

<http://hobi-elektronika.net/>

# Calcutta 10

## CS Build (A01)

2010.04.09

INVENTEC			
TITLE Calcutta10			
SIZE A3	CODE CS	DOC. NUMBER Model No	REV 000
CHANGE by Drawer Name		22-Mar-2010	SHEET 1 OF 56

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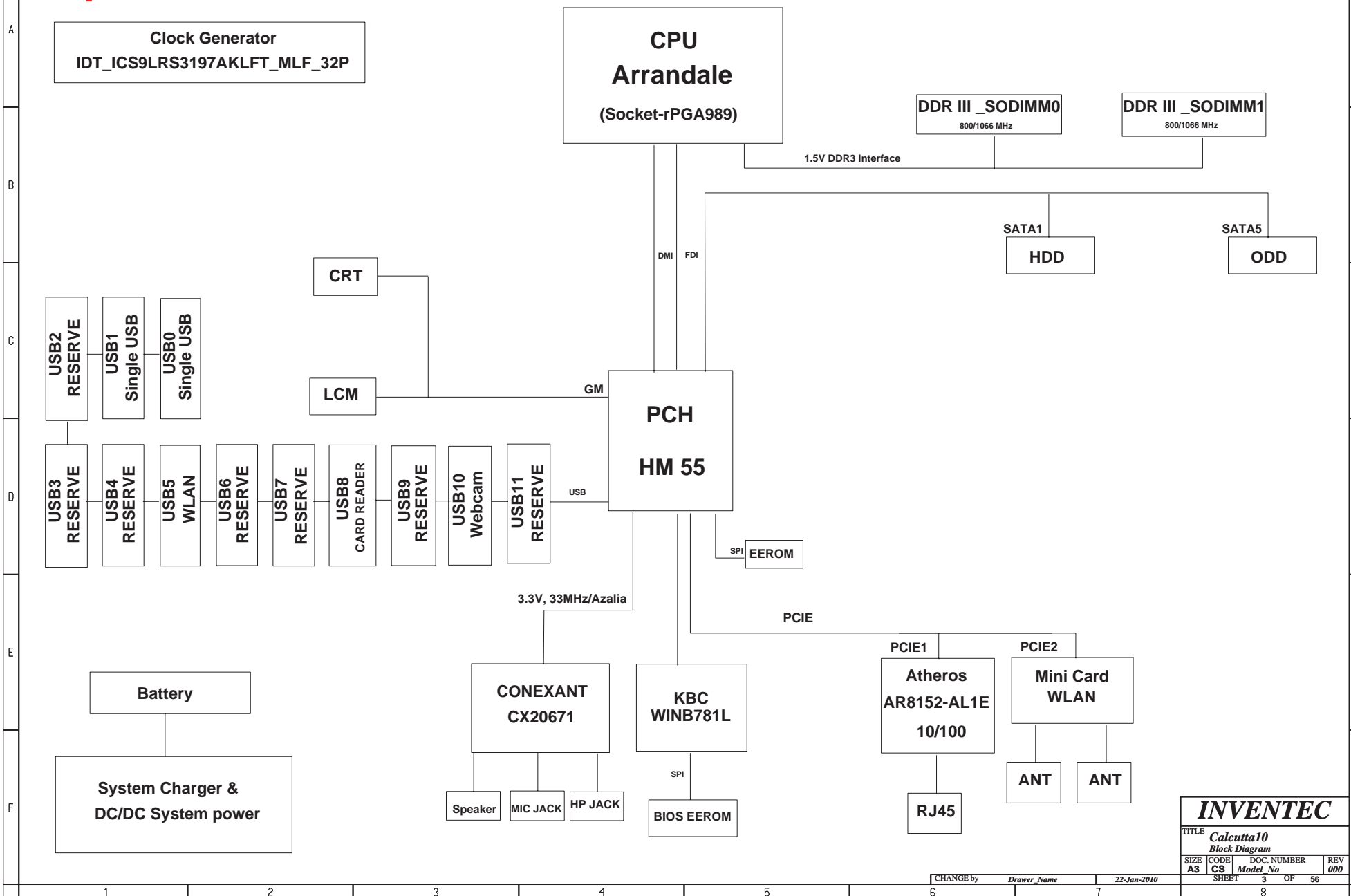
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**INVENTEC**

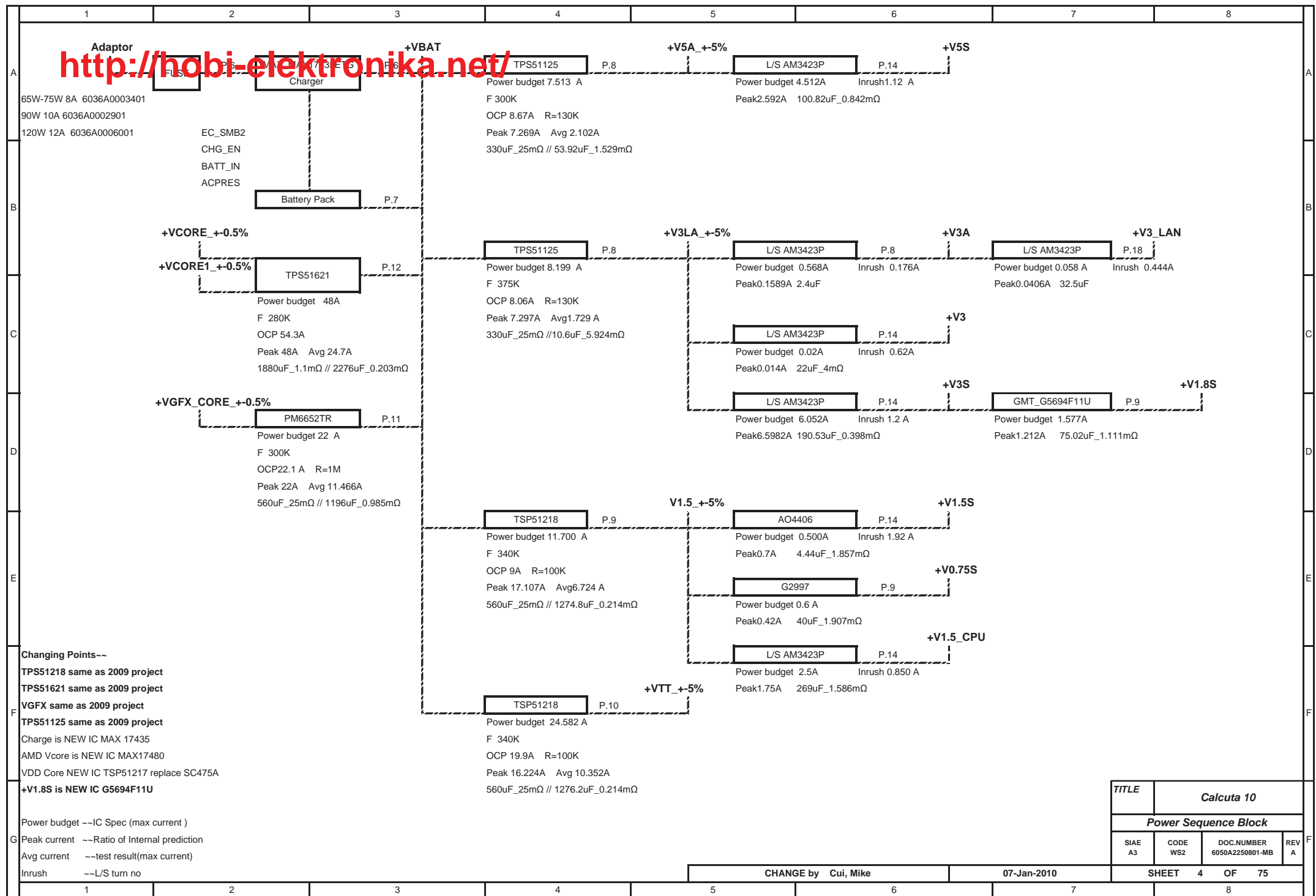
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Calcutta10			
Index			
SIZE	CODE	DOC. NUMBER	REV
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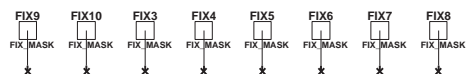
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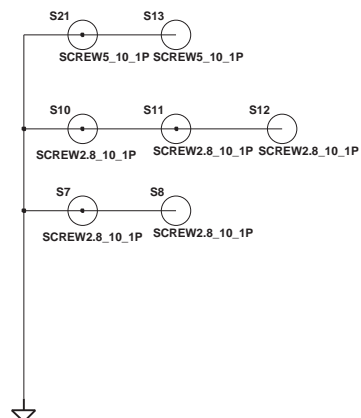
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Calcutta10			
Block Diagram			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	000
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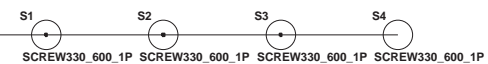
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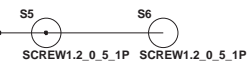
PCB



CPU



PCH



FAN



WLAN

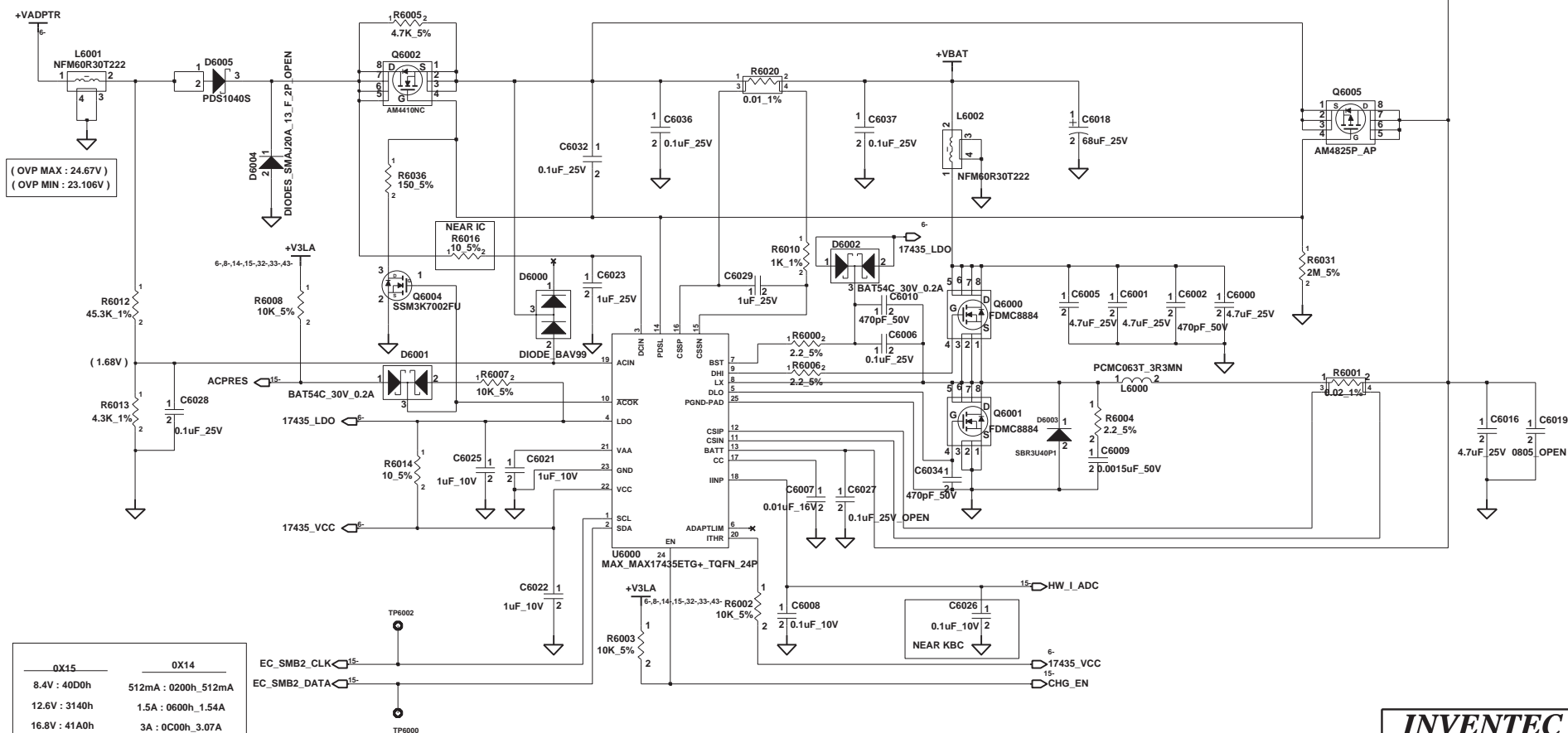
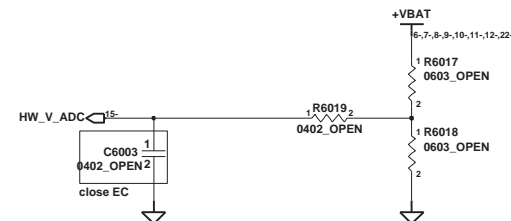
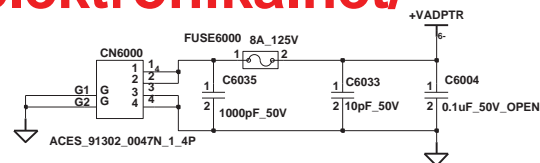


**INVENTEC**

TITLE			
Calcutta10			
PCB			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	000
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**FUSE6000**  
65\_75W 8A(6036A0003401)  
90W 10A(6036A0002901)  
120W 12A(6036A0006001)



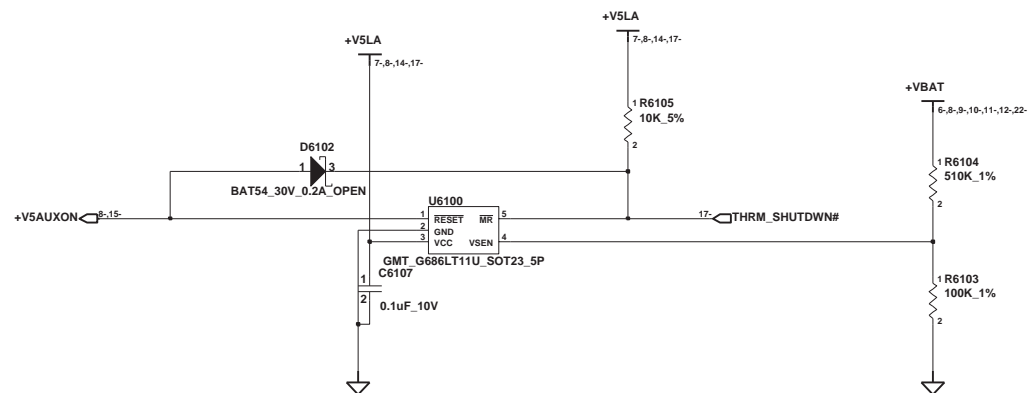
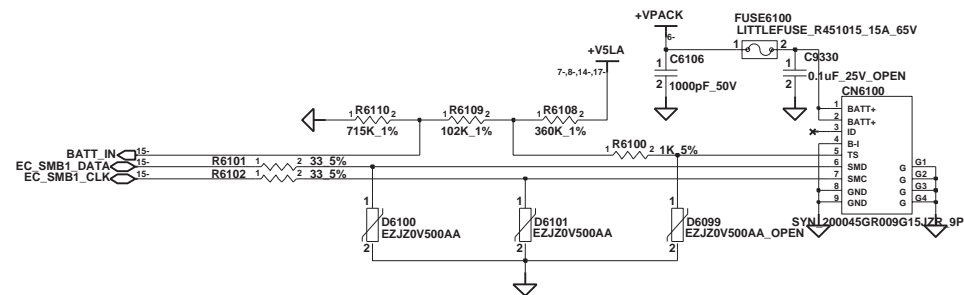
0X15	0X14
8.4V : 40D0h	512mA : 0200h_512mA
12.6V : 3140h	1.5A : 0600h_1.5A
16.8V : 41A0h	3A : 0C00h_3.07A

TITLE			
<b>Calcutta10</b> <b>Charger</b>			
SIZE	CODE	DOC. NUMBER	REV
<b>A3</b>	<b>CS</b>	<b>Model No</b>	<b>000</b>
SHEET		6	OF 56

CHANGE by	<i>Drawer Name</i>	7-Jan-2010
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<b>A3</b>	<b>CS</b>	<b>Model_No</b>
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INVENTEC			
TITLE			
Calcutta10			
Battery, Reset IC			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	000
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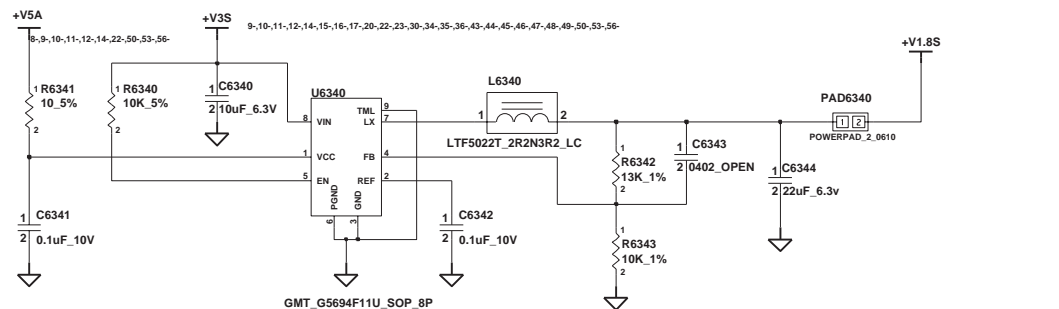
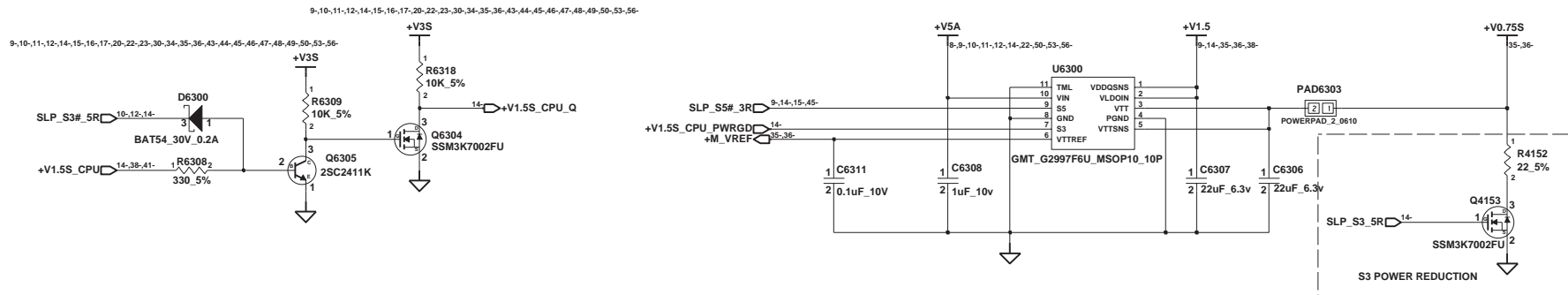
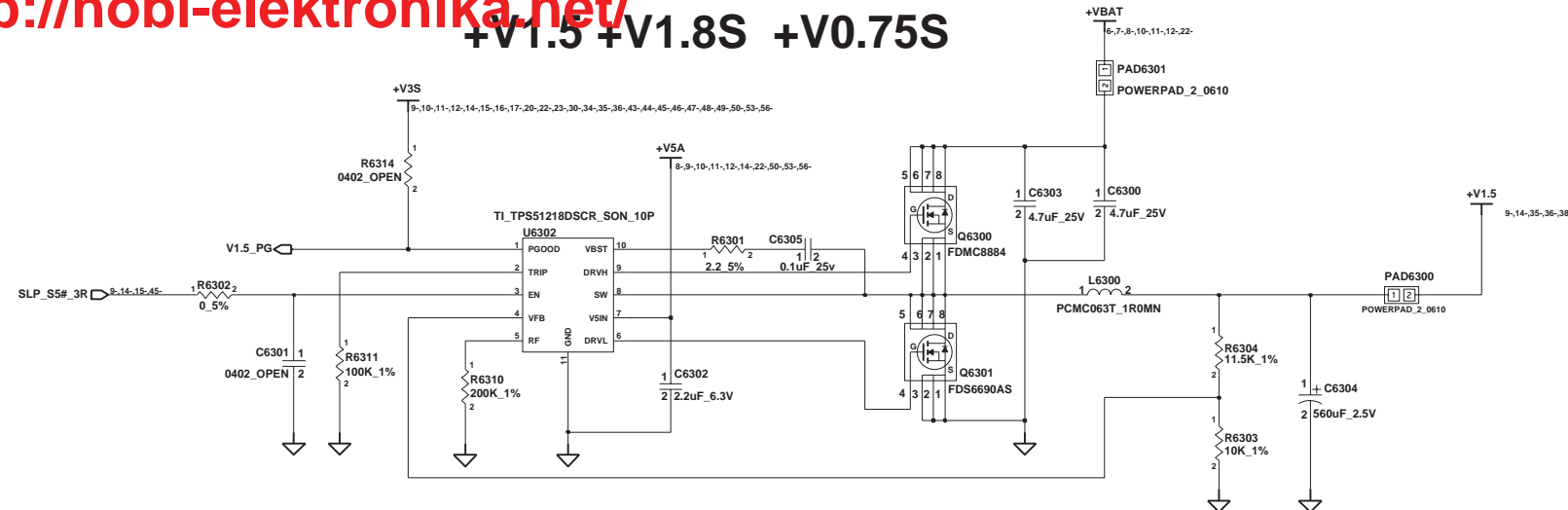
CHANGE by *Drawer Name* 7-Jan-2010





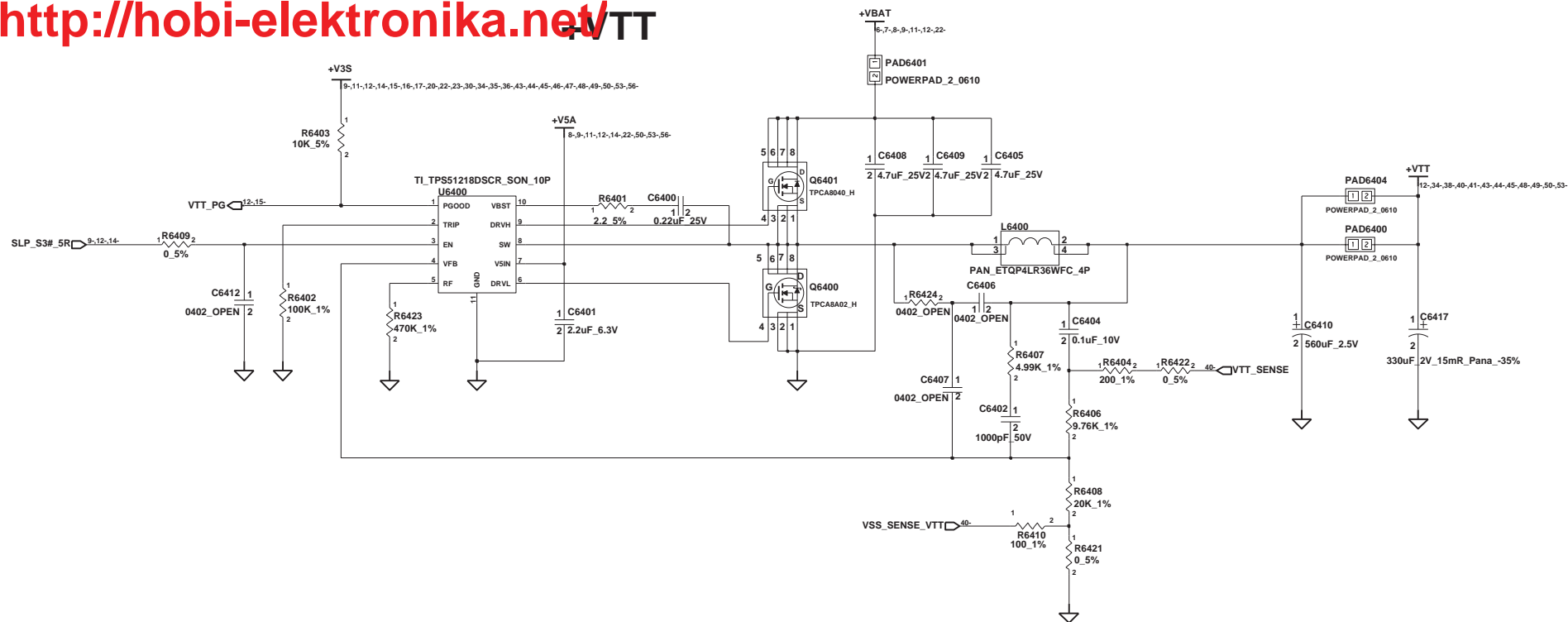
<http://hobi-elektronika.net/>

**+V1.5 +V1.8S +V0.75S**



INVENTEC			
TITLE			
Calcutta10			
+V1.5, +V1.8S, +V0.75S			
SIZE	CODE	DOC NUMBER	REV
A3	CS	Model No	000
CHANGE by		Drawer Name	7-Jan-2010
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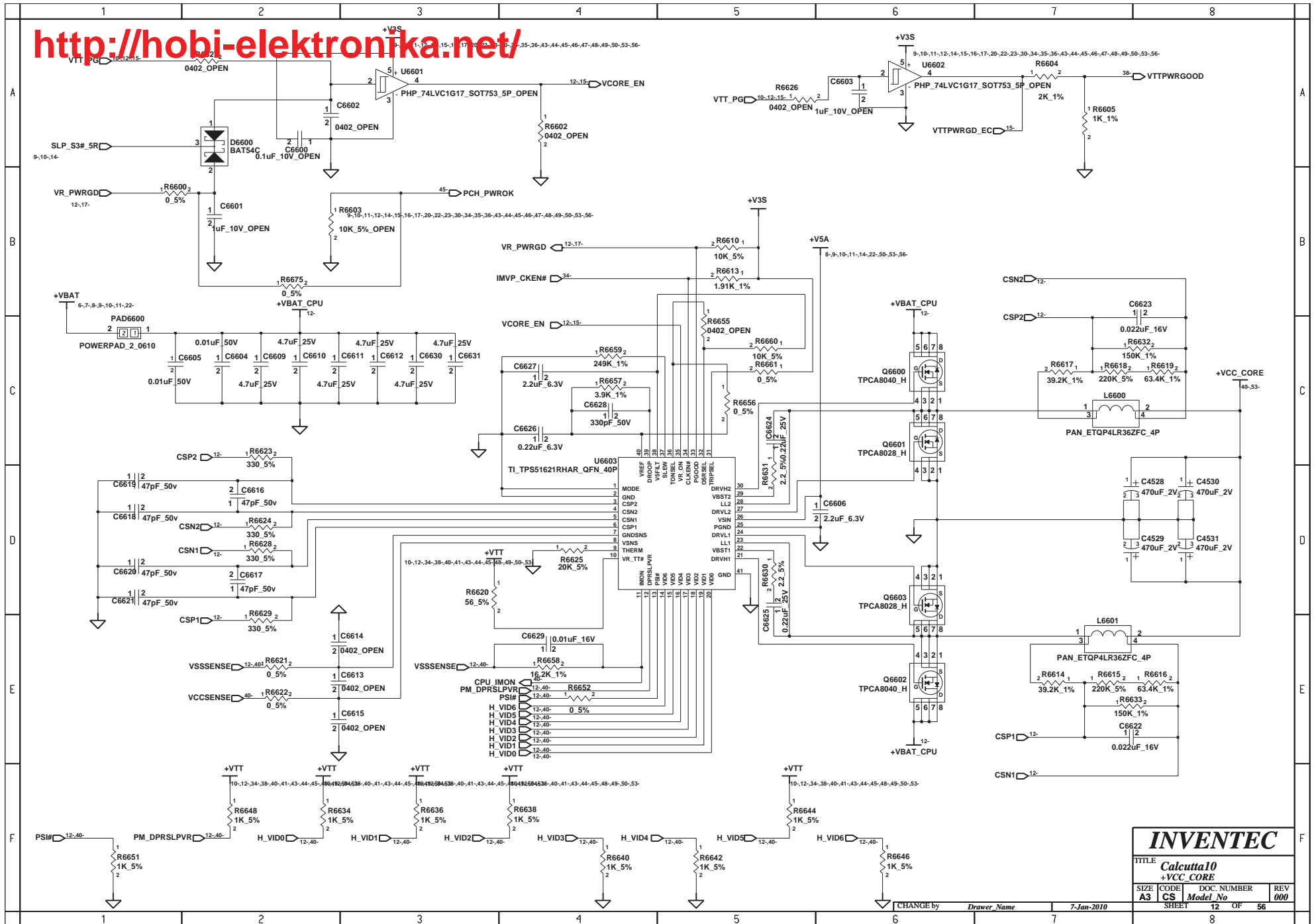
<http://hobi-elektronika.net/>



INVENTEC			
TITLE			
Calcutta10			
+VTT, +V1.05S			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	000
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[illegible]

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**INVENTEC**

TITLE  
**Calcutta10**  
**+VCC\_CORE**

SIZE CODE DOC. NUMBER  
**A3 CS Model No**

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CHANGE by *Drawer Name* 7-Jan-2010

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B									B
C									C
D									D
E									E
F									F
	1	2	3	4	5	6	7	8	

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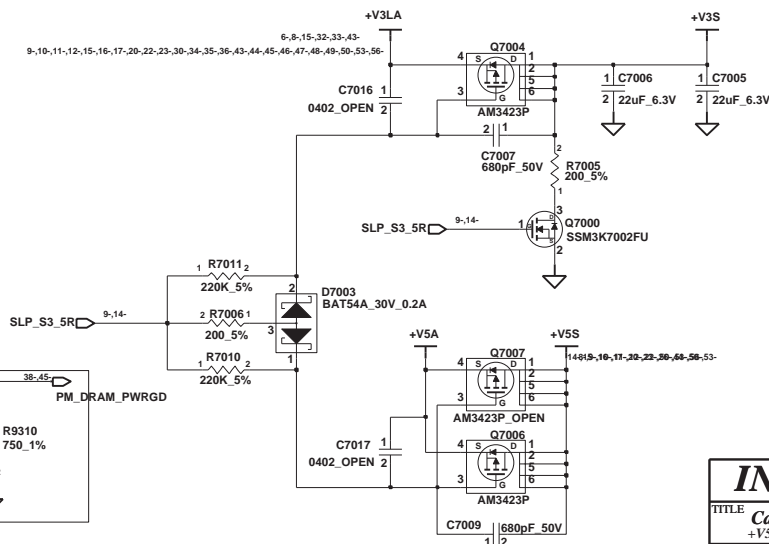
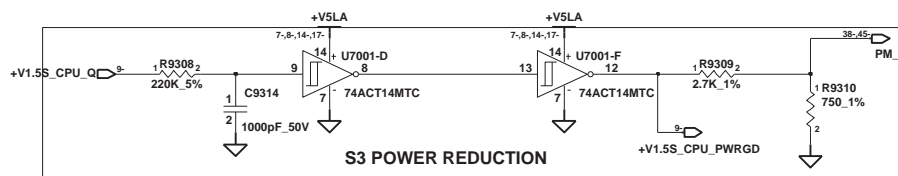
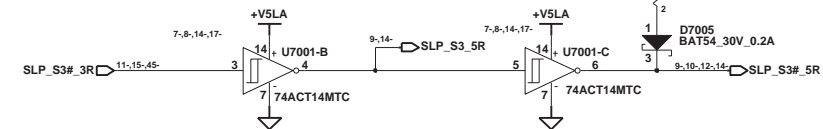
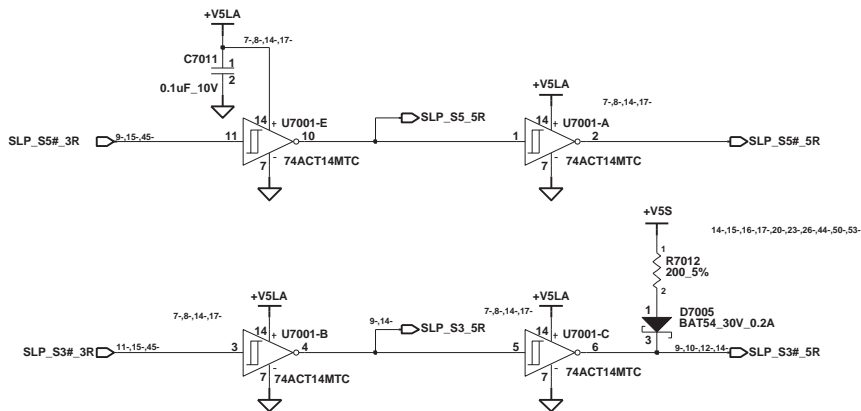
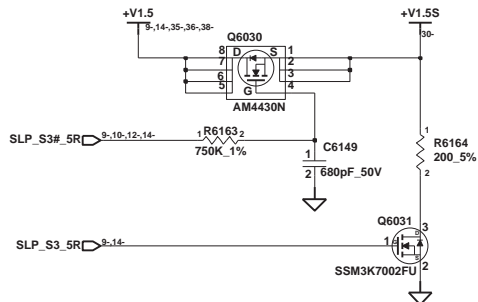
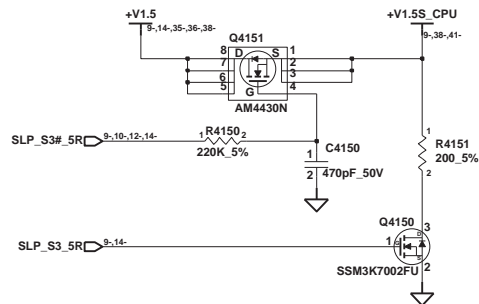
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TITLE <i>Calcutta10</i>			
SIZE <b>A3</b>	CODE <b>CS</b>	DOC. NUMBER <i>Model No</i>	REV <b>000</b>
SHEET <b>13</b>		OF <b>56</b>	

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**+V5S +V3S +V1.5S +V1.5S\_CPU**

### S3 POWER REDUCTION

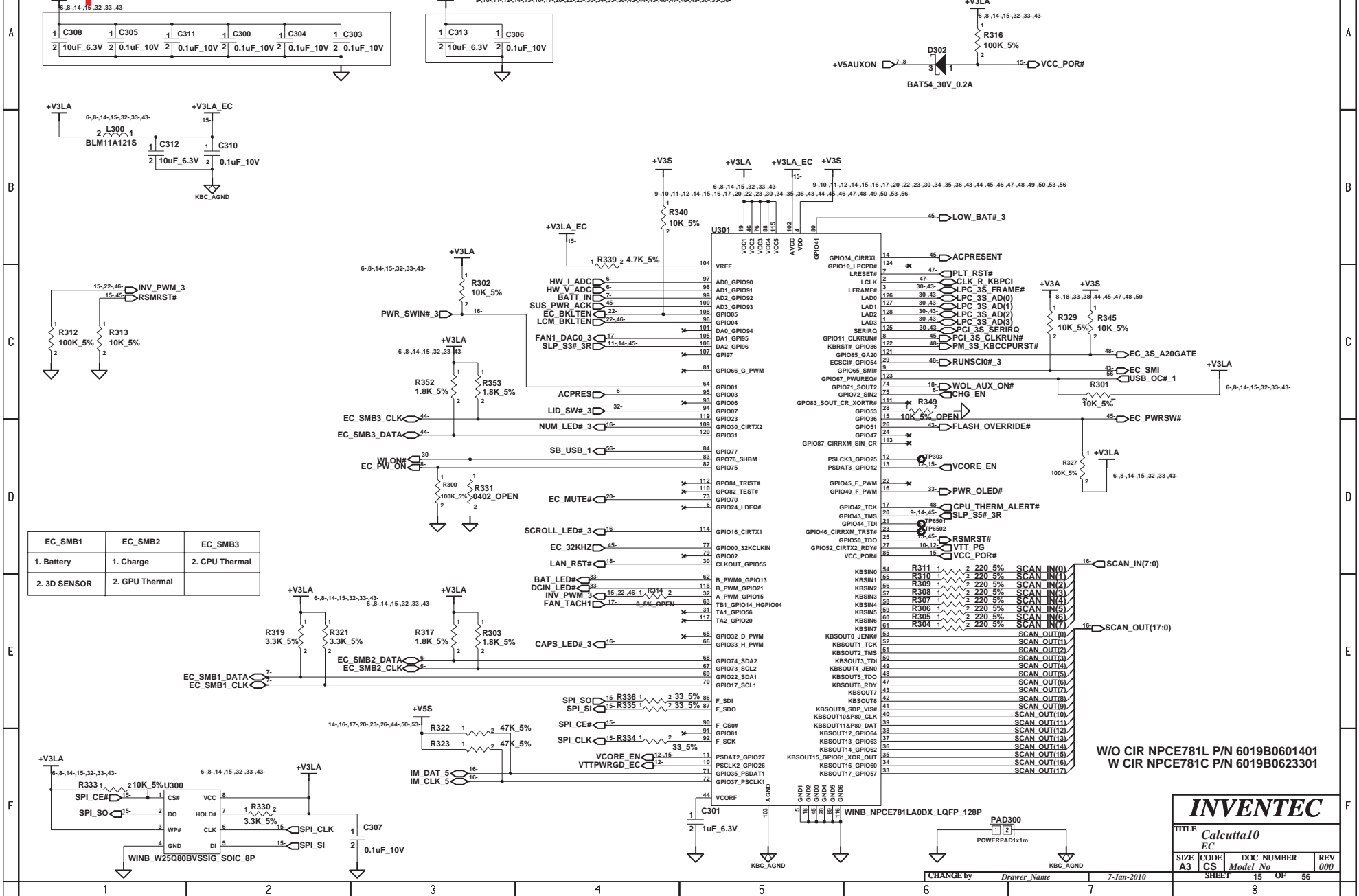


**INVENTEC**

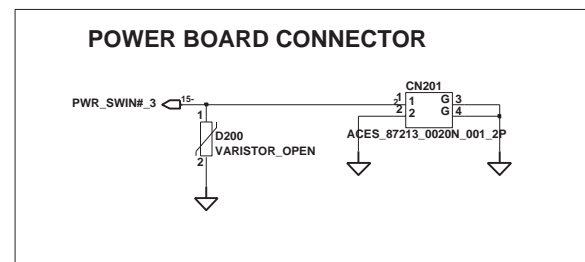
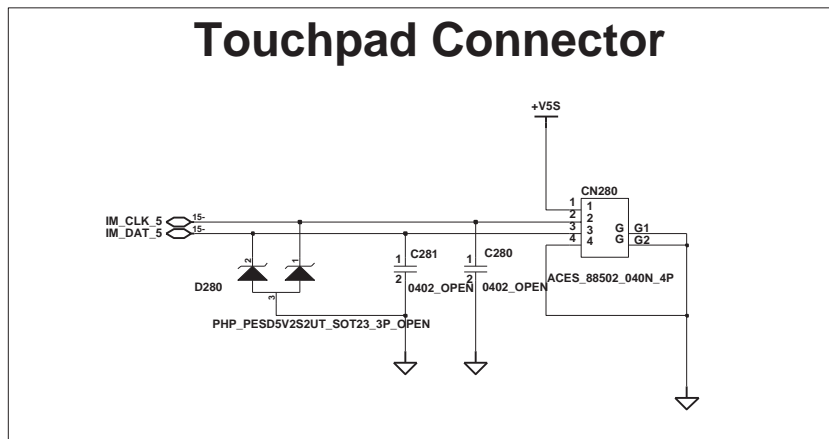
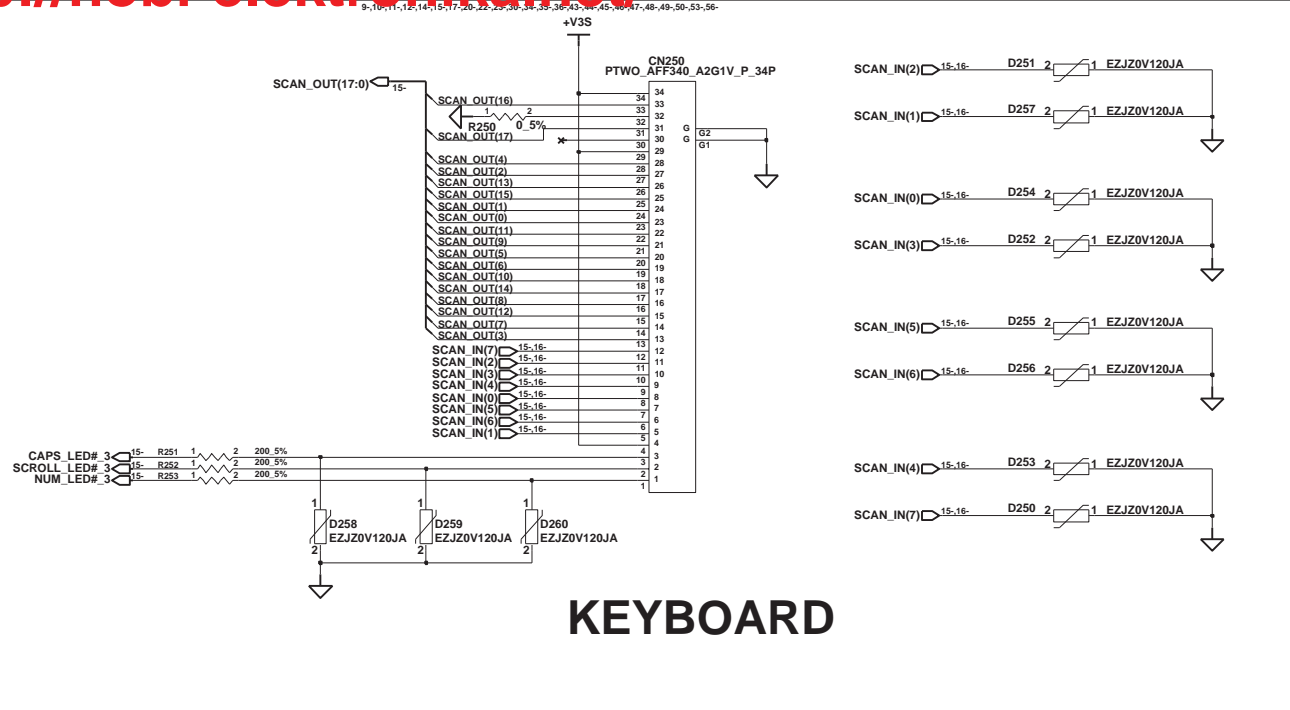
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**Calcutta10**  
+V5S +V3S +V1.5S  
SIZE A3 CODE CS DOC. NUMBER REV 000  
SHEET 14 OF 56

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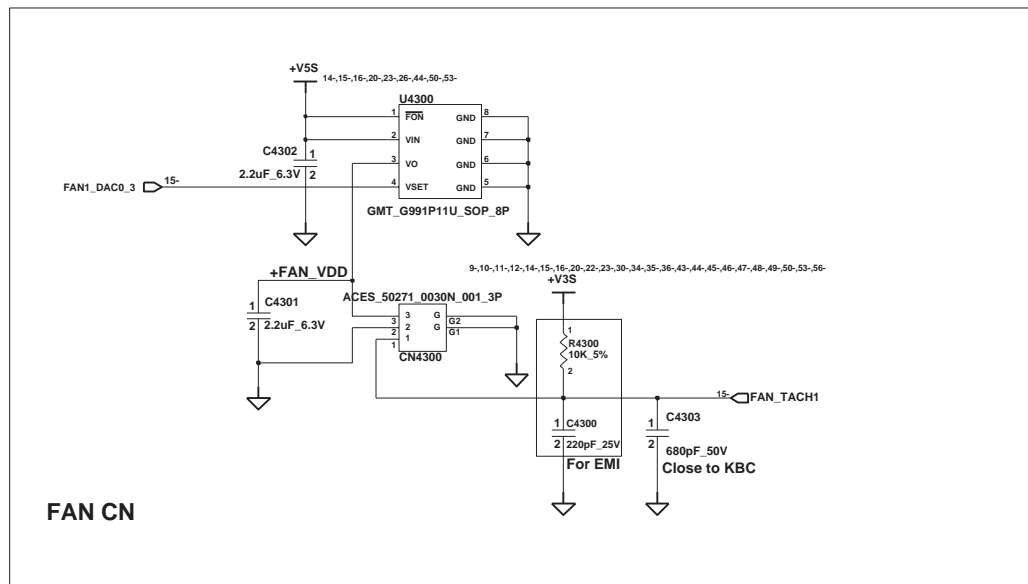


INVENTEC			
TITLE			
Calcutta10			
Keyboard, Touch PAD			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	000
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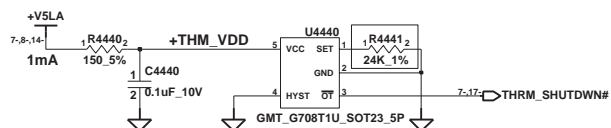
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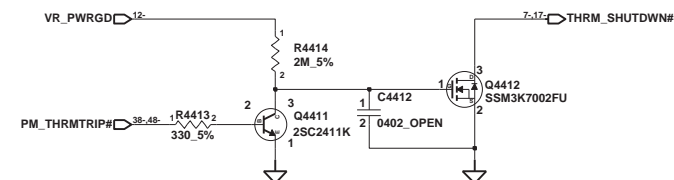
### Board Thermal Sensor



Thermal shutdown at 85 C° +/- 3 C° from 60 C° to 100 C°

$$RSET = 0.0012 * T^2 - 0.9308 * T + 96.147$$

Hysteresis is 30C



**INVENTEC**

TITLE			
Calcutta10			
FAN, Thermal controller			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	000
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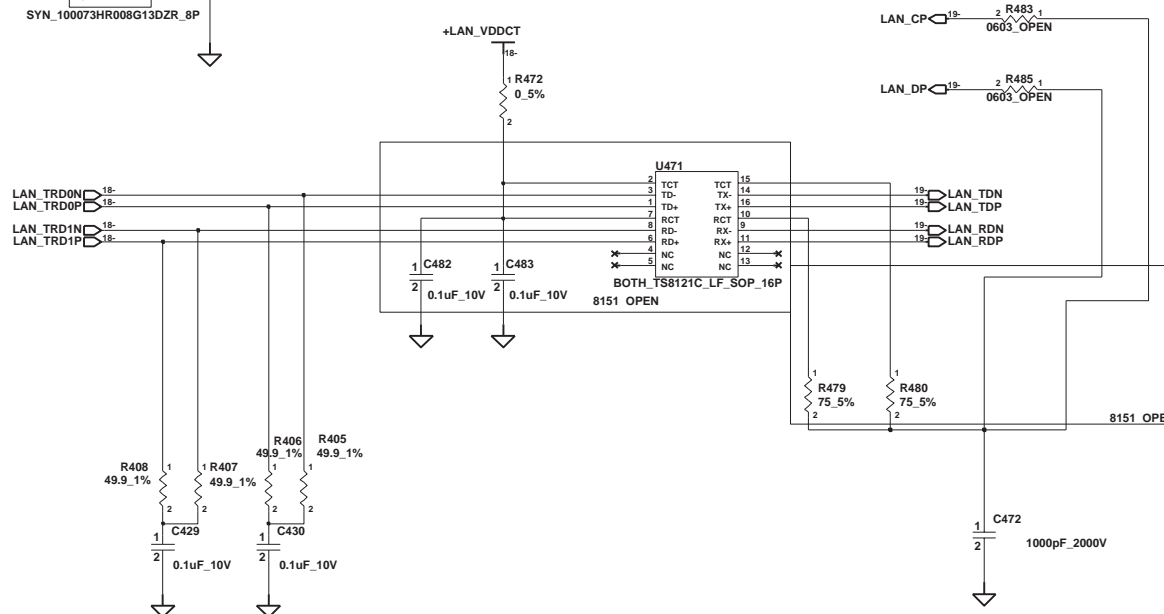
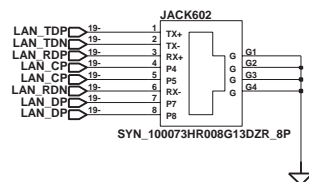
A
B
C
D
E
F



TITLE			
Calcutta10 LAN			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	000
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CS	Model No		
SHEET	18	OF	56

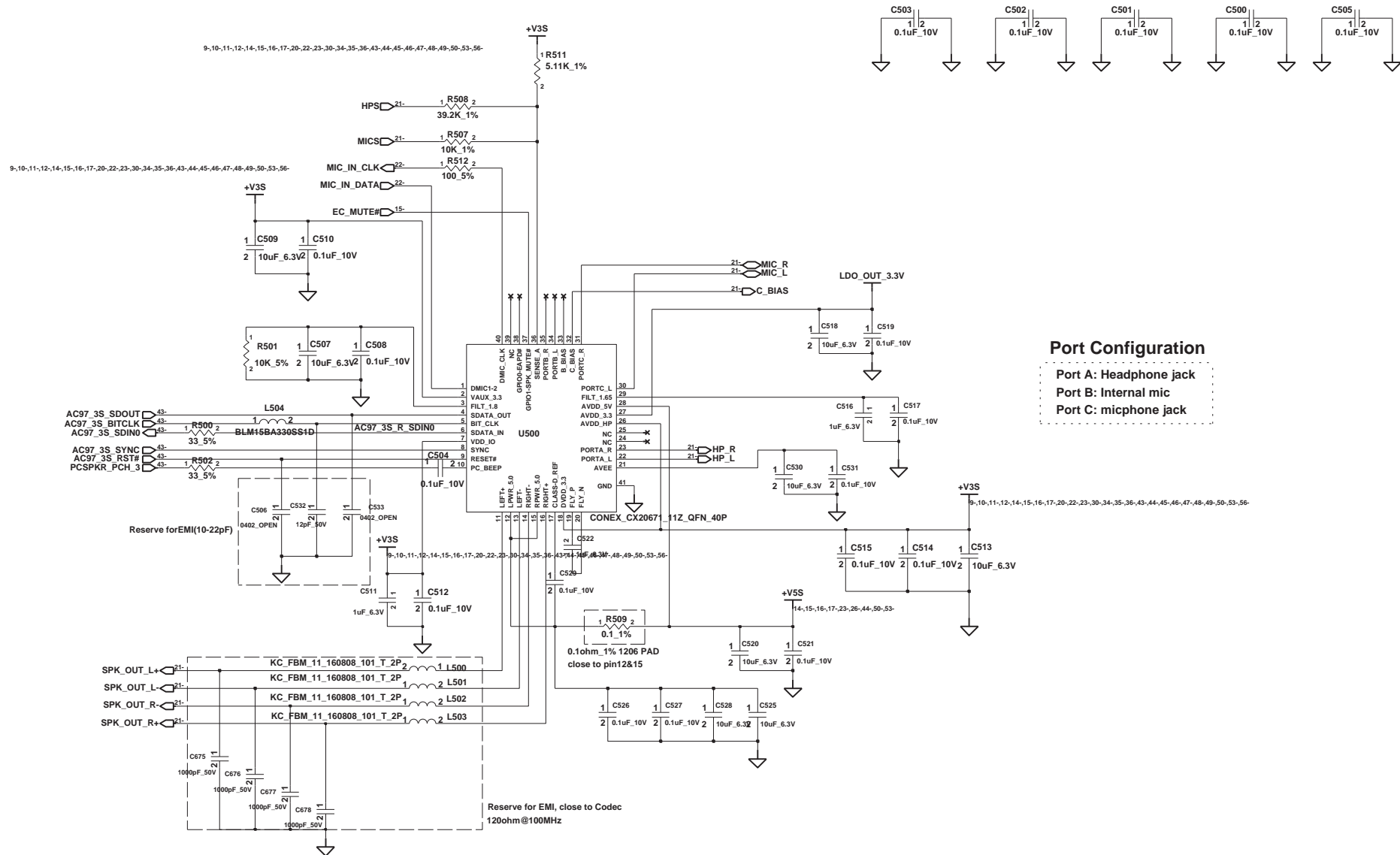
<http://hobi-elektronika.net/>



INVENTEC			
TITLE			
Calcutta10 Transformer, RJ45			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	000
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### Port Configuration

Port A: Headphone jack  
Port B: Internal mic  
Port C: microphone jack

**INVENTEC**

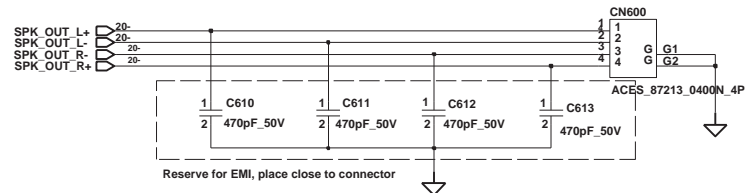
TITLE  
**Calcutta10**  
AUDIO CODEC

SIZE <b>A3</b>	CODE <b>CS</b>	DOC. NUMBER <b>Model No</b>	REV <b>000</b>
SHEET <b>20</b>		OF <b>56</b>	

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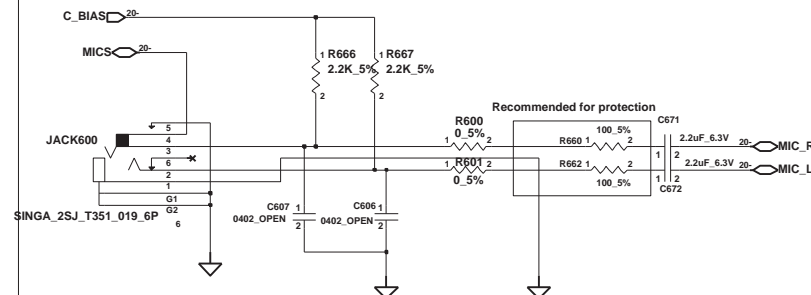
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### INTERNAL SPEAKERS

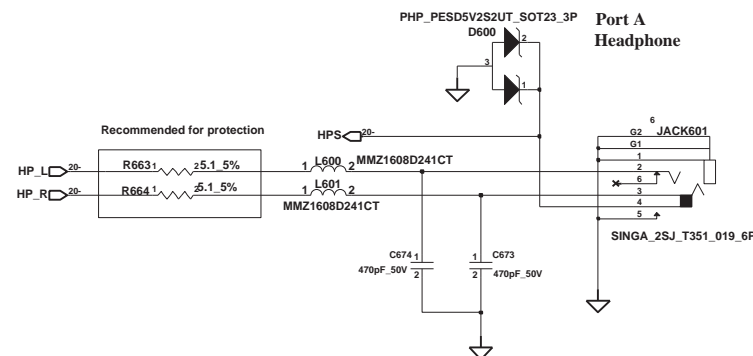


### AUDIO JACKS

Port C  
External microphone



Port A  
Headphone



**INVENTEC**

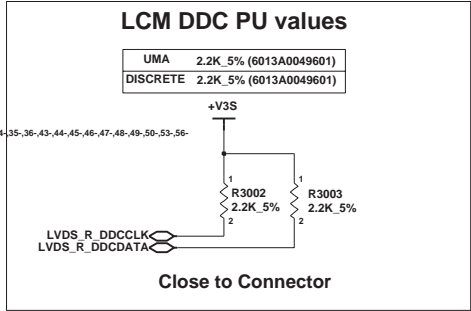
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Calcutta10 AUDIO JACK			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	000
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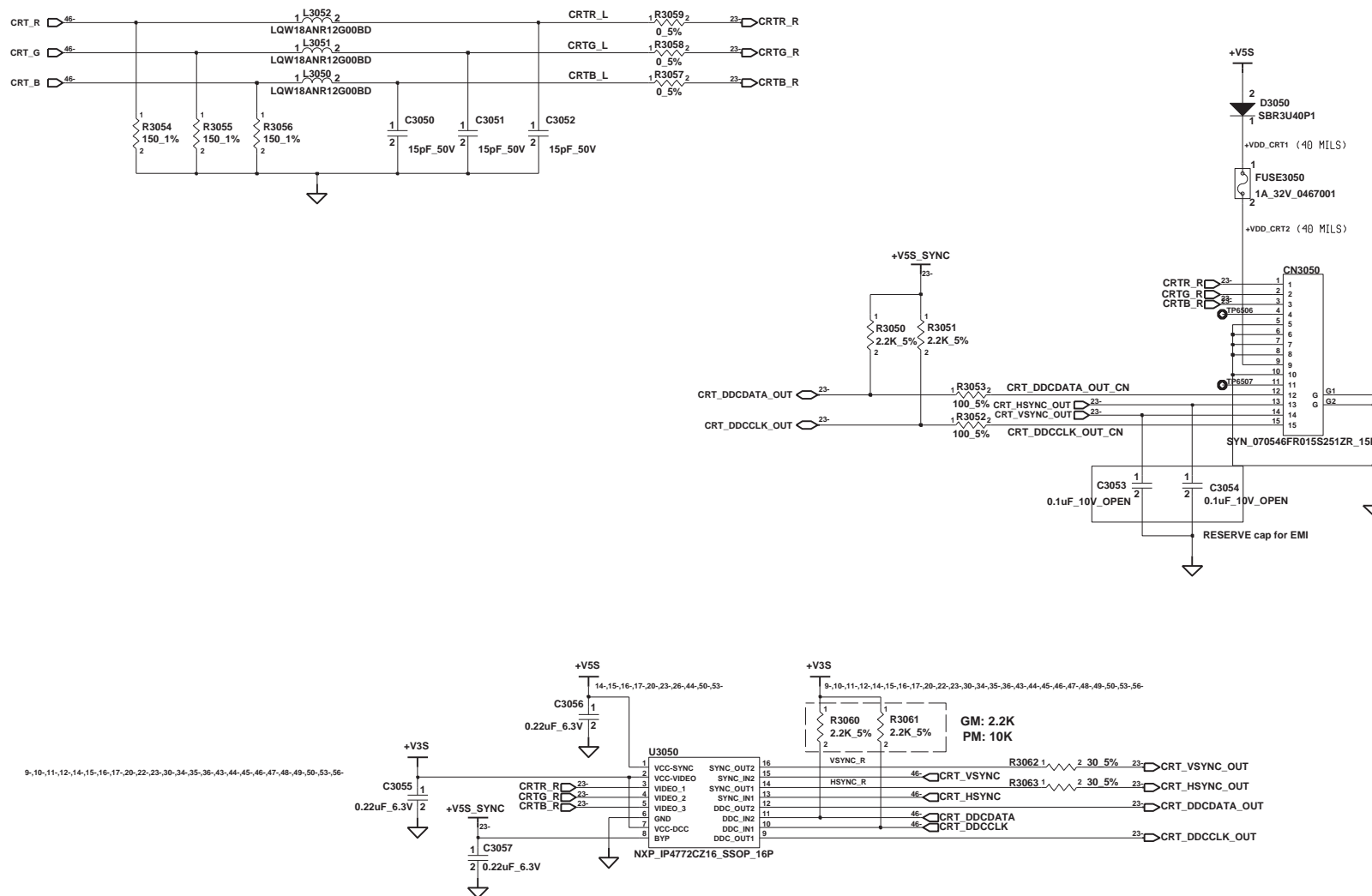
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F



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TITLE <i>Calcutta10</i> <i>LCM</i>			
SIZE <b>A3</b>	CODE <b>CS</b>	DOC. NUMBER <i>Model No</i>	REV <i>000</i>
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INVENTEC			
TITLE			
Calcutta10			
CRT			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	000
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CHANGE by *Drawer Name* 7-Jan-2010

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B									B
C									C
D									D
E									E
F									F
	1	2	3	4	5	6	7	8	

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<b>INVENTEC</b>			
TITLE <i>Calcutta10</i>			
HDMI LEVEL SHIFTER			
SIZE <b>A3</b>	CODE <b>CS</b>	DOC. NUMBER <i>Model No</i>	REV <b>000</b>
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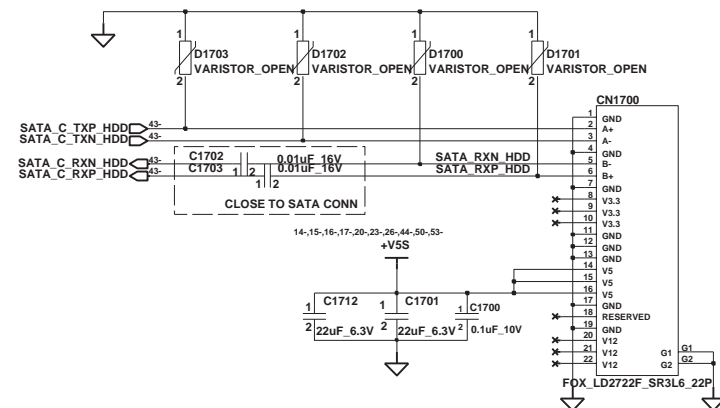


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B									B
C	<h1>BLANK</h1>								C
D									D
E									E
F									F
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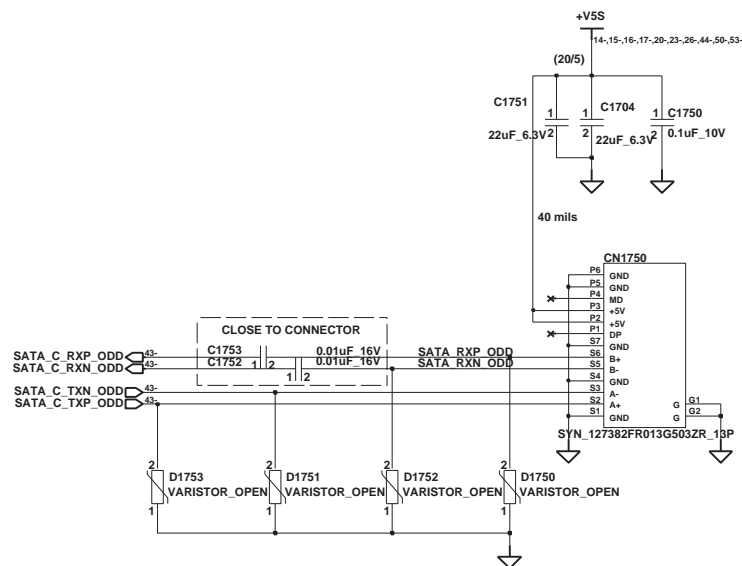
**INVENTEC**

TITLE			
Calcutta10			
HDMI			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	000
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**SATA HDD**



**SATA ODD**

INVENTEC			
TITLE			
Calcutta10			
SATA HDD, SATA ODD			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	000
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B									B
C									C
D									D
E									E
F									F
	1	2	3	4	5	6	7	8	

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<b>INVENTEC</b>			
TITLE <i>Calcutta10</i>			
CARD READER & USB CNTR			
SIZE <b>A3</b>	CODE <b>CS</b>	DOC. NUMBER <i>Model No</i>	REV <b>000</b>
CHANGE by <i>Drawer Name</i>		7-Jan-2010	
SHEET		21	OF 56

	1	2	3	4	5	6	7	8	
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B									B
C									C
D									D
E									E
F									F
	1	2	3	4	5	6	7	8	

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TITLE <i>Calcutta10</i>			
USB & eSATA COMBO			
SIZE <b>A3</b>	CODE <b>CS</b>	DOC. NUMBER <i>Model No</i>	REV <b>000</b>
SHEET <b>28</b>		OF <b>56</b>	

CHANGE by *Drawer Name* 7-Jan-2010

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B									B
C	<h1>BLANK</h1>								C
D									D
E									E
F									F
	1	2	3	4	5	6	7	8	

**INVENTEC**

TITLE			
<i>Calcutta10</i>			
<i>BlueTooth</i>			
SIZE	CODE	DOC. NUMBER	REV
<b>A3</b>	<b>CS</b>	<i>Model No</i>	<i>000</i>
SHEET		29	OF 56

A

B

1

D

1

1

## A

B

1

1

1

1



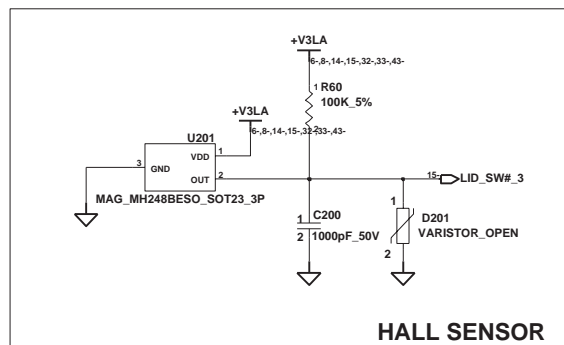
CS Model No  
SHEET 30 OF 56

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B									B
C									C
D									D
E									E
F									F
	1	2	3	4	5	6	7	8	

BLANK

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TITLE <i>Calcutta10</i>			
3G			
SIZE <b>A3</b>	CODE <b>CS</b>	DOC. NUMBER <i>Model No</i>	REV <b>000</b>
SHEET		31	OF 56

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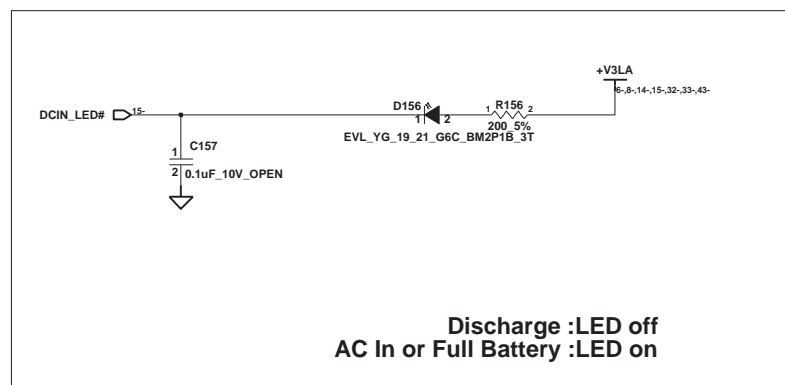
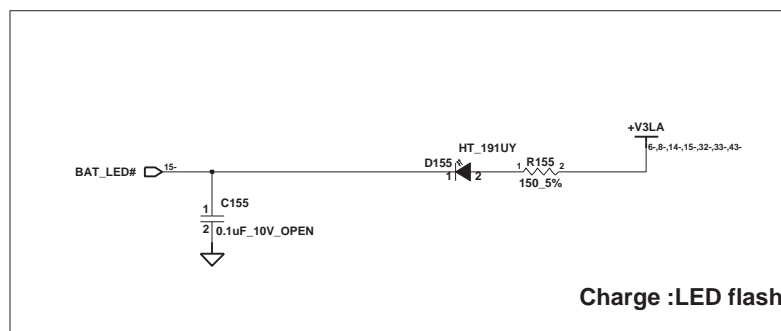
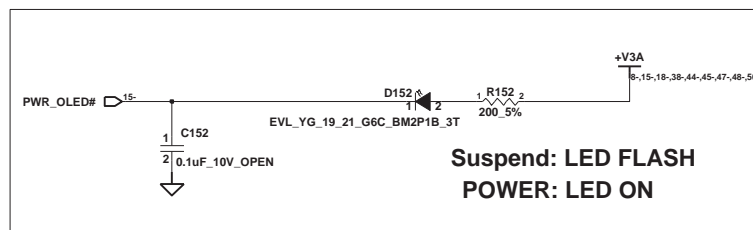


INVENTEC			
TITLE <i>Calcutta10</i> Hall Sensor			
SIZE <b>A3</b>	CODE <b>CS</b>	DOC. NUMBER <i>Model No</i>	REV <b>000</b>
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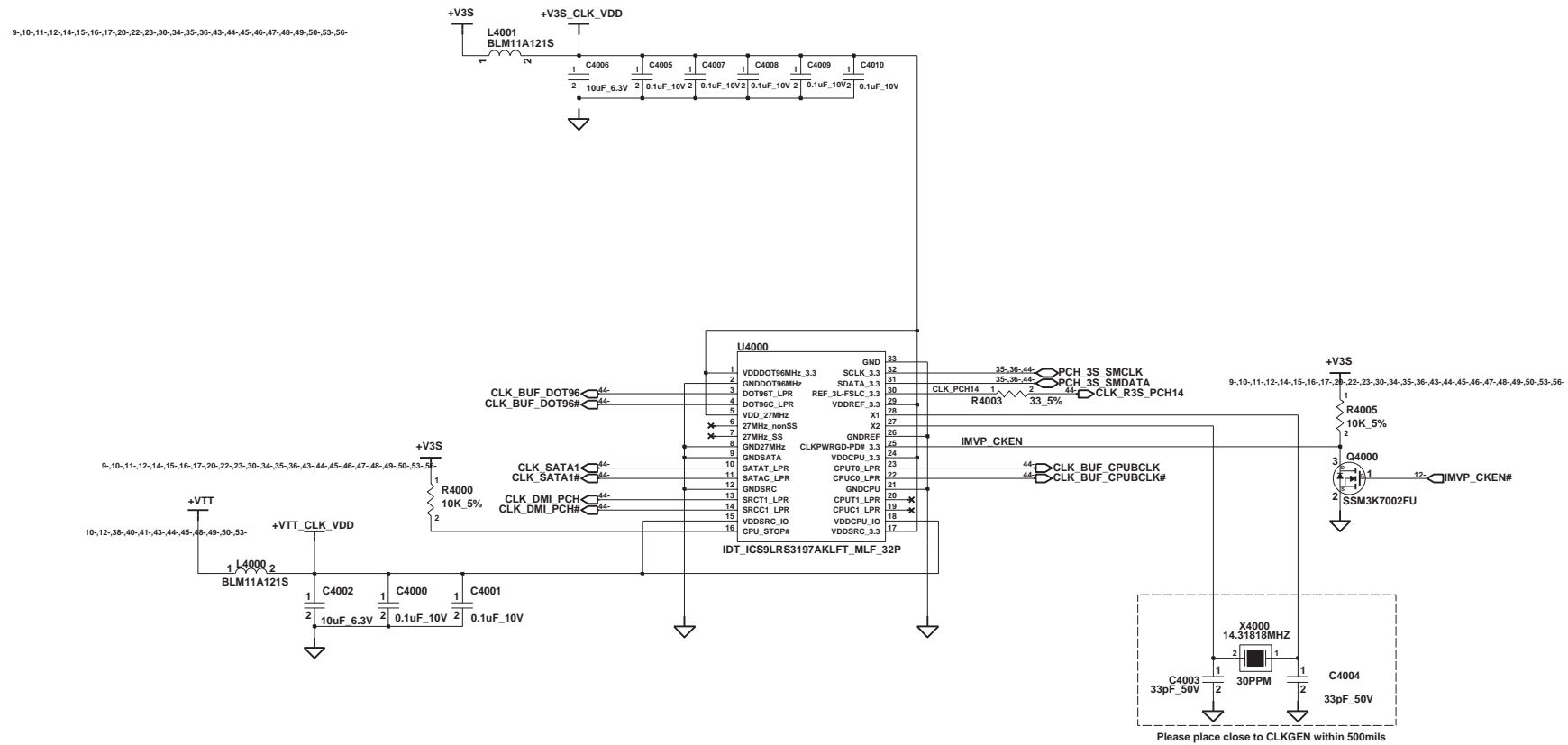
<http://hobi-elektronika.net/>



INVENTEC			
TITLE <i>Calcutta10</i>			
LED			
SIZE A3	CODE CS	DOC. NUMBER Model No	REV 000
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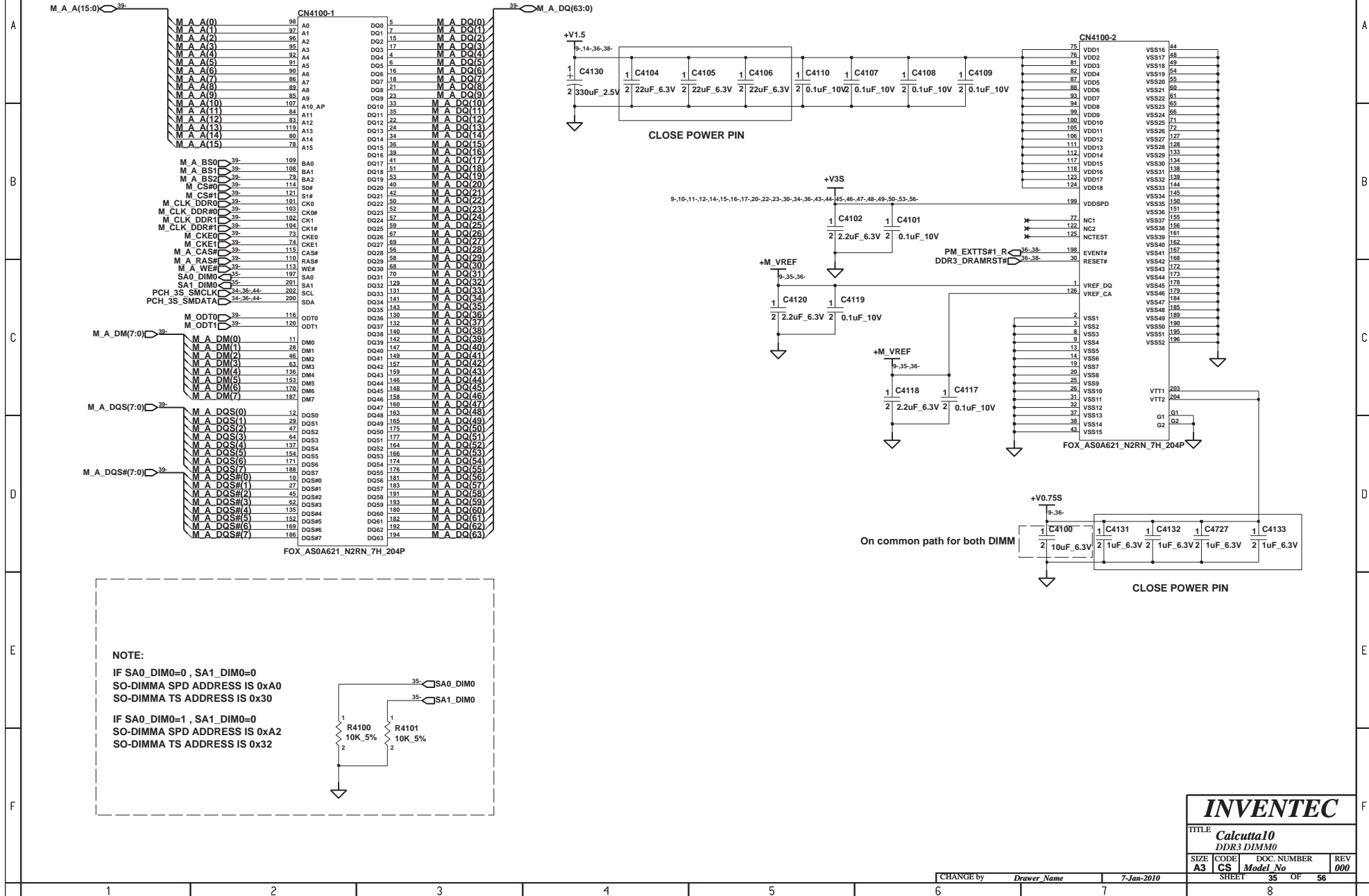
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INVENTEC			
TITLE			
Calcutta10			
Clock Generator			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	000
SHEET		34	OF 56

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<http://hobi-elektronika.net/>



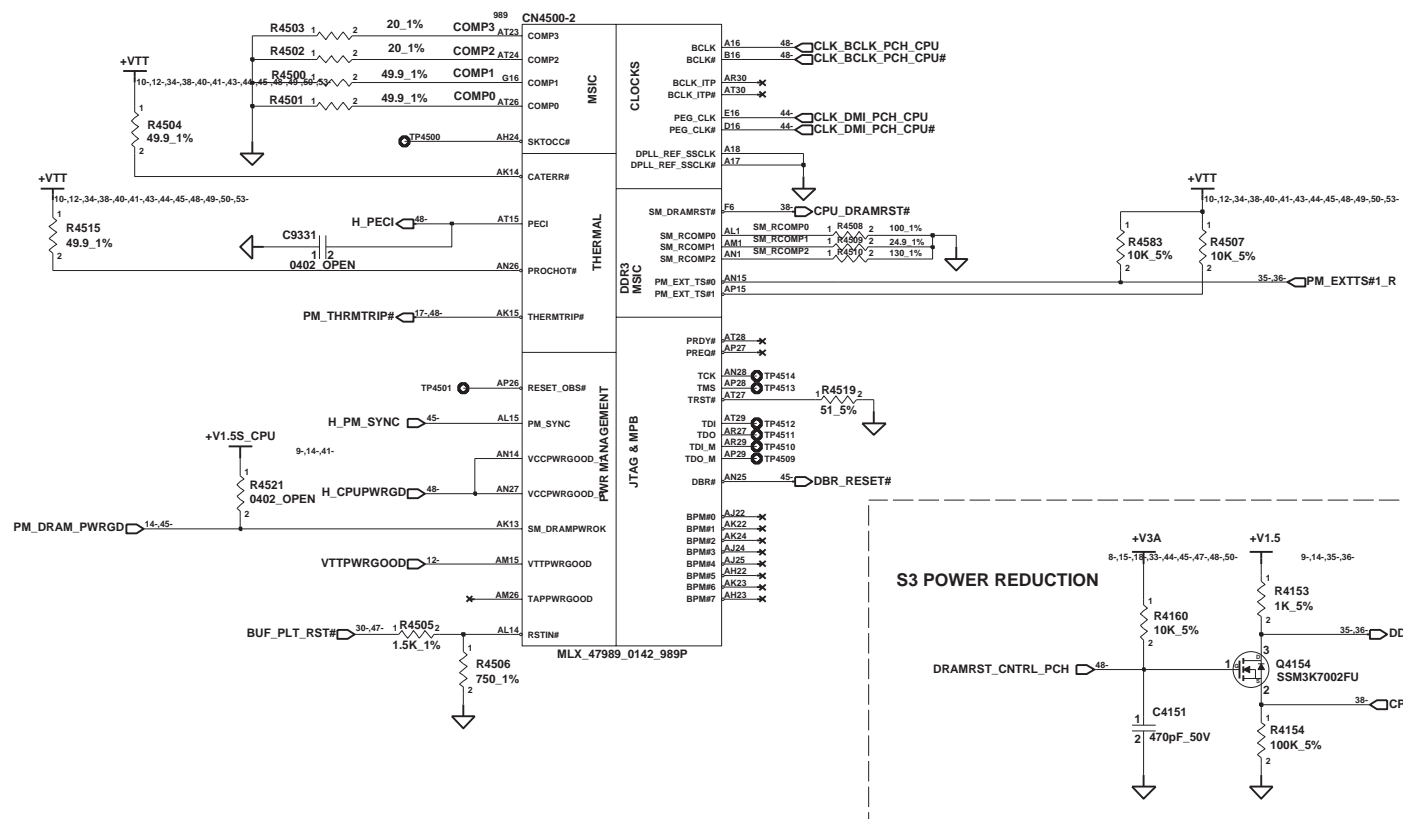




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**INVENTEC**

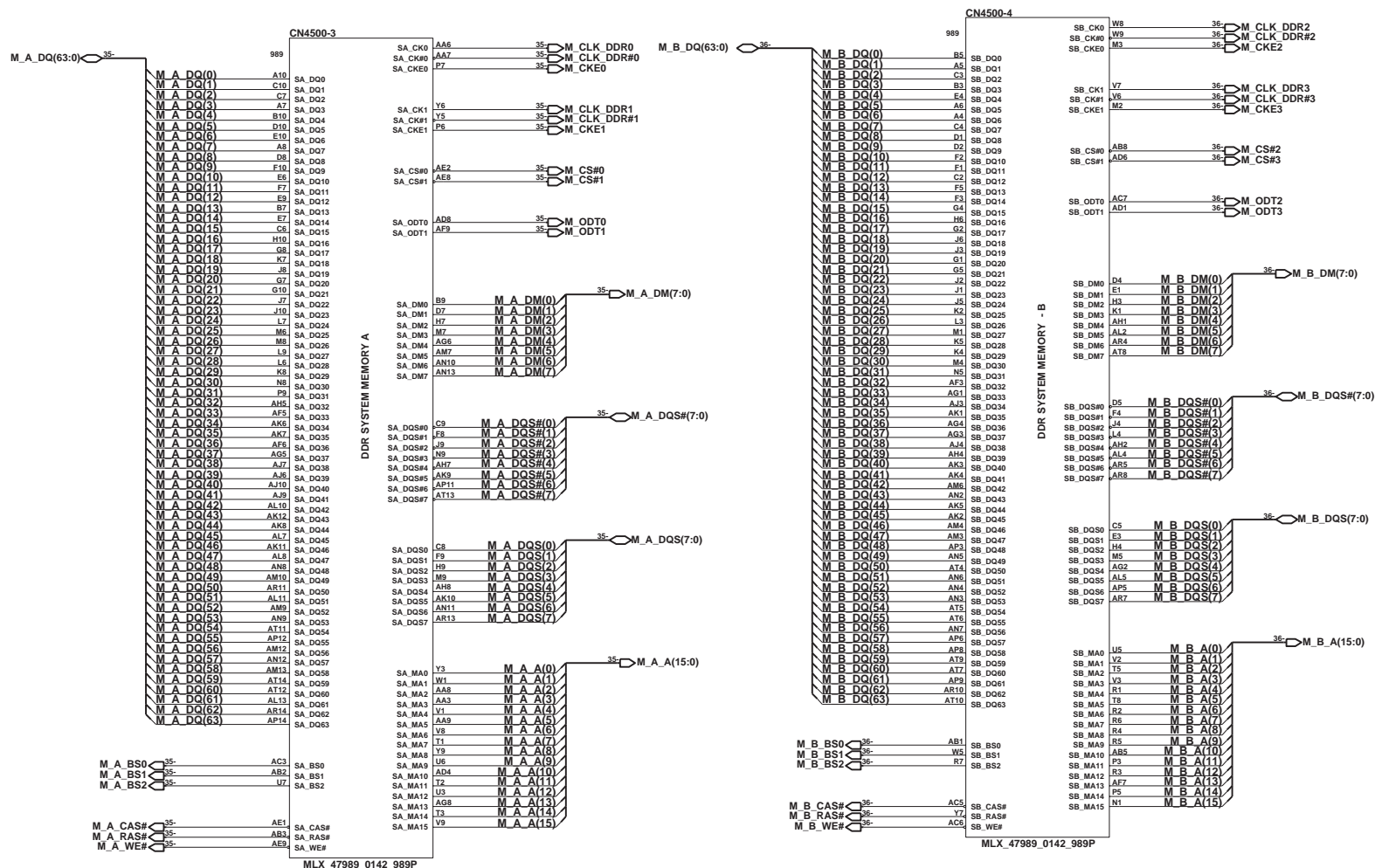
TITLE  
Calcutta10  
CPU-2

SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	000

CHANGE by *Drawer Name* 7-Jan-2010

SHEET 38 OF 56

<http://hobi-elektronika.net/>



**INVENTEC**

TITLE  
Calcutta10  
CPU-3  
SIZE  
A3  
CODE  
CS  
DOC. NUMBER  
Model No  
REV  
000

CHANGE by  
Drawer Name  
2-Mar-2010  
SHEET  
39  
OF  
56

8

<http://hobi-elektronika.net/>

A

B

C

D

E

F

A

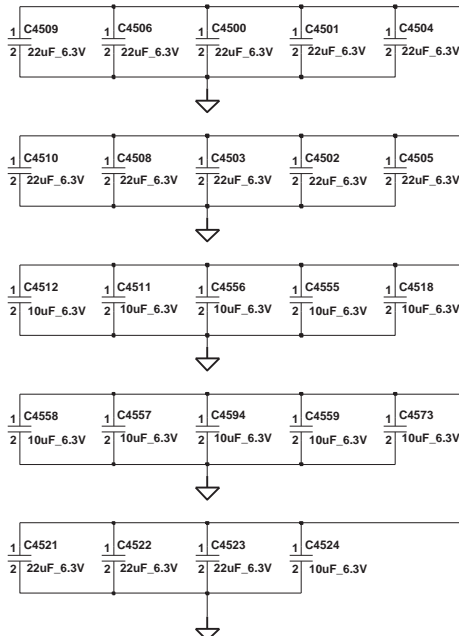
B

C

D

E

F



CN4500-6	
AG35	VCC1
AG34	VCC2
AG33	VCC3
AG32	VCC4
AG31	VCC5
AG30	VCC6
AG29	VCC7
AG28	VCC8
AG27	VCC9
AG26	VCC10
AF35	VCC11
AF34	VCC12
AF33	VCC13
AF32	VCC14
AF31	VCC15
AF30	VCC16
AF29	VCC17
AF28	VCC18
AF27	VCC19
AF26	VCC20
AD35	VCC21
AD34	VCC22
AD33	VCC23
AD32	VCC24
AD31	VCC25
AD30	VCC26
AD29	VCC27
AD28	VCC28
AD27	VCC29
AD26	VCC30
AC35	VCC31
AC34	VCC32
AC33	VCC33
AC32	VCC34
AC31	VCC35
AC30	VCC36
AC29	VCC37
AC28	VCC38
AC27	VCC39
AC26	VCC40
AA35	VCC41
AA34	VCC42
AA33	VCC43
AA32	VCC44
AA31	VCC45
AA30	VCC46
AA29	VCC47
AA28	VCC48
AA27	VCC49
AA26	VCC50
Y35	VCC51
Y34	VCC52
Y33	VCC53
Y32	VCC54
Y31	VCC55
Y30	VCC56
Y29	VCC57
Y28	VCC58
Y27	VCC59
Y26	VCC60
Y25	VCC61
Y24	VCC62
Y23	VCC63
Y22	VCC64
Y21	VCC65
Y20	VCC66
Y19	VCC67
Y18	VCC68
Y17	VCC69
Y16	VCC70
U35	VCC71
U34	VCC72
U33	VCC73
U32	VCC74
U31	VCC75
U30	VCC76
U29	VCC77
U28	VCC78
U27	VCC79
U26	VCC80
R35	VCC81
R34	VCC82
R33	VCC83
R32	VCC84
R31	VCC85
R30	VCC86
R29	VCC87
R28	VCC88
R27	VCC89
R26	VCC90
P35	VCC91
P34	VCC92
P33	VCC93
P32	VCC94
P31	VCC95
P30	VCC96
P29	VCC97
P28	VCC98
P27	VCC99
P26	VCC100

MLX\_47989\_0142\_989P

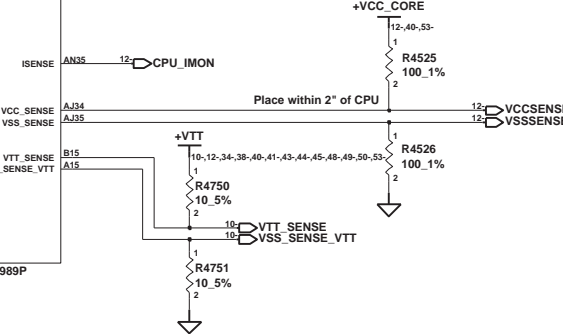
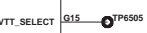
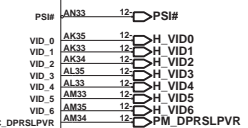
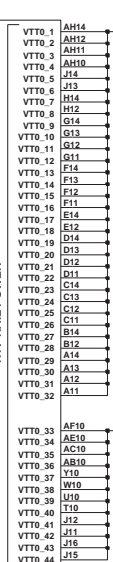
1.1V RAIL POWER

CPU CORE SUPPLY

POWER

CPU VIDS

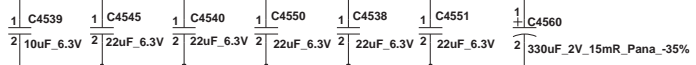
SENSE LINES



Place along CPU edge

+VTT

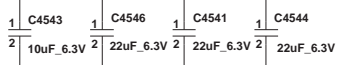
10-12-34-38-40-41-43-44-45-48-49-50-53-



Place along CPU edge

+VTT

10-12-34-38-40-41-43-44-45-48-49-50-53-

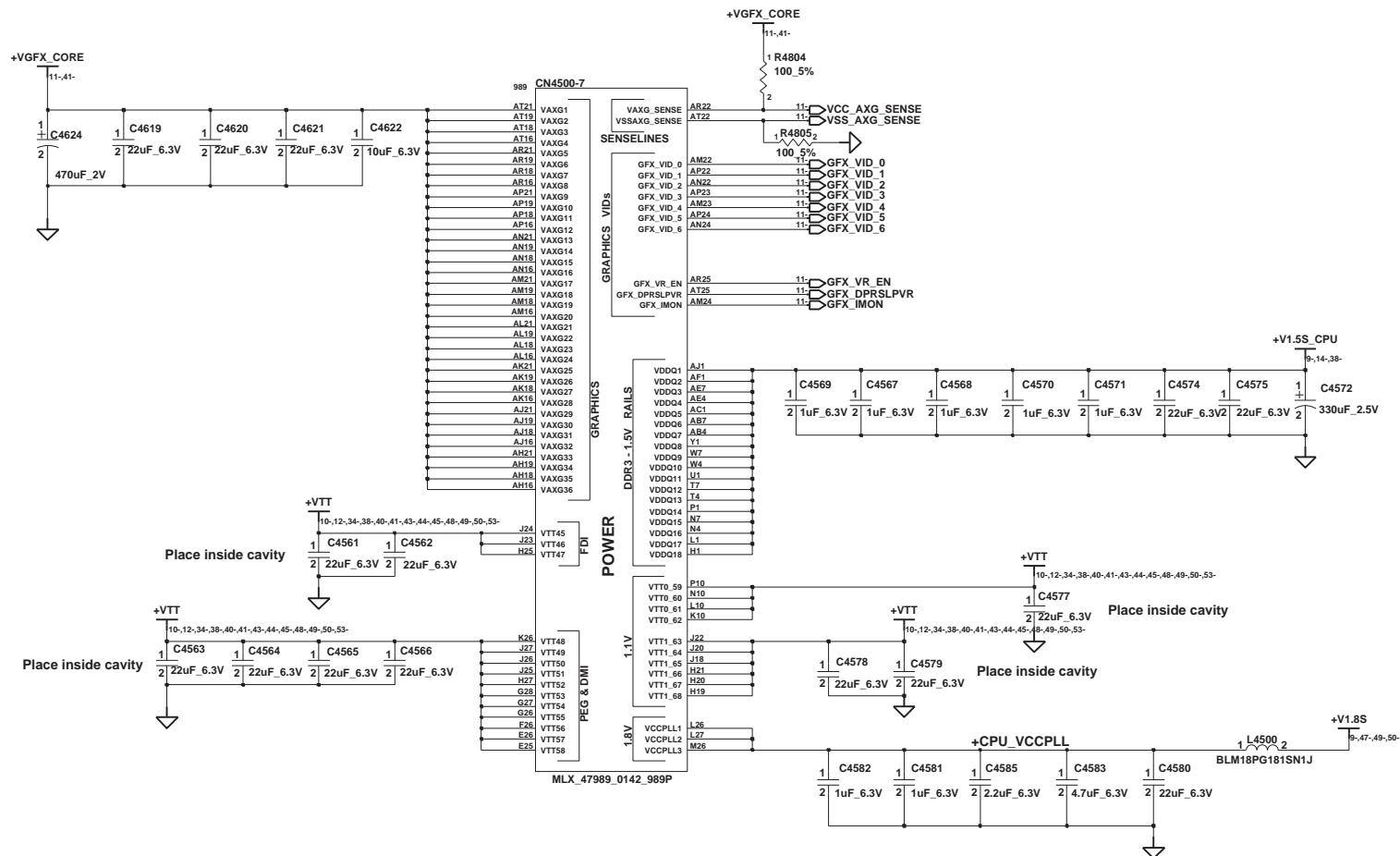


CAD NOTE:  
TCLK:Provide a scope test point at the Processor socket breakout via to verify signal integrity of the first platforms.

INVENTEC			
TITLE Calcutta10 CPU-4			
SIZE A3	CODE CS	DOC. NUMBER Model No	REV 000
CHANGE by Drawer Name		7-Jan-2010	40 OF 56
		8	



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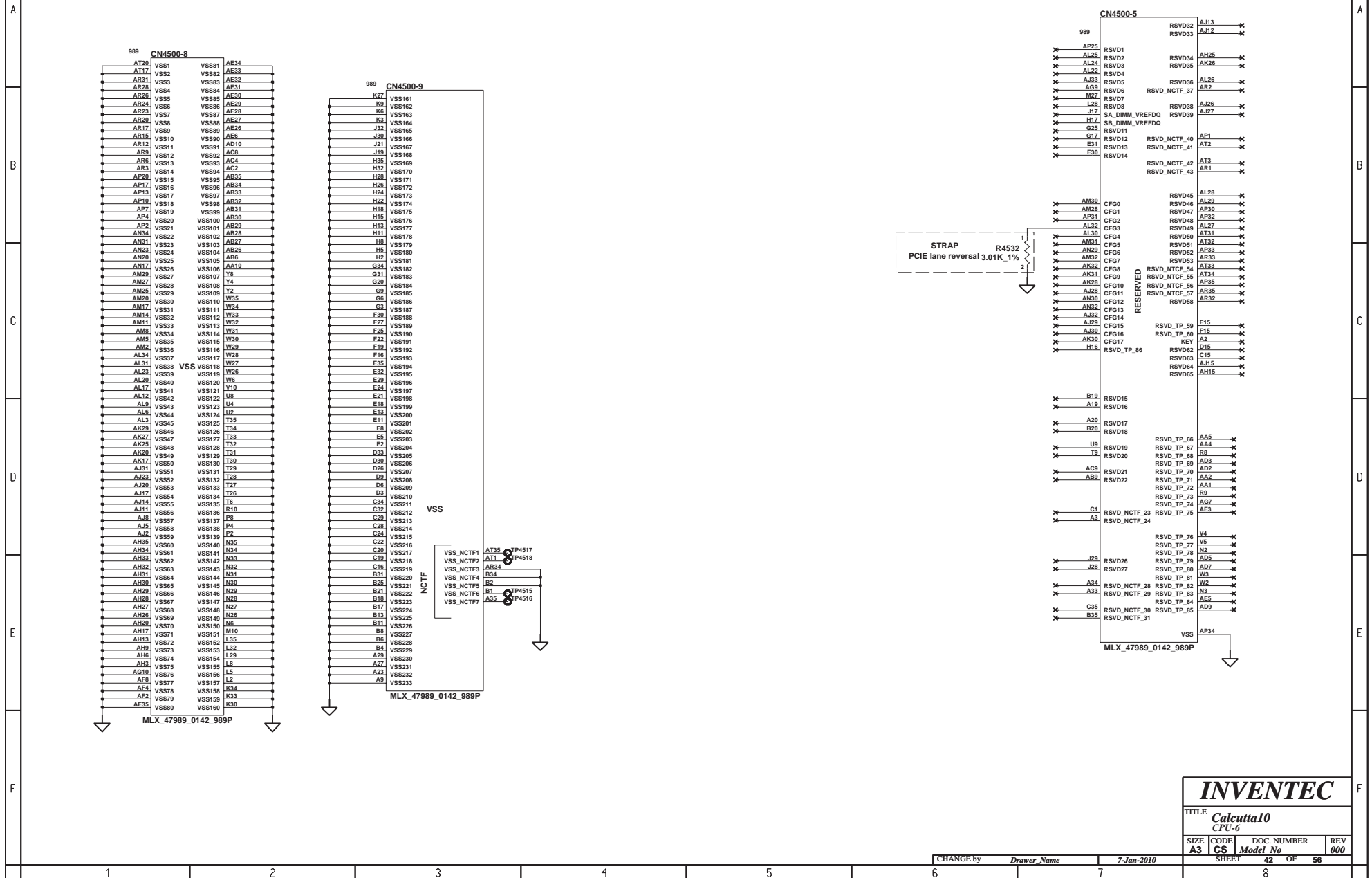
**INVENTEC**

TITLE			
Calcutta10			
CPU-5			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	000
SHEET		41	OF 56

CHANGE by *Drawer Name* 7-Jan-2010

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**BATTERY**

+V3LA  
6-8,-14,-15,-32,-33-

D9202 BAT54C\_30V\_0.2A

R4400 1K\_1%

+V\_RTC  
0\_5%  
+3,-50-

C4598 1uF\_6.3V

CN4400 LOTES\_AAA\_BAT\_032\_K01\_A\_2P

+V\_RTC  
43,-50-

R4557 20K\_1%

C4597 1uF\_6.3V

R4559 20K\_1%

C4599 1uF\_6.3V

R4560 330K\_5%

R4558 1M\_5%

STRAP Enable integrated VRMs Should be always high

+V\_RTC  
43,-50-

R4567 1K\_5% OPEN

STUFF : Flash Descriptor Security Override

FLASH\_OVERRIDE#

EC\_SMI#

R4517 51\_5%

TP4505

TP4506

TP4507

TP4508

PCH\_SPI\_CLK#

PCH\_SPI\_CS0#

PCH\_SPI\_SI

PCH\_SPI\_SO

STRAP : Do not pull high

R4566 0\_5%

SWITCHABLE  
HM55 : 4M ROM 6019B0559601  
MXIC\_MX25L3205DM12I\_12G\_SOP\_8P

NON-SWITCHABLE  
PM55 : 2M ROM 6019B0521901  
MXIC\_MX25L1605DM2I\_12G\_SOIC\_8P

+V3S  
9,-10,-11,-12,-14,-15,-16,-17,-20,-22,-23,-30,-34,-35,-36,-43,-44,-45,-46,-47,-48,-49,-50,-53,-56-

R4653 10K\_5%

U4502

VCC

DO\_IO1 #HOLD\_IO3

CLK

GND

WINB\_W25Q32BVSSIG\_SOIC\_8P

+V3S  
9,-10,-11,-12,-14,-15,-16,-17,-20,-22,-23,-30,-34,-35,-36,-43,-44,-45,-46,-47,-48,-49,-50,-53,-56-

R4552 33K\_5%

PCH\_SPI\_CLK

PCH\_SPI\_SI

C4596 0.1uF\_10V

RTC

FWH0\_LAD0 B13  
RTCX1 D13  
FWH1\_LAD1 C32  
FWH2\_LAD2 A32  
FWH3\_LAD3 C34

LPC FWH4\_LFRAME# F34

LDRQ0# A34  
LDRQ1# GPIO23 F34

SERIRQ AB9

+V3S  
9,-10,-11,-12,-14,-15,-16,-17,-20,-22,-23,-30,-34,-35,-36,-43,-44,-45,-46,-47,-48,-49,-50,-53,-56-

R4564 10K\_5%

PCI\_3S\_SERIRQ

HDA\_BCLK A30  
HDA\_SYNC D29  
SPKR P1  
HDA\_RST# C30  
HDA\_SDIN0 G30  
HDA\_SDIN1 F30  
HDA\_SDIN2 E32  
HDA\_SDIN3 F32  
HDA\_SDO B29  
HDA\_DOCK\_EN# GPIO33 H32  
HDA\_DOCK\_RST# GPIO13 J30

JTAG\_TCK M3  
JTAG\_TMS K3  
JTAG\_TDI K1  
JTAG\_TDO J2  
TRST# J4

SPI\_CLK BA2  
SPI\_CS0# AV3  
SPI\_CS1# AY3  
SPI\_MOSI AY1  
SPI\_MISO AV1

ITL\_IBEXPE\_M\_FCBGA\_1071P

SATA

SATA0RXN AK7  
SATA0RXP AK6  
SATA1TXN AK11  
SATA1TXP AK9

SATA1RXN AH8  
SATA1RXP AH5  
SATA1TXN AH9  
SATA1TXP AH8

SATA2RXN AF11  
SATA2RXP AF9  
SATA2TXN AF7  
SATA2TXP AF6

SATA3RXN AH3  
SATA3RXP AH1  
SATA3TXN AF3  
SATA3TXP AF1

SATA4RXN AD9  
SATA4RXP AD8  
SATA4TXN AD6  
SATA4TXP AD5

SATA5RXN AD3  
SATA5RXP AB3  
SATA5TXN AB1  
SATA5TXP AD3

SATA6COMPO AF16  
SATA6COMPI AF15  
SATA6LED# T3

SATAIBGP\_GPIO21 Y1  
SATA1GP\_GPIO19 V1

SATA\_C\_RXN\_HDD Z6  
SATA\_C\_RXP\_HDD Z6  
SATA\_C\_TXN\_HDD Z6  
SATA\_C\_TXP\_HDD Z6

SATA\_C\_RXN\_ODD Z6  
SATA\_C\_RXP\_ODD Z6  
SATA\_C\_TXN\_ODD Z6  
SATA\_C\_TXP\_ODD Z6

+V3S  
9,-10,-11,-12,-14,-15,-16,-17,-20,-22,-23,-30,-34,-35,-36,-43,-44,-45,-46,-47,-48,-49,-50,-53,-56-

R4720 10K\_5%

R4543 10K\_5%

LED\_3S\_SATA#

+V3S  
9,-10,-11,-12,-14,-15,-16,-17,-20,-22,-23,-30,-34,-35,-36,-43,-44,-45,-46,-47,-48,-49,-50,-53,-56-

R4725 10K\_5%

**INVENTEC**

TITLE **Calcutta10**  
**PCH-I**

SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	000

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CHANGE by Drawer Name 7-Jan-2010

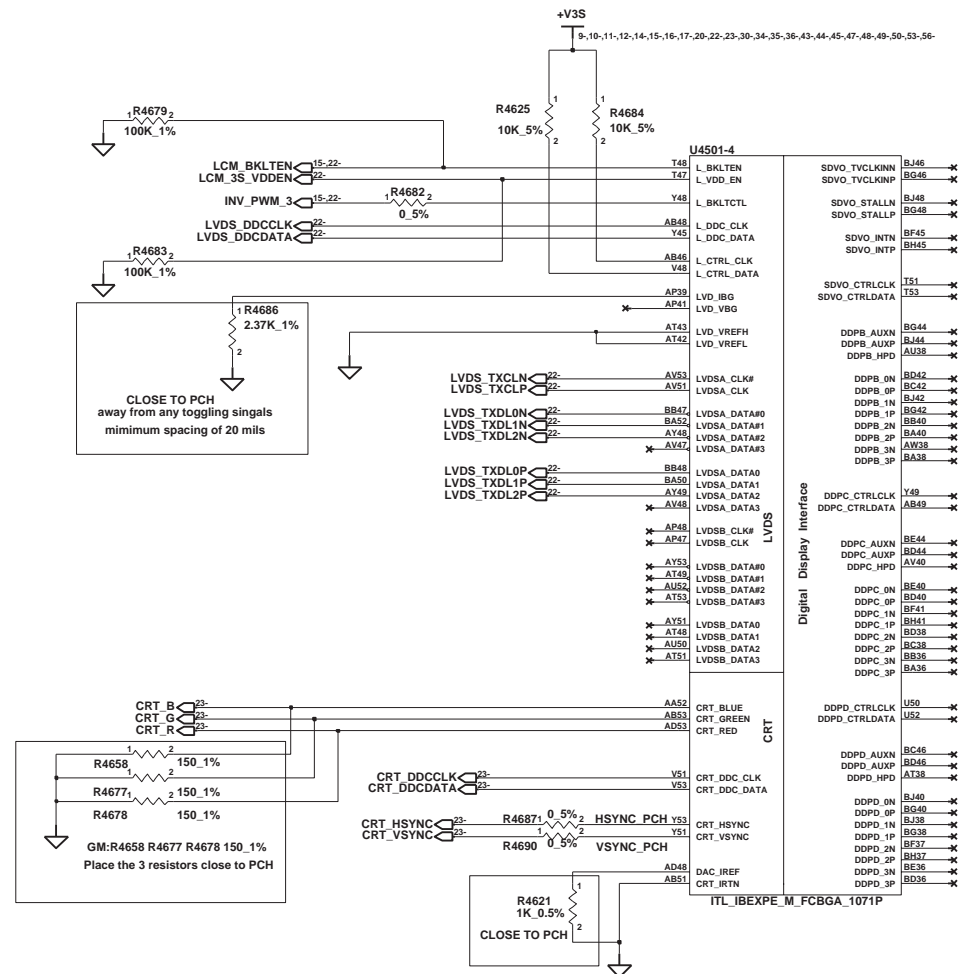


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The diagram illustrates the PCH-3 system architecture and its connections. Key components and their connections include:

- DMI (DMI01-3):**
  - DMI\_RXN(0) to DMI\_RXN(3) connected to DMI01RXN, DMI02RXN, DMI03RXN, and DMI04RXN.
  - DMI\_RXP(0) to DMI\_RXP(3) connected to DMI01RXP, DMI02RXP, DMI03RXP, and DMI04RXP.
  - DMI\_TXN(0) to DMI\_TXN(3) connected to DMI01TXN, DMI02TXN, DMI03TXN, and DMI04TXN.
  - DMI\_TXP(0) to DMI\_TXP(3) connected to DMI01TXP, DMI02TXP, DMI03TXP, and DMI04TXP.
- FDI (FDI01-7):**
  - FDI\_RXN(0) to FDI\_RXN(7) connected to FDI01RXN, FDI02RXN, FDI03RXN, FDI04RXN, FDI05RXN, FDI06RXN, FDI07RXN, and FDI08RXN.
  - FDI\_RXP(0) to FDI\_RXP(7) connected to FDI01RXP, FDI02RXP, FDI03RXP, FDI04RXP, FDI05RXP, FDI06RXP, FDI07RXP, and FDI08RXP.
  - FDI\_TXN(0) to FDI\_TXN(7) connected to FDI01TXN, FDI02TXN, FDI03TXN, FDI04TXN, FDI05TXN, FDI06TXN, FDI07TXN, and FDI08TXN.
  - FDI\_TXP(0) to FDI\_TXP(7) connected to FDI01TXP, FDI02TXP, FDI03TXP, FDI04TXP, FDI05TXP, FDI06TXP, FDI07TXP, and FDI08TXP.
- Power Management:**
  - +VTT:** Connected to R4593 (10K 5%) and R4602 (10K 5%).
  - +V3S:** Connected to R4603 (8.2K 5%) and R4604 (8.2K 5%).
  - +V3A:** Connected to R4605 (10K 5%) and R4606 (10K 5%).
  - +V3B:** Connected to R4607 (10K 5%) and R4608 (10K 5%).
  - +V3C:** Connected to R4609 (10K 5%) and R4610 (10K 5%).
  - +V3D:** Connected to R4611 (10K 5%) and R4612 (10K 5%).
  - +V3E:** Connected to R4613 (10K 5%) and R4614 (10K 5%).
  - +V3F:** Connected to R4615 (10K 5%) and R4616 (10K 5%).
  - +V3G:** Connected to R4617 (10K 5%) and R4618 (10K 5%).
  - +V3H:** Connected to R4619 (10K 5%) and R4620 (10K 5%).
  - +V3I:** Connected to R4621 (10K 5%) and R4622 (10K 5%).
  - +V3J:** Connected to R4623 (10K 5%) and R4624 (10K 5%).
  - +V3K:** Connected to R4625 (10K 5%) and R4626 (10K 5%).
  - +V3L:** Connected to R4627 (10K 5%) and R4628 (10K 5%).
  - +V3M:** Connected to R4629 (10K 5%) and R4630 (10K 5%).
  - +V3N:** Connected to R4631 (10K 5%) and R4632 (10K 5%).
  - +V3O:** Connected to R4633 (10K 5%) and R4634 (10K 5%).
  - +V3P:** Connected to R4635 (10K 5%) and R4636 (10K 5%).
  - +V3Q:** Connected to R4637 (10K 5%) and R4638 (10K 5%).
  - +V3R:** Connected to R4639 (10K 5%) and R4640 (10K 5%).
  - +V3S:** Connected to R4641 (10K 5%) and R4642 (10K 5%).
  - +V3T:** Connected to R4643 (10K 5%) and R4644 (10K 5%).
  - +V3U:** Connected to R4645 (10K 5%) and R4646 (10K 5%).
  - +V3V:** Connected to R4647 (10K 5%) and R4648 (10K 5%).
  - +V3W:** Connected to R4649 (10K 5%) and R4650 (10K 5%).
  - +V3X:** Connected to R4651 (10K 5%) and R4652 (10K 5%).
  - +V3Y:** Connected to R4653 (10K 5%) and R4654 (10K 5%).
  - +V3Z:** Connected to R4655 (10K 5%) and R4656 (10K 5%).
  - +V3AA:** Connected to R4657 (10K 5%) and R4658 (10K 5%).
  - +V3AB:** Connected to R4659 (10K 5%) and R4660 (10K 5%).
  - +V3AC:** Connected to R4661 (10K 5%) and R4662 (10K 5%).
  - +V3AD:** Connected to R4663 (10K 5%) and R4664 (10K 5%).
  - +V3AE:** Connected to R4665 (10K 5%) and R4666 (10K 5%).
  - +V3AF:** Connected to R4667 (10K 5%) and R4668 (10K 5%).
  - +V3AG:** Connected to R4669 (10K 5%) and R4670 (10K 5%).
  - +V3AH:** Connected to R4671 (10K 5%) and R4672 (10K 5%).
  - +V3AI:** Connected to R4673 (10K 5%) and R4674 (10K 5%).
  - +V3AJ:** Connected to R4675 (10K 5%) and R4676 (10K 5%).
  - +V3AK:** Connected to R4677 (10K 5%) and R4678 (10K 5%).
  - +V3AL:** Connected to R4679 (10K 5%) and R4680 (10K 5%).
  - +V3AM:** Connected to R4681 (10K 5%) and R4682 (10K 5%).
  - +V3AN:** Connected to R4683 (10K 5%) and R4684 (10K 5%).
  - +V3AO:** Connected to R4685 (10K 5%) and R4686 (10K 5%).
  - +V3AP:** Connected to R4687 (10K 5%) and R4688 (10K 5%).
  - +V3AQ:** Connected to R4689 (10K 5%) and R4690 (10K 5%).
  - +V3AR:** Connected to R4691 (10K 5%) and R4692 (10K 5%).
  - +V3AS:** Connected to R4693 (10K 5%) and R4694 (10K 5%).
  - +V3AT:** Connected to R4695 (10K 5%) and R4696 (10K 5%).
  - +V3AU:** Connected to R4697 (10K 5%) and R4698 (10K 5%).
  - +V3AV:** Connected to R4699 (10K 5%) and R4700 (10K 5%).
  - +V3AW:** Connected to R4701 (10K 5%) and R4702 (10K 5%).
  - +V3AX:** Connected to R4703 (10K 5%) and R4704 (10K 5%).
  - +V3AY:** Connected to R4705 (10K 5%) and R4706 (10K 5%).
  - +V3AZ:** Connected to R4707 (10K 5%) and R4708 (10K 5%).
  - +V3BA:** Connected to R4709 (10K 5%) and R4710 (10K 5%).
  - +V3BB:** Connected to R4711 (10K 5%) and R4712 (10K 5%).
  - +V3BC:** Connected to R4713 (10K 5%) and R4714 (10K 5%).
  - +V3BD:** Connected to R4715 (10K 5%) and R4716 (10K 5%).
  - +V3BE:** Connected to R4717 (10K 5%) and R4718 (10K 5%).
  - +V3BF:** Connected to R4719 (10K 5%) and R4720 (10K 5%).
  - +V3BG:** Connected to R4721 (10K 5%) and R4722 (10K 5%).
  - +V3BH:** Connected to R4723 (10K 5%) and R4724 (10K 5%).
  - +V3BI:** Connected to R4725 (10K 5%) and R4726 (10K 5%).
  - +V3BJ:** Connected to R4727 (10K 5%) and R4728 (10K 5%).
  - +V3BK:** Connected to R4729 (10K 5%) and R4730 (10K 5%).
  - +V3BL:** Connected to R4731 (10K 5%) and R4732 (10K 5%).
  - +V3BM:** Connected to R4733 (10K 5%) and R4734 (10K 5%).
  - +V3BN:** Connected to R4735 (10K 5%) and R4736 (10K 5%).
  - +V3BO:** Connected to R4737 (10K 5%) and R4738 (10K 5%).
  - +V3BP:** Connected to R4739 (10K 5%) and R4740 (10K 5%).
  - +V3BQ:** Connected to R4741 (10K 5%) and R4742 (10K 5%).
  - +V3BR:** Connected to R4743 (10K 5%) and R4744 (10K 5%).
  - +V3BS:** Connected to R4745 (10K 5%) and R4746 (10K 5%).
  - +V3BT:** Connected to R4747 (10K 5%) and R4748 (10K 5%).
  - +V3BU:** Connected to R4749 (10K 5%) and R4750 (10K 5%).
  - +V3BV:** Connected to R4751 (10K 5%) and R4752 (10K 5%).
  - +V3BW:** Connected to R4753 (10K 5%) and R4754 (10K 5%).
  - +V3BX:** Connected to R4755 (10K 5%) and R4756 (10K 5%).
  - +V3BY:** Connected to R4757 (10K 5%) and R4758 (10K 5%).
  - +V3BZ:** Connected to R4759 (10K 5%) and R4760 (10K 5%).
  - +V3CA:** Connected to R4761 (10K 5%) and R4762 (10K 5%).
  - +V3CB:** Connected to R4763 (10K 5%) and R4764 (10K

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Digital Display Interface

ITL\_IBEXPE\_M\_FCBGA\_1071P

**INVENTEC**

TITLE  
**Calcutta10**  
**PCH-4**

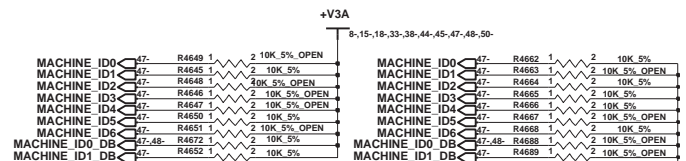
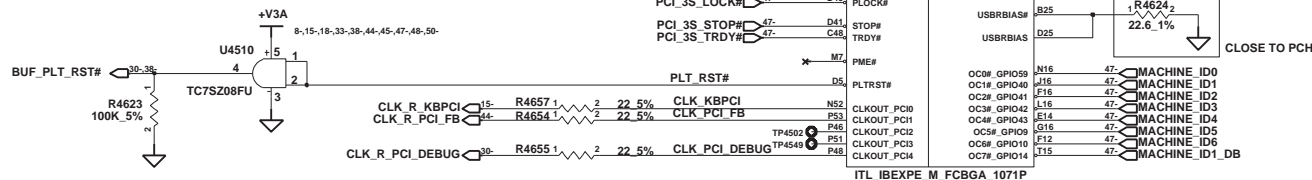
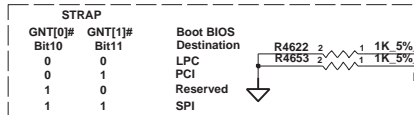
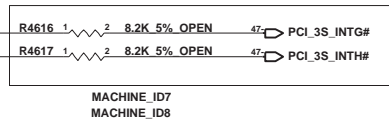
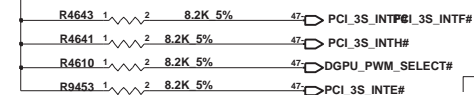
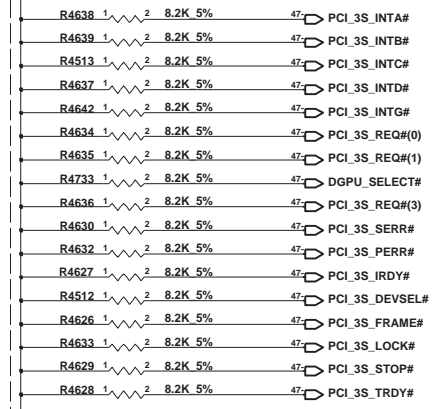
SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	000

CHANGE by *Drawer Name* 7-Jan-2010

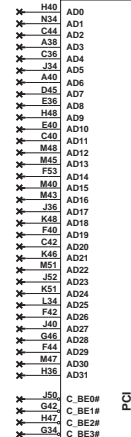
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9,10,11,12,14,15,16,17,20,22,23,30,34,35,36,43,44,45,46,48,49,50,53,56-



U4501-5



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The diagram illustrates the internal circuitry of the INVENTEC Calcutta10 PCH-6. It features a central U4501-6 chip connected to various peripheral components. Key components include:

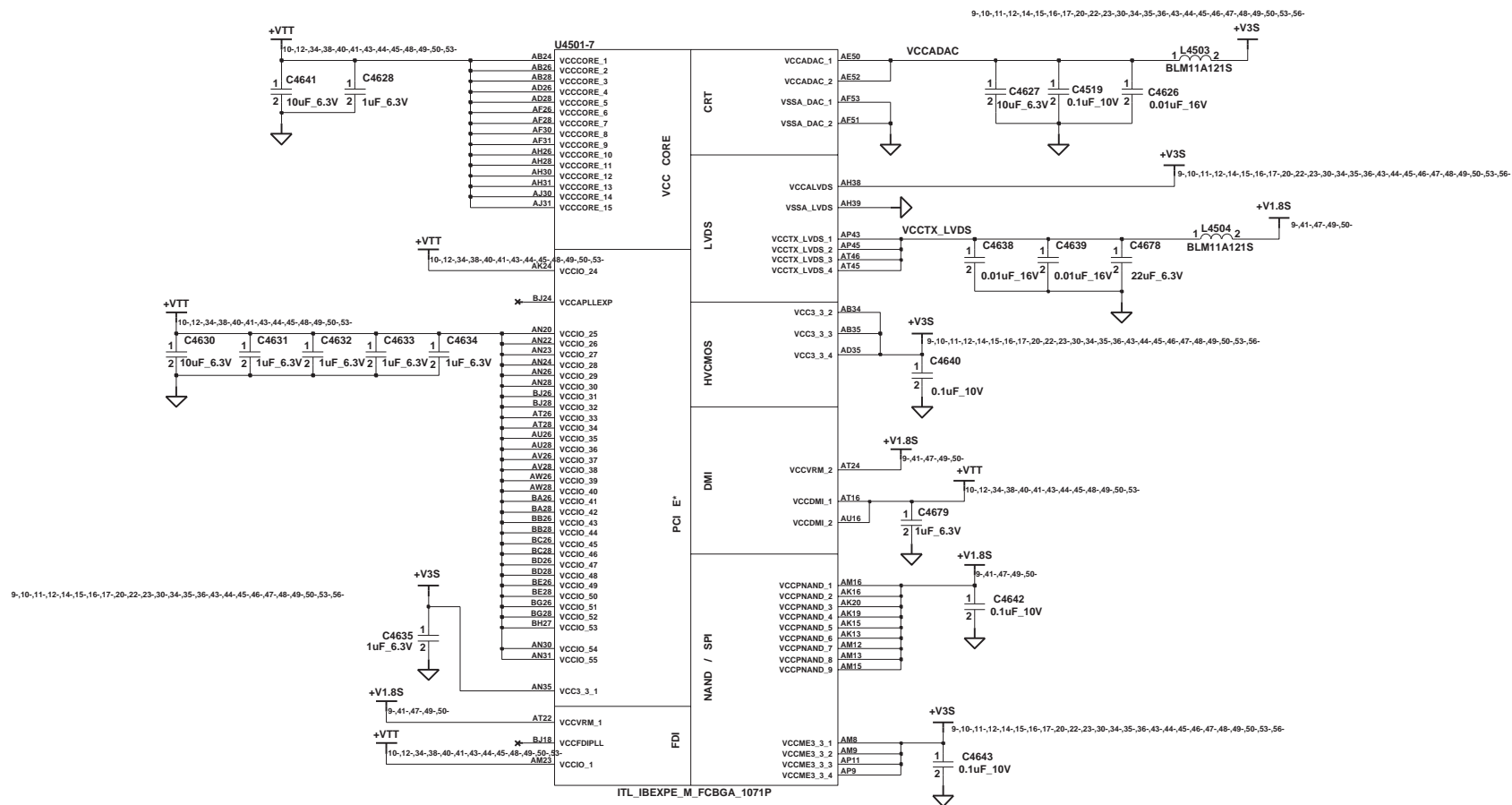
- Resistors:** R4719 (10K 5%), R4723 (10K 5%), R4722 (10K 5%), R4644 (10K 5%), R4675 (10K 5%), R4727 (10K 5%), R4582 (10K 5%), R4640 (10K 5%), R4730 (10K 5%), R4949 (10K 5%), R4673 (15K 5%), R4618 (10K 5%), R4619 (10K 5%), R4620 (10K 5%), R4514 (10K 5%), R4685 (10K 5%), R4732 (10K 5%), R4518 (10K 5%), R4680 (49.9 1%), R4674 (2 0.5%), R4669 (56.5 5%).
- Capacitors:** C38, C37, C32, C33, C34, C35, C36, C37, C38, C39, C40, C41, C42, C43, C44, C45, C46, C47, C48, C49, C50, C51, C52, C53, C54, C55, C56, C57, C58, C59, C60, C61, C62, C63, C64, C65, C66, C67, C68, C69, C70, C71, C72, C73, C74, C75, C76, C77, C78, C79, C80, C81, C82, C83, C84, C85, C86, C87, C88, C89, C90, C91, C92, C93, C94, C95, C96, C97, C98, C99, C100.
- Integrated Circuits:** U4501-6 (Main Processor), U2 (EC\_3S\_A20GATE), U3 (CLK\_BCLK\_PCH\_CPU#), U4 (CLK\_BCLK\_PCH\_CPU), U5 (H\_PECI), U6 (H\_CPUPWRGD), U7 (PM\_KBCCPURST#), U8 (PM\_THRMTRIP#), U9 (TP1), U10 (TP2), U11 (TP3), U12 (TP4), U13 (TP5), U14 (TP6), U15 (TP7), U16 (TP8), U17 (TP9), U18 (TP10), U19 (TP11), U20 (TP12), U21 (TP13), U22 (TP14), U23 (TP15), U24 (TP16), U25 (TP17), U26 (TP18), U27 (TP19), U28 (NC.1), U29 (NC.2), U30 (NC.3), U31 (NC.4), U32 (NC.5), U33 (INT3\_3V8), U34 (TP24).
- Other Components:** BMBUSY#\_GPIO0, TACH2\_GPIO6, GPIO8, LAN\_PHY\_PWR\_CTRL\_GPIO12, MACHINE\_ID0\_DB, STRAP, DRAMRST\_CNTRL\_PCH, CPU\_THERM\_ALERT#, VSS\_NCTF, RSVD.

<b>INVENTEC</b>				
TITLE <b>Calcutta10</b>				
PCH-6				
SIZE	CODE	DOC. NUMBER	REV	
A3	CS	Model No	48	000
SHEET		OF	56	

CHANGE by *Drawer Name* 7-Jan-2010



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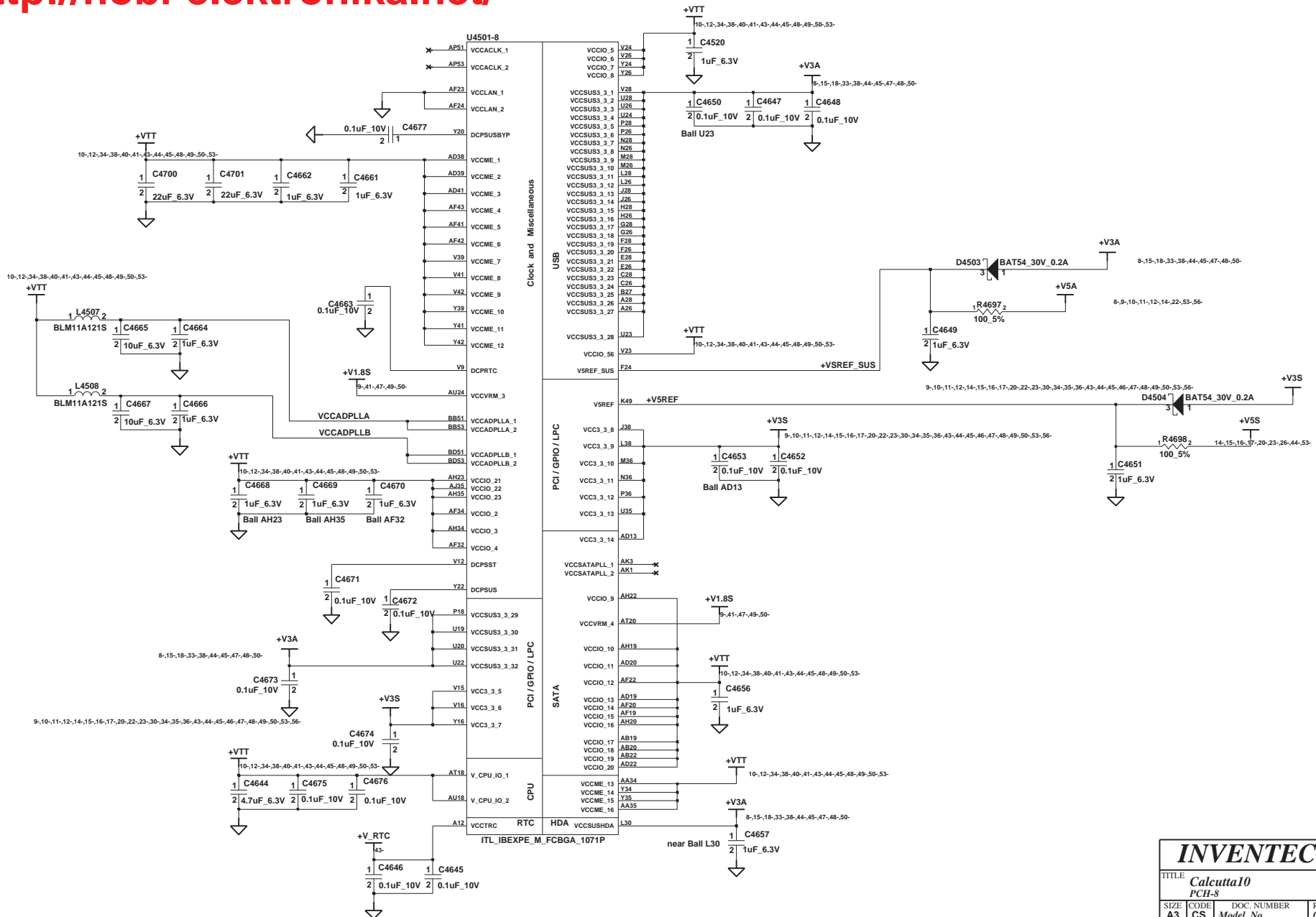
**INVENTEC**

TITLE  
**Calcutta10**  
**PCH-7**

SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	000

CHANGE by *Drawer Name* 7-Jan-2010 SHEET 49 OF 56

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**INVENTEC**

TITLE **Calcutta10**

SIZE **A3** CODE **CS** DOC. NUMBER **Model No** REV **000**

SHEET **50** OF **56**

CHANGE by **Drawer Name** 7-Jan-2010

8

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A

B

C

D

E

F

A

B

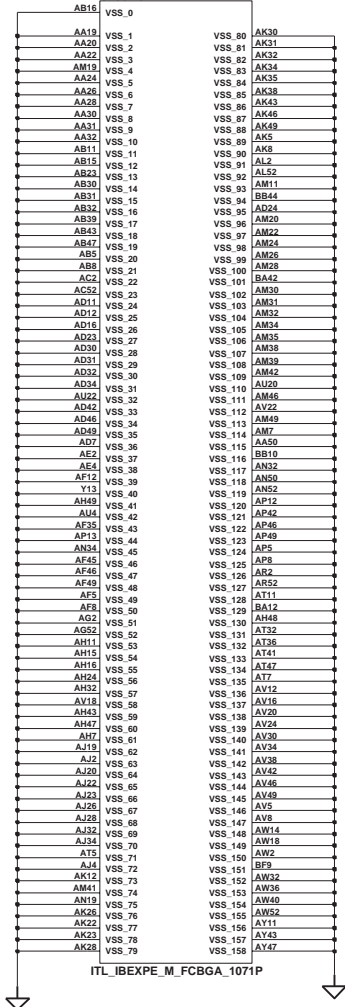
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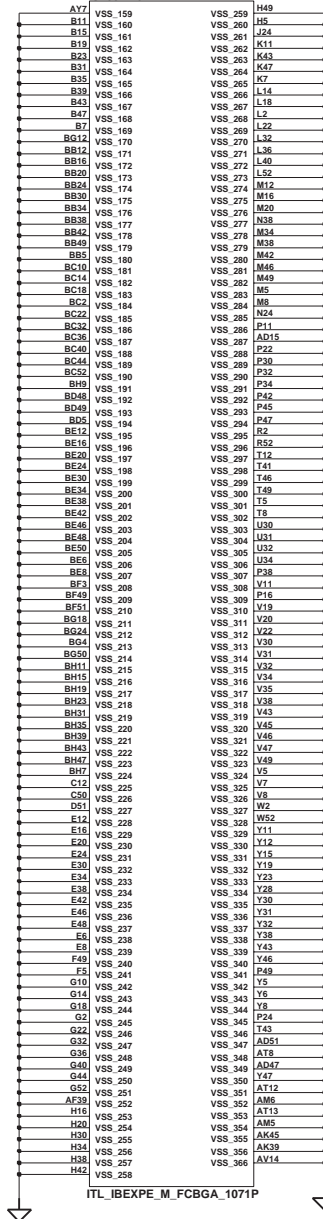
E

F

U4501-9



U4501-10



ITL\_IBEXPE\_M\_FCBGA\_1071P

**INVENTEC**

TITLE			
Calcutta10			
PCH-9			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	000
SHEET		51	OF 56

CHANGE by *Drawer Name* 7-Jan-2010

8

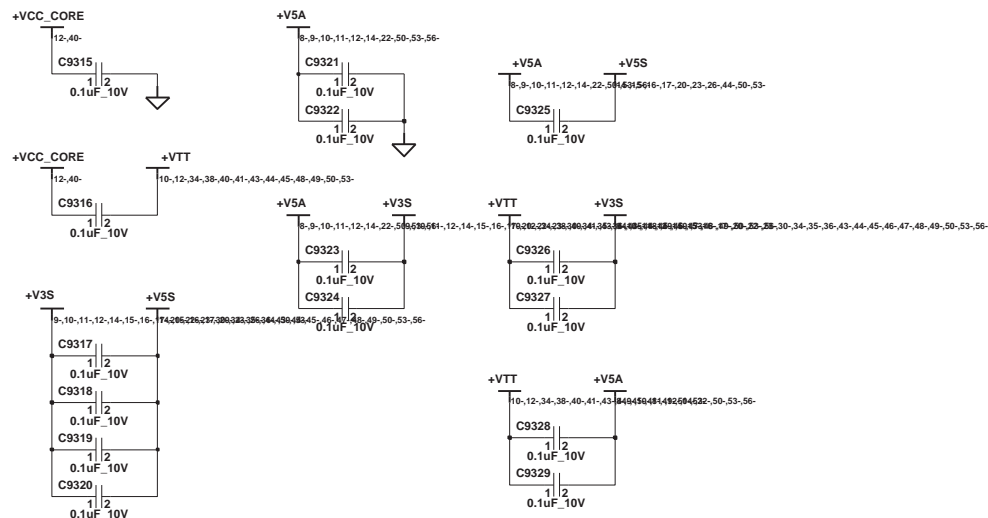
	1	2	3	4	5	6	7	8	
A	<a href="http://hobi-elektronika.net/">http://hobi-elektronika.net/</a>								A
B									B
C	<h1>BLANK</h1>								C
D									D
E									E
F									F
	1	2	3	4	5	6	7	8	

**INVENTEC**

TITLE			
Calcutta10			
3D SENSOR			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	000
SHEET		52	OF 56

<http://hobi-elektronika.net/>

# EMI

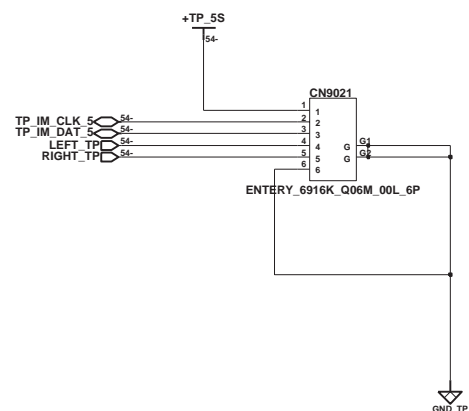


INVENTEC				
TITLE <i>Calcutta10</i>				
EMI				
SIZE <b>A3</b>	CODE <b>CS</b>	DOC. NUMBER <i>Model No</i>	REV <b>000</b>	
CHANGE by <i>Drawer Name</i>		7-Jan-2010	SHEET <b>53</b>	OF <b>56</b>

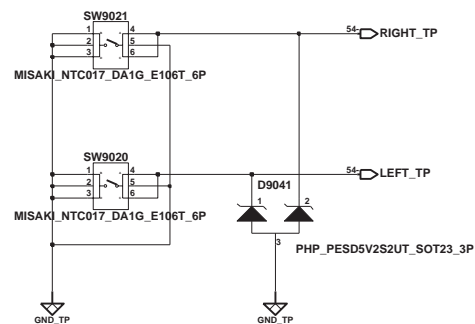
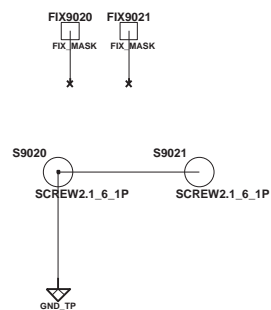
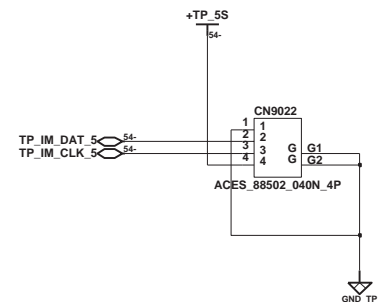
<http://hobi-elektronika.net/>

## TOUCH PAD SWITCH BOARD

Connect to Touchpad Module



Connect to Mainboard's TP connector



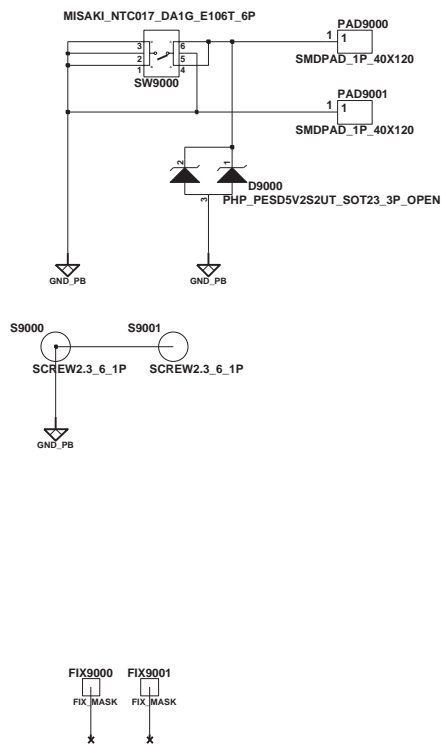
**INVENTEC**

TITLE			
Calcutta10 TP SWITCH BOARD			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	000
SHEET		54	OF 56

CHANGE by *Drawer Name* 2-Mar-2010

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## POWER BOARD



**INVENTEC**

TITLE <b>Calcutta10 POWER BOARD</b>			
SIZE <b>A3</b>	CODE <b>CS</b>	DOC. NUMBER <i>Model No</i>	REV <b>000</b>
SHEET <b>55</b>		OF <b>56</b>	

CHANGE by *Drawer Name* 24-Feb-2010

