

REV	DESCRIPTION	DATE	APRVL	MANAGER
0	ENGINEERING PROTOTYPE	03/13/92	GR	
1	ADVANCE ENGINEERING RELEASE	06/29/92	DKR	
A	PRODUCTION RELEASE PER ECO 95027	6-11-92	ESL	
B	REVISED PER ECO 930352	12/23/92	N/A	
C	REVISED PER ECO 940028	2/11/93	AKP	

JUMPERS AND STUFF

REF	TYPE	DESCRIPTION	PAGE
R246	SMT	NTSC COLOR BURST	4
R202	SMT	PAL COLOR BURST	4
R625	SMT	KEYBOARD MPU CLOCK	9
R624	SMT	KEYBOARD/SYSTEM RESET	9

CONNECTORS

REF	TYPE	DESCRIPTION	PAGE
CN1	DB9P	MOUSE/JOYSTICK 1	5
CN2	DB9P	MOUSE/JOYSTICK 2	5
CN3	RCR-J	RIGHT AUDIO OUTPUT	5
CN4	RCR-J	LEFT AUDIO OUTPUT	5
CN5	DB25S	EXTERNAL FLOPPY	8
CN6	DB25P	RS232 SERIAL PORT	7
CN7	DB25S	PARALLEL PRINTER PORT	7
CN8	50 DIN	POWER SUPPLY CONNCT OR 13	
CN9	DB23P	VIDEO OUTPUT	6
CN10	RCR-J	COMPOSITE VIDEO	4
CN11	011-34	INTERNAL FLOPPY SIGNAL	8
CN12	SII-4	INTERNAL FLOPPY POWER	8
CN13	MEM-30	KEYBOARD MEMBRANE	9
CN14	SII-4	INTERNAL FLOPPY POWER	8
CN15	MEM-30	KEYBOARD MEMBRANE	9
CN16	SII-4	KEYBOARD STATUS LED'S	9
CN15	PCNCTA	PC MEMORY CARD	11
P9	EDGE-DR	MEMORY BUS EXPANSTION	12

SIGNAL GLOSSARY

SIGNAL	DESCRIPTION (AREA)	PAGES
28MHZ	28.63636 MHZ MASTER CLOCK	
7MHZ	7.15909 MHZ PROCESSOR CLOCK	
A[23:1]	PROCESSOR ADDRESS BUS (68000)	
ACK	DATA ACKNOWLEDGE (PARALLEL PORT)	
AS	ADDRESS STROBE (68000)	
AUDIN	AUDIO INPUT (RS232 PORT)	
AUDOUT	AUDIO OUTPUT (RS232 JACK)	
BEER	BUS ERROR (68000)	
BG	BUS GRANT (68000)	
BCACK	BUS GRANT ACKNOWLEDGE (68000)	
BLISS	BUFFER SLOWDOWN (CHIPS)	
BLI	CHIP MEMORY ACCESS (CHIPS)	
BR	BUS REQUEST (68000)	
BUSY	DEVICE BUSY (PARALLEL PORT)	
CASL/ZU	COLUMN ADDRESS STROBE (DRAM)	
CCK/CCKO	COLOR CLOCK / QUADRATURE CLOCK (CHIPS)	
CDAC	7.15909 MHZ QUADRATURE CLOCK (CHIPS)	
CHNO	MEDIA CHANGE (FLOPPY)	
CLKRD/WR	READ-TIME CLOCK READ / WRITE (RTC)	
COMP	MONOCHROME COMPOSITE VIDEO (VIDEO)	
CSYNC	COMPOSITE SYNC (VIDEO)	
CIS	CLEAR TO SEND (RS232 PORT)	
D[15:0]	PROCESSOR DATA BUS (68000)	
DIR	STEP DIRECTION (FLOPPY)	
DKRD	DISK READ DATA (FLOPPY)	
DKWD	DISK WRITE DATA (FLOPPY)	
DKHE	DISK WRITE ENABLE (FLOPPY)	
DMAL	CHIP DMA REQUEST LINE (CHIPS)	
DRA[8:0]	DRAM ADDRESS BUS (DRAM)	
DRD[15:0]	DRAM DATA BUS (DRAM)	
DSR	DATA SET READY (RS232 PORT)	
DTACK	DATA TRANSFER ACKNOWLEDGE (68000)	
DTR	DATA TERMINAL READY (RS232 PORT)	
E	PERIPHERAL ENABLE CLOCK (68000)	
EXTICK	EXPANSION PRESENT / RTC TICK	
FC[2:0]	FUNCTION CODE (68000)	
FIREQ/1	FIRE BUTTON Q/1 (JOYSTICKS)	
HLT	PROCESSOR HALT (68000)	
H SYNC	HORIZONTAL SYNC (VIDEO)	
INDEX	INDEX PULSE (FLOPPY)	
INT[2,3,6]	INTERRUPT REQUEST (CHIPS)	
IORESET	I/O RESET	
IPL[2:0]	INTERRUPT PRIORITY LEVEL (68000)	
KPCLOCK	KEYBOARD CLOCK (KEYBOARD)	
KPDATA	KEYBOARD DATA (KEYBOARD)	
KBRESET	KEYBOARD RESET (KEYBOARD)	
LDS/UDS	UPPER / LOWER DATA STROBES (68000)	
LED	POWER ON LED / AUDIO FILTER DISABLE	
LEFT/RIGHT	LEFT RIGHT AUDIO (AUDIO)	

SIGNAL	DESCRIPTION (AREA)	PAGES
LPEN	LIGHT PEN TRIGGER (JOYSTICKS)	
MTR	MOTOR ON (FLOPPY)	
MTR0	MOTOR ON - DRIVE 0 (FLOPPY)	
MOV/HOH	MOUSE 0 QUADRATURE V/ZH (JOYSTICKS)	
MIV/MIH	MOUSE 1 QUADRATURE V/H (JOYSTICKS)	
OV	OVERLAY ROM OVER RAM	
OVR	OVERRIDE SYSTEM DECODING	
PIXELSW	DELOCK PIXEL SELECT (VIDEO)	
P0[X]Y0Y	P0T LINES 0 X/Y (JOYSTICKS)	
P0[X]Y1Y	P0T LINES 1 X/Y (JOYSTICKS)	
P0UT	PAPER OUT (PARALLEL PORT)	
P0D[7:0]	PARALLEL PORT DATA (PARALLEL PORT)	
ROMEN	ROM ENABLE (CHIPS)	
RGEN	CHIP REGISTER ENABLE (CHIPS)	
RWD/1	ROM ADDRESS STROBE (DRAM)	
RDX	DRIVE READY (FLOPPY)	
RESET	GENERAL RESET	
R0AD[0:1]	REGISTER ADDRESS BUS (CHIPS)	
R/O/B	RED / GREEN / BLUE (VIDEO)	
RI	RING INDICATE (RS232 PORT)	
ROMEN	ROM ENABLE (ROM)	
RIS	REQUEST TO SEND (RS232 PORT)	
RST	PROCESSOR RESET (68000)	
RXD	RECEIVE DATA (RS232 PORT)	
RW	PROCESSOR READ/WRITE (68000)	
SEL	SELECT (PARALLEL PORT)	
SEL[3:0]	DRIVE SELECT (FLOPPY)	
SIDE	SIDE SELECT (FLOPPY)	
STEP	STEP IN/OUT COMMAND (FLOPPY)	
TRK0	TRACK ZERO SENSE (FLOPPY)	
TXD	TRANSMIT DATA (RS232 PORT)	
VPA	VALID MEMORY ADDRESS (68000)	
VPA	VALID PERIPHERAL ADDRESS (68000)	
VSYNC	VERTICAL SYNC (VIDEO)	
WE	WRITE ENABLE (DRAM)	
WPROT	WRITE PROTECT SENSE (FLOPPY)	
XCLK	EXTERNAL DELOCK CLOCK (VIDEO)	
XCLKEN	EXTERNAL CLOCK ENABLE (VIDEO)	
XRDY	EXTERNAL DATA READY	
** CREDIT CARD AND JOE STUFF? **		

KEY COMPONENTS

REF	CHIP	DESCRIPTION	PAGE
U1	68EC021	68EC020 UP/16MHZ	2
U2	8374	ALICE (RAM ROMUS)	2
U3	8364	PAULA	4
U4	4203	LISA (RAM DENISE)	4
U5	F0022X	AA 041E (CBH ASIC)	2,8,11
U6A-B	ASST	ROM 512KX16, 150 NS	10
U7-B	8520	DMIGA VIA, 1 MHZ	7
U10-U11	28F400	4MBIT FLASH MEMORY	10
U12	CX1143	SONY VIDEO ENCODER	4
U13	6570-36	AMICA KEYBOARD MPU	9
U14	NE555	RESET TIMER	9
U15	LF347	MINOS OP-AMP	5
	TL084	BICHOS OP-AMP	ALT
U16-17	ASST	DRAM 512KX8, BONGS	3
U18-19	ASST	DRAM 512KX8, OPTIONAL	3
U20	391???	BRIDGETTE (NCR ASIC)	2
U28	1480	EIA LINE DRIVER	7
U29	1489	EIA LINE RECEIVER	7
U30	AT101	TRIPLE 8-BIT VIDEO DAC	4
X1	OSC	TTL 28.63636 MHZ NTSC	2
	OSC	TTL 28.37512 MHZ PAL	ALT
Y451	XTAL	4.433619MHZ PAL BURST	4
Y621	XTAL	3MHZ CERAMIC RESONATOR	9
X2	UD3626	PAL VIDEO MODULATOR	4
	VA3424	NTSC VIDEO MODULATOR	4

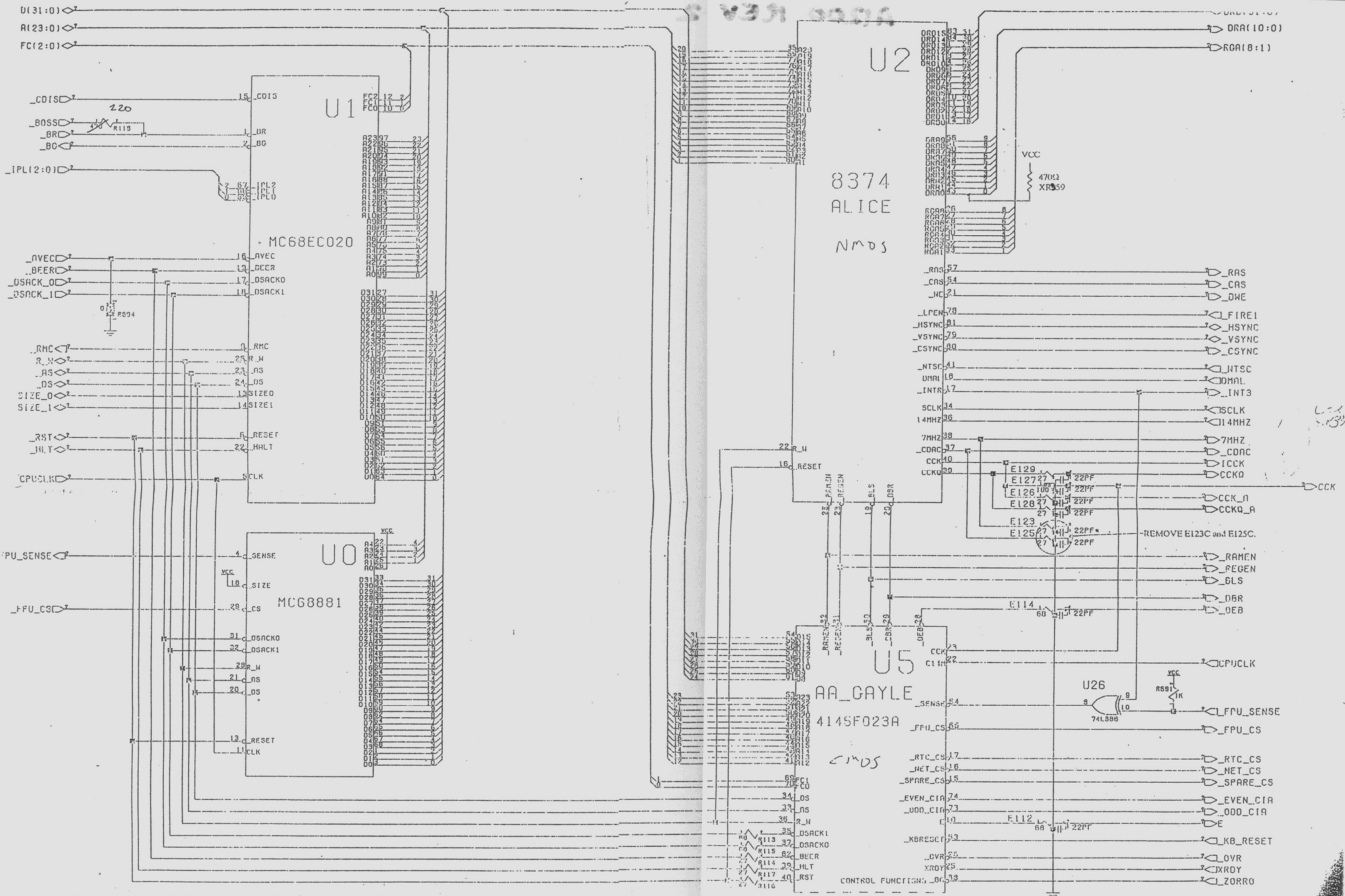
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CG:11060

2/5/93 08:18

36513



CHANNEL Z 04/19/92

A1200 REV 2 PCB

NOTE: VARIOUS COMPONENTS ARE FOR EARLY CHANNEL Z AND MAY BE LOADED WITH DIFFERENT PARTS

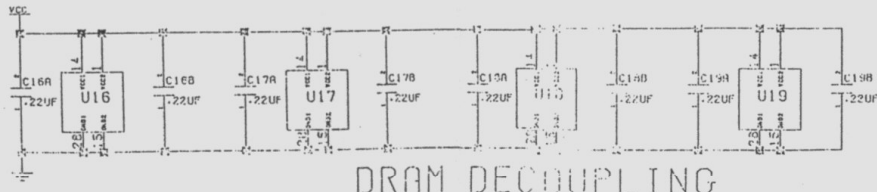
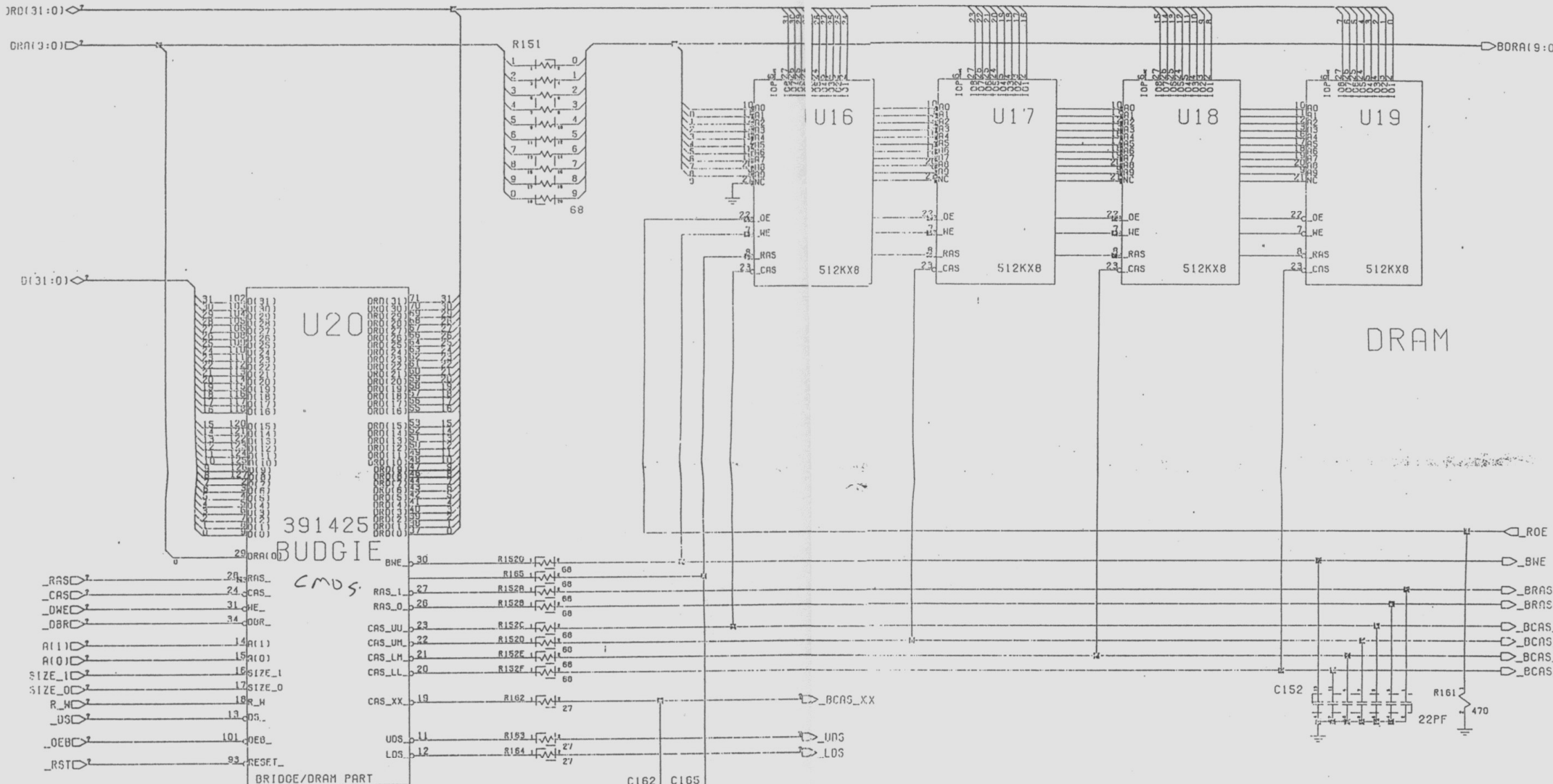
PROCESSOR AND OTHER USEFUL COMPONENT

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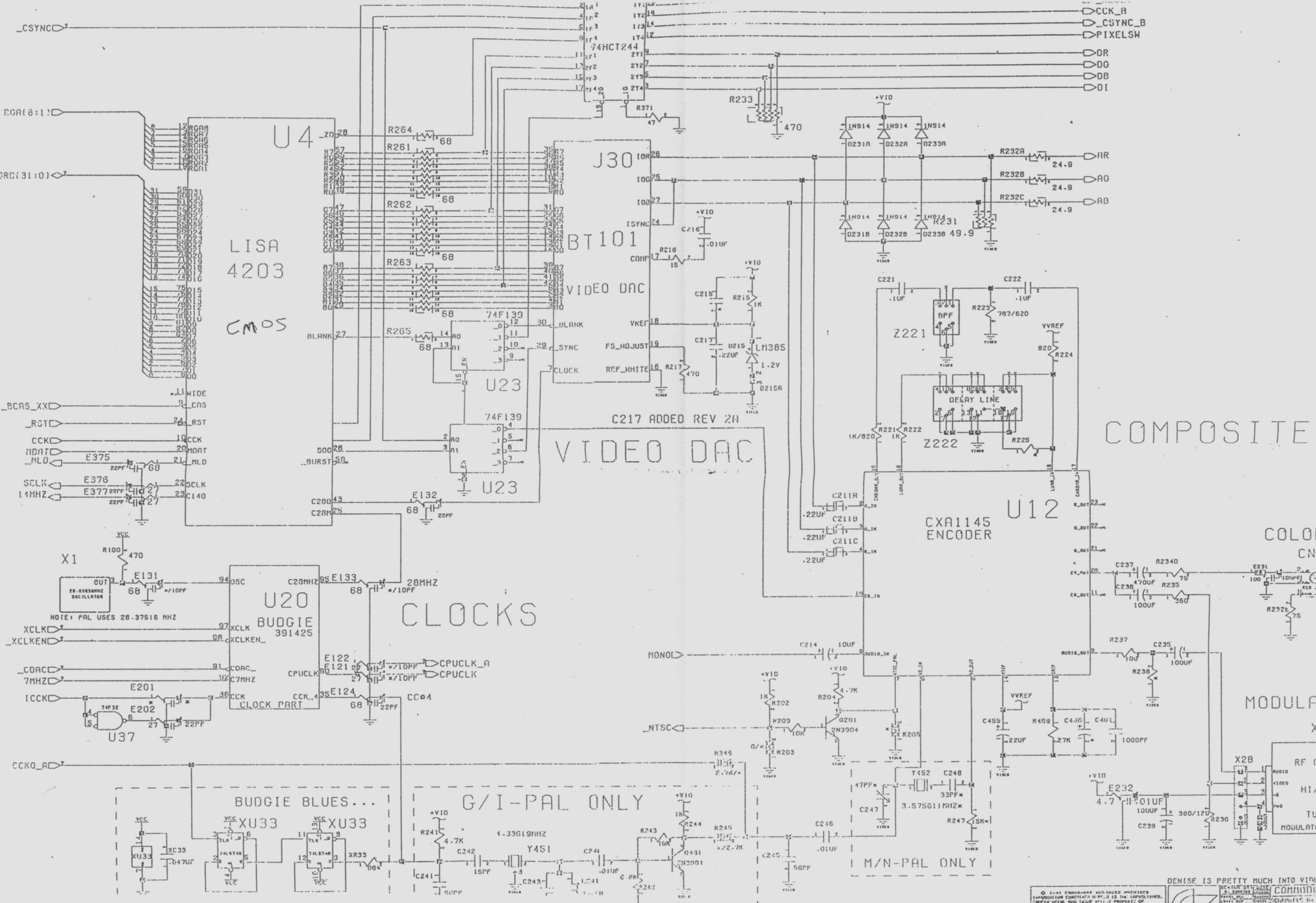
COMMODORE CHANNEL Z  
 A1200 REV 2 PCB  
 DATE: 04/19/92  
 DRAWN: J. J. J.



DRAM DECOUPLING

A1200 REV 2 PCB

MEMORY AND... WELL, I USED TO REM  
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LISA  
4203  
CMOS

VIDEO DAC  
C217 ADDED REV 2H  
VIDEO DAC

COMPOSITE

CLOCKS

BUDGIE BLUES...

G/I-PAL ONLY

M/N-PAL ONLY

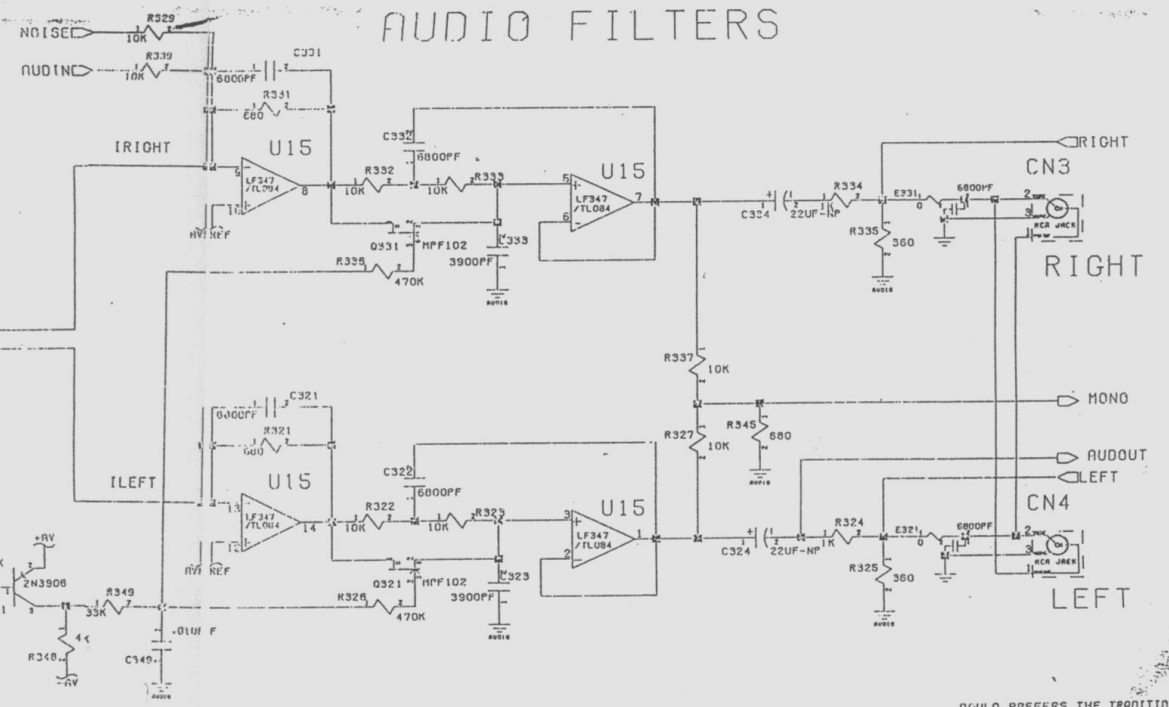
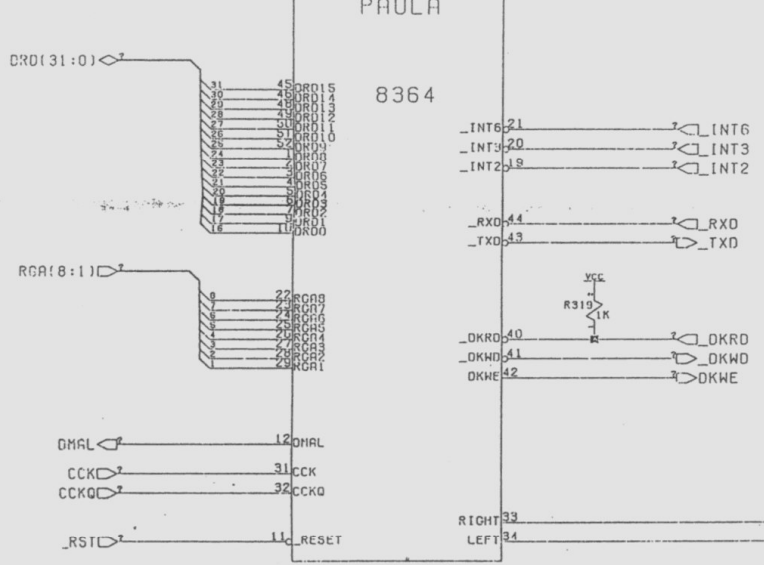
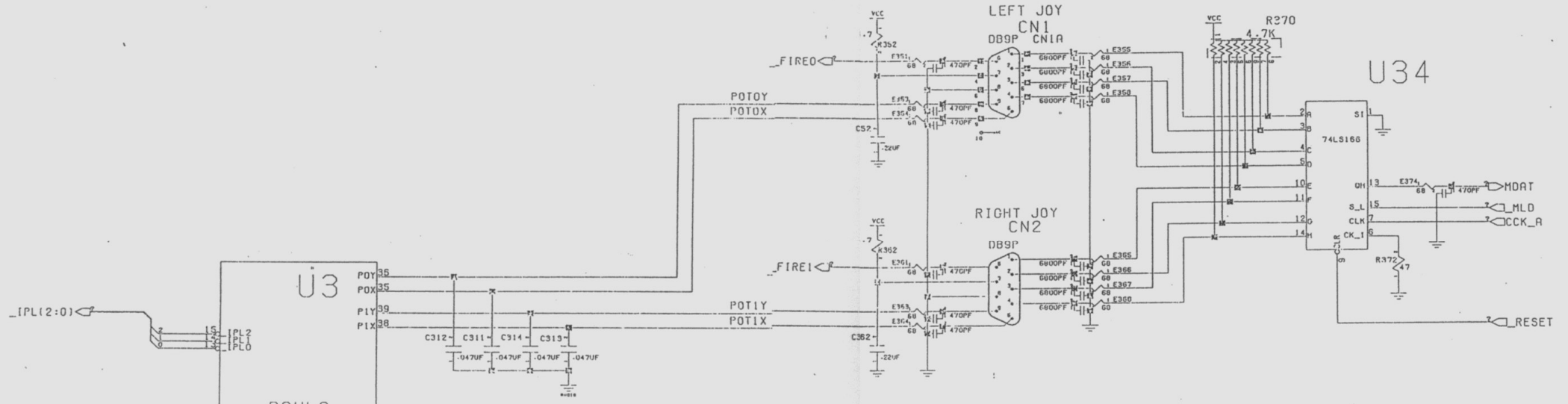
MODULATOR

COLOR  
CN1

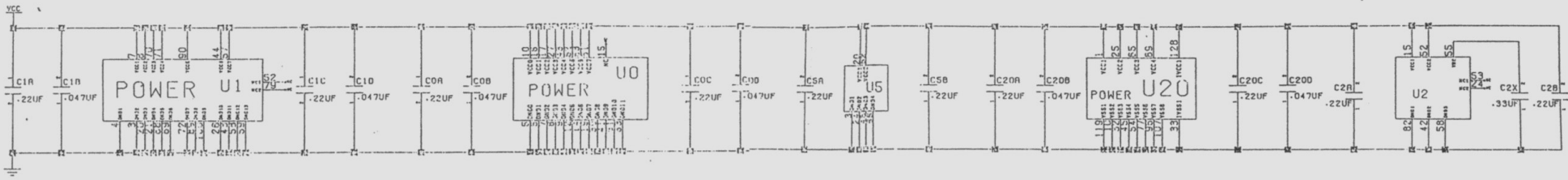
NOTE: COMPONENTS DESIGNATED AS EXXX MAY BE LOANED WITH EMI FILTERS, FERRITE BEADS OR RESISTORS!

DENISE IS PRETTY MUCH INTO VIDEO...  
COMMUNICATING WITH DENISE...  
C.A.N. GENERATED

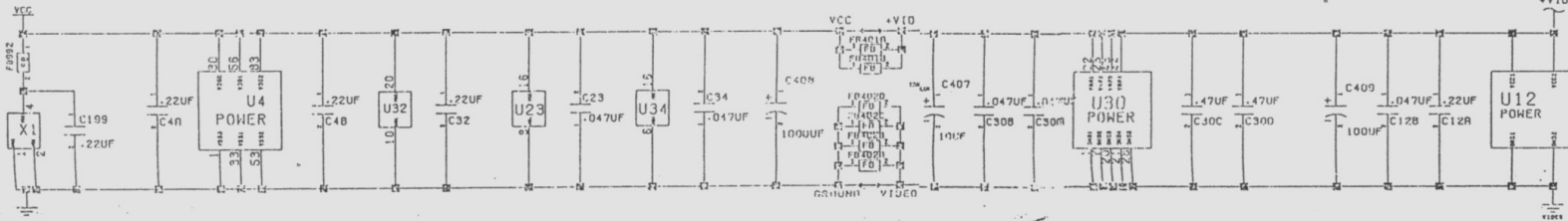
# MOUSE/JOYSTICK PORTS



# GENERAL DECOUPLING

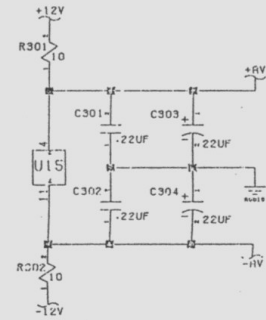


# VIDEO DECOUPLING

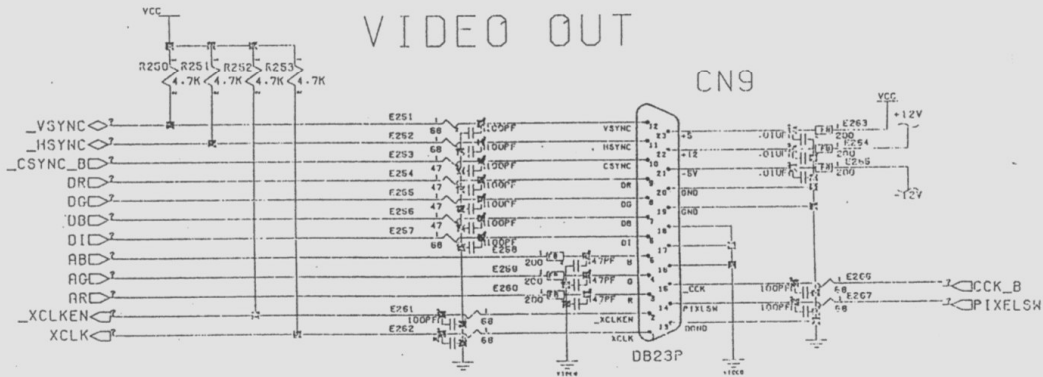


NOTE: COMMON GROUND AT DAC

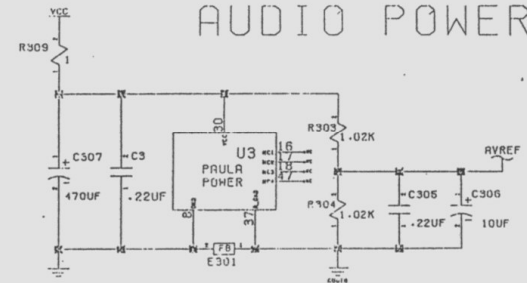
# AUDIO DECOUPLING



# VIDEO OUT

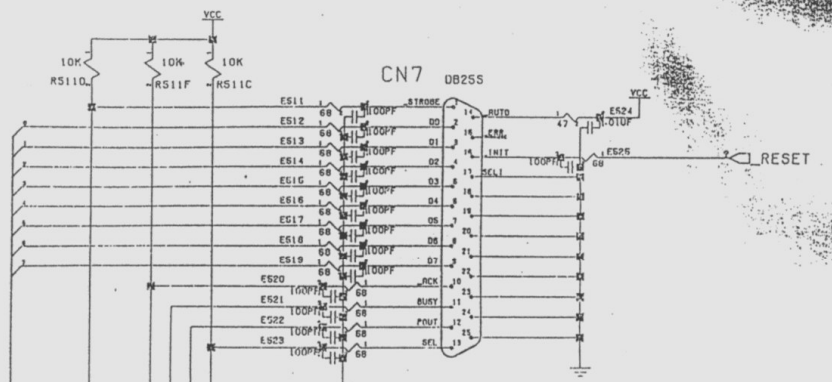
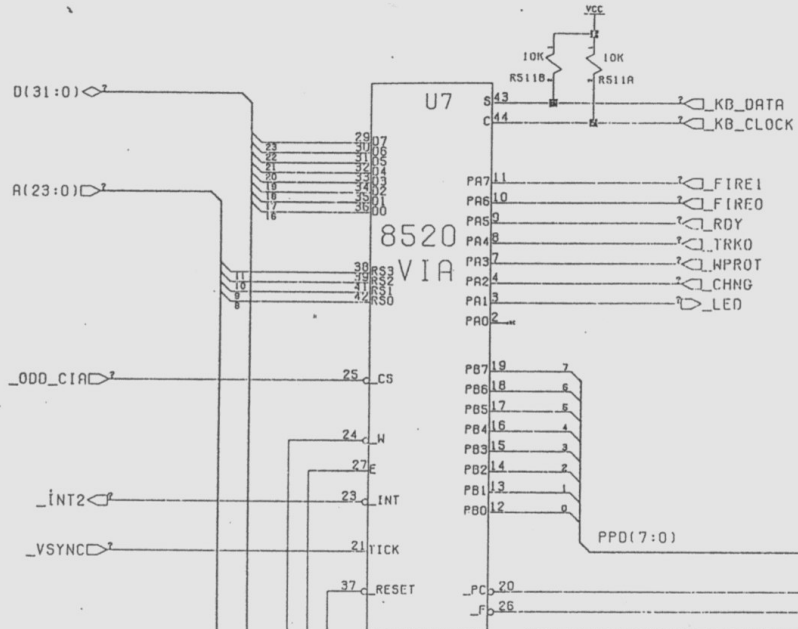


# AUDIO POWER

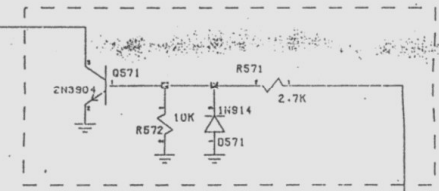


NOTE: COMMON GROUND NEAR JACKS

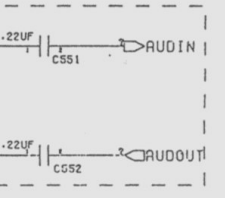
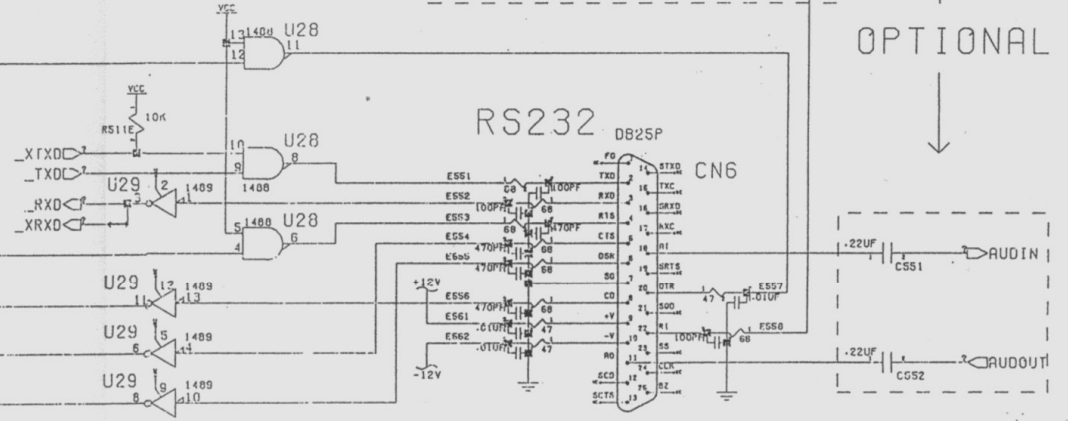
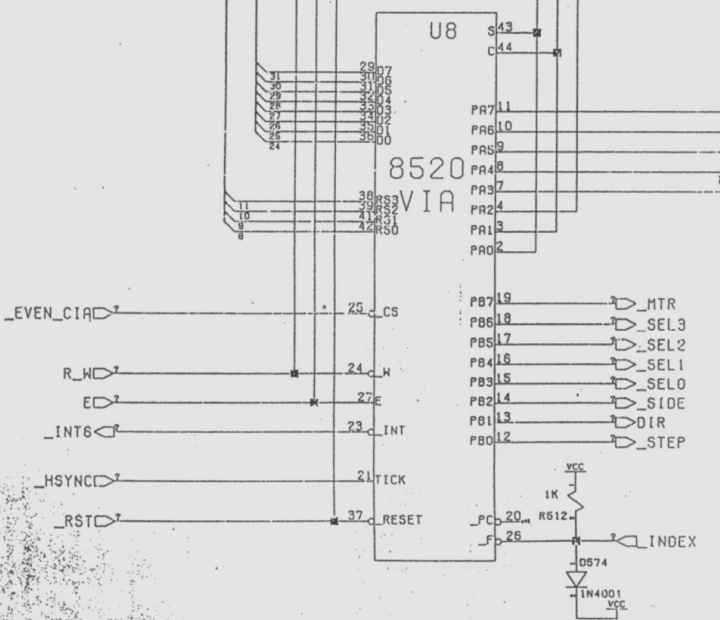




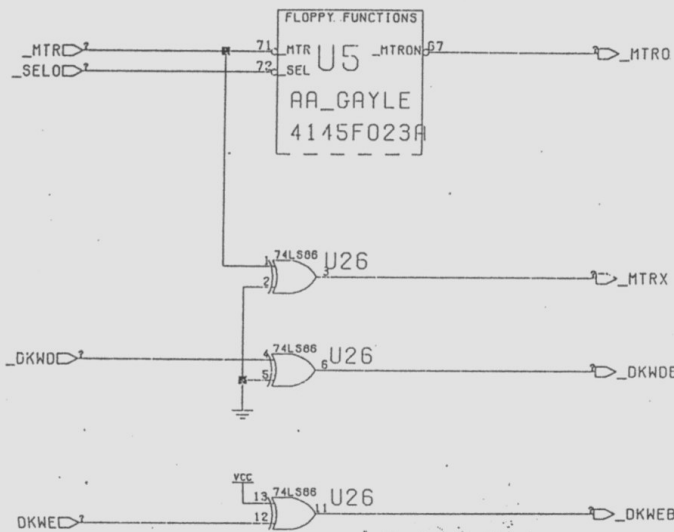
PARALLEL PORT



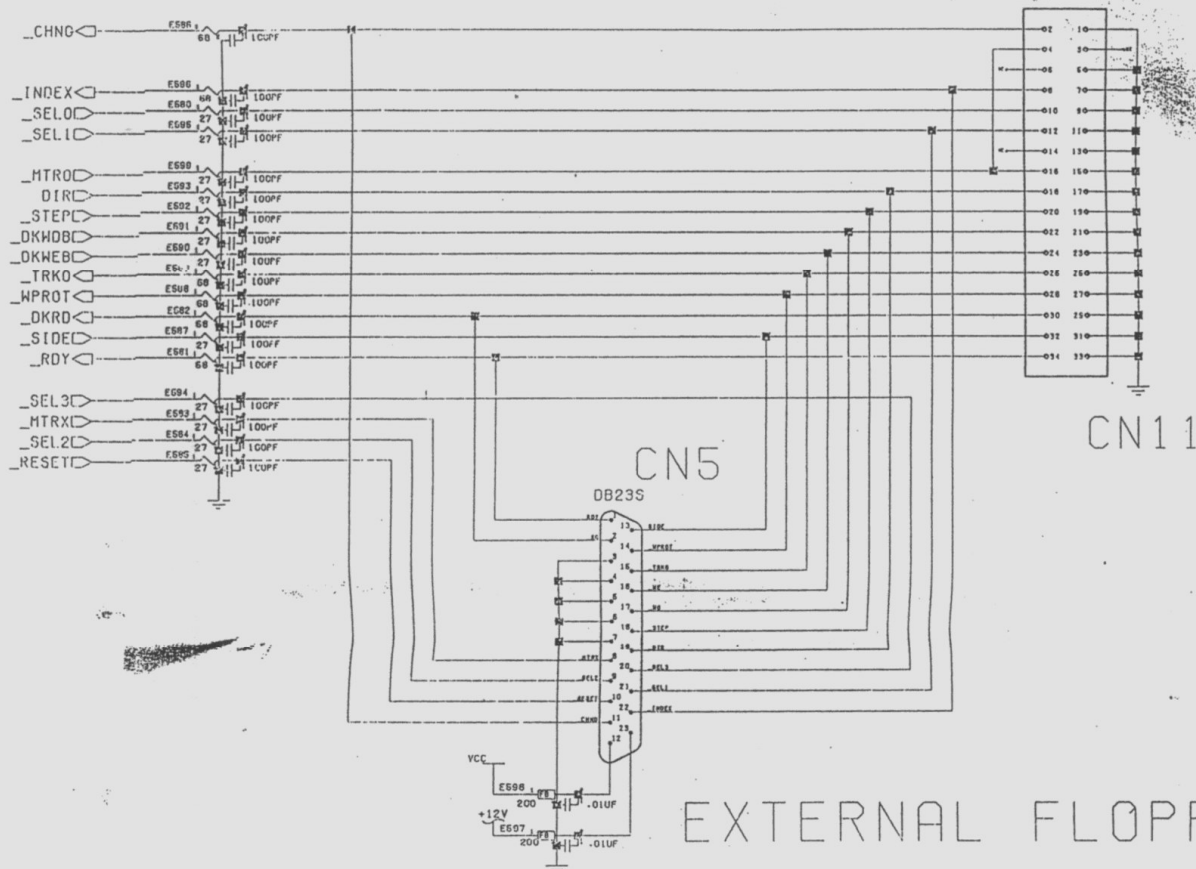
OPTIONAL



# FLOPPY LOGIC

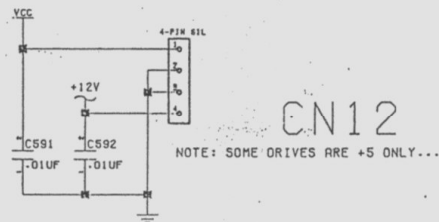


# INTERNAL FLOPPY

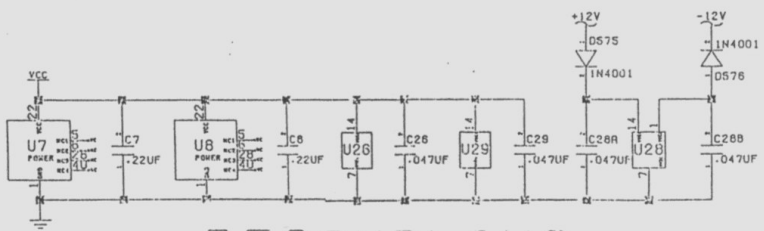


# EXTERNAL FLOPPY

# FLOPPY POWER



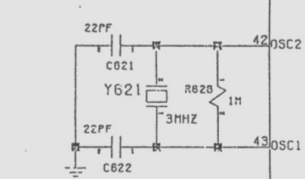
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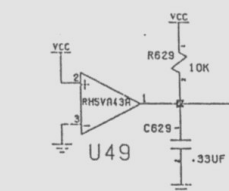
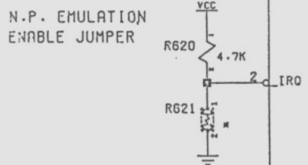


# KEYBOARD TAIL CN13

## KEYBOARD MPU

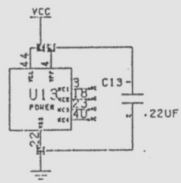
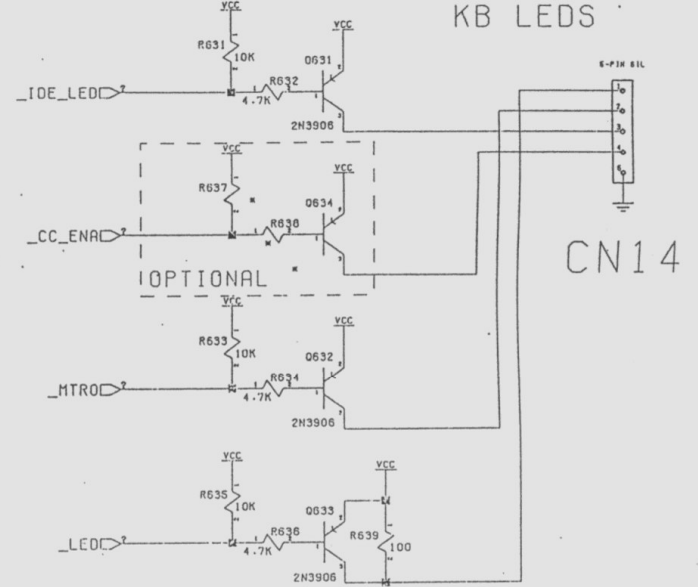
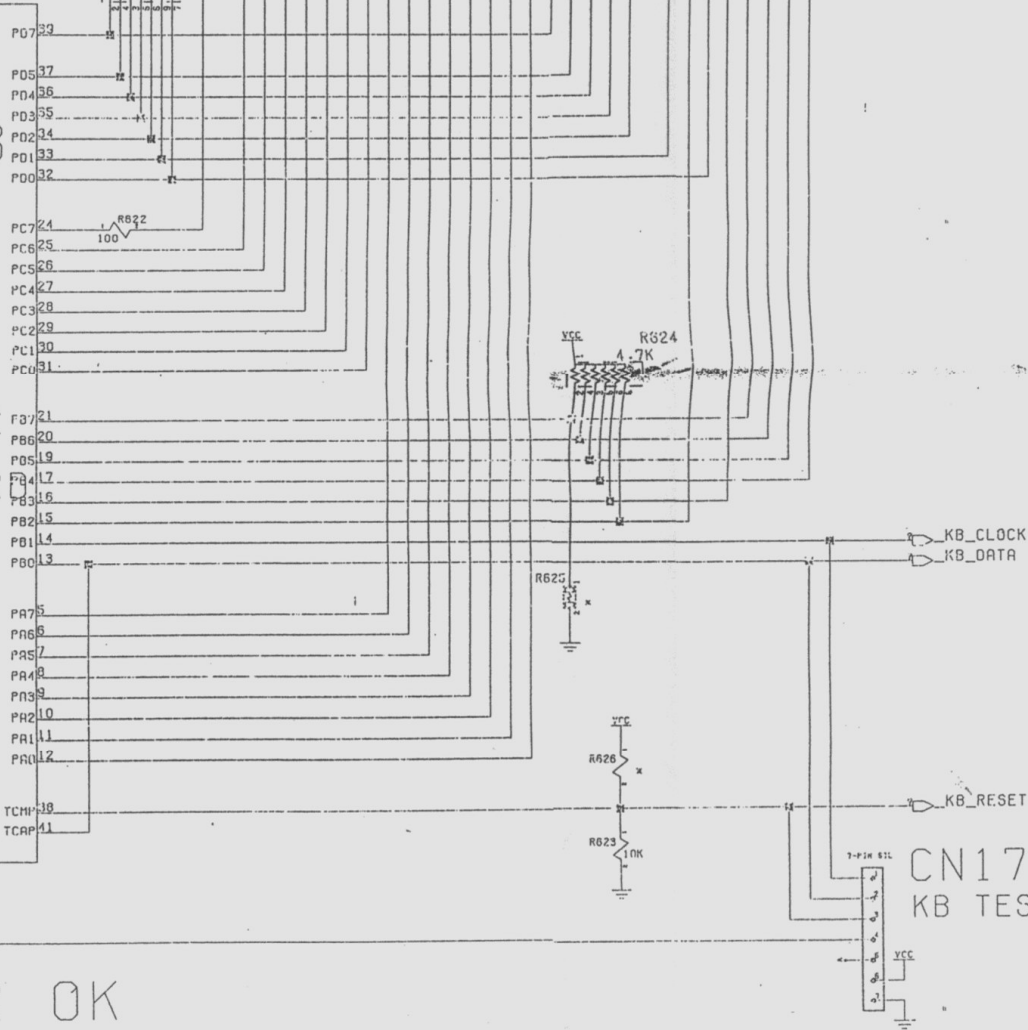


U13



1200 REV 2 PCB

68HC05C  
KEYBOARD  
MICRO



THE NEW HOME OF THE KEYBOARD VIRUS

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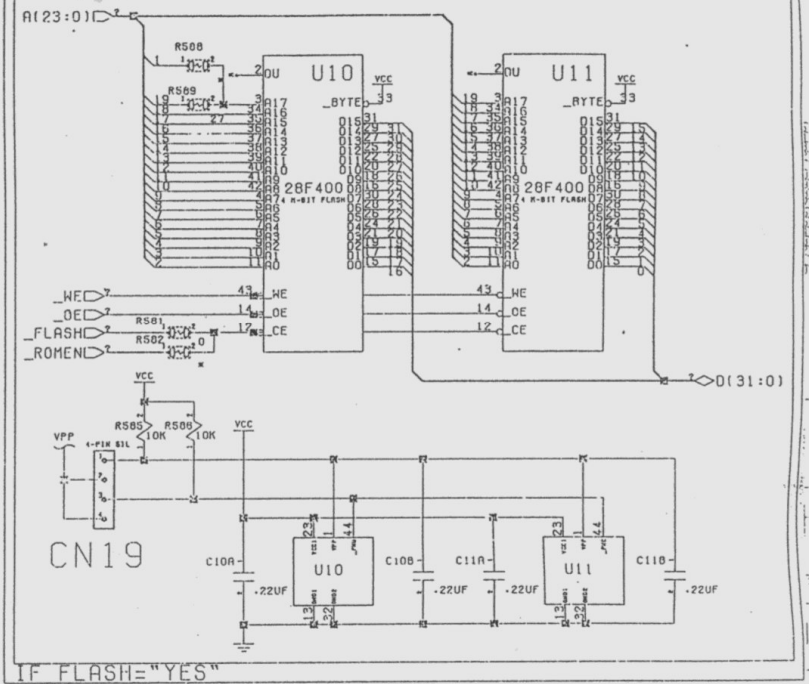
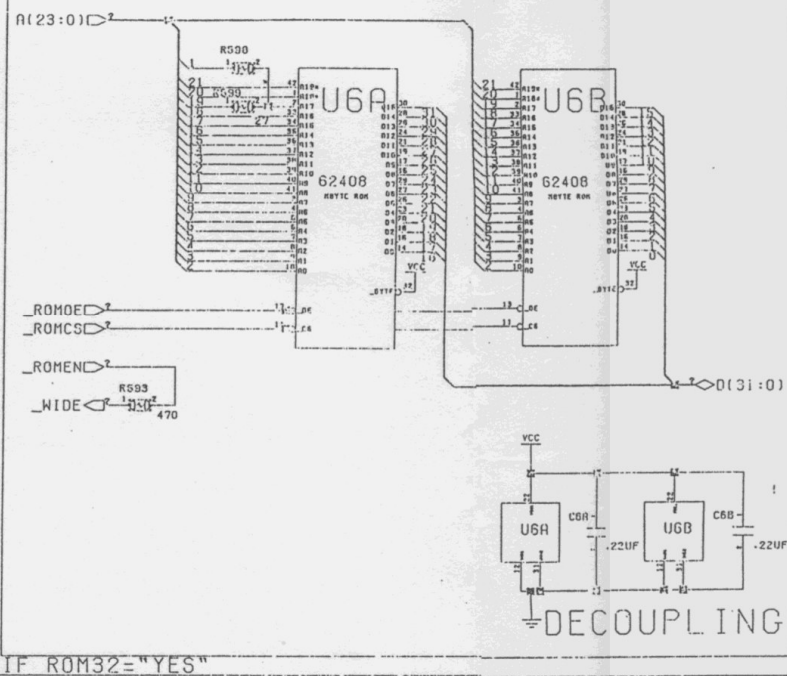
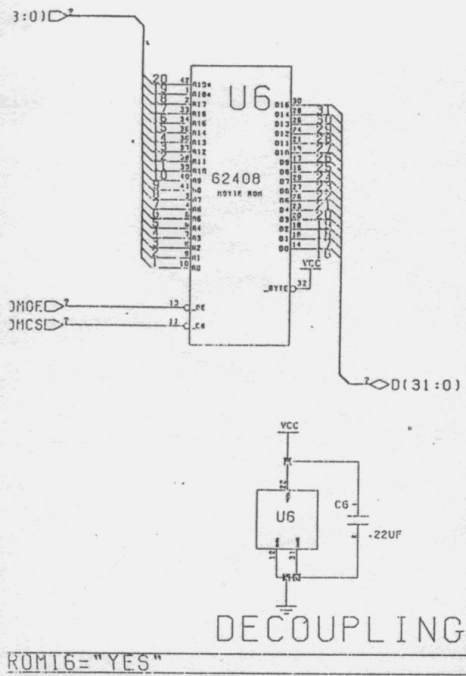
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SCALE: [ ]

INLET DIMENSIONS: [ ]

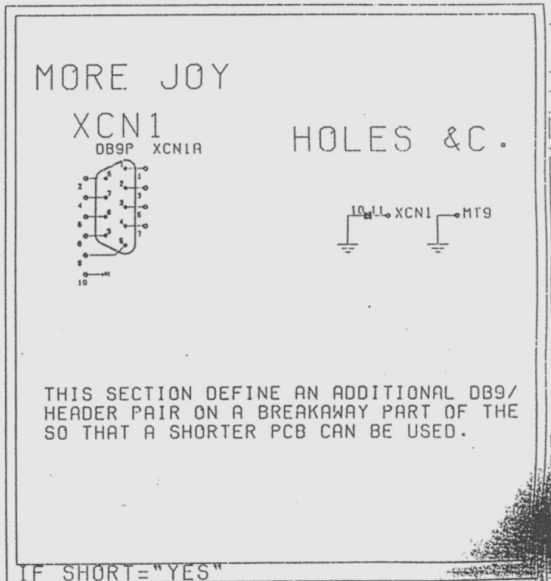
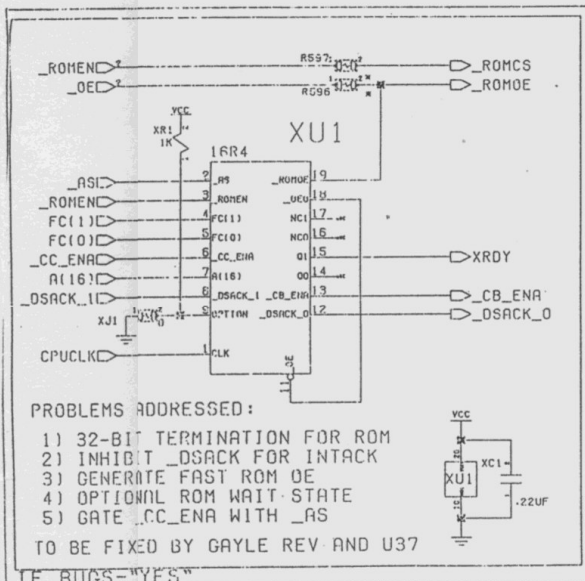
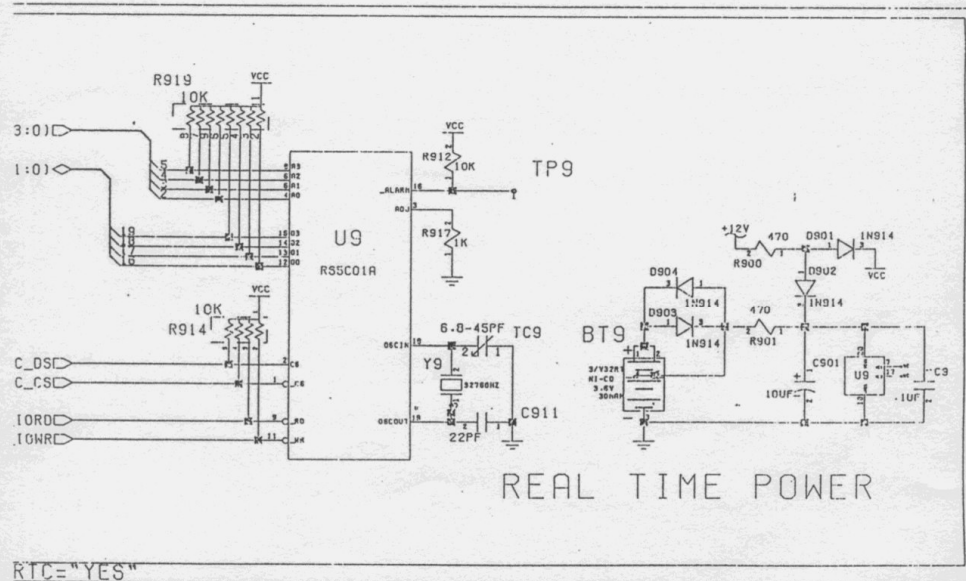
COMMODORE CHANNEL 2

305133



16 AND 32-BIT SOCKETS MAY OVERLAP!

OPTIONAL FLASH MEMORY



OPTIONAL REAL-TIME CLOCK/CALENDAR

BUGGERY

SHORT PCB, TRIX

1200 REV 2 PCB

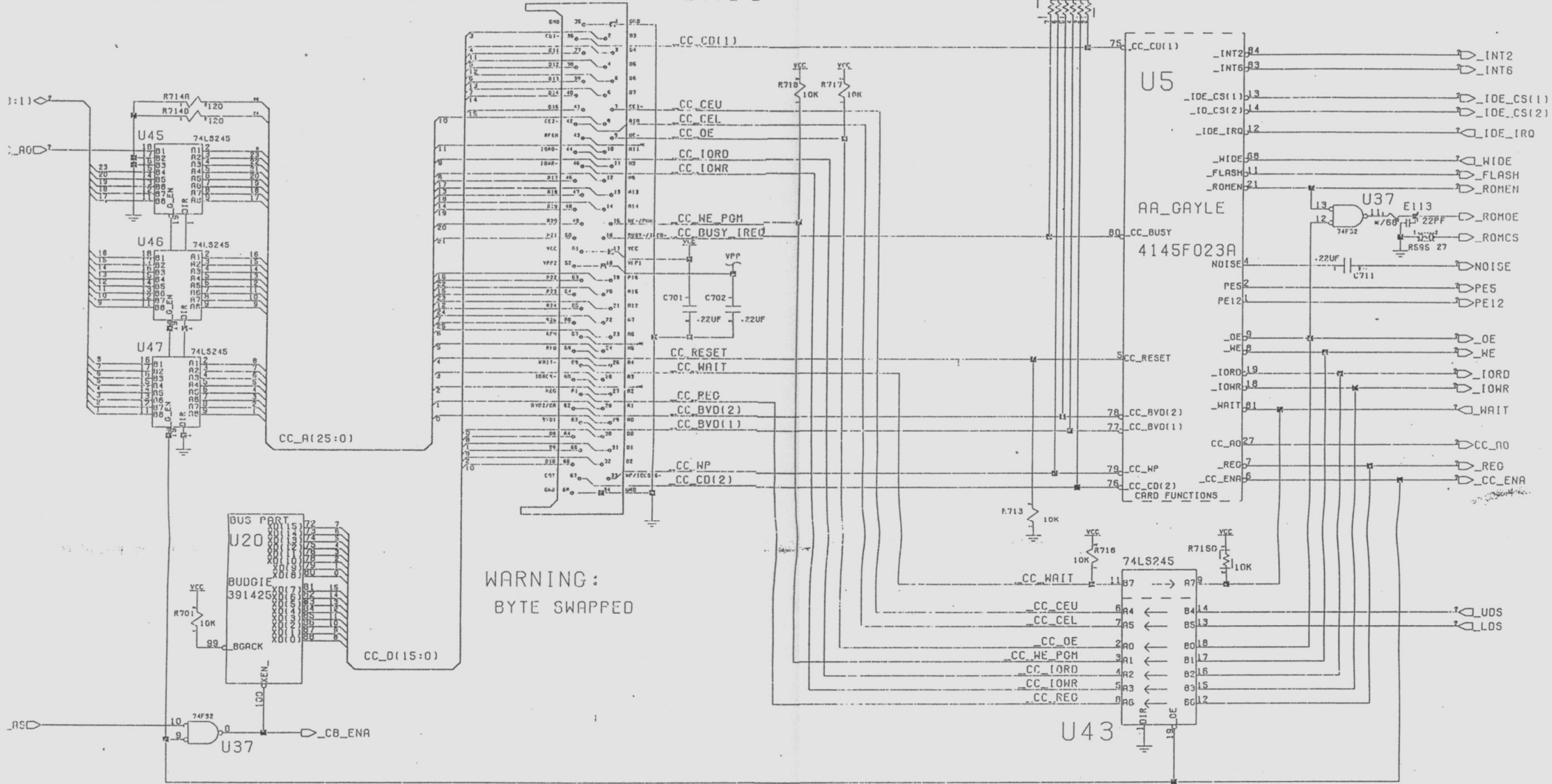
ROM - PLAIN AND FANCY - 000003 1001

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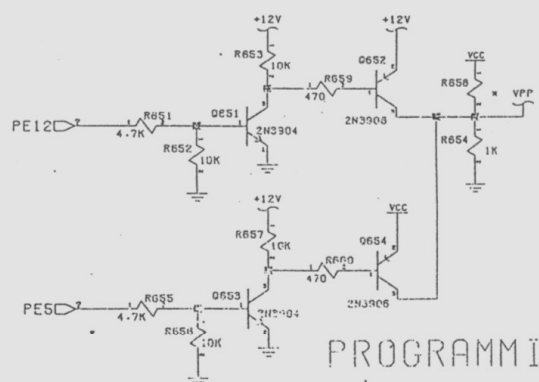
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 365133

# MEMORY CARD

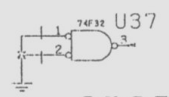
# CN15



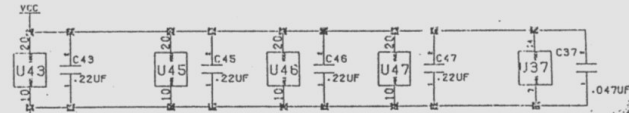
WARNING:  
BYTE SWAPPED



## PROGRAMMING VOLTAGE



SPARE.



## DECOUPLING

200 REV 2 PCB

THE KISSY FACE CREDIT CARD MONSTER

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C.A.D. GENERATED

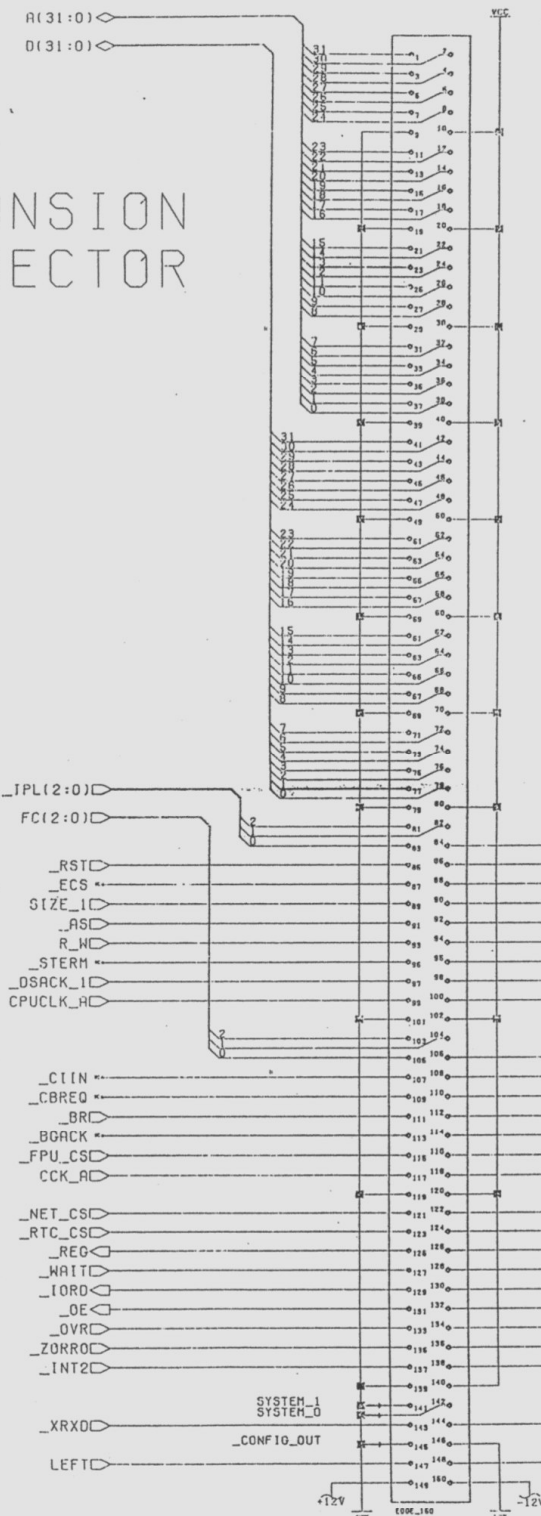
30 PAGES, 674 BYTES, 10 PAGES TO 100000000

COMMODORE

13651331

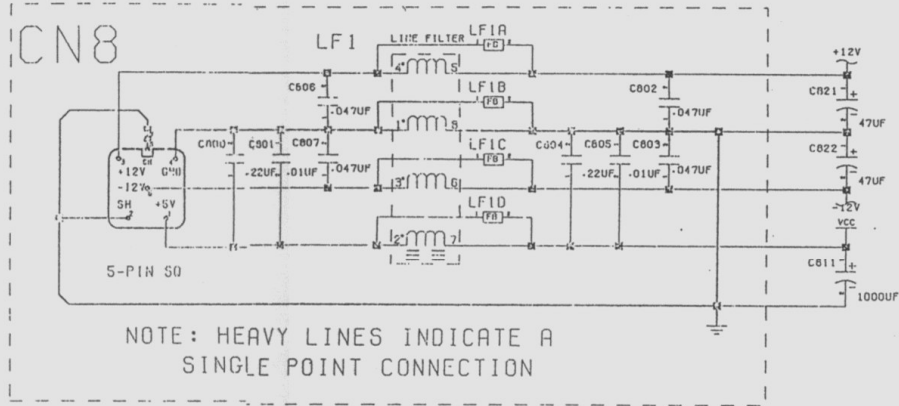
SHEET 1/1

# EXPANSION CONNECTOR

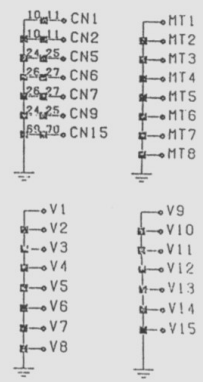


P1

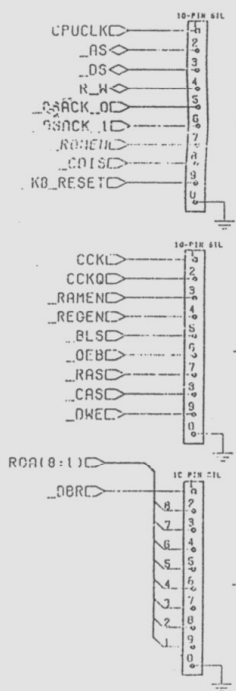
# POWER INPUT FILTER



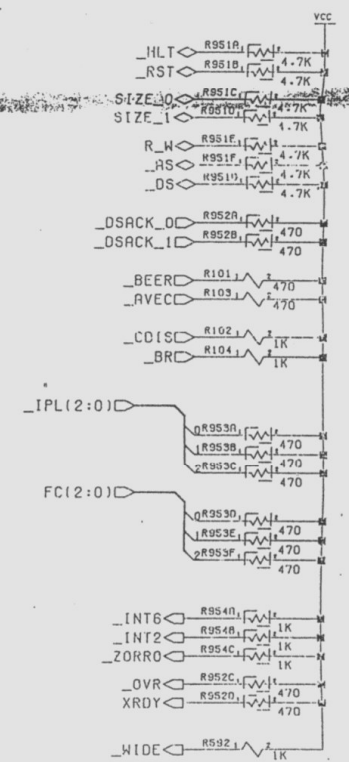
# HOLES & C



# TEST ACCESS



# TERMINATION



SYSTEM CONFIGURATION BITS

SYSTEM	1	0	CPU/CPUCLK
0	0	0	EO20/14MHZ
0	1	0	U20/14MHZ
1	0	0	O30/14MHZ
1	1	1	O30/>14MHZ

# Gayle

```

          / /
          D D
          S S
          A A
    G      / /
A A A A A A A N A A A A R H / C R C / /
2 2 2 2 1 1 1 1 D 1 1 1 1 S L B K / K D A
3 2 1 0 9 8 7 6 3 5 4 3 2 T T G O W I S S
  
```

	53	52	51	50	49	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33		
D15	54																					32	/RAMEN
D14	55																					31	/REGEN
D13	56																					30	/BLS
D12	57																					29	/DBR
D11	58																					28	/OEB
D10	59																					27	CC_A0
D9	60																					26	/OVR
D8	61																					25	XRDY
VCC2	62																					24	GND2
/KBRESET	63																					23	CCK
/SENSE	64																					22	C14M
/FPU_CS	65																					21	/ROMEN
GND4	66																					20	VCC1
/MTRON	67																					19	/IORD
/WIDE	68																					18	/IOWR
FC1	69																					17	/RTC_CS
FC0	70																					16	/NET_CS
/MTR	71																					15	/SPARE_CS
/SEL	72																					14	/IDE_CS(2)
/ODD_CIA	73																					13	/IDE_CS(1)
/EVEN_CIA	74																					12	/IDE_IRQ
		75	76	77	78	79	80	81	82	83	84	1	2	3	4	5	6	7	8	9	10	11	

```

/ / / / / / / / / P P G N C / / / / E /
C C C C C C W B I I E E N O C C R W O F
C C C C C C A E N N 1 5 D I _ C E E E L
- - - - - I R T T 2 1 S R _ G A
C C B B W B T R 6 2 E E E S
D D V V P U S N H
1 2 D D S E A
      1 2 Y      T
  
```

# Alice

```

      / / /
V D D D D D D D D D G N   C 7 C 4   S R
N C R R R R R R R R R R N T C C M D M A C G
C C A A A A A A A A A D S C K H A H 2 L A
1 2 8 7 6 5 4 3 2 1 0 2 C K Q z C z 0 K 1

```

	53	52	51	50	49	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33			
/CAS	54																					32	RGA2	
VBB	55																						31	RGA3
DRA9	56																						30	RGA4
/RAS	57																						29	RGA5
GND3	58																						28	RGA6
A19	59																						27	RGA7
A1	60																						26	RGA8
A2	61																						25	/RAMEN
A3	62																						24	NC2
A4	63																						23	/REGEN
A5	64																						22	R_W
A6	65										8	3	7	4									21	/WE
A7	66																						20	/DBR
A8	67																						19	/BLS
A9	68																						18	DMAL
A10	69																						17	/INTR
A11	70																						16	/RESET
A12	71																						15	VCC1
A13	72																						14	DRD0
A14	73																						13	DRD1
A15	74																						12	DRD2
	75	76	77	78	79	80	81	82	83	84	1	2	3	4	5	6	7	8	9	10	11			

```

A A A / / / / G D D D D D D D D D D D D D D D
1 1 1 L V C H N R R R R R R R R R R R R R R R
6 7 8 P S S S D D D D D D D D D D D D D D D
      E Y Y Y 1 1 1 1 1 1 1 9 8 7 6 5 4 3
      N N N N   5 4 3 2 1 0
      C C C

```



# Lisa

G C G  
 N 2 N  
 D R R R R R G G G G 8 G G G G B B B B B D  
 3 4 3 2 1 0 7 6 5 4 0 3 2 1 0 7 6 5 4 3 2

	53	52	51	50	49	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33			
R5	54																					32	B2	
R6	55																						31	B1
VCC2	56																						30	VCC1
R7	57																						29	B0
/BRST	58																						28	ZD
D31	59																						27	BLANK
D30	60																						26	SOG
D29	61																						25	C28M
D28	62																						24	/RST
D27	63																						23	C140
D26	64																						22	SCLK
D25	65									4	2	0	3										21	/MLD
D24	66																						20	MDAT
D23	67																						19	RGA1
D22	68																						18	RGA2
D21	69																						17	RGA3
D20	70																						16	RGA4
D19	71																						15	RGA5
D18	72																						14	RGA6
D17	73																						13	RGA7
D16	74																						12	RGA8
		75	76	77	78	79	80	81	82	83	84	1	2	3	4	5	6	7	8	9	10	11		

D D D D D D D D V D G D D D D D D / C W  
 1 1 1 1 1 1 9 8 C 7 N 6 5 4 3 2 1 0 C C I  
 5 4 3 2 1 0 C D A K D  
 3 1 S E