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

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**Alternate Parts**

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<th>Part Number</th>
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<th>NOR Option</th>
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<td>SUN</td>
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**Schematic/PCB #s**

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**PRODUCT SAFETY REQUIREMENTS:**

- PCB: 0.050 TEMP. RATING AND 0.5 FLAME RATING PER UL 746 & UL 94.
- FOR PCB MATERIAL DESIGNATION, PER UL 796 & UL 94: PER UL SUMMER, 0.5 FOR MATERIAL DESIGNATION, 130-C TEMP. RATING AND 1.0 FLAME RATING.

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APPLE INC.
Functional Test Points

J4720 (Camera)
- J4720 SCL True
- J4720 SDA True
- J4720 VCC True
- J4720 VDD True
- J4720 GND True

J6701 (Microphone)
- J6701 MIC HI F True
- J6701 MIC LO F True
- J6701 GND True

J6702 (Left speaker)
- J6702 AMP L OUT True
- J6702 AMP L N True
- J6702 GND True

Sync Master = (K6_MLB)
Sync Date = (12/11/2009)

Functional Test Points
- I2C_ALS_SCL True
- I2C_ALS_SDA True
- BI_MIC_HI_F True
- BI_MIC_LO_F True
- SPKRAMP_L_P_OUT True
- SPKRAMP_L_N_OUT True
- PP5V_S3_CAMERA_F True
- USB_CAMERA_CONN_N True
- USB_CAMERA_CONN_P True
- GND True

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CODEC OUTPUT SIGNAL PATHS

PORT A DETECT (HEADPHONES)
PLACE C6800 CLOSE TO Q6800

PIN COMPLEX 0X04 (4)

PERIPHERAL/EXTRACTION DETECT
SOUTHBRIDGE RESOURCE/PIN ALLOCATIONS
BUILT-IN MIC
HEADSET MIC MIKEY

PIN COMPLEX 0X09 (A)

FUNCTION SPEAKERS
0X02 (2)
0X04 (4)
0X06 (6)

CONVERTER
0X0B (11)
0X0D (13, B, RIGHT)

VREF DET ASSIGNMENT
MIC_BIAS (80%)

CODEC INPUT SIGNAL PATHS

SB GPIO/INT
GPIO 38
AUD_I2C_INT_L
GPIO 7
AUD_IP_PERIPHERAL_DET
AUD_IPHS_SWITCH_EN
MIKEY I2C BUS
MIKEY ENABLE
MIKEY INTERRUPT
I2C_MIKEY_SDA/SCL

DET ASSIGNMENT
MUTE CONTROL
0X06 (6)

GPIO 55
MCP89 SMBUS 0
0X0D (13, V22, B, LEFT)

VOLUMEFUNCTION
HP/LINE OUT

AUDIO: JACK TRANSLATORS
SYNC_MASTER=AUDIO  
SYNC_DATE=04/05/2011

GND_AUDIO_CODEC
AUD_J1_DET_R
AUD_SENSE_A
PP4V5_AUDIO_ANALOG
AUD_J1_DET_OD
PP4V5_AUDIO_ANALOG
AUD_PORTA_DET_L
HS_HDET

Pace cross clamp to gage
### HD Audio Interface Constraints

<table>
<thead>
<tr>
<th>LAYER</th>
<th>MINIMUM LINE WIDTH</th>
<th>ALLOW ROUTE</th>
</tr>
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<tbody>
<tr>
<td>TOP, ISL2, ISL3, ISL4, ISL5, BOTTOM</td>
<td>15.5.1 MM</td>
<td>NO_TYPE, BGA_P</td>
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### USB 2.0 Interface Constraints

<table>
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### SMBus Interface Constraints

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### USB Camera Interface Constraints

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<tr>
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### Electrical Constraints

<table>
<thead>
<tr>
<th>Constraint</th>
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<tbody>
<tr>
<td>90_OHM_DIFF</td>
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<tr>
<td>55_OHM_SE</td>
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<td>50_OHM_SE</td>
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<td>4X_DIELECTRIC</td>
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