



DVD Player Service Manual

Model: DVD-2404DR

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SPECIFICATIONS

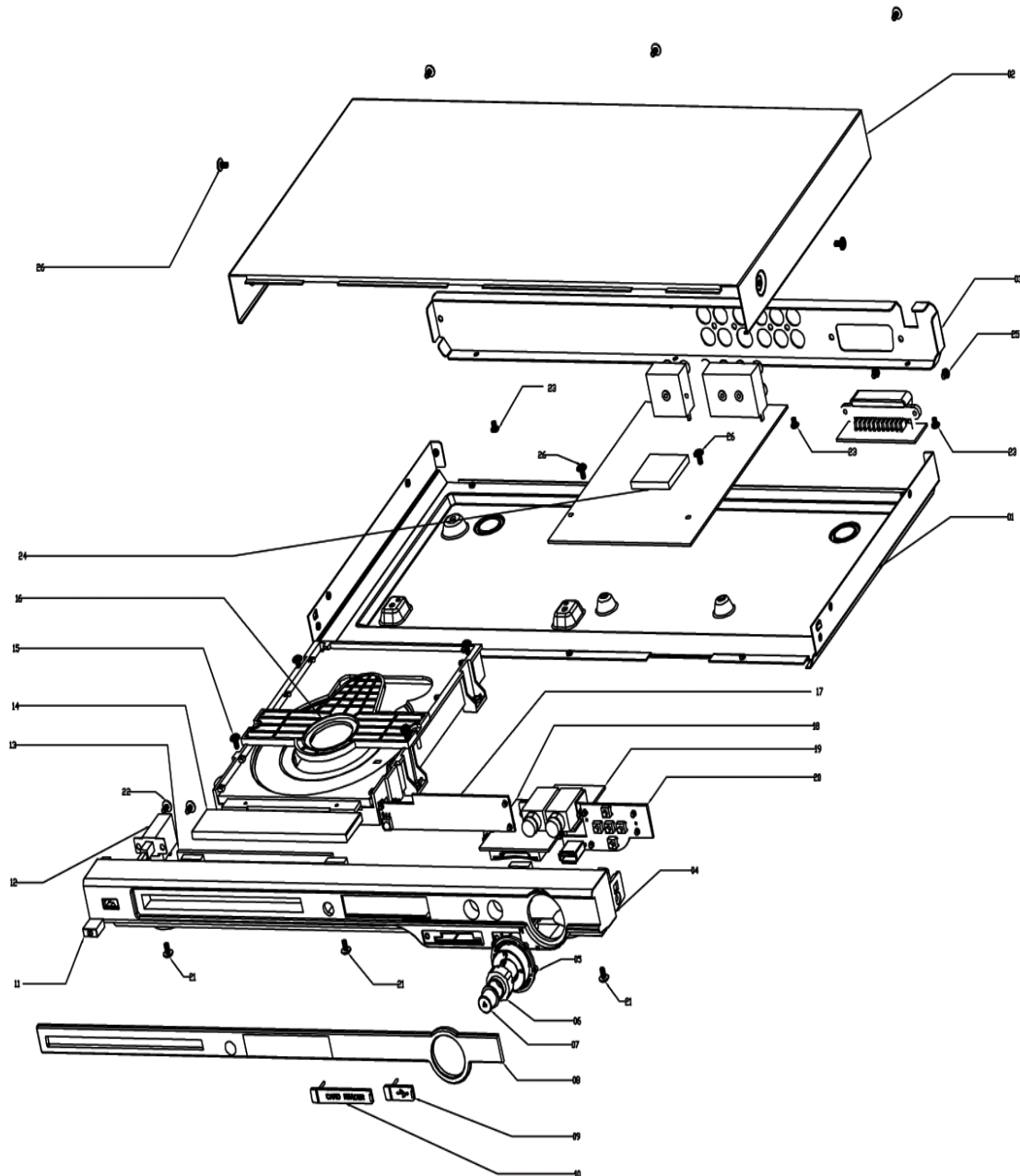
Power requirements	AC 100-240V~, 50/60Hz
Power consumption	15W
Signal system	NTSC/PAL/AUTO
Weight	1.93Kg
Disc played	DVD, MPEG4, DIVX, VCD1.1, 2.0, CD-DA, MP3, SVCD, CD-R, CD-RW, WMA, DVCD, HDCD, Kodak picture CD, JPEG picture CD
Video out	
Video Out:	1.0V(p-p)/ 75 Ω , sync, negative polarity, RCA pin jack x 1
S-video output connector (separate Y, C signal output connector):	
Y output:	1.0V(p-p)/ 75 Ω , sync, negative polarity
C output:	0.286V(p-p)/ 75 Ω
Audio out	
5.1 channel out:	RCA pin jack (L, R) x 6
Coaxial out:	0.5V(p-p)/ 75 Ω , RCA pin Jack x 1
Frequency response:	20Hz to 20kHz
S/N ratio:	>90dB
Total harmonic distortion:	<0.0025%

TROUBLESHOOTING

Before requesting service for this player, check the chart below for a possible cause of the problem you are experiencing, some simple checks or adjustments on your part may eliminate the problem and restore proper operation,

Symptom (Common)	Remedy
NO PICTURE OR SOUND	• Ensure the power button is on. • Ensure the power outlet is operational. • Ensure the power cord is not damaged. • Ensure the power plug is connected firmly to the outlet.
PICTURE BUT NO SOUND	• Ensure the audio jacks are securely connected. • Ensure the audio connector is not damaged. • Ensure the volume is turned up in VOL/CH setup. • Ensure you have set the player's AUDIO settings correctly. • Ensure you have entered the correct AV input for your TV. • Ensure the audio is not set to mute.
SOUND BUT NO PICTURE	• Ensure the video jacks are securely connected. • Ensure you have entered the correct AV input for your TV. • Ensure the video connector is not damaged. • Ensure you have set the player's VIDEO settings correctly.
POOR PICTURE OR SOUND	• Ensure you have set the player's AUDIO settings correctly. • Ensure the disc is not scratched or stained. • Ensure the AV connector or the output terminal is not damaged.
"BAD DISC" DISPLAYED	• Ensure the disc is not scratched, damaged or deformed. • Ensure the disc is not badly stained or damaged. • Ensure the disc format is compatible with the player. • Please check whether you have tried to play a software CD. • IF so please restart the player.
REMOTE NOT WORKING	• Make sure the Main unit's Power button is on. • Ensure the remote batteries are working. • Point the remote control directly at the player's IR sensor.
UNIT NOT WORKING	• Turn off the power, and then turn it on again.
"NO DISC" DISPLAYED	• Ensure you have put the disc on the tray. • Ensure the disc is not upside down. • Ensure the disc is not distorted, stained or scratched.

EXPLODED VIEW



PART LIST

NO	PART NAME	QTY
1	Bottom Cover	1
2	Top Cover	1
3	Back Cover	1
4	Front Panel	1
5	Function Key	1
6	LED Light Source Ring	1
7	Open/Close Key	1
8	Front Mirror	1
9	USB Cover	1
10	Card Reader Cover	1
11	Power Key	1
12	Power Jack	1
13	Door Mirror	1
14	Disc Plate Holder	1
15	Screw 3.0*6	4
16	Loader	1
17	Front PCB	1
18	Card Reader	1
19	OK Assembly	1
20	Key PCB	1
21	Screw 3.0*6	3
22	Screw 3.0*8PA	12
23	Screw 3.0*4 PWB	3
24	Main PCB Assembly	1
25	Screw 3.0*8 PB	6
26	Screw 3.0*6 PWB	7

BOM LIST

No	Part No	Description	Spec	Qty
1	10522003801	Door	DV2003	1
2	10625205831	Door Mirror	DVD-K2404DU-MG17-01	1
3	11525303201	Glue pole	8mm	4
4	20225303001	Bottom	DV5303-WJ01-01	1
5	20325303811	Cover	DV5303-WJ02-01	1
6	20425005031	Back panel	DVD-2404DR-MG06-01	1
7	209010308W1	Screw	3*8PA	4
8	209020310W1	Screw	3*10PB	4
9	209060304W1	Screw	3*4PWB	3
10	209060306W1	Screw	3*6PWB	14
11	209060307W1	Screw	3*7PWB	4
12	209090306W1	Screw	3*6FB	2
13	21402200101	Foot	17*12*5mm	2
14	21402200102	Foot	Φ 15*5mm	2
15	21712010031	Cushion	20*10*3mm	2
16	22102530101	Insulation plate	100*75mm	1
17	30430915001	AV cable	L=1.5M	1
18	30442405212	OPC cable	L=210mm-24pin-0.5mm	1
19	30445200151	Wire	L=150mm-5pin-2.0mm	1
20	30446200091	Wire	L=90mm-6pin-2.0mm	1

No	Part No	Description	Spec	Qty
21	30451168001	Power cable	1.68 (+0.12) M/0.75mm ²	1
22	32200007151	Battery	7#	2
23	32912080001	Clip	80mm	5
24	40102500501	Gift box	DVD-2404DR-MG15-01 (490*80*290mm)	1
25	40212500502	QC label	DVD-2404DR-MG04-01 (43*12mm)	1
26	40212500503	Serial label	DVD-2404DR-MG04-03 (55*40mm)	4
27	40212520203	Carton label	DVD-2102-MG04-02 (Φ20mm)	2/5
28	40312500501	Manual	DVD-2404DR-MG01-01 (A5 Russia)	1
29	40312500502	Manual	DVD-2404DR-MG01-02 (A5 Russia)	1
42	40342500501	Warranty	DV-2404DR-MG12-01 (A4 Russia)	1
30	40424021501	PE bag	240*215mm PE04	1
31	40452045001	PE bag	520*450mm PE04	1
32	40502530201	Styrofoam	DV5302-SJ22-01	1
33	40502530202	Styrofoam	DV5302-SJ22-02	1
34	40602500501	Carton	DVD-2404DR-MG02-01 (510*410*320mm)	1/5
35	50425101101	Loader	Cosmic 8804	1
36	50425202102	Remote	DVD-K2403DU-MG10-01	1
37	50425303101	Optical pickup	OPA-681PHS (Arima)	1
38	50825005001	Front Panel Assembly	DVD-2404DR	1
38-1	10125005311	Front panel	DV5005-SJ05-01	1
38-2	10725303811	Power key	DV5303-SJ07-03	1
38-3	10725303812	Open key	DV5303-SJ07-02	1

No	Part No	Description	Spec	Qty
38-4	10725301813	Function key	DV5303-SJ07-01	1
38-5	11025302832	Mirror	DVD-K2404DU-MG16-01	1
38-16	11425303001	Decoration ring	DV5303-SJ08-01	1
38-19	12325005831	PVC label USB	DVD-2404DR-MG18-01	1
38-20	12325005832	PVC label Card reader	DVD-2404DR-MG18-02	1
38-6	209010308W1	Screw	3*8PA	7
38-7	209050308W1	Screw	3*8PWA	2
38-8	21202520201	Support	DV5301-WJ33-01	1
38-9	21610040001	Tube	Φ4mm	2
38-10	21610250001	Tube	Φ25mm	1
38-11	30231310101	Power switch	KDC-A10-10B (8A/128A/20mm)	1
38-12	30451053001	Power wire	L=530mm-7.92mm	1

No	Part No	Description	Spec	Qty
38-14	51125303M01	Front Board assembly	DV5303-ZC04-01	1
38-14-1	21720808101	Cushion	8*8*10.5mm	1
38-14-2	21721015081	Cushion	10*15*8mm	2
38-14-3	30212200102	Tack switch	PK-A06-P1 (6.2*6.2*9.5mm)	5
38-14-4	30325301031	PCB front	DV5303-ZC04-01	1
38-14-5	30449200121	Wire	L=120mm-9pin-2.0mm	1
38-14-6	308110314J1	Chip resistor	10K Ω -1/4W-J	1
38-14-7	308110318K1	Chip resistor	10K Ω -1/8W-K	5
38-14-8	31001010503	Capacitor	101PF-50V-J	3
38-14-9	31001040503	Capacitor	104PF-50V-Z	1
38-14-10	31081010104	E-cap	100uF-10V-Z (Φ 5*5mm/D=2.0mm)	1
38-14-11	31220N41482	Switch diode	1N4148 (DIP)	3
38-14-12	31400163121	IC	6312	1
38-14-13	31600062001	VFD	620 屏	1
38-14-14	3250511QS01	IR receiver	GPIUX511QS	1
38-14-15	32606000001	Jumper	Φ 0.6*5mm	4
38-14-16	32606000002	Jumper	Φ 0.6*7.5mm	5
38-14-17	32606000003	Jumper	Φ 0.6*10mm	1

No	Part No	Description	Spec	Qty
39	51425301M01	Power Board assembly	DV5301#ZC02A	1
39-1	21202200101	Ground metal plate	D7.5*d5*H0.25mm	2
39-2	30110279201	Power connector	2Pin-7.92mm	2
39-3	30325301061	Power board PCB]	DV5301#ZC02A	1
39-4	30449250241	Wire	L=240mm-9pin-2.5mm	1
39-5	30602530101	Transformer	EI-28/LP=1mH-K	1
39-6	308110214J1	Chip resistor	1K Ω -1/4W-J	1
39-7	308110216J1	Chip resistor	1K Ω -1/6W-J	1
39-8	308110414J1	Chip resistor	100K Ω -1/4W-J	1
39-9	308112214J1	Chip resistor	1.2K Ω -1/4W-J	1
39-10	308122014J1	Chip resistor	22 Ω -1/4W-J	1
39-11	30812R214J1	Chip resistor	2.2 Ω -1/2W-J	1
39-12	308147214J1	Chip resistor	4.7K Ω -1/4W-J	2
39-13	308151214J1	Chip resistor	5.1K Ω -1/4W-J	1
39-14	308156114J1	Chip resistor	560 Ω -1/4W-J	1

No	Part No	Description	Spec	Qty
39-15	308156301J1	Chip resistor	56K Ω -1W-J	1
39-16	308191214J1	Chip resistor	9.1K Ω -1/4W-J	1
39-17	31001011021	Capacitor	101-1KV	1
39-18	31001031021	Capacitor	103-1KV	1
39-19	31001040503	Capacitor	104PF-50V-Z	6
39-20	31014730502	Capacitor	473-50V-Z	1
39-21	31051042751	Capacitor	0.1uF-275V-K	1
39-22	31052222511	Capacitor	222 (Y1: 250V)	1
39-23	31081010253	E-cap	100uF-25V-Z (Φ 6.3*11mm/D=2.5mm)	4
39-24	31081010353	E-cap	100uF-35V-Z (Φ 6.3*11mm/D=2.5mm)	2
39-25	31081010502	E-cap	100uF-50V-Z (Φ 8*12mm/D=3.5mm)	2
39-26	31081020102	E-cap	1000uF-10V-Z (Φ 8*12mm/D=3.5mm)	2
39-27	31082200252	E-cap	22uF-25V-Z (Φ 5*11mm/D=2.0mm)	1
39-28	31083304011	E-cap	33uF-400V-Z (Φ 16*21mm/D=7.5mm)	1
39-29	312107R5011	Diode	7.5V-1W	1
39-30	312301DQ061	Diode	31DQ06	1
39-31	31230FR1041	Diode	FR104	3
39-32	31230FR1071	Diode	FR107	3
39-33	31230N40071	Diode	1N4007	4
39-34	31400PC8171	Optical couple	PC817	1
39-35	31400TL4311	IC	TL431 (1%)	1

No	Part No	Description	Spec	Qty
39-36	314IPER22A1	IC	VIPER22A	1
39-37	31802512021	Fuse	F2AL-250V	1
39-38	31902200101	Fuse holder		2
39-39	3240106R801	Inductor	6.8uH-0.5A-D=5mm	3
39-40	32402010001	Inductor	10 Ω (DIP)	1
39-41	324050100K3	Inductor	10uH-2A-K (DIP)	1
39-42	3240680R0K1	Inductor	UU10.8-80mH-K	1
39-43	32606000003	Jumper	Φ 0.6*10mm	2
40	51525005M01	Decoder board Assembly	DVD-2404DR	1
40-1	30110420001	Connector	4pin-2.0mm	1
40-2	30110520001	Connector	5pin-2.0mm	2
40-3	30110620001	Connector	6pin-2.0mm	1
40-4	30110920001	Connector	9pin-2.0mm	1
40-5	30110925001	Connector	9pin-2.5mm	1
40-6	308110214J1	Chip resistor	1K Ω -1/4W-J	1
40-7	308175014J1	Chip resistor	75 Ω -1/4W-J	6
40-8	31081000164	E-cap	10uF-16V-Z (Φ 4*5mm/D=1.5mm)	13
40-9	31081010164	E-cap	100uF-16V-Z (Φ 5*11mm/D=2.0mm)	14
40-10	31082210161	E-cap	220uF-16V-Z (Φ 6.3*11mm/D=2.5mm)	5
40-11	31084700164	E-cap	47uF-16V-Z (Φ 5*11mm/D=2.0mm)	4
40-12	31084710161	E-cap	470uF-16V-Z (Φ 8*12mm/D=3.5mm)	1

No	Part No	Description	Spec	Qty
40-13	312105R1121	Diode	5.1V-1/2W (DO-41)	1
40-14	31230N40041	Diode	1N4004 (DIP)	1
40-15	313109015C1	Transistor	9015 (TO-92C 档)	6
40-16	31728413011	AV output port	AV4-8.4-13D	1
40-17	31728413012	AV output port	AV1-8.4-13S	1
40-18	31728413062	AV output port	AV6-8.4-13D	1
40-19	32027000331	Crystal	27MHz-33P-30PPM-X49S (DIP)	1
40-20	51525202S02	Decoder board SMT	DVD-K2403DU	1
40-20-1	30122405001	Chip FPC connector	24pin-0.5mm	1
40-20-2	30325303071	PCB decoder	DV5303-ZC01-01	1
40-20-3	30710001AJ1	Chip resistor	0 Ω -1/10W-J-0603	17
40-20-4	30711001AJ1	Chip resistor	10 Ω -1/10W-J-0603	2
40-20-5	30711011AJ1	Chip resistor	100 Ω -1/10W-J-0603	10
40-20-6	30711021AJ1	Chip resistor	1K Ω -1/10W-J-0603	2
40-20-7	30711031AJ1	Chip resistor	10K Ω -1/10W-J-0603	18
40-20-8	30711221AF1	Chip resistor	1.2K Ω -1/10W-F-0603	1
40-20-9	30711511AJ1	Chip resistor	150 Ω -1/10W-J-0603	5
40-20-10	30711521AJ1	Chip resistor	1.5K Ω -1/10W-J-0603	1
40-20-11	30711531AJ1	Chip resistor	15K Ω -1/10W-J-0603	2
40-20-12	30711541AJ1	Chip resistor	150K Ω -1/10W-J-0603	2

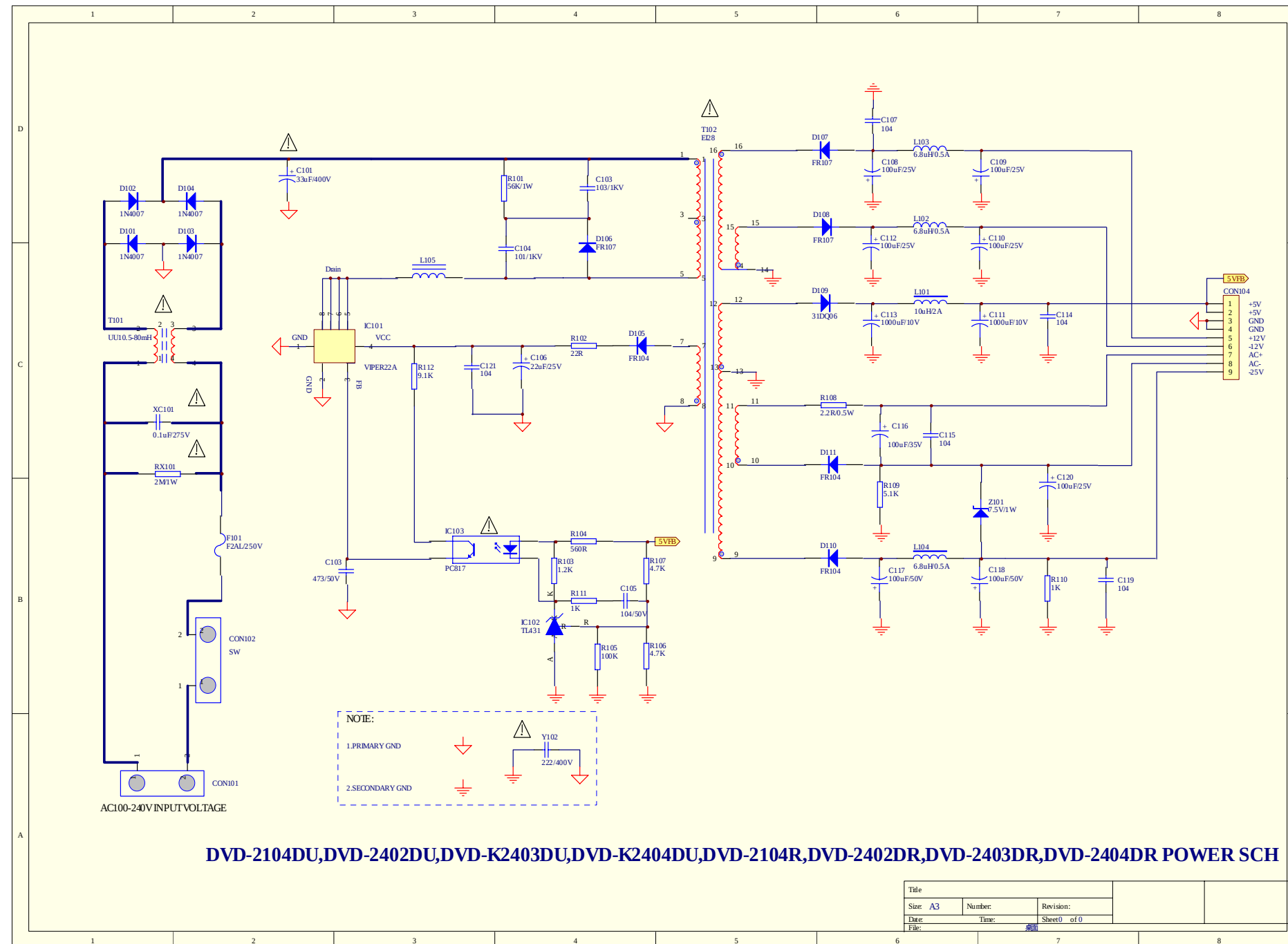
No	Part No	Description	Spec	Qty
40-20-13	30711811AJ1	Chip resistor	180 Ω -1/10W-J-0603	1
40-20-14	30711R01AJ1	Chip resistor	1 Ω -1/10W-J-0603	1
40-20-15	30712011AJ1	Chip resistor	200 Ω -1/10W-J-0603	2
40-20-16	30712031AJ1	Chip resistor	20K Ω -1/10W-J-0603	1
40-20-17	30712201AJ1	Chip resistor	22 Ω -1/10W-J-0603	2
40-20-18	30712211AJ1	Chip resistor	220 Ω -1/10W-J-0603	1
40-20-19	30712221AJ1	Chip resistor	2.2K Ω -1/10W-J-0603	3
40-20-20	30712231AJ1	Chip resistor	22K Ω -1/10W-J-0603	6
40-20-21	30712731AF1	Chip resistor	27K Ω -F-0603	1
40-20-22	30712R21AJ1	Chip resistor	2.2 Ω -1/10W-J-0603	2
40-20-23	30713031AJ1	Chip resistor	30K Ω -1/10W-J-0603	1
40-20-24	30713301AJ1	Chip resistor	33 Ω -1/10W-J-0603	3
40-20-25	30713311AJ1	Chip resistor	330 Ω -1/10W-J-0603	2
40-20-26	30713331AF1	Chip resistor	33K Ω -1/10W-F-0603	1
40-20-27	30713931AJ1	Chip resistor	39K Ω -1/10W-J-0603	6
40-20-28	30714711AJ1	Chip resistor	470 Ω -1/10W-J-0603	10
40-20-29	30714721AJ1	Chip resistor	4.7K Ω -1/10W-J-0603	4
40-20-30	30714741AJ1	Chip resistor	470K Ω -1/10W-J-0603	3
40-20-31	30715121AJ1	Chip resistor	5.1K Ω -1/10W-J-0603	2
40-20-32	30715611AJ1	Chip resistor	560 Ω -1/10W-J-0603	1
40-20-33	30715R11AJ1	Chip resistor	5.1 Ω -1/10W-J-0603	2

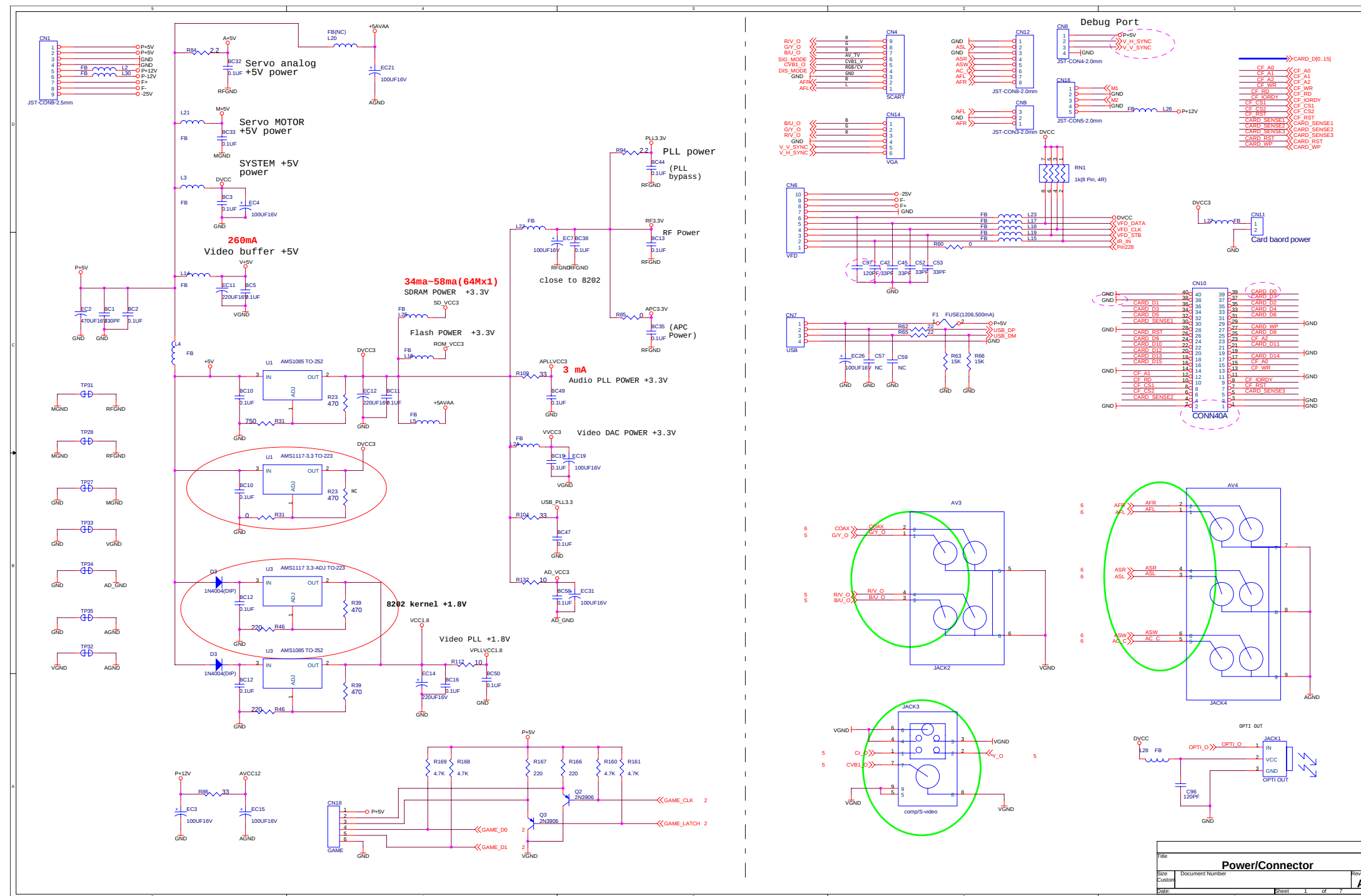
No	Part No	Description	Spec	Qty
40-20-34	30716801AJ1	Chip resistor	68 Ω -1/10W-J-0603	1
40-20-35	30716811AJ1	Chip resistor	680 Ω -1/10W-J-0603	1
40-20-36	30716831AJ1	Chip resistor	68K Ω -1/10W-J-0603	1
40-20-37	30717501AF1	Chip resistor	75 Ω -1/10W-F-0603	1
40-20-38	30717521AJ1	Chip resistor	7.5K Ω -1/10W-J-0603	1
40-20-39	30724701AJ1	Chip resistor	47 Ω -J-0805	1
40-20-40	3091001A081	Chip resistor	10 Ω *4-1/10W-J-0603	2
40-20-41	3091021A082	Chip resistor	1K Ω *4-1/10W-J-0603	1
40-20-42	3093301A081	Chip resistor	33 Ω *4-1/10W-J-0603	2
40-20-43	31111000502	Chip capacitor	10PF-50V-J-0603	7
40-20-44	31111010502	Chip capacitor	100PF-50V-J-0603	19
40-20-45	31111020501	Chip capacitor	1000PF-50V-K-0603	7
40-20-46	31111030251	Chip capacitor	0.01uF-25V-Z-0603	6
40-20-47	31111040502	Chip capacitor	0.1uF-50V-Z-0603	75
40-20-48	31111050101	Chip capacitor	1uF-10V-Z-0603	5
40-20-49	31111210501	Chip capacitor	120PF-50V-K-0603	1
40-20-50	31112240161	Chip capacitor	0.22uF-16V-Z-0603	1
40-20-51	31113010501	Chip capacitor	300PF-50V-K-0603	2
40-20-52	31113300502	Chip capacitor	33PF-50V-J-0603	6
40-20-53	31113310501	Chip capacitor	330PF-50V-K-0603	2
40-20-54	31114700502	Chip capacitor	47PF-50V-J-0603	8

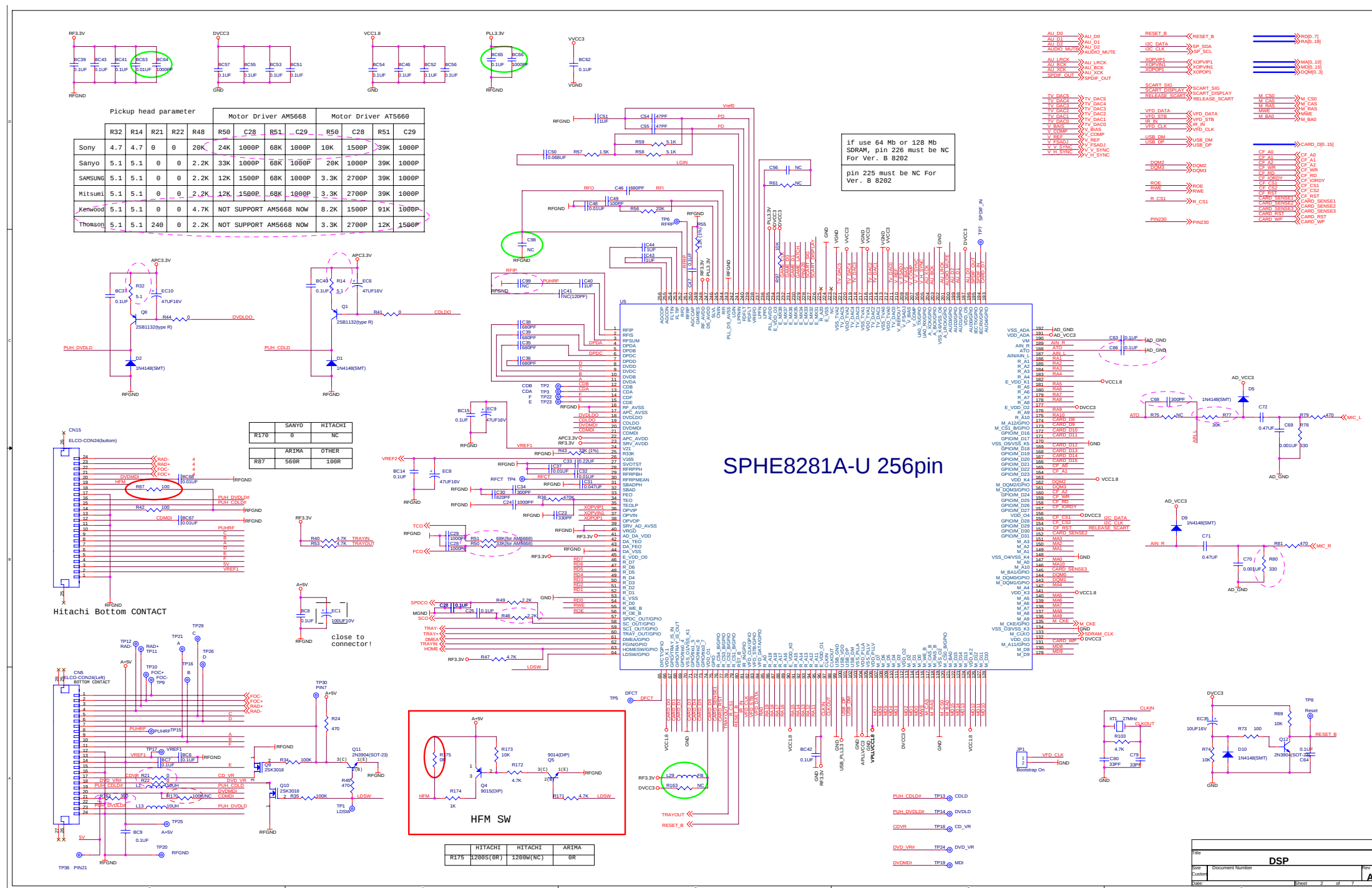
No	Part No	Description	Spec	Qty
40-20-55	31114720501	Chip capacitor	4700PF-50V-K-0603	2
40-20-56	31114730503	Chip capacitor	0.047uF-50V-Z-0603	1
40-20-57	31114740251	Chip capacitor	0.47uF-25V-Z-0603	2
40-20-58	31116810501	Chip capacitor	680PF-50V-K-0603	5
40-20-59	31116830502	Chip capacitor	0.068uF-50V-Z-0603	1
40-20-60	31118210501	Chip capacitor	820PF-50V-K-0603	7
40-20-61	31122250101	Chip capacitor	2.2uF-10V-Z-0805	1
40-20-62	31243041481	Chip diode	1N4148-1206	6
40-20-63	3131SB11322	Chip transistor	2SB1132 (SOT-89)	2
40-20-64	31322N39042	Chip transistor	2N3904 (SOT-23C 档)	7
40-20-65	31322N39062	Chip transistor	2N3906 (SOT-23C 档)	3
40-20-66	3140001M162	IC (SDRAM)	IS42S16100C1 16M-7 (512K*16*2)	2
40-20-67	3140CE27661	IC (音频 DA)	CE2766 (6CH) SSOP-28	1
40-20-68	31426LV8001	IC (FLASH)	MX26LV800BTC (TSOP-48)	1
40-20-69	314A8281AE1	IC (DSP)	SPHE8281AE-U	1
40-20-70	314AM5668S1	IC (motor driver)	AM5668 SSOPH-28	1
40-20-71	314AMS11171	IC	AMS1117-3.3V (TO-223)	1
40-20-72	314AMS11172	IC (DC-DC)	AMS1117-ADJ (TO-223)	1
40-20-73	314AT24C021	IC (EEPROM)	AT24C02	1
40-20-74	314NJM45581	IC	NJM4558E (SO-8)	3
40-20-75	31830075001	chip fuse	750mA-1206	1

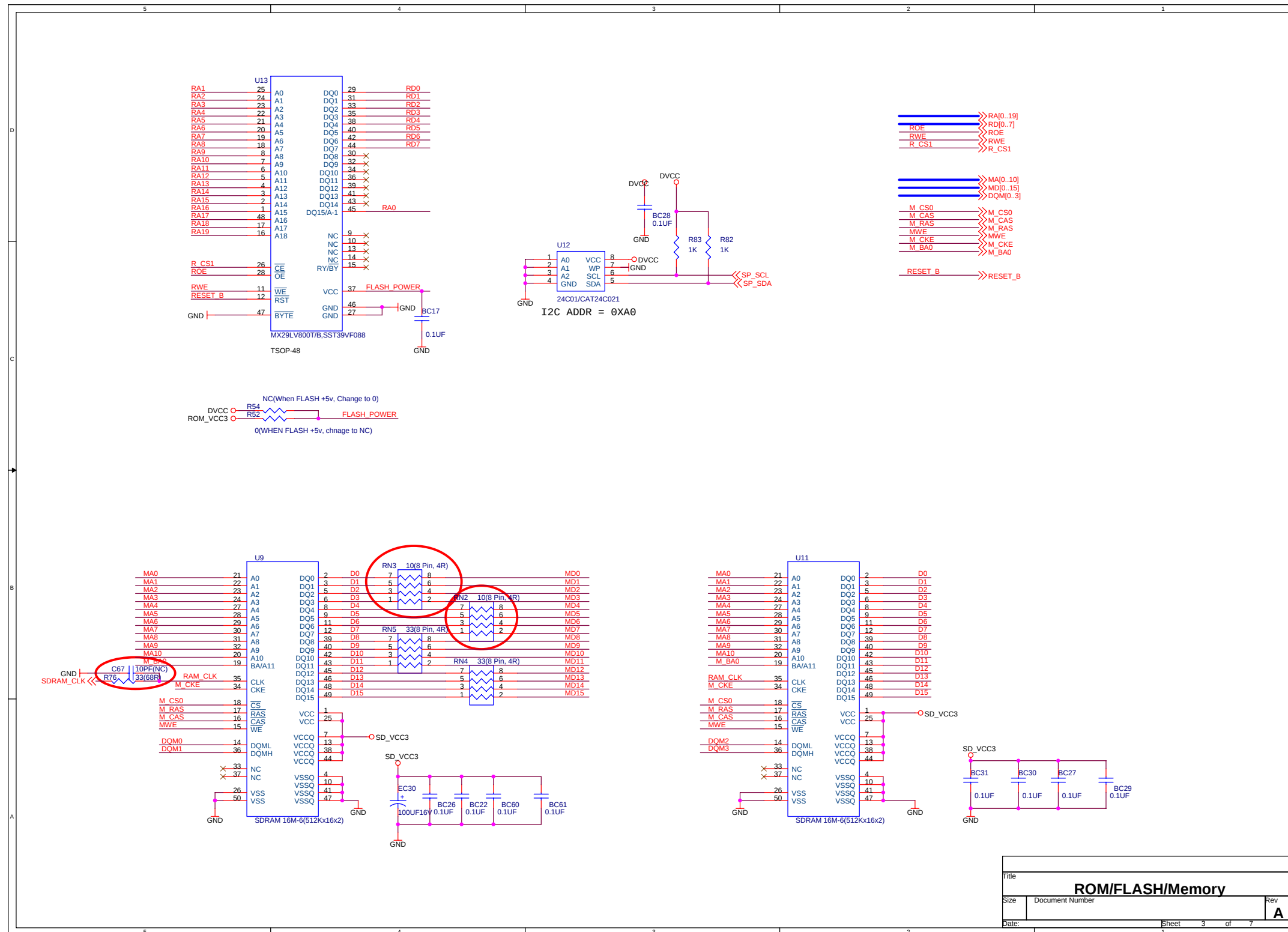
No	Part No	Description	Spec	Qty
40-20-76	32402242001	Chip inductor	42 Ω -600mA-0805	17
40-20-77	32408210003	Chip inductor	10uH-50mA-0805	2
40-20-78	3240821R002	Chip inductor	1uH-50mA-0805	6
40-20-79	40212500501	Series label	DVD-2404DR (25*5mm)	1
41	51325301M03	SCART board assembly	DV5301#ZC11A	1
41-1	30325301053	PCB (SCART)	DV5301#ZC11A (单面)	1
41-2	317B2105211	SCART	RC-2106 (宏兴电塑) 带付锁	1
41-3	32606135001	Jumper	$\Phi 0.6 \times 13.5\text{mm}$	1
41-4	30449200181	wire	L=180mm-9pin-2.0mm (反向一端带插针)	1

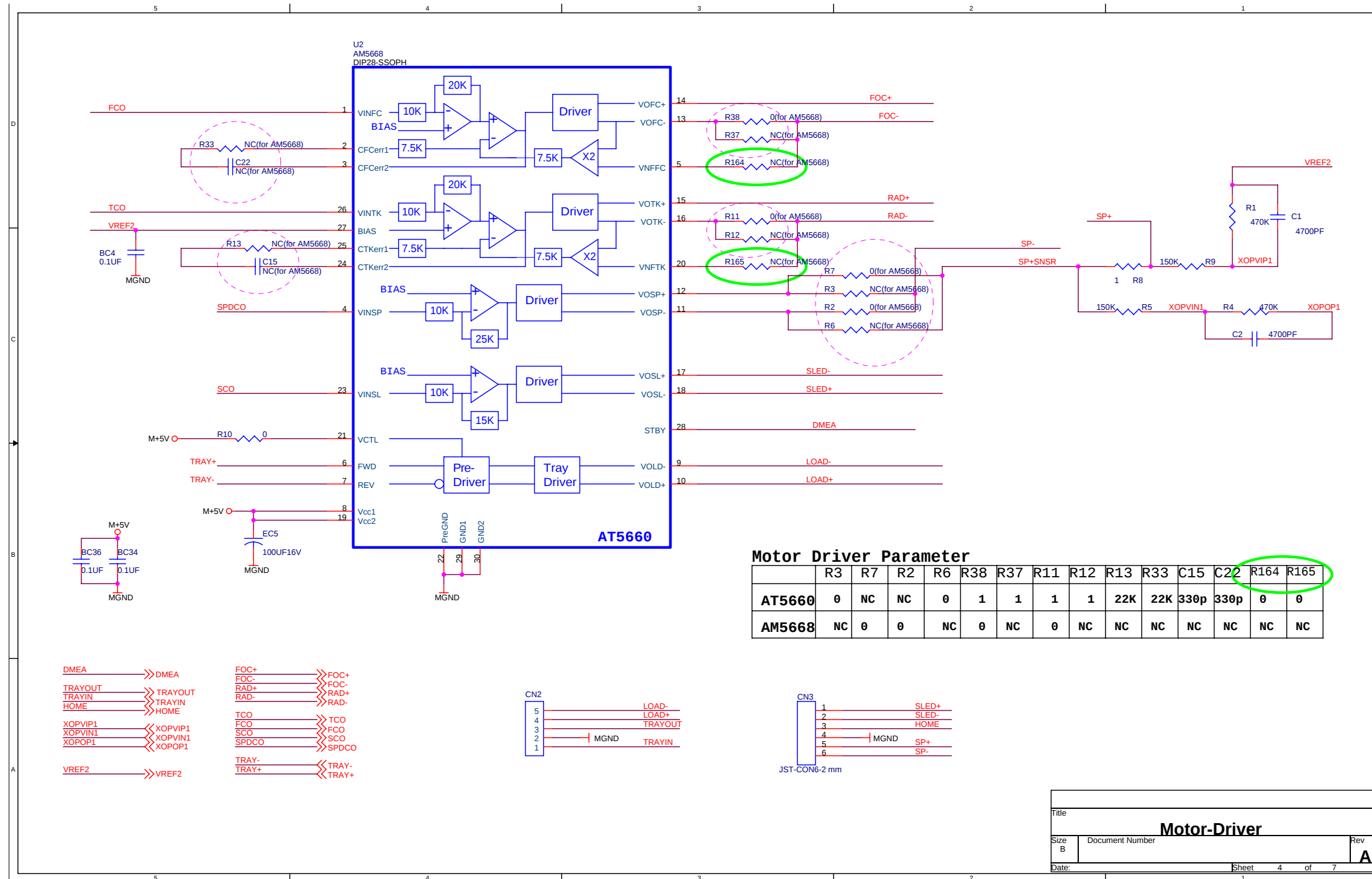
CIRCUIT DIAGRAMS

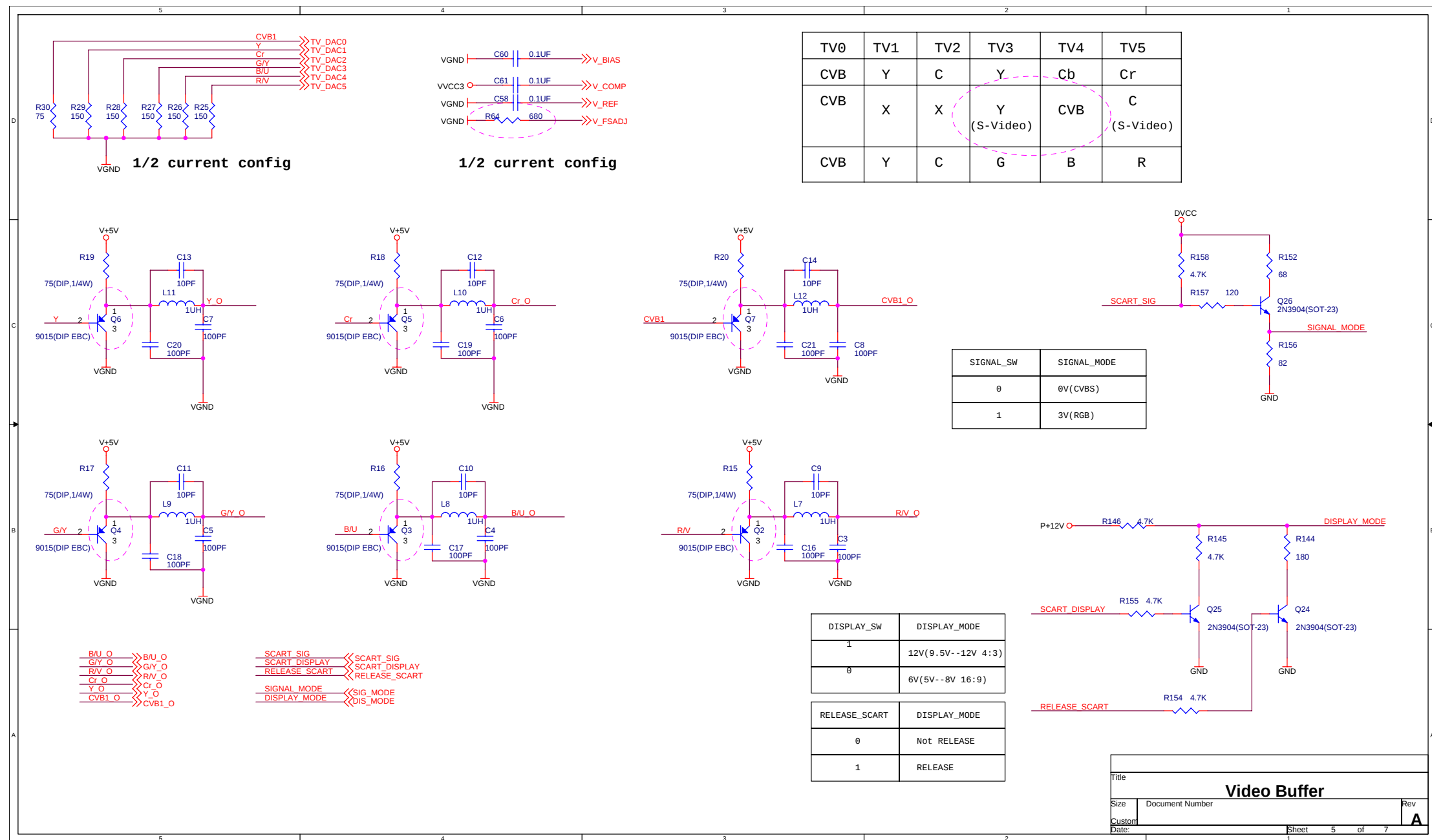












SUNPLUS Inc.

CHANGE LIST:

Item	Component Location /Description	Original Value	Change Value	PIC	DATE
1	R65,R62,C57,C59	27,27,39pF,39pF	22,22,NC,NC		2004/05/25
2	update 5660/5668 R,C value table				2004/05/25
3	CP1,CP2,CP3 GND	AGND	VGND		2004/05/26
4	CN6 TX,RX swap				2004/05/26
5	CN2 add mute pin				2004/05/26
6	C42 connect to IR_IN (not DVCC)				2004/05/26
7	CN2 pin6,7,8	TV_DAC5,3,4	R/V_0,G/Y_0,B/U_0		2004/05/26
8	add CN13				2004/05/26
9	video buffer 75 ohm & 8550	SMD	DIP		2004/05/26
10	R80	10K	330		2004/05/27
11	C66	0.15UF	0.1UF		2004/05/27
12	CN10 PIN37,38,39 swap				2004/05/31
13	CN2 PIN10	TV_DAC0	CVB1_0		2004/6/1
14	R136,R139	100K,200K	100,200		2004/6/3
15	C96	0.1uF	120pF		2004/6/28
16	add R162 and C97 for EMI				2004/6/28
17	add BC62 VVCC3 CAP.(0.1uF)				2004/6/28
18	8202 pin 225 move to pin 231				2004/7/1
19	add TP36				2004/7/1
20	update video table				2004/9/9
21	Add C98,C99		100PF,NC		2004/10/08
22	Delete R42				2004/10/10
23	update 5660/5668 R,C value table for sony 310, Kenwood,Thomson OPU				2004/10/15
24	R21,R22	100,100	0,0		2004/10/15
25	CN10 PCB Footprint	CON40PA	CON40P-1		2004/10/16
26	R137,R141,R142,R143 D6,D7,D8,D11 Q23,Q18	1K,1K,1K,1K 1N4148 2N3904,2N3906	NC		2004/10/19
27	Q2,Q3,Q4,Q5,Q6,Q7	8550(DIP EBC)	9015(DIP EBC)		2004/10/19
28	C98	100PF	NC		2004/12/14
29	Add L29,R163		FB,NC		2004/12/14
30	Add BC63,BC64		0.01UF,1000PF		2004/12/14
31	Add BC65,BC66		0.1UF,1000PF		2004/12/14
32	Add R164,R165		5660: R170=0,R171=0 5668: R170=NC,R171=NC		2004/12/14
33	Delete R160,R161,CN13				2004/12/20
34	Add Audio DA CE2766(6CH),CE2752(2CH) CS4344(2CH)				2005/04/01
35	Add GAME FUNCTION				2005/04/01

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Title		
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