

8

7

6

5

4

3

2

1

- 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		358898	PRODUCTION RELEASED	01/07/05	

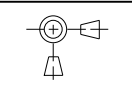
PAGE	CONTENTS
1	TITLE PAGE AND CONTENTS
2	PCB NOTES AND HOLES
3	DC POWER INPUT
4	USB I/O CONNECTOR (LEFT) & ALS (LEFT)
5	SNAPPER (AUDIO) CONTROL INTERFACE
6	SPEAKER DRIVER
7	HEADPHONE DRIVER
8	MICROPHONE AMP. & LINE-IN AMP.
9	SIGNAL & POWER CONSTRAINTS
10	REVISION HISTORY
11	SIGNAL LOCATIONS
12	COMPONENT LOCATIONS

SCHEM, LEFT I/O BRD, PB15 "

01/07/2005

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	BOM OPTION
051-6686	1	SCHEM, LEFT I/O BRD, PB15	SCH1	
820-1685	1	PCBF, LEFT I/O BRD, PB15	PCB1	

DIMENSIONS ARE IN MILLIMETERS		METRIC		Apple Computer Inc.	
XX : _____				NOTICE OF PROPRIETARY PROPERTY	
X.XX : _____				THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE COMPUTER, INC. THE POSSESSOR AGREES TO THE FOLLOWING	
X.XXX : _____				I TO MAINTAIN THE DOCUMENT IN CONFIDENCE	
ANGLES : _____				II NOT TO REPRODUCE OR COPY IT	
				III NOT TO REVEAL OR PUBLISH IN WHOLE OR PART	
DO NOT SCALE DRAWING		DRAPTER	DESIGN CK	TITLE	
		ENG APPD	MFG APPD	SCHEM, LEFT I/O BRD, PB15	
		QA APPD	DESIGNER	DRAWING NUMBER	
		RELEASE	SCALE	051-6686	
			NONE	REV. B	
		MATERIAL/FINISH NOTED AS APPLICABLE		SHT 1 OF 12	
		SIZE D			



THIRD ANGLE PROJECTION

www.laptop-schematics.com

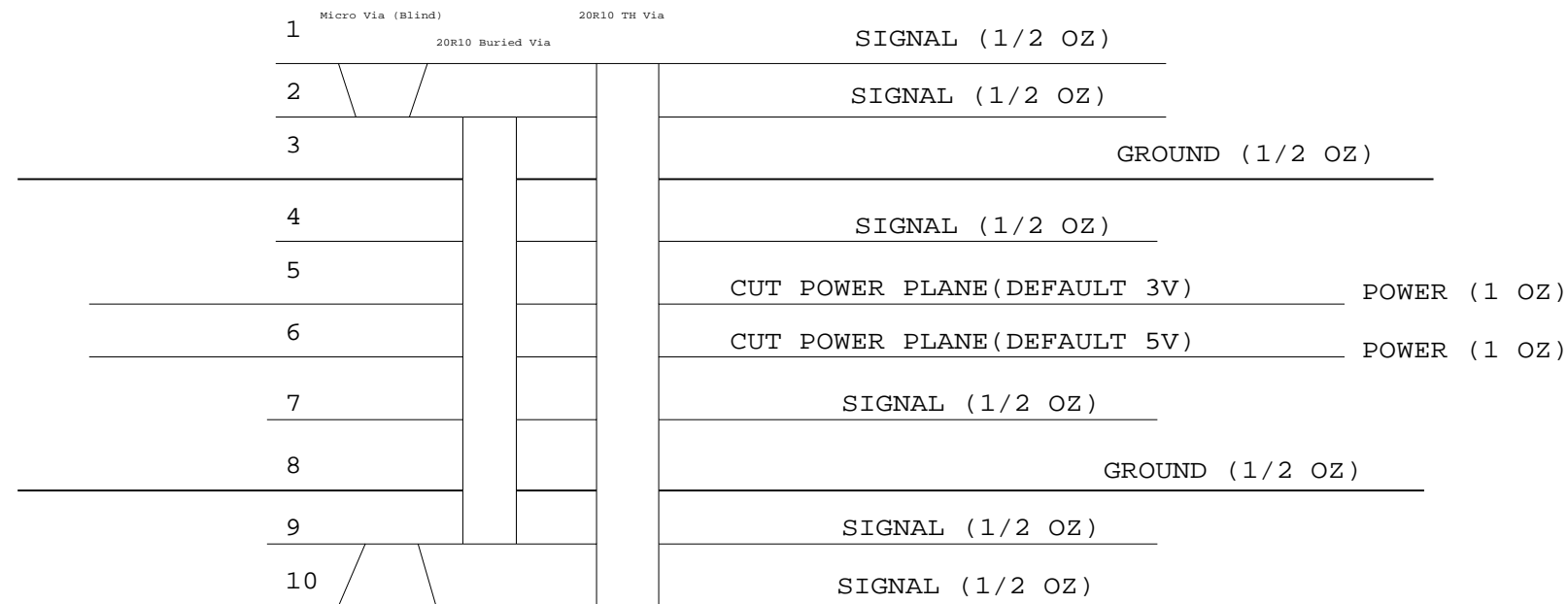
PCB SPECS

THICKNESS : 1.2 MM / 0.047 IN
 1/2 OZ CU THICKNESS: 0.7 MILS
 1.0 OZ CU THICKNESS: 1.4 MILS

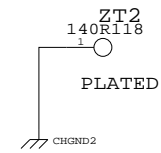
IMPEDANCE : 50 OHMS +/- 10%
 DIELECTRIC: FR-4
 LAYER COUNT: 10
 SIGNAL TRACE WIDTH: 4 MILS
 SIGNAL TRACE SPACING: 4 MILS
 PREPREG THICKNESS: 3-6 MILS

SEE PCB CAD FILES FOR MORE SPECIFIC INFO.

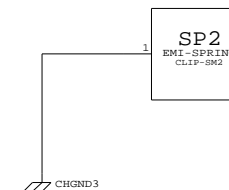
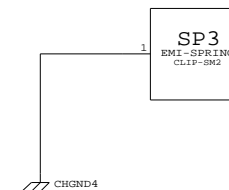
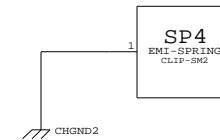
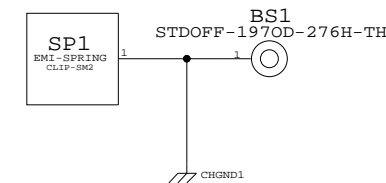
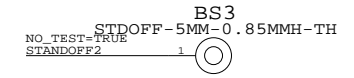
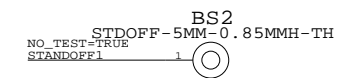
BOARD STACK-UP AND CONSTRUCTION



BOARD HOLES



PCB BOARD STANDOFFS / FINGER SPRINGS



BOARD INFORMATION

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

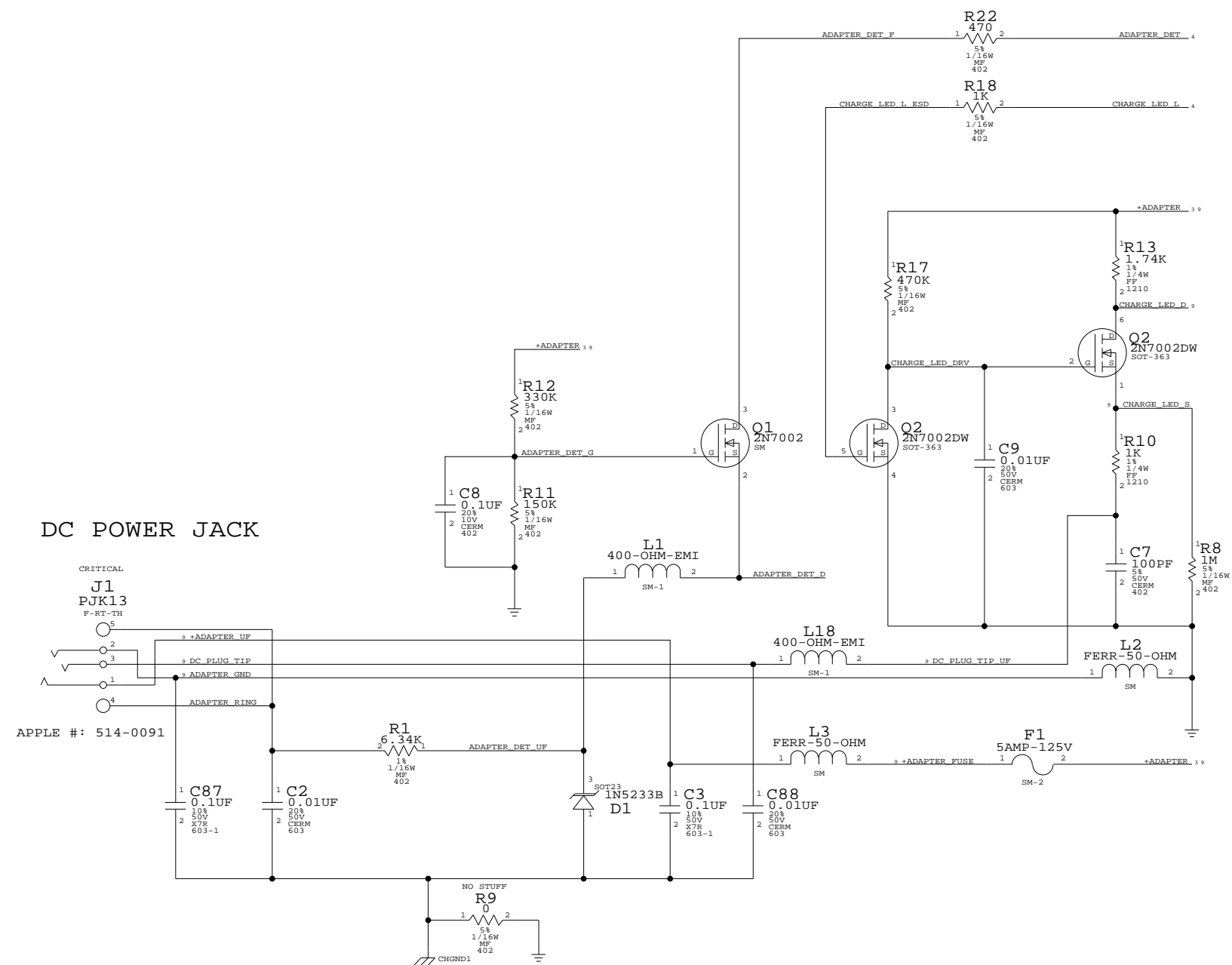
APPLE COMPUTER INC.	SIZE	DRAWING NUMBER	REV.
	D	051-6686	B
SCALE		SHT	OF
NONE		2	12

8 7 6 5 4 3 2 1

D
C
B
A

CHARGE LED SUPPORT

(TO 40-P LIO CONNECTOR)



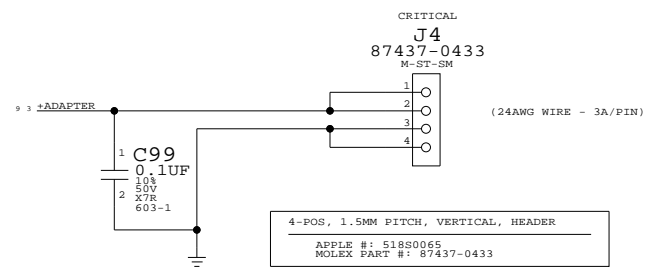
DC POWER JACK

CRITICAL
J1
PJK13
F-RT-TH

APPLE #: 514-0091

PLACE C2, C3 AND R2 CLOSE TO J1
PLACE L1, L2 AND L3 CLOSE TO J1

POWER CONNECTOR (TO MLB)



DC POWER INPUT

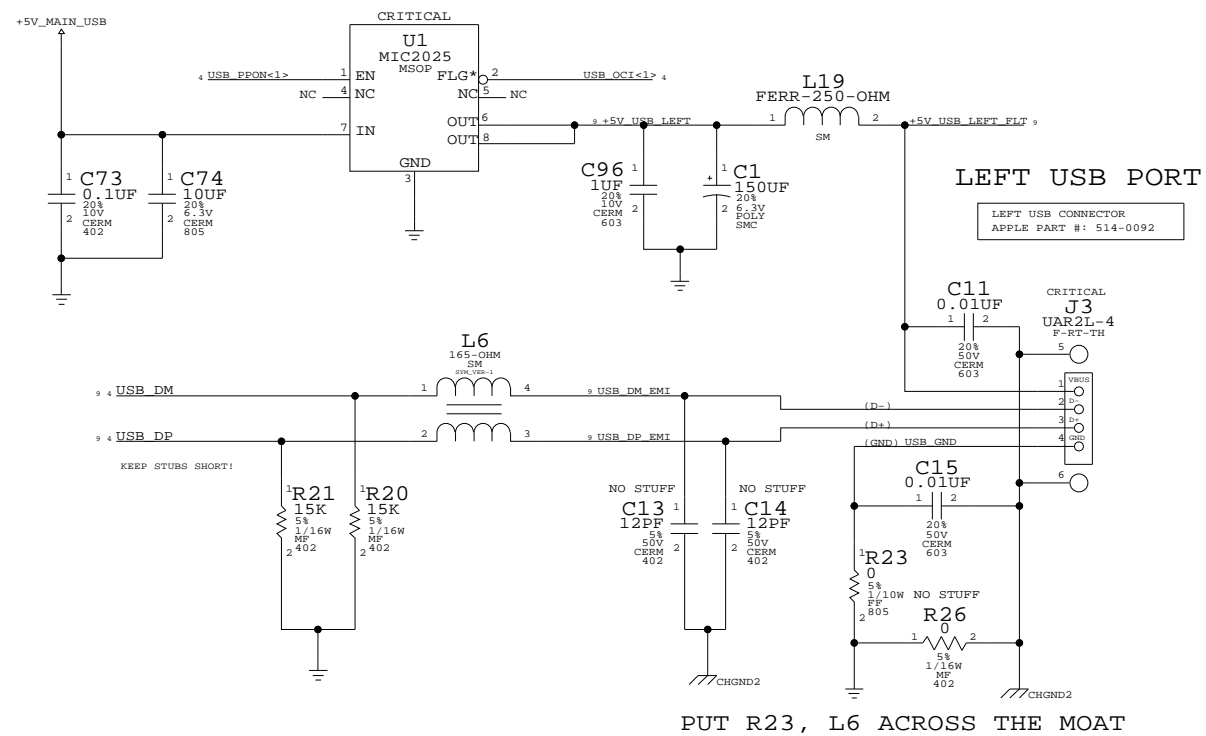
NOTICE OF PROPRIETARY PROPERTY
THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE COMPUTER, INC. THE POSSESSOR AGREES TO THE FOLLOWING
I TO MAINTAIN THE DOCUMENT IN CONFIDENCE
II NOT TO REPRODUCE OR COPY IT
III NOT TO REVEAL OR PUBLISH IN WHOLE OR PART

APPLE COMPUTER INC.	SIZE	DRAWING NUMBER	REV.
	D	051-6686	B
SCALE	NONE	SHT OF	3 OF 12

8 7 6 5 4 3 2 1

www.laptop-schematics.com

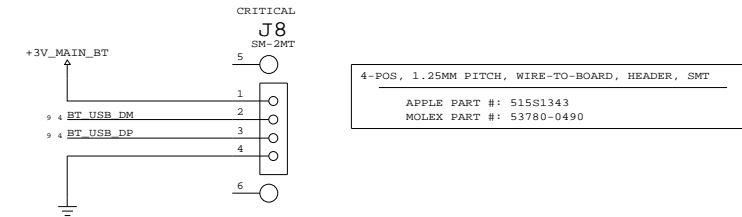
LEFT USB CONNECTOR



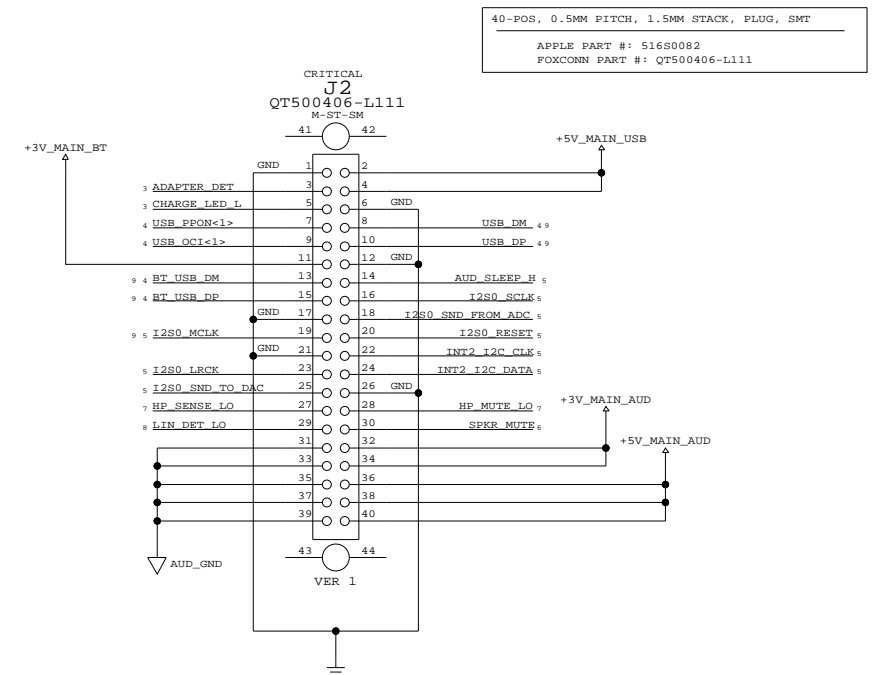
LEFT USB PORT

LEFT USB CONNECTOR
APPLE PART #: 514-0092

BLUETOOTH CONNECTOR



AUDIO/USB CONNECTOR



USB CONNECTOR (LEFT)
& ALS (LEFT)

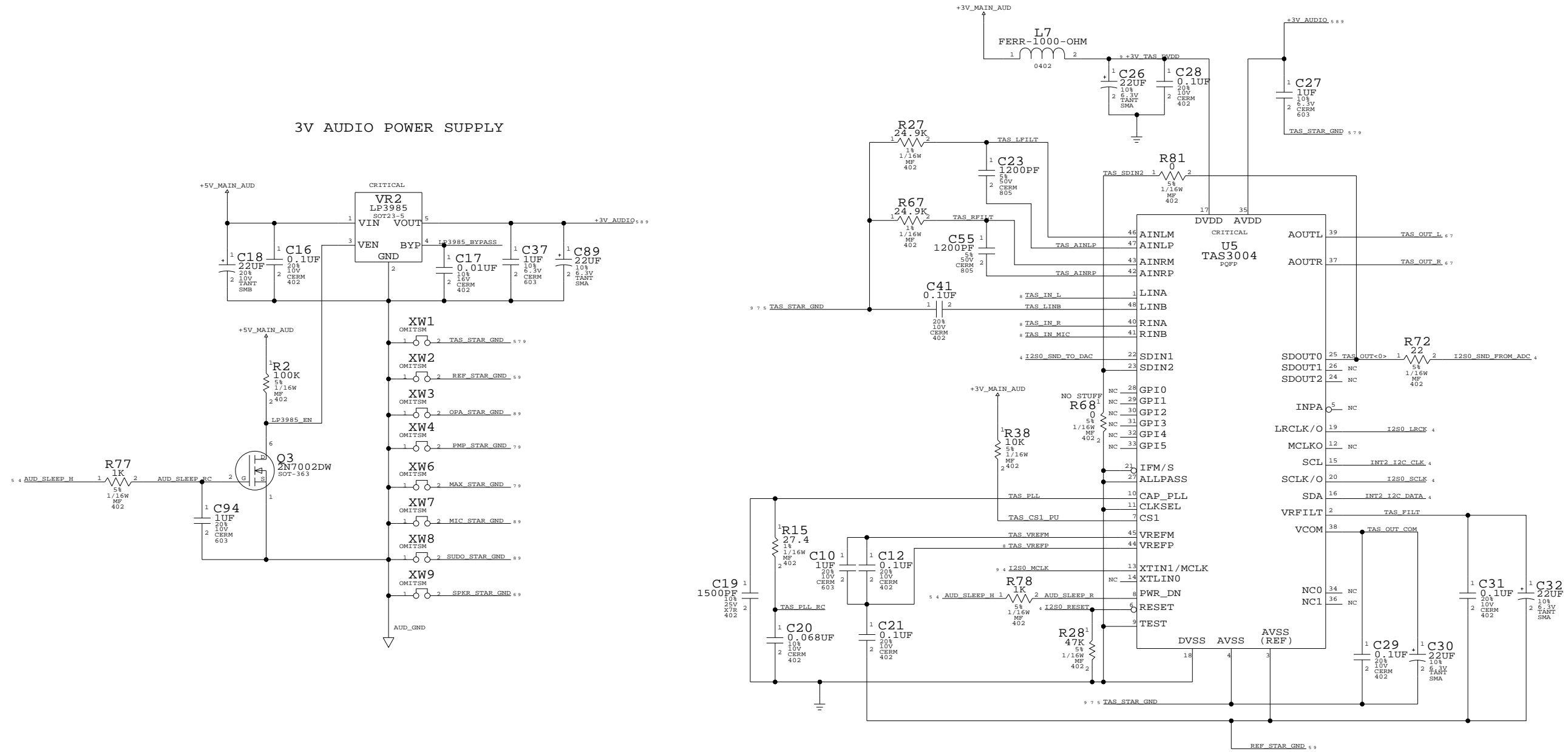
NOTICE OF PROPRIETARY PROPERTY

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	DRAWING NUMBER	REV.
	D	051-6686	B
SCALE	SHT		OF
NONE	4		12

SNAPPER CONTROL INTERFACE

3V AUDIO POWER SUPPLY



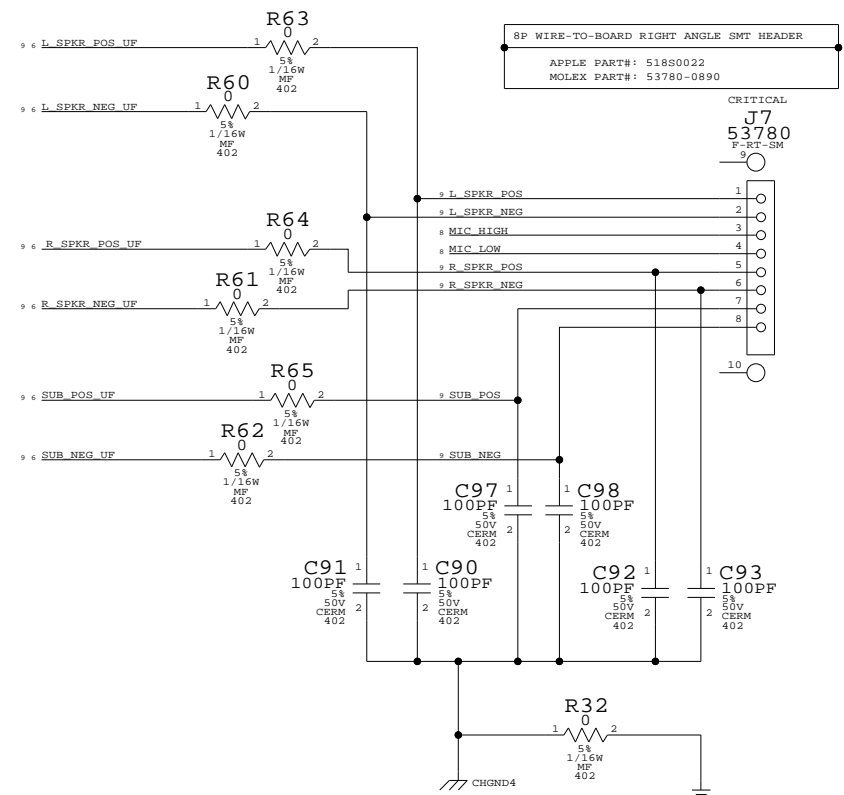
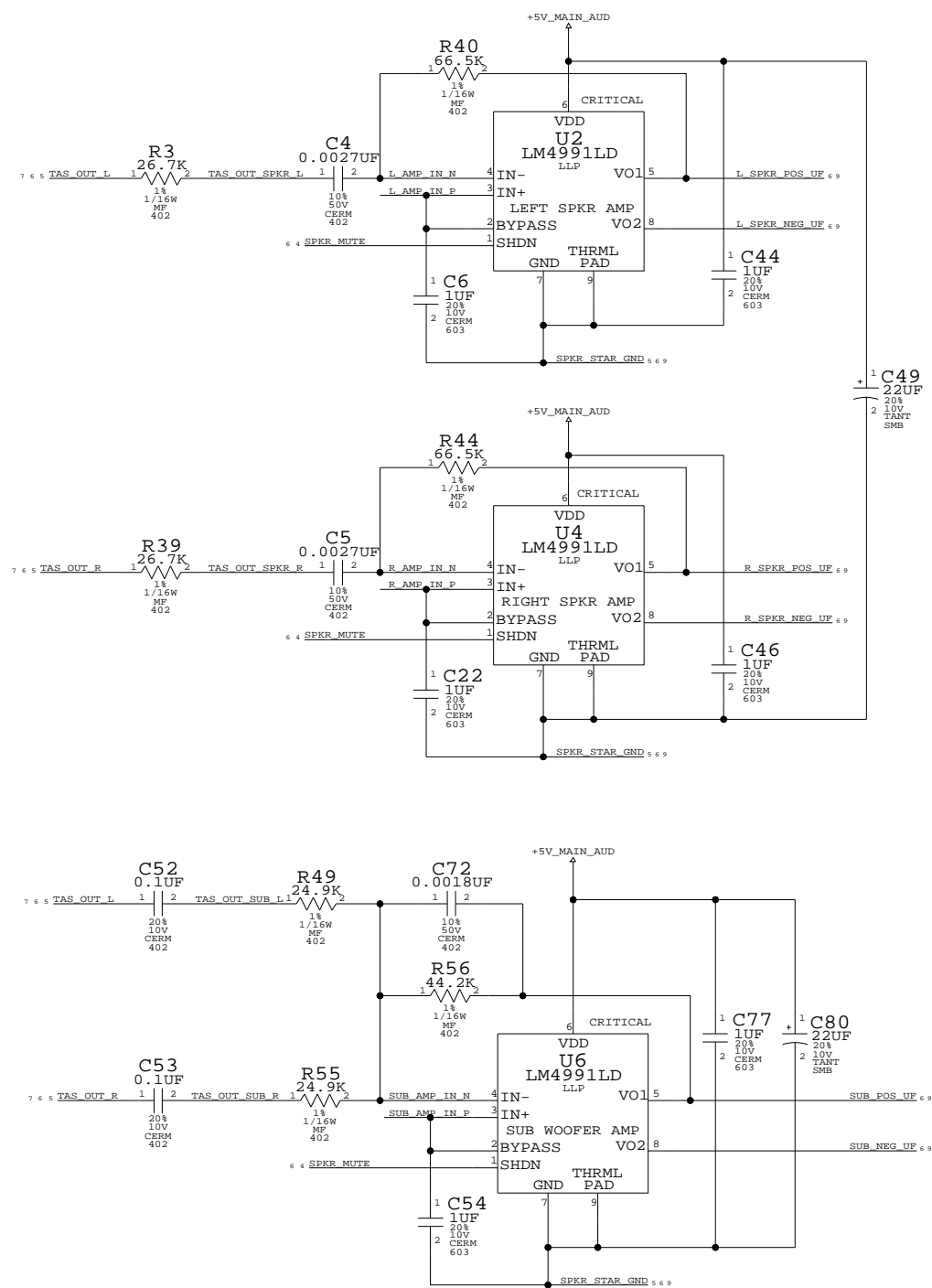
SNAPPER (AUDIO) CONTROL INTERFACE

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	DRAWING NUMBER	REV.
	D	051-6686	B
SCALE	SHEET OF		
NONE	5 OF 12		

www.laptop-schematics.com

SPEAKER DRIVER

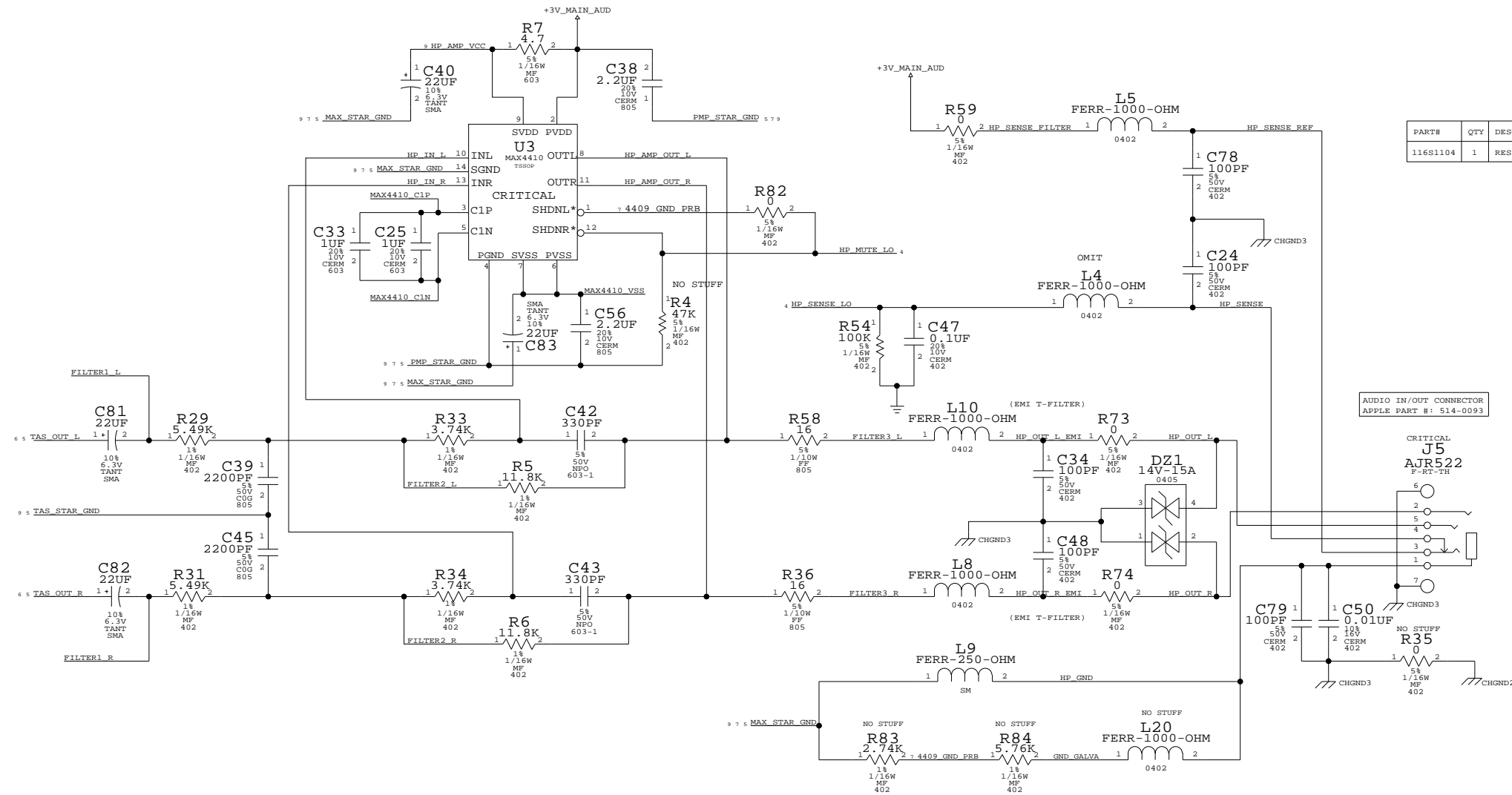


SPEAKER DRIVERS

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	DRAWING NUMBER	REV.
	D	051-6686	B
SCALE	SHT OF		
NONE	6 OF		12

HEADPHONE DRIVER



PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	BOM OPTION
116S1104	1	RES, MF, 1/16W, 10K OHM, S, 0402, 4MD	L4	

AUDIO IN/OUT CONNECTOR
APPLE PART #: 514-0093

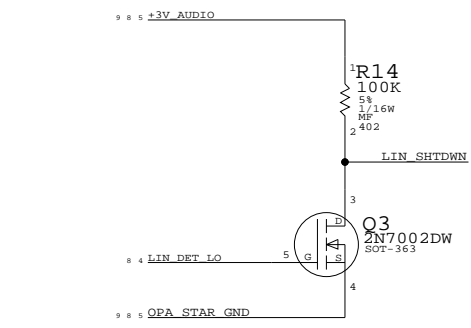
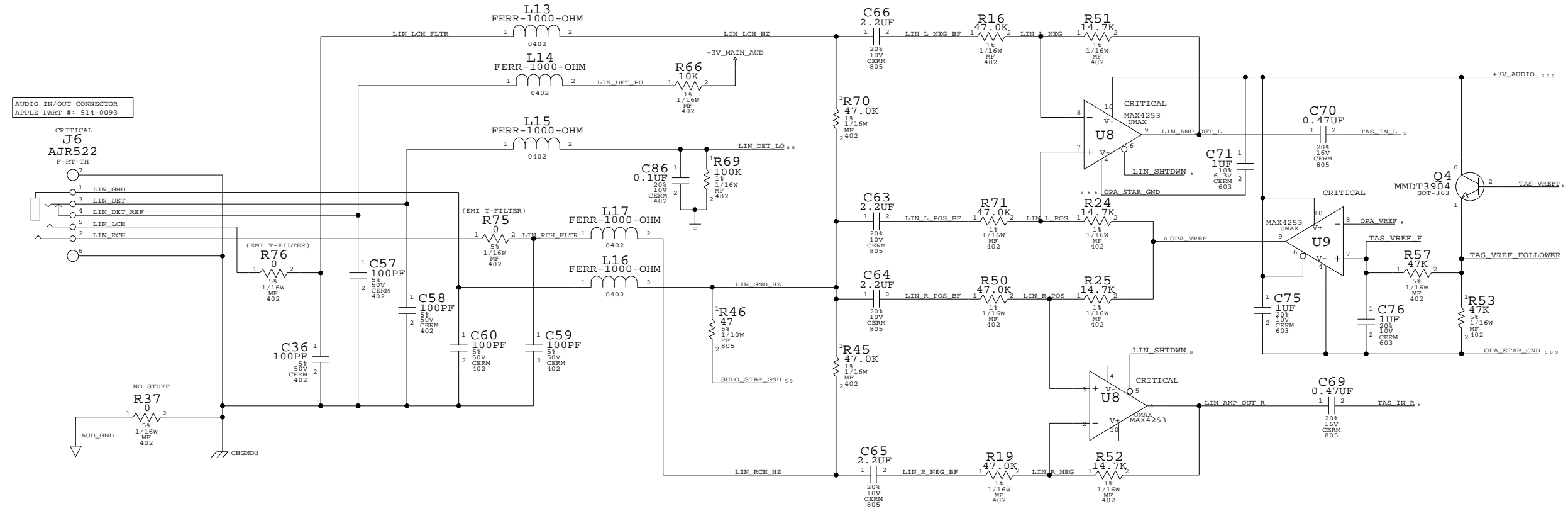
HEADPHONE DRIVER

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

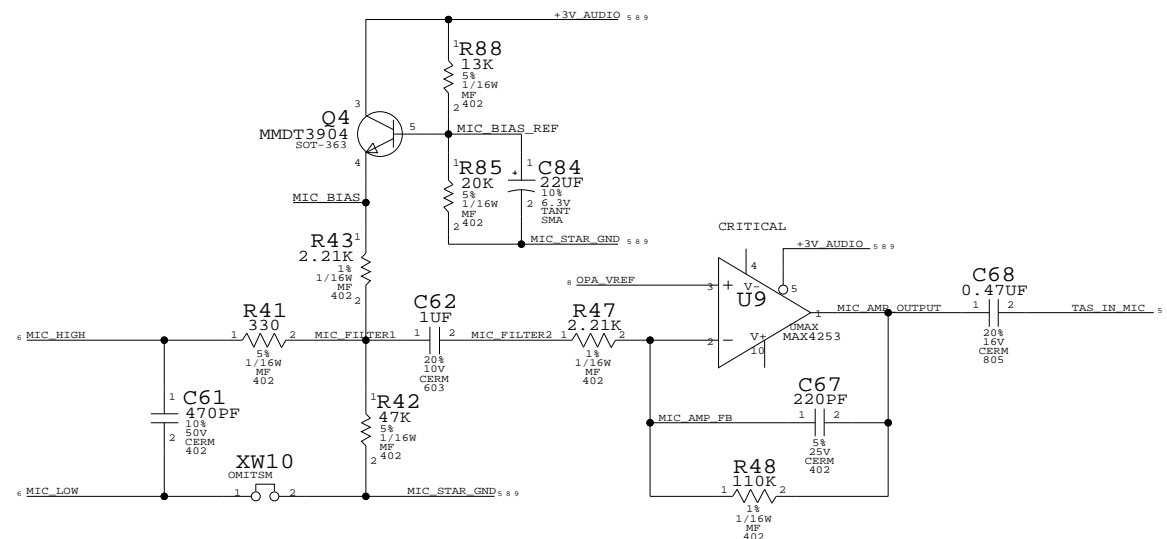
APPLE COMPUTER INC.	SIZE	DRAWING NUMBER	REV.
	D	051-6686	B
SCALE	NONE	SHT	7 OF 12

www.laptop-schematics.com

LINE-IN AMP



MICROPHONE AMP



MICROPHONE AMP. & LINE-IN AMP.

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	DRAWING NUMBER	REV.
	D	051-6686	B
SCALE	NONE	SHT	OF 12

SIGNAL CONSTRAINTS

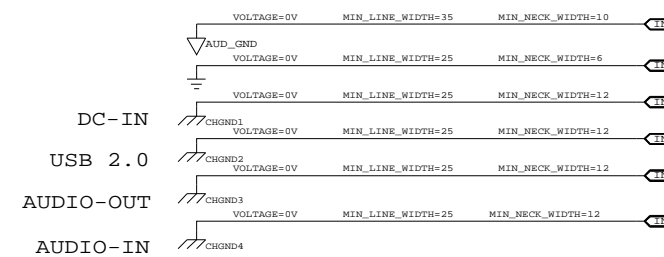
SIGNAL NAME	DIFF_PAIR	MATCHED_DELAY	MIN_LINE_WIDTH NET_PHYSICAL_TYPE	NET_SPACING_TYPE
USB_DM	USB_DIFF_PAIR_STRIP	LENGTH_TOLERANCE=20	NEC_USB_PAIR	7 MIL SPACING
USB_DP	USB_DIFF_PAIR_STRIP	LENGTH_TOLERANCE=20	NEC_USB_PAIR	7 MIL SPACING
USB_DM_EMI	USB_DIFF_PAIR	LENGTH_TOLERANCE=20	NEC_USB_PAIR	7 MIL SPACING
USB_DP_EMI	USB_DIFF_PAIR	LENGTH_TOLERANCE=20	NEC_USB_PAIR	7 MIL SPACING
BT_USB_DM	BT_USB_DIFF	LENGTH_TOLERANCE=20	MIN_LINE_WIDTH=4.7	12.3 MIL SPACING
BT_USB_DP	BT_USB_DIFF	LENGTH_TOLERANCE=20	MIN_LINE_WIDTH=4.7	12.3 MIL SPACING
I2SD_MCLK	N/A	N/A	MIN_LINE_WIDTH=5	9 MIL SPACING

LAYER 4 (STRIP LINES)
E=3.8, W=3.9, B=8.7, T=0.7, S=5.6(IN MIL)
ZSINGLE = 47.5 OHM
ZDIFF = 88.0 OHM

LAYER 2 (STRIP LINES)
E=3.8, W=4.7, H=3, T=0.7, S=12.3(IN MIL)
ZSINGLE = 45.0 OHM
ZDIFF = 89.1 OHM

POWER NET CONSTRAINTS

GROUP	SIG_NAME	VOLTAGE	MIN_LINE_WIDTH	MIN_NECK_WIDTH	
MAIN/SLEEP	+5V_MAIN_USB	VOLTAGE=5V	MIN_LINE_WIDTH=35	MIN_NECK_WIDTH=10	
	+3V_MAIN_BT	VOLTAGE=3.3V	MIN_LINE_WIDTH=15	MIN_NECK_WIDTH=10	
	+5V_MAIN_AUD	VOLTAGE=5V	MIN_LINE_WIDTH=25	MIN_NECK_WIDTH=10	
	+3V_MAIN_AUD	VOLTAGE=3.3V	MIN_LINE_WIDTH=20	MIN_NECK_WIDTH=10	
DC ADAPTER	+ADAPTER	VOLTAGE=24V	MIN_LINE_WIDTH=50	MIN_NECK_WIDTH=10	
	+ADAPTER_UP	VOLTAGE=24V	MIN_LINE_WIDTH=50	MIN_NECK_WIDTH=10	
	+ADAPTER_FUSE	VOLTAGE=24V	MIN_LINE_WIDTH=50	MIN_NECK_WIDTH=10	
	ADAPTER_GND	VOLTAGE=0V	MIN_LINE_WIDTH=50	MIN_NECK_WIDTH=10	
	CHARGE_LED_D		MIN_LINE_WIDTH=15	MIN_NECK_WIDTH=10	
	CHARGE_LED_S		MIN_LINE_WIDTH=15	MIN_NECK_WIDTH=10	
	DC_PLUG_TIP		MIN_LINE_WIDTH=15	MIN_NECK_WIDTH=10	
	DC_PLUG_TIP_UP		MIN_LINE_WIDTH=15	MIN_NECK_WIDTH=10	
	USB 2.0	+5V_USB_LEFT_FLT	VOLTAGE=5V	MIN_LINE_WIDTH=35	MIN_NECK_WIDTH=10
		+5V_USB_LEFT	VOLTAGE=5V	MIN_LINE_WIDTH=35	MIN_NECK_WIDTH=10
AUDIO	+3V_AUDIO	VOLTAGE=3V	MIN_LINE_WIDTH=20	MIN_NECK_WIDTH=10	
	+3V_TAS_DIVD	VOLTAGE=3V	MIN_LINE_WIDTH=15	MIN_NECK_WIDTH=10	
	+3V_AUDIO_FILTERED	VOLTAGE=3V	MIN_LINE_WIDTH=10	MIN_NECK_WIDTH=5	
	TAS_STAR_GND	VOLTAGE=0V	MIN_LINE_WIDTH=15	MIN_NECK_WIDTH=10	
	REF_STAR_GND	VOLTAGE=0V	MIN_LINE_WIDTH=15	MIN_NECK_WIDTH=10	
	OPA_STAR_GND	VOLTAGE=0V	MIN_LINE_WIDTH=15	MIN_NECK_WIDTH=10	
	PMP_STAR_GND	VOLTAGE=0V	MIN_LINE_WIDTH=15	MIN_NECK_WIDTH=10	
	MAX_STAR_GND	VOLTAGE=0V	MIN_LINE_WIDTH=15	MIN_NECK_WIDTH=10	
	MIC_STAR_GND	VOLTAGE=0V	MIN_LINE_WIDTH=15	MIN_NECK_WIDTH=10	
	SUDO_STAR_GND	VOLTAGE=0V	MIN_LINE_WIDTH=15	MIN_NECK_WIDTH=10	
	SPKR_STAR_GND	VOLTAGE=0V	MIN_LINE_WIDTH=15	MIN_NECK_WIDTH=10	
	L_SPKR_POS		MIN_LINE_WIDTH=20		
	L_SPKR_POS_UP		MIN_LINE_WIDTH=20		
	L_SPKR_NEG		MIN_LINE_WIDTH=20		
	L_SPKR_NEG_UP		MIN_LINE_WIDTH=20		
	R_SPKR_POS		MIN_LINE_WIDTH=20		
	R_SPKR_POS_UP		MIN_LINE_WIDTH=20		
	R_SPKR_NEG		MIN_LINE_WIDTH=20		
	R_SPKR_NEG_UP		MIN_LINE_WIDTH=20		
	SUB_POS		MIN_LINE_WIDTH=20		
	SUB_POS_UP		MIN_LINE_WIDTH=20		
	SUB_NEG		MIN_LINE_WIDTH=20		
	SUB_NEG_UP		MIN_LINE_WIDTH=20		
	HP_AMP_VCC	VOLTAGE=3V	MIN_LINE_WIDTH=25	MIN_NECK_WIDTH=10	



SIGNAL & POWER CONSTRAINTS

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	DRAWING NUMBER	REV.
	D	051-6686	B
SCALE	NONE	SHT	OF
		9	12

8

7

6

5

4

3

2

1

REVISION HISTORY

(REV. 01) 07/07/2004 - SCHEMATIC ORIGINATED FROM Q16B L10
 (REV. A) 12/17/2004 - SCHEMATIC RELEASE FOR PRODUCTION

D

D

C

C

B

B

A

A

8

7

6

5


4

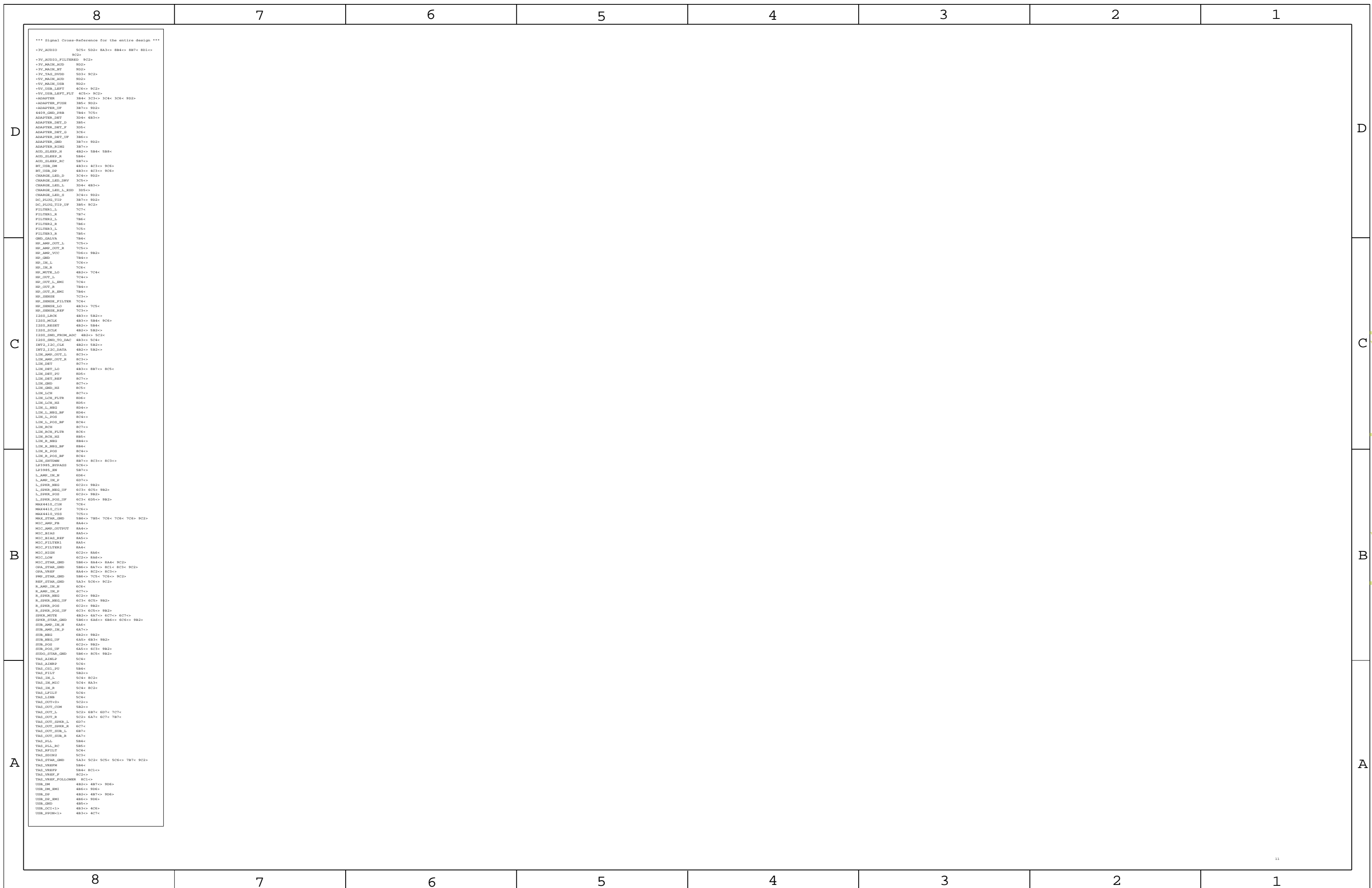
3

2

1

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

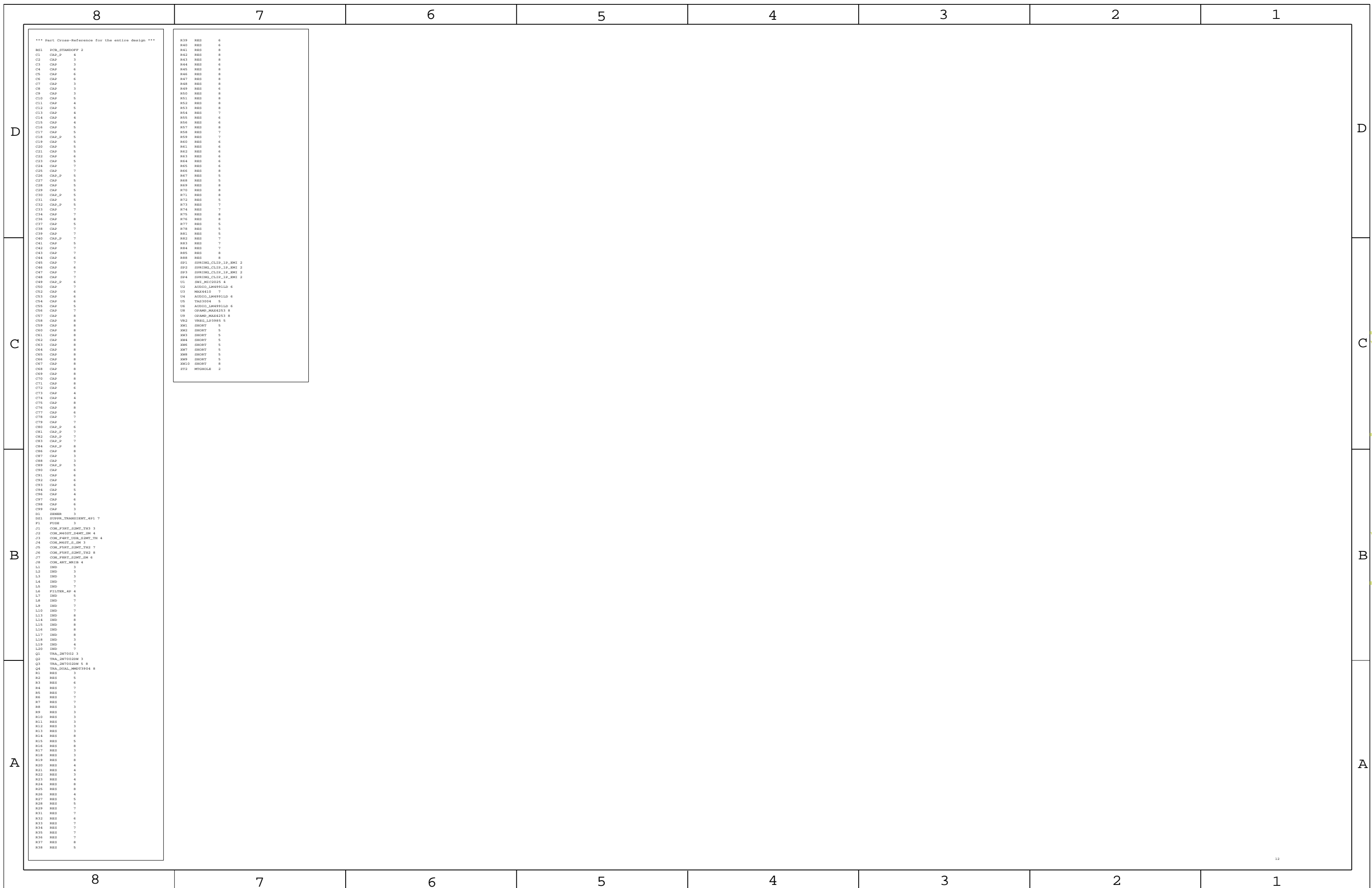
 APPLE COMPUTER INC.	SIZE	DRAWING NUMBER	REV.
	D	051-6686	B
SCALE	SHT	OF	
NONE	10	12	



```

*** Signal Cross-Reference for the entire design ***
+3V_AUDIO 5C5< 5D2< 8A3< 8B4< 8B7< 8D1<>
8C2>
+3V_AUDIO_FILTERED 9C2>
+3V_MAIN_AUDIO 9D2>
+3V_MAIN_AUDIO 9D2>
+3V_TAS_DVDD 5D3< 9C2>
+3V_MAIN_AUDIO 9D2>
+3V_MAIN_AUDIO 9D2>
+3V_USB_LEFT 4C6< 9C2>
+3V_USB_LEFT_FLT 4C5< 9C2>
+ADAPTER 3B4< 3C4< 3C4< 3C6< 9D2>
+ADAPTER_FUSE 3B5< 9D2>
+ADAPTER_UP 3B7< 9D2>
4410_GND_SRB 7B4< 7C5<
ADAPTER_DET 3D4< 4B3<>
ADAPTER_DET_D 3B5<
ADAPTER_DET_F 3D5<
ADAPTER_DET_G 3C6<
ADAPTER_DET_UP 3B6<
ADAPTER_GND 3B7< 9D2>
ADAPTER_RING 3B7<
AUD_SLEEP_H 4B2< 5B4< 5B8<
AUD_SLEEP_R 5B4<
AUD_SLEEP_RC 5B7<
BT_USB_DM 4B3< 4C3< 9D6>
BT_USB_DP 4B3< 4C3< 9C6>
CHANGE_LED_D 3C4< 9D2>
CHANGE_LED_DRV 3C5<
CHANGE_LED_L 3D4< 4B3<>
CHANGE_LED_L_RSD 3D5<
CHANGE_LED_S 3C4< 9D2>
DC_PLUG_TIP 3B7< 9D2>
DC_PLUG_TIP_UP 3B5< 9C2>
FILTER1_L 7C7<
FILTER1_L 7B7<
FILTER2_L 7B6<
FILTER2_R 7B4<
FILTER3_L 7C5<
FILTER3_R 7B6<
GND_DATA 7B4<
HP_AMP_OUT_L 7C5<
HP_AMP_OUT_R 7C5<
HP_AMP_VCC 7D6< 9B2>
HP_GND 7B4<
HP_IN_L 7C6<
HP_IN_R 7C6<
HP_MUTE_LO 4B2< 7C4<
HP_OUT_L 7C4<
HP_OUT_L_RMI 7C4<
HP_OUT_R 7B4<
HP_OUT_R_RMI 7B4<
HP_SENSE 7C3<
HP_SENSE_FILTER 7C4<
HP_SENSE_LO 4B3< 7C5<
HP_SENSE_REF 7C3<
I2S0_LACK 4B3< 5B2<
I2S0_MCLK 4B3< 5B4< 9C6>
I2S0_RESET 4B3< 5B4<
I2S0_SCLK 4B2< 5B2<
I2S0_SMD_FROM_ADC 4B2< 5C2>
I2S0_SMD_TO_DAC 4B3< 5C4<
INT2_I2C_CLK 4B2< 5B2<
INT2_I2C_DATA 4B2< 5B2<
LIN_AMP_OUT_L 8C3<
LIN_AMP_OUT_R 8C3<
LIN_DET 8C7<
LIN_DET_LO 4B3< 8B7< 8C5<
LIN_DET_PO 8D5<
LIN_DET_REF 8C7<
LIN_GND 8C7<
LIN_GND_HL 8C5<
LIN_LCH 8C7<
LIN_LCH_FLTR 8D6<
LIN_LCH_HL 8D5<
LIN_L_NEG 8D4<
LIN_L_NEG_BP 8D4<
LIN_L_POS 8C4<
LIN_L_POS_BP 8C4<
LIN_RCH 8C7<
LIN_RCH_FLTR 8C6<
LIN_RCH_HL 8B4<
LIN_R_NEG 8B4<
LIN_R_NEG_BP 8B4<
LIN_R_POS 8C4<
LIN_R_POS_BP 8C4<
LIN_SPTDRM 8B7< 8C3< 8C3<
LP3985_BYPASS 5C6<
LP3985_BN 5B7<
L_AMP_IN_N 8D6<
L_AMP_IN_P 6C7<
L_SPEK_NEG 6C2< 9B2>
L_SPEK_NEG_UP 6C3< 6C5< 9B2>
L_SPEK_POS 6C2< 9B2>
L_SPEK_POS_UP 6C3< 6C5< 9B2>
MAX4410_CIN 7C6<
MAX4410_CIP 7C6<
MAX4410_VSS 7C5<
MAX4410_GND 5B6< 7B5< 7C6< 7C6< 9C2>
MIC_AMP_FB 8A4<
MIC_AMP_OUTPUT 8A4<
MIC_BIAS 8A5<
MIC_BIAS_REF 8A5<
MIC_FILTER1 8A5<
MIC_FILTER2 8A4<
MIC_HIGH 6C2< 8A6<
MIC_LOW 6C2< 8A6<
MIC_STAR_GND 5B6< 8A4< 8A4< 8C2>
OPA_STAR_GND 5B6< 8A7< 8C1< 8C3< 9C2>
OPA_VREF 8A4< 8C2< 8C3>
OPM_STAR_GND 5B6< 7C5< 7C6< 9C2>
REF_STAR_GND 5A3< 5C6< 9C2>
R_AMP_IN_N 6C6<
R_AMP_IN_P 6C7<
R_SPEK_NEG 6C2< 9B2>
R_SPEK_NEG_UP 6C3< 6C5< 9B2>
R_SPEK_POS 6C2< 9B2>
R_SPEK_POS_UP 6C3< 6C5< 9B2>
SRKM_MUTE 4B2< 6A7< 6C7< 6C7<
SRKM_STAR_GND 3B6< 6A6< 8B6< 8C6< 9B2>
SUB_AMP_IN_N 6A6<
SUB_AMP_IN_P 6A7<
SUB_MRG 6B2< 9B2>
SUB_MRG_UP 6A5< 6B3< 9B2>
SUB_POS 6C2< 9B2>
SUB_POS_UP 6A5< 8C1< 9B2>
SUDO_STAR_GND 5B6< 8C5< 9B2>
TAS_AINP 5C4<
TAS_CS1_PO 5B4<
TAS_FILT 5B2<
TAS_IN_L 5C4< 8C2<
TAS_IN_MIC 5C4< 8A3<
TAS_IN_R 5C4< 8C2<
TAS_LFILT 5C4<
TAS_LINB 5C4<
TAS_OUT< 5C2>
TAS_OUT_COM 5B2<
TAS_OUT_L 5C2< 6B7< 6D7< 7C7<
TAS_OUT_R 5C3< 6A7< 6C7< 7B7<
TAS_OUT_SPKR_L 6D7<
TAS_OUT_SPKR_R 6C7<
TAS_OUT_SUB_L 6B7<
TAS_OUT_SUB_R 6A7<
TAS_SLL 5B4<
TAS_SRL 5B4<
TAS_RFILT 5C4<
TAS_SDR2 5C3<
TAS_STAR_GND 5A3< 5C2< 5C5< 5C6< 7B7< 9C2>
TAS_VREF 5B4<
TAS_VREF_P 8C2<
TAS_VREF_FOLLOWER 8C1<
USB_DM 4B2< 4B7< 9D6>
USB_DM_BNI 4B6< 9D6>
USB_DP 4B2< 4B7< 9D6>
USB_DP_BNI 4B6< 9D6>
USB_GND 4B5<
USB_OC1< 4B3< 4C6>
USB_PP0B< 4B3< 4C7<

```



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

R81 PCB_STANDOFF 2
 C1 CAP 4
 C2 CAP 3
 C3 CAP 3
 C4 CAP 6
 C5 CAP 6
 C6 CAP 6
 C7 CAP 3
 C8 CAP 3
 C9 CAP 3
 C10 CAP 5
 C11 CAP 4
 C12 CAP 5
 C13 CAP 4
 C14 CAP 4
 C15 CAP 4
 C16 CAP 5
 C17 CAP 5
 C18 CAP_P 5
 C19 CAP 5
 C20 CAP 5
 C21 CAP 5
 C22 CAP 6
 C23 CAP 5
 C24 CAP 7
 C25 CAP 7
 C26 CAP_P 5
 C27 CAP 5
 C28 CAP 5
 C29 CAP 5
 C30 CAP_P 5
 C31 CAP 5
 C32 CAP_P 5
 C33 CAP 7
 C34 CAP 7
 C36 CAP 8
 C37 CAP 7
 C38 CAP 7
 C39 CAP 7
 C40 CAP_P 7
 C41 CAP 5
 C42 CAP 7
 C43 CAP 7
 C44 CAP 6
 C45 CAP 7
 C46 CAP 6
 C47 CAP 7
 C48 CAP 7
 C49 CAP_P 6
 C50 CAP 7
 C52 CAP 6
 C53 CAP 6
 C54 CAP 6
 C55 CAP 5
 C56 CAP 7
 C57 CAP 8
 C58 CAP 8
 C59 CAP 8
 C60 CAP 8
 C61 CAP 8
 C62 CAP 8
 C63 CAP 8
 C64 CAP 8
 C65 CAP 8
 C66 CAP 8
 C67 CAP 8
 C68 CAP 8
 C69 CAP 8
 C70 CAP 8
 C71 CAP 8
 C72 CAP 6
 C73 CAP 4
 C74 CAP 4
 C75 CAP 8
 C76 CAP 8
 C77 CAP 6
 C78 CAP 7
 C79 CAP 7
 C80 CAP_P 6
 C81 CAP_P 7
 C82 CAP_P 7
 C83 CAP_P 7
 C84 CAP_P 8
 C86 CAP 8
 C87 CAP 3
 C88 CAP 3
 C89 CAP_P 5
 C90 CAP 6
 C91 CAP 6
 C92 CAP 6
 C93 CAP 6
 C94 CAP 6
 C96 CAP 4
 C97 CAP 6
 C98 CAP 6
 C99 CAP 3
 D1 ZENER 3
 D21 SUPPL_TRANSMIANT_4P1 7
 F1 FUSE 3
 J1 CON_F38T_S2MT_TH3 3
 J2 CON_M45T_S2MT_SM 4
 J3 CON_F48T_S2MT_TH 4
 J4 CON_M45T_S_SM 3
 J5 CON_F38T_S2MT_TH2 7
 J6 CON_F38T_S2MT_TH2 8
 J7 CON_F38T_S2MT_SM 6
 J8 CON_48V_W19 4
 L1 IND 3
 L2 IND 3
 L3 IND 3
 L4 IND 7
 L5 IND 7
 L6 FILTER_4P 4
 L7 IND 5
 L8 IND 7
 L9 IND 7
 L10 IND 7
 L13 IND 8
 L14 IND 8
 L15 IND 8
 L16 IND 8
 L17 IND 8
 L18 IND 3
 L19 IND 4
 L20 IND 7
 Q1 TRA_287002 3
 Q2 TRA_287002M 3
 Q3 TRA_287002M 5 8
 Q4 TRA_DUAL_MMOT3904 8
 R1 RES 5
 R2 RES 5
 R3 RES 6
 R4 RES 7
 R5 RES 7
 R6 RES 7
 R7 RES 7
 R8 RES 3
 R9 RES 3
 R10 RES 3
 R11 RES 3
 R12 RES 3
 R13 RES 3
 R14 RES 8
 R15 RES 5
 R16 RES 8
 R17 RES 3
 R18 RES 3
 R19 RES 8
 R20 RES 4
 R21 RES 4
 R22 RES 3
 R23 RES 4
 R24 RES 8
 R25 RES 8
 R26 RES 4
 R27 RES 5
 R28 RES 5
 R29 RES 7
 R31 RES 7
 R32 RES 6
 R33 RES 7
 R34 RES 7
 R35 RES 7
 R36 RES 7
 R37 RES 8
 R38 RES 5

R40 RES 6
 R41 RES 8
 R42 RES 8
 R43 RES 8
 R44 RES 6
 R45 RES 6
 R46 RES 8
 R47 RES 8
 R48 RES 8
 R49 RES 6
 R50 RES 8
 R51 RES 8
 R52 RES 8
 R53 RES 8
 R54 RES 7
 R55 RES 6
 R56 RES 6
 R57 RES 8
 R58 RES 7
 R59 RES 7
 R60 RES 6
 R61 RES 6
 R62 RES 6
 R63 RES 6
 R64 RES 6
 R65 RES 6
 R66 RES 8
 R67 RES 5
 R68 RES 5
 R69 RES 8
 R70 RES 8
 R71 RES 8
 R72 RES 5
 R73 RES 7
 R74 RES 7
 R75 RES 8
 R76 RES 8
 R77 RES 5
 R78 RES 5
 R81 RES 5
 R82 RES 7
 R83 RES 7
 R84 RES 7
 R85 RES 8
 R88 RES 8
 SP1 SPRING_CLIP_IP_BMI 2
 SP2 SPRING_CLIP_IP_BMI 2
 SP3 SPRING_CLIP_IP_BMI 2
 SP4 SPRING_CLIP_IP_BMI 2
 U1 ONE_MAX4233 4
 U2 AUDIO_I44991LD 6
 U3 MAX4410 7
 U4 AUDIO_I44991LD 6
 U5 TAB3004 5
 U6 AUDIO_I44991LD 6
 U8 OPAMP_MAX4233 8
 U9 OPAMP_MAX4253 8
 VM2 VREG_LP3985 5
 XM1 SHORT 5
 XM2 SHORT 5
 XM3 SHORT 5
 XM4 SHORT 5
 XM6 SHORT 5
 XM7 SHORT 5
 XM8 SHORT 5
 XM9 SHORT 5
 XM10 SHORT 8
 ZT2 MPOHOLE 2

www.laptop-schematics.com