

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

A

554180

PRODUCTION RELEASED

12/18/07

?

SCHEM, Left IO Board, M88, MBP17

PVT: 12/14/07

PDF PAGE

CSA PAGE

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SYNC MASTER

DATE

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(MASTER)

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PCI-E MiniCard Connector

M75_LIO

04/10/2007

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ExpressCard Connector

M75_LIO

04/10/2007

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(MASTER)

(MASTER)

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Left USB Ports

(MASTER)

(MASTER)

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Left ALS

(MASTER)

(MASTER)

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62

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M88_AUDIO

11/01/2007

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M88_AUDIO

11/01/2007

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AUDIO: HEADPHONE AMP

M88_AUDIO

11/01/2007

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11/01/2007

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5V/3.3V SUPPLY

M57_LIO

11/30/2006

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M88_AUDIO

11/01/2007

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Cross Reference Page

PART#

QTY

DESCRIPTION

REFERENCE DESIGNATOR(S)

CRITICAL

BOM OPTION

051-7448

1

SCHEM, LEFT IO Board, M88, MBP17

SCH

CRITICAL

820-2274

1

PCBF, LEFT IO Board, M88, MBP17

PCB

CRITICAL

DIMENSIONS ARE IN MILLIMETERS

XX ±

X.XX ±

X.XXX ±

ANGLES ±

DO NOT SCALE DRAWING

THIRD ANGLE PROJECTION

METRIC

DRAFTER

ENG APPD

QA APPD

RELEASE

DESIGN CK

MFG APPD

DESIGNER

SCALE

MATERIAL/FINISH NOTED AS APPLICABLE

SIZE D

APPLE INC.

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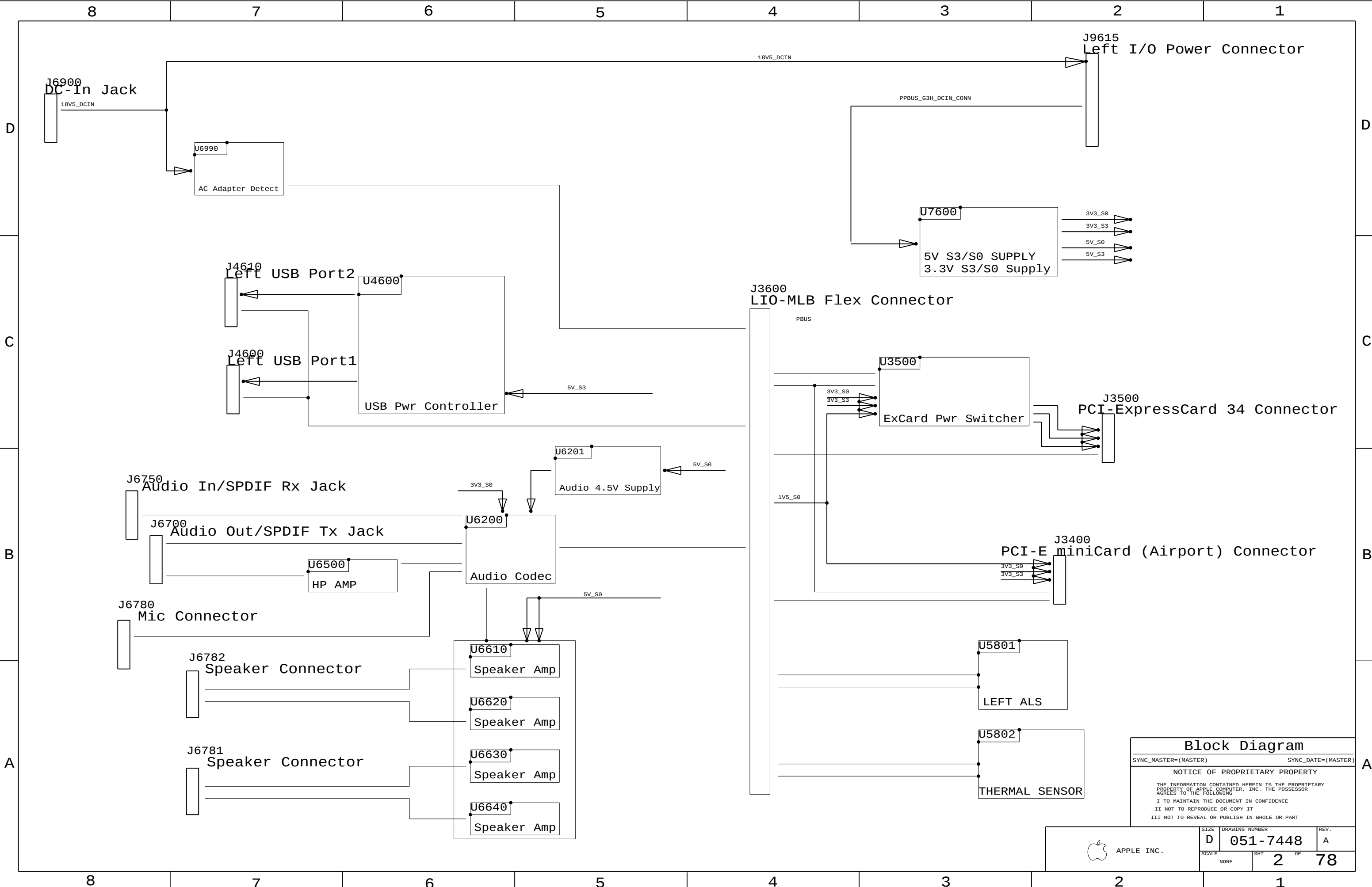
TITLE

SCHEM, Left IO Board, M88, MBP17

DRAWING NUMBER 051-7448

REV. A

SHT 1 OF 78



Block Diagram

SYNC_MASTER=(MASTER)

SYNC_DATE=(MASTER)

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APPLE INC.	SIZE	DRAWING NUMBER		REV.
	D	051-7448		A
SCALE		SHT	OF	
NONE		2	78	

87654321

Version History

Proto

07/17/07 -- Left ALS: Changed TMP106 to TMP102 (TALP sensor)

07/17/07 -- Left ALS: Added R5808 as NTC thermistor (with ALS_NTC BOMOPTION)

07/17/07 -- DC-In: Moved J9615 to DC-In/PBUS page (deleted page 96)

D

C

B

A

87654321

Version History

SYNC_MASTER=(MASTER)SYNC_DATE=(MASTER)

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APPLE INC.

D

051-7448

A

SCALE

NONE

SHT

5

OF

78

87654321

D

C

B

A

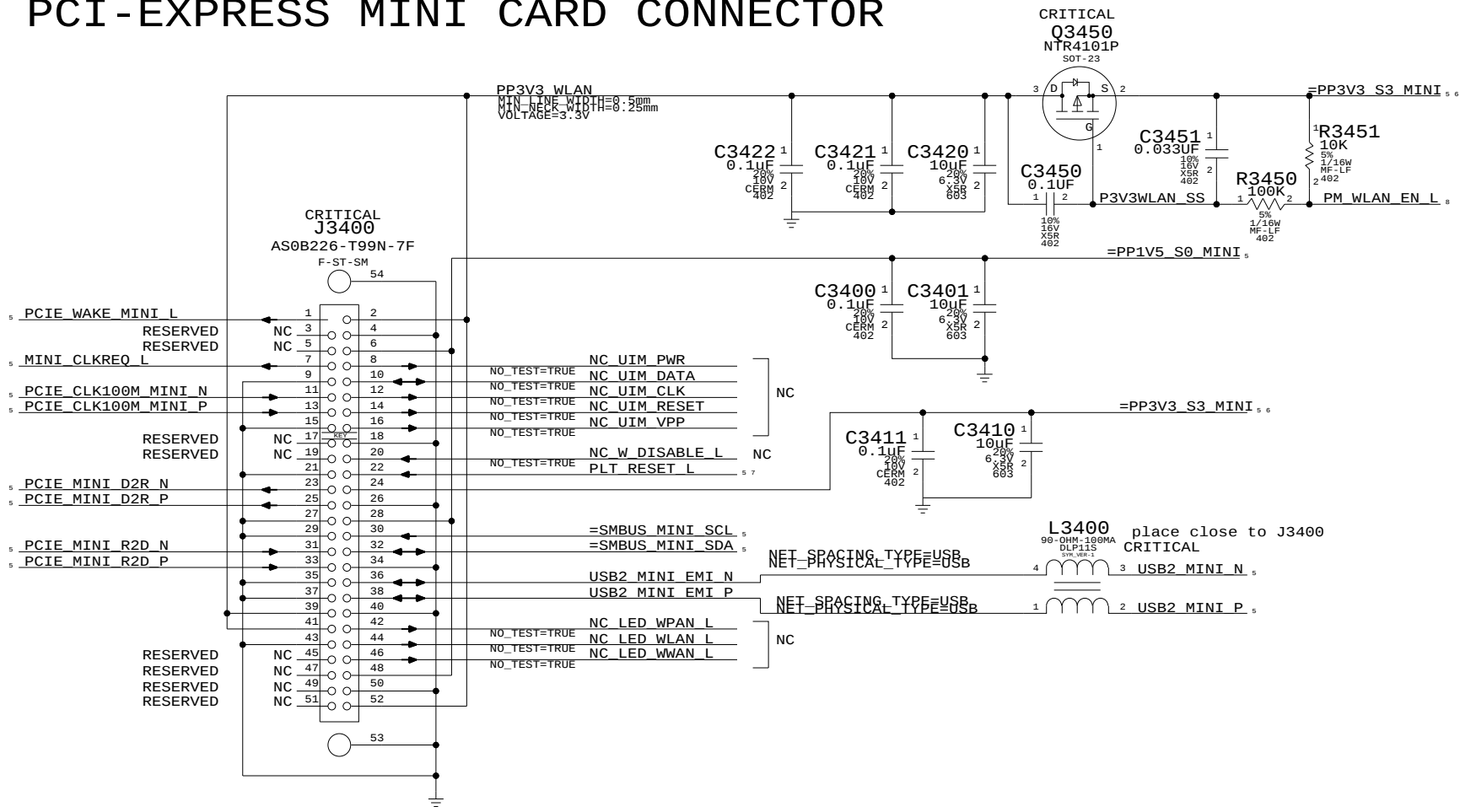
D

C

B

A

PCI-EXPRESS MINI CARD CONNECTOR



PCI-E MiniCard Connector

SYNC_MASTER=M75_LIO SYNC_DATE=04/10/2007

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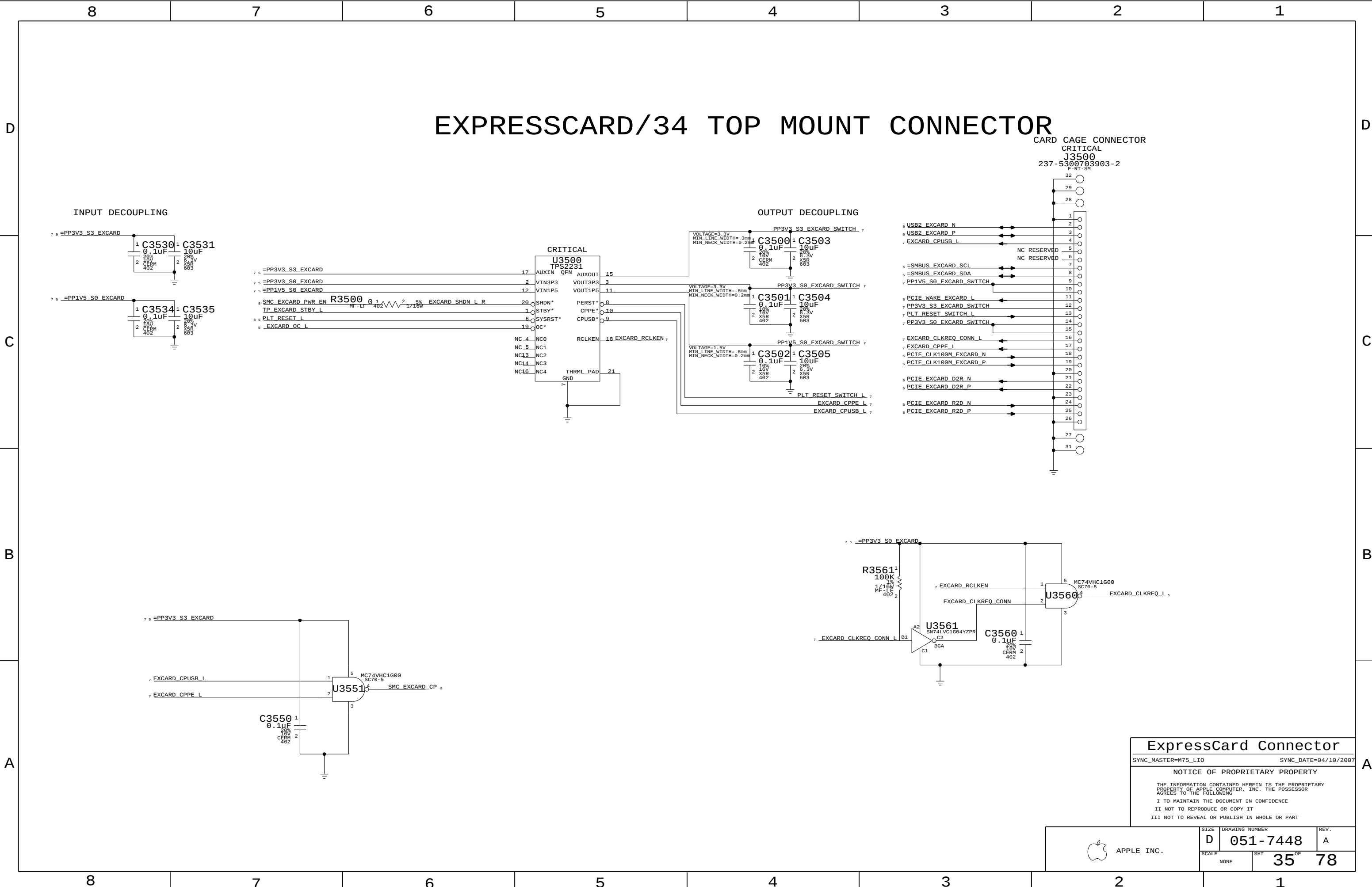
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APPLE INC.

SIZE	DRAWING NUMBER	REV.
D	051-7448	A
SCALE	SHT	34 OF 78
NONE		



ExpressCard Connector

SYNC_MASTER=M75_LIO SYNC_DATE=04/10/2007

NOTICE OF PROPRIETARY PROPERTY

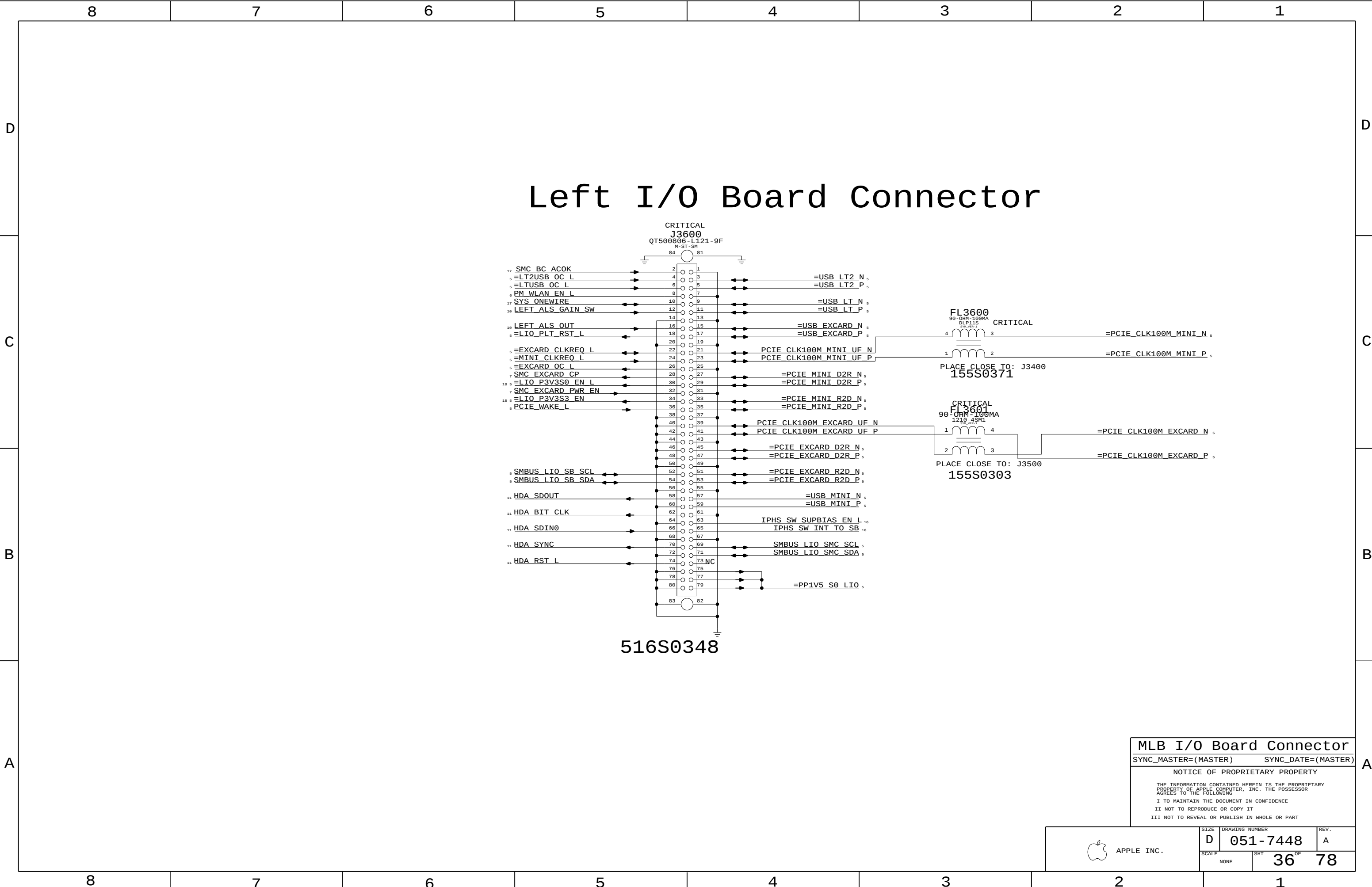
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APPLE INC.	SIZE	DRAWING NUMBER	REV.
	D	051-7448	A
SCALE		SHT	35 OF 78
NONE			



MLB I/O Board Connector

SYNC_MASTER=(MASTER) SYNC_DATE=(MASTER)

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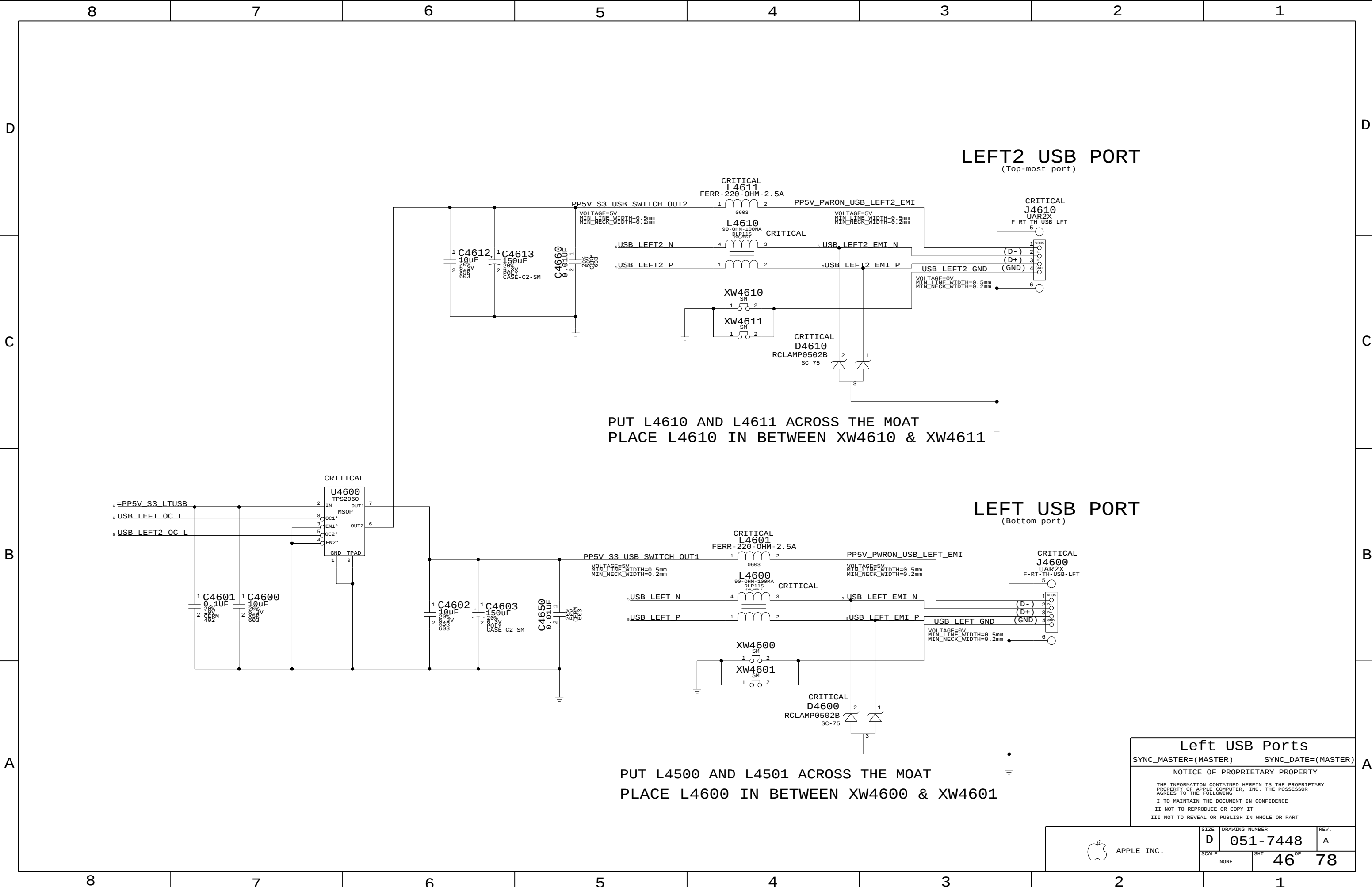
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APPLE INC.

SIZE	DRAWING NUMBER	REV.
D	051-7448	A
SCALE	SHT	36 OF 78
NONE		



PUT L4610 AND L4611 ACROSS THE MOAT
PLACE L4610 IN BETWEEN XW4610 & XW4611

PUT L4500 AND L4501 ACROSS THE MOAT
PLACE L4600 IN BETWEEN XW4600 & XW4601

Left USB Ports

SYNC_MASTER=(MASTER)

SYNC_DATE=(MASTER)

NOTICE OF PROPRIETARY PROPERTY

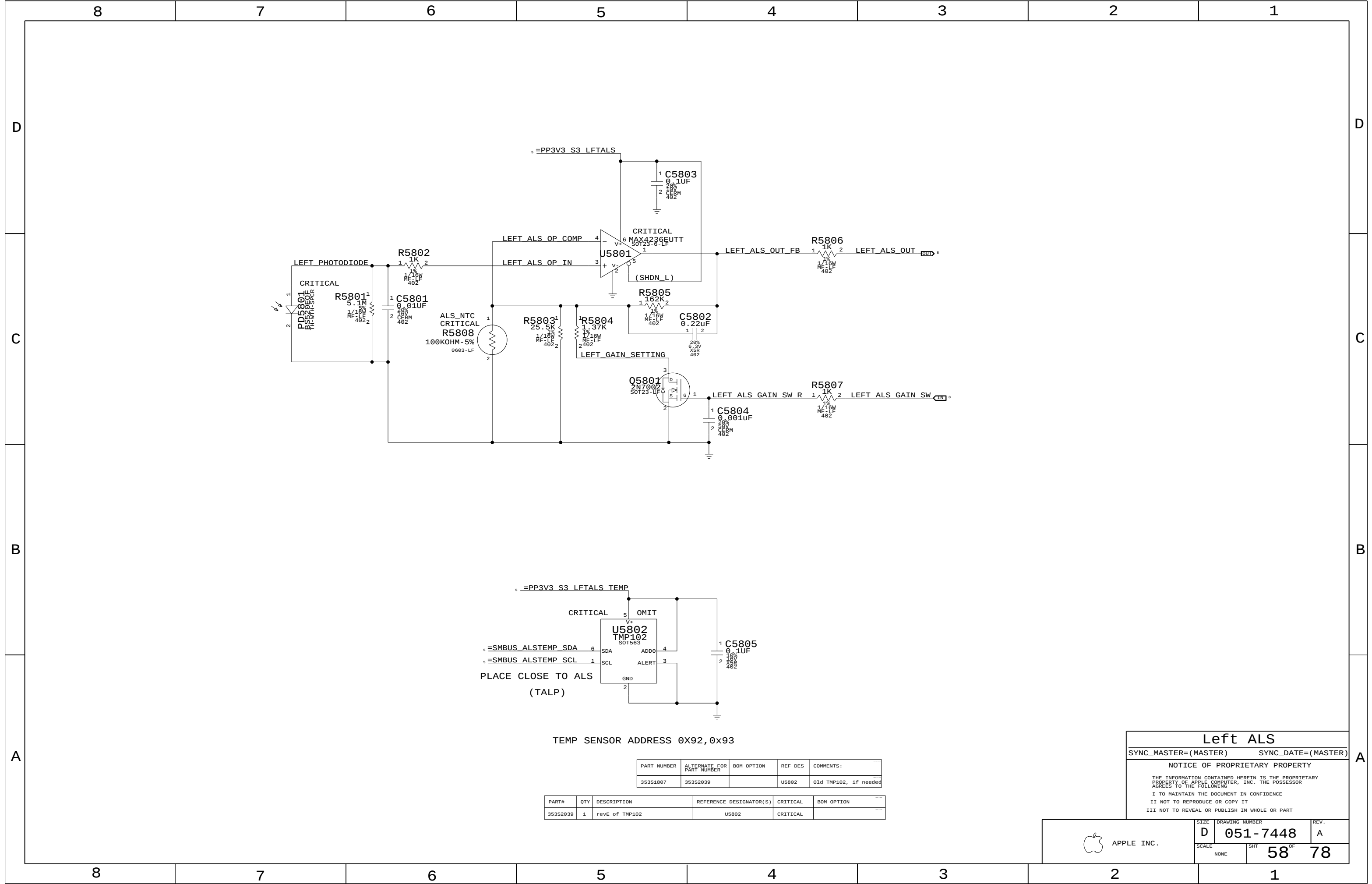
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	D	051-7448		A
SCALE		SHT	46 OF 78	
NONE				



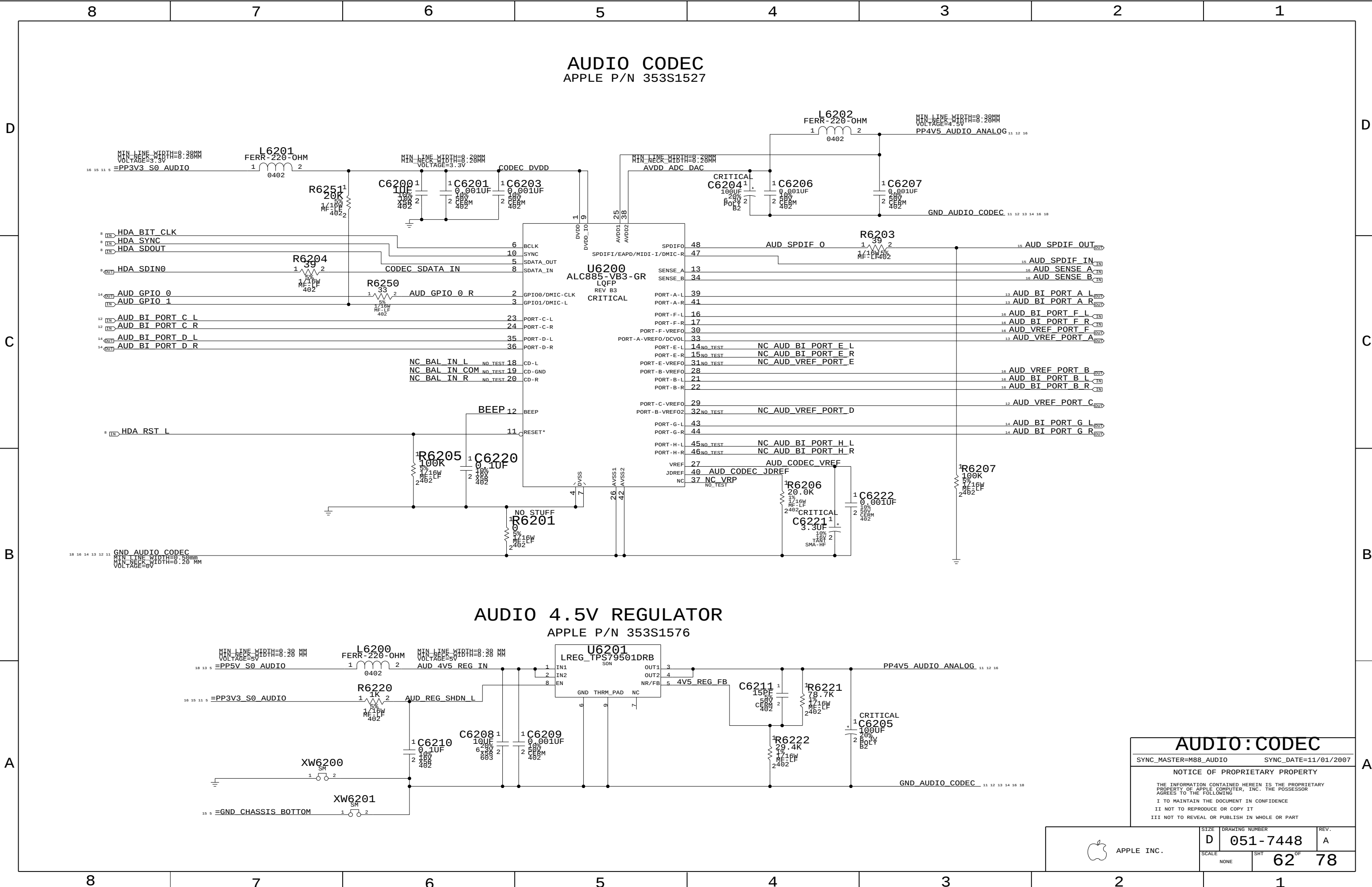
TEMP SENSOR ADDRESS 0X92,0X93

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
353S1807	353S2039		U5802	Old TMP102, if needed

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
353S2039	1	revE of TMP102	U5802	CRITICAL	

Left ALS		
SYNC_MASTER=(MASTER)		SYNC_DATE=(MASTER)
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 APPLE INC.	SIZE	DRAWING NUMBER		REV.
	D	051-7448		A
SCALE		SHT	58 OF 78	
NONE				



AUDIO:CODEC

SYNC_MASTER=M88_AUDIO

SYNC_DATE=11/01/2007

NOTICE OF PROPRIETARY PROPERTY

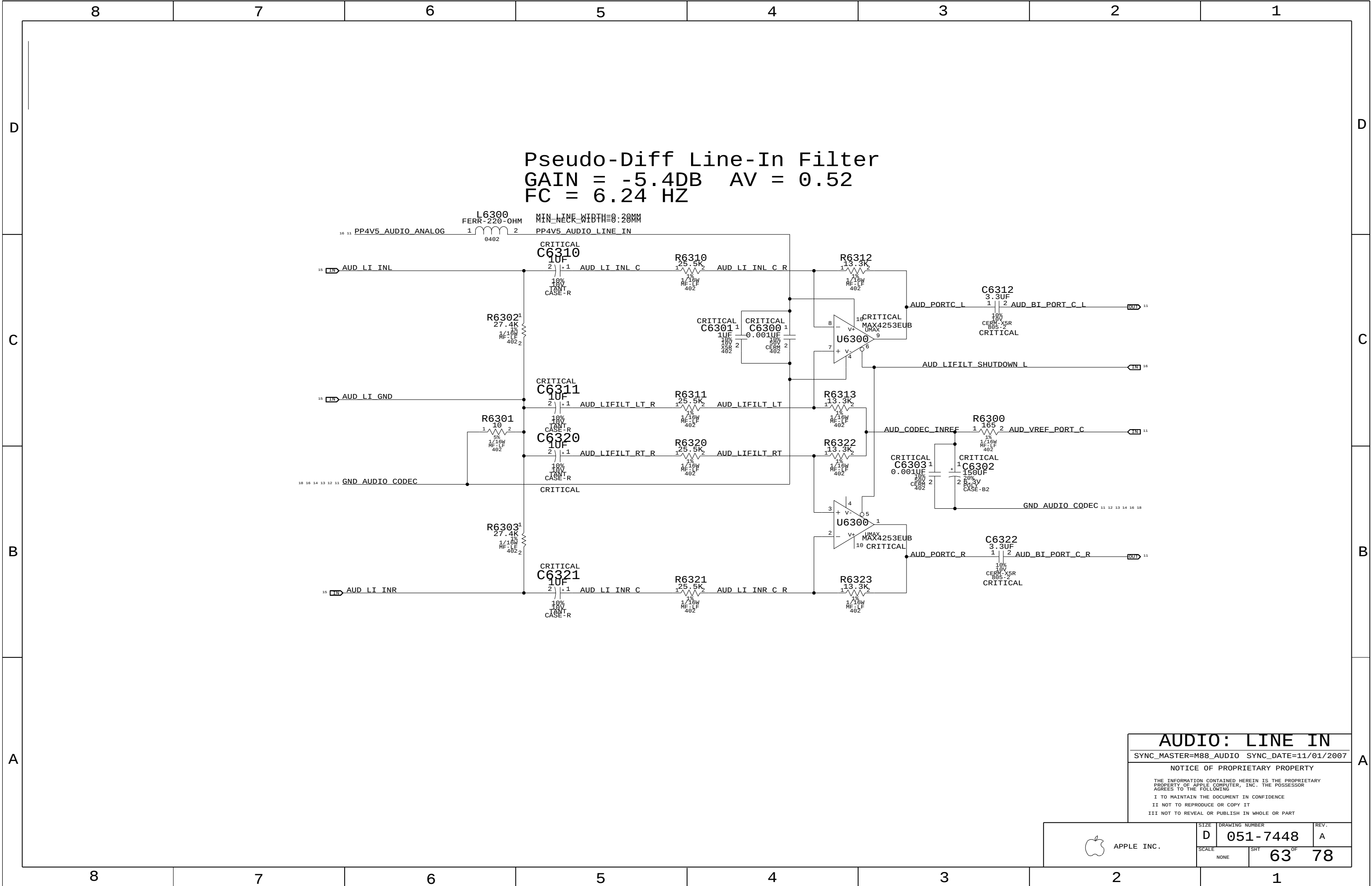
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 APPLE INC.	SIZE	DRAWING NUMBER		REV.
	D	051-7448		A
SCALE		SHT	62 OF 78	
NONE				

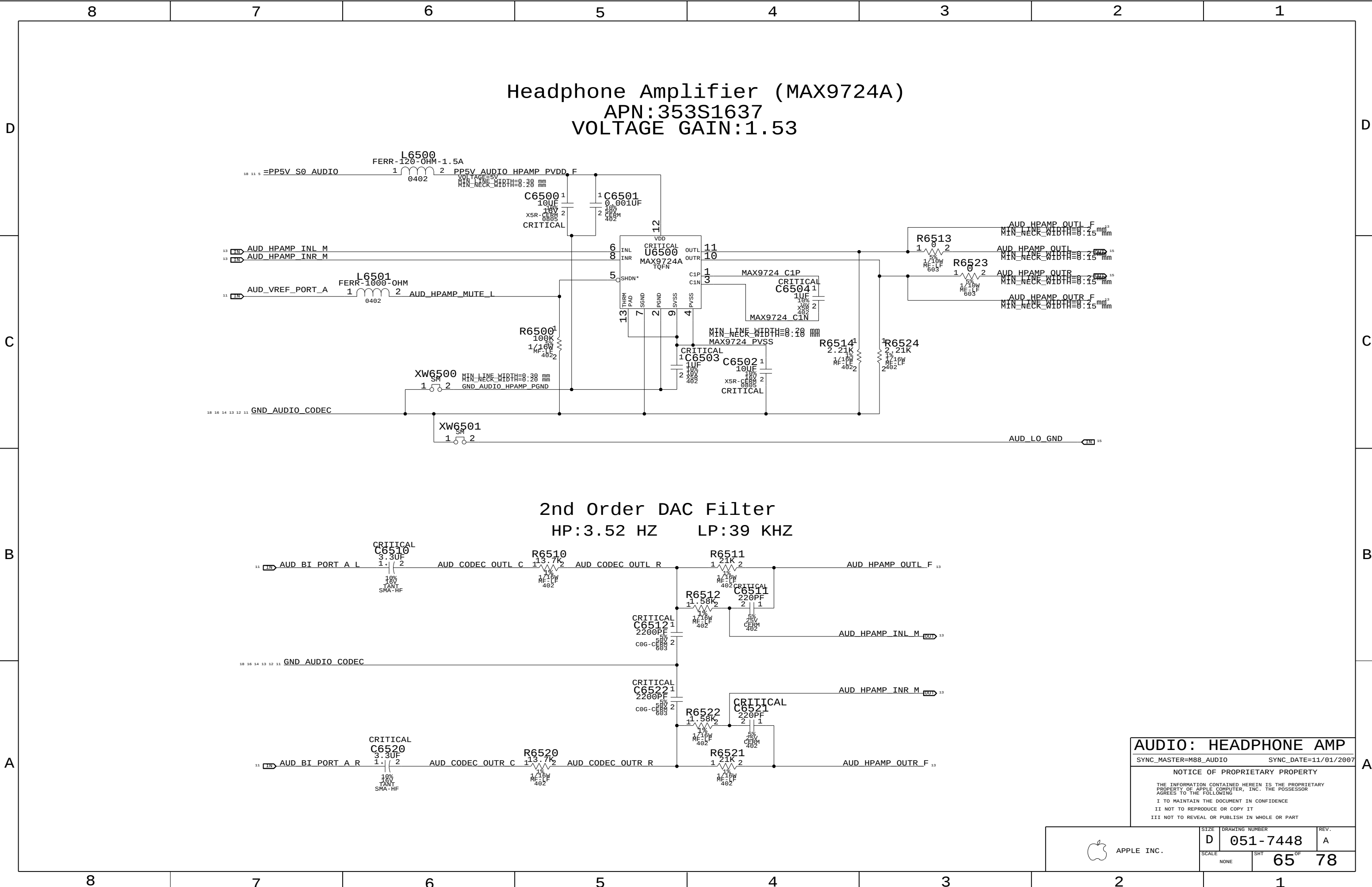


AUDIO: LINE IN
SYNC_MASTER=M88_AUDIO SYNC_DATE=11/01/2007

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	D	051-7448		A
SCALE		SHT	OF	
NONE		63	78	



Headphone Amplifier (MAX9724A)
APN:353S1637
VOLTAGE GAIN:1.53

2nd Order DAC Filter
HP:3.52 HZ LP:39 KHZ

AUDIO: HEADPHONE AMP

SYNC_MASTER=M88_AUDIO SYNC_DATE=11/01/2007

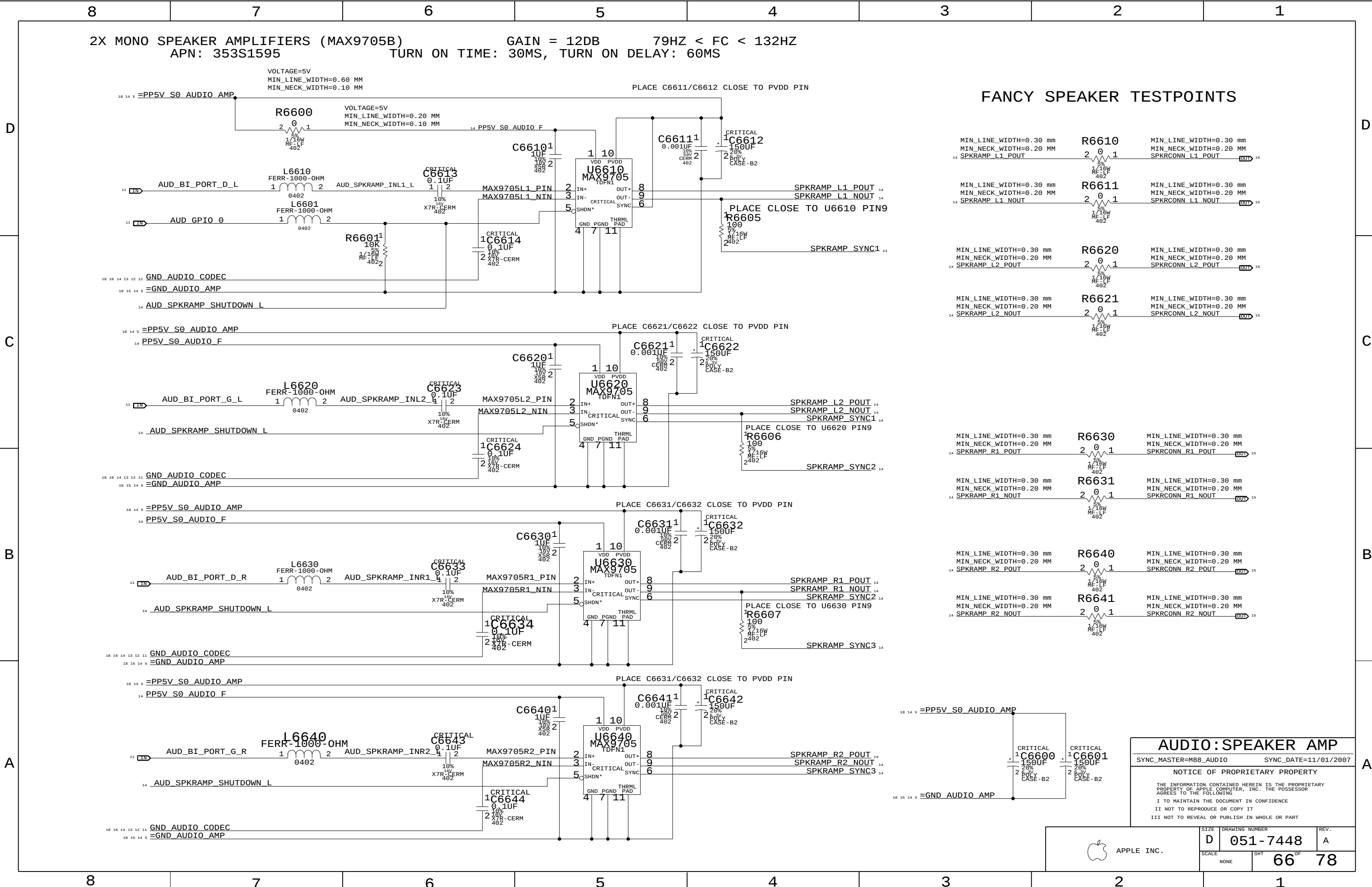
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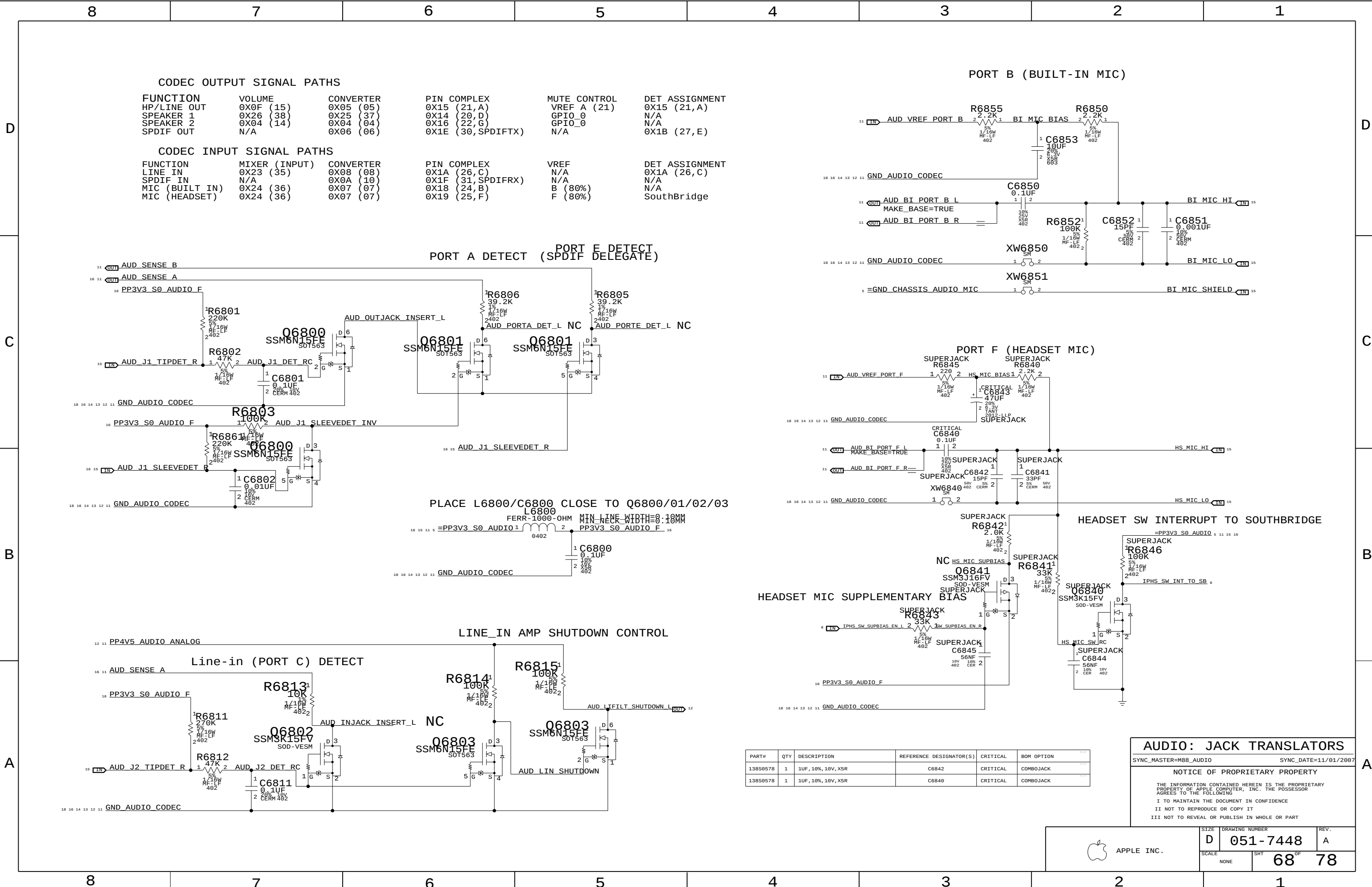
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APPLE INC.

SIZE	DRAWING NUMBER	REV.
D	051-7448	A
SCALE	SHT	OF
NONE	65	78





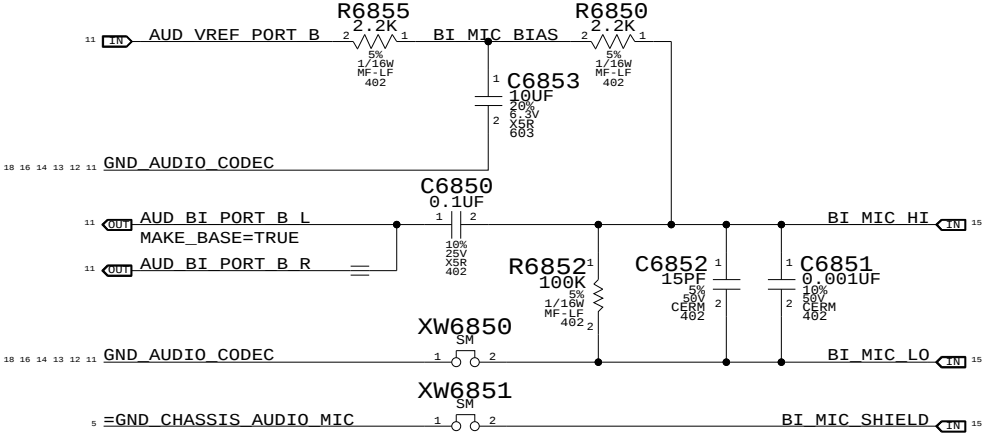
CODEC OUTPUT SIGNAL PATHS

FUNCTION	VOLUME	CONVERTER	PIN COMPLEX	MUTE CONTROL	DET ASSIGNMENT
HP/LINE OUT	0X0F (15)	0X05 (05)	0X15 (21,A)	VREF A (21)	0X15 (21,A)
SPEAKER 1	0X26 (38)	0X25 (37)	0X14 (20,D)	GPIO_0	N/A
SPEAKER 2	0X04 (14)	0X04 (04)	0X16 (22,G)	GPIO_0	N/A
SPDIF OUT	N/A	0X06 (06)	0X1E (30,SPDIFTX)	N/A	0X1B (27,E)

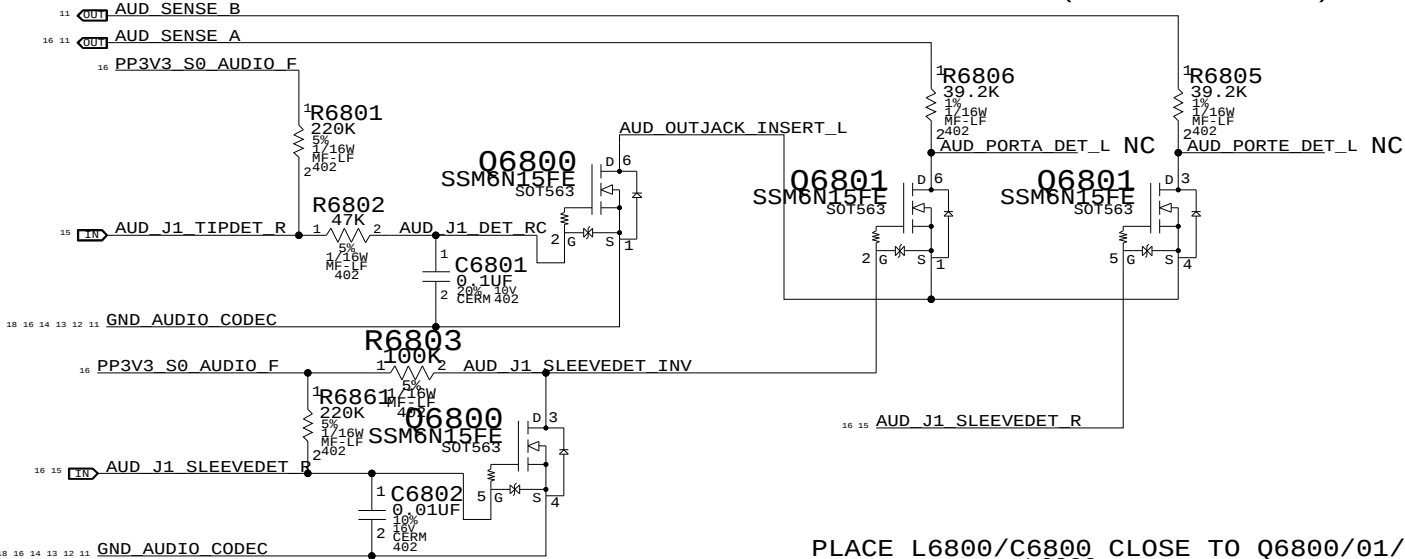
CODEC INPUT SIGNAL PATHS

FUNCTION	MIXER (INPUT)	CONVERTER	PIN COMPLEX	VREF	DET ASSIGNMENT
LINE IN	0X23 (35)	0X08 (08)	0X1A (26,C)	N/A	0X1A (26,C)
SPDIF IN	N/A	0X0A (10)	0X1F (31,SPDIFRX)	N/A	N/A
MIC (BUILT IN)	0X24 (36)	0X07 (07)	0X18 (24,B)	B (80%)	N/A
MIC (HEADSET)	0X24 (36)	0X07 (07)	0X19 (25,F)	F (80%)	SouthBridge

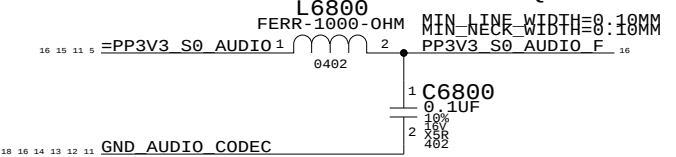
PORT B (BUILT-IN MIC)



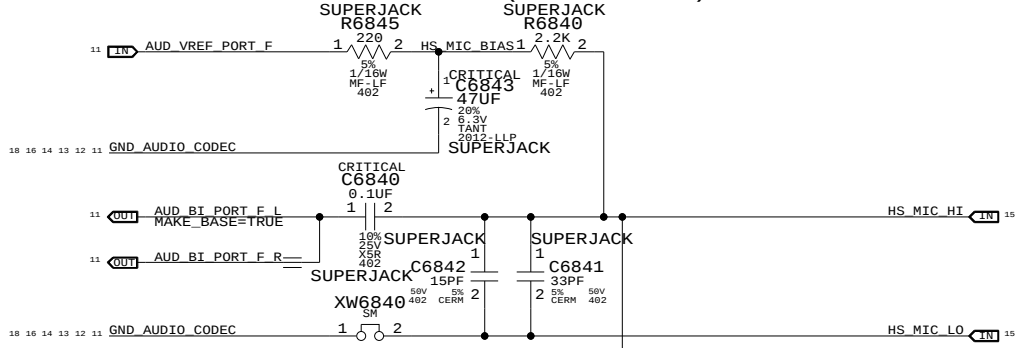
PORT A DETECT (SPDIF DELEGATE)



PLACE L6800/C6800 CLOSE TO Q6800/01/02/03

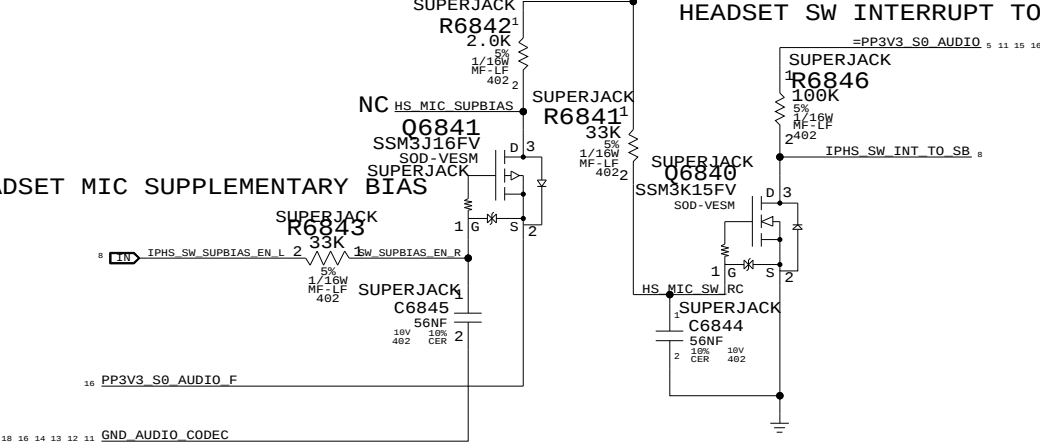


PORT F (HEADSET MIC)

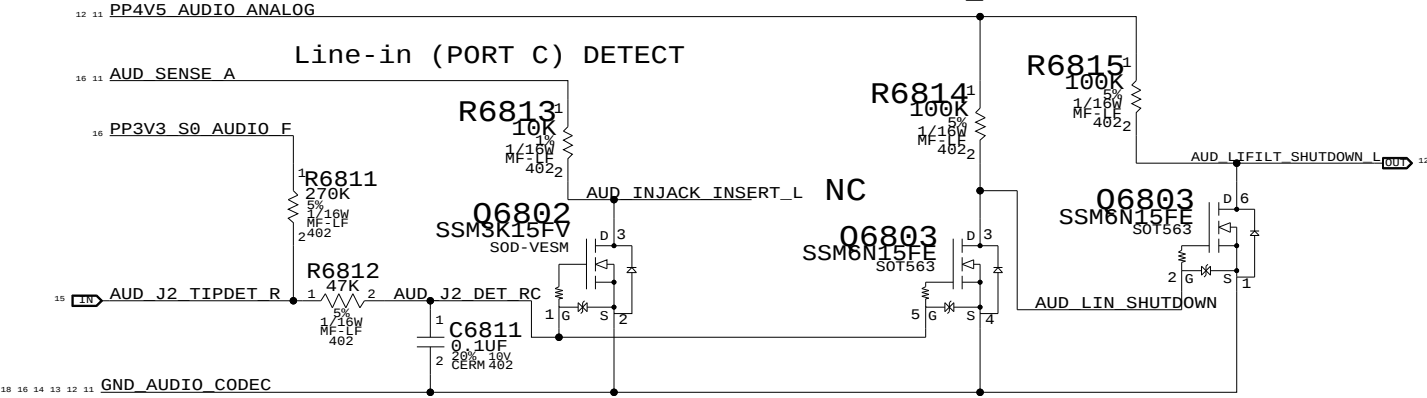


HEADSET SW INTERRUPT TO SOUTHBRIDGE

HEADSET MIC SUPPLEMENTARY BIAS



LINE_IN AMP SHUTDOWN CONTROL



PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
138S0578	1	1UF, 10%, 10V, X5R	C6842	CRITICAL	COMBOJACK
138S0578	1	1UF, 10%, 10V, X5R	C6840	CRITICAL	COMBOJACK

AUDIO: JACK TRANSLATORS

SYNC_MASTER=M88_AUDIO SYNC_DATE=11/01/2007

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APPLE INC.

SIZE	DRAWING NUMBER	REV.
D	051-7448	A
SCALE	SHT	OF
NONE	68	78

