

8

7

6

5

4

3

2

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

ENG APPD

DATE

DATE

C

35888

6PRODUCTION RELEASED

01/07/05

?

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REVISION HISTORY (1 OF 1)

42-45

SCHEMATIC CREF AND NETLIST REPORTS

SCHEM,MLB,PB17"

01/07/2005

BOM OPTIONS

STUFF

NO STUFF

D3_HOT

✓

D3_COLD

✓

GPU_SS

✓

GPU_SWITCH

✓

SERIAL_DEBUG

✓

VCORE_OFFSET

✓

1_8V_MAXBUS

✓

1_5V_MAXBUS

✓

NEC_USB

✓

INTREPID_USB

✓

BBANG

✓

NO_BBANG

✓

ATI_MEMIO_HI

✓

ATI_MEMIO_LO

✓

SSCG

✓

NO_SSCG

✓

5V_HD_LOGIC

✓

3V_HD_LOGIC

✓

EXT_TMDS

✓

INT_TMDS

✓

MMM

✓

INT_CLK

✓

EXT_CLK

✓

PART#

QTY

DESCRIPTION

REFERENCE DESIGNATOR(S)

BOM OPTION

051-6694

1

SCHEM,MLB,PB17

SCH1

820-1688

1

PCBF,MLB,PB17

PCB1

DIMENSIONS ARE IN MILLIMETERS

XX : _____

X.XX : _____

X.XXX : _____

ANGLES : _____

DO NOT SCALE DRAWING

THIRD ANGLE PROJECTION

METRIC

DRAFTER

ENG APPD

QA APPD

RELEASE

DESIGN CK

MFG APPD

DESIGNER

SCALE

NONE

MATERIAL/FINISH

NOTED AS APPLICABLE

SIZE

D

Apple Computer Inc.

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TITLE

SCHEM,MLB,PB17"

DRAWING NUMBER

051-6694

REV.

C

SHT

1

OF

45

8

7

6

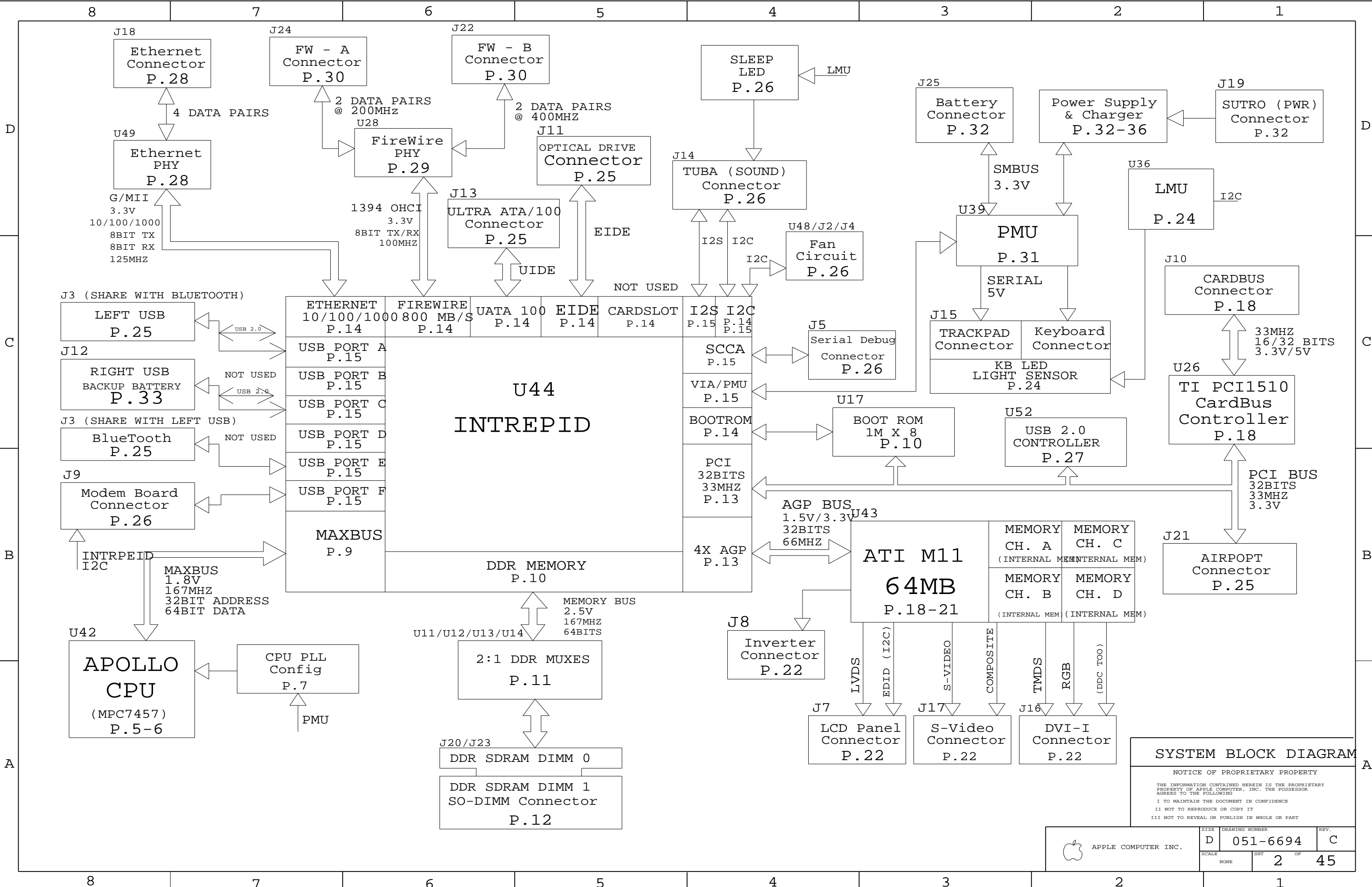
5

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1



SYSTEM BLOCK DIAGRAM

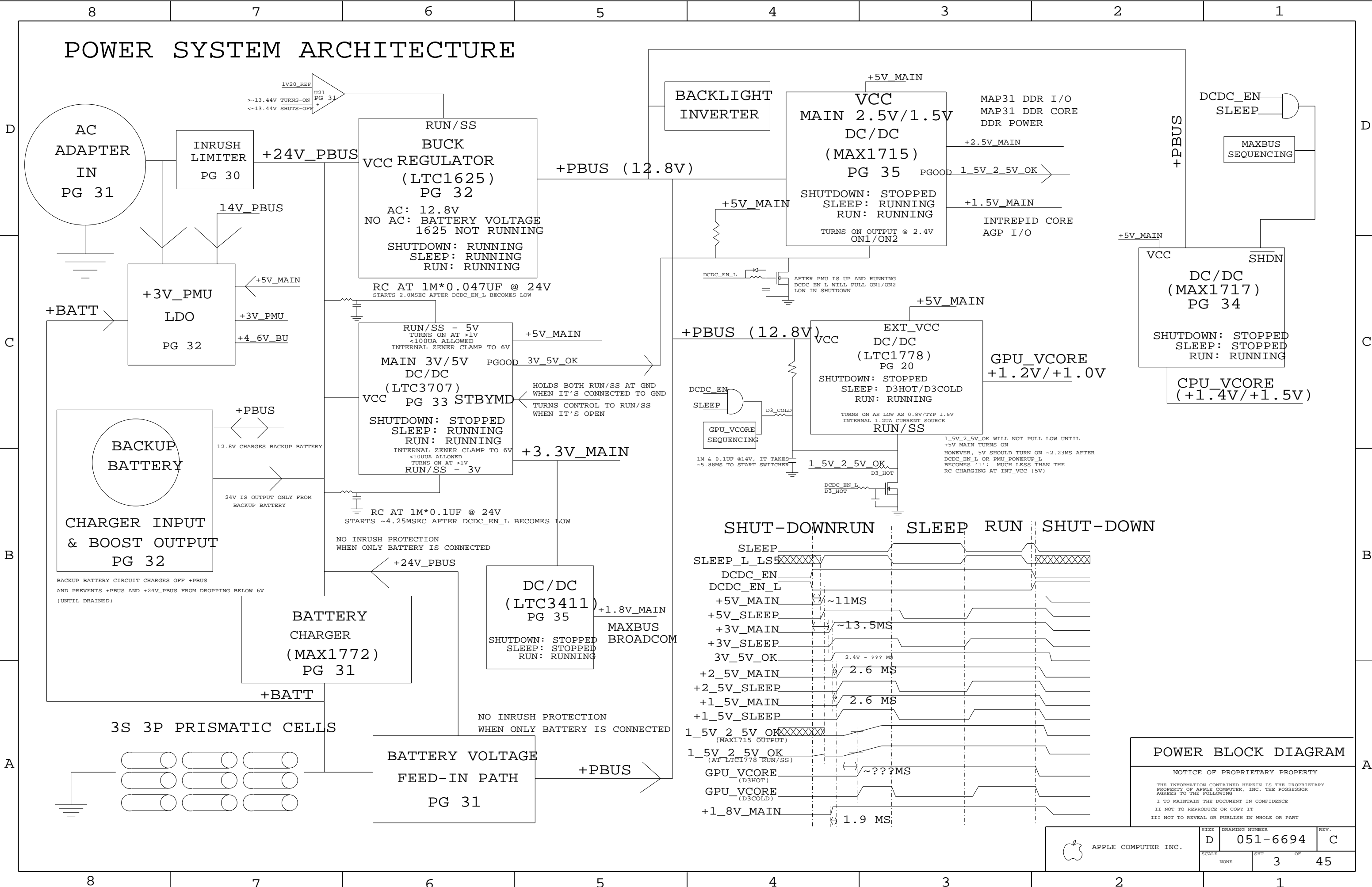
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PCB SPECS

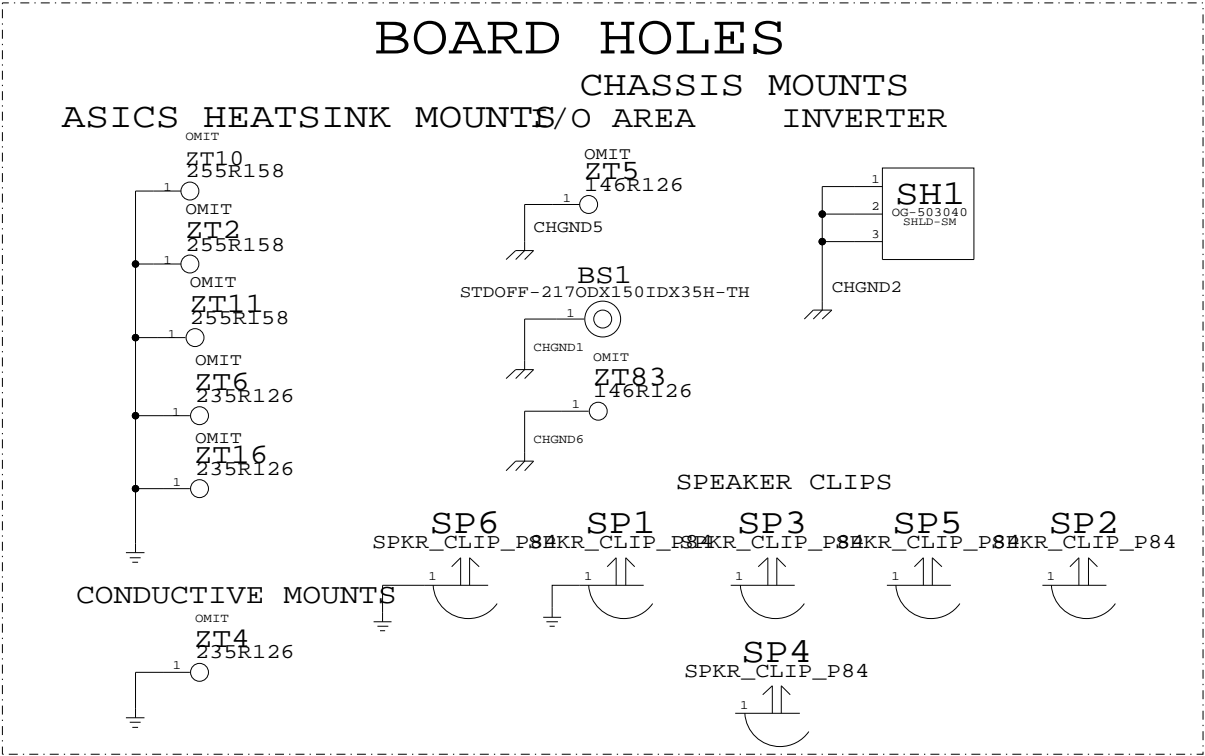
THICKNESS : 1.2 MM / 0.047 IN
1/2 OZ CU THICKNESS: 0.7 MILS
1.0 OZ CU THICKNESS: 1.4 MILS

IMPEDANCE : 50 OHMS +/- 10%
DIELECTRIC: FR-4
LAYER COUNT: 12
SIGNAL TRACE WIDTH: 4 MILS
SIGNAL TRACE SPACING: 4 MILS
PREPREG THICKNESS: 2-3 MILS

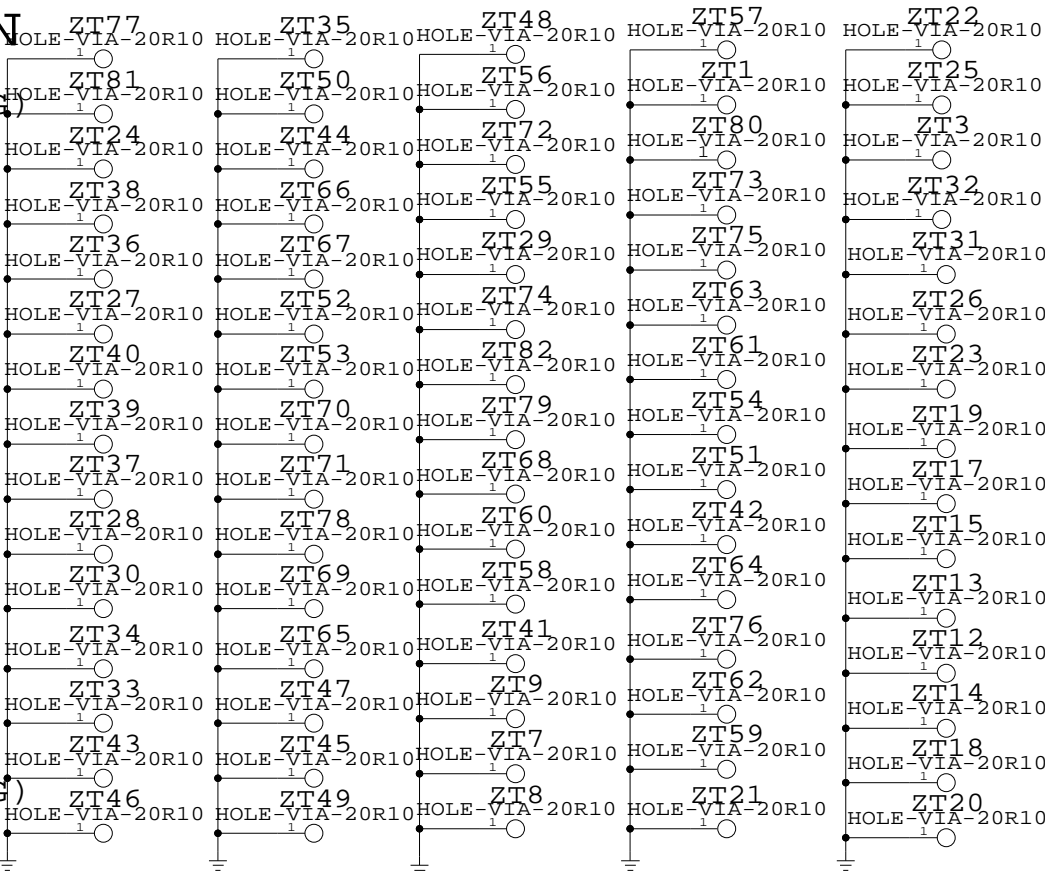
SEE PCB CAD FILES FOR MORE SPECIFIC INFO.

BOARD STACK-UP AND CONSTRUCTION

1	SIGNAL (1/3 OZ + COPPER PLATING)	
2	PREPREG (3MIL)	GROUND (1/2 OZ)
3	LAMINATE (4MIL)	SIGNAL (1/2 OZ)
4	PREPREG (3MIL)	
5	LAMINATE (4MIL)	GROUND (1/2 OZ)
6	PREPREG (2MIL)	CUT POWER PLANE(1 OZ)
7	LAMINATE (3MIL)	CUT POWER PLANE(1 OZ)
8	PREPREG (2MIL)	GROUND (1/2 OZ)
9	LAMINATE (4MIL)	SIGNAL (1/2 OZ)
10	PREPREG (3MIL)	SIGNAL (1/2 OZ)
11	LAMINATE (4MIL)	GROUND (1/2 OZ)
12	SIGNAL (1/3 OZ + COPPER PLATING)	



GROUND VIAS



BOARD INFORMATION

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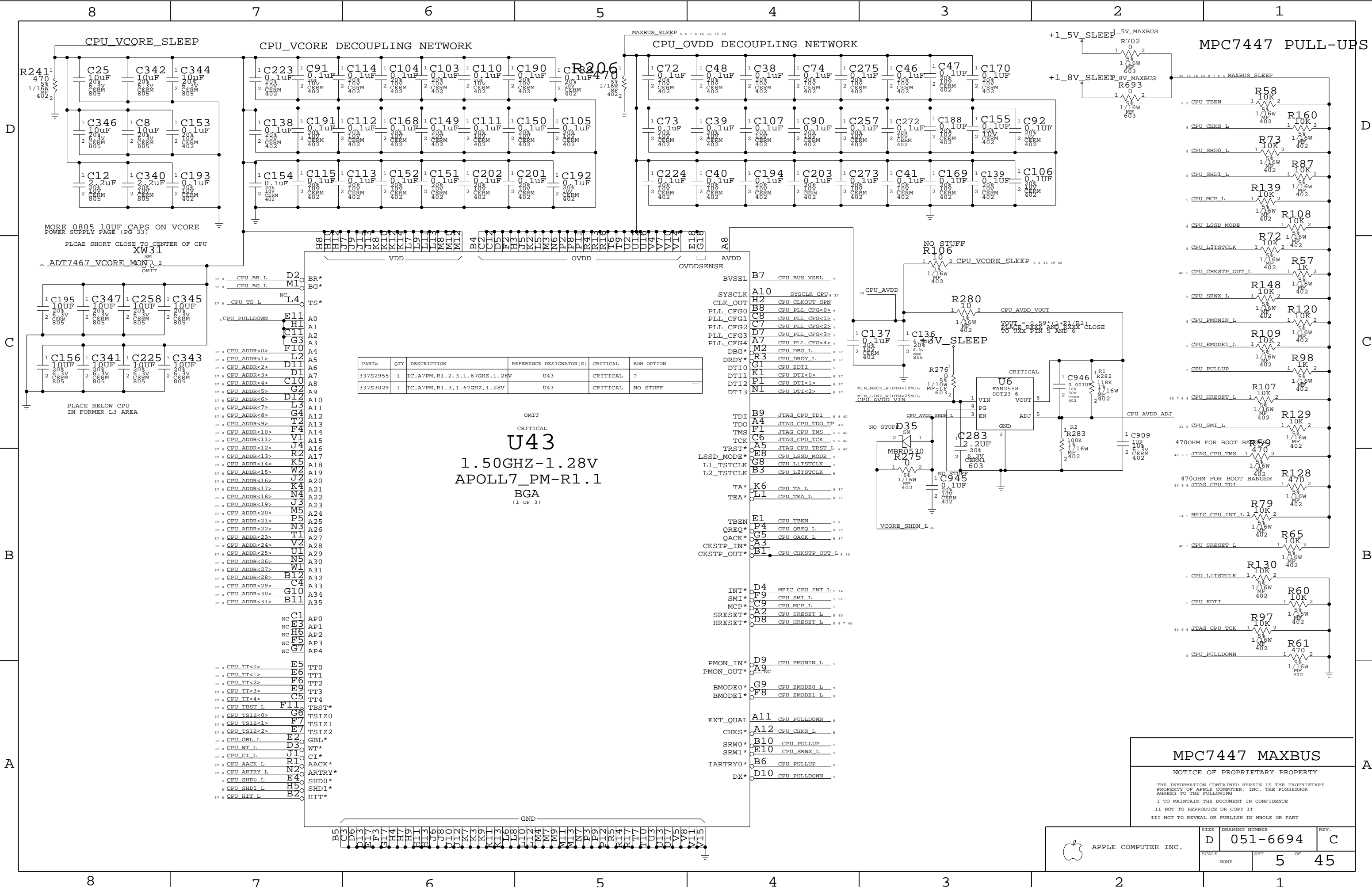
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APPLE COMPUTER INC.

SIZE	D	DRAWING NUMBER	051-6694	REV.	C
SCALE	NONE	SHT	4	OF	45



PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
337S2955	1	IC,A7PM,R1.2.3,1.67GHZ,1.28V	U43	CRITICAL	?
337S3029	1	IC,A7PM,R1.3,1.67GHZ,1.28V	U43	CRITICAL	NO STUFF

CRITICAL
U43
1.50GHZ-1.28V
APOLL7_PM-R1.1
BGA
(1 OF 3)

MPC7447 MAXBUS

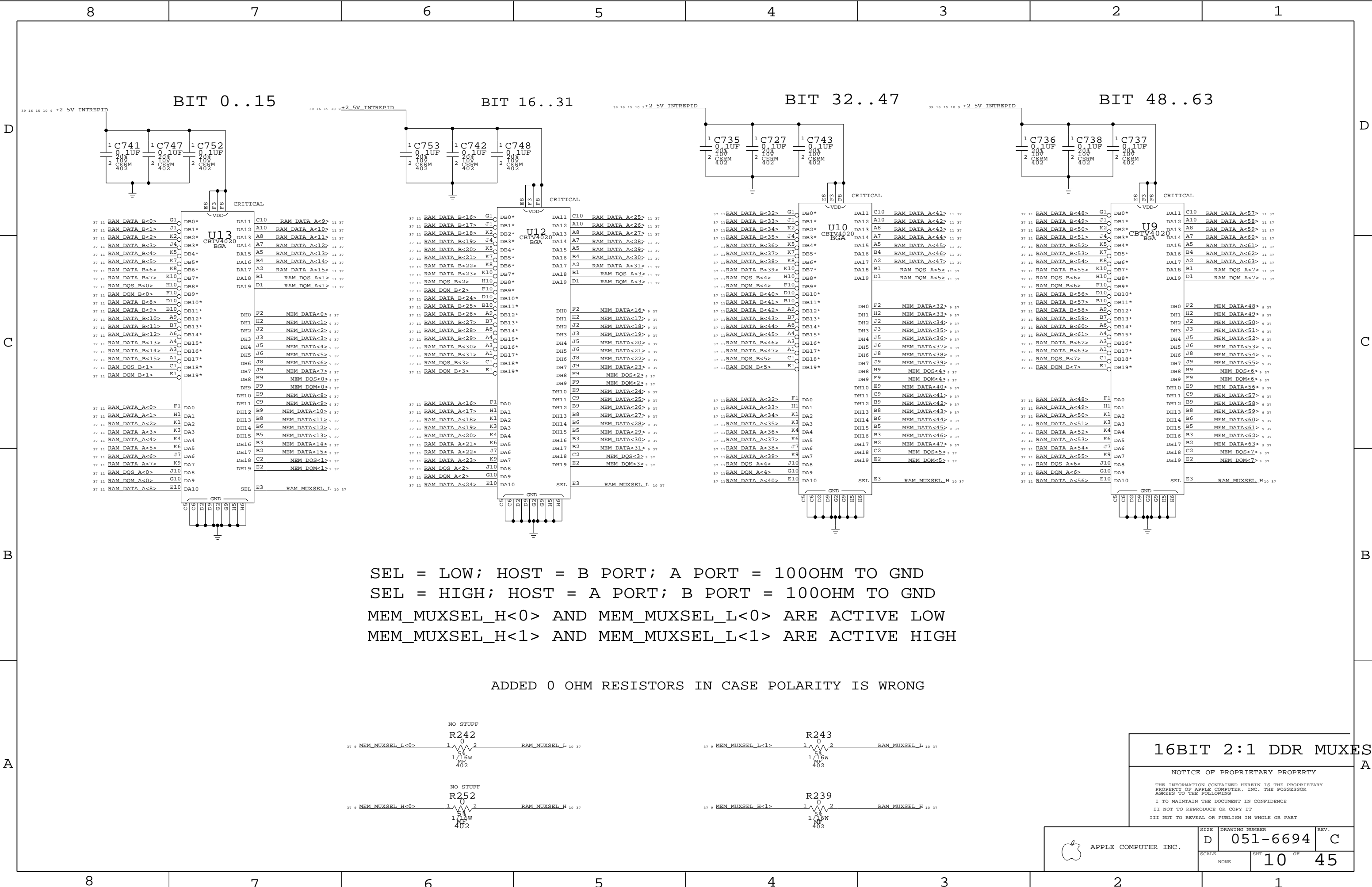
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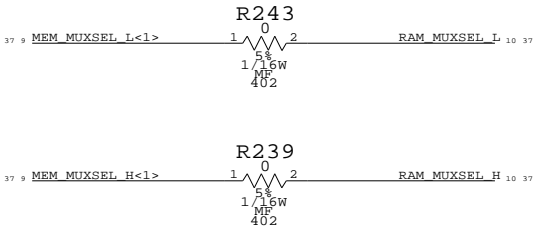
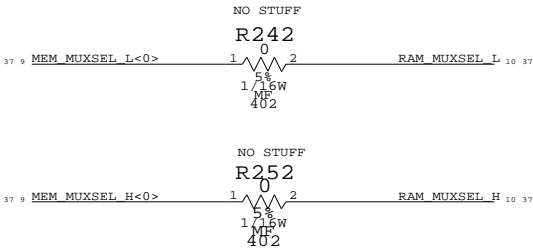
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SEL = LOW; HOST = B PORT; A PORT = 100OHM TO GND
SEL = HIGH; HOST = A PORT; B PORT = 100OHM TO GND
MEM_MUXSEL_H<0> AND MEM_MUXSEL_L<0> ARE ACTIVE LOW
MEM_MUXSEL_H<1> AND MEM_MUXSEL_L<1> ARE ACTIVE HIGH

ADDED 0 OHM RESISTORS IN CASE POLARITY IS WRONG



16BIT 2:1 DDR MUXES

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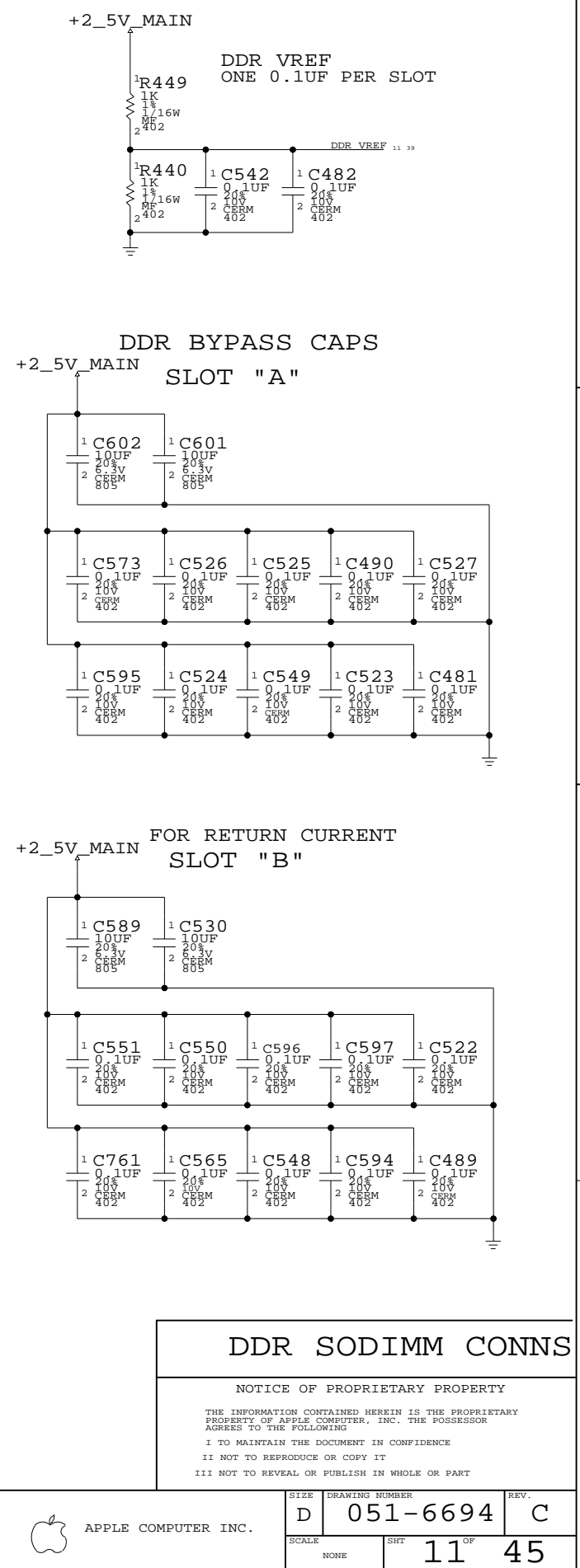
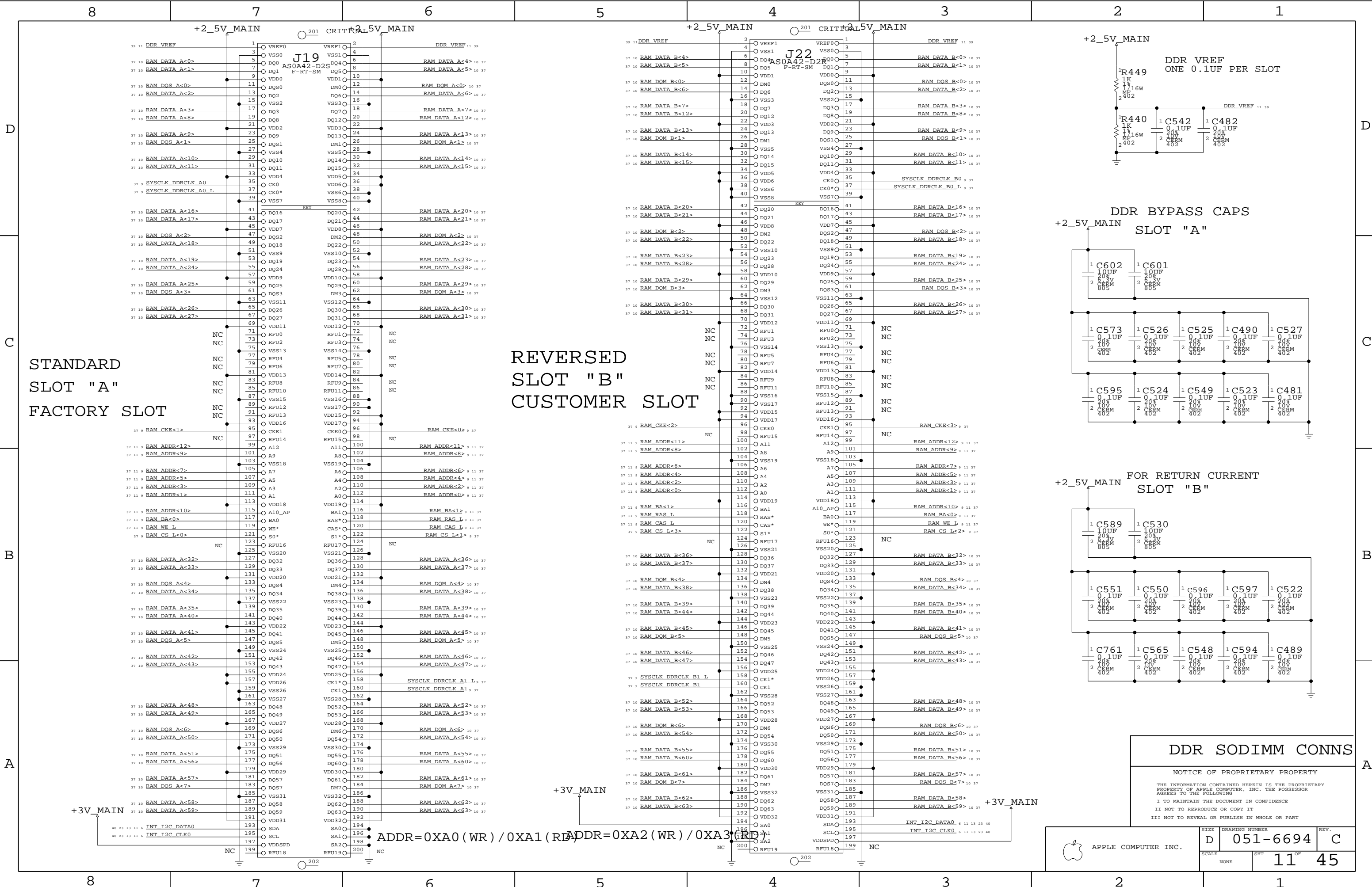
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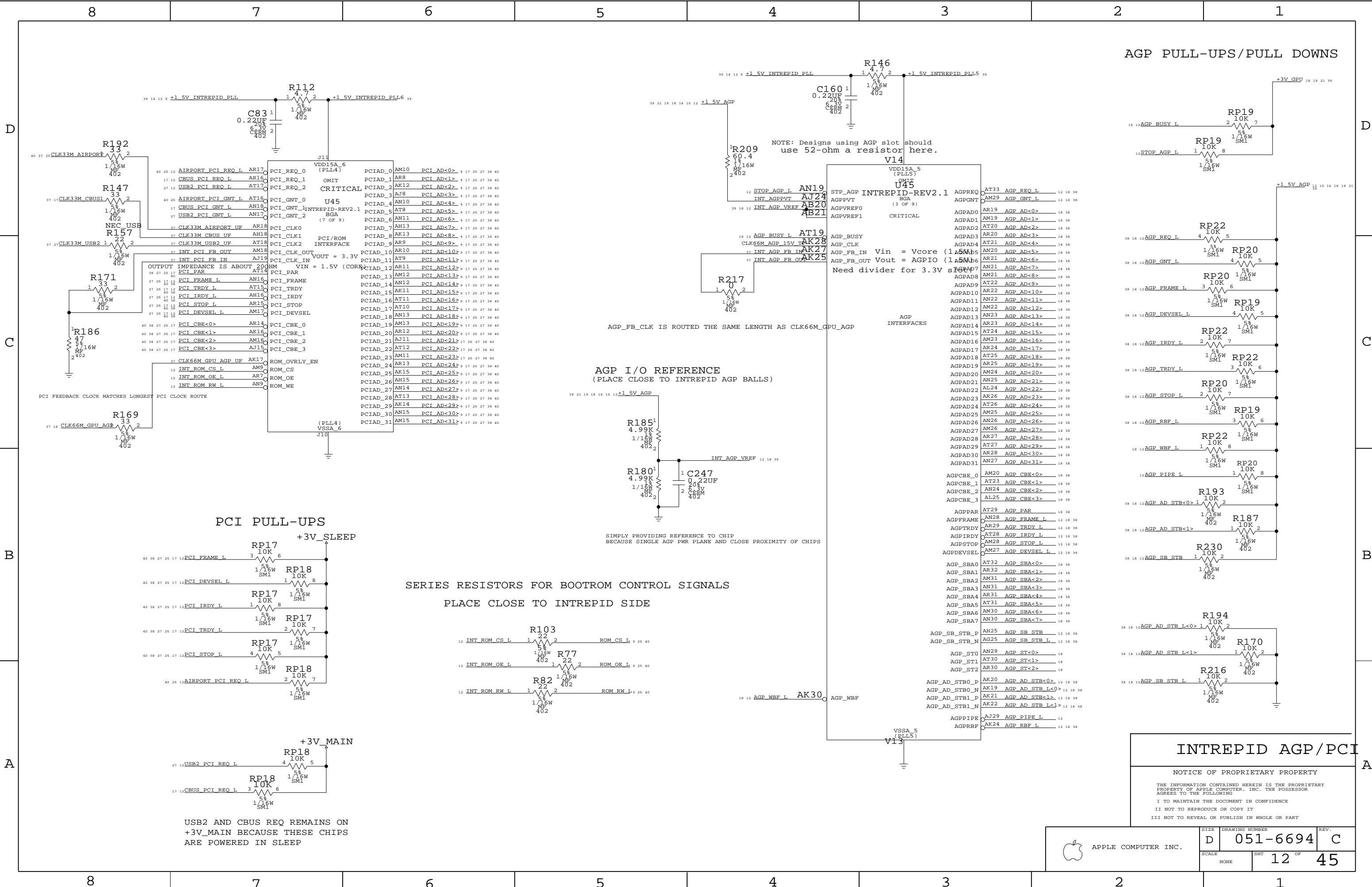


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SIZE D DRAWING NUMBER 051-6694 REV. C

SCALE NONE SHT 10 OF 45





AGP PULL-UPS/PULL DOWNS

AGP I/O REFERENCE
(PLACE CLOSE TO INTREPID AGP BALLS)

SERIES RESISTORS FOR BOOTROM CONTROL SIGNALS
PLACE CLOSE TO INTREPID SIDE

PCI PULL-UPS

USB2 AND CBUS REQ REMAINS ON +3V_MAIN BECAUSE THESE CHIPS ARE POWERED IN SLEEP

INTREPID AGP/PCI

NOTICE OF PROPRIETARY PROPERTY

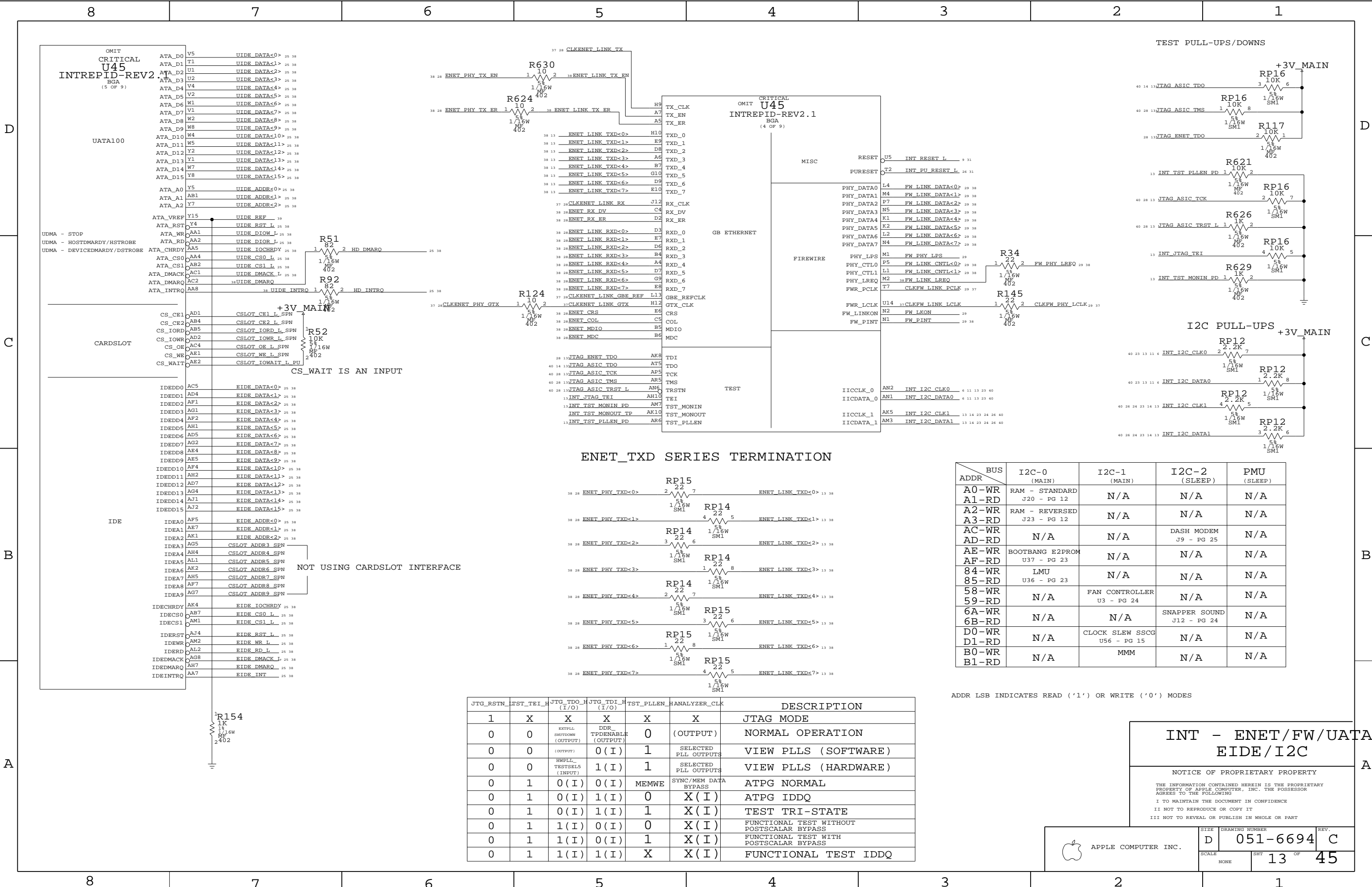
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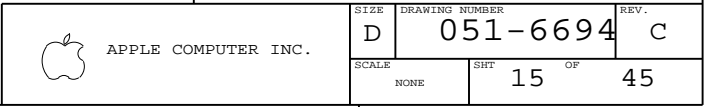
I TO MAINTAIN THE DOCUMENT IN CONFIDENCE

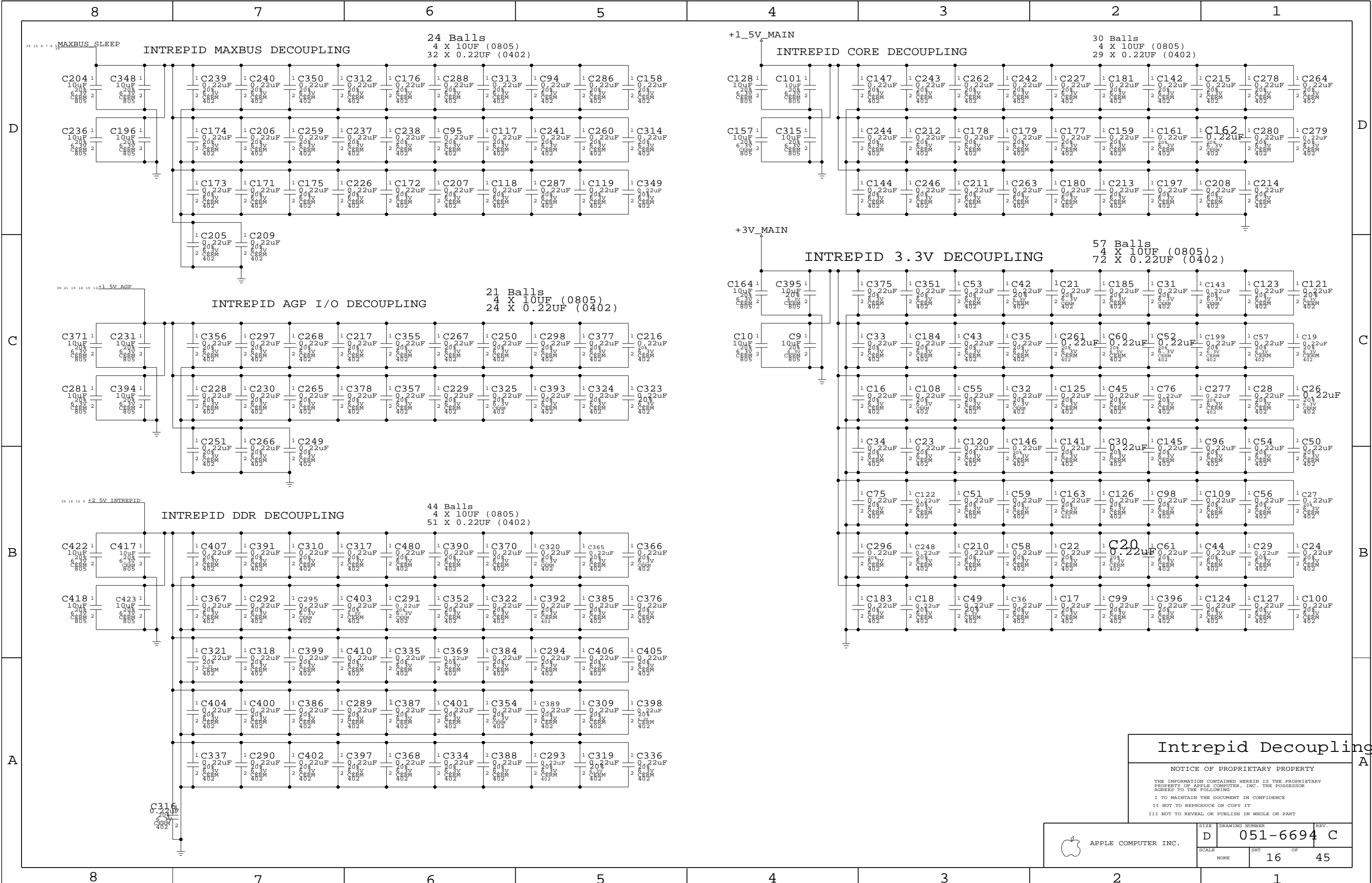
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APPLE COMPUTER INC.	SIZE	DRAWING NUMBER	REV.
	D	051-6694	C
SCALE		SHT	12 OF 45
NONE			







Intrepid Decoupling


NOTICE OF PROPRIETARY PROPERTY

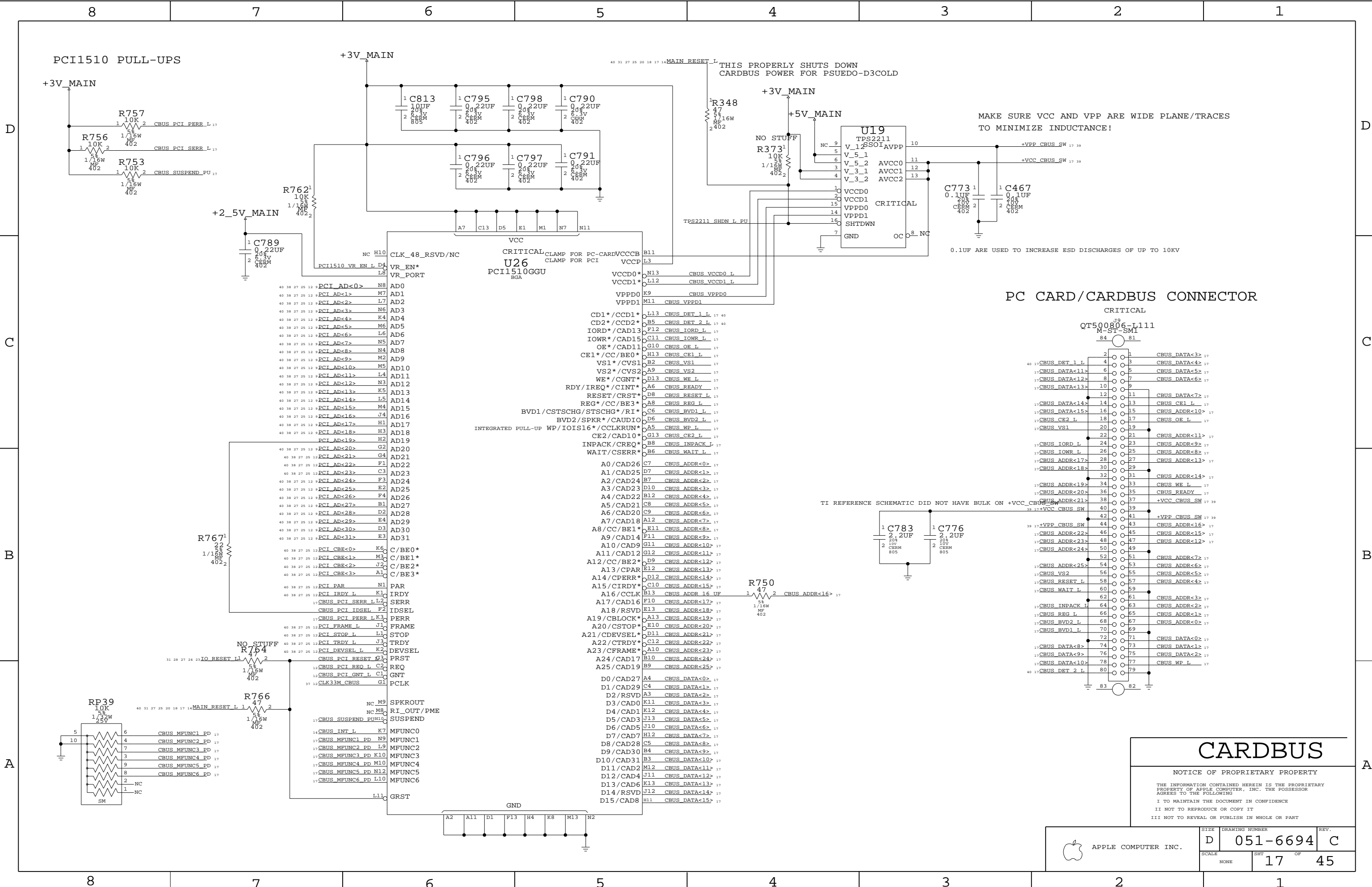
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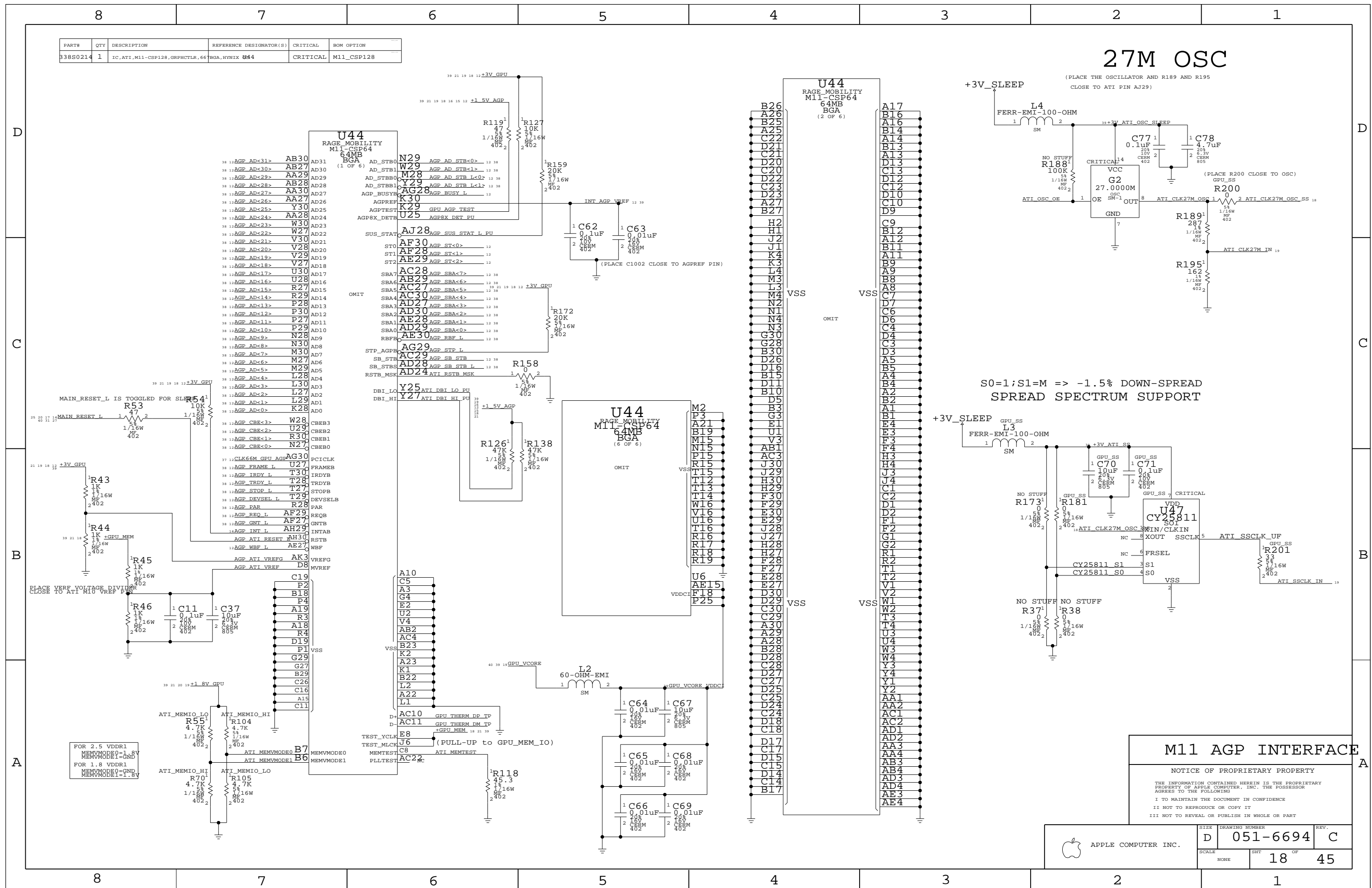
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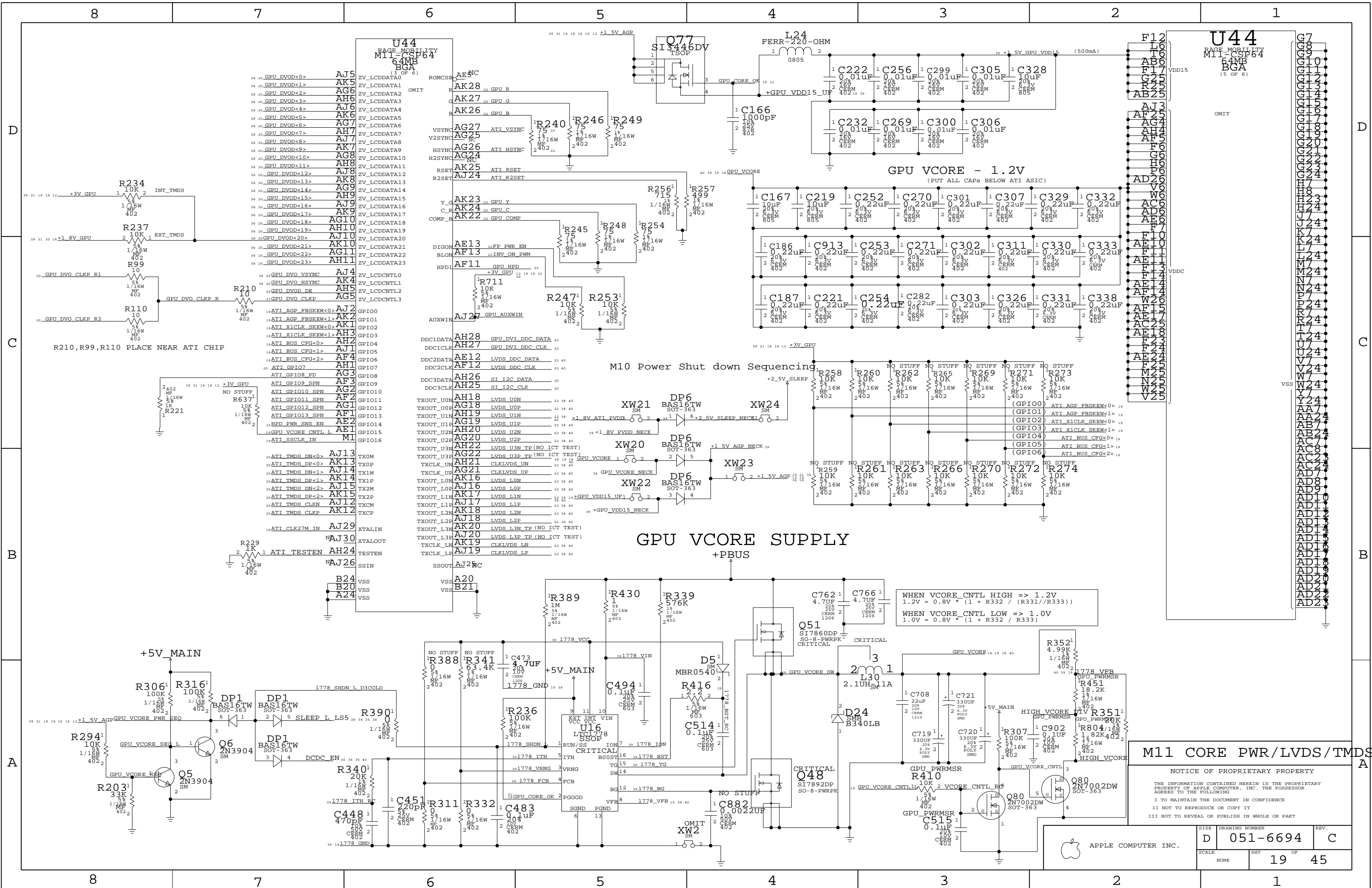
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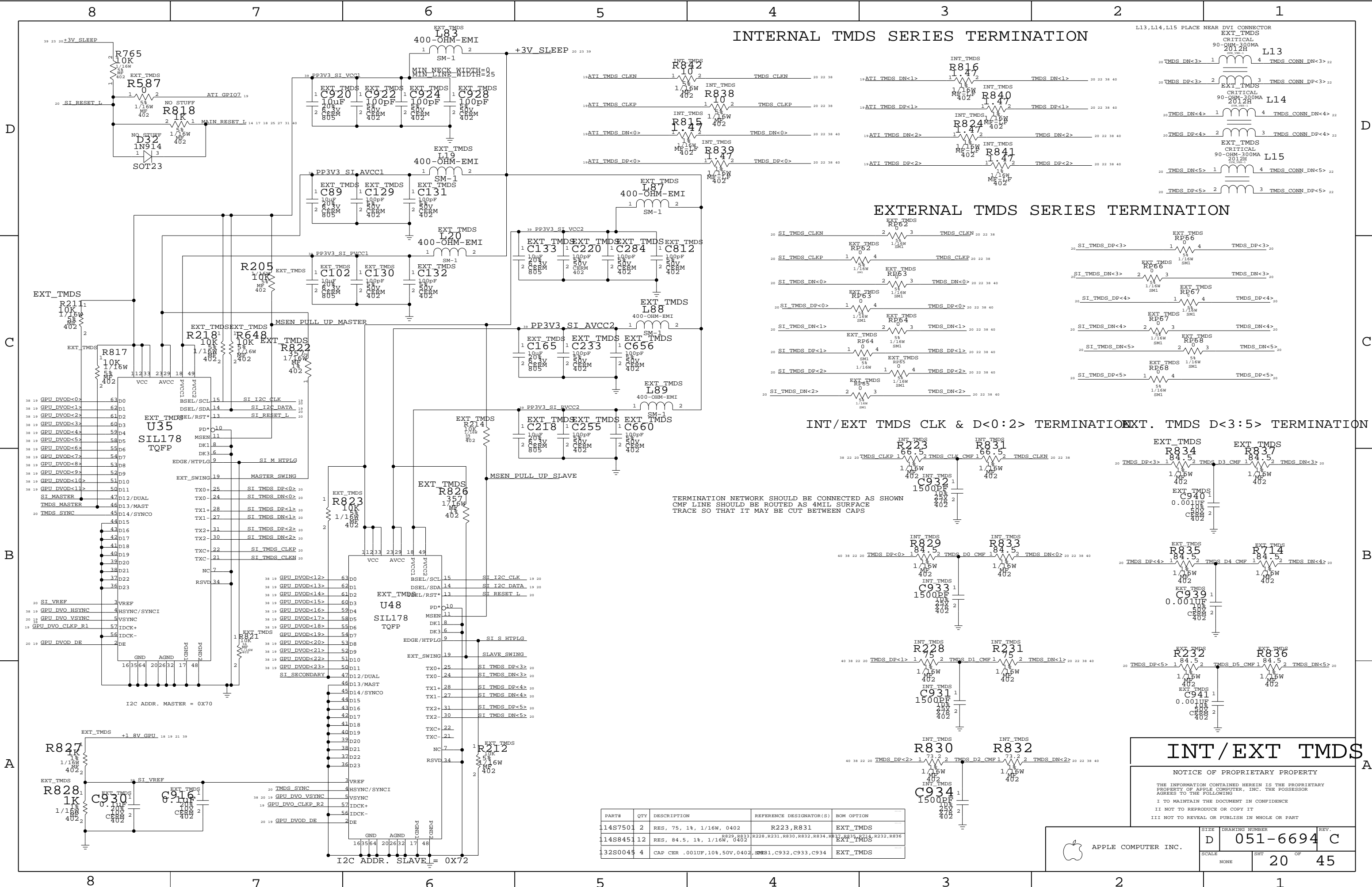
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	D	051-6694	C
SCALE	NONE	SHT	OF
		16	45









INTERNAL TMSD SERIES TERMINATION

EXTERNAL TMSD SERIES TERMINATION

INT/EXT TMSD CLK & D<0:2> TERMINATION

INT/EXT TMSD

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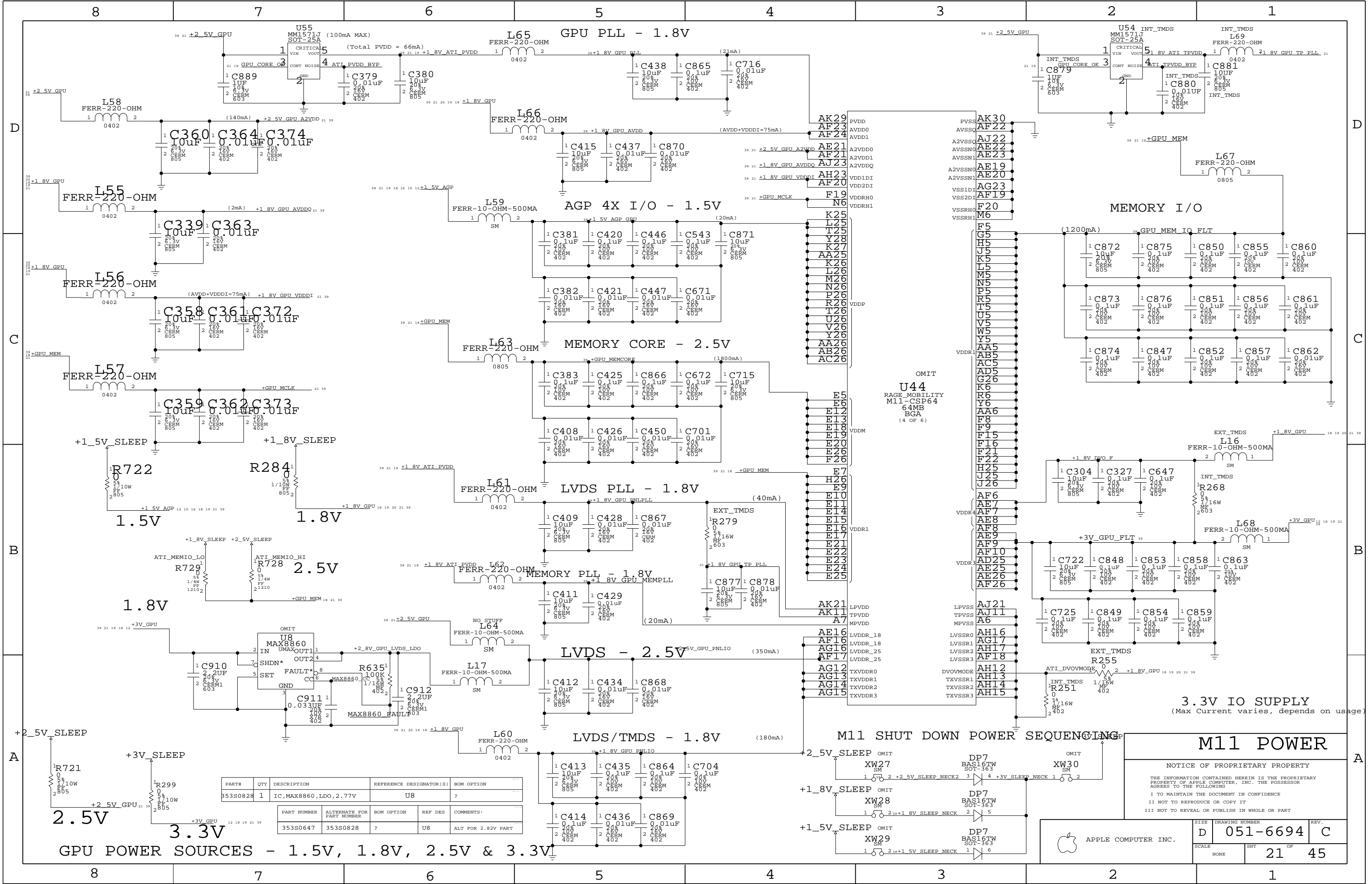
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PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	BOM OPTION
114S7501	2	RES, 75, 1%, 1/16W, 0402	R223,R831	EXT_TMSD
114S8451	12	RES, 84.5, 1%, 1/16W, 0402	R228,R231,R830,R832,R834,R837,R839,R840,R841,R842,R843,R844,R845	EXT_TMSD
132S0045	4	CAP CER .001UF,10%,50V,0402	C929,C932,C933,C934	EXT_TMSD

 APPLE COMPUTER INC.

SIZE	D	DRAWING NUMBER	051-6694	REV.	C
SCALE	NONE	SHT	20	OF	45



PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	BOM OPTION
353S0828	1	IC, MAX8860, LDO, 2.77V	U8	?
PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
353S0647	353S0828	?	U8	ALT FOR 2.82V PART

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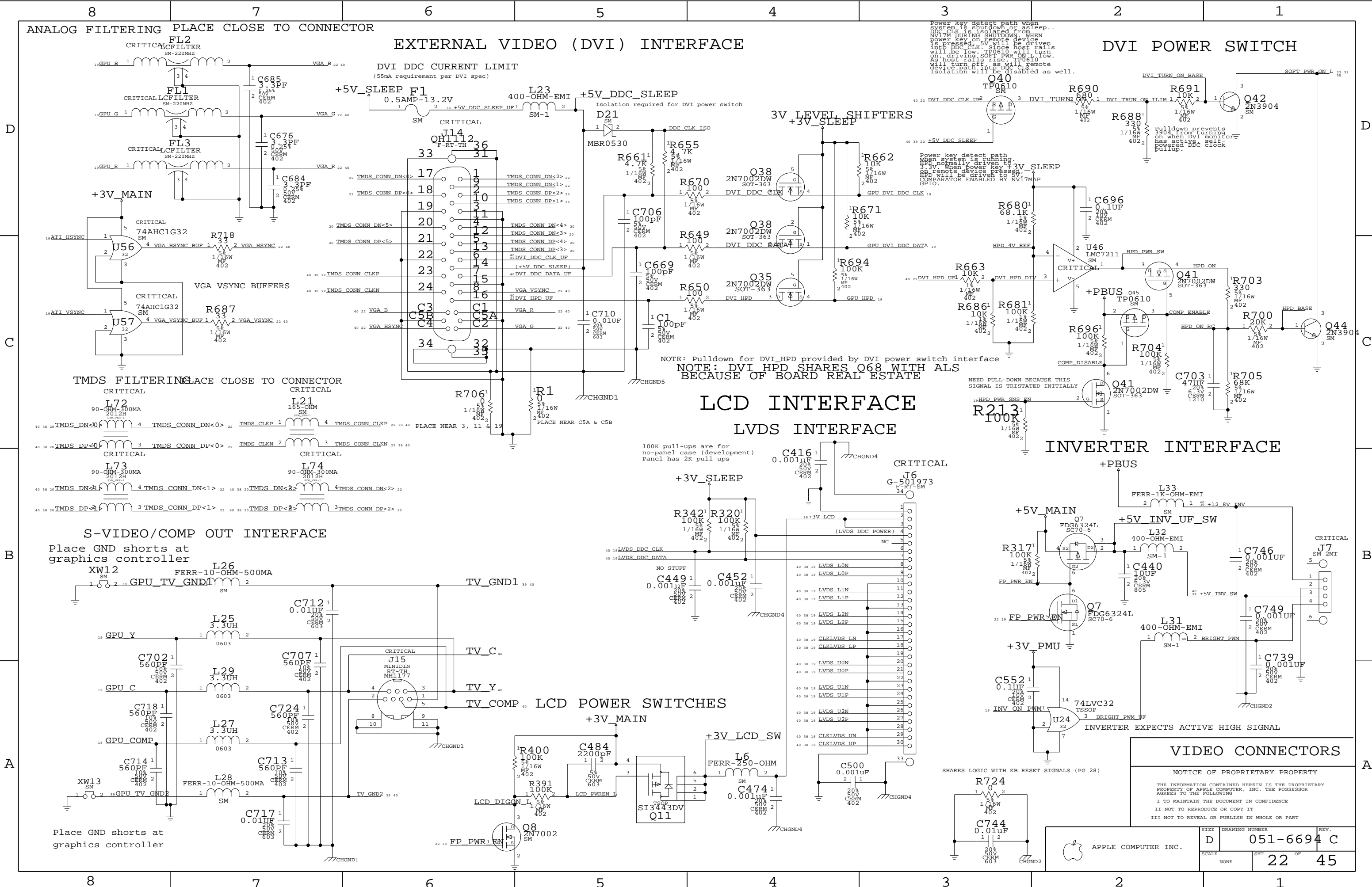
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APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6694	C
SCALE	SHT	OF
NONE	21	45



Power key detect path when system is shutdown or asleep...
NV17M during shutdown, when power key on remote device is pressed, 5V will be driven into DDC CLK. Since host rails will be down, this will cause on-die driving soft PWR ON LUT. As host rails rise with remote device path will be disabled as well.

Power key detect path when system is running...
HPD normally driven by 3V SLEEP or remote device pressed. HPD will be driven by comparator ENABLED BY NV17MAP GP10.

NOTE: Pull-down for DVI_HPD provided by DVI power switch interface
NOTE: DVI_HPD SHARES Q68 WITH ALS BECAUSE OF BOARD REAL ESTATE

SHARES LOGIC WITH KB RESET SIGNALS (PG 28)

VIDEO CONNECTORS

NOTICE OF PROPRIETARY PROPERTY

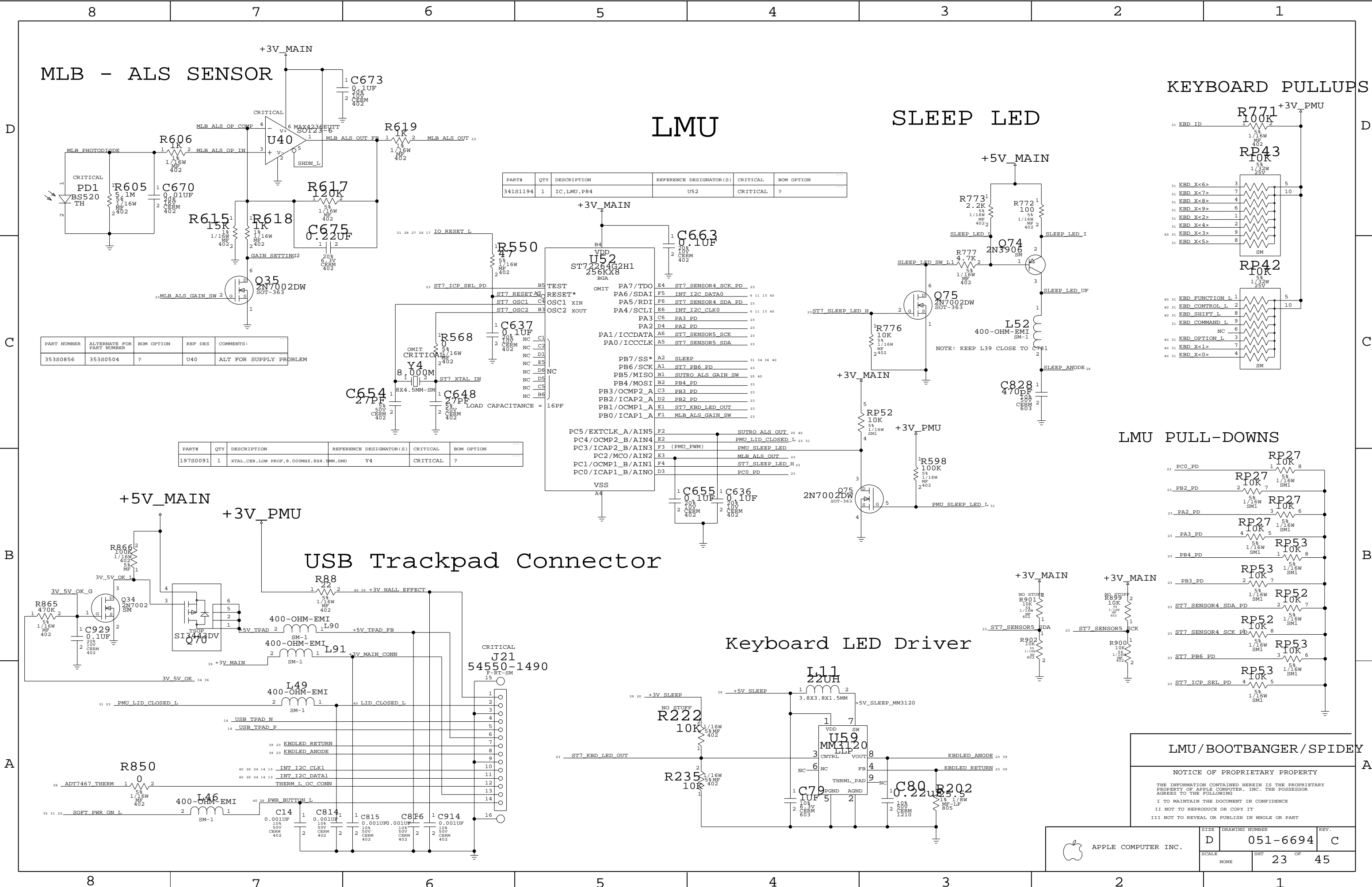
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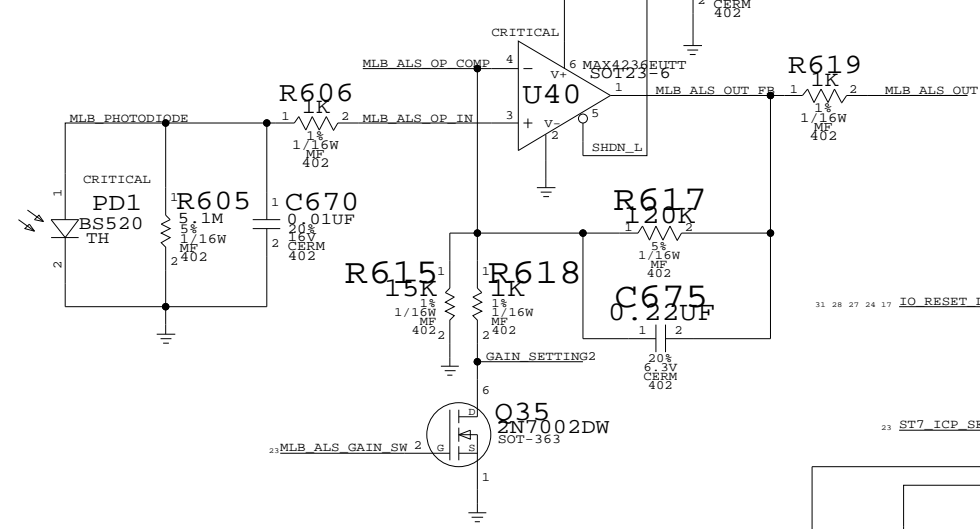
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	D	051-6694 C	
SCALE	NONE	SHT	22 OF 45



MLB - ALS SENSOR

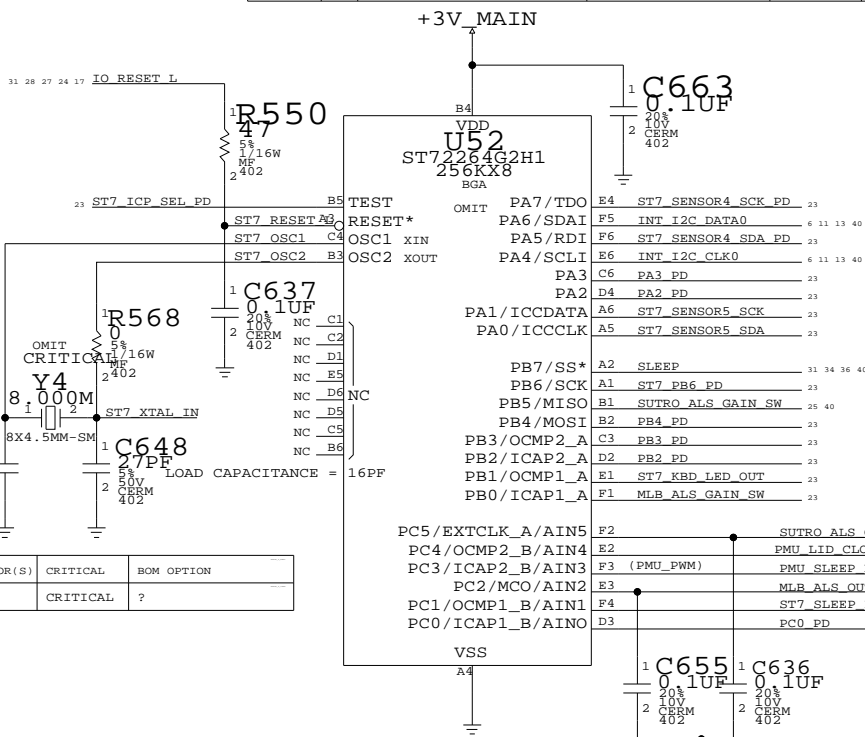


PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
353S0856	353S0504	?	U40	ALT FOR SUPPLY PROBLEM

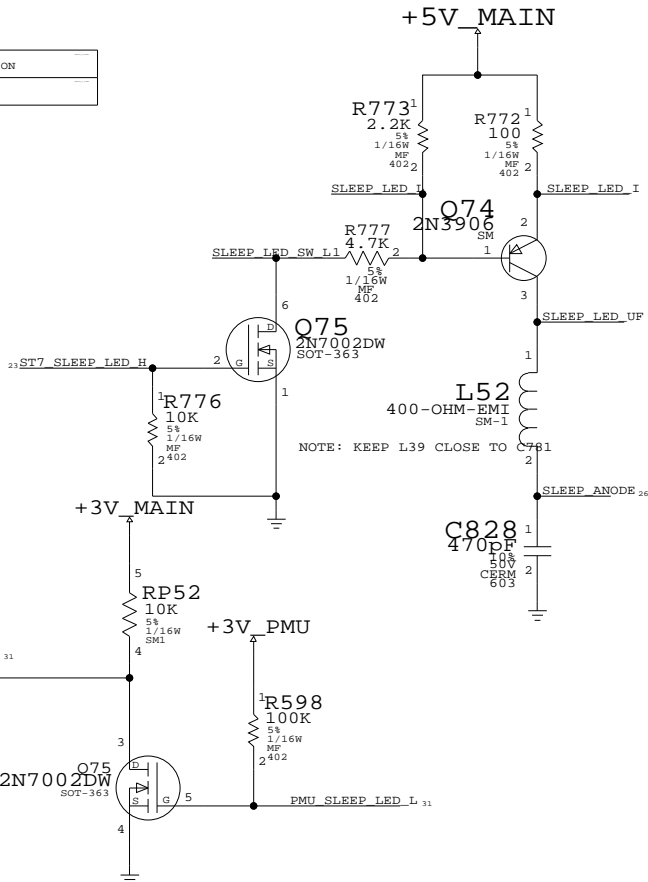
PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
197S0091	1	XTAL,CER,LOW PROF,8.000MHZ,8X4.5MM,SMD	Y4	CRITICAL	?

LMU

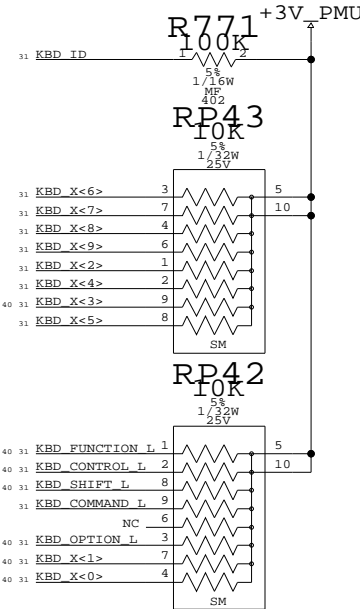
PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
341S1194	1	IC,LMU,P84	U52	CRITICAL	?



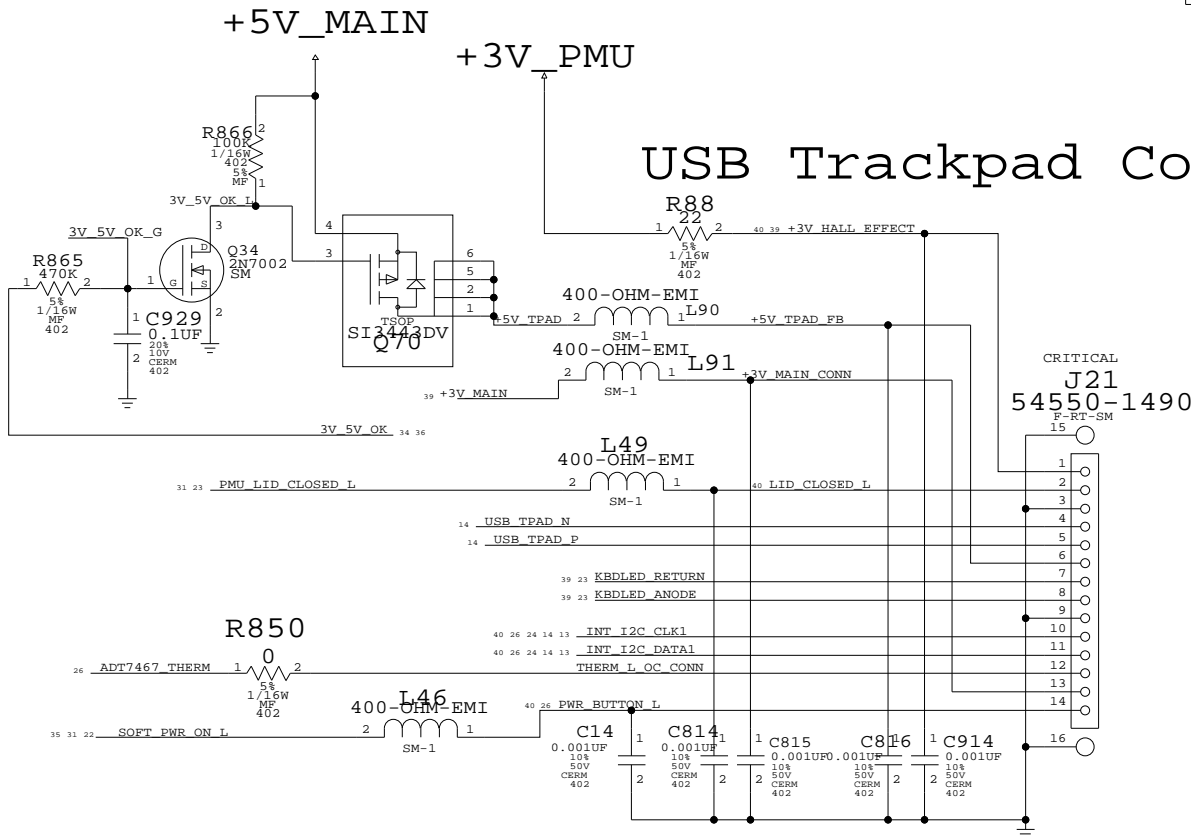
SLEEP LED



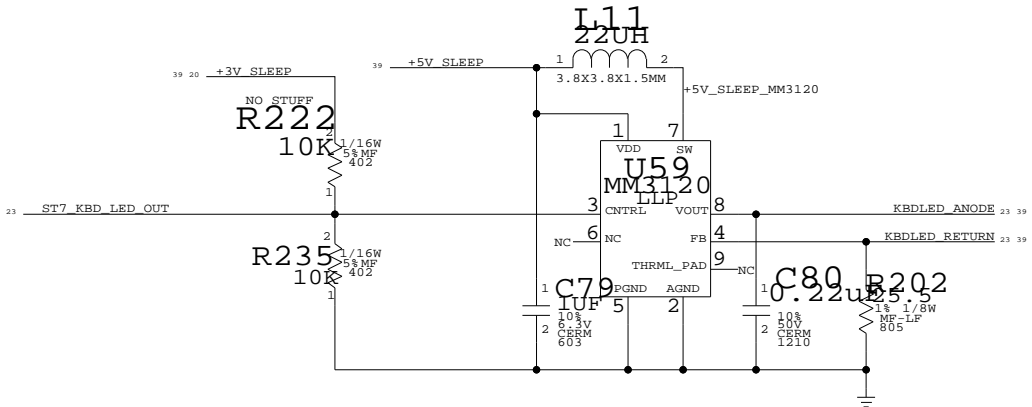
KEYBOARD PULLUPS



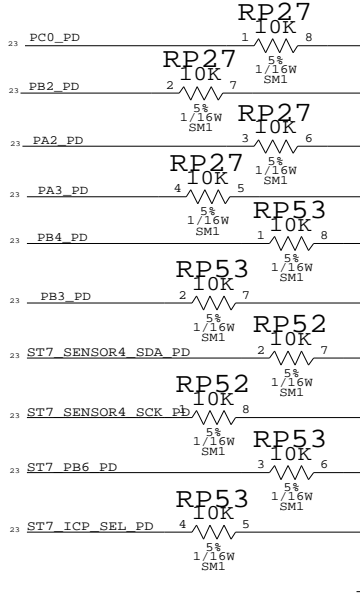
USB Trackpad Connector



Keyboard LED Driver



LMU PULL-DOWNS



LMU/BOOTBANGER/SPIDEY

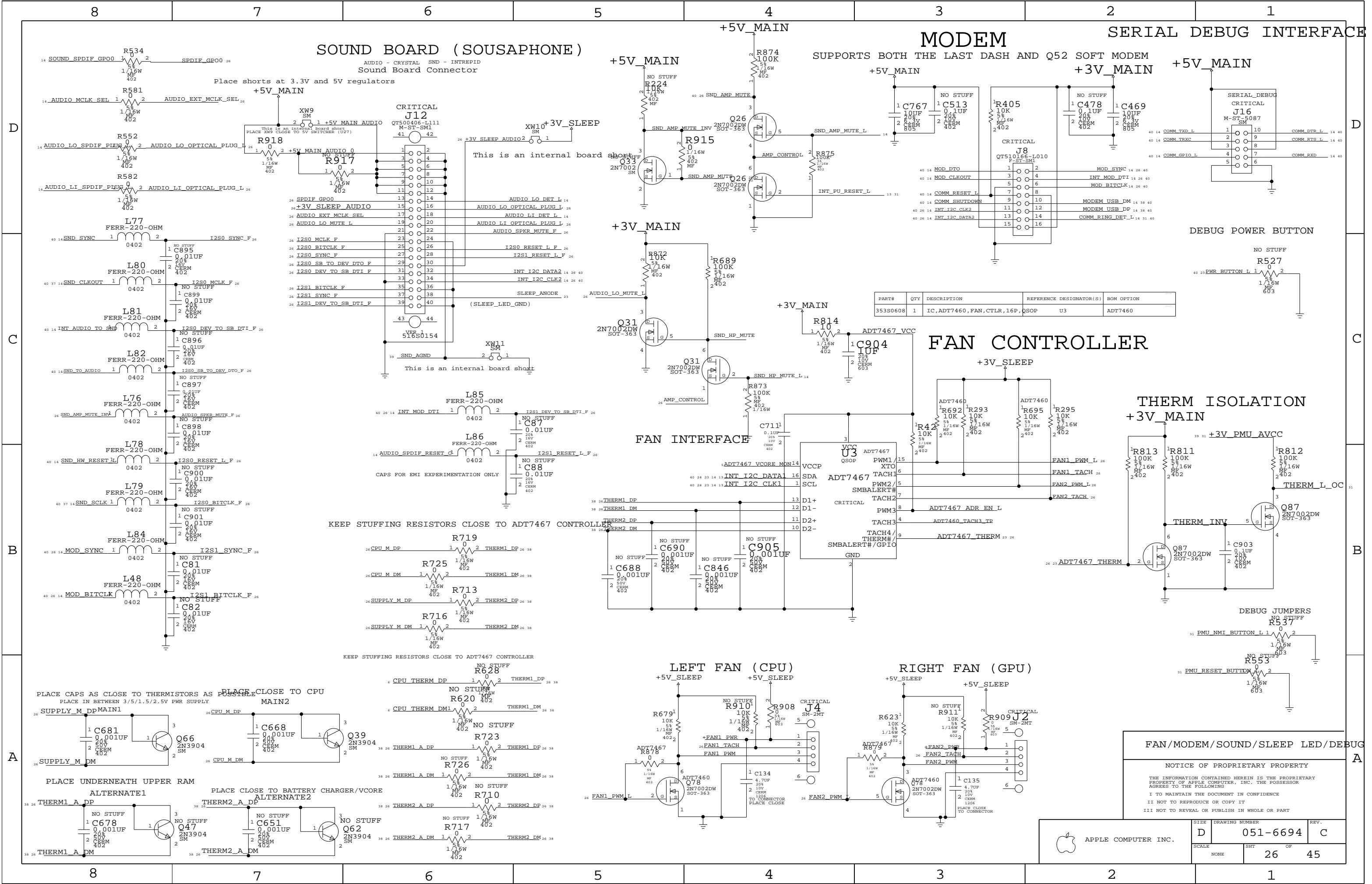
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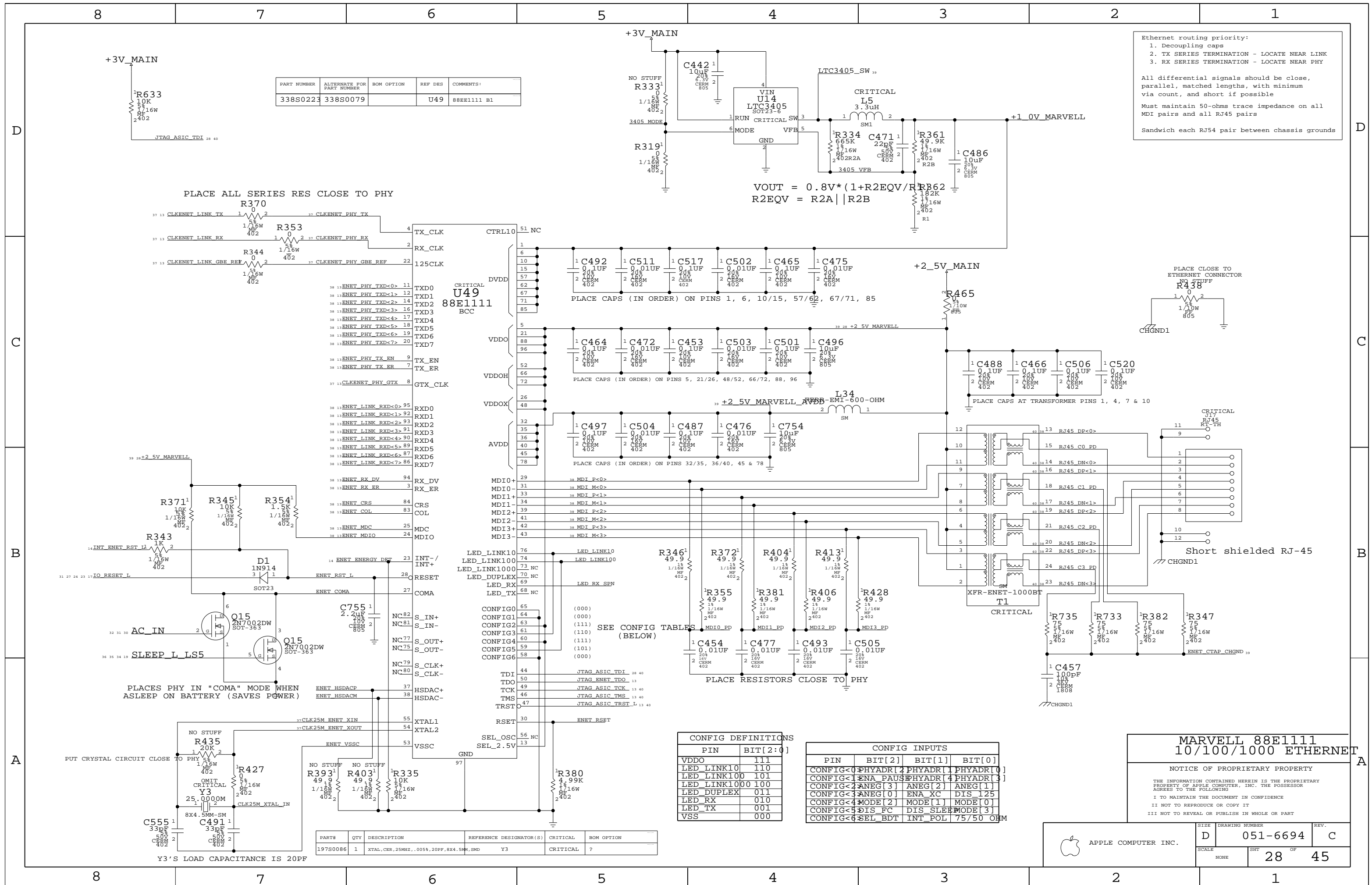
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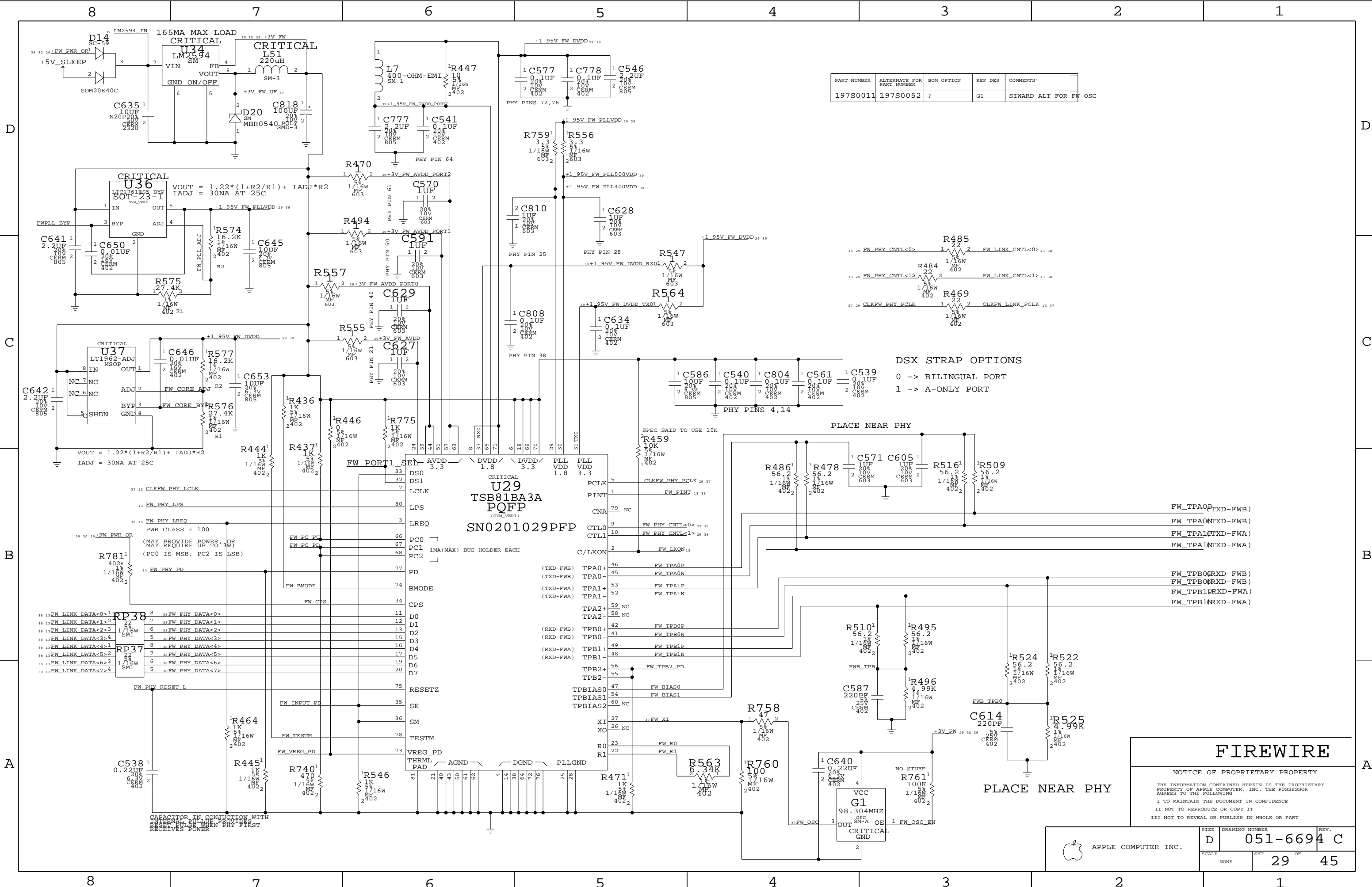
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PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
197S0011	197S0052	?	G1	SIWARD ALT FOR FW OSC

DSX STRAP OPTIONS

- 0 -> BILINGUAL PORT
- 1 -> A-ONLY PORT

FIREWIRE

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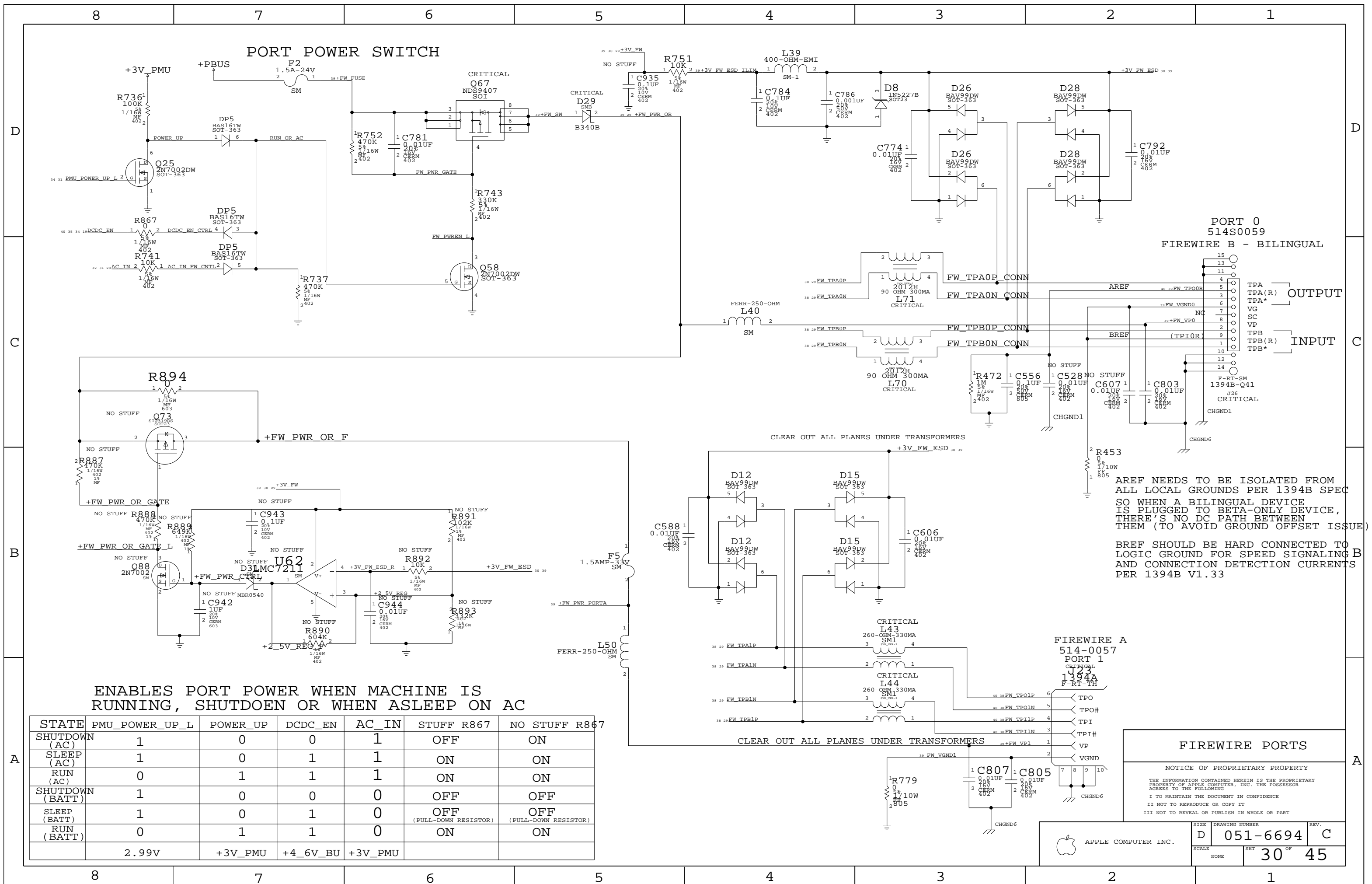
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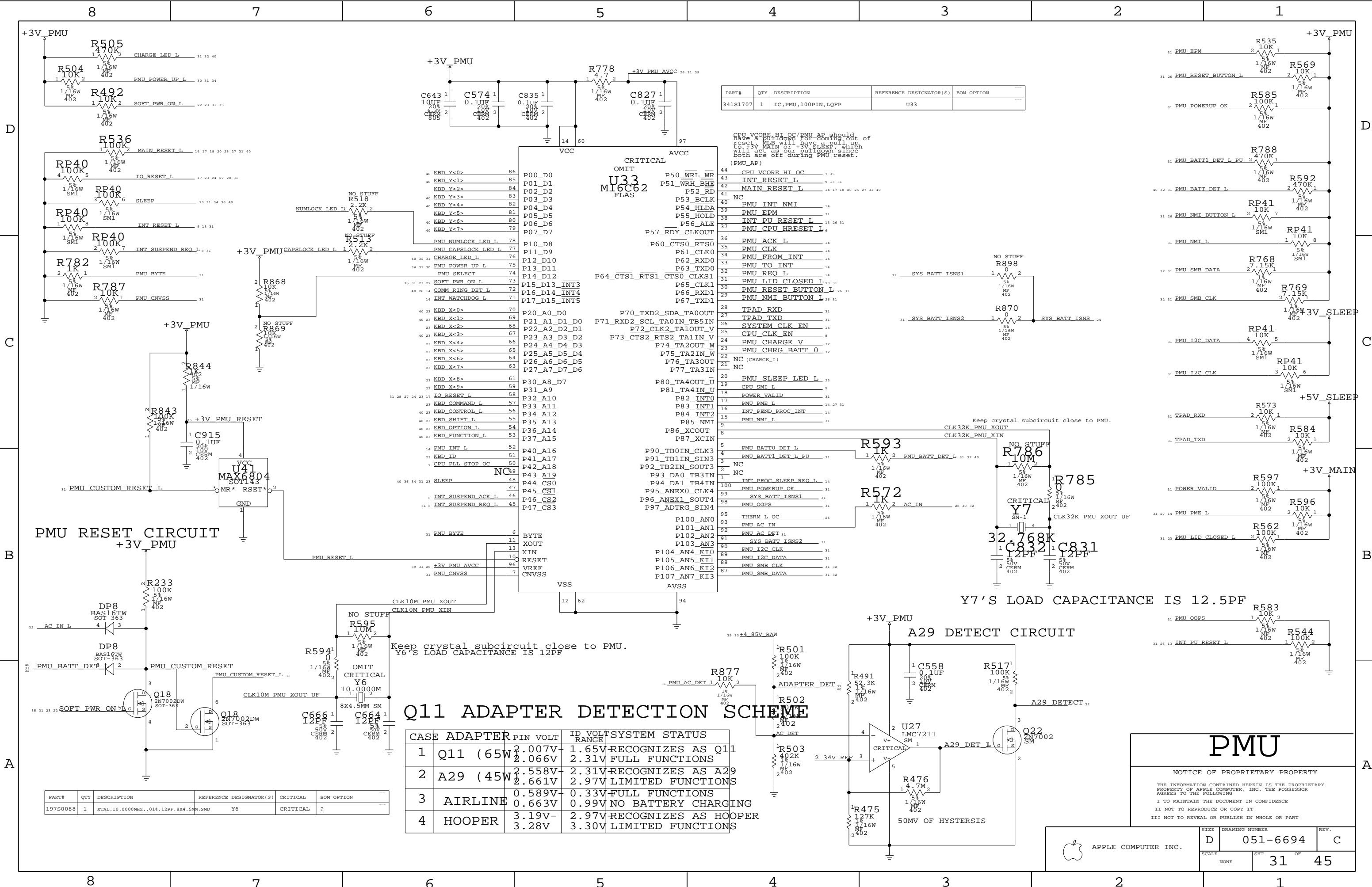
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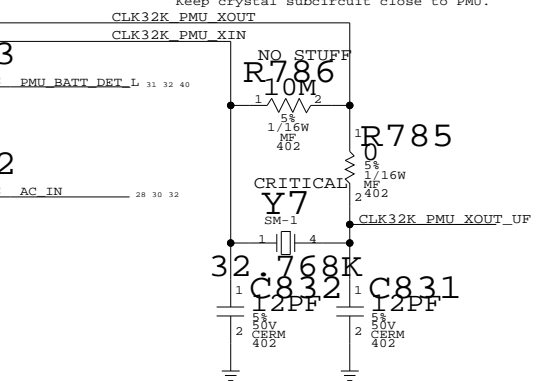
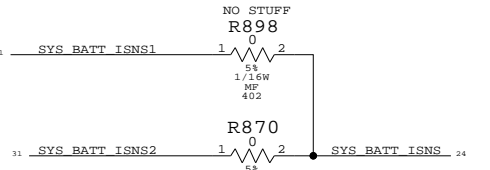
SIZE	DRAWING NUMBER	REV.
D	051-6694	C
SCALE	SHT	OF
NONE	29	45





PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	BOM OPTION
341S1707	1	IC,PMU,100PIN,LQFP	U33	

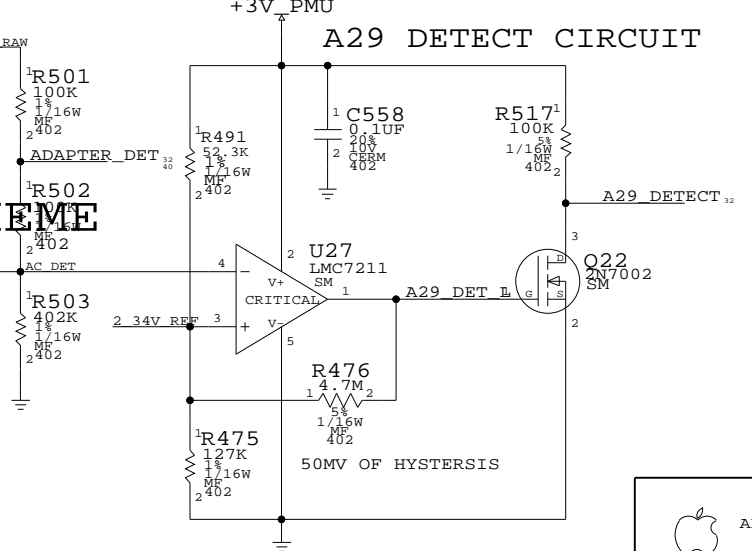
CPU VCORE HI OC/PMU_AP should have a pull-down resistor coming out of reset. MIB will have a pull-up to +3V MAIN or +3V SLEEP, which will act as our pull-down since both are off during PMU reset. (PMU_AP)



Keep crystal subcircuit close to PMU.
Y6'S LOAD CAPACITANCE IS 12PF

Q11 ADAPTER DETECTION SCHEME

CASE	ADAPTER	PIN	VOLT	ID VOLT RANGE	SYSTEM STATUS
1	Q11 (65W)	2.007V	2.066V	1.65V	RECOGNIZES AS Q11
2	A29 (45W)	2.558V	2.661V	2.31V	RECOGNIZES AS A29
3	AIRLINE	0.589V	0.663V	0.33V	RECOGNIZES AS A29
4	HOOPER	3.19V	3.28V	0.99V	RECOGNIZES AS A29



PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
197S0088	1	XTAL,10.0000MHZ,.018,12PF,8X4.5MM,SMD	Y6	CRITICAL	?

PMU

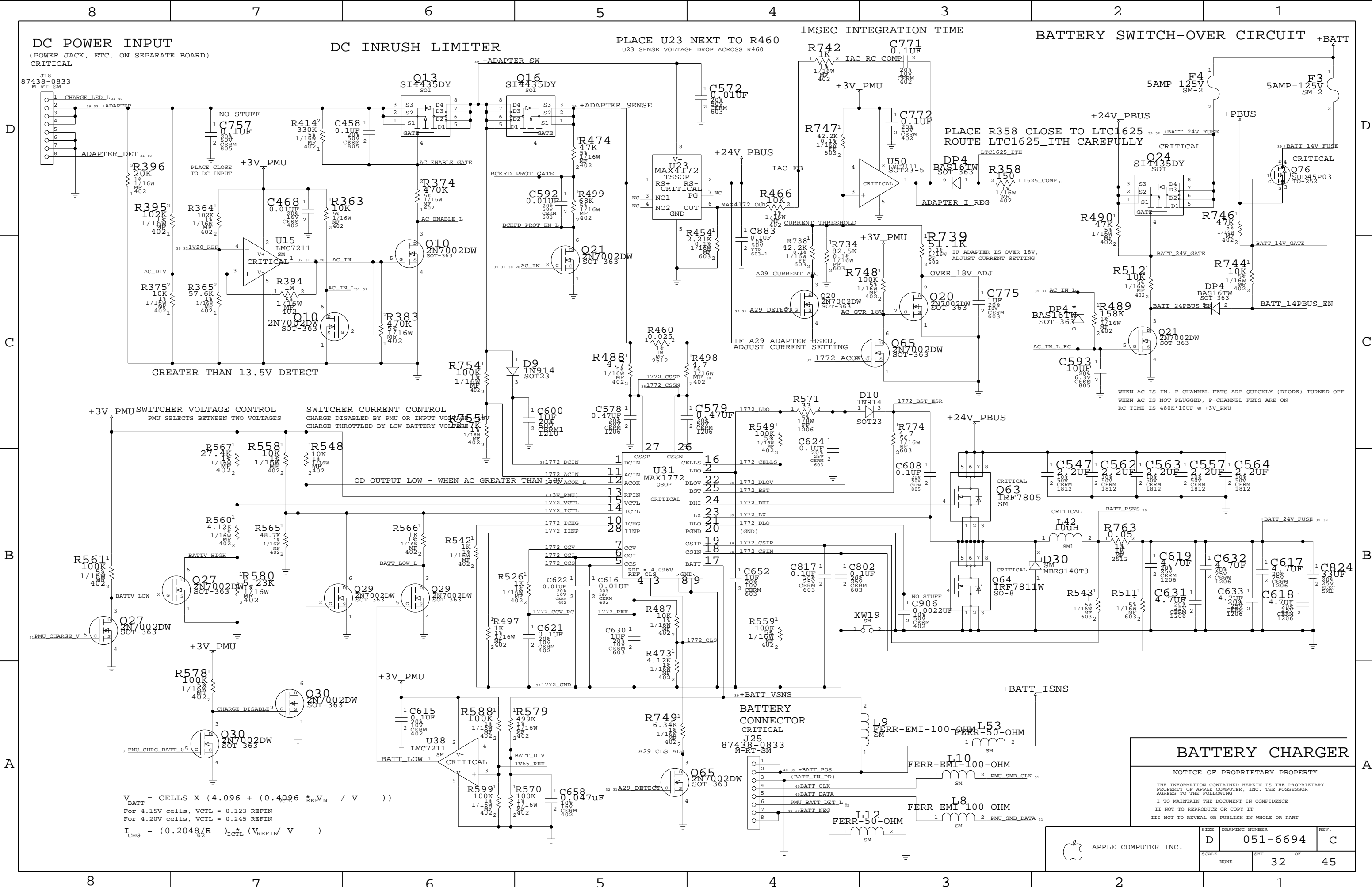
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DC POWER INPUT

(POWER JACK, ETC. ON SEPARATE BOARD)
CRITICAL

DC INRUSH LIMITER

PLACE U23 NEXT TO R460
U23 SENSE VOLTAGE DROP ACROSS R460

1MSEC INTEGRATION TIME

BATTERY SWITCH-OVER CIRCUIT

+BATT

$$V_{BATT} = CELLS \times (4.096 + (0.4096 \times \frac{V_{REFIN}}{V}))$$

For 4.15V cells, VCTL = 0.123 REFIN
For 4.20V cells, VCTL = 0.245 REFIN

$$I_{CHG} = (0.2048/R_{ICTL}) \times (V_{REFIN}/V)$$

BATTERY CHARGER

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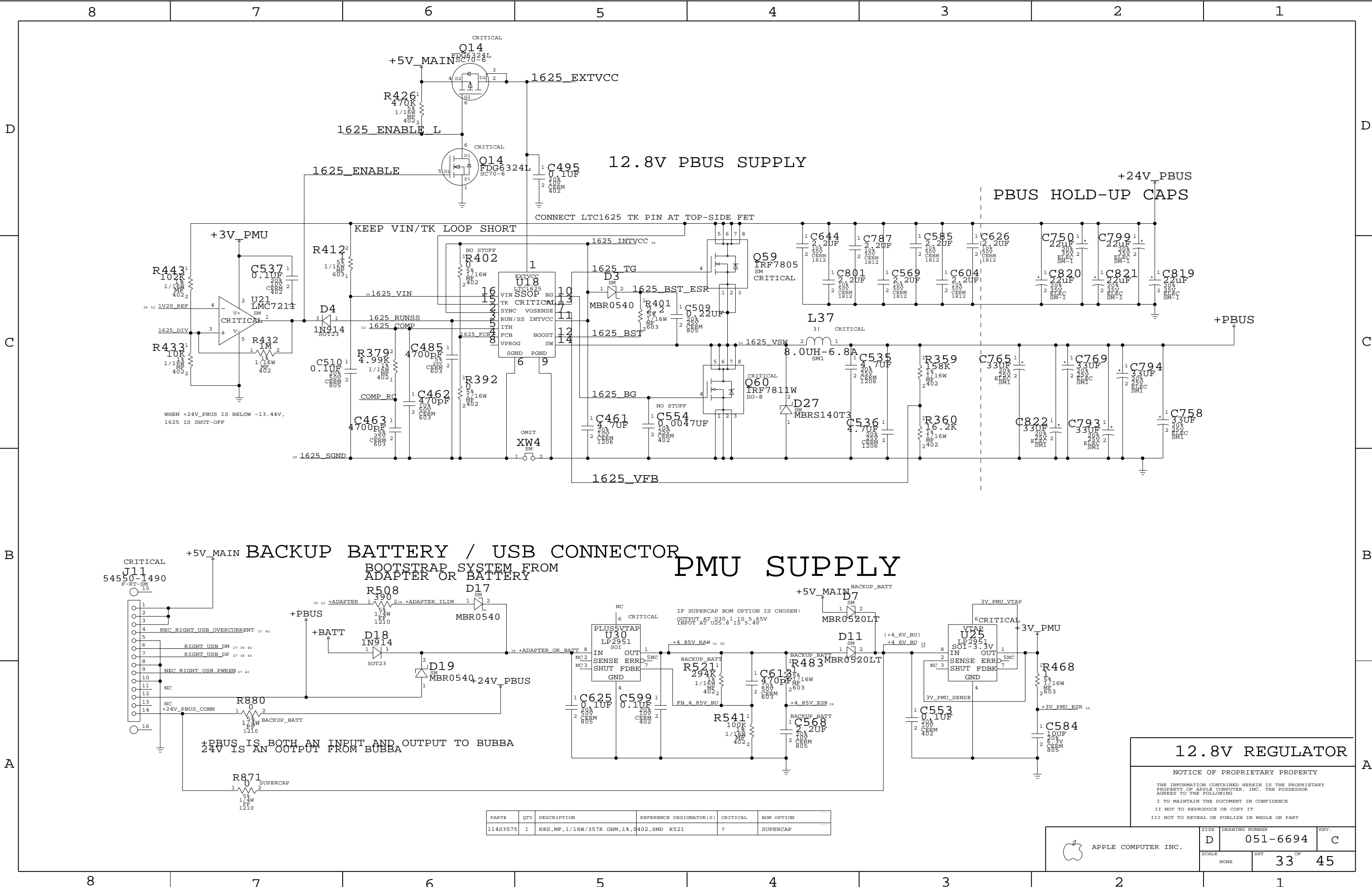
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	D	051-6694	C
SCALE		SHT	OF
NONE		32	45



PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
114S3575	1	RES,MF,1/16W/357K OHM,1%,402,SMD	R521	?	SUPERCAP

12.8V REGULATOR

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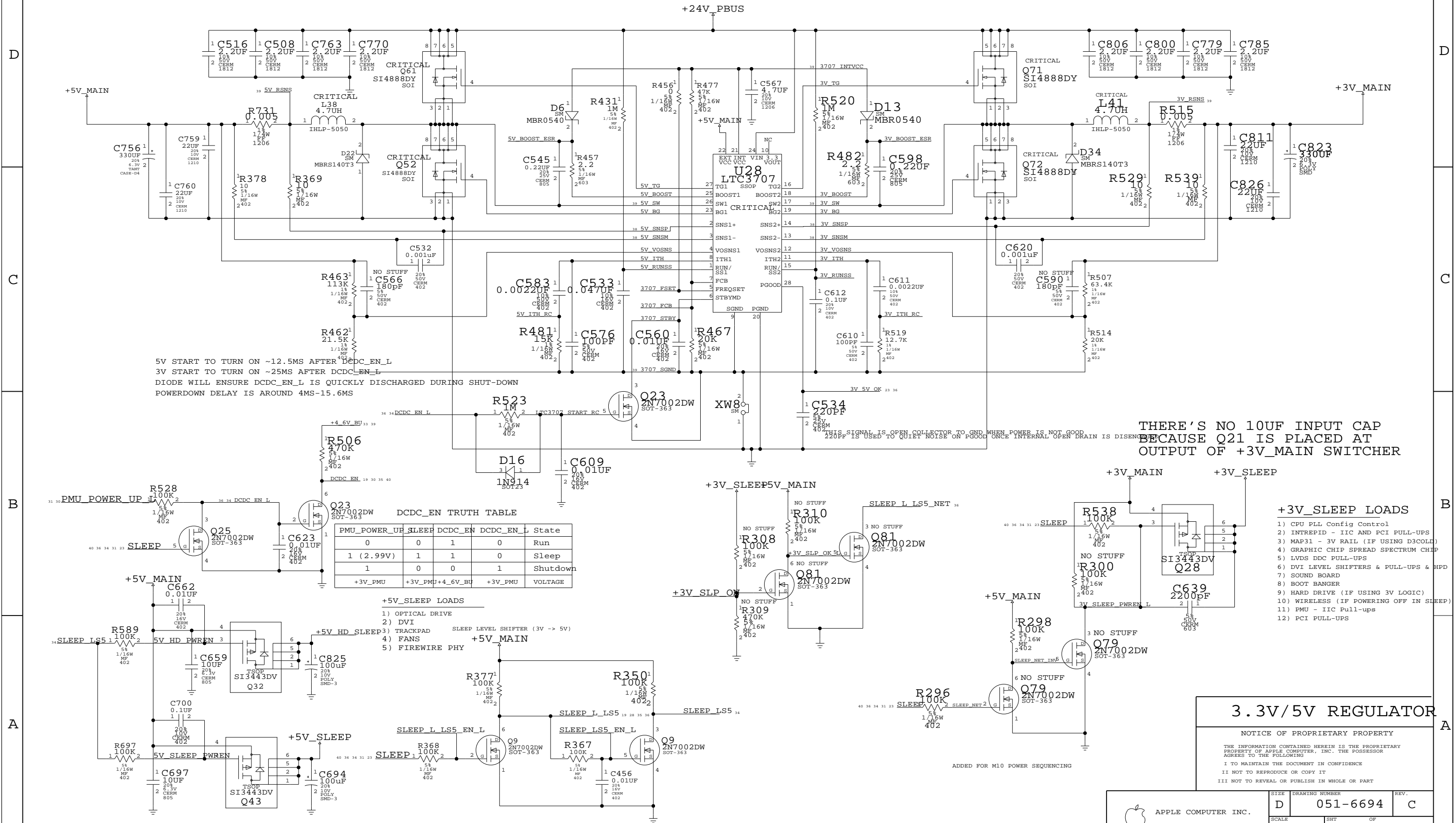
SCALE: NONE

DRAWING NUMBER: 051-6694

SHT: 33 OF 45

REV.: C

3.3V/5V MAIN SUPPLY



5V START TO TURN ON ~12.5MS AFTER DCDC_EN_L
3V START TO TURN ON ~25MS AFTER DCDC_EN_L
DIODE WILL ENSURE DCDC_EN_L IS QUICKLY DISCHARGED DURING SHUT-DOWN
POWERDOWN DELAY IS AROUND 4MS-15.6MS

THERE'S NO 10UF INPUT CAP
BECAUSE Q21 IS PLACED AT
OUTPUT OF +3V_MAIN SWITCHER

DCDC_EN TRUTH TABLE				
PMU_POWER_UP	SLEEP	DCDC_EN	DCDC_EN_L	State
0	0	1	0	Run
1 (2.99V)	1	1	0	Sleep
1	0	0	1	Shutdown

- +5V_SLEEP LOADS**
- 1) OPTICAL DRIVE
 - 2) DVI
 - 3) TRACKPAD
 - 4) FANS
 - 5) FIREWIRE PHY
- +5V_SLEEP**
- +5V_SLEEP LOADS**
- 1) CPU PLL Config Control
 - 2) INTREPID - IIC AND PCI PULL-UPS
 - 3) MAP31 - 3V RAIL (IF USING D3COLD)
 - 4) GRAPHIC CHIP SPREAD SPECTRUM CHIP
 - 5) LVDS DDC PULL-UPS
 - 6) DVI LEVEL SHIFTERS & PULL-UPS & HPD
 - 7) SOUND BOARD
 - 8) BOOT BANGER
 - 9) HARD DRIVE (IF USING 3V LOGIC)
 - 10) WIRELESS (IF POWERING OFF IN SLEEP)
 - 11) PMU - IIC Pull-ups
 - 12) PCI PULL-UPS

3.3V/5V REGULATOR

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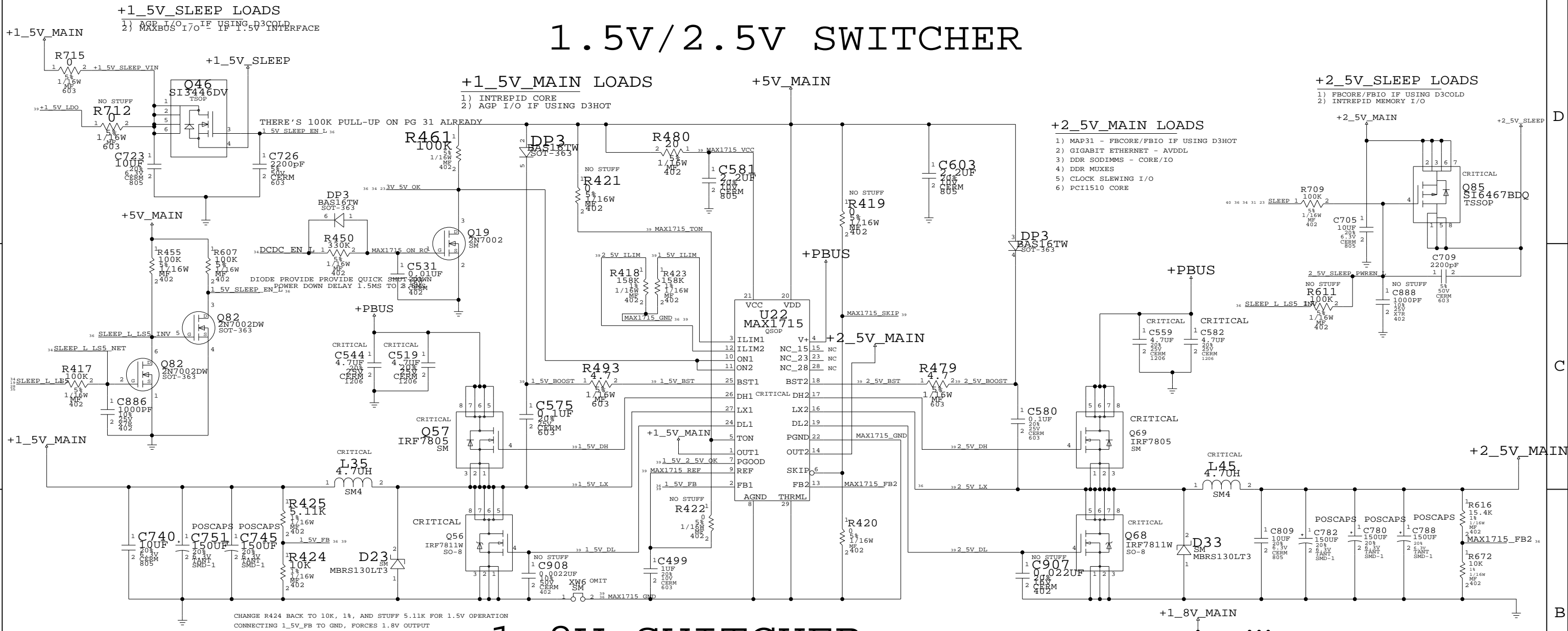
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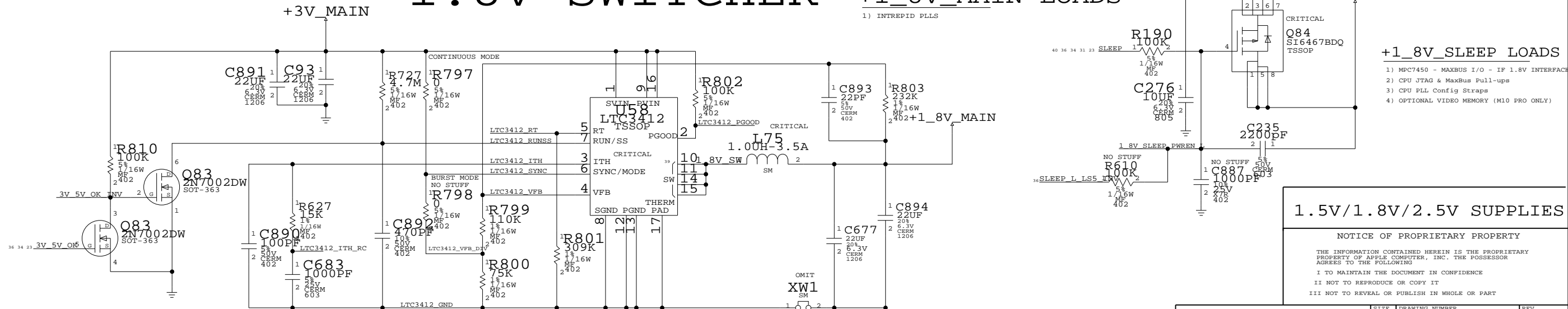
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NONE	34	45

1.5V/2.5V SWITCHER



1.8V SWITCHER



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SCALE	SHT	OF
NONE	36	45

<

		8		7		6		5		4		3		2		1	
Digital Signals (cont'd)		Differential Signals															
D	AGP	GROUP	SIG_NAME	DELAY_RULE	MAX_VIAS	MAX_EXPOSED_LENGTH	STUB_LENGTH	NET_SPACING_TYPE	NO_TEST	PULSE_PARAM							
		AGP AD<15..0>		5	100					66 MHZ	12 18						
C	AGP BYTES 0-1	MDI M<0>		5	100				66 MHZ	12 18							
		MDI P<0>		5	100		8 MIL SPACING			12 18							
B	AGP BYTES 2-3	MDI M<1>		5	100		8 MIL SPACING			12 18							
		MDI P<1>		5	100				66 MHZ	12 18							
A	AGP SIDEBAND	MDI M<2>		5	100				66 MHZ	12 18							
		MDI P<2>		5	100		8 MIL SPACING			12 18							
	AGP CONTROL	MDI M<3>		5	100				66 MHZ	12 18							
		MDI P<3>		5	100		8 MIL SPACING			12 18							
	DVO	RJ45 DN<0>		5	100.0000		8 MIL SPACING			12 18							
		RJ45 DP<0>		5	100.0000		8 MIL SPACING			12 18							
	PCI	RJ45 DN<1>			250.0000					12 18							
		RJ45 DP<1>			250.0000					12 18							
	ULTRA ATA-100	RJ45 DN<2>		6	250.0000					12 18							
		RJ45 DP<2>		6	250.0000					12 18							
	EIDE INTREPID	RJ45 DN<3>		6	250.0000					12 18							
		RJ45 DP<3>		6	250.0000					12 18							
	ETHERNET MI	FW TPAON			285.0000					12 18							
		FW TPAOP			250.0000					12 18							
	FIREWIRE	FW TPBON			250.0000					12 18							
		FW TPBOP			250.0000					12 18							
	LVDS LOWER	FW TPION			250.0000					12 18							
		FW TPIOF			250.0000					12 18							
	UPPER	FW TPPOON			250.0000					12 18							
		FW TPPOF			250.0000					12 18							
	TMDS	FW TPAIN			250.0000					12 18							
		FW TPAIP			250.0000					12 18							
	USB	FW TPBIN			250.0000					12 18							
		FW TPBIP			250.0000					12 18							
	POWER SUPPLIES	FW TPILN			250.0000					12 18							
		FW TPILP			250.0000					12 18							
	THERMOSTAT	FW TPOLN			250.0000					12 18							
		FW TPOLP			250.0000					12 18							
	ETHERNET MI	CLKLVDS LN			200					12 18							
		CLKLVDS LP			200					12 18							
	FIREWIRE	LVDS L0N			200					12 18							
		LVDS L0P			200					12 18							
	LVDS LOWER	LVDS L1N			200.0000					12 18							
		LVDS L1P			200.0000					12 18							
	UPPER	LVDS L2N			200.0000					12 18							
		LVDS L2P			200.0000					12 18							
	TMDS	CLKLVDS UN			200.0000					12 18							
		CLKLVDS UP			200.0000					12 18							
	USB	LVDS U0N			200.0000					12 18							
		LVDS U0P			200.0000					12 18							
	POWER SUPPLIES	LVDS U1N			200.0000					12 18							
		LVDS U1P			200.0000					12 18							
	THERMOSTAT	LVDS U2N			200.0000					12 18							
		LVDS U2P			200.0000					12 18							
	ETHERNET MI	TMDS CONN CLKIN			200					12 18							
		TMDS CONN CLKP			200					12 18							
	FIREWIRE	TMDS CLKIN			200					12 18							
		TMDS CLKP			200					12 18							
	LVDS LOWER	TMDS DN<0>			200.0000					12 18							
		TMDS DP<0>			200.0000					12 18							
	UPPER	TMDS DN<1>			200.0000					12 18							
		TMDS DP<1>			200.0000					12 18							
	TMDS	TMDS DN<2>			200.0000					12 18							
		TMDS DP<2>			200.0000					12 18							
	USB	NEC USB DAM			200.0000					12 18							
		NEC USB DAP			200.0000					12 18							
	POWER SUPPLIES	USB DEM			200.0000					12 18							
		USB DEP			200.0000					12 18							
	THERMOSTAT	NEC USB DBM			200.0000					12 18							
		NEC USB DBP			200.0000					12 18							
	ETHERNET MI	USB DFM			200.0000					12 18							
		USB DFP			200.0000					12 18							
	FIREWIRE	BT USB DM			200.0000					12 18							
		BT USB DP			200.0000					12 18							
	POWER SUPPLIES	NEC USB RSDM1			200.0000					12 18							
		NEC USB RSDP1			200.0000					12 18							
	THERMOSTAT	NEC USB RSDM2			200.0000					12 18							
		NEC USB RSDP2			200.0000					12 18							
	ETHERNET MI	MODEM USB DM			200.0000					12 18							
		MODEM USB DP			200.0000					12 18							
	FIREWIRE	LEFT USB DM			200.0000					12 18							
		LEFT USB DP			200.0000					12 18							
	POWER SUPPLIES	RIGHT USB DM			200.0000					12 18							
		RIGHT USB DP			200.0000					12 18							
	THERMOSTAT	1772 CSSN			200.0000					12 18							
		1772 CSSP			200.0000					12 18							
	ETHERNET MI	1772 CSIN			200.0000					12 18							
		1772 CSIP			200.0000					12 18							
	FIREWIRE	3V SNSM			200.0000					12 18							
		3V SNSP			200.0000					12 18							
	POWER SUPPLIES	5V SNSM			200.0000					12 18							
		5V SNSP			200.0000					12 18							
	THERMOSTAT	THERM1 DM			200.0000					12 18							
		THERM1 DP			200.0000					12 18							
	ETHERNET MI	THERM2 DM			200.0000					12 18							
		THERM2 DP			200.0000					12 18							
	FIREWIRE	THERM1 M DM			200.0000					12 18							
		THERM1 M DP			200.0000					12 18							
	POWER SUPPLIES	THERM2 M DM			200.0000					12 18							
		THERM2 M DP			200.0000					12 18							
	THERMOSTAT	THERM1 A DM			200.0000					12 18							
		THERM1 A DP			200.0000					12 18							
	ETHERNET MI	THERM2 A DM			200.0000					12 18							
		THERM2 A DP			200.0000					12 18							
	FIREWIRE	FW LINK DATA<7..0>		5						12 18							
		FW PHY DATA<7..0>		5						12 18							
	ETHERNET MI	FW LINK CNTL<1..0>								12 18							
		FW PHY CNTL<1..0>								12 18							
	FIREWIRE	FW LINK LREQ								12 18							
		FW PHY LREQ								12 18							
	ETHERNET MI	FW PINT								12 18							
										12 18							
	FIREWIRE									12 18							
										12 18							
	ETHERNET MI									12 18							
										12 18							
	FIREWIRE									12 18							
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	ETHERNET MI									12 18							
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	FIREWIRE									12 18							
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	ETHERNET MI									12 18							
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	FIREWIRE									12 18							
										12 18							
	ETHERNET MI									12 18							
										12 18							
	FIREWIRE									12 18							
										12 18							
	ETHERNET MI									12 18							
										12 18							

8	7	6	5	4	3	2	1
POWER NET CONSTRAINTS							
D	MAIN/SLEEP	GROUP	SIG_NAME	VOLTAGE	MIN_LINE_WIDTH	MIN_NECK_WIDTH	
			+24V PBUS	VOLTAGE=24V	MIN_LINE_WIDTH=25	MIN_NECK_WIDTH=10	40
			+BATT	VOLTAGE=12.6V	MIN_LINE_WIDTH=25	MIN_NECK_WIDTH=10	
C	ADAPTER		+PBUS	VOLTAGE=12.8V	MIN_LINE_WIDTH=25	MIN_NECK_WIDTH=10	40
			+5V MAIN	VOLTAGE=5V	MIN_LINE_WIDTH=25	MIN_NECK_WIDTH=10	23
			+5V SLEEP	VOLTAGE=5V	MIN_LINE_WIDTH=25	MIN_NECK_WIDTH=10	23
B	BATTERY CHARGER		+3V MAIN	VOLTAGE=3.3V	MIN_LINE_WIDTH=25	MIN_NECK_WIDTH=10	20
			+3V SLEEP	VOLTAGE=3.3V	MIN_LINE_WIDTH=25	MIN_NECK_WIDTH=6	20
			+3V PMU	VOLTAGE=3.3V	MIN_LINE_WIDTH=25	MIN_NECK_WIDTH=10	20
A	PMU		+2.5V MAIN	VOLTAGE=2.5V	MIN_LINE_WIDTH=25	MIN_NECK_WIDTH=10	
			+2.5V SLEEP	VOLTAGE=2.5V	MIN_LINE_WIDTH=25	MIN_NECK_WIDTH=10	
			+1.8V MAIN	VOLTAGE=1.8V	MIN_LINE_WIDTH=25	MIN_NECK_WIDTH=6	40
	MISC HD		+1.8V SLEEP	VOLTAGE=1.8V	MIN_LINE_WIDTH=25	MIN_NECK_WIDTH=6	
			+1.5V MAIN	VOLTAGE=1.5V	MIN_LINE_WIDTH=25	MIN_NECK_WIDTH=10	
			+1.5V SLEEP	VOLTAGE=1.5V	MIN_LINE_WIDTH=25	MIN_NECK_WIDTH=10	
	TRACKPAD		+1.5V LDO	VOLTAGE=1.5V	MIN_LINE_WIDTH=25	MIN_NECK_WIDTH=10	16
			+1.5V SLEEP VIN	VOLTAGE=1.5V	MIN_LINE_WIDTH=25	MIN_NECK_WIDTH=10	16
			+ADAPTER	VOLTAGE=24V	MIN_LINE_WIDTH=50	MIN_NECK_WIDTH=10	32
	HALL EFFECT		+ADAPTER SW	VOLTAGE=24V	MIN_LINE_WIDTH=50	MIN_NECK_WIDTH=10	32
			+ADAPTER SENSE	VOLTAGE=24V	MIN_LINE_WIDTH=50	MIN_NECK_WIDTH=10	32
			+BATT POS	VOLTAGE=16.8V	MIN_LINE_WIDTH=25	MIN_NECK_WIDTH=10	32
	VIDEO		BATT NEG	VOLTAGE=0V	MIN_LINE_WIDTH=25	MIN_NECK_WIDTH=10	40
			1772 DCIN	VOLTAGE=24V	MIN_LINE_WIDTH=10	MIN_NECK_WIDTH=10	32
			1772 LX	VOLTAGE=12.6V	MIN_LINE_WIDTH=25	MIN_NECK_WIDTH=10	32
	KB LED		+BATT 14V FUSE	VOLTAGE=12.6V	MIN_LINE_WIDTH=25	MIN_NECK_WIDTH=10	32
			+BATT 24V FUSE	VOLTAGE=12.6V	MIN_LINE_WIDTH=25	MIN_NECK_WIDTH=10	32
			+BATT RSNS	VOLTAGE=12.6V	MIN_LINE_WIDTH=25	MIN_NECK_WIDTH=10	32
	FAN GND		+BATT VSNS	VOLTAGE=12.6V	MIN_LINE_WIDTH=10	MIN_NECK_WIDTH=10	32
			1772 LDO	VOLTAGE=5.4V	MIN_LINE_WIDTH=10	MIN_NECK_WIDTH=6	32
			1772 DLOV	VOLTAGE=5.4V	MIN_LINE_WIDTH=10	MIN_NECK_WIDTH=6	32
	SOUND		1772 GND	VOLTAGE=0V	MIN_LINE_WIDTH=10	MIN_NECK_WIDTH=6	32
			+ADAPTER ILIM	VOLTAGE=24V	MIN_LINE_WIDTH=10	MIN_NECK_WIDTH=6	33
			+ADAPTER OR BATT	VOLTAGE=24V	MIN_LINE_WIDTH=10	MIN_NECK_WIDTH=6	33
	I/O AREA		+4.85V RAW	VOLTAGE=4.85V	MIN_LINE_WIDTH=10	MIN_NECK_WIDTH=6	33
			+4.6V BU	VOLTAGE=4.6V	MIN_LINE_WIDTH=10	MIN_NECK_WIDTH=6	34
			+4.85V ESR	VOLTAGE=4.85V	MIN_LINE_WIDTH=10	MIN_NECK_WIDTH=6	33
	INVERTER		+3V PMU ESR	VOLTAGE=3.3V	MIN_LINE_WIDTH=10	MIN_NECK_WIDTH=6	33
			+3V PMU AVCC	VOLTAGE=3.3V	MIN_LINE_WIDTH=10	MIN_NECK_WIDTH=6	26
			+5V HD SLEEP	VOLTAGE=5V	MIN_LINE_WIDTH=25	MIN_NECK_WIDTH=10	25
	TRACKPAD		+HD LOGIC SLEEP	VOLTAGE=3.3V	MIN_LINE_WIDTH=25	MIN_NECK_WIDTH=10	25
			+5V MAIN CONN	VOLTAGE=5V	MIN_LINE_WIDTH=10	MIN_NECK_WIDTH=6	
			+3V HALL EFFECT	VOLTAGE=3.3V	MIN_LINE_WIDTH=10	MIN_NECK_WIDTH=6	23
	LVDS		+12.8V INV	VOLTAGE=12.8V	MIN_LINE_WIDTH=25	MIN_NECK_WIDTH=10	22
			+5V INV UP SW	VOLTAGE=5V	MIN_LINE_WIDTH=25	MIN_NECK_WIDTH=10	22
			+5V INV SW	VOLTAGE=5V	MIN_LINE_WIDTH=25	MIN_NECK_WIDTH=10	22
	I/O AREA		+5V DDC SLEEP	VOLTAGE=5V	MIN_LINE_WIDTH=15	MIN_NECK_WIDTH=10	22
			+5V DDC SLEEP UP	VOLTAGE=5V	MIN_LINE_WIDTH=15	MIN_NECK_WIDTH=10	22
			+3V LCD	VOLTAGE=3.3V	MIN_LINE_WIDTH=12	MIN_NECK_WIDTH=10	22

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SCALE NONE	SHT 40	OF 45

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