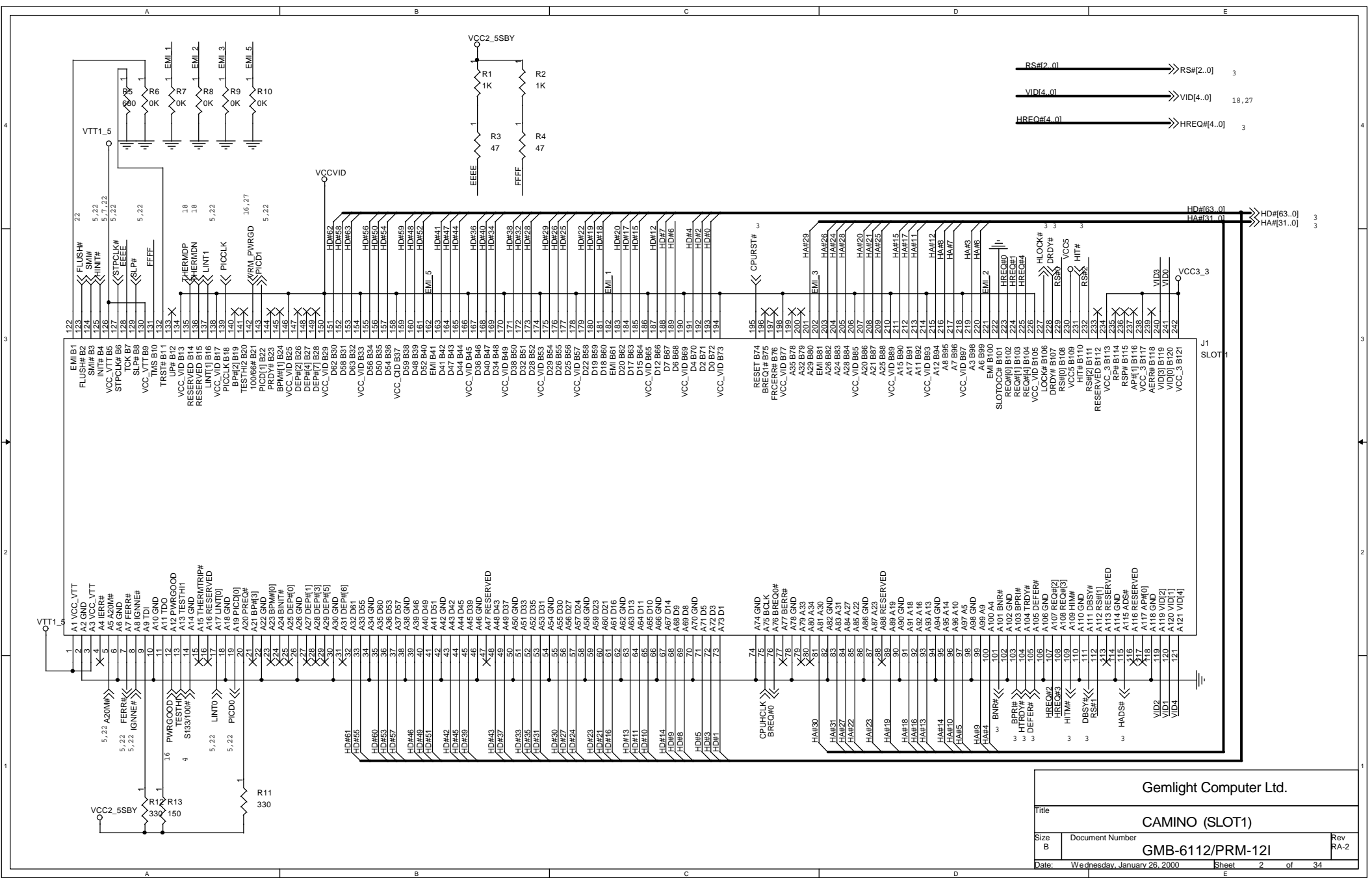
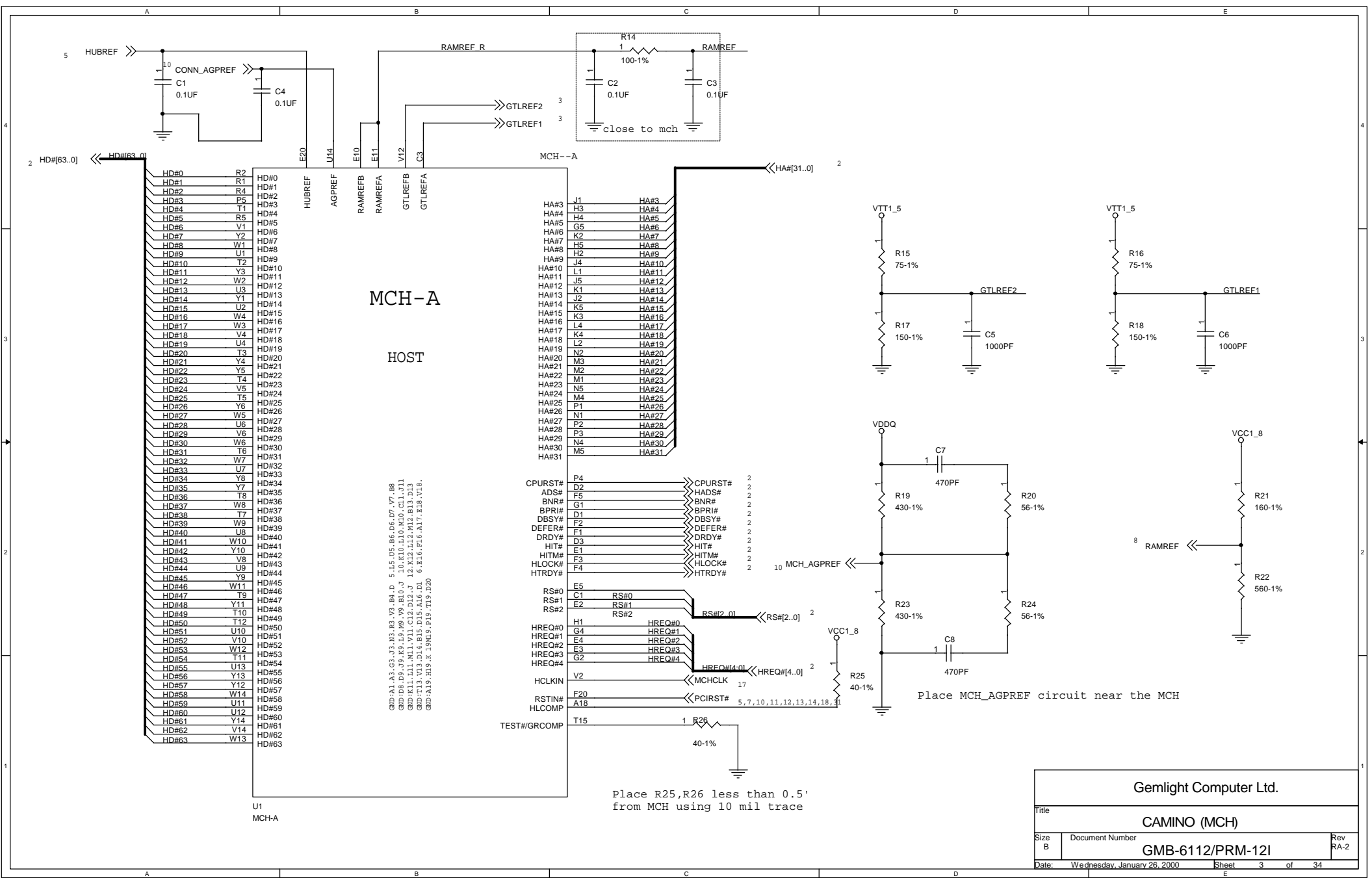


Title	Page
Block Diagram	1
SLOT1	2
MCH	3,4
ICH	5,6
FWH	7
AC97	9
AGP	10
PCI Conn	11,12,13
IDE Con	14
USB	15
Power	16
Clock	17
LPC	18
Keyboard	19
Floppy	20
Gameport	21
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Rambus	23
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System	25
Parallel	26
PWM	27
Bulk	28
Serial	29
Audio	30
MTH	31
DIMM1	32
DIMM2	33
DRCG	34

GMB-6112/PRM-12I RA-1



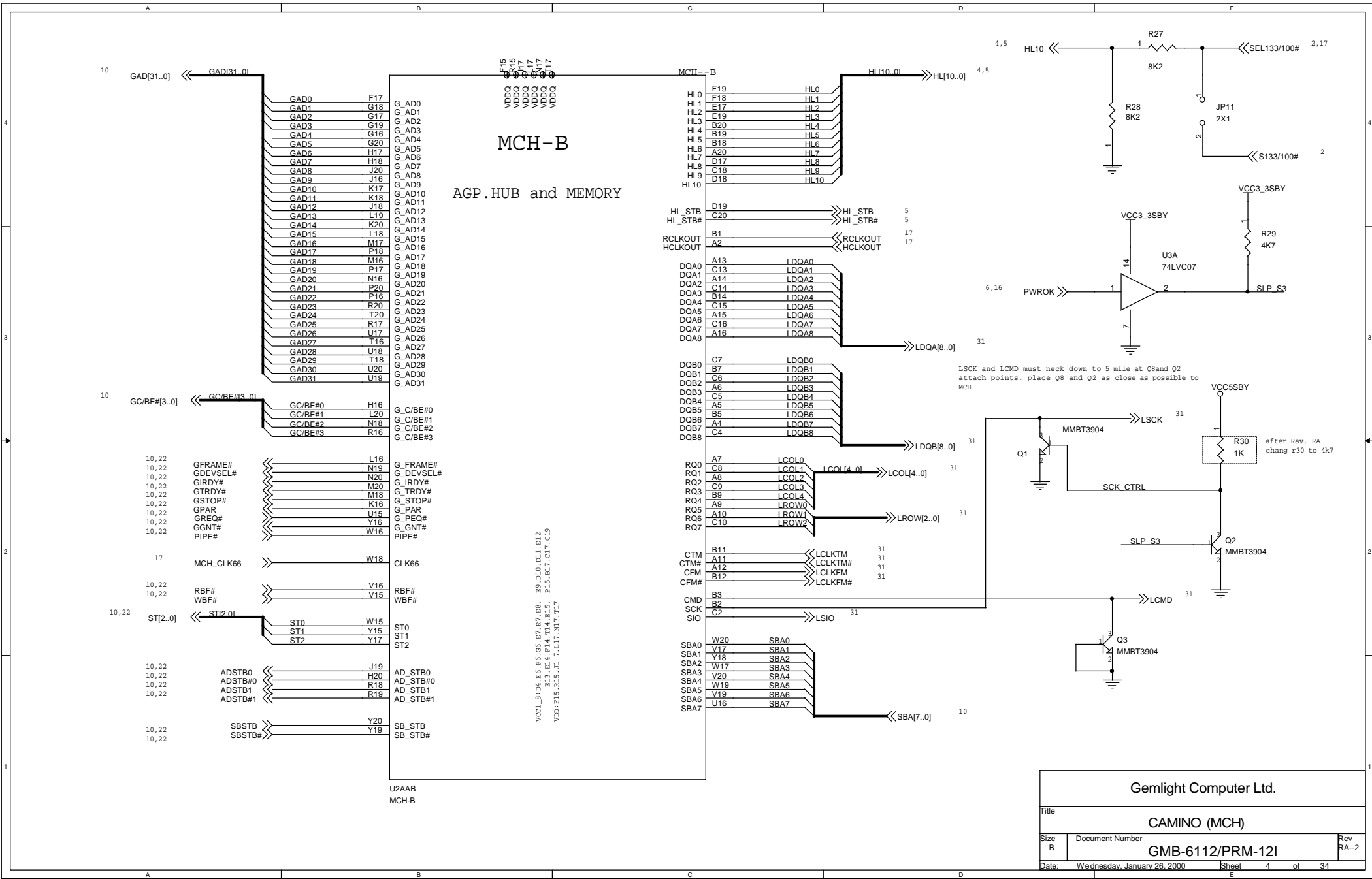
Gemlight Computer Ltd.		
Title CAMINO (SLOT1)		
Size B	Document Number GMB-6112/PRM-121	Rev RA-2
Date: Wednesday, January 26, 2000	Sheet 2	of 34

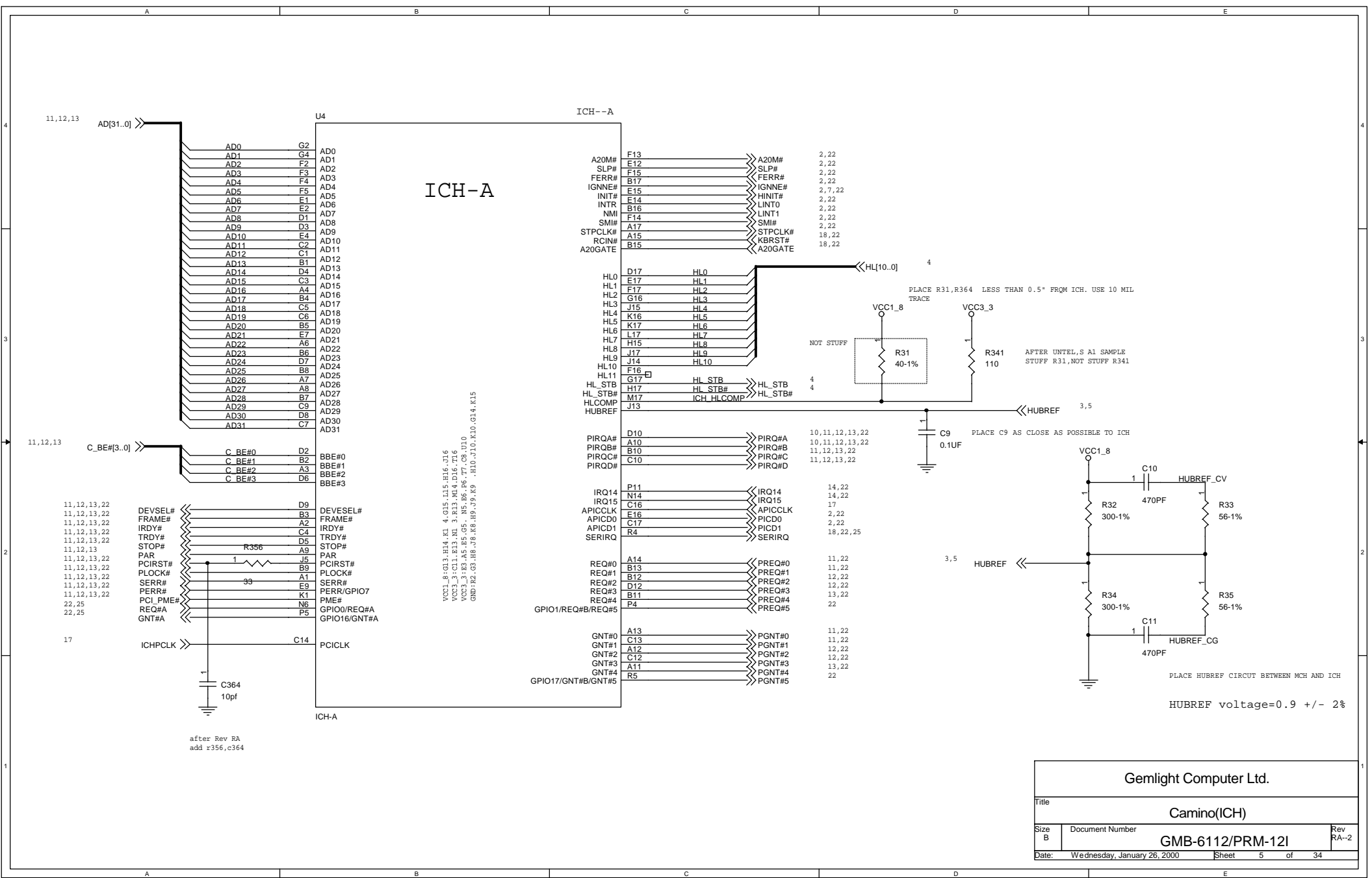


Place R25,R26 less than 0.5' from MCH using 10 mil trace

Place MCH\_AGPREF circuit near the MCH

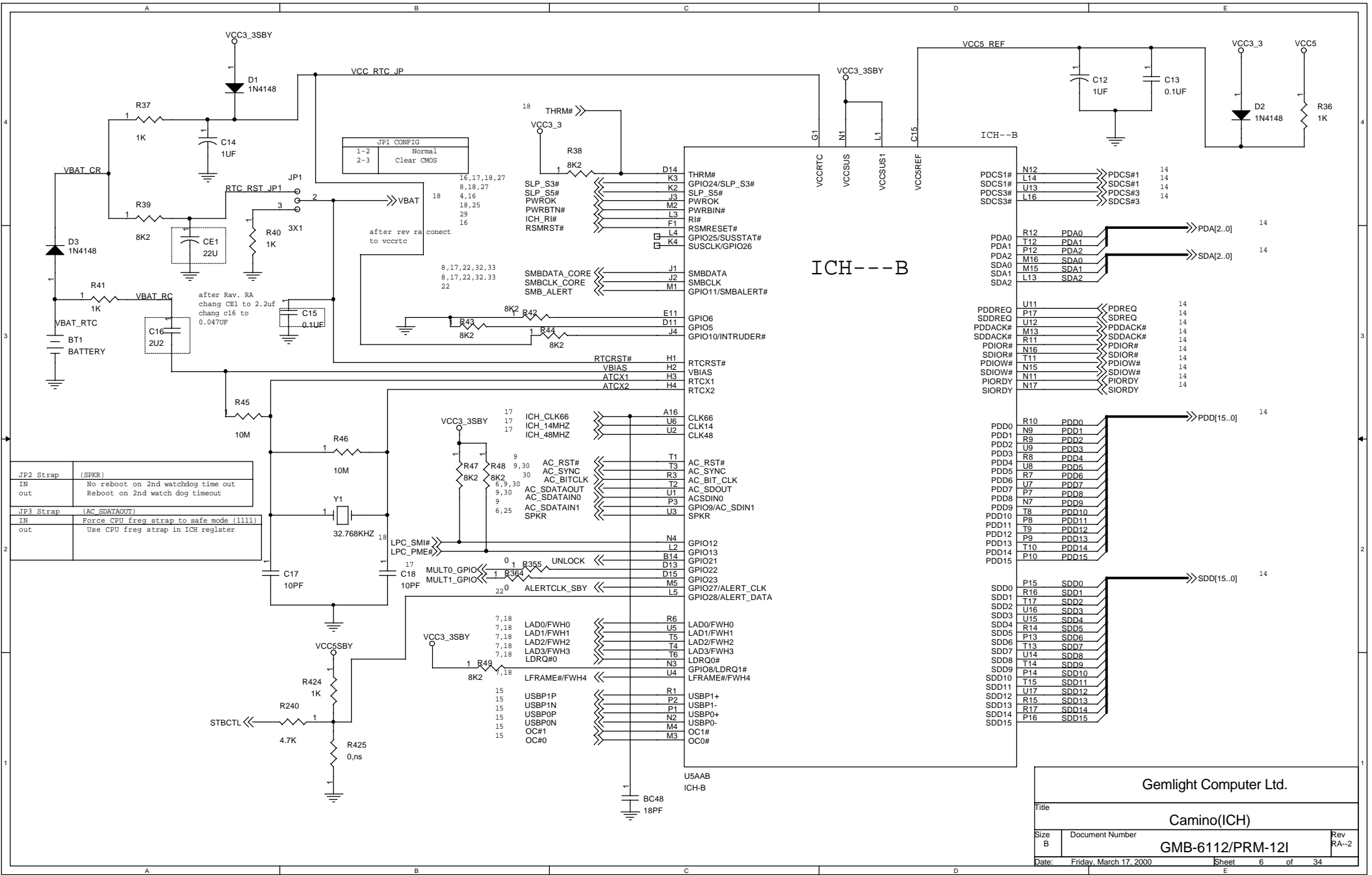
Gemlight Computer Ltd.		
Title CAMINO (MCH)		
Size B	Document Number GMB-6112/PRM-12I	Rev RA-2
Date: Wednesday, January 26, 2000	Sheet 3	of 34



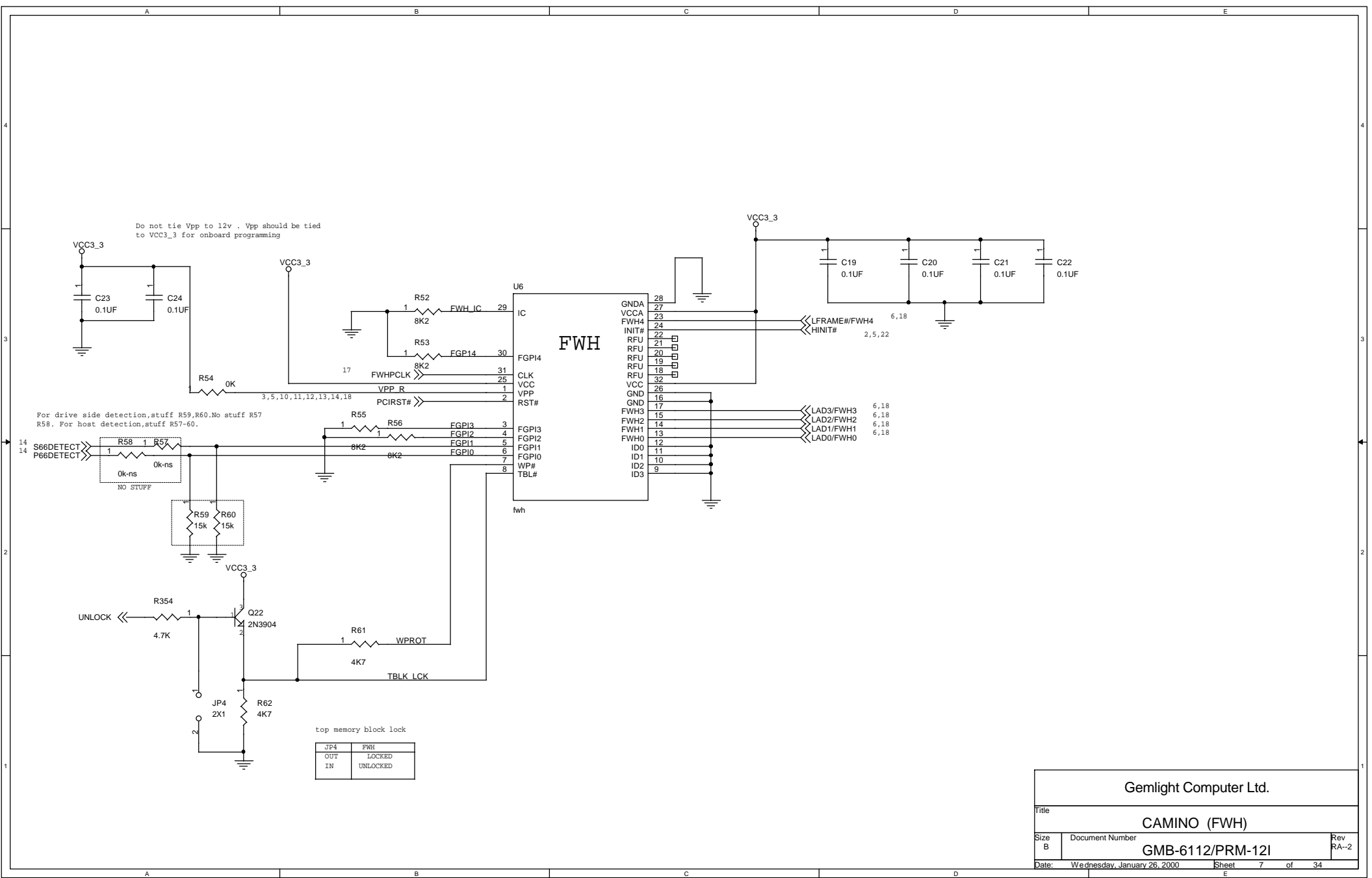


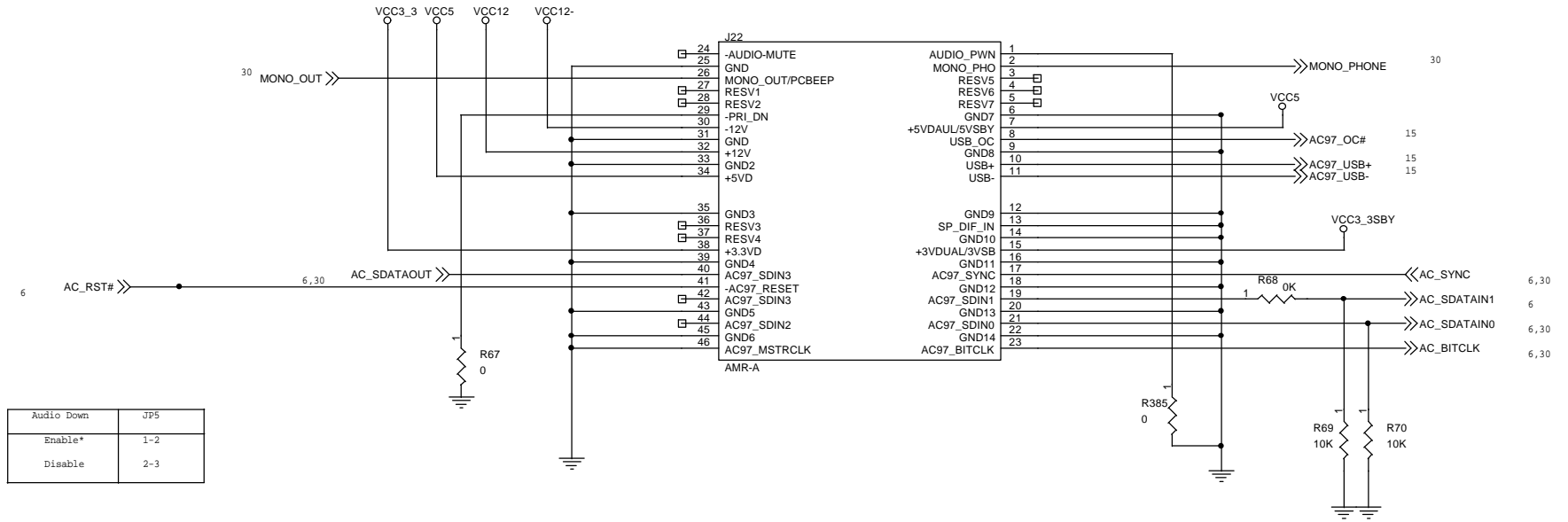
after Rev BA  
add r356,c364

Gemlight Computer Ltd.		
Title Camino(ICH)		
Size B	Document Number GMB-6112/PRM-121	Rev RA-2
Date:	Wednesday, January 26, 2000	Sheet 5 of 34



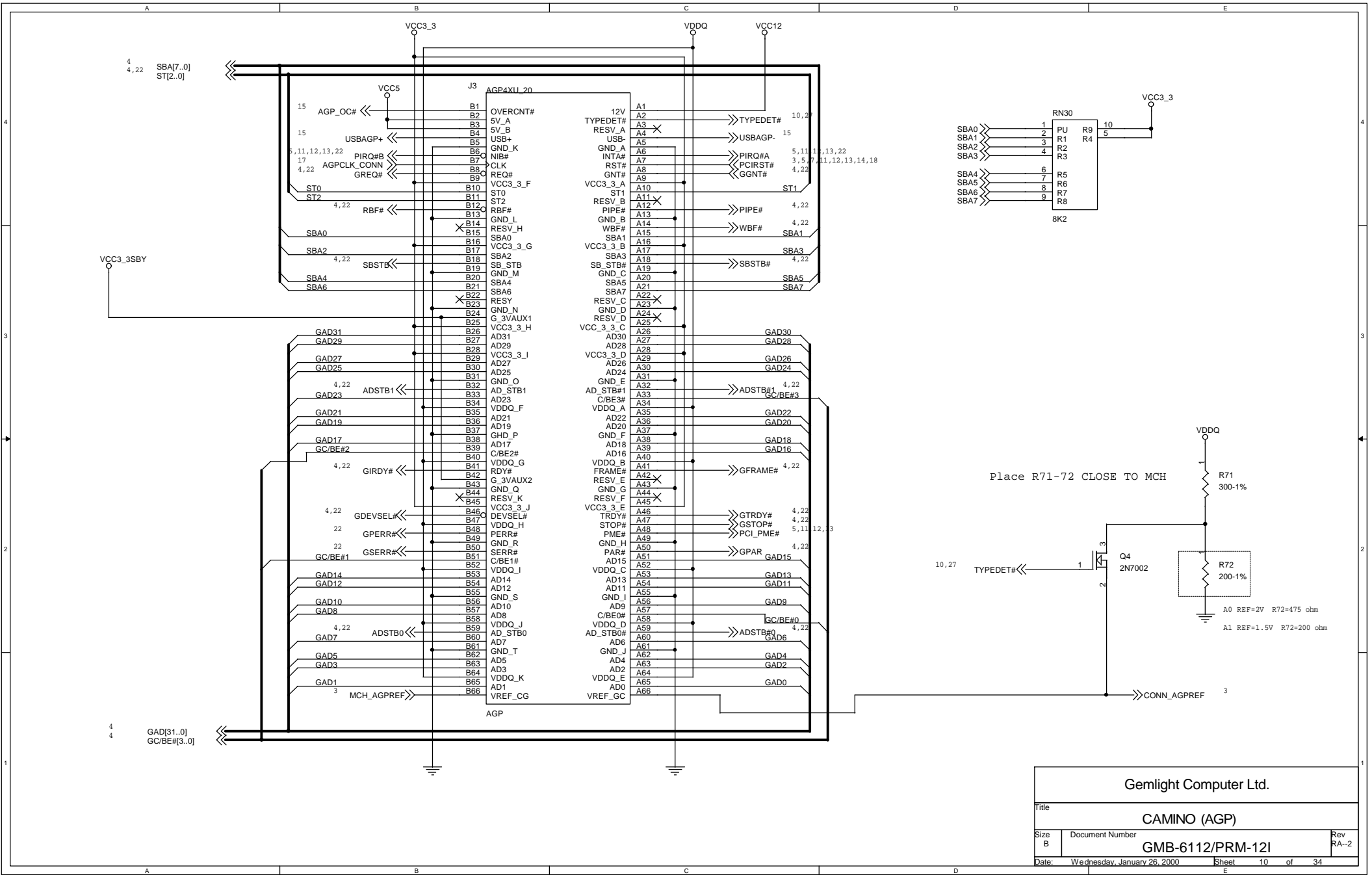
JP2 Strap	(SPKR)
IN	No reboot on 2nd watchdog time out
out	Reboot on 2nd watch dog timeout
JP3 Strap	(AC_SDATAOUT)
IN	Force CPU freq strap to safe mode (1111)
out	Use CPU freq strap in ICH register

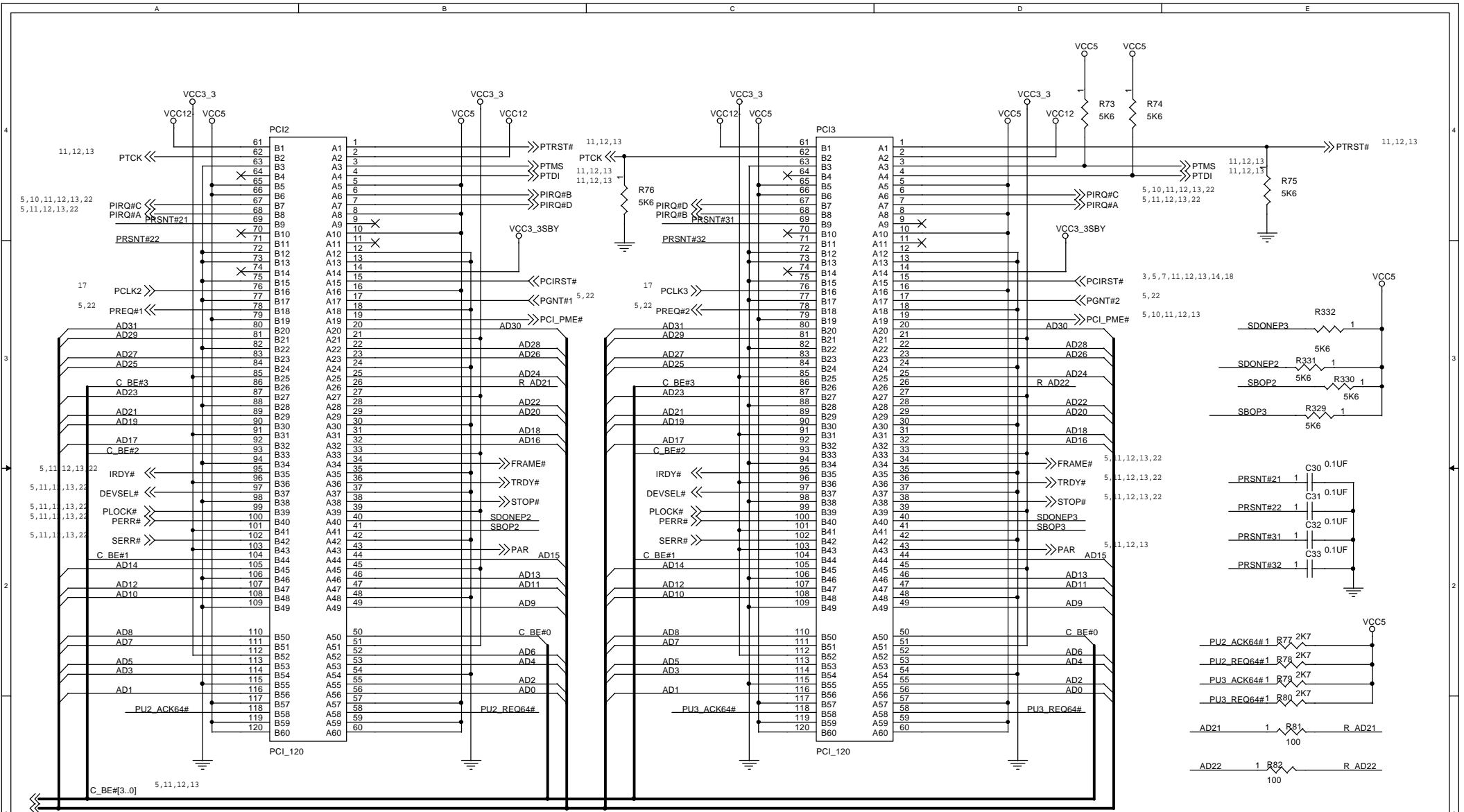




Gemlight Computer Ltd.		
Title		
CAMINO (AC97)		
Size	Document Number	Rev
B	GMB-6112/PRM-12I	RA-2
Date:	Friday, March 17, 2000	Sheet 9 of 34

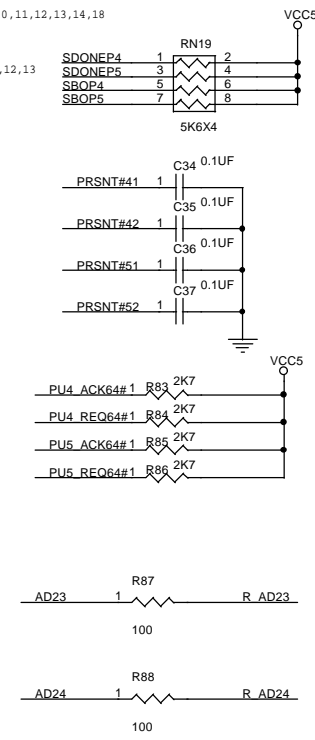
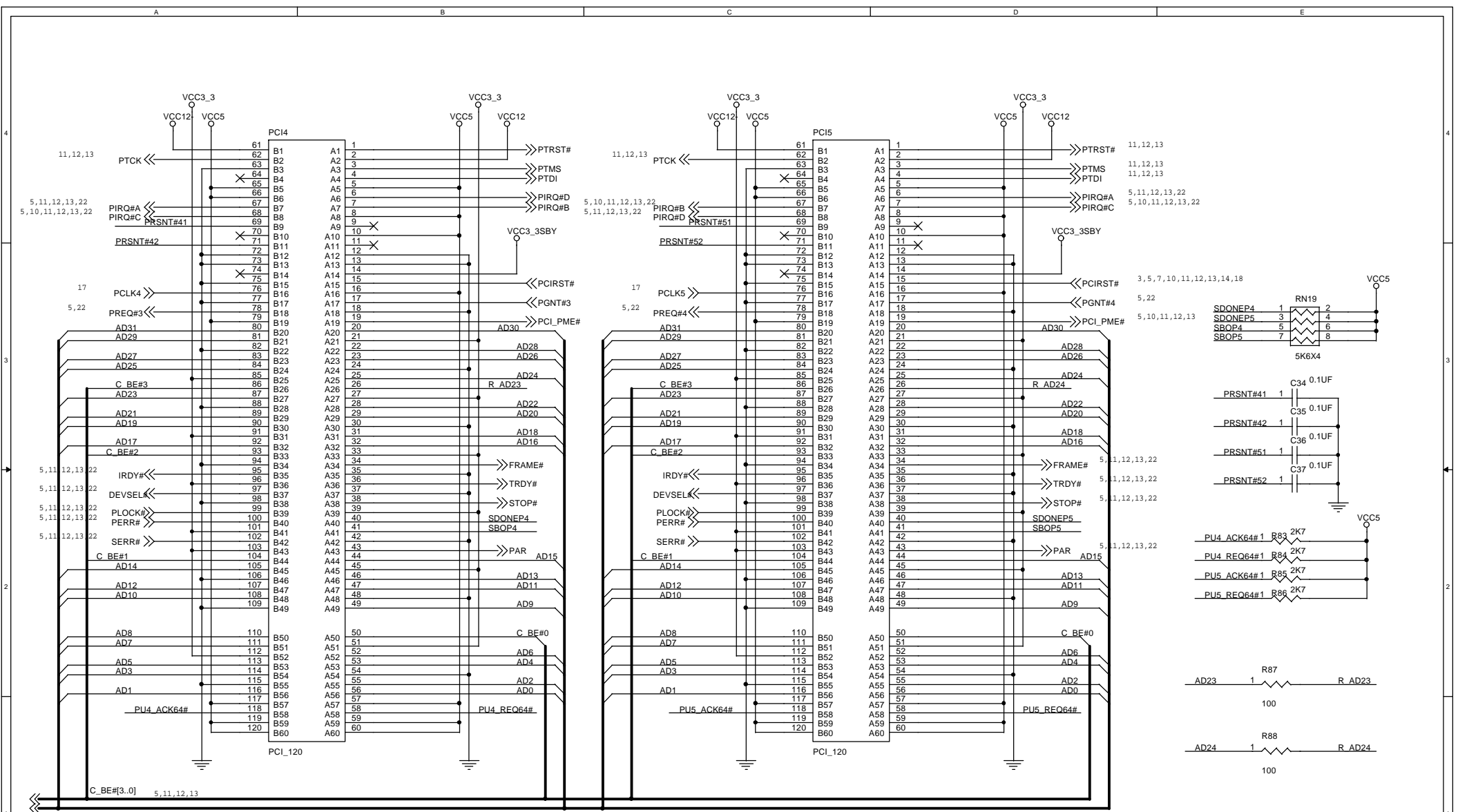






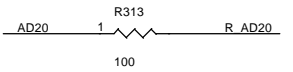
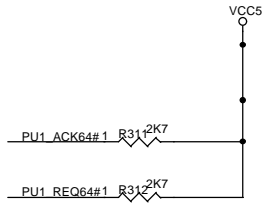
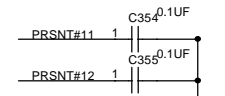
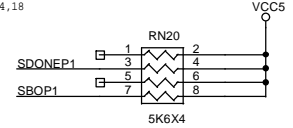
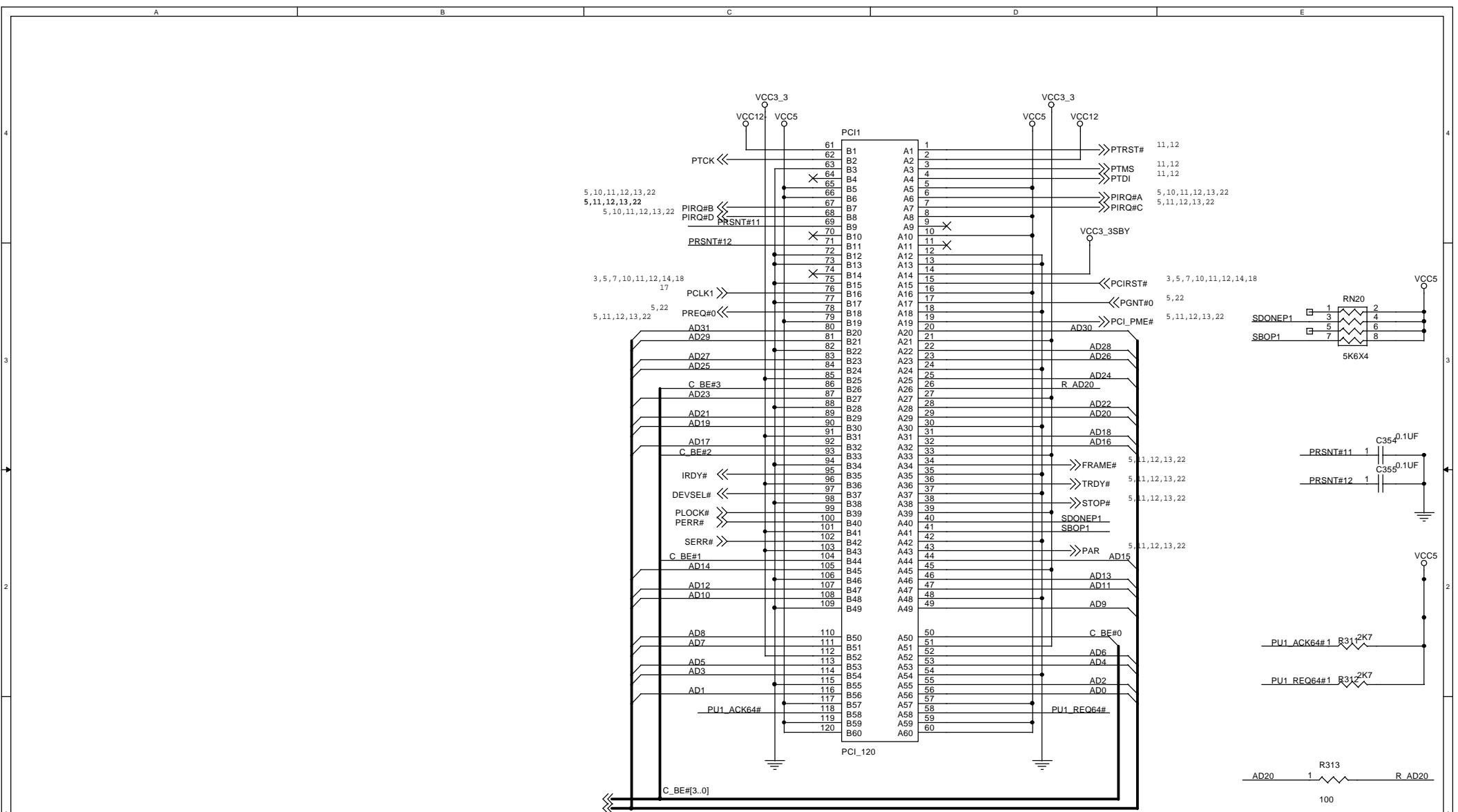
Gemlight Computer Ltd.

Title		
CAMINO (PCI-A)		
Size	Document Number	Rev
B	GMB-6112/PRM-12I	RA-2
Date:	Wednesday, January 26, 2000	Sheet 11 of 34

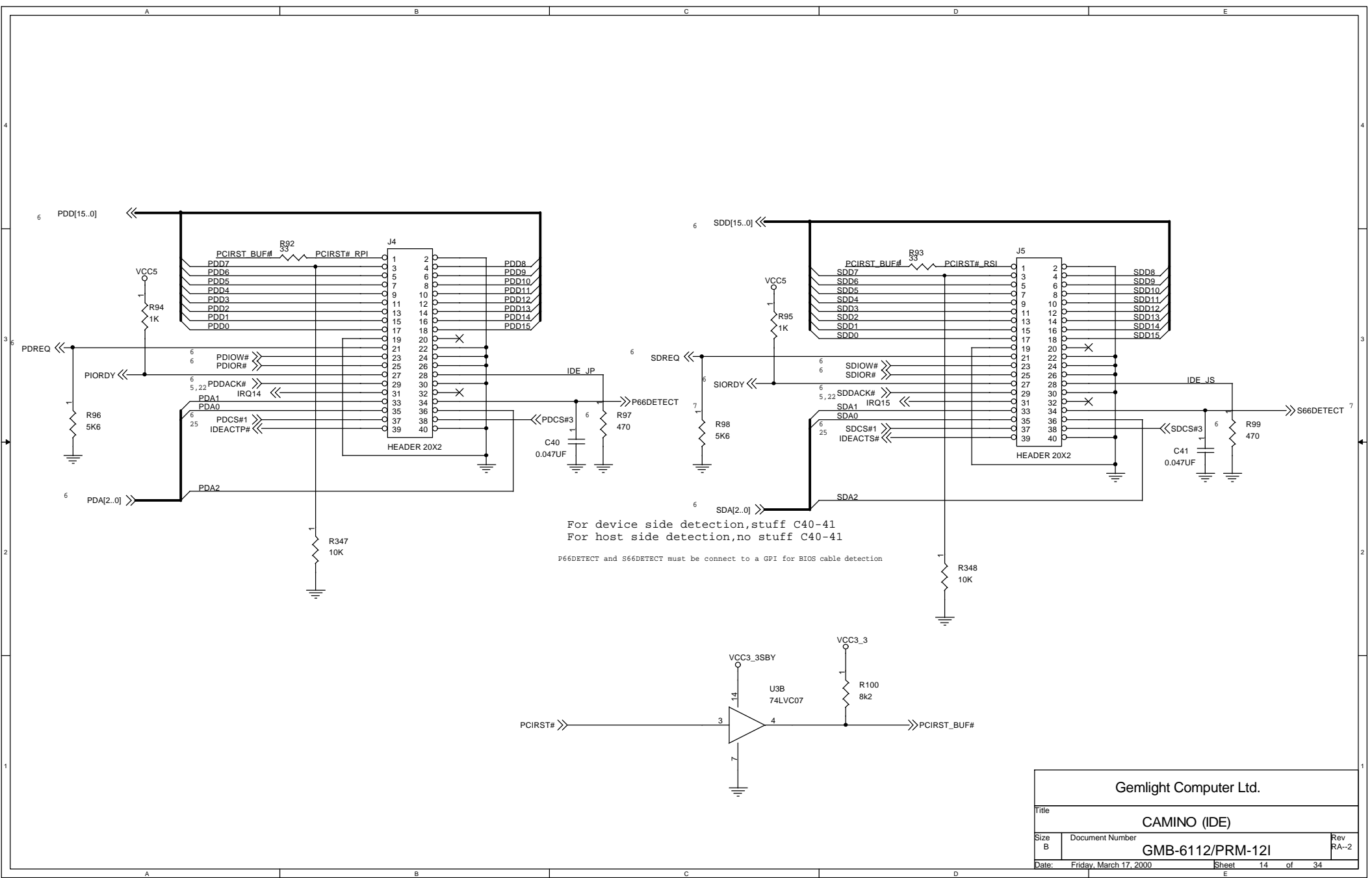


Gemlight Computer Ltd.

Title			CAMINO (PCI-B)		
Size	Document Number		Rev		RA-2
B	GMB-6112/PRM-12I				
Date:	Wednesday, January 26, 2000		Sheet	12	of 34



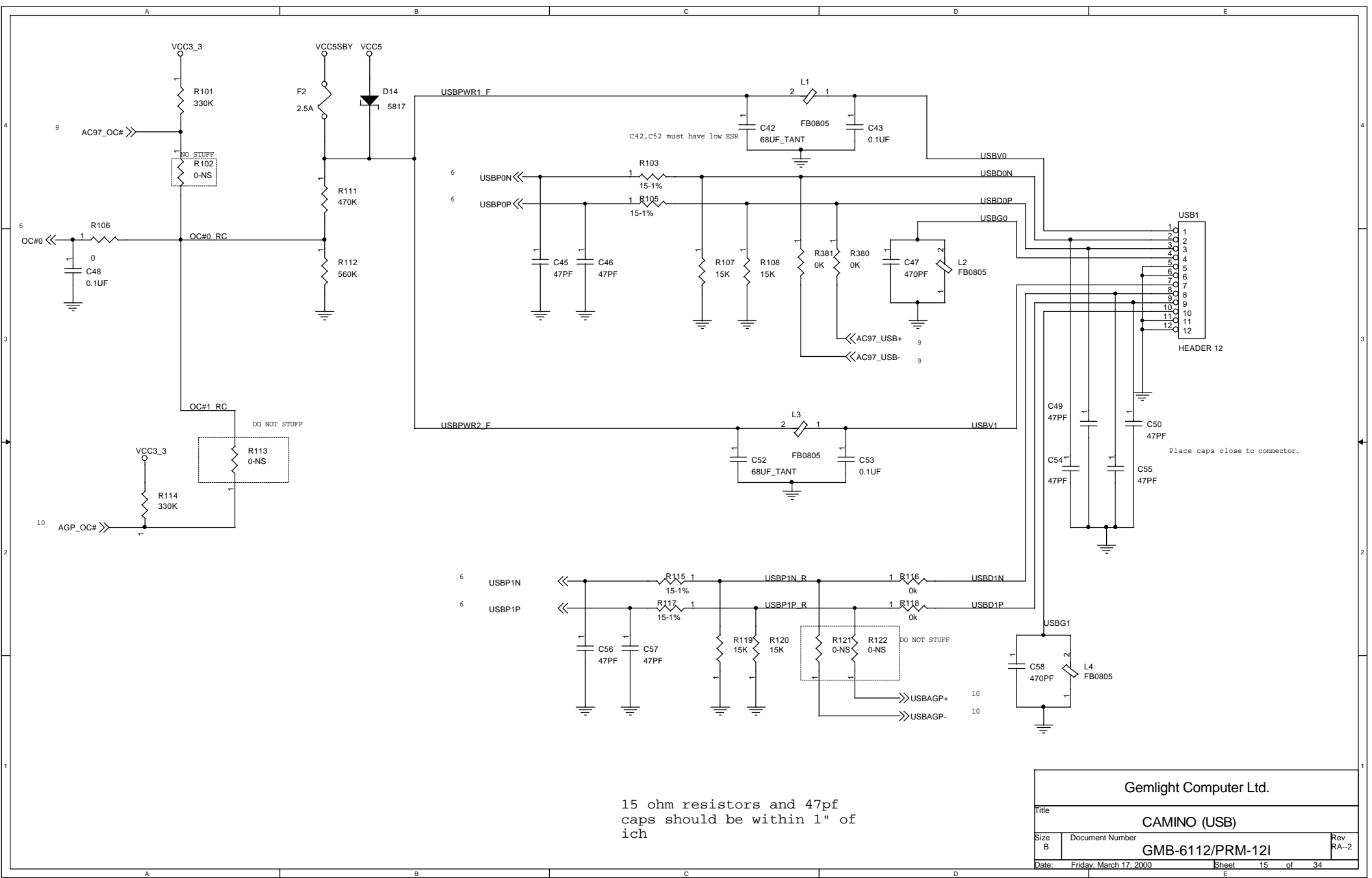
Gemlight Computer Ltd.		
Title		
CAMINO (PCI-C)		
Size	Document Number	Rev
B	GMB-6112/PRM-12I	RA-2
Date:	Wednesday, January 26, 2000	Sheet 13 of 34



For device side detection,stuff C40-41  
 For host side detection,no stuff C40-41

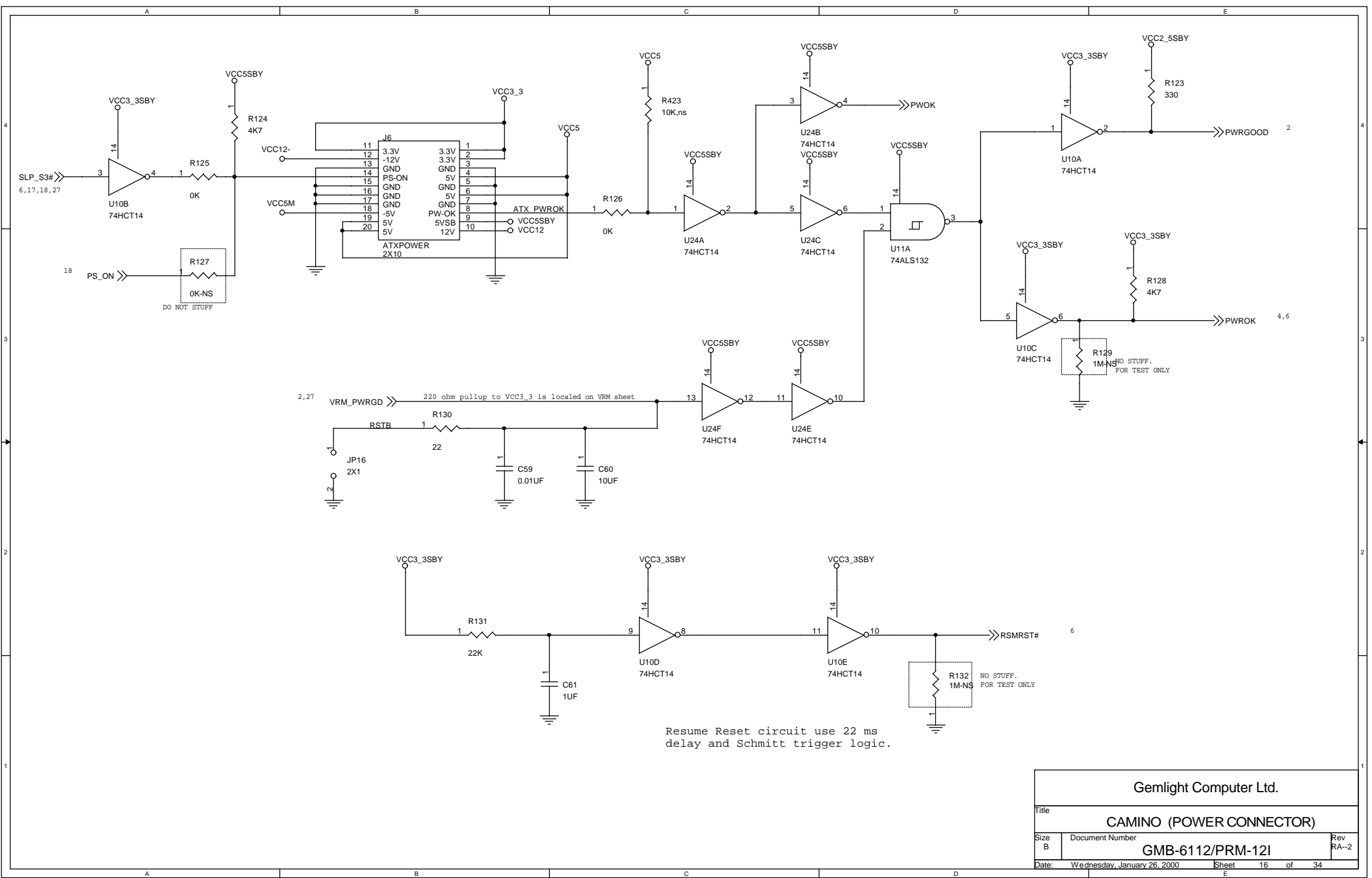
P66DETECT and S66DETECT must be connect to a GPI for BIOS cable detection

Gemlight Computer Ltd.		
Title		
CAMINO (IDE)		
Size	Document Number	Rev
B	GMB-6112/PRM-12I	RA-2
Date:	Friday, March 17, 2000	Sheet 14 of 34

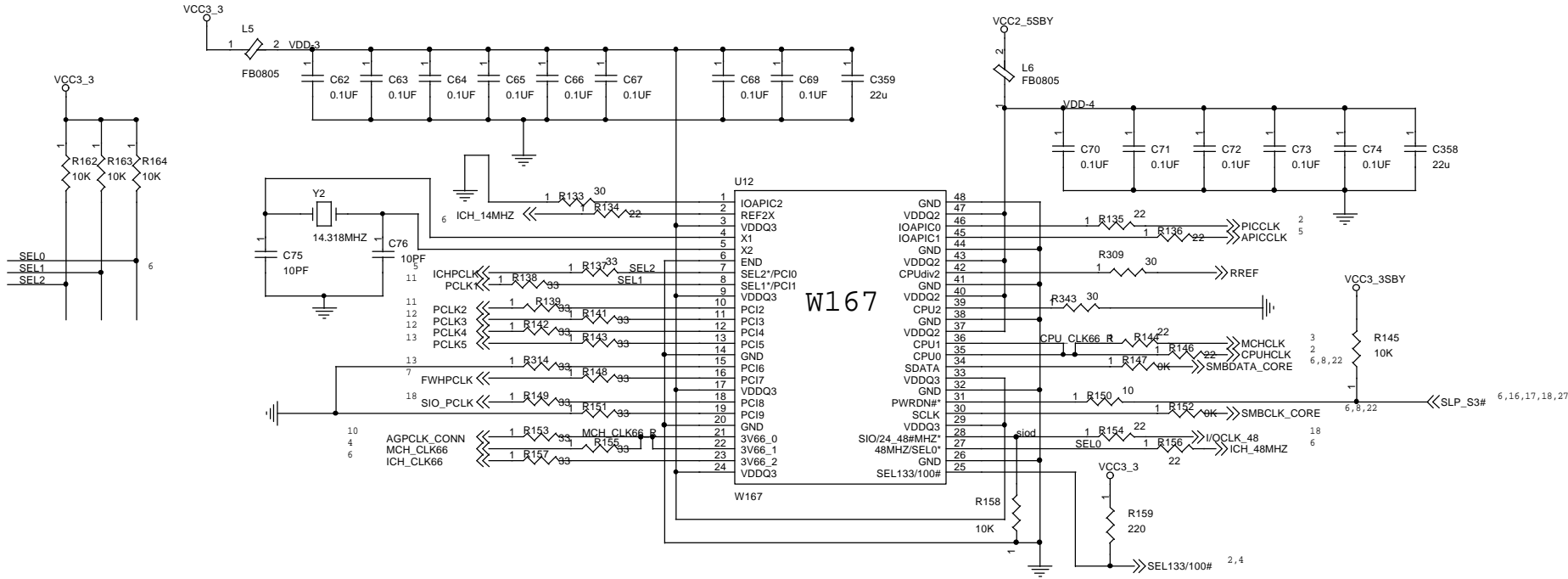


15 ohm resistors and 47pf caps should be within 1" of ich

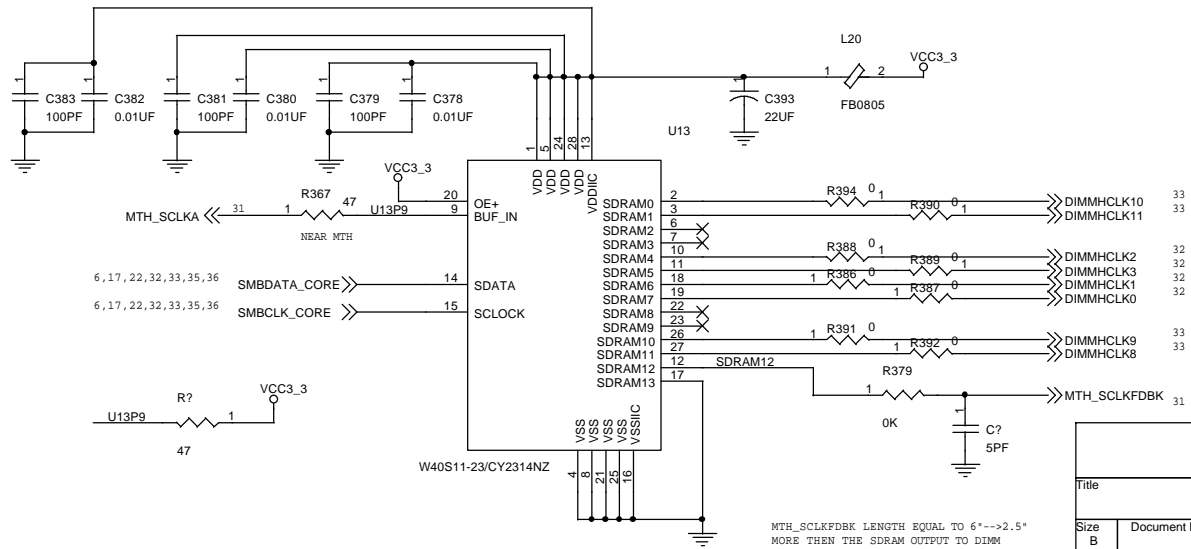
Gemlight Computer Ltd.		
Title		
CAMINO (USB)		
Size	Document Number	Rev
B	GMB-6112/PRM-12I	RA-2
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Gemlight Computer Ltd.		
Title <b>CAMINO (POWER CONNECTOR)</b>		
Size B	Document Number <b>GMB-6112/PRM-12I</b>	Rev RA-2
Date:	Wednesday, January 26, 2000	Sheet 16 of 34



SEL133/ 100#	JP6	JP7	JP8	CPU MHZ	3V66 MHZ	PCI MHZ	IOAPIC MHZ
1	1	1	1	133.3	66.7	33.3	16.7
1	1	1	0	138	69	34.5	17.3
1	1	0	1	143	71.5	35.8	17.9
1	1	0	0	148	74	37	18.5
1	0	1	1	152.5	76.3	38.1	19.1
1	0	1	0	157	78.5	39.3	19.6
1	0	0	1	162	81	40.5	20.3
1	0	0	0	180	60	30	15
0	1	1	1	100.2	66.8	33.4	16.7
0	1	1	0	105	70	35	17.5
0	1	0	1	114	76	38	19
0	1	0	0	120	80	40	20
0	0	1	1	128.5	64.25	32.1	16.1
0	0	1	0	200	66.7	33.3	16.7
0	0	0	1	83.3	83.3	41.65	20.83
0	0	0	0	66.8	66.8	33.4	16.7

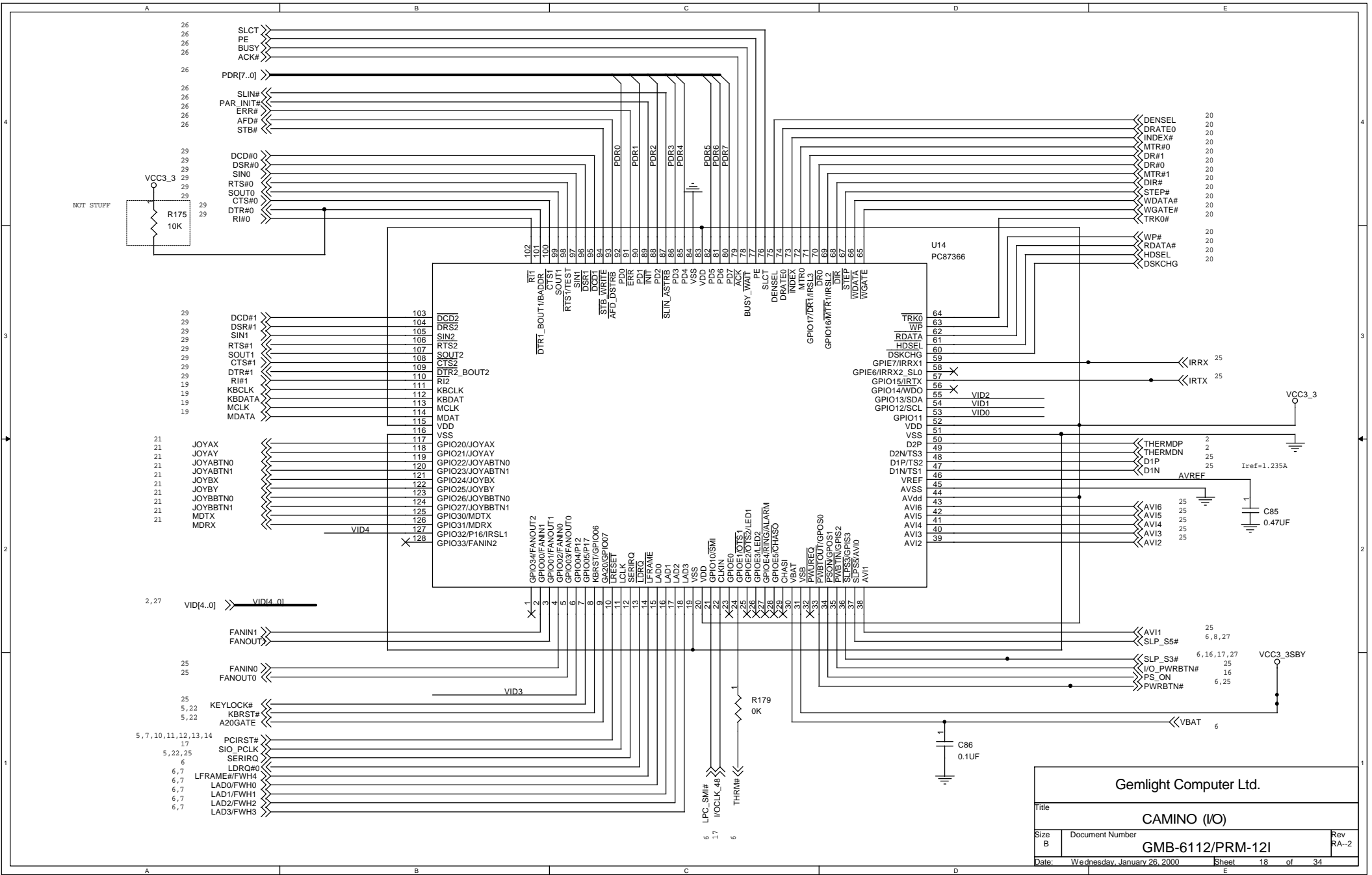


MTH\_SCLKFDBK LENGTH EQUAL TO 6"--->2.5"  
MORE THEN THE SDRAM OUTPUT TO DIMM

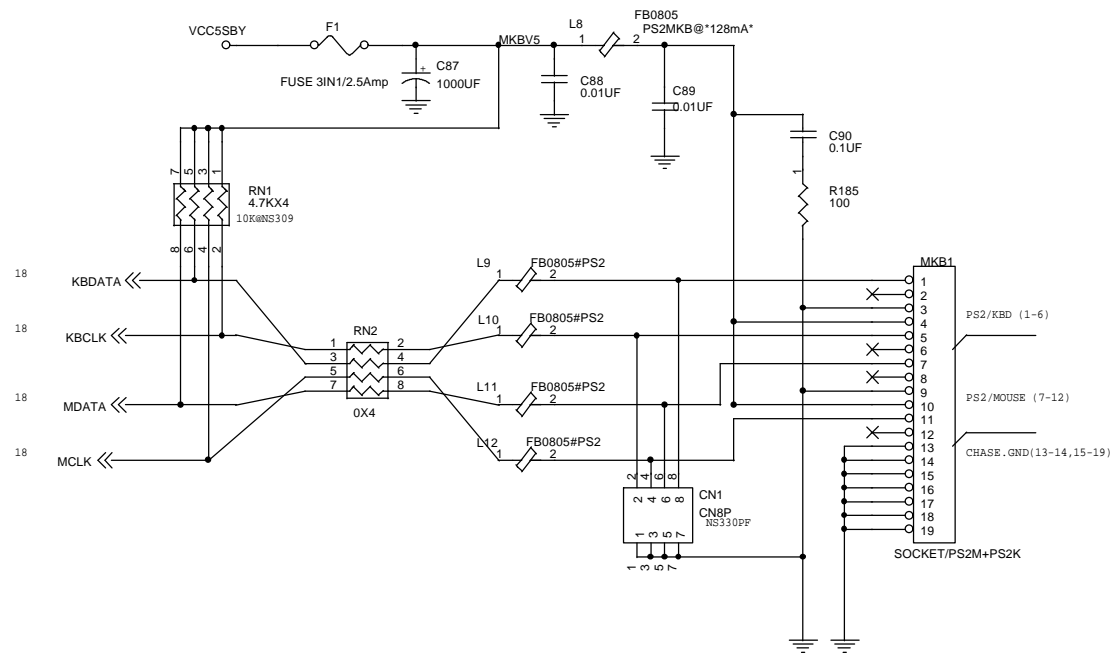
**Gemlight Computer Ltd.**

Title		
<b>CAMINO (CLOCK)</b>		
Size	Document Number	Rev
B	<b>GMB-6112/PRM-12I</b>	RA-2
Date:	Monday, April 03, 2000	Sheet 17 of 34

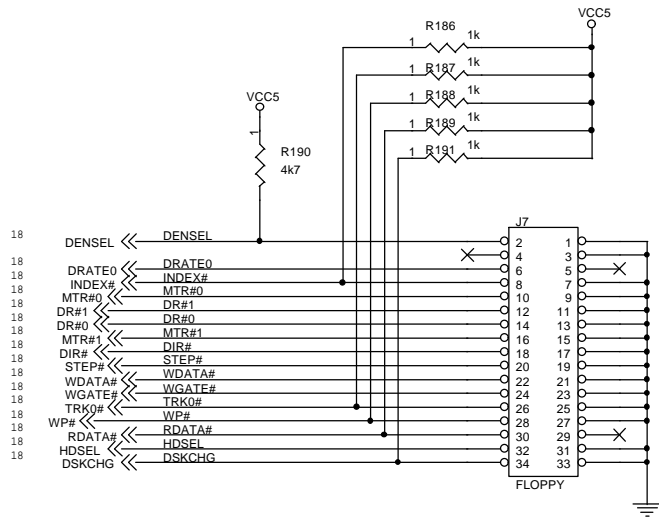




Title		
CAMINO (I/O)		
Size	Document Number	Rev
B	GMB-6112/PRM-12I	RA-2
Date:	Wednesday, January 26, 2000	Sheet 18 of 34

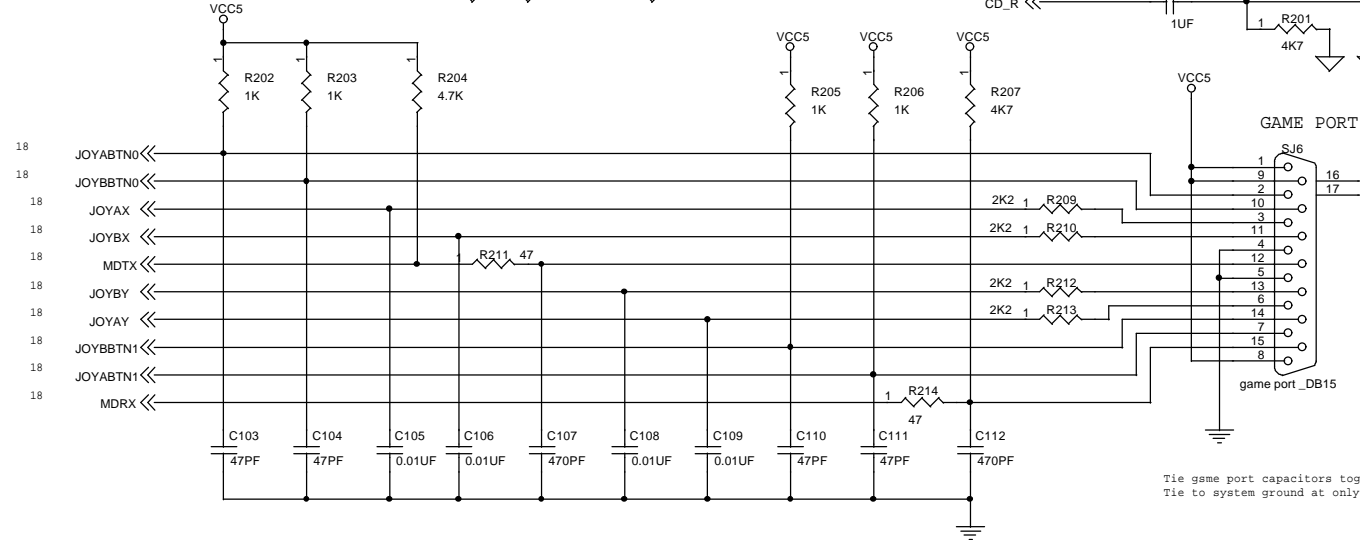
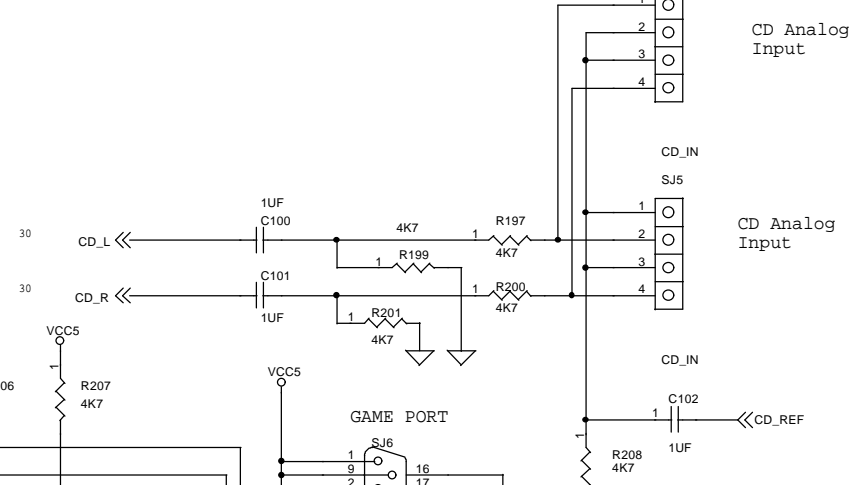
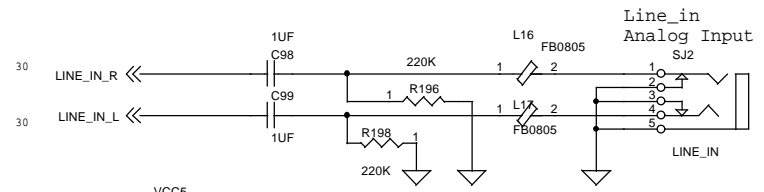
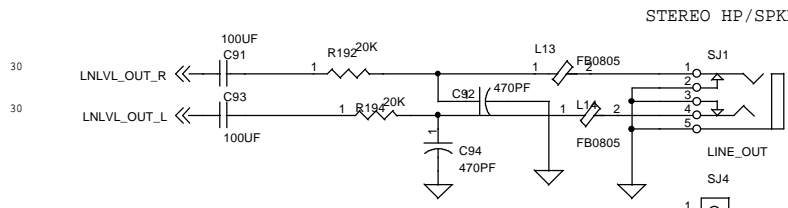
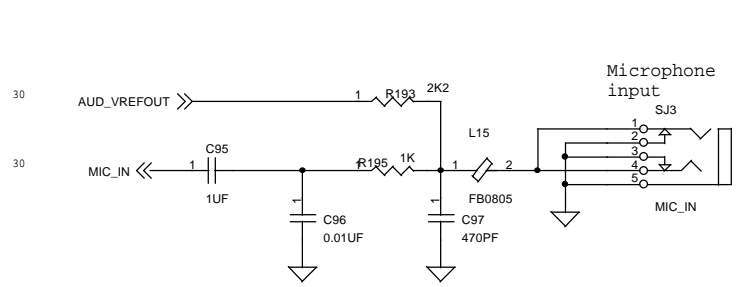


Gemlight Computer Ltd.		
Title		CAMINO (Keyboard)
Size B	Document Number	GMB-6112/PRM-12I
Date:	Wednesday, January 26, 2000	Rev RA-2
		Sheet 19 of 34



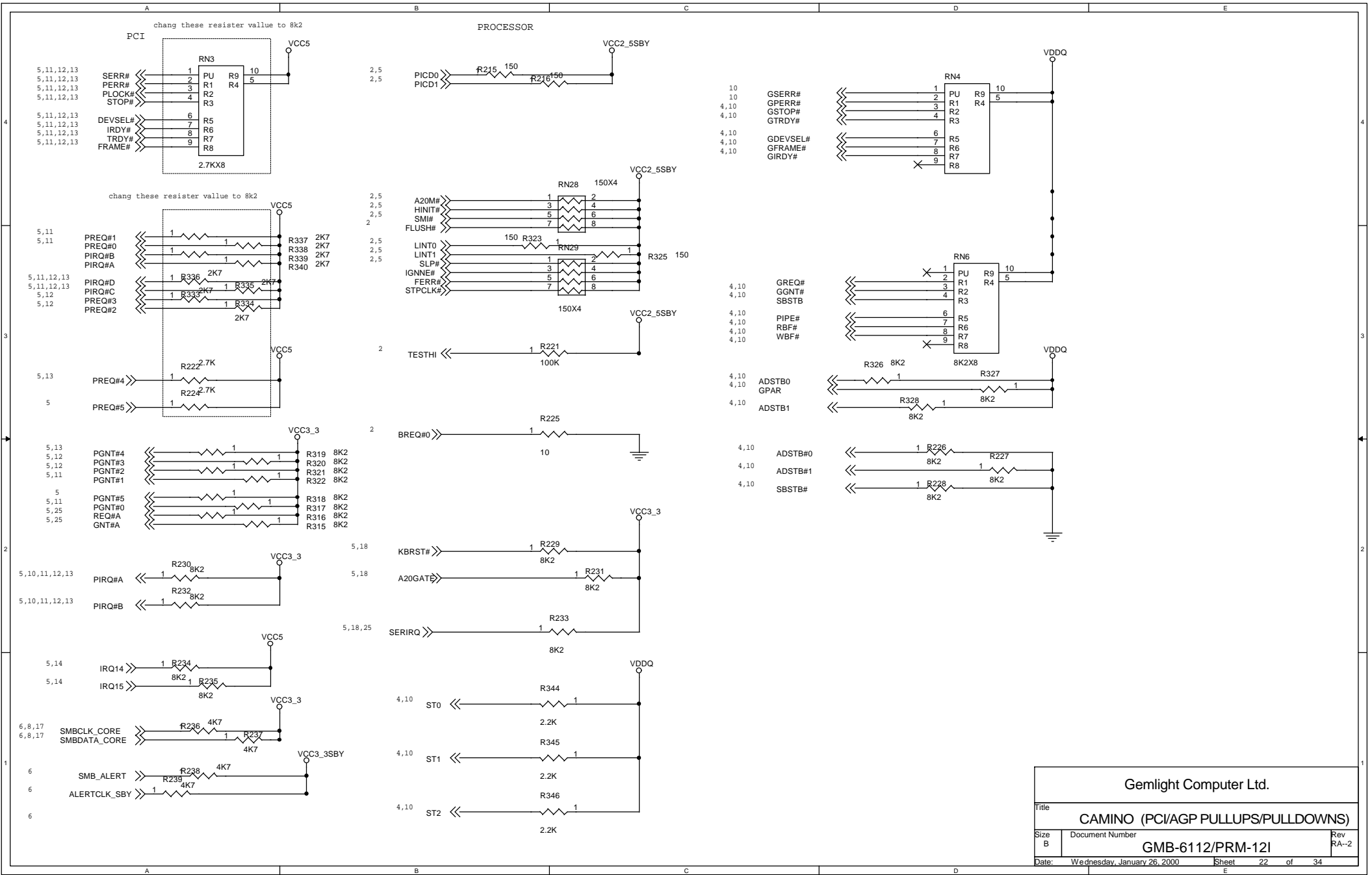
Media Sense and DRATE Options  
 Determined by Floppy Drive Model  
 and Preference of System Designer

Gemlight Computer Ltd.		
Title		
CAMINO (FLOPPY)		
Size	Document Number	Rev
B	GMB-6112/PRM-12I	RA-2
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Tie game port capacitors together and to SID AVSS Tie to system ground at only a single point.

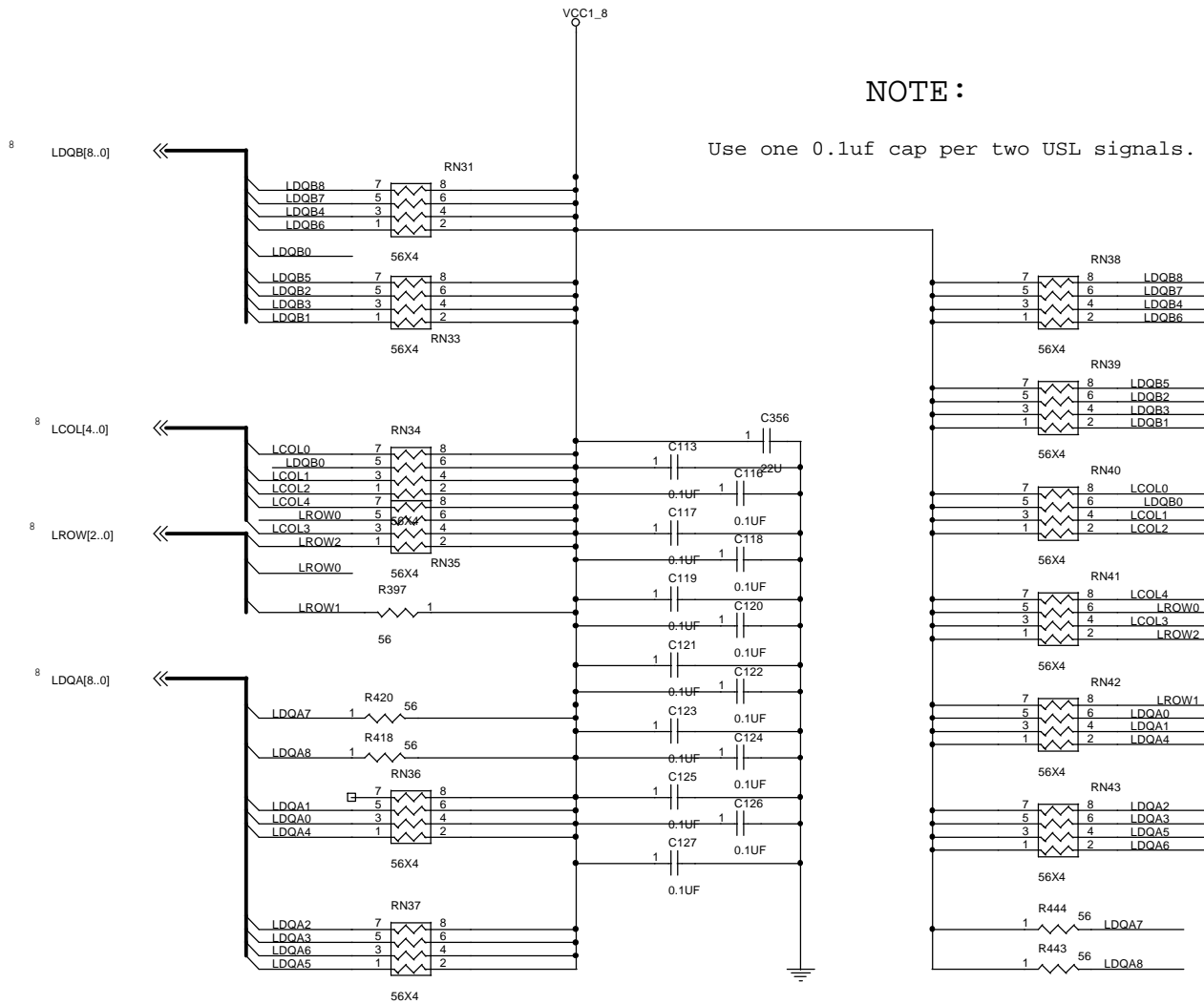
Gemlight Computer Ltd.		
Title		
CAMINO (I/O)		
Size	Document Number	Rev
B	GMB-6112/PRM-12I	RA-2
Date:	Friday, March 17, 2000	Sheet 21 of 34



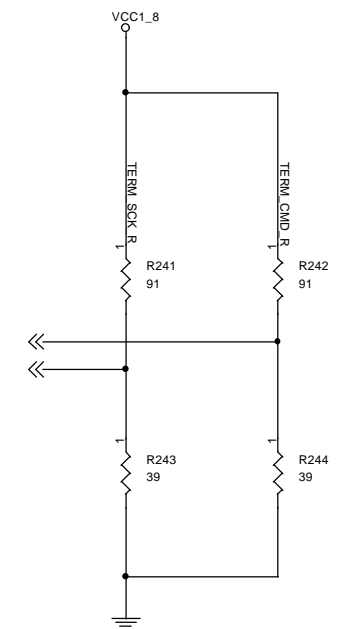
Gemlight Computer Ltd.		
Title		
CAMINO (PCI/AGP PULLUPS/PULLDOWNS)		
Size	Document Number	Rev
B	GMB-6112/PRM-12I	RA-2
Date:	Wednesday, January 26, 2000	Sheet 22 of 34

**NOTE :**

Use one 0.1uf cap per two USL signals.

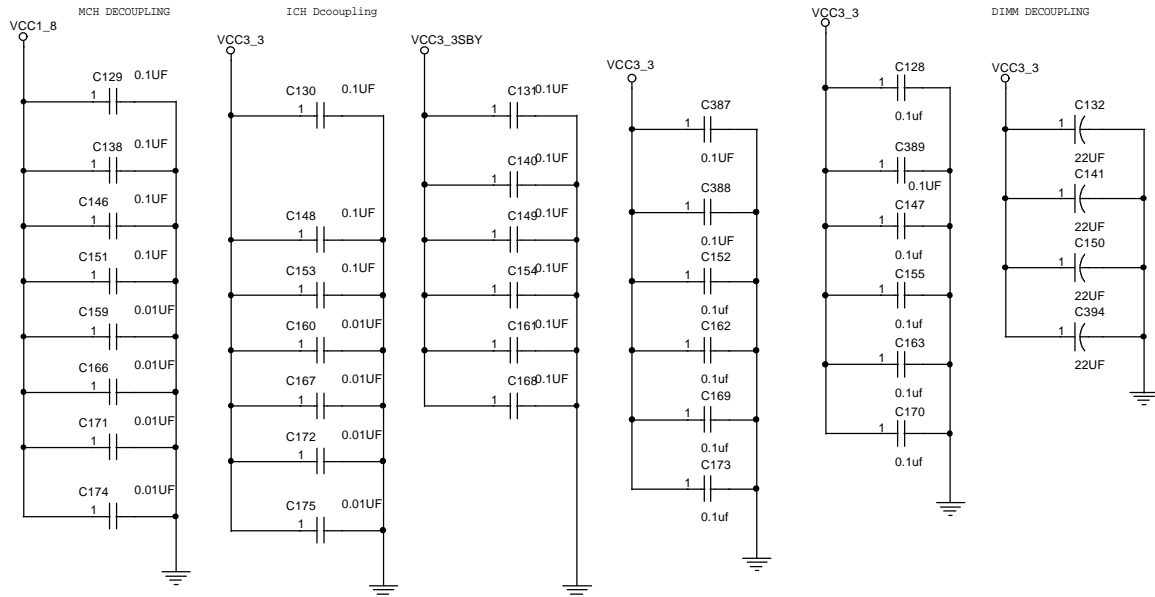


8 LCDM  
8 LSCK



Change: R241-242 91 ohm  
R243-244 39 ohm  
C114-115 0 ohm

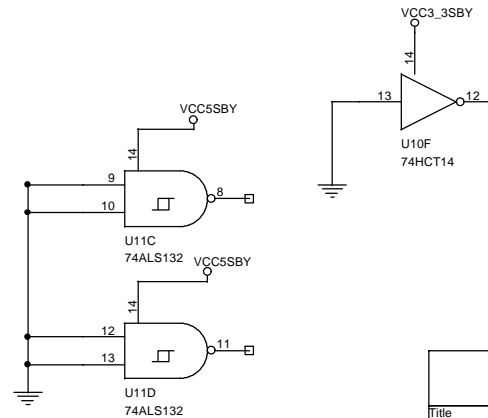
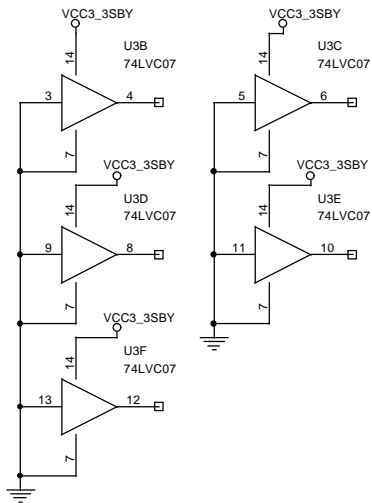
Gemlight Computer Ltd.		
Title		
CAMINO (RAMBUS TERMINATION)		
Size	Document Number	Rev
B	GMB-6112/PRM-12I	RA-2
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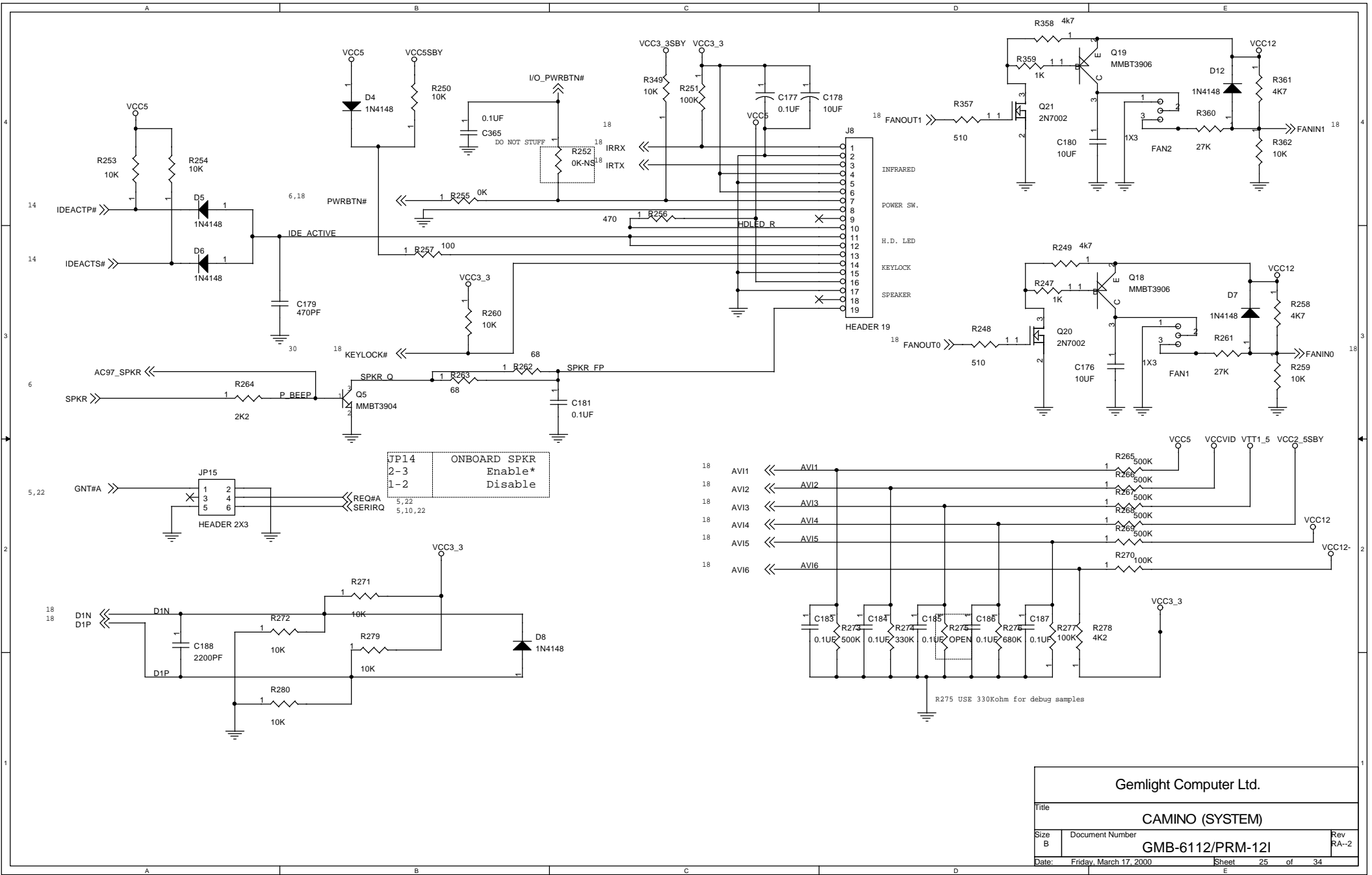
For chipset decoupling, use 0.1uF and 0.01uF decoupling capacitor at each corner of device. If there is room, also add 0.01uF capacitor in the middle of each quad. Place additional caps if routable

Place 100uF CAPS, 0.1 ohm ESR, among RIMM connection

### Un-used Gates

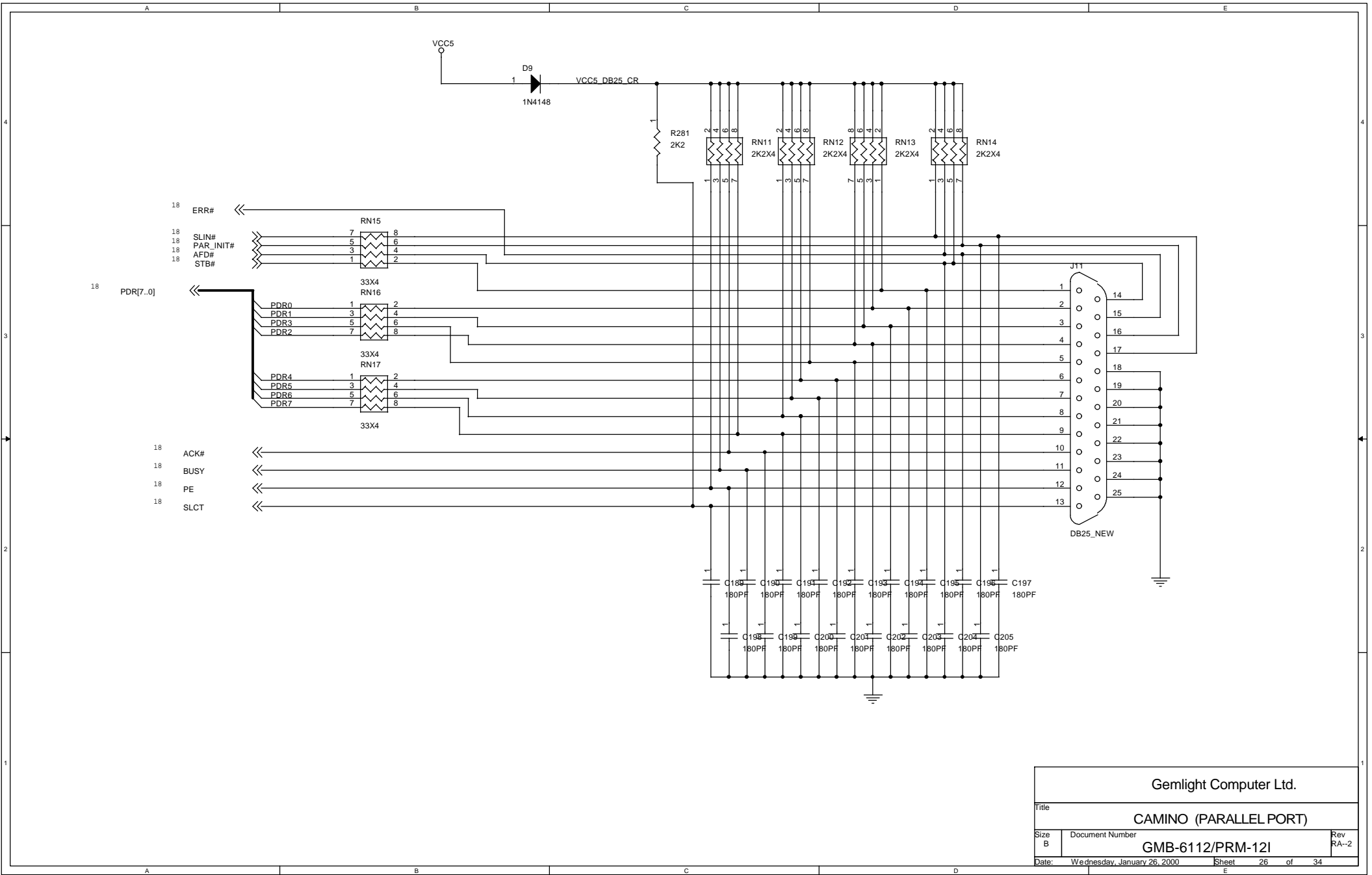


Gemlight Computer Ltd.		
Title		
CAMINO (DECOUP)		
Size	Document Number	Rev
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Gemlight Computer Ltd.		
Title		
CAMINO (SYSTEM)		
Size	Document Number	Rev
B	GMB-6112/PRM-12I	RA-2
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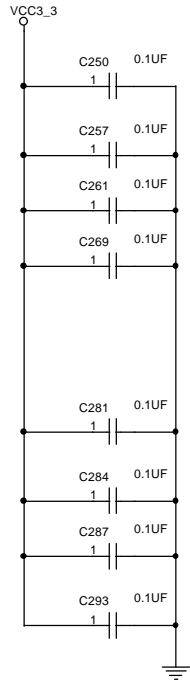




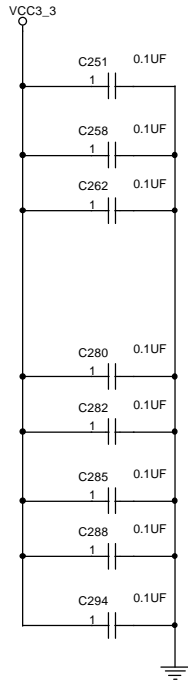
Gemlight Computer Ltd.		
Title <b>CAMINO (PARALLEL PORT)</b>		
Size B	Document Number <b>GMB-6112/PRM-12I</b>	Rev RA-2
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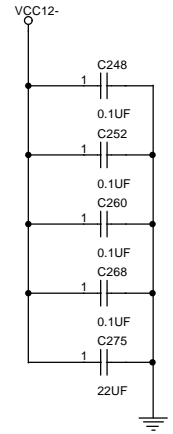
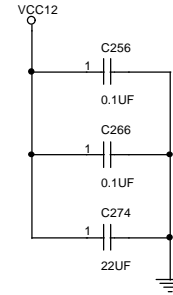
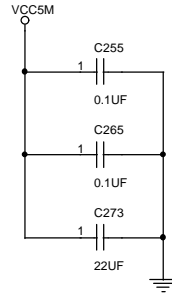
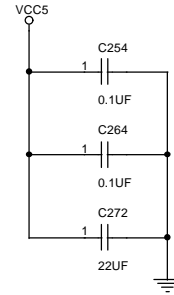
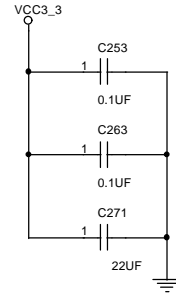
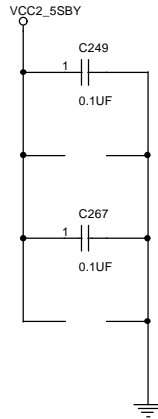
VCC3\_3 Decoupling



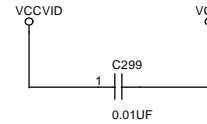
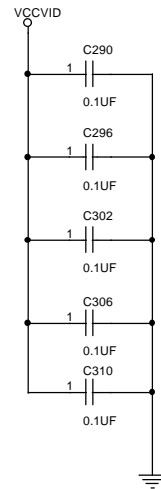
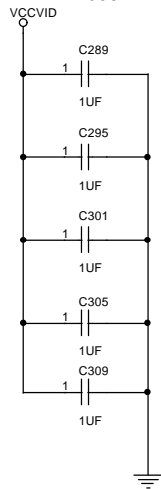
VCC3\_3 Decoupling



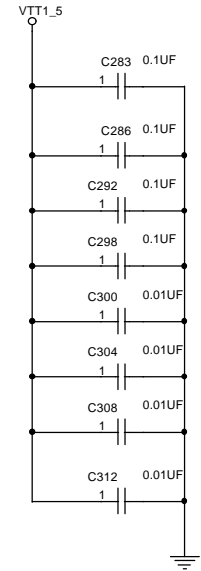
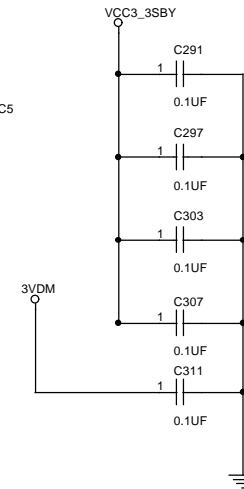
VCC2\_5SBY Decoupling



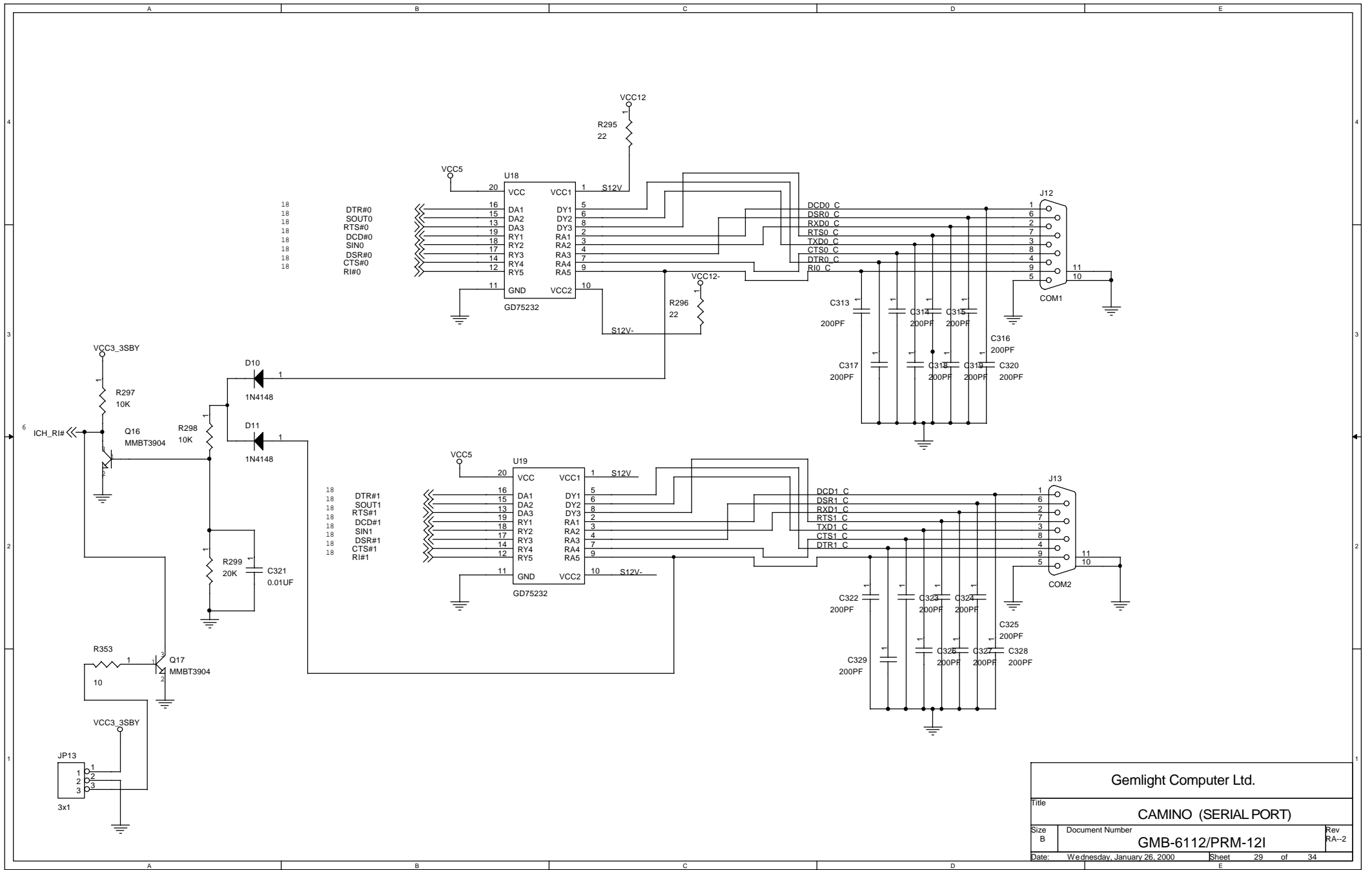
CORE VOLTAGE DECOUPLING



TERMINATION DECOUPLING

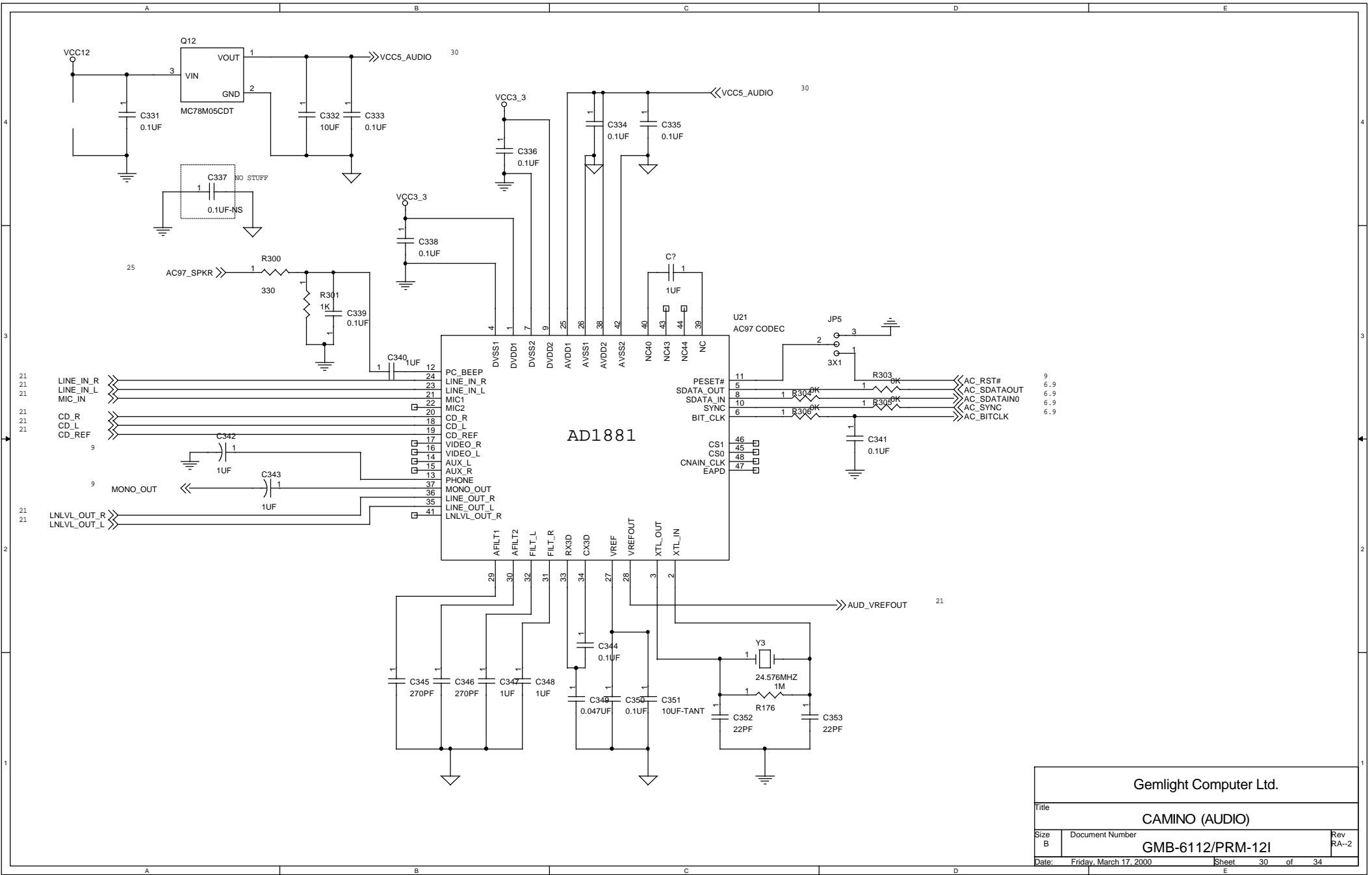


Gemlight Computer Ltd.		
Title		
CAMINO (bulk decoupling)		
Size	Document Number	Rev
B	GMB-6112/PRM-12I	RA-2
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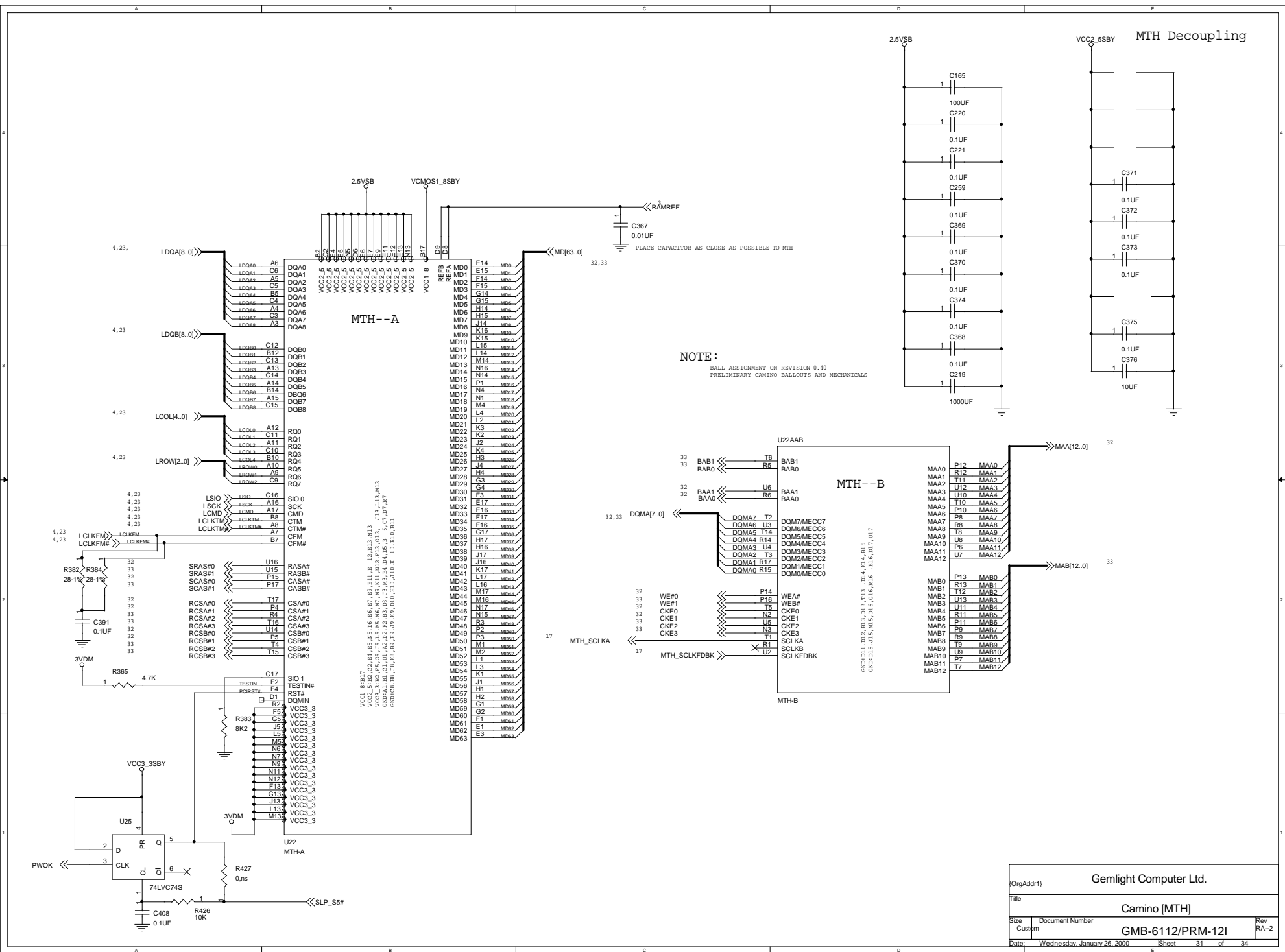


Gemlight Computer Ltd.

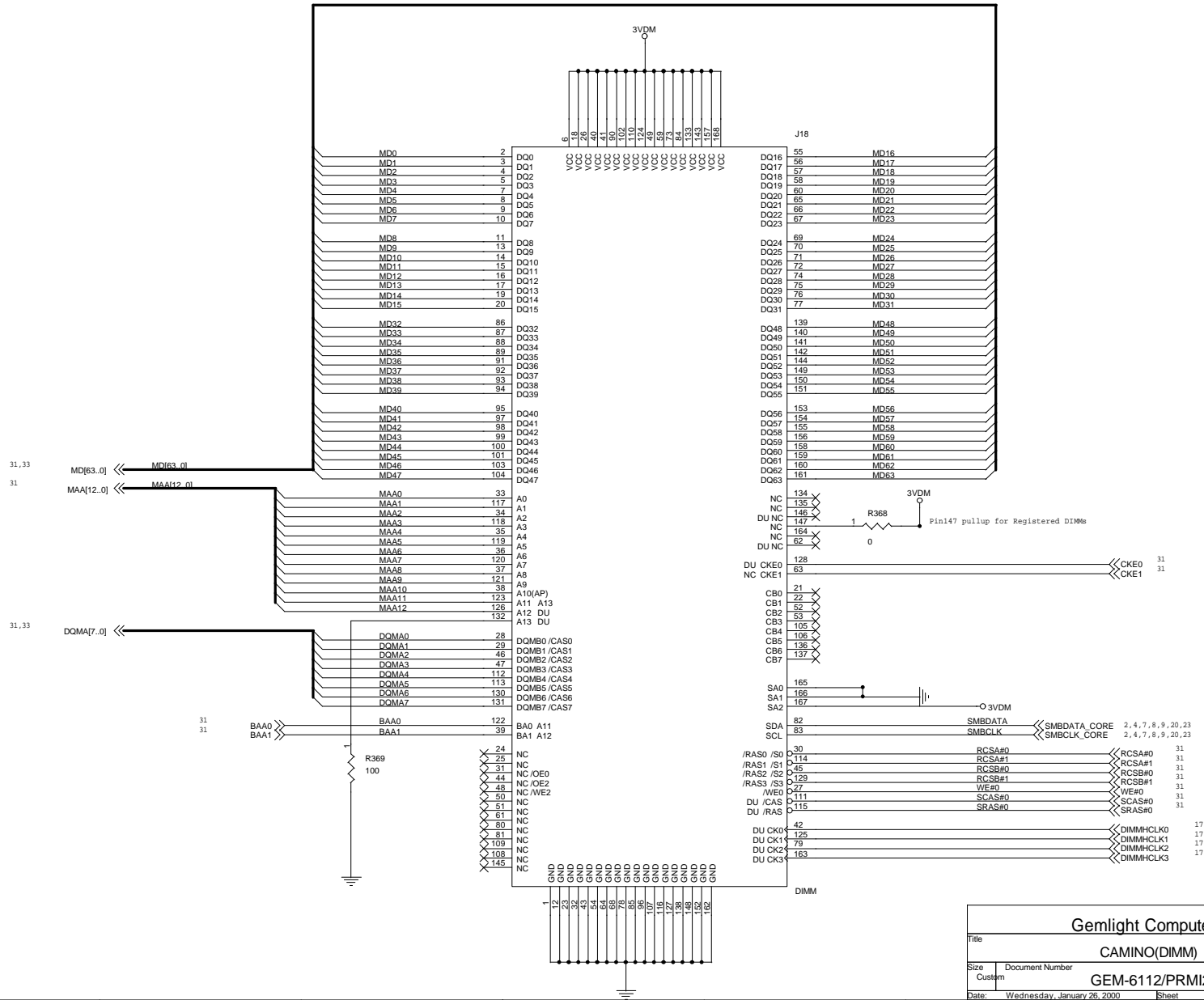
Title		
CAMINO (SERIAL PORT)		
Size	Document Number	Rev
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Gemlight Computer Ltd.		
Title		
CAMINO (AUDIO)		
Size	Document Number	Rev
B	GMB-6112/PRM-12I	RA-2
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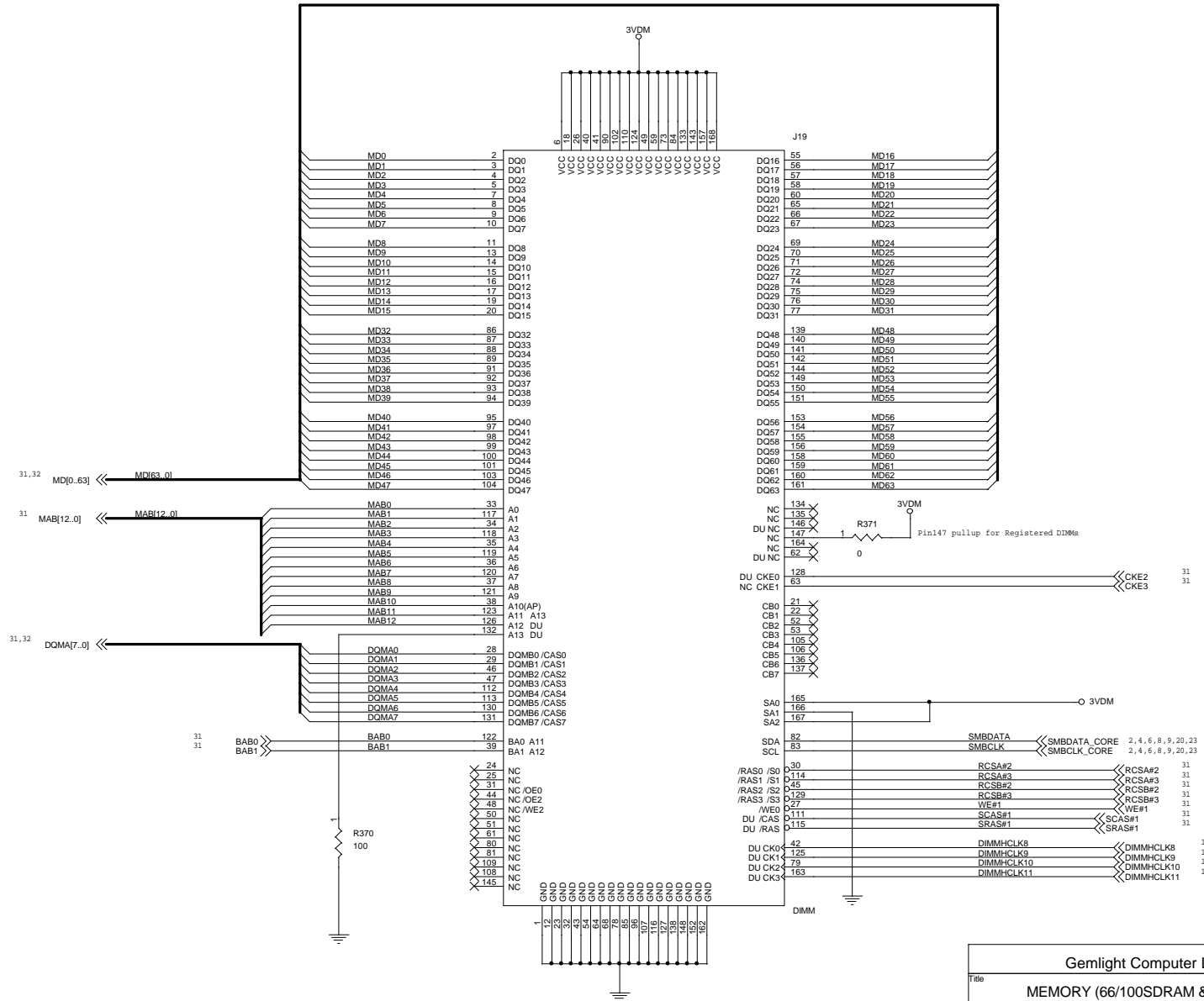


# DIMM CONNECTOR 0

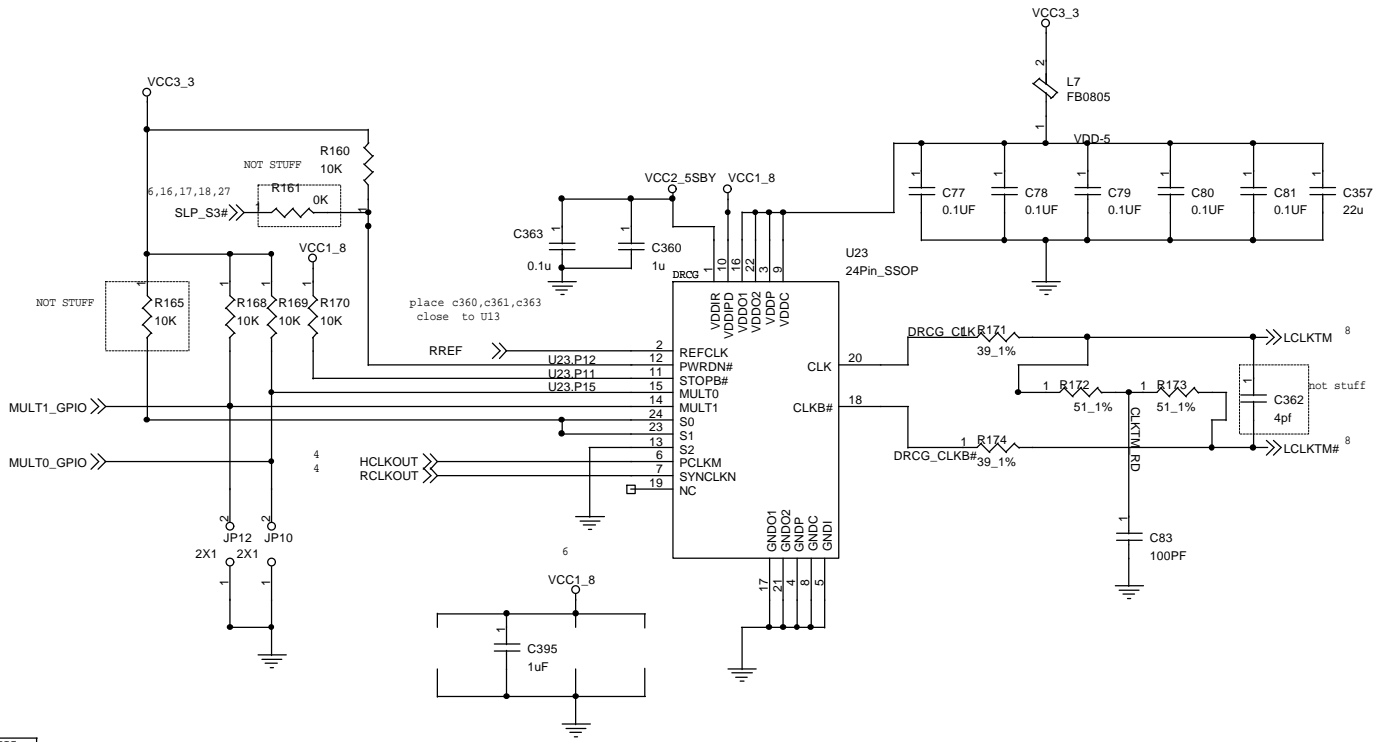


# MIDDLE

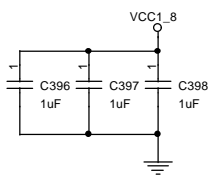
## DIMM CONNECTOR 1







SEL133/ 100#	JP6	JP7	JP8	CPU MHZ	3V66 MHZ	PCI MHZ	IOAPIC MHZ
1	1	1	1	133.3	66.7	33.3	16.7
1	1	1	0	138	69	34.5	17.3
1	1	0	1	143	71.5	35.8	17.9
1	1	0	0	148	74	37	18.5
1	0	1	1	152.5	76.3	38.1	19.1
1	0	1	0	157	78.5	39.3	19.6
1	0	0	1	162	81	40.5	20.3
1	0	0	0	180	60	30	15
0	1	1	1	100.2	66.8	33.4	16.7
0	1	1	0	105	70	35	17.5
0	1	0	1	114	76	38	19
0	1	0	0	120	80	40	20
0	0	1	1	128.5	64.25	32.1	16.1
0	0	1	0	200	66.7	33.3	16.7
0	0	0	1	83.3	83.3	41.65	20.83
0	0	0	0	66.8	66.8	33.4	16.7



Gemlight Computer Ltd.		
Title		
CAMINO(DRCG)		
Size	Document Number	Rev
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