

TOSHIBA

FILE No. 810-200587

REVISED: 01

SERVICE MANUAL



PORTABLE DVD PLAYER ***SD-P2800SN***



LASER BEAM CAUTION LABEL

- レンズには絶対に触れないでください。
- DO NOT TOUCH THE LENS.
- LINSE NICHT BRÜHREN.
- NE PAS TOUCHER LA LENTILLE.

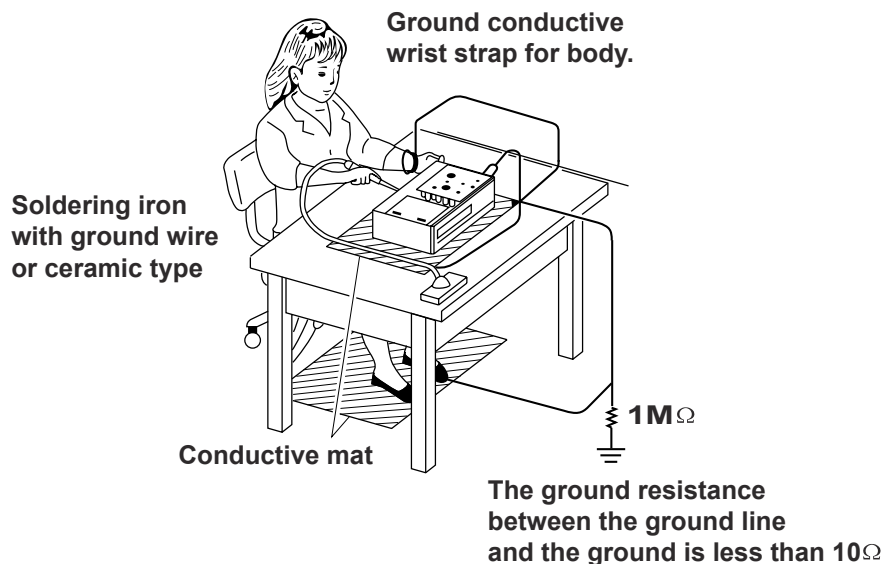
When the power supply is being turned on, you may not remove this laser cautions label. If it is removed, radiation of laser may be received.

PREPARATION OF SERVICING

Pickup Head consists of a laser diode that is very susceptible to external static electricity.

Although it operates properly after replacement, if it was subject to electrostatic discharge during replacement, the life of products might be shortened. When replacing, use a conductive mat, soldering iron with ground wire, etc. to keep the laser diode away from the damage by static electricity.

The above caution is also applied to LSI and IC.



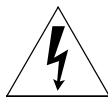
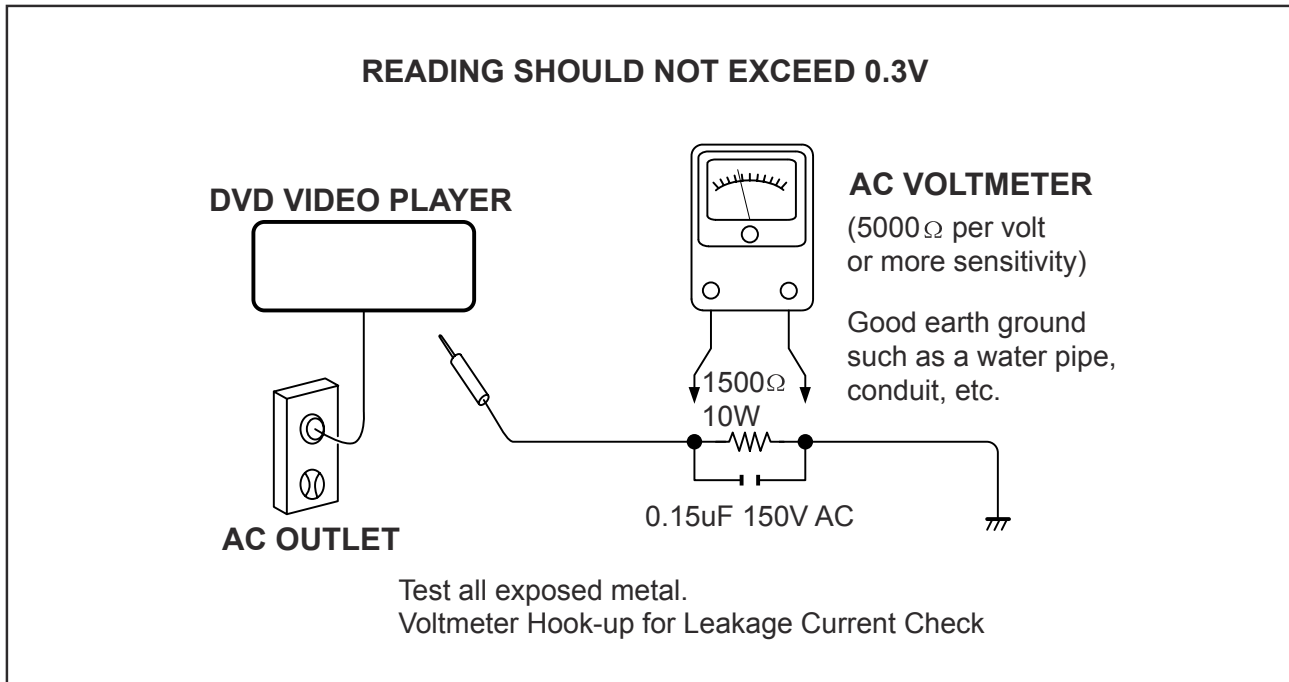
SAFTY NOTICE

SAFTY PRECAUTIONS

LEAKAGE CURRENT CHECK

Plug the AC line cord directly into a 120V AC outlet (do not use an isolation transformer for this check). Use an AC voltmeter, having 5000Ω per volt or more sensitivity. Connect a 1500Ω 10W resistor, paralleled by a $0.15\mu\text{F}$ 150V AC capacitor between a known good earth ground (water pipe, conduit, etc.) and all exposed metal parts of cabinet (antennas, handle bracket, metal cabinet screwheads, metal overlays, control shafts, etc.).

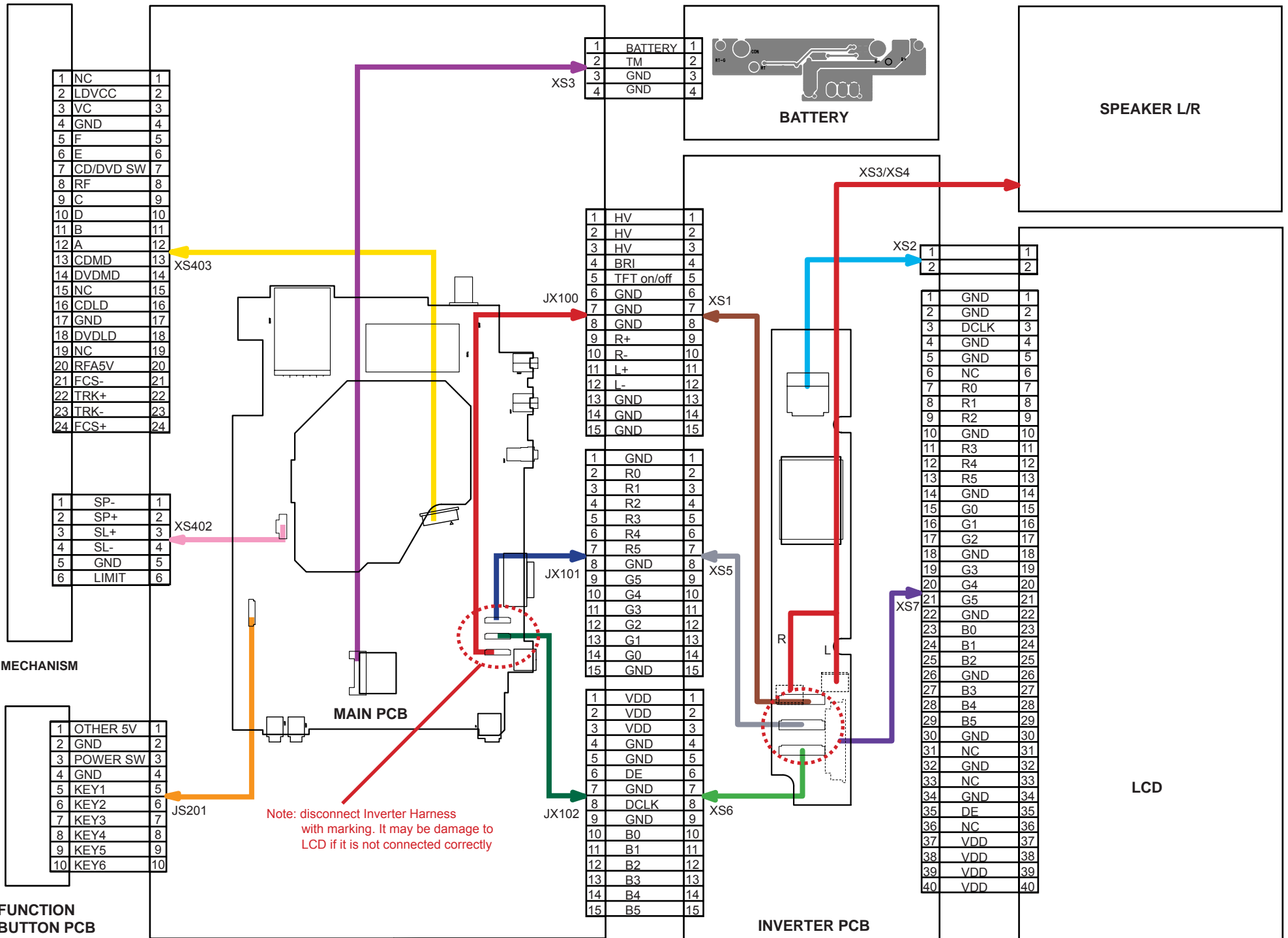
Measure the AC voltage across the 1500Ω resistor. The test must be conducted with the AC switch on and then repeated with the AC switch off. The AC voltage indicated by the meter may not exceed 0.3V. A reading exceeding 0.3V indicates that a dangerous potential exists, the fault must be located and corrected. Repeat the above test with the DVD VIDEO PLAYER power plug reversed. NEVER RETURN A DVD VIDEO PLAYER TO THE CUSTOMER WITHOUT TAKING NECESSARY CORRECTIVE ACTION.



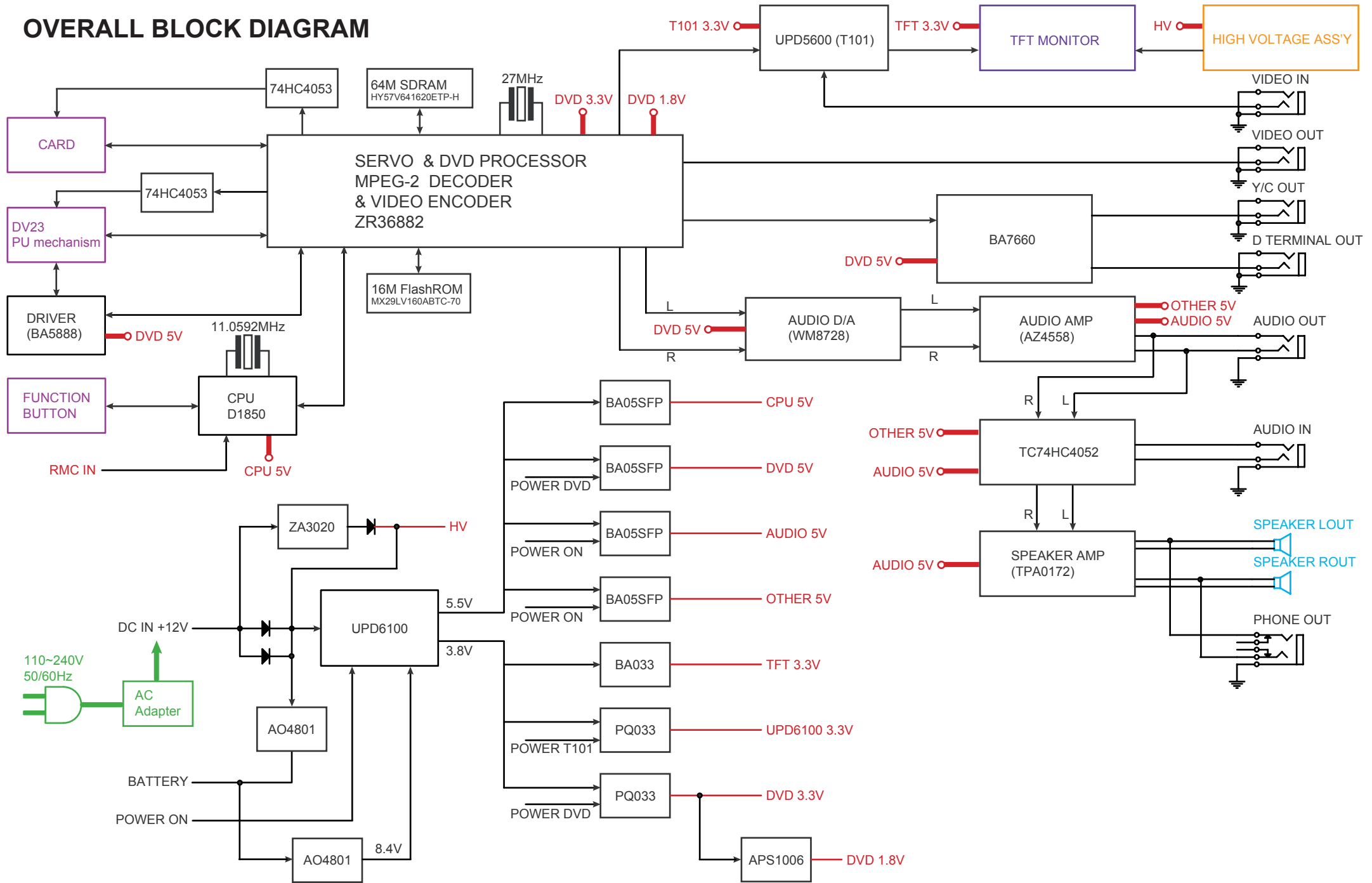
The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.



OVERALL BLOCK DIAGRAM



1. Troubleshooting

1. No power when turned on.
2. The initial screen is not displayed on the LCD.
3. The DVD drive does not work.
4. The operation of the DVD player stops at initializing display.
5. Image output stops during the operation.
6. No sound or abnormal sound comes out from the speakers in the DVD player.
7. No image or sound comes out from the external output.
8. No sound comes out from the headphones.
9. No image or sound is output by external input.
10. The DVD drive does not operate with the battery.

1.1 No power when turned on.

When the power is turned on, and if the LED on the front panel does not light green, check the following items and repair the defective parts.

(1) Check the power supply cable

If the cable is not the supplied one, replace it with the supplied cable and turn on the power again.

If the power supply cable is good, the AC adapter may be defective.

If the LED does not light after replacing, check the following items.

(2) Check the AC adapter

If the AC adapter is not the supplied one, replace it with the supplied AC adapter and turn on the power.

If the AC adapter is good, the Main PCB may be defective.

If the LED does not light after replacing, check the following items.

(3) Check the Power switch

Press the POWER switch on the DVD player. If the power does not turn on, check the following:

- Check the connector of the Function button PCB in the DVD player.
(If the connection is loose, repair the connection.)
- Replace the Function button PCB and turn on the power again.

If the LED does not light after replacing, check the following items.

(4) Replace the main board

1.2 The initial screen is not displayed on the LCD.

If the initial screen is not displayed on the LCD, check the following items.

(1) Check the LED on the front

If the LED does not light, proceed to 1.1.

(2) Check the backlight

If the backlight does not light up, separate the DVD player into top assembly and bottom assembly, and check the connector harness, and check the connectors for defects.

If the connector harness is broken:

Replace the broken harness.

If the connector harness is not broken:

Remove the LCD cover and plate of the LCD unit and check the following:

- Check the connector of the FL harness, replace the FL inverter or the LCD.
- If the connectors are good, replace the FL inverter or the LCD.

(3) Check the lighting of LCD

If the LCD does not light, separate the DVD player into the top assembly and bottom assembly, and check the LCD harness, and check the connectors on the main board.

If the connector is broken:

Replace the LCD harness or the main board.

If the connector is not broken:

Remove the LCD cover and plate of the LCD unit, and check the connection to the harness of the LCD unit.

- If a bad connection is found.
Connect the LCD harness to the LCD unit.
- Other than the above
Replace the LCD unit or the main board.

1.3 The DVD drive does not work.

When the DVD drive does not work after the power is turned on, check the following items and repair or replace the defective parts.

(1) Press the DISC cover switch and turn on the power. Then check whether or not the optical pick-up lens of the DVD drive lights.

CAUTION: Visible laser radiation when open and interlock defeated. Do not stare into Laser beam.

The optical pick-up lens lights dim:

It is caused by deterioration of the optical pick-up lens. Replace the DVD drive.

The optical pick-up lens does not light:

Check the connectors of the DVD-FFC. Also check the connection to the main board and to the DVD drive.

- Loose connection is found.
Repair the connection, and then check the operation of the DVD drive again.
- The DVD-FFC is broken.
Replace the DVD drive.
- Other than the above.
Replace the DVD drive or the main board.

(2) Insert a DVD disk and turn on the power

The DVD drive does not work:

The motor of the DVD drive or the main board is defective. Replace the DVD drive or the main board.

The DVD drive works but the initializing operation of the optical pick-up lens does not start (the optical pick-up lens operates twice), or abnormal noise sound:

The DVD drive is defective. Replace the DVD drive.

1.4 The operation of the DVD player stops at initializing display.

If the DVD player does not work after the initializing screen is displayed, check the indication on the screen. Then repair the defect according to it.

(1) Insert a DVD disk and close the DISC cover, and turn on the power. Then check the LCD screen or use an external display.

- The message "loading" is not displayed or the operation stops at the message "Loading".

Since the DVD drive or the main board is defective, check in the following order:

- 1) DVD drive
- 2) Main board

- The message "CHECK DISK" is displayed.

Check the DVD disk for fingerprints, dirt, etc.

If the DVD disk is OK, then check the following items:

- 1) Check the DVD-FFC
If a loose connection, repair the connection.
If it is damaged, replace the DVD drive.
- 2) Other than above

For other cases, replace the unit in the following order:

- DVD drive (defective optical pick-up)
- Main board

1.5 Image output stops during the operation.

If the image output from the media in the DVD player stops during the operation, replace the DVD drive.

1.6 No sound or abnormal sound comes out from the speakers in the DVD player.

If no sound comes out from the speakers in the DVD player, check the following:

(1) Check for moving images on the LCD screen

Check whether or not the move of image stops in halfway. If it stops, replace the DVD drive.

(2) Check the operation of the DVD driver.

Check whether or not the DVD drive works. If it stops, replace the DVD drive.

(3) Check the connection of the speakers in the DVD player.

Separate the DVD player into the top assembly and bottom assembly, and then check the connections of the speaker harnesses to the inverter board and the inverter board to the main board. If the connection is loose, repair connection. If the connector has been connected firmly, replace the main board or speaker.

1.7 No image or sound comes out from the external output

If any image or sound is output from the TV connected by the external cable, replace the main board.

NOTE: Before this test, make sure the drive works.

1.8 No sound comes out from the headphones.

If no sound comes out from the headphones, replace the main board.

1.9 No image or sound is output by the external input.

If any image or sound is output by external input, replace the main board.

1.10 The DVD drive does not operate with the battery.

(1) Check the operation with a good battery.

Install a good battery and make sure the LED lights up orange while the AC adapter is connected. When the LED does not light up or blinks, check the connection of the battery connector inside the DVD player. If the connection is loose, repair connection.

If the connector has been connected firmly, replace the main board.

(2) Other than the above, replace the battery.

NOTE:

- For this check, use a battery which is not fully charged (because the LED does not light when the battery is fully charged.)
- Before this check, make sure other function work correctly.

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MAIN BOARD CIRCUIT DIAGRAM (AUDIO CIRCUIT DIAGRAM)

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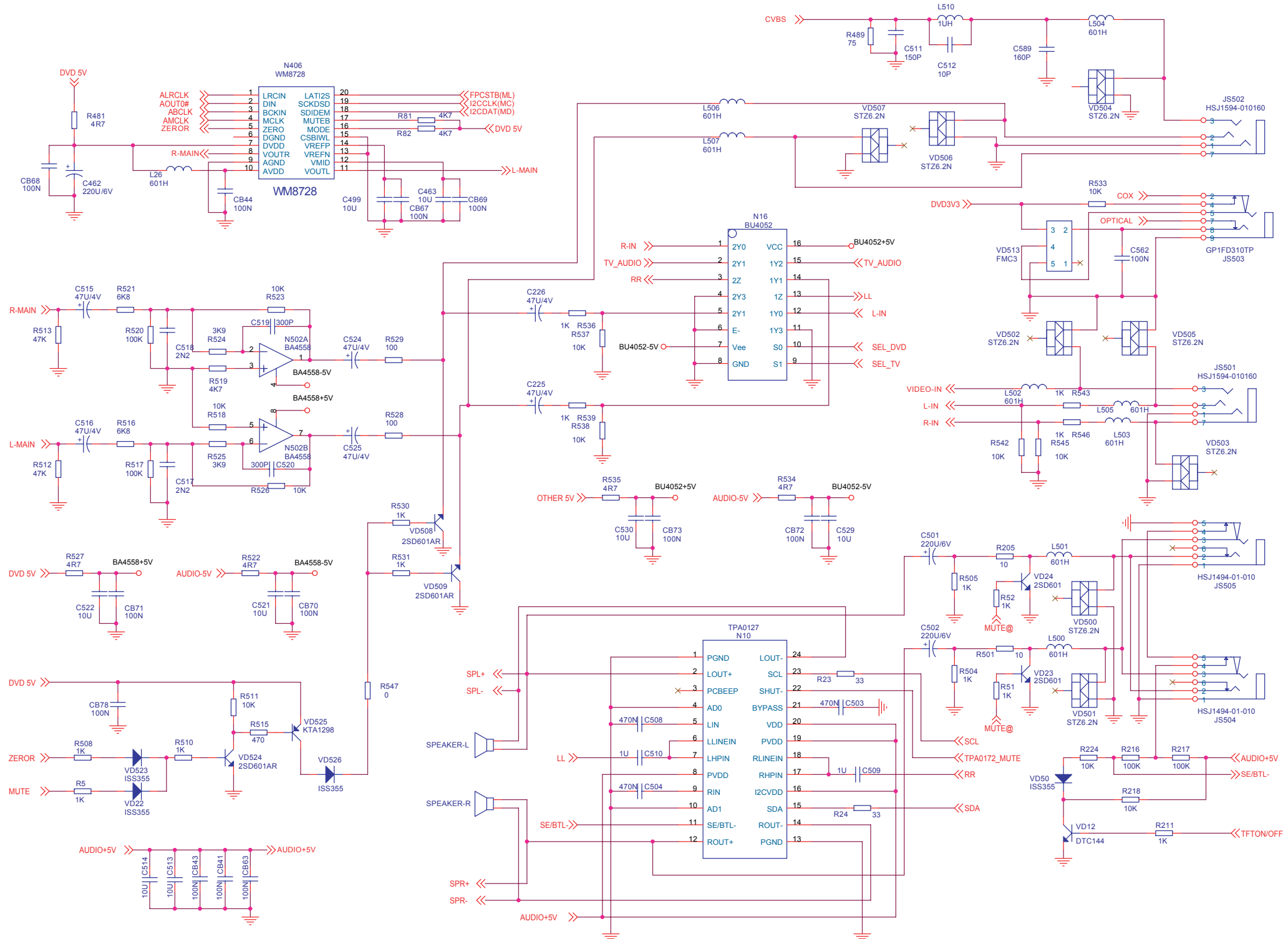
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MAIN BOARD CIRCUIT DIAGRAM (CARD CIRCUIT DIAGRAM)

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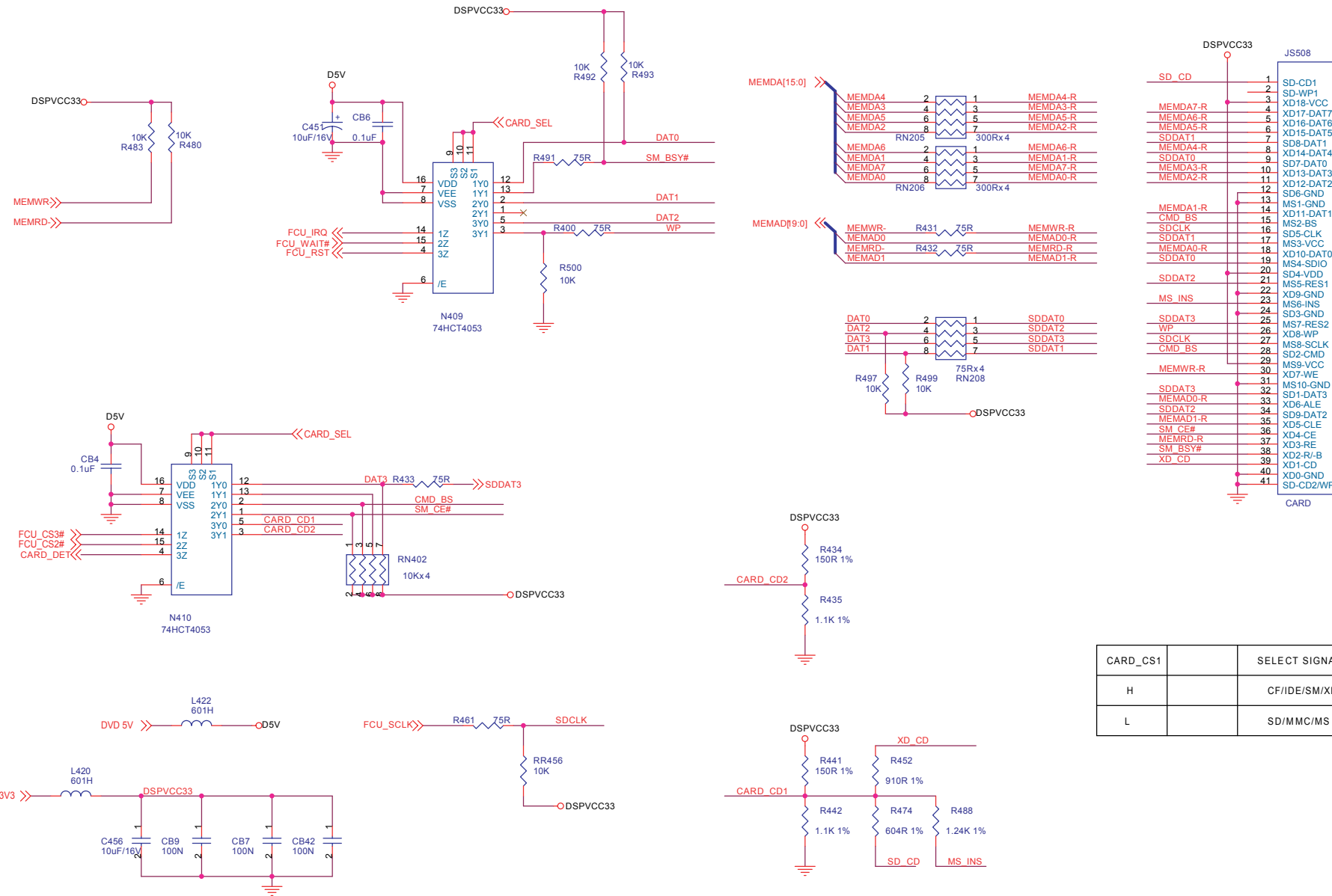
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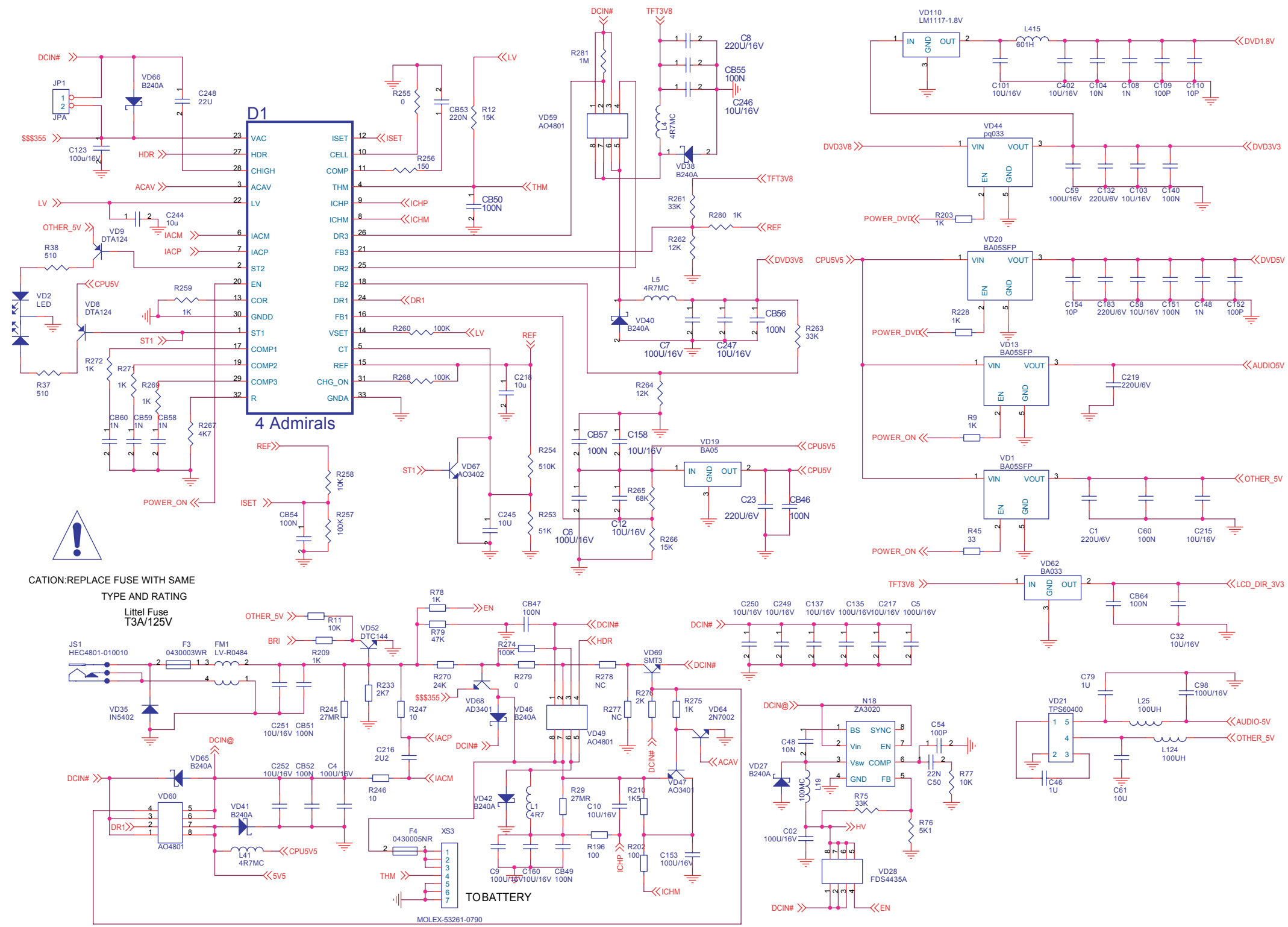
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CARD_CS1	SELECT SIGNAL
H	CF/IDE/SM/XD
L	SD/MMC/MS

MAIN BOARD CIRCUIT DIAGRAM (DVD POWER & CHARGE CIRCUIT DIAGRAM)



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MAIN BOARD CIRCUIT DIAGRAM (FLASH & DAC & KEY CIRCUIT DIAGRAM)

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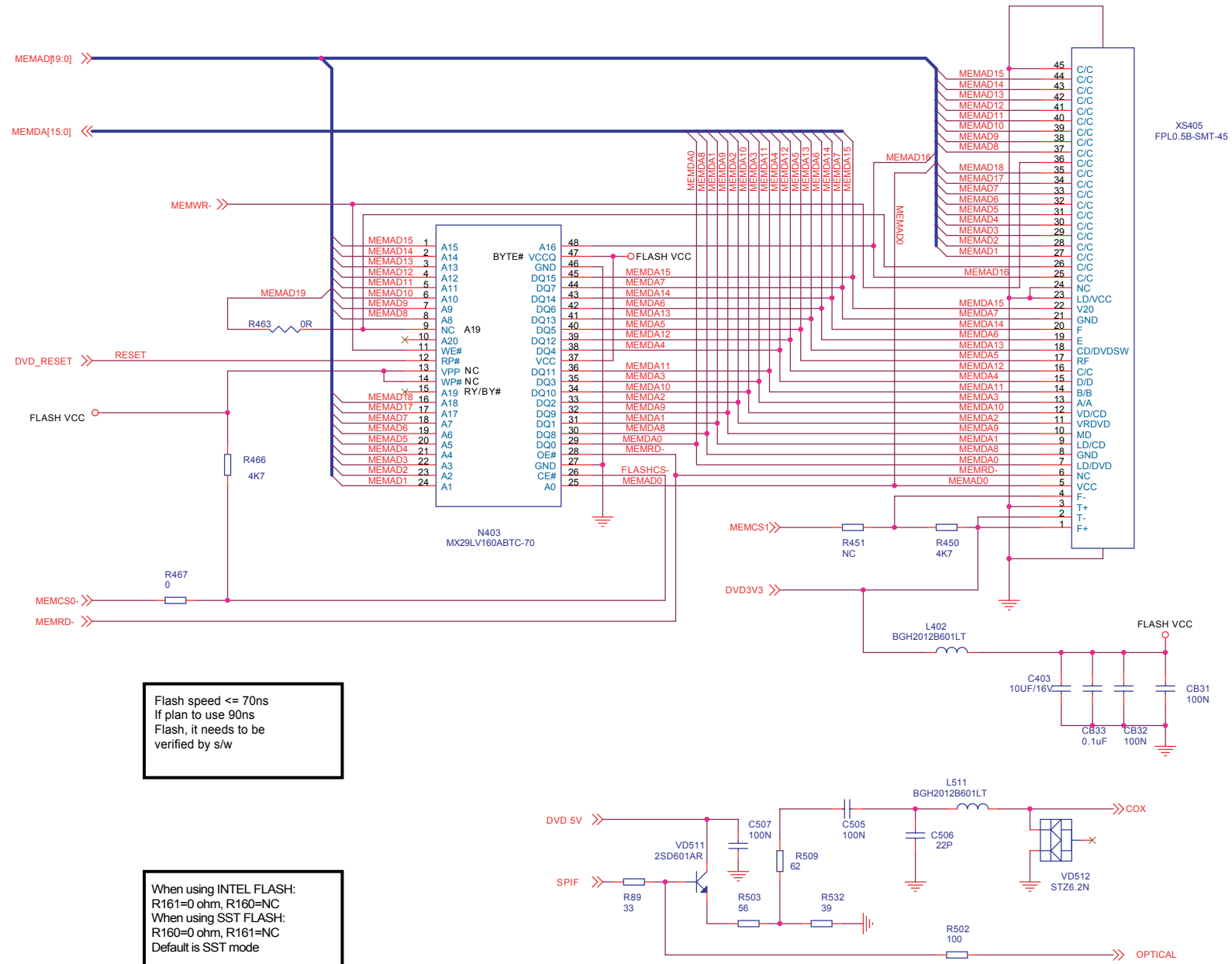
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Flash speed <= 70ns
 If plan to use 90ns
 Flash, it needs to be
 verified by s/w

When using INTEL FLASH:
 R161=0 ohm, R160=NC
 When using SST FLASH:
 R160=0 ohm, R161=NC
 Default is SST mode

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MAIN BOARD CIRCUIT DIAGRAM (MCU CIRCUIT DIAGRAM)

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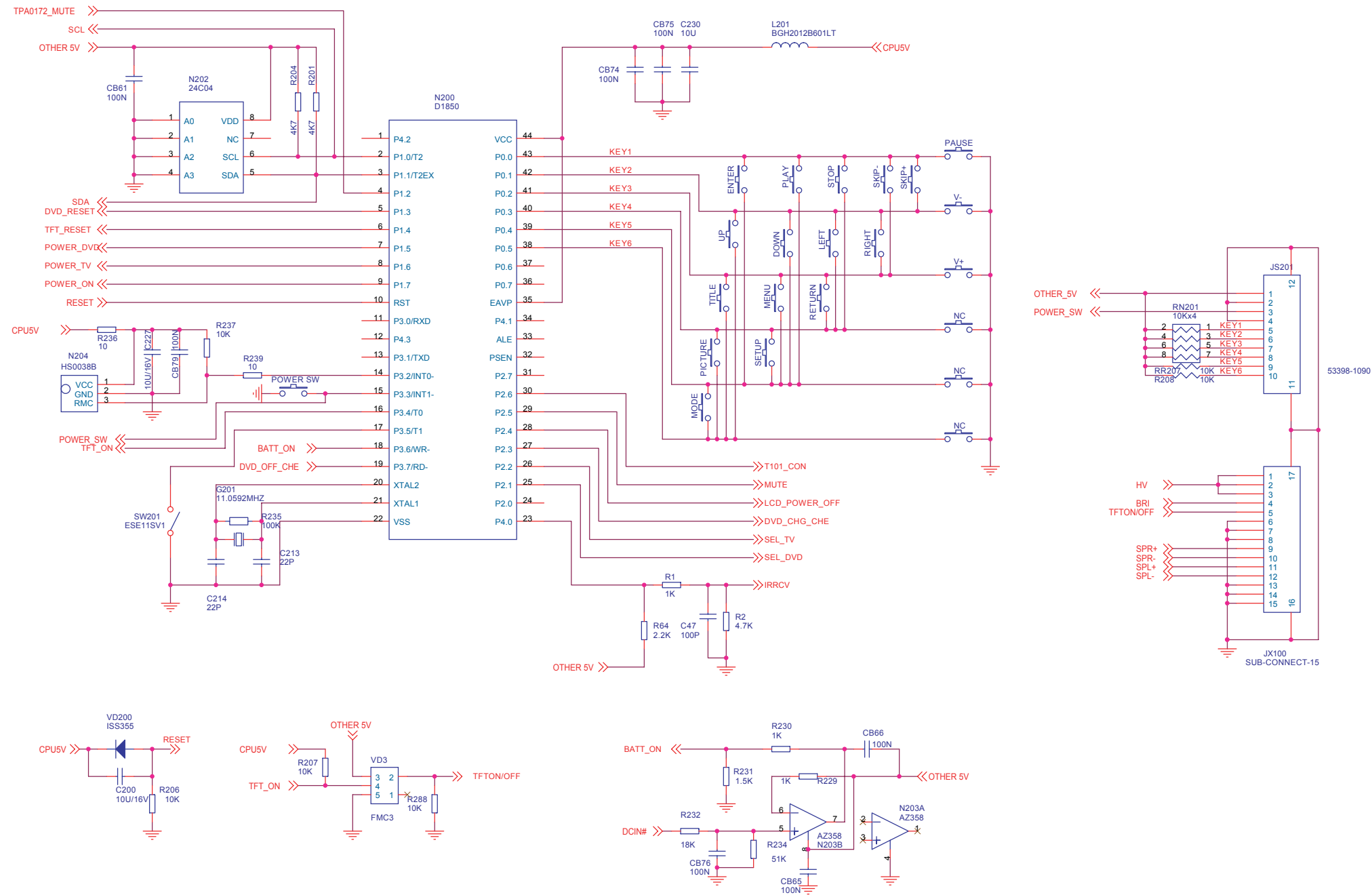
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MAIN BOARD CIRCUIT DIAGRAM (OPU CONNECTOR & DRIVER CIRCUIT DIAGRAM)

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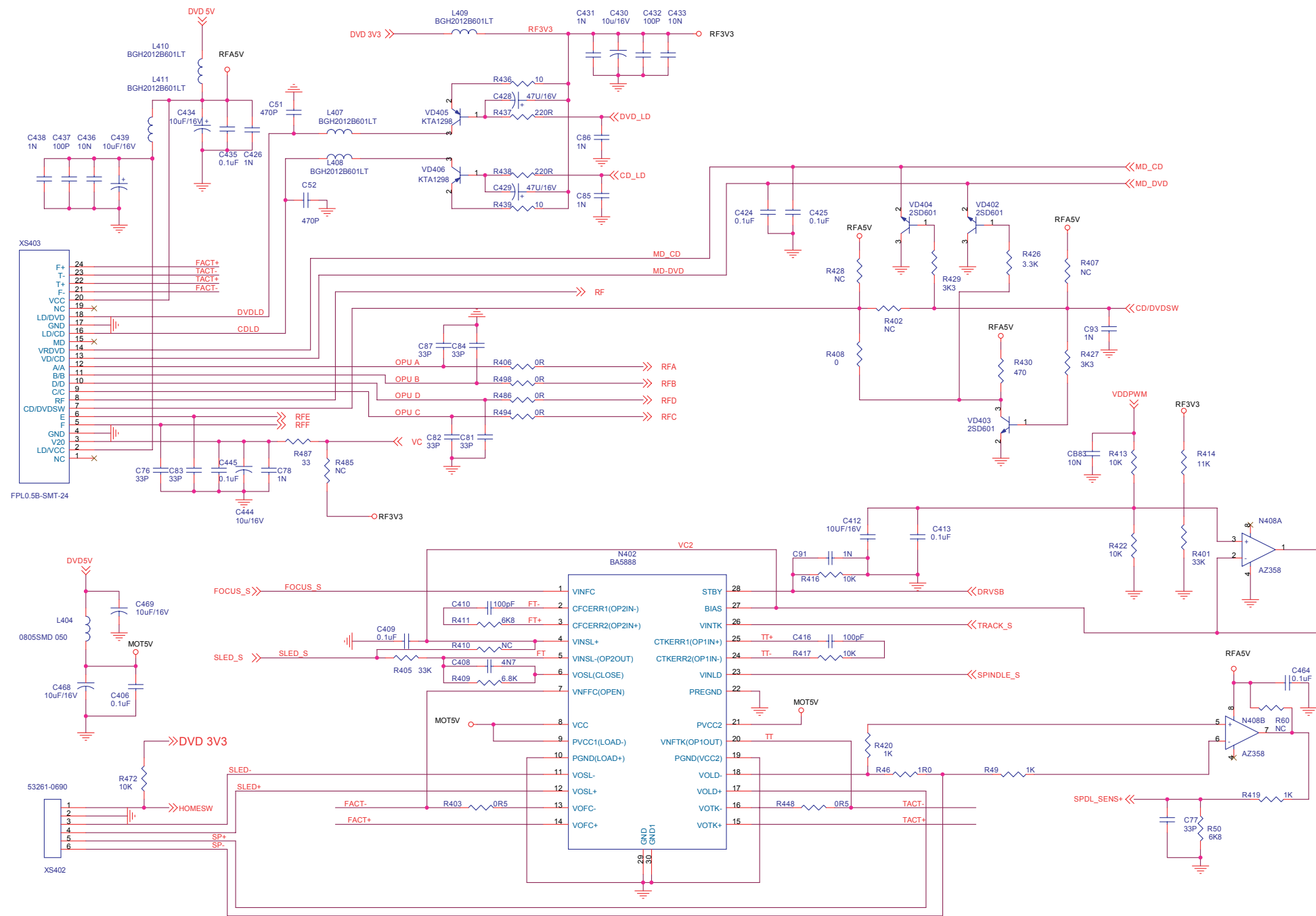
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MAIN BOARD CIRCUIT DIAGRAM (T101 CIRCUIT DIAGRAM)

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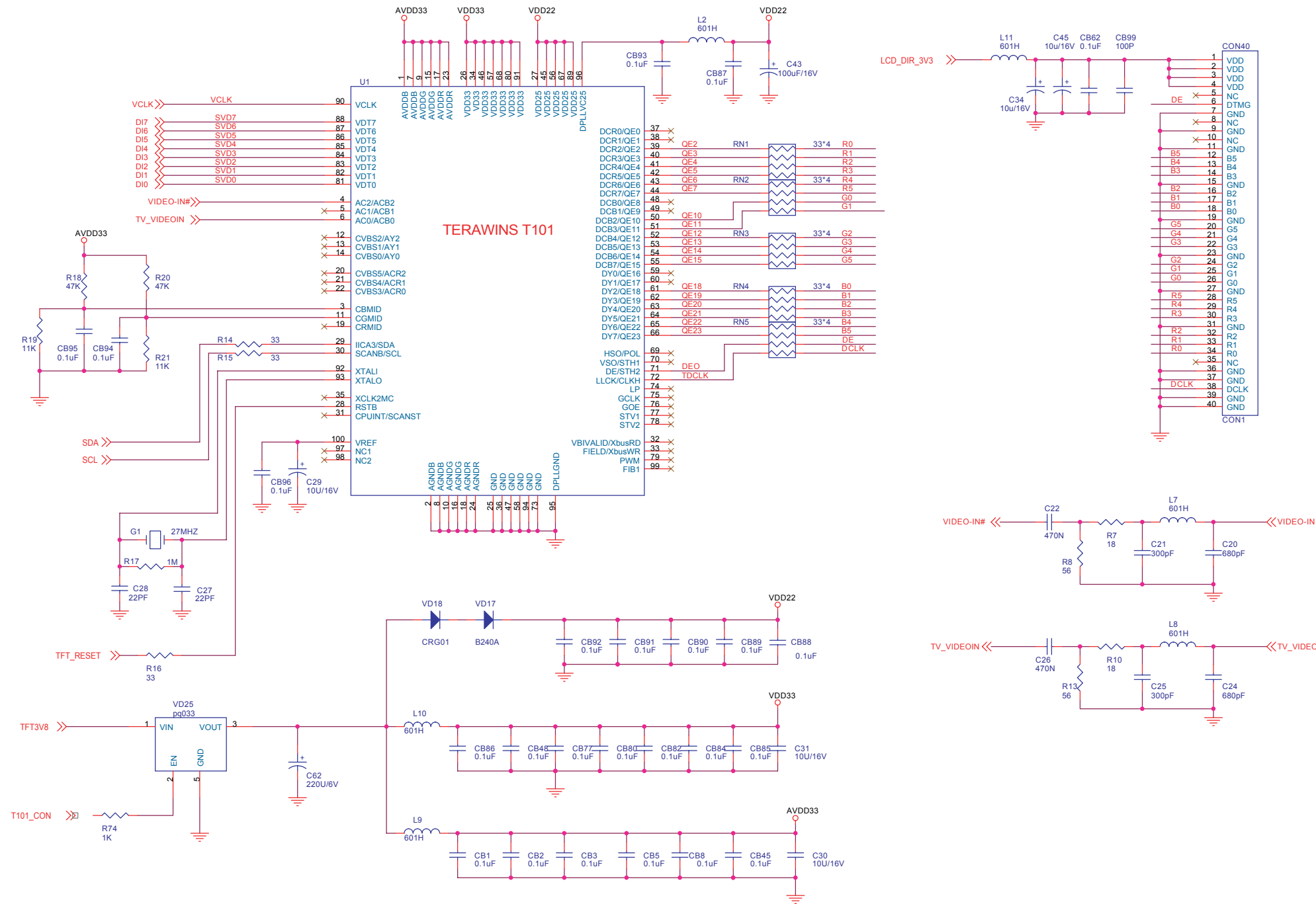
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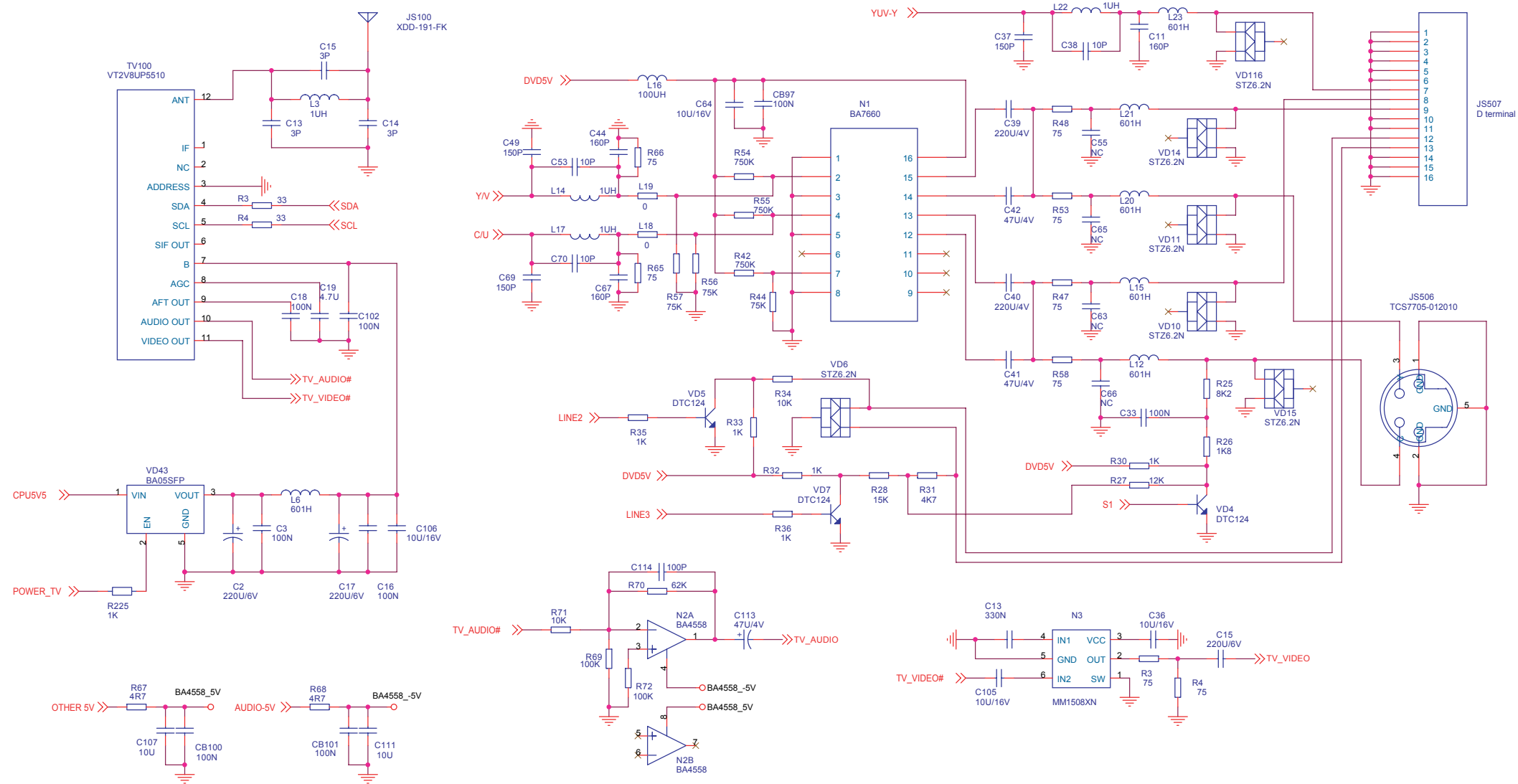
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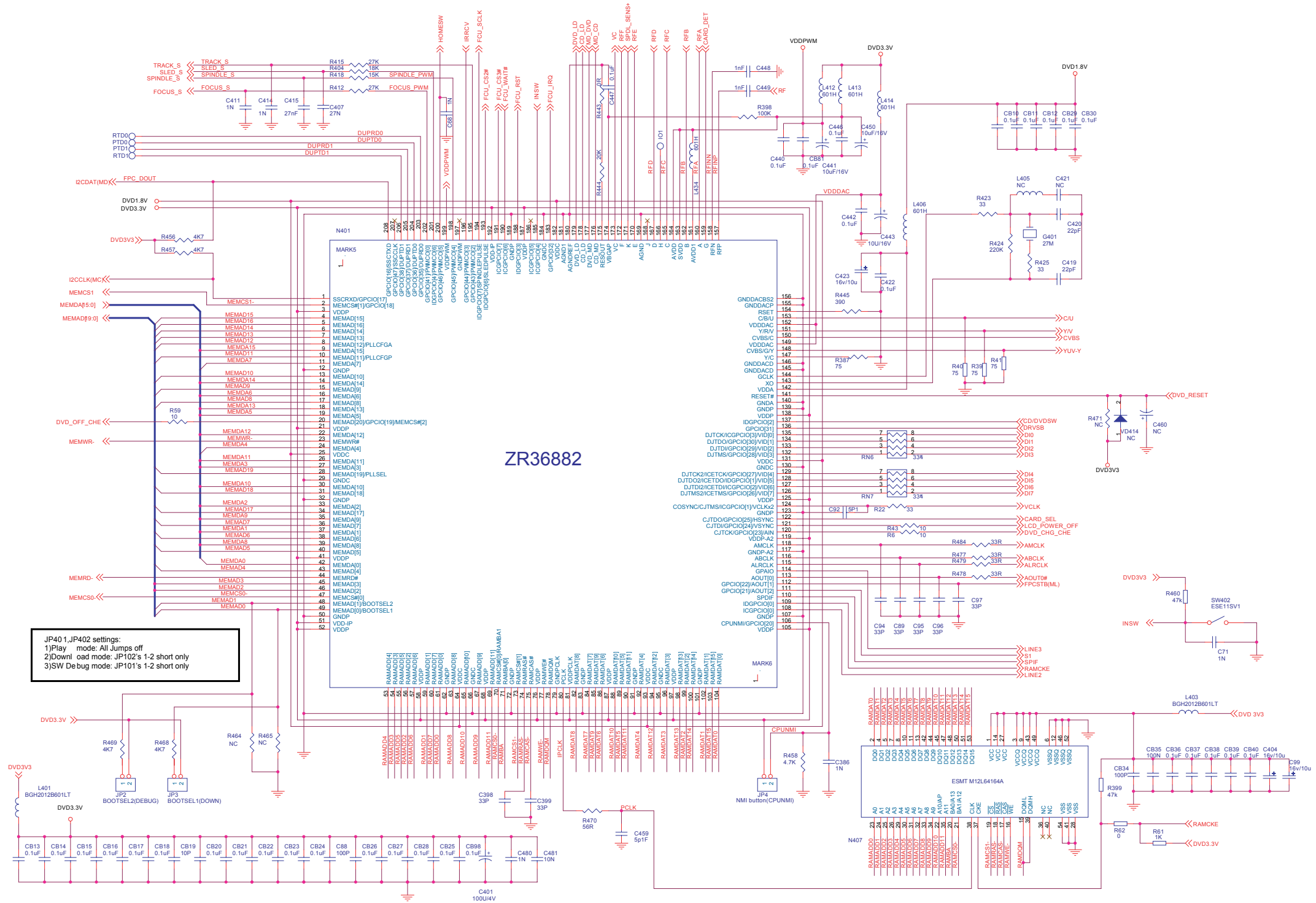
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MAIN BOARD CIRCUIT DIAGRAM (TV TUNER & D TERMINAL & S-VIDEO CIRCUIT DIAGRAM)



MAIN BOARD CIRCUIT DIAGRAM (ZR36882 & SDRAM & FLASH CIRCUIT DIAGRAM)



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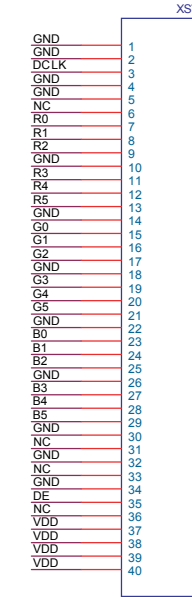
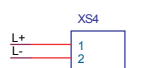
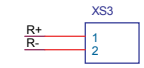
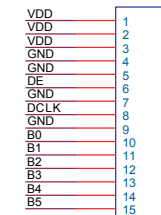
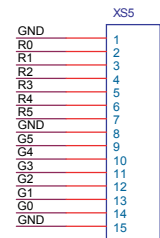
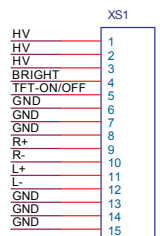
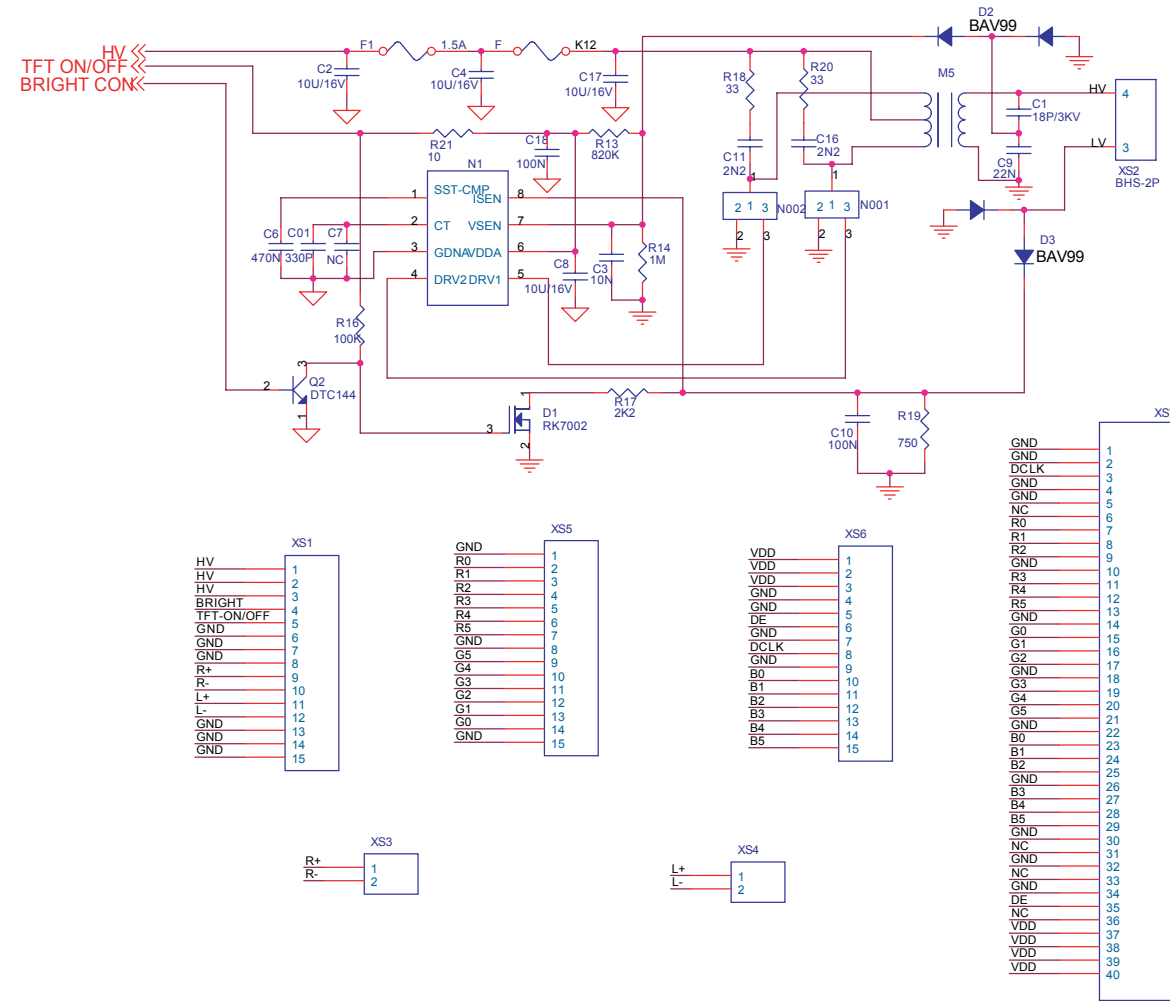
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INVERTER BOARD CIRCUIT DIAGRAM



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MAIN BOARD DIAGRAM (TOP)

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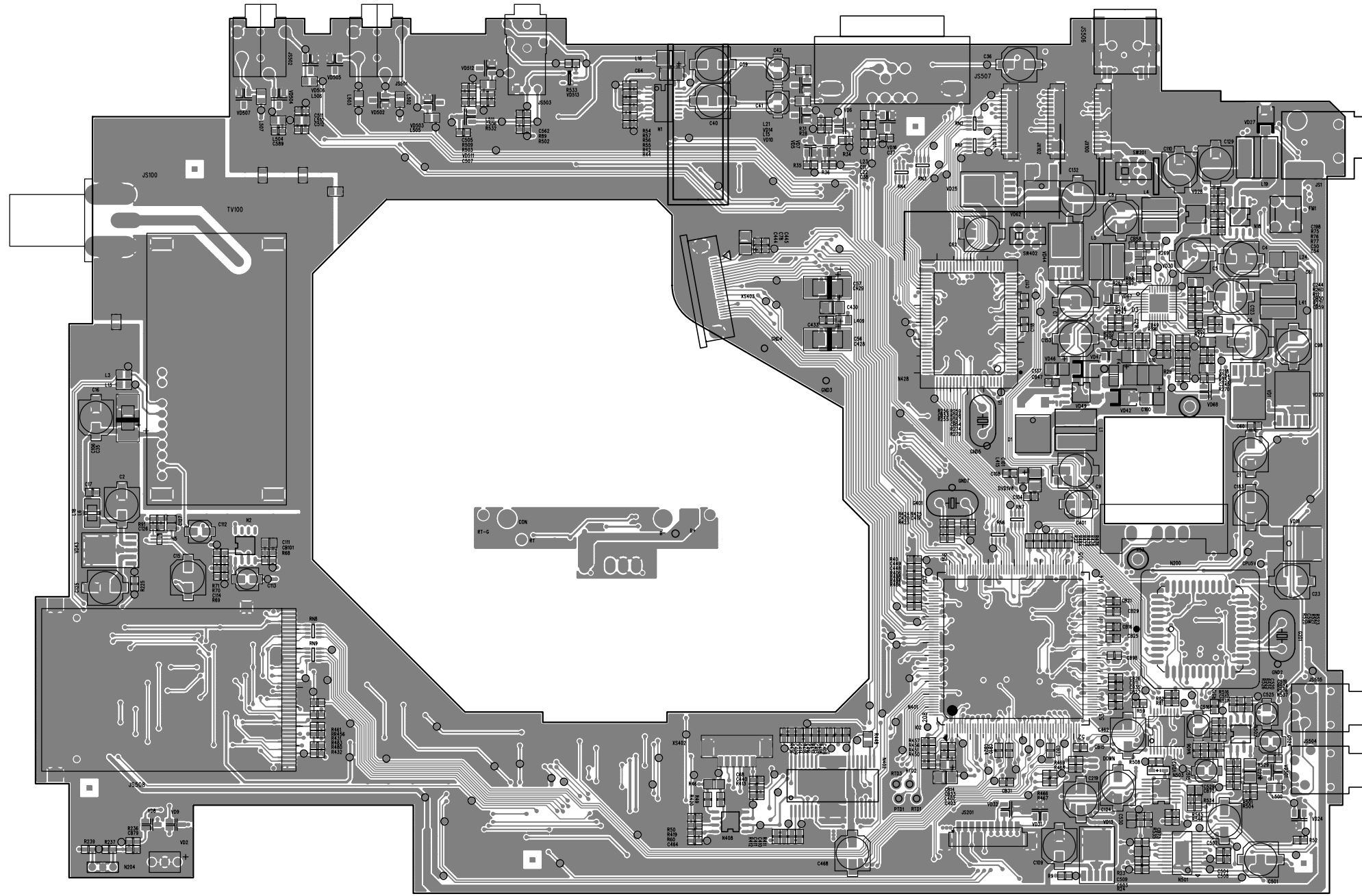
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MAIN BOARD DIAGRAM (BOTTOM)

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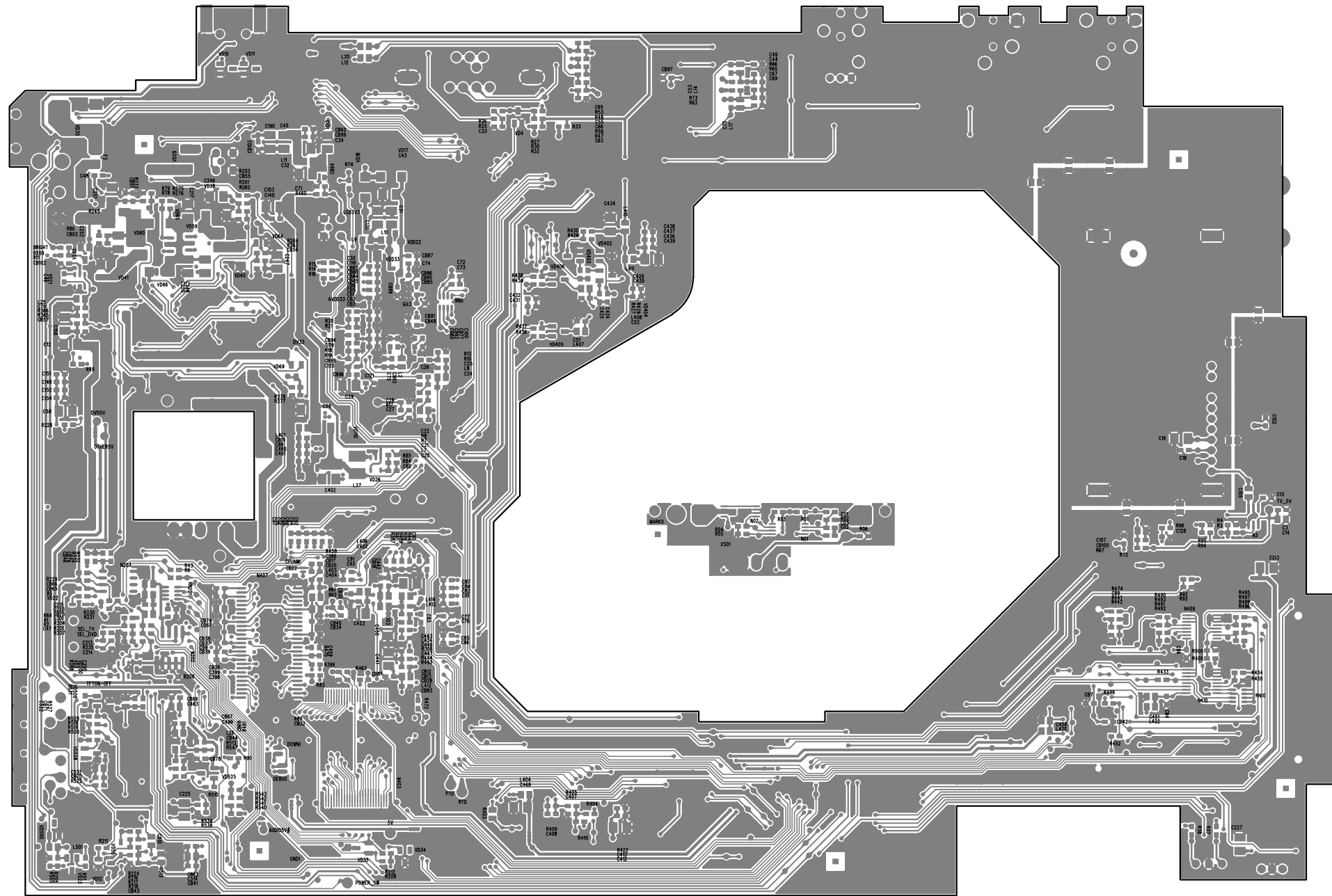
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INVERTER BOARD DIAGRAM

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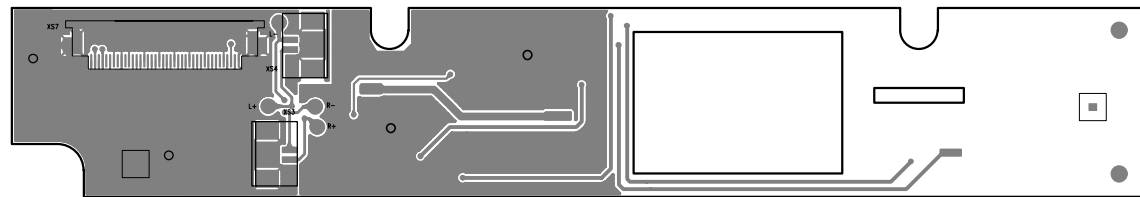
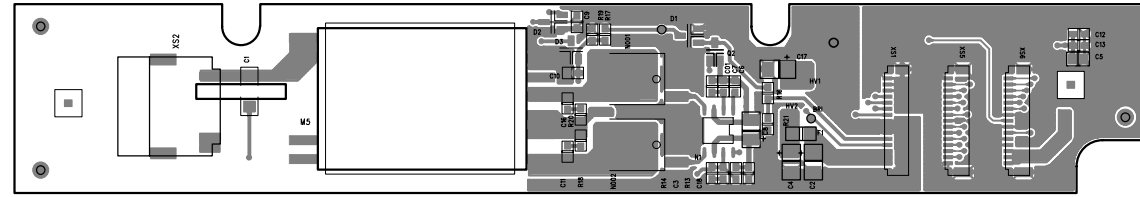
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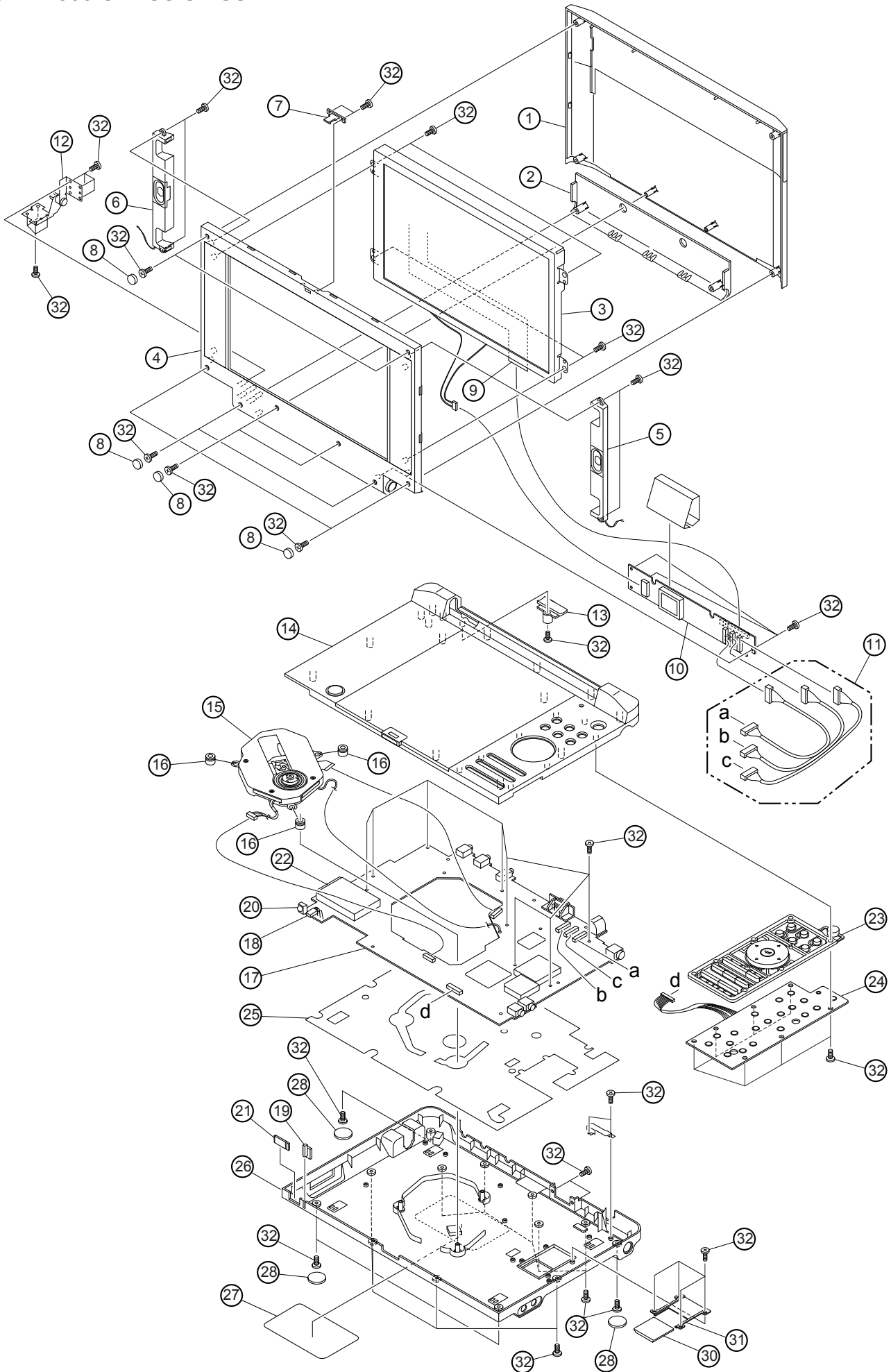
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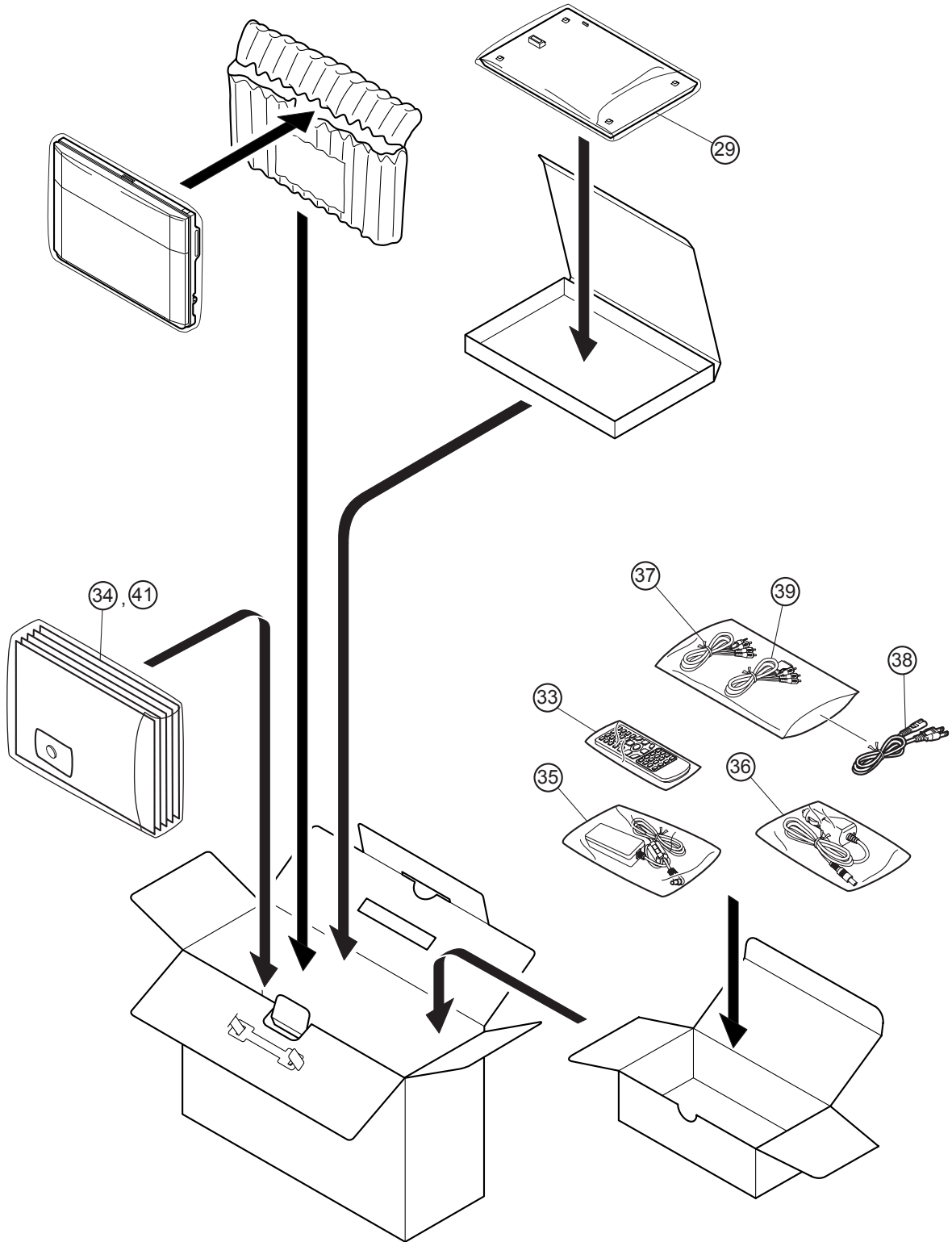
G




SD-P2800 CHASSIS ASSEMBLY










SD-P2800 PACKING ASSEMBLY



PARTS LIST: SD-P2800SN

Note: The parts identified by  mark are critical for safety. Replace only with part number specified.
 Note: Disconnect Inverter Harness(Loc.No.11) with marking. It may be damage to LCD if it is not connected correctly.

	Loc.No.	TOSHIBA Part No.	Vender's Part No.	Description
	1	AH301603	eb42180	top cover ass'y
	2	AH301604	eb42181	inverter cover ass'y
	3	P000452750	ea7779a	LCD unit
	4	AH301605	eb42182	LCD mask
	5	AH301536	es5147	speaker right
	6	AH301535	es5146	speaker left
	7	AH301486	eb40052	open close locker
	8	AH301475	eb40074	LCD mask pad
	9	AH301533	es30955	FPC (for inverter / LCD)
	10	AH301606	eb42183	inverter unit
	11	AH301532	es30954	inverter harness
	12	AH301607	eb40807	hinge
	13	AH301608	eb40797j	hinge cover
	14	AH301609	eb42184	sub cover ass'y
	15	AH301602	es8115d	DVD mecha ass'y
	16	AH301610	eb31649	dumper
	17	AH301527	e22083	main PCB board
	18	AH301266	ea1610	LED lamp, F2*4, yellow/green
	19	AH301611	eb40800	LED lamp cover, TSB-2800
	20	AH301274	ea6733	remocon receiver, HS0038B
	21	AH301612	eb40801	IR senser lens
	22	AH301599	ep7162	card slot, P5S1P702-C1, 4 in 1
	23	AH301613	eb42185	function button
	24	AH301526	e22081	function PC board
	25	AH301614	eb40806	bottom shield
	26	AH301615	eb42186	bottom cover ass'y
	27	AH301616	es12415	rating label
	28	AH301617	eb40826	bottom cover cushion
	29	AH301618	eb42187	battery, SD-PBP28
	30	AH301619	eb32320h	battery slot cover slider
	31	AH301620	eb32295h	battery slot cover holder
	32	AH301621	eb42188	screw kit
	33	AH301529	es06132	remote control
	34	AH301530	es14118	owner's manual, English/French
	35	AH301122	es9001	AC adaptor, ADPV16
	36	AH301125	es8147	car adaptor, MEDC01AX
	37	AH301124	es3468a	AV cable
	38	AH301123	es3581	power cord
	39	AH301534	es3565	component cable
	41	AH301531	es14119	Quick Guide, Spanish

Note: There are rating label (27) applied on the bottom cover ass'y (26).
 When the bottom cover is replaced with a new one, put a new rating label on the new bottom cover.
 Transcribe the following items (SERIAL NO., MANUFACTURED etc.) described on the old rating label to the new rating label by using a permanent maker.

TOSHIBA CORPORATION

1 1, SHIBAURA 1 CHOME, MINATO KU, TOKYO 105 8001, JAPAN