SCHEM, LEFT I/O AUDIO, M9
PVT
03/29/06

PDP CSA PAGE PAGE CONTENTS
1 1 Table of Contents
2 2 Block Diagram
3 4 ROM CONFIGURATION
4 6 Aliases
5 51 Left USB Port
6 53 Express Card Connector
7 54 PCI-E MiniCard Connector
8 55 MLB I/O Board Connector
9 64 Left ALS
10 68 AUDIO: CODEC
11 70 AUDIO: LINE IN
12 71 AUDIO: HEADPHONE AMP
13 72 AUDIO: SPEAKER AMP
14 73 AUDIO: JACKS
15 74 AUDIO: JACK TRANSLATORS
16 78 3.3V Supply
17 82 DC-In & Battery Connectors
18 84 LEFT I/O POWER CONNECTOR
19 100 HISTORY- NON-AUDIO
20 101 HISTORY- AUDIO
21 102 Cross Reference Page
22 103 Cross Reference Page
23 104 Cross Reference Page

NOTICE OF PROPRIETARY PROPERTY

This document is proprietary and contains confidential information.
Confidential information includes device descriptions, specifications, and design.

Apple agrees to the following:
1. Not to reveal or publish in whole or part
2. Not to reproduce or copy it
3. To maintain the document in confidence
Pseudo-Diff Line-In Filter

GAIN = -7.1DB  AV = 0.44
FC = 2.4 HZ
Left I/O Power Connector

CRITICAL

PP18V5_DCIN
= PP5V_S5_LIO
= PP5V_S0_AUDIO_PWR
= GND_AUDIO_PWR

LEFT I/O POWER CONNECTOR

www.Vinafix.vn
CHANGE LIST

1/27/06
BEGINNING OF EVT TO EVT2 CHANGES ON ALT_LIO_EVT DIRECTORY
CHANGED PD6401 SYMBOL TO Spacer JEDEC PACK TYPE.
CHANGED REV TO 03.

2/1/06:
PG 82.
CHANGED R8291 TO 24.3K ON 1-WIRE CRT TO MATCH M1 CRT.
ADDED C8207 AND R8292 ON Q8200 PIN 2 TO ADD ESD PROTECTION ON GATE OF Q8200.

2/2/06:
PG 64.
ADDED ALS SPACER 815-8851 IN BOM TABLE. GOES WITH PD6401.
PG 78
ADDED 33750448 AS ALTERNATE FOR 33750445 ON Q7800 AND Q7801.

2/6/06:
PG 78
CHANGED R7890 TO 100K FOR <RDAR://PROBLEM/4435222> MOSFET CR: QUAL LIO BOARD 3.3V @ 1.8V
PG 82.
CORRECTED R8292 VALUE TO 1K PER <RDAR://PROBLEM/4426307> M9 EVT SYMPHONY: FLOATING PET GATE ON LIO CONNECTOR SHOULD HAVE ESD PROTECTION.

2/7/06:
PG 3.
MOVE ALL BOM TABLES TO PG 3. CORRECTED ANP OF FETS IN ALTERNATE BOM TABLE.

2/9/06:
PG 78
CHANGED R7810 TO 8.66K TO MATCH M1.

2/10/06:
PG 51
ADDED R5103, C5105 AND R5104, C5104 TO USB_LEFT_OC_L AND USB_LEFT2_OC_L TO MATCH M1.

2/23/06:
REMOVE LE MENU BOMOPTION FROM CODEC. REMOVE BOM NUMBERS TABLE ALONG WITH LE_MENU & PROJ_PARTS BOMS. FLAT BOM NOW.
ADDED CRITICAL ATTRIBUTES TO Q5101, Q6401, U6401, DZ7303, DZ7306, DZ7354, Q8200, Q8201, Q8209
SYNCED FROM M1_LIO_MOSFET REV A.0.0
<<<CHANGED>>>
C7830 [ON PAGE(S) 78] CHANGED FROM CAP_1210-22UF,20%,16V,X7R TO CAP_1210-22UF,20%,16V,X5R
C7840 [ON PAGE(S) 78] CHANGED FROM CAP_805-22UF,20%,6.3V,X5R TO CAP_805-22UF,20%,6.3V,CERM
C7842 [ON PAGE(S) 78] CHANGED FROM CAP_805-22UF,20%,6.3V,X5R TO CAP_805-22UF,20%,6.3V,CERM

3/29/06:
PG 82
CHANGED J8200 FROM 514-0282 TO 514-0348.

---END---
CHANGE LIST

OCT 19 2005 : INITIAL RELEASE
OCT 26 2005 : CHANGE ALL SPEAKER OUTPUT INDUCTORS TO 0 OHM SHORTING RESISTORS
ADDED OPTIONAL SHORTING RESISTORS FROM AUDIO JACKS TO CHASSIS GROUND
FLIP SPEAKER CONNECTOR PIN ASSIGNMENT TO ACCOMMODATE CABLE ROUTING
MOVE ESD DIODE NEARER TO JACK, DAISY CHAIN SYNC PIN ON SPEAKER AMPLIFIER
NOV 03 2005 : CHANGE SPEAKER CONNECTOR J7380/J7381 TO 51880053
NOV 03 2005 : CHANGE SPEAKER CONNECTOR J7380/J7381 TO 51880215(WHITE) AND 51880316(BLACK)
NOV 04 2005 : CHANGE SPEAKER CONNECTOR J7380/J7381 TO 51880053
NOV 07 2005 : ADDED PAGE 70, INPUT FILTER & 71, HEADPHONE AMPLIFIER
DEC 01 2005 : CHANGE PIN OUT OF MIC CONNECTOR
DEC 05 2005 : CHANGE MIC CONNECTOR TO APN 518-0152
DEC 06 2005 : CHANGE Q7403 CIRCUITY, ADDED R7418, REMOVED R7407
CHANGE BOTH AUDIO 5V S0 RAIL TO S5
DEC 07 2005 : CHANGE APN OF C7301, C7302, C7303 & C7304 TO 12880081 TO REDUCE HEIGHT
CHANGE PIN OUT OF MIC CONNECTOR TO MATCH SIREN PROTO
DEC 08 2005 : UPDATE SYMBOL FOR 12880081 TO MATCH LATEST LIBRARY SYMBOL
CHANGE BOTH AUDIO 5V S5 RAIL TO S0
DEC 20 2005 : ADDED CRITICAL ATTRIBUTE TO CONNECTORS
CHANGE R7100 TO 10K
DEC 23 2005 : REPLACE R7114/R7115 WITH XW7103, REMOVE XW7102, CHANGE C7112 TO 0402 10V
CHANGE L7300/L7301 TO LOWER DCR 0603 FERRITE, CHANGE R7112/13 FROM 14 TO 10 OHMS
REMOVE STUFFING OPTION FOR ALC882 CODEC, C6850/51/52, R6850/51/52/54
REPLACE R6801 WITH XW6801, ISOLATED AUDIO DIGITAL GND THROUGH XW6800

JAN 02 2006 : ADD "NC " PREFIX TO AUD_GPIO_2, VOL UP, VOL DOWN NETS, CHANGE C7112 TO 13880578
ADD ALTERNATE BOM TABLE FOR CONNECTORS J7380, J7381 AND J7382
JAN 05 2006 : ADD D6800 TO PROVIDE DISCHARGE PATH FOR BULK CAPS ON 4.5V POWER
CHANGE D6825 FROM 1UF TO 15PF TO PREVENT PREMATURE FAILURE OF VR6800
JAN 06 2006 : ADD NO STUFF BOMPTION TO D6800
JAN 20 2006 : ADD R6809 AS A PULL DOWN ON SPDIF OUTPUT TO HOLD NET IN INACTIVE STATE BY DEFAULT
CHANGE CONNECTION FOR D6800
JAN 25 2006 : ADD L7000, REMOVE L6802/L6803
JAN 26 2006 : REMOVE R7320, R7321, R7323, ADD L7308,C7452,C7306,R7114,R7115
JAN 27 2006 : ADDED C7215,C7225,C7235 & C7245 FOR HF IMMUNITY
JAN 30 2006 : CHANGE L7309 TO PROVIDE RETURN PATH FOR AZALIA BUS SIGNALS (EMI)
JAN 31 2006 : ADD L6806 TO PROVIDE RETURN PATH FOR AZALIA BUS SIGNALS (EMI)

FEB 03 2006 : CHANGED C7306,C7303 & C7354 TO DZ7306,DZ7303 & DZ7354 TO SOLVE ESD ISSUE
ADDED C7001-C7004 TO REDUCE NOISE LEVEL ON LINE-IN BUFFER VREF
REPLACE R6809, C6832, REPLACED BY C7001-C7004
FEB 06 2006 : CHANGED XW6802 FROM LAYER 8 TO LAYER 9 SHORT DUE TO TECHNICAL LIMITATION ALLEGRO
FEB 07 2006 : "NO STUFF" C7452, C7215, C7225, C7235 & C7245
FEB 15 2006 : CHANGE VALUE OF C7120 & C7130 FROM 10UF TO 3.3UF TO REDUCE INTENSITY OF CLICK DURING UNMUTE.
THIS MOVES THE CORNER FREQUENCY FROM 1.6HZ TO 4.8HZ.
MAR 29 2006 : ADDED ALTERNATE BOM TABLE FOR CODEC. 353S1458 IS SCREENED VERSION OF 353S1345.
<table>
<thead>
<tr>
<th>PIN</th>
<th>NAME</th>
<th>VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPKRCONN_L1_N_OUT</td>
<td>13C3 14C3</td>
<td></td>
</tr>
<tr>
<td>SPKRCONN_L1_N_OUT</td>
<td>13C3 14C3</td>
<td></td>
</tr>
<tr>
<td>SPKRAMP_SYNC3</td>
<td>13A5 13B5</td>
<td></td>
</tr>
<tr>
<td>SPKRAMP_SYNC2</td>
<td>13B5 13C5</td>
<td></td>
</tr>
<tr>
<td>SPKRAMP_SYNC1</td>
<td>13C5 13D5</td>
<td></td>
</tr>
<tr>
<td>SPKRAMP_R2_P_OUT</td>
<td>13B4 13B5</td>
<td></td>
</tr>
<tr>
<td>SPKRAMP_R2_N_OUT</td>
<td>13B4 13B5</td>
<td></td>
</tr>
<tr>
<td>SPKRAMP_R1_P_OUT</td>
<td>13A4 13A5</td>
<td></td>
</tr>
<tr>
<td>SPKRAMP_L2_P_OUT</td>
<td>13D4 13D5</td>
<td></td>
</tr>
<tr>
<td>SPKRAMP_L2_N_OUT</td>
<td>13D4 13D5</td>
<td></td>
</tr>
<tr>
<td>SPKRAMP_L1_N_OUT</td>
<td>13C4 13C5</td>
<td></td>
</tr>
<tr>
<td>SMC_EXCARD_CP</td>
<td>6A4 8C6</td>
<td></td>
</tr>
<tr>
<td>SMC_BC_ACOK_R</td>
<td>17C1</td>
<td></td>
</tr>
<tr>
<td>SMC_BC_ACOK</td>
<td>8C6 17B2</td>
<td></td>
</tr>
<tr>
<td>SDATAIN</td>
<td>10C6</td>
<td></td>
</tr>
<tr>
<td>PP18V5_DCIN_UF</td>
<td>17D7</td>
<td></td>
</tr>
<tr>
<td>PP18V5_DCIN_FUSE</td>
<td>17D6</td>
<td></td>
</tr>
<tr>
<td>UT2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PP5V_S3_USB_SWITCH_O</td>
<td>5D5, 5B5</td>
<td></td>
</tr>
<tr>
<td>PP5V_S3_USB_SWITCH_O</td>
<td>5D5, 5B5</td>
<td></td>
</tr>
<tr>
<td>PP5V_S3_3V3S3_R</td>
<td>16C6</td>
<td></td>
</tr>
<tr>
<td>PP5V_S0_AUDIO_F</td>
<td>13A8 13B1 13B8 13C8 13D8</td>
<td></td>
</tr>
<tr>
<td>EMI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PP5V_PWRON_USB_LEFT2</td>
<td>5D4</td>
<td></td>
</tr>
<tr>
<td>PP5V_AUDIO_HPAMP_PVD</td>
<td>12D5</td>
<td></td>
</tr>
<tr>
<td>D_F</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PP5V_AUDIO_HPAMP_AVD</td>
<td>12D4</td>
<td></td>
</tr>
<tr>
<td>PP4V5_AUDIO_LINE_IN</td>
<td>11C5</td>
<td></td>
</tr>
<tr>
<td>PP3V3_S0_AUDIO_F</td>
<td>15B4 15C8 15C8 15D8</td>
<td></td>
</tr>
<tr>
<td>PP3V3_AUDIO_CODEC</td>
<td>10D6</td>
<td></td>
</tr>
<tr>
<td>PP1V5_S0_EXCARD_SWIT</td>
<td>6C3 6C3</td>
<td></td>
</tr>
<tr>
<td>PLT_RESET_SWITCH_L</td>
<td>6C3 6C3</td>
<td></td>
</tr>
<tr>
<td>PCIE_WAKE_L</td>
<td>4C4 8C6</td>
<td></td>
</tr>
<tr>
<td>PCIE_CLK100M_MINI_UF</td>
<td>8C4</td>
<td></td>
</tr>
<tr>
<td>PCIE_CLK100M_MINI_UF</td>
<td>8C4</td>
<td></td>
</tr>
<tr>
<td>PCIE_CLK100M_EXCARD_</td>
<td>8C4</td>
<td></td>
</tr>
<tr>
<td>P2V5_ONEWIRE_REF</td>
<td>17C5</td>
<td></td>
</tr>
<tr>
<td>ONEWIRE_PWR_EN_L_DIV</td>
<td>17D2</td>
<td></td>
</tr>
<tr>
<td>ONEWIRE_PWR_EN_L</td>
<td>17C2</td>
<td></td>
</tr>
<tr>
<td>ONEWIRE_EN</td>
<td>17D3</td>
<td></td>
</tr>
<tr>
<td>NC_W_DISABLE_L</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NC_VOL_UP</td>
<td>10C7</td>
<td></td>
</tr>
<tr>
<td>NC_UIM_VPP</td>
<td>7C3</td>
<td></td>
</tr>
<tr>
<td>NC_UIM_RESET</td>
<td>7C3</td>
<td></td>
</tr>
<tr>
<td>NC_UIM_PWR</td>
<td>7C3</td>
<td></td>
</tr>
<tr>
<td>NC_UIM_DATA</td>
<td>7C3</td>
<td></td>
</tr>
<tr>
<td>NC_LIO_P3V3S3_PGOOD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>USB_LEFT_OC_L_R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>USB_LEFT_GND</td>
<td>5B3</td>
<td></td>
</tr>
<tr>
<td>USB_LEFT_EMI_N</td>
<td>5B4</td>
<td></td>
</tr>
<tr>
<td>USB_LEFT2_EMI_P</td>
<td>5C4</td>
<td></td>
</tr>
<tr>
<td>USB_LEFT2_EMI_N</td>
<td>5C4</td>
<td></td>
</tr>
<tr>
<td>TP_USB2_MINI_P</td>
<td>4B2</td>
<td></td>
</tr>
<tr>
<td>SYS_ONEWIRE_BILAT</td>
<td>17C2</td>
<td></td>
</tr>
<tr>
<td>SPKR_SHIELD</td>
<td>14C2</td>
<td></td>
</tr>
<tr>
<td>SPKRCONN_R2_N_OUT</td>
<td>13B3 14C3</td>
<td></td>
</tr>
<tr>
<td>SPKRCONN_R1_P_OUT</td>
<td>13A3 14C3</td>
<td></td>
</tr>
<tr>
<td>SPKRCONN_R1_N_OUT</td>
<td>13A3 14C3</td>
<td></td>
</tr>
<tr>
<td>SPKRCONN_L2_P_OUT</td>
<td>13D3 14C3</td>
<td></td>
</tr>
<tr>
<td>MIC_SHIELD</td>
<td>14D3 15A6</td>
<td></td>
</tr>
<tr>
<td>MIC_IN</td>
<td>15A5</td>
<td></td>
</tr>
<tr>
<td>MIC_HI</td>
<td>14D3 15A6</td>
<td></td>
</tr>
<tr>
<td>USB_LEFT_OC_L_R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>USB_LEFT_GND</td>
<td>5B3</td>
<td></td>
</tr>
<tr>
<td>USB_LEFT_EMI_N</td>
<td>5B4</td>
<td></td>
</tr>
<tr>
<td>USB_LEFT2_EMI_P</td>
<td>5C4</td>
<td></td>
</tr>
<tr>
<td>USB_LEFT2_EMI_N</td>
<td>5C4</td>
<td></td>
</tr>
<tr>
<td>TP_USB2_MINI_P</td>
<td>4B2</td>
<td></td>
</tr>
<tr>
<td>SYS_ONEWIRE_BILAT</td>
<td>17C2</td>
<td></td>
</tr>
<tr>
<td>SPKR_SHIELD</td>
<td>14C2</td>
<td></td>
</tr>
<tr>
<td>SPKRCONN_R2_N_OUT</td>
<td>13B3 14C3</td>
<td></td>
</tr>
<tr>
<td>SPKRCONN_R1_P_OUT</td>
<td>13A3 14C3</td>
<td></td>
</tr>
<tr>
<td>SPKRCONN_R1_N_OUT</td>
<td>13A3 14C3</td>
<td></td>
</tr>
<tr>
<td>SPKRCONN_L2_P_OUT</td>
<td>13D3 14C3</td>
<td></td>
</tr>
</tbody>
</table>