

ATW05

LA-1441 REV0.2 Schematics Document

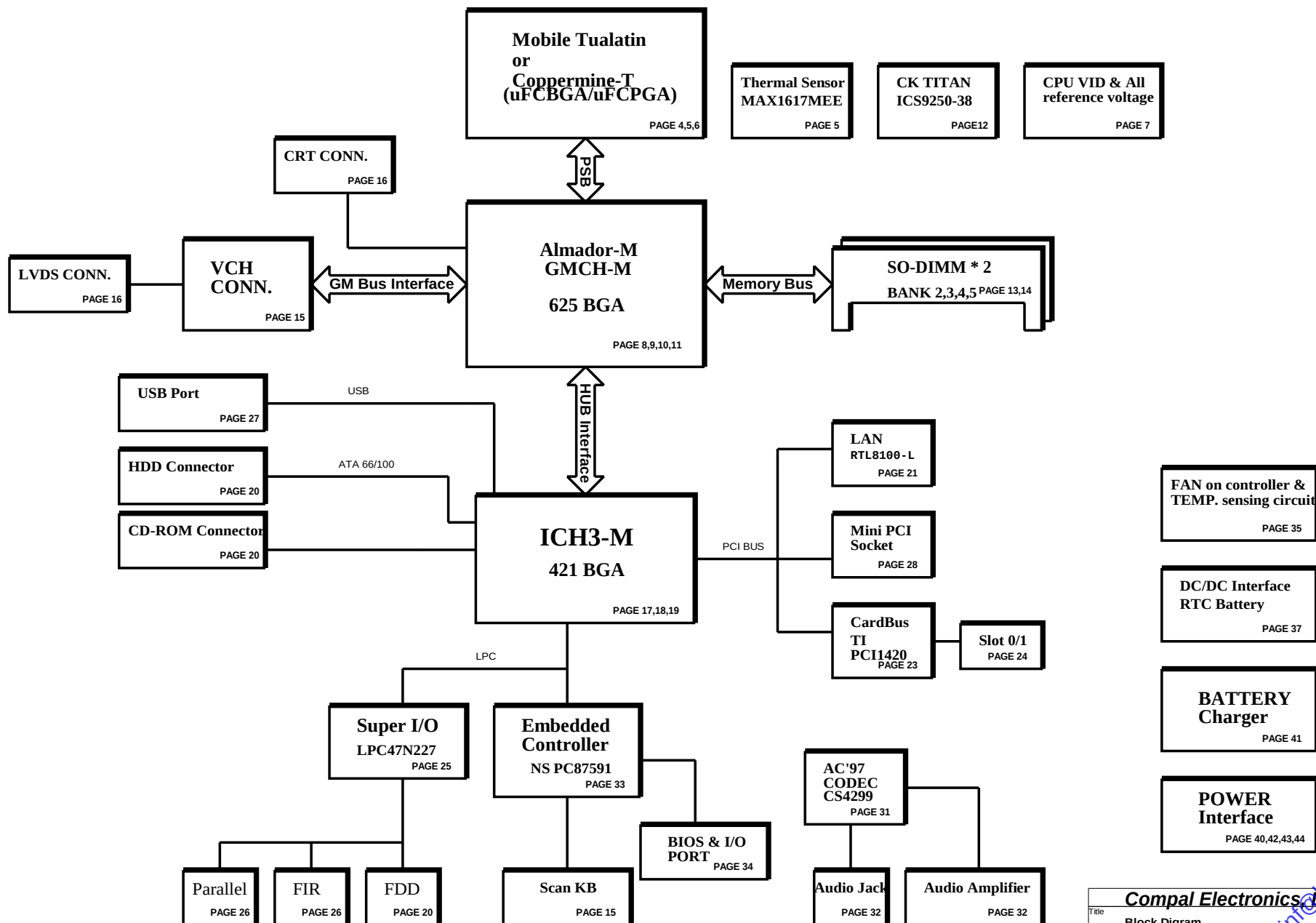
*uFCBGA/uFCPGA Coppermine-T or
Tualatin CPU
with Almador-MG
chipset*

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BLOCK DIAGRAM

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Voltage Rails

Power Plane	Description	S1	S3	S5
VIN	Adapter power supply (19V)	N/A	N/A	N/A
B+	AC or battery power rail for power circuit.	N/A	N/A	N/A
+VCC_H_CORE	Core voltage for CPU	ON	OFF	OFF
+VTT	1.2V switched power rail for CPU AGTL Bus	ON	OFF	OFF
+1.5V	1.5V power rail	ON	ON	OFF
+1.5VS	AGP 4X	ON	OFF	OFF
+1.8V	1.8V power rail	ON	ON	OFF
+1.8VS	1.8V switched power rail	ON	OFF	OFF
+2.5V	2.5V power rail	ON	ON	OFF
+3VALW	3.3V always on power rail	ON	ON	ON*
+3V	3.3V power rail	ON	ON	OFF
+3VS	3.3V switched power rail	ON	OFF	OFF
+5VALW	5V always on power rail	ON	ON	ON*
+5V	5V power rail	ON	ON	OFF
+5VS	5V switched power rail	ON	OFF	OFF
+12VALW	12V always on power rail	ON	ON	ON*
+12VS	12V switched power rail	ON	OFF	OFF
RTCVCC	RTC power	ON	ON	ON

Note : ON* means that this power plane is ON only with AC power available, otherwise it is OFF.

External PCI Devices

Device	IDSEL#	REQ#/GNT#	Interrupts
CardBus	AD20	2	PIRQA/PIRQB
LAN	AD17	3	PIRQB
Mini-PCI	AD18	1/4	PIRQC/PIRQD

EC SM Bus1 address

Device	Address	Device	Address
Smart Battery	0001 011X b	MAX1617MEE	1001 110X b
EEPROM(24C16/02)	1010 000X b	Smart Battery	0001 011X b
(24C04)	1011 000Xb	Docking	0011 011X b
		DOT Board	XXXX XXXXb

EC SM Bus2 address

ICH3-M SM Bus address

Device	Address
Clock Generator (ICS9238-50)	1101 0000
SDRAM Select (74HC4052)	1010 0000
CPU Voltage VID select (F3565)	0110 111Xb

PIR

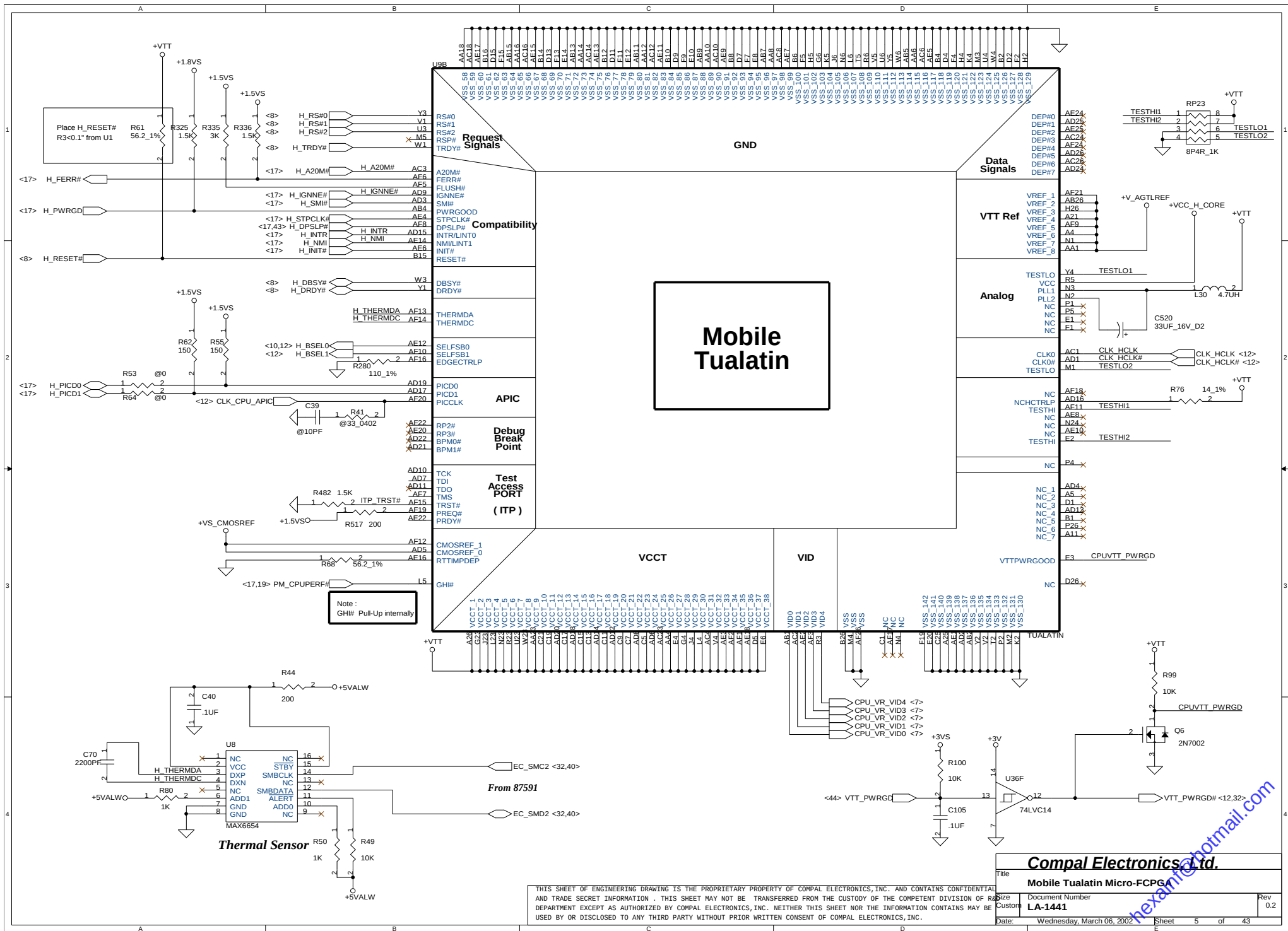
REV 0.1

Date	Page	Description
0201	10	R229 change 225 to 255
0204	31	Add R564 @2.2K on pin 3 of MicPhone Jack
	42	Modify PU10 pin 11 error

REV 0.2

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Notes & PIR			
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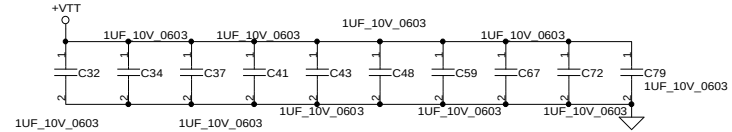
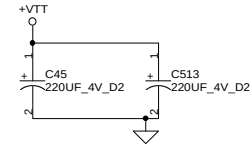
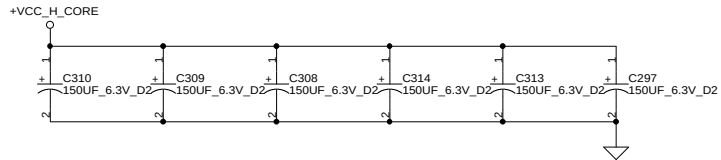
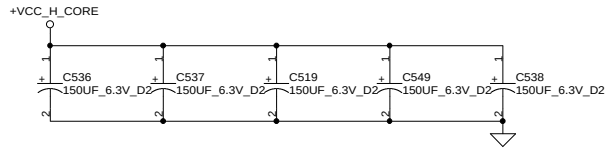
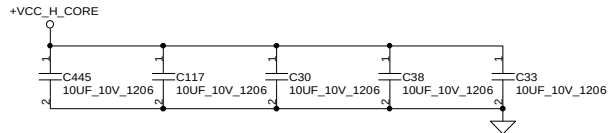
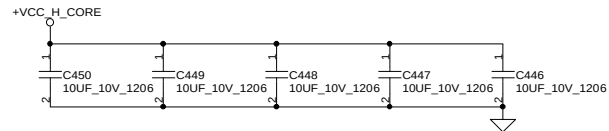
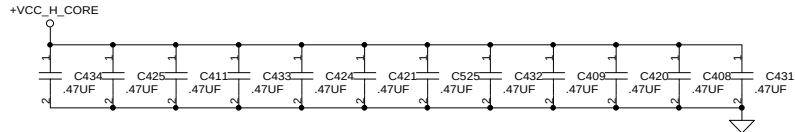
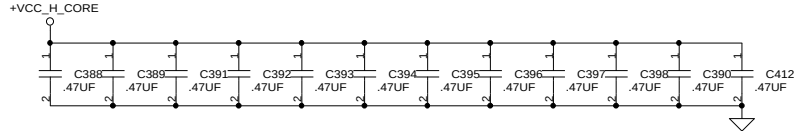


Layout note :

Place close to CPU, Use 2~3 vias per PAD.
Place .47uF caps underneath balls on solder side.
Place 10uF caps on the peripheral near balls.
Use 2~3 vias per PAD.

Layout note :

Place close to CPU,
Use 2 vias per PAD.



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Almador-M GMCH

Document Number
LA-1441

Rev
0.2

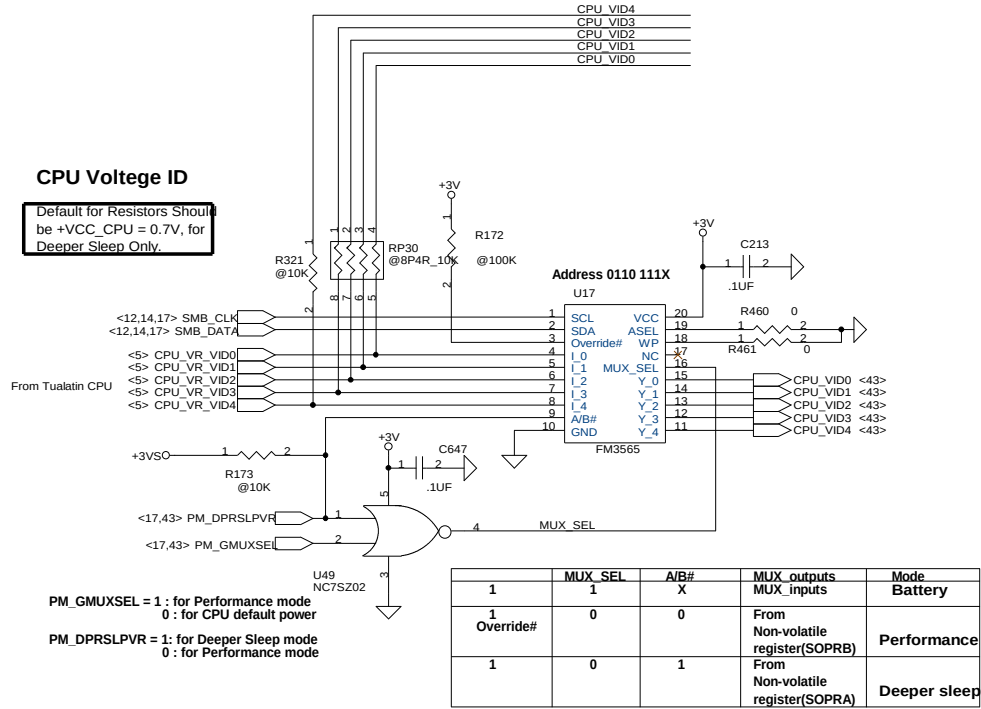
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Tualatin

D4	D3	D2	D1	D0	CPU_Core(V)	QS(MP)
0	0	1	1	1	1.40V (Performance)	
0	1	1	0	0	1.15V (Battery)	
1	0	1	0	1	0.85V (Deeper Sleep)	

CPU Voltage ID

Default for Resistors Should be +VCC_CPU = 0.7V, for Deeper Sleep Only.



SpeedStep function Note for SMT

Support SpeedStep :

Stuffed : U17, U49, R460, R461
Not Stuffed : RP30, R321

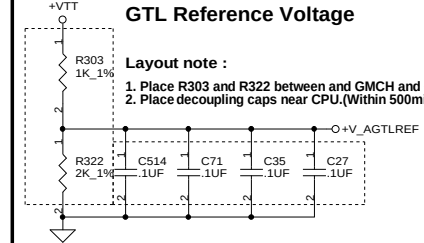
Without Support SpeedStep :

Stuffed : RP30, R321
Not Stuffed : U17, U49, R460, R461

GTL Reference Voltage

Layout note :

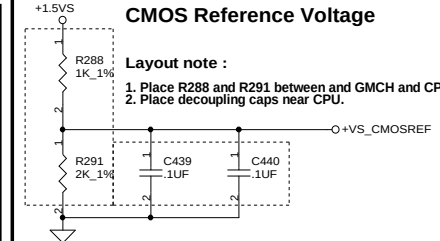
1. Place R303 and R322 between and GMCH and CPU.
2. Place decoupling caps near CPU.(Within 500mils)



CMOS Reference Voltage

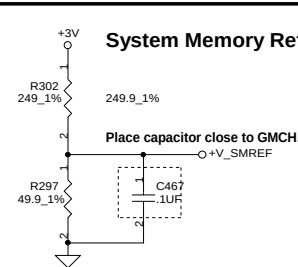
Layout note :

1. Place R288 and R291 between and GMCH and CPU.
2. Place decoupling caps near CPU.



System Memory Reference

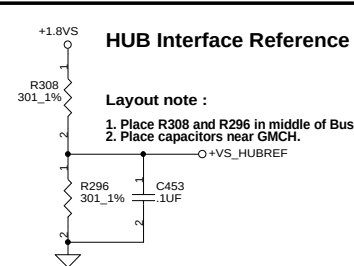
Place capacitor close to GMCH.



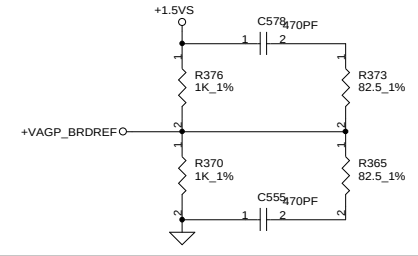
HUB Interface Reference

Layout note :

1. Place R308 and R296 in middle of Bus.
2. Place capacitors near GMCH.

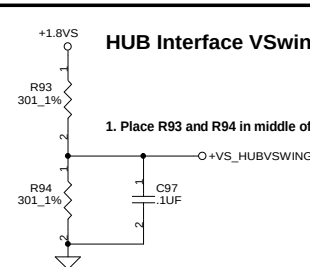


Place Reference Circuit near GMCH

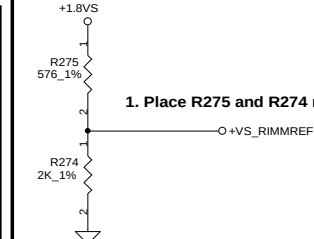


HUB Interface VSing Voltage

1. Place R93 and R94 in middle of Bus.



1. Place R275 and R274 near GMCH.

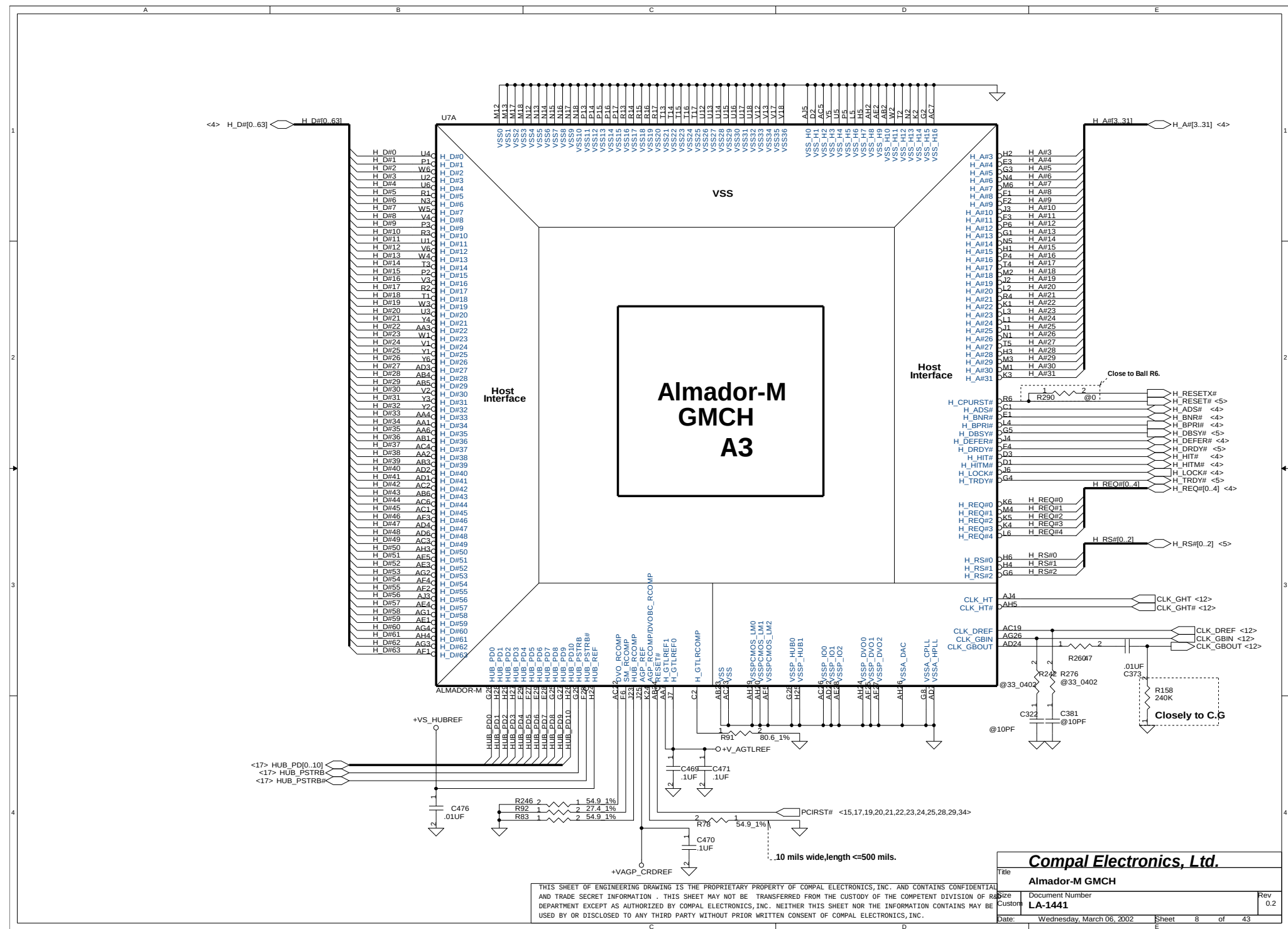


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CPU VID & All Reference Voltage

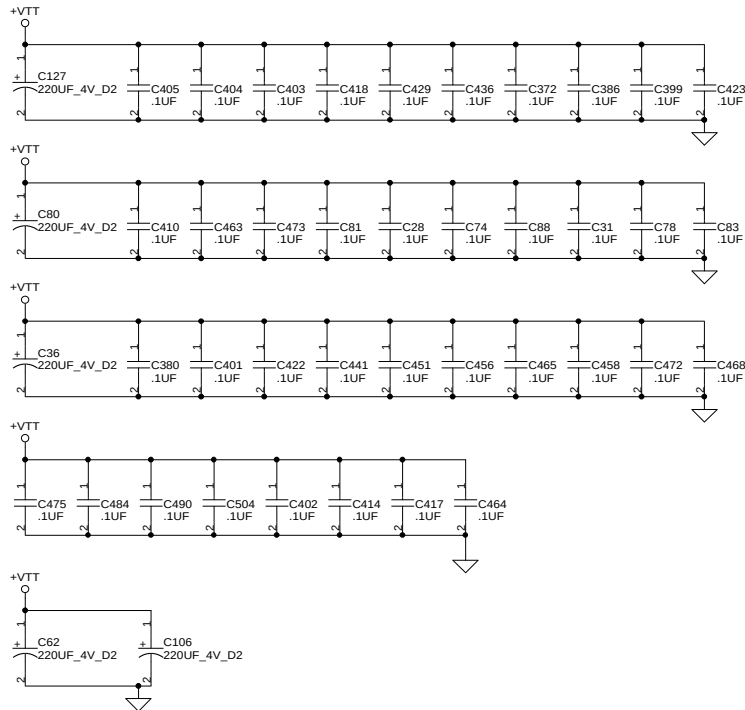
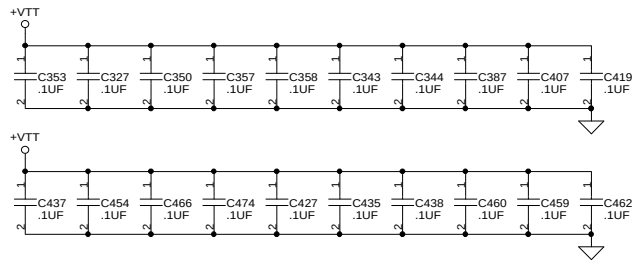
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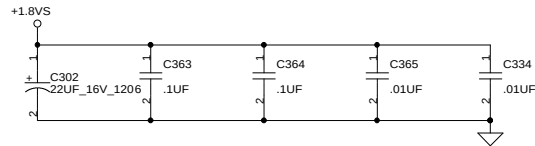




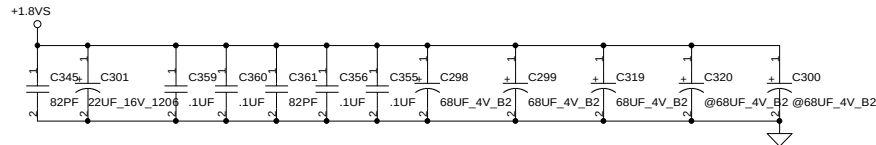
Layout note :
Distribute as close as possible
to GMCH Processor Quadrant .



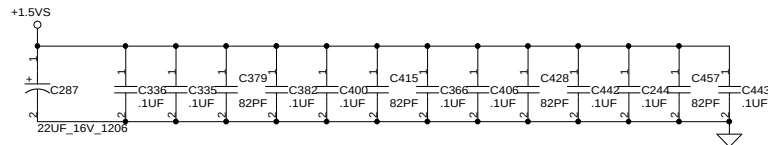
Layout note :
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to VCCPCMOS_LM .



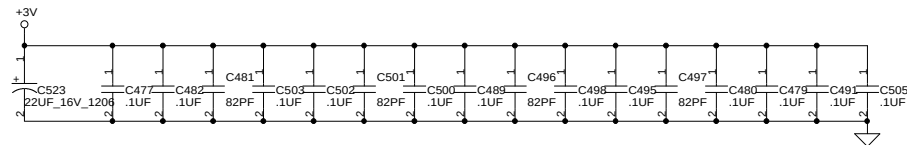
Layout note :
Distribute as close as possible
to GMCH Local Memory Quadrant .



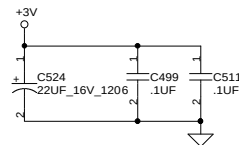
Layout note :
Distribute as close as possible
to GMCH AGP/DVO Quadrant .



Layout note :
Distribute as close as possible
to GMCH System Memory Quadrant .

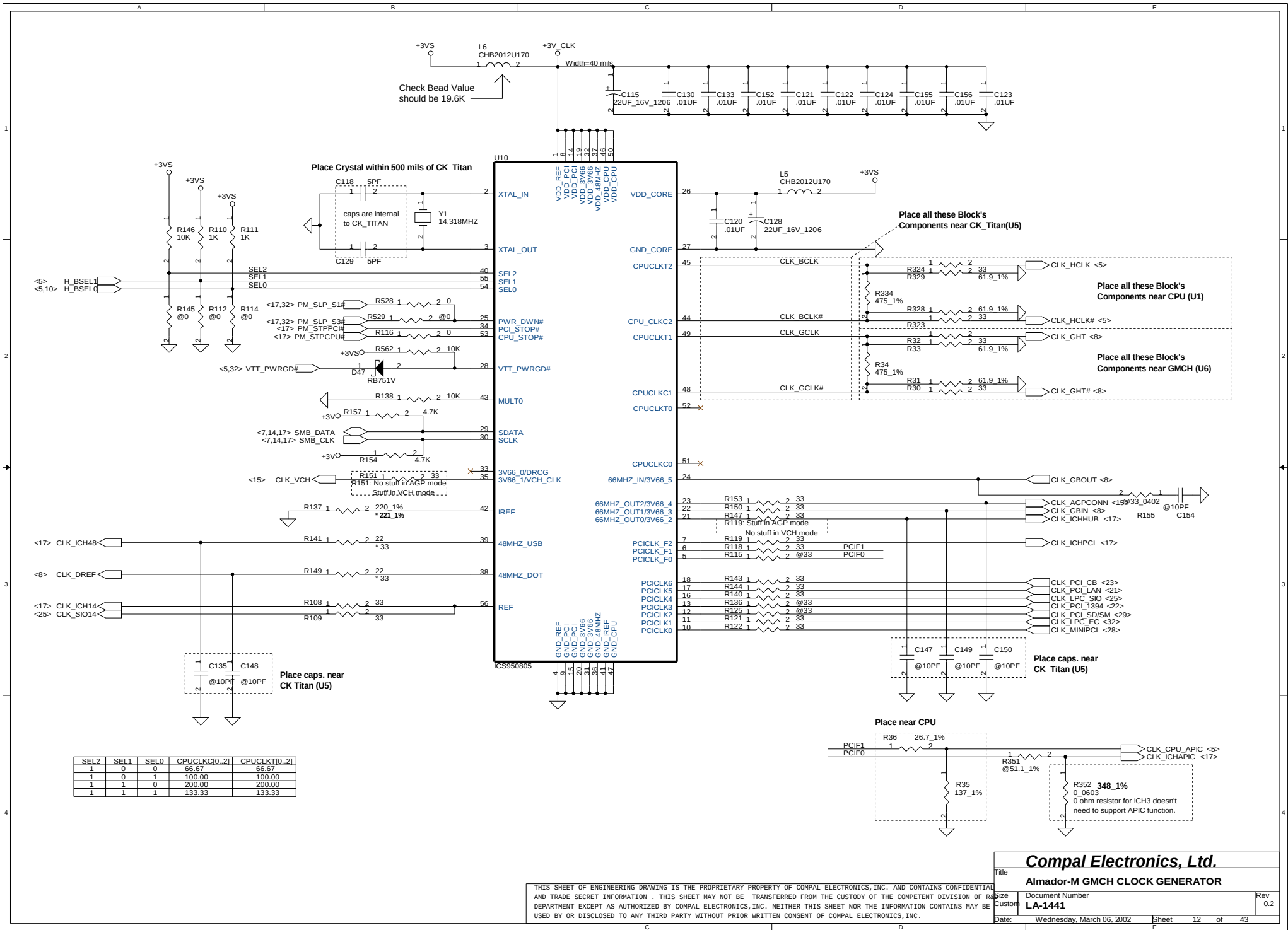


Layout note :
Distribute as close as possible
to IO Quadrant .

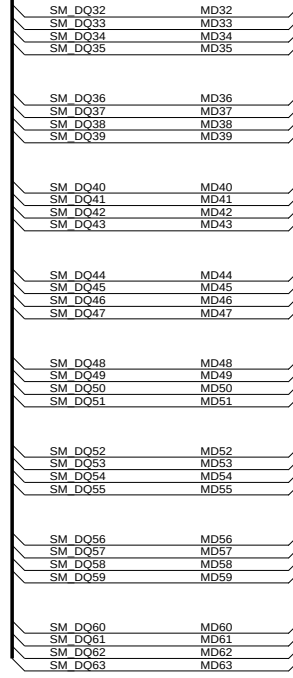
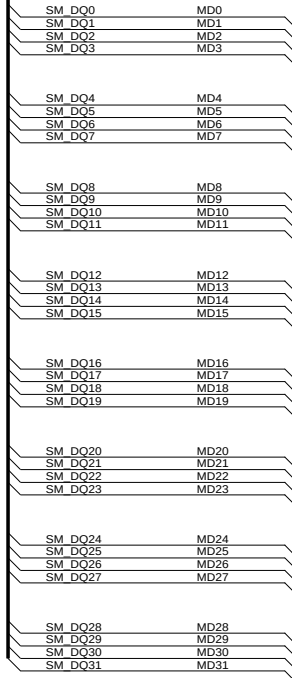


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Title			
GMCH-M Decoupling			
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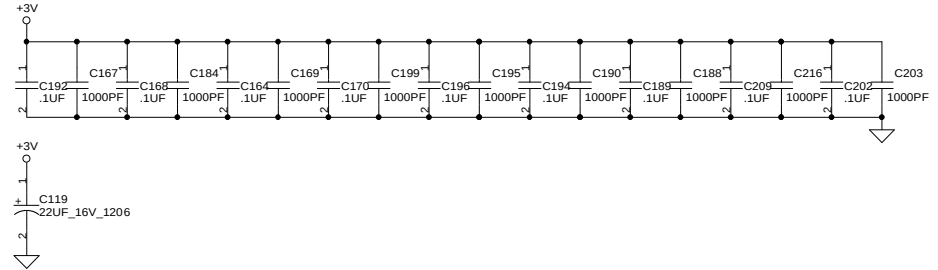


<9,14> SM_DQ[0..63]

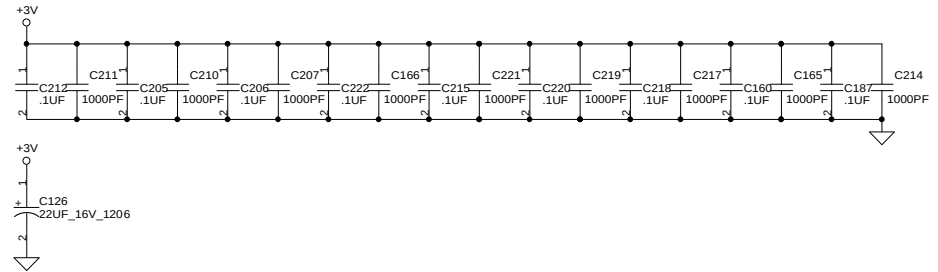


MD[0..63] <9,14>

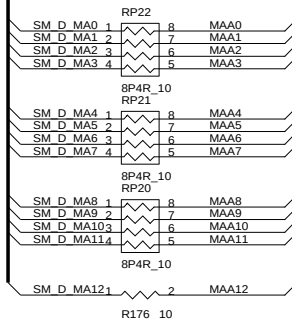
Layout note :
One .1uF cap per power pin .
Place each cap close to SODIMM(DIMM 0) pin .



Layout note :
One .1uF cap per power pin .
Place each cap close to SODIMM(DIMM 1) pin .



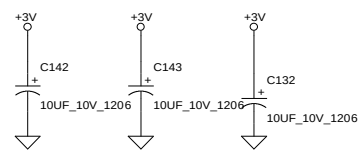
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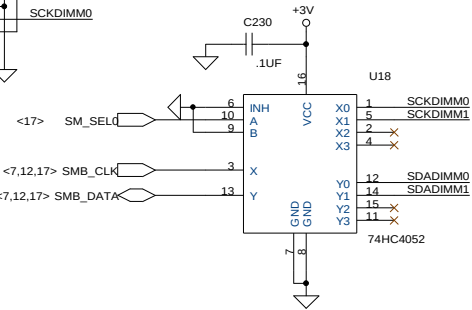
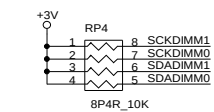
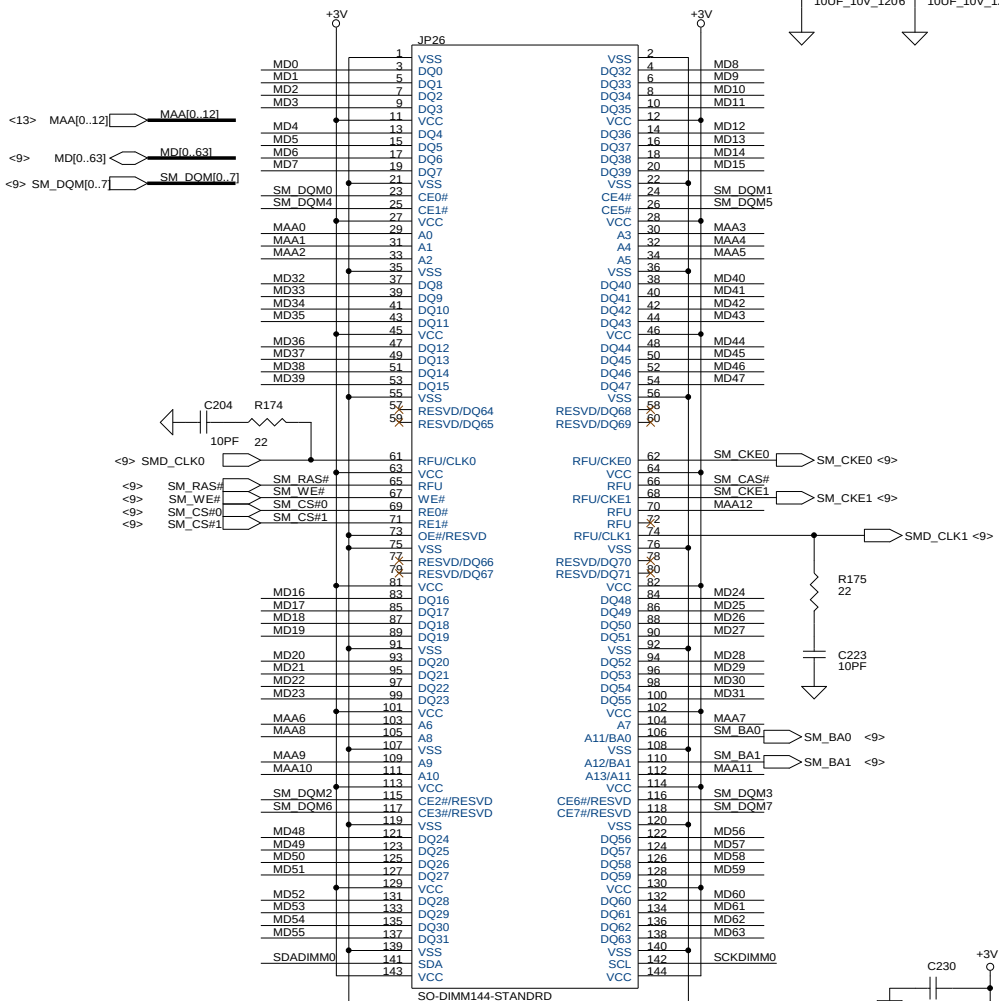
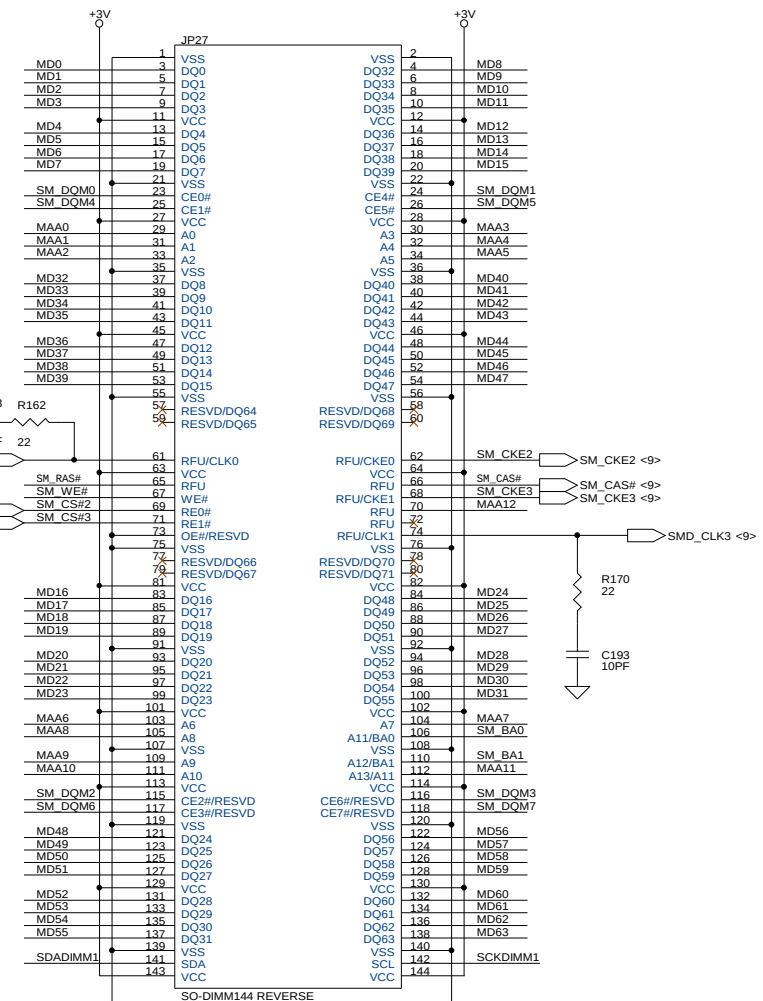
MAA[0..12] <14>

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SODIMM Damping & Decoupling			
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SO-DIM 144 PINS RAM MODULE CONN. **BANK 0/1**

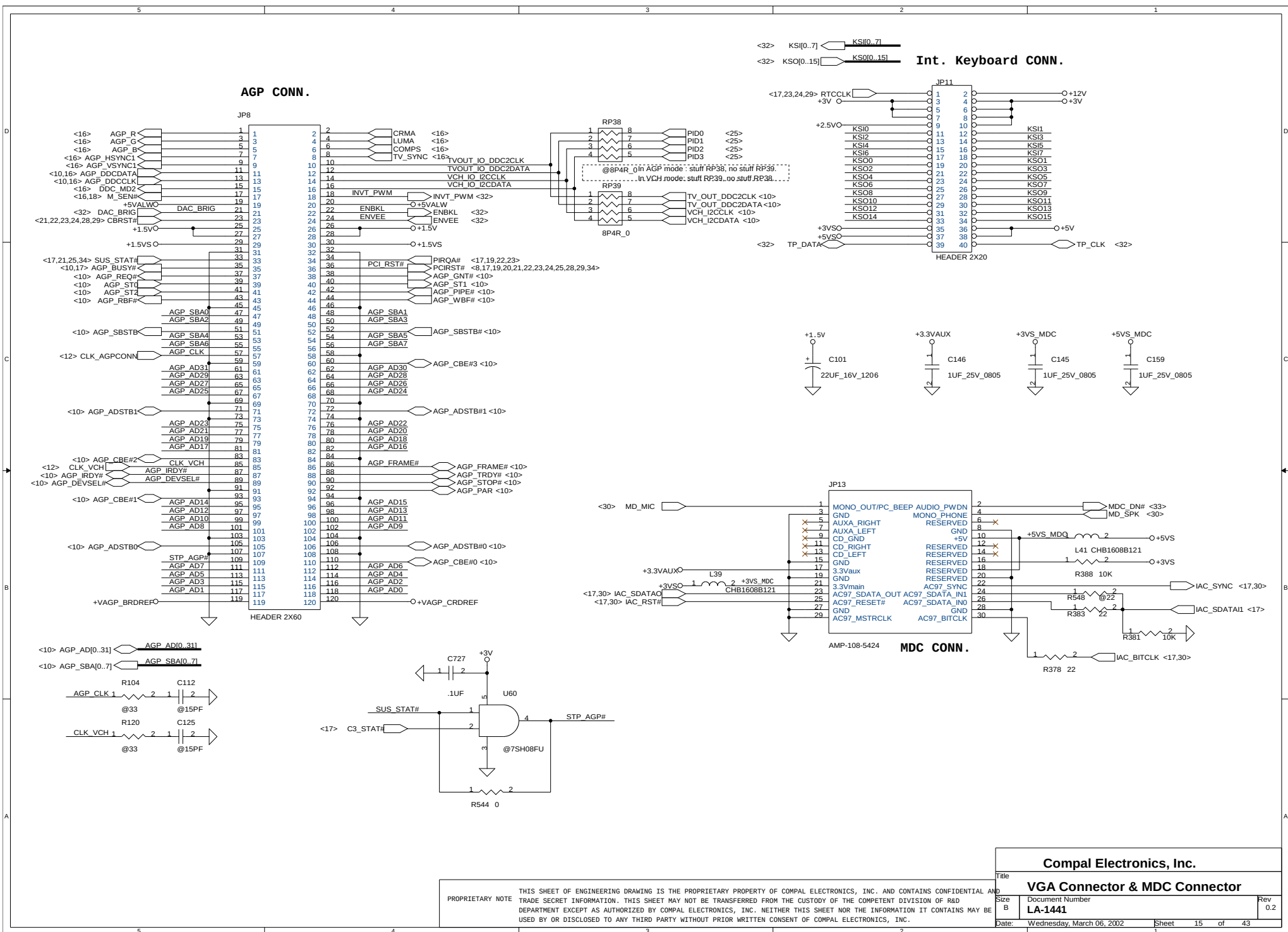
BANK 2/3



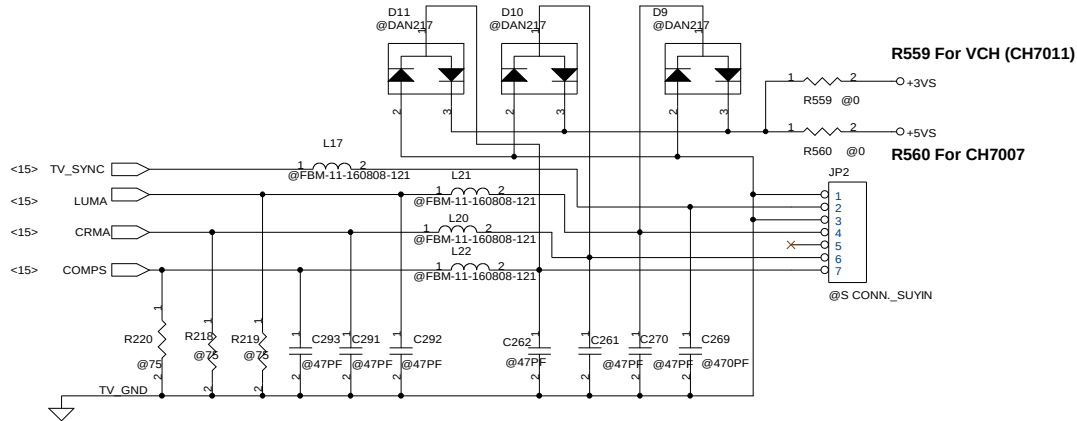
SM_SEL0	X/Y
0	SCKDIMM0
1	SCKDIMM1

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S.O. DIMM CONNECTOR			
Size B	Document Number LA-1441	Rev 0.2	
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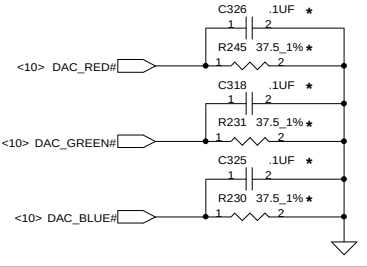
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TV_OUT CONN.

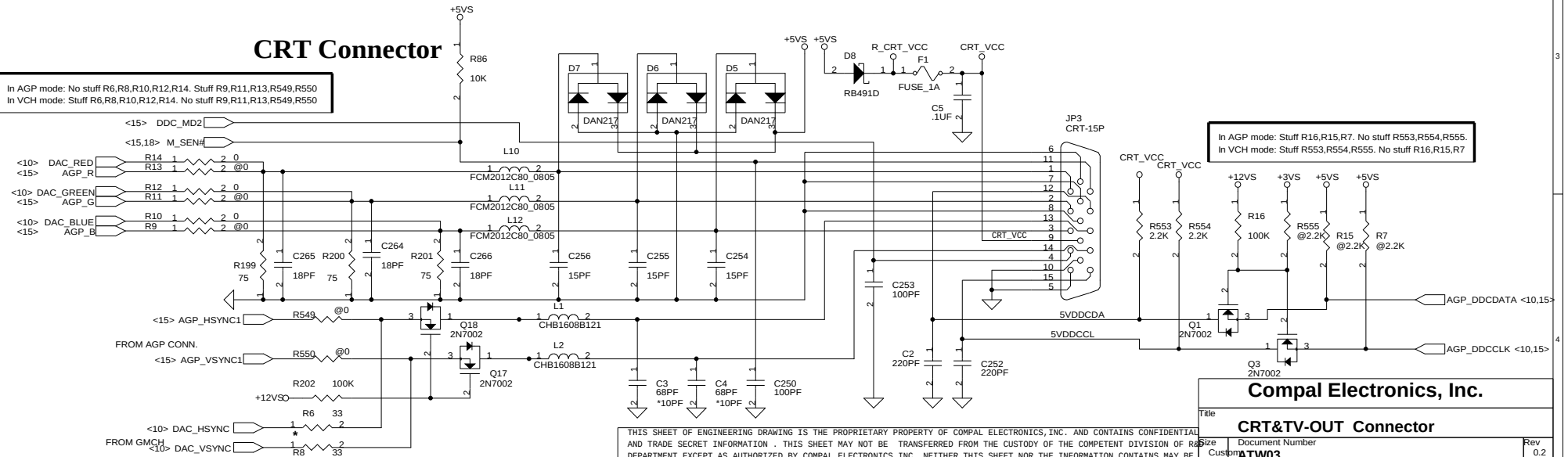


In AGP mode: No stuff C326,R245,C318,R231,C325,R230.
In VCH mode: Stuff C326,R245,C318,R231,C325,R230



CRT Connector

In AGP mode: No stuff R6,R8,R10,R12,R14. Stuff R9,R11,R13,R549,R550
In VCH mode: Stuff R6,R8,R10,R12,R14. No stuff R9,R11,R13,R549,R550

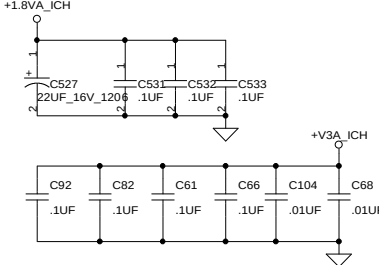
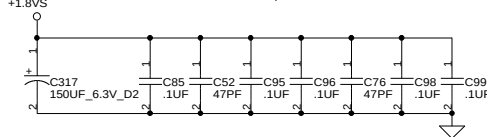
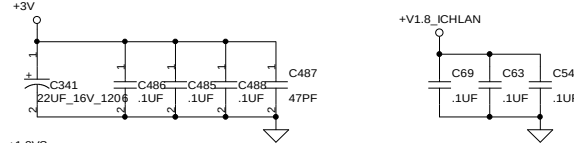
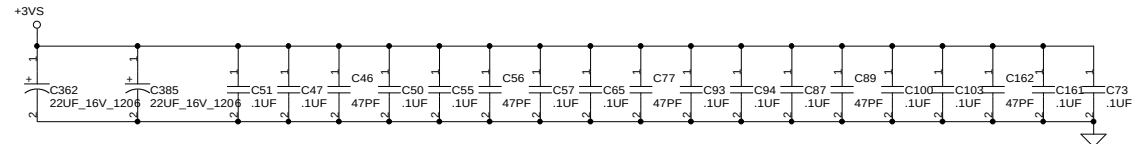
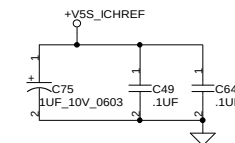
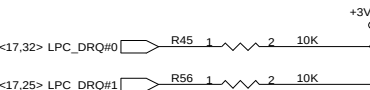
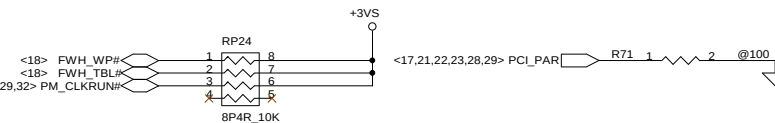
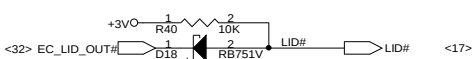
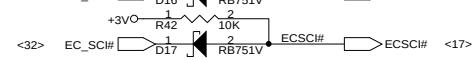
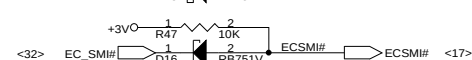
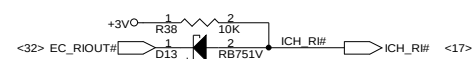
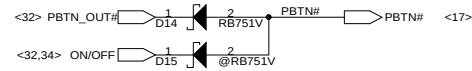
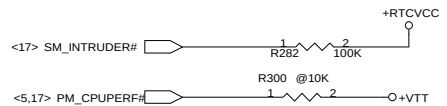
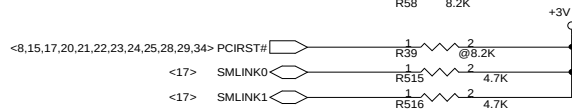
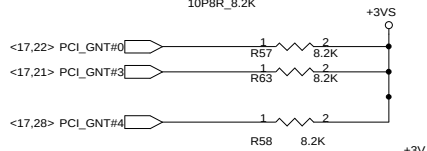
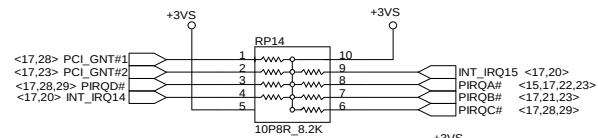
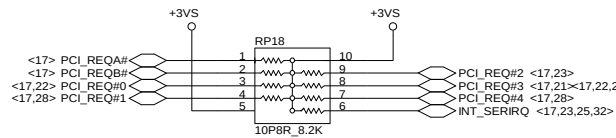
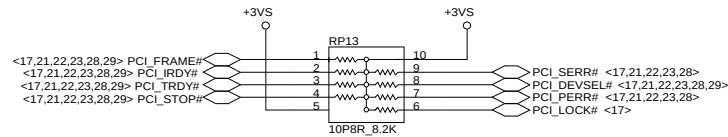


Compal Electronics, Inc.

CRT&TV-OUT Connector

Customer: ATW03
Date: Wednesday, March 06, 2002
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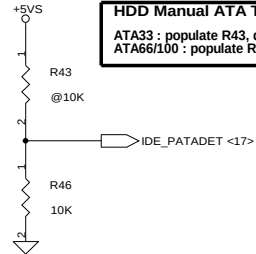
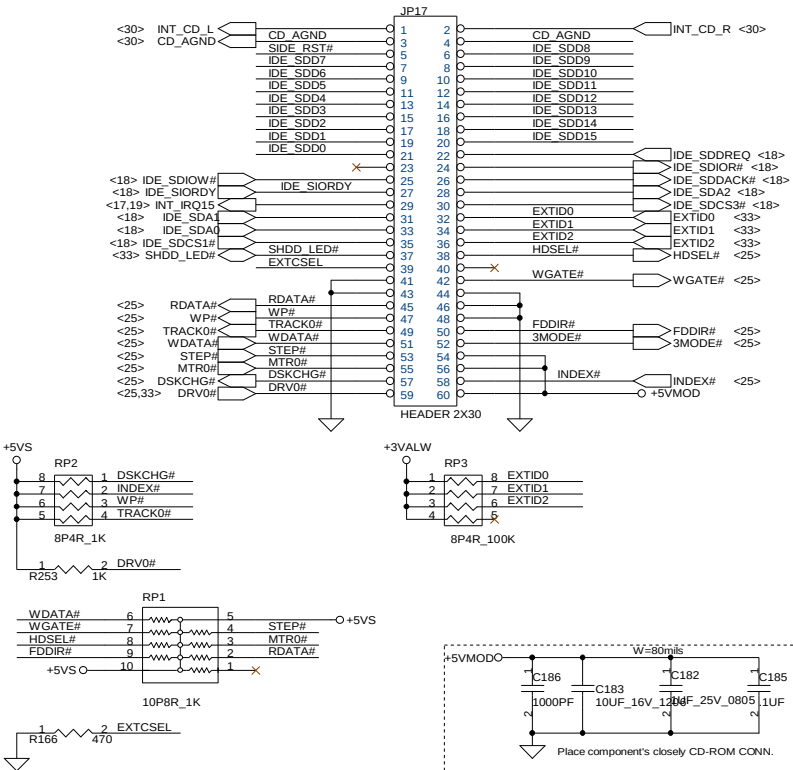
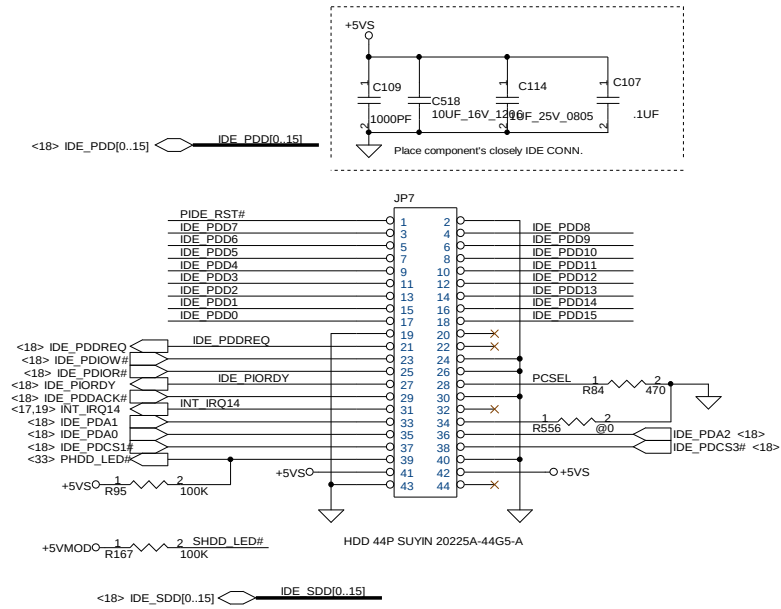




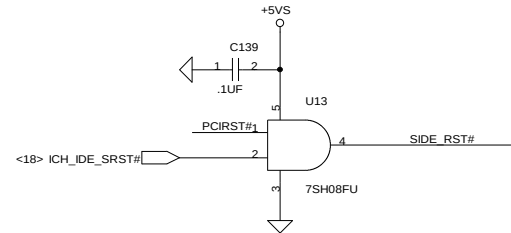
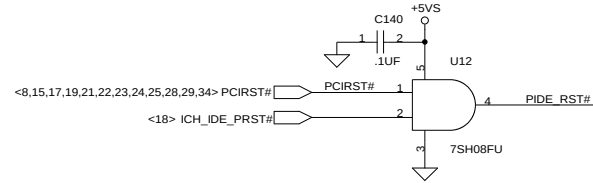
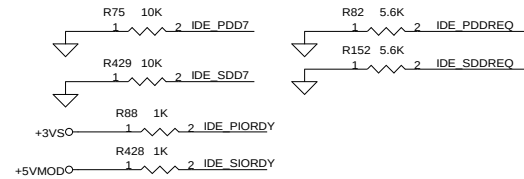
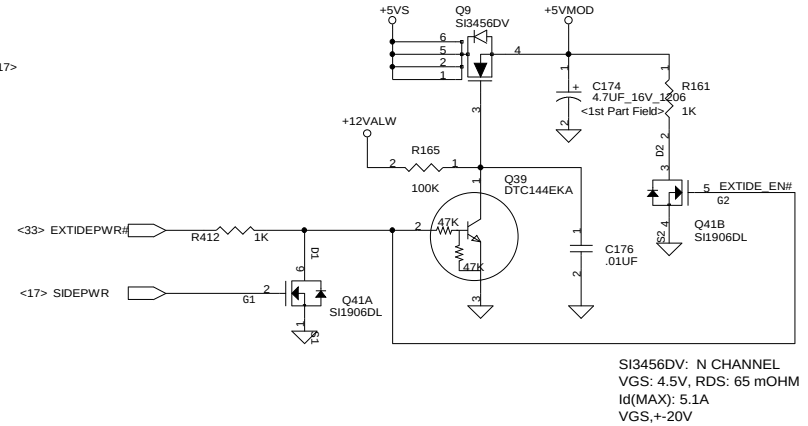
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Size	Document Number		
Custom	LA-1441		
Date:	Wednesday, March 06, 2002	Sheet	19 of 43
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IDE,CD-ROM Module CONN.



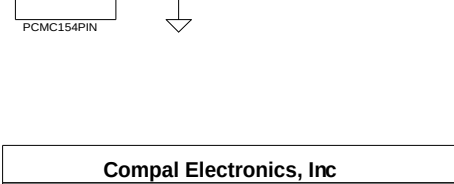
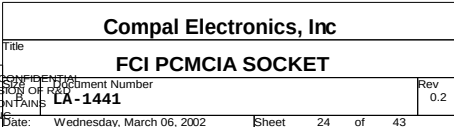
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ATA33 : populate R43, de-populate R46.
ATA66/100 : populate R46, de-populate R43.



Compal Electronics, Inc	
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Part Number	LA-1441
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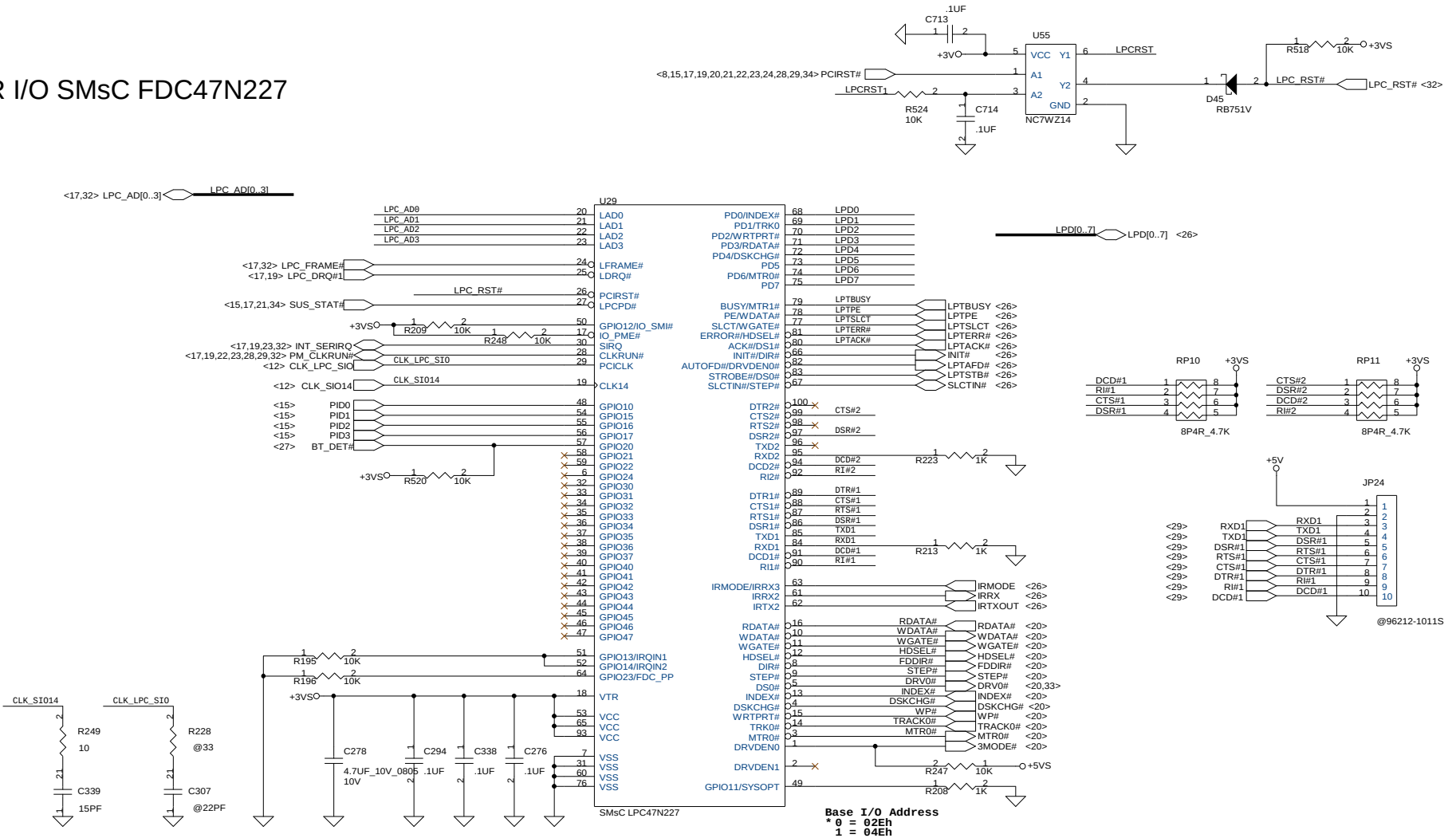
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Title		FCI PCMCIA SOCKET	
CONFIDENTIAL	Document Number	Rev	
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SUPER I/O SMC FDC47N227



Compal Electronics, Inc.

LPC SUPER I/O SMC FDC47N227

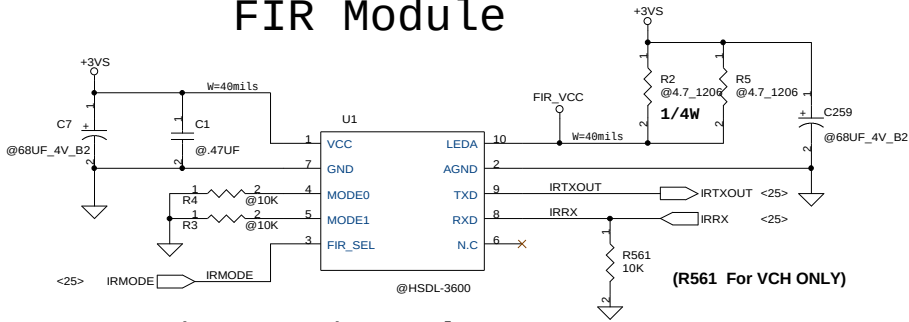
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LA-1441

Rev 0.2

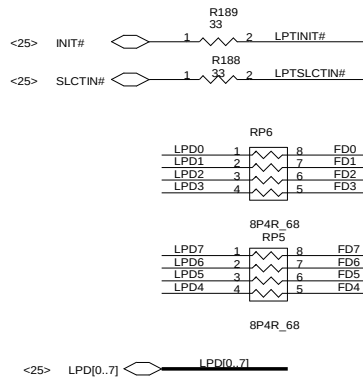
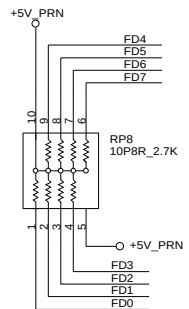
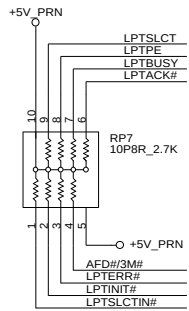
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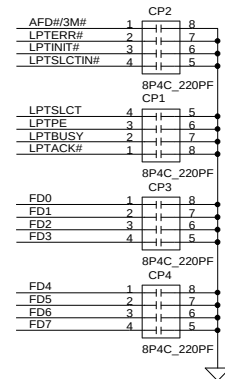
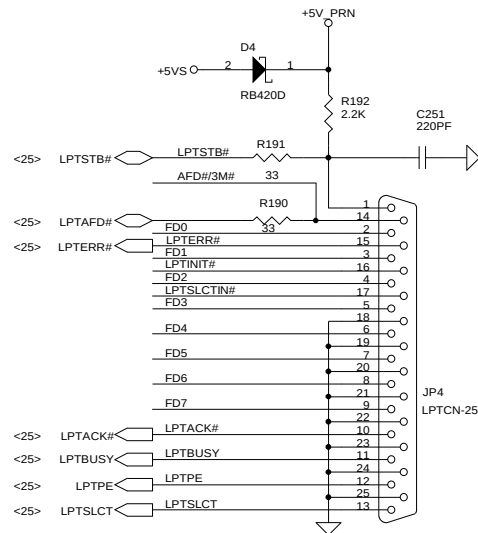
FIR Module



The component's most place
cloely IRDA MODULE.



PARALLEL PORT



Compal Electronics, Inc.

PARALLEL PORT & FIR MODULE

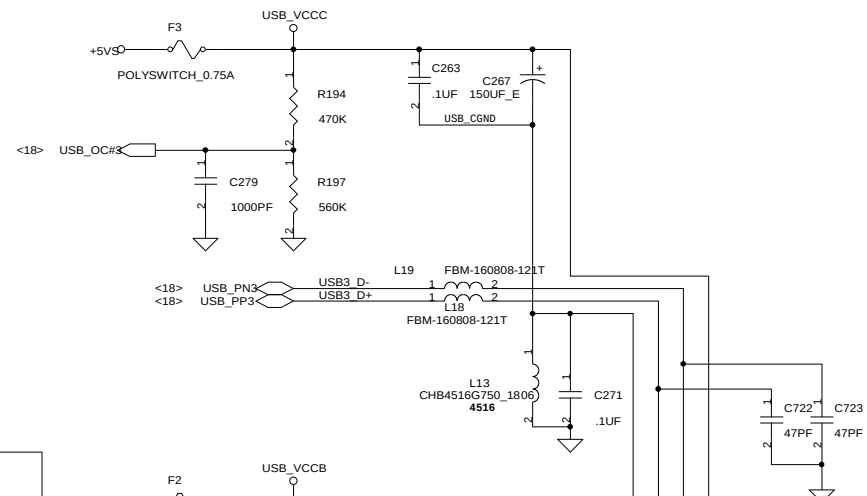
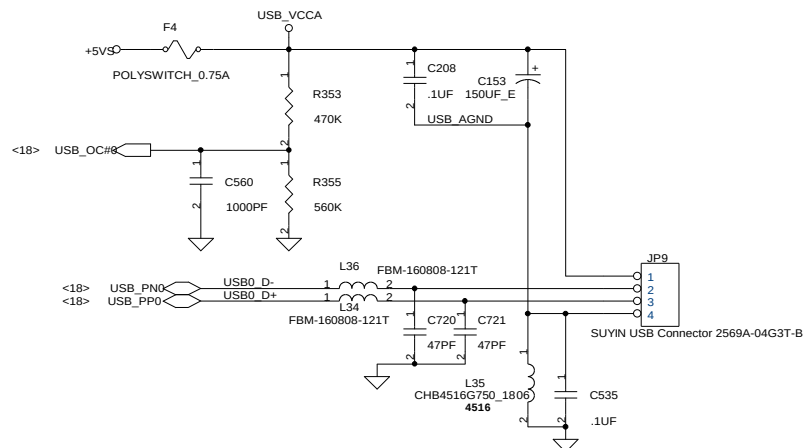
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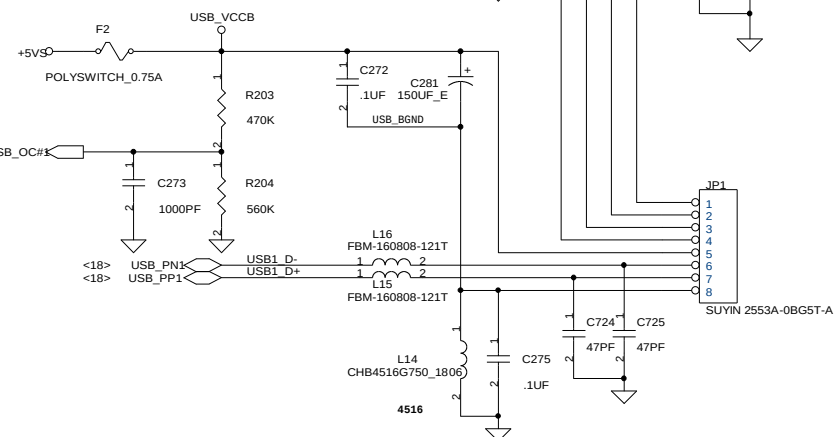
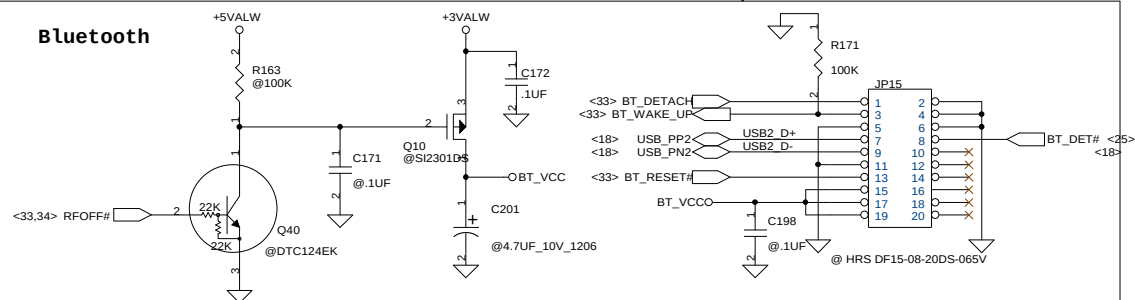
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USB PORT



Bluetooth



Compal Electronics, Inc

Title	USB PORT & BLUE TOOTH
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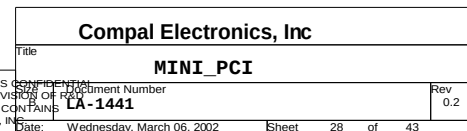
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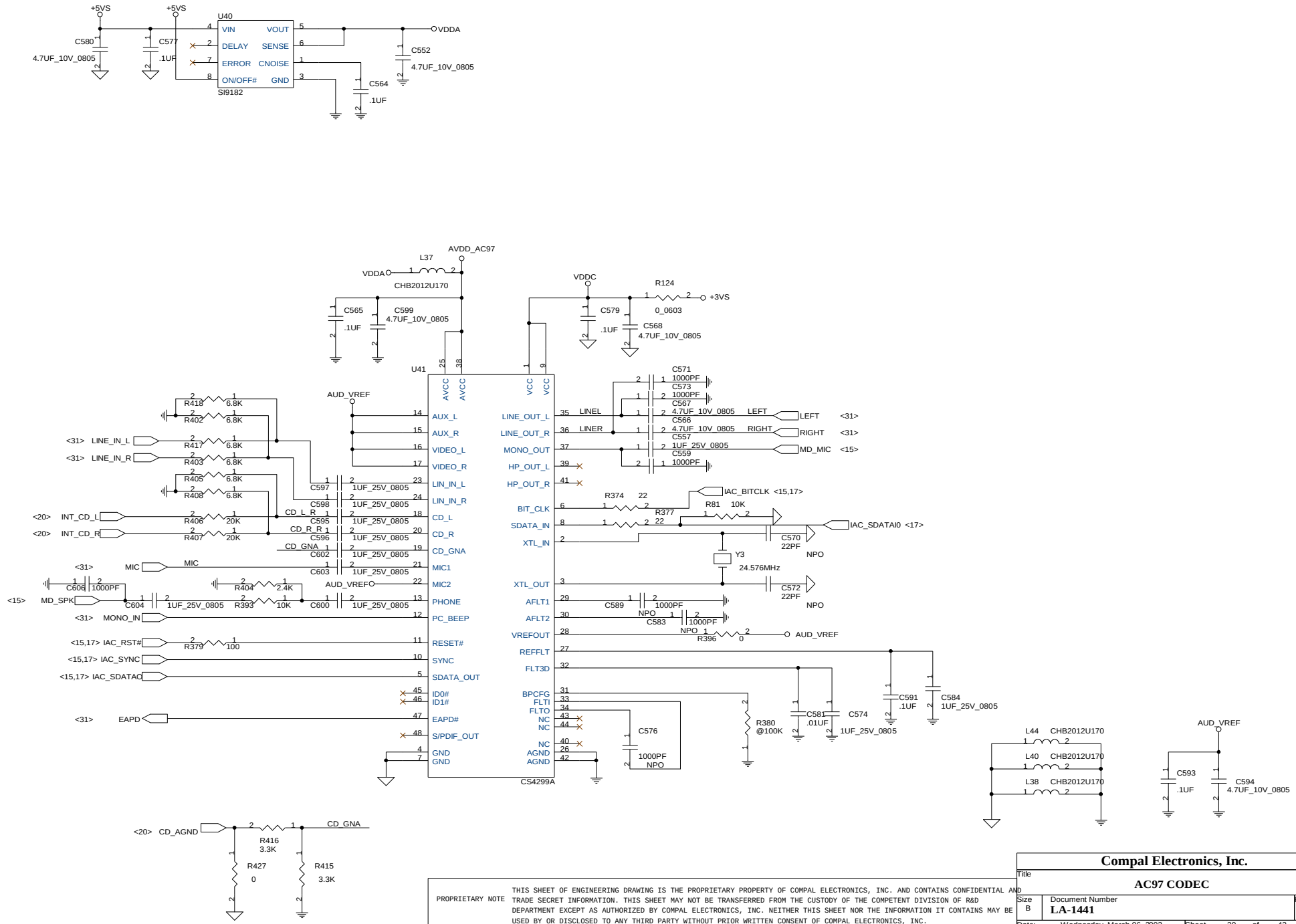
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DATE: Wednesday, March 14, 2007

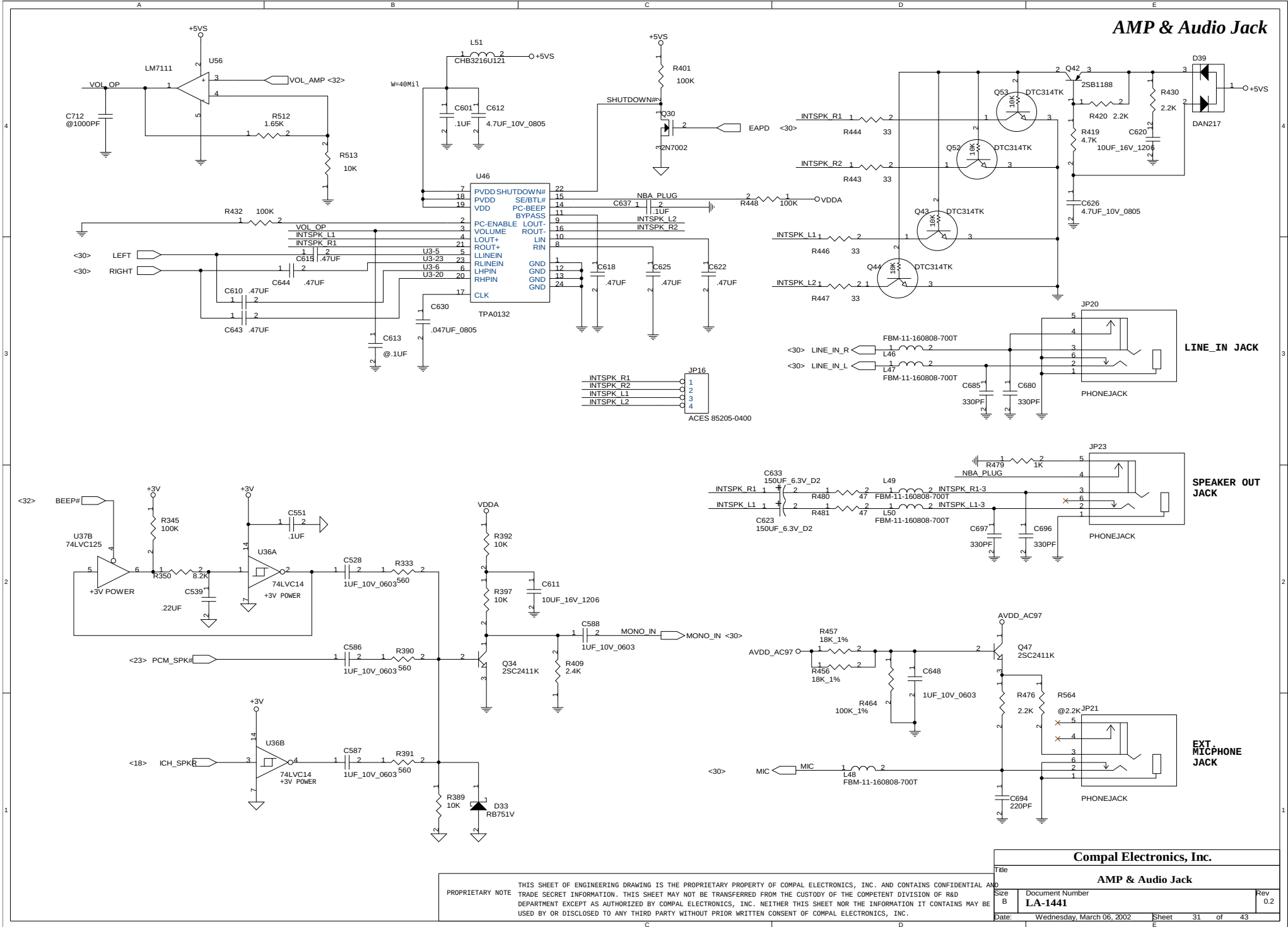
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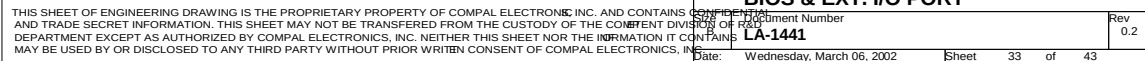
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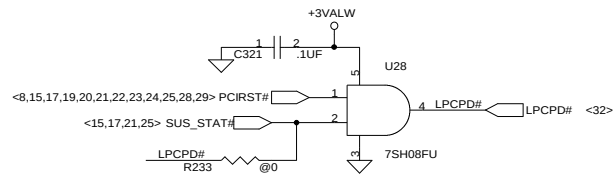


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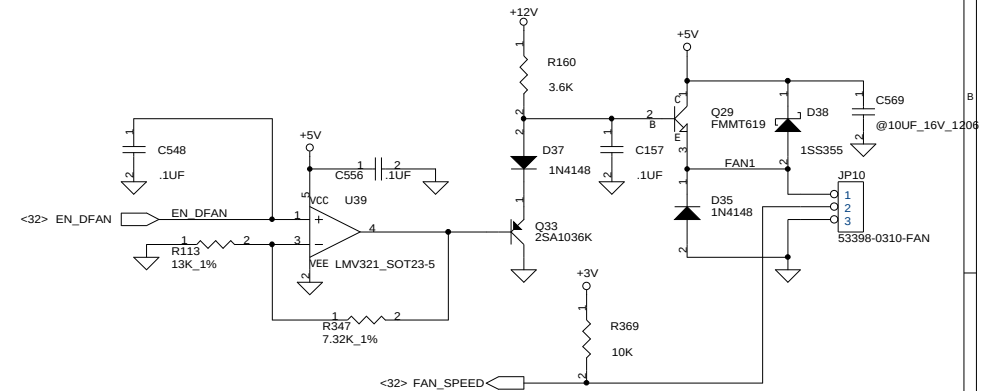
Compal Electronics, Inc.			
AMP & Audio Jack			
Title	Document Number	Rev	
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Date:	Wednesday, March 06, 2002	Sheet	31 of 43







FAN CONN.



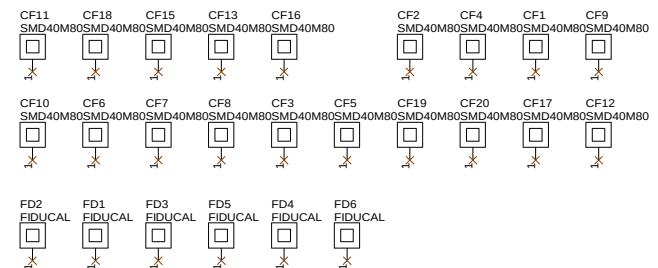
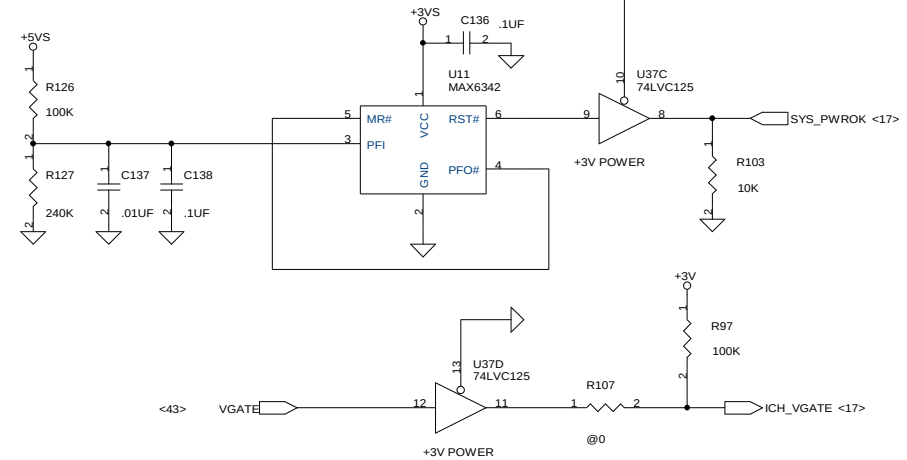
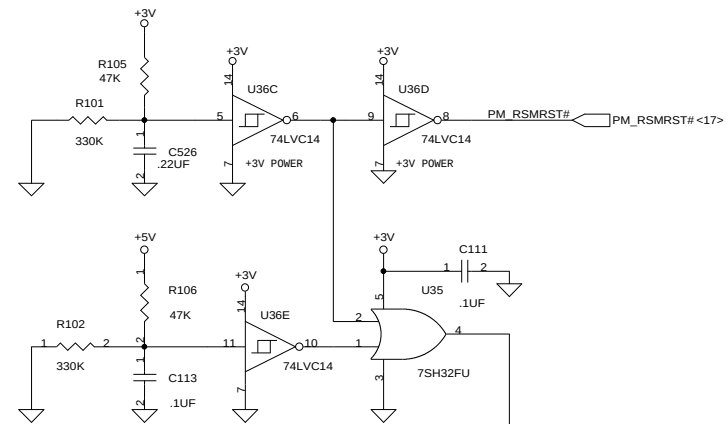
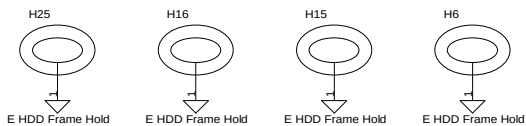
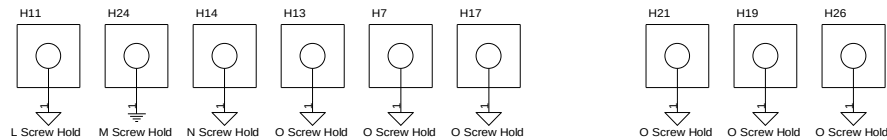
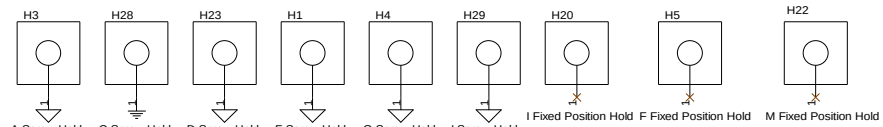
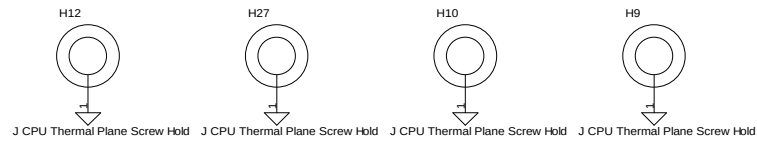
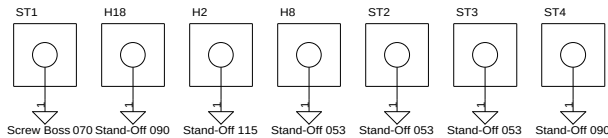
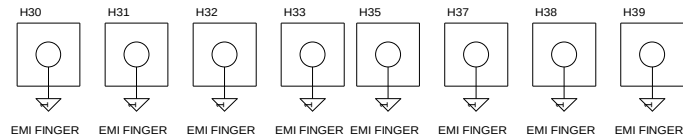
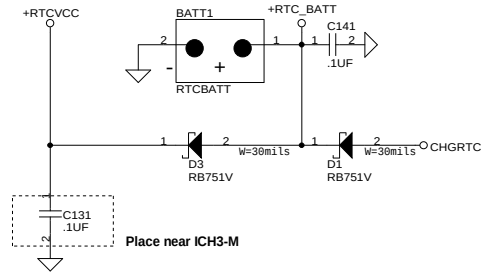
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Date: Wednesday, March 14, 1990
 By: W. J. [Signature]
 Title: W. J. [Signature]

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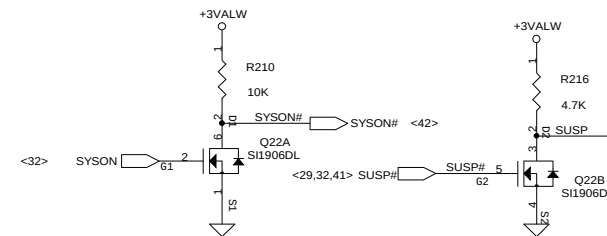
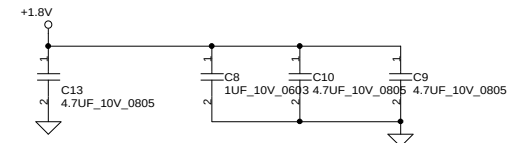
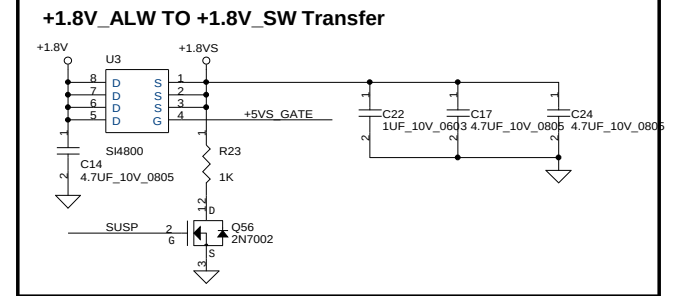
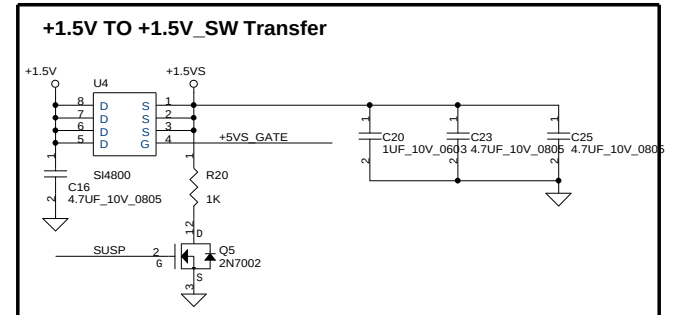
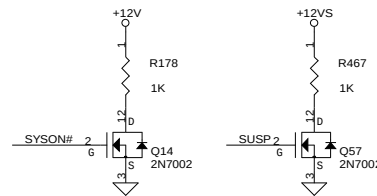
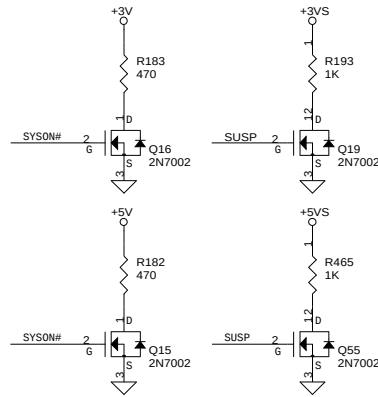
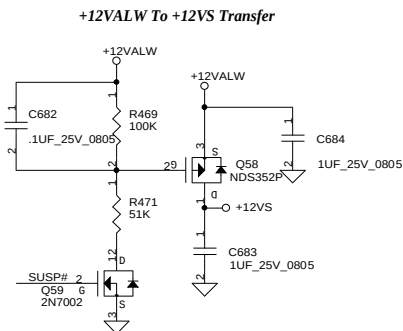
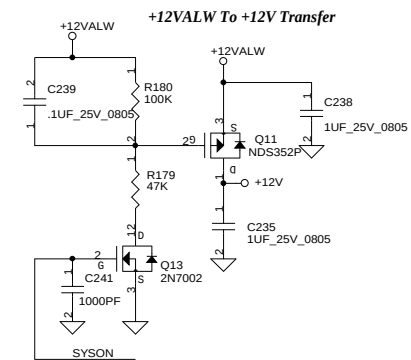
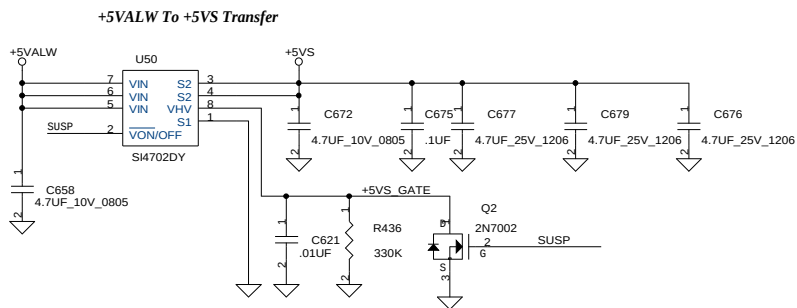
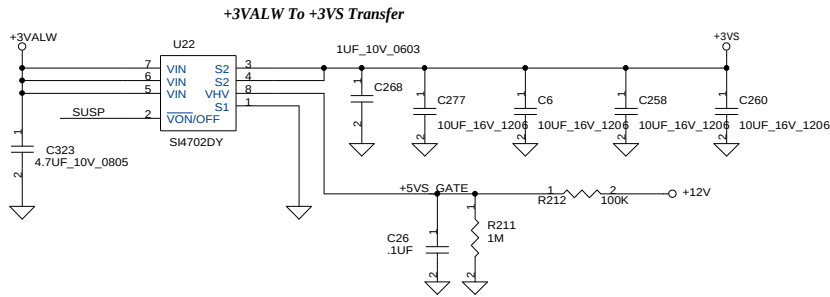
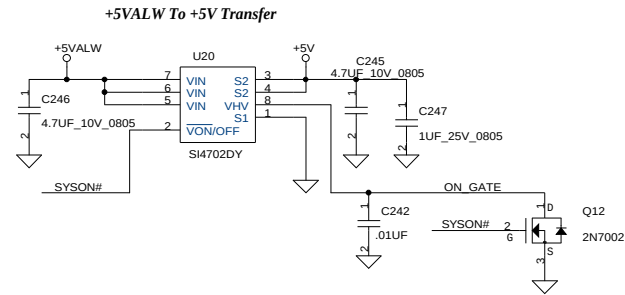
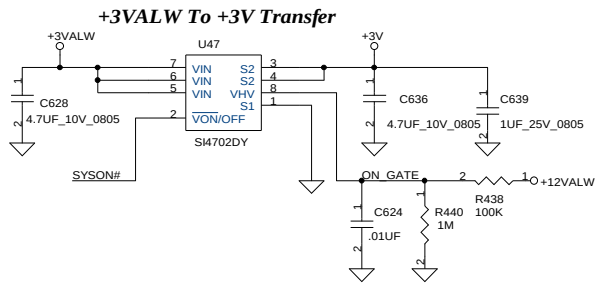
RTC Batt. Connector



Compal Electronics, Inc.

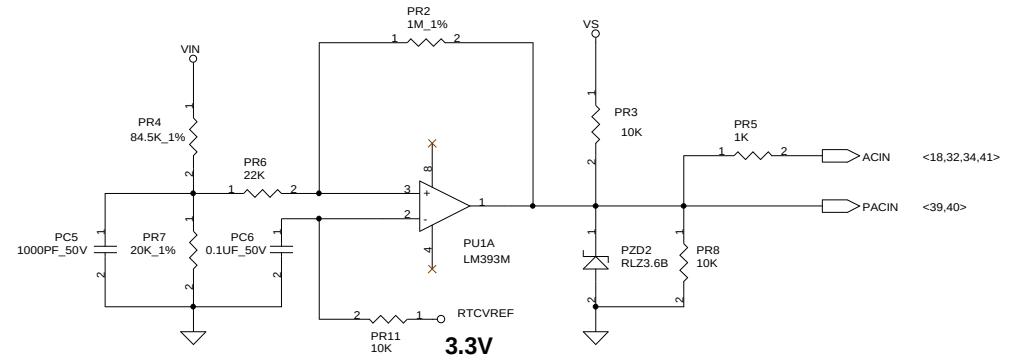
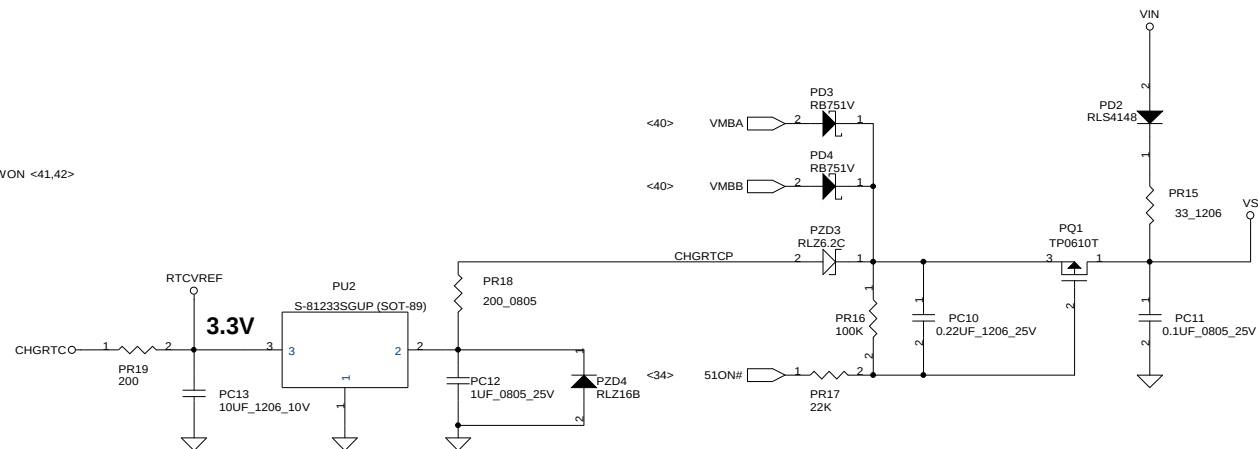
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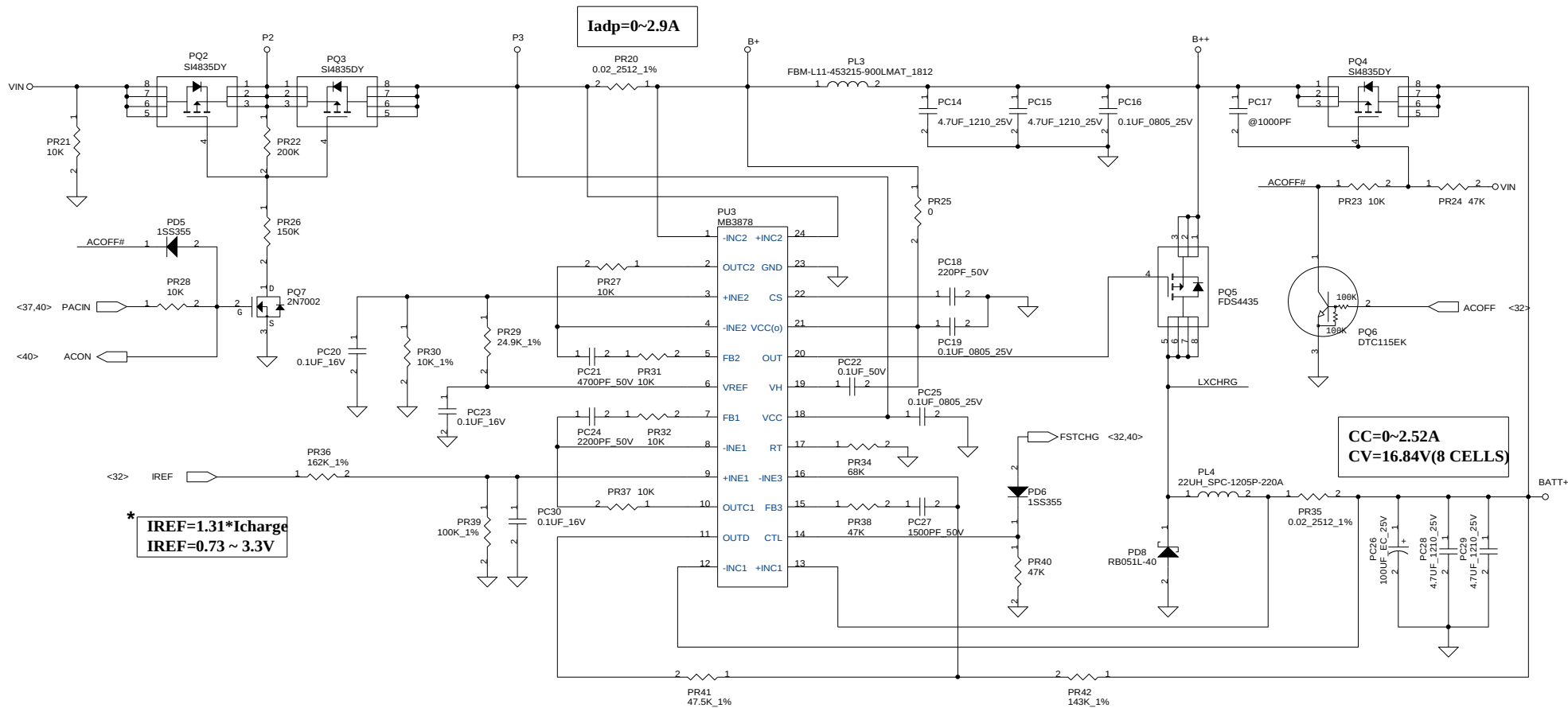


Compal Electronics, Ltd.			
Title: DC-DC Interface / RTC Batt. Conn.			
Size: Custom	Document Number: LA-1441		Rev: 0.2
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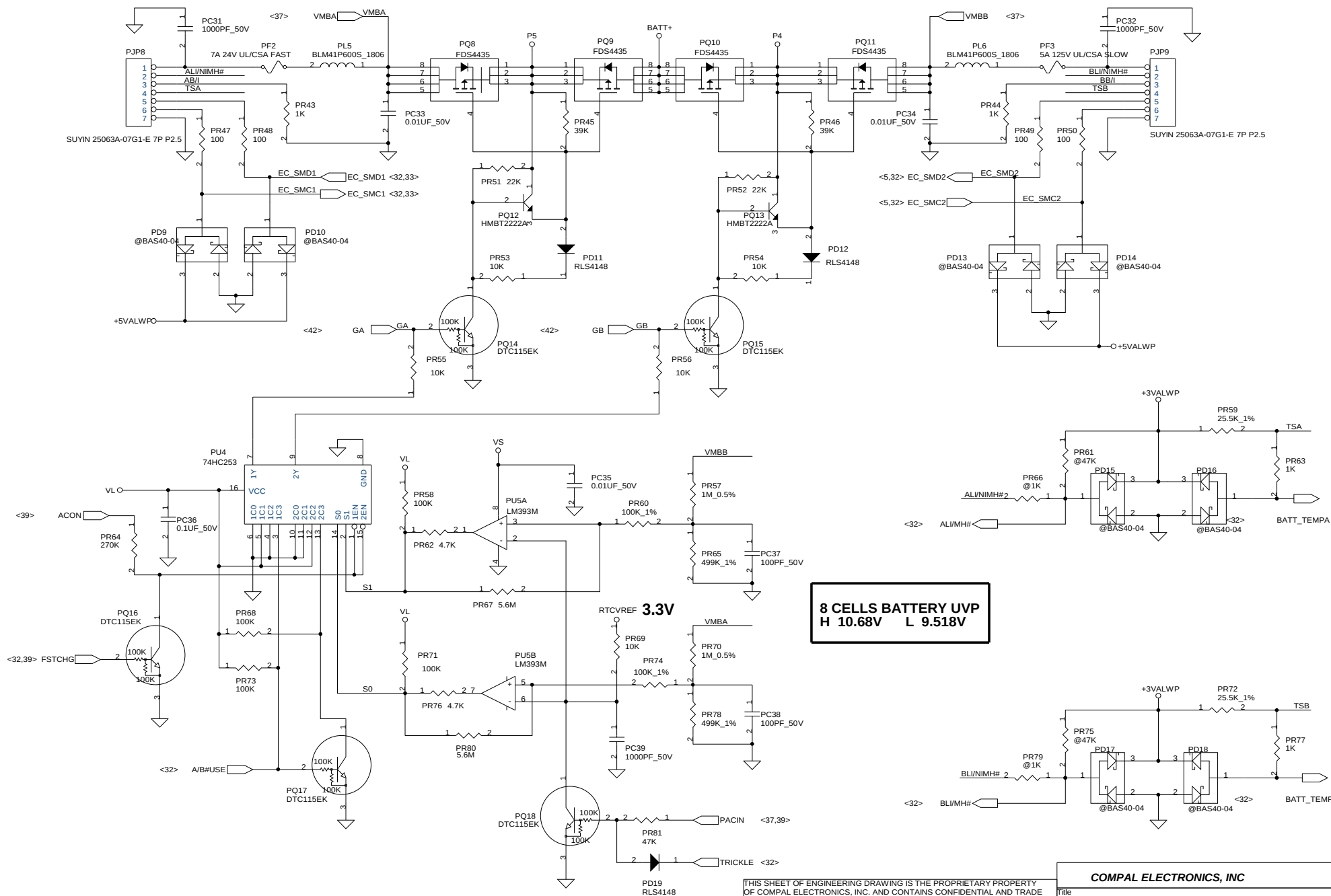
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COMPAL ELECTRONICS, INC			
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Size B	Document Number LA-1441		Rev 0.2
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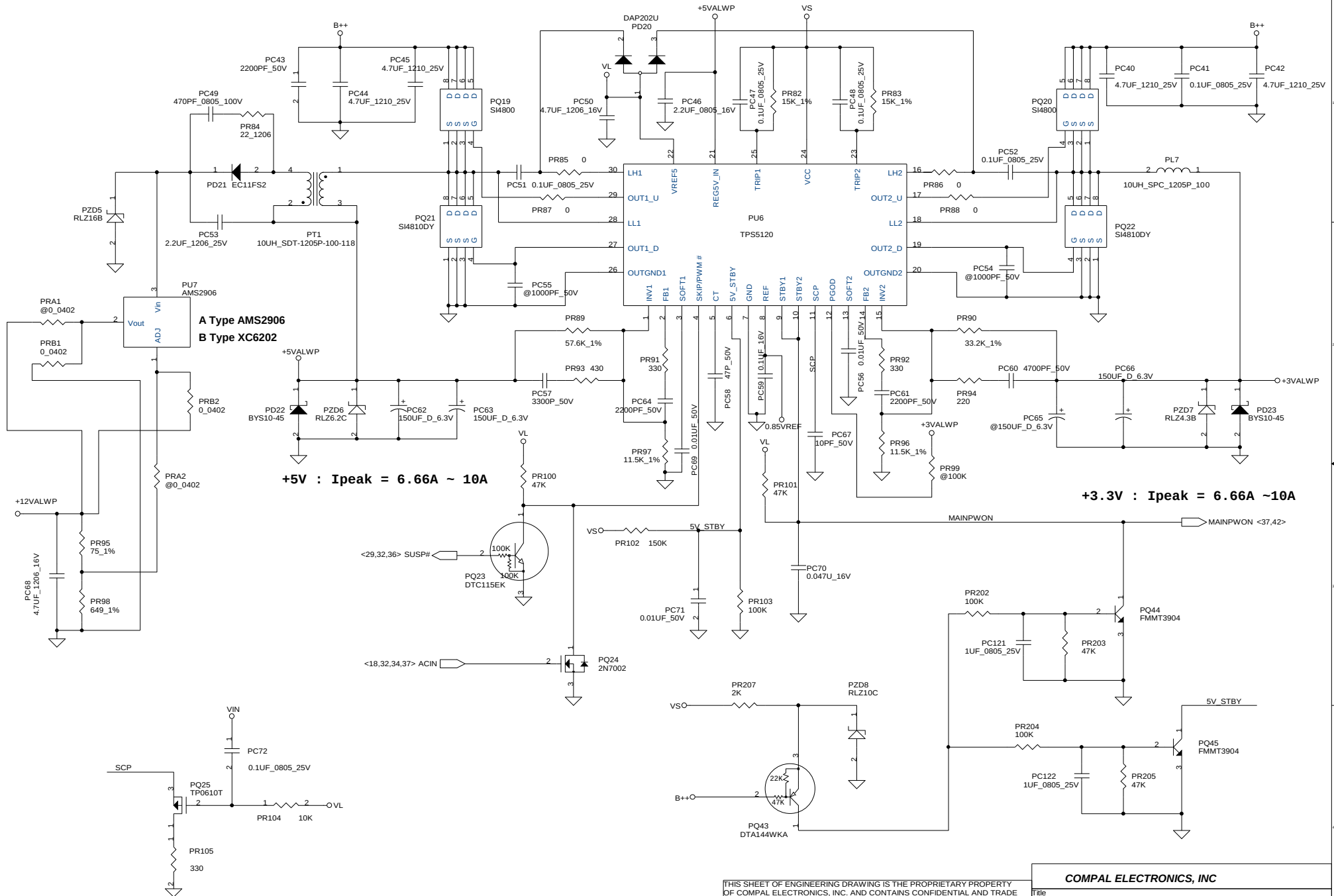
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Size	Document Number	Rev	
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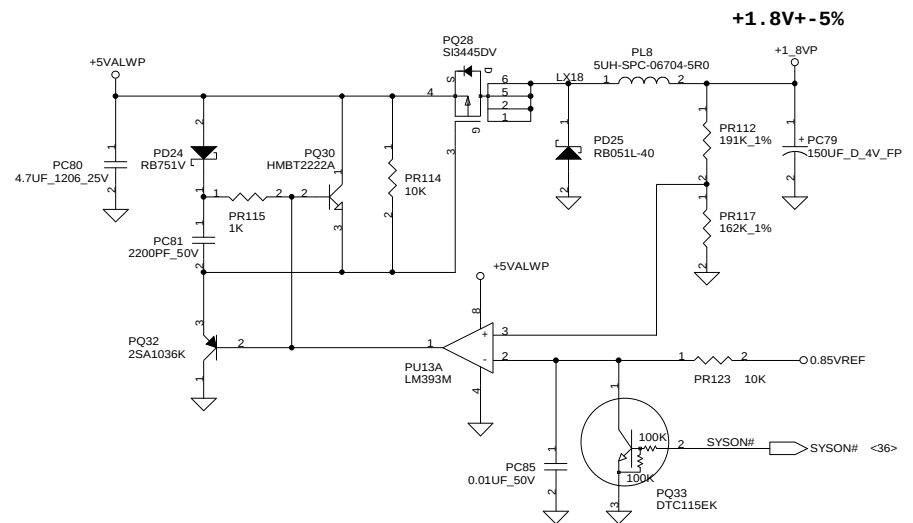
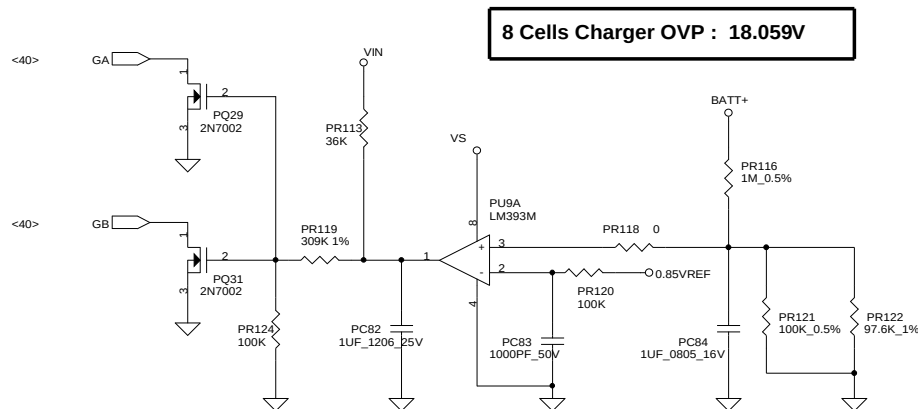
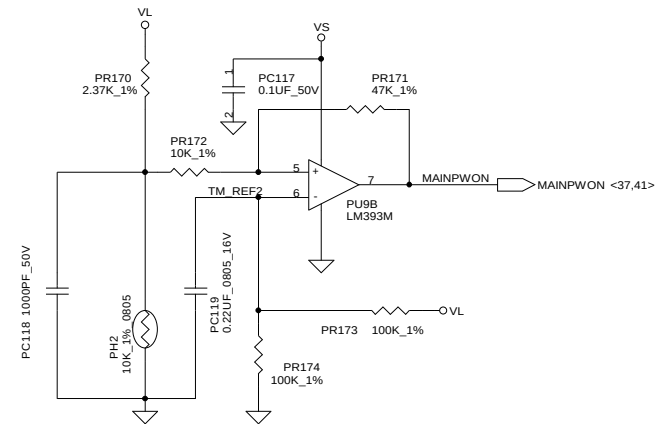
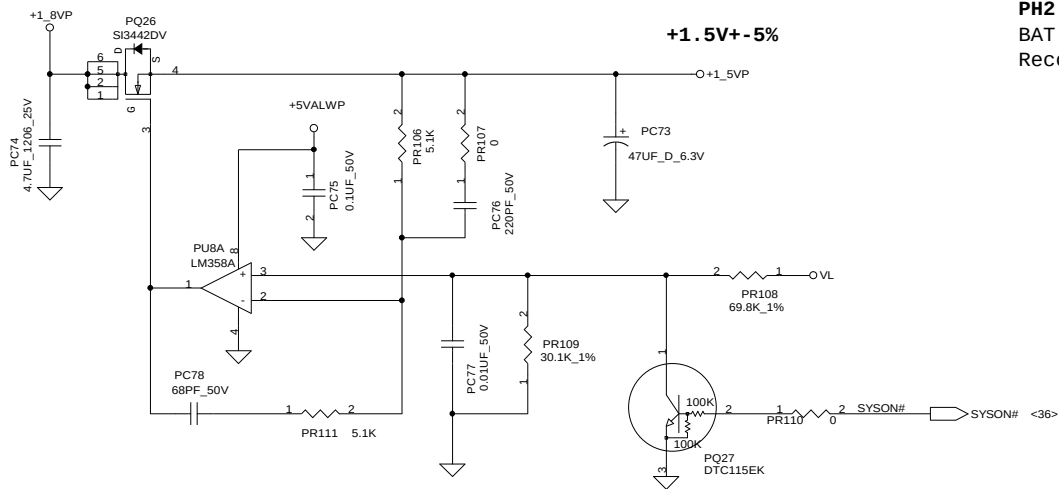


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COMPAL ELECTRONICS, INC			
Title			
5V/3.3V/12V			
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