



SCPH-50000

SCPH-50000 series

SERVICE MANUAL 2nd edition
for GH-026 BOARD
(I-chassis)

PlayStation.2



Sony Computer Entertainment Inc.
Customer Service Department



SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered connection. Check the entire board surface for solder splashes and Bridge.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
4. Look for parts which, through functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
5. Check the line cord for cracks and abrasion. Recommend the replacement of my such line cord to the customer.
6. Check the B+ voltage to see it is at the values specified.
7. Check the metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage.

Check leakage as described below.

CAUTION:

The use of optical instrument with this product will increase eye hazard.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

WARNINGII

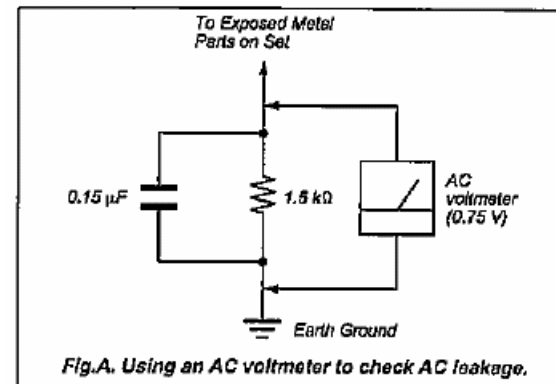
WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESARRY TO CONFIRM LASER BEAM EMISSION, BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 25 cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers.).

Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A . Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for the job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63 Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig.A)



SAFETY-RELATED COMPONENT WARNINGII

COMPONENTS IDENTIFIED BY MARK OR DOTTED LINE WITH MARK ON THE SCHEMATIC DIAGRAMS

AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL .OR IN SUPPLEMENTS PUBLISHED BY SONY.

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SECTION 1 CIRCUIT DIAGRAM

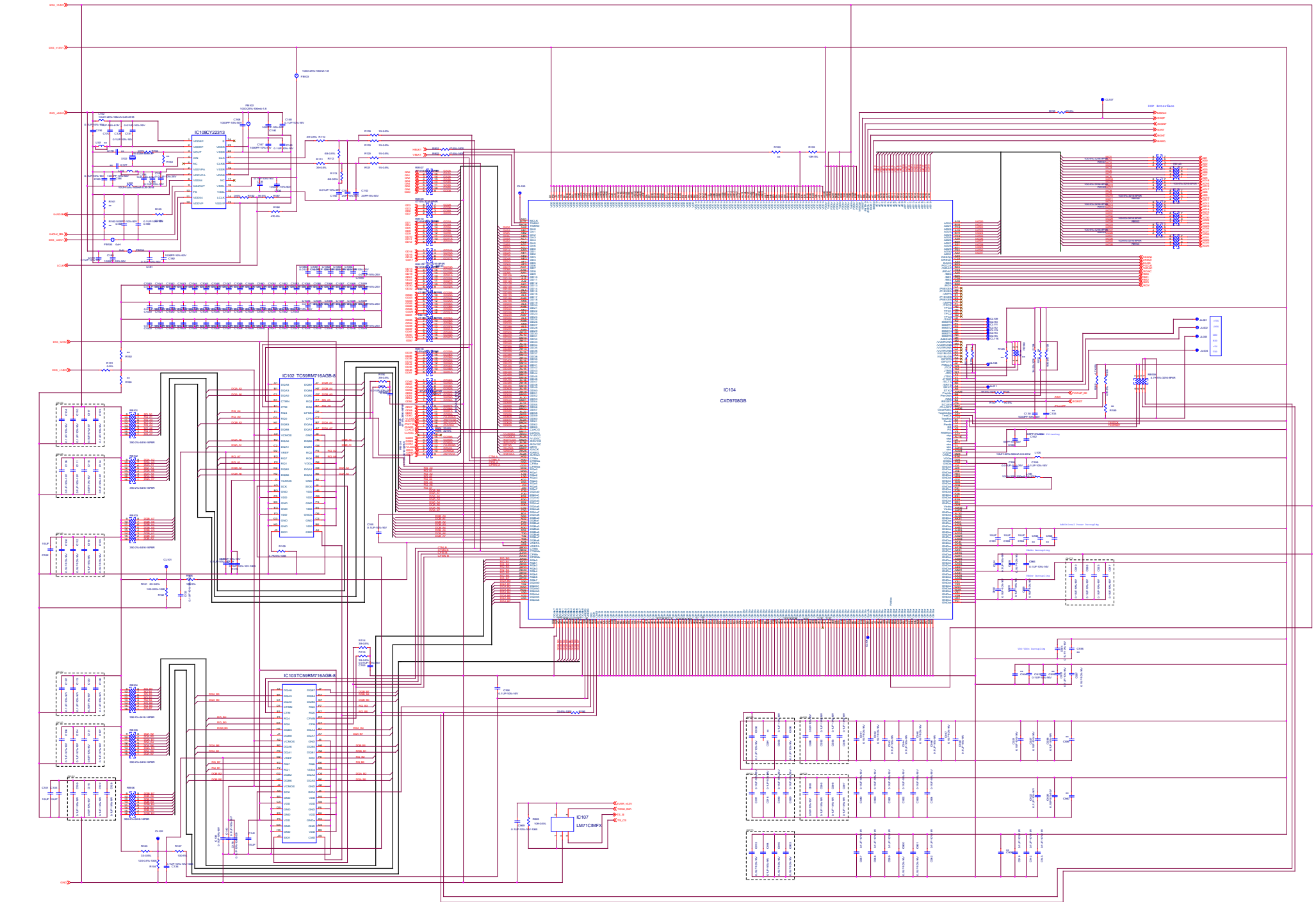
Note on Circuit Diagrams

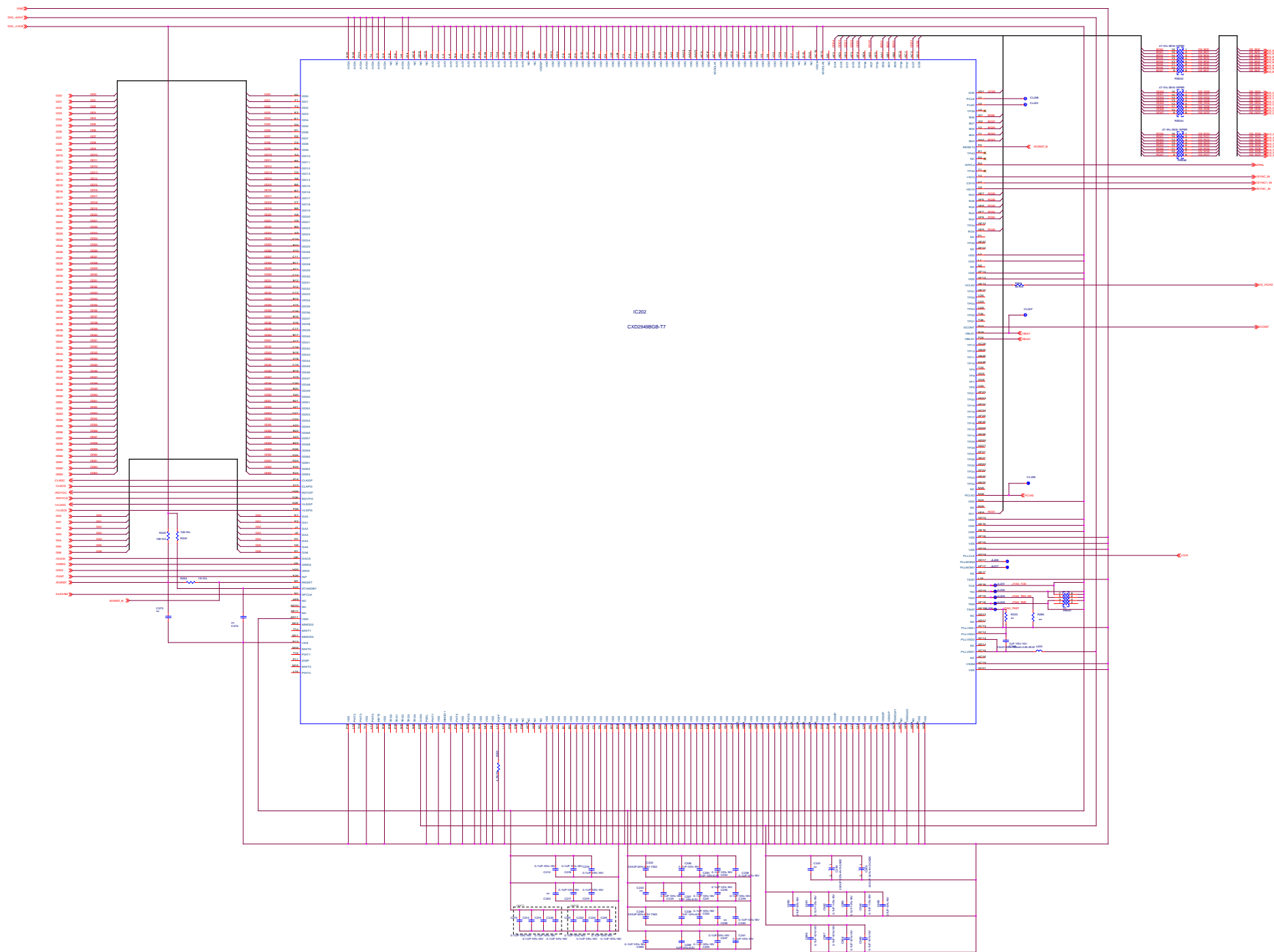
- All capacitors are in μ F unless otherwise noted. pF: μ μ F
50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4}$ W or less unless otherwise specified.
- % :indicates tolerance.

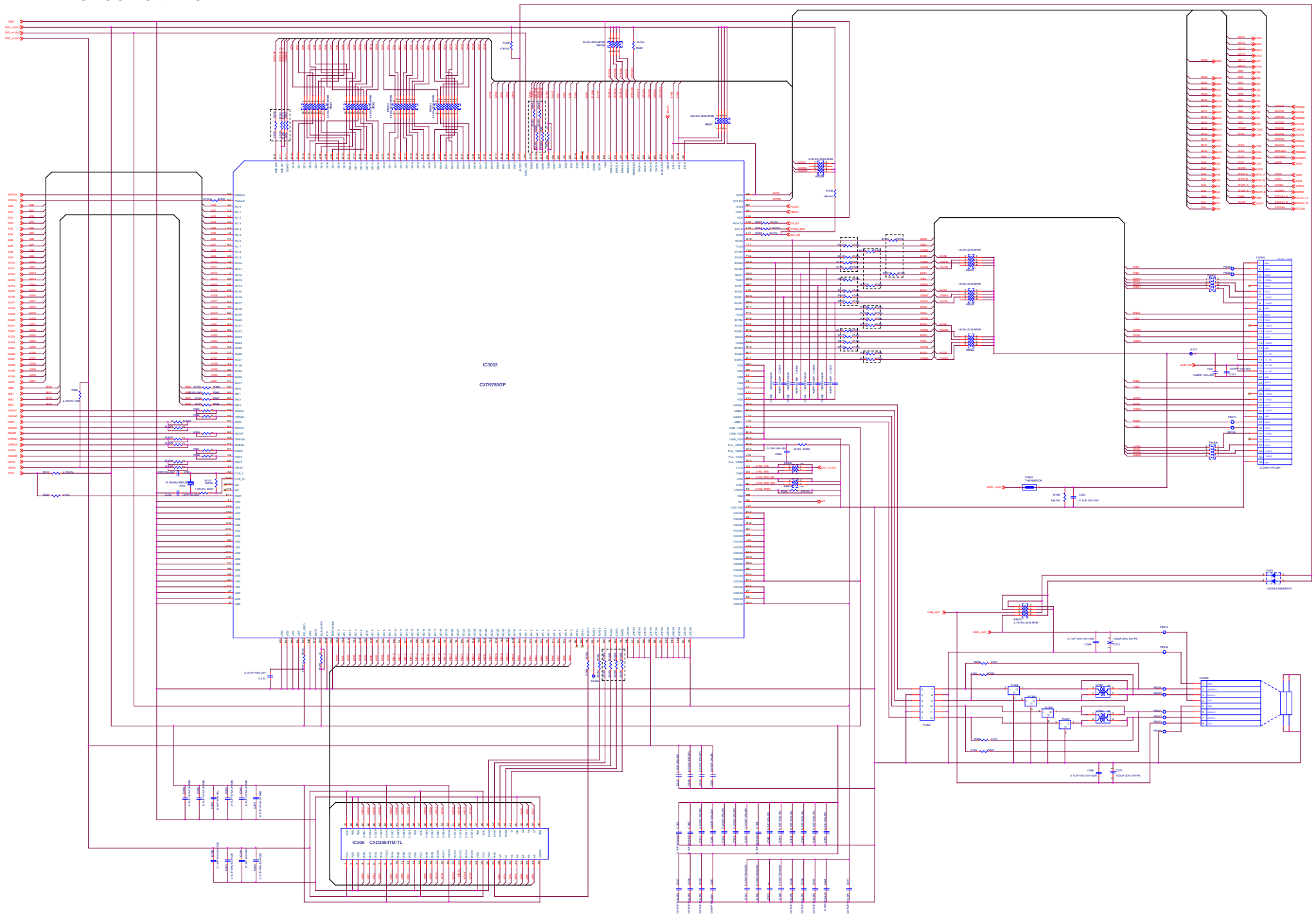
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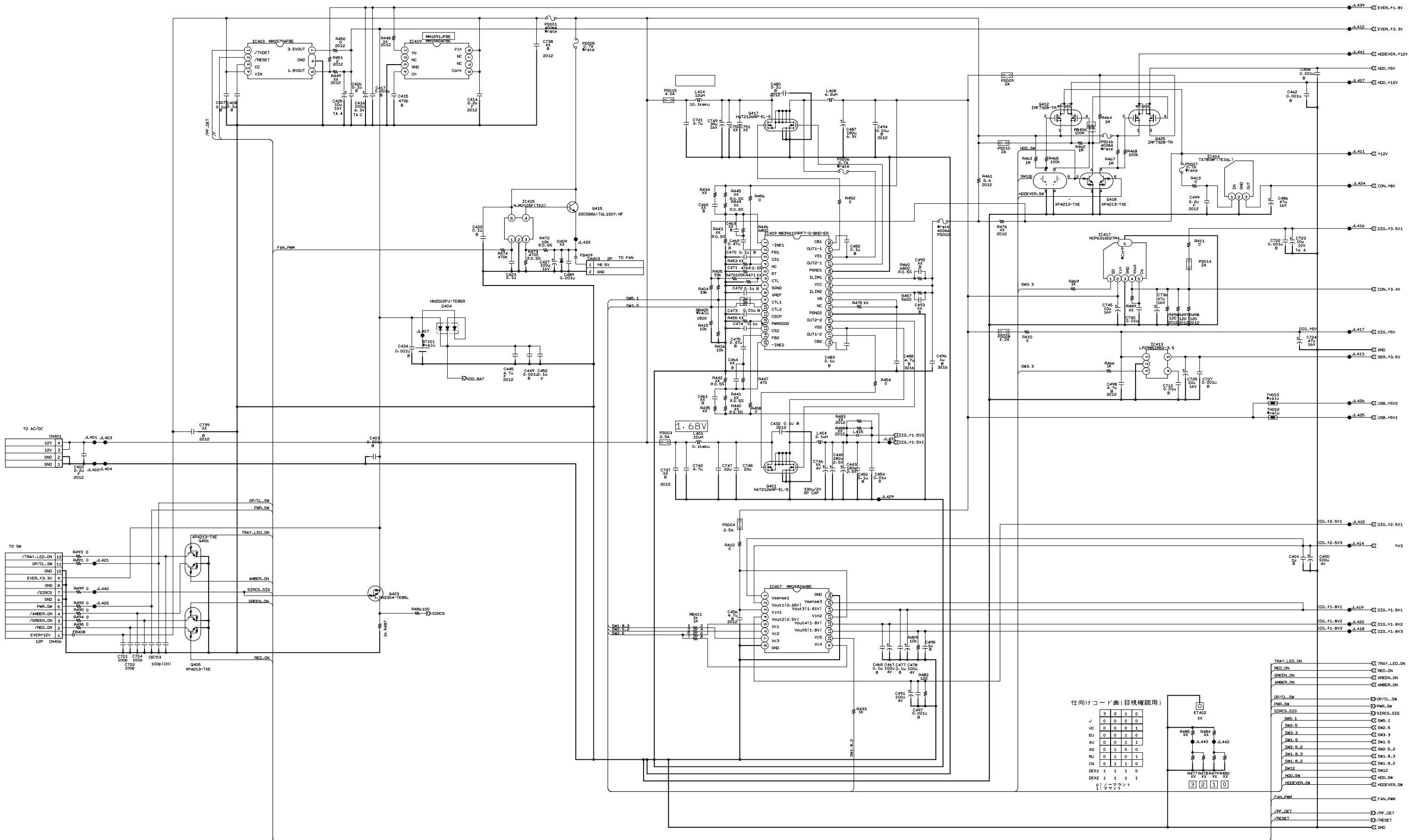
The components identified by mark \triangle
or dotted line with mark \triangle are critical
for safety.

Replace only with part number specified.









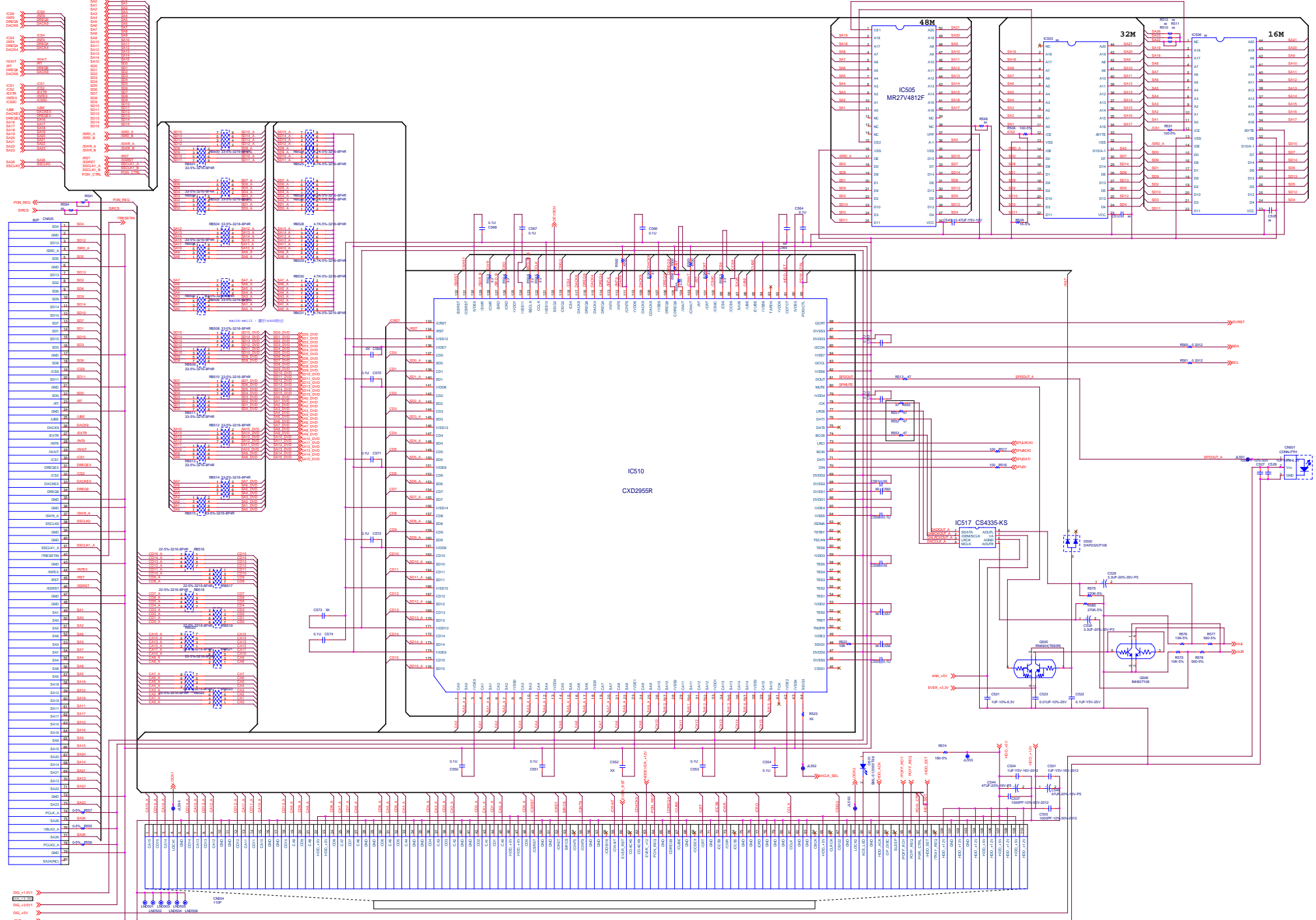
R404	R405	R415	R416	R434	R435	R446	R447	R452	R454	R456	R457	R458	R460	R470	R475
MB39A109PFT	XX	XX	XX	XX	XX	13K	1800	0	0	0	1800	0	6800	100K	XX
SN105225DBTR	100K	100K	33K	33K	0	0	0	0	2.7	2.7	XX	12K	XX	12K	XX

C475	C492	C493	C460	C461	C469	C471
MB39A109PFT	0.47u	XX	XX	XX	XX	0.47u
SN105225DBTR	470P	0.1u	0.1u	120P	820P	220P

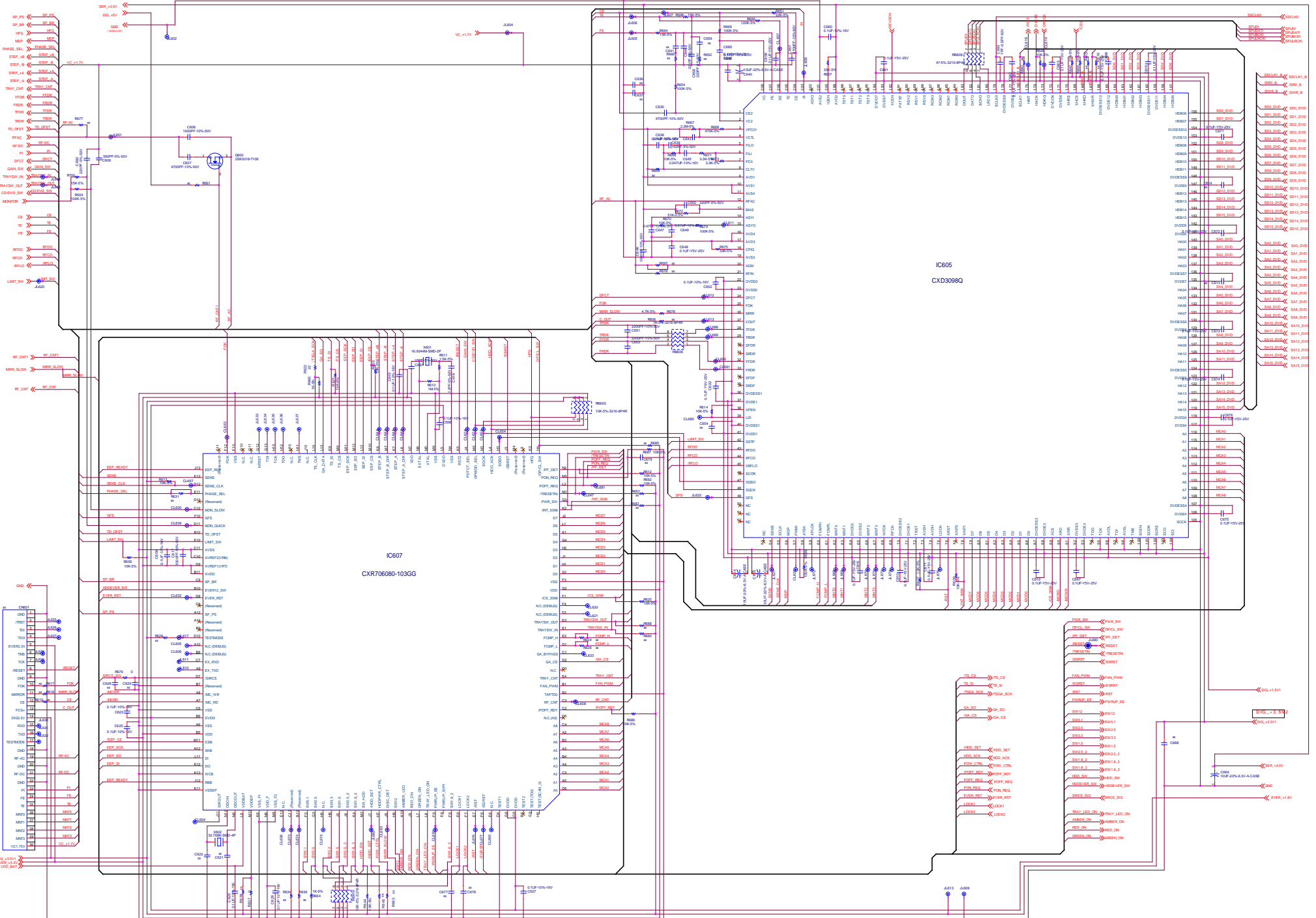
ICLINK PS001,002,013,016:FCC16 401 AD or TF16SN 0.40 or ERBFE0R40S
 PS003,004:CCP2E63
 PS005,006,007:FCC16 701 AD or TF16SN 0.70 or ERBFE0R70S
 PS008,012:CCP2E30 or ICP-S1.2
 PS009,010,011,014:CCP2E50 or ICP-S2.3
 PS015:CCP2E100 or FHC32 502 AD
 THERMISTER TH001,002,003:miniSMDC100 or 1812L110PRT or MF-MSMF110

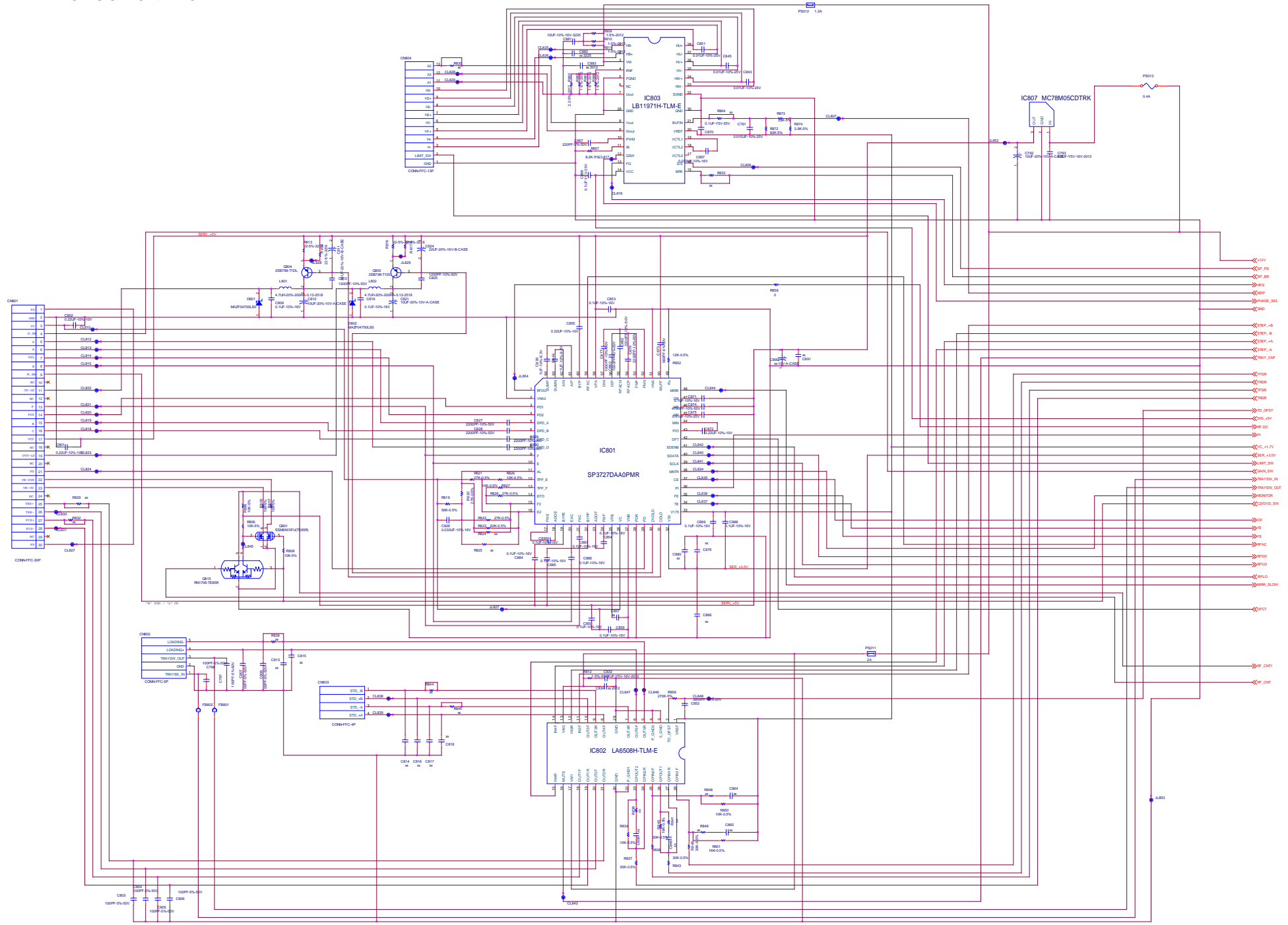
仕向けコード表(目視確認用)

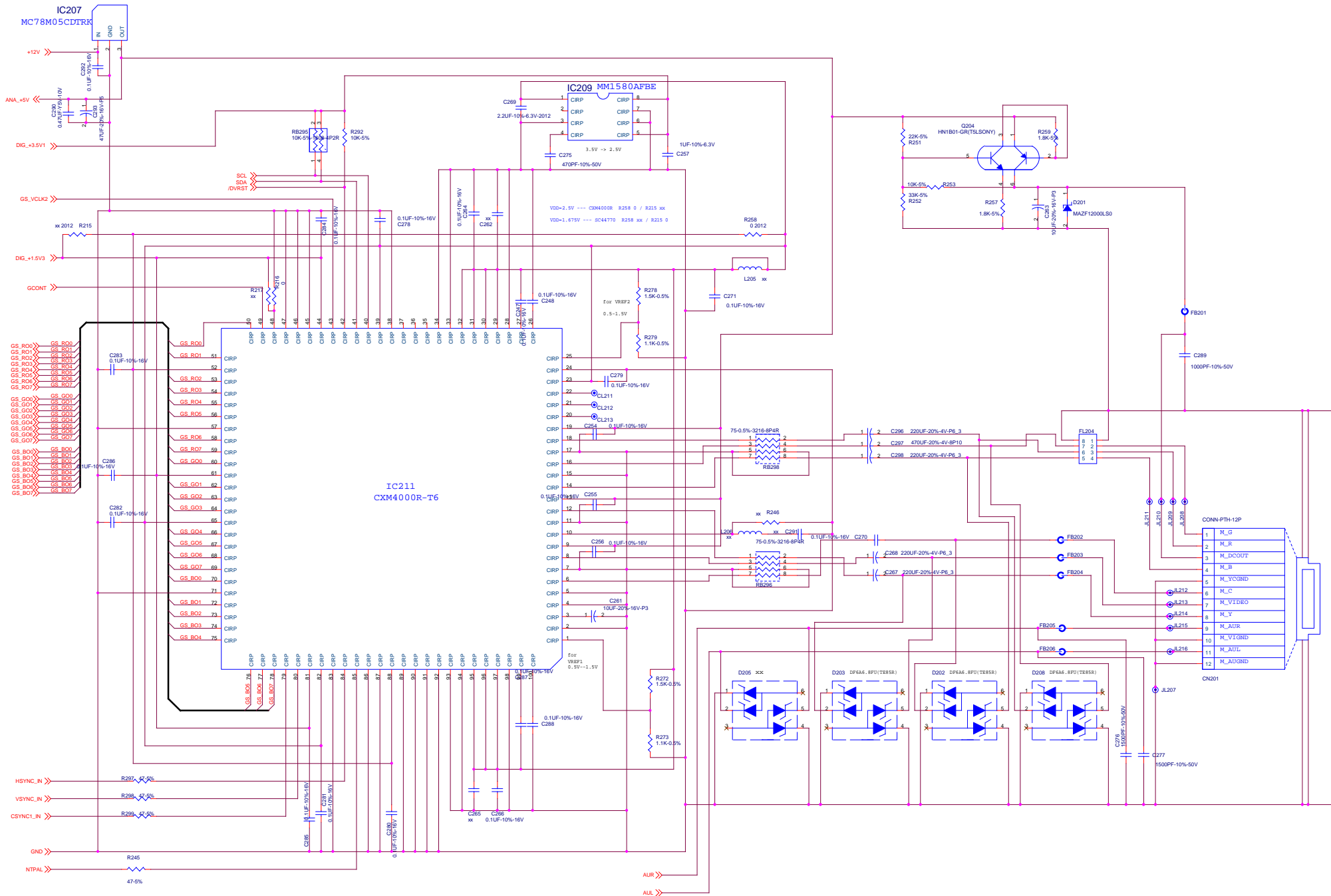
J	3	2	1	0
UC	0	0	0	0
EU	0	0	1	1
AU	0	0	1	1
AS	0	1	0	0
RJ	0	1	0	1
CN	0	1	1	0
DEX1	1	1	1	1
DEX2	1	1	1	1

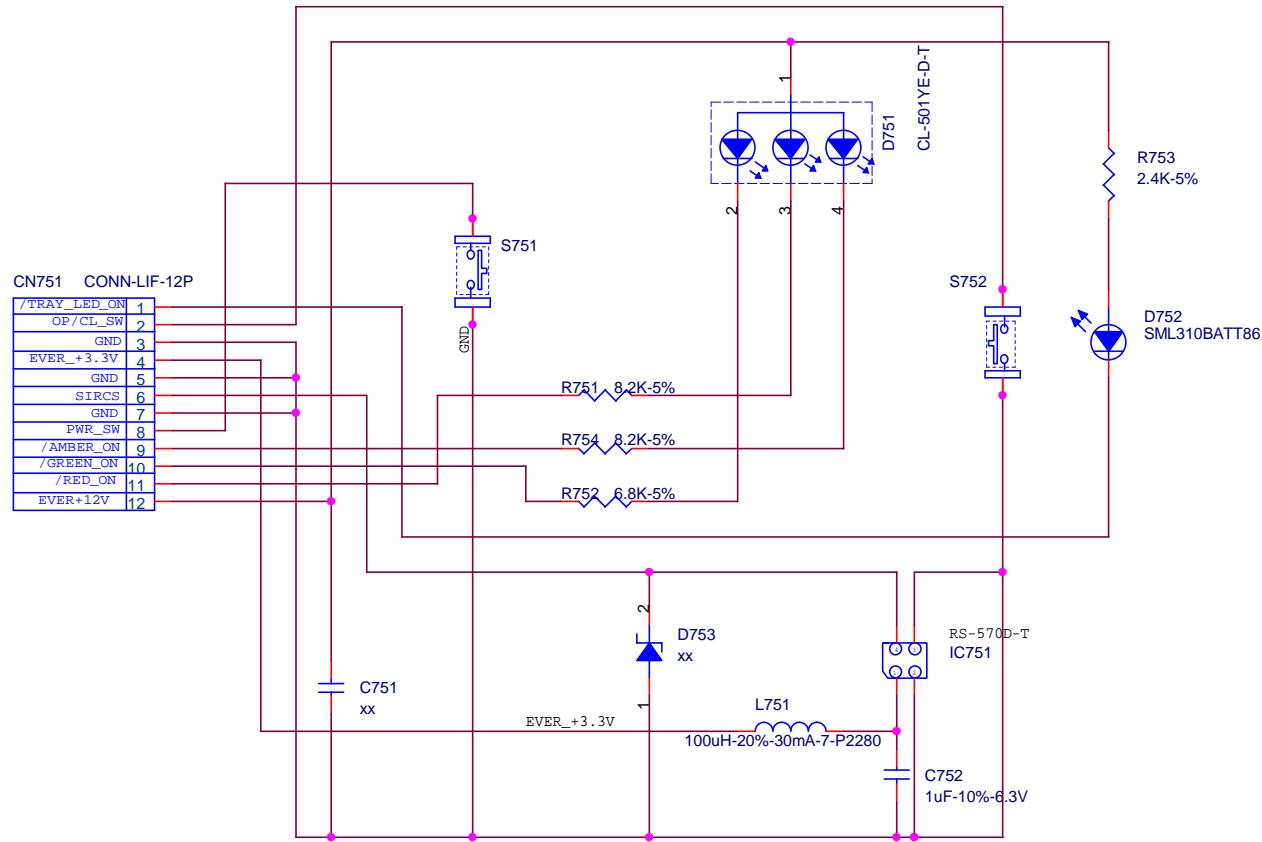


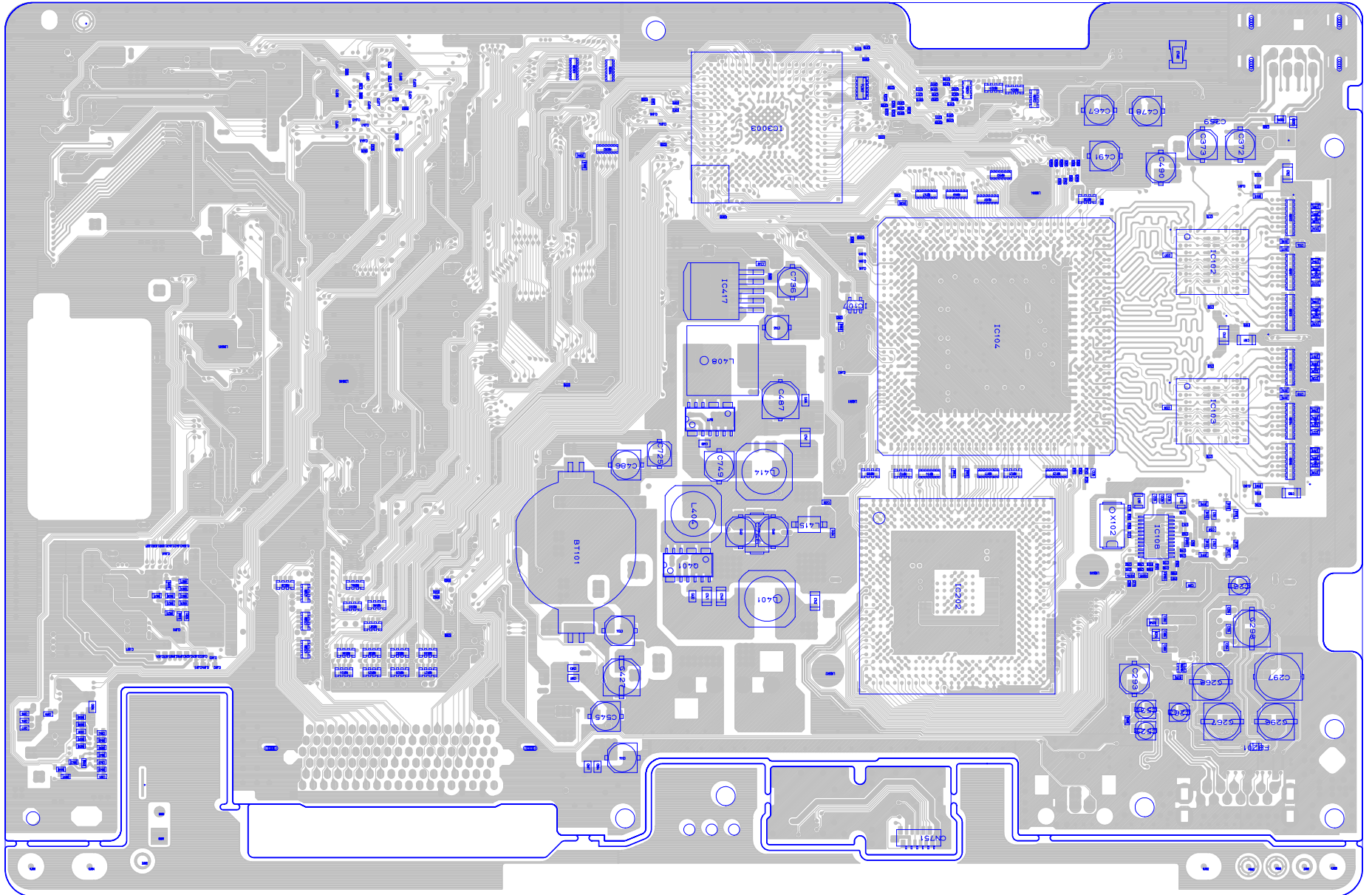
REPRODUCTION PROHIBITED

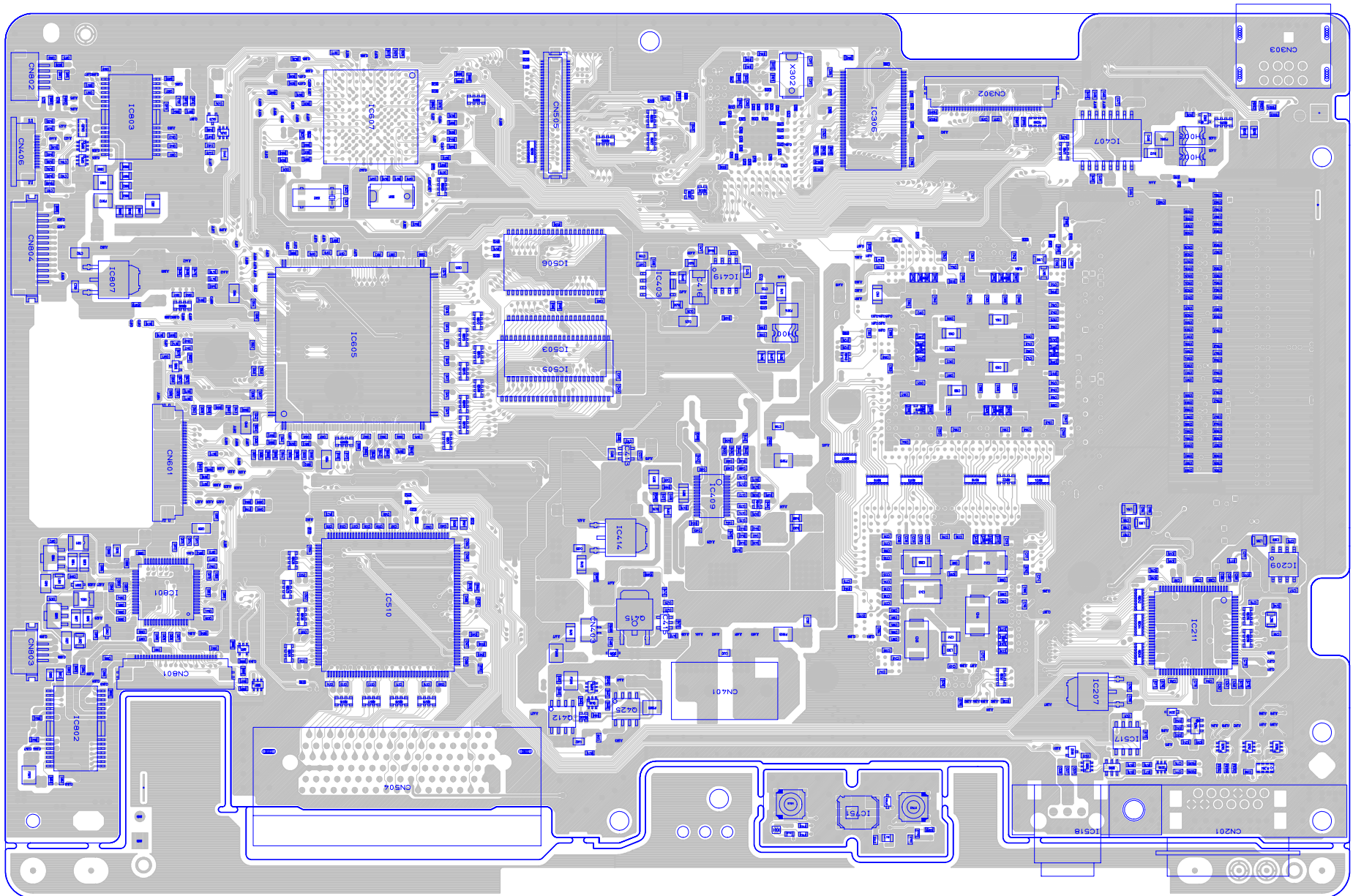




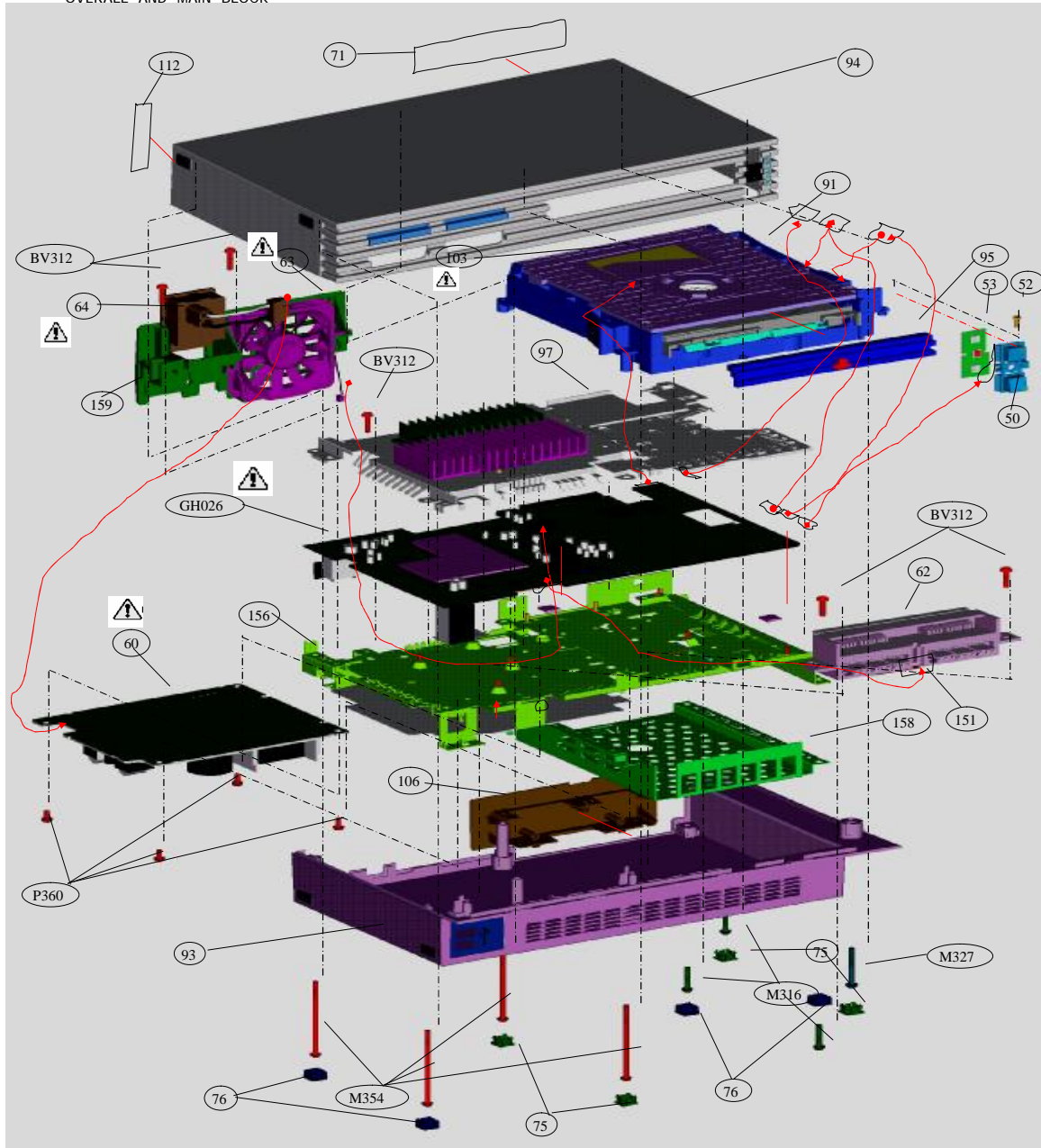










OVERALL AND MAIN BLOCK



EXPLODED VIEWS

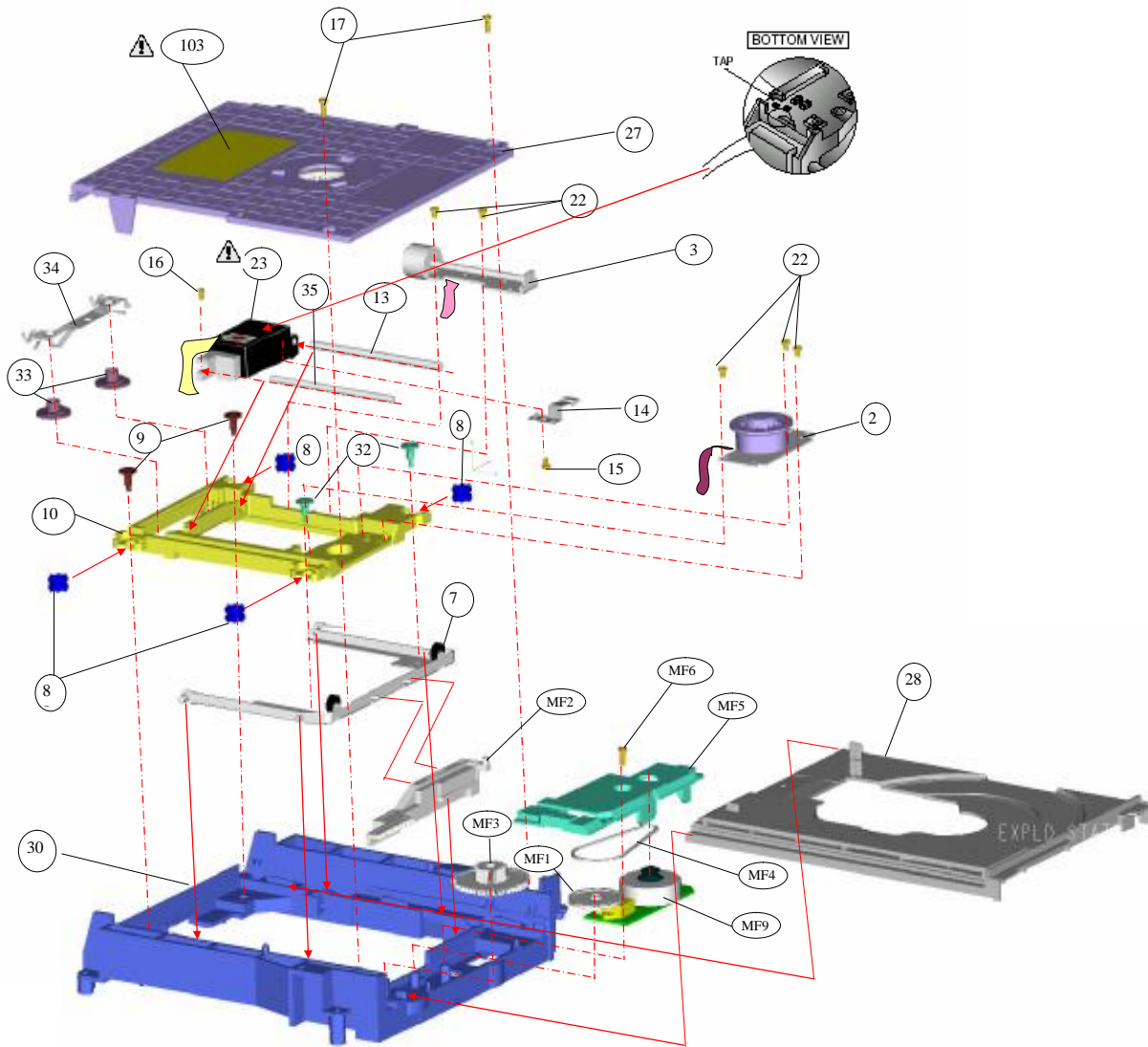
CAUTION:



The components identified by mark  plotted line with mark..  itical for safety. Replace only with part number specified.

CAUTION :
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

OVERALL AND MAIN BLOCK

Ref-No	Part No	Description	Remark	Place code
	1-468-758-31	POWER BLOCK		
	1-468-758-41	POWER BLOCK		
	1-468-759-21	POWER BLOCK		
	1-468-760-11	POWER BLOCK		
	1-694-873-11	TERMINAL BOARD (FRONT)		
	1-694-874-12	TERMINAL BOARD (FRONT)		
	1-694-875-13	TERMINAL BOARD (FRONT)		
	1-694-875-21	TERMINAL BOARD (FRONT)		
	1-757-934-11	CABLE, FLEXIBLE FLAT (FFC-011)		
	1-757-934-21	CABLE, FLEXIBLE FLAT (FFC-011)		
	1-757-934-31	CABLE, FLEXIBLE FLAT (FFC-011)		
	1-757-934-42	CABLE, FLEXIBLE FLAT (FFC-011)		
	1-757-934-51	CABLE, FLEXIBLE FLAT (FFC-011)		
	1-757-934-61	CABLE, FLEXIBLE FLAT (FFC-011)		
	1-787-009-11	DC. FAN		
	1-787-035-11	DC. FAN		
	1-787-036-11	DC. FAN		
	1-786-345-51	SWITCH, POWER (WITH AC INLET)		
	1-786-209-31	SWITCH, POWER (WITH AC INLET)		
	3-084-513-01	SHIELD HDD (H)		
	3-084-506-01	PANEL(H), REAR		
	3-088-455-01	SHIELD B (I)		
	3-088-253-01	LABEL, MODEL NUMBER(I)		
	3-074-548-01	COVER, SCREW		
	3-074-549-01	CAP		
	3-074-553-01	TITE (C2N), M3X6 +BV S		
	3-074-555-01	SCREW, +BV TAPPING		
	3-074-555-11	SCREW, +BV TAPPING		
	3-084-521-01	SCREW(M3X27)		
	3-074-556-01	SCREW, BRAZIER HEAD P TIGHT		
	3-084-509-01	BUTTON, SWITCH(H)		
	3-060-400-01	TAPPING (B2X6.5)		
	3-074-557-01	TAPE, VOID		
	3-074-558-01	CAUTION LABEL		
	A-6801-026-A	SW-430 COMPL		
	A-6801-138-A	GH-026 COMPL (DD FN 2R2R/C AR)		
	A-6801-139-A	GH-026 COMPL (DD TN 2R2R/C AR)		
	A-6801-140-A	GH-026 COMPL (DD FN 2R2R)		
	A-6801-141-A	GH-026 COMPL (DD TN 2R2R)		
	A-6800-396-A	MD BLOCK ASSY		
	X-3953-585-1	COVER(H) ASSY, UPPER		
	X-3954-056-1	SHIELD A (I) ASSY		
	X-3953-586-1	COVER(H) ASSY, LOWER		
	X-3953-587-1	PLATE(H) ASSY, ORNAMENTAL		
	3-074-550-01	LID		



CAUTION
The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

Ref-No.	Part No.	Description	Remark	Place code
3	1-763-639-22	MOTOR, DC		
	1-763-639-32	MOTOR, DC		
	1-763-889-12	MOTOR, DC		
	1-763-791-12	MOTOR, DC (SLED)		
	1-763-700-23	MOTOR, DC (SPINDLE)		
	1-763-700-31	MOTOR, DC (SPINDLE)		
	8-835-781-11	MOTOR, DC (SPINDLE)		
	1-763-883-13	MOTOR, DC (SPINDLE)		
	1-763-883-21	MOTOR, DC (SPINDLE)		
16	3-060-399-01	Screw skew T5*3.5		
15	3-082-653-01	0 PART-NO. 3 MAIN M2X3		
9	3-065-276-01	SCREW, STEP		
8	3-081-830-01	INSULATOR		
32	3-068-075-02	SCREW (SUB), STEP		
34	3-084-533-01	SPRING (TILT), LEAF		
10	3-084-529-01	CHASSIS		
13	3-084-530-01	SHAFT(H), MAIN		
14	3-081-825-01	RACK		
33	3-084-532-01	CAM, TILT		
23	8-820-151-19	DEVICE, OPTICAL KHS-400C/K1NP5		
	8-820-151-20	DEVICE, OPTICAL KHS-400C/C-NP5		
	8-820-151-21	DEVICE, OPTICAL KHS-400C/C1NP5		
	8-820-151-27	DEVICE, OPTICAL KHS-400C/C1NP5		
	8-820-151-28	DEVICE, OPTICAL KHS-400C/C1NP5		
	8-820-151-29	DEVICE, OPTICAL KHS-400C/C1NP5		
	1-758-939-11	OPTICAL PICK UP (SF-HD7)		
	1-758-939-21	OPTICAL PICK UP (SF-HD7)		
	1-758-939-31	OPTICAL PICK UP (SF-HD7)		
1-758-939-41	OPTICAL PICK UP (SF-HD7)			
1-758-939-51	OPTICAL PICK UP (SF-HD8)			
1-758-939-61	OPTICAL PICK UP (SF-HD9)			
1-758-939-71	OPTICAL PICK UP (SF-HD10)			
22	8-820-151-32	DEVICE, OPTICAL KHS-400C/K1NP8		
	8-820-151-33	DEVICE, OPTICAL KHS-400C/C-NP8		
	3-081-829-01	SCREW(P2X3.7)		
28	3-084-522-01	TRAY(H)		
35	3-084-531-01	SHAFT, SUB		
30	X-3953-283-2	FRAME(H) ASSY, MAIN		
103	X-3953-590-1	FRAME(H) ASSY, MAIN		
	3-074-558-01	CAUTION LABEL		
7	X-3953-591-1	FRAME ASSY, SUB		
27	X-3953-589-1	BRACKET ASSY, PULLEY		
17	3-060-400-01	TAPPING (B2X6.5)		
MF1	3-059-856-01	PULLEY		
MF2	3-084-527-01	SLIDE CAM		
MF3	3-084-526-01	DRIVING GEAR		
MF4	3-065-505-02	RUBBER BELT		
MF5	3-084-528-01	GEAR COVER		
MF6	3-060-400-01	Tapping B2*6.5		
MF9	1-763-781-21	DC MOTOR(LO UNIT)		
	1-763-782-21	DC MOTOR(LO UNIT)		

SECTION 4 ELECTRICAL PART LIST

NOTE:

- Due to standardization , replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- RESISTORS
METAL :Metal-film resistor.
F: nonflammable
- SEMICONDUCTORS
In each case , u: μ ,for example:
uA.: μ A.. uPA.: μ PA..
uPB.: μ PB.. uPC.: μ PC.. uPD.: μ PD..

- CAPACITORS
uF: μ F
- COILS
uH: μ H

When indicating parts by reference number. please include the board.

NOTE:

- SC Classification
S: Supplied parts
U: Unsupplied parts

Note:

The components identified by mark \triangle or dotted line with mark \triangle are critical for safety.

Replace only with part number specified.

ELECTRICAL PARTS LIST

Table with 4 columns: SC, LOCATION, SONY P/N, PRODUCTION NAME AND DESCRIPTION, REFERENCE. It lists various electronic components such as capacitors, batteries, and holders with their respective part numbers and descriptions.

ELECTRICAL PARTS LIST

<u>SC</u>	<u>LOCATION</u>	<u>SONY P/N</u>	<u>PRODUCTION NAME AND DESCRIPTION</u>	<u>REFERENCE</u>
S	RB527	1-233-414-21	RES,SMD,RNET 4.7K 5% 1/16W 3216 8P4R	FJT 2R2R,TX12R2R
S	RB528	1-233-414-21	RES,SMD,RNET 4.7K 5% 1/16W 3216 8P4R	FJT 2R2R,TX12R2R
S	RB529	1-233-414-21	RES,SMD,RNET 4.7K 5% 1/16W 3216 8P4R	FJT 2R2R,TX12R2R
S	RB530	1-233-414-21	RES,SMD,RNET 4.7K 5% 1/16W 3216 8P4R	FJT 2R2R,TX12R2R
S	RB531	1-233-414-21	RES,SMD,RNET 4.7K 5% 1/16W 3216 8P4R	FJT 2R2R,TX12R2R
S	RB603	1-233-415-21	RES,SMD,RNET 10K 5% 1/16W 3216 8P4R	FJT 2R2R,TX12R2R
S	RB606	1-233-412-21	RES,SMD,RNET 1.0K 5% 1/16W 3216 8P4R	FJT 2R2R,TX12R2R
S	RB609	1-233-423-21	RES,SMD,RNET 47 5% 1/16W 3216 8P4R	FJT 2R2R,TX12R2R
S	RB610	1-233-415-21	RES,SMD,RNET 10K 5% 1/16W 3216 8P4R	FJT 2R2R,TX12R2R
THERMISTOR				
S	TH001	1-804-812-11	THERMISTOR,SMD,POSITIVE,miniSMDC100F	FJT 2R2R,TX12R2R
S	TH002	1-804-812-11	THERMISTOR,SMD,POSITIVE,miniSMDC100F	FJT 2R2R,TX12R2R
S	TH003	1-804-812-11	THERMISTOR,SMD,POSITIVE,miniSMDC100F	FJT 2R2R,TX12R2R
CRYSTAL				
S	X102	1-781-640-21	VIBRATOR,SMD,CRYSTAL 18.432MHZ	FJT 2R2R,TX12R2R
S	X302	1-781-768-21	VIBRATOR,SMD,CRYSTAL 16.9344MHZ	FJT 2R2R,TX12R2R
S	X601	1-781-768-21	VIBRATOR,SMD,CRYSTAL 16.9344MHZ	FJT 2R2R,TX12R2R
S	X602	1-781-266-41	VIBRATOR,SMD,CRYSTAL 32.768KHZ	FJT 2R2R,TX12R2R
SWITCH BOARD				
S		A-6800-026-A	SW-430 COMPL	FJT 2R2R,TX12R2R
CAPACITANCE				
U	C752	1-125-837-91	CAP,SMD,CER 1MF 10% 6.3V 1608 X7R	FJT 2R2R,TX12R2R
CONNECTOR				
S	CN751	1-793-906-21	CONN,SMD,FFC/FPC (LIF) 12P	FJT 2R2R,TX12R2R
DIODE				
U	D751	6-500-607-01	DIO,SMD,CL-501YE-D-T	FJT 2R2R,TX12R2R
U	D752	6-500-204-01	DIO,SMD,CL-190UB2-X-T	FJT 2R2R,TX12R2R
IC				
S	IC751	6-704-096-01	IC,SMD,RS-570D-T	FJT 2R2R,TX12R2R
INDUCTOR				
U	L751	1-469-847-21	IND,SMD,100UH 20% 30mA 7OHM 2012	FJT 2R2R,TX12R2R
RESISTOR				
U	R751	1-216-832-91	RES,SMD,8.2K 5% 1/16W 1608	FJT 2R2R,TX12R2R
U	R752	1-216-831-91	RES,SMD,6.8K 5% 1/16W 1608	FJT 2R2R,TX12R2R
U	R753	1-216-993-91	RES,SMD,2.4K 5% 1/16W 1608	FJT 2R2R,TX12R2R
U	R754	1-216-832-91	RES,SMD,8.2K 5% 1/16W 1608	FJT 2R2R,TX12R2R
SWITCH				
U	S751	1-771-917-21	SWITCH,SMD,TACTILE	FJT 2R2R,TX12R2R
U	S752	1-771-917-21	SWITCH,SMD,TACTILE	FJT 2R2R,TX12R2R