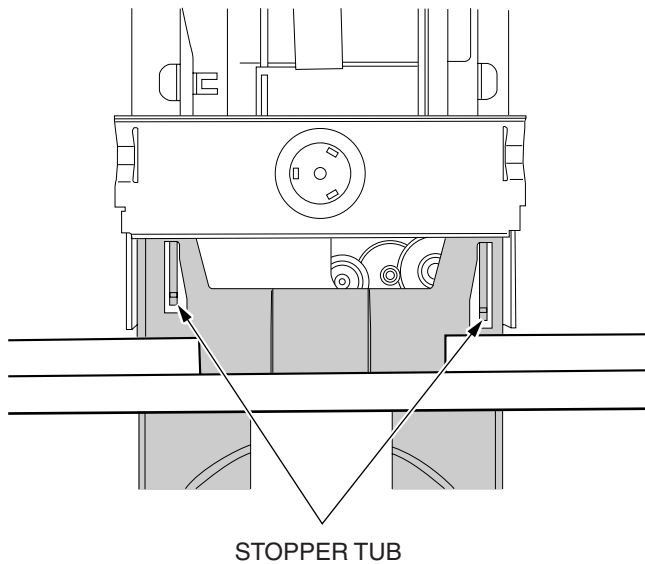


Fig. 6-1

- 4) Disconnect the two flat cables from the P803 connectors and one flat cable from the P808 connector on the MAIN PCB.
- 5) Disconnect the P807 connector on the MAIN PCB.
- 6) Remove the four a retaining screws and remove the MECHANISM BLOCK from the chassis.

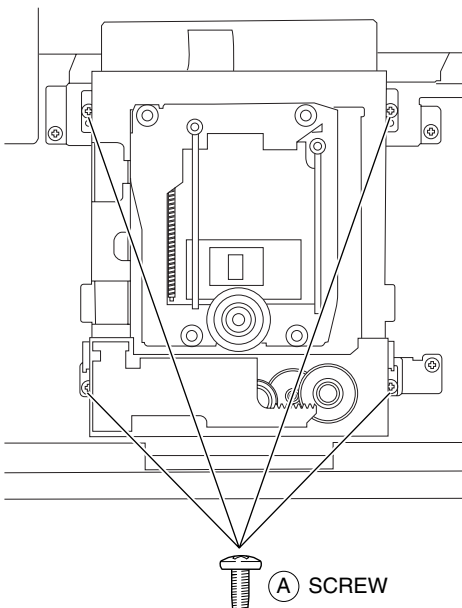


Fig. 6-2

6-1-2. Removal of the TRAVERSE MECHA.

- 1) Remove the four b screws on the MAIN PCB and then disconnect the P800 connector on the MAIN PCB.

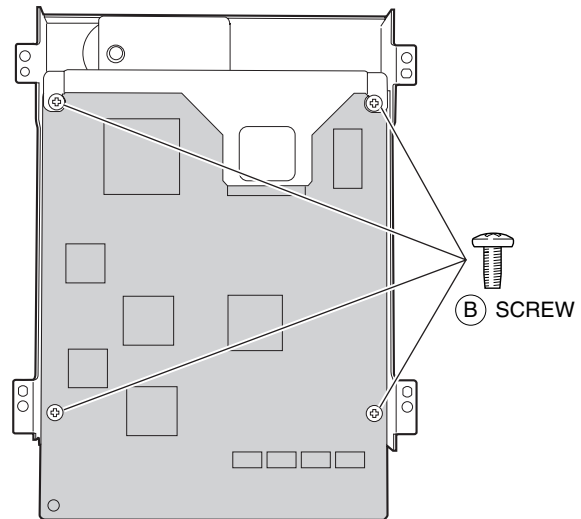


Fig. 6-3

- 2) Short the laser diode protection circuit on the PICK UP BLOCK's flexible cable with solder as shown.

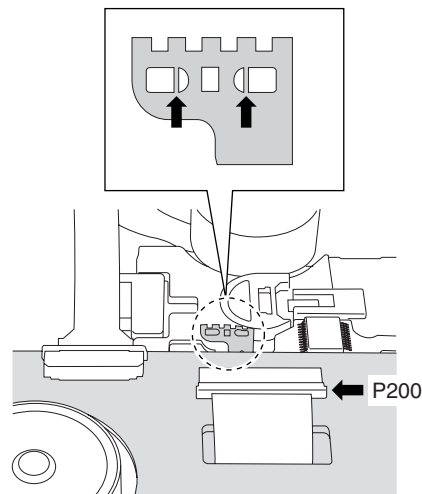


Fig. 6-4

Caution

To protect the laser diode from damage caused by high voltage static electricity, a laser diode protection circuit has to be shorted before disconnecting the flexible cable (P200 connector on the MECHANISM PCB). It is recommended that you put solder on the top of the soldering iron as shown in Fig. 3-5 then short the circuit at once. When you replace the TRAVERSE MECHA., be sure to connect the P200 connector before removing the solder at the shorted parts.

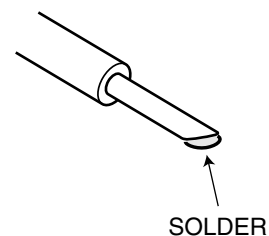


Fig. 6-5

- 3) Carefully disconnect the two connectors (P500, P600) and the two flat cables (P200, P300) on the MECHANISM PCB.

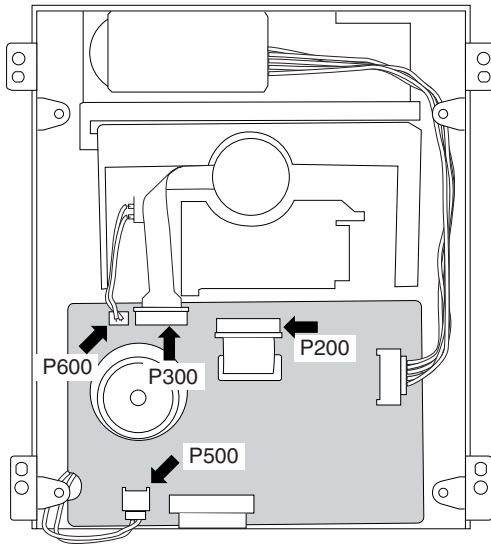


Fig. 6-6

- 4) Using tweezers, release the four retaining HOOKS of the TRAVERSE MECHA. from the rubber insulators being careful not to damage the rubber insulators.

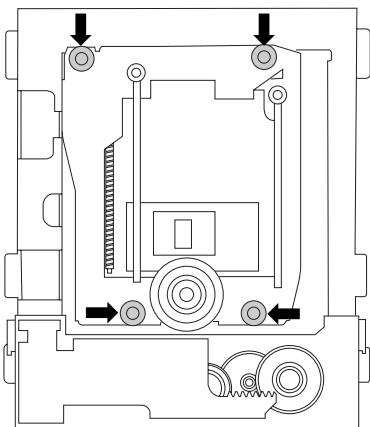


Fig. 6-7

- 5) Remove the TRAVERSE MECHA. from the MECHANISM BLOCK.
- 6) Reassemble in the reverse order for installation. Never remove the solder on the flexible cable before connecting the P200 connector on the MECHANISM PCB.

6-2. Replacement of the SPINDLE MOTOR

- * Because the SPINDLE MOTOR position is very critical, jitter adjustment should be performed after replacement.
- 1) Disconnect the P300 connector on the MECHANISM PCB.
 - 2) Insert a Philips type screw driver into the hole on the TURN TABLE of the SPINDLE MOTOR and remove the two screws.

6-3. Replacement of the PICK UP BLOCK

- * Replacement of the PICK UP BLOCK itself is not recommended because its azimuth adjustment is very critical and requires a special jig. If PICK UP BLOCK replacement is necessary, replace with an entire TRAVERSE MECHANISM only.

7. SERVICE MODE

FLD, LED TEST

1. Press the mains switch (**POWER BUTTON**) while depressing the **PAUSE** button and **STOP** button.
2. Status will be on the **TEST mode 1** and FL display shows **<TEST 1>**.
3. Press the **NEXT** button, then **Standby LED** will be light ON and FLD shows **<LED 1>**.
4. Press the **NEXT** button again, then **Surround LED** will be light ON and FLD shows **<LED 2>**.
5. Press the **NEXT** button again, then all segments of FLD will be light ON.
6. Press the **NEXT** button again, then each segments of FLD will be light ON by press by press. (17 forms)
7. Finally FLD shows **<KEY 0 0 0 0>**, it will be in "BUTTON (KEY) TEST MODE".
8. If press some button on the front panel, FLD shows a code of that pressed button.
9. If press the PAUSE button and STOP button simultaneously while FLD shows **<KEY 0 0 0 0>**. The status will be in "REMOTE CONTROL TEST MODE" and FLD shows **<RC6 000000>**.
10. If press some button on the remote controller, FLD shows a code of that pressed button.
11. Press the **NEXT** button again, then the version number of the main microprocessor (IC600 on the DVD main PCB) will be shown on the FLD.
12. Press the **NEXT** button again, then the version number of the slave microprocessor (**QF01** on the front PCB) will be shown on the FLD.
13. Press the **NEXT** button again, then the status will be #2. **<TEST 1>** mode. In case of finish the **<TEST 1>** mode, press the mains switch (**POWER BUTTON**).

How to EEPROM all clear

1. Press the mains switch (**POWER BUTTON**) while depressing the **PLAY** button and **STOP** button.
2. Status will be on the **TEST mode 2** and FL display shows **<TEST 2>**. After a couple of seconds FL display shows **<TEST2 OK>**.
3. Press the **PLAY** button, **PAUSE** button and **STOP** button simultaneously.
4. FL display shows **<TEST OK>**, then power off the mains switch (**POWER BUTTON**). **EEPROM** should cleared.

FLD, LEDの確認のしかた

1. **PAUSE**ボタンと**STOP**ボタンを同じに押しながら、電源スイッチを押して下さい。
2. **テストモード 1**に入り、ディスプレイには**[TEST 1]**と表示されます。
3. **NEXT**ボタンを押すと**Standby LED**が点灯し、FLディスプレイには**[LED 1]**と表示されます。
4. 更に**NEXT**ボタンを押すと**Surround LED**が点灯し、FLディスプレイには**[LED 2]**と表示されます。
5. 更に**NEXT**ボタンを押すとFLディスプレイの全てのセグメントが点灯します。
6. 続けて**NEXT**ボタンを押していくとFLディスプレイの各セグメントが点灯し、パターンが変わっていきます(全17種類)。
7. 最後にFLディスプレイに**[KEY 0 0 0 0]**と表示され、ボタン(KEY)操作確認モードになります。
8. 各ボタンを押すと、それらに対応したコードがFLディスプレイに表示されます。
9. FLディスプレイが**[KEY 0 0 0 0]**のときに**PAUSE**ボタンと**STOP**ボタンを同時に押すと、FLディスプレイに**[RC6 000000]**と表示がされ、リモコンコードの確認画面になります。
10. Remote Controlの各ボタンを押すと、それに対応したコードがFLディスプレイ表示されます。
11. 更に**NEXT**ボタンを押すと、メインマイコン(IC600/DVDメイン基板内)のバージョンが表示されます。
12. 更に**NEXT**ボタンを押すと、フロント(スレーブ)マイコン(QF01)のバージョンが表示されます。
13. 更に**NEXT**ボタンを押すと、2.の状態に戻ります。テストモード1を終了するには電源ボタンを押して電源をOFFにしてください。

EEPROMのクリアのしかた

1. **PLAY**ボタンと**STOP**ボタンを同じに押しながら、電源スイッチを押して下さい。
2. **テストモード 2**に入り、ディスプレイには**[TEST 2]**と表示され、数秒後**[TEST OK]**と表示されます。
3. **PLAY**ボタンと**PAUSE**ボタンと**STOP**ボタンを同時に押しします。
4. ディスプレイに**[TEST2 OK]**と表示されたら、電源スイッチを押して電源をOFFにしてください。**EEPROM**がクリアされます。

Type version confirmation

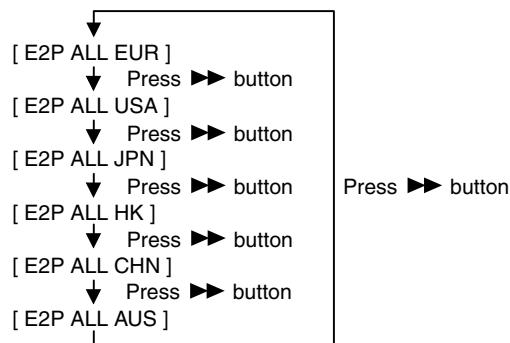
1. Power ON the DVD player. The FL display must be shown <NO DISC>.
2. Pressing the ►► button and ◀◀ button simultaneously.
3. FL display shows product versions as follows.

DISPLAY	VERSIONS
[USA]	/U1B, /U1G
[EUROPE]	/N1B, /N1G
[HK / S 'PORE]	/S1G
[CHINA]	/K1B, /K1G
[JAPAN]	/F1B, /F1N
[NO REGION]	Incorrect setup.

4. Release buttons. Then FL display shows <NO DISC> and status will be in usual mode.

Type Version setup

1. Press the mains switch (POWER BUTTON) while depressing the STOP button and SHUFFLE button.
2. The FL display shows <E2P ALL EUR> after a couple of seconds.
3. Type versions can be changed by pressing ►► button and ◀◀ button.



VERSIONS	DISPLAY
/F1B, /F1N	[E2P ALL JPN]
/U1B, /U1G	[E2P ALL USA]
/N1B, /N1G	[E2P ALL EUR]
/S1G	[E2P ALL HK]
/K1B, /K1G	[E2P ALL CHN]
/A1B (no release)	[E2P ALL AUS]

4. Memorize the version by pressing PLAY button.
5. The FL display shows <VERIFY OK> after a couple of seconds.
6. Power OFF the mains switch.

製品仕向の確認のしかた

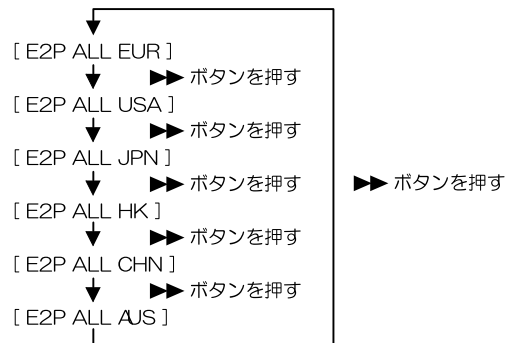
1. Disc が入っていない状態で、ディスプレイに[NO DISC]と表示されている事を確認します。
2. ►► ボタンと ◀◀ ボタンを同時に押します。(押し続ける)
3. ディスプレイに仕向が表示されます。

表示	仕向 (バージョン)
[USA]	/U1B, /U1G
[EUROPE]	/N1B, /N1G
[HK / S 'PORE]	/S1B
[CHINA]	/K1B, /K1G
[JAPAN]	/F1B, /F1G
[NO REGION]	仕向設定が正しくない

4. ボタンを離すと、元の状態に戻りディスプレイに[NO DISC]と表示されます。

製品仕向の設定のしかた

1. STOPボタンとSHUFFLEボタンを同じに押しながら、電源スイッチを押して下さい。
2. 4~5秒後に、ディスプレイに[E2P ALL EUR]と表示がでます。
3. ►► ボタンまたは ◀◀ ボタンを押して仕向を選択します。



仕向	表示
/F1B, /F1N	[E2P ALL JPN]
/U1B, /U1G	[E2P ALL USA]
/N1B, /N1G	[E2P ALL EUR]
/S1G	[E2P ALL HK]
/K1B, /K1G	[E2P ALL CHN]
/A1B (no release)	[E2P ALL AUS]

4. PLAYボタンを押し、仕向を決定します。
5. 2~3秒後に、ディスプレイに[VERIFY OK]と表示され、仕向設定が完了します。
6. 電源スイッチを押して、電源をOFFにします。

8. ELECTRICAL ADJUSTMENT

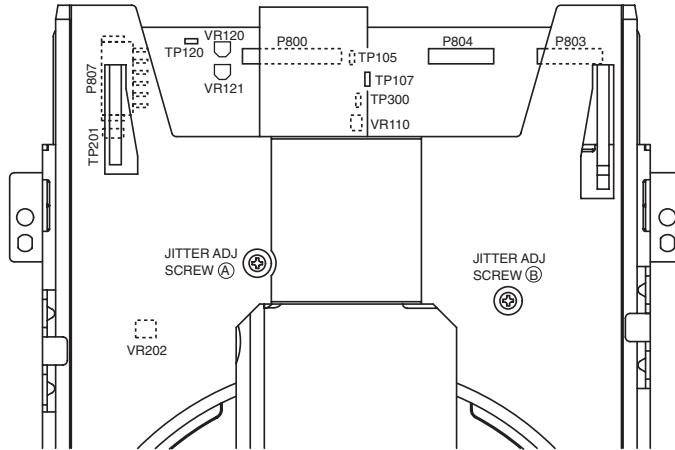


Fig. 8-1

8-1. DVD JITTER ADJUSTMENT

1. Stick the provided small round sticker (0.1 mm thickness) at the innermost position of a DVD disc as shown and make a swayed DVD disc.

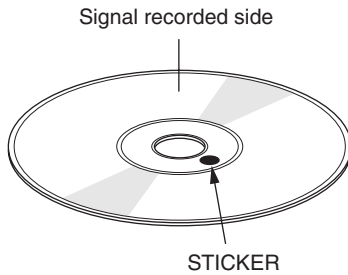


Fig. 8-2

2. Play back the swayed DVD disc and press the F.F button repeatedly until the pickup block reaches the outermost position of its movable range. Next, press the PAUSE button.
3. Set the oscilloscope to the DC input mode and connect it to the TP201 (HOT) and the TP102 (D.GND) on the MAIN PCB.
4. Adjust the a screw and b screw alternately so that the AC and DC level of the waveform is minimum. (DC level should be less than 1.8 V, AC component should be minimum.)

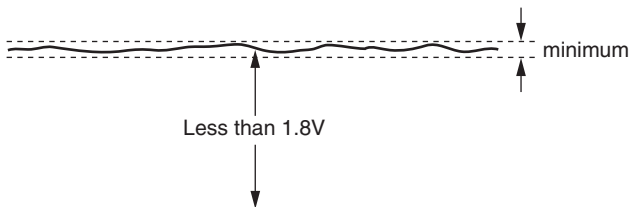


Fig. 8-3

NOTE: If the SPINDLE MOTOR is replaced, this jitter adjustment should be performed for proper performance.

8-2. SLICE LEVEL ADJUSTMENT

1. Play back an ordinary DVD disc (single side, one layer) and press the F.F button repeatedly until the pickup block reaches almost the center position of its movable range.

2. Set the oscilloscope to the DC input mode and connect it to the TP201 (HOT) and the TP102 (D.GND) on the MAIN PCB.
3. Adjust the VR202 so that the DC level is minimum. (The DC level should be less than 1.8 V)

8-3. CD TRACKING BALANCE

1. Set the VR110 at its center position prior to the adjustment.
2. Connect an oscilloscope to the TP150 (TE) on the MAIN PCB.
3. Play back an ordinary CD-disc and then set it to the PAUSE mode. If the play mode does not be engage, turn the VR110 at ± 15 degrees. If the play mode does still not be engage even when the VR110 is turned at ± 15 degrees, turn the VR110 at ± 30 degrees and try it again.
4. Observe the waveform and adjust it so that the level A of the waveform is the same as level B.

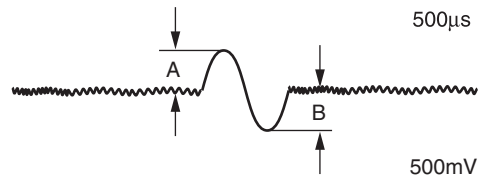


Fig. 8-4

8-4 AS Adjustment

CAUTION :

Do not see the laser pick-up! Cover the laser pick-up unit while AS adjustment.

Adjustment point : VR120, VR121

Test point : TP107(+), TP120 (+) TP105 (GND)

Equipment : Digital Multi Meter (DC voltage)

1. Press the mains switch (**POWER BUTTON**) while depressing the **PLAY** button and **STOP** button.
2. Status will be on the **TEST mode 2** and FL display shows <**TEST 2**>. After a couple of seconds FL display shows <**TEST2 OK**>.
3. Press the **▶▶** button. Then the FL display shows <**E3 02**> and the status will be in **AS adjustment mode**.
4. Measure the DC voltage at the test point **TP107**.
5. Press the **▶▶** button again. Then the DVD laser will light ON and the FL display shows <**E3 00**>.
6. Press the **▶▶** button again. Then the CD laser will light ON and the FL display shows <**E3 01**>.
7. Adjust the voltage at the test point **TP120** by **VR121**, that the value must be same as **TP107** (10mV) value measured on #4. process.
8. Press the **▶▶** button twice of time. Then the DVD laser will light ON and the FL display shows <**E3 00**>.
9. Measure the DC voltage at the status **DVD laser light ON**. Adjust the voltage at that status 35mV (± 10 mV) lower than "CD laser light ON " status by the trim resister VR120.
10. Press the **▶▶** button again. Confirm the DC voltage at the status **CD laser light ON**.
(DC voltage must be 35mV higher than the status **DVD laser light ON**.)
11. Power OFF the mains switch (**POWER BUTTON**).

8-4 AS 調整

注意 :

Laser光を直接見ると目を傷める恐れがあります。AS 調整の際にはLaserが点灯しますので必ずLaser 光を遮蔽して下さい。

調整箇所 : VR120, VR121

テストポイント : TP107(+), TP120(+) TP105 (GND)

測定器 : デジタルマルチメーター

1. **PLAY** ボタンと**STOP** ボタンを押しながら、電源スイッチを押して下さい。
2. **テストモード 2**に入り、ディスプレイには[**TEST 2**]と表示され、数秒後[**TEST2 OK**]と表示されます。
3. **▶▶** ボタンを押し、**AS (反射光) 調整モード**に入ります。ディスプレイには [**E3 02**]と表示されます。
4. **TP107** のDC 電圧を測定し記録します。
5. **▶▶** ボタンを押し、DVD用 Laser を点灯させます。ディスプレイには [**E3 00**]と表示されますが、何もせず次に進んで下さい。
6. **▶▶** ボタンを押し、CD用 Laser を点灯させます。ディスプレイには [**E3 01**] と表示されます。
7. **VR121**を回し**TP120** の電圧を4.にて測定した**TP107**のDC電圧と同じ値 (± 10 mV) に調整します。
8. **▶▶** ボタンを 2回押し、**DVD用 Laser を点灯**させます。ディスプレイには [**E3 00**] と表示されます。
9. このときの電圧が CD Laser 点灯時のDC電圧より 35mV (± 10 mV)低くなるように、**VR120**の半固定抵抗を調整します。
10. **▶▶** ボタンを押し、**CD用 Laser を点灯**させます。ディスプレイには [**E3 01**]と表示されます。この時、DC電圧が DVD用 Laser点灯時より35mV高くなっていることを確認してください。
- 11.電源スイッチを押して、電源を切ります。

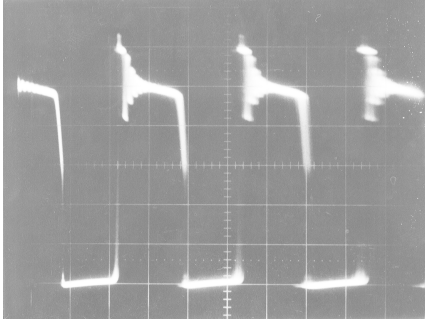
9. WAVEFORM

Power requirements (Refer the circuit diagram page 1-25 and 1-26)
100V AC

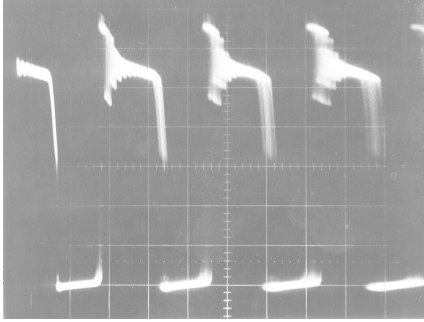
120V AC

220V AC

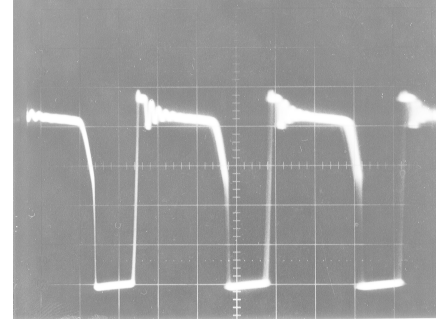
1 50V 5 μ sec



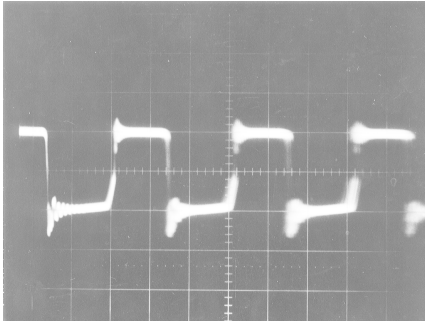
1 50V 5 μ sec



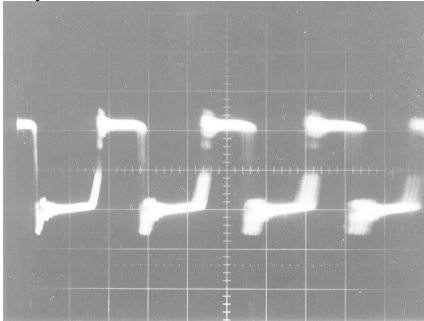
1 100V 5 μ sec



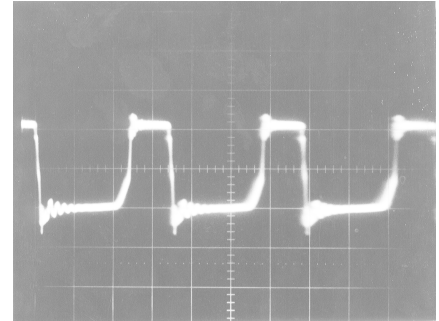
2 10V 5 μ sec



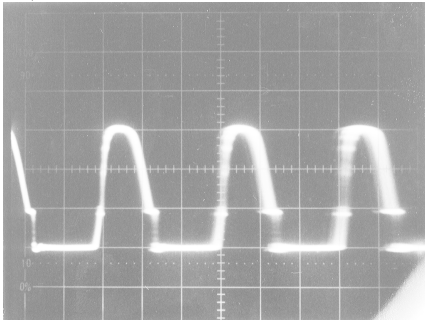
2 10V 5 μ sec



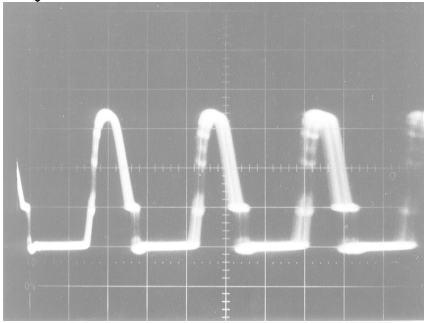
2 10V 5 μ sec



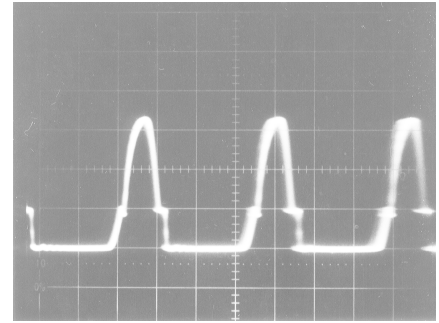
3 5V 5 μ sec



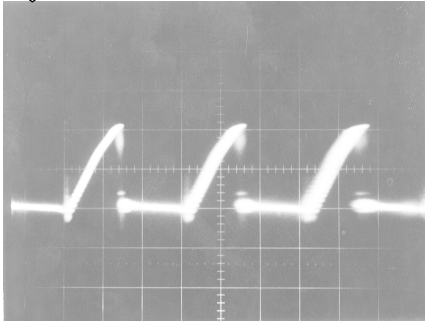
3 5V 5 μ sec



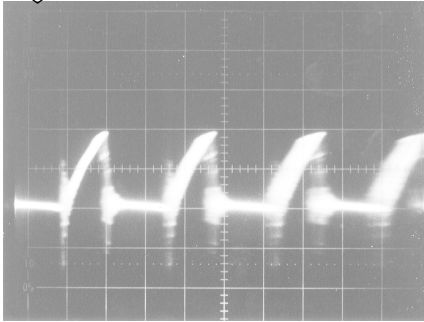
3 5V 5 μ sec



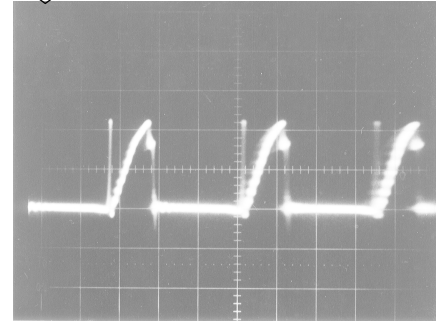
4 0.1V 5 μ sec



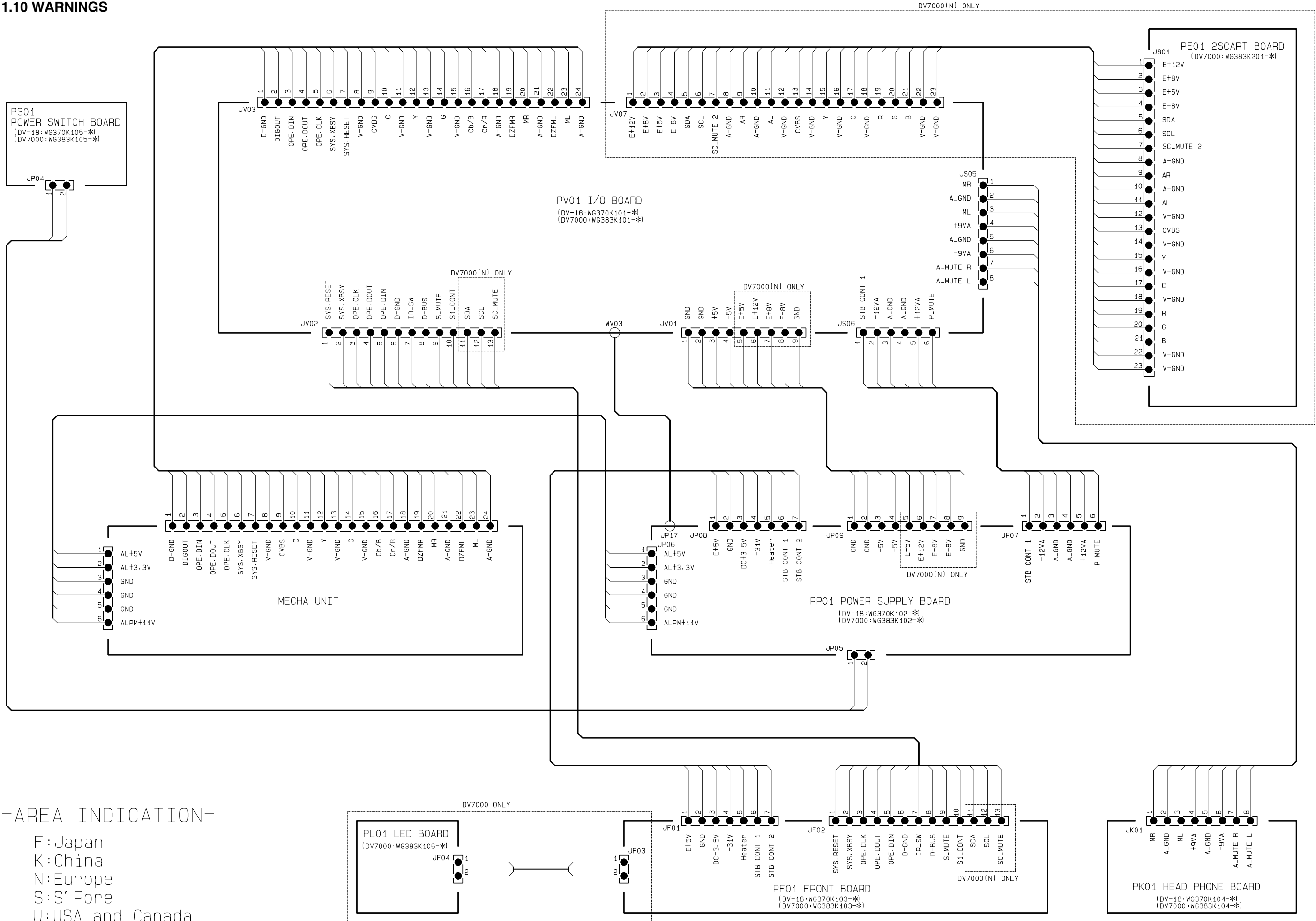
4 0.1V 5 μ sec



4 0.1V 5 μ sec



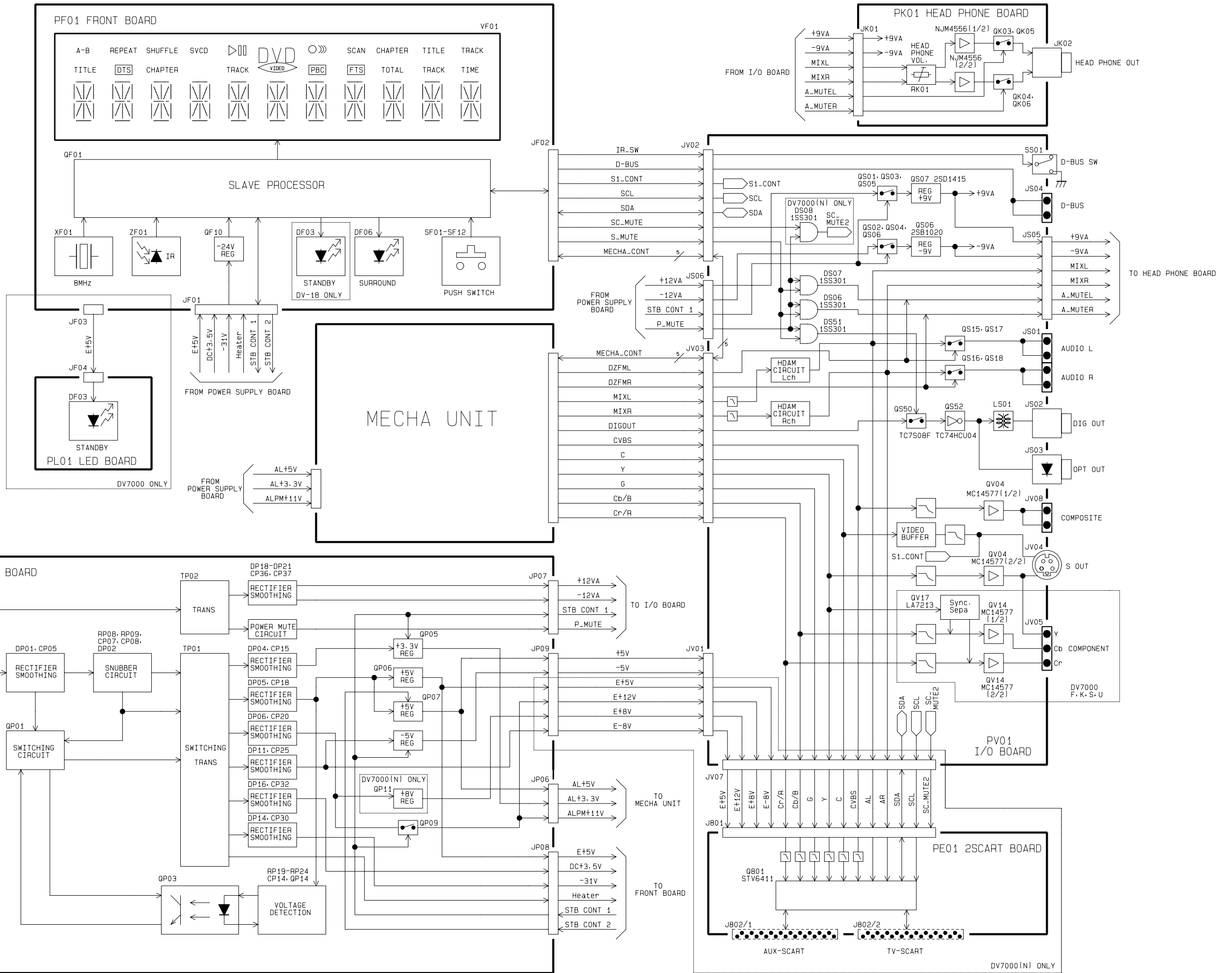
1.10 WARNINGS



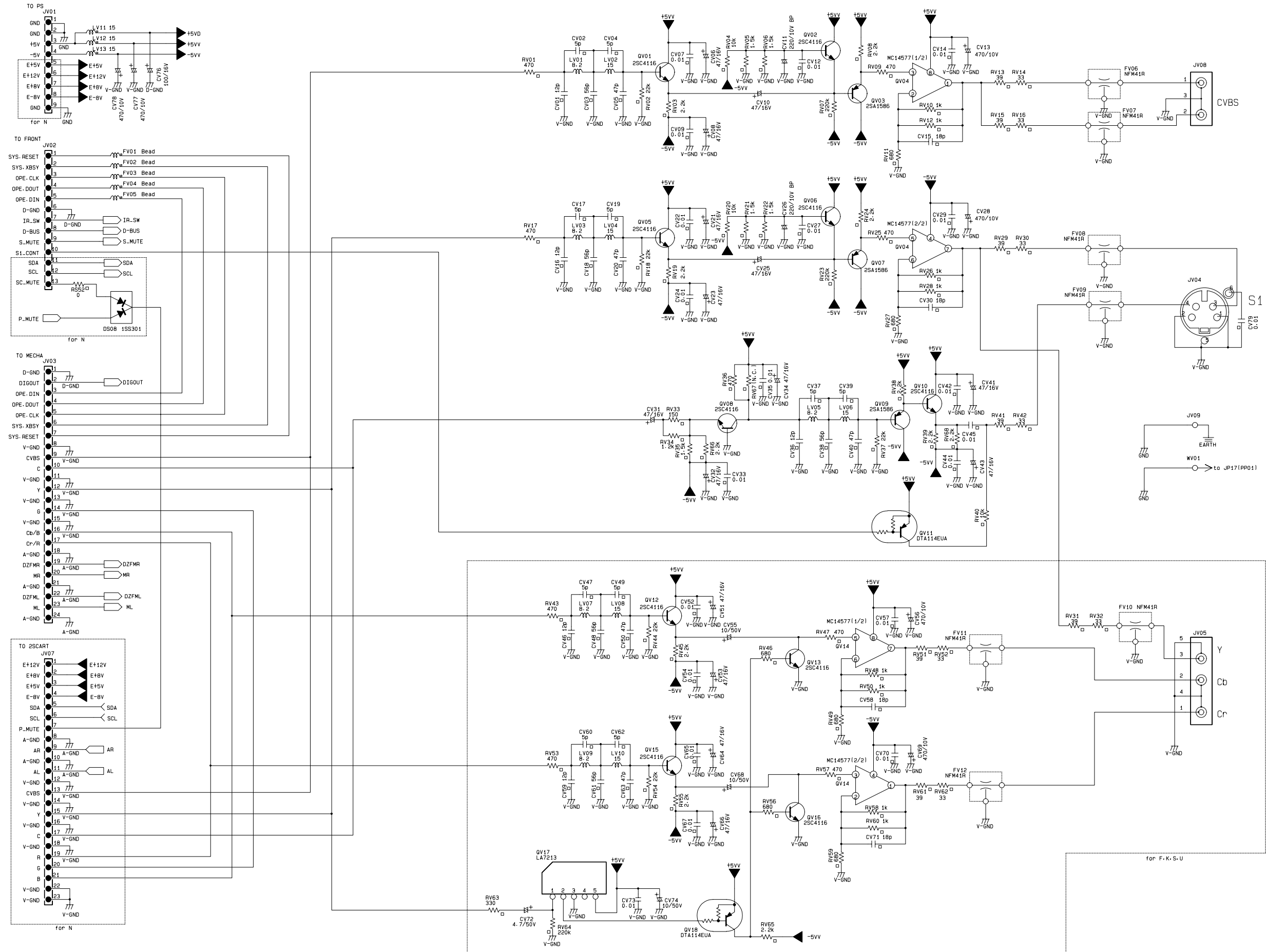
-AREA INDICATION-

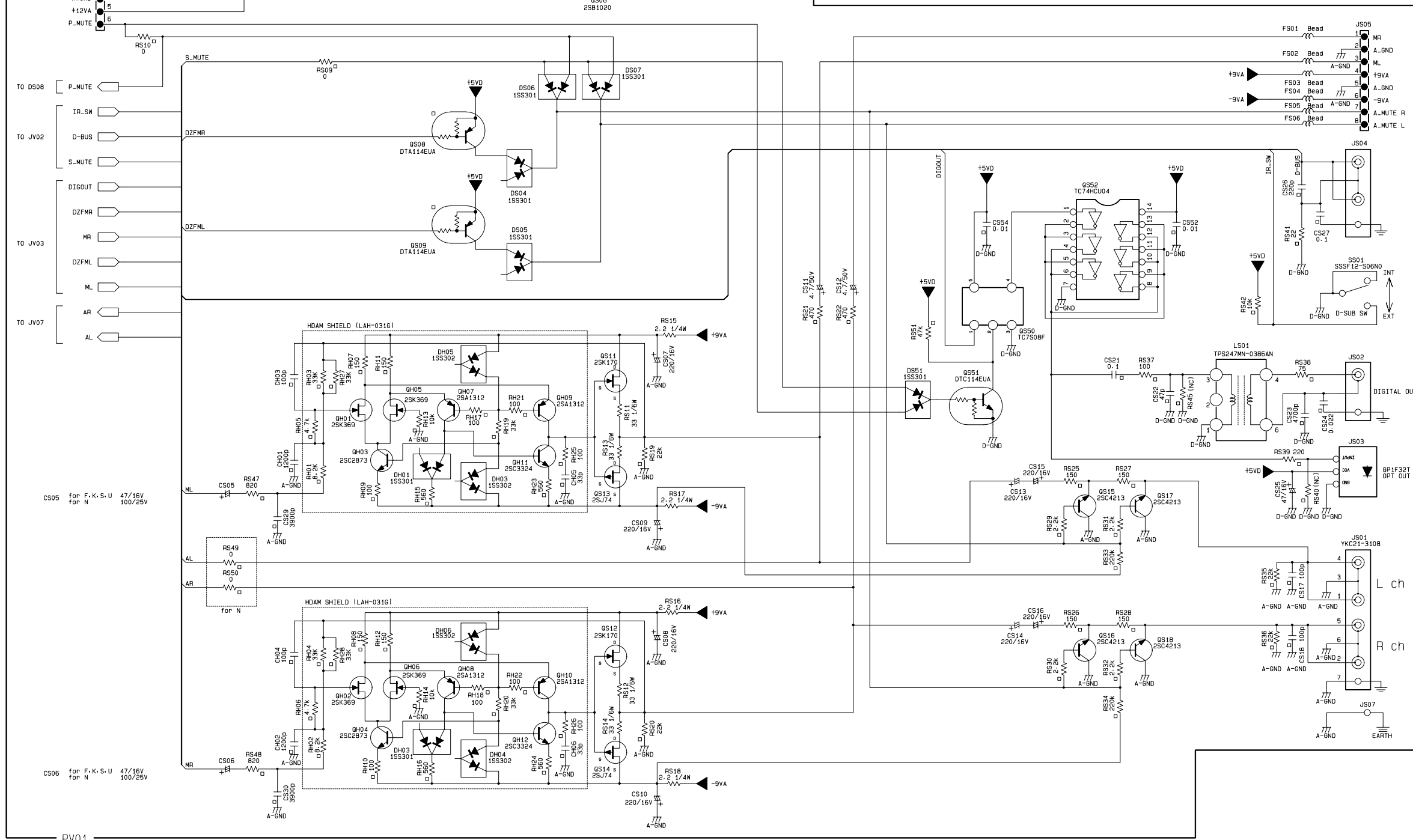
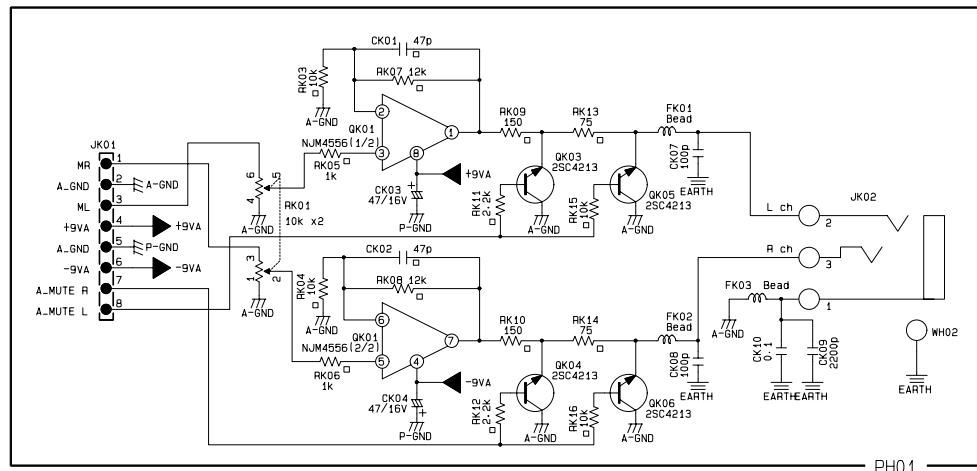
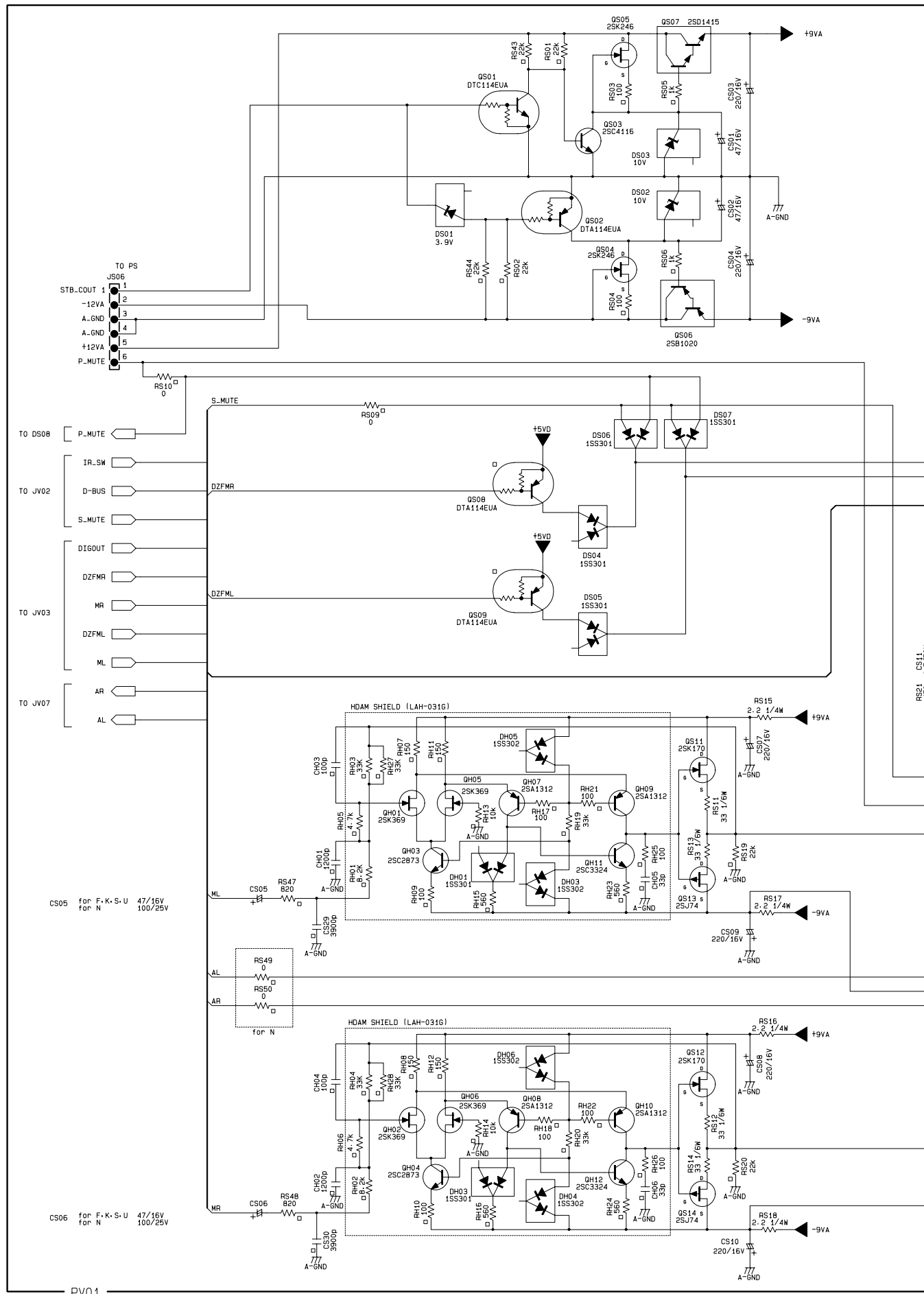
- F: Japan
- K: China
- N: Europe
- S: S' Pore
- U: USA and Canada

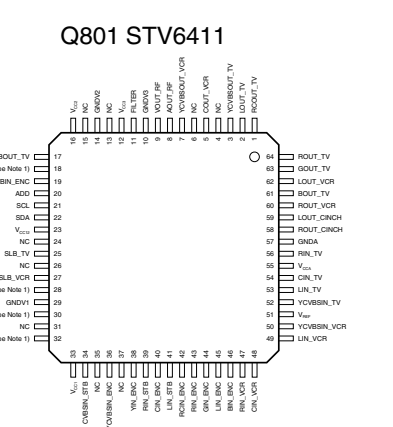
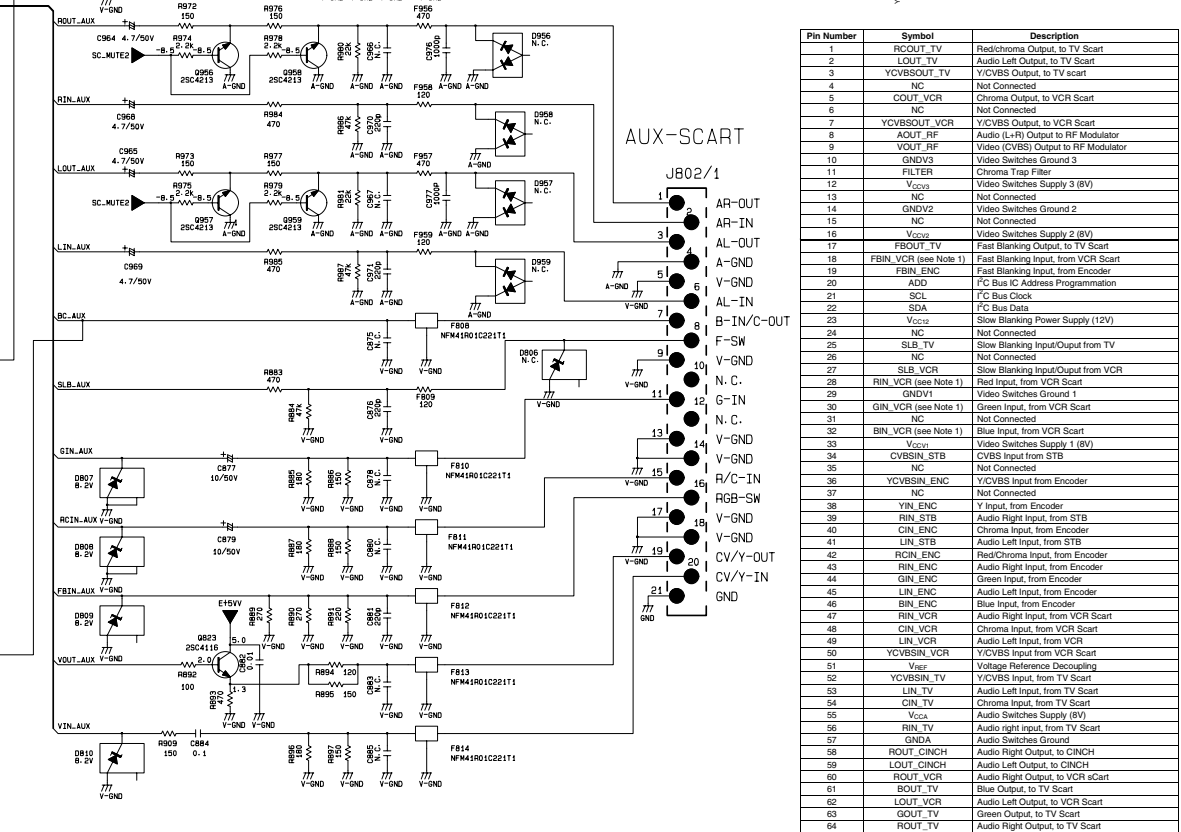
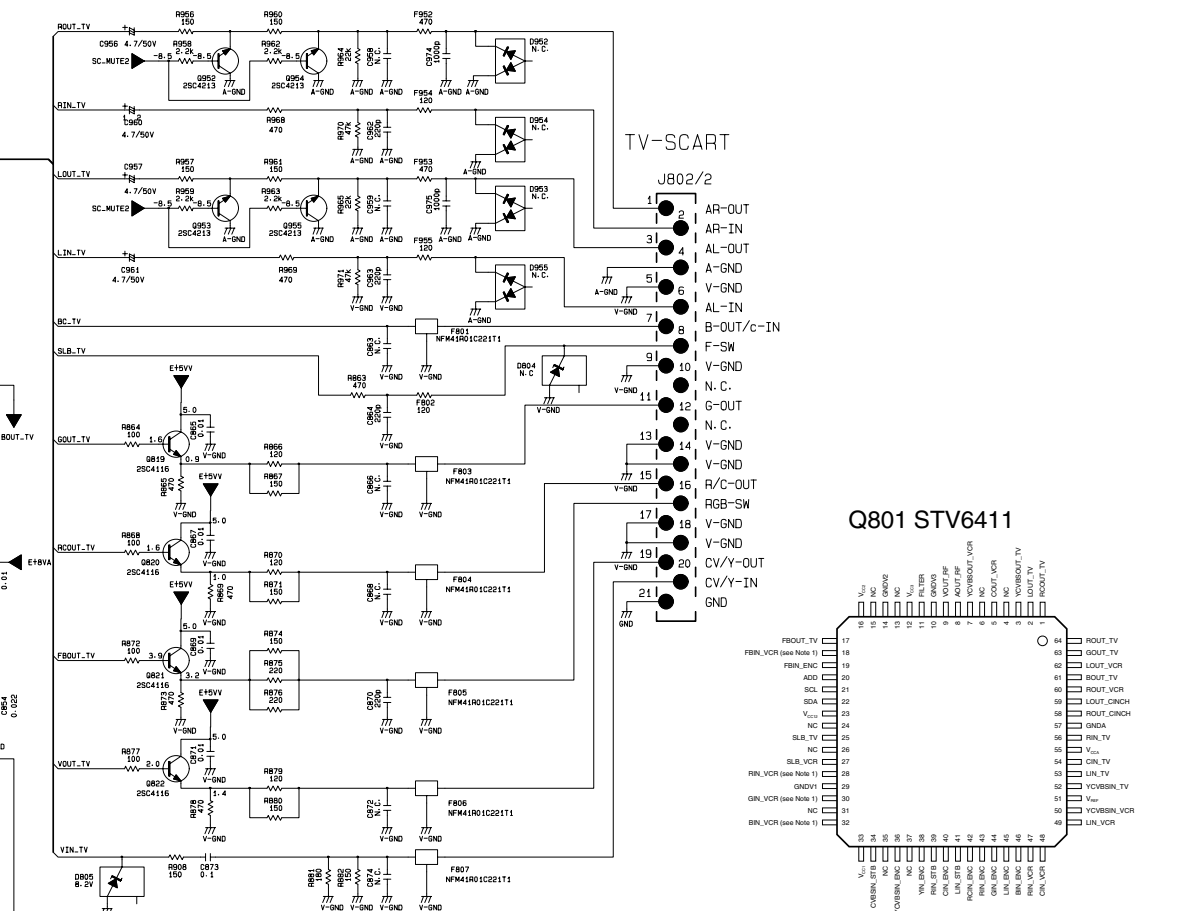
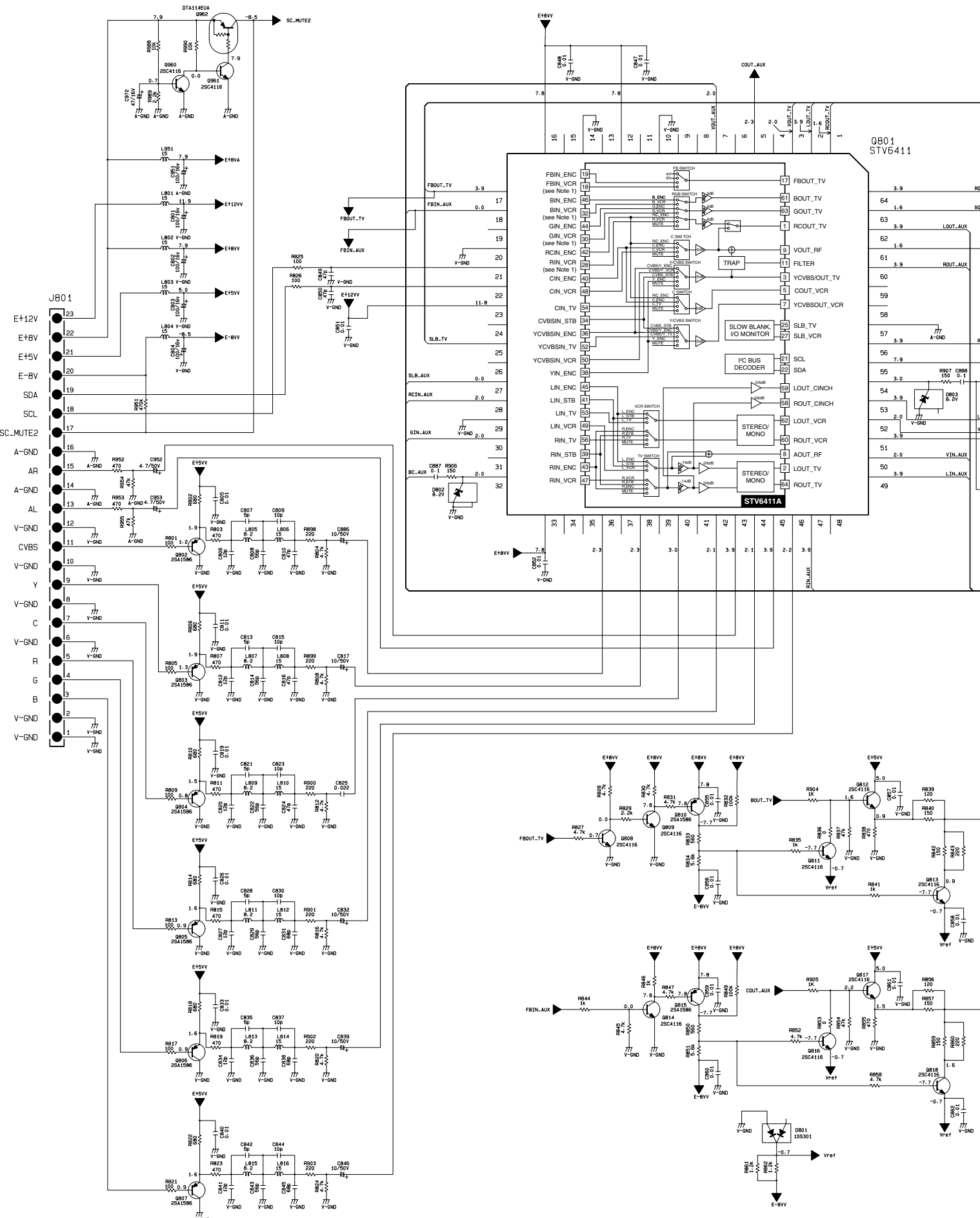
1.11 BLOCK DIAGRAM



1.12 SCHEMATIC DIAGRAM AND PARTS LOCATION

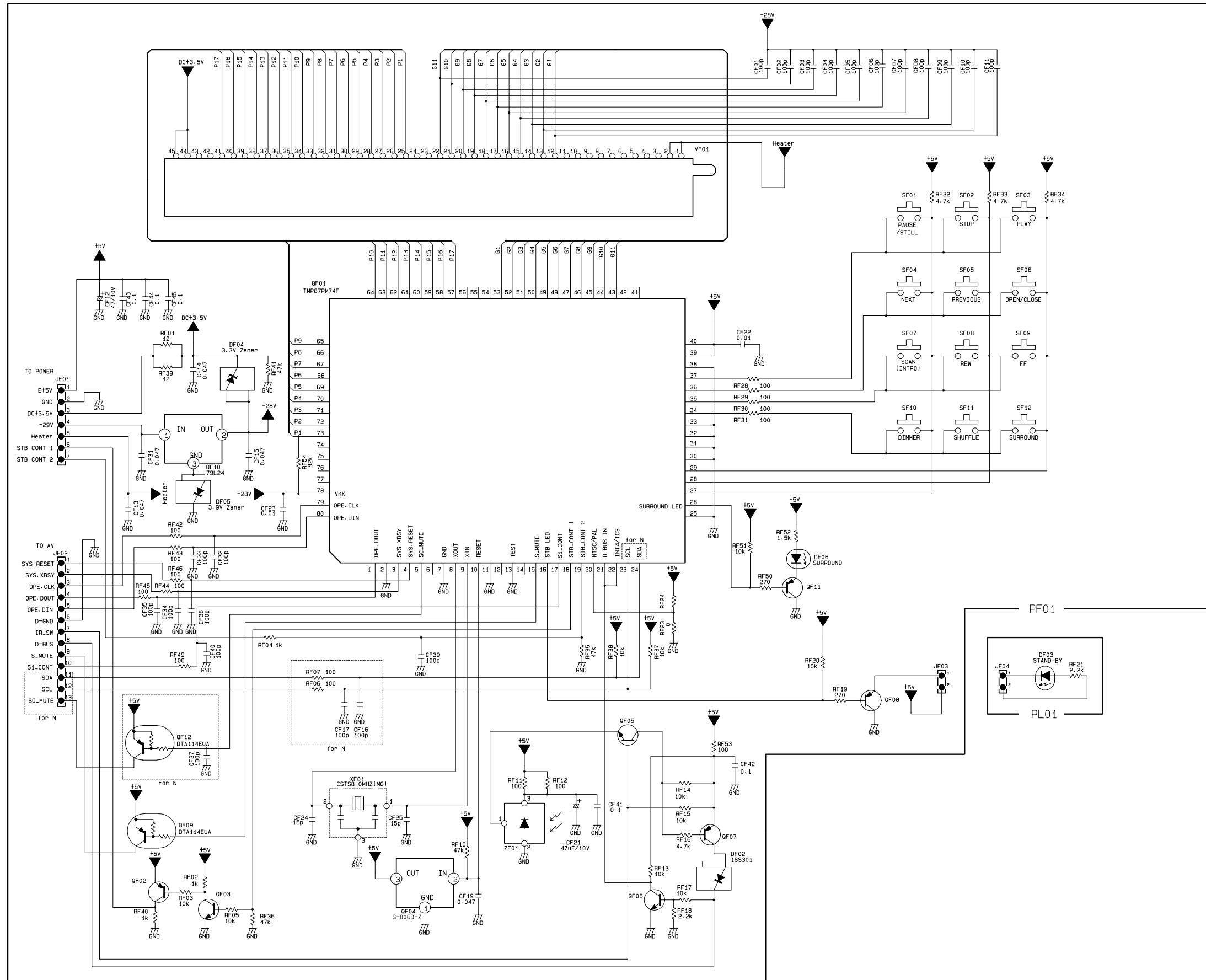
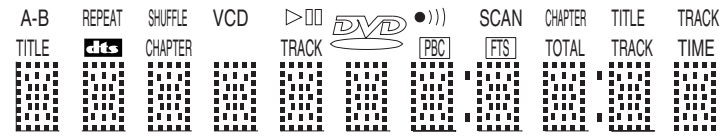


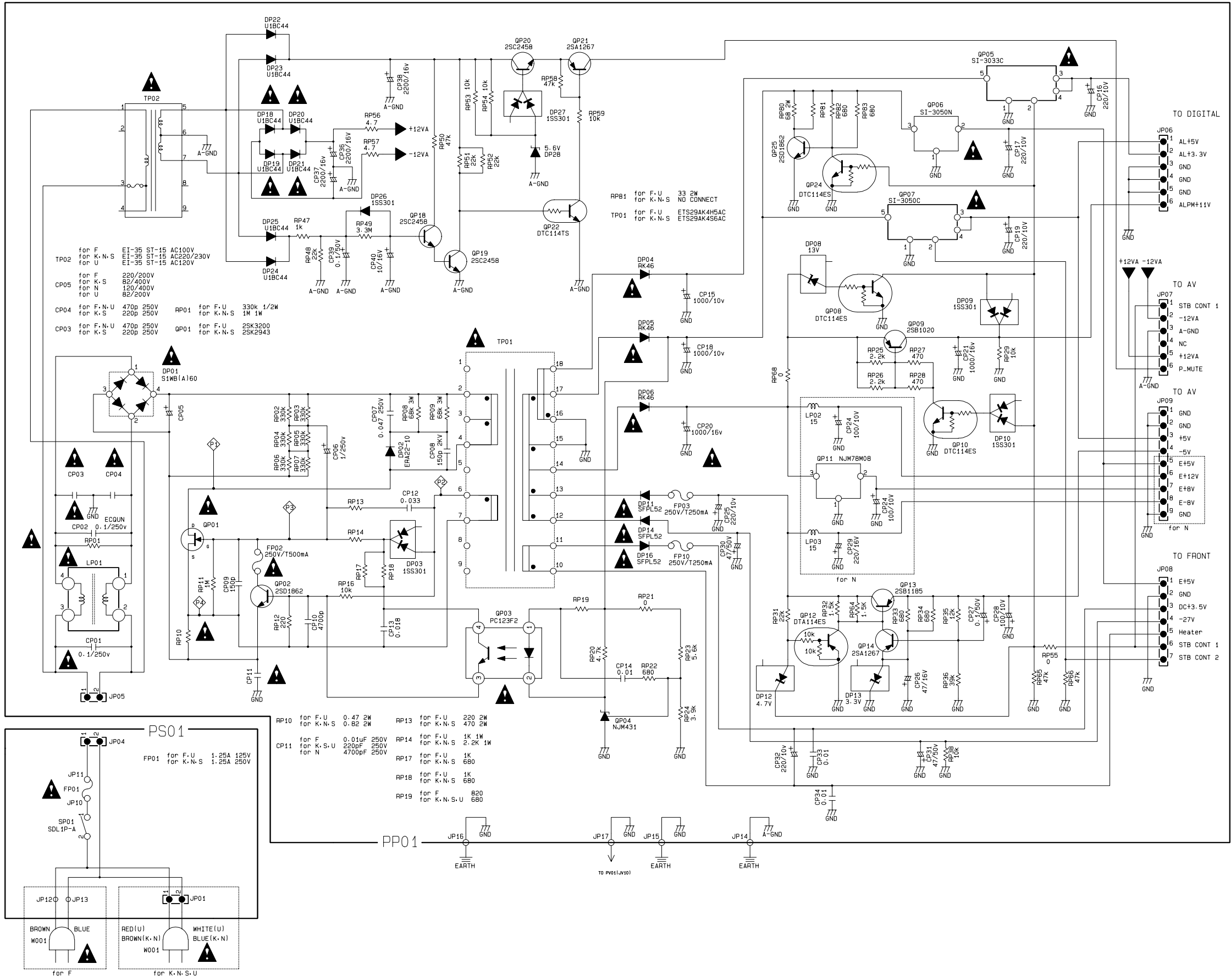




Pin Number	Symbol	Description
1	RCOUT_TV	Red/Chroma Output, to TV Scart
2	LCOUT_TV	Audio Left Output, to TV Scart
3	YCVBSOUT_TV	Y/ CVBS Output, to TV Scart
4	NC	Not Connected
5	COUL_VCR	Chroma Output, to VCR Scart
6	NC	Not Connected
7	YCVBSOUT_VCR	Y/ CVBS Output, to VCR Scart
8	AOUT_RF	Audio (L+R) Output to RF Modulator
9	VOOUT_RF	Video (CVBS) Output to RF Modulator
10	GNDV3	Video Switches Ground 3
11	FILTER	Chroma Trap Filter
12	V _{CC12}	Video Switches Supply 3 (8V)
13	NC	Not Connected
14	GNDV2	Video Switches Ground 2
15	NC	Not Connected
16	V _{CC16}	Video Switches Supply 2 (8V)
17	FBOUT_TV	Fast Blanking Output, to TV Scart
18	FBIN_VCR (see Note 1)	Fast Blanking Input, from VCR Scart
19	FBIN_ENC	Fast Blanking Input, from Encoder
20	ADD	PC Bus IC Address Programming
21	NC	Not Connected
22	SDA	PC Bus Data
23	V _{CC12}	Slow Blanking Power Supply (12V)
24	NC	Not Connected
25	SLB_TV	Slow Blanking Input/Output from TV
26	NC	Not Connected
27	SLB_VCR	Slow Blanking Input/Output from VCR
28	RIN_VCR (see Note 1)	Red Input, from VCR Scart
29	GNDV1	Video Switches Ground 1
30	GIN_VCR (see Note 1)	Green Input, from VCR Scart
31	NC	Not Connected
32	BIN_VCR (see Note 1)	Blue Input, from VCR Scart
33	V _{CC11}	Video Switches Supply 1 (8V)
34	CVBSIN_STB	CVBS Input from STB
35	NC	Not Connected
36	YCVBSIN_ENC	Y/ CVBS Input from Encoder
37	NC	Not Connected
38	YIN_ENC	Y Input, from Encoder
39	RIN_STB	Audio Right Input, from STB
40	RCIN_ENC	Chroma Input, from Encoder
41	LIN_STB	Audio Left Input, from STB
42	RCIN_ENC	Red/Chroma Input, from Encoder
43	RIN_ENC	Audio Right Input, from Encoder
44	GIN_ENC	Green Input, from Encoder
45	LIN_ENC	Audio Left Input, from Encoder
46	BIN_ENC	Blue Input, from Encoder
47	RIN_VCR	Audio Right Input, from VCR Scart
48	CIN_VCR	Chroma Input, from VCR Scart
49	LIN_VCR	Audio Left Input, from VCR
50	YCVBSIN_VCR	Y/ CVBS Input from VCR Scart
51	V _{CC1}	Voltage Reference Decoupling
52	YCVBSIN_TV	Y/ CVBS Input, from TV Scart
53	LIN_TV	Audio Left Input, from TV Scart
54	CIN_TV	Chroma Input, from TV Scart
55	V _{CC1}	Voltage Reference Decoupling
56	RIN_TV	Audio right input, from TV Scart
57	GND4	Audio Switches Ground
58	ROUT_CINCH	Audio Right Output, to CINCH
59	LOUT_CINCH	Audio Left Output, to CINCH
60	ROUT_VCR	Audio Right Output, to VCR Scart
61	BOUT_TV	Blue Output, to TV Scart
62	LOUT_VCR	Audio Left Output, to VCR Scart
63	COUL_TV	Chroma Output, to TV Scart
64	ROUT_TV	Audio Right Output, to TV Scart

Notes : 1. Pins (ex. VCR) identified as ex. AUX in STV6410A.
2. In application, all unused pins should be left open or high frequency bypassed to ground.





TP02 for F EI-35 ST-15 AC100V
 for K.N.S EI-35 ST-15 AC230/230V
 for U EI-35 ST-15 AC120V

CP05 for F 230/300V
 for K.S 85/400V
 for N 120/400V
 for U 82/200V

CP04 for F.N.U 470p 250V
 for K.S 220p 250V

CP03 for F.N.U 470p 250V
 for K.S 220p 250V

RP01 for F.U 330k 1/2W
 for K.N.S 1M 1W

QP01 for F.U 25K3200
 for K.N.S 25K2943

RP10 for F.U 0.47 2W
 for K.N.S 0.82 2W

RP13 for F.U 220 2W
 for K.N.S 470 2W

CP11 for F 0.01uF 250V
 for K.S.U 220pF 250V
 for N 4700pF 250V

RP14 for F.U 1K 1W
 for K.N.S 2.2K 1W

RP17 for F.U 1K
 for K.N.S 680

RP18 for F.U 1K
 for K.N.S 680

RP19 for F 820
 for K.N.S.U 680

PS01
 FP01 for F.U 1.25A 125V
 for K.N.S 1.25A 250V

JP04
 JP11
 FP01
 JP10
 SP01
 SDL1P-A

JP12
 JP13
 BROWN
 W001
 BLUE
 RED(U)
 BROWN(K.N)
 W001
 WHITE(U)
 BLUE(K.N)

for F
 for K.N.S.U

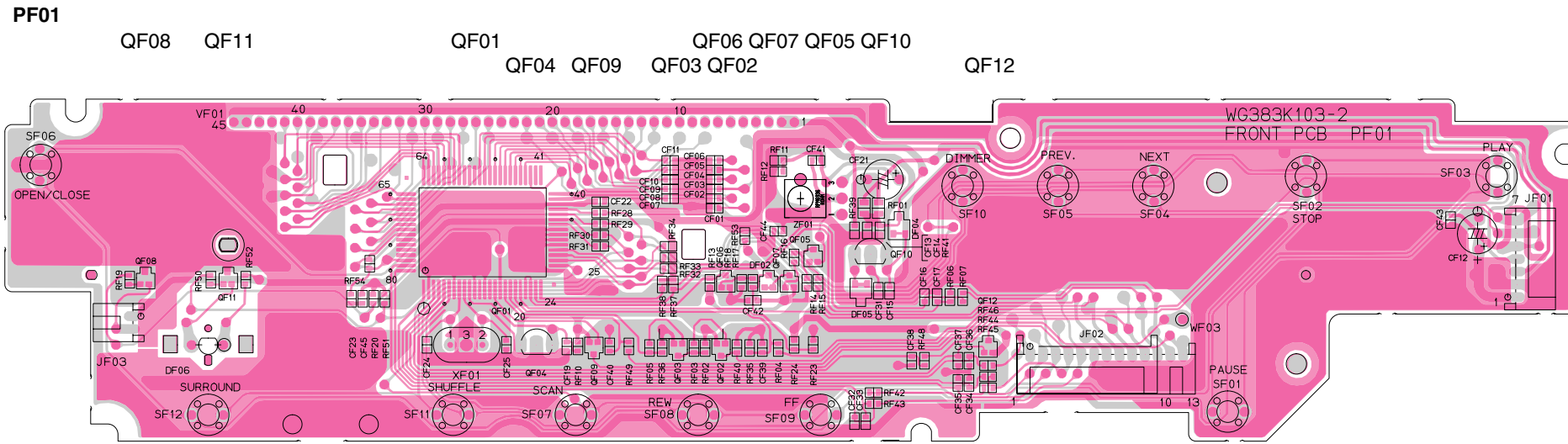
TO DIGITAL
 JP06
 1 AL+5V
 2 AL+3.3V
 3 GND
 4 GND
 5 GND
 6 ALPM+11V

TO AV
 JP07
 1 STB CONT 1
 2 -12VA
 3 A-GND
 4 NC
 5 +12VA
 6 P-MUTE

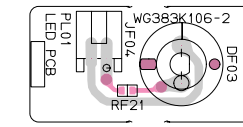
TO AV
 JP09
 1 GND
 2 GND
 3 +5V
 4 -5V
 5 E+5V
 6 E+12V
 7 E+8V
 8 E-8V
 9 GND
 for N

TO FRONT
 JP08
 1 E+5V
 2 GND
 3 DC+3.5V
 4 -27V
 5 Heater
 6 STB CONT 1
 7 STB CONT 2

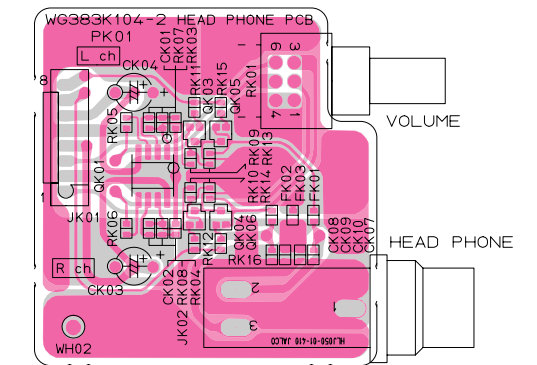
1.13 PARTS LOCATION



PL01



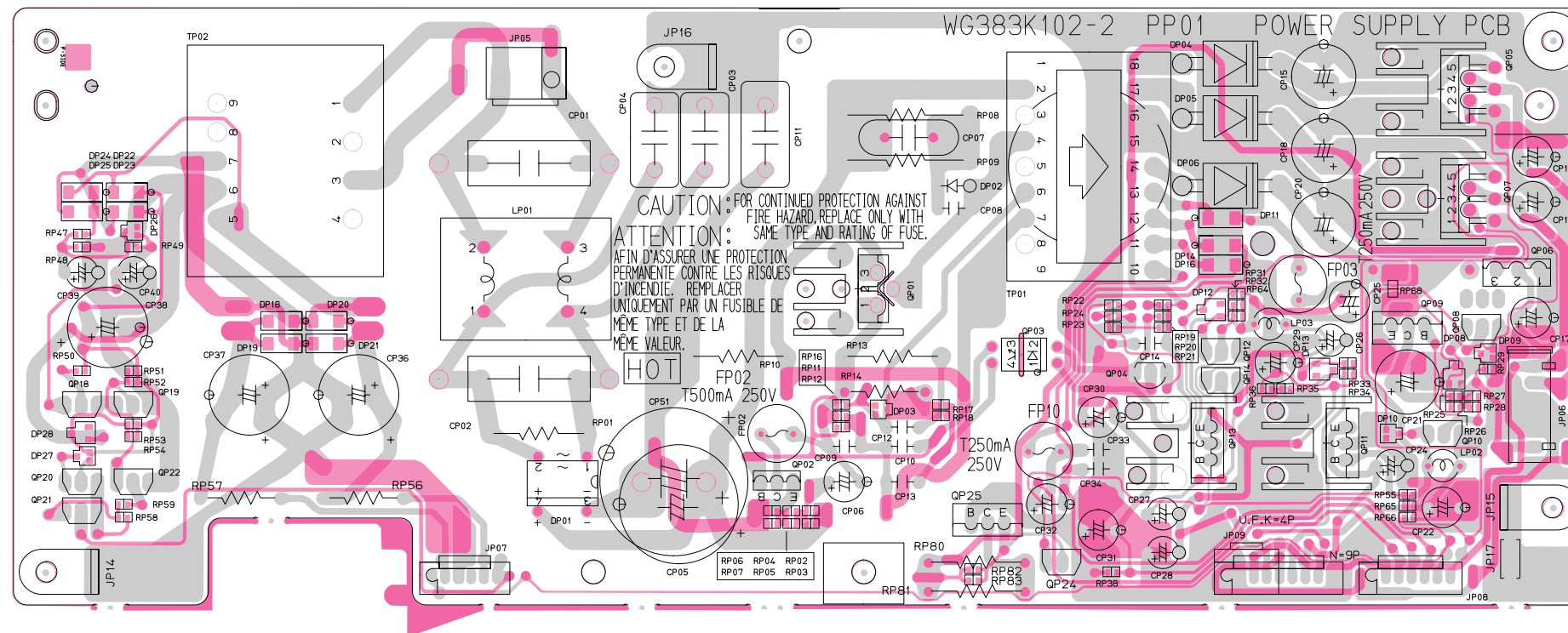
PK01 QK03 QK05 QK01 QK04 QK06



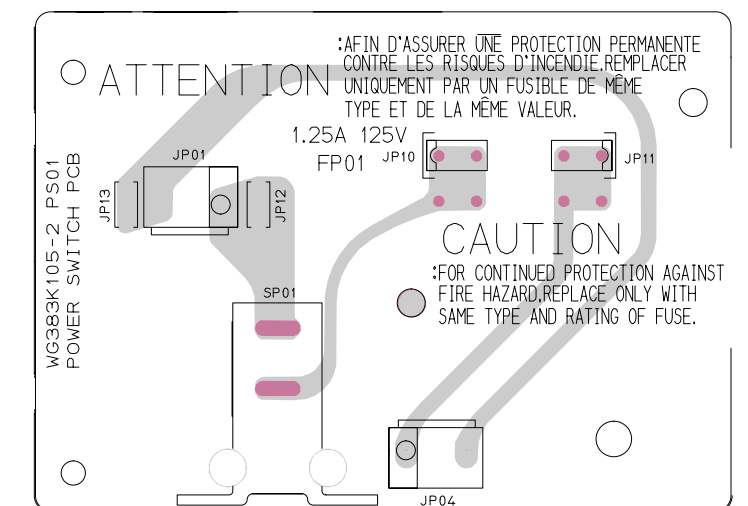
PP01

QP18 QP19 QP20 - QP22

QP01 QP03 QP04 QP12 QP14 QP13 QP05 QP07 QP09 QP08 QP06 QP02 QP25 QP24 QP13 QP11 QP10

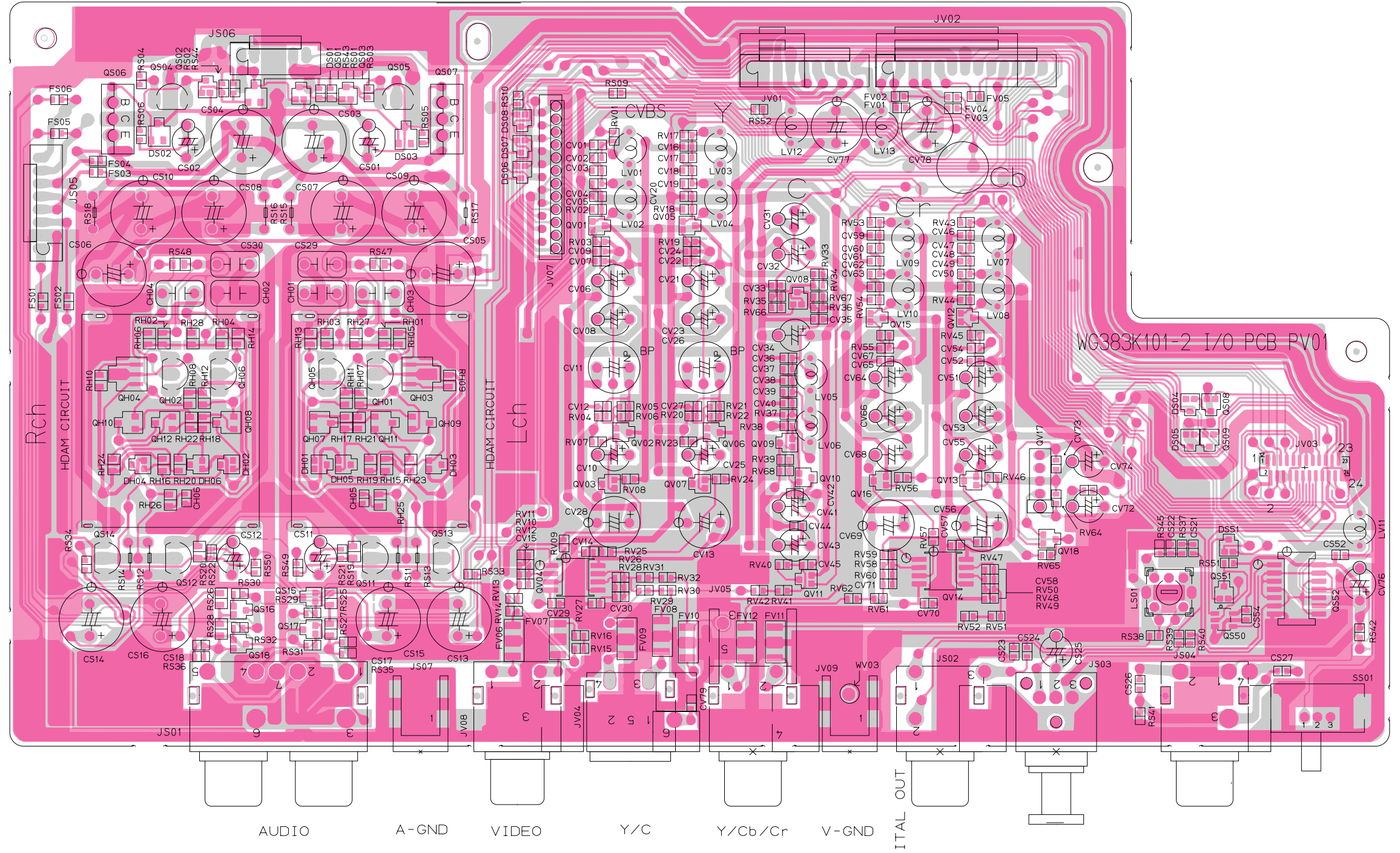


PS01

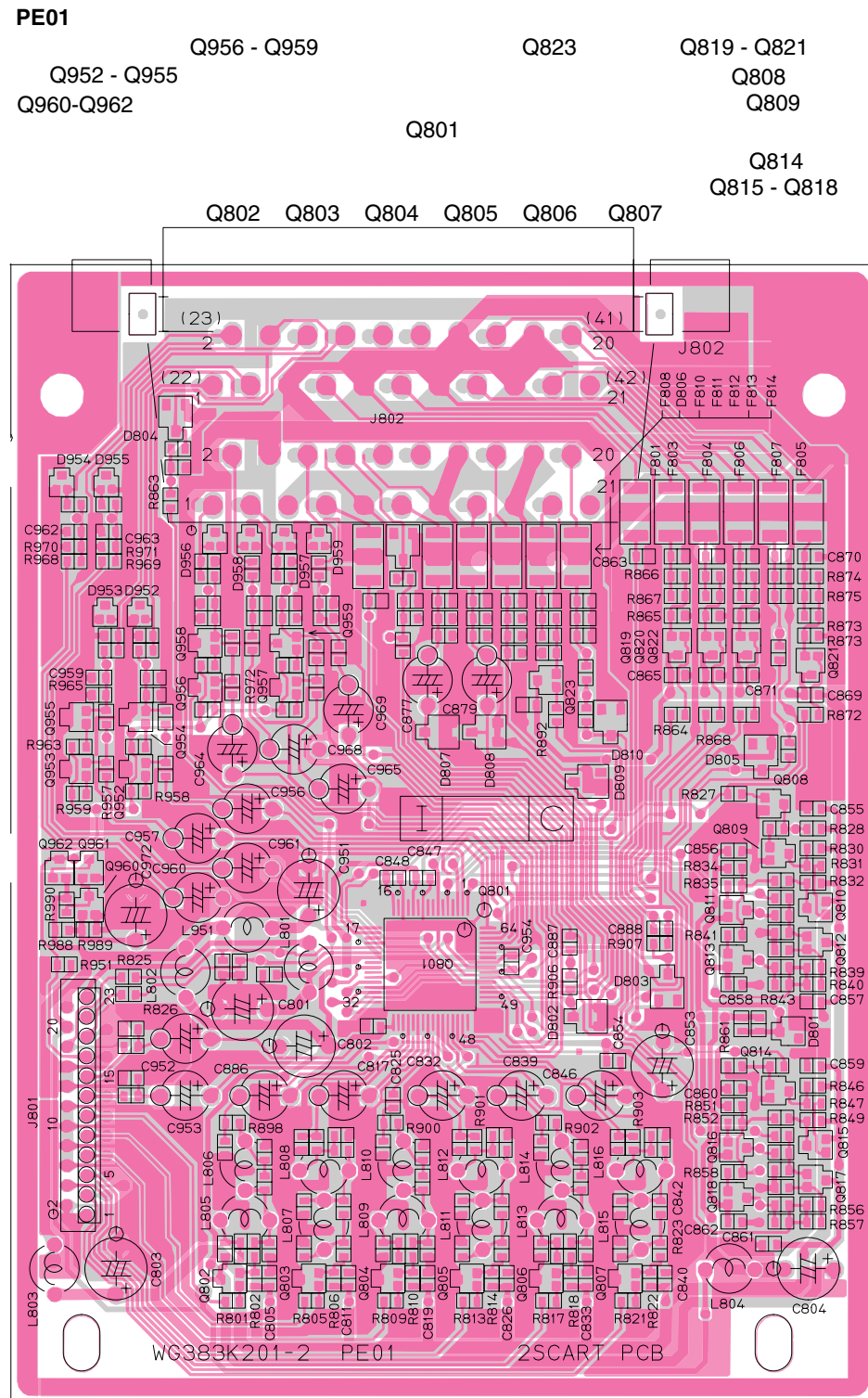


QS04 QS02 QS01 QS03 QS05 QS07
 QH02 - QH12 QH03 - QH11
 (Even number) (Odd number)
 QS14 QS12 QS15 - QS18 QS11 QS13

QV10 QV05 QV08 QV15 QV12
 QV03 QV02 QV07 QV06 QV09 QV10 QV16 QV13 QV17 QV18 QS08 QS09
 QV04 QV11 QV14 QS51 QS50 QS52



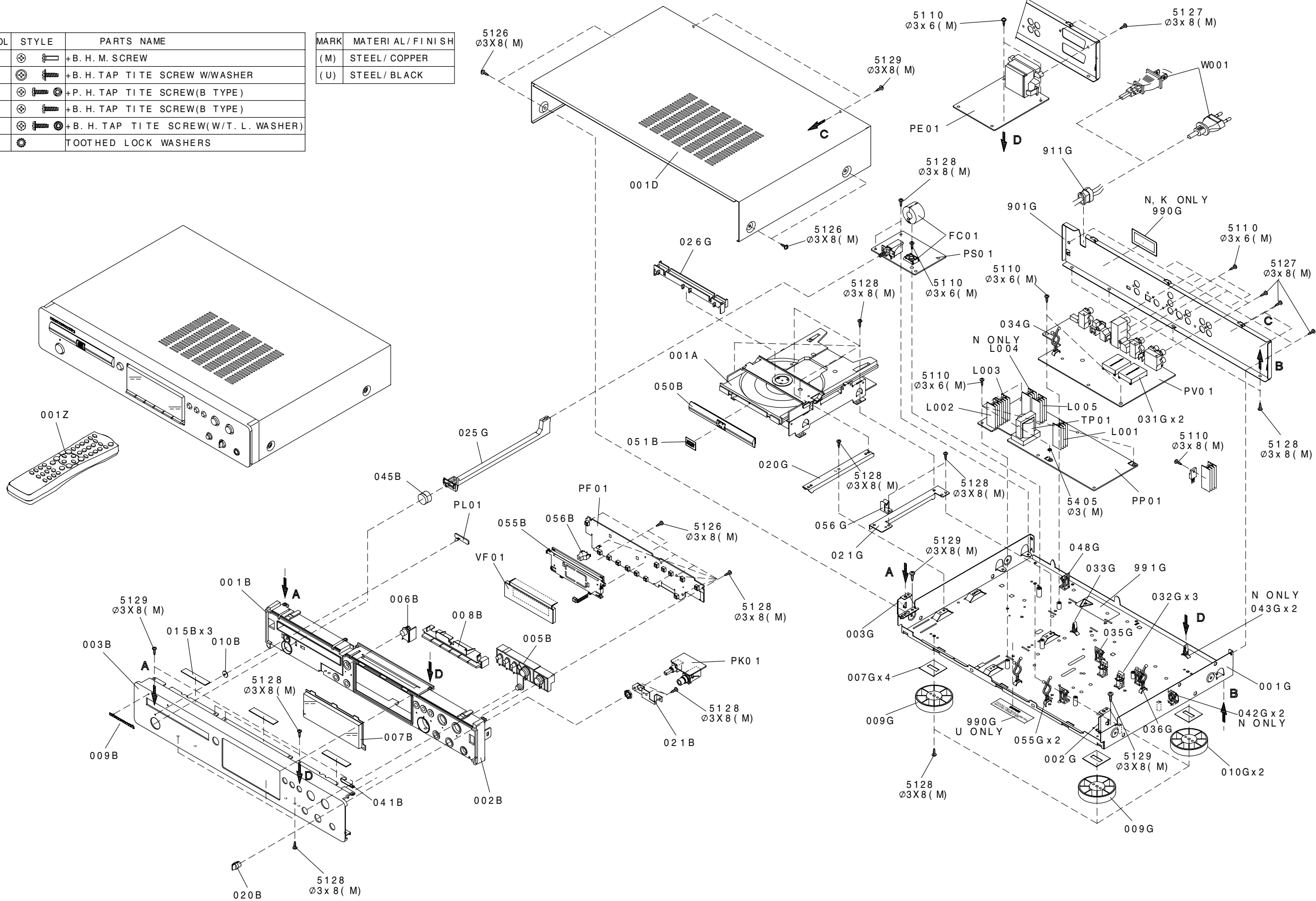
1.14 EXPLODED VIEW AND PARTS LIST



POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MUJ)
001B	BLACK	9965 000 05014	FRONT CHASSIS PL(L)BLK	383K105010
001B	GOLD	9965 000 05015	FRONT CHASSIS PL(L)GLD	383K105110
002B	BLACK	9965 000 05016	FRONT CHASSIS PL(R)BLK	383K105020
002B	GOLD	9965 000 05017	FRONT CHASSIS PL(R)GLD	383K105120
003B	BLACK	9965 000 05018	FRONT PANEL AL DV7000 BL	383K248010
003B	GOLD	9965 000 05019	FRONT PANEL AL DV7000 GL	383K248110
005B	BLACK	9965 000 05020	BUTTON FUNCTION BLK	383K270010
005B	GOLD	9965 000 05021	BUTTON FUNCTION GLD	383K270110
006B	BLACK	9965 000 05022	BUTTON OPEN/CLOSE BLK	383K270020
006B	GOLD	9965 000 05023	BUTTON OPEN/CLOSE GLD	383K270120
007B		9965 000 05024	WINDOW DV7000	383K158010
008B		9965 000 05025	BUTTON SUB FUNCTION	386K270090
009B		4822 454 11825	MARANTZ BADGE (BL)	185J251010
010B		9965 000 01393	LENS STANDBY	312J355010
020B	BLACK	4822 411 20336	KNOB PHONE BLACK	284T154310
020B	GOLD	9965 000 00580	KNOB PHONE GOLD	284T154240
045B	BLACK	9965 000 01975	BUTTON POWER BLACK	255W270010
045B	GOLD	9965 000 01395	BUTTON POWER GOLD	255W270110
050B	BLACK	9965 000 05026	ESCUTCHEON	383K063010
			TRAY FRONT BLK	
050B	GOLD	9965 000 05027	ESCUTCHEON	383K063110
			TRAY FRONT GLD	
051B	BLACK	9965 000 05028	DVD BADGE BLK	386K251030
051B	GOLD	9965 000 05029	DVD BADGE GLD	386K251130
009G		9965 000 05030	LEG (GOLD HOT STAMP) F	383K057010
010G		9965 000 05031	LEG (GOLD HOT STAMP) R	383K057110
025G		9965 000 00362	LINK,POWER SW.	349K121010
911G	/F		BUSHING MAINS CORD	318K259020
911G	/K, /S /N, /U	4822 532 60948	BUSHING MAINS CORD	450H259010
001A		9965 000 04619	DVD MODULE UNIT	ZK370K0100
			DVD MECHA+DIGITAL BOARD	
WV01		9965 000 04963	FFC MECHA- AV	YU24075510
WV02	/N	9965 000 04965	FFC AV- 2SCART	YU23135520
▲ W001	/F		MAINS CORD 15A 125V	YC01800430
▲ W001	/K1B		OFC HANA I	
▲ W001	/K1B		MAINS CORD	YC01800760
▲ W001	/K1G		FOR BS(MAYOR)	
▲ W001	/K1G		MAINS CORD CCEE	YC01800880
▲ W001	/S, /N	4822 321 11343	APP.(AC250V 10A)+ VAR2P	
▲ W001	/U		MAINS CORD	YC01800790
▲ W001	/U		MAINS CORD UL/CSA	YC02000880
			NON-INTEGRAL	
			PACKING	
001T	/F		USER GUIDE	383K851110
001T	/K, /S		USER GUIDE	383K851350
001T	/N	9965 000 05032	USER GUIDE	383K851320
001T	/U		USER GUIDE	383K851310
001Z		9965 000 05013	REMOTE COMMANDER	ZK383K0010
			RC7000DV	
			NOT STANDARD SPARE PARTS	
001S			PACKING CASE DV7000	383K801010
002S			CUSHION	386K809010

SYMBOL	STYLE	PARTS NAME
5110		+B. H. M. SCREW
5126		+B. H. TAP TITE SCREW W/WASHER
5127		+P. H. TAP TITE SCREW(B TYPE)
5128		+B. H. TAP TITE SCREW(B TYPE)
5129		+B. H. TAP TITE SCREW(W/T. L. WASHER)
5405		TOOTHED LOCK WASHERS

MARK	MATERIAL/ FINISH
(M)	STEEL/ COPPER
(U)	STEEL/ BLACK



1.15 ELECTRICAL PARTS LIST

ASSIGNMENT OF COMMON PARTS CODES.

RESISTORS

R***: 1) GD05xxx 140, Carbon film fixed resistor, ±5% 1/4W

R***: 2) GD05xxx 160, Carbon film fixed resistor, ±5% 1/6W



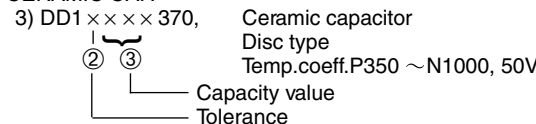
Examples ;

Table of resistor examples with columns for resistance value and tolerance. Includes values like 0.1Ω, 10Ω, 1kΩ, 100kΩ, 10Ω, 18Ω, 2.7kΩ, 680kΩ, 1Ω, 10Ω, 101, 10kΩ, 103, 1MΩ, 105, 6.8Ω, 068, 390Ω, 391, 22kΩ, 223, 4.7MΩ, 475.

Note : Please distinguish 1/4W from 1/6W by the shape of parts used actually.

CAPACITORS

C***: CERAMIC CAP.



Examples ;

Table of capacitor examples showing tolerance (capacity deviation) values: ±0.25 pF, ±0.5 pF, ±5%.

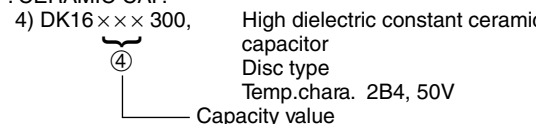
* Tolerance of COMMON PARTS handled here are as follows :

Table of capacitor tolerances: 0.5 pF ~ 5 pF ±0.25 pF, 6 pF ~ 10 pF ±0.5 pF, 12 pF ~ 560 pF ±5%.

Examples ;

Table of capacitor examples showing capacity values: 0.5 pF, 1 pF, 1.5 pF, 3 pF, 100 pF, 10 pF, 220 pF, 47 pF, 560 pF.

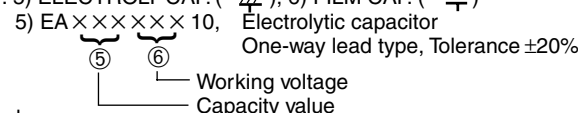
C*** : CERAMIC CAP.



Examples ;

Table of capacitor examples showing capacity values: 100 pF, 470 pF, 1000 pF, 2200 pF.

C***: 5) ELECTROLY CAP. (E symbol), 6) FILM CAP. (F symbol)

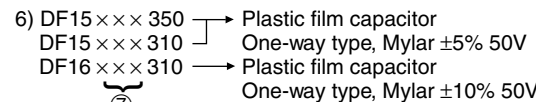


Examples ;

Table of capacitor examples showing capacity and working voltage values: 0.1 μF, 0.33 μF, 1 μF, 4.7 μF, 10 μF, 22 μF, 100 μF, 330 μF, 1100 μF, 2200 μF.

Examples ;

Table of capacitor examples showing working voltage values: 6.3V, 10V, 16V, 25V, 35V, 50V.



Examples ;

Table of capacitor examples showing capacity values: 0.001 μF, 0.0018 μF, 0.01 μF, 0.015 μF, 102, 182, 103, 153.

NOTE : 1) The above CODES (R***, R***, C***, C*** and C***) are omitted on the schematic diagram in some case.

2) On the occasion, be confirmed the common parts on the parts list.

3) Refer to “Common Parts List” for the other common parts (R105, DD4, DK4).

NOTE ON SAFETY FOR FUSIBLE RESISTOR :

The suppliers and their type numbers of fusible resistors are as follows;

1. KOA Corporation

Table of KOA Corporation fusible resistors with columns for Part No. (MJI), Type No. (KOA), and Description (resistance value, tolerance).

* Resistance value (0.1 Ω - 10 kΩ)

2. Matsushita Electronic Components Co., Ltd

Table of Matsushita Electronic Components Co., Ltd fusible resistors with columns for Part No. (MJI), Type No. (MEC), and Description (resistance value, tolerance).

* Resistance value

Examples ;

Table of resistor examples with columns for resistance value and tolerance. Includes values like 0.1 Ω, 10 Ω, 1 kΩ, 100 kΩ, 0.5 Ω, 18 Ω, 2.7 kΩ, 680 kΩ, 1 Ω, 10 Ω, 101, 10 kΩ, 103, 1 MΩ, 105, 6.8 Ω, 068, 390 Ω, 391, 22 kΩ, 223, 4.7 MΩ, 475.

Table titled 'ABBREVIATION AND MARKS' listing various components and their abbreviations: ANT., CAP., CONN., HP, μ-PRO, RES., SW, TRIM., VAR., BATT., CER., DIG., MIC., REC., TRANSF., TRS., X'TAL.

NOTE ON SAFETY :

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

安全上の注意 :

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

Main parts list table with columns: POS. NO., VERS. COLOR, PART NO. (FOR PCS), DESCRIPTION, PART NO. (MUJ), POS. NO., VERS. COLOR, PART NO. (FOR PCS), DESCRIPTION, PART NO. (MUJ). Includes various components like SCART CIRCUIT BOARD, CAPACITORS, and RESISTORS.

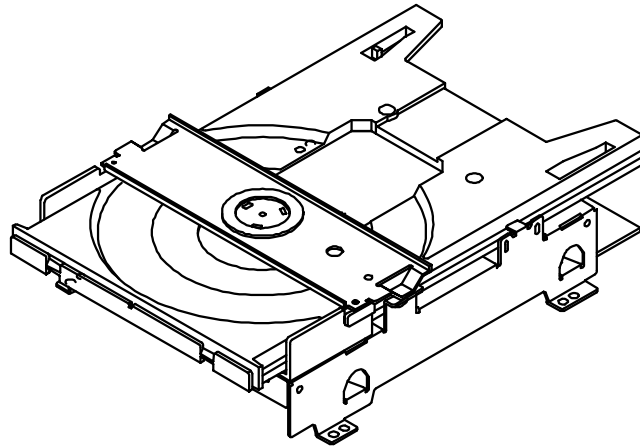
POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)	POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
RV43	/F, /K /S, /U	4822 051 30471	CHIP 470Ω ±5% 1/16W	NN05471610	QH02		4822 130 42839	F.E.T. 2SK369 BL VDGS-40V PDO.4W	HF203691B0
RV44	/F, /K /S, /U	4822 051 30223	CHIP 22kΩ ±5% 1/16W	NN05223610	QH03		4822 130 61425	CHIP TRS. 2SC2873 (Y)	HX328731B0
RV45	/F, /K /S, /U	4822 051 30222	CHIP 2.2kΩ ±5% 1/16W	NN05222610	QH04		4822 130 61425	CHIP TRS. 2SC2873 (Y)	HX328731B0
RV46	/F, /K /S, /U	4822 051 30681	CHIP 680Ω ±5% 1/16W	NN05681610	QH05		4822 130 42839	F.E.T. 2SK369 BL VDGS-40V PDO.4W	HF203691B0
RV47	/F, /K /S, /U	4822 051 30471	CHIP 470Ω ±5% 1/16W	NN05471610	QH06		4822 130 42839	F.E.T. 2SK369 BL VDGS-40V PDO.4W	HF203691B0
RV48	/F, /K /S, /U	4822 051 30102	CHIP 1kΩ ±5% 1/16W	NN05102610	QH07		4822 130 63928	CHIP TRS. 2SA1312 (B)	HX113121B0
RV49	/F, /K /S, /U	4822 051 30681	CHIP 680Ω ±5% 1/16W	NN05681610	QH10				
RV50	/F, /K /S, /U	4822 051 30102	CHIP 1kΩ ±5% 1/16W	NN05102610	QH11		4822 130 63929	CHIP TRS. 2SC3324 (B)	HX333241B0
RV51	/F, /K /S, /U	9965 000 05009	CHIP 39Ω ±5% 1/16W	NN05390610	QH12		4822 130 63929	CHIP TRS. 2SC3324 (B)	HX333241B0
RV52	/F, /K /S, /U	4822 051 30339	CHIP 33Ω ±5% 1/16W	NN05330610	QS01		4822 130 61906	DIG.TRS. DTC114EU	BA20035210
RV53	/F, /K /S, /U	4822 051 30471	CHIP 470Ω ±5% 1/16W	NN05471610	QS02		4822 130 61903	DIG.TRS. DTA114EU	BA10026210
RV54	/F, /K /S, /U	4822 051 30223	CHIP 22kΩ ±5% 1/16W	NN05223610	QS03		4822 130 60669	CHIP TRS. 2SC4081 (Q R) 2SC4116 (Y GR)	HX300012A0
RV55	/F, /K /S, /U	4822 051 30222	CHIP 2.2kΩ ±5% 1/16W	NN05222610	QS04		4822 130 42836	F.E.T. 2SK246 (GR)	HF202461C0
RV56	/F, /K /S, /U	4822 051 30681	CHIP 680Ω ±5% 1/16W	NN05681610	QS05		4822 130 42836	F.E.T. 2SK246 (GR)	HF202461C0
RV57	/F, /K /S, /U	4822 051 30471	CHIP 470Ω ±5% 1/16W	NN05471610	QS06		4822 130 11604	TRS. 2SB1020	HT21020100
RV58	/F, /K /S, /U	4822 051 30102	CHIP 1kΩ ±5% 1/16W	NN05102610	QS07		4822 130 11605	TRS. 2SD1415	HT41415100
RV59	/F, /K /S, /U	4822 051 30681	CHIP 680Ω ±5% 1/16W	NN05681610	QS08		4822 130 61903	DIG.TRS. DTA114EU	BA10026210
RV60	/F, /K /S, /U	4822 051 30102	CHIP 1kΩ ±5% 1/16W	NN05102610	QS09		4822 130 61903	DIG.TRS. DTA114EU	BA10026210
RV61	/F, /K /S, /U	9965 000 05009	CHIP 39Ω ±5% 1/16W	NN05390610	QS11		5322 130 41844	F.E.T. 2SK170 V LANK	HF201701H0
RV62	/F, /K /S, /U	4822 051 30339	CHIP 33Ω ±5% 1/16W	NN05330610	QS12		5322 130 41844	F.E.T. 2SK170 V LANK	HF201701H0
RV63	/F, /K /S, /U		CHIP 330Ω ±5% 1/16W	NN05331610	QS13		4822 130 62649	F.E.T. 2SJ74 V LANK	HF100741H0
RV64	/F, /K /S, /U	4822 117 12891	CHIP 220kΩ ±5% 1/16W	NN05224610	QS14		4822 130 62649	F.E.T. 2SJ74 V LANK	HF100741H0
RV65	/F, /K /S, /U	4822 051 30222	CHIP 2.2kΩ ±5% 1/16W	NN05222610	QS15		4822 130 63601	CHIP TRS. 2SC4213	HX342132A0
RV66		4822 051 30222	CHIP 2.2kΩ ±5% 1/16W	NN05222610	QS16		4822 130 63601	CHIP TRS. 2SC4213	HX342132A0
RV68		4822 051 30222	CHIP 2.2kΩ ±5% 1/16W	NN05222610	QS17		4822 130 63601	CHIP TRS. 2SC4213	HX342132A0
DH01		4822 130 83715	PV01-SEMICONDUCTORS CHIP DIODE 1SS301 DAN202U	HZ21005000	QS18		4822 130 63601	CHIP TRS. 2SC4213	HX342132A0
DH02		4822 130 83715	CHIP DIODE 1SS301 DAN202U	HZ21005000	QS50		4822 209 63557	IC TC7S08F	HC700805S0
DH03		4822 130 81324	CHIP DIODE 1SS302	HZ20018050	QS51		4822 130 61906	DIG.TRS. DTC114EU	BA20035210
DH06					QS52		4822 209 31568	IC CMOS 74HCU04 FLAT	HC700400Z0
DS01		9965 000 04971	CHIP DIODE 02CZ3.9X	HZ30024050	QV01		4822 130 60669	CHIP TRS. 2SC4081 (Q R) 2SC4116 (Y GR)	HX300012A0
DS02		9965 000 01734	CHIP DIODE ZENER 02CZ10Y 10V	HZ30025050	QV02		4822 130 60669	CHIP TRS. 2SC4081 (Q R) 2SC4116 (Y GR)	HX300012A0
DS03		9965 000 01734	CHIP DIODE ZENER 02CZ10Y 10V	HZ30025050	QV03		4822 130 10698	CHIP TRS. 2SA1586 (Y GR) 2SA1576A (Q R)	HX100012A0
DS04		4822 130 83715	CHIP DIODE 1SS301 DAN202U	HZ21005000	QV04		4822 209 14876	IC MC14577C (SOP)	HC10065170
DS07		4822 130 83715	CHIP DIODE 1SS301 DAN202U	HZ21005000	QV05		4822 130 60669	CHIP TRS. 2SC4081 (Q R) 2SC4116 (Y GR)	HX300012A0
DS08	/N	4822 130 83715	CHIP DIODE 1SS301 DAN202U	HZ21005000	QV06		4822 130 60669	CHIP TRS. 2SC4081 (Q R) 2SC4116 (Y GR)	HX300012A0
DS51		4822 130 83715	CHIP DIODE 1SS301 DAN202U	HZ21005000	QV07		4822 130 60669	CHIP TRS. 2SC4081 (Q R) 2SC4116 (Y GR)	HX300012A0
QH01		4822 130 42839	F.E.T. 2SK369 BL VDGS-40V PDO.4W	HF203691B0	QV08		4822 130 60669	CHIP TRS. 2SC4081 (Q R) 2SC4116 (Y GR)	HX300012A0
					QV09		4822 130 60669	CHIP TRS. 2SA1586 (Y GR) 2SA1576A (Q R)	HX100012A0
					QV10		4822 130 60669	CHIP TRS. 2SC4081 (Q R) 2SC4116 (Y GR)	HX300012A0
					QV11		4822 130 61903	DIG.TRS. DTA114EU	BA10026210
					QV12	/F, /K /S, /U	4822 130 60669	CHIP TRS. 2SC4081 (Q R) 2SC4116 (Y GR)	HX300012A0
					QV13	/F, /K /S, /U	4822 130 60669	CHIP TRS. 2SC4081 (Q R) 2SC4116 (Y GR)	HX300012A0
					QV14	/F, /K /S, /U	4822 209 14876	IC MC14577C (SOP)	HC10065170
					QV15	/F, /K /S, /U	4822 130 60669	CHIP TRS. 2SC4081 (Q R) 2SC4116 (Y GR)	HX300012A0
					QV16	/F, /K /S, /U	4822 130 60669	CHIP TRS. 2SC4081 (Q R) 2SC4116 (Y GR)	HX300012A0
					QV17	/F, /K /S, /U		IC LA7213	HC10270030
					QV18	/F, /K /S, /U	4822 130 61903	DIG.TRS. DTA114EU	BA10026210

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
			PV01-MISCELLANEOUS	
FS01 }		4822 157 10416	EMIFILTER BLM11B102S	FN31010030
FS06 FV01 }		9965 000 05005	FERRITE BEADS	FC90020120
FV05 FV06 }		9965 000 05 005	BK1608HM102-T	
FV09 FV10 }		9965 000 04998	EMI FILTER NFM41R01C221	FM31221020
FV12	/F, /K /S, /U	9965 000 04998	EMI FILTER NFM41R01C221	FM31221020
JS01		4822 290 81723	TERMINAL RCA 4P WHITE/RED AU YKC21-3108	YT02041070
JS02		4822 290 81638	TERMINAL 14X14 RA 1L1P BLK AU FLM-GND	YT02010790
JS03		4822 267 31369	OPT. CONNECTOR GP1F32T OPTICAL OUTPUT	YJ15000090
JS04 JS05 JS06		4822 267 41009	TERMINAL 2P RCA PIN JACK	YT02020890
		9965 000 04978	JACK B8B-PH-K-S	YJ06006280
		4822 267 40792	JACK B6B-PH-K-S	YJ06006260
JV01	/F, /K /S, /U		JACK B4B-PH-K-S	YJ06006240
JV01 JV02	/N /F, /K /S, /U	9965 000 04989	JACK B9B-PH-K-S	YJ06006290
			JACK B10B-PH-K-S	YJ06006300
JV02 JV03 JV04 JV05	/N /F, /K /S, /U	9965 000 05006	JACK B13B-PH-K-S	YJ06006330
		9965 000 05007	JACK 24FLT-SM1-TB JST	YJ07021200
		4822 265 10678	TERMINAL YKF51-5506	YT02011010
			TERMINAL 3P RCA PIN JACK YKC21-4010	YT02030580
JV07 JV08	/N	9965 000 04999	JACK FFC 23FMN-BTRA(ST)	YJ07019470
		9965 000 05008	TERMINAL 2P RCA JACK YKC21-3926	YT02021590
LS01		4822 142 60422	PULSE TRANSF. (TPS247MN-0386AN)	TP41042030
LV01 LV02 LV03 LV04 LV05 LV06 LV07	/F, /K /S, /U	9965 000 00458	CHOKO COIL 8.2μH EL0405	LC18223900
		4822 157 60445	CHOKO COIL 15μH J%	LC11533900
		9965 000 00458	CHOKO COIL 8.2μH EL0405	LC18223900
		4822 157 60445	CHOKO COIL 15μH J%	LC11533900
		9965 000 00458	CHOKO COIL 8.2μH EL0405	LC18223900
		4822 157 60445	CHOKO COIL 15μH J%	LC11533900
LV08 LV09 LV10 LV11 LV12 LV13	/F, /K /S, /U /F, /K /S, /U /F, /K /S, /U	4822 157 60445	CHOKO COIL 15μH J%	LC11533900
		9965 000 00458	CHOKO COIL 8.2μH EL0405	LC18223900
		4822 157 60445	CHOKO COIL 15μH J%	LC11533900
		4822 157 60445	CHOKO COIL 15μH J%	LC11533900
		4822 157 60445	CHOKO COIL 15μH J%	LC11533900
SS01		4822 277 11745	SLIDE SWITCH SSSF12-S06N0 HORIZONTAL N-SHOT	SS01021010

Service Manual

TKM1000MZ

DVD Module for MARANTZ



<<IMPORTANT NOTICE>>

This service manual explains the product DV7000 which mounted the **DVD module TKM1000MZ with the main board <C3M1>** only. Products which mounted <C3M1> has product serial number **MZ01XXXXXXXXXX**. All other products have mounted <M3C1> main board. (Product serial number **MZ00XXXXXXXXXX**.) Spare parts for <M3C1> main board are not available. In case of defects are found with the <M3C1> main board, complete DVD module must be replaced by the TKM1000MZ with the main board <C3M1>.

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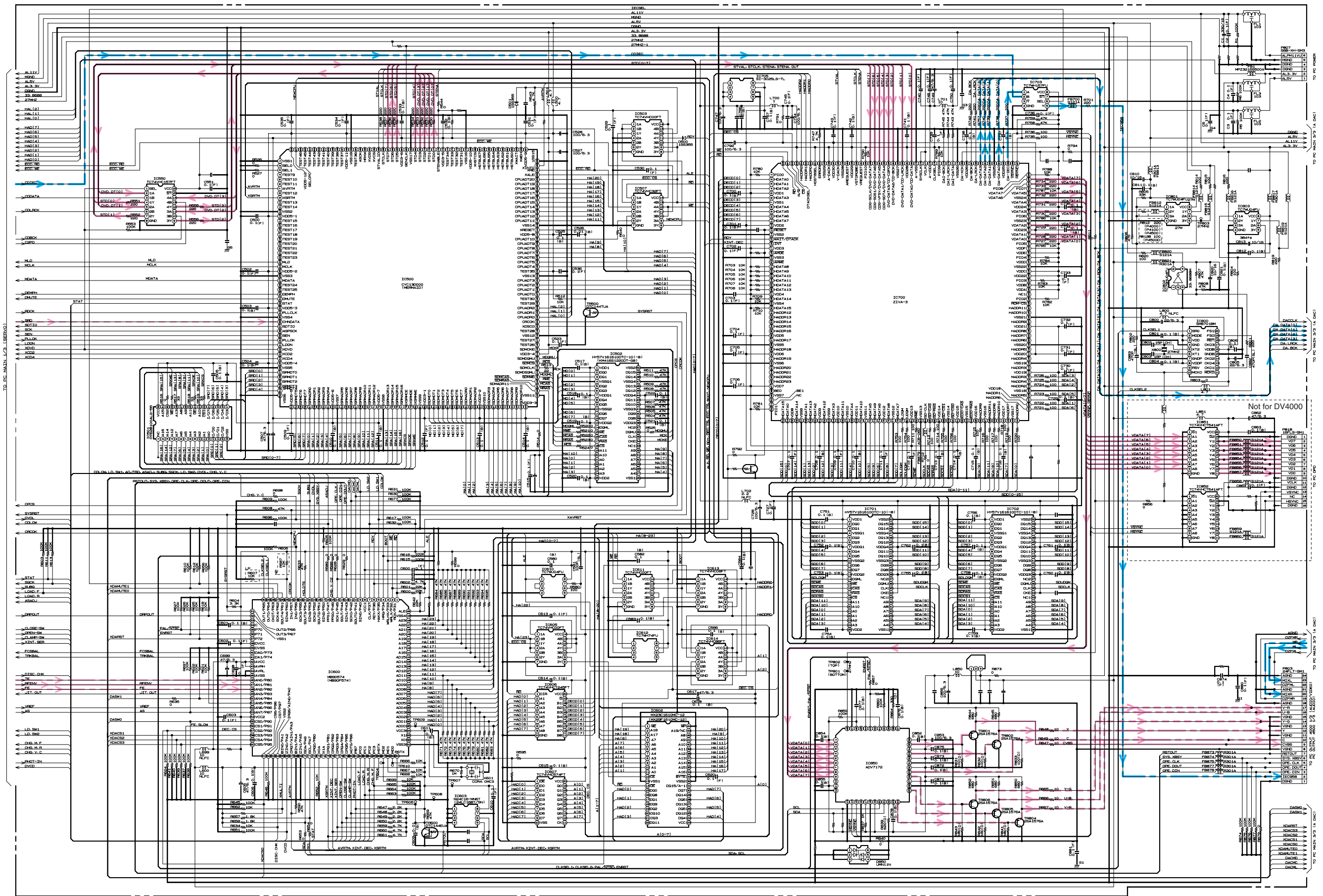
Please use this service manual with referring to the user guide (D.F.U.) without fail.

修理の際は、必ず取扱説明書を準備し操作方法を確認の上作業を行ってください。

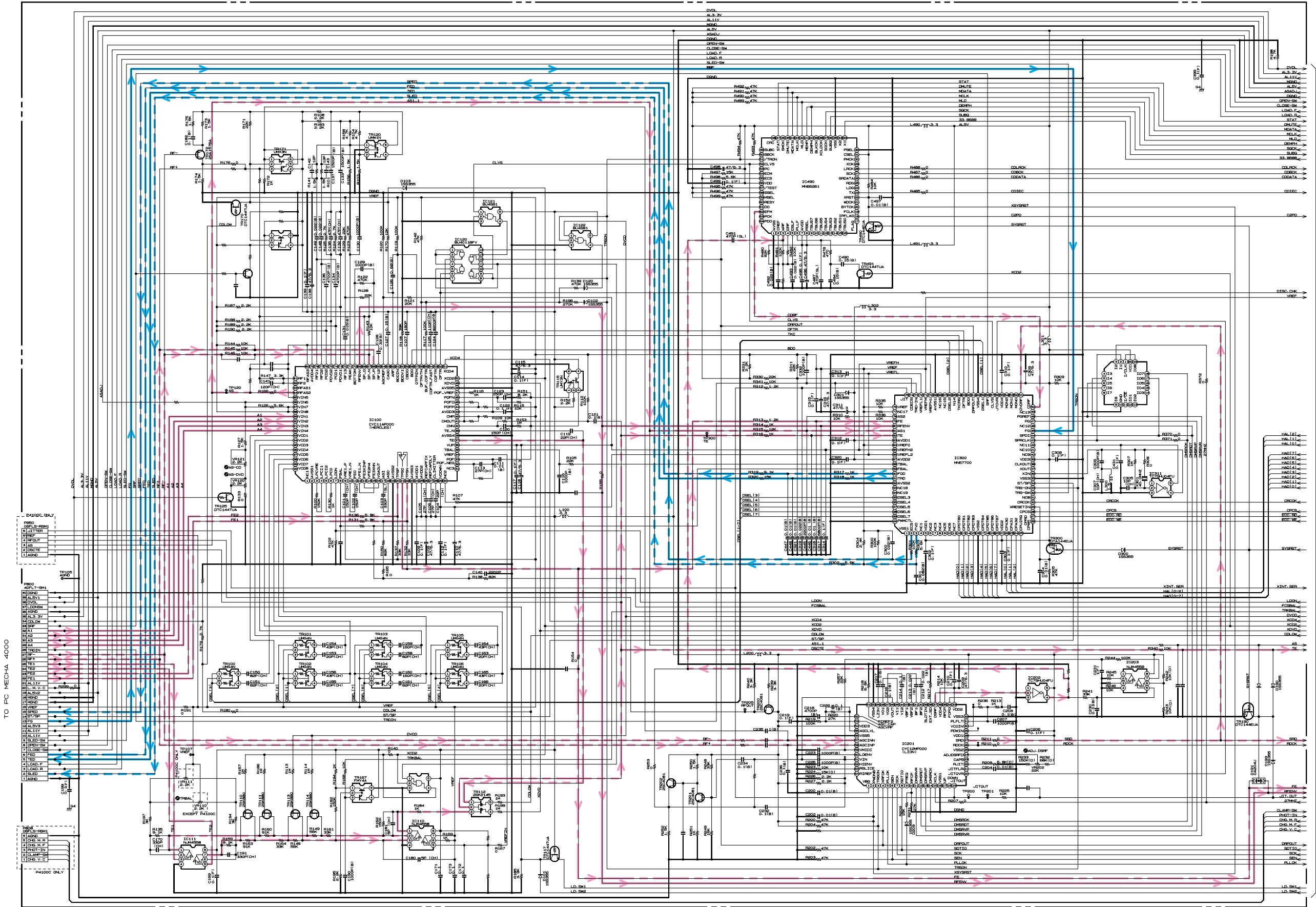
marantz®

TKM1000MZ

2.1 SCHEMATIC DIAGRAM AND PARTS LOCATION



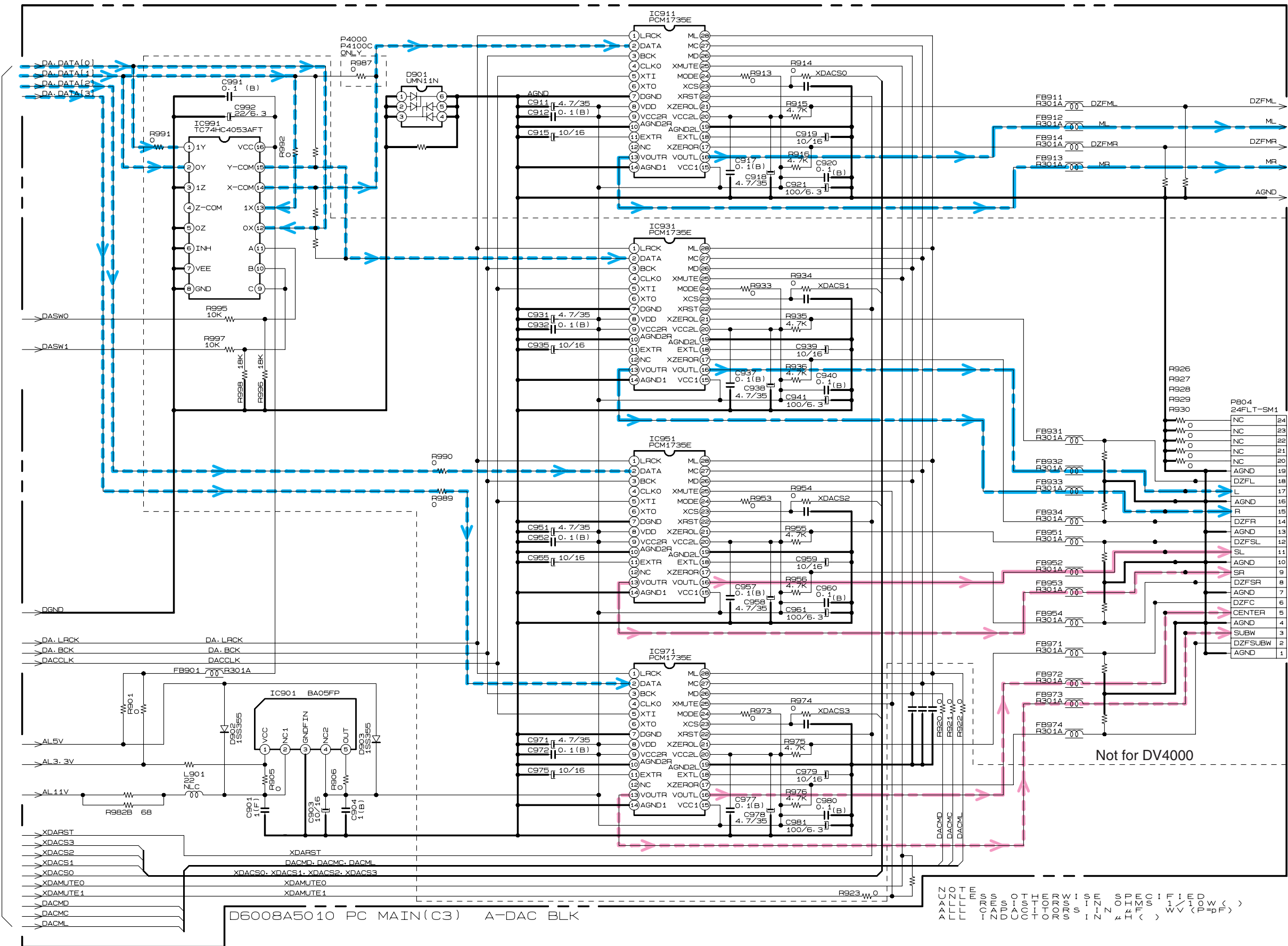
D8008A5010 PC MAIN(C3) ODC/CPU/AV-DEC BLK



TO PC MECHA 4000

D6008A5010 PC MAIN(C3) SERVO BLK

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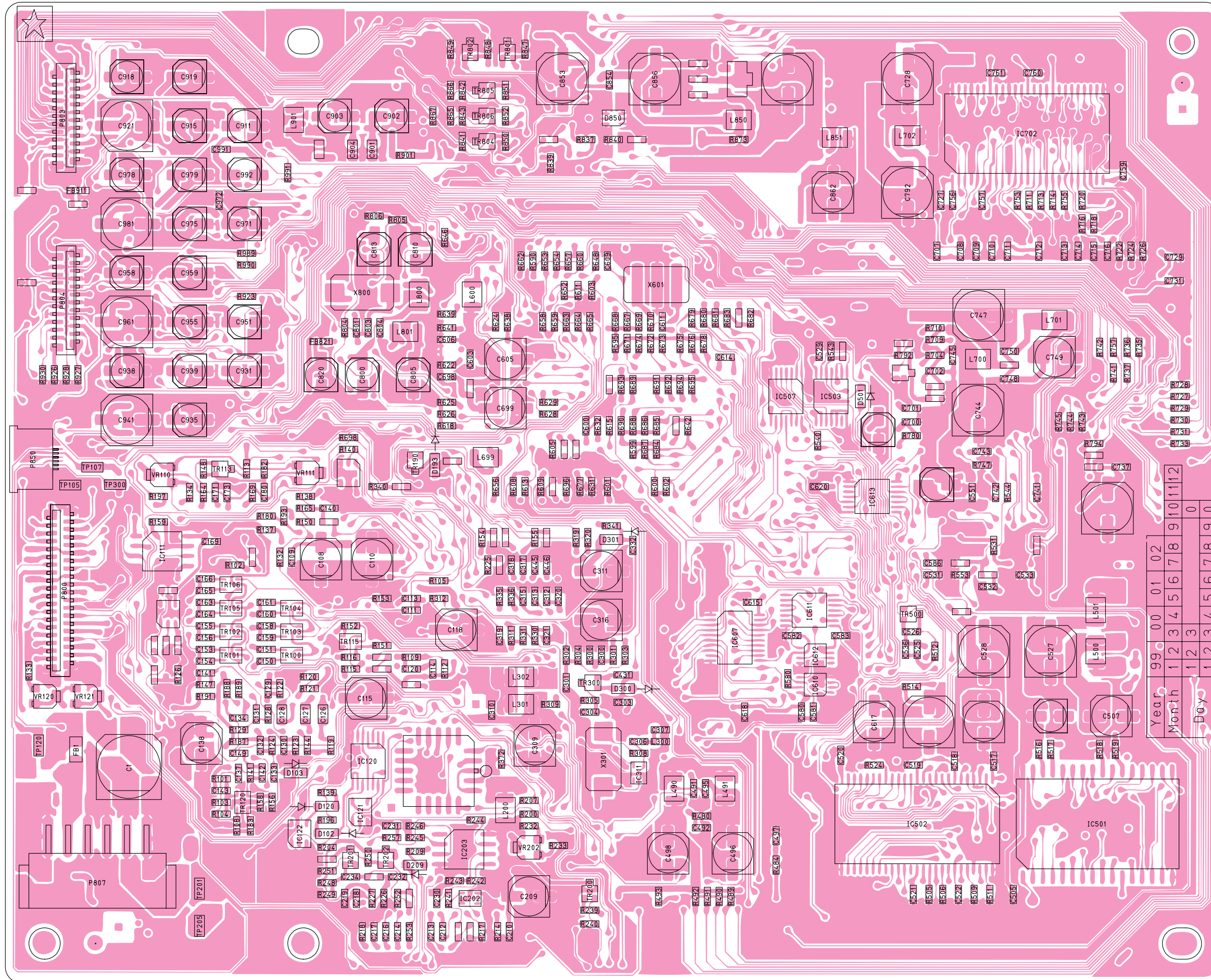
D6008A5010 PC MAIN(C3) A-DAC BLK

NOT FOR DV4000

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MAIN TOP VIEW

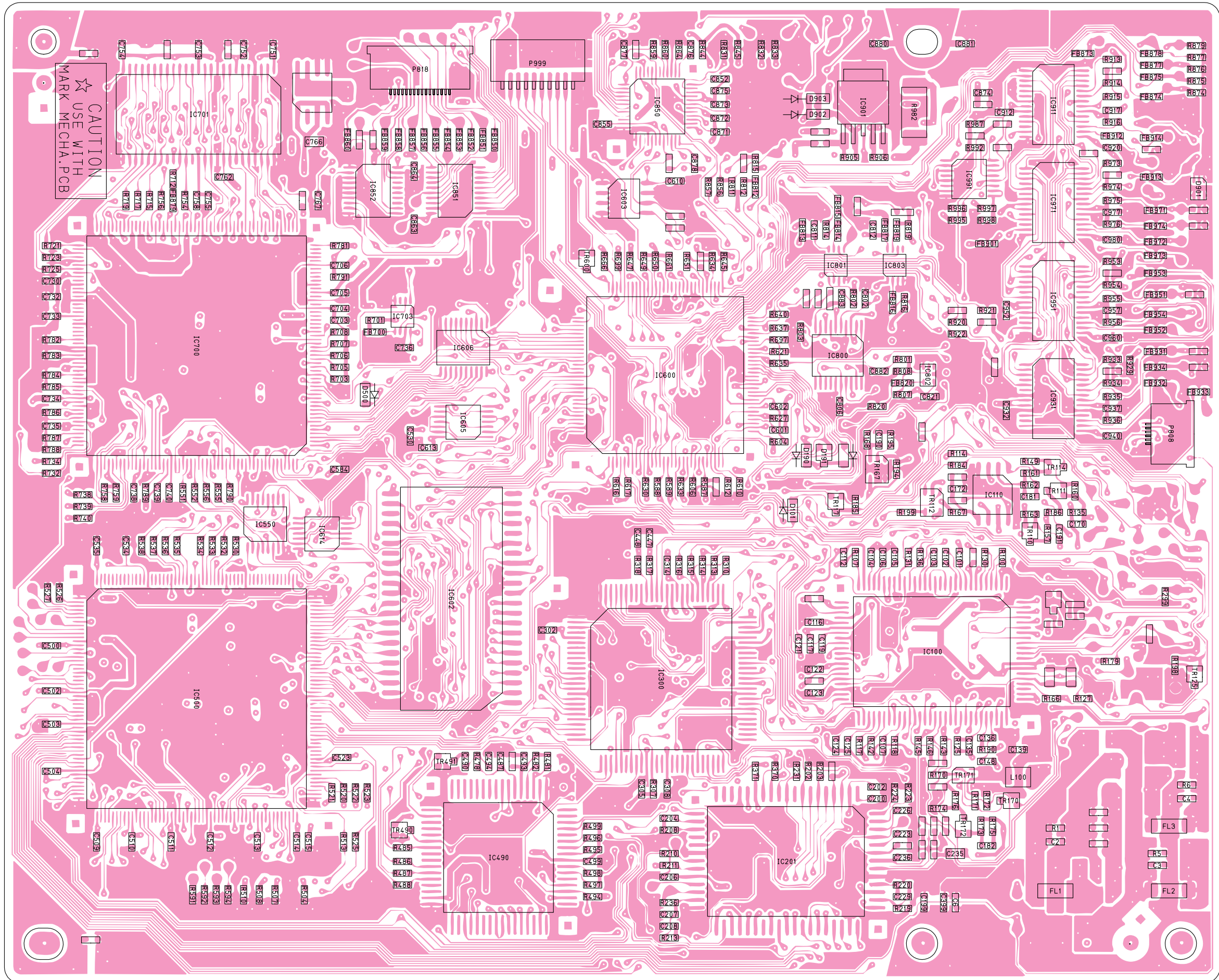
TR113 TR100 ~TR106 IC111 TR120
 TR115 IC122 IC121 IC120 TR201 TR202
 TR802 TR801 TR804 ~TR806 IC202 IC203 TR190
 TR300 TR200 IC311 IC607 IC507 IC503 IC610 ~IC613
 TR500 IC502 IC702 IC501

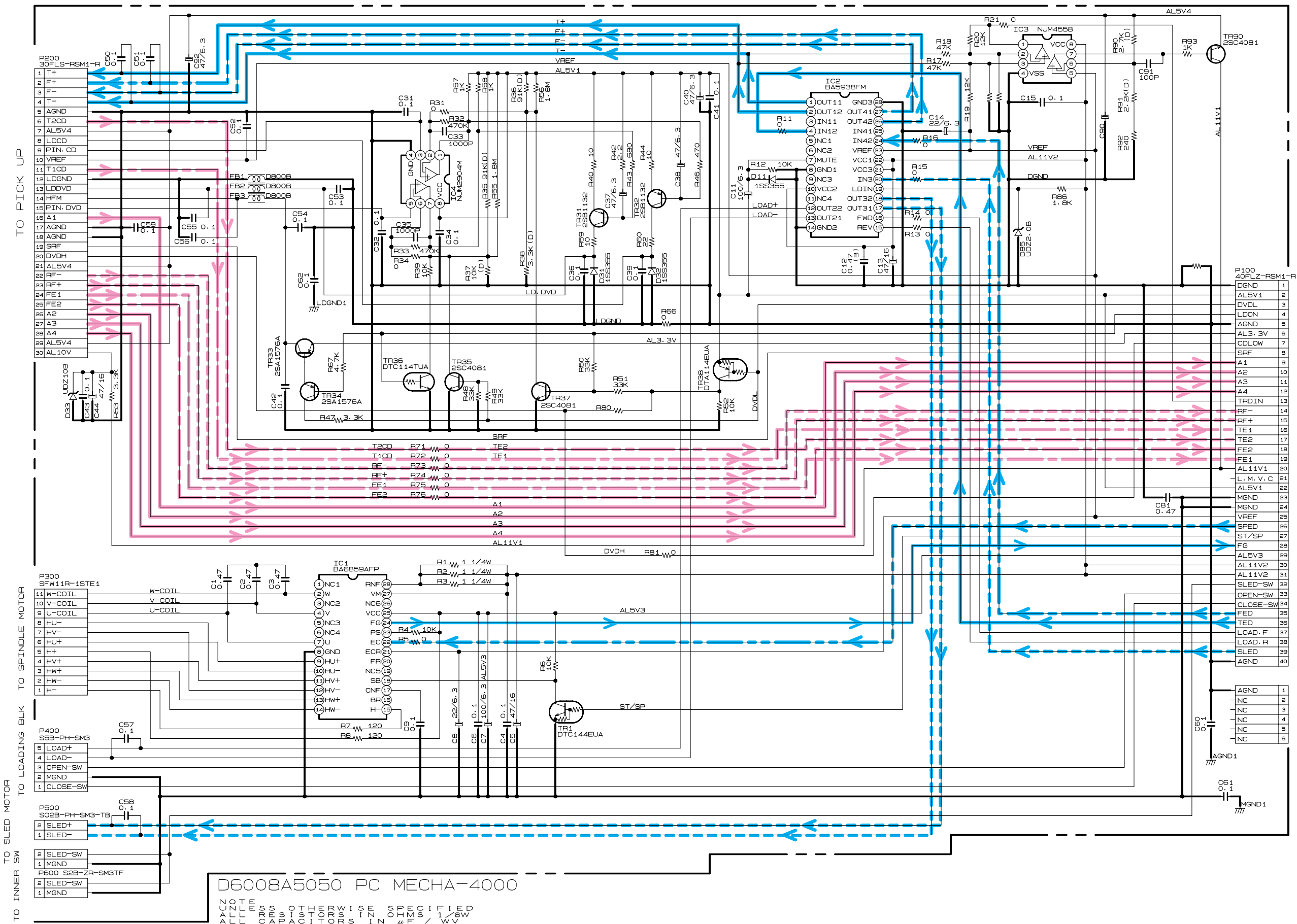


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MAIN BOTTOM VIEW

IC701 IC851 IC606 IC850 IC801 IC901 IC802 IC991 IC971 TR114
 IC700 IC703 IC602 IC605 IC600 IC800 IC803 TR112 IC110 IC951 TR111
 IC500 IC550 IC614 IC852 TR490 TR491 IC490 TR600 IC603 IC300 IC201 TR117 TR167 IC100 TR170 ~TR712 IC931 TR110 TR125

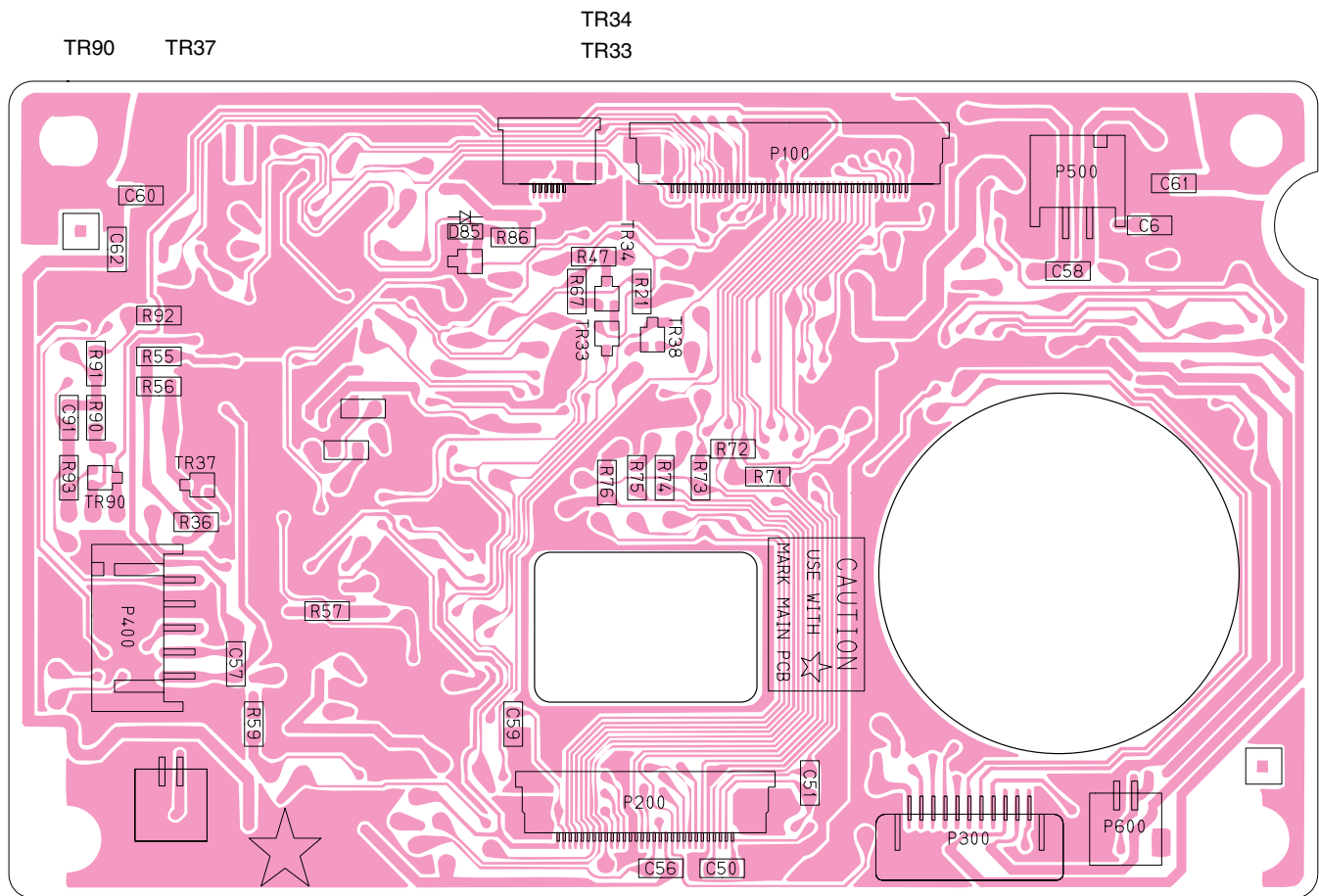




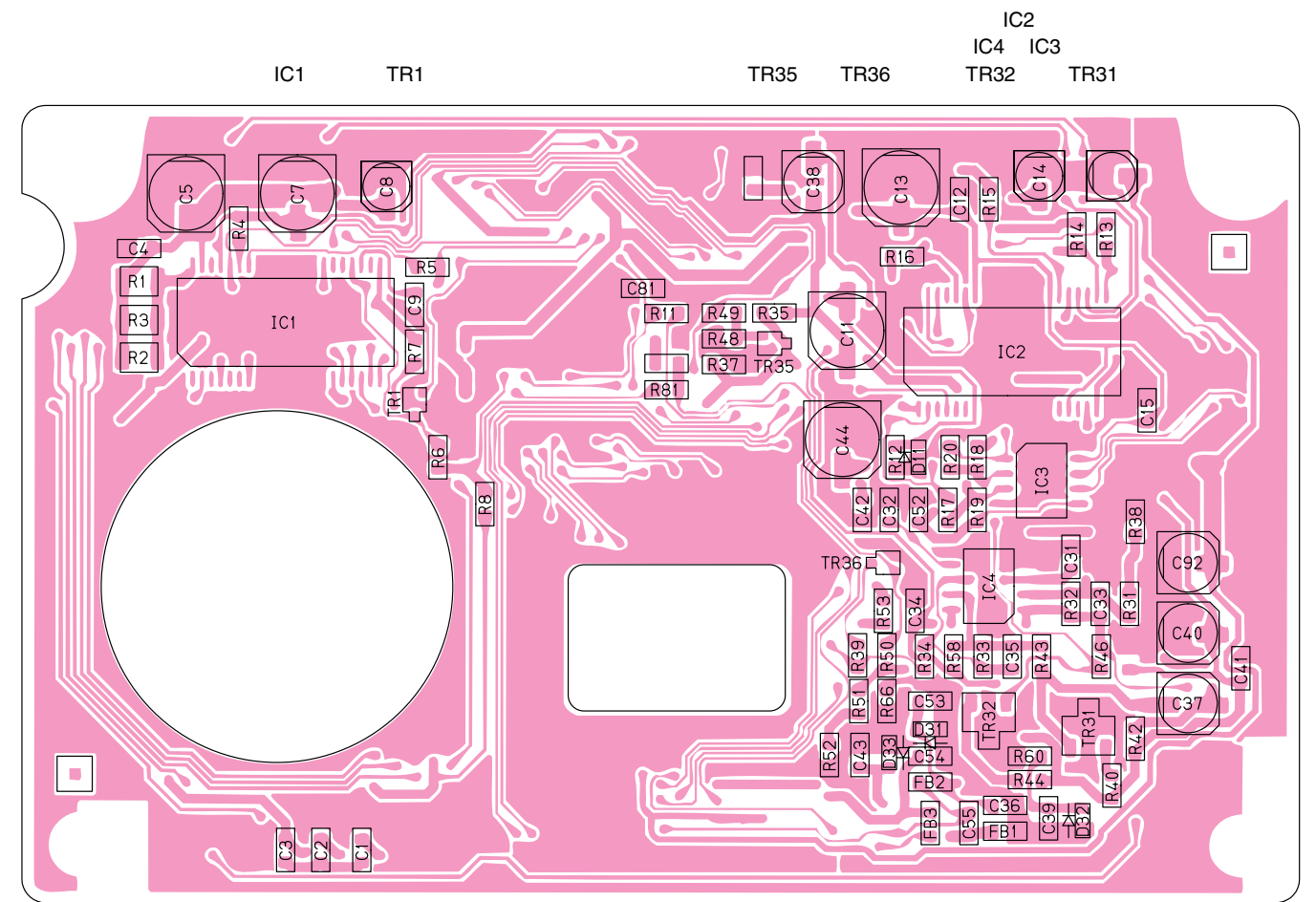
D6008A5050 PC MECHA-4000

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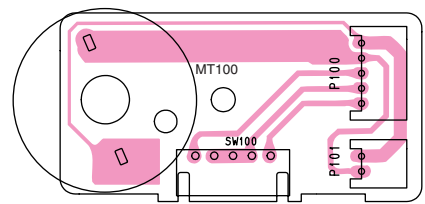
MECHA TOP VIEW



MECHA BOTTOM VIEW

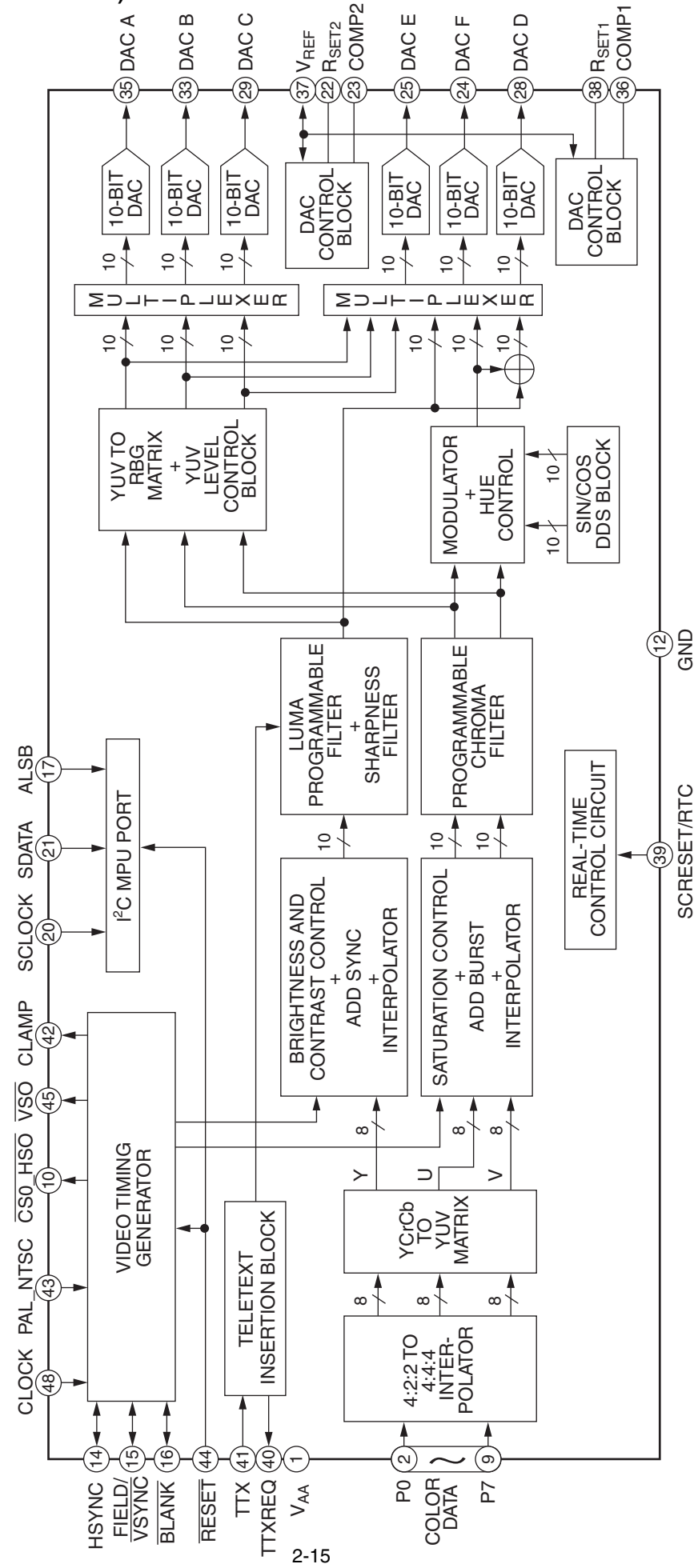


LOADING

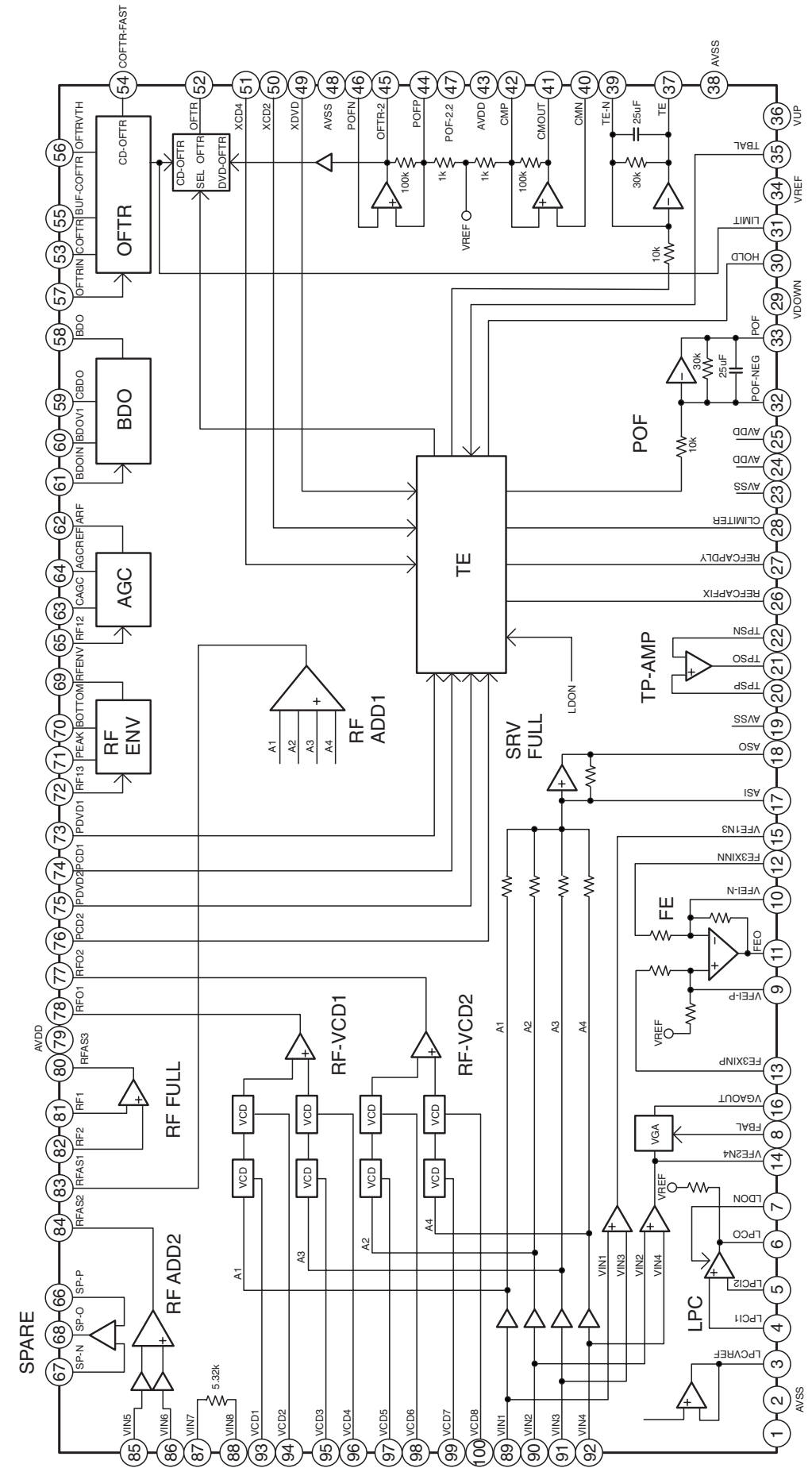


2.2 MICROPROCESSOR AND IC DATA

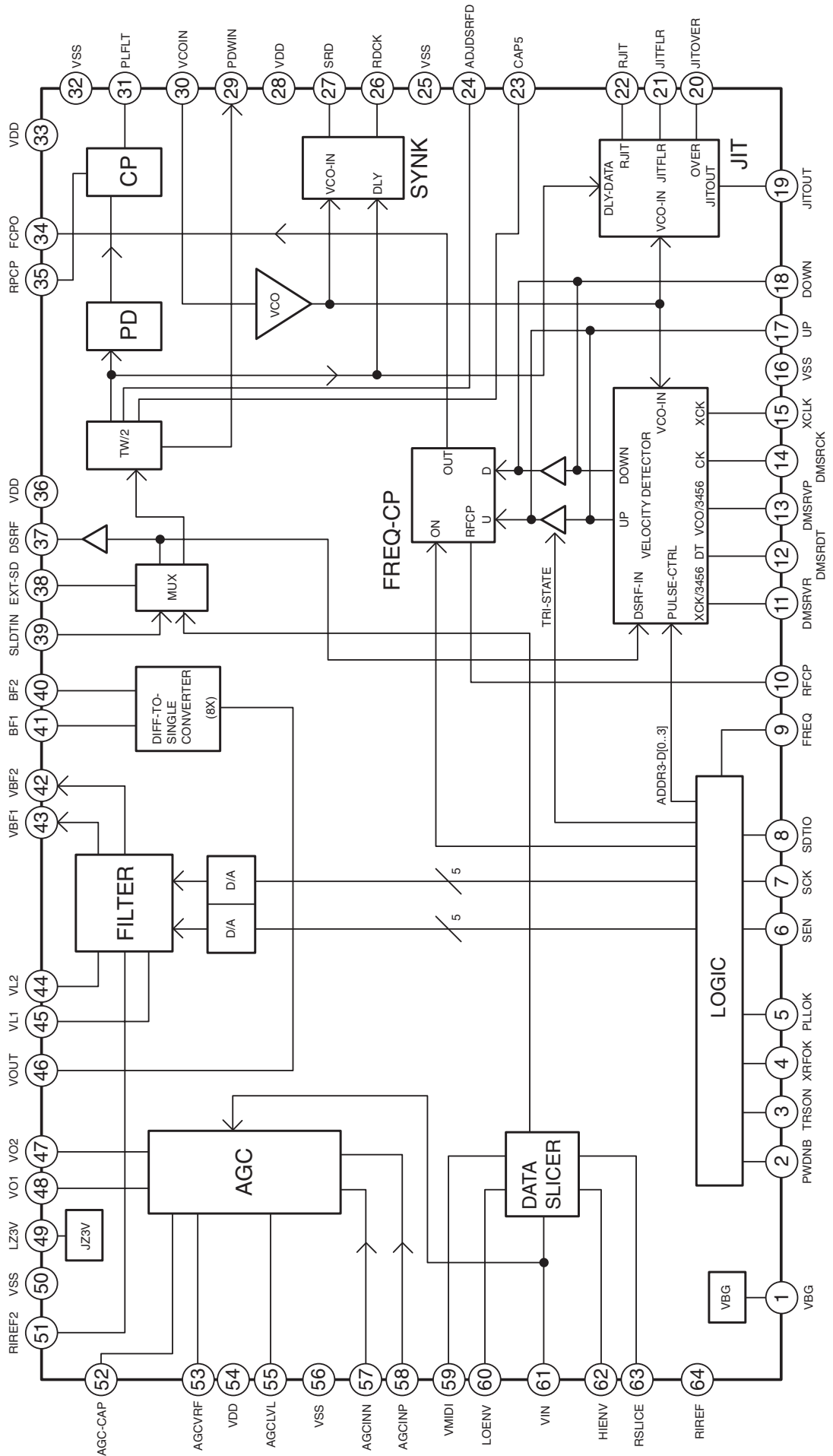
ADV7172 (Video signal decoder)



CYC11AP00 (DVD Pre AMP)



CYC12MP000(DVD Read Channel)

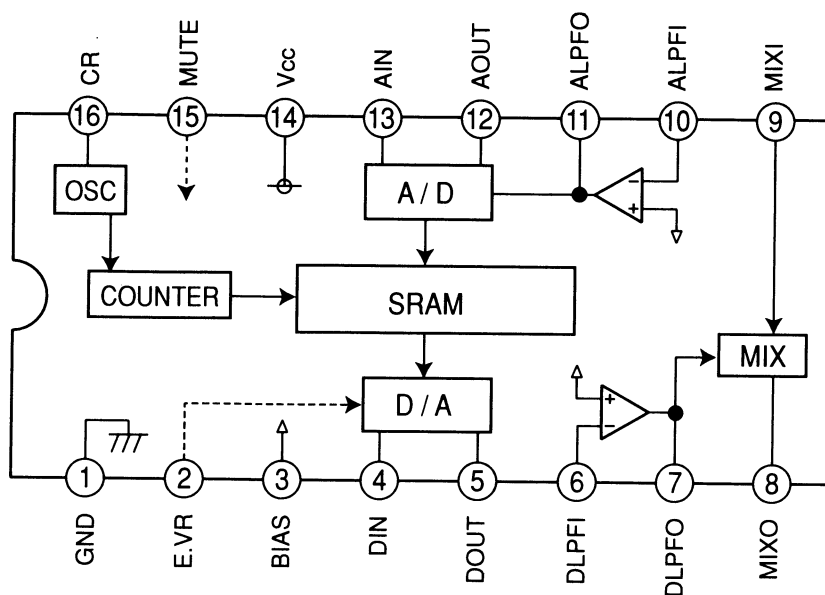


MB90574 (CPU/System control MI-COM)

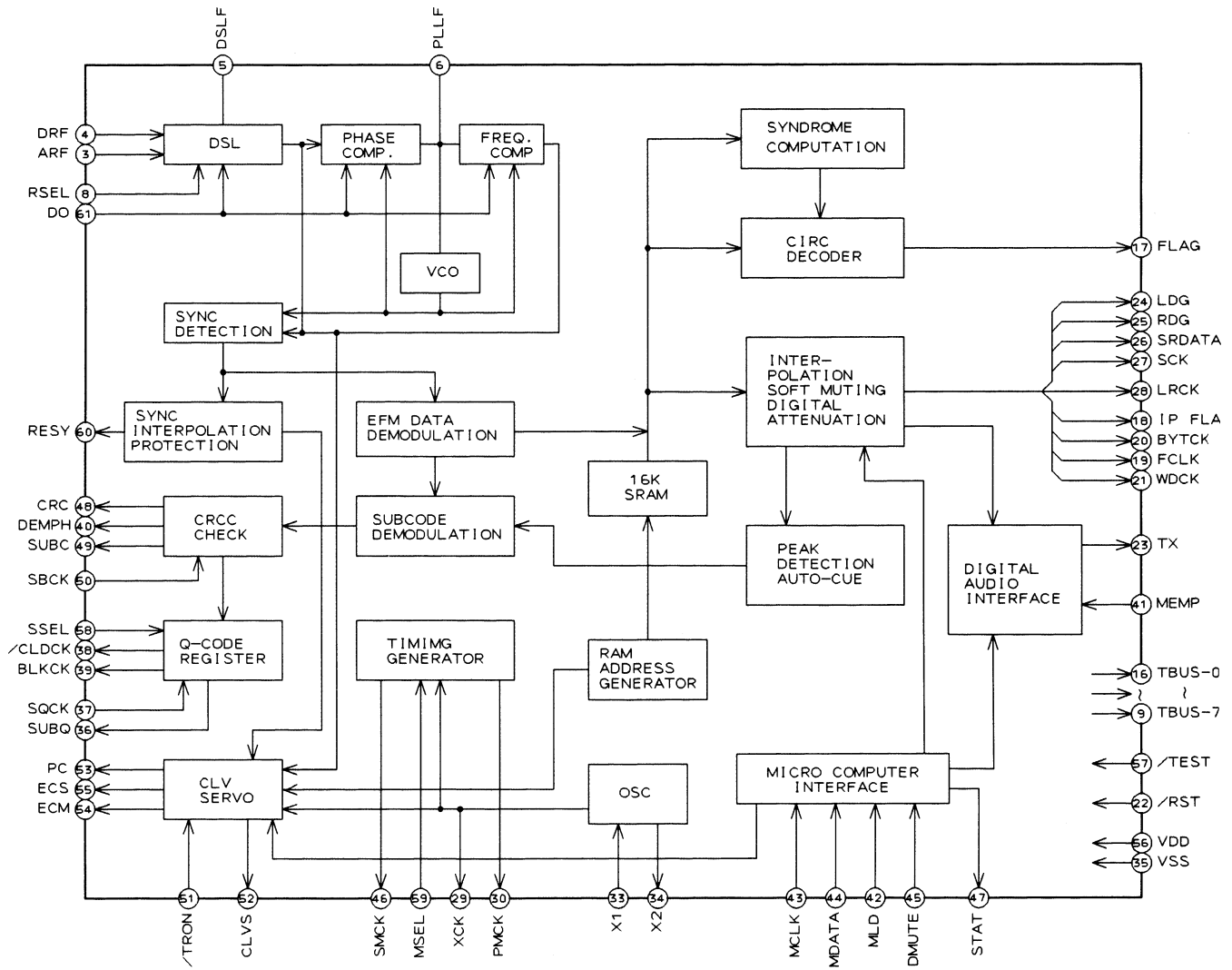
Pin No.	Port Name	I/O	FUNCTION
1	RDX	O	System bus read strobe signal output.
2	WEX	O	System bus lower 8 bit write strobe signal output.
3	BOOT	O	Ziva MI-COM transmission control output.
4	CDLOW	O	Disc judge output.
5	LD.SW1	O	Laser control output 1.
6	RDY	I	System bus ready input.
7	LD.SW2	O	Laser control output 2.
8,54,94	Vcc	⌀	+5 V power supply pin.
9-11,21,23, 56	N.C	⌀	No connection.
12	OPE.DOUT	I	Serial data input from the output control MI-COM.
13	OPE.DIN	O	Serial data output to the output control MI-COM.
14	OPE.CLK	I	Serial clock input from the output control MI-COM.
15	SLI.LV	O	PWM output for data slice level control of the read channel MI-COM.
16	L.M.V.C	O	PWM output for disc changer tray rotation control.
17	XAVRST	O	Reset control output for the Ziva-3 MI-COM.
18	SYS.XBSY	O	Serial data ready/busy output to the output control MI-COM.
19	DVD.L	O	DVD/CD laser select control output.
20	SUBQ	I	CD-DSP Q data input.
22	SQCK	O	Clock output for CD-DSP Q data.
24	CRCOK	I	Sector ID error O.K. input.
25	XCHANGER	I	Disc changer operation setting pin.
26	XDAMUTE0	O	Audio section mute control output. (L: mute on)
27	ICESEL	O	IEC958 digital out select output. (L: Ziva, H: CD)
28	XDAMUTE1	O	Audio section mute control output. (L: mute on)
29	CLKSEL1	O	Clock generator SRO control output. (L: normal, H: double)
30	CLKSEL2	O	Clock generator FSO control output. (L: 48 kHz, H: 44.1 kHz)
31	SYSRST	O	System reset output.
32	DRPOUT	I	Drop out input.
33,63,91,119	Vss	⌀	Ground pin.
34	C	⌀	Capacitor connecting pin.
35	PAL/NTSC	O	Video decoder PAL/NTSC select output.
36	ENRST	O	Video encoder IC reset output.
37	XDARST	O	DAC reset output.
38	DVcc	⌀	+5 V power supply pin for digital circuit.
39	DVss	⌀	Ground pin for digital circuit.
40	FCSBAL	I	Focus balance adjustment input.
41	TRKBAL	I	Tracking balance adjustment input.
42	Avcc	⌀	+5 V power supply pin for analog circuit.
43	AVRH	I	Connect to +5 V.
44	AVRL	I	Connect to ground.
45	Avss	⌀	Ground pin for analog circuit.
46	TE	I	A/D input for disc judge signal 1 (Tracking error).
47	RFENV	I	A/D input for disc judge signal 2 (RF envelope).
48	FE	I	A/D input for disc judge signal 3 (Focus error).
49	JIT.OUT	I	A/D input for jitter out.
50	DASW1	O	Audio DAC L/R channel input data select control output.
51	DACML	O	Audio DAC serial latch output.
52	DACMC	O	Audio DAC serial clock output.
53	DACMD	O	Audio DAC serial data output.
55	DASW0	O	Audio DAC mix channel input data select control output.
57	DEC.CS	O	Ziva MI-COM chip select output.
58	XDACS1	O	Audio DAC (L/R) chip select output.
59	XDACS2	O	Audio DAC (SL/SR) chip select output.
60	XDACS3	O	Audio DAC (C/SUBW) chip select output.
61	XDACS0	O	Audio DAC (MIXL/MIXR) chip select output.
62	CHG.V.C	O	Disc changer motor control output.
64	DISC.CHK	I	Disc judge assist.
65	XMULTI	I	2 CH/XMULTICH setting control input.
66	DASW2	O	Four audio DAC test mode input data select.

Pin No.	Port Name	I/O	FUNCTION
67	AVRTM	I	ECC interruption request input (end of output stream of 2060 bytes data) .
68,69	DGND	⊕	Ground for digital section.
70	SDA(I2C)	I/O	Serial data in/out from/to EEPROM & video encoder.
71	SCL	O	Serial clock output to the EEPROM & video encoder.
72	STAT	I	CD-DSP status input.
73	X0A	I	Not used.
74	X1A	O	Not used.
75	XSRTM	I	ECC interruption request input (end of block signal).
76	XINT.DEC	I	Interruption request from the Ziva MI-COM.
77	XINT.SER	I	Interruption request from the servo MI-COM.
78	OPEN-SW	I	Disc tray open detect input pin.
79	CLOSE-SW	I	Disc tray close detect input pin.
80	CLAMP-SW	I	Disc changer tray position detect input pin.
81	PHOT-IN	I	Disc changer tray position detect photo sensor input pin.
82	LOAD.F	O	Loading motor direction control output.
83	LOAD.R		
84	CHG.M.R	O	Disc changer motor control output.
85	CHG.M.L		
86	HSTX	I	hardware standby pin. (Pulled up)
87-89	MD0-MD2	I	Bus mode setting pins.
90	RSTOUT	I	Reset signal input from the output control MI-COM.
92	X0	I	4 MHz crystal connecting pin.
93	X1		
95-102	HAD00-HAD07	I/O	System bus serial data/address I/O pins.
103-116	HA08-HA21	O	System bus address output pins.
117,118	HA22,HA23	O	System bus address output pins for chip select circuit.
120	ALE	O	System bus address latch enable output.

BU9253 (Digital delay)



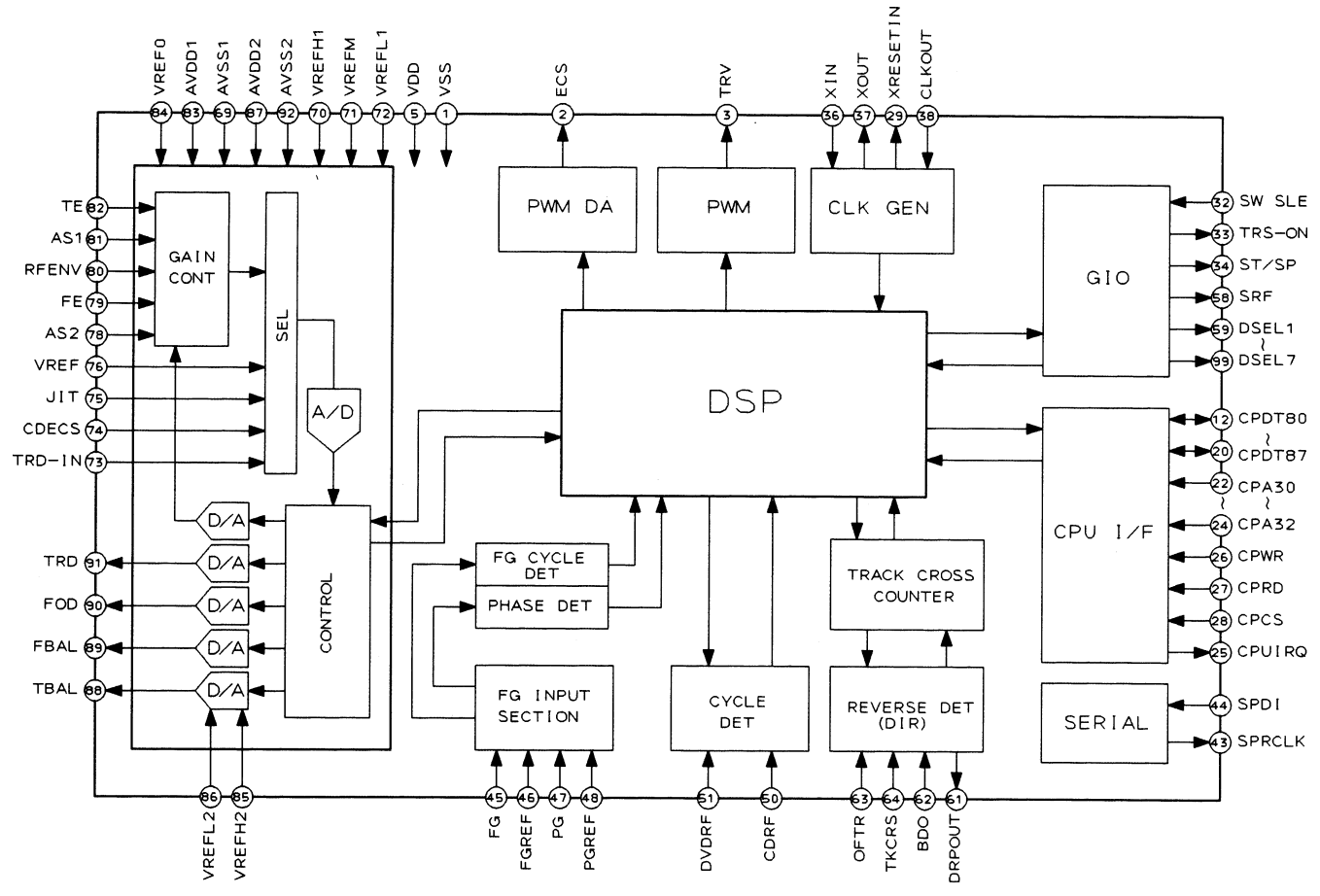
MN66261 (CD signal processing)



MN66261 (CD signal processing)

PIN No.	PORT NAME	I/O	FUNCTION
1	Avss	–	Ground pin for DSL, PLL circuit.
2	IREF	I	Reference current input pin.
3	ARF	I	RF signal input pin.
4	DRF	–	Bias pin for DSL.
5	DSLIF	O	Loop filter pin for DSL.
6	PLLIF	I/O	Loop filter pin for PLL.
7	Avdd	–	+5 V power supply pin for DSL, PLL.
8	RSEL	–	RF signal polarity setting pin. (Brightness level: H → RSEL: H)
9-16	TBUS0 - 7	O	Test pins. Normally, these pins are open circuit.
17	FLAG	O	Flag output pin.
18	IPFLAG	O	Interpolation flag pin. (H: interpolate)
19	FCLK	O	Frame clock output (from crystal OSC). (fCLK = 7.35 kHz, 14.7 kHz when dubble speed)
20	BYTCK	O	Byte clock out.
21	WDCK	O	Word clock out.
22	/RST	I	Reset input pin (L: reset).
23	TX	O	Digital audio interface output.
24	LDG	O	L-CH deglitch signal output.
25	RDG	O	R-CH deglitch signal output.
26	SRDATA	O	Serial data output.
27	SCK	O	Bit clock output for SRDATA.
28	LRCK	O	Left-right discrimination clock output.
29	XCK	O	Crystal OSC clock output (fXCK = 16.9344 MHz).
30	PMCK	O	1/192 counted down clock signal from the crystal OSC. (fPMCK = 88.2 kHz)
31	CSEL	I	Crystal OSC frequency select pin. (L: 16.9344 MHz, H: 33.8688 MHz)
32	PSEL	–	Test pin (normally, open circuit).
33	X1	I	Crystal connecting pin. (f = 16.9344 MHz or 33.8688 MHz)
34	X2	O	Crystal connecting pin. (f = 16.9344 MHz or 33.8688 MHz)
35	Vss	–	Ground pin.
36	SUBQ	O	Subcode Q output.
37	SQCK	I	External clock input for subcode Q register.
38	/CLDCK	O	Subcode frame clock signal output. (fCLDCK = 7.35 kHz in normal playback)
39	BLKCK	O	Subcode block clock signal. (fBLOCK = 75 Hz in normal playback)
40	DEMPH	O	De-emphasis control output. (H: de-emphasis on)
41	MEMP	I	Emphasis signal input for digital audio interface.
42	MLD	I	MI-COM command LOAD signal input. (L: LOAD)
43	MCLK	I	MI-COM command CLOCK signal input. (Data will be latched with rising edge of the pulse)
44	MDATA	I	MI-COM command DATA input.
45	DMUTE	I	Muting input.
46	SMCK	O	1/2 counted down crystal OSC signal output when MSEL = H. 1/4 counted down crystal OSC signal output when MSEL = L.
47	STAT	O	Status signal output (CRC, CUE, CLVS, TTSTOP, FCLV, SQOK).
48	CRC	O	Subcode CRC check output. (H: OK, L: no good)
49	SUBC	O	Subcode serial output data.
50	SBCK	I	Clock input for subcode serial output.
51	/TRON	I	Tracking servo on signal. (L: tracking on)
52	CLVS	O	Spindle servo phase synchronization judge output. (H: CLV, L: rough servo)
53	PC	O	Spindle motor on signal (L = on).
54	ECM	O	Spindle motor drive signal output (forced mode, 3-state).
55	ECS	O	Spindle motor drive signal output (servo error signal, 3-state)
56	Vdd	–	+5 V power supply.
57	/TEST	I	Test pin (normally, H).
58	SSEL	I	Output mode select pin for SUBQ pin. (H: Q-code buffer is used)
59	MSEL	I	Output frequency select pin for SMCK pin. (H: SMCK = 8.4672 MHz, L: 4.2336 MHz)
60	RESY	O	Re-synchronization signal of the frame synchronization signal. (H: synchronized, L: not synchronized)
61	DO	I	Drop out signal (H: drop out)
62	EFM	O	EFM signal output.
63	PCK	O	PLL extraction clock output. (fPCK = 4.3218 MHz in normal playback)
64	PDO	O	Phase comparison signal between EFM and PCK signal.

MN67700 (Servo processing IC)



MN67700 (Servo processing IC)

PIN No.	PORT NAME	I/O	FUNCTION
1	Vss	-	Ground pin for digital circuit.
2	ECS	O	Spindle motor drive signal output.
3	TRV	O	Traverse (sled motor) drive signal output.
4,6-11	N.C	-	No connection.
5,21,39,55	Vdd	-	Power supply for digital circuit.
12-15,17-20	CPDT80-87	I/O	CPU I/F data I/O pins.
16,35,60	Vss	-	Ground for digital circuit.
22-24	CPA30-32	I	CPU I/F address input pins.
25	CPUIRQ	O	CPU interruption signal output.
26	CPWR	I	CPU I/F write strobe input pin.
27	CPRD	I	CPU I/F read strobe input pin.
28	CPCS	I	CPU I/F chip select input pin.
29	XRESETIN	I	Reset signal input. (L: reset)
30	CRCOK	I	ID check signal input pin from the DEM/ECC MI-COM.
31	GIO01	-	No connection.
32	SW SLE	I	Traverse innermost position detect signal input.
33	TRS-ON	O	Tracking servo on signal. (H: tracking servo on)
34	ST/SR	O	Spindle motor drive (start/stop) control output (H: start).
35	Vss	I	Ground for digital circuit.
36	XIN	I	Crystal connecting pin (40 MHz).
37	XOUT	O	Crystal connecting pin (40 MHz).
38	CLKOUT	O	Clock output (1/2 counted down of the crystal OSC).
40	SPEN	O	Serial enable output pin.
41	SPWCLK	O	Serial write signal synchronization clock.
42	SPDO	O	Serial data output pin.
43	SPRCLK	O	Serial clock output pin.
44	SPDI	I	Serial data input pin.
45	FG	I	FG signal input pin.
46	FGREF	I	FG reference signal input pin.
47	PG	I	PG signal input pin. (VCO/3456 XCK = 27 MHz)
48	PGREF	I	PG reference signal input pin. (XCK/3456 XCK = 27 MHz)
49,56,57,77	N.C	-	No connection.
50	CDRF	I	CD-RF signal input.
51	DVDRF	I	DVD-RF signal input.
52-54	MON0-2	O	Internal monitoring signal.
58	SRF	O	Head AMP gain select control .
59,66 95-99	DSEL1-7	O	VCD setting pins.
61	DRPOUT	O	Drop out signal output. (H: drop out)
62	BDO	I	Black drop out signal input. (H: black drop out)
63	OFTR	I	Off track signal input. (H: off track)
64	TKCRS	I	Track cross signal input pin.
65	RSV1	I	Test pin (normally open).
67	RSVO	I	Test pin (normally open).
68	TESTA	I	Test mode setting pin (normally open).
69	Avss1	I	Ground for analog circuit.
70	VREFH1	I	AD high level reference voltage input pin (3.75 V).
71	VREFM	I	AD middle reference voltage input pin (2.5 V).
72	VREFL1	I	AD low level reference voltage input pin (1.25 V).
73	TRD-IN	I	Tracking drive voltage input pin. (This pin is connected to 91 pin.)
74	CDECS	I	CD spindle motor drive signal input.
75	JIT	I	Jitter level signal input.
76	VREF	I	Reference voltage input.
78	AS2	I	PD all addition signal input.
79	FE	I	Focus error signal input.
80	RFENV	I	RF envelope signal input.
81	AS1	I	Addition signal of inner 4 divided PD.
82	TE	I	Tracking error signal input.
83	AVdd1	I	Power supply for analog circuit.
84	VREF0	I	Analog reference voltage input (2.5 V).
85	VREFH2	I	Analog high level reference voltage input pin (3.75 V).
86	VREFL2	I	Analog low level reference voltage input pin (1.25 V).
87	AVdd2	I	Power supply for analog circuit.
88	TBAL	O	Tracking balance adjust output.
89	FBAL	O	Focus balance adjust output.
90	FOD	O	Focus drive signal output.
91	TRD	O	Tracking drive signal output.
92	AVss2	I	Ground pin for analog circuit.
93	TESTD	I	Test mode setting pin (normally open).
94	MINTST	I	Test mode setting pin (normally open).
100	PWMCTL	I	PWM output control signal input (normal: L).

YMC13D000 (DVD Sync/ECC/Formatter)

Pin No.	Port Name	I/O	FUNCTION
1,12,26,35,46, 52,63,73,81, 95,105,118, 131,142,156, 170,182,195	VSS1-18	⊘	Ground pins.
2	SEL0	⊘	Test mode select pins.
3	SEL1		
4-6,8,10,10 11,14-22,28 29,116,117 119,125,126 132,171-174 194,197-206	TEST9-46	⊘	Test mode output pins. (Leave them open)
7	AVRTM	O	End of output stream of 2060 bytes data to CSS.
9	XSRTM	O	End of block signal.
13,25,33,45,53, 62,72,140,157, 169,196,208	VDD5-1to 5-12	⊘	+5 V power supply pin.
23	MLD	O	Microprocessor command load signal for CD-DA section. (L: load).
24	MCLK	O	Microprocessor command clock signal for CD-DA section. (data is atched on rising edge)
25	VDD5-2	⊘	+5 V power supply pin.
26	VSS3	⊘	Ground pin.
27	MDATA	O	Microprocessor command data for CD-DA section.
30	DEMPH	I	De-emphasis control input (H: on).
31	DMUTE	O	Muting output for CD-DA section.
32	STAT	I	Status signal (CRC, CUE, CLVS, TTSTOP, FCLV, SQOK) from CD-DA, STAT also goes to CPU.
34	PLLCLK	I	27 MHz clock input pin.
36	CHNDATA	I	Inverted bit data, which is changed on the falling edge of PLLCLK.
37	SDTIO	I/O	Serial bit data I/O.
38	ASPSCK	O	296ns clock (27 MHz/8) output.
39	SEN	O	High enable CPU to write data to 8 read-channel registers.
40	PLLOK	O	DVD frame sync (H: O.K)
41	LDON	O	Turn on the Laser diode.
42	XDVD	O	DVD mode control output.
43	XCD2	O	2X CD mode control output.
44	XCD4	O	4X CD mode control output.
47-51,54-56	SRMDT0-7	I/O	SRAM data bus.
57-61,64-71 74-77	SRMADR0-16	O	SRAM address bus.
78	XSRMCE	O	Chip enable signal to SRAM.
79	XSRMOE	O	Output enable signal to SRAM.
80	XSRMWE	O	Write enable signal to SRAM.
83-90	SDMDT0-7	I/O	SDRAM data bus.
91-93 96-103,106	SDMADR0-11	O	SDRAM address bus.
107	$\overline{\text{SDMRAS}}$	O	SDRAM row address strobe output.
108	$\overline{\text{SDMCAS}}$	O	SDRAM column address strobe output.
109	$\overline{\text{SDMWE}}$	O	SDRAM write enable output.
110	SDMDQML	O	SDRAM lower byte input/output mask.
111	SDMCLK	O	Clock signal output to SDRAM.
112	SDMCS	O	SDRAM chip select control.
113	SDMDQML	O	SDRAM upper byte input/output mask.
115	SDMCKE	O	SDRAM clock enable.
120	XDSCO	O	Chip select signal to the SERVO MI-COM.
121	CRCOK	O	Sector IDs are O.K.
122-124	CPUADR0-2	O	(Video/Audio) HAL [2:0], V/A decoder, CPU address bus.

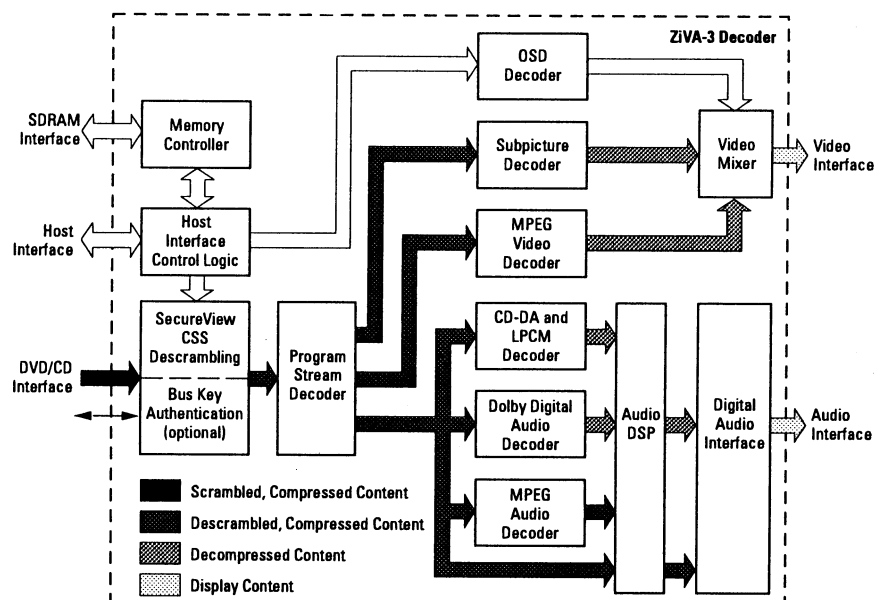
Pin No.	Port Name	I/O	FUNCTION
127-130 133-139 143-147	CPUADT0-15	I/O	CPU address/data bus.
141	XRESET	I	Global reset input.
148-152	CPUADT16-20	I	CPU address bus.
153	XALE	I	Address latch enable input.
154	XRE	I	Read strobe.
155	XINTO	O	ECC interrupt request.
158	XWEH	I	Write strobe signal.
159	XWAIT	O	CPU wait state control.
168	XHSTCS	O	Decipher chip select.
176	STENABLE	I	Stream data request.
177-181 185-187	STD0-7	O	Output stream data bus.
183	GENCLK	I	27 MHz clock input.
188	STCLK	O	Output stream data transfer clock, falling edge active, 6.75 MHz.
189	STVALID	O	Output stream data valid.
190	XVCS	O	Latched video decoder chip select.
191	XVDS	O	CPU read/write strobe.
192	HRXW	O	CPU write strobe, XWEH
193	ASCK	O	Latched audio decoder chip select.
207	SELCPU	I	1: data corresponds to CPUADT15-8. 0: data corresponds to CPUADT7-0.

ZIVA-3 (Advanced DVD decoder with integrated Audio DSP)

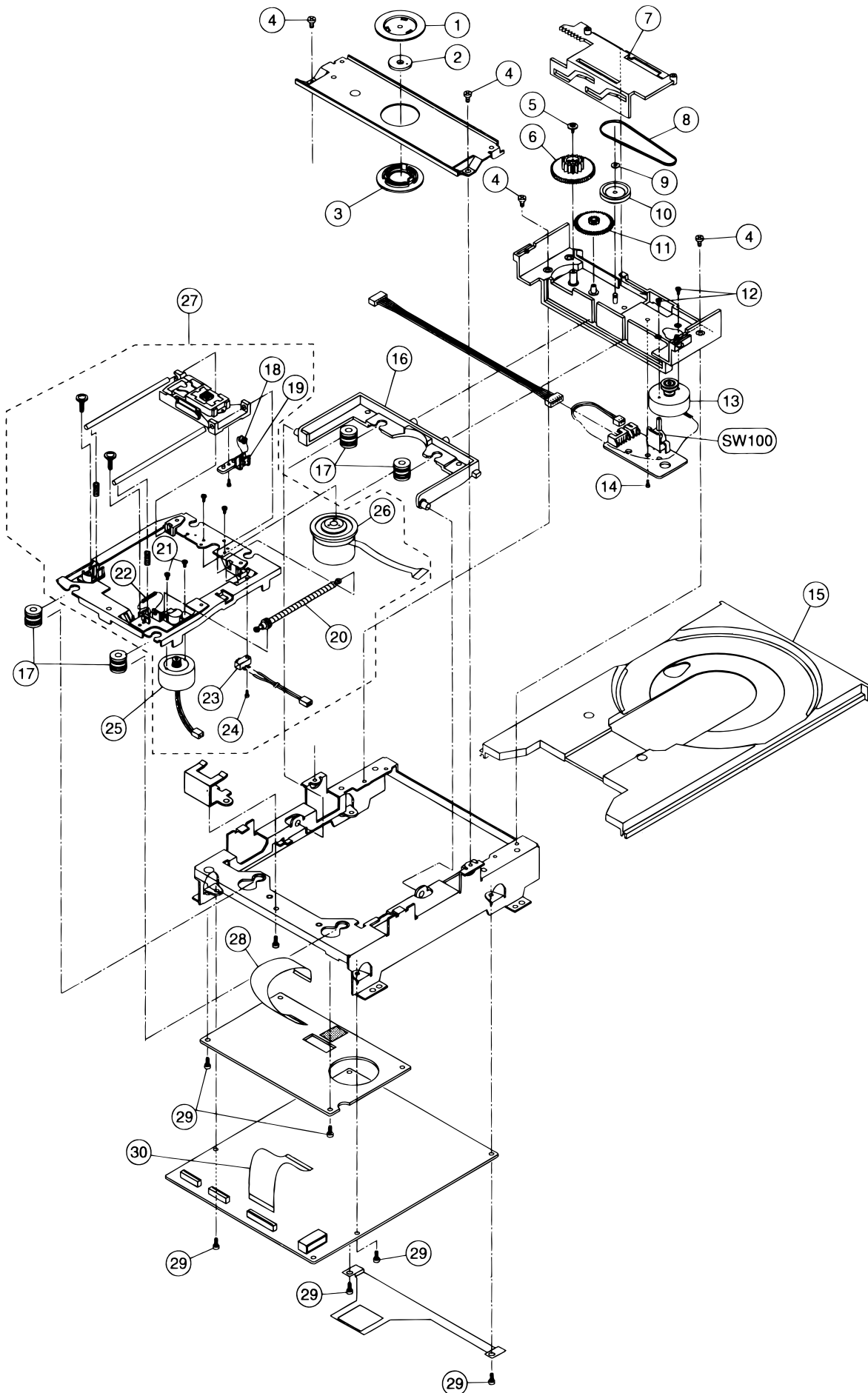
Pin No.	Port Name	I/O	FUNCTION
1,52,129 133,138,141 147,153,156 174,190	PIO0-10	I/O	Programmable I/O pins.
2-4,6,8-11	HDATA0-7	I/O	8 bit bi-directional host data bus.
5,12,17,27 36,40,47,55 61,65,69,75 81,87,91,95 101,107,113 117,123,134 149,160,181 193	VDD1-29	⊕	+3.3 V power supply pins.
7,14,19,29 38,42,49,57 63,67,71,77 83,89,93,97 103,109,115 119,125,136 146,151,162 170,183,195 199	VSS1-29	⊕	Ground pins.
13	RESET	I	Hardware reset pin.
15	WAIT/DTACK	O	Transfer not complete / data acknowledge.
16	INT	O	Host interrupt.
21-26,28,30	HDATA8-15	I/O	Programmable I/O pins. Input mode after reset.
31-35,37,39 41,43-46	HADDR12-23	I/O	Programmable I/O pins. Output mode after reset.
51,130	NC	⊕	No connection.
53,54,56,58 59,60,62,64 66,68,70,72 73,74,76,78	MDATA0-15	I/O	Memory data.
79	LDQM	O	SDRAM LDQM.
80	UDQM	O	SDRAM UDQM.
82	MWE	O	SDRAM write enable.
84	SD-CLK	O	SDRAM system clock.
85	SD-CAS	O	Active low SDRAM column address.
86	SD-RAS	O	Active low SDRAM row address.
88,90	SDCS0,1	O	Active low SDRAM bank select.
92	EDO-CAS	O	EDO column address (Not used).
94	EDO-RAS	O	EDO row address (Not used).
96,98-100 102,104-106 108,110-112	MADDR0-11	O	Memory address output.
114,115,116 120-122,124 126,127	HADDR3-11	O	Memory address output (not used).
128	ROM-CS	O	Not used.
131,132,135 137,139,140	VDDA-F	⊕	Connect to +3.3 V power supply line.
142,143,145 148,150,152 154,155	VDATA0-7	O	Video data bus.
157	HSYNC	I/O	Horizontal sync.
158	VSYNC	I/O	Vertical sync.
159	DA-IEC	O	Bit stream data in IEC-1937 or PCM data out in IEC-958 format.
161,163-165	DA-DATA0-3	O	PCM data out, eight channels. Serial audio samples relative to DA-BCK clock.

Pin No.	Port Name	I/O	FUNCTION
166	DA-LRCK	O	PCM left/right clock. Identifies the channel for each audio sample.
167	DA-BCK	O	PCM bit clock output.
169	DA-XCK	I/O	Audio master frequency clock.
171	DAI-DATA	I	PCM input DATA (not used).
172	DAI-LRCK	I	PCM input LRCK (not used).
173	DAI-BCK	I	PCM input BCK (not used).
175	CLKSEL	I	Clock select pin. (H: internal, L: external)
176	A-VDD	⊕	+3.3 V power supply for analog section.
177	VCLK	O	Video clock. (27 MHz)
178	SYSCLK	I	System clock input. Decoder requires an external 27 MHz TTL oscillator.
179	A-VSS	⊕	Analog ground for PLL.
180	DVD-DATA0 /CD-DATA	I	Serial CD data.
182	DVD DATA1 /CD LRCK	I	DVD DATA1 input or CD-LRCK input.
184	DVD-DATA2 /CD BCK	I	DVD DATA2 input or CD bit clock input.
185	DVD-DATA3 /CD-C2PO	I	DVD DATA3 input. Asserted HIGH indicates a corrupted byte.
186-189	DVD-DATA4-7 CDG 4-7	I	DVD parallel compressed data from DVD DSP or CDG-SDATA/VSFY/S0S1/SCLK signal input.
191	VREQUEST	O	Video request. Decoder asserts VREQUEST to indicate that the video input buffer has available space.
192	VSTROBE	I	Video strobe signal input.
194	AREQUEST	O	Audio request. Decoder asserts AREQUEST to indicate that the audio input buffer has available space.
196	V-DACK	I	Video data acknowledge (in synchronous mode). Asserted when DVD is valid.
198	A-DACK	I	Audio data acknowledge.
200	ERROR	I	Error in input data. If error signal is not available from the DSP, it must be grounded.
202-204	HADDR0-2	I	Host address bus. 3-bit address bus selects one of eight host interface registers.
205	DTACKSEL	I	Tie HIGH to select WAIT signal, LOW to select DTACK signal. (Motorola 68 K mode)
206	CS	I	Host chip select. Host asserts CS to select the decoder for a read or write operation.
207	R/W	I	Read/write strobe in M mode. Write strobe in I mode. Host asserts R/W LOW to select write and LOW to select read.
208	RD	I	Read strobe in I mode. Must be held HIGH in M mode.

ZIVA-3 (MPEG AV decoder)



2.3 EXPLODED VIEW AND PARTS LIST (TKM1000MZ)



(VERS.:VERSION, U:U.S.A., F:JAPAN, K:FAR EAST, **:EUROPE)

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
1		9965 000 04593	PLATE CLAMP	294W051010
2		9965 000 04594	MAGNET	294W012010
3		9965 000 04595	DISC CLAMP	294W005010
4		nsp	ST PAN26X06STL CMT	nsp
5		nsp	PT PAN20X05STL CMT C060	nsp
6		9965 000 04596	GEAR LOAD 2	294W058010
7		9965 000 04597	SLIDER UD	294W360010
8		9965 000 04598	BELT LOADING	294W264010
9		nsp	SLIT W.21X050X050PSL	nsp
10		9965 000 04599	PULLEY GEAR	294W262010
11		9965 000 04600	GEAR LOAD 1	294W058020
12		nsp	PAN17X2.5STL BZN PS3	nsp
13		9965 000 04601	LOADING MOTOR PART	*MM001050R
14		nsp	BT BID30X08STL CMT	nsp
15		9965 000 04602	DISC TRAY	294W163010
16		9965 000 04603	HOLDER TRAVERSE	294W104010
17		9965 000 04604	INSULATOR	294W130010
18		9965 000 04605	SP PUSH HOOK	294W115010
19		9965 000 04606	HOOK L.S	294W258010
20		9965 000 04607	SHAFT SCREW PART	294W117010
21		nsp	PAN17X3.5STL CMT PS3	nsp
22		9965 000 04608	SP PUSH L.S	*SP000980R
23		9965 000 04609	SW MICRO MPU10420MLB0	*SM000330R
24		nsp	ST BID20X08STL CMT	nsp
25		9965 000 04610	SLED MOTOR PART	*MM001040R
26		9965 000 04611	MOTOR CDS8A50T30-A/TT	*MM001060R
27		nsp	CH TRAVERSE BLK TKM-002	nsp
28		9965 000 04612	FFC BD P0.5 L50 30P	*YU000610R
29		nsp	ST BID30X06STL NI3	nsp
30		9965 000 04613	FFC BD P0.5 L70 40P	*YU000600R
SW100		9965 000 04614	SW LEVER MXS01070MLB0 1-01-02S	*SC000670R
001A		9965 000 04619	DVD MODULE BLK TKM100MZ (PCB C3M1)	ZK370K0100

2.4 ELECTRICAL PARTS LIST (TKM1000MZ)

ASSIGNMENT OF COMMON PARTS CODES.

RESISTORS

R*** : 1) GD05 x x x 140, Carbon film fixed resistor, ±5% 1/4W
 R*** : 2) GD05 x x x 160, Carbon film fixed resistor, ±5% 1/6W
 ① Resistance value

Examples

① Resistance value

0.1Ω 001 10Ω 100 1kΩ 102 100kΩ 104
 0.5Ω 005 18Ω 180 2.7kΩ 272 680kΩ 684
 1Ω 010 100Ω 101 10kΩ 103 1MΩ 105
 6.8Ω 068 390Ω 391 22kΩ 223 4.7MΩ 475

Note : Please distinguish 1/4W from 1/6W by the shape of parts used actually.

CAPACITORS

C*** : CERAMIC CAP.

3) DD1 x x x x 370, Ceramic capacitor
 Disc type
 Temp. coeff. P350~N1000, 50V
 ③ Capacity value
 ② Tolerance

Examples

② Tolerance (Capacity deviation)

±0.25 pF 0
 ±0.5 pF 1
 ±5 % 5

Tolerance of COMMON PARTS handled here are as follows :

0.5 pF - 5 pF ± 0.25 pF
 6 pF - 10 pF ± 0.5 pF
 12 pF - 560 pF ... ± 5 %

③ Capacity value

0.5 pF 005 3 pF 030 100 pF 101
 1 pF 010 10 pF 100 220 pF 221
 1.5 pF 015 47 pF 470 560 pF 561

C*** : CERAMIC CAP.

4) DK16 x x x 300, High dielectric constant ceramic capacitor
 Disc type
 Temp. chara. 2B4, 50V
 ④ Capacity value

Examples

④ Capacity value

100 pF 101 1000 pF 102 10000 pF 103
 470 pF 471 2200 pF 222

C*** : 5) ELECTROLY CAP. (), 6) FILM CAP ()

5) EA x x x x x 10, Electrolytic capacitor
 One-way lead type, Tolerance ±20%
 ⑥ Working voltage
 ⑤ Capacity value

Examples

⑤ Capacity value

0.1 μF 104 4.7 μF ... 475 100 μF 107
 0.33 μF ... 334 10 μF 106 330 μF 337
 1 μF 105 22 μF ... 226 1100 μF 118
 2200 μF ... 228

⑥ Working voltage

6.3 V 006 25 V 025
 10 V 010 35 V 035
 16 V 016 50 V 050

6) DF15 x x x 350 → Plastic film capacitor
 DF15 x x x 310 → One-way type, Mylar ±5% 50V
 DF16 x x x 310 → Plastic film capacitor
 One-way type, Mylar ±10% 50V
 ⑦ Capacity value

Examples

⑦ Capacity value

0.001 μF (1000 pF) 102 0.1 μF 104
 0.0018 μF 182 0.56 μF 564
 0.01 μF 103 1 μF 105
 0.015 μF 153

NOTE 1) The above CODES (R***, R***, C***, C*** and C***) are omitted on the schematic diagram in some case.
 2) On the occasion, be confirmed the common parts on the parts list.
 3) Refer to "Common Parts List" for the other common parts (R105, DD4, DK4).

NOTE ON SAFETY FOR FUSIBLE RESISTOR :

The suppliers and their type numbers of fusible resistors are as follows ;

1. KOA Corporation

Part No.(MJI)	Type No.(KOA)	Description
NH05 x x x 140	RF25S x x x x Ω	J ±5% (1/4W)
NH05 x x x 120	RF50S x x x x Ω	J ±5% (1/2W)
NH85 x x x 110	RF73B2A x x x x Ω	J ±5% (1/10W)
NH95 x x x 140	RF73B2E x x x x Ω	J ±5% (1/4W)

↓ * Resistance value ↓ Resistance value(0.1Ω - 10kΩ)

2. Matsushita Electronic Components Co., Ltd

Part No.(MJI)	Type No.(MEC)	Description
NF05 x x x 140	ERD-2FCJ x x x	(±5% 1/4W)
RF05 x x x 140		
NF02 x x x 140	ERD-2FCG x x x	(±2% 1/4W)
RF02 x x x 140		

↓ * Resistance value

Examples



* Resistance value

0.1Ω 001 10Ω 100 1kΩ 102 100kΩ 104
 0.5Ω 005 18Ω 180 2.7kΩ 272 680kΩ 684
 1Ω 010 100Ω 101 10kΩ 103 1MΩ 105
 6.8Ω 068 390Ω 391 22kΩ 223 4.7MΩ 475


ABBREVIATION AND MARKS

ANT. : ANTENNA	BATT. : BATTERY
CAP. : CAPACITOR	CER. : CERAMIC
CONN. : CONNECTING	DIG. : DIGITAL
HP : HEADPHONE	MIC. : MICROPHONE
μ-PRO : MICROPROCESSOR	REC. : RECORDING
RES. : RESISTOR	SPK : SPEAKER
SW : SWITCH	TRANSF. : TRANSFORMER
TRIM. : TRIMMING	TRS. : TRANSISTOR
VAR. : VARIABLE	X' TAL : CRYSTAL

NOTE ON SAFETY:

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

安全上の注意 :

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

