

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

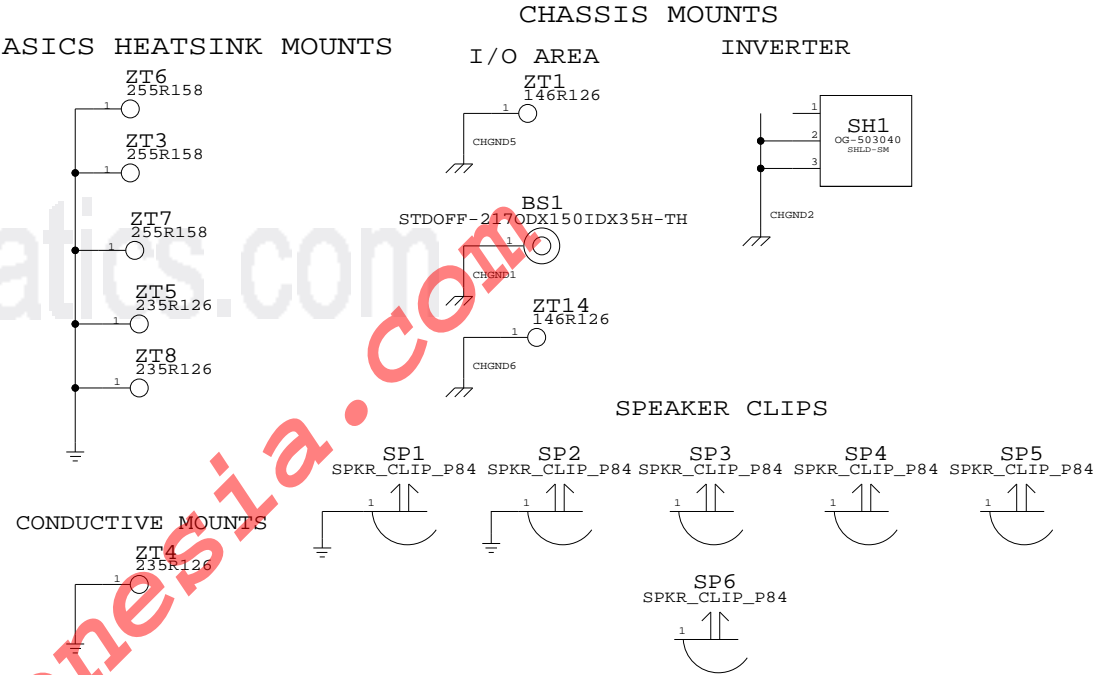
SEE PCB CAD FILES FOR MORE SPECIFIC INFO.

BOARD STACK-UP AND CONSTRUCTION

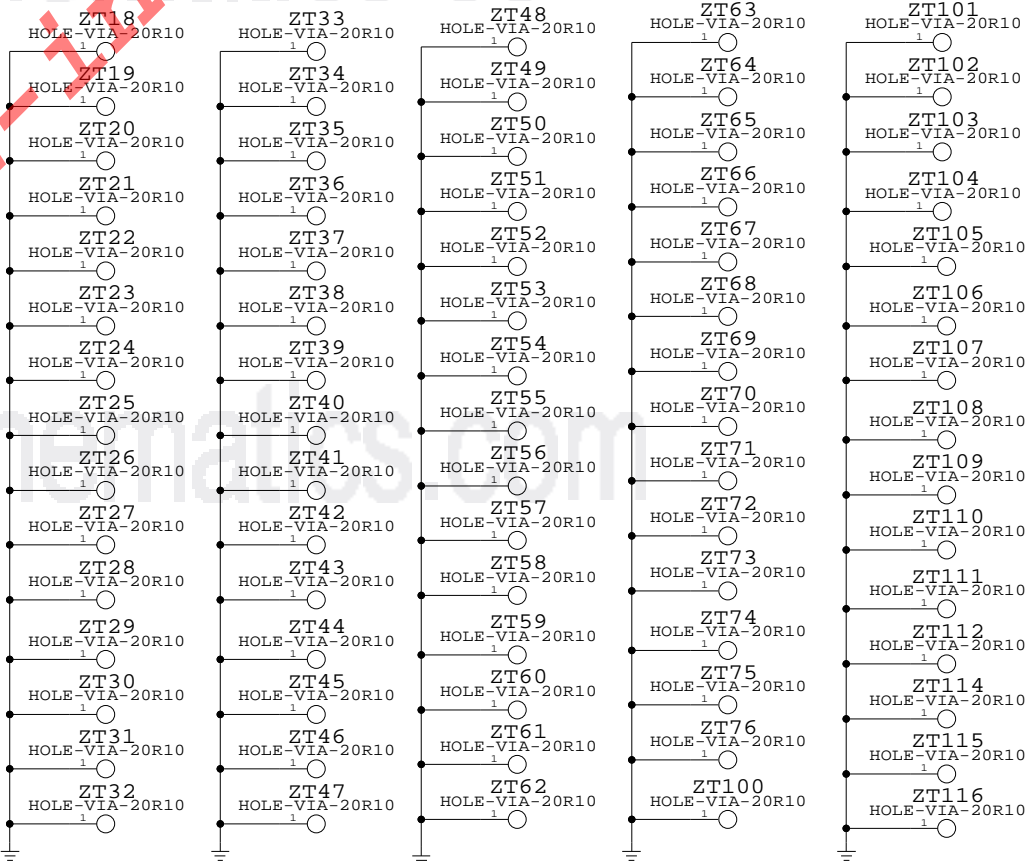
20R10 TH VIA OR VIA IN PAD

| | | |
|----|----------------------------------|----------------------------------|
| 1 | SIGNAL (1/3 OZ + COPPER PLATING) | |
| 2 | PREPREG (3MIL) | GROUND (1/2 OZ) |
| 3 | LAMINATE (4MIL) | SIGNAL (1/2 OZ) |
| 4 | PREPREG (3MIL) | SIGNAL (1/2 OZ) |
| 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 | PREPREG (3MIL) | SIGNAL (1/3 OZ + COPPER PLATING) |

BOARD HOLES



GROUND VIAS



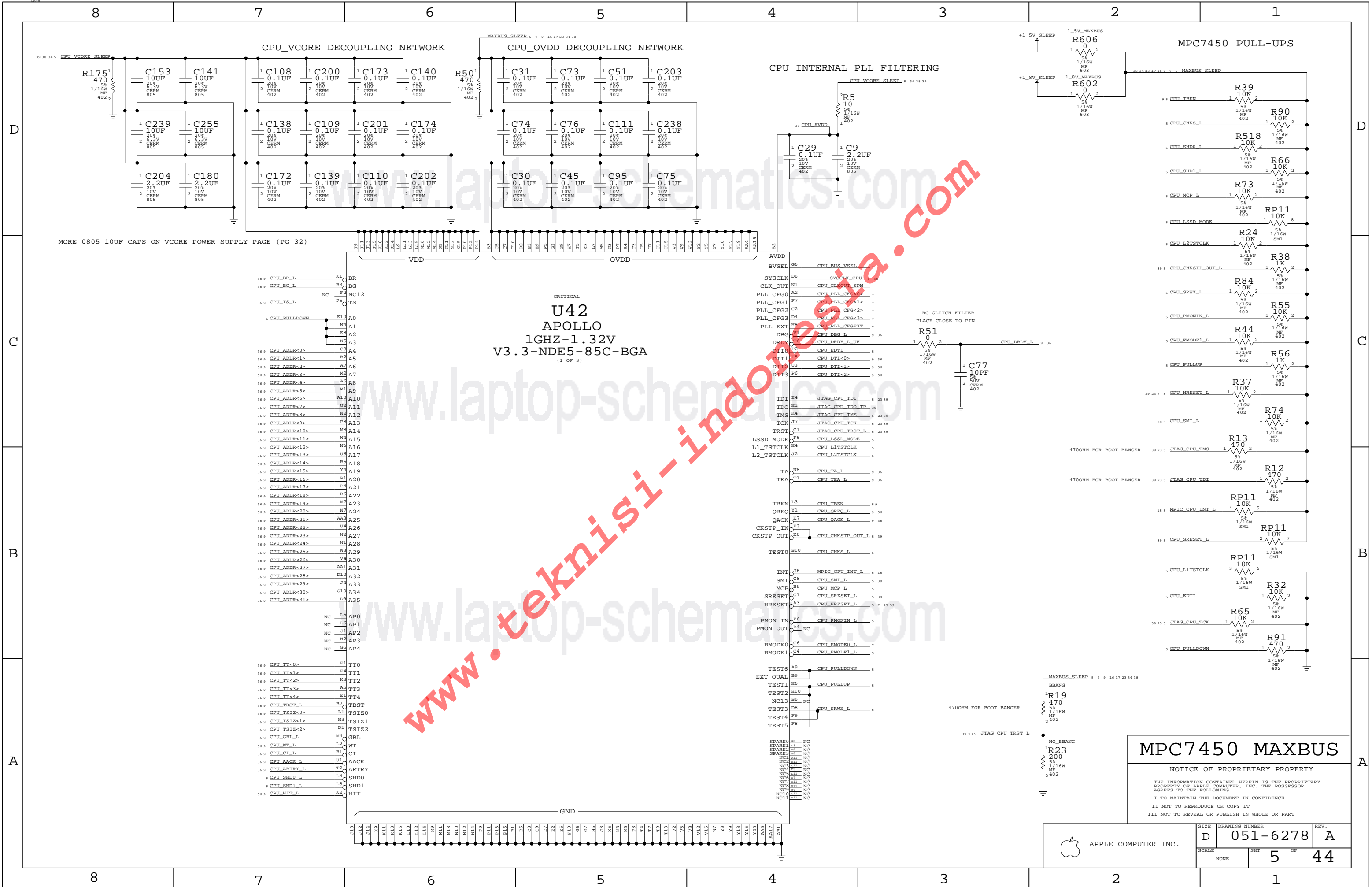
BOARD INFORMATION

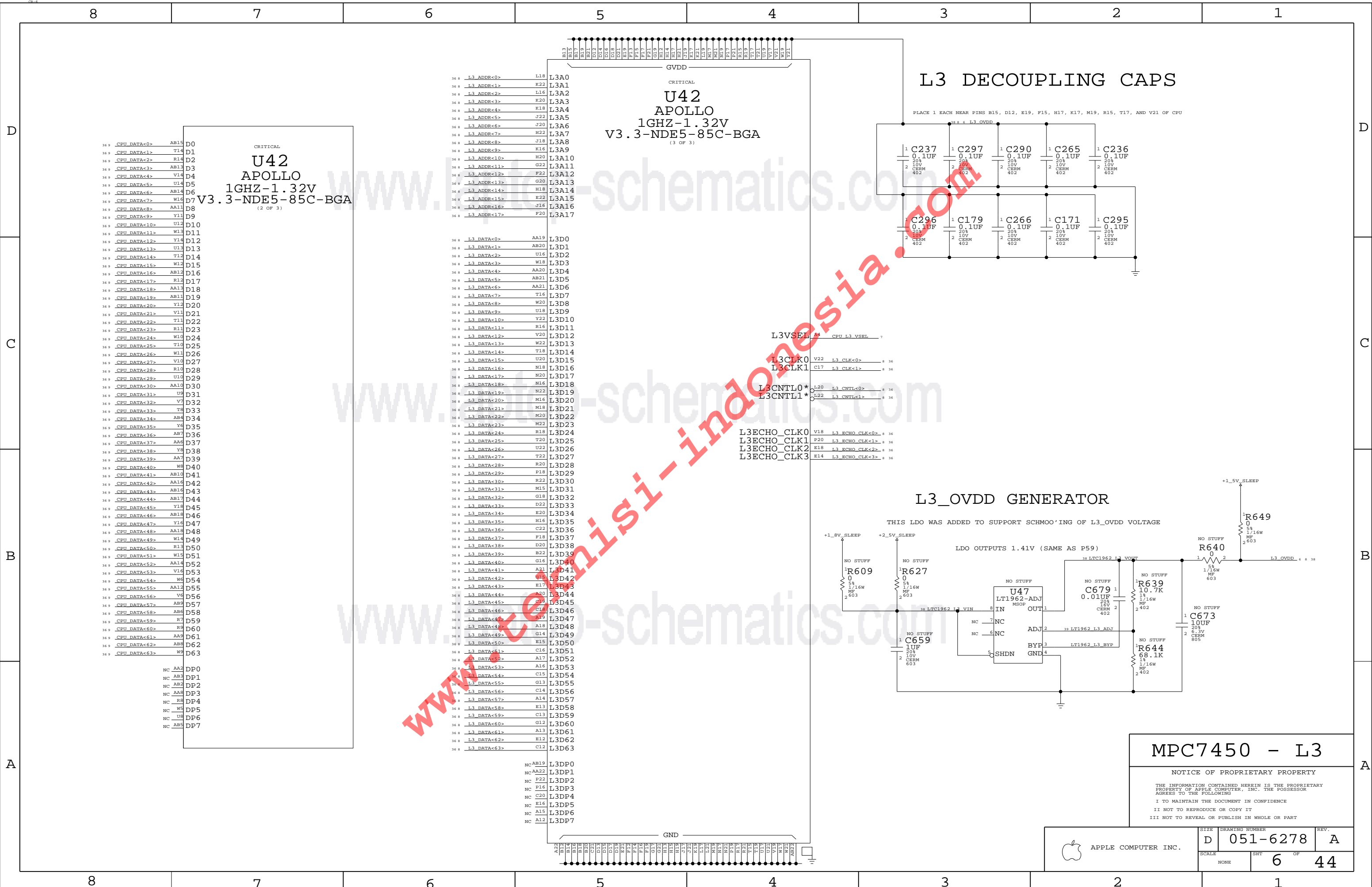
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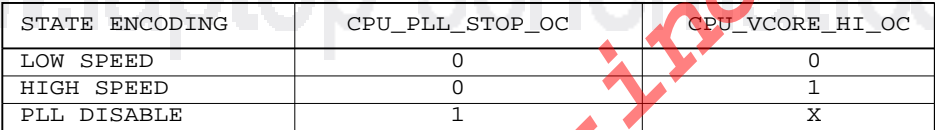
APPLE COMPUTER INC.

| | | | | | |
|-------|------|----------------|----------|------|----|
| SIZE | D | DRAWING NUMBER | 051-6278 | REV. | A |
| SCALE | NONE | SHT | 4 | OF | 44 |





PLL SPEED BASED ON 167MHZ - 1GHZ/667MHZ



MAXBUS VSEL



R519

22

5 CPU_EMODE0_L 2 1 CPU_HRESET_L 5 7 23 39

53
1/16W
MF
402

APOLLO ONLY SUPPORTS MAXBUS

CPU CONFIGURATION

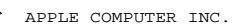
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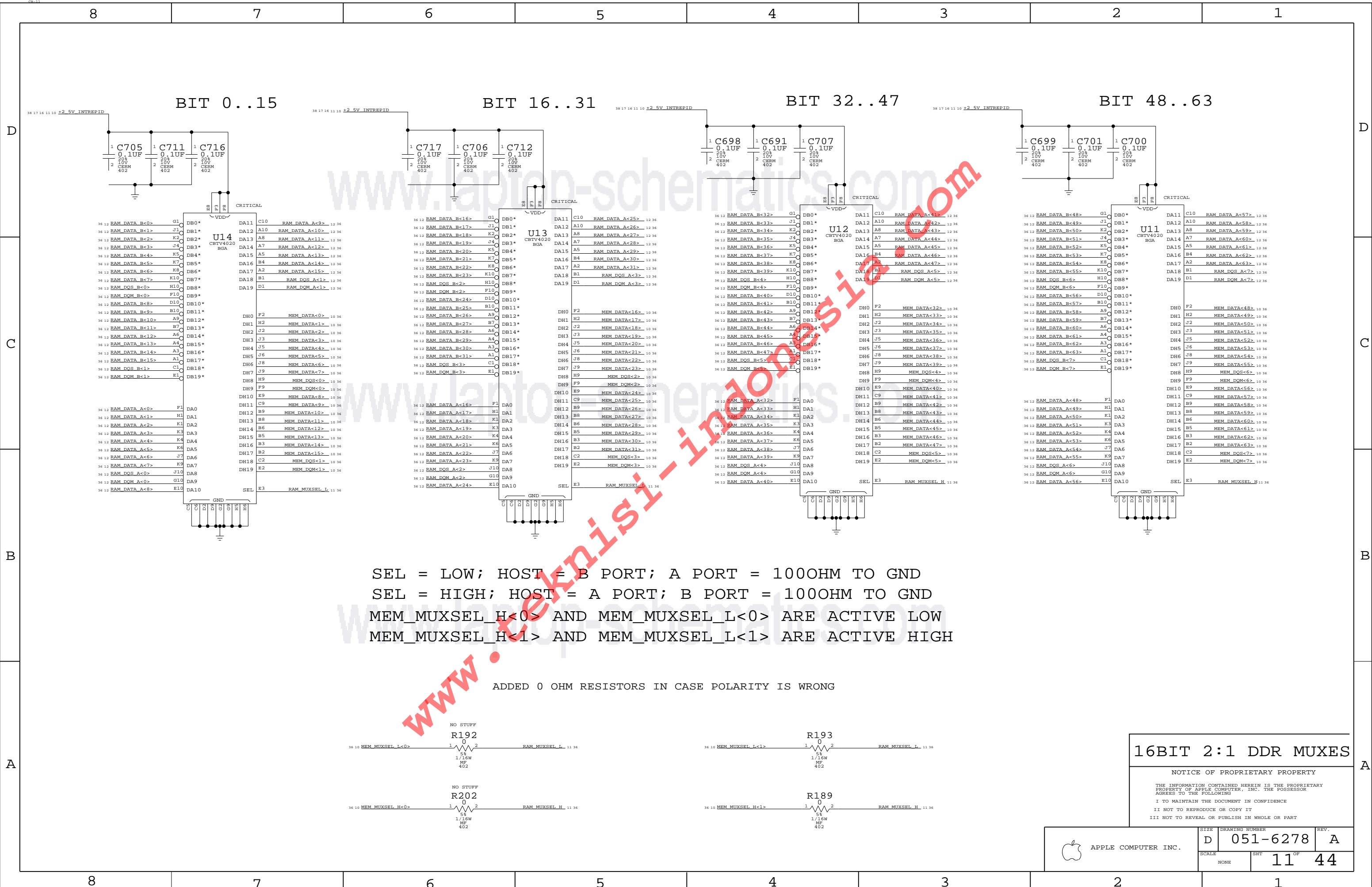
DRAWING NUMBER
051-6

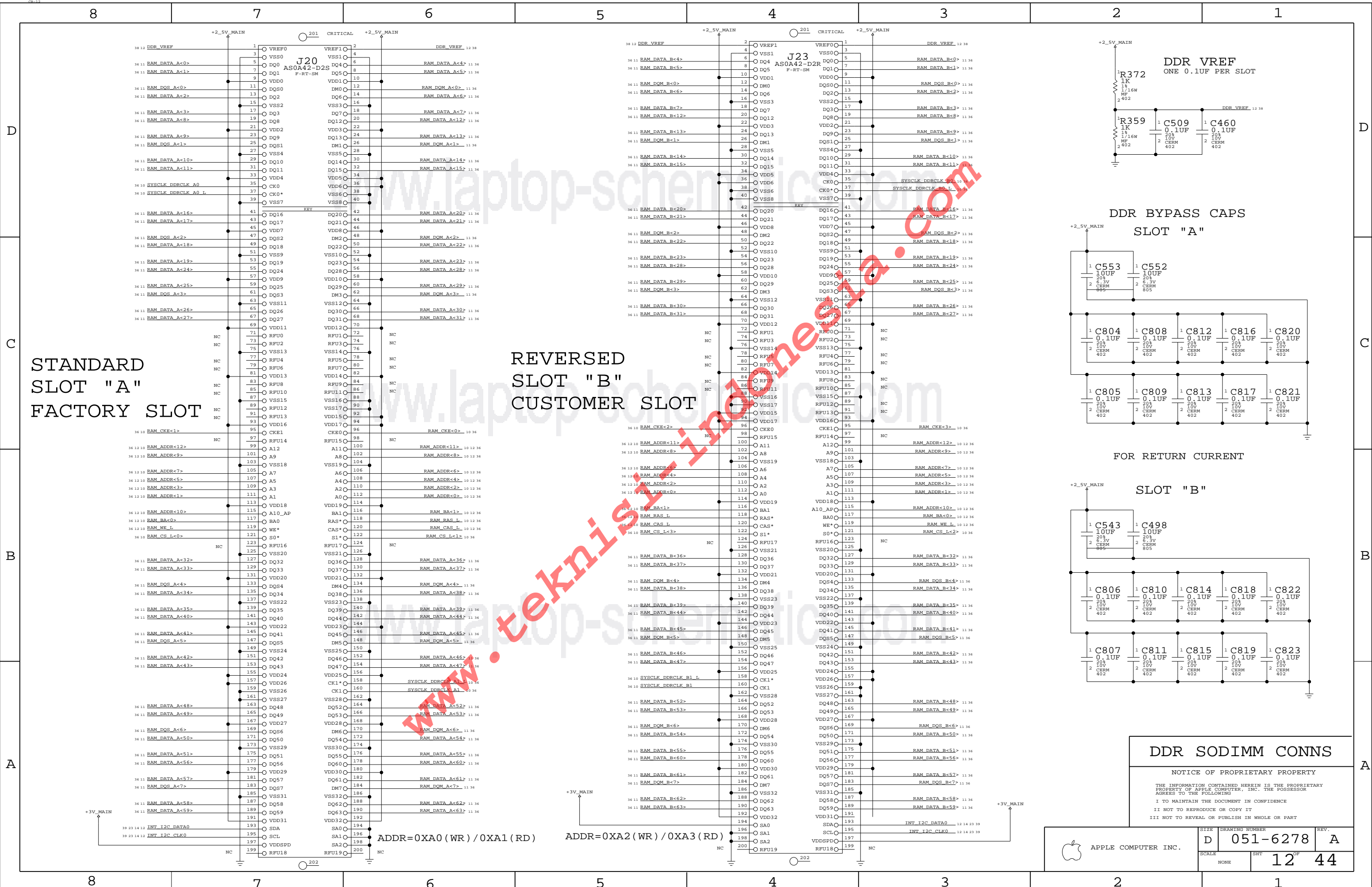
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| SCALE | |

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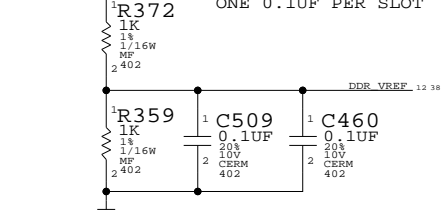




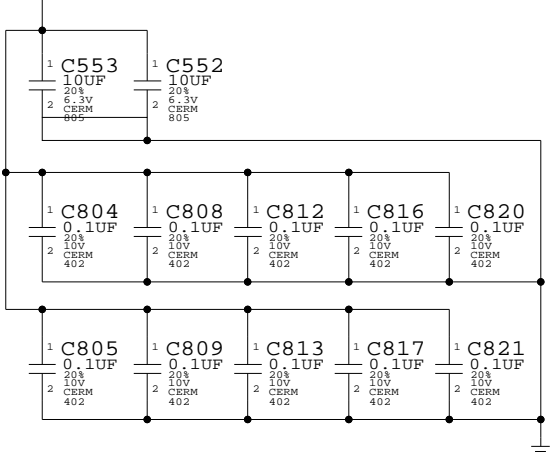
STANDARD
SLOT "A"
FACTORY SLOT

REVERSED
SLOT "B"
CUSTOMER SLOT

DDR VREF
ONE 0.1UF PER SLOT

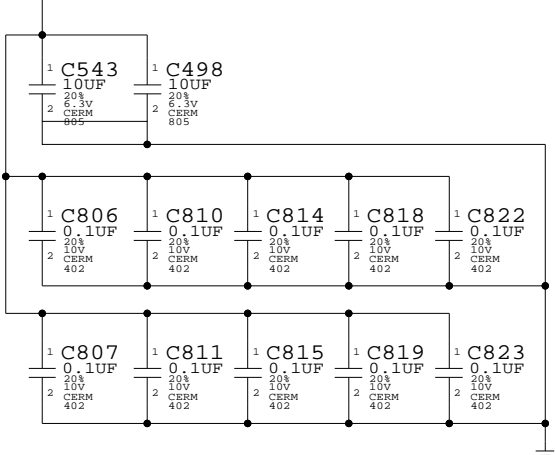


DDR BYPASS CAPS
SLOT "A"



FOR RETURN CURRENT

SLOT "B"

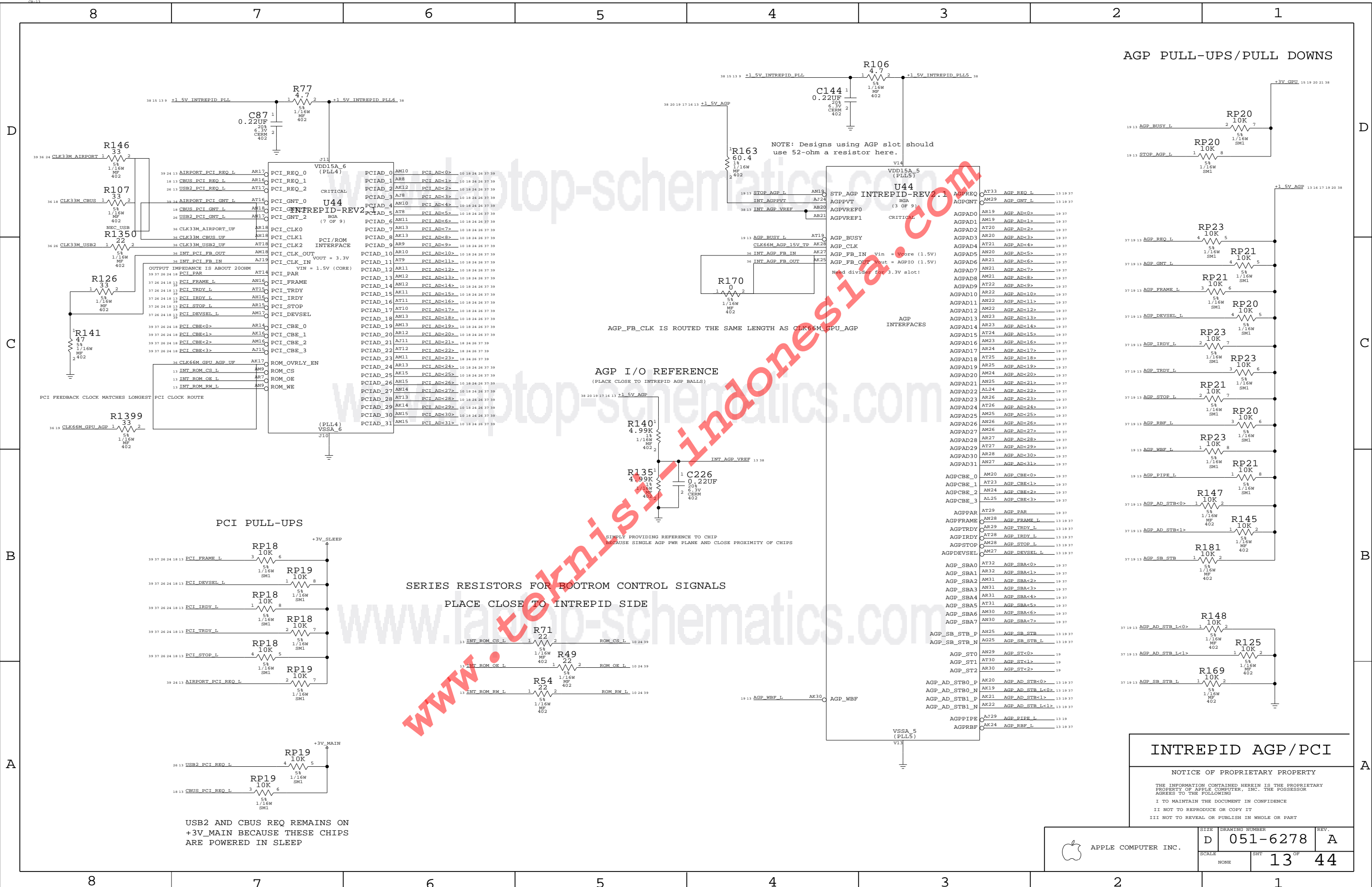


DDR SODIMM CONNS

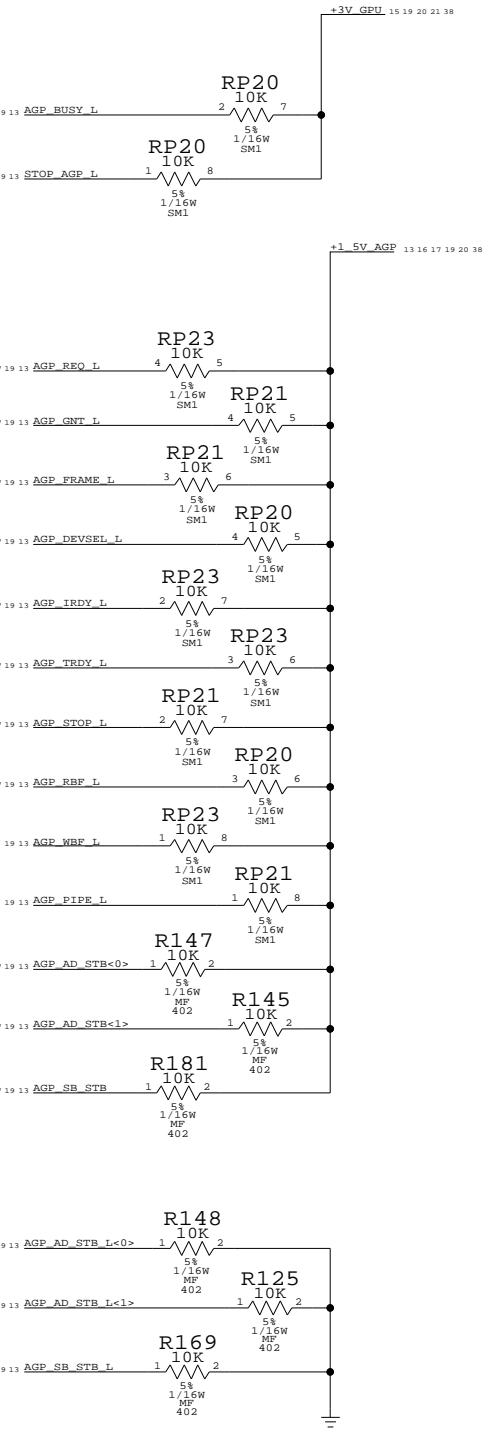
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AGP PULL-UPS/PULL DOWNS



INTREPID AGP/PCI

NOTICE OF PROPRIETARY PROPERTY

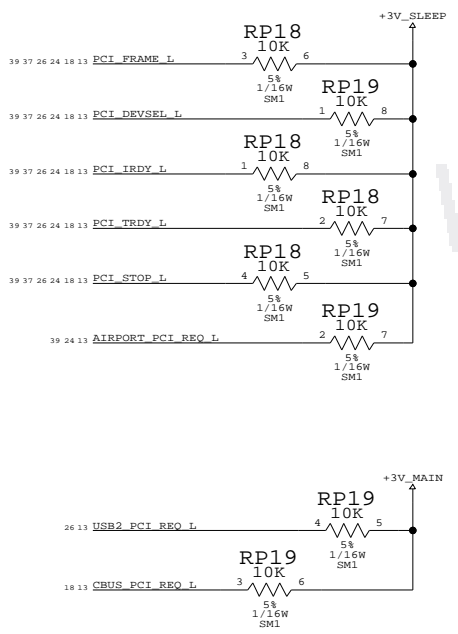
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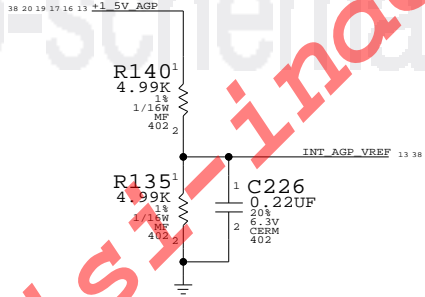
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PCI PULL-UPS



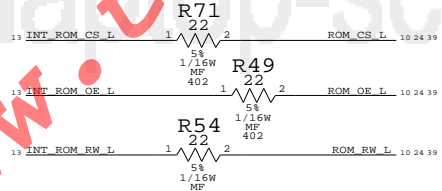
USB2 AND CBUS REQ REMAINS ON +3V_MAIN BECAUSE THESE CHIPS ARE POWERED IN SLEEP

AGP I/O REFERENCE



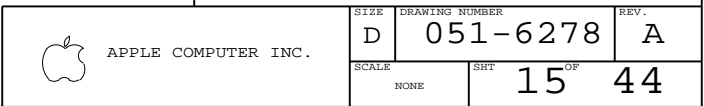
SERIES RESISTORS FOR BOOTROM CONTROL SIGNALS

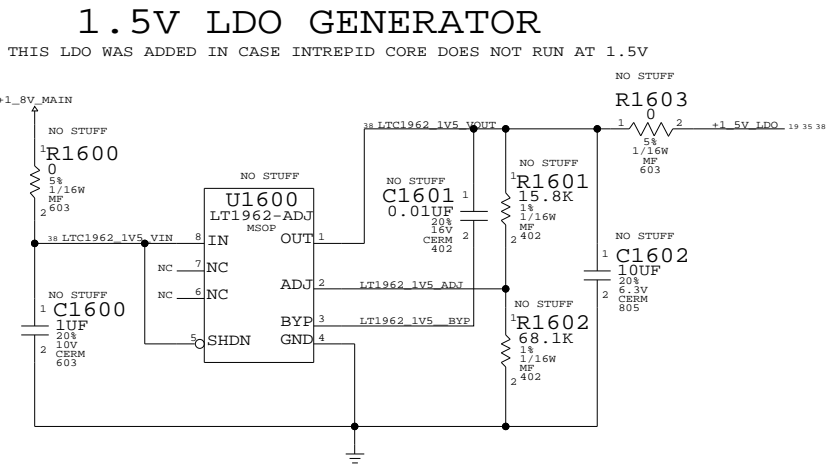
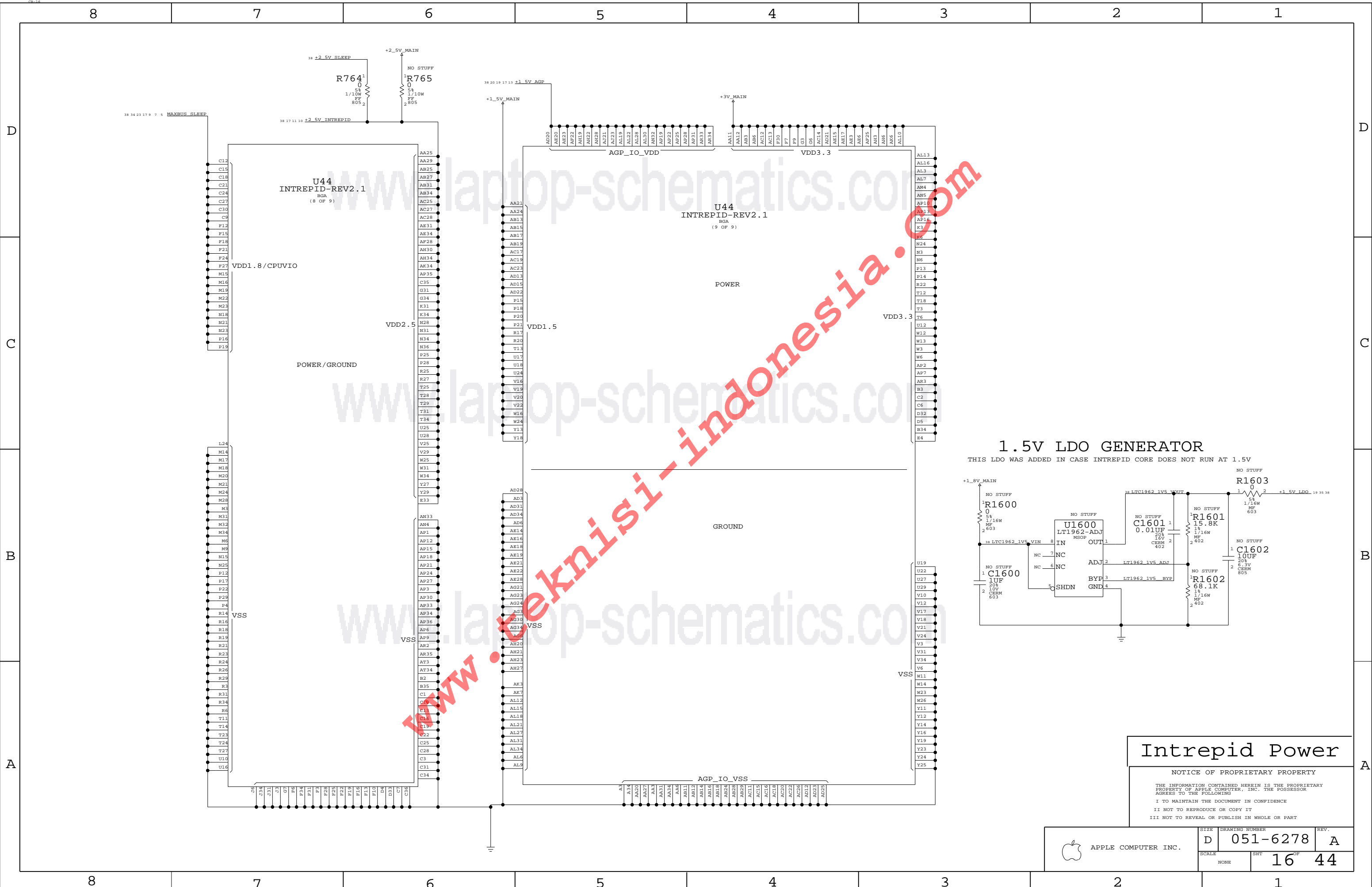
PLACE CLOSE TO INTREPID SIDE



NOTE: Designs using AGP slot should use 52-ohm a resistor here.

AGP INTERFACES





Intrepid Power

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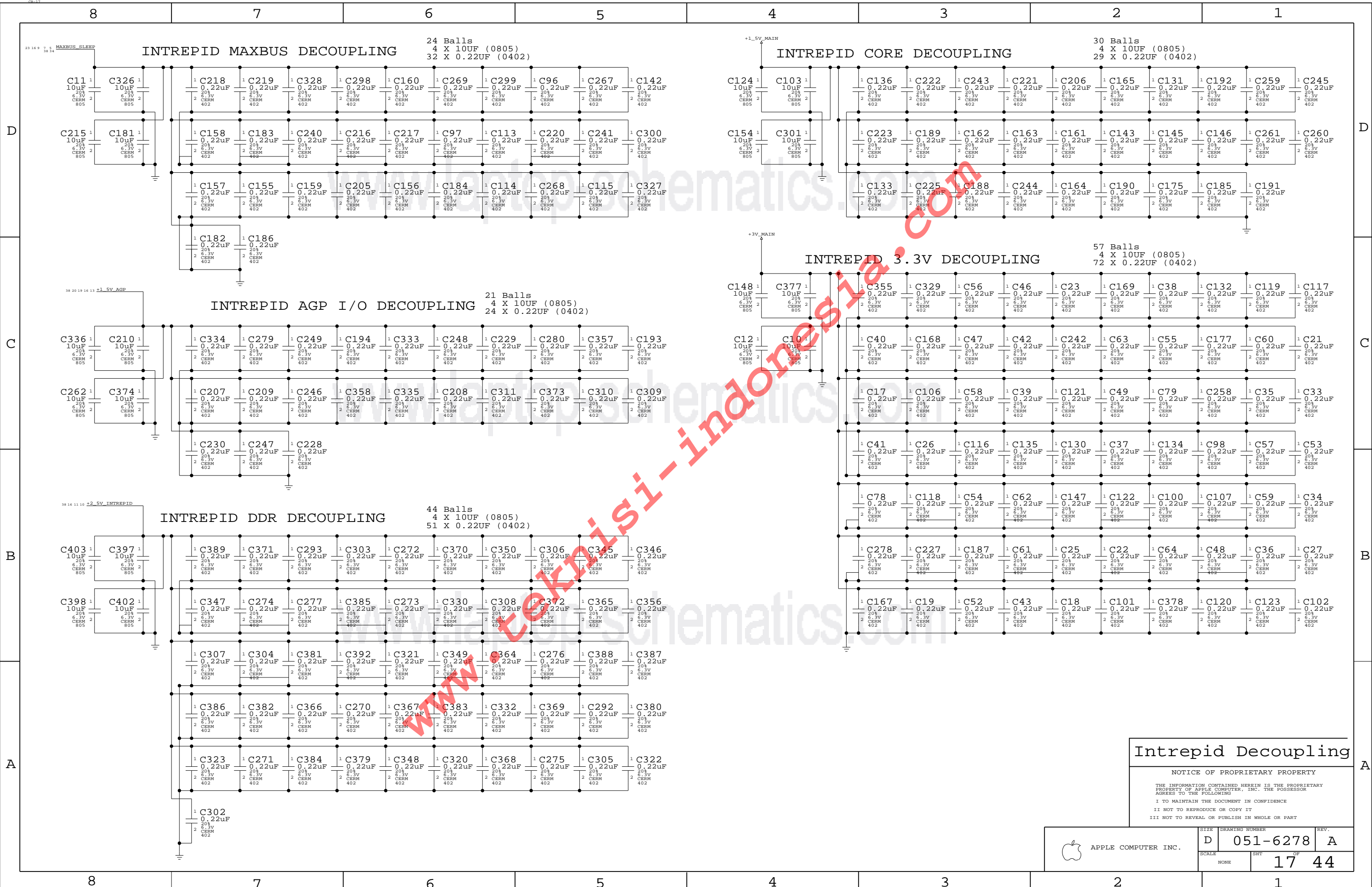
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| | SCALE NONE | SHT 16 | OF 44 |



Intrepid Decoupling

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DRAWING NUMBER

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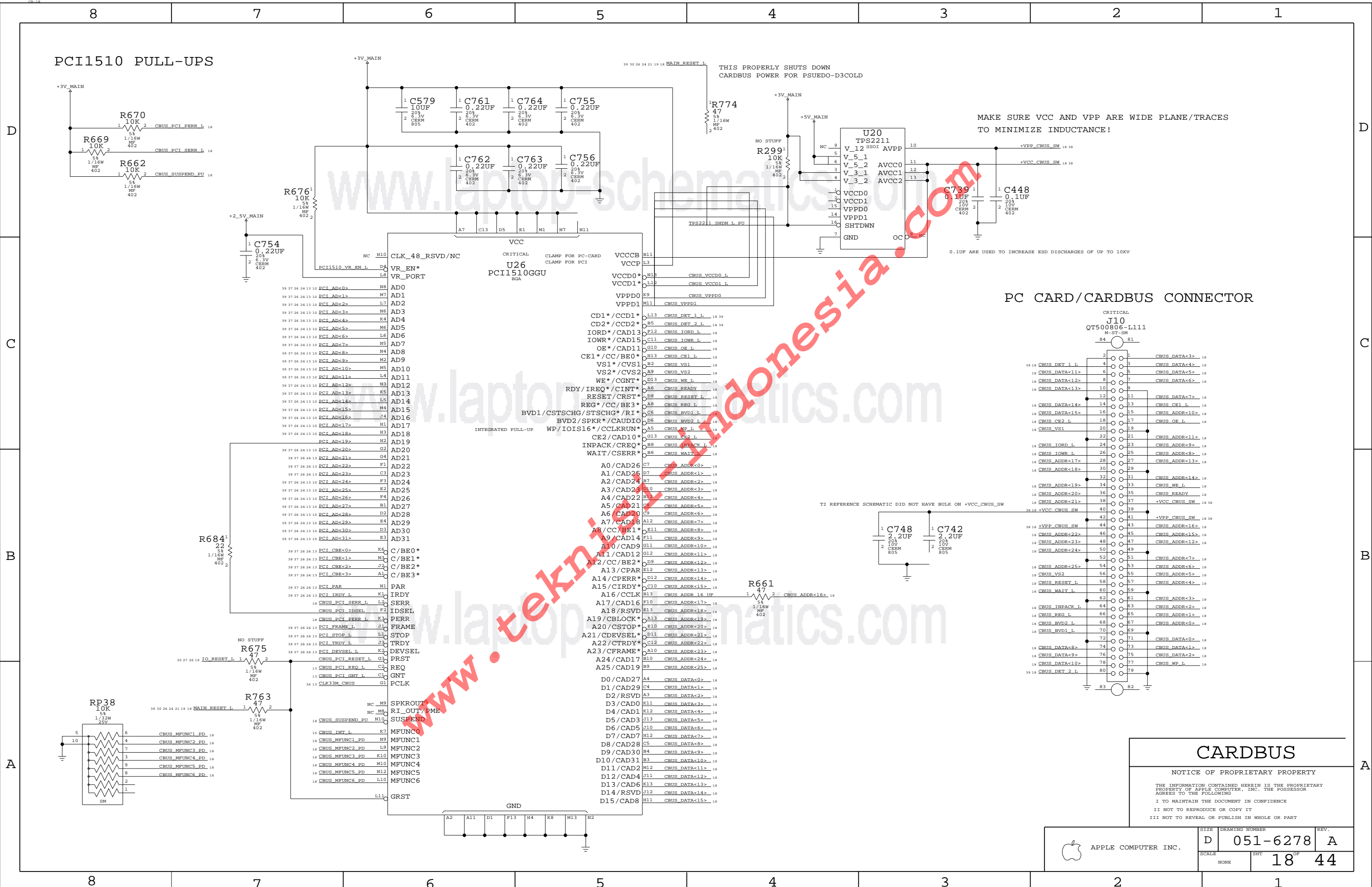
A

SCALE

SHT

OF

44



PCI1510 PULL-UPS

THIS PROPERLY SHUTS DOWN
CARDBUS POWER FOR PSUEDO-D3COLD

MAKE SURE VCC AND VPP ARE WIDE PLANE/TRACES
TO MINIMIZE INDUCTANCE!

PC CARD/CARDBUS CONNECTOR

CARDBUS

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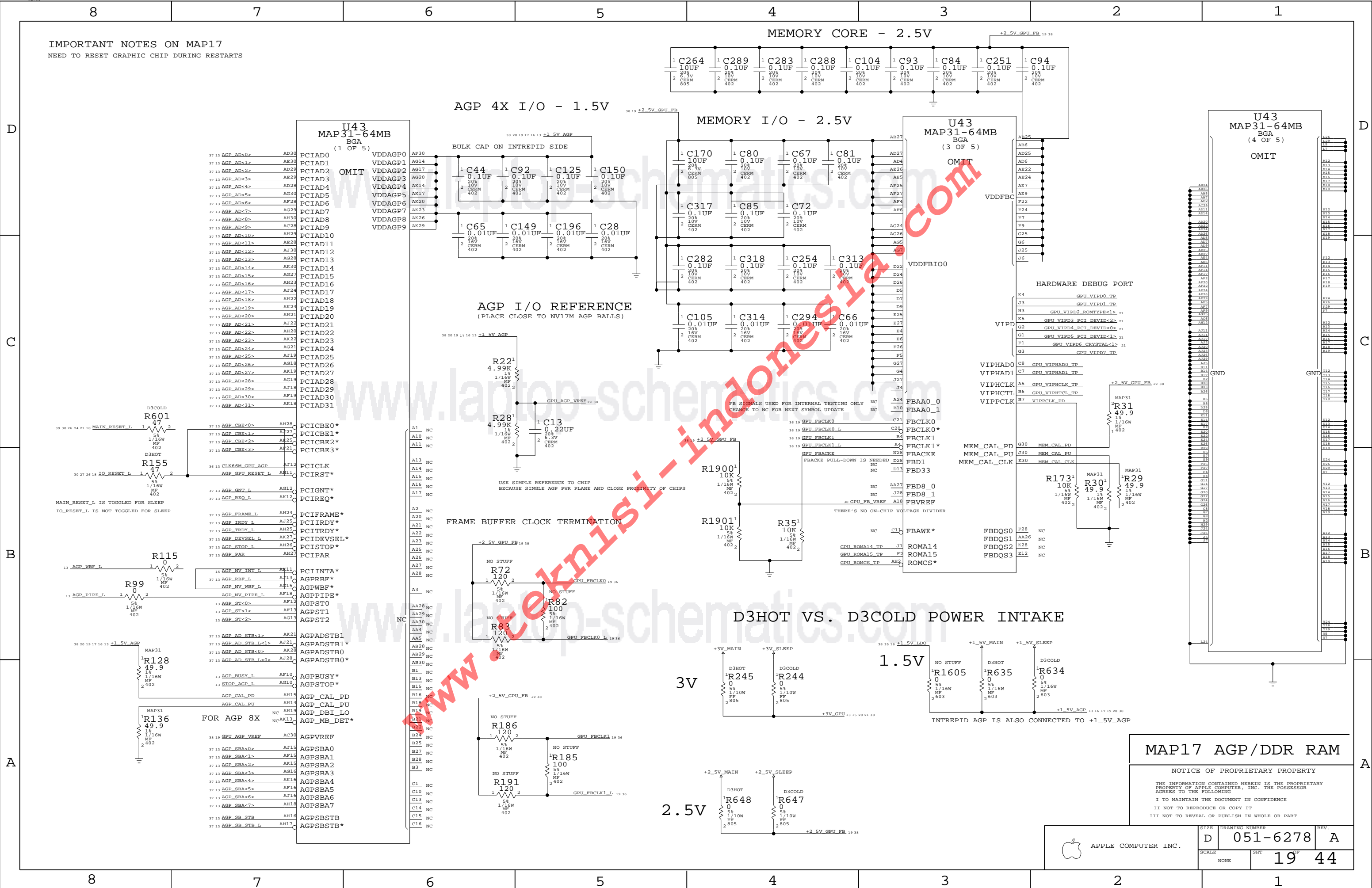
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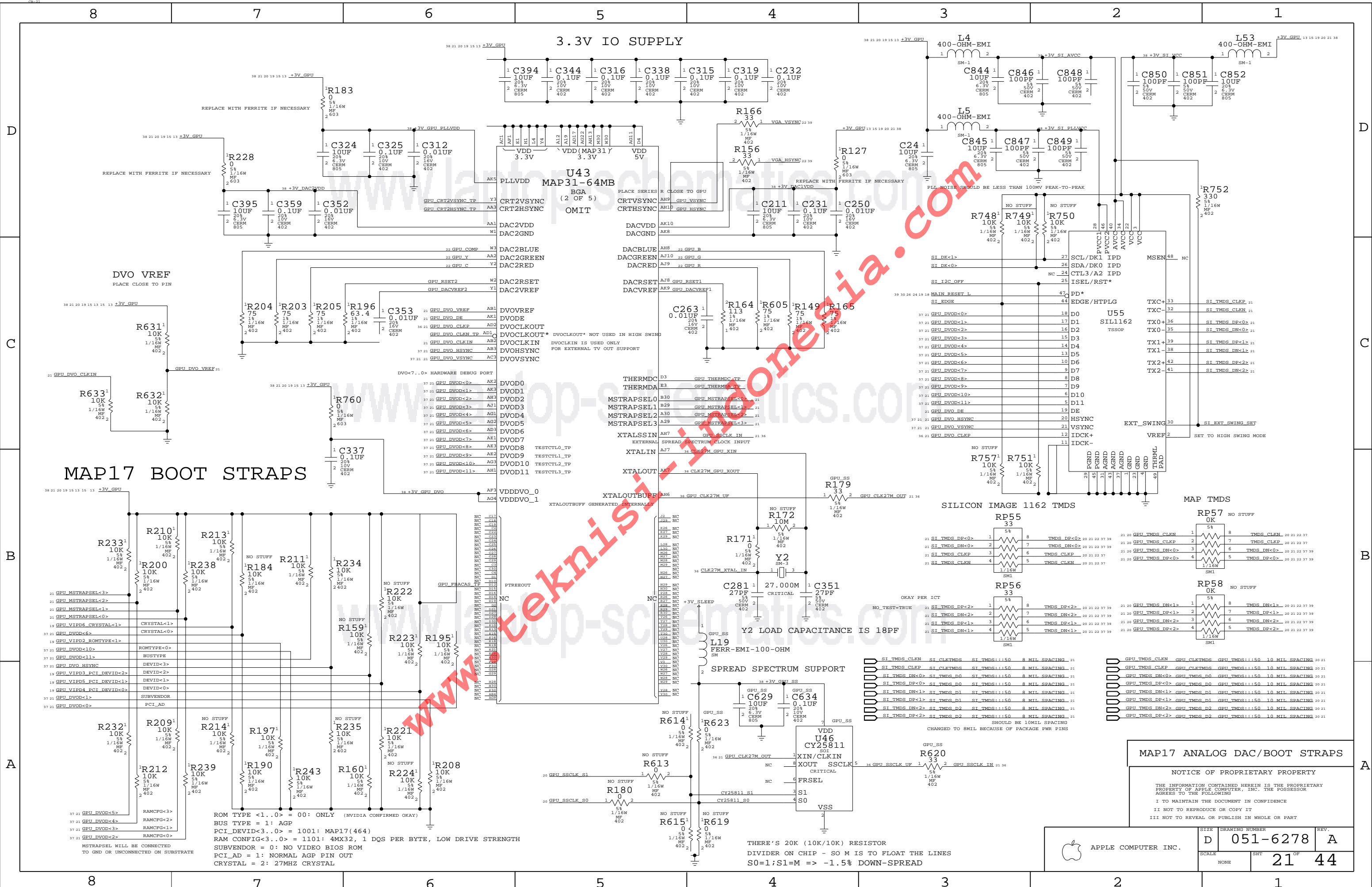
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| | NONE | | |





MAP17 ANALOG DAC/BOOT STRAPS

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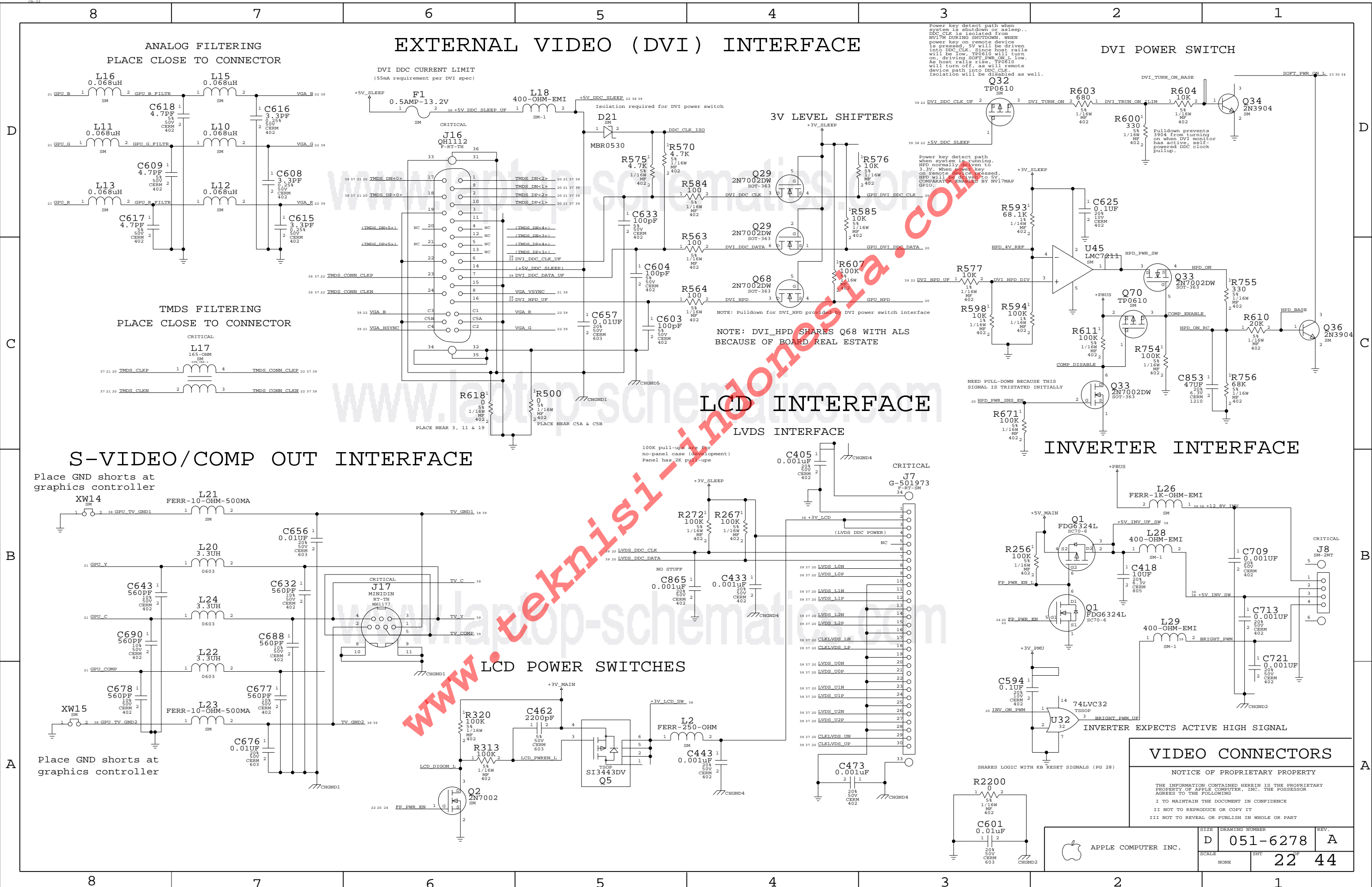
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APPLE COMPUTER INC.

THERE'S 20K (10K/10K) RESISTOR
DIVIDER ON CHIP - SO M IS TO FLOAT THE LINES
S0=1;S1=M => -1.5% DOWN-SPREAD



ANALOG FILTERING
PLACE CLOSE TO CONNECTOR

EXTERNAL VIDEO (DVI) INTERFACE

DVI POWER SWITCH

TMDS FILTERING
PLACE CLOSE TO CONNECTOR

LCD INTERFACE

S-VIDEO/COMP OUT INTERFACE

LVDS INTERFACE

INVERTER INTERFACE

LCD POWER SWITCHES

VIDEO CONNECTORS

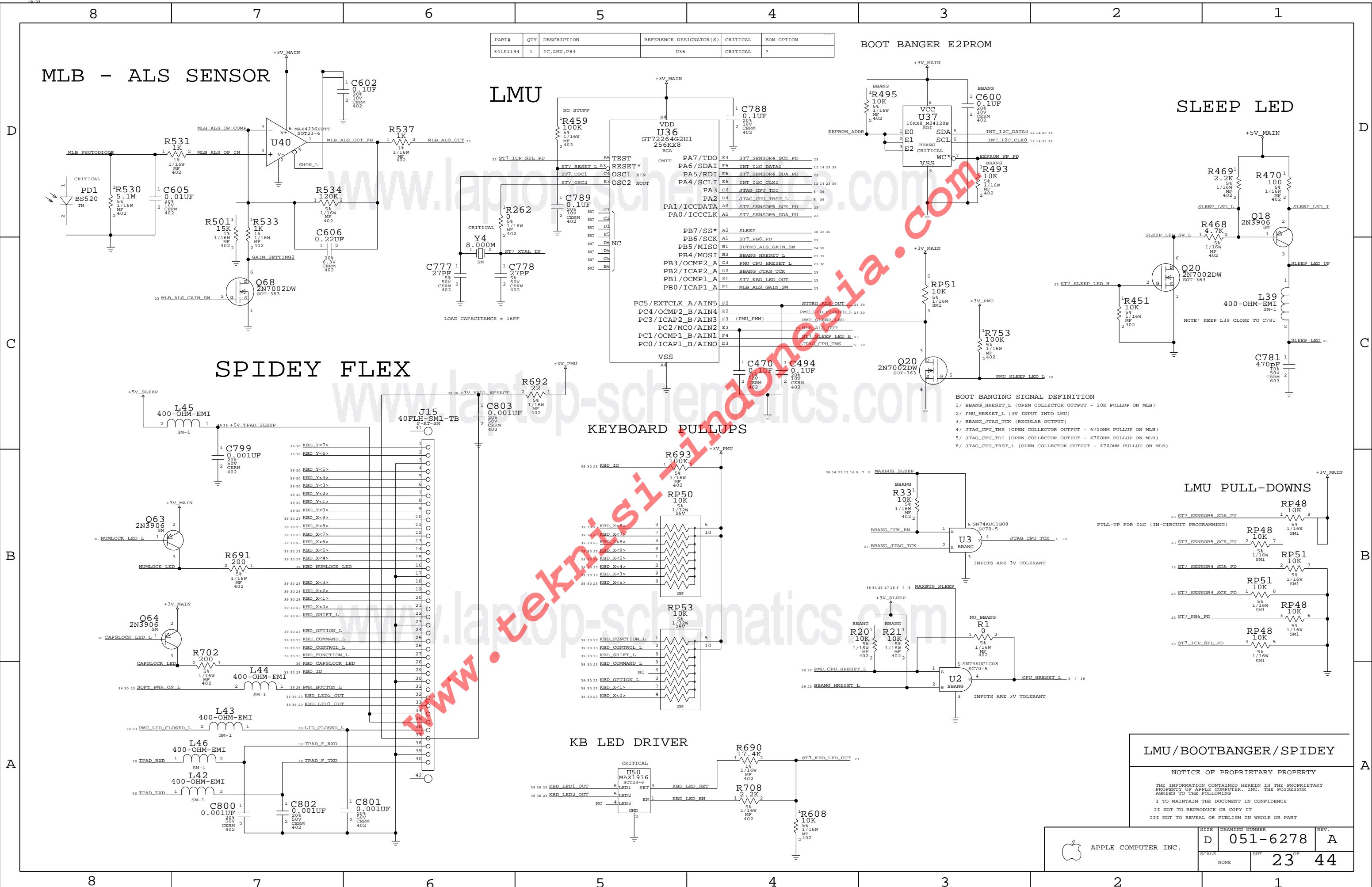
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| | | |
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APPLE COMPUTER INC.



| PART# | QTY | DESCRIPTION | REFERENCE DESIGNATOR(S) | CRITICAL | BOM OPTION |
|----------|-----|-------------|-------------------------|----------|------------|
| 341S1194 | 1 | IC,LMU,P84 | U36 | CRITICAL | ? |

BOOT BANGER E2PROM

SLEEP LED

KEYBOARD PULLUPS

LMU PULL-DOWNS

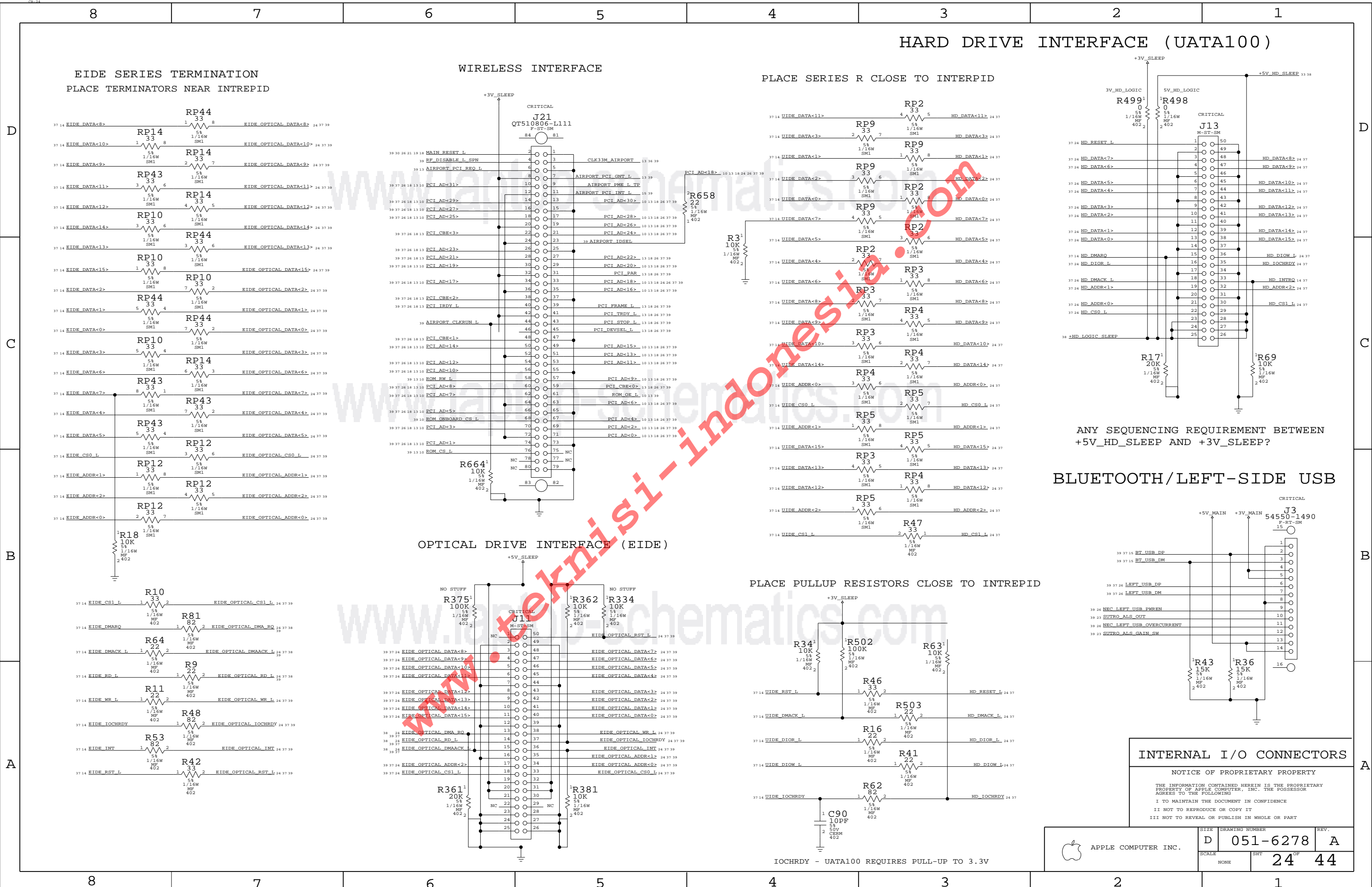
KB LED DRIVER

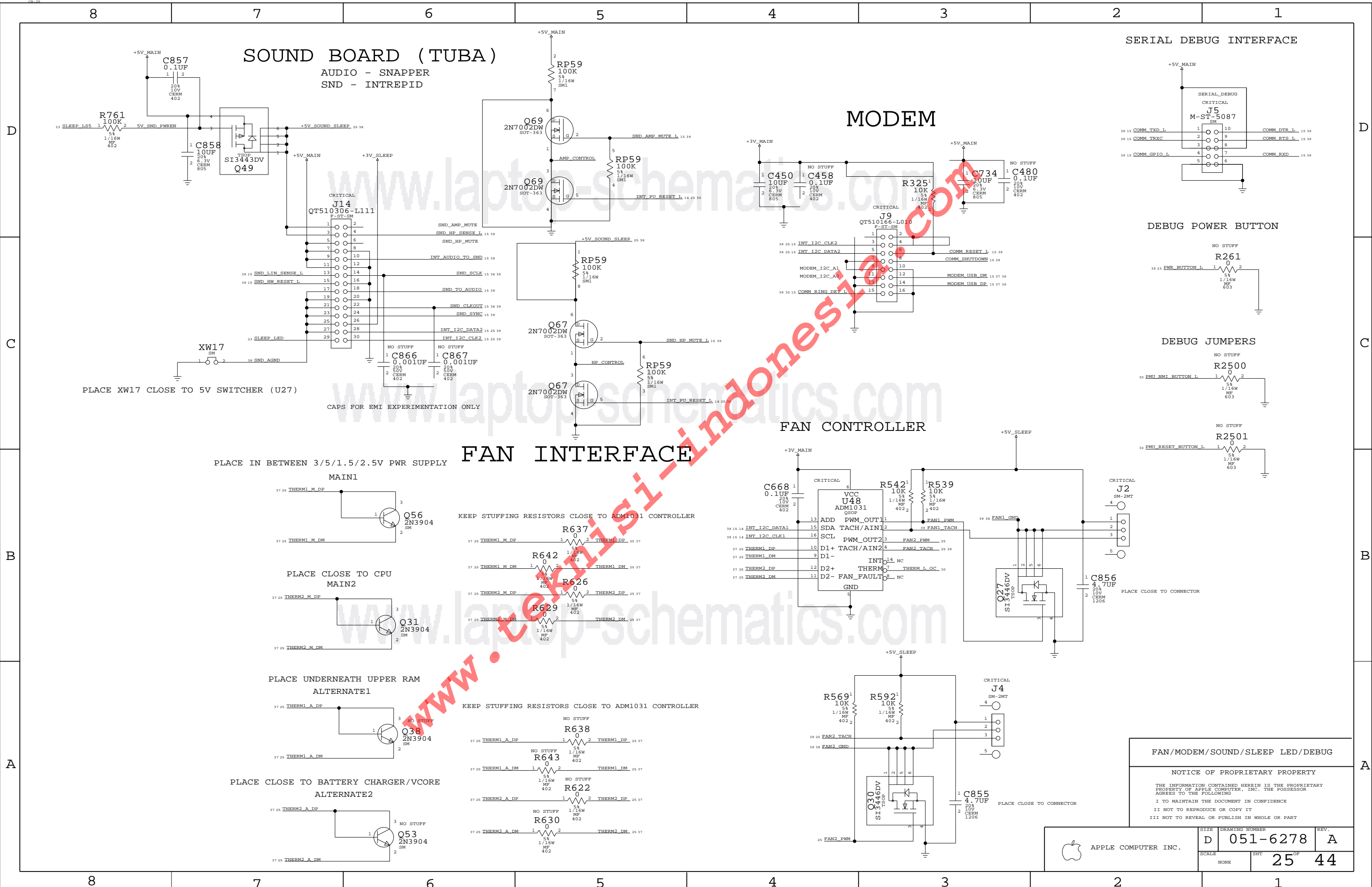
LMU/BOOTBANGER/SPIDEY

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| NONE | | 23 | 44 |





SOUND BOARD (TUBA)

AUDIO - SNAPPER
SND - INTREPID

MODEM

SERIAL DEBUG INTERFACE

DEBUG POWER BUTTON

DEBUG JUMPERS

FAN INTERFACE

FAN CONTROLLER

FAN/MODEM/SOUND/SLEEP LED/DEBUG

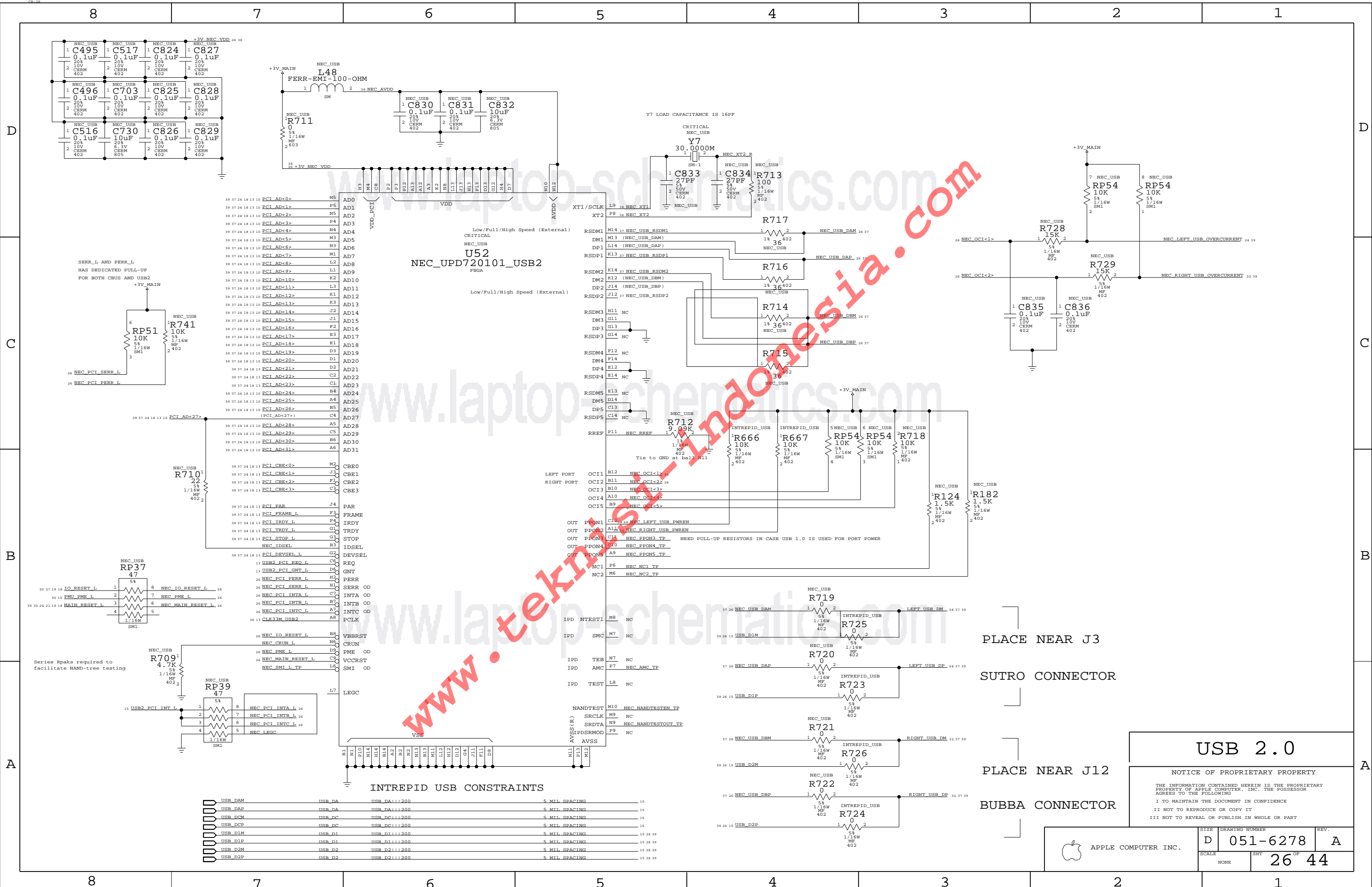
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| INTREPID USB CONSTRAINTS | | | | |
|--------------------------|--------|--------------|---------------|----------|
| USB_DAM | USB_DA | USB_DA:::200 | 5 MIL SPACING | 15 |
| USB_DAP | USB_DA | USB_DA:::200 | 5 MIL SPACING | 15 |
| USB_DCM | USB_DC | USB_DC:::200 | 5 MIL SPACING | 15 |
| USB_DCP | USB_DC | USB_DC:::200 | 5 MIL SPACING | 15 |
| USB_DIM | USB_D1 | USB_D1:::200 | 5 MIL SPACING | 15 26 39 |
| USB_DIP | USB_D1 | USB_D1:::200 | 5 MIL SPACING | 15 26 39 |
| USB_D2M | USB_D2 | USB_D2:::200 | 5 MIL SPACING | 15 26 39 |
| USB_D2P | USB_D2 | USB_D2:::200 | 5 MIL SPACING | 15 26 39 |

USB 2.0

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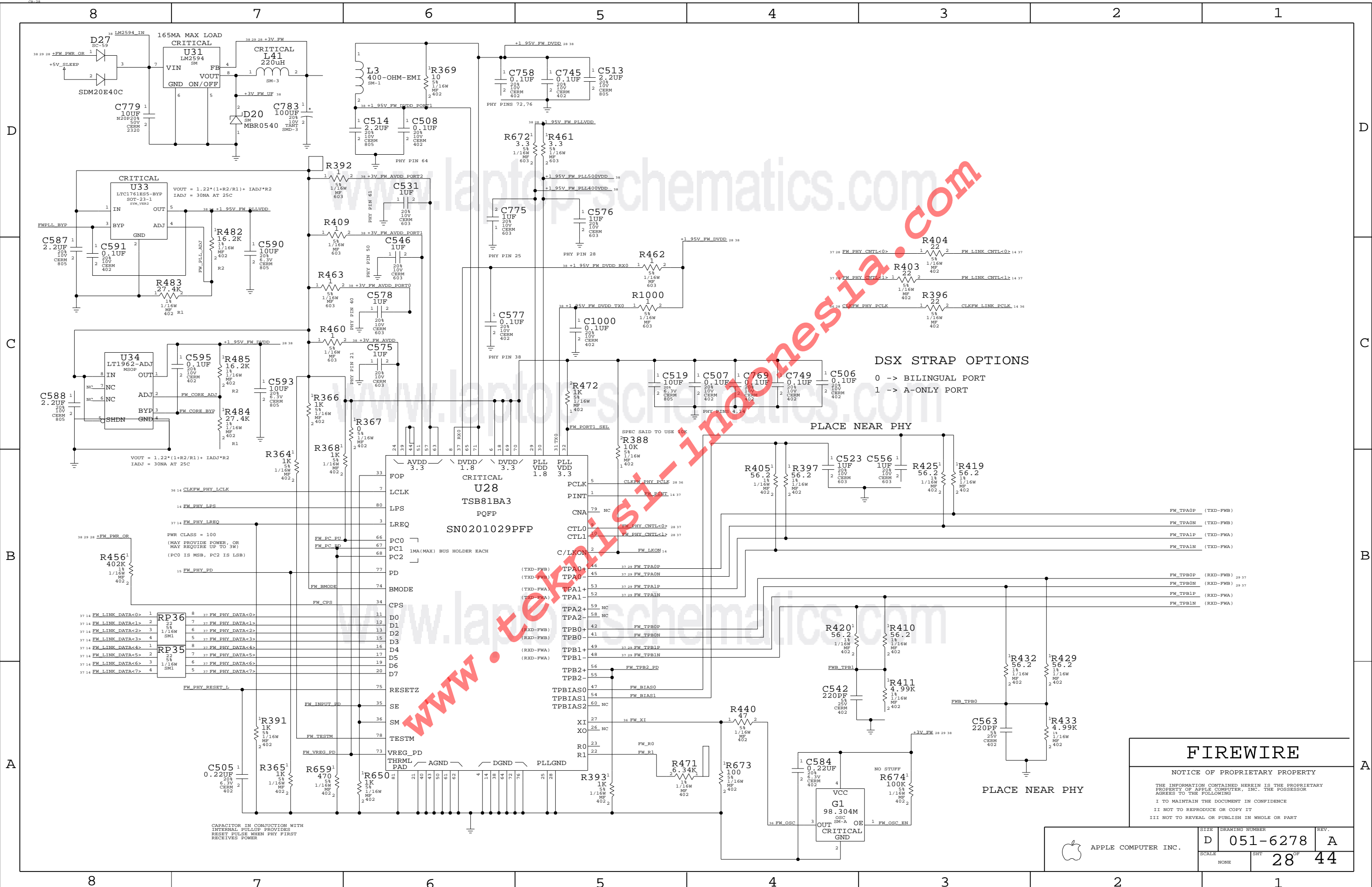
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| NONE | | | |



DSX STRAP OPTIONS

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

PLACE NEAR PHY

PLACE NEAR PHY

FIREWIRE

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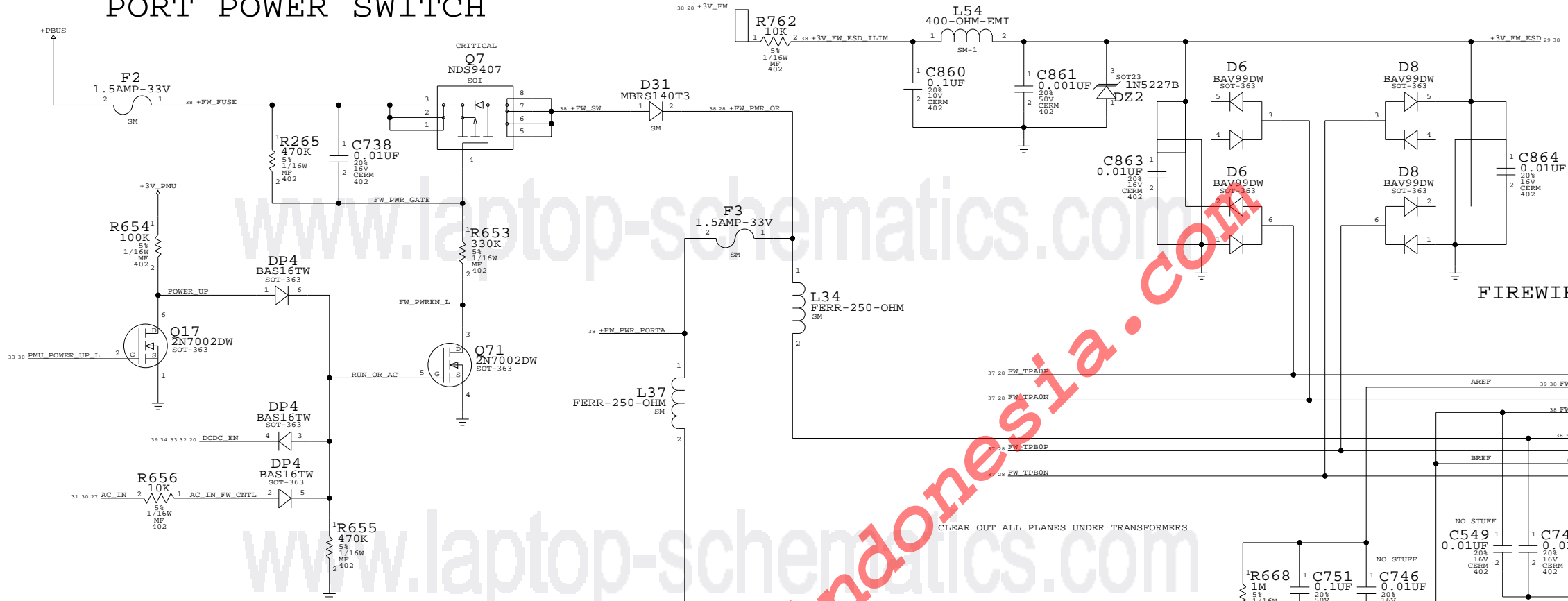
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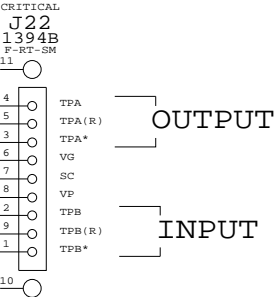
PORT POWER SWITCH



ENABLES PORT POWER WHEN MACHINE IS
RUNNING OR WHEN ASLEEP ON AC

| STATE | PMU_POWER_UP_L | POWER_UP | DCDC_EN | AC_IN | LTC4210_ON |
|-----------------|----------------|----------|----------|---------|------------|
| SHUTDOWN (AC) | 1 | 0 | 0 | 1 | OFF |
| SLEEP (AC) | 1 | 0 | 1 | 1 | ON |
| RUN (AC) | 0 | 1 | 1 | 1 | ON |
| SHUTDOWN (BATT) | 1 | 0 | 0 | 0 | OFF |
| SLEEP (BATT) | 1 | 0 | 1 | 0 | OFF |
| RUN (BATT) | 0 | 1 | 1 | 0 | ON |
| | 2.99V | +3V_PMU | +4_6V_BU | +3V_PMU | |

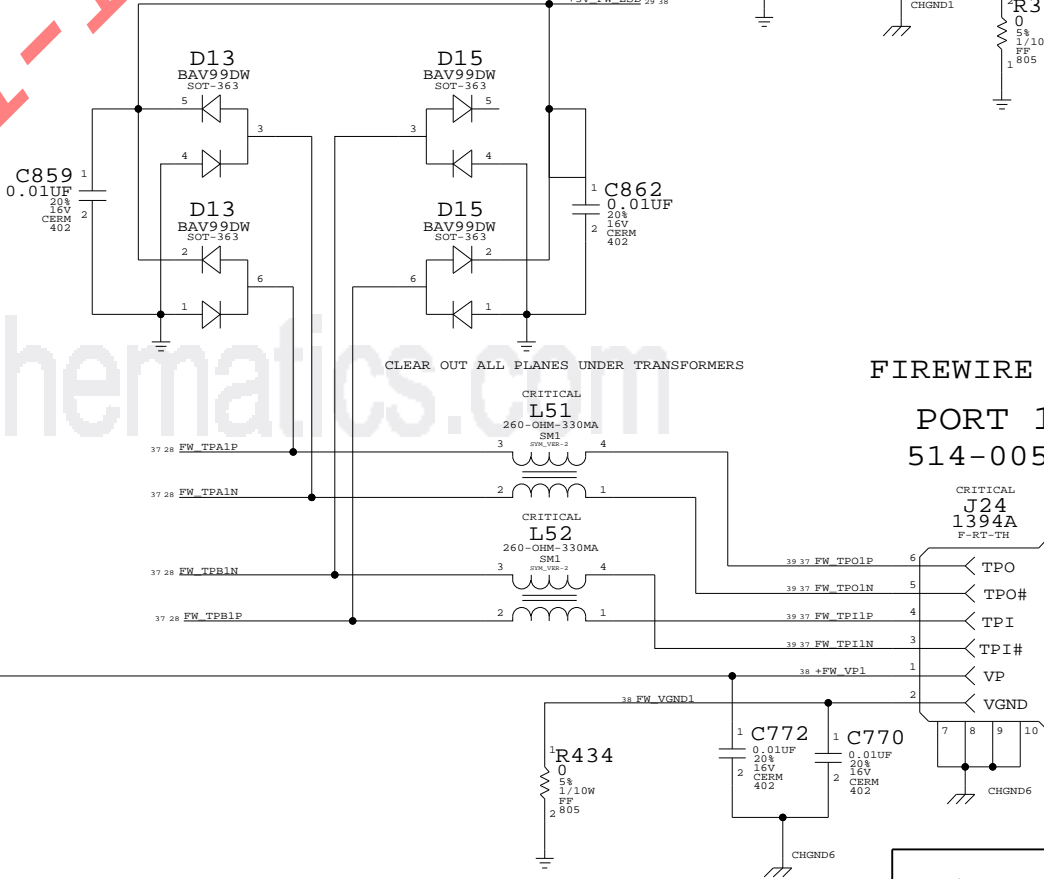
PORT 0
514S0024
FIREWIRE B - BILINGUAL



AREF NEEDS TO BE ISOLATED FROM
ALL LOCAL GROUNDS PER 1394B SPEC
SO WHEN A BILINGUAL DEVICE
IS PLUGGED TO BETA-ONLY DEVICE,
THERE'S NO DC PATH BETWEEN
THEM (TO AVOID GROUND OFFSET ISSUE)

BREF SHOULD BE HARD CONNECTED TO
LOGIC GROUND FOR SPEED SIGNALING
AND CONNECTION DETECTION CURRENTS
PER 1394B V1.33

FIREWIRE A
PORT 1
514-0057



FIREWIRE PORTS

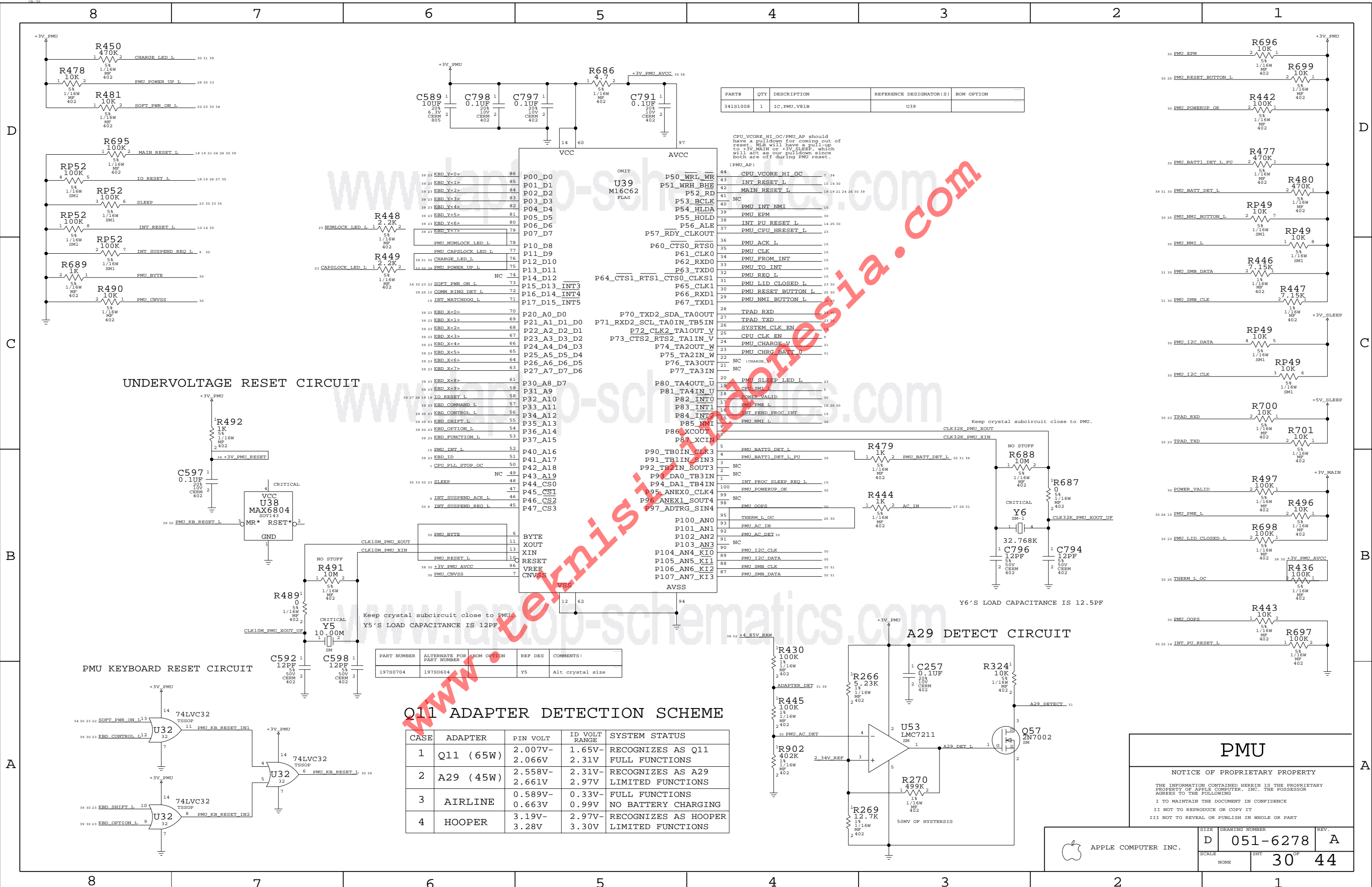
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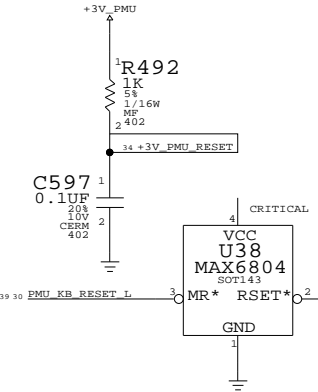
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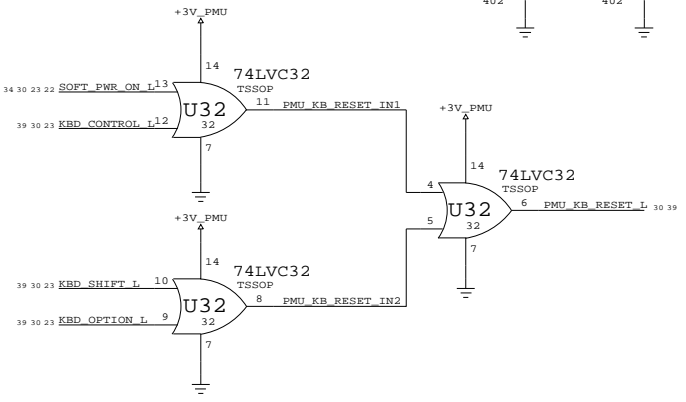
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UNDervoltage RESET CIRCUIT



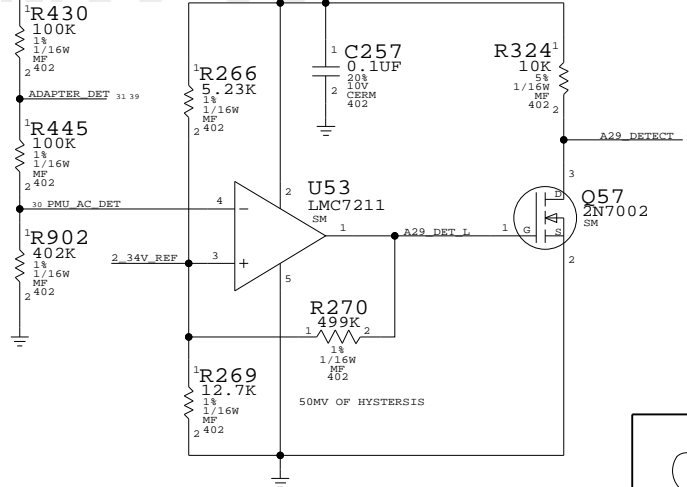
PMU KEYBOARD RESET CIRCUIT



Q11 ADAPTER DETECTION SCHEME

| CASE | ADAPTER | PIN VOLT | ID VOLT RANGE | SYSTEM STATUS |
|------|-----------|---------------|---------------|--|
| 1 | Q11 (65W) | 2.007V-2.066V | 1.65V-2.31V | RECOGNIZES AS Q11 FULL FUNCTIONS |
| 2 | A29 (45W) | 2.558V-2.661V | 2.31V-2.97V | RECOGNIZES AS A29 LIMITED FUNCTIONS |
| 3 | AIRLINE | 0.589V-0.663V | 0.33V-0.99V | FULL FUNCTIONS NO BATTERY CHARGING |
| 4 | HOOPER | 3.19V-3.28V | 2.97V-3.30V | RECOGNIZES AS HOOPER LIMITED FUNCTIONS |

A29 DETECT CIRCUIT



PMU

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DC POWER INPUT

(POWER JACK, ETC. ON SEPARATE BOARD)

CRITICAL

J19
87438-0833
M-RT-SM

DC INRUSH LIMITER

PLACE U24 NEXT TO R382

U24 SENSE VOLTAGE DROP ACROSS R382

1MSEC INTEGRATION TIME

BATTERY SWITCH-OVER CIRCUIT

GREATER THAN 13.5V DETECT

SWITCHER VOLTAGE CONTROL

PMU SELECTS BETWEEN TWO VOLTAGES

SWITCHER CURRENT CONTROL

CHARGE DISABLED BY PMU OR INPUT VOLTAGE <18V

CHARGE THROTTLED BY LOW BATTERY VOLTAGE

OD OUTPUT LOW - WHEN AC GREATER THAN 18V

BATTERY CONNECTOR

CRITICAL

J25
87438-0833
M-RT-SM

BATTERY CHARGER

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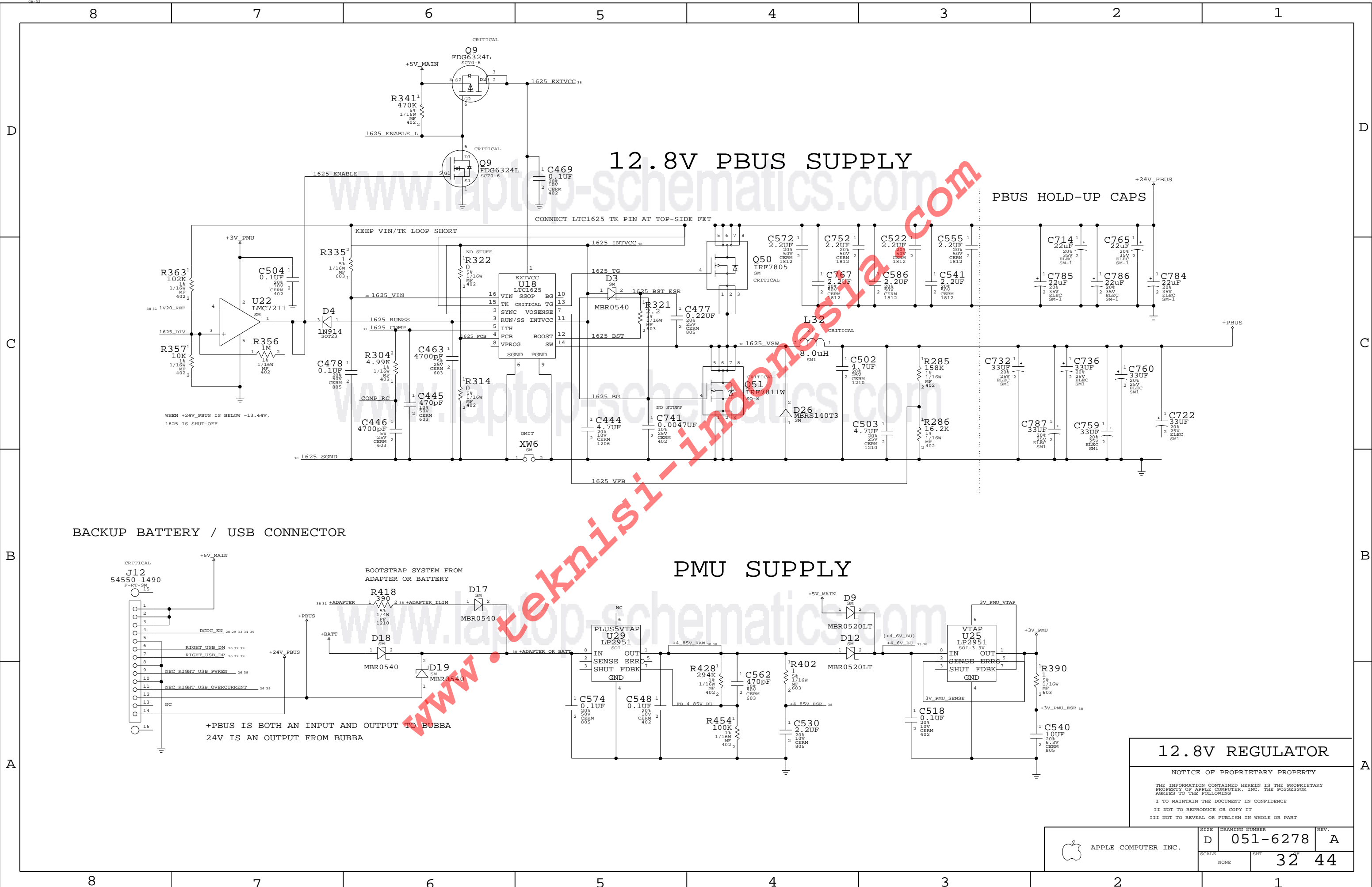
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$$V_{BATT} = CELLS \times (4.096 + (0.4096 \times \frac{V_{VCTL}}{V_{REFIN}}))$$

For 4.15V cells, VCTL = 0.123 REFIN

For 4.20V cells, VCTL = 0.245 REFIN

$$I_{CHG} = (0.2048/R_{62}) \times (\frac{V_{ICTL}}{V_{REFIN}})$$



12.8V PBUS SUPPLY

PBUS HOLD-UP CAPS

BACKUP BATTERY / USB CONNECTOR

PMU SUPPLY

12.8V REGULATOR

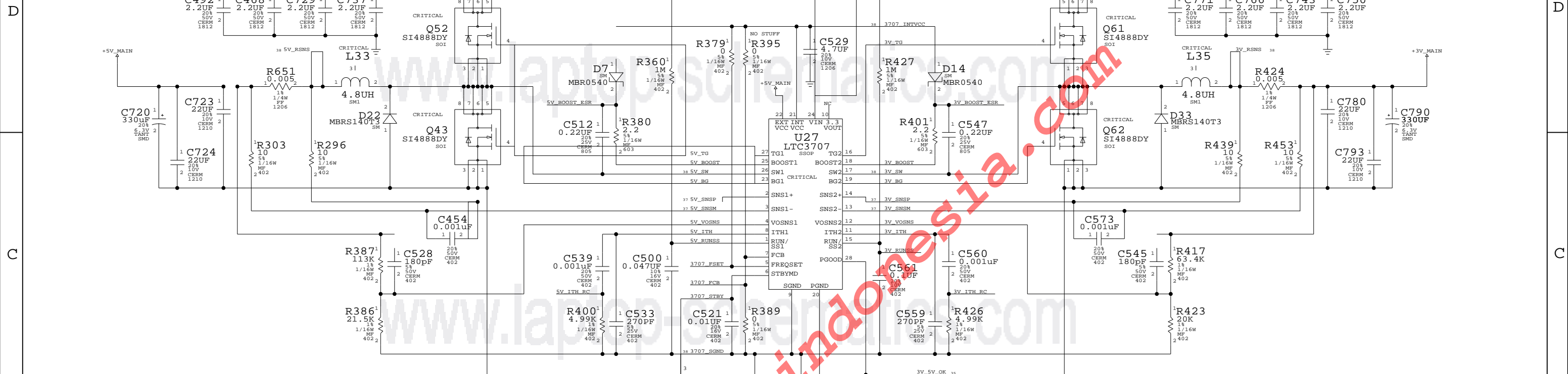
NOTICE OF PROPRIETARY PROPERTY
THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE COMPUTER, INC. THE POSSESSOR AGREES TO THE FOLLOWING
I TO MAINTAIN THE DOCUMENT IN CONFIDENCE
II NOT TO REPRODUCE OR COPY IT
III NOT TO REVEAL OR PUBLISH IN WHOLE OR PART

| | | | |
|-------|----------------|----------|------|
| SCALE | DRAWING NUMBER | | REV. |
| | D | 051-6278 | |
| SHT | | 32 | 44 |



APPLE COMPUTER INC.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
|---|---|---|---|---|---|---|---|



5V START TO TURN ON ~12.5MS AFTER DCDC_EN L

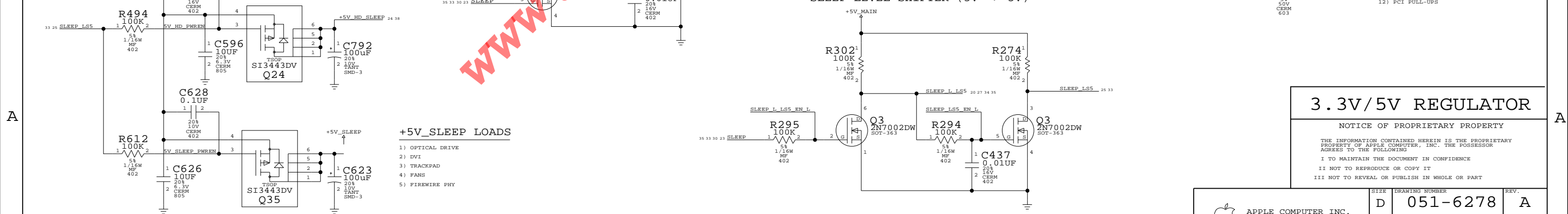
THERE'S NO 10UF INPUT CAP BECAUSE Q21 IS PLACED AT OUTPUT OF +3V_MAIN SWITCHER

POWERDOWN DELAY IS AROUND 4MS-15.6MS

DCDC_EN TRUTH TABLE

+3V_SLEEPS_LOADS

| Signal | Status |
|-------------------------------------|--------|
| CPU PLL Config Control | 0 |
| INTREPID - IIC AND PCI PULL-UPS | 1 |
| MAPI7 - 3V RAIL (IF USING D3COLD) | 1 |
| GRAPHIC CHIP SPREAD SPECTRUM CHIP | 1 |
| LVDS DDC PULL-UPS | 1 |
| DVI LEVEL SHIFTERS & PULL-UPS & HPD | 1 |



3.3V/5V REGULATOR

10V
CERM

+5V SLEEP

+5V SLEEP LOADS

R295
100K

2N7002DW
SOT-363

R294
100K

2N7002DW
SOT-363

NOTICE OF PROPRIETARY PROPERTY

1) OPTICAL DRIVE

1/15W
402
1 C626
10uF

1 2 3
C623
100uF

1 TRACKPAD
2 FANS
3 FANS
4 FANS

402
0.1uF
1 2
10V
2x1
CERM

11 NOT TO REPRODUCE OR COPY IT
111 NOT TO REVEAL OR PUBLISH IN WHOLE OR PART

SIZE DRAWING NUMBER REV.

| | | | | | | | | | |
|--|-----|-----|-------|--|--|--|---|----------|---|
| | 805 | 035 | SMD-3 | | | | D | 051-6278 | A |
|--|-----|-----|-------|--|--|--|---|----------|---|

[illegible]

Q35 D 051-6278 A

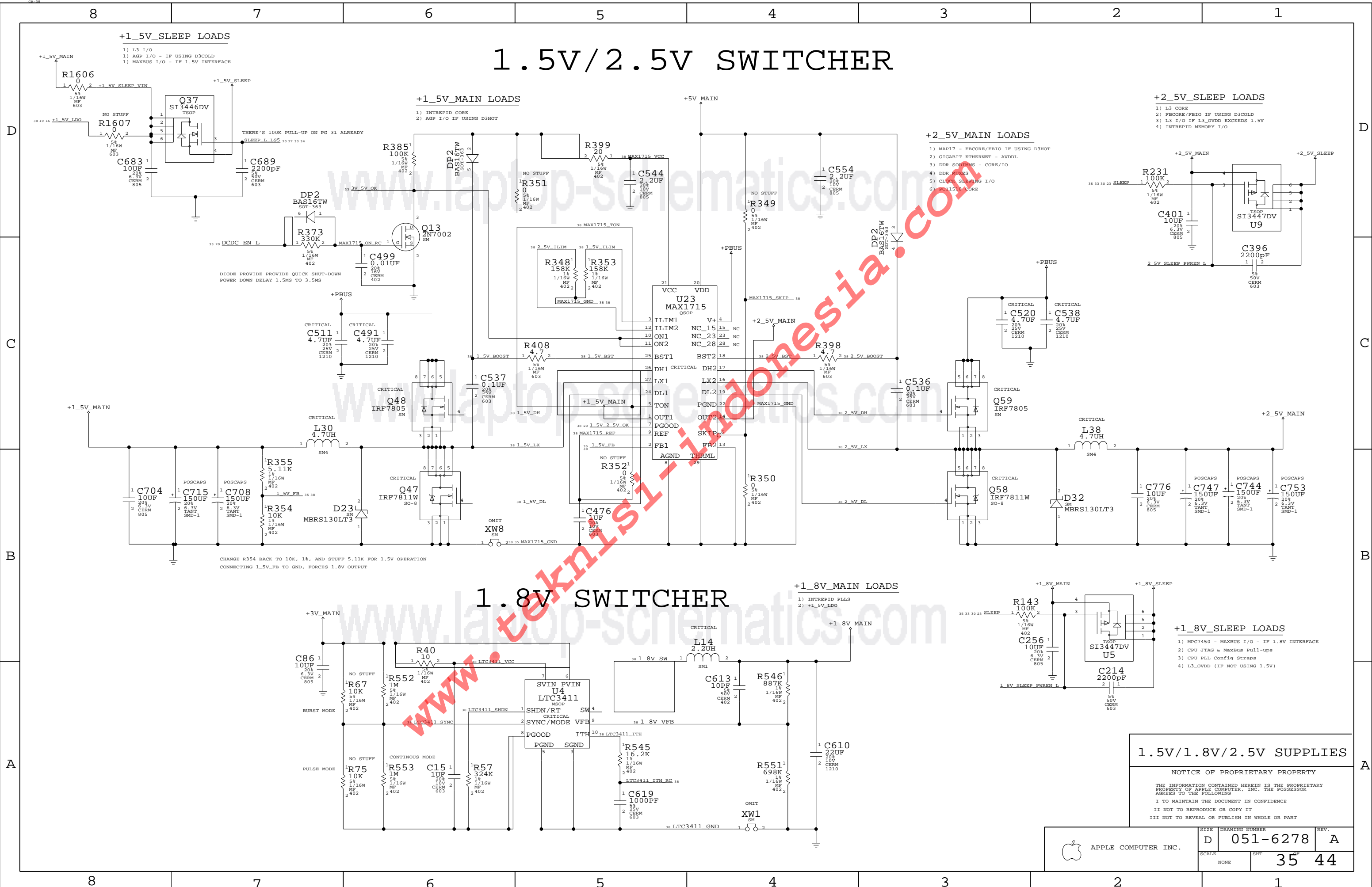
| | | | |
|-------|------|----|--|
| SCALE | GIFT | OF | |
|-------|------|----|--|

| | | | |
|--|------|----|----|
| | NONE | 33 | 44 |
|--|------|----|----|

[illegible]

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
|---|---|---|---|---|---|---|---|

| 5 | 4 | 3 | 2 | 1 |
|---|---|---|---|---|
|---|---|---|---|---|



1.5V/2.5V SWITCHER

1.8V SWITCHER

1.5V/1.8V/2.5V SUPPLIES

NOTICE OF PROPRIETARY PROPERTY

THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE COMPUTER, INC. THE POSSESSOR AGREES TO THE FOLLOWING

I TO MAINTAIN THE DOCUMENT IN CONFIDENCE

II NOT TO REPRODUCE OR COPY IT

III NOT TO REVEAL OR PUBLISH IN WHOLE OR PART

APPLE COMPUTER INC.

| | | | | | |
|-------|------|----------------|----------|------|---|
| SIZE | D | DRAWING NUMBER | 051-6278 | REV. | A |
| SCALE | NONE | SHT | 35 | 44 | |

| 8 | | | | | | | | | | 7 | | | | | | | | | | 6 | | | | | | | | | | 5 | | | | | | | | | | 4 | | | | | | | | | | 3 | | | | | | | | | | 2 | | | | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 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| 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 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | +BATT | VOLTAGE=12.6V | MIN_LINE_WIDTH=25 | MIN_NECK_WIDTH=10 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | +PBUS | VOLTAGE=12.8V | MIN_LINE_WIDTH=25 | MIN_NECK_WIDTH=10 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | +5V_MAIN | VOLTAGE=5V | MIN_LINE_WIDTH=25 | MIN_NECK_WIDTH=10 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | +5V_SLEEP | VOLTAGE=5V | MIN_LINE_WIDTH=25 | MIN_NECK_WIDTH=10 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | +3V_MAIN | VOLTAGE=3.3V | MIN_LINE_WIDTH=25 | MIN_NECK_WIDTH=10 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | +3V_SLEEP | VOLTAGE=3.3V | MIN_LINE_WIDTH=25 | MIN_NECK_WIDTH=6 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | +3V_PMU | VOLTAGE=3.3V | MIN_LINE_WIDTH=25 | MIN_NECK_WIDTH=10 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | +2.5V_MAIN | VOLTAGE=2.5V | MIN_LINE_WIDTH=25 | MIN_NECK_WIDTH=10 | | | | | | | | | | | | | | | | | | | | | | | |
| C | ADAPTER | | +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 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | +1.8V_SLEEP | VOLTAGE=1.8V | MIN_LINE_WIDTH=25 | MIN_NECK_WIDTH=10 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | +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 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | +1.5V_LDO | VOLTAGE=1.5V | MIN_LINE_WIDTH=25 | MIN_NECK_WIDTH=10 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | +1.5V_SLEEP_VIN | VOLTAGE=1.5V | MIN_LINE_WIDTH=25 | MIN_NECK_WIDTH=10 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | +ADAPTER | VOLTAGE=24V | MIN_LINE_WIDTH=50 | MIN_NECK_WIDTH=10 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | +ADAPTER_SW | VOLTAGE=24V | MIN_LINE_WIDTH=50 | MIN_NECK_WIDTH=10 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | +ADAPTER_SENSE | VOLTAGE=24V | MIN_LINE_WIDTH=50 | MIN_NECK_WIDTH=10 | | | | | | | | | | | | | | | | | | | | | | | |
| B | BATTERY CHARGER | | +BATT_POS | VOLTAGE=16.8V | MIN_LINE_WIDTH=25 | MIN_NECK_WIDTH=10 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | BATT_NEG | VOLTAGE=0V | MIN_LINE_WIDTH=25 | MIN_NECK_WIDTH=10 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | 1772_PGIN | VOLTAGE=24V | MIN_LINE_WIDTH=10 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | 1772_LX | VOLTAGE=12.6V | MIN_LINE_WIDTH=25 | MIN_NECK_WIDTH=10 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | +BATT_14V_FUSE | VOLTAGE=12.6V | MIN_LINE_WIDTH=25 | MIN_NECK_WIDTH=10 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | +BATT_24V_FUSE | VOLTAGE=12.6V | MIN_LINE_WIDTH=25 | MIN_NECK_WIDTH=10 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | +BATT_RSNS | VOLTAGE=12.6V | MIN_LINE_WIDTH=25 | MIN_NECK_WIDTH=10 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | +BATT_VSNS | VOLTAGE=12.6V | MIN_LINE_WIDTH=10 | MIN_NECK_WIDTH=10 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | 1772_LDO | VOLTAGE=5.4V | MIN_LINE_WIDTH=10 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | 1772_PDOV | VOLTAGE=5.4V | MIN_LINE_WIDTH=10 | | | | | | | | | | | | | | | | | | | | | | | | |
| A | PMU | | 1772_GND | VOLTAGE=0V | MIN_LINE_WIDTH=10 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | +ADAPTER_ILIM | VOLTAGE=24V | MIN_LINE_WIDTH=10 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | +ADAPTER_OR_BATT | VOLTAGE=24V | MIN_LINE_WIDTH=10 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | +4.85V_RAW | VOLTAGE=4.85V | MIN_LINE_WIDTH=10 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | +4.6V_BU | VOLTAGE=4.6V | MIN_LINE_WIDTH=10 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | +4.85V_ESR | VOLTAGE=4.85V | MIN_LINE_WIDTH=10 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | +3V_PMU_ESR | VOLTAGE=3.3V | MIN_LINE_WIDTH=10 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | +3V_PMU_AVCC | VOLTAGE=3.3V | MIN_LINE_WIDTH=10 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | +5V_HD_SLEEP | VOLTAGE=5V | MIN_LINE_WIDTH=25 | MIN_NECK_WIDTH=10 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | +HD_LOGIC_SLEEP | VOLTAGE=3.3V | MIN_LINE_WIDTH=25 | MIN_NECK_WIDTH=10 | | | | | | | | | | | | | | | | | | | | | | | |
| | MISC HD | | +5V_TP4D_SLEEP | VOLTAGE=5V | MIN_LINE_WIDTH=10 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | +3V_HALL_EFFECT | VOLTAGE=3.3V | MIN_LINE_WIDTH=10 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | +12.8V_INV | VOLTAGE=12.8V | MIN_LINE_WIDTH=25 | MIN_NECK_WIDTH=10 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | +5V_INV_UP_SW | VOLTAGE=5V | MIN_LINE_WIDTH=25 | MIN_NECK_WIDTH=10 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | +5V_INV_SW | VOLTAGE=5V | MIN_LINE_WIDTH=25 | MIN_NECK_WIDTH=10 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | +5V_DDC_SLEEP | VOLTAGE=5V | MIN_LINE_WIDTH=15 | MIN_NECK_WIDTH=10 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | +5V_DDC_SLEEP_UP | VOLTAGE=5V | MIN_LINE_WIDTH=15 | MIN_NECK_WIDTH=10 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | +3V_LCD | VOLTAGE=3.3V | MIN_LINE_WIDTH=12 | MIN_NECK_WIDTH=10 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | +3V_LCD_SW | VOLTAGE=3.3V | MIN_LINE_WIDTH=25 | MIN_NECK_WIDTH=10 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | GPU_TV_GND1 | VOLTAGE=0V | MIN_LINE_WIDTH=25 | | | | | | | | | | | | | | | | | | | | | | | | |
| | KB LED | | GPU_TV_GND2 | VOLTAGE=0V | MIN_LINE_WIDTH=25 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | TV_GND1 | VOLTAGE=0V | MIN_LINE_WIDTH=25 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | TV_GND2 | VOLTAGE=0V | MIN_LINE_WIDTH=25 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | KBD_LED1_OUT | VOLTAGE=0V | MIN_LINE_WIDTH=10 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | KBD_LED2_OUT | VOLTAGE=0V | MIN_LINE_WIDTH=10 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | FAN1_GND | VOLTAGE=0V | MIN_LINE_WIDTH=25 | MIN_NECK_WIDTH=10 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | FAN2_GND | VOLTAGE=0V | MIN_LINE_WIDTH=25 | MIN_NECK_WIDTH=10 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | +5V_SOUND_SLEEP | VOLTAGE=5V | MIN_LINE_WIDTH=25 | MIN_NECK_WIDTH=10 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | SND_AGND | VOLTAGE=0V | MIN_LINE_WIDTH=25 | MIN_NECK_WIDTH=15 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | I/O AREA | VOLTAGE=0V | MIN_LINE_WIDTH=25 | MIN_NECK_WIDTH=12_CHGND1 | | | | | | | | | | | | | | | | | | | | | | | |
| | INVERTER | | CHGND1 | VOLTAGE=0V | MIN_LINE_WIDTH=25 | MIN_NECK_WIDTH=12_CHGND2 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | CHGND2 | VOLTAGE=0V | MIN_LINE_WIDTH=25 | MIN_NECK_WIDTH=12_CHGND3 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | CHGND3 | VOLTAGE=0V | MIN_LINE_WIDTH=25 | MIN_NECK_WIDTH=12_CHGND4 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | CHGND4 | VOLTAGE=0V | MIN_LINE_WIDTH=25 | MIN_NECK_WIDTH=12_CHGND5 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | CHGND5 | VOLTAGE=0V | MIN_LINE_WIDTH=25 | MIN_NECK_WIDTH=12_CHGND6 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | CHGND6 | VOLTAGE=0V | MIN_LINE_WIDTH=25 | MIN_NECK_WIDTH=12 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | ENET_CTAP_CHGND | VOLTAGE=0V | MIN_LINE_WIDTH=25 | MIN_NECK_WIDTH=12 | | | | | | | | | | | | | | | | | | | | | | | |
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| FUNCTIONAL TEST POINTS | | | | | | | | | | | | | | | | | | | | | | |
| D | FUNC_TEST=YES JTAG ASIC TMS 14 27 | FUNC_TEST=YES TMS_CONN_CLKP 22 37 | FUNC_TEST=YES TV_C 22 | FUNC_TEST=TRUE PCI_AD<7> 10 13 18 24 26 37 | FUNC_TEST=YES PCI_PAR 13 18 24 26 37 | FUNC_TEST=TRUE EIDE_OPTICAL_CS0_L 24 37 | FUNC_TEST=TRUE KBD_X<9> 23 30 | | | | | | | | | | | | | | | |
| | FUNC_TEST=YES JTAG ASIC TDI 14 | FUNC_TEST=YES VGA_R 22 | FUNC_TEST=TRUE TV_Y 22 | FUNC_TEST=TRUE PCI_AD<8> 10 13 18 24 26 37 | FUNC_TEST=TRUE PCI_CBE<0> 13 18 24 26 37 | FUNC_TEST=TRUE EIDE_OPTICAL_CS1_L 24 37 | FUNC_TEST=TRUE KBD_Y<0> 23 30 | | | | | | | | | | | | | | | |
| | FUNC_TEST=YES JTAG ASIC TDO_TP 27 | FUNC_TEST=YES VGA_G 22 | FUNC_TEST=TRUE TV_COME 22 | FUNC_TEST=TRUE PCI_AD<9> 10 13 18 24 26 37 | FUNC_TEST=TRUE PCI_CBE<1> 13 18 24 26 37 | FUNC_TEST=TRUE EIDE_OPTICAL_RST_L 24 37 | FUNC_TEST=TRUE KBD_Y<1> 23 30 | FUNC_TEST=TRUE FW_TP0LP 29 37 | | | | | | | | | | | | | | |
| | FUNC_TEST=YES JTAG ASIC TCK 14 27 | FUNC_TEST=YES VGA_B 22 | FUNC_TEST=TRUE SND_TO_AUDIO 15 25 | FUNC_TEST=TRUE PCI_AD<10> 10 13 18 24 26 37 | FUNC_TEST=TRUE PCI_CBE<2> 13 18 24 26 37 | FUNC_TEST=TRUE EIDE_OPTICAL_WR_L 24 37 | FUNC_TEST=TRUE KBD_Y<2> 23 30 | FUNC_TEST=TRUE FW_TP0IN 29 37 | | | | | | | | | | | | | | |
| | FUNC_TEST=YES JTAG ASIC TRST_L 14 27 | FUNC_TEST=YES VGA_VSYNC 21 22 | FUNC_TEST=TRUE SND_SYNC 15 25 | FUNC_TEST=TRUE PCI_AD<11> 10 13 18 24 26 37 | FUNC_TEST=TRUE PCI_CBE<3> 13 18 24 26 37 | FUNC_TEST=TRUE EIDE_OPTICAL_IOCHRDY 24 37 | FUNC_TEST=TRUE KBD_Y<3> 23 30 | FUNC_TEST=TRUE FW_TP1LP 29 37 | | | | | | | | | | | | | | |
| | FUNC_TEST=YES CPU_CHKSTP_OUT_L 5 | FUNC_TEST=YES VGA_HSYNC 21 22 | FUNC_TEST=TRUE SND_CLKOUT 15 25 36 | FUNC_TEST=TRUE PCI_AD<12> 10 13 18 24 26 37 | FUNC_TEST=TRUE AIRPORT_PCI_REQ_L 13 24 | FUNC_TEST=TRUE EIDE_OPTICAL_INT 24 37 | FUNC_TEST=TRUE KBD_Y<4> 23 30 | FUNC_TEST=TRUE FW_TP1IN 29 37 | | | | | | | | | | | | | | |
| | FUNC_TEST=YES CPU_SRESET_L 5 | FUNC_TEST=TRUE DVI_DDC_CLK_UP 22 | FUNC_TEST=TRUE SND_HP_MUTE_L 15 25 | FUNC_TEST=TRUE PCI_AD<13> 10 13 18 24 26 37 | FUNC_TEST=TRUE AIRPORT_PCI_GNT_L 13 24 | FUNC_TEST=TRUE TPAD_F_TXD 23 | FUNC_TEST=TRUE KBD_Y<5> 23 30 | FUNC_TEST=TRUE CHARGE_LED_L 30 31 | | | | | | | | | | | | | | |
| | FUNC_TEST=YES CPU_HRESET_L 5 7 23 | FUNC_TEST=TRUE DVI_DDC_DATA_UP 22 | FUNC_TEST=TRUE SND_AMP_MUTE_L 15 25 | FUNC_TEST=TRUE PCI_AD<14> 10 13 18 24 26 37 | FUNC_TEST=TRUE AIRPORT_PCI_INT_L 15 24 | FUNC_TEST=TRUE TPAD_F_RXD 23 | FUNC_TEST=TRUE KBD_Y<6> 23 30 | FUNC_TEST=TRUE ADAPTER_DET 30 31 | | | | | | | | | | | | | | |
| | FUNC_TEST=YES JTAG_CPU_TMS 5 23 | FUNC_TEST=TRUE DVI_HPD_UP 22 | FUNC_TEST=TRUE INT_AUDIO_TO_SND 15 25 | FUNC_TEST=TRUE PCI_AD<15> 10 13 18 24 26 37 | FUNC_TEST=TRUE EIDE_OPTICAL_DATA<0> 24 37 | FUNC_TEST=TRUE LID_CLOSED_L 23 | FUNC_TEST=TRUE KBD_Y<7> 23 30 | FUNC_TEST=TRUE SUTRO_ALS_GAIN_SW 23 24 | | | | | | | | | | | | | | |
| | FUNC_TEST=YES JTAG_CPU_TDI 5 23 | FUNC_TEST=TRUE LVDS_L0N 20 22 37 | FUNC_TEST=TRUE SND_SCLK 15 25 36 | FUNC_TEST=TRUE PCI_AD<16> 10 13 18 24 26 37 | FUNC_TEST=TRUE EIDE_OPTICAL_DATA<1> 24 37 | FUNC_TEST=TRUE COMM_RESET_L 15 25 | FUNC_TEST=TRUE KBD_NUMLOCK_LED 23 | FUNC_TEST=TRUE SUTRO_ALS_OUT 23 24 | | | | | | | | | | | | | | |
| C | FUNC_TEST=YES JTAG_CPU_TDO_TP 5 | FUNC_TEST=TRUE LVDS_L0P 20 22 37 | FUNC_TEST=TRUE SND_HW_RESET_L 15 25 | FUNC_TEST=TRUE PCI_AD<17> 10 13 18 24 26 37 | FUNC_TEST=TRUE EIDE_OPTICAL_DATA<2> 24 37 | FUNC_TEST=TRUE COMM_SHUTDOWN 15 25 | FUNC_TEST=TRUE +BATT_POS 31 38 | FUNC_TEST=TRUE KBD_LED1_OUT 23 38 | | | | | | | | | | | | | | |
| | FUNC_TEST=YES JTAG_CPU_TCK 5 23 | FUNC_TEST=TRUE LVDS_L1N 20 22 37 | FUNC_TEST=TRUE SND_HP_SENSE_L 15 25 | FUNC_TEST=TRUE PCI_AD<18> 10 13 18 24 26 37 | FUNC_TEST=TRUE EIDE_OPTICAL_DATA<3> 24 37 | FUNC_TEST=TRUE COMM_RING_DET_L 15 25 30 | FUNC_TEST=TRUE BATT_CLK 31 | FUNC_TEST=TRUE KBD_LED2_OUT 23 38 | | | | | | | | | | | | | | |
| | FUNC_TEST=YES JTAG_CPU_TEST_L 5 23 | FUNC_TEST=TRUE LVDS_L1P 20 22 37 | FUNC_TEST=TRUE SND_L1N_SENSE_L 15 25 | FUNC_TEST=TRUE PCI_AD<19> 10 13 18 24 26 37 | FUNC_TEST=TRUE EIDE_OPTICAL_DATA<4> 24 37 | FUNC_TEST=TRUE KBD_ID 23 30 | FUNC_TEST=TRUE BATT_DATA 31 | FUNC_TEST=TRUE COMM_TXD_L 15 25 | | | | | | | | | | | | | | |
| | FUNC_TEST=YES JTAG_L3_TMS 8 | FUNC_TEST=TRUE LVDS_L2N 20 22 37 | FUNC_TEST=TRUE INT_I2C_DATA2 15 25 | FUNC_TEST=TRUE PCI_AD<20> 10 13 18 24 26 37 | FUNC_TEST=TRUE EIDE_OPTICAL_DATA<5> 24 37 | FUNC_TEST=TRUE +5V_TPAD_SLEEP 23 38 | FUNC_TEST=TRUE BATT_NEG 31 38 | FUNC_TEST=TRUE COMM_TRXC 15 25 | | | | | | | | | | | | | | |
| | FUNC_TEST=YES JTAG_L3_TDI_TP 8 | FUNC_TEST=TRUE LVDS_L2P 20 22 37 | FUNC_TEST=TRUE INT_I2C_CLK2 15 25 | FUNC_TEST=TRUE PCI_AD<21> 10 13 18 24 26 37 | FUNC_TEST=TRUE EIDE_OPTICAL_DATA<6> 24 37 | FUNC_TEST=TRUE +3V_HALL_EFFECT 23 38 | FUNC_TEST=TRUE PMU_BATT_DET_L 30 31 | FUNC_TEST=TRUE COMM_GPIO_L 15 25 | | | | | | | | | | | | | | |
| | FUNC_TEST=YES JTAG_L3_TDO_TP 8 | FUNC_TEST=TRUE CLKLVDS_LN 20 22 37 | FUNC_TEST=TRUE USB_D1M 15 26 | FUNC_TEST=TRUE PCI_AD<22> 10 13 18 24 26 37 | FUNC_TEST=TRUE EIDE_OPTICAL_DATA<7> 24 37 | FUNC_TEST=TRUE KBD_CAPSLOCK_LED 23 | FUNC_TEST=TRUE FAN1_GND 25 38 | FUNC_TEST=TRUE COMM_DTR_L 15 25 | | | | | | | | | | | | | | |
| | FUNC_TEST=YES JTAG_L3_TCK 8 | FUNC_TEST=TRUE CLKLVDS_LP 20 22 37 | FUNC_TEST=TRUE USB_D1P 15 26 | FUNC_TEST=TRUE PCI_AD<23> 10 13 18 24 26 37 | FUNC_TEST=TRUE EIDE_OPTICAL_DATA<8> 24 37 | FUNC_TEST=TRUE KBD_FUNCTION_L 23 30 | FUNC_TEST=TRUE FAN1_TACH 25 | FUNC_TEST=TRUE COMM_RTS_L 15 25 | | | | | | | | | | | | | | |
| | FUNC_TEST=YES INT_I2C_CLK0 12 14 23 | FUNC_TEST=TRUE LVDS_U0N 20 22 37 | NO LONGER NEEDED BY TEST GROUP | | FUNC_TEST=TRUE PCI_AD<24> 10 13 18 24 26 37 | FUNC_TEST=TRUE EIDE_OPTICAL_DATA<9> 24 37 | FUNC_TEST=TRUE KBD_CONTROL_L 23 30 | FUNC_TEST=TRUE FAN2_GND 25 38 | FUNC_TEST=TRUE COMM_RXD 15 25 | | | | | | | | | | | | | |
| | FUNC_TEST=YES INT_I2C_DATA0 12 14 23 | FUNC_TEST=TRUE LVDS_U0P 20 22 37 | FUNC_TEST=TRUE USB_D2M 15 26 | FUNC_TEST=TRUE PCI_AD<25> 10 13 18 24 26 37 | FUNC_TEST=TRUE EIDE_OPTICAL_DATA<10> 24 37 | FUNC_TEST=TRUE KBD_COMMAND_L 23 30 | FUNC_TEST=TRUE FAN2_TACH 25 | FUNC_TEST=TRUE PMU_KB_RESET_L 30 | | | | | | | | | | | | | | |
| | FUNC_TEST=YES INT_I2C_CLK1 14 15 25 | FUNC_TEST=TRUE LVDS_U1N 20 22 37 | FUNC_TEST=TRUE BT_USB_DM 15 24 37 | FUNC_TEST=TRUE PCI_AD<26> 10 13 18 24 26 37 | FUNC_TEST=TRUE EIDE_OPTICAL_DATA<11> 24 37 | FUNC_TEST=TRUE KBD_OPTION_L 23 30 | FUNC_TEST=TRUE RJ45_DP<0> 27 37 | FUNC_TEST=TRUE PWR_BUTTON_L 23 25 | | | | | | | | | | | | | | |
| B | FUNC_TEST=YES INT_I2C_DATA1 14 15 25 | FUNC_TEST=TRUE LVDS_U1P 20 22 37 | FUNC_TEST=TRUE BT_USB_DP 15 24 37 | FUNC_TEST=TRUE PCI_AD<27> 10 13 18 24 26 37 | FUNC_TEST=TRUE EIDE_OPTICAL_DATA<12> 24 37 | FUNC_TEST=TRUE KBD_SHIFT_L 23 30 | FUNC_TEST=TRUE RJ45_DN<0> 27 37 | FUNC_TEST=TRUE +PBUS 38 | | | | | | | | | | | | | | |
| | FUNC_TEST=YES CBUS_DET_1_L 18 | FUNC_TEST=TRUE LVDS_U2N 20 22 37 | FUNC_TEST=TRUE MODEM_USB_DM 15 25 37 | FUNC_TEST=TRUE PCI_AD<28> 10 13 18 24 26 37 | FUNC_TEST=TRUE EIDE_OPTICAL_DATA<13> 24 37 | FUNC_TEST=TRUE KBD_X<0> 23 30 | FUNC_TEST=TRUE RJ45_DP<1> 27 37 | FUNC_TEST=TRUE GPU_VCORE 20 38 | | | | | | | | | | | | | | |
| | FUNC_TEST=YES CBUS_DET_2_L 18 | FUNC_TEST=TRUE LVDS_U2P 20 22 37 | FUNC_TEST=TRUE MODEM_USB_DP 15 25 37 | FUNC_TEST=TRUE PCI_AD<29> 10 13 18 24 26 37 | FUNC_TEST=TRUE EIDE_OPTICAL_DATA<14> 24 37 | FUNC_TEST=TRUE KBD_X<1> 23 30 | FUNC_TEST=TRUE RJ45_DN<1> 27 37 | FUNC_TEST=TRUE CPU_VCORE_SLEEP 5 34 38 | | | | | | | | | | | | | | |
| | FUNC_TEST=TRUE TMS_DP<0> 20 21 22 37 | FUNC_TEST=TRUE CLKLVDS_UN 20 22 37 | FUNC_TEST=TRUE PCI_AD<30> 10 13 18 24 26 37 | FUNC_TEST=TRUE PCI_AD<31> 10 13 18 24 26 37 | FUNC_TEST=TRUE EIDE_OPTICAL_DATA<15> 24 37 | FUNC_TEST=TRUE KBD_X<2> 23 30 | FUNC_TEST=TRUE RJ45_DP<2> 27 37 | FUNC_TEST=TRUE VCORE_FB 34 38 | | | | | | | | | | | | | | |
| | FUNC_TEST=TRUE TMS_DP<1> 20 21 22 37 | FUNC_TEST=TRUE CLKLVDS_UP 20 22 37 | FUNC_TEST=TRUE PCI_AD<1> 10 13 18 24 26 37 | FUNC_TEST=TRUE PCI_AD<2> 10 13 18 24 26 37 | FUNC_TEST=TRUE EIDE_OPTICAL_DMA_RQ 24 36 24 37 | FUNC_TEST=TRUE KBD_X<3> 23 30 | FUNC_TEST=TRUE RJ45_DN<2> 27 37 | FUNC_TEST=TRUE +1_8V_MAIN 38 | | | | | | | | | | | | | | |
| | FUNC_TEST=TRUE TMS_DP<2> 20 21 22 37 | FUNC_TEST=TRUE LVDS_DDC_CLK 20 22 | FUNC_TEST=TRUE PCI_AD<3> 10 13 18 24 26 37 | FUNC_TEST=TRUE PCI_FRAME_L 13 18 24 26 37 | FUNC_TEST=TRUE EIDE_OPTICAL_RD_L 24 36 24 37 | FUNC_TEST=TRUE KBD_X<4> 23 30 | FUNC_TEST=TRUE RJ45_DP<3> 27 37 | FUNC_TEST=TRUE +3V_PMU 38 | | | | | | | | | | | | | | |
| | FUNC_TEST=TRUE TMS_DP<3> 20 21 22 37 | FUNC_TEST=TRUE LVDS_DDC_DATA 20 22 | FUNC_TEST=TRUE PCI_AD<4> 10 13 18 24 26 37 | FUNC_TEST=TRUE PCI_TRDY_L 13 18 24 26 37 | FUNC_TEST=TRUE EIDE_OPTICAL_DMAACK_L 24 36 24 37 | FUNC_TEST=TRUE KBD_X<5> 23 30 | FUNC_TEST=TRUE RJ45_DN<3> 27 37 | FUNC_TEST=TRUE +5V_DDC_SLEEP 22 38 | | | | | | | | | | | | | | |
| | FUNC_TEST=TRUE TMS_DP<4> 20 21 22 37 | FUNC_TEST=TRUE BRIGHT_PWM 22 | FUNC_TEST=TRUE PCI_AD<5> 10 13 18 24 26 37 | FUNC_TEST=TRUE PCI_IRDY_L 13 18 24 26 37 | FUNC_TEST=TRUE EIDE_OPTICAL_ADDR<0> 24 37 | FUNC_TEST=TRUE KBD_X<6> 23 30 | FUNC_TEST=TRUE RJ45_DP<4> 27 37 | FUNC_TEST=TRUE +12_8V_INV 22 38 | | | | | | | | | | | | | | |
| | FUNC_TEST=TRUE TMS_DP<5> 20 21 22 37 | FUNC_TEST=TRUE TV_GND1 22 38 | FUNC_TEST=TRUE PCI_AD<6> 10 13 18 24 26 37 | FUNC_TEST=TRUE PCI_DEVSEL_L 13 18 24 26 37 | FUNC_TEST=TRUE EIDE_OPTICAL_ADDR<1> 24 37 | FUNC_TEST=TRUE KBD_X<7> 23 30 | FUNC_TEST=TRUE FW_TPOOR 29 38 | <div>NOTICE OF PROPRIETARY PROPERTY</div> <div>THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE COMPUTER, INC. THE POSSESSOR AGREES TO THE FOLLOWING</div> <div>I TO MAINTAIN THE DOCUMENT IN CONFIDENCE</div> <div>II NOT TO REPRODUCE OR COPY IT</div> <div>III NOT TO REVEAL OR PUBLISH IN WHOLE OR PART</div> | | | | | | | | | | | | | | |
| | FUNC_TEST=YES TMS_CONN_CLKN 22 37 | FUNC_TEST=TRUE TV_GND2 22 38 | FUNC_TEST=TRUE PCI_AD<6> 10 13 18 24 26 37 | FUNC_TEST=TRUE PCI_STOP_L 13 18 24 26 37 | FUNC_TEST=TRUE EIDE_OPTICAL_ADDR<2> 24 37 | FUNC_TEST=TRUE KBD_X<8> 23 30 | | | | | | | | | | | | | | | | |
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| *** Unit Cross-Reference *** --- For the entire design --- | | | | | | | | C167 CAP 1783 C168 CAP 1703 C169 CAP 1702 C170 CAP 1904 C171 CAP 3402 C172 CAP 507 C173 CAP 506 C174 CAP 3401 C175 CAP 1702 C176 CAP 1505 C177 CAP 3401 C178 CAP 1505 C179 CAP 504 C180 CAP 1704 C181 CAP 1708 C182 CAP 1707 C183 CAP 1505 C184 CAP 1706 C185 CAP 1701 C186 CAP 1545 C187 CAP 1703 C188 CAP 1702 C189 CAP 1703 C190 CAP 1702 C191 CAP 1701 C192 CAP 1701 C193 CAP 1705 C194 CAP 1702 C195 CAP 1703 C196 CAP 1905 C197 CAP 2005 C198 CAP 1905 C199 CAP 504 C200 CAP 507 C201 CAP 506 C202 CAP 506 C203 CAP 505 C204 CAP 1701 C205 CAP 1706 C206 CAP 1702 C207 CAP 1702 C208 CAP 1706 C209 CAP 1707 C210 CAP 1703 C211 CAP 2104 C212 CAP 2005 C213 CAP 1703 C214 CAP 3524 C215 CAP 1708 C216 CAP 1706 C217 CAP 1706 C218 CAP 1707 C219 CAP 1707 C220 CAP 1705 C221 CAP 1703 C222 CAP 1703 C223 CAP 1703 C224 CAP 1703 C225 CAP 1703 C226 CAP 1384 C227 CAP 1783 C228 CAP 1787 C229 CAP 1787 C230 CAP 1787 C231 CAP 2104 C232 CAP 2104 C233 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| | R107 RES 1308 | R276 RES 2086 | R444 RES 3082 | R612 RES 2203 | R892 RES 1586 | | | | | | | | | R992 RES 3085 | 272 MYHOLE 404 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R108 RES 981 | R277 RES 2088 | R445 RES 30A4 | R613 RES 21A5 | R1000 RES 28C5 | | | | | | | | | R1001 RES 28C6 | 273 MYHOLE 404 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R109 RES 987 | R278 RES 27C7 | R446 RES 30C1 | R614 RES 21A4 | R1150 RES 13C8 | | | | | | | | | R1151 RES 13C9 | 274 MYHOLE 404 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R110 RES 9C7 | R279 RES 30C1 | R447 RES 30C1 | R615 RES 21A4 | R1199 RES 11C8 | | | | | | | | | R1200 RES 11C9 | 275 MYHOLE 404 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R111 RES 9D7 | R280 RES 10B3 | R448 RES 30C5 | R616 RES 8D4 | R1402 RES 14D1 | | | | | | | | | R1403 RES 14D1 | 276 MYHOLE 404 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R112 RES 14A7 | R281 RES 20C6 | R449 RES 30C6 | R617 RES 8D1 | R1600 RES 16B3 | | | | | | | | | R1601 RES 16B3 | 277 MYHOLE 404 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R113 RES 15D4 | R282 RES 20C8 | R450 RES 30B8 | R618 RES 21A4 | R1601 RES 16C5 | | | | | | | | | R1602 RES 16C5 | 278 MYHOLE 404 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R114 RES 15D4 | R283 RES 20C8 | R451 RES 30C2 | R619 RES 21A4 | R1602 RES 16B2 | | | | | | | | | R1603 RES 16B1 | 279 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R115 RES 19B8 | R284 RES 20B8 | R452 RES 33B2 | R620 RES 21A3 | R1603 RES 16B1 | | | | | | | | | R1604 RES 16B1 | 280 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| C | R116 RES 9B2 | R285 RES 27C7 | R453 RES 33C2 | R621 RES 21A4 | R1605 RES 16A3 | | | | | | | | | R1606 RES 16B8 | 281 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R117 RES 9B7 | R286 RES 32C3 | R454 RES 32A4 | R622 RES 21A4 | R1607 RES 16B8 | | | | | | | | | R1608 RES 16C8 | 282 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R118 RES 9B7 | R287 RES 27B8 | R455 RES 31B6 | R623 RES 21A4 | R1609 RES 16B8 | | | | | | | | | R1610 RES 16B8 | 283 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R119 RES 9C7 | R288 RES 27C7 | R456 RES 28B8 | R624 RES 8C8 | R1900 RES 19C8 | | | | | | | | | R1901 RES 19B4 | 284 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R120 RES 9C6 | R289 RES 27B4 | R457 RES 31B7 | R625 RES 25B5 | R2000 RES 20C7 | | | | | | | | | R2001 RES 20B7 | 285 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R121 RES 9D7 | R290 RES 27B2 | R458 RES 31B4 | R626 RES 8B7 | R2002 RES 20C8 | | | | | | | | | R2003 RES 20B7 | 286 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R122 RES 9A5 | R291 RES 31D7 | R459 RES 31D7 | R627 RES 25B5 | R2004 RES 20C8 | | | | | | | | | R2005 RES 20B7 | 287 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R123 RES 15D4 | R292 RES 31D7 | R460 RES 28C7 | R628 RES 25A5 | R2200 RES 22A3 | | | | | | | | | R2201 RES 22B1 | 288 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R124 RES 26B3 | R293 RES 31C7 | R461 RES 28C5 | R629 RES 21C8 | R2500 RES 25C1 | | | | | | | | | R2501 RES 25B1 | 289 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R125 RES 13A1 | R294 RES 31A4 | R462 RES 28C5 | R630 RES 21C8 | R2501 RES 25B1 | | | | | | | | | R2502 RES 25B1 | 290 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| B | R126 RES 13C8 | R295 RES 33A4 | R463 RES 28C7 | R631 RES 21C8 | R2503 RES 25C1 | | | | | | | | | R2504 RES 25C1 | 291 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R127 RES 21D4 | R296 RES 33C7 | R464 RES 31B7 | R632 RES 21C8 | R2505 RES 25C1 | | | | | | | | | R2506 RES 25C1 | 292 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R128 RES 19A8 | R297 RES 27B4 | R465 RES 31B4 | R633 RES 21C8 | R2507 RES 25C1 | | | | | | | | | R2508 RES 25C1 | 293 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R129 RES 9B1 | R298 RES 27B4 | R466 RES 31B7 | R634 RES 21C8 | R2509 RES 25C1 | | | | | | | | | R2510 RES 25C1 | 294 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R130 RES 9B4 | R299 RES 14D4 | R467 RES 31B8 | R635 RES 21C8 | R2511 RES 25B1 | | | | | | | | | R2512 RES 25B1 | 295 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R131 RES 9B6 | R300 RES 31D6 | R468 RES 33C1 | R636 RES 21C8 | R2513 RES 25B1 | | | | | | | | | R2514 RES 25B1 | 296 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R132 RES 9C7 | R301 RES 31C8 | R469 RES 23D1 | R637 RES 21C8 | R2515 RES 25B1 | | | | | | | | | R2516 RES 25B1 | 297 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R133 RES 9D6 | R302 RES 33A4 | R470 RES 23D1 | R638 RES 21C8 | R2517 RES 25B1 | | | | | | | | | R2518 RES 25B1 | 298 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R134 RES 9D7 | R303 RES 33C7 | R471 RES 28A4 | R639 RES 21C8 | R2519 RES 25B1 | | | | | | | | | R2520 RES 25B1 | 299 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R135 RES 13B5 | R304 RES 32C6 | R472 RES 28C5 | R640 RES 21C8 | R2521 RES 25B1 | | | | | | | | | R2522 RES 25B1 | 300 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A | R136 RES 19A8 | R305 RES 27B4 | R473 RES 28C5 | R641 RES 21C8 | R2523 RES 25B1 | | | | | | | | | R2524 RES 25B1 | 301 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R137 RES 9B1 | R306 RES 34B6 | R474 RES 31B7 | R642 RES 21C8 | R2525 RES 25B1 | | | | | | | | | R2526 RES 25B1 | 302 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R138 RES 9B7 | R307 RES 27B2 | R475 RES 31B6 | R643 RES 21C8 | R2527 RES 25B1 | | | | | | | | | R2528 RES 25B1 | 303 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R139 RES 9C7 | R308 RES 31C6 | R476 RES 31B7 | R644 RES 21C8 | R2529 RES 25B1 | | | | | | | | | R2530 RES 25B1 | 304 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R140 RES 13C5 | R309 RES 31D8 | R477 RES 30D1 | R645 RES 21C8 | R2531 RES 25B1 | | | | | | | | | R2532 RES 25B1 | 305 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R141 RES 13C8 | R310 RES 34B6 | R478 RES 30D8 | R646 RES 21C8 | R2533 RES 25B1 | | | | | | | | | R2534 RES 25B1 | 306 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R142 RES 20B4 | R311 RES 30B7 | R479 RES 30B3 | R647 RES 21C8 | R2535 RES 25B1 | | | | | | | | | R2536 RES 25B1 | 307 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R143 RES 35B3 | R312 RES 10C3 | R480 RES 30D1 | R648 RES 21C8 | R2537 RES 25B1 | | | | | | | | | R2538 RES 25B1 | 308 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R144 RES 10A7 | R313 RES 22A6 | R481 RES 30D8 | R649 RES 21C8 | R2539 RES 25B1 | | | | | | | | | R2540 RES 25B1 | 309 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R145 RES 13A1 | R314 RES 28C6 | R482 RES 28C7 | R650 RES 21C8 | R2541 RES 25B1 | | | | | | | | | R2542 RES 25B1 | 310 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A | R146 RES 13D8 | R315 RES 27B4 | R483 RES 28C8 | R651 RES 21C8 | R2543 RES 25B1 | | | | | | | | | R2544 RES 25B1 | 311 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R147 RES 13B1 | R316 RES 31C7 | R484 RES 28C7 | R652 RES 21C8 | R2545 RES 25B1 | | | | | | | | | R2546 RES 25B1 | 312 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R148 RES 13B1 | R317 RES 31B7 | R485 RES 28C7 | R653 RES 21C8 | R2547 RES 25B1 | | | | | | | | | R2548 RES 25B1 | 313 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R149 RES 21C4 | R318 RES 34B6 | R486 RES 31A7 | R654 RES 21C8 | R2549 RES 25B1 | | | | | | | | | R2550 RES 25B1 | 314 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R150 RES 20B4 | R319 RES 34D7 | R487 RES 31A5 | R655 RES 21C8 | R2551 RES 25B1 | | | | | | | | | R2552 RES 25B1 | 315 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R151 RES 9A4 | R320 RES 31A6 | R488 RES 31B7 | R656 RES 21C8 | R2553 RES 25B1 | | | | | | | | | R2554 RES 25B1 | 316 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R152 RES 9A6 | R321 RES 32C5 | R489 RES 30B7 | R657 RES 21C8 | R2555 RES 25B1 | | | | | | | | | R2556 RES 25B1 | 317 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R153 RES 10A7 | R322 RES 32C6 | R490 RES 30C8 | R658 RES 21C8 | R2557 RES 25B1 | | | | | | | | | R2558 RES 25B1 | 318 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R154 RES 10A6 | R323 RES 30B7 | R491 RES 30B7 | R659 RES 21C8 | R2559 RES 25B1 | | | | | | | | | R2560 RES 25B1 | 319 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R155 RES 19B8 | R324 RES 30A3 | R492 RES 30C7 | R660 RES 21C8 | R2561 RES 25B1 | | | | | | | | | R2562 RES 25B1 | 320 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A | R156 RES 21D4 | R325 RES 25D3 | R493 RES 30C7 | R661 RES 18B4 | R2563 RES 25B1 | | | | | | | | | R2564 RES 25B1 | 321 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R157 RES 20C1 | R326 RES 27B3 | R494 RES 33A8 | R662 RES 18D8 | R2565 RES 25B1 | | | | | | | | | R2566 RES 25B1 | 322 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R158 RES 20C1 | R327 RES 27B4 | R495 RES 23D3 | R663 RES 18D8 | R2567 RES 25B1 | | | | | | | | | R2568 RES 25B1 | 323 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R159 RES 21A6 | R328 RES 34C6 | R496 RES 23D3 | R664 RES 18D8 | R2569 RES 25B1 | | | | | | | | | R2570 RES 25B1 | 324 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R160 RES 21A6 | R329 RES 34C6 | R497 RES 30B1 | R665 RES 18D8 | R2571 RES 25B1 | | | | | | | | | R2572 RES 25B1 | 325 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R161 RES 9A4 | R330 RES 34D7 | R498 RES 24D2 | R666 RES 18D8 | R2573 RES 25B1 | | | | | | | | | R2574 RES 25B1 | 326 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R162 RES 9A4 | R331 RES 31A5 | R499 RES 24D2 | R667 RES 18D8 | R2575 RES 25B1 | | | | | | | | | R2576 RES 25B1 | 327 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R163 RES 13D4 | R332 RES 31A5 | R500 RES 22C5 | R668 RES 18D8 | R2577 RES 25B1 | | | | | | | | | R2578 RES 25B1 | 328 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R164 RES 21C4 | R333 RES 20B6 | R501 RES 23C7 | R669 RES 18D8 | R2579 RES 25B1 | | | | | | | | | R2580 RES 25B1 | 329 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R165 RES 21C4 | R334 RES 21A5 | R502 RES 24A4 | R670 RES 18D8 | R2581 RES 25B1 | | | | | | | | | R2582 RES 25B1 | 330 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A | R166 RES 21D4 | R335 RES 32C6 | R503 RES 24A3 | R671 RES 18D8 | R2583 RES 25B1 | | | | | | | | | R2584 RES 25B1 | 331 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R167 RES 20C4 | R336 RES 31D7 | R504 RES 15C1 | R672 RES 18D8 | R2585 RES 25B1 | | | | | | | | | R2586 RES 25B1 | 332 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R168 RES 9A4 | R337 RES 30A4 | R505 RES 7C4 | R673 RES 28A4 | R2587 RES 25B1 | | | | | | | | | R2588 RES 25B1 | 333 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R169 RES 13A1 | R338 RES 34D8 | R506 RES 7C4 | R674 RES 28A4 | R2589 RES 25B1 | | | | | | | | | R2590 RES 25B1 | 334 HOL_VIA 484 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R170 RES 13C4 | R339 RES 20C5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |