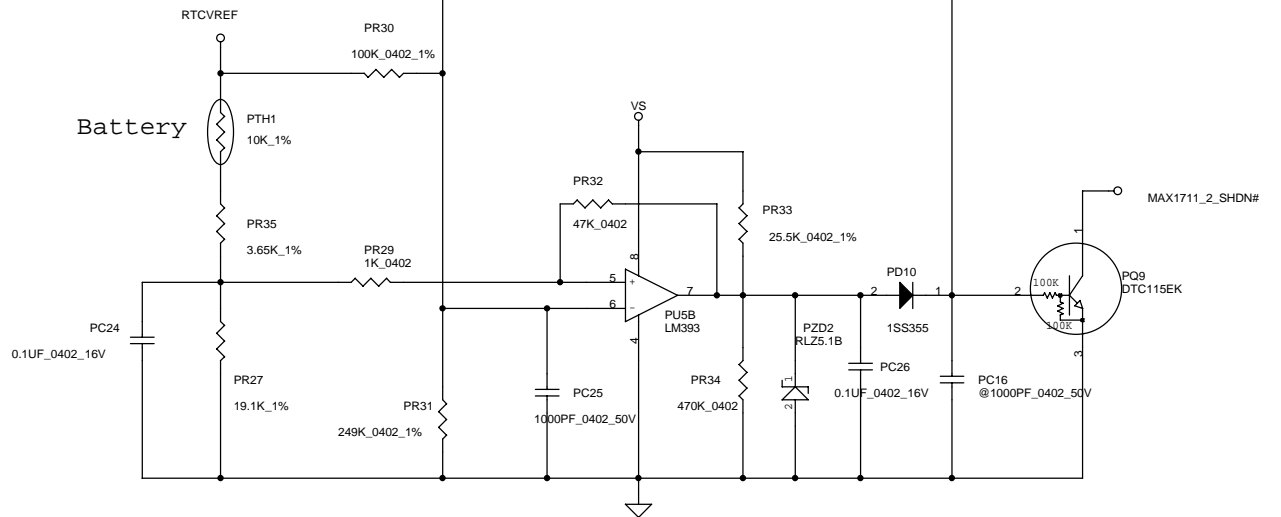
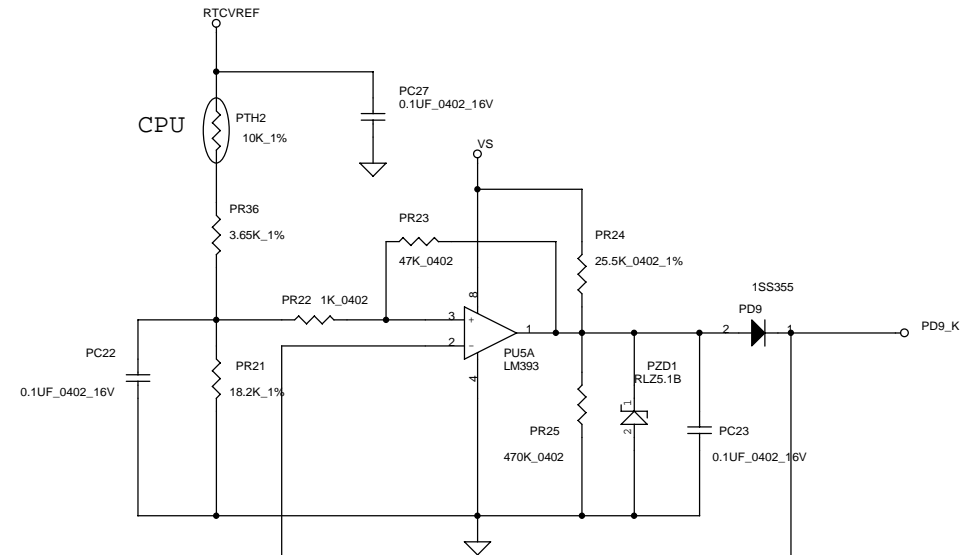


20035A-40G2
E&T 50245-4001A



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Compal Electronics, Inc.

SCHEMATICS, M/B LA-971

Title	SCHEMATICS, M/B LA-971	
Size	Document Number	Rev
B	401166	1C
Date:	Friday, December 01, 2000	Sheet 35 of 37

COMPAL CONFIDENTIAL

MODEL NAME : 888J2 LA-971

REVISION HISTORY

Date: 2000/07/11 REV.: 0.1 Description: A-TEST Release Date: 2000-7-14

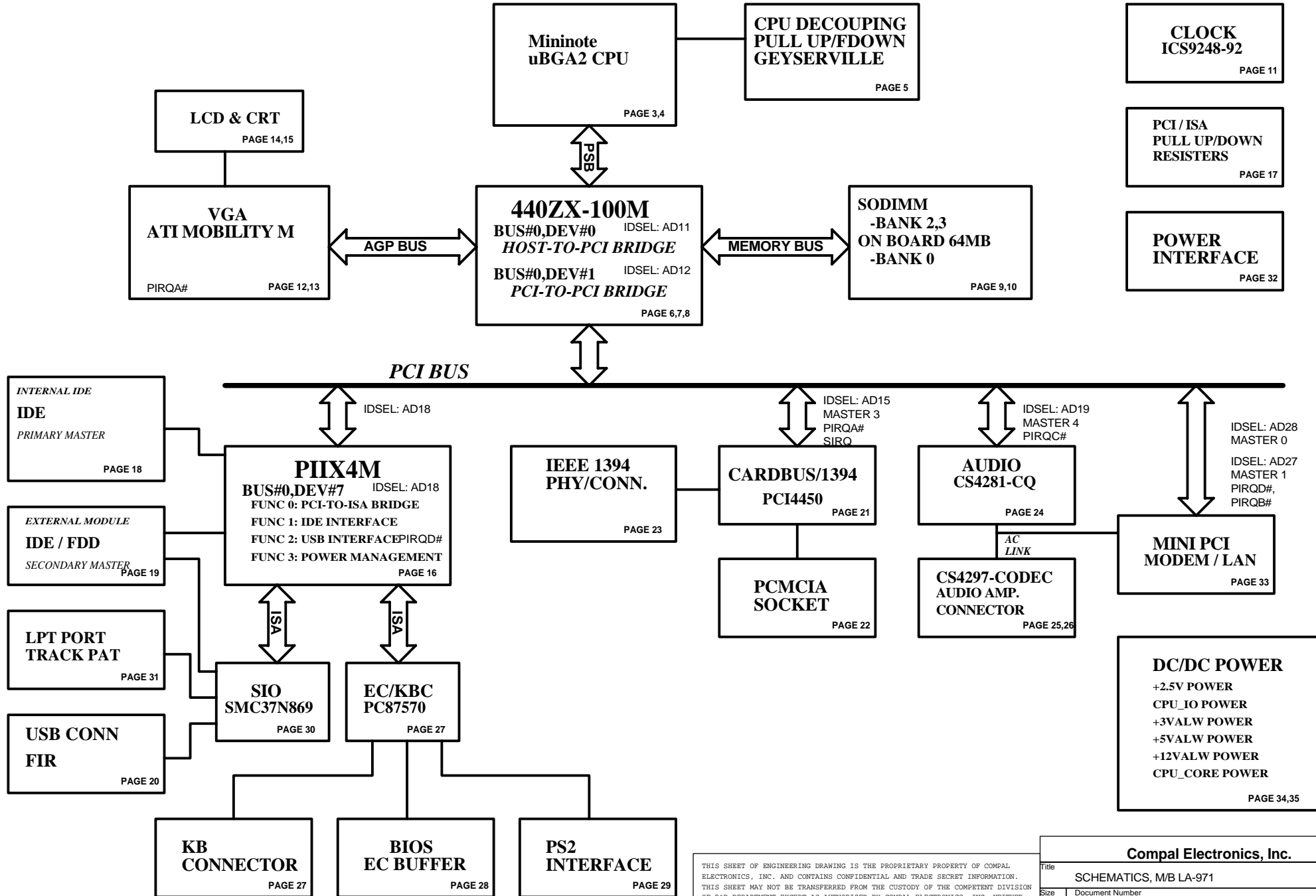
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Title	SCHEMATICS, M/B LA-971	
Size	Document Number	Rev
B	401166	1C
Date:	Friday, December 01, 2000	Sheet 2 of 37

Model Name: 888J2

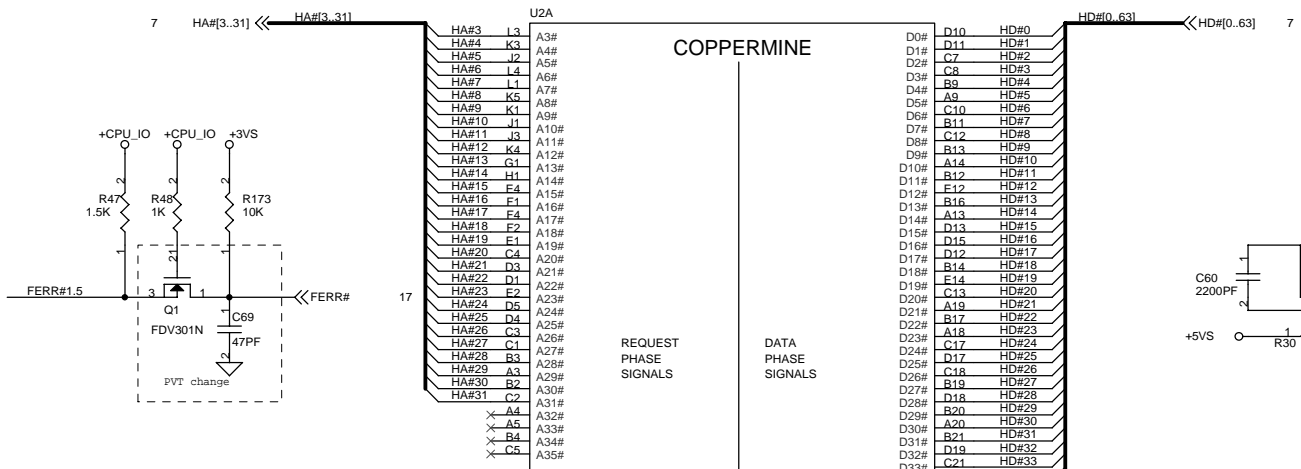
PCB No: LA971

888J2 BLOCK DIAGRAM



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Compal Electronics, Inc.			
Title	SCHEMATICS, M/B LA-971		
Size	Document Number	Rev	
B	401166	1C	
Date:	Friday, December 01, 2000	Sheet	3 of 37

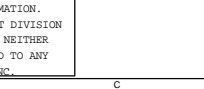
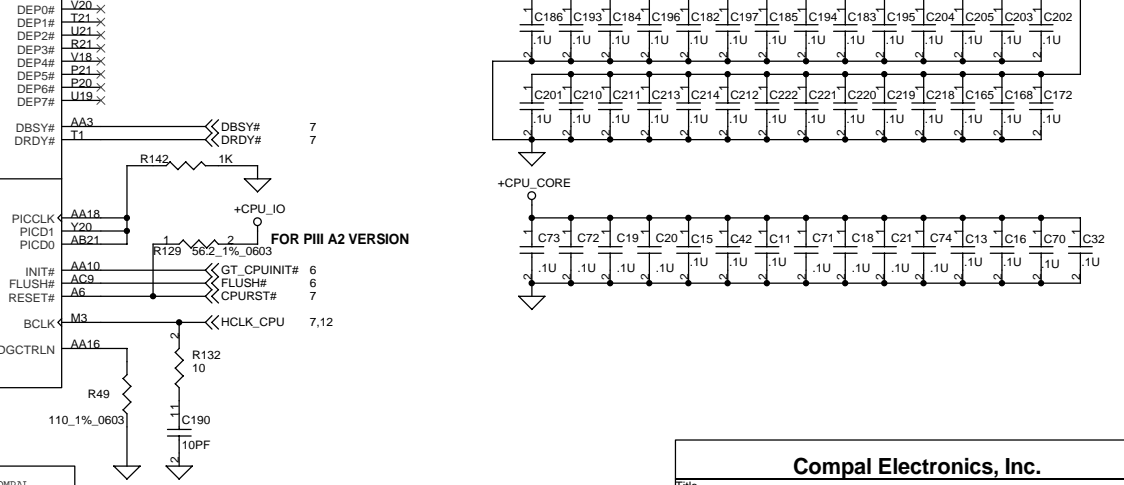
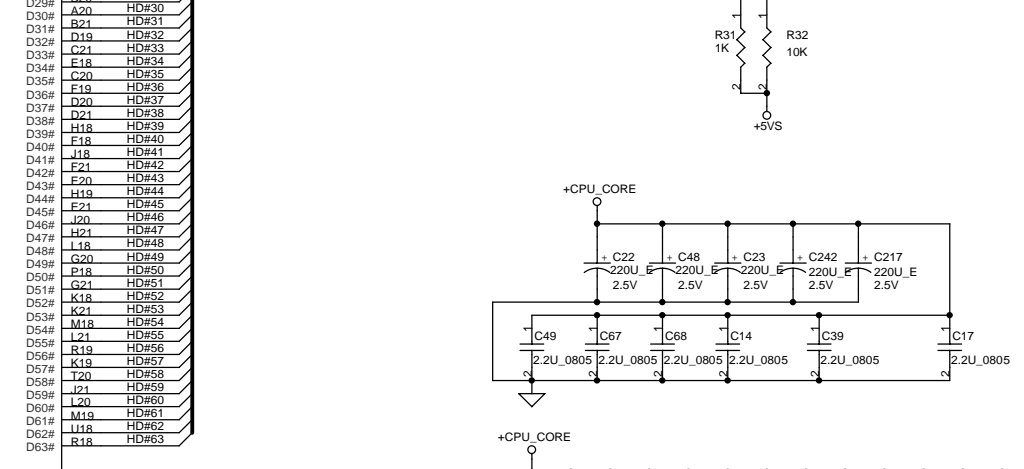
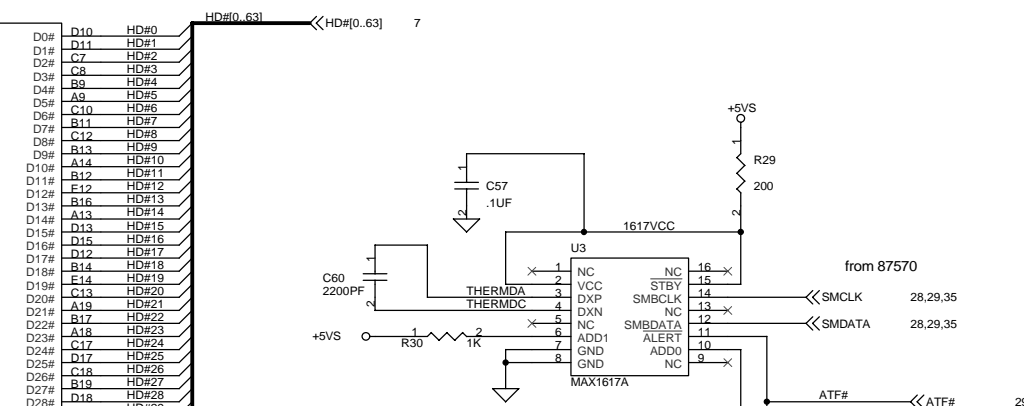


COPPERMINE

Signal Name	Pin	Function	Reference
HA#3[3..31]	HA#3, HA#4, HA#5, HA#6, HA#7, HA#8, HA#9, HA#10, HA#11, HA#12, HA#13, HA#14, HA#15, HA#16, HA#17, HA#18, HA#19, HA#20, HA#21, HA#22, HA#23, HA#24, HA#25, HA#26, HA#27, HA#28, HA#29, HA#30, HA#31	ADDRESS	L3-L16, C2, C1, B2-B1, A3-A1, F4-F1, E2-E1, D4-D1, C3-C1, B4-B1, A5-A1, X4-X1
HREQ#0-4	T2, V4, V2, W3, W5	REQUEST PHASE SIGNALS	REQ0#, REQ1#, REQ2#, REQ3#, REQ4#
ADS#	AB2	ADDITIONAL SIGNAL	ADS#
ADSR#	AA1-AA5	ADDITIONAL SIGNALS	AERR#, AP0#, BERR#, BINIT#, IERR#
IERR#	AD9	INTERNAL ERROR	IERR#
BREQ#0	C6	BUS REQUEST	BREQ#0
BPRM#	U4	BIAS PHASE	BPRM#
BNR#	T4	BIAS PHASE	BNR#
LOCK#	R1	LOCK SIGNAL	LOCK#
HIT#	V1	HIT SIGNAL	HIT#
HITM#	Y4	HIT SIGNAL	HITM#
DEFER#	Y3	DEFER SIGNAL	DEFER#
HTRDY#	U2	HEAT SINK READY	HTRDY#
RS#0-2	AA2, AA7, W7	RESPONSE SIGNALS	BP2#, BP3#, BPRM#, BFM1#, TRDY#, RS0#, RS1#, RS2#, RSP#
GT_A20M#	AD10	PC COMPATIBILITY SIGNAL	A20M#
GT_IGNNE#	AC12	PC COMPATIBILITY SIGNAL	IGNNE#
PWRGD_CPU	V5	POWER GOOD SIGNAL	PWRGOOD
GT_SM#	AB10	SMALL SIGNAL	SM#
PREQ#	AB20	PRE-REQUEST	PREQ#
SELSPB0-11	RP1 (8P4R-1K), R26, R146, R41, R43	SELECTABLE BUS FREQUENCY	SELSPSB0-11
GT_INTR	AB18	INTRUSION	INTR/LINT0
GT_NMI	AC19	NMI	NMI/LINT1
GT_STPCLK#	AC11	STOP	STPCLK#
SLP#	AB12	SLEEP	SLP#
THERMDA	AA15	THERMAL DIODE	THERMDA
THERMDC	AB16	THERMAL DIODE	THERMDC

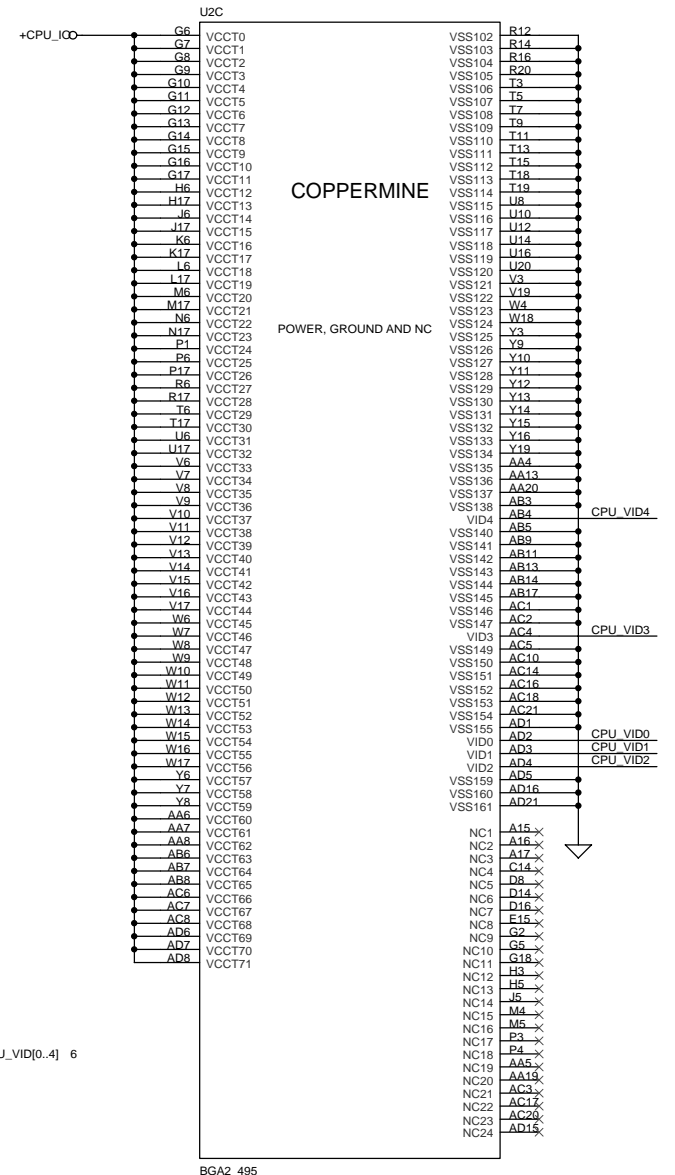
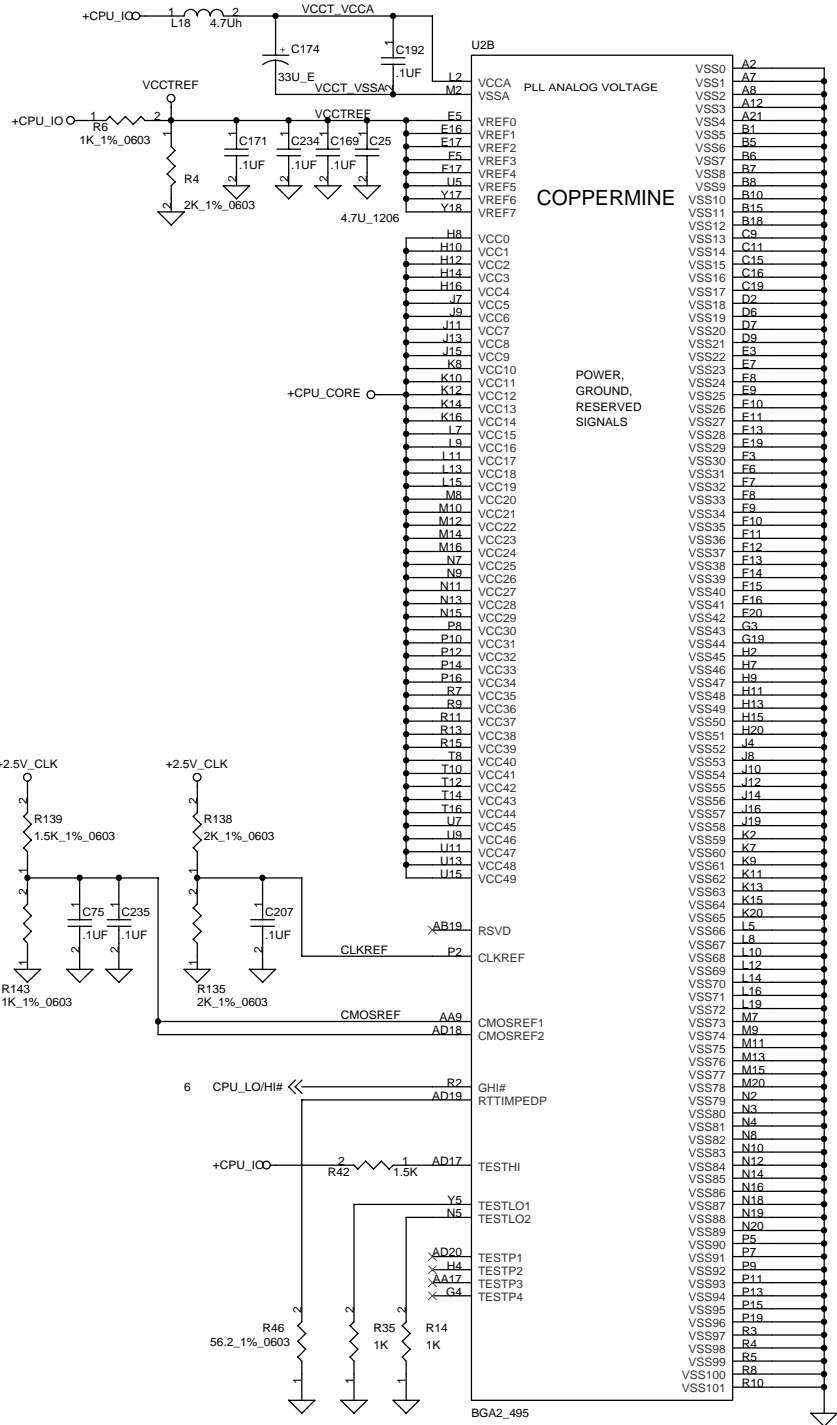
SELSPB[1:0]	STSEM BUS FREQUENCY
00	66MHZ
01	100MHZ
10	RESERVED
11	133MHZ

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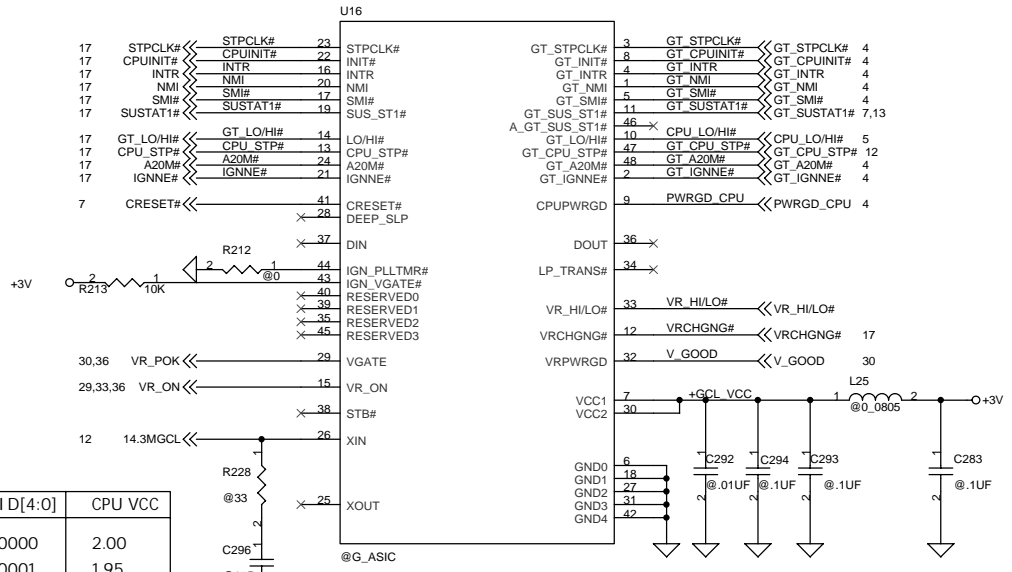
Title	SCHEMATICS, MB LA-971	
Size B	Document Number	Rev 1C
401166		
Date:	Friday, December 01, 2000	Sheet 4 of 37



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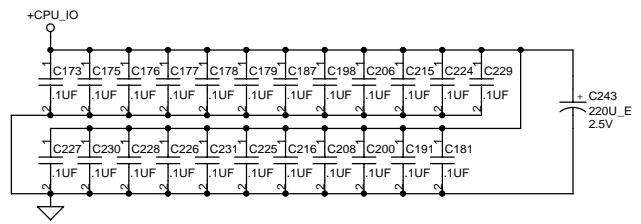
Compal Electronics, Inc.	
Title: SCHEMATICS, MB LA-971	
Size B	Document Number: 401166
Date: Friday, December 01, 2000	Sheet 5 of 37
Rev 1C	

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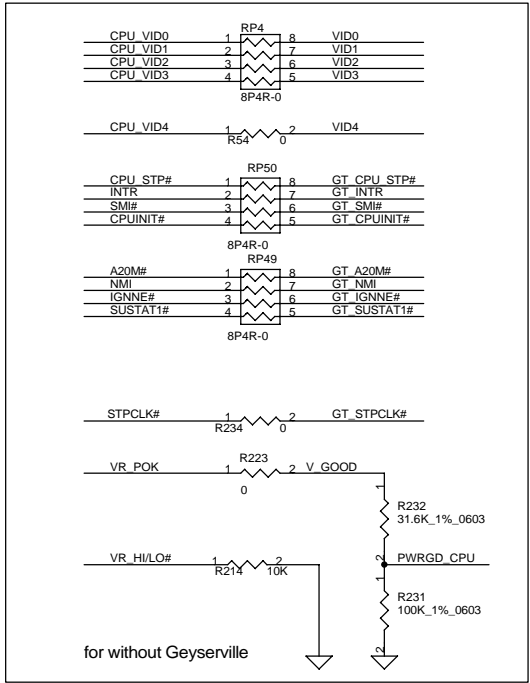
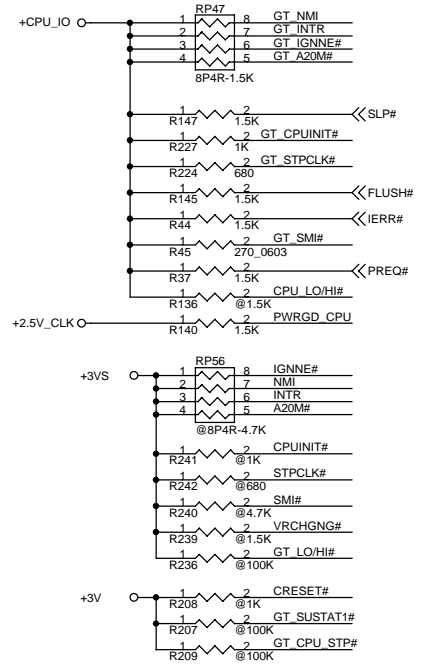


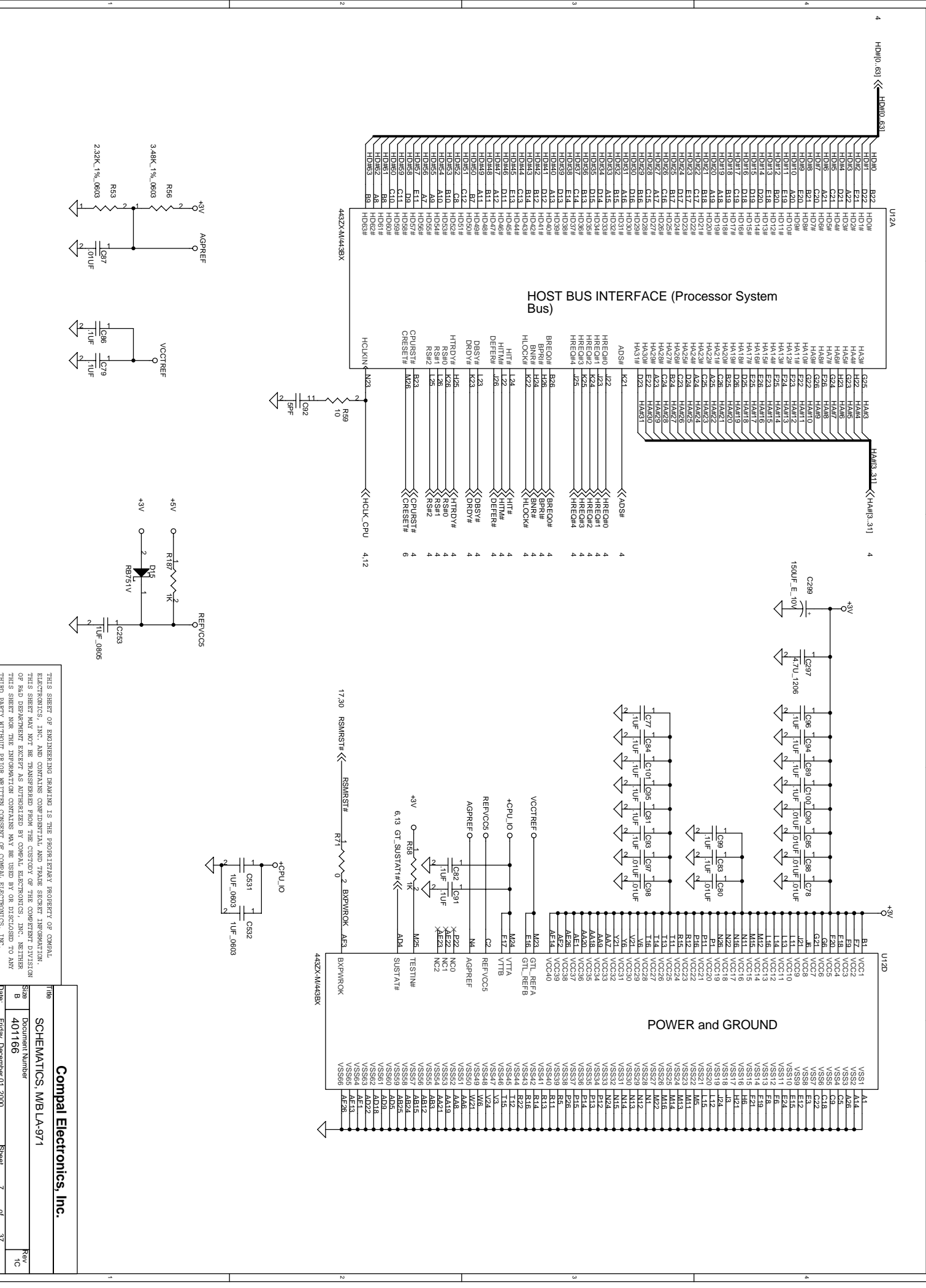
VI D[4:0]	CPU VCC
00000	2.00
00001	1.95
00010	1.90
00011	1.85
00100	1.80
00101	1.75
00110	1.70
00111	1.65
01000	1.60
01001	1.55
01010	1.50
01011	1.45
01100	1.40
01101	1.35
01110	1.30
01111	NO CPU
10000	1.275
10001	1.250
10010	1.225
10011	1.200
10100	1.175
10101	1.150
10110	1.125
10111	1.100
11000	1.075
11001	1.050
11010	1.025
11011	1.000
11100	0.975
11101	0.950
11110	0.925
11111	NO CPU

With SpeedStep CPU Support:
 Mount: U16: G_ASIC (SA658370000)
 U15: 74CBT3383 (SA433830000)
 R57, R184, R185, R216 R215: 0ohm (1.6V for high performance)
 Remove: RP4: 8P4R-0 R223: 0ohm
 R54: 0ohm R232: 31.6Kohm 1%
 RP50: 8P4R-0 R214: 10Kohm
 RP49: 8P4R-0 R231: 100Kohm 1%
 R234: 0ohm
 RP56: 8P4R-4.7K R208: 1Kohm
 R214: 1Kohm R136: 1.5Kohm
 R242: 680ohm R236: 100Kohm
 R240: 4.7Kohm R239: 1.5Kohm
 R209: 100Kohm R207: 100Kohm
 R236: 100Kohm R140: 1.5Kohm



without Geyserville, GHI# (CPU_LO/HI#) can OPEN

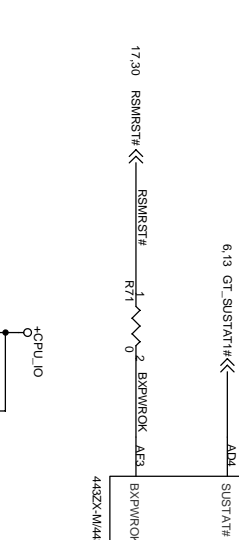
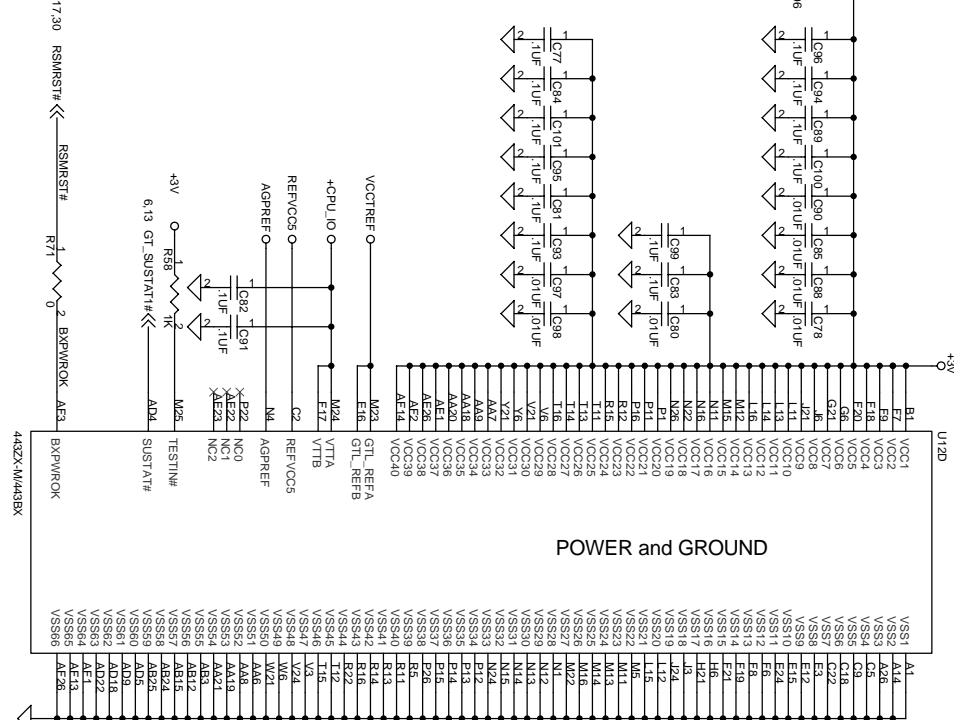




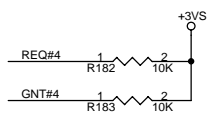
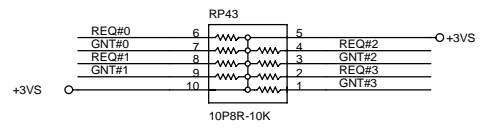
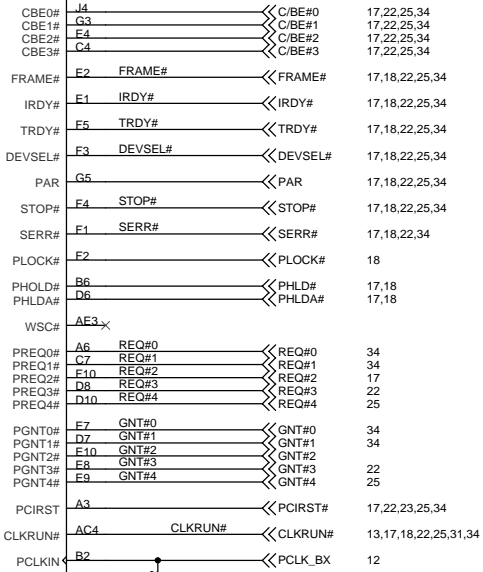
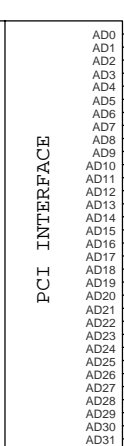
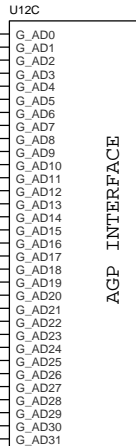
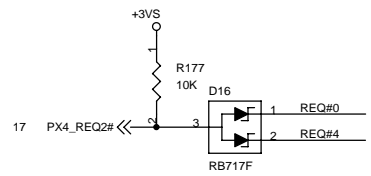
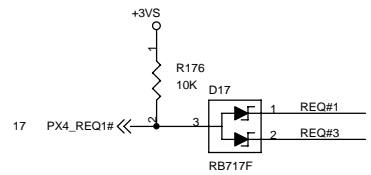
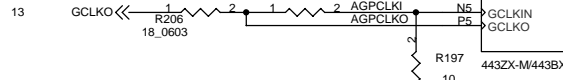
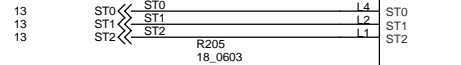
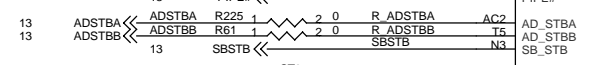
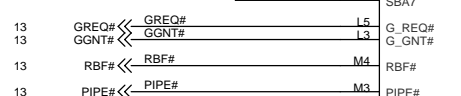
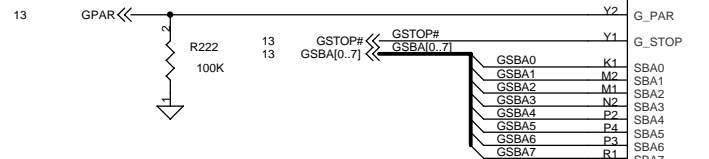
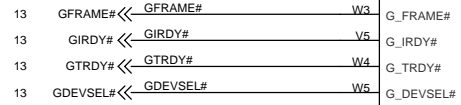
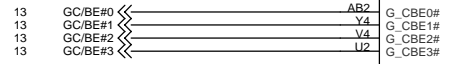
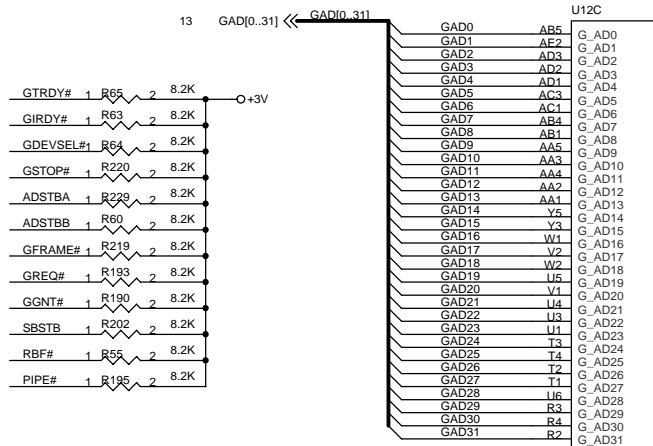
HOST BUS INTERFACE (Processor System Bus)

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HD153	D21	HD153#	HD153#	HA330	H23	HA330	HA330	HA330	4
HD144	A21	HD144#	HD144#	HA330	E26	HA330	HA330	HA330	4
HD135	A21	HD135#	HD135#	HA330	E28	HA330	HA330	HA330	4
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HD108	E20	HD108#	HD108#	HA330	E22	HA330	HA330	HA330	4
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HD081	E18	HD081#	HD081#	HA330	E25	HA330	HA330	HA330	4
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HD000	D10	HD000#	HD000#	HA330	E100	HA330	HA330	HA330	4

POWER and GROUND



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PCI REQ ASSIGNMENT	
REQ#0	MiniPCI(Compal)
REQ#1	MINI PCI
REQ#2	NO USED
REQ#3	PCMCIA CONTROLLER
REQ#4	PCI AUDIO

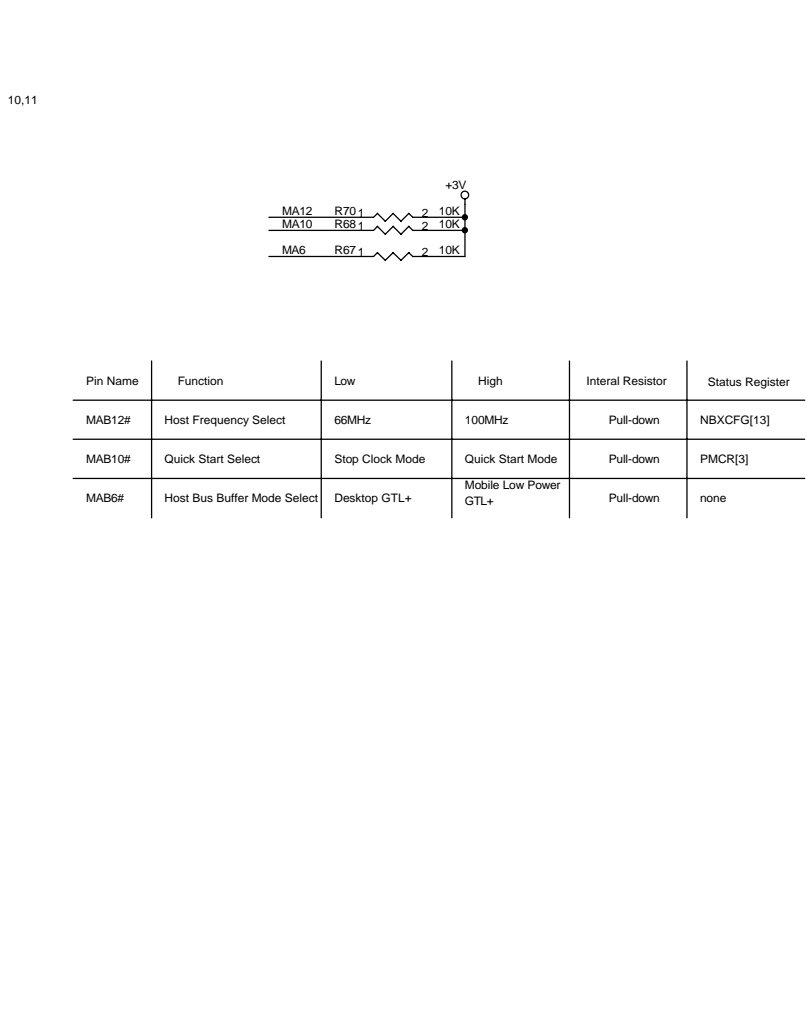
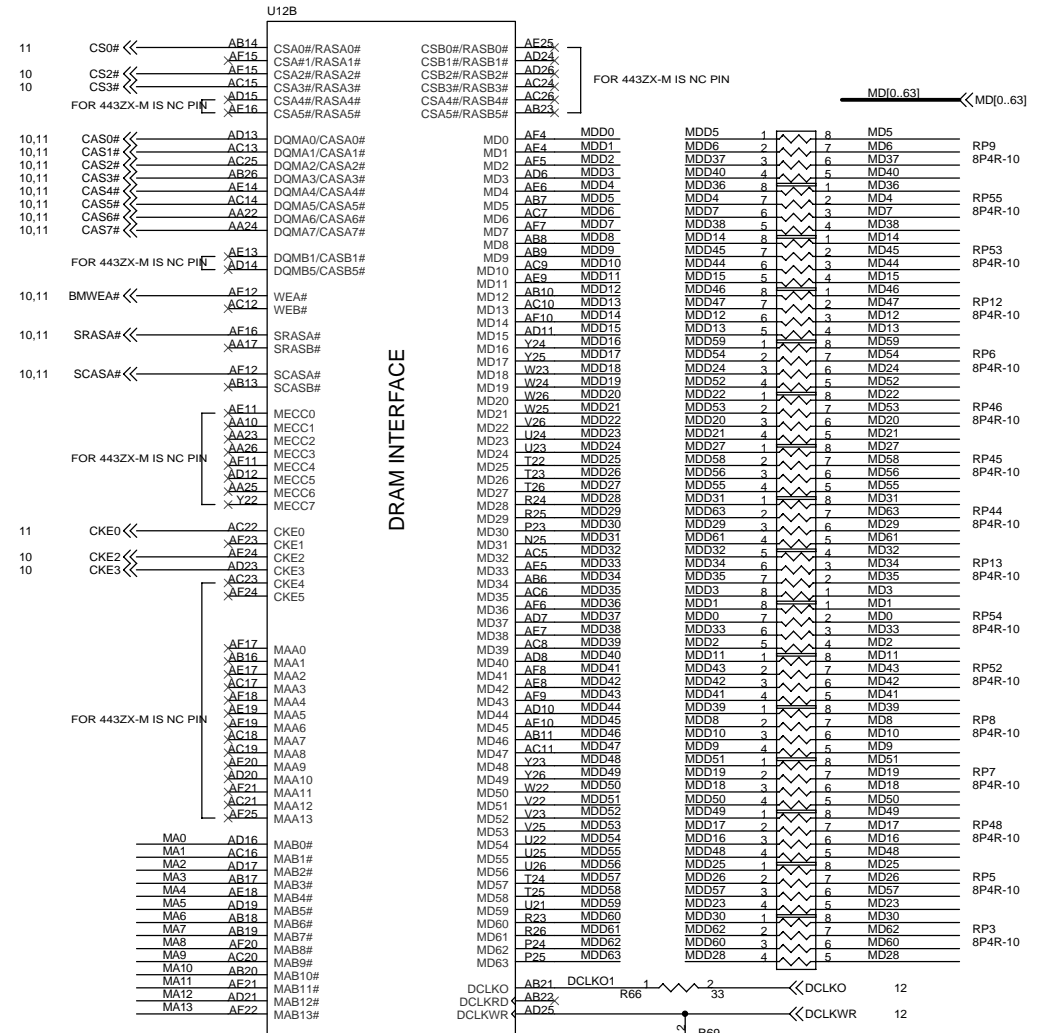
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Title: **SCHEMATICS, MB LA-971**

Size B Document Number 401166 Rev 1C

Date: Friday, December 01, 2000 Sheet 8 of 37



Pin Name	Function	Low	High	Internal Resistor	Status Register
MAB12#	Host Frequency Select	66MHz	100MHz	Pull-down	NBXCFG[13]
MAB10#	Quick Start Select	Stop Clock Mode	Quick Start Mode	Pull-down	PMCR[3]
MAB6#	Host Bus Buffer Mode Select	Desktop GTL+	Mobile Low Power GTL+	Pull-down	none

10,11 MA[0..13] << MA[0..13]

Compal Electronics, Inc.

Title: SCHEMATICS, M/B LA-971

Size B: Document Number 401166 Rev 1C

Date: Friday, December 01, 2000 Sheet 9 of 37

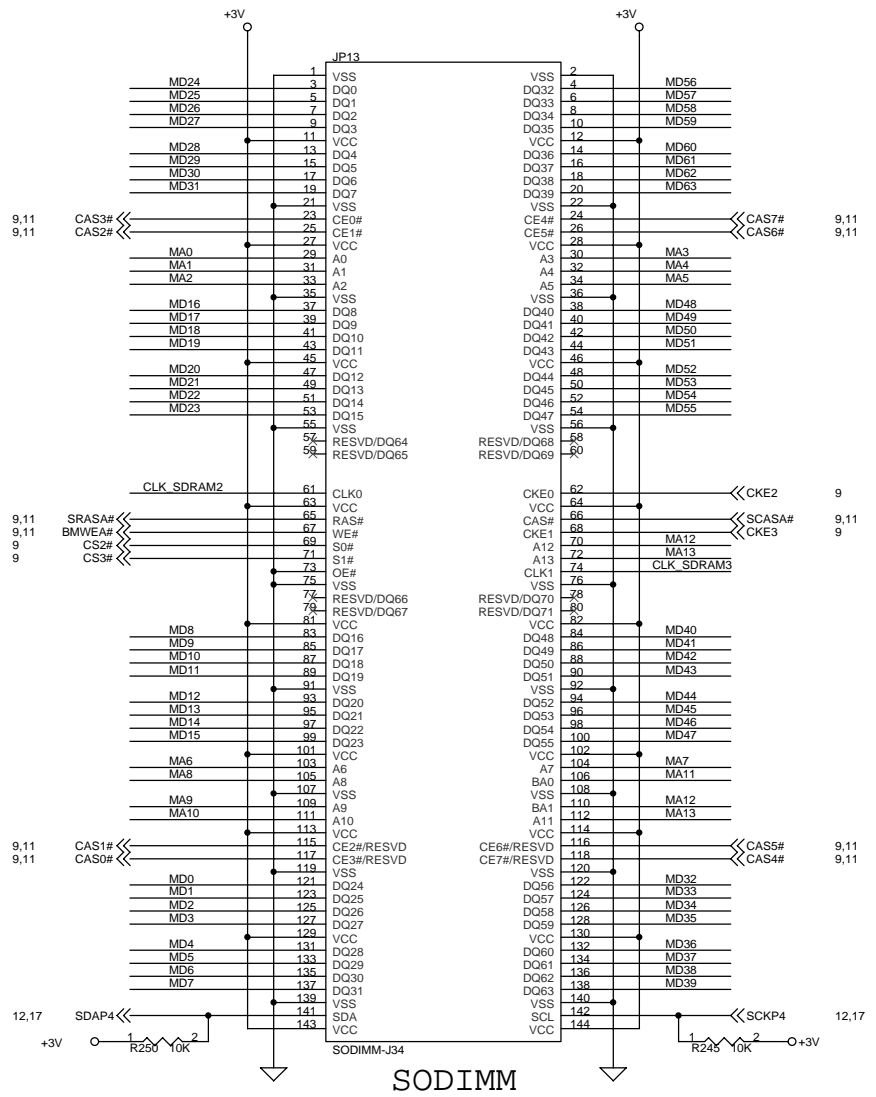
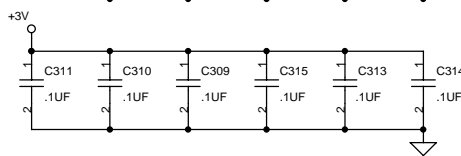
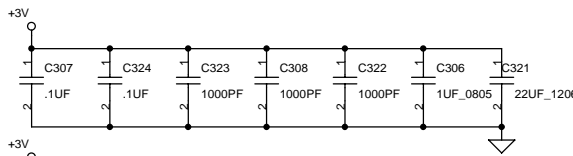
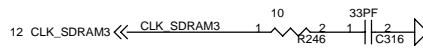
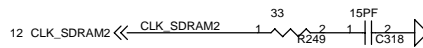
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SODIMM X 1

(H: 5.6mm)

Support 3 SDRAM CLOCK
PIN 60, 77, 78 Difference

BANK 2, 3



SODIMM

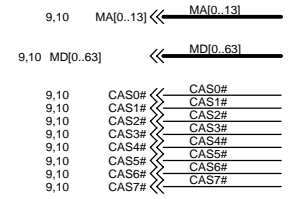
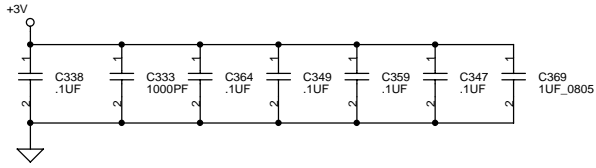
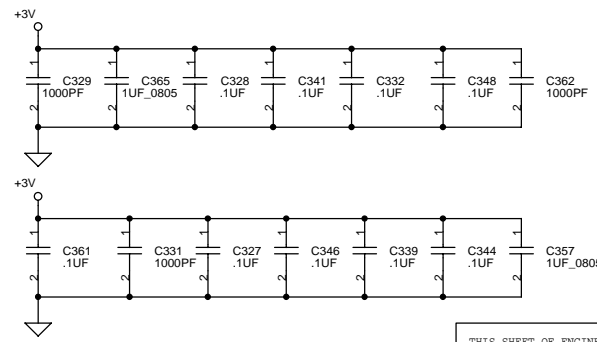
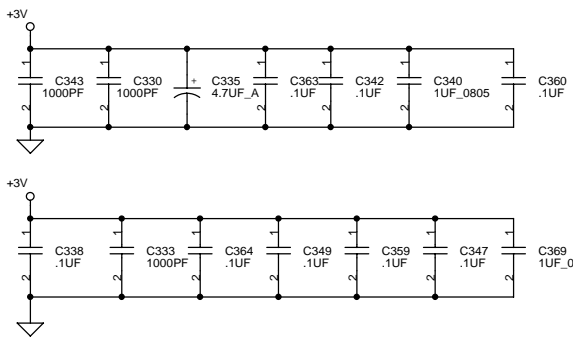
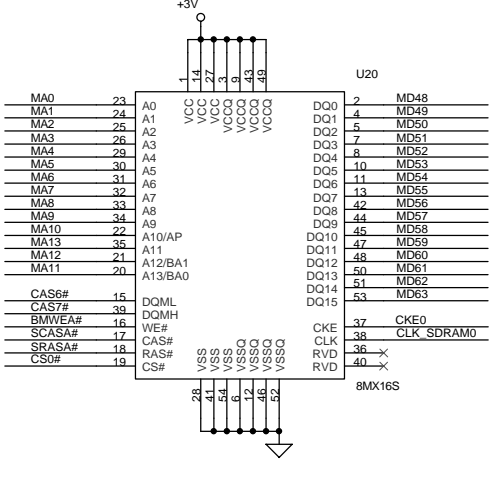
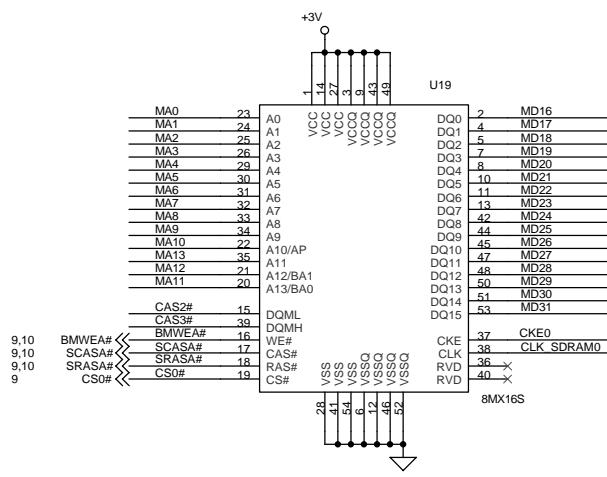
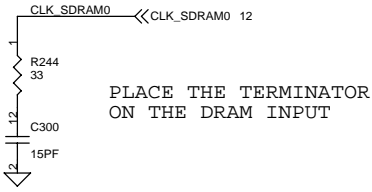
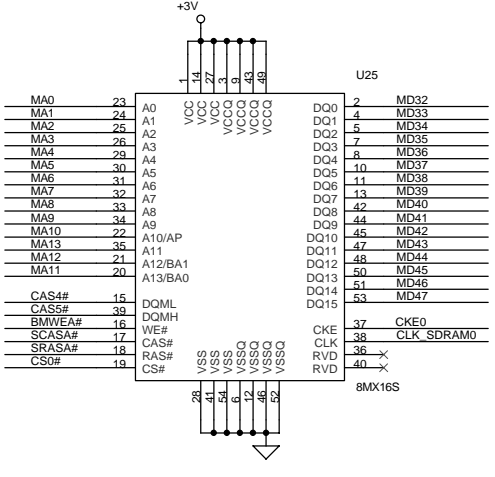
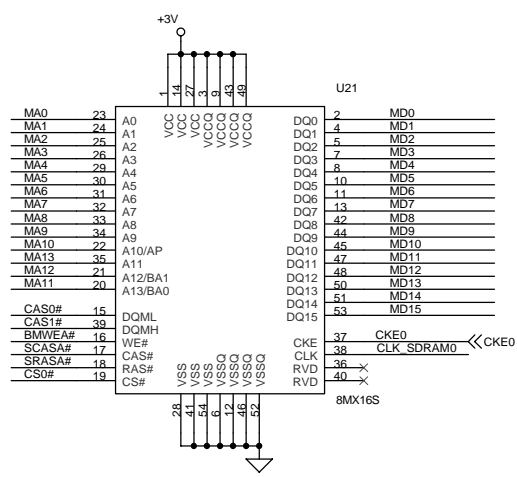
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Compal Electronics, Inc.		
Title		SCHEMATICS, M/B LA-971
Size	Document Number	Rev
B	401166	1C
Date:	Friday, December 01, 2000	Sheet 10 of 37

32MB/64MB SDRAM

BANK 0

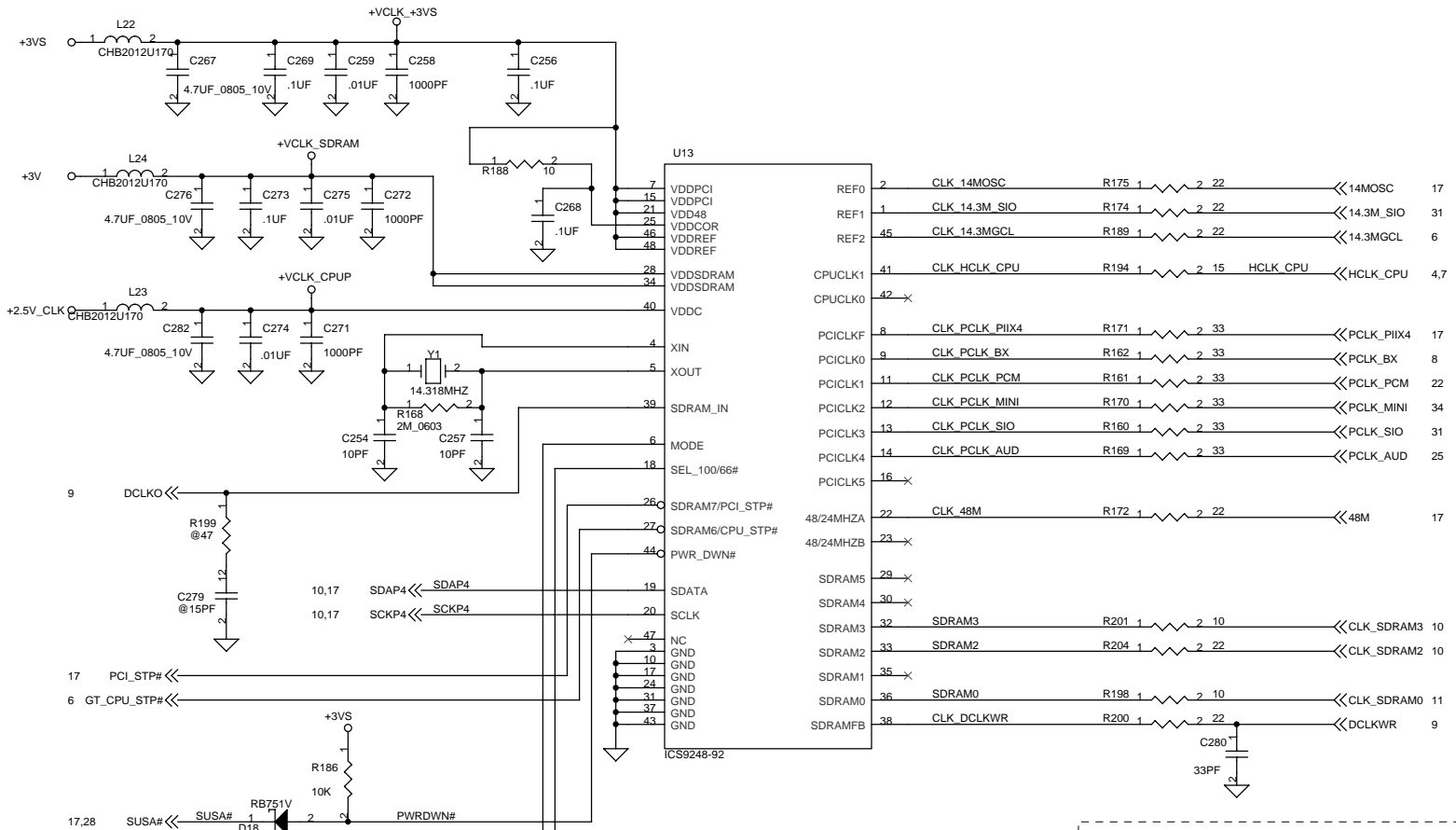
64Mbit 4Mx16 : Row: MA0-MA11
 Column: MA0-MA7
 Bank address: 2
 128Mbit 8Mx16 : Row: MA0-MA11
 Column: MA0-MA8
 Bank address: 2



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Compal Electronics, Inc.
 Title: SCHEMATICS, M/B LA-971
 Size B Document Number
 401166 Rev 1C
 Date: Friday, December 01, 2000 Sheet 11 of 37

CLOCK GENERATOR & BUFFER



IMI C9806 CLOCK TABLE

PIN 6	PIN 18	CPUCLK	PCICLK
S1	S0	60MHZ	30MHZ
0	1	66MHZ	33MHZ
1	X	100MHZ	33MHZ

*** ICS 9248-92 CLOCK TABLE**

MODE	PIN26,27 FUNCTION
1	SDRAM7,SDRAM6
* 0	PCI_STOP#, CPU_STOP#

SEL_100/66#	CPUCLK	PCICLK
0	66.6MHZ	33.3MHZ
* 1	100MHZ	33.3MHZ

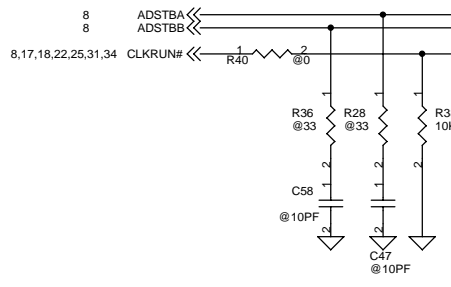
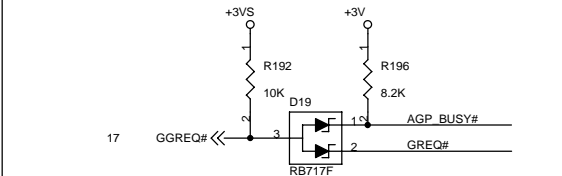
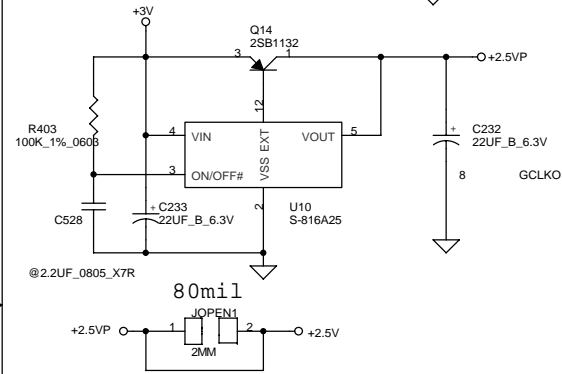
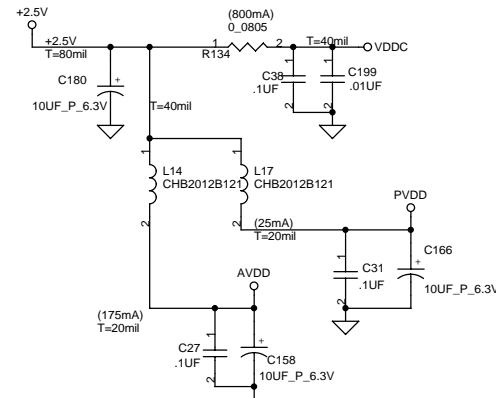
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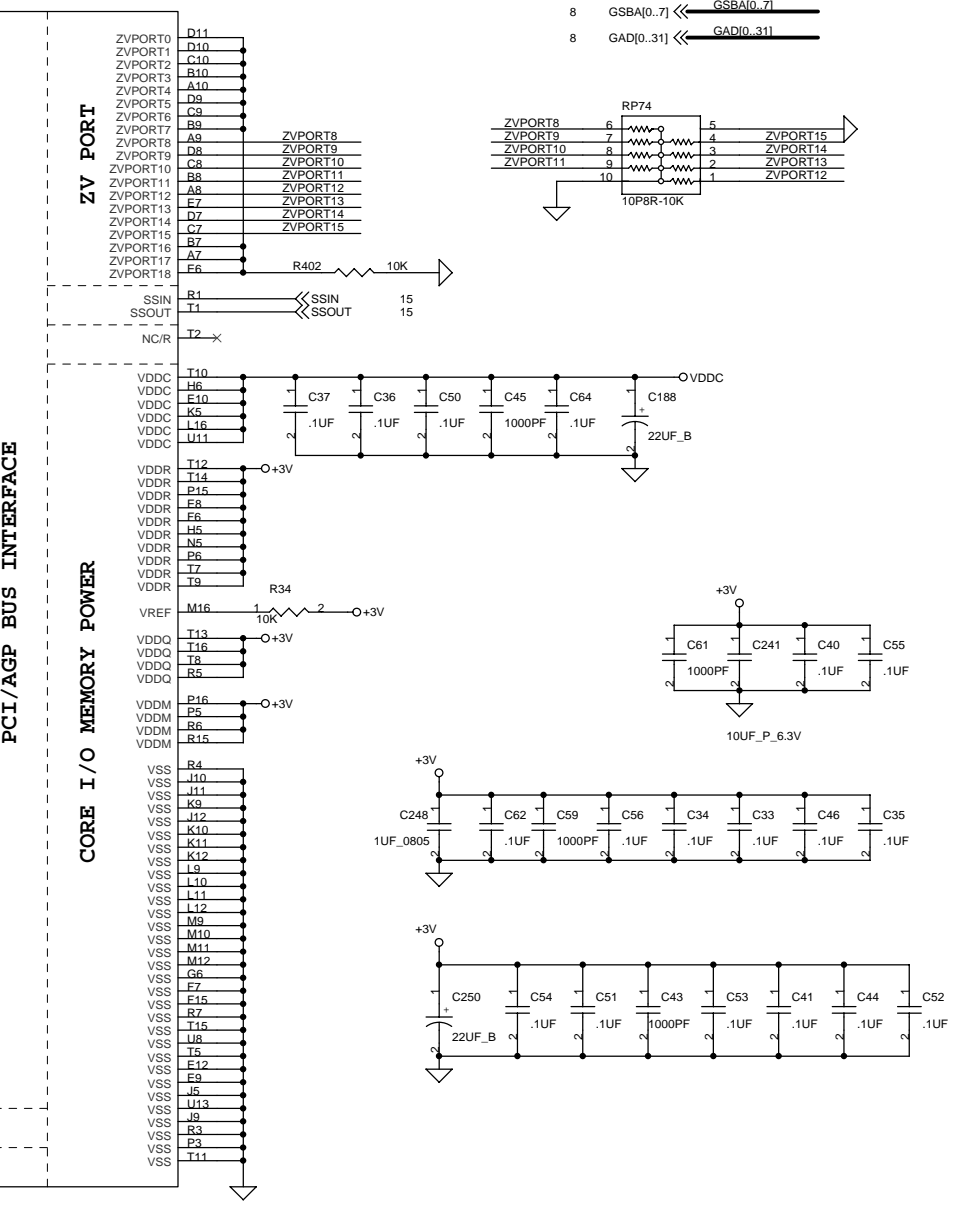
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Size B Document Number 401166 Rev 1C

Date: Friday, December 01, 2000 Sheet 12 of 37



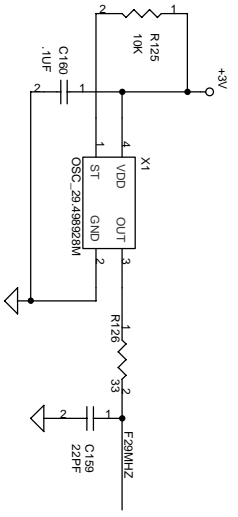
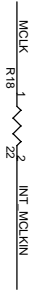
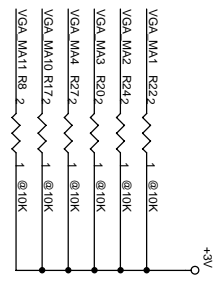
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GAD1	A11	AD1	ZVPORT1	D10	ZVPORT1
GAD2	C11	AD2	ZVPORT2	C10	ZVPORT2
GAD3	D12	AD3	ZVPORT3	B10	ZVPORT3
GAD4	C12	AD4	ZVPORT4	A10	ZVPORT4
GAD5	A12	AD5	ZVPORT5	D9	ZVPORT5
GAD6	B12	AD6	ZVPORT6	C9	ZVPORT6
GAD7	D13	AD7	ZVPORT7	B9	ZVPORT7
GAD8	A13	AD8	ZVPORT8	A9	ZVPORT8
GAD9	E14	AD9	ZVPORT9	D8	ZVPORT9
GAD10	C14	AD10	ZVPORT10	C8	ZVPORT10
GAD11	D14	AD11	ZVPORT11	B8	ZVPORT11
GAD12	A14	AD12	ZVPORT12	A8	ZVPORT12
GAD13	A18	AD13	ZVPORT13	D7	ZVPORT13
GAD14	D15	AD14	ZVPORT14	C7	ZVPORT14
GAD15	B14	AD15	ZVPORT15	B7	ZVPORT15
GAD16	D18	AD16	ZVPORT16	A7	ZVPORT16
GAD17	C19	AD17	ZVPORT17	F6	ZVPORT17
GAD18	E17	AD18	ZVPORT18		
GAD19	F18	AD19			
GAD20	F20	AD20			
GAD21	B20	AD21			
GAD22	F18	AD22			
GAD23	F19	AD23			
GAD24	G18	AD24			
GAD25	C19	AD25			
GAD26	F20	AD26			
GAD27	D17	AD27			
GAD28	J20	AD28			
GAD29	G16	AD29			
GAD30	G20	AD30			
GAD31	F16	AD31			



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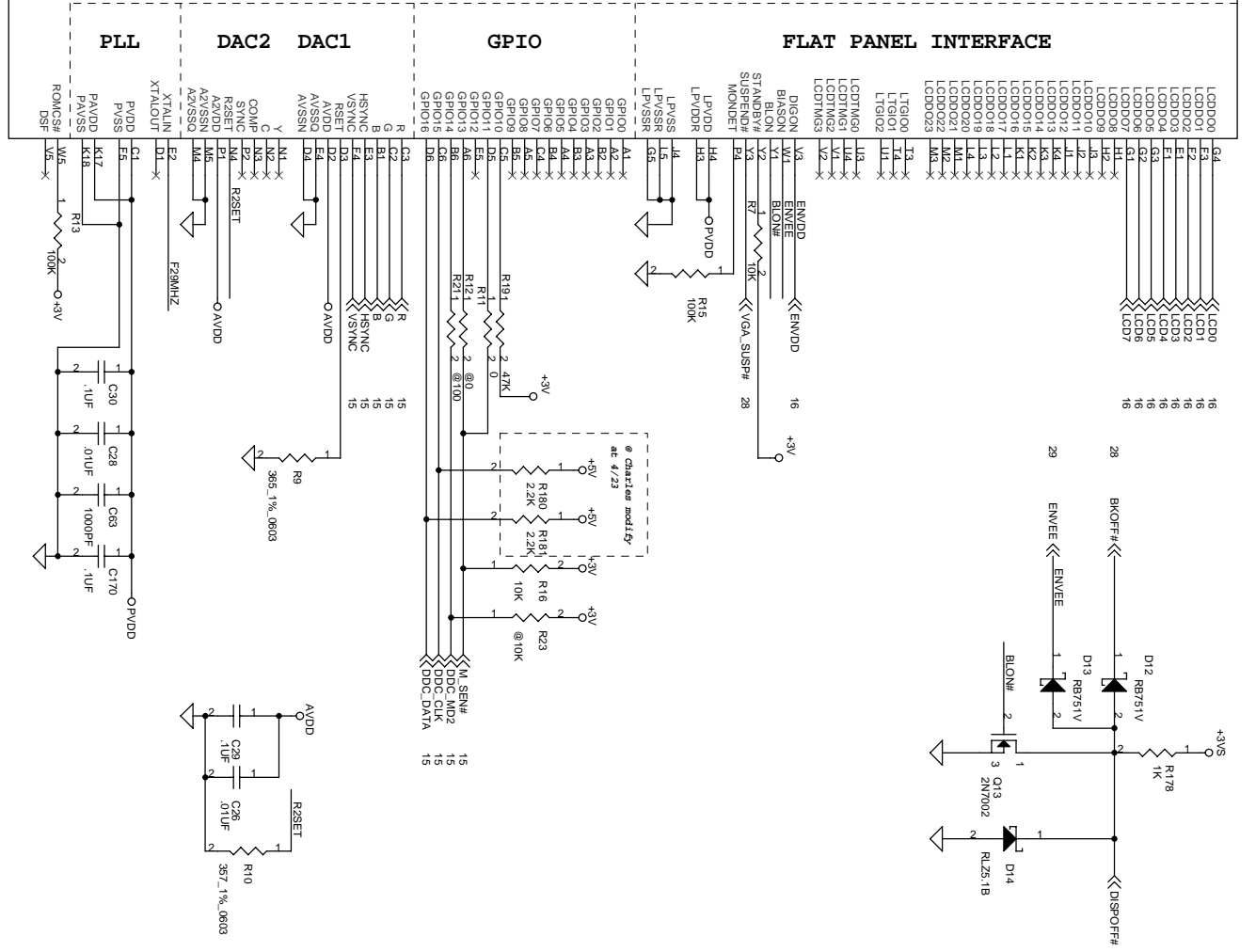
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Title	SCHEMATICS, M/B LA-971	
Size	Document Number	Rev
B	401166	1C
Date:	Friday, December 01, 2000	Sheet 13 of 37

MA2	MA1	AGP CLOCK SKEW ADJUSTMENT	(DEFAULT)
DNI	DNI	INTERNAL VS EXTERNAL CLOCKS	(DEFAULT)
MA4	MA3	AGP CLOCK SKEW ADJUSTMENT	(DEFAULT)
DNI	DNI	BETWEEN X1 AND X2 CLOCKS	(DEFAULT)
MA11	MA10	AGP PLL VCO GAIN	(DEFAULT)
DNI	DNI	VCO GAIN ADJUSTMENT	(DEFAULT)

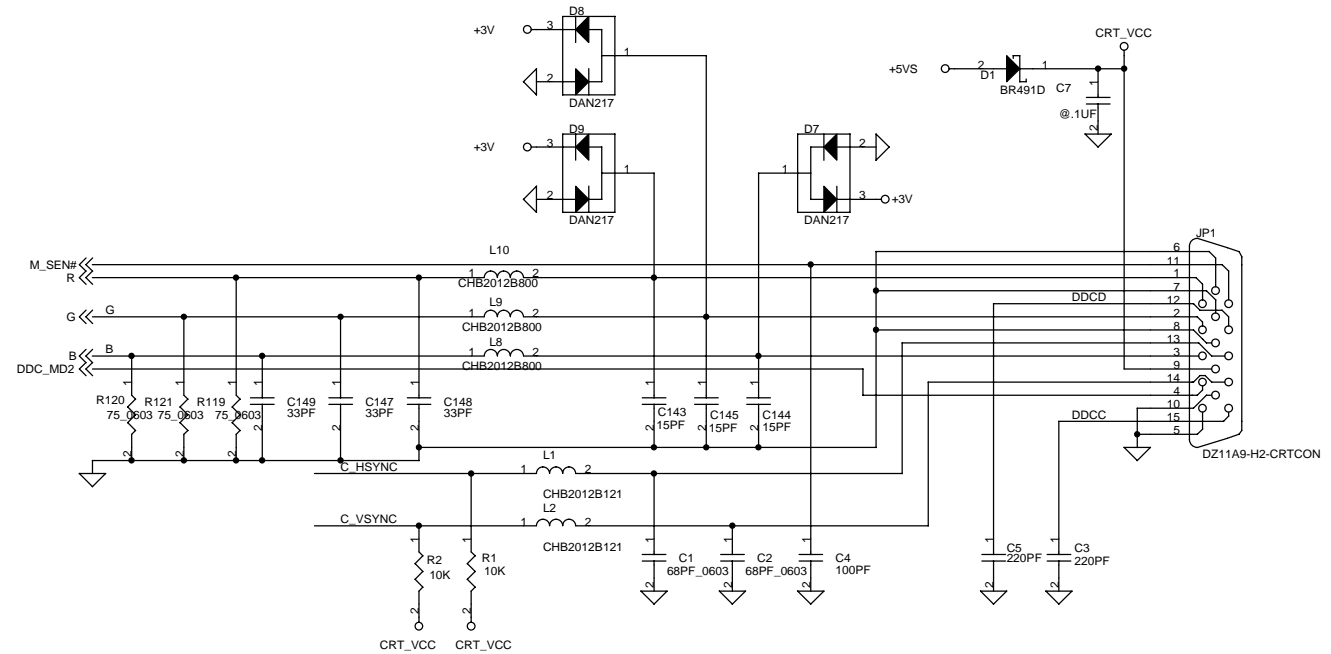
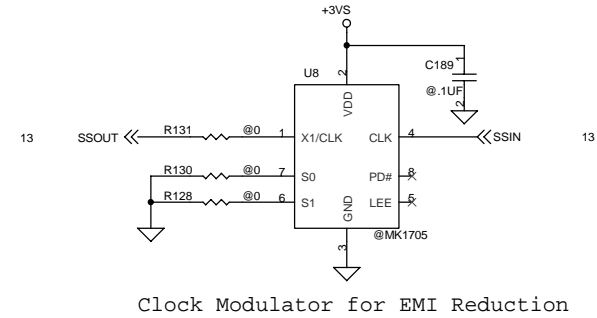
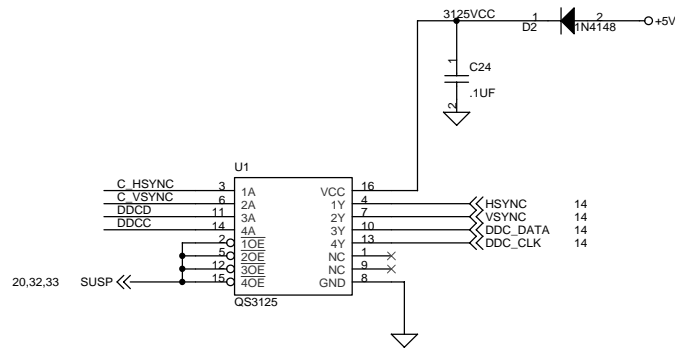


X14	MD0	VGA MA1	T6	MA0
X15	MD1	VGA MA2	V7	MA1
X16	MD2	VGA MA3	W7	MA2
X17	MD3	VGA MA4	L7	MA3
X18	MD4	VGA MA4	U7	MA4
X19	MD5	V8	MA5	
X20	MD6	W8	MA6	
X21	MD7	MA7	MA7	
X22	MD8	V9	MA8	
X23	MD9	VGA MA10	W9	MA9
X24	MD10	VGA MA11	U9	MA10
X25	MD11	MA11	MA11	
X26	MD12	U6	MCK	
X27	MD13	W6	MCKIN	
X28	MD14	MA6	MCK	
X29	MD15	V5	CKE	
X30	MD16	W5	CS0	
X31	MD17	V4	CS1	

MEMORY INTERFACE



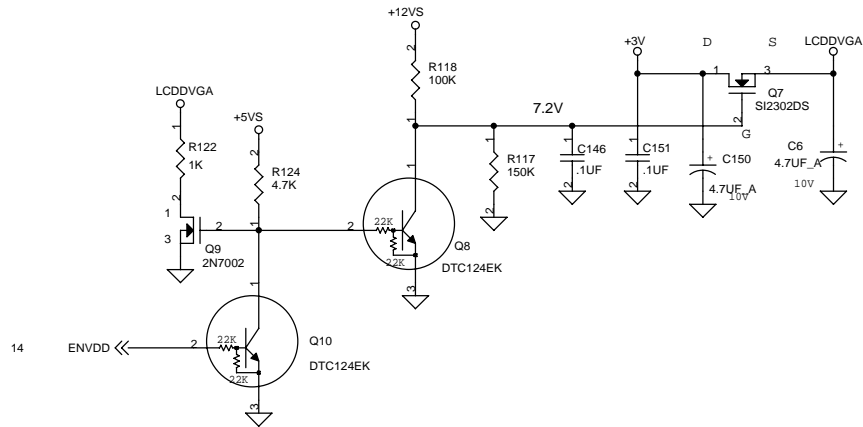
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CRT CONNECTOR

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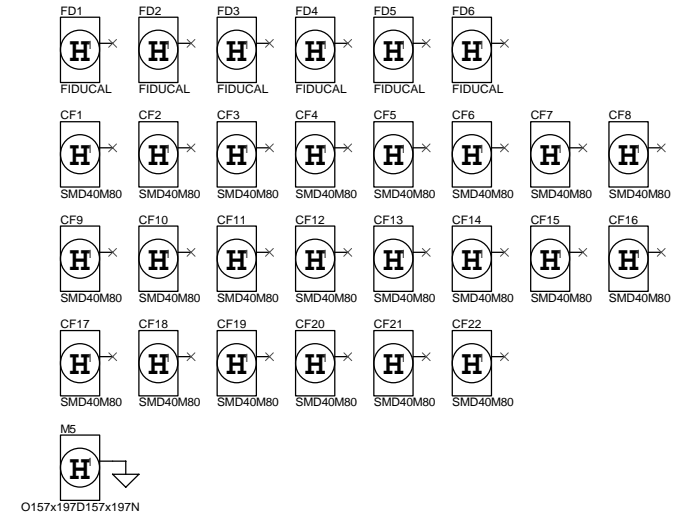
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Title		
SCHEMATICS, M/B LA-971		
Size	Document Number	Rev
B	401166	1C
Date:	Friday, December 01, 2000	Sheet 15 of 37



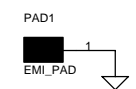
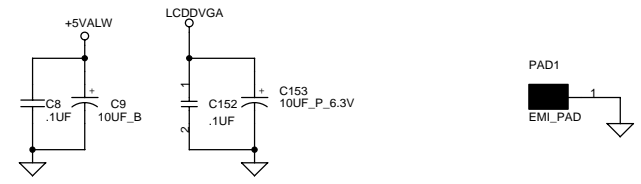
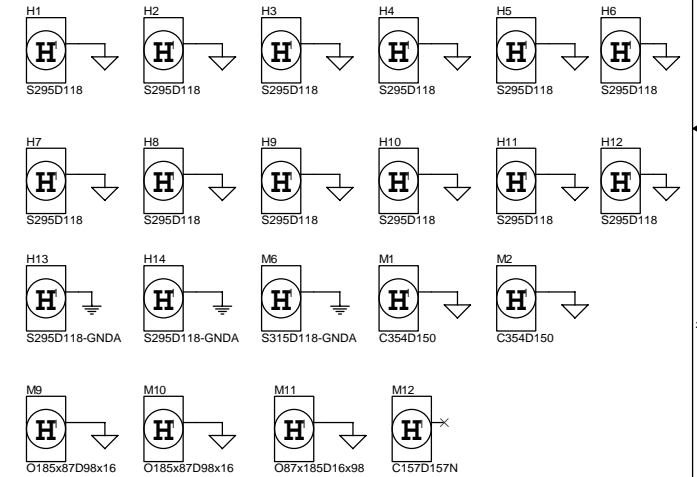
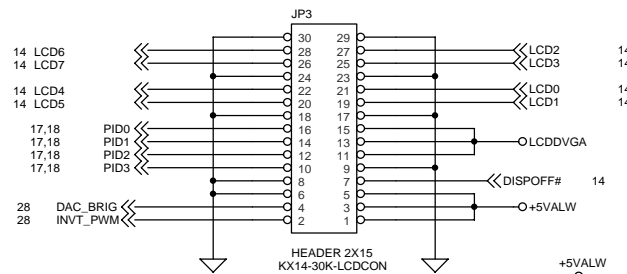
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 VGS: -4.5V, RDS: 130 mOHM
 VGS: -2.5V, RDS: 190mOHM
 Id(MAX): 2.3A
 VGS(MAX): +-8V

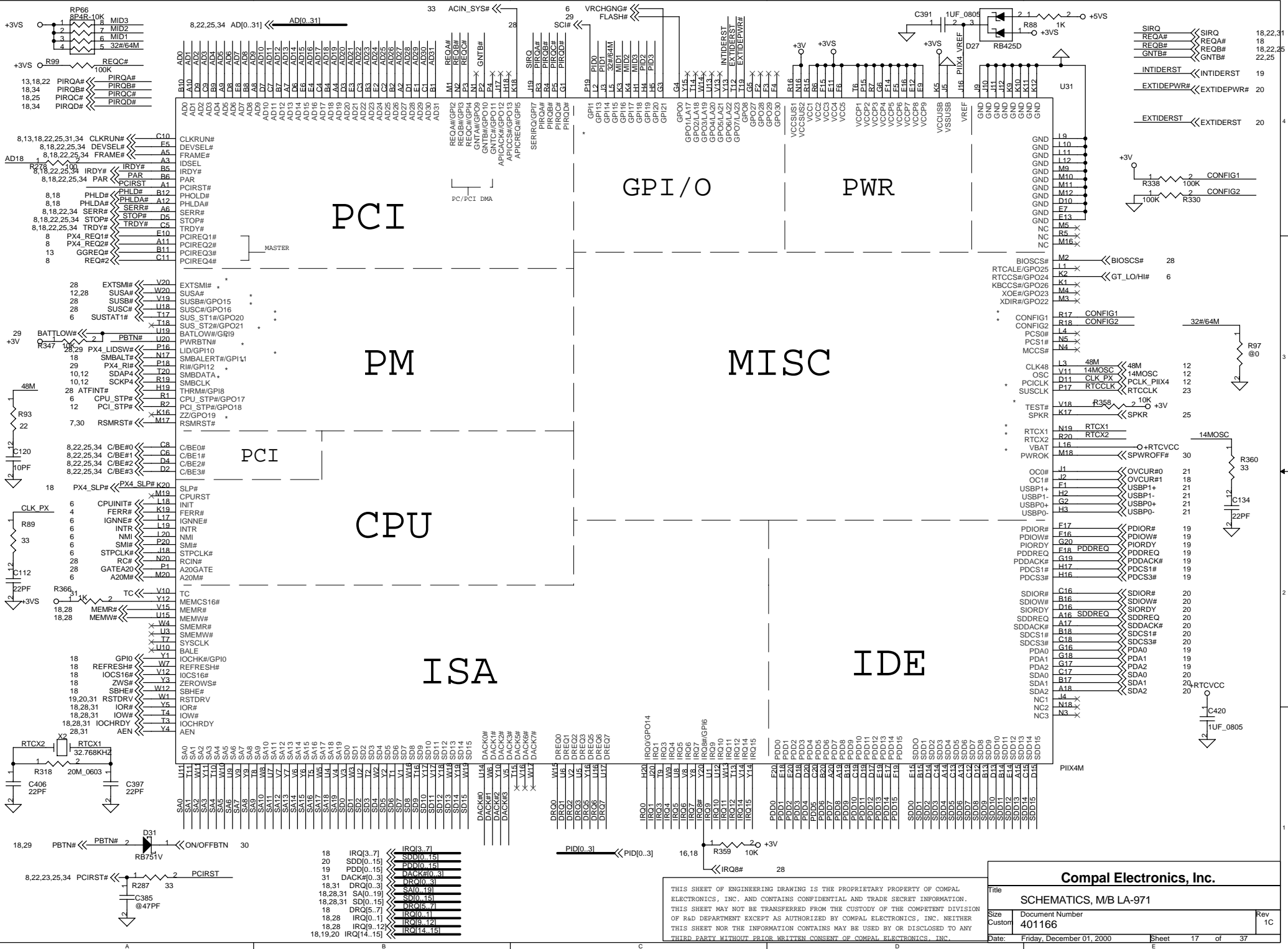
SI2302DS: N CHANNEL
 VGS: 4.5V, RDS: 85 mOHM
 VGS: 2.5V, RDS: 115mOHM
 Id(MAX): 2.8A
 VGS(MAX): +-8V

FOR LAYOUT ONLY



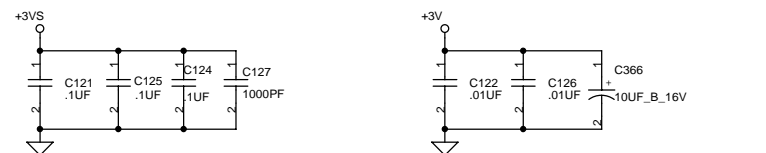
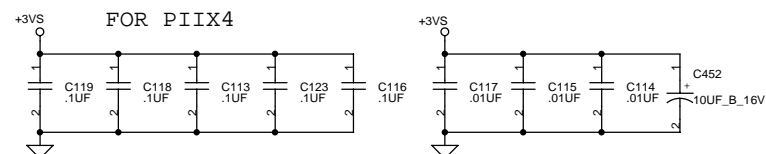
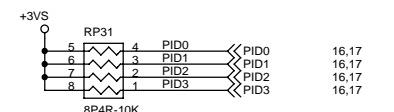
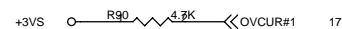
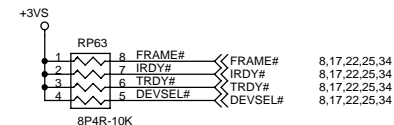
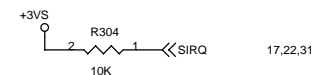
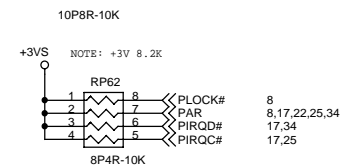
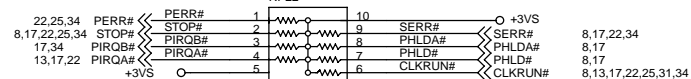
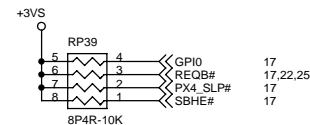
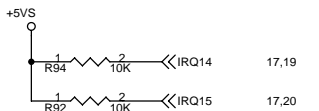
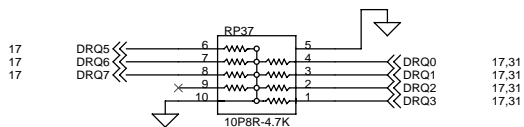
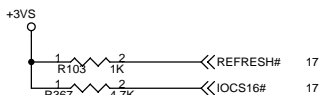
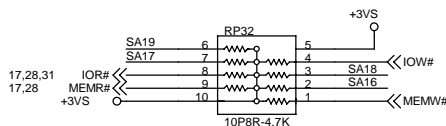
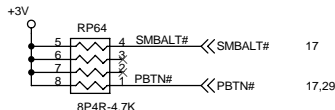
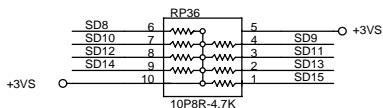
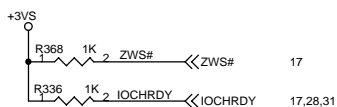
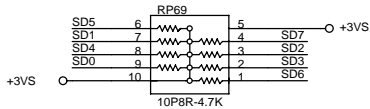
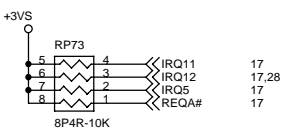
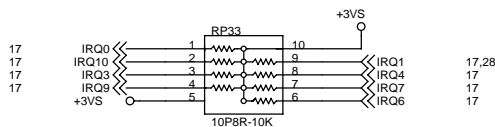
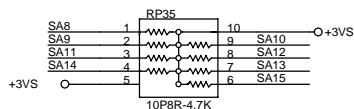
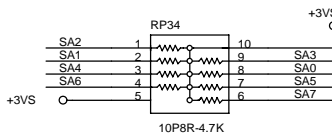
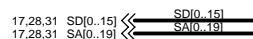
LCD & INVERTER
 Connector





ISA

PCI

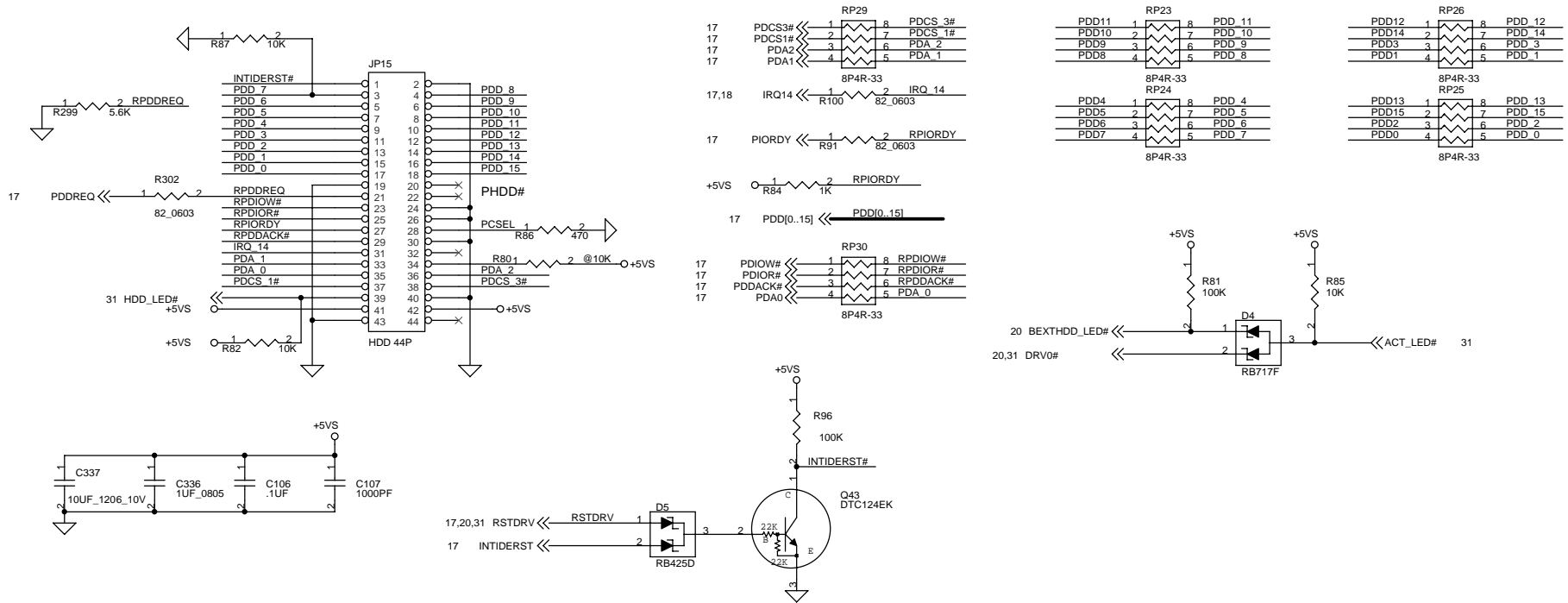


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Title		
SCHEMATICS, M/B LA-971		
Size	Document Number	Rev
B	401166	1C
Date:	Friday, December 01, 2000	Sheet 18 of 37

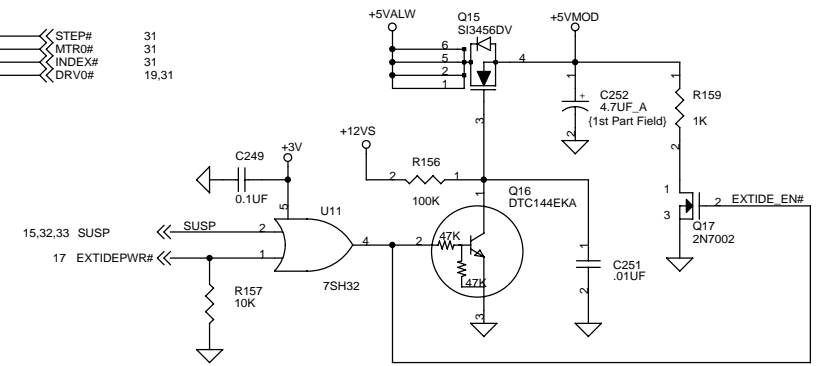
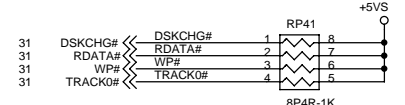
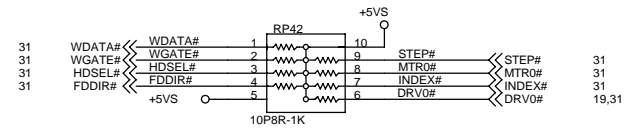
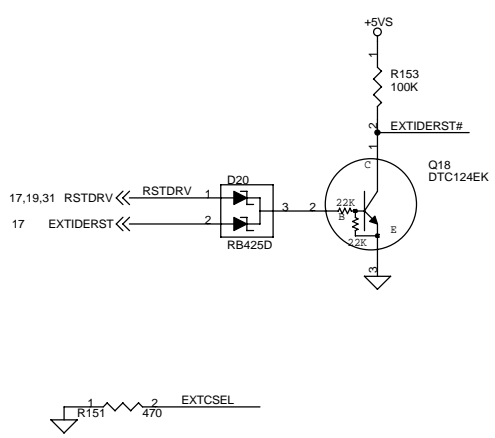
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IDE CONN.

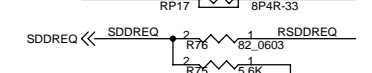
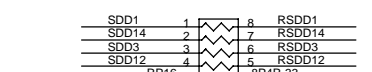
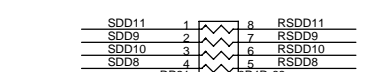
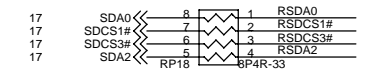
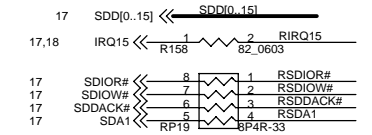
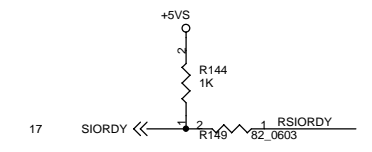
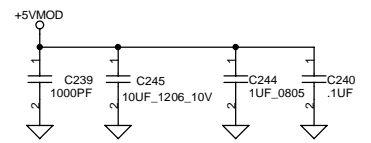
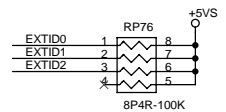
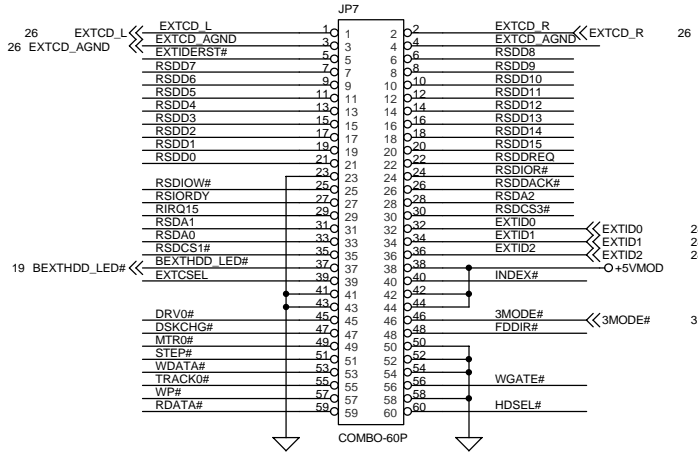
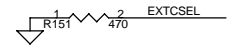


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Compal Electronics, Inc.		
Title		
SCHEMATICS, M/B LA-971		
Size	Document Number	Rev
B	401166	1C
Date:	Friday, December 01, 2000	Sheet 19 of 37



SI3456DV: N CHANNEL
VGS: 4.5V, RDS: 65 mOHM
Id(MAX): 5.1A
VGS,+20V

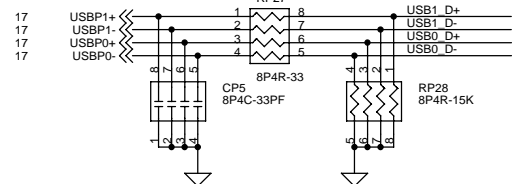


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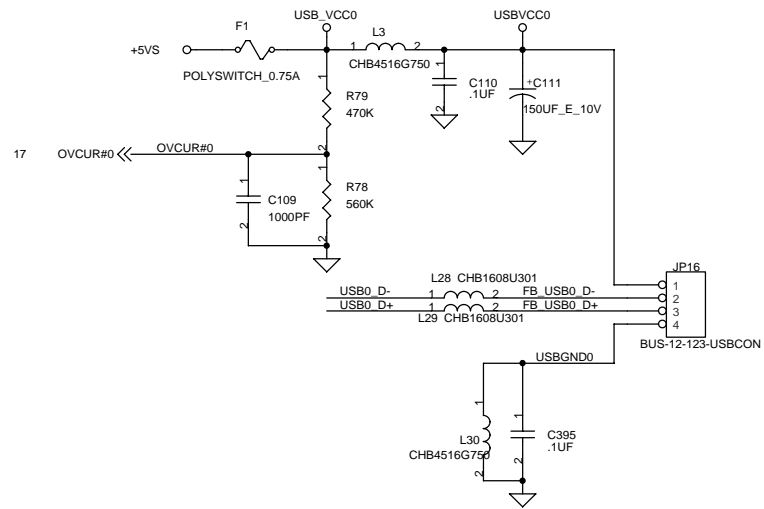
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Size: 401166
Customer: Document Number
Date: Friday, December 01, 2000
Sheet: 20 of 37
Rev: 1C

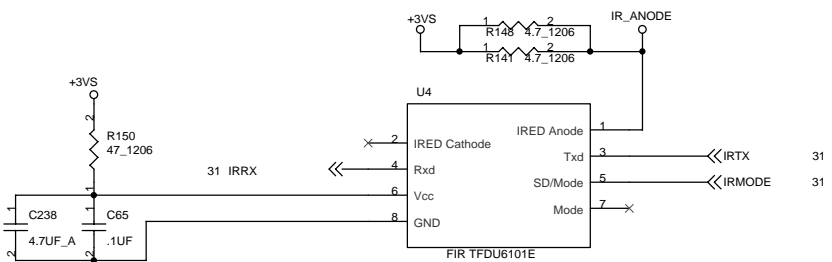


PLACE THESE THREE PARTS CLOSE TO PIIX4E

USB CONNECTOR



FIR Module

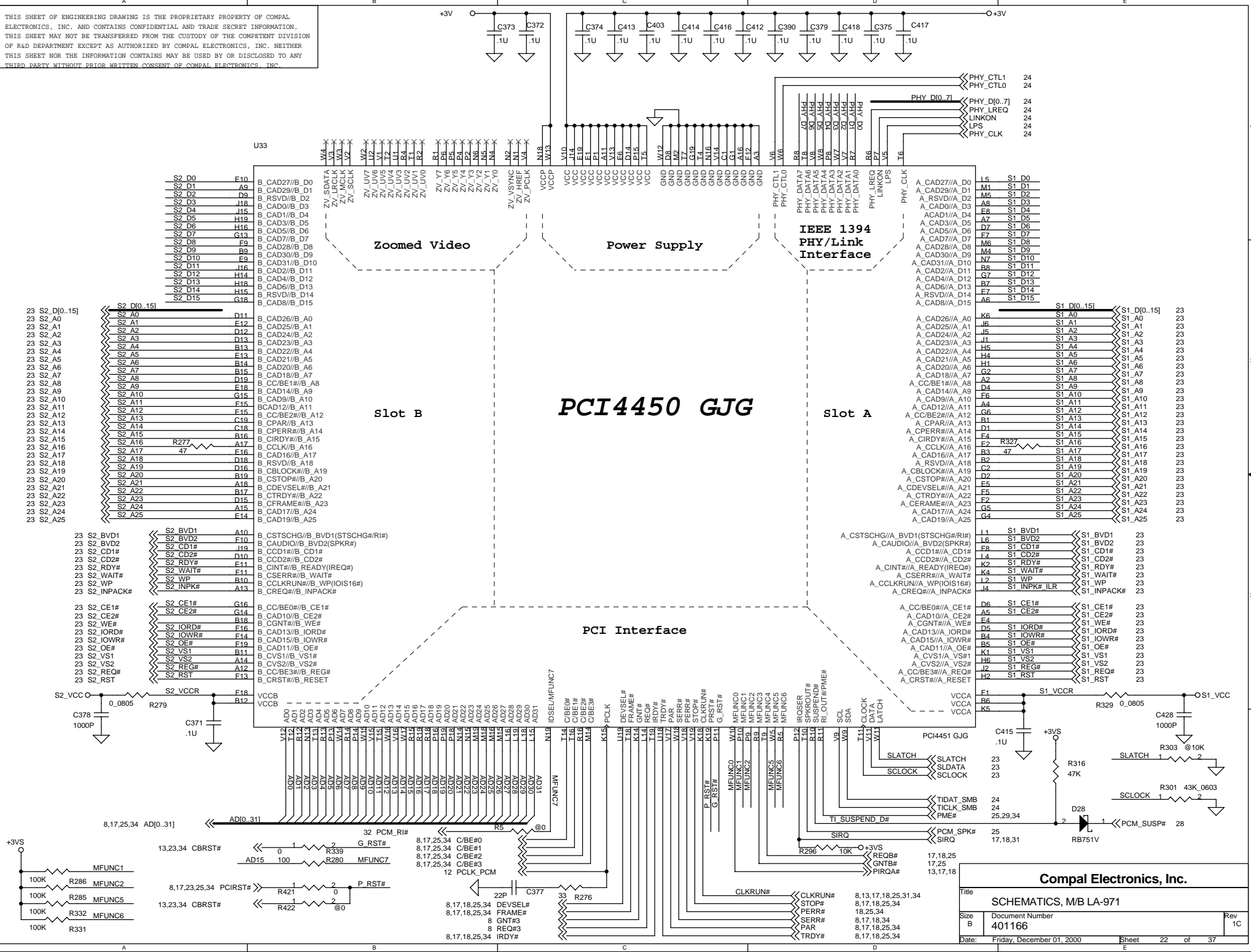


SD/MODE: SHUTDOWN MODE, HIGH ACTIVE
MODE: HIGH/LOW SPEED SELECT

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Compal Electronics, Inc.		
Title		
SCHEMATICS, M/B LA-971		
Size	Document Number	Rev
B	401166	1C
Date:	Friday, December 01, 2000	Sheet 21 of 37

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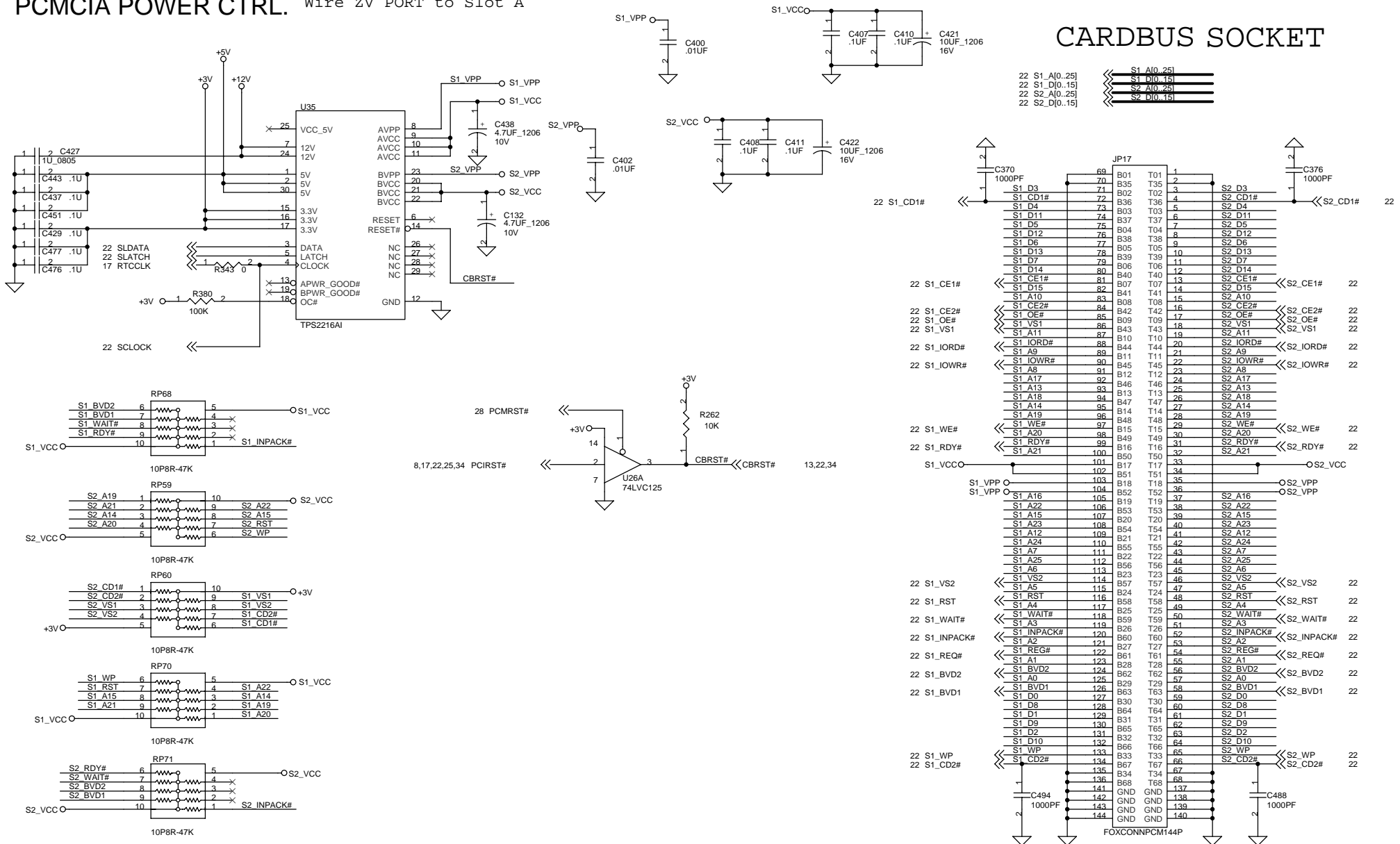
Compal Electronics, Inc.

Title: SCHEMATICS, M/B LA-971

Size: B Document Number: 401166

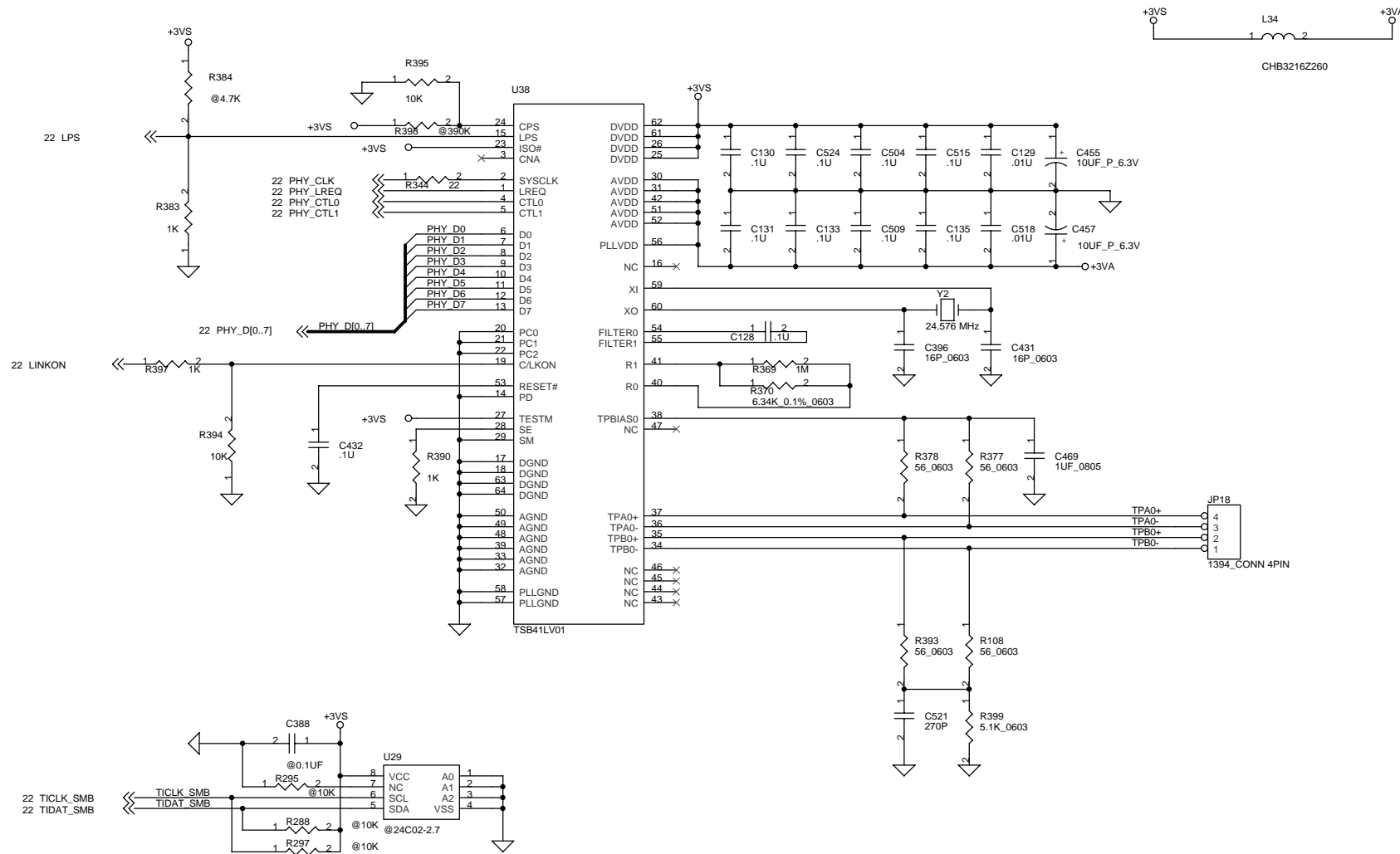
Date: Friday, December 01, 2000 Sheet: 22 of 37

PCMCIA POWER CTRL. Wire ZV PORT to Slot A



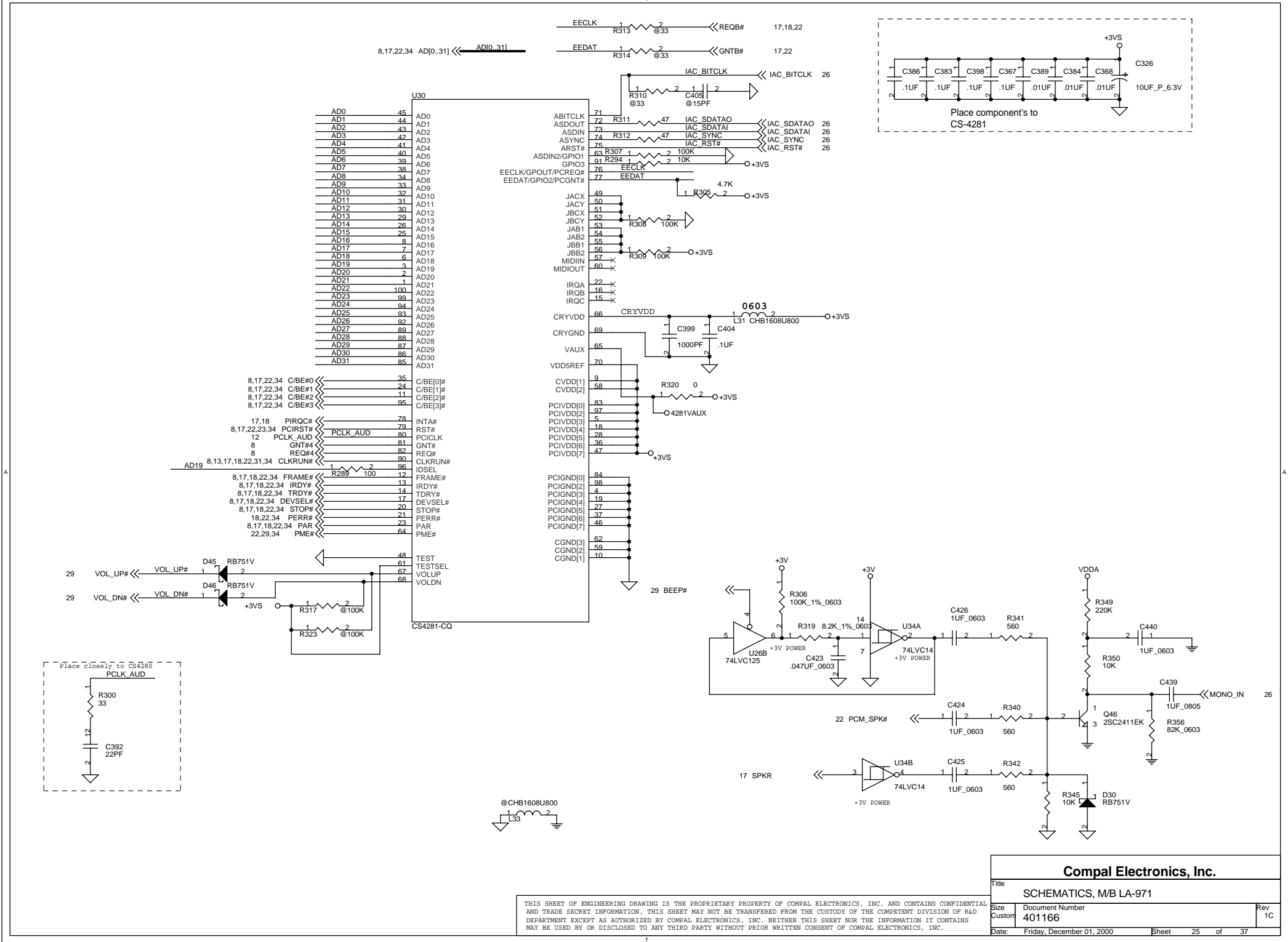
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Compal Electronics, Inc.		
Title	SCHEMATICS, M/B LA-971	
Size B	Document Number	Rev
401166		1C
Date:	Friday, December 01, 2000	Sheet 23 of 37



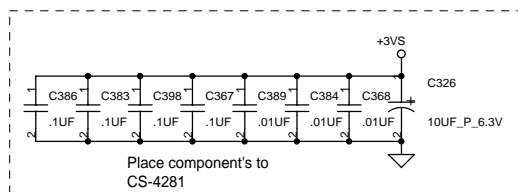
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Title SCHEMATICS, M/B LA-971		
Size B	Document Number 401166	Rev 1C
Date Friday, December 01, 2000	Sheet 24	of 37



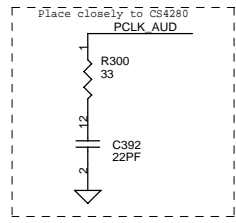
8,17,22,34 AD[0..31] << AD[0..31]

EECLK 1 R313 @33 << REQ# 17,18,22
 EEDAT 1 R314 @33 << GNT# 17,22



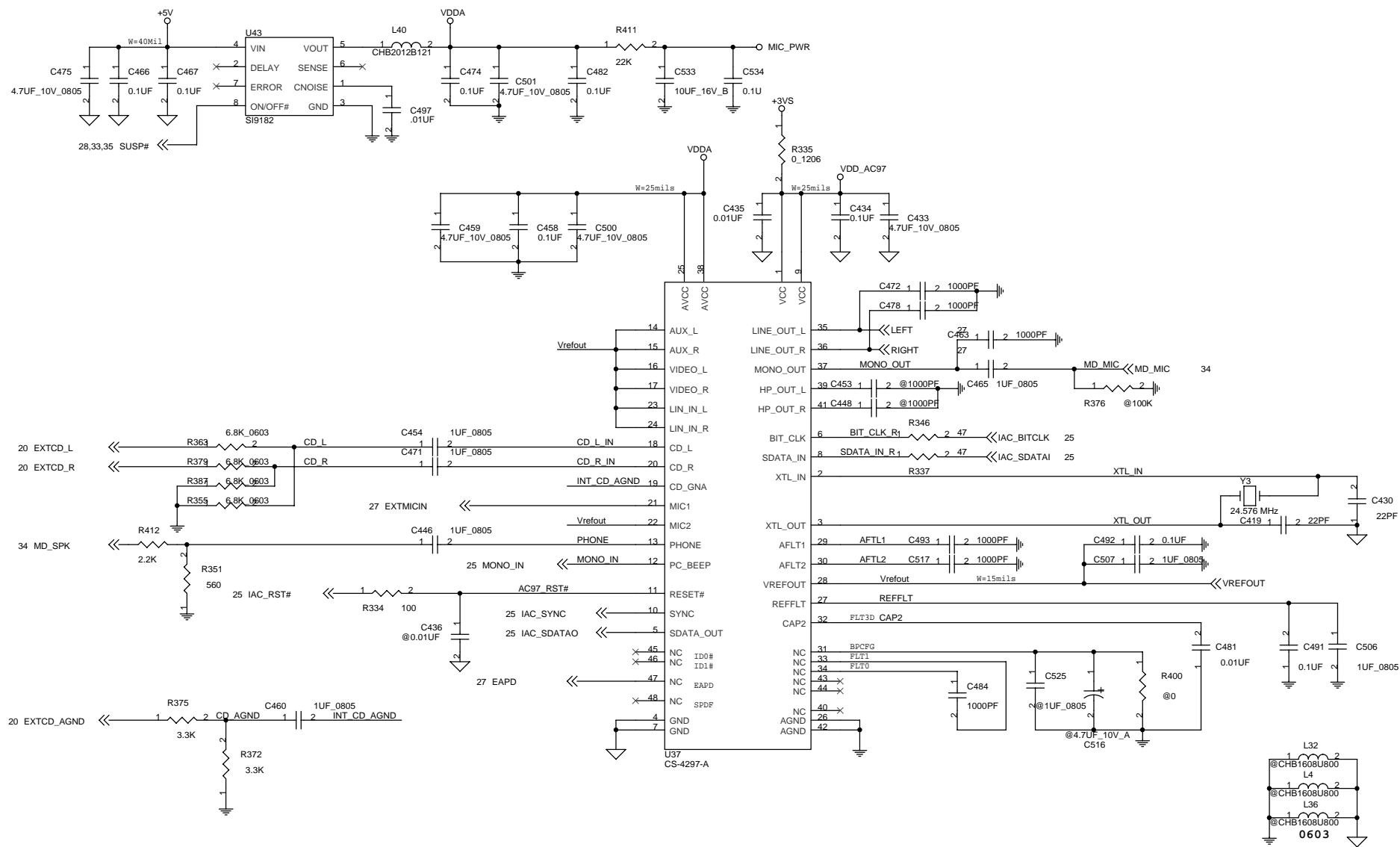
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AD1	44	AD1
AD2	43	AD2
AD3	42	AD3
AD4	41	AD4
AD5	40	AD5
AD6	39	AD6
AD7	38	AD7
AD8	34	AD8
AD9	32	AD9
AD10	31	AD10
AD11	30	AD11
AD12	29	AD12
AD13	28	AD13
AD14	26	AD14
AD15	25	AD15
AD16	8	AD16
AD17	7	AD17
AD18	6	AD18
AD19	3	AD19
AD20	2	AD20
AD21	1	AD21
AD22	100	AD22
AD23	99	AD23
AD24	94	AD24
AD25	93	AD25
AD26	92	AD26
AD27	89	AD27
AD28	88	AD28
AD29	87	AD29
AD30	86	AD30
AD31	85	AD31

8,17,22,34	C/BE#0	<<	35	C/BE[0]#
8,17,22,34	C/BE#1	<<	24	C/BE[1]#
8,17,22,34	C/BE#2	<<	11	C/BE[2]#
8,17,22,34	C/BE#3	<<	95	C/BE[3]#
17,18	PIRQC#	<<	78	INTA#
8,17,22,23,34	PCIRST#	<<	79	RST#
12	PCLK_AUD	<<	80	POICLK
8	GNT#4	<<	81	GNT#
8	REQ#4	<<	82	REQ#
AD19	8,13,17,18,22,31,34	CLKRUN#	90	CLKRUN#
8,17,18,22,34	FRAME#	<<	12	IDSEL
8,17,18,22,34	IRDY#	<<	13	FRAME#
8,17,18,22,34	TRDY#	<<	14	IRDY#
8,17,18,22,34	DEVSEL#	<<	17	TDRY#
8,17,18,22,34	STOP#	<<	20	DEVSEL#
18,22,34	PERR#	<<	21	STOP#
8,17,18,22,34	PAIR	<<	23	PERR#
22,29,34	PME#	<<	64	PAIR



Compal Electronics, Inc.		
Title SCHEMATICS, M/B LA-971		
Size Custom	Document Number 401166	Rev 1C
Date:	Friday, December 01, 2000	Sheet 25 of 37

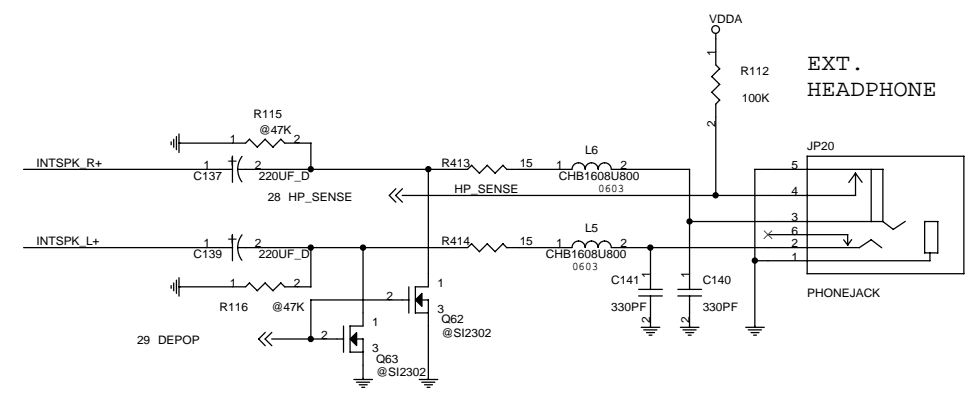
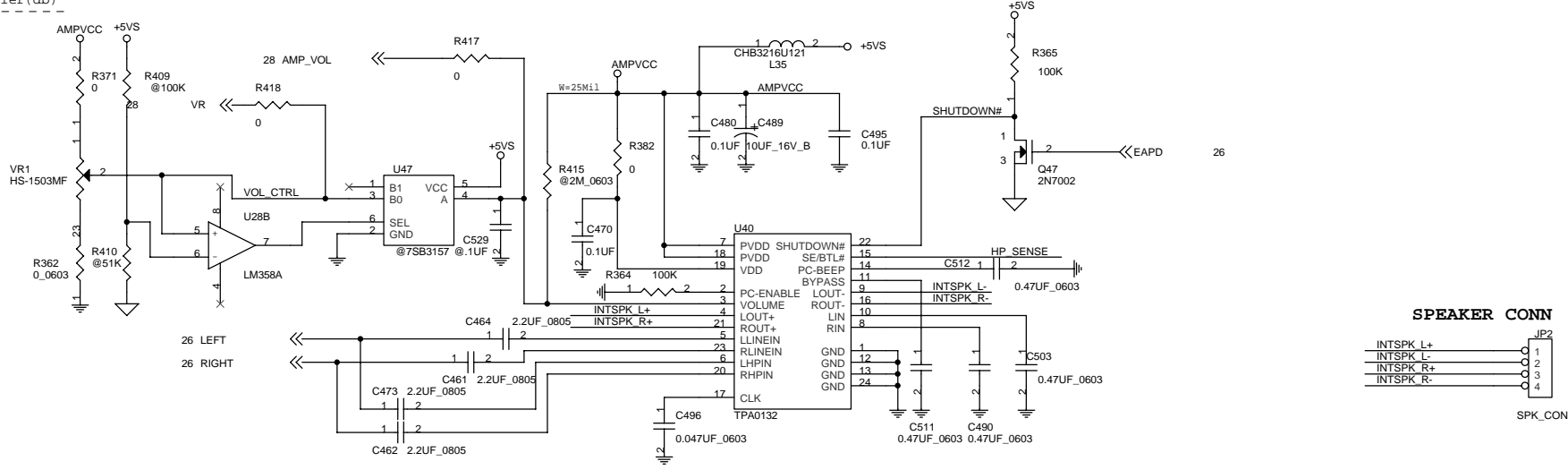
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Title		
SCHEMATICS, M/B LA-971		
Size	Document Number	Rev
Custom	401166	1C
Date:	Friday, December 01, 2000	Sheet 26 of 37

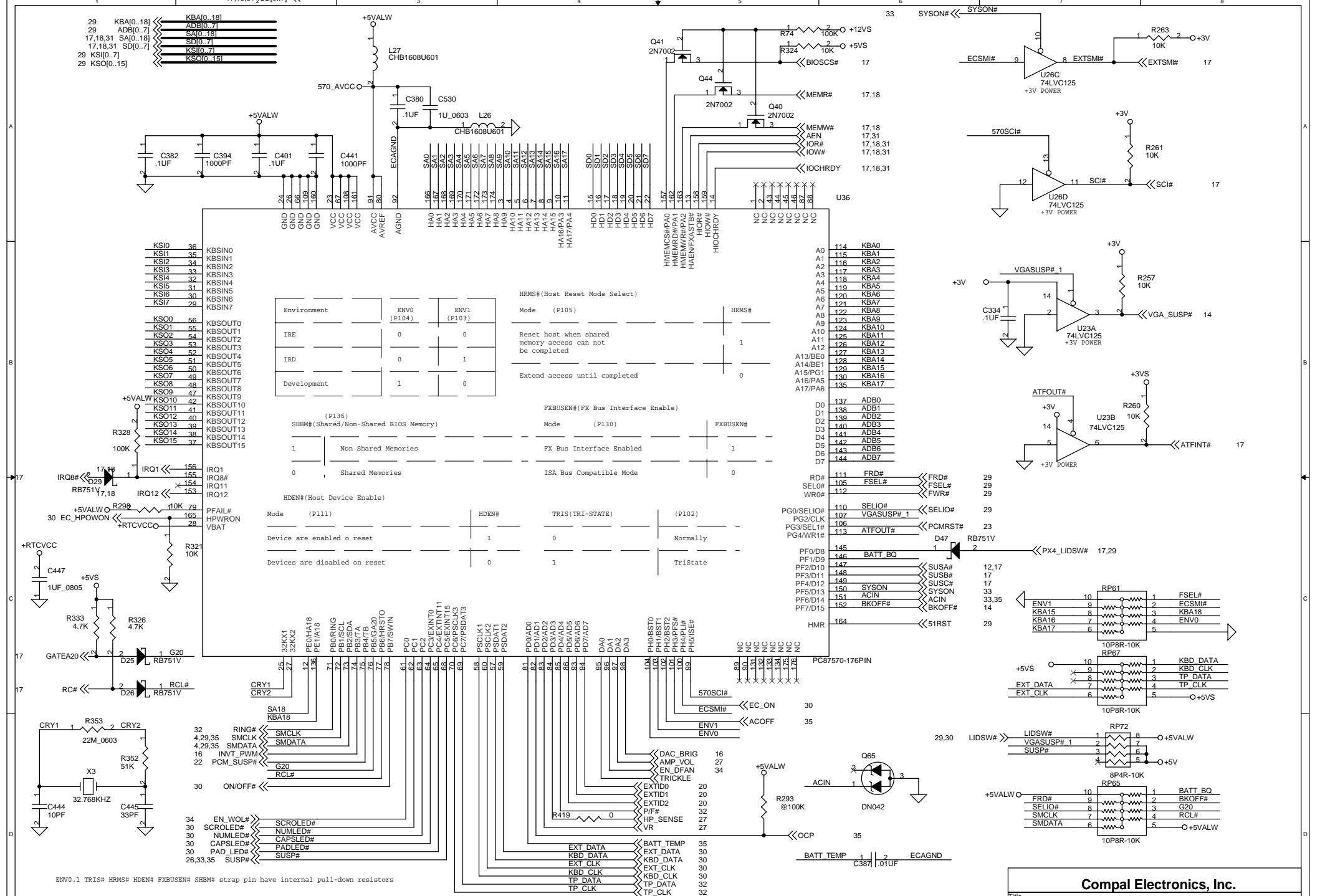
VOLUME	GAIN of Amplifier (db)
0.61~0.73V	10
0.73~0.84V	8
0.84V~0.95V	6
0.95V~1.06V	4
1.06~1.17V	2
1.17~1.28V	0
1.28~1.39V	-2
1.39~1.5V	-4
1.5~1.62V	-6



Compal Electronics, Inc.

Title		SCHEMATICS, M/B LA-971	
Size	Document Number	Rev	
Custom	401166	1C	
Date:	Friday, December 01, 2000	Sheet	27 of 37

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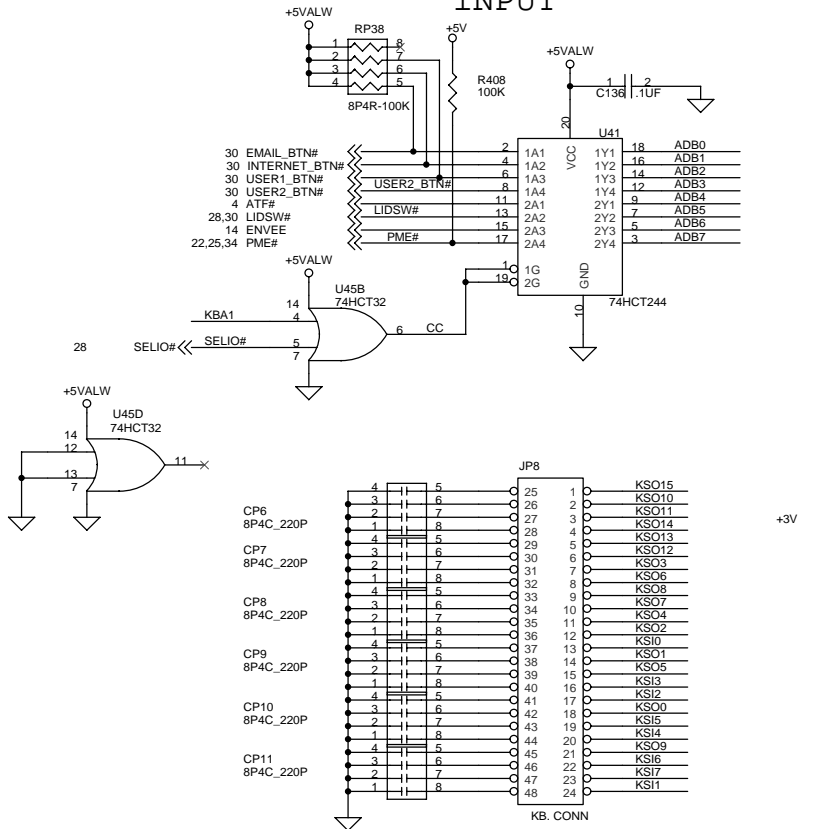
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Title: **SCHEMATICS, MB LA-971**

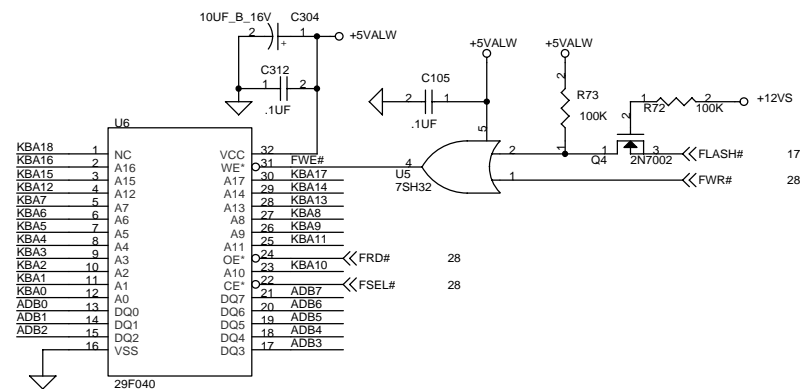
Size B	Document Number	Rev 1C
	401166	

Date: Friday, December 01, 2000 Sheet 28 of 37

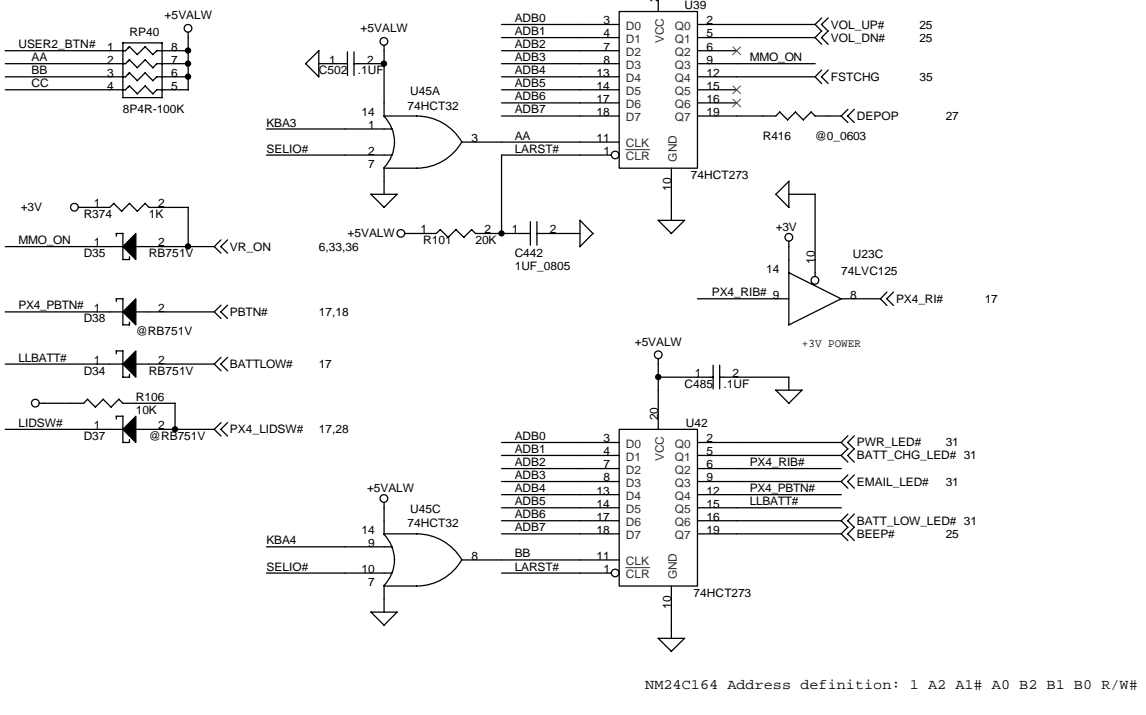
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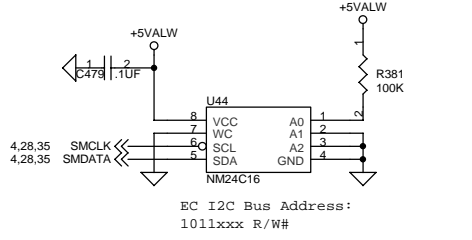
- 28 KSI[0..7] <<< KSI[0..7]
- 28 KSO[0..15] <<< KSO[0..15]
- 28 ADB[0..7] <<< ADB[0..7]
- 28 KBA[0..18] <<< KBA[0..18]



OUTPUT

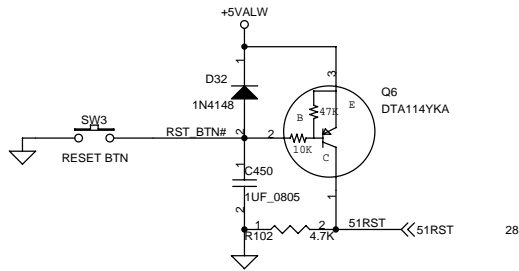


NM24C164 Address definition: 1 A2 A1# A0 B2 B1 B0 R/W#



EC I2C Bus Address: 1011xxx R/W#

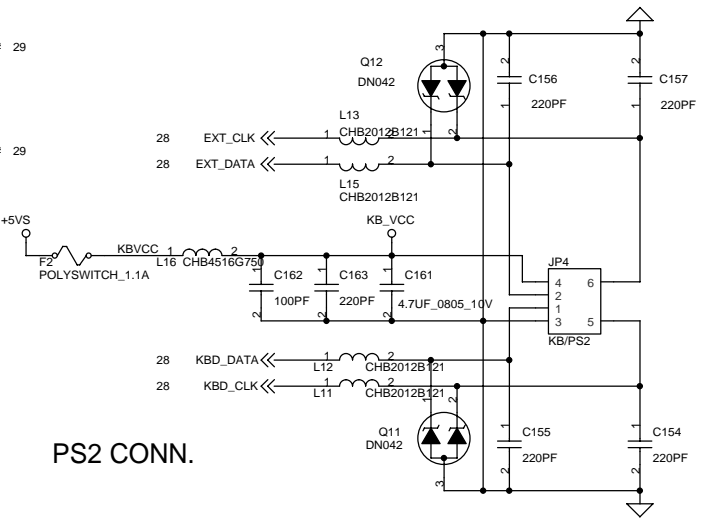
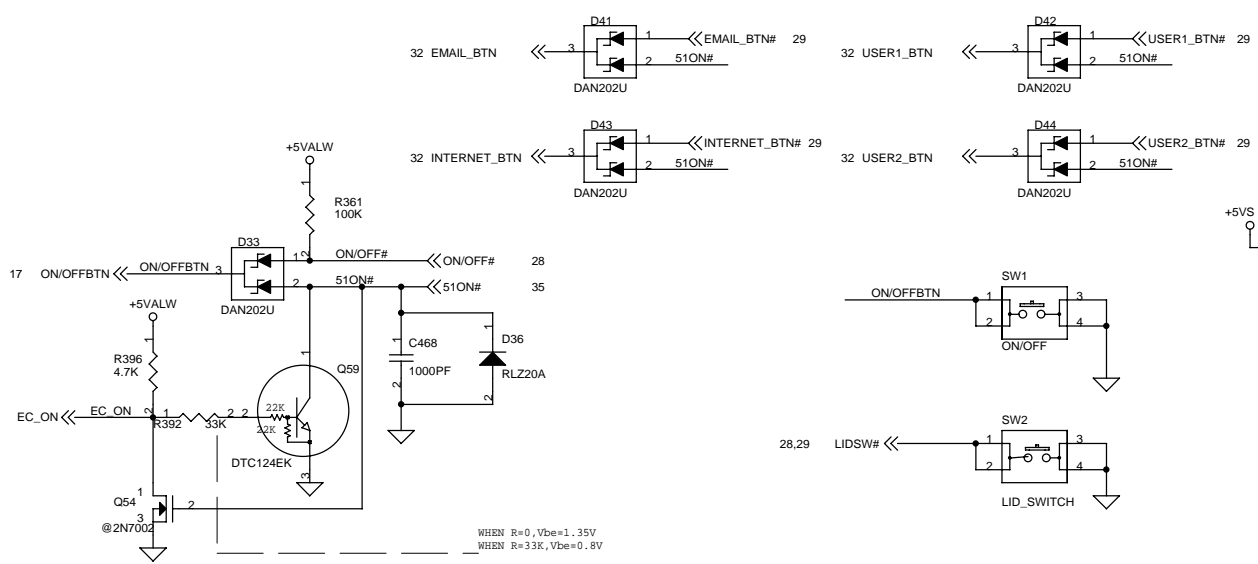
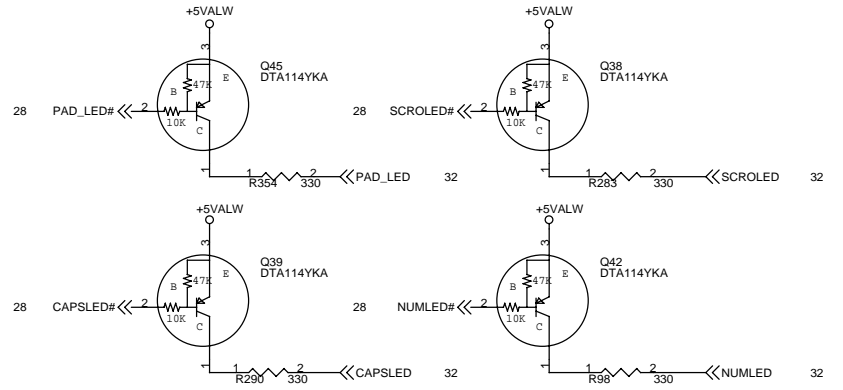
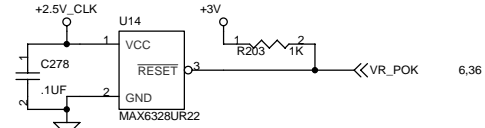
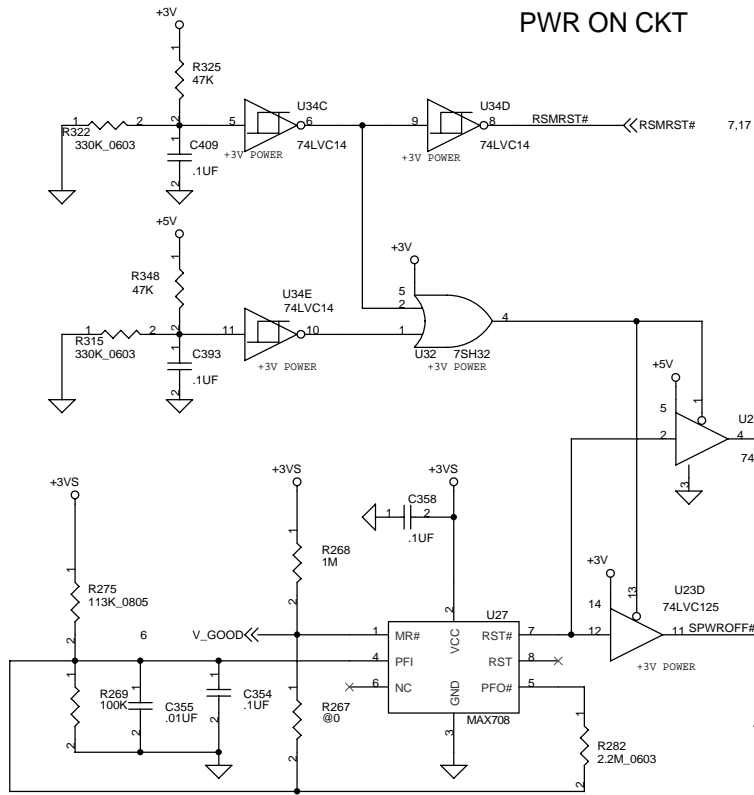
RST BTN



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Compal Electronics, Inc.		
Title		
SCHEMATICS, M/B LA-971		
Size	Document Number	Rev
B	401166	1C
Date:	Friday, December 01, 2000	Sheet 29 of 37

PWR ON CKT



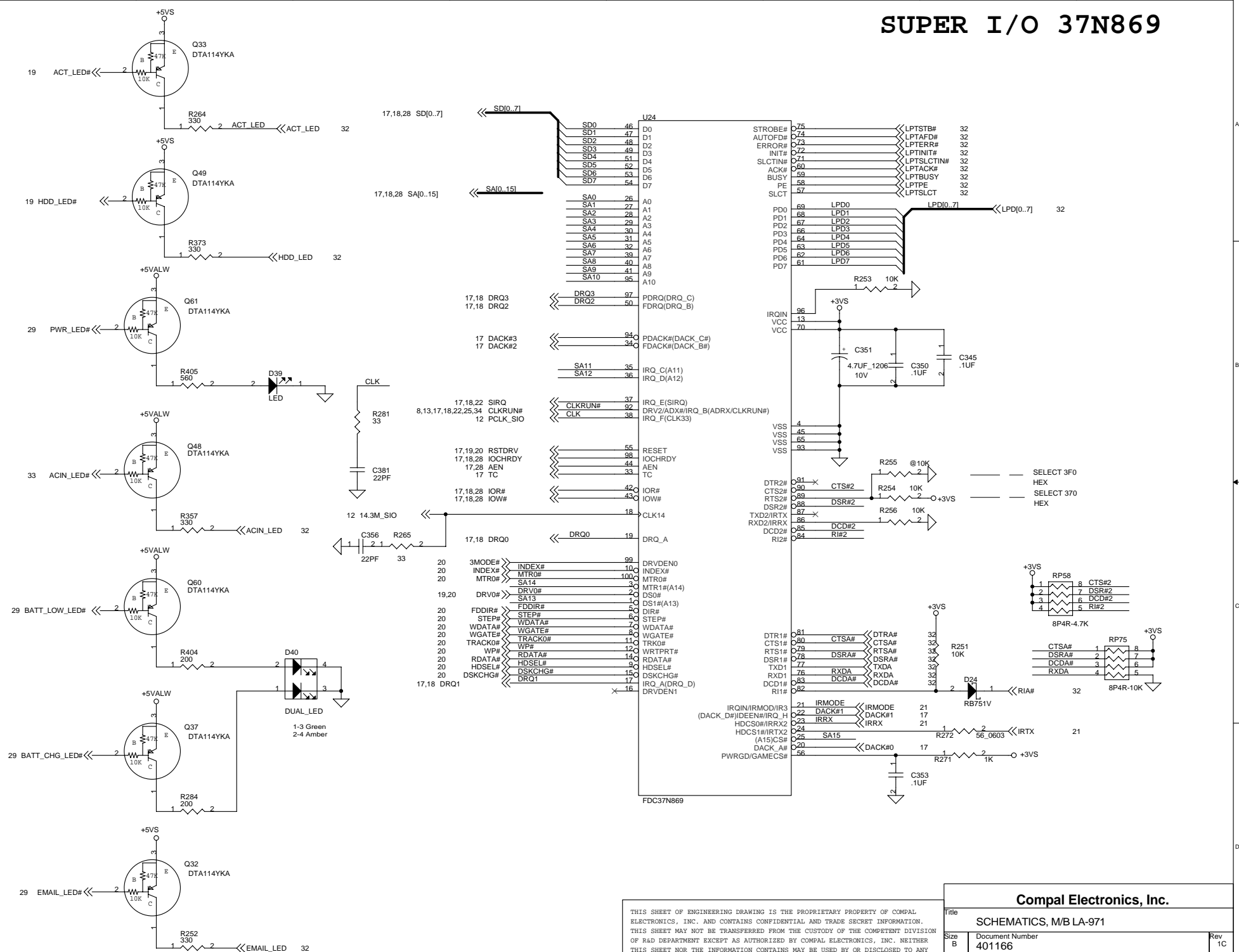
Change R214: 4.7k -> 22k, R215: 33k -> 22k, remove Q15.

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

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Compal Electronics, Inc.		
Title: SCHEMATICS, M/B LA-971		
Size: Custom	Document Number: 401166	Rev: 1C
Date: Friday, December 01, 2000	Sheet: 30	of 37

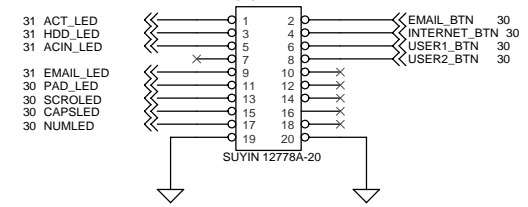
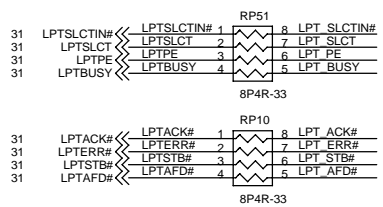
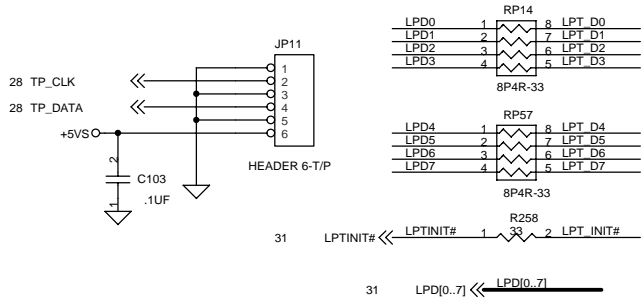
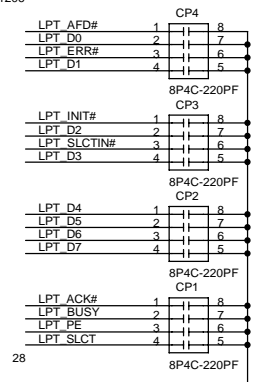
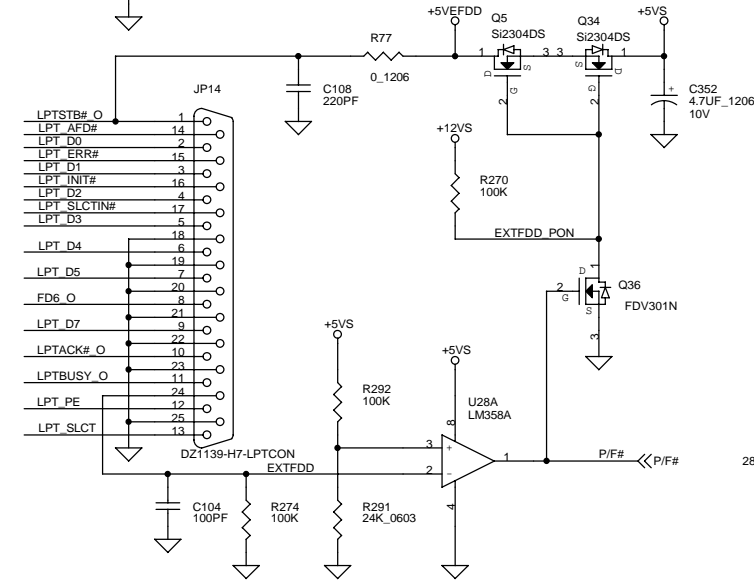
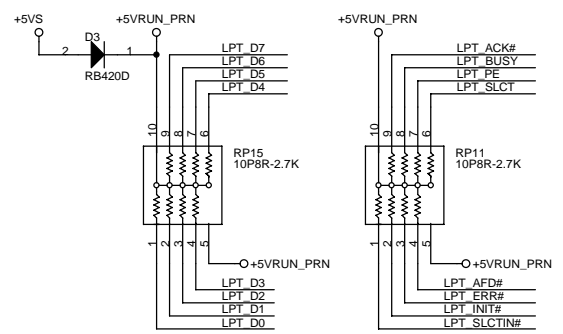
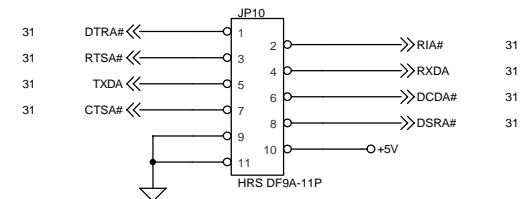
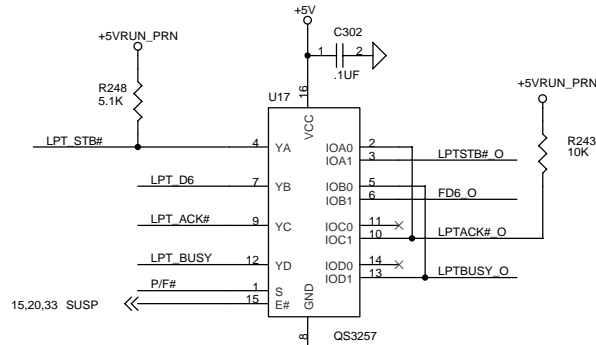
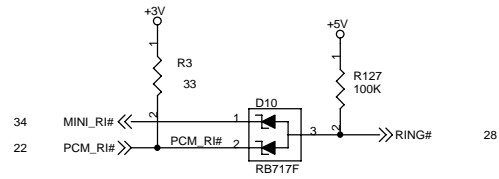
SUPER I/O 37N869



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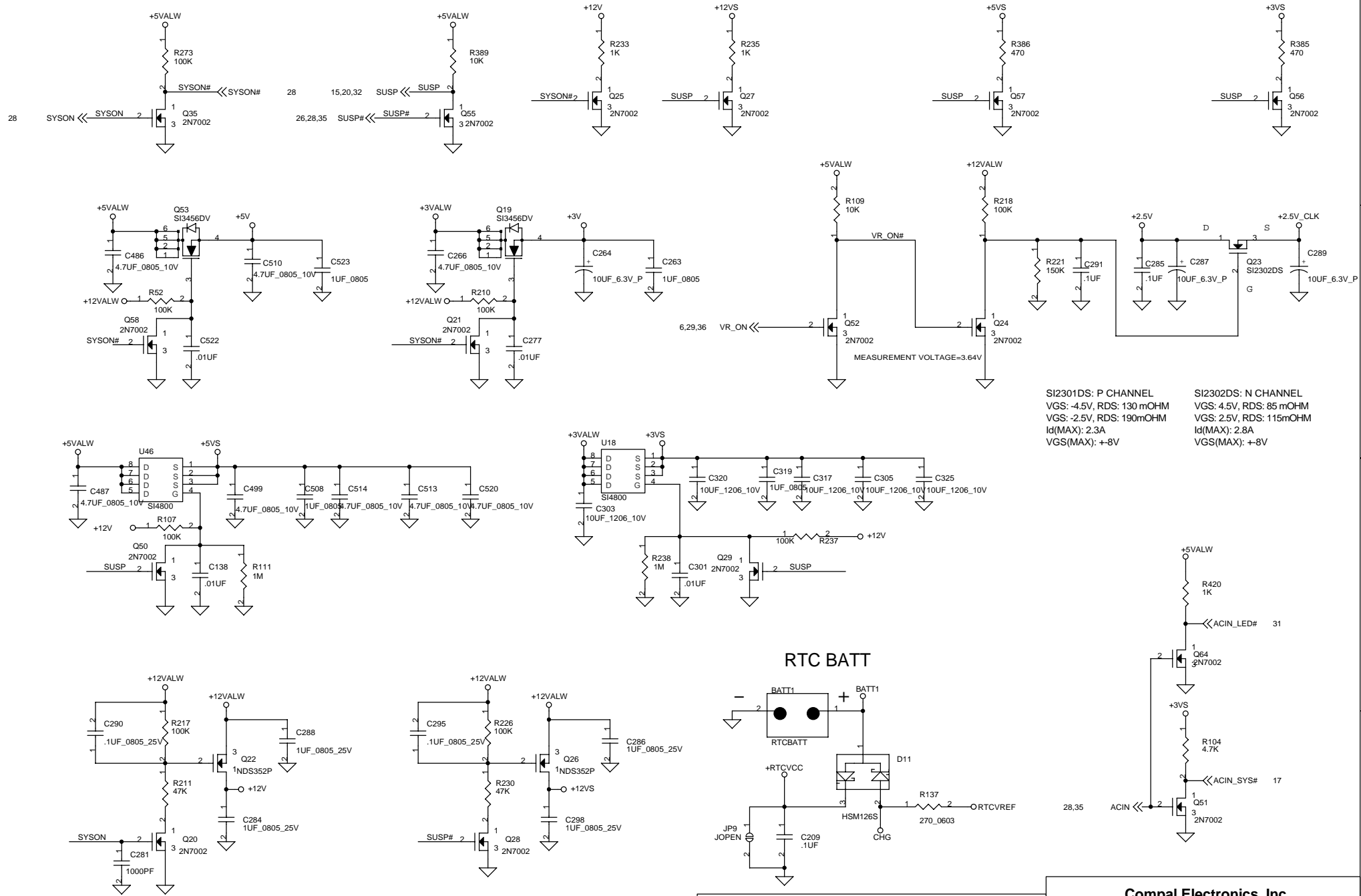
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Title SCHEMATICS, M/B LA-971		
Size B	Document Number 401166	Rev 1C
Date: Friday, December 01, 2000	Sheet 31	of 37

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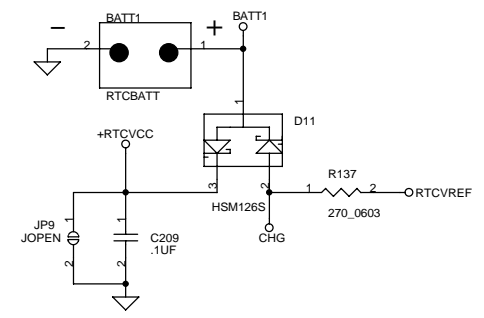
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Title SCHEMATICS, M/B LA-971		
Size Custom	Document Number 401166	Rev 1C
Date:	Friday, December 01, 2000	Sheet 32 of 37



SI2301DS: P CHANNEL
 VGS: -4.5V, RDS: 130 mOHM
 VGS: -2.5V, RDS: 190mOHM
 Id(MAX): 2.3A
 VGS(MAX): +8V

SI2302DS: N CHANNEL
 VGS: 4.5V, RDS: 85 mOHM
 VGS: 2.5V, RDS: 115mOHM
 Id(MAX): 2.8A
 VGS(MAX): +8V

RTC BATT



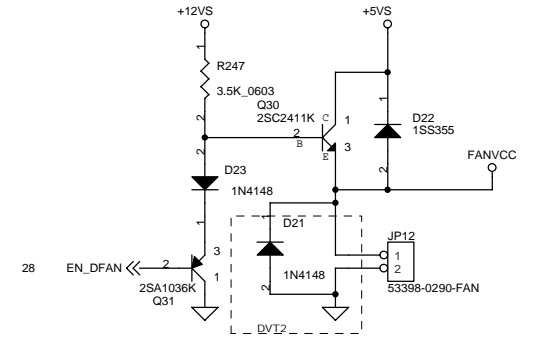
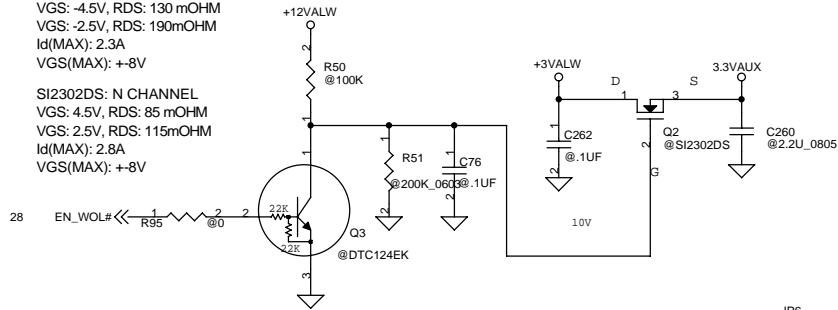
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Title		SCHEMATICS, M/B LA-971	
Size	Document Number	Rev	
B	401166	1C	
Date:	Friday, December 01, 2000	Sheet	33 of 37

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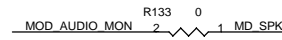
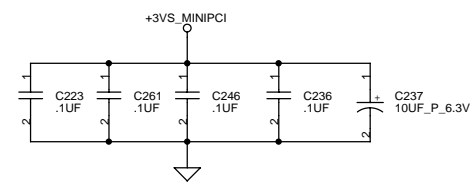
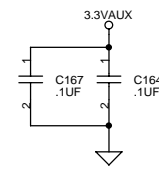
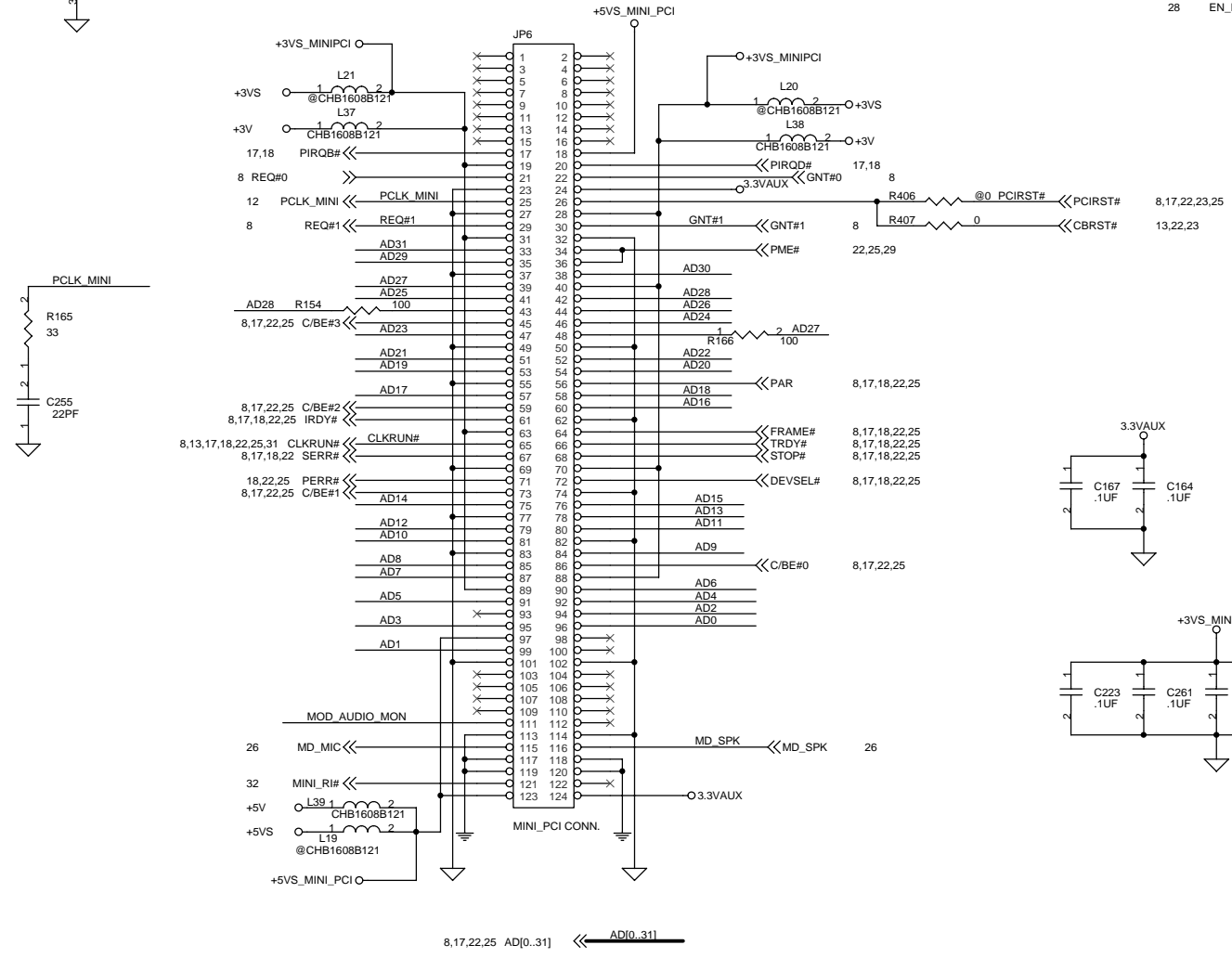
MODEM CONN.

SI2301DS: P CHANNEL
 VGS: -4.5V, RDS: 130 mOHM
 VGS: -2.5V, RDS: 190mOHM
 Id(MAX): 2.3A
 VGS(MAX): +8V

SI2302DS: N CHANNEL
 VGS: 4.5V, RDS: 85 mOHM
 VGS: 2.5V, RDS: 115mOHM
 Id(MAX): 2.8A
 VGS(MAX): +8V

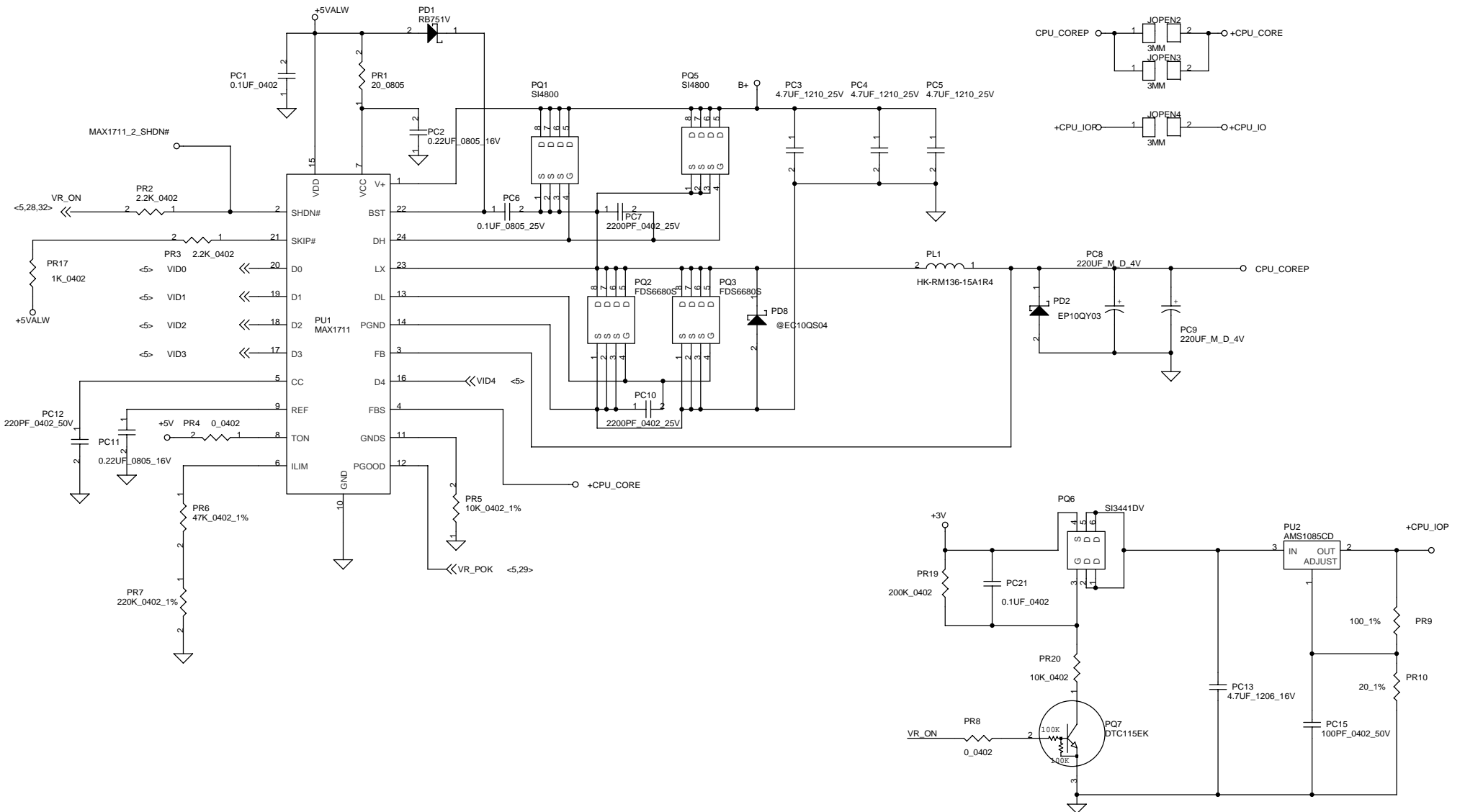


FAN CONN.



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Size B	Document Number 401166	Rev 1C
Date: Friday, December 01, 2000	Sheet 34	of 37



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Title SCHEMATICS, M/B LA-971		
Size	Document Number 401166	Rev 1C
Date:	Friday, December 01, 2000	Sheet 36 of 37

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Title		SCHEMATICS, M/B LA-971
Size	Document Number	Rev
B	401166	1C
Date:	Friday, December 01, 2000	Sheet 37 of 37