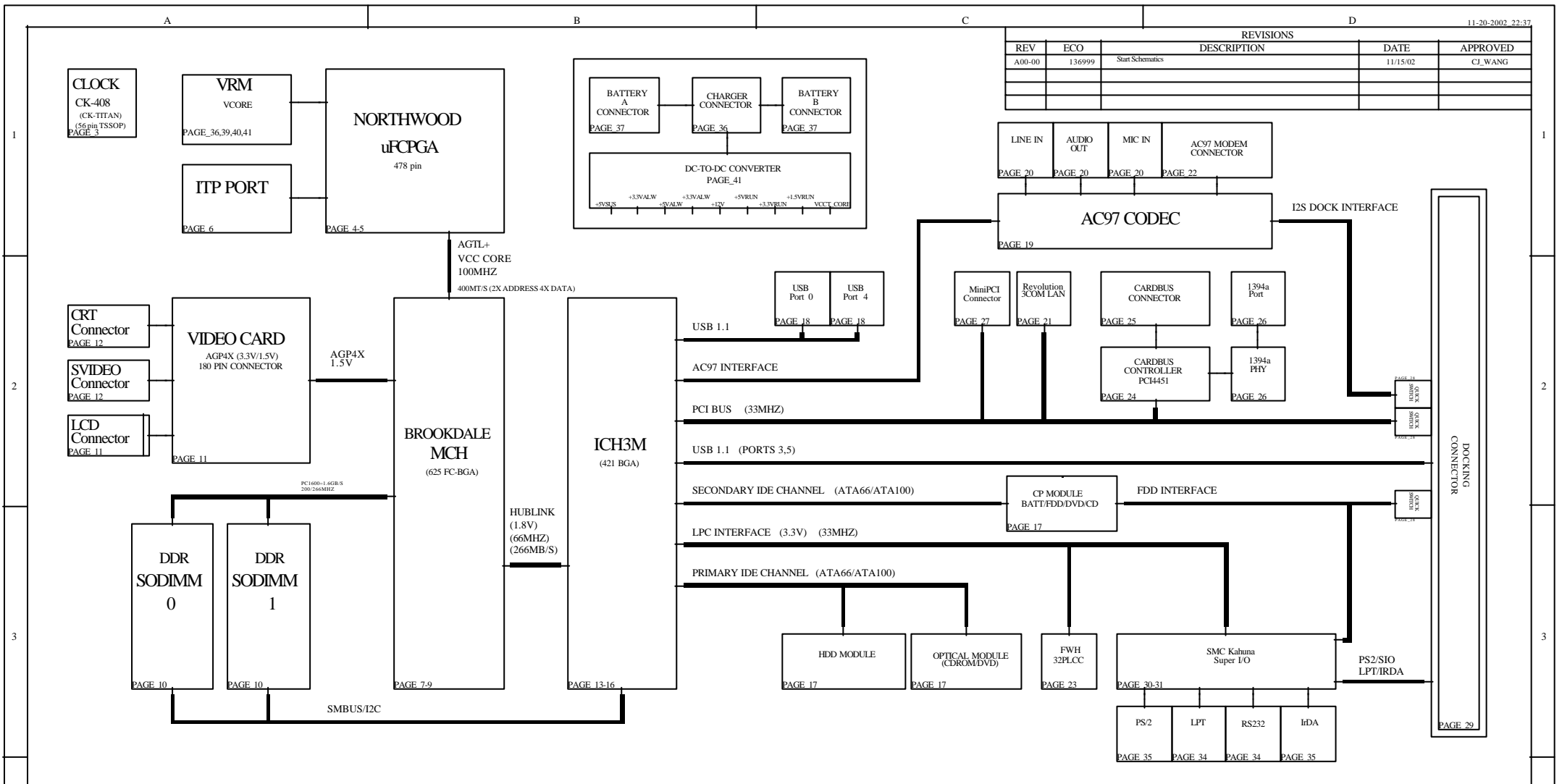


REVISIONS				
REV	ECO	DESCRIPTION	DATE	APPROVED
A00-00	136999	Start Schematics	11/15/02	CJ_WANG



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

EXPORT RESTRICTIONS:
 THE EXPORT OF THE INFORMATION, SCHEMATICS AND OTHER TECHNICAL DATA CONTAINED IN THIS DOCUMENT IS CONTROLLED BY THE U.S. GOVERNMENT. THE EXPORT, RE-EXPORT OR OTHER TRANSFER OF THIS DATA TO CERTAIN COUNTRIES AND INDIVIDUALS IS RESTRICTED. ANY TRANSFER, EXPORT OR REEXPORT MUST BE IN COMPLIANCE WITH THE U.S. EXPORT ADMINISTRATION REGULATIONS.

M50 A00

PROPRIETARY NOTE

THIS ITEM IS THE PROPERTY OF DELL COMPUTER CORP. AUSTIN, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS ITEM MAY NOT BE TRANSMITTED FROM THE CUSTODY OF DELL COMPUTER CORP. EXCEPT AS AUTHORIZED BY DELL COMPUTER CORP. AND THEN ONLY BY WAY OF LOAN FOR LIMITED PURPOSES. IT SHALL NOT BE REPRODUCED IN WHOLE OR IN PART AND MUST BE RETURNED TO DELL COMPUTER CORP. UPON REQUEST AND IN ALL EVENTS UPON COMPLETION OF THE PURPOSE OF THE LOAN. NEITHER THIS ITEM NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO PERSONS NOT HAVING A NEED FOR SUCH USE OR DISCLOSURE CONSISTENT WITH THE PURPOSE OF THE LOAN WITHOUT THE PRIOR WRITTEN CONSENT OF DELL COMPUTER CORPORATION.

DRAWN	
DESIGNED	
CHECKED	
APPROVED	
APPROVED	
APPROVED	
APPROVED	
APPROVED	
RELEASED	

A CURRENT ISSUE OF THIS DRAWING MUST INCLUDE A COPY OF THE FOLLOWING:

ECOS:	
ECO:	
ECO:	
ECO:	
ECO:	
ECO:	
ECO:	
ECO:	
ECO:	
ECO:	
ECO:	

DELL COMPUTER CORPORATION AUSTIN, TEXAS

TITLE: SCHEMATIC, M/B LA-1221

PWG NO: 40195 REV: 4A

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

PAGE INDEX

1. Schematic Block Diagram
2. Index
3. System Clock, SMBUS Selector
- 4-5. CPU
6. CPU Voltage ID, CPU Temperature Sensor, ITP Debug Connector
- 7-9. GMCH
10. SODIMM Connectors
- 11-12. Video Connectors
- 13-16. ICH
17. CDROM, IDE Connectors
18. USB Hub
19. Audio Codec
20. Audio Connectors, Audio Amplifiers
21. 3COM Revolution (LAN on Motherboard)
22. LAN and Modem Connectors
23. Firmware Hub
24. Cardbus Controller
25. Cardbus Connector
26. IEEE1394 PHY
27. MiniPCI Connector
28. Dock Buffers
29. Dock Connector
- 30-31. Super I/O Controller (Kahuna)
32. Keyboard/Touchpad Connectors
33. Fan Controllers and Tachometers
34. Parallel and Serial Ports
35. PS2 Connectors, LED Connector, Power Sequencing Logic
36. DC-IN Connector, Charger Board Connector
37. Battery Connectors, NiMH Support
38. Power Plane Enables
39. 1.8V/1.5V Switcher and Sequencer, RTC Power Source
40. VCORE
41. DC to DC Converter
42. Mounting Holes and EMI Clips
43. Schematic Change List
44. Power Rail Diagram
45. SMBUS Diagram
- 46-50. REFDES Page Index

NEEDS TO BE UPDATED

POWER MODES

Power Mode	Voltage	Page	Source	ON	OFF
RBAT	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	
RTC_SRC	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
2.5VSUS	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	
1.8VSUS	1.8V	16, 38, 39		S1-S3	S4-S5
1.8VRUN	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
1.5VRUN	1.5V	7, 9, 11, 38, 39		S1-S2	S3-S5
STRB_5V	5V	29, 34, 38		S1-S2	S3-S5
VBEFG	0.7V	11		S1-S2	S3-S5
V_IP3SV_DDR_VTT	1.25V	8, 10, 11, 38, 39		S1-S2	S3-S5
CRF_VCC	5V	12		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		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	
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

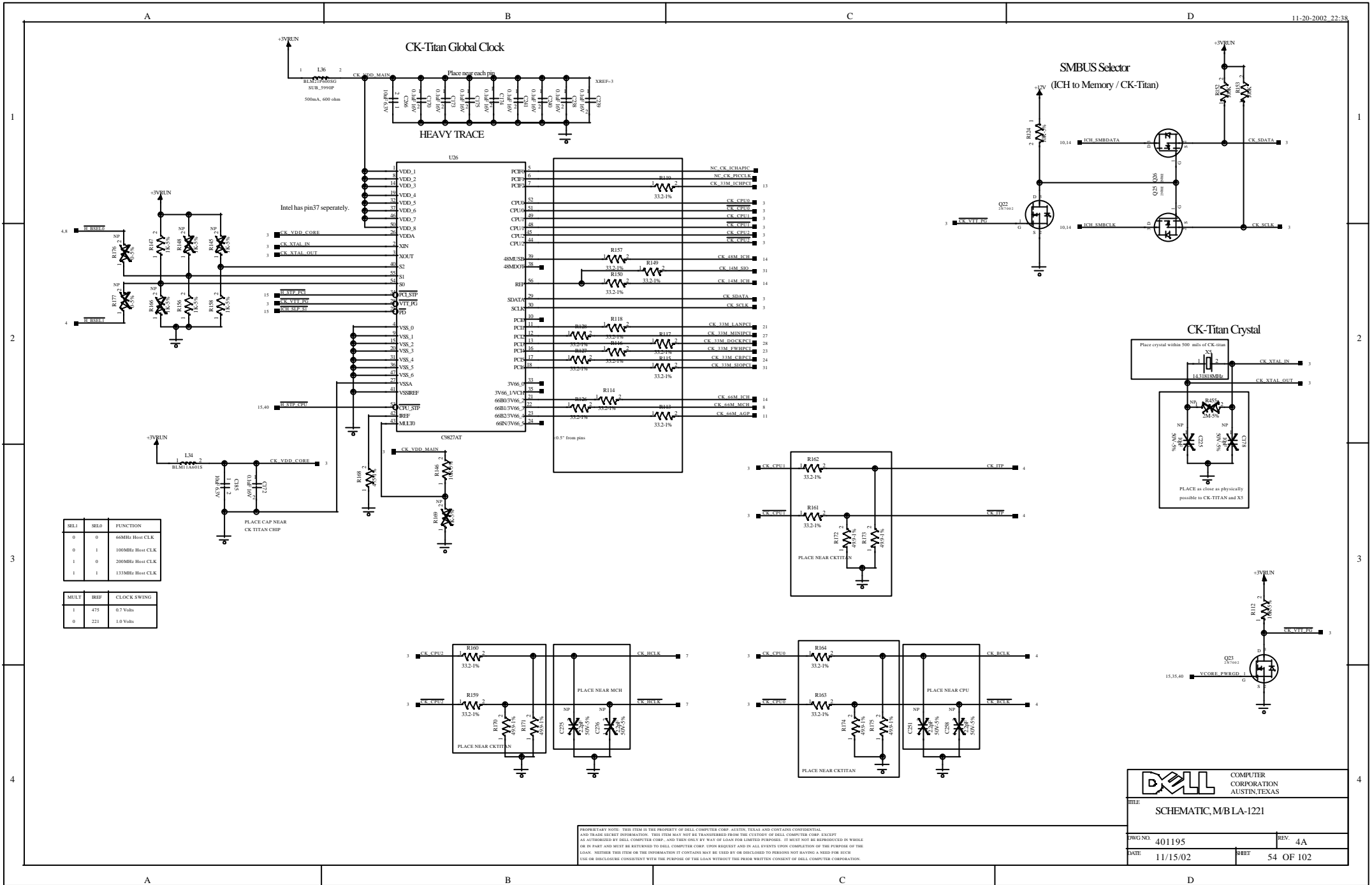
PCI TABLE

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*
Msi	AD18	PIRQA*	REQA*/GNTA*	REQ2*/GNT2*
MINIPCI	AD19	PIRQB* PIRQD*		REQ3*/GNT3*

BOM BUILD OPTIONS	
Option	Description
0	Base Build
1	FDD_PP

		COMPUTER CORPORATION AUSTIN, TEXAS	
TITLE: SCHEMATIC, M/B LA-1221			
DWG NO. 401195		REV. 4A	
DATE: 11/15/02	SHEET: 53	OF 102	

PROPRIETARY NOTE: THIS ITEM IS THE PROPERTY OF DELL COMPUTER CORP., AUSTIN, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS ITEM MAY NOT BE TRANSMITTED FROM THE CUSTODY OF DELL COMPUTER CORP. EXCEPT AS AUTHORIZED BY DELL COMPUTER CORP. AND THEN ONLY BY WAY OF LOAN FOR LIMITED PURPOSES. IT MUST NOT BE REPRODUCED IN WHOLE OR IN PART AND MUST BE RETURNED TO DELL COMPUTER CORP. UPON REQUEST AND IN ALL EVENTS UPON COMPLETION OF THE PURPOSE OF THE LOAN. NEITHER THIS ITEM OR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO PERSONS NOT HAVING A NEED FOR SUCH USE OR DISCLOSURE CONSISTENT WITH THE PURPOSE OF THE LOAN WITHOUT THE PRIOR WRITTEN CONSENT OF DELL COMPUTER CORPORATION.



PROPRIETARY NOTE: THIS ITEM IS THE PROPERTY OF DELL COMPUTER CORP. AUSTIN, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS ITEM MAY NOT BE TRANSMITTED FROM THE CUSTODY OF DELL COMPUTER CORP. EXCEPT AS AUTHORIZED BY DELL COMPUTER CORP. AND THEN ONLY BY WAY OF LEAD OR LETTER PURCHASE. IT MUST NOT BE REPRODUCED IN WHOLE OR IN PART AND MUST BE RETURNED TO DELL COMPUTER CORP. UPON REQUEST AND IN ALL EVENTS UPON COMPLETION OF THE PURPOSE OF THE LOAN. NEITHER THIS ITEM NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO PERSONS NOT HAVING A NEED FOR SUCH USE OR DISCLOSURE CONSISTENT WITH THE PURPOSE OF THE LOAN WITHOUT THE PRIOR WRITTEN CONSENT OF DELL COMPUTER CORPORATION.

DELL COMPUTER CORPORATION AUSTIN, TEXAS

TITLE: SCHEMATIC, M/B LA-1221

DWG NO: 401195 REV: 4A

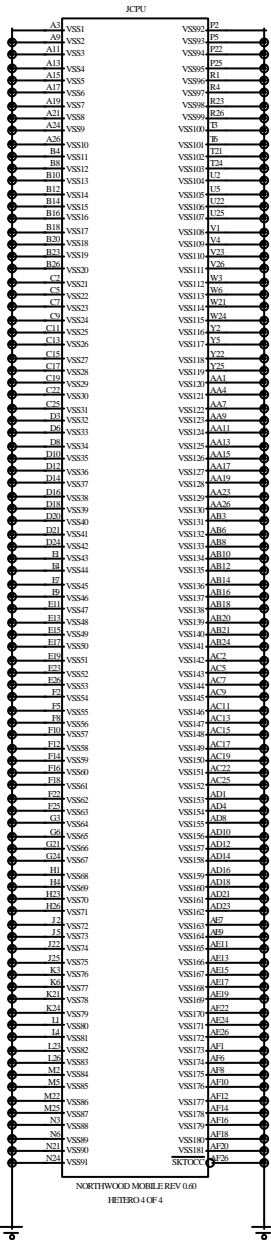
DATE: 11/15/02 SHEET: 54 OF 102

A

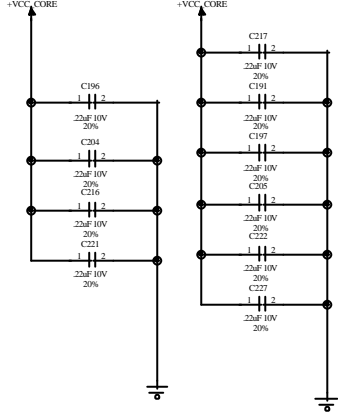
B

C

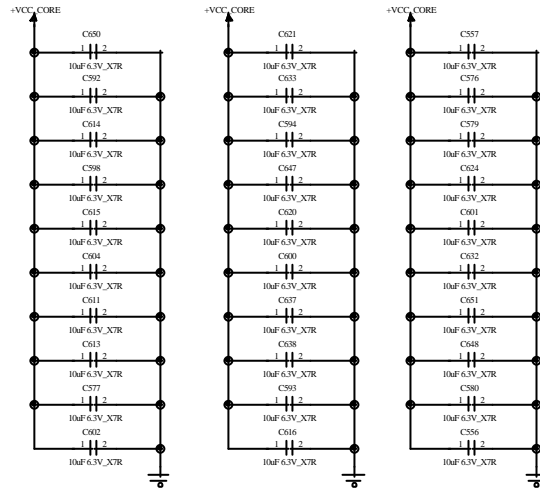
D



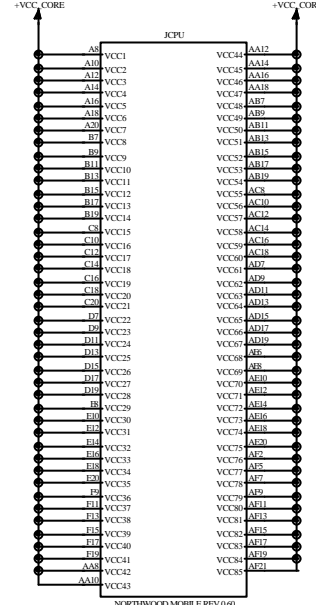
CPU High Frequency Decoupling



CPU Bulk Decoupling



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



PROPRIETARY NOTE: THIS ITEM IS THE PROPERTY OF DELL COMPUTER CORP. AUSTIN, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS ITEM MAY NOT BE TRANSFERRED FROM THE CUSTODY OF DELL COMPUTER CORP. EXCEPT AS AUTHORIZED BY DELL COMPUTER CORP. AND THEN ONLY BY WAY OF LEASE FOR LIMITED PURPOSES. IT MUST NOT BE REPRODUCED IN WHOLE OR IN PART AND MUST BE RETURNED TO DELL COMPUTER CORP. UPON REQUEST AND IN ALL EVENTS UPON COMPLETION OF THE PURPOSE OF THE LEASE. NEITHER THIS ITEM OR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO PERSONS NOT HAVING A NEED FOR SUCH FILE OR DISCLOSED CONSISTENT WITH THE PURPOSE OF THE LEASE WITHOUT THE PRIOR WRITTEN CONSENT OF DELL COMPUTER CORPORATION.

DELL		COMPUTER CORPORATION AUSTIN, TEXAS	
TITLE SCHEMATIC, M/B LA-1221			
DWG NO. 401195		REV. 4A	
DATE 11/15/02	SHEET 56	OF 102	

A

B

C

D

A B C D

1

2

3

4

1

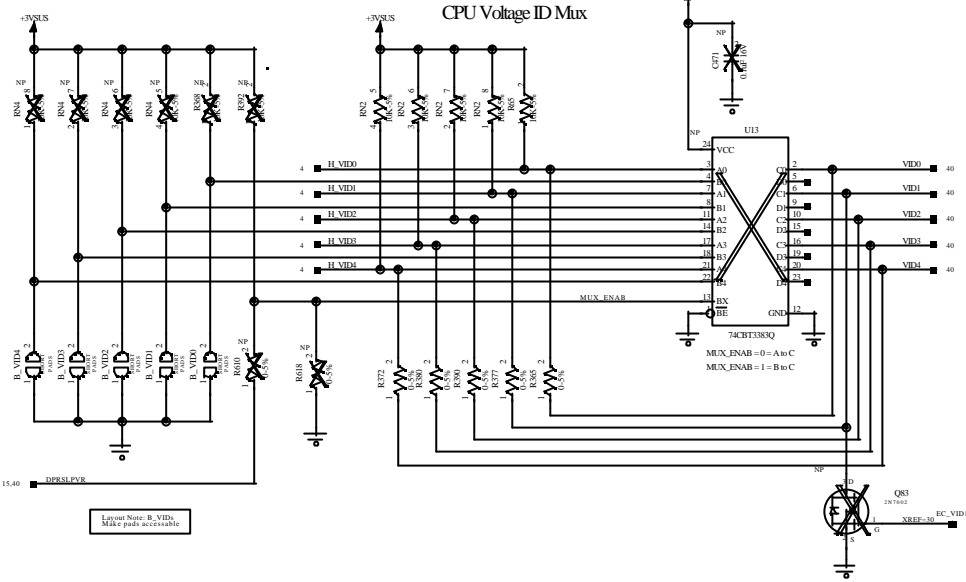
2

3

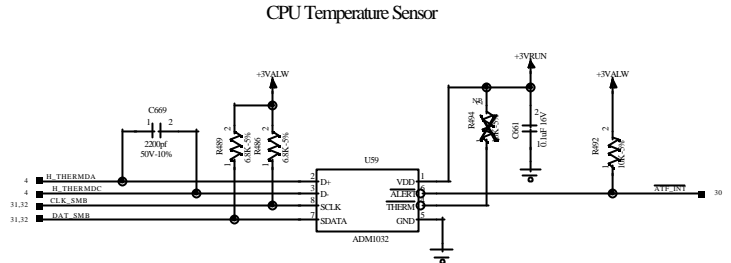
4

O = pads open
S = pads shorted

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



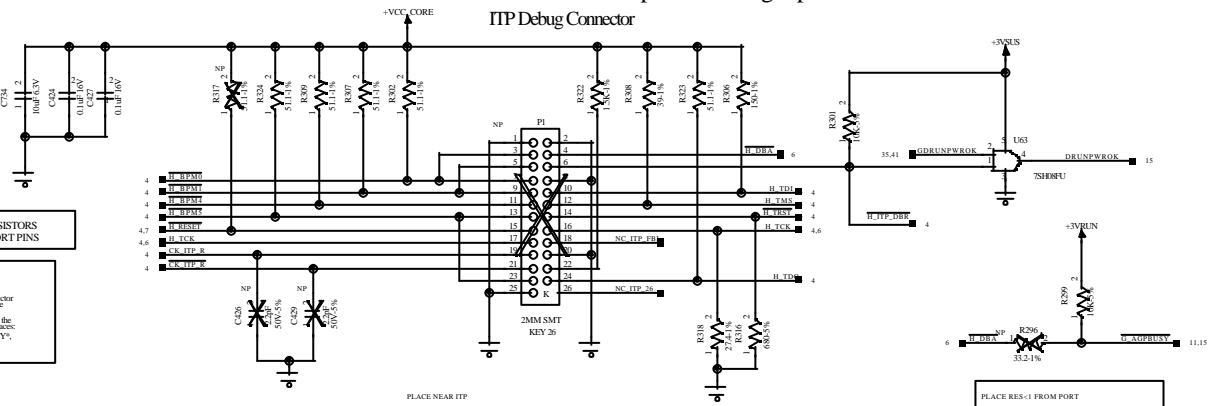
Layout Note: B_VID, MUX pads accessible



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 open to the end of the following traces:
Destructive CPU operation:
ITP_RX, ITP_TX

PLACE NEAR ITP

PLACE RES-1 FROM 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

DELL COMPUTER CORPORATION AUSTIN, TEXAS

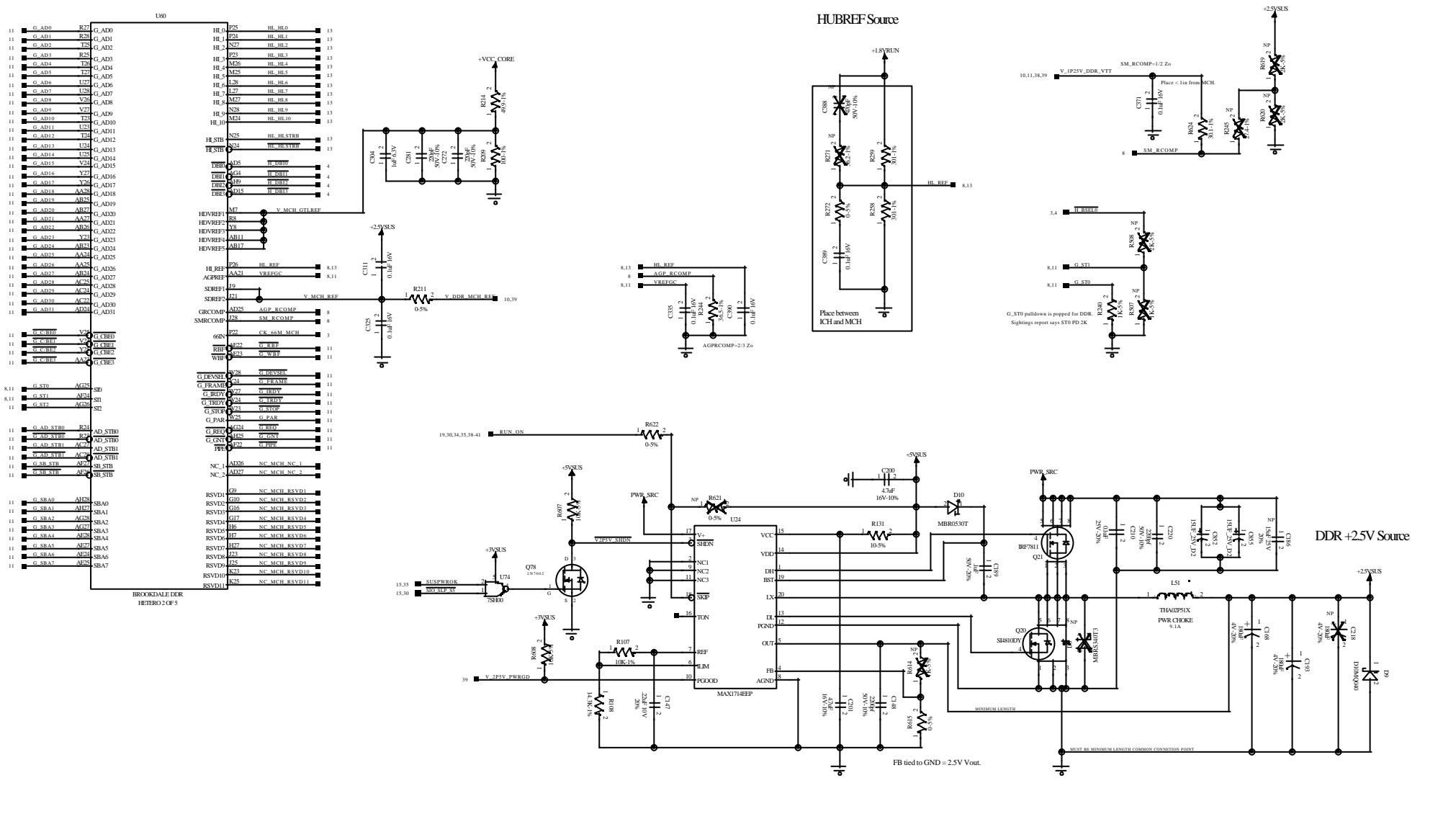
SCHEMATIC, M/B LA-1221

PWG NO. 401195 REV. 4A

DATE 11/15/02 SHEET 57 OF 102

PROPRIETARY NOTE: THIS ITEM IS THE PROPERTY OF DELL COMPUTER CORP. AUSTIN, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS ITEM MAY NOT BE TRANSFERRED FROM THE CUSTODY OF DELL COMPUTER CORP. EXCEPT AS AUTHORIZED BY DELL COMPUTER CORP. AND THEN ONLY BY WAY OF LEASE FOR LIMITED PURPOSES. IT MUST NOT BE REPRODUCED IN WHOLE OR IN PART AND MUST BE RETURNED TO DELL COMPUTER CORP. UPON REQUEST AND IN ALL EVENTS UPON COMPLETION OF THE PURPOSE OF THE LEASE. NEITHER THIS ITEM OR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO PERSONS NOT HAVING A NEED FOR SUCH USE OR DISCLOSURE CONSISTENT WITH THE PURPOSE OF THE LEASE WITHOUT THE PRIOR WRITTEN CONSENT OF DELL COMPUTER CORPORATION.

A B C D

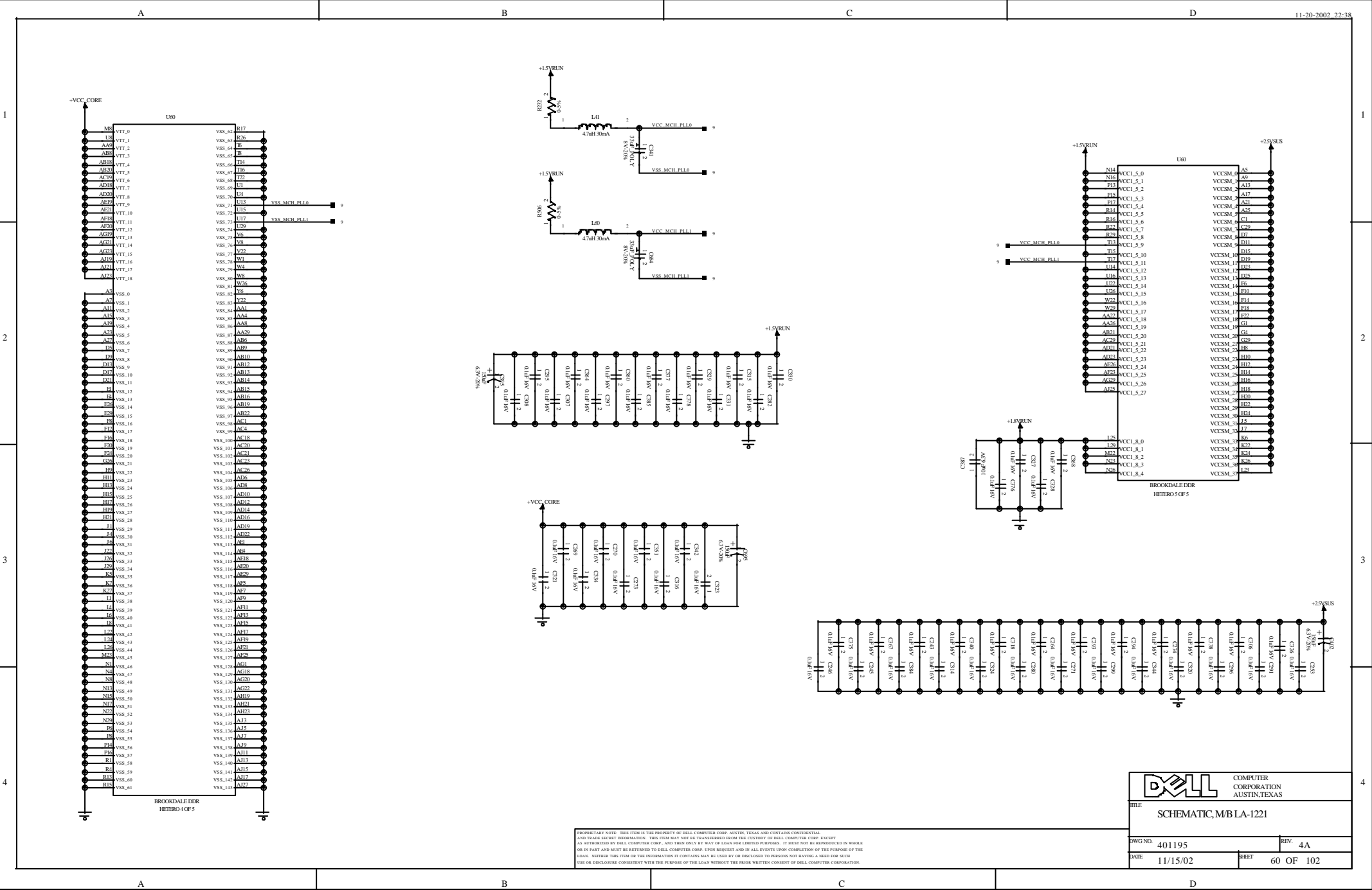


U90

11	G_AD0	R27	G_AD0	HL_H0	HL_H0	13
11	G_AD1	R28	G_AD1	HL_H1	HL_H1	13
11	G_AD2	R29	G_AD2	HL_H2	HL_H2	13
11	G_AD3	R30	G_AD3	HL_H3	HL_H3	13
11	G_AD4	R31	G_AD4	HL_H4	HL_H4	13
11	G_AD5	R32	G_AD5	HL_H5	HL_H5	13
11	G_AD6	R33	G_AD6	HL_H6	HL_H6	13
11	G_AD7	R34	G_AD7	HL_H7	HL_H7	13
11	G_AD8	R35	G_AD8	HL_H8	HL_H8	13
11	G_AD9	R36	G_AD9	HL_H9	HL_H9	13
11	G_AD10	R37	G_AD10	HL_H10	HL_H10	13
11	G_AD11	R38	G_AD11	HL_H11	HL_H11	13
11	G_AD12	R39	G_AD12	HL_H12	HL_H12	13
11	G_AD13	R40	G_AD13	HL_H13	HL_H13	13
11	G_AD14	R41	G_AD14	HL_H14	HL_H14	13
11	G_AD15	R42	G_AD15	HL_H15	HL_H15	13
11	G_AD16	R43	G_AD16	HL_H16	HL_H16	13
11	G_AD17	R44	G_AD17	HL_H17	HL_H17	13
11	G_AD18	R45	G_AD18	HL_H18	HL_H18	13
11	G_AD19	R46	G_AD19	HL_H19	HL_H19	13
11	G_AD20	R47	G_AD20	HL_H20	HL_H20	13
11	G_AD21	R48	G_AD21	HL_H21	HL_H21	13
11	G_AD22	R49	G_AD22	HL_H22	HL_H22	13
11	G_AD23	R50	G_AD23	HL_H23	HL_H23	13
11	G_AD24	R51	G_AD24	HL_H24	HL_H24	13
11	G_AD25	R52	G_AD25	HL_H25	HL_H25	13
11	G_AD26	R53	G_AD26	HL_H26	HL_H26	13
11	G_AD27	R54	G_AD27	HL_H27	HL_H27	13
11	G_AD28	R55	G_AD28	HL_H28	HL_H28	13
11	G_AD29	R56	G_AD29	HL_H29	HL_H29	13
11	G_AD30	R57	G_AD30	HL_H30	HL_H30	13
11	G_AD31	R58	G_AD31	HL_H31	HL_H31	13
11	G_AD32	R59	G_AD32	HL_H32	HL_H32	13
11	G_AD33	R60	G_AD33	HL_H33	HL_H33	13
11	G_AD34	R61	G_AD34	HL_H34	HL_H34	13
11	G_AD35	R62	G_AD35	HL_H35	HL_H35	13
11	G_AD36	R63	G_AD36	HL_H36	HL_H36	13
11	G_AD37	R64	G_AD37	HL_H37	HL_H37	13
11	G_AD38	R65	G_AD38	HL_H38	HL_H38	13
11	G_AD39	R66	G_AD39	HL_H39	HL_H39	13
11	G_AD40	R67	G_AD40	HL_H40	HL_H40	13
11	G_AD41	R68	G_AD41	HL_H41	HL_H41	13
11	G_AD42	R69	G_AD42	HL_H42	HL_H42	13
11	G_AD43	R70	G_AD43	HL_H43	HL_H43	13
11	G_AD44	R71	G_AD44	HL_H44	HL_H44	13
11	G_AD45	R72	G_AD45	HL_H45	HL_H45	13
11	G_AD46	R73	G_AD46	HL_H46	HL_H46	13
11	G_AD47	R74	G_AD47	HL_H47	HL_H47	13
11	G_AD48	R75	G_AD48	HL_H48	HL_H48	13
11	G_AD49	R76	G_AD49	HL_H49	HL_H49	13
11	G_AD50	R77	G_AD50	HL_H50	HL_H50	13
11	G_AD51	R78	G_AD51	HL_H51	HL_H51	13
11	G_AD52	R79	G_AD52	HL_H52	HL_H52	13
11	G_AD53	R80	G_AD53	HL_H53	HL_H53	13
11	G_AD54	R81	G_AD54	HL_H54	HL_H54	13
11	G_AD55	R82	G_AD55	HL_H55	HL_H55	13
11	G_AD56	R83	G_AD56	HL_H56	HL_H56	13
11	G_AD57	R84	G_AD57	HL_H57	HL_H57	13
11	G_AD58	R85	G_AD58	HL_H58	HL_H58	13
11	G_AD59	R86	G_AD59	HL_H59	HL_H59	13
11	G_AD60	R87	G_AD60	HL_H60	HL_H60	13
11	G_AD61	R88	G_AD61	HL_H61	HL_H61	13
11	G_AD62	R89	G_AD62	HL_H62	HL_H62	13
11	G_AD63	R90	G_AD63	HL_H63	HL_H63	13
11	G_AD64	R91	G_AD64	HL_H64	HL_H64	13
11	G_AD65	R92	G_AD65	HL_H65	HL_H65	13
11	G_AD66	R93	G_AD66	HL_H66	HL_H66	13
11	G_AD67	R94	G_AD67	HL_H67	HL_H67	13
11	G_AD68	R95	G_AD68	HL_H68	HL_H68	13
11	G_AD69	R96	G_AD69	HL_H69	HL_H69	13
11	G_AD70	R97	G_AD70	HL_H70	HL_H70	13
11	G_AD71	R98	G_AD71	HL_H71	HL_H71	13
11	G_AD72	R99	G_AD72	HL_H72	HL_H72	13
11	G_AD73	R100	G_AD73	HL_H73	HL_H73	13
11	G_AD74	R101	G_AD74	HL_H74	HL_H74	13
11	G_AD75	R102	G_AD75	HL_H75	HL_H75	13
11	G_AD76	R103	G_AD76	HL_H76	HL_H76	13
11	G_AD77	R104	G_AD77	HL_H77	HL_H77	13
11	G_AD78	R105	G_AD78	HL_H78	HL_H78	13
11	G_AD79	R106	G_AD79	HL_H79	HL_H79	13
11	G_AD80	R107	G_AD80	HL_H80	HL_H80	13
11	G_AD81	R108	G_AD81	HL_H81	HL_H81	13
11	G_AD82	R109	G_AD82	HL_H82	HL_H82	13
11	G_AD83	R110	G_AD83	HL_H83	HL_H83	13
11	G_AD84	R111	G_AD84	HL_H84	HL_H84	13
11	G_AD85	R112	G_AD85	HL_H85	HL_H85	13
11	G_AD86	R113	G_AD86	HL_H86	HL_H86	13
11	G_AD87	R114	G_AD87	HL_H87	HL_H87	13
11	G_AD88	R115	G_AD88	HL_H88	HL_H88	13
11	G_AD89	R116	G_AD89	HL_H89	HL_H89	13
11	G_AD90	R117	G_AD90	HL_H90	HL_H90	13
11	G_AD91	R118	G_AD91	HL_H91	HL_H91	13
11	G_AD92	R119	G_AD92	HL_H92	HL_H92	13
11	G_AD93	R120	G_AD93	HL_H93	HL_H93	13
11	G_AD94	R121	G_AD94	HL_H94	HL_H94	13
11	G_AD95	R122	G_AD95	HL_H95	HL_H95	13
11	G_AD96	R123	G_AD96	HL_H96	HL_H96	13
11	G_AD97	R124	G_AD97	HL_H97	HL_H97	13
11	G_AD98	R125	G_AD98	HL_H98	HL_H98	13
11	G_AD99	R126	G_AD99	HL_H99	HL_H99	13
11	G_AD100	R127	G_AD100	HL_H100	HL_H100	13

DELL COMPUTER CORPORATION AUSTIN, TEXAS	
TITLE: SCHEMATIC, M/B LA-1221	
DWG NO. 401195	REV. 4A
DATE 11/15/02	SHEET 59 OF 102

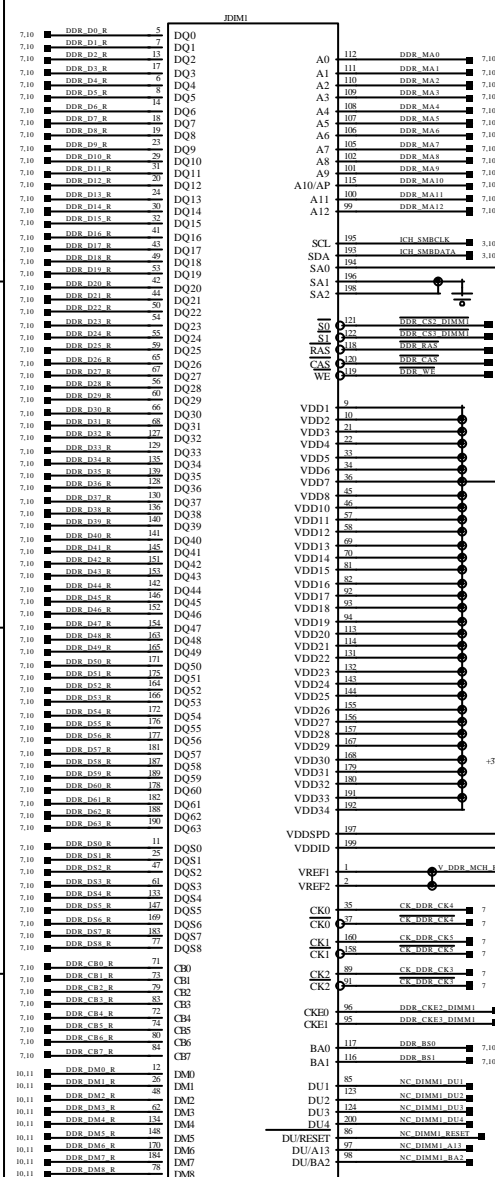
PROPRIETARY NOTE: THIS ITEM IS THE PROPERTY OF DELL COMPUTER CORP. AUSTIN, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS ITEM MAY NOT BE TRANSFERRED FROM THE CUSTODY OF DELL COMPUTER CORP. EXCEPT AS AUTHORIZED BY DELL COMPUTER CORP. AND THIS ONLY BY WAY OF LEASE FOR LIMITED PURPOSES. IT MUST NOT BE REPRODUCED IN WHOLE OR IN PART AND MUST BE RETURNED TO DELL COMPUTER CORP. UPON REQUEST AND IN ALL EVENTS UPON COMPLETION OF THE PURPOSE OF THE LEASE. NEITHER THIS ITEM OR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO PERSONS NOT HAVING A NEED FOR SUCH USE OR DISCLOSURE CONSISTENT WITH THE PURPOSE OF THE LEASE WITHOUT THE PRIOR WRITTEN CONSENT OF DELL COMPUTER CORPORATION.



PROPRIETARY NOTE: THIS ITEM IS THE PROPERTY OF DELL COMPUTER CORP., AUSTIN, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS ITEM MAY NOT BE TRANSFERRED FROM THE CUSTODY OF DELL COMPUTER CORP. EXCEPT AS AUTHORIZED BY DELL COMPUTER CORP. AND THEN ONLY BY WAY OF LEASE FOR LIMITED PURPOSES. IT MUST NOT BE REPRODUCED IN WHOLE OR IN PART AND MUST BE RETURNED TO DELL COMPUTER CORP. UPON REQUEST AND IN ALL EVENTS UPON COMPLETION OF THE PURPOSE OF THE LEASE. NEITHER THIS ITEM NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO PERSONS NOT HAVING A NEED FOR SUCH USE OR DISCLOSURE CONSISTENT WITH THE PURPOSE OF THE LEASE WITHOUT THE PRIOR WRITTEN CONSENT OF DELL COMPUTER CORPORATION.

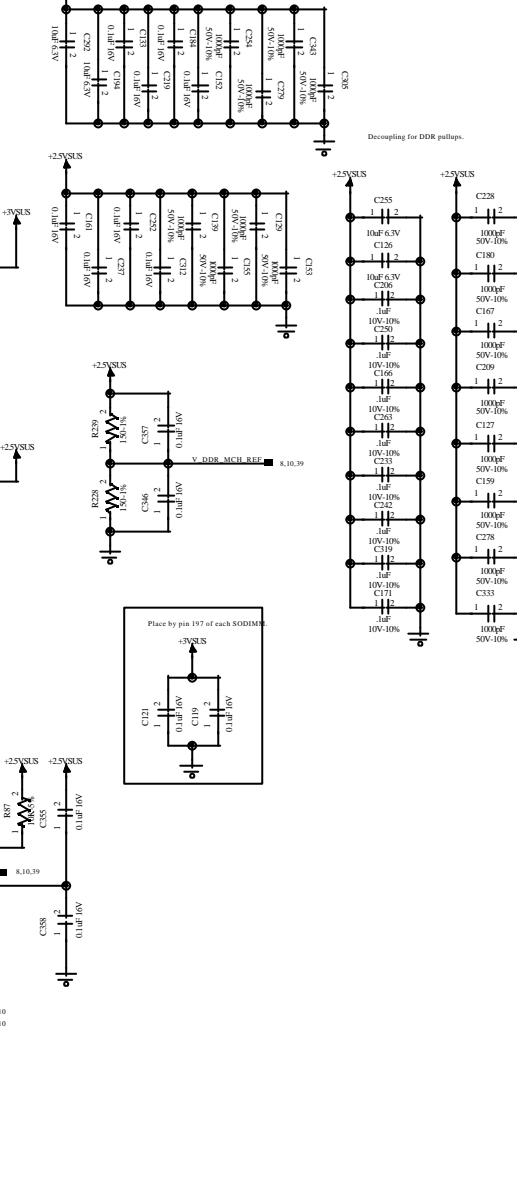
DELL		COMPUTER CORPORATION AUSTIN, TEXAS	
TITLE SCHEMATIC, M/B LA-1221			
DWG NO. 401195		REV. 4A	
DATE 11/15/02		SHEET 60 OF 102	

DIMM1 LOW PROFILE, REVERSE KEY



PC2100 DDR SO-DIMM SKT REVERSE KEY

DIMM0 STANDARD PROFILE



PC2100 DDR SO-DIMM SKT

PROPRIETARY NOTE: THIS ITEM IS THE PROPERTY OF DELL COMPUTER CORP. AUSTIN, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS ITEM MAY NOT BE REPRODUCED FROM THE CUSTOMER OF DELL COMPUTER CORP. EXCEPT AS AUTHORIZED BY DELL COMPUTER CORP. AND THEN ONLY BY WAY OF A WRITTEN LICENSE. IF THIS ITEM IS NOT REPRODUCED IN WHOLE OR IN PART AND NOT RETURNED TO DELL COMPUTER CORP. UPON REQUEST AND IN ALL EVENTS UPON COMPLETION OF THE PURPOSE OF THE LOAN, WITHOUT THE ITEM OR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO PERSONS NOT HAVING A NEED FOR SUCH INFO AND DISCLOSED IN CONVICTION WITH THE PURPOSE OF THE LOAN WITHOUT THE PRIOR WRITTEN CONSENT OF DELL COMPUTER CORPORATION.

DELL COMPUTER CORPORATION AUSTIN, TEXAS

TITLE: SCHEMATIC, M/B LA-1221

DWG NO. 401195 REV. 4A

DATE 11/15/02 SHEET 61 OF 102

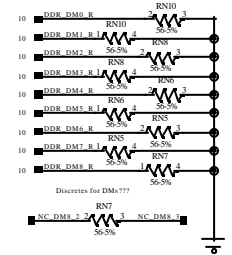
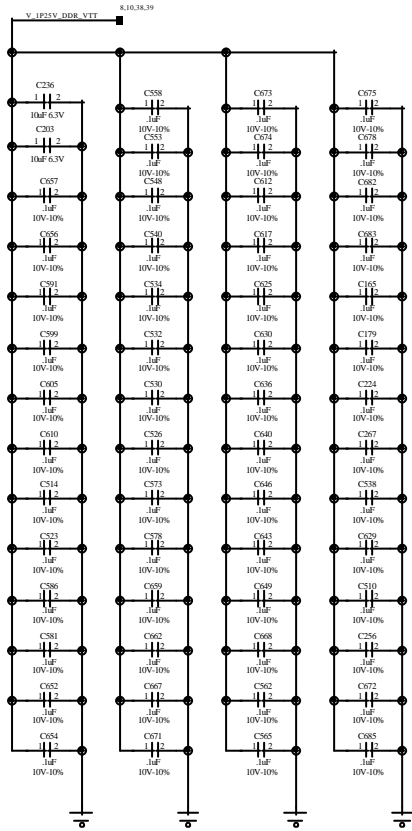
A

B

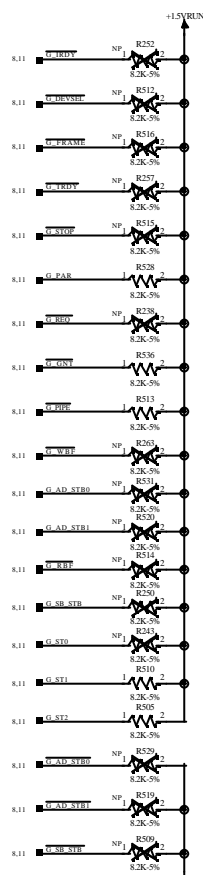
C

D

DDR VTT decoupling.

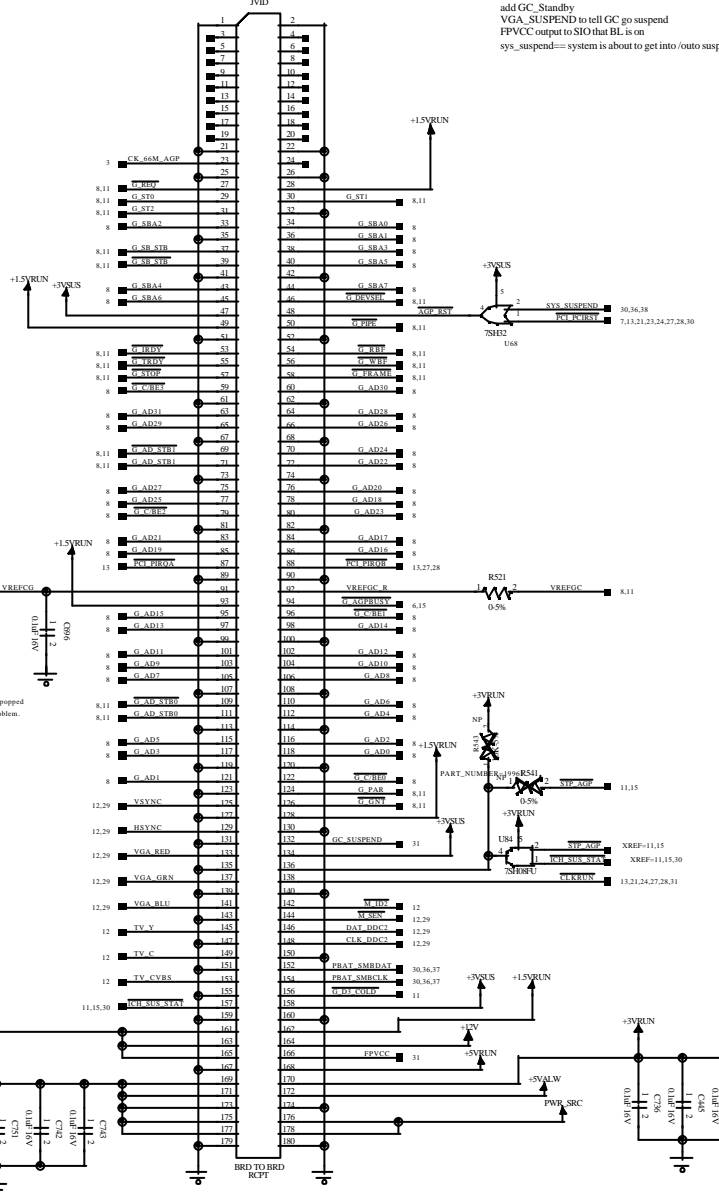


AGP pullups: matches Meteor. Verify pullups in Brookdale.

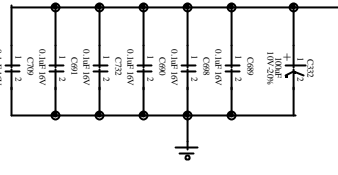


R953 and R498 are popped due to BD-M AD problem.

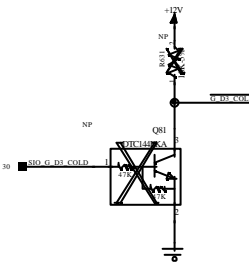
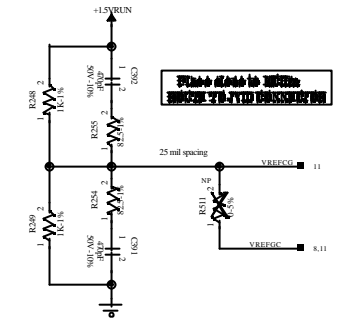
VGA Board Connector



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

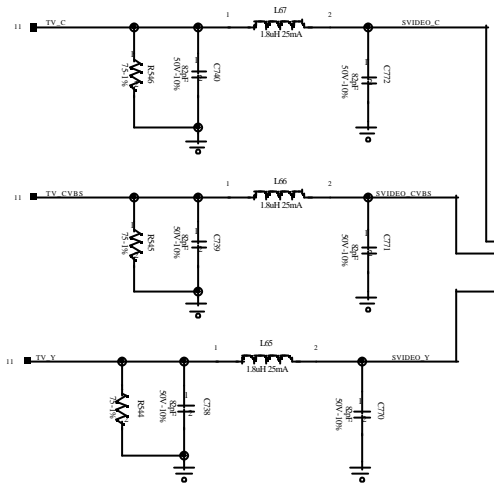


VREFCG Source

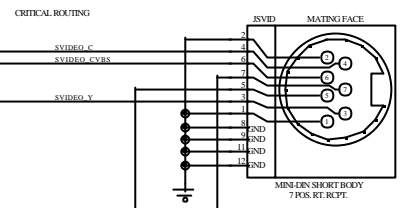


DELL		COMPUTER CORPORATION AUSTIN, TEXAS	
TITLE SCHEMATIC, M/B LA-1221			
DWG NO. 401195		REV. 4A	
DATE 11/15/02		SHEET 62 OF 102	

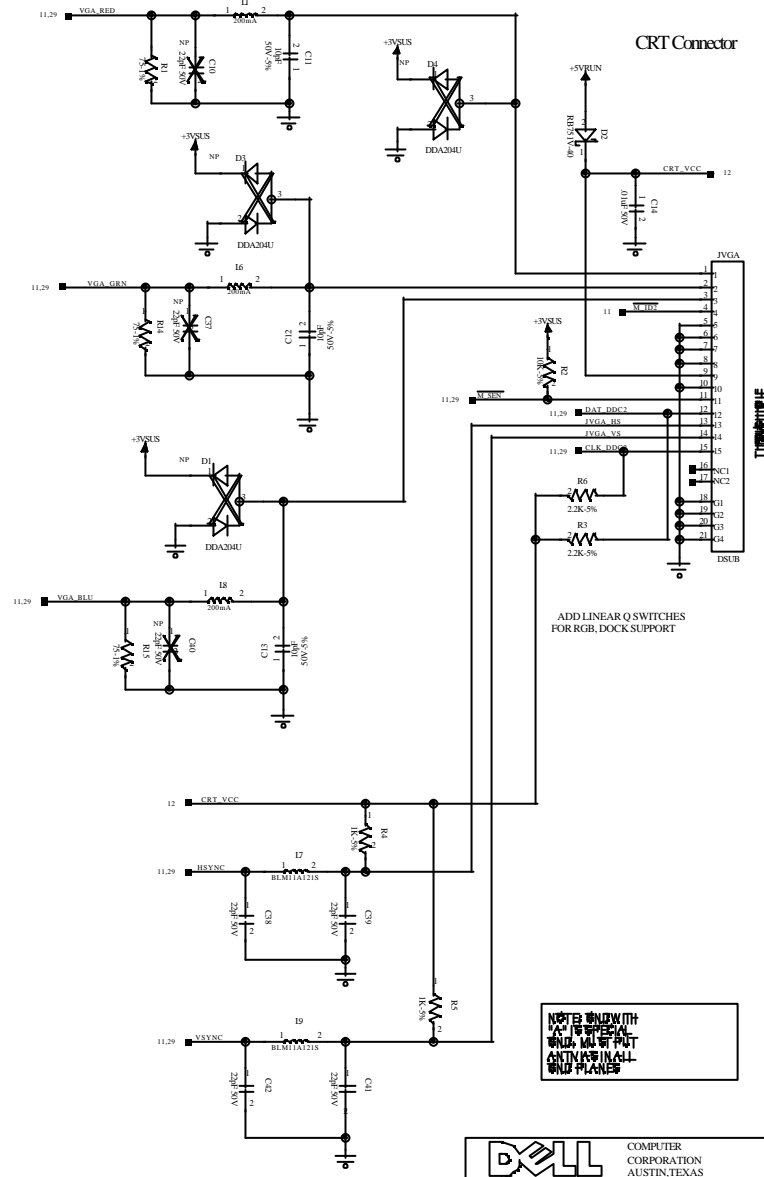
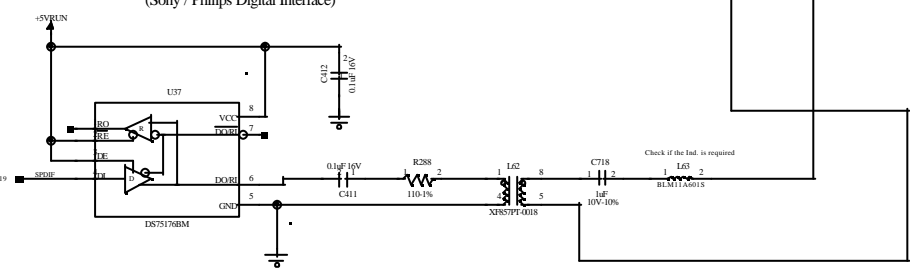
PROPRIETARY NOTE: THIS ITEM IS THE PROPERTY OF DELL COMPUTER CORP. AUSTIN, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS ITEM MAY NOT BE TRANSMITTED FROM THE CUSTODY OF DELL COMPUTER CORP. EXCEPT AS AUTHORIZED BY DELL COMPUTER CORP. AND THIS ONLY BY WAY OF LEASE FOR LIMITED PURPOSES. IT MUST NOT BE REPRODUCED IN WHOLE OR IN PART AND MUST BE RETURNED TO DELL COMPUTER CORP. UPON REQUEST AND IN ALL EVENTS UPON COMPLETION OF THE PURPOSE OF THE LEASE. NEITHER THIS ITEM OR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO PERSONS NOT HAVING A NEED FOR SUCH USE OR DISCLOSURE CONSISTENT WITH THE PURPOSE OF THE LEASE WITHOUT THE PRIOR WRITTEN CONSENT OF DELL COMPUTER CORPORATION.



S-Video Connector



S/PDIF Interface (Sony / Philips Digital Interface)



NOTE: ONLY WITH
S/PDIF SPECIAL
SIGNALS IN ALL
SIGNAL PLANES

DELL		COMPUTER CORPORATION AUSTIN, TEXAS	
TITLE SCHEMATIC, M/B LA-1221			
DWG NO. 401195		REV. 4A	
DATE 11/15/02	SHEET 63	OF 102	

PROPRIETARY NOTE: THIS ITEM IS THE PROPERTY OF DELL COMPUTER CORP., AUSTIN, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS ITEM MAY NOT BE TRANSFERRED FROM THE CUSTODY OF DELL COMPUTER CORP. EXCEPT AS AUTHORIZED BY DELL COMPUTER CORP. AND THEN ONLY BY WAY OF LEASE FOR LIMITED PURPOSES. IT MUST NOT BE REPRODUCED IN WHOLE OR IN PART AND MUST BE RETURNED TO DELL COMPUTER CORP. UPON REQUEST AND IN ALL EVENTS UPON COMPLETION OF THE PURPOSE OF THE LEASE. NEITHER THIS ITEM OR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO PERSONS NOT HAVING A NEED FOR SUCH USE OR DISCLOSURE CONSISTENT WITH THE PURPOSE OF THE LEASE WITHOUT THE PRIOR WRITTEN CONSENT OF DELL COMPUTER CORPORATION.

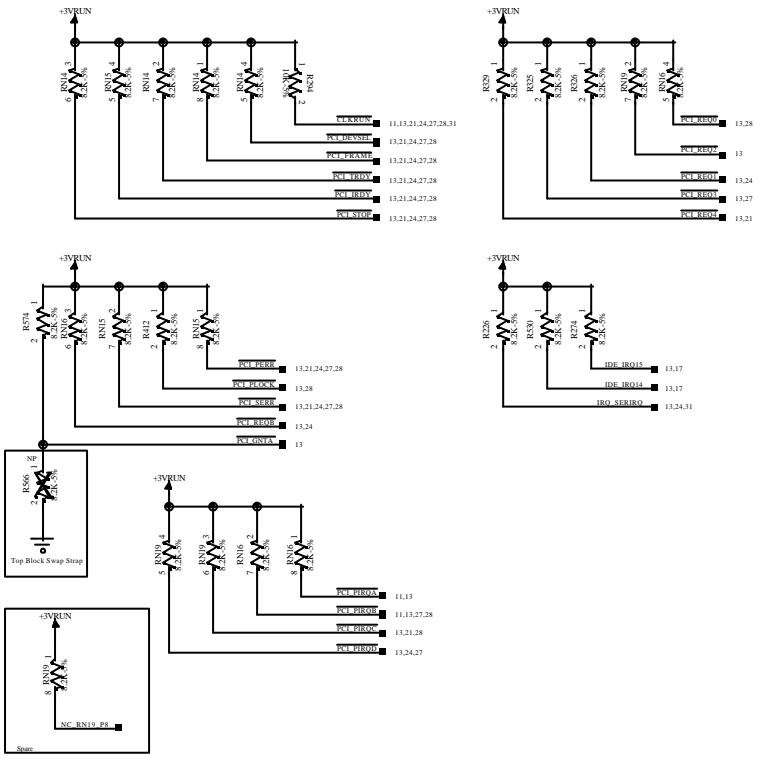
A

B

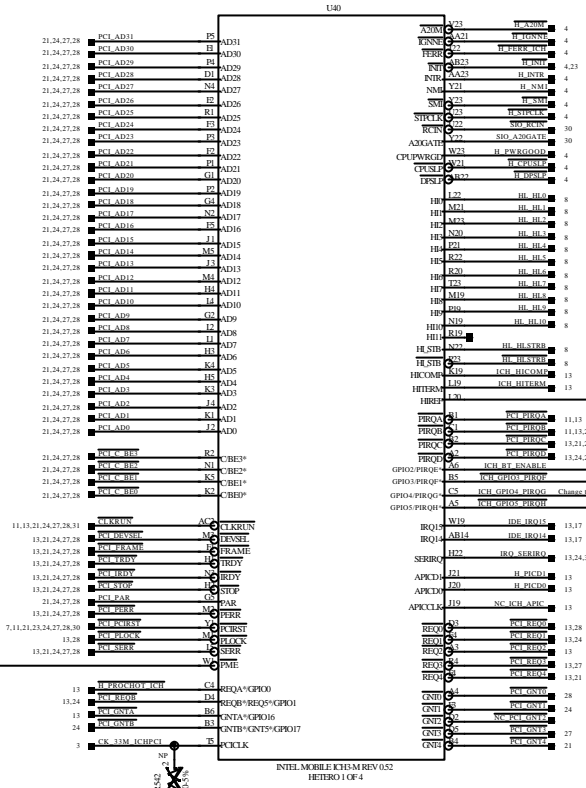
C

D

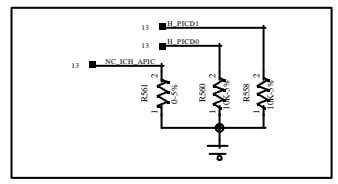
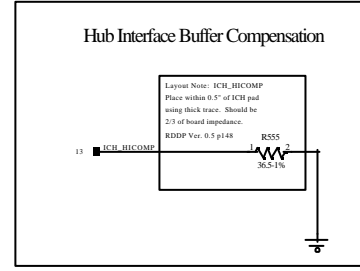
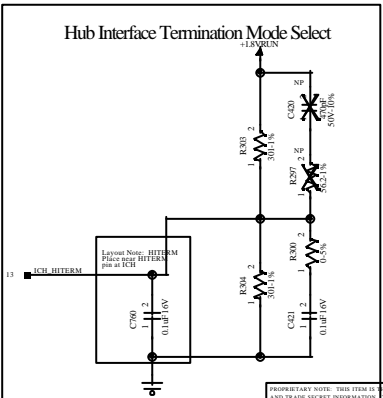
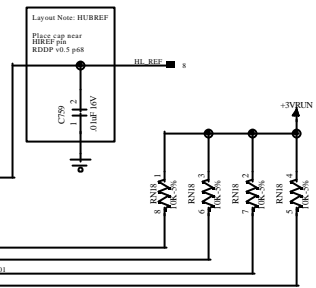
PCI Bus Pull-Ups



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



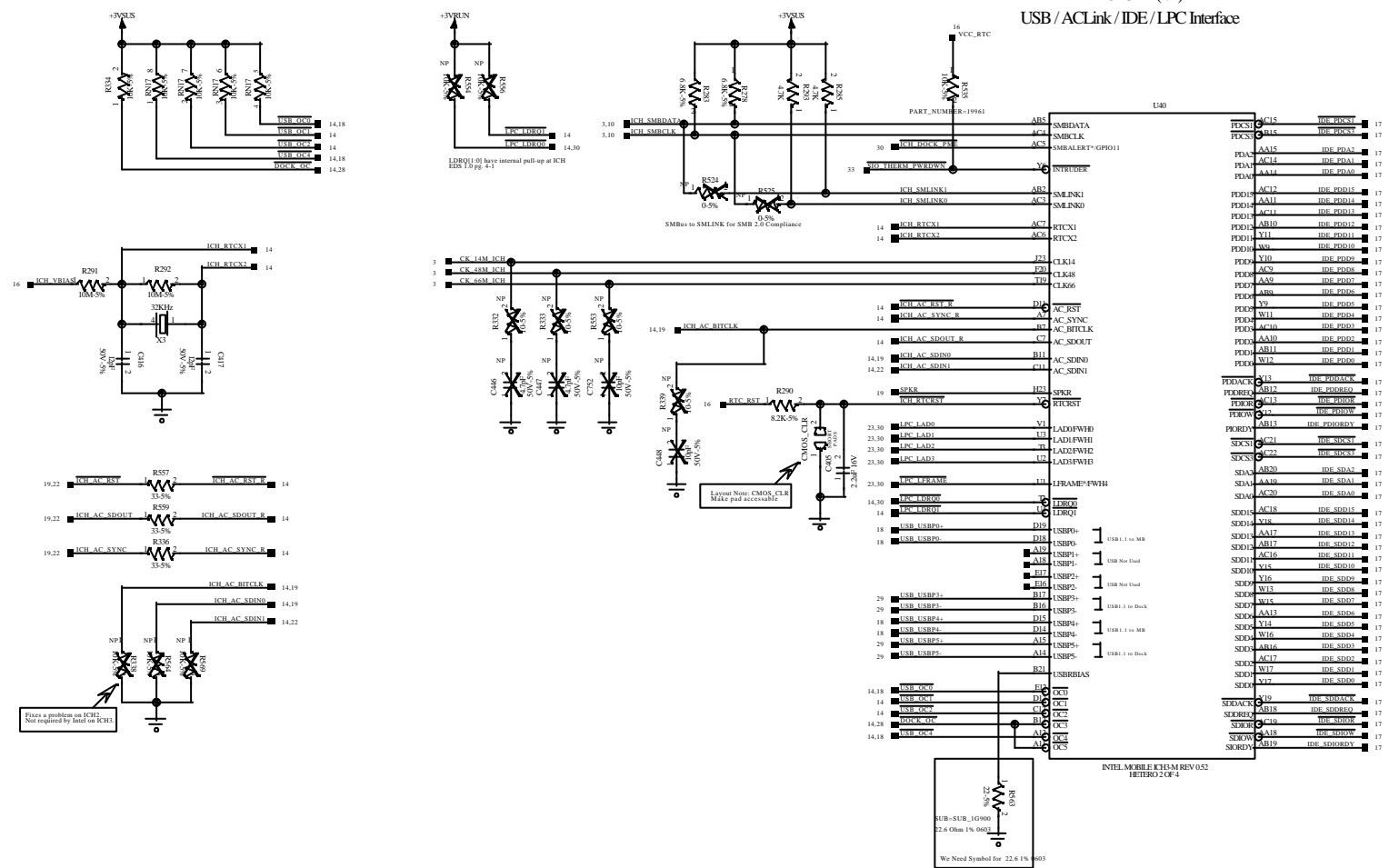
HUB INTERFACE LAYOUT:
ROUTE SIGNALS WITH 5:20 TRACE SPACE.
SIGNALS MUST MATCH +/-0.1" OF HL_STB*STB* SIGNALS.
RDDP Ver. 0.5 p148



PROPRIETARY NOTE: THIS ITEM IS THE PROPERTY OF DELL COMPUTER CORP. AUSTIN, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS ITEM MAY NOT BE TRANSMITTED FROM THE CUSTODY OF DELL COMPUTER CORP. EXCEPT AS AUTHORIZED BY DELL COMPUTER CORP. AND THIS ONLY BY WAY OF LICENSE FOR LIMITED PURPOSES. IT MUST NOT BE REPRODUCED IN WHOLE OR IN PART AND MUST BE RETURNED TO DELL COMPUTER CORP. UPON REQUEST AND IN ALL EVENTS UPON COMPLETION OF THE PURPOSE OF THE LOAN. WITHIN THIS ITEM OR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO PERSONS NOT HAVING A NEED FOR SUCH USE OR DISCLOSURE CONSISTENT WITH THE PURPOSE OF THE LOAN WITHOUT THE PRIOR WRITTEN CONSENT OF DELL COMPUTER CORPORATION.

DELL		COMPUTER CORPORATION AUSTIN, TEXAS	
TITLE SCHEMATIC, M/B LA-1221			
DWG NO. 401195		REV. 4A	
DATE 11/15/02	SHEET 64	OF 102	

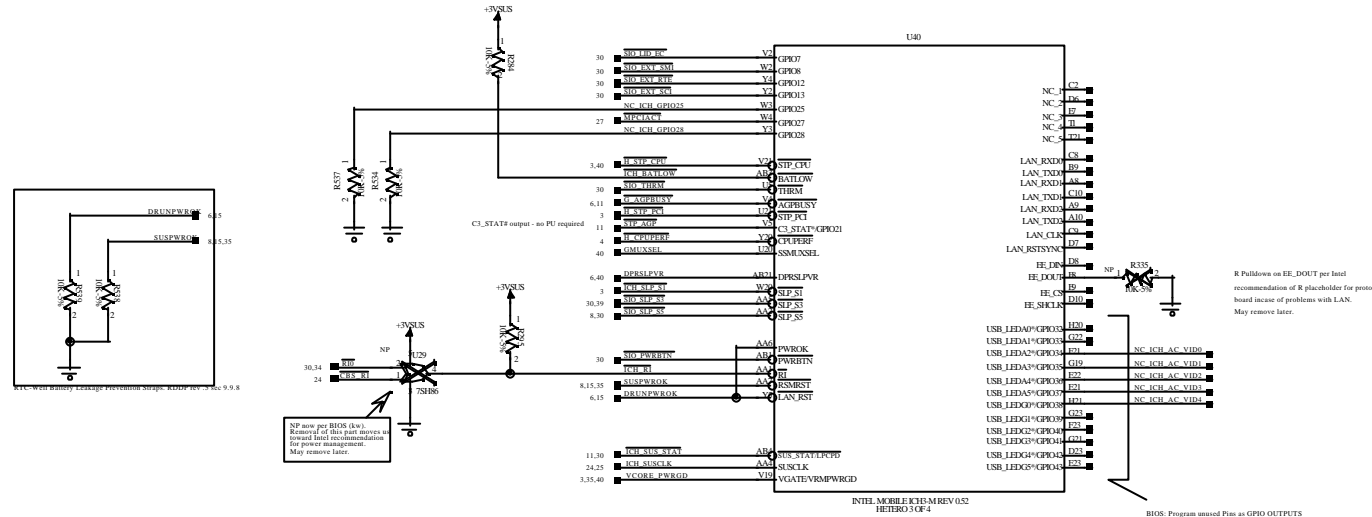
ICH3-M (2/4) USB / ALink / IDE / LPC Interface



DELL		COMPUTER CORPORATION AUSTIN, TEXAS	
TITLE SCHEMATIC, M/B LA-1221			
DWG NO. 401195		REV. 4A	
DATE 11/15/02	SHEET 65	OF 102	

PROPRIETARY NOTE: THIS ITEM IS THE PROPERTY OF DELL COMPUTER CORP., AUSTIN, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS ITEM MAY NOT BE TRANSFERRED FROM THE CUSTODY OF DELL COMPUTER CORP. EXCEPT AS AUTHORIZED BY DELL COMPUTER CORP. AND THEN ONLY BY WAY OF LEASE OR LIMITED PURCHASE. IT MUST NOT BE REPRODUCED IN WHOLE OR IN PART AND MUST BE RETURNED TO DELL COMPUTER CORP. UPON REQUEST AND IN ALL EVENTS UPON COMPLETION OF THE PURPOSE OF THE LEASE. NEITHER THIS ITEM OR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO PERSONS NOT HAVING A NEED FOR SUCH USE OR DISCLOSURE CONSISTENT WITH THE PURPOSE OF THE LEASE WITHOUT THE PRIOR WRITTEN CONSENT OF DELL COMPUTER CORPORATION.

ICH3-M (3/4) PWR MGMT / LAN / USBLED Interface



R Pulldown on EE_DOUT per Intel
recommendation of R placeholder for proto
board issue of problems with LAN.
May remove later.

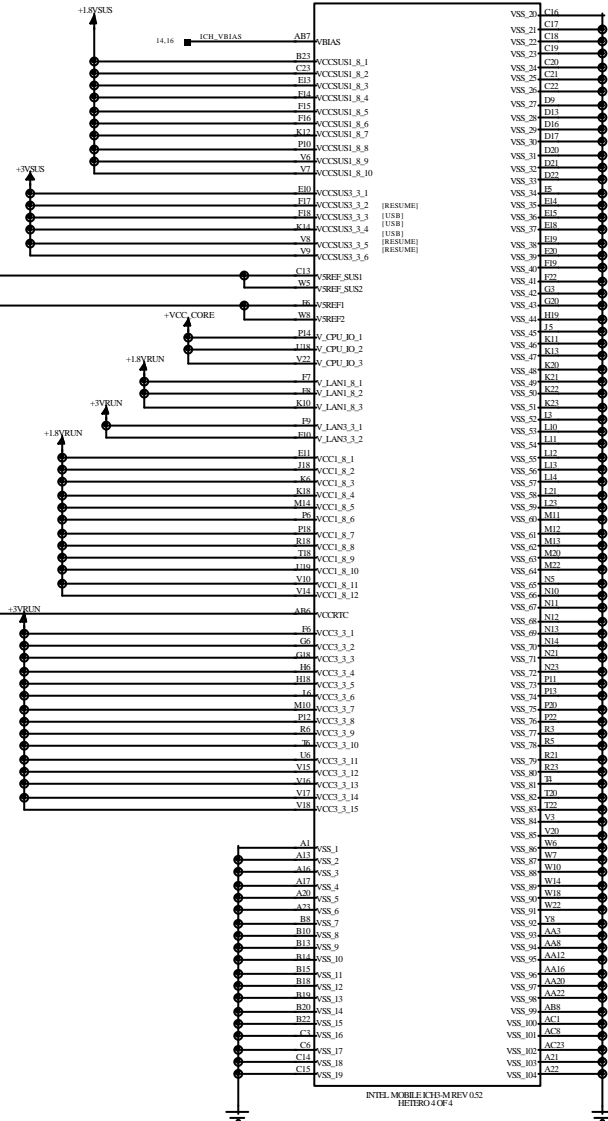
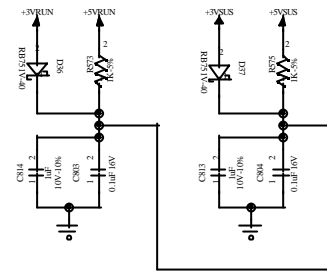
PROPRIETARY NOTE: THIS ITEM IS THE PROPERTY OF DELL COMPUTER CORP. AUSTIN, TEXAS AND CONTAINS CONFIDENTIAL
AND TRADE SECRET INFORMATION. THIS ITEM MAY NOT BE TRANSFERRED FROM THE CUSTODY OF DELL COMPUTER CORP. EXCEPT
AS AUTHORIZED BY DELL COMPUTER CORP. AND THIS ONLY BY WAY OF LEAN FOR LIMITED PURPOSES. IF NOT TO BE REPRODUCED IN WHOLE
OR IN PART AND MUST BE RETURNED TO DELL COMPUTER CORP. UPON REQUEST AND IN ALL EVENTS UPON COMPLETION OF THE PURPOSE OF THE
LEAS. NEITHER THIS ITEM OR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO PERSONS NOT HAVING A NEED FOR SUCH
USE OR DISCLOSURE CONSISTENT WITH THE PURPOSE OF THE LEAN WITHOUT THE PRIOR WRITTEN CONSENT OF DELL COMPUTER CORPORATION.

DELL		COMPUTER CORPORATION AUSTIN, TEXAS	
TITLE: SCHEMATIC, M/B LA-1221			
DWG NO:	401195	REV:	4A
DATE:	11/15/02	SHEET:	66 OF 102

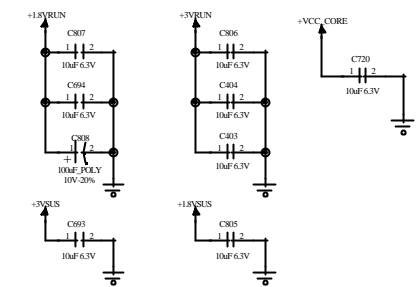
ICH3-M (44) Power and Ground

U40

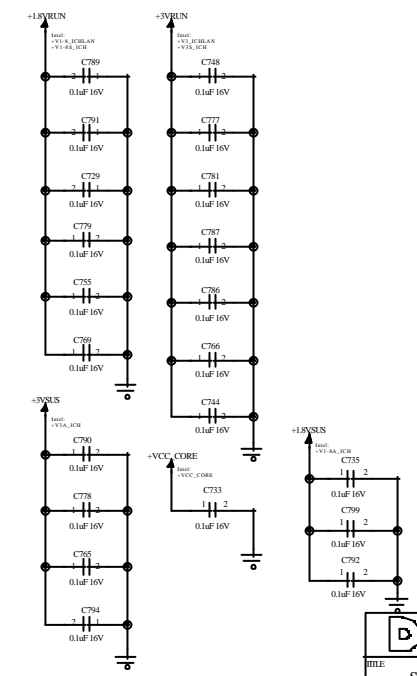
V5REF/VCC3_3 Sequencing Circuits



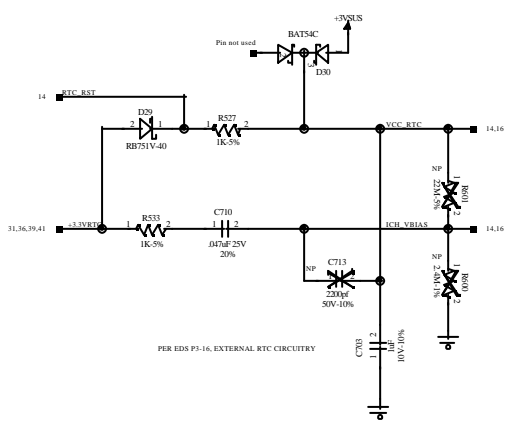
ICH3 Bulk Capacitance



ICH3 Decoupling Capacitance



External RTC Circuitry

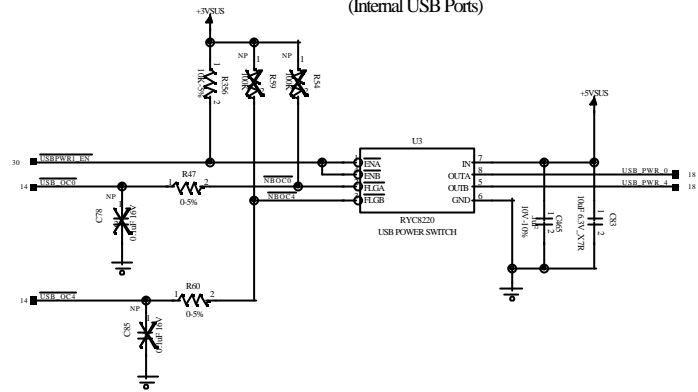


INTEL MOBILE ICH3-M REV 0.52
HETERO 4 OF 4

PROPRIETARY NOTE: THIS ITEM IS THE PROPERTY OF DELL COMPUTER CORP. AUSTIN, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS ITEM MAY NOT BE TRANSMITTED FROM THE CUSTODY OF DELL COMPUTER CORP. EXCEPT AS AUTHORIZED BY DELL COMPUTER CORP. AND THEN ONLY BY WAY OF LOAN FOR LIMITED PURPOSES. IT MUST NOT BE REPRODUCED IN WHOLE OR IN PART AND MUST BE RETURNED TO DELL COMPUTER CORP. UPON REQUEST AND IN ALL EVENTS UPON COMPLETION OF THE PURPOSE OF THE LOAN. NEITHER THIS ITEM OR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO PERSONS NOT HAVING A NEED FOR SUCH USE OR DISCLOSED CONSISTENT WITH THE PURPOSE OF THE LOAN WITHOUT THE PRIOR WRITTEN CONSENT OF DELL COMPUTER CORPORATION.

DELL		COMPUTER CORPORATION AUSTIN, TEXAS	
TITLE SCHEMATIC, M/B LA-1221			
DWG NO. 401195		REV. 4A	
DATE 11/15/02	SHEET 67 OF 102		

Overcurrent Detection (Internal USB Ports)

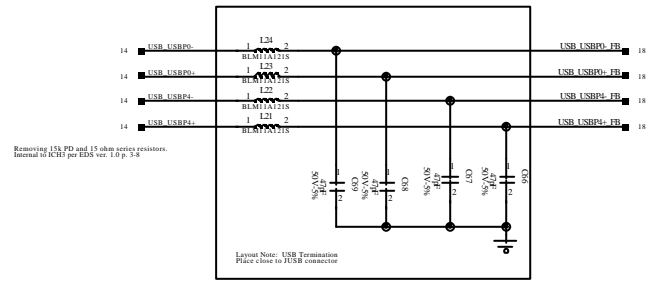


Layout Note: C72
Place a "+" character silkscreen on the board near the non-ground side of this capacitor.

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

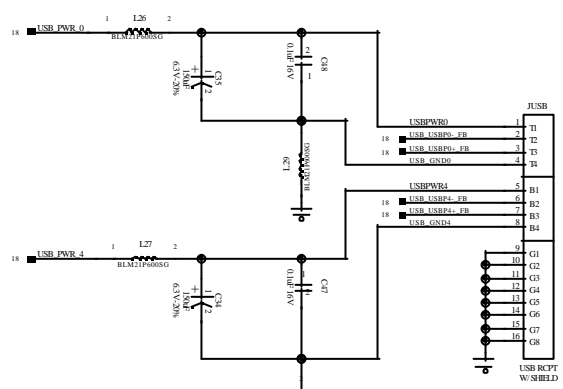
Layout Note: USB1.1
Follow RDDP's routing recommendations
INTEL USB GUIDELINE APPLIES

USB1.1 To System



Layout Note: USB Termination
Place close to USB connector

USB1.1 To System System Board USB Connectors



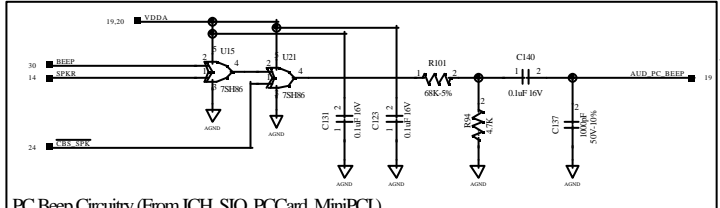
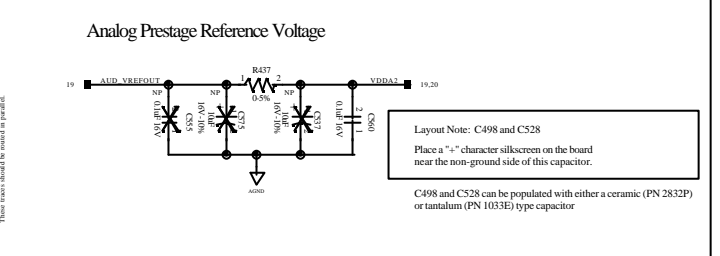
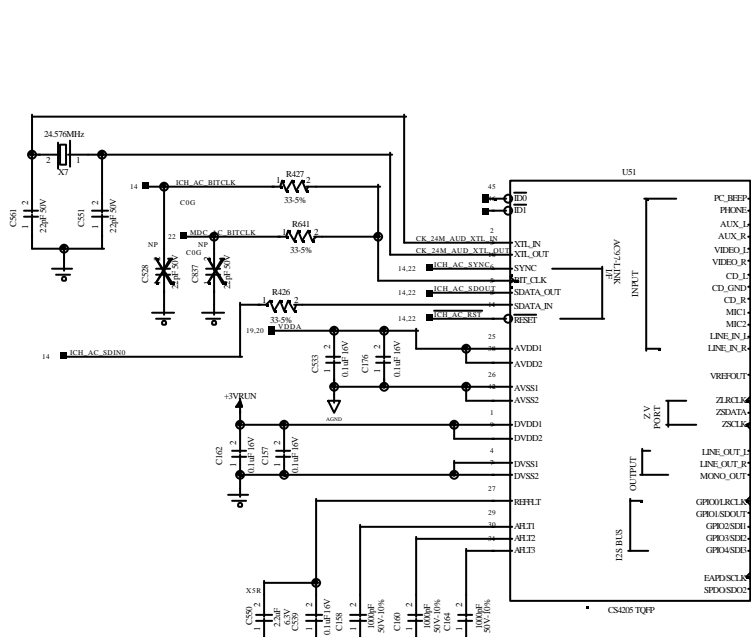
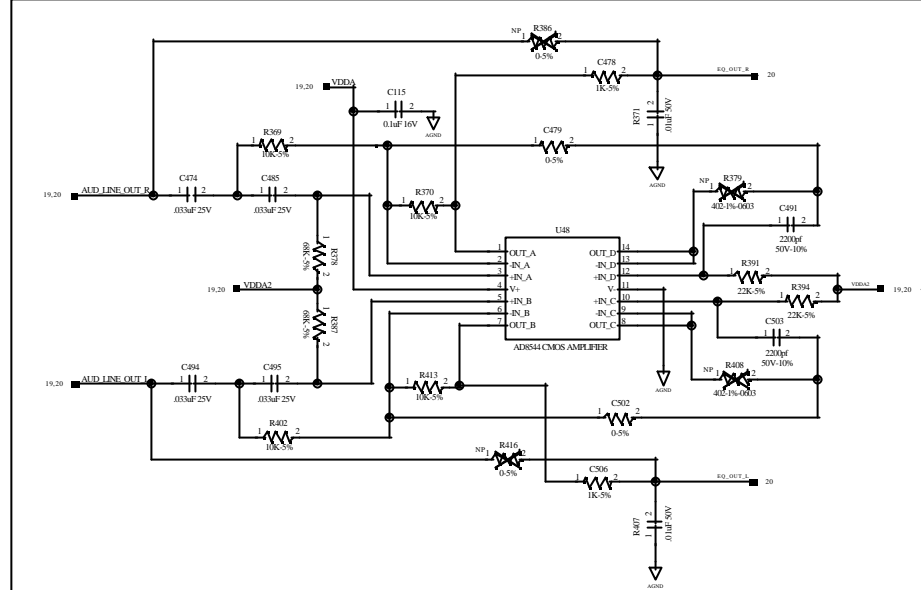
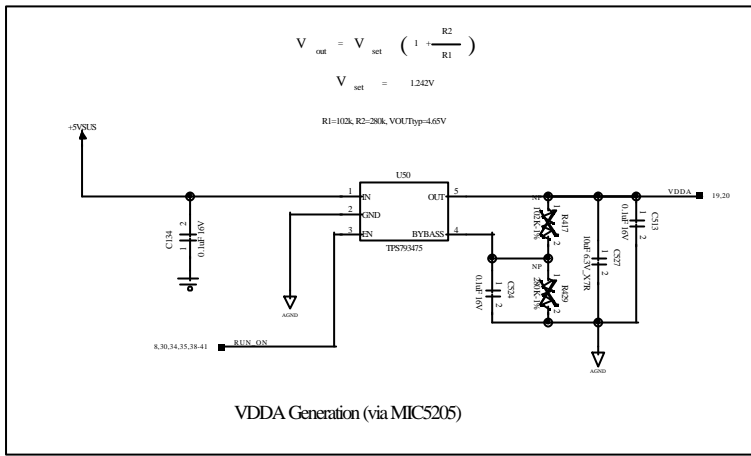
DELL		COMPUTER CORPORATION AUSTIN, TEXAS	
TITLE SCHEMATIC, M/B LA-1221			
PWG NO. 401195		REV. 4A	
DATE 11/15/02	SHEET 69	OF 102	

PROPRIETARY NOTE: THIS ITEM IS THE PROPERTY OF DELL COMPUTER CORP., AUSTIN, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS ITEM MAY NOT BE TRANSFERRED FROM THE CUSTODY OF DELL COMPUTER CORP. EXCEPT AS AUTHORIZED BY DELL COMPUTER CORP. AND THEN ONLY BY WAY OF LEASE FOR LIMITED PURPOSES. IT MUST NOT BE REPRODUCED IN WHOLE OR IN PART AND MUST BE RETURNED TO DELL COMPUTER CORP. UPON REQUEST AND IN ALL EVENTS UPON COMPLETION OF THE PURPOSE OF THE LEASE. NEITHER THIS ITEM OR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO PERSONS NOT HAVING A NEED FOR SUCH USE OR DISCLOSURE CONSISTENT WITH THE PURPOSE OF THE LEASE WITHOUT THE PRIOR WRITTEN CONSENT OF DELL COMPUTER CORPORATION.

$$V_{out} = V_{set} \left(1 + \frac{R2}{R1} \right)$$

$$V_{set} = 1.242V$$

$$R1=102k, R2=280k, VOL/Typ=4.65V$$



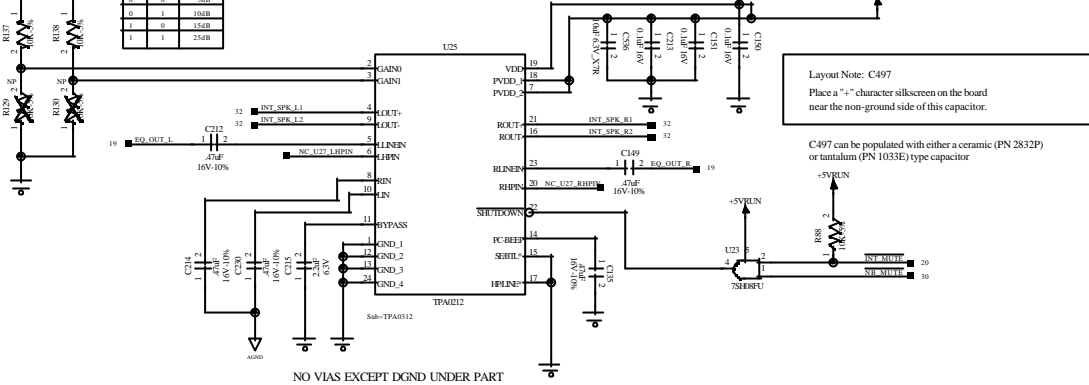
NOTE: ECAD MUST CONNECT AGND TO GND (VIA DRAWBRIDGE)!! 60 MIL TRACE AT ONE POINT ONLY UNDER THE CODEC

PROPRIETARY NOTE: THIS ITEM IS THE PROPERTY OF DELL COMPUTER CORP. AUSTIN, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS ITEM MAY NOT BE TRANSMITTED FROM THE CUSTODY OF DELL COMPUTER CORP. EXCEPT AS AUTHORIZED BY DELL COMPUTER CORP. AND THIS ONLY BY WAY OF LICENSE FOR LIMITED PURPOSES. IT MUST NOT BE REPRODUCED IN WHOLE OR IN PART AND MUST BE RETURNED TO DELL COMPUTER CORP. UPON REQUEST AND IN ALL EVENTS UPON COMPLETION OF THE PURPOSE OF THE LICENSE. WITHOUT THE ITEM OR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO PERSONS NOT HAVING A NEED FOR SUCH USE OR DISCLOSURE CONSISTENT WITH THE PURPOSE OF THE LICENSE WITHOUT THE PRIOR WRITTEN CONSENT OF DELL COMPUTER CORPORATION.

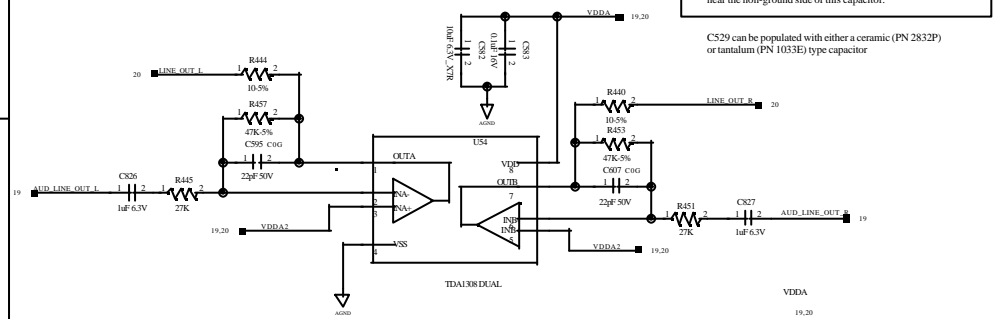
DELL COMPUTER CORPORATION AUSTIN, TEXAS	
TITLE SCHEMATIC, M/B LA-1221	
PWG NO. 401195	REV. 4A
DATE 11/15/02	SHEET 70 OF 102

Gain Register Settings		
LINE	SPK	THRU
0	0	3dB
0	1	10dB
1	0	15dB
1	1	25dB

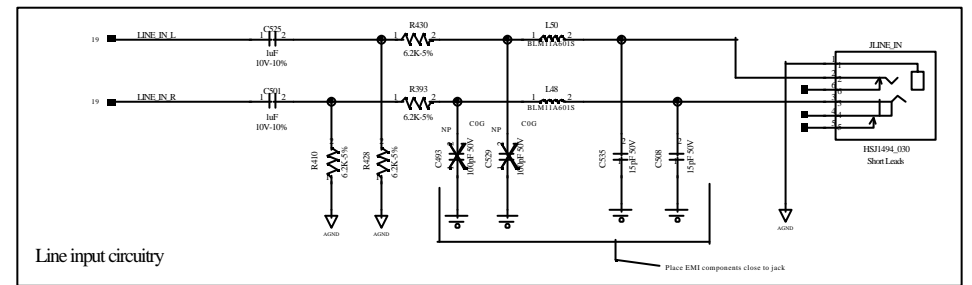
Internal Speaker Amplifier



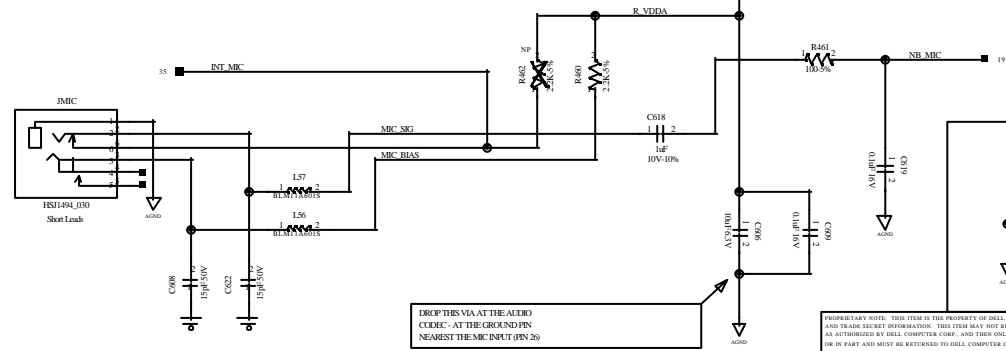
Headphone/Line Out Amplifier



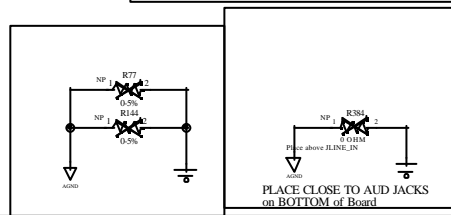
Line output circuitry



Microphone Input Circuit



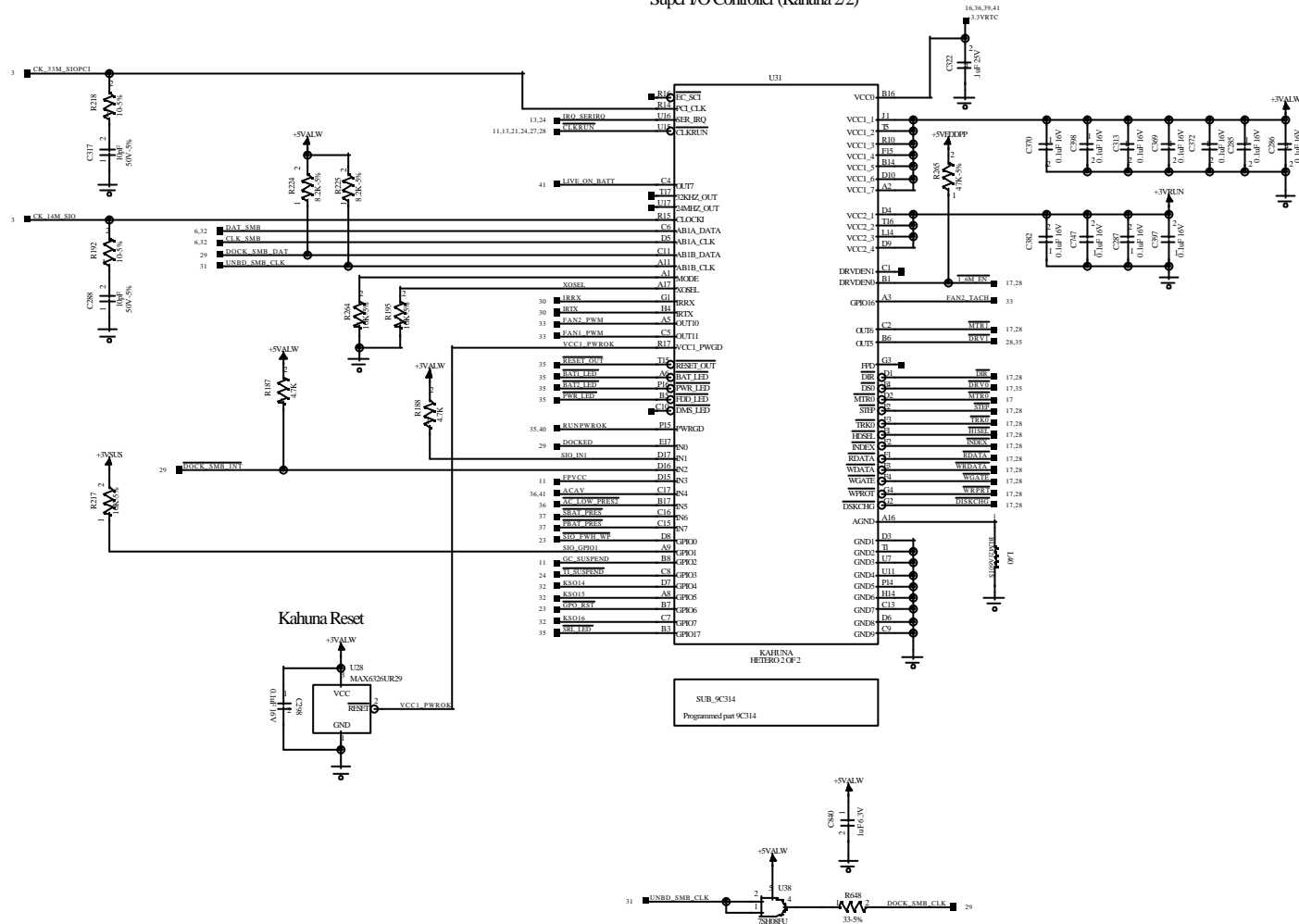
Line input circuitry



PROPRIETARY NOTE: THIS ITEM IS THE PROPERTY OF DELL COMPUTER CORP. AUSTIN, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS ITEM MAY NOT BE TRANSMITTED FROM THE CUSTODY OF DELL COMPUTER CORP. EXCEPT AS AUTHORIZED BY DELL COMPUTER CORP. AND THEN ONLY BY WAY OF LEASE FOR LIMITED PURPOSES. IT MUST NOT BE REPRODUCED IN WHOLE OR IN PART AND MUST BE RETURNED TO DELL COMPUTER CORP. UPON REQUEST AND IN ALL EVENTS UPON COMPLETION OF THE PURPOSE OF THE LEASE. WITHOUT THIS ITEM OR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO PERSONS NOT HAVING A NEED FOR SUCH USE OR DISCLOSURE CONSISTENT WITH THE PURPOSE OF THE LEASE WITHOUT THE PRIOR WRITTEN CONSENT OF DELL COMPUTER CORPORATION.

DELL		COMPUTER CORPORATION AUSTIN, TEXAS	
SCHEMATIC, M/B LA-1221			
PWG NO.	401195	REV.	4A
DATE	11/15/02	SHEET	71 OF 102

Super I/O Controller (Kahuna 2/2)



Kahuna Reset

KAHUNA HETERO 2 OF 2

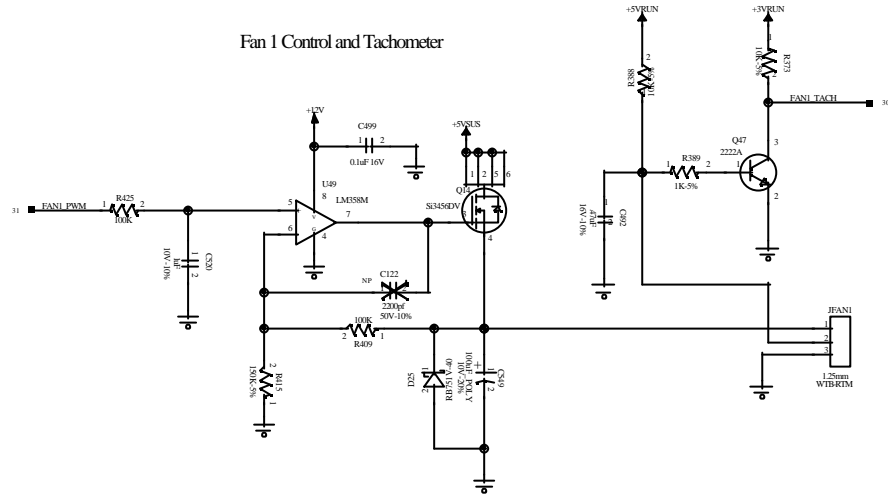
SUB_9C314
Programmed part 9C314

PROPRIETARY NOTE: THIS ITEM IS THE PROPERTY OF DELL COMPUTER CORP. AUSTIN, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS ITEM MAY NOT BE TRANSFERRED FROM THE CUSTODY OF DELL COMPUTER CORP. EXCEPT AS AUTHORIZED BY DELL COMPUTER CORP. AND THIS ONLY BY WAY OF LEASE FOR LIMITED PURPOSES. IT MUST NOT BE REPRODUCED IN WHOLE OR IN PART AND MUST BE RETURNED TO DELL COMPUTER CORP. UPON REQUEST AND IN ALL EVENTS UPON COMPLETION OF THE PURPOSE OF THE LEASE. NEITHER THIS ITEM OR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO PERSONS NOT HAVING A NEED FOR SUCH USE OR DISCLOSURE CONSISTENT WITH THE PURPOSE OF THE LEASE WITHOUT THE PRIOR WRITTEN CONSENT OF DELL COMPUTER CORPORATION.

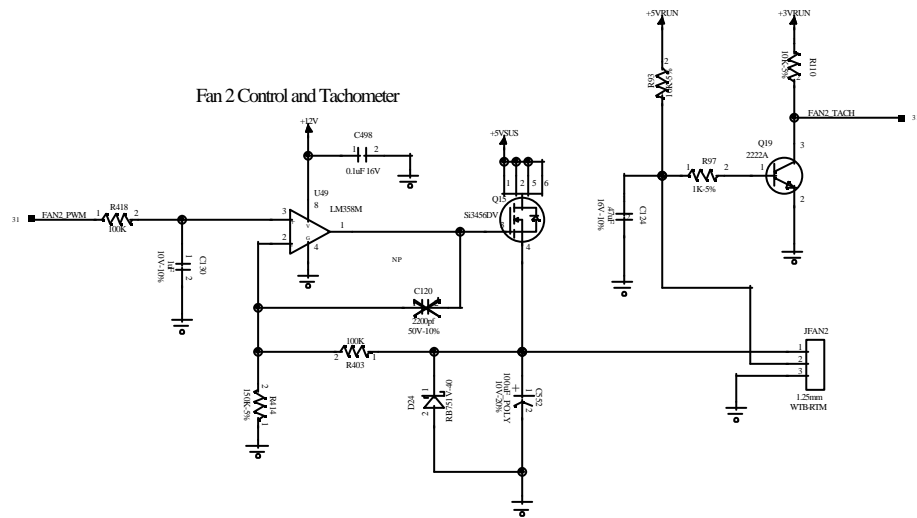
DELL		COMPUTER CORPORATION AUSTIN, TEXAS	
TITLE SCHEMATIC, M/B LA-1221			
DWG NO. 401195		REV. 4A	
DATE 11/15/02	SHEET 82	OF 102	

Fan Control Circuit

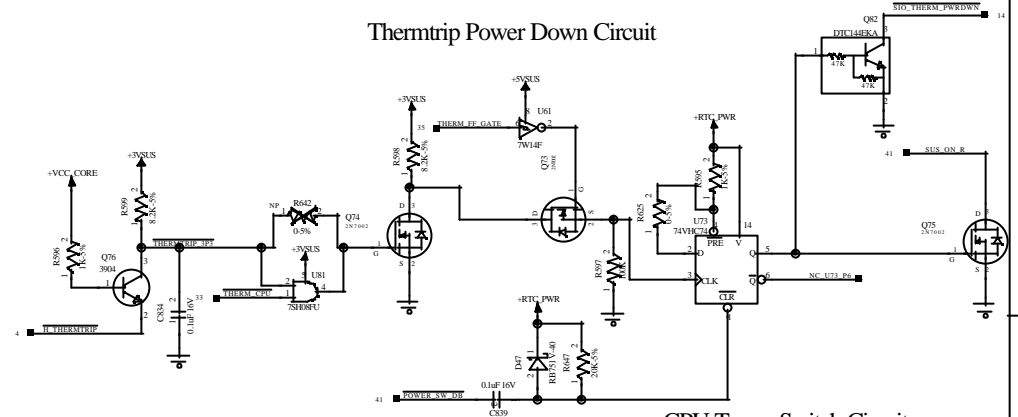
Fan 1 Control and Tachometer



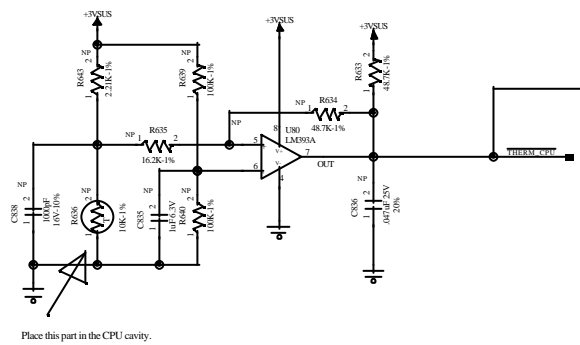
Fan 2 Control and Tachometer



Thermtrip Power Down Circuit

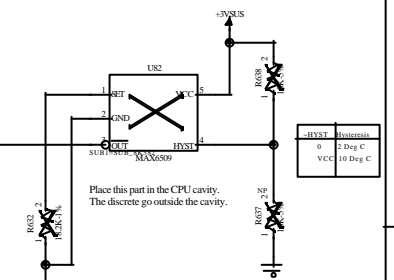


CPU Thermistor Circuit



Place this part in the CPU cavity.

CPU Temp. Switch Circuit



Reset Resistor Value Calculation
 $R_{set} = (1.2258 \times 10^{15}) \times (T - T_0) - 310.1493 - (5.7797 \times 10^{16}) \times (T - T_0)^2$
 $R_{set} = (8.3793 \times 10^{14} T) - 211.3569 - (1.2989 \times 10^{15}) T^2$
 T = Temp in Degrees Kelvin

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

DELL		COMPUTER CORPORATION AUSTIN, TEXAS	
TITLE SCHEMATIC, M/B LA-1221			
DWG NO. 401195		REV. 4A	
DATE 11/15/02		SHEET 84 OF 102	

PROPRIETARY NOTE: THIS ITEM IS THE PROPERTY OF DELL COMPUTER CORP., AUSTIN, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS ITEM MAY NOT BE TRANSFERRED FROM THE CUSTODY OF DELL COMPUTER CORP. EXCEPT AS AUTHORIZED BY DELL COMPUTER CORP. AND THEN ONLY BY WAY OF LEASE OR LIMITED PURCHASE. IT MUST NOT BE REPRODUCED IN WHOLE OR IN PART AND MUST BE RETURNED TO DELL COMPUTER CORP. UPON REQUEST AND IN ALL EVENTS UPON COMPLETION OF THE PURPOSE OF THE LEASE. NEITHER THIS ITEM OR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO PERSONS NOT HAVING A NEED FOR SUCH USE OR DISCLOSURE CONSISTENT WITH THE PURPOSE OF THE LEASE WITHOUT THE PRIOR WRITTEN CONSENT OF DELL COMPUTER CORPORATION.

A

B

C

D

1

2

3

4

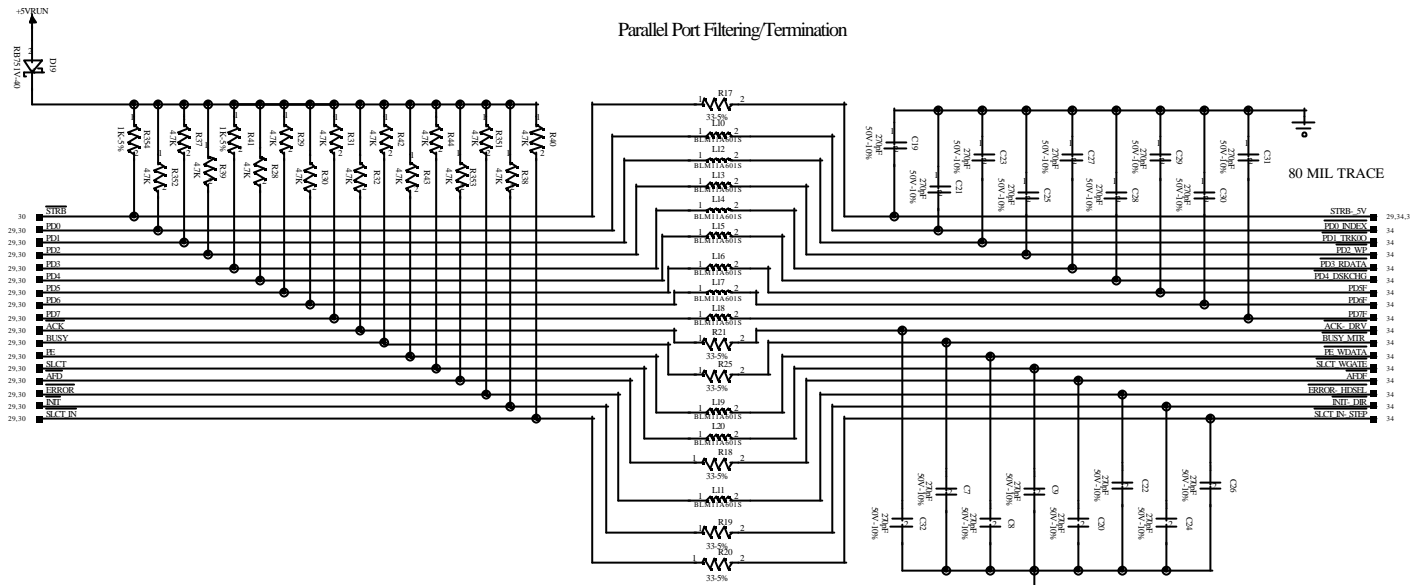
1

2

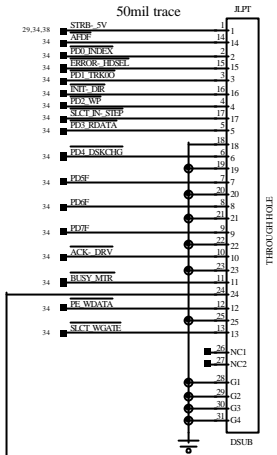
3

4

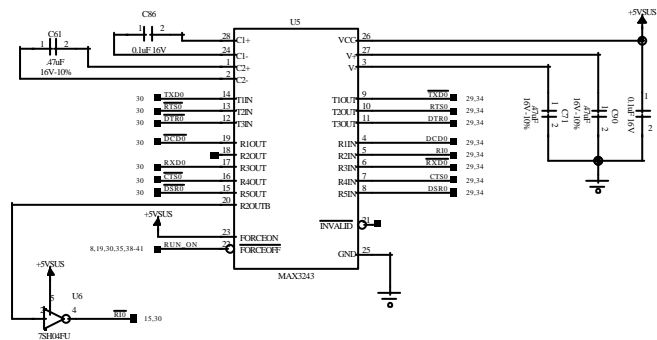
Parallel Port Filtering/Termination



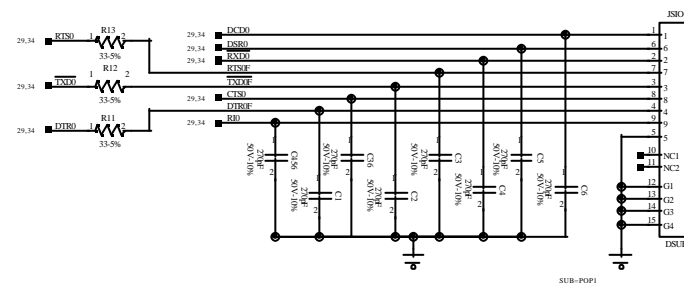
Parallel Port Connector



Serial Port Transceiver

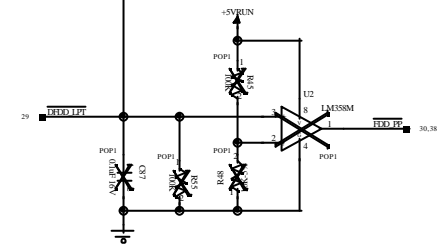


Serial Port Connector



REMOVE THIS

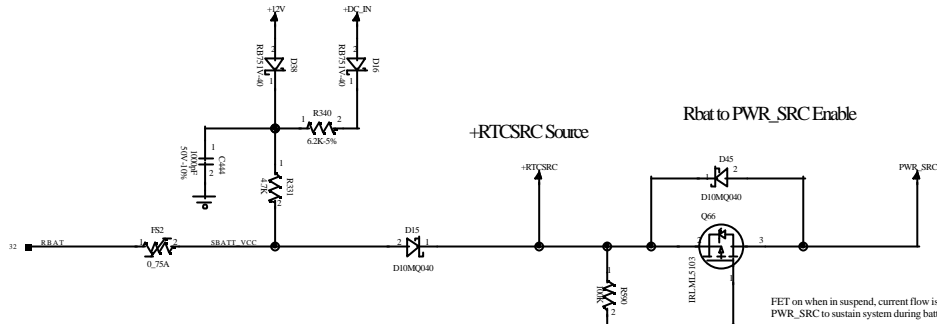
Parallel Port Floppy Detection



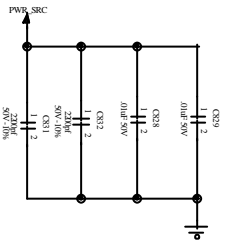
PROPRIETARY NOTE: THIS ITEM IS THE PROPERTY OF DELL COMPUTER CORP., AUSTIN, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS ITEM MAY NOT BE TRANSFERRED FROM THE CUSTODY OF DELL COMPUTER CORP. EXCEPT AS AUTHORIZED BY DELL COMPUTER CORP. AND THEN ONLY BY WAY OF LEASE OR LIMITED PURCHASE. IT MUST NOT BE REPRODUCED IN WHOLE OR IN PART AND MUST BE RETURNED TO DELL COMPUTER CORP. UPON REQUEST AND IN ALL EVENTS UPON COMPLETION OF THE PURPOSE OF THE LEASE. WITHIN THIS ITEM OR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO PERSONS NOT HAVING A NEED FOR SUCH USE OR DISCLOSURE CONSISTENT WITH THE PURPOSE OF THE LEASE WITHOUT THE PRIOR WRITTEN CONSENT OF DELL COMPUTER CORPORATION.

DELL		COMPUTER CORPORATION AUSTIN, TEXAS	
TITLE SCHEMATIC, M/B LA-1221			
DWG NO. 401195		REV. 4A	
DATE 11/15/02		SHEET 85 OF 102	

Rbat Charger

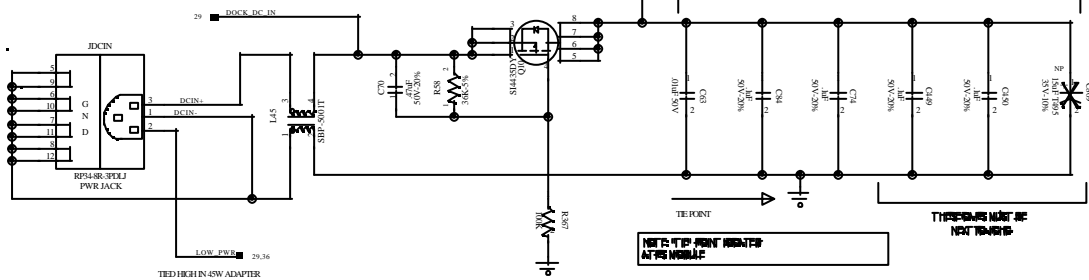


USE MULTIPLE VIAS FOR TRANSIENTS



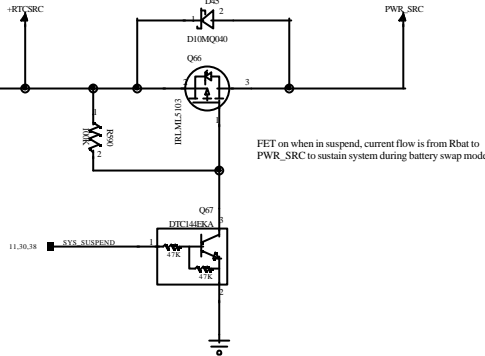
SAFETY WARNING
FOR REMOVAL OF THE FUSE

AC Adaptor Connector

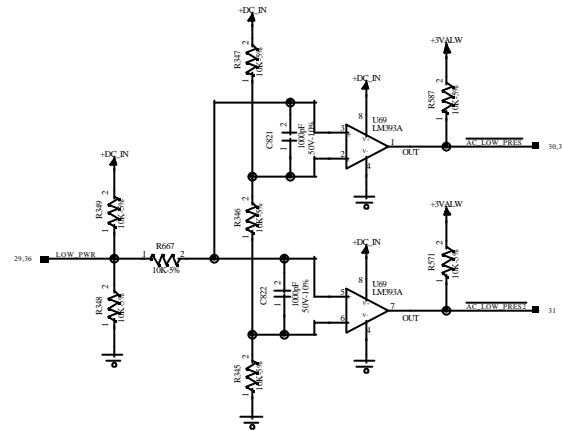


THIS IS NOT A POINT TO BE MOUNTED AT THIS LOCATION

Rbat to PWR_SRC Enable

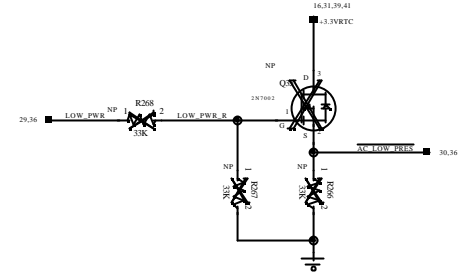


FET on when in suspend, current flow is from Rbat to PWR_SRC to sustain system during battery swap mode

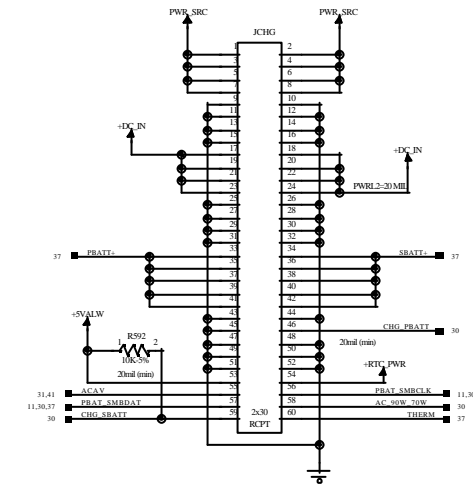


LOW_PWR	AC_LOW_PRES#	AC_LOW_PRESM
0V	0	0
FLOAT	0	1
20V	1	1

Low-Power Adapter Detection



Charger Board Connector



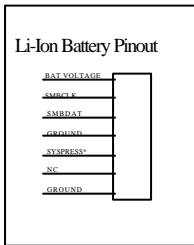
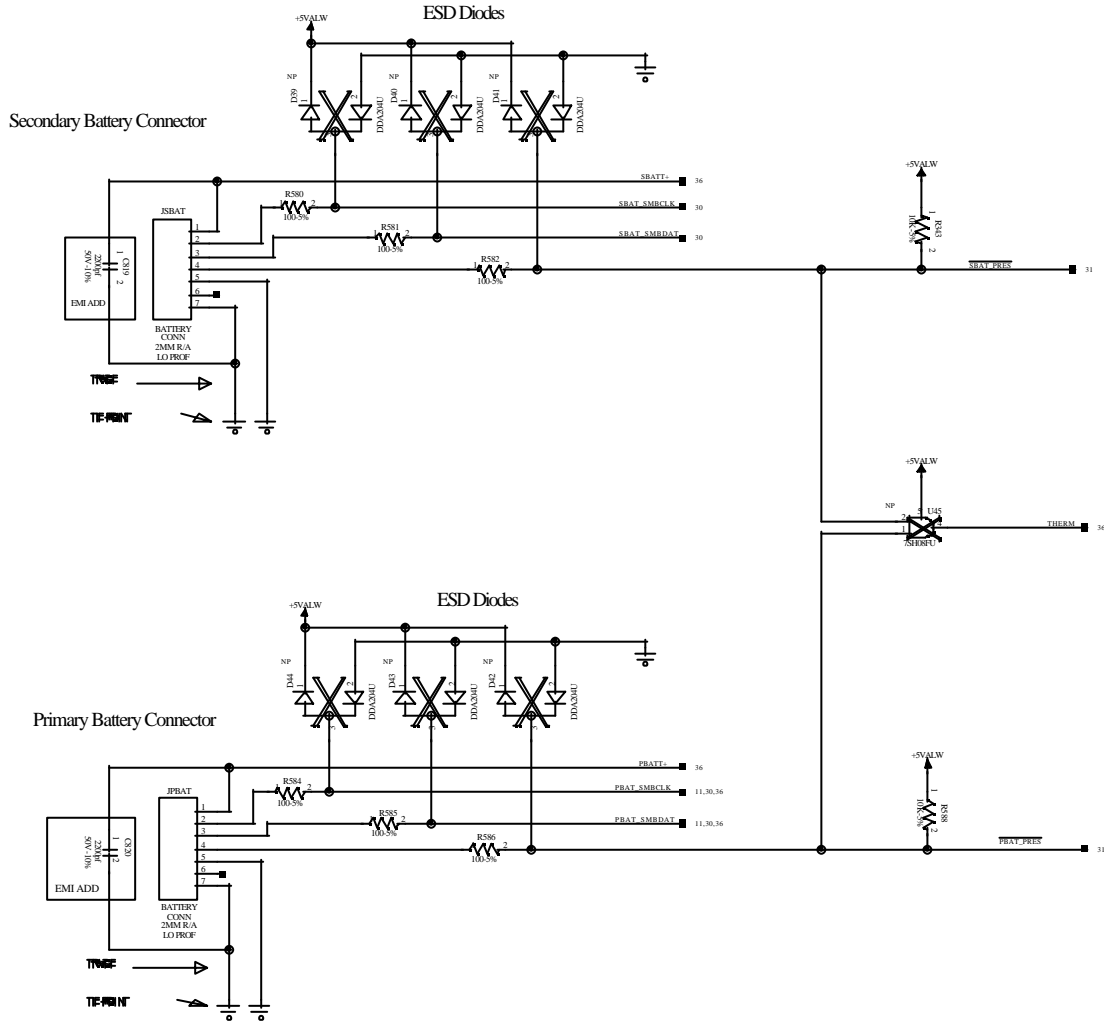
DELL COMPUTER CORPORATION AUSTIN, TEXAS

TITLE: SCHEMATIC, M/B LA-1221

PWG NO: 401195 REV: 401195

DATE: 11/15/02 SHEET: 87 OF 102

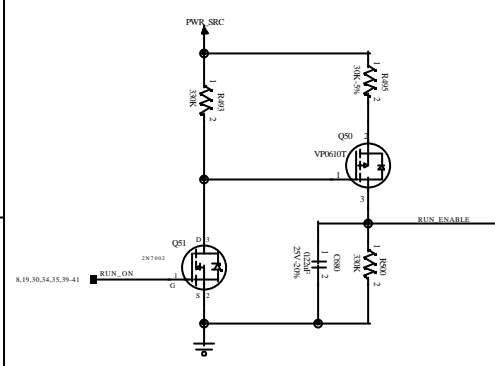
PROPRIETARY NOTE: THIS ITEM IS THE PROPERTY OF DELL COMPUTER CORP., AUSTIN, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS ITEM MAY NOT BE TRANSFERRED FROM THE CUSTODY OF DELL COMPUTER CORP. EXCEPT AS AUTHORIZED BY DELL COMPUTER CORP. AND THEN ONLY BY WAY OF LEASE FOR LIMITED PURPOSES. IT MUST NOT BE REPRODUCED IN WHOLE OR IN PART AND MUST BE RETURNED TO DELL COMPUTER CORP. UPON REQUEST AND IN ALL EVENTS UPON COMPLETION OF THE PURPOSE OF THE LEASE. NEITHER THIS ITEM OR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO PERSONS NOT HAVING A NEED FOR SUCH USE OR DISCLOSURE CONSISTENT WITH THE PURPOSE OF THE LEASE WITHOUT THE PRIOR WRITTEN CONSENT OF DELL COMPUTER CORPORATION.



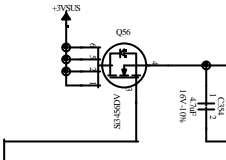
PROPRIETARY NOTE: THIS ITEM IS THE PROPERTY OF DELL COMPUTER CORP. AUSTIN, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS ITEM MAY NOT BE TRANSFERRED FROM THE CUSTODY OF DELL COMPUTER CORP. EXCEPT AS AUTHORIZED BY DELL COMPUTER CORP. AND THEN ONLY BY WAY OF LEASE FOR LIMITED PURPOSES. IT MUST NOT BE REPRODUCED IN WHOLE OR IN PART AND MUST BE RETURNED TO DELL COMPUTER CORP. UPON REQUEST AND IN ALL EVENTS UPON COMPLETION OF THE PURPOSE OF THE LEASE. NEITHER THIS ITEM OR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO PERSONS NOT HAVING A NEED FOR SUCH USE OR DISCLOSURE CONSISTENT WITH THE PURPOSE OF THE LEASE WITHOUT THE PRIOR WRITTEN CONSENT OF DELL COMPUTER CORPORATION.

DELL COMPUTER CORPORATION AUSTIN, TEXAS	
TITLE SCHEMATIC, M/B LA-1221	
PWG NO. 401195	REV. 4A
DATE 11/15/02	SHEET 88 OF 102

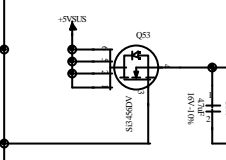
Run Planes Enable



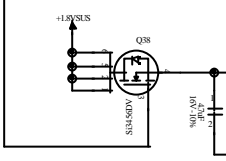
+3VRUN Source



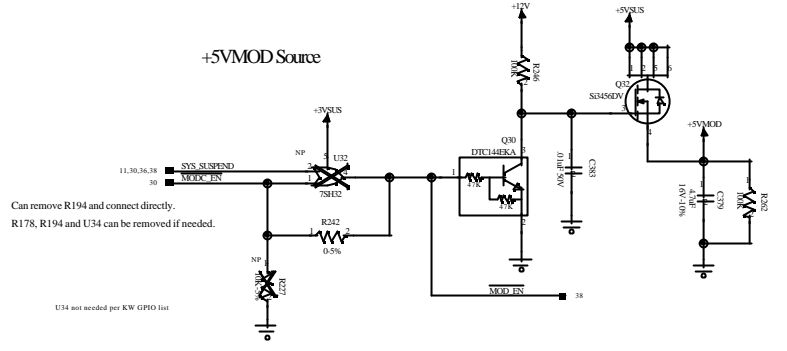
+5VRUN Source



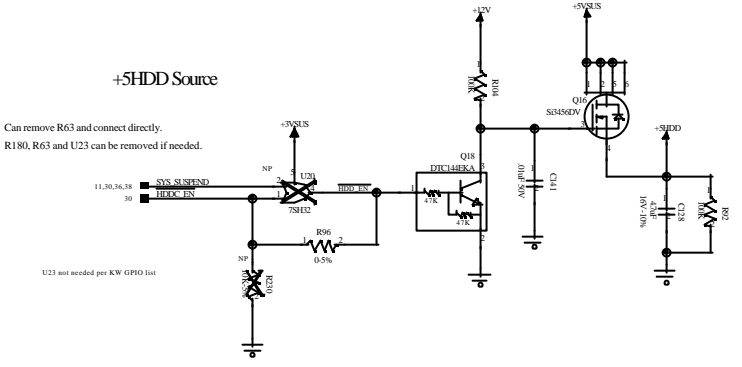
+1.8VRUN Source



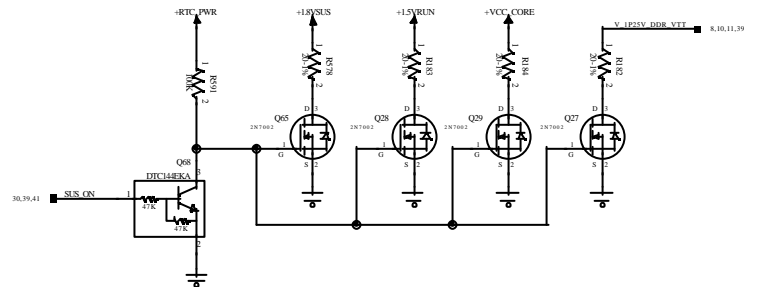
+5VMOD Source



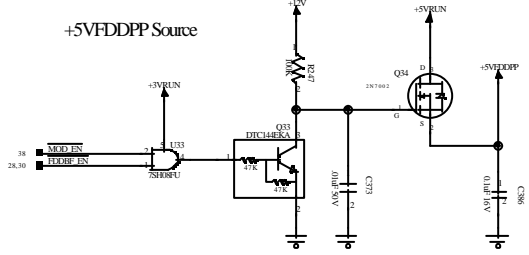
+5HDD Source



Voltage Rail Drains

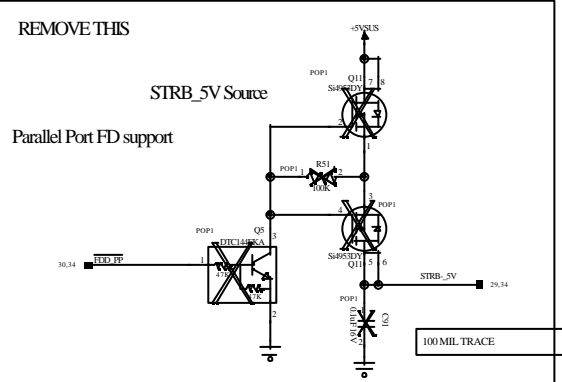


+5VFDDPP Source



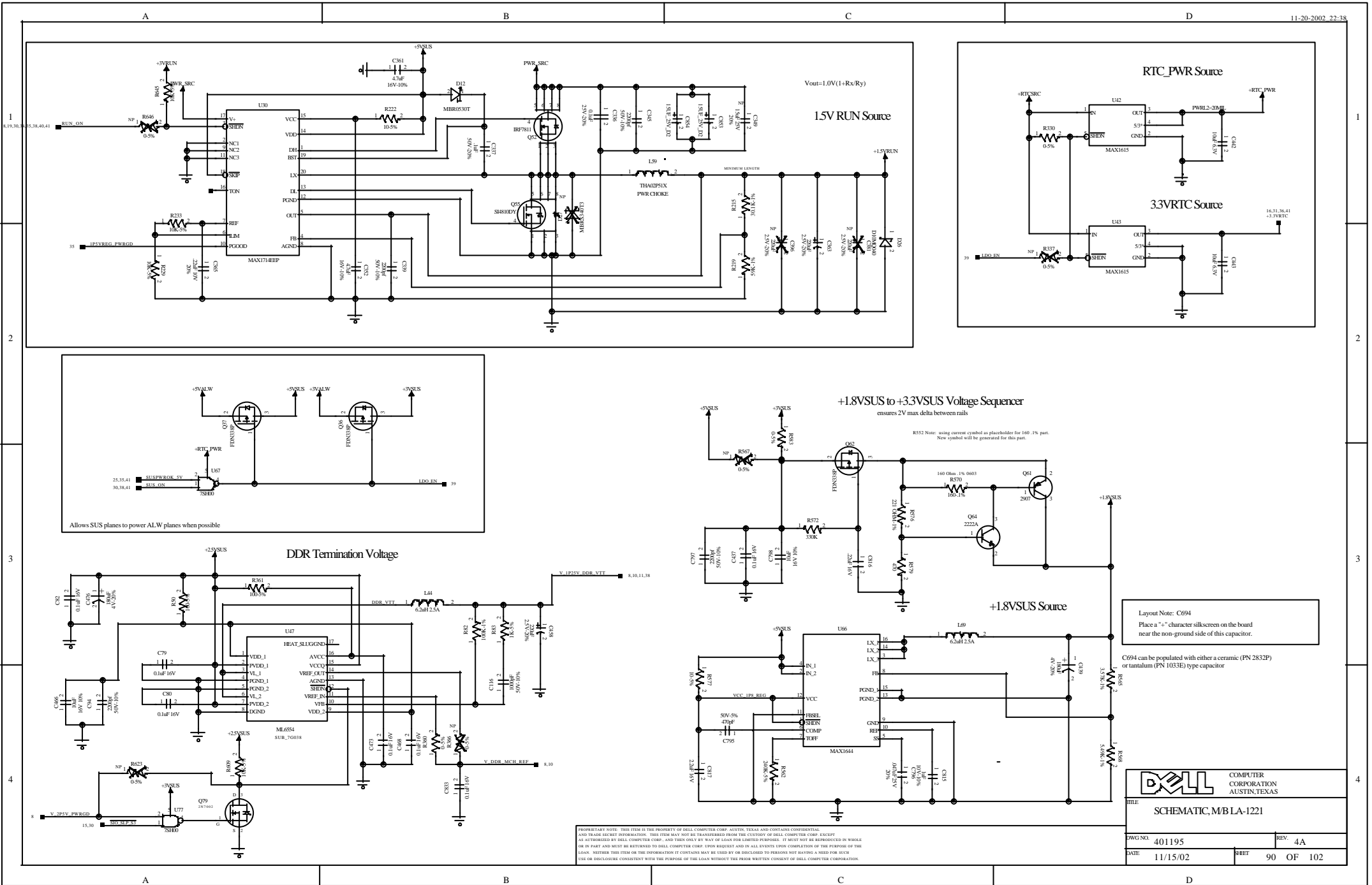
REMOVE THIS

STRB_5V Source



PROPRIETARY NOTE: THIS ITEM IS THE PROPERTY OF DELL COMPUTER CORP. AUSTIN, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS ITEM MAY NOT BE TRANSFERRED FROM THE CUSTODY OF DELL COMPUTER CORP. EXCEPT AS AUTHORIZED BY DELL COMPUTER CORP. AND THEN ONLY BY WAY OF LEASE OR LIMITED PURPOSES. IT MUST NOT BE REPRODUCED IN WHOLE OR IN PART AND MUST BE RETURNED TO DELL COMPUTER CORP. UPON REQUEST AND IN ALL EVENTS UPON COMPLETION OF THE PURPOSE OF THE LOAN. NEITHER THIS ITEM OR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO PERSONS NOT HAVING A NEED FOR SUCH USE OR DISCLOSURE CONSISTENT WITH THE PURPOSE OF THE LOAN WITHOUT THE PRIOR WRITTEN CONSENT OF DELL COMPUTER CORPORATION.

DELL		COMPUTER CORPORATION AUSTIN, TEXAS	
TITLE SCHEMATIC, M/B LA-1221			
DWG NO. 401195		REV. 4A	
DATE 11/15/02	SHEET 89	OF 102	

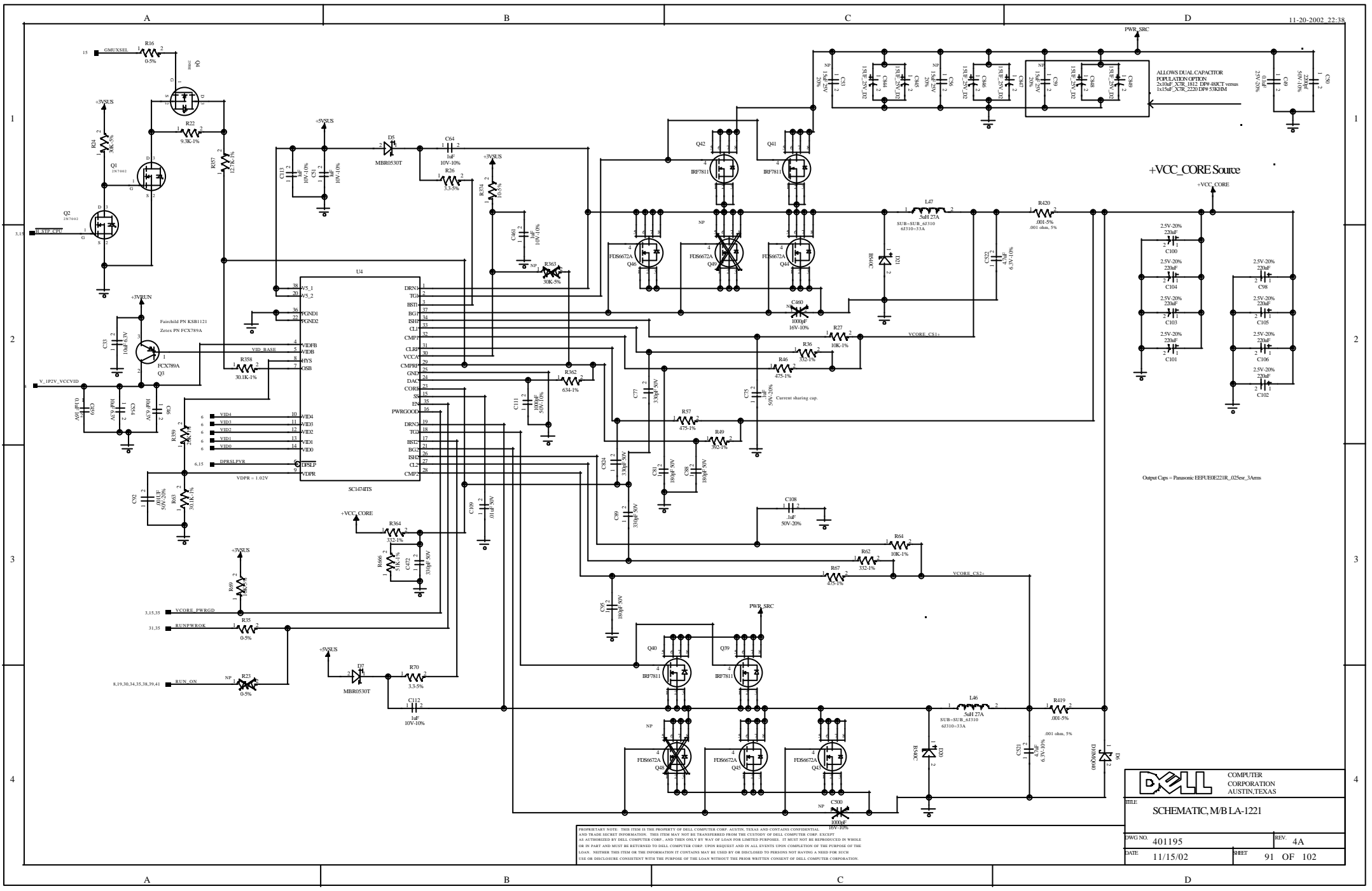


Layout Note: C694
Place a "+" character silkscreen on the board near the non-ground side of this capacitor.

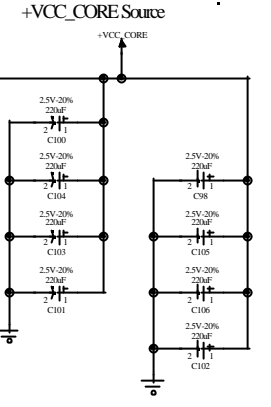
C694 can be populated with either a ceramic (PN 2832P) or tantalum (PN 1033E) type capacitor

DELL		COMPUTER CORPORATION AUSTIN, TEXAS	
SCHEMATIC, M/B LA-1221			
PART NO. 401195		REV. 4A	
DATE 11/15/02		SHEET 90 OF 102	

PROPRIETARY NOTE: THIS ITEM IS THE PROPERTY OF DELL COMPUTER CORP., AUSTIN, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS ITEM MAY NOT BE TRANSMITTED FROM THE CUSTODY OF DELL COMPUTER CORP. EXCEPT AS AUTHORIZED BY DELL COMPUTER CORP. AND THEN ONLY BY WAY OF LEAD FOR LIMITED PURPOSES. IT MUST NOT BE REPRODUCED IN WHOLE OR IN PART AND MUST BE RETURNED TO DELL COMPUTER CORP. UPON REQUEST AND IN ALL EVENTS UPON COMPLETION OF THE PURPOSE OF THE LOAN. NEITHER THIS ITEM NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO PERSONS NOT HAVING A NEED FOR SUCH USE OR DISCLOSURE CONSISTENT WITH THE PURPOSE OF THE LOAN WITHOUT THE PRIOR WRITTEN CONSENT OF DELL COMPUTER CORPORATION.



ALLOWS EQUAL CAPACITOR POPULATION OPTION
 2x10µF SCR 1812 DPM ASCT versus
 1x10µF SCR 2221 DPM 536UM

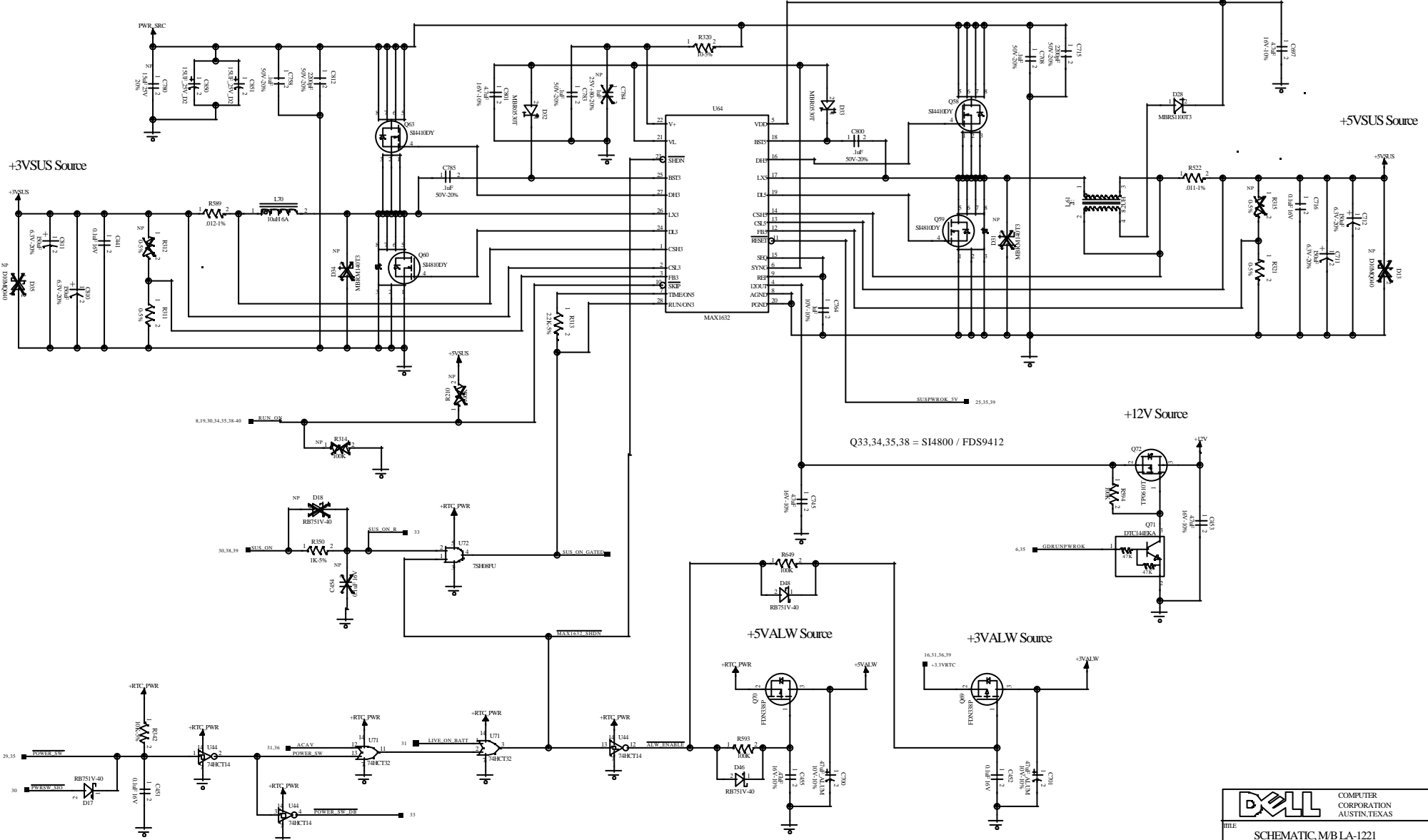


Output Caps = Panasonic EEFUEE22R_02Ser_3Amm

PROPRIETARY NOTE: THIS ITEM IS THE PROPERTY OF DELL COMPUTER CORP. AUSTIN, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS ITEM MAY NOT BE TRANSMITTED FROM THE CUSTODY OF DELL COMPUTER CORP. EXCEPT AS AUTHORIZED BY DELL COMPUTER CORP. AND THEN ONLY BY WAY OF LOAN FOR LIMITED PURPOSES. IT MUST NOT BE REPRODUCED IN WHOLE OR IN PART AND MUST BE RETURNED TO DELL COMPUTER CORP. UPON REQUEST AND IN ALL EVENTS UPON COMPLETION OF THE PURPOSE OF THE LOAN. WITHIN THIS ITEM OR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO PERSONS NOT HAVING A NEED FOR SUCH USE OR DISCLOSURE CONSISTENT WITH THE PURPOSE OF THE LOAN WITHOUT THE PRIOR WRITTEN CONSENT OF DELL COMPUTER CORPORATION.

DELL		COMPUTER CORPORATION AUSTIN, TEXAS	
TITLE SCHEMATIC, M/B LA-1221			
P/WG NO. 401195		REV. 4A	
DATE 11/15/02		SHEET 91 OF 102	

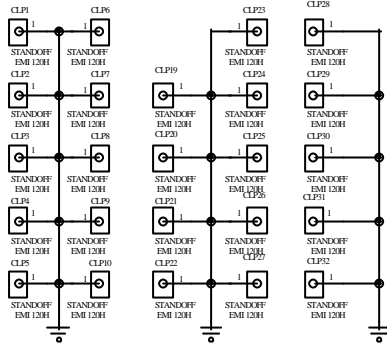
+5VSUS/+3VSUS PWM Controller



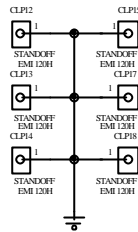
PROPRIETARY NOTE: THIS ITEM IS THE PROPERTY OF DELL COMPUTER CORP. AUSTIN, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS ITEM MAY NOT BE TRANSFERRED FROM THE CUSTODY OF DELL COMPUTER CORP. EXCEPT AS AUTHORIZED BY DELL COMPUTER CORP. AND THEN ONLY BY WAY OF LEASE FOR LIMITED PURPOSES. IT MUST NOT BE REPRODUCED IN WHOLE OR IN PART AND MUST BE RETURNED TO DELL COMPUTER CORP. UPON REQUEST AND IN ALL EVENTS UPON COMPLETION OF THE PURPOSE OF THE LOAN. NEITHER THIS ITEM OR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO PERSONS NOT HAVING A NEED FOR SUCH USE OR DISCLOSURE CONSISTENT WITH THE PURPOSE OF THE LOAN WITHOUT THE PRIOR WRITTEN CONSENT OF DELL COMPUTER CORPORATION.

		COMPUTER CORPORATION AUSTIN, TEXAS	
TITLE SCHEMATIC, M/B LA-1221			
DWG NO. 401195		REV. 4A	
DATE 11/15/02		SHEET 92 OF 102	

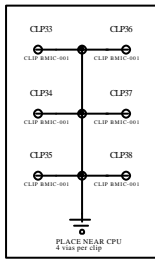
Memory Door EMI Clips



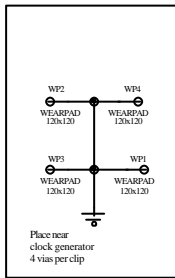
Mini-PCI Door EMI Clips



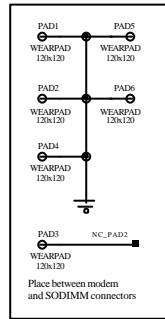
CPU EMI Clips



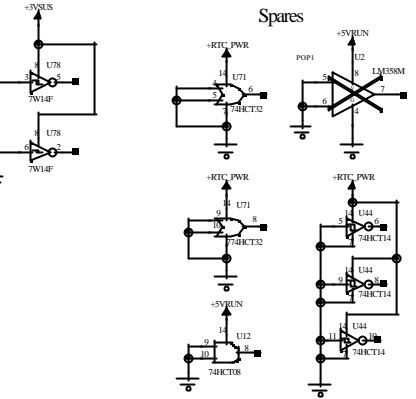
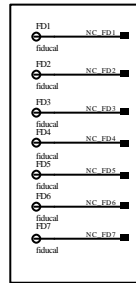
Clock Generator EMI Clips



Modem Fence Pads



Fiducial mark



1

2

3

4

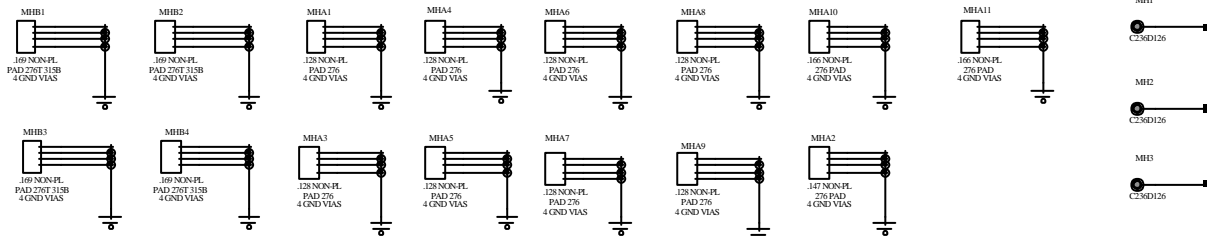
1

2

3

4

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_SCHBEM
 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	
TITLE SCHEMATIC, M/B LA-1221	
PWG NO. 401195	REV. 4A
DATE 11/15/02	SHEET 93 OF 102

PROPRIETARY NOTE: THIS ITEM IS THE PROPERTY OF DELL COMPUTER CORP. AUSTIN, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS ITEM MAY NOT BE TRANSMITTED FROM THE CUSTODY OF DELL COMPUTER CORP. EXCEPT AS AUTHORIZED BY DELL COMPUTER CORP. AND THEN ONLY BY WAY OF LEASE FOR LIMITED PURPOSES. IT MUST NOT BE REPRODUCED IN WHOLE OR IN PART AND MUST BE RETURNED TO DELL COMPUTER CORP. UPON REQUEST AND IN ALL EVENTS UPON COMPLETION OF THE PURPOSE OF THE LEASE. NEITHER THIS ITEM OR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO PERSONS NOT HAVING A NEED FOR SUCH USE OR DISCLOSURE CONSISTENT WITH THE PURPOSE OF THE LEASE WITHOUT THE PRIOR WRITTEN CONSENT OF DELL COMPUTER CORPORATION.

A

B

C

D

A

B

C

D

Schematic Change List

1

1

2

2


3

3

4

4

PROPRIETARY NOTE: THIS ITEM IS THE PROPERTY OF DELL COMPUTER CORP. AUSTIN, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS ITEM MAY NOT BE TRANSFERRED FROM THE CUSTODY OF DELL COMPUTER CORP. EXCEPT AS AUTHORIZED BY DELL COMPUTER CORP. AND THEN ONLY BY WAY OF LOAN FOR LIMITED PURPOSES. IT MUST NOT BE REPRODUCED IN WHOLE OR IN PART AND MUST BE RETURNED TO DELL COMPUTER CORP. UPON REQUEST AND IN ALL EVENTS UPON COMPLETION OF THE PURPOSE OF THE LOAN. NEITHER THIS ITEM OR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO PERSONS NOT HAVING A NEED FOR SUCH USE OR DISCLOSURE CONSISTENT WITH THE PURPOSE OF THE LOAN WITHOUT THE PRIOR WRITTEN CONSENT OF DELL COMPUTER CORPORATION.

		COMPUTER CORPORATION AUSTIN, TEXAS
TITLE SCHEMATIC, M/B LA-1221		
DWG NO.	401195	REV. 4A
DATE	11/15/02	SHEET 94 OF 102

A

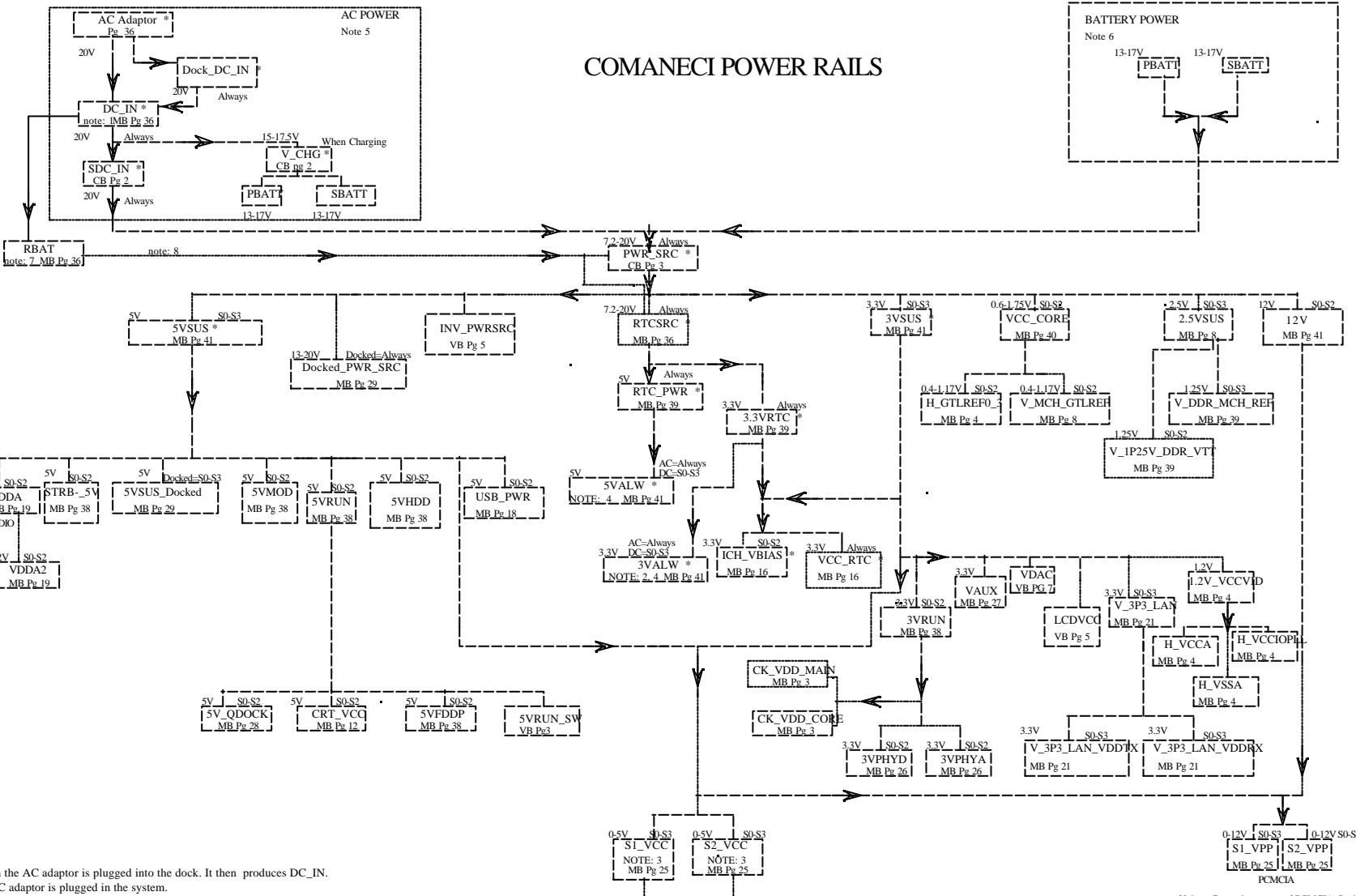
B

C

D

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
 THIS ITEM IS THE PROPERTY OF DELL COMPUTER CORP. AUSTIN, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS ITEM MAY NOT BE TRANSFERRED FROM THE CUSTODY OF DELL COMPUTER CORP. EXCEPT AS AUTHORIZED BY DELL COMPUTER CORP. AND THEN ONLY BY WAY OF LEASE FOR LIMITED PERIODS. IT MUST NOT BE REPRODUCED IN WHOLE OR IN PART AND MUST BE RETURNED TO DELL COMPUTER CORP. UPON RECEIPT AND IN ALL EVENTS UPON COMPLETION OF THE PURPOSE OF THE LEASE. NEITHER THIS ITEM NOR THE INFORMATION IF CONTAINED HEREIN MAY BE USED BY OR DISCLOSED TO PERSONS NOT HAVING A NEED FOR SUCH USE OR DISCLOSED IN MANNER INCONSISTENT WITH THE PURPOSE OF THE LEASE WITHOUT THE PRIOR WRITTEN CONSENT OF DELL COMPUTER CORPORATION.

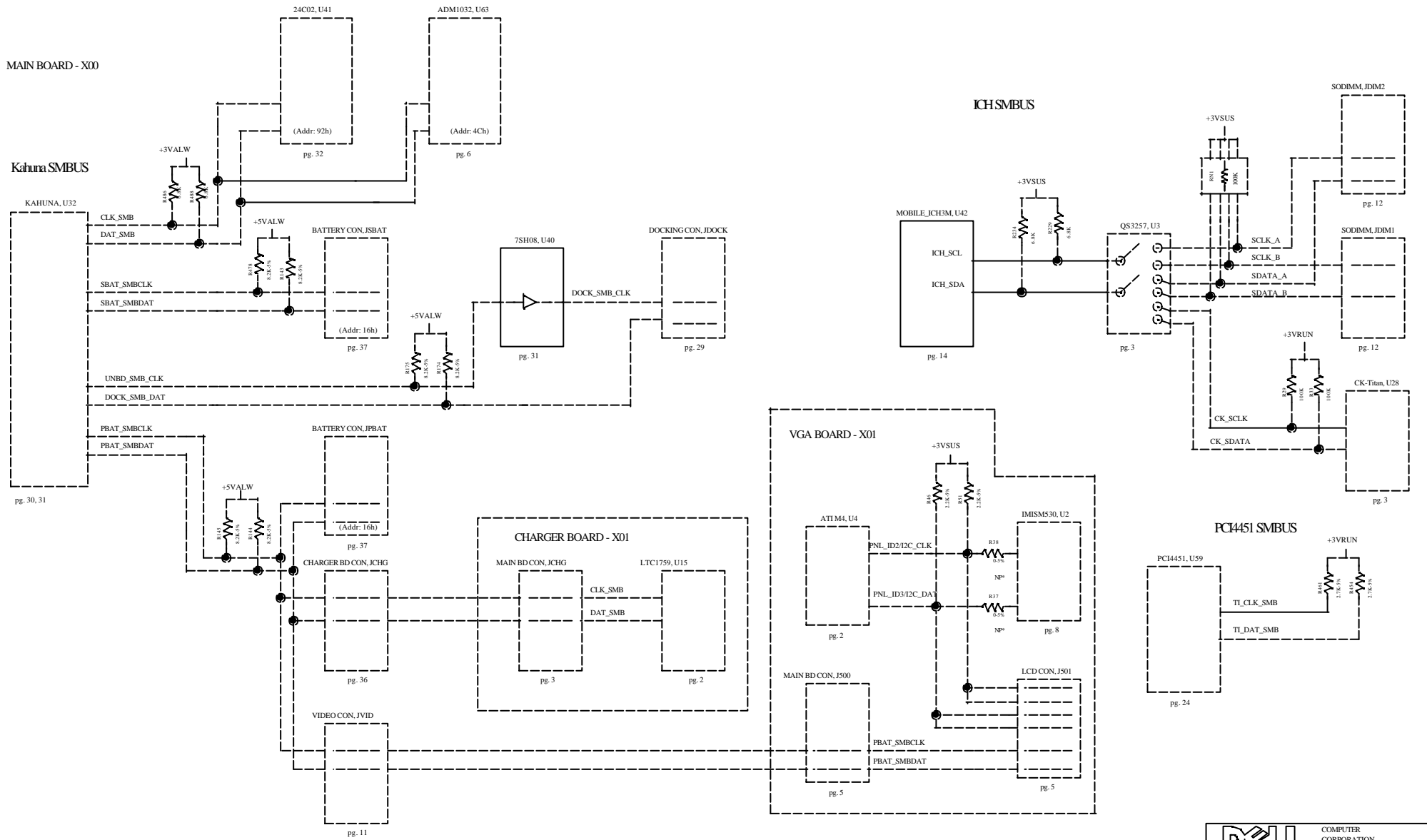
Voltage Depends on type of PCMCIA Card	
DELL COMPUTER CORPORATION AUSTIN, TEXAS	
SCHEMATIC, M/B LA-1221	
PW/CNO	REV.
401195	4A
DATE	SHEET
11/15/02	95 OF 102

MAIN BOARD - X00

Kahuna SMBUS

ICH SMBUS

PCI4451 SMBUS



PROPRIETARY NOTE: THIS ITEM IS THE PROPERTY OF DELL COMPUTER CORP. AUSTIN, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS ITEM MAY NOT BE TRANSFERRED FROM THE CUSTODY OF DELL COMPUTER CORP. EXCEPT AS AUTHORIZED BY DELL COMPUTER CORP. AND THEN ONLY BY WAY OF LEASE FOR LIMITED PURPOSES. IT MUST NOT BE REPRODUCED IN WHOLE OR IN PART AND MUST BE RETURNED TO DELL COMPUTER CORP. UPON REQUEST AND IN ALL EVENTS UPON COMPLETION OF THE PURPOSE OF THE LEASE. NEITHER THIS ITEM OR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO PERSONS NOT HAVING A NEED FOR SUCH USE OR DISCLOSURE CONSISTENT WITH THE PURPOSE OF THE LEASE WITHOUT THE PRIOR WRITTEN CONSENT OF DELL COMPUTER CORPORATION.

DELL		COMPUTER CORPORATION AUSTIN, TEXAS	
TITLE: SCHEMATIC, M/B LA-1221			
DWG NO: 401195		REV: 4A	
DATE: 11/15/02	SHEET: 96	OF 102	

REFDES PAGE

REFDES PAGE

REFDES PAGE

REFDES PAGE

REFDES PAGE

REFDES PAGE

B_VID0.....6
 B_VID1.....6
 B_VID2.....6
 B_VID3.....6
 B_VID4.....6
 C1.....34
 C2.....34
 C3.....34
 C4.....34
 C5.....34
 C6.....34
 C7.....34
 C8.....34
 C9.....34
 C10.....12
 C11.....12
 C12.....12
 C13.....12
 C14.....12
 C15.....35
 C16.....35
 C17.....35
 C18.....35
 C19.....34
 C20.....34
 C21.....34
 C22.....34
 C23.....34
 C24.....34
 C25.....34
 C26.....34
 C27.....34
 C28.....34
 C29.....34
 C30.....34
 C31.....34
 C32.....34
 C33.....40
 C34.....18
 C35.....18
 C36.....34
 C37.....12
 C38.....12
 C39.....12
 C40.....12
 C41.....12
 C42.....12
 C43.....35
 C44.....35
 C45.....29
 C46.....40
 C47.....18
 C48.....18
 C49.....40
 C50.....40
 C51.....40

C52.....40
 C53.....40
 C54.....40
 C55.....40
 C56.....40
 C57.....40
 C58.....40
 C59.....40
 C60.....40
 C61.....34
 C62.....29
 C63.....36
 C64.....40
 C65.....29
 C66.....18
 C67.....18
 C68.....18
 C69.....18
 C70.....36
 C71.....34
 C72.....29
 C73.....36
 C74.....36
 C75.....40
 C76.....29
 C77.....40
 C78.....18
 C79.....39
 C80.....39
 C81.....40
 C82.....39
 C83.....18
 C84.....36
 C85.....18
 C86.....34
 C87.....34
 C88.....40
 C89.....40
 C90.....34
 C91.....38
 C92.....40
 C93.....34
 C94.....39
 C95.....40
 C96.....30
 C97.....35
 C98.....40
 C99.....29
 C100.....40
 C101.....40
 C102.....40
 C103.....40
 C104.....40
 C105.....40
 C106.....40
 C107.....21


C108.....40
 C109.....40
 C110.....4
 C111.....40
 C112.....40
 C113.....40
 C114.....4
 C115.....19
 C116.....39
 C117.....21
 C118.....21
 C119.....10
 C120.....33
 C121.....10
 C122.....33
 C123.....19
 C124.....33
 C125.....21
 C126.....10
 C127.....10
 C128.....38
 C129.....10
 C130.....33
 C131.....19
 C132.....21
 C133.....10
 C134.....19
 C135.....20
 C136.....17
 C137.....19
 C138.....21
 C139.....10
 C140.....19
 C141.....38
 C142.....17
 C143.....19
 C144.....21
 C145.....35
 C146.....19
 C147.....8
 C148.....8
 C149.....20
 C150.....20
 C151.....20
 C152.....10
 C153.....10
 C154.....21
 C155.....10
 C156.....17
 C157.....19
 C158.....19
 C159.....10
 C160.....19
 C161.....10
 C162.....19
 C163.....21

C164.....19
 C165.....11
 C166.....10
 C167.....10
 C168.....8
 C169.....24
 C170.....3
 C171.....10
 C172.....3
 C173.....3
 C174.....3
 C175.....3
 C176.....19
 C177.....8
 C178.....3
 C179.....11
 C180.....10
 C183.....24
 C184.....10
 C185.....3
 C186.....8
 C187.....4
 C188.....4
 C189.....8
 C191.....5
 C192.....24
 C193.....8
 C194.....10
 C195.....8
 C196.....5
 C197.....5
 C198.....24
 C199.....24
 C200.....8
 C201.....8
 C202.....24
 C203.....11
 C204.....5
 C205.....5
 C206.....10
 C207.....4
 C208.....24
 C209.....10
 C210.....8
 C211.....24
 C212.....20
 C213.....20
 C214.....20
 C215.....20
 C216.....5
 C217.....5
 C218.....8
 C219.....10
 C220.....8
 C221.....5
 C222.....5

C223.....4
 C224.....11
 C225.....3
 C227.....5
 C228.....10
 C229.....24
 C230.....20
 C231.....4
 C232.....4
 C233.....10
 C236.....11
 C237.....10
 C238.....3
 C239.....3
 C240.....3
 C241.....3
 C242.....10
 C243.....9
 C244.....7
 C245.....9
 C246.....9
 C247.....24
 C248.....26
 C249.....26
 C250.....10
 C251.....3
 C252.....10
 C253.....9
 C254.....10
 C255.....10
 C256.....11
 C257.....4
 C258.....3
 C259.....26
 C260.....26
 C261.....24
 C262.....26
 C263.....10
 C264.....9
 C265.....24
 C266.....3
 C267.....11
 C268.....7
 C269.....9
 C270.....9
 C271.....9
 C272.....8
 C273.....9
 C274.....9
 C275.....3
 C276.....3
 C277.....26
 C278.....10
 C279.....10
 C280.....9
 C281.....8

C282.....9
 C283.....26
 C284.....30
 C285.....31
 C286.....31
 C287.....31
 C288.....31
 C289.....30
 C290.....7
 C291.....9
 C292.....10
 C293.....9
 C294.....9
 C295.....9
 C296.....9
 C297.....9
 C298.....31
 C299.....9
 C300.....26
 C301.....26
 C302.....26
 C303.....26
 C304.....8
 C305.....10
 C306.....9
 C307.....9
 C308.....9
 C309.....4
 C310.....24
 C311.....8
 C312.....10
 C313.....31
 C314.....9
 C315.....9
 C316.....9
 C317.....31
 C318.....9
 C319.....10
 C320.....9
 C321.....9
 C322.....31
 C323.....9
 C324.....9
 C325.....8
 C326.....9
 C327.....9
 C328.....9
 C329.....9
 C330.....9
 C331.....9
 C332.....11
 C333.....10
 C334.....9
 C335.....8
 C336.....39
 C337.....39

XREF PAGE 1 OF 6

		COMPUTER CORPORATION AUSTIN, TEXAS	
TITLE			
SCHEMATIC, M/B LA-1221			
DWG NO.		REV.	
401195		4A	
DATE		SHEET	
11/15/02		97 OF 102	

PROPRIETARY NOTE: THIS ITEM IS THE PROPERTY OF DELL COMPUTER CORP., AUSTIN, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS ITEM MAY NOT BE TRANSFERRED FROM THE CUSTODY OF DELL COMPUTER CORP. EXCEPT AS AUTHORIZED BY DELL COMPUTER CORP. AND THEN ONLY BY WAY OF LEASE FOR LIMITED PURPOSES. IT MUST NOT BE REPRODUCED IN WHOLE OR IN PART AND MUST BE RETURNED TO DELL COMPUTER CORP. UPON REQUEST AND IN ALL EVENTS UPON COMPLETION OF THE PURPOSE OF THE LEASE. NEITHER THIS ITEM OR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO PERSONS NOT HAVING A NEED FOR SUCH USE OR DISCLOSURE CONSISTENT WITH THE PURPOSE OF THE LEASE WITHOUT THE PRIOR WRITTEN CONSENT OF DELL COMPUTER CORPORATION.

A	B	C	D
REFDES PAGE	REFDES PAGE	REFDES PAGE	REFDES PAGE
C338.....9	C394.....23	C450.....36	C506.....19
C339.....39	C395.....9	C451.....41	C507.....17
C340.....9	C396.....39	C452.....41	C508.....20
C341.....9	C397.....31	C453.....41	C509.....21
C342.....9	C398.....31	C454.....41	C510.....11
C343.....10	C399.....17	C455.....41	C511.....19
C344.....9	C400.....17	C456.....34	C512.....21
C345.....39	C401.....17	C457.....35	C513.....19
C346.....10	C402.....9	C458.....39	C514.....11
C347.....23	C403.....16	C459.....40	C515.....19
C348.....39	C404.....16	C460.....40	C516.....19
C349.....39	C405.....14	C461.....40	C517.....19
C350.....39	C406.....17	C462.....29	C518.....19
C351.....9	C407.....27	C463.....29	C519.....19
C352.....39	C408.....17	C464.....29	C520.....33
C353.....27	C409.....17	C465.....18	C521.....40
C354.....38	C410.....27	C466.....39	C522.....40
C355.....10	C411.....12	C467.....21	C523.....11
C356.....10	C412.....12	C468.....39	C524.....19
C357.....10	C413.....17	C469.....28	C525.....20
C358.....10	C414.....17	C470.....28	C526.....11
C359.....10	C415.....32	C471.....6	C527.....19
C360.....9	C416.....14	C472.....40	C528.....19
C361.....39	C417.....14	C473.....39	C529.....20
C362.....27	C418.....27	C474.....19	C530.....11
C363.....39	C419.....27	C475.....28	C531.....21
C364.....9	C420.....13	C476.....39	C532.....11
C365.....39	C421.....13	C477.....21	C533.....19
C366.....23	C422.....27	C478.....19	C534.....11
C367.....9	C423.....27	C479.....19	C535.....20
C368.....9	C424.....6	C480.....21	C536.....20
C369.....31	C425.....11	C481.....21	C537.....19
C370.....31	C426.....6	C482.....21	C538.....11
C371.....8	C427.....6	C483.....21	C539.....19
C372.....31	C428.....32	C484.....21	C540.....11
C373.....38	C429.....6	C485.....19	C541.....21
C374.....23	C430.....27	C486.....21	C542.....21
C375.....9	C431.....32	C487.....21	C543.....21
C376.....9	C432.....27	C488.....21	C544.....21
C377.....9	C433.....27	C489.....28	C545.....21
C378.....9	C434.....32	C490.....28	C546.....21
C379.....38	C435.....27	C491.....19	C547.....21
C380.....23	C436.....27	C492.....33	C548.....11
C381.....39	C437.....39	C493.....20	C549.....33
C382.....31	C438.....27	C494.....19	C550.....19
C383.....38	C439.....39	C495.....19	C551.....19
C384.....9	C440.....27	C496.....21	C552.....33
C385.....9	C441.....41	C497.....21	C553.....11
C386.....38	C442.....39	C498.....33	C554.....40
C387.....9	C443.....39	C499.....33	C555.....19
C388.....8	C444.....36	C500.....40	C556.....5
C389.....8	C445.....11	C501.....20	C557.....5
C390.....8	C446.....14	C502.....19	C558.....11
C391.....11	C447.....14	C503.....19	C559.....20
C392.....11	C448.....14	C504.....28	C560.....19
C393.....23	C449.....36	C505.....28	C561.....19
			C562.....11
			C563.....19
			C564.....25
			C565.....11
			C566.....21
			C567.....24
			C568.....24
			C569.....20
			C570.....19
			C571.....25
			C572.....4
			C573.....11
			C574.....21
			C575.....19
			C576.....5
			C577.....5
			C578.....11
			C579.....5
			C580.....5
			C581.....11
			C582.....20
			C583.....20
			C584.....20
			C585.....24
			C586.....11
			C587.....22
			C588.....22
			C589.....22
			C590.....25
			C591.....11
			C592.....5
			C593.....5
			C594.....5
			C595.....20
			C596.....20
			C597.....25
			C598.....5
			C599.....11
			C600.....5
			C601.....5
			C602.....5
			C603.....24
			C604.....5
			C605.....11
			C606.....20
			C607.....20
			C608.....20
			C609.....20
			C610.....11
			C611.....5
			C612.....11
			C613.....5
			C614.....5
			C615.....5
			C616.....5
			C617.....11
			C618.....20
			C619.....20
			C620.....5
			C621.....5
			C622.....20
			C623.....25
			C624.....5
			C625.....11
			C626.....24
			C627.....25
			C628.....24
			C629.....11
			C630.....11
			C631.....22
			C632.....5
			C633.....5
			C634.....26
			C635.....25
			C636.....11
			C637.....5
			C638.....5
			C639.....25
			C640.....11
			C641.....26
			C642.....25
			C643.....11
			C644.....22
			C645.....25
			C646.....11
			C647.....5
			C648.....5
			C649.....11
			C650.....5
			C651.....5
			C652.....11
			C653.....25
			C654.....11
			C655.....22
			C656.....11
			C657.....11
			C658.....24
			C659.....11
			C660.....25
			C661.....6
			C662.....11
			C663.....24
			C664.....26
			C665.....24
			C666.....25
			C667.....11
			C668.....11
			C669.....6
			C670.....26
			C671.....11
			C672.....11
			C673.....11

XREF PAGE 2 OF 6

PROPRIETARY NOTE: THIS ITEM IS THE PROPERTY OF DELL COMPUTER CORP. AUSTIN, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS ITEM MAY NOT BE TRANSFERRED FROM THE CUSTODY OF DELL COMPUTER CORP. EXCEPT AS AUTHORIZED BY DELL COMPUTER CORP. AND THEN ONLY BY WAY OF LEASE FOR LIMITED PURPOSES. IT MUST NOT BE REPRODUCED IN WHOLE OR IN PART AND MUST BE RETURNED TO DELL COMPUTER CORP. UPON REQUEST AND IN ALL EVENTS UPON COMPLETION OF THE PURPOSE OF THE LEASE. NEITHER THIS ITEM OR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO PERSONS NOT HAVING A NEED FOR SUCH USE OR DISCLOSURE CONSISTENT WITH THE PURPOSE OF THE LEASE WITHOUT THE PRIOR WRITTEN CONSENT OF DELL COMPUTER CORPORATION.

DELL		COMPUTER CORPORATION AUSTIN, TEXAS	
TITLE			
SCHEMATIC, MB LA-1221			
PWG NO.	401195	REV.	4A
DATE	11/15/02	SHEET	98 OF 102

A	B	C	D
REFDES PAGE	REFDES PAGE	REFDES PAGE	REFDES PAGE
C674.....11	C730.....32	C786.....16	CLP5.....42
C675.....11	C731.....32	C787.....16	CLP6.....42
C676.....26	C732.....11	C788.....41	CLP7.....42
C677.....26	C733.....16	C789.....16	CLP8.....42
C678.....11	C734.....6	C790.....16	CLP9.....42
C679.....38	C735.....16	C791.....16	CLP10.....42
C680.....38	C736.....11	C792.....16	CLP12.....42
C681.....26	C737.....32	C793.....32	CLP13.....42
C682.....11	C738.....12	C794.....16	CLP14.....42
C683.....11	C739.....12	C795.....39	CLP15.....42
C684.....9	C740.....12	C796.....39	CLP17.....42
C685.....11	C741.....32	C797.....39	CLP18.....42
C686.....26	C742.....11	C798.....39	CLP19.....42
C687.....26	C743.....11	C799.....16	CLP20.....42
C688.....35	C744.....16	C800.....41	CLP21.....42
C689.....11	C745.....41	C801.....41	CLP22.....42
C690.....11	C746.....32	C802.....27	CLP23.....42
C691.....11	C747.....31	C803.....16	CLP24.....42
C692.....35	C748.....16	C804.....16	CLP25.....42
C693.....16	C749.....32	C805.....16	CLP26.....42
C694.....16	C750.....32	C806.....16	CLP27.....42
C695.....9	C751.....11	C807.....16	CLP28.....42
C696.....11	C752.....14	C808.....16	CLP29.....42
C697.....41	C753.....12	C809.....36	CLP30.....42
C698.....11	C754.....11	C810.....41	CLP31.....42
C699.....32	C755.....16	C811.....41	CLP32.....42
C700.....41	C756.....32	C812.....41	CLP33.....42
C701.....41	C757.....32	C813.....16	CLP34.....42
C702.....22	C758.....41	C814.....16	CLP35.....42
C703.....16	C759.....13	C815.....39	CLP36.....42
C704.....32	C760.....13	C816.....39	CLP37.....42
C705.....32	C761.....32	C817.....39	CLP38.....42
C706.....32	C762.....32	C818.....38	CMOS_CLR..14
C707.....32	C763.....32	C819.....37	D1.....12
C708.....41	C764.....41	C820.....37	D2.....12
C709.....11	C765.....16	C821.....36	D3.....12
C710.....16	C766.....16	C822.....36	D4.....12
C711.....41	C767.....32	C823.....30	D5.....40
C712.....41	C768.....35	C824.....40	D6.....40
C713.....16	C769.....16	C825.....19	D7.....40
C714.....32	C770.....12	C826.....20	D8.....8
C715.....41	C771.....12	C827.....20	D9.....8
C716.....41	C772.....12	C828.....36	D10.....8
C717.....16	C773.....35	C829.....36	D11.....24
C718.....12	C774.....35	C831.....36	D12.....39
C719.....32	C775.....35	C832.....36	D13.....41
C720.....16	C776.....41	C833.....39	D14.....30
C721.....32	C777.....16	C834.....33	D15.....36
C722.....13	C778.....16	C835.....33	D16.....36
C723.....32	C779.....16	C836.....33	D17.....41
C724.....32	C780.....41	C837.....19	D18.....41
C725.....32	C781.....16	C838.....33	D19.....34
C726.....32	C782.....32	CLP1.....42	D20.....40
C727.....11	C783.....41	CLP2.....42	D21.....40
C728.....11	C784.....41	CLP3.....42	D22.....28
C729.....16	C785.....41	CLP4.....42	D23.....28
			D24.....33
			D25.....33
			D26.....39
			D27.....39
			D28.....41
			D29.....16
			D30.....16
			D31.....41
			D32.....41
			D33.....41
			D34.....41
			D35.....41
			D36.....16
			D37.....16
			D38.....36
			D39.....37
			D40.....37
			D41.....37
			D42.....37
			D43.....37
			D44.....37
			D45.....36
			D46.....41
			FS2.....36
			FS3.....35
			J1394.....26
			JAUD_OUT..20
			JCBUS.....25
			JCD.....17
			JCHG.....36
			JCPU.....5
			JCPU.....4
			JCPU.....5
			JDCIN.....36
			JDEBUG...30
			JDIM0.....10
			JDIM1.....10
			JDOCK.....29
			JFAN1.....33
			JFAN2.....33
			JHDD.....17
			JKYBRD...32
			JLED.....35
			JLINE_IN..20
			JLOM.....22
			JLPT.....34
			JMDC.....22
			JMIC.....20
			JMOD.....17
			JPALM.....32
			JPBAT.....37
			JPCL.....27
			JPS2.....35
			JSBAT.....37
			JSIO.....34
			JSVID.....12
			JUSB.....18
			JVGA.....12
			JVID.....11
			L1.....12
			L2.....35
			L3.....35
			L4.....35
			L5.....35
			L6.....12
			L7.....12
			L8.....12
			L9.....12
			L10.....34
			L11.....34
			L12.....34
			L13.....34
			L14.....34
			L15.....34
			L16.....34
			L17.....34
			L18.....34
			L19.....34
			L20.....34
			L21.....18
			L22.....18
			L23.....18
			L24.....18
			L25.....18
			L26.....18
			L27.....18
			L28.....35
			L29.....18
			L30.....21
			L31.....21
			L32.....21
			L33.....21
			L34.....3
			L35.....4
			L36.....3
			L37.....26
			L38.....4
			L39.....26
			L40.....31
			L41.....9
			L42.....27
			L43.....32
			L44.....39
			L45.....36
			L46.....40
			L47.....40
			L48.....20
			L49.....21
			L50.....20
			L51.....8
			L52.....20

XREF PAGE 3 OF 6

PROPRIETARY NOTE: THIS ITEM IS THE PROPERTY OF DELL COMPUTER CORP. AUSTIN, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS ITEM MAY NOT BE TRANSMITTED FROM THE CUSTODY OF DELL COMPUTER CORP. EXCEPT AS AUTHORIZED BY DELL COMPUTER CORP. AND THEN ONLY BY WAY OF LEASE OR LIMITED PURPOSES. IT MUST NOT BE REPRODUCED IN WHOLE OR IN PART AND MUST BE RETURNED TO DELL COMPUTER CORP. UPON REQUEST AND IN ALL EVENTS UPON COMPLETION OF THE PURPOSE OF THE LEASE. NEITHER THIS ITEM OR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO PERSONS NOT HAVING A NEED FOR SUCH USE OR DISCLOSURE CONSISTENT WITH THE PURPOSE OF THE LEASE WITHOUT THE PRIOR WRITTEN CONSENT OF DELL COMPUTER CORPORATION.

DELL		COMPUTER CORPORATION AUSTIN, TEXAS	
TITLE			
SCHEMATIC, MB LA-1221			
DWG NO.		REV.	
401195		4A	
DATE		SHEET	
11/15/02		99 OF 102	

A

B

C

D

REFDES PAGE

REFDES PAGE

REFDES PAGE

REFDES PAGE

REFDES PAGE

REFDES PAGE

L53.....20
 L54.....25
 L55.....25
 L56.....20
 L57.....20
 L58.....26
 L59.....39
 L60.....9
 L61.....41
 L62.....12
 L63.....12
 L64.....32
 L65.....12
 L66.....12
 L67.....12
 L68.....32
 L69.....39
 L70.....41
 MHA1.....42
 MHA2.....42
 MHA3.....42
 MHA4.....42
 MHA5.....42
 MHA6.....42
 MHA7.....42
 MHA8.....42
 MHA9.....42
 MHA10.....42
 MHA11.....42
 MHB1.....42
 MHB2.....42
 MHB3.....42
 MHB4.....42
 P1.....6
 PAD1.....42
 PAD2.....42
 PAD3.....42
 PAD4.....42
 PAD5.....42
 PAD6.....42
 Q1.....40
 Q2.....40
 Q3.....40
 Q4.....40
 Q5.....38
 Q6.....35
 Q7.....29
 Q8.....29
 Q9.....29
 Q10.....36
 Q11.....38
 Q12.....35
 Q13.....22
 Q14.....33
 Q15.....33
 Q16.....38

Q17.....35
 Q18.....38
 Q19.....33
 Q20.....8
 Q21.....8
 Q22.....3
 Q23.....3
 Q24.....4
 Q25.....3
 Q26.....3
 Q27.....38
 Q28.....38
 Q29.....38
 Q30.....38
 Q31.....23
 Q32.....38
 Q33.....38
 Q34.....38
 Q35.....36
 Q36.....39
 Q37.....39
 Q38.....38
 Q39.....40
 Q40.....40
 Q41.....40
 Q42.....40
 Q43.....40
 Q44.....40
 Q45.....40
 Q46.....40
 Q47.....33
 Q48.....40
 Q49.....40
 Q50.....38
 Q51.....38
 Q52.....39
 Q53.....38
 Q54.....27
 Q55.....39
 Q56.....38
 Q57.....27
 Q58.....41
 Q59.....41
 Q60.....41
 Q61.....39
 Q62.....39
 Q63.....41
 Q64.....39
 Q65.....38
 Q66.....36
 Q67.....36
 Q68.....38
 Q69.....41
 Q70.....41
 Q71.....41
 Q72.....41


Q73.....33
 Q74.....33
 Q75.....33
 Q76.....33
 Q77.....13
 Q78.....8
 Q79.....39
 Q80.....21
 Q81.....11
 R1.....12
 R2.....12
 R3.....12
 R4.....12
 R5.....12
 R6.....12
 R7.....35
 R8.....35
 R9.....35
 R10.....35
 R11.....34
 R12.....34
 R13.....34
 R14.....12
 R15.....12
 R16.....40
 R17.....34
 R18.....34
 R19.....34
 R20.....34
 R21.....34
 R22.....40
 R23.....40
 R24.....40
 R25.....34
 R26.....40
 R27.....40
 R28.....34
 R29.....34
 R30.....34
 R31.....34
 R32.....34
 R33.....29
 R34.....29
 R35.....40
 R36.....40
 R37.....34
 R38.....34
 R39.....34
 R40.....34
 R41.....34
 R42.....34
 R43.....34
 R44.....34
 R45.....34
 R46.....40
 R47.....18

R48.....34
 R49.....40
 R50.....39
 R51.....38
 R52.....29
 R53.....29
 R54.....18
 R55.....34
 R56.....29
 R57.....40
 R58.....36
 R59.....18
 R60.....18
 R61.....35
 R62.....40
 R63.....40
 R64.....40
 R65.....6
 R66.....30
 R67.....40
 R68.....30
 R69.....40
 R70.....40
 R71.....21
 R72.....21
 R73.....21
 R74.....35
 R75.....4
 R76.....4
 R77.....20
 R78.....4
 R79.....4
 R80.....4
 R81.....4
 R82.....39
 R83.....39
 R84.....4
 R85.....22
 R86.....21
 R87.....10
 R88.....20
 R89.....21
 R90.....21
 R91.....10
 R92.....38
 R93.....33
 R94.....19
 R95.....21
 R96.....38
 R97.....33
 R98.....22
 R99.....21
 R100.....21
 R101.....19
 R102.....21
 R103.....21

R104.....38
 R105.....35
 R106.....21
 R107.....8
 R108.....8
 R109.....4
 R110.....33
 R111.....4
 R112.....3
 R113.....3
 R114.....3
 R115.....3
 R116.....3
 R117.....3
 R118.....3
 R119.....3
 R120.....22
 R121.....21
 R122.....21
 R123.....24
 R124.....3
 R125.....24
 R126.....3
 R127.....3
 R128.....3
 R129.....20
 R130.....20
 R131.....8
 R132.....4
 R133.....4
 R134.....4
 R135.....24
 R136.....4
 R137.....20
 R138.....20
 R139.....4
 R140.....24
 R141.....24
 R142.....4
 R143.....24
 R144.....20
 R145.....3
 R146.....3
 R147.....3
 R148.....3
 R149.....3
 R150.....3
 R151.....7
 R152.....3
 R153.....3
 R154.....7
 R155.....24
 R156.....3
 R157.....3
 R158.....3
 R159.....3

R160.....3
 R161.....3
 R162.....3
 R163.....3
 R164.....3
 R165.....4
 R166.....3
 R167.....4
 R168.....3
 R169.....3
 R170.....3
 R171.....3
 R172.....3
 R173.....3
 R174.....3
 R175.....3
 R176.....3
 R177.....3
 R178.....7
 R179.....26
 R180.....23
 R181.....23
 R182.....38
 R183.....38
 R184.....38
 R185.....7
 R186.....4
 R187.....31
 R188.....31
 R189.....30
 R190.....30
 R191.....30
 R192.....31
 R193.....7
 R194.....26
 R195.....31
 R196.....23
 R197.....23
 R198.....7
 R199.....7
 R200.....4
 R201.....4
 R202.....4
 R203.....4
 R204.....4
 R205.....23
 R206.....23
 R207.....26
 R208.....30
 R209.....8
 R210.....41
 R211.....8
 R212.....23
 R213.....23
 R214.....8
 R215.....39

XREF PAGE 4 OF 6

		COMPUTER CORPORATION AUSTIN, TEXAS	
TITLE			
SCHEMATIC, MB LA-1221			
DWG NO.		REV.	
401195		4A	
DATE		SHEET	
11/15/02		100 OF 102	

PROPRIETARY NOTE: THIS ITEM IS THE PROPERTY OF DELL COMPUTER CORP., AUSTIN, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS ITEM MAY NOT BE TRANSMITTED FROM THE CUSTODY OF DELL COMPUTER CORP. EXCEPT AS AUTHORIZED BY DELL COMPUTER CORP. AND THEN ONLY BY WAY OF LOAN FOR LIMITED PURPOSES. IT MUST NOT BE REPRODUCED IN WHOLE OR IN PART AND MUST BE RETURNED TO DELL COMPUTER CORP. UPON REQUEST AND IN ALL EVENTS UPON COMPLETION OF THE PURPOSE OF THE LOAN. NEITHER THIS ITEM OR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO PERSONS NOT HAVING A NEED FOR SUCH USE OR DISCLOSURE CONSISTENT WITH THE PURPOSE OF THE LOAN WITHOUT THE PRIOR WRITTEN CONSENT OF DELL COMPUTER CORPORATION.

A

B

C

D

A	B	C	D
REFDES PAGE	REFDES PAGE	REFDES PAGE	REFDES PAGE
R216.....23	R272.....8	R328.....27	R384.....20
R217.....31	R273.....23	R329.....13	R385.....28
R218.....31	R274.....13	R330.....39	R386.....19
R219.....39	R275.....17	R331.....36	R387.....19
R220.....23	R276.....17	R332.....14	R388.....33
R221.....30	R277.....17	R333.....14	R389.....33
R222.....39	R278.....14	R334.....14	R390.....6
R223.....30	R279.....17	R335.....15	R391.....19
R224.....31	R280.....27	R336.....14	R392.....6
R225.....31	R281.....27	R337.....39	R393.....20
R226.....13	R282.....27	R338.....14	R394.....19
R227.....38	R283.....14	R339.....14	R395.....19
R228.....10	R284.....15	R340.....36	R396.....19
R229.....39	R285.....14	R341.....38	R397.....19
R230.....38	R286.....17	R342.....41	R398.....19
R231.....30	R287.....27	R343.....37	R399.....19
R232.....9	R288.....12	R344.....30	R400.....19
R233.....39	R289.....31	R345.....36	R401.....17
R234.....30	R290.....14	R346.....36	R402.....19
R235.....27	R291.....14	R347.....36	R403.....33
R236.....30	R292.....14	R348.....36	R404.....28
R237.....30	R293.....14	R349.....36	R405.....28
R238.....11	R294.....13	R350.....41	R406.....28
R239.....10	R295.....15	R351.....34	R407.....19
R240.....8	R296.....6	R352.....34	R408.....19
R241.....30	R297.....13	R353.....34	R409.....33
R242.....38	R298.....17	R354.....34	R410.....20
R243.....11	R299.....6	R355.....35	R411.....21
R244.....8	R300.....13	R356.....18	R412.....13
R245.....8	R301.....6	R357.....40	R413.....19
R246.....38	R302.....6	R358.....40	R414.....33
R247.....38	R303.....13	R359.....40	R415.....33
R248.....11	R304.....13	R360.....39	R416.....19
R249.....11	R305.....17	R361.....39	R417.....19
R250.....11	R306.....6	R362.....40	R418.....33
R251.....23	R307.....6	R363.....40	R419.....40
R252.....11	R308.....6	R364.....40	R420.....40
R253.....23	R309.....6	R365.....6	R421.....28
R254.....11	R310.....17	R366.....39	R422.....21
R255.....11	R311.....41	R367.....36	R423.....21
R256.....23	R312.....41	R368.....6	R424.....30
R257.....11	R313.....41	R369.....19	R425.....33
R258.....8	R314.....41	R370.....19	R426.....19
R259.....8	R315.....41	R371.....19	R427.....19
R260.....23	R316.....6	R372.....6	R428.....20
R261.....17	R317.....6	R373.....33	R429.....19
R262.....38	R318.....6	R374.....40	R430.....20
R263.....11	R319.....27	R375.....21	R431.....4
R264.....31	R320.....41	R376.....21	R432.....4
R265.....31	R321.....41	R377.....6	R433.....4
R266.....36	R322.....6	R378.....19	R434.....4
R267.....36	R323.....6	R379.....19	R435.....21
R268.....36	R324.....6	R380.....6	R436.....4
R269.....4	R325.....13	R381.....21	R437.....19
R270.....17	R326.....13	R382.....28	R438.....21
R271.....8	R327.....32	R383.....21	R439.....21
			R440.....20
			R441.....20
			R442.....24
			R443.....4
			R444.....20
			R445.....20
			R446.....22
			R447.....22
			R448.....22
			R449.....22
			R450.....21
			R451.....20
			R452.....22
			R453.....20
			R454.....20
			R455.....3
			R456.....22
			R457.....20
			R458.....20
			R459.....24
			R460.....20
			R461.....20
			R462.....20
			R463.....24
			R464.....26
			R465.....26
			R466.....26
			R467.....26
			R468.....26
			R469.....26
			R470.....24
			R471.....22
			R472.....22
			R473.....24
			R474.....26
			R475.....22
			R476.....24
			R477.....26
			R478.....24
			R479.....17
			R480.....26
			R481.....26
			R482.....26
			R483.....26
			R484.....24
			R485.....26
			R486.....6
			R487.....30
			R488.....24
			R489.....6
			R490.....24
			R491.....24
			R492.....6
			R493.....38
			R494.....6
			R495.....38
			R496.....4
			R497.....4
			R498.....4
			R499.....38
			R500.....38
			R501.....4
			R502.....35
			R503.....38
			R504.....27
			R505.....11
			R506.....9
			R507.....8
			R508.....8
			R509.....11
			R510.....11
			R511.....11
			R512.....11
			R513.....11
			R514.....11
			R515.....11
			R516.....11
			R517.....7
			R518.....7
			R519.....11
			R520.....11
			R521.....11
			R522.....41
			R523.....35
			R524.....14
			R525.....14
			R526.....22
			R527.....16
			R528.....11
			R529.....11
			R530.....13
			R531.....11
			R533.....16
			R534.....15
			R535.....14
			R536.....11
			R537.....15
			R538.....15
			R539.....15
			R540.....35
			R541.....11
			R542.....13
			R543.....11
			R544.....12
			R545.....12
			R546.....12
			R547.....35
			R548.....32
			R549.....32
			R550.....35
			R551.....13
			R552.....35

XREF PAGE 5 OF 6

PROPRIETARY NOTE: THIS ITEM IS THE PROPERTY OF DELL COMPUTER CORP., AUSTIN, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS ITEM MAY NOT BE TRANSMITTED FROM THE CUSTODY OF DELL COMPUTER CORP. EXCEPT AS AUTHORIZED BY DELL COMPUTER CORP. AND THEN ONLY BY WAY OF LOAN FOR LIMITED PURPOSES. IT MUST NOT BE REPRODUCED IN WHOLE OR IN PART AND MUST BE RETURNED TO DELL COMPUTER CORP. UPON REQUEST AND IN ALL EVENTS UPON COMPLETION OF THE PURPOSE OF THE LOAN. NEITHER THIS ITEM OR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO PERSONS NOT HAVING A NEED FOR SUCH USE OR DISCLOSURE CONSISTENT WITH THE PURPOSE OF THE LOAN WITHOUT THE PRIOR WRITTEN CONSENT OF DELL COMPUTER CORPORATION.

DELL		COMPUTER CORPORATION AUSTIN, TEXAS	
TITLE			
SCHEMATIC, MB LA-1221			
PWG NO.	401195	REV.	4A
DATE	11/15/02	SHEET	101 OF 102

REFDES PAGE

REFDES PAGE

REFDES PAGE

REFDES PAGE

REFDES PAGE

REFDES PAGE

REFDES PAGE

R553.....14
R554.....14
R555.....13
R556.....14
R557.....14
R558.....13
R559.....14
R560.....13
R561.....13
R562.....39
R563.....14
R564.....14
R565.....39
R566.....13
R567.....39
R568.....39
R569.....14
R570.....39
R571.....36
R572.....39
R573.....16
R574.....13
R575.....16
R576.....39
R577.....39
R578.....38
R579.....39
R580.....37
R581.....37
R582.....37
R583.....39
R584.....37
R585.....37
R586.....37
R587.....36
R588.....37
R589.....41
R590.....36
R591.....38
R592.....36
R593.....41
R594.....41
R595.....33
R596.....33
R597.....33
R598.....33
R599.....33
R600.....16
R601.....16
R602.....17
R603.....17
R604.....30
R605.....30
R606.....13
R607.....8
R608.....8

R609.....39
R610.....6
R611.....19
R612.....35
R613.....19
R614.....8
R615.....8
R616.....13
R617.....30
R618.....6
R619.....8
R620.....8
R621.....8
R622.....8
R623.....39
R624.....8
R625.....33
R631.....11
R632.....33
R633.....33
R634.....33
R635.....33
R636.....33
R637.....33
R638.....33
R639.....33
R640.....33
R641.....19
R642.....33
R643.....33
R644.....35
RN1.....30
RN2.....6
RN3.....22
RN4.....6
RN5.....11
RN6.....11
RN7.....11
RN8.....11
RN9.....4
RN10.....11
RN11.....17
RN12.....17
RN13.....17
RN14.....13
RN15.....42
RN15.....13
RN16.....13
RN17.....14
RN18.....13
RN19.....13
RN20.....7
RN21.....10
RN22.....7
RN23.....10
RN24.....7

RN25.....10
RN26.....7
RN27.....10
RN28.....7
RN29.....10
RN30.....7
RN31.....10
RN32.....7
RN33.....10
RN34.....7
RN35.....10
RN36.....7
RN37.....10
RN38.....10
RN39.....7
RN40.....10
RN41.....7
RN42.....10
RN43.....7
RN44.....10
RN45.....7
RN46.....10
RN47.....7
RN48.....10
RN49.....7
RN50.....10
RN51.....7
RN52.....10
RN53.....7
RN54.....10
RN55.....7
RN56.....10
RN57.....10
RN58.....7
RN59.....10
RN62.....7
RN63.....10
RN64.....7
RN66.....10
RN68.....7
RN69.....10
RN71.....7
RN72.....10
RN74.....7
RN75.....10
RN77.....7
RN78.....10
RN80.....7
RN81.....10
RN82.....7
RN83.....7
RN84.....10
RN85.....10
RN86.....10
RN87.....7
RN88.....10


RN89.....7
RN90.....10
RN91.....7
RN92.....10
RN93.....7
RN94.....10
RN95.....7
RN96.....10
RN97.....7
RN98.....10
RN99.....7
RN100.....10
RN101.....7
RN102.....10
RN103.....7
RN104.....10
RN105.....7
RN106.....10
RN107.....7
RN108.....10
RN109.....7
RN110.....10
RN111.....7
RN112.....10
RN113.....7
RN114.....10
RN115.....7
RN116.....10
RN117.....10
RN118.....7
RN119.....7
RN120.....10
RN121.....10
RN122.....7
RN123.....7
RN124.....10
RN125.....10
RN126.....7
RN127.....4
RN128.....7
RN129.....10
RN130.....10
RN131.....7
RN132.....7
RN133.....10
RS3_A.....32
RS3_B.....32
TP3COM.....21
TP_GND...30
TP_SMBCL..30
TP_SMBDA..30
U1.....29
U2.....42
U2.....34
U3.....18
U4.....40

U5.....34
U6.....34
U7.....30
U8.....28
U9.....28
U10.....28
U11.....30
U12.....42
U12.....35
U13.....6
U14.....22
U15.....19
U16.....21
U17.....28
U18.....28
U19.....28
U20.....38
U21.....19
U22.....22
U23.....20
U24.....8
U25.....20
U26.....3
U27.....23
U28.....31
U29.....15
U30.....39
U31.....31
U31.....30
U32.....38
U33.....38
U34.....23
U35.....23
U36.....17
U37.....12
U38.....31
U39.....32
U40.....16
U40.....15
U40.....14
U40.....13
U41.....17
U42.....39
U43.....39
U44.....42
U44.....41
U45.....37
U46.....28
U47.....39
U48.....19
U49.....33
U50.....19
U51.....19
U52.....21
U53.....22
U54.....20

U55.....24
U55.....24
U56.....17
U57.....25
U58.....26
U59.....6
U60.....9
U60.....9
U60.....7
U60.....8
U60.....7
U61.....35
U61.....33
U62.....35
U63.....6
U64.....41
U65.....35
U66.....39
U67.....39
U68.....11
U69.....36
U70.....35
U71.....42
U71.....41
U72.....41
U73.....33
U74.....8
U75.....30
U76.....30
U77.....39
U78.....42
U78.....35
U79.....22
U80.....33
U81.....33
U82.....33
U83.....22
VCCSENSE..4
VSSSENSE..4
WP1.....42
WP2.....42
WP3.....42
WP4.....42
X2.....30
X3.....14
X4.....26
X5.....3
X6.....21
X7.....19
R666...40
R667...36
C852...8
C855...8
C853...39
C854...39
C844...40
C845...40

C846...40
C847...40
C848...40
C849...40
C850...41
C851...41

XREF PAGE 6 OF 6

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

PROPRIETARY NOTE: THIS ITEM IS THE PROPERTY OF DELL COMPUTER CORP., AUSTIN, TEXAS AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS ITEM MAY NOT BE TRANSMITTED FROM THE CUSTODY OF DELL COMPUTER CORP. EXCEPT AS AUTHORIZED BY DELL COMPUTER CORP. AND THEN ONLY BY WAY OF LOAN FOR LIMITED PURPOSES. IT MUST NOT BE REPRODUCED IN WHOLE OR IN PART AND MUST BE RETURNED TO DELL COMPUTER CORP. UPON REQUEST AND IN ALL EVENTS UPON COMPLETION OF THE PURPOSE OF THE LOAN. NEITHER THIS ITEM OR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO PERSONS NOT HAVING A NEED FOR SUCH USE OR DISCLOSURE CONSISTENT WITH THE PURPOSE OF THE LOAN WITHOUT THE PRIOR WRITTEN CONSENT OF DELL COMPUTER CORPORATION.