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 DATE	ENG APPD DATE
B		358892	PRODUCTION RELEASED	01/07/05	

SCHEM,AUDIO BRD,PB17"
01/07/2005

PAGE	HIERARCHY PAGE	CONTENTS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	BOM OPTION
051-6752	1	SCHEM,AUDIO BRD,PB17	SCH1	
820-1733	1	PCBF,AUDIO BRD,PB17	PCB1	

DIMENSIONS ARE IN MILLIMETERS
XX ± _____
X.XX ± _____
X.XXX ± _____
ANGLES ± _____
DO NOT SCALE DRAWING

THIRD ANGLE PROJECTION

METRIC

DRAFTER		DESIGN CK	
ENG APPD		MFG APPD	
QA APPD		DESIGNER	
RELEASE		SCALE	NONE

MATERIAL/FINISH NOTED AS APPLICABLE

SIZE D

Apple Computer Inc.

TITLE
SCHEM,AUDIO BRD,PB17

DRAWING NUMBER 051-6752 REV. B

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

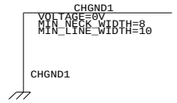
SEE PCB CAD FILES FOR MORE SPECIFIC INFO.

BOARD STACK-UP AND CONSTRUCTION

1		SIGNAL
2	PREPREG	GROUND
3	LAMINATE	SIGNAL
4	PREPREG	SIGNAL
5	LAMINATE	GROUND
6	PREPREG	CUT POWER PLANE
7	LAMINATE	CUT POWER PLANE
8	PREPREG	GROUND
9	LAMINATE	SIGNAL
10	PREPREG	SIGNAL
11	LAMINATE	GROUND
12	PREPREG	SIGNAL

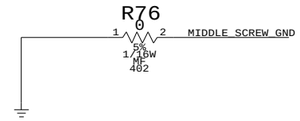
BOARD HOLES

PAD ON SLOT IN BETWEEN J4 AND J5 (LAYER 1 AND LAYER 12)



PAD ON MIDDLE HOLE (LAYER 1 AND LAYER 12)

NO STUFF



PCB BOARD STANDOFFS

BOARD INFORMATION

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6752	B

SCALE	SHT	OF
NONE	2	14

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BLOCK DIAGRAM

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6752	B

SCALE	SHT	OF
NONE	3	14

REVISION NOTES

9/18/03
1) REMOVED R34 (PULLDOWN ON I2S1ERROR) ON SPDIF RECEIVER)
2) ADDED R37 AND R38 (100K 402) TO PUEDO-DIFF INPUT
3) CHANGED AUD_SPDIF TO AUD_SPDIF_OUT ON U4 (CODEC)
4) CHANGED C23, C25, C28 TO 10UF SMB
5) ADDED C33||R41 AND C32||R40 AS RC FILTER BETWEEN LEFT AND INPUT AND OUTPUT OF U6, RESPECTIVELY
6) CHANGED R43 TO PULLDOWN ON MUTE INPUT TO U6 (SPEAKER AMP)
7) ADDED R39 AND R40 IN SERIES ON INPUTS TO U6
8) CHANGED AUD_OUT_AMP_GND TO AUD_AMP_GND ON PGND OF U6
9) ADDED R56 (100K 402) AS PULLDOWN ON SHDN_L ON U5
10) ADDED C35 (1UF 805) BETWEEN C1P AND C1N (CHARGE PUMP) OF U5

9/19/03
11) RE-PINNED J1
12) ADDED C36 AS BYPASS ON AUD_5V_PWRON1 AT U6 (SPEAKER AMP)
13) ADDED 0 OHM 402 BETWEEN I2S0_MCLK AND AUD_CODEC_MCLK TO BYPASS U1 (NO STUFF)
14) ADDED L4-L23,C38-C39, AND C61-C68 FOR LINE IN HP OUT FILTER
15) ADDED DZ1 AND DZ2 ESD DIODES FOR LINE IN AND HP OUT
16) ADDED Q1, R58, R59,R61,R62,R68,R64,C71 AND C69 FOR HP ANALOG AND OPTICAL DETECT BUFFER
17) ADDED Q2, R63, R60,R67,R66,R65,R69,C72 AND C70 FOR LINE IN ANALOG AND OPTICAL DETECT BUFFER
18) ADDED C74,C73,C76,C75 10UF 10V CAPS IN PSEUDO-DIFF FILTER

9/19/03
19) FIXED MISSING CONNECTIONS IN HP AND LINE IN EMI FILTERS
20) ADDED ZT1 PLATED MOUNTING HOLE
21) MOVED CIRCUITS AOUND TO CONFORM TO HIERARCHY

9/22/03
22) CHANGED C20 AND C22 TO 10UF
23) ADDED C44 AS BYPASS ON OUTPUT OF 4.5V REGULATOR
24) ADDED R34 AS PULLLDOWN ON SHDN_L PIN OF U6 (SPEAKER AMP)
25) CHANGED J1 TO CORRECT CONNECTOR (514S0159)

9/24/03
26) REMOVED L9,L19, AND C68 ON OPTICAL IN PLUG DETECT
27) REMOVED U2,U1, AND U3 (SPDIF RECEIVER) AND ALL SURROUNDING COMPONENTS (PG 8)
28) MIRRORED J1 (MLB CONNECTOR) TO CORRECT PINOUT
29) CORRECTED UNNAMED NETS IN LINE IN AND HP FILTERS
30) ADDED HEADPHONE CONNECTOR WITH OPRTICAL TRANSMITTER (J4) 514-0137
31) ADDED LINE IN CONNECTOR (J5) 514-0061

9/25/03
32) REVERSED ALL CHANGES LISTED ABOVE ON 9/24/03
33) ADDED L27 AND L28 FOR POWER SUPPLY FILTERING ON U5 (HP AMP)
34) CHANGED L7,L8,L17,L18 TO 0402 1000OHM EMI FERRITES
35) ADDED L24, L25, AND L26 FOR INPUT FILTERING ON SPEAKER AMP INPUTS
36) CHANGED L9-L13 AND L19-L23 TO 1000OHM 0402 EMI FERRITES
37) UPDATED MLB CONNECTOR PINUOT
38) FIXED UNAMED NETS IN LINE IN (PG7) AND HP (PG6) EMI FILTERS
39) CHANGED MLB CONNECTOR (J1) FROM 516S0159 TO 516S0160 (CORRECTED FOR GENDER CONSISTENCY)
40) CHANGED R35,R36,R45,R46 TO 603 14 OHM FROM 805

9/26/03
41) FIXED MLB CONNECTOR PINT (MIRRORED SYMBOL)
42) CHANGED ZT1 TO 195R106 PLATED THRU-HOLE
43) REMOVED C51-C54 FROM FILTERS ON SPEAKER AMP OUTPUTS
44) CHANGED MUTE INPUT OF U6 (SPEAKER AMP) FROM AUD_5V_PWRON1 TO AUD_SPA_MUTE
45) CHANGED L1 TO 0402 1000OHM EMI FERRITE
46) UPDATED SCHEMATIC CONSTRAINTS

9/27/03
47) MIRRORED J1 (MLB CONNECTOR) TO FIX FLEX ROUTING

9/29/03
48) CHANGED C73-C76 TO 10UF ELECTROLYTIC 128S1010
49) CHANGED L2 AND L7-L26 TO 155S0137 TO CORRECT BOM PROBLEM

9/30/03
50) MOVED GND IN J1 TO IN BEWTEEN AUD_LO_DET_L AND AUD_LO_METAL_PLUG_L
51) CHANGED C73-C76 TO 10UF SMB CAPS
52) ADDED PAGE 9 FOR FUNCTIONAL TEST POINTS
53) CORRECTED PINOUT OF J4 AND J5 FOR NEW CONNECTORS
54) CORRECTED OPTICAL/METAL DETECT PINOUT FOR J4 AND J5

10/1/03
55) ADDED MISSING LINE WIDTH CONSTRAINTS ON HP OUTPUT NETS
56) REPACKAGED TO PULL IN UPDATED FOOTPRINT FOR U5 (ADDED THERMAL VIAS)
57) CHANGED R52-R55 FROM 14K 1% TO 10K 1%
58) REMOVED XW1
59) CHANGED AUG_GND ON DAC FILTER TO AUD_AMP_STARGND
60) CHANGED AUD_GND ON C49 TO AUD_AMP_STARGND
61) CHANGED GND ON HP AMP (U5) TO AUD_AMP_STARGND
62) REMOVED Q2 AND R62 FROM AUD_LO_METAL_PLUG_L CIRCUIT
63) REMOVED Q2 AND R65 FROM AUD_LI_METAL_PLUG_L CIRCUIT
64) CHANGED AUD_AMP_GND ON XW4 TO AUD_AMP_STARGND
65) CHANGED AUD_AMP_GND TO AUD_AMP_STARGND ON J3
66) REPACKAGE TO PULL IN UPDATED I/O CONNECTOR SYMBOLS
67) CHANGED AUD_GND TO AUD_CODEC_GND ON XW6
68) CHANGED MIN_NECK_WIDTH PROPERTIES TO BE DIFFERENT THAN MIN_LINE_WIDTH
69) CHANGED MIN_LINE_WIDTH TO 10 AND MIN_NECK_WIDTH TO 8 ON AUD_5V_PWRON1_HPAMP_PVDD

10/3/03
70) REMOVED Q1 AND R58 TO CORRECT SENSE OF AUDIO_LO_DET_L
71) MOVED R67 TO AUD_IN_METAL SIDE OF R63 TO AVOID DIVIDER ON OUTPUT
72) MOVED R69 TO AUD_IN_FIBER SIDE OF R66 TO AVOID DIVIDER ON OUTPUT
73) MOVED R61 TO AUD_OUT_METAL SIDE OF R59 TO AVOID DIVIDER ON OUTPUT
74) MOVED R64 TO AUD_OUT_FIBER SIDE OF R64 TO AVOID DIVIDER ON OUTPUT
75) ADDED Q1 AND R58 TO CORRECT SENSE OF AUDIO_LO_DET_L
76) ADDED Q1 AND R60 TO CORRECT SENSE OF AUDIO_LI_DET_L
77) MOVED R67 TO AUDIO_LI_DET_L SIDE OF R63 TO AVOID DIVIDER ON OUTPUT
78) MOVED R69 TO AUDIO_LI_METAL_PLUG_L SIDE OF R66 TO AVOID DIVIDER ON OUTPUT
79) MOVED R61 TO AUDIO_LO_DET_L SIDE OF R59 TO AVOID DIVIDER ON OUTPUT
80) MOVED R64 TO AUDIO_LO_METAL_PLUG_L SIDE OF R64 TO AVOID DIVIDER ON OUTPUT

*** RELEASED FOR PROTO 1 ***

10/16/03
81) CHANGED U5 TO REFLECT UPDATED SYMBOL FOR MAX9722 (3X3)

10/27/03
82) ADDED R72-R75 TO SELECT POWER INPUT TO SPDIF TRANSMITTER AND RECEIVER
83) CHANGED VCC (PIN 2A) ON J4 (SPDIF TRANSMITTER) TO AUD_SPDIF_TRANS_RUN
84) CHANGED VCC (PIN 1A) ON J5 (SPDIF RECEIVER) TO AUD_SPDIF_RECV_RUN
85) CHANGED R44 TO 113S1470 FOR BOM CONSOLIDATION WITH LINK
86) CHANGED C37,C69,C71,C70,C72 TO 132S0045 FOR BOM CONSOLIDATION WITH LINK

10/31/03
87) REPACKAGED TO PULL IN UPDATED CONNECTOR FOOTPRINTS

11/4/03
88) ADDED MISSING CONSTRAINTS ON GND NETS
89) FIXED UNNAMED NETS

11/6/03
90) CHANGED C15 AND C16 TO 131S2723 TO REMOVE OEM PART FROM BOM
91) REMOVED ZT1 FROM SCHEMATIC TO IMPROVE GND HOLE TOLERANCE
92) ADDED R76 (NO STUFF) FOR OPTION OF GROUNDING MIDDLE SCREW HOLE TO FRAME

11/12/03
93) CHANGED J4 TO FINAL FOXCONN CONNECTOR (514-0140)
94) CHANGED J5 TO FINAL FOXCONN CONNECTOR (514-0144)

11/13/03
95) CHANGED C38,C39,C62,C64,C66,C68,C63,C65,C67,C61 FROM 603 100PF CERAMICS TO 402 100PF CERAMICS
96) ADDED Q2, R77, AND R78 TO ADJUST FOR PLUG DETECT SCHEME DIFFERENCE WITH NEW CONNECTORS
97) REMOVED L8, L7, L19, AND L23 IN T FILTERS BECAUSE SERIES R OF HIGHER VALUE MADE THEM REDUNDANT
98) ADDED C54 (1UF 603) TO VDD OF U6 AND MOVED C36 TO BETWEEN AUD_5V_PWRON1 AND AUD_GND
99) CHANGED SGND (PIN 6) OF U5 TO AUD_CODEC_STARGND
100) CHANGED AUD_AMP_STARGND IN DAC FILTER TO AUD_HP_STARGND AND ADDED XW5 TO SHORT TO AUD_GND
101) MOVED R63 TO INPUT SIDE OF R60 AND CHANGED TO 10K
102) MOVED R66 TO INPUT SIDE OF R78 AND CHANGED TO 10K
103) MOVED R59 TO INPUT SIDE OF R58 AND CHANGED TO 10K
104) MOVED R64 TO INPUT SIDE OF R77 AND CHANGED TO 10K

2/3/04
105) ADDED R81 AS 100K PULLUP TO AUD_3V_RUN ON U2 PIN 17 (AUDIO_GPIO_11)

2/4/04
106) CHANGED R80 TO NO STUFF TO REMOVE DIVIDER ON OUTPUT OF OPTICAL RECEIVER
107) CHANGED R74 TO NO STUFF AND R74 TO STUFFED TO CHANGE TO 3V3_RUN FOR SPDIF RECEIVER

2/19/04
108) CHANGED R7 TO NO STUFF

3/14/04
109) REMOVED R72-R75 AS SPDIF OPTICS ARE 3V ONLY
110) CHANGED PIN 15 OF J1 TO AUD_3V_RUN
111) REMOVED R79 AND R80 TO REMOVED 5V SPDIF COMPATIBILITY
112) ADDED 22UF C55 AND C56 TO CLEAN UP AUD_3V_RUN FOR SPDIF
113) SWAPPED INPUTS TO SPEAKER AMP AFTER THE L'S TO CORRECT CHANNEL SWAP ERROR
114) FIXED NAMING CONFLICT ON PSEUDO-DIFF INPUT

6/8/04
115) CHANGED C73-C76 TO 10UF 10V 1206 TO SAVE SPACE IN PSEUDO-DIFF CIRCUIT
116) CHANGED C2 TO 0.02UF X5R 402, C7 TO 0.001UF 402, AND R1 TO 3K 5% 402 TO FIX SPDIF PLL FILTER
117) CHANGED AD1 INPUT ON SPDIF RCVR (U2) TO AUD_3V_RUN_F TO CHANGE I2C ADDR TO 010

6/16/04
118) REARRANGED SCHEMATIC PAGES TO BE MORE DESIGN REUSE COMPLIANT
119) RENAMED POWER NETS TO BE DESIGN REUSE COMPLIANT

6/28/04
120) REASSIGNED CS4816 (U2) TO I2C ADDRESS 0X22 (AD=001) ON I2S-B BUS FOR Q41B/Q51 COMPATIBILITY

7/02/04
**** RELEASED FOR Q41B EVT

****

**** SCHEMATIC UNDER Q41B PROJECT, NAME CHANGED TO SCHEM,CRYSTAL,Q41B

9/22/04
121> CHANGED PCM3052 TO PCM3052A WITH NEW FOOTPRINT

10/12/04
122> ADD 2 1KOHM FROM L AND R CHANNEL OUTPUT OF MAX9722 TO AUD_GND
123> ADD 100KOHM ON PIN 15 OF CS8416 TO PULL-UP, NO STUFF THE PULL-DONW
124> REPLACE R48, R49, R50, R51 WITH 20.5KOHM
125> CHANGE 2 FEEDBACK RESISTORS R41, R42 ON LM4866LQ TO 20.5OHM
126> CHANGE C42, C43 TO 0.1UF
127> CHANGE SPEAKER AMP TO NATIONAL SEMI. LM4866LQ
128> ADD MAX8510 AS LDO FOR CS8416

10/15/04
129> CHANGE SIGNAL: AUDIO_GPIO_11 TO SPDIF_GPO0
130> CHANGE SIGNAL: AUDIO_LO_METAL_PLUG_L TO AUDIO_LO_OPTICAL_PLUG_L
131> CHANGE SIGNAL: AUDIO_LI_METAL_PLUG_L TO AUDIO_LI_OPTICAL_PLUG_L

****

12/16/04
132> SCHEMATIC RELESE FOR PRODUCTION

01/07/05
133> CHANGE ALL 138S0518 TO 138S0550
134> SCHEMATIC RELESE FOR PRODUCTION (BOM REV B)

APPLE COMPUTER INC.
SIZE D | DRAWING NUMBER 051-6752 | REV. B
SCALE NONE | SHT 4 OF 14

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SIGNAL & POWER ALIASES

APPLE COMPUTER INC.

SIZE D | DRAWING NUMBER 051-6752 | REV. B

SCALE NONE | SHT 5 OF 14

FUNCTIONAL TEST POINTS

	SIG_NAME	FUNC_TEST	FUNC_QTY	
I1	AUDIO_LO_DET_L	TRUE		7 10
I2	AUDIO_LO_OPTICAL_PLUG_L	TRUE		7 10
I3	AUDIO_LI_DET_L	TRUE		7 11
I4	AUDIO_LI_OPTICAL_PLUG_L	TRUE		7 11
I5	I2S0_RESET_L	TRUE		7 8
I6	I2S1_RESET_L	TRUE		7 12
I7	PP3V3_RUN_AUDIO	TRUE		7 8 10 11 12
I8	I2C_SDA	TRUE		7 8 12
I9	I2C_SCL	TRUE		7 8 12
I10	SLEEP_LED	TRUE		7
I13	SLEEP_LED_GND	TRUE		7
I12	I2S1_DEV_TO_SB_DTI	TRUE		7 12
I11	I2S1_SYNC	TRUE		7 12
I16	I2S1_BITCLK	TRUE		7 12
I15	I2S0_DEV_TO_SB_DTI	TRUE		7 8
I14	I2S0_SB_TO_DEV_DTO	TRUE		7 8
I19	I2S0_BITCLK	TRUE		7 8 12
I18	I2S0_MCLK	TRUE		7 12
I17	AUDIO_SPKR_MUTE	TRUE		7 9
I20	AUDIO_LO_MUTE_L	TRUE		7 10
I23	AUDIO_EXT_MCLK_SEL	TRUE		7 12
I22	SPDIF_GPO0	TRUE		7 12
I21	AUD_GND	TRUE	4	7 8 9
I24	PP5V_PWRON_AUDIO1	TRUE	3	7 9 10
I25	PP5V_PWRON_AUDIO0	TRUE		7 8 12
		TRUE	3	IN

APPLE COMPUTER INC.

SIZE D | DRAWING NUMBER 051-6752 | REV. B

SCALE NONE | SHT 6 OF 14

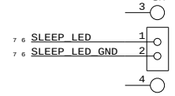
SLEEP LED CONNECTOR

CRITICAL

J2

M-ST-53398-2P

SM



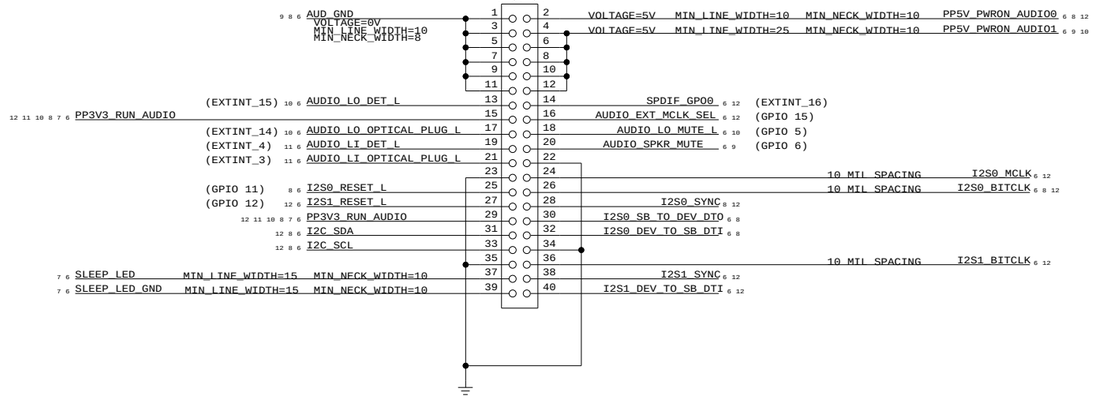
AUDIO CONNECTOR (TO MLB)

CRITICAL

J1

24-5047-040-400-856

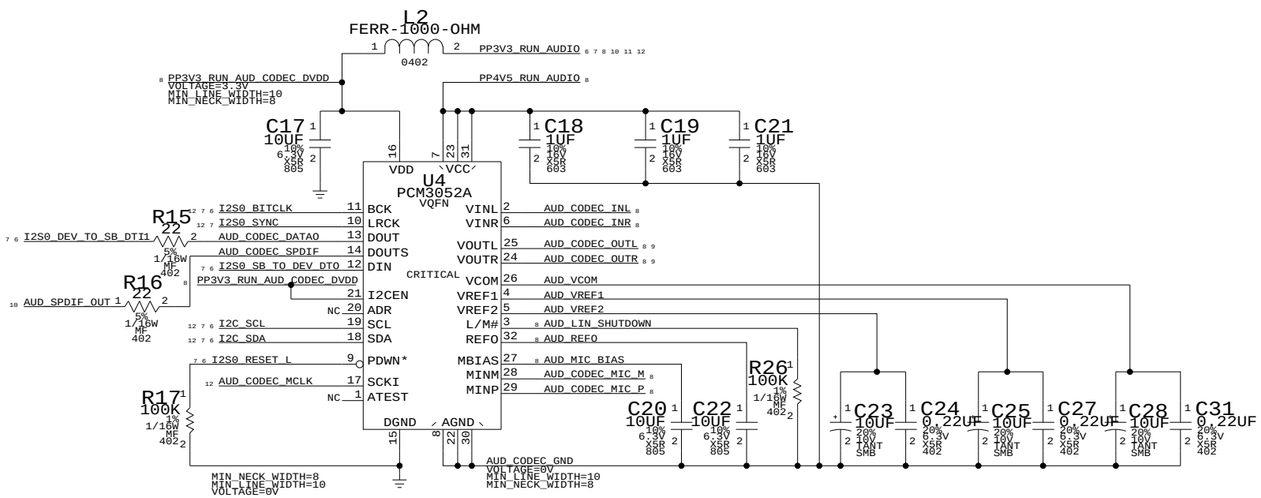
F-ST-SM



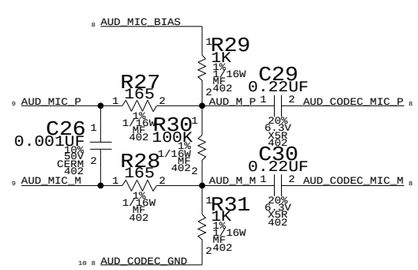
AUDIO CONNECTORS

APPLE COMPUTER INC.

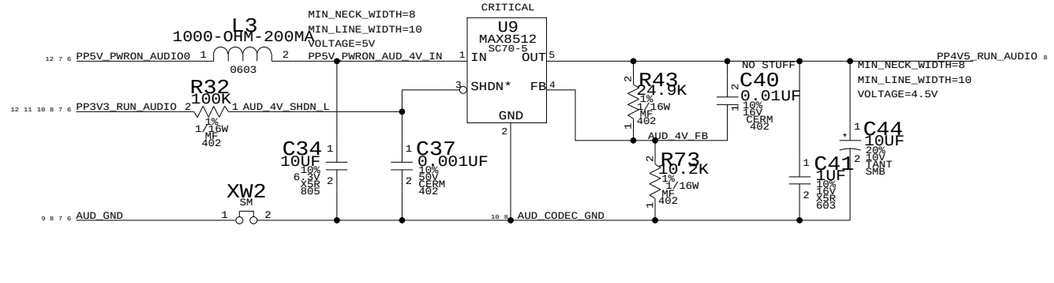
SIZE	DRAWING NUMBER	REV
D	051-6752	B
SCALE: NONE	SHT 7 OF 14	



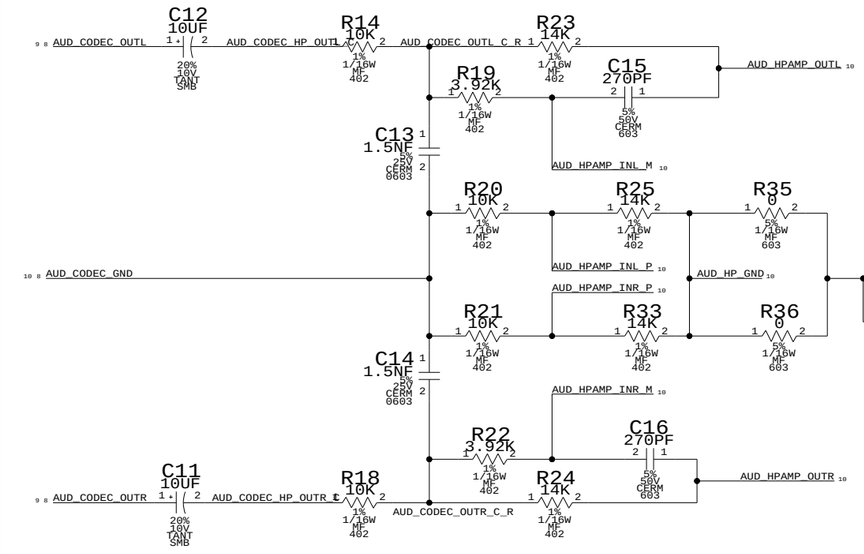
BROWNODIO CODEC



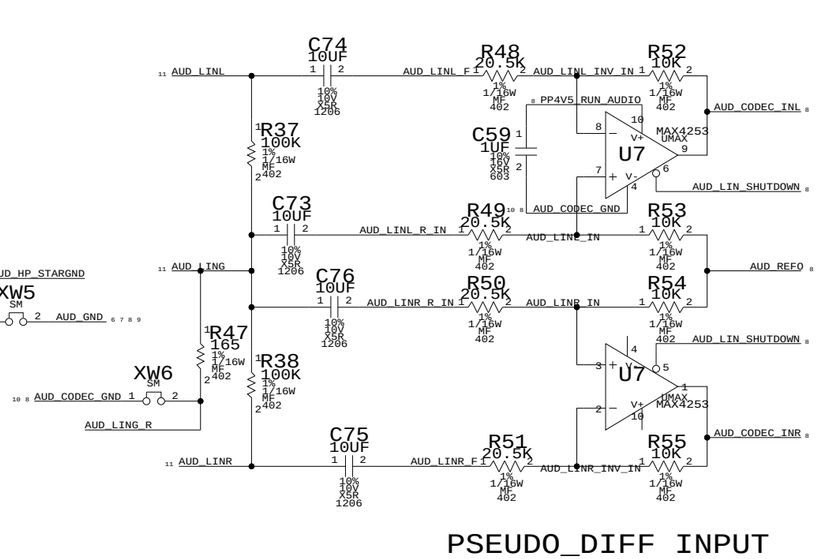
BROWNODIO MICROPHONE INTERFACE



BROWNODIO 4.5V REGULATOR



BROWNODIO 2ND ORDER DAC FILTER



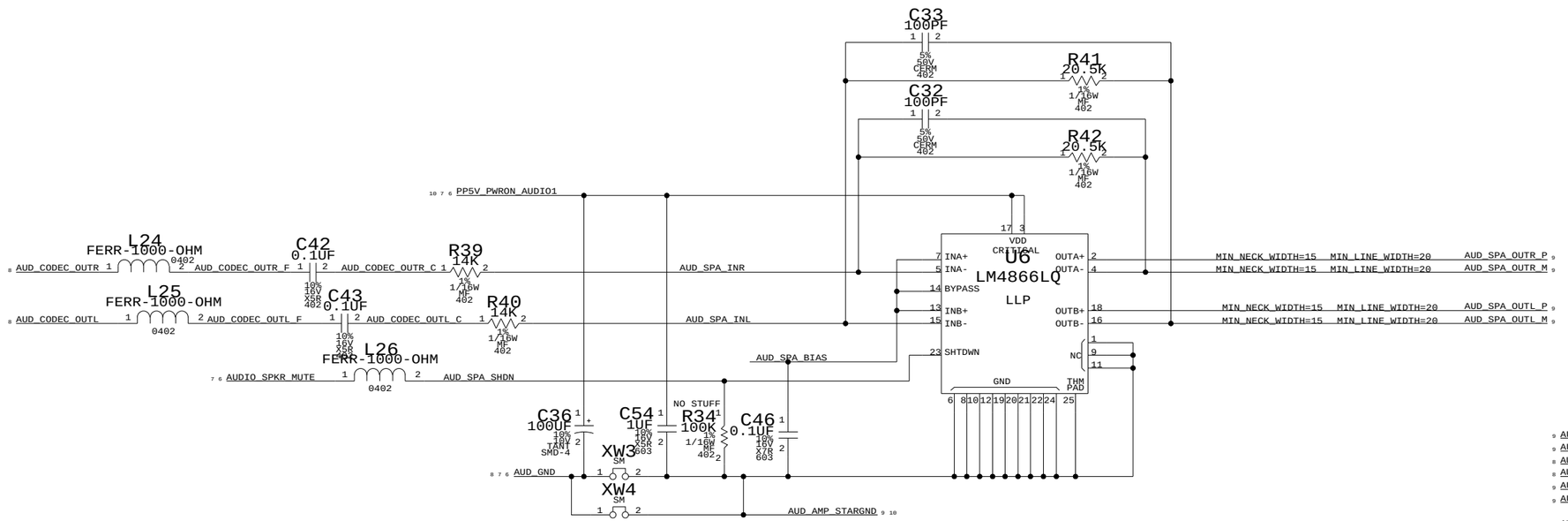
PSEUDO_DIFF INPUT

BROWNODIO CODEC

APPLE COMPUTER INC.

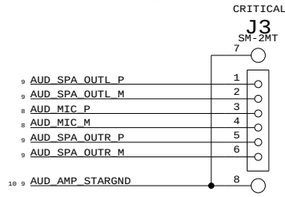
SIZE	DRAWING NUMBER	REV.
D	051-6752	B
SCALE: NONE	SHT 8 OF 14	

SPEAKER AMPLIFIER



SPEAKER CONNECTOR

CRITICAL



MAX9710 SPEAKER AMPLIFIER

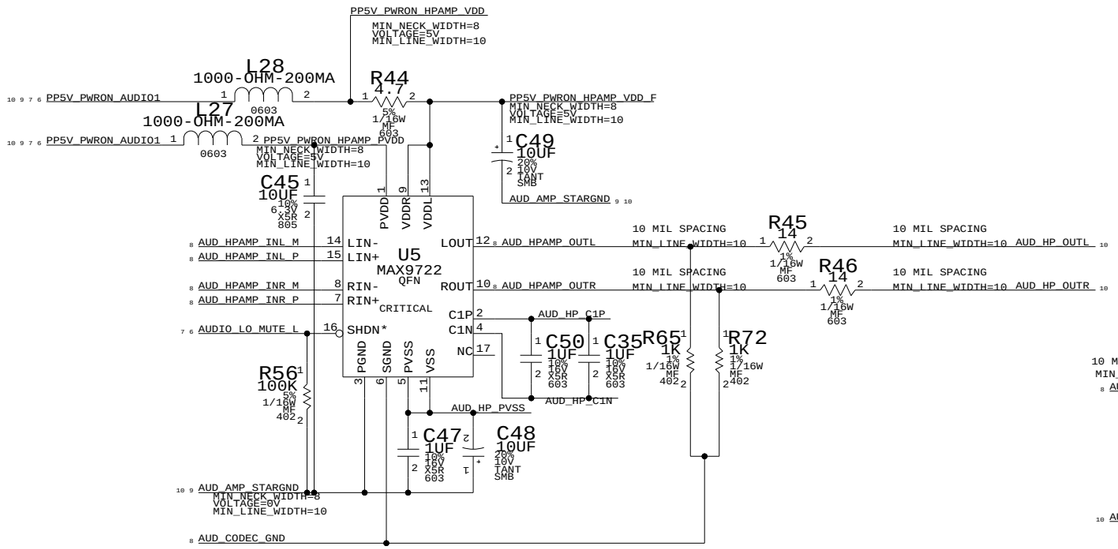
APPLE COMPUTER INC.

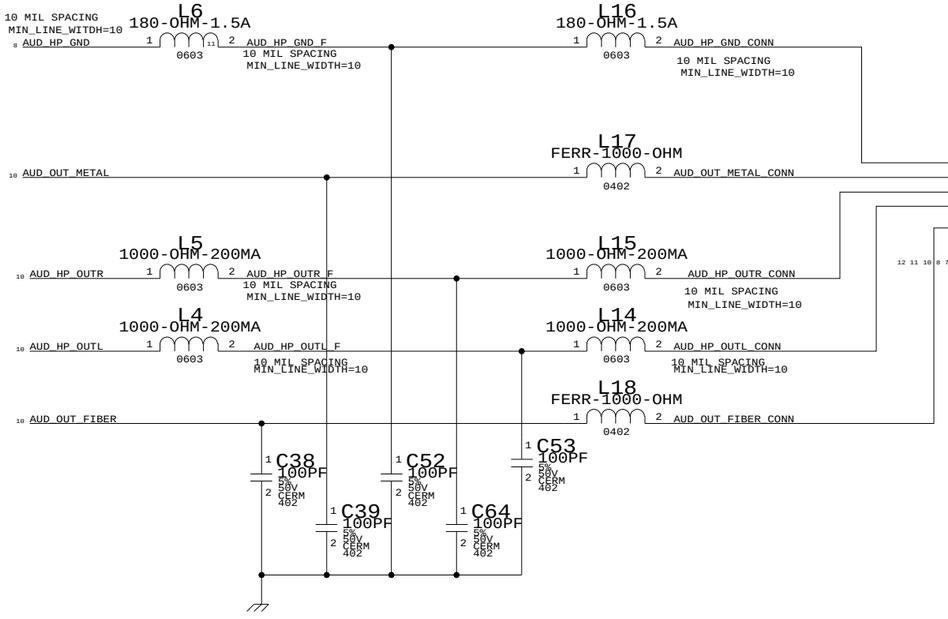
SIZE	DRAWING NUMBER	REV.
D	051-6752	B

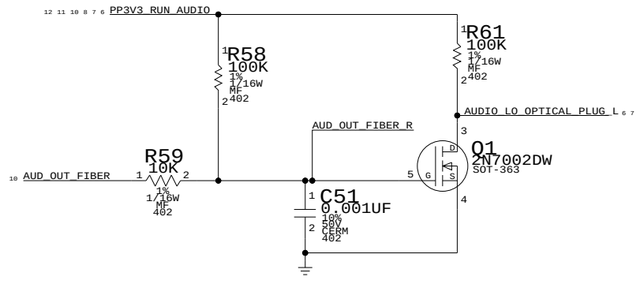
SCALE: NONE

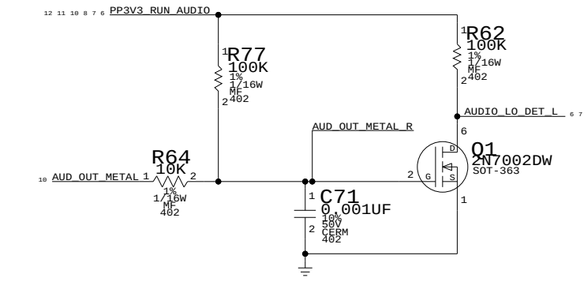
SHT 9 OF 14

HEADPHONE AMPLIFIER









MAX9722 HEADPHONE AMPLIFIER

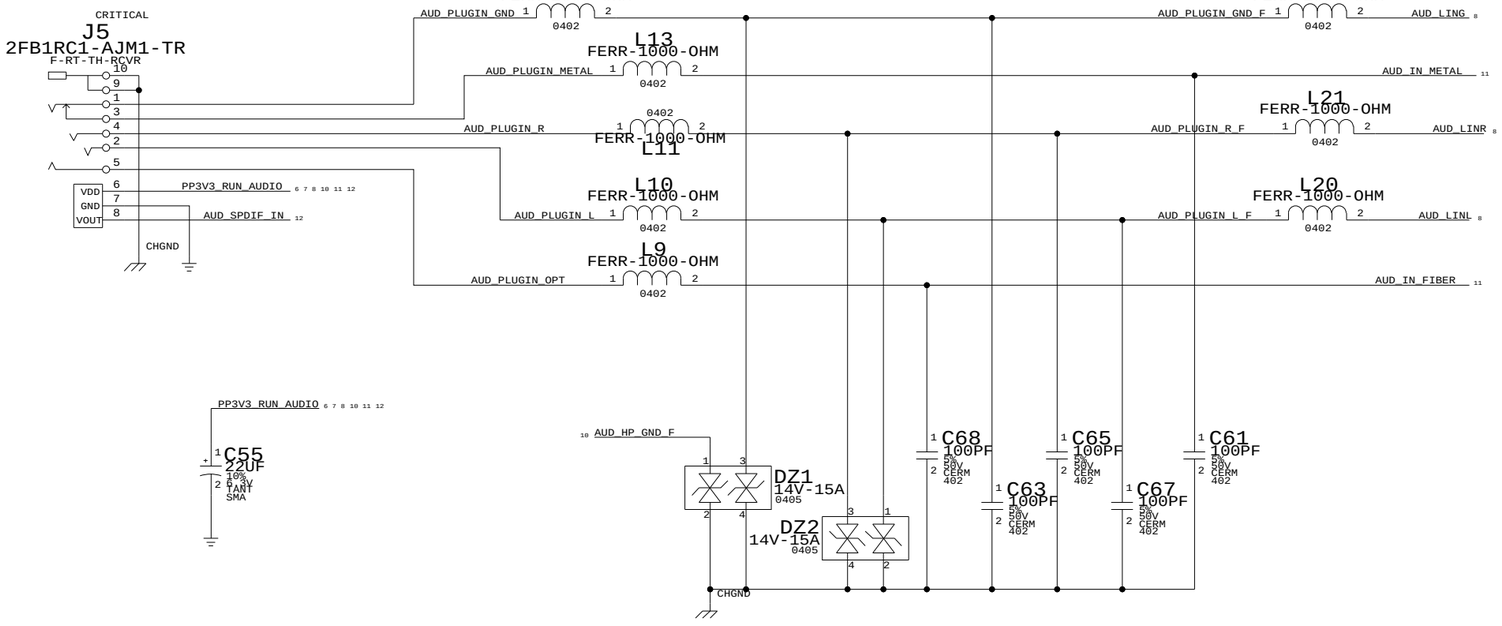
NOTICE OF PROPRIETARY PROPERTY

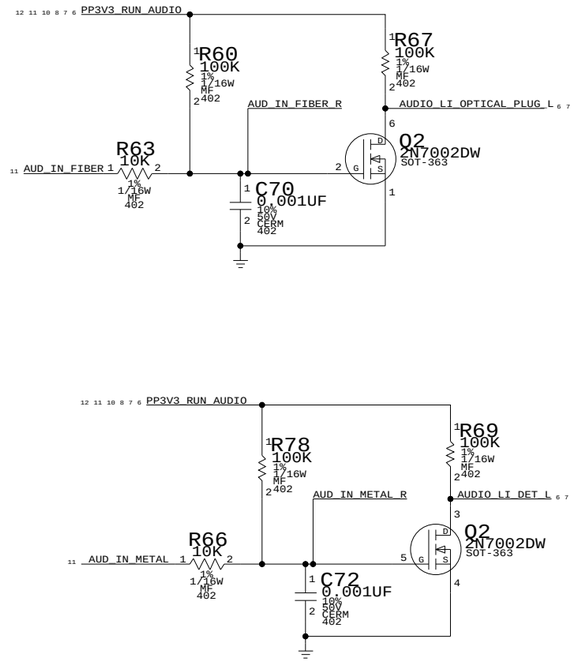
APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6752	B

SCALE	SHT
NONE	10 OF 14

LINE IN FILTER (PSEUDO-DIFF INPUT) ON CODEC PAGE
MIC PREAMP INCLUDED IN PCM3052A CODEC





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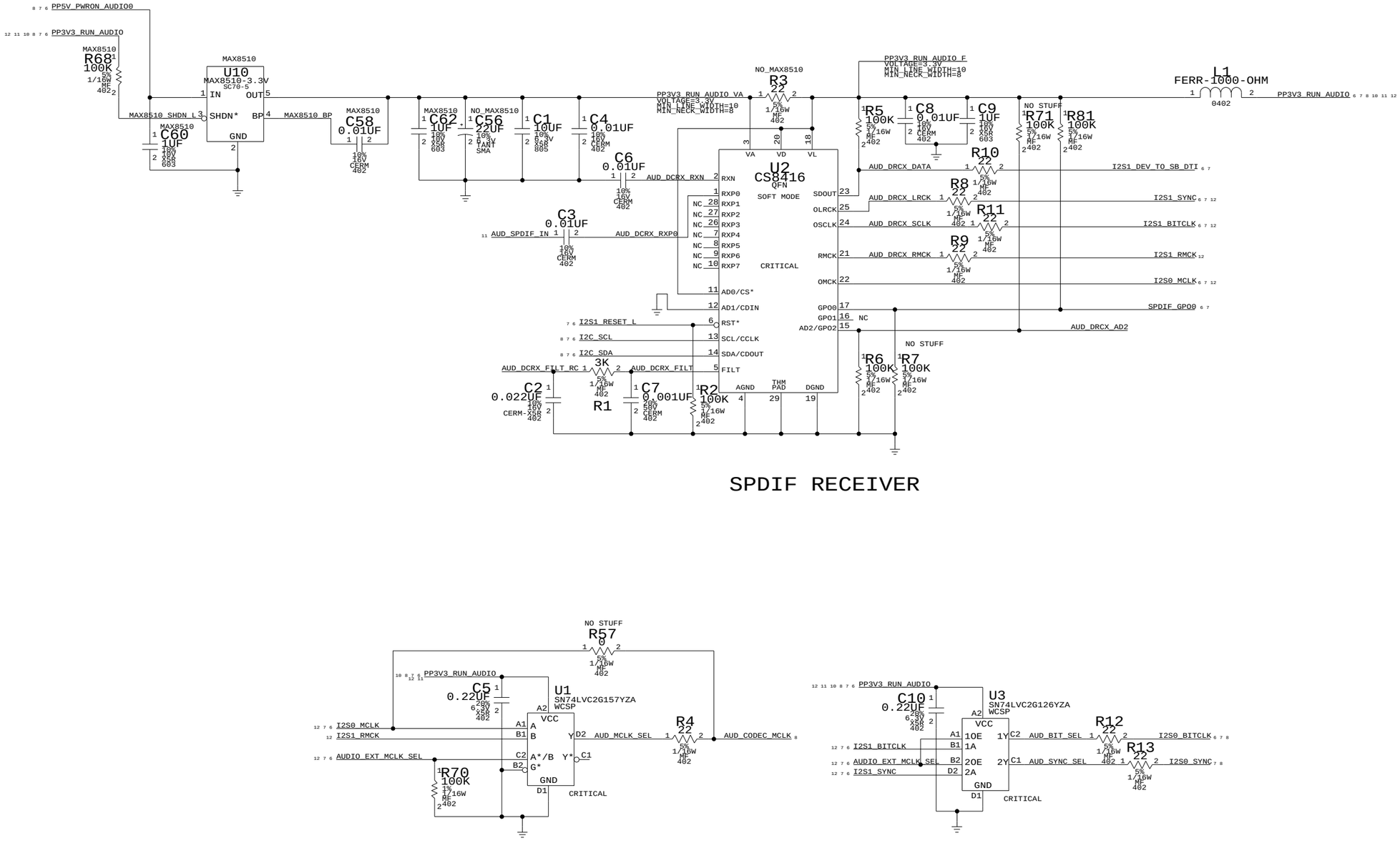
APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6752	B
SCALE: NONE	SHT 11 OF 14	



SPDIF RECEIVER

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6752	B
SCALE: NONE	SHT 12 OF 14	

*** Signal Cross-Reference for the entire design ***

```
AUDIO_EXT_MCLK_SEL  6C5> 7B4<> 12A4<> 12A7<>
AUDIO_LI_DET_L   6D5> 7B5<> 11B1<>
AUDIO_LI_OPTICAL_PLUG_L  6D5> 7B5<> 11C1<>
AUDIO_LO_DET_L   6D5> 7B5<> 10A8<>
AUDIO_LO_MUTE_L  6C5> 7B4<> 10C8<>
AUDIO_LO_OPTICAL_PLUG_L  6D5> 7B5<> 10B5<>
AUDIO_SPKR_MUTE  6C5> 7B4<> 9B7<
AUD_4V_FB        8C4<>
AUD_4V_SHDN_L    8C5<>
AUD_AMP_STARGND  9B2<> 9B5<> 10C8< 10D6<
AUD_BIT_SEL      12B4<>
AUD_CODEC_DATA0  8D8<>
AUD_CODEC_GND    8A4< 8A5<> 8A8< 8B4<> 8B7< 8C7<
                 10C8<
AUD_CODEC_HP_OUTL_C  8B8<
AUD_CODEC_HP_OUTR_C  8A8<
AUD_CODEC_INL    8B3<> 8D6<
AUD_CODEC_INR    8A3<> 8D6<
AUD_CODEC_MCLK   8C8< 12B5<
AUD_CODEC_MIC_M  8B6< 8C6<
AUD_CODEC_MIC_P  8C6< 8C6<
AUD_CODEC_OUTL   8B8< 8D6> 9C8<
AUD_CODEC_OUTL_C  9C7<
AUD_CODEC_OUTL_C_R  8B7<
AUD_CODEC_OUTL_F  9C7<
AUD_CODEC_OUTR   8A8< 8D6> 9C8<
AUD_CODEC_OUTR_C  9C7<
AUD_CODEC_OUTR_C_R  8A7<
AUD_CODEC_OUTR_F  9C7<
AUD_CODEC_SPDIF  8D8<>
AUD_DCRX_FILT    12C5<>
AUD_DCRX_FILT_RC  12C6<
AUD_DCRX_RXN     12D5<
AUD_DCRX_RXP0    12C5<
AUD_DRCX_AD2     12C3<>
AUD_DRCX_DATA    12D4<>
AUD_DRCX_LRCK    12D4<>
AUD_DRCX_RMCK    12C4<>
AUD_DRCX_SCLK    12C4<>
AUD_GND          6C5> 7B5<> 8A5<> 8B6<> 9B6<>
AUD_HPAMP_INL_M  8B6< 10D8<
AUD_HPAMP_INL_P  8A6< 10D8<
AUD_HPAMP_INR_M  8A6< 10C8<
AUD_HPAMP_INR_P  8A6< 10C8<
AUD_HPAMP_OUTL   8B6< 10D7<>
AUD_HPAMP_OUTR   8A6< 10C7<>
AUD_HP_C1N       10C6<>
AUD_HP_C1P       10C6<>
AUD_HP_GND       8A6< 10C5<
AUD_HP_GND_CONN  10C2<>
AUD_HP_GND_F     10C4< 11B6<
AUD_HP_OUTL      10B5< 10D5<
AUD_HP_OUTL_CONN  10B2<>
AUD_HP_OUTL_F    10B4<
AUD_HP_OUTR      10C5< 10C5<
AUD_HP_OUTR_CONN  10C2<>
AUD_HP_OUTR_F    10C4<
AUD_HP_PVSS      10C6<
AUD_HP_STARGND   8A5<>
AUD_IN_FIBER     11C3< 11C3<
AUD_IN_FIBER_R   11C2<>
AUD_IN_METAL     11B3< 11C3<
AUD_IN_METAL_R   11B2<>
AUD_LING         8A5< 11C3<
AUD_LING_R       8A5<>
AUD_LINL         8B5< 11C3<
AUD_LINL_F       8B4<
AUD_LINL_IN      8A4<>
AUD_LINL_INV_IN  8B4<>
AUD_LINL_M_IN    8A4<
AUD_LINR         8A5< 11C3<
AUD_LINR_F       8A4<
AUD_LINR_IN      8A4<>
AUD_LINR_INV_IN  8A4<>
AUD_LINR_M_IN    8A4<
AUD_LIN_SHUTDOWN  8A3<> 8B3<> 8D7<>
AUD_MCLK_SEL     12B6<>
AUD_MIC_BIAS     8C7< 8C7<>
AUD_MIC_M        8B7< 9B2<>
AUD_MIC_P        8C7< 9B2<>
AUD_M_M          8B7<
AUD_M_P          8C7<
AUD_OUT_FIBER    10B5< 10B7<
AUD_OUT_FIBER_CONN  10B2<>
AUD_OUT_FIBER_R  10B5<>
AUD_OUT_METAL    10A7< 10C5<
AUD_OUT_METAL_CONN  10C2<>
AUD_OUT_METAL_R  10A5<>
AUD_PLUGIN_GND   11C7<>
AUD_PLUGIN_GND_F  11C4<
AUD_PLUGIN_L     11C7<>
AUD_PLUGIN_L_F   11C4<
AUD_PLUGIN_METAL  11C7<>
AUD_PLUGIN_OPT   11C7<>
AUD_PLUGIN_R     11C7<>
AUD_PLUGIN_R_F   11C4<
AUD_REFO         8A3< 8D7<>
AUD_SPA_BIAS     9C5<>
AUD_SPA_INL      9C5<
AUD_SPA_INR      9C5<
AUD_SPA_OUTL_M   9B2<> 9C2<>
AUD_SPA_OUTL_P   9B2<> 9C2>
AUD_SPA_OUTR_M   9B2<> 9C2<>
AUD_SPA_OUTR_P   9B2<> 9C2>
AUD_SPA_SHDN     9B6<
AUD_SPDIF_IN     11C7< 12C6<
AUD_SPDIF_OUT    8D8< 10C2<
AUD_SYNC_SEL     12A4<>
AUD_VCOM         8D7<>
AUD_VREF1        8D7<>
AUD_VREF2        8D7<>
CHGND1           2D2>
I2C_SCL          6D5> 7A5<> 8D8< 12C6<
I2C_SDA          6D5> 7A5<> 8D8<> 12C6<>
I2S0_BITCLK      6C5> 7B3<> 8D8< 12B3<
I2S0_DEV_TO_SB_DTI  6C5> 7A4<> 8D8<
I2S0_MCLK        6C5> 7B3<> 12B7<> 12C3<
I2S0_RESET_L     6D5> 7B5<> 8C8<
I2S0_SB_TO_DEV_DTO  6C5> 7A4<> 8D8<
I2S0_SYNC        7B4<> 8D8< 12A3<
I2S1_BITCLK      6C5> 7A3<> 12B4<> 12C3<
I2S1_DEV_TO_SB_DTI  6C5> 7A4<> 12D3<
I2S1_RESET_L     6D5> 7B5<> 12C6<
I2S1_RMCK        12B7<> 12C3<
I2S1_SYNC        6C5> 7A4<> 12A4<> 12D3<
MAX8510_BP       12D7<>
MAX8510_SHDN_L   12D8<>
MIDDLE_SCREW_GND  2C2<
PP3V3_RUN_AUDIO  6D5> 7A5<> 7B5<> 8C6< 8D6< 10A7<
                 10B7< 10C2< 11B3< 11B7< 11C3< 11C7<
                 12B4< 12B6< 12D2< 12D8<
PP3V3_RUN_AUDIO_F  12D4<
PP3V3_RUN_AUDIO_VA  12D5<>
PP3V3_RUN_AUD_CODEC_DVDD  8D8< 8D8<
PP4V5_RUN_AUDIO  8B4< 8C2<> 8D6<
PP5V_PWRON_AUDIO9  6C5> 7B3<> 8C6< 12D8<
PP5V_PWRON_AUDIO1  6C5> 7B3<> 9C6< 10D8< 10D8<
PP5V_PWRON_AUD_4V_IN  8C5<
PP5V_PWRON_HPAMP_PVDD  10D7<
PP5V_PWRON_HPAMP_VDD  10D7<
PP5V_PWRON_HPAMP_VDD_F  10D6<
SLEEP_LED        6C5> 7A6<> 7C6<>
SLEEP_LED_GND    6C5> 7A6<> 7C6<>
SPDIF_GPO0       6C5> 7B4<> 12C3<>
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*** Part Cross-Reference for the entire design ***

C1	CAP	12
C2	CAP	12
C3	CAP	12
C4	CAP	12
C5	CAP	12
C6	CAP	12
C7	CAP	12
C8	CAP	12
C9	CAP	12
C10	CAP	12
C11	CAP_P	8
C12	CAP_P	8
C13	CAP	8
C14	CAP	8
C15	CAP	8
C16	CAP	8
C17	CAP	8
C18	CAP	8
C19	CAP	8
C20	CAP	8
C21	CAP	8
C22	CAP	8
C23	CAP_P	8
C24	CAP	8
C25	CAP_P	8
C26	CAP	8
C27	CAP	8
C28	CAP_P	8
C29	CAP	8
C30	CAP	8
C31	CAP	8
C32	CAP	9
C33	CAP	9
C34	CAP	8
C35	CAP	10
C36	CAP_P	9
C37	CAP	8
C38	CAP	10
C39	CAP	10
C40	CAP	8
C41	CAP	8
C42	CAP	9
C43	CAP	9
C44	CAP_P	8
C45	CAP	10
C46	CAP	9
C47	CAP	10
C48	CAP_P	10
C49	CAP_P	10
C50	CAP	10
C51	CAP	10
C52	CAP	10
C53	CAP	10
C54	CAP	9
C55	CAP_P	11
C56	CAP_P	12
C58	CAP	12
C59	CAP	8
C60	CAP	12
C61	CAP	11
C62	CAP	12
C63	CAP	11
C64	CAP	10
C65	CAP	11
C67	CAP	11
C68	CAP	11
C70	CAP	11
C71	CAP	10
C72	CAP	11
C73	CAP	8
C74	CAP	8
C75	CAP	8
C76	CAP	8
DZ1	SUPPR_TRANSIENT_4P1	11
DZ2	SUPPR_TRANSIENT_4P1	11
J1	CON_F40ST_D_SM	7
J2	CON_M25T_SJMT_SM	7
J3	CON_M6RT_WRIB	9
J4	CON_F8RT_SPDIFTRAN_TH1	10
J5	CON_F8RT_SPDIFRCVR_TH1	11
L1	IND	12
L2	IND	8
L3	IND	8
L4	IND	10
L5	IND	10
L6	IND	10
L9	IND	11
L10	IND	11
L11	IND	11
L12	IND	11
L13	IND	11
L14	IND	10
L15	IND	10
L16	IND	10
L17	IND	10
L18	IND	10
L20	IND	11
L21	IND	11
L22	IND	11
L24	IND	9
L25	IND	9
L26	IND	9
L27	IND	10
L28	IND	10
Q1	TRA_2N7002DW	10
Q2	TRA_2N7002DW	11
R1	RES	12
R2	RES	12
R3	RES	12
R4	RES	12
R5	RES	12
R6	RES	12
R7	RES	12
R8	RES	12
R9	RES	12
R10	RES	12
R11	RES	12
R12	RES	12
R13	RES	12
R14	RES	8
R15	RES	8
R16	RES	8
R17	RES	8
R18	RES	8
R19	RES	8
R20	RES	8
R21	RES	8
R22	RES	8
R23	RES	8
R24	RES	8
R25	RES	8
R26	RES	8
R27	RES	8
R28	RES	8
R29	RES	8
R30	RES	8
R31	RES	8
R32	RES	8
R33	RES	8
R34	RES	9
R35	RES	8
R36	RES	8
R37	RES	8
R38	RES	8
R39	RES	9
R40	RES	9
R41	RES	9
R42	RES	9
R43	RES	8
R44	RES	10
R45	RES	10
R46	RES	10
R47	RES	8
R48	RES	8
R49	RES	8
R50	RES	8
R51	RES	8
R52	RES	8
R53	RES	8
R54	RES	8
R55	RES	8
R56	RES	10
R57	RES	12
R58	RES	10
R59	RES	10
R60	RES	11

R61	RES	10
R62	RES	10
R63	RES	11
R64	RES	10
R65	RES	10
R66	RES	11
R67	RES	11
R68	RES	12
R69	RES	11
R70	RES	12
R71	RES	12
R72	RES	10
R73	RES	8
R76	RES	2
R77	RES	10
R78	RES	11
R81	RES	12
U1	SN74LVC2G157YZA	12
U2	CS8416_SOFT	12
U3	SN74LVC2G126YZA	12
U4	AUDIO_PCM3052A	8
U5	MAX9722	10
U6	AUDIO_LM4866LQ	9
U7	OPAMP_MAX4253	8
U9	MAX8512	8
U10	MAX8510	12
XW2	SHORT	8
XW3	SHORT	9
XW4	SHORT	9
XW5	SHORT	8
XW6	SHORT	8