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**SCHEM, MLB, PB17**  
09/04/2003

**BOM Options**

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**Apple Computer Inc.**

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

BOARD INFORMATION

NOT TO REVEAL OR PUBLISH IN WHOLE OR PART
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TO MAINTAIN THE DOCUMENT IN CONFIDENCE
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THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY
NOTICE OF PROPRIETARY PROPERTY

APPLE COMPUTER INC.
051-6531

SEL = LOW; HOST = B PORT; A PORT = 1000OHM TO GND
SEL = HIGH; HOST = A PORT; B PORT = 1000OHM 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

ADD 0 OHM RESISTORS IN CASE POLARITY IS WRONG
ENABLES PORT POWER WHEN MACHINE IS RUNNING OR WHEN ASLEEP ON AC

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<tr>
<th>STATE</th>
<th>PMU POWER_UP_L</th>
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<td>0</td>
<td>0</td>
<td>1</td>
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<td>RUN (AC)</td>
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<td>1</td>
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<td>1</td>
<td>1</td>
<td>ON</td>
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<tr>
<td>RUN (DC)</td>
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<tr>
<td>2.99V</td>
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<td>+4.6V_BU</td>
<td>+3V_PMU</td>
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</table>

SHUTDOWN (AC):
- SLEEP/ASLEEP: OFF
- RUN: ON

RUN:
- SLEEP: OFF
- RUN: ON

FIREWIRE A
PORT 1
514-0057

FIREWIRE B - BILINGUAL
PORT 0
514S0059

SHUTDOWN:
- AC: OFF
- DC: ON

SLEEP:
- OFF
- ON

RUN:
- OFF
- ON

FOR 1394B V1.33 CONNECTIONS:
- BREF SHOULD BE HARD CONNECTED TO LOGIC GROUND FOR SPEED SIGNALING AND CONNECTION DETECTION CURRENTS
- AREF NEEDS TO BE ISOLATED FROM ALL LOCAL GROUNDS PER 1394B SPEC
- IF USING A BILINGUAL DEVICE, IT MUST BE A BILINGUAL ONE

NOTICE OF PROPRIETARY PROPERTY
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AGREES TO THE FOLLOWING

III NOT TO REVEAL OR PUBLISH IN WHOLE OR PART

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**Notes:**
- Always ensure that the '+' and '-' rails are correctly placed.
- Hot swap connections must be isolated from other signals.
- Power and ground nets must be connected to the 'RESET' signal.
- Keep a distance between power and ground nets for better performance.
- Use separate nets for each group to avoid crosstalk.
- Ensure that the nets are routed in a way that minimizes signal interference.

**Additional Comments:**
- Always double-check the routing of nets to ensure proper functionality.
- Use a separate net for each critical component.
- Ensure that the nets are routed in a way that minimizes signal interference.
- Use separate nets for each group to avoid crosstalk.
- Always ensure that the '+' and '-' rails are correctly placed.

**References:**
- Apple Computer Inc.
- www.vinafix.vn
REVISION HISTORY

5/23/03
148) added pads for 3.3V from C501 to digital and for MVC
147) added pads for 3.3V from C501 to digital and for MVC
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