Pin definities van systeem backplane 64 polig

Pin	A-rij		Pin	C-rij	
1	0 VOLT		1	0 VOLT	
2	0 VOLT		2	0 VOLT	
3	DIV1	#	3	DIV2	#
4	DIV3	#	4	DIV4	#
5	DATA 0		5	DATA 1	
6	DATA 2		6	DATA 3	
7	DATA 4		7	DATA 5	
8	DATA 6		8	DATA 7	
9	ADRES 0		9	ADRES 1	
10	ADRES 2		10	ADRES 3	
11	ADRES 4		11	ADRES 5	
12	ADRES 6		12	ADRES 7	
13	ADRES 8		13	ADRES 9	
14	ADRES 10		14	ADRES 11	
15	ADRES 12		15	ADRES 13	
16	ADRES 14		16	ADRES 15	
17	ADRES 16		17	ADRES 17	
18	ADRES 18		18	ADRES 19	
19	0 VOLT		19	0 VOLT	
20	E CLOCK		20	R/W	
21	/RESET		21	/VMA	
22	BS		22	BA	
23	Q CLOCK		23	DIV5	# (SELECT)
24	R/W DMA(IN)		24	MRDY	
25	/HALT		25	/DMA-/BREQ	
26	/FIRQ		26	/IRQ	
27	/NMI		27	/VMA(DMA) (IN)	
28	DIV6	#	28	DIV7	#
29	+12 VOLT		29	+12 VOLT	
30	-12 VOLT		30	-12 VOLT	
31	+5 VOLT		31	+5 VOLT	
32	+5 VOLT		32	+5 VOLT	

DIV5 IS BANKSELECT VOOR MEMORY BOARDS
DIV6 IS BUS ENABLE INPUT VOOR DMA
DIV7 IS BUS ENABLE OUTPUT VOOR DMA

Pin definities van IO backplane 64 polig

Pin	A-rij		Pin	C-rij
1	0 VOLT		1	0 VOLT
2	0 VOLT		2	0 VOLT
3	>56K	#	3	100HZ	#
4	/BANKSEL	#	4	/XFFXX	#
5	DATA 0		5	DATA 1
6	DATA 2		6	DATA 3
7	DATA 4		7	DATA 5
8	DATA 6		8	DATA 7
9	ADRES 0		9	ADRES 1
10	ADRES 2		10	ADRES 3
11	ADRES 4		11	ADRES 5
12	ADRES 6		12	ADRES 7
13	ADRES 8		13	ADRES 9
14	ADRES 10		14	BUF'D E CLOCK
15	BUF'D R/W		15	BUF'D /RESET
16	ADRES 11		16	ADRES 12
17	0 VOLT		17	0 VOLT
18	E CLOCK		18	R/W
19	/RESET		19	/FE0XX
20	DISDEC		20	/IRQ
21	/FF0XX	#	21	/FE080	#
22	/FE070	#	22	/FE050	#
23	/FE040	#	23	/FE030	#
24	/FE020	#	24	/FE010	#
25	BAUD 3		25	BAUD 2
26	BAUD 1		26	BAUD 0
27	BUF'D ADR 3		27	BUF'D ADR 2
28	BUF'D ADR 1		28	BUF'D ADR 0
29	+12 VOLT		29	+12 VOLT
30	-12 VOLT		30	-12 VOLT
31	+5 VOLT		31	+5 VOLT
32	+5 VOLT		32	+5 VOLT

Pin definities van IO backplane 31 polig

Pin	
1	0 VOLT
2	0 VOLT
3	ANALOGE 0 VOLT
4	DATA 0
5	DATA 1
6	DATA 2
7	DATA 3
8	DATA 4
9	DATA 5
10	DATA 6
11	DATA 7
12	CARD SELECT #
13	E CLOCK (BUF'D)
14	R/W (BUF'D) #
15	/RESET (BUF'D)
16	/IRQ
17	DIV1 #
18	DIV2 #
19	BAUD 3
20	BAUD 2
21	BAUD 1
22	BAUD 0
23	ADRES 3 (BUF'D)
24	ADRES 2 (BUF'D)
25	ADRES 1 (BUF'D)
26	ADRES 0 (BUF'D)
27	DIV3 #
28	+12 VOLT
29	-12 VOLT
30	+5 VOLT
31	+5 VOLT

/RESET BETEKENT 'NOT RESET' = AKTIEF LAAG

DUIDT EEN NIET DOORLOPENDE BUSVERBINDING AAN

DIV1 is Φ clock voor floppy card

AANSLUITINGEN VOOR HET [CSI] 6809 SYSTEEM

21 Nov 1982 REV 1.0

Lijst van alle apart aan te brengen draden.

Allereerst moeten alle datalijnen tussen de beide backplanes worden doorverbonden (zie bus specs). Vervolgens alle overeenkomende adressen dus A0 t/m A10, A11 en A12. Ook 'E', R/W /RESET, /IRQ en de voedingsspannigen moeten worden gedaan.

De volgende verbindingen dienen om wat extra controle signalen tussen de diverse printen door te geven.

processor kaart:

pin c-4	output /XFFXX naar io kaart
pin a-4	output 16 Mhz clock voor ram- en video boards
pin c-23	input voor /reset signaal van reset schak.

64k dyn. ram kaart:

pin a-4	input 16 Mhz clock van processor kaart
pin c-23	input bank select van decoder

io-control kaart:

pin a-3	input >56K signaal van bank decoder
pin c-3	input 100hz blokgolf van voedings eenheid
pin a-4	input select /FXXXX van bank decoder
pin c-4	input /XFFXX van processor kaart
pin a-20	output disdec naar bank decoder
pin a-21	output /FF0XX voor dma floppy
pin c-21	output /FE080 card select (parallel printer)
pin a-22	output /FE070 card select (vrij)
pin c-22	output /FE050 card select (vrij)
pin a-23	output /FE040 card select (vrij)
pin c-23	output /FE030 card select (vrij)
pin a-24	output /FE020 card select (vrij)
pin c-24	output /FE010 card select (floppy kaart)

floppy kaart:

pin 17	verbinden met a-23 van systeem backplane (Q clock)
pin 12	card select input van io-control card

bank decoder:

-74154- (middelste ic)

pin 1	output bank 0XXXX	(naar ram kaart)
pin 2	output bank 1XXXX	
pin 3	output bank 2XXXX	
pin 4	output bank 3XXXX	
pin 5	output bank 4XXXX	
pin 6	output bank 5XXXX	
pin 7	output bank 6XXXX	
pin 8	output bank 7XXXX	
pin 9	output bank 8XXXX	
pin 10	output bank 9XXXX	
pin 11	output bank AXXXX	
pin 13	output bank BXXXX	
pin 14	output bank CXXXX	
pin 15	output bank DXXXX	
pin 16	output bank EXXXX	
pin 17	output bank FXXXX	(naar IO kaart)
pin 18	input /vma	(buslijn)
pin 19	input disdec van io control kaart	
pin 20	input adres 19	(buslijn)
pin 21	input adres 18	(buslijn)
pin 22	input adres 17	(buslijn)
pin 23	input adres 16	(buslijn)

-74ls21- (onderste ic)

pin 12	input adres 15	(buslijn)
pin 10	input adres 14	(buslijn)
pin 9	input adres 13	(buslijn)
pin 8	output >56K	naar io control kaart

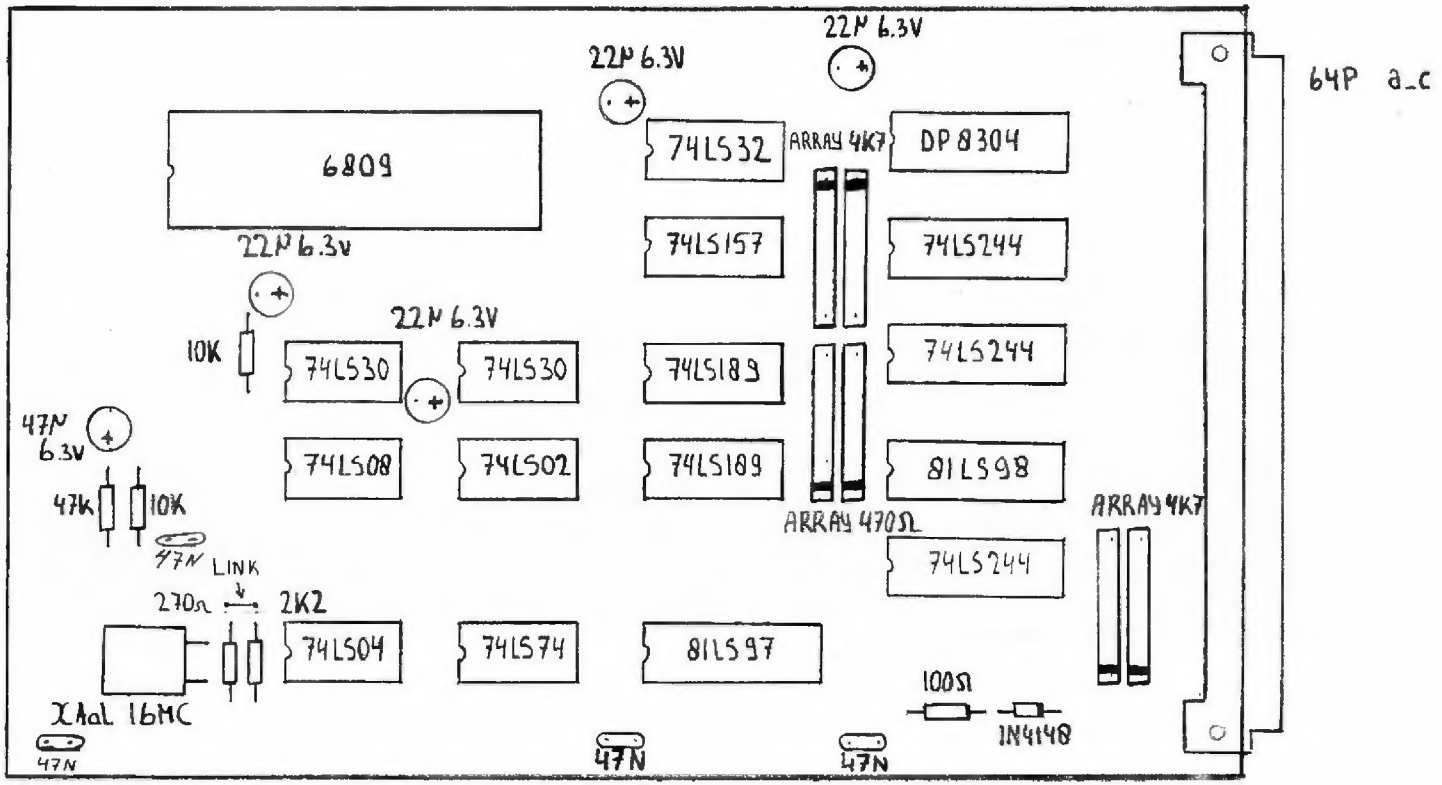
-74ls74- (bovenste ic)

pin 11	input clock 16 Mhz	van processor kaart
pin 9	output clock 8 Mhz	voor diverse doeleinden

/vma betekent 'not vma' = aktief laag

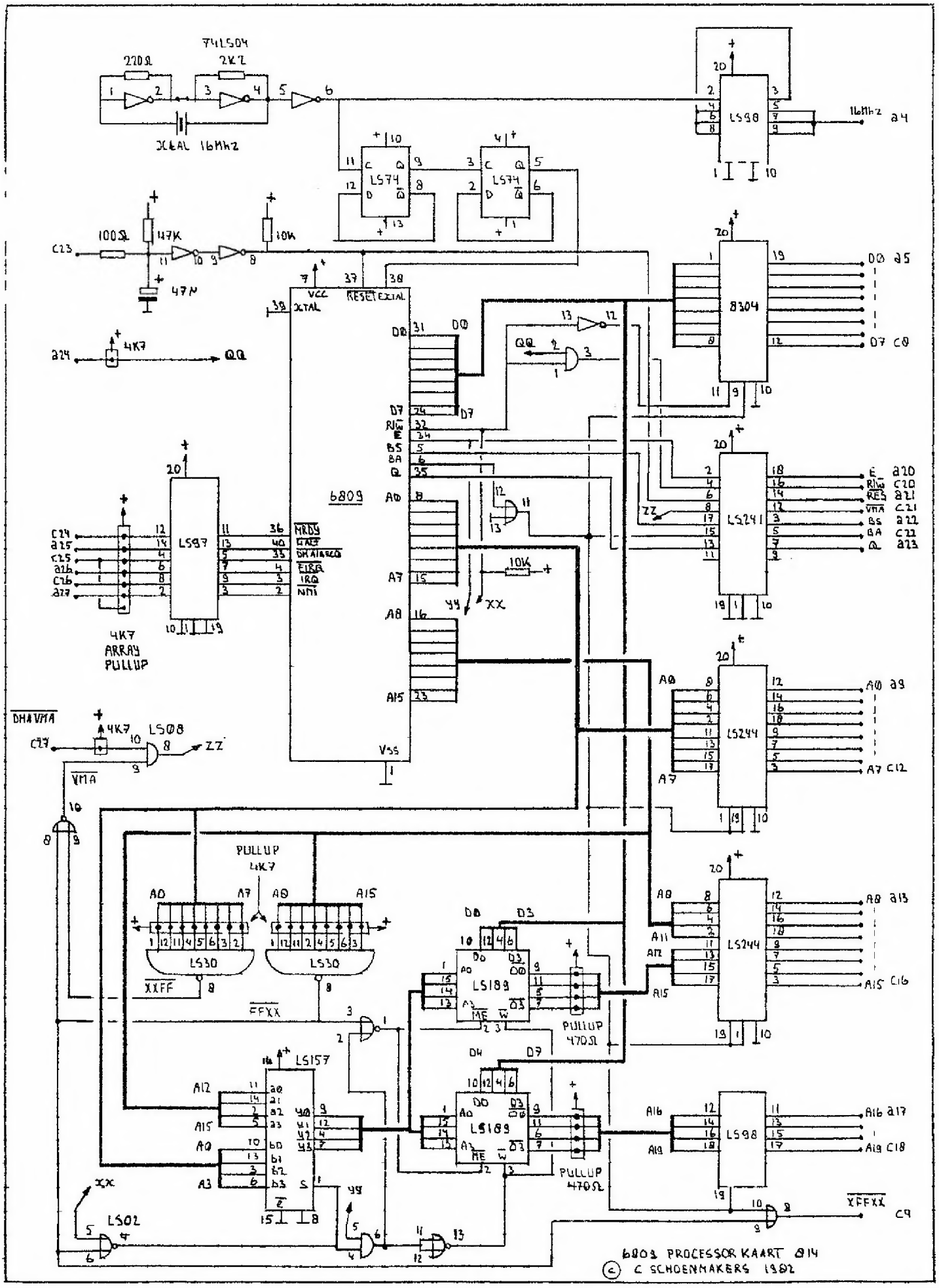
aansluitingen voor het [CS] 6809 systeem

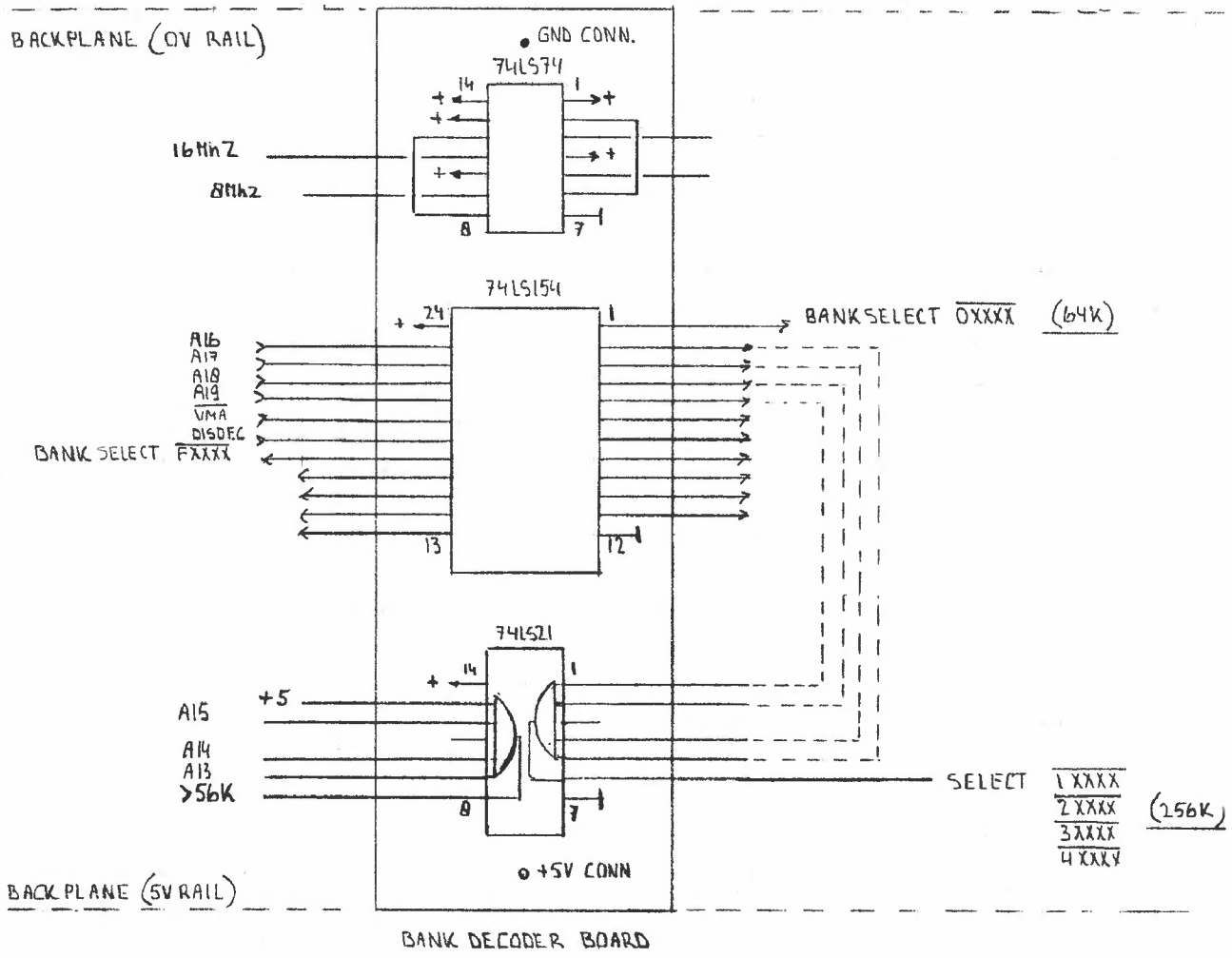
21 nov 1982 rev 1.0



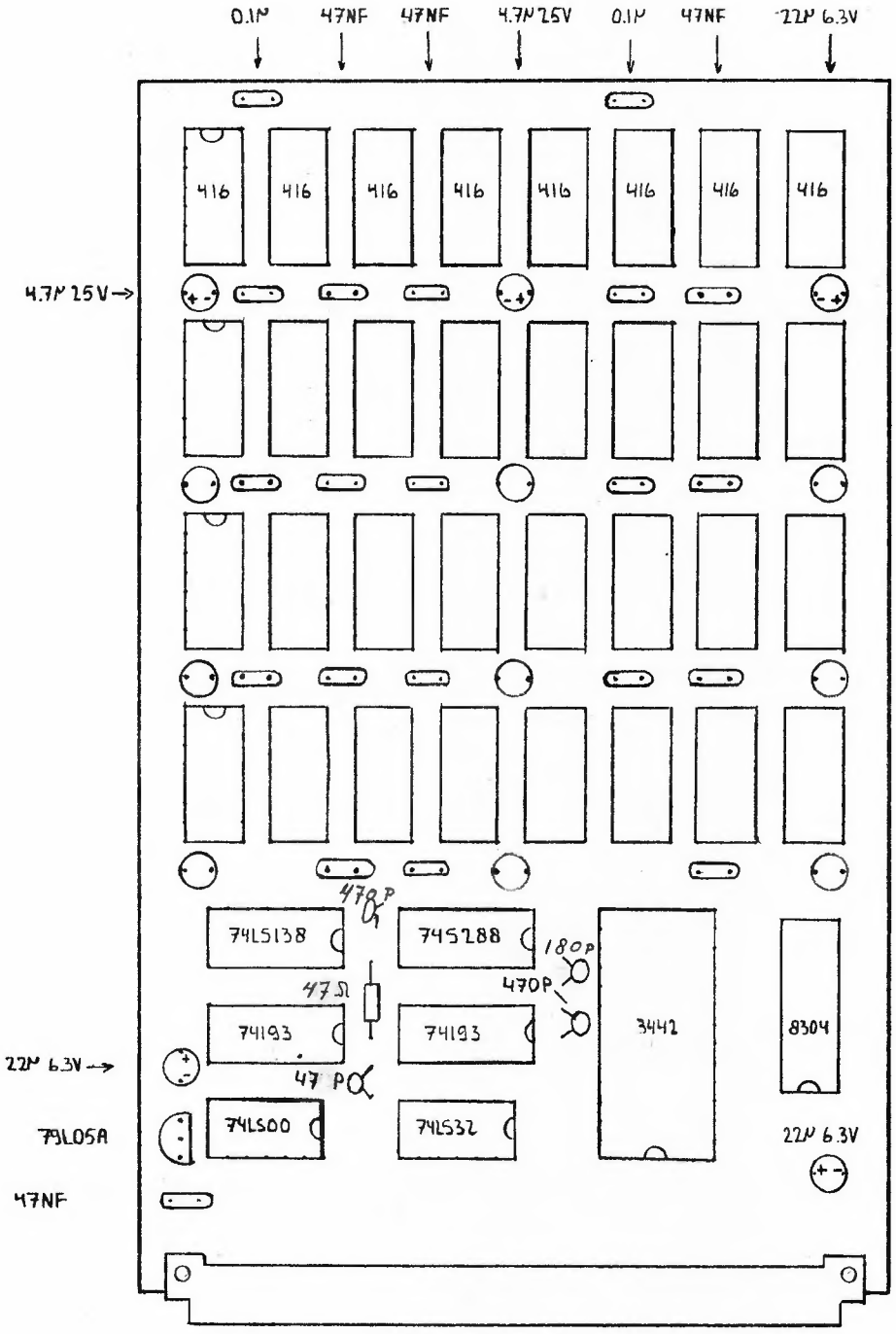
ARRAY 7 WEERST 1 COMMON

ALLEEN ICVOETEN VOOR
6809 _ 74LS189


74LS04
220Ω
2K2
XTAL 16MHz
LS74
LS38
16MHz
100Ω
47K
10K
47N
4K7
VCC
RESET
EXTAL
XTAL
6809
D0
D7
R/W
E
BS
BA
Q
A0
A7
A8
A15
Vss
8304
LS241
LS244
LS97
4K7 ARRAY PULLUP
LS08
VMA
LS30
XXFF
EFXX
LS157
LS189
PULLUP 470Ω
LS02
6809 PROCESSOR KAART Ø14
© C SCHOENMAKERS 1982



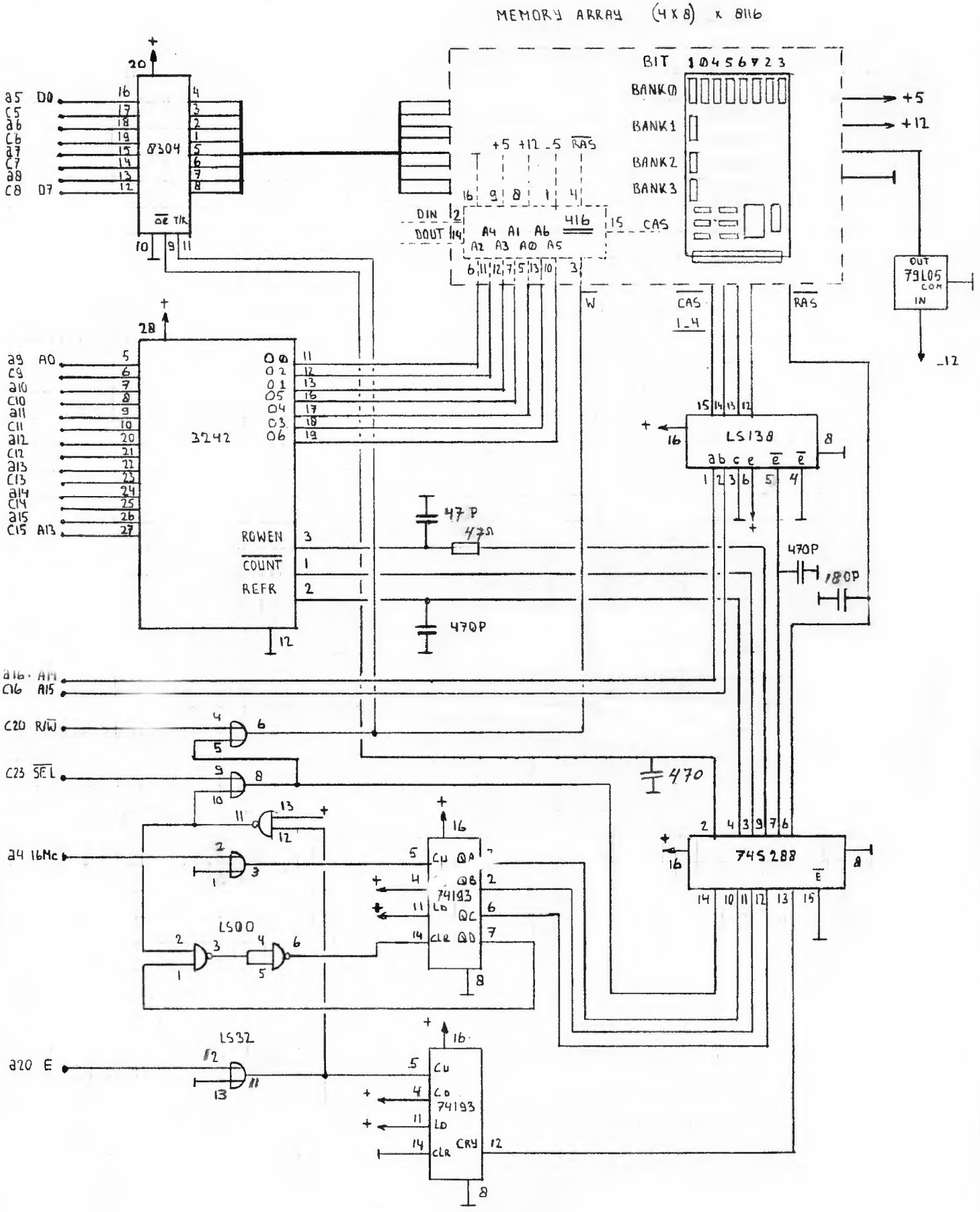
6809 BANKDECODER



64p 2-C

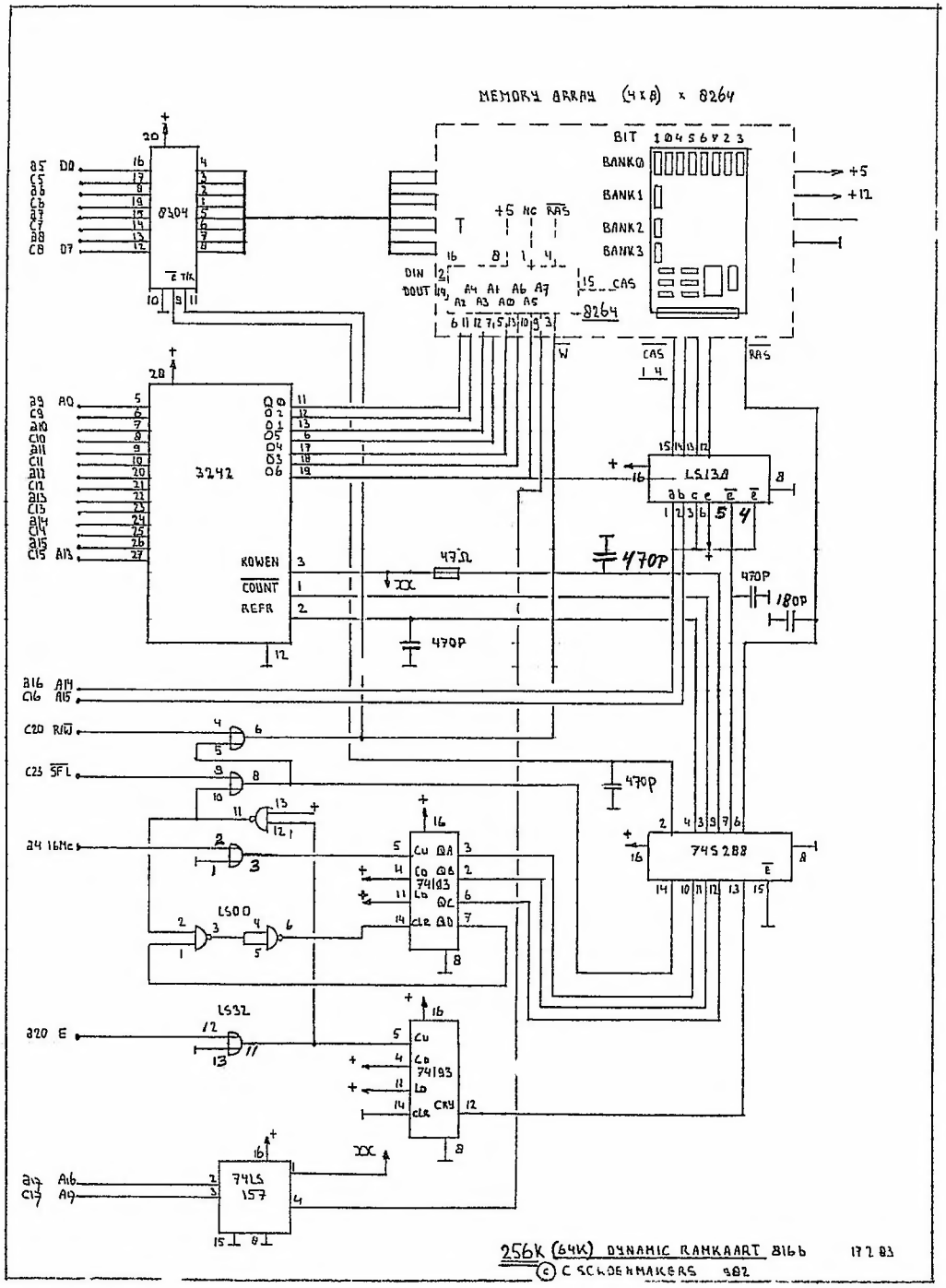
AAN SOLDEERZYDE DE VOLGENDE CONDENSATOREN

470 PF TUSSEN 4 EN 5 VAN 74LS138
470PF TUSSEN 9 EN 10 VAN 8304
GEBRUIK IC VOETEN ALLEEN VOOR
4116 - 74S288 - 3442



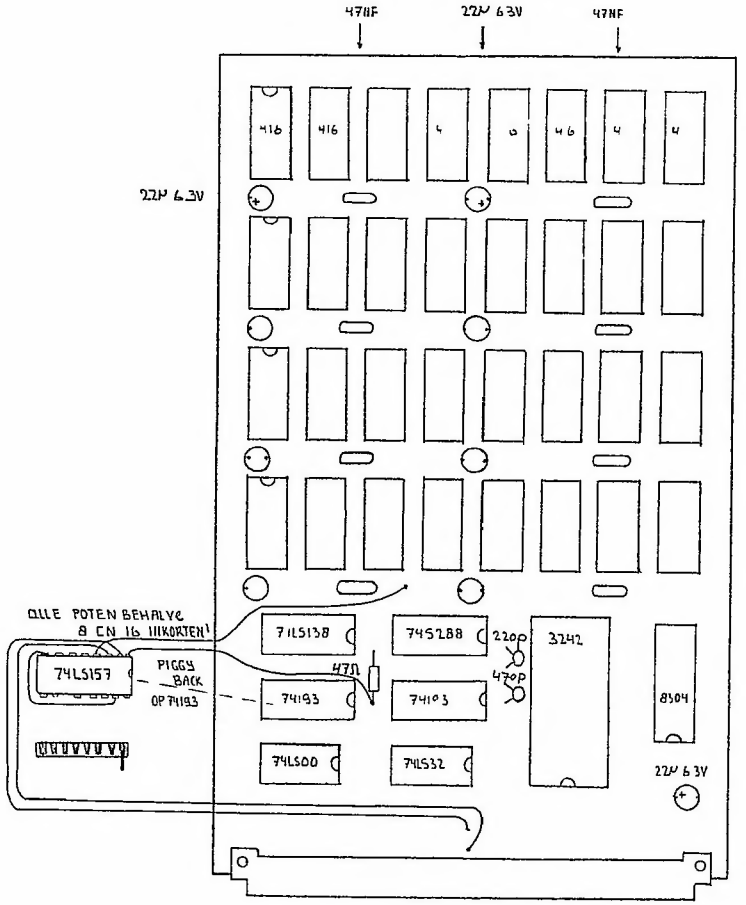
64K DYNAMIC RAMKAART 8166

256K



256K (64K) DYNAMIC RAMKAART 8166 17 7 83

© C SCHOENMAKERS 982



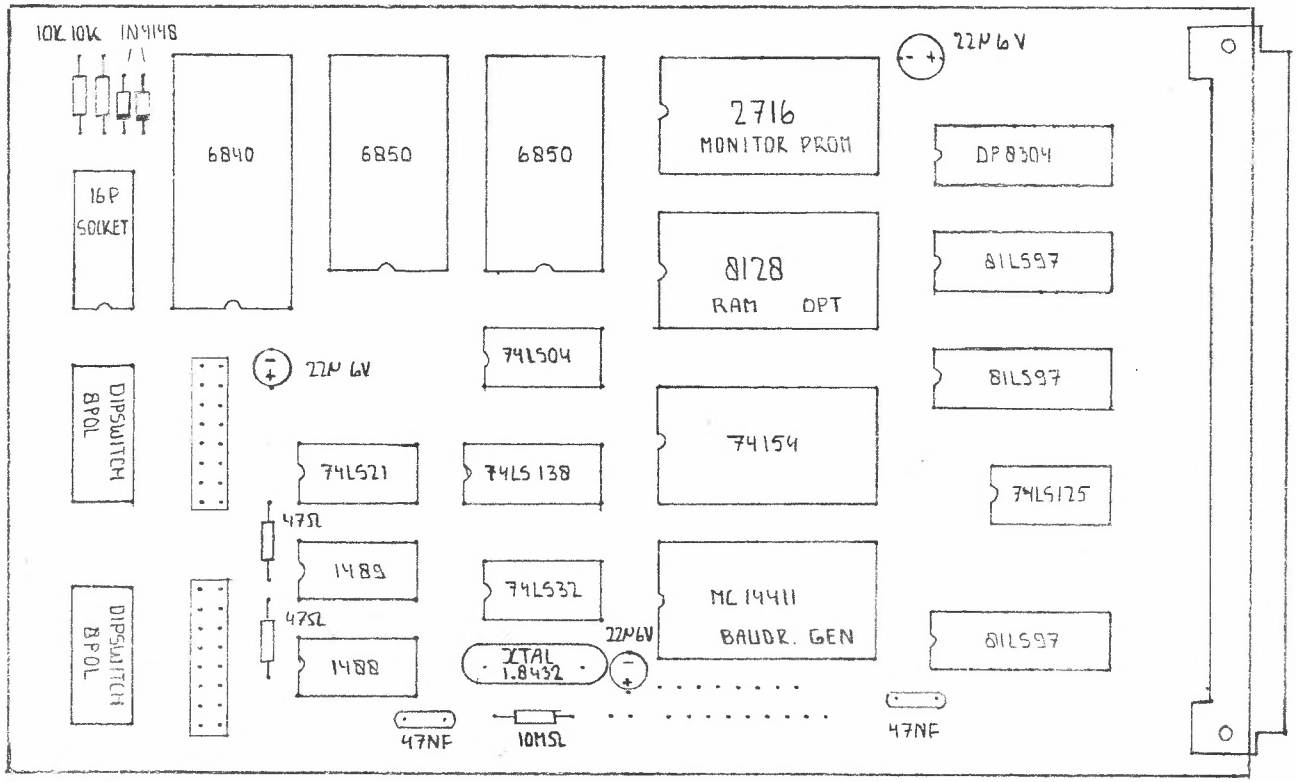
AAN SOLDEERZIJDE DE VOLGENDE CONDENSATOREN

4+0PF TUSSEN 9 EN 10 VAN 8304
470PF TUSSEN 4 EN 5 VAN 74LS138
22µF TUSSEN PIN 16 VAN 74S288 EN 0 VOLT

GEBRUIK IC VOE EN ALLEEN VOOR

8264 - 74S288 - 3242

47P 2 C



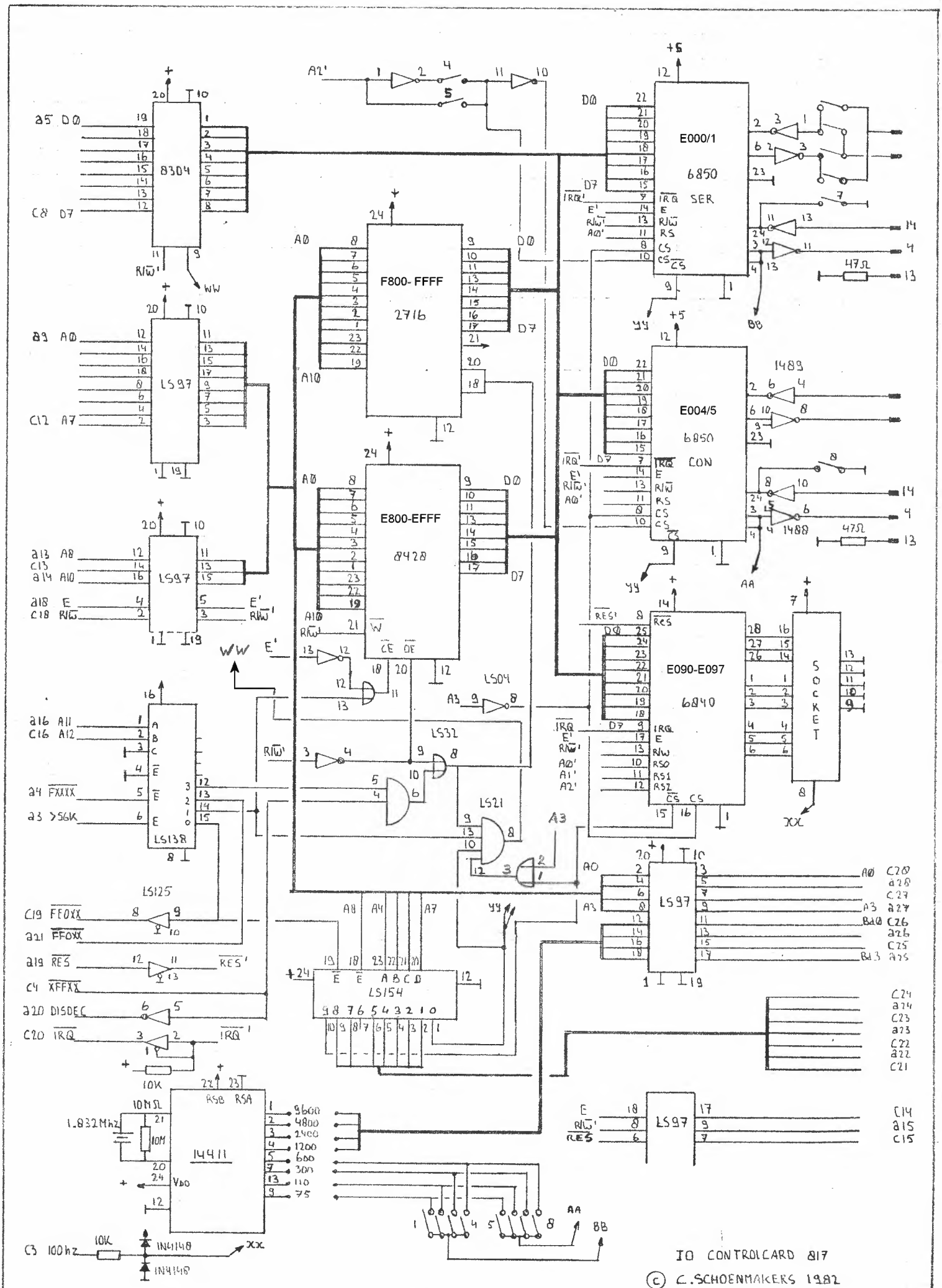
817

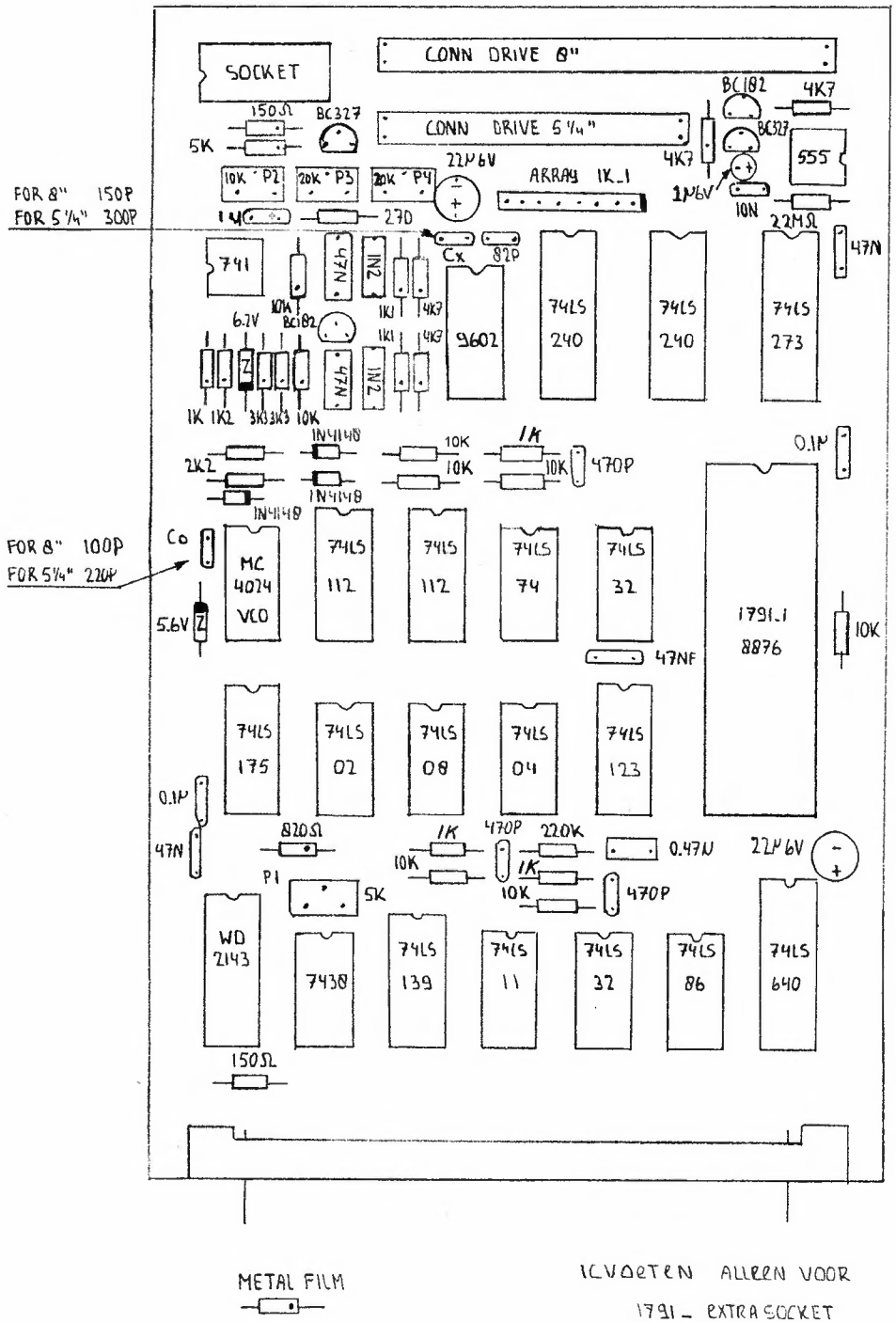
COMPONENTEN LAYOUT B 10 CONTROLCARD

REV 0.1 16_3_82 CS

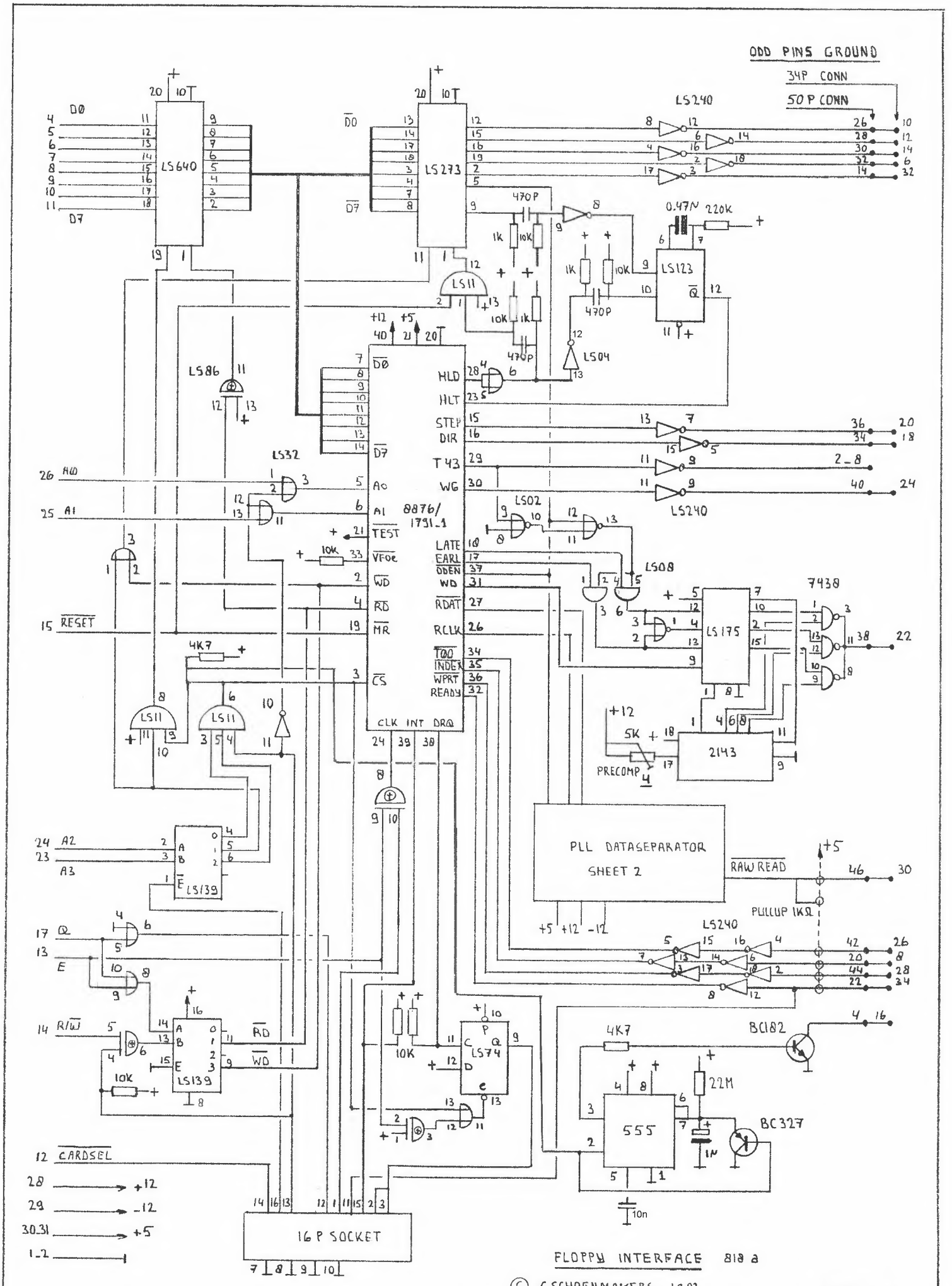
ICVOETEN VOOR

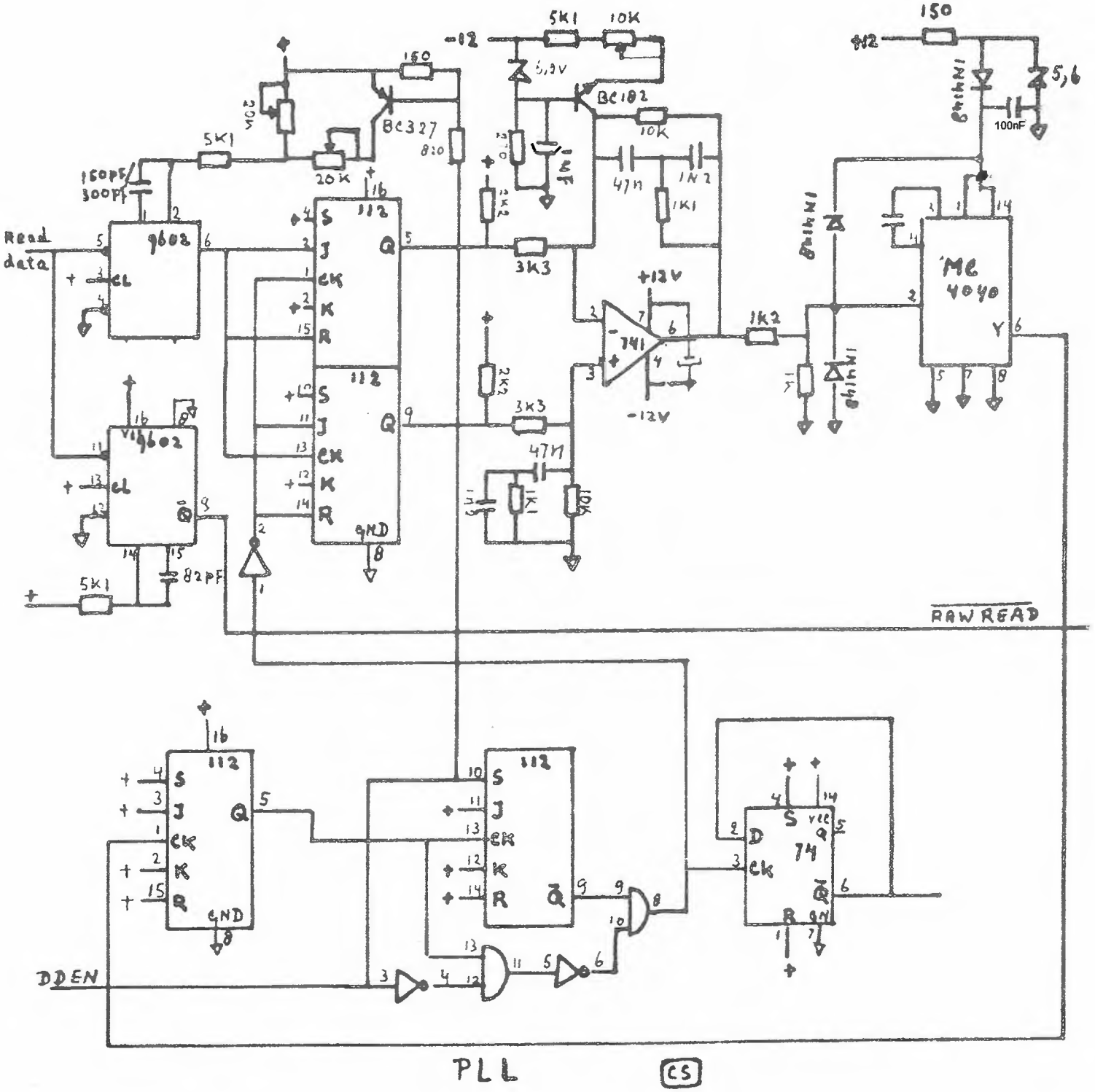
14411 _ 8128 _ 2716 _ 6850 _ 6840 _ EXTRA SOCKET

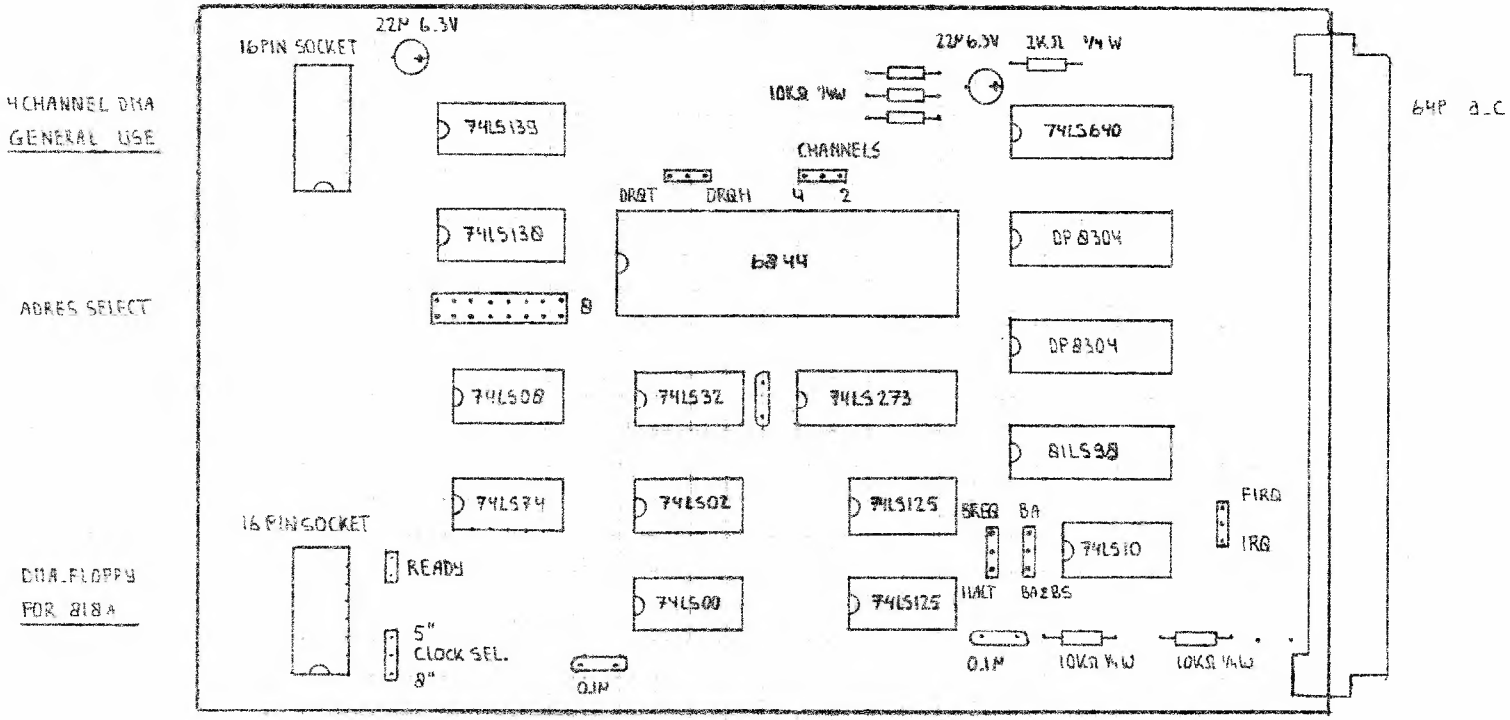

8304
F800- FFFF
2716
E800-EFFF
8428
E000/1
6850
SER
E004/5
6850
CON
E090-E097
6840
LS97
LS138
LS125
LS32
LS21
LS04
LS154
14411
SOCKET
1488
1489
47Ω
10K
10M
1.8432Mhz
IN4148
IN4148
100hz
IO CONTROLCARD 817
© C.SCHOENMAKERS 1982


SOCKET
CONN DRIVE 8"
CONN DRIVE 5¼"
150Ω
BC327
5K
10K P2
20K P3
20K P4
22µ6V
ARRAY 1K_1
BC182
4K7
555
1µ6V
10N
2.2MΩ
47N
FOR 8" 150P
FOR 5¼" 300P
1µ
270
Cx
82P
741
47N
IN2
10K
BC182
6.2V
1K
4K7
9602
74LS 240
74LS 240
74LS 273
1K 1K2 3K3 3K3 10K
IN4148
2K2
10K
470P
0.1µ
FOR 8" 100P
FOR 5¼" 220P
Co
MC 4024 VCO
74LS 112
74LS 112
74LS 74
74LS 32
5.6V
47NF
1791.1 8876
10K
74LS 175
74LS 02
74LS 08
74LS 04
74LS 123
820Ω
220K
0.47N
22µ6V
P1
5K
WD 2143
7438
74LS 139
74LS 11
74LS 32
74LS 86
74LS 640
150Ω
METAL FILM
ICVOETEN ALLEEN VOOR
1791 – EXTRA SOCKET

NOT AVAILABLE

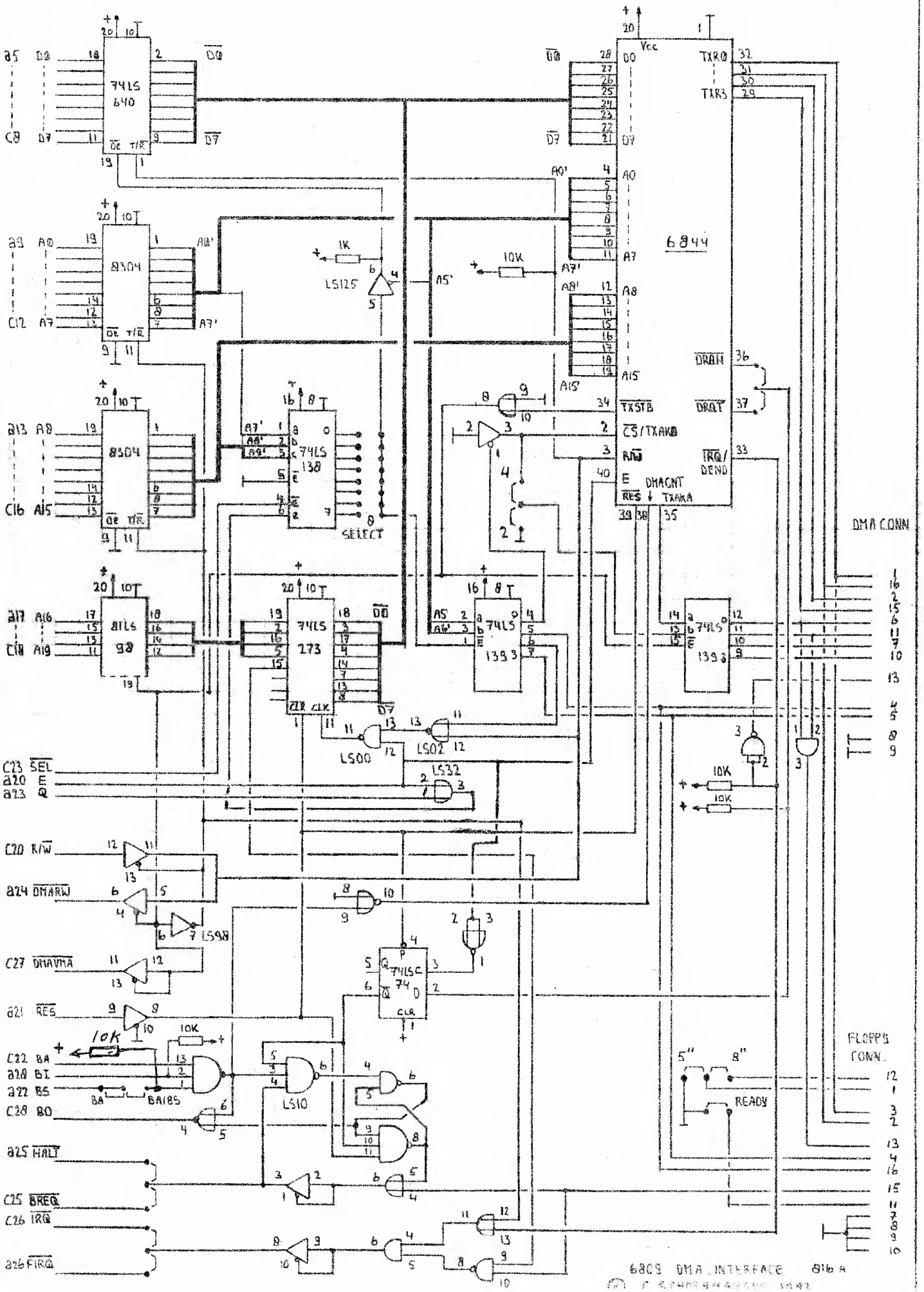

ODD PINS GROUND
34P CONN
50P CONN
LS240
LS640
LS273
LS123
LS11
LS04
LS86
LS32
LS02
LS08
7438
LS175
2143
8876/
1791-1
CLK INT DRQ
HLD
HLT
STEP
DIR
T43
WG
TEST
VFOe
WD
RD
MR
CS
RDAT
RCLK
TG0
INDEX
WPRT
READY
LATE
EARL
ODEN
RESET
PRECOMP
PLL DATASEPARATOR
SHEET 2
RAW READ
PULLUP 1KΩ
LS139
LS74
555
BC182
BC327
22M
16 P SOCKET
CARDSEL
FLOPPY INTERFACE 818 a
© C.SCHOENMAKERS 1982
SHEET 1 OF 2

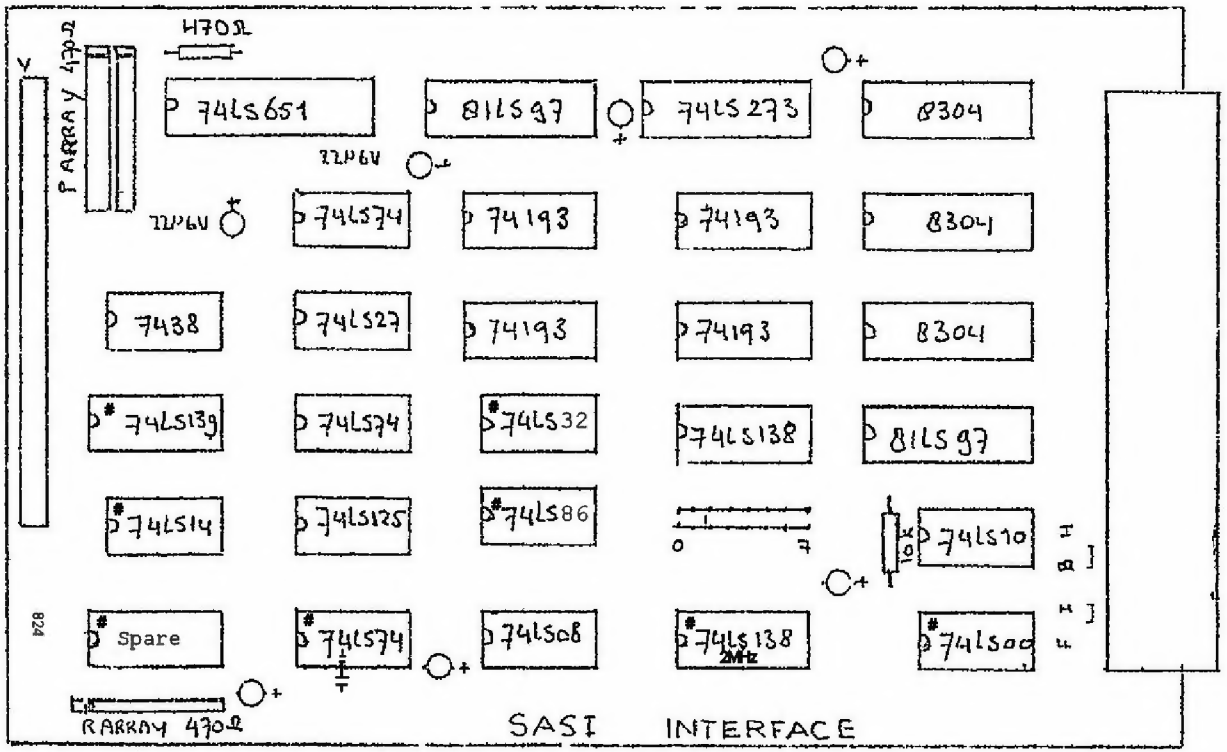

Read data
9602
112
BC327
BC182
741
'MC 4040
74
5K1
10K
150
20K
3K3
47M
1K2
82PF
100nF
5,6
5,1V
+12V
-12V
RAW READ
DDEN
PLL
CS



IC VOETEN VOOR 6844 EN BEIDE EXTENSION SOCKETS

NB. 74LS640 KAN VERVANGEN WORDEN DOOR 74LS245 INDIEN
GEBRUIK ALS GENERAL USE DMA.
VOOR FLOPPY JUMPERS: SELECT 1, DRQH, 2CHANN., BREQ, BA, IRQ.
OOK NOG: 5" OF 8" EN EVENTUEEL READY


74LS 640
8304
6844
74LS 138
74LS 273
74LS 139
LS00
LS02
LS32
LS08
LS10
74LS 74
1K
10K
LS125
SELECT
DMA CONN
FLOPPY CONN.
5"
8"
READY
A5
A6
A7
A8
A9
A10
A11
A12
A13
A14
A15
A16
A17
A18
A19
A20
A21
A22
A23
C8
C12
C16
C17
C20
C23
C25
C26
C27
C28
R/W
DMARW
DMAVMA
RES
HALT
BREQ
IRQ
FIRQ
SEL
E
Q
BA
BS
BAIBS
BI
BO
DMACNT
TXAKA
TXRQ
TXSTB
DRQT
IRQ/
DEND
RES
Vcc
6809 DMA_INTERFACE
816 A



824

TANTAAL 22 µF 16V

Modifications for SASI-824 card.

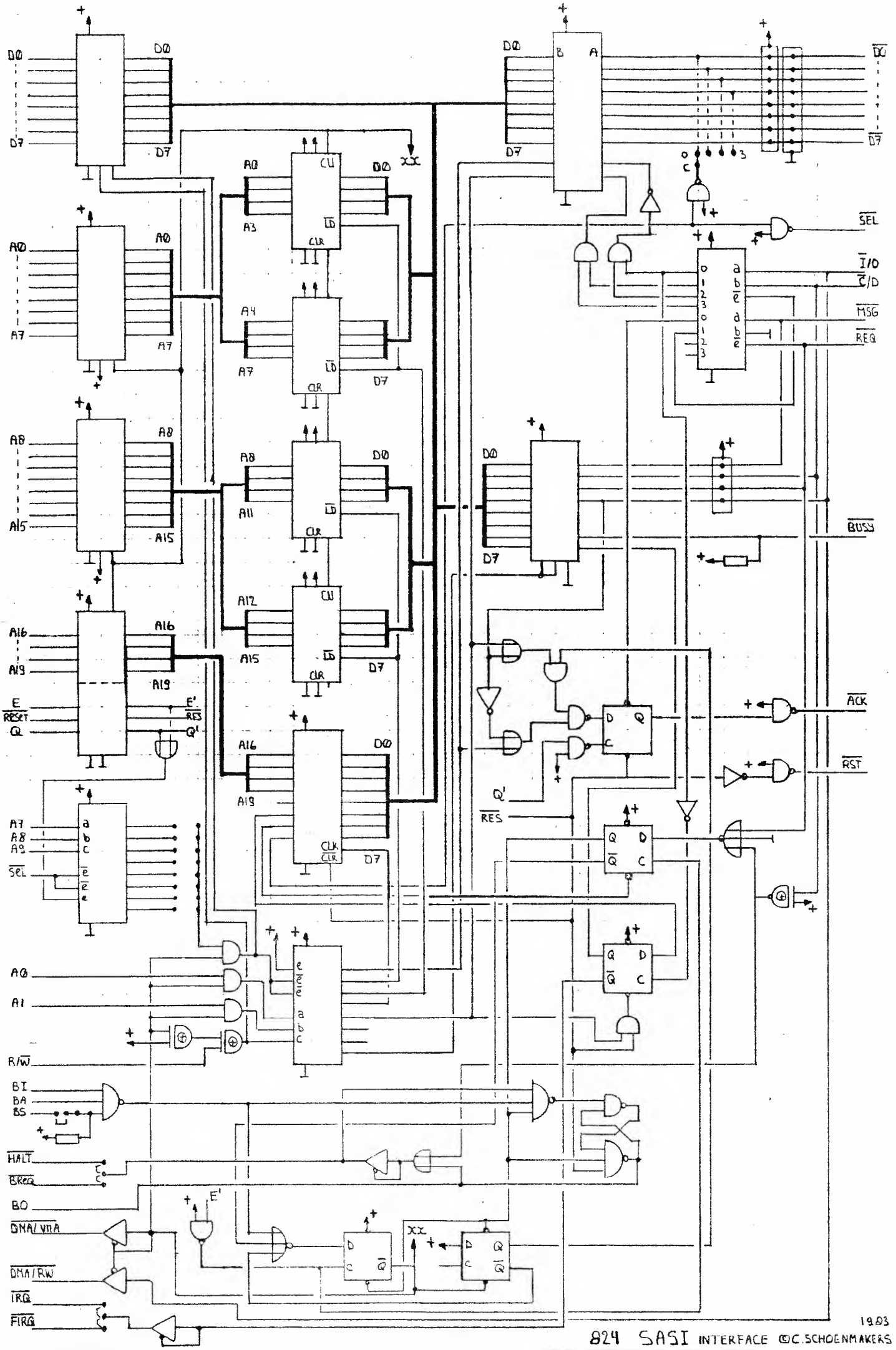
a) (Card error, 824 only) Chips marker #
Place 74LS08 at Spare location.
Wire pin-14 to Vcc (hole-16)

.

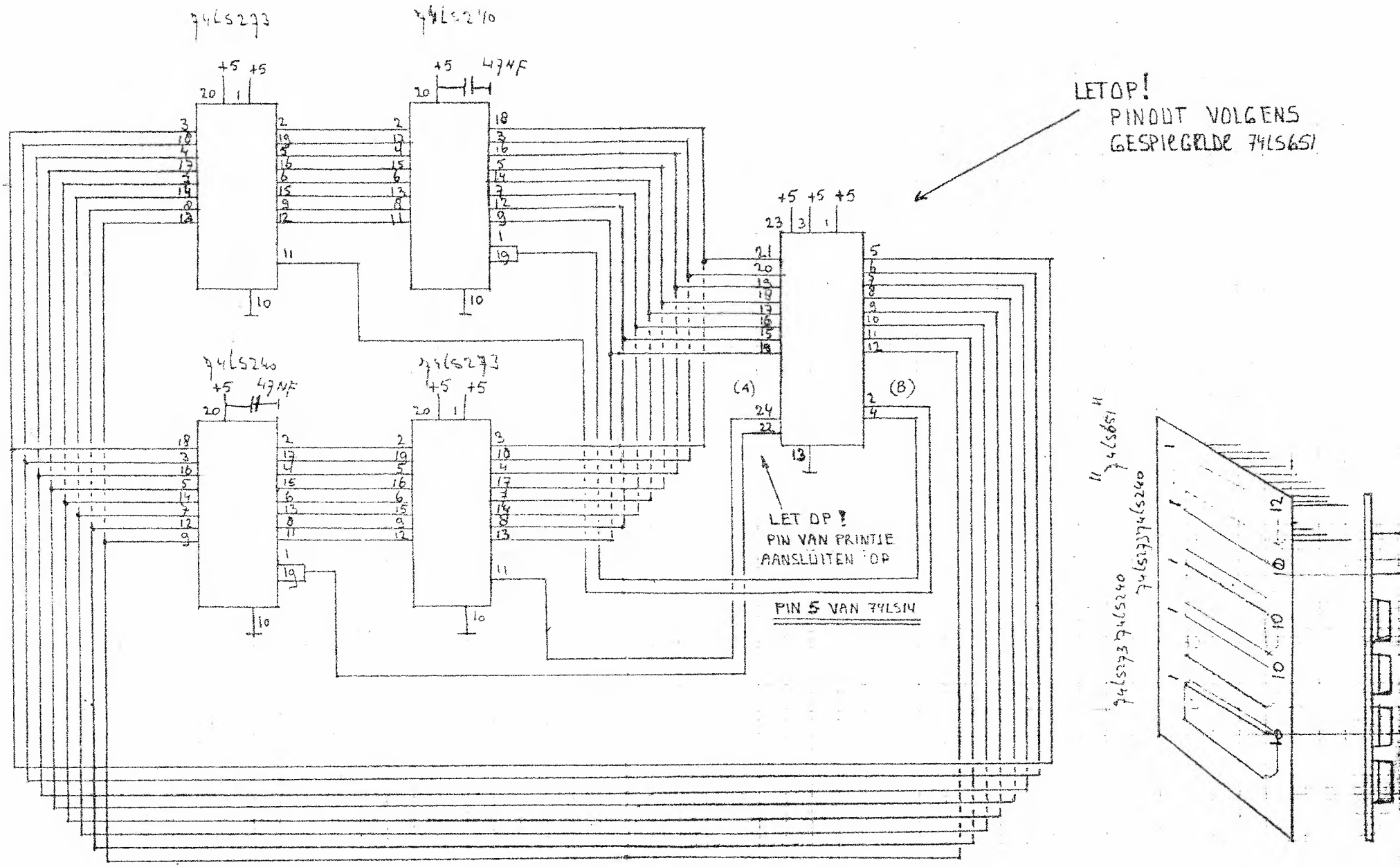
Component side:
Cut trace between pin-9 74LS27 and pin-9 74LS74 next LS651.
Cut trace between 74LS74 pin-4 and Vcc.
Cut trace between 74LS74 pin-4 and pin-10.
Cut trace at pin-1 74LS139.

Solder side:
Cut trace at pin-10 from 74LS74 next 74LS651.
Cut trace at pin-11 from 74LS74 next 74LS651.
Cut trace between pin-15 74LS138 and pin-12 74LS00.
Cut trace between pin-11 74LS138 and pin-13 74LS00.
Cut trace at pin-6 74LS139.
Cut trace at pin-7 74LS139.

Wire pin-10 74LS74 to Vcc.
Wire pin-13 74LS139 to Gnd.
Wire pin-1 to pin-11 74LS139.
Wire pin-9 to pin-10 74LS27.
Wire pin-12 74LS00 to pin-6 74LS08.
Wire pin-13 74LS00 to pin-11 74LS32.
Wire pin-11 74LS138 to pin-5 74LS32.
Wire pin-15 74LS138 to pin-12 74LS32.
Wire pin-4 74LS32 to pin-3 74LS14.
Wire pin-6 74LS32 to pin-5 74LS08.
Wire pin-13 74LS32 to pin-4 74LS14.
Wire pin-4 74LS08 to pin-5 74LS74 the middle one.
Wire pin-8 74LS08 to pin-21 74LS651.
Wire pin-9 74LS08 to pin-7 74LS139.
Wire pin-10 74LS08 to pin-5 74LS139.
Wire pin-12 74LS08 to pin-6 74LS139.
Wire pin-13 74LS08 to pin-4 74LS139.
Wire pin-11 74LS08 to pin-11 74LS14.
Wire pin-3 74LS14 to pin-50 50pin connector.
Wire pin-14 74LS139 to pin-42 50pin connector.
Wire pin-15 74LS139 to pin-48 50pin connector.



2MHz Modification



74LS-651 EMULATOR

1-10-1984

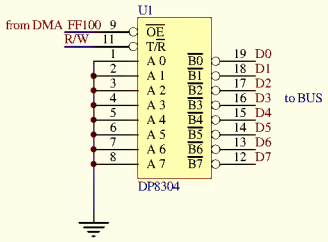
UniFlex use empty databus to fill a 4K memory block with zero's.

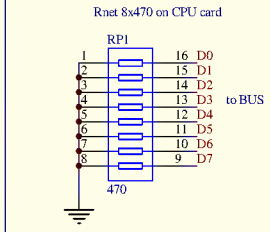
SWTPC Sytem reads low

CS System reads high, needs optional chip to read the zero's.

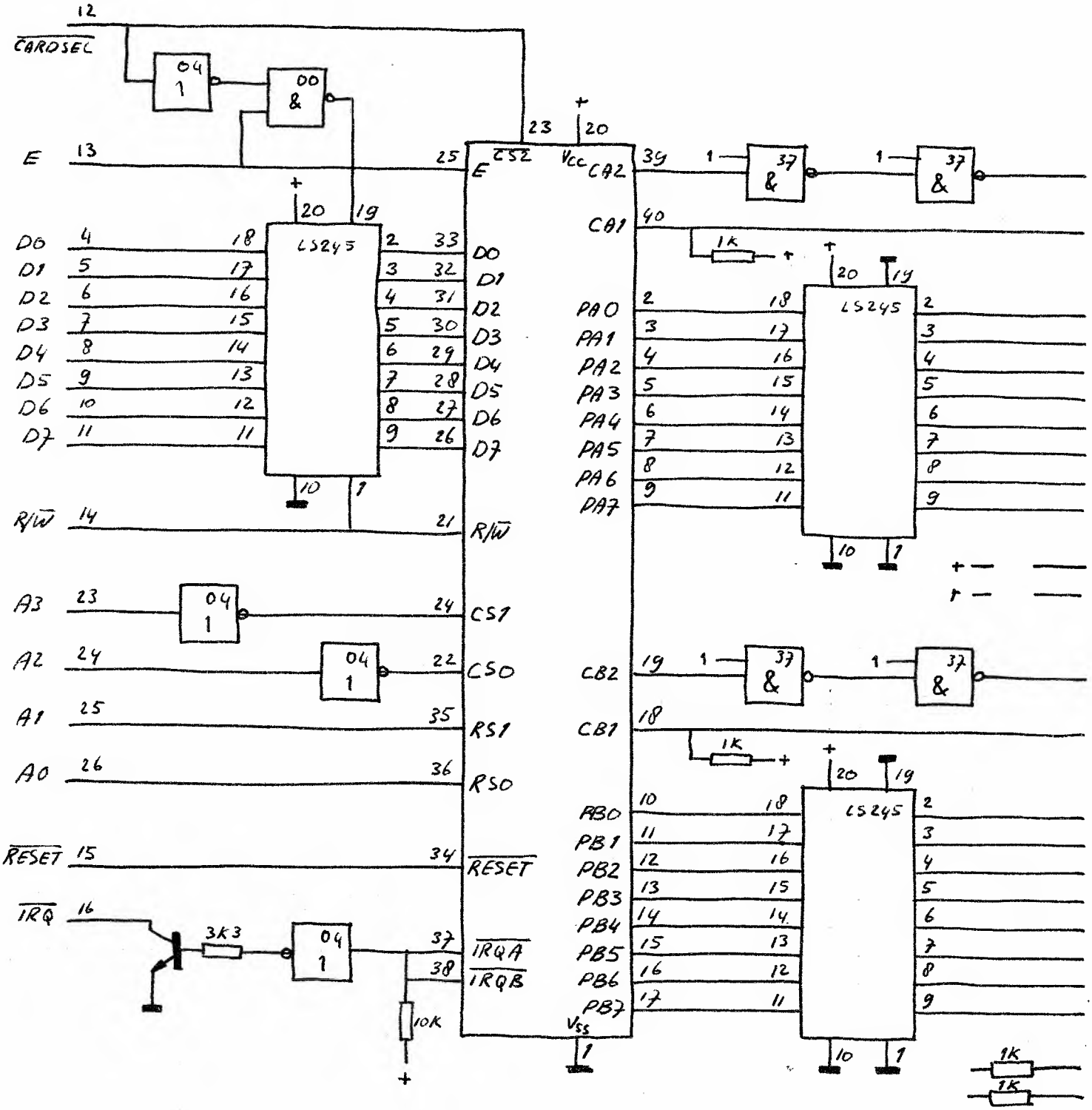
OR

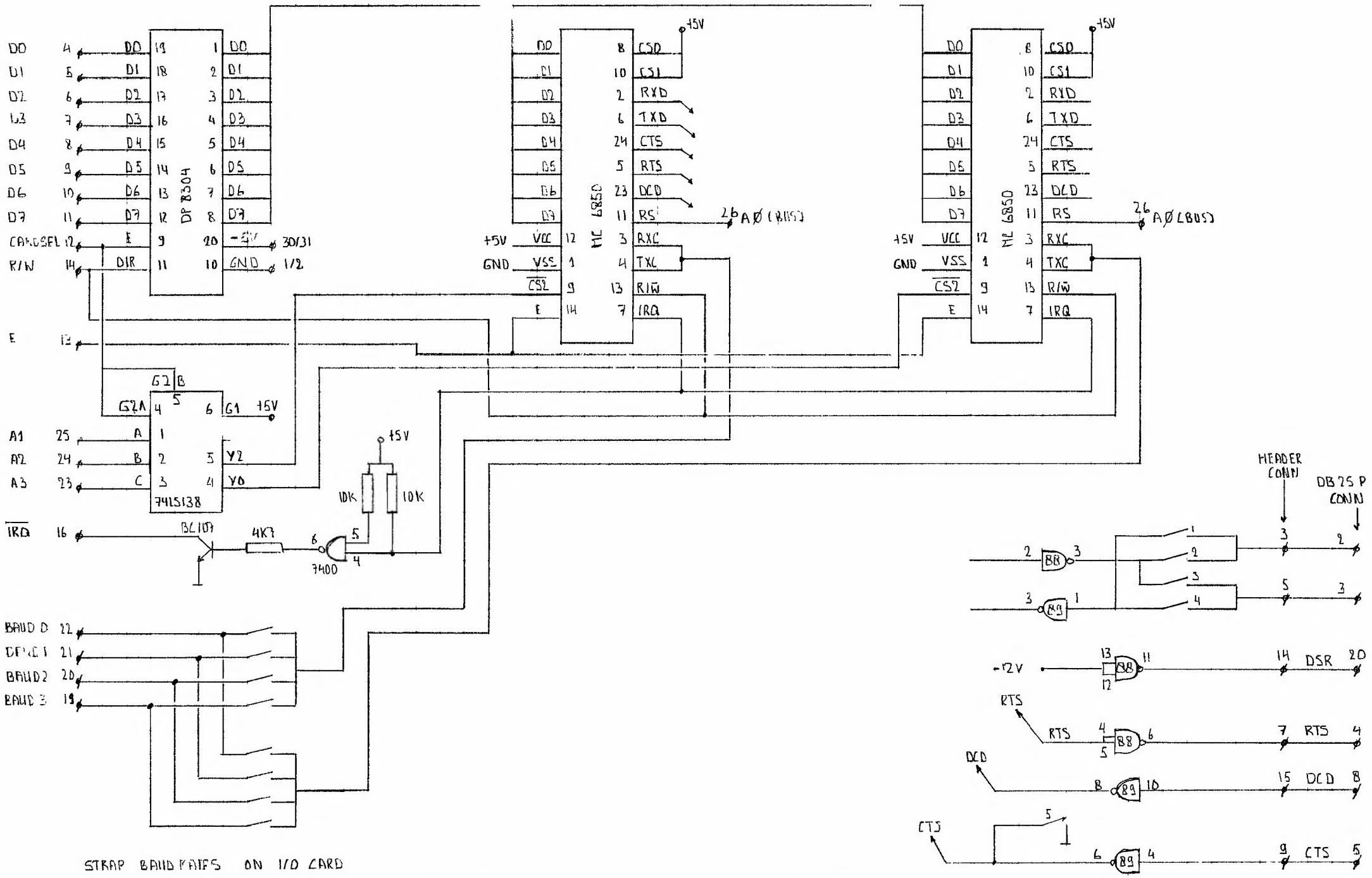
Just load the databus with 470 ohm resistors.





Title		
Size: B	Number	Revision
Date: 29-Oct-2020		Sheet of
File: Z:\CS System\CS Computer data\RAM 8150\RAM 256K.ddb		


12
CAROSEC
04
1
00
&
E
13
25
E
CS2
23
Vcc
20
CA2
39
CA1
40
1K
D0
D1
D2
D3
D4
D5
D6
D7
4
5
6
7
8
9
10
11
18
17
16
15
14
13
12
11
20
19
LS245
2
3
4
5
6
7
8
9
33
32
31
30
29
28
27
26
10
1
D0
D1
D2
D3
D4
D5
D6
D7
R/W
14
21
R/W
A3
23
24
CS1
A2
24
22
CS0
A1
25
35
RS1
A0
26
36
RS0
RESET
15
34
RESET
IRQ
16
3K3
37
38
IRQA
IRQB
10K
PA0
PA1
PA2
PA3
PA4
PA5
PA6
PA7
CB2
19
CB1
18
PB0
PB1
PB2
PB3
PB4
PB5
PB6
PB7
Vss
1K
37
&



STRAP BAUD RATES ON I/O CARD

ADDRESS ACIA 1 XXX0 UNIFLEX TTY 04 DUAL ACIA CARD EVDA 10/4-83

ADDRESS ACIA 2 XXX4 " TTY 05