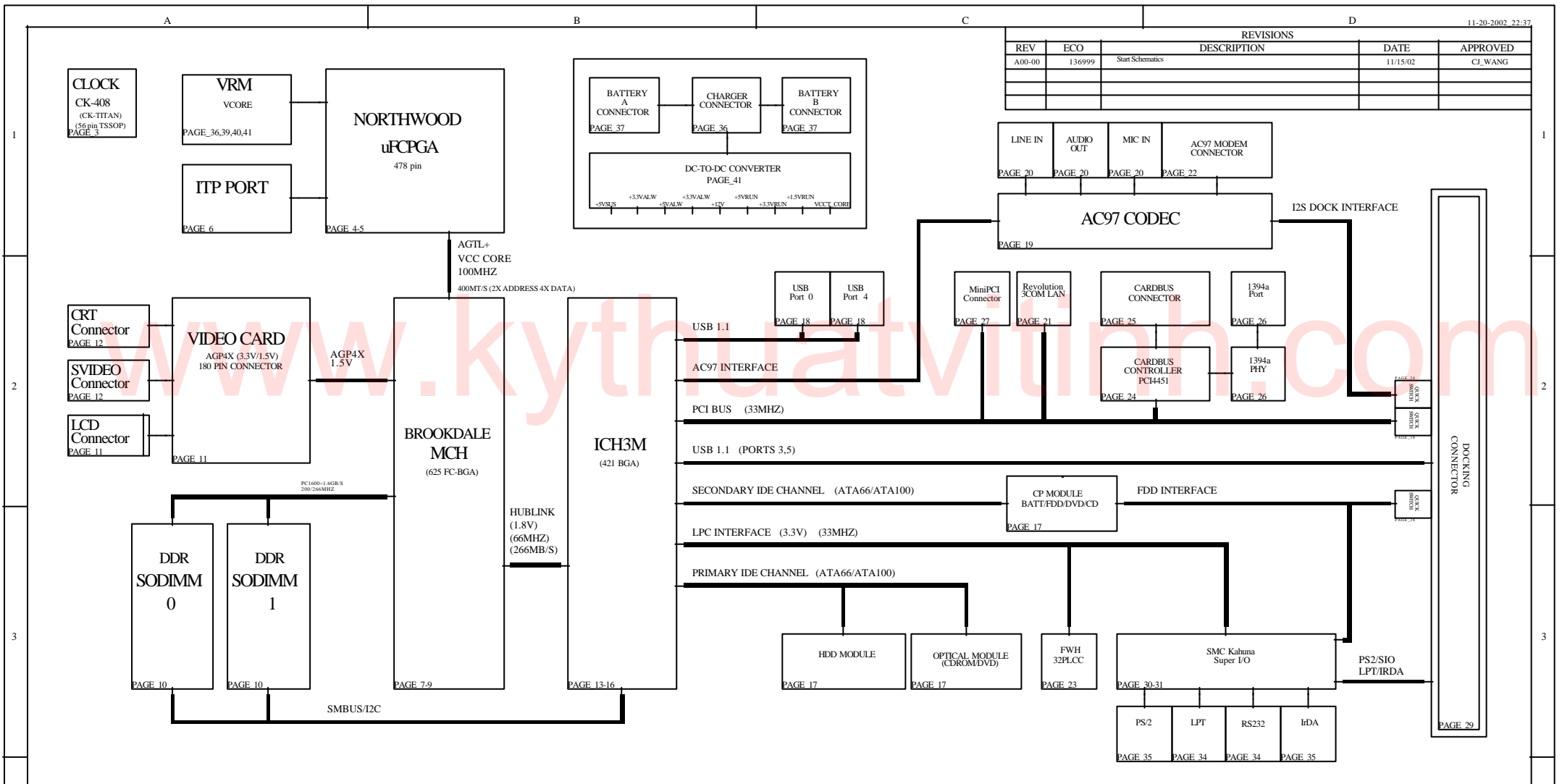


REVISIONS				
REV	ECO	DESCRIPTION	DATE	APPROVED
A00-00	136999	Start Schematics	11/15/02	CJ_WANG



PARTS

- ASSY.PWA.MN.NV28.M50 (9Y422)
- └ PWA.PLN.MN.NV28.M50 (9Y422)
- └ ASSEMBLY BARCODE LABEL (XXXXXX)
- └ ASSEMBLY REVISION LABEL (XXXXXX)
- └ ASSY.DWG.PLN.MN.NV28.M50 (XXXXXX)
- └ PWB.PLN.MN.CABN (1Y802)
- └ SCHEM.PLN.MN.NV28.M50 (C0370)

BOM ADDS APPEAR ON PAGE 42.

- This design requires a font mapping of Fixed to scalable Arial with a scaling factor of 1.0
- Please remember when copying project files that you must include both the symbols and the schematics

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DELL COMPUTER CORPORATION AUSTIN, TEXAS

TITLE: SCHEMATIC, M/B LA-1221

DWG NO: 401195 REV: 4A

DATE: 11/15/02 SHEET: 52 OF 102

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- 46-50. REFDES Page Index

NEEDS TO BE UPDATED

POWER MODES

Power Mode	Voltage	Page	Source	ON	OFF
RBATT	7.2V	32, 36		Always	
PBATT+	1.7V-13V	36, 37, CB - 3		Always	
SBATT+	1.7V-13V	36, 37, CB - 3		Always	
DOCK DC IN	20V	29, 36		Always	
DC IN	20V	29, 36, CB - 2, 3		Always	
SDC IN	20V	CB - 2, 3		Always	
V_CHG	15V-17.5V	CB - 2		Note 1	
PWR_SRC	7.2V-20V	8, 11, 29, 36, 38, 39, 40, 41		Always	
RTCRC	7.2V-20V	36, 39		Always	
3VSUS	3.3V	4, 6, 10-16, 18, 21-25, 27, 30-31, 35, 38-41		S1-S3	S4-S5
RTC_PWR	5V	36, 38, 39, 41, 42		Always	
5VSUS	5V	8, 11, 16, 18-19, 22, 25, 29, 33-35, 38-42		S1-S3	S4-S5
2_VSUS	2.5V	8, 10, 39		S1-S3	S4-S5
VCC_CORE	0.6V-1.75V	4, 5, 9, 16, 23, 38, 40		S1-S2	S3-S5
12V	12V	3, 11, 25, 29, 33, 36, 38, 41		S1-S2	S3-S5
DOCK_PWR_SRC	13V-20V	29	Docked ALW		
3VRUN	3.3V	3, 4, 6, 11, 13-14, 16-17, 19, 21-23, 26-28, 30-31, 33, 35, 38		S1-S2	S3-S5
VAUX	3.3V	27	Note 2	Note 2	
1VSUS	1.8V	16, 38, 39		S1-S3	S4-S5
18VRUN	1.8V	7, 8, 9, 13, 16, 38		S1-S2	S3-S5
5VRUN	5V	6, 11-12, 16-17, 20, 27-28, 30, 32-35, 38, 42		S1-S2	S3-S5
5VHDD	5V	17, 38		S1-S2	S3-S5
5VMOD	5V	17, 38		S1-S2	S3-S5
1SVRUN	1.5V	7, 9, 11, 38, 39		S1-S2	S3-S5
STRB_5V	5V	29, 34, 38		S1-S2	S3-S5
VBEHCG	0.7V	11		S1-S2	S3-S5
V_1P25V_DDR_VTT	1.25V	8, 10, 11, 38, 39		S1-S2	S3-S5
CRF_VCC	1.2V	12, 36		S1-S2	S3-S5
SV_ODOCK	5V	28, 30		S1-S2	S3-S5
5VEDDPP	5V	17, 31, 38		S1-S2	S3-S5
5VSUS_DOCKED	5V	29	Docked S1-S3	Docked S4-S5	
USB_PWR_04	5V	18		S1-S2	S3-S5
VDDA	4.65V	19, 20		S1-S2	S3-S5
VDDA2	2.5V	19, 20		S1-S2	S3-S5
1.2V_VCCVID	1.2V	4, 40		S1-S3	S4-S5
5VALW	5V	11, 29, 30-32, 35-37, 39, 41		Note 4	Note 4
3VVRTC	3.3V	16, 31, 36, 39, 41		Always	
3VALW	3.3V	6, 17, 30, 32, 35, 36, 39, 41		Note 4	Note 4
VCC_RTC	3.3V	14, 16		Always	Note 4
ICH_VBIAS	3.3V	14, 16		S1-S2	S3-S5
3VPHYD	3.3V	26		S1-S2	S3-S5
3VPHYA	3.3V	26		S1-S2	S3-S5
CK_VDD_MAIN	3.3V	3		S1-S2	S3-S5
CK_VDD_CORE	3.3V	3		S1-S2	S3-S5
V_3P3_LAN	3.3V	21, 22		S1-S3	S4-S5
V_3P3_LAN_VDDTX	3.3V	21		S1-S3	S4-S5
V_3P3_LAN_VDDRX	3.3V	21		S1-S3	S4-S5
V_MCH_GTLREF	0.675VCC_CORE	8		S1-S2	S3-S5
S1_VPP	0V-12V _{Note A}	25		S1-S3	S4-S5
S2_VPP	0V-12V _{Note A}	25		S1-S3	S4-S5
S1_VCC	0V-5V _{Note A}	24, 25		S1-S3	S4-S5
S2_VCC	0V-5V _{Note A}	24, 25		S1-S3	S4-S5
S1_VCCF	0V-5V _{Note A}	24, 25		S1-S3	S4-S5
S2_VCCF	0V-5V _{Note A}	24, 25		S1-S3	S4-S5
HL_REF	0.9V	8, 13		S1-S2	S3-S5
H_VCCA	1.2V	4		S1-S3	S4-S5
H_VCCIOPLL	1.2V	4		S1-S3	S4-S5
H_GTLREF	0.675VCC_CORE	4		S1-S2	S3-S5
H_VSSA	1.2V	4		S1-S3	S4-S5
V_DDR_MCH_REF	1.25V	8, 10, 39		S1-S3	S4-S5

Note A Voltage delivered to these pins is determined from the type card inserted to the PCMCIA controller.

Note 1 Rail is available anytime AC and BATTERY are both present, and the BIOS is not inhibiting charge

Note 2	NB powered by AC	VAUX	S1-S3	S4-S5
	NB powered by BATT	VAUX	S1-S2	S3-S5

Note 3 Rail is available anytime the HEADPHONE Jack is occupied

Note 4	NB powered by AC	3VALW	Always	
	NB powered by BATT	3VALW	S1-S3	S4-S5
	NB powered by AC	5VALW	Always	
	NB powered by BATT	5VALW	S1-S3	S4-S5

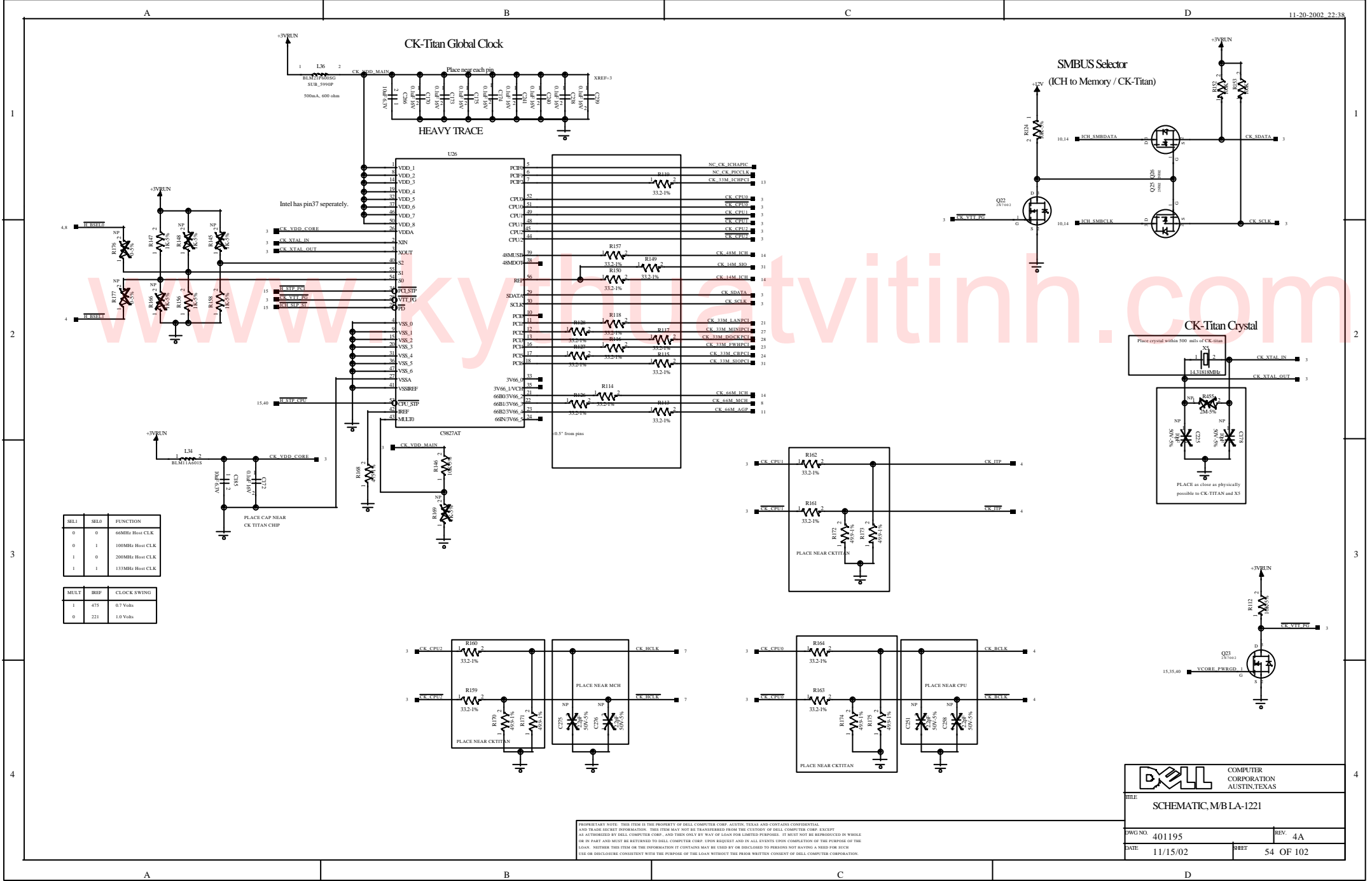
PCI TABLE

DEVICE	IDSEL	IRQ	REQ/GNT	DREQ/DGNT
DOCK	AD24	PIRQC*		REQ0*/GNT0*
3COM	AD16	PIRQC*		REQ4*/GNT4*
VIDEO	IDSEL	PIRQA* PIRQB*		
PCI4451	AD17	PIRQD*	REQB*/GNTB*	REQ1*/GNT1*
M3i	AD18	PIRQA*	REQA*/GNTA*	REQ2*/GNT2*
MINIPCI	AD19	PIRQB* PIRQD*		REQ3*/GNT3*

BOM BUILD OPTIONS	
Option	Description
0	Base Build
1	FDD_PP

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SEL0	SEL1	FUNCTION
0	0	66MHz Host CLK
0	1	100MHz Host CLK
1	0	200MHz Host CLK
1	1	133MHz Host CLK

MULT	REF	CLOCK SWING
1	475	0.7 Volts
0	221	1.0 Volts

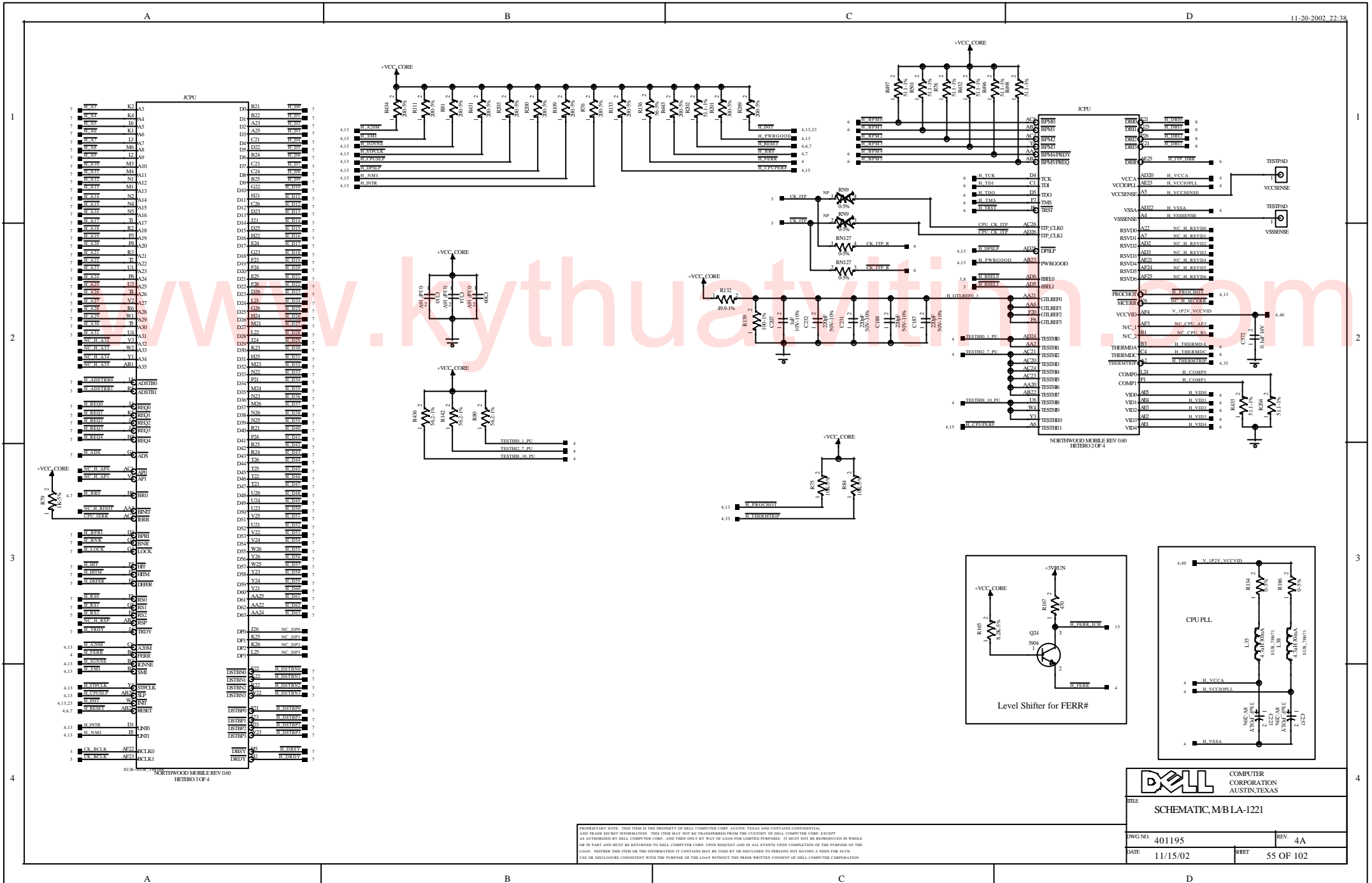
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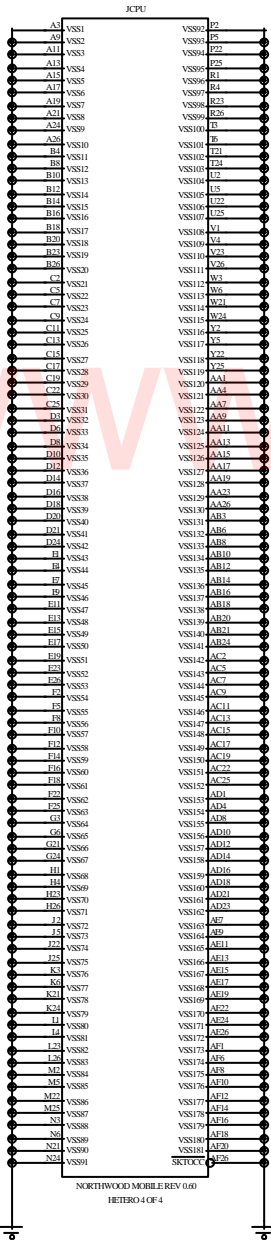
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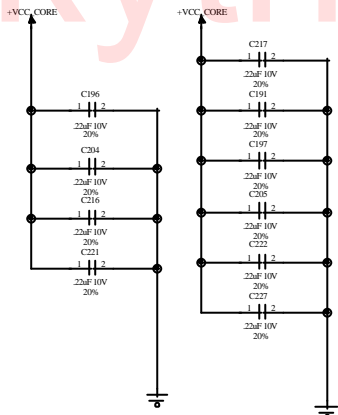


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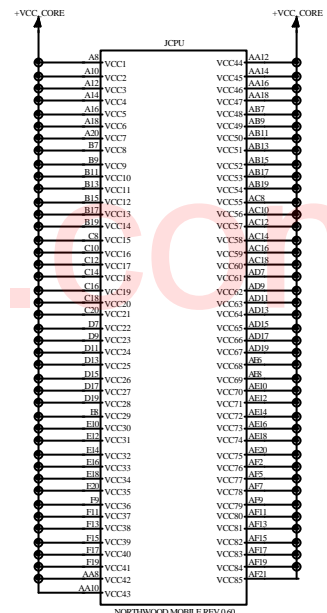
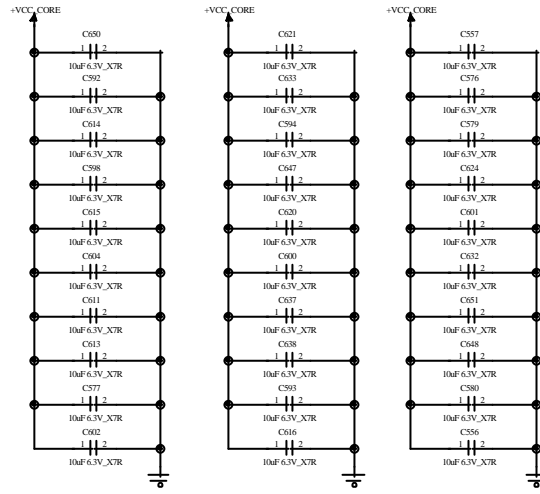
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CPU High Frequency Decoupling



CPU Bulk Decoupling



Place caps close to CPU
ALL CAPS NEED TO BE PLACED
DIRECTLY UNDER CPU WHEN
POSSIBLE USE TWO VIAS/PAD

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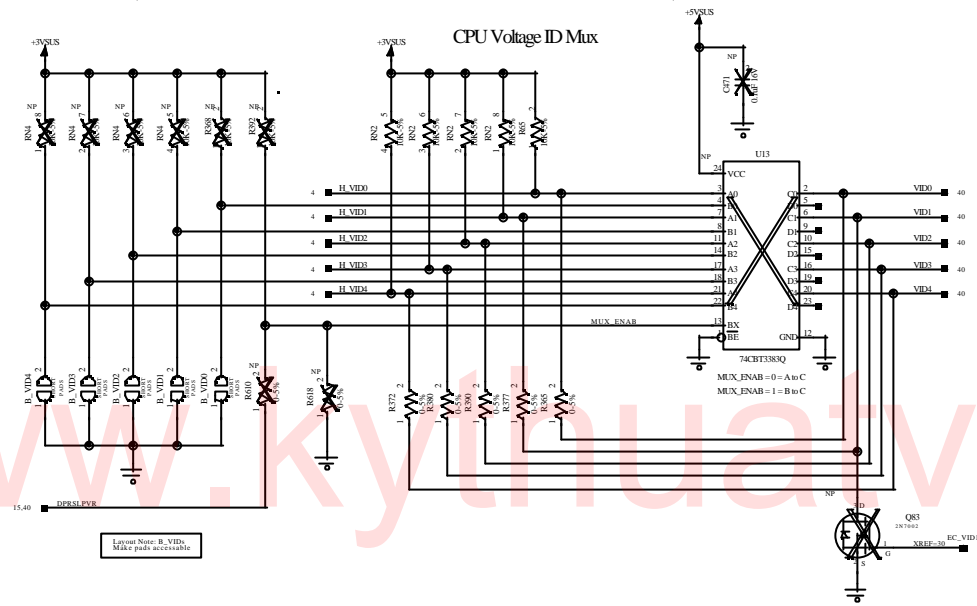
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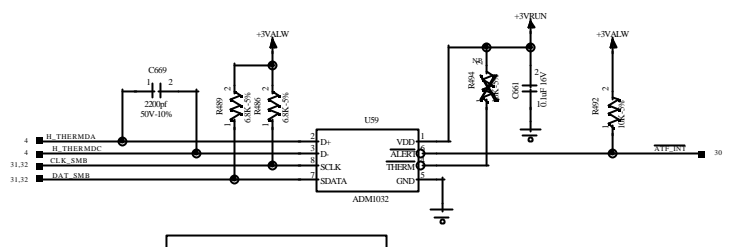
O = pads open
S = pads shorted

B_VID Settings				B_VID Settings					
4	2	1	0	VCC_CORE	4	2	1	0	VCC_CORE
S	S	S	S	1.750V	O	S	S	S	0.9750V
S	S	S	S	1.700V	O	S	S	S	0.950V
S	S	S	S	1.650V	O	S	S	S	0.925V
S	S	S	S	1.600V	O	S	S	S	0.900V
S	S	S	S	1.550V	O	S	S	S	0.875V
S	S	S	S	1.500V	O	S	S	S	0.850V
S	S	S	S	1.450V	O	S	S	S	0.825V
S	S	S	S	1.400V	O	S	S	S	0.800V
S	S	S	S	1.350V	O	S	S	S	0.775V
S	S	S	S	1.300V	O	S	S	S	0.750V
S	S	S	S	1.250V	O	S	S	S	0.725V
S	S	S	S	1.200V	O	S	S	S	0.700V
S	S	S	S	1.150V	O	S	S	S	0.675V
S	S	S	S	1.100V	O	S	S	S	0.650V
S	S	S	S	1.050V	O	S	S	S	0.625V
S	S	S	S	1.000V	O	S	S	S	0.600V



Layout Note: B_VID, Make pads accessible

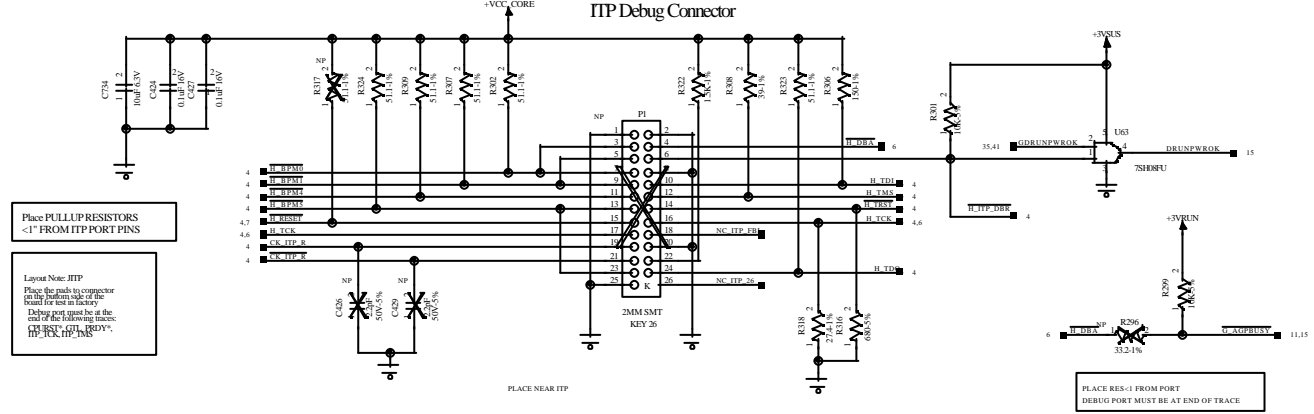
CPU Temperature Sensor



Layout Note: CPU Temperature Sensor Place this circuit on the bottom side of the mainboard

Circuit Not Complete. Pending input from Intel.

ITP Debug Connector



Place PULL UP RESISTORS <1> FROM ITP PORT PINS

Layout Note: ITP Place the pads to connector on the bottom side of the board for test in factory. Delivery pins are at the end of the following traces: ITP_RX, ITP_TX, ITP_0V, ITP_1V

Place RES-1 FROM PORT DEBUG PORT MUST BE AT END OF TRACE

ITP Population Matrix

Ref. Des.	ITP Used	ITP Not Used
R264	510 ohms	1.5k
R255	pop	no pop
R257	pop	no pop
R265	no pop	1k pull-down
R258	pop	no pop
R140 (p.7)	pop	no pop
R249	pop	no pop
R248	pop	no pop
R280	no pop	no pop
R281	pop	no pop
R279	pop	no pop
R278	pop	no pop
R283	pop	no pop
R275	pop	no pop
R273	pop	no pop
R256	39 ohms	1k
R251	no pop	pop
R271	pop	no pop
R263	pop	no pop
R272	pop	pop

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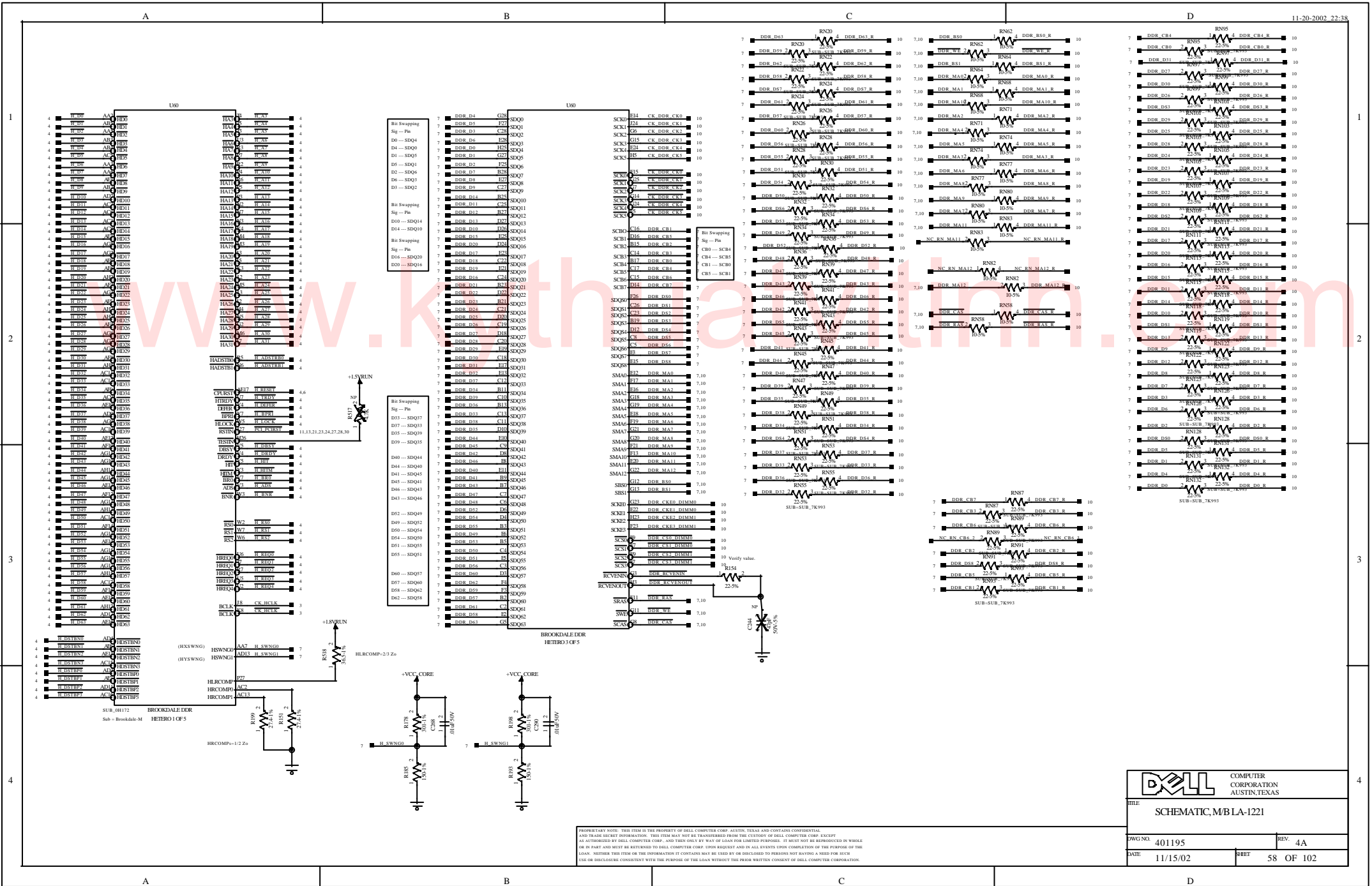
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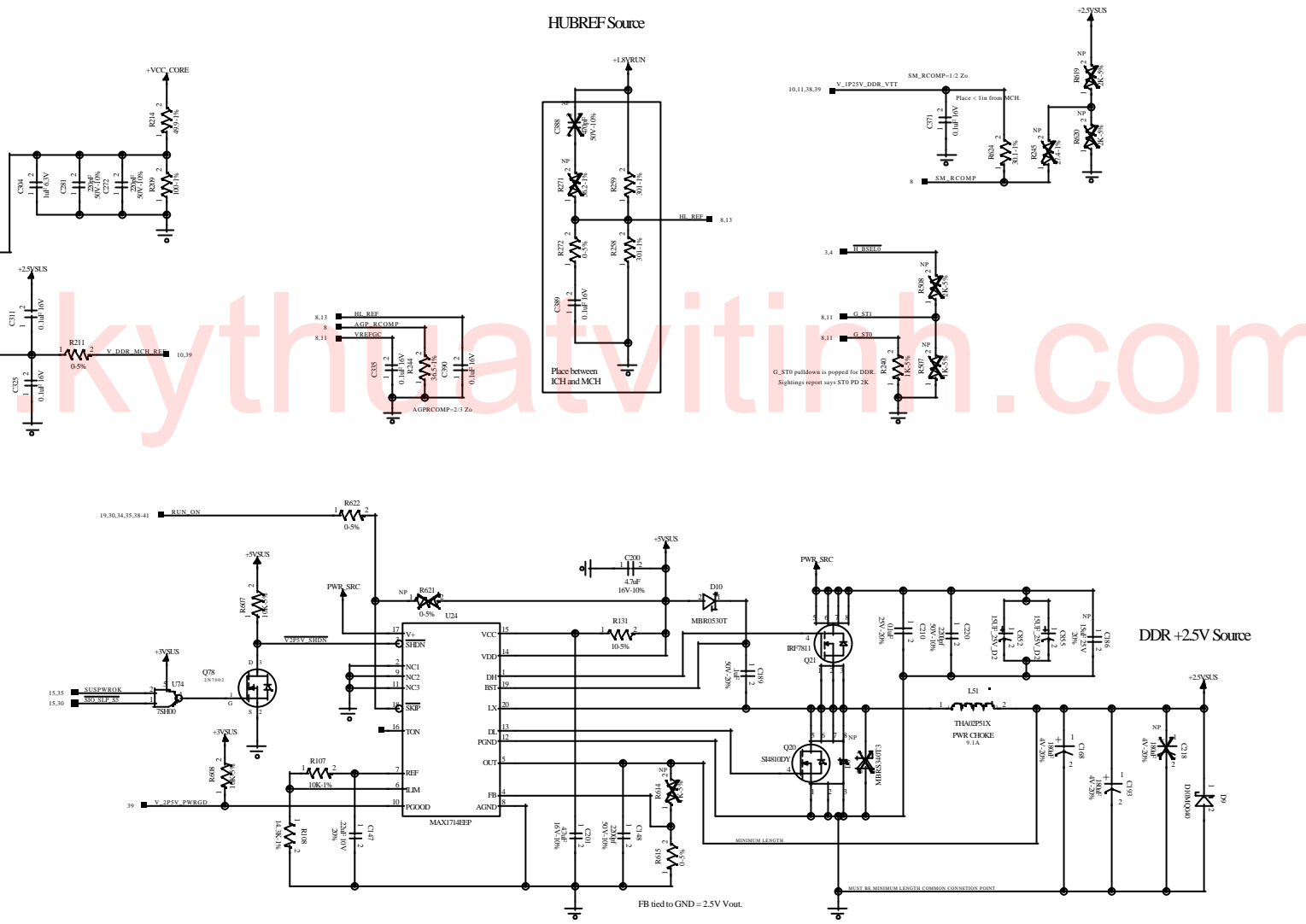


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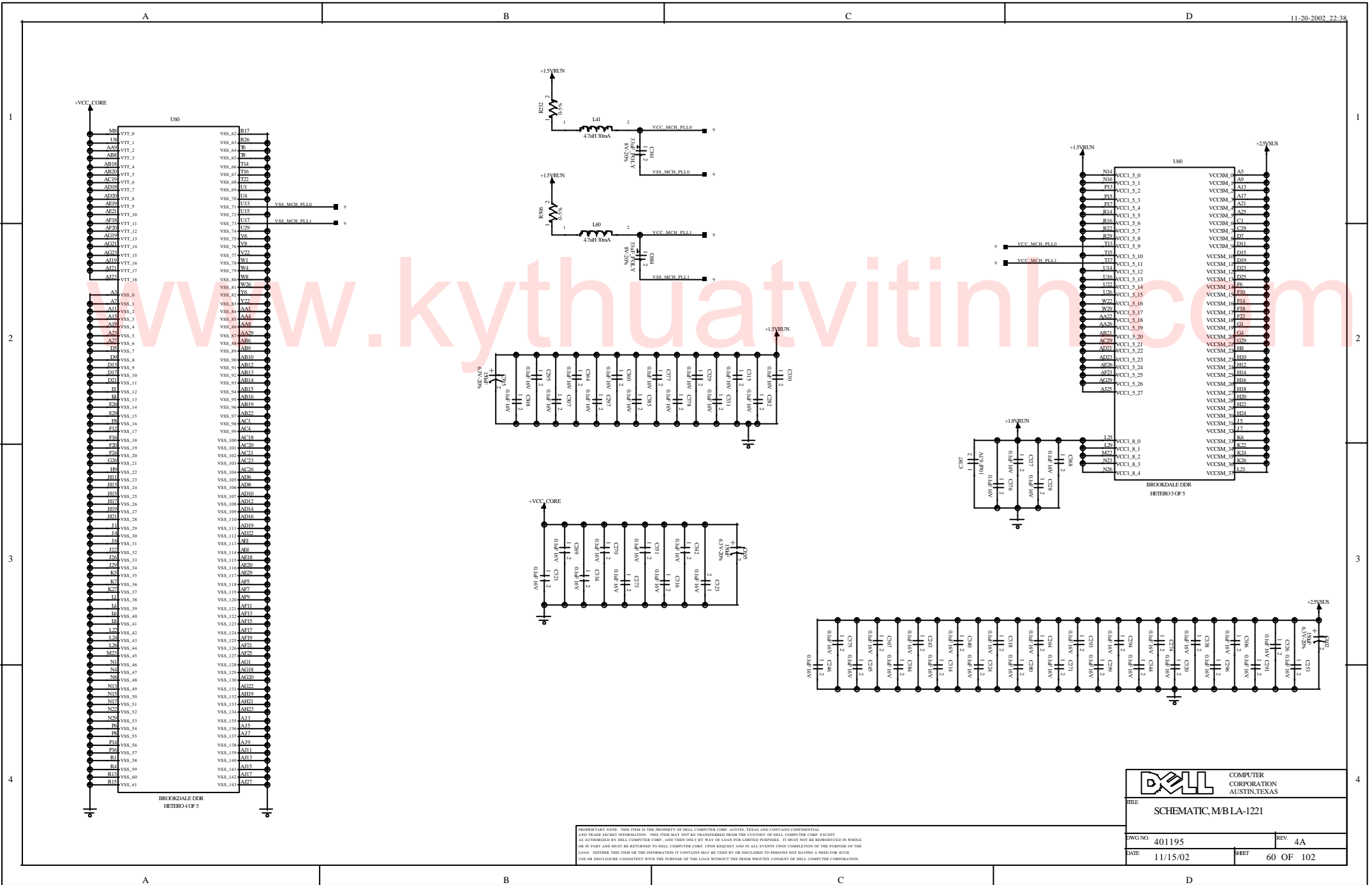
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11	G_AD0	R27	G_AD0	HL_D	D25	HL_HL0	13
11	G_AD1	R28	G_AD1	HL_D	D26	HL_HL1	13
11	G_AD2	R29	G_AD2	HL_D	D27	HL_HL2	13
11	G_AD3	R30	G_AD3	HL_D	D28	HL_HL3	13
11	G_AD4	T26	G_AD4	HL_D	D29	HL_HL4	13
11	G_AD5	T27	G_AD5	HL_D	D30	HL_HL5	13
11	G_AD6	T28	G_AD6	HL_D	D31	HL_HL6	13
11	G_AD7	T29	G_AD7	HL_D	D32	HL_HL7	13
11	G_AD8	V26	G_AD8	HL_D	D33	HL_HL8	13
11	G_AD9	V27	G_AD9	HL_D	D34	HL_HL9	13
11	G_AD10	T30	G_AD10	HL_D	D35	HL_HL10	13
11	G_AD11	T31	G_AD11	HL_D	D36	HL_HL11	13
11	G_AD12	T32	G_AD12	HL_D	D37	HL_HL12	13
11	G_AD13	T33	G_AD13	HL_D	D38	HL_HL13	13
11	G_AD14	T34	G_AD14	HL_D	D39	HL_HL14	13
11	G_AD15	V28	G_AD15	HL_D	D40	HL_HL15	13
11	G_AD16	V29	G_AD16	HL_D	D41	HL_HL16	13
11	G_AD17	V30	G_AD17	HL_D	D42	HL_HL17	13
11	G_AD18	A28	G_AD18	HL_D	D43	HL_HL18	13
11	G_AD19	A29	G_AD19	HL_D	D44	HL_HL19	13
11	G_AD20	A30	G_AD20	HL_D	D45	HL_HL20	13
11	G_AD21	A31	G_AD21	HL_D	D46	HL_HL21	13
11	G_AD22	A32	G_AD22	HL_D	D47	HL_HL22	13
11	G_AD23	Y31	G_AD23	HL_D	D48	HL_HL23	13
11	G_AD24	A33	G_AD24	HL_D	D49	HL_HL24	13
11	G_AD25	A34	G_AD25	HL_D	D50	HL_HL25	13
11	G_AD26	A35	G_AD26	HL_D	D51	HL_HL26	13
11	G_AD27	A36	G_AD27	HL_D	D52	HL_HL27	13
11	G_AD28	A37	G_AD28	HL_D	D53	HL_HL28	13
11	G_AD29	Y32	G_AD29	HL_D	D54	HL_HL29	13
11	G_AD30	A38	G_AD30	HL_D	D55	HL_HL30	13
11	G_AD31	A39	G_AD31	HL_D	D56	HL_HL31	13
11	G_AD32	A40	G_AD32	HL_D	D57	HL_HL32	13
11	G_AD33	A41	G_AD33	HL_D	D58	HL_HL33	13
11	G_AD34	A42	G_AD34	HL_D	D59	HL_HL34	13
11	G_AD35	A43	G_AD35	HL_D	D60	HL_HL35	13
11	G_AD36	A44	G_AD36	HL_D	D61	HL_HL36	13
11	G_AD37	A45	G_AD37	HL_D	D62	HL_HL37	13
11	G_AD38	A46	G_AD38	HL_D	D63	HL_HL38	13
11	G_AD39	A47	G_AD39	HL_D	D64	HL_HL39	13
11	G_AD40	A48	G_AD40	HL_D	D65	HL_HL40	13
11	G_AD41	A49	G_AD41	HL_D	D66	HL_HL41	13
11	G_AD42	A50	G_AD42	HL_D	D67	HL_HL42	13
11	G_AD43	A51	G_AD43	HL_D	D68	HL_HL43	13
11	G_AD44	A52	G_AD44	HL_D	D69	HL_HL44	13
11	G_AD45	A53	G_AD45	HL_D	D70	HL_HL45	13
11	G_AD46	A54	G_AD46	HL_D	D71	HL_HL46	13
11	G_AD47	A55	G_AD47	HL_D	D72	HL_HL47	13
11	G_AD48	A56	G_AD48	HL_D	D73	HL_HL48	13
11	G_AD49	A57	G_AD49	HL_D	D74	HL_HL49	13
11	G_AD50	A58	G_AD50	HL_D	D75	HL_HL50	13
11	G_AD51	A59	G_AD51	HL_D	D76	HL_HL51	13
11	G_AD52	A60	G_AD52	HL_D	D77	HL_HL52	13
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11	G_AD56	A64	G_AD56	HL_D	D81	HL_HL56	13
11	G_AD57	A65	G_AD57	HL_D	D82	HL_HL57	13
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11	G_AD59	A67	G_AD59	HL_D	D84	HL_HL59	13
11	G_AD60	A68	G_AD60	HL_D	D85	HL_HL60	13
11	G_AD61	A69	G_AD61	HL_D	D86	HL_HL61	13
11	G_AD62	A70	G_AD62	HL_D	D87	HL_HL62	13
11	G_AD63	A71	G_AD63	HL_D	D88	HL_HL63	13
11	G_AD64	A72	G_AD64	HL_D	D89	HL_HL64	13
11	G_AD65	A73	G_AD65	HL_D	D90	HL_HL65	13
11	G_AD66	A74	G_AD66	HL_D	D91	HL_HL66	13
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11	G_AD68	A76	G_AD68	HL_D	D93	HL_HL68	13
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11	G_AD78	A86	G_AD78	HL_D	D103	HL_HL78	13
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11	G_AD84	A92	G_AD84	HL_D	D109	HL_HL84	13
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11	G_AD93	A101	G_AD93	HL_D	D118	HL_HL93	13
11	G_AD94	A102	G_AD94	HL_D	D119	HL_HL94	13
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11	G_AD97	A105	G_AD97	HL_D	D122	HL_HL97	13
11	G_AD98	A106	G_AD98	HL_D	D123	HL_HL98	13
11	G_AD99	A107	G_AD99	HL_D	D124	HL_HL99	13
11	G_AD100	A108	G_AD100	HL_D	D125	HL_HL100	13



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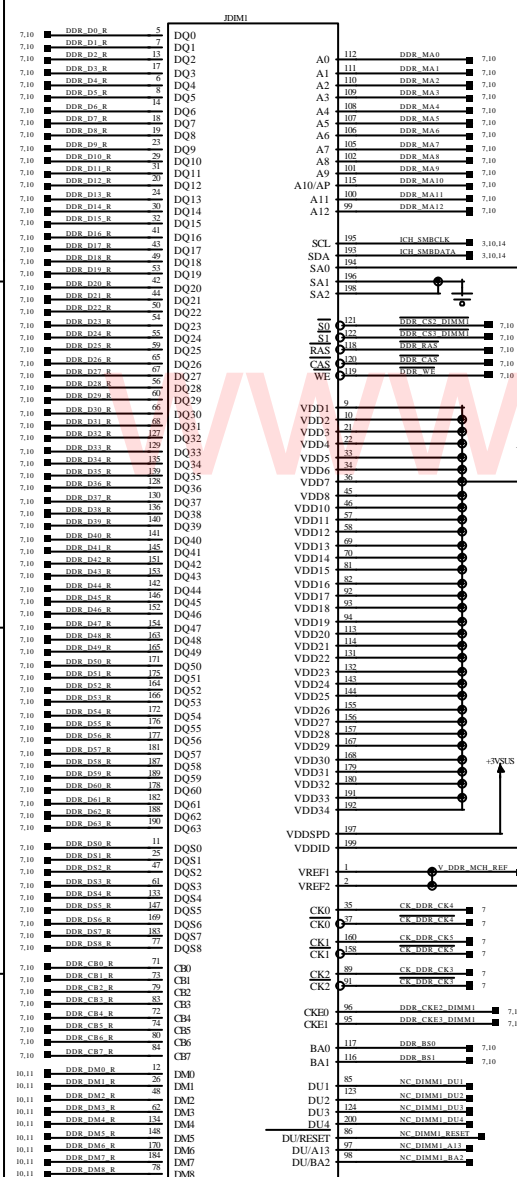
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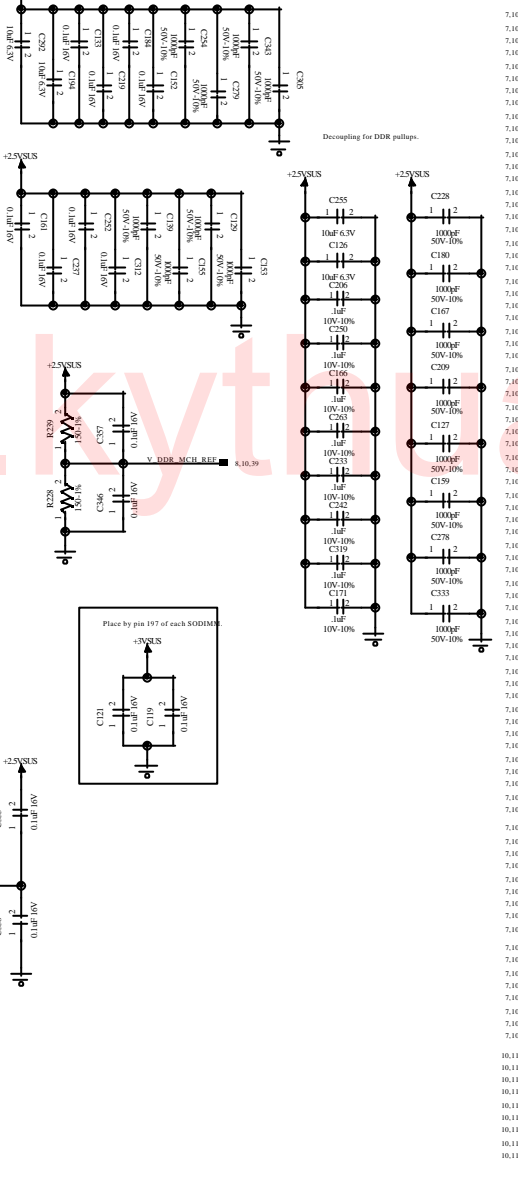
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DIMM1 LOW PROFILE, REVERSE KEY



PC2100 DDR SO-DIMM SKT REVERSE KEY

DIMM0 STANDARD PROFILE



PC2100 DDR SO-DIMM SKT

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COMPUTER CORPORATION
AUSTIN, TEXAS

SCHEMATIC, M/B LA-1221

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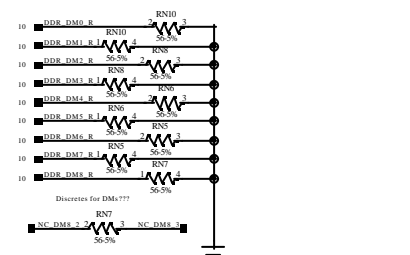
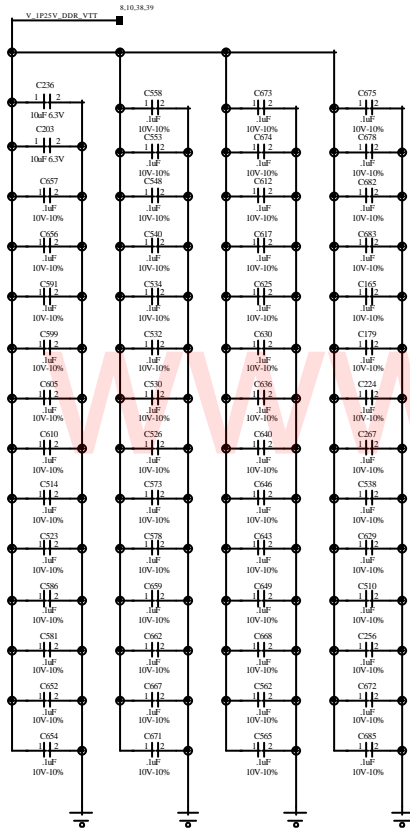
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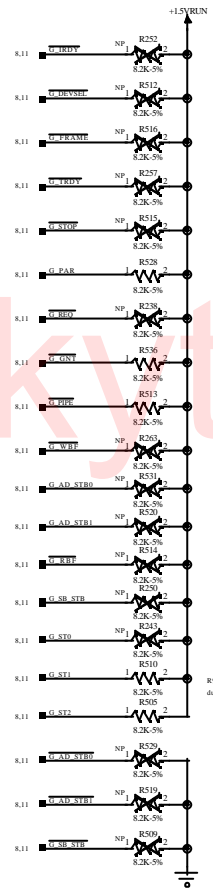
C

D

DDR VTT decoupling.

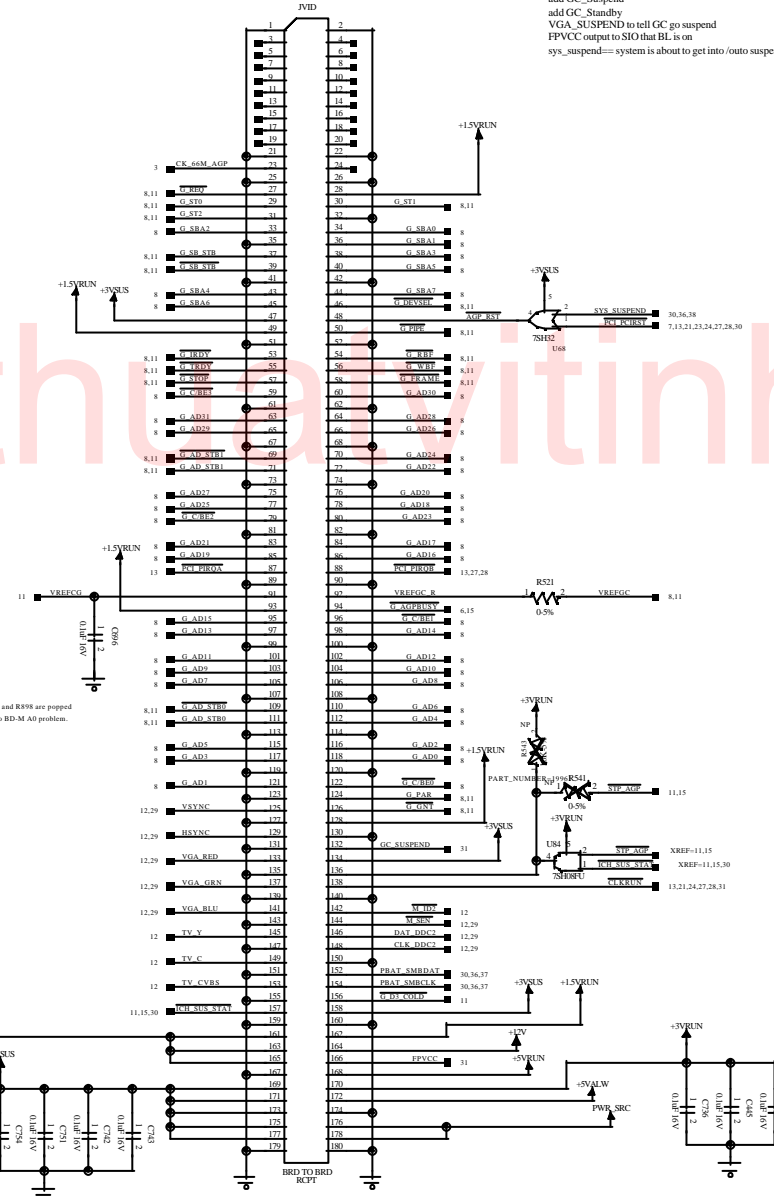


AGP pullups: matches Meteor. Verify pullups in Brookdale.

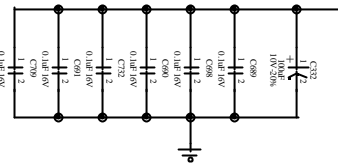


R953 and R956 are popped due to BD-M AD problem.

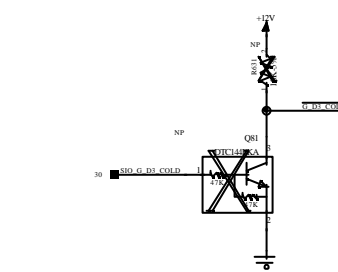
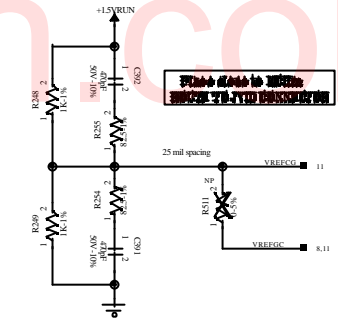
VGA Board Connector



vga-off==vga_suspend
 v_vga==comes from 3VSUS and 5vSus
 add GC_Suspend
 add GC_Standby
 VGA_SUSPEND to tell GC go suspend
 FPVCC output to SIO that BL is on
 sys_suspend== system is about to get into /outo suspend

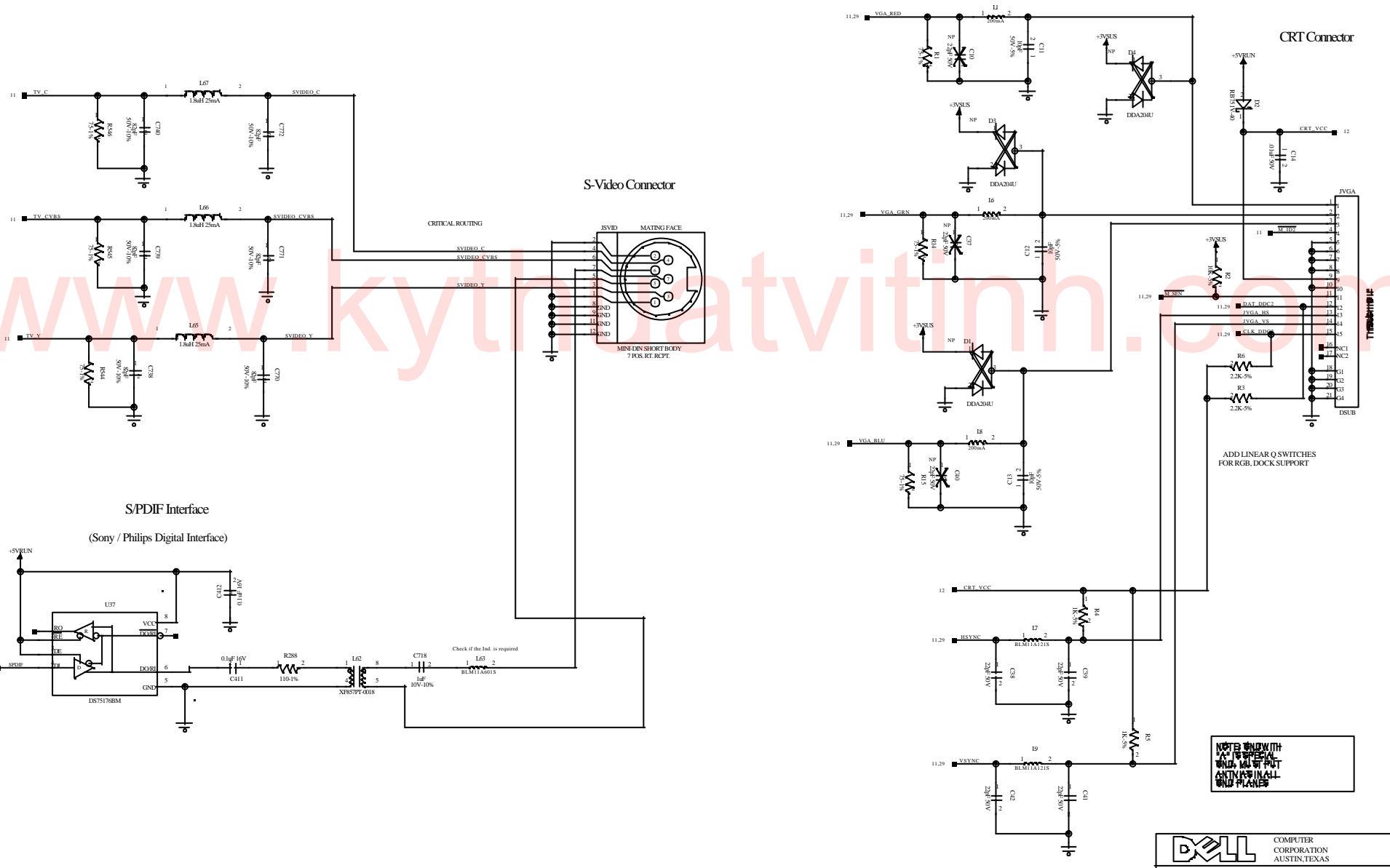


VREFCG Source



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S-Video Connector

S/PDIF Interface
(Sony / Philips Digital Interface)

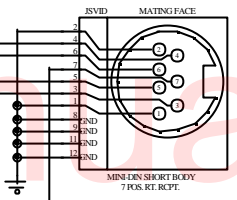
DELL		COMPUTER CORPORATION AUSTIN, TEXAS	
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NOTE: BLENDED WITH
S/PDIF IN SPECIAL
SLOT. MAKE SURE IT
SITS IN THE
SLOT PLANE

ADD LINEAR Q SWITCHES
FOR RGB DOCK SUPPORT

CRITICAL ROUTING



CRT Connector

THUNDERBOLT II

DSUB

3

4

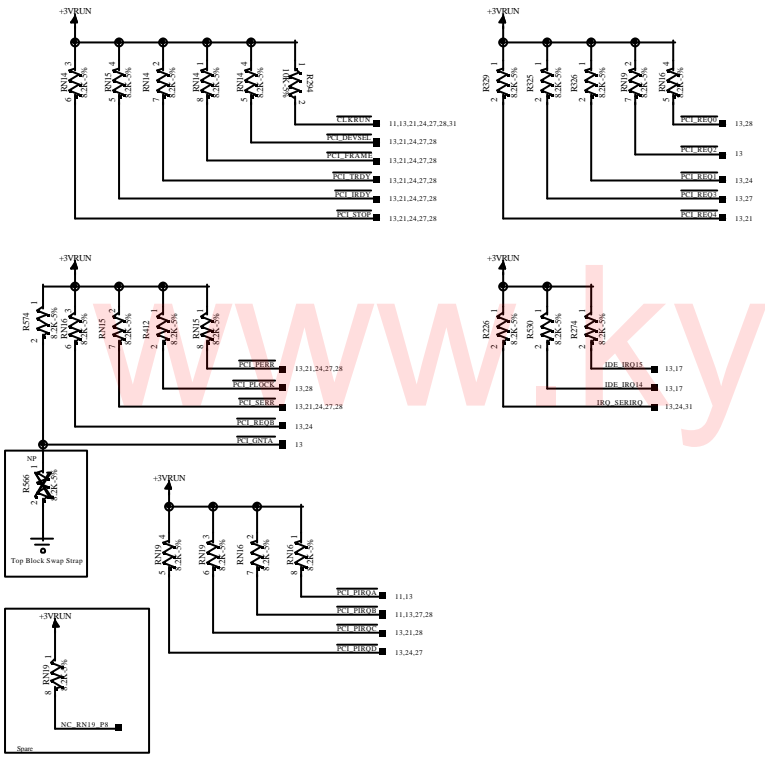
A

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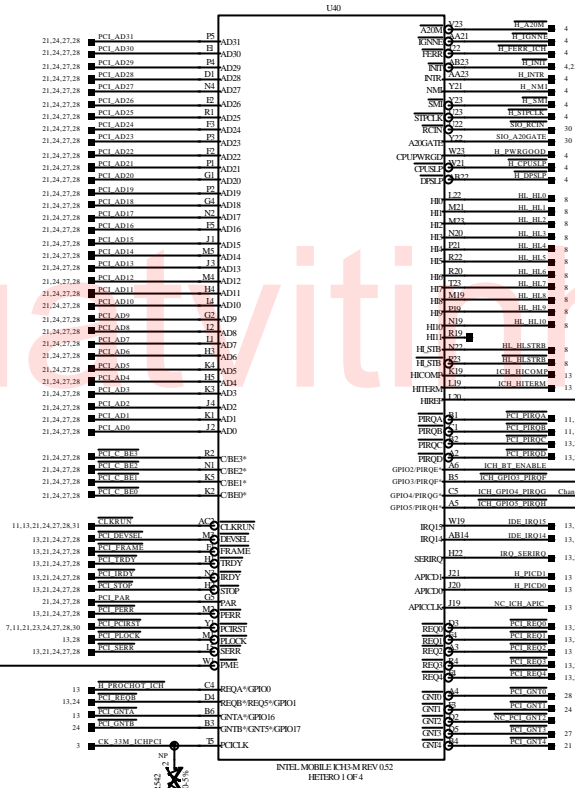
C

D

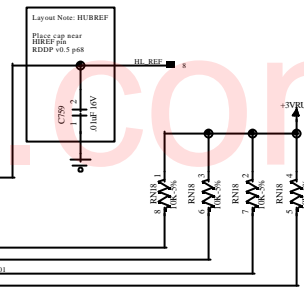
PCI Bus Pull-Ups



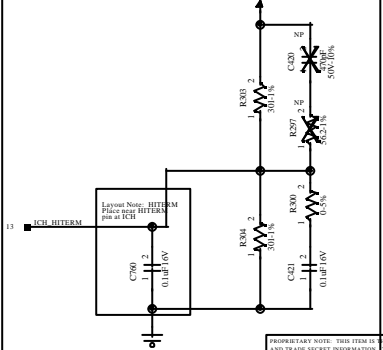
ICH3-M (1/4) PCI/CPU/Hublink Interface



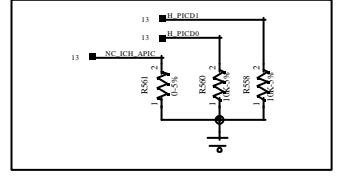
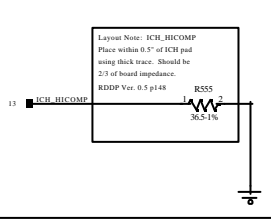
HUB INTERFACE LAYOUT:
ROUTE SIGNALS WITH 5:20 TRACE SPACE.
SIGNALS MUST MATCH +/-0.1" OF "H_STB/STB" SIGNALS.
RDDP Ver. 0.5 p148



Hub Interface Termination Mode Select



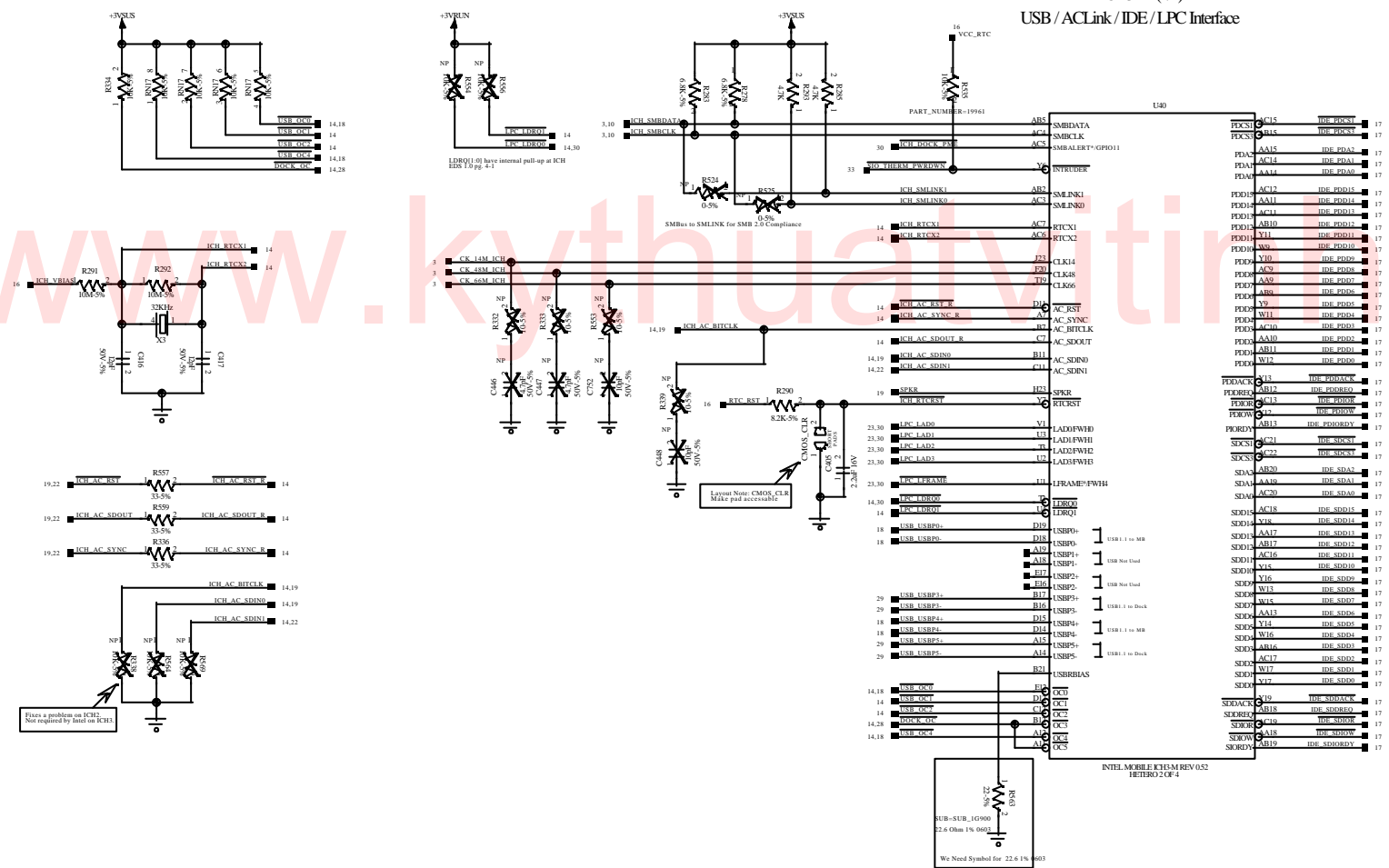
Hub Interface Buffer Compensation



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ICH3-M (2/4) USB / ALink / IDE / LPC Interface



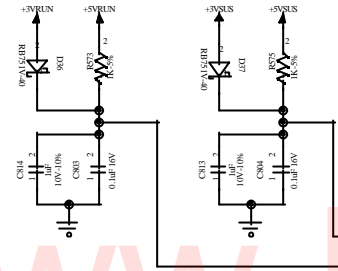
www.keythualtin.com

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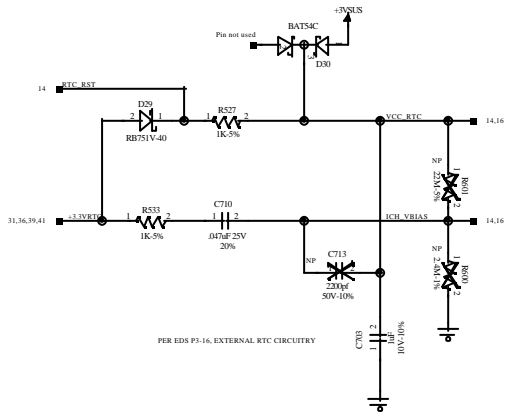
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ICH3-M (44) Power and Ground

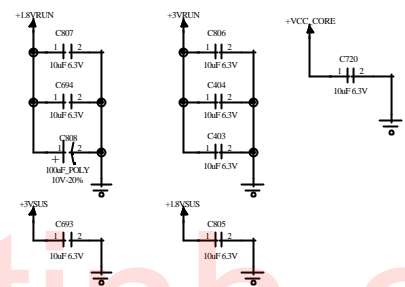
V5REF/VCC3_3 Sequencing Circuits



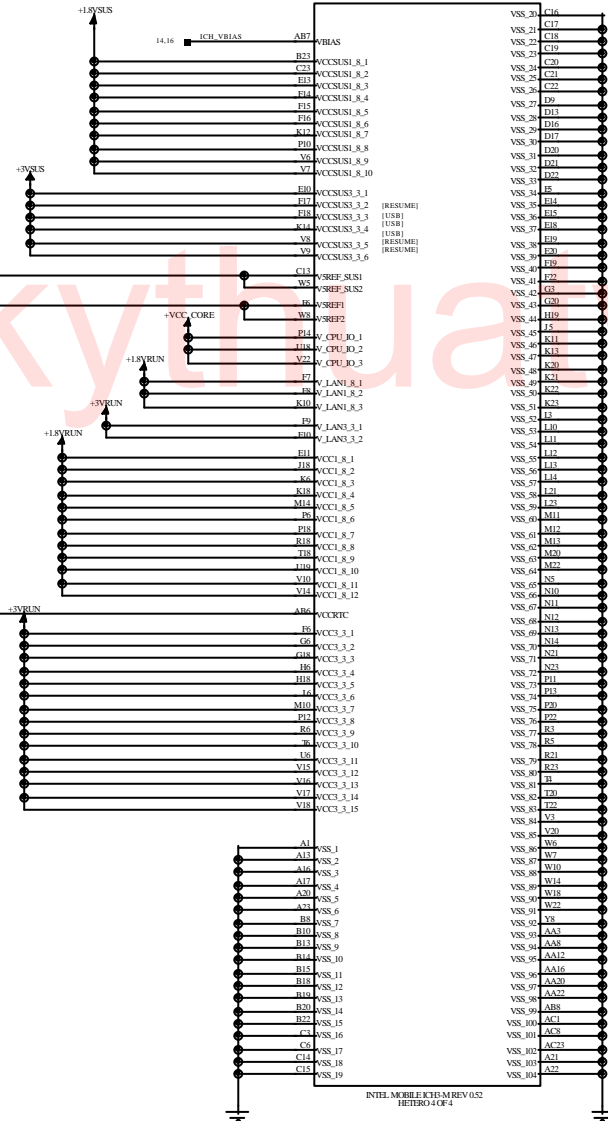
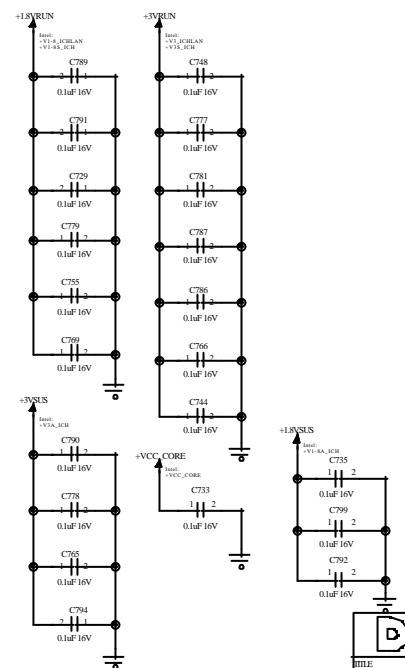
External RTC Circuitry



ICH3 Bulk Capacitance



ICH3 Decoupling Capacitance



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A

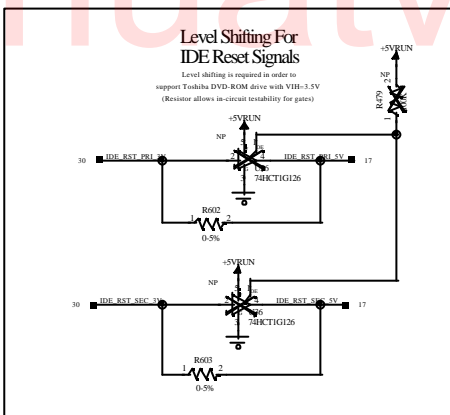
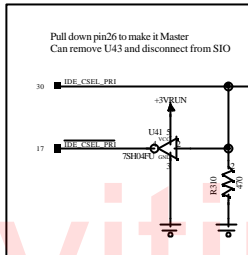
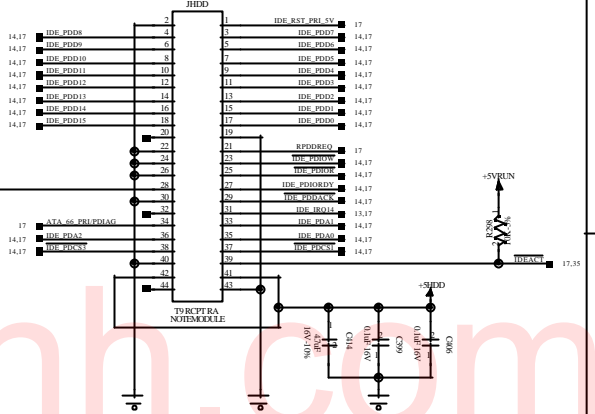
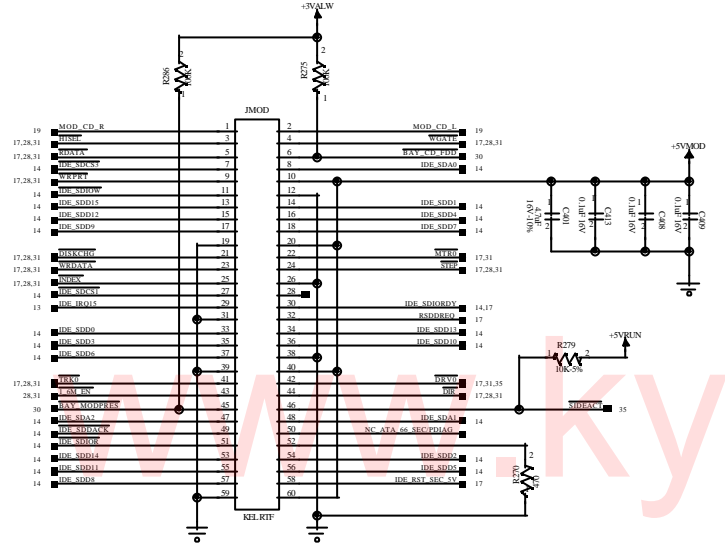
B

C

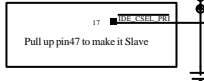
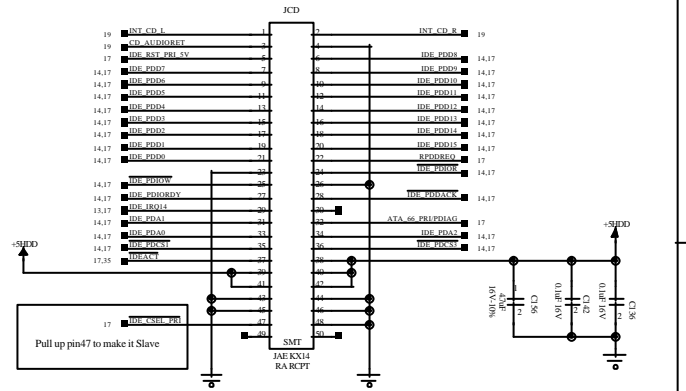
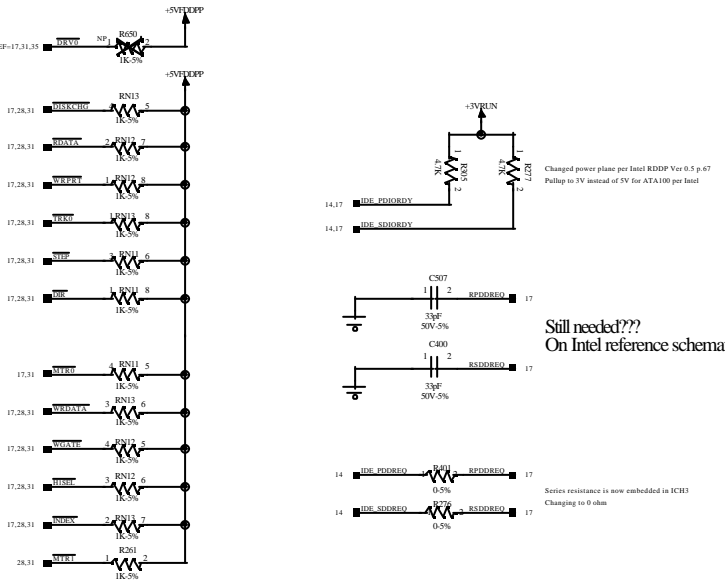
D

Modular Bay Connector

Hard Drive Connector



Optical Bay Connector



Changed power plane per Intel RDDP Ver 0.5 p.67
Pullup to 3V instead of 5V for ATA100 per Intel

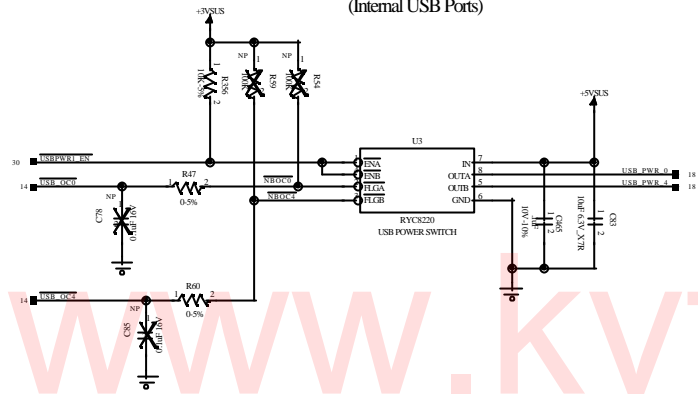
Still needed???
On Intel reference schematic for L2

Series resistance is now embedded in ICH3
Changing to 0 ohm

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Overcurrent Detection
(Internal USB Ports)

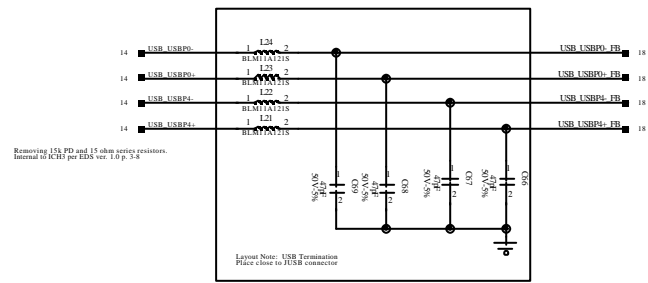


Layout Note: C72
Place a "+" character silkscreen on the board near the non-ground side of this capacitor.

C72 can be populated with either a ceramic (PN 2832P) or tantalum (PN 1033E) type capacitor

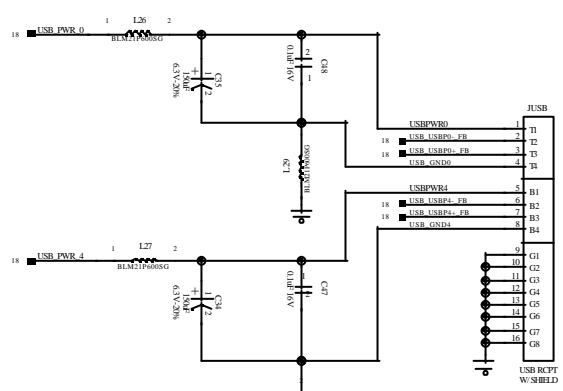
Layout Note: USB1.1
Follow RDDP's routing recommendations
INTEL USB GUIDELINE APPLIES

USB1.1 To System



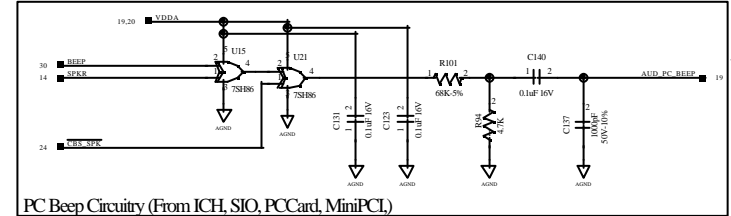
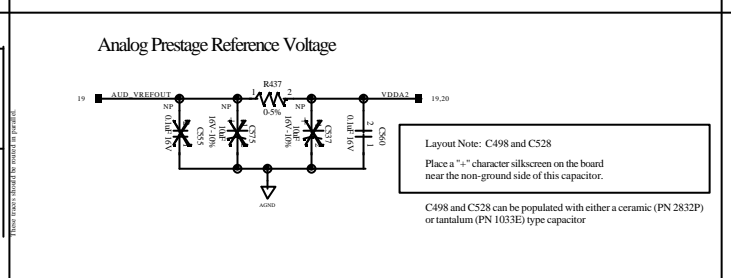
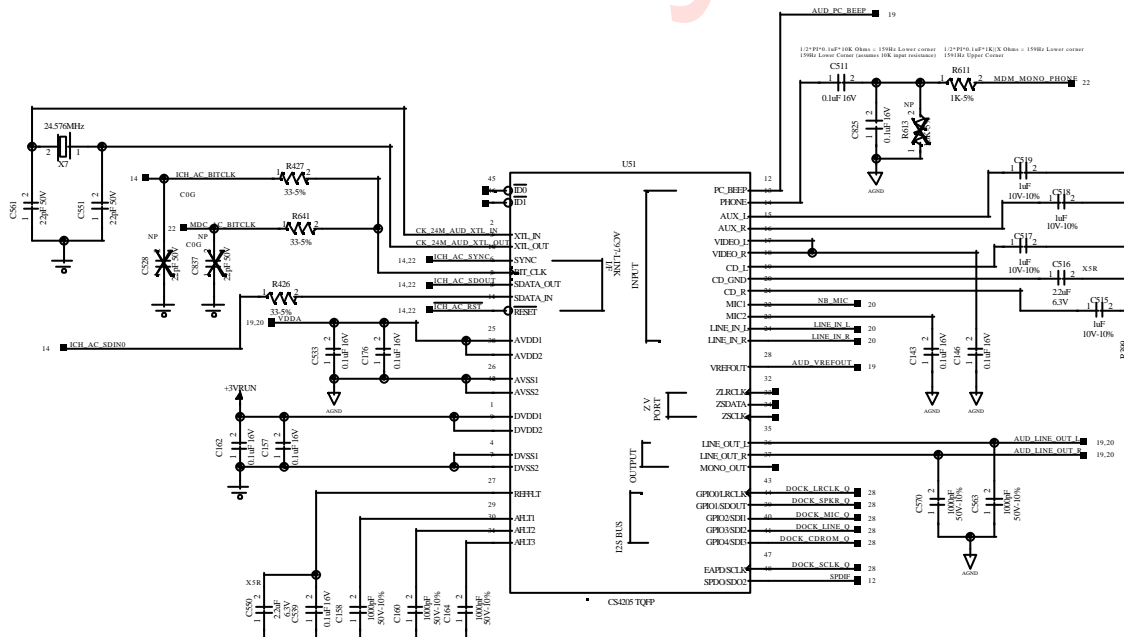
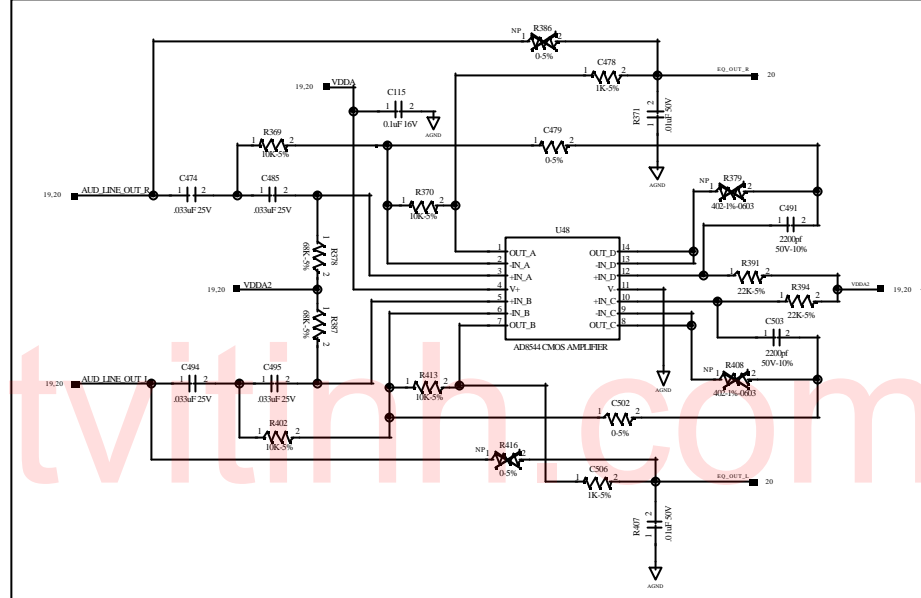
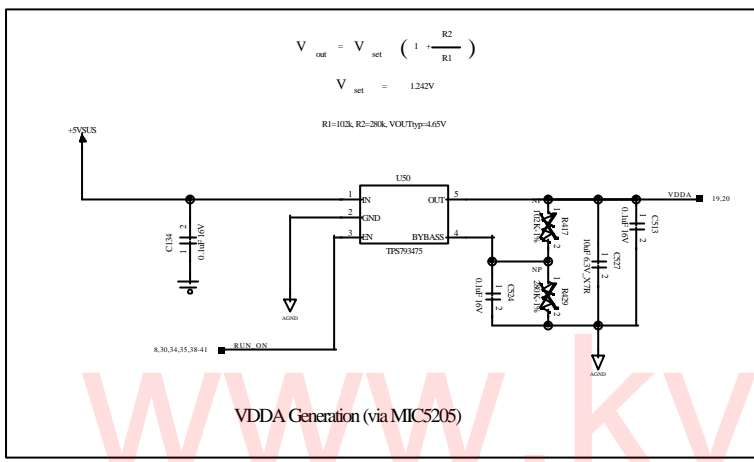
Layout Note: USB Termination
Place close to USB connector

USB1.1 To System
System Board USB Connectors



DELL		COMPUTER CORPORATION AUSTIN, TEXAS	
TITLE SCHEMATIC, M/B LA-1221			
PWG NO. 401195		REV. 4A	
DATE 11/15/02	SHEET 69	OF 102	

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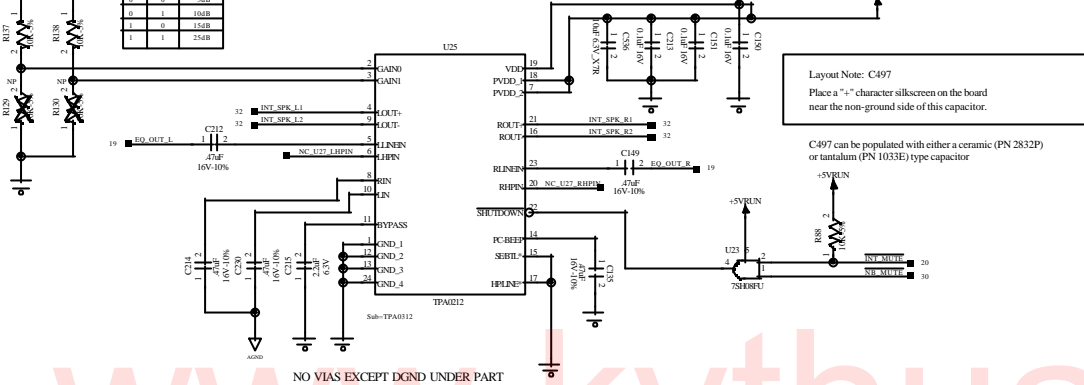
NOTE: ECAD MUST
CONNECT AGND
TO GND (VIA DRAWBRIDGE)!!
60 MIL TRACE AT ONE POINT
ONLY UNDER THE CODEC

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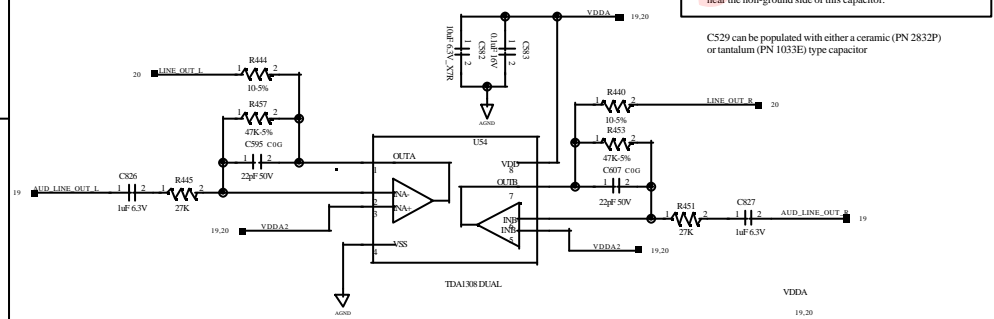
DELL		COMPUTER CORPORATION AUSTIN, TEXAS	
TITLE SCHEMATIC, M/B LA-1221			
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Gain Register Settings		
LINE	SPK	Headset
0	0	4dB
0	1	10dB
1	0	15dB
1	1	25dB

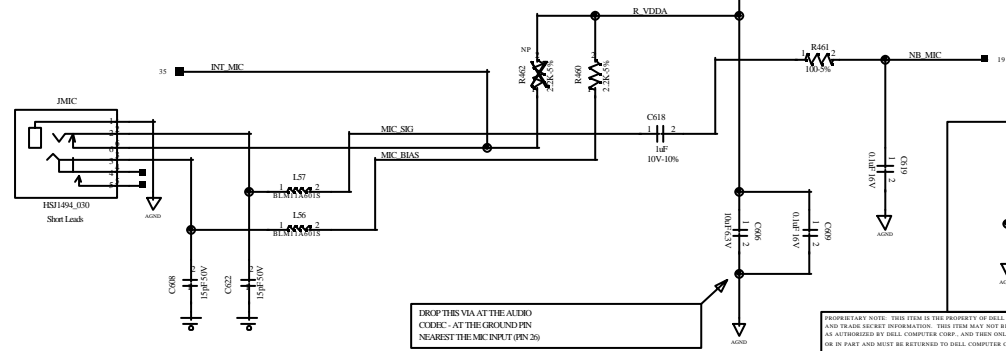
Internal Speaker Amplifier



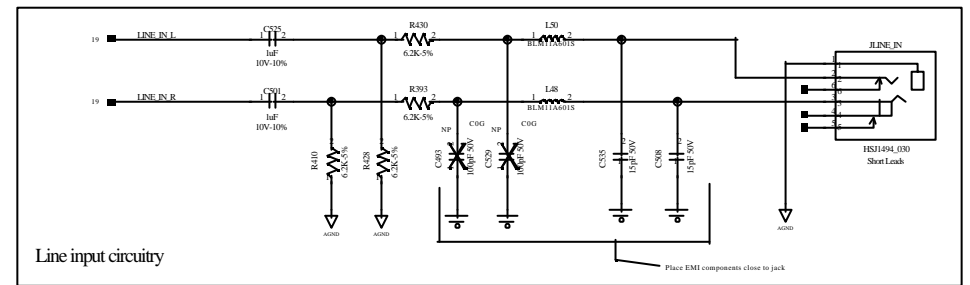
Headphone/Line Out Amplifier



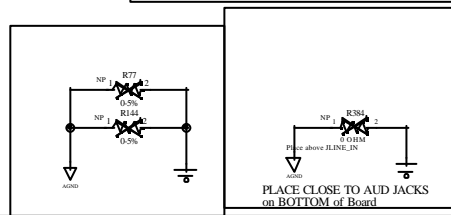
Microphone Input Circuit



Line output circuitry



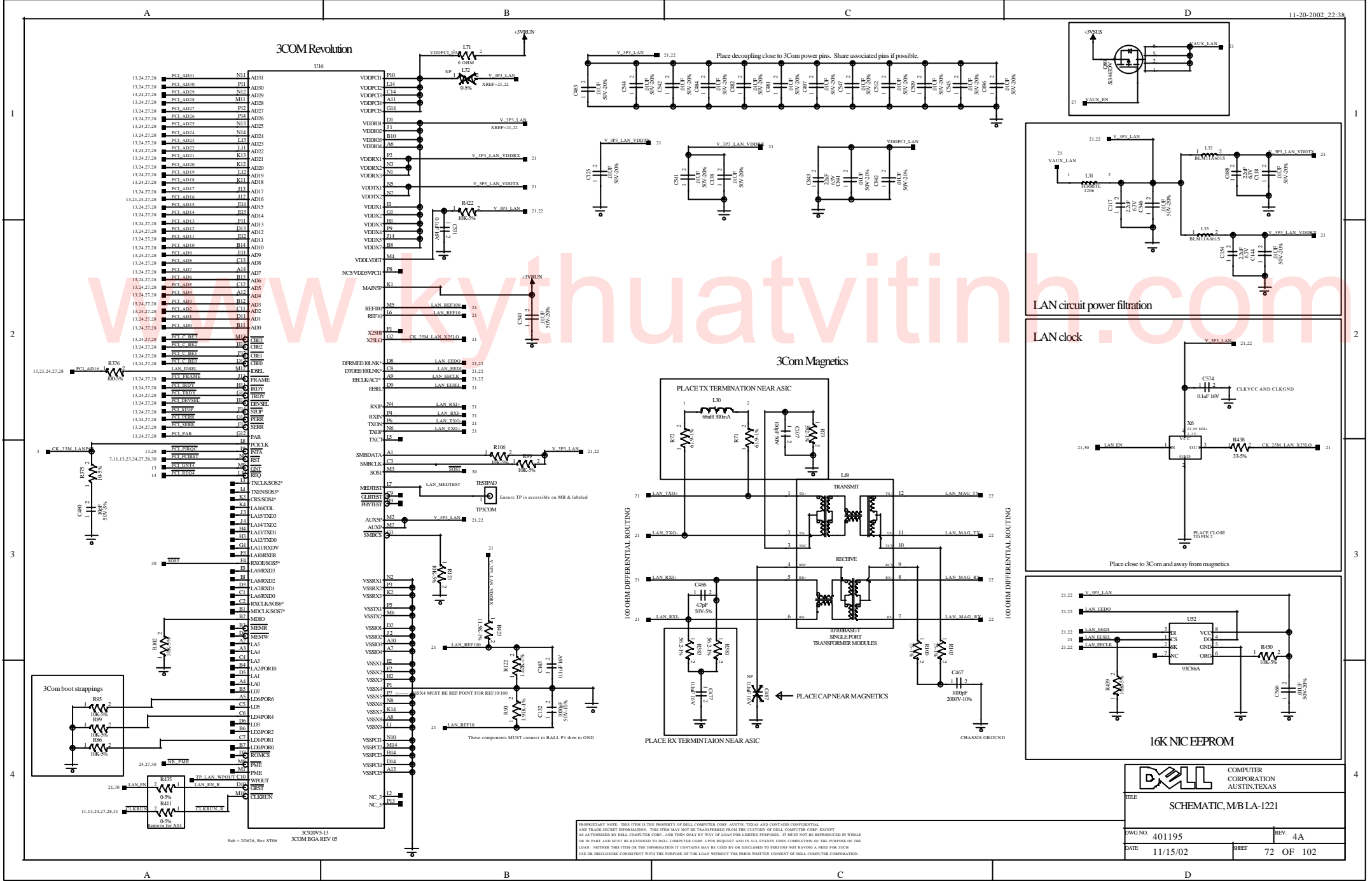
Line input circuitry



NOTE: ECAD MUST CONNECT AGND TO GND (VIA DRAWBRIDGE)!! 60 MIL TRACE AT ONE POINT ONLY UNDER THE CODEC

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DWG NO.	401195	REV.	4A
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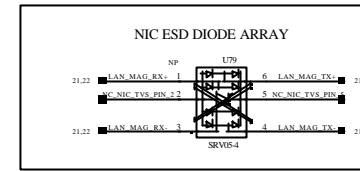
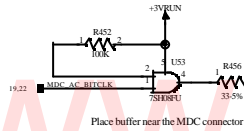
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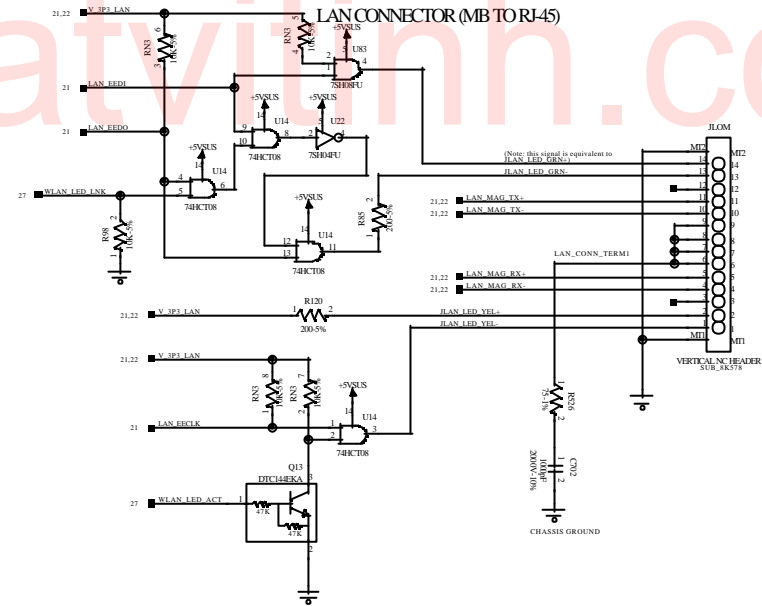
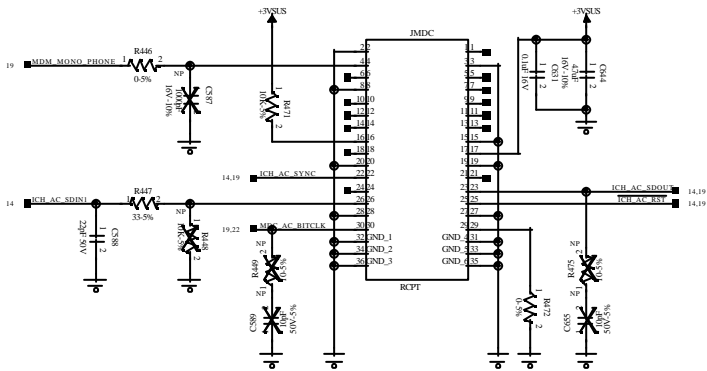
C

D

AC97 Bit Clock Buffer



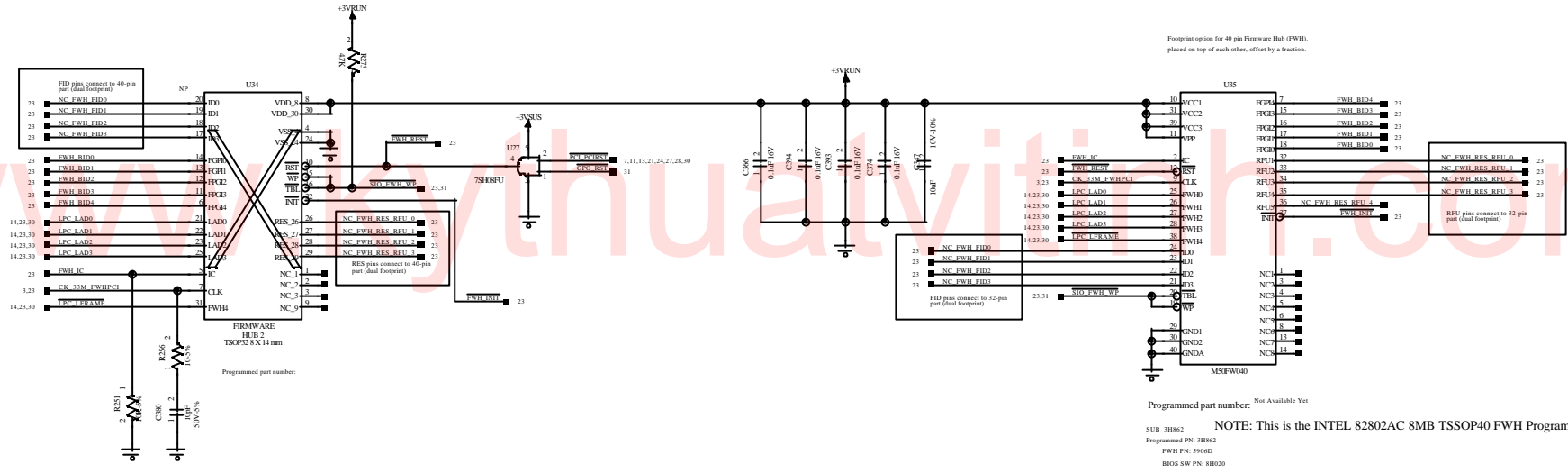
Soft Modem MDC Connector



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Dual Footprint Firmware Hub (FWH) - System BIOS

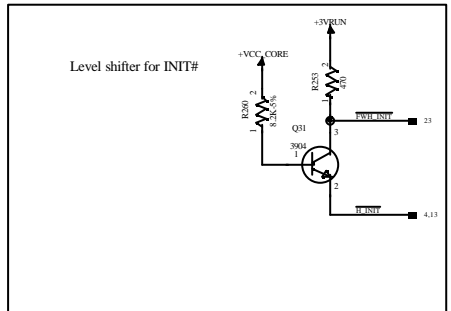


Footprint options for 40 pin Firmware Hub (FWH), placed on top of each other, effect by a function.

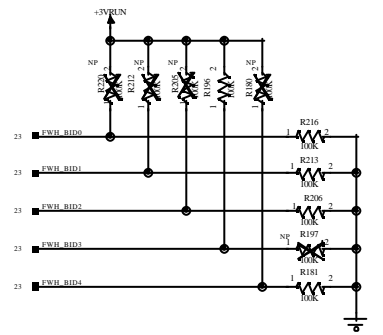
Programmed part number: Not Available Yet

NOTE: This is the INTEL 82802AC 8MB TSSOP40 FWH Programmed PN
 SUB_3H862
 Programmed PN: HH62
 FWH PN: 5060D
 BIOS SW PN: BH020

4MB Part
 FWH PN: 6C719



Board Rev Identifier



FWH REV.	BID0	BID1	BID2	BID3	BID4
400-00	0	0	0	0	0
401-00	0	0	0	0	1
402-00	0	0	0	1	0
403-00	0	0	0	1	1
320-00	0	0	1	0	0
305-00	0	0	1	0	1

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TITLE: SCHEMATIC, M/B LA-1221

FWG NO. 401195 REV. 4A

DATE 11/15/02 SHEET 74 OF 102

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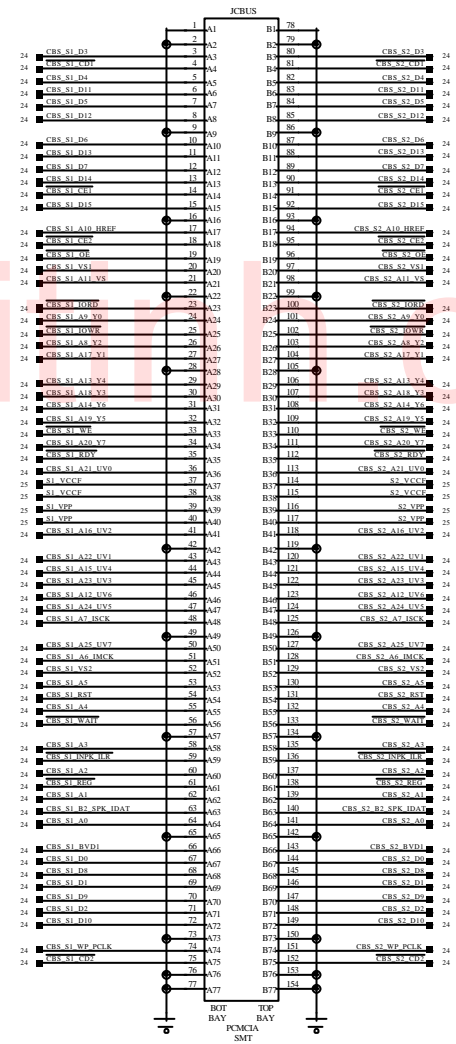
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2

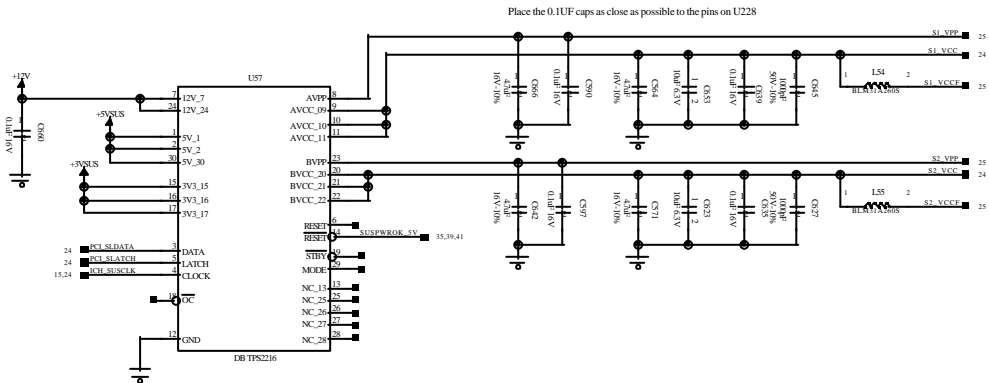
3

4

PC Card Connectors



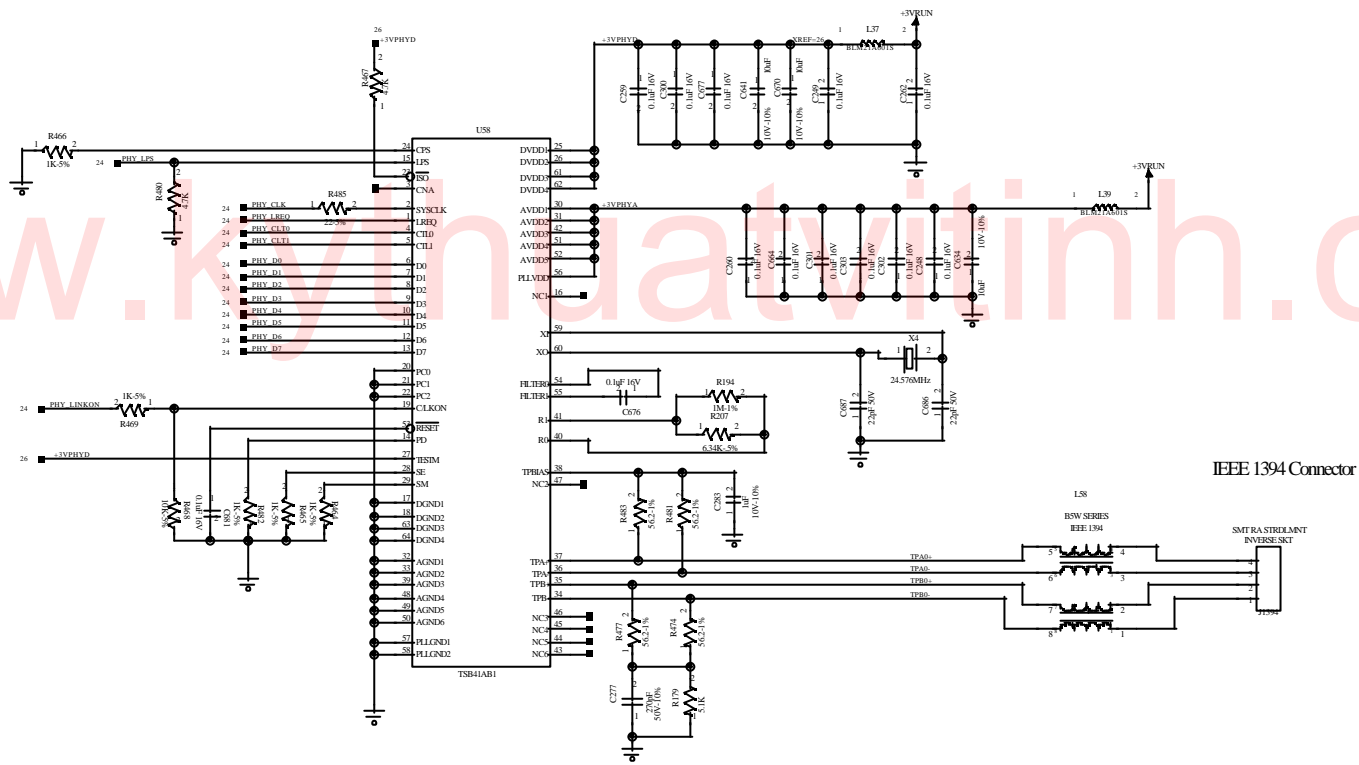
PC Card Slot Voltage Selector



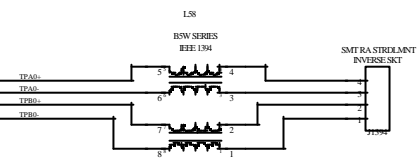
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IEEE 1394 Phy



IEEE 1394 Connector



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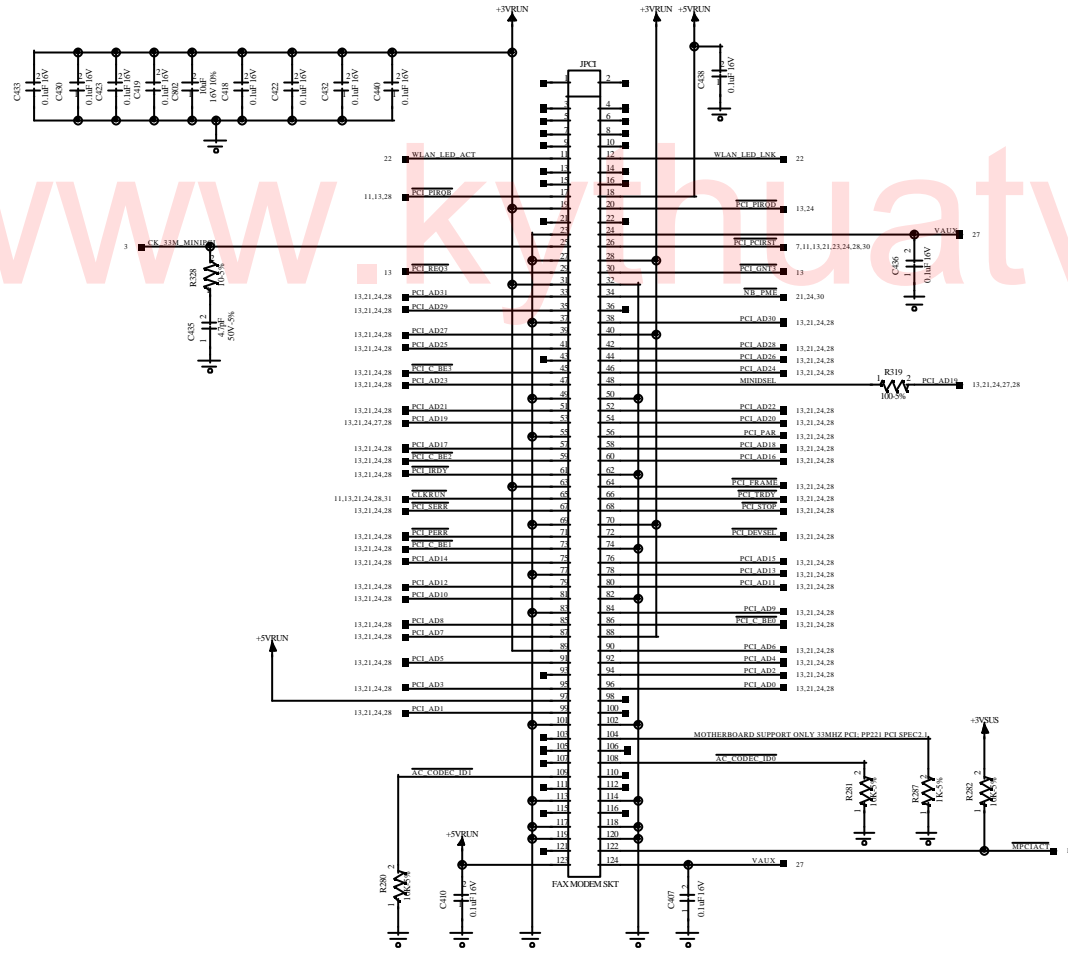
		COMPUTER CORPORATION AUSTIN, TEXAS	
		TITLE SCHEMATIC, M/B LA-1221	
PWG NO.	401195	REV.	4A
DATE	11/15/02	SHEET	77 OF 102

Layout Note: C699

Place a "+" character silkscreen on the board near the non-ground side of this capacitor.

C699 can be populated with either a ceramic (PN 2832P) or tantalum (PN 1033E) type capacitor

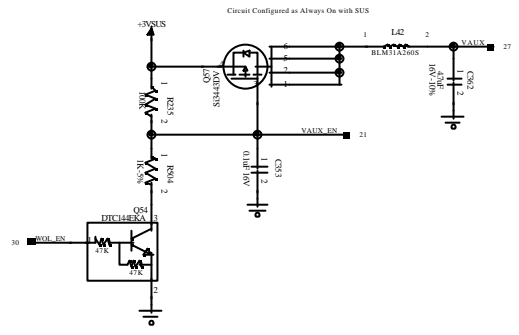
Mini PCI Connector



Note: Pins 3 through 16 of JPC1 are not being used per the mini-pci spec. THIS BOARD DOES NOT SUPPORT WAKE UP FROM MINI PCI CARD WHILE IN SHUT/DOWN. 3.3aux is connected to 3.3SUS

Power requirement total 2W
+5VRLN = 100mA
3.3V/RUX = 975mA/PPMAX

VAUX Source



Circuit Configured as Always On with SUS

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TITLE SCHEMATIC, M/B LA-1221			
PWG NO.	401195	REV.	4A
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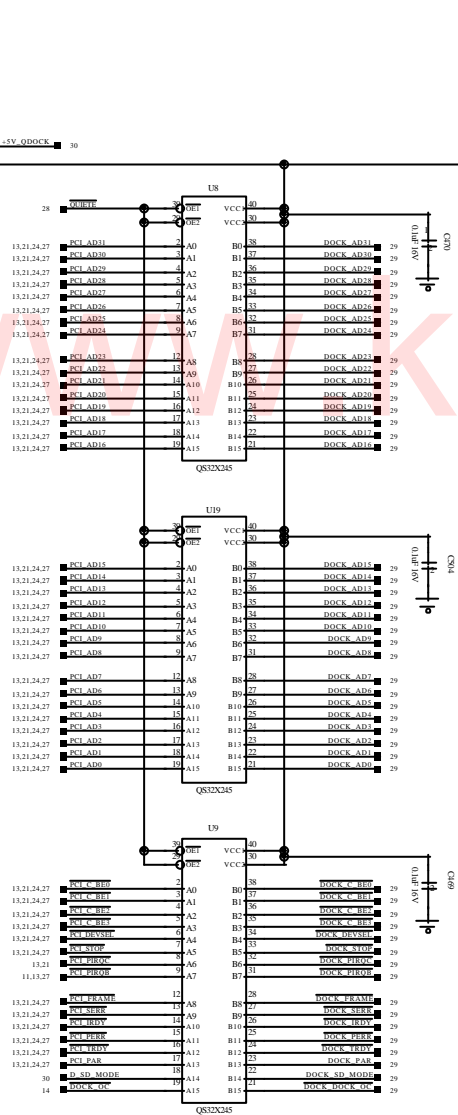
A

B

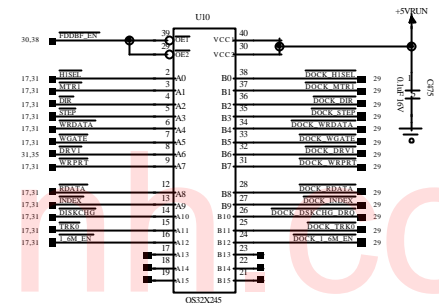
C

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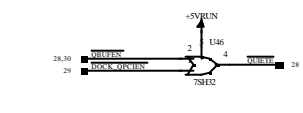
Dock PCI Bus Buffers



Dock FD Buffer



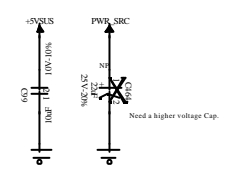
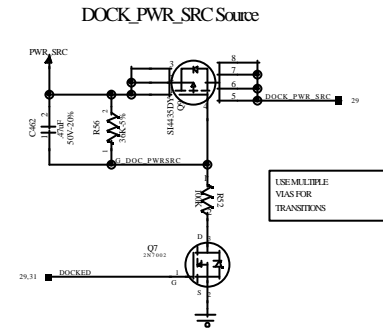
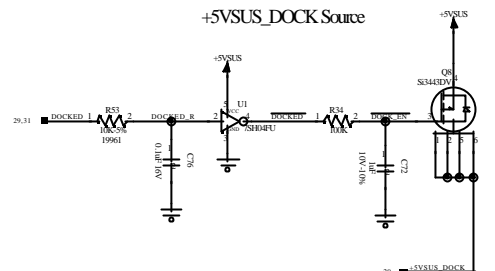
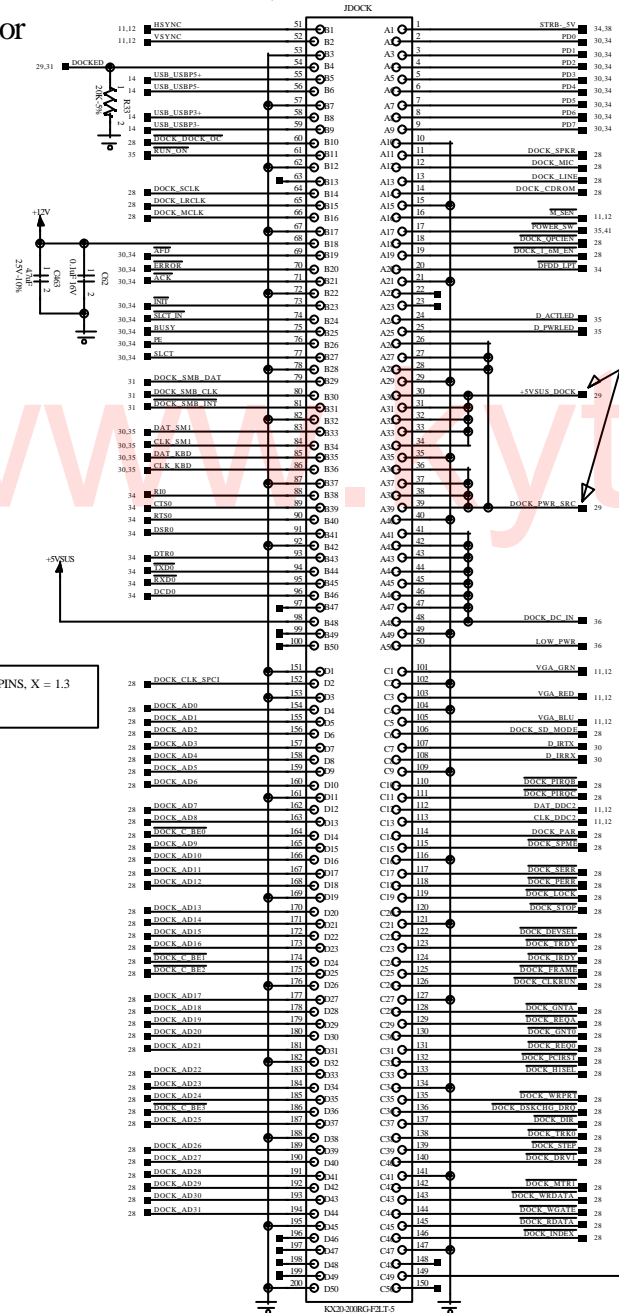
Dock Buffer Enable



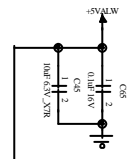
DELL		COMPUTER CORPORATION AUSTIN, TEXAS	
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Dock Connector



Disconnect REQ* and GRNT* for PCPC Issue



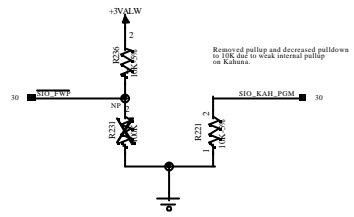
Layout Note: C62
Place a "+" character silkscreen on the board near the non-ground side of this capacitor.

C62 can be populated with either a ceramic (PN 2832P) or tantalum (PN 1033E) type capacitor

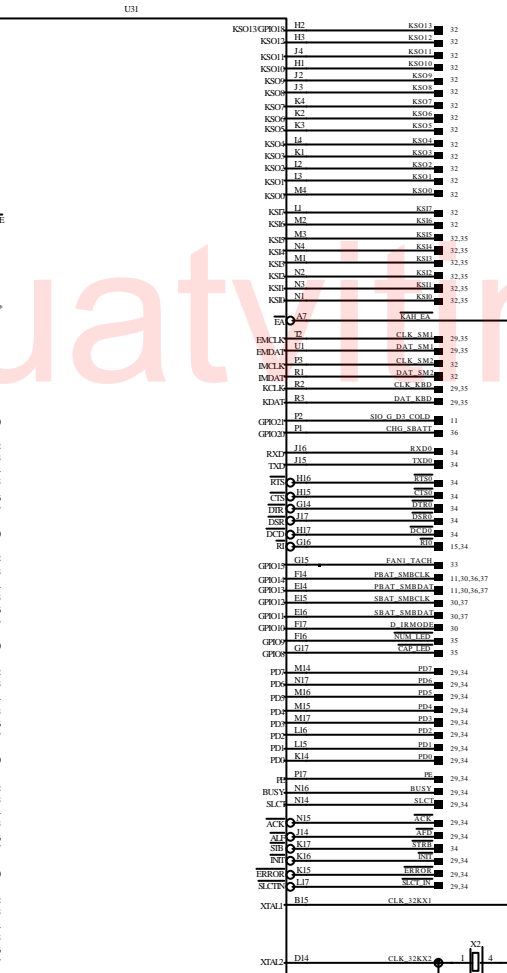
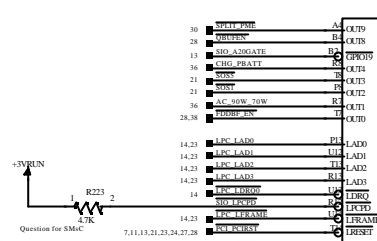
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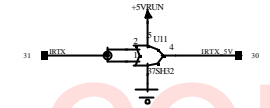
Kahuna Re-flash Setup



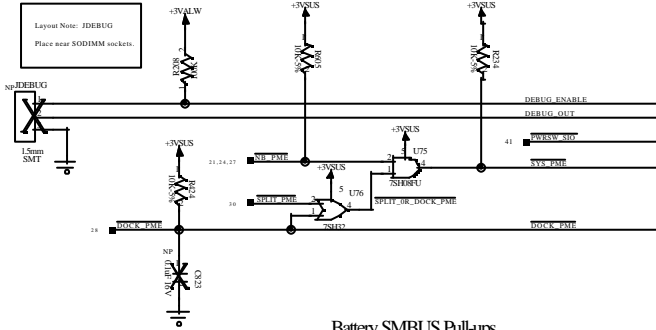
Super I/O Controller (Kahuna 1/2)



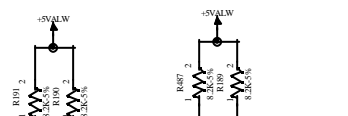
IRTX Level Shifter



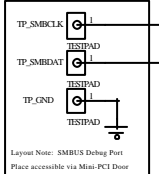
Kahuna Debug Port



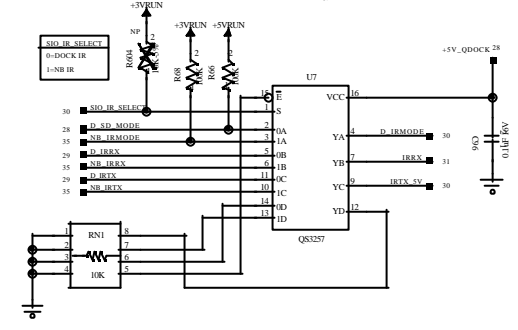
Battery SMBUS Pull-ups



SMBUS Debug Port



IRDA Mux

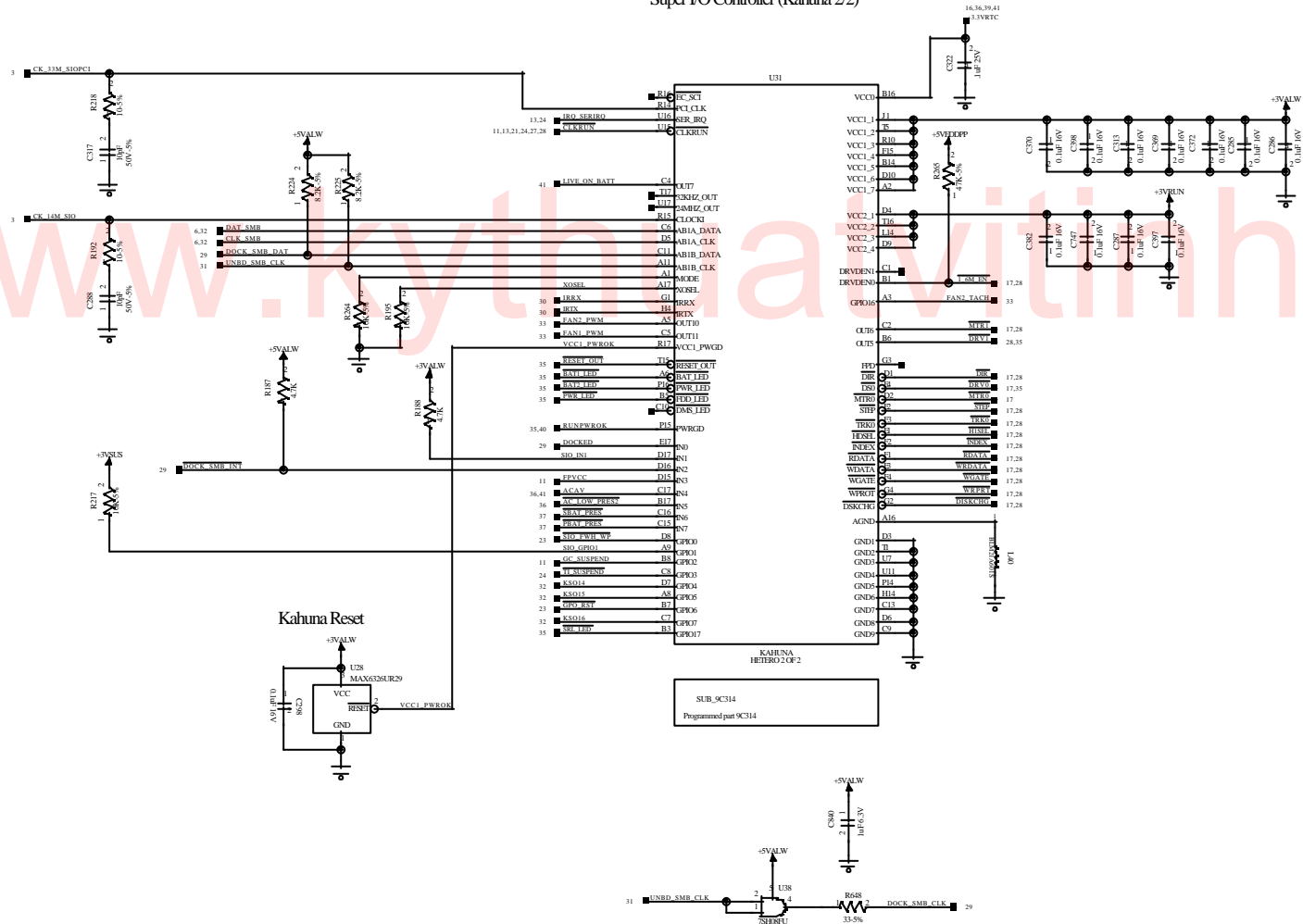


KAHUNA HETERO 1 OF 2
SUB 71850
Programmed PN: 71850
SIO SW PN: 48F08
SIO IC PN: 711WE

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PWG NO.	401195	REV.	4A
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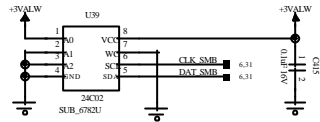
Super I/O Controller (Kahuna 2/2)



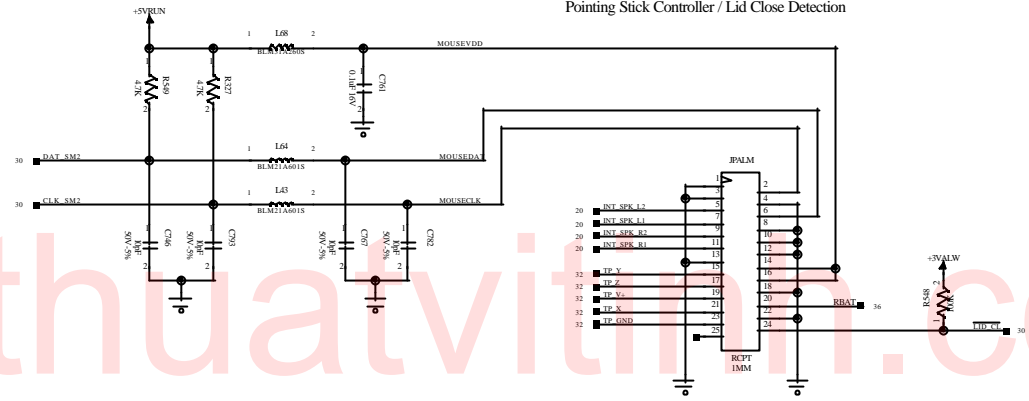
DELL		COMPUTER CORPORATION AUSTIN, TEXAS	
TITLE SCHEMATIC, M/B LA-1221			
DWG NO. 401195		REV. 4A	
DATE 11/15/02	SHEET 82	OF 102	

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EEPROM (Service/Asset Tag, etc.)

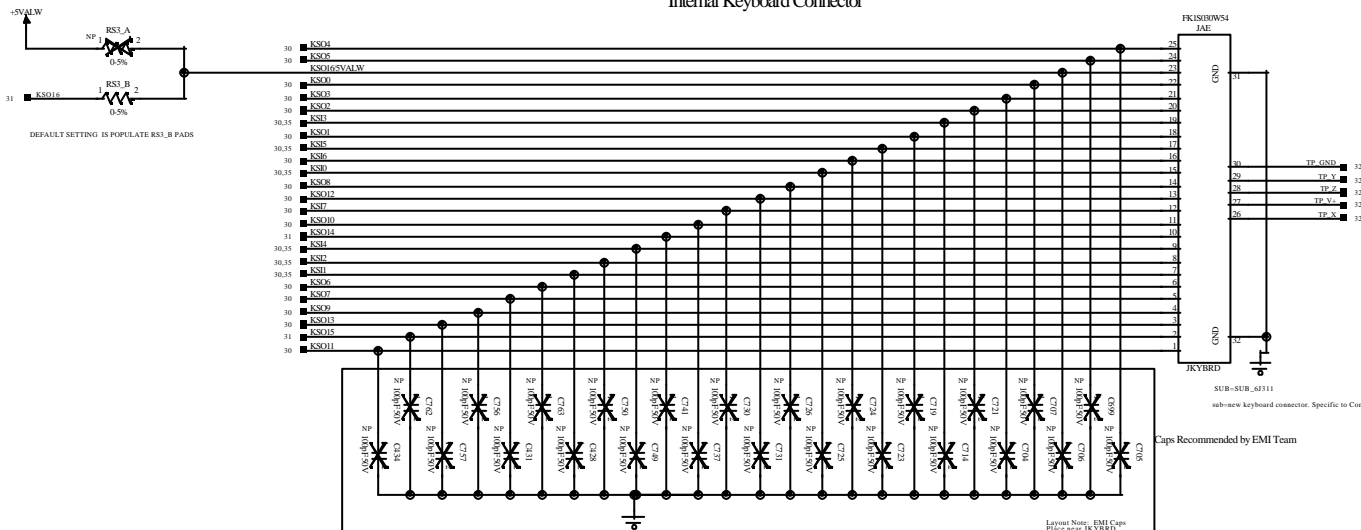


Palm Rest Connector Rbat / Speakers / Touch Pad / Pointing Stick Controller / Lid Close Detection



Sub-Sub_63112
Sub- Swapped Connector between Palm rest and Connector originally on MB

Internal Keyboard Connector



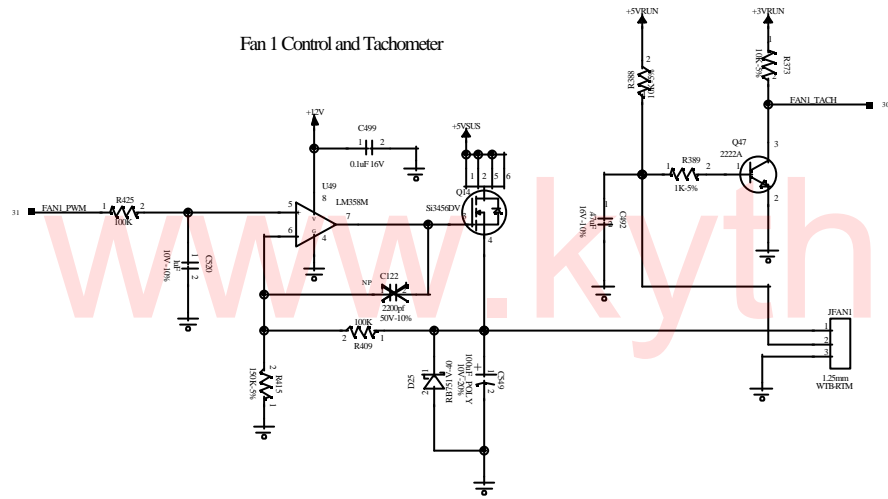
Caps Recommended by EMI Team

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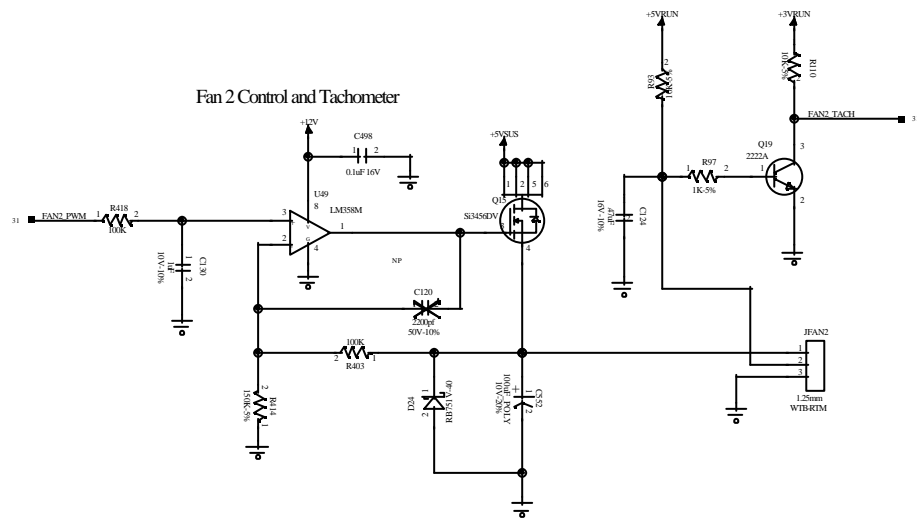
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Fan Control Circuit

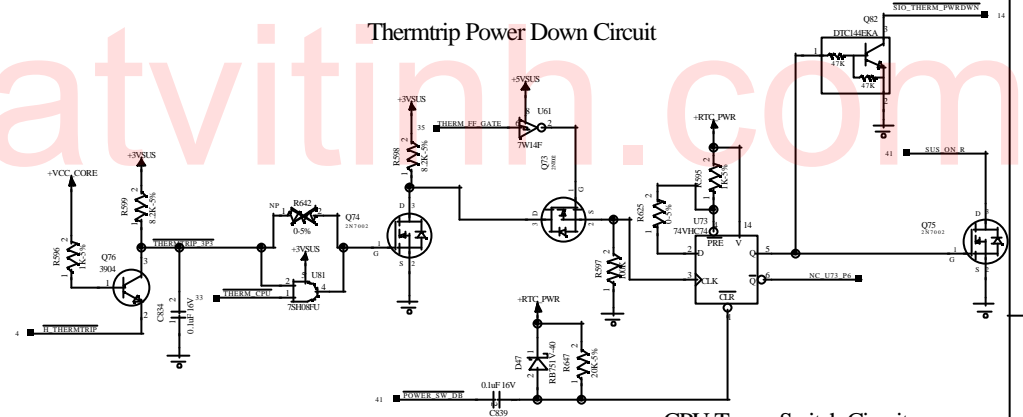
Fan 1 Control and Tachometer



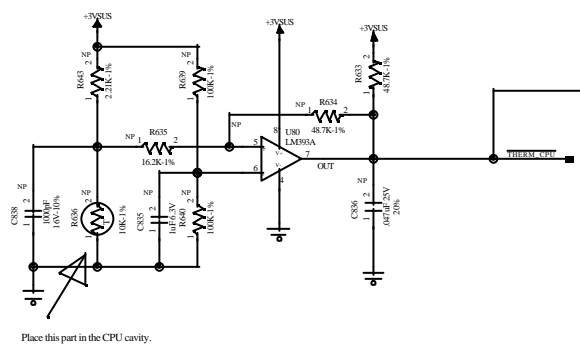
Fan 2 Control and Tachometer



Thermtrip Power Down Circuit

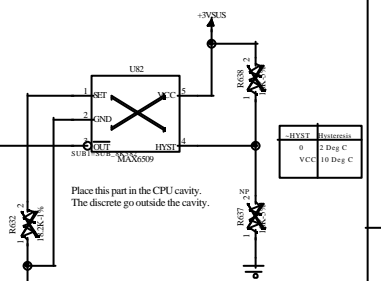


CPU Thermistor Circuit



Place this part in the CPU cavity.

CPU Temp. Switch Circuit



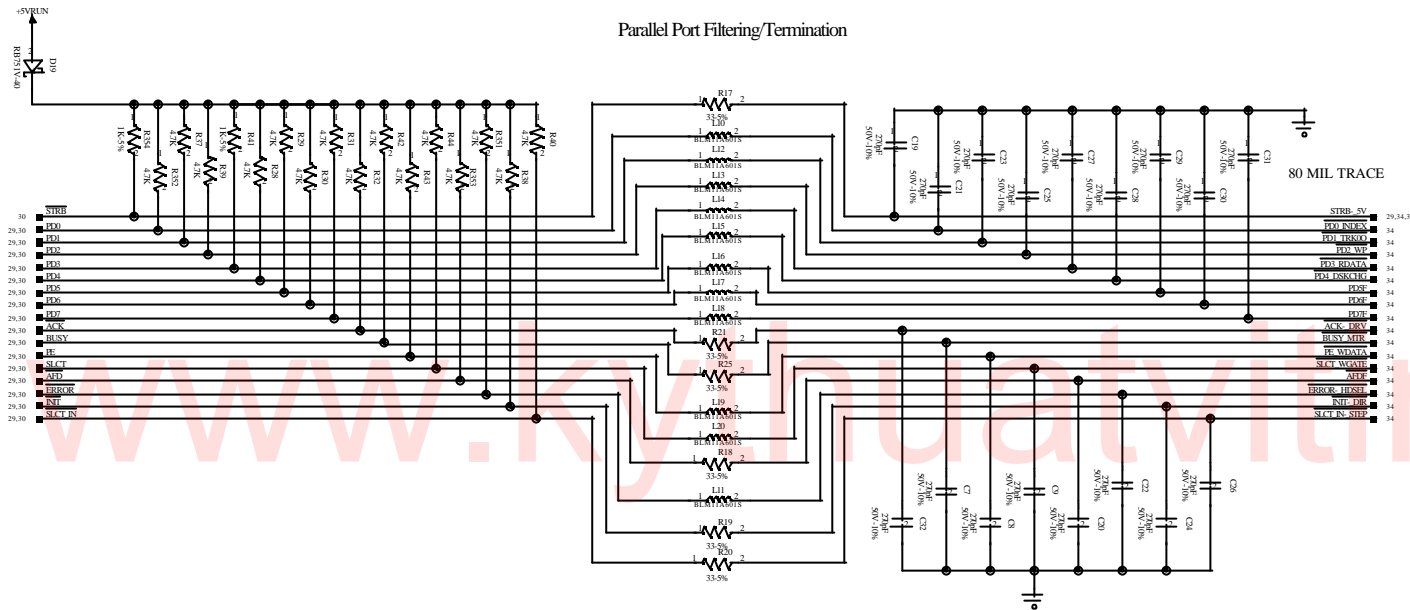
Place this part in the CPU cavity. The discrete go outside the cavity.

Resistor Value Calculation
 $R_{set} = (1.225 \times 10^5) \times (T - T_0) + R_{0}$
 $R_{set} = (8.3793 \times 10^4 T) - 211.3569 - (1.2989 \times 10^5) T^2$
 T = Temp in Degrees Kelvin

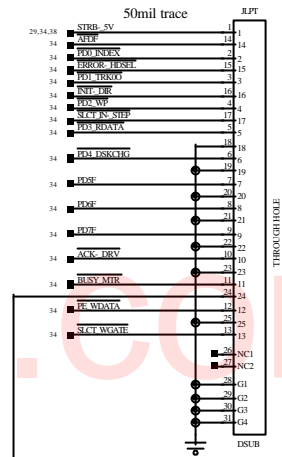
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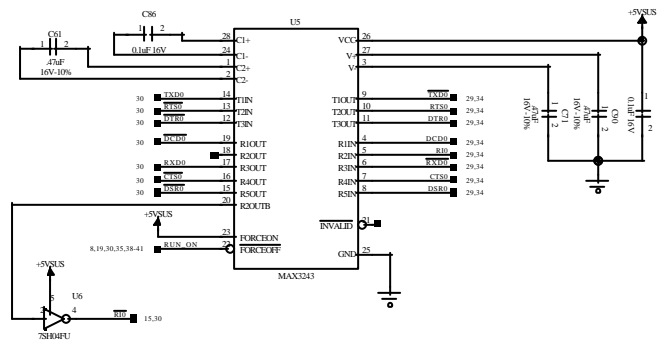
Parallel Port Filtering/Termination



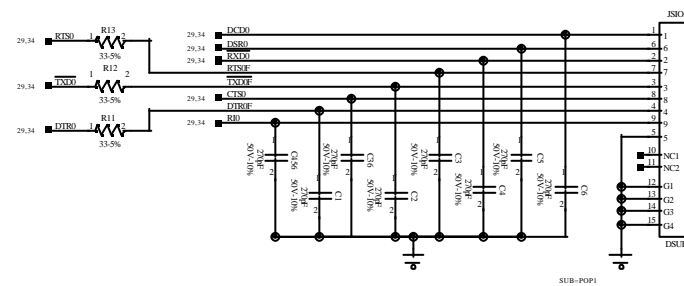
Parallel Port Connector



Serial Port Transceiver

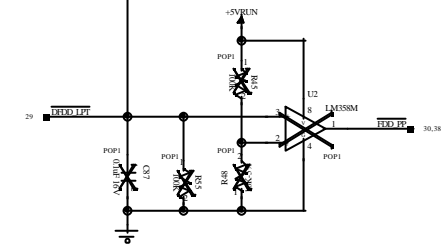


Serial Port Connector



REMOVE THIS

Parallel Port Floppy Detection



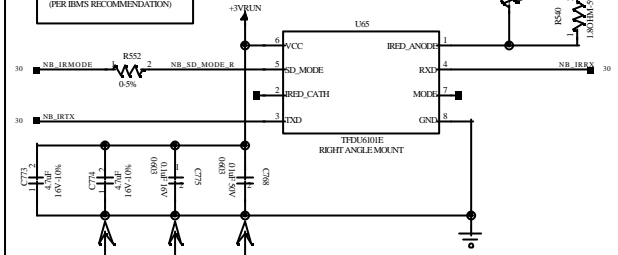
DELL		COMPUTER CORPORATION AUSTIN, TEXAS	
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A

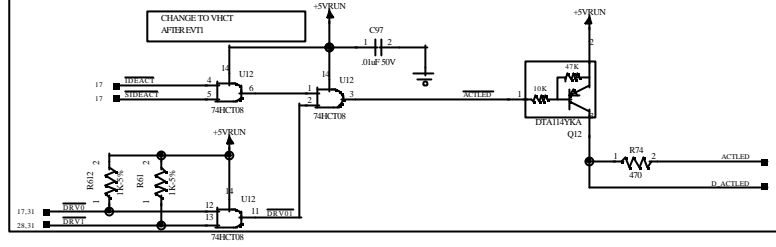
On-board IR Transceiver

DO NOT RUN THE VCC PLANE UNDER THE TRANSCEIVER (PER IBMS RECOMMENDATION)



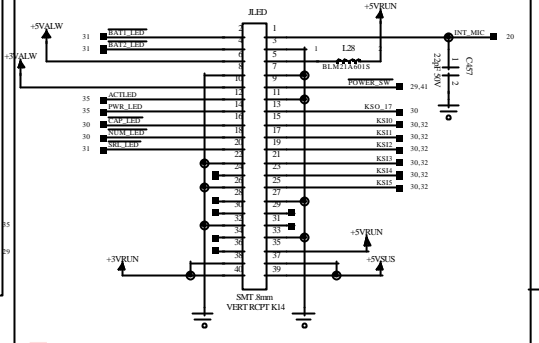
B

Activity LED Driver for Internal Drives



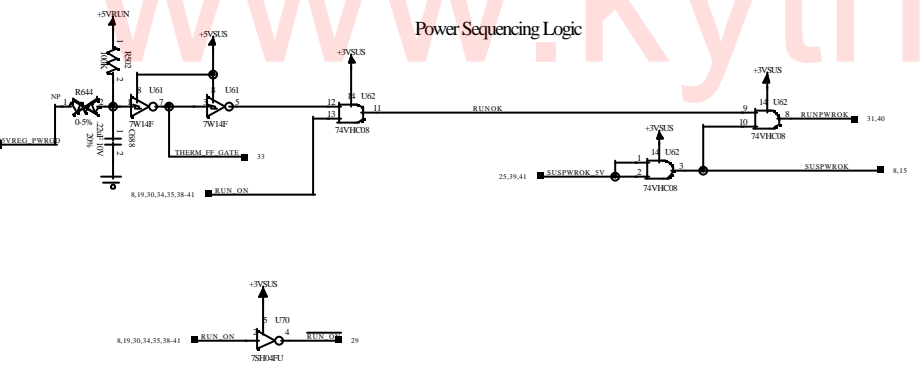
C

LED Board Connector

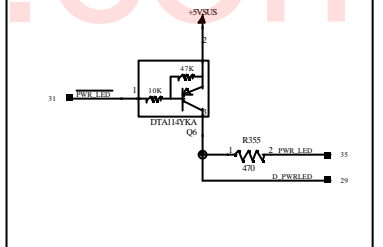


11-20-2002 22:38

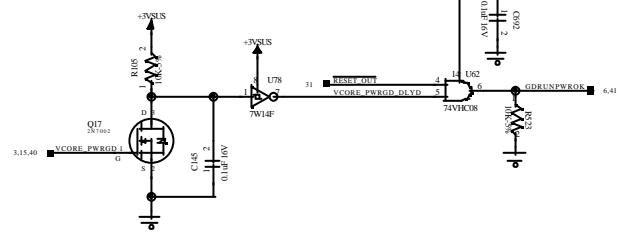
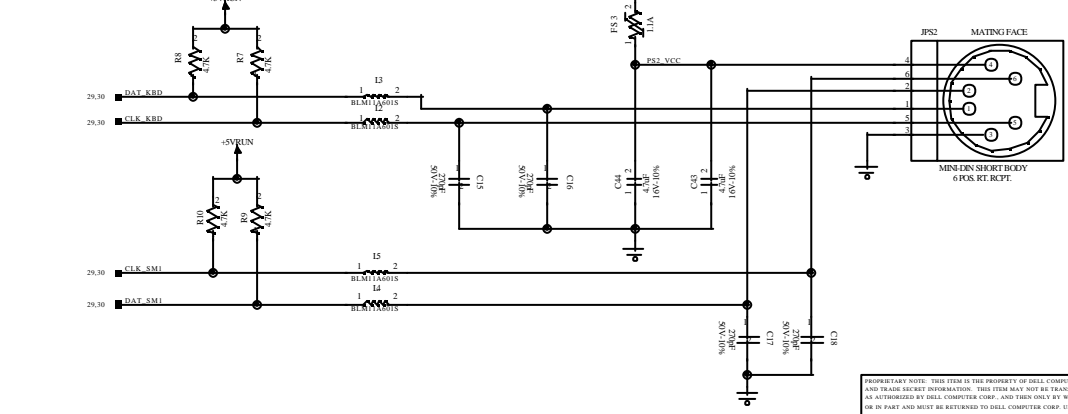
Power Sequencing Logic



Power LED Driver



External Keyboard Connector



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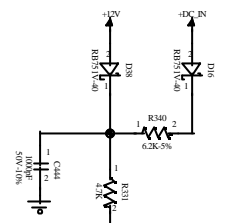
A

B

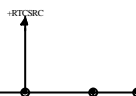
C

D

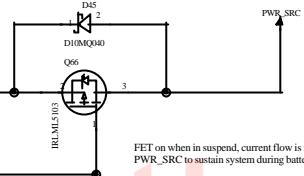
Rbat Charger



+RTCSRC Source

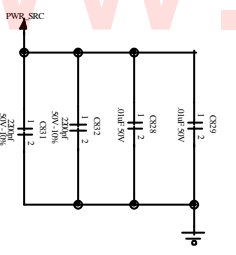


Rbat to PWR_SRC Enable



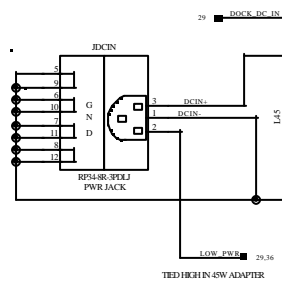
FET on when in suspend, current flow is from Rbat to PWR_SRC to sustain system during battery swap mode

USE MULTIPLE VIAS FOR TRANSITIONS

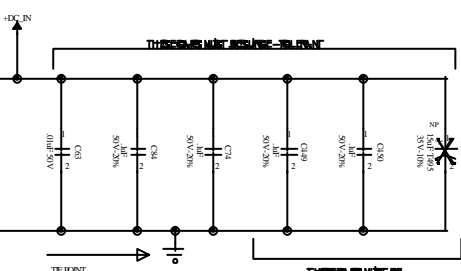


SAFETY SWITCH FOR REMOVAL OF THE FUSE

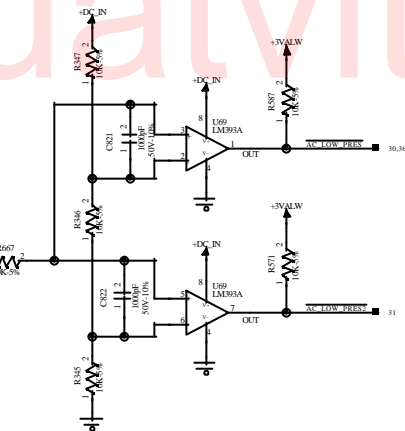
AC Adaptor Connector



+DC_IN Source

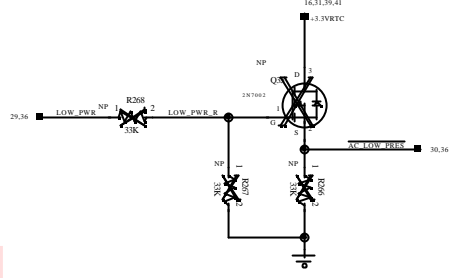


THIS POINT IS NOT INTENDED AS A TEST POINT

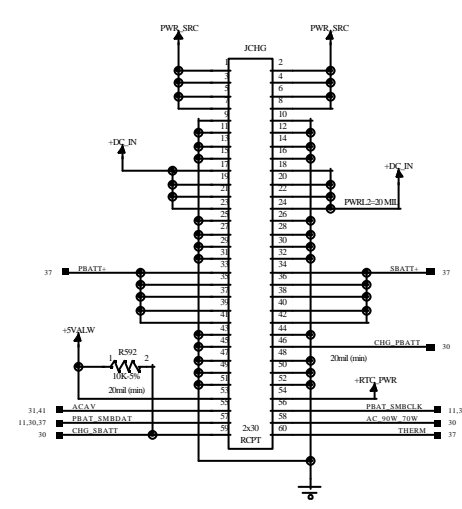


LOW_PWR	AC_LOW_PRES#	AC_LOW_PRESM
0V	0	0
FLOAT	0	1
20V	1	1

Low-Power Adapter Detection



Charger Board Connector



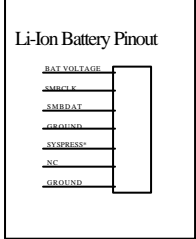
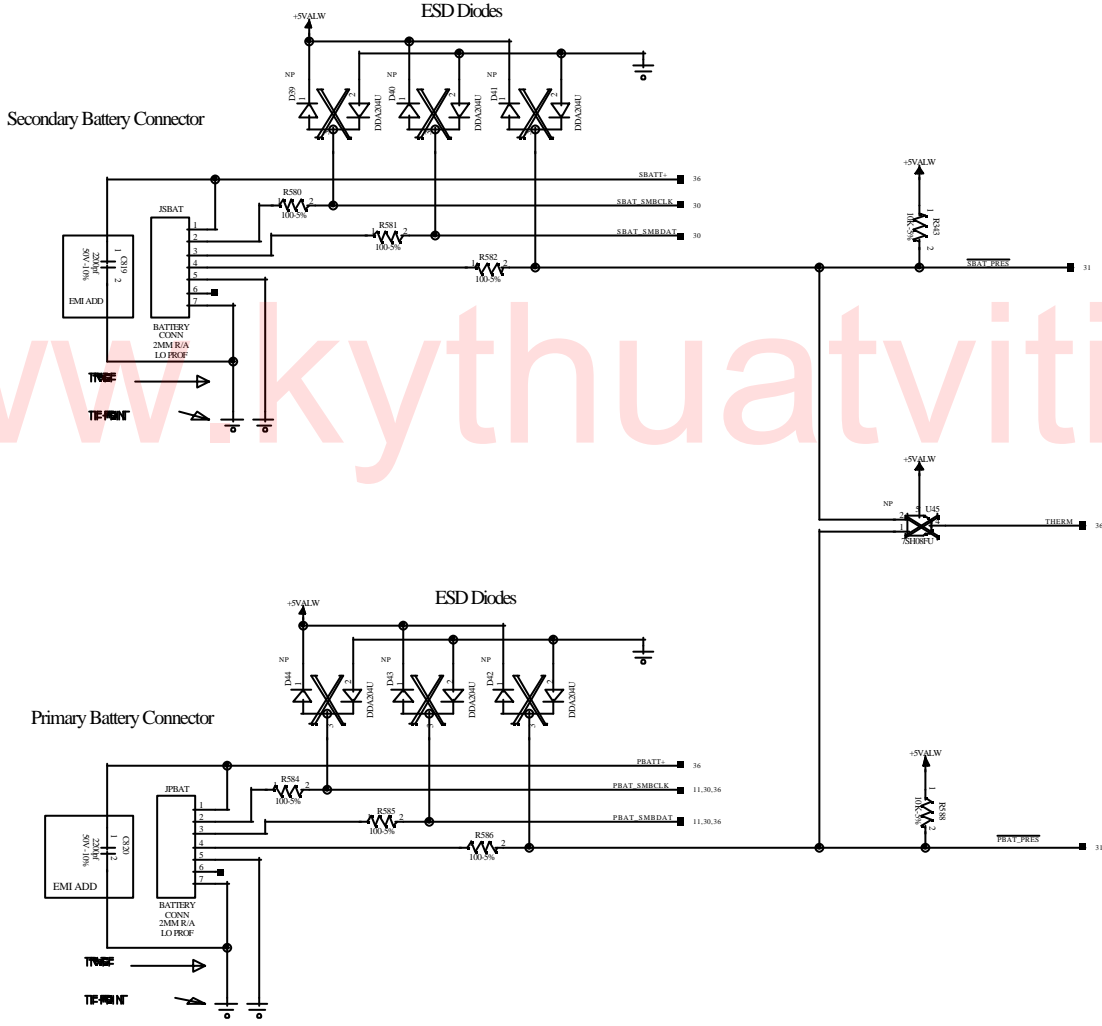
DELL COMPUTER CORPORATION AUSTIN, TEXAS

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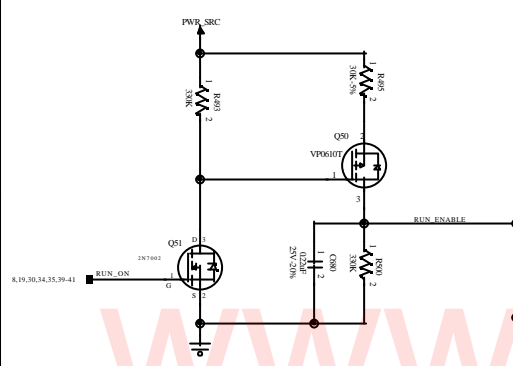
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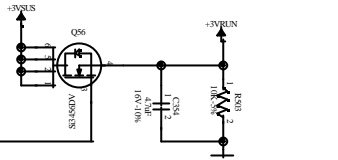
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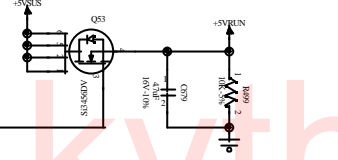
Run Planes Enable



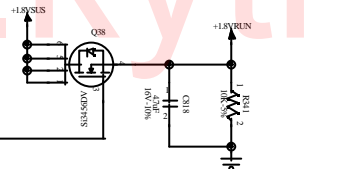
+3VRUN Source



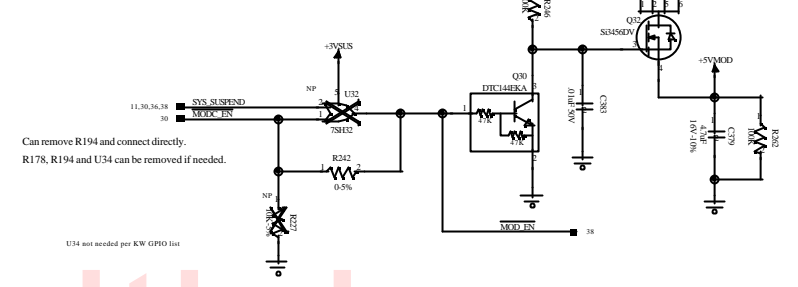
+5VRUN Source



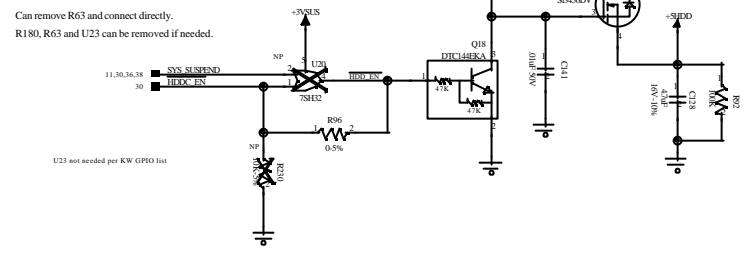
+1.8VRUN Source



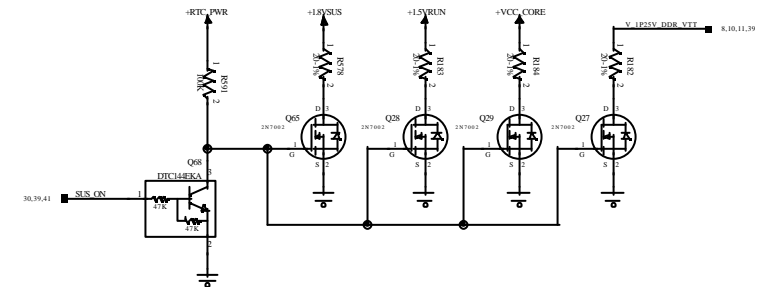
+5VMOD Source



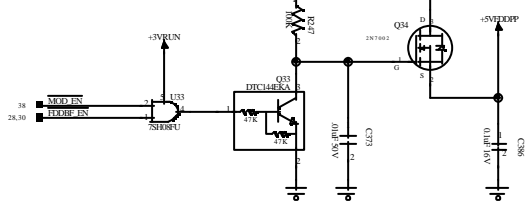
+5HDD Source



Voltage Rail Drains

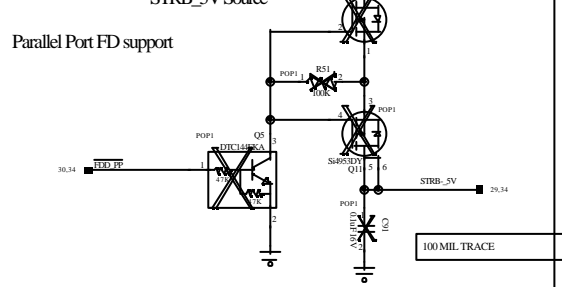


+5VFDDPP Source



REMOVE THIS

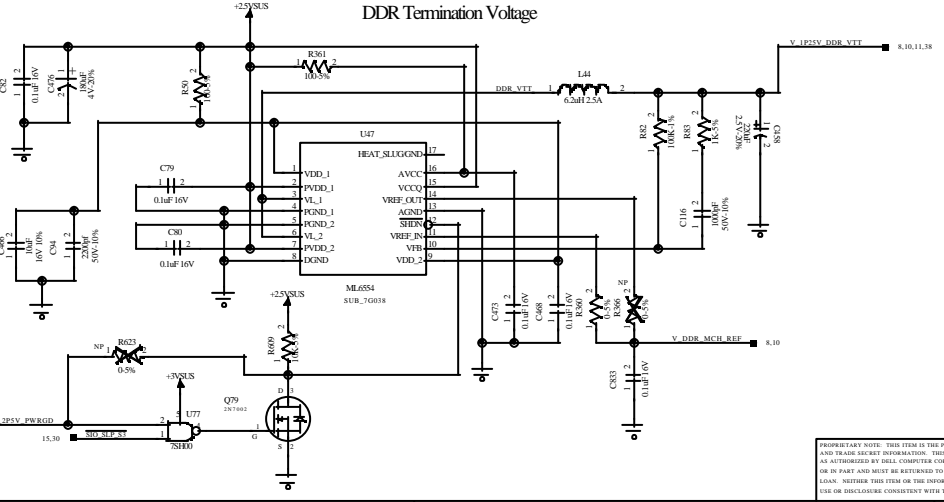
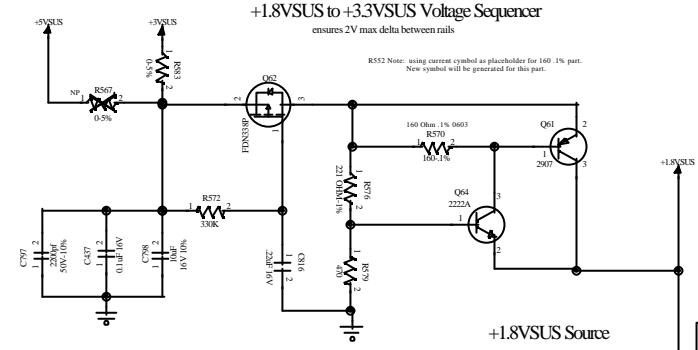
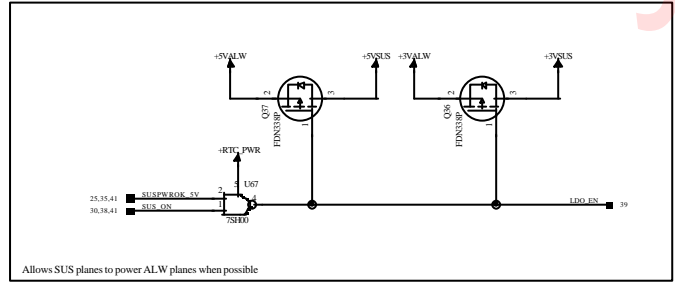
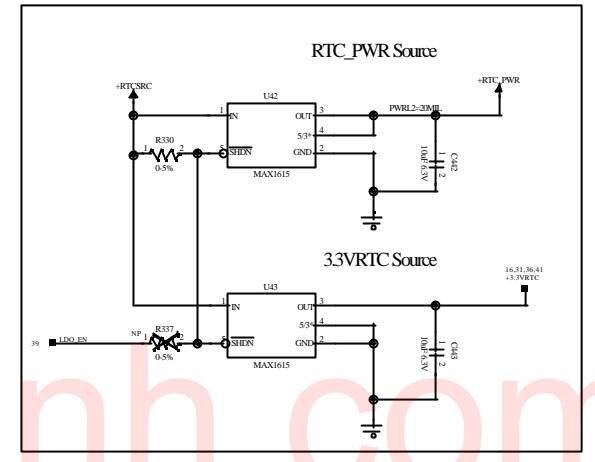
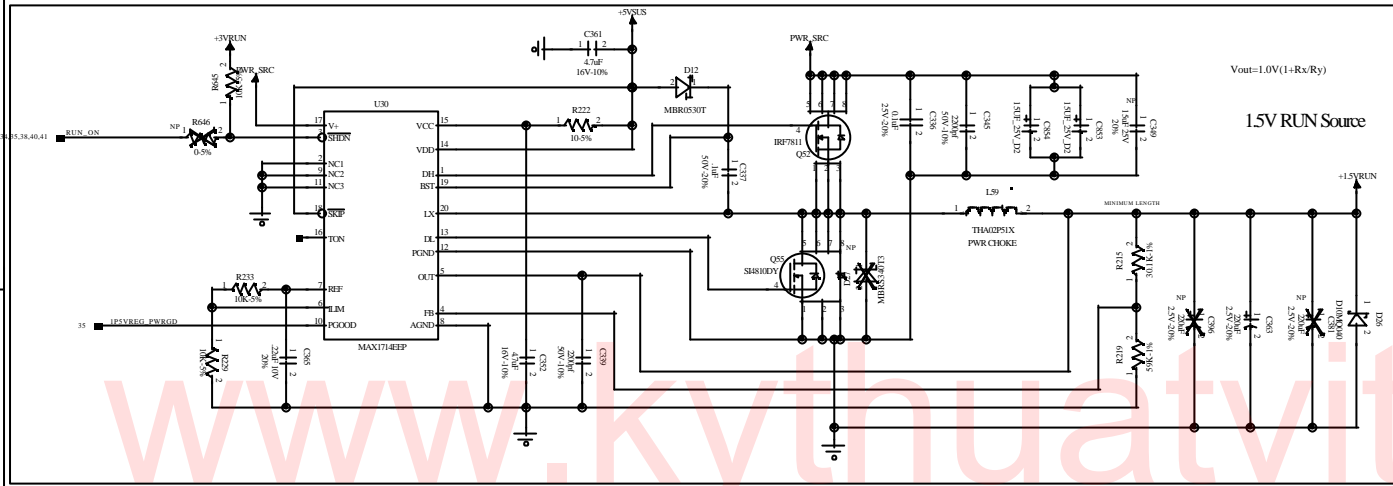
STRB_5V Source



Parallel Port FD support

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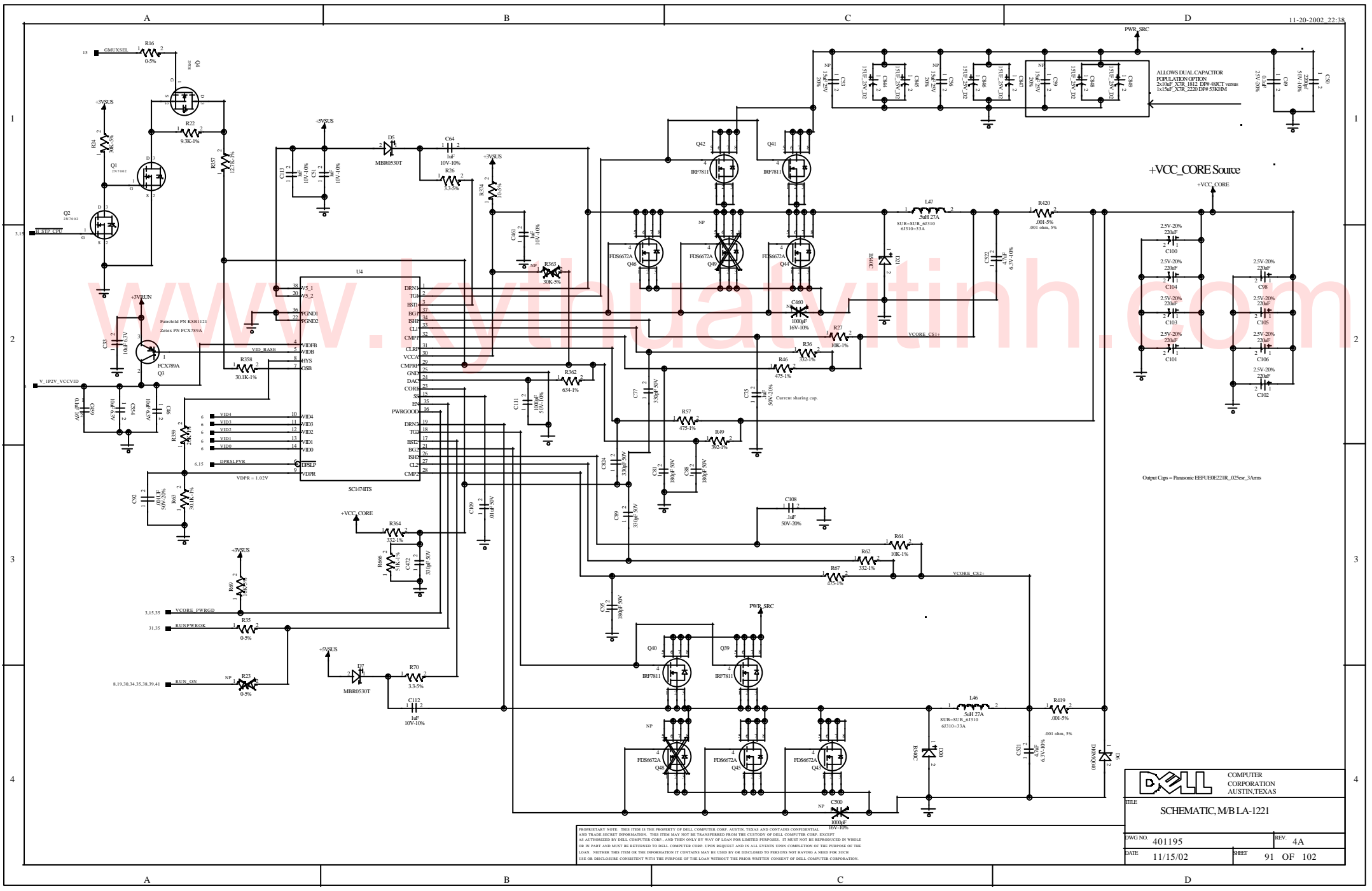


Layout Note: C694
 Place a "+" character silkscreen on the board near the non-ground side of this capacitor.

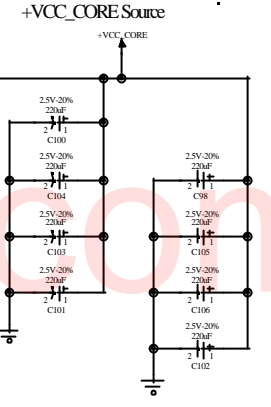
C694 can be populated with either a ceramic (PN 2832P) or tantalum (PN 1033E) type capacitor

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ALLOWES EQUAL CAPACITOR POPULATION OPTION
 2x10µF X5R 1812 EPOW 48VCT versus
 1x10µF X7R 2220 EPOW 50V40M

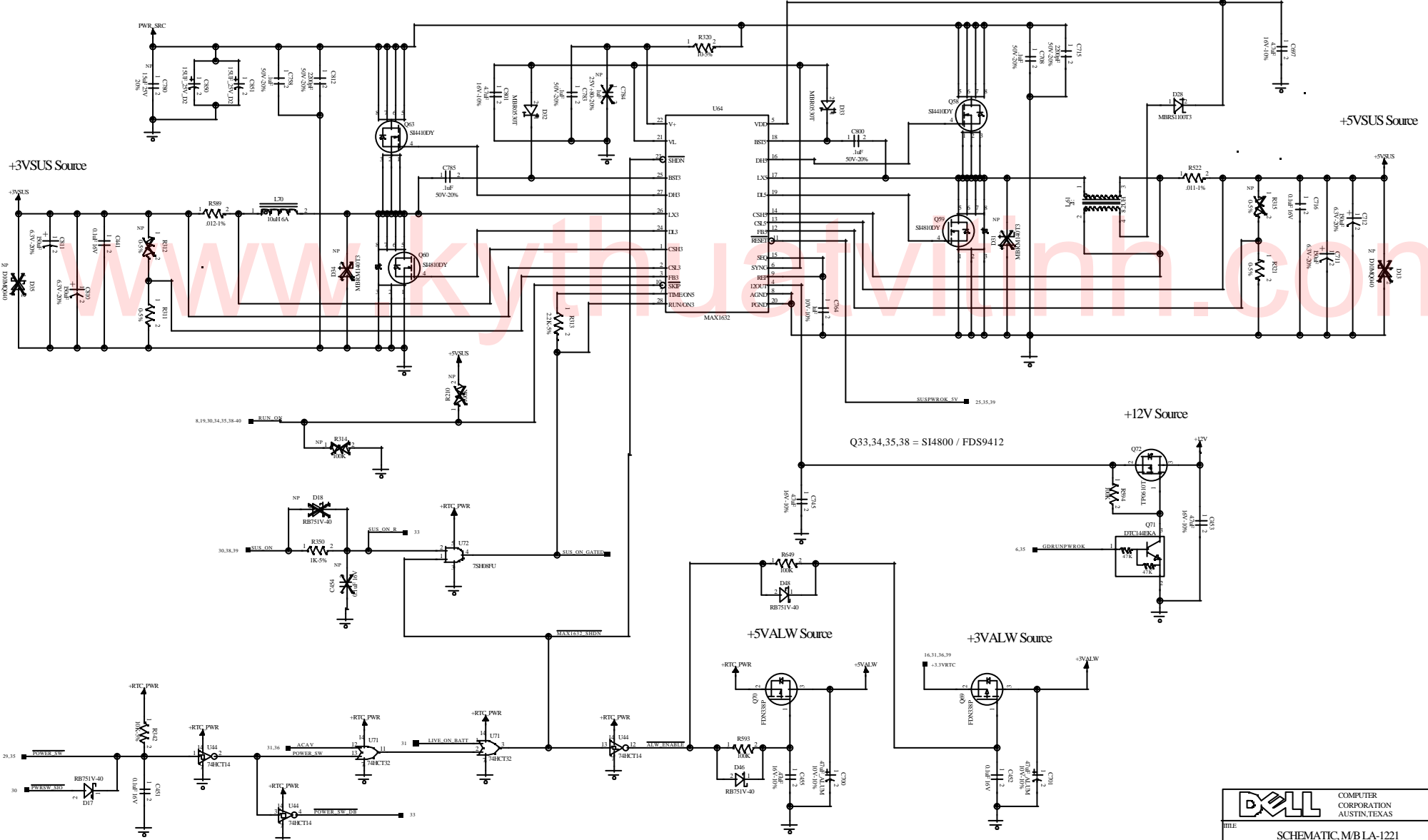


Output Caps = Panasonic EEFUEE22R_02Ser_3Amm

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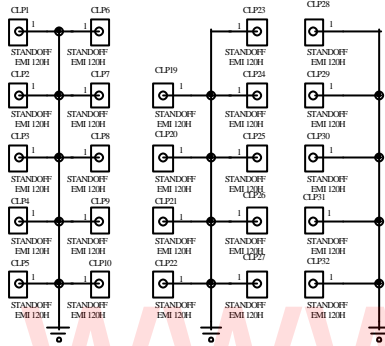
+5VSUS/+3VSUS PWM Controller



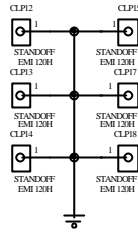
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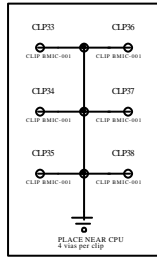
Memory Door EMI Clips



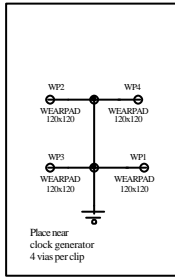
Mini-PCI Door EMI Clips



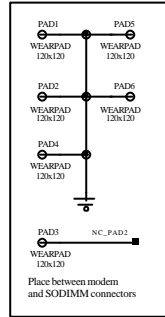
CPU EMI Clips



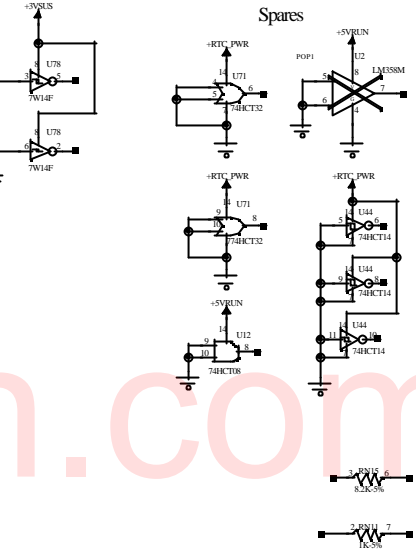
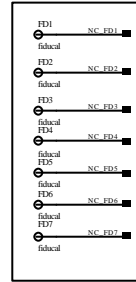
Clock Generator EMI Clips



Modem Fence Pads



Fiducial mark



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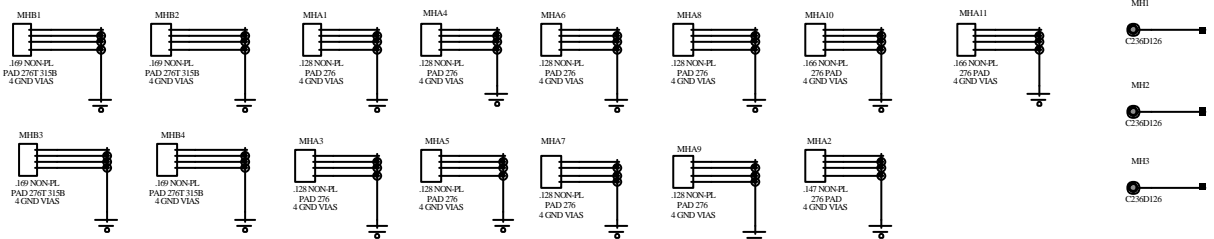
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Mounting Holes



Xibom requires ADD attributes to be attached to an instance of a symbol (prefix I in the wire file). You may "nop" rename the attributes. The required order is: ADD, ADD1, ADD2, ...

ADD=ADD_3F195_PWB
 ADD1=ADD_1F475_SCHISM
 ADD2=ADD_0F481_ASSYDVG
 ADD3=ADD_42753_BARCODE_REVLEVEL
 ADD4=ADD_12410_BARCODE_IDLABEL Label: LBL_ID, BARCODE, PWA
 PWA 2F219

DELL COMPUTER CORPORATION AUSTIN, TEXAS	
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Schematic Change List

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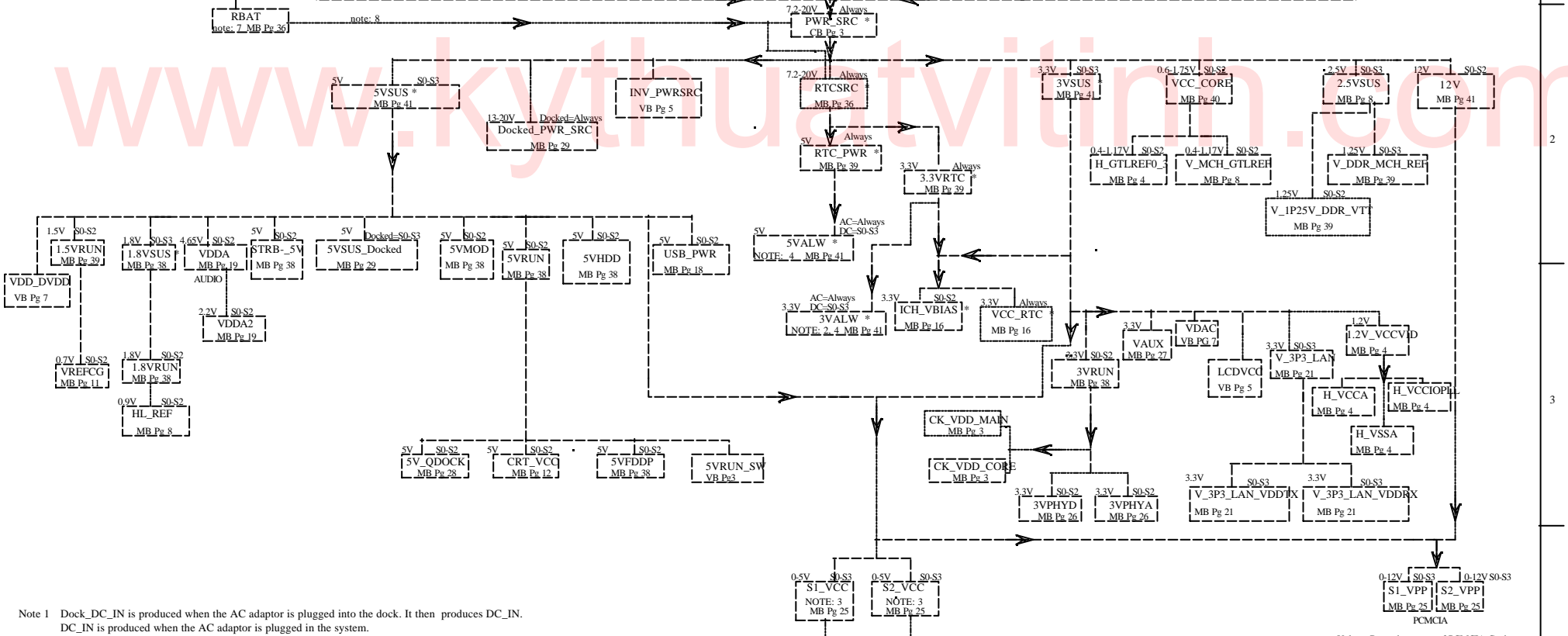
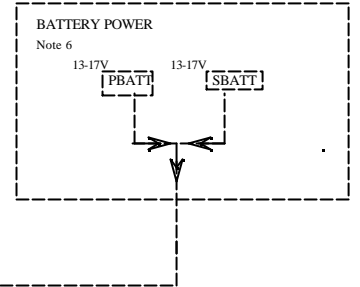
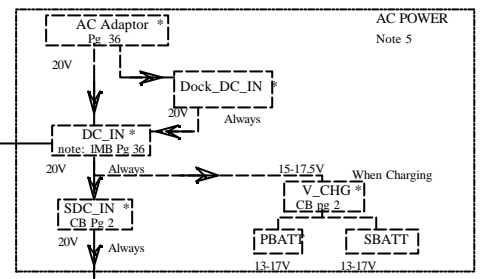
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COMANECI POWER RAILS

LEGEND
 CB = Charger Board X02
 MB = Mother Board X00
 VB = Video Board X04
 * = On in suspend



- Note 1 Dock_DC_IN is produced when the AC adaptor is plugged into the dock. It then produces DC_IN.
- Note 2 When SUS planes are available they produce the ALW planes
- Note 3 S1_VCC and S2_VCC are determined by each specific PC-Card
- Note 4 When System is off Always planes are up with AC power, down with battery power.
- Note 5 Track when AC is plugged into system
- Note 6 Track when System is battery power
- Note 7 Charged by 12V when on battery
- Note 8 Enables PWR_SRC during battery swap

PCMCIA
Voltage Depends on type of PCMCIA Card

PROPRIETARY NOTE

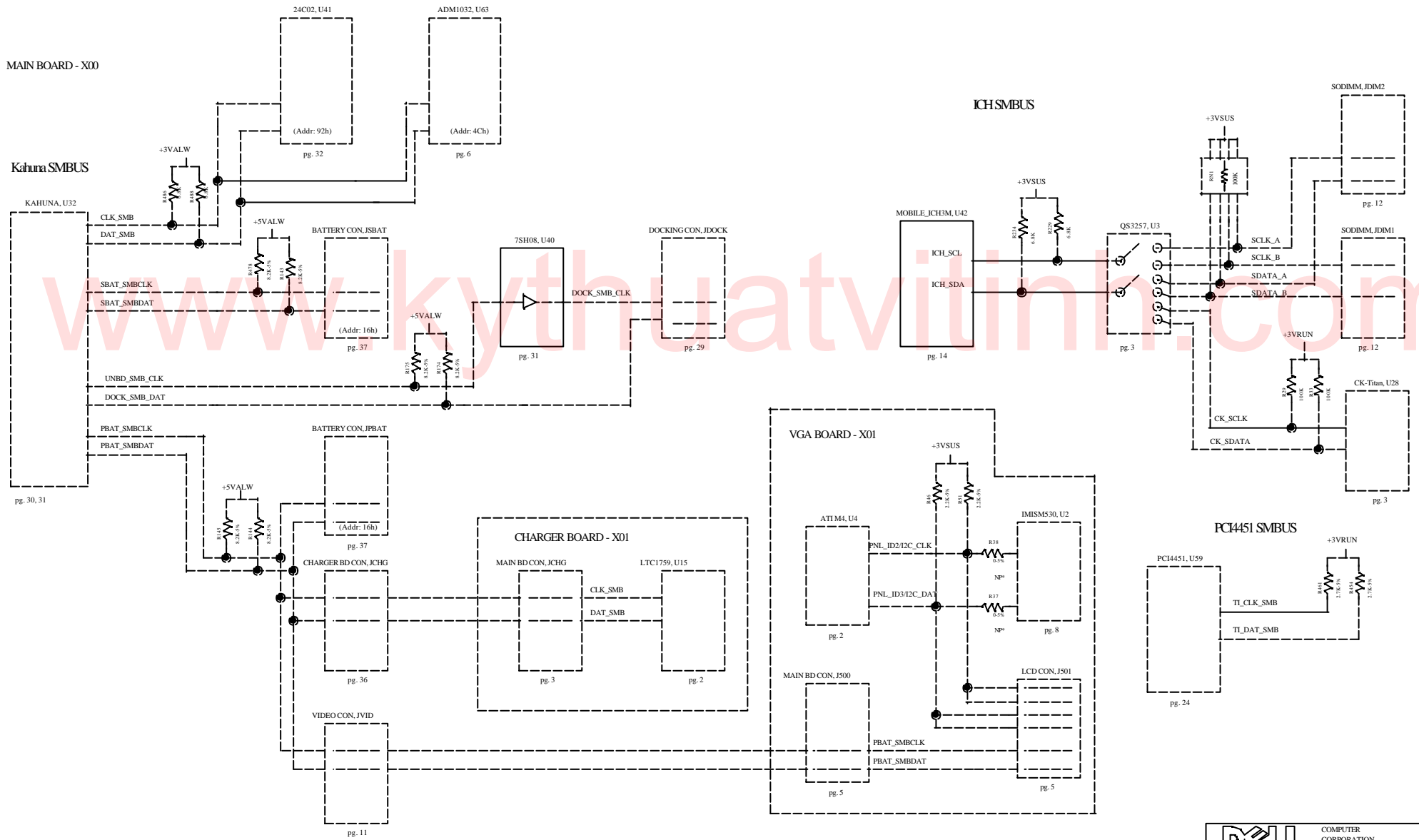
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Voltage Depends on type of PCMCIA Card	
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MAIN BOARD - X00

Kahuna SMBUS

ICH SMBUS



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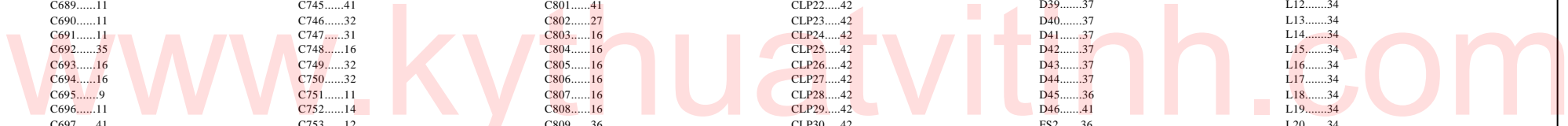
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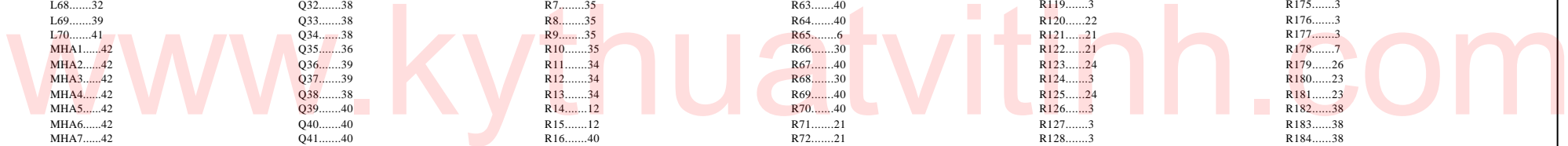
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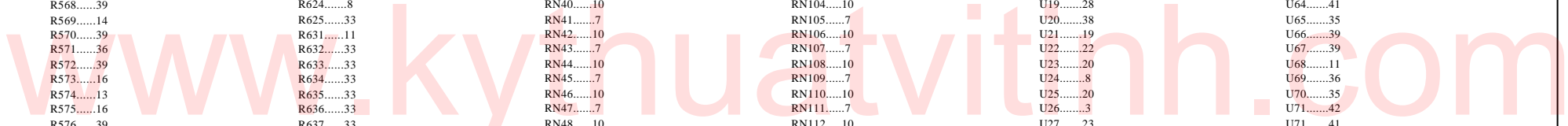
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