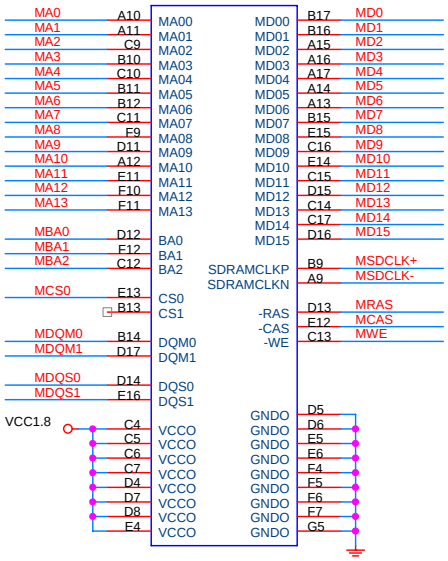
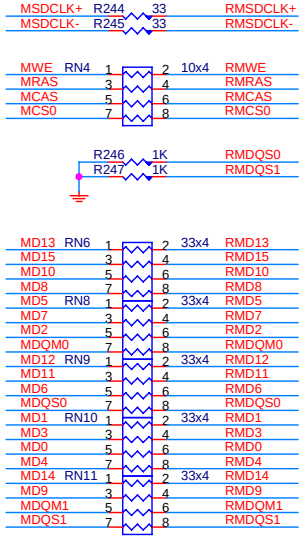
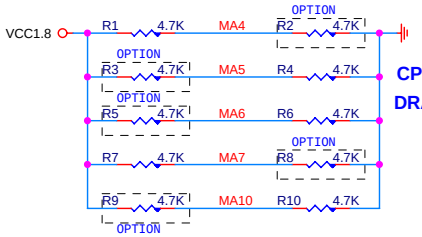
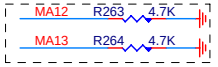




HARDWARE STRAP

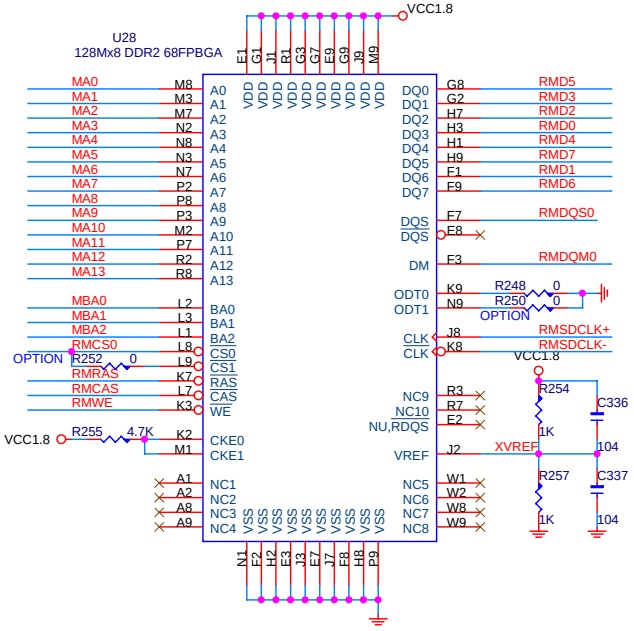


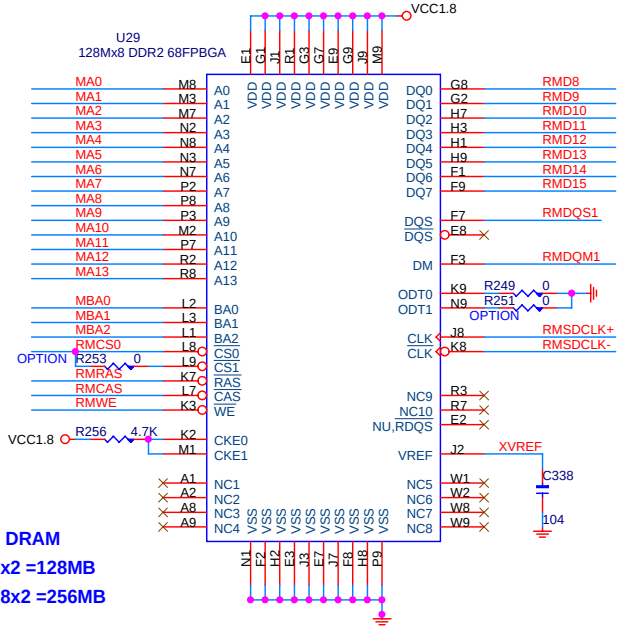


MA12,MA13=Pull Down : External 8 Bit BIOS

DM77CR to DM77DR Modify list :

01. DRAM Reliability
    - Page 01 : R246、R247 from 4.7K ohm change to 1K ohm
02. IDE
    - Page 02 : R258 from 1K ohm change to 4.7K ohm
03. CF
    - Page 02 : CF Pin25、Pin26、Pin33 connect to GND
04. LAN
    - Page 04 : ISET add 3.9nF (X7R material) & 100 ohm
    - Page 04 : L8 & L76 bead must use 200 ohm @100MHz
    - Page 04 : R54 ~ R57 from 50 ohm change to 49.9 ohm_1%
05. USB
    - Page 04 : Modify USB Port 0、1、2、3 & Power sch.
06. Oscillator
    - Page 05 : Del R65 (1M ohm)
07. Power Sequence
    - Page 05 : Reset power in from VCC3 change to VCC5
    - Page 05 : Reset C30 from 102P change to 104P
    - Page 05 : Reset add BAT54C to VCC5
    - Page 07 : R260 from 330K ohm_1% change to 365K ohm_1%
    - Page 07 : LTC3407 Pin2 & Pin9 connect to RESET
    - Page 07 : Add 100K ohm in PWRGD sch.
    - Page 19 : C324 from 104P change to 330 ohm
08. Vcore
    - Page 07 : Vcore from 1.2V change to 1.32V
09. VGA
    - Page 15 : Change R144、R148 to option and mount R145、R149
10. Battery more lifetime
    - Page 05 : Change D1(FM160) & D2(1N4148) to BAT54C





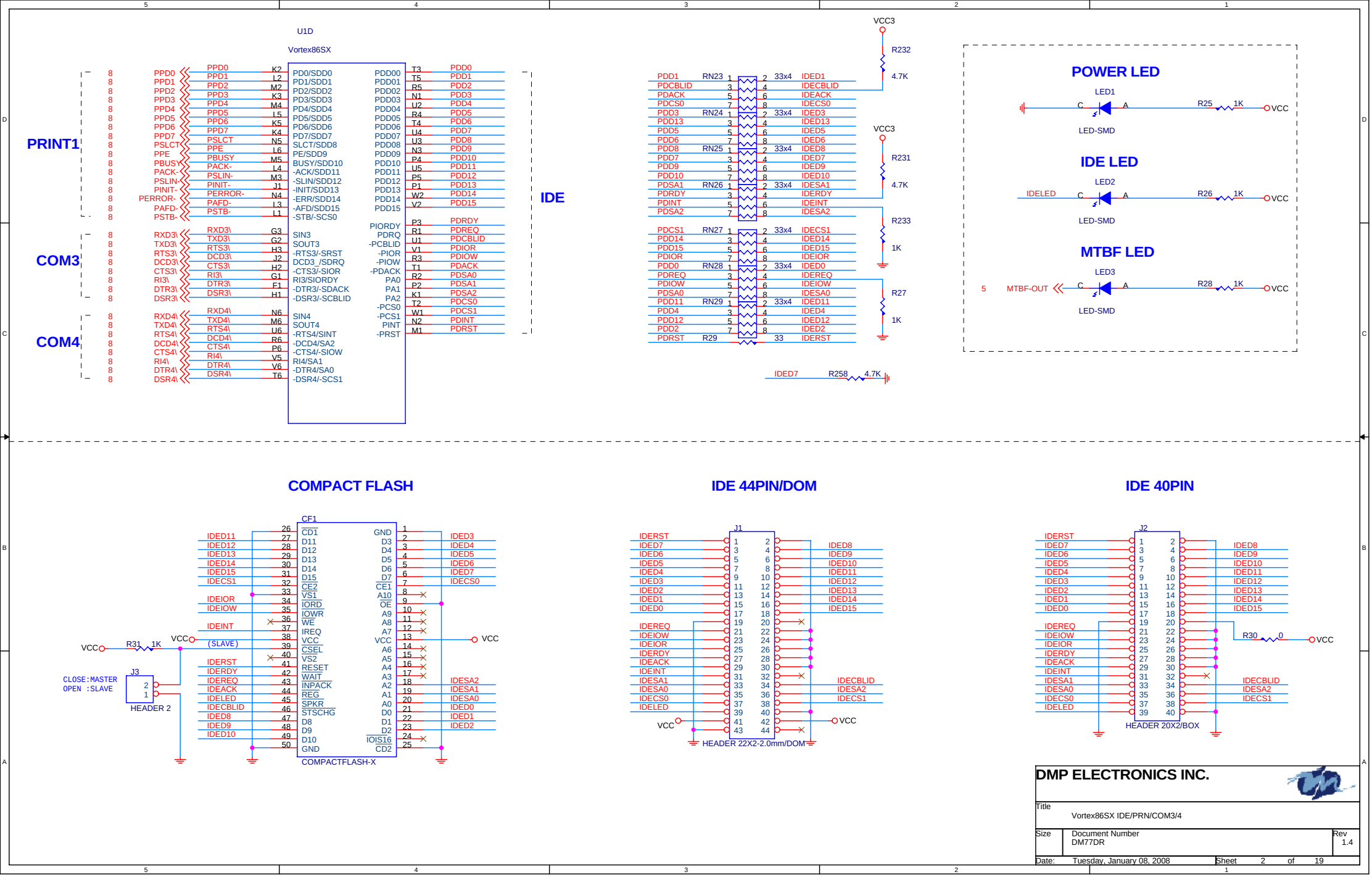
DDR-II DRAM
64Mx8x2 =128MB
128Mx8x2 =256MB

PCB NO. DM77DR

Vortex86SX SOC MINI-ITX

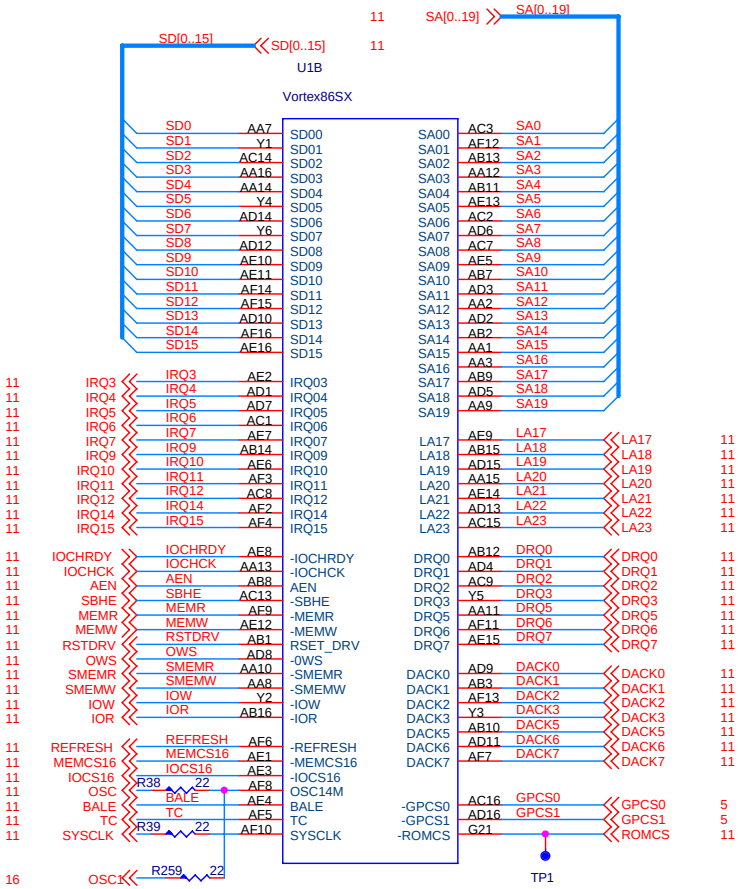
VER :1.4

DMP ELECTRONICS INC.	www.vortex86sx.com
Title	Vortex86SX DDR-II Memory
Size	Document Number DM77DR — Rev 1.4
Date: Tuesday, January 08, 2008	Sheet 1 of 19

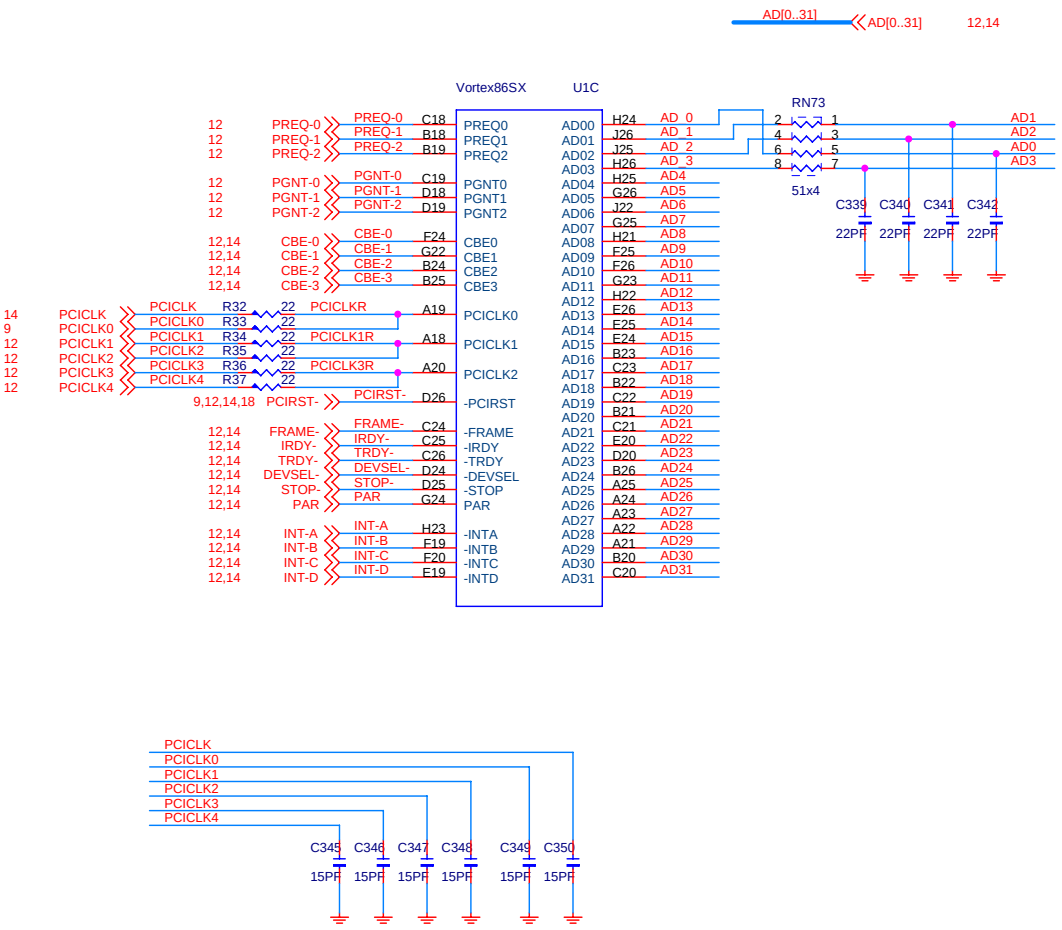


DMP ELECTRONICS INC.		
Title: Vortex86SX IDE/PRN/COM3/4		
Size	Document Number: DM77DR	Rev: 1.4
Date: Tuesday, January 08, 2008	Sheet 2 of 19	

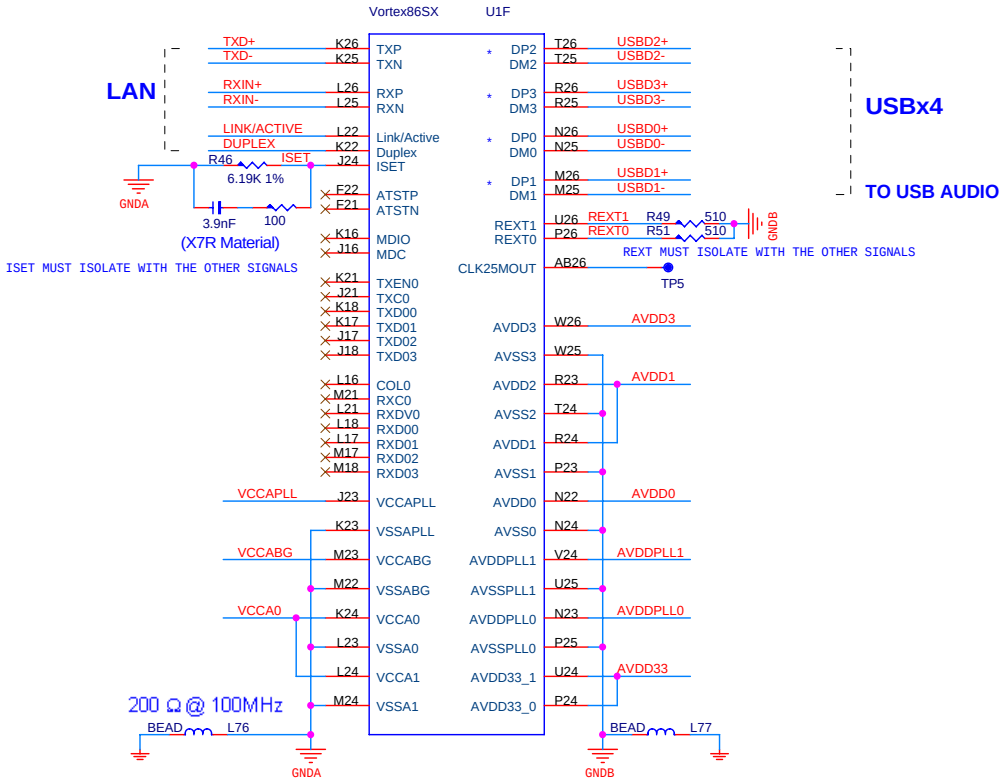
ISA BUS

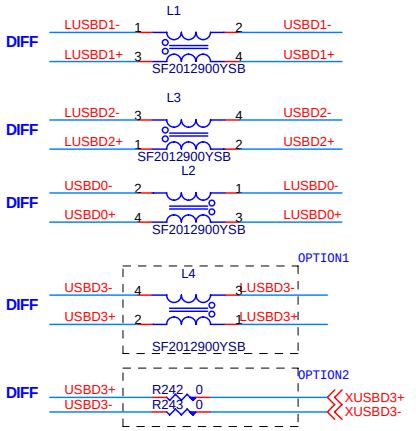


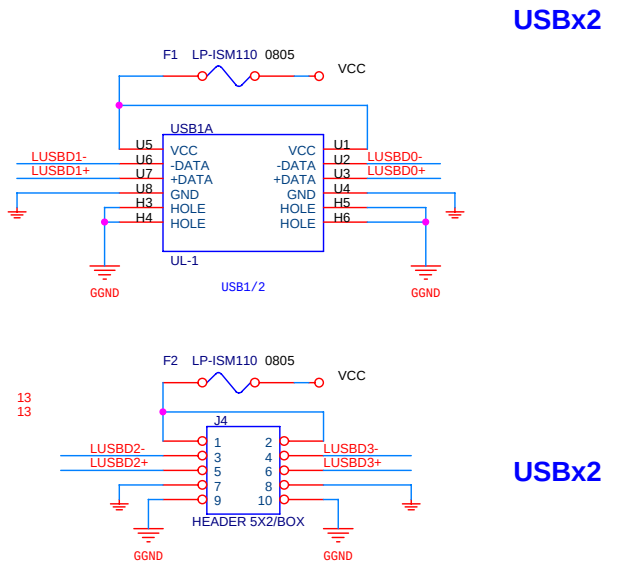
PCI BUS

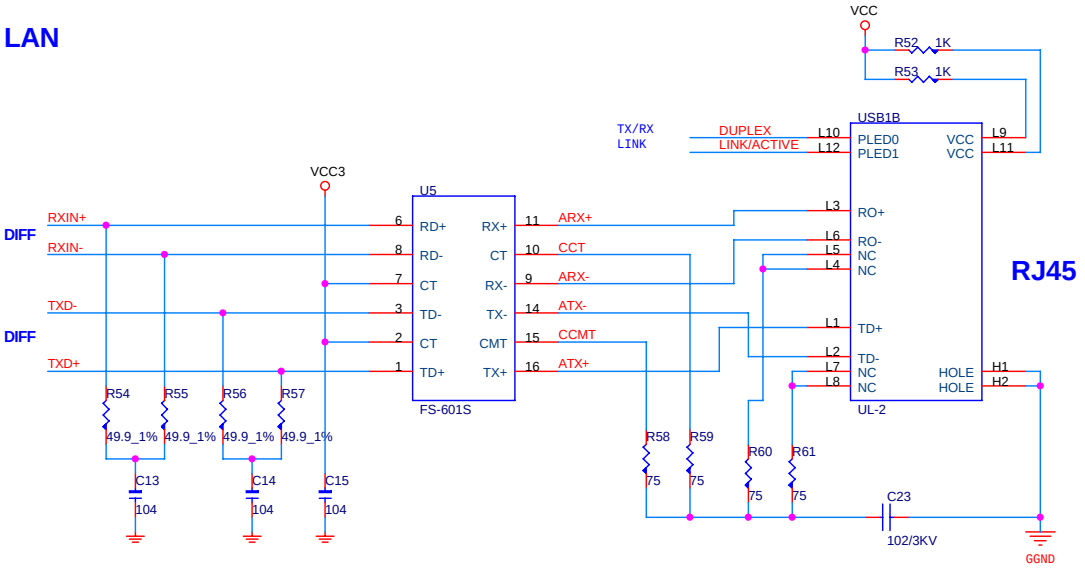


DMP ELECTRONICS INC.	
Title	Vortex86SX PCI/ISA BUS
Size	Document Number DM77DR — Rev 1.4
Date: Tuesday, January 08, 2008	Sheet 3 of 19

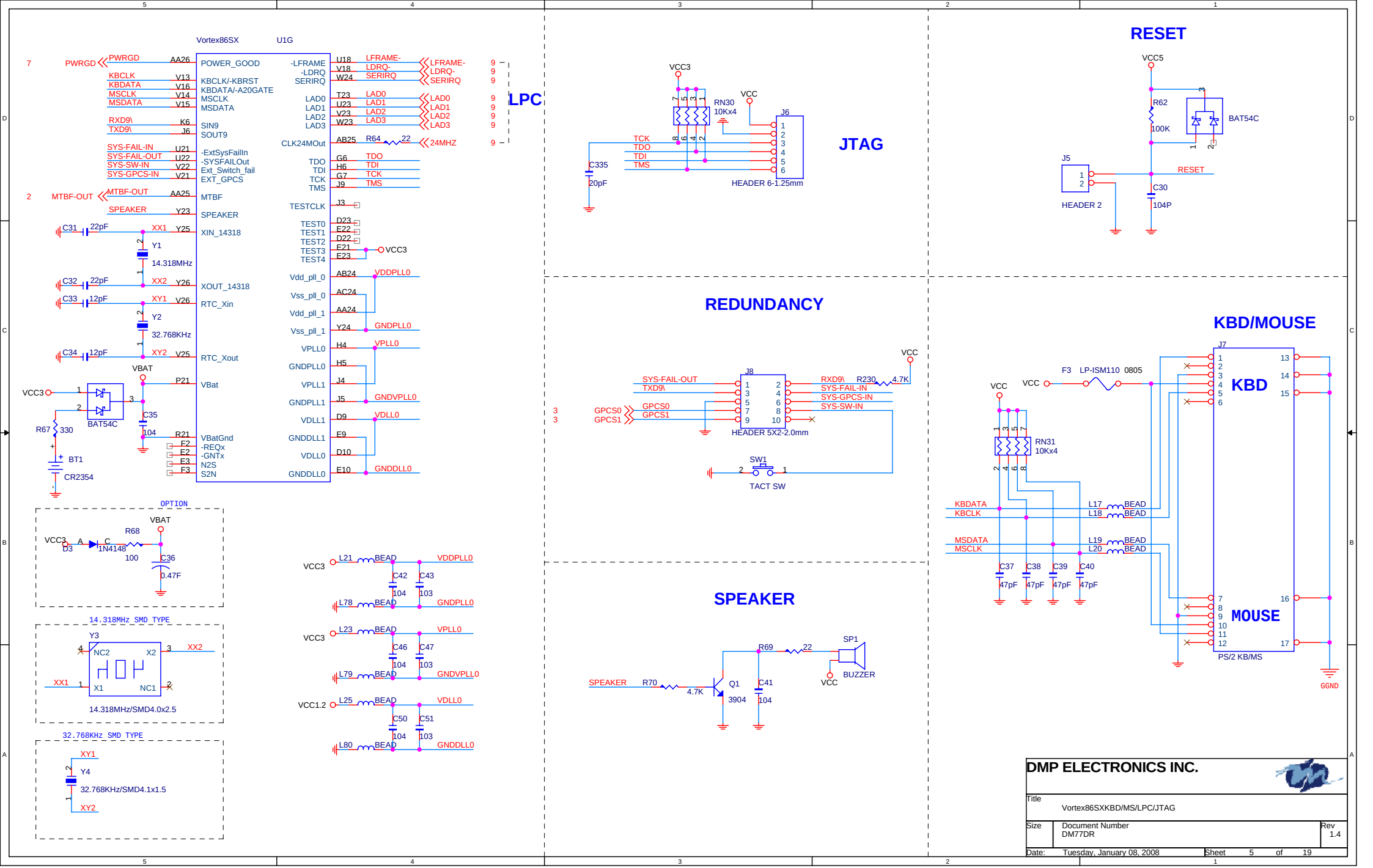








DMP ELECTRONICS INC.		
Title: Vortex86SX LAN/USB		
Size	Document Number DM77DR	Rev 1.4
Date: Tuesday, January 08, 2008	Sheet 4 of 19	


Vortex86SX U1G
LPC
JTAG
RESET
REDUNDANCY
KBD/MOUSE
SPEAKER
OPTION
14.318MHz_SMD_TYPE
32.768KHz_SMD_TYPE
14.318MHz/SMD4.0x2.5
32.768KHz/SMD4.1x1.5
HEADER 6-1.25mm
HEADER 2
HEADER 5X2-2.0mm
TACT SW
PS/2 KB/MS
KBD
MOUSE
DMP ELECTRONICS INC.
Vortex86SXKBD/MS/LPC/JTAG
DM77DR
Rev 1.4
Tuesday, January 08, 2008
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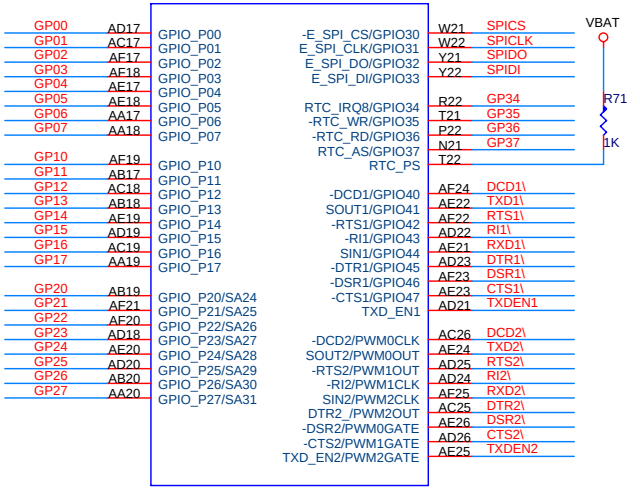

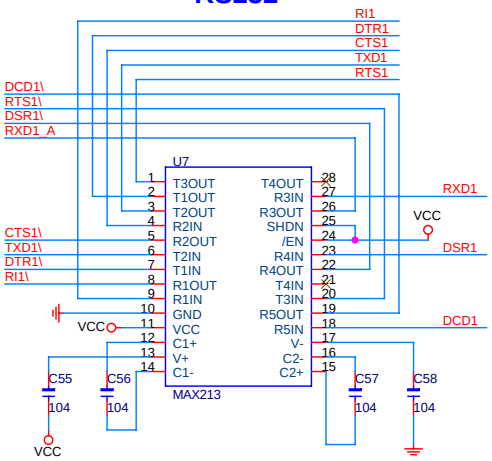

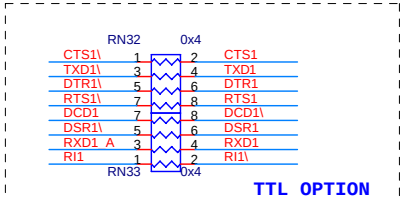

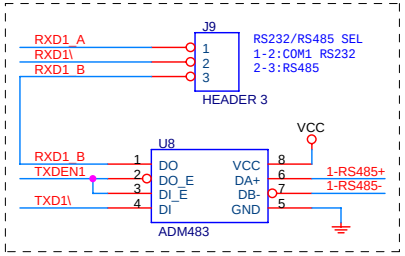

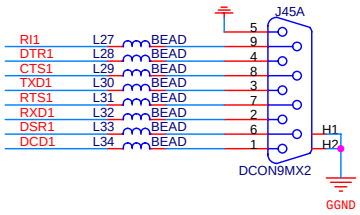

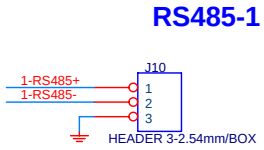

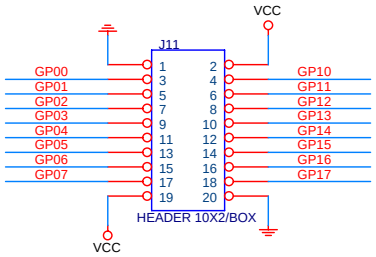

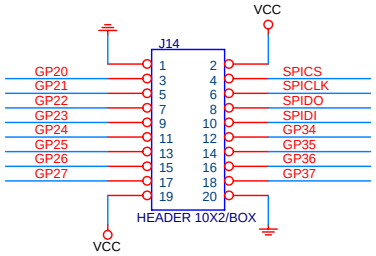

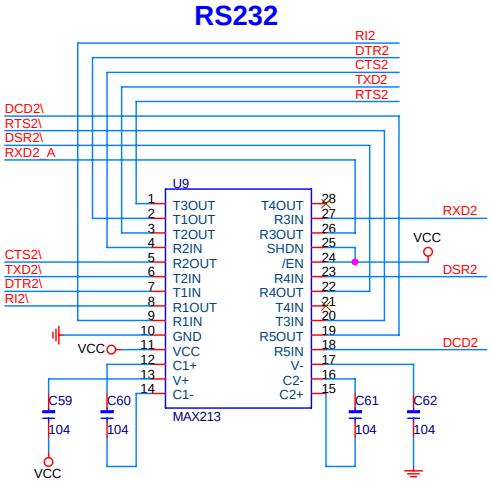

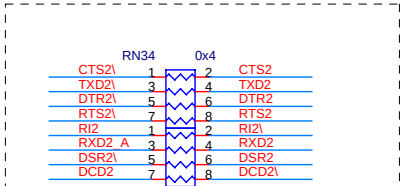

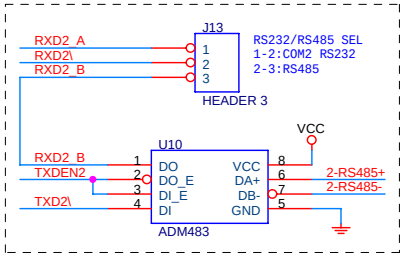

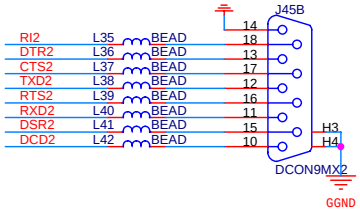

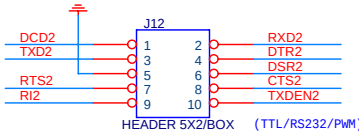

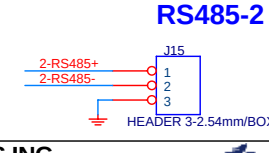

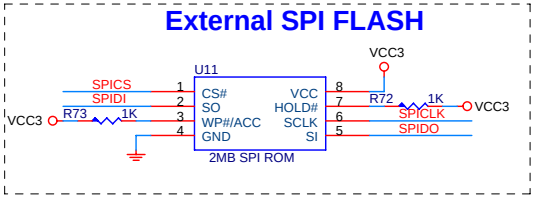

DMP ELECTRONICS INC.

Title	Vortex86SX GPIO/COM/PWM
Size	Document Number DM77DR — Rev 1.4
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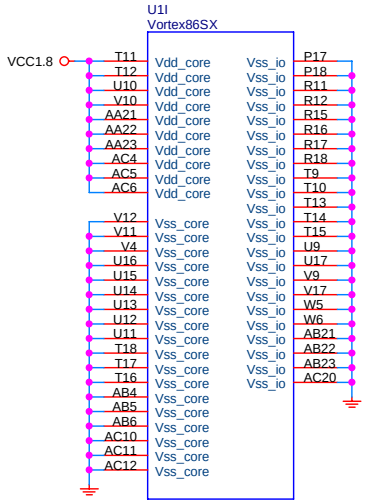
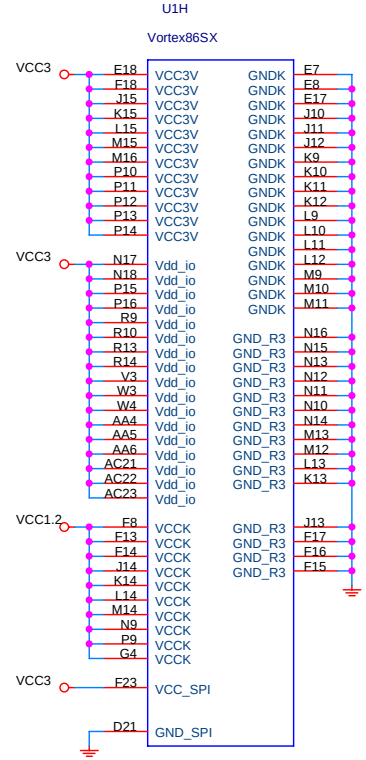
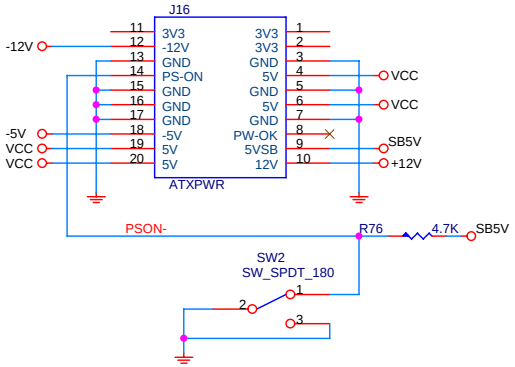
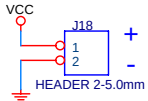




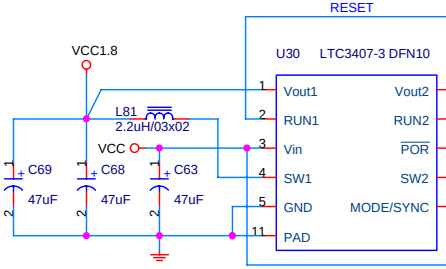
ATX POWER



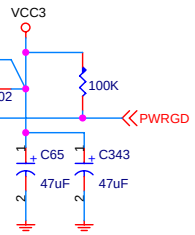
POWER CONNECTOR



VCC 1.8V



VCC 3.3V



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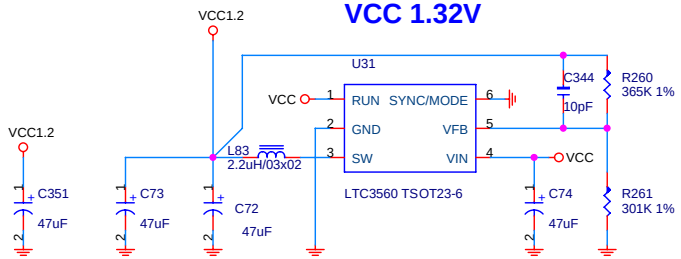

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Title: Vortex86SX POWER		
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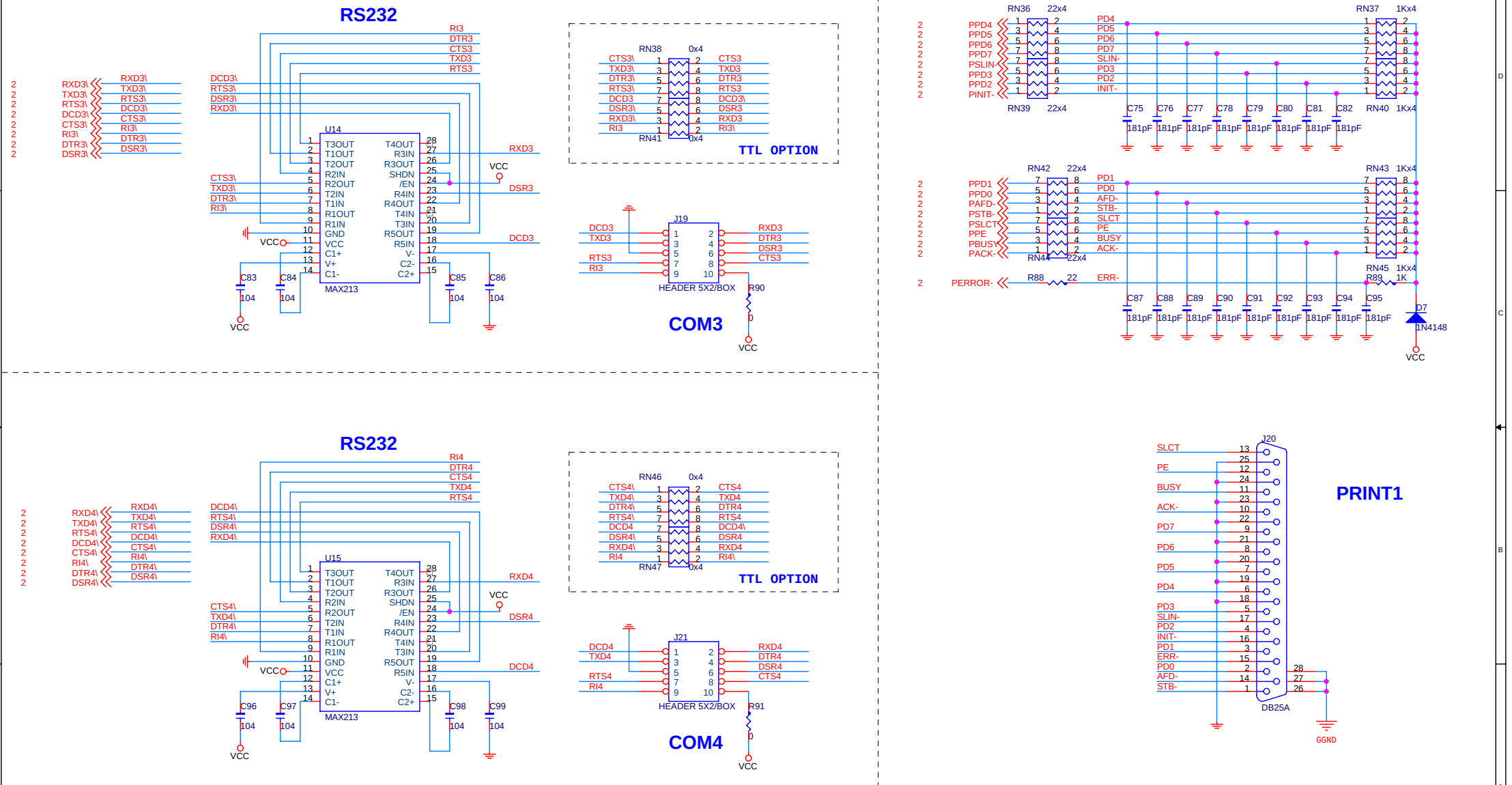
VCC

PRINT1/COM3/COM4



DMP ELECTRONICS INC.		
Title	Vortex86SX PRN1/COM3/4	
Size	Document Number DM77DR	Rev 1.4
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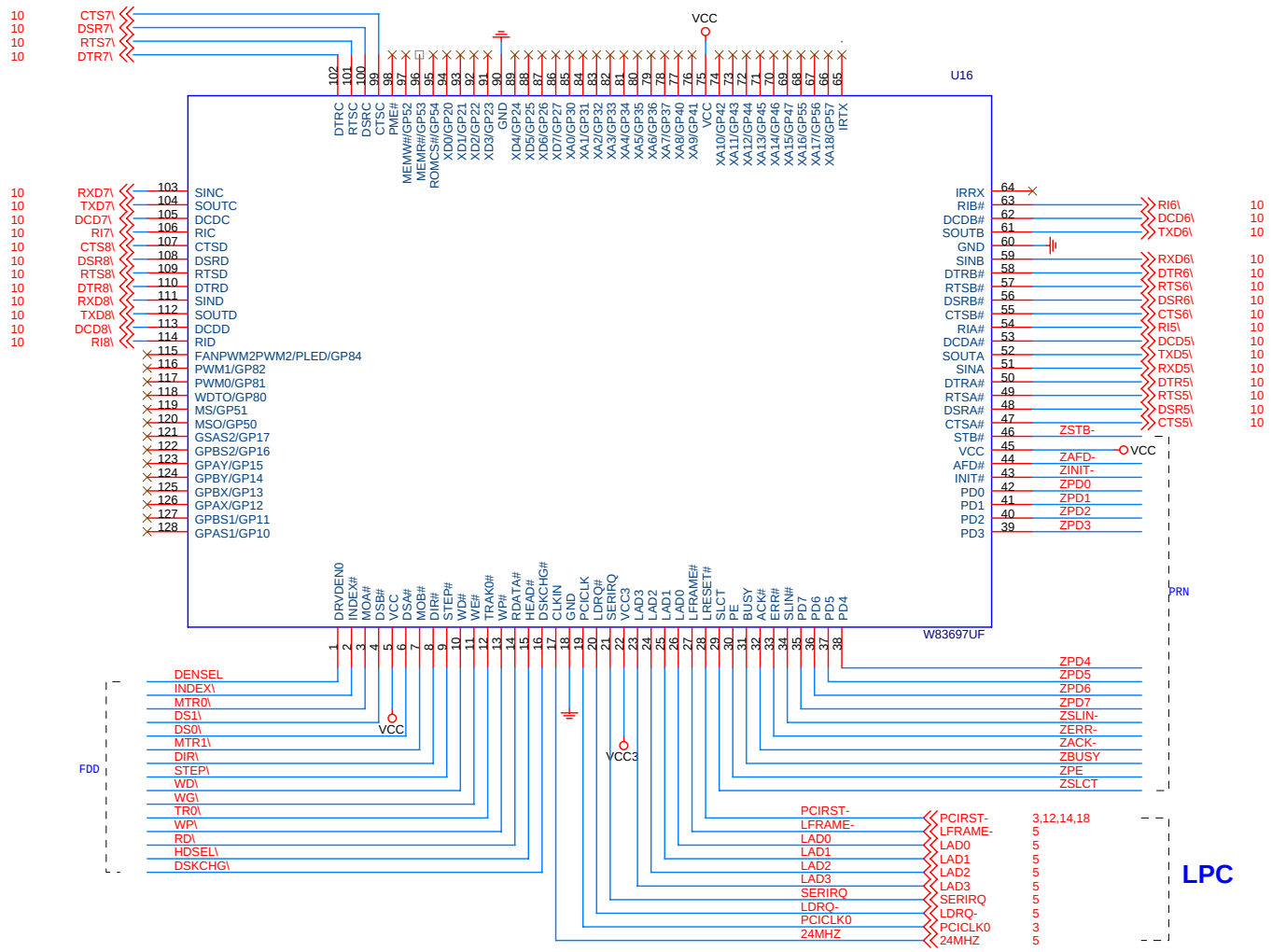
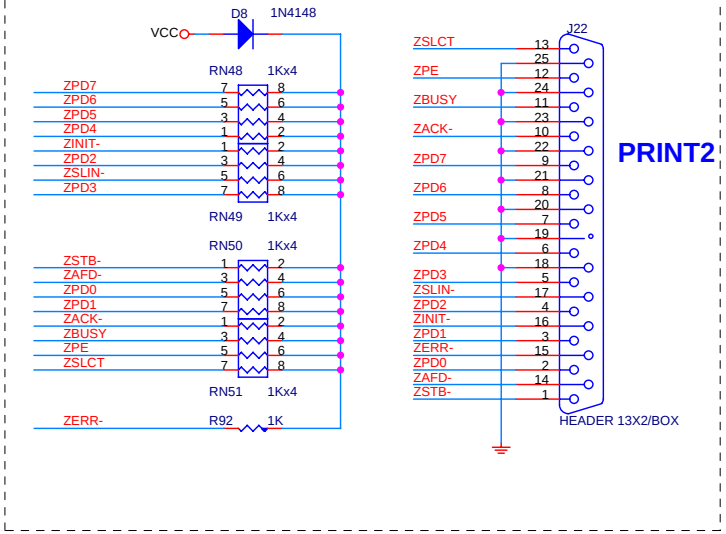
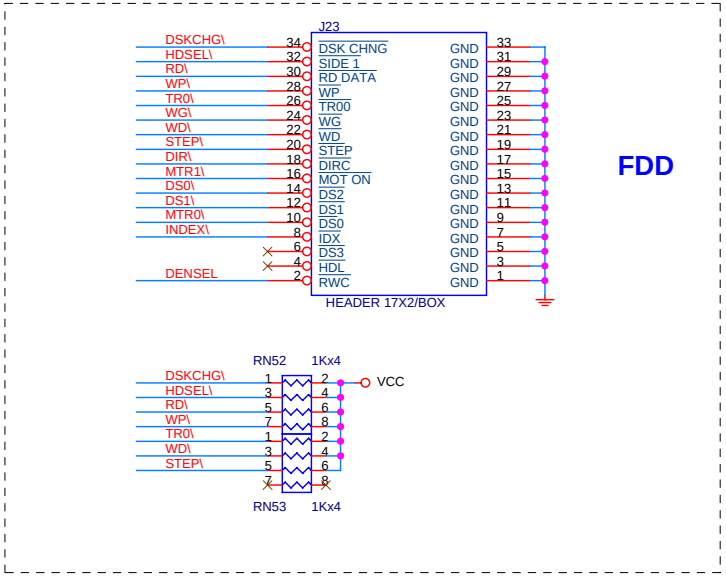
LPC-IO W83697UF







DMP ELECTRONICS INC.	
Title	Vortex86SX LPC-IO W83697UF
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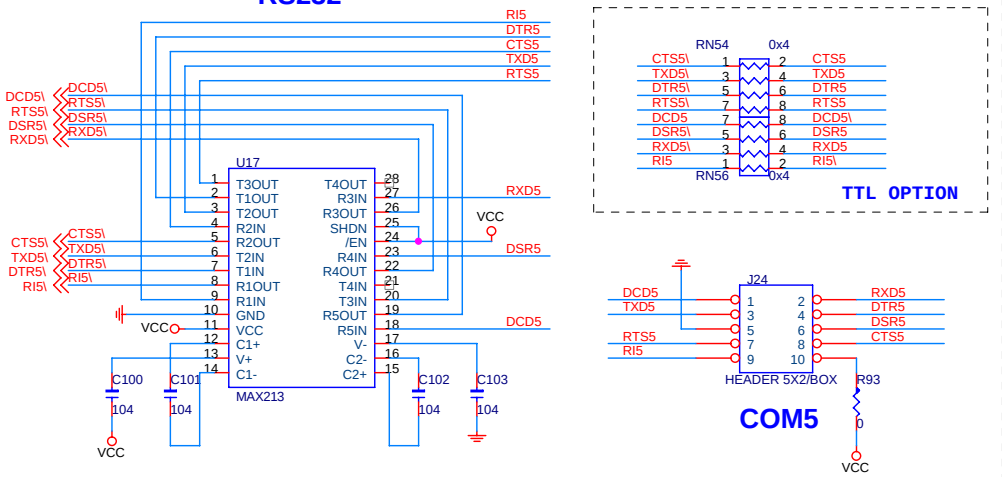
COM5/6/7/8

RS232



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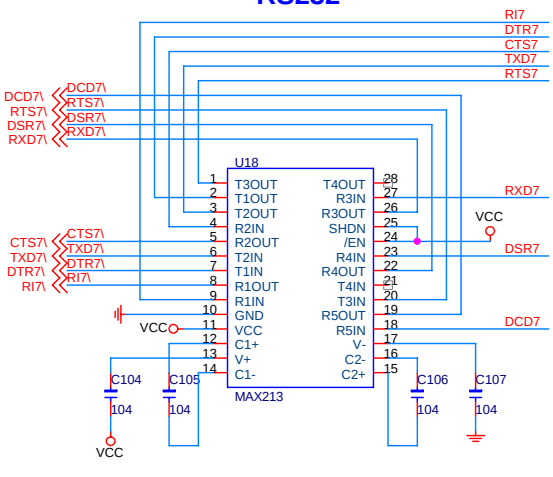

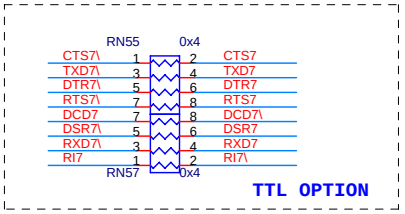

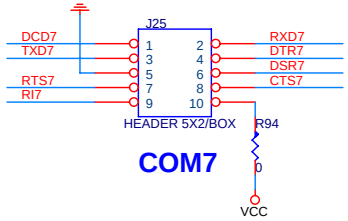

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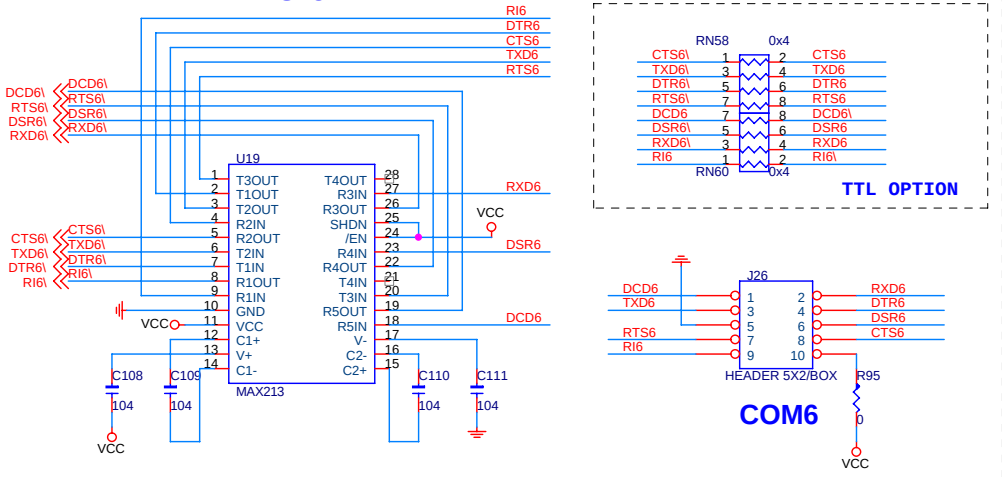

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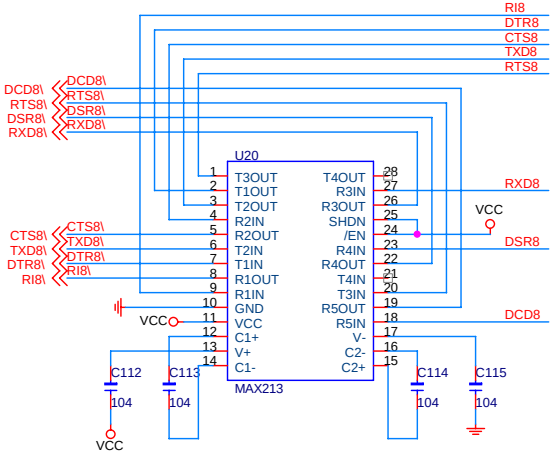

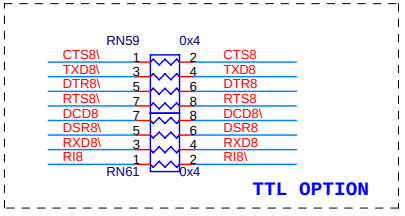

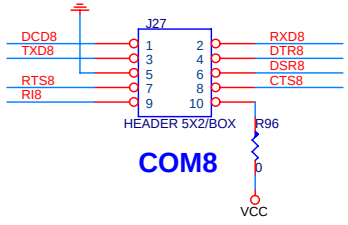

DMP ELECTRONICS INC.		
Title: Vortex86SX COM5/6/7/8		
Size	Document Number DM77DR	Rev 1.4
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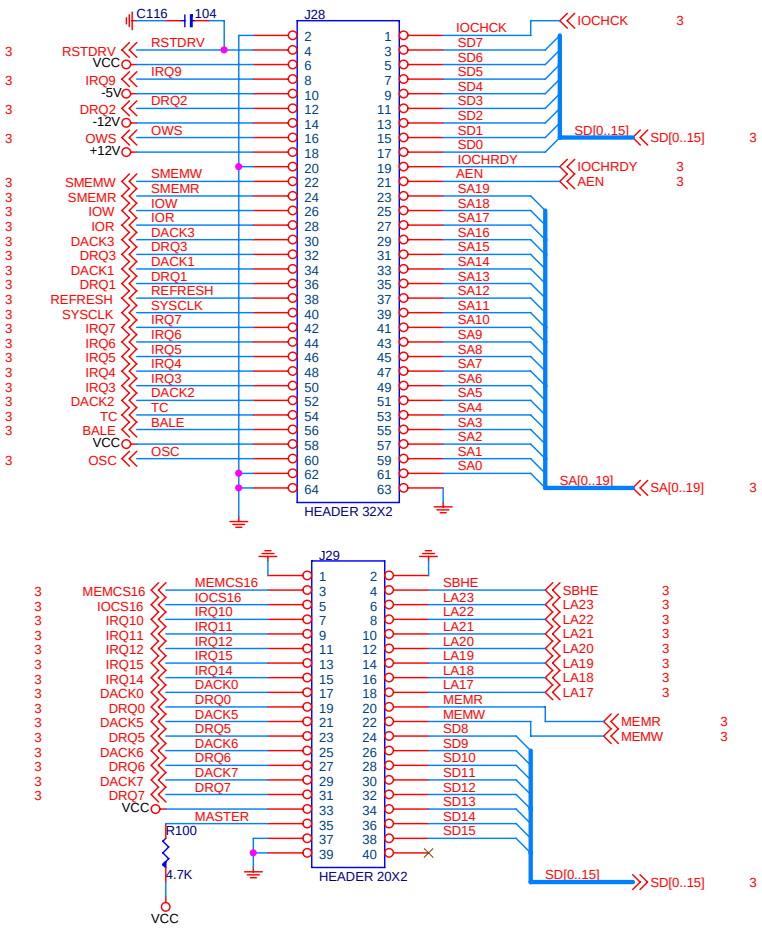
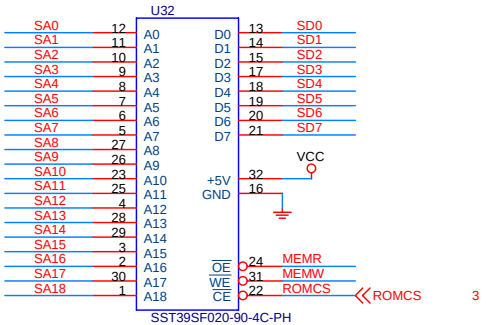
PC104

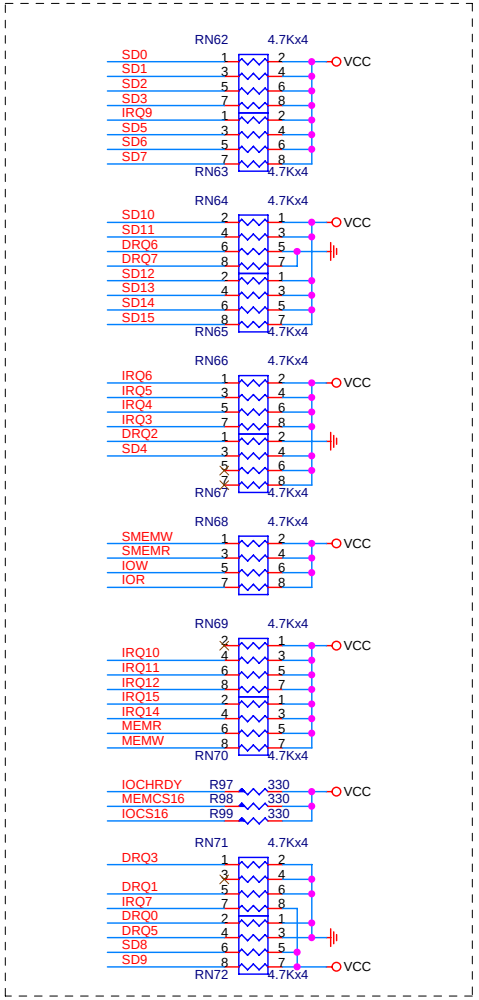


BIOS



OPTION

OPTION PULL UP/DOWN



DMP ELECTRONICS INC.	
Title	Vortex86SX PC104/ISA SLOT
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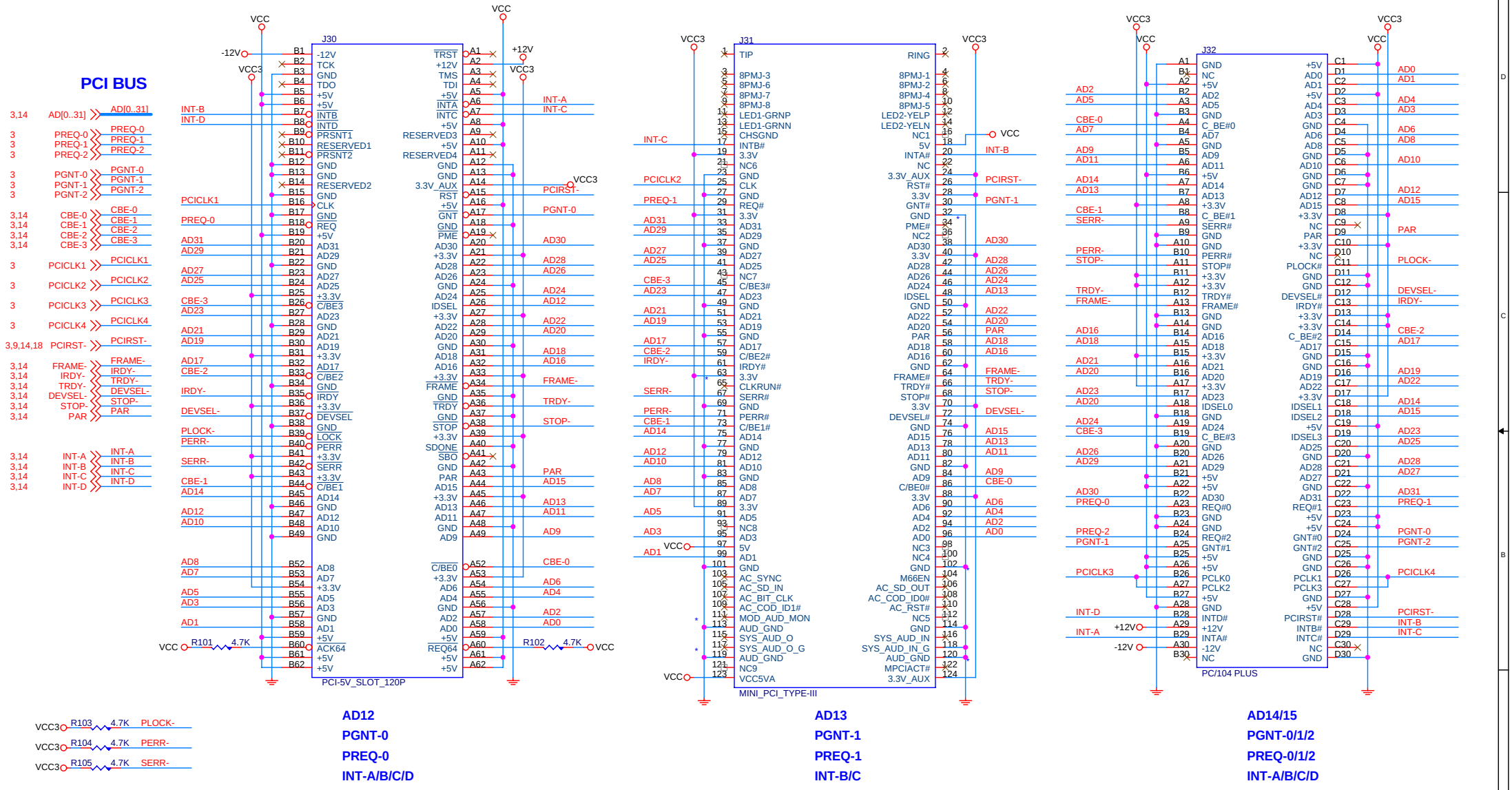

DMP ELECTRONICS INC.	
Title	Vortex86SX PCI-104/PCI SLOT
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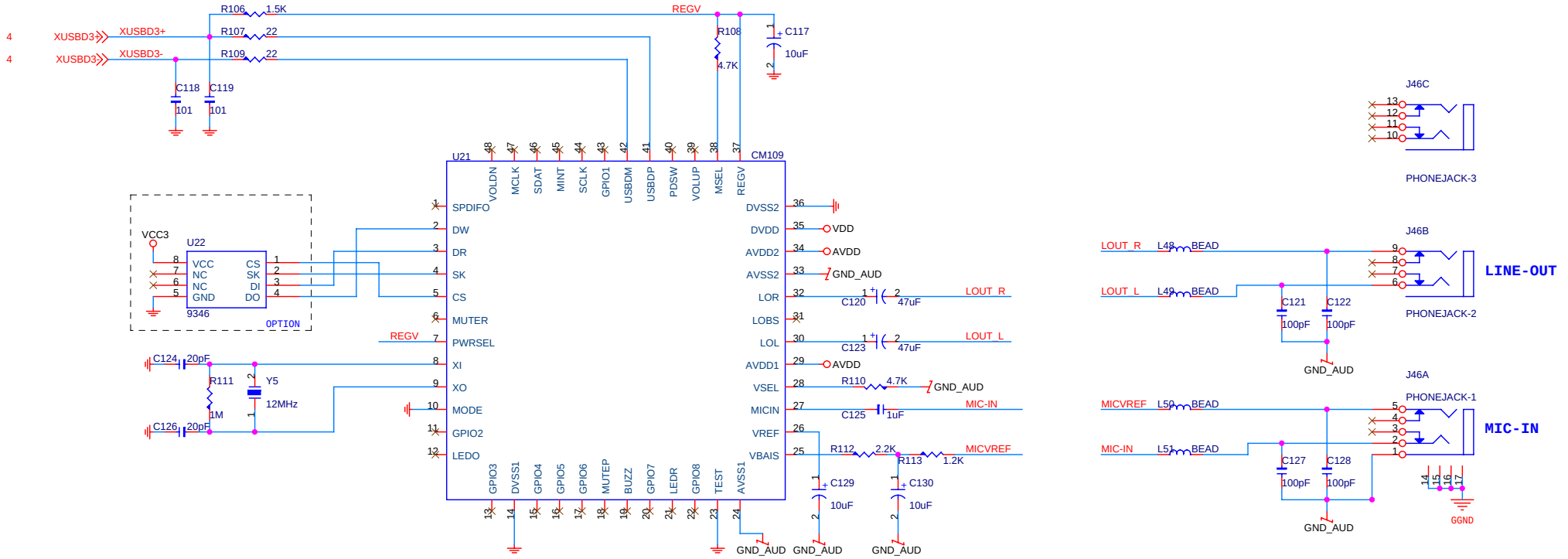
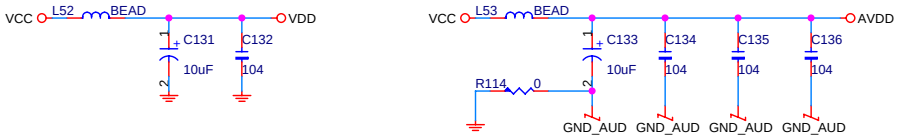
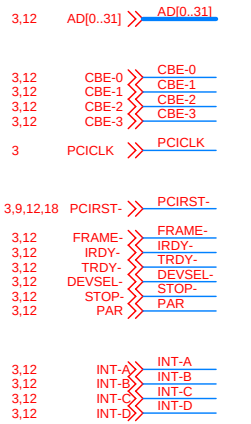
USB AUDIO





DMP ELECTRONICS INC.		
Title: USB AUDIO CM109		
Size	Document Number: DM77DR	Rev: 1.4
Date: Tuesday, January 08, 2008	Sheet 13 of 19	

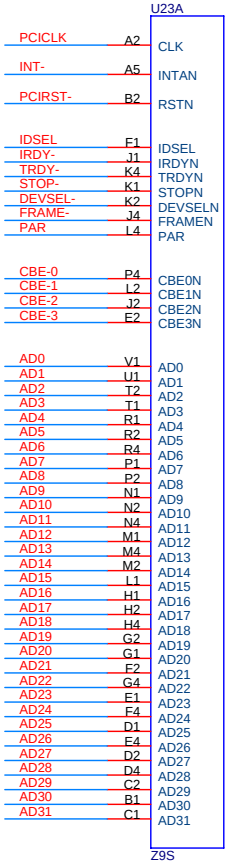
PCI BUS



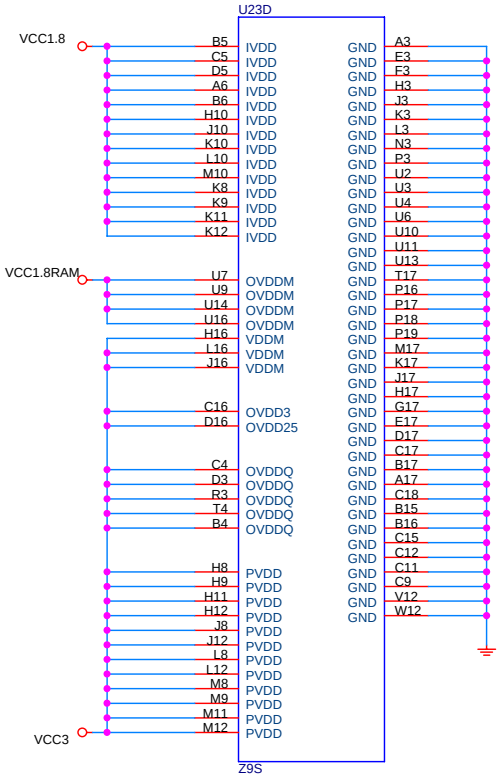
AD14/15

INT-A/B/C/D

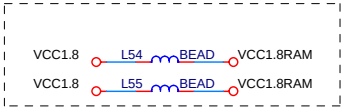
PCI



POWER



VGA DRAM POWER



DMP ELECTRONICS INC.

Title	Z9S PCI	
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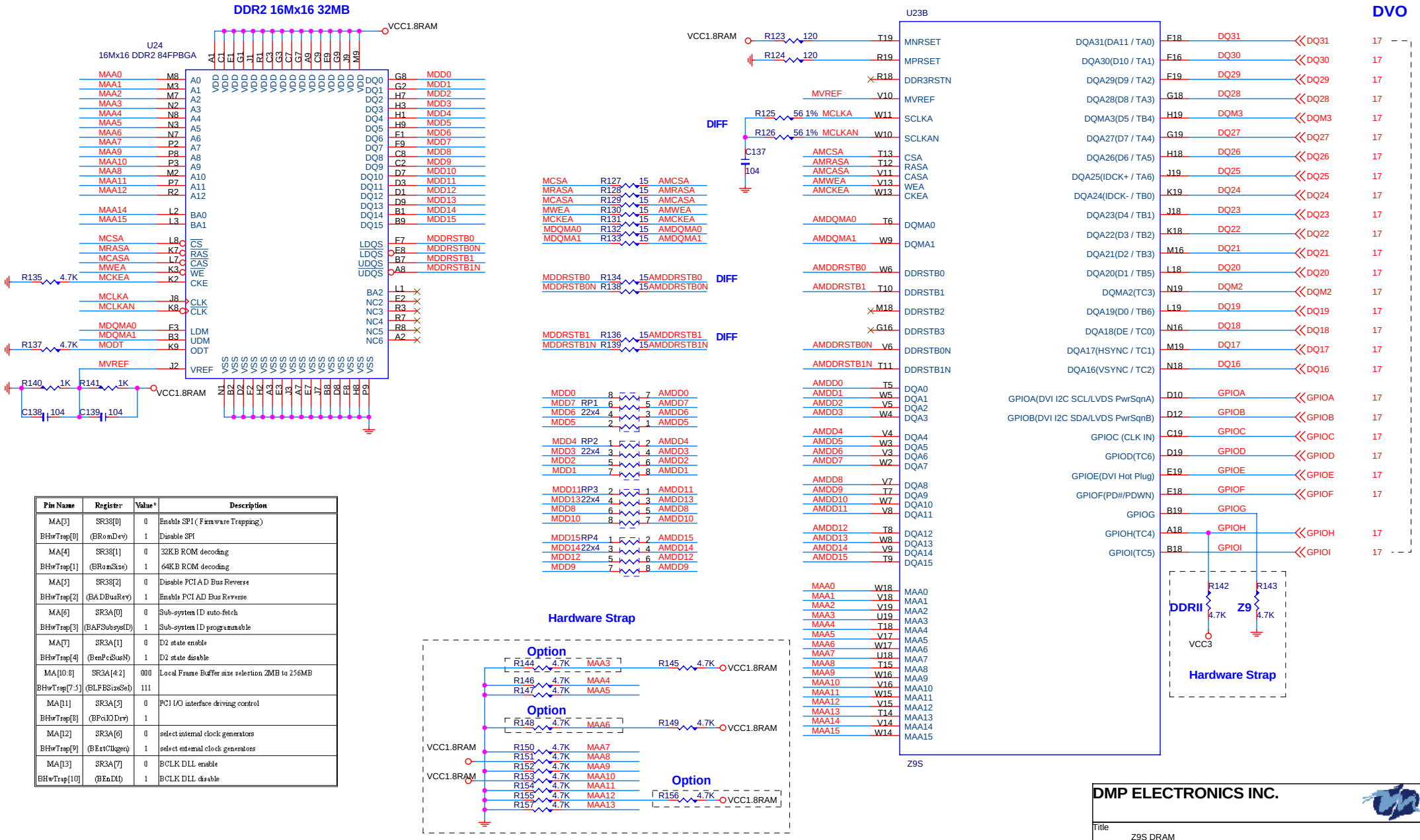

Pin Name	Register	Value*	Description
MA[3]	SR38[0]	0	Enable SPI (Firmware Trapping)
BHwTrap[0]	(BRomDev)	1	Disable SPI
MA[4]	SR38[1]	0	32KB ROM decoding
BHwTrap[1]	(BRomSize)	1	64KB ROM decoding
MA[5]	SR38[2]	0	Disable PCI AD Bus Reverse
BHwTrap[2]	(BADBusRev)	1	Enable PCI AD Bus Reverse
MA[6]	SR3A[0]	0	Sub-system ID auto-fetch
BHwTrap[3]	(BAFSubsysID)	1	Sub-system ID programmable
MA[7]	SR3A[1]	0	D2 state enable
BHwTrap[4]	(BenPciSusN)	1	D2 state disable
MA[10:8]	SR3A[4:2]	000	Local Frame Buffer size selection 2MB to 256MB
BHwTrap[7:5]	(BLFBSizeSel)	111	
MA[11]	SR3A[5]	0	PCI I/O interface driving control
BHwTrap[8]	(BPciIODrv)	1	
MA[12]	SR3A[6]	0	select internal clock generators
BHwTrap[9]	(BErtClkgen)	1	select external clock generators
MA[13]	SR3A[7]	0	BCLK DLL enable
BHwTrap[10]	(BEnDll)	1	BCLK DLL disable

DMP ELECTRONICS INC.			
Title: Z9S DRAM			
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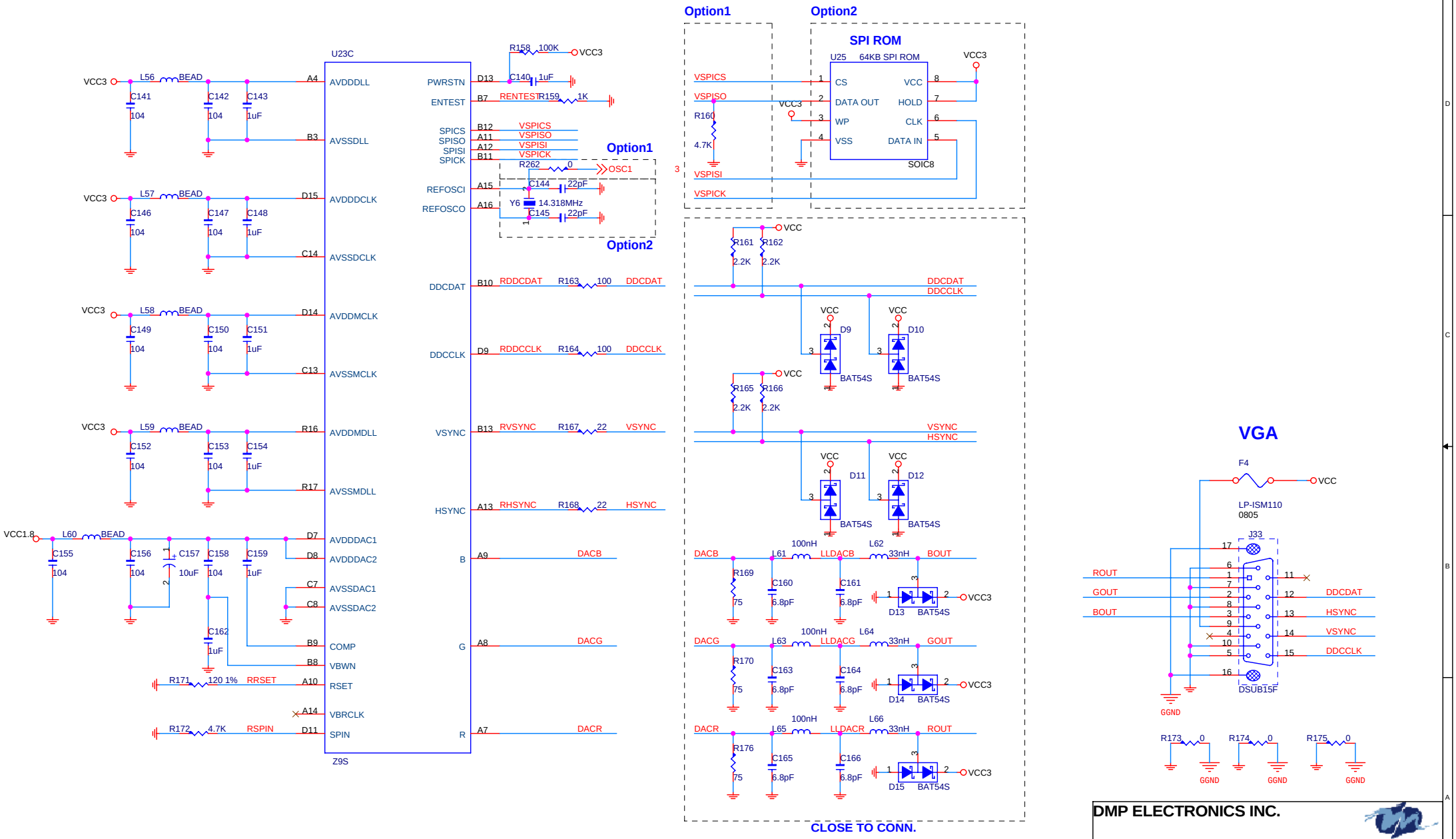
U23C
Z9S
AVDDDLL
AVSSDLL
AVDDDCLK
AVSSDCLK
AVDDMCLK
AVSSMCLK
AVDDMDLL
AVSSMDLL
AVDDDAC1
AVDDDAC2
AVSSDAC1
AVSSDAC2
COMP
VBWN
RSET
VBRCLK
SPIN
PWRSTN
ENTEST
SPICS
SPISO
SPISI
SPICK
REFOSCI
REFOSCO
DDCDAT
DDCCLK
VSYNC
HSYNC
R
G
B
Option1
Option2
SPI ROM
U25 64KB SPI ROM
SOIC8
CLOSE TO CONN.
VGA
DSUB15F
LP-ISM110
0805
BAT54S
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VGA and PLL
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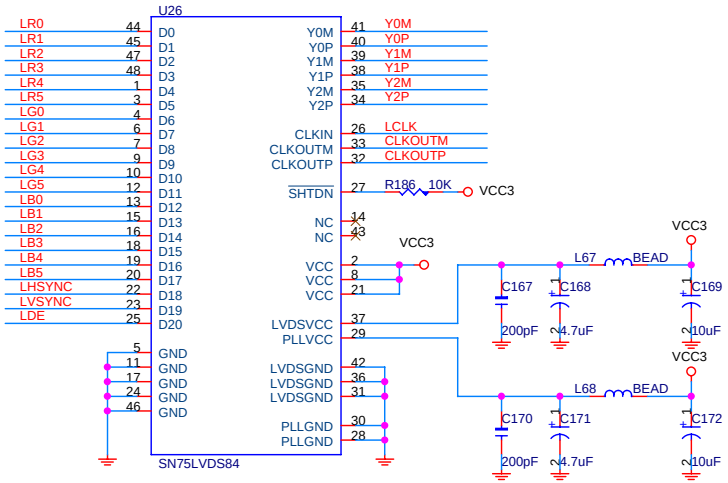
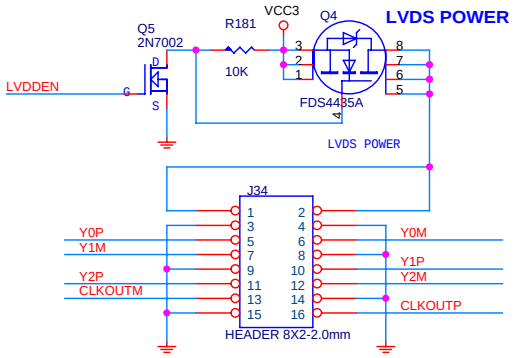
DVI/TV LVDS/LCD

DQ31	R177	22	VD11	LR0	VD11	18
DQ30	R178	22	VD10	LR1	VD10	18
DQ29	R179	22	VD9	LR2	VD9	18
DQ28	R180	22	VD8	LR3	VD8	18
DQM3	R182	22	VD5	LG5	VD5	18
DQ27	R183	22	VD7	LR4	VD7	18
DQ26	R184	22	VD6	LR5	VD6	18
DQ25	R185	22	VIDCK+	LG0	VIDCK+	18
DQ24	R187	22	VIDCK-	LG1	VIDCK-	18
DQ23	R188	22	VD4	LG2	VD4	18
DQ22	R189	22	VD3	LG3	VD3	18
DQ21	R190	22	VD2	LG4	VD2	18
DQ20	R191	22	VD1	LB0	VD1	18
DQM2	R192	22		LB5		
DQ19	R193	22	VD0	LB1	VD0	18
DQ18	R194	22	VDE	LB2	VDE	18
DQ17	R195	22	VHSYNC	LB3	VHSYNC	18
DQ16	R196	22	VVSYNC	LB4	VVSYNC	18
GPIOA	R197	22	VSCL	LVDDEN	VSCL	18
GPIOB	R198	22	VSDA	LBACKL	VSDA	18
GPIOC	R199	22		LCLK	GPIO-C	18
GPIOD	R200	22		LDE	GPIO-D	18
GPIOE	R201	22	VDHP		GPIO-E	18
GPIOF	R202	22	VPD		GPIO-F	18
GPIOH	R203	22		LHSYNC		
GPIOI	R204	22		LVSYNC		

LVDS (DVO 18Bits)

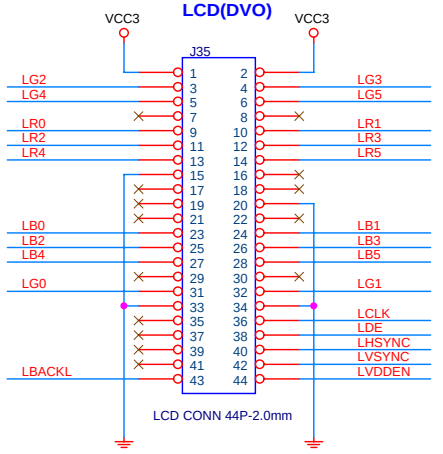


LVDS POWER



LVDS

LCD(DVO)



SAME AS VORTEX86 18BIT RGB

DMP ELECTRONICS INC.

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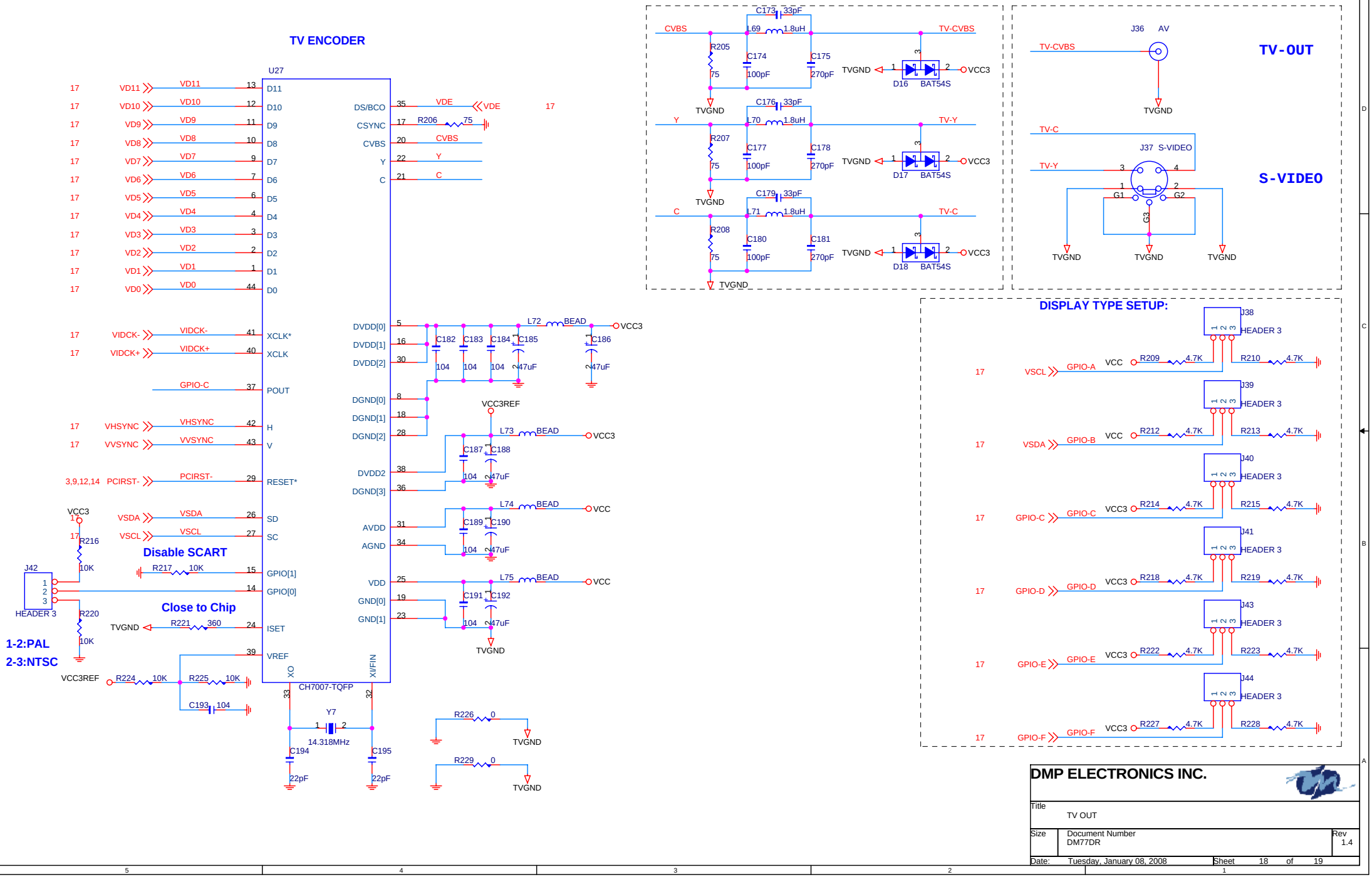
TV ENCODER
U27
CH7007-TQFP
Disable SCART
Close to Chip
1-2:PAL
2-3:NTSC
TV-OUT
S-VIDEO
DISPLAY TYPE SETUP:
DMP ELECTRONICS INC.
Title
TV OUT
Size
Document Number
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1.4
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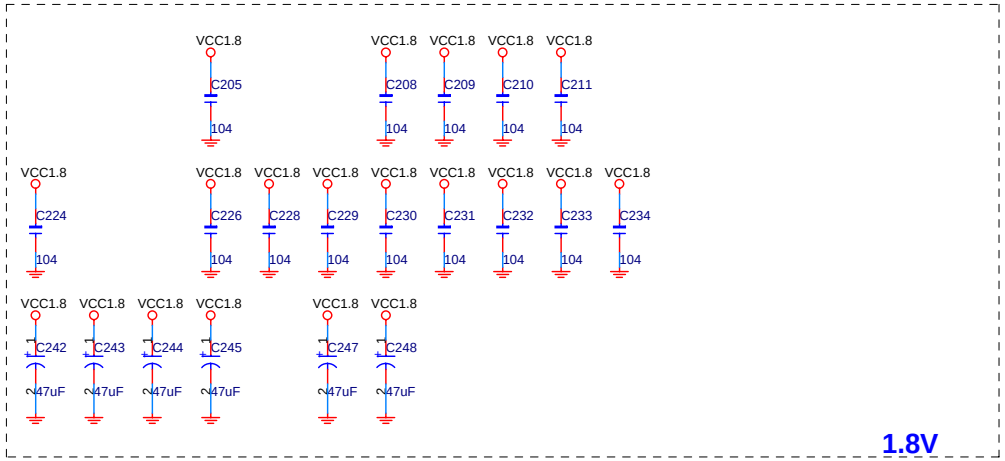
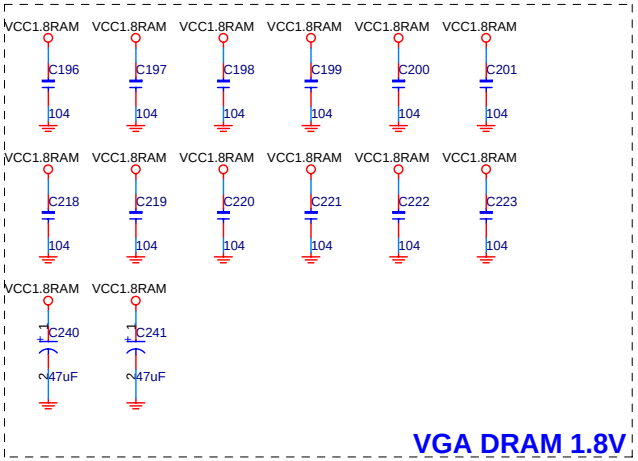
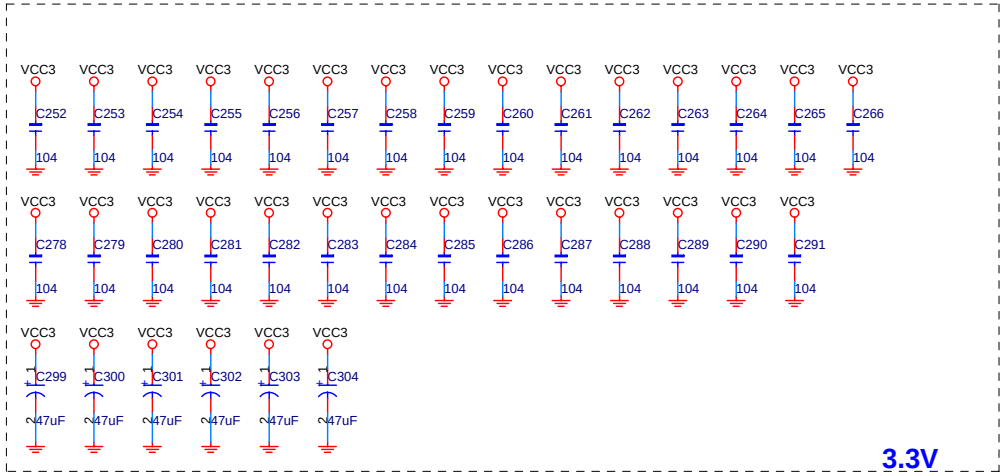
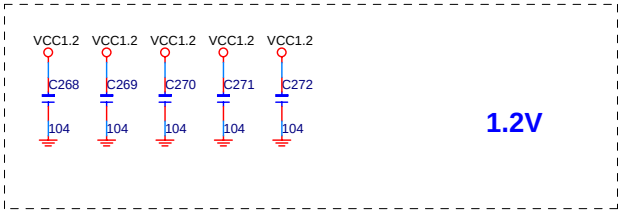
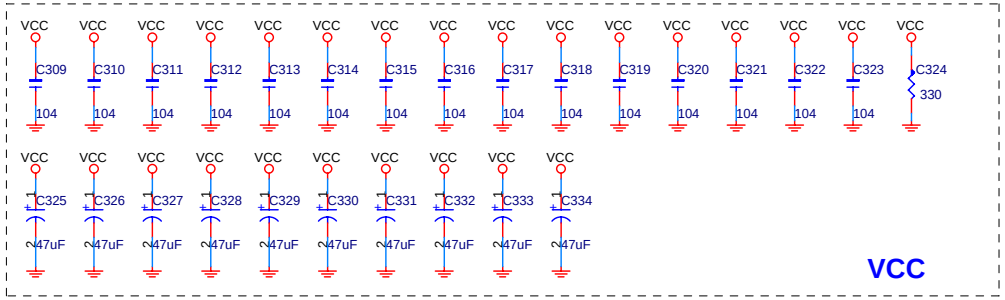
BYPASS

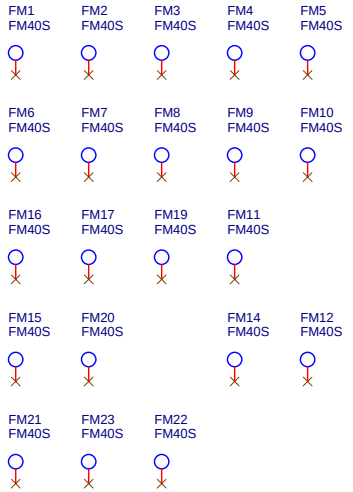


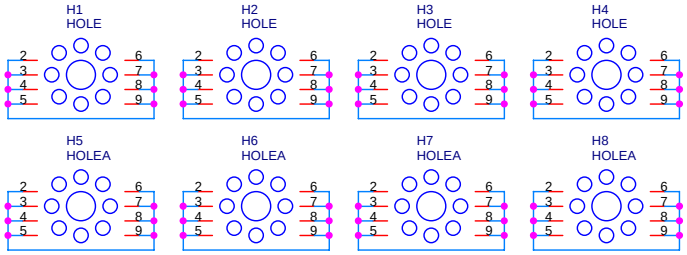












DMP ELECTRONICS INC.		
Title: BYPASS		
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