



# *SERVICE MANUAL*

*RMP-3 Alpha B*  
*RMP-3 Alpha Ltd*

*MODEL NO.:RMP-3 Alpha B*  
*RMP-3 Alpha Ltd*

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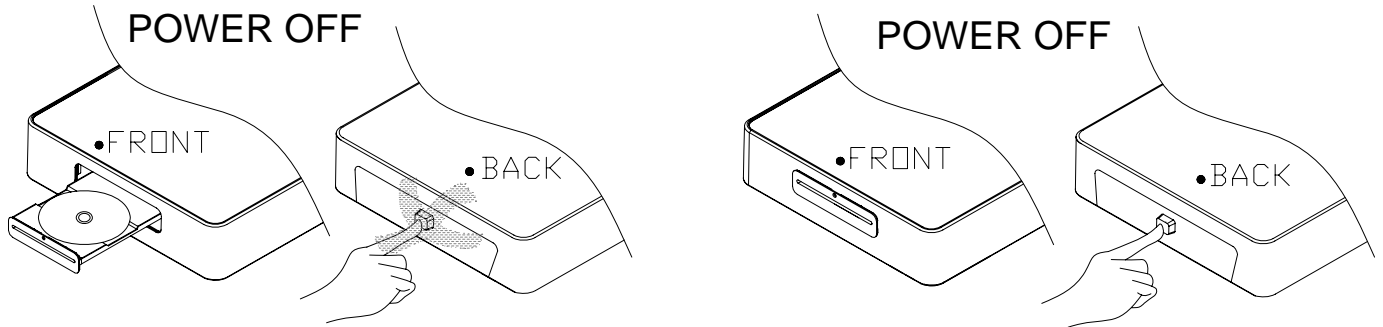
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*Caution*

**1: Condition test:**

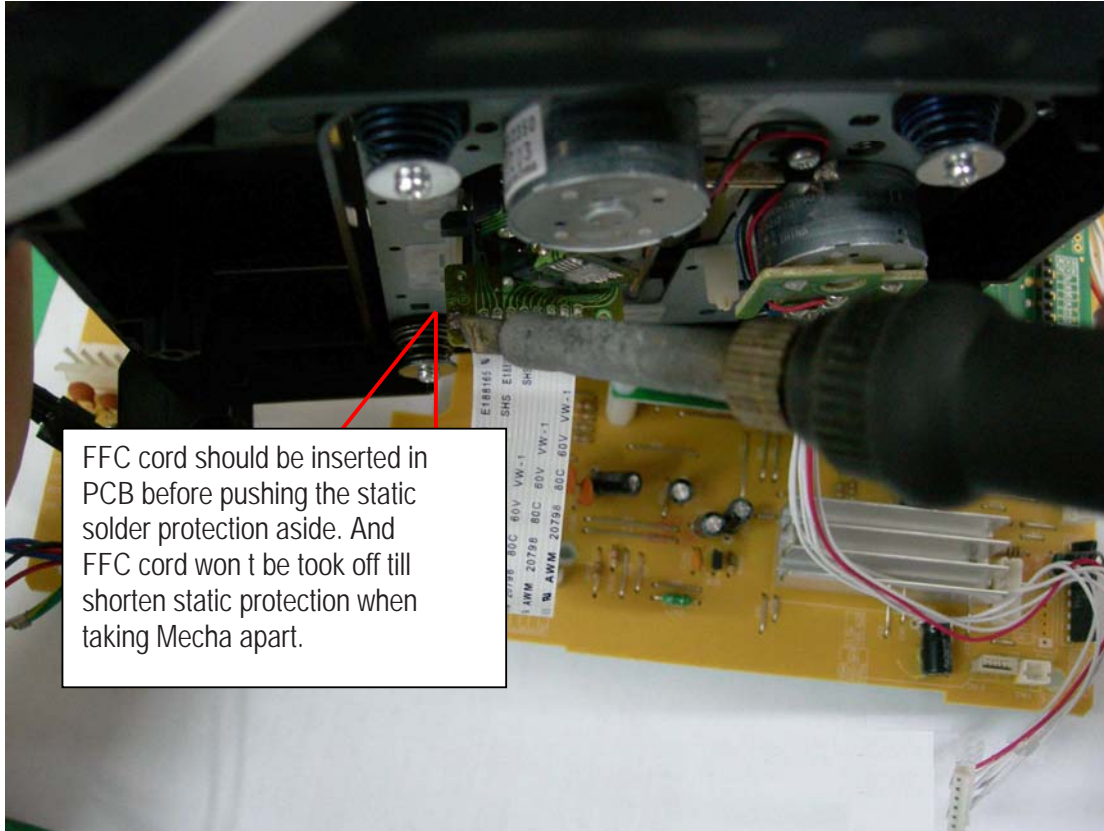
It needs to retest the sensitivity if replacing PCB component.

Please press down the PITCH ON/OFF button then power on to test condition and make the sensitivity back to default value.



**2: To prevent destroying the anti-static protection for the mechanism, please kindly be noted of the following important instruction for installing/disassembling the mechanism:**

- a.** When disassembling the mechanism, please make sure to turn off power and short the Anti-static protection welding point before removing the FFC cable.
- b.** When assembling the mechanism, please make sure to connect the FFC cable and PCB before removing the Anti-static welding point, then, turn on the power.

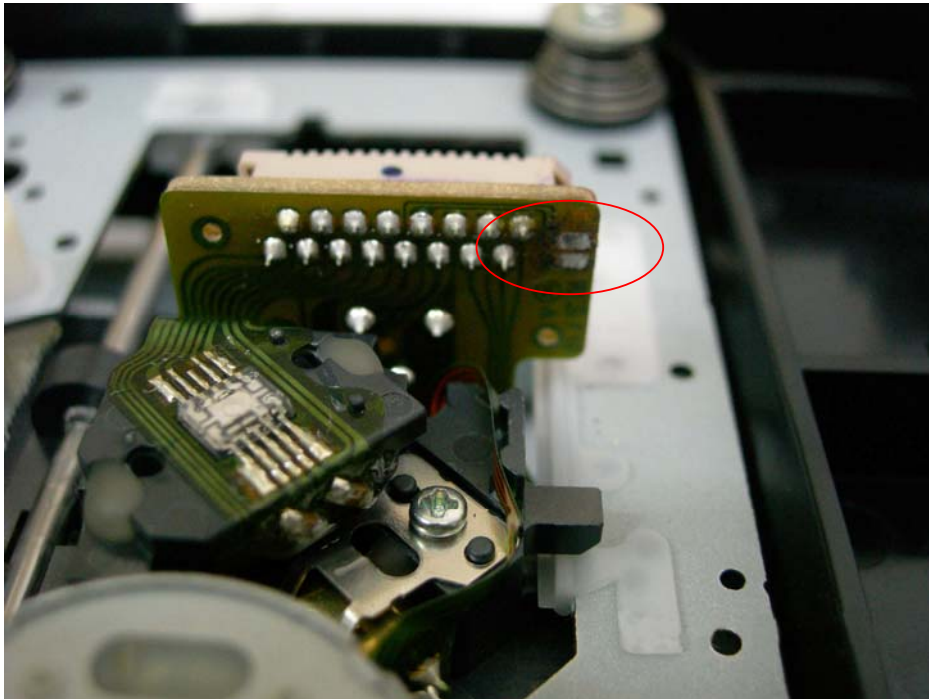


*Caution*

- 3: 3-1. Please be aware of wearing an anti-static ring before repairing
- 3-2. It is forbidden to adjust the laser pick up VR.



- 3-3. To protect the mechanism; always short the Anti-static protection welding point before removing the mechanism.



## General Specification

### 1. GENERAL SECTION

MODEL:	RMP-3 Alpha B, RMP-3 Alpha Ltd	DIGITAL MEDIA PLAYER
POWER SOURCE:	AC100 - 240V, 50/60Hz	
POWER CONSUMPTION:	18W	
DIMENSIONS:	320 (W) x 340(D) x 112.6(H) mm	
WEIGHT:	3.43kg	

### 2. FEATURES

- CD\USB Media Player
- Midi Controller For PC
- Seamless Loop
- Pitch Control
- Full Function MP3 Playback
- Auto Cue
- Digital Effects
- Anti-shock Playback
- VFD Display
- Universal Power Supply
- Fader Start Playback

### 3. AUDIO CHARACTERISTICS:

(CD TEST DISC: TCD-782; USB TEST FORMAT: MP3, 128KBPS; LOAD=100KOHM)

ITEM		TYPICAL	LIMIT	CONDITION
OUTPUT LEVEL	CD	2V +/-0.5dB	2V +/-1dB	1KHz, 0dB
	USB	1.85V +/-0.5dB	1.85V +/-1dB	
CHANNEL BALANCE		WITHIN 0.2dB	WITHIN 1dB	1KHz, 0dB
FREQUENCY RESPONSE	CD	17-20KHz +/-0.4dB	17-20KHz +/-1dB	0dB OUTPUT
	USB	17-16KHz +/-0.2dB	17-16KHz +/-1dB	
DE-EMPHASIS	CD	-20dB +/-0.2dB	-20dB +/-1dB	16KHz, -20dB
CHANNEL SEPARATION(*2)	CD, USB	91dB	85dB	1KHz, 0dB
THD+N (*1)	CD	0.006%	0.01%	1KHz, 0dB
	USB	0.007%	0.01%	
S/N (*2)		126dB	90dB	1KHz, 0dB
PHONES OUTPUT LEVEL	CD	0.35V +/-0.5dB	0.35V +/-1dB	1KHz, -20dB (TCD-782 Tk16)
DIGITAL OUTPUT LEVEL		0.5 +/-0.03V P-P	0.5 +/-0.1V P-P	75 OHM LOAD

NOTE:

\*1: WITH 20KHz LOW PASS FILTER.

\*2: WITH 20KHz LOW PASS FILTER, "IHF-A" WEIGHTED.

### 4. CD SEARCHING TIME: (TEST DISC: TCD-792)

ITEM	TYPICAL	LIMIT	CONDITION
SHORT ACCESS TIME	2Sec	4Sec	PLAY NEXT TRACK
LONG ACCESS TIME	4Sec	6Sec	TRACK 1 TO 20 , 20 TO 1

### 5. CD PLAYABILITY

ITEM	TYPICAL	LIMIT	CONDITION
INTERRUPTION	1mm	0.7mm	TCD-725
BLACK DOT	1mm	0.6mm	TCD -725
FINGER PRINTS	75um	65um	TCD-725
ECCENTRICITY	140um	140um	TCD-712 W/O TRACK JUMP
VERTICAL DEVIATION	1mm	0.5mm	TCD-731R
SCRATCH	2mm	1.2mm	TCD-721 W/O TRACK JUMP



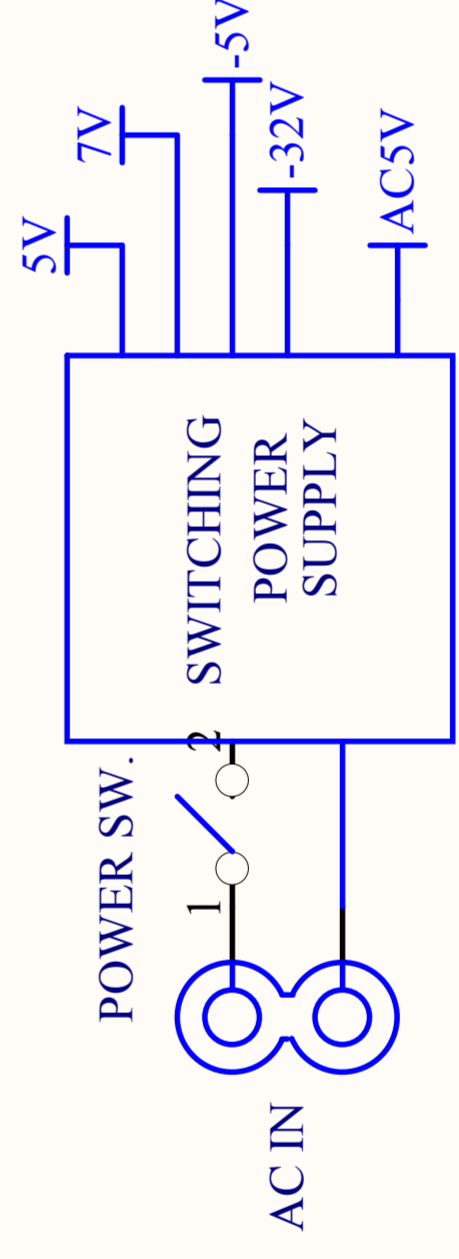
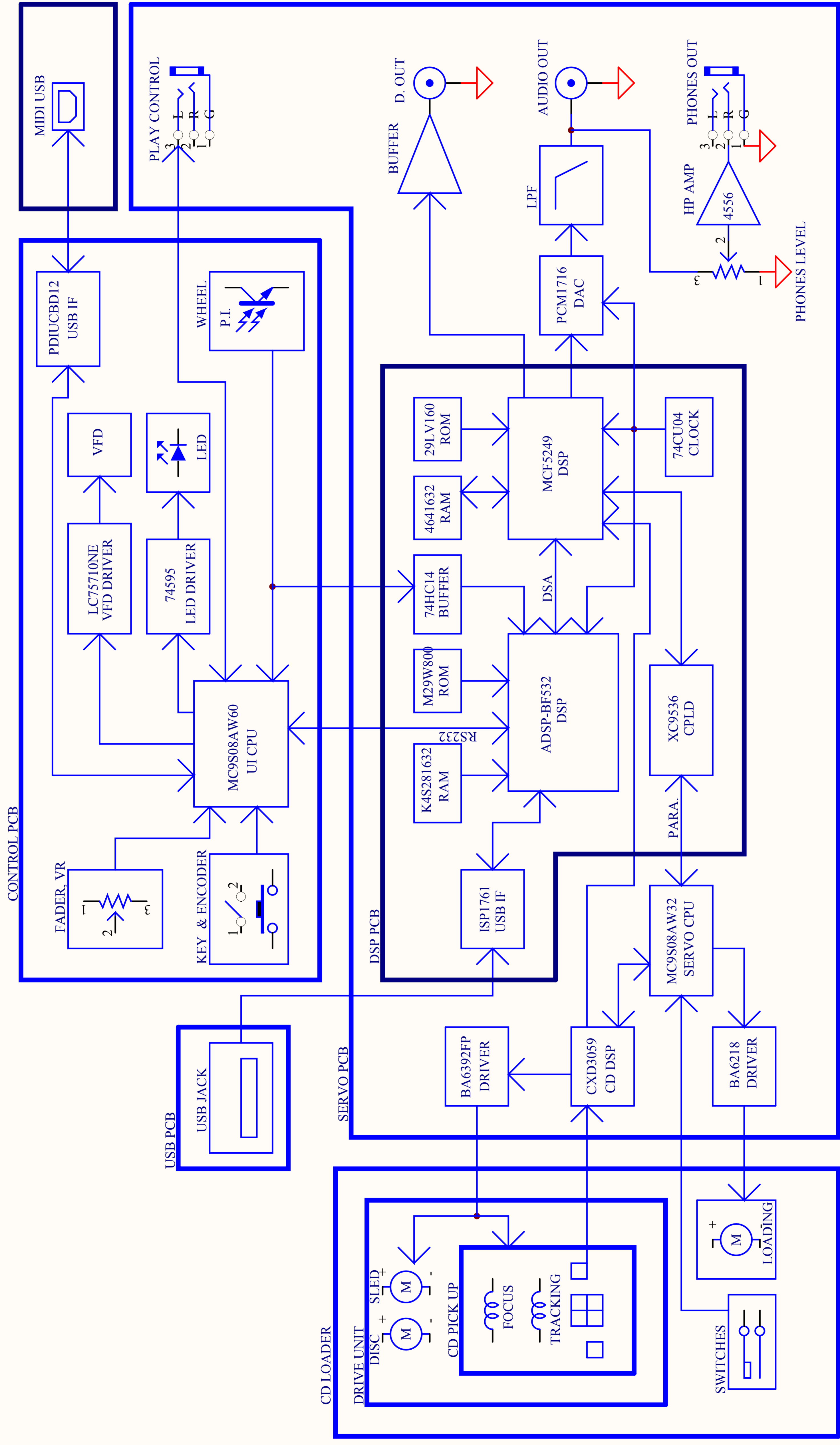
## 6. MP3 FORMAT

Disc Format	Applicable file extensions	mp3 . MP3 . mP3 . Mp3
	ISO9660	max. 63 characters
	Joliet	max. 63 characters
	CD-ROM sector format	mode-1 only
	Max. number of Folders	255
	Max. number of files	max. 999 files (* note #1)
USB Format	File System	FAT 12/16/32
	Applicable file extensions	mp3. MP3. mP3. Mp3
	Max. number of Folders	999
	Max. number of files	max. 999 files
MP3 Format	MPEG 1 Layer 3 standard (ISO/IEC 11172-3), which provides for single channel ('mono') and two-channel ('stereo') coding at sampling rates of 32, 44.1 and 48kHz.	32/40/48/56/80/96/112/128/160/192/224/256/320 kbps Xing/VBRI VBR
	MPEG 2 Layer 3 standard (ISO/IEC 13818-3), which provides for similar coding at sampling rates of 16, 22.05 and 24 kHz.	32/40/48/56/64/80/96/112/144/160 Kbps
	MPEG 2.5 Layer 3 standard, which provides for similar coding at sampling rates of 8, 11.025 and 12 kHz.	32/40/48/56/64/80/96/112/144/160 Kbps
Disc Writing Method	Disc at Once and Track at Once	
	Multi Session	If the 1 <sup>st</sup> session is CDDA, you can playback Only CDDA track, If the 1 <sup>st</sup> session is MP3, you can playback only MP3 file.

Note #1: max.255 files each folder

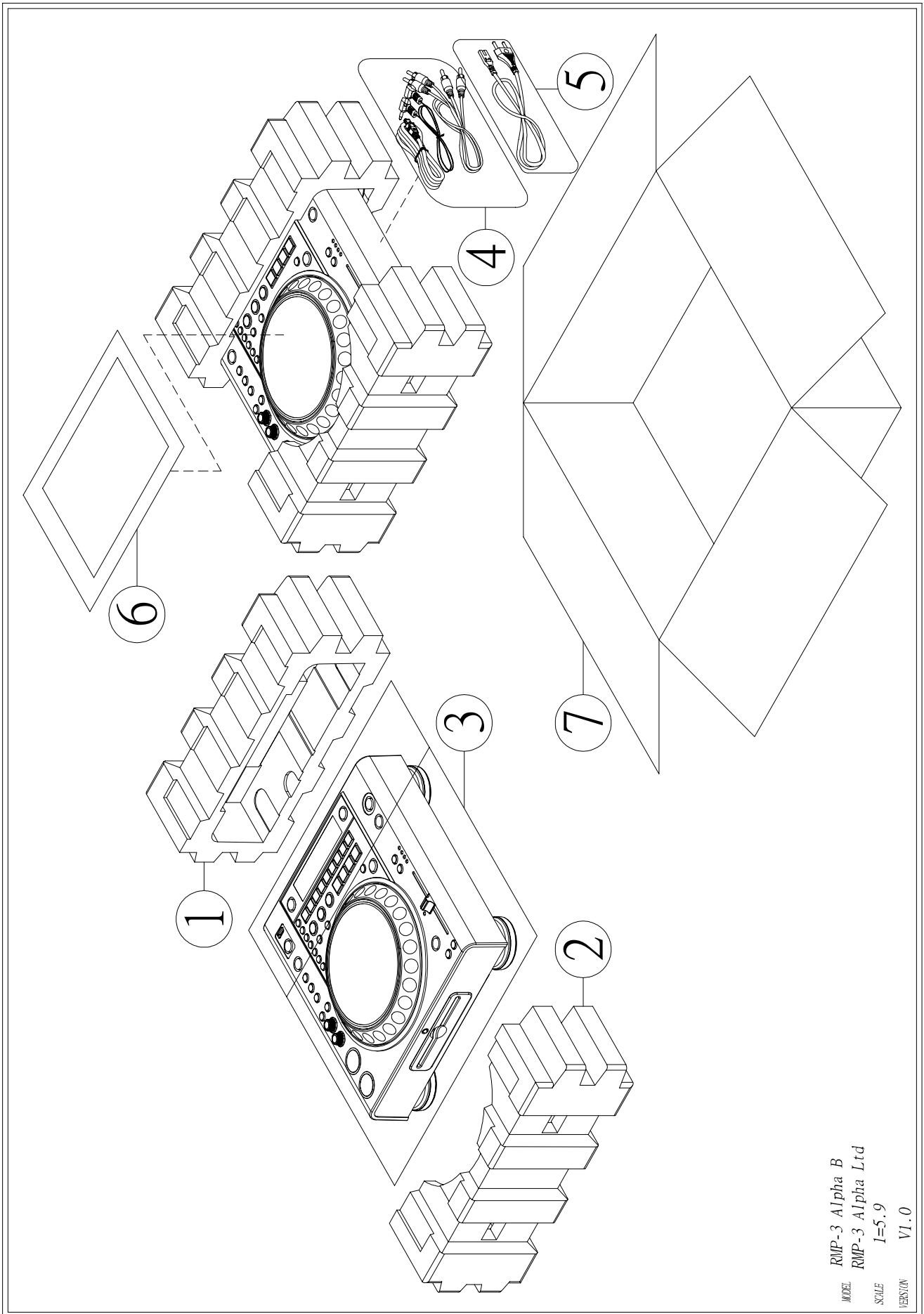
## 7. ACCESSORIES

- Operating Instruction                    1 pc
- 2P RCA path cord                        L/R 1 pairs
- Auto-start cable                         1 pc
- USB cable                                 1 pc
- AC power cord                            1 pc



Title		RMP-3 Alpha B, RMP-3 Alpha Lid	
Size	Number	BLOCK DIAGRAM	Revision
A4			0.1
Date:	2009/7/7	Sheet of	4
File:	\\.\RMP3blk01.Sch	Drawn By:	LEC

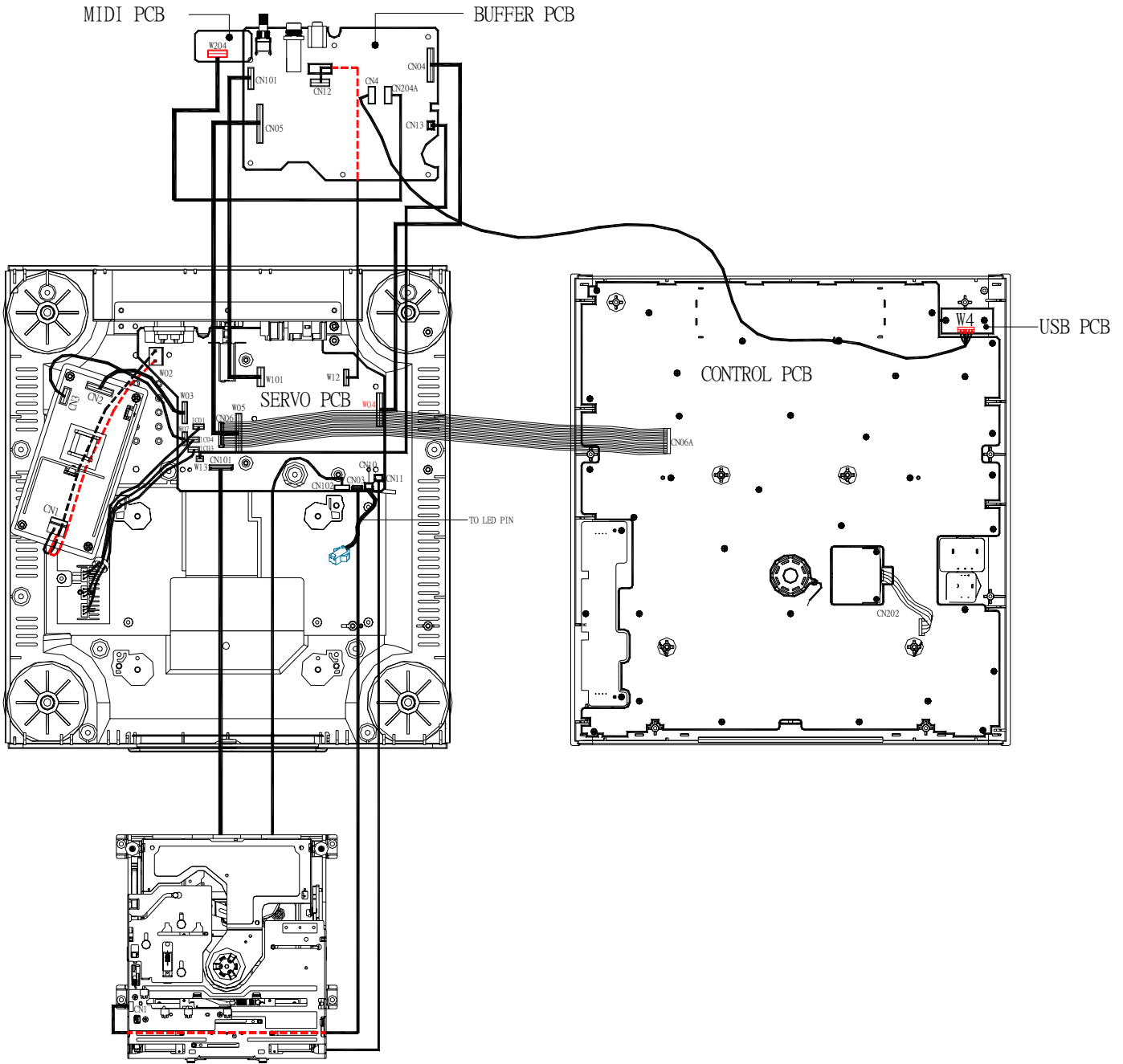
Packing View



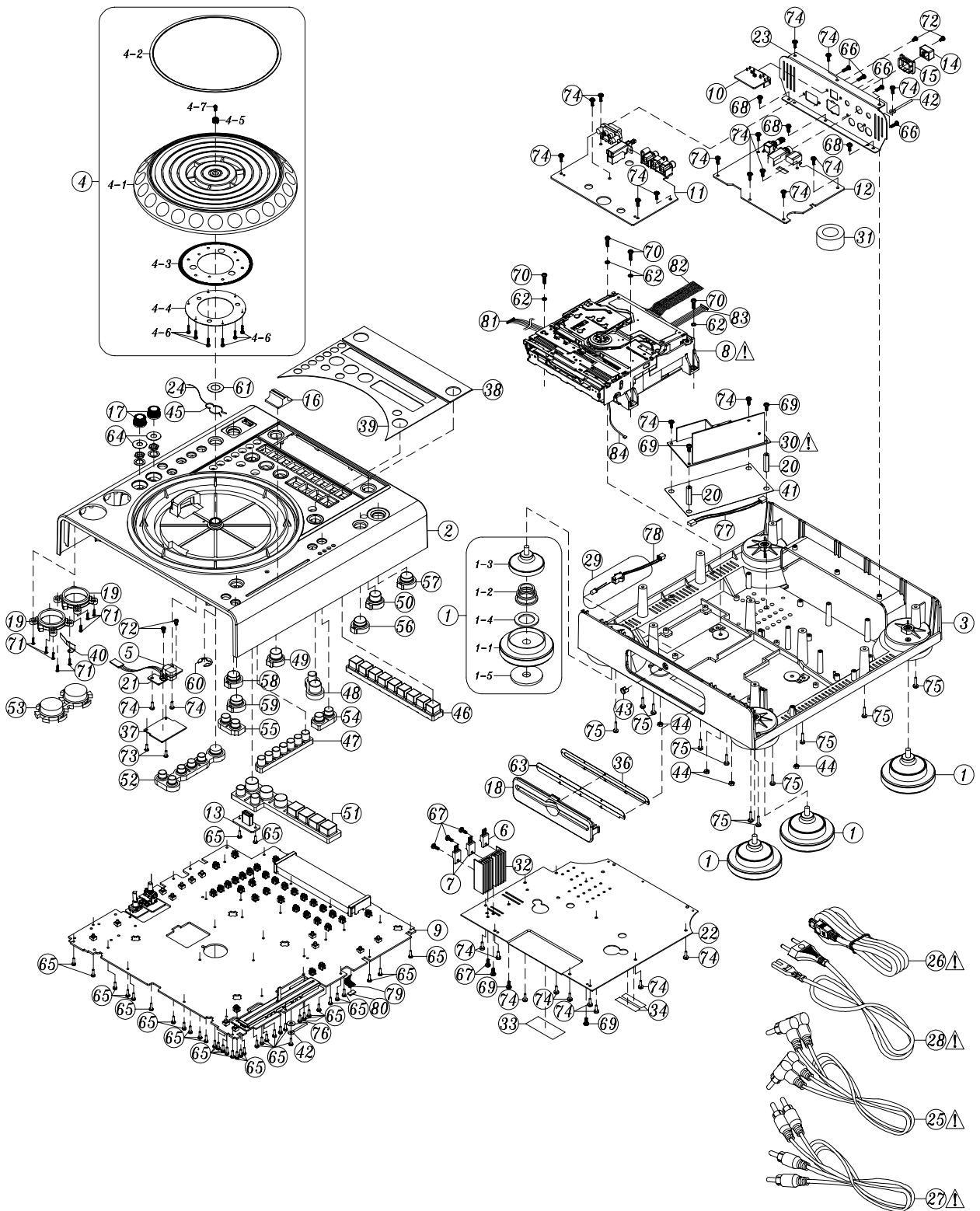
MODEL RMP-3 Alpha B  
RMP-3 Alpha Ltd  
SCALE 1=5.9  
VERSION V1.0



*Point to Point Wiring Diagram*



# Exploded View



MODEL RMP-3 Alpha B  
 RMP-3 Alpha Ltd  
 SCALE 1=8.99  
 VERSION V1.0



*Exploded View Part List*

REF NO.	DESCRIPTION	PART NO.	Q'TY	REMARK
1	FOOT & WASHER ASS'Y	701-60-3450	4	
1-1	PLASTIC FOOT (ABS HOT STAMP)	100-BJ2300-590	4	
1-2	SPRING FOR FOOT	603-STR830-266	4	
1-3	RUBBER FOOT(BLACK)	604-DJ1900-075	4	
1-4	CUSHION FOR FOOT SPRING (EVA BLACK)	612-DJ1900-017	4	
1-5	CUSHION FOR FOOT(PORON, $\phi$ 39.5*11*3t)	612-ST150-153	4	
2	CHASSIS	701-RMP3MK-3900B	1	RMP-3 Alpha B
		701-RMP3M1-3900B	1	RMP-3 Alpha Ltd
3	BASE ASS'Y	701-RMP3MK-4514	1	RMP-3 Alpha B
		701-RMP3M1-4514	1	RMP-3 Alpha Ltd
4	PLATE ASS'Y	703-RMP3MK-1079	1	RMP-3 Alpha B
		703-RMP3M1-1079	1	RMP-3 Alpha Ltd
4-1	PLATE & SHAFT ASS'Y	701-RMP2-3901A	1	RMP-3 Alpha B
		701-RMP1SA1-3901A	1	RMP-3 Alpha Ltd
4-2	PLATE FRONT PANEL	200-RMP3MK-519	1	RMP-3 Alpha B
		200-RMP3M1-519	1	RMP-3 Alpha Ltd
4-3	ENCODER PLATE	300-PROS2-848	1	
4-4	ENCODER FIXED PLATE	300-PROS2-851	1	
4-5	SPRING(SUS304, $\phi$ 0.4,L=6)	603-RMP3-385	1	
4-6	SCREW(PTB, $\phi$ 2*L6)	602-PROS2-363	6	
4-7	SCWER(SAE1018,STS,2.0*3)	602-STS2003-677	1	
5	SENSOR PCB ASS'Y	704-9800-4687	1	
6	IC(BA033T) ASS'Y	704-SDJ2-7319	1	
7	IC(BA05T) ASS'Y	704-SDJ2-7413	2	
8	SLOT-IN FEEDER MECHA ASS'Y	704-MK11-7951	1	
9	CONTROL PCB ASS'Y	704-RP3A-8879	1	
10	MIDI PCB ASS'Y	704-RP3A-8881	1	
11	SERVO PCB ASS'Y	704-RP3A-8759	1	
12	BUFFER PCB ASS'Y	704-RP3A-8876	1	
13	USB PCB ASS'Y	704-RP3A-8472	1	
14	POWER KNOB	100-HDJ2000-1641	1	
15	KNOB PROTECTOR	100-HDJ2000-1642	1	
16	SPEED PUSH BUTTON	100-RMP2-2017	1	RMP-3 Alpha B
		100-RMP1SA1-2017	1	RMP-3 Alpha Ltd
17	JOG TUNING KNOB	100-RMP2-2283	2	RMP-3 Alpha B
		100-RMP1SA1-2283	2	RMP-3 Alpha Ltd
18	DOOR FRAME	100-RMP3-2436	1	RMP-3 Alpha B
		100-RMP2A2-2436	1	RMP-3 Alpha Ltd
19	RING	100-RMP2-2437	2	
20	FIXED PILLAR(LONG)	200-SCX2-436	2	
21	SENSOR FIXED PLATE(SECC,1.2t)	300-HDJ9800-981	1	
22	BOTTOM BOARD	300-RMP2-1423A	1	
23	BACK COVER	300-RMP3MK-1424A	1	RMP-3 Alpha B
		300-RMP3M1-1424A	1	RMP-3 Alpha Ltd
24	1P LEAD WIRE(L=45mm,AWM1007 AWG26 BLACK)	406-PS2-631	1	

## Exploded View Part List

REF NO.	DESCRIPTION	PART NO.	Q'TY	REMARK
25	AUTO-START CABLE(MPL3.5-MPL3.5-100U/CR0976C)	408-CDN24A1-033	1	
26	USB CABLE(L=2000mm)	408-IM-081	1	
27	2P RCA CORD(L=1000mm)	408-DV300-5001	1	
28	AC POWER CORD(L=1900mm+/-50mm,VDE,TYPE)	409-DJ2-070A	1	
29	LED(BLUE,LTL-353UBJ, § 5)	410-SA12-176	1	
30	SWITCHING ADAPTOR(AC100-240V,50/60Hz)	411-RMP3-756	1	
31	FERRITE CORE	415-F806-264	1	
32	HEAT SINK	425-MCU200-140	1	
33	STICKER(CLASS 1)(48*22mm,t=0.1mm)	501-1420SRD-867	1	
34	LABEL(BARE,36*8mm,t=1.2mm)	501-DV300-1067		
36	DECORATION FOR DUST-PROOF(PC,134.1*10.1mm,t=0.5mm)	501-CDU100-1638B	1	
37	DUST-PROOF SLICE	501-HDJ9800-1648	1	
38	DECORATION(PC,125*30*1.5t)	501-RMP2MK-1948	1	
39	DECORATION(PC)	501-RMP3MK-1949	1	RMP-3 Alpha B
		501-RMP3M1-1949	1	RMP-3 Alpha Ltd
40	ANTI-DAZZLING SCREEN(PET,BLACK,0.188t)	501-RMP2-1999	1	
41	SEGREGATE SHEET	501-RMP3-2122A	1	
42	LOCKING CABLE CLIP(WC-1AM-M9B, § 5.6,L=35.6mm,BLACK)	504-HV3500K-033	2	
43	LED HOLADER(CLED-1,BLACK,H=7.15mm)	504-HDJ2650-075	1	
44	NUT(M3*P0.5)	601-A100-004	4	
45	SPRING(§ 1)	603-C304-335	1	
46	KNOB	604-RMP3MK-372	1	RMP-3 Alpha B
		604-RMP3M1-372	1	RMP-3 Alpha Ltd
47	7 KEY KNOB	604-RMP2-373	1	RMP-3 Alpha B
		604-RMP2A2-373	1	RMP-3 Alpha Ltd
48	TAP KNOB	604-RMP3-374	1	RMP-3 Alpha B
		604-RMP2A2-374	1	RMP-3 Alpha Ltd
49	X KNOB	604-RMP2A2-375	1	
50	Y KNOB	604-RMP2A2-376	1	
51	9 KEY KNOB	604-RMP3-377	1	RMP-3 Alpha B
		604-RMP2A2-377	1	RMP-3 Alpha Ltd
52	6 KEY KNOB	604-RMP3-378	1	RMP-3 Alpha B
		604-RMP2A2-378	1	RMP-3 Alpha Ltd
53	CUE KNOB	604-RMP3-379	1	RMP-3 Alpha B
		604-RMP2A2-379	1	RMP-3 Alpha Ltd
54	2 KEY KNOB	604-RMP3-380	1	RMP-3 Alpha B
		604-RMP2A2-380	1	RMP-3 Alpha Ltd
55	+/- KNOB	604-RMP3-381	1	RMP-3 Alpha B
		604-RMP2A2-381	1	RMP-3 Alpha Ltd
56	OP/CL KNOB	604-RMP3A-382	1	RMP-3 Alpha B
		604-RMP2A2-382	1	RMP-3 Alpha Ltd
57	SHIFT KNOB	604-RMP3B-382	1	RMP-3 Alpha B
		604-RMP3A1-382	1	RMP-3 Alpha Ltd
58	SW KNOB	604-RMP3A-383	1	RMP-3 Alpha B
		604-RMP2A2-383	1	RMP-3 Alpha Ltd



Control PCB Ass'y Part List

REF NO.	DESCRIPTION	PART NO.	Q'TY	REMARK
	CONTROL PCB ASS'Y	704-RP3A-8879	1	
	VFD HOLDER	300-CMP1000-1208	2	
SW212,SW224,SW225,SW228,SW231,SW232,SW226,SW227,SW229,SW235,SW244	SW LED(TSSW-BLUE,CREE)	403-HPR1-175B	11	
SW217,SW209,SW215,SW214,SW213,SW210,SW211,SW243	TSSW-RED LED	403-HPR1-184A	8	
SW245	TACT SW(SKHHBW2720-HF,4PIN)	403-HT5010-038	1	
CN06A	SOCKET(16PIN P=1.0mm SMD FPC 2T-16P)	404-HV3423K-583	1	
D202,D203,D204,D205,D208	LED (6224-10ID-A,RED )	410-CD6000-122	5	
D240,D240A,D239,D245,D225,D225A,D224,D244,D230,D230A,D226,D226A,D217,D217A,D218,D218A,D220,D220A,D221,D221A,D222,D222A,D223,D223A,D209,D209A,D211,D211A,D213,D213A,D215,D215A	LED(LTL1CHJEDNN,RED)	410-DJ5000-253	32	
D242	LED ( RED )	410-HV3700K-114	1	
VFD201	VFD(HNA-16MM49)	410-MCD9700-267	1	
D219,D219A	LED(BLUE,LTL-1CHTBK2, § 3.1)	410-MH2-311	2	
D241	LED(BLUE,LTL1RMTBK, § 3.1)	410-RP2-316	1	
C232	CERAMIC CAPACITOR(0.1uF/50V,Z,TAPING,Y5V)	413-3113-035	1	
C220	ELEC. CAPACITOR(10uF/35V,M,TAPING 4*7,MINI)	413-810-919	1	
C201,C207,C233	ELEC. CAPACITOR(100uF/10V,M,105 °C ,TAPING 5*7,MINI)(Cd,Pb,Hg,Cr)	413-HMA2200-5017	3	
IC213	IC(LC75710NE-E,QFP-64/QIP)	417-MCDS4-739	1	
CN202	1*4P2.54 SERIES STRIP PIN HEADER(L=10.16,21N1264-04M15-01G-6)	424-HDJ9700-069	1	
X201	CRYSTAL(5.5296MHz)	427-DM1000-046	1	
D240,D240A,D239,D245,D225,D225A,D224,D244,D230,D230A,D226,D226A,D217,D217A,D218,D218A,D220,D220A,D221,D221A,D222,D222A,D223,D223A,D209,D209A,D211,D211A,D213,D213A,D215,D215A,D219,D219A	LED HOLDER(LED3-1A-B,H=1.5mm,BLACK)	504-HDJ2000-097	34	
D241,D242	LED HOLDER(LED3-6,H=6mm,WHITE)	504-RMX30-158	2	
D202,D203,D204,D205,D208	LED HOLDER(LED-9,H=9mm)	504-TT100-070	5	
	VFD SHEET(15*5.5*6t)	612-HDJ2000-094A	2	
	VR CUSHION(0.5t,BLACK)	612-HDJ9700-015	1	
	PITCH PCB ASS'Y	704-RP3A-8469	1	
W201 TO W201A	4P RIBBON WIRE(UL2468#26 L=45mm)	406-CDS1000-589	1	
VR201	SLIDE VR(10KB*2,RFA0N12L6503-10<3BM>*2<HF3>,L=14)	418-HDJ9800-195B	1	
	PITCH PCB	405-RMP3-2426	1	
J01,J02	JUMPER	406-3113-175	2	

Control PCB Ass'y Part List

REF NO.	DESCRIPTION	PART NO.	Q'TY	REMARK
	TRACK PCB ASS'Y	704-RP3A-8470	1	
SW208	ENCODE SW(RE111F-41B1-15F-20P)	403-TU3-319	1	
W205 TO W205A	5P LEAD WIRE(L=35mm,AWM2468#26)	406-RP1-884	1	
	TRACK PCB	405-RMP3-2422	1	
C225,C226	CHIP CAPACITOR(0.01uF/50V,K,0603 TYPE,X7R)	413-DCM280-771	2	
	SEARCH PCB ASS'Y	704-RP3A-8471	1	
VR202	VR(RK16Y12SO,100KB)	403-HDJ2000-125	1	
	SEARCH PCB	405-RMP3-2423	1	
W203 TO W203A	3P RIBBON WIRE	406-CDS1000-590	1	
R208	CHIP RESISTOR(2.2K OHM,1/10W,0603,J,TP ,50V)	412-007USB-693	1	
R206	CHIP RESISTOR(51KOHM,1/10W,J,TP 0603,50V)	412-900-977	1	
R259,R260,R261,R262,R263,R264,R265,R270,R270A,R271,R271A,R272,R272A,R273,R273A,R274,R274A,R275,R275A,R276,R276A,R292,R298	CHIP RESISTOR(220 OHM,1/10W,0603 ,J,TP 50V)	412-CDVD2001-521	23	
R205,R212,R213,R214	CHIP RESISTOR(10K OHM,1/10W,0603,J,TP ,50V)	412-CDVD2001-534	4	
R203	CHIP RESISTOR(1K OHM,1/10W, 0603,J,TP,50V)	412-CDVD2001-540	1	
R210	CHIP RESISTOR(1M OHM,1/10W,0603,J,TP ,50V)	412-CDVD2001-546	1	
R204	CHIP RRESISTOR(20K OHM,1/10W,0603,J,TP ,50V)	412-DCM280-726	1	
J147,J158	CHIP RESISTOR(0 OHM,1/8W,1206,J,TP ,150V)	412-DJ3000-414	2	
R202	CHIP RESISTOR(2.4Kohm,1/10W,J,TP 0603,50V)	412-MH2-1135	1	
C219	CHIP CAPACITOR(30pF/50V,J,0603 TYPE,NPO)	413-007USB-783	1	
C214,C257	CHIP CAPACITOR(1uF/16V,Z,0603 TYPE,Y5V)	413-007USB-797	2	
C205,C206	CHIP CAPACITOR(22pF/50V,J,0603 TYPE,NPO)	413-CR701-5161	2	
C215,C216,C217,C252,C213,C209	CHIP CAPACITOR(0.01uF/50V,K,0603 TYPE,X7R)	413-DCM280-771	6	
C218,C202,C203,C204,C208,C221,C222,C228,C229,C230,C231,C227	CHIP CAPACITOR(0.1uF/50V,Z,0603 TYPE,Y5V)	413-DCM280-773	12	
IC207,IC208,IC209,IC210,IC211,IC212	IC(74AHC595DR,SOP-16)	417-HDJ9800-643	6	
IC202	IC(PIC16F616-I/SL,SOIC-8)	417-RMP3-936	1	
SW203,SW204,SW205,SW206,SW207,SW216,SW219,SW220,SW221,SW222,SW223,SW230,SW233,SW234,SW236,SW238,SW237,SW239,SW240,SW241,SW242,SW248,SW218	TACT SW(SFKHVBL3725,TAPING,H=7mm)	403-CDJ3300-195	23	
SW201,SW202	TACT SW(H=5mm,TAPING)	403-DCM270X-101A	2	
	CONTROL PCB	405-RMP3-2421A	1	





Servo PCB Ass'y Part List

REF NO.	DESCRIPTION	PART NO.	Q'TY	REMARK
	SERVO PCB ASS'Y	704-RP3A-8759	1	
	IC HEATSINK	300-700-1726	1	
	IC HEATSINK FIXED PLATE	300-700-1727	1	
SW001	POWER SW(SDDL1177U-HF3)	403-C304-218	1	
CN102	6P SOCKET(CKM2001WV-6P 180°WHITE)	404-3113-052A	1	
CN03	5P FFC SOCKET	404-9700-2017	1	
W02	2P SOCKET(P=3.96mm,180 DEGREES)	404-BEAT6-1597	1	
W04	12P CONNECTOR WIRE(P=2.0mm,L=100mm,AWM1007 AWG26)(Cd,Pb)	404-DJ101S-1186	1	
JK01	AC JACK(SO-222)	404-DJ2-021	1	
CN11	2P SOCKET(CKM2001WV-2P,180°WHITE)	404-HP1010K-257A	1	
IC01	3P SOCKET(CKM2501-WV-3P,180° RED)	404-HT8015-328A	1	
IC04,IC03	3P SOCKET(CKM2501WV-3P.180°WHTIE)	404-HV3500K-623A	2	
W05	14P 2.0CONNECTOR WIRE(UL2468#28,L=50mm)	404-IS101-2783	1	
W03	7P 2.5 CONNECTOR WIRE(UL2725#26*1P+26AWG*2C+AB,L=150mm,+/-)	404-IS101-2785	1	
CN10	2P SOCKET(CKM2501WV-2P 180°WHITE)	404-KMD1500-608A	1	
CN101,CN06	16P FFC CONNECTOR(P=1mm)	404-PRODJ2-866	2	
W07	4P 2.5 CONNECTOR WIRE(L=130mm,UL1007#26,RED/WHITE*3,+/-)	404-RMP3-3235	1	
W12	6P 2.0 CONNECTOR WIRE(UL1007#26 RED/WHITE*3,L=150mm)	404-RP1-2460	1	
W101	8P 2.0 CONNECTOR WIRE(L=70mm,UL1007#26,BLUE/WHITE*7,+/-)	404-SA12-1452	1	
W13	2P2.0 CONNECTOR WIRE(L=210mm, AWM1007 AWG26)	404-ST150-1719	1	
C188	ELEC. CAPACITOR(100uF/10V,M,105 °C,TAPING 5*7,MINI)(Cd,Pb,Hg,Cr)	413-HMA2200-5017	1	
C147	ELEC. CAPACITOR(470uF/10V,M, 105°C,TAPING 8*12)(Cd,Pb,Hg,Cr)	413-HT8015-169	1	
C001	AC SAFETY CAPACITOR(0.01uF/250V,M,BULK,Y5V)	413-S250-747	1	
L108,L114	INDUCTANCE(100uH J 0707-444-W077)	415-HT8015-040	2	
L112	BEAD CORE(TB36-863445NP T-26mm)	415-HV3500K-090	1	
IC108	IC(BA15218,DIP-8)	417-AK4-644	1	
IC107	REVERSIZLE MOTOR DRIVER(BA6218/BA6418N)	417-KC720-049	1	
JK103	1P RCA JACK(RJ-1081-31-0341A)(Pb.Cd)	420-HDJ2650-097A	1	
JK101	2P RCA JACK(RJ-1078B-10-0320A)	420-HDJ7000-045	1	
X102	CERAMIC RESONATOR(33.86MHz)	427-MH2-122	1	
C001	CNR COVER(HU-12-ULY)	504-CDC2050-105	1	
R168	CHIP RESISTOR(4.7OHM,1/10W,J,TP 0603,50V)	412-007USB-676	1	
R163,R164	CHIP RESISTOR(2.7K OHM,1/10W,V,J,TP,50V)	412-007USB-677	2	
R115,R116	CHIP RESISTOR(15K OHM,1/10W,0603,J,TP ,50V)	412-007USB-687	2	
R119	CHIP RESISTOR(150K OHM,1/10W,0603,J,TP ,50V)	412-007USB-688	1	
R108	CHIP RESISTOR(3.3K OHM,1/10W, 0603,J,TP,50V)	412-007USB-699	1	
R147,R155,R156	CHIP RESISTOR(5.6K OHM,1/10W,0603,J,TP ,50V)	412-007USB-701	3	
R15,R16,R157,R158	CHIP RESISTOR(39K OHM,1/10W,0603,J,TP ,50V)	412-007USB-706	4	
R103,R107,R112	CHIP RESISTOR470K OHM,1/10W, 0603,J,TP,50V)	412-007USB-707	3	
R140,R184	CHIP RESISTOR(10 OHM,1/10W,J,TP 0603,50V)	412-810-966	2	
R161,R162	CHIP RESISTOR(820OHM,1/10W,J,TP 0603,50V)	412-900-1010	2	
R102	CHIP RESISTOR(11KOHM,1/10W,J,TP 0603,50V)	412-900-1012	1	
R113,R114	CHIP RESISTOR(180OHM,1/10W,F,TP 0603,50V)	412-900-1014	2	
R176	CHIP RESISTOR(330OHM,1/10W,F,TP 0603,50V)	412-900-983	1	
R149	CHIP RESISTOR(6.2KOHM,1/10W,F,TP 0603,50V)	412-900-985	1	

Servo PCB Ass'y Part List

REF NO.	DESCRIPTION	PART NO.	Q'TY	REMARK
R137,R138,R139,R150,R166,R197,R198,R199	CHIP RESISTOR(220 OHM,1/10W,0603 ,J,TP 50V)	412-CDVD2001-521	8	
R110,R148	CHIP RESISTOR(4.7K OHM,1/10W, 0603,J,TP ,50V)	412-CDVD2001-523	2	
R129,R130,R131,R132,R175,R178,R179,R181,R182,R183,R185,R189,R190,R191,R192,R193,R194,R195,R196	CHIP RESISTOR(100 OHM,1/10W, 0603,J,TP,50V)	412-CDVD2001-530	19	
R120	CHIP RESISTOR(47K OHM,1/10W,0603,J,TP ,50V)	412-CDVD2001-532	1	
R13,R14,R104,R117,R121,R122,R123,R124,R133,R134,R136,R187,R188,R153,R154	CHIP RESISTOR(10K OHM,1/10W,0603,J,TP ,50V)	412-CDVD2001-534	15	
R152	CHIP RESISTOR(75 OHM,1/10W, 0603,J,TP,50V)	412-CDVD2001-535	1	
R105,R151,R159,R160,R165,R170	CHIP RESISTOR(100K OHM,1/10W,0603 ,J,TP ,50V)	412-CDVD2001-537	6	
R109,R167	CHIP RESISTOR(1K OHM,1/10W, 0603,J,TP,50V)	412-CDVD2001-540	2	
R106	CHIP RESISTOR(1M OHM,1/10W,0603,J,TP ,50V)	412-CDVD2001-546	1	
R111,R171,R172,R173,R12	CHIP RESISTOR(0 OHM,1/10W, 0603,J,TP,50V)	412-CDVD2001-552	5	
R101,R174	CHIP RESISTOR(22 OHM,1/10W,0603,F,TP ,50V)	412-CDVD2001-554	2	
C198,C199	CHIP CAPACITOR(10pF/50V,J,0603 TYPE,NPO)	413-007USB-780	2	
C196	CHIP CAPACITOR(0.33uF/16V,Z,0603 TYPE,Y5V)	413-007USB-782	1	
C141,C157	CHIP CAPACITOR( 220pF/50V,0603,TYPE NPO)	413-007USB-787	2	
C171,C172	CHIP CAPACITOR(82pF/50V,J,0603 TYPE,NPO)	413-007USB-827	2	
C114	CHIP CAPACITOR(330pF/50V,J,0603 TYPE,NPO)	413-900-925	1	
C115	CHIP CAPACITOR(100pF/50V,J,0603 TYPE,NPO)	413-DCM280-767	1	
C118,C177,C178	CHIP CAPACITOR(1000pF/50V,K,0603 TYPE,X7R)	413-DCM280-768	3	
C119	CHIP CAPACITOR(1500pF/50V,K,0603 TYPE,X7R)	413-DCM280-769	1	
C116,C192	CHIP CAPACITOR(0.01uF/50V,K,0603 TYPE,X7R)	413-DCM280-771	2	
C9,C10,C11,C12,C200,C201,C202,C01,C02,C03,C06,C101,C104,C108,C109,C110,C111,C113,C117,C120,C121,C123,C125,C126,C127,C130,C133,C134,C135,C136,C137,C138,C143,C144,C155,C159,C163,C164,C181,C183,C184,C187,C191,C193,C194,C197	CHIP CAPACITOR(0.1uF/50V,Z,0603 TYPE,Y5V)	413-DCM280-773	46	
C174	CHIP CAPACITOR(0.022uF/50V,K,0603 TYPE,X7R)	413-DCM280-794	1	
D101,D102,D103,D104,D105	SWITCHING DIODE(1SS355,UMD2,SMD,TAPING)	414-CD1000-075	5	
Q102	TRANSISTOR(DTC124EKAT146/DTC124EKA)	416-CDN88-044	1	
Q101	TRANSISTOR(2SA1037AKT146R/2SA1037AKR)	416-CDN88-045	1	
Q103	CHIP TRANSISTOR(2SC2412KT146R)	416-CDN88-051	1	
Q105,Q106	TRANSISTOR(2SC4695)	416-DAIA-273	2	
Q109	CHIP TRANSISTOR((DTC114TKA/DTC114TKAT146,SMT3)	416-HDJ9700-209	1	
Q104	CHIP TRANSISTOR(DTA124TKAT146)	416-HDJ9700-210	1	



Buffer PCB Ass'y Part List

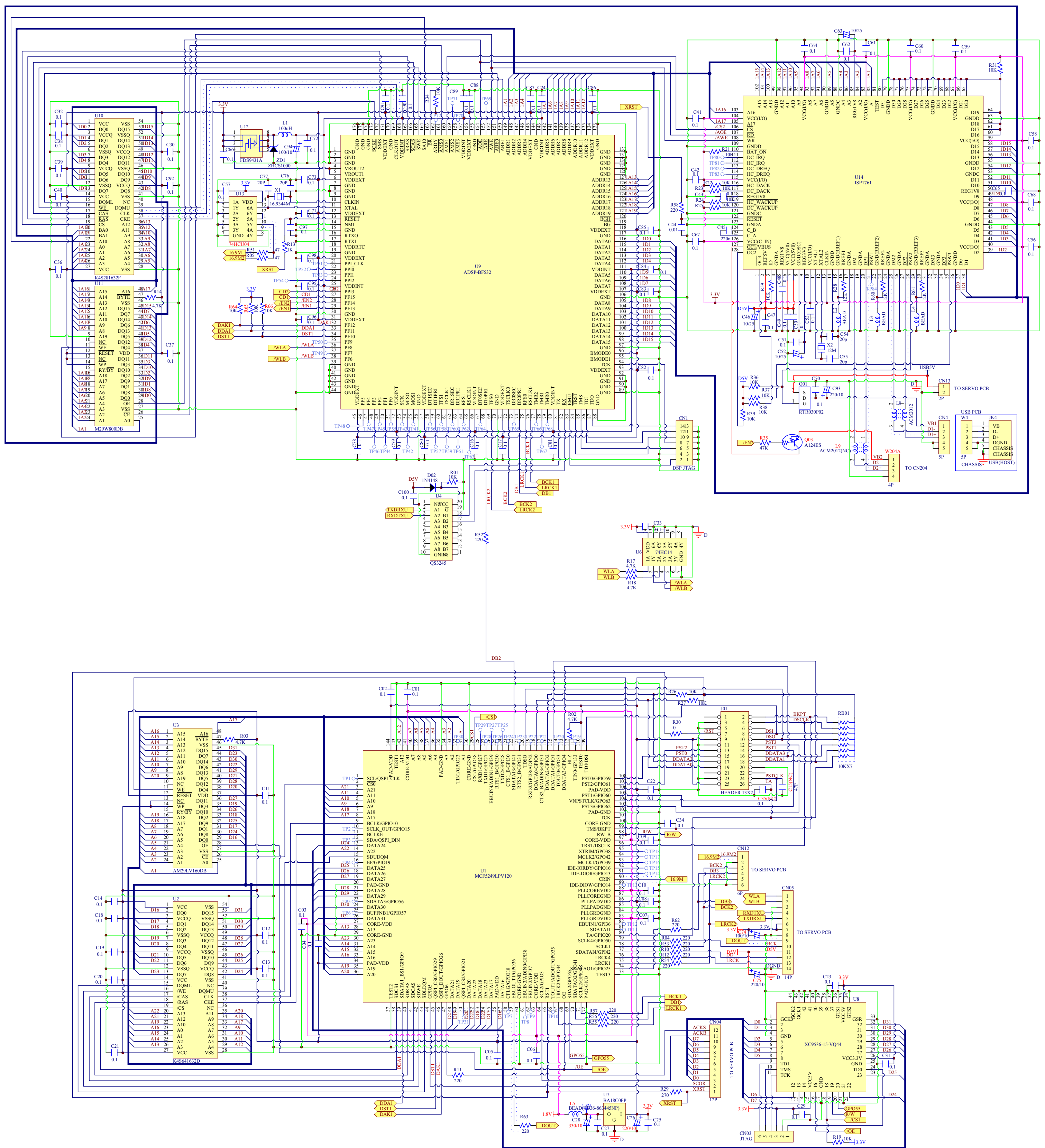
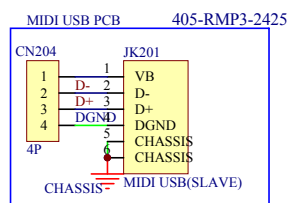
REF NO.	DESCRIPTION	PART NO.	Q'TY	REMARK
	BUFFER PCB ASS'Y	704-RP3A-8876	1	
CN4	5P SOCKET(CKM2001WV-5P 180°WHITE)	404-1210S-094A	1	
CN12	6P SOCKET(CKM2001WV-6P 180°WHITE)	404-3113-052A	1	
CN04	12P SOCKET(CKM2001WV-12P 180°WHITE)	404-CDN88-1203A	1	
CN204A	5P SOCKE(CKM2001WV-5P,P=2mm,RED,180°)	404-HC1421FR-426A	1	
CN13	2P SOCKET(CKM2001WV-2P,180°WHITE)	404-HP1010K-257A	1	
CN05	14P SOCKET(CKM2001WV-14P,P=2mm,JST,180 DEGREE)	404-HT8031-445	1	
CN101	8P SOCKET(CKM2001WV-8P 180°WHITE)	404-KT300-079A	1	
GND	1P GROUND WIRE(L=80mm,AWM1007,AWG22)	406-MH2-825	1	
RB01	THICK FILM RESISTOR NETWORKS(10K OHM,1/8W J,RA TYPE,7R8P)	412-DJ1-420	1	
L5	BEAD(RH03506BT-B-N,TAPING RT)	415-DCM370E3-134	1	
L1	INDUCTANCE(100uH J 0707-444-W077)	415-HT8015-040	1	
L109,L110	BEAD CORE(TB36-863445NP T-26mm)	415-HV3500K-090	2	
IC109	INTEGRATED CIRCUIT(NJM-4556AD)	417-3113-018	1	
VR101	ROTARY VR(50KB*2,RD902F-20-16KW-B50K-00D)	418-RP1-405	1	
JK104	HEADPHONE JACK(6.4,JY-6313-02-030G)	420-CDMIX1-086	1	
JK102	HEADPHONE JACK( $\phi$ 3.5,2K6A/-3537*01-030)	420-HDJ7100-063	1	
X1	CRYSTAL( 16.9344MHz )	427-KC710-019	1	
X2	CRYSTAL(12MHz)	427-KMD3500-047	1	
R141,R142	CHIP RESISTOR(220K OHM,1/10W, 0603,J,TP,50V)	412-007USB-678	2	
R145,R146	CHIP RESISTOR(15K OHM,1/10W,0603,J,TP ,50V)	412-007USB-687	2	
R29	CHIP RESISTOR(270 OHM,1/10W,0603,J,TP ,50V)	412-007USB-698	1	
R127,R128	CHIP RESISTOR(3.3K OHM,1/10W, 0603,J,TP,50V)	412-007USB-699	2	
R28,R60,R61	CHIP RESISTOR(12K OHM,1/10W,0603,J,TP ,50V)	412-007USB-702	3	
R125,R126	CHIP RESISTOR(10 OHM,1/10W,J,TP 0603,50V)	412-810-966	2	
R147,R05,R51	CHIP RESISTOR(150 OHM,1/10W,0603,J,TP ,50V)	412-CD900-795	3	
R04,R10,R11,R12,R52,R53,R54,R55,R56,R57,R58,R62,R63	CHIP RESISTOR(220 OHM,1/10W,0603 ,J,TP 50V)	412-CDVD2001-521	13	
R02,R03,R14,R17,R18	CHIP RESISTOR(4.7K OHM,1/10W, 0603,J,TP,50V)	412-CDVD2001-523	5	
R35	CHIP RESISTOR(47K OHM,1/10W,0603,J,TP ,50V)	412-CDVD2001-532	1	
R01,R19,R21,R22,R23,R24,R25,R26,R27,R31,R34,R36,R37,R38,R39,R59,R143,R144,R65,R66,R64	CHIP RESISTOR(10K OHM,1/10W,0603,J,TP ,50V)	412-CDVD2001-534	21	
R13	CHIP RESISTOR(1K OHM,1/10W, 0603,J,TP,50V)	412-CDVD2001-540	1	
C151,C152	CHIP CAPACITOR(47pF/50V,J,0603 TYPE,NPO)	413-007USB-784	2	
C45	CHIP CAPACITOR(0.22uF/50V,J,0603 TYPE,Y5V)	413-900-942	1	
C54,C55,C76,C77	CHIP CAPACITOR(20pF/50V,J,0603 TYPE,NPO)	413-DCM280-764	4	
C203,C204,C145,C146	CHIP CAPACITOR(1000pF/50V,K,0603 TYPE,X7R)	413-DCM280-768	4	
C153,C154	CHIP CAPACITOR(1500pF/50V,K,0603 TYPE,X7R)	413-DCM280-769	2	
C44	CHIP CAPACITOR(0.01uF/50V,K,0603 TYPE,X7R)	413-DCM280-771	1	

Buffer PCB Ass'y Part List

REF NO.	DESCRIPTION	PART NO.	Q'TY	REMARK
C205,C160,C155,C156,C157,C01,C02,C03,C04,C05,C06,C07,C08,C09,C10,C11,C12,C13,C14,C16,C17,C18,C19,C20,C21,C22,C23,C24,C25,C27,C29,C30,C31,C32,C33,C36,C37,C38,C39,C40,C41,C42,C43,C47,C48,C49,C50,C51,C53,C56,C57,C58,C59,C60,C61,C62,C64,C65,C66,C67,C68,C70,C71,C72,C73,C78,C79,C80,C81,C82,C83,C84,C85,C86,C87,C88,C89,C90,C91,C92,C95,C96,C97,C98,C100,C149,C150,C158,C159	CHIP CAPACITOR(0.1uF/50V,Z,0603 TYPE,Y5V)	413-DCM280-773	89	
D02	CHIP ZENER DIODE(RLS4148NTE11,1/2W,LLDS)	414-007USB-146	1	
ZD1	DIODE(ZHCS1000/RB491DT146,SOT23)	414-G350-216	1	
L2,L3,L4	CHIP BEAD(SBK201209T-601Y-S)	415-1300-240	3	
L8,L9	CHIP BEAD(ACM2012-900-2P-T)	415-FU800-305	2	
Q03	TRANSISTOR(DTA124EKA-T146,SMT3)	416-CTB200-178	1	
Q107,Q108	TRANSISTOR(2SC4695)	416-DAIA-273	2	
Q01	TRANSISTOR(RTR030P02TL,TSMT3)	416-UDJ200-347	1	
U6	IC(74HC14 SOP-14)	417-CDN34-274	1	
U4	IC(QS3245/IDTQS3245Q8)	417-CDN88-191	1	
U2	IC(K4S641632N-LC75/K4S641632N-LC60,TSOP-54)	417-CDN88-501	1	
U13	IC(TC74HCU04AFN/TC74HCU04FAN(ELP.M)SOP-14)	417-DJ150-419	1	
U12	IC(FDS9431A,SOP-8)	417-G350-770	1	
U1	IC(SCF5249LAG120,QFP TQ-144)	417-MCDS4-736	1	
U7	IC(BA18BC0FP-E2,3PIN,TO-252-3,SMD)	417-MCDS4-737	1	
U10	IC(K4S281632I-UC75)(TSPO-54)	417-SDJ2-813	1	
U9	IC(ADSP-BF532)	417-SDJ2-814	1	
U14	IC(ISP1761BE,LQFP-128P)	417-UDJ1-882	1	
U8	BUFFER IC ASS'Y(CHECK SUM:73E4/1)	704-M510-5564	1	
	IC(XC9536XL-10VQ44C,SMD)	417-MCDS4-738	1	
	BUFFER PCB(FR4,126.3*137*1.6t)	405-RMP3-2419B	1	
C28	ELEC. CAPACITOR ( 47UF/16V M BULK L=7mm )	413-007USB-828	1	
C74,C94	ELEC. CAPACITOR(100uF/10V,M,105°C,TAPING 5*7,MINI)(Cd,Pb,Hg,Cr)	413-HMA2200-5017	2	
C75,C93,C26	ELEC. CAPACITOR(220uF/10V,M,105°C,TAPING 6.3*7,MINI)	413-HT801K-192	3	
C46,C52,C63	ELEC. CAPACITOR(10uF/25V,M,105°C,TAPING 4*7,MINI)(Cd,Pb,Hg,Cr)	413-SPPW3-235	3	
U3	BUFFER IC ASS'Y	704-RP3A-8877	1	
	IC(M29W800B70N6.SMD)	417-MCDS4-735	1	
U11	DSP IC ASS'Y	704-RP3A-8878	1	
	IC(M29W800B70N6.SMD)	417-MCDS4-735	1	



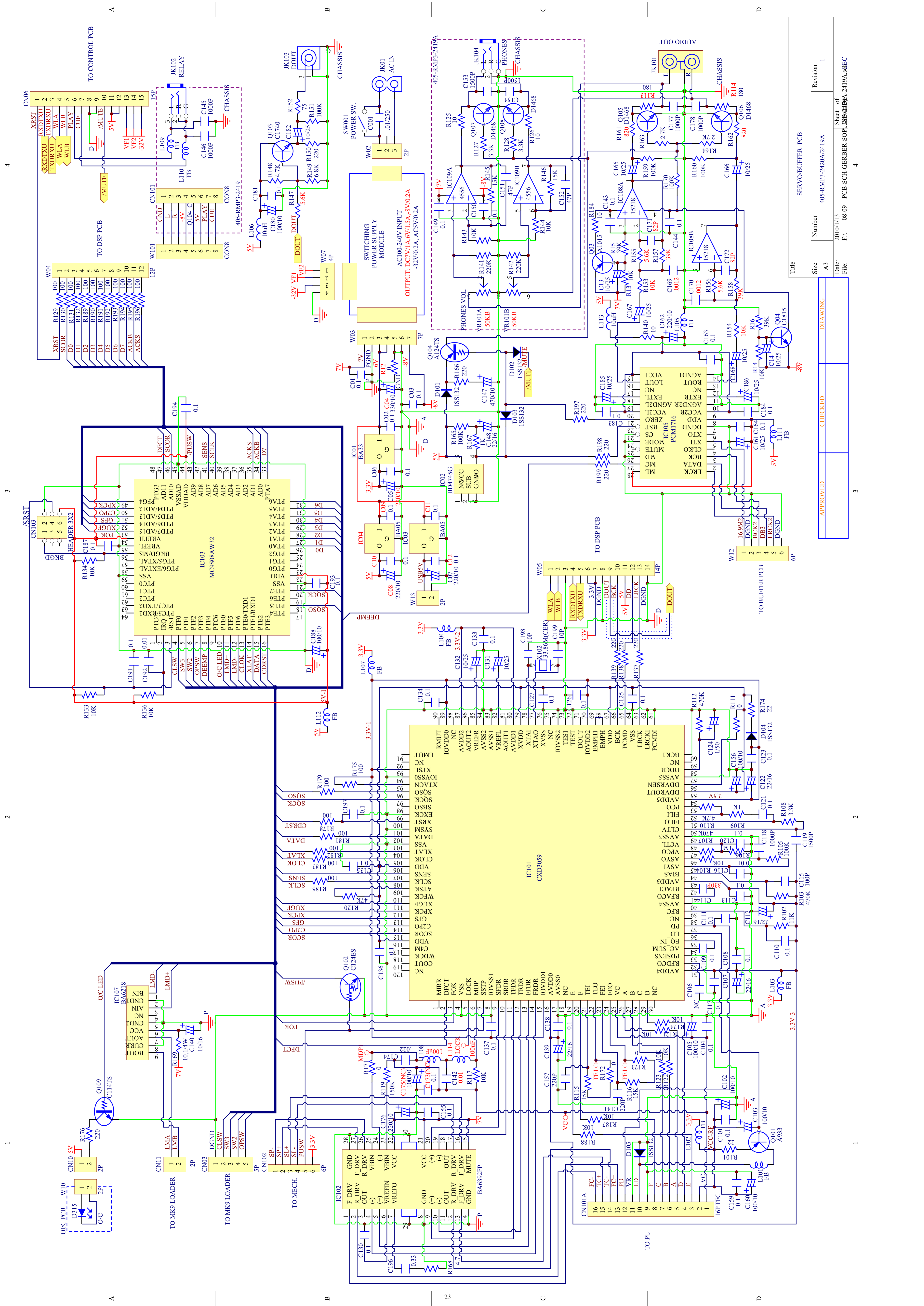




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Number				Revision			
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APPROVED      CHECKED      DRAWING



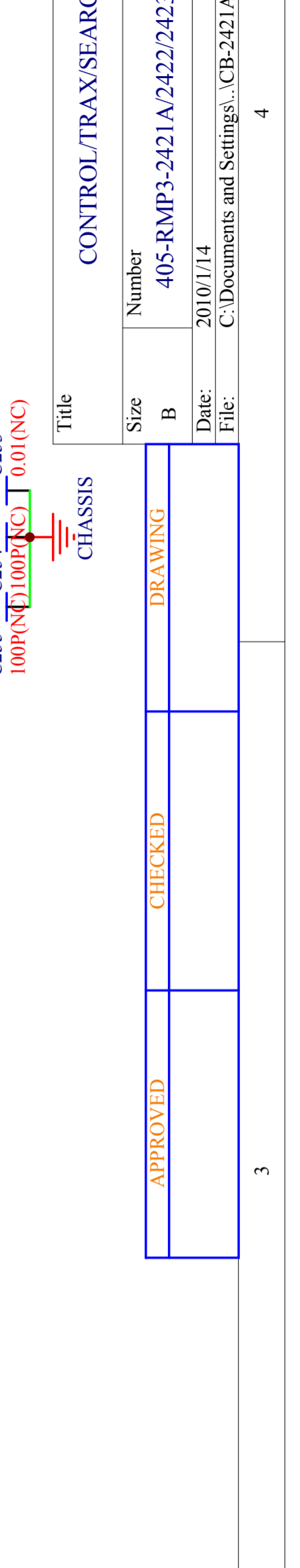
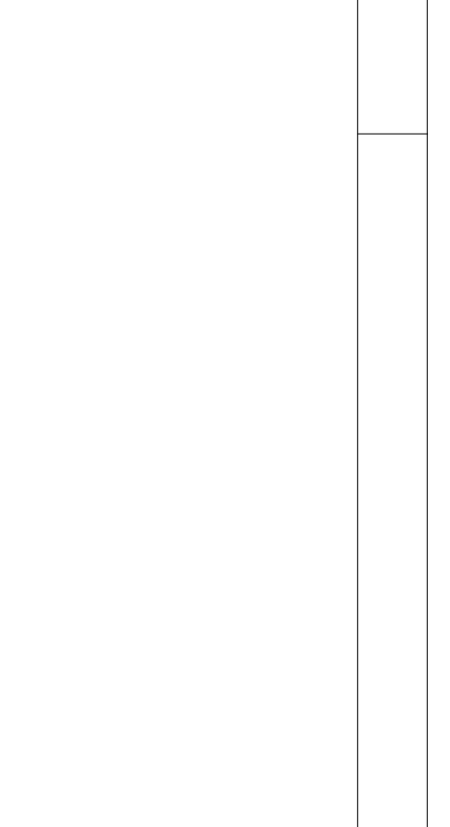
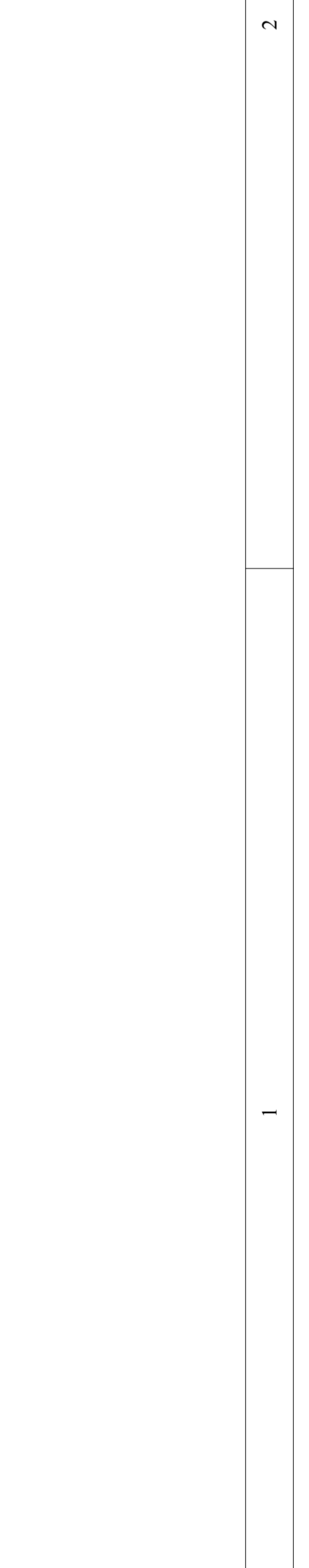
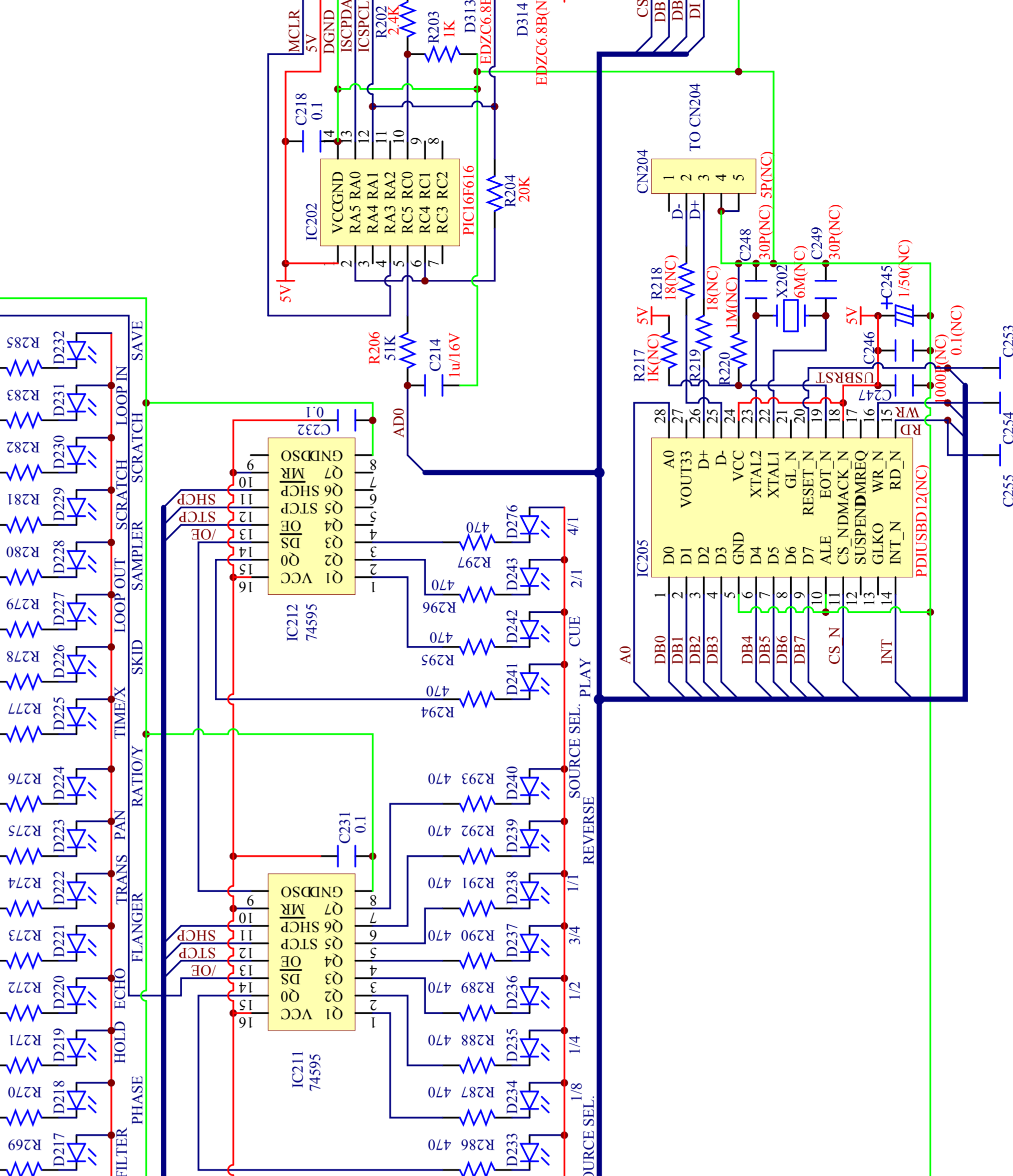
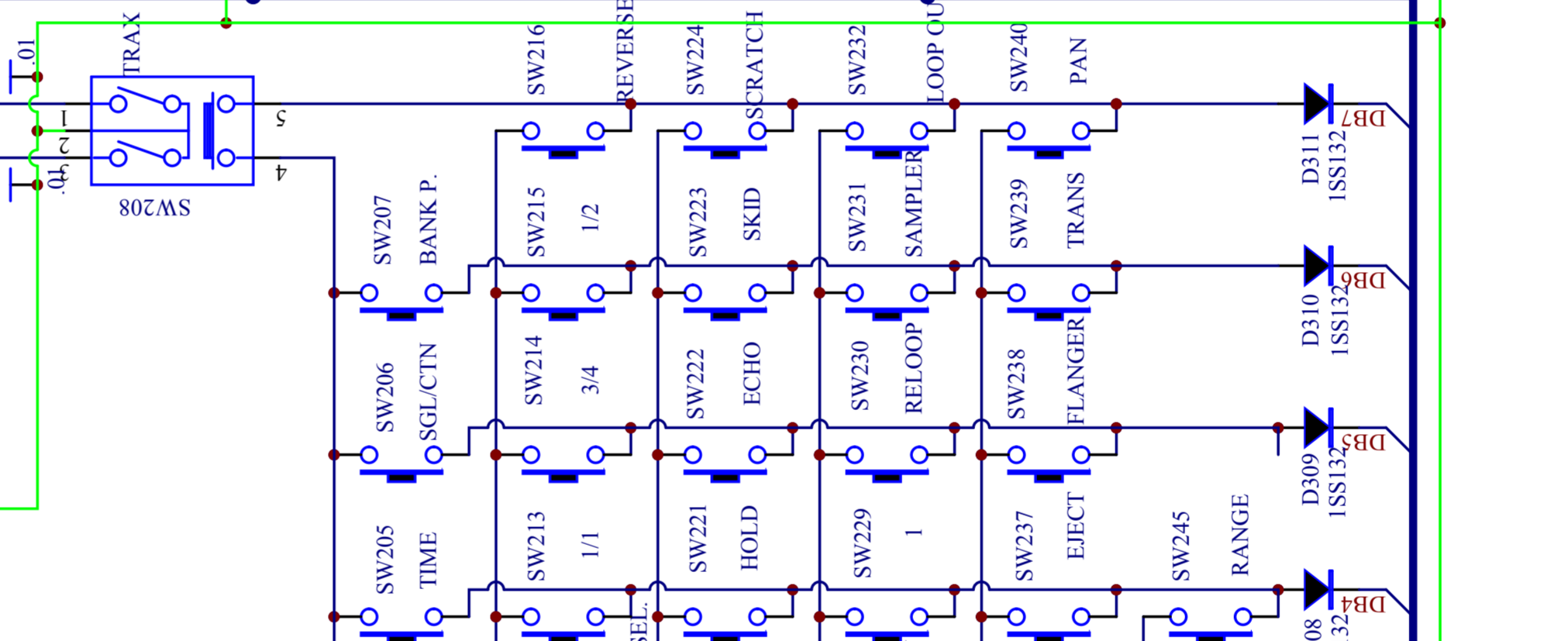
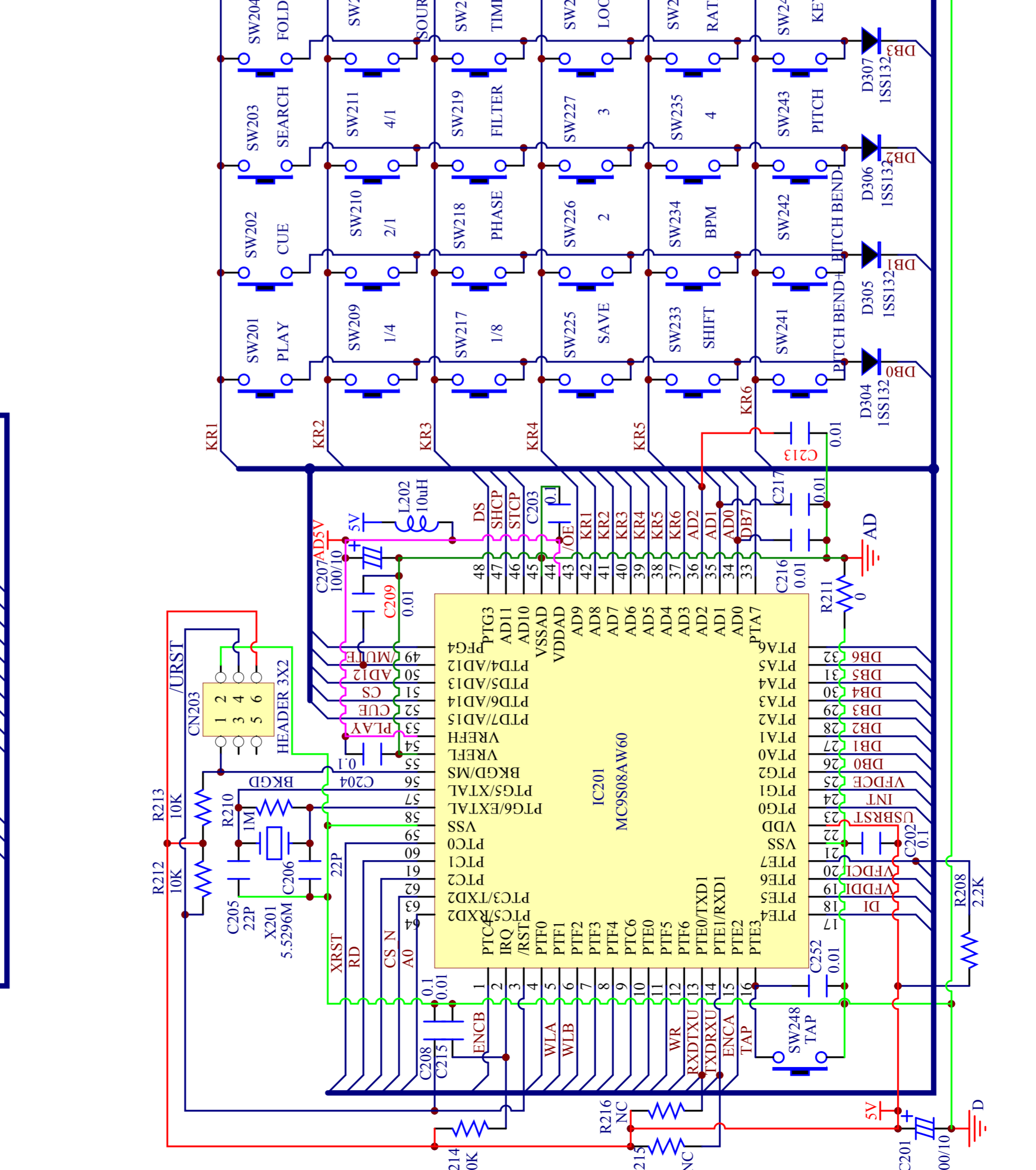
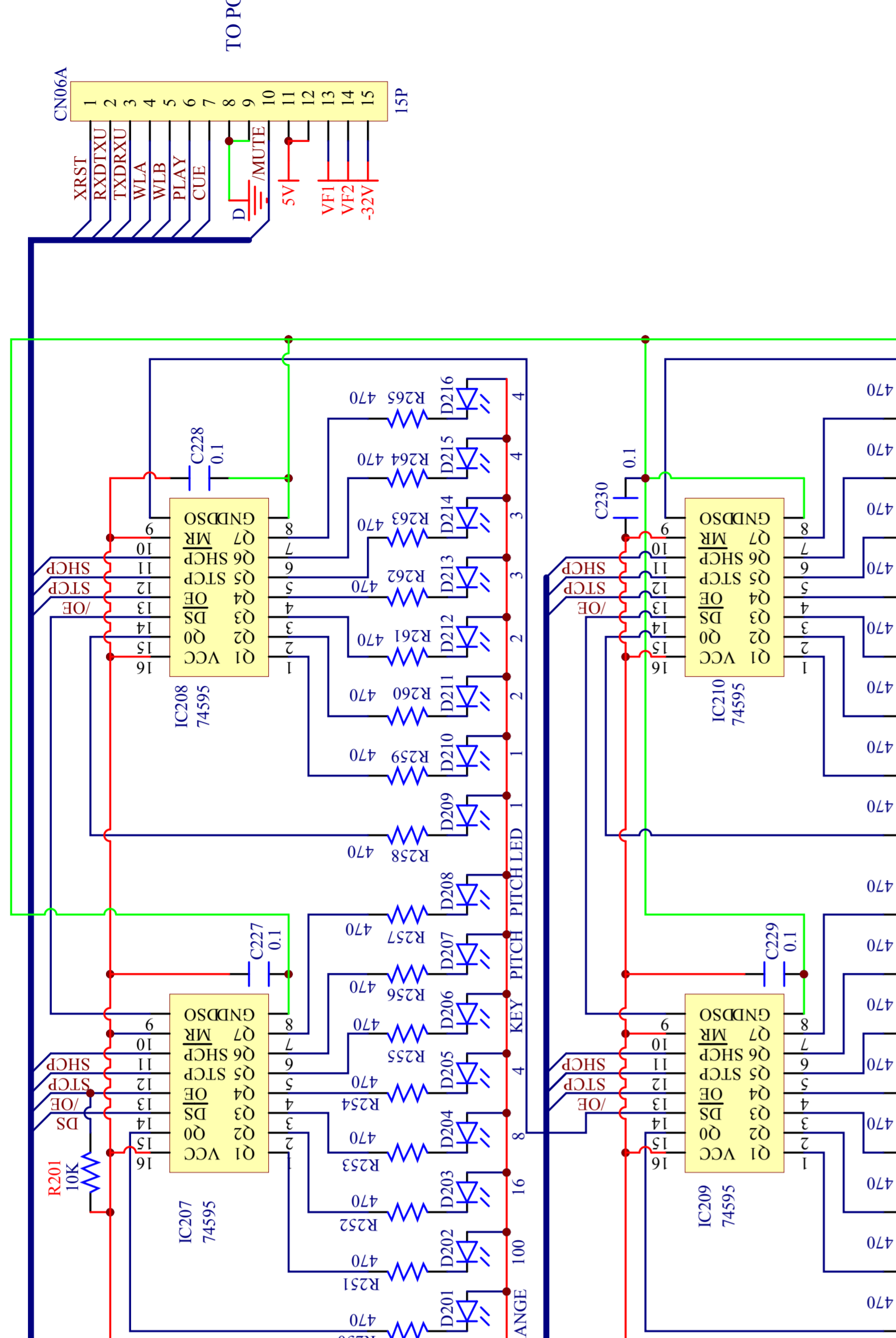
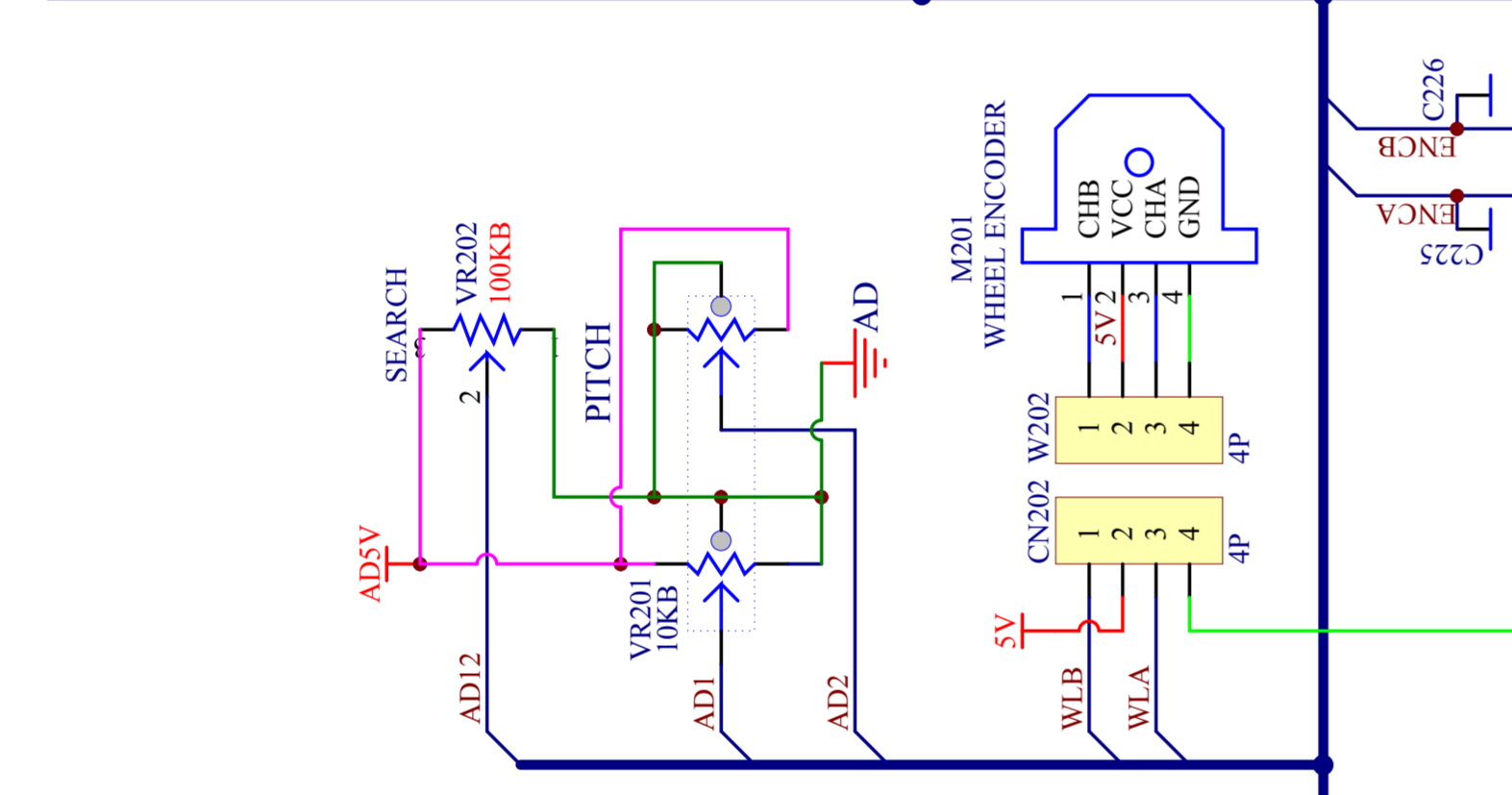
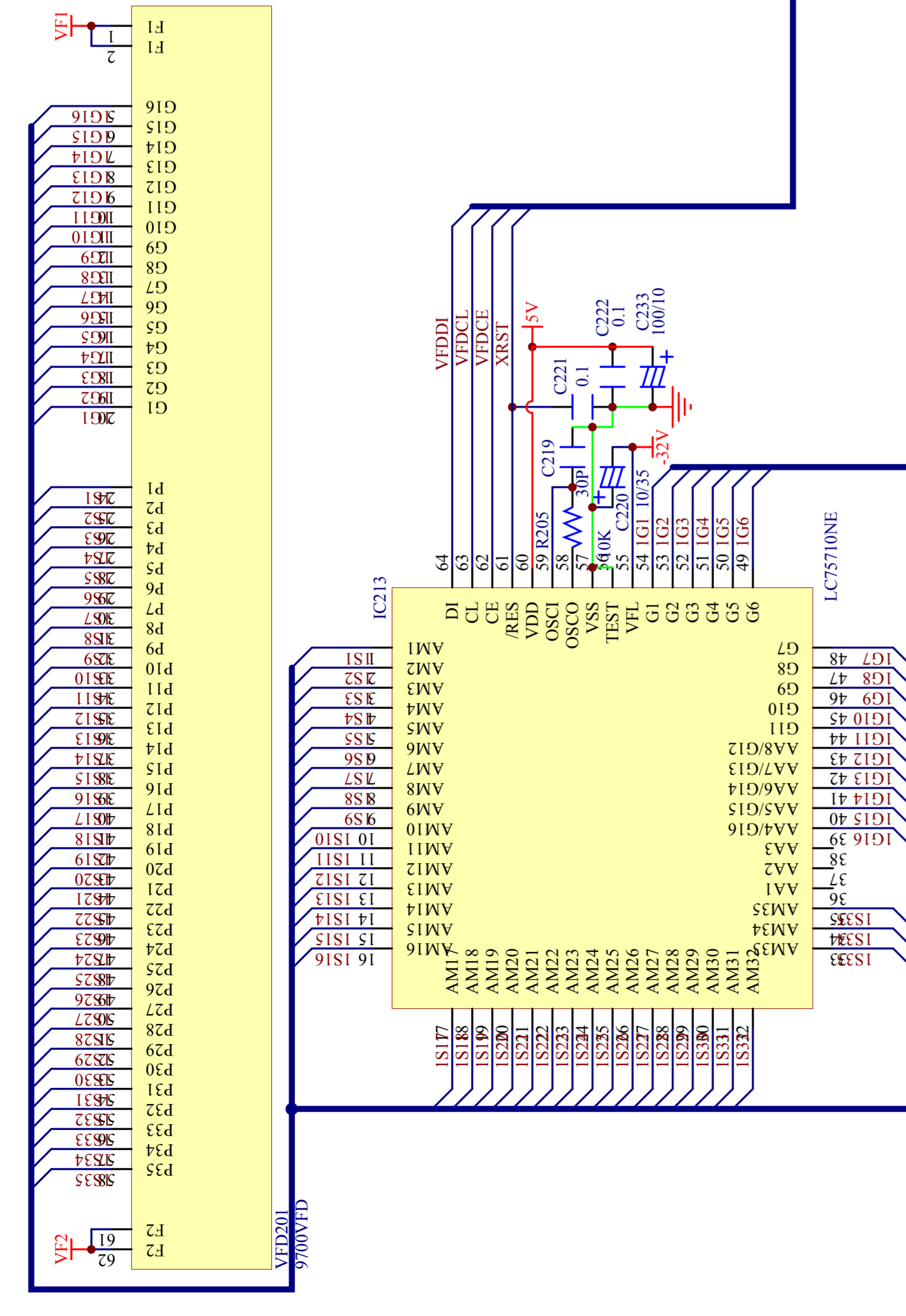


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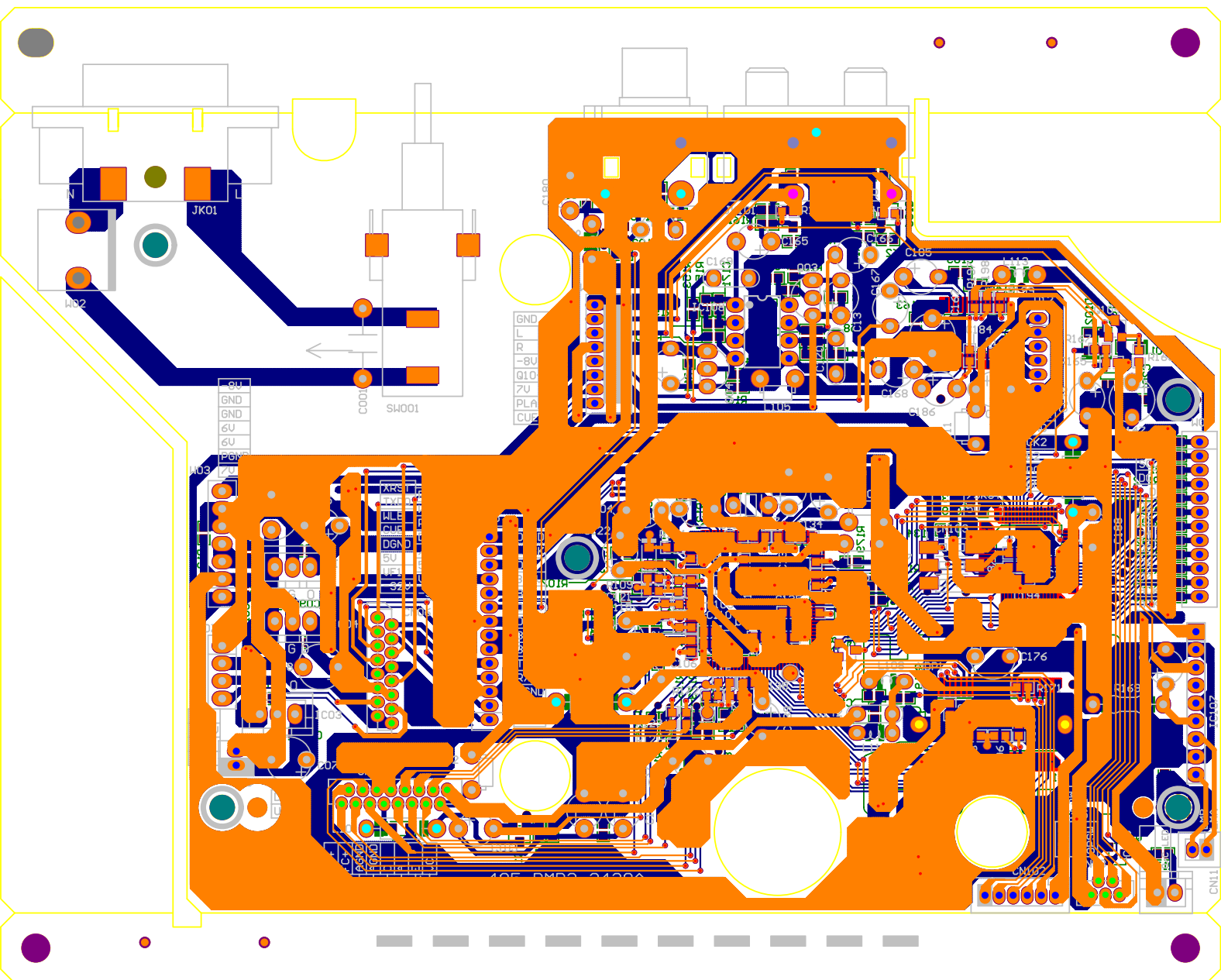
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TO CONTROL PCB	TO DSP PCB	TO BUFFER PCB	TO MECH.	TO MK9 LOADER	TO MK9 LOADER	TO MECH.	TO PU
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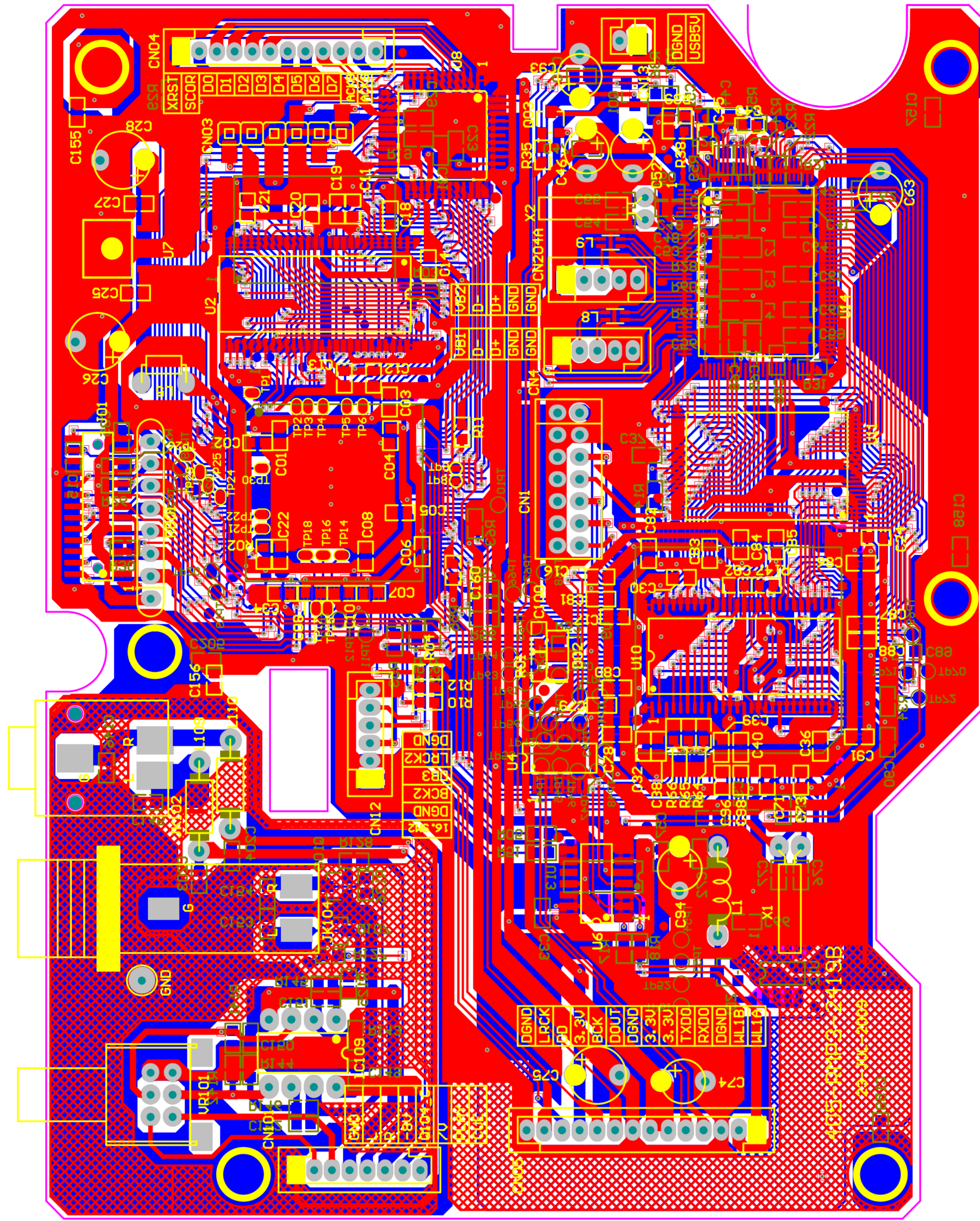


405-RMP3-2420A  
SERVO PCB



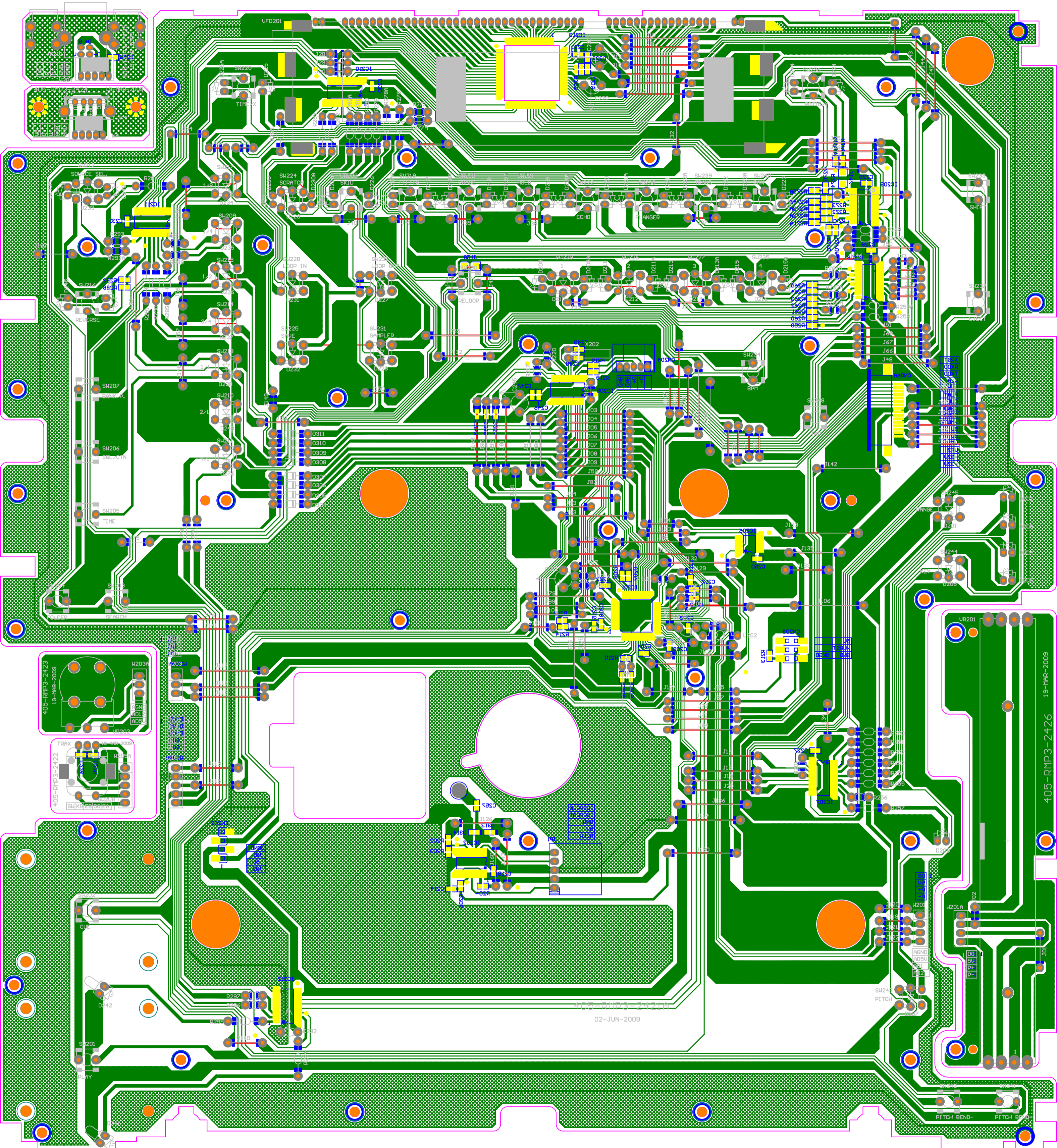


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BUFFER PCB





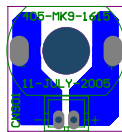
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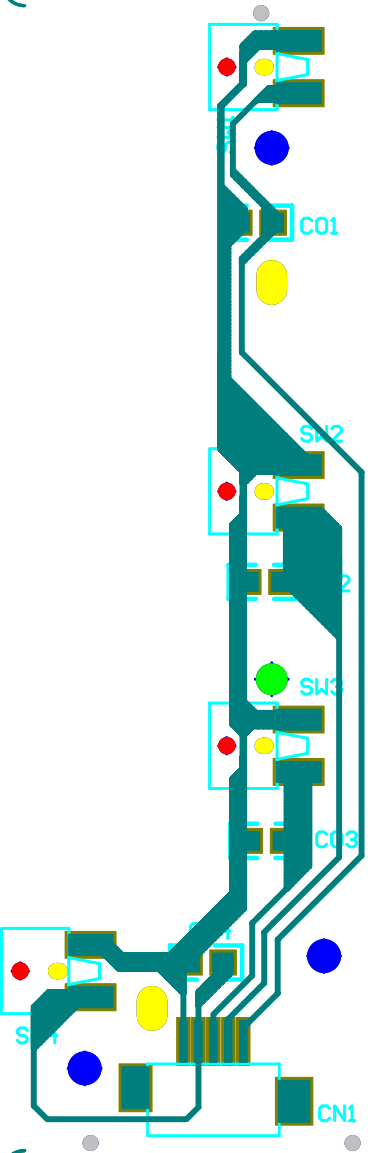


MOTOR PCB □  
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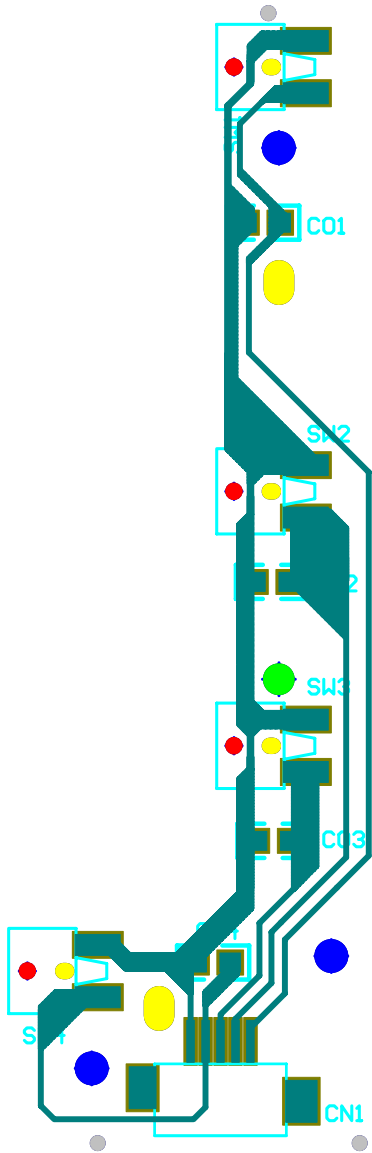




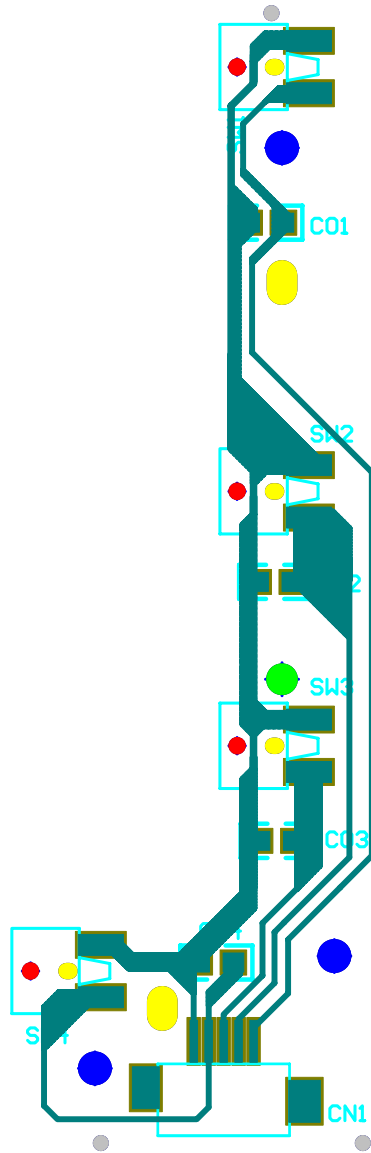
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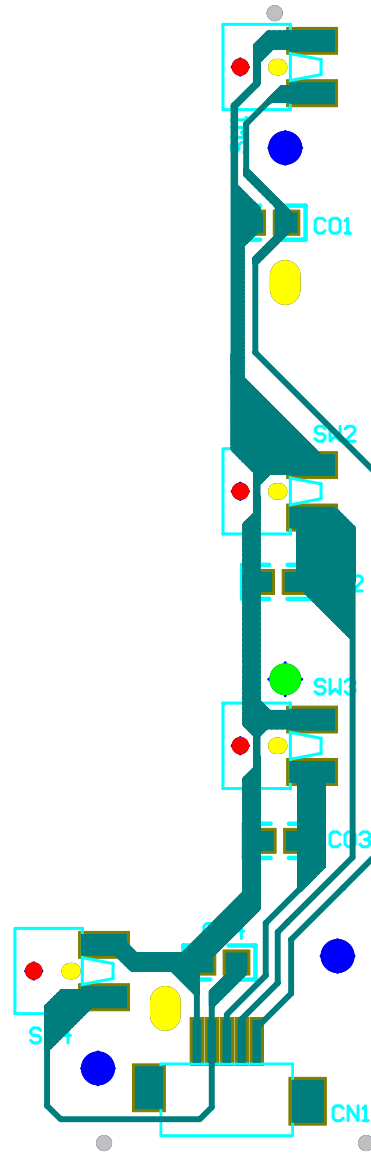
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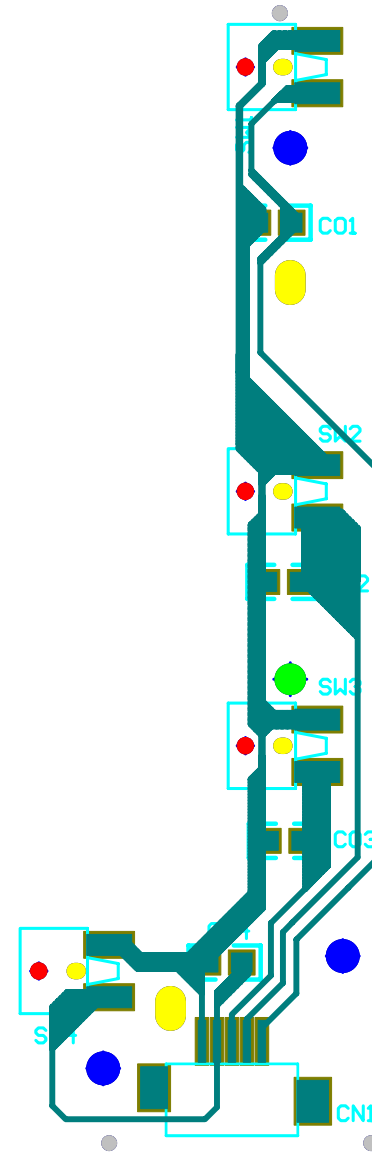
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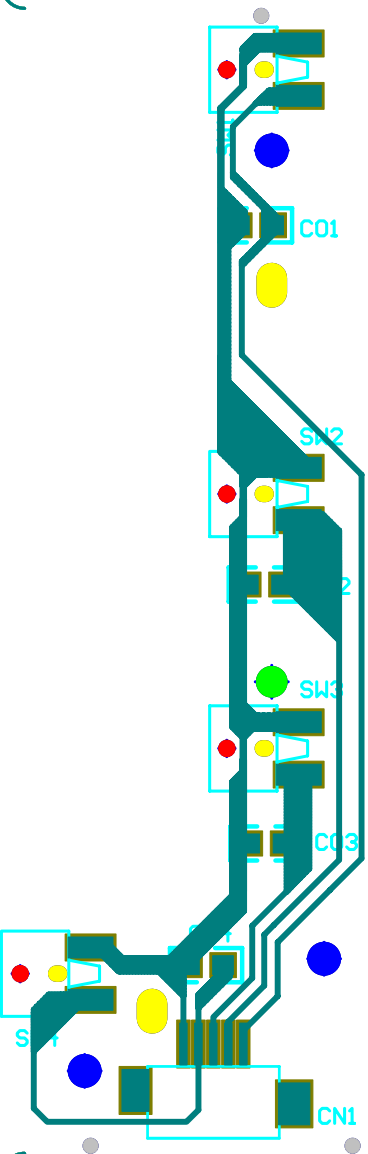
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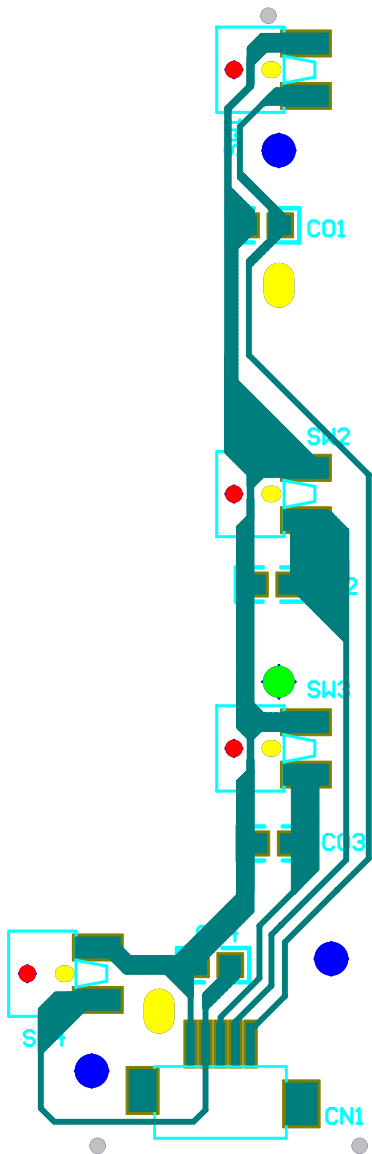
405-MK9-1213C 17-MAR-2005



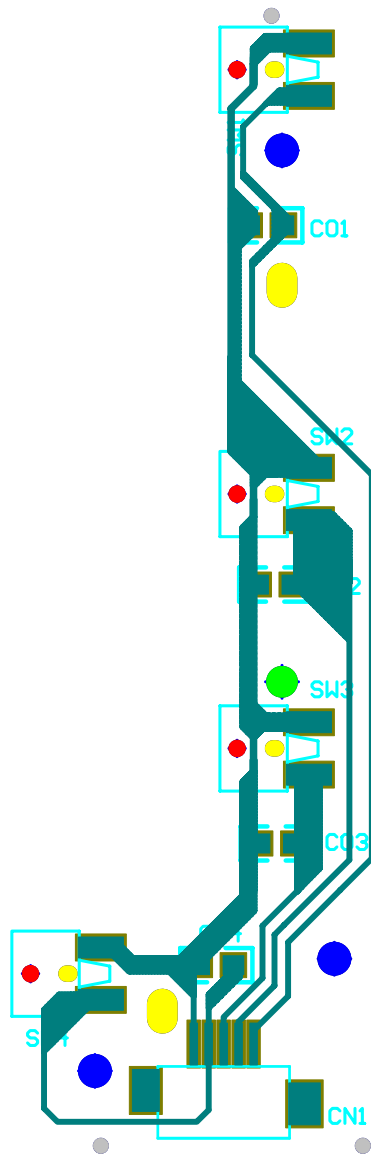
405-MK9-1213C 17-MAR-2005



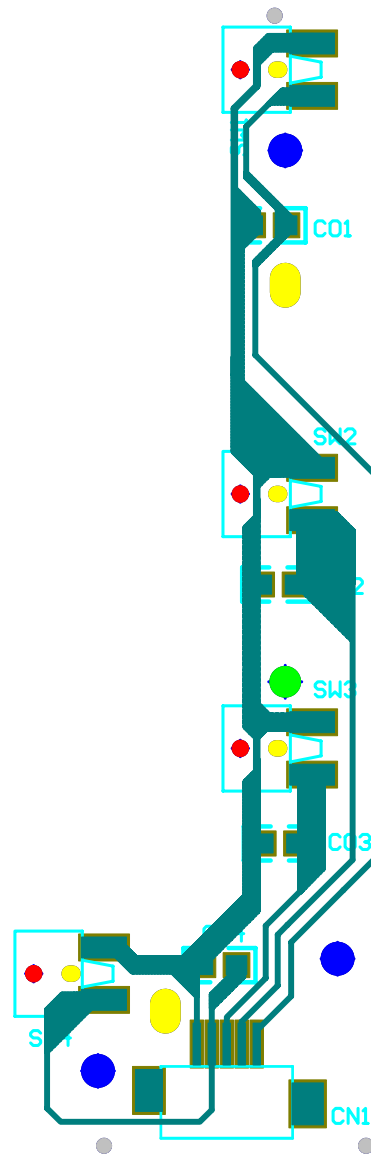
405-MK9-1213C 17-MAR-2005



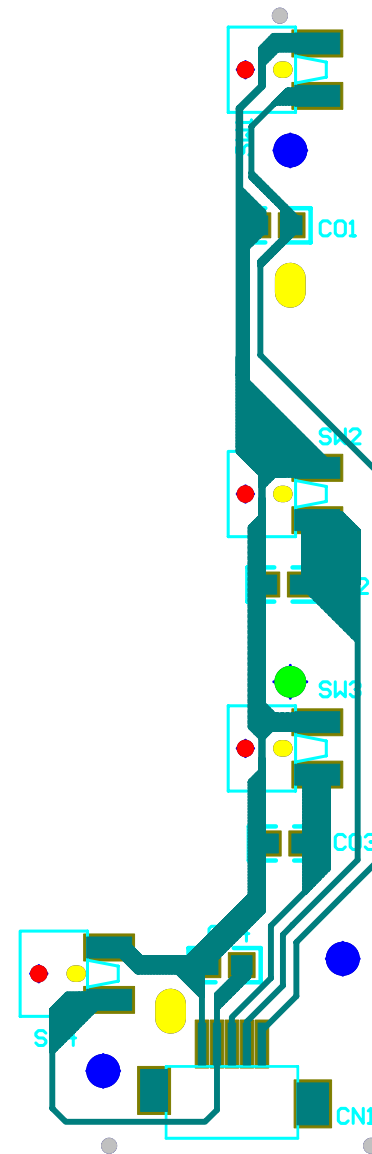
405-MK9-1213C 17-MAR-2005



405-MK9-1213C 17-MAR-2005



405-MK9-1213C 17-MAR-2005

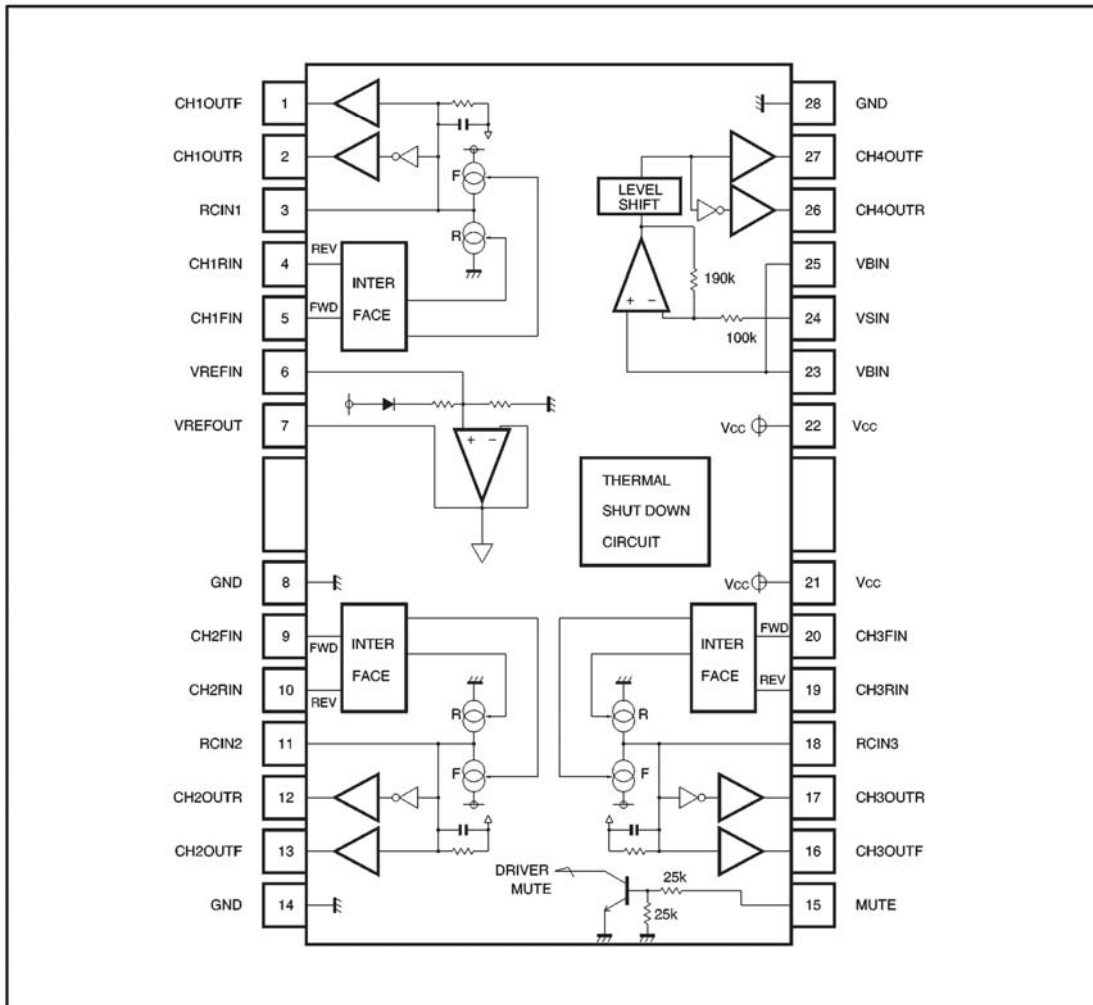


405-MK9-1213C 17-MAR-2005

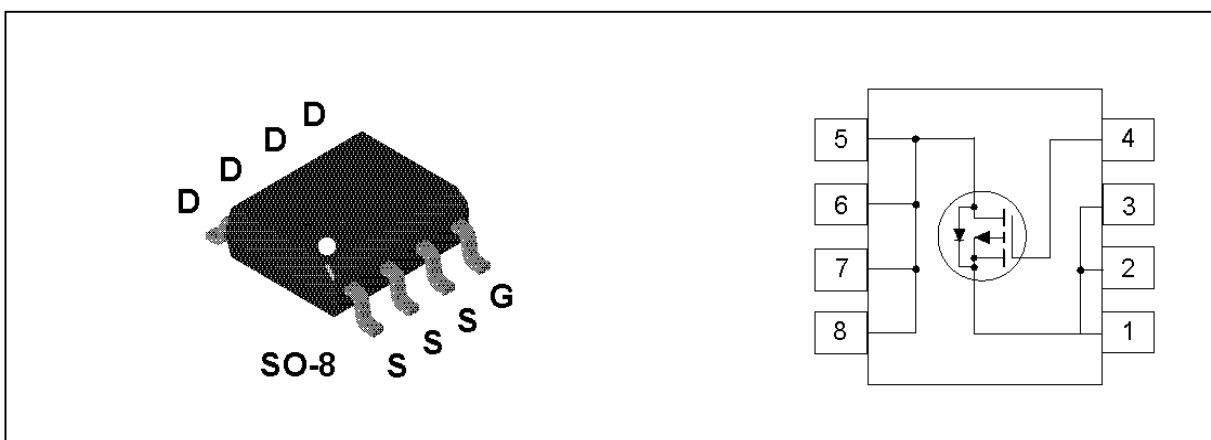
## IC Block Diagram

417-CDN24-340 IC(BA6392FPE2,28PINMHSOP TYPE)

●Block diagram

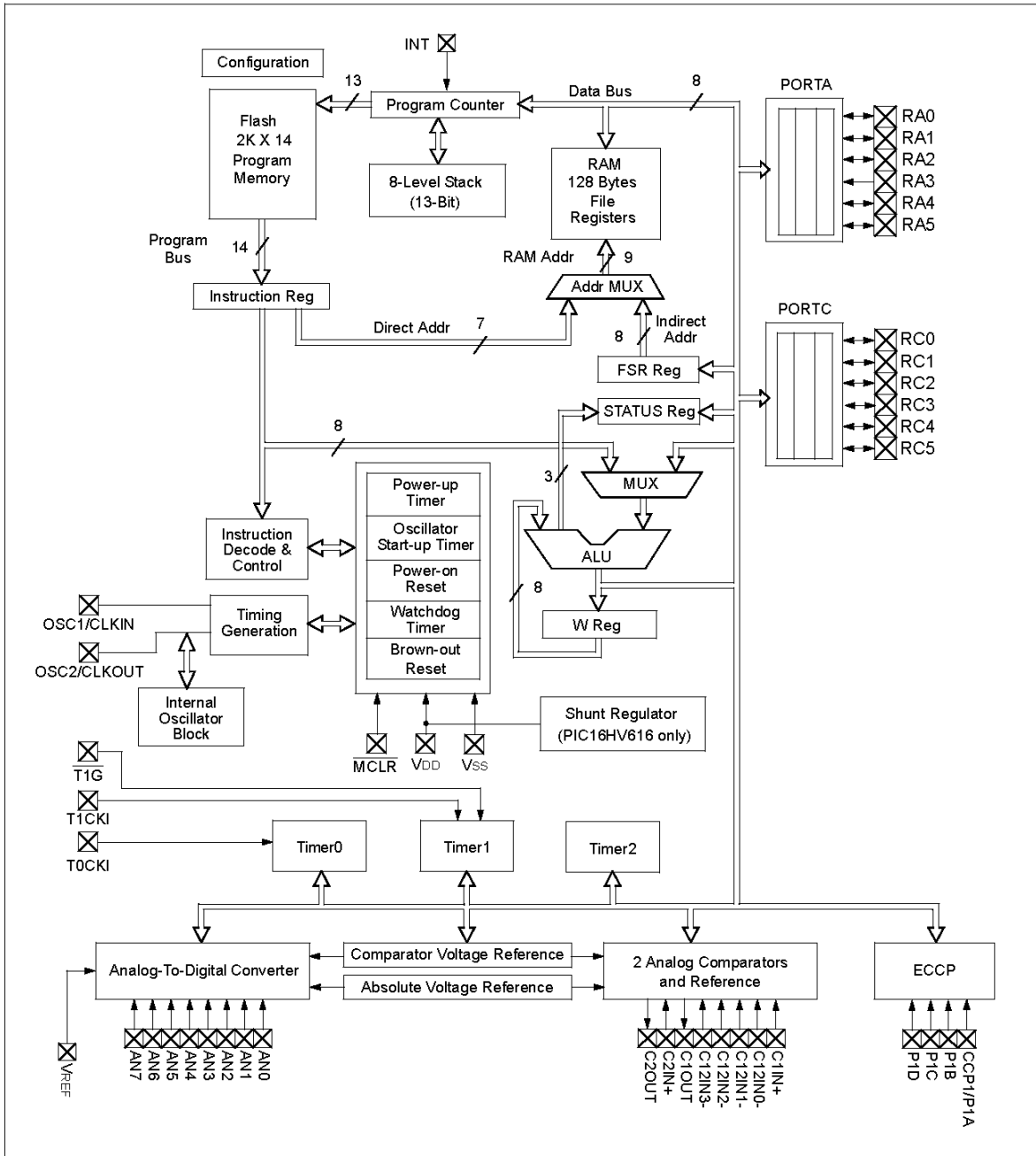


417-G350-770 IC(FDS9431A,SOP-8)



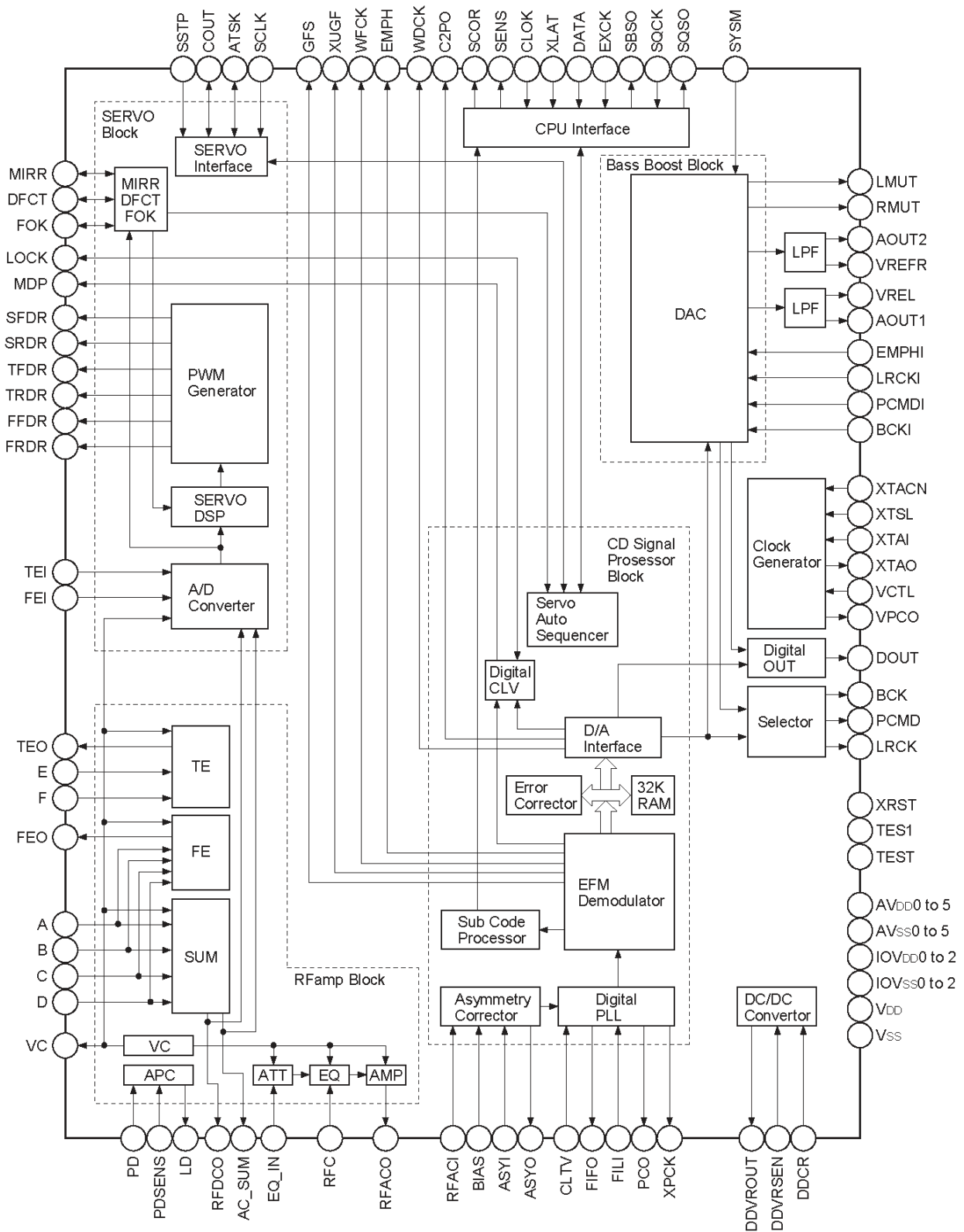
# IC Block Diagram

417-RMP3-936 IC(PIC16F616-I/SL,SOIC-8)



# IC Block Diagram

417-385-760 IC(CXD3059)

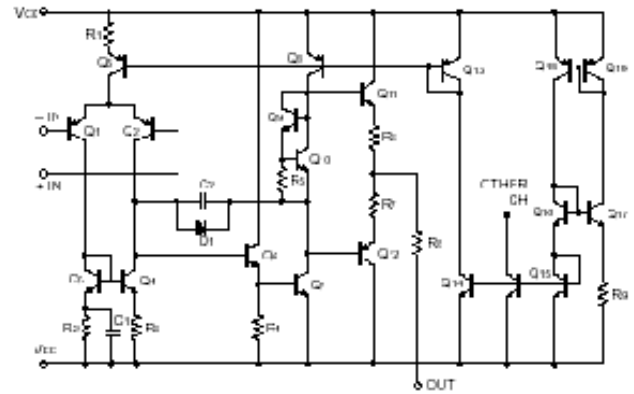
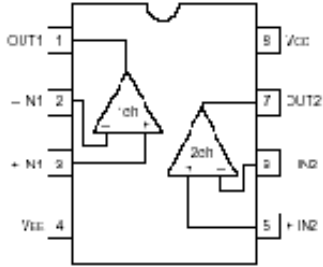


417-AK4-644

IC(BA15218F/BA15218FE2,DIP-8)

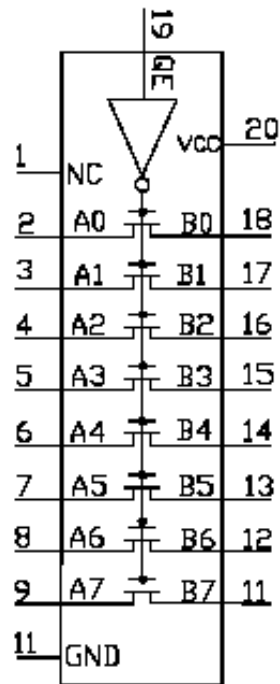
● Internal circuit configuration

BA15218 / BA15218F

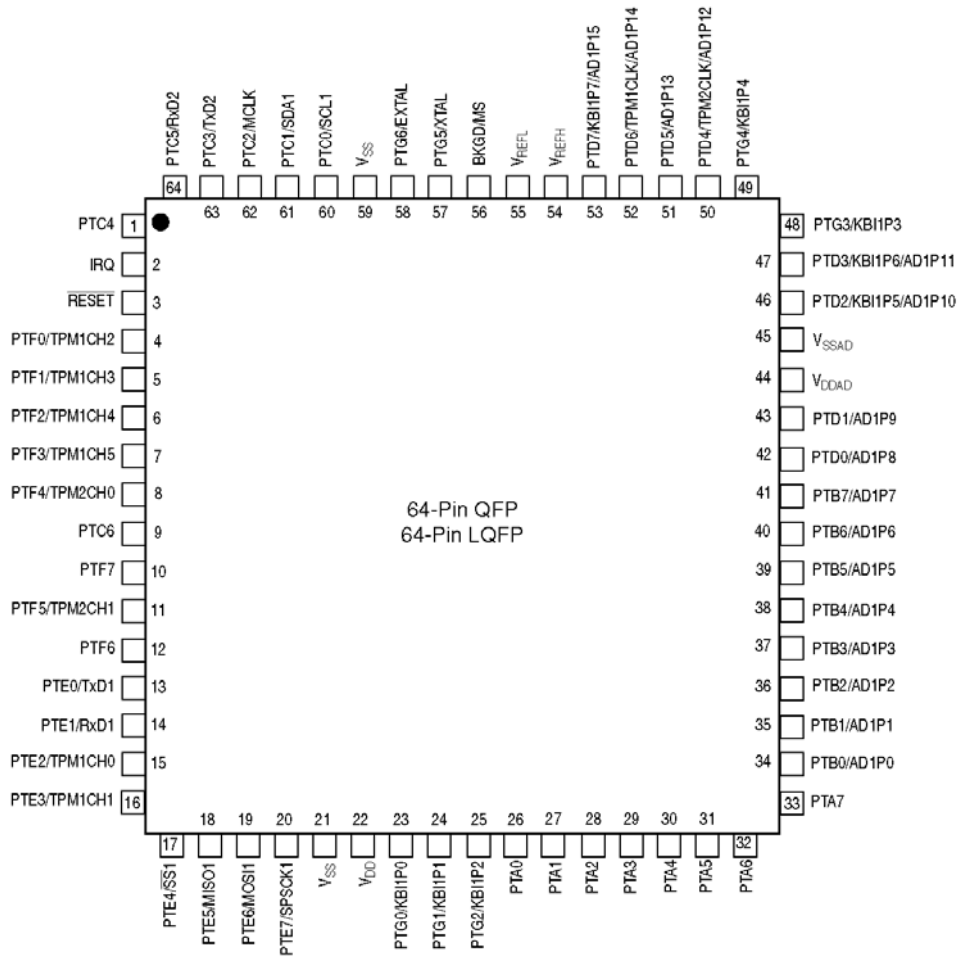


417-CDN88-191

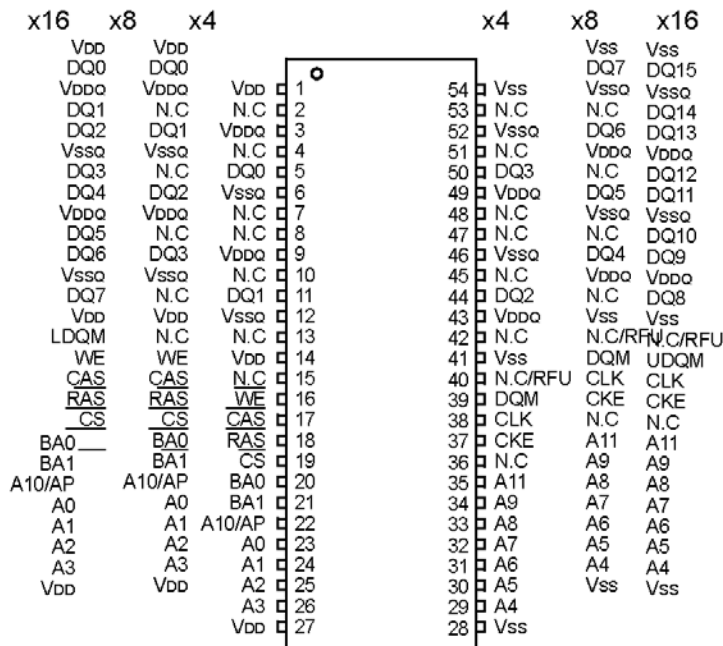
IC(QS3245/IDTQS3245Q8)

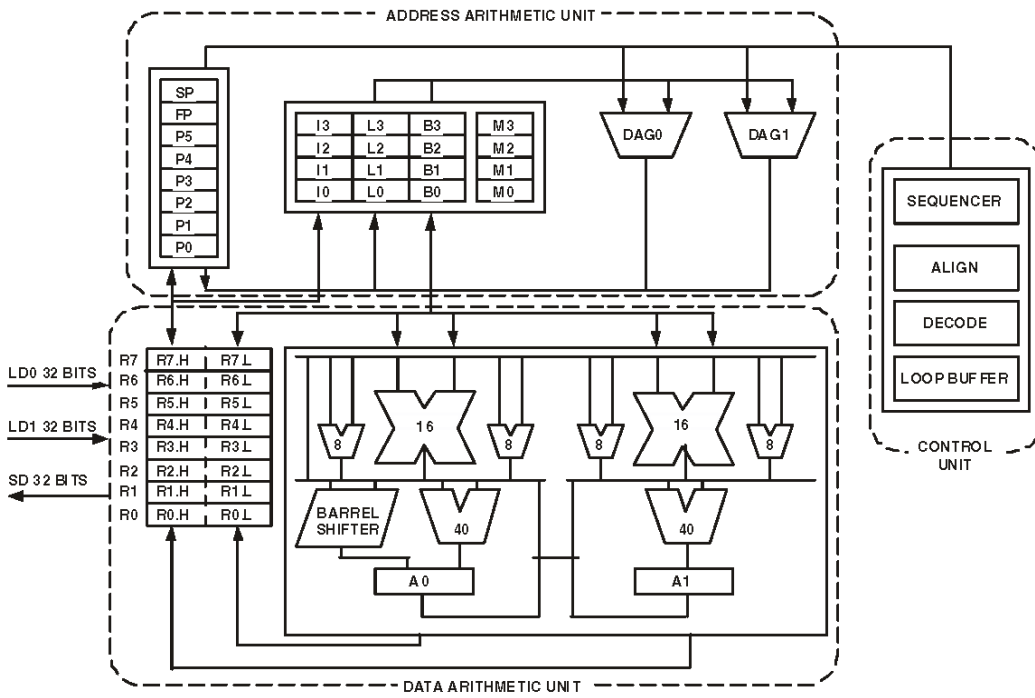


417-SDJ2-812  
IC(MC9S08AW32CPUE)

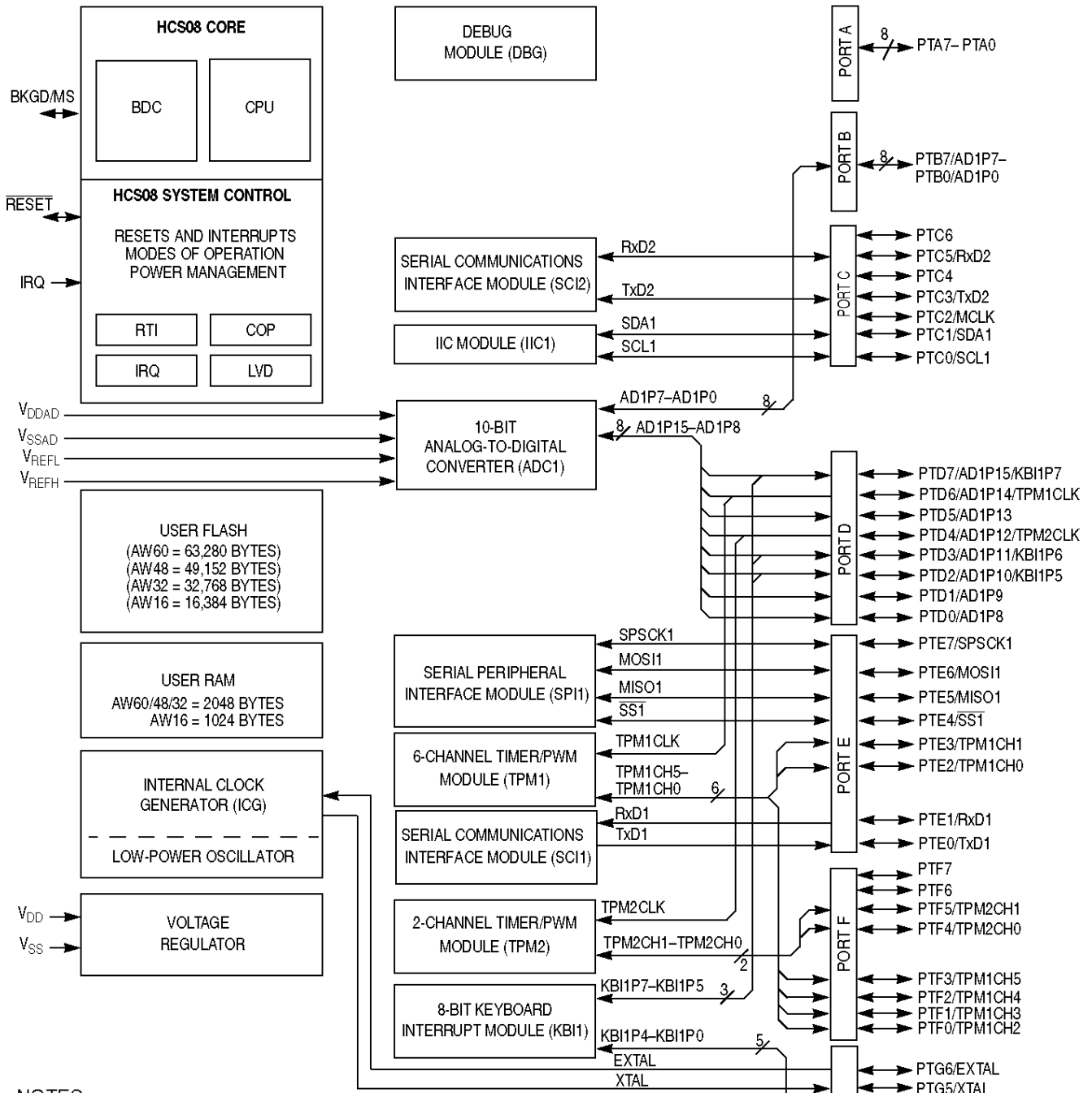


417-SDJ2-813  
IC(K4S281632I-UC75)





417-SDJ2-818  
IC(MC9508A W60)



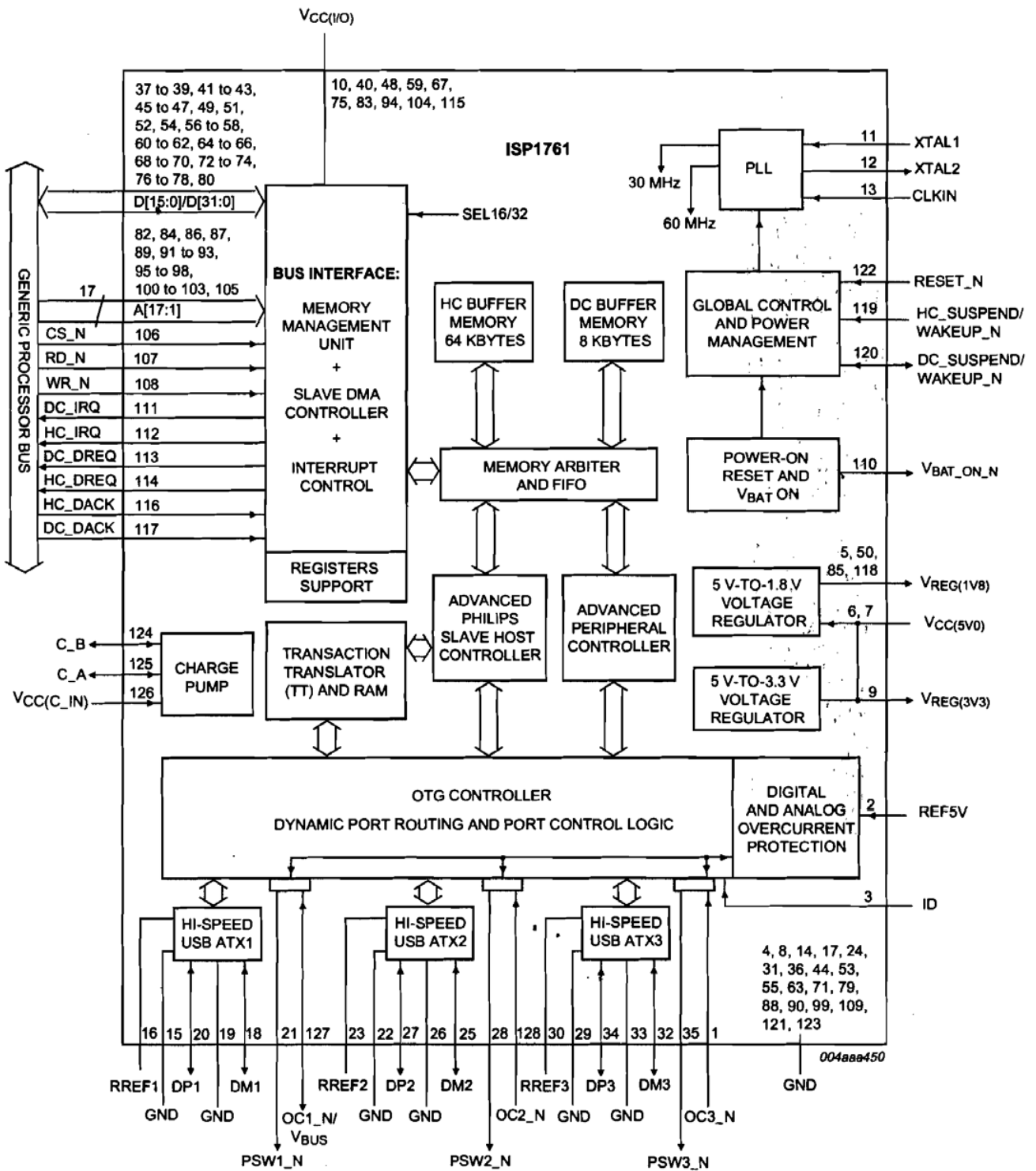
NOTES:

1. Port pins are software configurable with pullup device if input port.
2. Pin contains software-configurable pullup/pulldown device if IRQ is enabled (IRQPE = 1). Pulldown is enabled if rising edge detect is selected (IRQEDG = 1)
3. IRQ does not have a clamp diode to  $V_{DD}$ . IRQ should not be driven above  $V_{DD}$ .
4. Pin contains integrated pullup device.
5. Pins PTD7, PTD3, PTD2, and PTG4 contain both pullup and pulldown devices. Pulldown enabled when KBI is enabled (KBIPEn = 1) and rising edge is selected (KBEDGn = 1).

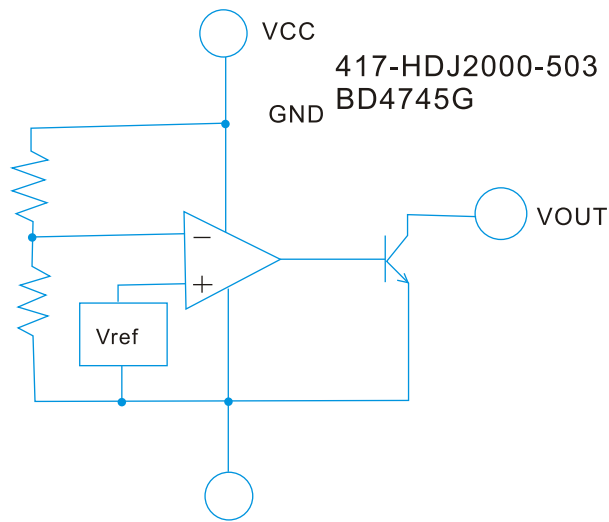
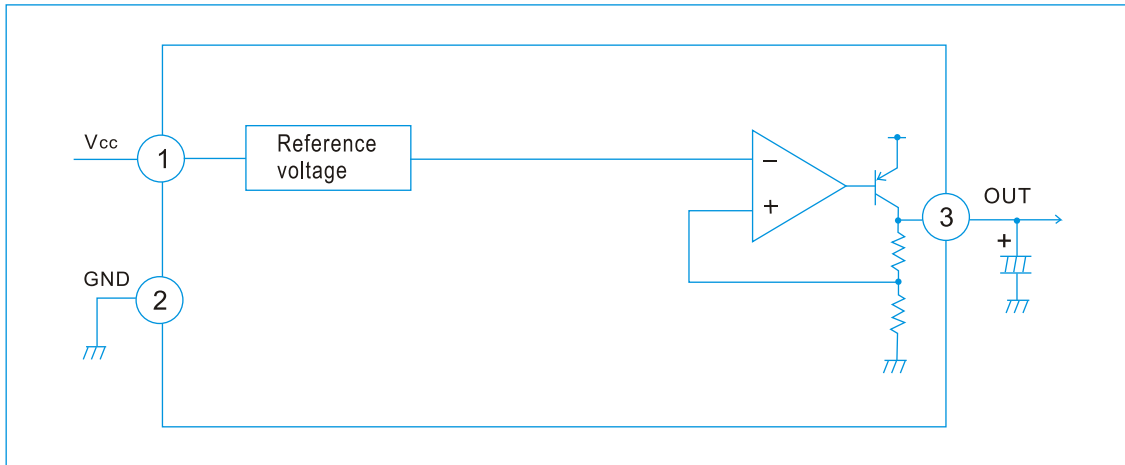


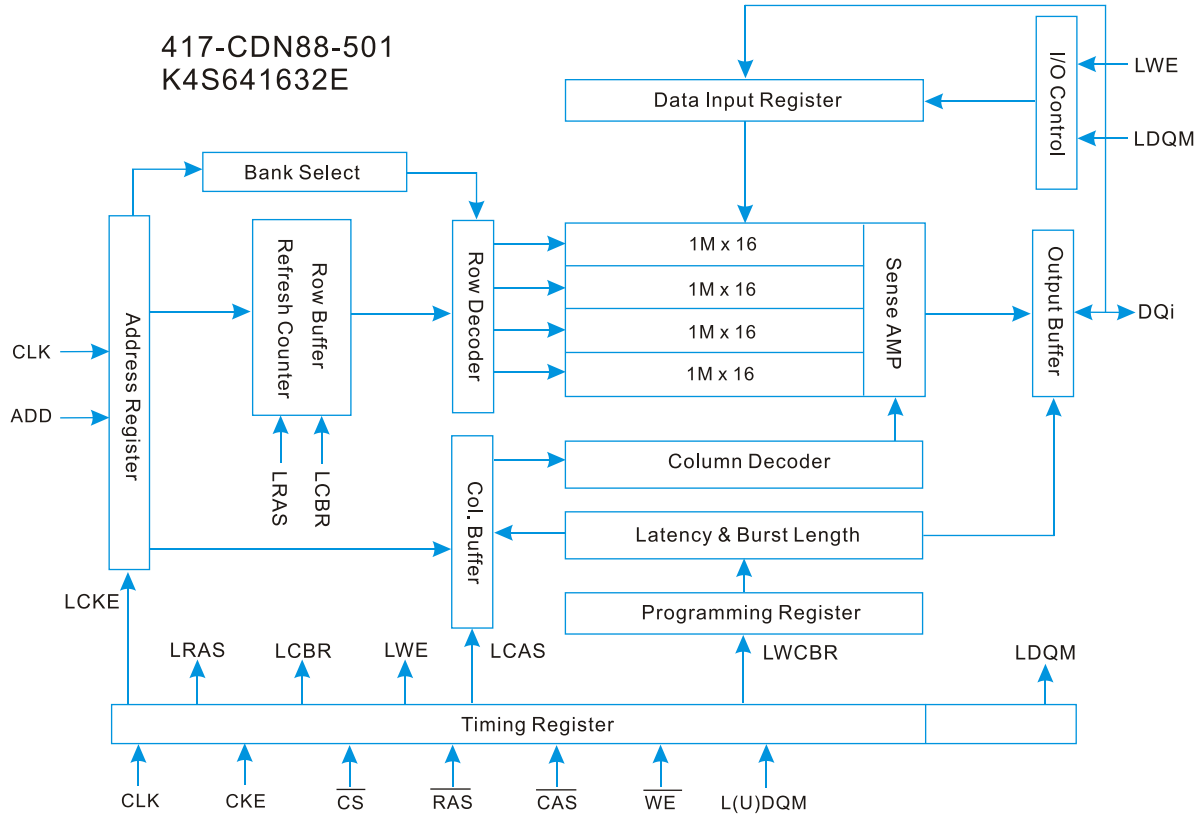
IC Block Diagram

417-UDJ1-882 IC(ISP1761BE,LQFP-128P)

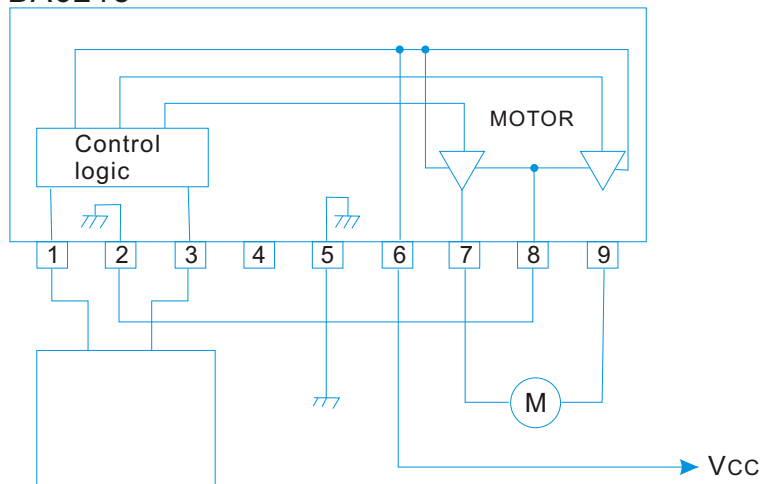


417-CDN34A-314  
BA05T



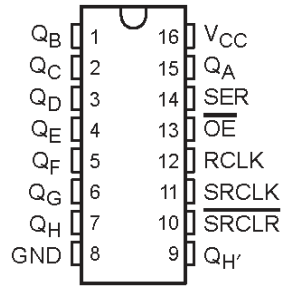


**417-KC720-049  
BA6218**

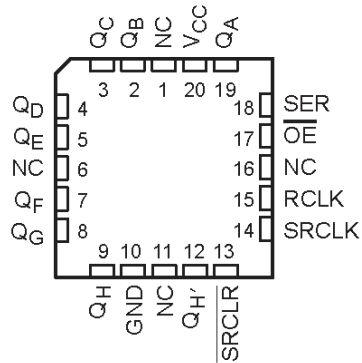


417-HDJ9800-643  
 IC(74AHC595DR,SOP-16)

SN54AHC595 . . . J OR W PACKAGE  
 SN74AHC595 . . . D, DB, N, NS, OR PW PACKAGE  
 (TOP VIEW)

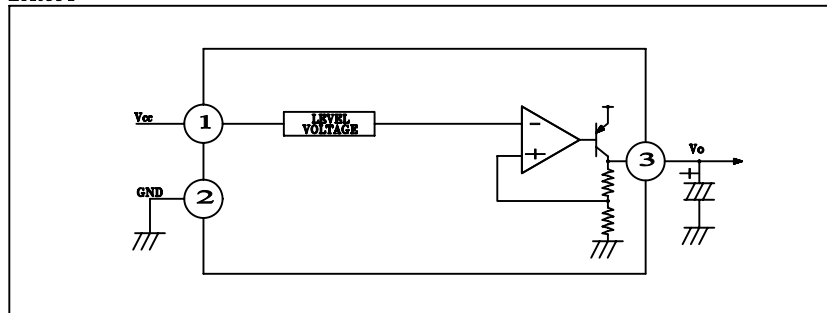


SN54AHC595 . . . FK PACKAGE  
 (TOP VIEW)



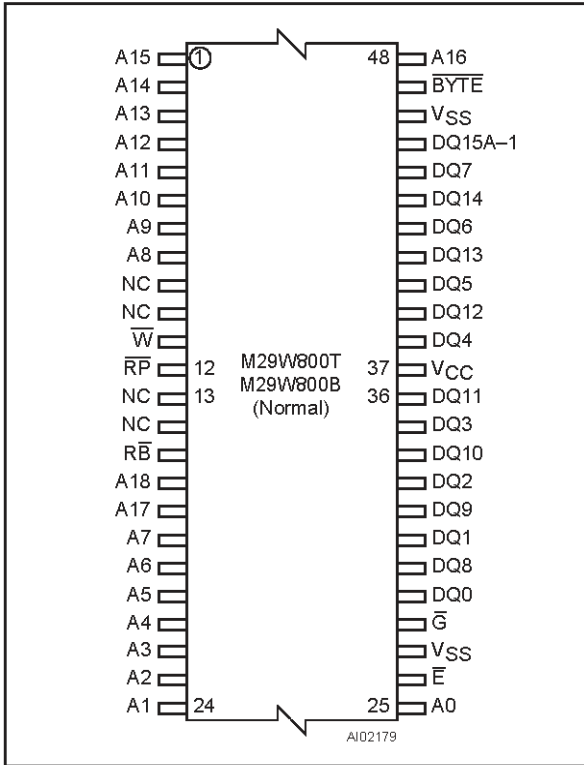
NC - No internal connection

417-HV3500K-253  
 BA033T



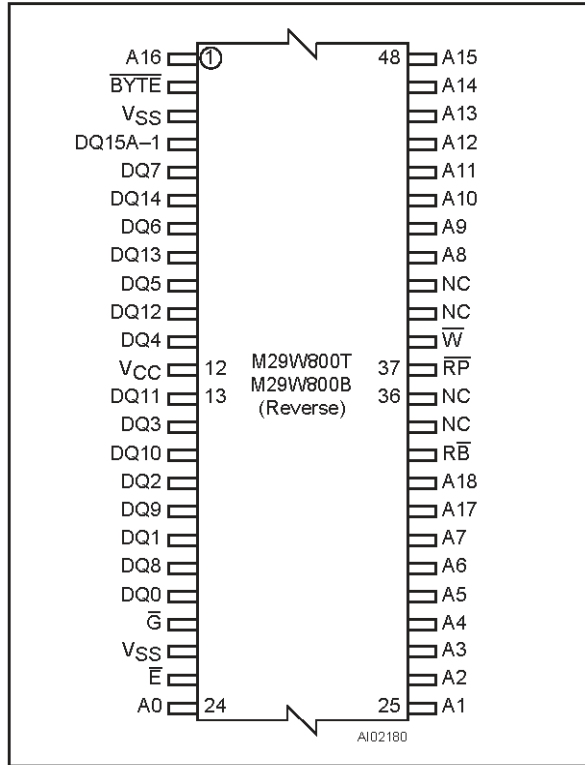
417-MCDS4-735  
IC(M29W800B70N6.SMD)

Figure 2A. TSOP Pin Connections



Warning: NC = Not Connected.

Figure 2B. TSOP Reverse Pin Connections



Warning: NC = Not Connected.

Figure 2C. SO Pin Connections

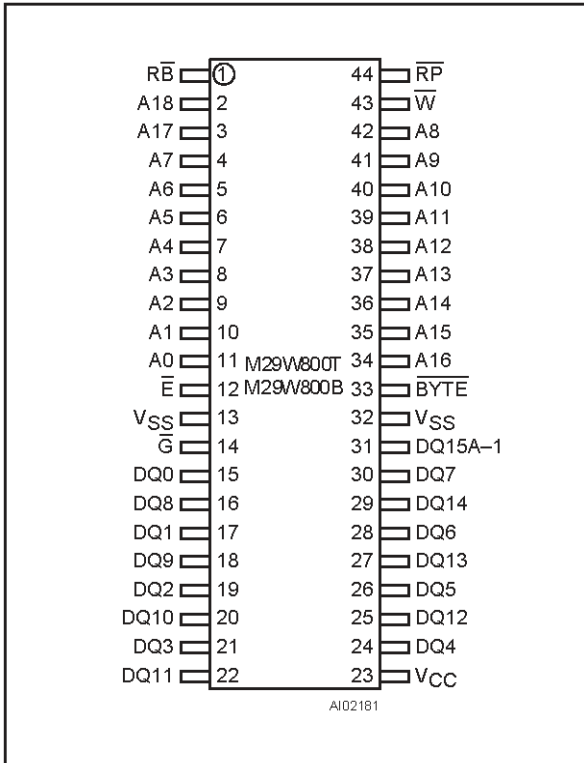
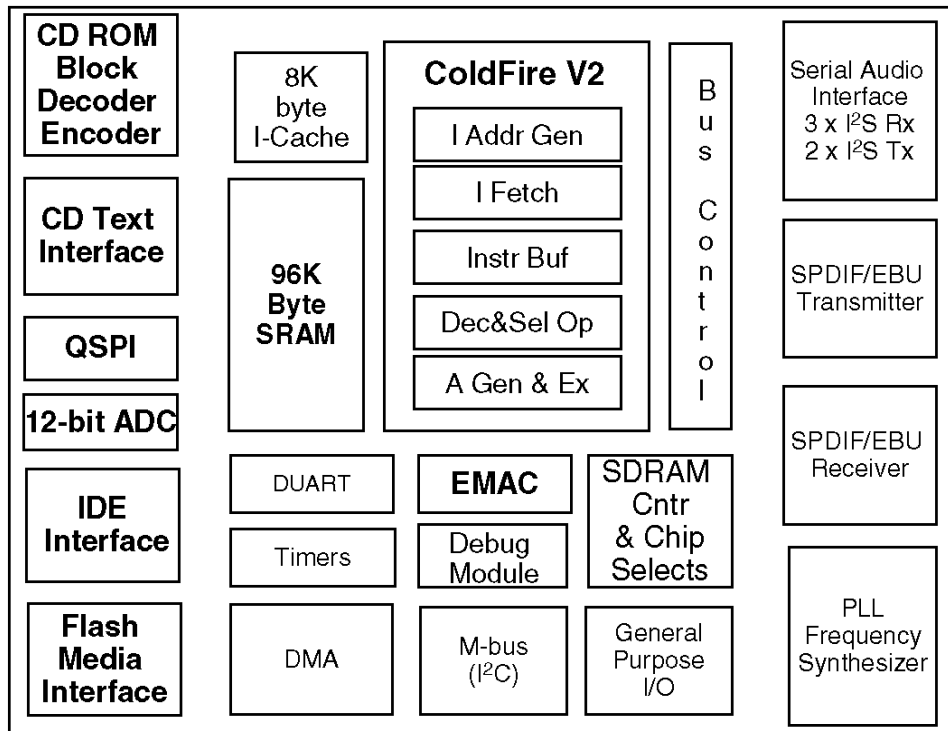


Table 1. Signal Names

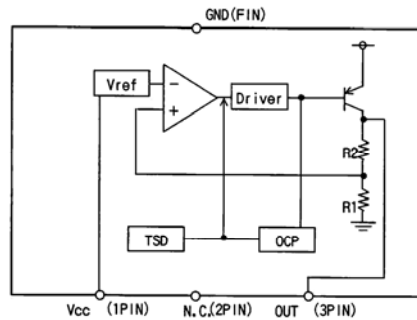
A0-A18	Address Inputs
DQ0-DQ7	Data Input/Outputs, Command Inputs
DQ8-DQ14	Data Input/Outputs
DQ15A-1	Data Input/Output or Address Input
$\overline{E}$	Chip Enable
$\overline{G}$	Output Enable
$\overline{W}$	Write Enable
$\overline{R\overline{P}}$	Reset / Block Temporary Unprotect
$\overline{R\overline{B}}$	Ready/Busy Output
$\overline{B\overline{Y\overline{T\overline{E}}}}$	Byte/Word Organisation
VCC	Supply Voltage
VSS	Ground

417-MCDS4-736  
IC(SCF5249LAG120,QFP TQ-144)



417-MCDS4-737  
IC(BA18BC0FP-E2,3PIN,TO-252-3,SMD)

○BLOCK DIAGRAM

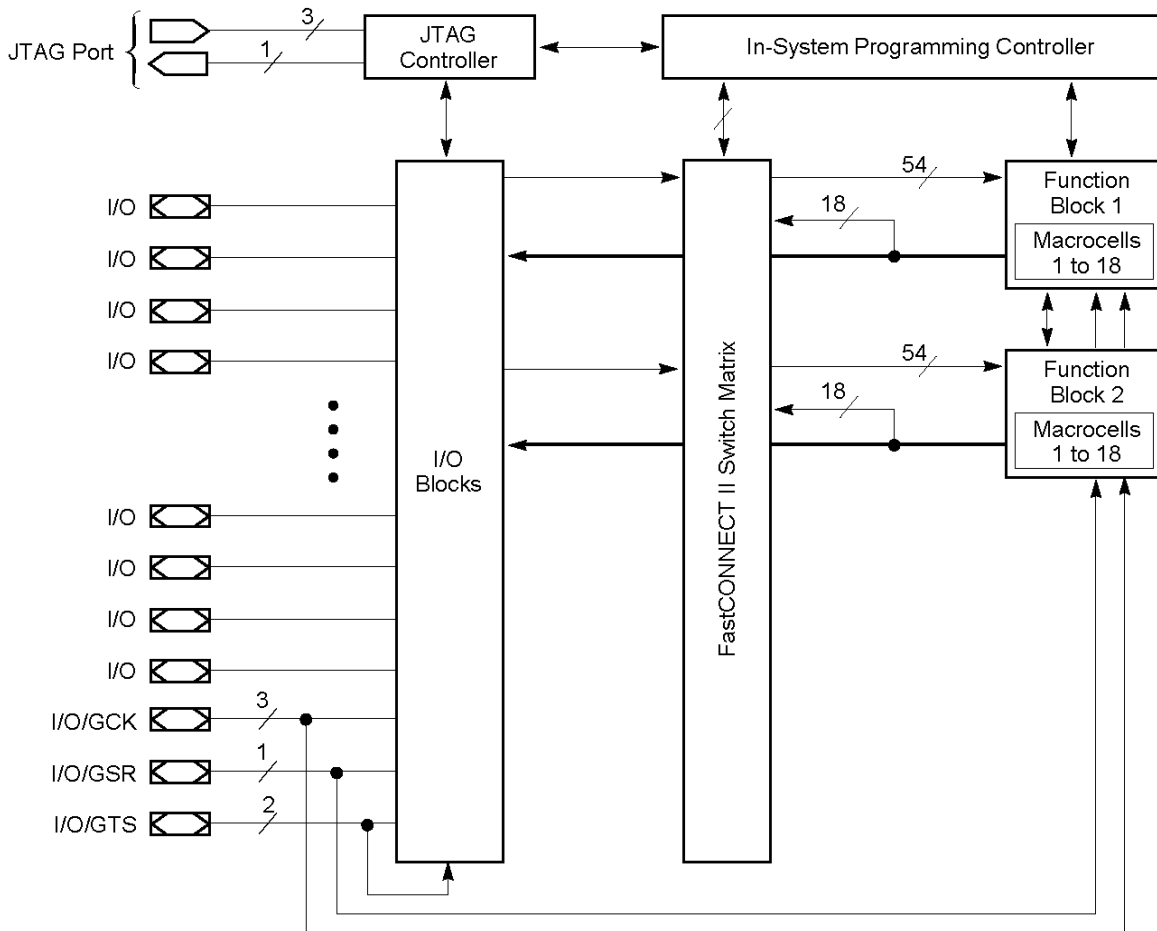


○PIN NO. , PIN NAME

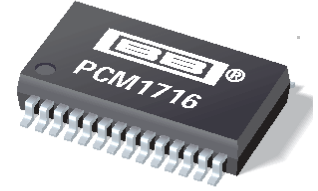
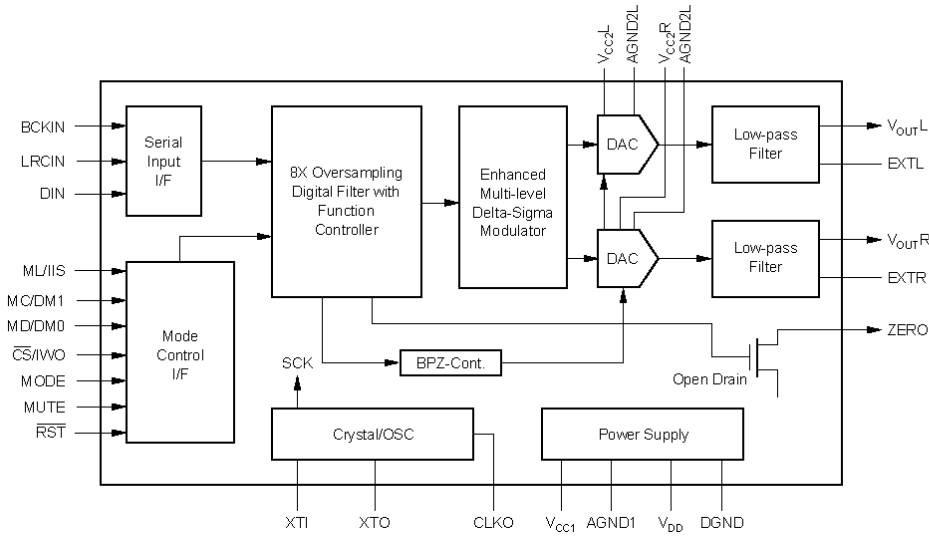
Pin No.	Pin Name
1	Vcc
2	N.C.
3	OUT
FIN	GND

*IC Block Diagram*

417-MCDS4-738 IC(XC9536XL-10VQ44C,SMD)

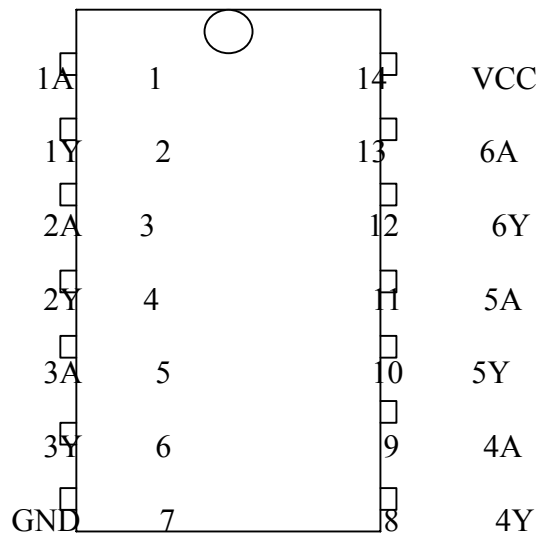


417-DCM270X-327A IC(PCM1716E,28PIN,SOP)



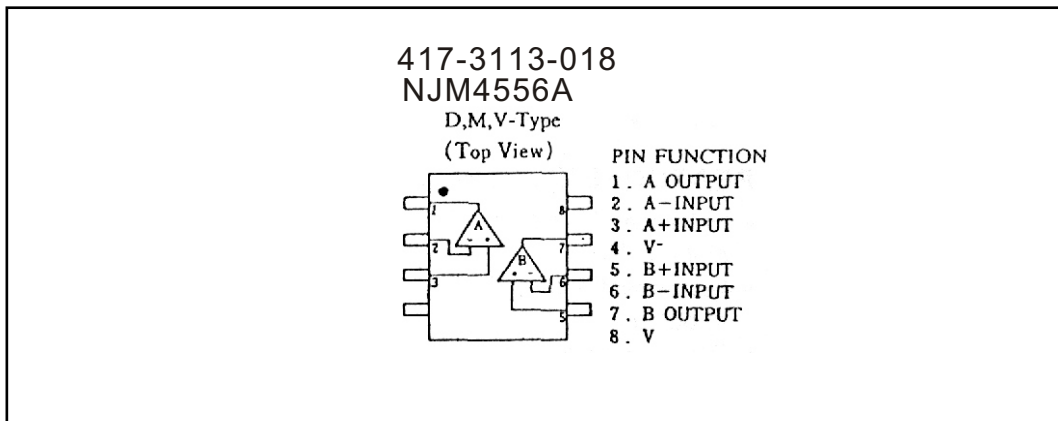
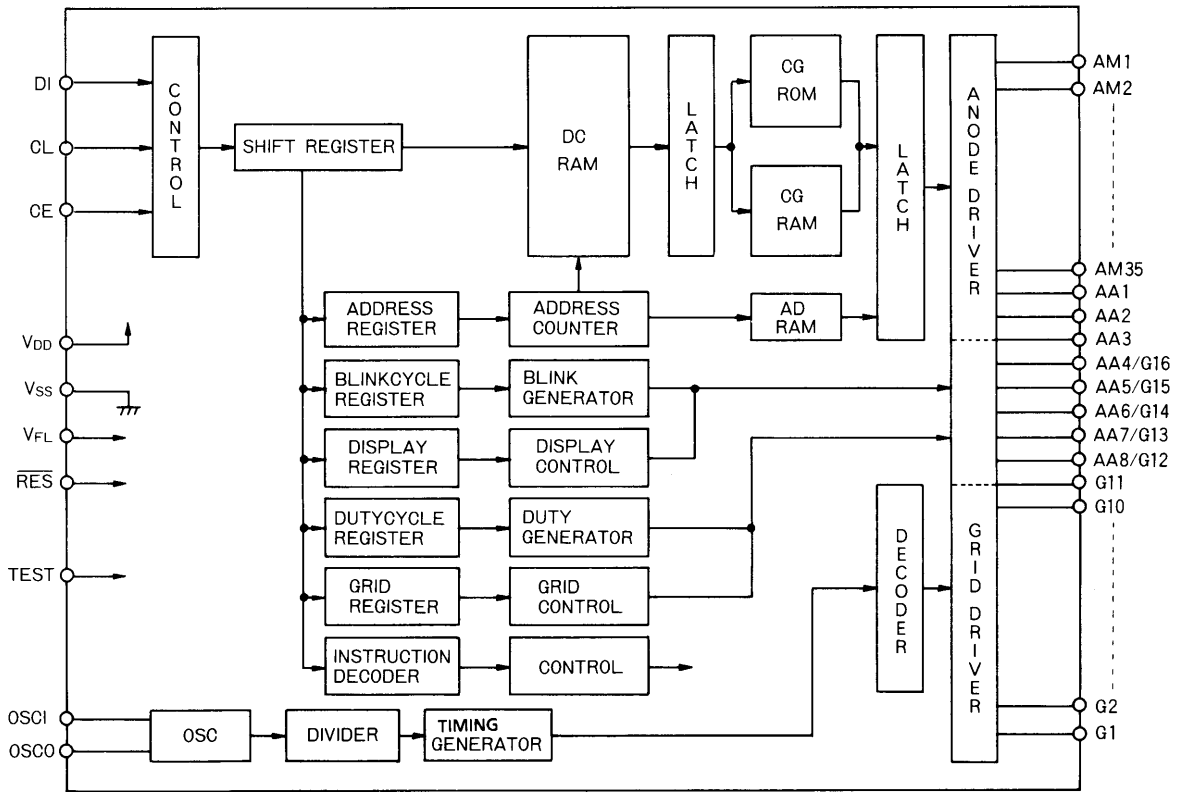
417-CDN34-274

74HC14

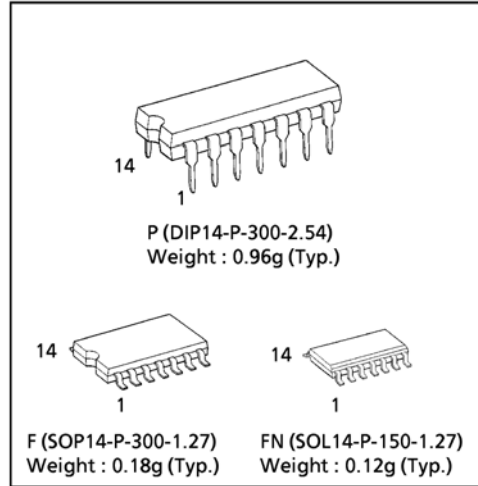




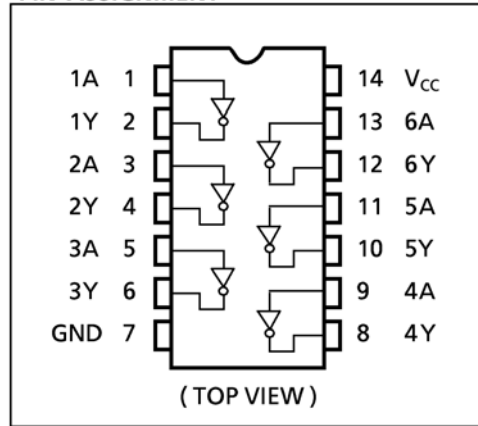
417-MCDS4-739 IC(LC75710NE,QFP-64)



417-DJ150-419  
 IC(TC74HCU04AFN/TC74HCU04FAN)



**PIN ASSIGNMENT**



417-PS2-504 IC(HEDS-9700#F51)



## TroubleShooting

SYMPTOM	POSSIBLE CAUSE	CORRECTON ACTION
Device does not react when switching on	Connection to main disrupted	Check AC plug and AC connection
Player does not start operation	CD is badly positioned or dirty	Reposition CD with label atop or clean with a dry and soft cloth
No sound	Check the mixer and amplifier connections inappropriate	Possibly exchange connections
Does not read properly	The device is exposed to vibrations	Place the device on a more stable stand,rack etc.
Does not read the program	The player is in normal playback mode	Press the play-pause button and re-program
Pop noise	Mixer and amplifier connections inappropriate	Check cable and jack quantity