

COMPAL CONFIDENTIAL

PCB NO : *LA-1591*

Revision : *2.0*

DATE :

LA-1591 Schematics Document

uFCBGA/uFCPGA Northwood

2002-12-2

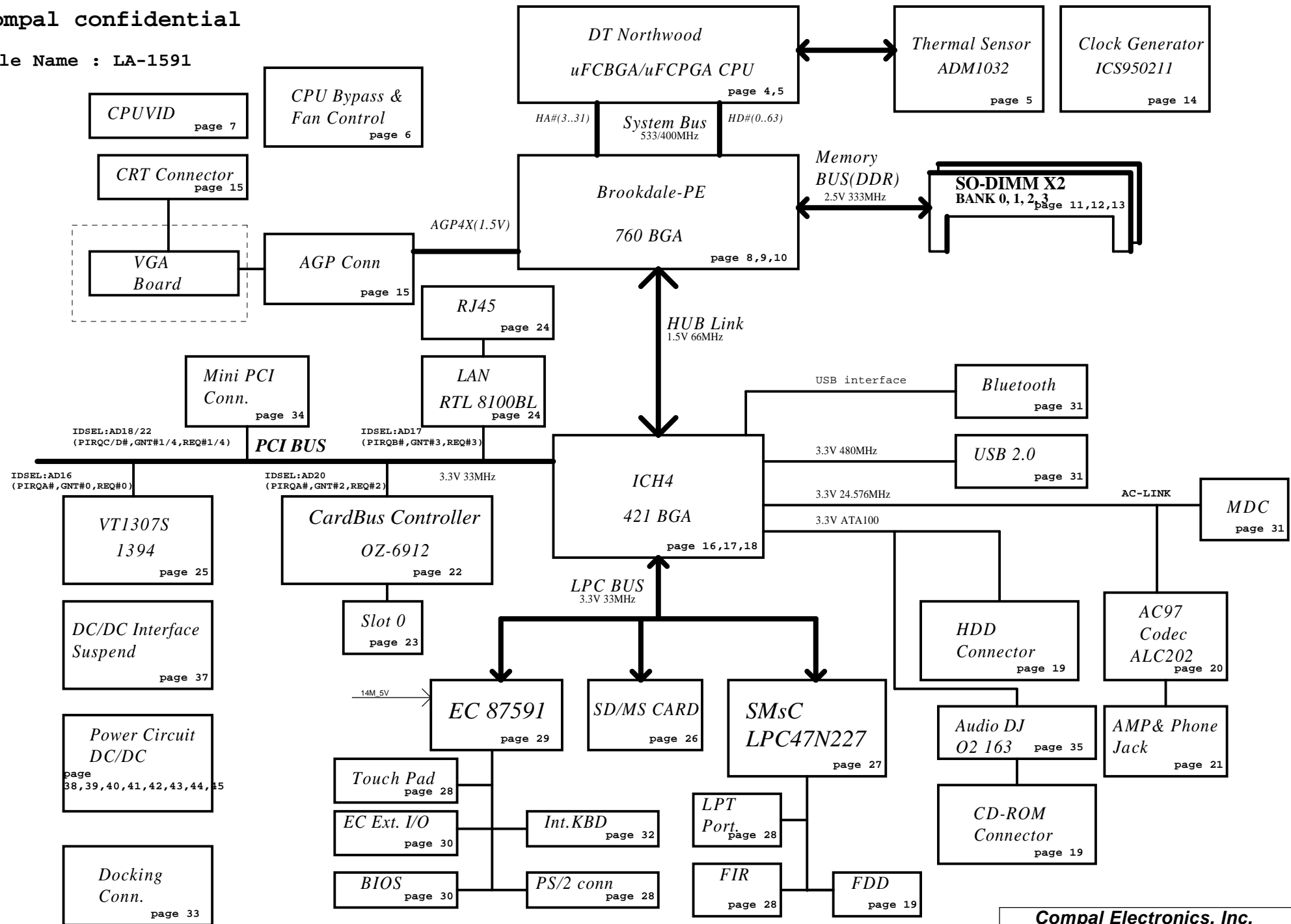
REV: 2.0

THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.

Compal Electronics, Inc.		
Title		
SCHEMATIC, M/B LA-1591		
Size	Document Number	Rev
	401235	2B
Date:	~P期五, 五月 16, 2003	Sheet 1 of 47

Compal confidential

File Name : LA-1591



THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.

Compal Electronics, Inc.		
Title	SCHEMATIC, M/BLA-1591	
Size	Document Number	Rev
	401235	2B
Custom	Date	Sheet
	- 2003年5月16日	2 of 47

SCHEMATICS VERSION LIST

VERSION	ISSUE DATE	REMARK
0.00		FIRST PREVIEW
0.01		
0.02		

Power Managment table

Signal \ State	+3VALW +5VALW +12VALW	+3V +5V +2.5V	+3VS +5VS +1.5VS +1.2VP +CPU_CORE +1.25VS
S0	ON	ON	ON
S1	ON	ON	ON
S3	ON	ON	OFF
S5 S4/AC	ON	OFF	OFF
S5 S4/AC don't exist	OFF	OFF	OFF

	PCB Rev	CHIPS Rev
SST-Build	0.1	
PT-Build		
ST-Build		
QT-Build		

Ceramic Capacitor Spec Guide:

Temperature Characteristics:

Symbol	0	1	2	3	4	5	6	7
CODE	Z5U	Z5V	Z5P	Y5U	Y5V	Y5P	X5R	X7R

8	9	A	B	C	D	E	F	G
NP0	C0G		BJ	CH	CJ	CK	SH	SJ

H	I	J	
UJ	UK	SL	

Tolerance:

Symbol	A	B	C	D	F	G	H	J
CODE	+/-0.05PF	+/-0.1PF	+/-0.25PF	+/-0.5PF	+/-1PF	+/-2%	+/-3%	+/-5%

K	M	N	P	Q	v	X	Z	
+/-10%	+/-20%	+/-30%	+100,-0%	+30,-10%	+20,-10%	+40,-20%	+80,-20%	

SMBUS Control Table

	SOURCE	INVERTER	BATT	SERIAL EEPROM	THERMAL SENSOR (U43)	THERMAL SENSOR (U91)	SODIMM	CLK CHIP	MINI PCI
SMB_EC_CK1 SMB_EC_DA1	NS 87591	✓	✓	✓ (1010)	✗	✗	✗	✗	✗
SMB_EC_CK2 SMB_EC_DA2	NS 87591	✗	✗	✗	✓	✓	✗	✗	✗
SMB_CLK SMB_DATA	ICH4	✗	✗	✗	✗	✗	✓	✓	✓

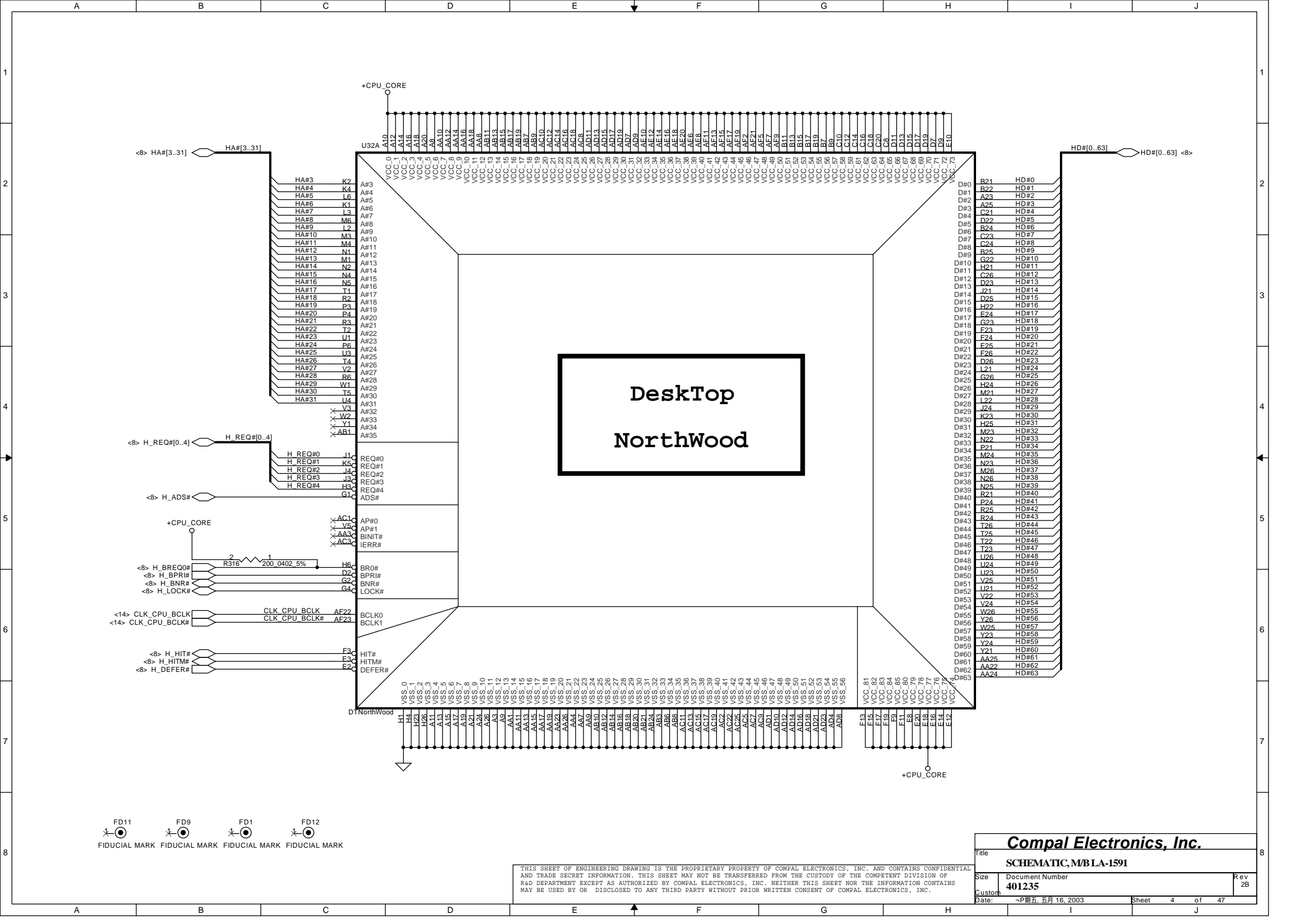
NOTE1:

@XX : Depop component

THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF RAD DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.

Compal Electronics, Inc.

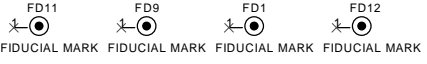
Title		SCHEMATIC, M/B LA-1591	
Size	Document Number	Rev	
	401235	2B	
Date:	~P期五, 五月 16, 2003	Sheet	3 of 47

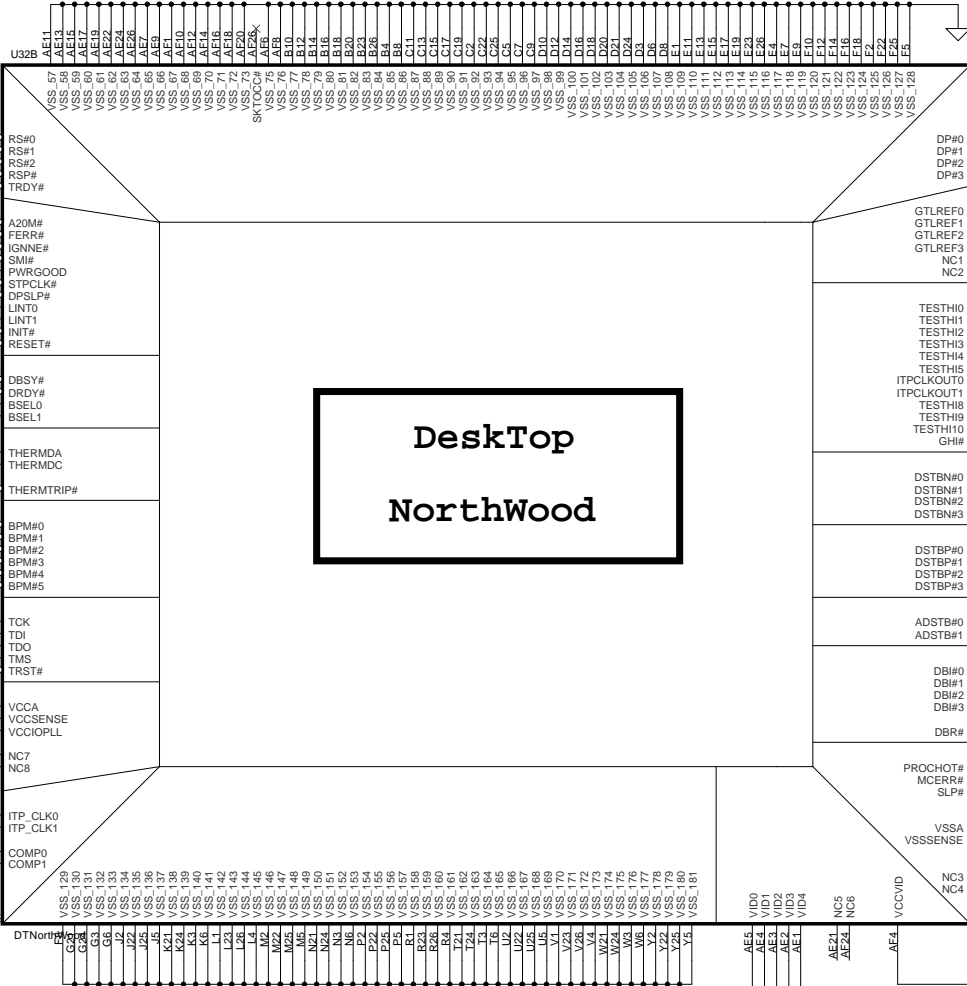


**DeskTop
NorthWood**

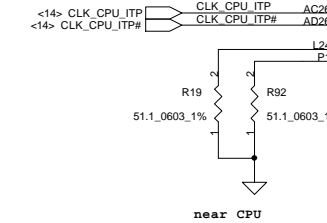
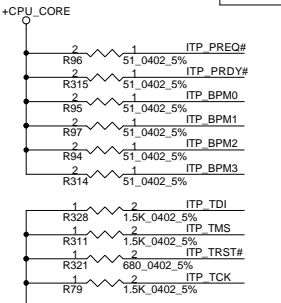
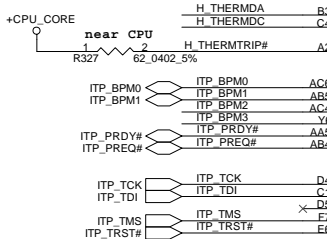
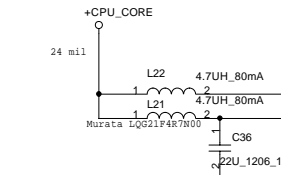
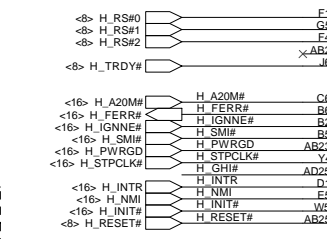
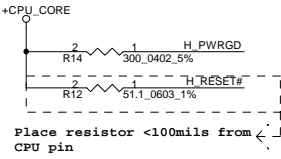
Compal Electronics, Inc.		
Title	SCHEMATIC, M/BLA-1591	
Size	Document Number	Rev
	401235	2B
Date:	-甲期五, 五月 16, 2003	Sheet 4 of 47

THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.

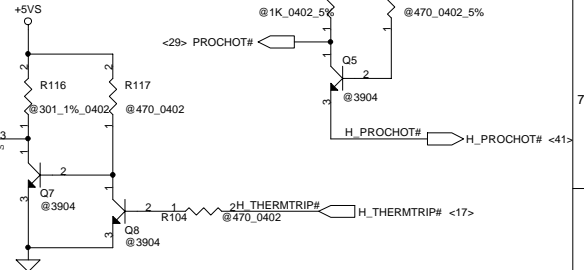
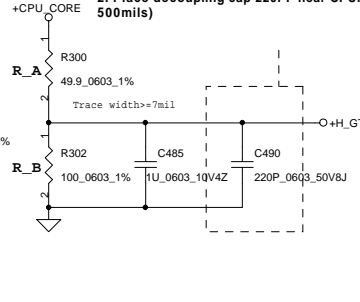




DeskTop NorthWood



GTL Reference Voltage
Layout note :
1. Place R_A and R_B near CPU (Within 1.5")
2. Place decoupling cap 220PF near CPU.(Within 500mils)



CPU Temperature Sensor

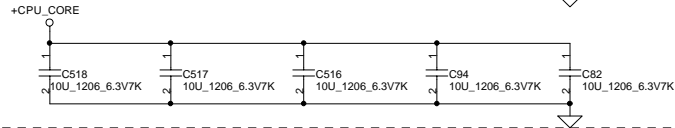
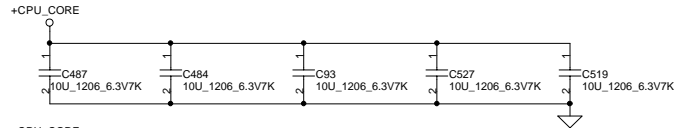
Compal Electronics, Inc.		
Title	SCHEMATIC, MB LA-1591	
Size	Document Number	Rev
	401235	2B
Custom	Date: 五月 16, 2003	Sheet 5 of 47

THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.

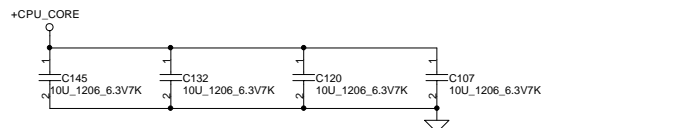
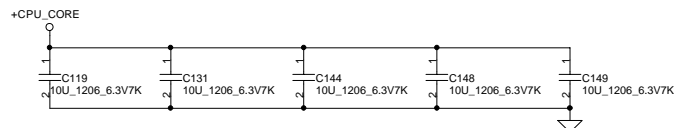
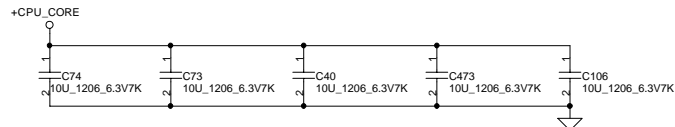
Layout note :

Place close to CPU, Use 2-3 vias per PAD.
Place .22uF caps underneath balls on solder side.
Place 10uF caps on the peripheral near balls.
Use 2-3 vias per PAD.

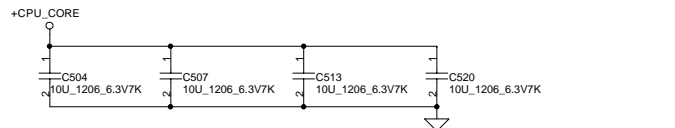
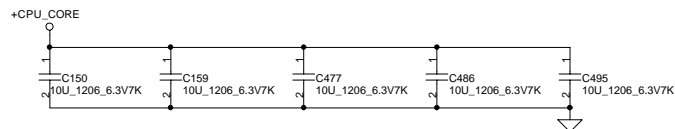
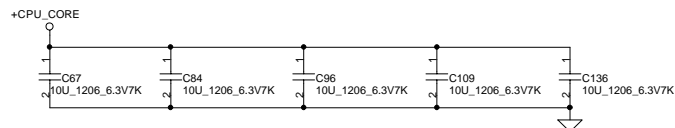
Please place these cap in the socket cavity area



Please place these cap on the socket north side



Please place these cap on the socket south side



Layout note :

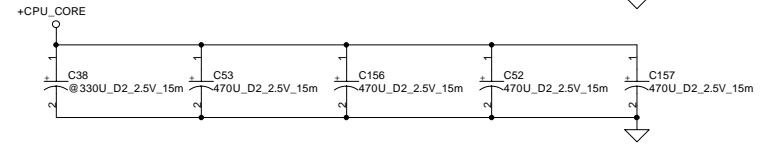
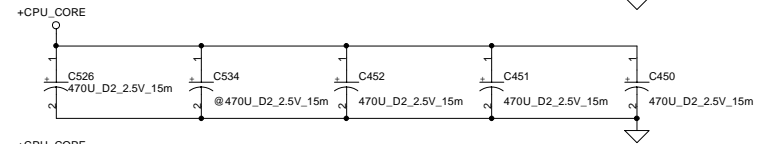
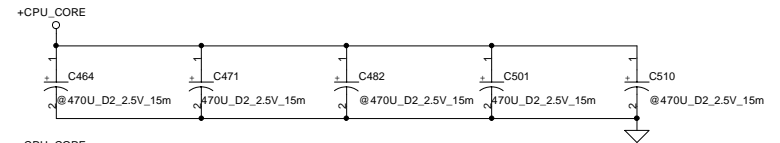
Place close to CPU power and ground pin as possible (<1inch)

For Desktop's CPU:

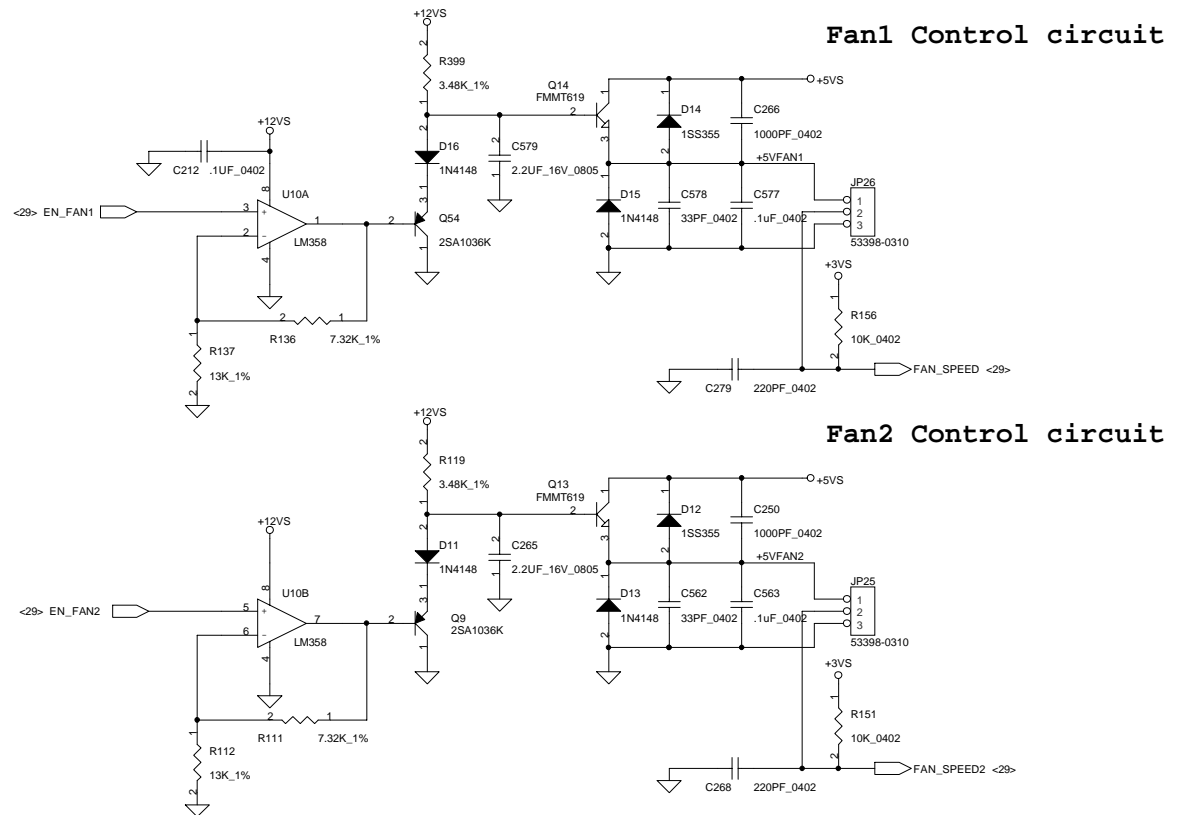
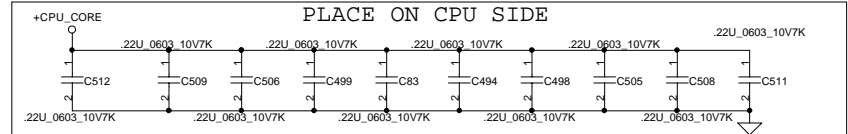
ESR total=0.75m ohm
C total=6350uF

For Mobile's CPU:

ESR total=1.875m ohm
C total=2590uF



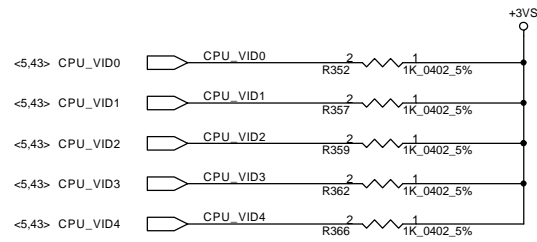
PLACE ON CPU SIDE



Compal Electronics, Inc.

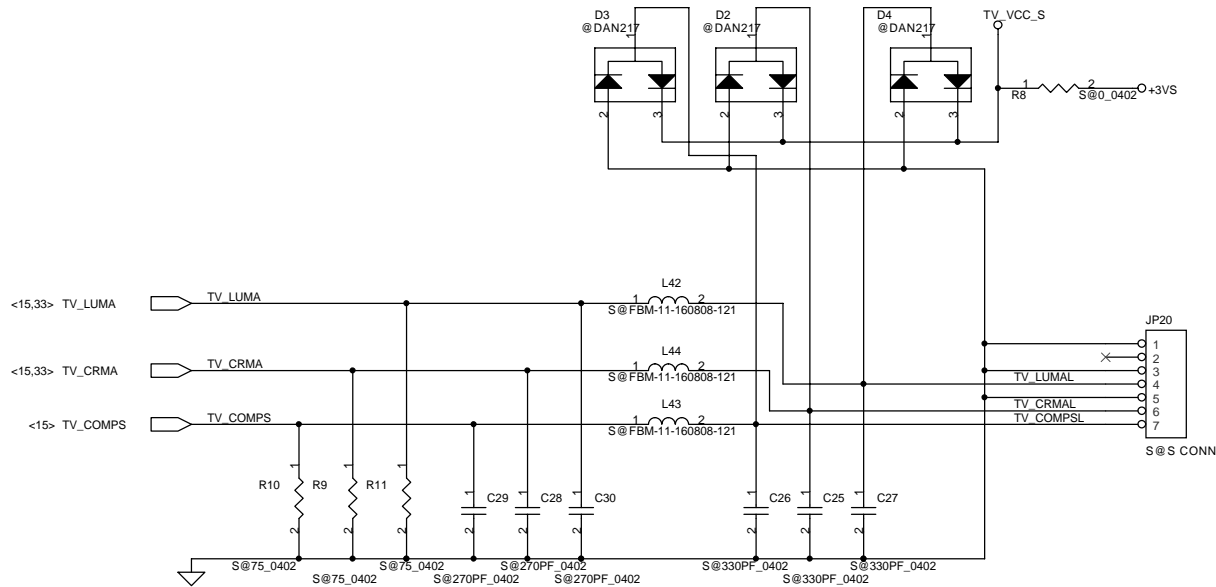
Title		SCHEMATIC, MB LA-1591	
Size	Document Number	401235	
Custom	Date	日期: 五月 16, 2003	Sheet 6 of 47
Rev		2B	

THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.



MO/DT_CPU	Mobile CPU					Desktop CPU				
	1					0				
VID	4	3	2	1	0	4	3	2	1	0
VCC										
1.750V	0	0	0	0	0	0	0	1	0	0
1.700V	0	0	0	0	1	0	0	1	1	0
1.650V	0	0	0	1	0	0	1	0	0	0
1.600V	0	0	0	1	1	0	1	0	1	0
1.550V	0	0	1	0	0	0	1	1	0	0
1.500V	0	0	1	0	1	0	1	1	1	0
1.450V	0	0	1	1	0	1	0	0	0	0
1.400V	0	0	1	1	1	1	0	0	1	0
1.350V	0	1	0	0	0	1	0	1	0	0
1.300V	0	1	0	0	1	1	0	1	1	0
1.250V	0	1	0	1	0	1	1	0	0	0
1.200V	0	1	0	1	1	1	1	0	1	0
1.150V	0	1	1	0	0	1	1	1	0	0
1.100V	0	1	1	0	1	1	1	1	1	0
1.050V	0	1	1	1	0	X	X	X	X	X
1.000V	0	1	1	1	1	X	X	X	X	X
0.975V	1	0	0	0	0	X	X	X	X	X
0.950V	1	0	0	0	1	X	X	X	X	X
0.925V	1	0	0	1	0	X	X	X	X	X
0.900V	1	0	0	1	1	X	X	X	X	X
0.875V	1	0	1	0	0	X	X	X	X	X
0.850V	1	0	1	0	1	X	X	X	X	X
0.825V	1	0	1	1	0	X	X	X	X	X
0.800V	1	0	1	1	1	X	X	X	X	X
0.775V	1	1	0	0	0	X	X	X	X	X
0.750V	1	1	0	0	1	X	X	X	X	X
0.725V	1	1	0	1	0	X	X	X	X	X
0.700V	1	1	0	1	1	X	X	X	X	X
0.675V	1	1	1	0	0	X	X	X	X	X
0.650V	1	1	1	0	1	X	X	X	X	X
0.625V	1	1	1	1	0	X	X	X	X	X
0.600V	1	1	1	1	1	X	X	X	X	X
VRM output off						1	1	1	1	1

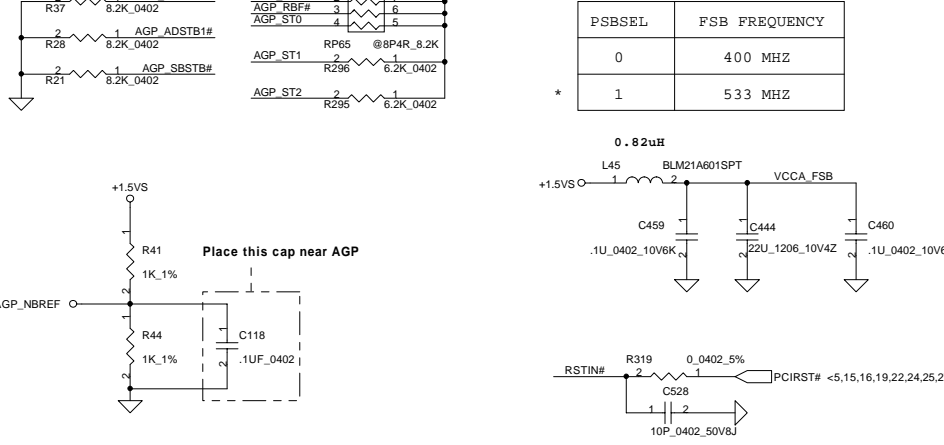
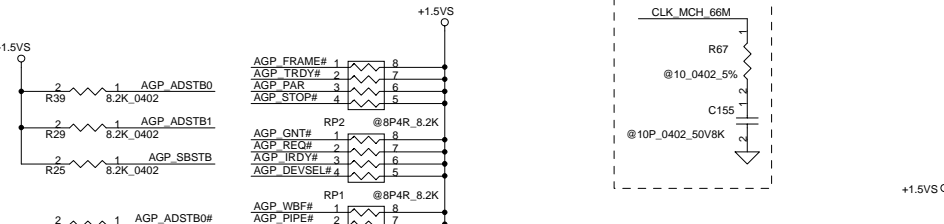
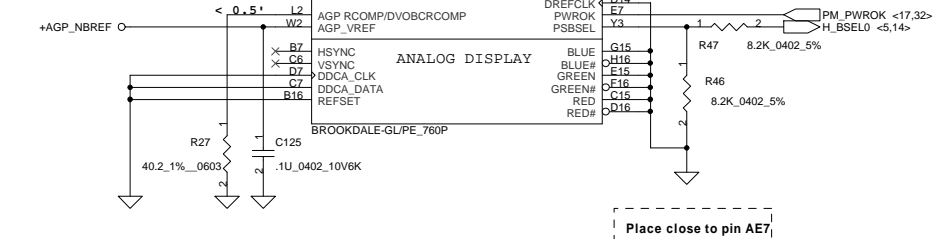
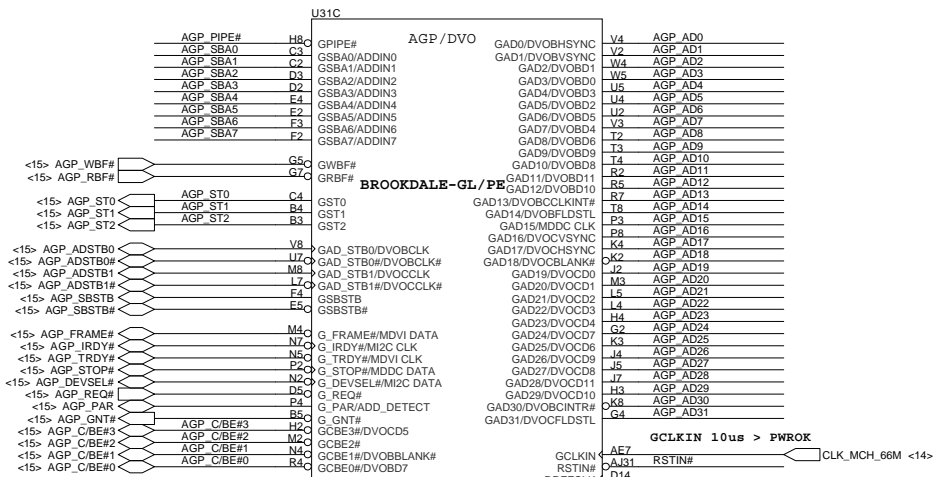
TV_OUT CONNECTOR



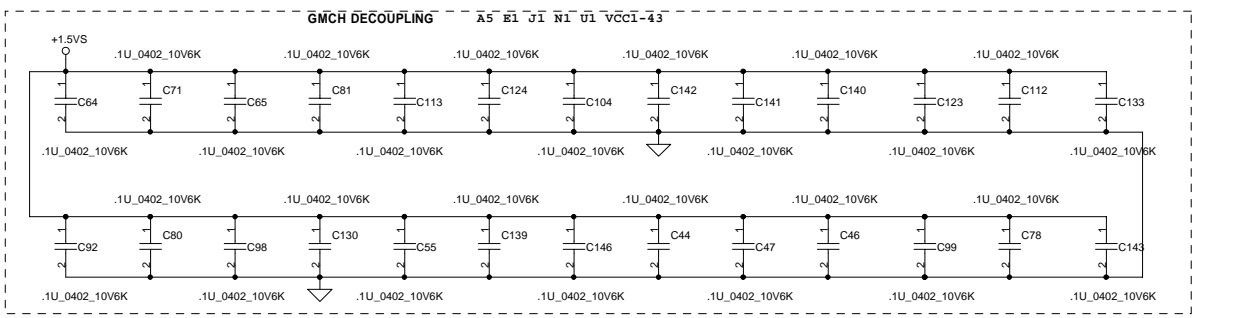
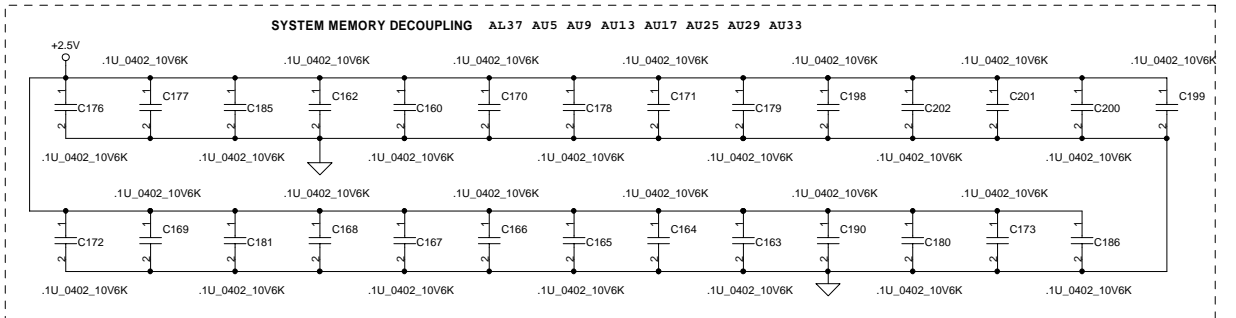
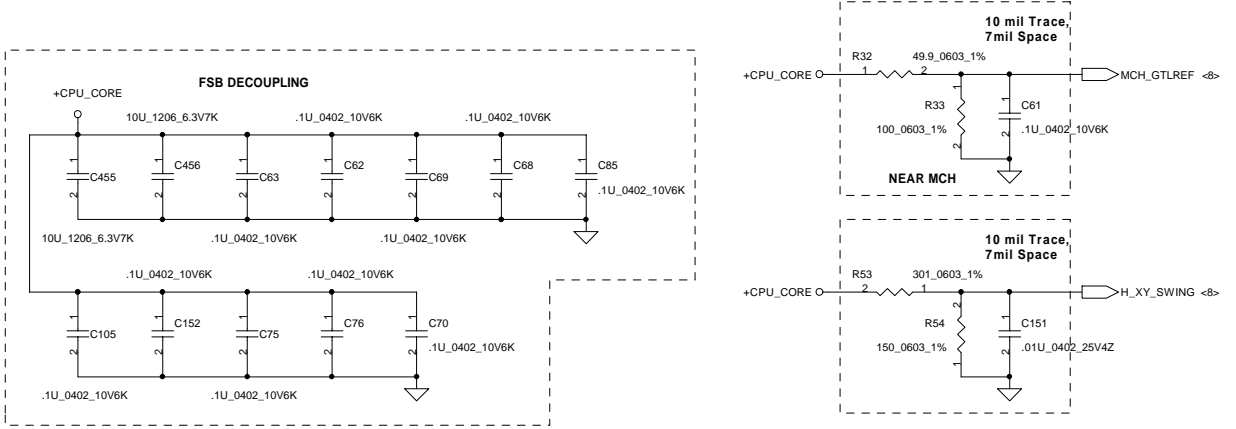
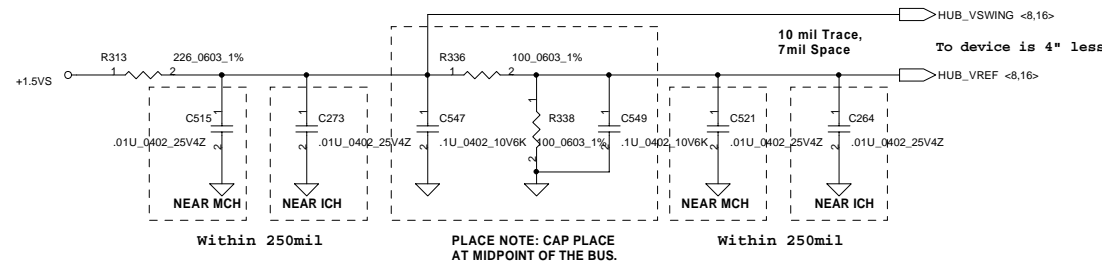
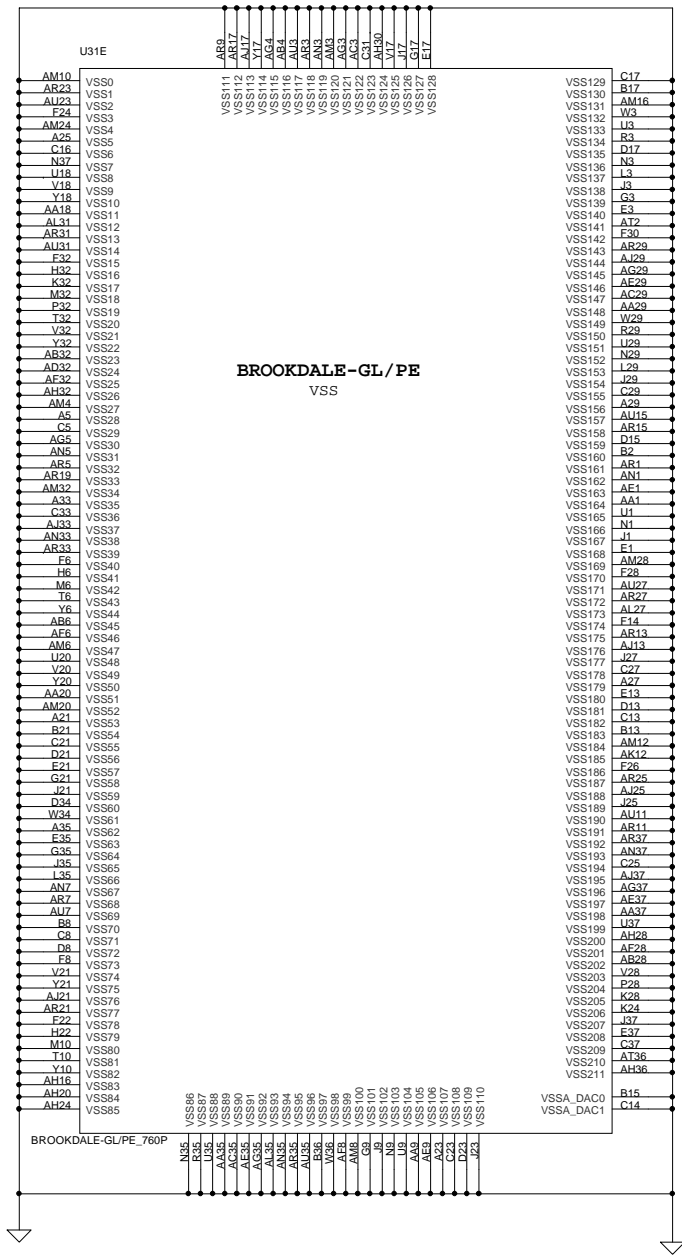
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.

Compal Electronics, Inc.
 Title: **SCHEMATIC, M/B LA-1591**
 Size: Document Number **401235** Rev 2B
 Date: 2003年5月16日 Sheet 7 of 47

<15> AGP_AD[0..31] \leftrightarrow AGP_AD[0..31]
 <15> AGP_SBA[0..7] \leftrightarrow AGP_SBA[0..7]

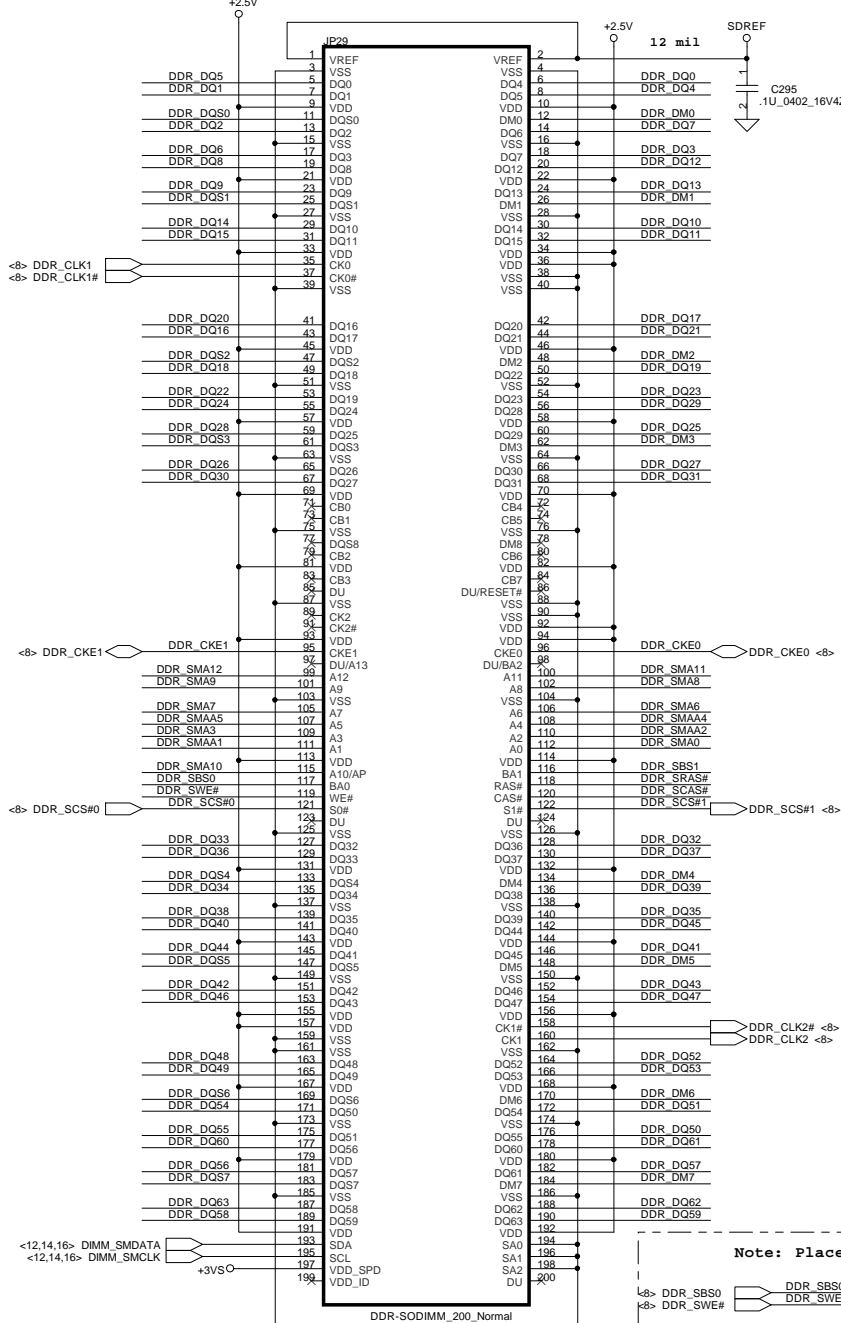
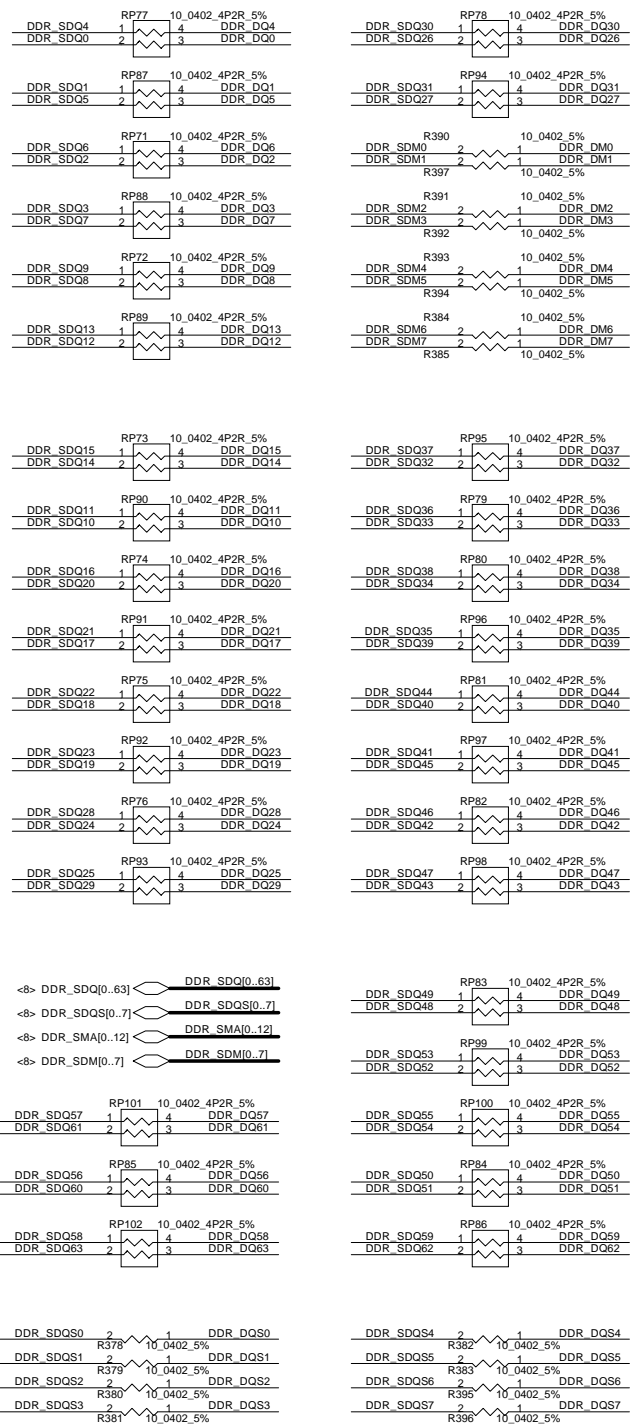


THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.



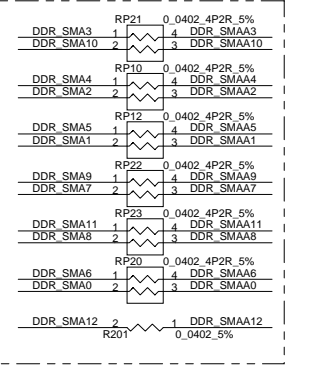
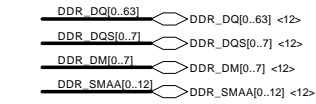
Compal Electronics, Inc.		
Title SCHEMATIC, M/B LA-1591		
Size	Document Number 401235	Rev 2B
Date	星期五, 五月 16, 2003	Sheet 10 of 47

THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.

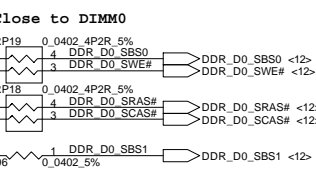
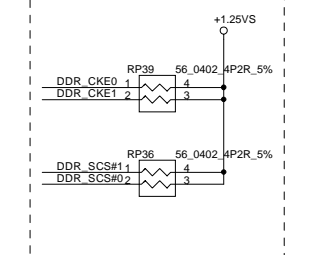


Layout note
Place these resistors
close to DIMM0,
all trace length<500 mil

DIMM0
Front side / H=5.2mm

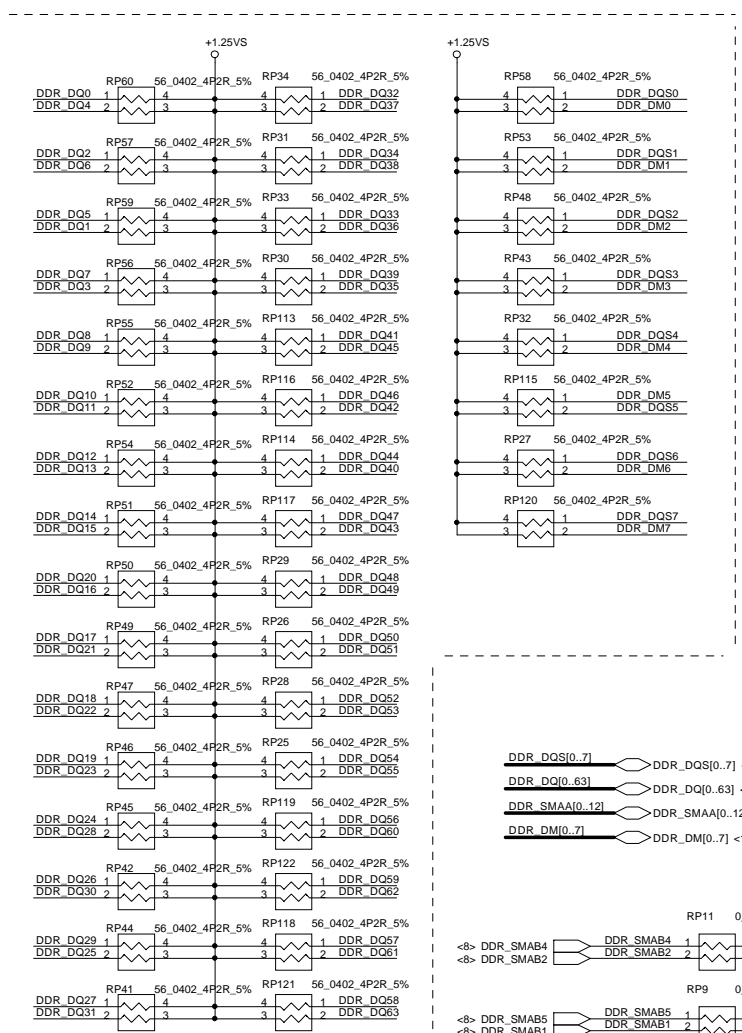


Note:
Place close to DIMM0
Layout note
Place these resistor
close by DIMM0,
all trace length
Max=1.4"

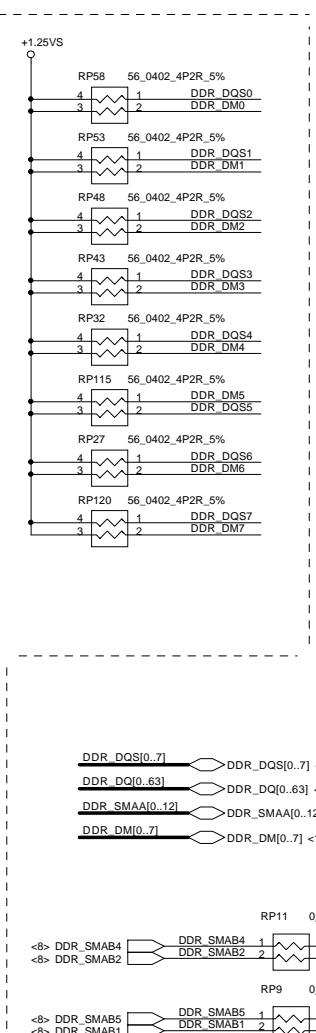


Compal Electronics, Inc.
SCHEMATIC,M/B LA-1591
Date: 2003.05.16 Sheet 11 of 47

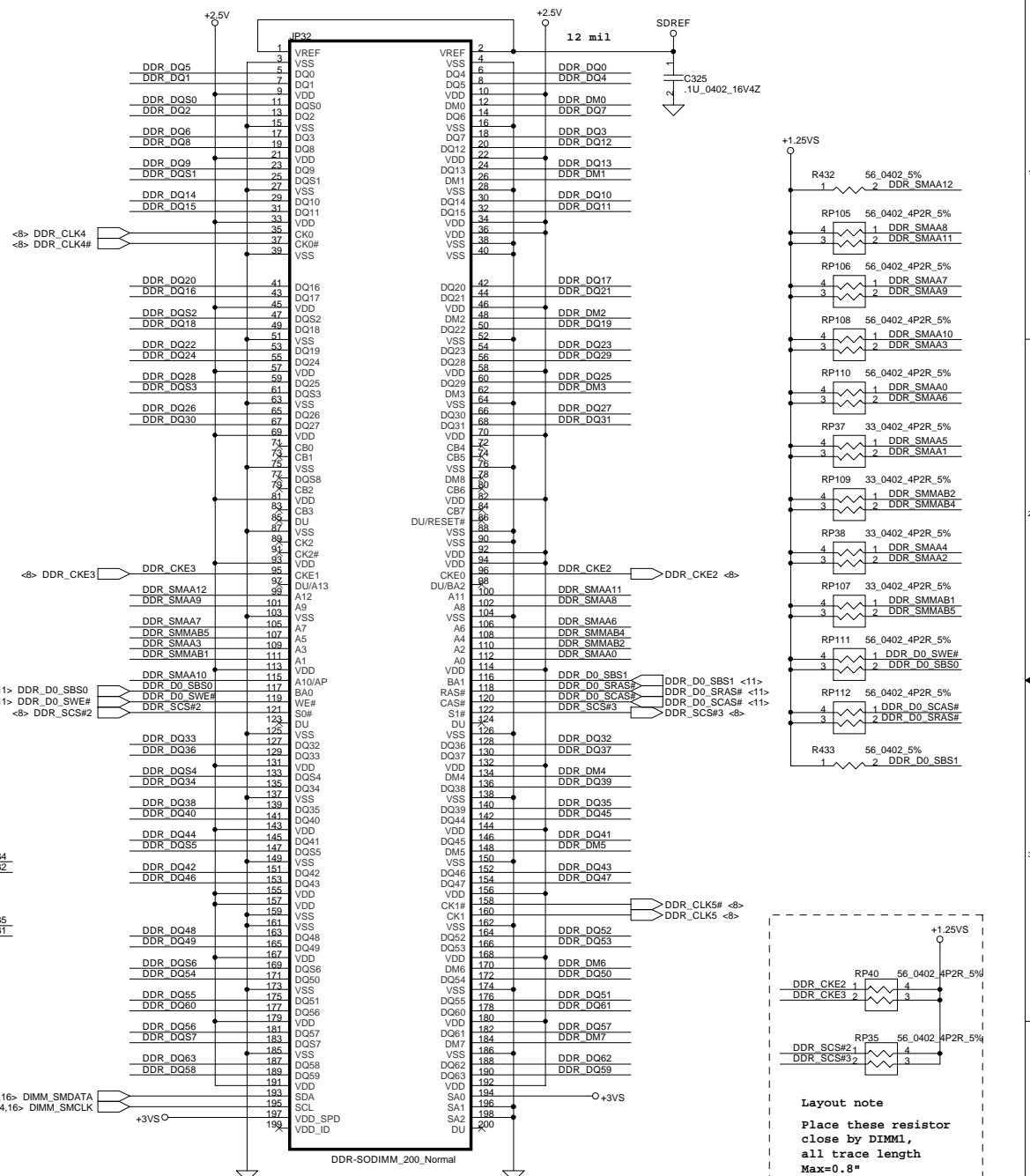
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.



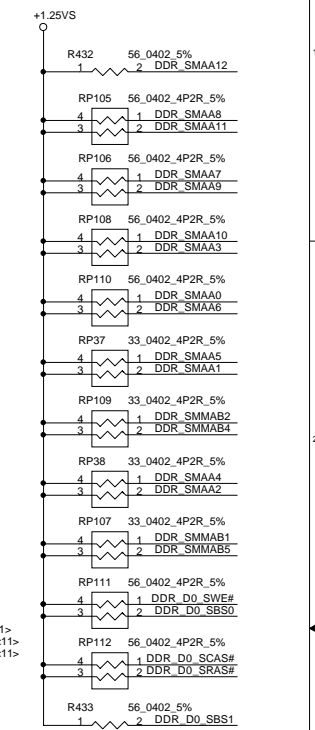
Layout note
Place these resistor closely DIMM1, all trace length<=800mil



Layout note
Place these resistor close by DIMM1, all trace length Max=0.8"



DIMM1
Back side / H=9.2mm

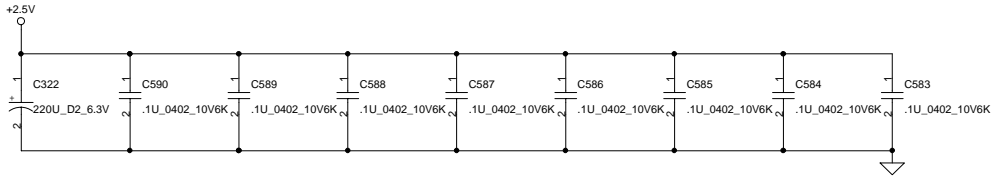


Layout note
Place these resistor close by DIMM1, all trace length Max=0.8"

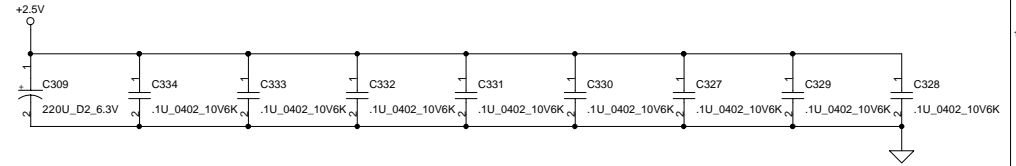
Compal Electronics, Inc.		
Title		
SCHEMATIC, M/B LA-1591		
Size	Document Number	Rev
	401235	2B
Date:	星期五, 五月 16, 2003	Sheet 12 of 47

THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.

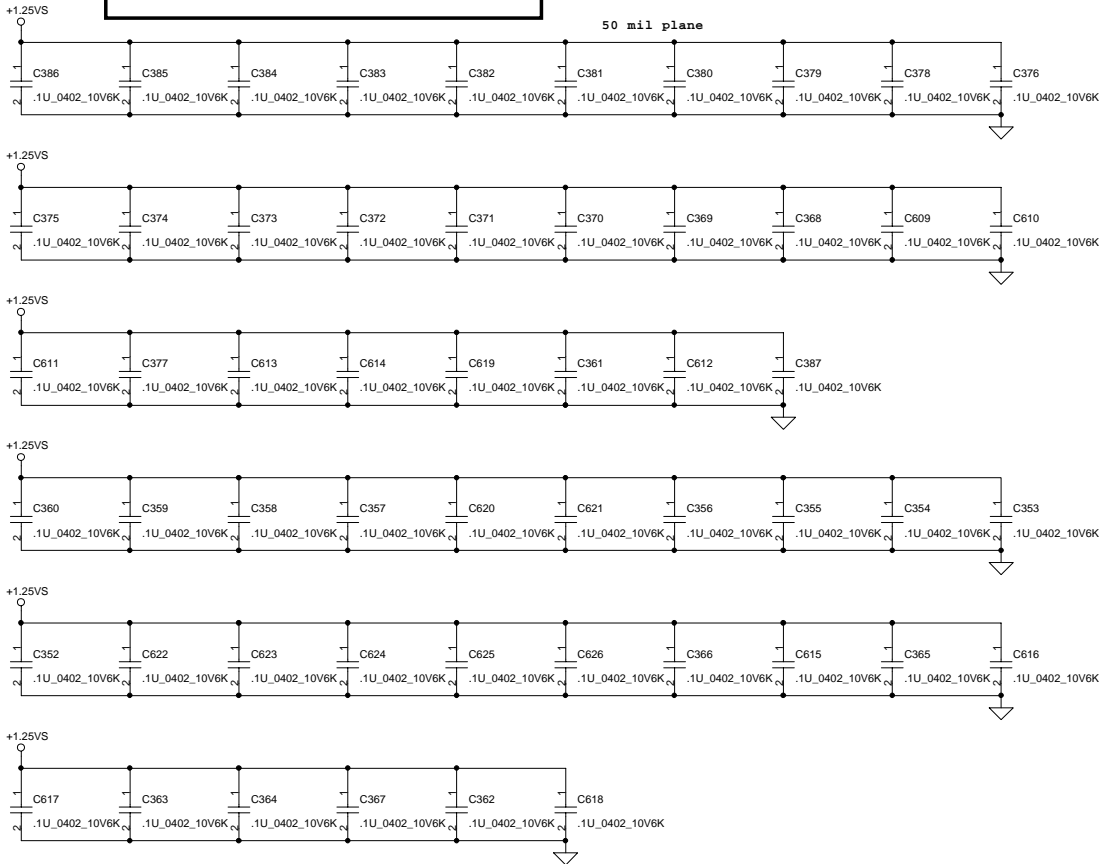
Layout note :
Distribute as close as possible to DDR-SODIMM0.



Layout note :
Distribute as close as possible to DDR-SODIMM1.



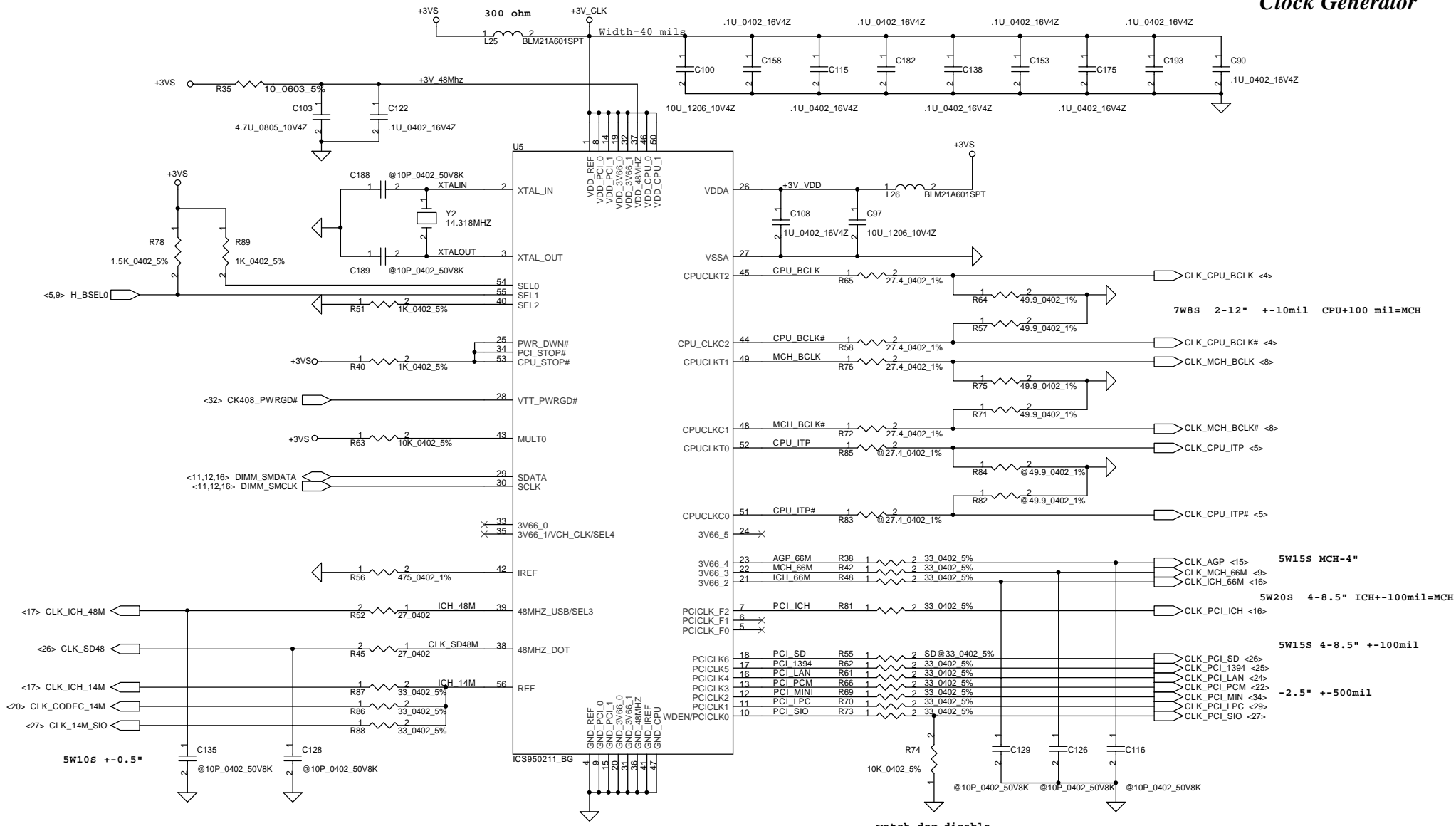
Layout note :
Place one cap close to every 2 pull up resistors termination to +1.25VS



THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.

Compal Electronics, Inc.		
Title		
SCHEMATIC, M/B LA-1591		
Size	Document Number	Rev
	401235	2B
Date:	星期五, 五月 16, 2003	Sheet 13 of 47

Clock Generator



ground plane inside the part pads
one power plane inside the part pads

watch dog disable

CPU Frequency Select Table

SEL[2:0]	CK-408 Speed
001	100 MHZ
* 011	133 MHZ

THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.

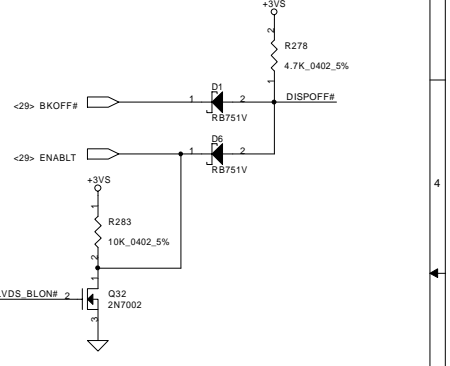
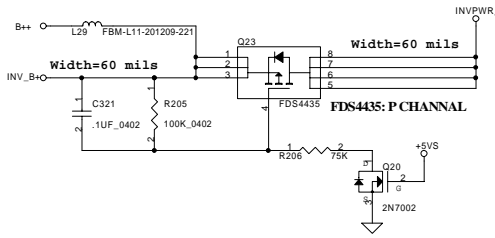
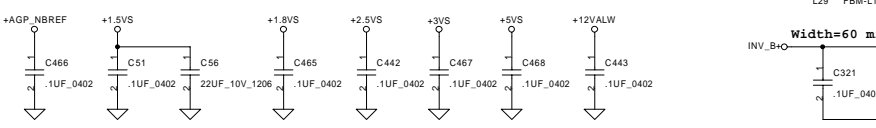
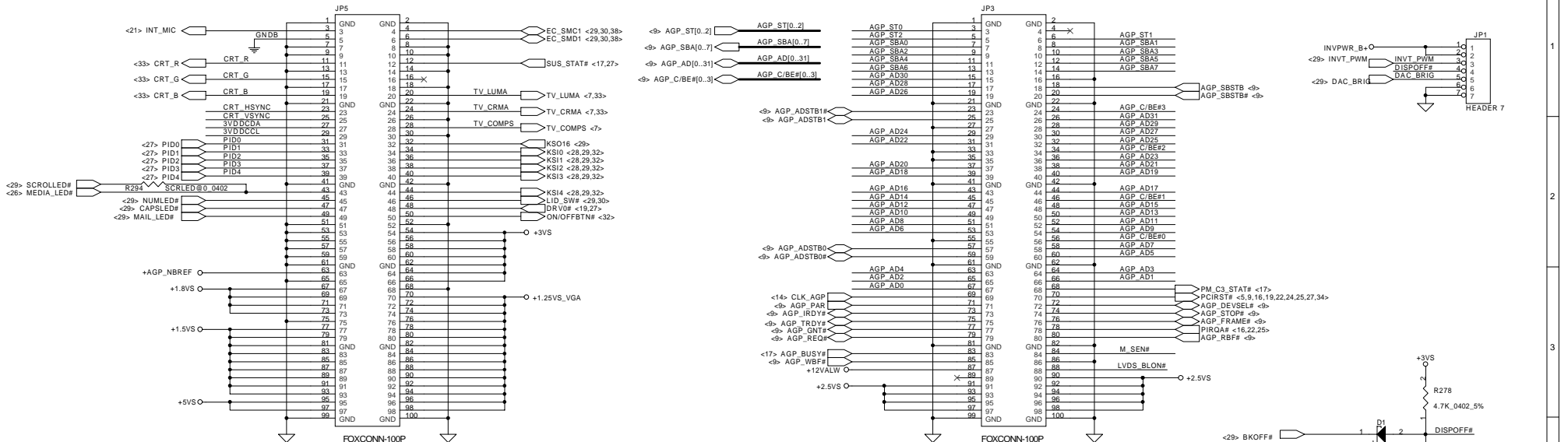
Compal Electronics, Inc.

Title: **SCHEMATIC, M/BLA-1591**

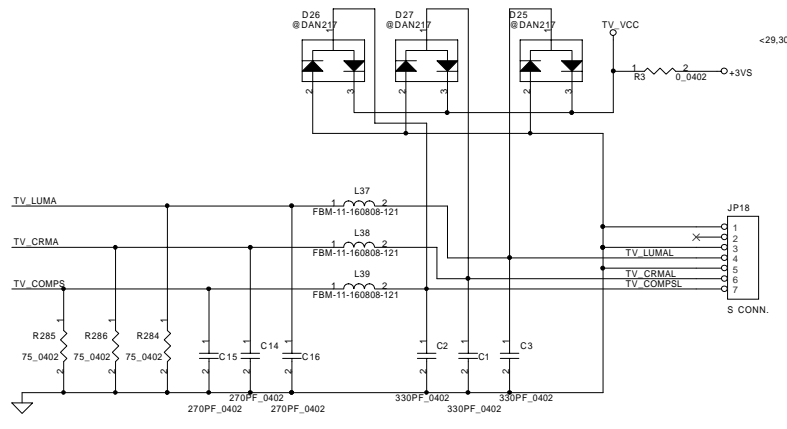
Size: Document Number **401235** Rev: 28

Date: ~P星期五, 五月 16, 2003 Sheet 14 of 47

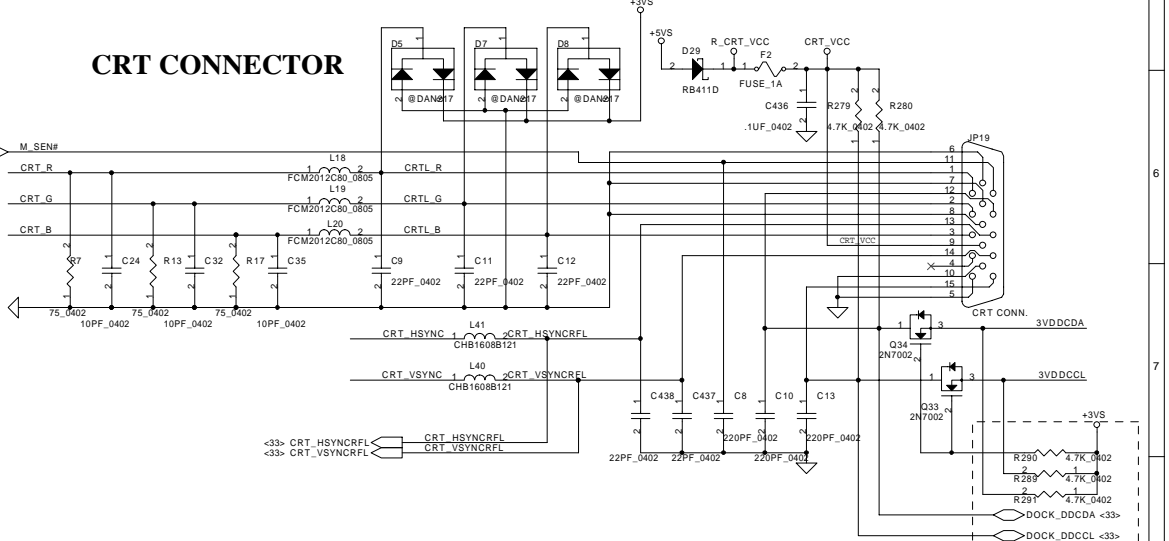
AGP 100X2 Pin connector



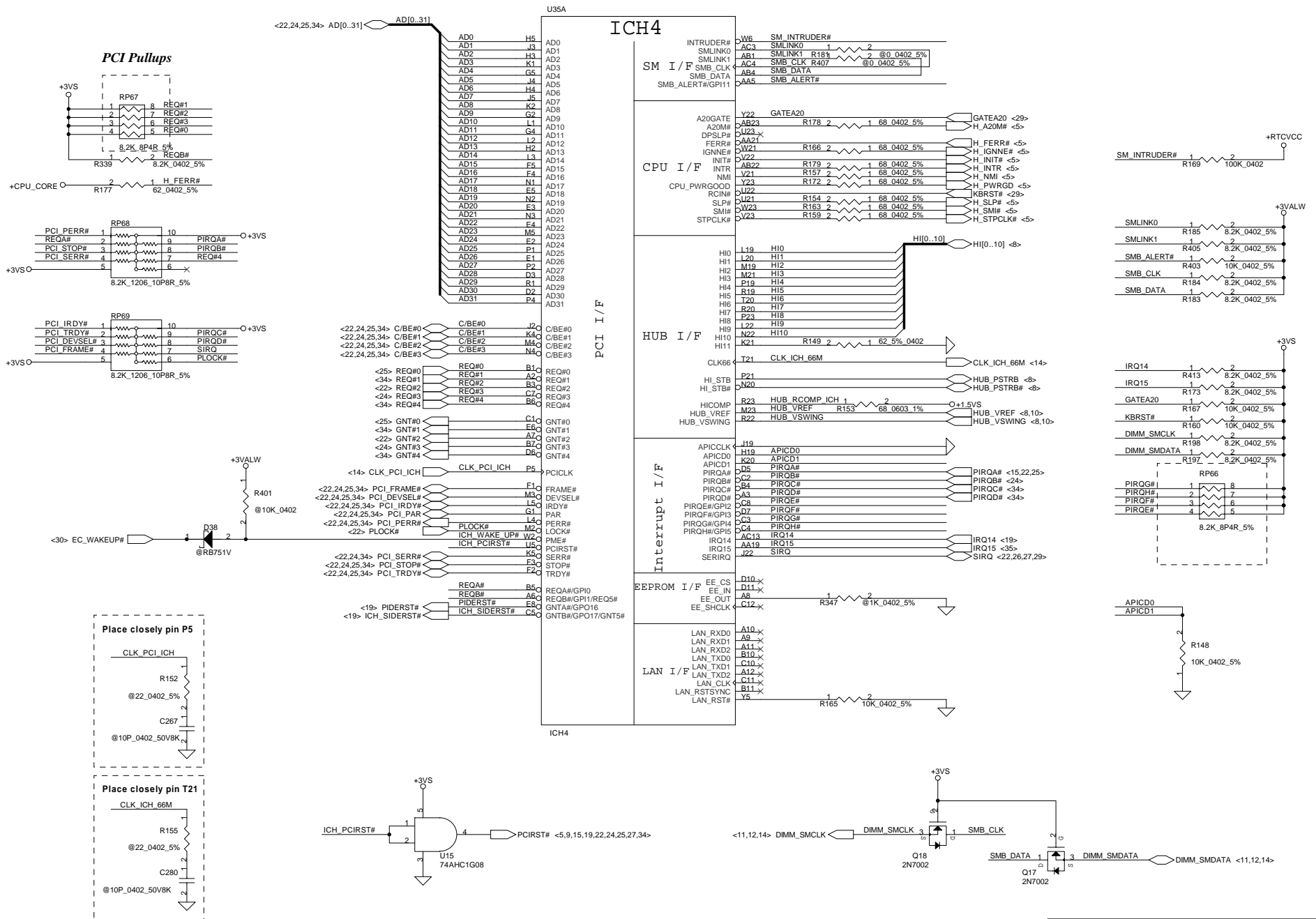
TV_OUT CONNECTOR



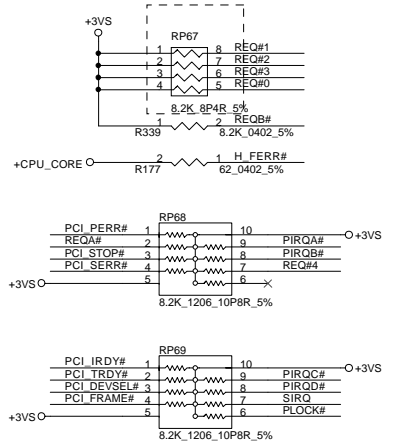
CRT CONNECTOR



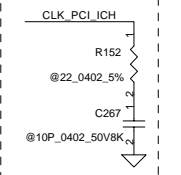
THIS SHEET OF ENGINEERING DRAWINGS IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.



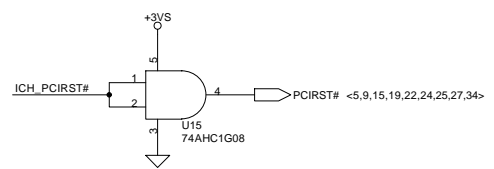
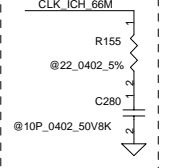
PCI Pullups



Place closely pin P5

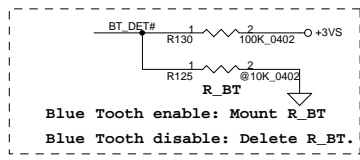
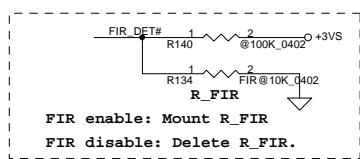
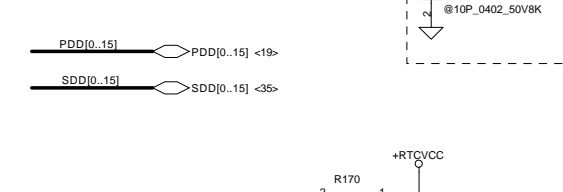
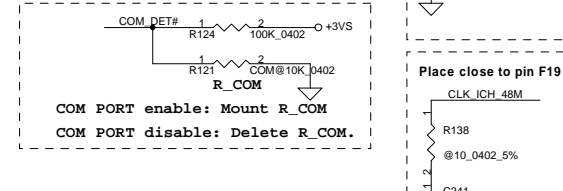
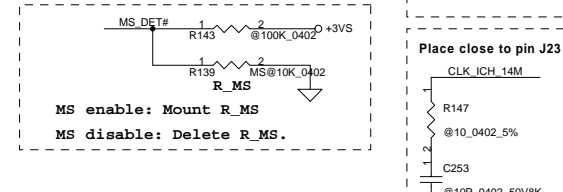
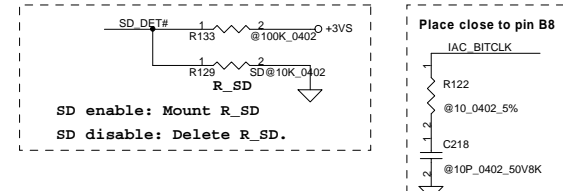
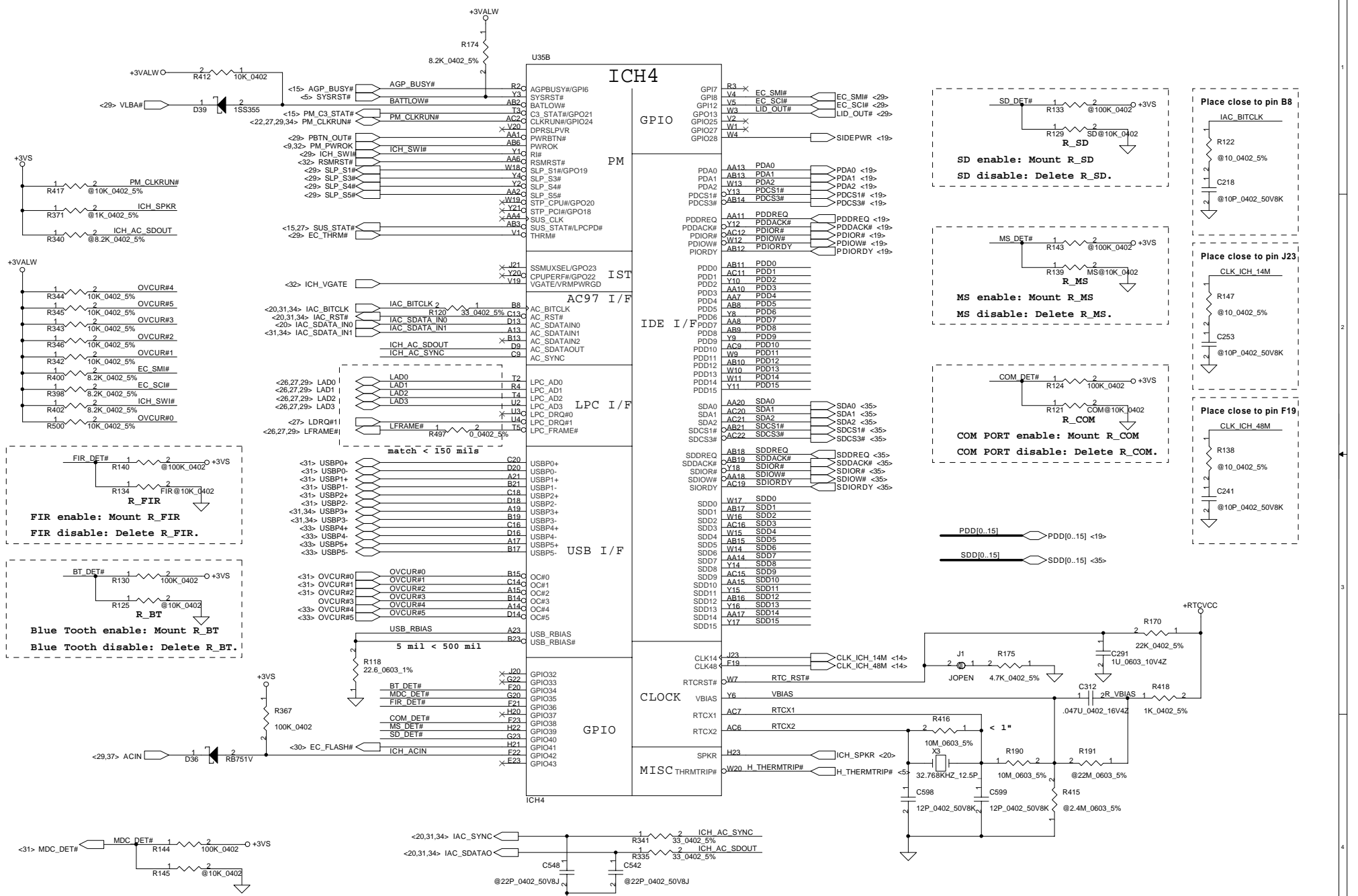


Place closely pin T21



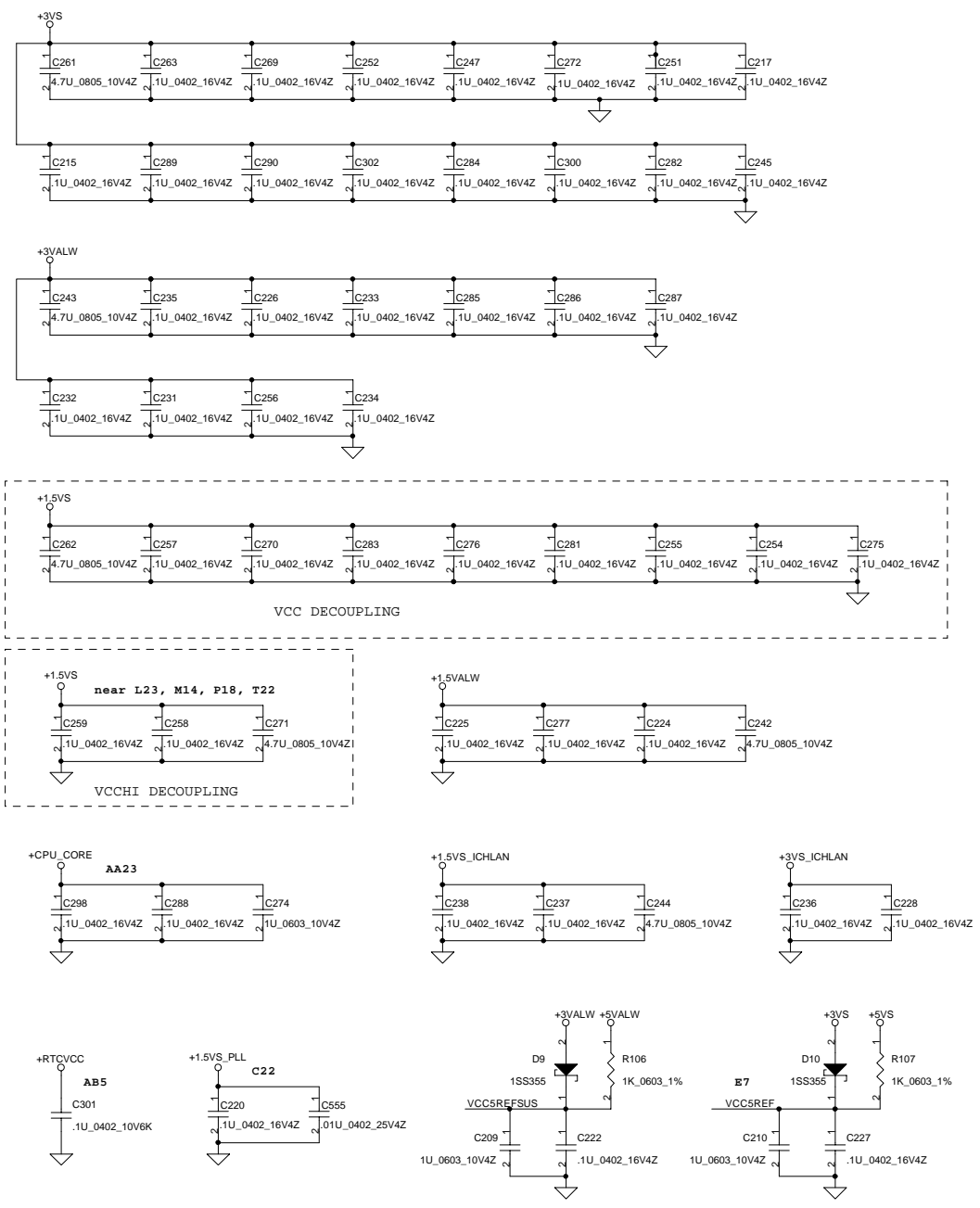
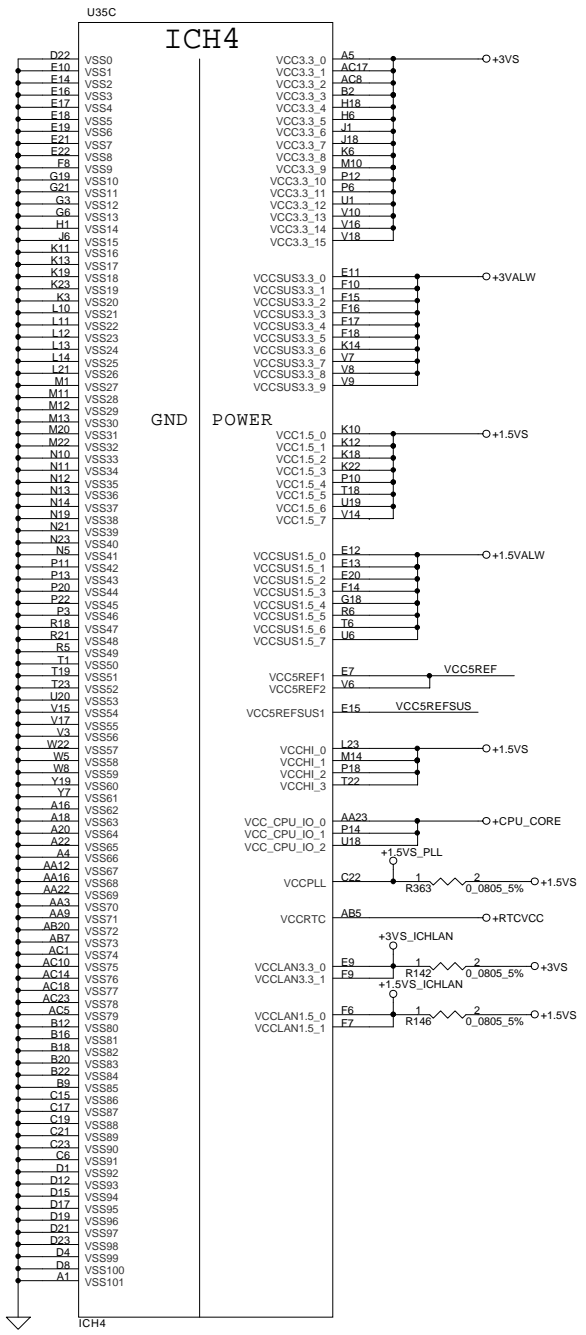
Compal Electronics, Inc.			
Title SCHEMATIC, M/BLA-1591			
Size	Document Number 401235	Rev 2B	
Date	星期五, 五月 16, 2003	Sheet	16 of 47

THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.



Compal Electronics, Inc.		
Title SCHEMATIC, M/B LA-1591		
Size	Document Number 401235	Rev 2B
Date	星期五, 五月 16, 2003	Sheet 17 of 47

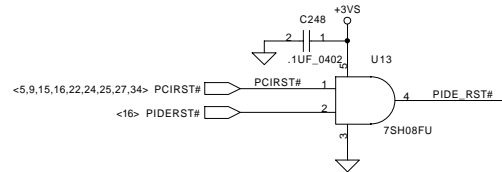
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.



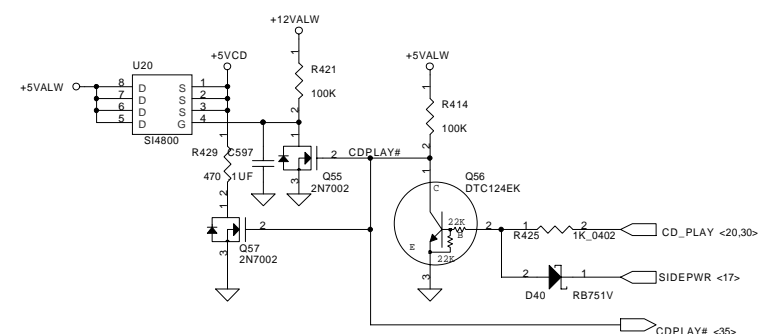
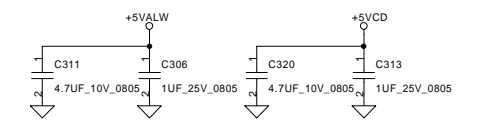
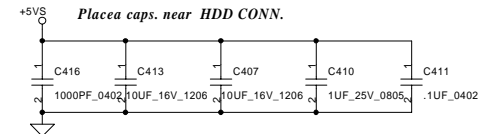
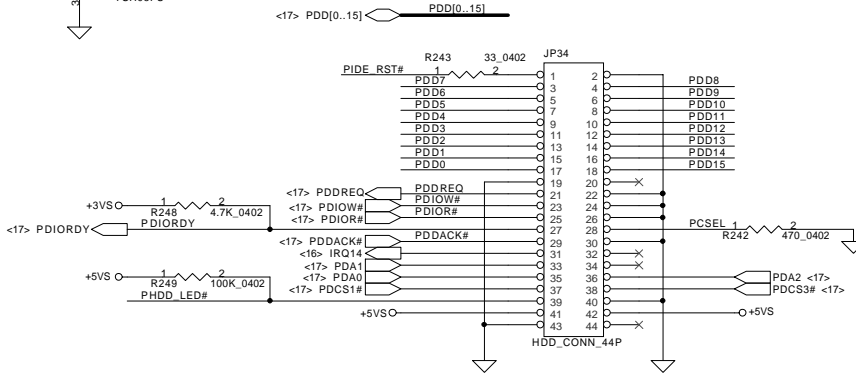
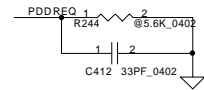
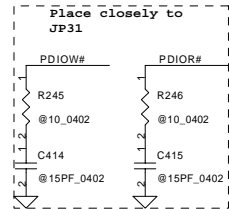
A4 A1 H1 T1 AC10 AC18 A22 AC5 K23 C23 A16 AC1 A16 T23 N23

THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.

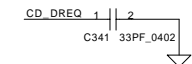
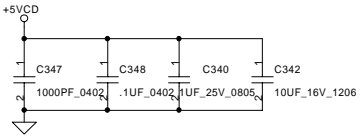
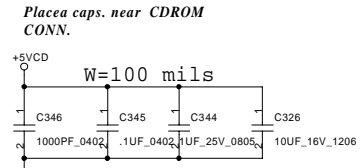
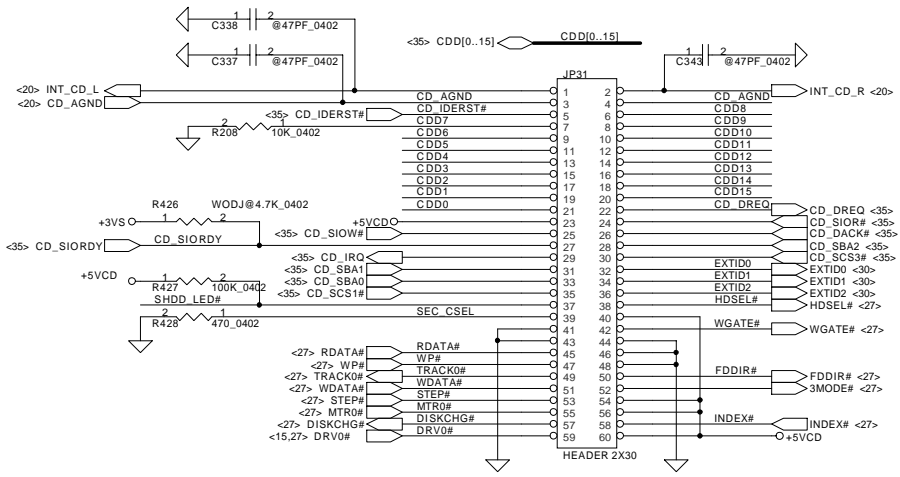
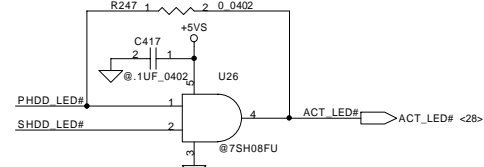
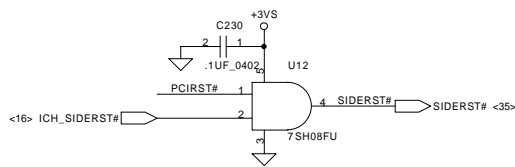
Compal Electronics, Inc.		
Title		
SCHEMATIC, M/B LA-1591		
Size	Document Number	Rev
	401235	2B
Date:	星期五, 五月 16, 2003	Sheet 18 of 47



HDD Connector



CD-ROM Connector



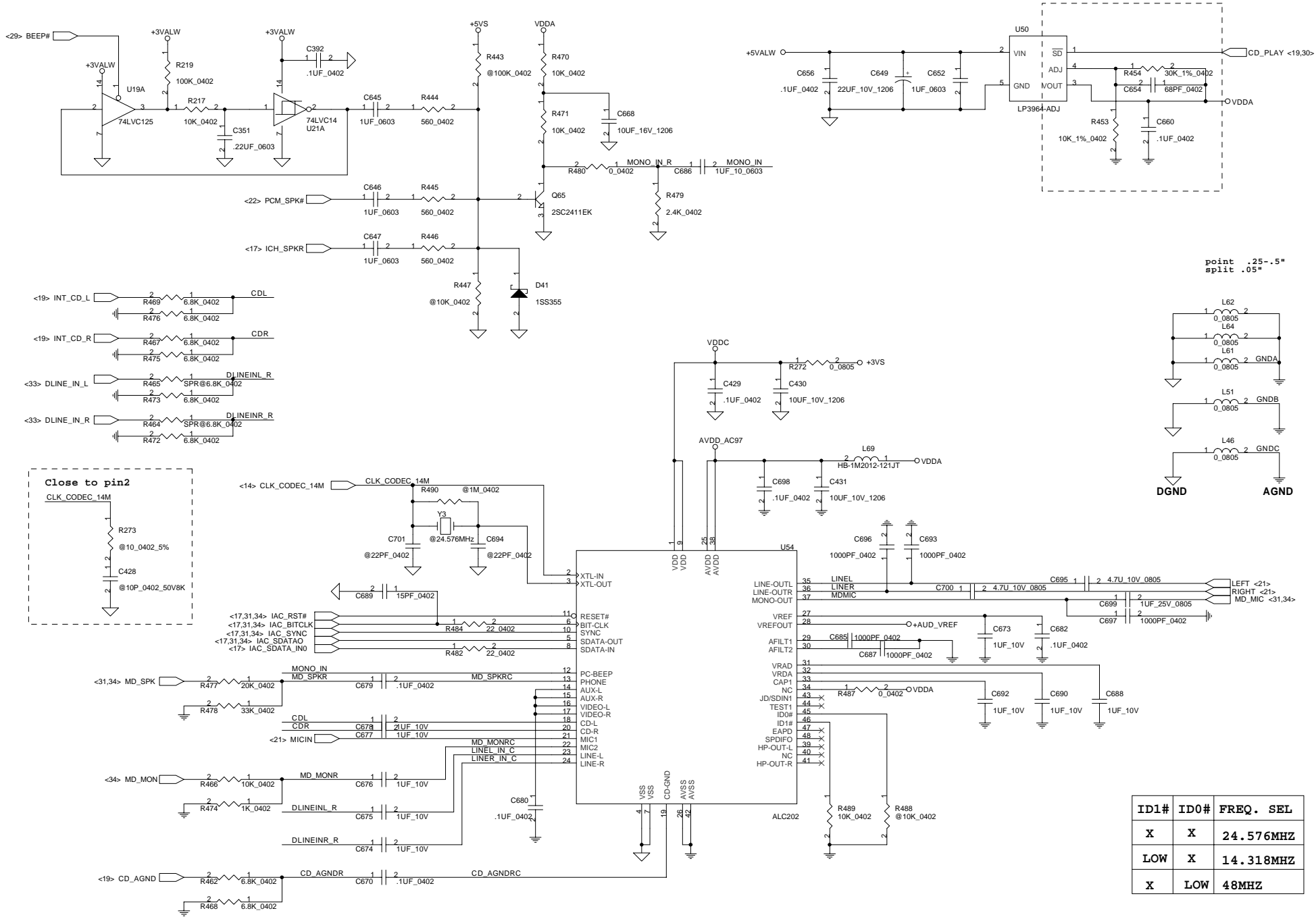
Extend Module ID list

DEVICE	EXTID2	EXTID1	EXTID0
FDD	0	0	0
CD-ROM	0	0	1
LS-120	0	1	0
2'nd HDD	0	1	1
NONE	1	1	1

Compal Electronics, Inc.

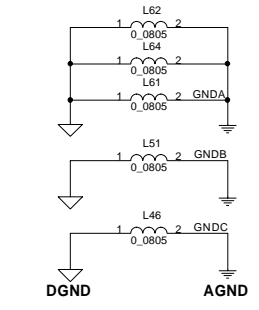
Title SCHEMATIC, MBLA-1591		
Size Document Number 401235	Rev 2B	
Custom Date: 五月 16, 2003	Sheet 19	of 47

THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.



Close to pin2
 CLK_CODEC_14M
 @10_0402_5%
 @10P_0402_50V8K

point .25-.5"
 split .05"



IDI#	ID0#	FREQ. SEL
X	X	24.576MHZ
LOW	X	14.318MHZ
X	LOW	48MHZ

Compal Electronics, Inc.

Title: SCHEMATIC, MB LA-1591

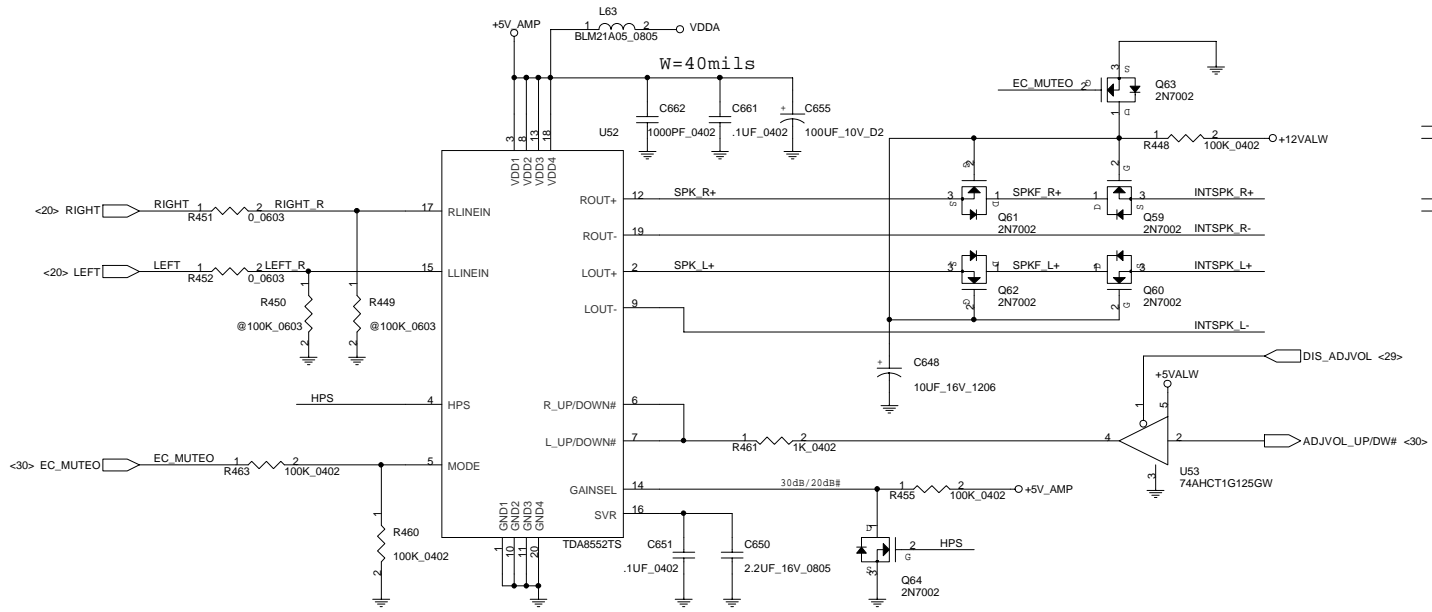
Size: Document Number 401235

Customer: 日期: 五月 16, 2003

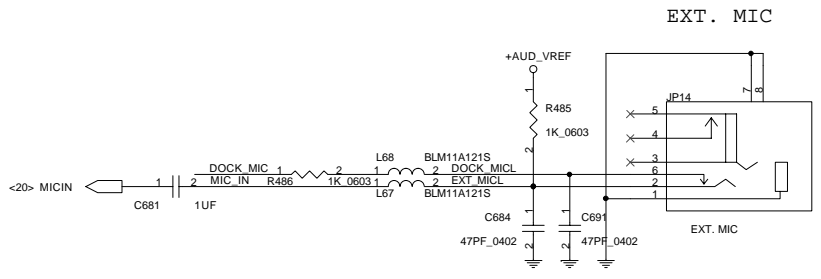
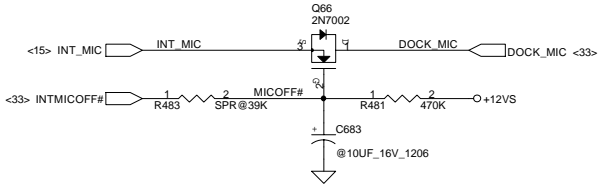
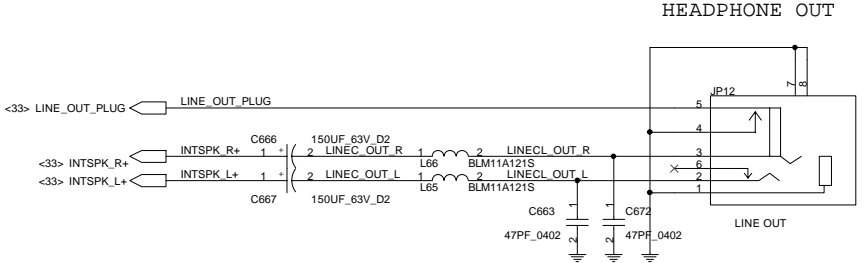
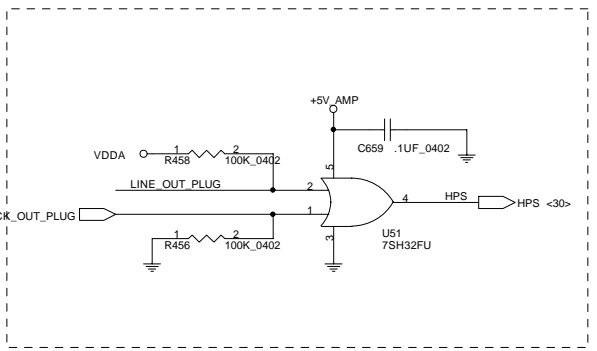
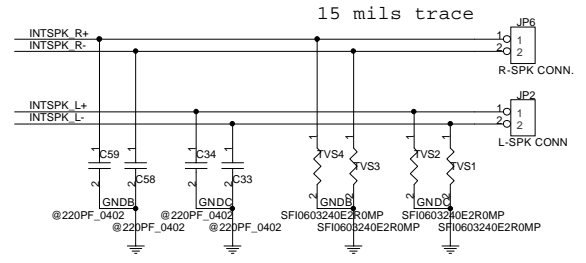
Date: Sheet 20 of 47

Rev 2B

THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.

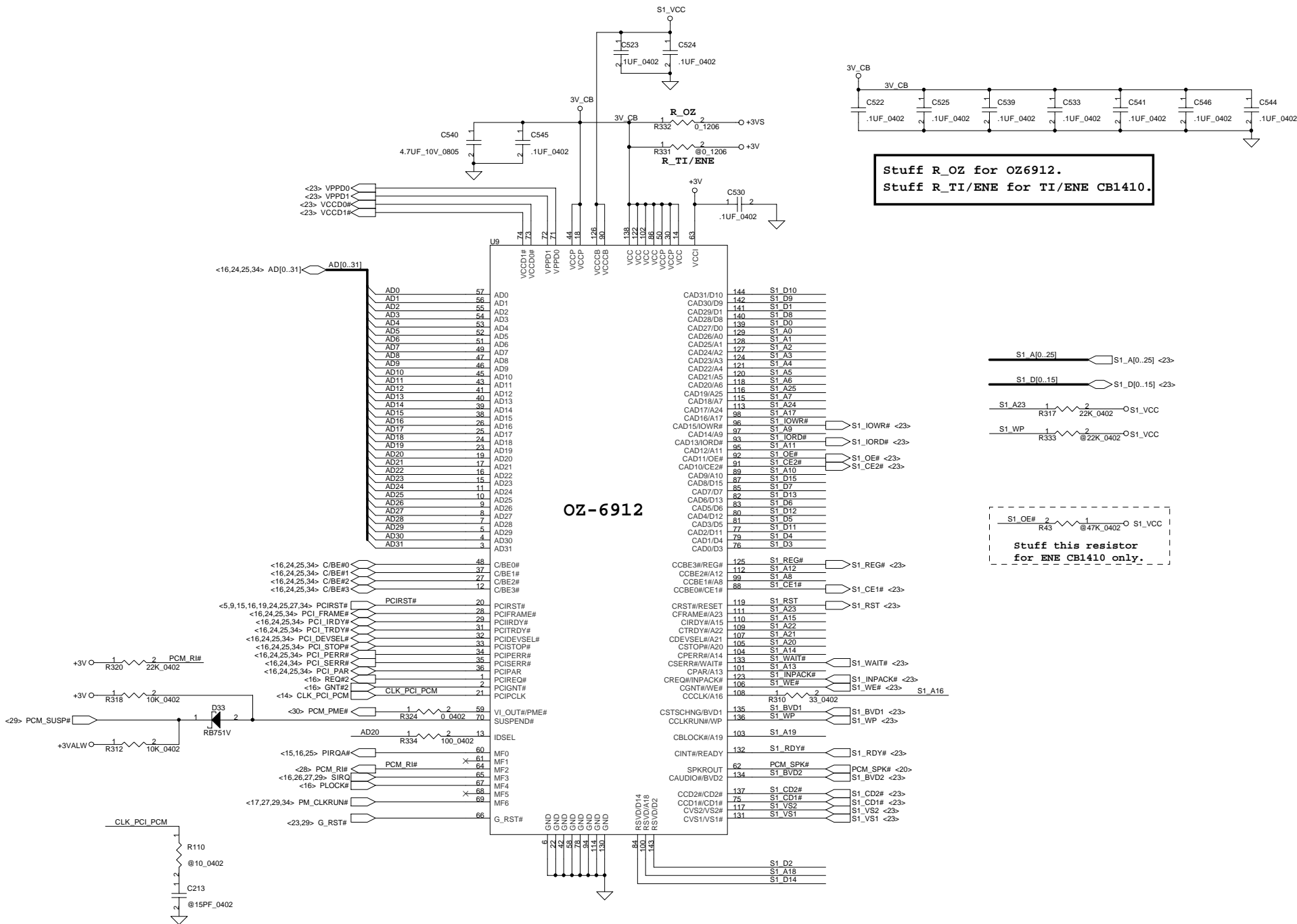


Layout note:
 Trace width=15 mils.
 1.SP_K_R+ ,SP_K_L+ ,SPKF_R+ ,SPKF_L+
 2.INTSPK_R+ /- ,INTSPK_L+ /-
 3.LINEOUT_L ,LINEOUT_R



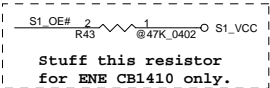
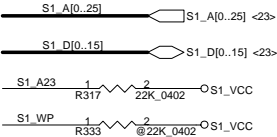
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.

Compal Electronics, Inc.		
Title SCHEMATIC, MB LA-1591		
Size	Document Number 401235	Rev 2B
Custom	Date: 星期五, 五月 16, 2003	Sheet 21 of 47

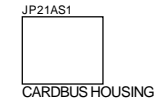
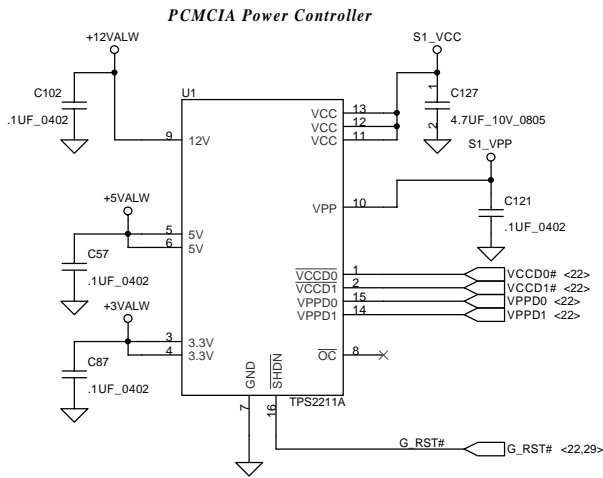


OZ-6912

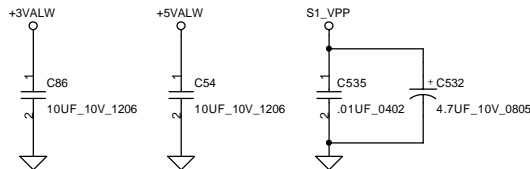
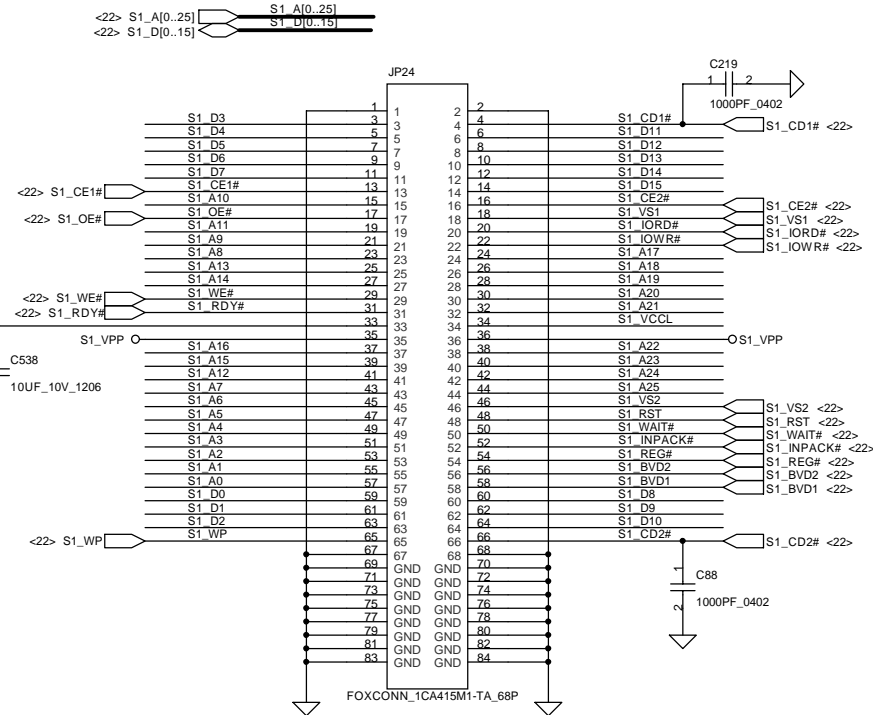
**Stuff R_OZ for OZ6912.
Stuff R_TI/ENE for TI/ENE CB1410.**



THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION CONTAINED HEREIN MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.

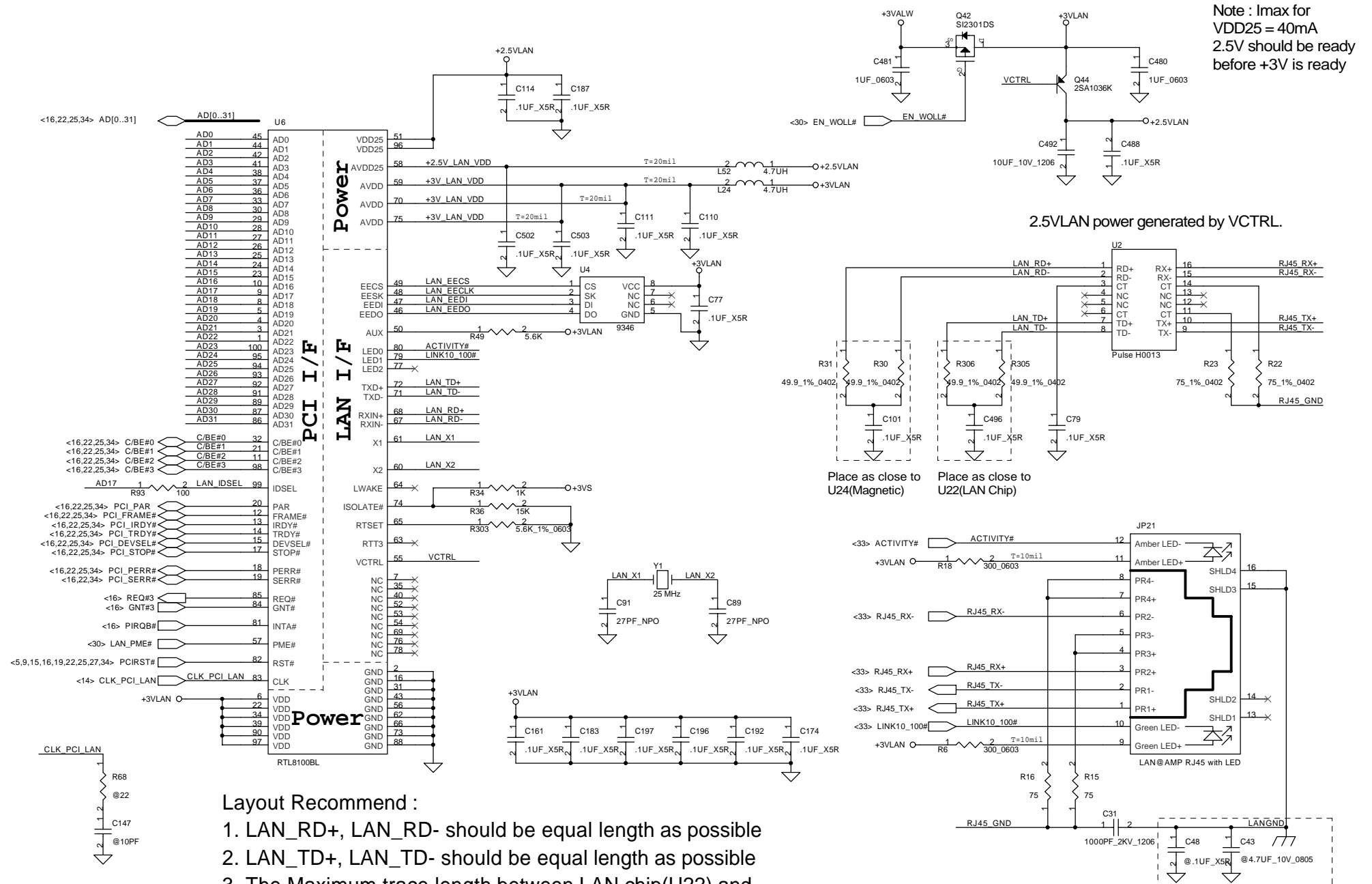


CardBus Socket



THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.

Compal Electronics, Inc.		
Title	SCHEMATIC, M/BLA-1591	
Size	Document Number	Rev
	401235	2B
Custom		
Date	-P期五, 五月 16, 2003	Sheet 23 of 47



Note : I_{max} for VDD25 = 40mA
2.5V should be ready before +3V is ready

2.5VLAN power generated by VCTRL.

Place as close to U24(Magnetic)
Place as close to U22(LAN Chip)

Layout Recommend :

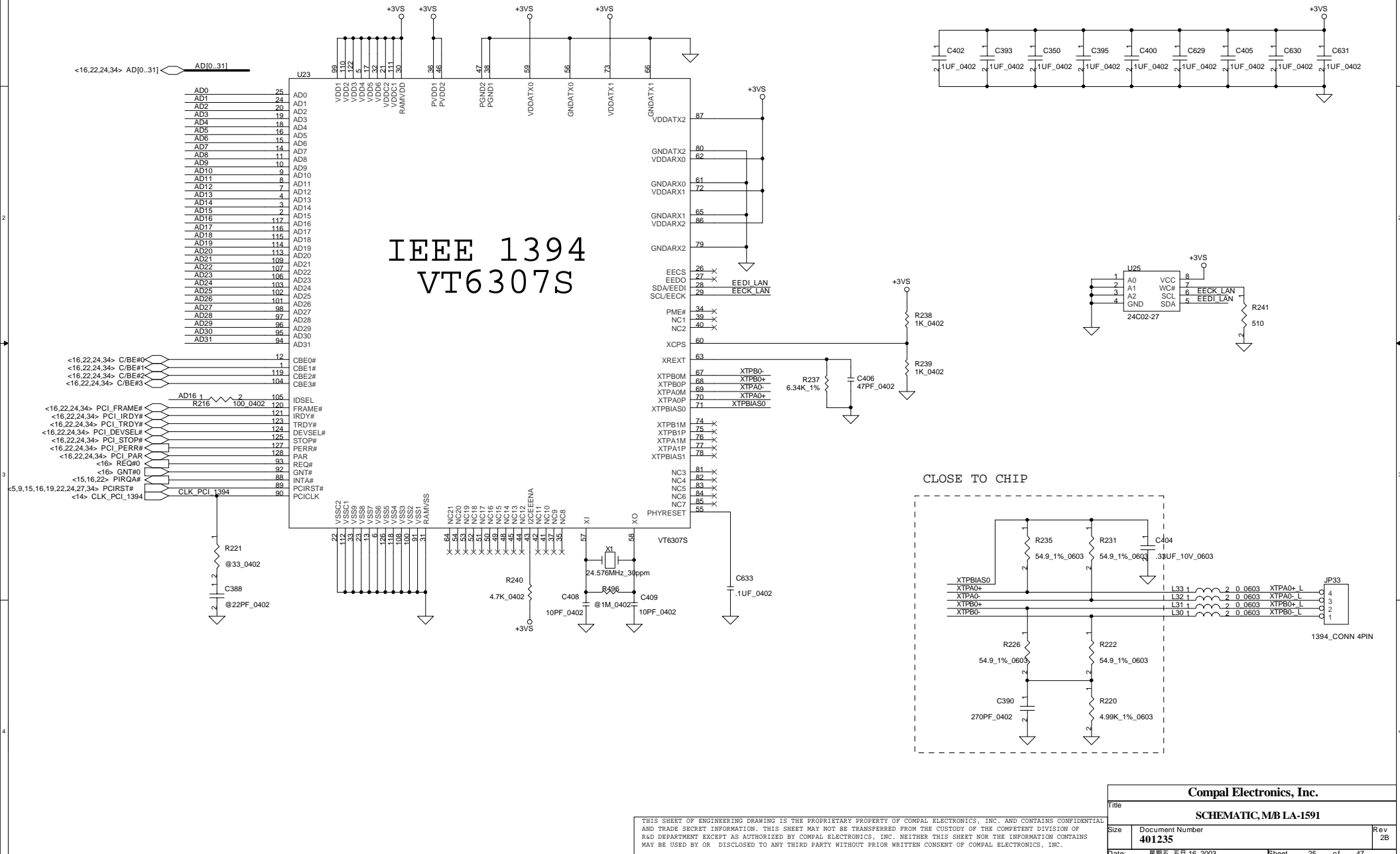
1. LAN_RD+, LAN_RD- should be equal length as possible
2. LAN_TD+, LAN_TD- should be equal length as possible
3. The Maximum trace length between LAN chip(U22) and Magnetic(U24) is 12cm(4.7")
4. The distance between RJ45(Conn.) and Magnetic(U24) should be as short as possible

Termination plane should be copied to chassis ground and also depends on safety concern

Compal Electronics, Inc.		
Title	SCHEMATIC, M/B LA-1591	
Size B	Document Number	Rev
	401235	28
Date:	~F期五, 五月 16, 2003	Sheet 24 of 47

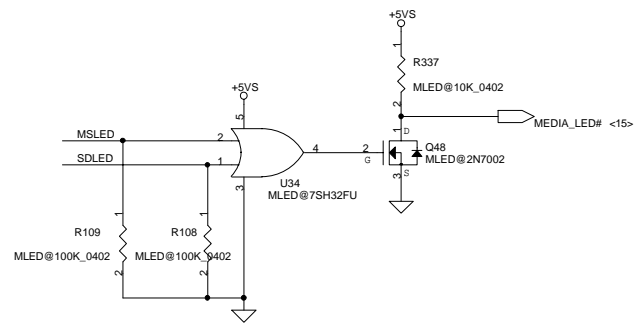
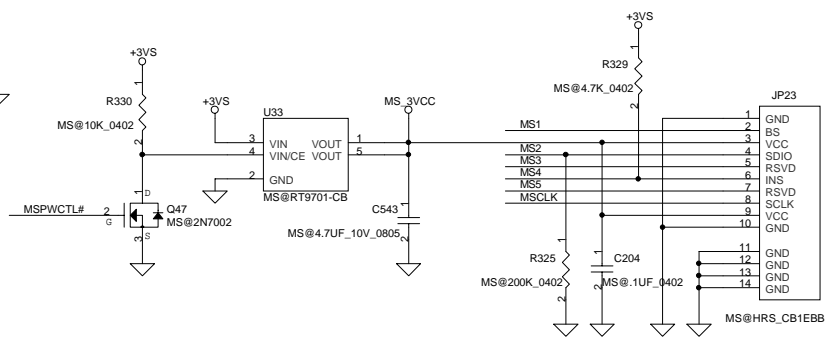
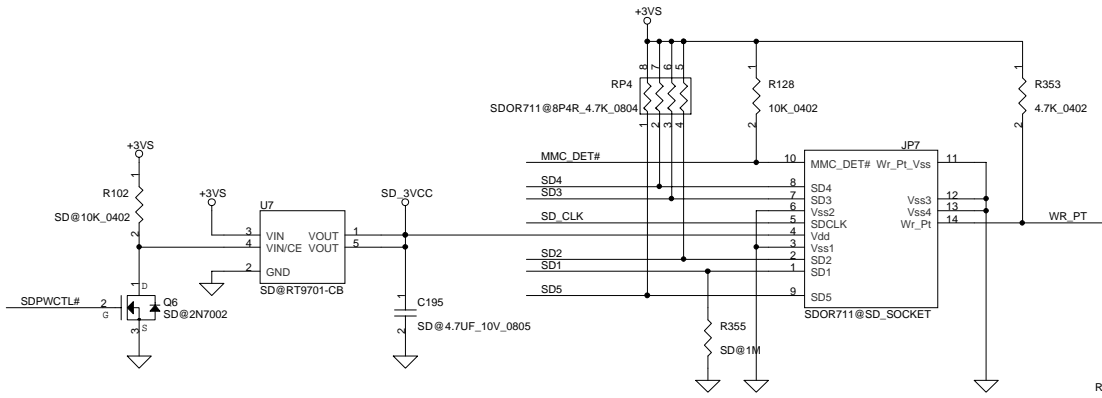
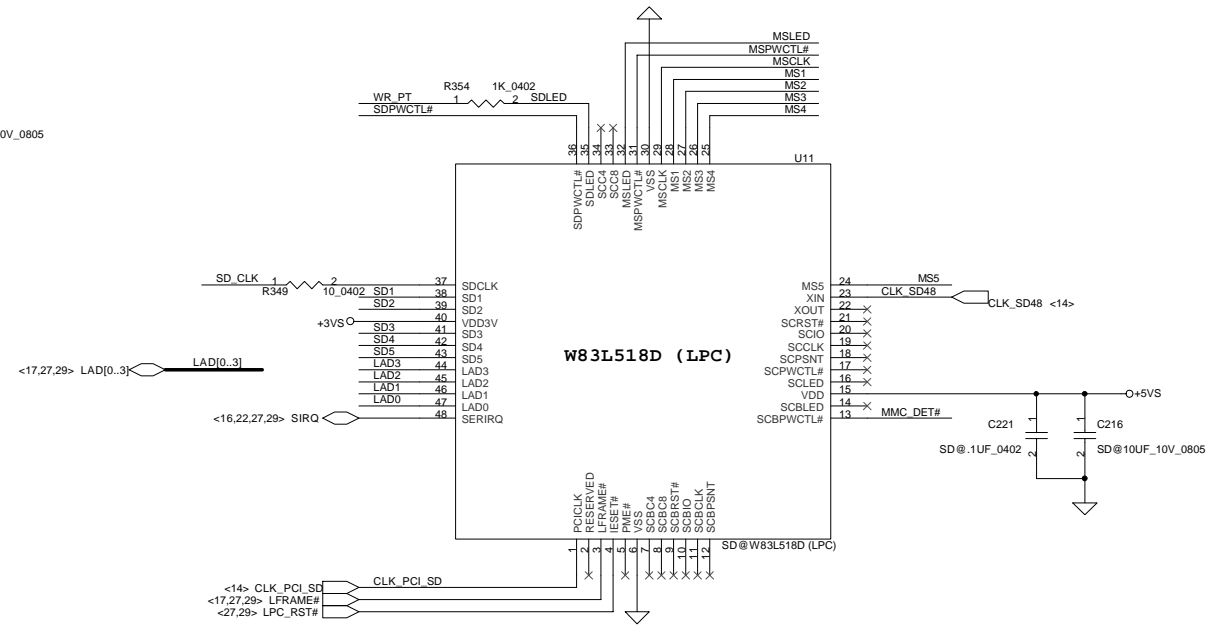
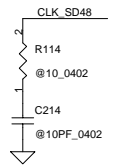
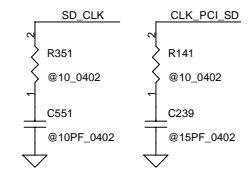
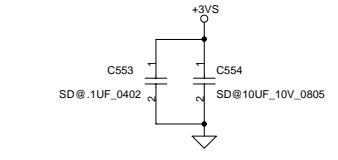
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.

IEEE 1394 VT6307S



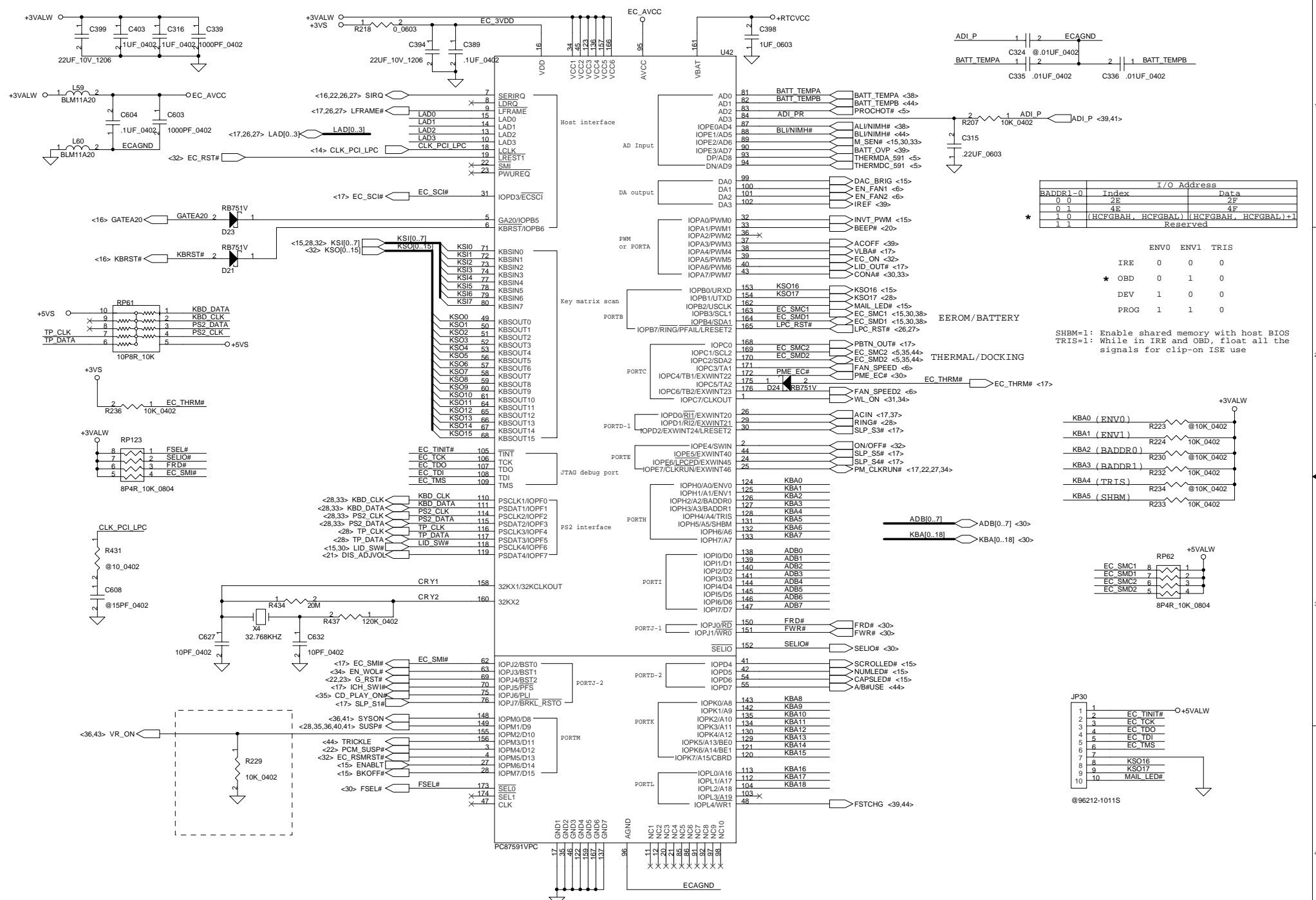
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.

Compal Electronics, Inc.			
Title SCHEMATIC, M/B LA-1591			
Size	Document Number 401235	Rev 2B	
Date	星期五, 五月 16, 2003	Sheet	25 of 47



THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.

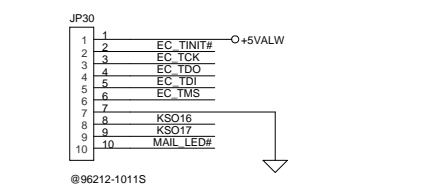
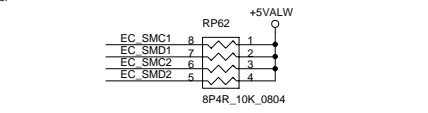
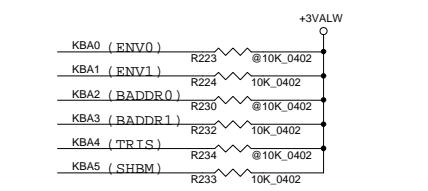
Compal Electronics, Inc.			
Title SCHEMATIC, M/B LA-1591			
Size	Document Number	Rev	
401235		2B	
Custom	Date	Sheet	of
	星期五, 五月 16, 2003	26	47



I/O Address			
BADDR1-0	Index	Data	
0 0	2E	2F	
0 1	4E	4F	
1 0	(HCFGBAH, HCFGBAL)	(HCFGGBAH, HCFGGBAL)+1	
1 1		Reserved	

IRE	ENV0	ENV1	TRIS
0	0	0	0
1	0	1	0
0	1	0	0
1	1	0	0

SHBM=1: Enable shared memory with host BIOS
 TRIS=1: While in IRE and OBD, float all the signals for clip-on ISE use





Compal Electronics, Inc.

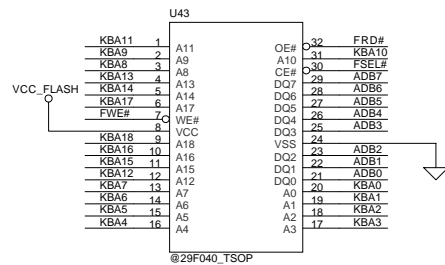
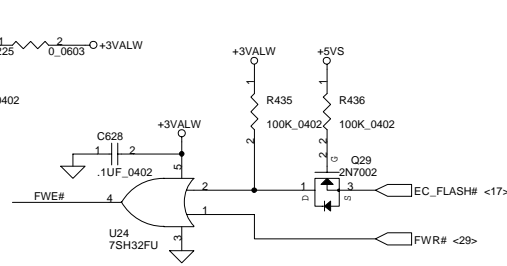
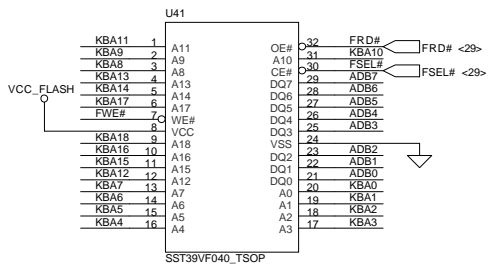
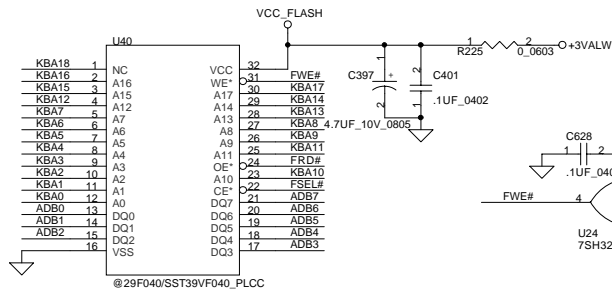
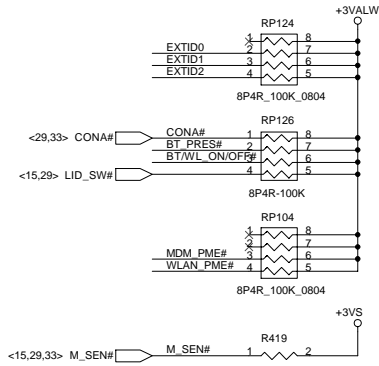
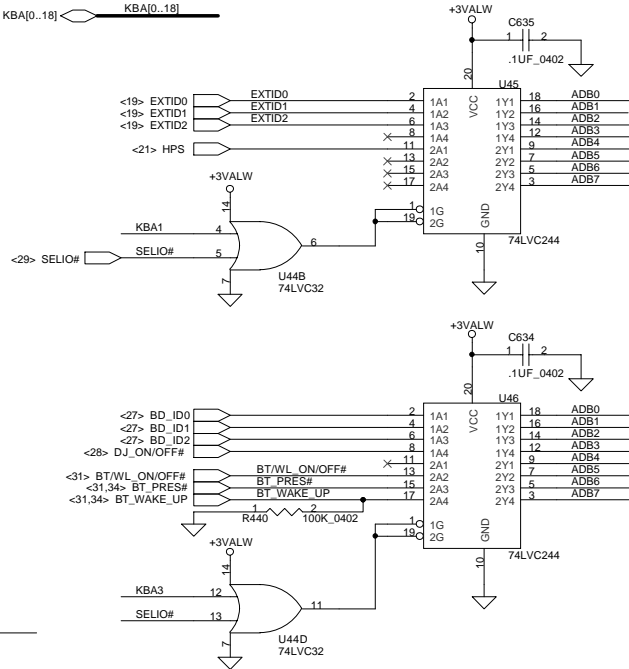
SCHEMATIC, M/B LA-1591

Title	Document Number	Rev
401235	401235	2B
Date	Sheet	of
日期: 五月 16, 2003	29	47

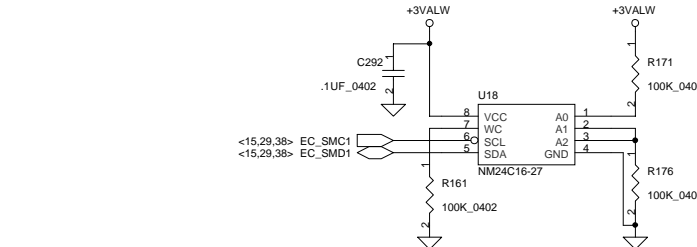
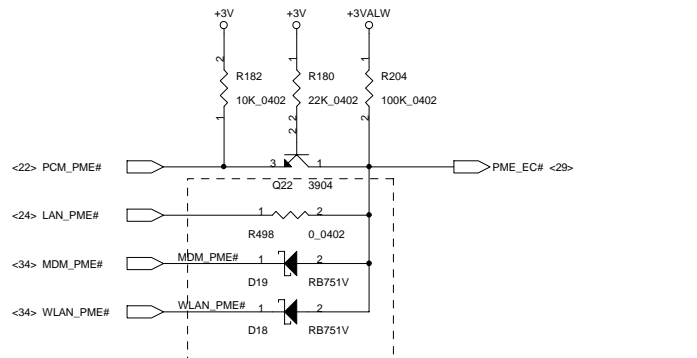
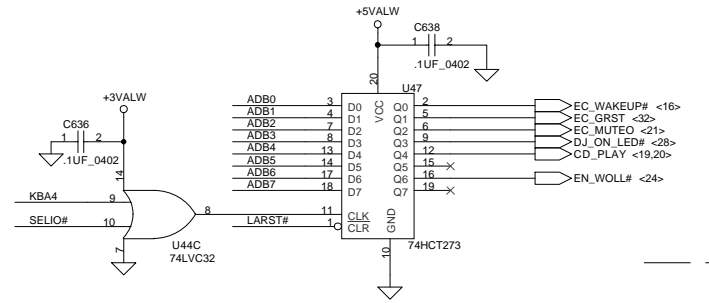
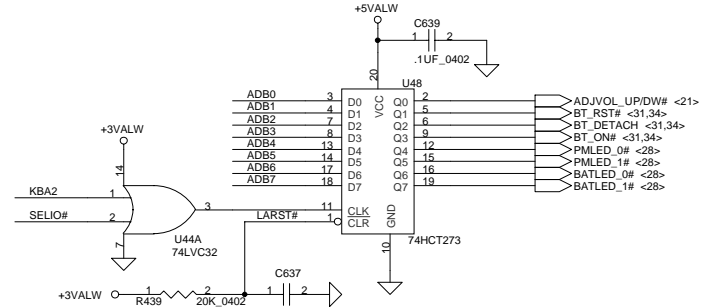
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.

<29> ADB[0..7]  ADB[0..7]
 <29> KBA[0..18]  KBA[0..18]

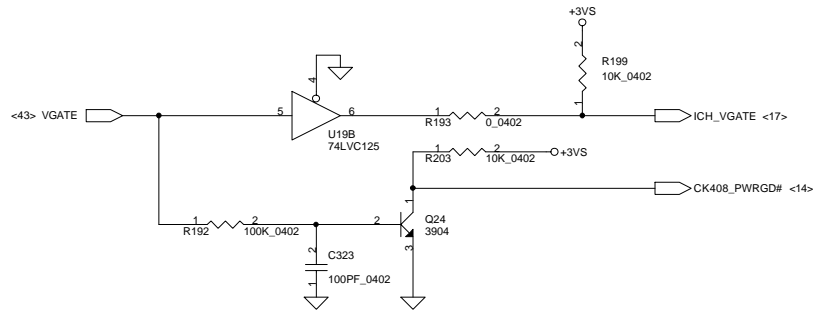
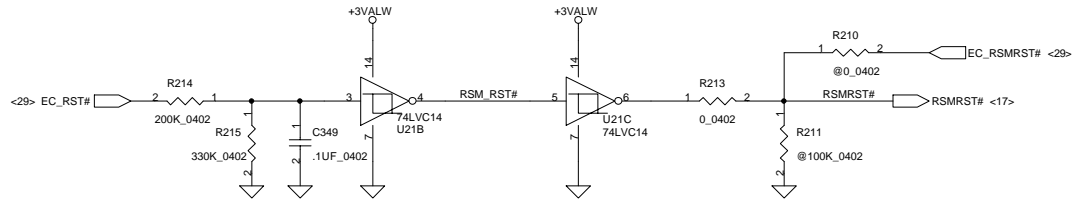
INPUT



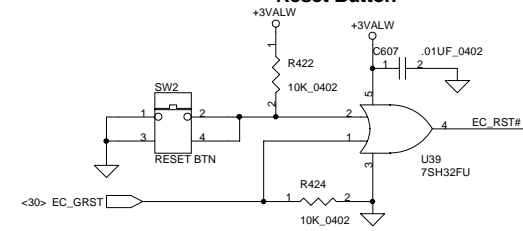
OUTPUT



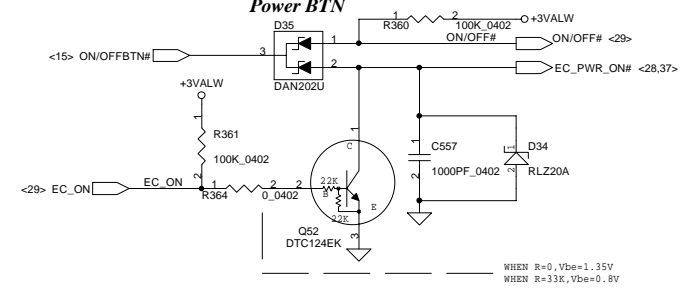
Power ON Circuit



Reset Button

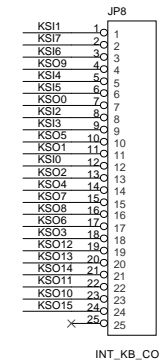
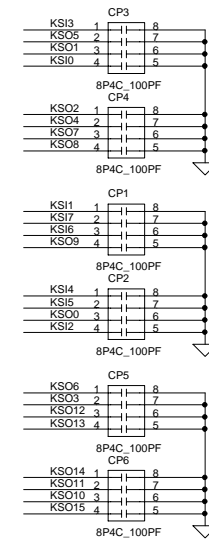


Power BTN

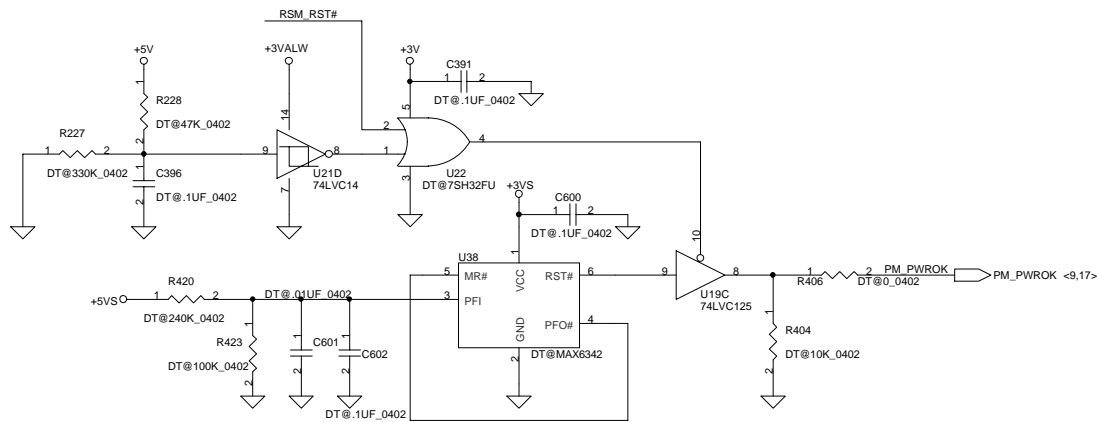


WHEN R=0, Vbe=1.35V
WHEN R=33K, Vbe=0.8V

INT_KBD CONN.



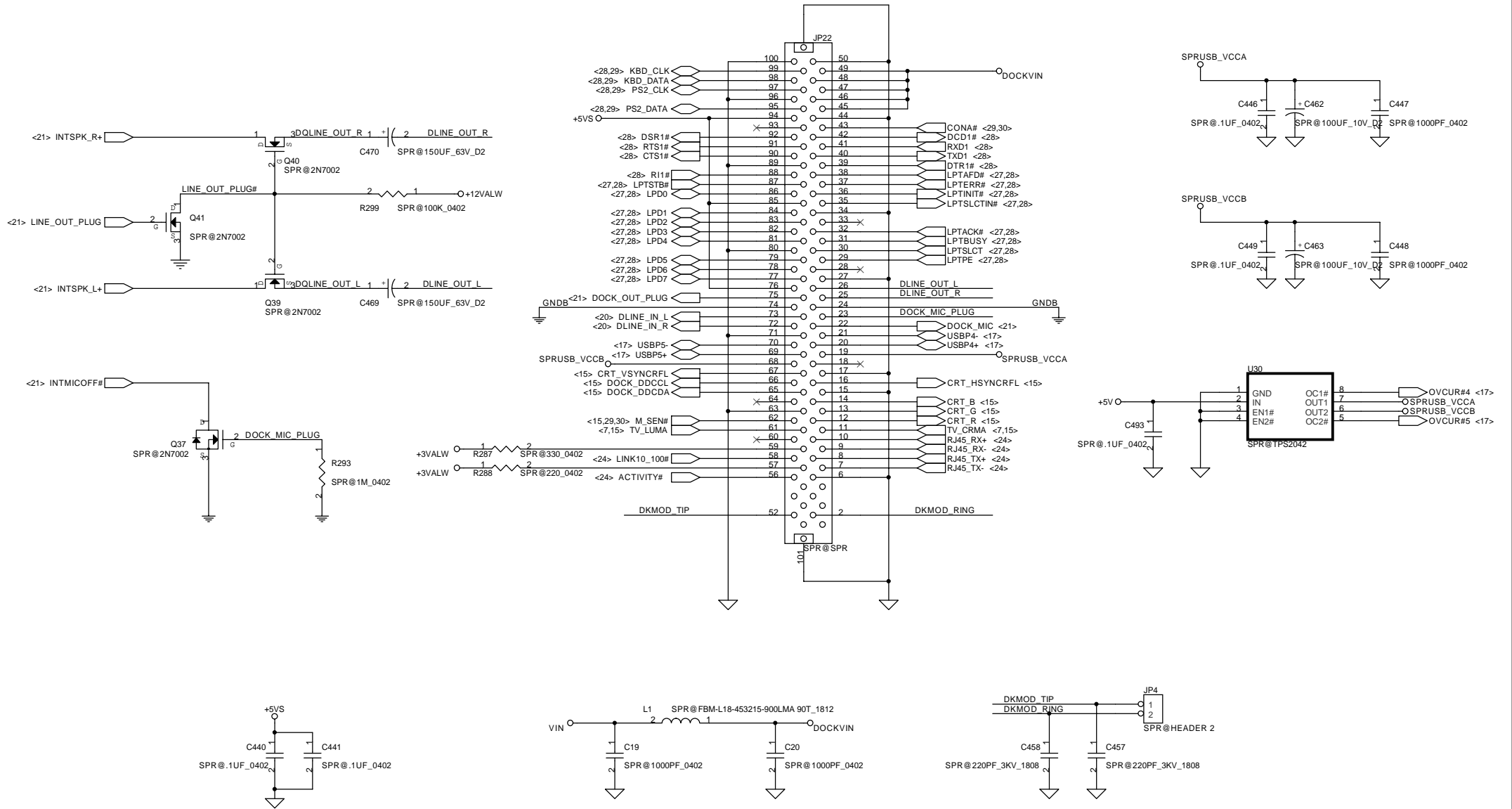
DT : INSTALL



THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.

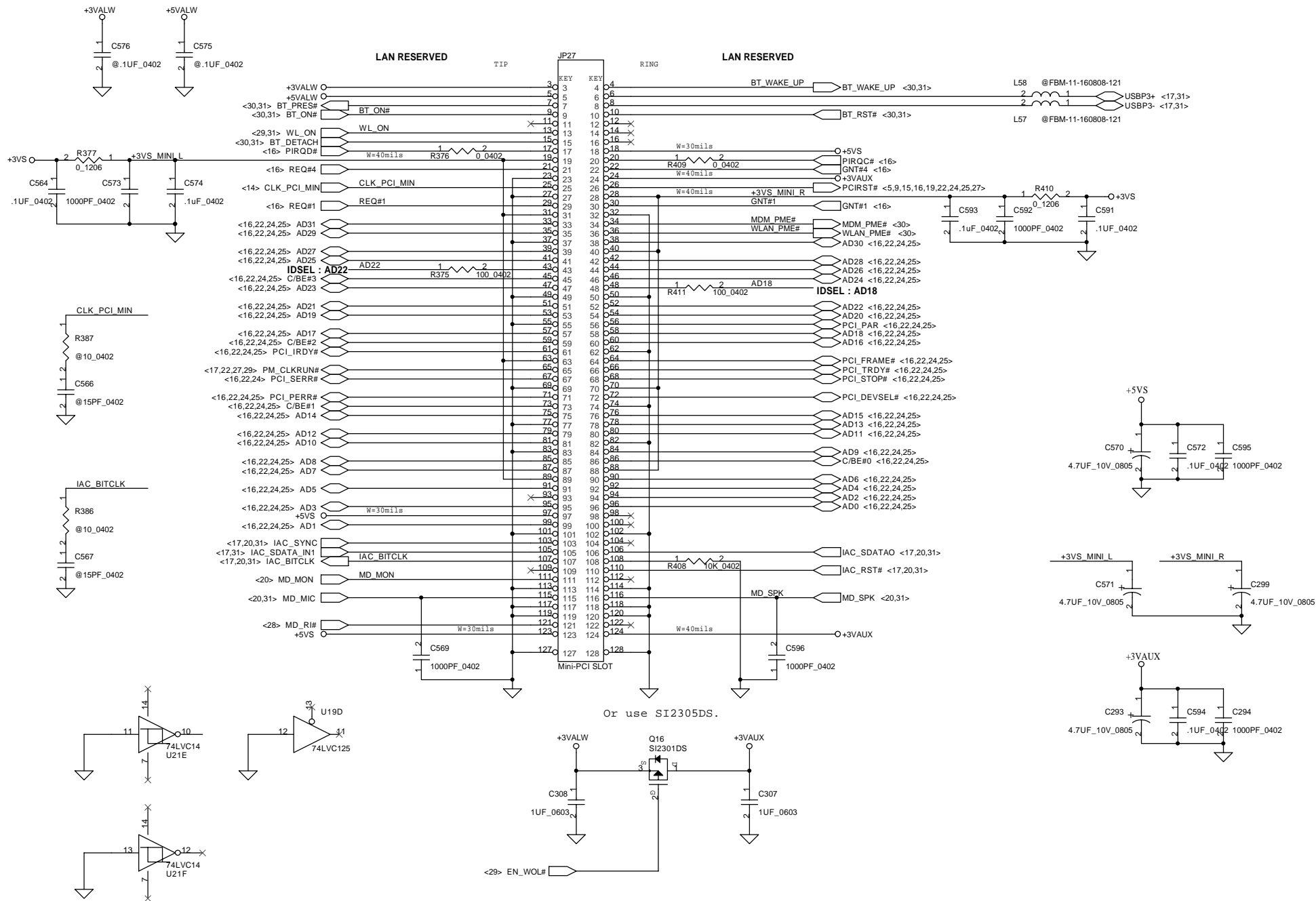
Compal Electronics, Inc.		
Title	SCHEMATIC, MB LA-1591	
Size	Document Number	Rev
Custom	401235	2B
Date	星期五, 五月 16, 2003	Sheet 32 of 47

DOCKING 204 PIN



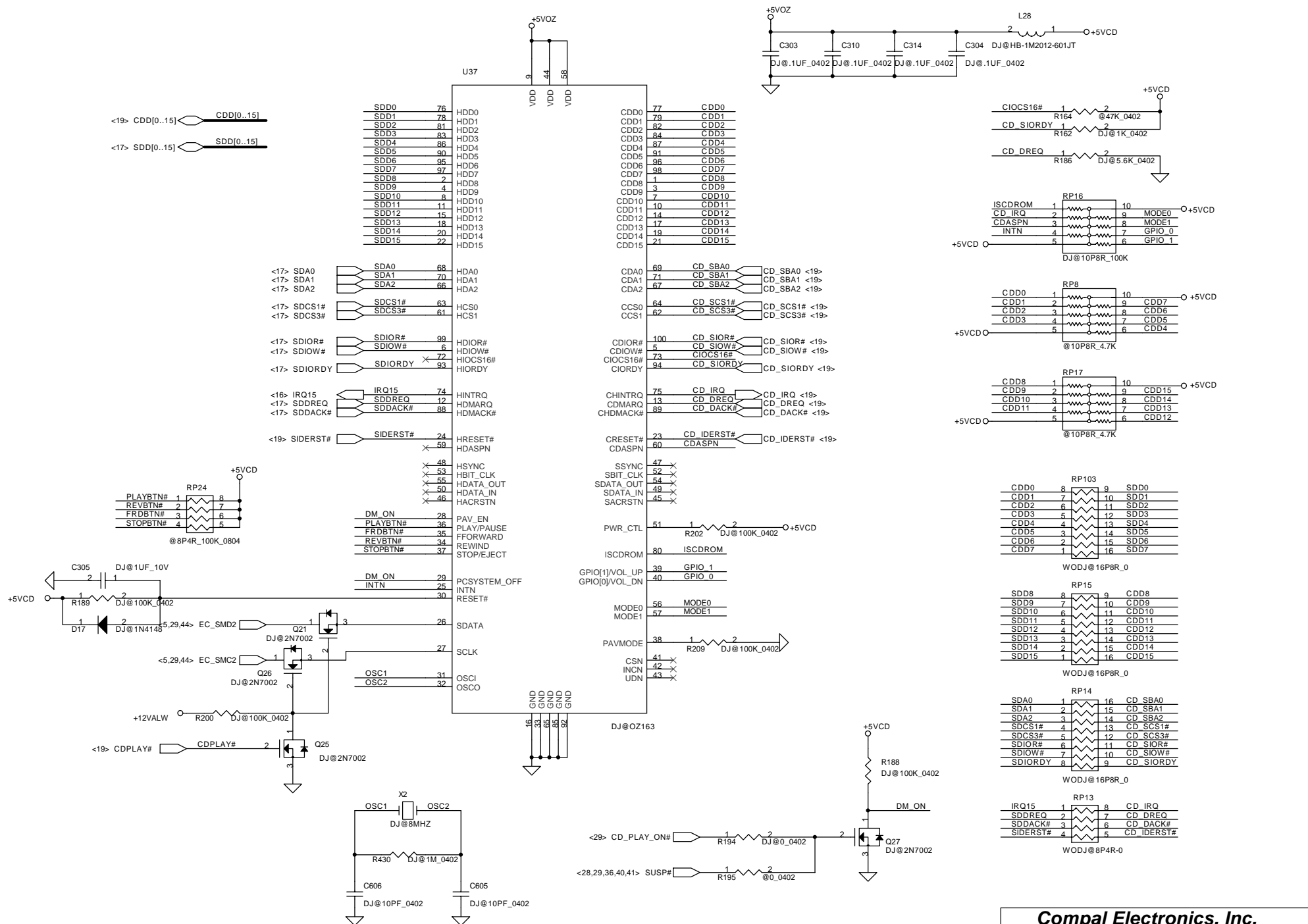
Compal Electronics, Inc.			
Title SCHEMATIC, M/B LA-1591			
Size	Document Number	Rev	
Custom	401235	2B	
Date:	~P期五, 五月 16, 2003	Sheet	33 of 47

THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.

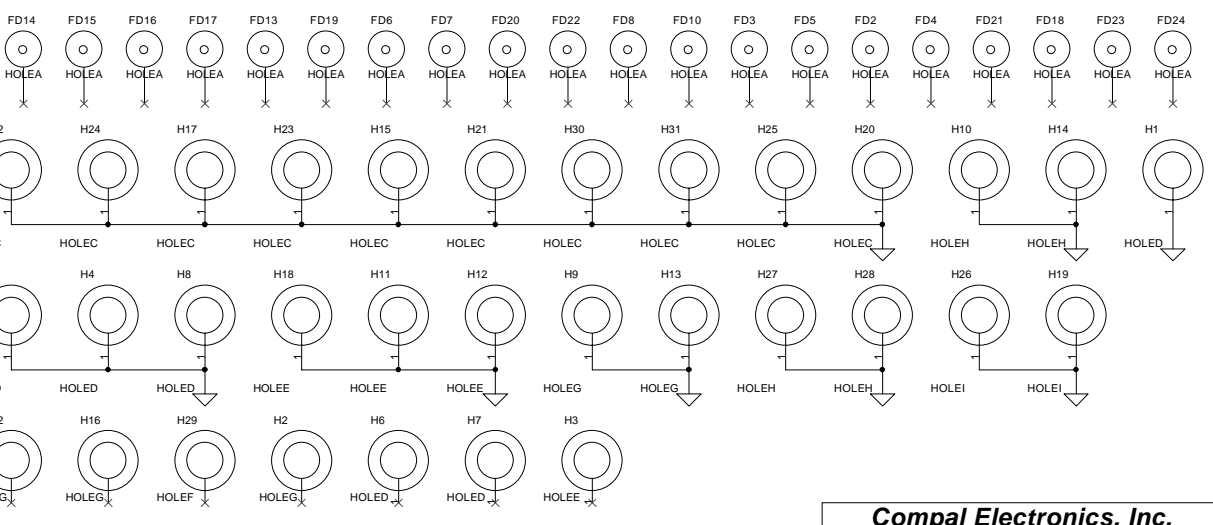
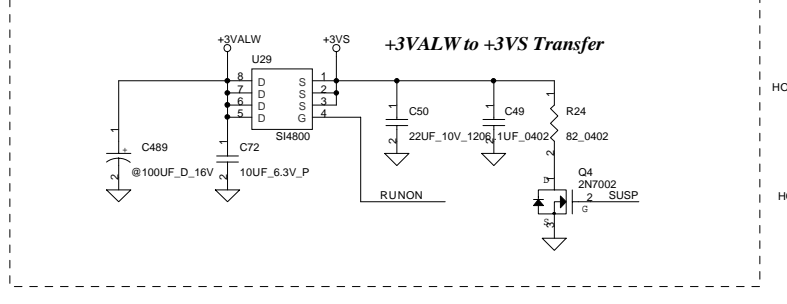
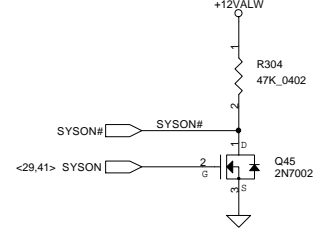
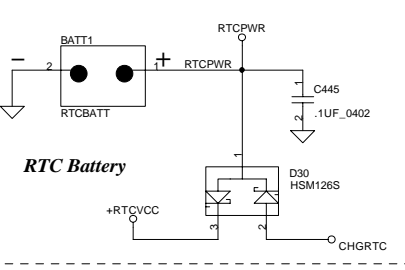
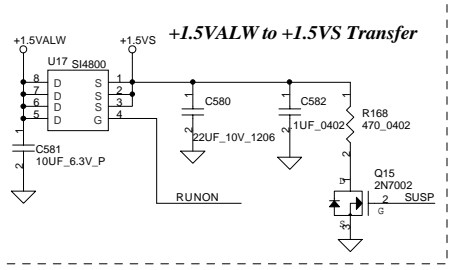
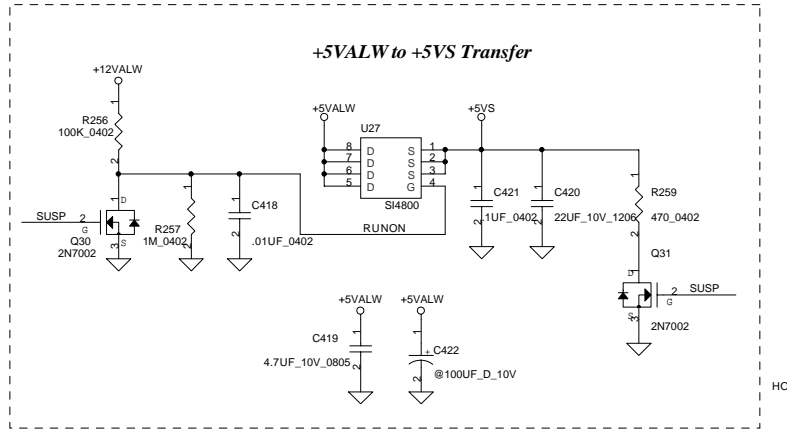
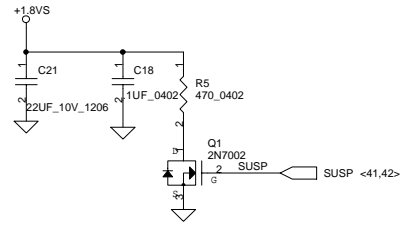
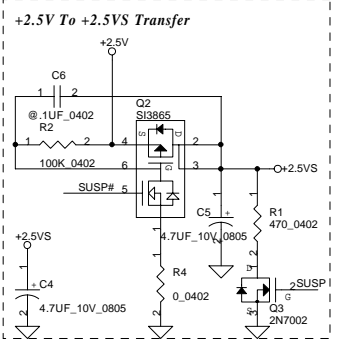
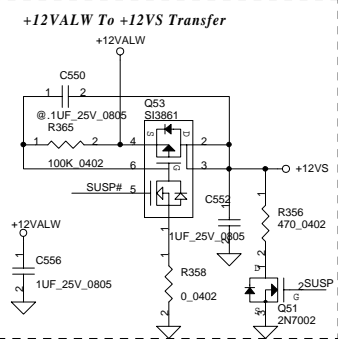
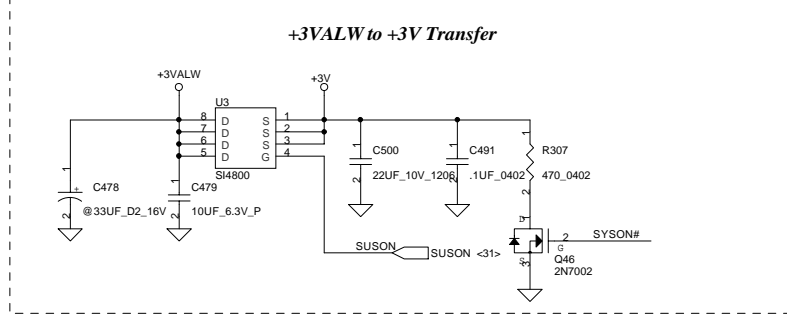
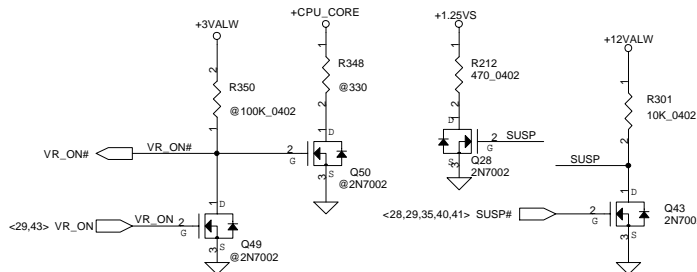
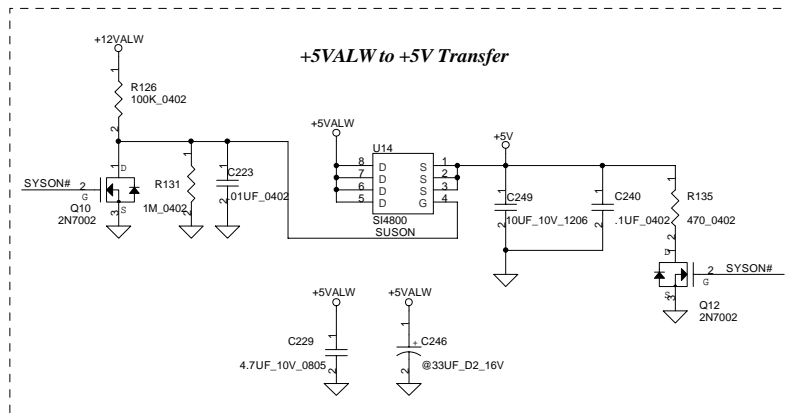


THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.

Compal Electronics, Inc.		
Title	SCHEMATIC, M/B LA-1591	
Size	Document Number	Rev
	401235	2B
Date	-P期五, 五月 16, 2003	Sheet 34 of 47

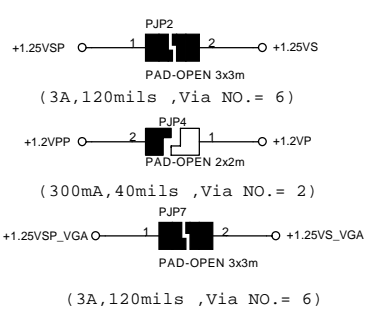
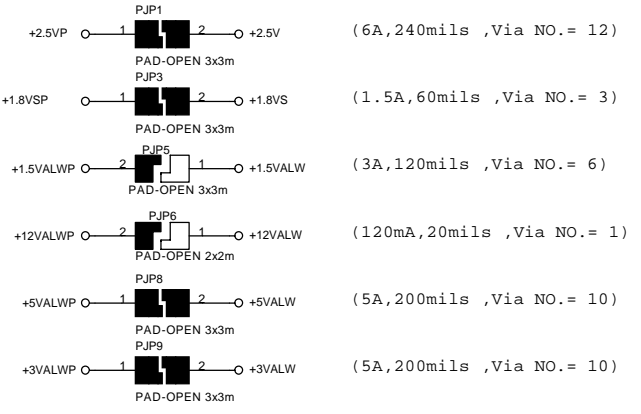
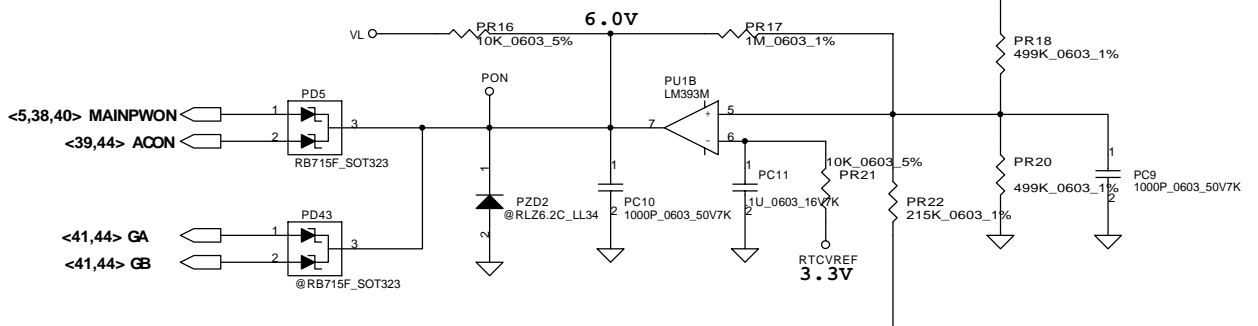
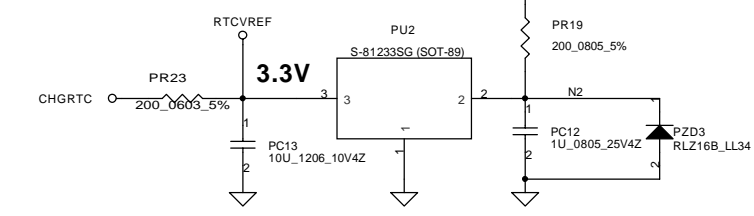
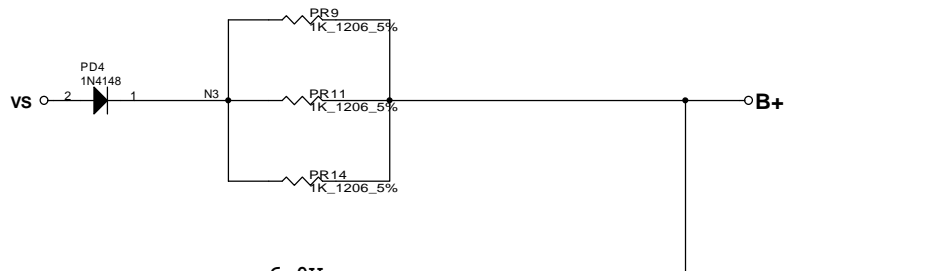
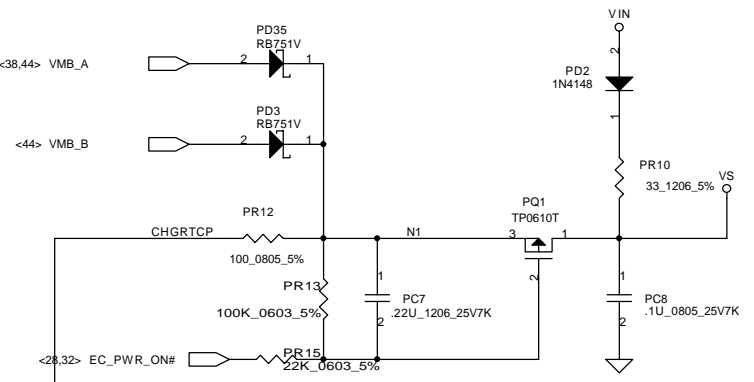
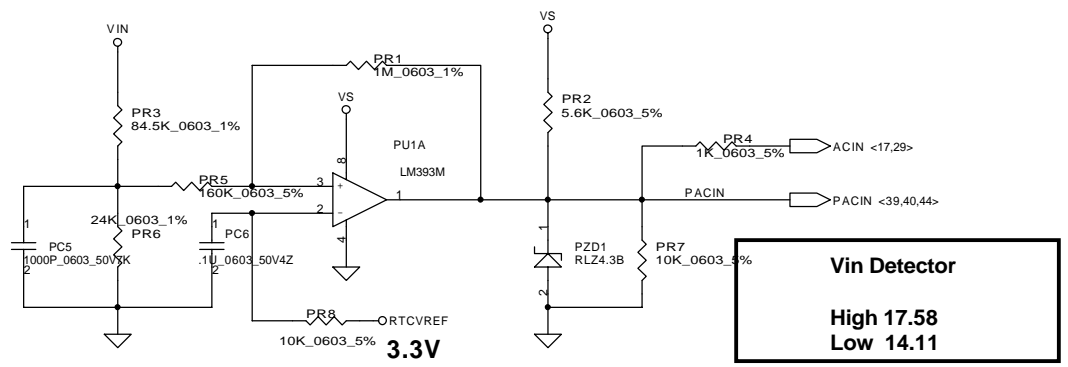
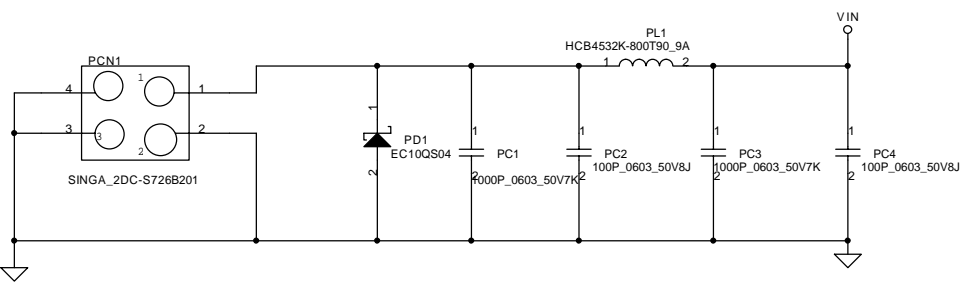


THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.

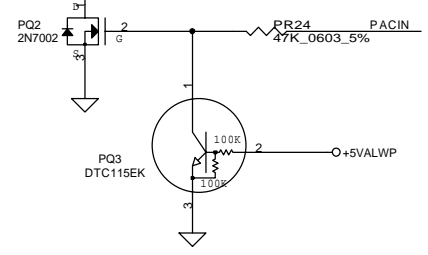


THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION CONTAINED HEREIN MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.

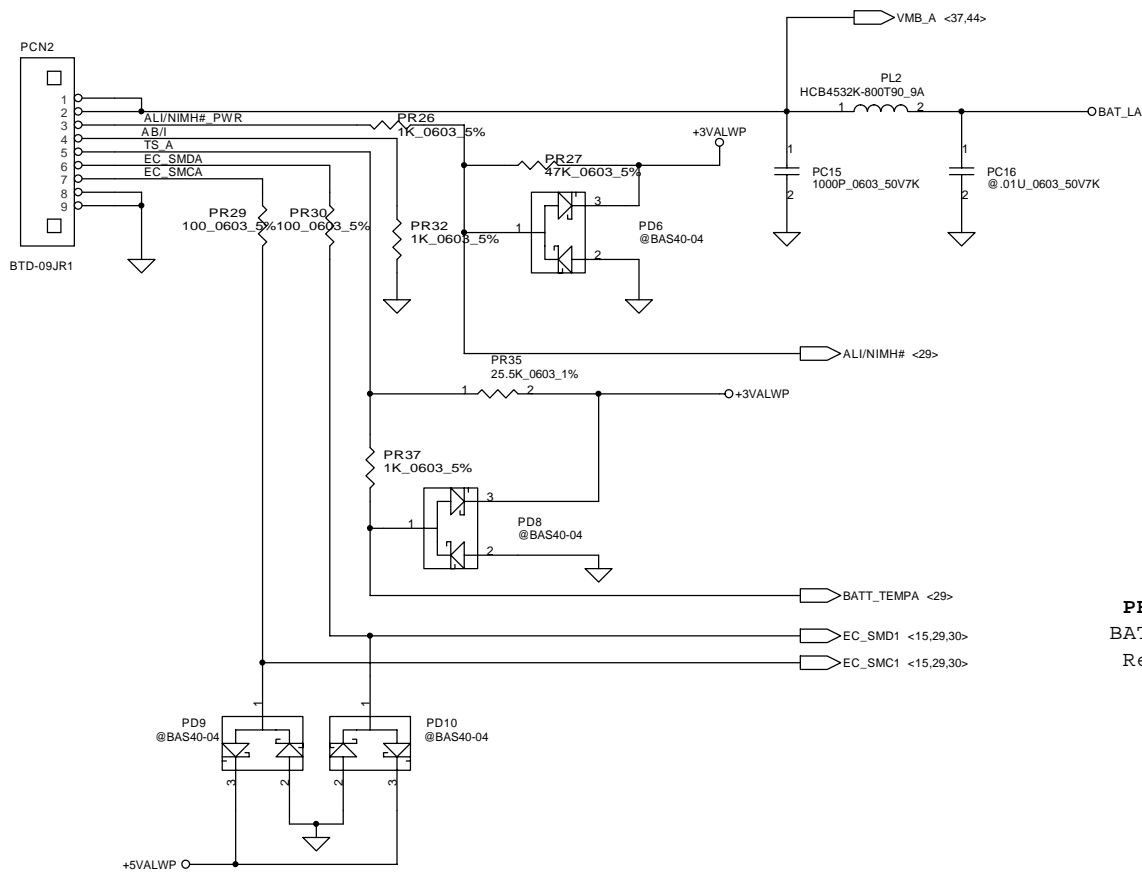
Compal Electronics, Inc.		
Title	SCHEMATIC, MB LA-1591	
Size	Document Number	Rev
Custom	401235	2B
Date:	星期五, 五月 16, 2003	Sheet 36 of 47



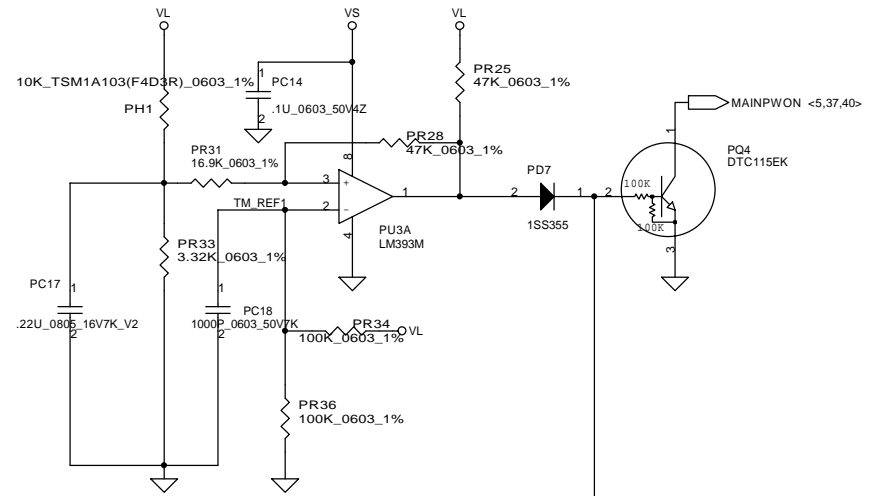
ACIN Precharge detector					
	15.34	15.90	16.48		
	13.13	13.71	14.20		



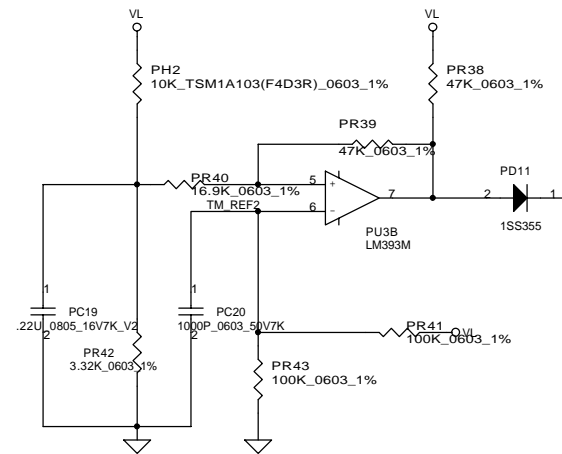
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.



PH1 under CPU bottom side :
 CPU thermal protection at 84 degree C
 Recovery at 45 degree C

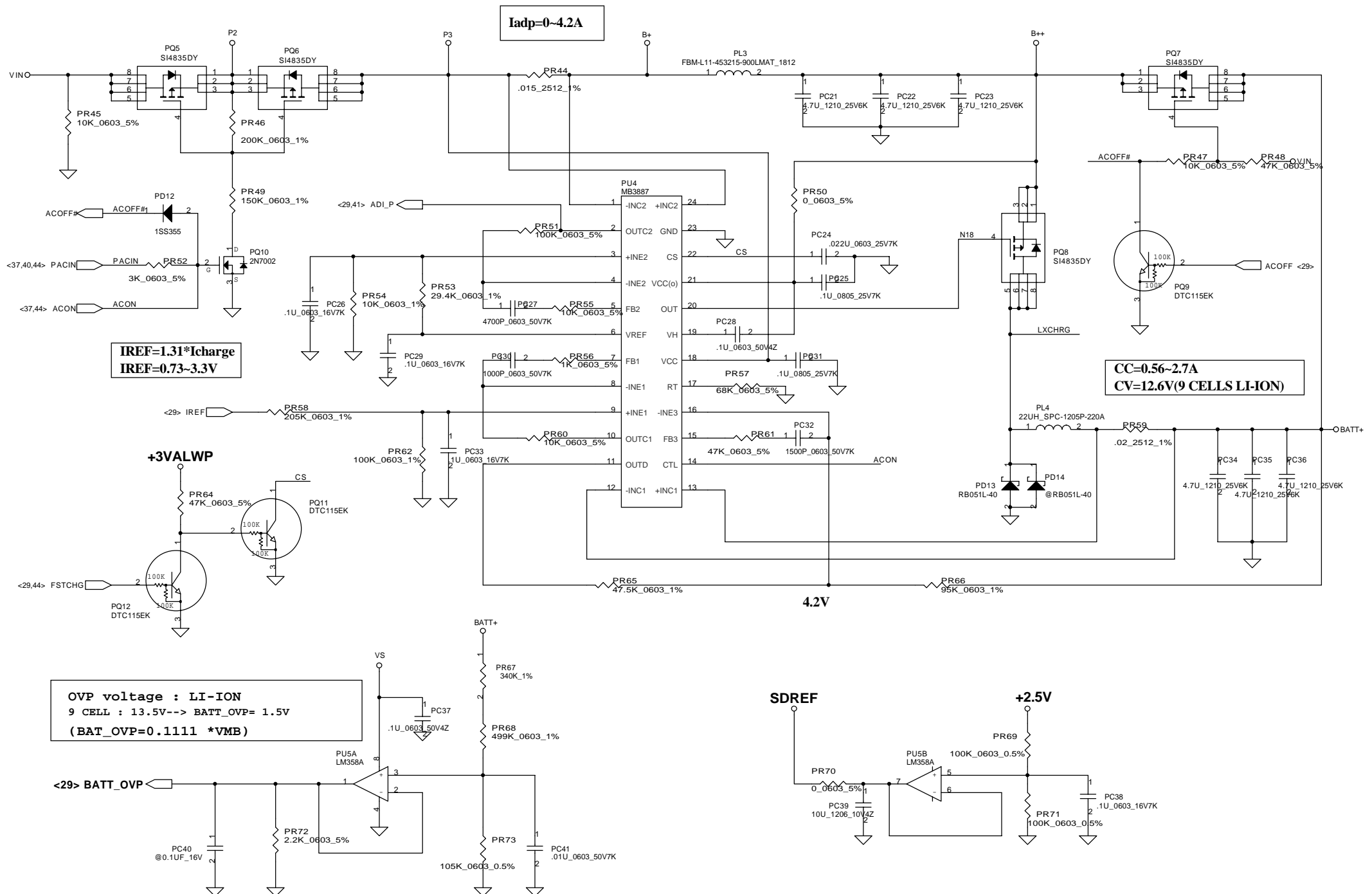


PH2 near main Battery CONN :
 BAT. thermal protection at 84 degree C
 Recovery at 45 degree C



THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.

Compal Electronics, Inc.			
Title	SCHEMATIC, M/B LA-1591		
Size	Document Number		Rev
B	401235		2B
Date:	-P期五, 五月 16, 2003	Sheet	38 of 47



Iadp=0~4.2A

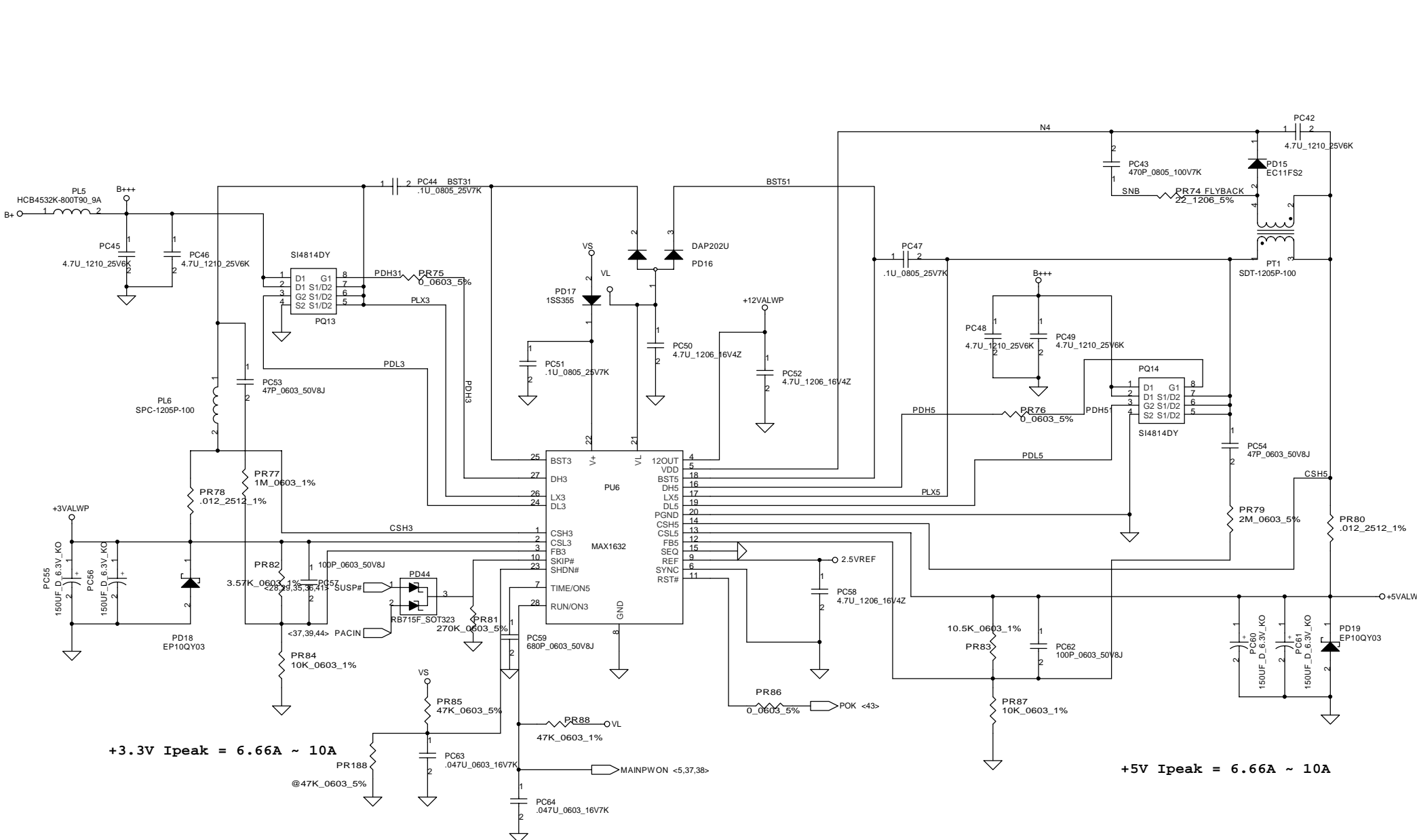
IREF=1.31*Icharge
IREF=0.73~3.3V

CC=0.56~2.7A
CV=12.6V(9 CELLS LI-ION)

OVP voltage : LI-ION
9 CELL : 13.5V--> BATT_OVP= 1.5V
(BAT_OVP=0.1111 *VMB)

THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.

Compal Electronics, Inc.			
Title			
SCHEMATIC, M/B LA-1591			
Size	Document Number		Rev
B	401235		2B
Date:	-P期五, 五月 16, 2003	Sheet	39 of 47

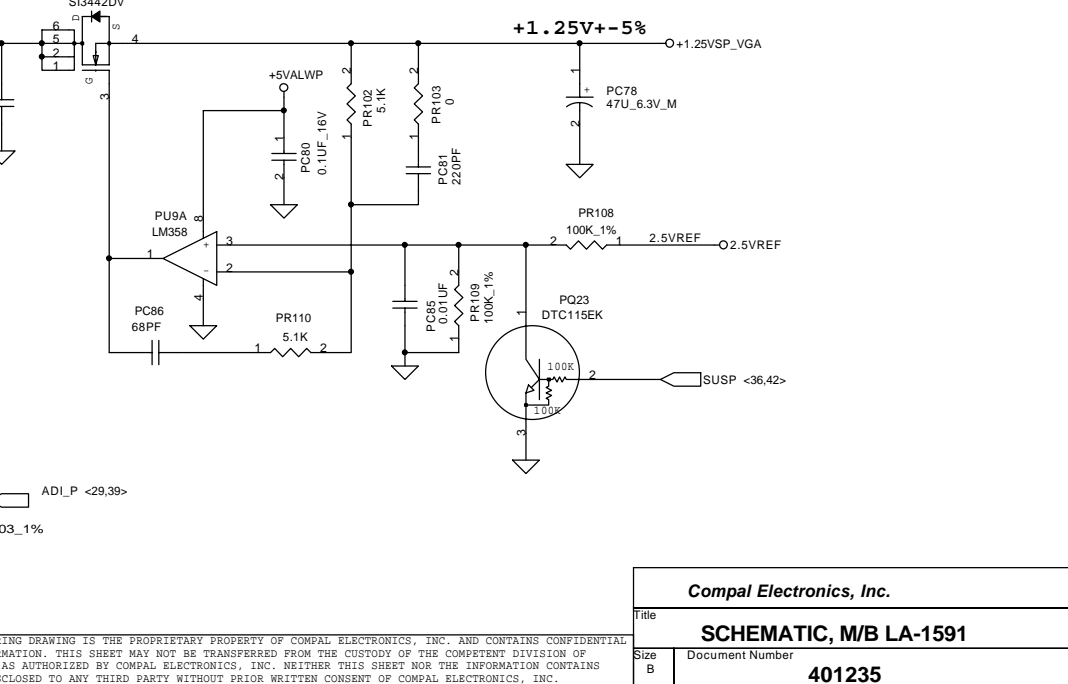
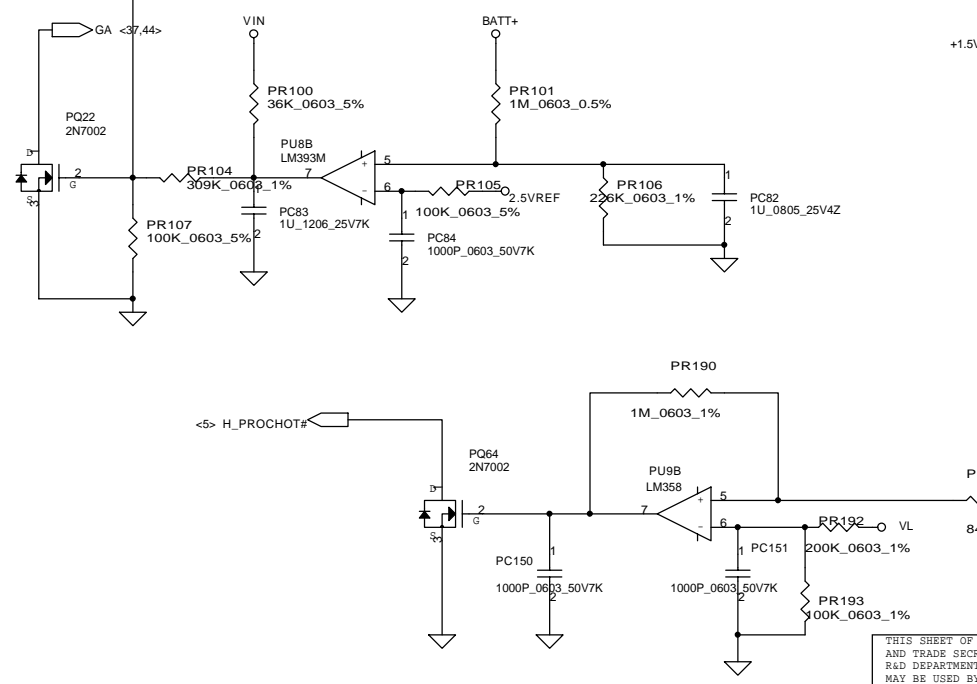
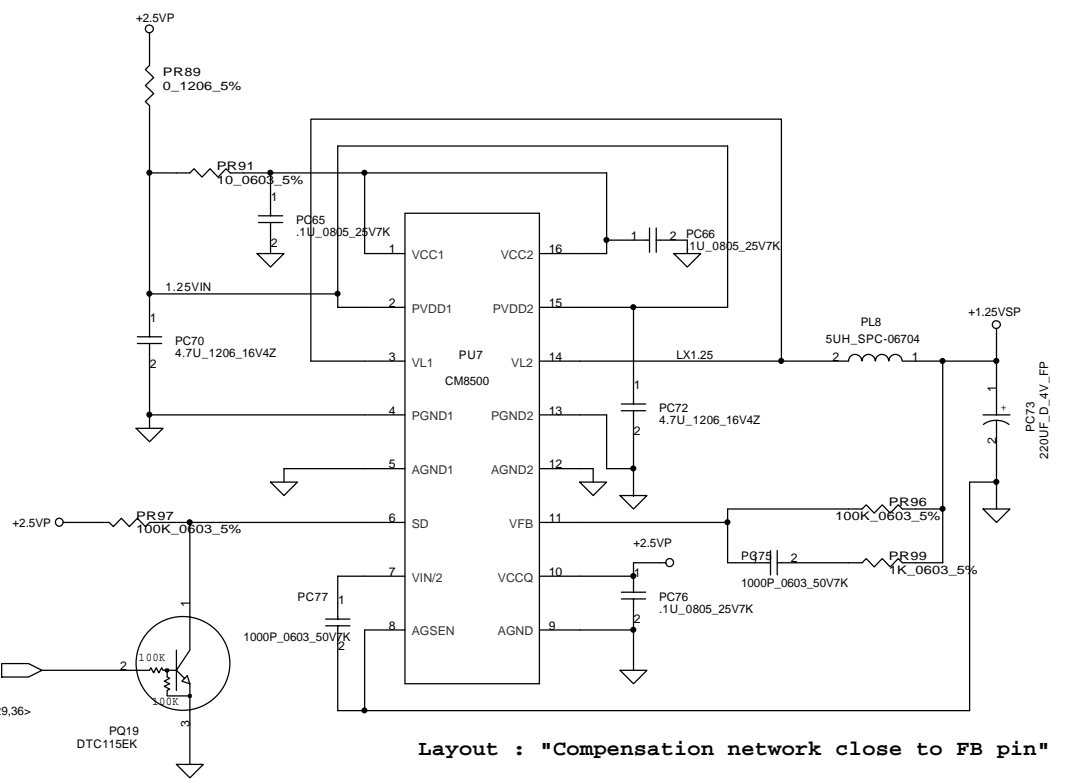
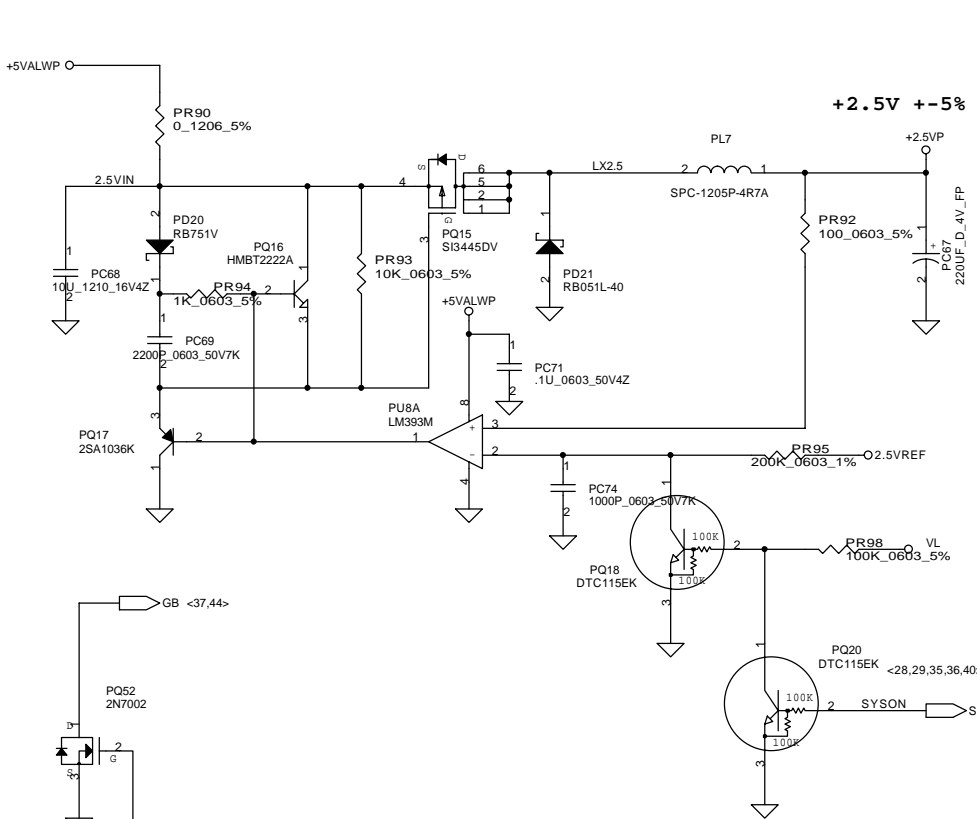


+3.3V Ipeak = 6.66A ~ 10A

+5V Ipeak = 6.66A ~ 10A

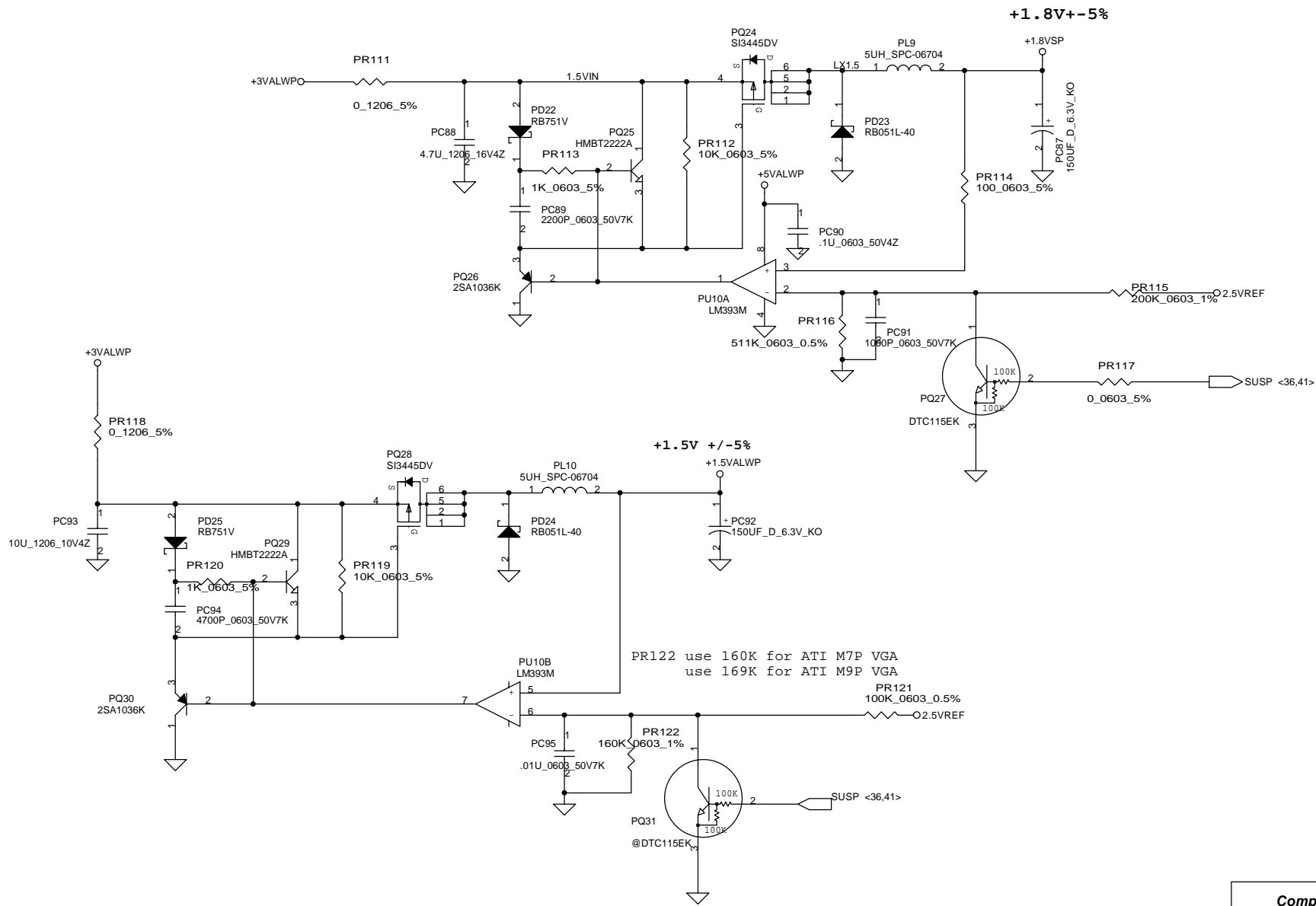
Compal Electronics, Inc.			
Title			
SCHEMATIC, M/B LA-1591			
Size	Document Number		Rev
B	401235		2B
Date:	-P 期五, 五月 16, 2003	Sheet	40 of 47

THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.



THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.

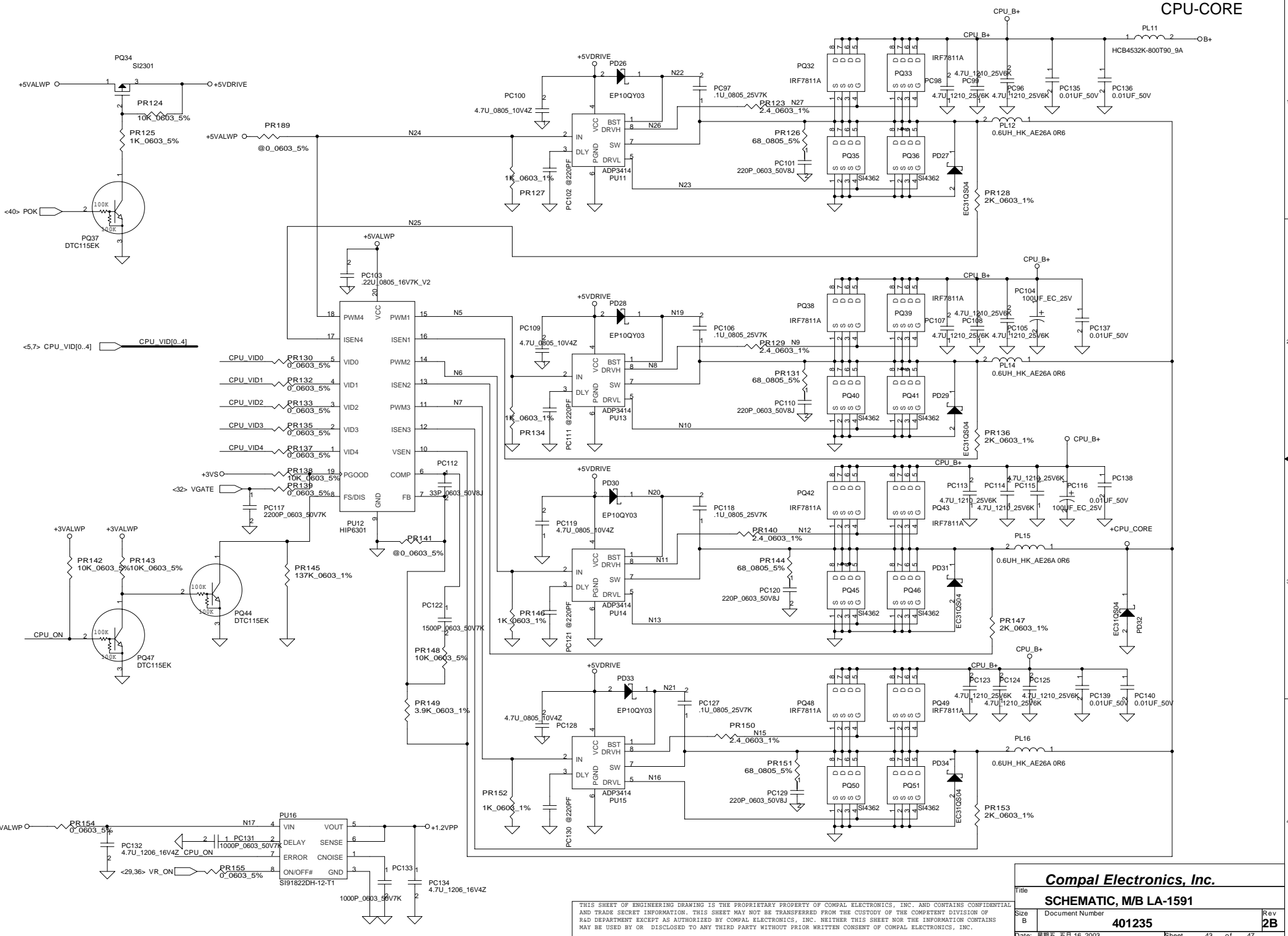
Compal Electronics, Inc.			
Title SCHEMATIC, M/B LA-1591			
Size	Document Number	Rev	
B	401235	2B	
Date: -P期五, 五月 16, 2003		Sheet	41 of 47



THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.

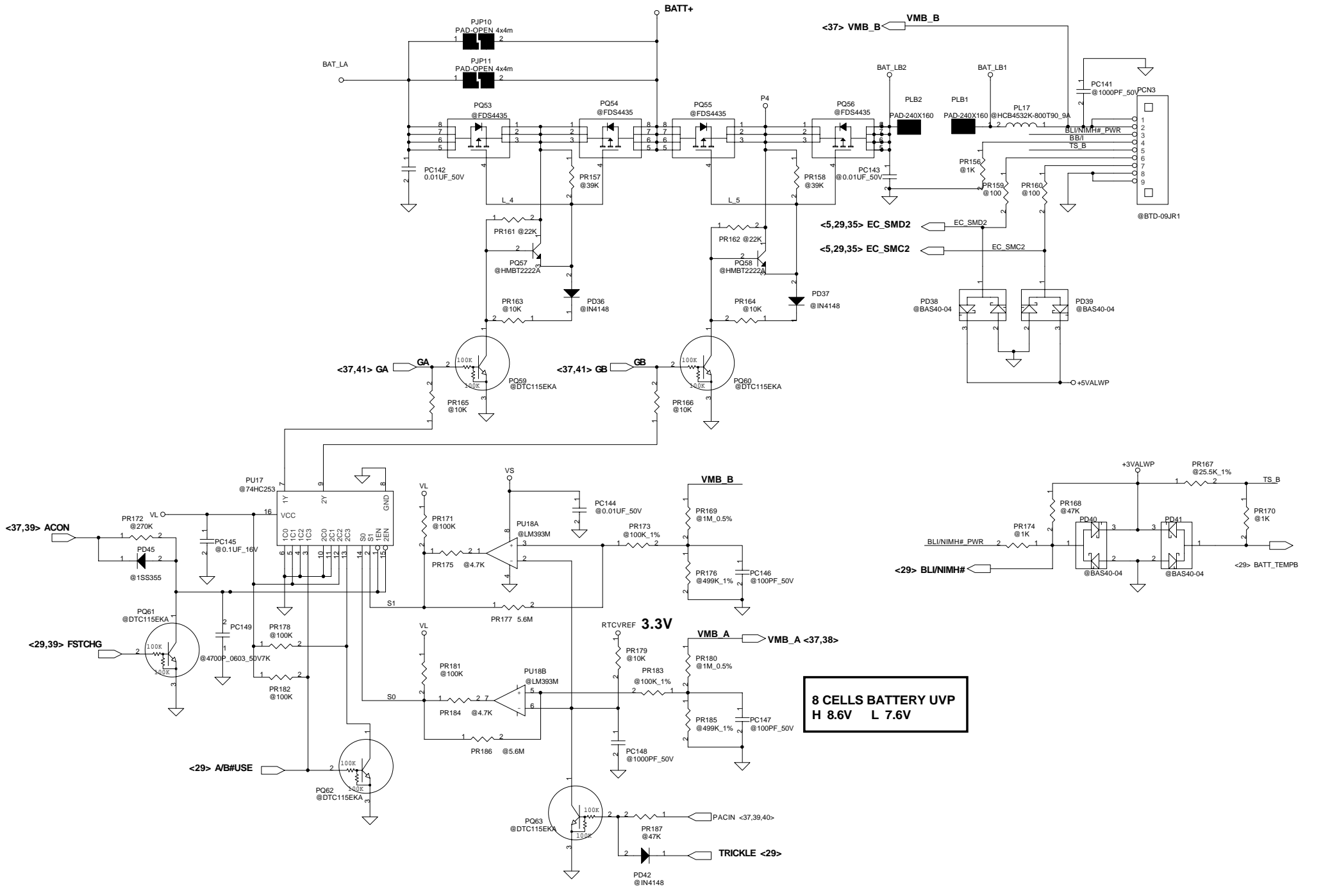
Compal Electronics, Inc.		
Title		
SCHEMATIC, M/B LA-1591		
Size	Document Number	Rev
B	401235	2B
Date:	星期五, 五月 16, 2003	Sheet 42 of 47

CPU-CORE



THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.

Compal Electronics, Inc.	
SCHEMATIC, M/B LA-1591	
Title	
Size B	Document Number
401235	
Date: 星期五, 五月 16, 2003	Sheet 43 of 47



**8 CELLS BATTERY UVP
H 8.6V L 7.6V**

Compal Electronics, Inc.	
SCHEMATIC, M/B LA-1591	
Title	Document Number
Size B	401235
Date: 星期三, 五月 16, 2003	Sheet 44 of 47
Rev	2B

THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.

Version change list (P.I.R. List)

Item	Fixed Issue	Reason for change	PAGE	Modify List	M.B Ver.
1		When battery charge system has noise	39	change PR51 from 10K to 100K	0.2
			40	change PR55 from 4.7K to 10K	0.2
				Add PD44 (RB715F)	0.2
				change P81 from 10K to 270K	0.2
2		When battery only system can't power on	37	Add PD43 (RB715F)	0.2
				Delete PZD2	0.2
3		Unplugged AC,system don't have backlight with LCD	44	Add PC149 (4700PF_0603)	0.2
4		Change thermal protection point	38	change PR33 from 3.6K to 3.32K	0.2
				change PR42 from 1.96K to 3.32K	0.2
				change PR40 from 10K to 16.9K	0.2
5		Change detector circuit	37	change PR2 from 10K to 5.6K	0.2
			39	change PR52 from 10K to 3K	0.2
1		Change Vin detector voltage"L" from 16.9V to 14.11V ("H" from 17.9V to 17.58V)	37	change PR5 from 22K to 160K change PR6 from 20K to 24K	0.3 0.3
2		system heavy loading with plugging out AC (battery capacity is full)will cause system shut down	44	Add PD45 (1SS355)	0.3
3		regulated 1.5VALWP to 1.538V for H.W require	42	change PR122 from 150K to 160K	0.3
4		improve CPU core voltage drop	43	change PR149 from 3K to 3.9K	0.3

THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.

Compal Electronics, Inc.		
Title		
SCHEMATIC, M/B LA-1591		
Size	Document Number	Rev
	401235	2B
Custom		
Date:	星期三, 五月 16, 2003	Sheet 45 of 47

Version change list (P.I.R. List)

Item	Fixed Issue	Reason for change	PAGE	Modify List	M.B. Ver.
1		Footprint error	16	Change RP66 footprint to 8P4R-0402-NEW Change RP67 footprint to 8P4R-0402-NEW	0.1
2		Voltage level shift	15	Change R290.1 connect from +12VS to +3VS	0.1
3		Design error	20	R453.1 short with R454.1, C654.2 and U50.4 only (Don't connect to U50.3 and C660.1)	0.1
			21	Change R458.1 from +5VALW to VDDA Change U51.5 from +5VALW to +5V_AMP	
4		VIA's data sheet modification	25	U23 pin definition shift	0.1
5		Add second source for SD socket	26	Add JP36	0.1
6		Net conflict	22	Add R498	0.1
7		Solve for audio background noise	17	Add R497	0.1
8		No design requirement	17	Delecte R125 & R145	0.1
9		Solve for power charger issue	29	Delete C324	0.1
10		Solve for resume fail from press reset button	29	Delete D22, and fix R229 to ground.	0.1
11		Solve for volume too loud from headphone	30	Connect HPS signal to U45.11	0.1
12		Footprint error	24	Change Y1 footprint to CS-10	0.2
13		No need to control SUSB#, always fix to GND	31	Add R499 to GND	0.2
14		Prevent floating	34	Fix U21.11, U21.13, and U19.12 to GND	0.2
15		Intel recommend	9	L53 change to low DCR	0.2
16		Unnecessary external pull-up	35	Delete RP8, RP17, RP24 and R164	0.2
17		Cost down	6	Delete C464, C482, C510, C534, and C38 Change C53, C156, C52, and C157 to 470U_D2_2.5v_15m	0.2
18		Solve for USB fail issue	17	Add R500	2.0

THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.

Compal Electronics, Inc.		
Title	SCHEMATIC, M/B LA-1591	
Size	Document Number	Rev
Custom	401235	2B
Date	星期五, 五月 16, 2003	Sheet 46 of 47

10 9 8 7 6 5 4 3 2 1

Version change list (P.I.R. List)

Item	Fixed Issue	Reason for change	PAGE	Modify List	M.B. Ver.
------	-------------	-------------------	------	-------------	-----------

H
G
F
E
D
C
B
A

H
G
F
E
D
C
B
A

THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.

Compal Electronics, Inc.		
Title	SCHEMATIC, M/B LA-1591	
Size	Document Number	Rev
Custom	401235	2B
Date:	星期五, 五月 16, 2003	Sheet 47 of 47

10 9 8 7 6 5 4 3 2 1

www.s-manuals.com