CR-1

1. ALL RESISTANCE VALUES ARE IN OHMS, 0.1 WATT +/- 5%.
2. ALL CAPACITANCE VALUES ARE IN MICROFARADS.
3. ALL CRYSTALS & OSCILLATOR VALUES ARE IN HERTZ.

REV	ZONE	ECN	DESCRIPTION OF CHANGE	CK APPD / DATE	ENG APPD / DATE
D		263648	PRODUCTION RELEASED		02/26/03
			5/19/03 A RFA# 276257 ENGR RELEASE		
			5/23/03 B		

Q26B DVT MLB
GEN X
REV B

LAST_MODIFIED=Wed May 28 20:14:31 2003

TABLE OF CONTENTS

POWER RAIL DEFINITIONS

	RUN	SLEEP	SHUTDOWN
+2_5V_MAIN	ON	ON	OFF
+3V_MAIN	ON	ON	OFF
+5V_MAIN	ON	ON	OFF
+5V_SLEEP	ON	OFF	OFF
+12V_MAIN	ON	ON	ON
+12V_SLEEP	ON	OFF	OFF
FW_PWR	ON	ON	OFF
+1.8V_SLEEP	ON	OFF	OFF
+MAXBUS_SLEEP	ON	OFF	OFF

SCHEMATIC AND PCB SUPPORT

PART NUMBER	QTY	DESCRIPTION	REFERENCE DES	CRITICAL	BOM OPTION
051-6490	1	SCHEM,MLB,Q26A,GENX	SCH1	CRITICAL	
820-1501	1	PCB,MLB,IMACG4	PCB1	CRITICAL	
825-2029	1	LBL,SER #,BARCODE	PCB1		
056-1158	1	DESIGN GUIDE,MCO,IMACG4	PCB1	CRITICAL	
057-0040	1	DFM,PNLZN DWG,MLB,Q26	PCB1	CRITICAL	
630-4745	1	630-4745,PCBA,H,Q26A,EEE PRR	HYNIX		OMIT
630-4746	1	630-4746,PCBA,S,Q26A,EEE PRS	SAMSUNG		OMIT

DIMENSIONS ARE IN MILLIMETERS
XX : _____
X.XX : _____
X.XXX : _____
ANGLES : _____
DO NOT SCALE DRAWING

THIRD ANGLE PROJECTION

METRIC

DRAFTER		DESIGN CK	
ENG APPD		MFG APPD	
QA APPD		DESIGNER	
RELEASE		SCALE	NONE

MATERIAL/FINISH NOTED AS APPLICABLE | SIZE D

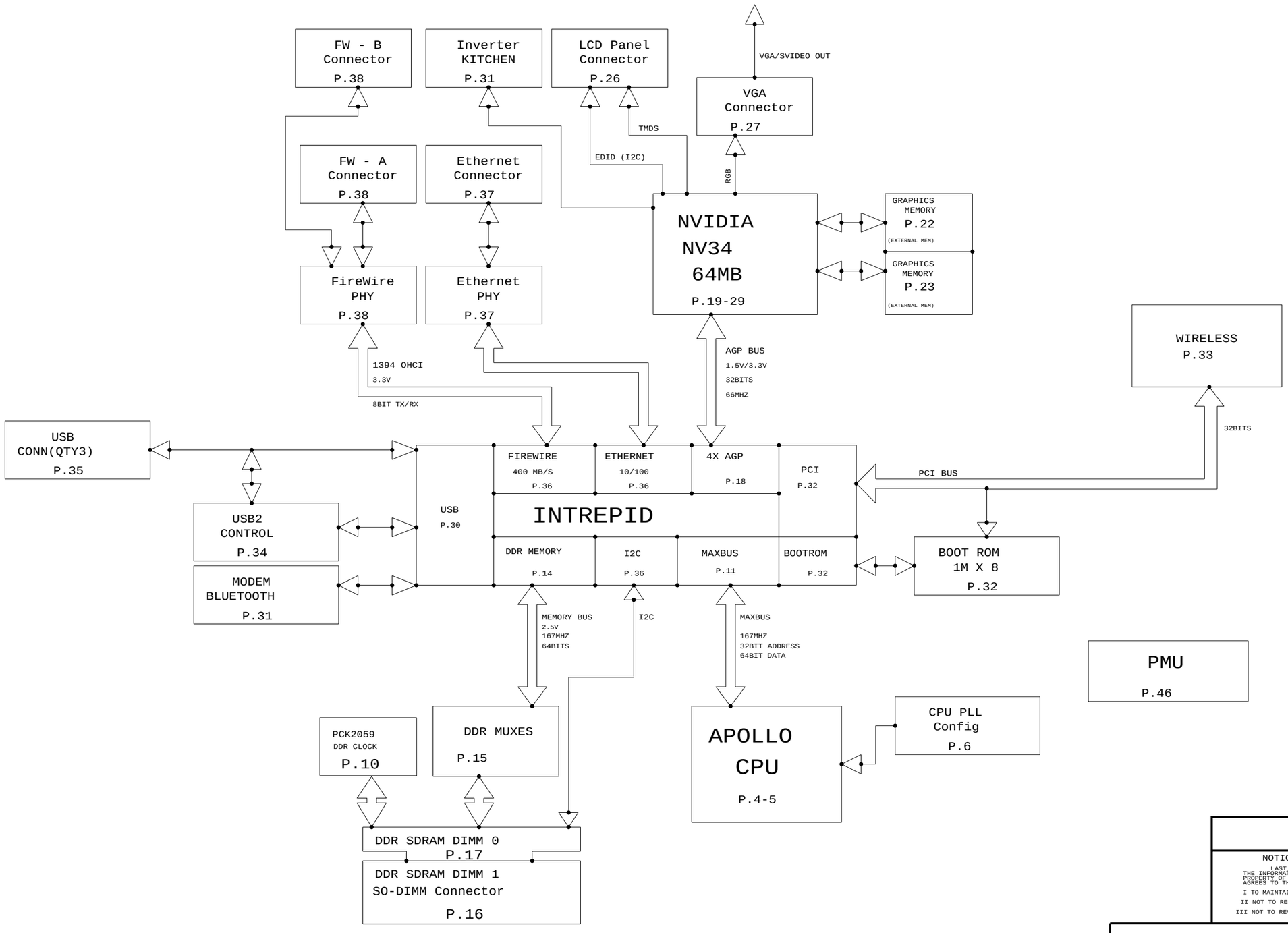
Apple Computer Inc.

TITLE: SCHEM,MLB,Q26,GEN X

DRAWING NUMBER: 051-6490 REV. A

SHT 1 OF 74

DRAWING



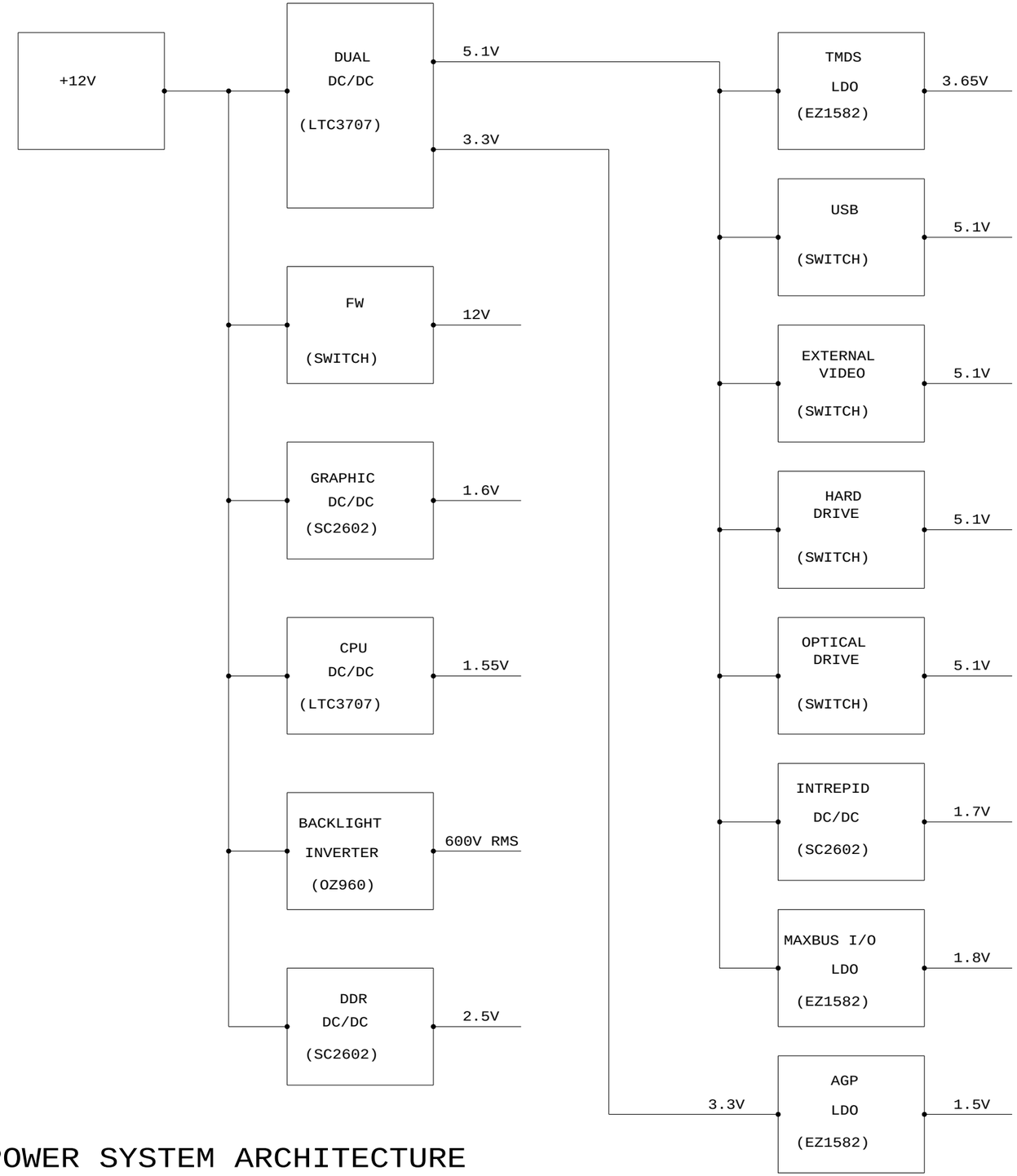
SYSTEM BLOCK

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6490	A

SCALE	SHT	OF
NONE	2	74

DRAWING



LAYER	THICKNESS (MILS)	COPPER (OZ)	TRACE WIDTH (MILS)
1 - SIGNAL-TOP	0.7	0.5	4
PREPREG	3	---	
2 - GROUND1	1.4	1	---
PREPREG	3	---	
3 - SIGNAL	0.7	0.5	4
FILLER	17.4	---	
4 - POWER	2.8	2	---
PREPREG	4	---	
5 - POWER	2.8	2	---
FILLER	17.4	---	
6 - SIGNAL	0.7	0.5	4
PREPREG	3	---	
7 - GROUND2	1.4	1	---
PREPREG	3	---	
8 - SIGNAL-BOTTOM	0.7	0.5	4
TOTAL	62.0	---	---

POWER SYSTEM ARCHITECTURE

PWR BLOCK,PCB INFO

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6490	A

SCALE	SHT	OF
NONE	3	74

DRAWING

CR-4

CPU INTERNAL PLL FILTERING

61D7 61B4 54C6 47C1 47B3 9C2 9B6 4D3

CPU_VCORE_SLEEP

RB91 470 5% 1/16W MF 402

+MAXBUS_SLEEP

48D4 54C6 61C7
6D8 7A3 7B3 7C3 7C5 7C7 8D3 9B2
9D2 9D4 11B8 11D8 46B7 46D1 46D2 47D2

VDD H8 H10 H12 J7 J9 J11 J13 K8 K10 K12 K14 L7 L9 L11 L13 M8 M10 M12

OVDD B4 C2 C12 D5 E10 F2 G10 H3 J5 K2 L5 M3 M6 P2 P6 P11 R4 R13 R16 T5 T9 T13 U2 U12 U16 V4 V7 V10 V14

AVDD R8

CPU_VCORE_SLEEP 4D7 9B6 9C2 47B3 47C1 54C6 61B4 61D7

R901 10 1% 1/16W MF 603

54C6 CPU_AVDD

C1036 0.1UF 20% 10V CERM 402

C1035 2.2UF 20% 10V CERM 805

58D3 11D3 9C5 7C7 CPU_BR_L D2 BR*
58D3 11D3 9B5 7B7 CPU_BG_L K1 BG*

58D3 11D3 9C7 7C7 CPU_TS_L L4 TS*

7C5 4A3 CPU_PULLDOWN E11 A0
H1 A1
C11 A2
G3 A3

58D3 11D3 9C5 CPU_ADDR<0> F10 A4
58D3 11D3 9C6 CPU_ADDR<1> L2 A5
58D3 11D3 9C5 CPU_ADDR<2> D11 A6
58D3 11D3 9B8 CPU_ADDR<3> D3 A7
58D3 11D3 9C6 CPU_ADDR<4> C10 A8
58D3 11D3 9B7 CPU_ADDR<5> G2 A9
58D3 11D3 9C5 CPU_ADDR<6> D12 A10
58D3 11D3 9B7 CPU_ADDR<7> L3 A11
58D3 11C3 9C6 CPU_ADDR<8> G4 A12
58D3 11C3 9B8 CPU_ADDR<9> T2 A13
58D3 11C3 9B8 CPU_ADDR<10> F4 A14
58D3 11C3 9C5 CPU_ADDR<11> V1 A15
58D3 11C3 9B7 CPU_ADDR<12> J4 A16
58D3 11C3 9B8 CPU_ADDR<13> R2 A17
58D3 11C3 9B7 CPU_ADDR<14> K3 A18
58D3 11C3 9C7 CPU_ADDR<15> W2 A19
58D3 11C3 9B8 CPU_ADDR<16> J2 A20
58D3 11C3 9C8 CPU_ADDR<17> K4 A21
58D3 11C3 9C8 CPU_ADDR<18> N4 A22
58D3 11C3 9B7 CPU_ADDR<19> J3 A23
58D3 11C3 9B8 CPU_ADDR<20> M5 A24
58D3 11C3 9C7 CPU_ADDR<21> P5 A25
58D3 11C3 9C7 CPU_ADDR<22> N3 A26
58D3 11C3 9C8 CPU_ADDR<23> T3 A27
58D3 11C3 9C7 CPU_ADDR<24> V3 A28
58D3 11C3 9C8 CPU_ADDR<25> U3 A29
58D3 11C3 9C8 CPU_ADDR<26> N5 A30
58D3 11C3 9C8 CPU_ADDR<27> W3 A31
58D3 11C3 9C7 CPU_ADDR<28> B12 A32
58D3 11C3 9C8 CPU_ADDR<29> C4 A33
58D3 11C3 9C7 CPU_ADDR<30> G16 A34
58D3 11C3 9C7 CPU_ADDR<31> B11 A35

NC_CPUAP<0> C5 AP0
NC_CPUAP<1> E3 AP1
NC_CPUAP<2> H6 AP2
NC_CPUAP<3> F5 AP3
NC_CPUAP<4> G7 AP4

58D3 11B3 9C5 7A7 CPU_TT<0> E5 TT0
58D3 11B3 9C6 7A7 CPU_TT<1> E6 TT1
58D3 11B3 9B5 7A7 CPU_TT<2> F6 TT2
58D3 11B3 9B6 7A7 CPU_TT<3> E8 TT3
58D3 11B3 9C5 7A7 CPU_TT<4> C6 TT4
58D3 11B3 9B5 7B7 CPU_TBST_L F11 TBST*
58D3 11B3 9B6 CPU_TSIZ<0> G6 TSIZ0
58D3 11B3 9C6 CPU_TSIZ<1> F7 TSIZ1
58D3 11B3 9B7 CPU_TSIZ<2> E7 TSIZ2
E2 GBL*
58C3 11B3 9B6 7A7 CPU_WT_L D3 WT*
58C3 11C3 9C6 7A7 CPU_CI_L J1 CI*
58C3 11B3 9B6 7B7 CPU_AACK_L R1 AACK*
58C3 11B3 9B8 7C7 CPU_ARTRY_L N2 ARTRY*
7B5 CPU_SHD0_L E4 SHD0*
7B5 CPU_SHD1_L H5 SHD1*
58C3 11B3 9B8 7C7 CPU_HIT_L B2 HIT*

11C3 7B7 58C3 CPU_INT_GBL_L — INT_V2 R311 0 5% 1/16W MF 402 — CPU_GBL_L 58C3 9B6

INT_V1 R312 100 1% 1/16W MF 402

U34
800MHZ
APOLLO_MPC7445_360
BGA
(1 OF 3)
SEE_TABLE

GND B5 C1 D6 D13 E17 F3 G17 H4 H7 H9 H11 H13 J6 J8 J10 J12 K7 K9 K11 K13 L6 L8 L10 L12 M4 M7 M9 M11 M13 N7 P3 P8 P12 P16 R6 R14 R17 T7 T10 U3 U13 U17 V5 V8 V11 V15

BVSEL B7 CPU_BUS_VSEL 7C4

SYSCLK A10 SYSCLK_CPU 11A4 58C3
CLKOUT H2 no_TEST NC_CPU_CLKOUT
PLLCFG0 B8 CPU_PLL_CFG<0> 6C6 9A8
PLLCFG1 C8 CPU_PLL_CFG<1> 6C6 9A8
PLLCFG2 C7 CPU_PLL_CFG<2> 6C6 9A8
PLLCFG3 D7 CPU_PLL_CFG<3> 6C6 9A8
PLL_EXT A7 CPU_PLL_CFGEXT 6C6 9A8
DBG* K2 CPU_DBG_L 7B7 9C8 11B1 58C3
DRDY* E3 58C3 CPU_DRDY_L_UF
DTI0 G1 CPU_EDTI 7C5
DTI1 K1 CPU_DTI<0> 9B7 11A1 58C3
DTI2 P1 CPU_DTI<1> 9B5 11A1 58C3
DTI3 N1 CPU_DTI<2> 9B5 11A1 58C3

NOSTUFF RB95 47 5% 1/16W MF 402

RC GLITCH FILTER
PLACE CLOSE TO PIN

RB50 0 5% 1/16W MF 402

CPU_DRDY_L 7B7 9B6 11B1 58C3

NOSTUFF C954 10PF 5% 50V CERM 402

FILTERS A WAKE FROM SLEEP GLITCH IF NECESSARY

TDI B9 JTAG_CPU_TDI 7A5 8D2 9A2 61C7
TDO A4 JTAG_CPU_TDO 9A2 61C7
TMS F1 JTAG_CPU_TMS 7A5 8D2 9A2 61C7
TCK C6 JTAG_CPU_TCK 7D5 8C2 9A2 61C7
TRST* A5 JTAG_CPU_TRST_L 7C5 8D2 9A2 61C7
LSSDMODE* E8 CPU_LSSD_MODE 7B5
L1TSTCLK G8 CPU_L1TSTCLK 7A4
L2TSTCLK B3 CPU_L2TSTCLK 7C4

TA* K6 CPU_TA_L 7C7 9C5 11A1 58C3
TEA* L1 CPU_TEA_L 7B7 9C6 11A1 58C3

TBEN E1 CPU_TBEN 7C5 11A3
QREQ* C4 CPU_QREQ_L 7D5 9B7 11B3 58C3
QACK* C5 CPU_QACK_L 9B5 11B3 58C3
CKSTP_IN* A3 CPU_CHKSTP_IN_L 7B5 61C7
CKSTP_OUT* B1 CPU_CHKSTP_OUT_L 7B5 9A2 9D6 61C7

INT* D4 MPIC_CPU_INT_L 7A5 9D7 30B5
SMI* F9 CPU_SMI_L 7A5 46C4
MCP* C9 CPU_MCP_L 7B5
SRESET* A2 CPU_SRESET_L 7A5 9A2 61C4
HRESET* D8 CPU_HRESET_L 7A3 7A5 7B3 8D2 9A2 46C2 46D2 61C7

IBORG PULLS THIS UP, SPEC SAYS TO GROUND IT FOR SW CONTROL

PMON_IN* D9 CPU_PMONIN_L 7C5
PMON_OUT* A9 no_TEST NC_PMON_OUT_L

BMODE0* C9 CPU_EMODE0_L 7A4
BMODE1* F8 CPU_EMODE1_L 7A4

EXT_QUAL A11

TEST0 A12
TEST1 B6
TEST2 B10
TEST3 E10 CPU_PULLUP 7A5
TEST4 D10 CPU_PULLDOWN 4D7 7C5

ZH4 275R138 1 ZT9P1 — C352 0.1UF 20% 10V CERM 402

ZH5 TH SL-138X272-292 1 ZT11P1 — C345 0.1UF 20% 10V CERM 402

ZH6 TH SL-138X272-292 1 ZT10P1 — C369 0.1UF 20% 10V CERM 402

ZH7 275R138 1 ZT8P1 — C370 0.1UF 20% 10V CERM 402

INTREPID VERSION 1 PULLS GBL
ALL THE TIME. NEED TO
CUT THE TRACE AND YANK
DOWN HARD FOR SNOOPING.
FIXED IN INTREPID VERSION 2.

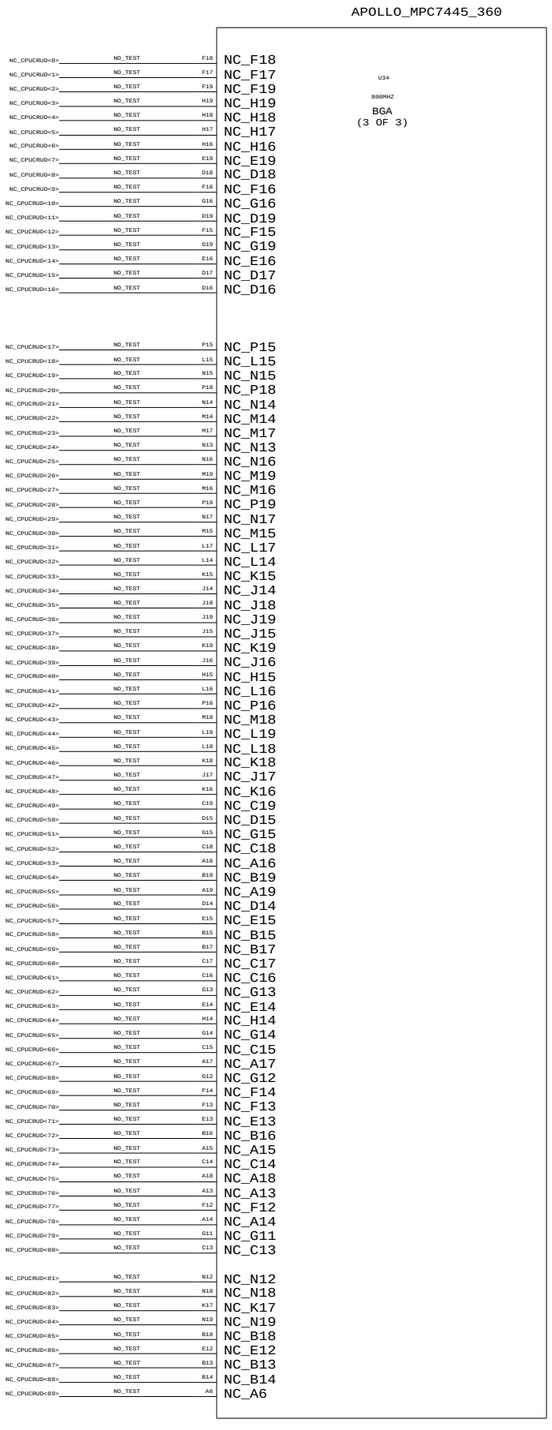
CPU MECHANICAL PARTS SUPPORT

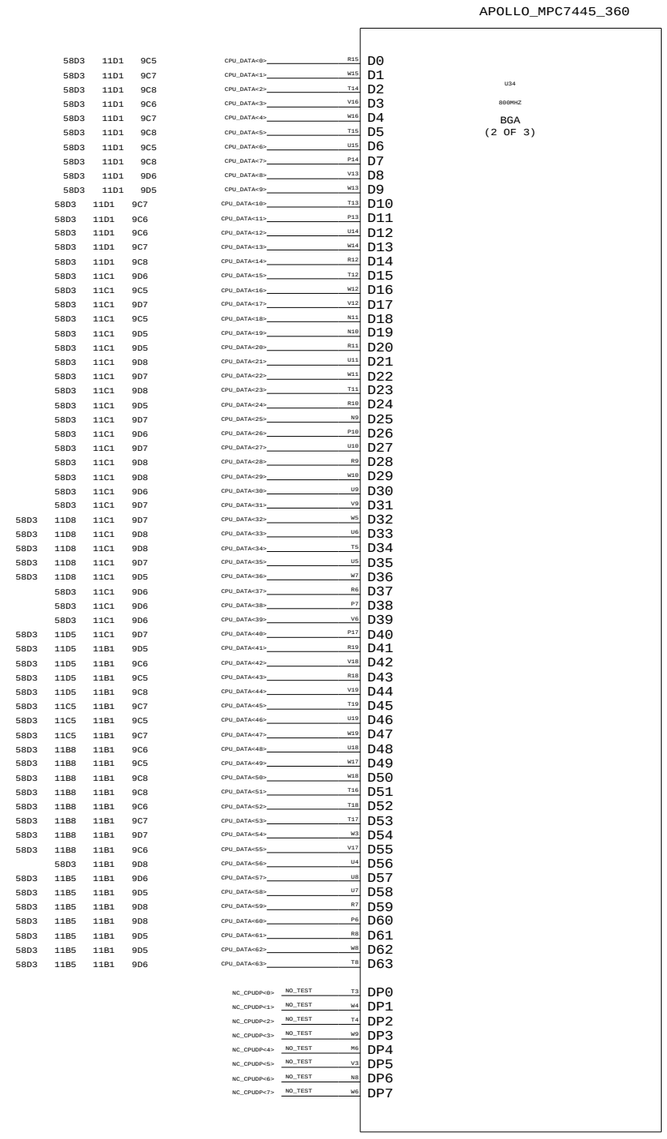
PART NUMBER	QTY	DESCRIPTION	REFERENCE DES	CRITICAL	BOM OPTION
875-1475	1	PAD,THERMAL,CPU,U34	U341	CRITICAL	
870-1113	1	HEAT SINK,CPU,Q26,U34	U342	CRITICAL	DEV
870-1114	1	CLIP,HEAT SINK,CPU,Q26.U34	U343	CRITICAL	DEV
412-0042	1	SCREW,MACH,3MM W,8MM L,U34	U344	CRITICAL	DEV
835-0251	1	NUT,3MM,U34	U345	CRITICAL	DEV

MPC7450 MAXBUS

APPLE COMPUTER INC.
SIZE D | DRAWING NUMBER 051-6490 | REV. A
SCALE NONE | SHT 4 OF 74
DRAWING

CR-5





MPC7450 - 2

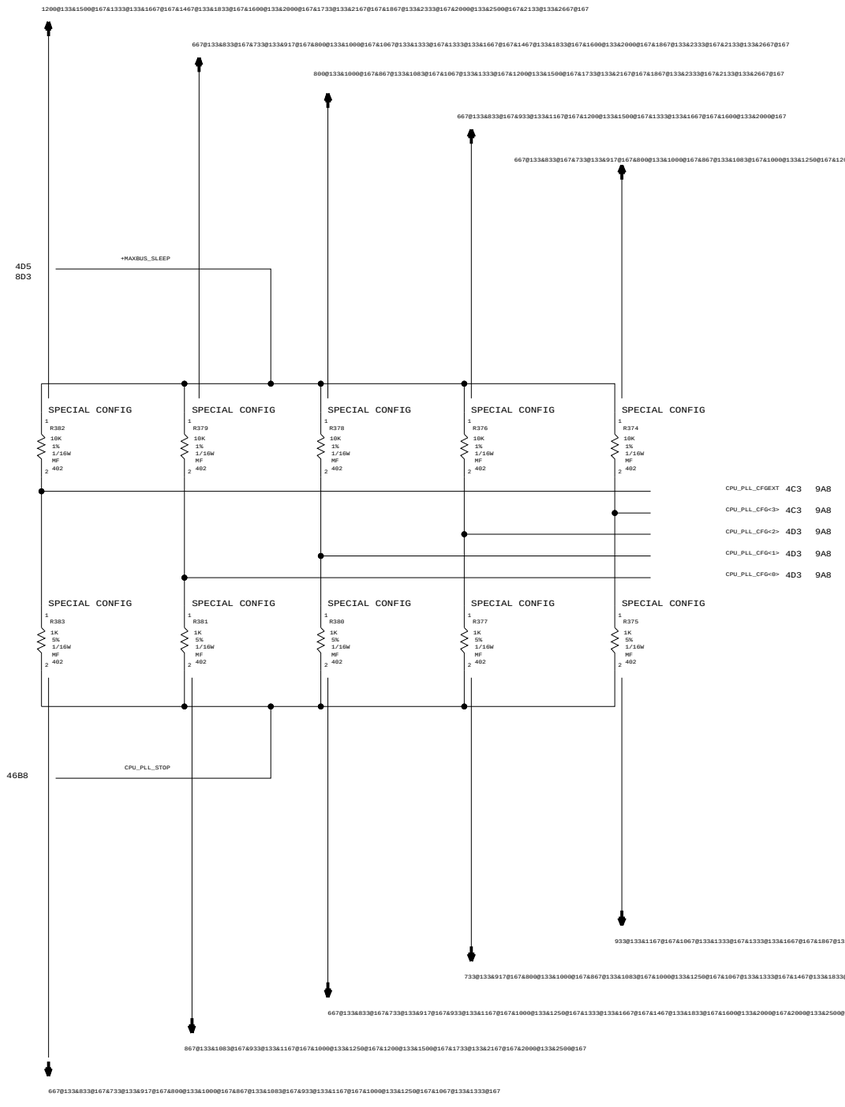
APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6490	A

SCALE	SHT	OF
NONE	5	74

DRAWING

BOMOPTIONS FOR UPPER-SET OF RESISTORS



CPU FREQUENCY CONFIGURATION
(SUPPORTED CPU & BUS SPEEDS)

MULTIPLIER	CORE FREQUENCY (AT BUS FREQUENCY) 167MHZ	133MHZ	CPU_PLL_CFG
(BUS-TO-CORE)	(MHZ)		E 0123 HEX
5.0X	833	667	0 1011 0B
5.5X	917	733	0 1001 09
6.0X	1000	800	0 1101 0D
6.5X	1083	867	0 0101 05
7.0X	1167	933	0 0010 02
7.5X	1250	1000	0 0001 01
8.0X	1333	1067	0 1100 0C
9.0X	1500	1200	1 0111 17
10.0X	1667	1333	1 1010 1A
11.0X	1833	1467	1 1001 19
12.0X	2000	1600	1 1011 1B
13.0X	2167	1733	1 0101 15
14.0X	2333	1867	1 1100 1C
15.0X	2500	2000	1 0001 11
16.0X	2667	2133	1 1101 1D

CPU FREQUENCY CONFIGURATION
(OTHER POSSIBLE CPU & BUS SPEEDS)

MULTIPLIER	CORE FREQUENCY (AT BUS FREQUENCY) 167MHZ	133MHZ	CPU_PLL_CFG
(BUS-TO-CORE)	(MHZ)		E 0123 HEX
0.0X	PLL OFF		0 1111 0F
1.0X (11.5X)	167 (1917)	133 (1533)	0 0000 00
PLL BYPASS	PLL BYPASS		0 0011 03
2.0X	333	267	0 0100 04
2.5X (8.5X)	417 (1417)	333 (1133)	0 0110 06
3.0X	500	400	0 1000 08
3.5X (13.5X)	583 (2250)	467 (1800)	0 1110 0E
4.0X	667	533	0 1010 0A
4.5X (9.5X)	750 (1583)	600 (1267)	0 0111 07
17.0X	2833	2267	1 0000 10
18.0X	3000	2400	1 0010 12
20.0X	3333	2667	1 0011 13
21.0X	3500	2800	1 0100 14
24.0X	4000	3200	1 0110 16
10.5X	1750	1400	1 1000 18
28.0X	4667	3733	1 1110 1E
12.5X	2083	1667	1 1111 1F

REV 3.0+ ONLY

BOMOPTIONS FOR LOWER-SET OF RESISTORS

CPU SPEED & BUS RATIO SUPPORT

THE CONFIGURATION RESISTORS BELOW ARE SELF CONFIGURING
WHEN THE ENGINEER SELECTS THE APPROPRIATE CPU AND
BUS SPEED BOM OPTION, THE APPROPRIATE RESISTORS ARE

ARE AUTOMATICALLY SELECTED

PART NUMBER	QTY	DESCRIPTION	REFERENCE DES	CRITICAL	BOM OPTION
337S2674	1	IC,APOLLO,N5,V3.3,1.0GHZ	U34		1000@133
116S1473	2	RES,4.7K-OHM,5%,1/16W,0402	R887,R368		1000@133
114S1004	1	RES,10K-OHM,1%,1/16W,0402	R866		1000@133
337S2769	1	IC,APOLLO6,N5,V3.3,1.250GHZ	U34		1250@167
116S1473	3	RES,4.7K-OHM,5%,1/16W,0402	R887,R368,R357		1250@167

CPU BUS RATIO BITS

APPLE COMPUTER INC.
SIZE D | DRAWING NUMBER 051-6490 | REV. A
SCALE NONE | SHT 6 OF 74
DRAWING

CR-7

BMODE <0>	BMODE <1>	MSSCR0 <16:17>	Sys Bus	Vger ID	Addr Drve
L	L	1 1	???	01	yes unavail
L	!hr	1 0	Max	01	yes unavail
L	hr	1 1	???	00	yes unavail
L	H	1 0	Max	00	yes unavail
!hr	L	0 1	MB+	01	yes unavail
!hr	!hr	0 0	60x	01	yes unavail
!hr	hr	0 1	MB+	00	yes unavail
!hr	H	0 0	60x	00	yes unavail
hr	L	1 1	???	01	norm unavail
hr	!hr	1 0	Max	01	norm
hr	hr	1 1	???	00	norm unavail
HR	H	1 0	MAX	00	NORM
H	L	0 1	MB+	01	norm unavail
H	!hr	0 0	60x	01	norm
H	hr	0 1	MB+	00	norm unavail
H	H	0 0	60x	00	norm

SIGNAL	TIED	APPLICATION
CPU_EMODE0_L	HIGH	60X BUS MODE
	CPU_HRESET_L	MAX BUS MODE
CPU_BUS_VSEL	CPU_HRESET_L	2.5V INTERFACE
	LOW	1.8V INTERFACE
	CPU_HRESET_H	1.5V INTERFACE
CPU_L3_VSEL	CPU_HRESET_L or L3_OVDD	2.5V INTERFACE
	LOW	1.8V INTERFACE
	CPU_HRESET_H	1.5V INTERFACE

MAXBUS PULL-UPS

9B2 8D3 7C5 7C3 61C7 54C6 48D4 7B3 7A3 6D8 4D5 47D2 46D2 46D1 46B7 11D8 11B8 9D4 9D2 → +MAXBUS_SLEEP

58D3 11D3 9C7 4D7	CPU_TS_L	R347	10K	1% 1/16W MF 402
58C3 11A1 9C5 4C3	CPU_TA_L	R348	10K	1% 1/16W MF 402
58C3 11B3 9B8 4A7	CPU_ARTRY_L	R346	10K	1% 1/16W MF 402
58D3 11D3 9C5 4D7	CPU_BR_L	R841	10K	1% 1/16W MF 402
58C3 11B3 9B8 4A7	CPU_HIT_L	R840	10K	1% 1/16W MF 402
58C3 11B1 9B6 4C2	CPU_DRDY_L	R851	10K	1% 1/16W MF 402
58C3 11A1 9C6 4C3	CPU_TEA_L	R845	10K	1% 1/16W MF 402
58C3 11B3 9B6 4A7	CPU_AACK_L	R849	10K	1% 1/16W MF 402
58C3 11B1 9C8 4C3	CPU_DBG_L	R847	10K	1% 1/16W MF 402
58D3 11D3 9B5 4D7	CPU_BG_L	R846	10K	1% 1/16W MF 402
58D3 11B3 9B5 4B7	CPU_TBST_L	R349	10K	1% 1/16W MF 402
58C3 11C3 4B8	CPU_INT_GBL_L	R842	10K	1% 1/16W MF 402
58C3 11C3 9C6 4A7	CPU_CI_L	R844	10K	1% 1/16W MF 402
58C3 11B3 9B6 4B7	CPU_WT_L	RP78	10K	5% 1/16W SM1
58D3 11B3 9C5 4B7	CPU_TT<0>	RP78	10K	1% 1/16W SM1
58D3 11B3 9C6 4B7	CPU_TT<1>	RP78	10K	5% 1/16W SM1
58D3 11B3 9B5 4B7	CPU_TT<2>	R843	10K	1% 1/16W MF 402
58D3 11B3 9B6 4B7	CPU_TT<3>	RP78	10K	5% 1/16W SM1
58D3 11B3 9C5 4B7	CPU_TT<4>	R350	10K	1% 1/16W MF 402

<- DEFAULT

58C3 11B3 9B7 4C3	CPU_QREQ_L	R848	10K	5% 1/16W MF 402
61C7 9A2 8C2 4C3	JTAG_CPU_TCK	R924	10K	5% 1/16W MF 402
61C7 9A2 8D2 4C3	JTAG_CPU_TRST_L	R925	200	5% 1/16W MF 402
4B3	CPU_PMONIN_L	RP79	10K	5% 1/16W SM1
4C3	CPU_EDTI	R858	10K	5% 1/16W MF 402
4D7 4A3	CPU_PULLDOWN	R859	470	5% 1/16W MF 402

4D3

MPC7450 PULL-UPS

9B2 8D3 7C7 7C3 61C7 54C6 48D4 7B3 7A3 6D8 4D5 47D2 46D2 46D1 46B7 11D8 11B8 9D4 9D2 → +MAXBUS_SLEEP

11A3 4C3	CPU_TBEN	R856	10K	5% 1/16W MF 402
4A7	CPU_SHD0_L	R857	10K	1% 1/16W MF 402
4A7	CPU_SHD1_L	R860	10K	1% 1/16W MF 402
4B3	CPU_MCP_L	R910	10K	1% 1/16W MF 402
4C3	CPU_LSSD_MODE	R911	10K	1% 1/16W MF 402
61C7 9D6 9A2 4B3	CPU_CHKSTP_OUT_L	R921	1K	5% 1/16W MF 402
61C7 4B3	CPU_CHKSTP_IN_L	R882	1K	5% 1/16W MF 402
4A3	CPU_PULLUP	R909	1K	5% 1/16W MF 402
61C7 46D2 46C2 9A2 8D2 7B3 7A3 4B3	CPU_HRESET_L	R922	10K	1% 1/16W MF 402
61C4 9A2 4B3	CPU_SRESET_L	RP79	10K	5% 1/16W SM1
30B5 9D7 4B3	MPIC_CPU_INT_L	RP79	10K	5% 1/16W SM1
46C4 4B3	CPU_SMI_L	R912	10K	1% 1/16W MF 402
61C7 9A2 8D2 4C3	JTAG_CPU_TDI	RP79	10K	5% 1/16W SM1
61C7 9A2 8D2 4C3	JTAG_CPU_TMS	R923	10K	1% 1/16W MF 402

4C3

NOSTUFF R915 0 5% 1/16W MF 402 → VGER_INV_HRESET

7A3 7B3 46D1

NOSTUFF R913 10K 5% 1/16W MF 402 → +MAXBUS_SLEEP

47D2 48D4 54C6 61C7 4D5 6D8 7A3 7B3 7C3 7C5 7C7 8D3 9B2 9D2 9D4 11B8 11D8 46B7 46D1 46D2

CPU_BUS_VSEL — R914 200 5% 1/16W MF 402

BUS MODE

0V	1.8V BUS MODE
INV_HRESET	1.5V BUS MODE
OVDD	2.5V BUS MODE

CPU_L2TSTCLK — R918 10K 5% 1/16W MF 402 → +MAXBUS_SLEEP

47D2 48D4 54C6 61C7 4D5 6D8 7A3 7B3 7C3 7C5 7C7 8D3 9B2 9D2 9D4 11B8 11D8 46B7 46D1 46D2

NOSTUFF R926 0 5% 1/16W MF 402 → CPU_HRESET_L

4B3 7A3 7A5 7B3 8D2 9A2 46C2 46D2 61C7

NOSTUFF R919 0 5% 1/16W MF 402 → VGER_INV_HRESET

7A3 7B3 7C3 46D1

NOSTUFF R920 200 5% 1/16W MF 402

DO NOT USE UNLESS FIX INVERTER BUFFER

NOSTUFF R907 10K 5% 1/16W MF 402 → +MAXBUS_SLEEP

48D4 54C6 61C7 4D5 6D8 7A3 7C3 7C5 7C7 8D3 9B2 9D2 9D4 11B8 11D8 46B7 46D1 46D2 47D2

NOSTUFF R906 0 5% 1/16W MF 402 → CPU_HRESET_L

4B3 7A3 7A5 7B3 8D2 9A2 46C2 46D2 61C7

NOSTUFF R916 0 5% 1/16W MF 402 → VGER_INV_HRESET

7A3 7B3 7C3 46D1

CPU_L1TSTCLK — R917 200 5% 1/16W MF 402

4C3

CPUBUS_60X R904 1K 5% 1/16W MF 402 → +MAXBUS_SLEEP

47D2 48D4 54C6 61C7 4D5 6D8 7A3 7B3 7C3 7C5 7C7 8D3 9B2 9D2 9D4 11B8 11D8 46B7 46D1 46D2

CPU_EMODE0_L — CPUBUS_MAX — R905 200 5% 1/16W MF 402 → CPU_HRESET_L

4B3 7A5 7B3 8D2 9A2 46C2 46D2 61C7

4B3

R903 1K 5% 1/16W MF 402 → +MAXBUS_SLEEP

47D2 48D4 54C6 61C7 4D5 6D8 7A3 7B3 7C3 7C5 7C7 8D3 9B2 9D2 9D4 11B8 11D8 46B7 46D1 46D2

CPU_EMODE1_L — NOSTUFF R902 200 5% 1/16W MF 402 → VGER_INV_HRESET

7B3 7C3 46D1

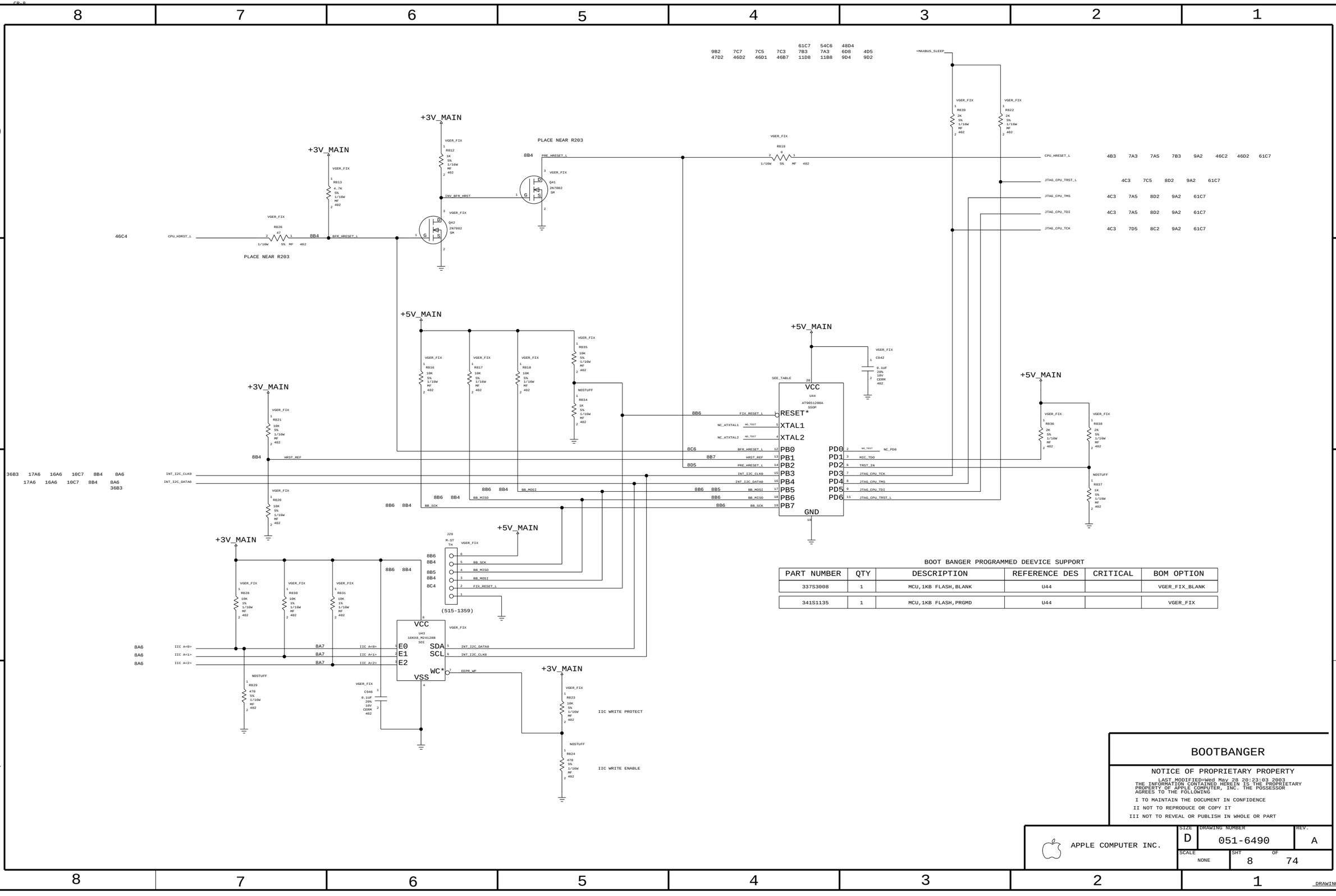
CPU CONFIG OPTIONS

APPLE COMPUTER INC.

SIZE D | DRAWING NUMBER 051-6490 | REV. A

SCALE NONE | SHT 7 OF 74

DRAWING



BOOT BANGER PROGRAMMED DEEVICE SUPPORT

PART NUMBER	QTY	DESCRIPTION	REFERENCE DES	CRITICAL	BOM OPTION
337S3008	1	MCU,1KB FLASH,BLANK	U44		VGER_FIX_BLANK
341S1135	1	MCU,1KB FLASH,PRGMD	U44		VGER_FIX

BOOTBANGER

APPLE COMPUTER INC.

SIZE D | DRAWING NUMBER 051-6490 | REV. A

SCALE NONE | SHT 8 OF 74

DRAWING

MAXBUS LOGIC ANALYZER SUPPORT

NOTE: INTREPID MAXBUS CONFIG STRAPS MUST DROP
TO 1K OR LOGIC ANALYZER MAY AFFECT STRAP VALUES

J20 CON_38SM_MICTOR SM — CPROBE SYM_VER3 — OMIT

GND	1	38	GND
GND	2	37	GND
CLK3	3	36	Q1
C3_7	4	35	C1_7
C3_6	5	34	C1_6
C3_5	6	33	C1_5
C3_4	7	32	C1_4
C3_3	8	31	C1_3
C3_2	9	30	C1_2
C3_1	10	29	C1_1
C3_0	11	28	C1_0
C2_7	12	27	C0_7
C2_6	13	26	C0_6
C2_5	14	25	C0_5
C2_4	15	24	C0_4
C2_3	16	23	C0_3
C2_2	17	22	C0_2
C2_1	18	21	C0_1
C2_0	19	20	C0_0
GND	20		

58B3 9B3 — SYSCLK_LA — MPIC_CPU_INT_L

CPU_DATA<34> CPU_DATA<56> CPU_DATA<59> CPU_DATA<33> CPU_DATA<60> CPU_DATA<28> CPU_DATA<29> CPU_DATA<23> CPU_DATA<21> CPU_DATA<14> CPU_DATA<58> CPU_DATA<2> CPU_DATA<5> CPU_DATA<51> CPU_DATA<7> CPU_DATA<44>

CPU_DATA<35> CPU_DATA<54> CPU_DATA<32> CPU_DATA<40> CPU_DATA<31> CPU_DATA<25> CPU_DATA<27> CPU_DATA<22> CPU_DATA<17> CPU_DATA<10> CPU_DATA<13> CPU_DATA<1> CPU_DATA<4> CPU_DATA<53> CPU_DATA<47> CPU_DATA<45>

58D3 11D1 5D4 — 11D1 5D4 58D3 — 11D1 5D4 58D3

J31 CON_38SM_MICTOR SM — APROBE SYM_VER2 — OMIT

GND	1	38	GND
GND	2	37	GND
CLK0	3	36	CLK1
A3_7	4	35	A1_7
A3_6	5	34	A1_6
A3_5	6	33	A1_5
A3_4	7	32	A1_4
A3_3	8	31	A1_3
A3_2	9	30	A1_2
A3_1	10	29	A1_1
A3_0	11	28	A1_0
A2_7	12	27	A0_7
A2_6	13	26	A0_6
A2_5	14	25	A0_5
A2_4	15	24	A0_4
A2_3	16	23	A0_3
A2_2	17	22	A0_2
A2_1	18	21	A0_1
A2_0	19	20	A0_0
GND	20		

CPU_ADDR<26> CPU_ADDR<29> CPU_ADDR<27> CPU_ADDR<18> CPU_ADDR<23> CPU_ADDR<25> CPU_DBG_L CPU_ADDR<17> CPU_ADDR<20> CPU_ADDR<16> CPU_ARTRY_L CPU_ADDR<10> CPU_ADDR<13> CPU_HIT_L CPU_ADDR<3> CPU_ADDR<9>

CPU_ADDR<30> CPU_ADDR<31> CPU_ADDR<28> CPU_ADDR<22> CPU_ADDR<21> CPU_ADDR<24> CPU_TS_L CPU_ADDR<15> CPU_ADDR<19> CPU_ADDR<14> CPU_DTI<0> CPU_ADDR<7> CPU_ADDR<12> CPU_QREQ_L CPU_TSIZ<2> CPU_ADDR<5>

58C3 7B7 4C3 11B1 — 58C3 7C7 4A7 11B3 — 4C7 11C3 58D3 — 4C7 11D3 58D3 — 4C7 11C3 58D3

J30 CON_38SM_MICTOR SM — EPROBE SYM_VER5 — OMIT

GND	1	38	GND
GND	2	37	GND
Q3	3	36	Q2
E3_7	4	35	E1_7
E3_6	5	34	E1_6
E3_5	6	33	E1_5
E3_4	7	32	E1_4
E3_3	8	31	E1_3
E3_2	9	30	E1_2
E3_1	10	29	E1_1
E3_0	11	28	E1_0
E2_7	12	27	E0_7
E2_6	13	26	E0_6
E2_5	14	25	E0_5
E2_4	15	24	E0_4
E2_3	16	23	E0_3
E2_2	17	22	E0_2
E2_1	18	21	E0_1
E2_0	19	20	E0_0
GND	20		

CPU_CHKSTP_OUT_L — CPU_DATA<37> CPU_DATA<39> CPU_DATA<38> CPU_DATA<63> CPU_DATA<57> CPU_DATA<30> CPU_DATA<26> CPU_DATA<8> CPU_DATA<15> CPU_DATA<55> CPU_DATA<11> CPU_DATA<3> CPU_DATA<12> CPU_DATA<52> CPU_DATA<42> CPU_DATA<48>

CPU_DATA<58> CPU_DATA<36> CPU_DATA<62> CPU_DATA<61> CPU_DATA<24> CPU_DATA<41> CPU_DATA<9> CPU_DATA<19> CPU_DATA<20> CPU_DATA<16> CPU_DATA<18> CPU_DATA<49> CPU_DATA<6> CPU_DATA<0> CPU_DATA<43> CPU_DATA<46>

J19 CON_37SM_MICTOR F-ST-SM — DPROBE SYM_VER1 — OMIT

GND	1	38	GND
GND	2	37	GND
Q0	3	36	CLK2
D3_7	4	35	D1_7
D3_6	5	34	D1_6
D3_5	6	33	D1_5
D3_4	7	32	D1_4
D3_3	8	31	D1_3
D3_2	9	30	D1_2
D3_1	10	29	D1_1
D3_0	11	28	D1_0
D2_7	12	27	D0_7
D2_6	13	26	D0_6
D2_5	14	25	D0_5
D2_4	15	24	D0_4
D2_3	16	23	D0_3
D2_2	17	22	D0_2
D2_1	18	21	D0_1
D2_0	19	20	D0_0
GND	20		

CPU_ADDR<8> CPU_CI_L CPU_TSIZ<1> CPU_ADDR<4> CPU_TEA_L CPU_TT<1> CPU_ADDR<1> CPU_TSIZ<0> CPU_WT_L CPU_TT<3> CPU_DRDY_L CPU_GBL_L CPU_AACK_L

CPU_ADDR<11> CPU_ADDR<6> CPU_TA_L CPU_TT<0> CPU_ADDR<2> CPU_BR_L CPU_TT<4> CPU_ADDR<0> CPU_TBST_L CPU_DTI<1> CPU_TT<2> CPU_BG_L CPU_QACK_L CPU_DTI<2>

56A7 18C7 11B4 61A7 58B3 — INT_ANALYZER_CLK — SYSCLK_LA 9D8 58B3

(519-0698)

INTREPID CLOCK OUTPUT

58B3 — R314 0 5% 1/16W MF 402 — INT_CLOCK_OUT

J27 U.FL-R_SMT F-ST-SM — NOSTUFF

R308 47 5% 1/16W MF 402 — NOSTUFF

(518S0104)

PLACE BOTH RESISTORS CLOSE TO INTREPID

R313 22 5% 1/16W MF 402 — NOSTUFF

CPU CORE DECOUPLING

CPU_VCORE_SLEEP

C1022 C1027 C1011 C1008 C1010 C1025
C1009 C1002 C1023 C1017 C1031 C997
C996 C1012 C1024 C1001 C1028 C1018

1UF 10% 6.3V CERM 402

C1901 C1902 C1903 C1904 C1910 — 0.1UF 20% 10V CERM 402

FMAX DEBUG CONNECTOR

NOSTUFF — J32 SM12B-SRSS-TB F-RT-SM

CPU_PLL_CFG<0>	1	14	4D3 6C6
CPU_PLL_CFG<1>	2		4D3 6C6
CPU_PLL_CFG<2>	3		4D3 6C6
CPU_PLL_CFG<3>	4		4C3 6C6
CPU_PLL_CFGEXT	5		4C3 6C6
	6		
NC_FMAX7 (NO_TEST)	7		
NC_FMAX8 (NO_TEST)	8		
PWR_SWITCH*	9		46B1 46C5 61D4
PMU_RST*	10		31B3 46A5 46B5 61D4
NC_RESET_BUTTON_L (NO_TEST)	11		
	12		
	13		

(518S0105)

PULLDOWN ON TRST* STRONGER TO OVERCOME POSSIBLE LEAKAGE

+3V_MAIN

R937 10K 5% 1/16W MF 402 — R938 10K 5% 1/16W MF 402 — R939 10K 5% 1/16W MF 402 — R940 1K 5% 1/16W MF 402

NOSTUFF — J22 SM-1 — +MAXBUS_SLEEP

NC_TESTMODE		1	2	
NC_LCENABLE	NO_TEST	3	4	CPU_CHKSTP_OUT_L
	NO_TEST	5	6	CPU_HRESET_L
NC_JTAG7	NO_TEST	7	8	CPU_SRESET_L
JTAG_ASIC_TMS		9	10	NO_TEST NC_JTAG10
JTAG_ASIC_TDI		11	12	JTAG_CPU_TMS
JTAG_ASIC_TDO		13	14	JTAG_CPU_TDI
JTAG_ASIC_TCK		15	16	JTAG_CPU_TDO
JTAG_ASIC_TRST_L		17	18	JTAG_CPU_TCK
		19	20	JTAG_CPU_TRST_L

(511S0018)

LA CONS & ESP

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6490	A
SCALE: NONE	SHT 9 OF 74	

DRAWING

+2_5V_MAIN

+2_5V_MAIN

+2_5V_MAIN +3V_MAIN

+2_5V_MAIN

+2_5V_MAIN

+3V_MAIN

PM3 CLOCK FREQUENCY THROTTLE

+3V_MAIN

+3V_MAIN

+3V_MAIN

+3V_MAIN

CLOCK CHIP ALTERNATE SUPPORT

PART NUMBER	ALTERNATE FOR PART NUMBER	REFERENCE DESIGNATOR(S)	DESCRIPTION	BOM OPTION
359S0065	359S0059	U24	IC,CLK DVR,ZDB	PCK2059

CLOCKS

NOTICE OF PROPRIETARY PROPERTY

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6490	A

SCALE	SHT	OF
NONE	10	74

DRAWING

INTREPID BOOT STRAPS

BITS 32 - 47

+MAXBUS_SLEEP

NOSTUFF R833 10K 5% 1/16W MF 402 — CPU_DATA<32>
NOSTUFF R852 10K 5% 1/16W MF 402 — CPU_DATA<33>
NOSTUFF R862 10K 5% 1/16W MF 402 — CPU_DATA<34>
NOSTUFF R878 10K 5% 1/16W MF 402 — CPU_DATA<35>
OMIT R866 10K 5% 1/16W MF 402 — CPU_DATA<36>
NOSTUFF R877 10K 5% 1/16W MF 402 — CPU_DATA<40>
NOSTUFF R867 10K 5% 1/16W MF 402 — CPU_DATA<41>

INT_V1
NOSTUFF R854 10K 5% 1/16W MF 402 — CPU_DATA<42>
NOSTUFF R853 10K 5% 1/16W MF 402 — CPU_DATA<43>
NOSTUFF R879 10K 5% 1/16W MF 402 — CPU_DATA<44>
OMIT R889 10K 5% 1/16W MF 402 — CPU_DATA<45>
OMIT R874 10K 5% 1/16W MF 402 — CPU_DATA<46>
NOSTUFF R875 10K 5% 1/16W MF 402 — CPU_DATA<47>

NOSTUFF R342 4.7K 5% 1/16W MF 402
NOSTUFF R345 4.7K 5% 1/16W MF 402
R861 4.7K 5% 1/16W MF 402
R364 4.7K 5% 1/16W MF 402
OMIT R357 4.7K 5% 1/16W MF 402
R365 4.7K 5% 1/16W MF 402
R356 4.7K 5% 1/16W MF 402

INT_V2
R353 4.7K 5% 1/16W MF 402
R344 4.7K 5% 1/16W MF 402
R363 4.7K 5% 1/16W MF 402
OMIT R887 4.7K 5% 1/16W MF 402
OMIT R368 4.7K 5% 1/16W MF 402
R367 4.7K 5% 1/16W MF 402

11C1	9D7	5C4	58D3
11C1	9D8	5C4	58D3
11C1	9D5	5C4	58D3

5B4	9D7	11C1	58D3
5B4	9D5	11B1	58D3
5B4	9C6	11B1	58D3
5B4	9C5	11B1	58D3
5B4	9C8	11B1	58D3
5B4	9C7	11B1	58D3
5B4	9C5	11B1	58D3
5B4	9C7	11B1	58D3

PLL4MODESEL_NXT[2:0]
000: 166.4 MHZ
001: 149.76 MHZ
010: 133.12 MHZ
011: 99.84 MHZ
100: 83.20 MHZ

0: INACTIVE
1: ACTIVE — BUF_REF_CLK_OUTENABLE_H

DDR_TPDMODEENABLE_H
0: TDI OUTPUT (3.3V)
1: TDI OUTPUT (3.3V)

ANALYZERCLK_EN_H
0: INACTIVE
1: ACTIVE

DDR_TPDEN_POL
0: ACTIVE HIGH
1: ACTIVE LOW

EXTPLL_SDWN_POL
0: ACTIVE HIGH
1: ACTIVE LOW

SPARE

SPARE

SPARE

INTERNAL-SPREADEN
0: INACTIVE
1: ACTIVE

PCI1_SOURCE CLOCK
0: PLL4
1: PLL5 (NO SPREAD)

PCI0_SOURCE CLOCK
0: PLL4
1: PLL5 (NO SPREAD)

SELPLL4EXTSRC
0: PLL5
1: EXTERNAL SOURCE

EN_PCI_ROM_P
0: BOOTROM ON IDE/CARDSLOT
1: BOOTROM ON PCI1

TI 1394B WORKAROUND
0: NORMAL 1394B
1: TI PHY WORKAROUND

ROM Ovrly Rng
0: 0 IDE / 1 PCI1
1: 0-1 IDE / 2-3 PCI1

PCI1_REQ2_L / PCI1_GNT2_L
0: REQ/GNT
1: GPIOs

PCI1_REQ1_L / PCI1_GNT1_L
0: REQ/GNT
1: GPIOs

PCI1_REQ0_L / PCI1_GNT0_L
0: REQ/GNT
1: GPIOs

FIREWIRE PHY INTERFACE
0: LEGACY INTERFACE
1: B-MODE INTERFACE

PROCESSOR BUS MODE
0: MAX BUS (G4)
1: 60X BUS (G3)

MAXBUS OUTPUT IMPEDANCE
111: 28.6 OHM
011: 33.3 OHM
101: 40 OHM
001: 50 OHM
110: 66.6 OHM
010: 100 OHM
100: 200 OHM
000: 200 OHM

BITS 48 - 63

NOSTUFF R890 10K 5% 1/16W MF 402 — CPU_DATA<48>
NOSTUFF R868 10K 5% 1/16W MF 402 — CPU_DATA<49>
NOSTUFF R802 10K 5% 1/16W MF 402 — CPU_DATA<50>
NOSTUFF R832 10K 5% 1/16W MF 402 — CPU_DATA<51>
NOSTUFF R863 10K 5% 1/16W MF 402 — CPU_DATA<52>
NOSTUFF R339 10K 5% 1/16W MF 402 — CPU_DATA<53>
NOSTUFF R340 10K 5% 1/16W MF 402 — CPU_DATA<54>

NOSTUFF R864 10K 5% 1/16W MF 402 — CPU_DATA<55>
NOSTUFF R876 10K 5% 1/16W MF 402 — CPU_DATA<56>
NOSTUFF R865 10K 5% 1/16W MF 402 — CPU_DATA<57>
NOSTUFF R885 10K 5% 1/16W MF 402 — CPU_DATA<58>
NOSTUFF R855 10K 5% 1/16W MF 402 — CPU_DATA<59>
NOSTUFF R869 10K 5% 1/16W MF 402 — CPU_DATA<60>

NOSTUFF R894 4.7K 5% 1/16W MF 402
NOSTUFF R355 4.7K 5% 1/16W MF 402
NOSTUFF R893 4.7K 5% 1/16W MF 402
NOSTUFF R343 4.7K 5% 1/16W MF 402
R360 4.7K 5% 1/16W MF 402
NOSTUFF R354 4.7K 5% 1/16W MF 402
R352 4.7K 5% 1/16W MF 402
R338 4.7K 5% 1/16W MF 402
R341 4.7K 5% 1/16W MF 402

R359 4.7K 5% 1/16W MF 402
R366 4.7K 5% 1/16W MF 402
R358 4.7K 5% 1/16W MF 402
R886 4.7K 5% 1/16W MF 402
R351 4.7K 5% 1/16W MF 402
R870 4.7K 5% 1/16W MF 402

11B1	9C6	5B4	
11B1	9C5	5B4	58D3
11B1	9C8	5B4	58D3
11B1	9C7	5B4	58D3
5B4	9C6	11B1	58D3
5B4	9C5	11B1	58D3
5B4	9C8	11B1	58D3
5B4	9D7	11B1	58D3

5B4	9D6	11B1	58D3
5B4	9D5	11B1	58D3
5B4	9D8	11B1	58D3
5B4	9D8	11B1	58D3
5B4	9D5	11B1	58D3
5B4	9D5	11B1	58D3
5A4	9D6	11B1	58D3

58B3 56A7 18C7 9B4 61A7

INTREPID V1.1 IS 133MHZ ONLY

54D3 32D5 30D6 18D6

+1_5V_INTREPID_PLL — R720 4.7 5% 1/16W MF 402 — 54D3 — +1_5V_INTREPID_PLL7
C854 0.22uF 20% 6.3V CERM 402
C1101 0.22uF 20% 6.3V CERM 402
11A2 INT_PLL6_GND

VDD15A_7 (PLL6)
U25
INTREPID BGA SEE_TABLE
(ON PAGE 12)
(1 OF 9)

MAXBUS INTERFACE

58D3	9C5	7C7	4D7	CPU_BR_L — E29 — BR
58D3	9B5	7B7	4D7	CPU_BG_L — E26 — BG
58D3	9C7	7C7	4D7	CPU_TS_L — B27 — TS
58D3	9C5	4C7		CPU_ADDR<0> — D24 — A_0
58D3	9C6	4C7		CPU_ADDR<1> — D25 — A_1
58D3	9C5	4C7		CPU_ADDR<2> — A27 — A_2
58D3	9B8	4C7		CPU_ADDR<3> — E24 — A_3
58D3	9C6	4C7		CPU_ADDR<4> — G23 — A_4
58D3	9B7	4C7		CPU_ADDR<5> — B26 — A_5
58D3	9C5	4C7		CPU_ADDR<6> — A26 — A_6
58D3	9B7	4C7		CPU_ADDR<7> — D23 — A_7
58D3	9C6	4C7		CPU_ADDR<8> — A25 — A_8
58D3	9B8	4C7		CPU_ADDR<9> — E23 — A_9
58D3	9B8	4C7		CPU_ADDR<10> — J22 — A_10
58D3	9C5	4C7		CPU_ADDR<11> — B25 — A_11
58D3	9B7	4C7		CPU_ADDR<12> — H22 — A_12
58D3	9B8	4C7		CPU_ADDR<13> — G22 — A_13
58D3	9B7	4C7		CPU_ADDR<14> — D22 — A_14
58D3	9C7	4C7		CPU_ADDR<15> — B24 — A_15
58D3	9B8	4C7		CPU_ADDR<16> — B23 — A_16
58D3	9C8	4C7		CPU_ADDR<17> — E22 — A_17
58D3	9C8	4C7		CPU_ADDR<18> — J21 — A_18
58D3	9B7	4C7		CPU_ADDR<19> — G21 — A_19
58D3	9B8	4C7		CPU_ADDR<20> — E21 — A_20
58D3	9C7	4C7		CPU_ADDR<21> — A24 — A_21
58D3	9C7	4C7		CPU_ADDR<22> — D21 — A_22
58D3	9C8	4C7		CPU_ADDR<23> — A23 — A_23
58D3	9C7	4B7		CPU_ADDR<24> — H26 — A_24
58D3	9C8	4B7		CPU_ADDR<25> — B22 — A_25
58D3	9C8	4B7		CPU_ADDR<26> — H23 — A_26
58D3	9C8	4B7		CPU_ADDR<27> — A22 — A_27
58D3	9C7	4B7		CPU_ADDR<28> — E26 — A_28
58D3	9C8	4B7		CPU_ADDR<29> — B21 — A_29
58D3	9C7	4B7		CPU_ADDR<30> — D26 — A_30
58D3	9C7	4B7		CPU_ADDR<31> — A21 — A_31
58C3	9C6	7A7	4A7	CPU_CI_L — G26 — CI
58C3	7B7	4B8		CPU_INT_GBL_L — A25 — GBL
58D3	9B5	7B7	4B7	CPU_TBST_L — A28 — TBST
58D3	9B6	4B7		CPU_TSIZ<0> — G24 — TSIZ_0
58D3	9C6	4B7		CPU_TSIZ<1> — H24 — TSIZ_1
58D3	9B7	4B7		CPU_TSIZ<2> — D26 — TSIZ_2
58D3	9C5	7A7	4B7	CPU_TT<0> — E25 — TT_0
58D3	9C6	7A7	4B7	CPU_TT<1> — G25 — TT_1
58D3	9B5	7A7	4B7	CPU_TT<2> — B28 — TT_2
58D3	9B6	7A7	4B7	CPU_TT<3> — D27 — TT_3
58D3	9C5	7A7	4B7	CPU_TT<4> — J25 — TT_4
58C3	9B6	7A7	4B7	CPU_WT_L — D28 — WT
58C3	9B6	7B7	4A7	CPU_AACK_L — B29 — AACK
58C3	9B8	7C7	4A7	CPU_ARTRY_L — H25 — ARTRY
58C3	9B8	7B7	4A7	CPU_HIT_L — B31 — HIT
58C3	9B7	7D5	4C3	CPU_QREQ_L — A32 — QREQ
58C3	9B5	4C3		CPU_QACK_L — G27 — QACK
46B8	46B5			INT_SUSPEND_REQ_L — AK5 — SUSPENDREQ
46B5				INT_SUSPEND_ACK_L — AM8 — SUSPENDACK

58C3
INT_CPU_FB_IN — J24 — CPU_FB_IN
INT_CPU_FB_OUT — H16 — CPU_FB_OUT
INT_ANALYZER_CLKA — G8 — ANALYZER_CLK
CPU_CLK_EN — AH5 — STOPCPUCLK
INTREPID_ACS_REF — H13 — ACS_REF
SYSCLK_CPU_UF — J15 — CPU_CLK
CPU_TBEN — A31 — TBEN

INT_V1
INT_ANALYZER_CLK — R764 10 5% 1/16W MF 402 — 46C4

SYSCLK_CPU — 58C3 — R713 22 5% 1/16W MF 402 — 7C5 4C3

VSSA_7 (PLL6)
R712 1K 1% 1/16W MF 402 — 11D3 INT_PLL6_GND

VIN = INTREPID VCORE (1.7V)
VOUT = MAXBUS RAIL (1.8V)

D_0	D10	CPU_DATA<0>	5D4	9C5
D_1	G12	CPU_DATA<1>	58D3	
D_2	E11	CPU_DATA<2>	5D4	9C8
D_3	H11	CPU_DATA<3>	58D3	
D_4	B9	CPU_DATA<4>		58D3 9C8
D_5	B8	CPU_DATA<5>	58D3	5D4
D_6	A9	CPU_DATA<6>	5D4	9C5
D_7	A8	CPU_DATA<7>	5D4	9C8
D_8	E12	CPU_DATA<8>	58D3	
D_9	D11	CPU_DATA<9>	5D4	9D5
D_10	B10	CPU_DATA<10>		58D3
D_11	J13	CPU_DATA<11>	5C4	9C6
D_12	A10	CPU_DATA<12>	5C4	9C6
D_13	D12	CPU_DATA<13>	58D3	
D_14	E13	CPU_DATA<14>		58D3
D_15	G13	CPU_DATA<15>	5C4	9D6
D_16	B11	CPU_DATA<16>		58D3
D_17	D13	CPU_DATA<17>	5C4	9D7
D_18	A11	CPU_DATA<18>		58D3
D_19	G14	CPU_DATA<19>	5C4	9D5
D_20	H14	CPU_DATA<20>	5C4	9D5
D_21	E14	CPU_DATA<21>	58D3	
D_22	B12	CPU_DATA<22>		58D3
D_23	G15	CPU_DATA<23>	5C4	9D8
D_24	B13	CPU_DATA<24>		58D3
D_25	H15	CPU_DATA<25>	5C4	9D7
D_26	D14	CPU_DATA<26>	58D3	
D_27	B14	CPU_DATA<27>	5C4	9D7
D_28	A12	CPU_DATA<28>	58D3	
D_29	G16	CPU_DATA<29>	5C4	9D8
D_30	E15	CPU_DATA<30>	5C4	9D6
D_31	J16	CPU_DATA<31>	58D3	
D_32	D15	CPU_DATA<32>		58D3
D_33	A14	CPU_DATA<33>	5C4	9D8
D_34	A13	CPU_DATA<34>	11D8	
D_35	D16	CPU_DATA<35>	58D3	
D_36	E16	CPU_DATA<36>	5C4	9D5
D_37	G17	CPU_DATA<37>		58D3
D_38	B15	CPU_DATA<38>	5B4	9D6
D_39	H17	CPU_DATA<39>	5B4	9D6
D_40	A15	CPU_DATA<40>		58D3
D_41	B16	CPU_DATA<41>		
D_42	E17	CPU_DATA<42>		58D3
D_43	A16	CPU_DATA<43>	5B4	9C5
D_44	J18	CPU_DATA<44>	11D5	
D_45	H18	CPU_DATA<45>	58D3	
D_46	D17	CPU_DATA<46>	11C5	
D_47	G18	CPU_DATA<47>	5B4	9C5
D_48	A17	CPU_DATA<48>		58D3
D_49	B17	CPU_DATA<49>	5B4	9C6
D_50	E18	CPU_DATA<50>		11B8
D_51	B18	CPU_DATA<51>		58D3
D_52	D18	CPU_DATA<52>	5B4	9C6
D_53	A18	CPU_DATA<53>		11B8
D_54	A19	CPU_DATA<54>		58D3
D_55	H19	CPU_DATA<55>	5B4	9C6
D_56	B19	CPU_DATA<56>	5B4	9D8
D_57	J19	CPU_DATA<57>		58D3
D_58	A20	CPU_DATA<58>		
D_59	B19	CPU_DATA<59>		58D3
D_60	E19	CPU_DATA<60>	5B4	9D8
D_61	G19	CPU_DATA<61>	11B5	
D_62	B20	CPU_DATA<62>	58D3	
D_63	E20	CPU_DATA<63>	11B5	
			5A4	9D6

DBG	A30	CPU_DBG_L	9C8	58C3
			4C3	7B7
DRDY	D28	CPU_DRDY_L	9B6	58C3
			4C2	7B7
				9B7
DTI_0	K25	CPU_DTI<0>		58C3 4C3
DTI_1	D29	CPU_DTI<1>	4C3	9B5
DTI_2	B30	CPU_DTI<2>		58C3
TA	E27	CPU_TA_L	4C3	7C7
TEA	E28	CPU_TEA_L	4C3	9C5
			7B7	58C3
			9C6	58C3

ADDS 2" (0.35 NS) / ADDS 1" (0.17 NS) / ADDS 3" (0.5 NS)

58C3 4D2 — SYSCLK_CPU — R713 22 5% 1/16W MF 402 — SYSCLK_CPU_UF — 58B3

CPU_FB_PLUS3
CPU_FB1_PLUS1 — NOSTUFF R321 0 5% 1/16W MF 402
R777 0 5% 1/16W MF 402
R772 0 5% 1/16W MF 402
R310 0 5% 1/16W MF 402
NOSTUFF R766 0 5% 1/16W MF 402
CPU_FB_MINUS3
R752 470 5% 1/16W MF 402
NOSTUFF R757 0 5% 1/16W MF 402
R776 0 5% 1/16W MF 402
CPU_FB_PLUS2
NOSTUFF R319 0 5% 1/16W MF 402
R765 0 5% 1/16W MF 402
CPU_FB0_PLUS1

58C3

MAIN LOOP IS 3" (0.5 NS) SHORTER THAN MAXBUS CLOCK

ALLOWS ADJUSTING FB CLOCK FROM -3" (0.5 NS) TO +2" (0.35 NS) IN 1" (0.17 NS) INCREMENTS
PLACE ALL SERPENTINES ON INTERNAL LAYER

MS_TEST — XW47 SM

INTREPID MAX

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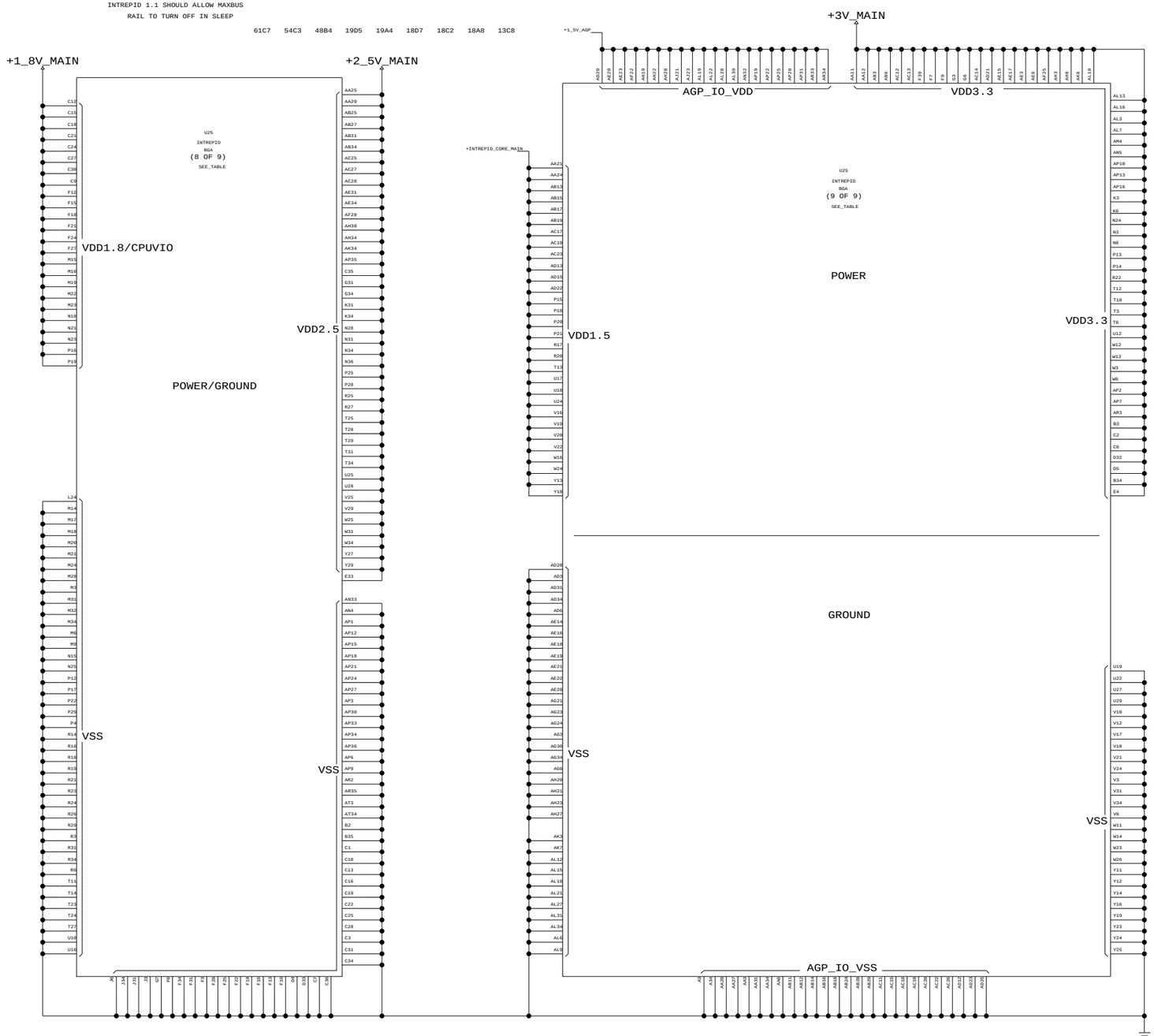
SIZE	DRAWING NUMBER	REV.
D	051-6490	A
SCALE: NONE	SHT 11 OF 74	

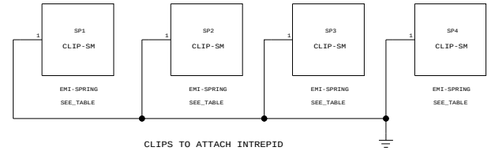
DRAWING

CR-12

INTREPID 1.1 SHOULD ALLOW MAXBUS
RAIL TO TURN OFF IN SLEEP

61C7 54C3 48B4 19D5 19A4 18D7 18C2 18A8 13C8





CLIPS TO ATTACH INTREPID
HEATSINK TO GND AT THE
FOUR CORNERS

INTREPID EMI CLIP SUPPORT

PART NUMBER	QTY	DESCRIPTION	REFERENCE DES	CRITICAL	BOM OPTION
870-1125	4	INTREPID EMI CLIP	SP1,SP2,SP3,SP4	CRITICAL	

INTREPID VERSION SUPPORT

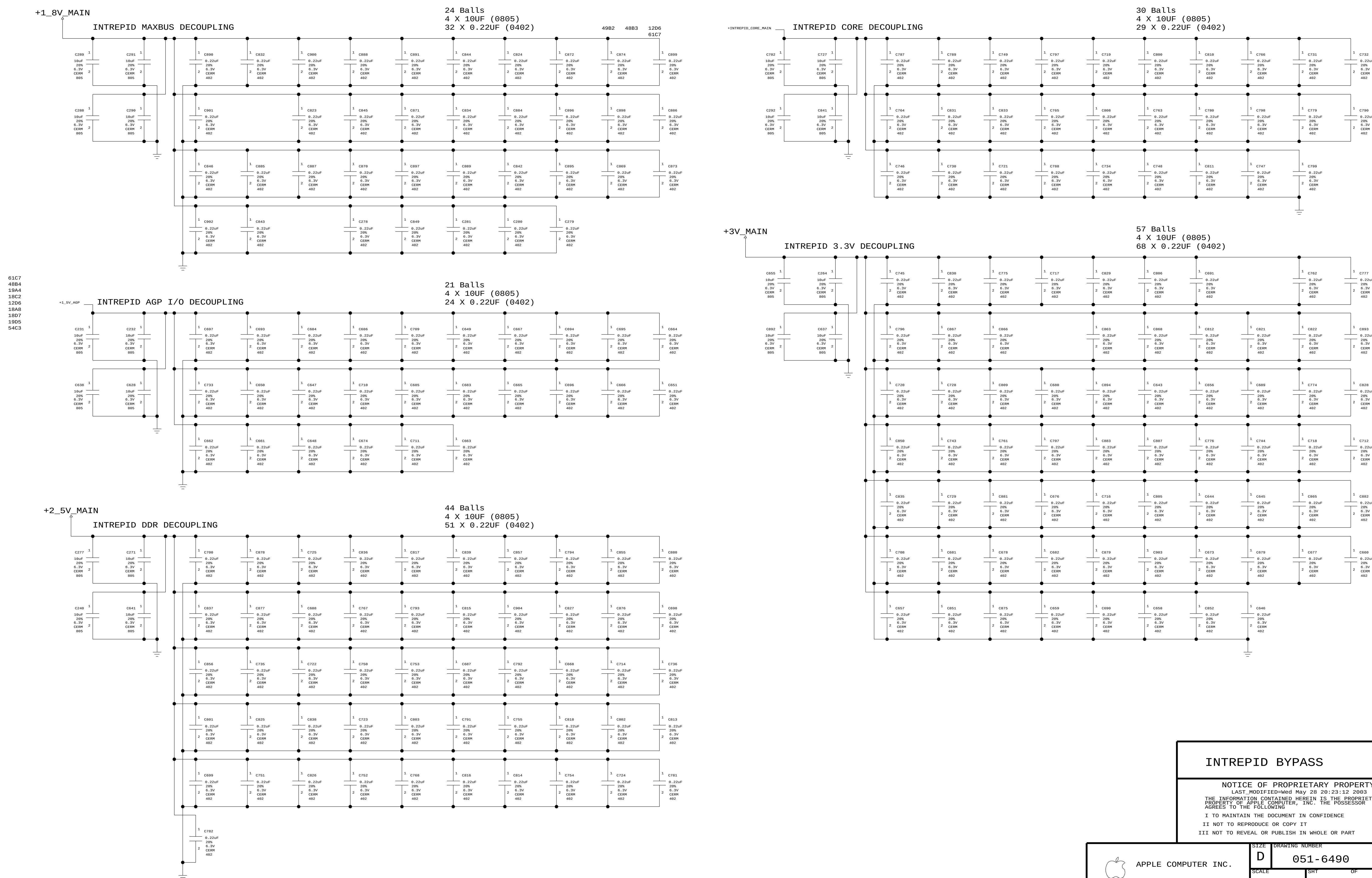
PART NUMBER	QTY	DESCRIPTION	REFERENCE DES	CRITICAL	BOM OPTION
343S0198	1	IC,ASIC,INTREPID,V1.X	U25		INT_V1
343S0211	1	IC,ASIC,INTREPID,V2.1	U25		INT_V2

INTREPID POWER

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6490	A
SCALE: NONE	SHT 12 OF 74	

DRAWING



INTREPID BYPASS

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SIZE	DRAWING NUMBER	REV.
D	051-6490	A

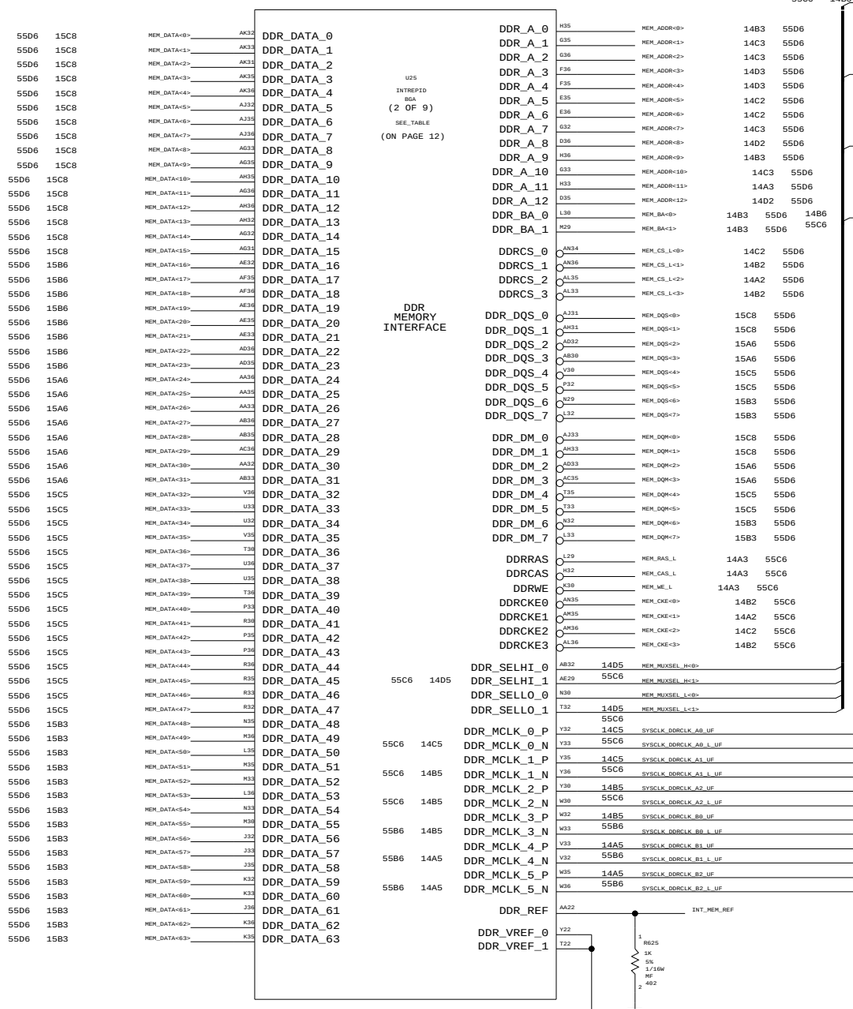
SCALE NONE

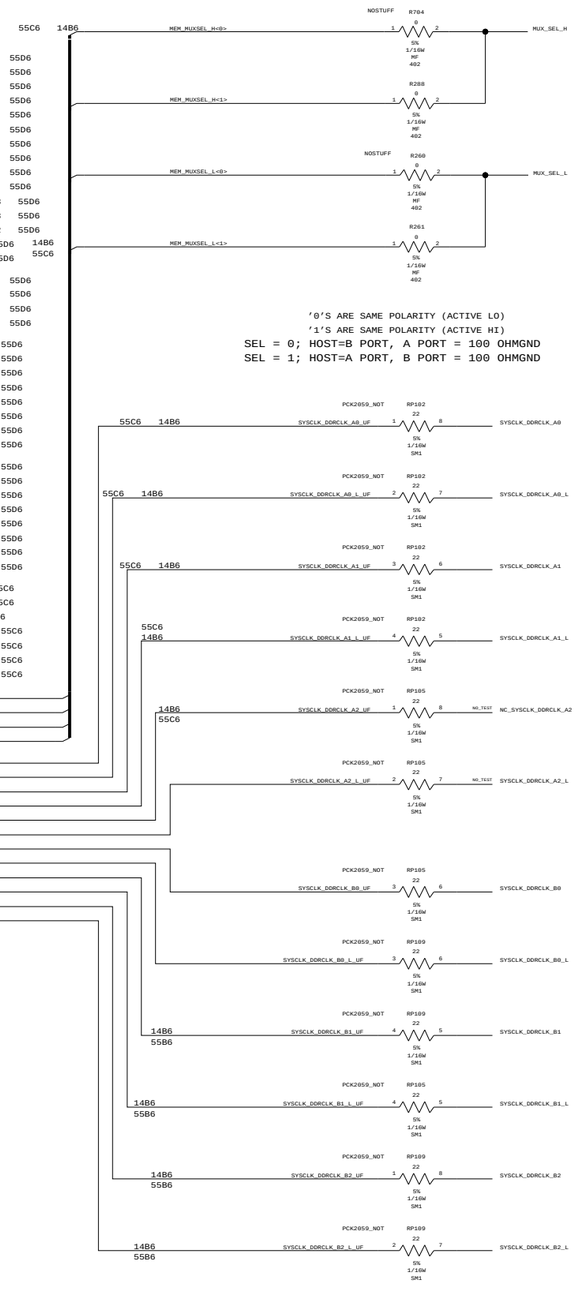
DRAWING

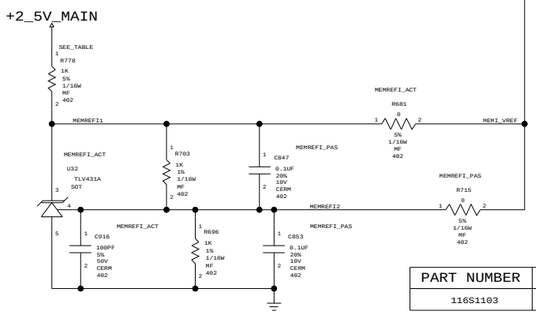
CR-14

DDR MUX CONNECTIONS

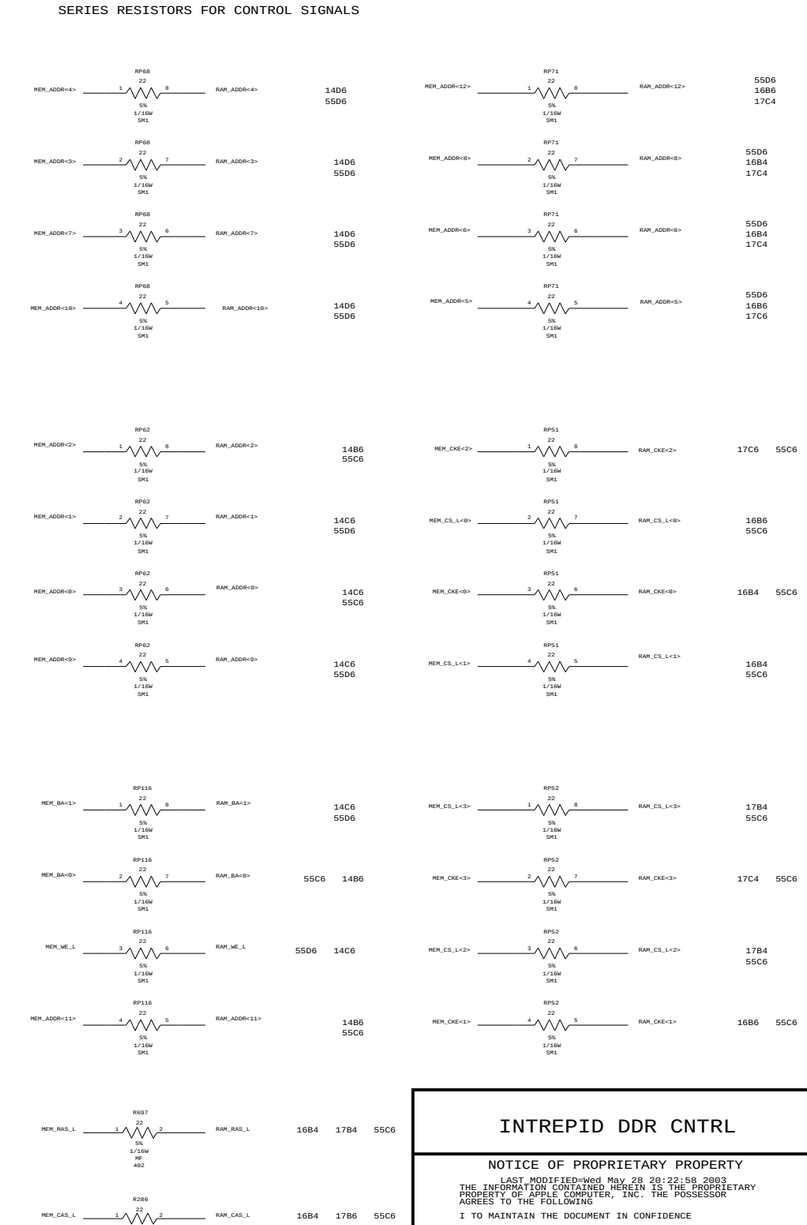
0-ohm resistors to allow
rewiring if necessary







SERIES RESISTORS FOR CONTROL SIGNALS



INTREPID DDR MEMORY REFERENCE SUPPORT

PART NUMBER	QTY	DESCRIPTION	REFERENCE DES	CRITICAL	BOM OPTION
116S1103	1	RES,1K-OHM,5%,1/16W,0402	R778		MEMREFI_ACT
116S1000	1	RES,0-OHM,5%,1/16W,0402	R778		MEMREFI_PAS

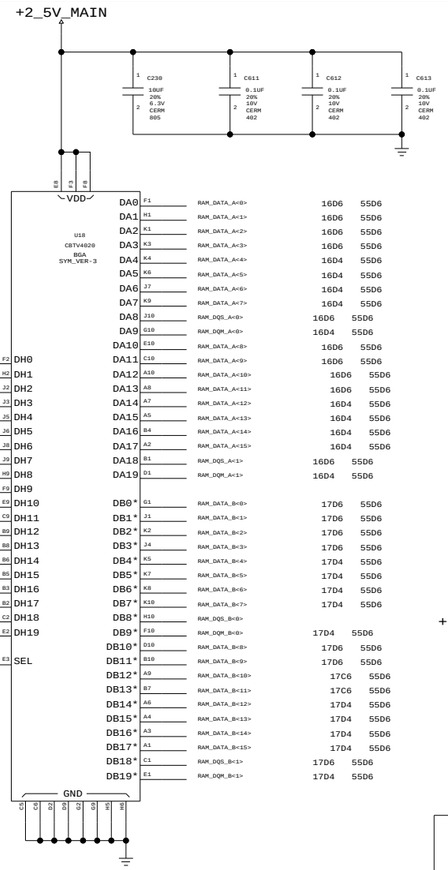
INTREPID DDR CNTRL

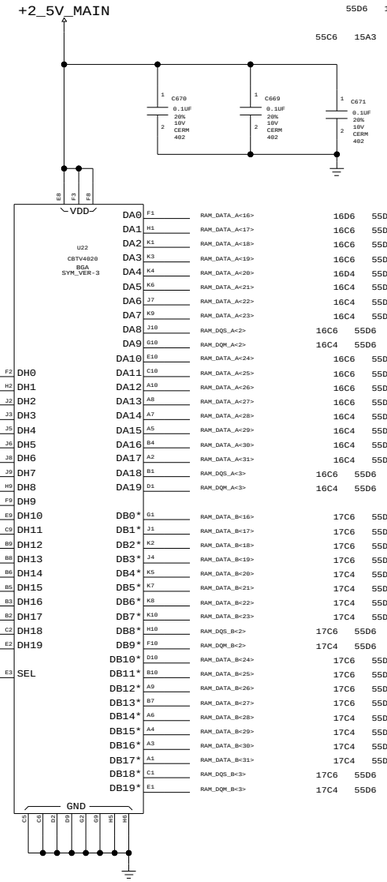
APPLE COMPUTER INC.

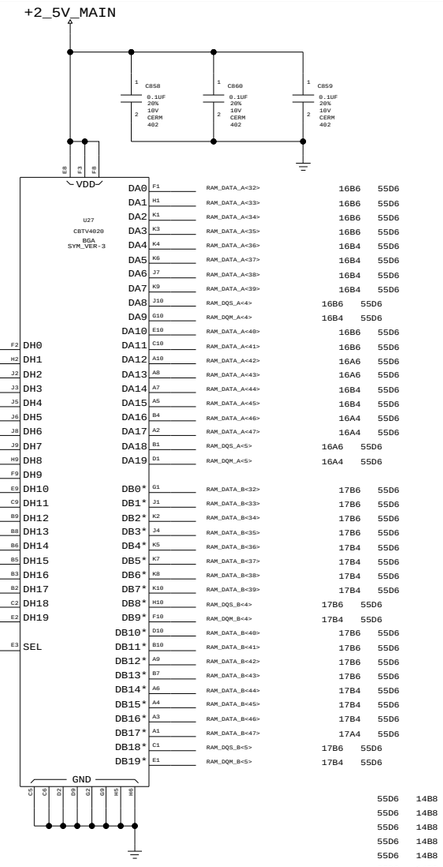
SIZE	DRAWING NUMBER	REV.
D	051-6490	A
SCALE: NONE	SHT 14 OF 74	

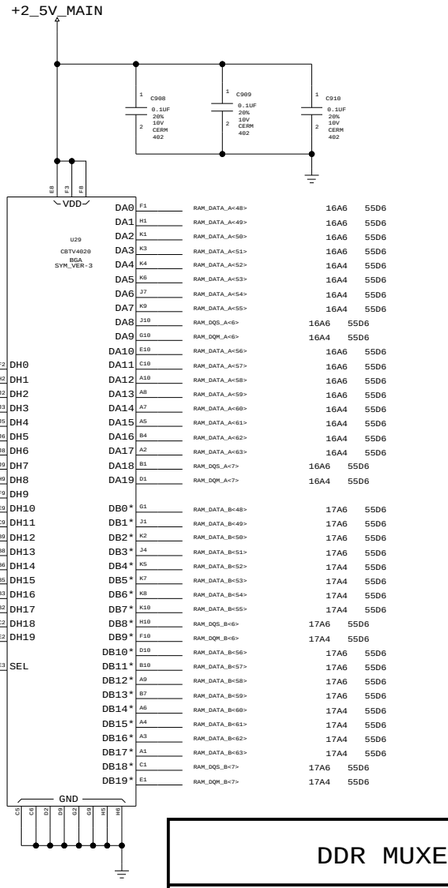
DRAWING

CR-15









DDR MUXES

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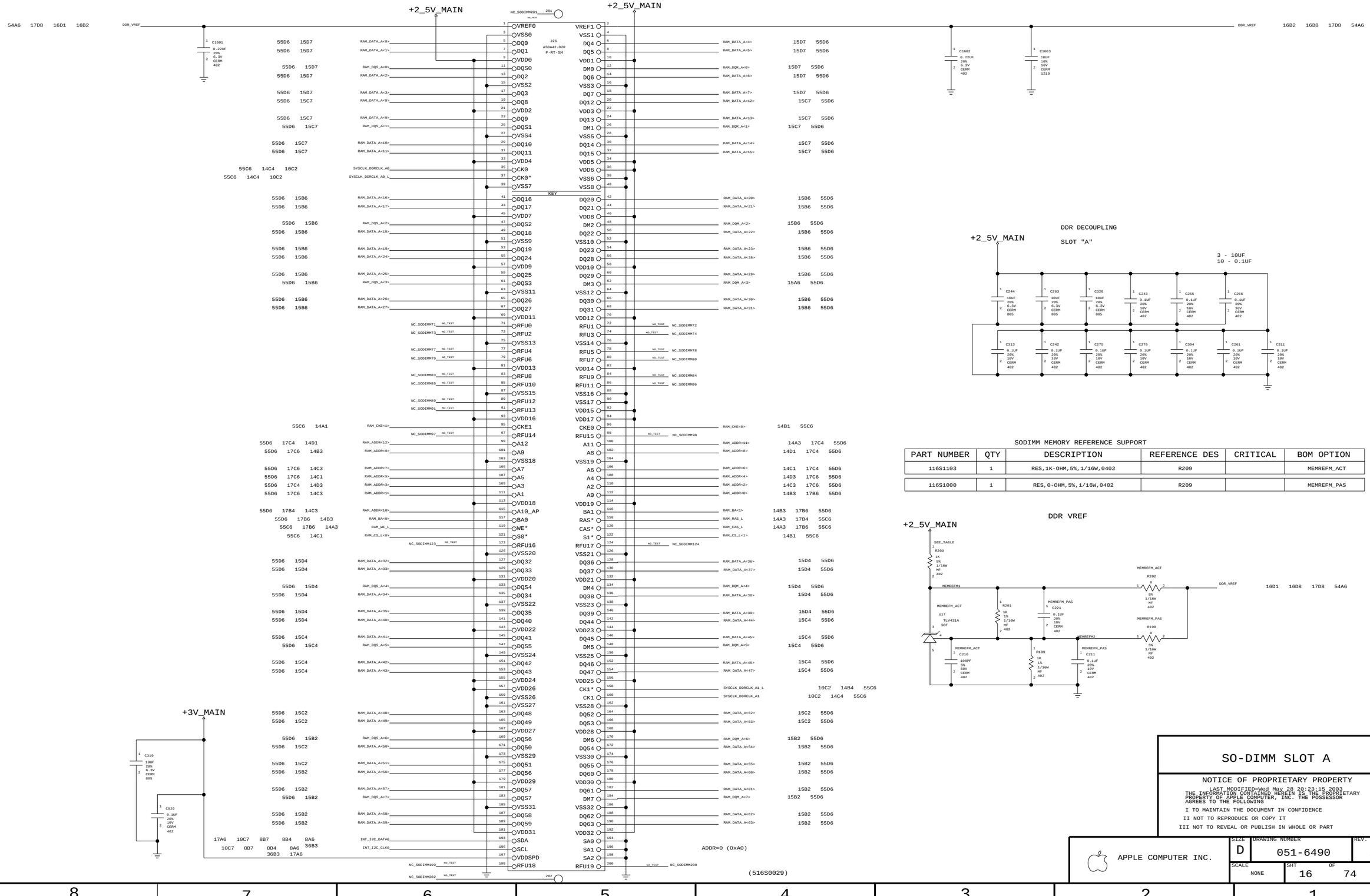
SIZE	DRAWING NUMBER	REV.
D	051-6490	A
SCALE: NONE	SHT 15 OF 74	

DRAWING


+2_5V_MAIN
+2_5V_MAIN
NC_SODIMM201
201
J26
AS8A42-D2R
F-RT-SM
VREF0
VSS0
DQ0
DQ1
VDD0
DQS0
DQ2
VSS2
DQ3
DQ8
VDD2
DQ9
DQS1
VSS4
DQ10
DQ11
VDD4
CK0
CK0*
VSS7
KEY
DQ16
DQ17
VDD7
DQS2
DQ18
VSS9
DQ19
DQ24
VDD9
DQ25
DQS3
VSS11
DQ26
DQ27
VDD11
RFU0
RFU2
VSS13
RFU4
RFU6
VDD13
RFU8
RFU10
VSS15
RFU12
RFU13
VDD16
CKE1
RFU14
A12
A9
VSS18
A7
A5
A3
A1
VDD18
A10_AP
BA0
WE*
S0*
RFU16
VSS20
DQ32
DQ33
VDD20
DQS4
DQ34
VSS22
DQ35
DQ40
VDD22
DQ41
DQS5
VSS24
DQ42
DQ43
VDD24
VDD26
VSS26
VSS27
DQ48
DQ49
VDD27
DQS6
DQ50
VSS29
DQ51
DQ56
VDD29
DQ57
DQS7
VSS31
DQ58
DQ59
VDD31
SDA
SCL
VDDSPD
RFU18
202
VREF1
VSS1
DQ4
DQ5
VDD1
DM0
DQ6
VSS3
DQ7
DQ12
VDD3
DQ13
DM1
VSS5
DQ14
DQ15
VDD5
VDD6
VSS6
VSS8
DQ20
DQ21
VDD8
DM2
DQ22
VSS10
DQ23
DQ28
VDD10
DQ29
DM3
VSS12
DQ30
DQ31
VDD12
RFU1
RFU3
VSS14
RFU5
RFU7
VDD14
RFU9
RFU11
VSS16
VSS17
VDD15
VDD17
CKE0
RFU15
A11
A8
VSS19
A6
A4
A2
A0
VDD19
BA1
RAS*
CAS*
S1*
RFU17
VSS21
DQ36
DQ37
VDD21
DM4
DQ38
VSS23
DQ39
DQ44
VDD23
DQ45
DM5
VSS25
DQ46
DQ47
VDD25
CK1*
CK1
VSS28
DQ52
DQ53
VDD28
DM6
DQ54
VSS30
DQ55
DQ60
VDD30
DQ61
DM7
VSS32
DQ62
DQ63
VDD32
SA0
SA1
SA2
RFU19
ADDR=0 (0xA0)
(516S0029)
DDR_VREF
C1601
0.22UF
20%
6.3V
CERM
402
C1602
0.22UF
20%
6.3V
CERM
402
C1603
10UF
10%
16V
CERM
1210
DDR DECOUPLING
SLOT "A"
+2_5V_MAIN
3 - 10UF
10 - 0.1UF
C244
10UF
20%
6.3V
CERM
805
C263
10UF
20%
6.3V
CERM
805
C320
10UF
20%
6.3V
CERM
805
C243
0.1UF
20%
10V
CERM
402
C255
0.1UF
20%
10V
CERM
402
C256
0.1UF
20%
10V
CERM
402
C313
0.1UF
20%
10V
CERM
402
C242
0.1UF
20%
10V
CERM
402
C275
0.1UF
20%
10V
CERM
402
C276
0.1UF
20%
10V
CERM
402
C304
0.1UF
20%
10V
CERM
402
C261
0.1UF
20%
10V
CERM
402
C311
0.1UF
20%
10V
CERM
402
SODIMM MEMORY REFERENCE SUPPORT
PART NUMBER | QTY | DESCRIPTION | REFERENCE DES | CRITICAL | BOM OPTION
116S1103 | 1 | RES,1K-OHM,5%,1/16W,0402 | R209 | | MEMREFM_ACT
116S1000 | 1 | RES,0-OHM,5%,1/16W,0402 | R209 | | MEMREFM_PAS
DDR VREF
+2_5V_MAIN
SEE_TABLE
R209
1K
5%
1/16W
MF
402
MEMREFM1
MEMREFM_ACT
U17
TLV431A
SOT
MEMREFM_ACT
C210
100PF
5%
50V
CERM
402
R201
1K
1%
1/16W
MF
402
MEMREFM_PAS
C221
0.1UF
20%
10V
CERM
402
MEMREFM2
R189
1K
1%
1/16W
MF
402
MEMREFM_PAS
C211
0.1UF
20%
10V
CERM
402
MEMREFM_ACT
R202
0
5%
1/16W
MF
402
MEMREFM_PAS
R190
0
5%
1/16W
MF
402
DDR_VREF
+3V_MAIN
C319
10UF
20%
6.3V
CERM
805
C929
0.1UF
20%
10V
CERM
402
SO-DIMM SLOT A
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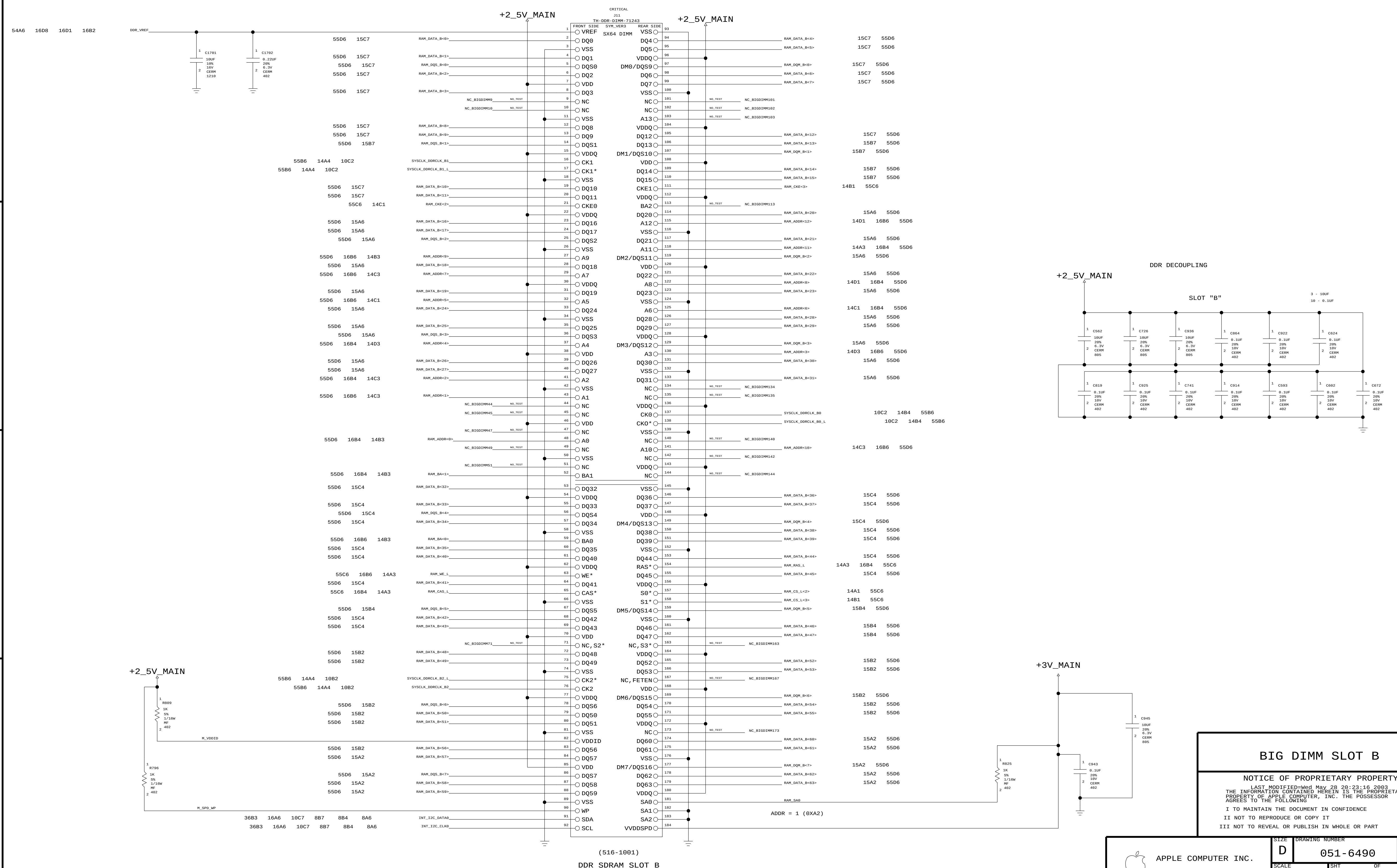
SIZE D
DRAWING NUMBER 051-6490
REV. A
SCALE NONE
SHT 16 OF 74
DRAWING



BIG DIMM SLOT B

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SIZE	DRAWING NUMBER	REV.
D	051-6490	A
SCALE NONE	SHT 17	OF 74

DRAWING

CR-18

INTREPID AGP CLK IS 1.5V OUT

NEED 3.3V SWING FOR VIDEO CHIPS

VERSION 1 WORKAROUND IS LA CLOCK

VERSION 2 WORKAROUND IS UNUSED PIN

THESE RESISTORS SHARE THE SAME PAD

2" LONGER (0.5NS SLOWER) — AGP (ZERO DELAY) — 2" SHORTER (0.5NS FASTER)

PLACE ALL SERPENTINES ON INTERNAL LAYER

GPU AGP I/O REFERENCE

(PLACE CLOSE TO GPU AGP BALLS)

AGP INTERFACES

VOUT = AGPIO (1.5V)
VIN = VCORE (1.5V)

AGP PULL-UPS/PULL DOWNS

+3V_MAIN

APPLE COMPUTER INC.	SIZE D · DRAWING NUMBER 051-6490 · REV. A · SCALE NONE · SHT 18 · OF 74

INTREPID AGP

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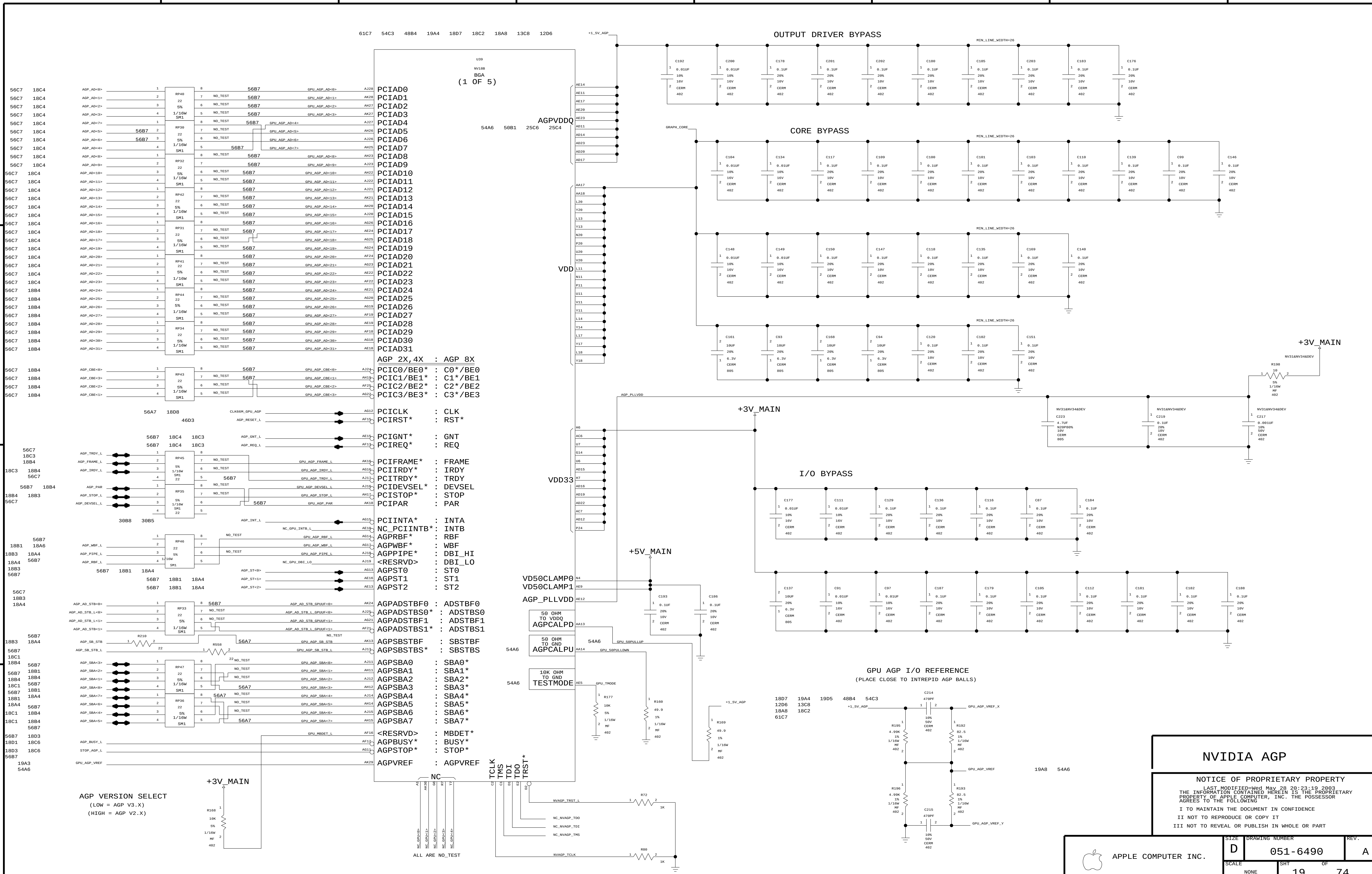

NVIDIA AGP

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6490	A
SCALE NONE	SHT 19	OF 74

DRAWING

+2_5V_MAIN

EVENLY DISTRIBUTE 0.01UF & 0.1 UF CAPS

AMONGST FBVDDQ PINS ON NV ASIC

DQM R'S CLOSE TO GPU

OTHER R'S BETWEEN GPU & MEMORY

FBVDDQ

NC_VTT

GND

THERMAL GND

FBVREF

NVIDIA VREF

+3V_MAIN

WEAK PULL-DOWN RECOMMENDED BY NVIDIA

NVIDIA FRAME BUFFER

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
E	051-6490	A
SCALE: NONE	SHT 20 OF 74	

DRAWING

PLACE R'S BETWEEN GPU & MEMORY

57D3	20G8	FBD<0>	RP20	RFBD<0>	22C5	57D3		
57D3	20G8	FBD<1>	RP20	RFBD<1>	22C5	57D3		
57D3	20G8	FBD<2>	RP20	RFBD<2>	22C5	57D3		
57D3	20G8	FBD<3>	RP20	RFBD<3>	22C5	57D3		
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PLACE R'S CLOSE TO GPU

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57C3	20D7	FBACLK0	R148	RFBACLK0	22C6	57C3		
57C3	20D7	FBACLK0_L	R156	RFBACLK0_L	22C6	57C3		
57B3	20C5	FBBCLK1	R106	RFBBCLK1	23C2	57B3		
57B3	20C5	FBBCLK1_L	R105	RFBBCLK1_L	23C2	57B3		
57B3	20C5	FBBCLK0	R103	RFBBCLK0	23C6	57B3		
57B3	20C5	FBBCLK0_L	R104	RFBBCLK0_L	23C6	57B3		

R123, R132, R148, R156, R106, R105, R103, R104: 15 1% 1/16W MF 402

R158, R500, R20, R403: 100 1% 1/16W MF 402 — PLACE 100OHM TERM AT RAM

PLACE THESE R CLOSE TO GPU — PLACE THESE R CLOSE TO SGRAM

57C3	20C7	FBDQS<0>	57C3	R122	FBDQSTERM<0>	R483	RFBDQS<0>	22C6	57C3	
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57C3	20C7	FBDQS<2>	57C3	R97	FBDQSTERM<2>	R479	RFBDQS<2>	22C6	57C3	
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57C3	20C7	FBDQS<4>	57C3	R167	FBDQSTERM<4>	R187	RFBDQS<4>	22C2	57C3	
57C3	20C7	FBDQS<5>	R159	57C3	FBDQSTERM<5>	R146	RFBDQS<5>	22C2	57C3	
57C3	20C7	FBDQS<6>	57C3	R147	FBDQSTERM<6>	R186	RFBDQS<6>	22C2	57C3	
57C3	20C7	FBDQS<7>	R140	57C3	FBDQSTERM<7>	R153	RFBDQS<7>	22C2	57C3	

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57B3	20D4	FBDQS<14>	57B3	R57	FBDQSTERM<14>	R24	RFBDQS<14>	23C2	57B3	
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R122, R483, R101, R509, R97, R479, R81, R506, R167, R187, R159, R146, R147, R186, R140, R153: 0 5% 1/16W MF 402

R63, R428, R65, R415, R69, R416, R68, R429, R53, R31, R55, R25, R57, R24, R60, R32: 0 5% 1/16W MF 402

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FB TERMINATION

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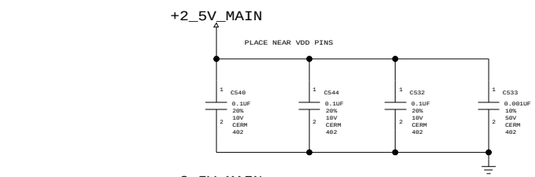
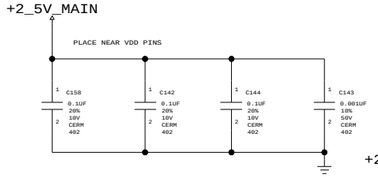
APPLE COMPUTER INC.

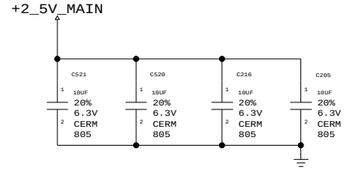
SIZE	DRAWING NUMBER	REV.
D	051-6490	A
SCALE: NONE	SHT 21 OF 74	

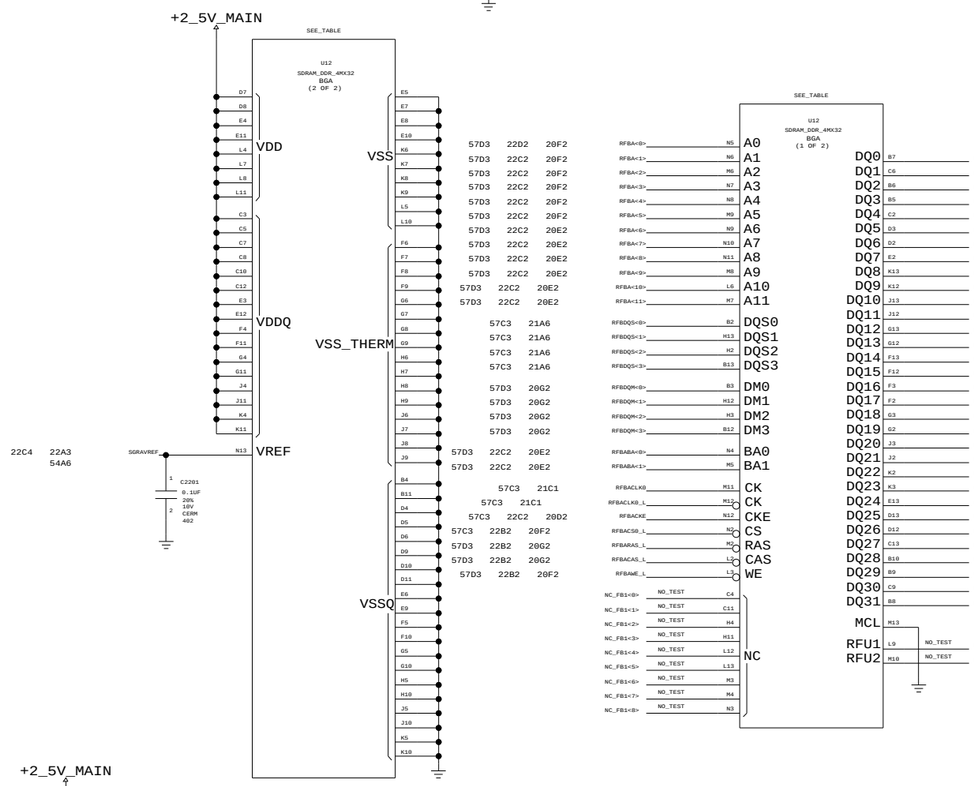
DRAWING

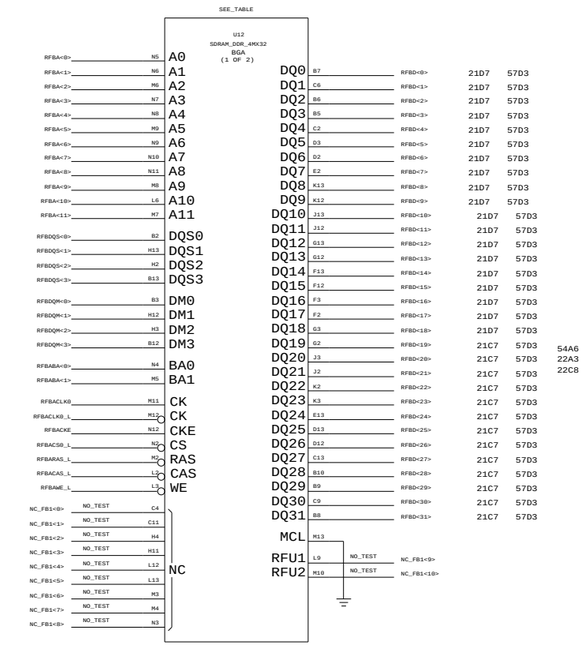
CR-22

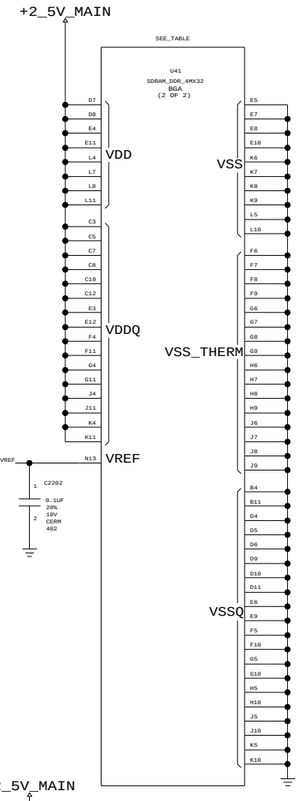


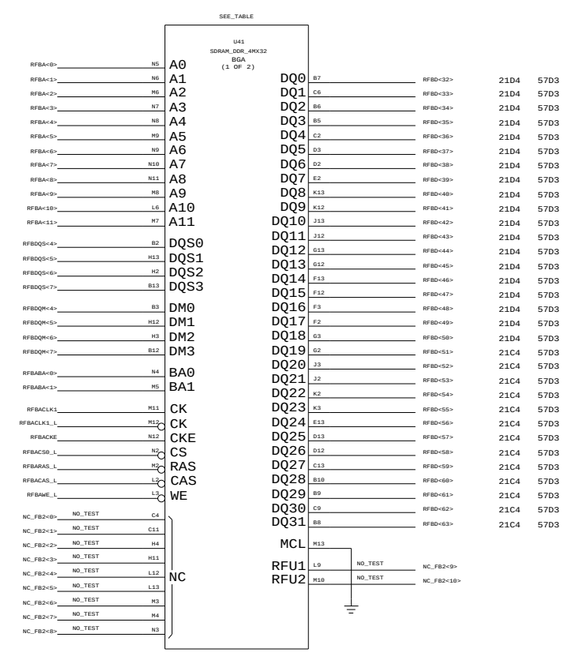


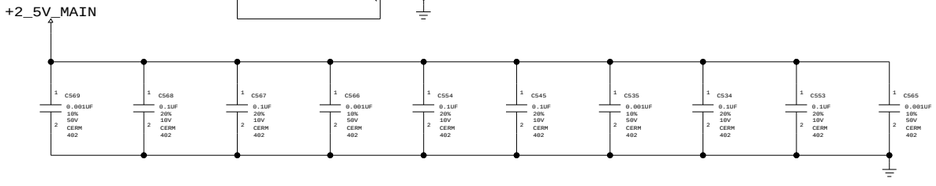


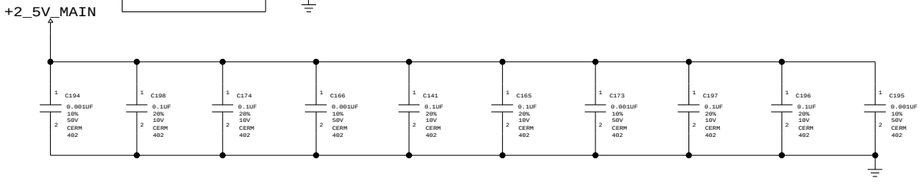












SGRAM0 & SGRAM1 MEMORY SUPPORT

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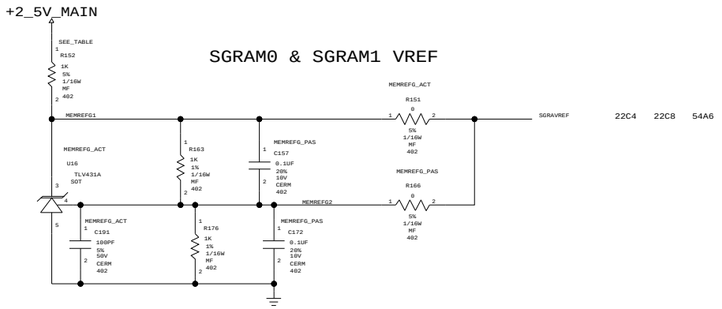
333S0249	2	SDRAM,4MX32,DDR,275MHZ	U12,U41	CRITICAL	275_SAMSUNG
333S0250	2	SDRAM,4MX32,DDR,275MHZ	U12,U41	CRITICAL	275_HYNIX



SGRAM0 & SGRAM1 VREF

SGRAM0 & SGRAM1 DDR MEMORY REFERENCE SUPPORT

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116S1103	1	RES,1K-OHM,5%,1/16W,0402	R152		MEMREFG_ACT
116S1000	1	RES,0-OHM,5%,1/16W,0402	R152		MEMREFG_PAS

SGRAM0 & SGRAM1

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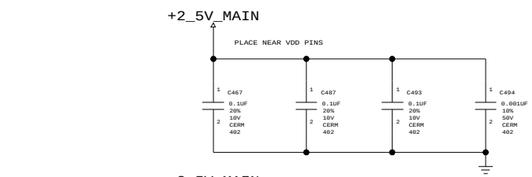
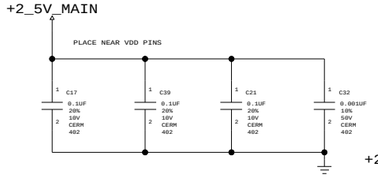
APPLE COMPUTER INC.

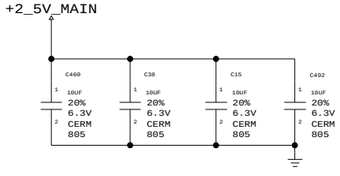
SIZE	DRAWING NUMBER	REV.
D	051-6490	A
SCALE: NONE	SHT 22 OF 74	

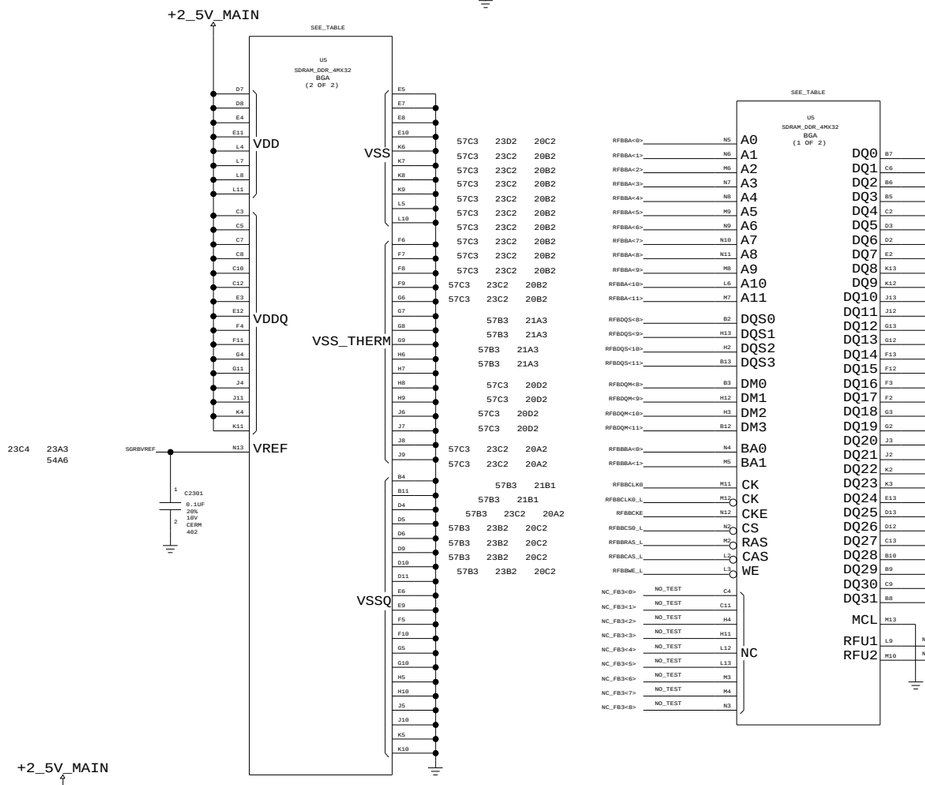
DRAWING

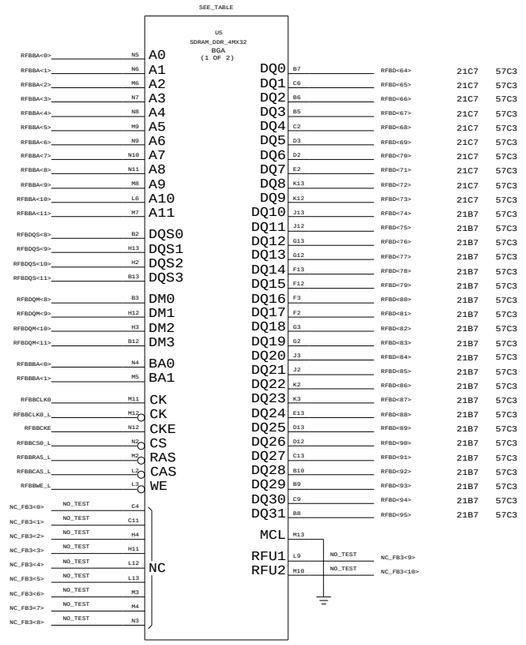
CR-23

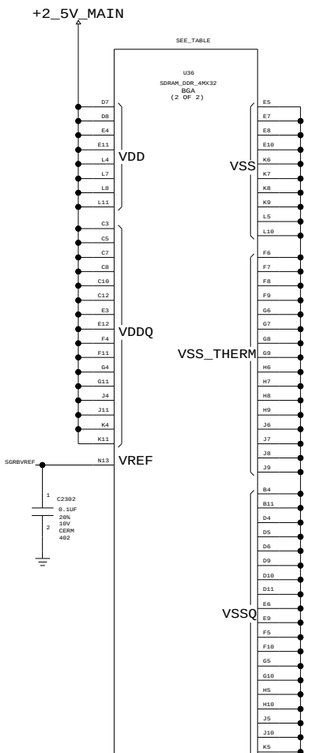


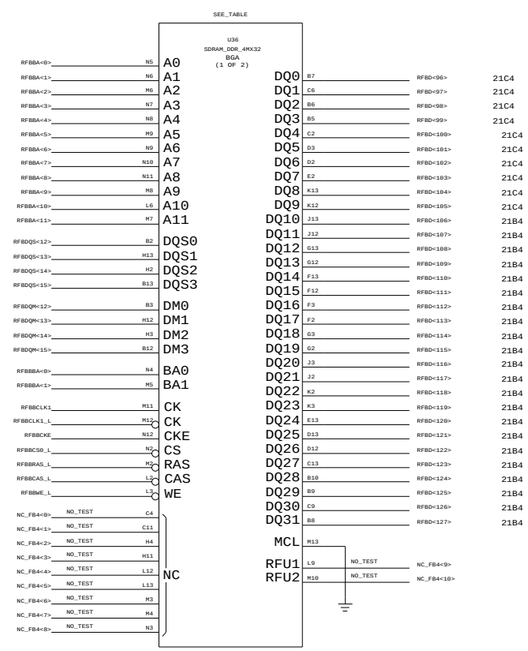


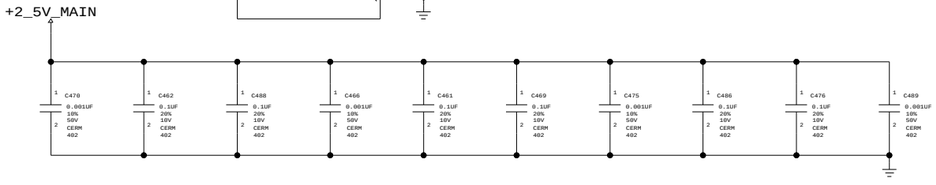


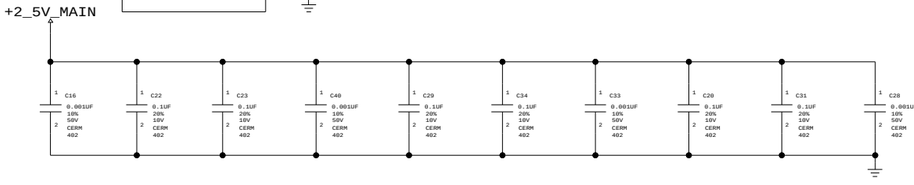








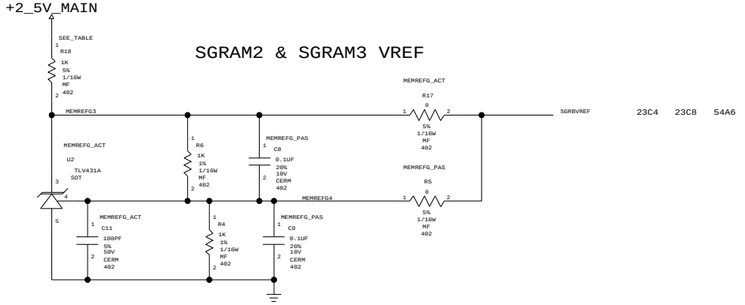




SGRAM0 & SGRAM1 MEMORY SUPPORT

PART NUMBER	QTY	DESCRIPTION	REFERENCE DES	CRITICAL	BOM OPTION
333S0249	2	SDRAM,4MX32,DDR,275MHZ	U5,U36	CRITICAL	275_SAMSUNG
333S0250	2	SDRAM,4MX32,DDR,275MHZ	U5,U36	CRITICAL	275_HYNIX

SGRAM2 & SGRAM3 VREF



SGRAM2 & SGRAM3 DDR MEMORY REFERENCE SUPPORT

PART NUMBER	QTY	DESCRIPTION	REFERENCE DES	CRITICAL	BOM OPTION
116S1103	1	RES,1K-OHM,5%,1/16W,0402	R18		MEMREFG_ACT
116S1000	1	RES,0-OHM,5%,1/16W,0402	R18		MEMREFG_PAS

SGRAM2 & SGRAM3

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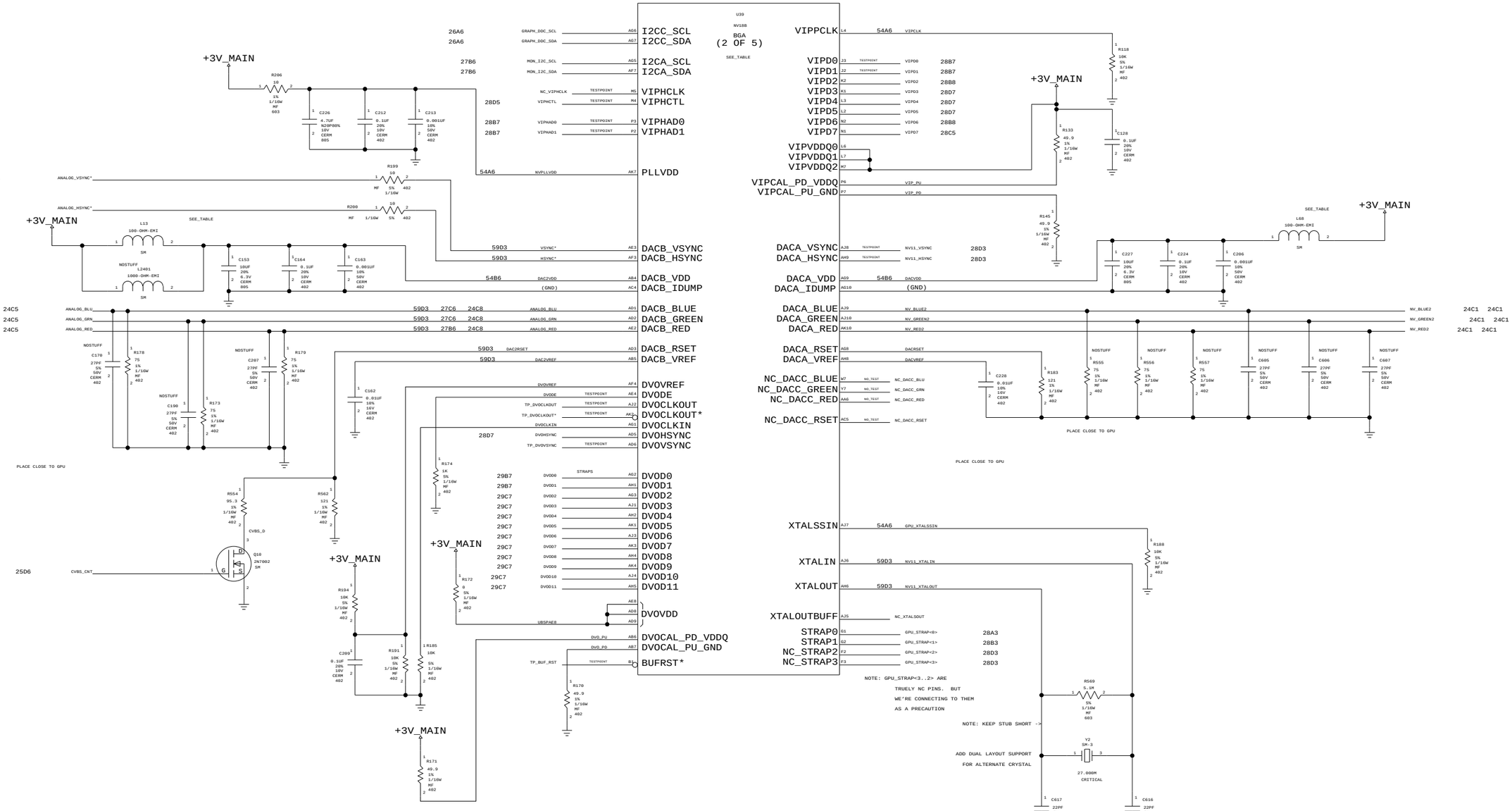
APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6490	A
SCALE: NONE	SHT 23 OF 74	

DRAWING



NVIDIA ASIC SUPPORT

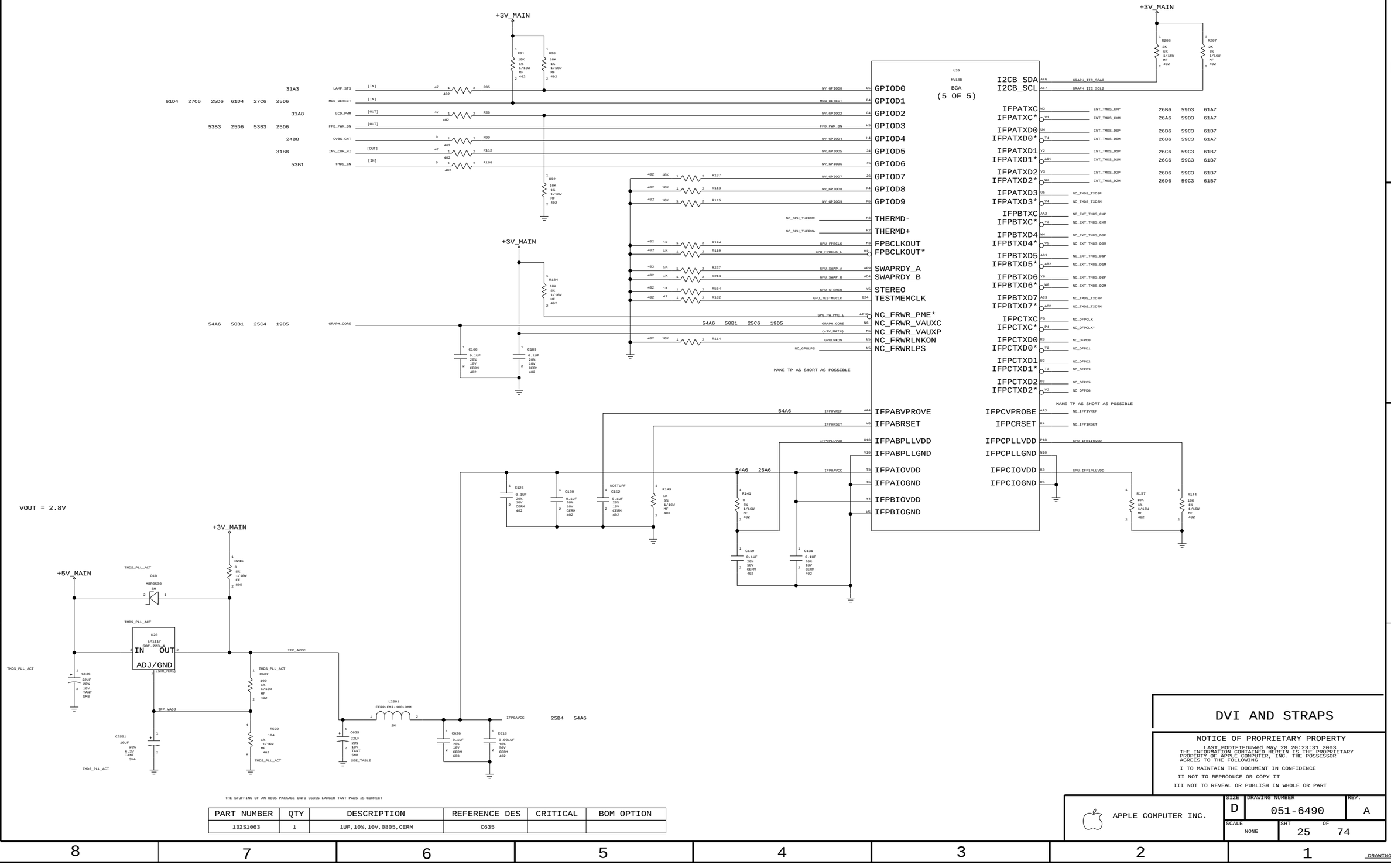
PART NUMBER	QTY	DESCRIPTION	REFERENCE DES	CRITICAL	BOM OPTION
338S0119	1	IC,NV18B,GRPHCS CTLR,A03	U39		NV18B
338S0112	1	IC,NV31,GRPHCS CTLR	U39		NV31
338S0113	1	IC,NV34,GRPHCS CTLR	U39		NV34
155S0141	1	FLTR,EMI,600 OHMS,.2A,0603	L2401		NOSTUFF
155S0143	2	FLTR,EMI,1000 OHMS,.2A,0805	L13,L68		

DAC & CLOCKS

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6490	A
SCALE: NONE	SHT 24 OF 74	

DRAWING



THE STUFFING OF AN 805 PACKAGE ONTO C635S LARGER TANT PADS IS CORRECT

PART NUMBER	QTY	DESCRIPTION	REFERENCE DES	CRITICAL	BOM OPTION
132S1063	1	1UF,10%,10V,0805,CERM	C635		

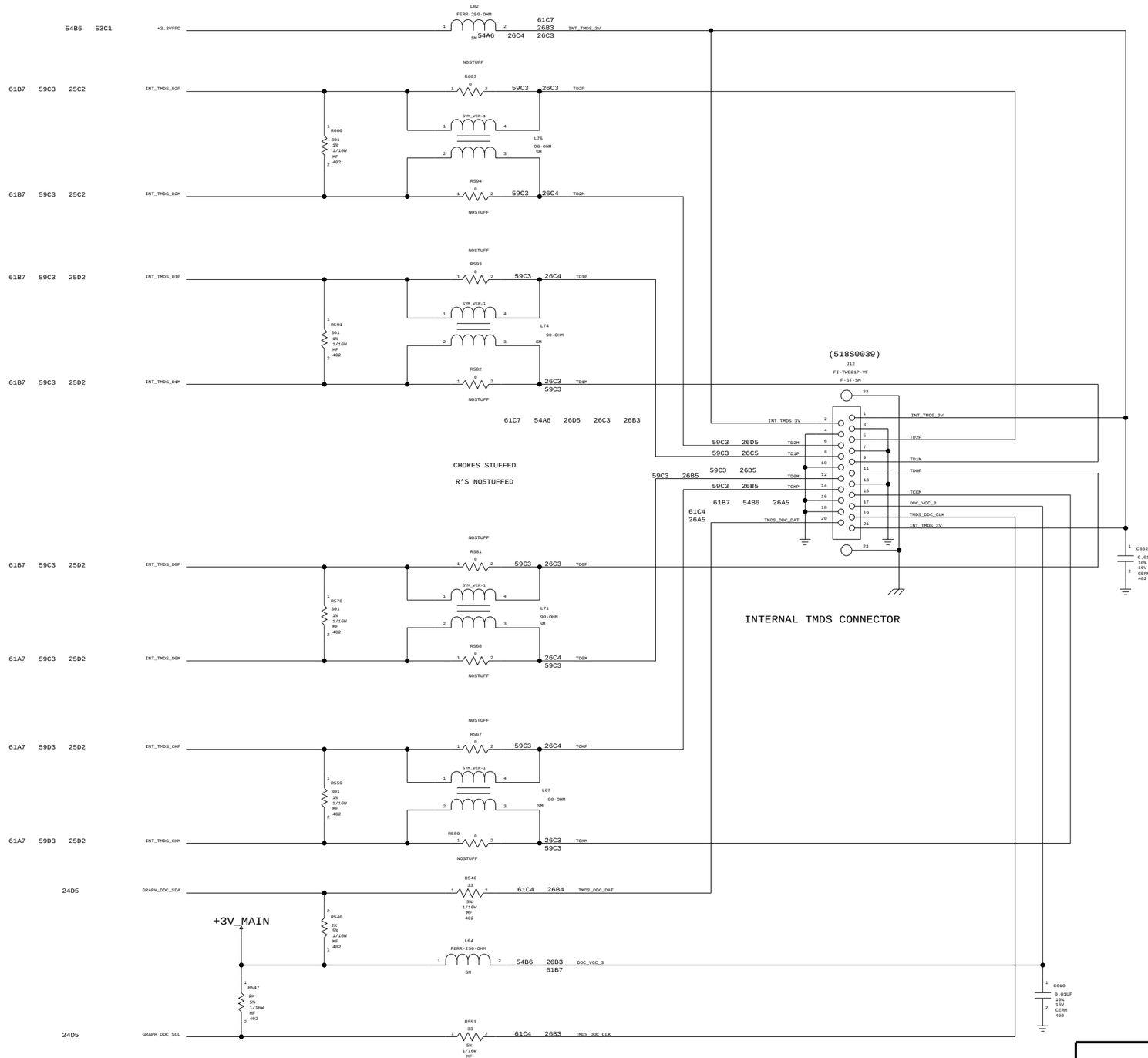
DVI AND STRAPS

APPLE COMPUTER INC.

SIZE: D | DRAWING NUMBER: 051-6490 | REV: A
SCALE: NONE | SHT 25 OF 74

DRAWING

CR-26



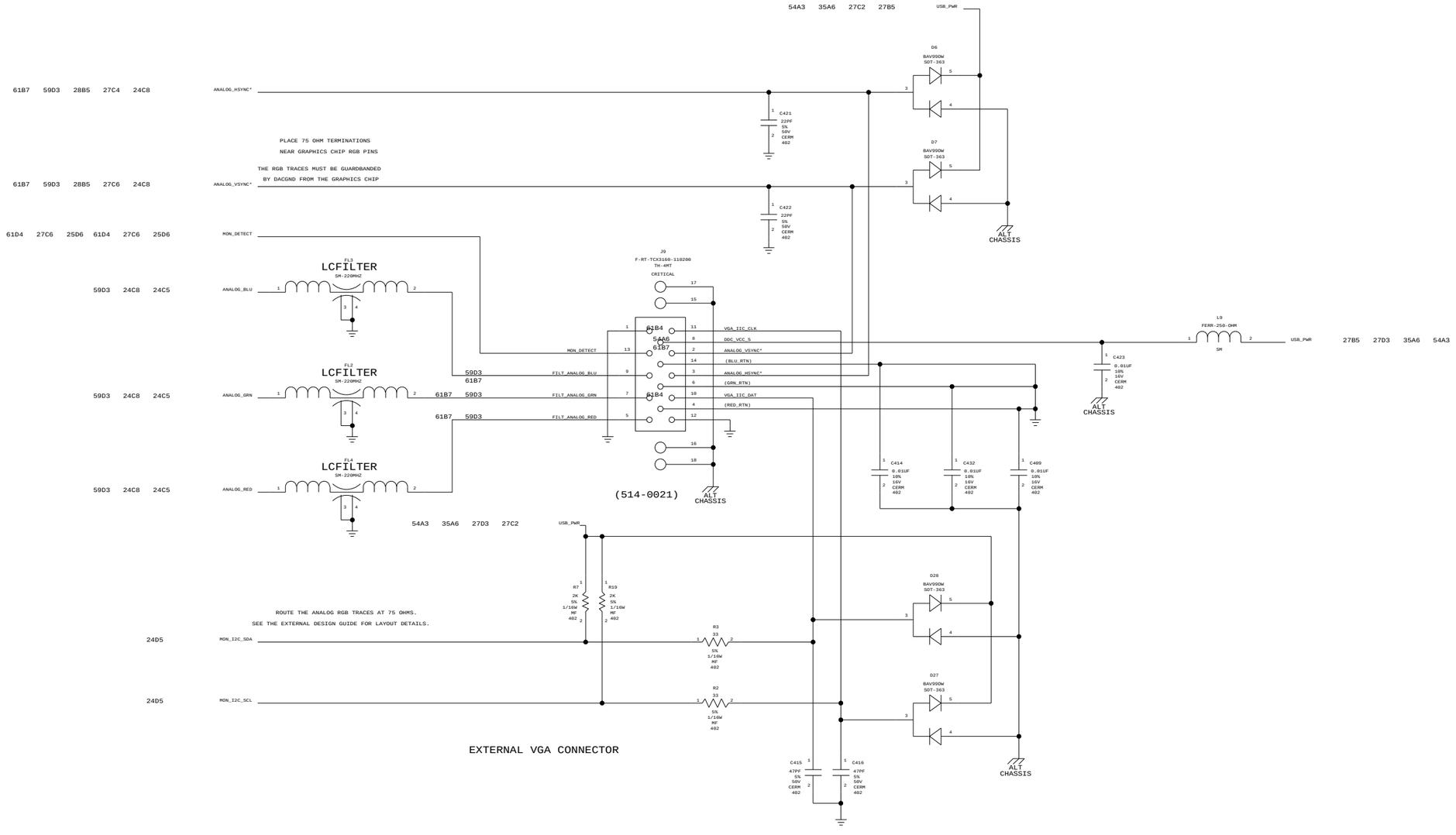
TMDS

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6490	A
SCALE: NONE	SHT 26 OF 74	

DRAWING

CR-27



EXTERNAL VGA CONNECTOR

EXTERNAL VGA

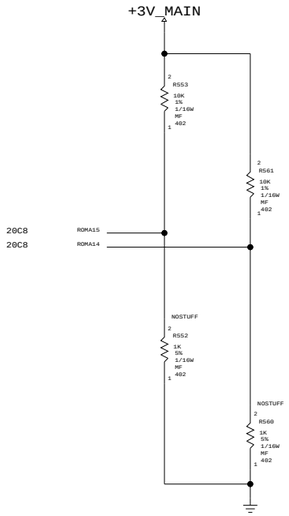
APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6490	A

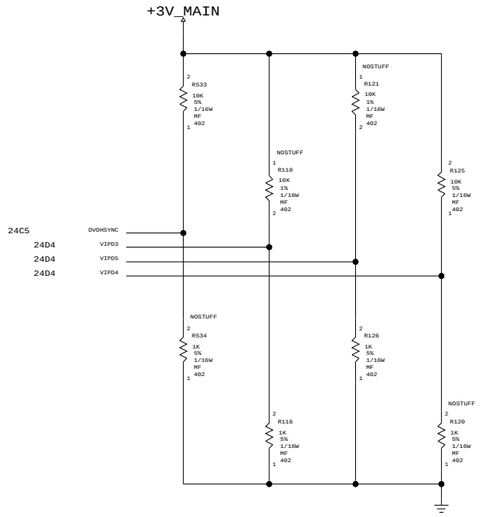
SCALE	SHT	OF
NONE	27	74

DRAWING

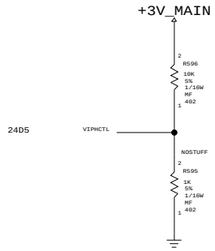
CR-28



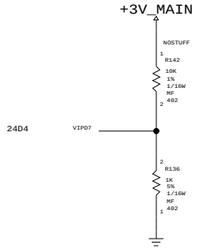
(1) ROM TYPE (OVERRIDDEN IF STRAP1 = 0)
[1..0] = [ROMA15,ROMA14]
00 = PARALLEL
01 = SERIAL AT25F
10 = SERIAL SST45VF
* 11 = SERIAL FUTURE



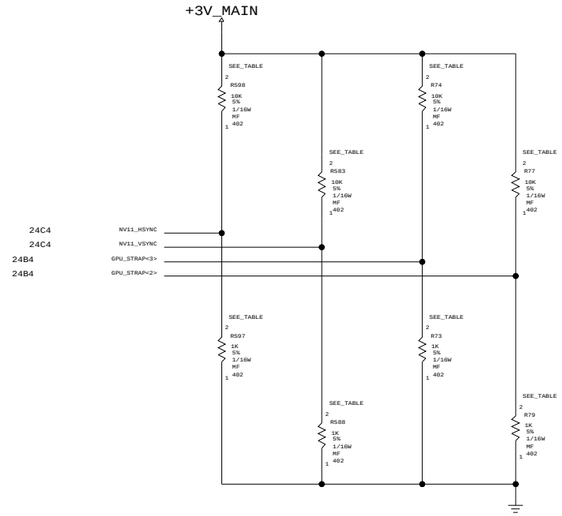
(3) PCI DEVICE ID
[3..0] = [DVOHSYNC,VIPD3,VIPD5,VIPD4]
0010 = 0X112 GEFORCE2 GO
0011 = 0X113 QUADRO2 GO
0100 = 0X114 NV17M
0000 = 0X110 GEFORCE2GO MX (NV11B)
* 1001 = NV18B,NV31,NV34



(5) HOST MODE
[0] = [VIPHCTL]
0 = PCI MODE
* 1 = AGP MODE

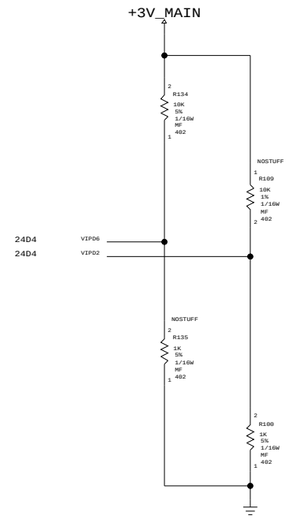


(6) AGP SIDEBAND
[0] = [VIPD7]
* 0 = ENABLE AGP SIDEBAND
1 = DISABLE AGP SIDEBAND

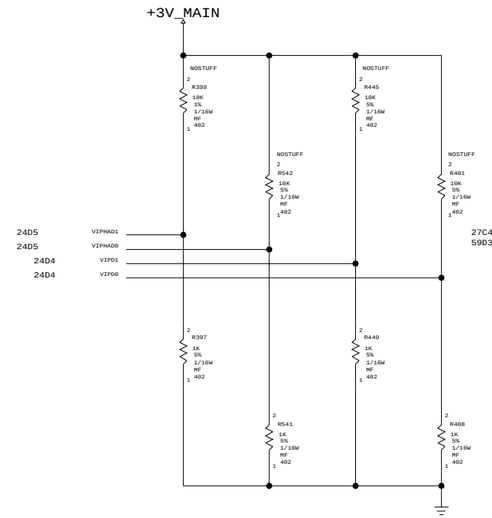


(8) FRAME BUFFER MEMORY TYPE
[3..0] = [NV11_HSYNC,NV11_VSYNC,GPU_STRAP<3>,GPU_STRAP<2>]
1111 = 222MHZ
1101 = 275MHZ SAMSUNG
1100 = 275MHZ HYNIX

PART NUMBER	QTY	DESCRIPTION	REFERENCE DES	CRITICAL	BOM OPTION
116S1104	3	RES,10KOHM,5%,0402	R598,R583,R77		275_SAMSUNG
116S1103	1	RES,1KOHM,5%,0402	R73		275_SAMSUNG
116S1104	2	RES,10KOHM,5%,0402	R598,R583		275_HYNIX
116S1103	2	RES,1KOHM,5%,0402	R73,R79		275_HYNIX

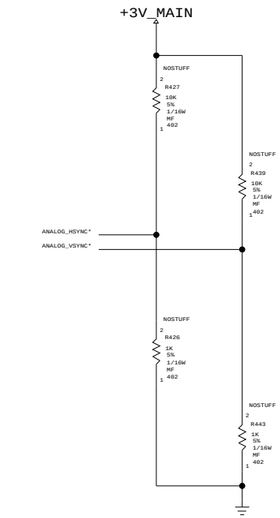


(2) CRYSTAL FREQUENCY SELECT
[1..0] = [VIPD6,VIPD2]
00 = 13.5MHZ
01 = 14.38MHZ
* 10 = 27MHZ
11 = {UNDEFINED}



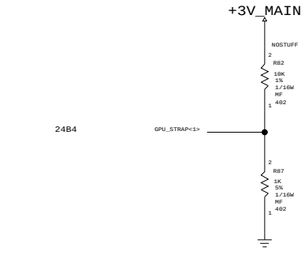
(4) USER DEFINED STRAPS
[3..0] = [VIPHAD1,VIPHAD0,VIPD1,VIPD0]

THESE BITS ARE UNDEFINED BUT THEY
MUST BE KEPT LOW DURING RESET

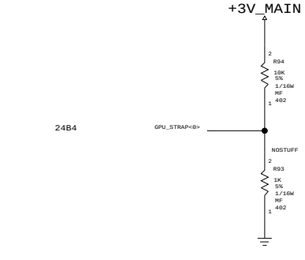


(7) TV MODE
[1..0] = [ANALOG_HSYNC*,ANALOG_VSYNC*]
00 = SECAM
01 = NTSC
10 = PAL
* 11 = DISABLED

(THESE RESISTORS ARE ALL NOSTUFF)



(9) SUB-VENDOR
[0] = [GPU_STRAP<1>]
0 = SYSTEM BIOS (VENDOR & SUBSYSTEM ID=0X0000)
* 1 = ADAPTER CARD VGA BIOS (VENDOR & SUBSYSTEM ID=0X54-0X57)



(10) PCI ADDRESS BUS
[0] = [GPU_STRAP<0>]
0 = REVERSED
* 1 = NORMAL

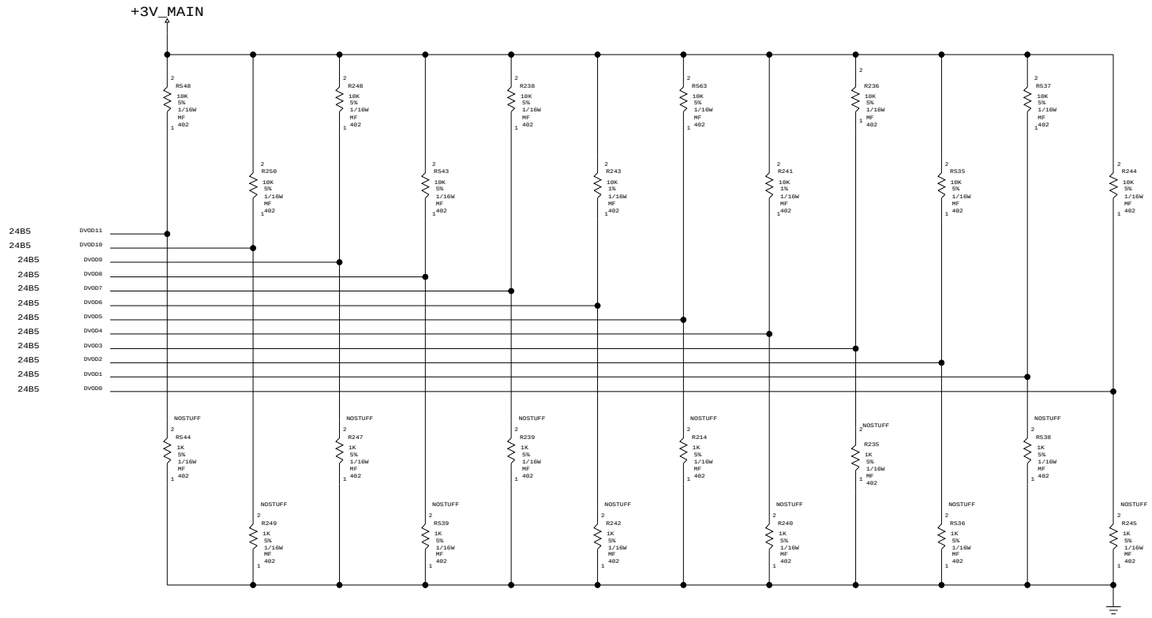
NVIDIA STRAPS 1

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6490	A
SCALE: NONE	SHT 28 OF 74	

DRAWING

CR-29



UNDEFINED RESET CONFIGURATION STRAPS

NVIDIA STRAPS 2

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6490	A
SCALE	SHT	OF
NONE	29	74

DRAWING

CR-30

8	7	6	5	4	3	2	1

+2_5V_MAIN

+1_8V_MAIN

R571 0 5% 1/16W MF 603

R572 0 NOSTUFF 5% 1/16W MF 603

U19 LT1962-ADJ MSOP

IN OUT NC NC ADJ BYP SHDN GND

LT1962_INT_VIN

NC_UTGP7 NC_UTGP6 NO_TEST

LT1962_INT_ADJ LT1962_INT_BYP

C623 0.01uF 10% 16V CERM 402

C234 1UF 10% 6.3V CERM 603

RS86 15.8K 1% 1/16W MF 402

RS98 56.2K 1% 1/16W MF 402

C233 10UF 20% 6.3V CERM 805

54D3 33B5 18D6 11D3 +1_5V_INTREPID_PLL

R630 4.7 5% 1/16W MF 402

R629 4.7 5% 1/16W MF 402

R628 4.7 5% 1/16W MF 402

R620 4.7 5% 1/16W MF 402

RS65 4.7 5% 1/16W MF 402

C713 0.22uF 20% 6.3V CERM 402

C764 0.22uF 20% 6.3V CERM 402

C703 0.22uF 20% 6.3V CERM 402

C692 0.22uF 20% 6.3V CERM 402

C229 0.22uF 20% 6.3V CERM 402

C3005 0.22uF 20% 6.3V CERM 402

C3004 0.22uF 20% 6.3V CERM 402

C3003 0.22uF 20% 6.3V CERM 402

C3002 0.22uF 20% 6.3V CERM 402

C3001 0.22uF 20% 6.3V CERM 402

+1_5V_INTREPID_PLL8 INT_PLL9_GND +1_5V_INTREPID_PLL4 INT_PLL7_GND +1_5V_INTREPID_PLL3 INT_PLL3_GND +1_5V_INTREPID_PLL2 INT_PLL2_GND +1_5V_INTREPID_PLL1 INT_PLL1_GND

30A4 30A4 30A4 30A5 30A5

54D3 54D3 54D3 54D3

INTREPID DEBUG HOOKS

PLL TEST FUNCTION

HWPLL_TESTMUXSEL[0:5]

+3V_MAIN

NOSTUFF R231 R678 R289 R292 R291 R274 R228 R232 1K 5% 1/16W MF 402

INT_MOD_BITCLK INT_MOD_CLKOUT INT_MOD_DTO INT_MOD_SYNC INT_MOD_DTI JTAG_ENET_TDI JTAG_ASIC_TDI INT_TST_PLLEN_PD

NOSTUFF R574 R276 R708 R735 R727 R661 R577 R573 1K 5% 1/16W MF 402

TOO MANY MODS TO LIST, SEE INTREPID ERS
CONFIGURED FOR INTREPID VERSION 1
VIEW AGP CLOCK OUT LA CLOCK PIN

+3V_MAIN

GPIO & INTERRUPT PULL-UPS

R746 10K 5% 1/16W MF 402 AGP_INT_L 19B7 30B5

R749 10K 5% 1/16W MF 402 33SLOTB_INT_L 38B5 36C5

R750 10K 5% 1/16W MF 402 30B5 UNUSED_EXTINT7 SPARE

R306 10K 5% 1/16W MF 402 30B5 UNUSED_EXTINT8 SPARE 33SLOTB_INT_L

RP113 10K 5% 1/16W SM1

INT_GPIO9_PU 30B5
INT_EXTINT12_PU 30B5
INT_EXTINT17_PU 30B5 34B6
INT_EXTINT3_PU 30B5

RP74 10K 5% 1/16W SM1 NO_TEST

COMM_RING_DET_L 30B5 31C5
INT_EXTINT13_PU 30B5 46C5
NC_RPT77P6
PMU_INT_L 30B5 46B5

RP100 10K 5% 1/16W SM1 NO_TEST

NC_CBUS_INT_L
PMU_INT_NMI 30B5 46C4
PMU_REQ_L 30C3 46C2
EXTINT14 30B5

RP110 10K 5% 1/16W SM1 NO_TEST

NC_RP2848
INT_GPIO12_PU 30B5
INT_GPIO1_PD 30C5
SND_HW_RESET_L 30B5 41B4

R680 10K 5% 1/16W MF 402 INT_MOD_DTI 30A3 30C6

NOSTUFF RP66 10K 5% 1/16W SM1

INT_MOD_CLKOUT 30A3 30C6
INT_MOD_DTO 30A3 30C6
INT_MOD_BITCLK 30A3 30C6
INT_MOD_SYNC 30A3 30C6

(518S0104)

J23 U.FL-R_SMT F-ST-SM

NOSTUFF

CLK18M_INT_XO

CLK18M_INT_EXT

NOSTUFF R666 0 5% 1/16W MF 402

NOSTUFF R611 51 5% 1/16W MF 402

NOSTUFF R672 10K 5% 1/16W MF 402

R711 0 5% 1/16W MF 402

YS 18.432M SM

C784 27pF 5% 50V CERM 402

C840 27pF 5% 50V CERM 402

CLK18M_INT_XIN CLK18M_INT_XOUT SYSTEM_CLK_EN INT_WATCHDOG_L BRCLKO

PM3 R695 22 5% 1/16W MF 402

R710 10K 5% 1/16W MF 402

INT_REF_CLK_IN_PD INT_REF_CLK_OUT

55A6 10A5 55A6 10A7

30C4 INT_PLL1_GND 30D4 INT_PLL2_GND

U2S INTREPID BGA (6 OF 9)

SEE_TABLE (ON PAGE 12)

PCI VDD15A_1 (PLL1) PCI VDD15A_2 (PLL2) PCI VDD15A_3 (PLL3) PCI VDD15A_4 (PLL7) PCI VDD15A_8 (PLL9) VDDU33_1 VDDU33_2

GPIO0 GPIO1 GPIO2 GPIO3 GPIO4 GPIO5 GPIO6 GPIO9 GPIO11 GPIO12 GPIO15 GPIO16

GENERAL PURPOSE I/O'S

SNF_FSEL INT_GPIO1_PD COMM_SHUTDOWN COMM_RESET_L FWPHYRST SND_HP_MUTE_L SND_AMP_MUTE_L INT_GPIO9_PU INT_GPIO12_PU UNUSED_GPIO15 INT_ENET_RST_L

10A7 30A8 61D4 31D7 30D1 61A7 31D5 38C8 43A7 44A8 30B8 41B4 30A8 30A8 61A4 30C1 37B8 30D1

EXTINT0 EXTINT1 EXTINT2 EXTINT3 EXTINT4 EXTINT5 EXTINT6 EXTINT7 EXTINT8 EXTINT9 EXTINT10 EXTINT11 EXTINT12 EXTINT13 EXTINT14 EXTINT15 EXTINT16 EXTINT17 CPU_INT

INTERRUPTS

COMM_RING_DET_L PMU_INT_L AGP_INT_L 33SLOTB_INT_L UNUSED_EXTINT7 UNUSED_EXTINT8 PMU_INT_NMI VCORE_VGATE USB2_CRUN_L INT_EXTINT12_PU INT_EXTINT13_PU EXTINT14 SND_HP_SENSE SND_SPKR_ID INT_EXTINT17_PU MPIC_CPU_INT_L

61D4 46C5 31C5 30B8 46B5 30B8 19B7 30B8 30B8 61B4 42D4 37B4 30C1 30B8 30B8 30A8 46C4 30A8 10A8 34A7 30B8 30B8 61B7 43A5 44C5 34B6 30B8 9D7 7A5 4B3 61A4 46B2 34A7 33C2 46B4 46B4

(USB2.0 IRQ)

PCIPME PROCSLEEPREQ PENDPROCINT

PMU_PME_L INT_PROC_SLEEP_REQ_L INT_PEND_PROC_INT

CLOCKS

XTAL_IN XTAL_OUT STOPXTAL WATCHDOG BUF_REF_CLK_OUT SS_REF_CLK_IN

VSSA1 (PLL1) VSSA2 (PLL2) VSSA3 (PLL3) VSSA4 (PLL7) VSSA_8 (PLL9) VSSU_1 VSSU_2

XW42 XW43 XW44 XW45 XW46 SM

NO_TEST INT_PLL9_GND INT_PLL7_GND INT_PLL3_GND

30D4 30D4 30D4

54A3 +3V_INTREPID_USB

L16 FERR-EMI-100-OHM SM

C785 0.01UF 10% 16V CERM 402

C795 0.1UF 20% 10V CERM 402

C820 4.7UF M20P80% 10V CERM 805

+3V_MAIN

SCCTXDA SCCRTSA SCCDTRA SCCRXDA SCCGPIOA SCCTRXCA

COMM_TXD_L COMM_RTS_L COMM_DTR_L COMM_RXD COMM_GPIO_L COMM_TRXC

31C7 61C4 31D5 61C4 31C7 61C4 31C5 61C4 30D2 31C5 61C4 30D2 31C7 61C4

30B3 30B3 30B3 30B3

VIA

MISO REQ* MOSI ACK* SCK

SCCTXDB SCCRTSB SCCRXDB SCCGPIOB SCCTRXCB

PMU_FROM_INT PMU_REQ_L PMU_TO_INT PMU_ACK_L PMU_CLK

46C4 30A8 46C2 46C4 46C4

USB_VD0_P USB_VD0_N USB_VD1_P USB_VD1_N USB_PRTPWR0 USB_PWRFLT0 USB_VD2_P USB_VD2_N USB_VD3_P USB_VD3_N USB_PRTPWR1 USB_PWRFLT1 USB_VD4_P USB_VD4_N USB_VD5_P USB_VD5_N USB_PRTPWR2 USB_PWRFLT2

L8 60B5 USB_DAP L7 60B5 USB_DAN G2 60B5 USB_DBP G1 60B5 USB_DBN J4 USB_PWREN_AB_L K4 USB_PWR_FLT* H2 60B5 USB_DCP H1 60B5 USB_DCN M7 USB_DDP M6 USB_DDN J2 USB_PWREN_CD_L J1 K5 60B5 USB_DEP L5 60B5 USB_DEN P8 60A5 USB_DFP N8 60A5 USB_DFN M5 USB_PWREN_EF_L K7 USB_OC_EF_L

30C2 34B1 35A6 30C2 30C2

USB

402 24 R724 USB1 USB_DAP_F 35B7 60B5
402 24 R718 USB1 USB_DAN_F 35B7 60B5
402 24 R736 USB1 USB_DBP_F 35C7 60B5
402 24 R742 USB1 USB_DBN_F 35C7 60B5
402 24 R723 USB1 USB_DCP_F 35D7 60B5
402 24 R728 USB1 USB_DCN_F 35D7 60B5
402 24 R694 USB_DDP_F_TERM
402 24 R691 USB_DDN_F_TERM
402 22 R762 BLUET BT_USB_DP 31D3 60B5 61B4
402 22 R763 BLUET BT_USB_DM 31D3 60A5 61B4
402 22 R271 MODEM_USB_DP 31C5 60A5 61B4
402 22 R272 MODEM_USB_DM 31C5 60A5 61B4

AUD_DTO AUD_DTI AUD_SYNC AUD_BITCLK AUD_CLKOUT

R4 INT_SND_TO_AUDIO R7 AUDIO_TO_SND T5 INT_SND_SYNC P2 INT_SND_SCLK R5 INT_SND_CLKOUT

47 4 5 RP108 SND_TO_AUDIO 41C4
47 3 6 RP108 AUDIO_TO_SND 30B3 41C1
47 2 7 RP108 SND_SYNC 41C1
47 1 8 RP108 SND_SCLK 41B1
SND_CLKOUT 41B4

41C1 30B2

AUDIO/I2S

MOD_DTO MOD_DTI MOD_SYNC MOD_BITCLK MOD_CLKOUT

R2 INT_MOD_DTO R1 INT_MOD_SYNC V8 INT_MOD_BITCLK P1 INT_MOD_CLKOUT

30A8 30C6 30A8 30C6 30A8 30C6 30A8 30C6

R3001 15K 5% 1/16W MF 402 R3002 15K 5% 1/16W MF 402 R650 15K 5% 1/16W MF 402 R651 15K 5% 1/16W MF 402 R660 10K 5% 1/16W MF 402 R683 10K 5% 1/16W MF 402

IIC

IICCLK_2 IICDATA_2

AL4 INT_I2C_CLK2 AH8 INT_I2C_DATA2

30D1 31C7 36B5 41B1 61A7 30D1 31C7 36B5 41B1 61A7

+3V_MAIN

I2C 2 PULL-UPS

RP39 10K 5% 1/16W SM1

NC_RPT48P1 COMM_GPIO_L COMM_TRXC NC_RP3319

36B5 31C7 30A3 61A7 41B1 36B5 31C7 30A3 61A7 41B1 61C4 31C5 30C3 61D4 31D7 30C5 61C4 31C7 30C3 37B8 30B5

+3V_MAIN

R264 R641 4.7K 5% 1/16W MF 402

INT_I2C_CLK2 INT_I2C_DATA2

RP117 10K 5% 1/16W SM1

COMM_SHUTDOWN INT_ENET_RST_L ENET_ENERGY_DET NC_RP3324_2

37B4 30B5

+3V_MAIN

USB PULL-UPS

RP60 10K 5% 1/16W SM1

USB_OC_EF_L USB_PWREN_CD_L USB_PWREN_AB_L USB_PWREN_EF_L

+3V_MAIN

R294 10K 5% 1/16W MF 402

UNUSED_GPIO15

NOSTUFF R267 10K 5% 1/16W MF 402

61A4 30B5

USB_DAP_F USB_DAN_F USB_DBP_F USB_DBN_F USB_DCP_F USB_DCN_F USB_DDP_F_TERM USB_DDN_F_TERM

35B7 60B5 35B7 60B5 35C7 60B5 35C7 60B5 35D7 60B5 35D7 60B5

APPLE COMPUTER INC.	SIZE D	DRAWING NUMBER 051-6490	REV. A
	SCALE NONE	SHT 30 OF 74	

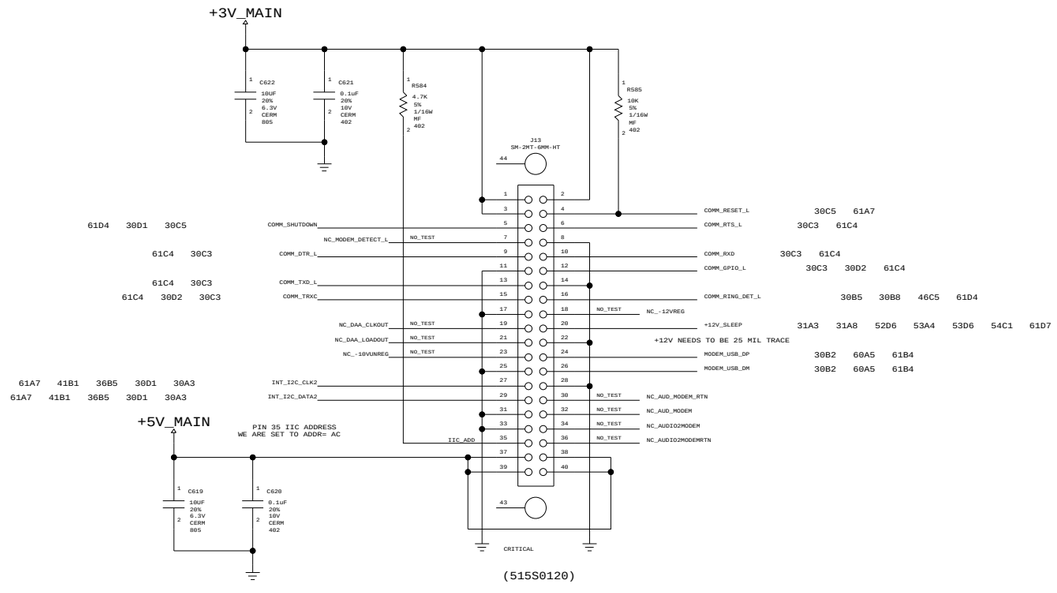
INTREPID GPIO/ SCC/USB/I2S

DRAWING

CR-31

MODEM BOARD CONNECTOR

(DASH II)

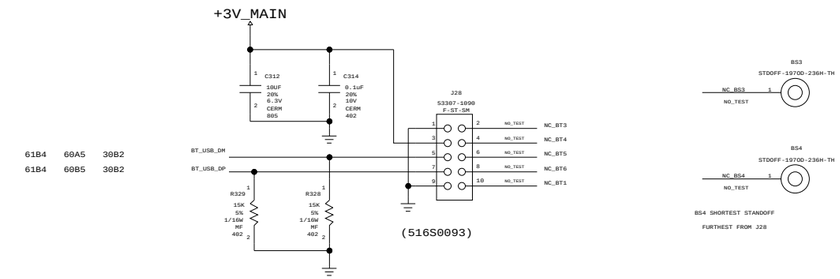


(515S0120)

MODEM STANDOFF SUPPORT

PART NUMBER	QTY	DESCRIPTION	REFERENCE DES	CRITICAL	BOM OPTION
860-1034	2	STDOFF-19709-236H-TH	BS1,BS2		

BLUETOOTH CONNECTOR

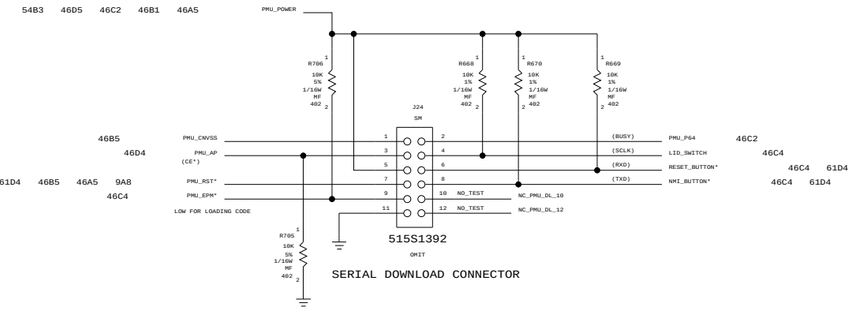


(516S0093)

BLUETOOTH CARD MOUNTING HARDWARE SUPPORT

PART NUMBER	QTY	DESCRIPTION	REFERENCE DES	CRITICAL	BOM OPTION
860-0170	1	STDOFF,BLUETOOTH,SHORT	BS4		
860-0171	1	STDOFF,BLUETOOTH,LONG	BS3		

SERIAL DOWNLOAD INTERFACE



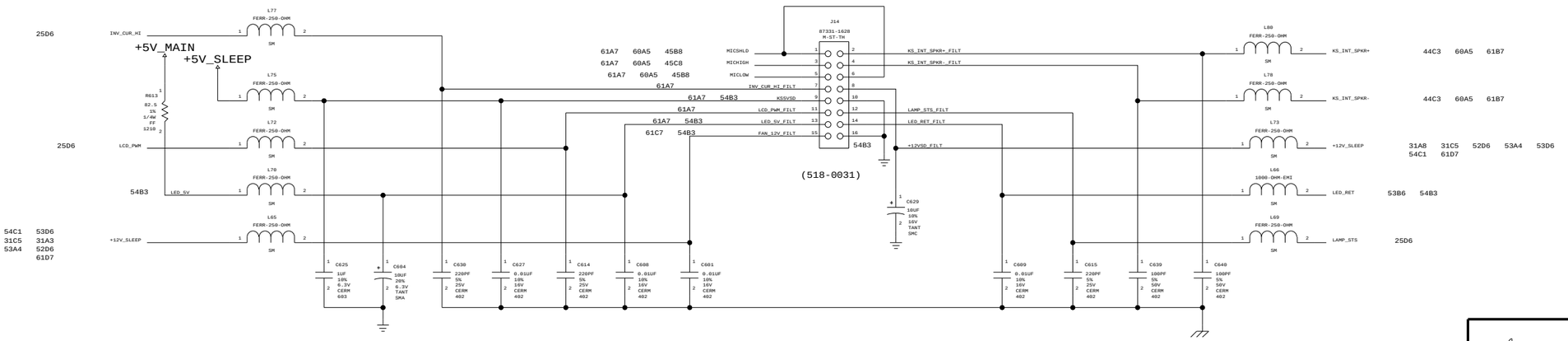
515S1392

SERIAL DOWNLOAD CONNECTOR

'KITCHEN SINK' CONNECTOR

(MICROPHONE,INTERNAL SPEAKER CONNECTIONS

INVERTER,LCD,LED & FAN POWER)



(518-0031)

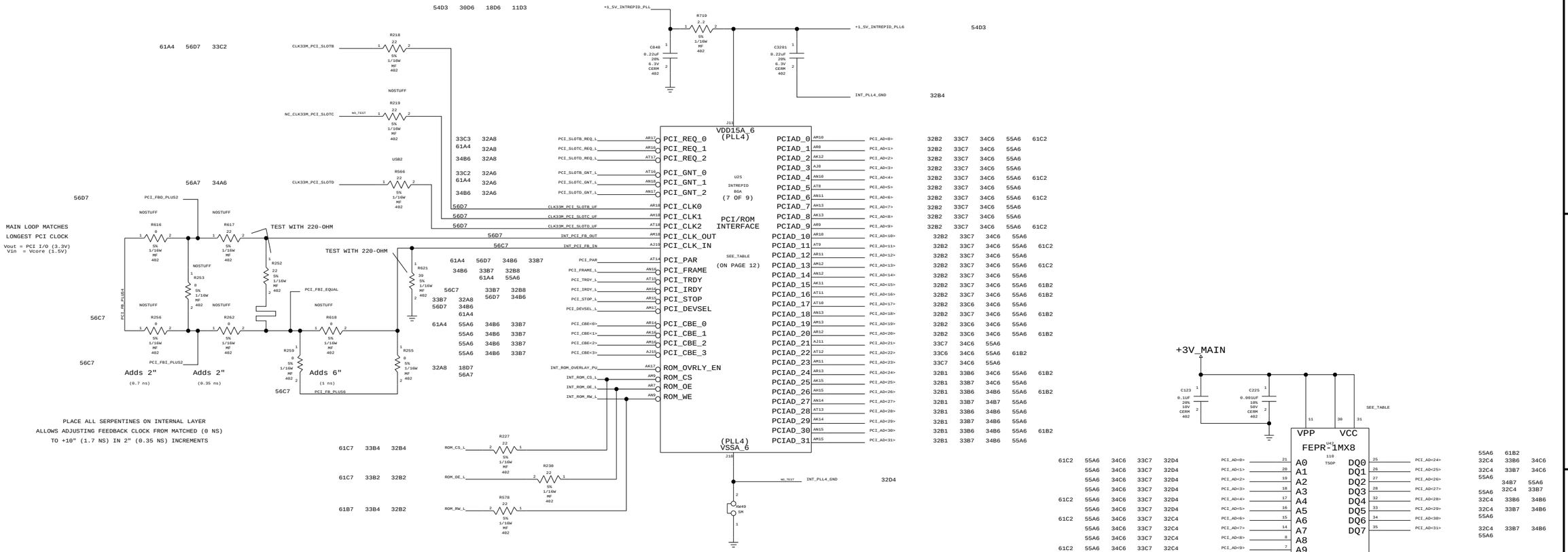
MODEM, BLUETOOTH, KITCHEN SINK & SERIAL DOWNLOAD

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6490	A

SCALE	SHT	OF
NONE	31	74

DRAWING



FLASH BOOT ROM SUPPORT

PART NUMBER	QTY	DESCRIPTION	REFERENCE DES	CRITICAL	BOM OPTION
341T1107	1	IC,FLASH,PROD,ROM,PRGMD	U42		
341S1169	1	IC,FEPR,FLASH ROM,PROD	U42		ROM_PRGMD PROD
009-6420	1	IC,FEPR,FLASH ROM,PROD	U42		ROM_IMG PROD
341S1225	1	IC,FLASH,BOOT ROM,Q26,4.5.8B2	U42		ROM_PRGMD PROD
009-6076	1	CODE,BOOTROM,Q26,PVT,4.5.8B2	U42		ROM_IMG PROD
341S1272	1	IC,FLASH,BOOT ROM,Q26B	U42		ROM_PRGMD PROD
009-6068	1	CODE,BOOTROM,Q26B,DVT,4.6.7B1	U42		ROM_IMG PROD
335S0350	1	IC,FLASH ROM,1MB,BLANK	U42		OMIT

APPLE COMPUTER INC.

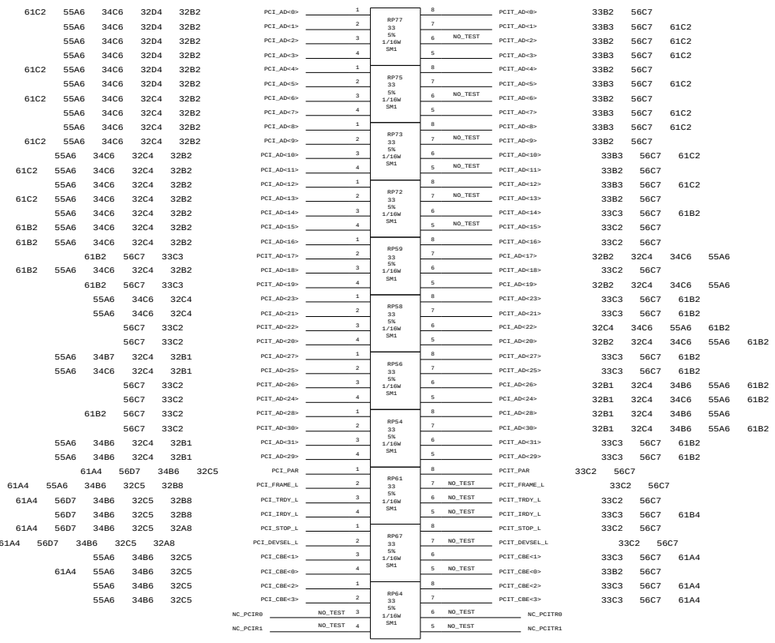
INTREPID PCI & BOOT ROM

SIZE	DRAWING NUMBER	REV.
D	051-6490	A
SCALE: NONE	SHT 32 OF 74	

DRAWING

CR-33

PLACE RP'S NEAR WIRELESS CONNECTOR



61C2 55A6 34C6 32D4 32B2
55A6 34C6 32D4 32B2
55A6 34C6 32D4 32B2
55A6 34C6 32D4 32B2
61C2 55A6 34C6 32D4 32B2
55A6 34C6 32D4 32B2
61C2 55A6 34C6 32C4 32B2
55A6 34C6 32C4 32B2
55A6 34C6 32C4 32B2
61C2 55A6 34C6 32C4 32B2
55A6 34C6 32C4 32B2
61C2 55A6 34C6 32C4 32B2
55A6 34C6 32C4 32B2
61B2 55A6 34C6 32C4 32B2
61B2 55A6 34C6 32C4 32B2
61B2 56C7 33C3
61B2 55A6 34C6 32C4 32B2
61B2 56C7 33C3
55A6 34C6 32C4
55A6 34C6 32C4
56C7 33C2
56C7 33C2
55A6 34B7 32C4 32B1
55A6 34C6 32C4 32B1
56C7 33C2
56C7 33C2
61B2 56C7 33C2
56C7 33C2
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55A6 34B6 32C4 32B1
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61A4 55A6 34B6 32C5 32B8
61A4 56D7 34B6 32C5 32B8
56D7 34B6 32C5 32B8
61A4 56D7 34B6 32C5 32A8
61A4 56D7 34B6 32C5 32A8
55A6 34B6 32C5
61A4 55A6 34B6 32C5
55A6 34B6 32C5
55A6 34B6 32C5

33B2 56C7
33B3 56C7 61C2
33B2 56C7 61C2
33B3 56C7 61C2
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33B3 56C7 61C2
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33B3 56C7 61C2
33B2 56C7
33B3 56C7 61C2
33B2 56C7
33C3 56C7 61B2
33C2 56C7
32B2 32C4 34C6 55A6
33C2 56C7
32B2 32C4 34C6 55A6
33C3 56C7 61B2
32C4 34C6 55A6 61B2
32B2 32C4 34C6 55A6 61B2
33C3 56C7 61B2
33C3 56C7 61B2
32B1 32C4 34B6 55A6 61B2
32B1 32C4 34C6 55A6 61B2
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32B1 32C4 34B6 55A6 61B2
33C3 56C7 61B2
33C3 56C7 61B2
33C2 56C7
33C2 56C7
33C2 56C7
33C2 56C7
33C3 56C7 61A4
33B2 56C7
33C3 56C7 61A4
33C3 56C7 61A4

61A4 46C4 34A6 32A2

+3V_MAIN

NOSTUFF
R949 10K 1% 1/16W MF 402

NOSTUFF
R950 10K 1% 1/16W MF 402

+3V_MAIN

R948 0 5% 1/16W MF 402
MAIN_RESET_L
MAIN_RESET_L_PU

RF_DISABLE_L

61A4 32D5 32A8
PCI_SLOTB_REQ_L

61B2 56C7 33B6
PCIT_AD<31>
61B2 56C7 33B6
PCIT_AD<29>
61B2 56C7 33B6
PCIT_AD<27>
61B2 56C7 33B6
PCIT_AD<25>
61A4 56C7 33B6
PCIT_CBE<3>
61B2 56C7 33C6
PCIT_AD<23>
61B2 56C7 33C6
PCIT_AD<21>
61B2 56C7 33C7
PCIT_AD<19>
61B2 56C7 33C7
PCIT_AD<17>
61A4 56C7 33B6
PCIT_CBE<2>
61B4 56C7 33B6
PCIT_IRDY_L

61B4
RF_CLKRUN_L
61A4
56C7 33B6
PCIT_CBE<1>
56C7 33C6
PCIT_AD<14>
61B2
61C2
56C7 33C6
PCIT_AD<12>
56C7 33C6
PCIT_AD<10>
61C2
R293 10K 5% 1/16W MF 402
ROM_RW_L

61B7 32B6 32B2
PCIT_AD<8>
56C7 33C6
61C2
PCIT_AD<7>
61C2 56C7 33C6
PCIT_AD<5>
ROM_ONBOARD_CS_L

61D4 32B2
61C2 56C7 33C6
PCIT_AD<3>
61C2 56C7 33C6
PCIT_AD<1>
ROM_CS_L

61C7 32B6 32B4

J25
EDGE-SOCKET-UP
F-RT-SM-4MM
TOP_CONTACTS BOT_CONTACTS

NC_WL<1> NC_WL<3> NC_WL<5> NC_WL<7> NC_WL<9> NC_WL<11> NC_WL<13> NC_WL<15> NC_WL<17> NC_WL<19> NC_WL<21> NC_WL<23>
NO_TEST
NC_USB_M NC_USB_P NC_WL<2> NC_WL<4> NC_WL<6> NC_WL<8> NC_WL<10> NC_WL<12> NC_WL<14> NC_WL<16> NC_WL<18> NC_WL<20>

+3V_MAIN

C250 10UF 20% 6.3V CERM 805
C260 10UF 20% 6.3V CERM 1206
C259 0.01UF 10% 16V CERM 402
C249 0.22UF 20% 6.3V CERM 402

CLK33M_PCI_SLOTB
32D7 56D7 61A4
PCI_SLOTB_GNT_L
32A6 32D5 61A4

R951 0 5% 1/16W NOSTUFF 402
PMU_PME_LL
PMU_PME_L
30B5 34A7 46B2 61A4

33SLOTB_INT_L
30B7 61A4
PCIT_AD<30>
33B7 56C7
PCIT_AD<28>
33B7 56C7 61B2
PCIT_AD<26>
33B7 56C7
PCIT_AD<24>
33B7 56C7
61A4
WL_PCI_IDSEL

PCIT_AD<22>
33C7 56C7
PCIT_AD<20>
33C7 56C7
PCIT_PAR
33B6 56C7
PCIT_AD<18>
33C6 56C7
PCIT_AD<16>
33C6 56C7
R285 22 5% 1/16W MF 402

PCIT_FRAME_L
33B6 56C7
PCIT_TRDY_L
33B6 56C7
PCIT_STOP_L
33B6 56C7
PCIT_DEVSEL_L
33B6 56C7

PCIT_AD<15>
33C6 56C7
PCIT_AD<13>
33C6 56C7
PCIT_AD<11>
33C6 56C7

PCIT_AD<9>
33C6 56C7
PCIT_CBE<0>
33B6 56C7
ROM_OE_L
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PCIT_AD<6>
33C6 56C7

PCIT_AD<4>
33C6 56C7
PCIT_AD<2>
33C6 56C7 61C2
PCIT_AD<0>
33C6 56C7

(516S0046)

WIRELESS CARD MOUNTING HARDWARE SUPPORT

PART NUMBER	QTY	DESCRIPTION	REFERENCE DES	CRITICAL	BOM OPTION
815-7245	1	WIRELESS CARD GUIDE,J25	J251		
452-0411	2	NUT,HEX,M2 X 1.5H, J25	J252,J253		
452-0412	2	SCREW,M2 X 0.4 X 6.0 L,J25	J254,J255		

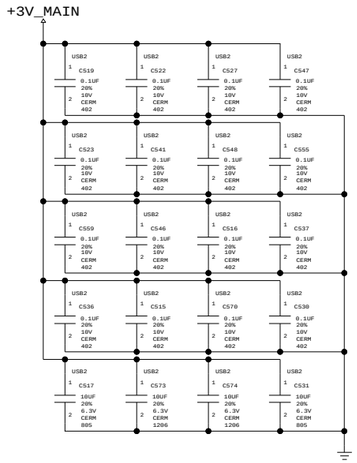
WIRELESS PCI

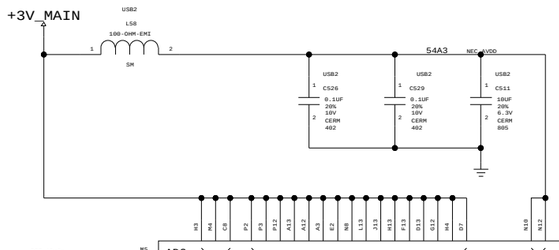
APPLE COMPUTER INC.

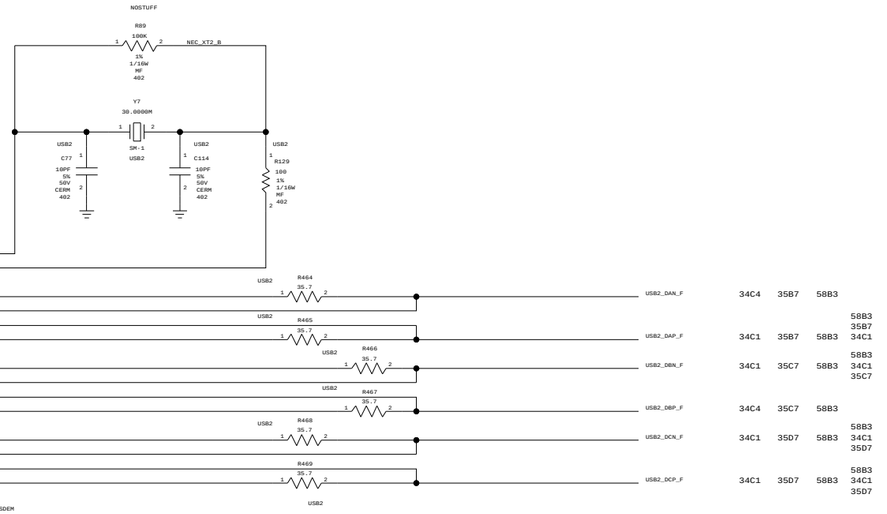
SIZE	DRAWING NUMBER	REV.
D	051-6490	A

SCALE	SHT	OF
NONE	33	74

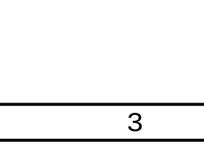
DRAWING

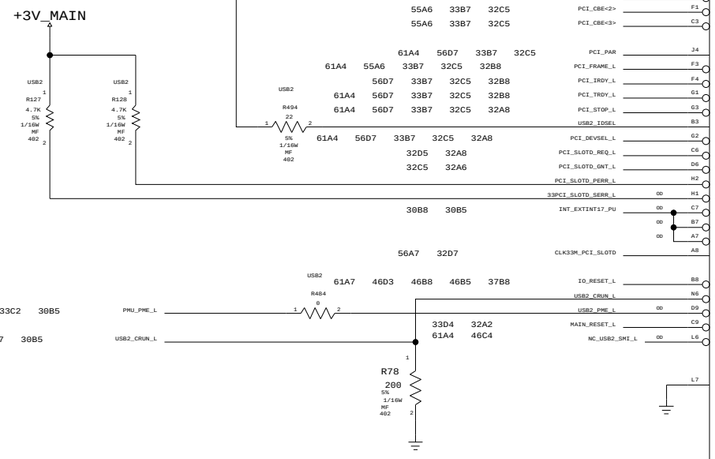


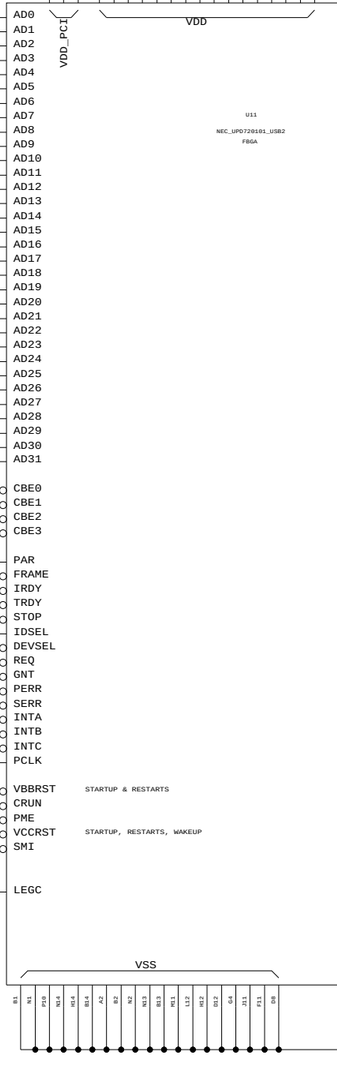




OVERLAP STUFFING OF 35.7OHMS HERE WITH 0OHMS ON SH31 TO MINIMIZE STUBS







61C2	55A6	33C7	32D4	32B2	
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	55A6	33C7	32D4	32B2	
	55A6	33C7	32D4	32B2	
61C2	55A6	33C7	32D4	32B2	
	55A6	33C7	32D4	32B2	
61C2	55A6	33C7	32C4	32B2	
	55A6	33C7	32C4	32B2	
61C2	55A6	33C7	32C4	32B2	
	55A6	33C7	32C4	32B2	
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	55A6	33C7	32C4	32B2	
61C2	55A6	33C7	32C4	32B2	
	55A6	33C7	32C4	32B2	
61B2	55A6	33C7	32C4	32B2	
61B2	55A6	33C7	32C4	32B2	
	55A6	33C6	32C4	32B2	
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	61B2	55A6	33C6	32C4	
		55A6	33C7	32C4	
61B2	55A6	33B6	32C4	32B1	
	55A6	33B7	32C4	32B1	
61B2	55A6	33B6	32C4	32B1	
	55A6	33B7	32C4	32B1	
55A6	33B7	32C4	32B1		
	55A6	33B6	32C4	32B1	
	55A6	33B7	32C4	32B1	
61B2	55A6	33B6	32C4	32B1	
	55A6	33B7	32C4	32B1	
61A4	55A6	33B7	32C5		
	55A6	33B7	32C5		
	55A6	33B7	32C5		
	55A6	33B7	32C5		
	61A4	56D7	33B7	32C5	
61A4	55A6	33B7	32C5	32B8	
	56D7	33B7	32C5	32B8	
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61A4	56D7	33B7	32C5	32A8	
		32D5	32A8		
		32C5	32A6		
30B8	30B5				
56A7	32D7				
61A7	46D3	46B8	46B5	37B8	
61A4	46B2	33C2	30B5		
		33D4	32A2		
34A7	30B5	34A7	30B5	61A4	46C4

34C4	35B7	58B3		
				58B3 35B7
34C1	35B7	58B3	34C1	
				58B3 34C1 35C7
34C4	35C7	58B3		
				58B3 34C1 35D7
34C1	35D7	58B3	34C1	
				58B3 34C1 35D7
34C1	35D7	58B3	34C1	

30B3 34B1 35A6

USB2 CONTROLLER

NOTICE OF PROPRIETARY PROPERTY

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6490	A
SCALE: NONE	SHT 34 OF 74	

DRAWING

CR-35

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
155S0035	6	30-OHM-EMI	L30,L37,L29,L28,L31,L30		USB1
10151000	6	RES,0-OHM,5%,1/10W,0805	L30,L37,L29,L28,L31,L30		USB2

USB PORT 3

USB PORT 2

USB PORT 1

THE ABOVE RESISTORS SHARE THE SAME PIN-2 PAD AND ARE LOCATED AT THE USB2 CHIP

+5V_MAIN

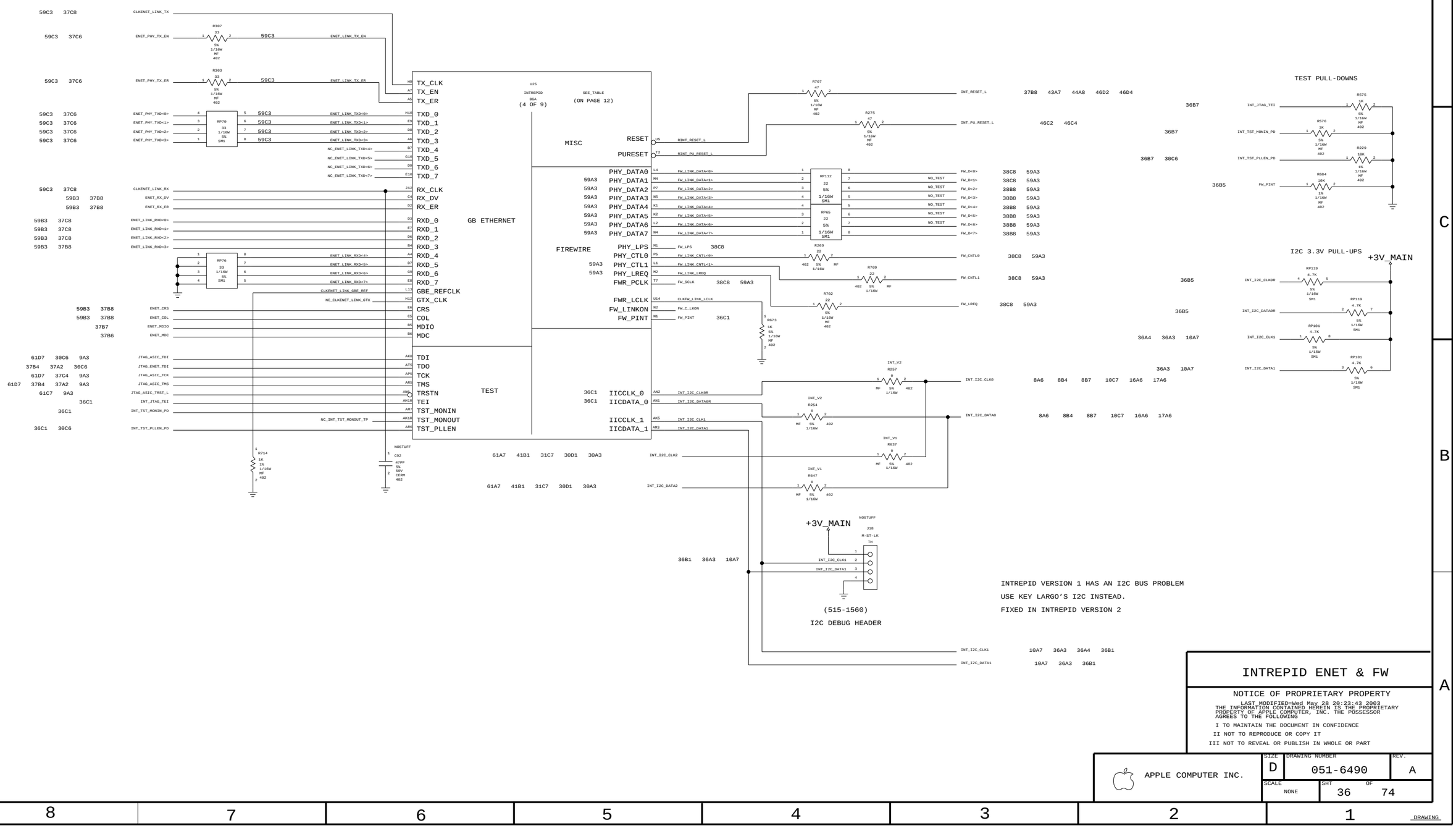
USB CONNS & PWR

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6490	A
SCALE: NONE	SHT 35 OF 74	

DRAWING

CR-36



INTREPID ENET & FW

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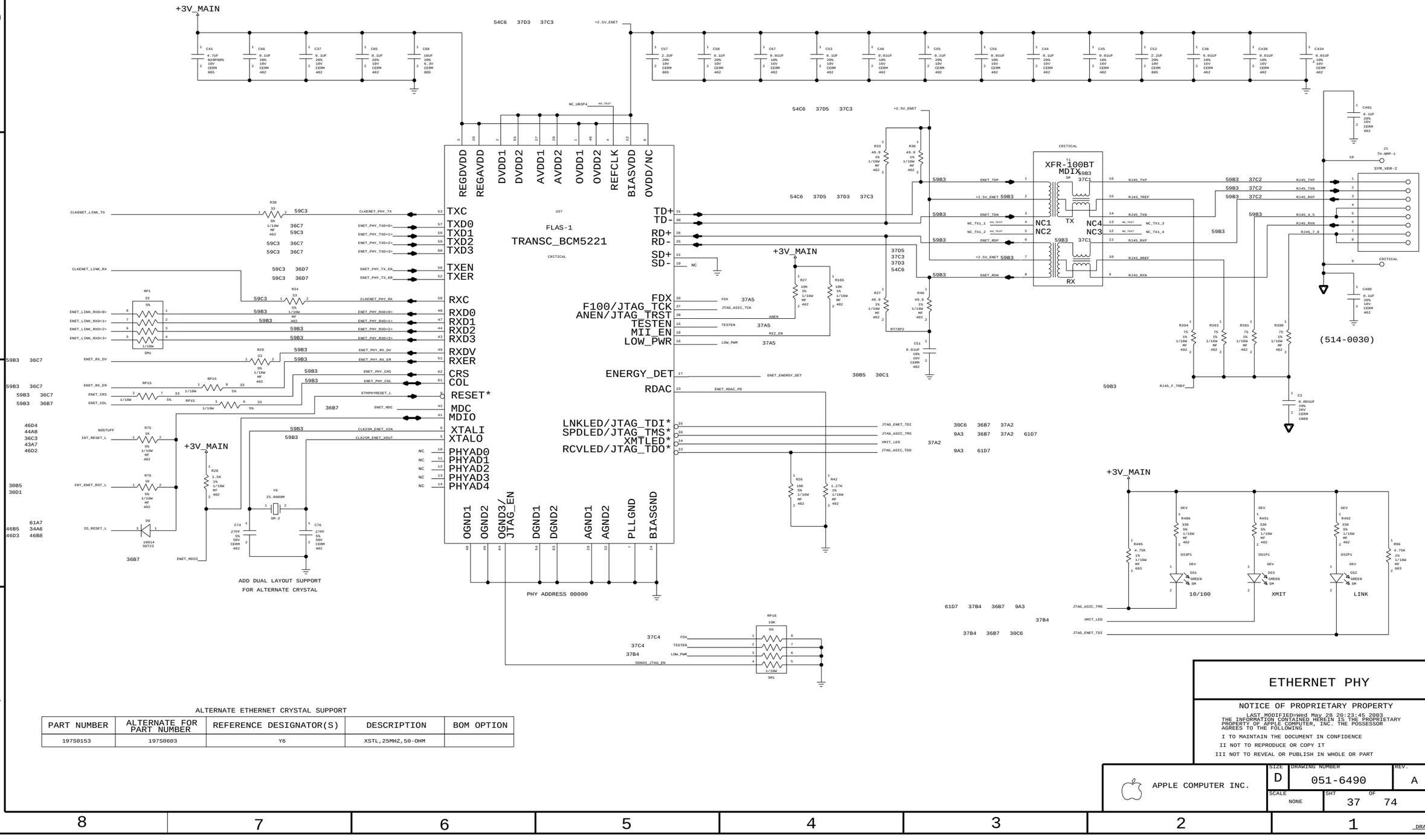
APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6490	A

SCALE	SHT	OF
NONE	36	74

DRAWING

CR-37



ALTERNATE ETHERNET CRYSTAL SUPPORT

PART NUMBER	ALTERNATE FOR PART NUMBER	REFERENCE DESIGNATOR(S)	DESCRIPTION	BOM OPTION
197S0153	197S0603	Y6	XSTL,25MHZ,50-OHM	

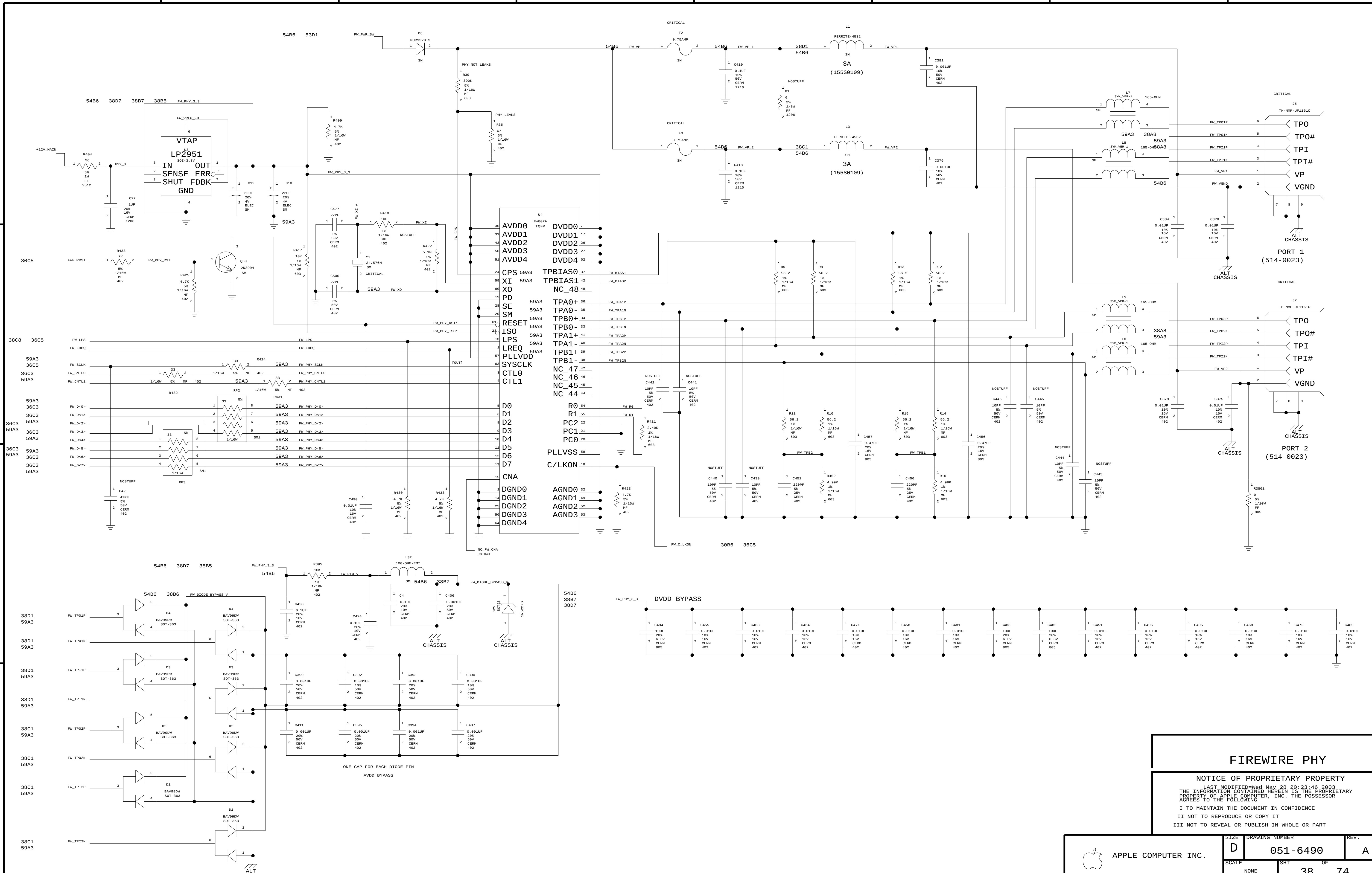
ETHERNET PHY

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6490	A

SCALE	SHT	OF
NONE	37	74

DRAWING



LP2951
VTAP
IN
OUT
SENSE
ERR
SHUT
FDBK
GND
FW802A
AVDD0
AVDD1
AVDD2
AVDD3
AVDD4
CPS
XI
XO
PD
SE
SM
RESET
ISO
LPS
LREQ
PLLVDD
SYSCLK
CTL0
CTL1
D0
D1
D2
D3
D4
D5
D6
D7
CNA
DGND0
DGND1
DGND2
DGND3
DGND4
DVDD0
DVDD1
DVDD2
DVDD3
DVDD4
TPBIAS0
TPBIAS1
NC_48
TPA0+
TPA0-
TPB0+
TPB0-
TPA1+
TPA1-
TPB1+
TPB1-
NC_47
NC_46
NC_45
NC_44
R0
R1
PC2
PC1
PC0
PLLVSS
C/LKON
AGND0
AGND1
AGND2
AGND3
CRITICAL
0.75AMP
FERRITE-4532
3A
(155S0109)
TPO
TPO#
TPI
TPI#
VP
VGND
ALT CHASSIS
PORT 1
(514-0023)
PORT 2
(514-0023)
DVDD BYPASS
ONE CAP FOR EACH DIODE PIN
AVDD BYPASS

FIREWIRE PHY

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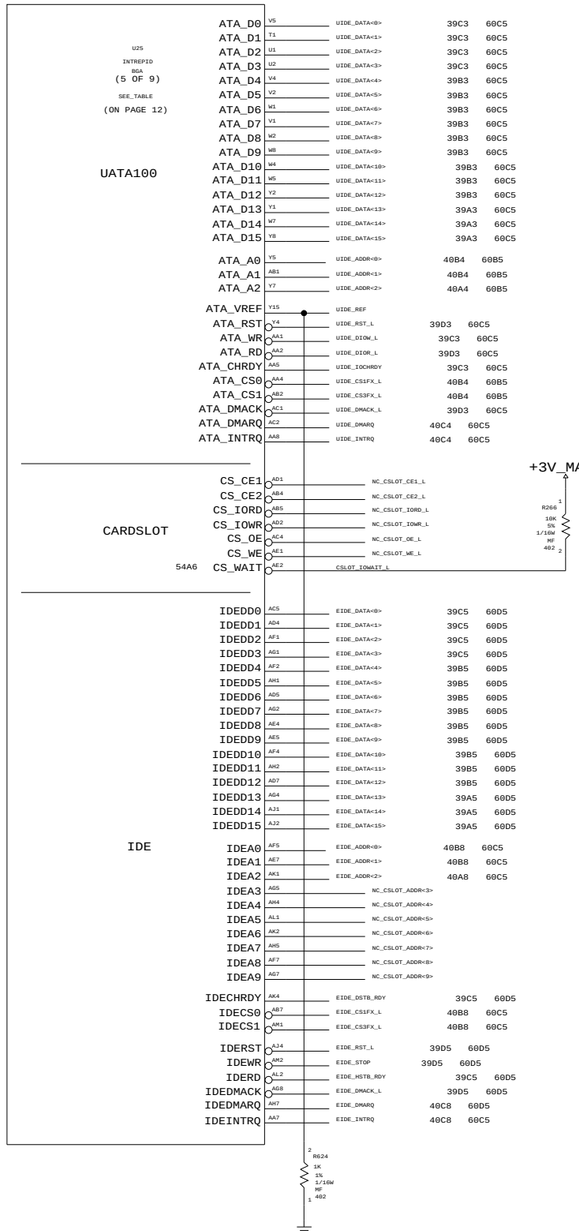
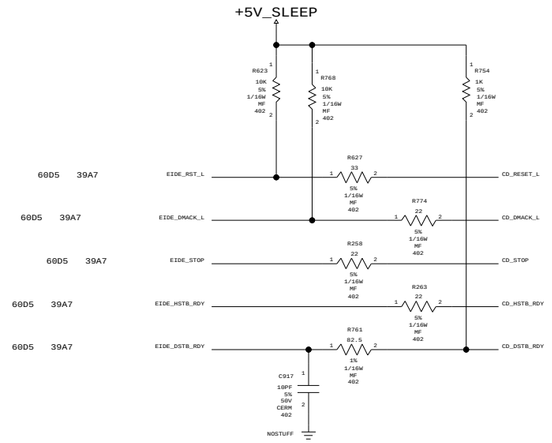
APPLE COMPUTER INC.

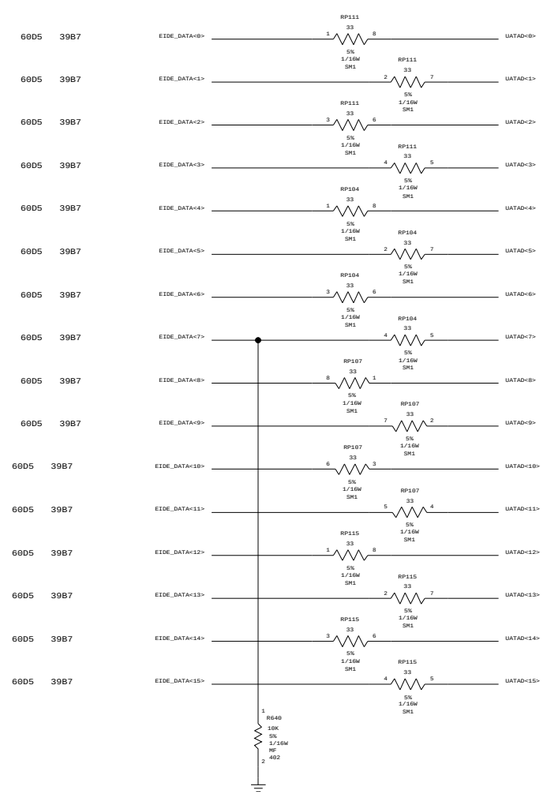
SIZE	DRAWING NUMBER	REV.
D	051-6490	A
SCALE NONE	SHT 38	OF 74

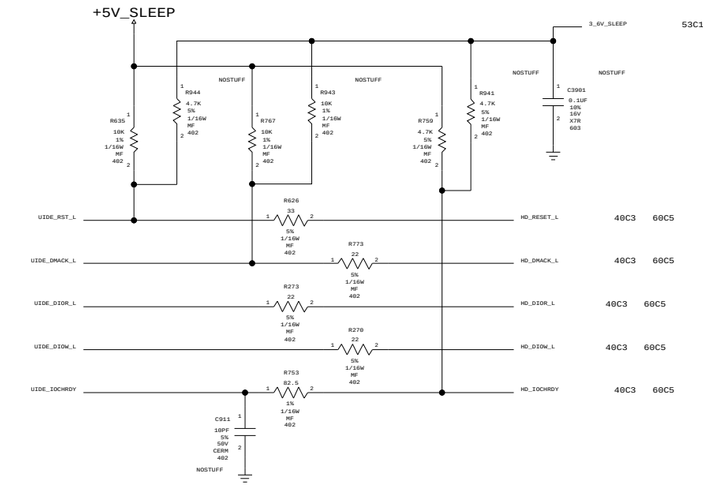
DRAWING

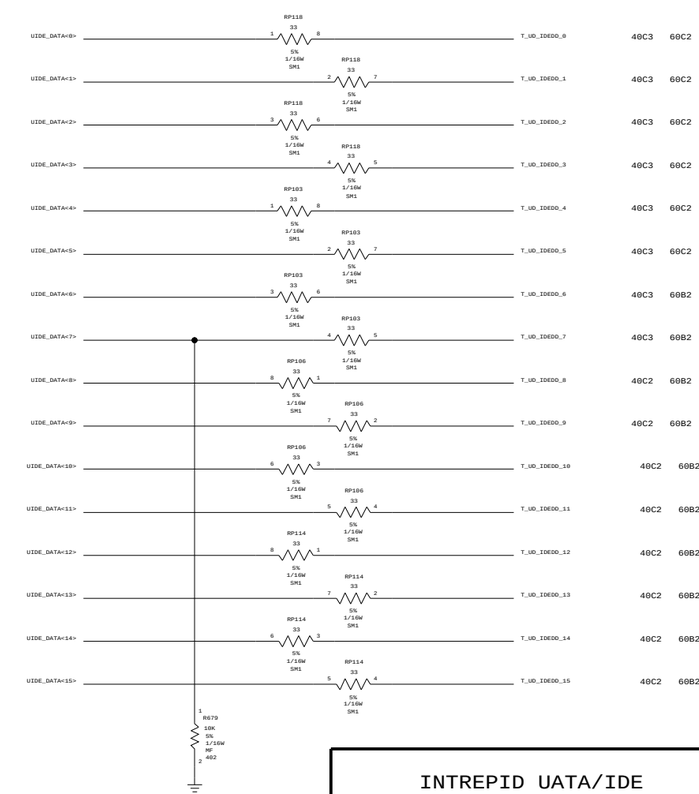
CR-39











INTREPID UATA/IDE

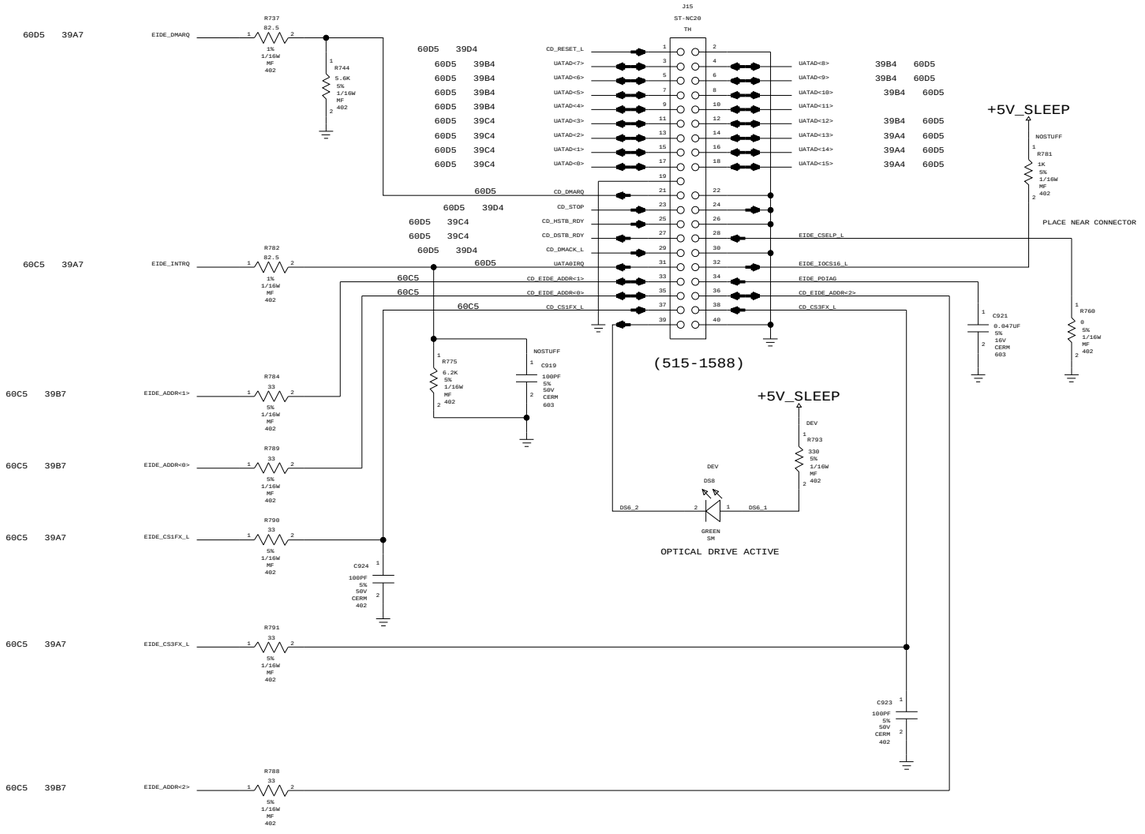
APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6490	A
SCALE: NONE	SHT 39 OF 74	

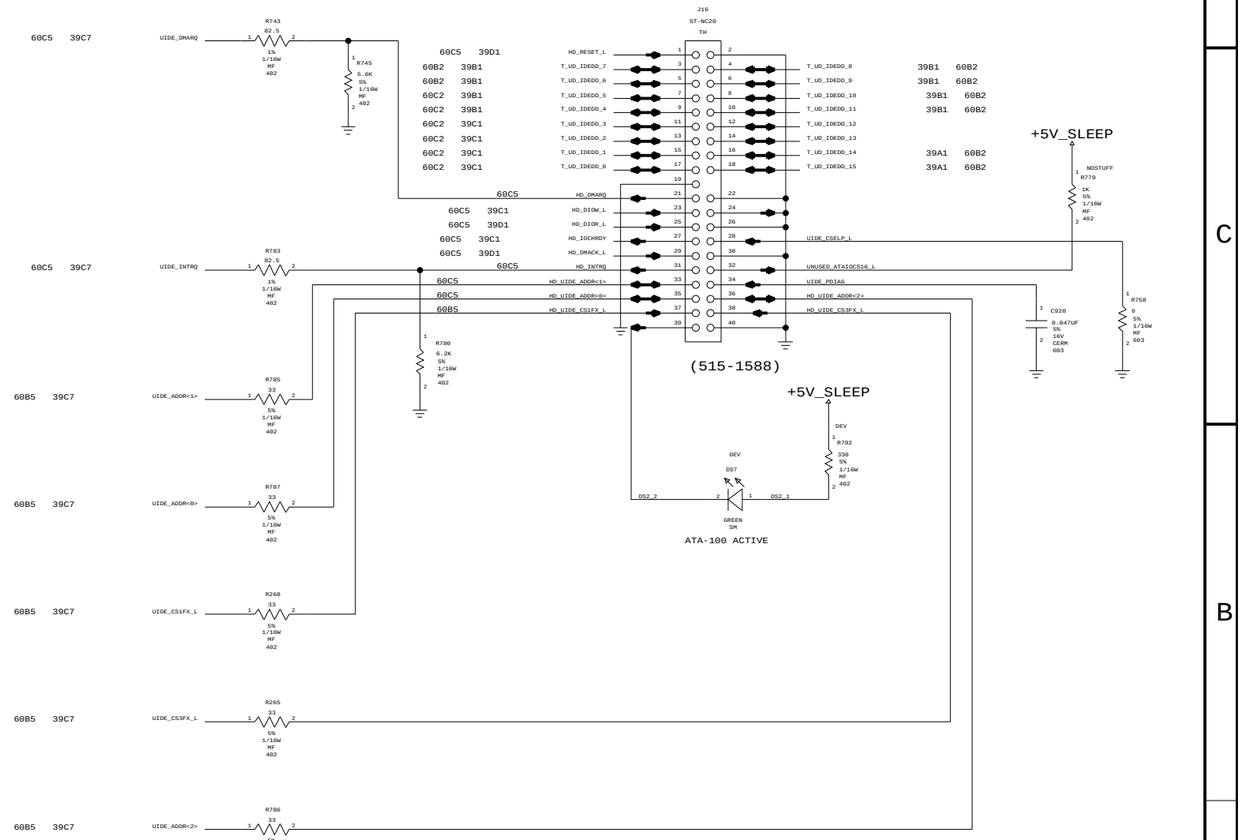
DRAWING

CR-40

OPTICAL DRIVE INTERFACE



ATA-100 INTERFACE



CD/HD CONS

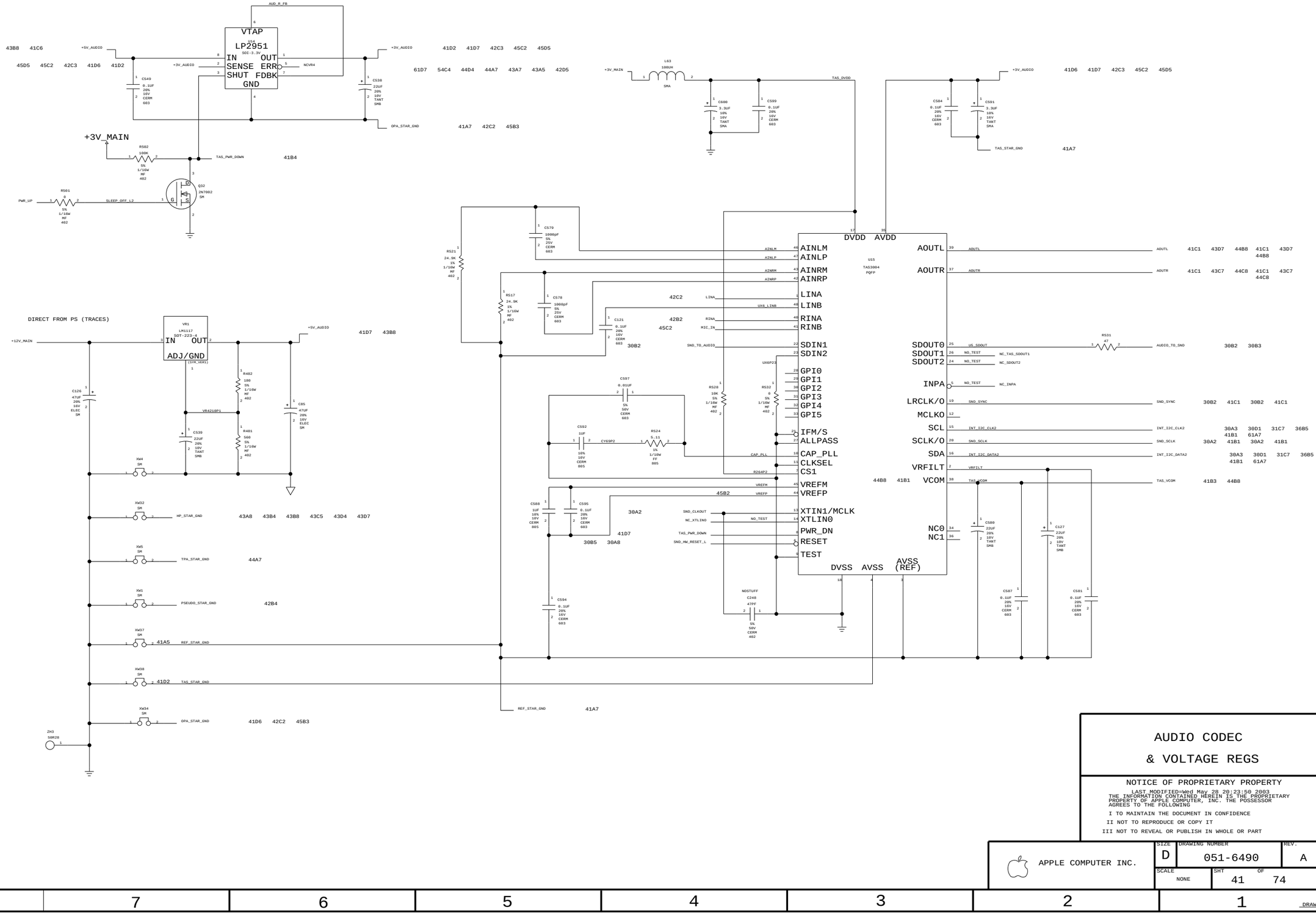
APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6490	A

SCALE	SHT	OF
NONE	40	74

DRAWING

AUDIO CODEC & VOLTAGE REGS



NOTICE OF PROPRIETARY PROPERTY

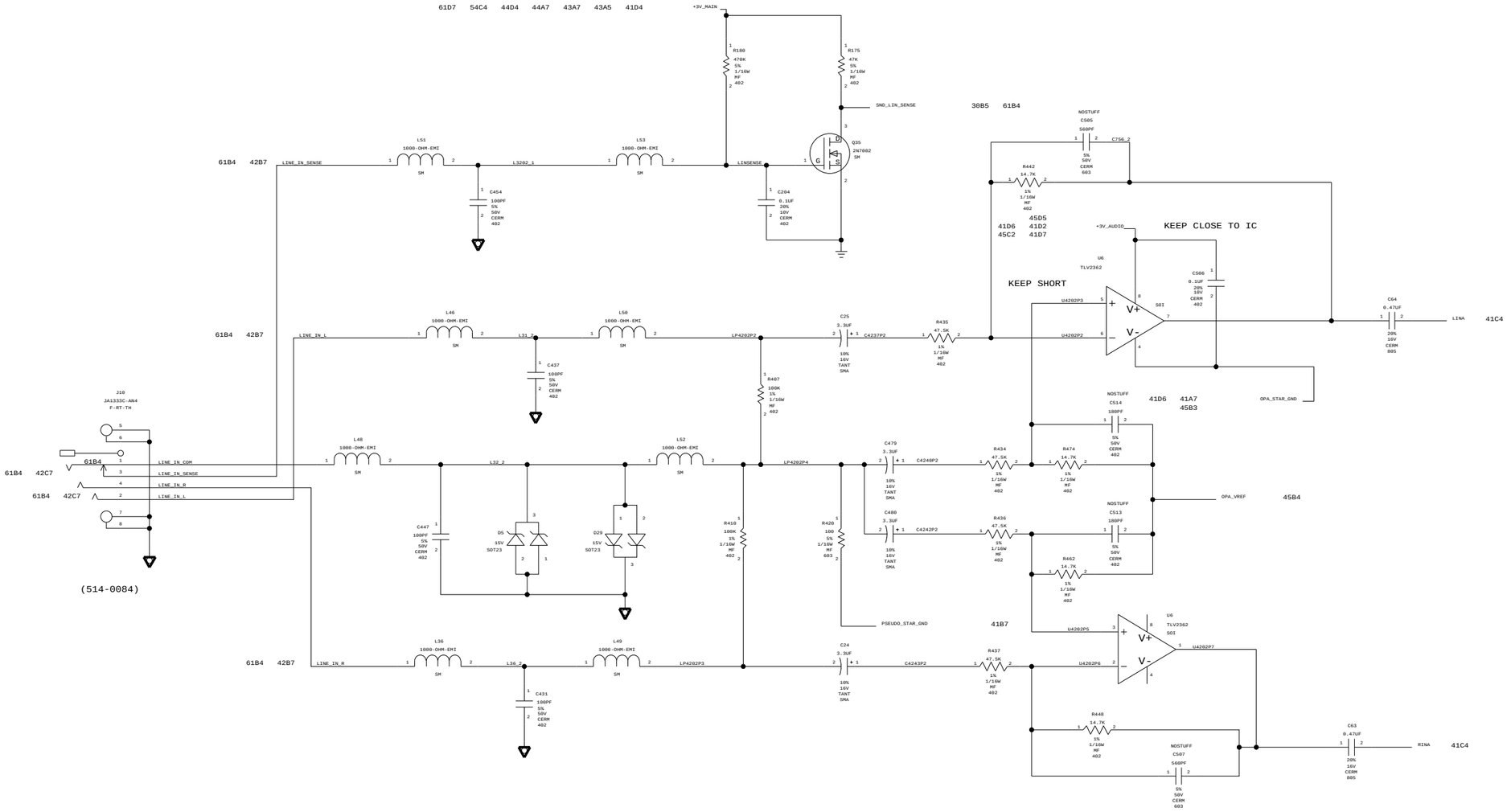
APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6490	A

SCALE	SHT	OF
NONE	41	74

DRAWING

CR-42



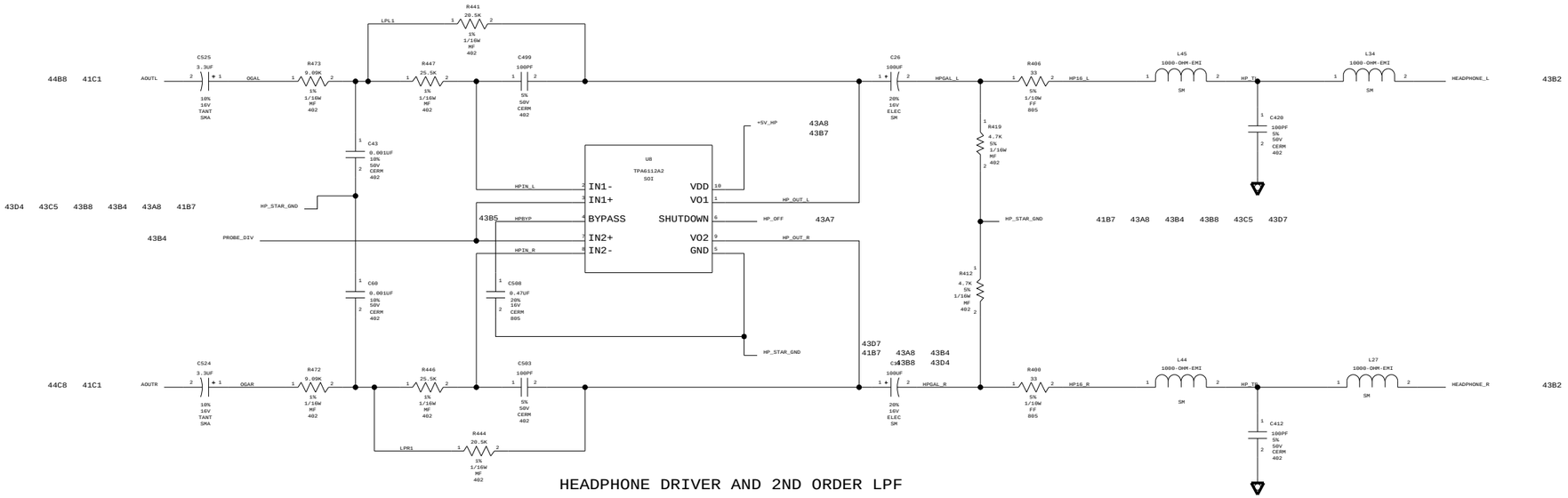
LINE IN BUFFER

APPLE COMPUTER INC.

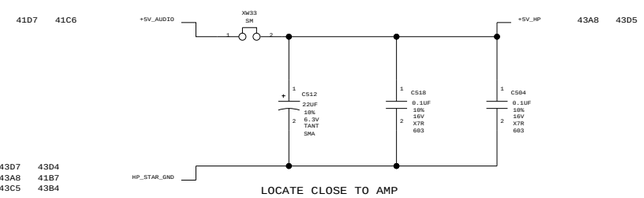
SIZE	DRAWING NUMBER	REV.
D	051-6490	A
SCALE: NONE	SHT 42 OF 74	

DRAWING

CR-43

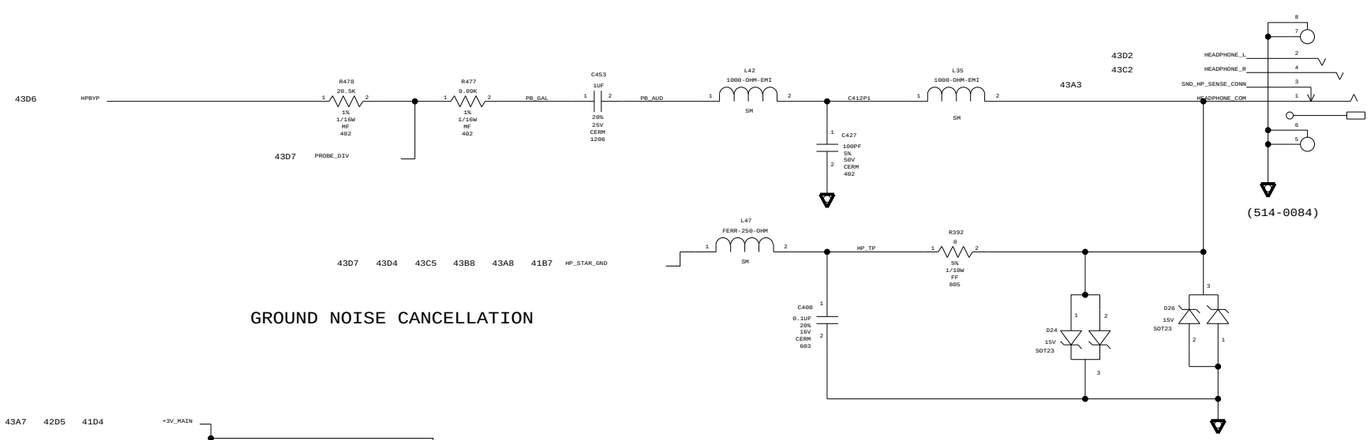


HEADPHONE DRIVER AND 2ND ORDER LPF

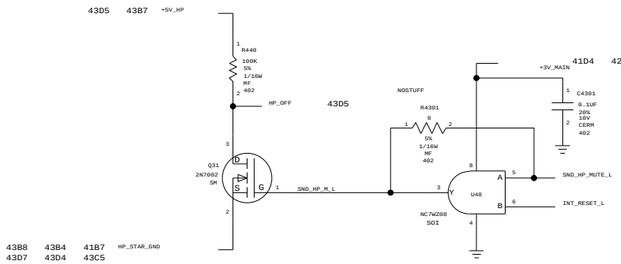


LOCATE CLOSE TO AMP

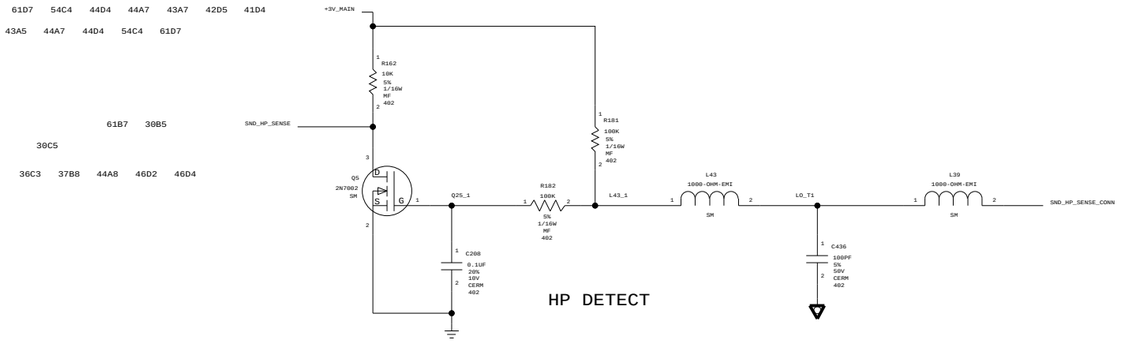
POWER SOURCE



GROUND NOISE CANCELLATION



MUTE & SHUTDOWN



HP DETECT

HEADPHONE OUT AMP

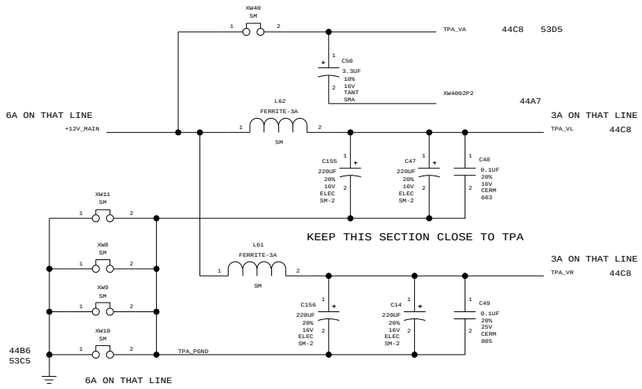
APPLE COMPUTER INC.

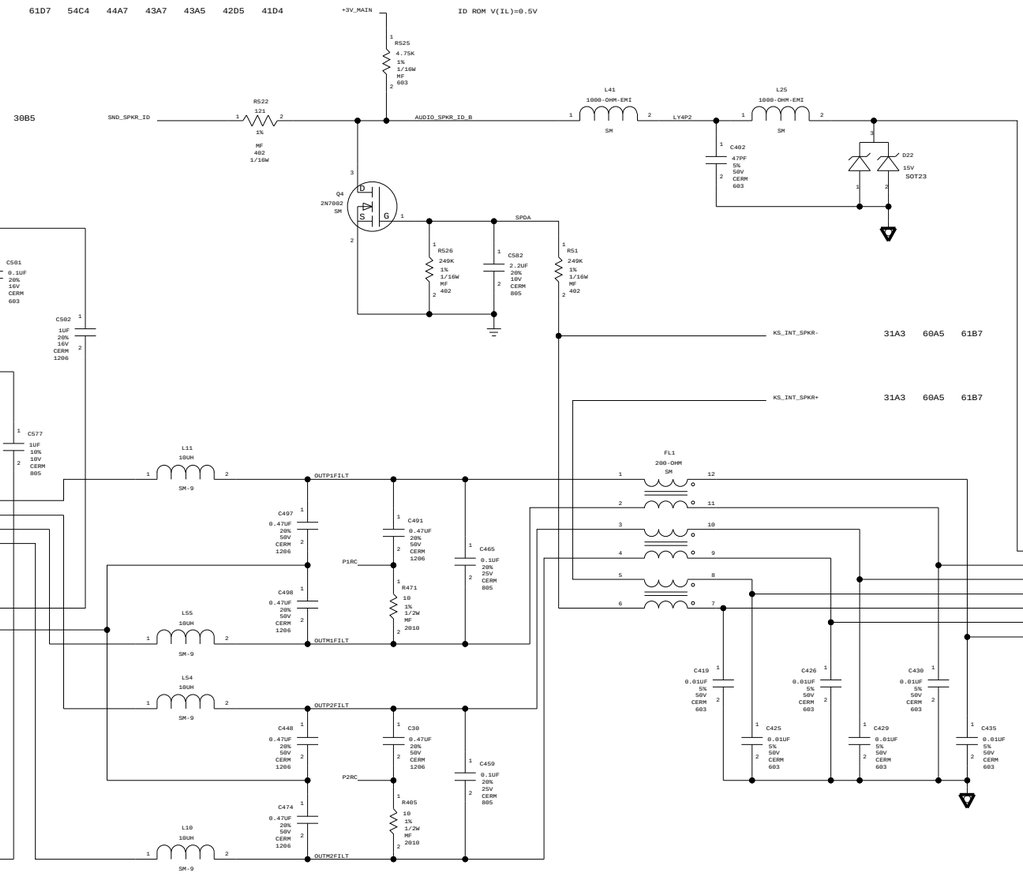
SIZE	DRAWING NUMBER	REV.
D	051-6490	A
SCALE: NONE	SHT 43 OF 74	

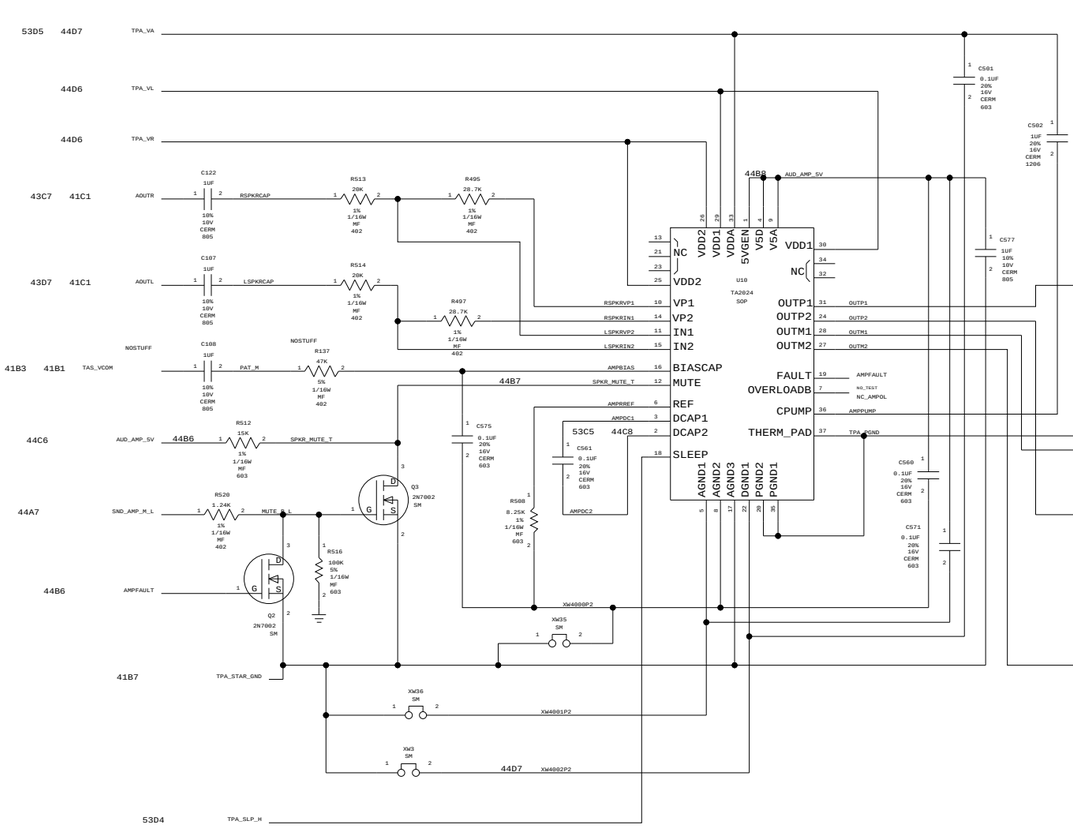
DRAWING

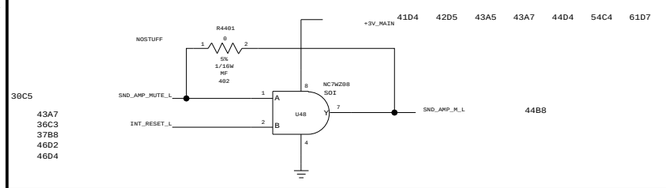
CR-44

8	7	6	5	4	3	2	1









SPEAKER AMP

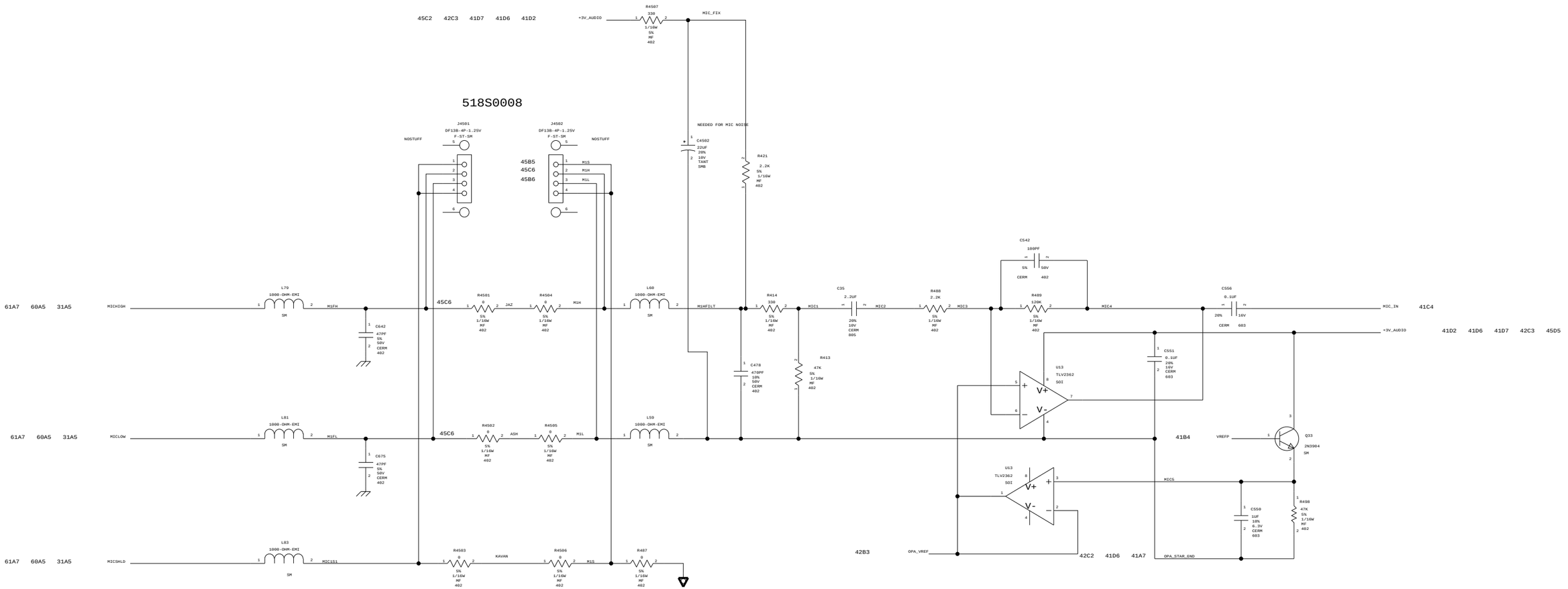
APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6490	A
SCALE: NONE	SHT 44 OF 74	

DRAWING

CR:45

518S0008



PLACE R4501, R4502 AND R4503 NEAR AUDIO

PLACE R4504, R4505 AND R4506 NEAR KITCHENSINK

MIC PREAMP

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6490	A

SCALE	SHT	OF
NONE	45	74

DRAWING

CR-46

PMU SUPPORT

PART NUMBER	QTY	DESCRIPTION	REFERENCE DES	CRITICAL	BOM OPTION
341S1008	1	PMU,M16C62,64KB,PRMGD	U26		
116S1203	1	RES,MF,2K-OHM,1/16W,402	R690		VGER_GOOD
116S1103	1	RES,MF,1K-OHM,1/16W,402	R690		VGER_FIX
525-0057	1	CONN,BATTERY HOLDER	BT1		

PMU NOT RATED STRONG ENOUGH FOR 1K

MAIN RAIL, TO PREVENT LEAKAGE INTO UNPOWERED DEVICES

LOCATE NEAR TO PMU

IIC BUS PULLUPS

BATTERY HOLDER (525-0057)

518-0054

(BACKUP SELECT)

LOW INDICATES DESKTOP SYSTEM

LOW INDICATES IVAD PRESENT

DRIVEN OPEN COLLECTOR NO NEED TO VOLTAGE CONVERT

(WAS KW_SUSPEND_REQ*)

(SEC_FPB_LED*)

(THERMISTOR)

(TRICKLE_DETECT)

(OK TO POWER UP SIGNAL)

ALSO CE* FOR LOADING CODE

ALSO "BUSY" FOR LOADING CODE

ALSO SCLK FOR LOADING CODE

ALSO "RXD" FOR LOADING CODE

ALSO "TXD" FOR LOADING CODE

VOLTAGE DETECTOR MC33465N_22ATR

PMU RESET BUTTON

PMU POWER MGR

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6490	A
SCALE: NONE	SHT 46 OF 74	

DRAWING

+5V_MAIN

DON'T EVER STUFF THIS
CONN NOT FIT ON PCB
FOR DANNY ITANI FMAX!!!

515-1563

CPU VCORE SET FOR 1.5V

KUMA SERVER(1):HARDWARE:KUMA DESIGNS:KUMA POWER SUPPLIES:VCORE WITH AVP TABLES

PART NUMBER	ALTERNATE FOR PART NUMBER	REFERENCE DESIGNATOR(S)	DESCRIPTION	BOM OPTION
128S0018	128S0012	C340,C362,C947,C957	330UF,2.5V,TANT	

CPU & AGP VREGS

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6490	A

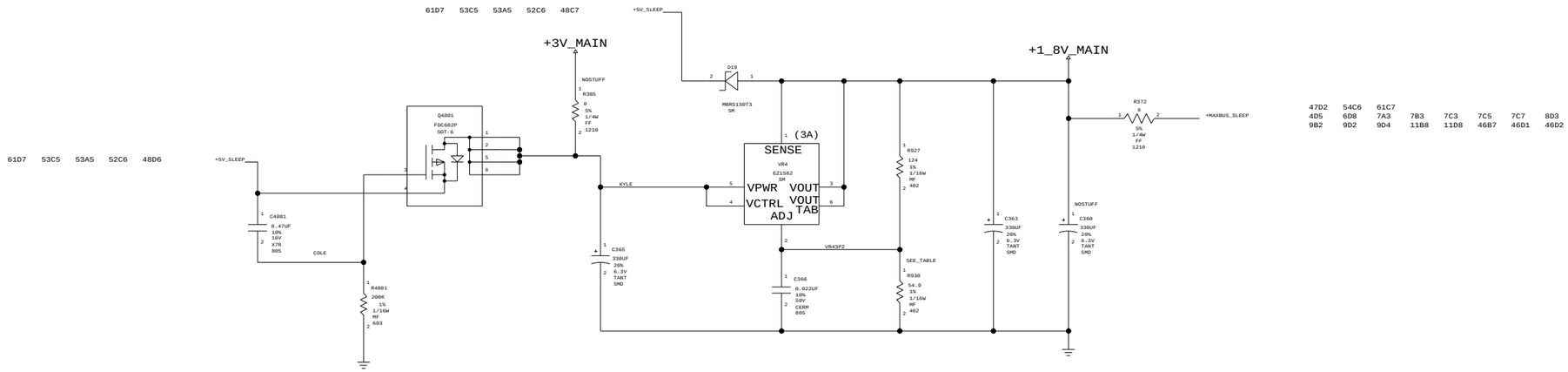
SCALE	SHT	OF
NONE	47	74

DRAWING

CR-48

INTREPID MAXBUS & CPU OVDD POWER CONVERTER

(OFF DURING SLEEP)

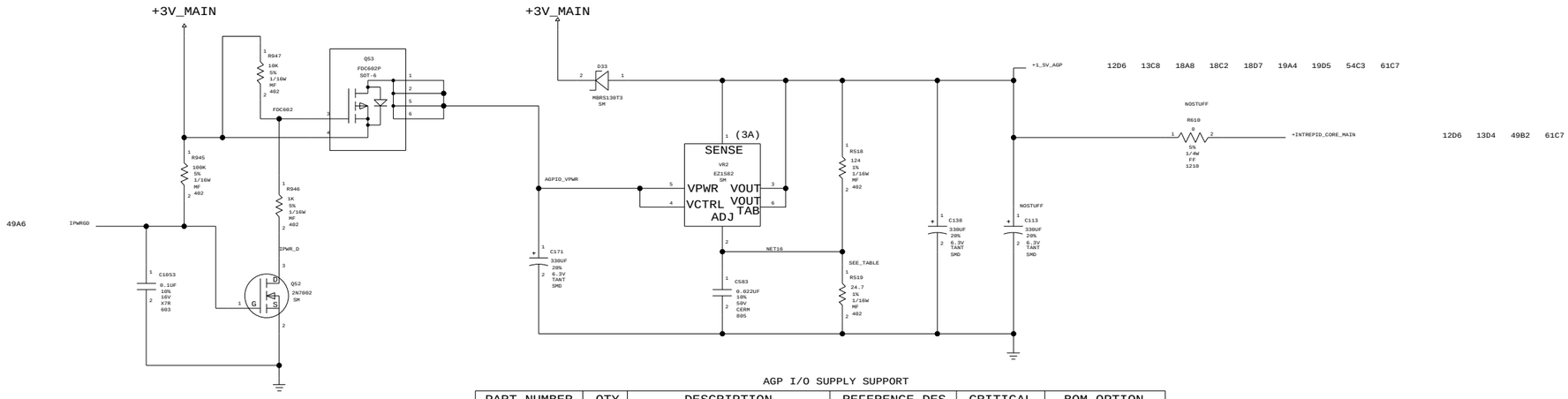


MAXBUS I/O SUPPLY SUPPORT

PART NUMBER	QTY	DESCRIPTION	REFERENCE DES	CRITICAL	BOM OPTION
114S2491	1	RES,FF,24.9-OHM,1%	R930		MAXIO_1'50V
114S3481	1	RES,FF,34.8-OHM,1%	R930		MAXIO_1'65V
114S4421	1	RES,FF,44.2-OHM,1%	R930		MAXIO_1'70V
114S5491	1	RES,FF,54.9-OHM,1%	R930		MAXIO_1'80V

*

AGP I/O POWER CONVERTER



AGP I/O SUPPLY SUPPORT

PART NUMBER	QTY	DESCRIPTION	REFERENCE DES	CRITICAL	BOM OPTION
114S2491	1	RES,FF,24.9-OHM,1%	R519		AGPIO_1'50V
114S3481	1	RES,FF,34.8-OHM,1%	R519		AGPIO_1'65V
114S4421	1	RES,FF,44.2-OHM,1%	R519		AGPIO_1'70V
114S5491	1	RES,FF,54.9-OHM,1%	R519		AGPIO_1'80V

*

CPU & AGP VREGS

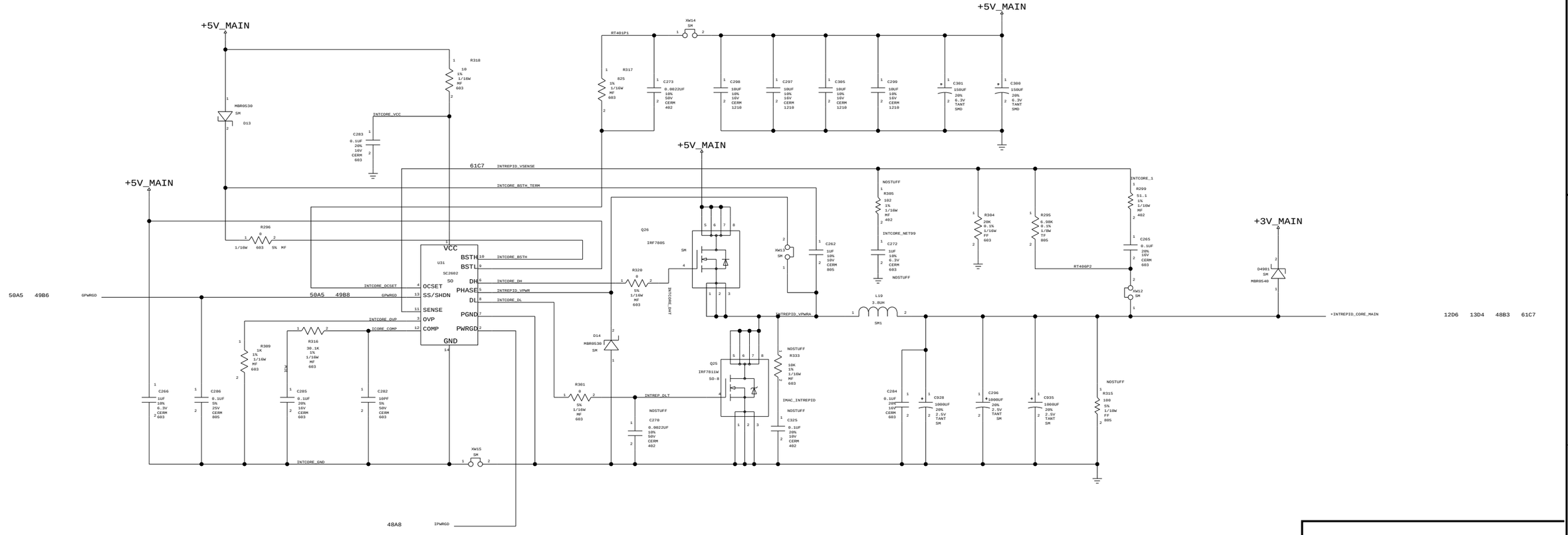
APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6490	A

SCALE	SHT	OF
NONE	48	74

DRAWING

CR-49



TABLES FOR INTREPID CORE RESISTOR VALUES TO VOLTAGES ARE LOCATED AT
KUMA SERVER(1):HARDWARE:KUMA DESIGNS;KUMA POWER SUPPLIES;ICORE R TOLERANCE

INTREPID CORE

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6490	A

SCALE	SHT	OF
NONE	49	74

DRAWING

CR-50

61D7 54C1 53D7 53B7 53A7 53A4 52D6
50C4 47D7 47D3 47B4 46D8 44D8 41C8 38D8
52D4 52C6 52C4 52B4 51D7 51D4 51C4 50C8

+12V_MAIN

R523 10 1% 1/16W MF 603

D30 MBR0530 SM

GCORE_VCC

GCORE_BSTH_TERM

C589 0.1UF 20% 16V CERM 603

R505 20 1% 1/16W MF 603

+12V_MAIN

C220 150UF 20% 16V ELEC SM-1

C237 150UF 20% 16V ELEC SM-1

C634 10UF 10% 16V CERM 1210

C633 10UF 10% 16V CERM 1210

C631 10UF 10% 16V CERM 1210

C632 10UF 10% 16V CERM 1210

XW7 SM

RB37P1

C596 330PF 10% 50V CERM 603

R529 1K 1% 1/16W MF 603

50B6

GCORE_VSENSE

R504 20K 1% 1/16W MF 603

NOSTUFF R493 51.1 1% 1/16W MF 603

GCORE_2

NOSTUFF C557 2.2UF 20% 10V CERM 805

R499 5.23K 1% 1/16W MF 603

R496 51.1 1% 1/16W MF 402

GCORE_1

C564 0.1UF 20% 16V CERM 603

RB22P2

XW2 SM

+2_5V_MAIN

D34 SM MBRS130T3

C576 0.1UF 20% 25V CERM 603

L12 2.2UH SMC

C543 0.1UF 20% 16V CERM 603

C528 1000UF 20% 2.5V TANT SM

C106 1000UF 20% 2.5V TANT SM

C558 1000UF 20% 2.5V TANT SM

C132 1000UF 20% 2.5V TANT SM

C59 1000UF 20% 2.5V TANT SM

C88 1000UF 20% 2.5V TANT SM

C71 1000UF 20% 2.5V TANT SM

GRAPH_CORE

NOSTUFF R475 100 5% 1/10W FF 805

GRAPHICS CORE SUPPLY 1.6V

53D7 53B7 53A7
52C6 52C4 52B4
50D6 50C8 47D7
44D8 41C8 38D8
47D3 47B4 46D8
51D7 51D4 51C4
53A4 52D6 52D4
61D7 54C1

+12V_MAIN

Q9 IRLR8503 TO-252AA

R150 0 5% 1/16W MF 603

QT2P1

XW6 SM

Q8 IRLR8503 TO-252AA NOSTUFF

D32 SM MBR0530

QT2P3

Q7 IRLR8203 TO-252AA

RS15 0 5% 1/16W MF 603

QT1P1

XW39 SM

Q34 IRLR8203 TO-252AA NOSTUFF

CS86 NOSTUFF 0.0022UF 10% 50V CERM 402

51B5 50B6 MPWRGD

51B5 50B7 MPWRGD

50C2

GCORE_OCSET
GCORE_VSENSE
GCORE_OVP
GCORE_COMP

U40 SC2602

VCC
SO
OCSET
SS/SHDN
SENSE
OVP
COMP
GND
BSTH
BSTL
DH
PHASE
DL
PGND
PWRGD

GCORE_BSTH
(+12V_MAIN)
GCORE_DH
GRAPHICS_VPWR
GCORE_DL

R527 1K 1% 1/16W MF 603

R503 3.92K 1% 1/16W MF 603

RB27-1

C563 100PF 5% 50V CERM 603

CS72 0.1UF 5% 25V CERM 805

CS52 0.1UF 20% 16V CERM 603

CS85 0.1UF 20% 16V CERM 603

GCORE_GND

GRAPHICS CORE IS SET TO 1.65V

GPWRGD 49B6 49B8

GRAPHICS CORE

NOTICE OF PROPRIETARY PROPERTY

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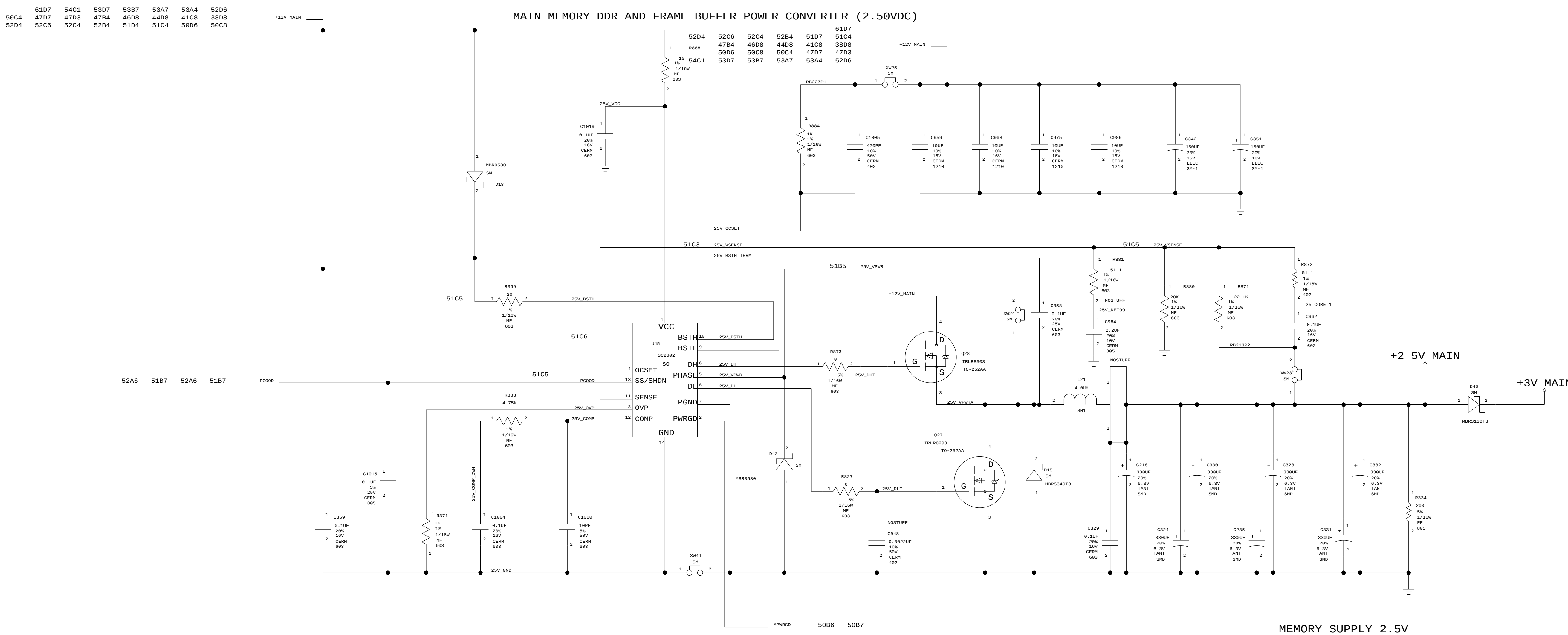
APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6490	A
SCALE: NONE	SHT 50 OF 74	

DRAWING



MEMORY PS

NOTICE OF PROPRIETARY PROPERTY

LAST MODIFIED=Wed May 28 20:24:01 2003

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APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6490	A
SCALE NONE	SHT 51	OF 74

DRAWING

CR-52

8	7	6	5	4	3	2	1

61D7 54C1 53D7 53B7 53A7 53A4 52D4
59C4 47D7 47D3 47B4 46D8 44D8 41C8 38D8
52C6 52C4 52B4 51D7 51D4 51C4 50D6 50C8

+12V_MAIN

C339 100UF 20% 35V ELEC SM-1
C349 100UF 20% 35V ELEC SM-1
C338 100UF 20% 35V ELEC SM-1

3.8V_TRICKLE
R682 10K 1% 1/16W MF 402

J17
M-ST-43045
TH
(517-0886)

L85 FERR-250-OHM SM
L86 FERR-250-OHM SM
L84 FERR-250-OHM SM

PWR_FAIL_T
+12VSD_T
+5VSD_T
FW_PWR

PWR_FAIL*
+12V_SLEEP
+5V_SLEEP
FW_PWR

C241 10UF 10% 16V CERM 1210
C295 47UF 20% 16V ELEC SM

54B6 52C7 53D3

DEV
R378 787 1% 1/16W MF 603
MAIN_SUPPLY_LED
DEV
D59 GREEN SM

C978 10UF 10% 16V CERM 1210
C979 10UF 10% 16V CERM 1210
C956 10UF 10% 16V CERM 1210
C955 10UF 10% 16V CERM 1210
C356 100UF 20% 35V ELEC SM-1
C354 100UF 20% 35V ELEC SM-1
C355 100UF 20% 35V ELEC SM-1

C971 10UF 10% 16V CERM 1210
C970 10UF 10% 16V CERM 1210
C086 10UF 10% 16V CERM 1210
C085 10UF 10% 16V CERM 1210

46B1

31A3 31A8 31C5 53A4 53D6 54C1 61D7

48C7 48D6 53A5 53C5 61D7

61D4 53C7 53C1 53B7 52C8 41C8

+12V_MAIN
R323 100K 5% 1/16W MF 603
Q23 2N7002 SM
Q24 2N7002 SM
PWR_UP
SLEEP
RUNSS

52B8
SW5V_RUNSS
Q22 2N7002 SM
R322 0 5% 1/16W MF 603
SW5V_RUNSSR
SW3V_RUNSS
Q21 2N7002 SM
52B6
NOSTUFF
C303 0.1UF 20% 16V CERM 402

61C4 46B5
51C4 38D8 41C8 47D3 47D7
52D6 44D8 50C4 51D4 53B7
53A4 46D8 50C8 51D7 53D7
53A7 47B4 50D6 52B4 54C1
52C6 61D7 52D4

61D4 53C7
52C4 41C8
53C1 53B7

PWR_UP*
R721 22.1K 1% 1/16W MF 603
Q39 2N3904 SM

52D6 53A4 53A7 53B7 53D7 54C1 61D7
38D8 41C8 44D8 46D8 47B4 47D3 47D7 50C4
50C8 50D6 51C4 51D4 51D7 52B4 52C4 52D4

+5V_MAIN

SW3V5V_12V1N
R806 4.7 5% 1/16W MF 603
+12V_MAIN

C937 0.1UF 20% 25V CERM 603
R794 0 5% 1/16W MF 603
D38 SM MBR0540
RT418P2
SW3V5V_VIN
SW3V5V_INTVCC
SW3V5V_SGND

52A7 52A8 52B7 52B8 52B5 52A5 52A4 52A5 52A5 52A5 52A5

U33 LTC3707 SSOP
EXT INT VIN 3.3 VCC VCC VOUT
NC_SW3V5V_330UT

SW5V_TG1	TG1	TG2	SW3V_TG2
SW5V_BOOST1	BOOST1	BOOST2	SW3V_BOOST2
SW5V_SW1	SW1	SW2	SW3V_SW2
SW5V_BG1	BG1	BG2	SW3V_BG2
SW5V_SNSP	SNS1+	SNS2+	SW3V_SNSP
SW5V_SNSM	SNS1-	SNS2-	SW3V_SNSM
SW5V_VOSNS1	VOSNS1	VOSNS2	SW3V_VOSNS
SW5V_ITH1	ITH1	ITH2	SW3V_ITH2
SW5V_RUNSS	RUN/SS1	RUN/SS2	SW3V_RUNSS
SW3V5V_SGND	FCB	PGOOD	PGOOD
	FREQSET		
STBYMD	STBYMD		
	SGND	PGND	

52C4 52C3

R336 10 1% 1/16W MF 603
SW3V_TG2R
Q46 IRF7805 SM

R811 10 1% 1/16W MF 603
D16 SM MBR0540
SW3V_BOOST2R
C941 0.22UF 10% 50V CERM 1210

52B6 SW3V_SW2
L23 10UH SM1
SW3V_SW2A

R337 0 MF 5% 1/16W 603
SW3V_BG2R
Q45 IRF7811W SO-8
NOSTUFF
C344 0.01UF 5% 50V CERM 603
D39 SM MBRS340T3

R888 0.010 1% 1W MF 2512
R814 0.010 1% 1W MF 2512
NOSTUFF
XW20 SM
XW19 SM

+3V_MAIN

C327 150UF 20% 6.3V TANT SMD
C326 150UF 20% 6.3V TANT SMD
C328 150UF 20% 6.3V TANT SMD
C934 10UF 10% 16V CERM 1210
C926 0.1UF 20% 16V CERM 603
C927 0.01UF 5% 50V CERM 603

+5V_MAIN
XW17 SM
C930 180PF 5% 50V CERM 402
R799 107K 1% 1/16W MF 603
VOSNS1

C931 0.001UF 10% 50V CERM 402
R802 10 1% 1/16W MF 603
R803 10 1% 1/16W MF 603
SW3V_3VSENSE
5V_XRA
XW22 SM

R804 62K 5% 1/16W MF 603
C333 180PF 5% 50V CERM 402
VOSNS2

52A7
SW5V_RUNSS
52D3
52C7 52B8 52A8 52A7 52B7
SW3V5V_SGND
C318 470PF 10% 50V CERM 402
C317 1000PF 5% 25V CERM 603
SW5VITH1R
R331 15K 1% 1/16W MF 603
SW3V5V_SGND
STBYMD

C341 4.7UF 20% 16V CERM 1206-1
C321 0.01UF 5% 50V CERM 603

D17 SM MBR0540
SW3V5V_INTVCC
(THIS PAGE)
52C6
R807 0 1/16W MF 5% 603
SW5V_TG1
SW5V_TG1R
Q48 IRLR8503 TO-252AA
R795 20K 1% 1/16W MF 603
52B7
C940 0.22UF 10% 50V CERM 1210
R335 10 1% 1/16W MF 603
SW5V_BOOST1
RB160P1
SW5V_SW1
52B7 52A5
SW5V_SW1
SW5V_BG1R
SW5V_BG1
SW5V_SNSP
SW5V_SNSM
R810 0 MF 5% 1/16W 603
C932 0.001UF 10% 50V CERM 402
R797 10 1% 1/16W MF 603
R798 10 1% 1/16W MF 603
Q47 IRLR8203 TO-252AA
NOSTUFF
C938 0.01UF 5% 50V CERM 603
D40 SM MBRS340T3
SW5V_3VSENSE
SW5V_SNSMA

L22 4.8UH SM1
SW5V_SW1A
R815 0.010 1% 1W MF 2512
R805 0.010 1% 1W MF 2512
XW18 SM
XW16 SM
C308 150UF 20% 6.3V TANT SMD
C310 150UF 20% 6.3V TANT SMD

D37 SM MBRS130T3

+5V_MAIN
C309 150UF 20% 6.3V TANT SMD
C306 150UF 20% 6.3V TANT SMD
C307 150UF 20% 6.3V TANT SMD
C302 150UF 20% 6.3V TANT SMD
C287 10UF 10% 16V CERM 1210
C293 0.1UF 20% 16V CERM 603
C294 0.01UF 5% 50V CERM 603

52C7 52A7 52B8
SW3V5V_SGND
C316 220PF 5% 25V CERM 402
SW3V_ITH2
C315 1000PF 5% 25V CERM 603
SW3VITH2R
R330 15K 1% 1/16W MF 603
52B6
XW21 SM

R332 20K 1% 1/16W MF 603
C322 0.01UF 5% 50V CERM 603
C939 2200PF 5% 50V CERM 603
C933 0.01UF 5% 50V CERM 603
52B7 52A8
52C7 52B8
SW3V5V_SGND
PGOOD
51B7

52A4
52B7
52B7
52B7

DC/DC CONVERTER

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6490	A
SCALE: NONE	SHT 52 OF 74	

DRAWING

CR-53

+12V MAIN POWER SWITCH
(OFF DURING SLEEP)

61D7 54C1 53B7
52C4 52B4 51D7 51D4 51C4
47B4 46D8 44D8 41C8 38D8
50D6 50C8 50C4 47D7 47D3
53A7 53A4 52D6 52D4 52C6

+12V_MAIN
Q20 FDC602P SOT-6
+12V_SLEEP
31A3 31A8 31C5 52D6 53A4 54C1 61D7
R769 270K 5% 1/10W MF 402
C915 0.01UF CERM 10% 16V 402
C918 0.0022UF 10% 50V CERM 402
C269 47UF 20% 16V ELEC SM
SW12V_SLEEP
R770 100K 5% 1/16W MF 402
SW12V_SL
Q14 2N7002 SM
53B6
SLEEP_OFF_L
R739 0 5% 1/16W MF 402
61D4 53C1 53B7 52C8 52C4 41C8
PWR_UP

AUDIO SLEEP SWITCH
(OFF DURING SLEEP)

44D7 44C8
TPA_VA
RS07 1M 5% 1/16W MF 402
TPA_SLP_H
44A7
Q6 2N7002 SM
C590 0.1UF 20% 16V CERM 603
SLEEPA_OFF_L
TPA_PGND
RS30 0 5% 1/16W MF 402
44B6 44C8
PWR_UP

FIREWIRE POWER SWITCH

54B6 52C7
Fw_PWR
U35 IRF7410 SO-8
Fw_PWR_SW
38D6 54B6
C19 47UF 20% 16V ELEC SM
C18 0.01UF CERM 5% 50V 603
C473 0.0022UF 10% 50V CERM 402
Q42P4
+5V_MAIN
R23 470K 5% 1/16W MF 603
R21 100K 5% 1/16W MF 603
Q1P3
R22 10K 1% 1/16W MF 603
Q1P1
Q1 2N7002 SM
61D4 41C8 52C4 52C8 53B7 53C1 53C7
PWR_UP

+5V POWER SWITCH
(OFF DURING SLEEP)

+5V_MAIN
Q37 FDC602P SOT-6
+5V_SLEEP
48C7 48D6 52C6 53A5 61D7
C742 0.01UF CERM 10% 16V 402
C773 0.0022UF 10% 50V CERM 402
C238 150UF 20% 6.3V TANT SMD
SWITCHSV_4
SWITCHSV_3
R645 470K 5% 1/16W MF 402
R664 100K 1% 1/16W MF 402
Q38 2N7002 SM
61D4 53C7 53C1 52C8 52C4 41C8
PWR_UP
53C7
R685 0 5% 1/16W MF 402
SLEEP_OFF_L
LED_RET
31A3 54B3
Q17 2N7002 SM
CPU_SLEEPIN
Q15 2N7002 SM
+12V_MAIN
R738 4.7K 5% 1/16W MF 402
Q16 2N7002 SM
61D4 46C7
POWER_UP*
+3V_MAIN
DEV
R302 330 5% 1/16W MF 402
52C6 48D6 48C7 61D7 53C5
SLEEPLED_TERM
DS6 GREEN SM
SLEEP_LED_BD
R741 47K 5% 1/16W MF 402
Q19 2N7002 SM
52D6 52D4 52C6 52C4 52B4 51D7
47D3 47B4 46D8 44D8 41C8 38D8
51D4 51C4 50D6 50C8 50C4 47D7
61D7 54C1 53D7 53B7 53A4
+12V_MAIN
R740 10K 5% 1/16W MF 402
SLEEP2
Q18 2N7002 SM
CPU_STATE_LED*
R751 0 5% 1/16W MF 402
SLEEP1
SLEEP LED

+5V, SLEEP & TESTPOINT LEDS
(TESTPOINT LED IS USED TO FOR SERVICE AND
IF NOT ILLUMINATED, TELLS USER ITS OK TO ADD MEMORY)

+5V_SLEEP
DEV
R300 330 5% 1/16W MF 402
RUNLED1
DS5 GREEN SM
+5V POWER LED

46D6
BT1
+5V_MAIN
+12V_MAIN
+12V_SLEEP
31A3 31A8 31C5 52D6 53D6 54C1 61D7
53A7 53B7 53D7 54C1 61D7
50D6 51C4 51D4 51D7 52B4 52C4 52C6 52D4 52D6
38D8 41C8 44D8 46D8 47B4 47D3 47D7 50C4 50C8
NOSTUFF
R615 0 5% 1/16W MF 402
R607 0 5% 1/16W MF 402
R609 0 5% 1/16W MF 402
R608 0 5% 1/16W MF 402
RT373P1
R612 787 1% 1/16W MF 603
PWR_LED
BT1_LED
R614 470 5% 1/16W MF 402
DS10 RED SM
JA21 TH-TP50
A
GENERAL POWER LED
(NOT ILLUMINATED = OK TO ADD MEMORY)

TMDS POWER CONVERTER & SWITCH
(OFF DURING SLEEP)

VOLTAGE TO SUPPORT 3.3V AT PANEL
VOLTAGE HERE WILL EXCEED 3.3V

Q11 FDC602P SOT-6
+3.3VFPD
26D6 54B6
RS301 0 5% 1/16W MF 402 NOSTUFF
3_6V_SLEEP
39D1
C254 22UF 20% 10V CERM 1210
3_5_HONKER
CRITICAL
+5V_MAIN
SENSE
VR3 EZ1582 SM
VPWR VOUT
VCTRL VOUT
ADJ TAB
HONK_ADJ
R251 102 1% 1/16W MF 402
C246 150UF 20% 6.3V TANT SMD
C654 10UF 10% 16V CERM 1210
C653 10UF 10% 16V CERM 1210
C236 0.022UF 10% 50V CERM 805
R601 182 1% 1/16W MF 402
C257 0.01UF 10% 16V 402 CERM
C252 0.0022UF 10% 50V CERM 402
SWITCHSV_6
R278 100K 1% 1/16W MF 402
R277 10K 5% 1/16W MF 402
R279 10K 5% 1/16W MF 402
TMDS_EN
25C6
C258 0.01UF 20% 16V CERM 402 NOSTUFF
53B1 SWITCHSV_5
SWITCHSV_5
53B3
Q13 2N7002 SM
FPD_PWR_ON
R283 0 5% 1/16W MF 402
FPD_PWR_ON_T
R284 100K 1% 1/16W MF 402

+5V/+12V, AUDIO
FW & TMDS PWR

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6490	A
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DRAWING

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CLOCK POWER CONSTRAINT TABLE

SIG_NAME	MIN_NECK_WIDTH	VOLTAGE	MIN_LINE_WIDTH	
+2_5V_DDR_AVDD	10	2.5	20	10D4
+2_5V_DDR_VDD	10	2.5	20	10D5
+3V_INTSS_AVDD	10	3.3	20	10B7
+3V_INTSS_VDD	10	3.3	20	10B6
PCK2059_VDDI2C	10	2.5	20	10D4

CPU POWER CONSTRAINT TABLE

SIG_NAME	MIN_NECK_WIDTH	VOLTAGE	MIN_LINE_WIDTH									
+MAXBUS_SLEEP	10	1.8	20	4D5	6D8	7A3	7B3	7C3	7C5	7C7	8D3	9B2	9D2	9D4
CPU_AVDD	10	1.85	20	4D3	11B8	11D8	46B7	46D1	46D2	47D2	48D4	61C7		
CPU_VCORE_SLEEP	10	1.85	20	4D3	4D7	9B6	9C2	47B3	47C1	61B4	61D7			

ETHERNET POWER CONSTRAINT TABLE

SIG_NAME	MIN_NECK_WIDTH	VOLTAGE	MIN_LINE_WIDTH			
+2.5V_ENET	10	2.5	20	37C3	37D3	37D5

FIREWIRE POWER CONSTRAINT TABLE

SIG_NAME	MIN_NECK_WIDTH	VOLTAGE	MIN_LINE_WIDTH		
FW_DIO_V	10	3.3	20	38B6	
FW_DIODE_BYPASS_V	10	3.3	20	38B6	38B7
FW_PWR	10	24	20	52C7	53D3
FW_PWR_SW	10	24	20	38D6	53D1
FW_PHY_3_3	10	3.3	20	38B5	38B7 38D7
FW_VGND	10	0	20	38D1	
FW_VP	10	12	20	38D5	
FW_VP1	10	12	20	38D1	38D3
FW_VP2	10	12	20	38C1	38D3
FW_VP_1	10	12	20	38D4	
FW_VP_2	10	12	20	38D4	

GRAPHICS POWER CONSTRAINT TABLE

SIG_NAME	MIN_NECK_WIDTH	VOLTAGE	MIN_LINE_WIDTH					
+3.3VFPD	10	3.6	20	26D6	53C1			
DAC2VDD	10	3.3	20	24C5				
DACVDD	10	3.3	20	24C4				
DDC_VCC_3	10	3.3	20	26A5	26B3	61B7		
DDC_VCC_5	10	5	20	27C4	61B7			
DDR_VREF	10	1.25	20	16B2	16D1	16D8	17D8	
IFPBAVCC	10	3.8	20	25A6	25B4			
IFPDVREF	10	3.8	20	25B4				
INT_TMDS_3V	10	3.6	20	26B3	26C3	26C4	26D5	61C7
GPU_AGP_VREF	10	0.75	20	19A3	19A8			
GPU_FB_VREF	10	1.25	20	20C8				
GRAPH_CORE	10	1.6	20	19D5	25C4	25C6	50B1	
NVPLLVDD	10	3.3	20	24D5				
SGRAVREF	10	1.25	20	22A3	22C4	22C8		
SGRBVREF	10	1.25	20	23A3	23C4	23C8		

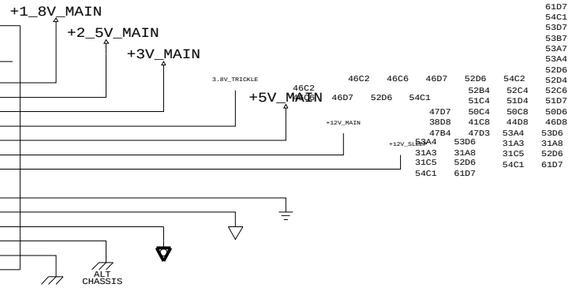
GPU_SBPULLUP	1.5	19A5
GPU_SBPULLDWN	0	19A5
GPU_TMODE	0	19A5
GPU_XTALSSIN	0	24B4
VIPCLK	0	24D4
CSLOT_IOWAIT_L	3.3	39B7
EIDE_CSELP_L	0	40C6
EIDE_IOCS16_L	5	40C6
UIDE_CSELP_L	0	40C2
UNUSED_ATAIOCS16_L	5	40C2

INTREPID POWER CONSTRAINT TABLE

SIG_NAME	MIN_NECK_WIDTH	VOLTAGE	MIN_LINE_WIDTH						
+1_5V_INTREPID_PLL	10	1.5	20	11D3	18D6	30D6	32D5		
+1_5V_INTREPID_PLL1	10	1.5	20	30C4					
+1_5V_INTREPID_PLL2	10	1.5	20	30D4					
+1_5V_INTREPID_PLL3	10	1.5	20	30D4					
+1_5V_INTREPID_PLL4	10	1.5	20	30D4					
+1_5V_INTREPID_PLL5	10	1.5	20	18D5					
+1_5V_INTREPID_PLL6	10	1.5	20	32D4					
+1_5V_INTREPID_PLL7	10	1.5	20	11D2					
+1_5V_INTREPID_PLL8	10	1.5	20	30D4					
+1_5V_AGP	10	1.5	20	12D6	13C8	18A8	18C2	18D7	19A4	19D5	48B4	61C7
INT_AGP_VREF	10	0.75	20	18A7	18C6							

MAIN POWER CONSTRAINT TABLE

SIG_NAME	MIN_NECK_WIDTH	VOLTAGE	MIN_LINE_WIDTH
+1_8V_MAIN	10	1.8	20
+2_5V_MAIN	10	2.5	20
+3V_MAIN	10	3.3	20
3.8V_TRICKLE	10	3.8	20
+5V_MAIN	10	5	20
+12V_MAIN	10	12	20
+12V_SLEEP	10	12	20
GND	10	0	20
AGND	10	0	20
ANALOGGND	10	0	20
ALTCHGND	10	0	20
CHGND	10	0	20



61D7 54C1 53D7 53B7 53A7 53A4 52D6 52D4 52C6 51D7 50D6 50D6 46D8 53D6 31A8 52D6 61D7
46C2 46C6 46D7 52D6 54C2 52B4 52C4 51C4 51D4 47D7 50C4 50C8 38D8 41C8 44D8 47B4 47D3 53A4 53D6 53A4 53D6 31A3 31A8 31C5 52D6 54C1 61D7 31A3 31A8 31C5 54C1

PMU POWER CONSTRAINT TABLE

SIG_NAME	MIN_NECK_WIDTH	VOLTAGE	MIN_LINE_WIDTH					
3.8VH_TRICKLE	10	3.8	20	46C1	46D7			
PMU_AVCC	10	3.5	20	46B5	46D4	61C4		
PMU_POWER	10	3.5	20	31C3	46A5	46B1	46C2	46D5

SYSTEM POWER CONSTRAINT TABLE

SIG_NAME	MIN_NECK_WIDTH	VOLTAGE	MIN_LINE_WIDTH		
+12VSO_FILT	10	12	20	31A5	
FAN_12V_FILT	10	12	20	31A5	61C7
K8SVSD	10	5	20	31A5	61A7
LED_5V	10	5	20	31A8	
LED_5V_FILT	10	5	20	31A5	61A7
LED_RET	10	0	20	31A3	53B6
LED_RET_FILT	10	0	20	31A5	61A7

USB POWER CONSTRAINT TABLE

SIG_NAME	MIN_NECK_WIDTH	VOLTAGE	MIN_LINE_WIDTH					
+3V_INTREPID_USB	10	3.3	20	30C4				
NEC_AVDD	10	3.3	20	34D5				
USB_GND	10	0	20	35A4	35B3	35C3	35D3	
USB_PORT_PWR	10	5	20	35A4	35B3	35C3	35D3	
USB_PWR	10	5	20	61B4	27B5	27C2	27D3	
USB_PWR_EN	10	0	20		35A6			

POWER CONSTRAINTS

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6490	A
SCALE: NONE	SHT 54 OF 74	

DRAWING

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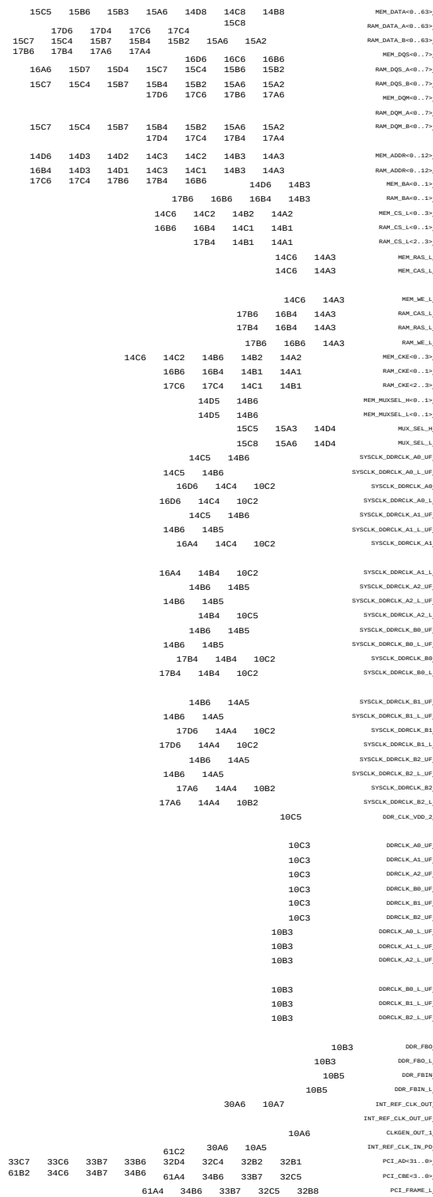

SIG_NAME	RATSNEST_SCHEDULE MATCHED_DELAY	MAX_VIAS	DELAY_RULE	STUB_LENGTH	MIN_NECK_WIDTH NET_SPACING_TYPE	MAX_EXPOSED_LENGTH	NO_TEST	FUNC_TEST	PULSE_PARAM
MEM_DATA<0..63>	MEM_GROUP0:::150	8	:::1300		3				167 MHZ
RAM_DATA_A<0..63>	RAM_GROUP0_A:::180	8	:::1800		3				167 MHZ
RAM_DATA_B<0..63>	RAM_GROUP0_B:::180	2	:::2400		3				167 MHZ
MEM_DQS<0..7>	MEM_GROUP0:::180	3	:::1300		3				167 MHZ
RAM_DQS_A<0..7>	RAM_GROUP0_A:::180	3	:::1700		3				167 MHZ
RAM_DQS_B<0..7>	RAM_GROUP0_B:::180	2	:::2400		3				167 MHZ
MEM_DQM<0..7>	MEM_GROUP0:::180	3	:::1300		3				167 MHZ
RAM_DQM_A<0..7>	RAM_GROUP0_A:::180	3	:::1800		3				167 MHZ
RAM_DQM_B<0..7>	RAM_GROUP0_B:::180	2	:::2400		3				167 MHZ
MEM_ADDR<0..12>	MEM_ADDR:::200	3	:::600						
RAM_ADDR<0..12>	RAM_ADDR:::1300	4	:::3500	200					
MEM_BA<0..1>	MEM_ADDR:::1300	3	:::600						
RAM_BA<0..1>	RAM_ADDR:::1300	4	:::4000	200					
MEM_CS_L<0..3>	MEM_ADDR:::200	3	:::600		10 MIL SPACING				
RAM_CS_L<0..1>	RAM_CS_GROUP0:::400	3	::2000:3500		10 MIL SPACING				
RAM_CS_L<2..3>	RAM_CS_GROUP1:::350	2	::2000:3500		10 MIL SPACING				
MEM_RAS_L	MEM_ADDR:::200	3	:::600						
MEM_CAS_L	MEM_ADDR:::200	3	:::600						
MEM_WE_L	MEM_ADDR:::280	3	:::600						
RAM_CAS_L	RAM_ADDR:::2000	4	:::4000	200					
RAM_RAS_L	RAM_ADDR:::2000	4	:::4000	200					
RAM_WE_L	RAM_ADDR:::2000	4	:::4000	200					
MEM_CKE<0..3>	MEM_ADDR:::200	3	:::600		10 MIL SPACING				
RAM_CKE<0..1>	RAM_CS_GROUP0:::400	3	:::2500		10 MIL SPACING				
RAM_CKE<2..3>	RAM_CS_GROUP1:::350	2	:::2500		10 MIL SPACING				
MEM_MUXSEL_H<0..1>		3	:::1000						
MEM_MUXSEL_L<0..1>		3	:::1000						167 MHZ
MUX_SEL_H		4	:::2000	200					167 MHZ
MUX_SEL_L		4	:::2000	200					167 MHZ
SYSCLK_DDRCLK_A0_UF		3	::500:850		8 MIL SPACING	270			167 MHZ
SYSCLK_DDRCLK_A0_L_UF		3	::500:850		8 MIL SPACING	270			167 MHZ
SYSCLK_DDRCLK_A0	SYSCLK_DDRCLKA0:::100	3	:::2600	200	8 MIL SPACING	270			167 MHZ
SYSCLK_DDRCLK_A0_L	SYSCLK_DDRCLKA0:::100	3	:::2600	200	8 MIL SPACING	270			167 MHZ
SYSCLK_DDRCLK_A1_UF		3	::500:850		8 MIL SPACING	270			167 MHZ
SYSCLK_DDRCLK_A1_L_UF		3	::500:850		8 MIL SPACING	270			167 MHZ
SYSCLK_DDRCLK_A1	SYSCLK_DDRCLKA1:::100	3	:::2600	200	8 MIL SPACING	270			167 MHZ
SYSCLK_DDRCLK_A1_L	SYSCLK_DDRCLKA1:::100	3	:::2600	200	8 MIL SPACING	270			167 MHZ
SYSCLK_DDRCLK_A2_UF		3	::500:850		8 MIL SPACING	270			167 MHZ
SYSCLK_DDRCLK_A2_L_UF		3	::500:850		8 MIL SPACING	270			167 MHZ
SYSCLK_DDRCLK_A2_L		3	:::750		8 MIL SPACING	270			167 MHZ
SYSCLK_DDRCLK_B0_UF		3	::500:850		8 MIL SPACING	270			167 MHZ
SYSCLK_DDRCLK_B0_L_UF		3	::500:850		8 MIL SPACING	270			167 MHZ
SYSCLK_DDRCLK_B0	SYSCLK_DDRCLKB0:::100	3	:::3500	200	8 MIL SPACING	270			167 MHZ
SYSCLK_DDRCLK_B0_L	SYSCLK_DDRCLKB0:::100	3	:::3500	200	8 MIL SPACING	270			167 MHZ
SYSCLK_DDRCLK_B1_UF		3	::500:850		8 MIL SPACING	270			167 MHZ
SYSCLK_DDRCLK_B1_L_UF		3	::500:850		8 MIL SPACING	270			167 MHZ
SYSCLK_DDRCLK_B1	SYSCLK_DDRCLKB1:::100	3	:::3500	200	8 MIL SPACING	270			167 MHZ
SYSCLK_DDRCLK_B1_L	SYSCLK_DDRCLKB1:::100	3	:::3200	200	8 MIL SPACING	270			167 MHZ
SYSCLK_DDRCLK_B2_UF		3	::500:850		8 MIL SPACING	270			167 MHZ
SYSCLK_DDRCLK_B2_L_UF		3	::500:850		8 MIL SPACING	270			167 MHZ
SYSCLK_DDRCLK_B2	SYSCLK_DDRCLKB2:::100	3	:::3500	200	8 MIL SPACING	270			167 MHZ
SYSCLK_DDRCLK_B2_L	SYSCLK_DDRCLKB2:::100	3	:::3500	200	8 MIL SPACING	270			167 MHZ
DDR_CLK_VDD_2		3	:::1000			400			167 MHZ
DDRCLK_A0_UF		3	::400:500		8 MIL SPACING	270			167 MHZ
DDRCLK_A1_UF		3	::400:500		8 MIL SPACING	270			167 MHZ
DDRCLK_A2_UF		3	::400:500		8 MIL SPACING	270			167 MHZ
DDRCLK_B0_UF		3	::400:500		8 MIL SPACING	270			167 MHZ
DDRCLK_B1_UF		3	::400:500		8 MIL SPACING	270			167 MHZ
DDRCLK_B2_UF		3	::400:500		8 MIL SPACING	270			167 MHZ
DDRCLK_A0_L_UF		3	::400:500		8 MIL SPACING	270			167 MHZ
DDRCLK_A1_L_UF		8	::400:500		8 MIL SPACING	270			167 MHZ
DDRCLK_A2_L_UF		3	::400:500		8 MIL SPACING	270			167 MHZ
DDRCLK_B0_L_UF		3	::400:500		8 MIL SPACING	270			167 MHZ
DDRCLK_B1_L_UF		3	::400:500		8 MIL SPACING	270			167 MHZ
DDRCLK_B2_L_UF		3	::400:500		8 MIL SPACING	270			167 MHZ
DDR_FBO		3	:::500		8 MIL SPACING	270			167 MHZ
DDR_FBO_L		3	:::500		8 MIL SPACING	270			167 MHZ
DDR_FBIN		8	::1550:1615		8 MIL SPACING	400			167 MHZ
DDR_FBIN_L		8	::1600:1650		8 MIL SPACING	270			167 MHZ
INT_REF_CLK_OUT		3	:::1500		10 MIL SPACING	270			49.92 MHZ
INT_REF_CLK_OUT_UF		8	:::1500		10 MIL SPACING	270			49.92 MHZ
CLKGEN_OUT_1		3	:::500		10 MIL SPACING	270			66.56 MHZ
INT_REF_CLK_IN_PD		8	:::2500		10 MIL SPACING	270			66.56 MHZ
PCI_AD<31..0>	MIN_DAISY_CHAIN	6	::6000:8000	500					33 MHZ
PCI_CBE<3..0>	MIN_DAISY_CHAIN	6	::6000:8000	500					33 MHZ
PCI_FRAME_L	MIN_DAISY_CHAIN	7	::6000:8000	500					33 MHZ

DIGITAL SIGNAL CONSTRAINTS

SIGNAL CONSTRAINTS

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6490	A

SCALE	SHT	OF
NONE	55	74

DRAWING

CR-56

SIG_NAME	RATSNEST_SCHEDULE MATCHED_DELAY	MAX_VIAS	DELAY_RULE	STUB_LENGTH	NET_SPACING_TYPE	MAX_EXPOSED_LENGTH	DIFFERENTIAL_PAIR	FUNC_TEST	PULSE_PARAM
PCI_IRDY_L	MIN_DAISY_CHAIN	6	::6000:8000	500					33 MHZ
PCI_TRDY_L	MIN_DAISY_CHAIN	6	::6000:8000	500					33 MHZ
PCI_DEVSEL_L	MIN_DAISY_CHAIN	6	::6000:8000	500					33 MHZ
PCI_STOP_L	MIN_DAISY_CHAIN	6	::6000:8000	500					33 MHZ
PCI_PAR	MIN_DAISY_CHAIN	6	::6000:8000	500					33 MHZ
CLK33M_PCI_SLOTB_UF		3	::600:1000	200		450			33 MHZ
CLK33M_PCI_SLOTC_UF		3	::600:1200	200		450			33 MHZ
CLK33M_PCI_SLOTD_UF		3	::600:1000	200		450			33 MHZ
CLK33M_PCI_SLOTB		5	::3000:4000	200	10 MIL SPACING	450			33 MHZ
INT_PCI_FB_OUT		4	:::1000	200		450			33 MHZ
PCI_FBO_PLUS2		4	:::200	200		450			33 MHZ
PCI_FB_PLUS4		4	::1900:2000			450			33 MHZ
PCI_FBI_PLUS2		4	::1900:2000	200		450			33 MHZ
PCI_FBI_EQUAL		4	::2000:3000	200		450			33 MHZ
PCI_FB_PLUS6		4	::5900:6000			450			33 MHZ
INT_PCI_FB_IN		4	:::1080	200		450			33 MHZ
PCIT_AD<31..0>		3	:::1000						33 MHZ
PCIT_CBE<31..0>		3	:::1000						33 MHZ
PCIT_FRAME_L		3	:::1000						33 MHZ
PCIT_IRDY_L		3	:::1000						33 MHZ
PCIT_TRDY_L		3	:::1000						33 MHZ
PCIT_DEVSEL_L		3	:::1000						33 MHZ
PCIT_STOP_L		3	:::1000						33 MHZ
PCIT_PAR		3	:::1000						33 MHZ
AGP_AD<0..15>	AGP_GROUP0:::280	5	:::4500						266 MHZ
AGP_CBE<0..1>	AGP_GROUP0:::330	5	:::4500						266 MHZ
AGP_AD_STB<0>	AGP_GROUP0:::330	4	:::4400	200	8 MIL SPACING	500	AGP_ADSTB0P0		133 MHZ
AGP_AD_STB_L<0>	AGP_GROUP0:::330	4	:::4400	200	8 MIL SPACING	500	AGP_ADSTB0P0		133 MHZ
AGP_AD<16..31>	AGP_GROUP0:::280	5	:::4500						266 MHZ
AGP_CBE<2..3>	AGP_GROUP0:::280	5	:::4500						266 MHZ
AGP_AD_STB<1>	AGP_GROUP0:::280	4	:::4400	200	8 MIL SPACING	500	AGP_ADSTB0P1		133 MHZ
AGP_AD_STB_L<1>	AGP_GROUP0:::330	4	:::4400	200	8 MIL SPACING	500	AGP_ADSTB0P1		133 MHZ
AGP_FRAME_L		5	::4000:4500						66 MHZ
AGP_IRDY_L		5	::4000:4500						66 MHZ
AGP_TRDY_L		5	::4000:4500						66 MHZ
AGP_DEVSEL_L		5	::4000:4500						66 MHZ
AGP_STOP_L		5	::4000:4500						66 MHZ
AGP_PAR		5	::4000:4500						66 MHZ
AGP_SBA<0..7>		5	::4000:4500						
AGP_SB_STB	AGP_GROUP99:::200	5	:::4500				AGP_SBSTB8		
AGP_SB_STB_L	AGP_GROUP99:::200	5	:::4500				AGP_SBSTB8		
AGP_ST<0..2>		5	::4500:5000						
AGP_PIPE_L		5	::4000:4500						
AGP_RBF_L		5	::4000:4500						
AGP_REQ_L		5	::4500:5000						
AGP_GNT_L		5	::4500:5000						
AGP_WBF_L		5	::4000:4500						
AGP_BUSY_L		5	::4500:5000						
STOP_AGP_L		5	::4500:5000						
GPU_AGP_AD<0..15>	GPU_AGP_GROUP0:::100	3	:::600						266 MHZ
GPU_AGP_CBE<0..1>	GPU_AGP_GROUP0:::100	3	:::600						266 MHZ
AGP_AD_STB_GPUUF<0>	GPU_AGP_STB0:::50	3	:::450		8 MIL SPACING	500	GPU_ADSTB0P0		133 MHZ
AGP_AD_STB_L_GPUUF<0>	GPU_AGP_STB0:::50	3	:::800		8 MIL SPACING	500	GPU_ADSTB0P0		133 MHZ
GPU_AGP_AD<16..31>	GPU_AGP_GROUP1:::100	3	:::600						266 MHZ
GPU_AGP_CBE<2..3>	GPU_AGP_GROUP1:::100	3	:::600						266 MHZ
AGP_AD_STB_GPUUF<1>	GPU_AGP_STB1:::50	3	:::800		8 MIL SPACING	500	GPU_ADSTB0P1		133 MHZ
AGP_AD_STB_L_GPUUF<1>	GPU_AGP_STB1:::50	3	:::800		8 MIL SPACING	500	GPU_ADSTB0P1		133 MHZ
GPU_AGP_FRAME_L		3	::300:600						66 MHZ
GPU_AGP_IRDY_L		3	::300:600						66 MHZ
GPU_AGP_TRDY_L		3	::300:600						66 MHZ
GPU_AGP_DEVSEL_L		3	::300:600						66 MHZ
GPU_AGP_STOP_L		3	::300:600						66 MHZ
GPU_AGP_PAR		3	::300:600						66 MHZ
GPU_AGP_SBA<0..7>		3	::300:600						
GPU_AGP_SB_STB	GPU_AGP_SBSTB:::50	3	::300:600				GPU_SBSTB8		
GPU_AGP_SB_STB_L	GPU_AGP_SBSTB:::50	3	::300:600				GPU_SBSTB8		
GPU_AGP_PIPE_L		3	::300:600						
GPU_AGP_RBF_L		3	::300:600						
CLK66M_GPU_UF		3	::1000:1100		10 MIL SPACING	250			66 MHZ
CLK66M_GPU_AGP		4	::3700:3900	200	10 MIL SPACING	250			66 MHZ
INT_AGP_FB_OUT		4	::1400:1500	200		250			66 MHZ
AGP_FBO_EQUAL		4	::900:1080	200		250			66 MHZ
AGP_FB_PLUS2		4	::1900:2000			250			66 MHZ
AGP_FBI_EQUAL		4	:::200	200		250			66 MHZ
INT_AGP_FB_IN		4	:::1200	200		250			66 MHZ
INT_ROM_OVERLAY_PU		3	::600:800		10 MIL SPACING	250			66 MHZ
INT_ANALYZER_CLK		2	:::2800		8 MIL SPACING	250			66 MHZ
CLK33M_PCI_SLOTD		4	::3000:3500	200	8 MIL SPACING	250			33 MHZ

SIGNAL CONSTRAINTS

APPLE COMPUTER INC.

SIZE D | DRAWING NUMBER 051-6490 | REV. A

SCALE NONE | SHT 56 OF 74

DRAWING

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DIGITAL SIGNALS

RATSNEST_SCHEDULE

GROUP	SIG_NAME	MATCHED_DELAY	MAX VIAS	DELAY_RULE	STUB_LENGTH	NET_SPACING_TYPE	MAX EXPOSED LENGTH	PULSE PARAM	
	FBD<0..63>	GPU_FBDATA_A:::225	4	:::800				300 MHZ	20E8 20F8 20G8 21C5 21C8 21D5 21D8
	RFBD<0..63>	RAM_FBDATA_A:::300	4	:::1000				300 MHZ	21C4 21C7 21D4 21D7 22B1 22B5 22C1 22C5
	FBDQM<0..7>	GPU_FBDQM_A:::200	4	:::800				300 MHZ	20D8 20G3
	RFBDQM<0..7>	RAM_FBDQM_A:::200	4	:::1000				300 MHZ	20G2 22C2 22C6
	FBA<0..12>	GPU_FBADDR_A:::200	4	:::700				300 MHZ	20C8 20D8 20E3 20F3
	RFBA<0..11>	RAM_FBADDR_A:::530	5	:::2400	2350			300 MHZ	20E2 20F2 22C2 22C6 22D2 22D6
	FBABA<0..1>	GPU_FBADDR_A:::200	4	:::600				300 MHZ	20C8 20E3
	RFBABA<0..1>	RAM_FBADDR_A:::530	5	:::2400	50			300 MHZ	20E2 22C2 22C6
	FBARAS_L	GPU_FBCNTL_A:::200	4	:::400				300 MHZ	20C8 20G3
	FBACAS_L	GPU_FBCNTL_A:::200	4	:::400				300 MHZ	20C8 20G3
	FBAWE_L	GPU_FBCNTL_A:::200	4	:::400				300 MHZ	20C8 20F3
	FBACS0_L	GPU_FBCNTL_A:::200	4	:::400				300 MHZ	20C8 20F3
	FBACKE	GPU_FBCNTL_A:::200	5	:::400	100			300 MHZ	20D3 20D7
	RFBARAS_L	RAM_FBCNTL_A:::350	5	:::2700	50			300 MHZ	20G2 22B2 22B6
	RFBACAS_L	RAM_FBCNTL_A:::500	5	:::2700	50			300 MHZ	20G2 22B2 22B6
	RFBAWE_L	RAM_FBCNTL_A:::500	5	:::2700	50			300 MHZ	20F2 22B2 22B6
	RFBACS0_L	RAM_FBCNTL_A:::350	5	:::2700	50			300 MHZ	20F2 22B2 22B6
	RFBACKE	RAM_FBCNTL_A:::500	5	:::2700	50			300 MHZ	20D2 22C2 22C6
	FBDQS<0..7>	GPU_FBDQS_A:::100	3	:::350				300 MHZ	20C7 21A8
	FBDQSTERM<0..7>	FB_DQSTERM_A:::50	3	:::1500		10 MIL SPACING		300 MHZ	21A7
	RFBDQS<0..7>	RAM_FBDQS_A:::55	3	:::150		10 MIL SPACING		300 MHZ	21A6 22C2 22C6
	FBACLK0	GPU_FBCLK_A:::50	3	:::150			200	300 MHZ	20D7 21C3
	FBACLK0_L	GPU_FBCLK_A:::50	3	:::150			200	300 MHZ	20D7 21C3
	FBACLK1	GPU_FBCLK_A:::50	3	:::150			200	300 MHZ	20D7 21D3
	FBACLK1_L	GPU_FBCLK_A:::50	3	:::150			200	300 MHZ	20D7 21D3
	RFBACLK1	RAM_FBCLK_A:::80	3	:::2500			200	300 MHZ	21D1 22C2
	RFBACLK1_L	RAM_FBCLK_A:::80	3	:::2500			200	300 MHZ	21D1 22C2
	RFBACLK0	RAM_FBCLK_A:::70	3	:::2500			200	300 MHZ	21C1 22C6
	RFBACLK0_L	RAM_FBCLK_A:::70	3	:::2500			200	300 MHZ	21C1 22C6
	FBD<64..127>	GPU_FBDATA_B:::225	4	:::800				300 MHZ	20E5 20F5 20G5 21B5 21B8 21C5 21C8
	RFBD<64..127>	RAM_FBDATA_B:::325	4	:::1000				300 MHZ	21B4 21B7 21C4 21C7 23B1 23B5 23C1 23C5
	FBDQM<8..15>	GPU_FBDQM_B:::120	4	:::800				300 MHZ	20C3 20D3 20D5
	RFBDQM<8..15>	RAM_FBDQM_B:::120	4	:::1000				300 MHZ	20C2 20D2 23C2 23C6
	FBBA<0..12>	GPU_FBADDR_B:::120	4	:::600				300 MHZ	20A3 20B3 20C3 20C5 20D5
	RFBBA<0..11>	RAM_FBADDR_B:::370	5	:::2400	50			300 MHZ	20B2 20C2 23C2 23C6 23D2 23D6
	FBBBA<0..1>	GPU_FBADDR_B:::120	4	:::600				300 MHZ	20A3 20C5
	RFBBBA<0..1>	RAM_FBADDR_B:::370	5	:::2400	50			300 MHZ	20A2 23C2 23C6
	FBBRAS_L	GPU_FBCNTL_B:::120	4	:::400				300 MHZ	20C3 20D4
	FBBCAS_L	GPU_FBCNTL_B:::120	4	:::400				300 MHZ	20C3 20D4
	FBBWE_L	GPU_FBCNTL_B:::120	4	:::400				300 MHZ	20C3 20D4
	FBBCS0_L	GPU_FBCNTL_B:::120	4	:::400				300 MHZ	20C3 20C4
	FBBCKE	GPU_FBCNTL_B:::120	5	:::400	100			300 MHZ	20A3 20C4
	RFBBRAS_L	RAM_FBCNTL_B:::2000	5	:::3500	3550			300 MHZ	20C2 23B2 23B6
	RFBBCAS_L	RAM_FBCNTL_B:::2000	5	:::3500	3550			300 MHZ	20C2 23B2 23B6
	RFBBWE_L	RAM_FBCNTL_B:::2000	5	:::3500	3550			300 MHZ	20C2 23B2 23B6
	RFBBCS0_L	RAM_FBCNTL_B:::2000	5	:::3500	3550			300 MHZ	20C2 23B2 23B6
	RFBBCKE	RAM_FBCNTL_B:::2000	5	:::3500	3550			300 MHZ	20A2 23C2 23C6
	FBDQS<8..15>	GPU_FBDQS_B:::100	3	:::350		10 MIL SPACING		300 MHZ	20D4 21A5
	FBDQSTERM<8..15>	FB_FBDQSTERM_B:::60	3	:::1500		10 MIL SPACING		300 MHZ	21A4
	RFBDQS<8..15>	RAM_FBDQS_B:::50	3	:::150		10 MIL SPACING		300 MHZ	21A3 23C2 23C6
	FBBCLK0	GPU_FBCLK_B:::50	3	:::150			200	300 MHZ	20C5 21B3
	FBBCLK0_L	GPU_FBCLK_B:::50	3	:::150			200	300 MHZ	20C5 21B3
	FBBCLK1	GPU_FBCLK_B:::50	3	:::150			200	300 MHZ	20C5 21C3
	FBBCLK1_L	GPU_FBCLK_B:::50	3	:::150			200	300 MHZ	20C5 21B3
	RFBBCLK1	RAM_FBCLK_B:::90	4	:::2500			200	300 MHZ	21C1 23C2
	RFBBCLK1_L	RAM_FBCLK_B:::90	3	:::2500			200	300 MHZ	21B1 23C2
	RFBBCLK0	RAM_FBCLK_B:::90	3	:::2500			200	300 MHZ	21B1 23C6
	RFBBCLK0_L	RAM_FBCLK_B:::90	3	:::2500			200	300 MHZ	21B1 23C6

SIGNAL CONSTRAINTS

APPLE COMPUTER INC.

SIZE D | DRAWING NUMBER 051-6490 | REV. A

SCALE NONE | SHT 57 OF 74

DRAWING

CR-58

DIGITAL SIGNALS

GROUP	SIG_NAME	MATCHED_DELAY	MAX_VIAS	DELAY_RULE	STUB_LENGTH	NET_SPACING_TYPE	NO_TEST	PULSE_PARAM	MAX_EXPOSED_LENGTH	RATSNEST_SCEDULE
MAXBUS	CPU_ADDR<0..31>	CPU_ADDR_GROUP:::1250	7	:::5000	250			166 MHZ		4B7 4C7 9B7 9B8 9C5 9C6 9C7 9C8 11C3 11D3 11D8
	CPU_DATA<0..63>	CPU_DATA_GROUP:::1400	7	:::5000	1550			166 MHZ		5A4 5B4 5C4 5D4 9C5 9C6 9C7 9C8 9D5 9D6 9D7 9D8
	CPU_BR_L	CPU_CNTL_GROUP:::1100	7	:::5000	250	10 MIL SPACING		166 MHZ		4D7 7C7 9C5 11D3 11B1 11B5 11B8 11C1 11C5 11D1 11D5
	CPU_BG_L	CPU_CNTL_GROUP:::1100	7	:::5000	250	10 MIL SPACING		166 MHZ		4D7 7B7 9B5 11D3
	CPU_TS_L	CPU_CNTL_GROUP:::1000	7	:::5000	250	10 MIL SPACING		166 MHZ		4D7 7C7 9C7 11D3
	CPU_TT<0..4>	CPU_CNTL_GROUP:::1300	7	:::5000	250	10 MIL SPACING		166 MHZ		4B7 7A7 9B5 9B6 9C5 9C6 11B3
	CPU_TBST_L	CPU_CNTL_GROUP:::1100	7	:::5000	250	10 MIL SPACING		166 MHZ		4B7 7B7 9B5 11B3
	CPU_TSIZ<0..2>	CPU_CNTL_GROUP:::1260	7	:::5000	250	10 MIL SPACING		166 MHZ		4B7 9B6 9B7 9C6 11B3
	CPU_ARTRY_L	CPU_CNTL_GROUP:::1000	7	:::5000	250	10 MIL SPACING		166 MHZ		4A7 7C7 9B8 11B3
	CPU_AACK_L	CPU_CNTL_GROUP:::1000	7	:::5000	250	10 MIL SPACING		166 MHZ		4A7 7B7 9B6 11B3
	CPU_GBL_L	CPU_CNTL_GROUP:::1000	3	:::1000	250	10 MIL SPACING		166 MHZ		4B8 9B6
	CPU_INT_GBL_L	CPU_CNTL_GROUP:::1100	5	:::3500	250	10 MIL SPACING		166 MHZ		4B8 7B7 11C3
	CPU_CI_L	CPU_CNTL_GROUP:::1000	7	:::5000	250	10 MIL SPACING		166 MHZ		4A7 7A7 9C6 11C3
	CPU_HIT_L	CPU_CNTL_GROUP:::1000	7	:::5000	250	10 MIL SPACING		166 MHZ		4A7 7C7 9B8 11B3
	CPU_DBG_L	CPU_CNTL_GROUP:::1000	7	:::3500	250	10 MIL SPACING		166 MHZ		4C3 7B7 9C8 11B1
	CPU_DRDY_L	CPU_CNTL_GROUP:::1100	5	:::500	250	10 MIL SPACING		166 MHZ		4C2 7B7 9B6 11B1
	CPU_WT_L	CPU_CNTL_GROUP:::1000	7	:::5000	250	10 MIL SPACING		166 MHZ		4B7 7A7 9B6 11B3
	CPU_DRDY_L_UF		2	:::5000	250	10 MIL SPACING		166 MHZ		4C3
	CPU_DTI<0..2>	CPU_CNTL_GROUP:::1150	7	:::5000	250	10 MIL SPACING		166 MHZ		4C3 9B5 9B7 11A1
	CPU_TA_L	CPU_CNTL_GROUP:::1100	7	:::5000	250	10 MIL SPACING		166 MHZ		4C3 7C7 9C5 11A1
	CPU_TEA_L	CPU_CNTL_GROUP:::1100	7	:::5000	250	10 MIL SPACING		166 MHZ		4C3 7B7 9C6 11A1
	CPU_QREQ_L	CPU_CNTL_GROUP:::1000	7	:::5000	250	10 MIL SPACING		166 MHZ		4C3 7D5 9B7 11B3
	CPU_QACK_L	CPU_CNTL_GROUP:::1000	8	:::4000	250	10 MIL SPACING		166 MHZ		4C3 9B5 11B3
	SYSCLK_CPU_UF		2	:::150		10 MIL SPACING		166 MHZ	315	11A3
	SYSCLK_CPU		4	::2200:2400	200	10 MIL SPACING		166 MHZ	315	4D2 11A4
	INT_CPU_FB_OUT		3	:::1000	200			166 MHZ	315	11B3
	CPU_FBO_PLUS1		3	:::200	200			166 MHZ	315	11A4
	CPU_FBI_PLUS1		3	::1400:1500	200			166 MHZ	315	11A4
	CPU_FB_MINUS3		4	::900:1000	200			166 MHZ	315	11A4
	INT_CPU_FB_IN		4	:::1000	200			166 MHZ	315	11B3
	CPU_FB_PLUS2		3	::900:1000				166 MHZ	315	11A5
	CPU_FB_PLUS3		3	::2900:3000				166 MHZ	315	11A4
	INT_ANALYZER_CLK		3	:::300				166 MHZ		9B4 11B4 18C7 56A7 61A7
	SYSCLK_LA		2	:::2000				166 MHZ		9B3 9D8
	INT_CLOCK_OUT		3	:::3000				166 MHZ		9C4
							MIN_LINE_WIDTH		DIFFERENTIAL_PAIR	
	USB2_XTI		3	:::1000	100	10 MIL SPACING		30 MHZ		34C4
	USB2_XT2_B		3	:::1000	100	10 MIL SPACING		30 MHZ		
	USB2_XT2		3	:::100	100	10 MIL SPACING		30 MHZ		34C4
	USB2_RREF		2	:::100						34B4
	USB2_RSDAM	USB2_RSDA:::20	2	:::500		8 MIL SPACING	3.5	480 MHZ		34C4
	USB2_RSDAP	USB2_RSDA:::20	2	:::500		8 MIL SPACING	3.5	480 MHZ		34C4
	USB2_RSDBM	USB2_RSDB:::20	2	:::500		8 MIL SPACING	3.5	480 MHZ		34C4
	USB2_RSDBP	USB2_RSDB:::20	2	:::500		8 MIL SPACING	3.5	480 MHZ		34C4
	USB2_RSDCM	USB2_RSDC:::20	2	:::500		8 MIL SPACING	3.5	480 MHZ		34C4
	USB2_RSDCP	USB2_RSDC:::20	2	:::500		8 MIL SPACING	3.5	480 MHZ		34C4
	USB2_DAN_F	USB2_DMA:::30	3	:::500	50	8 MIL SPACING	3.5	480 MHZ	USB2_DMA_DP	MIN_DAISY_CHAIN 34C1 34C4 35B7
	USB2_DAP_F	USB2_DMA:::30	3	:::500	50	8 MIL SPACING	3.5	480 MHZ	USB2_DMA_DP	MIN_DAISY_CHAIN 34C1 35B7
	USB2_DBN_F	USB2_DMB:::20	3	:::500	50	8 MIL SPACING	3.5	480 MHZ	USB2_DMB_DP	MIN_DAISY_CHAIN 34C1 35C7
	USB2_DBP_F	USB2_DMB:::20	3	:::500	50	8 MIL SPACING	3.5	480 MHZ	USB2_DMB_DP	MIN_DAISY_CHAIN 34C1 34C4 35C7
	USB2_DCN_F	USB2_DMC:::20	3	:::500	50	8 MIL SPACING	3.5	480 MHZ	USB2_DMC_DP	MIN_DAISY_CHAIN 34C1 35D7
	USB2_DCP_F	USB2_DMC:::20	3	:::500	50	8 MIL SPACING	3.5	480 MHZ	USB2_DMC_DP	MIN_DAISY_CHAIN 34C1 35D7
	USBT_DAN_F	USB2_DMAT:::60	4	:::3000	2000	8 MIL SPACING	3.5	480 MHZ	USB2_DMAT_DP	MIN_DAISY_CHAIN 35B6
	USBT_DAP_F	USB2_DMAT:::60	4	:::3000	2000	8 MIL SPACING	3.5	480 MHZ	USB2_DMAT_DP	MIN_DAISY_CHAIN 35B6
	USBT_DBN_F	USB2_DMBT:::60	4	:::3000	2000	8 MIL SPACING	3.5	480 MHZ	USB2_DMBT_DP	MIN_DAISY_CHAIN 35C6
	USBT_DBP_F	USB2_DMBT:::60	4	:::3000	2000	8 MIL SPACING	3.5	480 MHZ	USB2_DMBT_DP	MIN_DAISY_CHAIN 35C6
	USBT_DCN_F	USB2_DMCT:::60	4	:::3000	2000	8 MIL SPACING	3.5	480 MHZ	USB2_DMCT_DP	MIN_DAISY_CHAIN 35D6
	USBT_DCP_F	USB2_DMCT:::60	4	:::3000	2000	8 MIL SPACING	3.5	480 MHZ	USB2_DMCT_DP	MIN_DAISY_CHAIN 35D6
	USB_DAN_CON	USB2_CONA:::30	2	:::750	50	8 MIL SPACING	3.5	480 MHZ	USB2_CONA_DP	MIN_DAISY_CHAIN 35C3 61C4
	USB_DAP_CON	USB2_CONA:::30	2	:::750	50	8 MIL SPACING	3.5	480 MHZ	USB2_CONA_DP	MIN_DAISY_CHAIN 35C3 61C4
	USB_DBN_CON	USB2_CONB:::30	2	:::750	50	8 MIL SPACING	3.5	480 MHZ	USB2_CONB_DP	MIN_DAISY_CHAIN 35B3 61C4
	USB_DBP_CON	USB2_CONB:::30	2	:::750	50	8 MIL SPACING	3.5	480 MHZ	USB2_CONB_DP	MIN_DAISY_CHAIN 35B3 61C4
	USB_DCN_CON	USB2_CONC:::30	2	:::750	50	8 MIL SPACING	3.5	480 MHZ	USB2_CONC_DP	MIN_DAISY_CHAIN 35D3 61C4
	USB_DCP_CON	USB2_CONC:::30	2	:::750	50	8 MIL SPACING	3.5	480 MHZ	USB2_CONC_DP	MIN_DAISY_CHAIN 35D3 61C4

SIGNAL CONSTRAINTS

APPLE COMPUTER INC.

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DIGITAL SIGNALS

GROUP	SIG_NAME	MATCHED_DELAY	MAX_VIAS	DELAY_RULE	STUB_LENGTH	NET_SPACING_TYPE	MIN_LINE_WIDTH MAX_EXPOSED_LENGTH	PULSE_PARAM				
NEW STUFF HERE	VSYNC*		3	:::1000					24C5			
	ANALOG_VSYNC*		4	:::3500					24C8	27C6	28B5	61B7
	HSYNC*		3	:::1000					24C5			
	ANALOG_HSYNC*		5	:::3500					24C8	27C4	27D6	28B5 61B7
	ANALOG_BLU		4	:::4000	200	10 MIL SPACING	5.8		24C5	24C8	27C6	
	ANALOG_GRN		4	:::4000	200	10 MIL SPACING	5.8		24C5	24C8	27C6	
	ANALOG_RED		4	:::4000	200	10 MIL SPACING	5.8		24C5	24C8	27B6	
	FILT_ANALOG_RED		2	:::500		10 MIL SPACING	5.8		27C5	61B7		
	FILT_ANALOG_GRN		2	:::500		10 MIL SPACING	5.8		27C5	61B7		
	FILT_ANALOG_BLU		2	:::500		10 MIL SPACING	5.8		27C5	61B7		
	DAC2RSET			:::1000		10 MIL SPACING			24C6			
	DAC2VREF			:::1000		10 MIL SPACING			24C5			
	NV11_XTALIN		4	:::1000	100	8 MIL SPACING		27 MHZ	24B4			
	NV11_XTALOUT		4	:::1000	100	8 MIL SPACING		27 MHZ	24B4			
	INT_TMDS_CKP	TMDS:::120	3		50	8 MIL SPACING	TMDS_CLK		25D2	26B6	61A7	
	INT_TMDS_CKM	TMDS:::120	3		50	8 MIL SPACING	TMDS_CLK		25D2	26A6	61A7	
	INT_TMDS_D0P	TMDS:::120	3		50	8 MIL SPACING	TMDS_D0		25D2	26B6	61B7	
	INT_TMDS_D0M	TMDS:::120	3		50	8 MIL SPACING	TMDS_D0		25D2	26B6	61A7	
	INT_TMDS_D1P	TMDS:::120	3		50	8 MIL SPACING	TMDS_D1		25D2	26C6	61B7	
	INT_TMDS_D1M	TMDS:::120	3		50	8 MIL SPACING	TMDS_D1		25D2	26C6	61B7	
	INT_TMDS_D2P	TMDS:::120	3		50	8 MIL SPACING	TMDS_D2		25C2	26D6	61B7	
	INT_TMDS_D2M	TMDS:::120	3		50	8 MIL SPACING	TMDS_D2		25C2	26D6	61B7	
	TCKP	TMDSFILT:::50	2		20	8 MIL SPACING	TMDSFILT_CLK		26B5	26C4		
	TCKM	TMDSFILT:::50	2		20	8 MIL SPACING	TMDSFILT_CLK		26A5	26C3		
	TD0P	TMDSFILT:::50	2		20	8 MIL SPACING	TMDSFILT_D0		26B5	26C3		
	TD0M	TMDSFILT:::50	2		20	8 MIL SPACING	TMDSFILT_D0		26B5	26C4		
	TD1P	TMDSFILT:::50	2		20	8 MIL SPACING	TMDSFILT_D1		26C4	26C5		
	TD1M	TMDSFILT:::50	2		20	8 MIL SPACING	TMDSFILT_D1		26C3	26C5		
	TD2P	TMDSFILT:::50	2		20	8 MIL SPACING	TMDSFILT_D2		26C3	26D5		
	TD2M	TMDSFILT:::50	2		20	8 MIL SPACING	TMDSFILT_D2		26C4	26D5		
	ENET_LINK_TX_EN		4	:::1000				25 MHZ	36D6			
	ENET_LINK_TX_ER		4	:::1000				25 MHZ	36D6			
	ENET_LINK_TXD<0..3>		4	:::1000				25 MHZ	36C6			
	ENET_PHY_TX_EN		4	:::5600				25 MHZ	36D7	37C6		
	ENET_PHY_TX_ER		4	:::5600				25 MHZ	36D7	37C6		
	ENET_PHY_TXD<0..3>		4	::4600:5600				25 MHZ	36C7	37C6		
	CLKENET_LINK_TX		4	::4600:5600				25 MHZ	36D7	37C8		
	CLKENET_PHY_TX		4	:::1000				25 MHZ	37C6			
	CLKENET_LINK_RX		4	::4600:5600				25 MHZ	36C7	37C8		
	CLKENET_PHY_RX		4	:::1000				25 MHZ	37C6			
	ENET_PHY_RXD<0..3>		4	:::1000				25 MHZ	37B6	37C6		
	ENET_PHY_RX_DV		4	:::1000				25 MHZ	37B6			
	ENET_PHY_RX_ER		4	:::1000				25 MHZ	37B6			
	ENET_PHY_CRS		4	:::1000				25 MHZ	37B6			
	ENET_PHY_COL		4	:::1000				25 MHZ	37B6			
	ENET_LINK_RXD<0..3>		4	::4600:5600				25 MHZ	36C7	37B8	37C8	
	ENET_CRS		4	::4600:5600				25 MHZ	36C7	37B8		
	ENET_COL		4	::4600:5600				25 MHZ	36B7	37B8		
	ENET_RX_DV		4	::4600:5600				25 MHZ	36C7	37B8		
	ENET_RX_ER		4	::4600:5600				25 MHZ	36C7	37B8		
	CLK25M_ENET_XIN		3	:::1000	100	8 MIL SPACING		25 MHZ	37B6			
	CLK25M_ENET_XOUT		3	:::1000	100	8 MIL SPACING		25 MHZ	37B6			
	ENET_TDP	ETHTD:::70	3	:::4000	3150	10 MIL SPACING	ETH_TXD	100 MHZ	37C3			
	ENET_TDN	ETHTD:::70	3	:::4000	3150	10 MIL SPACING	ETH_TXD	100 MHZ	37C3			
	ENET_RDP	ETHRD:::70	3	:::4000	3150	10 MIL SPACING	ETH_RXD	100 MHZ	37C3			
	ENET_RDN	ETHRD:::70	3	:::4000	3150	10 MIL SPACING	ETH_RXD	100 MHZ	37C3			
	RJ45_TXP	RJTXD:::70	2	:::750		2KV_ISO	RJ45_TXD	100 MHZ	37C1	37C2		
	RJ45_TXN	RJTXD:::70	2	:::750		2KV_ISO	RJ45_TXD	100 MHZ	37C1	37C2		
	RJ45_RXP	RJRXD:::70	2	:::750		2KV_ISO	RJ45_RXD	100 MHZ	37C1	37C2		
	RJ45_RXN	RJRXD:::70	2	:::750		2KV_ISO	RJ45_RXD	100 MHZ	37C1	37C2		
	RJ45_TREF					2KV_ISO			37C2			
	RJ45_RREF					2KV_ISO			37C2			
	RJ45_4_5					2KV_ISO			37C1			
	RJ45_7_8					2KV_ISO			37C1			
	RJ45_F_TREF					2KV_ISO			37B2			
	FW_LINK_DATA<0..7>		4	:::1000					36C5			
	FW_LINK_CNTL<0..1>		4	:::1000				49.152 MHZ	36C5			
	FW_LINK_LREQ		4	:::1000				49.152 MHZ	36C5			
	FW_SCLK		4	::3500:4500				49.152 MHZ	36C5	38C8		
	FW_D<0..7>		4	::3700:4700				49.152 MHZ	36C3	38B8	38C8	
	FW_CNTL0		4	::3700:4700				49.152 MHZ	36C3	38C8		
	FW_CNTL1		4	::3700:4700				49.152 MHZ	36C3	38C8		
	FW_LREQ		4	::3700:4700				49.152 MHZ	36C3	38C8		
	FW_PHY_SCLK		4	:::500				49.152 MHZ	38C7			
	FW_PHY_CNTL0		4	:::1000				49.152 MHZ	38C7			
	FW_PHY_CNTL1		4	:::1000				49.152 MHZ	38C7			
	FW_PHY_D<0..7>		4	:::1000				49.152 MHZ	38B7	38C7		
	FW_XI		3	:::1000	100	8 MIL SPACING		24.576 MHZ	38C6			
	FW_XO		3	:::1000	100	8 MIL SPACING		24.576 MHZ	38C6			
	FW_BIAS1								38C5			
	FW_BIAS2								38C5			
	FW_TPA1P	FWTPA1:::50	3	:::1220	5000		FW_TPA1	400 MHZ	38C5			
	FW_TPA1N	FWTPA1:::50	3	:::1220	5000		FW_TPA1	400 MHZ	38C5			
	FW_TPB1P	FWTPB1:::50	3	:::1220	5000		FW_TPB1	400 MHZ	38C5			
	FW_TPB1N	FWTPB1:::50	3	:::1220	5000		FW_TPB1	400 MHZ	38C5			
	FW_TPA2P	FWTPA2:::50	3	:::1220	5000		FW_TPA2	400 MHZ	38C5			
	FW_TPA2N	FWTPA2:::50	3	:::1220	5000		FW_TPA2	400 MHZ	38C5			
	FW_TPB2P	FWTPB2:::50	3	:::1220	5000		FW_TPB2	400 MHZ	38C5			
	FW_TPB2N	FWTPB2:::50	3	:::1220	5000		FW_TPB2	400 MHZ	38C5			
	FW_TPO1P	FWTPO1:::50	3	:::1220	5000		FW_TPO1	400 MHZ	38B8	38D1		
	FW_TPO1N	FWTPO1:::50	3	:::1220	5000		FW_TPO1	400 MHZ	38A8	38D1		
	FW_TPI1P	FWTPL1:::50	3	:::1220	5000		FW_TPL1	400 MHZ	38A8	38D1		
	FW_TPI1N	FWTPL1:::50	3	:::1220	5000		FW_TPL1	400 MHZ	38A8	38D1		
	FW_TPO2P	FWTPO2:::50	3	:::1220	5000		FW_TPO2	400 MHZ	38A8	38C1		
	FW_TPO2N	FWTPO2:::50	3	:::1220	5000		FW_TPO2	400 MHZ	38A8	38C1		
	FW_TPI2P	FWTPL2:::50	3	:::1220	5000		FW_TPL2	400 MHZ	38A8	38C1		
	FW_TPI2N	FWTPL2:::50	3	:::1220	5000		FW_TPL2	400 MHZ	38A8	38C1		

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DIGITAL SIGNALS (CONT'D)

	GROUP	SIG_NAME	MATCHED_DELAY	MAX_VIAS	DELAY_RULE	STUB_LENGTH	NET_SPACING_TYPE	MAX_EXPOSED_LENGTH	PULSE_PARAM				
117	CD DRIVE BUS	EIDE_RST_L			::3500:5500				33 MHZ	39A7	39D5		
118		EIDE_DMACK_L			::3500:5500				33 MHZ	39A7	39D5		
119		EIDE_STOP			:::5500				33 MHZ	39A7	39D5		
120		EIDE_HSTB_RDY			:::5500				33 MHZ	39A7	39C5		
121		EIDE_DSTB_RDY			::3500:5500				33 MHZ	39A7	39C5		
122		EIDE_DATA<0..15>			::3500:5500				33 MHZ	39A5	39B5	39B7	39C5
123		CD_RESET_L			:::1000				33 MHZ	39D4	40C6		
124		CD_DMACK_L			:::4000				33 MHZ	39D4	40C6		
125		CD_STOP			:::5000				33 MHZ	39D4	40C6		
126		CD_HSTB_RDY			:::5000				33 MHZ	39C4	40C6		
127		CD_DSTB_RDY			:::1000				33 MHZ	39C4	40C6		
128		UATADD<0..15>			:::1000				33 MHZ	39A4	39B4	39C4	40C6
129		CD_DMARQ			:::1000				33 MHZ	40C6			
130		EIDE_DMARQ			::3500:5500				33 MHZ	39A7	40C8		
131		UATADIRQ			:::1000				33 MHZ	40C6			
132		EIDE_INTRQ			::3500:5500				33 MHZ	39A7	40C8		
133		CD_EIDE_ADDR<0..2>			:::1000				33 MHZ	40C6			
134		EIDE_ADDR<0..2>			::3500:5500				33 MHZ	39B7	40A8	40B8	
135		CD_CS1FX_L			:::1000				33 MHZ	40C6			
136		EIDE_CS1FX_L			::3500:5500				33 MHZ	39A7	40B8		
137		CD_CS3FX_L			:::1000				33 MHZ	40C6			
138		EIDE_CS3FX_L			::3500:5500				33 MHZ	39A7	40B8		
	HD DRIVE BUS												
139		UIDE_RST_L	HD_DATA:::5500		::100:6000	500			100 MHZ	39C7	39D3		
140		UIDE_DMACK_L	HD_DATA:::5500		::100:6000	500			100 MHZ	39C7	39D3		
141		UIDE_DIOR_L	HD_DATA:::5500		:::6000				100 MHZ	39C3	39C7		
142		UIDE_DIOW_L	HD_DATA:::5500		::100:6000	500			100 MHZ	39C3	39C7		
143		UIDE_IOCHRDY	HD_DATA:::5500		::100:6000				100 MHZ	39A3	39B3	39C3	39C7
144		UIDE_DATA<0..15>	HD_DATA:::5500						100 MHZ	39D1	40C3		
145		HD_RESET_L			:::1000				100 MHZ	39D1	40C3		
146		HD_DMACK_L			:::1000				100 MHZ	39D1	40C3		
147		HD_DIOR_L			:::5500				100 MHZ	39C1	40C3		
148		HD_DIOW_L			:::55000				100 MHZ	39C1	40C3		
149		HD_IOCHRDY			:::1000				100 MHZ	40C3			
150		HD_DMARQ			:::1000				100 MHZ	39C7	40C4		
151		UIDE_DMARQ	HD_DATA:::5500		::100:6000				100 MHZ	40C3			
152		HD_INTRQ			:::1000	500			100 MHZ	39C7	40C4		
153		UIDE_INTRQ	HD_DATA:::5500		::100:6000				100 MHZ	40C2	40C3		
154		HD_UIDE_ADDR<0..2>			:::1000				100 MHZ	39C7	40A4	40B4	
155		UIDE_ADDR<0..2>	HD_DATA:::5500		::100:6000				100 MHZ	40C3			
156		HD_UIDE_CS1FX_L			:::6000				100 MHZ	39C7	40B4		
157		UIDE_CS1FX_L	HD_DATA:::5500		:::6000				100 MHZ	40C2			
158		HD_UIDE_CS3FX_L			:::6000				100 MHZ	39C7	40B4		
159		UIDE_CS3FX_L	HD_DATA:::5500		:::6000				100 MHZ				
160		CLK_18M_INT_XOUT		3	:::1000	100	8 MIL SPACING		18.432 MHZ	60B5			
161		CLK_18M_INT_XOUT		3	:::1000	100	8 MIL SPACING		18.432 MHZ	60B5			
162		CLK_18M_INT_XOUT		3	:::200	50	8 MIL SPACING		18.432 MHZ	60B5			
163		USB_DAP	USBA:::500							30B3			
164		USB_DAN	USBA:::500							30B3			
165		USB_DAP_F	USBA_F:::500			100				30B2	35B7		
166		USB_DAN_F	USBA_F:::500			100				30B2	35B7		
167		USB_DBP	USBB:::500							30B3			
168		USB_DBN	USBB:::500							30B3			
169		USB_DBP_F	USBB_F:::500			100				30B2	35C7		
170		USB_DBN_F	USBB_F:::500			100				30B2	35C7		
171		USB_DCP	USBC:::500							30B3			
172		USB_DCN	USBC:::500							30B3			
173		USB_DCP_F	USBC_F:::500			100				30B2	35D7		
174		USB_DCN_F	USBC_F:::500			100				30B2	35D7		
175		USB_DEP	USBE:::500							30B3			
176		USB_DEN	USBE:::500							30B3			
177		BT_USB_DP	USBE_F:::500			100				30B2	31D3	61B4	
178		BT_USB_DM	USBE_F:::500			100				30B2	31D3	61B4	
179		USB_DFP	USBF:::500							30B3			
180		USB_DFN	USBF:::500							30B3			
181		MODEM_USB_DP	USBF_F:::500			100				30B2	31C5	61B4	
182		MODEM_USB_DM	USFE_F:::500			100				30B2	31C5	61B4	
183													
184		PMU_XO		3	:::1000	100	8 MIL SPACING		10 MHZ	46B5			
185		PMU_XI		3	:::1000	100	8 MIL SPACING		10 MHZ	46B5			
186		PMU_XT		3	:::300	50	8 MIL SPACING		10 MHZ	46A6			
187		PMU_CLKOUT		3	:::1000	100	8 MIL SPACING		32.768 MHZ	46B4			
188		PMU_CLKIN		3	:::1000	100	8 MIL SPACING		32.768 MHZ	46B4			
189		PMU_CLKT		3	:::300	50	8 MIL SPACING		32.768 MHZ	46B2			
190		MICSHLD					10 MIL SPACING			31A5	45B8	61A7	
191		MICHIGH					10 MIL SPACING			31A5	45C8	61A7	
192		MICLOW					10 MIL SPACING			31A5	45B8	61A7	
193		KS_INT_SPKR+					10 MIL SPACING			31A3	44C3	61B7	
194		KS_INT_SPKR-					10 MIL SPACING			31A3	44C3	61B7	

	SIG_NAME	DELAY_RULE	PULSE_PARAM			
1	T_UD_IDEDD_0	:::1000	100 MHZ	39C1	40C3	
2	T_UD_IDEDD_1	:::1000	100 MHZ	39C1	40C3	
3	T_UD_IDEDD_2	:::1000	100 MHZ	39C1	40C3	
4	T_UD_IDEDD_3	:::1000	100 MHZ	39C1	40C3	
5	T_UD_IDEDD_4	:::1000	100 MHZ	39B1	40C3	
6	T_UD_IDEDD_5	:::1000	100 MHZ	39B1	40C3	
7	T_UD_IDEDD_6	:::1000	100 MHZ	39B1	40C3	
8	T_UD_IDEDD_7	:::1000	100 MHZ	39B1	40C3	
9	T_UD_IDEDD_8	:::1000	100 MHZ	39B1	40C2	
10	T_UD_IDEDD_9	:::1000	100 MHZ	39B1	40C2	
11	T_UD_IDEDD_10	:::1000	100 MHZ	39B1	40C2	
12	T_UD_IDEDD_11	:::1000	100 MHZ	39B1	40C2	
13	T_UD_IDEDD_12	:::1000	100 MHZ	39B1	40C2	
14	T_UD_IDEDD_13	:::1000	100 MHZ	39A1	40C2	
15	T_UD_IDEDD_14	:::1000	100 MHZ	39A1	40C2	
16	T_UD_IDEDD_15	:::1000	100 MHZ	39A1	40C2	

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FUNC_TEST

*1_8V_MAIN	FUNC_TEST	OUT	54C4							
+12V_MAIN	FUNC_TEST	OUT	53B7	53D7	54C1					
+12V_SLEEP	FUNC_TEST	OUT	38D8	41C8	44D8	46D8	47B4	47D3	47D7	50C4	50C8	50D6
+12V_SLEEPA	FUNC_TEST	OUT	51C4	51D4	51D7	52B4	52C4	52C6	52D4	52D6	53A4	53A7
+5V_MAIN	FUNC_TEST	OUT	31A3	31A8	31C5	52D6	53A4	53D6	54C1			
+5V_SLEEP	FUNC_TEST	OUT										
+2_5V_MAIN	FUNC_TEST	OUT	54C4									
+3V_MAIN	FUNC_TEST	OUT	48C7	48D6	52C6	53A5	53C5					
CPU_VCORE_SLEEP	FUNC_TEST	OUT	32A3	54C4								
JTAG_ASIC_TCK	FUNC_TEST	OUT	41D4	42D5	43A5	43A7	44A7	44D4	54C4			
JTAG_ASIC_TDI	FUNC_TEST	OUT	4D3	4D7	9B6	9C2	47B3	47C1	54C6	61B4		
JTAG_ASIC_TDO	FUNC_TEST	OUT	9A3	36B7	37C4							
JTAG_ASIC_TMS	FUNC_TEST	OUT	9A3	30C6	36B7							
JTAG_ASIC_TRST_L	FUNC_TEST	OUT	9A3	37B4								
INT_TMDS_3V	FUNC_TEST	OUT	9A3	36B7	37A2	37B4						
+1_5V_AGP	FUNC_TEST	OUT	9A3	36B7								
FAN_12V_FILT	FUNC_TEST	OUT	26B3	26C3	26C4	26D5	54A6					
+INTREPID_CORE_MAIN	FUNC_TEST	OUT	12D6	13C8	18A8	18C2	18D7	19A4	19D5	48B4	54C3	
INTREPID_VSENSE	FUNC_TEST	OUT	31A5	54B3								
OVDD_ADJ	FUNC_TEST	OUT	12D6	13D4	48B3	49B2						
CPU_CHKSTP_OUT_L	FUNC_TEST	OUT	49C6									
CPU_CHKSTP_IN_L	FUNC_TEST	OUT										
CPU_HRESET_L	FUNC_TEST	OUT	4B3	7B5	9A2	9D6						
JTAG_CPU_TCK	FUNC_TEST	OUT	4B3	7B5								
JTAG_CPU_TDI	FUNC_TEST	OUT	4B3	7A3	7A5	7B3	8D2	9A2	46C2	46D2		
JTAG_CPU_TDO	FUNC_TEST	OUT	4C3	7D5	8C2	9A2						
JTAG_CPU_TMS	FUNC_TEST	OUT	4C3	7A5	8D2	9A2						
JTAG_CPU_TRST_L	FUNC_TEST	OUT	4C3	9A2								
+MAXBUS_SLEEP	FUNC_TEST	OUT	4C3	7A5	8D2	9A2						
ROM_CS_L	FUNC_TEST	OUT	4C3	7C5	8D2	9A2						
ROM_OE_L	FUNC_TEST	OUT	4D5	6D8	7A3	7B3	7C3	7C5	7C7	8D3	9B2	9D2
ROM_RW_L	FUNC_TEST	OUT	9D4	11B8	11D8	46B7	46D1	46D2	47D2	48D4	54C6	
DDC_VCC_3	FUNC_TEST	OUT	32B4	32B6	33B4							
DDC_VCC_5	FUNC_TEST	OUT	32B2	32B6	33B2							
SND_HP_SENSE	FUNC_TEST	OUT	32B2	32B6	33B4							
ANALOG_HSYNC*	FUNC_TEST	OUT	26A5	26B3	54B6							
ANALOG_VSYNC*	FUNC_TEST	OUT	27C4	54A6								
FILT_ANALOG_BLU	FUNC_TEST	OUT	30B5	43A5								
FILT_ANALOG_RED	FUNC_TEST	OUT	24C8	27C4	27D6	28B5	59D3					
FILT_ANALOG_GRN	FUNC_TEST	OUT	24C8	27C6	28B5	59D3						
GND	FUNC_TEST	OUT	27C5	59D3								
KS_INT_SPKR+	FUNC_TEST	OUT	27C5	59D3								
KS_INT_SPKR-	FUNC_TEST	OUT	27C5	59D3								
INT_TMDS_D2P	FUNC_TEST	OUT										
INT_TMDS_D2M	FUNC_TEST	OUT	31A3	44C3	60A5							
INT_TMDS_D1P	FUNC_TEST	OUT	31A3	44C3	60A5							
INT_TMDS_D1M	FUNC_TEST	OUT	25C2	26D6	59C3							
INT_TMDS_D0P	FUNC_TEST	OUT	25C2	26D6	59C3							
INT_TMDS_D0M	FUNC_TEST	OUT	25D2	26C6	59C3							
INT_TMDS_CKP	FUNC_TEST	OUT	25D2	26C6	59C3							
INT_TMDS_CKM	FUNC_TEST	OUT	25D2	26B6	59C3							
INV_CUR_HI_FILT	FUNC_TEST	OUT	25D2	26B6	59D3							
IO_RESET_L	FUNC_TEST	OUT	25D2	26A6	59D3							
K5VSD	FUNC_TEST	OUT	31A5									
INT_I2C_CLK2	FUNC_TEST	OUT	34A6	37B8	46B5	46B8	46D3					
INT_I2C_DATA2	FUNC_TEST	OUT	31A5	54B3								
INT_ANALYZER_CLK	FUNC_TEST	OUT	30A3	30D1	31C7	36B5	41B1					
LAMP_STS_FILT	FUNC_TEST	OUT	30A3	30D1	31C7	36B5	41B1					
LCD_PWM_FILT	FUNC_TEST	OUT	9B4	11B4	18C7	56A7	58B3					
LED_5V_FILT	FUNC_TEST	OUT	31A5									
LED_RET_FILT	FUNC_TEST	OUT	31A5									
MICSHLD	FUNC_TEST	OUT	31A5	54B3								
MICHIGH	FUNC_TEST	OUT	31A5	54A3								
MICLOW	FUNC_TEST	OUT	31A5	45B8	60A5							
COMM_RESET_L	FUNC_TEST	OUT	31A5	45C8	60A5							
IIC_ADD	FUNC_TEST	OUT	31A5	45B8	60A5							
ROM_WP_L	FUNC_TEST	OUT	30C5	31D5								
		OUT	31C6									
		OUT	32A2									

FUNC_TEST

COMM_SHUTDOWN	FUNC_TEST	OUT	30C5	30D1	31D7					
MON_DETECT	FUNC_TEST	OUT	25D6	27C6						
FLO_KNOWS_BEST	FUNC_TEST	OUT	47C6	47C7	47C8					
NMI_BUTTON*	FUNC_TEST	OUT	31B2	46C4						
PWR_SWITCH*	FUNC_TEST	OUT	9A8	46B1	46C5	61D4				
PMU_RST*	FUNC_TEST	OUT	9A8	31B3	46A5	46B5				
PMURESETBUTTON*	FUNC_TEST	OUT	46A4							
PWR_SWITCH*	FUNC_TEST	OUT	9A8	46B1	46C5	61D4				
PWR_UP	FUNC_TEST	OUT	41C8	52C4	52C8	53B7	53C1	53C7		
POWER_UP*	FUNC_TEST	OUT	46C7	53A8						
RESET_BUTTON*	FUNC_TEST	OUT	31B2	46C4						
COMM_RING_DET_L	FUNC_TEST	OUT	30B5	30B8	31C5	46C5				
ROM_ONBOARD_CS_L	FUNC_TEST	OUT	32B2	33B4						
COMM_DTR_L	FUNC_TEST	OUT	30C3	31C7						
COMM_TXD_L	FUNC_TEST	OUT	30C3	31C7						
COMM_TRXC	FUNC_TEST	OUT	30C3	30D2	31C7					
COMM_RTS_L	FUNC_TEST	OUT	30C3	31D5						
COMM_RXD	FUNC_TEST	OUT	30C3	31C5						
COMM_GPIO_L	FUNC_TEST	OUT	30C3	30D2	31C5					
SLEEP	FUNC_TEST	OUT	46B5	52C4						
CPU_SRESET_L	FUNC_TEST	OUT	4B3	7A5	9A2					
PMU_AVCC	FUNC_TEST	OUT	46B5	46D4	54B3					
TMDS_DDC_CLK	FUNC_TEST	OUT	26A5	26B3						
TMDS_DDC_DAT	FUNC_TEST	OUT	26A5	26B4						
USB_DCN_CON	FUNC_TEST	OUT	35D3	58A3						
USB_DCP_CON	FUNC_TEST	OUT	35D3	58A3						
USB_DBN_CON	FUNC_TEST	OUT	35B3	58A3						
USB_DBP_CON	FUNC_TEST	OUT	35B3	58A3						
USB_DAN_CON	FUNC_TEST	OUT	35C3	58A3						
USB_DAP_CON	FUNC_TEST	OUT	35C3	58A3						
BT_USB_DP	FUNC_TEST	OUT	30B2	31D3	60B5					
BT_USB_DM	FUNC_TEST	OUT	30B2	31D3	60A5					
MODEM_USB_DP	FUNC_TEST	OUT	30B2	31C5	60A5					
MODEM_USB_DM	FUNC_TEST	OUT	30B2	31C5	60A5					
USB_PORT_PWR	FUNC_TEST	OUT	35A4	35B3	35C3	35D3	54A3			
VGA_IIC_CLK	FUNC_TEST	OUT	27C4							
VGA_IIC_DAT	FUNC_TEST	OUT	27C4							
CPU_VCORE_SLEEP	FUNC_TEST	OUT	4D3	4D7	9B6	9C2	47B3	47C1	54C6	61D7
LINE_IN_COM	FUNC_TEST	OUT	42B7							
LINE_IN_R	FUNC_TEST	OUT	42B6	42B7						
LINE_IN_SENSE	FUNC_TEST	OUT	42B7	42C7						
LINE_IN_L	FUNC_TEST	OUT	42B7	42C7						
SND_LIN_SENSE	FUNC_TEST	OUT	30B5	42D4						
OUT_R	FUNC_TEST	OUT								
LINEOUT_COMM2	FUNC_TEST	OUT								
LINE_OUT_L	FUNC_TEST	OUT								
PCIT_IRDY_L	FUNC_TEST	OUT	33B6	33C3	56C7					
RF_CLKRUN_L	FUNC_TEST	OUT	33C3							
NC_RF_DISABLE_L	FUNC_TEST	OUT								
PCI_DEVSEL_L	FUNC_TEST	OUT	32A8	32C5	33B7	34B6	56D7			
PCI_STOP_L	FUNC_TEST	OUT	32A8	32C5	33B7	34B6	56D7			
PCI_TRDY_L	FUNC_TEST	OUT	32B8	32C5	33B7	34B6	56D7			
PCI_FRAME_L	FUNC_TEST	OUT	32B8	32C5	33B7	34B6	55A6			
PCI_PAR	FUNC_TEST	OUT	32C5	33B7	34B6	56D7				
WL_PCI_IDSEL	FUNC_TEST	OUT	33C2							
33SLOTB_INT_L	FUNC_TEST	OUT	30B7	33C2						
PMU_PME_L	FUNC_TEST	OUT	30B5	33C2	34A7	46B2				
PCI_SLOTB_GNT_L	FUNC_TEST	OUT	32A6	32D5	33C2					
CLK33M_PCI_SLOTB	FUNC_TEST	OUT	32D7	33C2	56D7					
PCI_SLOTB_REQ_L	FUNC_TEST	OUT	32A8	32D5	33C3					
MAIN_RESET_L	FUNC_TEST	OUT	32A2	33D4	34A6	46C4				
PCI_CBE<0>	FUNC_TEST	OUT	32C5	33B7	34B6	55A6				
PCIT_CBE<1>	FUNC_TEST	OUT	33B6	33C3	56C7					
PCIT_CBE<2>	FUNC_TEST	OUT	33B6	33C3	56C7					
PCIT_CBE<3>	FUNC_TEST	OUT	33B6	33C3	56C7					
UNUSED_GPIO15	FUNC_TEST	OUT	30B5	30C1						

FUNC_TEST

PCI_AD<0>	FUNC_TEST	OUT	32B2	32D4	33C7	34C6	55A6			
PCIT_AD<1>	FUNC_TEST	OUT	33B3	33C6	56C7					
PCIT_AD<2>	FUNC_TEST	OUT	33B2	33C6	56C7					
PCIT_AD<3>	FUNC_TEST	OUT	33B3	33C6	56C7					
PCI_AD<4>	FUNC_TEST	OUT	32B2	32D4	33C7	34C6	55A6			
PCIT_AD<5>	FUNC_TEST	OUT	33B3	33C6	56C7					
PCI_AD<6>	FUNC_TEST	OUT	32B2	32C4	33C7	34C6	55A6			
PCIT_AD<7>	FUNC_TEST	OUT	33B3	33C6	56C7					
PCIT_AD<8>	FUNC_TEST	OUT	33B3	33C6	56C7					
PCI_AD<9>	FUNC_TEST	OUT	32B2	32C4	33C7	34C6	55A6			
PCIT_AD<10>	FUNC_TEST	OUT	33B3	33C6	56C7					
PCI_AD<11>	FUNC_TEST	OUT	32B2	32C4	33C7	34C6	55A6			
PCIT_AD<12>	FUNC_TEST	OUT	33B3	33C6	56C7					
PCI_AD<13>	FUNC_TEST	OUT	32B2	32C4	33C7	34C6	55A6			
PCIT_AD<14>	FUNC_TEST	OUT	33C3	33C6	56C7					
PCI_AD<15>	FUNC_TEST	OUT	32B2	32C4	33C7	34C6	55A6			
PCI_AD<16>	FUNC_TEST	OUT	32B2	32C4	33C7	34C6	55A6			
PCIT_AD<17>	FUNC_TEST	OUT	33C3	33C7	56C7					
PCI_AD<18>	FUNC_TEST	OUT	32B2	32C4	33C7	34C6	55A6			
PCIT_AD<19>	FUNC_TEST	OUT	33C3	33C7	56C7					
PCI_AD<20>	FUNC_TEST	OUT	32B2	32C4	33C6	34C6	55A6			
PCIT_AD<21>	FUNC_TEST	OUT	33C3	33C6	56C7					
PCI_AD<22>	FUNC_TEST	OUT	32C4	33C6	34C6	55A6				
PCIT_AD<23>	FUNC_TEST	OUT	33C3	33C6	56C7					
PCI_AD<24>	FUNC_TEST	OUT	32B1	32C4	33B6	34C6	55A6			
PCIT_AD<25>	FUNC_TEST	OUT	33B6	33C3	56C7					
PCI_AD<26>	FUNC_TEST	OUT	32B1	32C4	33B6	34B6	55A6			
PCIT_AD<27>	FUNC_TEST	OUT	33B6	33C3	56C7					
PCIT_AD<28>	FUNC_TEST	OUT	33B7	33C2	56C7					
PCIT_AD<29>	FUNC_TEST	OUT	33B6	33C3	56C7					
PCI_AD<30>	FUNC_TEST	OUT	32B1	32C4	33B6	34B6	55A6			
PCIT_AD<31>	FUNC_TEST	OUT	33B6	33C3	56C7					

CONSTRINT TABLES

APPLE COMPUTER INC.

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DRAWING

*** Signal Cross-Reference ***
--- for the entire design --

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+1_5V_AGP       12D6 13C8 18A8 18C2 18D7 19A4 19D5
                      48B4 54C3 61C7
+1_5V_INTREPID_PLL 11D3 18D6 30D6 32D5 54D3
+1_5V_INTREPID_PLL1 30C4 54D3
+1_5V_INTREPID_PLL2 30D4 54D3
+1_5V_INTREPID_PLL3 30D4 54D3
+1_5V_INTREPID_PLL4 30D4 54D3
+1_5V_INTREPID_PLL5 18D5 54D3
+1_5V_INTREPID_PLL6 32D4 54D3
+1_5V_INTREPID_PLL7 11D2 54D3
+1_5V_INTREPID_PLL8 30D4 54D3
+1_8V_MAIN       54C4 61D7
+2.5V_ENET       37C3 37D3 37D5 54C6
+2_5V_DDR_AVDD   10D4 54D6
+2_5V_DDR_VDD    10D5 54D6
+2_5V_MAIN       32A3 54C4 61D7
+3.3VFPD         26D6 53C1 54B6
+3V_AUDIO        41D2 41D6 41D7 42C3 45C2 45D5
+3V_INTREPID_USB 30C4 54A3
+3V_INTSS_AVDD   10B7 54D6
+3V_INTSS_VDD    10B6 54D6
+3V_MAIN         41D4 42D5 43A5 43A7 44A7 44D4 54C4
                      61D7
+5VSD_T          52D7
+5V_AUDIO        41C6 41D7 43B8
+5V_HP           43A8 43B7 43D5
+5V_MAIN         54C4 61D7
+5V_SLEEP        48C7 48D6 52C6 53A5 53C5 61D7
+12VSD_FILT      31A5 54B3
+12VSD_T         52D7
+12V_DROPPED     46D8
+12V_MAIN        38D8 41C8 44D8 46D8 47B4 47D3 47D7
                      50C4 50C8 50D6 51C4 51D4 51D7 52B4
                      52C4 52C6 52D4 52D6 53A4 53A7 53B7
                      53D7 54C1 61D7
+12V_SLEEP       31A3 31A8 31C5 52D6 53A4 53D6 54C1
                      61D7
+12V_SLEEPA      61D7
+INTREPID_CORE_MAIN 12D6 13D4 48B3 49B2 61C7
+MAXBUS_SLEEP    4D5 6D8 7A3 7B3 7C3 7C5 7C7 8D3 9B2
                      9D2 9D4 11B8 11D8 46B7 46D1 46D2
                      47D2 48D4 54C6 61C7
3.8VH_TRICKLE    46C1 46D7 54B3
3.8V_TRICKLE     46C2 46C6 46D7 52D6 54C1 54C2
3_5_HONKER       53C4
3_6V_SLEEP       39D1 53C1
5V_USB_FUSED     35A7
5V_XRA           52B4
25V_BSTH         51C5 51C6
25V_BSTH_TERM    51C5
25V_COMP         51B6
25V_COMP_DWN     51B6
25V_DH           51B5
25V_DHT          51B5
25V_DL           51B5
25V_DLT          51B4
25V_GND          51B6
25V_NET99        51C3
25V_OCSET        51C5
25V_OVP          51B6
25V_VCC          51C6
25V_VPWR         51B5 51C5
25V_VPWRA        51B4
25V_VSENSE       51C3 51C5
25_CORE_1        51C3
33PCI_SLOTD_SERR_L 34B6
33SLOTB_INT_L    30B7 33C2 61A4
2059_IIC_CLK     10C5
2059_IIC_DAT     10C5
A0_IIC_MCK       10A4 10C5
A1_IIC_MCK       10A4 10C5
AGND             54C4
AGPIO_VPWR       48B6
AGP_AD<31..0>    18B4 18C4 19C8 19D8 56C7
AGP_AD_STB<1..0> 18A4 18B3 19B8 56C7
AGP_AD_STB_GPUUF<1..0> 19B7 56B7
AGP_AD_STB_L<1..0> 18A4 18D1 19B8 56C7
AGP_AD_STB_L_GPUUF<1..0> 19B7 56B7
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AGP_BUSY_L      18C6 18D1 18D3 19A8 56B7
AGP_CBE<3..0>   18B4 19C8 56C7
AGP_DEVSEL_L    18B4 18C3 19B8 56C7
AGP_FBI_EQUAL   18C7 56A7
AGP_FBO_EQUAL   18B7 56A7
AGP_FB_PLUS2    18B8 56A7
AGP_FRAME_L     18B4 18C3 19B8 56C7
AGP_GNT_L       18C3 18C4 19B7 56B7
AGP_INT_L       19B7 30B5 30B8
AGP_IRDY_L      18B4 18C3 19B8 56C7
AGP_PAR         18B4 19B8 56B7
AGP_PIPE_L      18A4 18B3 19B8 56B7
AGP_PLLVDD      19C5
AGP_RBF_L       18A4 18B3 19B8 56B7
AGP_REQ_L       18C3 18C4 19B7 56B7
AGP_RESET_L     19C7 46D3
AGP_SBA<7..0>   18A4 18B1 18B4 18C1 19A8 56B7
AGP_SB_STB      18A4 18B3 19A8 56B7
AGP_SB_STB_L    18A4 18D1 19A8 56B7
AGP_ST<2..0>    18A4 18B1 19B7 56B7
AGP_STOP_L      18B3 18B4 19B8 56C7
AGP_TRDY_L      18B3 18B4 19B8 56C7
AGP_WBF_L       18A6 18B1 19B8 56B7
AINLM           41C4
AINLP           41C4
AINRM           41C4
AINRP           41C4
ALTCHGND        54C4
AMPBIAS         44B6
AMPDC1          44B6
AMPDC2          44B6
AMPFAULT        44B6 44B8
AMPPUMP         44B6
AMPRREF         44B6
ANALOGGND       54C4
ANALOG_BLU      24C5 24C8 27C6 59D3
ANALOG_GRN      24C5 24C8 27C6 59D3
ANALOG_HSYNC*   24C8 27C4 27D6 28B5 59D3 61B7
ANALOG_RED      24C5 24C8 27B6 59D3
ANALOG_VSYNC*   24C8 27C6 28B5 59D3 61B7
ANEN            37C4
AOUTL           41C1 43D7 44B8
AOUTR           41C1 43C7 44C8
ASH             45B6
AUDIO_SPKR_ID_B 44C4
AUDIO_TO_SND    30B2 30B3 41C1
AUD_AMP_5V      44B8 44C6
AUD_R_FB        41D6
BB_MISO         8B4 8B6
BB_MOSI         8B4 8B5 8B6
BB_SCK          8B4 8B6
BFR_HRESET_L    8B4 8C6
BRCLKO          30A5
BRE             47C5
BRE_1           47B5
BT1             46D6 53A5
BT1_LED         53A5
BT_USB_DM       30B2 31D3 60A5 61B4
BT_USB_DP       30B2 31D3 60B5 61B4
C412P1          43B3
C756_2          42D3
C4237P2         42C4
C4240P2         42C4
C4242P2         42B4
C4243P2         42B4
CAP_PLL         41B4
CD_CS1FX_L      40C6 60C5
CD_CS3FX_L      40C6 60C5
CD_DMACK_L      39D4 40C6 60D5
CD_DMARQ        40C6 60D5
CD_DSTB_RDY     39C4 40C6 60D5
CD_EIDE_ADDR<2..0> 40C6 60C5
CD_HSTB_RDY     39C4 40C6 60D5
CD_RESET_L      39D4 40C6 60D5
CD_STOP         39D4 40C6 60D5
CHGND           54C4
CLK18M_INT_EXT  30B6
CLK18M_INT_XIN  30A5
CLK18M_INT_XO   30A6
CLK18M_INT_XOUT 30A5
CLK25M_ENET_XIN 37B6 59B3
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CLK25M_ENET_XOUT 37B6 59B3
CLK33M_PCI_SLOTB 32D7 33C2 56D7 61A4
CLK33M_PCI_SLOTB_UF 32C5 56D7
CLK33M_PCI_SLOTC_UF 32C5 56D7
CLK33M_PCI_SLOTD 32D7 34A6 56A7
CLK33M_PCI_SLOTD_UF 32C5 56D7
CLK66M_GPU_AGP  18D8 19C7 56A7
CLK66M_GPU_UF   18C6 56A7
CLKENET_LINK_GBE_REF 36C6
CLKENET_LINK_RX 36C7 37C8 59C3
CLKENET_LINK_TX 36D7 37C8 59C3
CLKENET_PHY_RX  37C6 59C3
CLKENET_PHY_TX  37C6 59C3
CLKFW_LINK_LCLK 36C5
CLKGEN_OUT_1    10A6 55A6
CLK_18M_INT_XOUT 60B5
COLE            48C7
COMM_DTR_L      30C3 31C7 61C4
COMM_GPIO_L     30C3 30D2 31C5 61C4
COMM_RESET_L    30C5 31D5 61A7
COMM_RING_DET_L 30B5 30B8 31C5 46C5 61D4
COMM_RTS_L      30C3 31D5 61C4
COMM_RXD        30C3 31C5 61C4
COMM_SHUTDOWN   30C5 30D1 31D7 61D4
COMM_TRXC       30C3 30D2 31C7 61C4
COMM_TXD_L      30C3 31C7 61C4
CORE_MOSFET     47C4 47C6
CORE_MOSFET_1   47B5 47C7
CPU_AACK_L      4A7 7B7 9B6 11B3 58C3
CPU_ADDR<31..0> 4B7 4C7 9B7 9B8 9C5 9C6 9C7 9C8
                      11C3 11D3 58D3
CPU_ARTRY_L     4A7 7C7 9B8 11B3 58C3
CPU_AVDD        4D3 54C6
CPU_BG_L        4D7 7B7 9B5 11D3 58D3
CPU_BR_L        4D7 7C7 9C5 11D3 58D3
CPU_BUS_VSEL    4D3 7C4
CPU_CHKSTP_IN_L 4B3 7B5 61C7
CPU_CHKSTP_OUT_L 4B3 7B5 9A2 9D6 61C7
CPU_CI_L        4A7 7A7 9C6 11C3 58C3
CPU_CLK_EN      11A3 46C4
CPU_DATA<63..0> 5A4 5B4 5C4 5D4 9C5 9C6 9C7 9C8 9D5
                      9D6 9D7 9D8 11B1 11B5 11B8 11C1 11C5
                      11D1 11D5 11D8 58D3
CPU_DBG_L       4C3 7B7 9C8 11B1 58C3
CPU_DRDY_L      4C2 7B7 9B6 11B1 58C3
CPU_DRDY_L_UF   4C3 58C3
CPU_DTI<2..0>   4C3 9B5 9B7 11A1 58C3
CPU_EDTI        4C3 7C5
CPU_EMODE0_L    4B3 7A4
CPU_EMODE1_L    4B3 7A4
CPU_FBI_PLUS1   11A4 58C3
CPU_FBO_PLUS1   11A4 58C3
CPU_FB_MINUS3   11A4 58C3
CPU_FB_PLUS2    11A5 58C3
CPU_FB_PLUS3    11A4 58B3
CPU_GBL_L       4B8 9B6 58C3
CPU_HDRST_L     8C7 46C4
CPU_HIT_L       4A7 7C7 9B8 11B3 58C3
CPU_HRESET_L    4B3 7A3 7A5 7B3 8D2 9A2 46C2 46D2
                      61C7
CPU_INT_GBL_L   4B8 7B7 11C3 58C3
CPU_L1TSTCLK    4C3 7A4
CPU_L2TSTCLK    4C3 7C4
CPU_LSSD_MODE   4C3 7B5
CPU_MCP_L       4B3 7B5
CPU_PLL_CFG<3..0> 4C3 4D3 6C6 9A8
CPU_PLL_CFGEXT  4C3 6C6 9A8
CPU_PLL_STOP    6B8 46B8
CPU_PMONIN_L    4B3 7C5
CPU_PULLDOWN    4A3 4D7 7C5
CPU_PULLUP      4A3 7A5
CPU_QACK_L      4C3 9B5 11B3 58C3
CPU_QREQ_L      4C3 7D5 9B7 11B3 58C3
CPU_SHD0_L      4A7 7B5
CPU_SHD1_L      4A7 7B5
CPU_SLEEPIN     53B7
CPU_SMI_L       4B3 7A5 46C4
CPU_SRESET_L    4B3 7A5 9A2 61C4
CPU_STATE_LED*  46C4 53A8
CPU_TA_L        4C3 7C7 9C5 11A1 58C3
CPU_TBEN        4C3 7C5 11A3
```

```
CPU_TBST_L      4B7 7B7 9B5 11B3 58D3
CPU_TEA_L       4C3 7B7 9C6 11A1 58C3
CPU_TSIZ<2..0>  4B7 9B6 9B7 9C6 11B3 58D3
CPU_TS_L        4D7 7C7 9C7 11D3 58D3
CPU_TT<4..0>    4B7 7A7 9B5 9B6 9C5 9C6 11B3 58D3
CPU_VCORE_SLEEP 4D3 4D7 9B6 9C2 47B3 47C1 54C6 61B4
                      61D7
CPU_VCORE_SLEEPA 47C3
CPU_VCORE_SLEEPB 47A4
CPU_VCORE_SLEEPC 47A1
CPU_WT_L        4B7 7A7 9B6 11B3 58C3
CSLOT_IOWAIT_L  39B7 54A6
CVBS_CNT        24B8 25D6
CVBS_D          24B7
CY69P2          41B5
DAC2RSET        24C6 59D3
DAC2VDD         24C5 54B6
DAC2VREF        24C5 59D3
DACRSET         24C4
DACVDD          24C4 54B6
DACVREF         24C4
DDC_VCC_3       26A5 26B3 54B6 61B7
DDC_VCC_5       27C4 54A6 61B7
DDRCLK_A0_L_UF  10B3 55B6
DDRCLK_A0_UF    10C3 55B6
DDRCLK_A1_L_UF  10B3 55B6
DDRCLK_A1_UF    10C3 55B6
DDRCLK_A2_L_UF  10B3 55B6
DDRCLK_A2_UF    10C3 55B6
DDRCLK_B0_L_UF  10B3 55A6
DDRCLK_B0_UF    10C3 55B6
DDRCLK_B1_L_UF  10B3 55A6
DDRCLK_B1_UF    10C3 55B6
DDRCLK_B2_L_UF  10B3 55A6
DDRCLK_B2_UF    10C3 55B6
DDR_CK_CE       10B5
DDR_CLK_VDD_2   10C5 55B6
DDR_FBIN        10B5 55A6
DDR_FBIN_L      10B5 55A6
DDR_FBO         10B3 55A6
DDR_FBO_L       10B3 55A6
DDR_VREF        16B2 16D1 16D8 17D8 54A6
DS1P1           37B2
DS2P1           37B1
DS2_1           40B2
DS2_2           40B2
DS3P1           37B2
DS6_1           40B6
DS6_2           40B6
DUKE_BD         47B5
DVOCLKIN        24C5
DVOD0           24B5 29B7
DVOD1           24B5 29B7
DVOD2           24B5 29C7
DVOD3           24B5 29C7
DVOD4           24B5 29C7
DVOD5           24B5 29C7
DVOD6           24B5 29C7
DVOD7           24B5 29C7
DVOD8           24B5 29C7
DVOD9           24B5 29C7
DVOD10          24B5 29C7
DVOD11          24B5 29C7
DVODE           24C5
DVOHSYNC        24C5 28D7
DVOVREF         24C5
DVO_PD          24B5
DVO_PU          24B5
EEPR_WP         8A6
EIDE_ADDR<2..0> 39B7 40A8 40B8 60C5
EIDE_CS1FX_L    39A7 40B8 60C5
EIDE_CS3FX_L    39A7 40B8 60C5
EIDE_CSELP_L    40C6 54A6
EIDE_DATA<15..0> 39A5 39B5 39B7 39C5 60D5
EIDE_DMACK_L    39A7 39D5 60D5
EIDE_DMARQ      39A7 40C8 60D5
EIDE_DSTB_RDY   39A7 39C5 60D5
EIDE_HSTB_RDY   39A7 39C5 60D5
EIDE_INTRQ      39A7 40C8 60C5
EIDE_IOCS16_L   40C6 54A6
EIDE_PDIAG      40C6
```


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EIDE_RST_L      39A7 39D5 60D5
EIDE_STOP       39A7 39D5 60D5
ENET_COL        36B7 37B8 59B3
ENET_CRS        36C7 37B8 59B3
ENET_ENERGY_DET 30B5 30C1 37B4
ENET_LINK_RXD<7..0> 36C6 36C7 37B8 37C8 59B3
ENET_LINK_TXD<3..0> 36C6 59C3
ENET_LINK_TX_EN 36D6 59C3
ENET_LINK_TX_ER 36D6 59C3
ENET_MDC        36B7 37B6
ENET_MDIO       36B7 37B7
ENET_PHY_COL    37B6 59B3
ENET_PHY_CRS    37B6 59B3
ENET_PHY_RXD<3..0> 37B6 37C6 59B3
ENET_PHY_RX_DV  37B6 59B3
ENET_PHY_RX_ER  37B6 59B3
ENET_PHY_TXD<3..0> 36C7 37C6 59C3
ENET_PHY_TX_EN  36D7 37C6 59C3
ENET_PHY_TX_ER  36D7 37C6 59C3
ENET_RDAC_PD    37B5
ENET_RDN        37C3 59B3
ENET_RDP        37C3 59B3
ENET_RX_DV      36C7 37B8 59B3
ENET_RX_ER      36C7 37B8 59B3
ENET_TDN        37C3 59B3
ENET_TDP        37C3 59B3
ETHPHYRESET_L   37B6
EXTINT14        30A8 30B5
FAN_12V_FILT    31A5 54B3 61C7
FBA<12..0>      20C8 20D8 20E3 20F3 57D3
FBABA<1..0>     20C8 20E3 57D3
FBACAS_L        20C8 20G3 57D3
FBACKE          20D3 20D7 57D3
FBACLK0         20D7 21C3 57C3
FBACLK0_L       20D7 21C3 57C3
FBACLK1         20D7 21D3 57C3
FBACLK1_L       20D7 21D3 57C3
FBACS0_L        20C8 20F3 57D3
FBARAS_L        20C8 20G3 57D3
FBAWE_L         20C8 20F3 57D3
FBBA<12..0>     20A3 20B3 20C3 20C5 20D5 57C3
FBBBA<1..0>     20A3 20C5 57C3
FBBCAS_L        20C3 20D4 57C3
FBBCKE          20A3 20C4 57B3
FBBCLK0         20C5 21B3 57B3
FBBCLK0_L       20C5 21B3 57B3
FBBCLK1         20C5 21C3 57B3
FBBCLK1_L       20C5 21B3 57B3
FBBCS0_L        20C3 20C4 57C3
FBBRAS_L        20C3 20D4 57C3
FBBWE_L         20C3 20D4 57C3
FBCAL_CLK_GND   20A5 20D7
FBCAL_PD_VDDQ   20D7
FBCAL_PU_GND    20A5 20D7
FBCAL_TERM_GND  20A5 20D7
FBD<127..0>     20E5 20E8 20F5 20F8 20G5 20G8 21B5
                21B8 21C5 21C8 21D5 21D8 57C3 57D3
FBDQM<15..0>    20C3 20D3 20D5 20D8 20G3 57C3 57D3
FBDQS<15..0>    20C7 20D4 21A5 21A8 57B3 57C3
FBDQSTERM<15..0> 21A4 21A7 57B3 57C3
FB_DLLVDD       20C6 20D7
FDC602          48B7
FDX             37A5 37C4
FILT_ANALOG_BLU 27C5 59D3 61B7
FILT_ANALOG_GRN 27C5 59D3 61B7
FILT_ANALOG_RED 27C5 59D3 61B7
FIX_RESET_L     8B6 8C4
FLOW_SS         47C7 47D8
FLO_KNOWS_BEST  47C6 47C7 47C8 61D4
FPD_PWR_ON      25D6 53B3
FPD_PWR_ON_T    53B3
FWPHYRST        30C5 38C8
FW_BIAS1        38C5 59A3
FW_BIAS2        38C5 59A3
FW_CNTL0        36C3 38C8 59A3
FW_CNTL1        36C3 38C8 59A3
FW_CPS          38C6
FW_C_LKON       30B6 36C5 38B5
FW_D<7..0>      36C3 38B8 38C8 59A3
FW_DIODE_BYPASS_V 38B6 38B7 54B6
FW_DIO_V        38B6 54B6
```

```
FW_LINK_CNTL<1..0> 36C5 59A3
FW_LINK_DATA<7..0> 36C5 59A3
FW_LINK_LREQ    36C5 59A3
FW_LPS          36C5 38C8
FW_LREQ         36C3 38C8 59A3
FW_PHY_3_3      38B5 38B7 38D7 54B6
FW_PHY_CNTL0    38C7 59A3
FW_PHY_CNTL1    38C7 59A3
FW_PHY_D<7..0>  38B7 38C7 59A3
FW_PHY_ISO*     38C6
FW_PHY_RST      38C8
FW_PHY_RST*     38C6
FW_PHY_SCLK     38C7 59A3
FW_PINT         36B5 36C1
FW_PWR          52C7 53D3 54B6
FW_PWR_SW       38D6 53D1 54B6
FW_R0           38C5
FW_R1           38C5
FW_SCLK         36C5 38C8 59A3
FW_TPA1N        38C5 59A3
FW_TPA1P        38C5 59A3
FW_TPA2N        38C5 59A3
FW_TPA2P        38C5 59A3
FW_TPB1         38B3
FW_TPB1N        38C5 59A3
FW_TPB1P        38C5 59A3
FW_TPB2         38B4
FW_TPB2N        38C5 59A3
FW_TPB2P        38C5 59A3
FW_TPI1N        38A8 38D1 59A3
FW_TPI1P        38A8 38D1 59A3
FW_TPI2N        38A8 38C1 59A3
FW_TPI2P        38A8 38C1 59A3
FW_TPO1N        38A8 38D1 59A3
FW_TPO1P        38B8 38D1 59A3
FW_TPO2N        38A8 38C1 59A3
FW_TPO2P        38A8 38C1 59A3
FW_VGND         38D1 54B6
FW_VP           38D5 54B6
FW_VP1          38D1 38D3 54B6
FW_VP2          38C1 38D3 54B6
FW_VP_1         38D4 54B6
FW_VP_2         38D4 54B6
FW_VREG_FB      38D7
FW_XI           38C6 59A3
FW_XI_A         38C6
FW_XO           38C6 59A3
GCORE_1         50C2
GCORE_2         50C3
GCORE_BSTH      50C5
GCORE_BSTH_TERM 50C3
GCORE_COMP      50B6
GCORE_DH        50B5
GCORE_DL        50B5
GCORE_GND       50B5
GCORE_OCSET     50B6
GCORE_OVP       50B6
GCORE_VCC       50C6
GCORE_VSENSE    50B6 50C2
GPULNKON        25C4
GPU_50PULLDWN   19A5 54A6
GPU_50PULLUP    19A5 54A6
GPU_AGP_AD<31..0> 19C7 19D7 56B7
GPU_AGP_CBE<3..0> 19C7 56B7
GPU_AGP_DEVSEL_L 19B7 56B7
GPU_AGP_FRAME_L 19B7 56B7
GPU_AGP_IRDY_L  19B7 56B7
GPU_AGP_PAR     19B7 56B7
GPU_AGP_PIPE_L  19B7 56A7
GPU_AGP_RBF_L   19B7 56A7
GPU_AGP_SBA<7..0> 19A7 56A7
GPU_AGP_SB_STB  19A7 56A7
GPU_AGP_SB_STB_L 19A7 56A7
GPU_AGP_STOP_L  19B7 56B7
GPU_AGP_TRDY_L  19B7 56B7
GPU_AGP_VREF    19A3 19A8 54A6
GPU_AGP_VREF_H  18A8
GPU_AGP_VREF_L  18A8
GPU_AGP_VREF_X  19A3
GPU_AGP_VREF_Y  19A3
GPU_AGP_WBF_L   19B7
```

```
GPU_FB_VREF     20C8 54A6
GPU_FPBCLK      25C4
GPU_FPBCLK_L    25C4
GPU_FW_PME_L    25C4
GPU_IFB1IOVDD   25B2
GPU_IFP1PLLVDD  25B2
GPU_MBDET_L     19A7
GPU_STEREO      25C4
GPU_STRAP<3..0> 24B4 28A3 28B3 28D3
GPU_SWAP_A      25C4
GPU_SWAP_B      25C4
GPU_TESTMECLK   25C4
GPU_TMODE       19A5 54A6
GPU_XTALSSIN    24B4 54A6
GPWRGD          49B6 49B8 50A5
GRAPHICS_VPWR   50B5
GRAPH_CORE      19D5 25C4 25C6 50B1 54A6
GRAPH_DDC_SCL   24D5 26A6
GRAPH_DDC_SDA   24D5 26A6
GRAPH_IIC_SCL2  25D2
GRAPH_IIC_SDA2  25D2
HD_DIOR_L       39D1 40C3 60C5
HD_DIOW_L       39C1 40C3 60C5
HD_DMACK_L      39D1 40C3 60C5
HD_DMARQ        40C3 60C5
HD_INTRQ        40C3 60C5
HD_IOCHRDY      39C1 40C3 60C5
HD_RESET_L      39D1 40C3 60C5
HD_UIDE_ADDR<2..0> 40C2 40C3 60C5
HD_UIDE_CS1FX_L 40C3 60B5
HD_UIDE_CS3FX_L 40C2 60B5
HEADPHONE_COM   43B2
HEADPHONE_L     43B2 43D2
HEADPHONE_R     43B2 43C2
HONK_ADJ        53B4
HP16_L          43D4
HP16_R          43C4
HPBYP           43B5 43D6
HPGAL_L         43D4
HPGAL_R         43C4
HPIN_L          43D6
HPIN_R          43D6
HP_OFF          43A7 43D5
HP_OUT_L        43D5
HP_OUT_R        43D5
HP_STAR_GND     41B7 43A8 43B4 43B8 43C5 43D4 43D7
HP_TL           43D3
HP_TP           43B3
HP_TR           43C3
HRST_REF        8B4 8B7
HSYNC*          24C5 59D3
ICORE_COMP      49B6
ICW             49B7
IFP0AVCC        25A6 25B4 54A6
IFP0PLLVDD      25B4
IFP0RSET        25B4
IFP0VREF        25B4 54A6
IFP_AVCC        25A7
IFP_VADJ        25A8
IIC A<2..0>     8A6 8A7
IIC_ADD         31C6 61A7
IMAC_INTREPID   49B4
INTCORE_1       49B3
INTCORE_BSTH    49B6
INTCORE_BSTH_TERM 49B6
INTCORE_DH      49B6
INTCORE_DHT     49B5
INTCORE_DL      49B6
INTCORE_GND     49A7
INTCORE_NET99   49B4
INTCORE_OCSET   49B6
INTCORE_OVP     49B6
INTCORE_VCC     49C7
INTREPID_ACS_REF 11A3
INTREPID_VPWR   49B6
INTREPID_VPWRA  49B4
INTREPID_VSENSE 49C6 61C7
INTREP_DLT      49B5
INT_AGPPVT      18C6
INT_AGP_FB_IN   18C6 56A7
INT_AGP_FB_OUT  18C6 56A7
```

```
INT_AGP_VREF    18A7 18C6 54C3
INT_ANALYZER_CLK 9B4 11B4 18C7 56A7 58B3 61A7
INT_ANALYZER_CLKA 11B3
INT_CLOCK_OUT   9C4 58B3
INT_CPU_FB_IN   11B3 58C3
INT_CPU_FB_OUT  11B3 58C3
INT_ENET_RST_L  30B5 30D1 37B8
INT_EXTINT3_PU  30B5 30B8
INT_EXTINT12_PU 30B5 30B8
INT_EXTINT13_PU 30B5 30B8
INT_EXTINT17_PU 30B5 30B8 34B6
INT_GPIO1_PD    30A8 30C5
INT_GPIO9_PU    30B5 30B8
INT_GPIO12_PU   30A8 30B5
INT_I2C_CLK0    8A6 8B4 8B7 10C7 16A6 17A6 36B3
INT_I2C_CLK0R   36B5 36C1
INT_I2C_CLK1    10A7 36A3 36A4 36B1
INT_I2C_CLK2    30A3 30D1 31C7 36B5 41B1 61A7
INT_I2C_DATA0   8A6 8B4 8B7 10C7 16A6 17A6 36B3
INT_I2C_DATA0R  36B5 36C1
INT_I2C_DATA1   10A7 36A3 36B1
INT_I2C_DATA2   30A3 30D1 31C7 36B5 41B1 61A7
INT_JTAG_TEI    36B7 36C1
INT_MEM_REF     14B6
INT_MOD_BITCLK  30A3 30A8 30C6
INT_MOD_CLKOUT  30A3 30A8 30C6
INT_MOD_DTI     30A3 30A8 30C6
INT_MOD_DTO     30A3 30A8 30C6
INT_MOD_SYNC    30A3 30A8 30C6
INT_PCI_FB_IN   32C5 56C7
INT_PCI_FB_OUT  32C5 56D7
INT_PEND_PROC_INT 30A5 46B4
INT_PLL1_GND    30A5 30C4
INT_PLL2_GND    30A5 30D4
INT_PLL3_GND    30A4 30D4
INT_PLL4_GND    32B4 32D4
INT_PLL5_GND    18A5 18D5
INT_PLL6_GND    11A2 11D3
INT_PLL7_GND    30A4 30D4
INT_PLL9_GND    30A4 30D4
INT_PROC_SLEEP_REQ_L 30A5 46B4
INT_PU_RESET_L  36C3 46C2 46C4
INT_REF_CLK_IN_PD 10A5 30A6 55A6
INT_REF_CLK_OUT 10A7 30A6 55A6
INT_REF_CLK_OUT_UF 55A6
INT_RESET_L     36C3 37B8 43A7 44A8 46D2 46D4
INT_ROM_CS_L    32C5
INT_ROM_OE_L    32C5
INT_ROM_OVERLAY_PU 18D7 32A8 32C5 56A7
INT_ROM_RW_L    32C5
INT_SND_CLKOUT  30A3
INT_SND_SCLK    30A3
INT_SND_SYNC    30B3
INT_SND_TO_AUDIO 30B3
INT_SPKR+       44B1
INT_SPKR-       44B1
INT_SUSPEND_ACK_L 11B3 46B5
INT_SUSPEND_REQ_L 11B3 46B5 46B8
INT_TMDS_3V     26B3 26C3 26C4 26D5 54A6 61C7
INT_TMDS_CKM    25D2 26A6 59D3 61A7
INT_TMDS_CKP    25D2 26B6 59D3 61A7
INT_TMDS_D0M    25D2 26B6 59C3 61A7
INT_TMDS_D0P    25D2 26B6 59C3 61B7
INT_TMDS_D1M    25D2 26C6 59C3 61B7
INT_TMDS_D1P    25D2 26C6 59C3 61B7
INT_TMDS_D2M    25C2 26D6 59C3 61B7
INT_TMDS_D2P    25C2 26D6 59C3 61B7
INT_TST_MONIN_PD 36B7 36C1
INT_TST_PLLEN_PD 30C6 36B7 36C1
INT_WATCHDOG_L  30A5 46C5
INV_BFR_HRST    8D6
INV_CUR_HI      25D6 31B8
INV_CUR_HI_FILT 31A5 61A7
IO_RESET_L      34A6 37B8 46B5 46B8 46D3 61A7
IPWRGD          48A8 49A6
IPWR_D          48A7
JAZ             45C6
JTAG_ASIC_TCK   9A3 36B7 37C4 61D7
JTAG_ASIC_TDI   9A3 36C6 36B7 61D7
JTAG_ASIC_TDO   9A3 37B4 61D7
JTAG_ASIC_TMS   9A3 36B7 37A2 37B4 61D7
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JTAG_ASIC_TRST_L 9A3 36B7 61C7
JTAG_CPU_TCK     4C3 7D5 8C2 9A2 61C7
JTAG_CPU_TDI     4C3 7A5 8D2 9A2 61C7
JTAG_CPU_TDO     4C3 9A2 61C7
JTAG_CPU_TMS     4C3 7A5 8D2 9A2 61C7
JTAG_CPU_TRST_L 4C3 7C5 8D2 9A2 61C7
JTAG_ENET_TDI    30C6 36B7 37A2 37B4
KAVAN            45B6
KS5VSD           31A5 54B3 61A7
KS_INT_SPKR+     31A3 44C3 60A5 61B7
KS_INT_SPKR+_FILT 31A5
KS_INT_SPKR-     31A3 44C3 60A5 61B7
KS_INT_SPKR-_FILT 31A5
KYLE             48C6
L31_2            42C6
L32_2            42B6
L36_2            42B6
L43_1            43A4
L3202_1          42C6
LAMP_STS         25D6 31A3
LAMP_STS_FILT    31A5 61A7
LCD_PWM          25D6 31A8
LCD_PWM_FILT     31A5 61A7
LED_5V           31A8 54B3
LED_5V_FILT      31A5 54B3 61A7
LED_RET          31A3 53B6 54B3
LED_RET_FILT     31A5 54A3 61A7
LED_ROMCS        32A3
LED_ROMCS_L      32A4
LED_ROMCS_LIGHT 32A3
LID_SWITCH       31B2 46C4
LINA             41C4 42C2
LINEOUT_COMM2    61B4
LINE_IN_COM      42B7 61B4
LINE_IN_L        42B7 42C7 61B4
LINE_IN_R        42B6 42B7 61B4
LINE_IN_SENSE    42B7 42C7 61B4
LINE_OUT_L       61B4
LINSENSE         42C5
LOW_PWR          37A5 37B4
LO_T1            43A4
LP4202P2         42C5
LP4202P3         42B5
LP4202P4         42B5
LPL1             43D6
LPR1             43C6
LSPKRCAP         44B8
LSPKRIN2         44B6
LSPKRVP2         44B6
LT1962_INT_ADJ   30D7
LT1962_INT_BYP   30D7
LT1962_INT_VIN   30D7
LY4P2            44C3
M1FH             45C7
M1FL             45B7
M1H              45C6
M1HFILT          45C5
M1L              45B6 45C6
M1S              45B5 45C6
MAIN_RESET_L     32A2 33D4 34A6 46C4 61A4
MAIN_RESET_L_PU 33D3
MAIN_SUPPLY_LED 52D6
MEMI_VREF        14A6
MEMREFG1         22A5
MEMREFG2         22A4
MEMREFG3         23A5
MEMREFG4         23A4
MEMREFI1         14A8
MEMREFI2         14A7
MEMREFM1         16B3
MEMREFM2         16B2
MEMREFN1         20B8
MEMREFN2         20B7
MEM_ADDR<12..0> 14A3 14B3 14C2 14C3 14D2 14D3 14D6
                 55D6
MEM_BA<1..0>     14B3 14D6 55D6
MEM_CAS_L        14A3 14C6 55C6
MEM_CKE<3..0>    14A2 14B2 14B6 14C2 14C6 55C6
MEM_CS_L<3..0>   14A2 14B2 14C2 14C6 55D6
MEM_DATA<63..0> 14B8 14C8 14D8 15A6 15B3 15B6 15C5
                 15C8 55D6
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```
MEM_DQM<7..0>    14C6 15A6 15B3 15C5 15C8 55D6
MEM_DQS<7..0>    14C6 15A6 15B3 15C5 15C8 55D6
MEM_MUXSEL_H<1..0> 14B6 14D5 55C6
MEM_MUXSEL_L<1..0> 14B6 14D5 55C6
MEM_RAS_L        14A3 14C6 55C6
MEM_WE_L         14A3 14C6 55C6
MIC1             45C4
MIC1S1           45B7
MIC2             45C4
MIC3             45C4
MIC4             45C3
MIC5             45B3
MICHIGH          31A5 45C8 60A5 61A7
MICLOW           31A5 45B8 60A5 61A7
MICSHLD          31A5 45B8 60A5 61A7
MIC_FIX          45D5
MIC_IN           41C4 45C2
MIC_TDO          8B3
MII_EN           37C4
MODEM_USB_DM     30B2 31C5 60A5 61B4
MODEM_USB_DP     30B2 31C5 60A5 61B4
MON_DETECT       25D6 27C6 61D4
MON_I2C_SCL      24D5 27B6
MON_I2C_SDA      24D5 27B6
MPIC_CPU_INT_L   4B3 7A5 9D7 30B5
MPWRGD           50B6 50B7 51B5
MR_FLO           47C5
MR_FLO_1         47B4
MUTE_B_L         44B8
MUX_SEL_H        14D4 15A3 15C5 55C6
MUX_SEL_L        14D4 15A6 15C8 55C6
M_SPD_WP         17A7
M_VDDID          17A7
NCVR4            41D6
NC_-10VUNREG     31C6
NC_-12VREG       31C6
NC_28512P4       10A7
NC_28512P14      10A7
NC_28512P17      10A7
NC_AMPOL         44B6
NC_ATXTAL1       8C4
NC_ATXTAL2       8B4
NC_AUDIO2MODEM   31C6
NC_AUDIO2MODEMRTN 31C6
NC_AUD_MODEM     31C6
NC_AUD_MODEM_RTN 31C6
NC_BIGDIMM9      17D6
NC_BIGDIMM10     17D6
NC_BIGDIMM44     17C6
NC_BIGDIMM45     17B6
NC_BIGDIMM47     17B6
NC_BIGDIMM49     17B6
NC_BIGDIMM51     17B6
NC_BIGDIMM71     17A6
NC_BIGDIMM101    17D4
NC_BIGDIMM102    17D4
NC_BIGDIMM103    17D4
NC_BIGDIMM113    17C4
NC_BIGDIMM134    17C4
NC_BIGDIMM135    17C4
NC_BIGDIMM140    17B4
NC_BIGDIMM142    17B4
NC_BIGDIMM144    17B4
NC_BIGDIMM163    17A4
NC_BIGDIMM167    17A4
NC_BIGDIMM173    17A4
NC_BS1           31B7
NC_BS2           31B6
NC_BS3           31D1
NC_BS4           31D1
NC_BT1           31D2
NC_BT3           31D2
NC_BT4           31D2
NC_BT5           31D2
NC_BT6           31D2
NC_CBUS_INT_L    30A8
NC_CLK33M_PCI_SLOTC 32D7
NC_CLKENET_LINK_GTX 36C6
NC_CPUAP<4..0>   4B7
NC_CPUCRUD<89..0> 5A7 5B7 5C7 5D7
NC_CPUDP<7..0>   5A4
```

```
NC_CPU_CLKOUT    4D3
NC_CSLOT_ADDR<9..3> 39A7 39B7
NC_CSLOT_CE1_L   39C7
NC_CSLOT_CE2_L   39C7
NC_CSLOT_IORD_L 39C7
NC_CSLOT_IOWR_L 39C7
NC_CSLOT_OE_L    39B7
NC_CSLOT_WE_L    39B7
NC_DAA_CLKOUT    31C6
NC_DAA_LOADOUT   31C6
NC_DACC_BLU      24C4
NC_DACC_GRN      24C4
NC_DACC_RED      24C4
NC_DACC_RSET     24C4
NC_DDRCLK1       10C3
NC_DDRCLK2       10C3
NC_DDRCLK3       10C3
NC_DDRCLK4       10C3
NC_DDRCLK5       10C3
NC_DDRCLK6       10C3
NC_DDRCLK7       10C3
NC_DDRCLK8       10C3
NC_DDRCLK9       10C3
NC_DDRCLK10      10C3
NC_DDRCLK11      10B3
NC_DDRCLK12      10B3
NC_DDRCLK13      10B3
NC_DDRCLK14      10B3
NC_DDRCLK_A2     10C2
NC_DDRCLK_A2_L   10C2
NC_DFPCLK        25C2
NC_DFPCLK*       25C2
NC_DFPD0         25C2
NC_DFPD1         25C2
NC_DFPD2         25C2
NC_DFPD3         25C2
NC_DFPD5         25B2
NC_DFPD6         25B2
NC_ENET_LINK_TXD<7..4> 36C6
NC_EXT_TMDS_CKM 25C2
NC_EXT_TMDS_CKP 25C2
NC_EXT_TMDS_D0M 25C2
NC_EXT_TMDS_D0P 25C2
NC_EXT_TMDS_D1M 25C2
NC_EXT_TMDS_D1P 25C2
NC_EXT_TMDS_D2M 25C2
NC_EXT_TMDS_D2P 25C2
NC_FB1<10..0>    22B5 22B6
NC_FB2<10..0>    22B1 22B2
NC_FB3<10..0>    23B5 23B6
NC_FB4<10..0>    23B1 23B2
NC_FBACS1_L      20C8
NC_FBBCS1_L      20C4
NC_FBDQS_L<15..0> 20C7 20D4
NC_FMAX7         9A8
NC_FMAX8         9A8
NC_FW_CNA        38B6
NC_GPU<4..0>     19A6
NC_GPULPS        25C4
NC_GPU_DBI_LO    19B7
NC_GPU_INTB_L    19B7
NC_GPU_THERMA    25C4
NC_GPU_THERMC    25C4
NC_IFP1RSET      25B2
NC_IFP1VREF      25B2
NC_INPA          41C2
NC_INT_TST_MONOUT_TP 36B6
NC_JTAG7         9A3
NC_JTAG10        9A2
NC_LCENABLE      9A3
NC_MODEM_DETECT_L 31C6
NC_NVAGP_TDI     19A5
NC_NVAGP_TDO     19A5
NC_NVAGP_TMS     19A5
NC_P00_D0        46D5
NC_P01_D1        46D5
NC_P02_D2        46C5
NC_P03_D3        46C5
NC_P04_D4        46C5
NC_P05_D5        46C5
NC_P6_D6         46C5
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NC_P07_D7        46C5
NC_P10_D8        46C5
NC_P11_D9        46C5
NC_P14_D12       46C5
NC_P20_A0_D0     46C5
NC_P21_A1_D1_D0 46C5
NC_P22_A2_D2_D1 46C5
NC_P23_A3_D3_D2 46C5
NC_P24_A4_D4_D3 46C5
NC_P25_A5_D5_D4 46C5
NC_P26_A6_D6_D5 46C5
NC_P27_A7_D7_D6 46C5
NC_P33_A11       46B5
NC_P34_A12       46B5
NC_P35_A13       46B5
NC_P36_A14       46B5
NC_P37_A15       46B5
NC_P43_A19       46B5
NC_P45_CS1_L     46B5
NC_P74_TA2OUT_W 46C4
NC_P75_TA2IN_W   46C4
NC_P76_TA3OUT    46C4
NC_P77_TA3IN     46C4
NC_P92_TB2IN_SOUT3 46B4
NC_P93_DA0_TB3IN 46B4
NC_P96_ANEX0_CLK4 46B4
NC_P103_AN3      46B4
NC_PCIR0         33B7
NC_PCIR1         33B7
NC_PCITR0        33B6
NC_PCITR1        33B6
NC_PD0           8B3
NC_PMON_OUT_L    4B3
NC_PMU_DL_10     31B2
NC_PMU_DL_12     31B2
NC_PPL*          46C6
NC_RESET_BUTTON_L 9A8
NC_RFBA<12..12> 20E2
NC_RFBBA<12..12> 20A2
NC_RF_DISABLE_L 61A4
NC_ROMCS_L       20C8
NC_RP1PIN4       18B3
NC_RP1399        32A6
NC_RP2848        30A8
NC_RP3319        30D2
NC_RP3324_2      30C1
NC_RPT48P1       30D2
NC_RPT77P6       30B8
NC_SDOUT2        41C2
NC_SODIMM71      16C6
NC_SODIMM72      16C5
NC_SODIMM73      16C6
NC_SODIMM74      16C5
NC_SODIMM77      16C6
NC_SODIMM78      16C5
NC_SODIMM79      16C6
NC_SODIMM80      16C5
NC_SODIMM83      16C6
NC_SODIMM84      16C5
NC_SODIMM85      16C6
NC_SODIMM86      16C5
NC_SODIMM89      16C6
NC_SODIMM91      16C6
NC_SODIMM97      16B6
NC_SODIMM98      16B5
NC_SODIMM123     16B6
NC_SODIMM124     16B5
NC_SODIMM199     16A6
NC_SODIMM200     16A5
NC_SODIMM201     16D5
NC_SODIMM202     16A6
NC_SW3V5V_33OUT 52C6
NC_SYSCLK_DDRCLK_A2 14B4
NC_TAS_SDOUT1    41C2
NC_TESTMODE      9A3
NC_TMDS_TXD3M    25C2
NC_TMDS_TXD3P    25C2
NC_TMDS_TXD7M    25C2
NC_TMDS_TXD7P    25C2
NC_TX1_1         37C3
NC_TX1_2         37C3
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APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6490	A
SCALE: NONE	SHT 64 OF 74	

	8	7	6	5	4	3	2	1
D								
C								
B								
A								

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NC_TX1_3        37C2
NC_TX1_4        37C2
NC_UB3P4        37D5
NC_USB2_AMC     34A4
NC_USB2_NANDTEST 34A4
NC_USB2_NTEST1  34A4
NC_USB2_PPON1   34B4
NC_USB2_PPON2   34B4
NC_USB2_PPON3   34B4
NC_USB2_PPON4   34B4
NC_USB2_PPON5   34B4
NC_USB2_RSDEM   34C4
NC_USB2_RSDEP   34C4
NC_USB2_RSDFM   34C4
NC_USB2_RSDFP   34B4
NC_USB2_SMC     34A4
NC_USB2_SMI_L   34A6
NC_USB2_SRCLK   34A4
NC_USB2_SRDTA   34A4
NC_USB2_SRMOD   34A4
NC_USB2_TEB     34A4
NC_USB2_TEST    34A4
NC_USB_M        33B2
NC_USB_P        33B2
NC_UT6P6        30D8
NC_UT6P7        30D8
NC_UT164        46D7
NC_UT165        46D7
NC_VCORE10      47D6
NC_VIPHCLK      24D5
NC_VTT<11..0>   20F7 20G7
NC_WL<23..1>    33B2 33B3
NC_XTALSOUT     24B4
NC_XTLINO       41B4
NEC_AVDD        34D5 54A3
NEC_XT2_B       34D3
NET16           48A5
NET18           46D6
NET19           46D6
NET22           46D8
NET24           46D8
NET32           44B1
NET32_B         44B1
NET40           46B4
NMI_BUTTON*     31B2 46C4 61D4
NV11_HSYNC      24C4 28D3
NV11_VSYNC      24C4 28D3
NV11_XTALIN     24B4 59D3
NV11_XTALOUT    24B4 59D3
NVAGP_TCLK      19A5
NVAGP_TRST_L    19A5
NVPLLVDD        24D5 54A6
NV_BLUE2        24C1
NV_GPIOD0       25D4
NV_GPIOD2       25D4
NV_GPIOD4       25D4
NV_GPIOD5       25D4
NV_GPIOD6       25C4
NV_GPIOD7       25C4
NV_GPIOD8       25C4
NV_GPIOD9       25C4
NV_GREEN2       24C1
NV_RED2         24C1
OGAL            43D7
OGAR            43C7
OGND3_JTAG_EN   37A5
OPA_STAR_GND    41A7 41D6 42C2 45B3
OPA_VREF        42B3 45B4
OUTM1           44B6
OUTM1FILT       44B4
OUTM2           44B6
OUTM2FILT       44A4
OUTP1           44B6
OUTP1FILT       44B4
OUTP2           44B6
OUTP2FILT       44B4
OUT_R           61B4
OVDD_ADJ        61C7
P1RC            44B4
P2RC            44B4
PAT_M           44B8
```

```
PB_AUD          43B4
PB_GAL          43B4
PCIT_AD<31..0>  33B2 33B3 33B6 33B7 33C2 33C3 33C6
                     33C7 56C7 61B2 61C2
PCIT_CBE<31..0> 33B2 33B6 33C3 56C7 61A4
PCIT_DEVSEL_L   33B6 33C2 56C7
PCIT_FRAME_L    33B6 33C2 56C7
PCIT_IRDY_L     33B6 33C3 56C7 61B4
PCIT_PAR        33B6 33C2 56C7
PCIT_STOP_L     33B6 33C2 56C7
PCIT_TRDY_L     33B6 33C2 56C7
PCI_AD<31..0>   32B1 32B2 32C4 32D4 33B6 33B7 33C6
                     33C7 34B6 34B7 34C6 55A6 61B2 61C2
PCI_CBE<3..0>   32C5 33B7 34B6 55A6 61A4
PCI_DEVSEL_L    32A8 32C5 33B7 34B6 56D7 61A4
PCI_FBI_EQUAL   32C7 56C7
PCI_FBI_PLUS2   32C7 56C7
PCI_FBQ_PLUS2   32C7 56D7
PCI_FB_PLUS4    32C8 56C7
PCI_FB_PLUS6    32C7 56C7
PCI_FRAME_L     32B8 32C5 33B7 34B6 55A6 61A4
PCI_IRDY_L      32B8 32C5 33B7 34B6 56D7
PCI_PAR         32C5 33B7 34B6 56D7 61A4
PCI_SLOTB_GNT_L 32A6 32D5 33C2 61A4
PCI_SLOTB_REQ_L 32A8 32D5 33C3 61A4
PCI_SLOTC_GNT_L 32A6 32D5
PCI_SLOTC_REQ_L 32A8 32D5
PCI_SLOTD_GNT_L 32A6 32C5 34B6
PCI_SLOTD_PERR_L 34B6
PCI_SLOTD_REQ_L 32A8 32D5 34B6
PCI_STOP_L      32A8 32C5 33B7 34B6 56D7 61A4
PCI_TRDY_L      32B8 32C5 33B7 34B6 56D7 61A4
PCK2059_VDDI2C  10D4 54D6
PGOOD           51B7 52A6
PG_E            47B6
PMURESETBUTTON* 46A4 61D4
PMU_5V_SCL      46C2 46C4
PMU_5V_SDA      46C2 46C4
PMU_ACK_L       30C3 46C4
PMU_AGP_RESET   46C4
PMU_AP          31B3 46D4
PMU_AVCC        46B5 46D4 54B3 61C4
PMU_BYTE        46B5
PMU_CLK         30C3 46C4
PMU_CLKIN       46B4 60A5
PMU_CLKOUT      46B4 60A5
PMU_CLKT        46B2 60A5
PMU_CNVSS       31B3 46B5
PMU_EPM*        31B3 46C4
PMU_FROM_INT    30C3 46C4
PMU_IIC_CLK     46A8 46B4
PMU_IIC_DAT     46A8 46B4
PMU_INT_L       30B5 30B8 46B5
PMU_INT_NMI     30A8 30B5 46C4
PMU_LOW_DSKTP   46B5
PMU_NMI         46B4
PMU_P64         31B2 46C2
PMU_PME_L       30B5 33C2 34A7 46B2 61A4
PMU_PME_LL      33C2
PMU_POWER       31C3 46A5 46B1 46C2 46D5 54B3
PMU_PRE_PLLSTOP 46B5
PMU_PWR_LED*    46C5
PMU_REQ_L       30A8 30C3 46C2
PMU_RST*        9A8 31B3 46A5 46B5 61D4
PMU_SMB_SCK     46A3
PMU_SMB_SDA     46A3
PMU_STRAP1      46C5
PMU_TO_INT      30C3 46C4
PMU_XI          46B5 60A5
PMU_XO          46B5 60A5
PMU_XT          46A6 60A5
POWERUP_OK      46B4
POWER_UP*       46C7 53A8 61D4
PRE_HRESET_L    8B4 8D5
PROBE_DIV       43B4 43D7
PSEUDO_STAR_GND 41B7 42B4
PWR_FAIL*       46B1 52D6
PWR_FAILPMU*    46B4
PWR_FAIL_T      52D7
PWR_LED         53A4
PWR_SWITCH*     9A8 46B1 46C5 61D4
```

```
PWR_UP          41C8 52C4 52C8 53B7 53C1 53C7 61D4
PWR_UP*         52C8
Q1P1            53C3
Q1P3            53C2
Q25_1           43A5
Q42P4           53D2
QT1P1           50B4
QT2P1           50B4
QT2P3           50B4
R264P2          41B4
RAM_ADDR<12..0> 14A3 14B3 14C1 14C3 14D1 14D3 16B4
                     16B6 17B4 17B6 17C4 17C6 55D6
RAM_BA<1..0>    14B3 16B4 16B6 17B6 55D6
RAM_CAS_L       14A3 16B4 17B6 55C6
RAM_CKE<3..0>   14A1 14B1 14C1 16B4 16B6 17C4 17C6
                     55C6
RAM_CS_L<3..0>  14A1 14B1 14C1 16B4 16B6 17B4 55C6
RAM_DATA_A<63..0> 15B2 15B6 15C2 15C4 15C7 15D4
                     15D7 16A4 16A6 16B4 16B6 16C4 16C6
                     16D4 16D6 55D6
RAM_DATA_B<63..0> 15A2 15A6 15B2 15B4 15B7 15C4
                     15C7 17A4 17A6 17B4 17B6 17C4 17C6
                     17D4 17D6 55D6
RAM_DQM_A<7..0> 15A6 15B2 15B6 15C4 15C7 15D4 15D7
                     16A4 16B4 16C4 16D4 55D6
RAM_DQM_B<7..0> 15A2 15A6 15B2 15B4 15B7 15C4 15C7
                     17A4 17B4 17C4 17D4 55D6
RAM_DQS_A<7..0> 15B2 15B6 15C4 15C7 15D4 15D7 16A6
                     16B6 16C6 16D6 55D6
RAM_DQS_B<7..0> 15A2 15A6 15B2 15B4 15B7 15C4 15C7
                     17A6 17B6 17C6 17D6 55D6
RAM_RAS_L       14A3 16B4 17B4 55C6
RAM_SA0         17A4
RAM_WE_L        14A3 16B6 17B6 55C6
RB22P2          50B2
RB27-1          50B6
RB37P1          50C6
RB160P1         52A5
RB213P2         51C3
RB227P1         51C5
REF_STAR_GND    41A5 41A7
RESET_BUTTON*   31B2 46C4 61D4
RFBA<11..0>     20E2 20F2 22C2 22C6 22D2 22D6 57D3
RFBABA<1..0>    20E2 22C2 22C6 57D3
RFBACAS_L       20G2 22B2 22B6 57D3
RFBACKE         20D2 22C2 22C6 57C3
RFBACLK0        21C1 22C6 57C3
RFBACLK0_L      21C1 22C6 57C3
RFBACLK1        21D1 22C2 57C3
RFBACLK1_L      21D1 22C2 57C3
RFBACS0_L       20F2 22B2 22B6 57C3
RFBARAS_L       20G2 22B2 22B6 57D3
RFBAWE_L        20F2 22B2 22B6 57D3
RFBBA<11..0>    20B2 20C2 23C2 23C6 23D2 23D6 57C3
RFBBBA<1..0>    20A2 23C2 23C6 57C3
RFBBCAS_L       20C2 23B2 23B6 57B3
RFBBCKE         20A2 23C2 23C6 57B3
RFBBCLK0        21B1 23C6 57B3
RFBBCLK0_L      21B1 23C6 57B3
RFBBCLK1        21C1 23C2 57B3
RFBBCLK1_L      21B1 23C2 57B3
RFBBCS0_L       20C2 23B2 23B6 57B3
RFBBRAS_L       20C2 23B2 23B6 57B3
RFBBWE_L        20C2 23B2 23B6 57B3
RFBD<127..0>    21B4 21B7 21C4 21C7 21D4 21D7 22B1
                     22B5 22C1 22C5 23B1 23B5 23C1 23C5
                     57C3 57D3
RFBDQM<15..0>   20C2 20D2 20G2 22C2 22C6 23C2 23C6
                     57C3 57D3
RFBDQS<15..0>   21A3 21A6 22C2 22C6 23C2 23C6 57B3
                     57C3
RF_CLKRUN_L     33C3 61B4
RF_DISABLE_L    33C3
RINA            41C4 42B2
RINT_PU_RESET_L 36C5
RINT_RESET_L    36C5
RJ45_4_5        37C1 59B3
RJ45_7_8        37C1 59B3
RJ45_F_TREF     37B2 59B3
RJ45_RREF       37C2 59B3
RJ45_RXN        37C1 37C2 59B3
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RJ45_RXP        37C1 37C2 59B3
RJ45_TREF       37C2 59B3
RJ45_TXN        37C1 37C2 59B3
RJ45_TXP        37C1 37C2 59B3
ROMA14          20C8 28D8
ROMA15          20C8 28D8
ROM_CS_L        32B4 32B6 33B4 61C7
ROM_OE_L        32B2 32B6 33B2 61C7
ROM_ONBOARD_CS_L 32B2 33B4 61D4
ROM_RW_L        32B2 32B6 33B4 61B7
ROM_WP_L        32A2 61A7
RSPKRCAP        44C8
RSPKRIN1        44B6
RSPKRVP1        44B6
RT78P2          37C4
RT373P1         53A5
RT401P1         49C5
RT406P2         49B3
RT418P2         52C7
RUNLED1         53A5
RUNSS           52D4
S3700P1         46A1
S3700P2         46A1
SB1P1           46A3
SENSE+          47C6
SENSE+_1        47B5 47C7
SENSE-          47C6 47C8
SENSE-_1        47B5 47C7
SGRAVREF        22A3 22C4 22C8 54A6
SGRBVREF        23A3 23C4 23C8 54A6
SHS             52C8
SLEEP           46B5 52C4 61C4
SLEEP1          53A8
SLEEP2          53A7
SLEEPA_OFF_L    53C5
SLEEPLED_TERM   53A6
SLEEP_LED_BD    53A6
SLEEP_OFF_L     53B6 53C7
SLEEP_OFF_L2    41C7
SND_AMP_MUTE_L  30C5 44A8
SND_AMP_M_L     44A7 44B8
SND_CLKOUT      30A2 41B4
SND_HP_MUTE_L   30C5 43A7
SND_HP_M_L      43A7
SND_HP_SENSE    30B5 43A5 61B7
SND_HP_SENSE_CONN 43A3 43B2
SND_HW_RESET_L  30A8 30B5 41B4
SND_LIN_SENSE   30B5 42D4 61B4
SND_SCLK        30A2 41B1
SND_SPKR_ID     30B5 44C5
SND_SYNC        30B2 41C1
SND_TO_AUDIO    30B2 41C4
SNF_FSEL        10A7 30C5
SPDA            44C3
SPKR_JACK_DALLAS 44B1
SPKR_L+         44B1
SPKR_L-         44B1
SPKR_MUTE_T     44B6 44B7
SPKR_R+         44B1
SPKR_R-         44B1
SSCG_LOCK       10A7
STBYMD          52B7
STOP_AGP_L      18C6 18D3 19A8 56B7
SUPER_FLO       47C7
SW3V5V_12VIN    52C7
SW3V5V_INTVCC   52B5 52C6
SW3V5V_SGND     52A7 52A8 52B7 52B8 52C7
SW3V5V_VIN      52C6
SW3VITH2R       52A8
SW3V_3VSENSE    52B4
SW3V_BG2        52B6
SW3V_BG2R       52B5
SW3V_BOOST2     52B6
SW3V_BOOST2R    52C5
SW3V_ITH2       52A7 52B6
SW3V_RUNSS      52B6 52C3
SW3V_RUNSSR     52C3
SW3V_SNSM       52B6
SW3V_SNSP       52B6
SW3V_SW2        52B6 52C4
SW3V_SW2A       52C3
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SW3V_TG2	52B6
SW3V_TG2R	52C5
SW3V_VOSNS	52B6
SW5VITH1R	52B8
SW5V_5VSENSE	52A4
SW5V_BG1	52A5 52B7
SW5V_BG1R	52A5
SW5V_BOOST1	52A5 52B7
SW5V_ITH1	52B7
SW5V_RUNSS	52B8 52D3
SW5V_SNSM	52A5 52B7
SW5V_SNSMA	52A4
SW5V_SNSP	52A5 52B7
SW5V_SW1	52A4 52A5 52B7
SW5V_SW1A	52A3
SW5V_TG1	52B5 52B7
SW5V_TG1R	52B4
SW5V_VOSNS	52B7
SW12V_SL	53C7
SW12V_SLEEP	53D7
SWITCH5V_3	53B6
SWITCH5V_4	53B6
SWITCH5V_5	53B1 53B3
SWITCH5V_6	53B2
SYSCLK_CPU	4D2 11A4 58C3
SYSCLK_CPU_UF	11A3 58C3
SYSCLK_DDRCLK_A0	10C2 14C4 16D6 55C6
SYSCLK_DDRCLK_A0_L	10C2 14C4 16D6 55C6
SYSCLK_DDRCLK_A0_L_UF	14B6 14C5 55C6
SYSCLK_DDRCLK_A0_UF	14B6 14C5 55C6
SYSCLK_DDRCLK_A1	10C2 14C4 16A4 55C6
SYSCLK_DDRCLK_A1_L	10C2 14B4 16A4 55C6
SYSCLK_DDRCLK_A1_L_UF	14B5 14B6 55C6
SYSCLK_DDRCLK_A1_UF	14B6 14C5 55C6
SYSCLK_DDRCLK_A2_L	10C5 14B4 55B6
SYSCLK_DDRCLK_A2_L_UF	14B5 14B6 55C6
SYSCLK_DDRCLK_A2_UF	14B5 14B6 55C6
SYSCLK_DDRCLK_B0	10C2 14B4 17B4 55B6
SYSCLK_DDRCLK_B0_L	10C2 14B4 17B4 55B6
SYSCLK_DDRCLK_B0_L_UF	14B5 14B6 55B6
SYSCLK_DDRCLK_B0_UF	14B5 14B6 55B6
SYSCLK_DDRCLK_B1	10C2 14A4 17D6 55B6
SYSCLK_DDRCLK_B1_L	10C2 14A4 17D6 55B6
SYSCLK_DDRCLK_B1_L_UF	14A5 14B6 55B6
SYSCLK_DDRCLK_B1_UF	14A5 14B6 55B6
SYSCLK_DDRCLK_B2	10B2 14A4 17A6 55B6
SYSCLK_DDRCLK_B2_L	10B2 14A4 17A6 55B6
SYSCLK_DDRCLK_B2_L_UF	14A5 14B6 55B6
SYSCLK_DDRCLK_B2_UF	14A5 14B6 55B6
SYSCLK_LA	9B3 9D8 58B3
SYSTEM_CLK_EN	10A7 30A5 46C4
TAS_DVDD	41D3
TAS_PWR_DOWN	41B4 41D7
TAS_STAR_GND	41A7 41D2
TAS_VCOM	41B1 41B3 44B8
TCKM	26A5 26C3 59C3
TCKP	26B5 26C4 59C3
TD0M	26B5 26C4 59C3
TD0P	26B5 26C3 59C3
TD1M	26C3 26C5 59C3
TD1P	26C4 26C5 59C3
TD2M	26C4 26D5 59C3
TD2P	26C3 26D5 59C3
TESTEN	37A5 37C4
TMDS_DDC_CLK	26A5 26B3 61C4
TMDS_DDC_DAT	26A5 26B4 61C4
TMDS_EN	25C6 53B1
TPA_PGND	44B6 44C8 53C5
TPA_SLP_H	44A7 53D4
TPA_STAR_GND	41B7 44A7
TPA_VA	44C8 44D7 53D5
TPA_VL	44C8 44D6
TPA_VR	44C8 44D6
TP_BUF_RST	24B5
TP_DVOCLKOUT	24C5
TP_DVOCLKOUT*	24C5
TP_DVOVSYNC	24B5
TRANS_ADJ	47B3
TRST_IN	8B3
T_UD_IDEDD_0	39C1 40C3 60C2
T_UD_IDEDD_1	39C1 40C3 60C2

T_UD_IDEDD_2	39C1 40C3 60C2
T_UD_IDEDD_3	39C1 40C3 60C2
T_UD_IDEDD_4	39B1 40C3 60C2
T_UD_IDEDD_5	39B1 40C3 60C2
T_UD_IDEDD_6	39B1 40C3 60B2
T_UD_IDEDD_7	39B1 40C3 60B2
T_UD_IDEDD_8	39B1 40C2 60B2
T_UD_IDEDD_9	39B1 40C2 60B2
T_UD_IDEDD_10	39B1 40C2 60B2
T_UD_IDEDD_11	39B1 40C2 60B2
T_UD_IDEDD_12	39B1 40C2 60B2
T_UD_IDEDD_13	39A1 40C2 60B2
T_UD_IDEDD_14	39A1 40C2 60B2
T_UD_IDEDD_15	39A1 40C2 60B2
US_SDOUT	41C3
U22_8	38D8
U4202P2	42C3
U4202P3	42C3
U4202P5	42B3
U4202P6	42B3
U4202P7	42B3
UATA0IRQ	40C6 60D5
UATAD<15..0>	39A4 39B4 39C4 40C6 60D5
UB5PAE8	24B5
UIDE_ADDR<2..0>	39C7 40A4 40B4 60B5
UIDE_CS1FX_L	39C7 40B4 60B5
UIDE_CS3FX_L	39C7 40B4 60B5
UIDE_CSELP_L	40C2 54A6
UIDE_DATA<15..0>	39A3 39B3 39C3 39C7 39D7 60C5
UIDE_DIOR_L	39C7 39D3 60C5
UIDE_DIOW_L	39C3 39C7 60C5
UIDE_DMACK_L	39C7 39D3 60C5
UIDE_DMARQ	39C7 40C4 60C5
UIDE_INTRQ	39C7 40C4 60C5
UIDE_IOCHRDY	39C3 39C7 60C5
UIDE_PDIAG	40C2
UIDE_REF	39C7
UIDE_RST_L	39C7 39D3 60C5
UNUSED_ATAIOCS16_L	40C2 54A6
UNUSED_EXTINT7	30B5 30B8
UNUSED_EXTINT8	30B5 30B8
UNUSED_GPIO15	30B5 30C1 61A4
USB2_CRUN_L	30B5 34A7
USB2_DAN_F	34C1 34C4 35B7 58B3
USB2_DAP_F	34C1 35B7 58B3
USB2_DBN_F	34C1 35C7 58B3
USB2_DBP_F	34C1 34C4 35C7 58B3
USB2_DCN_F	34C1 35D7 58B3
USB2_DCP_F	34C1 35D7 58B3
USB2_IDSEL	34B6
USB2_NC1	34B4
USB2_NC2	34B4
USB2_PME_L	34A6
USB2_RREF	34B4 58B3
USB2_RSDAM	34C4 58B3
USB2_RSDAP	34C4 58B3
USB2_RSDBM	34C4 58B3
USB2_RSDBP	34C4 58B3
USB2_RSDCM	34C4 58B3
USB2_RSDCP	34C4 58B3
USB2_XT1	34C4 58B3
USB2_XT2	34C4 58B3
USB2_XT2_B	58B3
USBT_DAN_F	35B6 58B3
USBT_DAP_F	35B6 58B3
USBT_DBN_F	35C6 58A3
USBT_DBP_F	35C6 58A3
USBT_DCN_F	35D6 58A3
USBT_DCP_F	35D6 58A3
USB_DAN	30B3 60B5
USB_DAN_CON	35C3 58A3 61C4
USB_DAN_F	30B2 35B7 60B5
USB_DAP	30B3 60B5
USB_DAP_CON	35C3 58A3 61C4
USB_DAP_F	30B2 35B7 60B5
USB_DBN	30B3 60B5
USB_DBN_CON	35B3 58A3 61C4
USB_DBN_F	30B2 35C7 60B5
USB_DBP	30B3 60B5
USB_DBP_CON	35B3 58A3 61C4
USB_DBP_F	30B2 35C7 60B5

USB_DCN	30B3 60B5
USB_DCN_CON	35D3 58A3 61C4
USB_DCN_F	30B2 35D7 60B5
USB_DCP	30B3 60B5
USB_DCP_CON	35D3 58A3 61C4
USB_DCP_F	30B2 35D7 60B5
USB_DDN	30B3
USB_DDN_F_TERM	30B2
USB_DDP	30B3
USB_DDP_F_TERM	30B2
USB_DEN	30B3 60B5
USB_DEP	30B3 60B5
USB_DFN	30B3 60A5
USB_DFP	30B3 60A5
USB_GND	35A4 35B3 35C3 35D3 54A3
USB_OC_EF_L	30B3 30C2
USB_PORT_PWR	35A4 35B3 35C3 35D3 54A3 61B4
USB_PWR	27B5 27C2 27D3 35A6 54A3
USB_PWREN_AB_L	30B3 30C2
USB_PWREN_CD_L	30B3 30C2
USB_PWREN_EF_L	30B3 30C2
USB_PWR_EN	35A7 54A3
USB_PWR_FLT*	30B3 34B1 35A6
UX6P23	41C4
UX6_LINB	41C4
U_USB_PWR_FLT*	34B4
VCOREIN	47D6
VCORE_BG	47C6
VCORE_BG_1	47B5 47C7
VCORE_BOOST	47C5
VCORE_BOOST2	47C6
VCORE_BOOST2_1	47B5 47C7
VCORE_BOOST_1	47B5
VCORE_EXTVCC	47D7
VCORE_FREQSET	47C7
VCORE_INTVCC	47B5 47D5 47D7
VCORE_SEN+	47C3
VCORE_SEN+_1	47A3
VCORE_SENA+	47C3
VCORE_SF	47C8
VCORE_SGND	47B7 47C7 47C8
VCORE_STBY	47C7
VCORE_TG	47C6
VCORE_TG_1	47B5 47C7
VCORE_VGATE	10A8 30B5
VCORE_VIN	47D7
VC_CNTL1	46C7 47D8
VC_SENA	47B3
VGA_IIC_CLK	27C4 61B4
VGA_IIC_DAT	27C4 61B4
VGER_INV_HRESET	7A3 7B3 7C3 46D1
VIPCLK	24D4 54A6
VIPD0	24D4 28B7
VIPD1	24D4 28B7
VIPD2	24D4 28B8
VIPD3	24D4 28D7
VIPD4	24D4 28D7
VIPD5	24D4 28D7
VIPD6	24D4 28B8
VIPD7	24D4 28C5
VIPHAD0	24D5 28B7
VIPHAD1	24D5 28B7
VIPHCTL	24D5 28D5
VIP_PD	24C4
VIP_PU	24C4
VOSNS1	52B8
VOSNS2	52B5
VR43P2	48C5
VR4210P1	41B7
VREFM	41B4
VREFP	41B4 45B2
VRFILT	41B3
VSYNC*	24C5 59D3
WL_PCI_IDSEL	33C2 61A4
XMIT_LED	37A2 37B4
XW4000P2	44B7
XW4001P2	44A7
XW4002P2	44A7 44D7
ZT8P1	4A1
ZT9P1	4B2
ZT10P1	4A2

ZT11P1	4B1

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*** Unit Cross-Reference ***
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BS1	PCB_STANDOFF	31B5
BS2	PCB_STANDOFF	31B6
BS3	PCB_STANDOFF	31D1
BS4	PCB_STANDOFF	31D1
BT1	BATTERY	46D6
C1	CAP	35C3
C2	CAP	35D3
C3	CAP	37B1
C4	CAP	38B6
C5	CAP_P	35A5
C6	CAP	35B3
C7	CAP_P	35A5
C8	CAP	23A4
C9	CAP	23A4
C10	CAP_P	38D7
C11	CAP	23A5
C12	CAP_P	38D7
C13	CAP_P	43C4
C14	CAP_P	44C7
C15	CAP	23D2
C16	CAP	23B4
C17	CAP	23D5
C18	CAP	53D2
C19	CAP_P	53D3
C20	CAP	23B2
C21	CAP	23D5
C22	CAP	23B4
C23	CAP	23B4
C24	CAP_P	42B4
C25	CAP_P	42C4
C26	CAP_P	43D4
C27	CAP	38D8
C28	CAP	23B1
C29	CAP	23B3
C30	CAP	44B4
C31	CAP	23B2
C32	CAP	23D4
C33	CAP	23B2
C34	CAP	23B3
C35	CAP	45C4
C36	CAP	37D2
C37	CAP	37D7
C38	CAP	23D2
C39	CAP	23D5
C40	CAP	23B3
C41	CAP	37D7
C42	CAP	38B8
C43	CAP	43D6
C44	CAP	37D3
C45	CAP	37D2
C46	CAP	37D4
C47	CAP_P	44D7
C48	CAP	44D7
C49	CAP	44C7
C50	CAP_P	44D7
C51	CAP	37B3
C52	CAP	37D2
C53	CAP	37D4
C54	CAP	20B8
C55	CAP	37D3
C56	CAP	37D3
C57	CAP	37D5
C58	CAP	37D5
C59	CAP_P	50B2
C60	CAP	43C6
C61	CAP	20B6
C62	CAP	20D6
C63	CAP	42B2
C64	CAP	42C2
C65	CAP	37D6
C66	CAP	37D7
C67	CAP	37D4
C68	CAP	37D6
C69	CAP	20B5
C70	CAP	20B6
C71	CAP_P	50B1
C72	CAP	20H7
C73	CAP	20H7
C74	CAP	37B7
C75	CAP	20H5
C76	CAP	37B7
C77	CAP	34D3
C78	CAP	20H6
C79	CAP	20H4
C80	CAP	20H2
C81	CAP	20H7
C82	CAP	20H4
C83	CAP	20H3
C84	CAP	20H8
C85	CAP_P	41C6
C86	CAP	20H8
C87	CAP	19B3
C88	CAP_P	50B1
C89	CAP	20H2
C90	CAP	20H7
C91	CAP	19B4
C92	CAP	36B6
C93	CAP	19C4
C94	CAP	19C3
C95	CAP	20H5
C96	CAP	20H2
C97	CAP	19B3
C98	CAP	20H6
C99	CAP	19D2
C100	CAP	19D3
C101	CAP	19D3
C102	CAP	19C3
C103	CAP	19D3
C104	CAP	19D4
C105	CAP	19B3
C106	CAP_P	50B2
C107	CAP	44B8
C108	CAP	44B8
C109	CAP	19D3
C110	CAP	19D2
C111	CAP	19B4
C112	CAP	19B2
C113	CAP_P	48A4
C114	CAP	34D3
C115	CAP	20H3
C116	CAP	19B3
C117	CAP	19D4
C118	CAP	19C3
C119	CAP	25B4
C120	CAP	19C3
C121	CAP	41C4
C122	CAP	44C8
C123	CAP	32C2
C124	CAP	20H1
C125	CAP	25B5
C126	CAP_P	41C7
C127	CAP_P	41B2
C128	CAP	24D3
C129	CAP	19B3
C130	CAP	25B5
C131	CAP	25B4
C132	CAP_P	50B2
C133	CAP	20H6
C134	CAP	19D4
C135	CAP	19C3
C136	CAP	19B3
C137	CAP	19B4
C138	CAP_P	48A5
C139	CAP	19D2
C140	CAP	19C2
C141	CAP	22B3
C142	CAP	22D5
C143	CAP	22D4
C144	CAP	22D5
C145	CAP	20H2
C146	CAP	19D1
C147	CAP	19C3
C148	CAP	19C4
C149	CAP	19C4
C150	CAP	19C4
C151	CAP	19C3
C152	CAP	25B5
C153	CAP	24C7
C154	CAP	10B6
C155	CAP_P	44D7
C156	CAP_P	44C7
C157	CAP	22A4
C158	CAP	22D5
C159	CAP	20H5
C160	CAP	25C6
C161	CAP	19C4
C162	CAP	24C6
C163	CAP	24C6
C164	CAP	24C7
C165	CAP	22B3
C166	CAP	22B3
C167	CAP	20H5
C168	CAP	19C4
C169	CAP	19C3
C170	CAP	24C7
C171	CAP_P	48A6
C172	CAP	22A4
C173	CAP	22B2
C174	CAP	22B4
C175	CAP	20H3
C176	CAP	19D2
C177	CAP	19B4
C178	CAP	19D4
C179	CAP	19B3
C180	CAP	19D3
C181	CAP	19B2
C182	CAP	19B2
C183	CAP	19D2
C184	CAP	19B2
C185	CAP	19D3
C186	CAP	19B4
C187	CAP	19B3
C188	CAP	19B1
C189	CAP	25C5
C190	CAP	24C7
C191	CAP	22A5
C192	CAP	19D5
C193	CAP	19B5
C194	CAP	22B4
C195	CAP	22B1
C196	CAP	22B2
C197	CAP	22B2
C198	CAP	22B4
C199	CAP	20H3
C200	CAP	19D4
C201	CAP	19D4
C202	CAP	19D3
C203	CAP	19D3
C204	CAP	42C5
C205	CAP	22D2
C206	CAP	24C2
C207	CAP	24C7
C208	CAP	43A5
C209	CAP	24B6
C210	CAP	16A3
C211	CAP	16A2
C212	CAP	24D6
C213	CAP	24D6
C214	CAP	19A3
C215	CAP	19A3
C216	CAP	22D2
C217	CAP	19C1
C218	CAP_P	51B3
C219	CAP	19C2
C220	CAP_P	50C8
C221	CAP	16B3
C222	CAP	18A8
C223	CAP	19C2
C224	CAP	24C2
C225	CAP	32C2
C226	CAP	24D6
C227	CAP	24C3
C228	CAP	24C3
C229	CAP	30C6
C230	CAP	15D7
C231	CAP	13C8
C232	CAP	13C8
C233	CAP	30D6
C234	CAP	30D7
C235	CAP_P	51B3
C236	CAP	53B3
C237	CAP_P	50C8
C238	CAP_P	53C5
C239	CAP	46A4
C240	CAP	13B8
C241	CAP	52C6
C242	CAP	16C3
C243	CAP	16C2
C244	CAP	16C3
C245	CAP_P	46D5
C246	CAP_P	53B3
C247	CAP	10D4
C248	CAP	41B4
C249	CAP	33D1
C250	CAP	33D2
C251	CAP	10D7
C252	CAP	53B2
C253	CAP	10D7
C254	CAP	53B1
C255	CAP	16C2
C256	CAP	16C1
C257	CAP	53B2
C258	CAP	53B2
C259	CAP	33D1
C260	CAP	33D2
C261	CAP	16C1
C262	CAP	49B4
C263	CAP	16C3
C264	CAP	13C4
C265	CAP	49B3
C266	CAP	49B8
C267	CAP	46D6
C268	CAP	10B8
C269	CAP_P	53D6
C270	CAP	49A5
C271	CAP	13B8
C272	CAP	49B4
C273	CAP	49C5
C274	CAP	10B8
C275	CAP	16C2
C276	CAP	16C2
C277	CAP	13B8
C278	CAP	13C6
C279	CAP	13C5
C280	CAP	13C6
C281	CAP	13C6
C282	CAP	49B6
C283	CAP	49C7
C284	CAP	49B4
C285	CAP	49B7
C286	CAP	49B7
C287	CAP	52A1
C288	CAP	13D8
C289	CAP	13D8
C290	CAP	13D8
C291	CAP	13D8
C292	CAP	13D4
C293	CAP	52A1
C294	CAP	52A1
C295	CAP_P	52C6
C296	CAP_P	49B3
C297	CAP	49C4
C298	CAP	49C5
C299	CAP	49C4
C300	CAP_P	49C3
C301	CAP_P	49C4
C302	CAP_P	52A2
C303	CAP	52C3
C304	CAP	16C2
C305	CAP	49C4
C306	CAP_P	52A2
C307	CAP_P	52A2
C308	CAP_P	52A3
C309	CAP_P	52A3
C310	CAP_P	52A2
C311	CAP	16C1
C312	CAP	31D3
C313	CAP	16C3
C314	CAP	31D3
C315	CAP	52A8
C316	CAP	52A8

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C317	CAP	52B8
C318	CAP	52B8
C319	CAP	16A8
C320	CAP	16C2
C321	CAP	52B7
C322	CAP	52A7
C323	CAP_P	51B3
C324	CAP_P	51B3
C325	CAP	49A4
C326	CAP_P	52B2
C327	CAP_P	52B2
C328	CAP_P	52B2
C329	CAP	51B3
C330	CAP_P	51B3
C331	CAP_P	51B2
C332	CAP_P	51B2
C333	CAP	52B6
C334	CAP_P	47C1
C335	CAP_P	47C2
C336	CAP_P	47C2
C337	CAP_P	47C2
C338	CAP_P	52D7
C339	CAP_P	52D7
C340	CAP_P	47C2
C341	CAP	52B7
C342	CAP_P	51C3
C343	CAP_P	47D3
C344	CAP	52B4
C345	CAP	4B1
C346	CAP_P	47B1
C347	CAP_P	47B2
C348	CAP_P	47B2
C349	CAP_P	52D7
C350	CAP	9D4
C351	CAP_P	51C3
C352	CAP	4B1
C353	CAP	9D4
C354	CAP_P	52D4
C355	CAP_P	52D4
C356	CAP_P	52D4
C357	CAP_P	47D3
C358	CAP	51C4
C359	CAP	51B7
C360	CAP_P	48C4
C361	CAP_P	47B2
C362	CAP_P	47B2
C363	CAP_P	48C5
C364	CAP	9C1
C365	CAP_P	48C6
C366	CAP	48C5
C367	CAP	47B6
C369	CAP	4A1
C370	CAP	4A1
C371	CAP	47C5
C372	CAP	47B7
C373	CAP	47C8
C374	CAP	47B5
C375	CAP	38C1
C376	CAP	38D3
C377	CAP	35A4
C378	CAP	38C2
C379	CAP	38C2
C380	CAP	35C3
C381	CAP	38D3
C382	CAP	35A4
C383	CAP	35C4
C384	CAP	38C2
C385	CAP	35B3
C386	CAP	35C3
C387	CAP	35C4
C388	CAP	44A1
C389	CAP	35B4
C390	CAP	38A6
C391	CAP	35B4
C392	CAP	38A6
C393	CAP	38A6
C394	CAP	38A6
C395	CAP	38A6
C396	CAP	35A4
C397	CAP	35D3
C398	CAP	35B3

C399	CAP	38A7
C400	CAP	37C1
C401	CAP	37D1
C402	CAP	44C3
C403	CAP	35D4
C404	CAP	35D4
C405	CAP	35D3
C406	CAP	38B6
C407	CAP	38A6
C408	CAP	43B3
C409	CAP	27B3
C410	CAP	38D4
C411	CAP	38A7
C412	CAP	43C3
C413	CAP	35D3
C414	CAP	27B4
C415	CAP	27A4
C416	CAP	27A4
C417	CAP	35B3
C418	CAP	38D4
C419	CAP	44B3
C420	CAP	43D3
C421	CAP	27D4
C422	CAP	27C4
C423	CAP	27C3
C424	CAP	38B6
C425	CAP	44B3
C426	CAP	44B2
C427	CAP	43B3
C428	CAP	38B7
C429	CAP	44B2
C430	CAP	44B2
C431	CAP	42B6
C432	CAP	27B3
C433	CAP	35C3
C434	CAP	37D1
C435	CAP	44B2
C436	CAP	43A4
C437	CAP	42C6
C438	CAP	37D2
C439	CAP	38B4
C440	CAP	38B4
C441	CAP	38C5
C442	CAP	38C5
C443	CAP	38B2
C444	CAP	38B2
C445	CAP	38C3
C446	CAP	38C3
C447	CAP	42B6
C448	CAP	44B4
C449	CAP	35A7
C450	CAP	38B3
C451	CAP	38B2
C452	CAP	38B4
C453	CAP	43B4
C454	CAP	42C6
C455	CAP	38B4
C456	CAP	38B3
C457	CAP	38B4
C458	CAP	38B3
C459	CAP	44B4
C460	CAP	23D2
C461	CAP	23B7
C462	CAP	23B8
C463	CAP	38B4
C464	CAP	38B4
C465	CAP	44B4
C466	CAP	23B7
C467	CAP	23D8
C468	CAP	38B1
C469	CAP	23B7
C470	CAP	23B8
C471	CAP	38B4
C472	CAP	38B1
C473	CAP	53D2
C474	CAP	44A4
C475	CAP	23B6
C476	CAP	23B6
C477	CAP	38C7
C478	CAP	45B5
C479	CAP_P	42C4

C480	CAP_P	42B4
C481	CAP	38B3
C482	CAP	38B3
C483	CAP	38B3
C484	CAP	38B5
C485	CAP	38B1
C486	CAP	23B6
C487	CAP	23D7
C488	CAP	23B7
C489	CAP	23B5
C490	CAP	38B6
C491	CAP	44B4
C492	CAP	23D2
C493	CAP	23D7
C494	CAP	23D7
C495	CAP	38B2
C496	CAP	38B2
C497	CAP	44B4
C498	CAP	44B4
C499	CAP	43D6
C500	CAP	38C7
C501	CAP	44C5
C502	CAP	44C5
C503	CAP	43C6
C504	CAP	43B7
C505	CAP	42D3
C506	CAP	42C3
C507	CAP	42B3
C508	CAP	43C6
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C511	CAP	34D5
C512	CAP_P	43B7
C513	CAP	42B3
C514	CAP	42C3
C515	CAP	34C8
C516	CAP	34D8
C517	CAP	34C8
C518	CAP	43B7
C519	CAP	34D8
C520	CAP	22D2
C521	CAP	22D2
C522	CAP	34D8
C523	CAP	34D8
C524	CAP_P	43C7
C525	CAP_P	43D7
C526	CAP	34D5
C527	CAP	34D8
C528	CAP_P	50B3
C529	CAP	34D5
C530	CAP	34C7
C531	CAP	34C7
C532	CAP	22D7
C533	CAP	22D7
C534	CAP	22B6
C535	CAP	22B6
C536	CAP	34C8
C537	CAP	34D7
C538	CAP_P	41D6
C539	CAP_P	41B7
C540	CAP	22D8
C541	CAP	34D8
C542	CAP	45C3
C543	CAP	50B3
C544	CAP	22D7
C545	CAP	22B7
C546	CAP	34D8
C547	CAP	34D7
C548	CAP	34D8
C549	CAP	41D7
C550	CAP	45B2
C551	CAP	45B3
C552	CAP	50B6
C553	CAP	22B6
C554	CAP	22B7
C555	CAP	34D7
C556	CAP	45C2
C557	CAP	50C3
C558	CAP_P	50B2
C559	CAP	34D8
C560	CAP	44B5

C561	CAP	44B6
C562	CAP	17C2
C563	CAP	50B6
C564	CAP	50C2
C565	CAP	22B5
C566	CAP	22B7
C567	CAP	22B7
C568	CAP	22B8
C569	CAP	22B8
C570	CAP	34C8
C571	CAP	44B5
C572	CAP	50B7
C573	CAP	34C8
C574	CAP	34C8
C575	CAP	44B7
C576	CAP	50C3
C577	CAP	44B5
C578	CAP	41C5
C579	CAP	41C5
C580	CAP_P	41B2
C581	CAP	41B2
C582	CAP	44C3
C583	CAP	48A5
C584	CAP	41D3
C585	CAP	50B5
C586	CAP	50A4
C587	CAP	41B2
C588	CAP	41B5
C589	CAP	50C5
C590	CAP	53C4
C591	CAP_P	41D2
C592	CAP	41B5
C593	CAP	17C1
C594	CAP	41B5
C595	CAP	41B5
C596	CAP	50C6
C597	CAP	41C4
C598	CAP	9B2
C599	CAP	41D4
C600	CAP_P	41D4
C601	CAP	31A5
C602	CAP	17C1
C603	CAP	18A8
C604	CAP_P	31A7
C605	CAP	24C2
C606	CAP	24C2
C607	CAP	24C1
C608	CAP	31A6
C609	CAP	31A4
C610	CAP	26A3
C611	CAP	15D7
C612	CAP	15D7
C613	CAP	15D6
C614	CAP	31A6
C615	CAP	31A4
C616	CAP	24A3
C617	CAP	24A3
C618	CAP	25A6
C619	CAP	31C7
C620	CAP	31C7
C621	CAP	31D7
C622	CAP	31D7
C623	CAP	30D7
C624	CAP	17C1
C625	CAP	31A7
C626	CAP	25A6
C627	CAP	31A6
C628	CAP	13C8
C629	CAP_P	31A5
C630	CAP	31A6
C631	CAP	50C7
C632	CAP	50C7
C633	CAP	50C7
C634	CAP	50C7
C635	CAP_P	25A6
C636	CAP_P	25A8
C637	CAP	13C4
C638	CAP	13C8
C639	CAP	31A4
C640	CAP	31A3
C641	CAP	13B8

APPLE COMPUTER INC.

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C642	CAP	45C7
C643	CAP	13C2
C644	CAP	13B2
C645	CAP	13B1
C646	CAP	13B1
C647	CAP	13C7
C648	CAP	13B7
C649	CAP	13C6
C650	CAP	13C7
C651	CAP	13C5
C652	CAP	26B2
C653	CAP	53B4
C654	CAP	53B4
C655	CAP	13C4
C656	CAP	13C2
C657	CAP	13B3
C658	CAP	13B2
C659	CAP	13B3
C660	CAP	13B1
C661	CAP	13B7
C662	CAP	13B7
C663	CAP	13B6
C664	CAP	13C5
C665	CAP	13C6
C666	CAP	13C5
C667	CAP	13C6
C668	CAP	13A5
C669	CAP	15C5
C670	CAP	15C6
C671	CAP	15C5
C672	CAP	17C1
C673	CAP	13B2
C674	CAP	13B6
C675	CAP	45B7
C676	CAP	13B3
C677	CAP	13B1
C678	CAP	13B3
C679	CAP	13B1
C680	CAP	13C3
C681	CAP	13B3
C682	CAP	13B3
C683	CAP	13C6
C684	CAP	13C7
C685	CAP	13C6
C686	CAP	13C6
C687	CAP	13A6
C688	CAP	13B7
C689	CAP	13C1
C690	CAP	13B2
C691	CAP	13C2
C692	CAP	30D6
C693	CAP	13C7
C694	CAP	13C5
C695	CAP	13C5
C696	CAP	13C5
C697	CAP	13C7
C698	CAP	13B5
C699	CAP	13A7
C700	CAP	13B7
C701	CAP	46B2
C702	CAP	13D4
C703	CAP	30D6
C704	CAP	30D5
C705	CAP	46A6
C706	CAP	46A6
C707	CAP	13B3
C708	CAP	13B3
C709	CAP	13C6
C710	CAP	13C6
C711	CAP	13B6
C712	CAP	13B1
C713	CAP	30D5
C714	CAP	13A5
C715	CAP	46B2
C716	CAP	13B2
C717	CAP	13C3
C718	CAP	13B1
C719	CAP	13D2
C720	CAP	13C3
C721	CAP	13D3
C722	CAP	13A7

C723	CAP	13A6
C724	CAP	13A5
C725	CAP	13B7
C726	CAP	17C2
C727	CAP	13D4
C728	CAP	13C3
C729	CAP	13B3
C730	CAP	13D3
C731	CAP	13D1
C732	CAP	13D1
C733	CAP	13C7
C734	CAP	13D2
C735	CAP	13A7
C736	CAP	13A5
C737	CAP	10D6
C738	CAP	10D7
C739	CAP	10D6
C740	CAP	10B5
C741	CAP	17C2
C742	CAP	53C6
C743	CAP	13B3
C744	CAP	13B1
C745	CAP	13C3
C746	CAP	13D3
C747	CAP	13D1
C748	CAP	13D2
C749	CAP	13D3
C750	CAP	13A6
C751	CAP	13A7
C752	CAP	13A6
C753	CAP	13A6
C754	CAP	13A5
C755	CAP	13A6
C756	CAP	10D5
C757	CAP	10D6
C758	CAP	10D4
C759	CAP	46D5
C760	CAP	18D6
C761	CAP	13B3
C762	CAP	13C1
C763	CAP	13D2
C764	CAP	13D3
C765	CAP	13D3
C766	CAP	13D1
C767	CAP	13B6
C768	CAP	13A6
C769	CAP	10D5
C770	CAP	10D6
C771	CAP	10C6
C772	CAP	10C6
C773	CAP	53C5
C774	CAP	13C1
C775	CAP	13C3
C776	CAP	13B2
C777	CAP	13C1
C779	CAP	13D1
C780	CAP	13D2
C781	CAP	13A5
C782	CAP	13A7
C783	CAP	46D5
C784	CAP	30A6
C785	CAP	30C3
C787	CAP	13D3
C788	CAP	13D3
C789	CAP	13D3
C790	CAP	13D1
C791	CAP	13A6
C792	CAP	13A6
C793	CAP	13B6
C794	CAP	13B5
C795	CAP	30C3
C796	CAP	13C3
C797	CAP	13D3
C798	CAP	13D1
C799	CAP	13D1
C800	CAP	13D2
C801	CAP	13A7
C802	CAP	13A5
C803	CAP	13A6
C804	CAP	10D3
C805	CAP	13B2

C806	CAP	13C2
C807	CAP	13B2
C808	CAP	13D2
C809	CAP	13C3
C810	CAP	13D2
C811	CAP	13D2
C812	CAP	13C2
C813	CAP	13A5
C814	CAP	13A6
C815	CAP	13B6
C816	CAP	13A6
C817	CAP	13B6
C818	CAP	13A5
C819	CAP	17C2
C820	CAP	30C3
C821	CAP	13C1
C822	CAP	13C1
C823	CAP	13D7
C824	CAP	13D6
C825	CAP	13A7
C826	CAP	13A7
C827	CAP	13B5
C828	CAP	13C1
C829	CAP	13C2
C830	CAP	13C3
C831	CAP	13D3
C832	CAP	13D7
C833	CAP	13D3
C834	CAP	13D6
C835	CAP	13B3
C836	CAP	13B6
C837	CAP	13B7
C838	CAP	13A7
C839	CAP	13B6
C840	CAP	30A6
C841	CAP	13D4
C842	CAP	13D6
C843	CAP	13C7
C844	CAP	13D6
C845	CAP	13D6
C846	CAP	13D7
C847	CAP	14A7
C848	CAP	32D5
C849	CAP	13C6
C850	CAP	13B3
C851	CAP	13B3
C852	CAP	13B2
C853	CAP	14A7
C854	CAP	11D3
C855	CAP	13B5
C856	CAP	13A7
C857	CAP	13B6
C858	CAP	15D4
C859	CAP	15D3
C860	CAP	15D4
C861	CAP	46A1
C862	CAP	46B7
C863	CAP	13C2
C864	CAP	17C2
C865	CAP	13B1
C866	CAP	13C3
C867	CAP	13C3
C868	CAP	13C2
C869	CAP	13D5
C870	CAP	13D6
C871	CAP	13D6
C872	CAP	13D5
C873	CAP	13D5
C874	CAP	13D5
C875	CAP	13B3
C876	CAP	13B5
C877	CAP	13B7
C878	CAP	13B7
C879	CAP	13B2
C880	CAP	13B5
C881	CAP	13B3
C882	CAP	13B1
C883	CAP	13B2
C884	CAP	13D6
C885	CAP	13D7
C886	CAP	13D5

C887	CAP	13D7
C888	CAP	13D6
C889	CAP	13D6
C890	CAP	13D7
C891	CAP	13D6
C892	CAP	13C4
C893	CAP	13C1
C894	CAP	13C2
C895	CAP	13D5
C896	CAP	13D5
C897	CAP	13D6
C898	CAP	13D5
C899	CAP	13D5
C900	CAP	13D7
C901	CAP	13D7
C902	CAP	13C7
C903	CAP	13B2
C904	CAP	13B6
C905	CAP	10B7
C906	CAP	10B7
C907	CAP	10B8
C908	CAP	15C2
C909	CAP	15C2
C910	CAP	15C1
C911	CAP	39C2
C912	CAP	10B8
C913	CAP	10B7
C914	CAP	17C2
C915	CAP	53D7
C916	CAP	14A8
C917	CAP	39C5
C918	CAP	53D6
C919	CAP	40C7
C920	CAP	40C1
C921	CAP	40C5
C922	CAP	17C1
C923	CAP	40B5
C924	CAP	40B7
C925	CAP	17C2
C926	CAP	52C1
C927	CAP	52B1
C928	CAP_P	49B4
C929	CAP	16A7
C930	CAP	52B8
C931	CAP	52B5
C932	CAP	52A5
C933	CAP	52A6
C934	CAP	52B1
C935	CAP_P	49B3
C936	CAP	17C2
C937	CAP	52C7
C938	CAP	52A4
C939	CAP	52A6
C940	CAP	52A5
C941	CAP	52C5
C942	CAP	8C3
C943	CAP	17A3
C944	CAP	47D3
C945	CAP	17A2
C946	CAP	8A6
C947	CAP_P	47C1
C948	CAP	51B4
C949	CAP	47C5
C950	CAP	47D4
C951	CAP	47D4
C952	CAP	47D4
C953	CAP	47D4
C954	CAP	4C2
C955	CAP	52D4
C956	CAP	52D5
C957	CAP_P	47B1
C958	CAP	9D4
C959	CAP	51C4
C960	CAP	47B2
C961	CAP	9C2
C962	CAP	51C3
C963	CAP	47D4
C964	CAP	47D4
C965	CAP	47D4
C966	CAP	47D4
C967	CAP	9C1

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SIZE	DRAWING NUMBER	REV.
D	051-6490	A

SCALE	SHT	OF
NONE	69	74

C968 CAP 51C4
C969 CAP 9D4
C970 CAP 52D5
C971 CAP 52D5
C972 CAP 9C2
C973 CAP 9C1
C974 CAP 9D1
C975 CAP 51C4
C976 CAP 9C2
C977 CAP 9D1
C978 CAP 52D5
C979 CAP 52D5
C980 CAP 9C2
C981 CAP 9C2
C982 CAP 9D2
C983 CAP 9D3
C984 CAP 51C3
C985 CAP 52D4
C986 CAP 52D5
C987 CAP 9D2
C988 CAP 9D3
C989 CAP 51C3
C990 CAP 9C1
C991 CAP 9D1
C992 CAP 9D3
C993 CAP 9C1
C994 CAP 9C2
C995 CAP 9D2
C996 CAP 9A6
C997 CAP 9A5
C998 CAP 9D2
C999 CAP 9D1
C1000 CAP 51B6
C1001 CAP 9A5
C1002 CAP 9A6
C1003 CAP 9D1
C1004 CAP 51B6
C1005 CAP 51C4
C1006 CAP 47C2
C1007 CAP 9C2
C1008 CAP 9B5
C1009 CAP 9A6
C1010 CAP 9B5
C1011 CAP 9B5
C1012 CAP 9A6
C1013 CAP 9D2
C1014 CAP 9D2
C1015 CAP 51B7
C1016 CAP 9C1
C1017 CAP 9A5
C1018 CAP 9A5
C1019 CAP 51C6
C1020 CAP 9C1
C1021 CAP 9C1
C1022 CAP 9B6
C1023 CAP 9A5
C1024 CAP 9A5
C1025 CAP 9B5
C1026 CAP 9D2
C1027 CAP 9B6
C1028 CAP 9A5
C1029 CAP 47B4
C1030 CAP 47B2
C1031 CAP 9A5
C1032 CAP 9C2
C1033 CAP 9C1
C1034 CAP 47B2
C1035 CAP 4D3
C1036 CAP 4D3
C1037 CAP 9C1
C1038 CAP 47B4
C1039 CAP 47C5
C1040 CAP 9C2
C1041 CAP 9D3
C1042 CAP 9C2
C1043 CAP 9D2
C1044 CAP 47D7
C1045 CAP 47B7
C1046 CAP 47C1
C1047 CAP 47D5
C1048 CAP 47C2

C1049 CAP 47B7
C1050 CAP 47C7
C1051 CAP 47B6
C1052 CAP 47C8
C1053 CAP 48A8
C1054 CAP 9B2
C1055 CAP 9B2
C1056 CAP 9B1
C1057 CAP 9B1
C1058 CAP 9B1
C1101 CAP 11D3
C1601 CAP 16D7
C1602 CAP 16D3
C1603 CAP 16D3
C1701 CAP 17D7
C1702 CAP 17D7
C1801 CAP 18D5
C1802 CAP 18A7
C1901 CAP 9A6
C1902 CAP 9A5
C1903 CAP 9A5
C1904 CAP 9A5
C1910 CAP 9A5
C1911 CAP 9B2
C1912 CAP 9B2
C1913 CAP 9B1
C1914 CAP 9B1
C2201 CAP 22C8
C2202 CAP 22C4
C2301 CAP 23C8
C2302 CAP 23C4
C2501 CAP_P 25A8
C3001 CAP 30C5
C3002 CAP 30D5
C3003 CAP 30D5
C3004 CAP 30D4
C3005 CAP 30D4
C3201 CAP 32D4
C3901 CAP 39D1
C4081 CAP 48C7
C4301 CAP 43A6
C4502 CAP_P 45C5
C4701 CAP 47B6
D1 DIODE_DUAL_6P 38A7
D2 DIODE_DUAL_6P 38A7
D3 DIODE_DUAL_6P 38A7
D4 DIODE_DUAL_6P 38B7
D5 ZENER_MMBZ15VDLT1 42B6
D6 DIODE_DUAL_6P 27D4
D7 DIODE_DUAL_6P 27D4
D8 DIODE 38D6
D9 DIODE 37B8
D10 DIODE_SCHOT 25B8
D11 DIODE_SCHOT 46D7
D12 DIODE_SCHOT 46D7
D13 DIODE_SCHOT 49C7
D14 DIODE_SCHOT 49B5
D15 DIODE_SCHOT 51B4
D16 DIODE_SCHOT 52C5
D17 DIODE_SCHOT 52B5
D18 DIODE_SCHOT 51C6
D19 DIODE_SCHOT 48D6
D20 DIODE_SCHOT 47D5
D21 DIODE_SCHOT 47B5
D22 ZENER_MMBZ15VDLT1 44C2
D23 DIODE_SCHOT_3P 44A1
D24 ZENER_MMBZ15VDLT1 43B2
D25 ZENER 38B6
D26 ZENER_MMBZ15VDLT1 43B2
D27 DIODE_DUAL_6P 27B4
D28 DIODE_DUAL_6P 27B4
D29 ZENER_MMBZ15VDLT1 42B5
D30 DIODE_SCHOT 50C5
D31 DIODE_SCHOT 50B3
D32 DIODE_SCHOT 50B5
D33 DIODE_SCHOT 48B6
D34 DIODE_SCHOT 50B1
D35 DIODE_SCHOT 46D6
D36 DIODE_SCHOT 46D6
D37 DIODE_SCHOT 52B2
D38 DIODE_SCHOT 52C6

D39 DIODE_SCHOT 52B4
D40 DIODE_SCHOT 52A4
D41 DIODE_SCHOT 47C4
D42 DIODE_SCHOT 51B5
D43 DIODE_SCHOT 47B3
D44 DIODE_SCHOT 47D2
D45 DIODE_SCHOT 47D6
D46 DIODE_SCHOT 51B2
D4901 DIODE_SCHOT 49B2
DS1 LED 37A2
DS2 LED 37A1
DS3 LED 37A1
DS4 LED 32A3
DS5 LED 53A5
DS6 LED 53A6
DS7 LED 40B2
DS8 LED 40B6
DS9 LED 52D6
DS10 LED 53A3
F1 FUSE 35A7
F2 FUSE 38D5
F3 FUSE 38D5
FL1 FILTER_12P 44B3
FL2 FILTER_LC 27C6
FL3 FILTER_LC 27C6
FL4 FILTER_LC 27B6
J1 CON_RJ45 37C1
J2 CON_FWVERT_SKT 38C1
J3 CON_F8RT_S_TH1 44B1
J4 CON_F4RT_USB_UPRIGHT 35C3
J5 CON_FWVERT_SKT 38D1
J6 CON_F4RT_USB_UPRIGHT 35B3
J7 CON_F4RT_USB_UPRIGHT 35D3
J8 CON_F4RT_S4MT_TH1 43C1
J9 CON_F14RT_D4MT_TH1 27C5
J10 CON_F4RT_S4MT_TH1 42C7
J11 CON_F184ST_DDRDIMM 17D5
J12 CON_F21ST_D2MT_SM 26C3
J13 CON_M40SM_635 31D6
J14 CON_M16ST_D_TH 31B5
J15 CON_M40ST_NC20 40D6
J16 CON_M40ST_NC20 40D2
J17 CON_M16ST_MICROFIT 52D8
J18 CON_M4ST_LCK 36B4
J19 CON_37SM_MTOR 9C5
J20 CON_38SM_MTOR 9D7
J21 CON_M3ST_LCK 47C8
J22 CON_F20SM_KX 9B3
J23 CON_F1ST_S2MT_SM 30B7
J24 CON_M12ST_SM 31B3
J25 CON_F100RT_LP_SM 33D3
J26 CON_F200RT_DDRDIMM_SM2 16D5
J27 CON_F1ST_S2MT_SM 9C3
J28 CON_F10ST_D_SMA 31D2
J29 CON_M6ST_BTRY 8B6
J30 CON_38SM_MTOR 9D5
J31 CON_38SM_MTOR 9C7
J32 CON_F12RT_S2MT_SM 9B8
J4501 CON_F4ST_S2MT_SM 45C6
J4502 CON_F4ST_S2MT_SM 45C6
JAZ1 TP 53A4
L1 IND 38D4
L2 IND 35A5
L3 IND 38D4
L4 IND 35A5
L5 FILTER_4P 38C2
L6 FILTER_4P 38C2
L7 FILTER_4P 38D2
L8 FILTER_4P 38D2
L9 IND 27C2
L10 IND 44A5
L11 IND 44B5
L12 IND 50B3
L13 IND 24C7
L14 IND 10D5
L15 IND 10D7
L16 IND 30C3
L17 IND 10B8
L18 IND 10B8
L19 IND 49B4
L20 IND 47C3

L21 IND_3P 51B4
L22 IND_3P 52A3
L23 IND 52C3
L24 IND 47B3
L25 IND 44C3
L26 IND 44B1
L27 IND 43C3
L28 IND 35C5
L29 IND 35C5
L30 IND 35B5
L31 IND 35B5
L32 IND 38B6
L34 IND 43D3
L35 IND 43B3
L36 IND 42B6
L37 IND 35D5
L38 IND 35D5
L39 IND 43A3
L40 IND 44B1
L41 IND 44C3
L42 IND 43B3
L43 IND 43A4
L44 IND 43C3
L45 IND 43D3
L46 IND 42C6
L47 IND 43B3
L48 IND 42C6
L49 IND 42B5
L50 IND 42C5
L51 IND 42D6
L52 IND 42C5
L53 IND 42D5
L54 IND 44B5
L55 IND 44B5
L56 IND 46A1
L57 IND 46A1
L58 IND 34D6
L59 IND 45B5
L60 IND 45C5
L61 IND 44D7
L62 IND 44D7
L63 IND 41D4
L64 IND 26A5
L65 IND 31A7
L66 IND 31A3
L67 FILTER_4P 26A5
L68 IND 24C2
L69 IND 31A3
L70 IND 31A7
L71 FILTER_4P 26B5
L72 IND 31A7
L73 IND 31A3
L74 FILTER_4P 26C5
L75 IND 31A7
L76 FILTER_4P 26D5
L77 IND 31B7
L78 IND 31A3
L79 IND 45C7
L80 IND 31B3
L81 IND 45B7
L82 IND 26D5
L83 IND 45B7
L84 IND 52D7
L85 IND 52D7
L86 IND 52D7
L2401 IND 24C7
L2501 IND 25A6
Q1 TRA_2N7002 53C2
Q2 TRA_2N7002 44A7
Q3 TRA_2N7002 44B7
Q4 TRA_2N7002 44C4
Q5 TRA_2N7002 43A5
Q6 TRA_2N7002 53C4
Q7 TRA_IRLR8203 50B4
Q8 TRA_IRLR8503 50B4
Q9 TRA_IRLR8503 50C4
Q10 TRA_2N7002 24B7
Q11 TRA_FDC602P 53C2
Q12 TRA_2N3904 46D7
Q13 TRA_2N7002 53B2
Q14 TRA_2N7002 53C7

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Q15	TRA_2N7002	53B7
Q16	TRA_2N7002	53A7
Q17	TRA_2N7002	53B6
Q18	TRA_2N7002	53A7
Q19	TRA_2N7002	53A6
Q20	TRA_FDC602P	53D7
Q21	TRA_2N7002	52C3
Q22	TRA_2N7002	52D3
Q23	TRA_2N7002	52C4
Q24	TRA_2N7002	52C3
Q25	TRA_IRF7811W	49B5
Q26	TRA_IRF7805	49B5
Q27	TRA_IRLR8203	51B4
Q28	TRA_IRLR8503	51B4
Q29	TRA_2N7002	47D8
Q30	TRA_2N3904	38C7
Q31	TRA_2N7002	43A8
Q32	TRA_2N7002	41C7
Q33	TRA_2N3904	45B2
Q34	TRA_IRLR8203	50A4
Q35	TRA_2N7002	42D4
Q37	TRA_FDC602P	53C6
Q38	TRA_2N7002	53B6
Q39	TRA_2N3904	52C7
Q40	TRA_IRLR8203	47C4
Q41	TRA_2N7002	8D5
Q42	TRA_2N7002	8C6
Q43	TRA_IRLR8203	47C4
Q44	TRA_IRLR8503	47C4
Q45	TRA_IRF7811W	52B4
Q46	TRA_IRF7805	52C4
Q47	TRA_IRLR8203	52A4
Q48	TRA_IRLR8503	52A4
Q49	TRA_IRLR8203	47B4
Q50	TRA_IRLR8503	47B4
Q51	TRA_IRLR8203	47B4
Q52	TRA_2N7002	48A7
Q53	TRA_FDC602P	48B7
Q4801	TRA_FDC602P	48D7
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R3	RES	27B4
R4	RES	23A4
R5	RES	23A4
R6	RES	23A4
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R12	RES	38C3
R13	RES	38C3
R14	RES	38C3
R15	RES	38C3
R16	RES	38B3
R17	RES	23A4
R18	RES	23A5
R19	RES	27B5
R20	RES	21C2
R21	RES	53D2
R22	RES	53C3
R23	RES	53D2
R24	RES	21A3
R25	RES	21A3
R26	RES	37B4
R27	RES	37C4
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R29	RES	37B7
R30	RES	37C3
R31	RES	21A3
R32	RES	21A3
R33	RES	37C4
R34	RES	37C7
R35	RES	38D6
R36	RES	20B8
R37	RES	37C4
R38	RES	37C7
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R47	RES	35B6
R48	RES	35B6
R49	RES	20B7
R50	RES	20B7
R51	RES	44C3
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R54	RES	20D3
R55	RES	21A4
R56	RES	20D2
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R58	RES	20D3
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R69	RES	21A4
R70	RES	20D3
R71	RES	20D6
R72	RES	19A5
R73	RES	28C2
R74	RES	28D2
R75	RES	37B8
R76	RES	37B8
R77	RES	28D2
R78	RES	34A7
R79	RES	28C2
R80	RES	19A5
R81	RES	21A7
R82	RES	28B3
R83	RES	20A5
R84	RES	20G2
R85	RES	25D6
R86	RES	25D6
R87	RES	28B3
R88	RES	20A5
R89	RES	34D3
R90	RES	20G3
R91	RES	25D5
R92	RES	25C5
R93	RES	28A3
R94	RES	28A3
R95	RES	20A5
R96	RES	37B1
R97	RES	21A7
R98	RES	25D5
R99	RES	25D6
R100	RES	28A7
R101	RES	21A7
R102	RES	25C4
R103	RES	21B2
R104	RES	21B2
R105	RES	21C2
R106	RES	21C2
R107	RES	25C4
R108	RES	25C6
R109	RES	28B7
R110	RES	28D6
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R112	RES	25D6
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R114	RES	25C4
R115	RES	25C4
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R119	RES	25C4
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R147	RES	21A7
R148	RES	21C2
R149	RES	25B5
R150	RES	50C5
R151	RES	22A4
R152	RES	22A5
R153	RES	21A7
R154	RES	20G3
R155	RES	20G2
R156	RES	21C2
R157	RES	25B2
R158	RES	21D2
R159	RES	21A7
R160	RES	19A5
R161	RES	18D1
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R163	RES	22A4
R164	RES	20G3
R165	RES	37C4
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R172	RES	24B6
R173	RES	24C7
R174	RES	24B6
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R176	RES	22A4
R177	RES	19A5
R178	RES	24C7
R179	RES	24C7
R180	RES	42D5
R181	RES	43A4
R182	RES	43A4
R183	RES	24C3
R184	RES	25C5
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R202	RES	16B2
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R209	RES	16B3
R210	RES	19B8
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R213	RES	25C4
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R215	RES	18C7
R216	RES	18B7
R217	RES	18D3
R218	RES	32D6
R219	RES	32D6
R220	RES	18C7
R221	RES	18D1
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R228	RES	30C7
R229	RES	36C1
R230	RES	32B6
R231	RES	30C8
R232	RES	30C6
R233	RES	18B3
R234	RES	18D1
R235	RES	29B5
R236	RES	29C5
R237	RES	25C4
R238	RES	29C6
R239	RES	29B6
R240	RES	29B5
R241	RES	29C5
R242	RES	29B6
R243	RES	29C6
R244	RES	29C4
R245	RES	29B4
R246	RES	25B7
R247	RES	29B7
R248	RES	29C7
R249	RES	29B7
R250	RES	29C7
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R252	RES	32C7
R253	RES	32C7
R254	RES	36B4
R255	RES	32C6
R256	RES	32C7
R257	RES	36B3
R258	RES	39D5
R259	RES	32C7
R260	RES	14D4
R261	RES	14D4
R262	RES	32C7
R263	RES	39D4
R264	RES	30D1
R265	RES	40B4
R266	RES	39C6
R267	RES	30B1
R268	RES	40B4
R269	RES	36C4
R270	RES	39D2
R271	RES	30B3
R272	RES	30B3
R273	RES	39D2
R274	RES	30C7
R275	RES	36C4
R276	RES	30C8
R277	RES	53B2
R278	RES	53B3
R279	RES	53B2
R280	RES	46D8
R281	RES	46D7
R282	RES	46D7
R283	RES	53B3
R284	RES	53B3
R285	RES	33C1

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R286	RES	14A3
R287	RES	46D5
R288	RES	14D4
R289	RES	30C8
R290	RES	46D8
R291	RES	30C7
R292	RES	30C7
R293	RES	33C4
R294	RES	30C1
R295	RES	49B3
R296	RES	49B7
R297	RES	46D6
R298	RES	46B1
R299	RES	49B3
R300	RES	53A5
R301	RES	49B5
R302	RES	53A6
R303	RES	36D7
R304	RES	49B3
R305	RES	49B4
R306	RES	30B8
R307	RES	36D7
R308	RES	9C3
R309	RES	49B7
R310	RES	11A4
R311	RES	4B8
R312	RES	4A8
R313	RES	9B4
R314	RES	9C4
R315	RES	49B3
R316	RES	49B7
R317	RES	49C5
R318	RES	49C6
R319	RES	11A4
R320	RES	49B5
R321	RES	11A4
R322	RES	52C3
R323	RES	52D4
R324	RES	10C6
R325	RES	10C6
R326	RES	10C6
R327	RES	10C6
R328	RES	31D3
R329	RES	31D3
R330	RES	52A8
R331	RES	52B8
R332	RES	52A7
R333	RES	49B4
R334	RES	51B2
R335	RES	52A5
R336	RES	52C5
R337	RES	52B5
R338	RES	11B5
R339	RES	11B5
R340	RES	11B5
R341	RES	11B5
R342	RES	11C7
R343	RES	11B6
R344	RES	11C7
R345	RES	11C7
R346	RES	7C7
R347	RES	7C7
R348	RES	7C7
R349	RES	7B7
R350	RES	7A7
R351	RES	11A5
R352	RES	11B6
R353	RES	11C7
R354	RES	11A6
R355	RES	11B7
R356	RES	11C5
R357	RES	11C6
R358	RES	11A7
R359	RES	11A7
R360	RES	11B6
R361	RES	47B3
R362	RES	47B3
R363	RES	11C6
R364	RES	11C6
R365	RES	11C5
R366	RES	11A7

R367	RES	11C5
R368	RES	11C6
R369	RES	51C6
R370	RES	52D6
R371	RES	51B6
R372	RES	48D4
R374	RES	6C6
R375	RES	6C6
R376	RES	6C6
R377	RES	6C6
R378	RES	6C7
R379	RES	6C7
R380	RES	6C7
R381	RES	6C7
R382	RES	6C8
R383	RES	6C8
R384	RES	47C5
R385	RES	48D6
R386	RES	47B5
R387	RES	47B5
R388	RES	47B6
R389	RES	47B6
R390	RES	37C1
R391	RES	37C2
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R396	RES	35A7
R397	RES	28A6
R398	RES	35A6
R399	RES	28B6
R400	RES	43C4
R401	RES	28B5
R402	RES	38B4
R403	RES	21B2
R404	RES	38D8
R405	RES	44B4
R406	RES	43D4
R407	RES	42C5
R408	RES	28A5
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R411	RES	38C5
R412	RES	43C4
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R414	RES	45C5
R415	RES	21A3
R416	RES	21A3
R417	RES	38C7
R418	RES	38C6
R419	RES	43D4
R420	RES	42B4
R421	RES	45C5
R422	RES	38C6
R423	RES	38B5
R424	RES	38C7
R425	RES	38C7
R426	RES	28A5
R427	RES	28B5
R428	RES	21A3
R429	RES	21A3
R430	RES	38B6
R431	RES	38C7
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R442	RES	42C4
R443	RES	28A4
R444	RES	43C6
R445	RES	28B6
R446	RES	43C6
R447	RES	43D6
R448	RES	42B3

R449	RES	28A6
R450	RES	35B5
R451	RES	35B5
R452	RES	35C5
R453	RES	35C5
R454	RES	35D5
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R466	RES	34C2
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R469	RES	34C3
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R471	RES	44B4
R472	RES	43C7
R473	RES	43D7
R474	RES	42C3
R475	RES	50B1
R476	RES	34B3
R477	RES	43B4
R478	RES	43B5
R479	RES	21A6
R480	RES	34C3
R481	RES	41B6
R482	RES	41C6
R483	RES	21A6
R484	RES	34A7
R485	RES	37B2
R486	RES	37B2
R487	RES	45B5
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R489	RES	45C3
R490	RES	34B3
R491	RES	37B2
R492	RES	37B1
R493	RES	50C3
R494	RES	34B7
R495	RES	44C7
R496	RES	50C2
R497	RES	44B7
R498	RES	45B2
R499	RES	50C2
R500	RES	21C2
R501	RES	41C7
R502	RES	41D7
R503	RES	50B6
R504	RES	50C2
R505	RES	50C5
R506	RES	21A7
R507	RES	53D4
R508	RES	44B7
R509	RES	21A7
R510	RES	32A4
R511	RES	32A3
R512	RES	44B8
R513	RES	44C7
R514	RES	44B7
R515	RES	50B5
R516	RES	44B7
R517	RES	41C5
R518	RES	48B5
R519	RES	48A5
R520	RES	44B8
R521	RES	41C5
R522	RES	44C4
R523	RES	50C6
R524	RES	41B4
R525	RES	44D4
R526	RES	44C4
R527	RES	50B7
R528	RES	41C4
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R530	RES	53C5
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R537	RES	29C4
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R541	RES	28A6
R542	RES	28B6
R543	RES	29C6
R544	RES	29B7
R545	RES	18A8
R546	RES	26A5
R547	RES	26A6
R548	RES	29C7
R549	RES	18A8
R550	RES	26A5
R551	RES	26A5
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R560	RES	28C7
R561	RES	28D7
R562	RES	24B6
R563	RES	29C5
R564	RES	25C4
R565	RES	30D5
R566	RES	32D6
R567	RES	26B5
R568	RES	26B5
R569	RES	24B3
R570	RES	26B6
R571	RES	30D8
R572	RES	30D8
R573	RES	30C6
R574	RES	30C8
R575	RES	36C1
R576	RES	36C1
R577	RES	30C7
R578	RES	32B6
R579	RES	32A8
R580	RES	18B3
R581	RES	26B5
R582	RES	26C5
R583	RES	28D3
R584	RES	31D6
R585	RES	31D6
R586	RES	30D6
R587	RES	18B3
R588	RES	28C3
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R591	RES	26C6
R592	RES	25A7
R593	RES	26C5
R594	RES	26D5
R595	RES	28D5
R596	RES	28D5
R597	RES	28C3
R598	RES	28D3
R600	RES	26D6
R601	RES	53B3
R602	RES	25A7
R603	RES	26D5
R604	RES	46A3
R605	RES	46A5
R606	RES	46A5
R607	RES	53A5
R608	RES	53A4
R609	RES	53A4
R610	RES	48B4
R611	RES	30A6
R612	RES	53A4

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R613	RES	31A8
R614	RES	53A4
R615	RES	53A5
R616	RES	32C7
R617	RES	32C7
R618	RES	32C7
R619	RES	18D6
R620	RES	30D5
R621	RES	32C6
R622	RES	18C6
R623	RES	39D5
R624	RES	39A7
R625	RES	14B6
R626	RES	39D2
R627	RES	39D5
R628	RES	30D5
R629	RES	30D5
R630	RES	30D5
R631	RES	10B5
R632	RES	10A3
R633	RES	10A3
R634	RES	10D5
R635	RES	39D3
R636	RES	46B6
R637	RES	36B3
R638	RES	10A3
R639	RES	10A3
R640	RES	39A5
R641	RES	30D1
R642	RES	10B3
R643	RES	10B3
R644	RES	10B5
R645	RES	53B6
R646	RES	46C1
R647	RES	36B4
R648	RES	46B2
R649	RES	46C3
R650	RES	30A2
R651	RES	30A2
R652	RES	10D7
R653	RES	46B7
R654	RES	46A5
R655	RES	46B2
R656	RES	46A6
R657	RES	46C3
R658	RES	46C3
R659	RES	46C2
R660	RES	30A2
R661	RES	30C7
R662	RES	10C6
R663	RES	10C6
R664	RES	53B6
R665	RES	46C1
R666	RES	30A6
R667	RES	18D6
R668	RES	31C3
R669	RES	31C2
R670	RES	31C2
R671	RES	46C1
R672	RES	30A6
R673	RES	36B4
R674	RES	10D3
R675	RES	10D3
R676	RES	46B4
R677	RES	46C2
R678	RES	30C8
R679	RES	39A2
R680	RES	30A8
R681	RES	14A7
R682	RES	52D6
R683	RES	30A2
R684	RES	36C1
R685	RES	53B6
R686	RES	46A7
R687	RES	46A7
R688	RES	46C2
R689	RES	46C3
R690	RES	46D3
R691	RES	30B3
R692	RES	46A3
R693	RES	46D8
R694	RES	30B3
R695	RES	30A5
R696	RES	14A7
R697	RES	14A3
R698	RES	46A3
R699	RES	46D3
R700	RES	46D3
R701	RES	46D4
R702	RES	36C4
R703	RES	14A8
R704	RES	14D4
R705	RES	31B3
R706	RES	31C3
R707	RES	36D4
R708	RES	30C8
R709	RES	36C4
R710	RES	30A5
R711	RES	30A6
R712	RES	11A3
R713	RES	11A3
R714	RES	36B7
R715	RES	14A7
R716	RES	46B8
R717	RES	46C3
R718	RES	30B3
R719	RES	32D5
R720	RES	11D3
R721	RES	52C8
R722	RES	46C6
R723	RES	30B3
R724	RES	30C3
R725	RES	46B6
R726	RES	46B7
R727	RES	30C7
R728	RES	30B3
R729	RES	46C6
R730	RES	46C7
R731	RES	46B6
R732	RES	46C7
R733	RES	46B7
R734	RES	46B7
R735	RES	30C7
R736	RES	30B3
R737	RES	40C7
R738	RES	53B7
R739	RES	53C7
R740	RES	53A7
R741	RES	53A6
R742	RES	30B3
R743	RES	40C4
R744	RES	40C7
R745	RES	40C3
R746	RES	30B8
R747	RES	30B6
R748	RES	10A5
R749	RES	30B8
R750	RES	30B8
R751	RES	53A8
R752	RES	11A3
R753	RES	39C2
R754	RES	39D4
R755	RES	10B7
R756	RES	10A7
R757	RES	11A4
R758	RES	40C1
R759	RES	39D2
R760	RES	40C5
R761	RES	39C5
R762	RES	30B3
R763	RES	30B3
R764	RES	11B4
R765	RES	11A4
R766	RES	11A3
R767	RES	39D2
R768	RES	39D5
R769	RES	53D7
R770	RES	53D7
R771	RES	10A7
R772	RES	11A4
R773	RES	39D2
R774	RES	39D4
R775	RES	40C7
R776	RES	11A4
R777	RES	11A4
R778	RES	14A8
R779	RES	40C1
R780	RES	40C3
R781	RES	40C5
R782	RES	40C7
R783	RES	40C4
R784	RES	40C7
R785	RES	40C4
R786	RES	40A4
R787	RES	40B4
R788	RES	40A7
R789	RES	40B7
R790	RES	40B7
R791	RES	40B7
R792	RES	40B2
R793	RES	40B6
R794	RES	52C7
R795	RES	52A6
R796	RES	17A8
R797	RES	52A5
R798	RES	52A5
R799	RES	52B8
R800	RES	47C3
R801	RES	47C3
R802	RES	52B5
R803	RES	52B5
R804	RES	52B6
R805	RES	52A3
R806	RES	52C6
R807	RES	52B5
R808	RES	52C3
R809	RES	17A8
R810	RES	52A5
R811	RES	52C5
R812	RES	8D6
R813	RES	8D6
R814	RES	52B3
R815	RES	52B3
R816	RES	8C6
R817	RES	8C6
R818	RES	8C5
R819	RES	8D4
R820	RES	8B7
R821	RES	8C7
R822	RES	8D3
R823	RES	8A5
R824	RES	8A5
R825	RES	17A3
R826	RES	8C7
R827	RES	51B5
R828	RES	8B7
R829	RES	8A7
R830	RES	8B7
R831	RES	8B6
R832	RES	11B6
R833	RES	11D7
R834	RES	8C5
R835	RES	8C5
R836	RES	8C2
R837	RES	8B2
R838	RES	8C2
R839	RES	8D3
R840	RES	7C7
R841	RES	7C7
R842	RES	7B7
R843	RES	7A7
R844	RES	7A7
R845	RES	7B7
R846	RES	7B7
R847	RES	7B7
R848	RES	7D5
R849	RES	7B7
R850	RES	4C2
R851	RES	7B7
R852	RES	11D7
R853	RES	11D7
R854	RES	11D7
R855	RES	11B6
R856	RES	7C5
R857	RES	7B5
R858	RES	7C5
R859	RES	7C5
R860	RES	7B5
R861	RES	11C7
R862	RES	11D7
R863	RES	11B6
R864	RES	11B7
R865	RES	11B7
R866	RES	11D6
R867	RES	11D5
R868	RES	11B7
R869	RES	11B5
R870	RES	11A5
R871	RES	51C3
R872	RES	51C3
R873	RES	51C5
R874	RES	11D6
R875	RES	11D5
R876	RES	11B7
R877	RES	11D5
R878	RES	11D6
R879	RES	11D6
R880	RES	51C3
R881	RES	51C3
R882	RES	7B5
R883	RES	51B6
R884	RES	51C5
R885	RES	11B6
R886	RES	11A6
R887	RES	11C6
R888	RES	51D5
R889	RES	11D6
R890	RES	11B8
R891	RES	4D6
R892	RES	11B7
R893	RES	11B7
R894	RES	11B8
R895	RES	4D2
R896	RES	47C5
R897	RES	47B5
R898	RES	47B5
R899	RES	47D6
R900	RES	47C5
R901	RES	4D3
R902	RES	7A4
R903	RES	7A4
R904	RES	7A4
R905	RES	7A4
R906	RES	7B4
R907	RES	7B4
R908	RES	47D6
R909	RES	7B5
R910	RES	7B5
R911	RES	7B5
R912	RES	7A5
R913	RES	7C4
R914	RES	7C4
R915	RES	7C4
R916	RES	7B4
R917	RES	7A4
R918	RES	7C4
R919	RES	7B4
R920	RES	7B4
R921	RES	7B5
R922	RES	7A5
R923	RES	7A5
R924	RES	7D5
R925	RES	7C5
R926	RES	7B4
R927	RES	48C5
R928	RES	47C5
R929	RES	47C5
R930	RES	48C5
R931	RES	47D7
R932	RES	47C7
R933	RES	47D7
R934	RES	47C8
R935	RES	47A5
R936	RES	47A5

APPLE COMPUTER INC.

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SCALE	SHT	OF
NONE	73	74

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R937  RES      9B3
R938  RES      9B3
R939  RES      9A3
R940  RES      9A3
R941  RES      39D1
R943  RES      39D2
R944  RES      39D2
R945  RES      48B7
R946  RES      48B7
R947  RES      48B7
R948  RES      33D4
R949  RES      33D4
R950  RES      33D3
R951  RES      33C2
R3001 RES      30A2
R3002 RES      30A2
R3801 RES      38B1
R4301 RES      43A7
R4401 RES      44A8
R4501 RES      45C6
R4502 RES      45B6
R4503 RES      45B6
R4504 RES      45C6
R4505 RES      45B6
R4506 RES      45B6
R4507 RES      45D5
R4701 RES      47B6
R4702 RES      47B6
R4703 RES      47B3
R4704 RES      47B3
R4705 RES      47B3
R4706 RES      47D3
R4707 RES      47D3
R4708 RES      47B5
R4801 RES      48C7
R5301 RES      53C1
RP1   RPAK4P   37C8
RP2   RPAK4P   38C7
RP3   RPAK4P   38B7
RP4   RPAK4P   21B5 21C5
RP5   RPAK4P   21B5
RP6   RPAK4P   21B5
RP7   RPAK4P   21B5
RP8   RPAK4P   20A2 20A3 20B2
RP9   RPAK4P   20C2 20C2 20C3 20C3
RP10  RPAK4P   21C7
RP11  RPAK4P   21B7
RP12  RPAK4P   21B7
RP13  RPAK4P   21B7
RP14  RPAK4P   21C7
RP15  RPAK4P   37B7 37B8
RP16  RPAK4P   37A4
RP17  RPAK4P   21C7
RP18  RPAK4P   21D7
RP19  RPAK4P   21D7
RP20  RPAK4P   21D7
RP21  RPAK4P   21D7
RP22  RPAK4P   20F2 20F3 20G2 20G3
RP23  RPAK4P   20E2 20E3
RP24  RPAK4P   21C5
RP25  RPAK4P   21C5 21D5
RP26  RPAK4P   21C5
RP27  RPAK4P   21D5
RP28  RPAK4P   21D5
RP29  RPAK4P   21D5
RP30  RPAK4P   19D7
RP31  RPAK4P   19C7
RP32  RPAK4P   19D7
RP33  RPAK4P   19B7
RP34  RPAK4P   19C7
RP35  RPAK4P   19B7
RP36  RPAK4P   19A7
RP37  RPAK4P   18B3 18C3 18C3
RP38  RPAK4P   32A6
RP39  RPAK4P   30D2
RP40  RPAK4P   19D7
RP41  RPAK4P   19C7
RP42  RPAK4P   19D7
RP43  RPAK4P   19C7
RP44  RPAK4P   19C7
RP45  RPAK4P   19B7
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RP46  RPAK4P   19B7
RP47  RPAK4P   19A7
RP48  RPAK4P   18B3
RP49  RPAK4P   18B1 18B1 18C1
RP50  RPAK4P   18B1
RP51  RPAK4P   14B1 14C1
RP52  RPAK4P   14A1 14B1
RP53  RPAK4P   10C2
RP54  RPAK4P   33B7
RP55  RPAK4P   10C2
RP56  RPAK4P   33B7
RP57  RPAK4P   10C2
RP58  RPAK4P   33C7
RP59  RPAK4P   33C7
RP60  RPAK4P   30C2
RP61  RPAK4P   33B7
RP62  RPAK4P   14B3 14C3
RP63  RPAK4P   32B8
RP64  RPAK4P   33B7
RP65  RPAK4P   36C4
RP66  RPAK4P   30A8
RP67  RPAK4P   33B7
RP68  RPAK4P   14C3 14D3
RP69  RPAK4P   32A8
RP70  RPAK4P   36C7
RP71  RPAK4P   14C1 14D1
RP72  RPAK4P   33C7
RP73  RPAK4P   33C7
RP74  RPAK4P   30A8
RP75  RPAK4P   33C7
RP76  RPAK4P   36C7
RP77  RPAK4P   33C7
RP78  RPAK4P   7A7
RP79  RPAK4P   7A5 7C5
RP80  RPAK4P   21B7
RP81  RPAK4P   21B7
RP82  RPAK4P   21B7 21C7 21C7
RP83  RPAK4P   20B2 20B3 20B3
RP84  RPAK4P   20B2 20B2 20B3
RP85  RPAK4P   20B3 20C2 20C3
RP86  RPAK4P   21B5
RP87  RPAK4P   21B5
RP88  RPAK4P   21C5
RP89  RPAK4P   21C5
RP90  RPAK4P   21C7
RP91  RPAK4P   21C7 21D7
RP92  RPAK4P   21C7
RP93  RPAK4P   20E2 20E3
RP94  RPAK4P   20F2 20F3
RP95  RPAK4P   20F2 20F2 20F3
RP96  RPAK4P   21C5
RP97  RPAK4P   21D5
RP98  RPAK4P   18B3 18C3 18C3
RP99  RPAK4P   18C1
RP100 RPAK4P   30A8
RP101 RPAK4P   36B1
RP102 RPAK4P   14C4
RP103 RPAK4P   39B2 39C2
RP104 RPAK4P   39B4 39B5 39C5
RP105 RPAK4P   14A4 14B4
RP106 RPAK4P   39B2
RP107 RPAK4P   39B4 39B4 39B5
RP108 RPAK4P   30A3 30B3
RP109 RPAK4P   14A4 14B4
RP110 RPAK4P   30A8
RP111 RPAK4P   39C4 39C4 39C5 39C5
RP112 RPAK4P   36C4
RP113 RPAK4P   30B8
RP114 RPAK4P   39A2 39B2
RP115 RPAK4P   39A4 39A5 39B4 39B5
RP116 RPAK4P   14A3 14B3
RP117 RPAK4P   30C1 30C1 30D1 30D1
RP118 RPAK4P   39C2
RP119 RPAK4P   36C1
S1    SWI_TACT_2P1 46B2
S2    SWI_TACT  46A3
SP1   SPRING_CLIP_1P_EMI 12D2
SP2   SPRING_CLIP_1P_EMI 12D2
SP3   SPRING_CLIP_1P_EMI 12D1
SP4   SPRING_CLIP_1P_EMI 12D1
T1    XFR_100BT_MDIX 37C3
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U1    SWI_TPS2023 35A6
U2    SHNTREG_TLV431A 23A5
U3    VREG_LP2951 38D7
U4    FW802A    38C5
U5    SDRAM_DDR_4MX32 23D6 23D7
U6    OPAMP_TLV2362 42B3 42C3
U7    SHNTREG_TLV431A 20B8
U8    AMP_TPA6112A2 43D5
U10   AMP_TA2024 44B6
U11   UPD720101_FBGA 34C5
U12   SDRAM_DDR_4MX32 22D6 22D7
U13   OPAMP_TLV2362 45B3
U14   VREG_LP2951 41D6
U15   TAS3004   41C3
U16   SHNTREG_TLV431A 22A5
U17   SHNTREG_TLV431A 16B3
U18   CBTV4020  15D7
U19   VREG_LT1962 30D7
U20   VREG_LM1117 25A8
U21   VDET_MC33465N_22ATR 46A4
U22   CBTV4020  15B6
U23   MAX6328   46A5
U24   CLK_DR_PCK2059 10C4
U25   INTREPID  11D2 12D5 12D7 14D7 18D5 30C4 32D5
                  36C5 39D8
U26   M16C62    46C5
U27   CBTV4020  15D4
U28   VREG_TL431 46D8
U29   CBTV4020  15C2
U30   CLK_GEN_CY28512 10A6
U31   DCDC_SC2602 49B6
U32   SHNTREG_TLV431A 14A8
U33   LTC3707   52B6
U34   APOLLO_MPC7445_360 4C5 5D3 5D6
U35   TRA_IRF7410 53D2
U36   SDRAM_DDR_4MX32 23D2 23D4
U37   TRANSCEIVER_BCM5221 37C5
U38   SN74AUC1G04 32A3
U39   NV18B     19D6 20G5 20G7 24D4 25D3
U40   DCDC_SC2602 50C6
U41   SDRAM_DDR_4MX32 22D2 22D4
U42   FEPR_1MX8 32C2
U43   EEPROM_16KX8_M24128B 8B6
U44   AT90S1200 8C4
U45   DCDC_SC2602 51C5
U46   SN74LVC1G04 46D1
U47   LTC3707   47C6
U48   NC7WZ08   43A7 44A7
VR1   VREG_LM1117 41C7
VR2   VREG_EZ1582 48B5
VR3   VREG_EZ1582 53B4
VR4   VREG_EZ1582 48C5
XW1   SHORT     41B7
XW2   SHORT8L25_WITH_ALTS 50B2
XW3   SHORT     44A7
XW4   SHORT     41B7
XW5   SHORT     41B7
XW6   SHORT8L25_WITH_ALTS 50B4
XW7   SHORT8L25_WITH_ALTS 50C7
XW8   SHORT     44D8
XW9   SHORT     44D8
XW10  SHORT     44C8
XW11  SHORT     44D8
XW12  SHORT8L25_WITH_ALTS 49B3
XW13  SHORT8L25_WITH_ALTS 49B4
XW14  SHORT8L25_WITH_ALTS 49C5
XW15  SHORT8L25_WITH_ALTS 49A6
XW16  SHORT8L25_WITH_ALTS 52A3
XW17  SHORT8L25_WITH_ALTS 52B8
XW18  SHORT8L25_WITH_ALTS 52A3
XW19  SHORT8L25_WITH_ALTS 52B2
XW20  SHORT8L25_WITH_ALTS 52B3
XW21  SHORT8L25_WITH_ALTS 52A6
XW22  SHORT8L25_WITH_ALTS 52B5
XW23  SHORT8L25_WITH_ALTS 51B3
XW24  SHORT8L25_WITH_ALTS 51C4
XW25  SHORT8L25_WITH_ALTS 51C4
XW26  SHORT8L25_WITH_ALTS 47C3
XW27  SHORT8L25_WITH_ALTS 47C3
XW28  SHORT8L25_WITH_ALTS 47B1
XW29  SHORT8L25_WITH_ALTS 47C6
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XW30  SHORT8L25_WITH_ALTS 47A3
XW31  SHORT8L25_WITH_ALTS 47B3
XW32  SHORT     41B7
XW33  SHORT     43B7
XW34  SHORT     41A7
XW35  SHORT     44A7
XW36  SHORT     44A7
XW37  SHORT     41B7
XW38  SHORT     41A7
XW39  SHORT8L25_WITH_ALTS 50B5
XW40  SHORT     44D7
XW41  SHORT8L25_WITH_ALTS 51B5
XW42  SHORT     30A5
XW43  SHORT     30A5
XW44  SHORT     30A5
XW45  SHORT     30A4
XW46  SHORT     30A4
XW47  SHORT     11A2
XW48  SHORT     18A5
XW49  SHORT     32B5
Y1    CRYSTAL   38C6
Y2    CRYSTAL_4PIN 24A3
Y3    CRYSTAL   46A6
Y4    CRYSTAL_4PIN 46B2
Y5    CRYSTAL   30A6
Y6    CRYSTAL   37B7
Y7    CRYSTAL   34D3
ZH3   MTGHOLE   41A7
ZH4   MTGHOLE   4B2
ZH5   SLOT      4B1
ZH6   SLOT      4B2
ZH7   MTGHOLE   4B1
ZT1   HOLE_VIA  20C2
ZT2   HOLE_VIA  20C2
ZT3   HOLE_VIA  20C2
ZT4   HOLE_VIA  20A2
ZT5   HOLE_VIA  20C2
ZT6   HOLE_VIA  20C2
ZT7   HOLE_VIA  20A2
ZT8   HOLE_VIA  20C2
ZT9   HOLE_VIA  20B2
ZT10  HOLE_VIA  20B2
ZT11  HOLE_VIA  20B2
ZT12  HOLE_VIA  20B2
ZT13  HOLE_VIA  20B2
ZT14  HOLE_VIA  20B2
ZT15  HOLE_VIA  20B2
ZT16  HOLE_VIA  20B2
ZT17  HOLE_VIA  20B2
ZT18  HOLE_VIA  20B2
ZT19  HOLE_VIA  20A2
ZT20  HOLE_VIA  20G2
ZT21  HOLE_VIA  20E2
ZT22  HOLE_VIA  20F2
ZT23  HOLE_VIA  20F2
ZT24  HOLE_VIA  20F2
ZT25  HOLE_VIA  20F2
ZT26  HOLE_VIA  20F2
ZT27  HOLE_VIA  20E2
ZT28  HOLE_VIA  20D2
ZT29  HOLE_VIA  20G2
ZT30  HOLE_VIA  20F2
ZT31  HOLE_VIA  20F2
ZT32  HOLE_VIA  20E2
ZT33  HOLE_VIA  20E2
ZT34  HOLE_VIA  20F2
ZT35  HOLE_VIA  20E2
ZT36  HOLE_VIA  20E2
ZT37  HOLE_VIA  20F2
ZT38  HOLE_VIA  20E2
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APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6490	A

SCALE	SHT	OF
NONE	74	74