

MAGPIE

Project Code : 91.45H01.001
 PCB P/N : 48.45H01.0SE
 PCB : 00203-SE

CPU CORE REGULATOR
 Max1710 Page:5

CLOCK Genertor
 ICS9248-61/130 Page:3

Power&DC-DC REGULATOR
 Input Output
 AD+ +3.3V +5VSB
 +5V +3VSB
 BT+ +12V CD+5V
 BT- LAN_+3.3V
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Battery Charger
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 ALi
 M1632M-U
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TV
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LCD
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PCB LAYER
L1 : COMPONENT
L2 : GND
L3 : SIGNAL (CLK)
L4 : VCC
L5 : SIGNAL (CLK)
L6 : GND
L7 : SIGNAL
L8 : COMPONENT

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IDE S

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 Ultra 66

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PCI BUS 33MHz

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BIOS ROM
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DEBUG PORT
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INT KB
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PS/2 PORT
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BAT

AC-LINK

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 Hsjchih, Taipei Hsien 221,
 Taiwan, R.O.C.

Title: **Block Diagram**

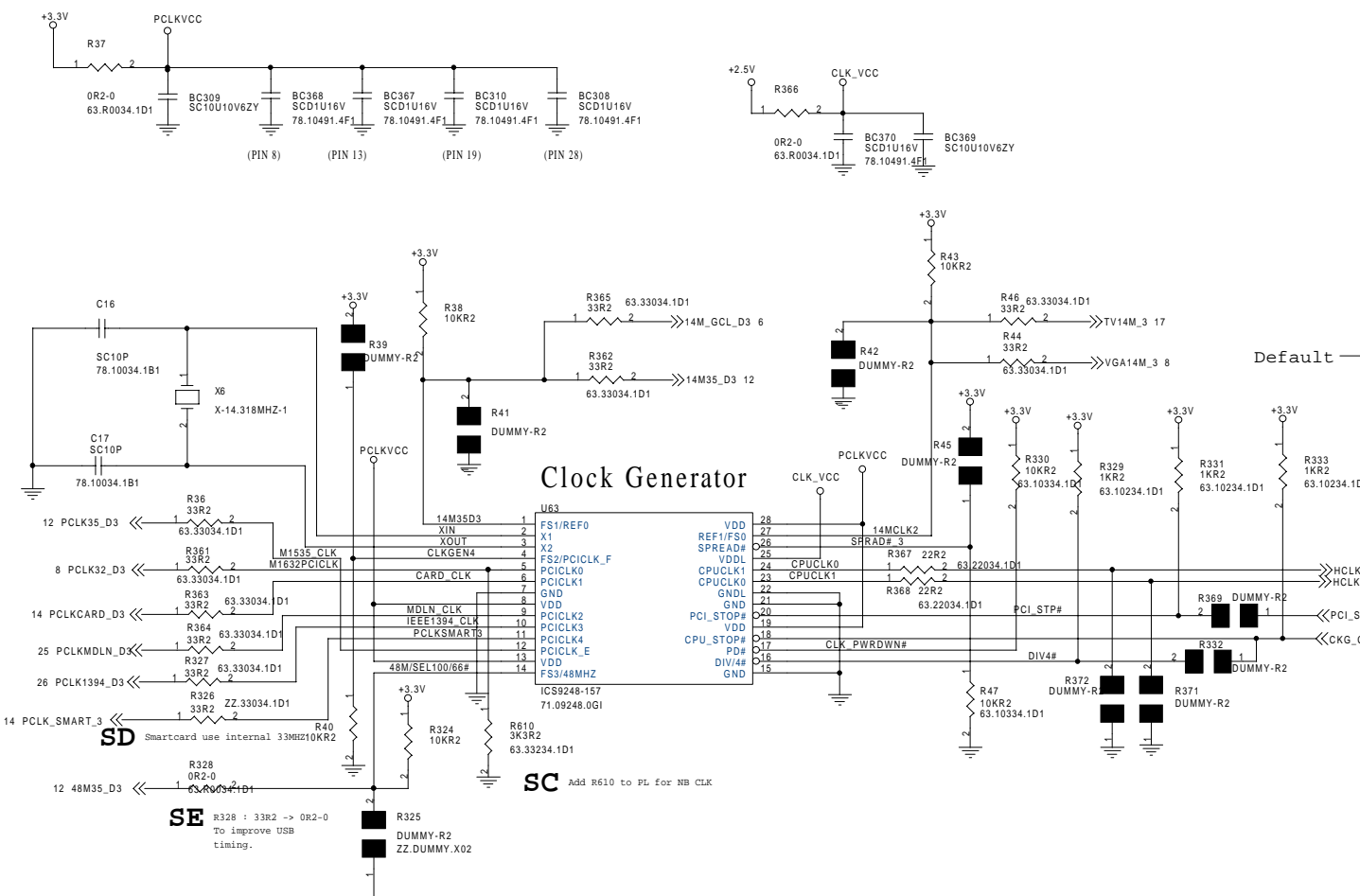
Size: A4	Document Number: MAGPIE	Rev: SE
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Date: Wednesday, August 09, 2000 Sheet 1 of 36



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Taiwan, R.O.C.

Title		
Rev_History		
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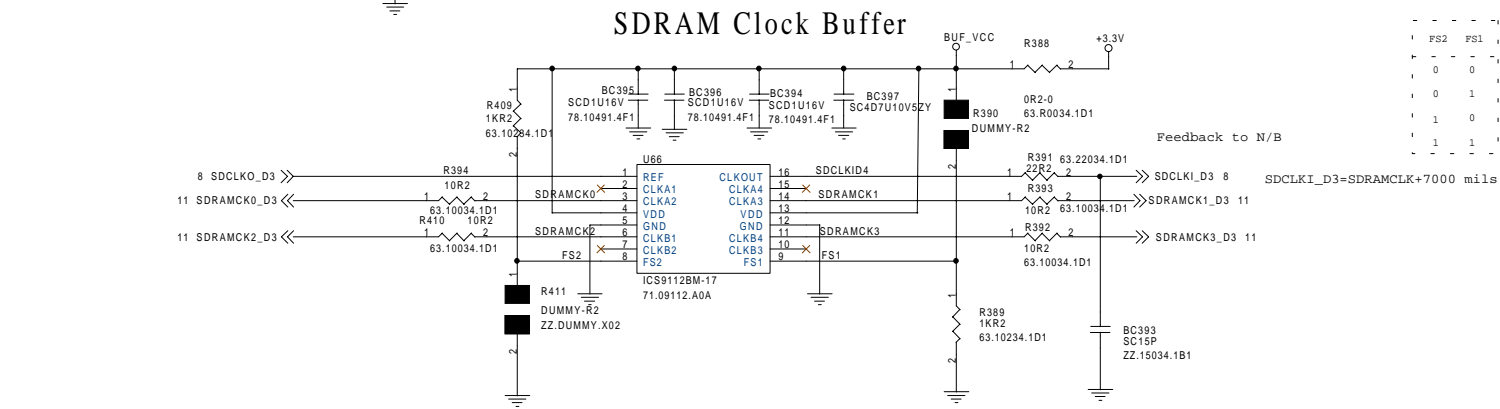
For ICS9248-130 only

	FS3	FS2	FS1	FS0	CPU	PCI
	0	0	0	0	33.33	16.66
	0	0	0	1	63.33	31.66
	0	0	1	0	69.99	35.00
	0	0	1	1	66.66	33.33
	0	1	0	0	97.00	32.33
	0	1	0	1	96.22	32.07
	0	1	1	0	91.50	30.50
	0	1	1	1	83.33	27.77
	1	0	0	0	50.00	16.66
	1	0	0	1	95.25	31.75
	1	0	1	0	105.00	35.00
Default	1	0	1	1	100.00	33.33
	1	1	0	0	66.66	16.66
	1	1	0	1	126.35	31.66
	1	1	1	0	139.65	35.00
	1	1	1	1	133.33	33.33

Skew Requirement:
 CPU-CPU: 200ps max.
 SDRAM-SDRAM: 500ps max.
 PCI-PCI: 500ps max.
 CPU-NB: In Phase
 DRAM-NB: In Phase
 CPU/NB-PCI: 1-4ns, 2.5ns typical
 NB-SB: 1-4ns, 2.5ns typical
 NB-NB/PCI: 1-4ns, 2.5ns typical

Jitter Requirement:
 CPU: 250ps max.
 PCI: 500ps max.

Duty Cycle Requirement:
 45%-55% for all clock



FS2	FS1	CLKA[1..4]	CLKB[1..4]	CLKOUT	OUTPUT SOURCE	PLL SHUTDOWN
0	0	TRISTATE	TRISTATE	DRIVEN	PLL	N
0	1	DRIVEN	TRISTATE	DRIVEN	PLL	N
1	0	TEST MODE	TEST MODE	TEST MODE	REF	Y
1	1	DRIVEN	DRIVEN	DRIVEN	PLL	N

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Title: **Clock Generator & SDRAM Clock Buffer**

Size: A3 Document Number: **MAGPIE** Rev: **SE**

Date: Sunday, August 13, 2000 Sheet 3 of 36

MOBILE PENTIUM III COPPERMINE

CPU VOLTAGE SPEC

CORE : 1.35V +/- 100mV
1.6V +/- 115mV
IO : 1.5V +/- 115mV

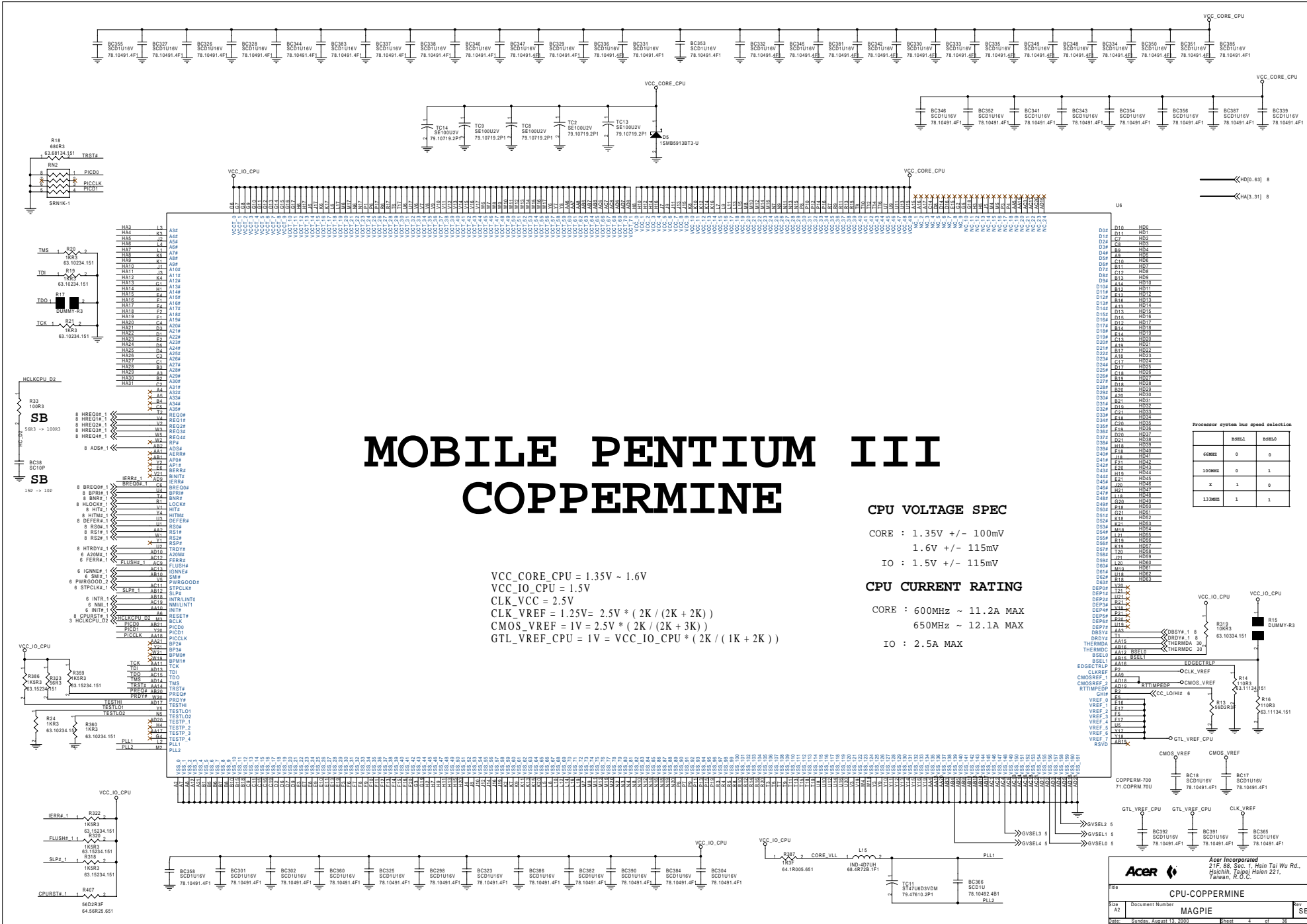
CPU CURRENT RATING

CORE : 600MHz ~ 11.2A MAX
650MHz ~ 12.1A MAX
IO : 2.5A MAX

VCC_CORE_CPU = 1.35V ~ 1.6V
VCC_IO_CPU = 1.5V
CLK_VCC = 2.5V
CLK_VREF = 1.25V = 2.5V * (2K / (2K + 2K))
CMOS_VREF = 1V = 2.5V * (2K / (2K + 3K))
GTL_VREF_CPU = 1V = VCC_IO_CPU * (2K / (1K + 2K))

Processor system bus speed selection

	BSL1	BSL0
600MHz	0	0
1000MHz	0	1
X	1	0
1300MHz	1	1



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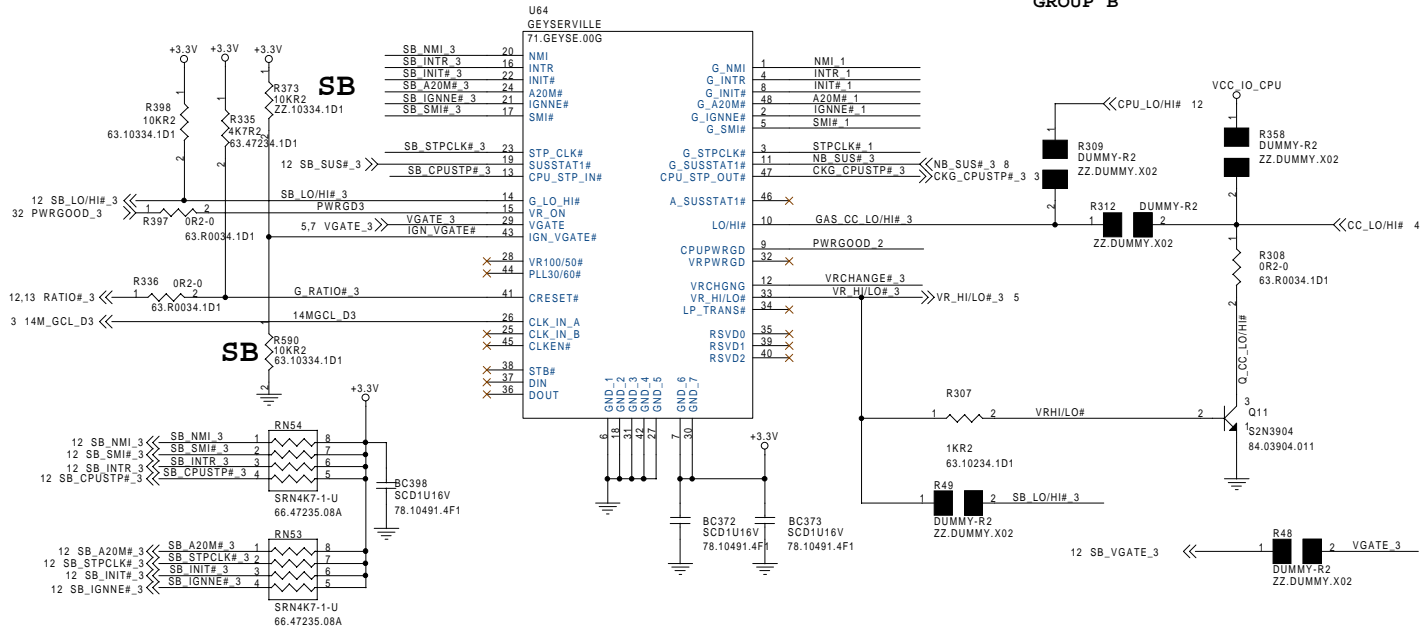
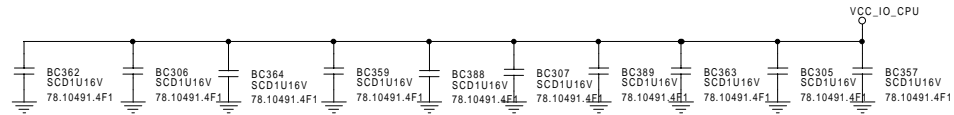
CPU-COPPERMINE

Doc No.	Document Number	Rev.
	MAGPIE	SE

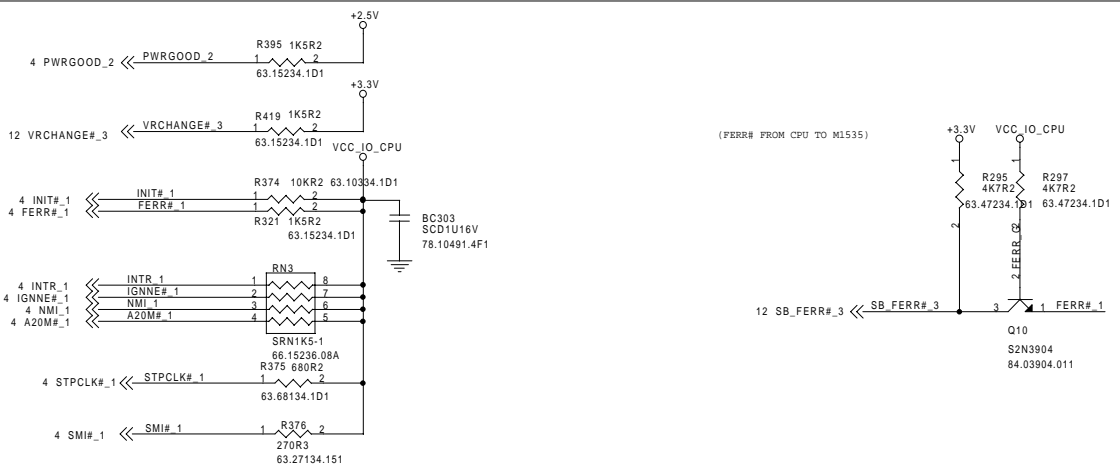
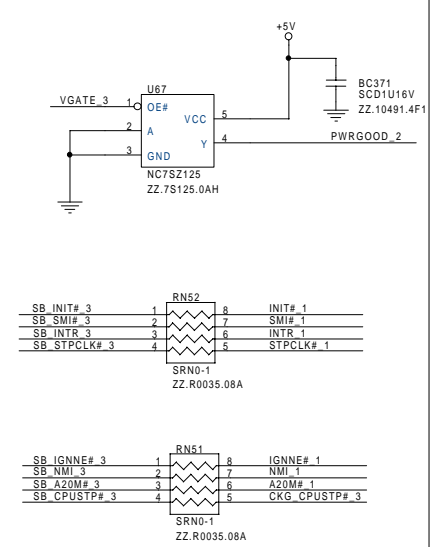
Date: Sunday, August 13, 2000 Sheet: 4 of 38

DEFAULT

	Group A	Group B
W/ Gerserville	No Mounting	Mounting
W/O Gerserville	Mounting	No Mounting



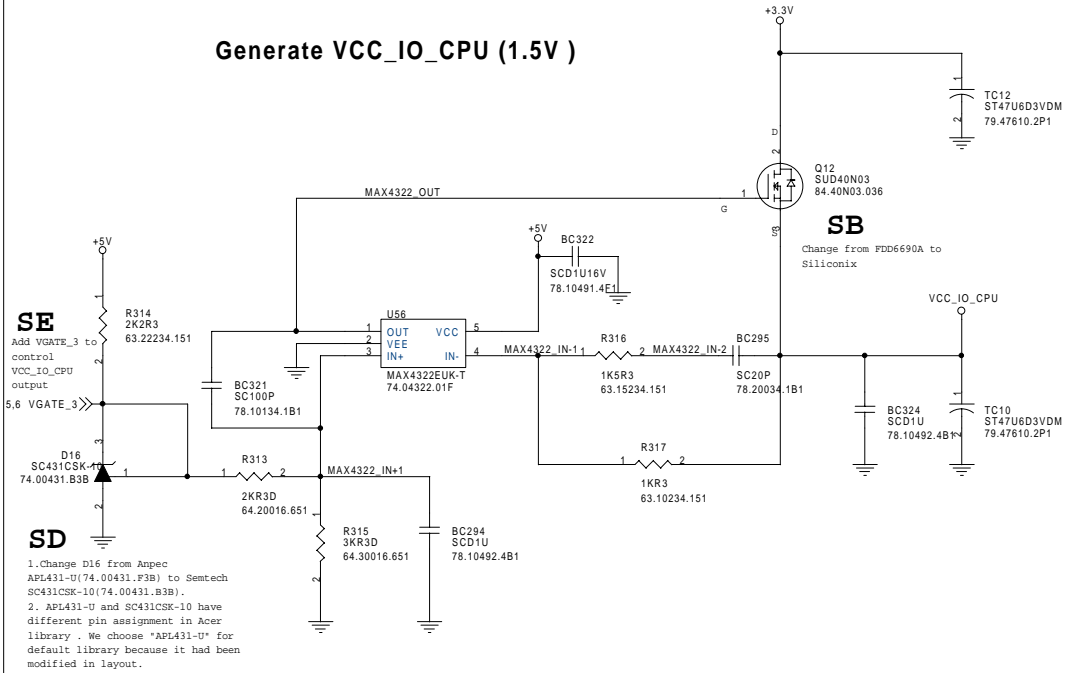
GROUP A (Default nonuse)



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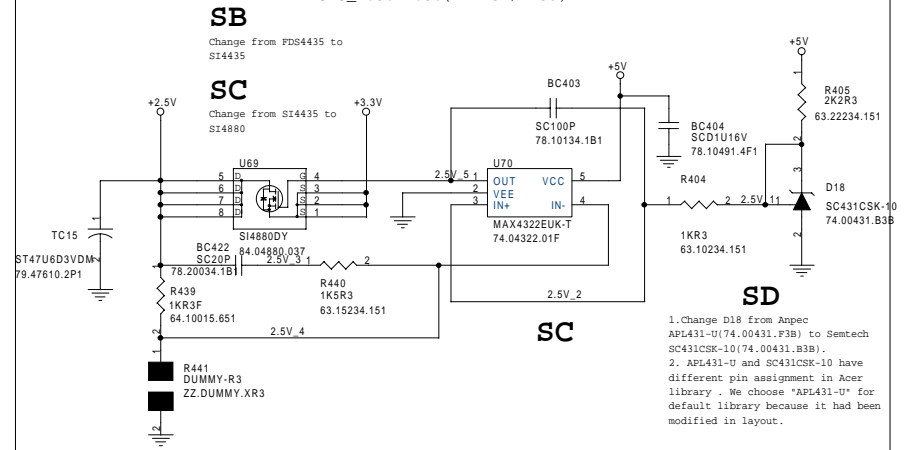
Title GEYSERVILLE & CPU THERMAL SENSOR			
Size A3	Document Number	MAGPIE	Rev SE
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Generate VCC_IO_CPU (1.5V)

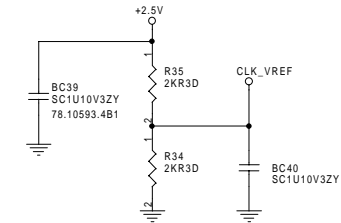


Generate CLK_VCC (2.5V) TO CLOCKGEN

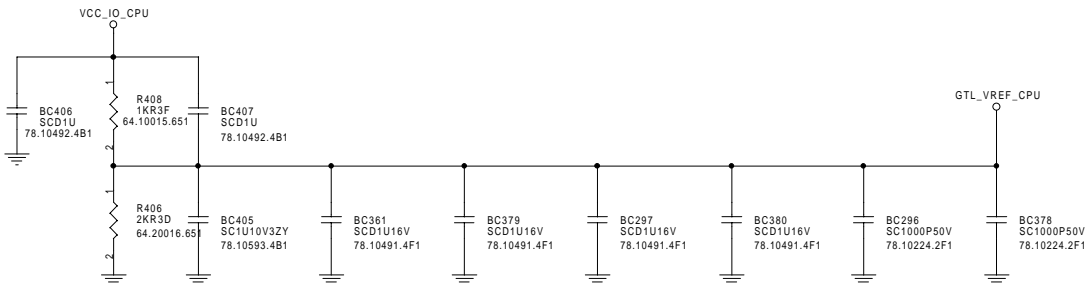
$$CPU_2.5V = 2.5V(1 + R431/R430)$$



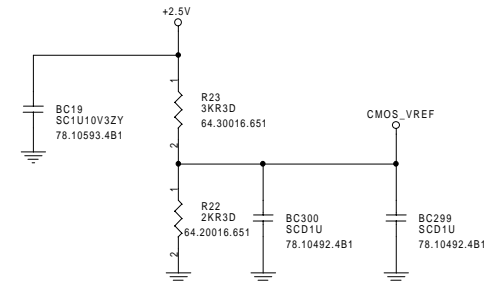
Generate CLK_VREF (1.25V) TO CPU



Generate GTL_VREF_CPU (1V)



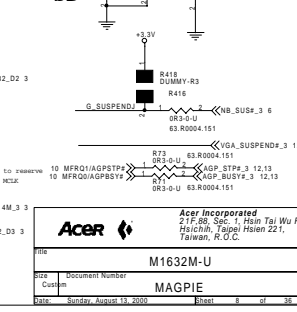
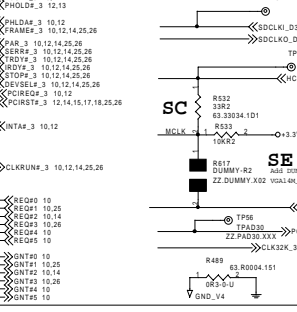
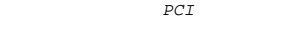
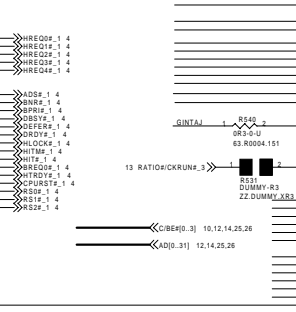
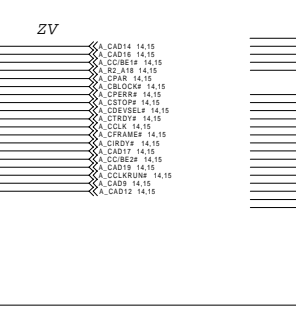
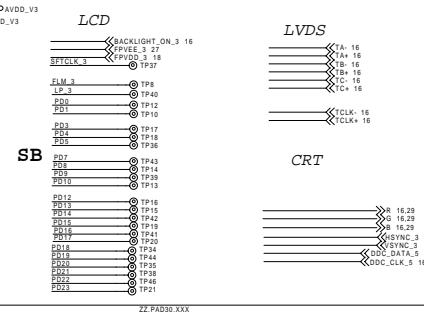
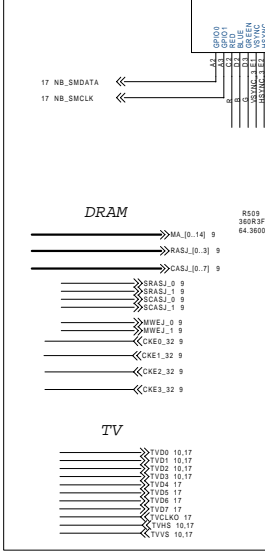
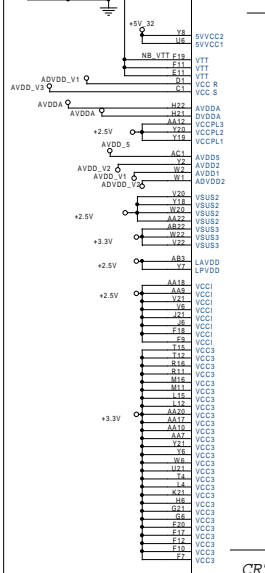
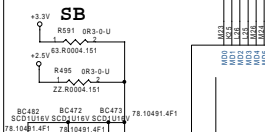
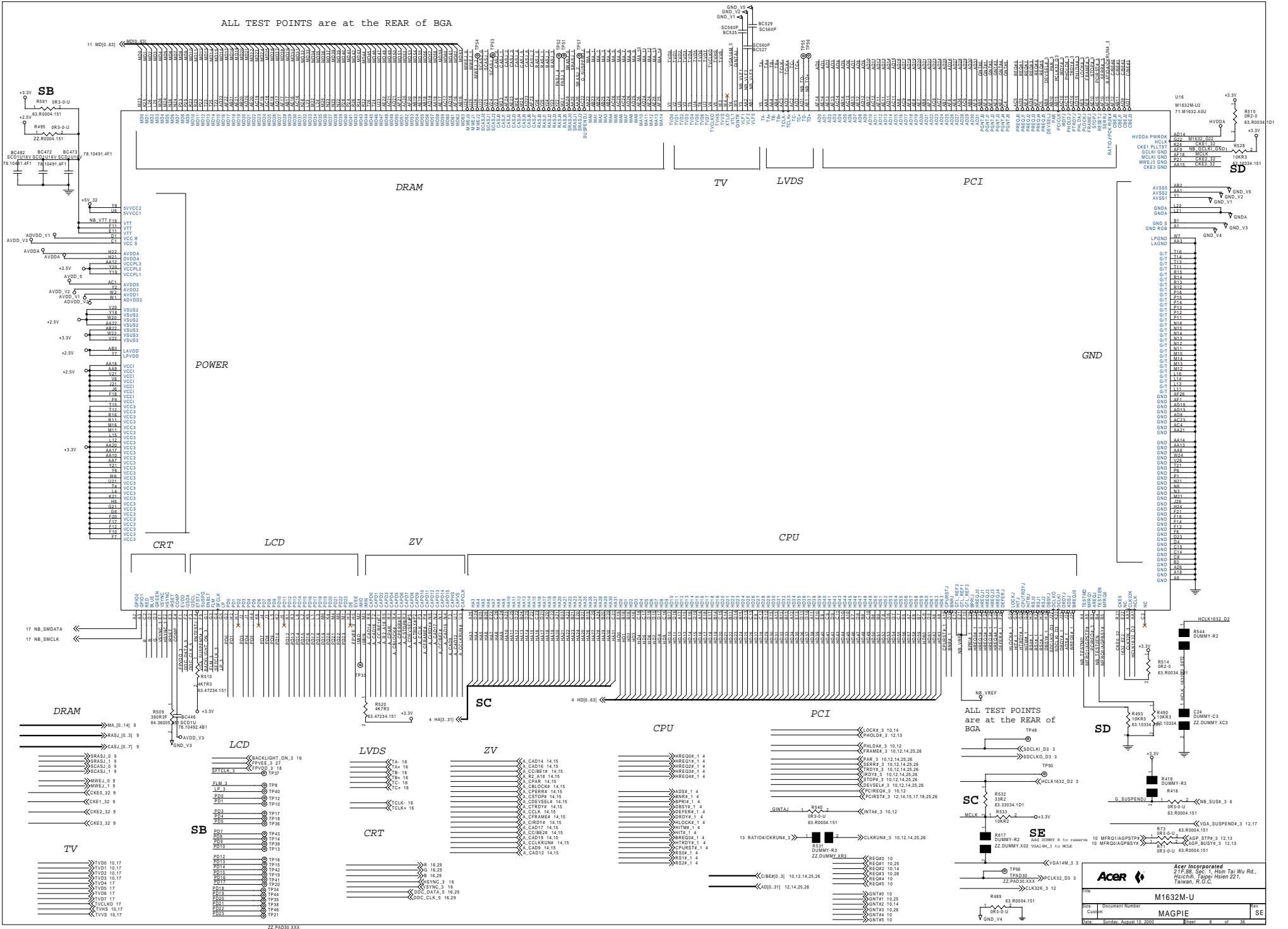
Generate CMOS_VREF (1V) TO CPU SPEC 1V +/- 100mV



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Title		
CPU CORE/IO POWER & VRM		
Size	Document Number	Rev
A3	MAGPIE	SE
Date:	Sunday, August 13, 2000	Sheet 7 of 36

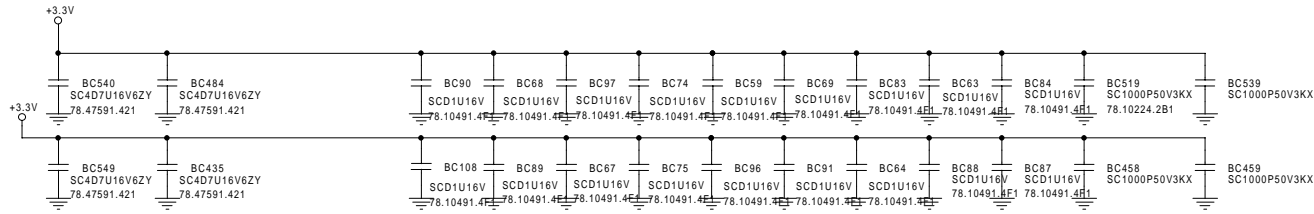
ALL TEST POINTS are at the REAR of BGA



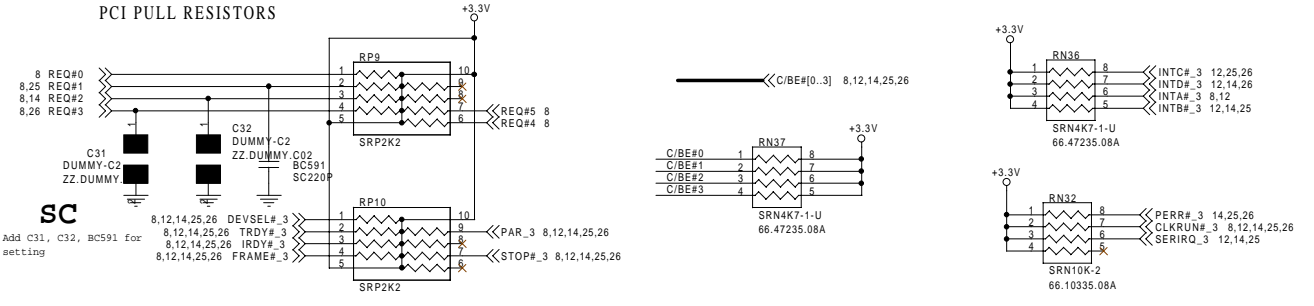
ACER logo and company information: Acer Incorporated, 217, 88, Sec. 1, Hsin Tai Wu Rd., Tzongcheng, Taichung, Taiwan, R.O.C.

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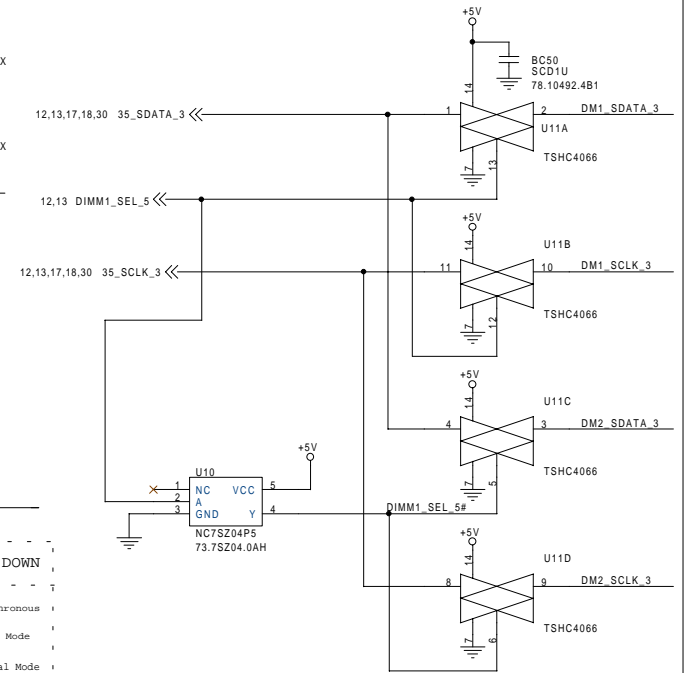
DIMM MODUL POWER BYPASS CAPACITOR near DM1,DM2 power pin



PCI PULL RESISTORS



DIMM SMBUS EEPROM SELECTOR

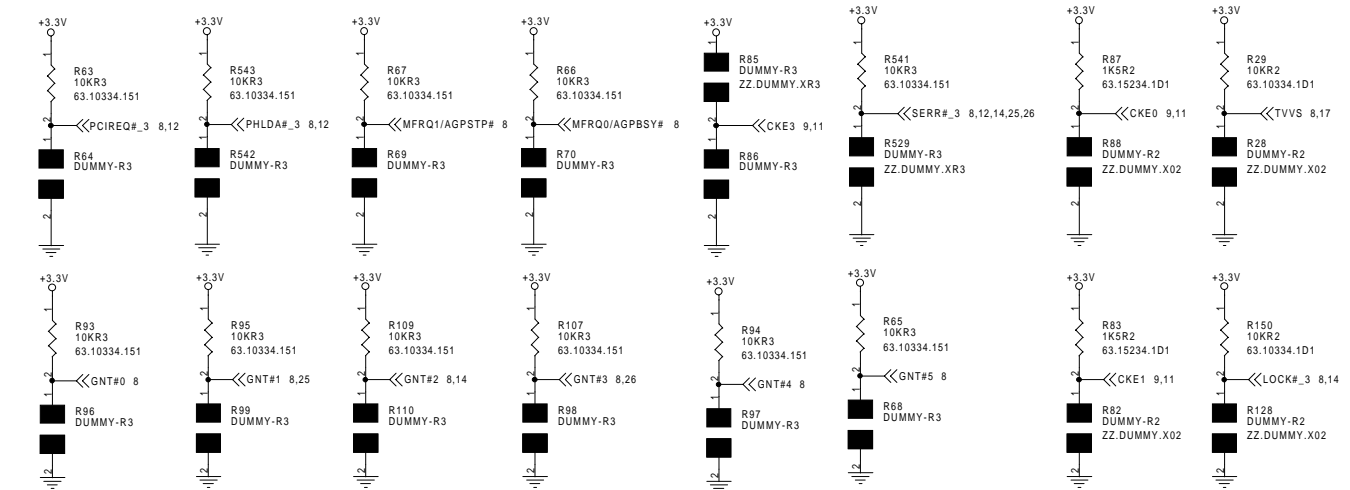


Description	PULL UP	PULL DOWN
GNT#5 Internal HOST Clock	LEAD	LAG
GNT#4 HSEL_2	GNT# [4:2]	11=0stage 110=1stage 101=2stage
GNT#3 HSEL_1	100=3stage 011=4stage 010=5stage	
GNT#2 HSEL_0	001=6stage 000=7stage	
GNT#1 HFRQ1	GNT# [1:0]	00=2XPCCLK 01=3XPCCLK
GNT#0 HFRQ0	10=Reserved	11=32HCLK

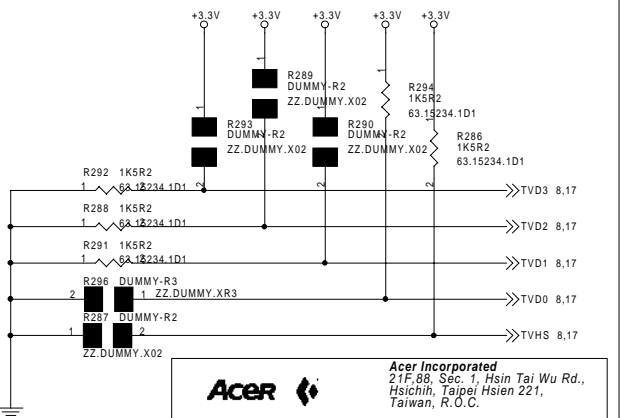
Description	PULL UP	PULL DOWN
MFRQ1	MFRQ1	00=2XPCCLK 01=3XPCCLK
MFRQ0	MFRQ0	10=Reserved 11=32HCLK
CKE3	AGP PLL	Enable Disable
PCIRPQ#	HOST PLL	Enable Disable
PHLDA#	MEM PLL	Enable Disable

Description	PULL UP	PULL DOWN
TVHS	SYNC_MODE	Synchronous Asynchronous
TVD0	Graphics Test Mode	Normal Mode Test Mode
TVD1	North Bridge Test	Test Mode Normal Mode
TVD2	Graphics Clock	Test Mode Normal Mode
TVD3	Graphics Clock	Test Mode Normal Mode

M1632 HARDWARE SETTING



M1632 GRAPHIC HARDWARE SETTING

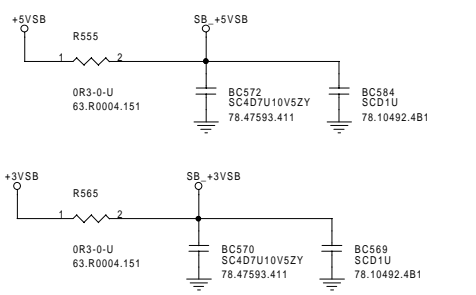
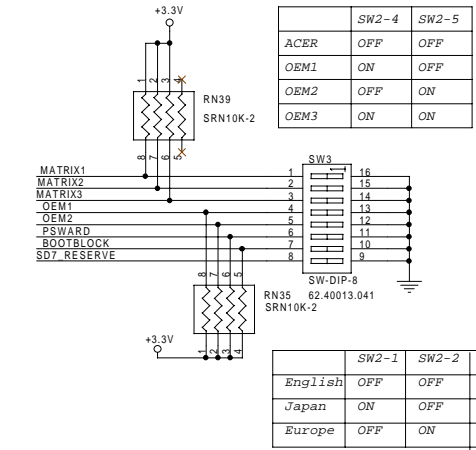
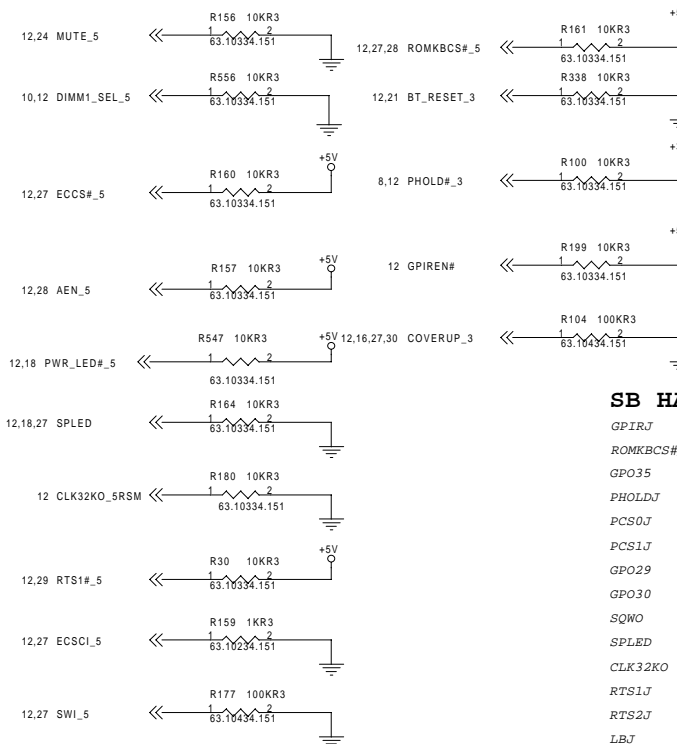
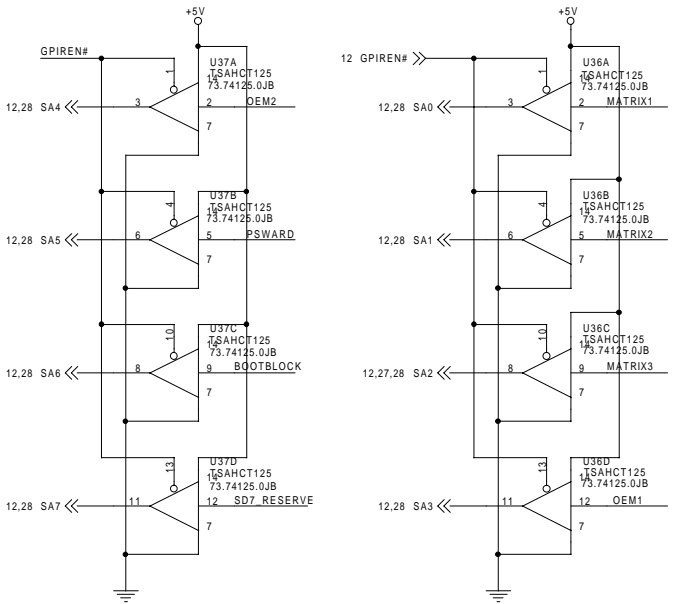


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Title: **FILTER & SELECTOR**

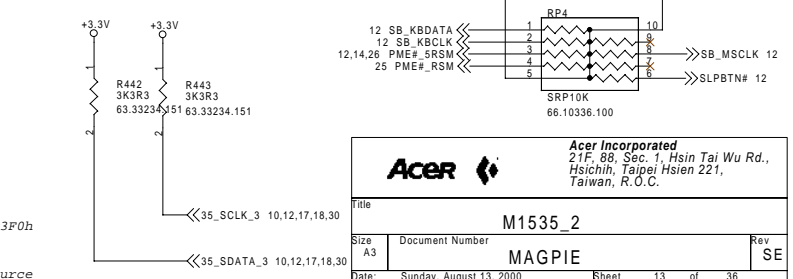
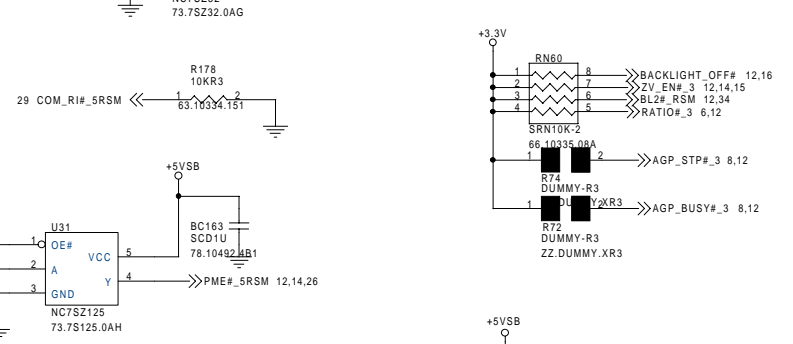
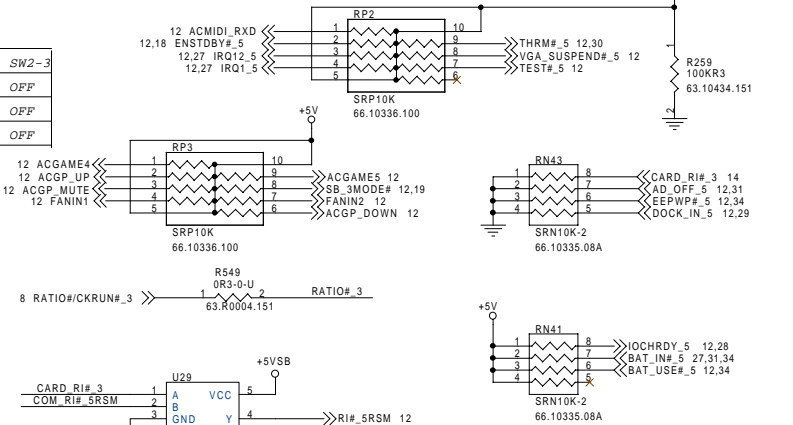
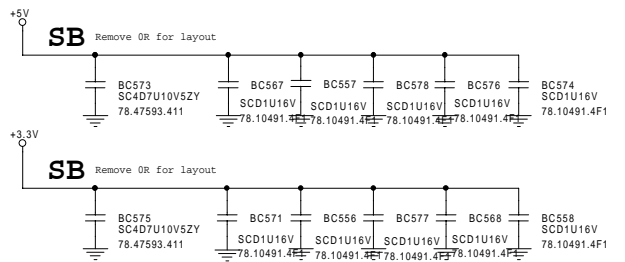
Size: A3 Document Number: **MAGPIE** Rev: **SE**

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SB HARDWARE SETTING

GPIRJ	PULL HIGH	NORMAL OPERATION
ROMKBCS#_5	PULL HIGH	NORMAL OPERATION
GPO35	PULL LOW	NORMAL OPERATION
PHOLDJ	PULL HIGH	NORMAL OPERATION
PCS0J	PULL LOW	Enable 4Mb Flash Rom Size Function
PCS1J	PULL LOW	FOR IOCHRDY DEFAULT
GPO29	PULL HIGH	NORMAL OPERATION
GPO30	PULL HIGH	NORMAL OPERATION
SQW0	PULL HIGH	Pentium II CPU -> CPURST Low Active Reset
SPLD	PULL LOW	ATX Mode
CLK32KO	PULL LOW	NORMAL OPERATION
RTS1J	PULL HIGH	Base Address of Configuration for SIO: 0x3F0h
RTS2J	PULL LOW	Disable Internal Keyboard Controller
LBJ	PULL LOW	OFF_PWR2 Low Active to Power Off Power Source



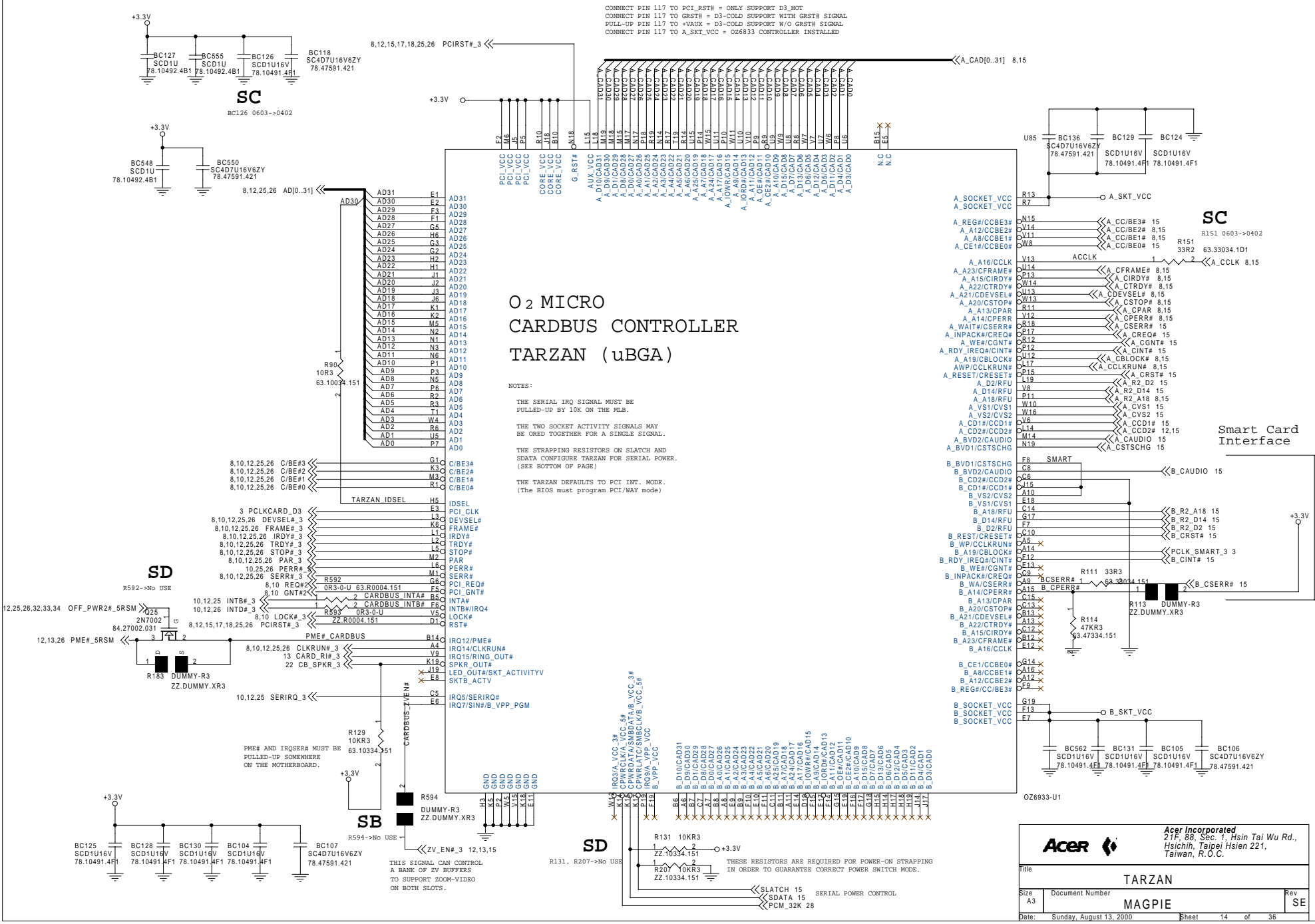
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 Hsichih, Taipei Hsien 221,
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Title: **M1535_2**

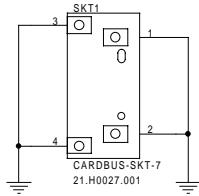
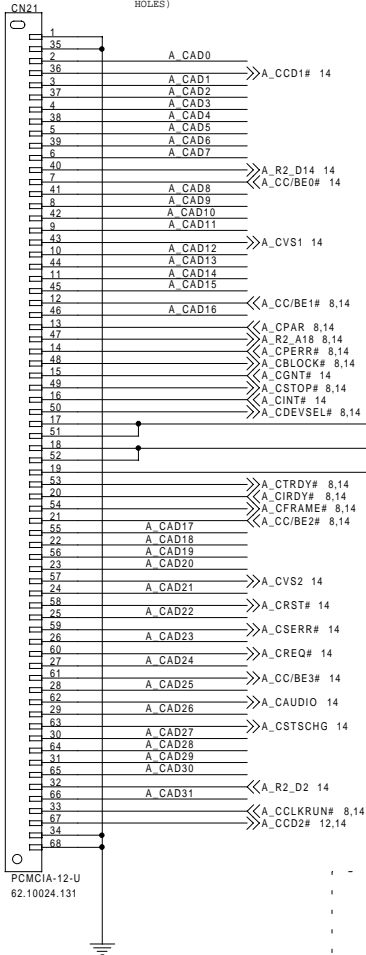
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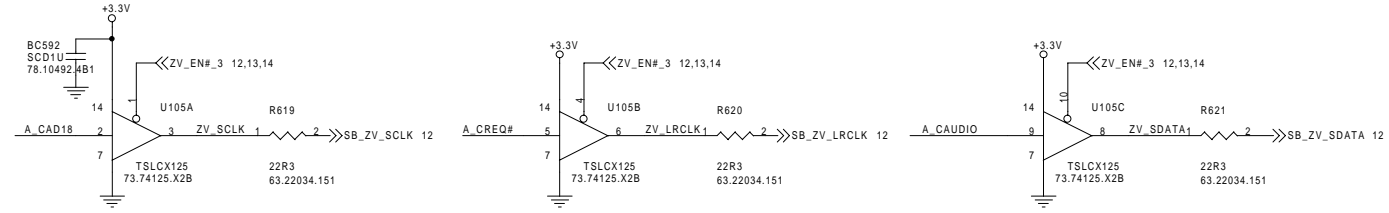
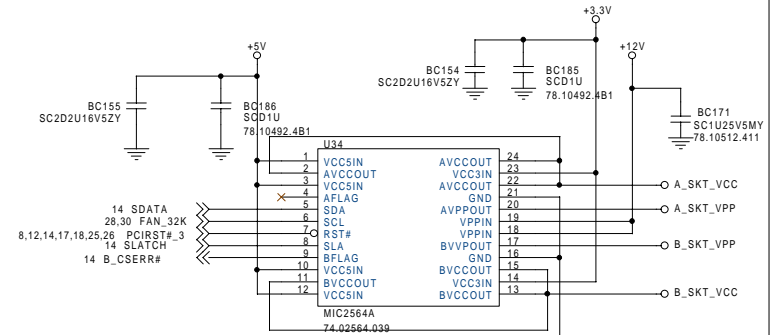
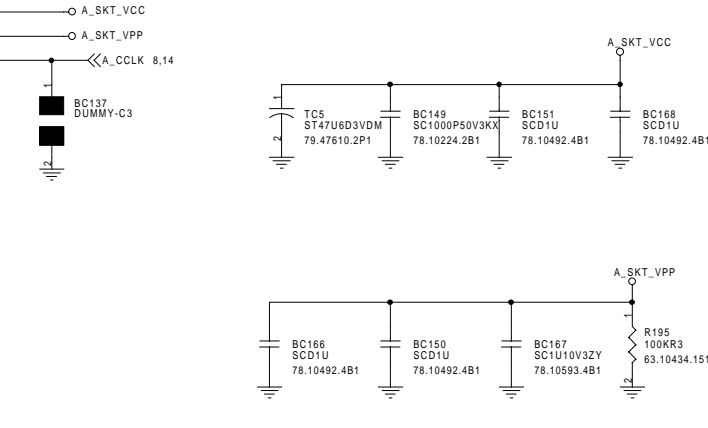
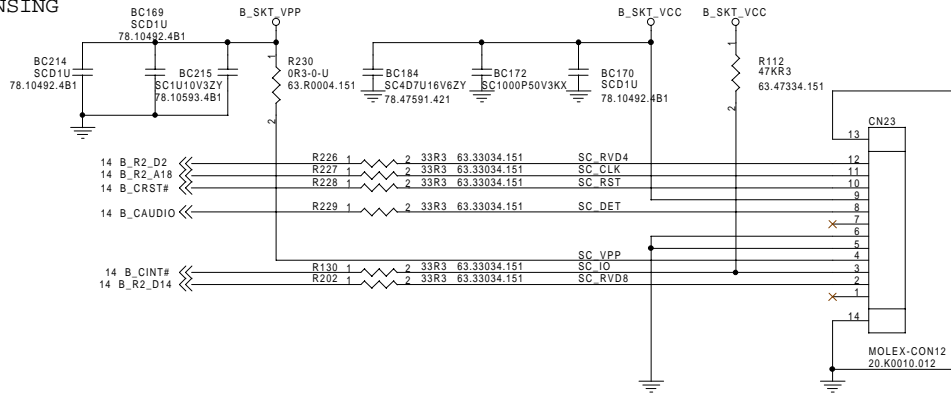
CONNECT PIN 117 TO PCI_RST# = ONLY SUPPORT D3_HOT
 CONNECT PIN 117 TO GRST# = D3-COLD SUPPORT WITH GRST SIGNAL
 FULL-UP PIN 117 TO +VAUX = D3-COLD SUPPORT W/O GRST SIGNAL
 CONNECT PIN 117 TO A_SKT_VCC = OZ6833 CONTROLLER INSTALLED



PCMCIA SOCKET
62.10024.063
(PIN : 69-84 GND)
(PIN : 85, 86 NPTH HOLE)
(PIN : 87-90 SCREW HOLES)



SMART CARD
INTERFACE
SMARTSENSING

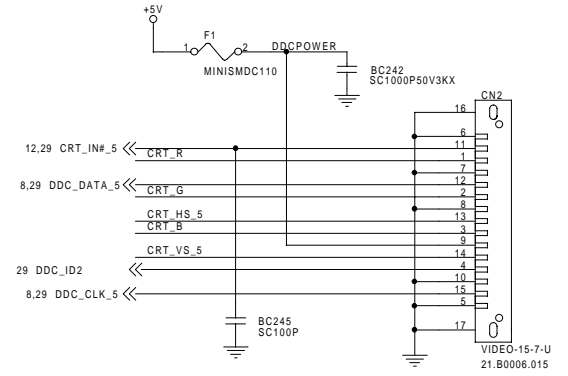
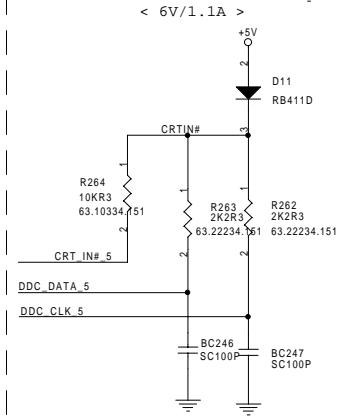
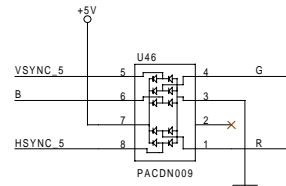
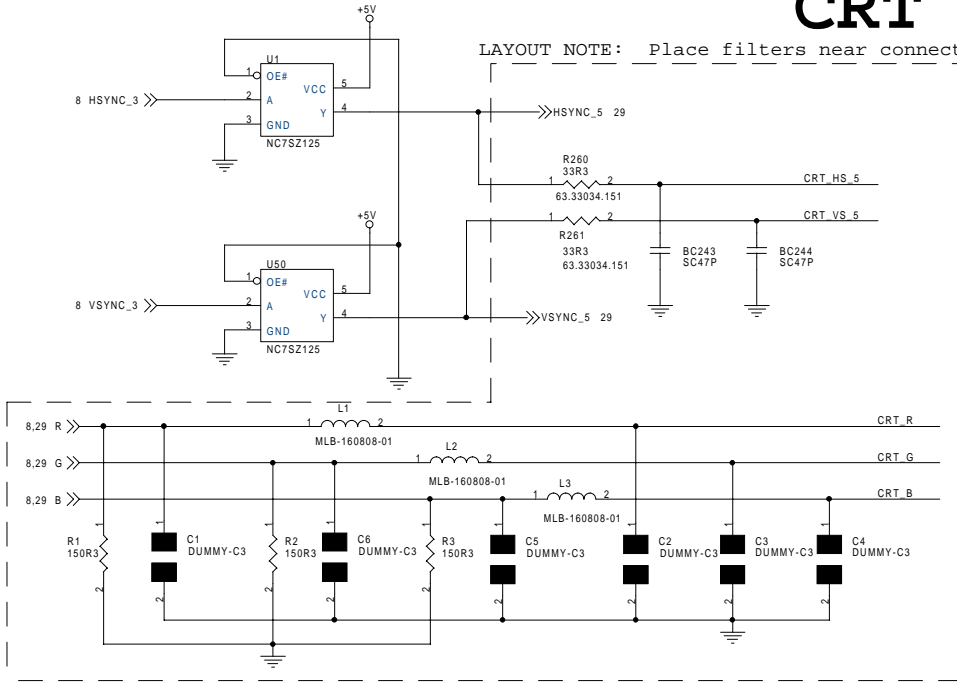


SE To control ZV AUDIO signal from PCMCIA conn. to M1555

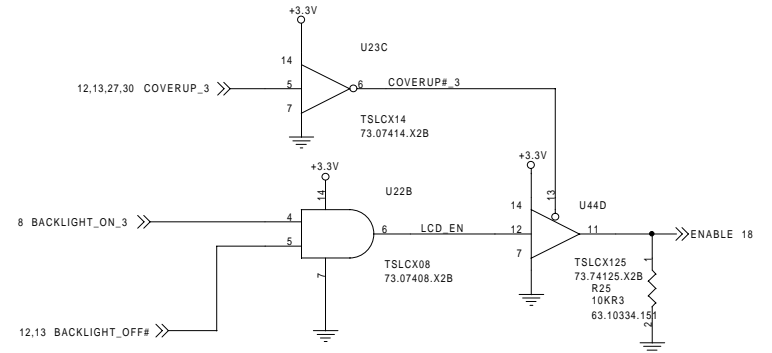
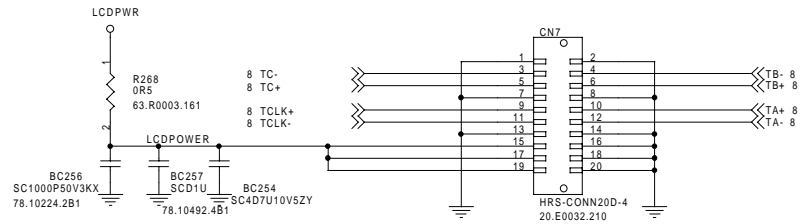
Acer Incorporated 21F, 88, Sec. 1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.		
Title SOCKET/Smart Card Interface		
Size A3	Document Number MAGPIE	Rev SE
Date: Sunday, August 13, 2000	Sheet 15	of 36

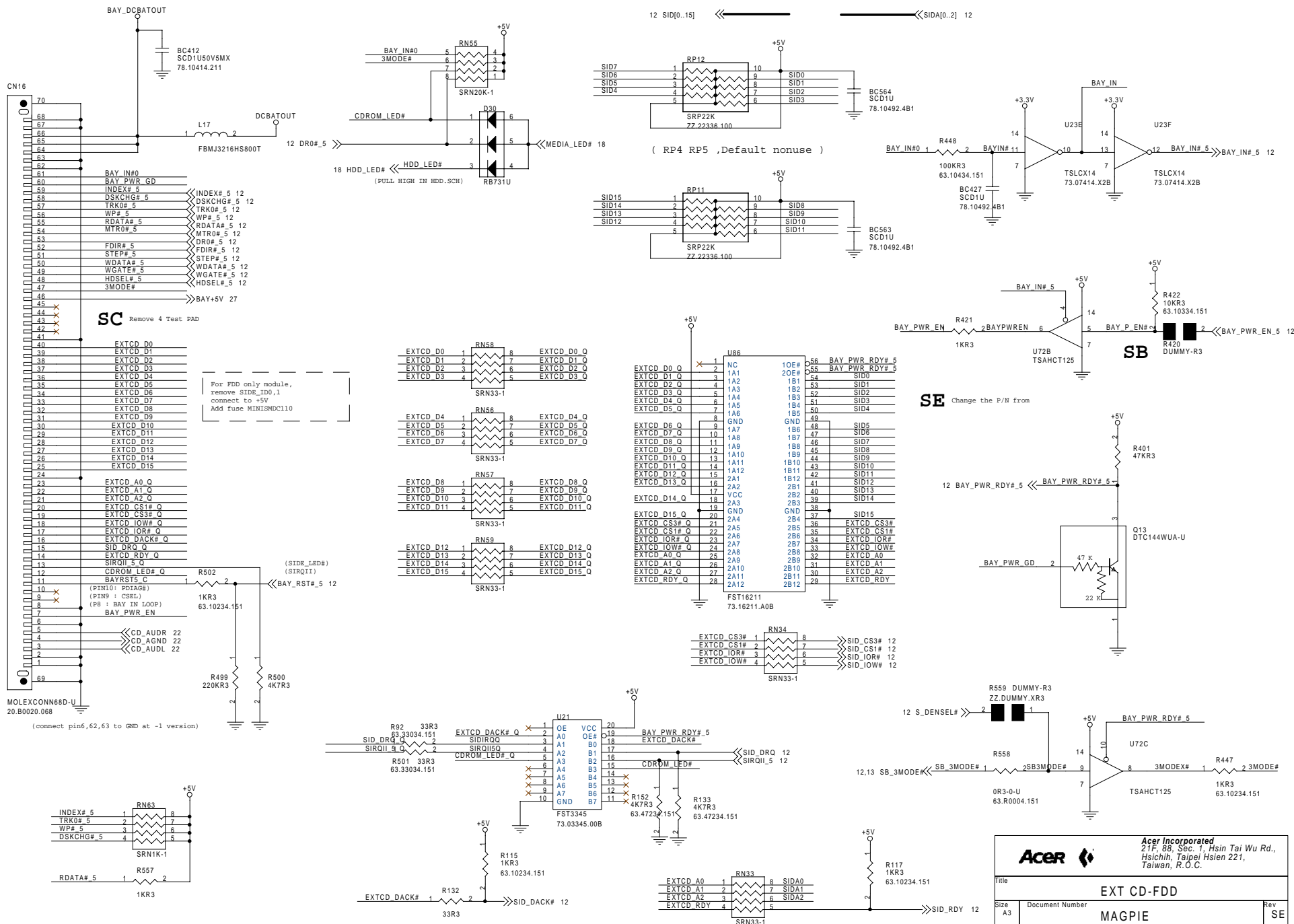
CRT

LAYOUT NOTE: Place filters near connector.



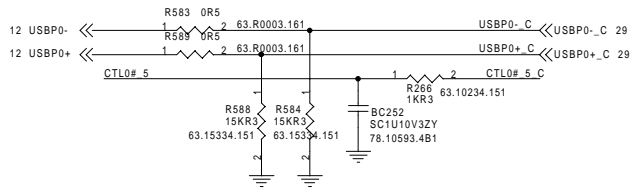
LCD



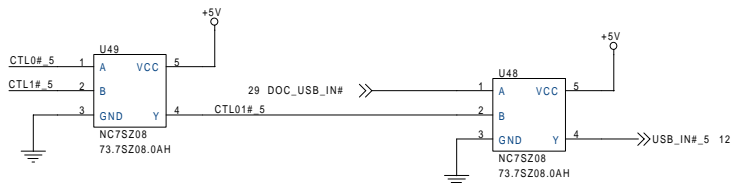
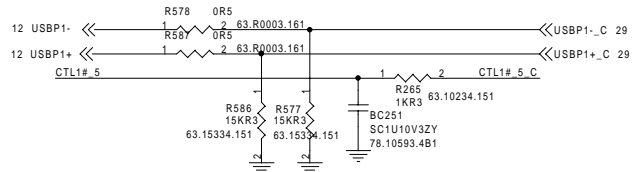


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EXT CD-FDD		
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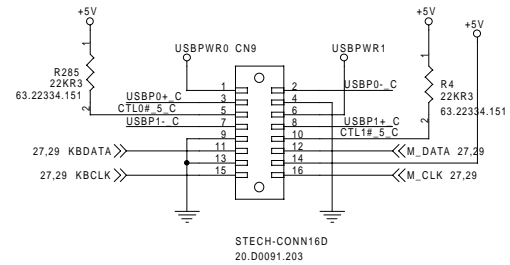
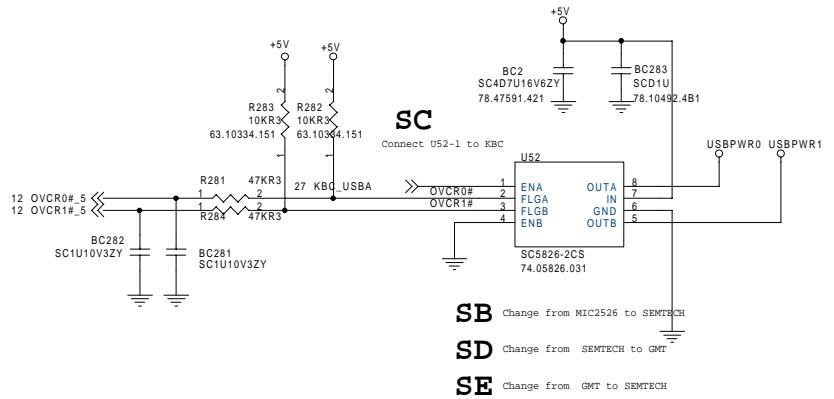
USB0



USB1

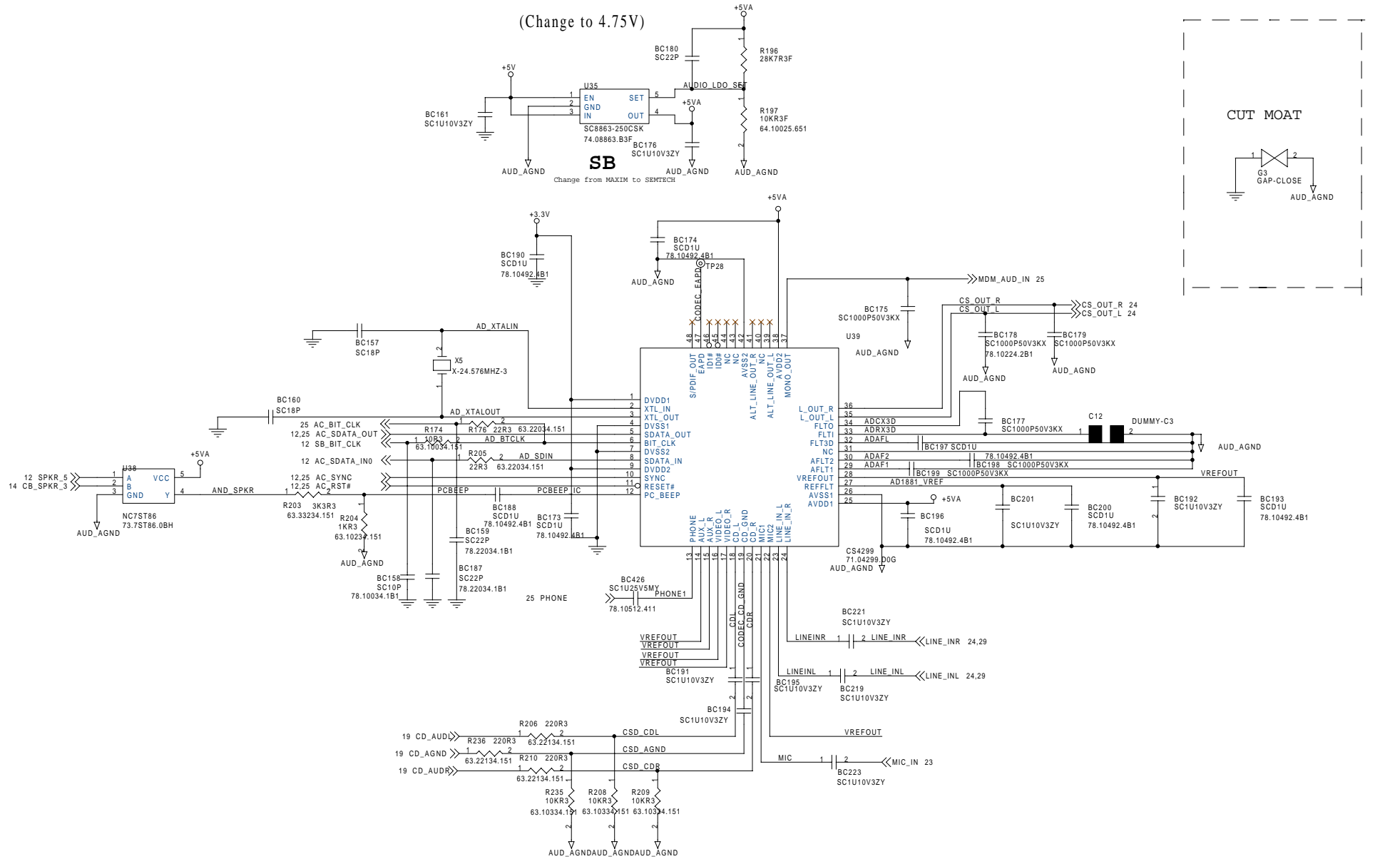


USBP00/USBP01 USB Differential Signal layout rule :
width 9mils and 2W_space



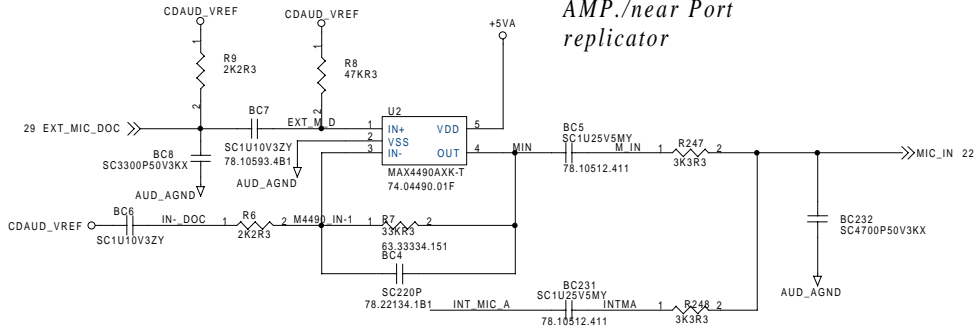
Acer Incorporated 21F, 88, Sec. 1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.		
USB		
Size A3	Document Number MAGPIE	Rev SE
Date: Sunday, August 13, 2000	Sheet 20	of 36

(Change to 4.75V)



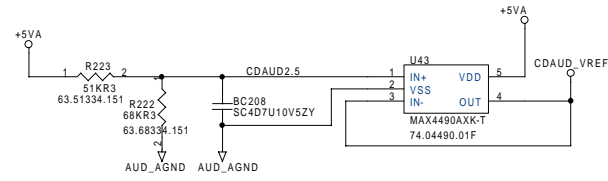
Acer		Acer Incorporated 21F, 88, Sec. 1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title Audio_codec			
Size	Document Number	Rev	SE
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Port replicator
Microphone
AMP./near Port
replicator

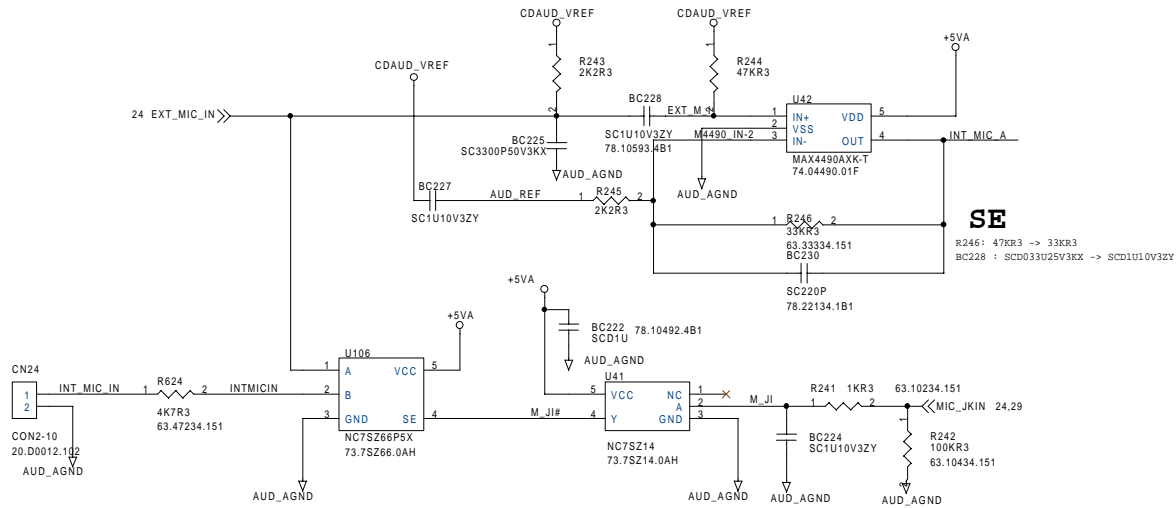


SE R7: 47KR3 -> 33KR3
BC7 : SCD033U25V3KX -> SCD1U10V3ZY

CDAUD_VREF==2.57V



Internal System Microphone Pre_Amp /near CN4



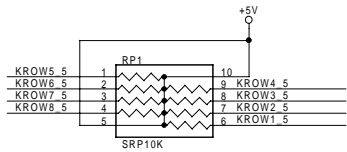
SE 1. Replace DTCL24EUA-U to NC7S266P5X
2. Add 4K7R3 to improve input impedance

SC Connect M_JI from U41-1 to U41-2

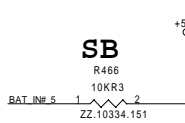
Acer			Acer Incorporated 21F, 88, Sec. 1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.
Title Microphone			
Size A3	Document Number MAGPIE	Rev SE	
Date: Sunday, August 13, 2000		Sheet 23 of 36	



SE



(NEAR M38867)



SB

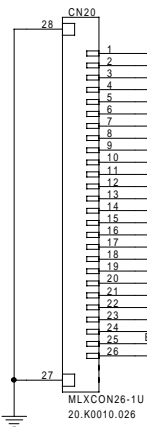
SC

12 HOTKEY_5
30 HW_THER_EN#
12,13 SW1_5

SE

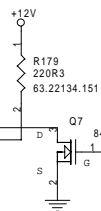
Add P40 and P41 of KBC to control BLUELED and 802.11LED

Internal Keyboard Connector

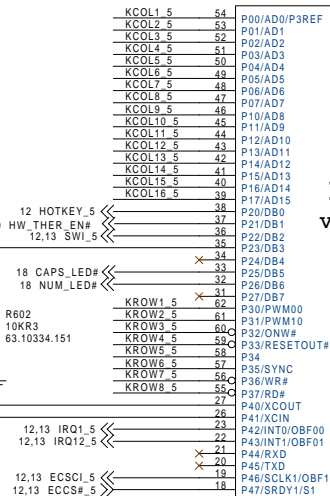
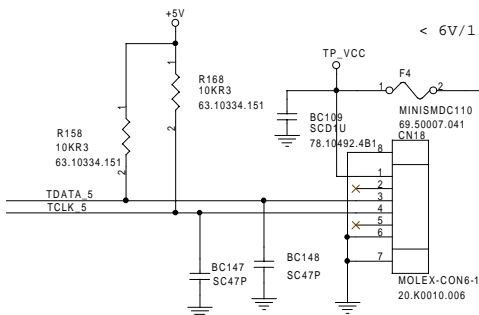


SE

Change the power source from +5V to +12V to make the E-mail LED lighter



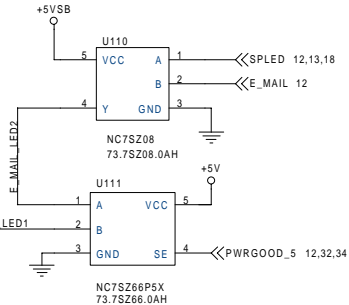
TouchPad Connector



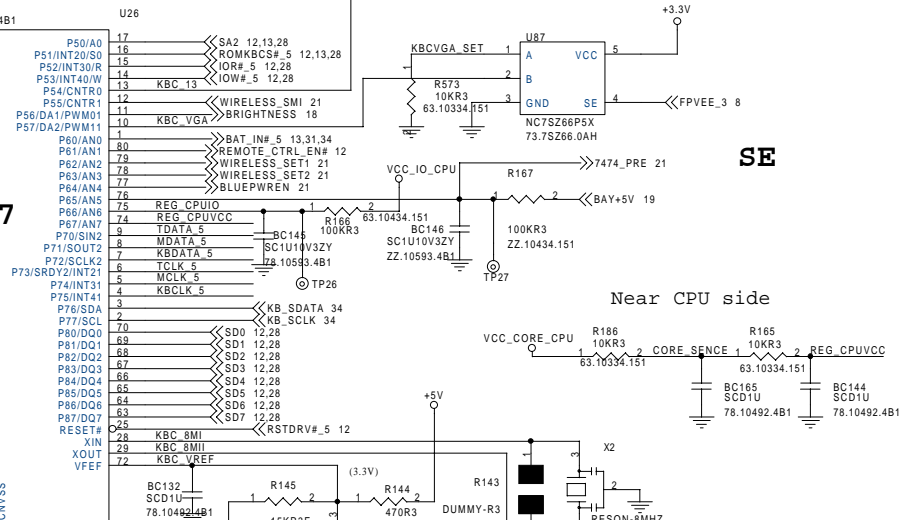
KBC
M38867
v 1.29-11

SE

To make the E-mail LED could flash



SE
Add 2 control pins: REMOTE_CTRL_EN and BLUEPWRN



SB

From V1.29 toV1.47

SC

From V1.47 toV1.47-01

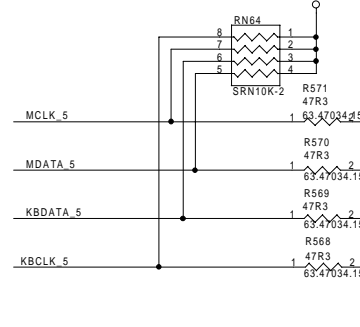
SD

From V1.47-01 toV1.47

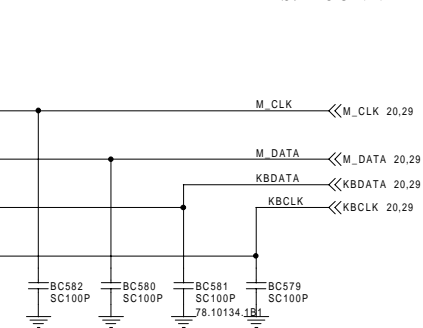
SD

1.Change D9 from Anpec APL431-U(74.00431.F3B) to Semtech SC431CSK-10(74.00431.B3B).
2. APL431-U and SC431CSK-10 have different pin assignment in Acer library. We choose "APL431-U" for default library because it had been modified in layout.

NEAR KBC CHIP



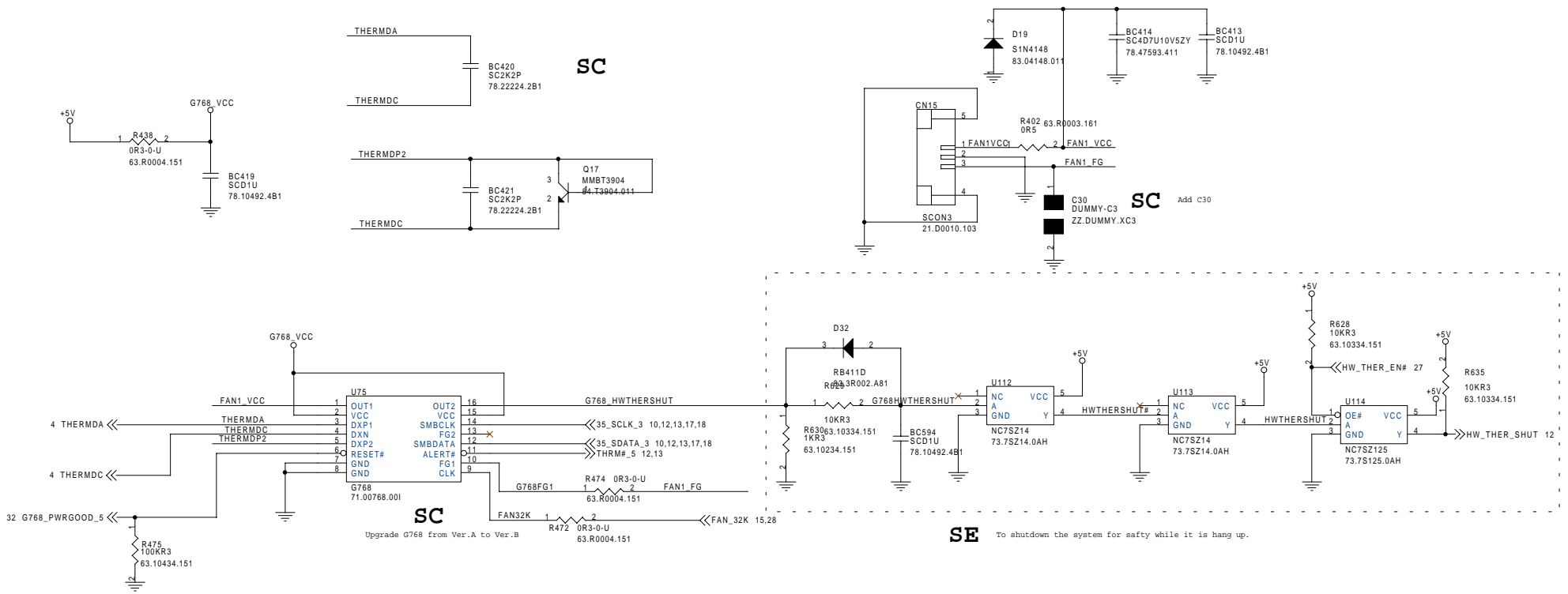
PS/2 CONN



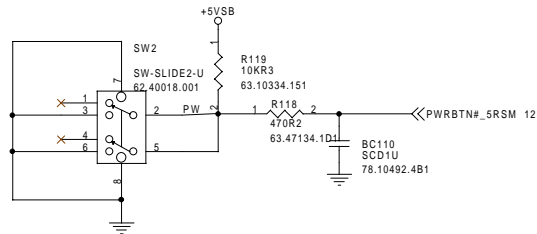
Acer Incorporated
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Hsichih, Taipei Hsien 221,
Taiwan, R.O.C.

Title		Keyboard, TouchPad Connectors, KBC 38867	
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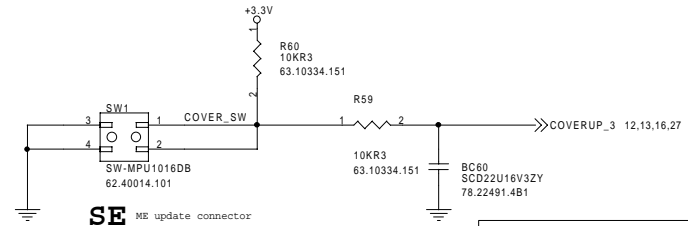
THERMAL SENSOR & FAN CONTROLLER



POWER SWITCH

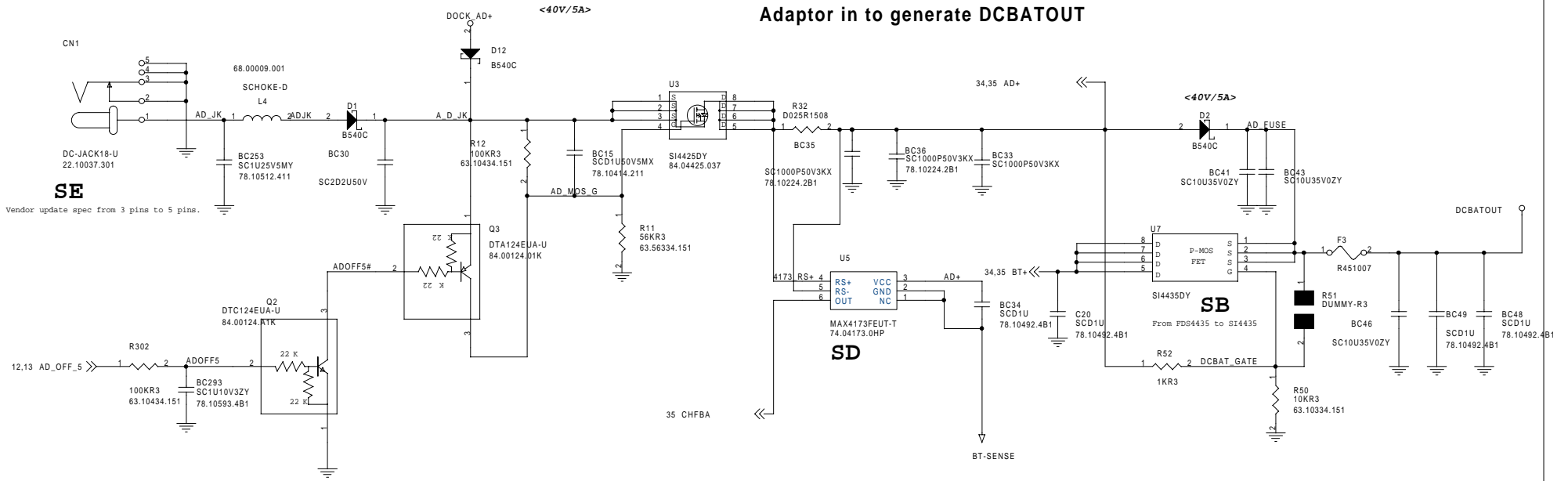


COVER SWITCH

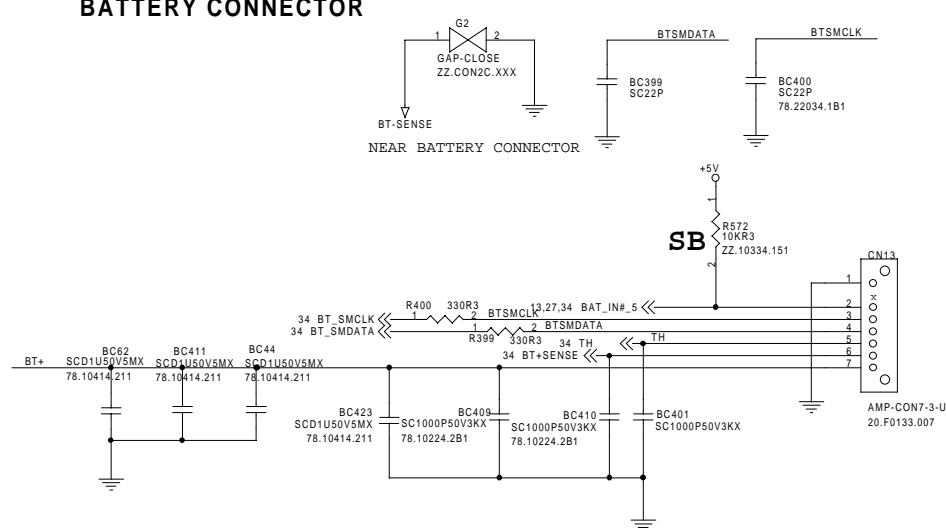


Acer		
Acer Incorporated 21F, 88, Sec. 1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.		
Title Power1		
Size A3	Document Number MAGPIE	Rev SE
Date: Sunday, August 13, 2000 Sheet 30 of 36		

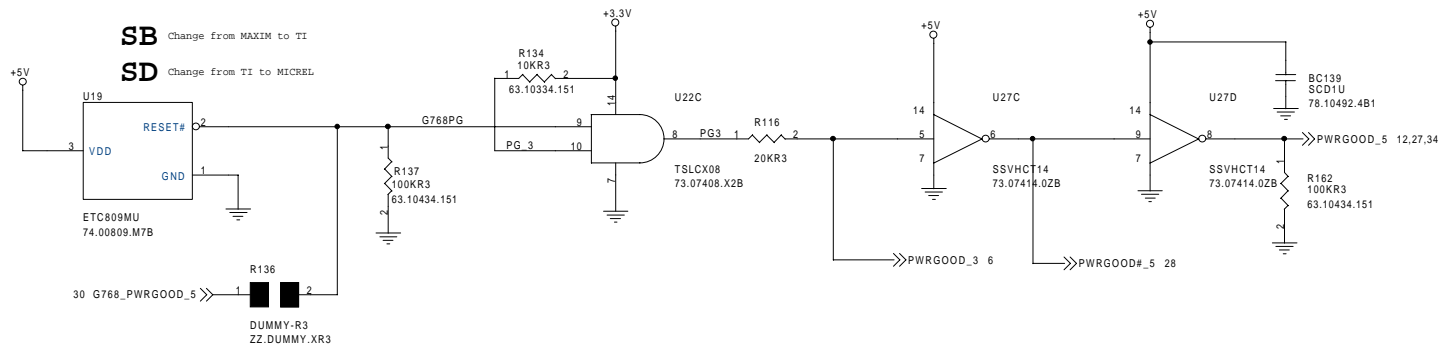
Adaptor in to generate DCBATOUT



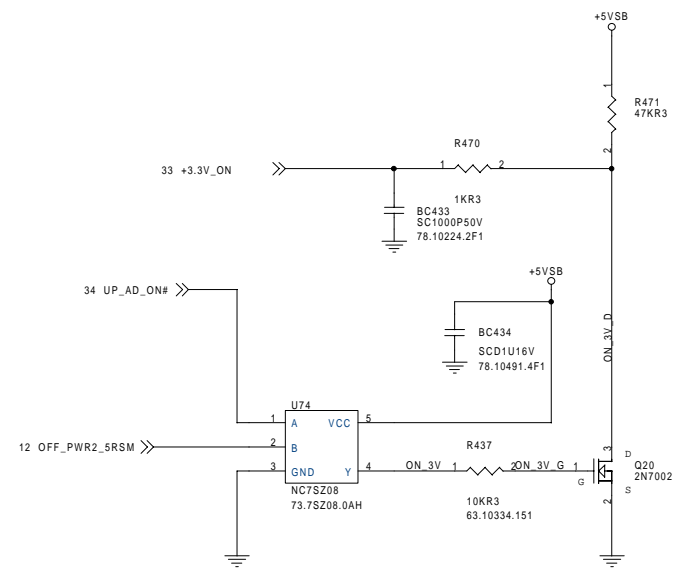
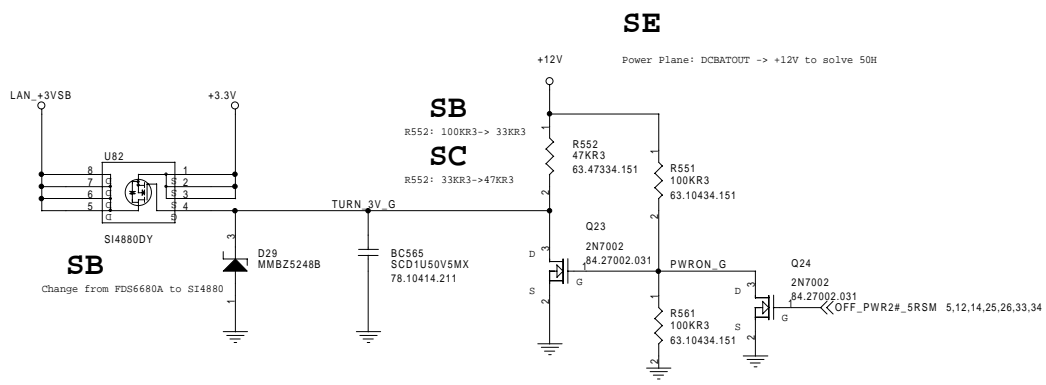
BATTERY CONNECTOR



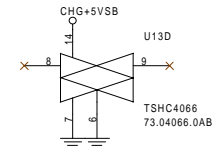
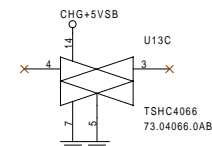
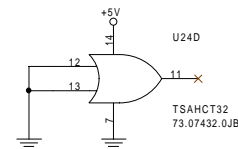
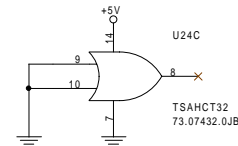
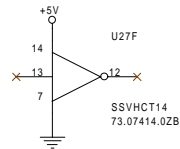
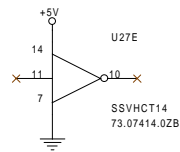
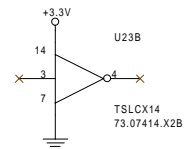
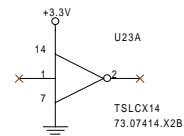
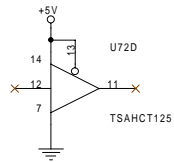
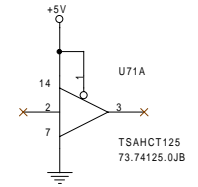
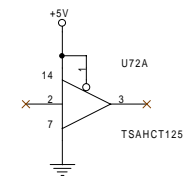
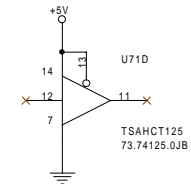
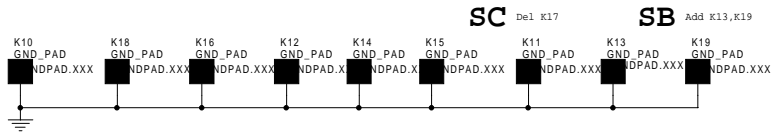
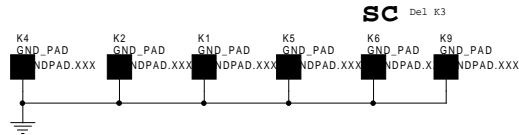
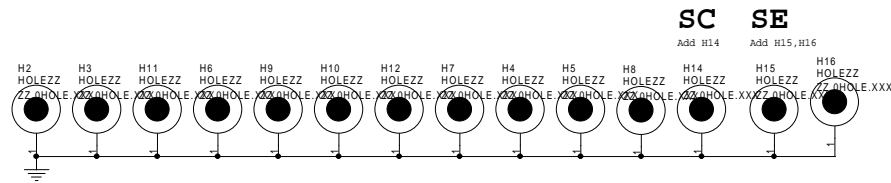
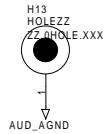
Acer		
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Title Power2		
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WHEN POWER ON
TURN LAN_+3VSB
TO +3.3V



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		Title: POWER3	
Size: A3	Document Number: MAGPIE	Date: Sunday, August 13, 2000	Rev: SE
Date: Sunday, August 13, 2000		Sheet: 32	of 36



SC De1 LM358

Acer		Acer Advanced Labs 5701 Airport Road Temple, Texas	
Title SPARE GATES & HOLES , SUSPEND/RESUME BUTTON			
Size A3	Document Number	MAGPIE	Rev SE
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