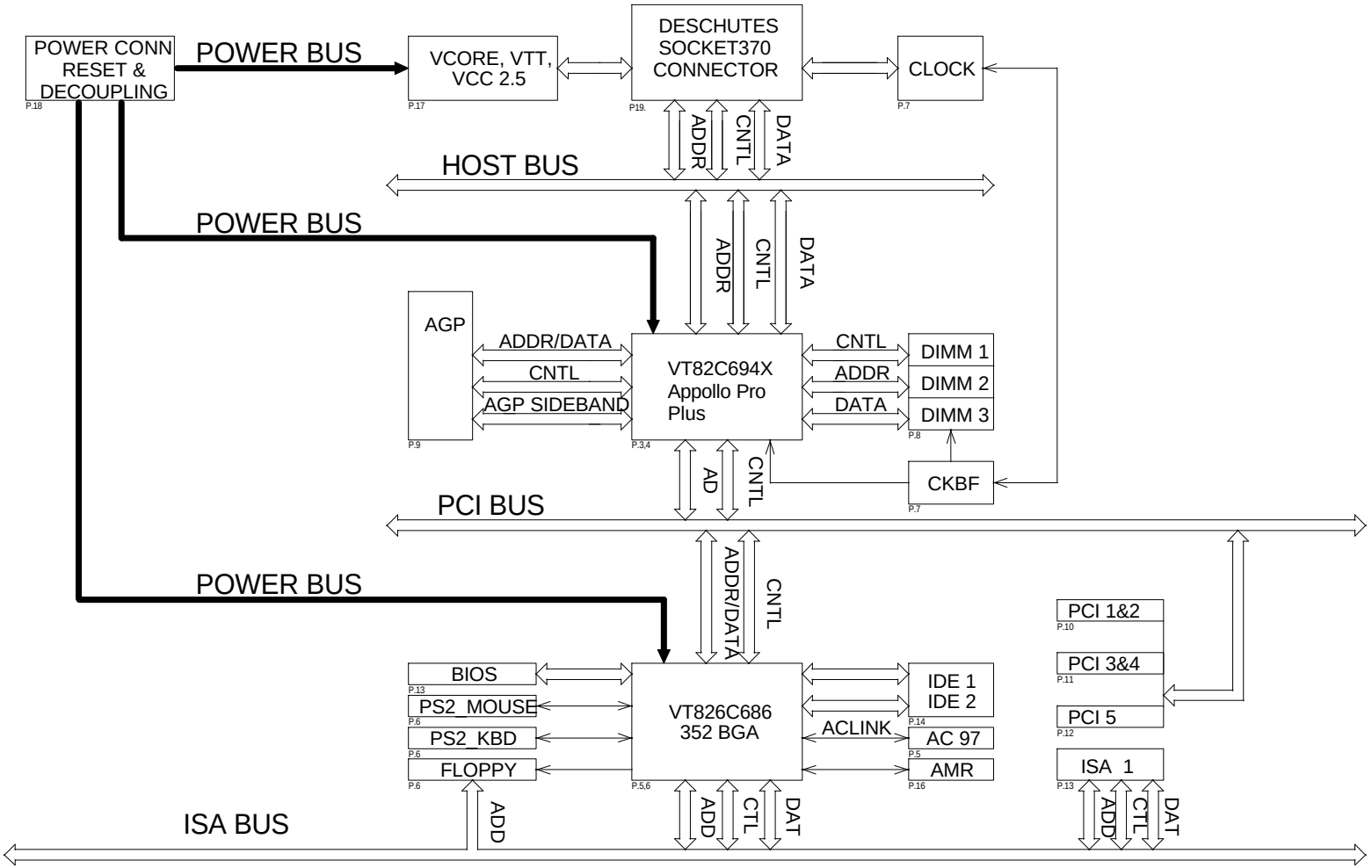
GMB-6295 V0 SCHEMATIC DRAWINGS

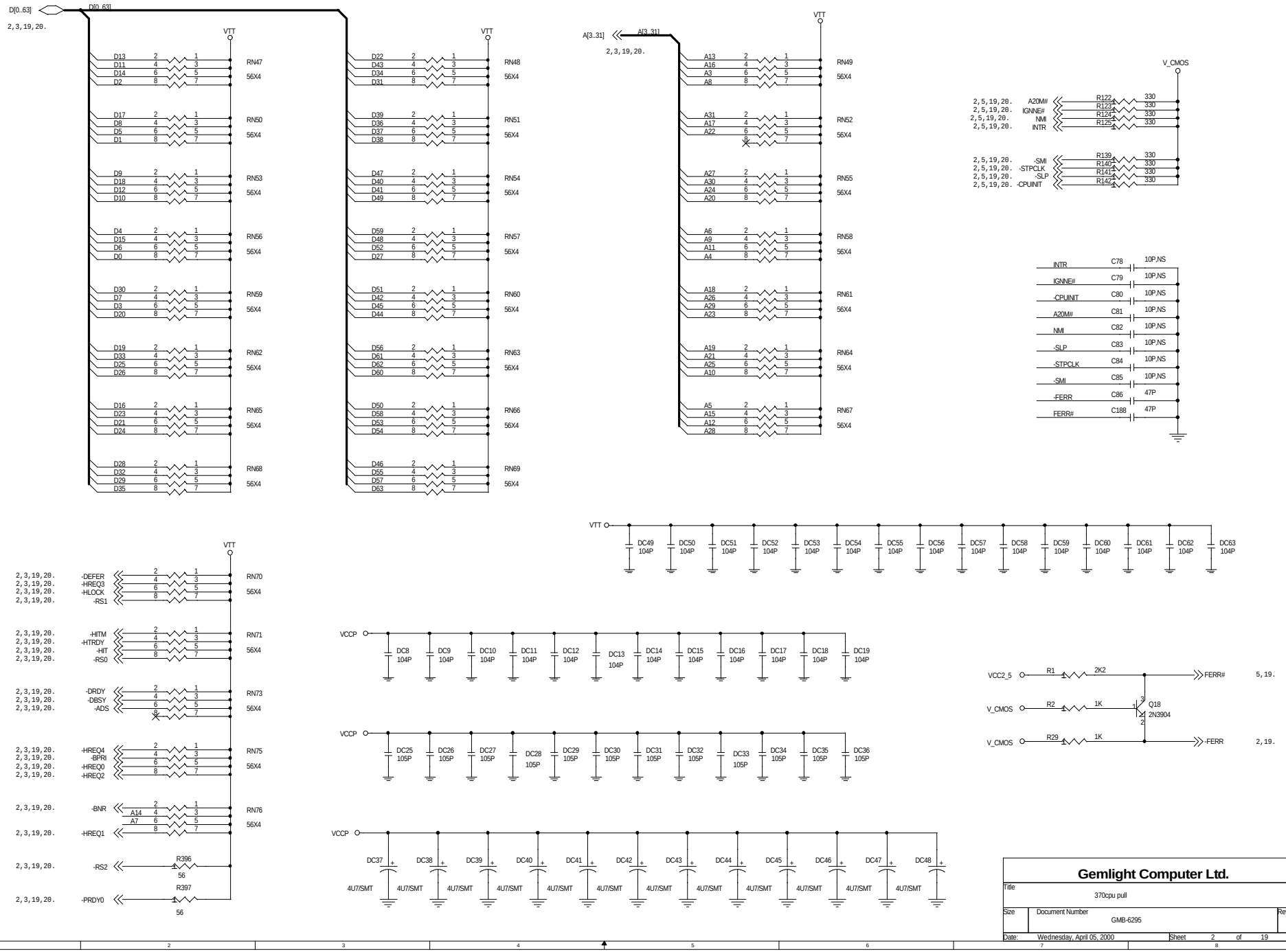
Rlease RB 05 Apr. 2000



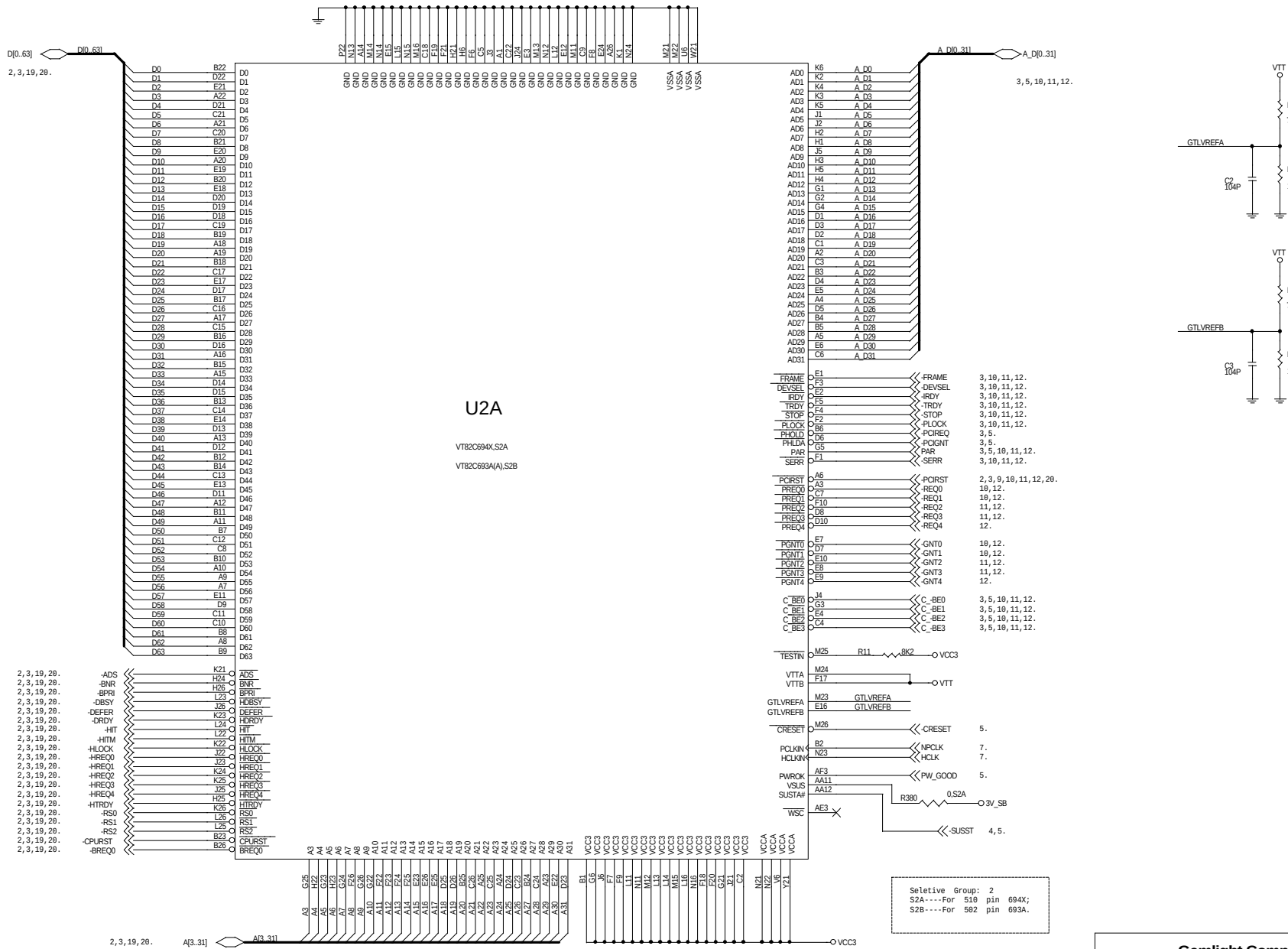
| 01_LINK
| 02_PULL_R
| 03_694A
| 04_694B
| 05_686A
| 06_686B
| 07_CLK
| 08_DIMM
| 09_AGP
| 10_PCI12
| 11_PCI34
| 12_PCI5
| 13_ISA
| 14_PORT
| 15_AUDIO
| 16_AMR
| 17_CPUPWR
| 18_ATX
| 19_S370

Gemlight Computer Ltd.

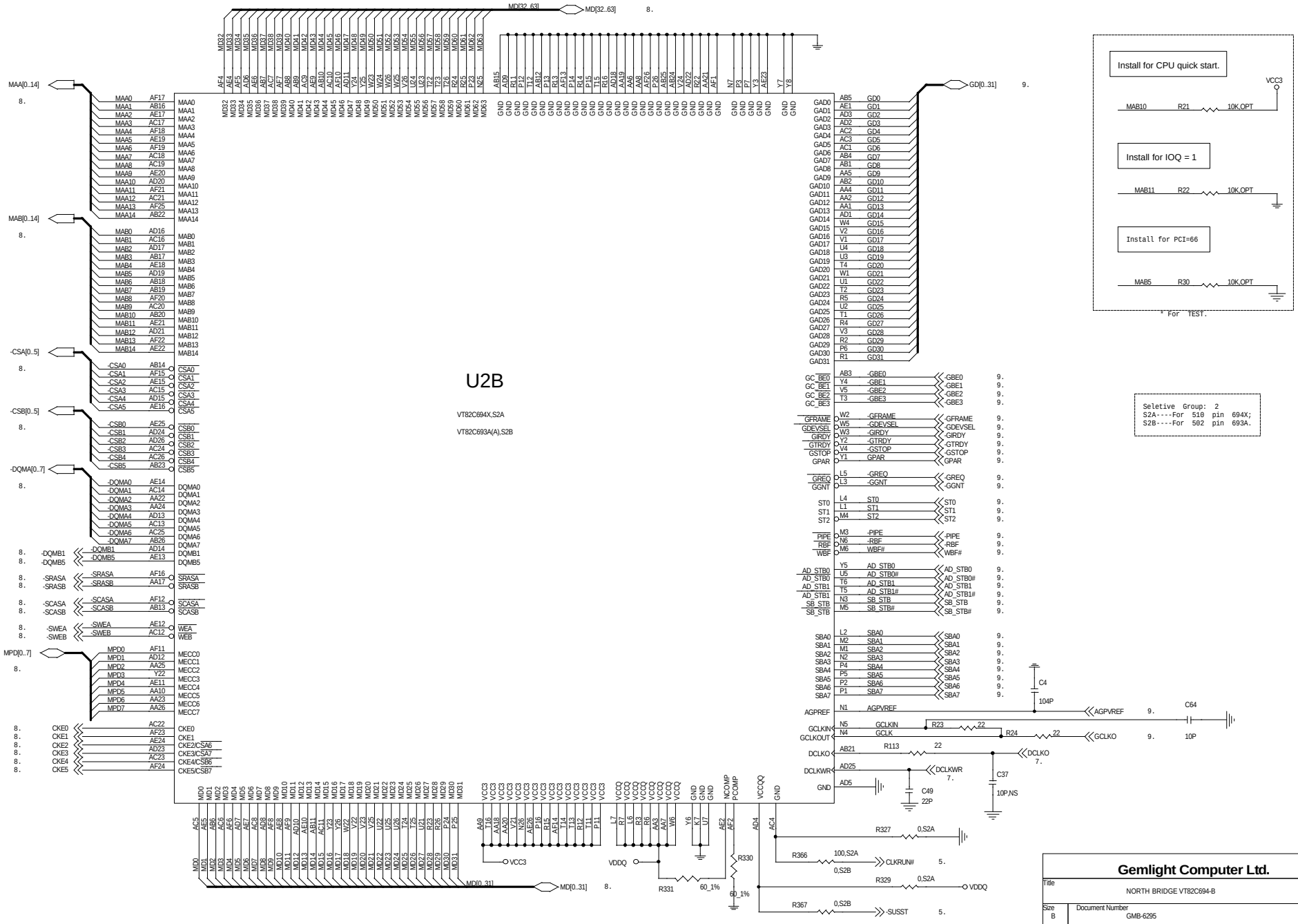
Title: BLOCK DIAGRAM AND VERSION CONTROL		
Size: B	Document Number: GMB-6295 V0	Rev: B
Date: Wednesday, April 05, 2000	Sheet 1 of 19	



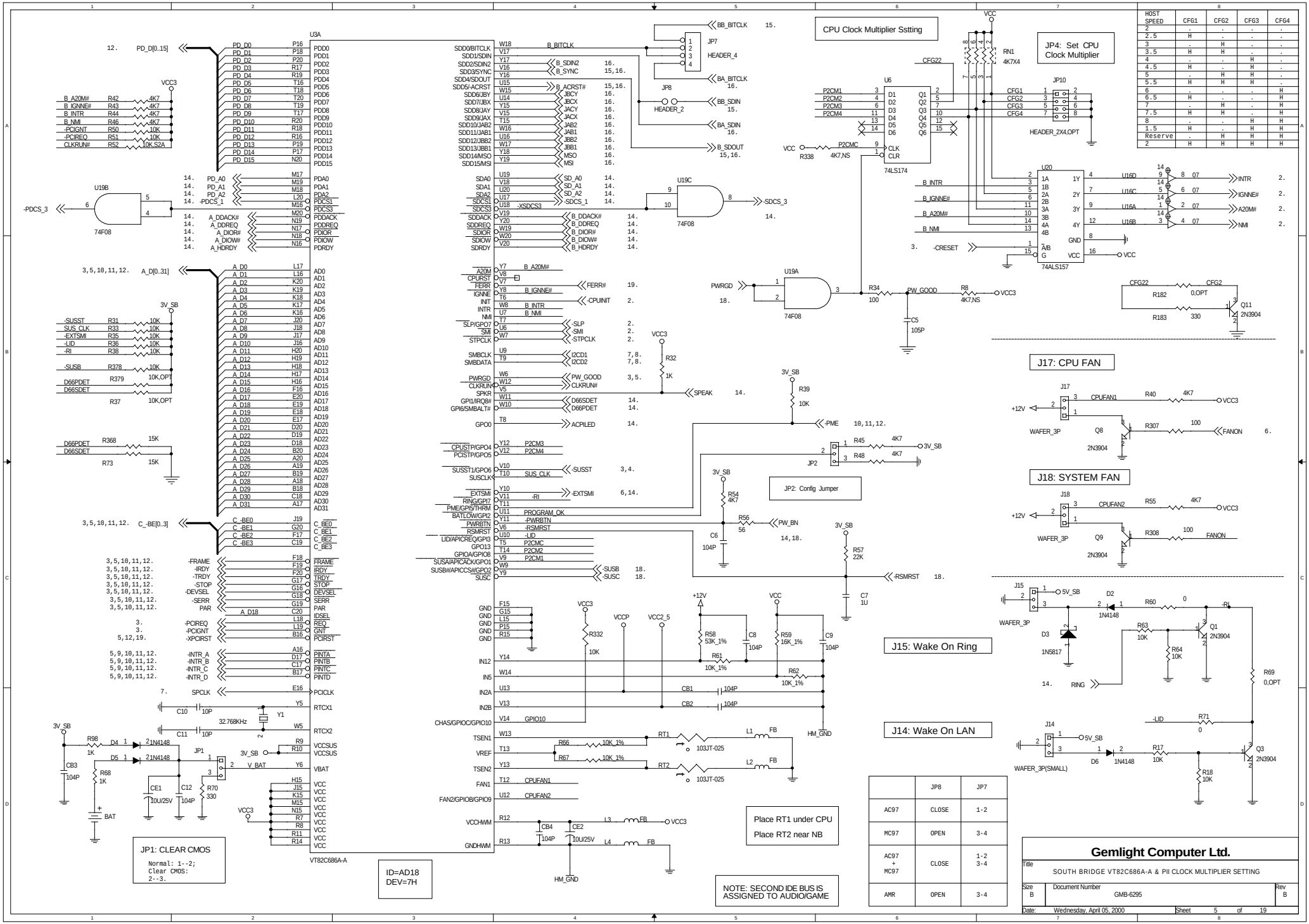
Gemlight Computer Ltd.		
Title: 370cpu pull		
Size	Document Number: GMB-6295	Rev: B
Date: Wednesday, April 05, 2000	Sheet 2 of 19	

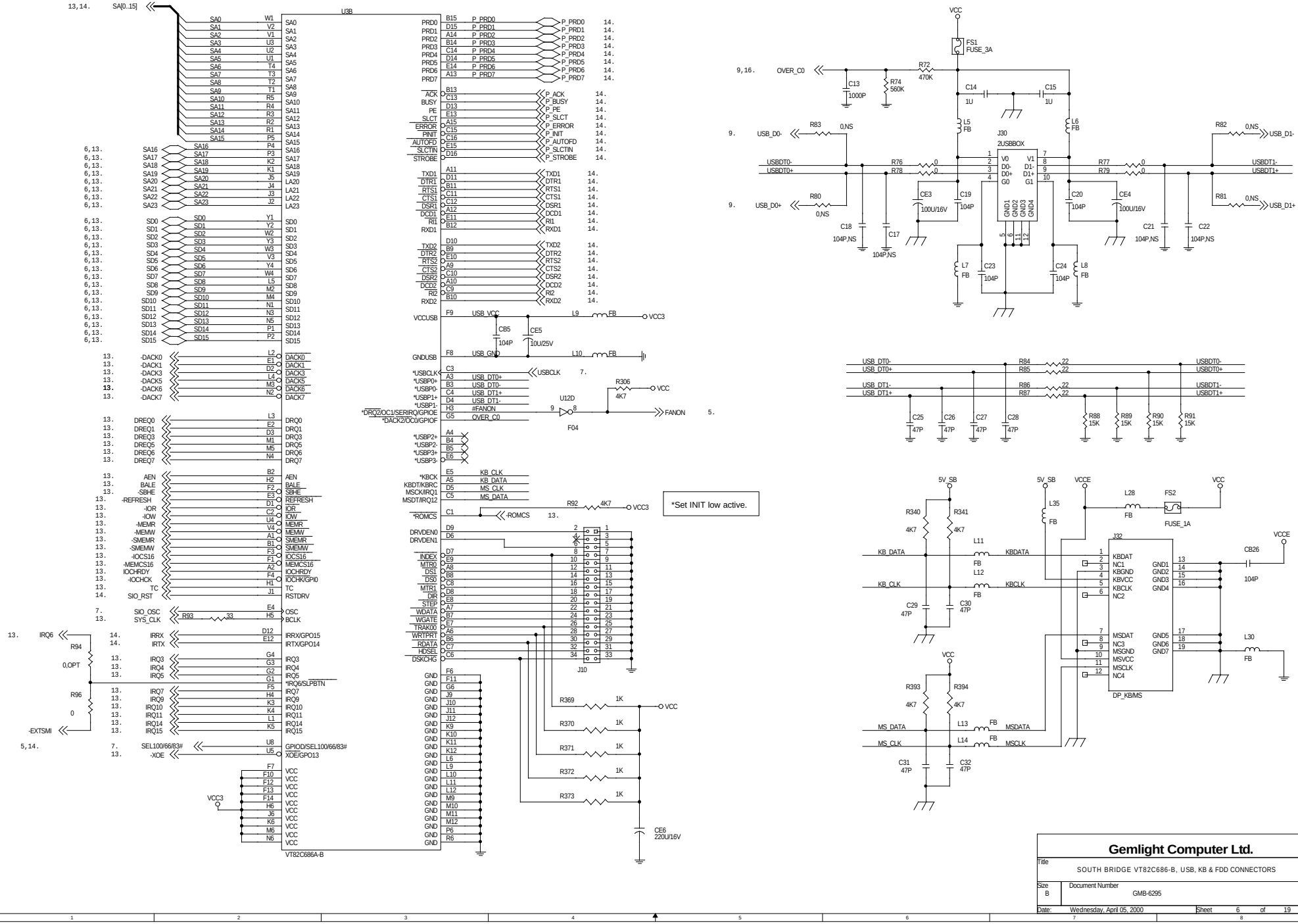


Gemlight Computer Ltd.	
Title	NORTH BRIDGE VT82C694-A
Size B	Document Number GMB-6295 Rev B
Date: Wednesday, April 05, 2000	Sheet 3 of 19

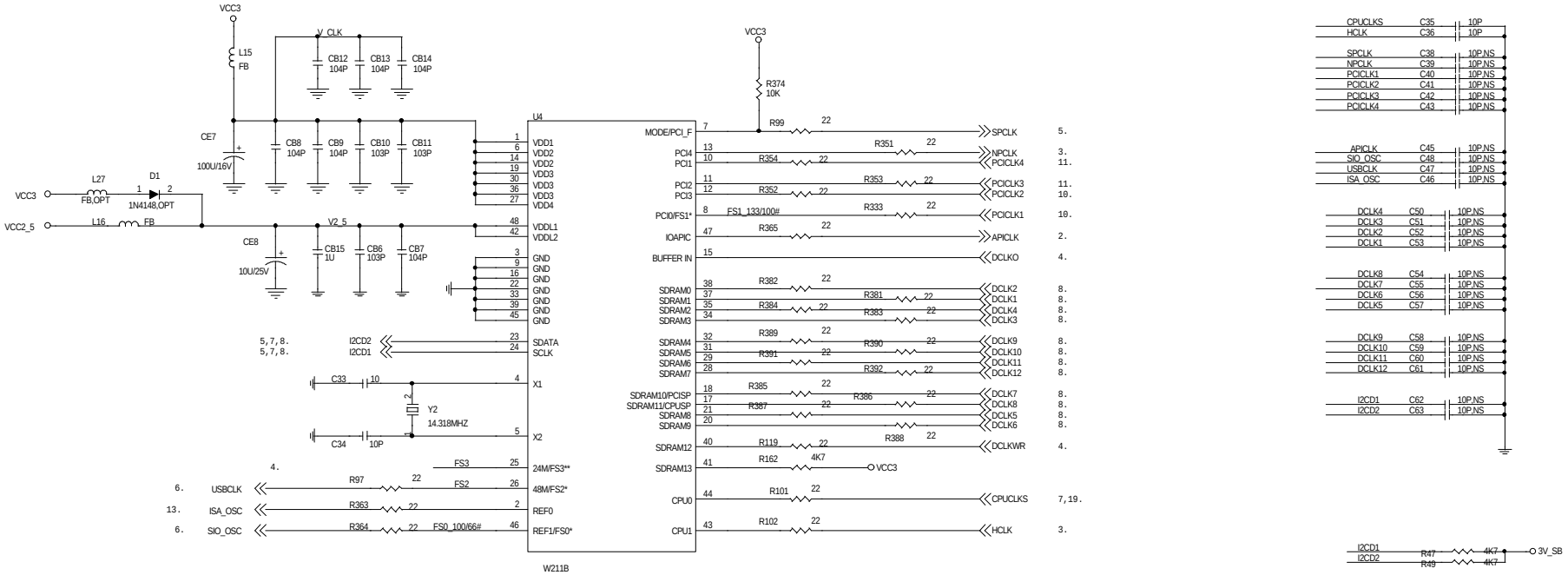


Gemlight Computer Ltd.		
Title: NORTH BRIDGE VT82C694-B		
Size: B	Document Number: GMB-6295	Rev: B
Date: Wednesday, April 05, 2000	Sheet 4 of 19	

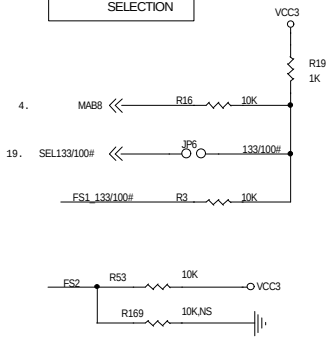

U3A
VT82C686A-A
CPU Clock Multiplier Sstting
JP4: Set CPU Clock Multiplier
HOST SPEED | CFG1 | CFG2 | CFG3 | CFG4
2 | . | . | . | .
2.5 | H | . | . | .
3 | . | H | . | .
3.5 | H | H | . | .
4 | . | . | H | .
4.5 | H | . | H | .
5 | . | H | H | .
5.5 | H | H | H | .
6 | . | . | . | H
6.5 | H | . | . | H
7 | . | H | . | H
7.5 | H | H | . | H
8 | . | . | H | H
1.5 | H | . | H | H
Reserve | . | H | H | H
2 | H | H | H | H
JP1: CLEAR CMOS
Normal: 1--2;
Clear CMOS:
2--3.
ID=AD18
DEV=7H
JP2: Config Jumper
J17: CPU FAN
J18: SYSTEM FAN
J15: Wake On Ring
J14: Wake On LAN
Place RT1 under CPU
Place RT2 near NB
NOTE: SECOND IDE BUS IS ASSIGNED TO AUDIO/GAME
JP8 | JP7
AC97 | CLOSE | 1-2
MC97 | OPEN | 3-4
AC97 + MC97 | CLOSE | 1-2, 3-4
AMR | OPEN | 3-4
Gemlight Computer Ltd.
Title: SOUTH BRIDGE VT82C686A-A & PII CLOCK MULTIPLIER SETTING
Size: B
Document Number: GMB-6295
Rev: B
Date: Wednesday, April 05, 2000
Sheet 5 of 19


U3B
VT82C686A-B
*Set INIT low active.
J30
2USBBOX
J32
DP_KB/MS
J10
F04
FUSE_1A
Gemlight Computer Ltd.
SOUTH BRIDGE VT82C686-B, USB, KB & FDD CONNECTORS
GMB-6295
Wednesday, April 05, 2000

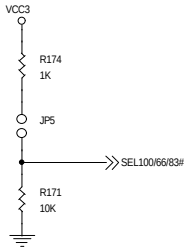
CLOCK GENERATOR & BUFFER



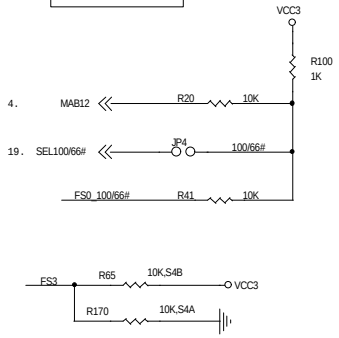
JP6: 133/100MHz SELECTION



JP5: 100/66/83MHz SELECTION



JP4: 100/66MHz SELECTION

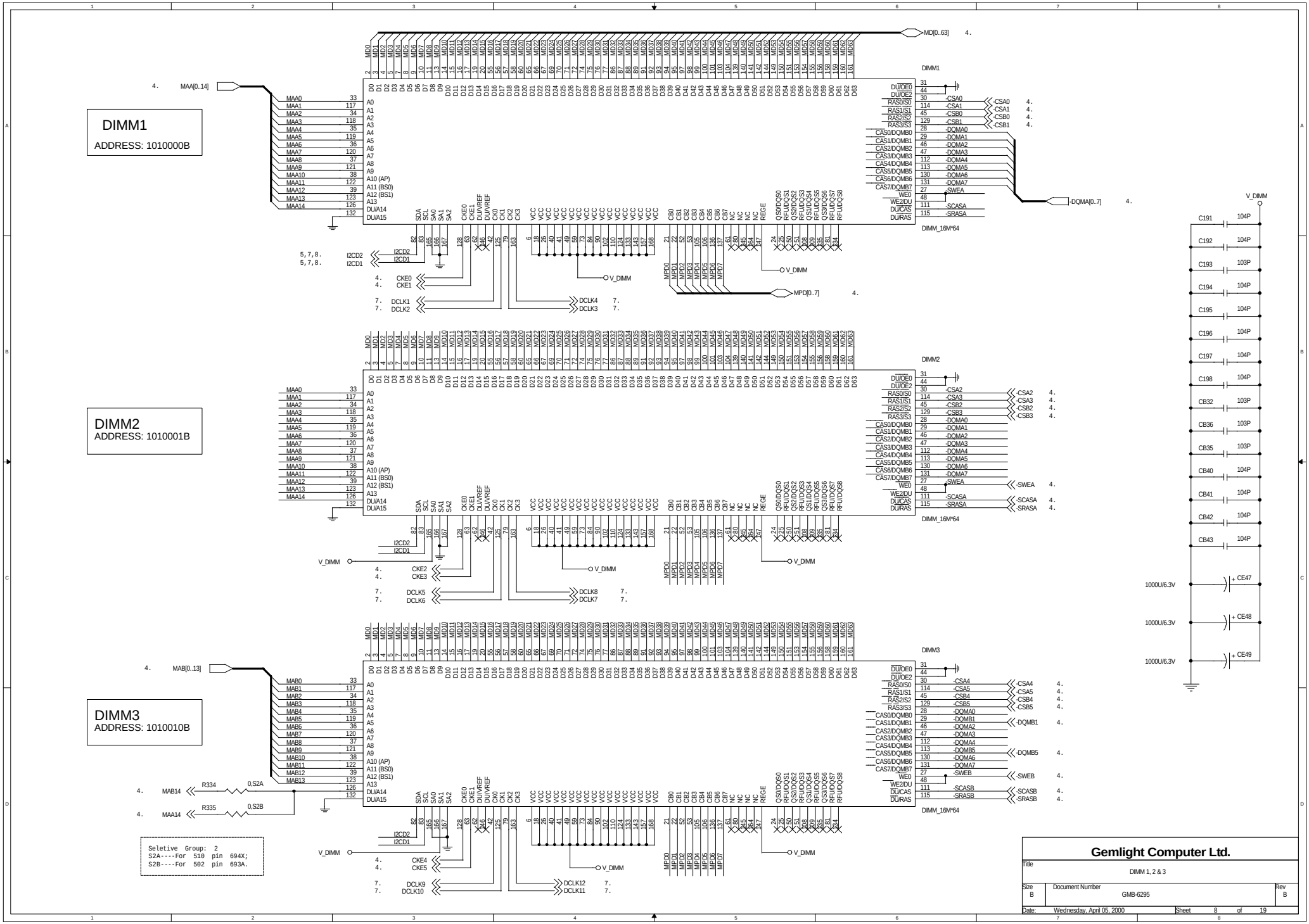


FS3	FS2	8/FS1	12/FS0	JP6	JP5	JP4	Host Clock	AGP/HCLK	CPU
0	1	1	0	open	open	Close	83M	2/3	Force 66M to 83M
0	1	0	1	Close	Close	open	100M	2/3	Force 66M to 100M
0	1	1	1	open	open	open	133M	1/2	Force 100M to 133M
Auto				Close	Close	Close	66/100/133	Auto	Auto-detect 66/100/133M

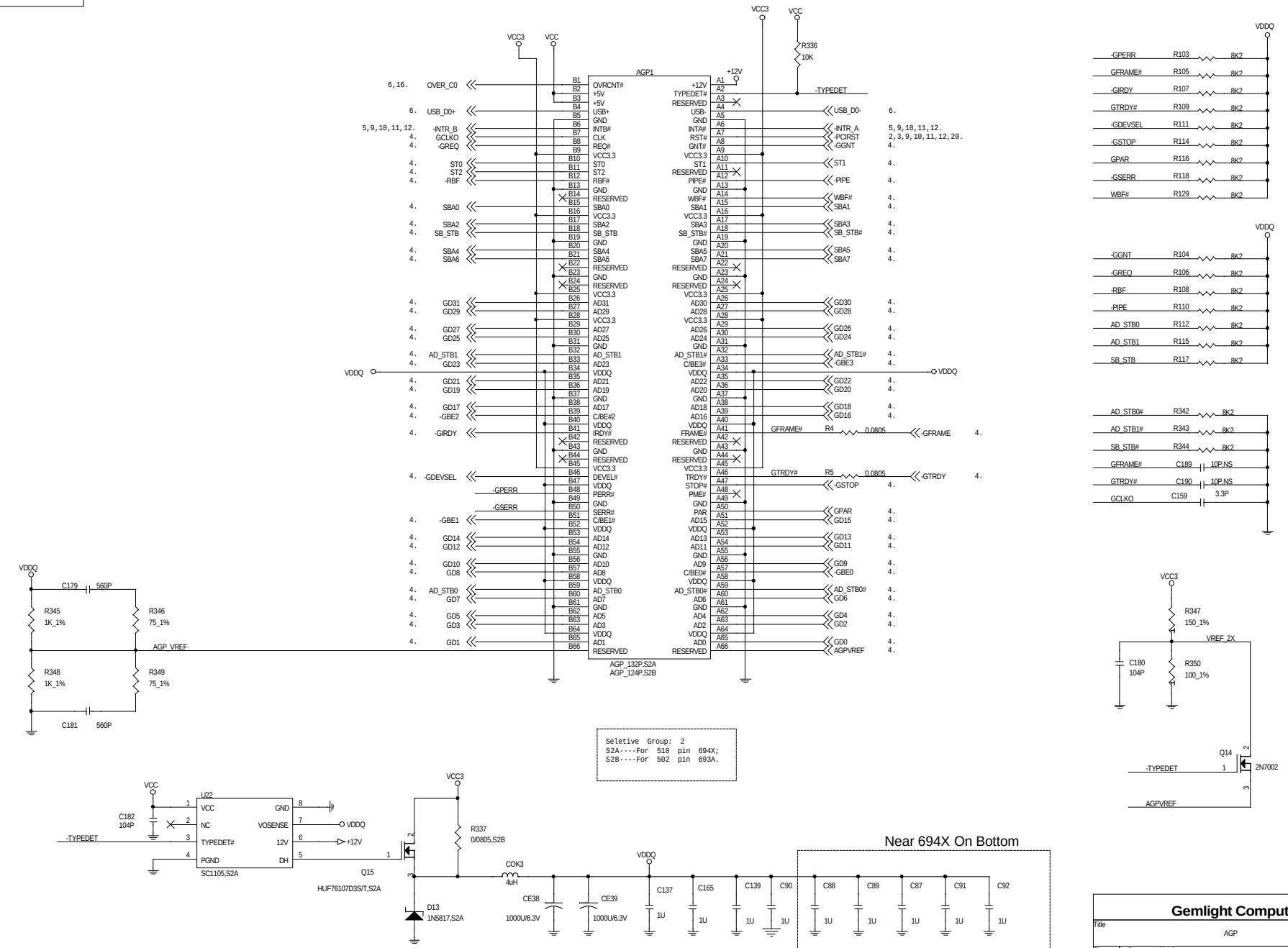
Seletive Group: 4
S4A----83M HCLK Enable;
S4B----83M CLK Disable.

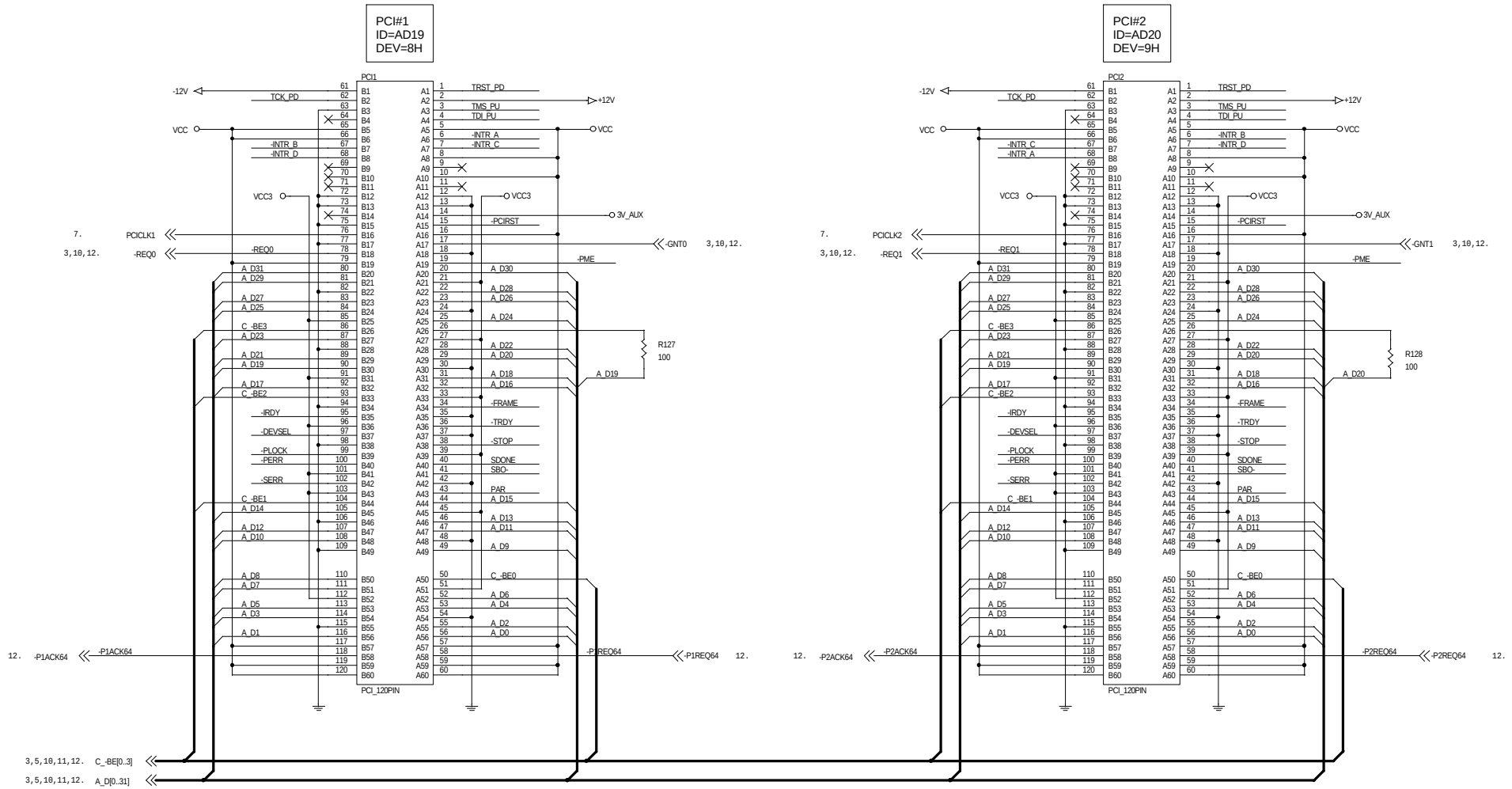
Gemlight Computer Ltd.

Title: CLOCK SYNTHESIZER		
Size: B	Document Number: GMB-6295	Rev: B
Date: Wednesday, April 05, 2000	Sheet 7 of 19	


DIMM1
ADDRESS: 1010000B
DIMM2
ADDRESS: 1010001B
DIMM3
ADDRESS: 1010010B
MD[0..63]
MAA[0..14]
MAB[0..13]
MPD[0..7]
DIMM_16M*64
V_DIMM
I2CD2
I2CD1
CKE0
CKE1
CKE2
CKE3
CKE4
CKE5
DCLK1
DCLK2
DCLK3
DCLK4
DCLK5
DCLK6
DCLK7
DCLK8
DCLK9
DCLK10
DCLK11
DCLK12
-CSA0
-CSA1
-CSB0
-CSB1
-CSA2
-CSA3
-CSB2
-CSB3
-CSA4
-CSA5
-CSB4
-CSB5
-DQMA[0..7]
-DQMB1
-DQMB5
-SWEA
-SWEB
-SCASA
-SRASA
-SCASB
-SRASB
R334
R335
0,S2A
0,S2B
MAB14
MAA14
Seletive Group: 2
S2A----For 510 pin 694X;
S2B----For 502 pin 693A.
C191 104P
C192 104P
C193 103P
C194 104P
C195 104P
C196 104P
C197 104P
C198 104P
CB32 103P
CB36 103P
CB35 103P
CB40 104P
CB41 104P
CB42 104P
CB43 104P
1000U/6.3V
CE47
CE48
CE49
Gemlight Computer Ltd.
DIMM 1, 2 & 3
GMB-6295
Wednesday, April 05, 2000
Sheet 8 of 19

AGP SLOT


AGP1
AGP_132P,S2A
AGP_124P,S2B
Seletive Group: 2
S2A----For 510 pin 694X;
S2B----For 502 pin 693A.
Near 694X On Bottom
SC1105,S2A
HUF76107D3S/T,S2A
Gemlight Computer Ltd.
Title
AGP
Size B
Document Number
GMB-6295
Rev B
Date: Wednesday, April 05, 2000
Sheet 9 of 19



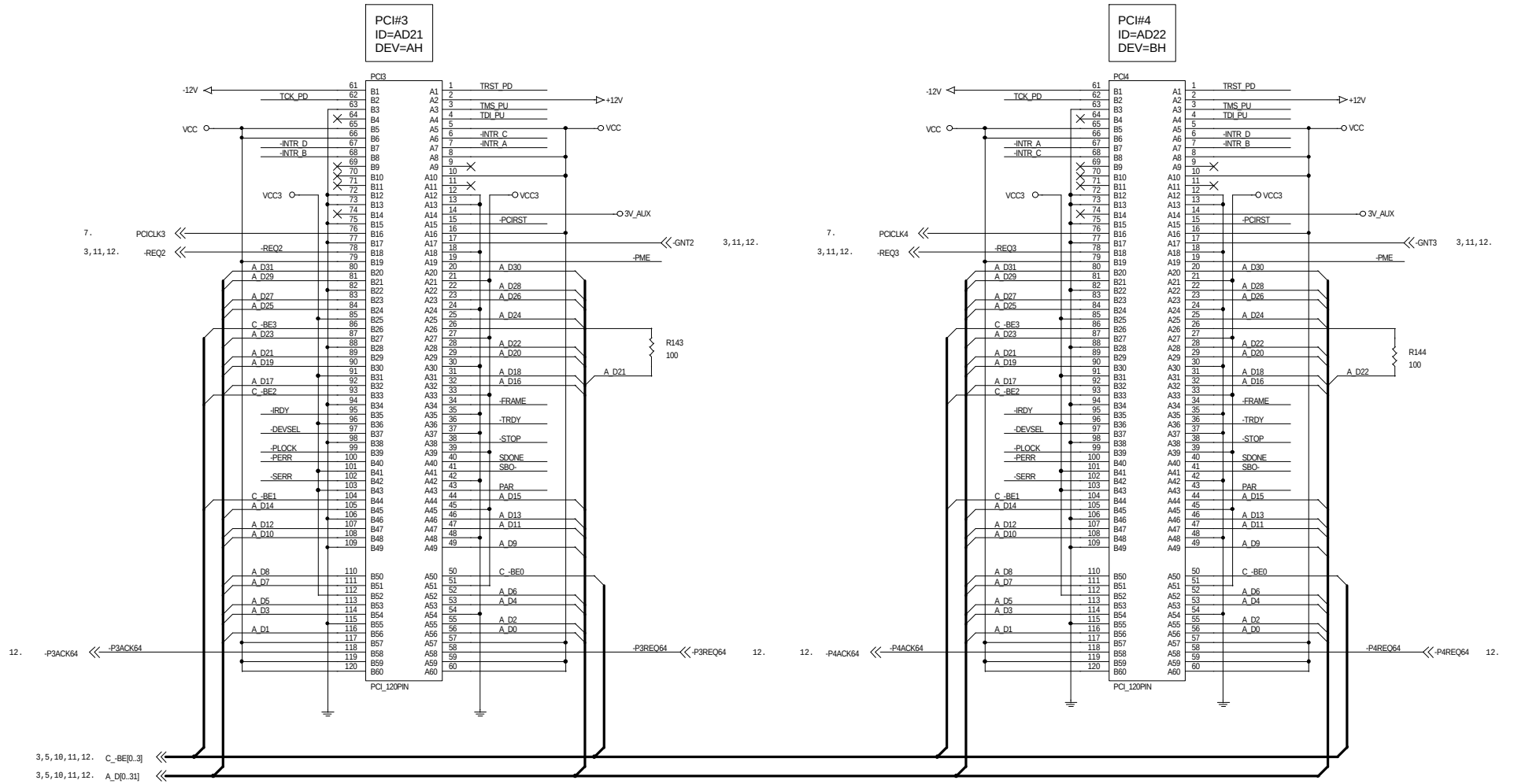
10,11,12.	TMS_PU	TMS_PU
10,11,12.	TDI_PU	TDI_PU
10,11,12.	TRST_PD	TRST_PD
10,11,12.	TCK_PD	TCK_PD
5,9,10,11,12.	-INTR_A	-INTR_A
5,9,10,11,12.	-INTR_B	-INTR_B
5,9,10,11,12.	-INTR_C	-INTR_C
5,9,10,11,12.	-INTR_D	-INTR_D

3,10,11,12.	-IRDY	-IRDY
3,10,11,12.	-DEVSEL	-DEVSEL
3,10,11,12.	-PLOCK	-PLOCK
10,11,12.	-PERR	-PERR
3,5,10,11,12.	-SERR	-SERR

-PCIRST	-PCIRST	2,3,9,10,11,12,20.
-PME	-PME	5,10,11,12.
-FRAME	-FRAME	3,10,11,12.
-TRDY	-TRDY	3,10,11,12.
-STOP	-STOP	3,10,11,12.
SDONE	SDONE	10,11,12.
SBO-	SBO-	10,11,12.
PAR	PAR	3,5,10,11,12.

Gemlight Computer Ltd.

Title	PCI 1 & 2	
Size: B	Document Number: GMB-6295	Rev: B
Date: Wednesday, April 05, 2000	Sheet 10 of 19	



10,11,12.	TMS_PU	TMS_PU
10,11,12.	TDI_PU	TDI_PU
10,11,12.	TRST_PD	TRST_PD
10,11,12.	TCK_PD	TCK_PD
5,9,10,11,12.	-INTR_A	-INTR_A
5,9,10,11,12.	-INTR_B	-INTR_B
5,9,10,11,12.	-INTR_C	-INTR_C
5,9,10,11,12.	-INTR_D	-INTR_D

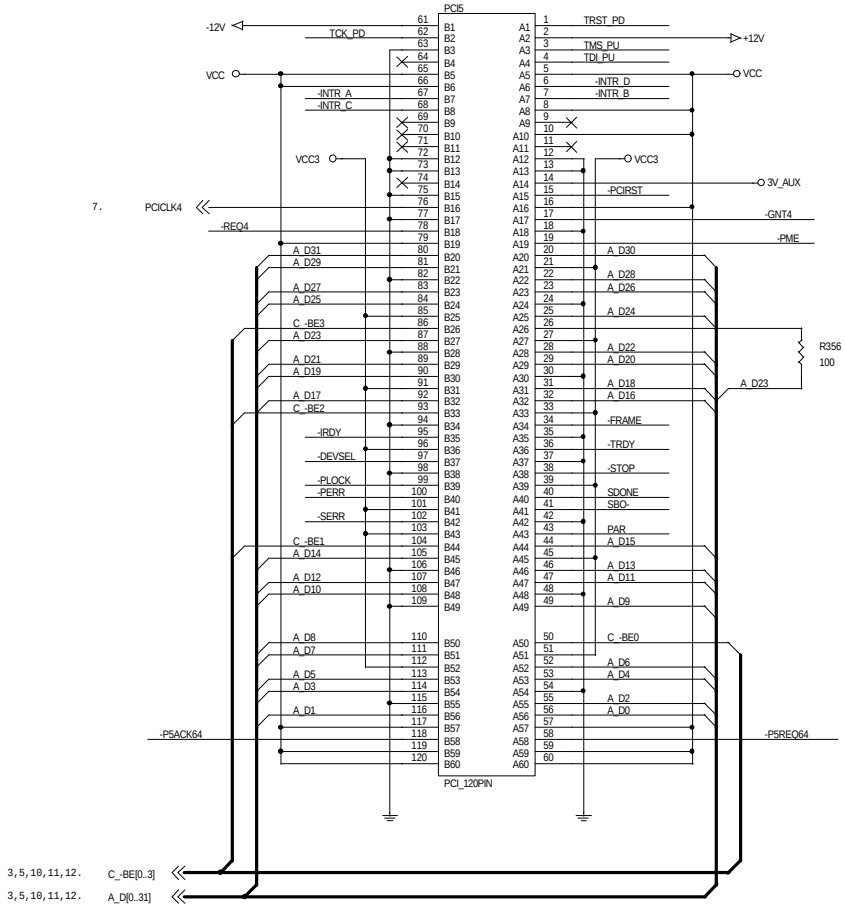
3,10,11,12.	-IRDY	-IRDY
3,10,11,12.	-DEVSEL	-DEVSEL
3,10,11,12.	-PLOCK	-PLOCK
10,11,12.	-PERR	-PERR
3,5,10,11,12.	-SERR	-SERR

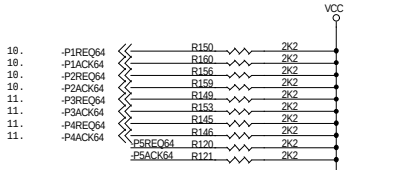
-PCIRST	-PCIRST	3,9,10,11,12,15.
-PME	-PME	5,10,11,12.
-FRAME	-FRAME	3,10,11,12.
-TRDY	-TRDY	3,10,11,12.
-STOP	-STOP	3,10,11,12.
SDONE	SDONE	10,11,12.
SBO-	SBO-	10,11,12.
PAR	PAR	3,5,10,11,12.

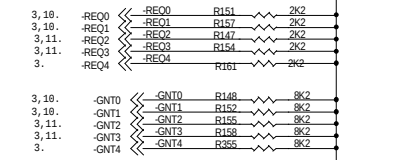
Gemlight Computer Ltd.

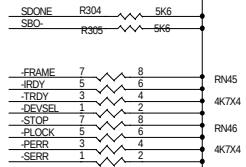
Title: PCI 3 & 4		
Size: B	Document Number: GMB-6295	Rev: B
Date: Wednesday, April 05, 2000	Sheet 11 of 19	

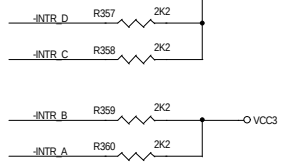
PCI#5
ID=AD23
DEV=CH

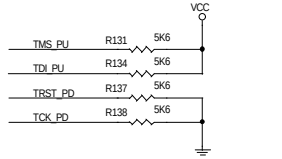












10,11,12. TMS_PU — TMS_PU
10,11,12. TDI_PU — TDI_PU
10,11,12. TRST_PD — TRST_PD
10,11,12. TCK_PD — TCK_PD

5,9,10,11,12. -INTR_A — -INTR_A
5,9,10,11,12. -INTR_B — -INTR_B
5,9,10,11,12. -INTR_C — -INTR_C
5,9,10,11,12. -INTR_D — -INTR_D

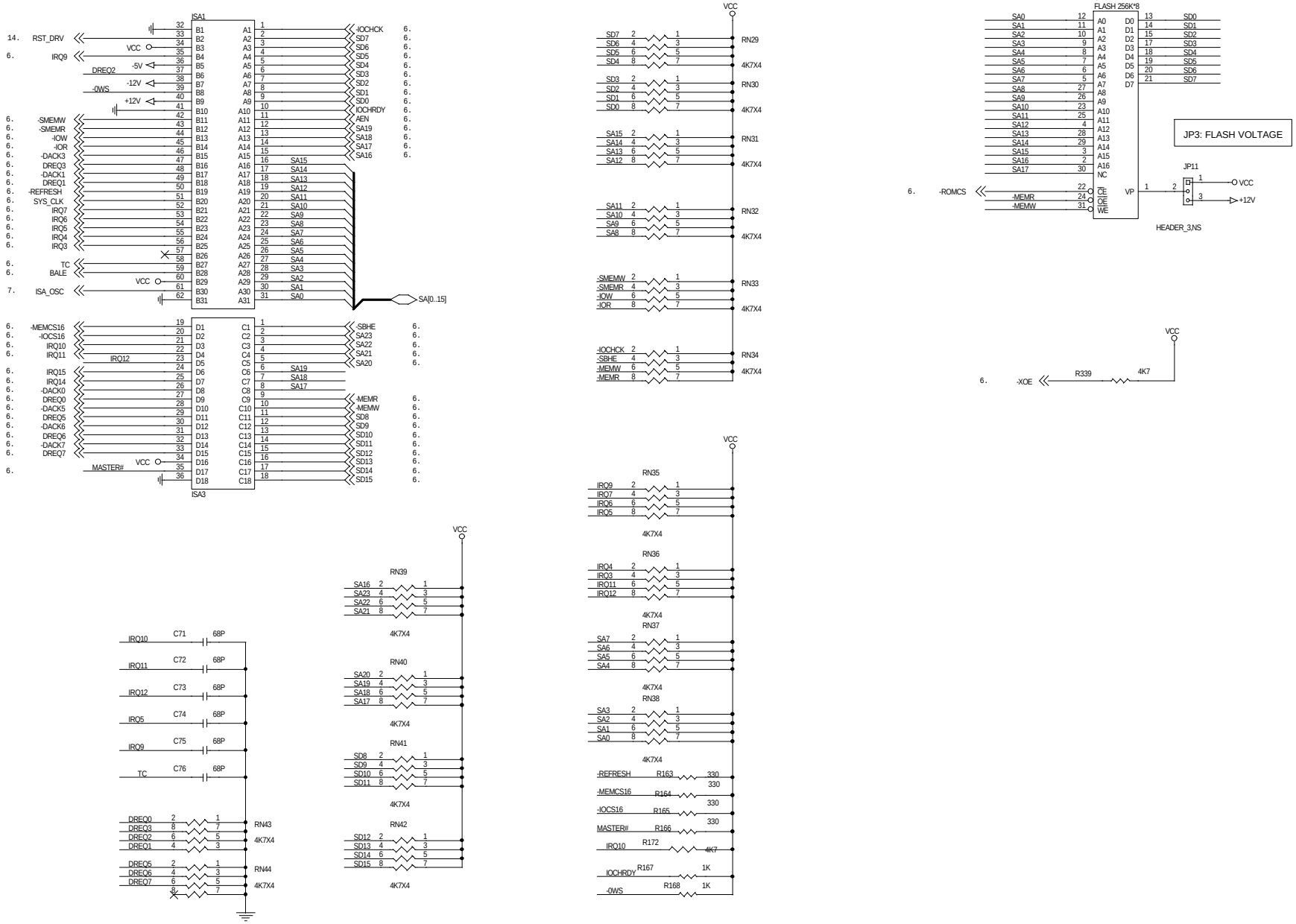
3,5,10,11,12. -IRDY — -IRDY
3,5,10,11,12. -DEVSEL — -DEVSEL
3,10,11,12. -PLOCK — -PLOCK
10,11,12. -PERR — -PERR
3,5,10,11,12. -SERR — -SERR

-PCIRST — -PCIRST — 2,3,9,10,11,12,20.
-PME — -PME — 5,10,11,12.

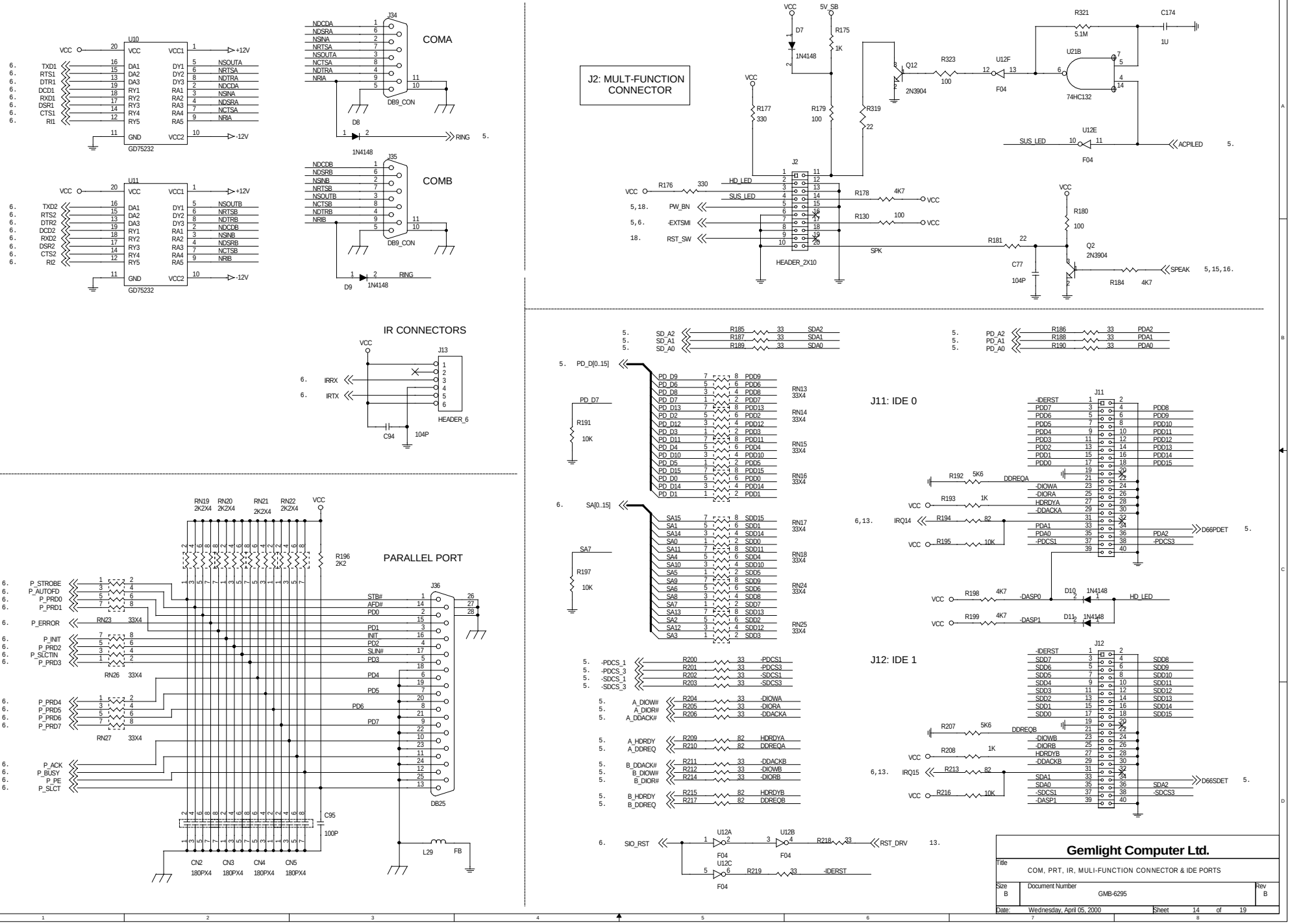
-FRAME — -FRAME — 3,5,10,11,12.
-TRDY — -TRDY — 3,5,10,11,12.
-STOP — -STOP — 3,5,10,11,12.
SDONE — SDONE — 10,11,12.
SBO- — SBO- — 10,11,12.
PAR — PAR — 3,5,10,11,12.

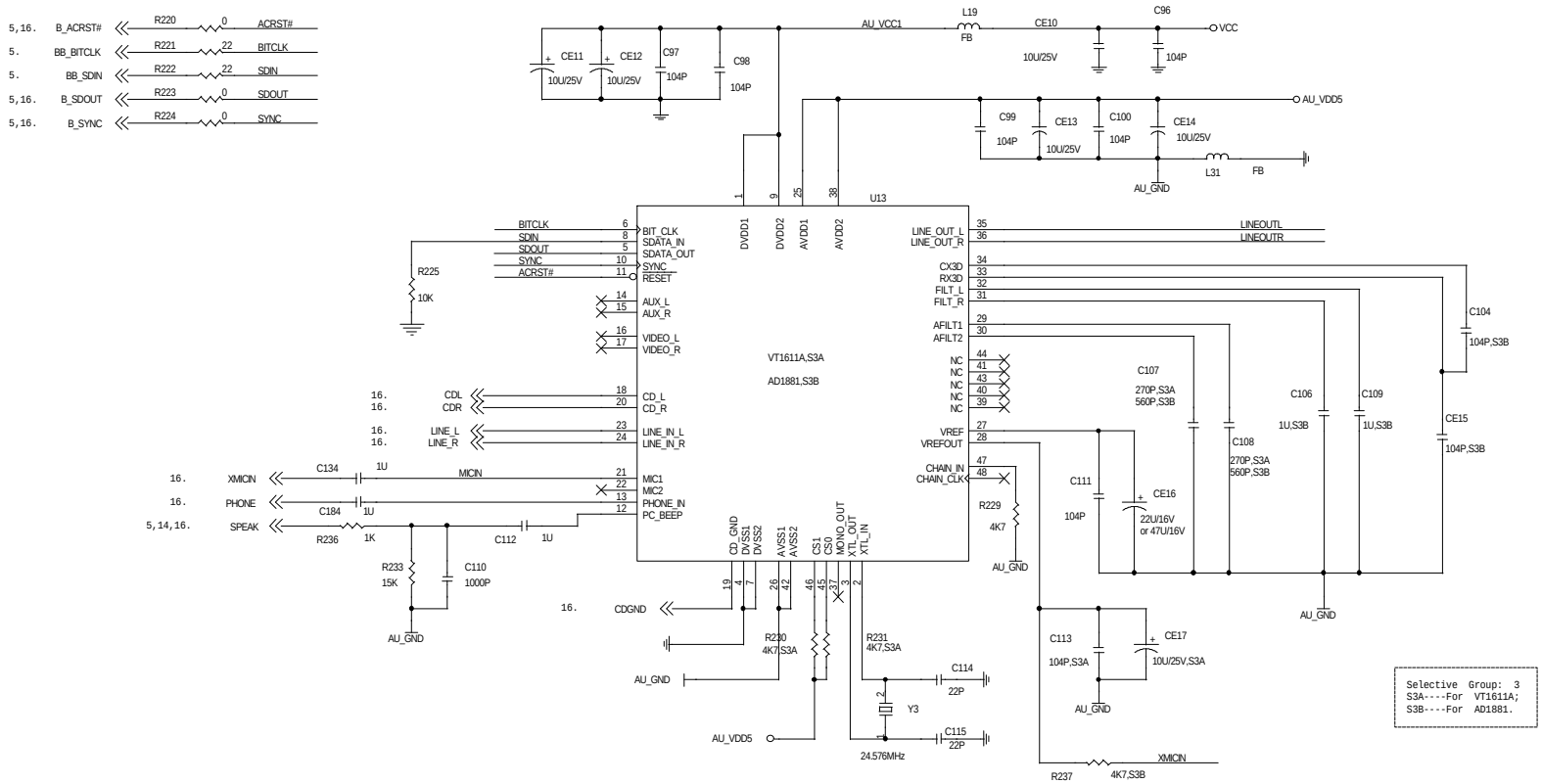
-PCIRST — R136 0 — -XPCIRST — 5,12,20.

Gemlight Computer Ltd.	
Title	PCI_PULL
Size B	Document Number GMB-6295 Rev B
Date: Wednesday, April 05, 2000	Sheet 12 of 19

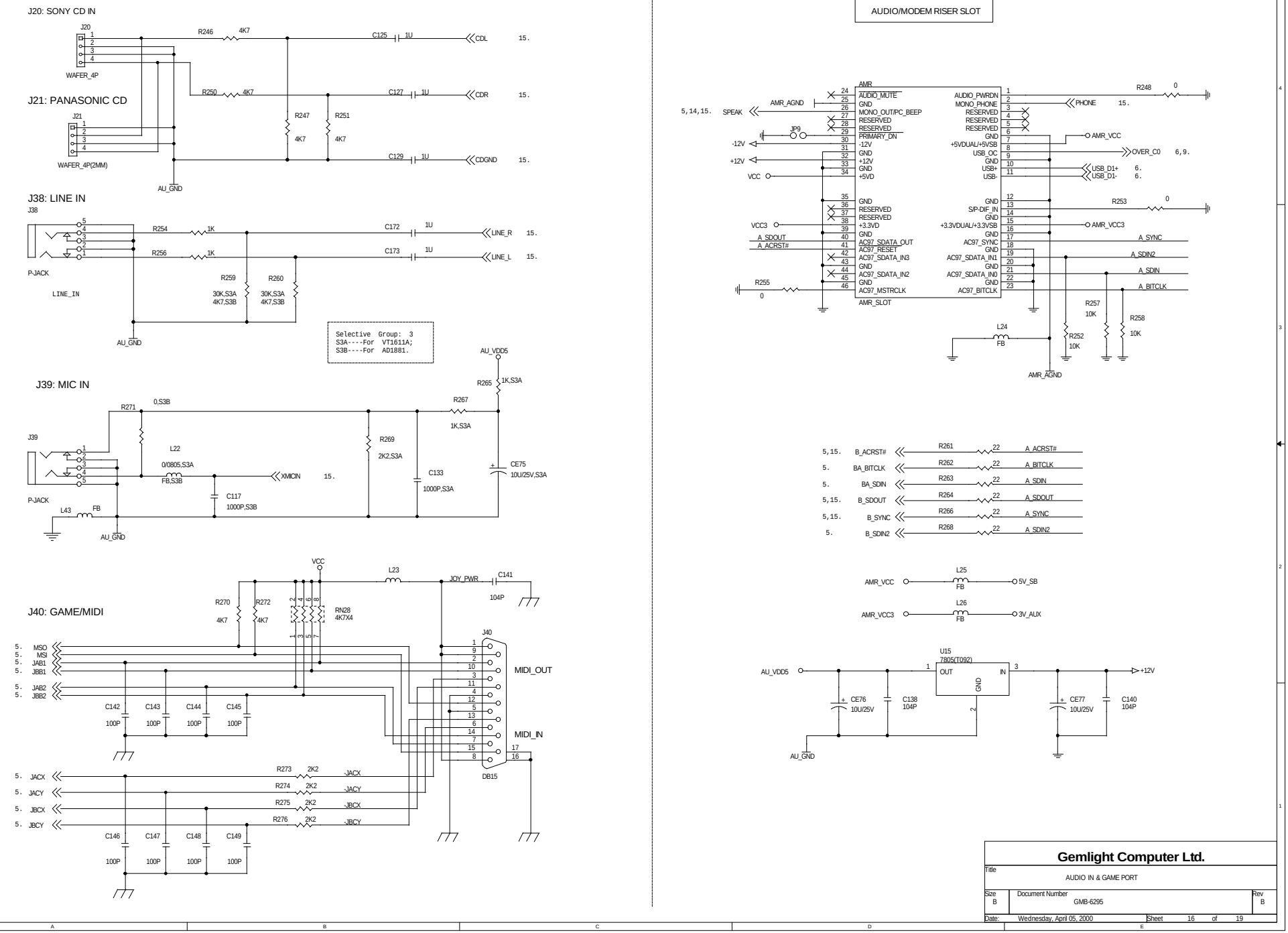


Gemlight Computer Ltd.		
Title: ISA SLOTS, BIOS & SD BUFFER		
Size: B	Document Number: GMB-6295	Rev: B
Date: Wednesday, April 05, 2000	Sheet 13 of 19	


COMA
COMB
IR CONNECTORS
PARALLEL PORT
J2: MULT-FUNCTION CONNECTOR
J11: IDE 0
J12: IDE 1
GD75232
DB9_CON
DB25
HEADER_2X10
HEADER_6
1N4148
2N3904
74HC132
F04
Gemlight Computer Ltd.
COM, PRT, IR, MULI-FUNCTION CONNECTOR & IDE PORTS
GMB-6295
Wednesday, April 05, 2000



Gemlight Computer Ltd.			
Title: AUDIO PORT			
Size: B	Document Number: GMB-6295		Rev: B
Date: Wednesday, April 05, 2000	Sheet 15 of 19		


J20: SONY CD IN
J20
WAFER_4P
R246 4K7
C125 1U
CDL 15.
R250 4K7
C127 1U
CDR 15.
R247 4K7
R251 4K7
C129 1U
CDGND 15.
AU_GND
J21: PANASONIC CD
J21
WAFER_4P(2MM)
J38: LINE IN
J38
P-JACK
LINE_IN
R254 1K
R256 1K
C172 1U
C173 1U
LINE_R 15.
LINE_L 15.
R259 30K,S3A 4K7,S3B
R260 30K,S3A 4K7,S3B
AU_GND
Selective Group: 3
S3A----For VT1611A;
S3B----For AD1881.
J39: MIC IN
J39
P-JACK
R271 0,S3B
L22 0/0805,S3A FB,S3B
XMICIN 15.
C117 1000P,S3B
L43 FB
AU_GND
R269 2K2,S3A
C133 1000P,S3A
AU_VDD5
R265 1K,S3A
R267 1K,S3A
CE75 10U/25V,S3A
J40: GAME/MIDI
VCC
L23
JOY_PWR
C141 104P
R270 4K7
R272 4K7
RN28 4K7X4
J40
DB15
MIDI_OUT
MIDI_IN
5. MSO
5. MSI
5. JAB1
5. JBB1
5. JAB2
5. JBB2
C142 100P
C143 100P
C144 100P
C145 100P
5. JACX
5. JACY
5. JBCX
5. JBCY
R273 2K2 -JACX
R274 2K2 -JACY
R275 2K2 -JBCX
R276 2K2 -JBCY
C146 100P
C147 100P
C148 100P
C149 100P
AUDIO/MODEM RISER SLOT
AMR
AMR_SLOT
5,14,15. SPEAK
AMR_AGND
JP9
-12V
+12V
VCC
VCC3
A_SDOUT
A_ACRST#
R255 0
AUDIO_MUTE
GND
MONO_OUT/PC_BEEP
RESERVED
PRIMARY_DN
-12V
GND
+12V
GND
+5VD
GND
RESERVED
RESERVED
+3.3VD
GND
AC97_SDATA_OUT
AC97_RESET
AC97_SDATA_IN3
GND
AC97_SDATA_IN2
GND
AC97_MSTRCLK
AUDIO_PWRDN
MONO_PHONE
RESERVED
RESERVED
RESERVED
GND
+5VDUAL/+5VSB
USB_OC
GND
USB+
USB-
GND
SIP-DIF_IN
GND
+3.3VDUAL/+3.3VSB
GND
AC97_SYNC
GND
AC97_SDATA_IN1
GND
AC97_SDATA_IN0
GND
AC97_BITCLK
R248 0
PHONE 15.
AMR_VCC
OVER_C0 6,9.
USB_D1+ 6.
USB_D1- 6.
R253 0
AMR_VCC3
A_SYNC
A_SDIN2
A_SDIN
A_BITCLK
R257 10K
R258 10K
L24 FB
R252 10K
AMR_AGND
5,15. B_ACRST# R261 22 A_ACRST#
5. BA_BITCLK R262 22 A_BITCLK
5. BA_SDIN R263 22 A_SDIN
5,15. B_SDOUT R264 22 A_SDOUT
5,15. B_SYNC R266 22 A_SYNC
5. B_SDIN2 R268 22 A_SDIN2
AMR_VCC L25 FB 5V_SB
AMR_VCC3 L26 FB 3V_AUX
U15
7805(T092)
AU_VDD5
OUT
IN
GND
+12V
CE76 10U/25V
C138 104P
CE77 10U/25V
C140 104P
AU_GND
Gemlight Computer Ltd.
Title
AUDIO IN & GAME PORT
Size B
Document Number GMB-6295
Rev B
Date: Wednesday, April 05, 2000
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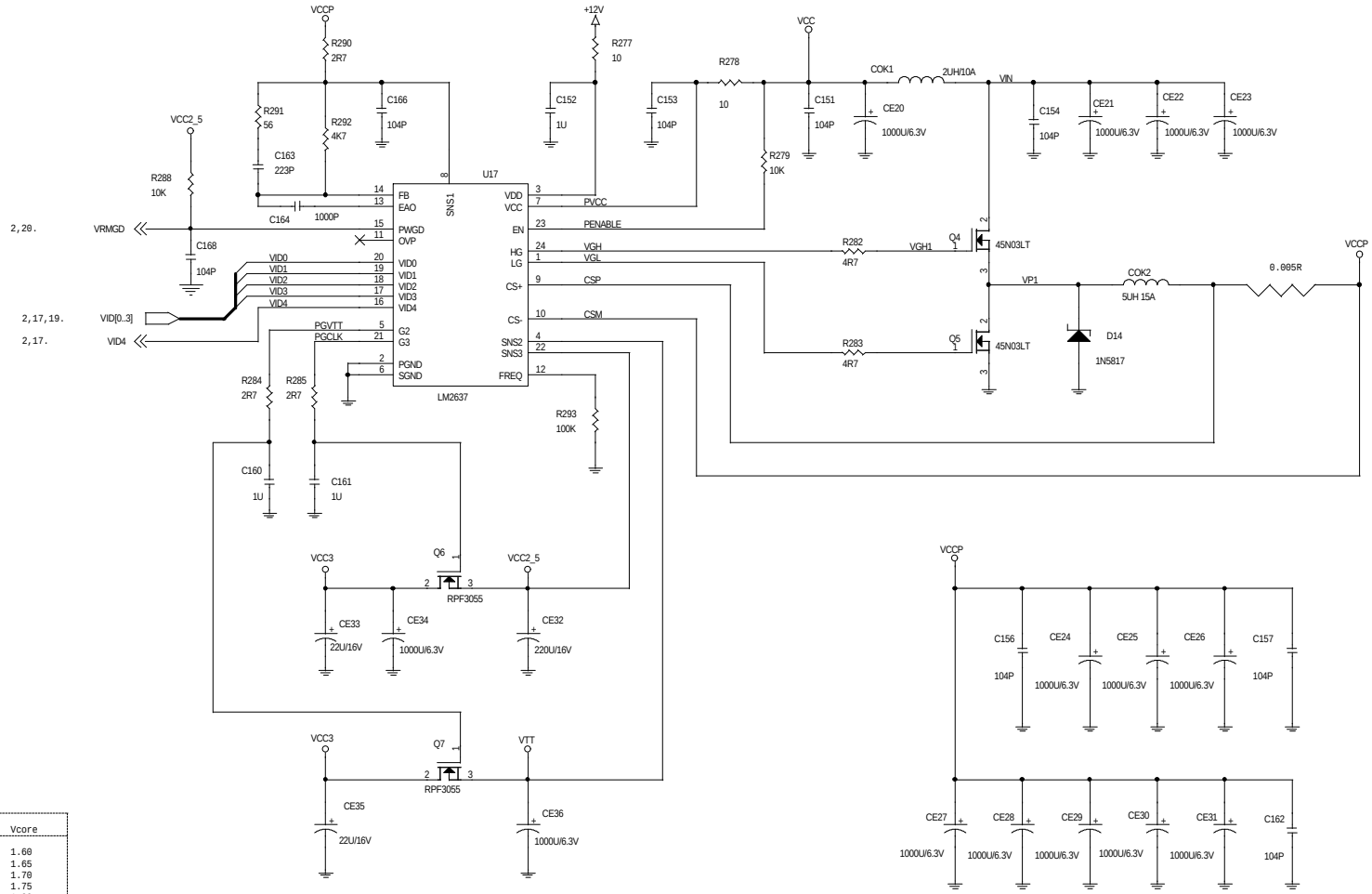

VID4	VID3	VID2	VID1	VID0	Vcore
0	1	0	0	1	1.60
0	1	0	0	0	1.65
0	0	1	1	1	1.70
0	0	1	1	0	1.75
0	0	1	0	1	1.80
0	0	1	0	0	1.85
0	0	0	1	1	1.90
0	0	0	1	0	1.95
0	0	0	0	1	2.00
0	0	0	0	0	2.05
1	1	1	1	1	2.00
1	1	1	1	0	2.10
1	1	1	0	1	2.20
1	1	1	0	0	2.30
1	1	0	1	1	2.40
1	1	0	1	0	2.50
1	1	0	0	1	2.60
1	1	0	0	0	2.70
1	0	1	1	1	2.80

Gemlight Computer Ltd.

Title: DC to DC CONVERTER CIRCUITS

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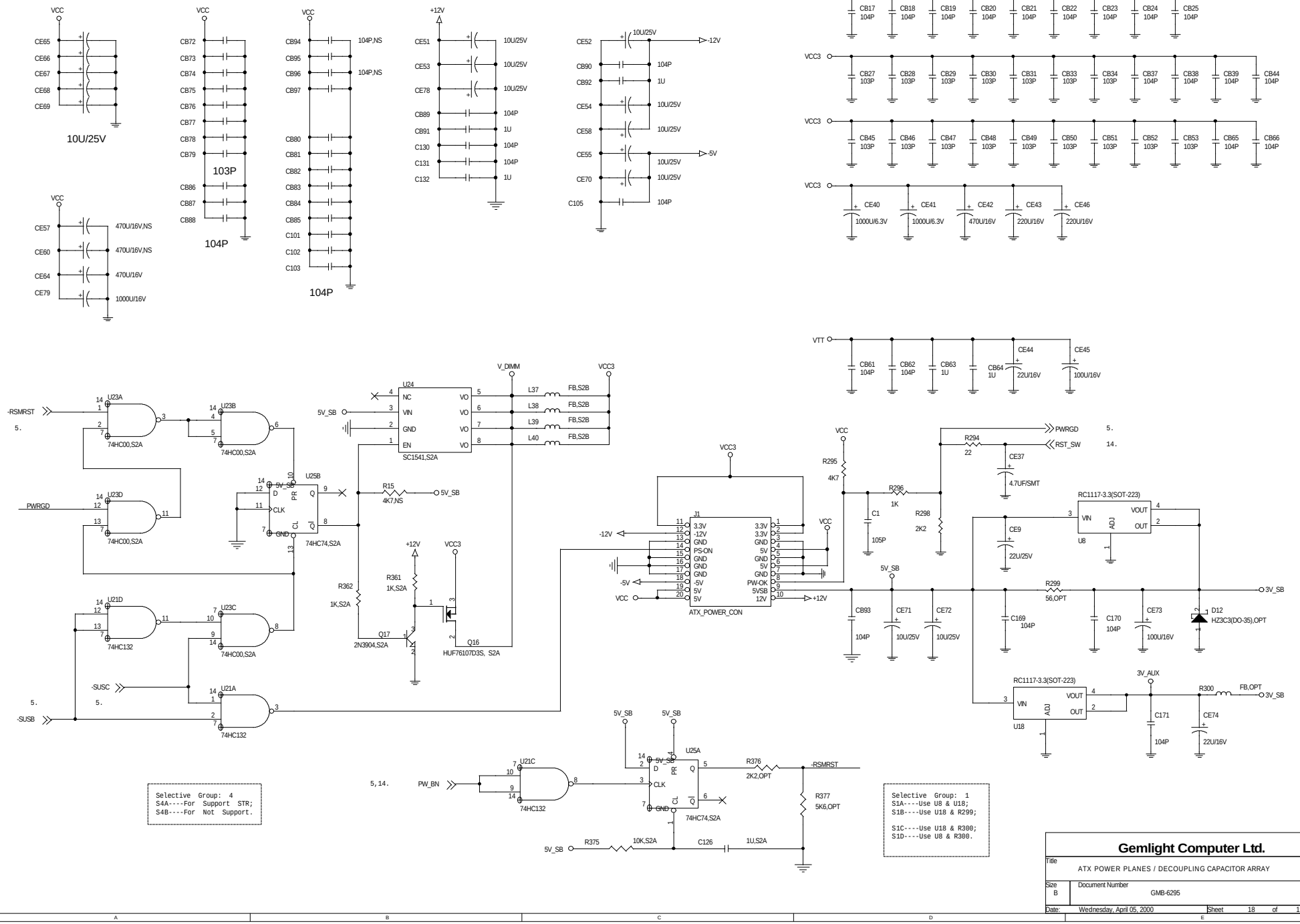
VCC
CE65
CE66
CE67
CE68
CE69
10U/25V
CB72
CB73
CB74
CB75
CB76
CB77
CB78
CB79
103P
CB86
CB87
CB88
104P
CB94
CB95
CB96
CB97
CB80
CB81
CB82
CB83
CB84
CB85
C101
C102
C103
104P,NS
104P,NS
104P
+12V
CE51
CE53
CE78
CB89
CB91
C130
C131
C132
10U/25V
10U/25V
10U/25V
104P
1U
104P
104P
1U
CE52
CB90
CB92
CE54
CE58
CE55
CE70
C105
10U/25V
-12V
104P
1U
10U/25V
10U/25V
-5V
10U/25V
10U/25V
104P
CE57
CE60
CE64
CE79
470U/16V,NS
470U/16V,NS
470U/16V
1000U/16V
VCC3
CB17 104P
CB18 104P
CB19 104P
CB20 104P
CB21 104P
CB22 104P
CB23 104P
CB24 104P
CB25 104P
CB27 103P
CB28 103P
CB29 103P
CB30 103P
CB31 103P
CB33 103P
CB34 103P
CB37 104P
CB38 104P
CB39 104P
CB44 104P
CB45 103P
CB46 103P
CB47 103P
CB48 103P
CB49 103P
CB50 103P
CB51 103P
CB52 103P
CB53 103P
CB65 104P
CB66 104P
CE40 1000U/6.3V
CE41 1000U/6.3V
CE42 470U/16V
CE43 220U/16V
CE46 220U/16V
VTT
CB61 104P
CB62 104P
CB63 1U
CB64 1U
CE44 22U/16V
CE45 100U/16V
-RSMRST
5.
U23A
U23B
74HC00,S2A
74HC00,S2A
PWRGD
U23D
74HC00,S2A
U25B
74HC74,S2A
5V_SB
R15
4K7,NS
5V_SB
V_DIMM
VCC3
U24
NC
VIN
GND
EN
VO
VO
VO
VO
SC1541,S2A
L37
L38
L39
L40
FB,S2B
FB,S2B
FB,S2B
FB,S2B
+12V
VCC3
R361
1K,S2A
R362
1K,S2A
Q17
2N3904,S2A
Q16
HUF76107D3S, S2A
-SUSC
5.
-SUSB
5.
U21D
U23C
U21A
74HC132
74HC00,S2A
74HC132
VCC3
J1
3.3V
-12V
GND
PS-ON
GND
GND
-5V
5V
-12V
-5V
VCC
ATX_POWER_CON
3.3V
3.3V
GND
5V
GND
5V
GND
PW-OK
5VSB
12V
+12V
VCC
R295
4K7
R296
1K
C1
105P
R298
2K2
R294
22
PWRGD
RST_SW
5.
14.
CE37
4.7UF/SMT
RC1117-3.3(SOT-223)
U8
VIN
ADJ
VOUT
OUT
CE9
22U/25V
5V_SB
R299
56,OPT
3V_SB
CB93
104P
CE71
10U/25V
CE72
10U/25V
C169
104P
C170
104P
CE73
100U/16V
D12
HZ3C3(DO-35),OPT
3V_AUX
RC1117-3.3(SOT-223)
U18
R300
FB,OPT
3V_SB
C171
104P
CE74
22U/16V
5,14.
PW_BN
U21C
74HC132
5V_SB
5V_SB
U25A
74HC74,S2A
R376
2K2,OPT
-RSMRST
R377
5K6,OPT
5V_SB
R375
10K,S2A
C126
1U,S2A
Selective Group: 4
S4A----For Support STR;
S4B----For Not Support.
Selective Group: 1
S1A----Use U8 & U18;
S1B----Use U18 & R299;
S1C----Use U18 & R300;
S1D----Use U8 & R300.
Gemlight Computer Ltd.
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Size
B
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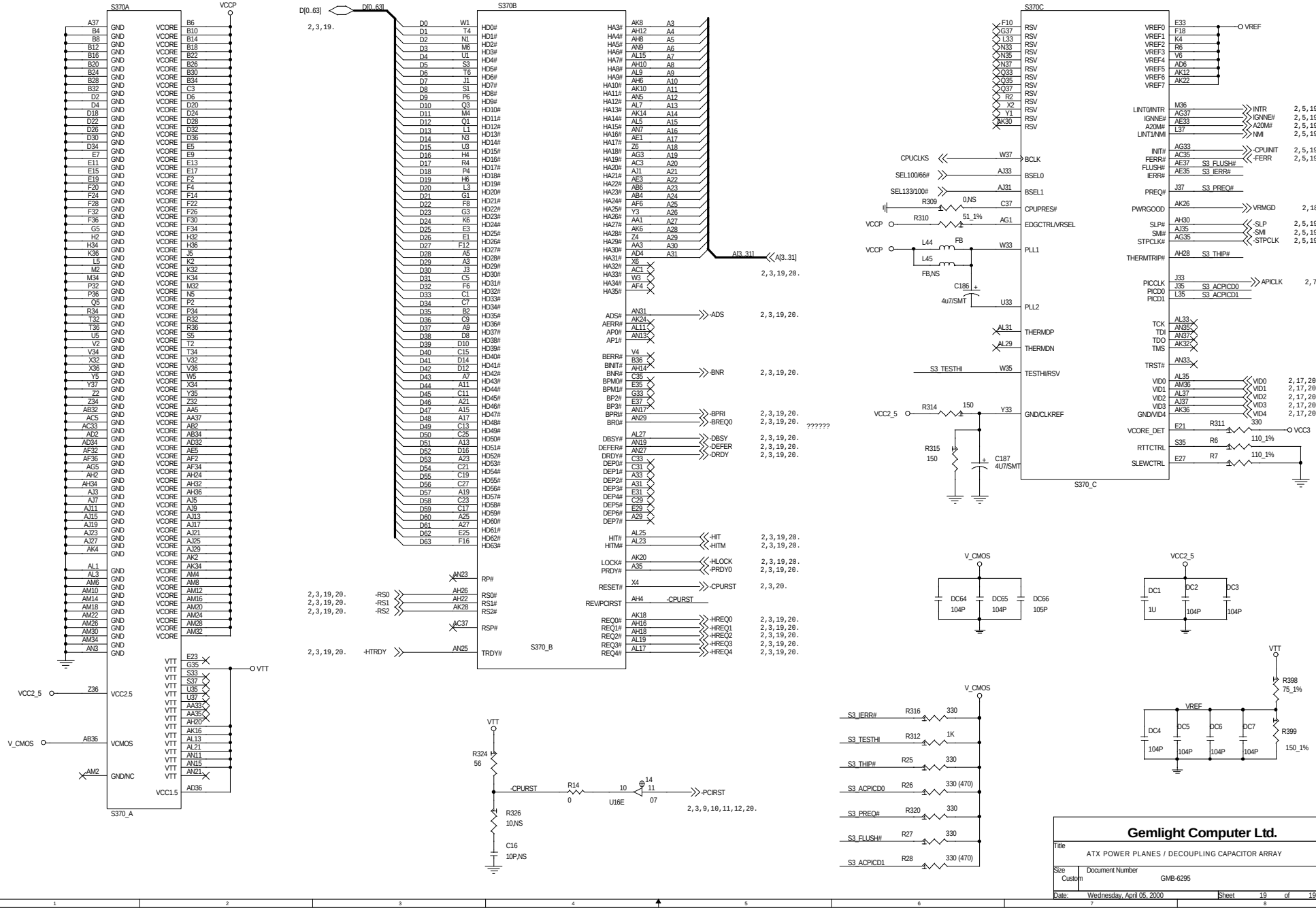

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Company	Gemlight Computer Ltd.
Size	Custom
Document Number	GMB-6295
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