

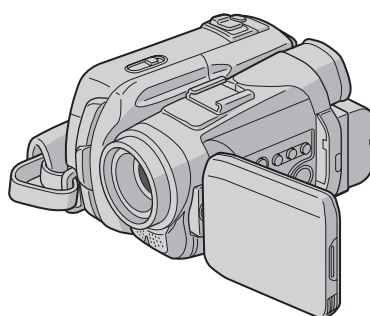


SCHEMATIC DIAGRAMS

DIGITAL VIDEO CAMERA

**GR-DF420EK, GR-DF420EX,
GR-DF420EY, GR-DF420EZ,
GR-DF425EK, GR-DF425EG,
GR-DF430EK, GR-DF460EK,
GR-DF470EK, GR-DF470EX,
GR-DF470EY, GR-DF470EZ**

CD-ROM No.SML200503



Mini **DV** PAL




MultiMediaCard

GR-DF420EKM, GR-DF420EXM, GR-DF420EYM, GR-DF420EZM,
GR-DF425EKM, GR-DF425EGM[M5D5S2],
GR-DF430EKM[M5D5S3], GR-DF460EKM[M5D5S6],
GR-DF470EKM, GR-DF470EXM GR-DF470EYM, GR-DF470EZM[M5D5S7]

CHARTS AND DIAGRAMS

NOTES OF SCHEMATIC DIAGRAM

Safety precautions

The Components indentified by the symbol  are critical for safety. For continued safety, replace safety critical components only with manufacturer's recommended parts.

1. Units of components on the schematic diagram

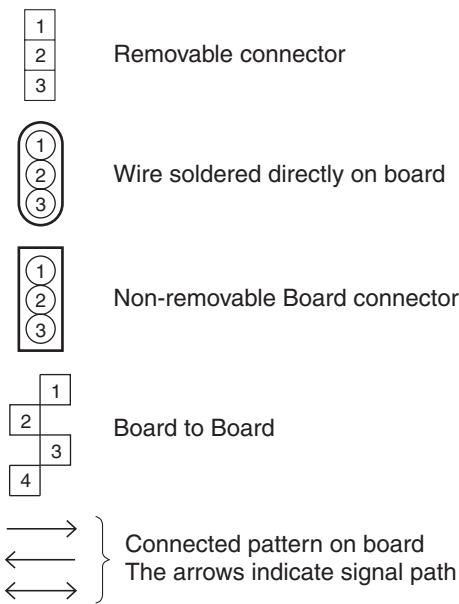
- Unless otherwise specified.
- 1) All resistance values are in ohm. 1/6 W, 1/8 W (refer to parts list).
Chip resistors are 1/16 W.
K: KΩ(1000Ω), M: MΩ (1000KΩ)
- 2) All capacitance values are in μF, (P: PF).
- 3) All inductance values are in μH, (m: mH).
- 4) All diodes are 1SS133, MA165 or 1N4148M (refer to parts list).

Note: The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.

2. Indications of control voltage

- AUX : Active at high.
- $\overline{\text{AUX}}$ or AUX(L) : Active at low.

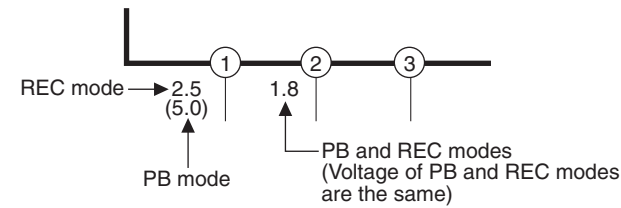
3. Interpreting Connector indications



Note: For the destination of each signal and further line connections that are cut off from the diagram, refer to "BOARD INTERCONNECTIONS"

4. Voltage measurement

- 1) Regulator (DC/DC CONV) circuits
REC : Colour bar signal.
PB : Alignment tape (Colour bar).
— : Unmeasurable or unnecessary to measure.
- 2) Indication on schematic diagram
Voltage indications for REC and PB mode on the schematic diagram are as shown below.

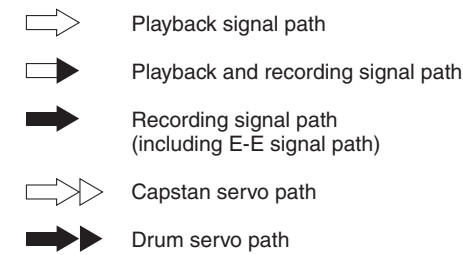


Note: If the voltages are not indicated on the schematic diagram, refer to the voltage charts.

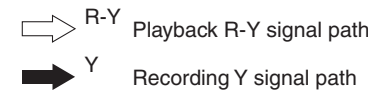
5. Signal path Symbols

The arrows indicate the signal path as follows.

NOTE : The arrow is DVC unique object.



(Example)



6. Indication of the parts for adjustments

The parts for the adjustments are surrounded with the circle as shown below.



7. Indication of the parts not mounted on the circuit board

"OPEN" is indicated by the parts not mounted on the circuit board.



CIRCUIT BOARD NOTES

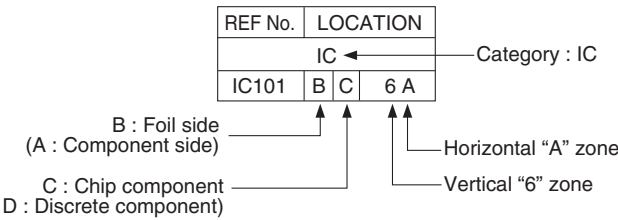
1. Foil and Component sides

- 1) Foil side (B side) :
Parts on the foil side seen from foil face (pattern face) are indicated.
- 2) Component side (A side) :
Parts on the component side seen from component face (parts face) indicated.

Parts location are indicated by guide scale on the circuit board.

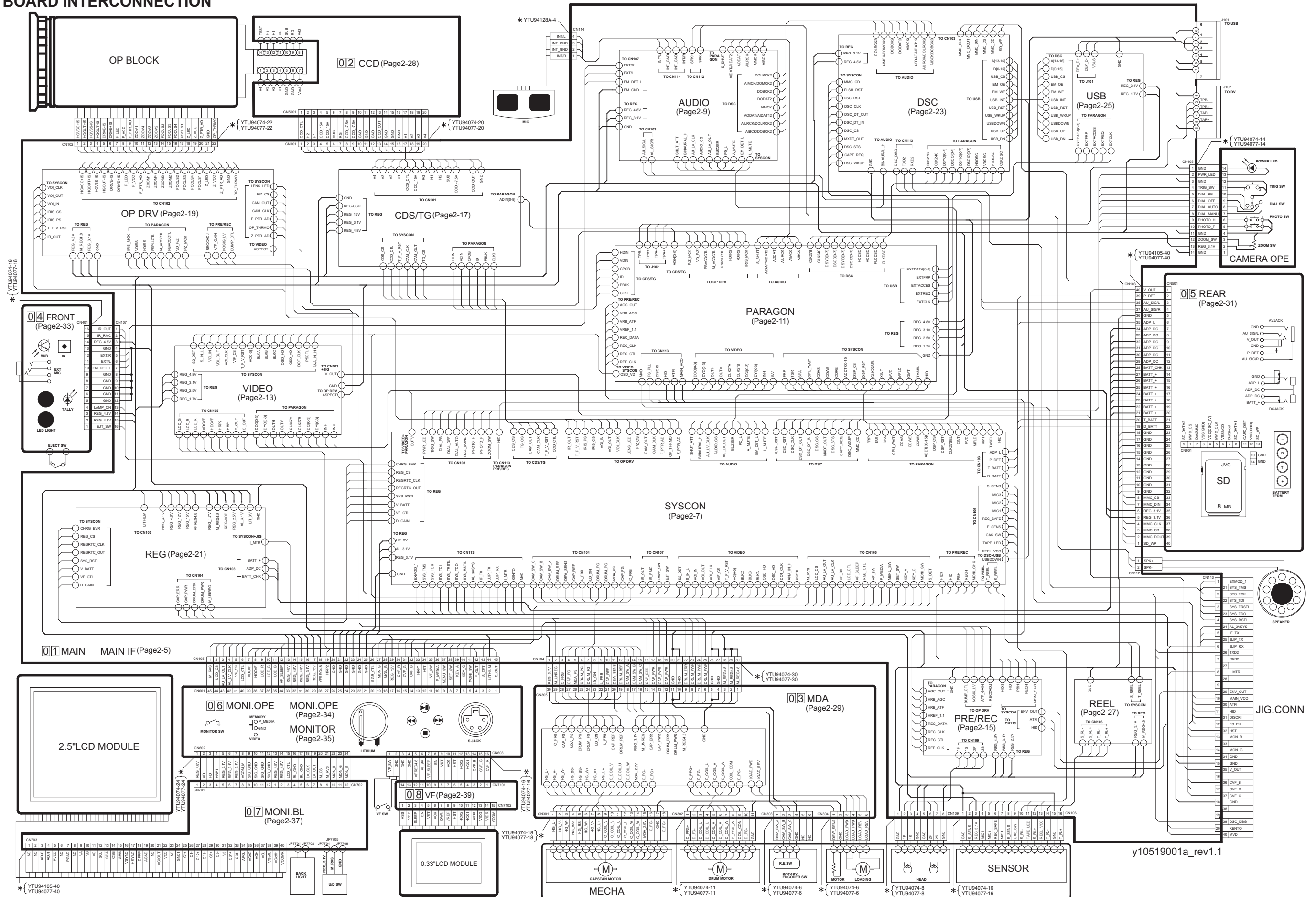
2. Parts location guides

Parts location are indicated by guide scale on the circuit board.



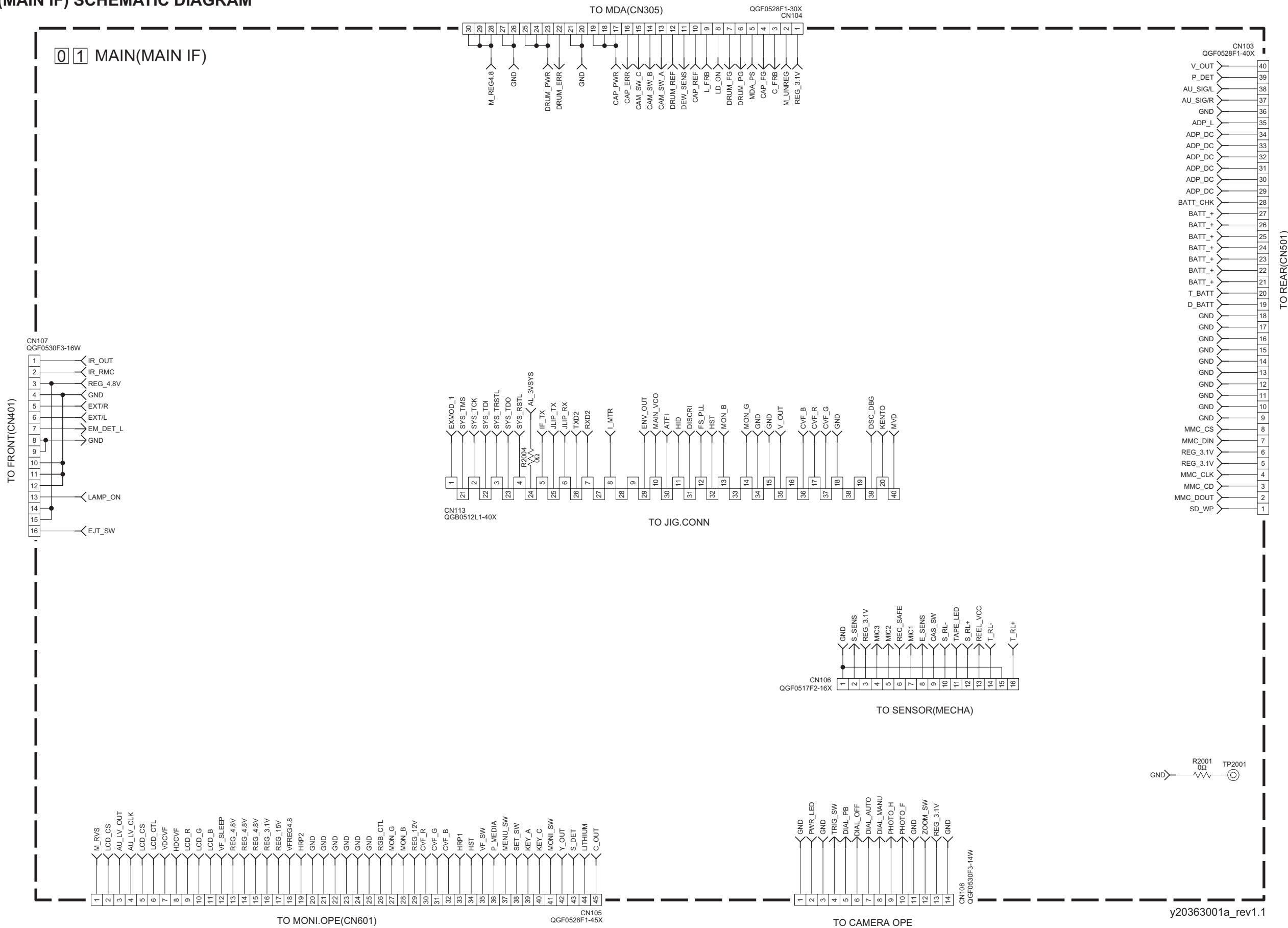
Note: For general information in service manual, please refer to the Service Manual of GENERAL INFORMATION Edition 4 No. 82054D (January 1994).

BOARD INTERCONNECTION



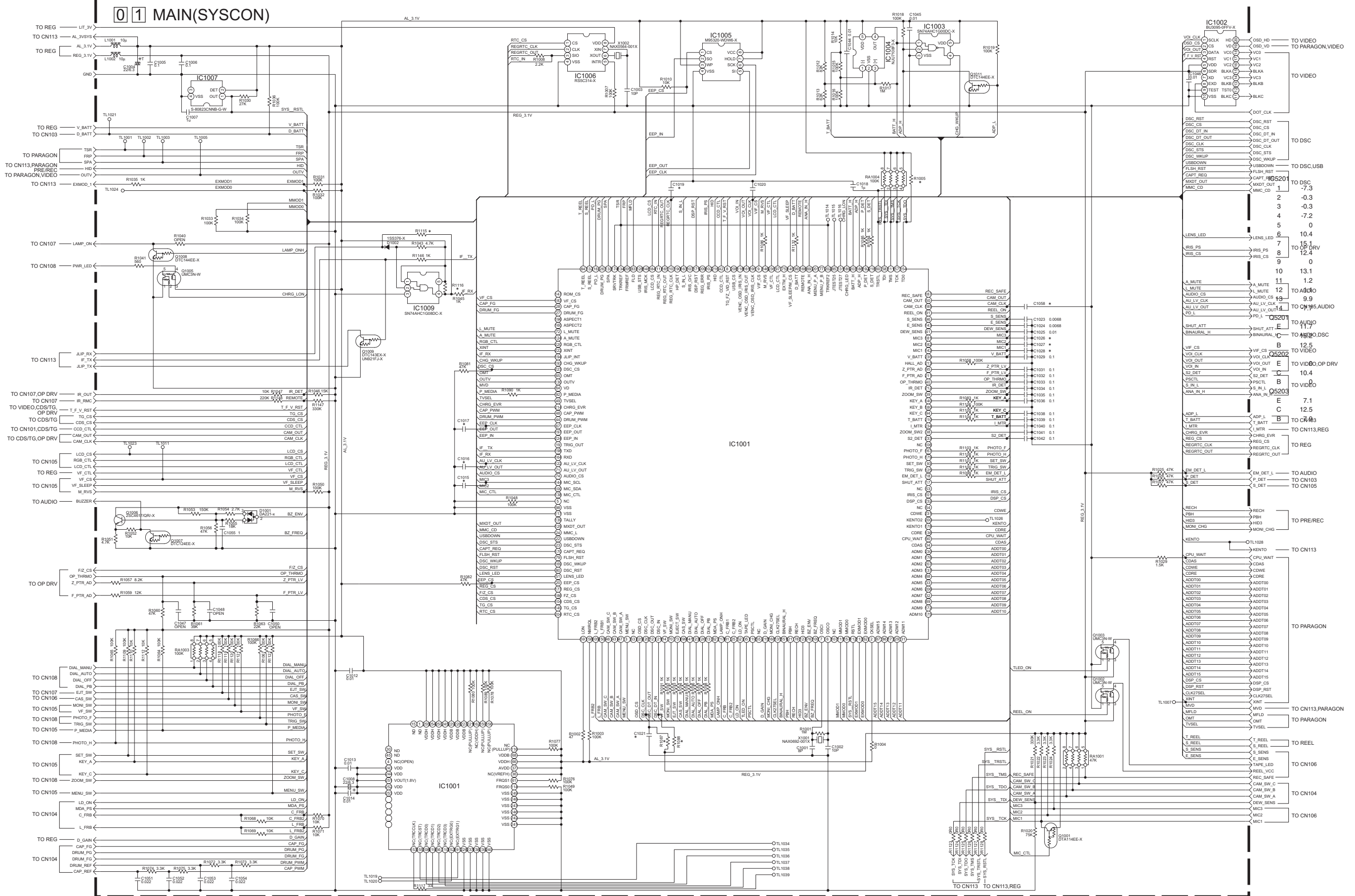
NOTE: The number of patch cords (*) are indicated by interconnection.

MAIN(MAIN IF) SCHEMATIC DIAGRAM



NOTES: 1. For the destination of each signal and further line connections that are cut off from this diagram, refer to "BOARD INTERCONNECTIONS".
2. The parts with marked (*) is not used.

■ MAIN(SYS CON) SCHEMATIC DIAGRAM

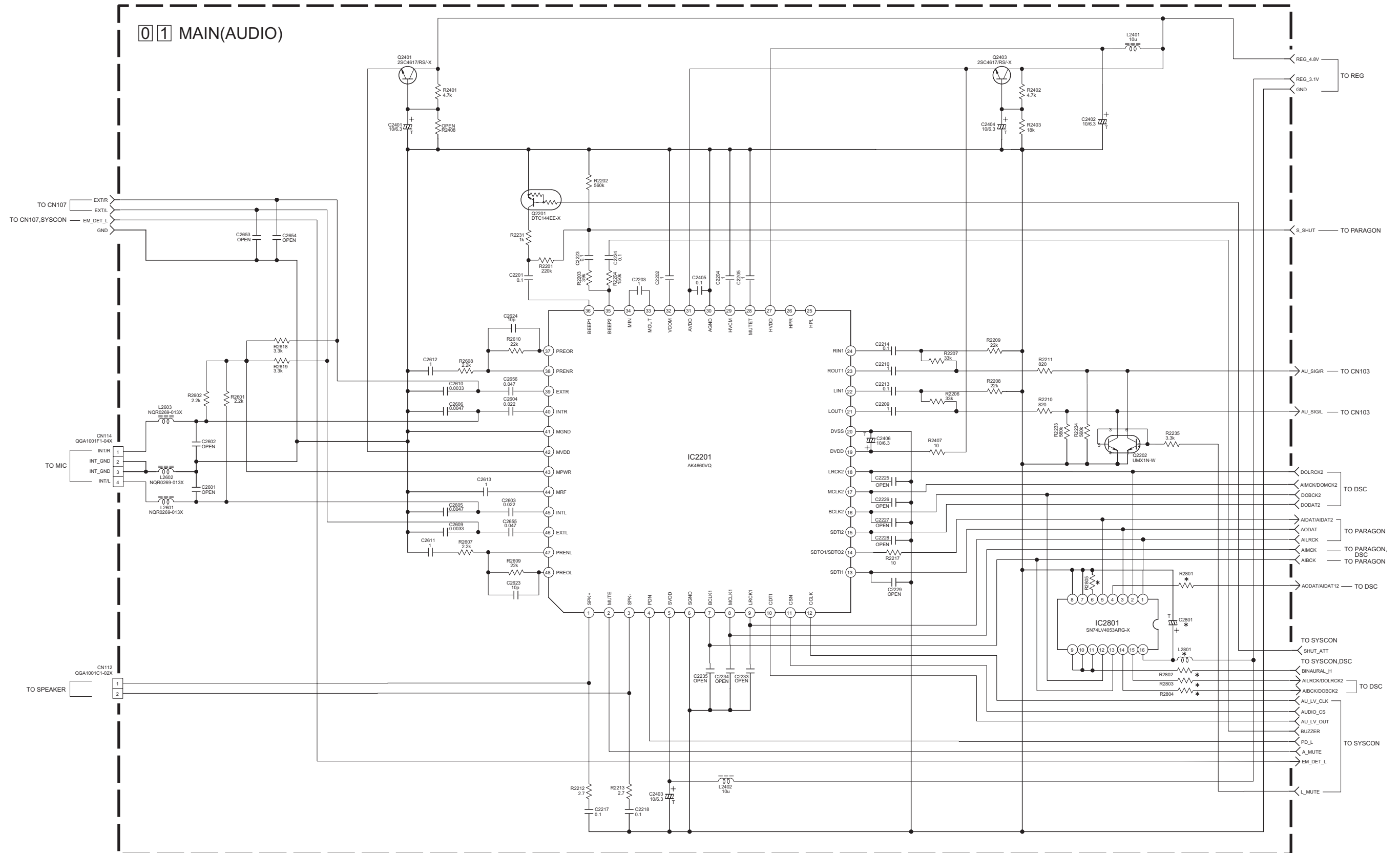


NOTES: 1. For the destination of each signal and further line connections that are cut off from this diagram, refer to "BOARD INTERCONNECTIONS".

2. The parts with marked (*) is not used.

y10513001a_rev0.1

■ MAIN(AUDIO) SCHEMATIC DIAGRAM



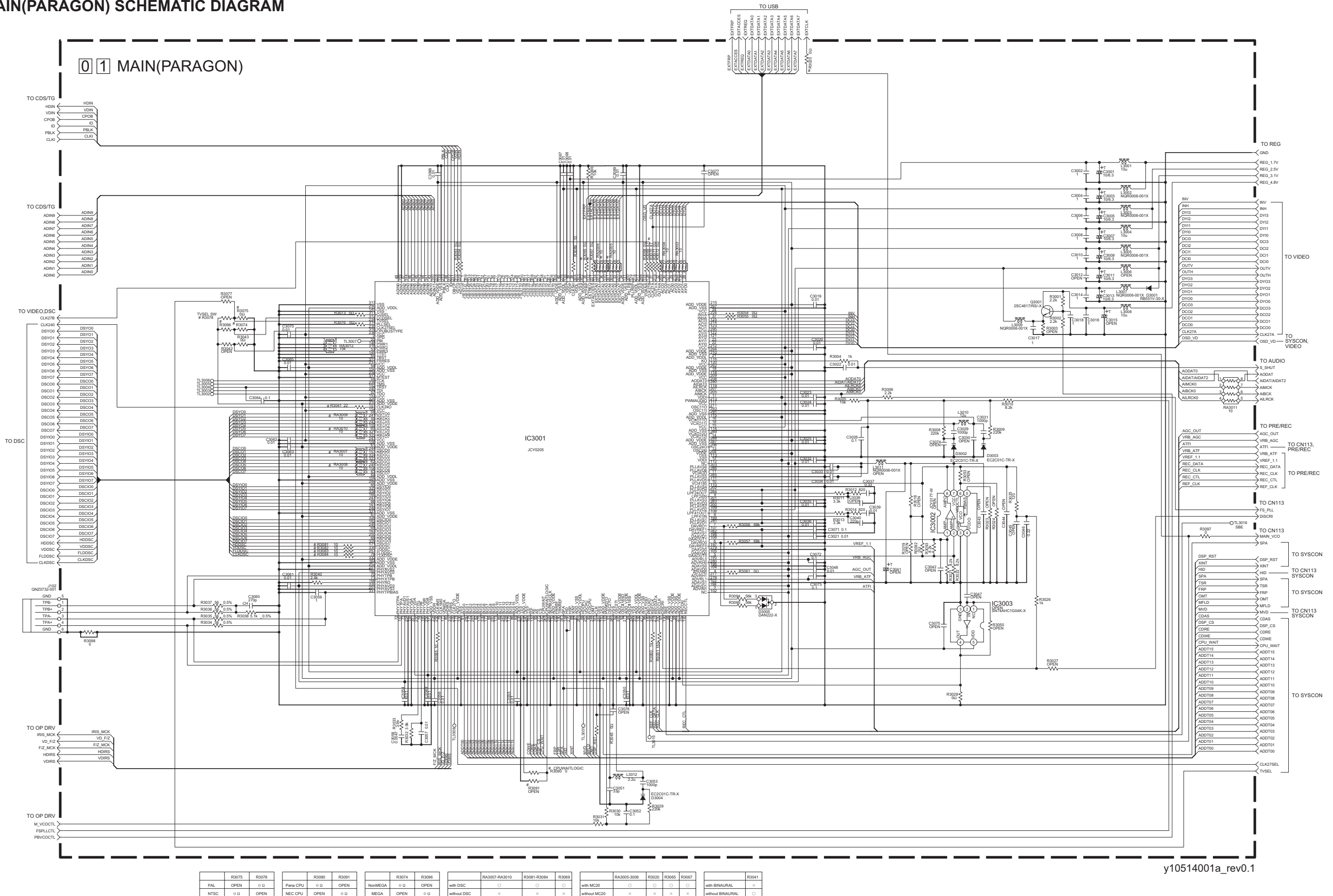
y20365001a_rev0.1

SYMBOL LIST		LAST	VACANT	NO MOUNT
2400 (MAN)	R	35	5,14,16,18-30,32	
	G	35	6-8,11,12,15,18,19-22,30-32	25-29,33-35
	P	2		
2400 (REG)	R	8	4-6	8
	L	2		
	C	2		
2600 (NT MIC)	R	19	3-6,11-17	
	C	24	7,8,14-22	1,2
	L	3		
2800 (EXT MIC)	C	56		53,54
	L	1		
2800 (BINAURAL)	R	5	2,4	
	C	1		
	L	1		

* MODEL DIFFERENCE	\$2 S3	\$4 S5	\$6 S9
C2225	041	OPEN	OPEN
C2226	041	OPEN	OPEN
C2227	041	OPEN	OPEN
C2228	041	OPEN	OPEN
C22801	OPEN	OPEN	SN74V4053ARG
L22801	OPEN	OPEN	NO180006-001X
R22801	OPEN	OPEN	10B 3
R2801	OPEN	OPEN	041
R2802	OPEN	OPEN	041
R2803	OPEN	OPEN	041
R2804	OPEN	OPEN	041
R2805	OPEN	OPEN	041

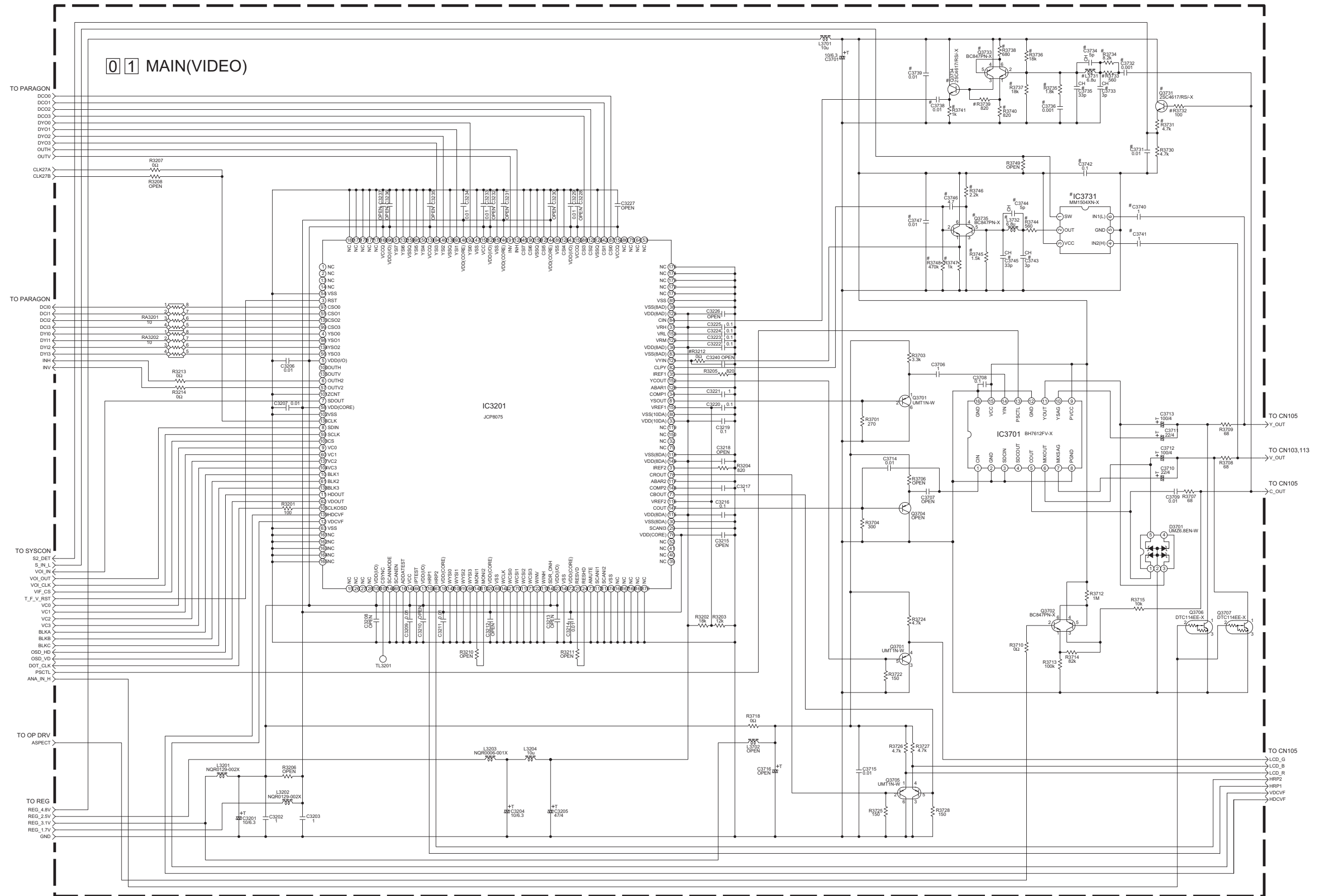
NOTE: For the destination of each signal and further line connections that are cut off from this diagram, refer to "BOARD INTERCONNECTIONS".

■ MAIN(PARAGON) SCHEMATIC DIAGRAM



NOTES: 1. For the destination of each signal and further line connections that are cut off from this diagram, refer to "BOARD INTERCONNECTIONS".
2. The parts with marked (*) is not used.

■ MAIN(VIDEO) SCHEMATIC DIAGRAM

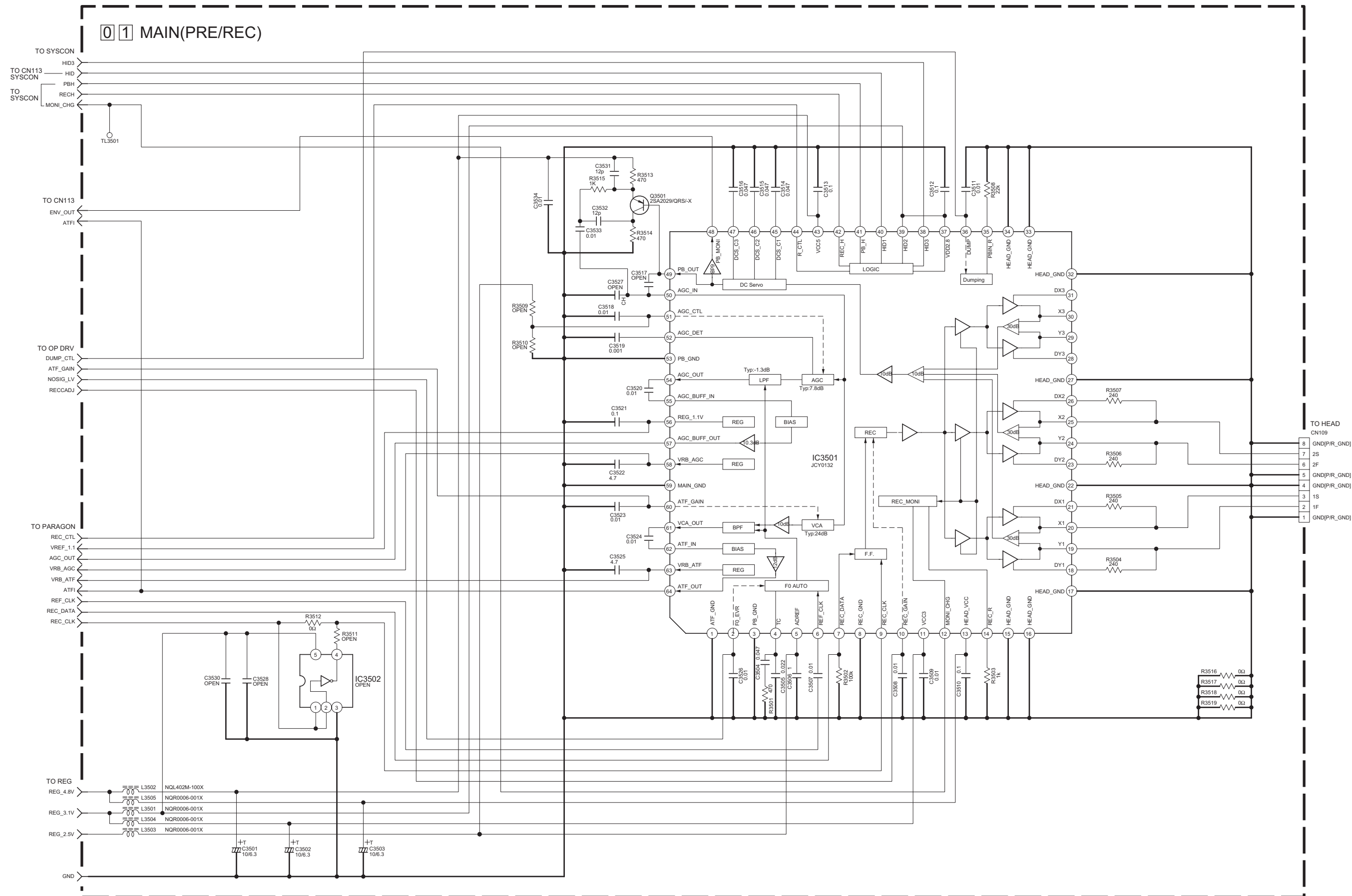


y10515001a_rev1.1

NOTES: 1. For the destination of each signal and further line connections that are cut off from this diagram, refer to "BOARD INTERCONNECTIONS".
2. The parts with marked (*) is not used.

	IC3731	Q3731, Q3733-Q3735	L3731,L3732	R3731-R3741, R3744-R3748	C3731-C3736, C3738-C3747	R3211
with ANALOG_INPUT	○	○	○	○	○	○
without ANALOG_INPUT	×	×	×	×	×	×

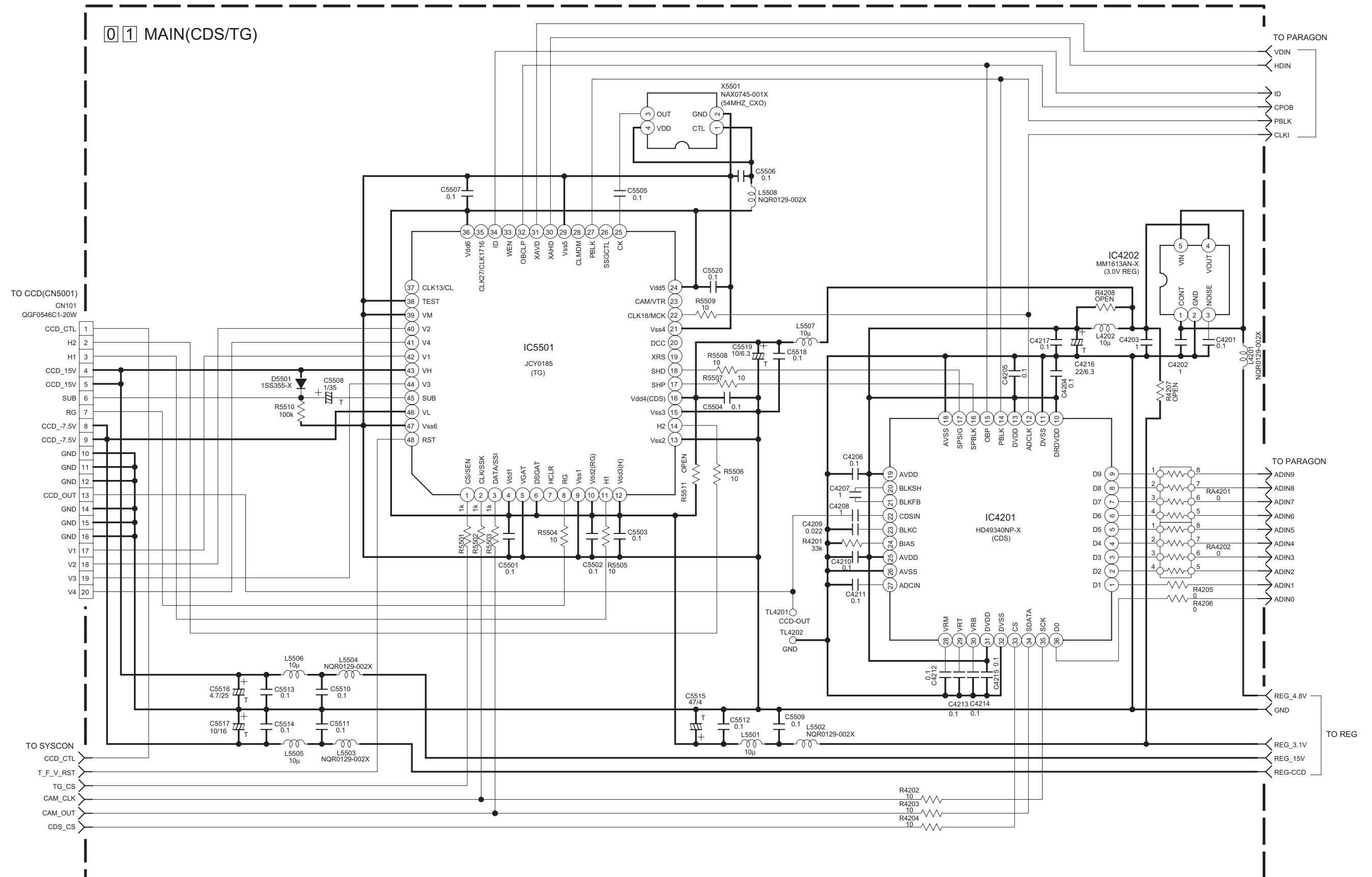
■ MAIN(PRE/REC) SCHEMATIC DIAGRAM



NOTES: 1. For the destination of each signal and further line connections that are cut off from this diagram, refer to "BOARD INTERCONNECTIONS".
2. The parts with marked (*) is not used.

y20366001a_rev0.1

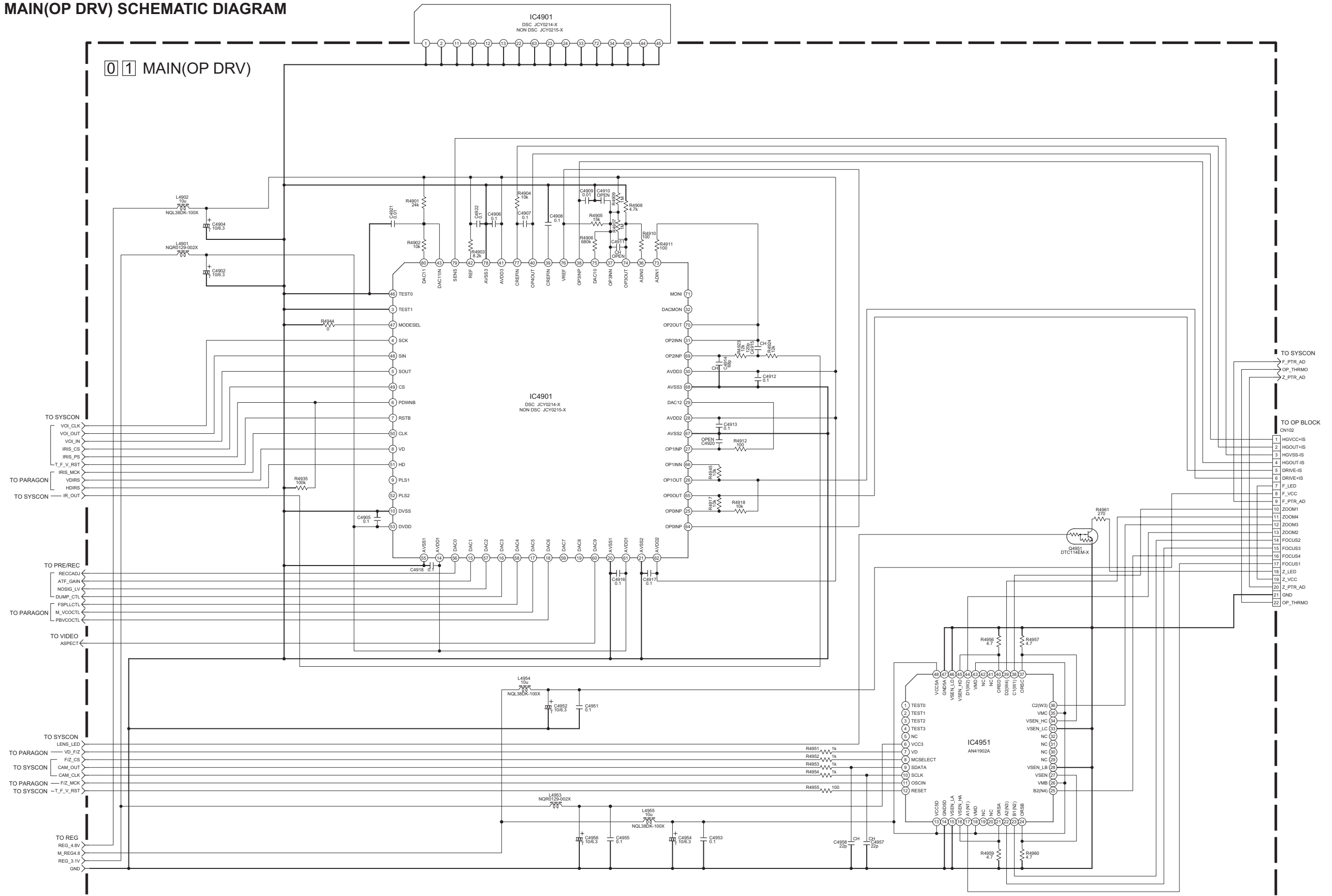
■ MAIN(CDS/TG) SCHEMATIC DIAGRAM



y30312001a_rev0.1

NOTES: 1. For the destination of each signal and further line connections that are cut off from this diagram, refer to "BOARD INTERCONNECTIONS".
2. The parts with marked (*) is not used.

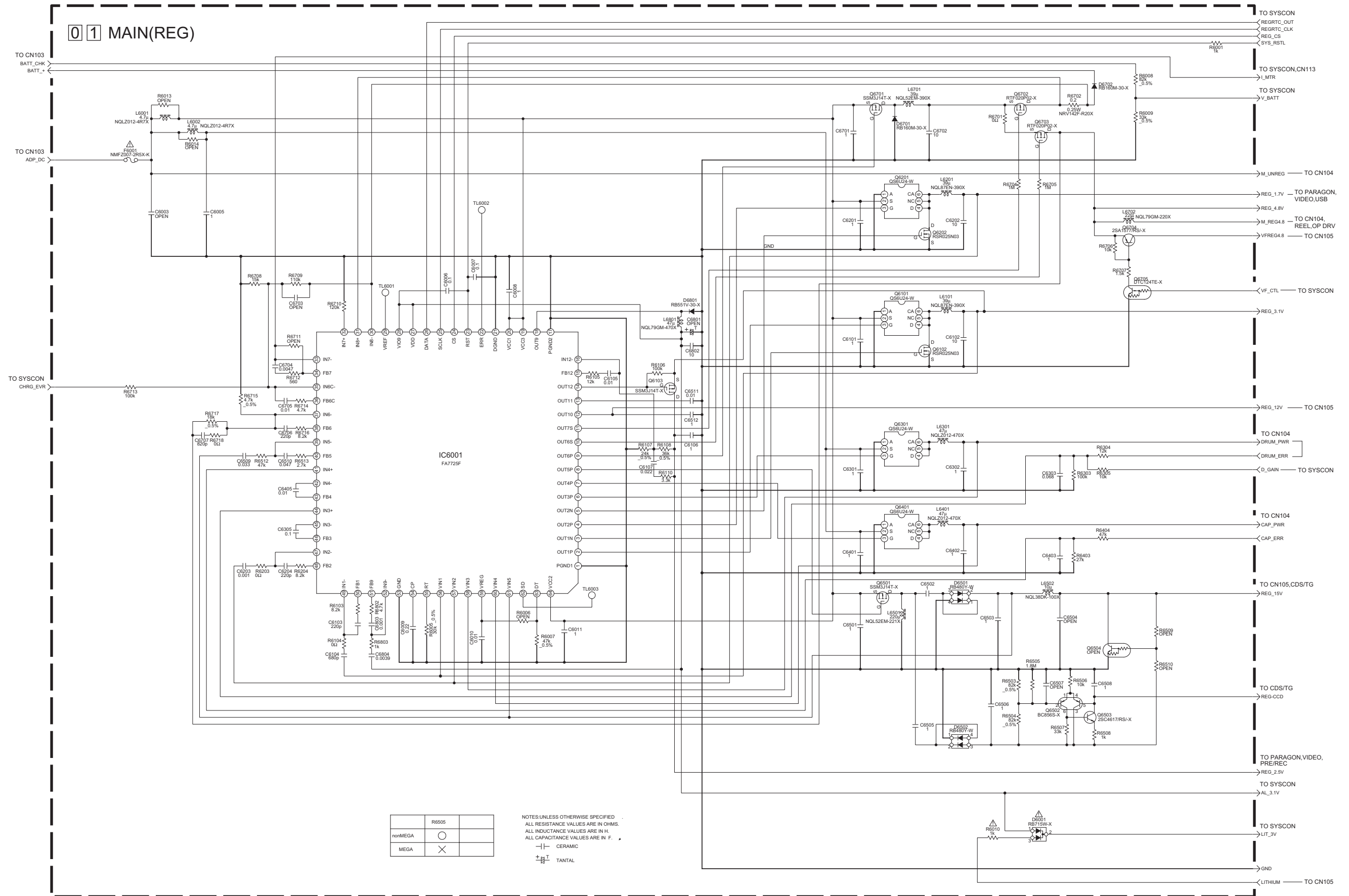
■ MAIN(OP DRV) SCHEMATIC DIAGRAM



NOTES: 1. For the destination of each signal and further line connections that are cut off from this diagram, refer to "BOARD INTERCONNECTIONS".
2. The parts with marked (*) is not used.

y10526001a_rev0.1

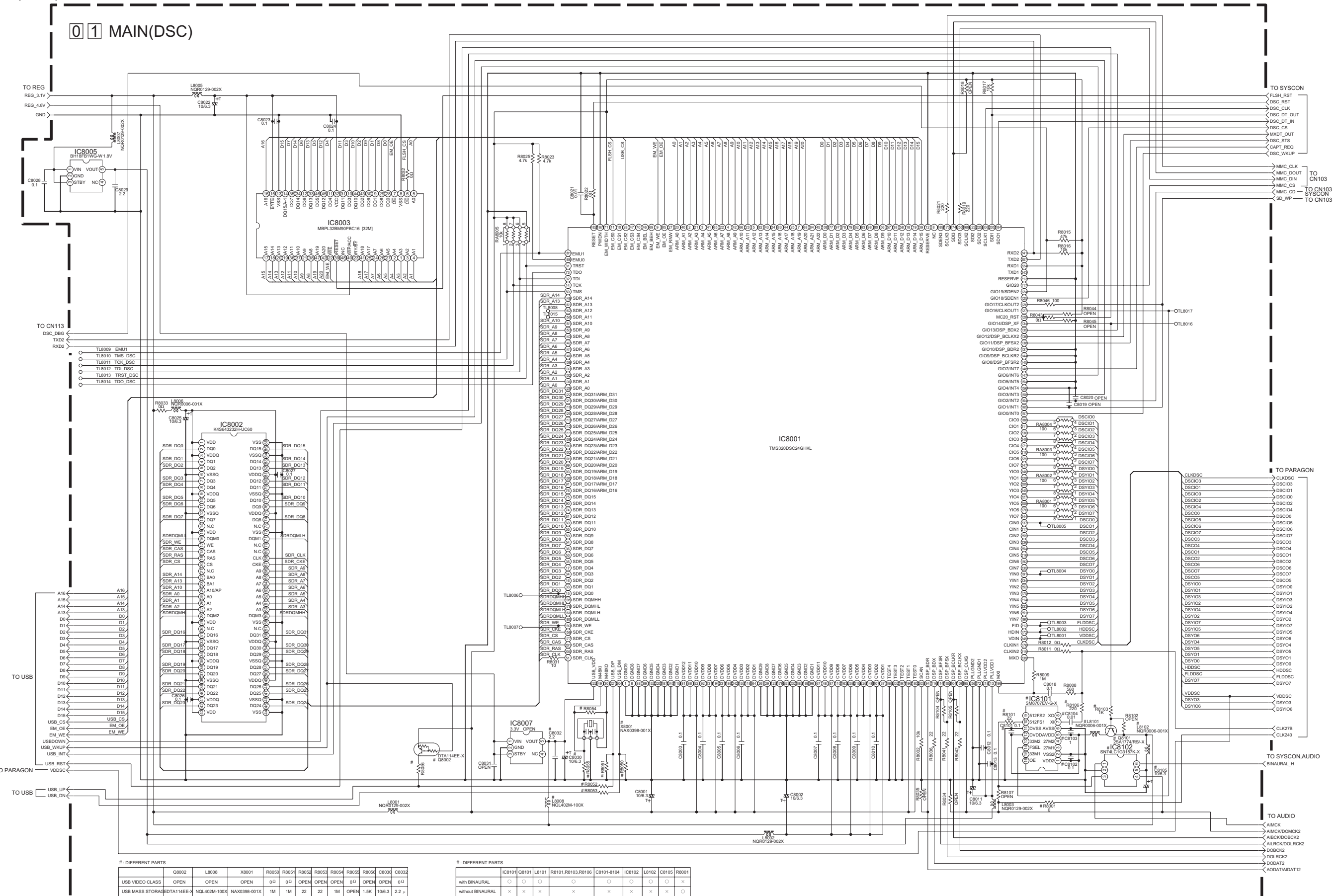
■ MAIN(REG) SCHEMATIC DIAGRAM



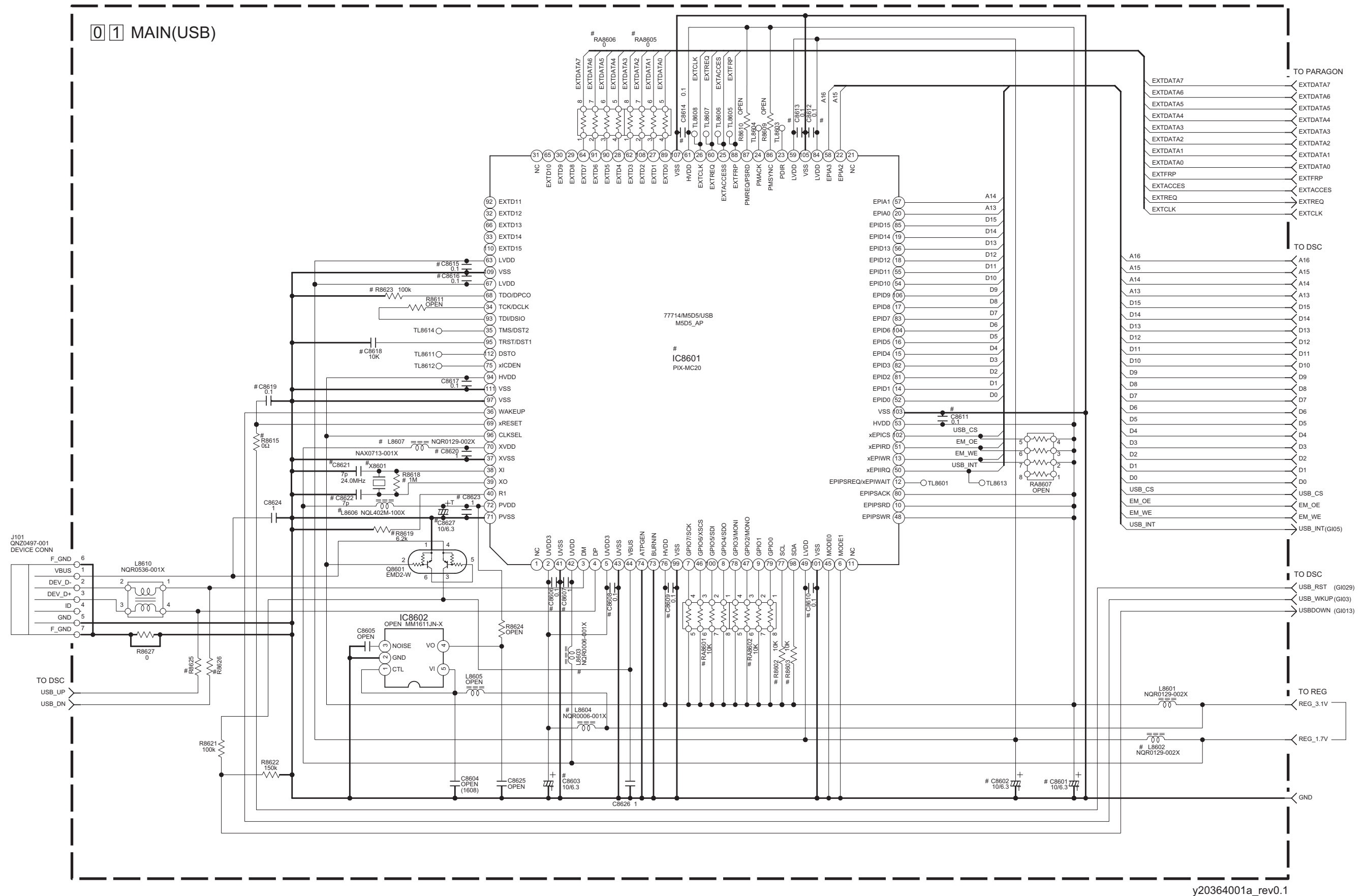
NOTES: 1. For the destination of each signal and further line connections that are cut off from this diagram, refer to "BOARD INTERCONNECTIONS".
2. The parts with marked (*) is not used.

y10518001a_rev0.1

■ MAIN(DSC) SCHEMATIC DIAGRAM

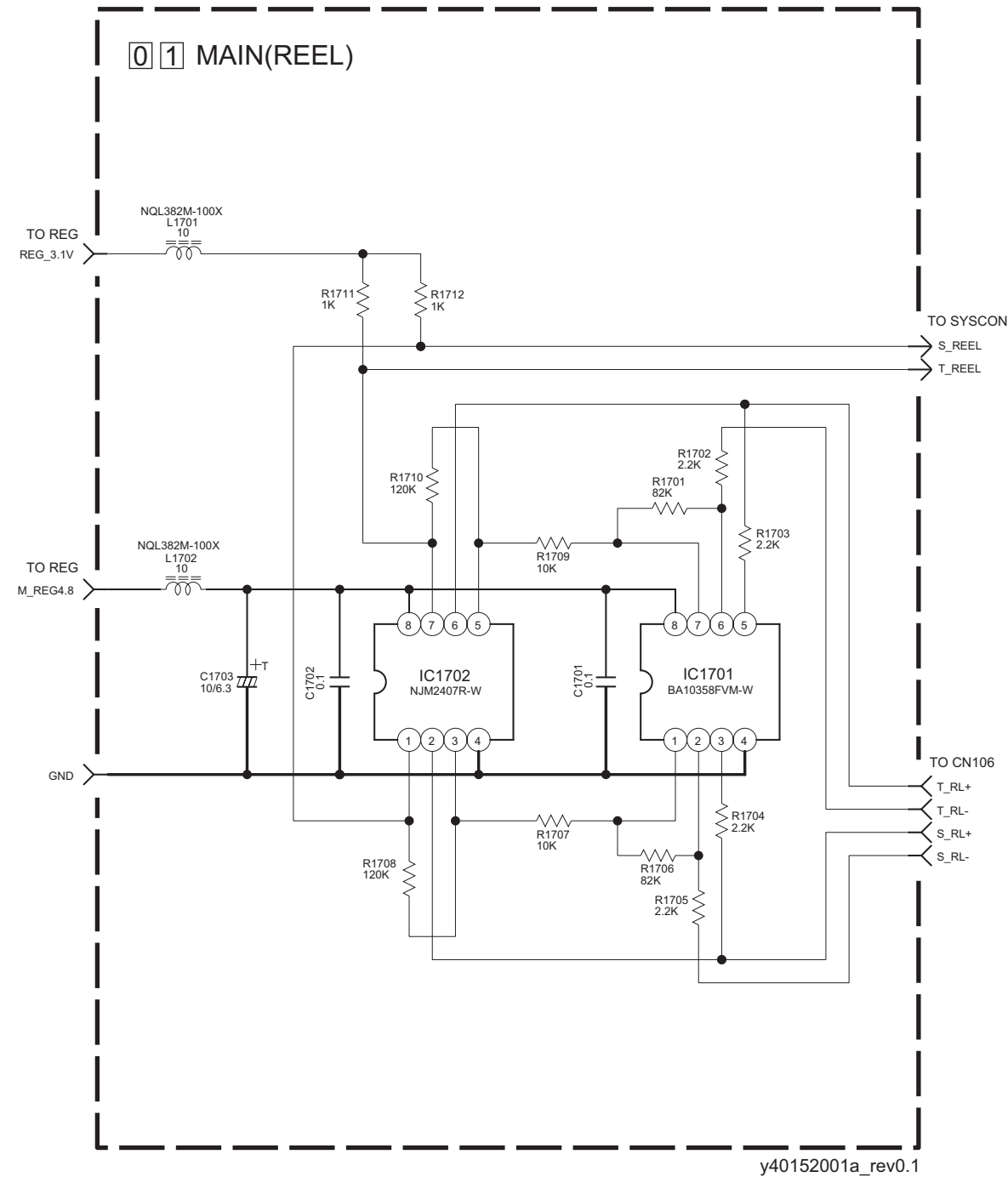


■ MAIN(USB) SCHEMATIC DIAGRAM



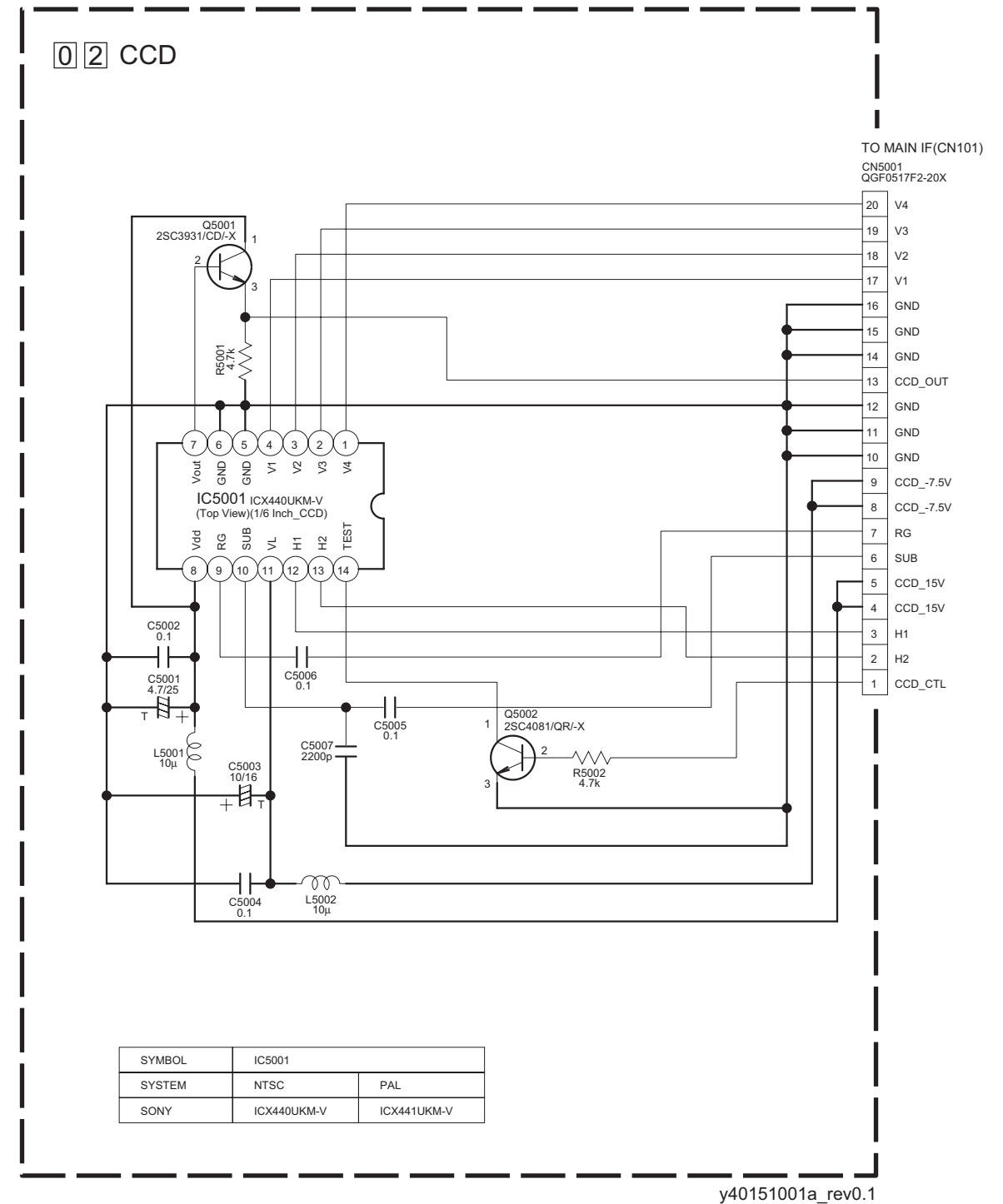
NOTES: 1. For the destination of each signal and further line connections that are cut off from this diagram, refer to "BOARD INTERCONNECTIONS".
2. The parts with marked (*) is not used.

■ MAIN(REEL) SCHEMATIC DIAGRAM



NOTES: 1. For the destination of each signal and further line connections that are cut off from this diagram, refer to "BOARD INTERCONNECTIONS".
2. The parts with marked (*) is not used.

■ CCD SCHEMATIC DIAGRAM



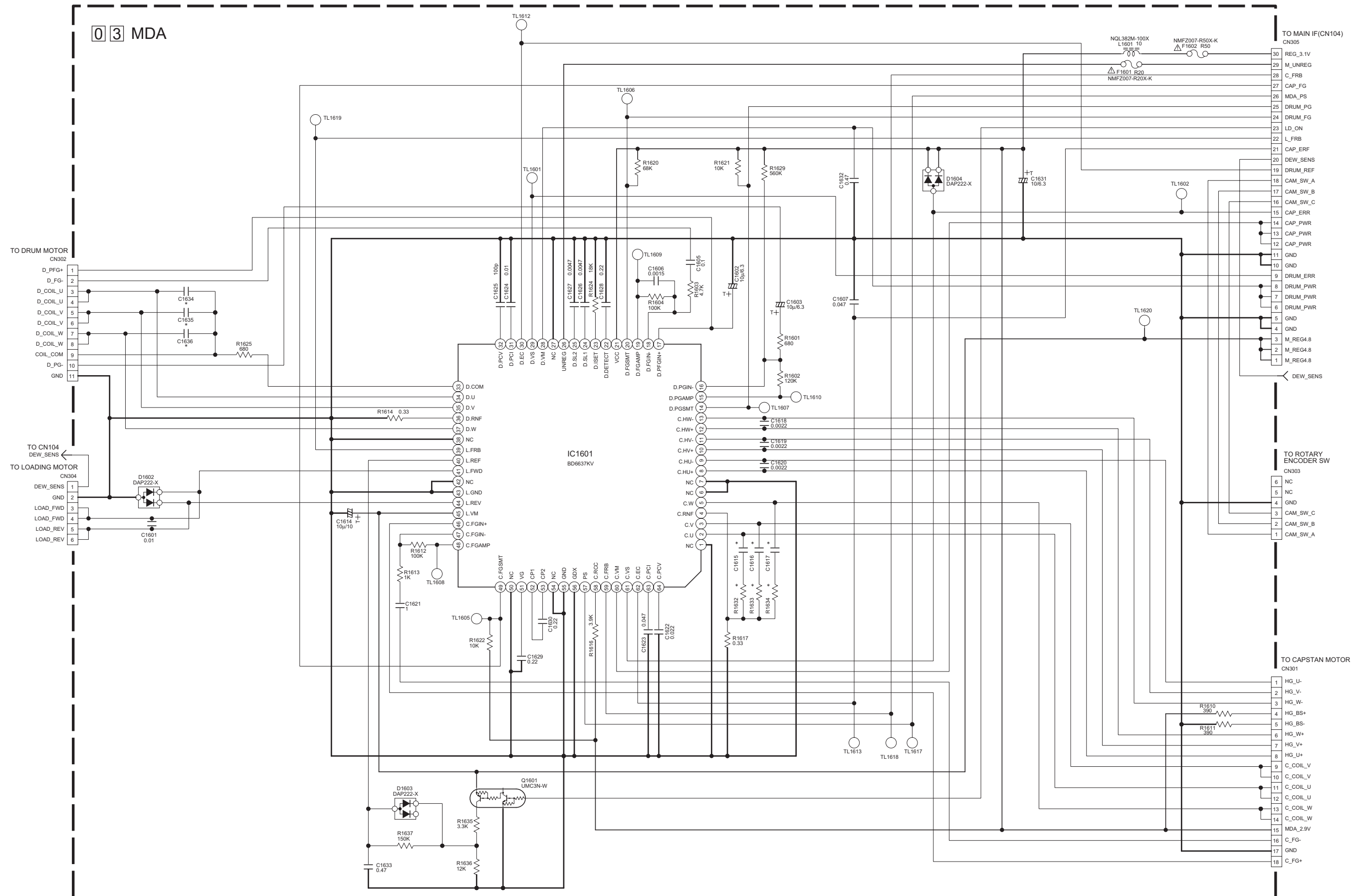
	LAST No	VACANT No
R	5002	
C	5007	
L	5002	
Q	5002	
IC	5001	
CN	5001	

NOTES :1. For the destination of each signal and further line connections that are cut off from this diagram, refer to "BOARD INTERCONNECTIONS".

2. The parts with marked (*) is not used.

3. IC5001 is incorporated in the CCD base assembly .
When IC5001 needs replacement, replace the CCD base assembly in whole because it cannot be replaced alone.

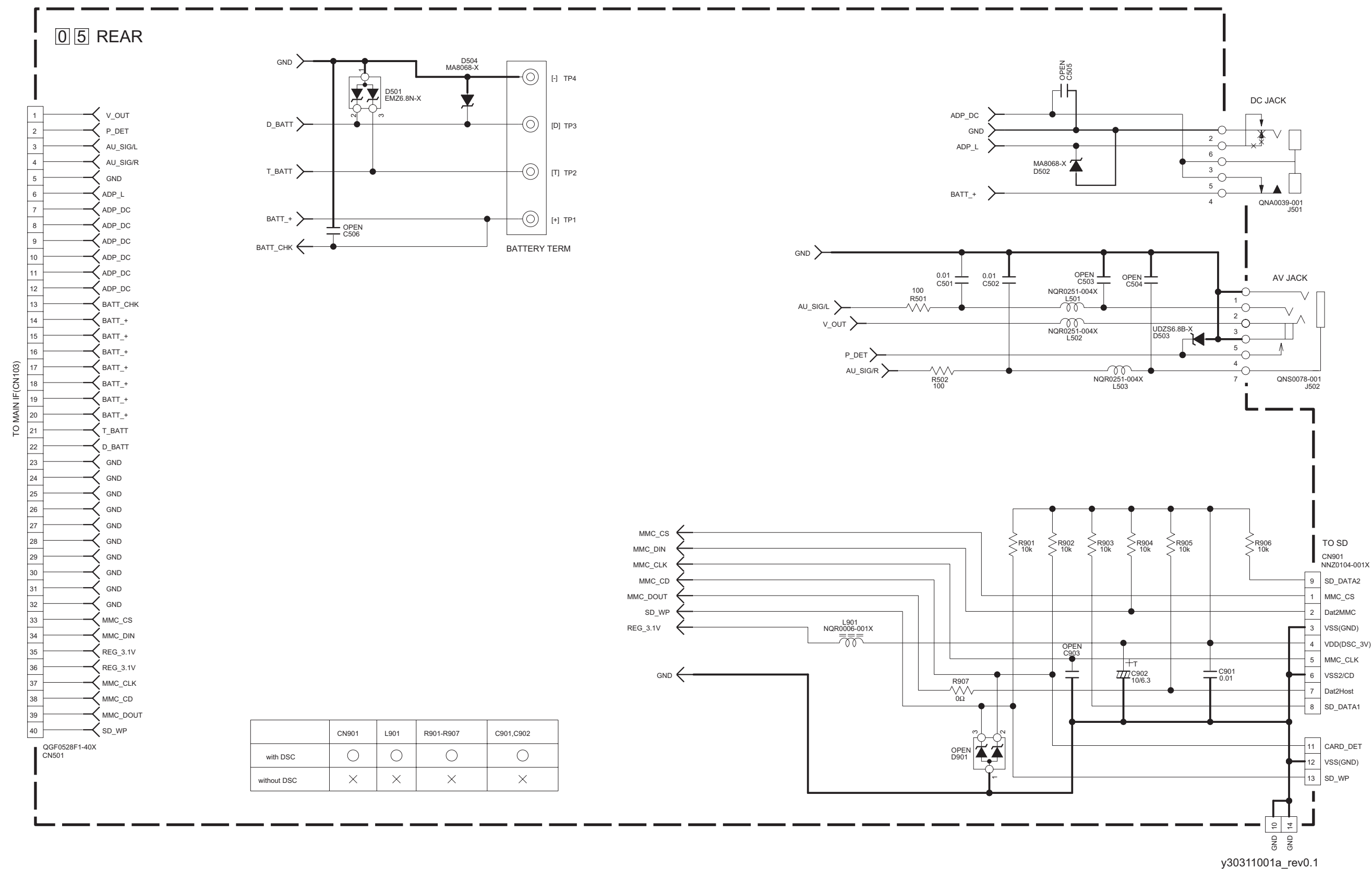
■ MDA SCHEMATIC DIAGRAM



NOTES: 1. For the destination of each signal and further line connections that are cut off from this diagram, refer to "BOARD INTERCONNECTIONS".
2. The parts with marked (*) is not used.

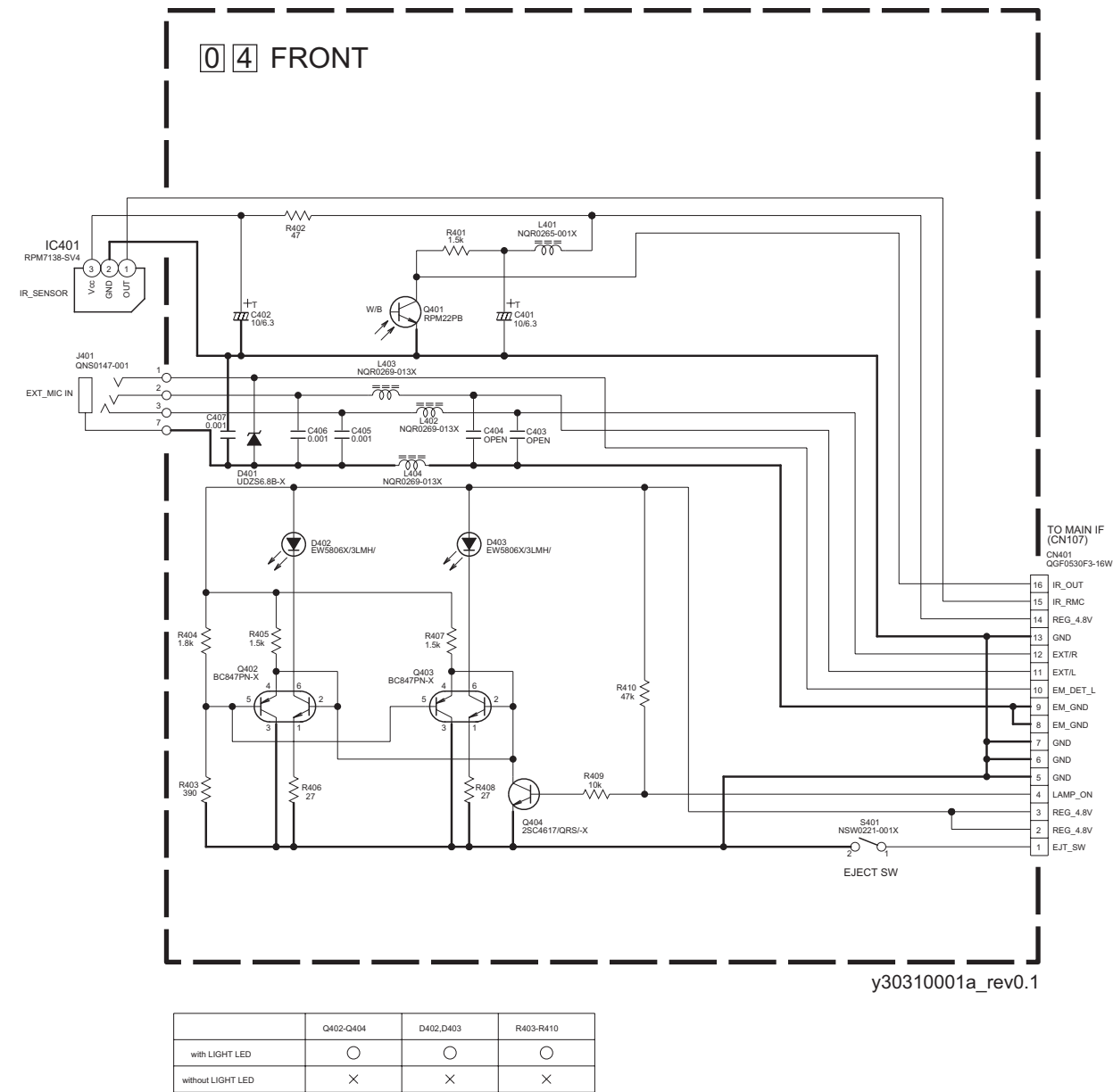
y20367001a_rev0.1

REAR SCHEMATIC DIAGRAM



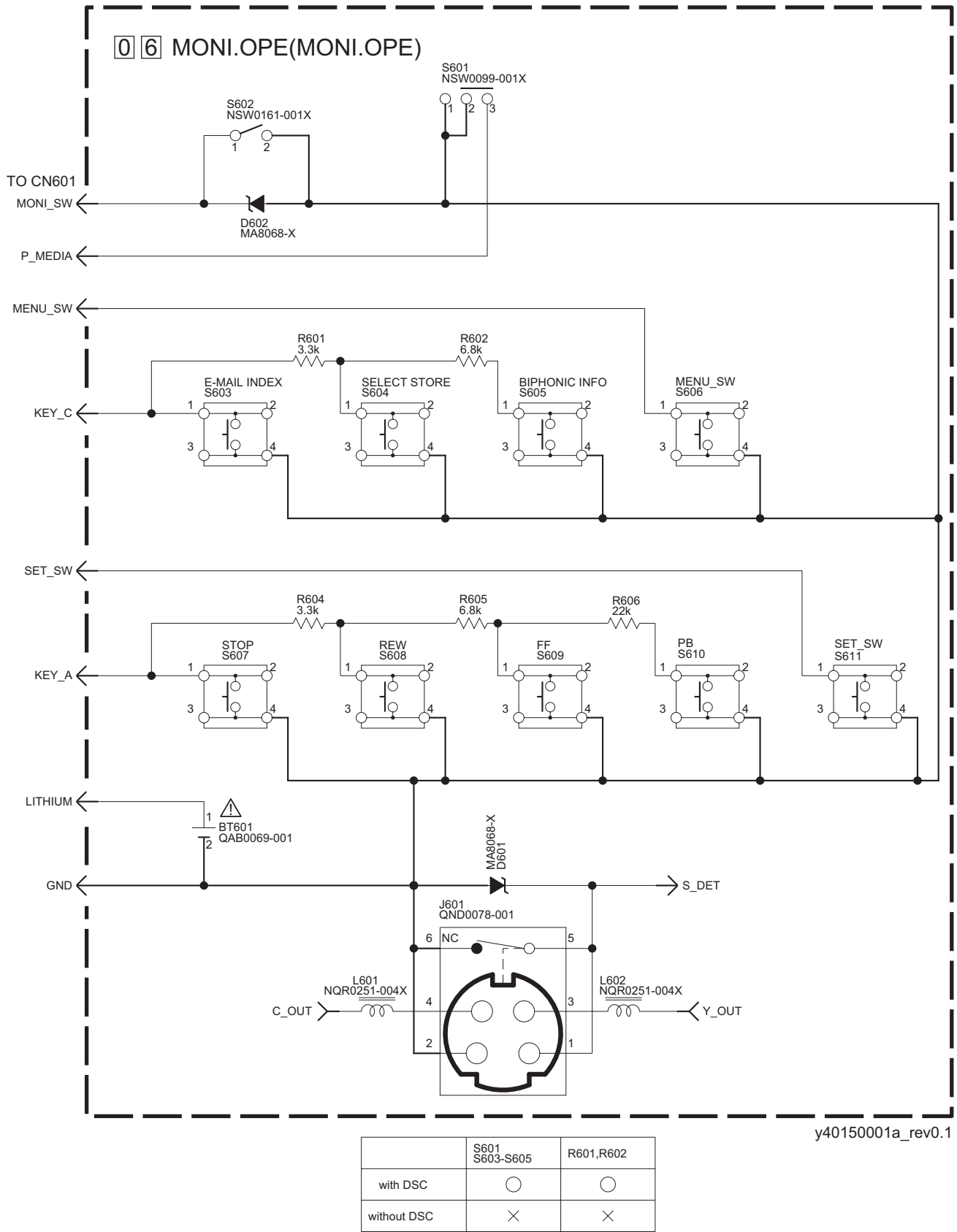
NOTES: 1. For the destination of each signal and further line connections that are cut off from this diagram, refer to "BOARD INTERCONNECTIONS".
2. The parts with marked (*) is not used.

FRONT SCHEMATIC DIAGRAM



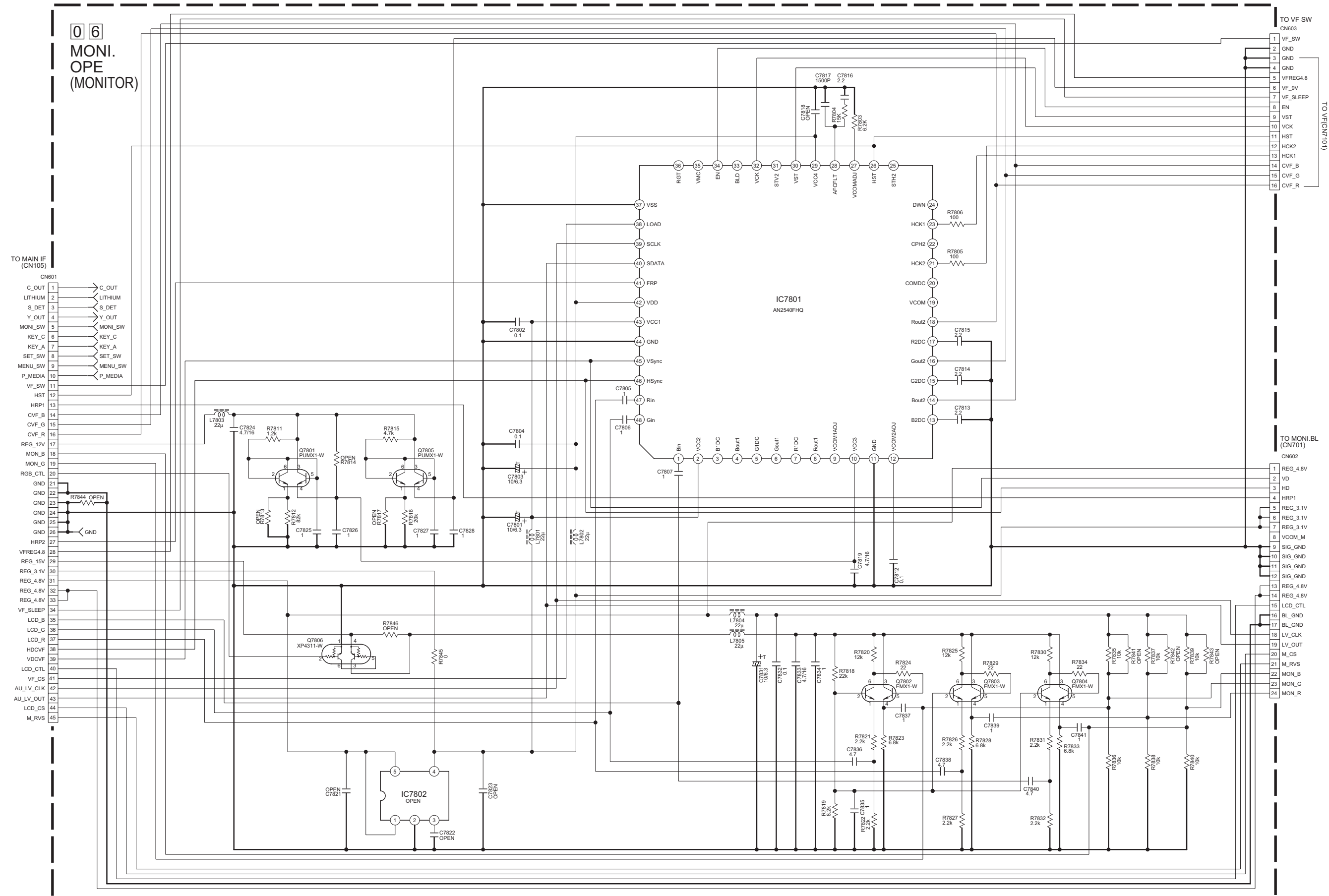
NOTES: 1. For the destination of each signal and further line connections that are cut off from this diagram, refer to "BOARD INTERCONNECTIONS".
2. The parts with marked (*) is not used.

MONI.OPE(MONI.OPE) SCHEMATIC DIAGRAM



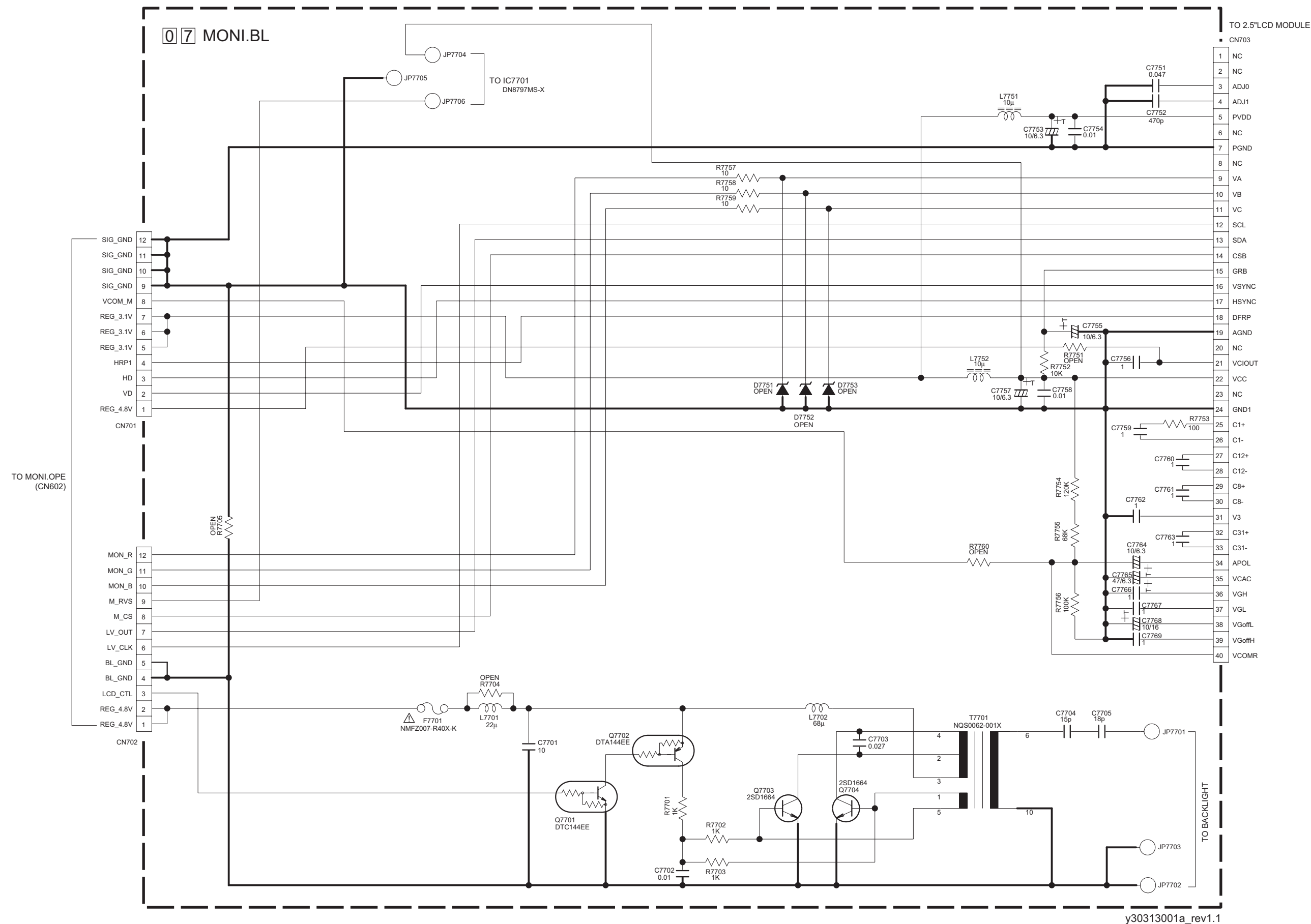
NOTES: 1. For the destination of each signal and further line connections that are cut off from this diagram, refer to "BOARD INTERCONNECTIONS".
2. The parts with marked (*) is not used.

■ MONI.OPE(MONITOR) SCHEMATIC DIAGRAM



NOTES: 1. For the destination of each signal and further line connections that are cut off from this diagram, refer to "BOARD INTERCONNECTIONS".
2. The parts with marked (*) is not used.

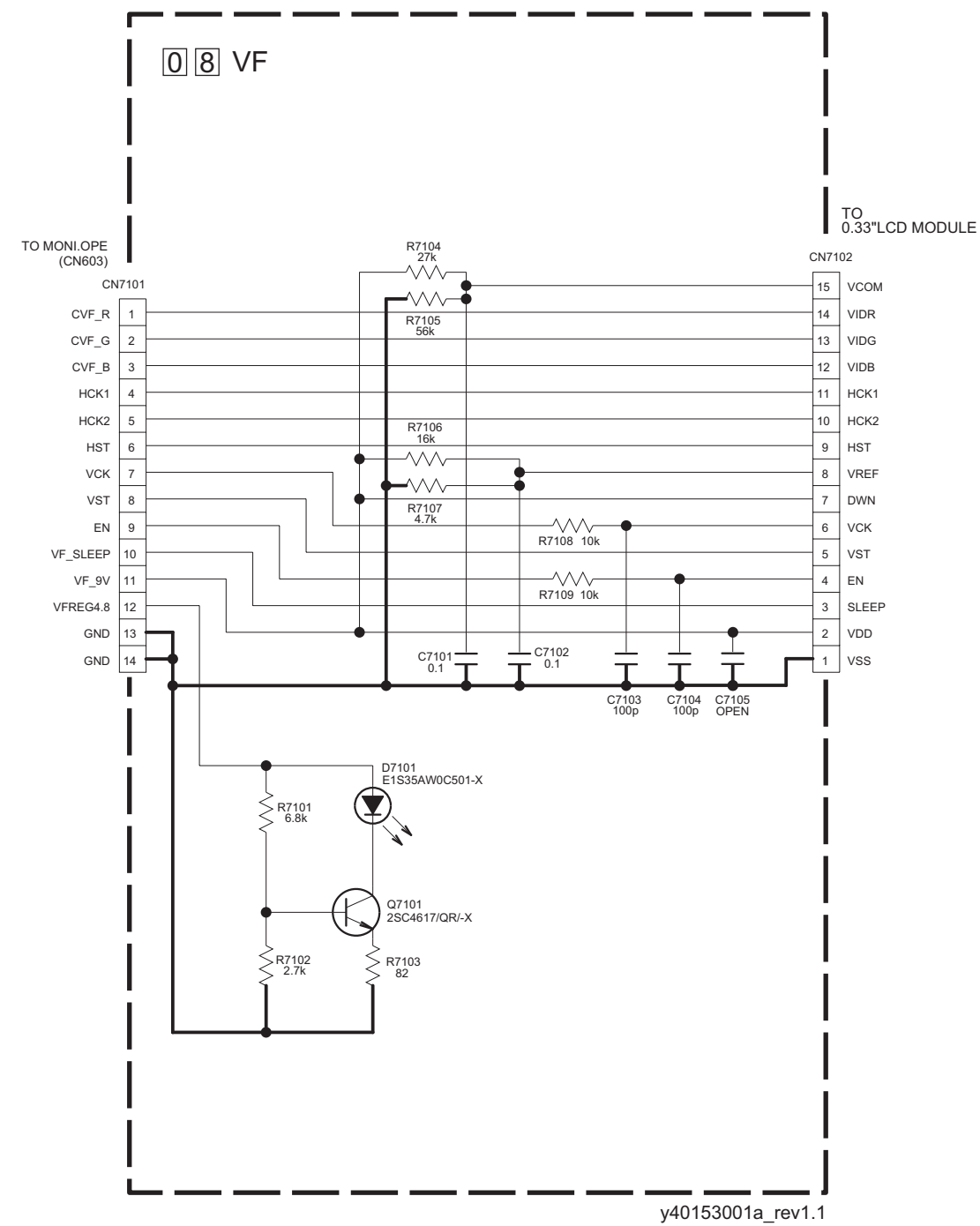
■ MONI.BL SCHEMATIC DIAGRAM



y30313001a_rev1.1

NOTES: 1. For the destination of each signal and further line connections that are cut off from this diagram, refer to "BOARD INTERCONNECTIONS".
2. The parts with marked (*) is not used.

VF SCHEMATIC DIAGRAM



NOTES: 1. For the destination of each signal and further line connections that are cut off from this diagram, refer to "BOARD INTERCONNECTIONS".
2. The parts with marked (*) is not used.

<01>MAIN
LYB10029-001B

[illegible]

<01>MAIN
LYB10029-001B

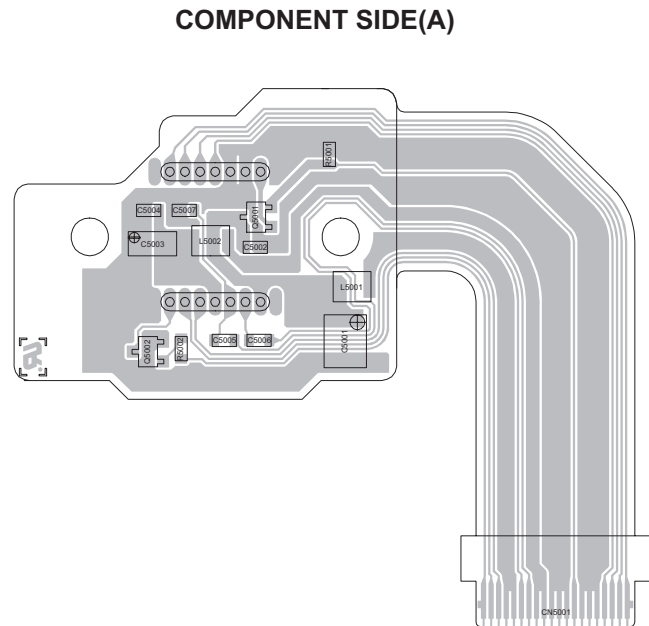


■ CCD, MDA, FRONT, REAR, MONI.OPE, MONI.BL, VF CIRCUIT BOARDS

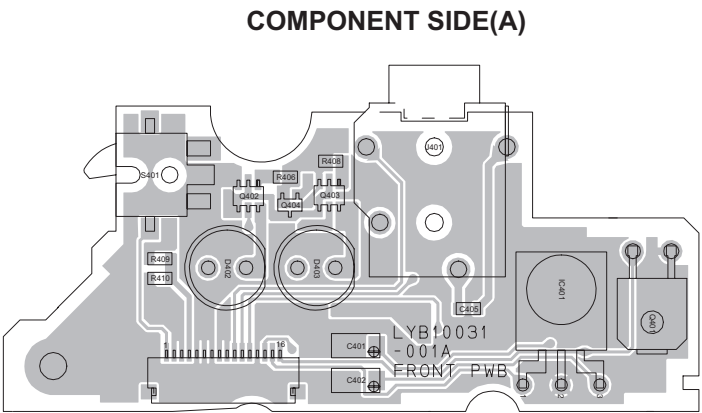
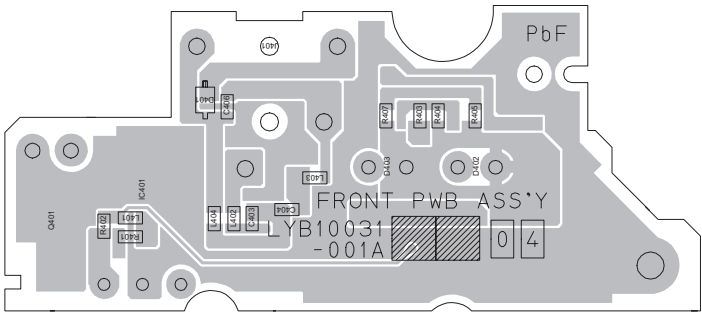


CAUTION :
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH SAME TYPE AND RATED FUSE(S).
ATTENTION :
POUR UNE PROTECTION PERMANENTE CONTRE LES RISQUE D'INCENDIE,
REMPLACER LES FUSIBLES PAR UN AUTRE DE MEME TYPE ET DE MEME TENSION.

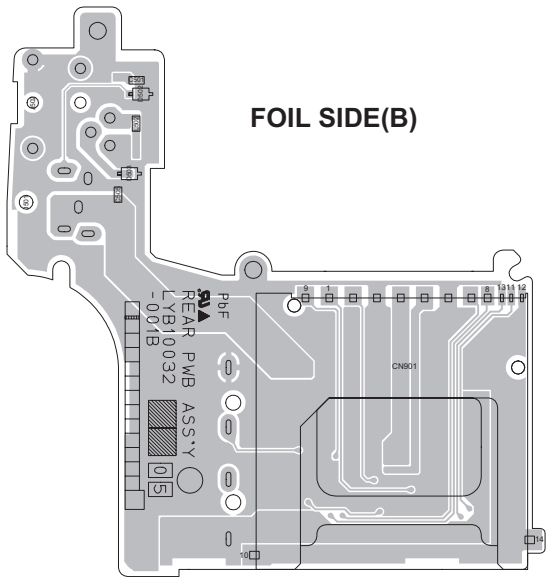
<02>CCD
LYB10037-001B



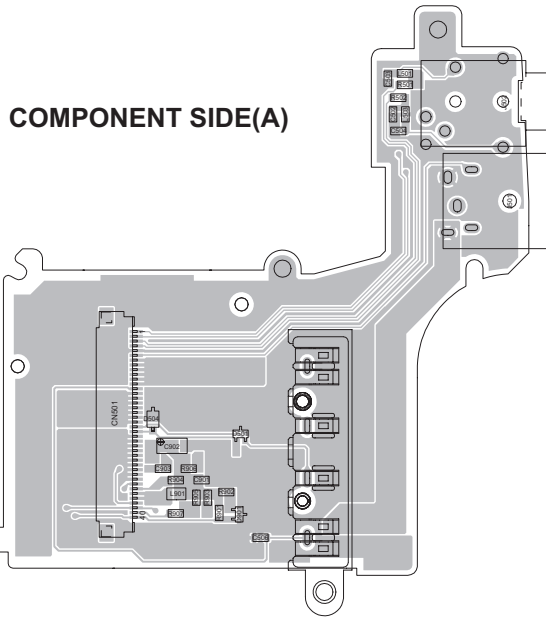
<04>FRONT
LYB10031-001A



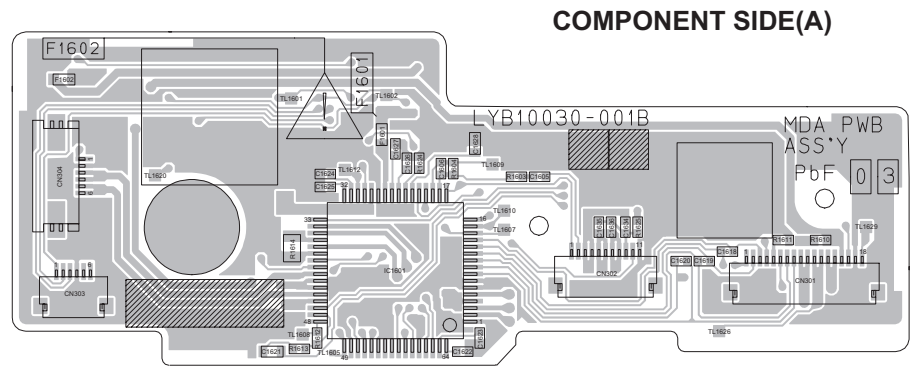
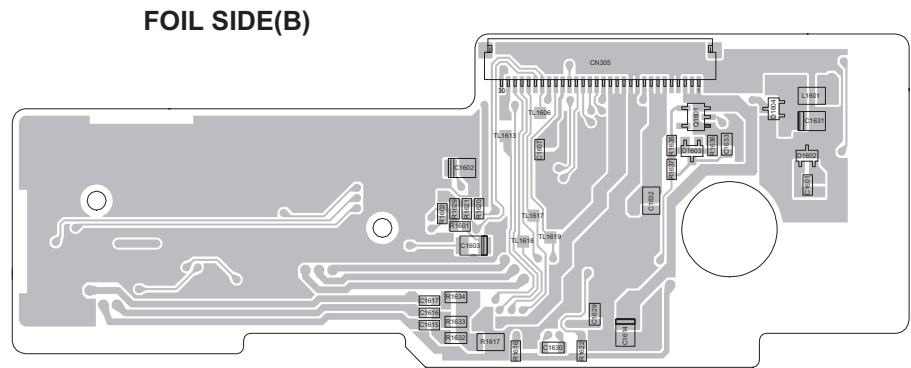
<05>REAR
LYB10032-001B



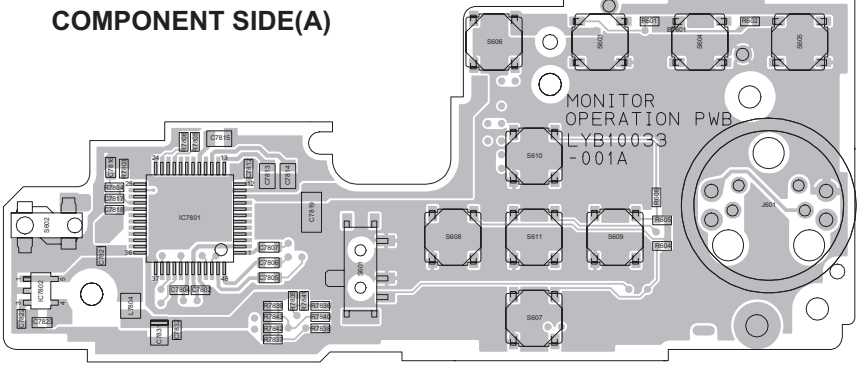
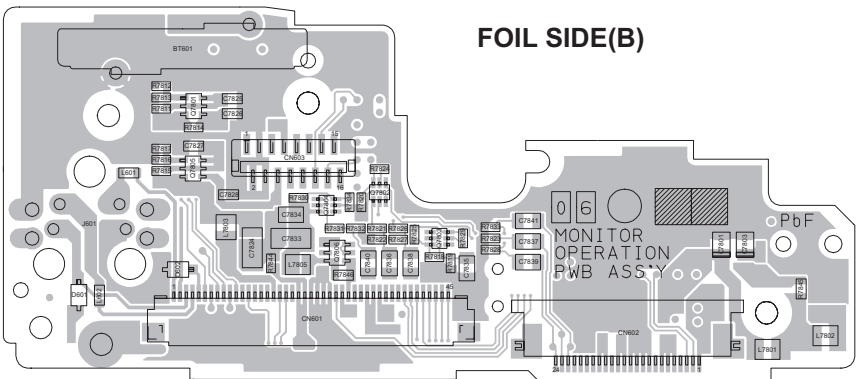
COMPONENT SIDE(A)



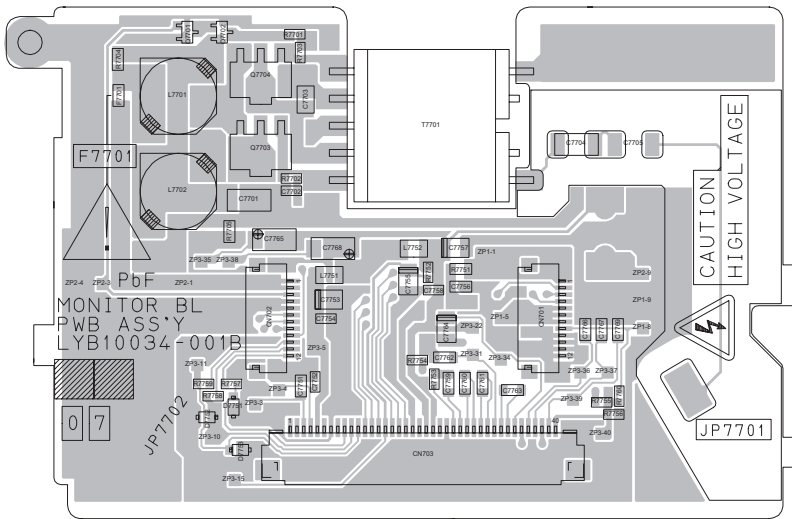
<03>MDA
LYB10030-001B



<06>MONI.OPE
LYB10033-001A

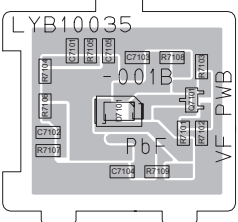


<07>MONI.BL
LYB10034-001B

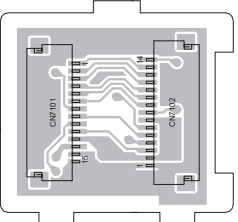


<08>VF
LYB10035-001B

FOIL SIDE(B)

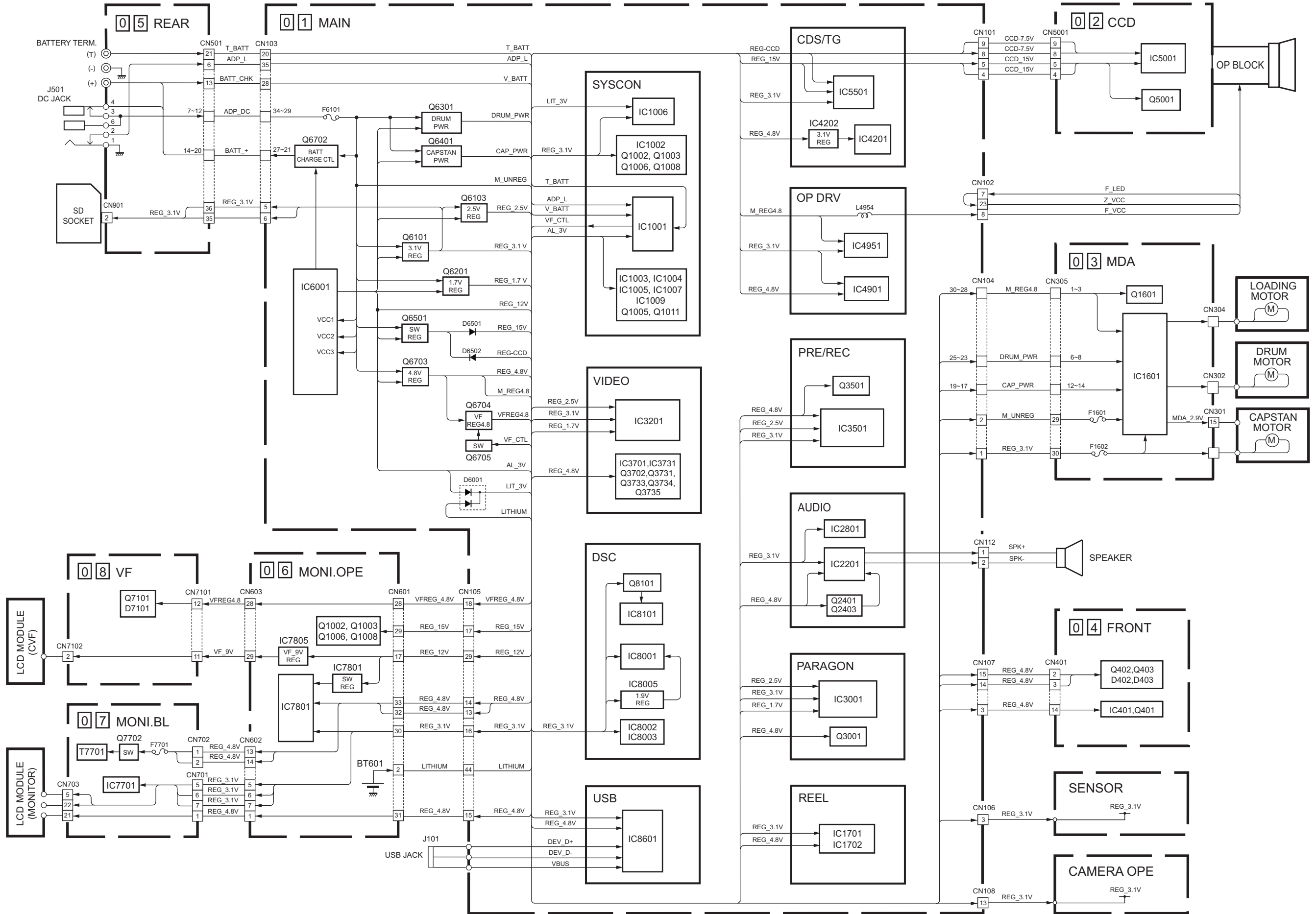


COMPONENT SIDE(A)



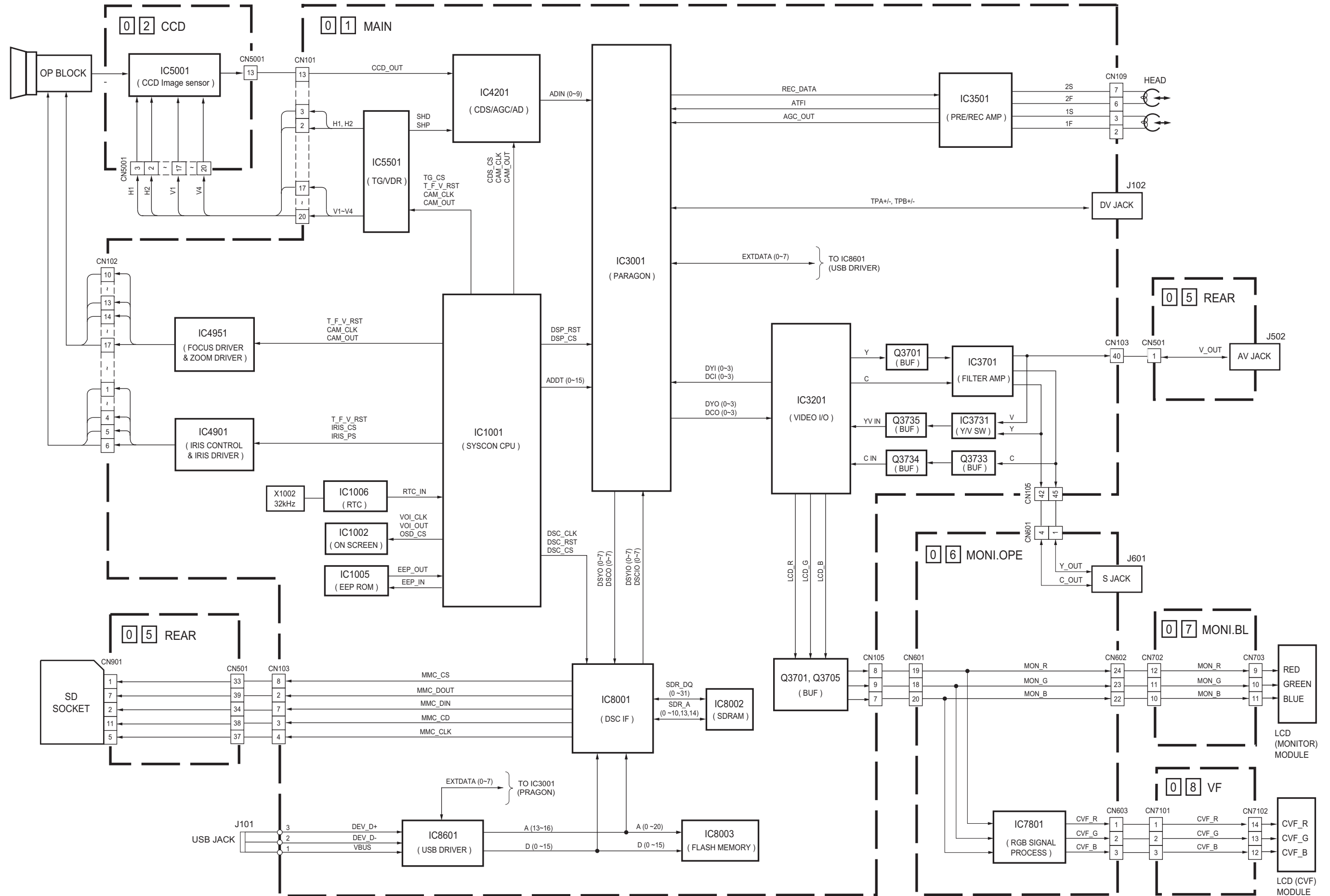
■ POWER SYSTEM BLOCK DIAGRAM

NOTE: There are circuits or functions that are not used according to the models. Please check with the Parts List.



VIDEO SYSTEM BLOCK DIAGRAM

NOTE: There are circuits or functions that are not used according to the models. Please check with the Parts List.



■ VOLTAGE CHARTS

<MAIN>				<MDA>				<FRONT>				<MON.OPE>				<MONITOR BL>				<VF>				<CCD>						
MODE PIN NO.	REC	PLAY		MODE PIN NO.	REC	PLAY		MODE PIN NO.	REC	PLAY		MODE PIN NO.	REC	PLAY		MODE PIN NO.	REC	PLAY		MODE PIN NO.	REC	PLAY		MODE PIN NO.	REC	PLAY		MODE PIN NO.	DC	DC
IC1001	-	-		16	0.6	0.6		D	11.0	11.0		IC1601				IC7801				IC7701				Q7101				IC5001		
IC1002				17	0	0		G	4.9	5.0		1	0	0		1	4.5	4.6		1	3.1	3.1		E	0	0		1	15.0	
1	2.9	2.9		18	0.6	0.7		Q6702				2	0.3	0.5		2	0	0		2	0	0		C	0	0		2	12.8	
2	2.6	2.7		19	3.1	3.1		S	9.8	9.8		3	0	0.5		3	4.7	4.8		3	3.0	3.0		Q401				3	8.0	
3	0.3	0.3		20	0	0		D	4.9	4.8		4	0	0		4	0	0		4	2.0	2.1		E	0	0		4	-7.5	
4	3.1	3.1		21	0.7	0.7		G	0	0		5	0.4	0.5		5	0	0		5	2.0	1.9		C	0	0		5	0	
5	3.1	3.0		22	1.4	1.5		Q6703				6	0	0		6	4.5	4.5		6	2.0	2.0		B	3.1	3.1		6	0	
6	3.1	3.0		23	0.8	0.8		S	0	0		7	0	0		7	-	-		7	2.0	2.0		Q402				7	8.6	
7	0	0		24	1.5	1.5		D	4.8	4.8		8	1.5	1.5		8	0	0		8	2.0	2.0		E	4.6	4.6		8	0	
8	1.4	1.4		25	0	0		G	4.8	4.8		9	1.5	1.5		9	0	0		9	1.0	1.0		C	4.5	4.5		9	15.0	
9	0	0		26	0	0		Q6704				10	1.5	1.5		10	0	0		10	11.2	11.2		B	0	0		10	0	
10	0	0		27	4.8	4.8		E	4.8	4.8		11	1.5	0		11	0	0		11	0	0		Q7703				11	15.0	
11	0	0		28	0	0		C	0	0		12	1.5	1.5		12	0.1	0		12	5.6	0		E	0.4	0.3		12	0	
12	0	0		29	2.4	2.4		B	4.8	4.8		13	1.5	1.5		13	0.8	0.8		13	1.3	1.3		C	4.5	4.4		13	0	
13	0	0		30	0	0		Q3731				14	2.7	2.7		14	2.8	2.8		14	1.2	1.2		Q403				14	10.9	
14	2.6	2.6		31	0	3.1		E	0	0		15	1.2	1.0		15	0	0		15	1.2	1.3		E	0	0		Q5001		
15	0	0		32	1.5	1.6		C	4.8	4.8		16	1.5	1.5		16	0	0		16	1.1	1.0		C	0.4	0.4		E	10.2	
16	0	0		33	0	1.5		B	0	0		17	1.5	1.5		17	0	0		17	0	0		C	1.5	4.5		C	15.0	
17	0	0		34	0.2	1.5		Q3733				18	1.2	1.5		18	0	0		18	1.1	1.1		B	0	0		B	10.8	
18	0	0		35	0	1.5		1	1.8	1.8		19	1.5	1.4		19	0	0		19	4.3	5.7		Q7704				Q5002		
19	2.9	3.0		36	1.5	1.6		Q8101				20	1.5	1.5		20	0.8	0.8		20	0.9	1.0		E	0	0		E	0	
20	2.8	2.8		37	1.5	1.5		C	0.9	0.9		21	3.0	3.1		21	2.8	2.8		21	1.5	1.5		C	0	0		C	8.6	
IC1003				38	1.5	0		Q8601				22	0.7	0.7		22	0	0		22	1.2	1.5		Q404				B	0	
1	0	0		39	1.5	0		1	0	0		23	0.4	0.3		23	0	0		23	1.5	1.5		E	0	0				
2	3.0	3.0		40	1.5	0		2	3.1	3.1		24	1.4	1.4		24	0	0		24	0	0		C	0	0				
3	0	0		41	0	0		3	0	0		25	1.3	1.4		25	0	0		25	0.5	0		B	0.7	0.6				
4	3.0	3.0		42	4.1	4.4		Q3734				26	11.0	10.4		26	0	0		26	0	0		Q404						
5	0	3.1		43	2.8	0		E	2.2	2.2		27	0	0		27	0.9	0.9		27	0.9	0.9		E	0	0				
IC1004				44	4.1	4.4		C	4.9	4.8		28	2.7	2.7		28	0.8	0.8		28	0.9	0.8		C	0	0				
1	1.4	1.4		45	1.5	0		B	2.8	2.9		29	0	0.7		29	3.1	3.1		29	3.1	3.1		Q404						
2	0	0		46	1.4	0		Q3735				30	1.2	1.3		30	0	0		30	0	0		E	0	0				
3	1.2	1.2		47	1.5	1.5		1	0	0		31	0.7	0.7		31	0.7	0.7		31	0.5	0		C	0	0				
4	0	0		48	1.5	1.5		Q1005				32	0.9	0.9		32	0.9	0.9		32	1.5	1.5		Q404						
5	3.1	3.0		IC2801				4	1.4	1.5		33	1.3	1.3		33	1.3	1.3		33	0.2	0.3		E	0	0				
IC1005				1	1.5	1.5		5	0.9	0.9		34	1.3	1.2		34	1.3	1.2		34	1.3	1.5		C	0	0				
1	3.0	3.0		2	0.3	0.6		6	4.8	4.8		35	1.3	0		35	1.3	0		35	0	3.1		Q404						
2	0	0.5		3	1.4	1.4		Q4951				36	0	0		36	0	0		36	3.0	3.1		E	0	0				
3	3.0	3.1		4	1.5	0		E	0	0		37	1.3	1.2		37	1.3	1.2		37	0	0		C	0	0				
4	0	0		5	0	0		C	3.5	3.6		38	0	0		38	0	0		38	0	0		E	0	0				
5	3.0	3.0		6	0	0		B	0	0		39	1.4	1.5		39	1.4	1.5		39	3.0	3.0		C	0	0				
6	3.0	3.1		7	0	0		Q6101				40	0	0		40	0	0		40	0	0		Q404						
7	3.1	3.1		8	0	0		1	0	0		41	0	0		41	0	0		41	1.5	1.5		E	0	0				
8	3.0	3.0		9	0	0		2	11.0	11.0		42	0	0		42	0	0		42	3.1	3.0		C	0	0				
IC1006				10	0	0		Q1007				43	0	0		43	0	0		43	3.0	3.0		E	0	0				
1	0	0		11	0	0		E	0	0		44	0	0		44	0	0		44	0	0		Q404						
2	3.0	3.0		12	0.5	0.5		C	0	0		45	4.8	4.8		45	4.8	4.8		45	3.1	3.1		E	0	0				
3	3.1	3.1		13	1.5	1.5		Q1008				46	1.5	0		46	1.5	0		46	2.9	2.8		C	0	0				
4	0	0		14	0.5	0.6		E	0	0		47	1.5	1.5		47	1.5	1.5		47	2.5	2.4		Q7801						
5	2.9	3.0		15	0.3	0.6		C	1.4	1.4		48	1.5	1.5		48	1.5	1.5		48	2.5	2.5		E	0	0				
6	0.4	0.1		16	3.1	0		B	0	0		49	1.5	1.5		49	1.5	1.5		49	1.5	1.5		C	0	0				
7	0.4	0.3		IC3001	-	-		Q1009				50	0	0		50	0	0		50	0	0		Q7801						
8	3.1	3.1		IC3201	-	-		E	0	0		51	13.9	14.0		51	13.9	14.0		51	11.2	11.1		E	0	0				
IC1007				IC3501	-	-		C	0.5	0.5		52	2.4	2.4		52	2.4	2.4		52	11.8	11.8		C	0	0				
1	3.1	3.0		IC3701				B	0	0		53	12.5	12.4		53	12.5	12.4		53	12.0	12.0		E	0	0				
2	3.0	3.0		1	0	0		Q1011				54	0	0		54	0	0		54	11.1	11.2		Q7802						
3	0	0		2	0	0		E	0	0		55	0	0		55	0	0		55	11.8	11.8		E	0	0				
4	0	0		3	0	0		C	3.0	3.0		56	0	0		56	0	0		56	11.8	11.8		Q7802						
IC1009				4	0	0		B	0	0		2	11.0	11.0		2	11.0	11.0		2	3.4	3.4		E	0	0				
1	3.1	3.1		5	0	0		Q2201				3	9.3	9.3		3	9.3	9.3		3	4.0	4.0		C	0	0				
2	3.1	3.0		6	0	0		E	0	0		4	1.6	1.6		4	1.6	1.6		4	14.9	14.9		E	0	0				
3	0	0		7	0	0		C	1.5	1.5		5	1.6	1.6		5	1.6	1.6		5	5.2	5.1		Q7803						
4	3.1	3.1		8	0	0		B	0	0		6	1.6	1.6		6	1.6	1.6		6	5.7	5.7		E	0	0				
5	3.0	3.0		9	4.8	4.8		Q2202				60	1.1	1.1		60	1.1	1.1		60	5.7	5.7		Q7803						
IC1701				10	0	0		1	0	0		61	0.3	0.3		61	0.3	0.3		61	5.7	5.7		E	0	0				
1	-	-		11	0	0		2	0	0		62	1.5	1.5		62	1.5	1.5		62	5.7	5.7		Q7803						
2	1.4	1.4		12	0	0		3	0	0		63	0.7	0.7		63	0.7	0.												



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(No.YF087)



Printed in Japan
VPT