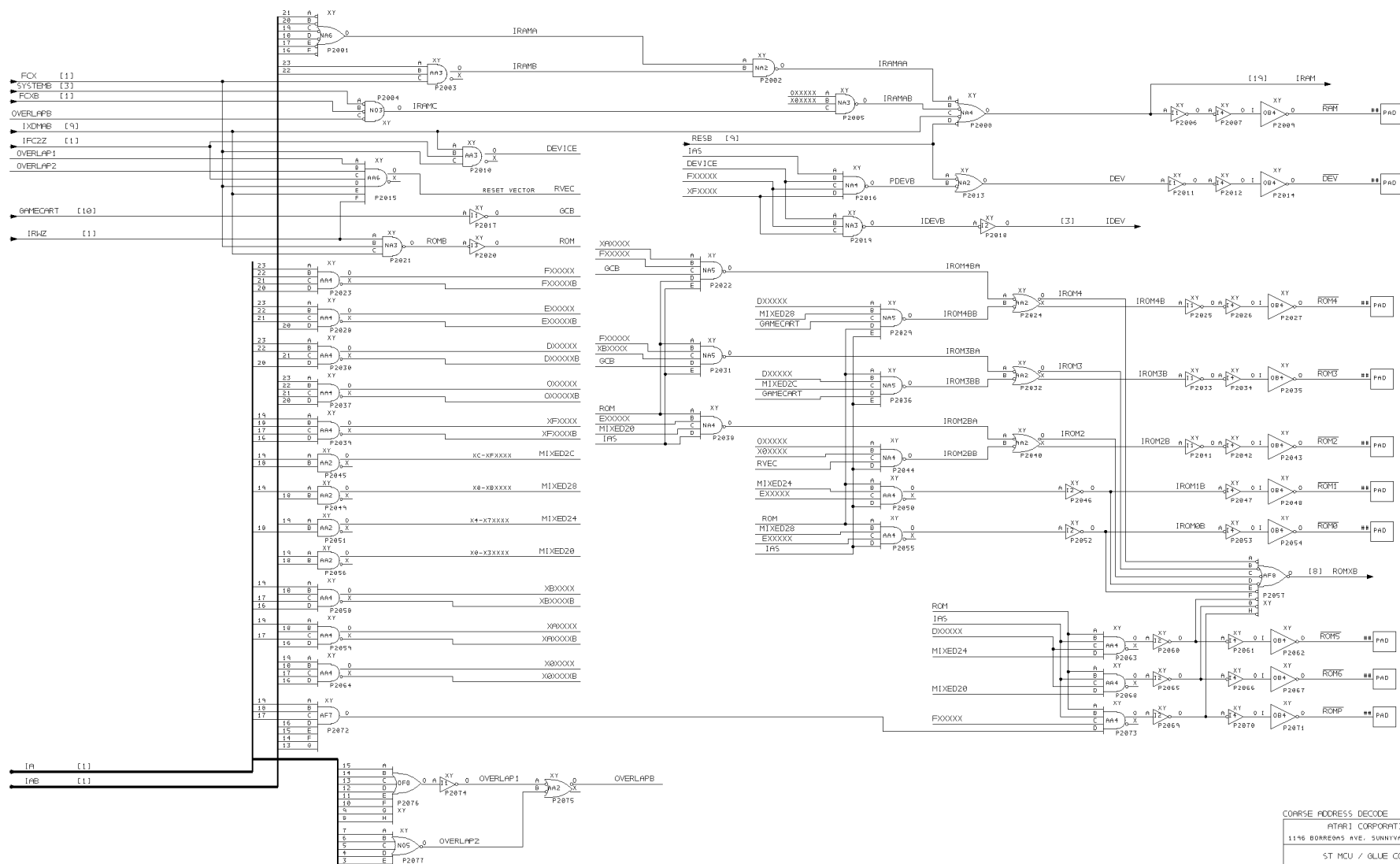
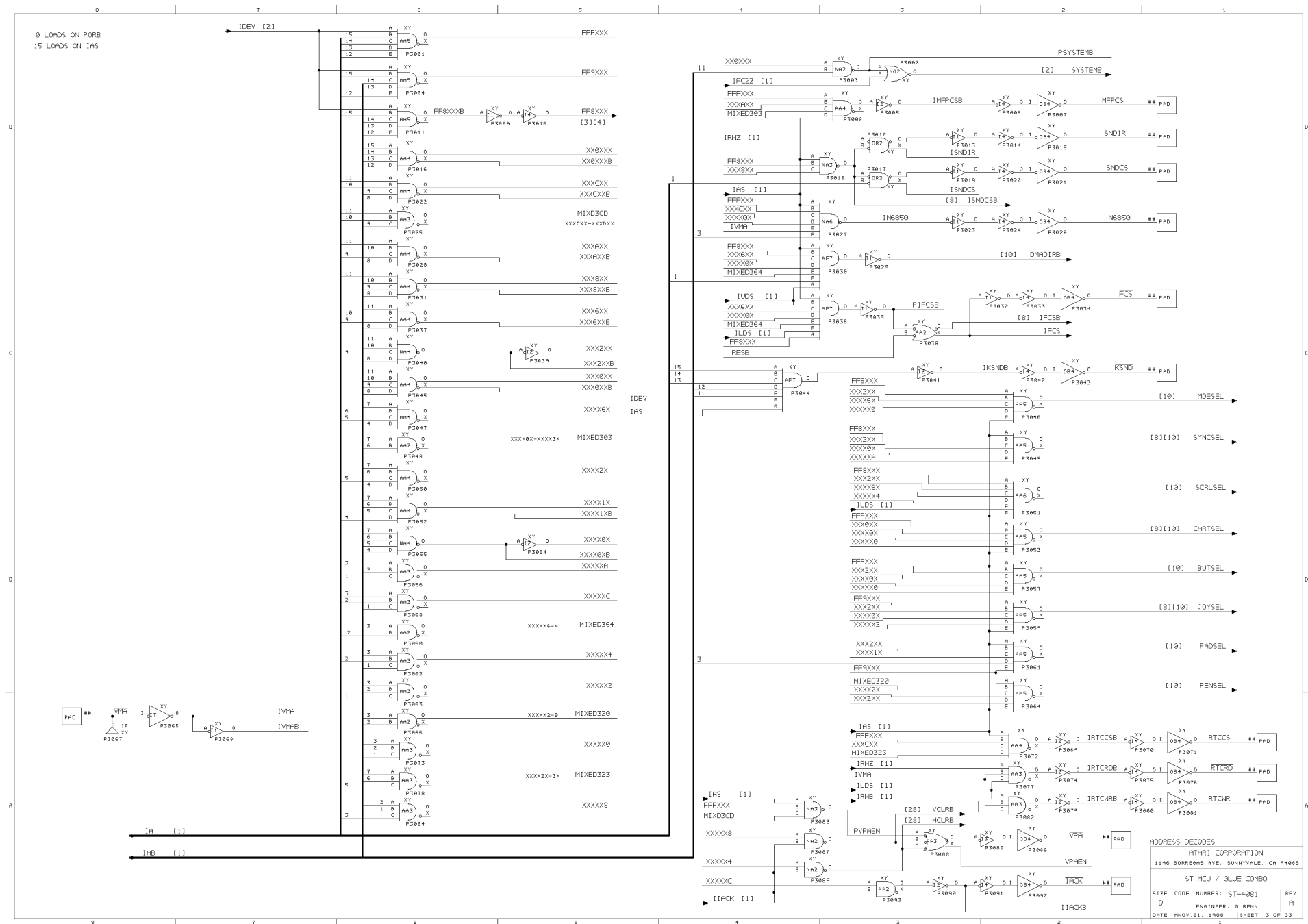
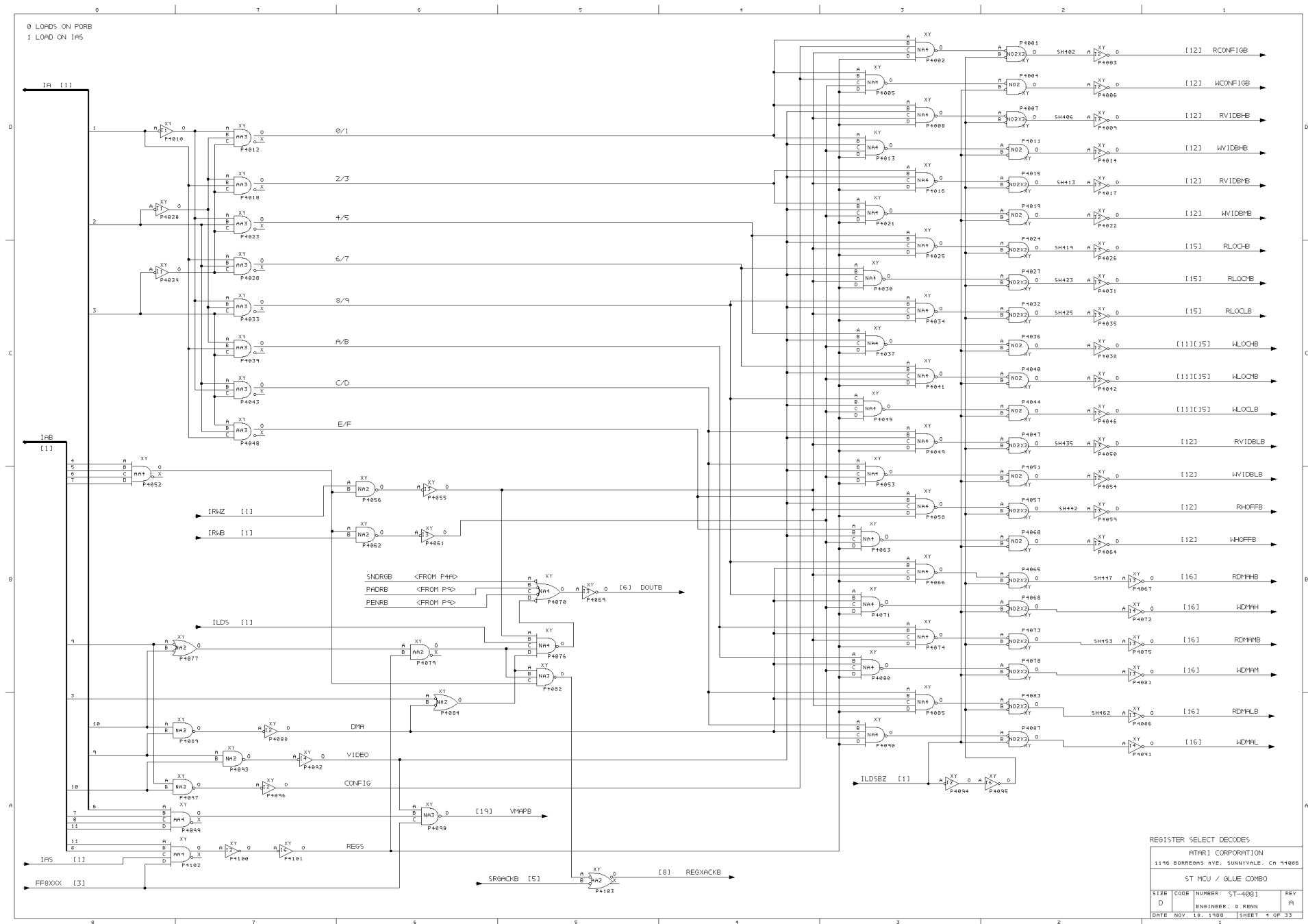


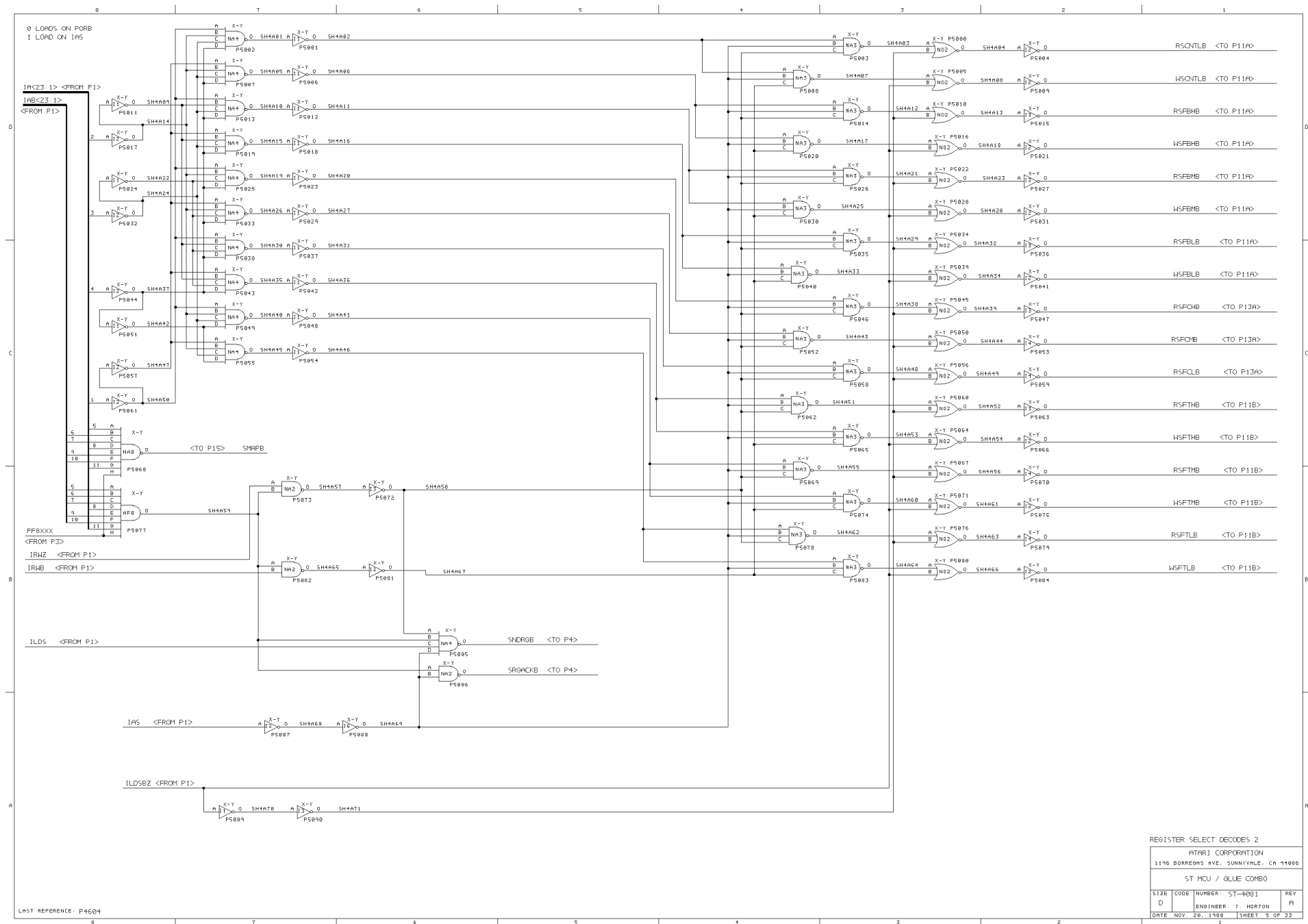
8 LOADS ON FORB
9 LOADS ON IAS



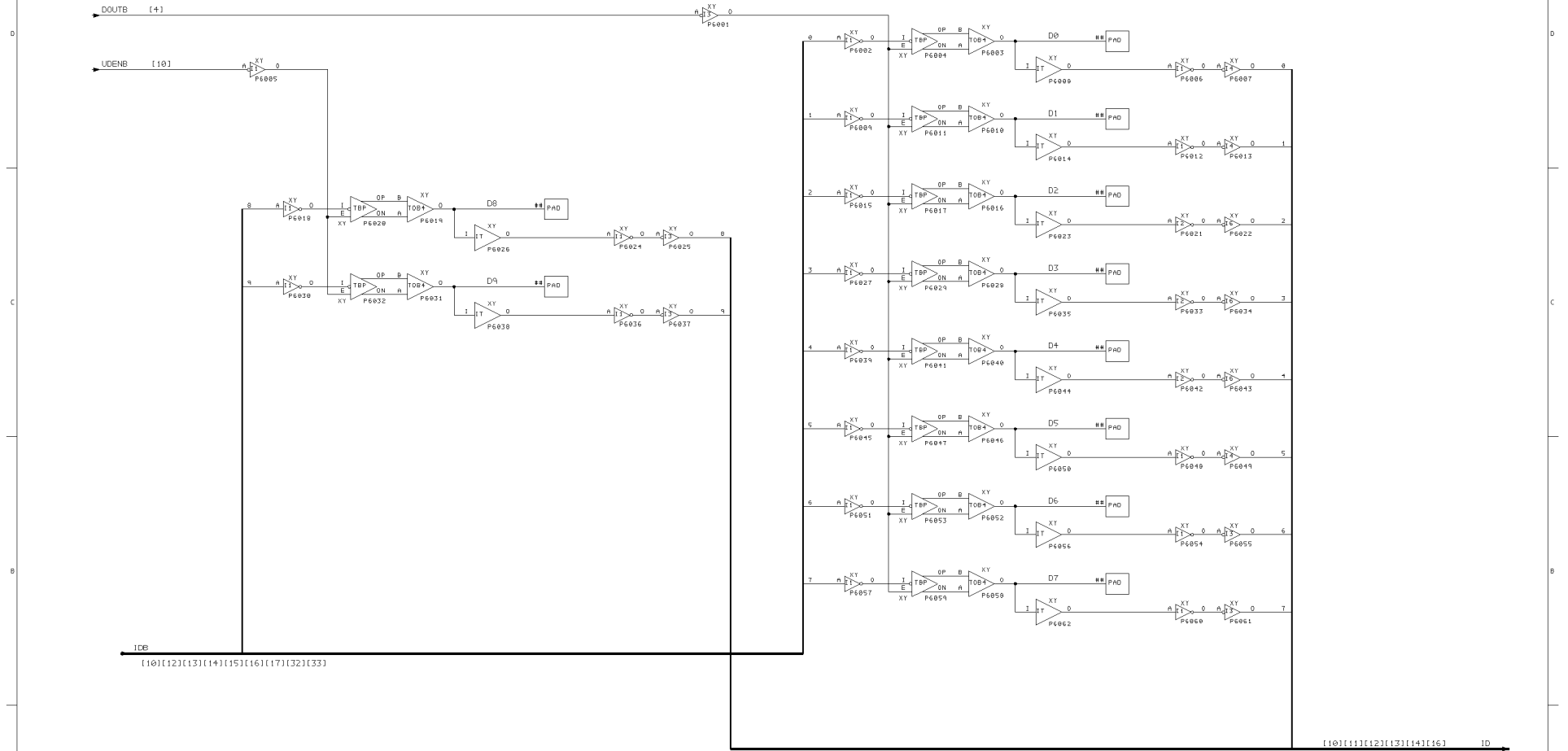
COARSE ADDRESS DECODE
 ATAR1 CORPORATION
 1116 BORREAS AVE. SUNNYSIDE, CA 94086
 ST MCU / GLUE COMBO
 SIZE CODE NUMBER: ST-4081 REV
 D ENGINEER: G. RENN R
 DATE NOV. 21, 1988 SHEET 2 OF 33







0 LOADS ON PORB



DATA BUS INTERFACE			
AT&T CORPORATION			
1146 BORREMAN AVE. SUNNYSIDE, CA 94086			
ST MCU / GLUE COMBO			
SIZE	CODE	NUMBER	REV
D		51-4081	A
ENGINEER: D. RENN			
DATE	NOV. 18, 1988	SHEET 6 OF 33	

CLOCK GENERATOR			
AT&T CORPORATION			
1146 BORREOMAS AVE, SUNNYVALE, CA 94066			
ST MCU / BLUE COMBO			
SIZE	CODE	NUMBER: ST-4081	REV
D		ENGINEER: D. RENN	A
DATE	NOV. 18, 1988	SHEET	7 OF 33

4 LOADS ON PORB

DRW [10]

PORB [1]

ICLK8 [7]

ICLK8B [7]

IXDMA [9]

ISNDCSB [3]

RAMCYCB <FROM P16>

CHPCYCB <FROM P16>

ROMCB <FROM P2>

RESVACKB <FROM P4>

BUTR <FROM P9>

JOYSEL <FROM P3>

PADR <FROM P9>

PENR <FROM P9>

CARTSEL <FROM P3>

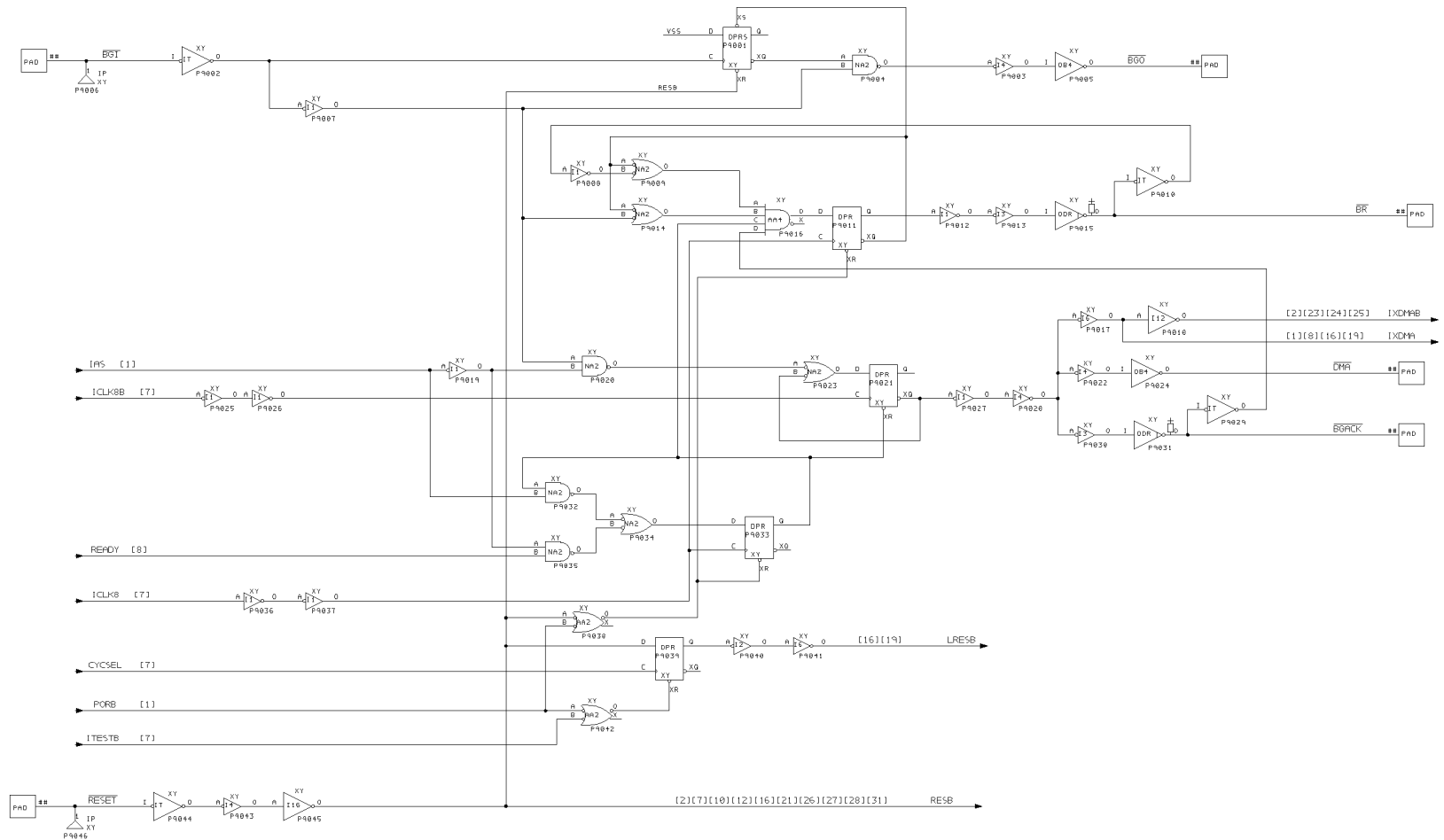
SYNCSL <FROM P3>

IRAS <FROM P1>

IFCSB <FROM P3>

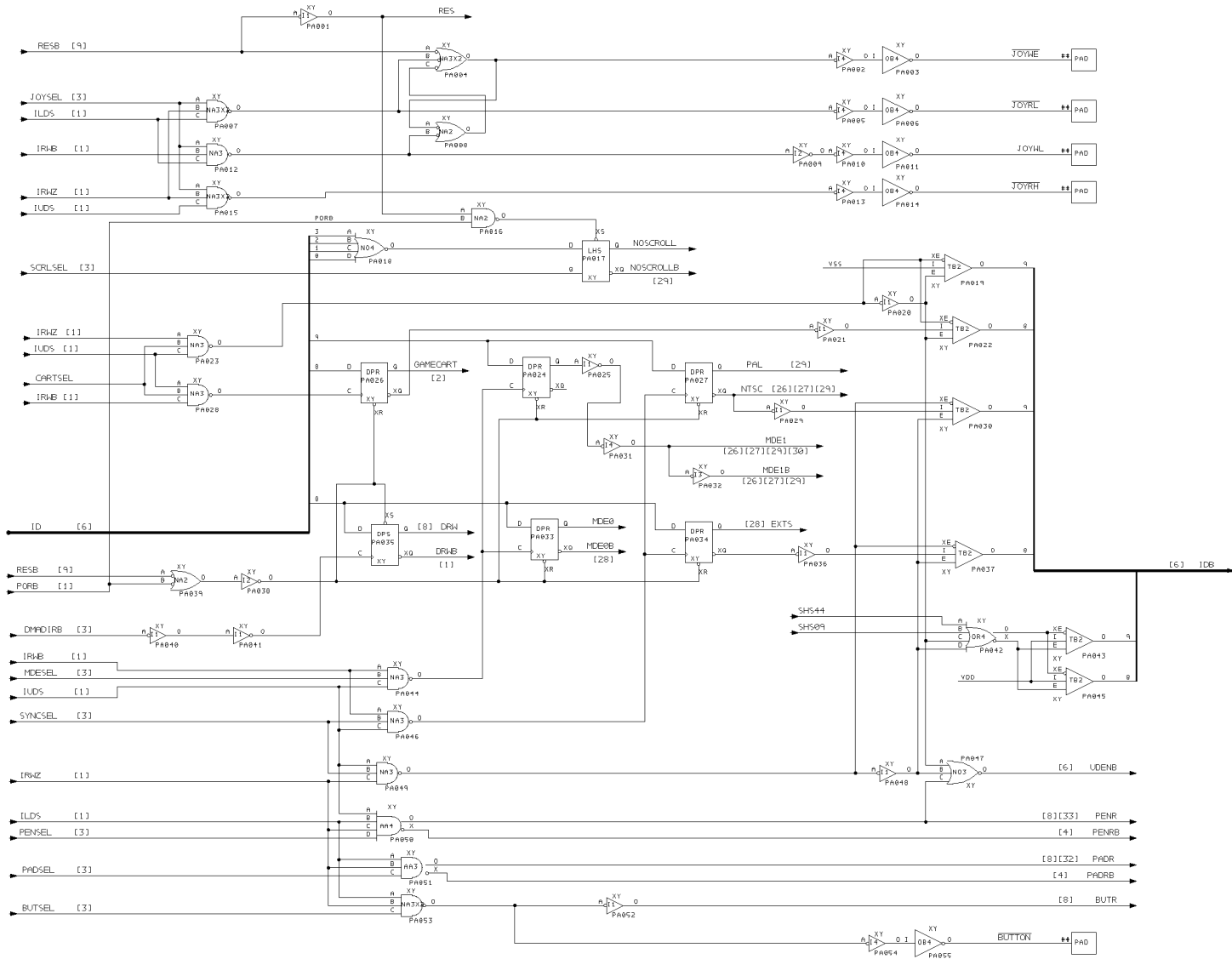
BUS TIMING GENERATOR			
AT&T CORPORATION			
1146 BORDEAUX AVE. SUNNYVALE, CA 94066			
ST MCU / GLUE COMBO			
SIZE	CODE	NUMBER	REV
D		ST-4081	A
ENGINEER:		O. RENN	
DATE		NOV. 17, 1988	
		SHEET 8 OF 33	

2 LOADS ON PORB
2 LOADS ON IAS

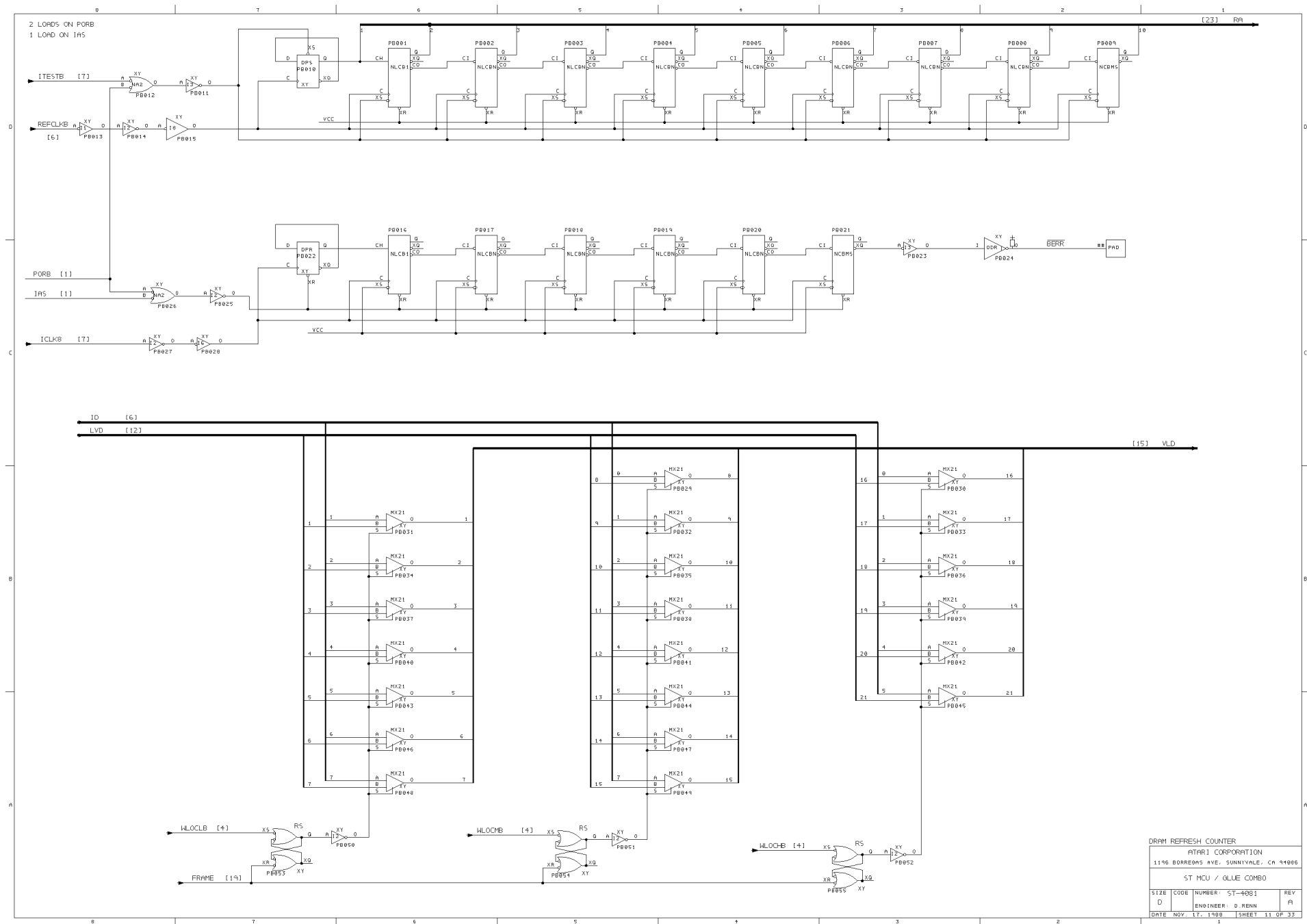


BUS ARBITRATION			
ATARI CORPORATION			
1146 BORDEAUX AVE. SUNNYVALE, CA 94066			
ST MCU / GLUE COMBO			
SIZE	CODE	NUMBER: ST-4081	REV
D		ENGINEER: D. RENN	A
DATE	NOV. 17, 1988	SHEET	9 OF 33

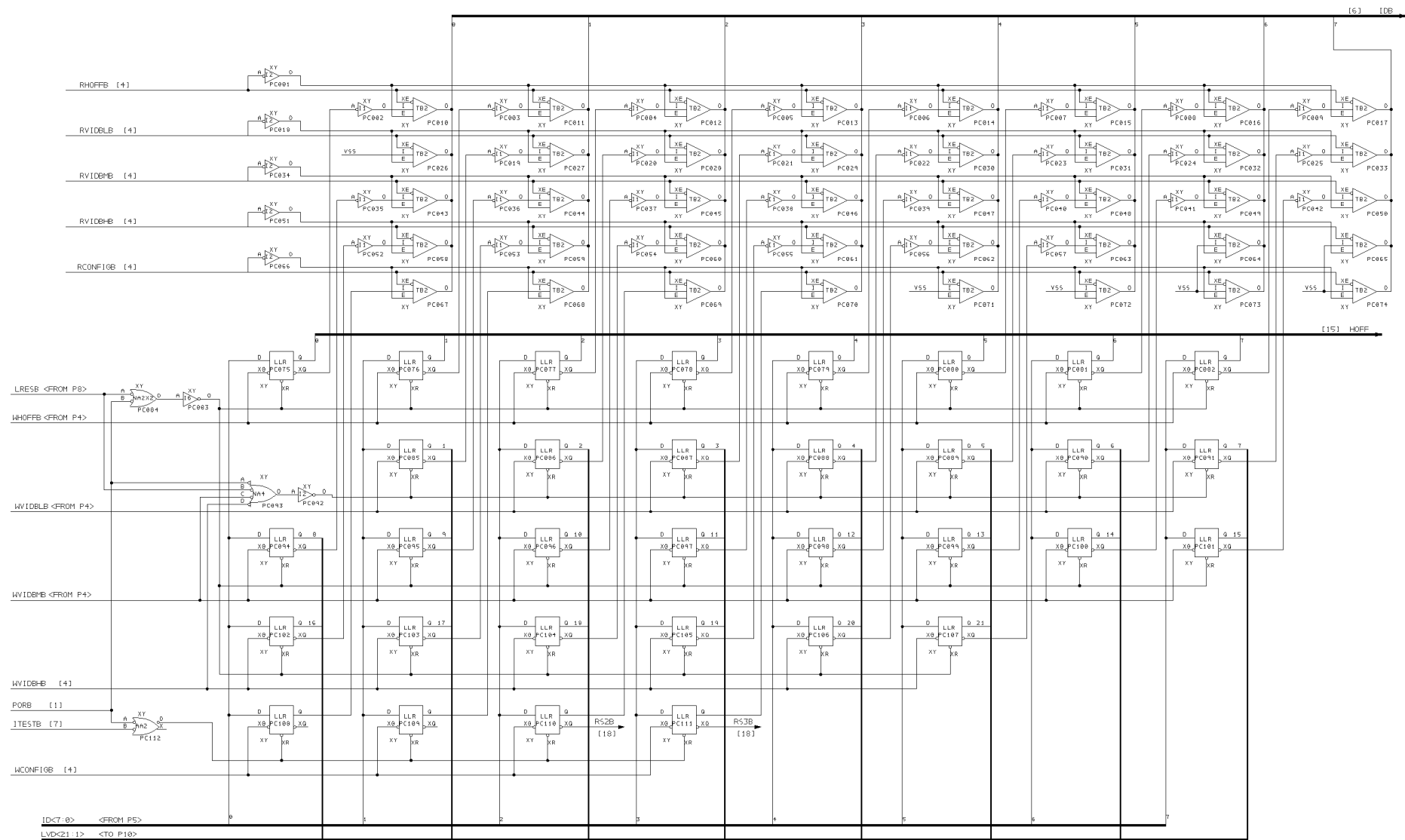
2 LOADS ON PORB



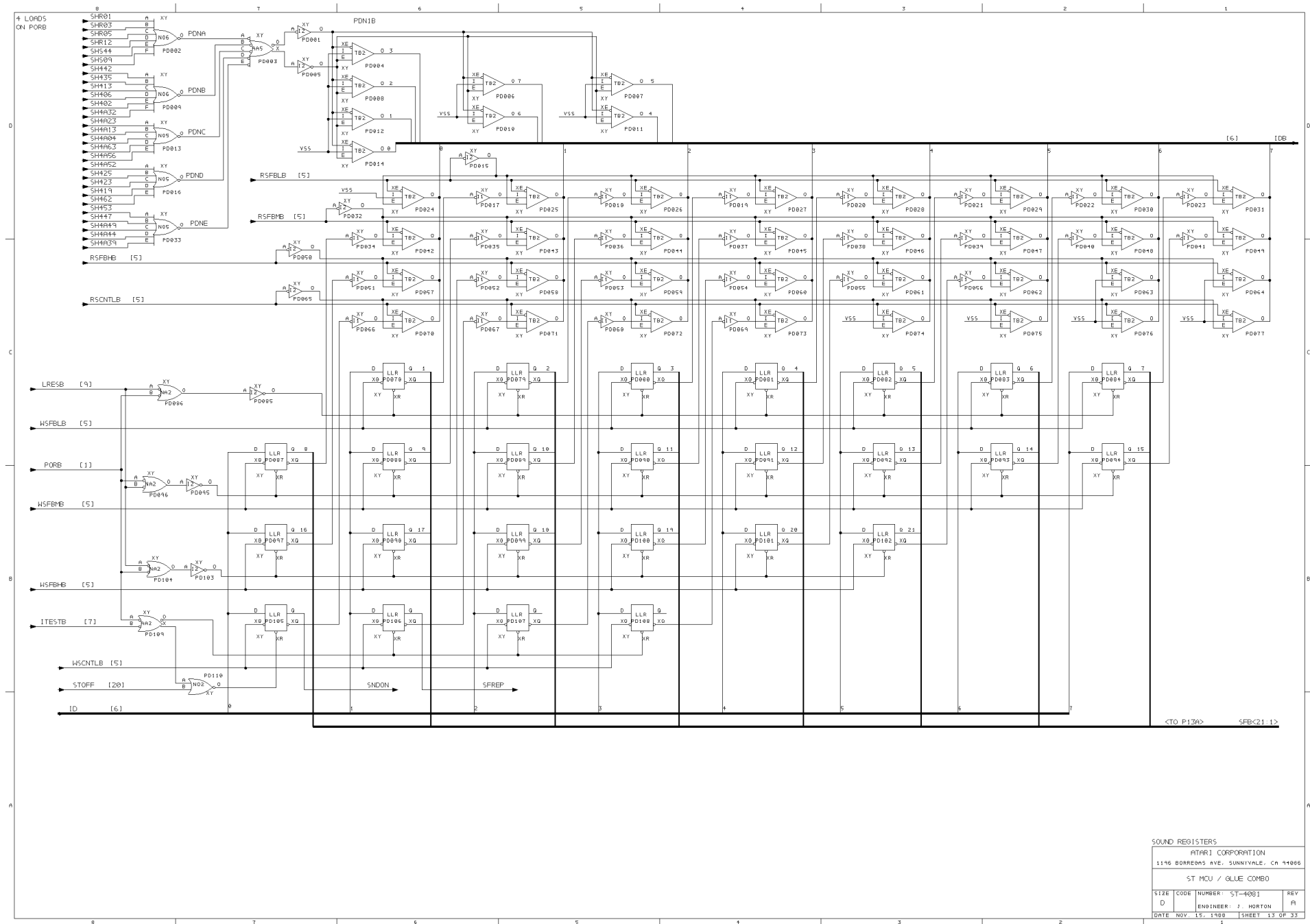
DMA / VIDEO REGISTERS			
ATARI CORPORATION			
1146 BORREAS AVE. SUNNYVALE, CA 94066			
ST MCU / GLUE COMBO			
SIZE	CODE	NUMBER	REV
D		57-4081	A
ENGINEER:		D. RENN	
DATE		NOV. 17, 1988	
		SHEET 10 OF 33	



2 LOADS ON PORB

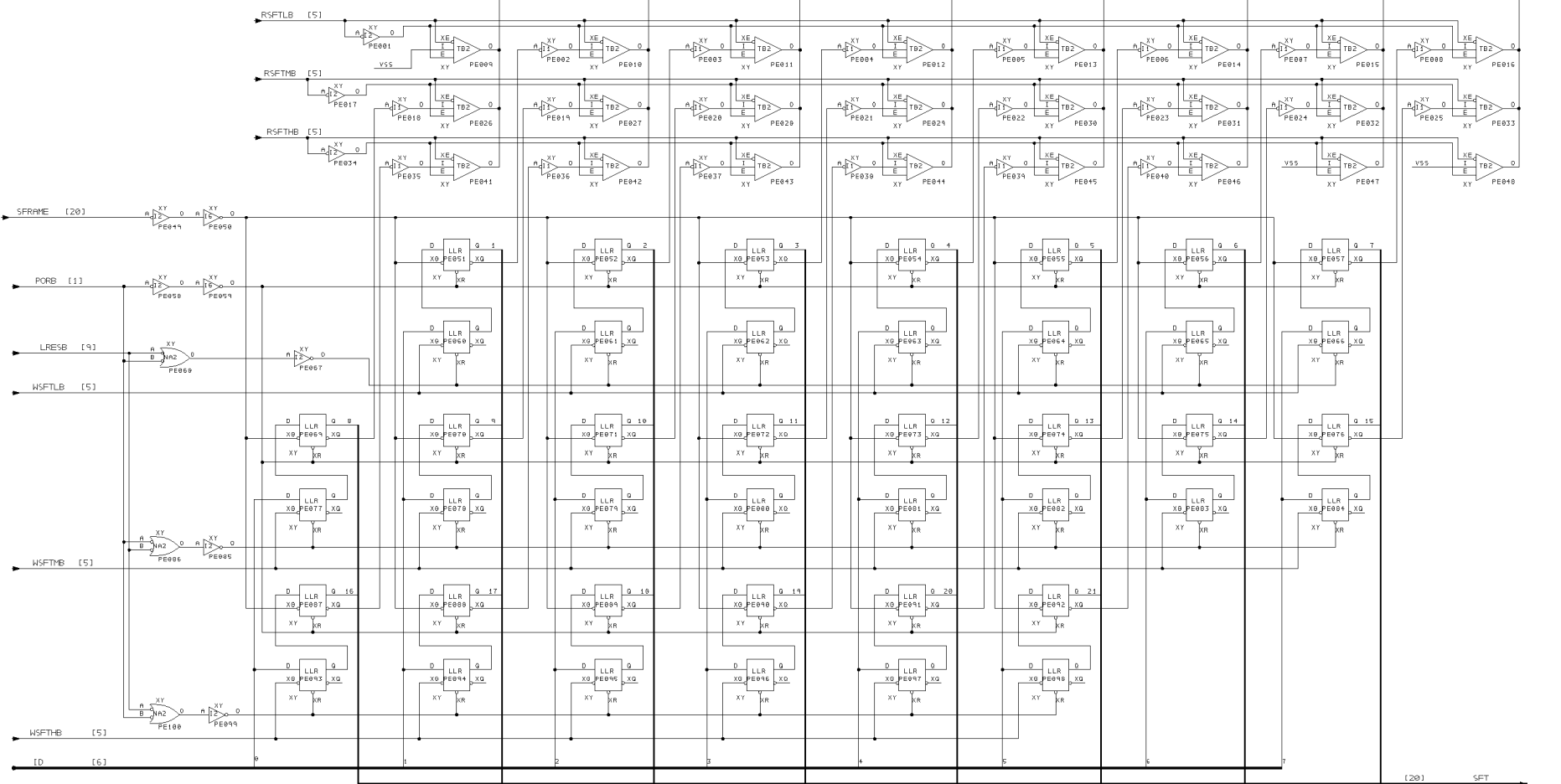


VIDEO REGISTERS			
AT&T CORPORATION			
1146 BORREAS AVE. SUNNYVALE, CA 94066			
ST MCU / OLUE COMBO			
SIZE	CODE	NUMBER	REV
D		ST-4081	A
ENGINEER		O. RENN	
DATE		NOV. 15, 1988	
		SHEET 12 OF 33	



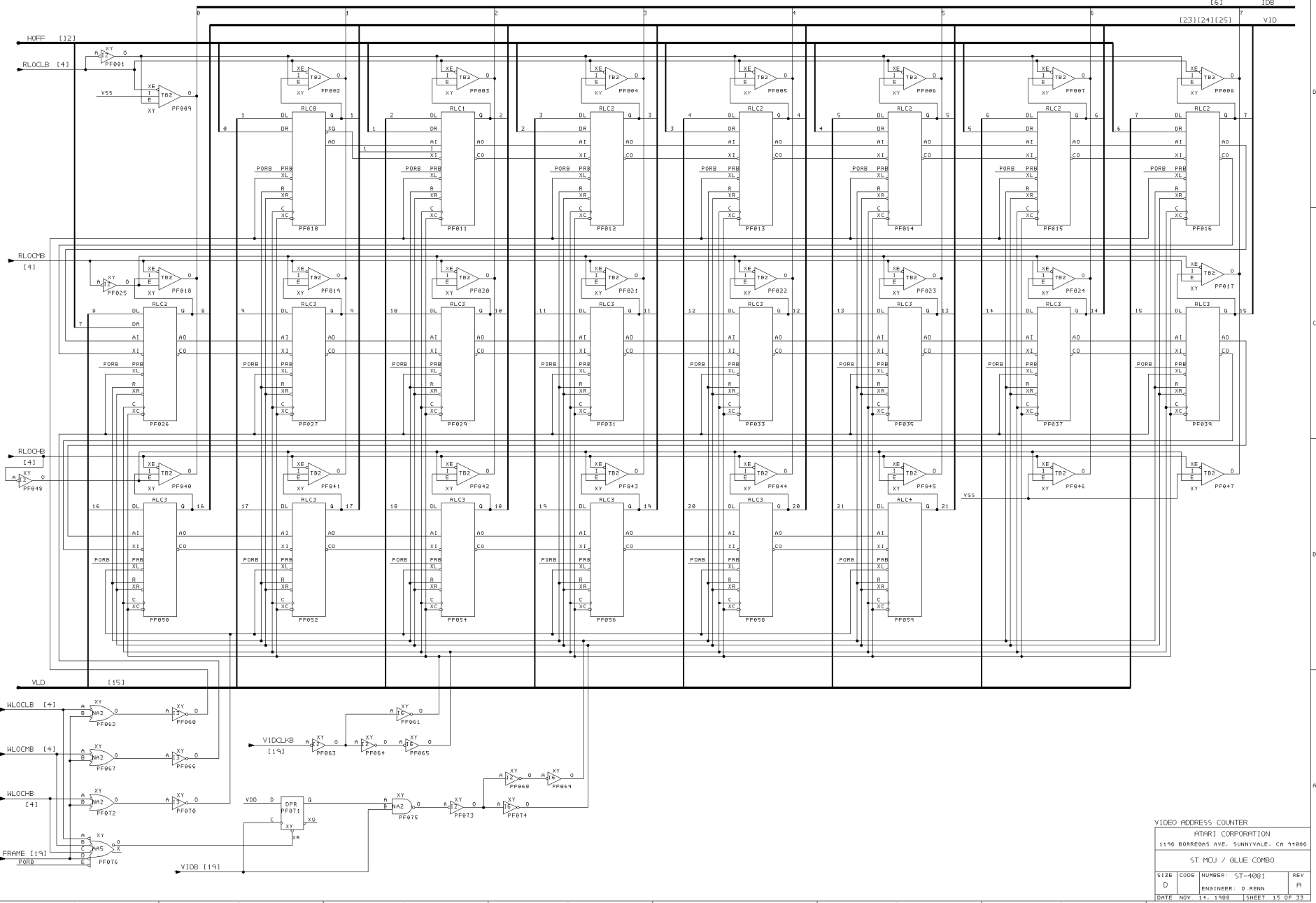
4 LOROS ON PORB

[6] [DB]

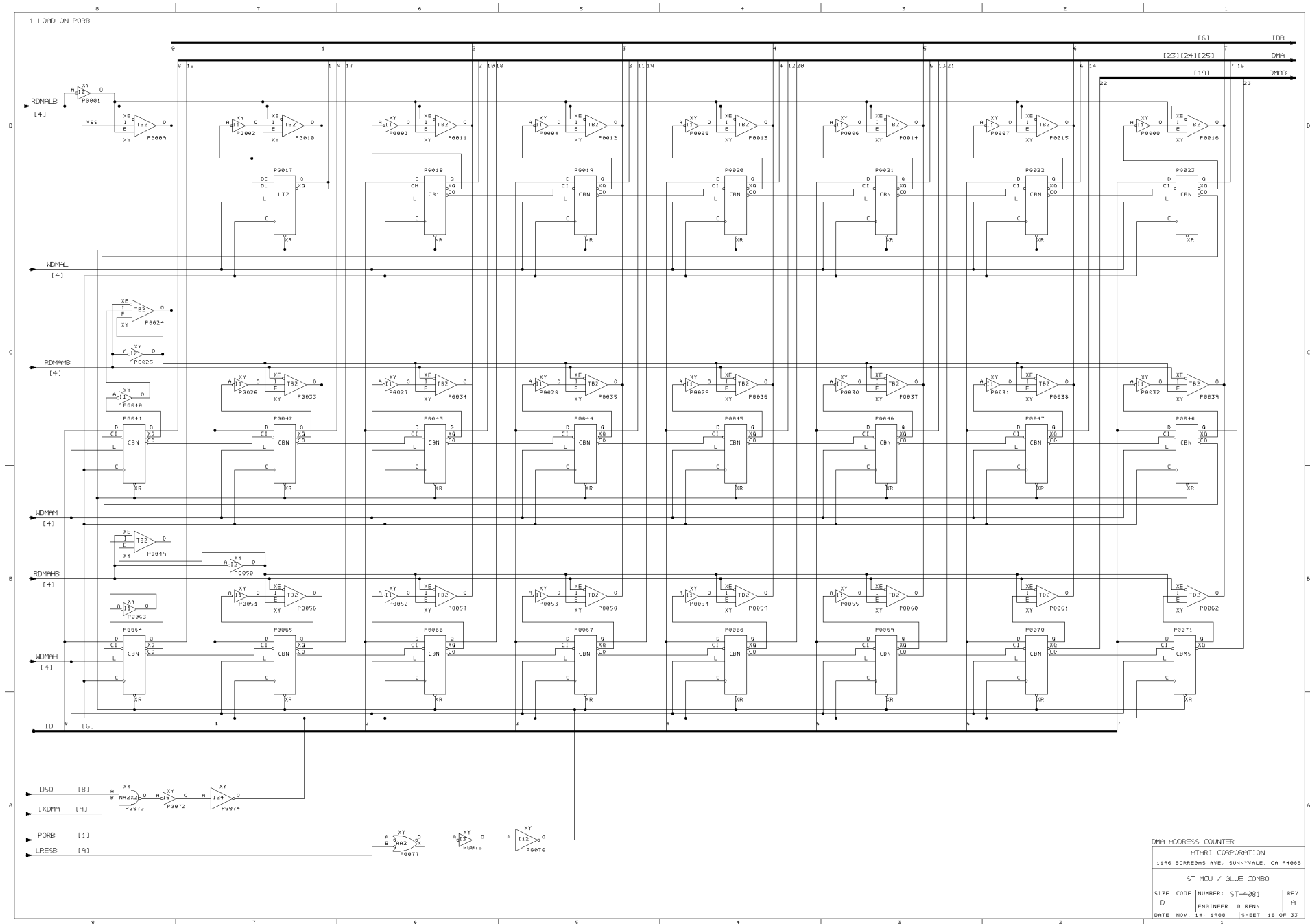


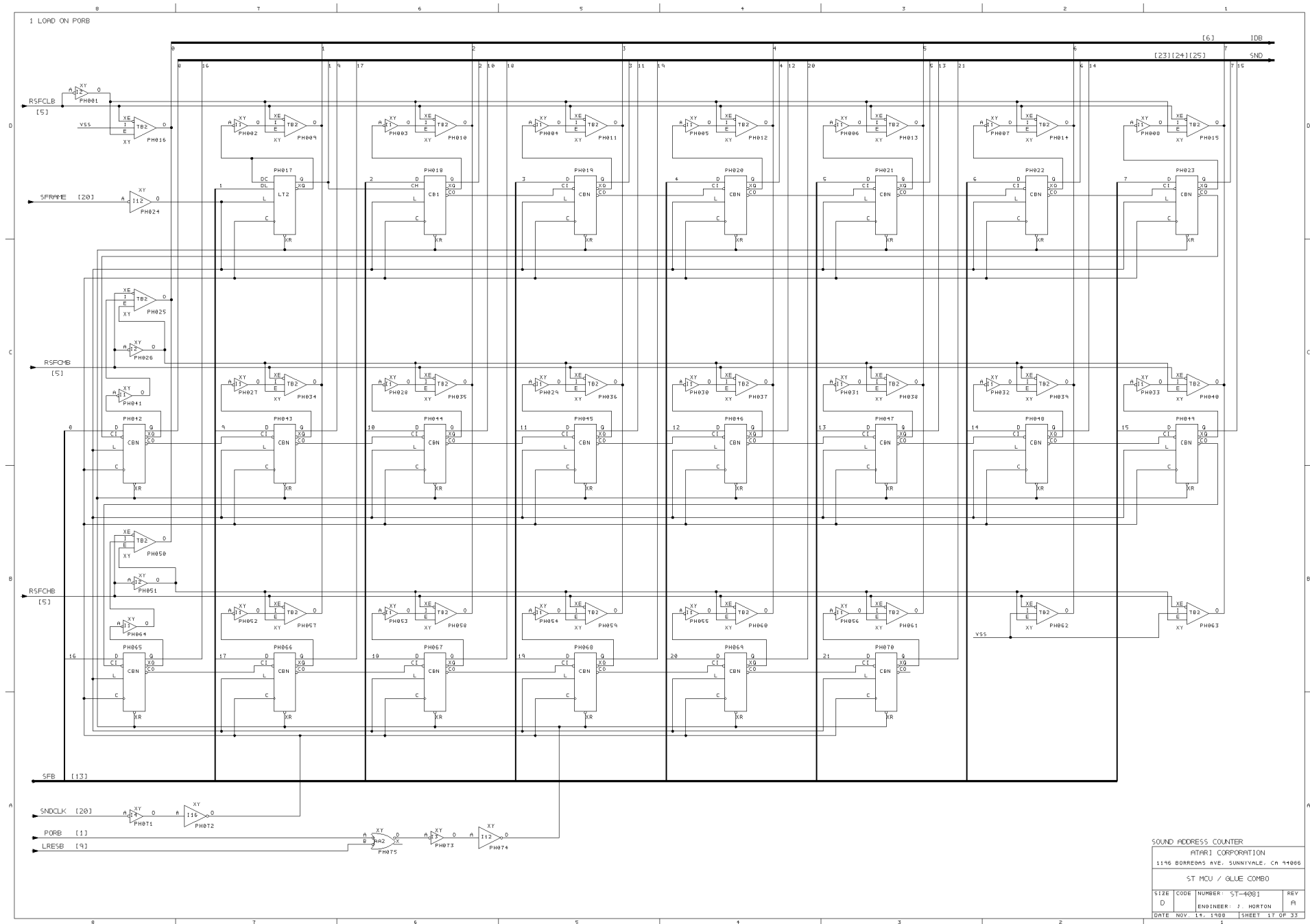
SOUND REGISTERS			
AT&T CORPORATION			
1146 BORREAS AVE. SUNNYVALE, CA 94066			
ST MCU / OLUE COMBO			
SIZE	CODE	NUMBER	REV
D		51-4081	A
ENGINEER:		J. HORTON	
DATE		NOV. 14, 1988	
SHEET		14 OF 33	

43 LORs ON PORB
FROM PAGE 1

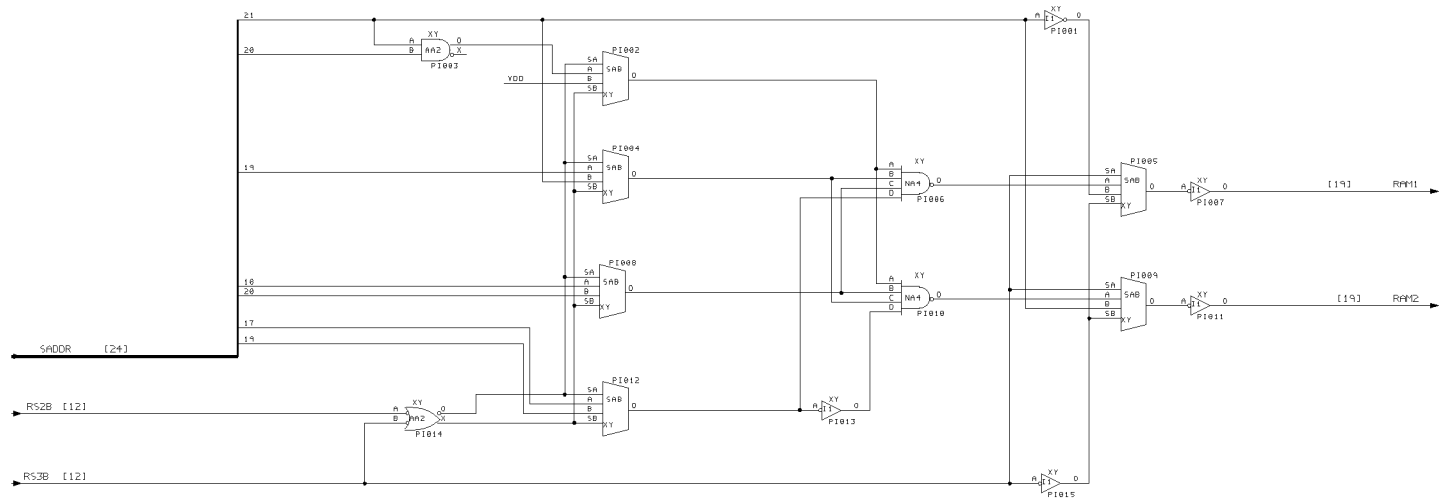


VIDEO ADDRESS COUNTER
 AT&T CORPORATION
 1116 BORREMAN AVE. SUNNYVALE, CA 91066
 ST MCU / OLUE COMBO
 SIZE CODE NUMBER: ST-4081 REV A
 D ENGINEER: G. RENN
 DATE NOV. 14, 1988 SHEET 15 OF 33





0 LORDS ON PORB



DRAM SIZE/CONFIGURATION DECODES			
ATARI CORPORATION			
1196 BORREANS AVE. SUNNYSIDE, CA 94086			
ST MCU / GLUE COMBO			
SIZE	CODE	NUMBER: 5T-4081	REV
D		ENGINEER: J. HORTON	A
DATE NOV. 08, 1988 [SHEET 10 OF 33]			

1. LOAD ON PORB
3. LOADS ON IAS

Logic diagram for Atari 4081 ST MCU / GLUE COMBO, showing control logic for RAM and ROM.

The diagram is divided into two main sections:

- Left Section (RAM Control):**
 - Inputs: ILDS [1], IUDS [1], RAM1 [18], RAM2 [18], CLK4B [7], ITESTB [7], PORB [1].
 - Outputs: LDSL (22), UD5L (22), RAM1A (22), RAM1AB (22), RAM2A (22), RAM2AB (22).
 - Logic: A series of 4-to-1 multiplexers (P1001-P1014) process the inputs to generate the outputs. P1001-P1004 are 4-to-1 multiplexers with inputs LLR, KR, XT, and XG. P1005-P1014 are 4-to-1 multiplexers with inputs LLR, KR, XT, and XG.
- Right Section (ROM Control):**
 - Inputs: DMAB [16], IXDMA [9], IRWB [1], ILDS, IUDS [1], IRWZ [1], IUD5BZ [1], ILDSBZ [1], VMFPB [4], SMFPB [5], IAS [1], IDEV [1], IRAM [2].
 - Outputs: RAMSEL (21), CHMP (21).
 - Logic: A series of 4-to-1 multiplexers (P1002-P1013) process the inputs to generate the outputs. P1002-P1004 are 4-to-1 multiplexers with inputs LLR, KR, XT, and XG. P1005-P1013 are 4-to-1 multiplexers with inputs LLR, KR, XT, and XG.

Legend:

- XY: 4-to-1 Multiplexer
- NA: Not Available
- 0: Zero

ATARI CORPORATION
1146 BORREONS AVE. SUNNYVALE, CA 94086
ST MCU / GLUE COMBO
SIZE 0 CODE NUMBER: ST-4081 REV A
DATE: NOV. 88. 1988 SHEET 14 OF 33

1. LD ON PORB
3. LD ON IAS

Logic diagram for ATARI 4081 ST MCU / GLUE COMBO. The diagram shows the internal logic for generating control signals from the ATARI 4081 pins.

Inputs:

- ILDS [1]
- IUDS [1]
- RAM1 [18]
- RAM2 [18]
- CLK4B [7]
- ITESTB [7]
- PORB [1]
- CHMB [16]
- IXDMA [9]
- IRWB [1]
- IUDS [1]
- IRWZ [1]
- IUDSBZ [1]
- ILDSBZ [1]
- VMAFB [4]
- SMVFB [5]
- IAS [1]
- IDEV [1]
- IRAM [2]

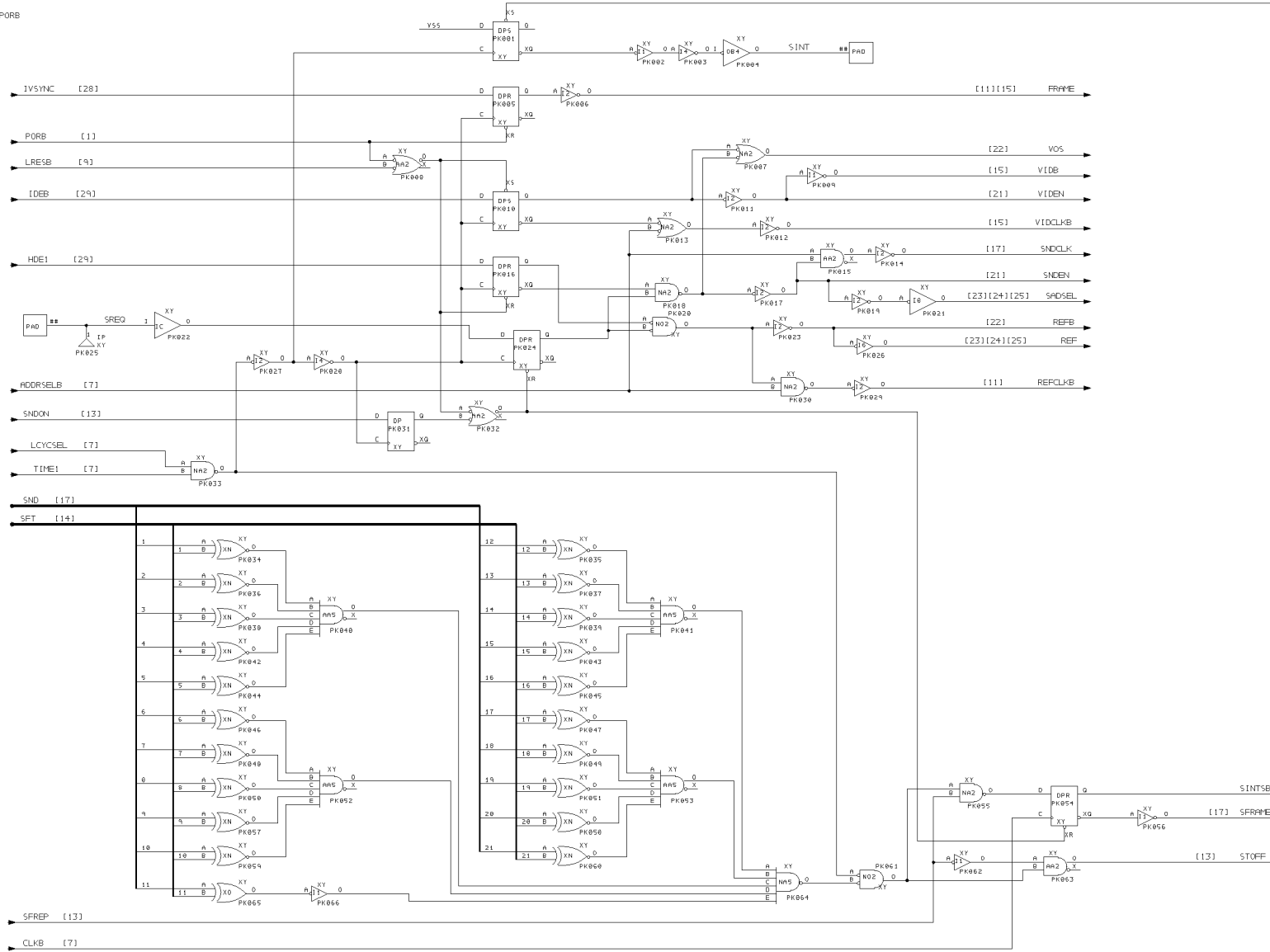
Outputs:

- LD5L [22]
- UD5L [22]
- RAM1A [22]
- RAM1AB [22]
- RAM2A [22]
- RAM2AB [22]
- RAMSEL [21]
- CHMP [21]

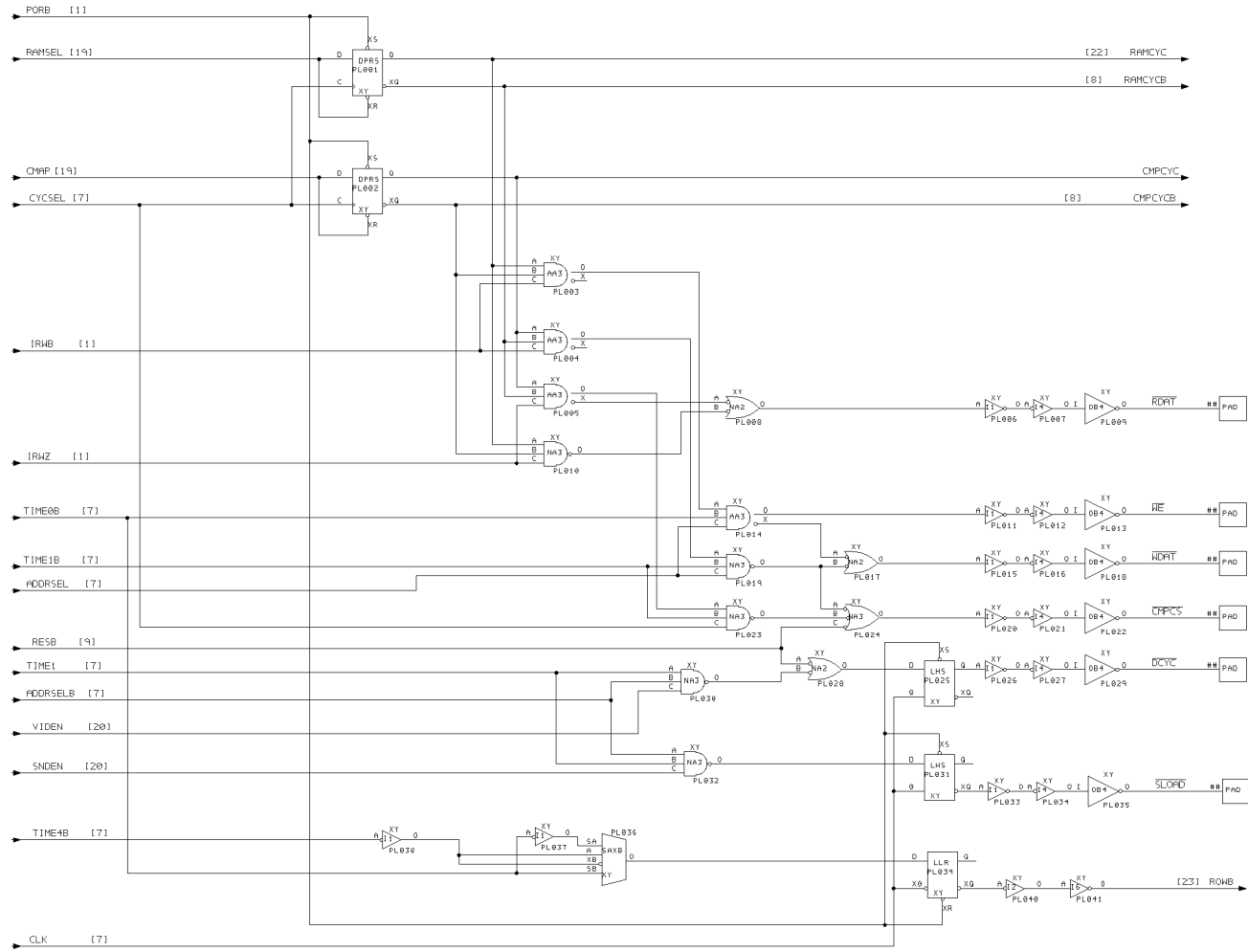
Logic Components:

- LD5L and UD5L:** Generated from ILDS and IUDS via LLR (P1001, P1004) and KR (P1003, P1006) logic.
- RAM1A and RAM1AB:** Generated from RAM1 via LLR (P1008, P1010) and KR (P1003, P1006) logic.
- RAM2A and RAM2AB:** Generated from RAM2 via LLR (P1008, P1010) and KR (P1003, P1006) logic.
- RAMSEL:** Generated from CHMB, IXDMA, IRWB, ILDS, IUDS, IRWZ, IUDSBZ, ILDSBZ, VMAFB, SMVFB, IAS, IDEV, and IRAM via a complex logic involving P1002, P1003, P1005, P1006, P1007, P1009, P1011, P1012, and P1013.
- CHMP:** Generated from CHMB, IXDMA, IRWB, ILDS, IUDS, IRWZ, IUDSBZ, ILDSBZ, VMAFB, SMVFB, IAS, IDEV, and IRAM via a complex logic involving P1002, P1003, P1005, P1006, P1007, P1009, P1011, P1012, and P1013.

3 LOADS ON PORB

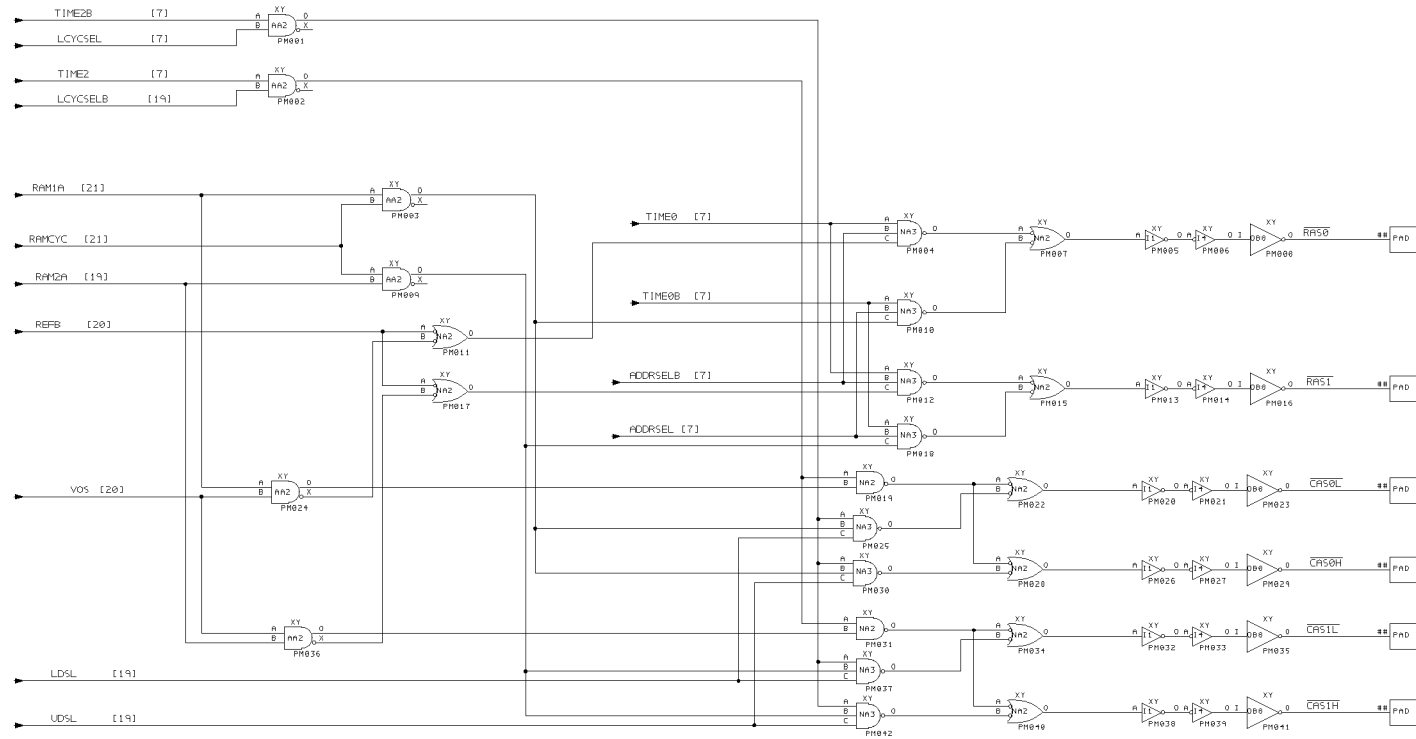


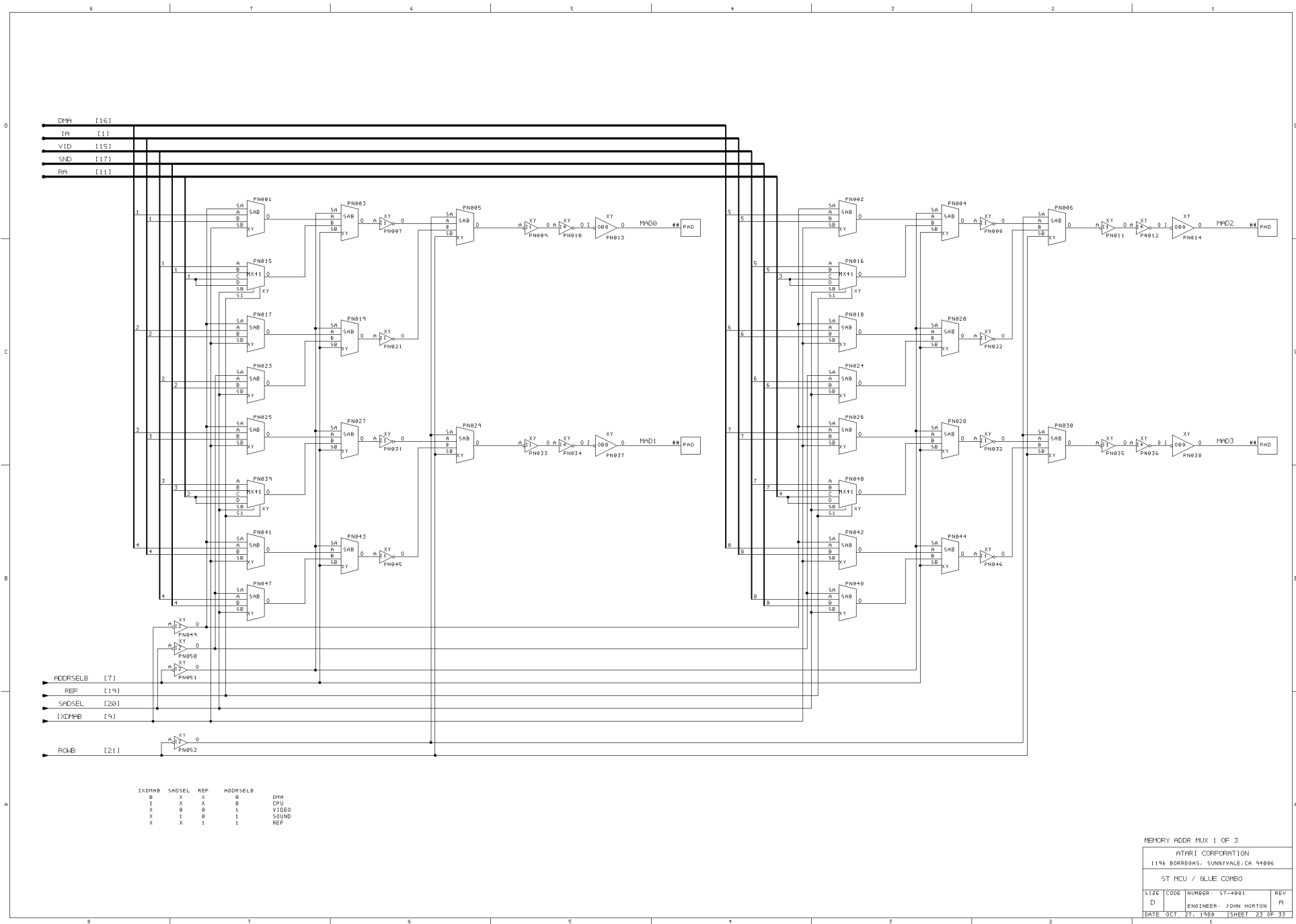
10 LOADS ON PORB

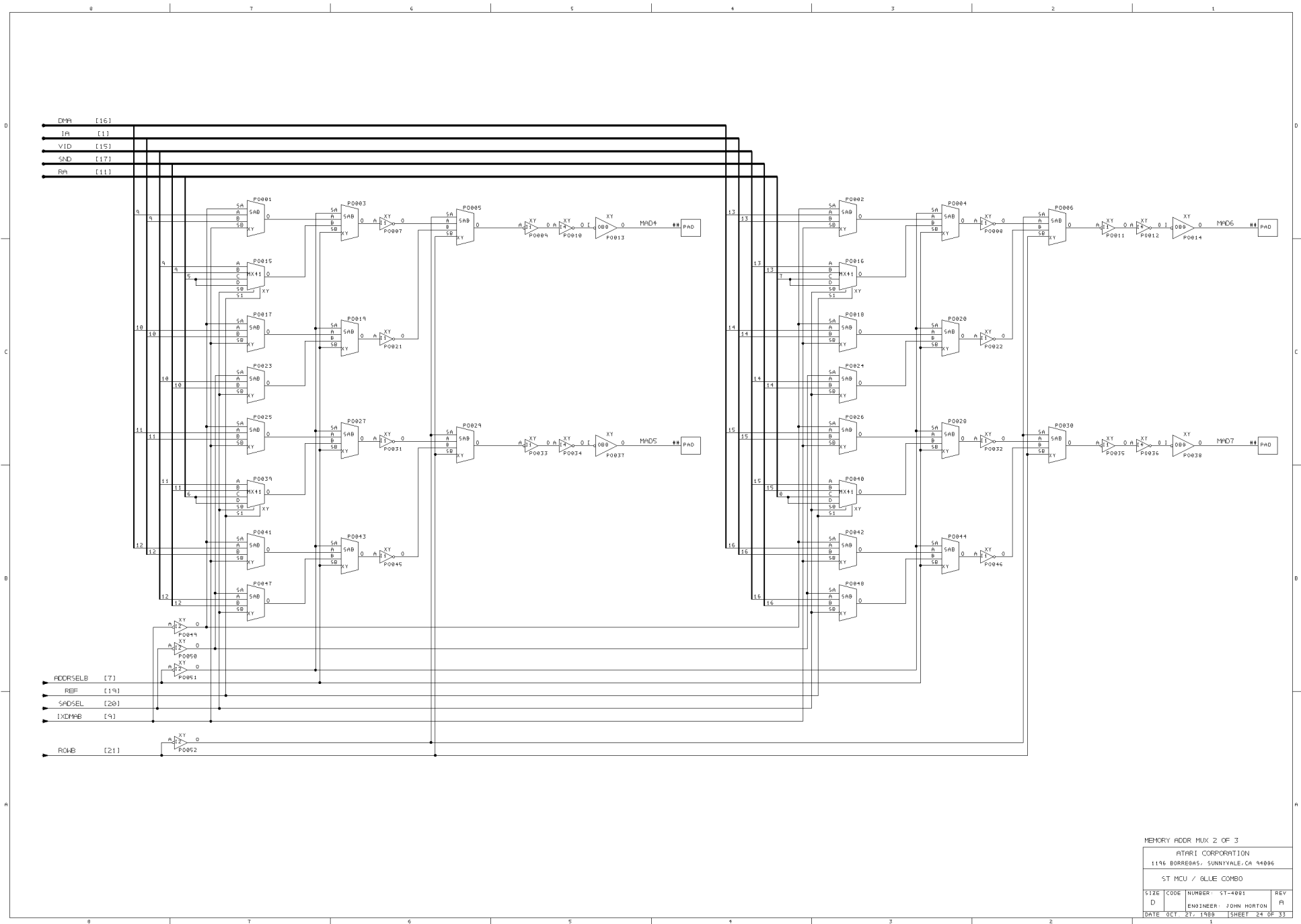


MCU CONTROL 3 OF 3			
AT&T CORPORATION			
1146 BORREANS AVE. SUNNYSIDE, CA 94086			
ST MCU / GLUE COMBO			
SIZE	CODE	NUMBER	REV
D		51-4081	A
ENGINEER:		O. RENN	
DATE	OCT. 28, 1988	SHEET	21 OF 33

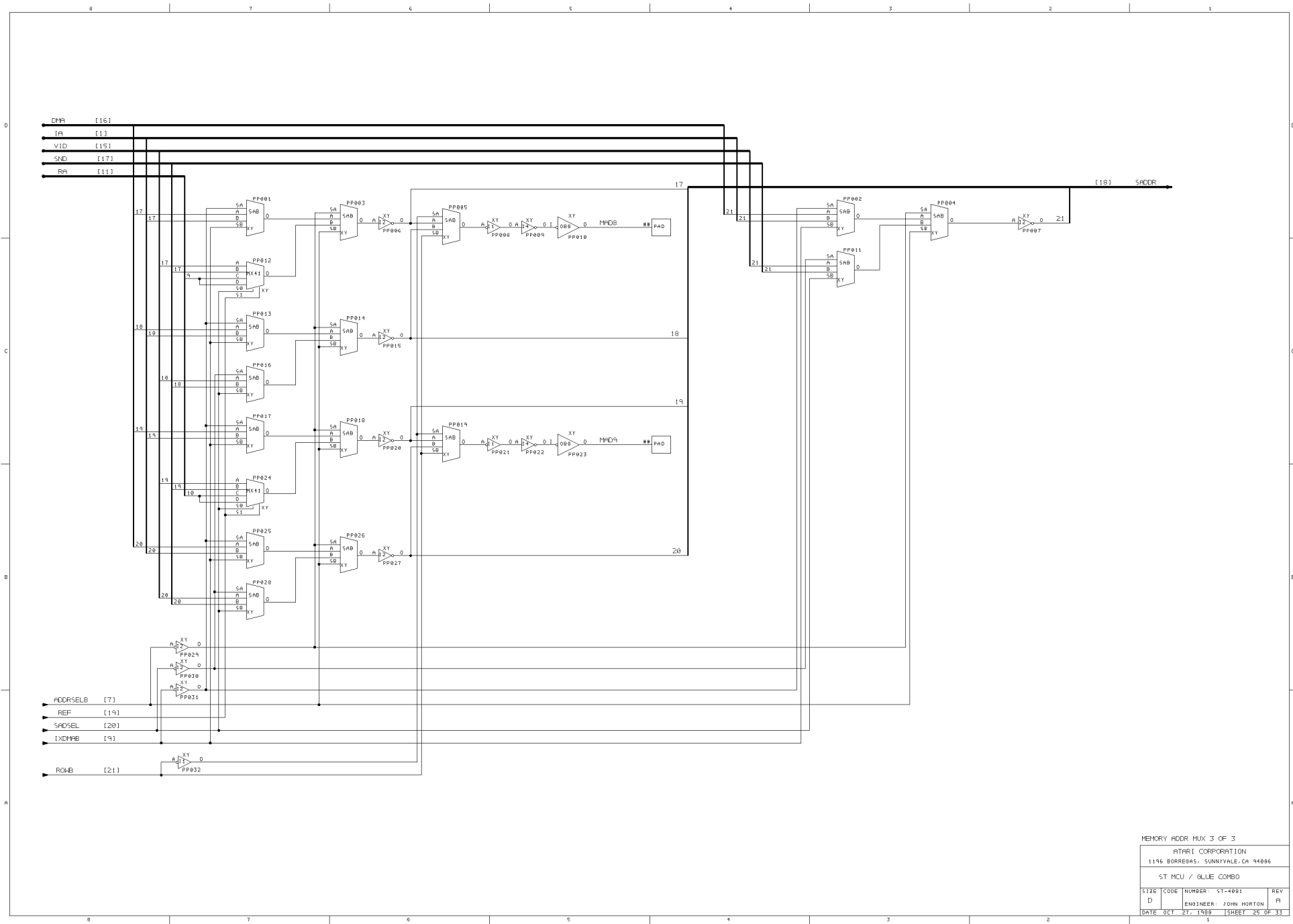
0 LOADS ON PORB

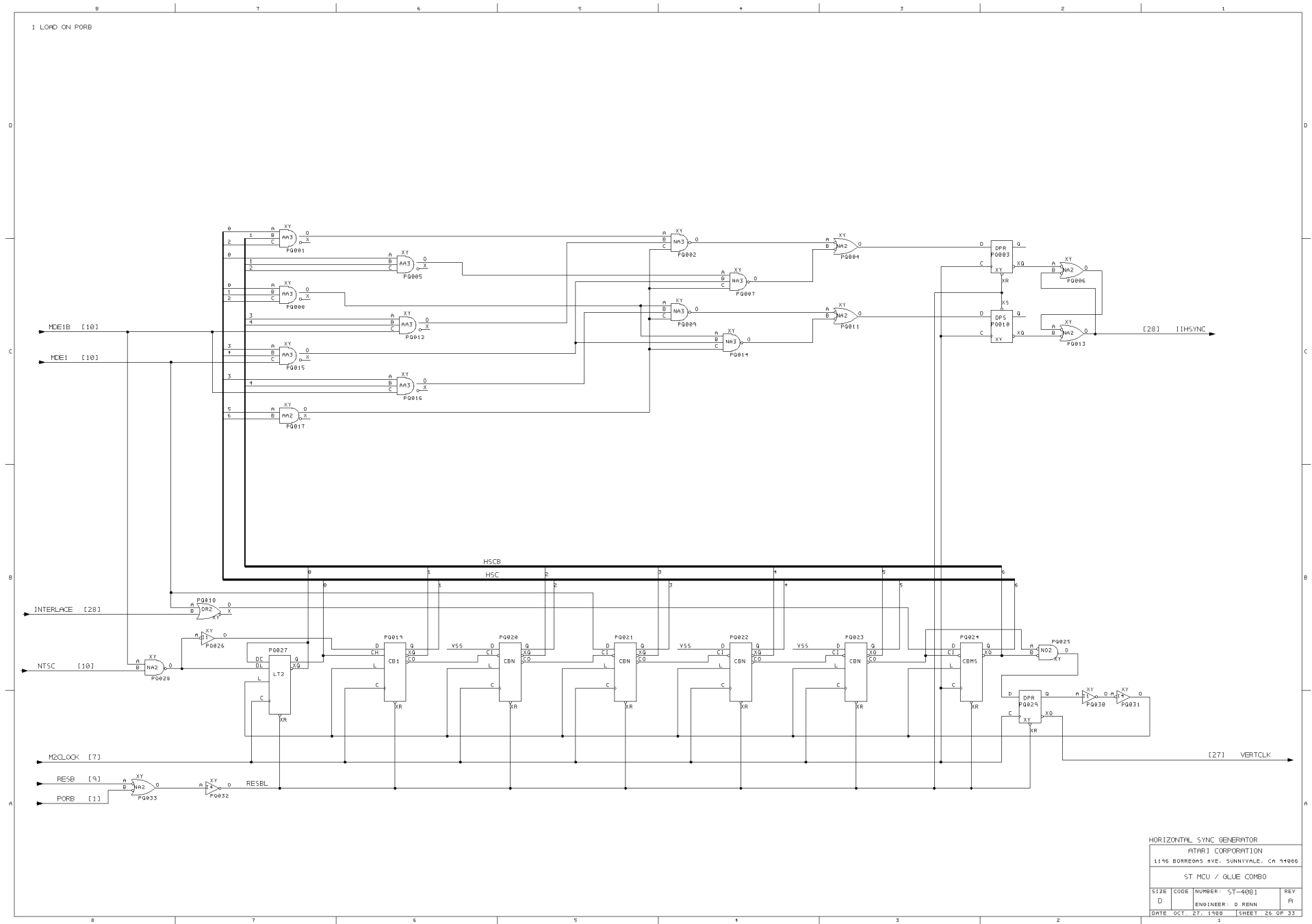




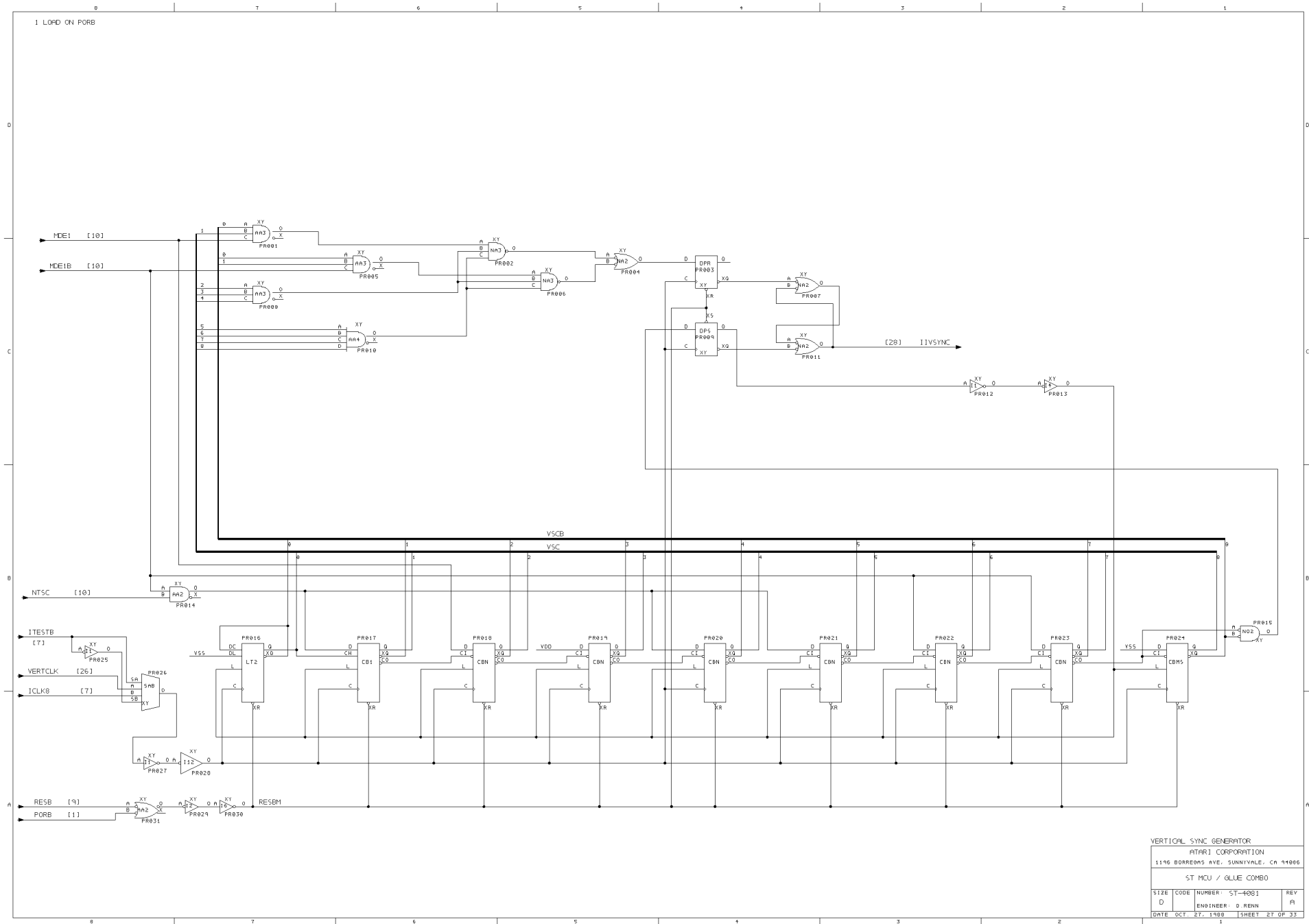


MEMORY ADDR MUX 2 OF 3			
ATARI CORPORATION			
1196 BORREAS, SUNNYVALE, CA 94086			
ST MCU / BLUE COMBO			
SIZE	CODE	NUMBER	REV
D		ST-4081	A
ENGINEER: JOHN HORTON			
DATE	OCT 27, 1989	SHEET	24 OF 33

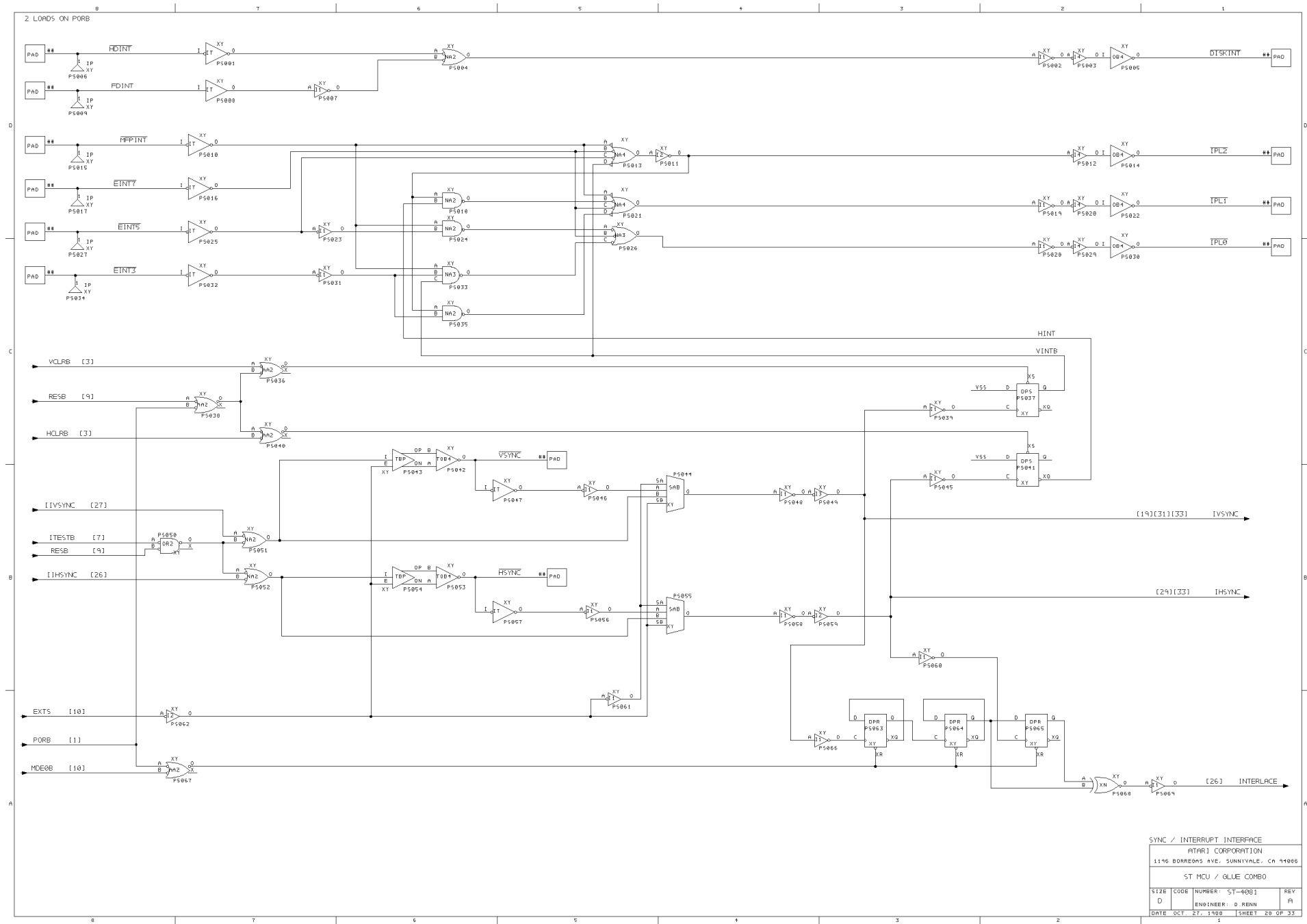




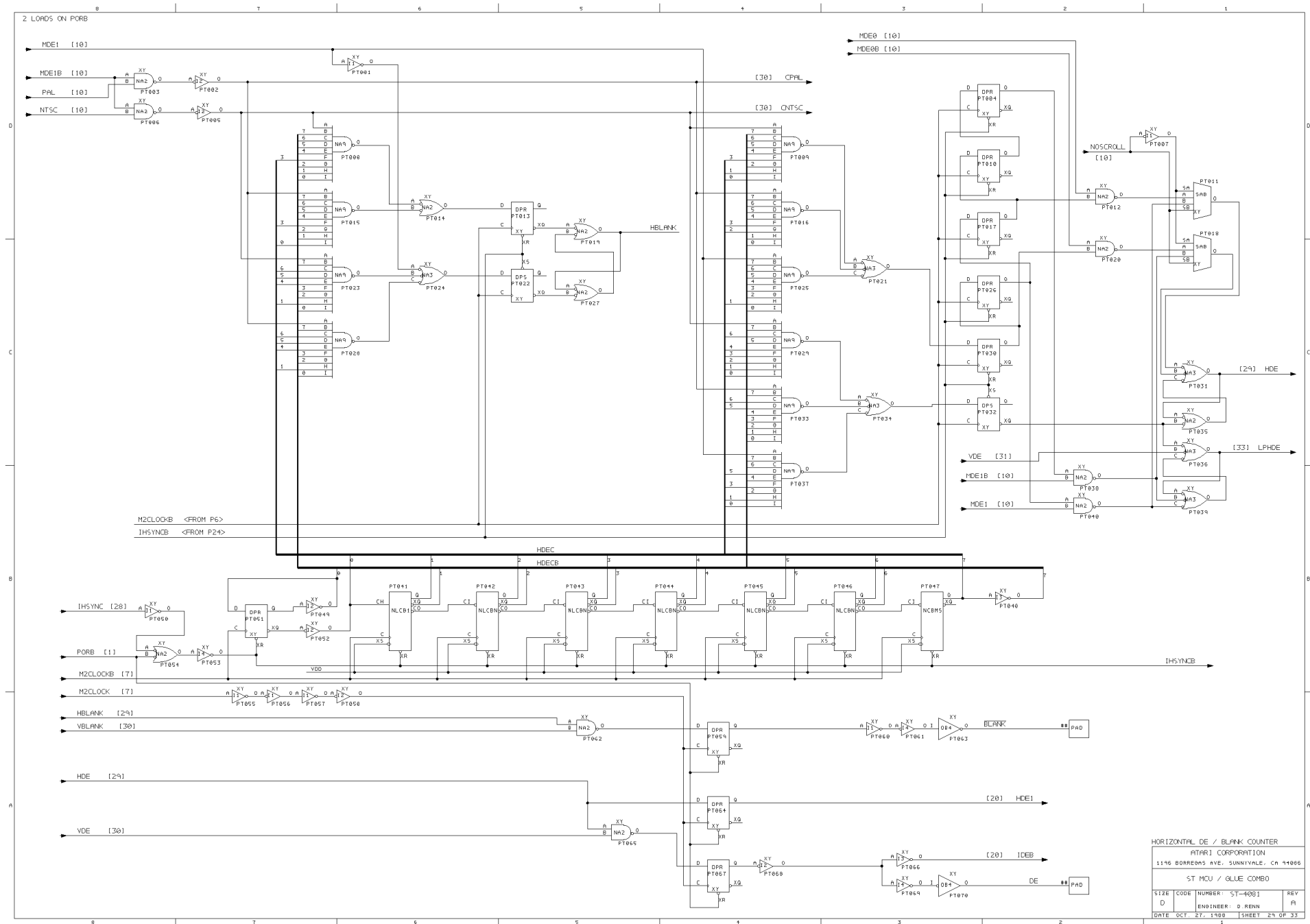
1 LOAD ON PORB



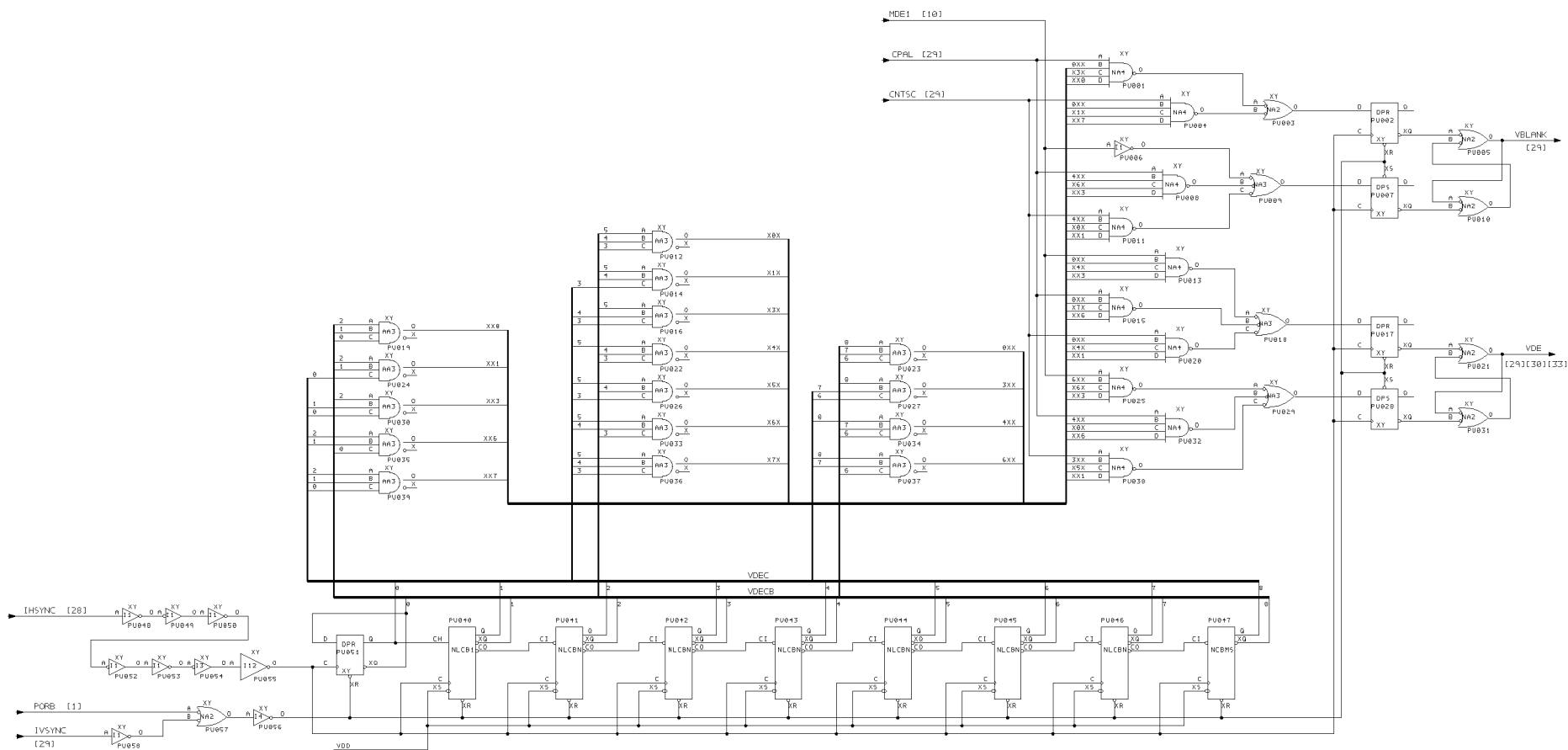
VERTICAL SYNC GENERATOR			
AT&T CORPORATION			
1146 BORREAS AVE. SUNNYSIDE, CA 94086			
ST MCU / GLUE COMBO			
SIZE	CODE	NUMBER	REV
D		57-4081	A
ENGINEER		O. RENN	
DATE		OCT. 27, 1988	
		SHEET 27 OF 33	



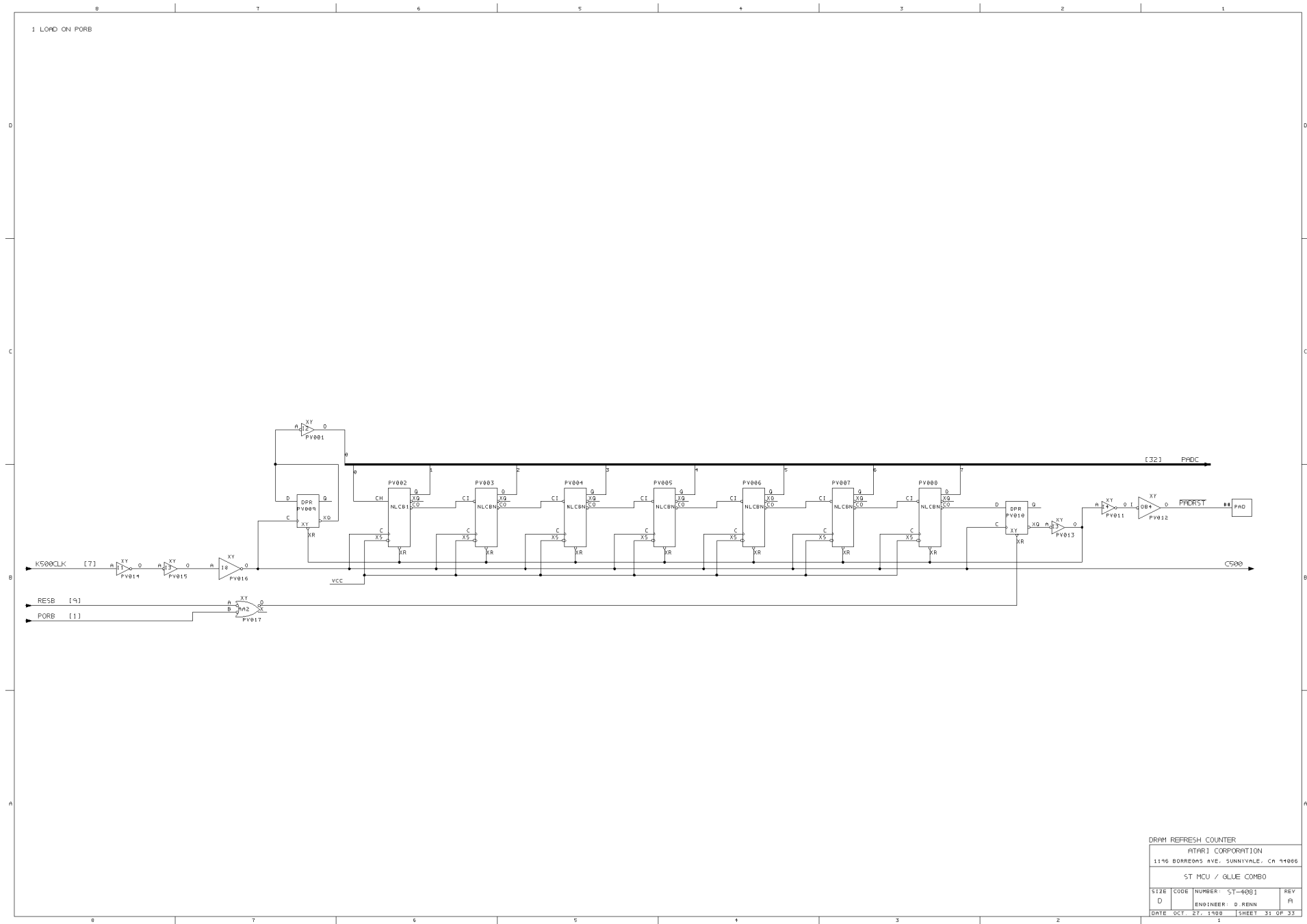
SYNC / INTERRUPT INTERFACE			
[AT&T] CORPORATION			
1146 BORREMAN AVE. SUNNYVALE, CA 94086			
ST MCU / GLUE COMBO			
SIZE	CODE	NUMBER	REV
D		57-4081	A
ENGINEER		O. RENN	
DATE		OCT. 27, 1988	

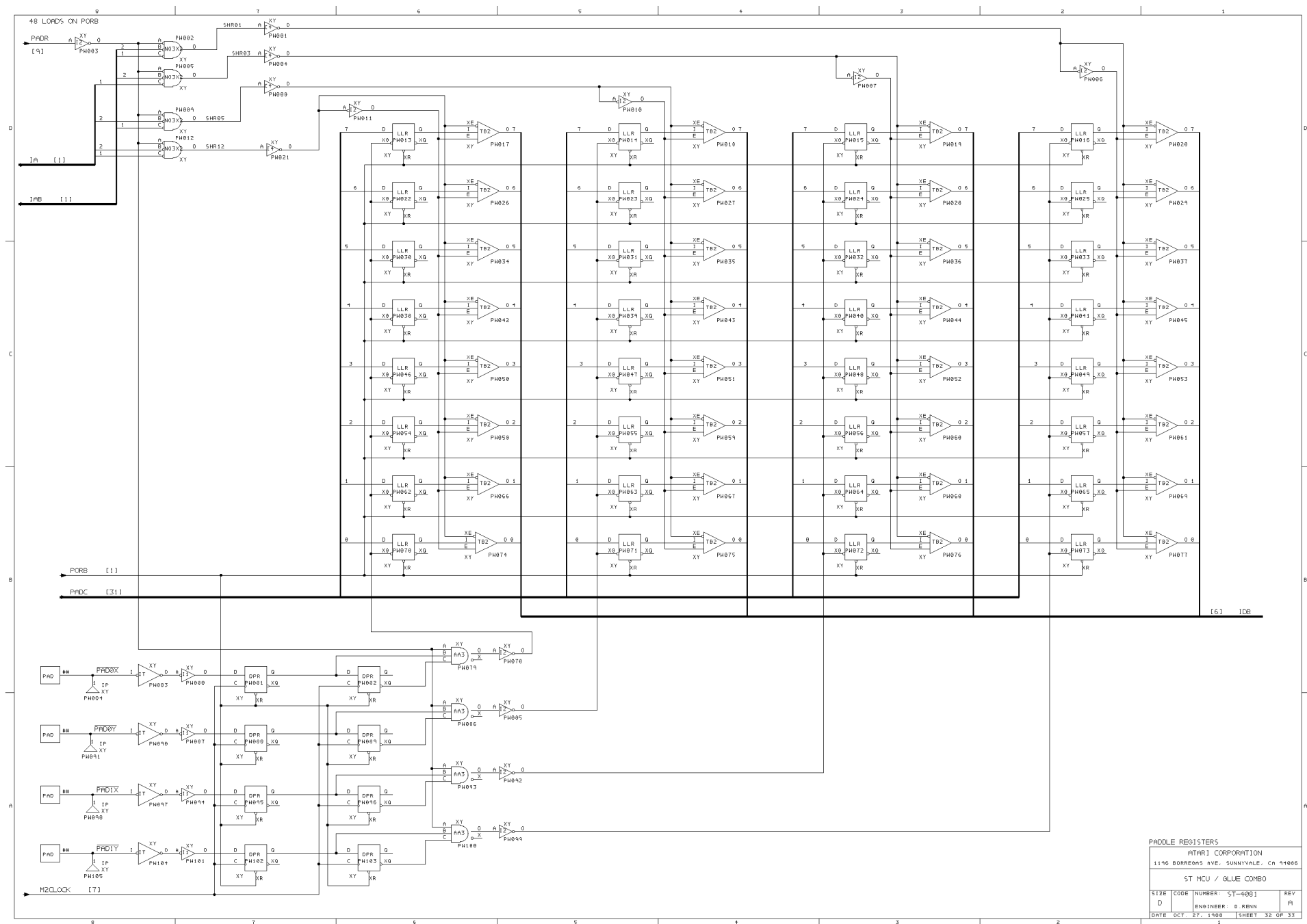


1 LOAD ON PORB

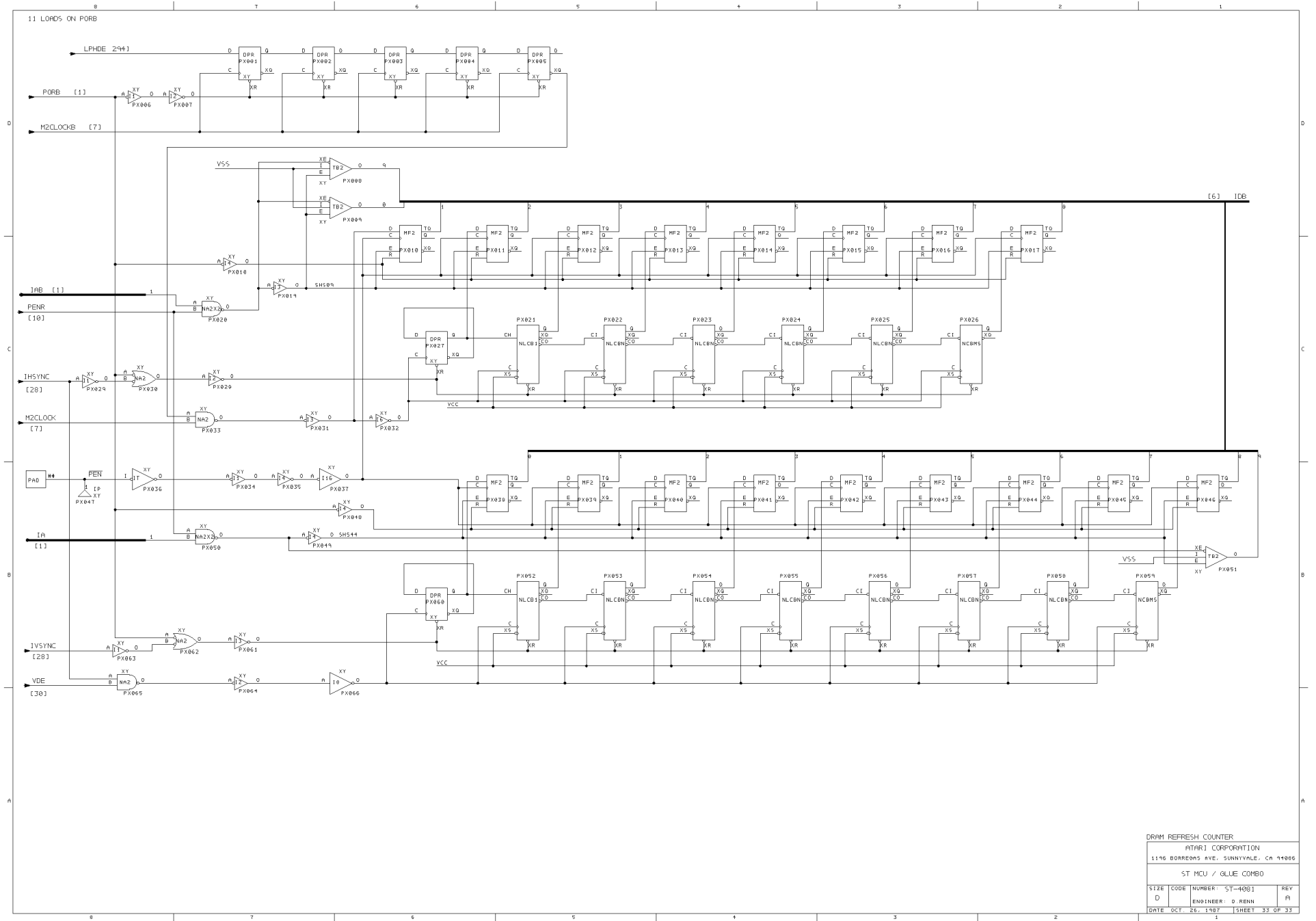


VERTICAL DE / BLANK COUNTER
 AT&T CORPORATION
 1146 BORREAS AVE. SUNNYVALE, CA 94066
 ST MCU / GLUE COMBO
 SIZE CODE NUMBER: ST-4081 REV
 D ENGINEER: O. RENN A
 DATE OCT. 27, 1988 SHEET 30 OF 33

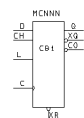
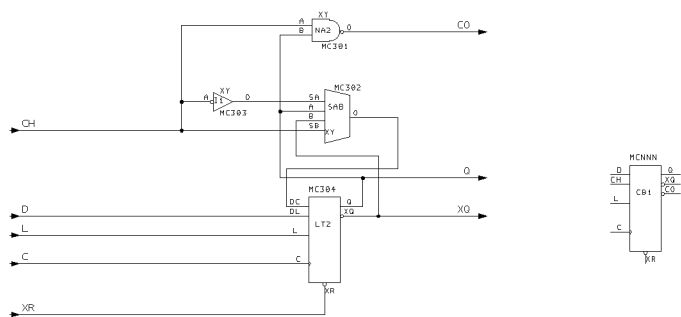




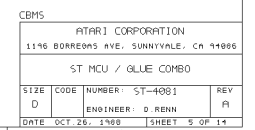
11 LOADS ON PORB

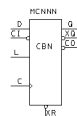


DRAM REFRESH COUNTER
 AT&T CORPORATION
 1116 BORRERO AVE. SUNNYSIDE, CA 94086
 ST MCU / GLUE COMBO
 SIZE CODE NUMBER: ST-4081 REV
 D ENGINEER: D. RENN A
 DATE OCT. 26, 1987 SHEET 33 OF 33

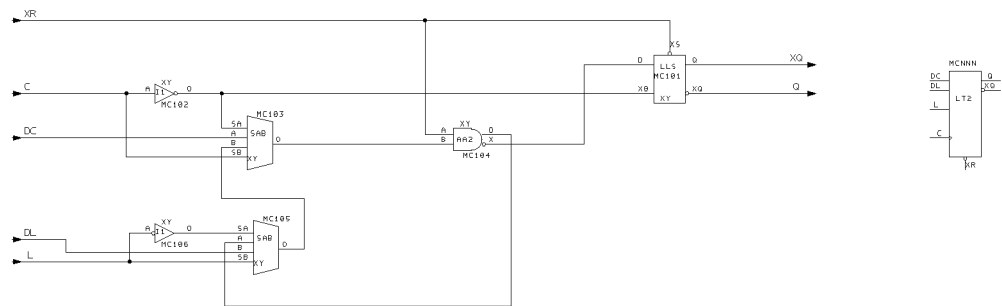


CB1			
ATARI CORPORATION			
1146 BORREOMAS AVE. SUNNYVALE, CA 94086			
ST MCU / GLUE COMBO			
SIZE	CODE	NUMBER	REV
D		51-4081	A
ENGINEER: D. RENN			
DATE	OCT. 26, 1988	SHEET	3 OF 13

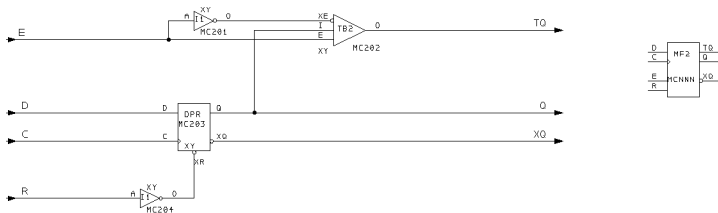




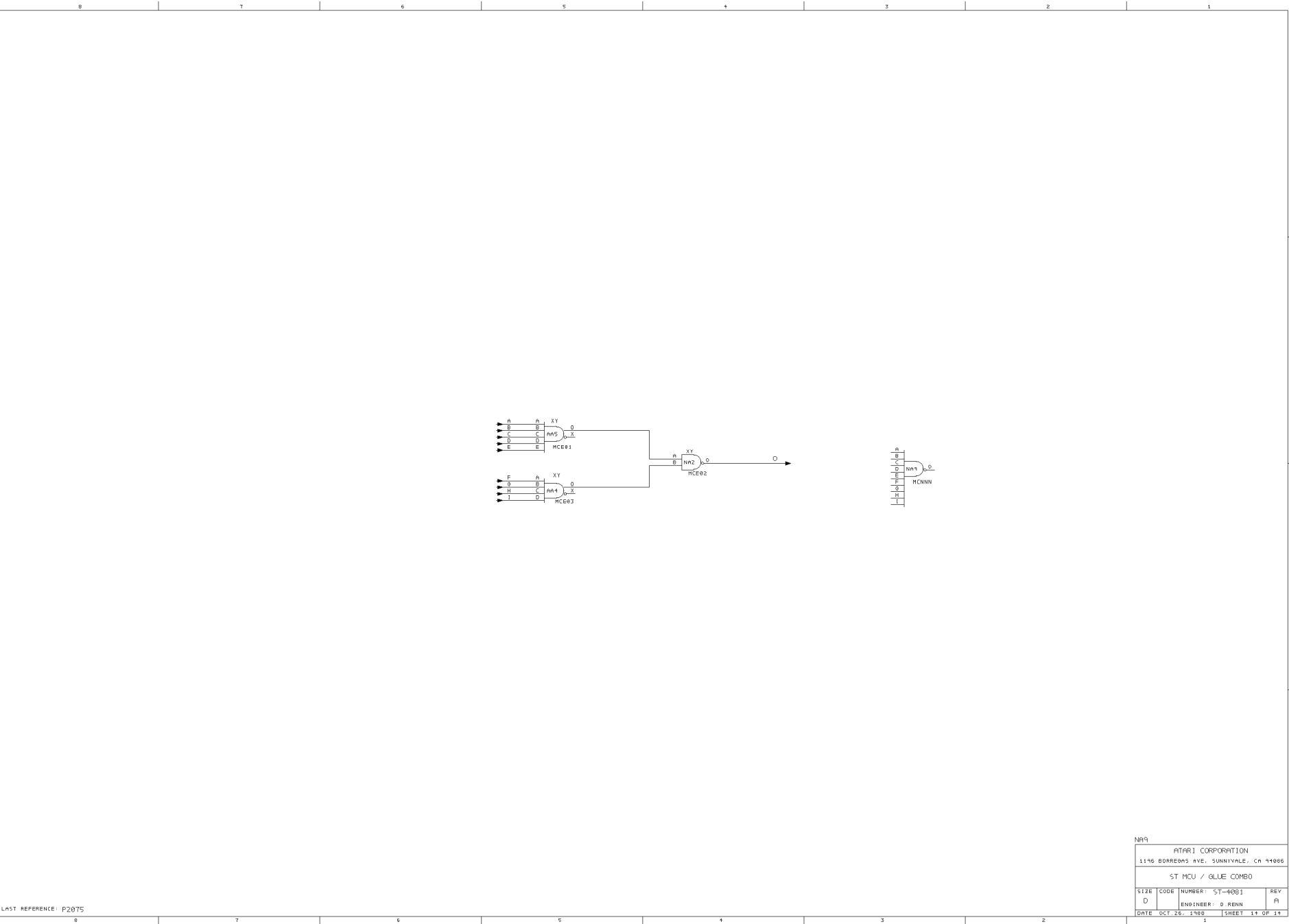
ATARI CORPORATION			
1196 BORREOAS AVE. SUNNYVALE, CA 91066			
ST MCU / BLUE COMBO			
SIZE D	CODE	NUMBER: ST-4081 ENGINEER: D. RENN	REV A
DATE OCT. 26, 1988		SHEET 1 OF 14	

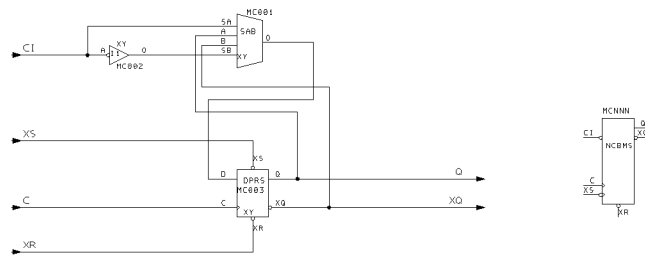


LT2			
ATARI CORPORATION			
1196 BORREAS AVE. SUNNYVALE, CA 94066			
ST MCU / GLUE COMBO			
SIZE	CODE	NUMBER	REV
D		51-4081	B
ENGINEER: D. RENN			
DATE	OCT. 26, 1988	SHEET	1 OF 13

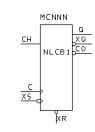
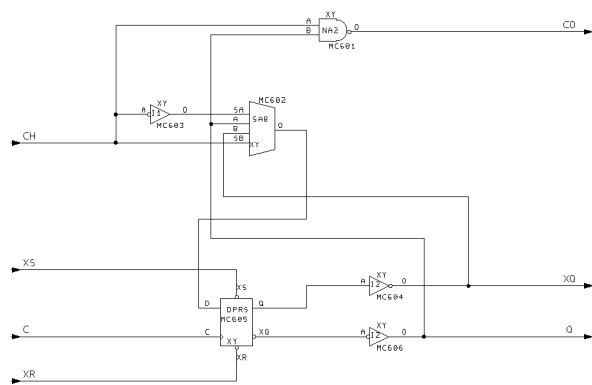


HF2			
AT&T CORPORATION			
1116 BORREOMS AVE. SUNNYVALE, CA 91066			
ST MCU / GLUE COMBO			
SIZE	CODE	NUMBER	REV
D		ST-4081	A
ENGINEER: D. RENN			
DATE	OCT. 26, 1988	SHEET	2 OF 13

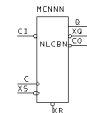
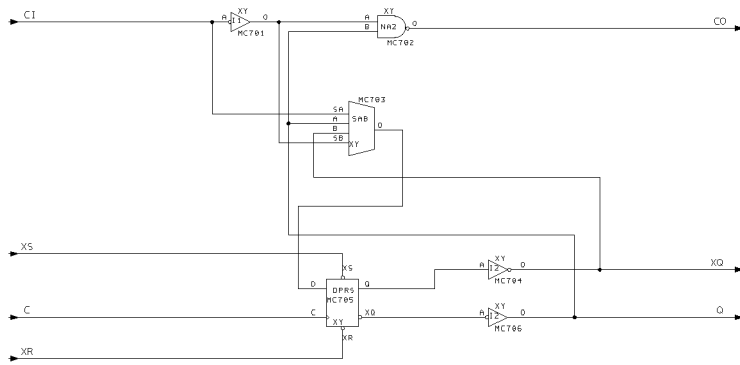




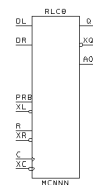
NCBMS			
AT&T CORPORATION			
1146 BORREAS AVE. SUNNYVALE, CA 94066			
ST MCU / GLUE COMBO			
SIZE	CODE	NUMBER	REV
D		51-4081	A
ENGINEER: D. RENN			
DATE	OCT. 26, 1988	SHEET	8 OF 13



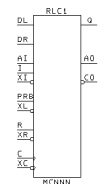
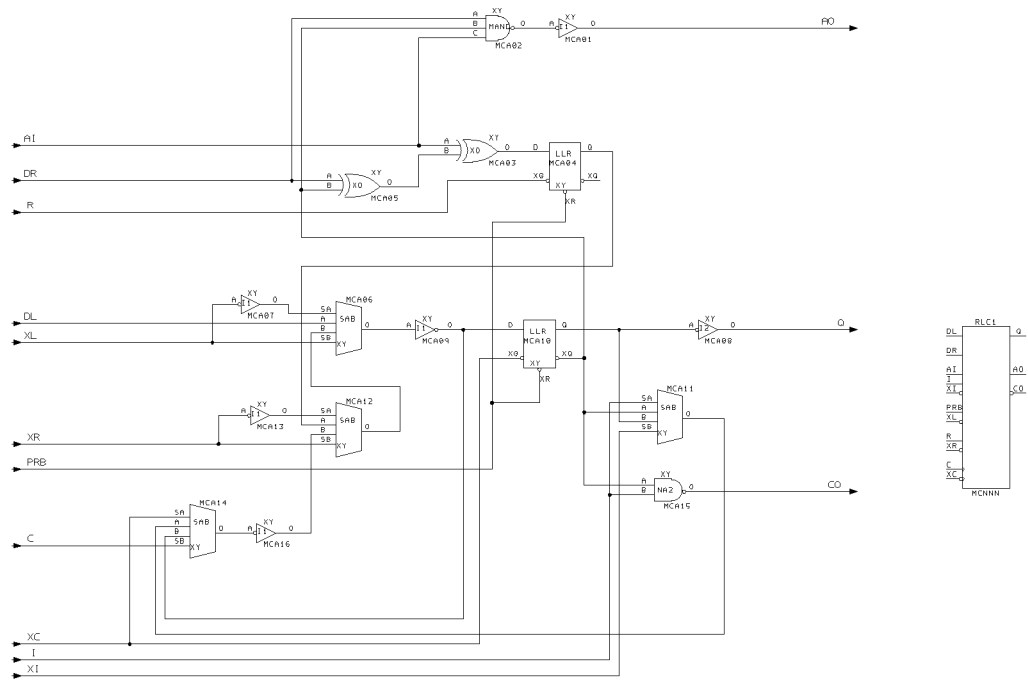
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AT&T CORPORATION			
1116 BORREANS AVE. SUNNYVALE, CA 91066			
ST MCU / BLUE COMBO			
SIZE	CODE	NUMBER	REV
D		51-4081	A
ENGINEER: D. RENN			
DATE	OCT. 26, 1988	SHEET	6 OF 13



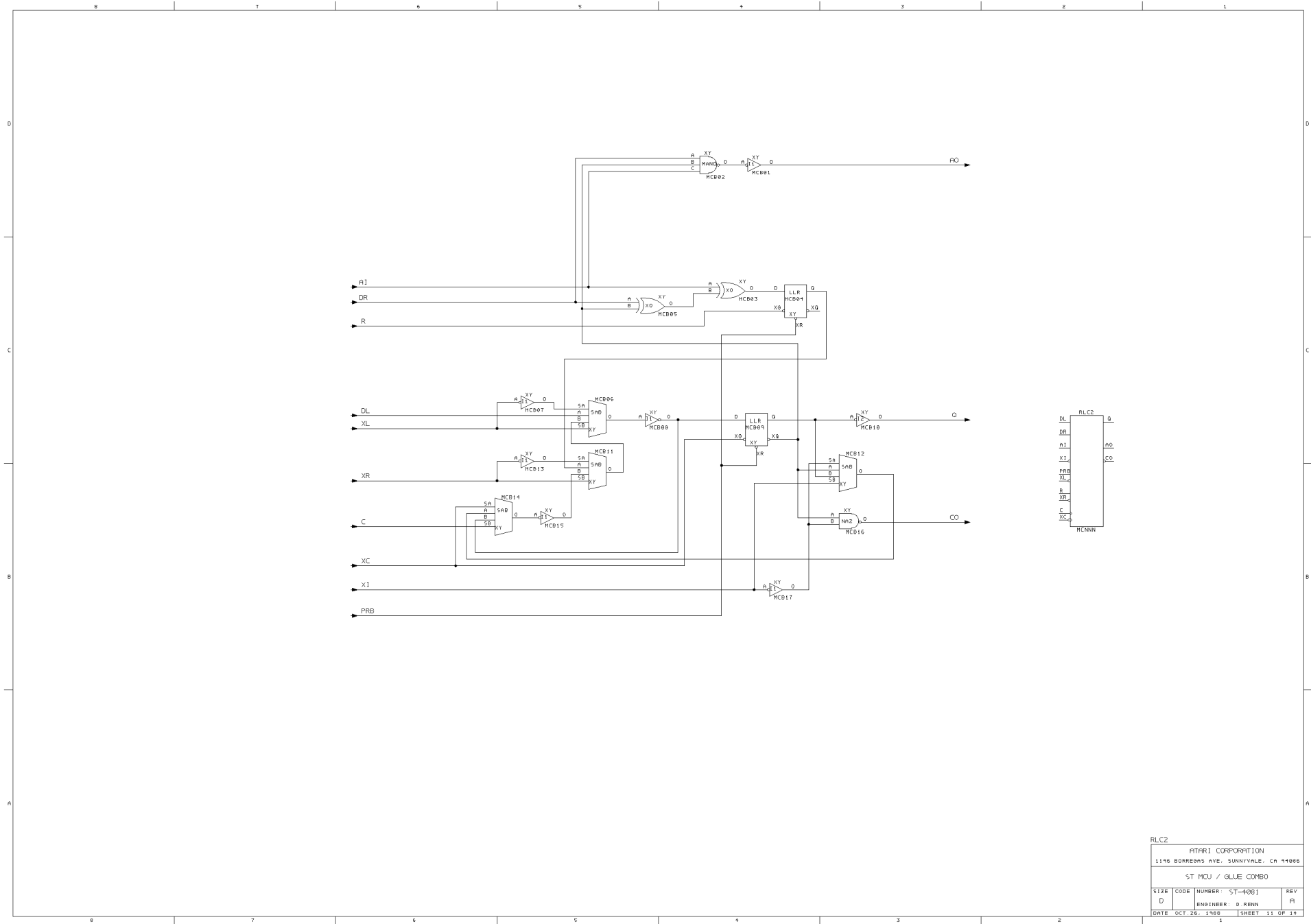
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AT&T CORPORATION			
1146 BORREAS AVE. SUNNYVALE, CA 94086			
ST MCU / GLUE COMBO			
SIZE	CODE	NUMBER	REV
D		5T-4081	A
ENGINEER: D. RENN			
DATE	OCT. 26, 1988	SHEET	7 OF 13



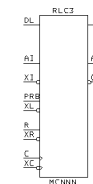
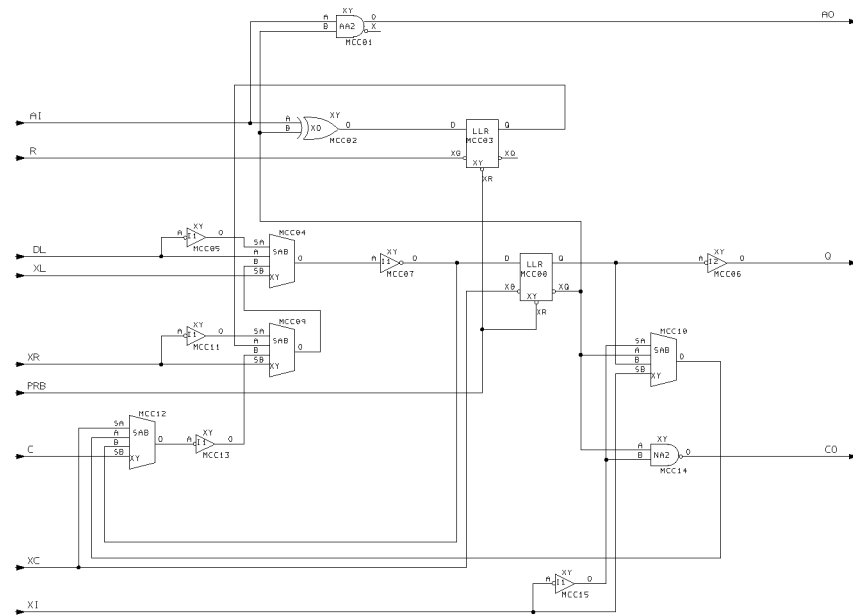
ATARI CORPORATION			
1146 BORREOAS AVE, SUNNYVALE, CA 94066			
ST MCU / BLUE COMBO			
SIZE D	CODE	NUMBER: ST-4081	REV A
DATE OCT. 26, 1988		ENGINEER: D. RENN	
SHEET 9 OF 11			



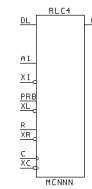
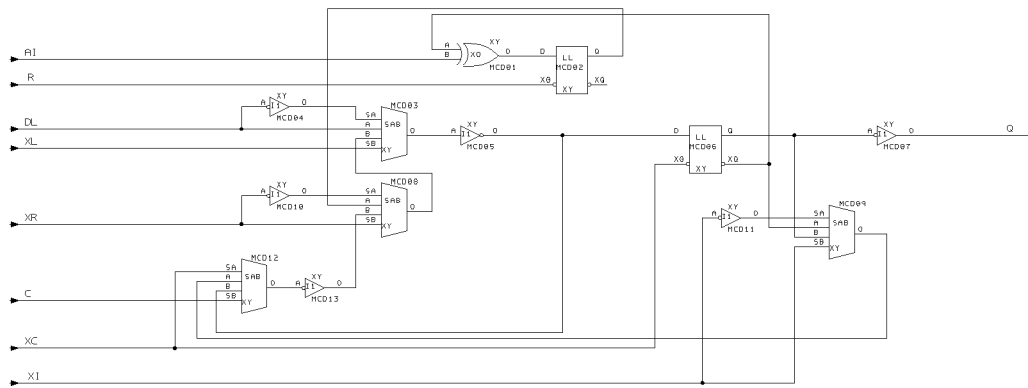
RLC1			
AT&T CORPORATION			
1146 BORDEAUX AVE. SUNNYVALE, CA 94066			
ST MCU / GLUE COMBO			
SIZE	CODE	NUMBER	REV
D		TA-4081	A
ENGINEER: O. RENN			
DATE	OCT. 26, 1988	SHEET	10 OF 14



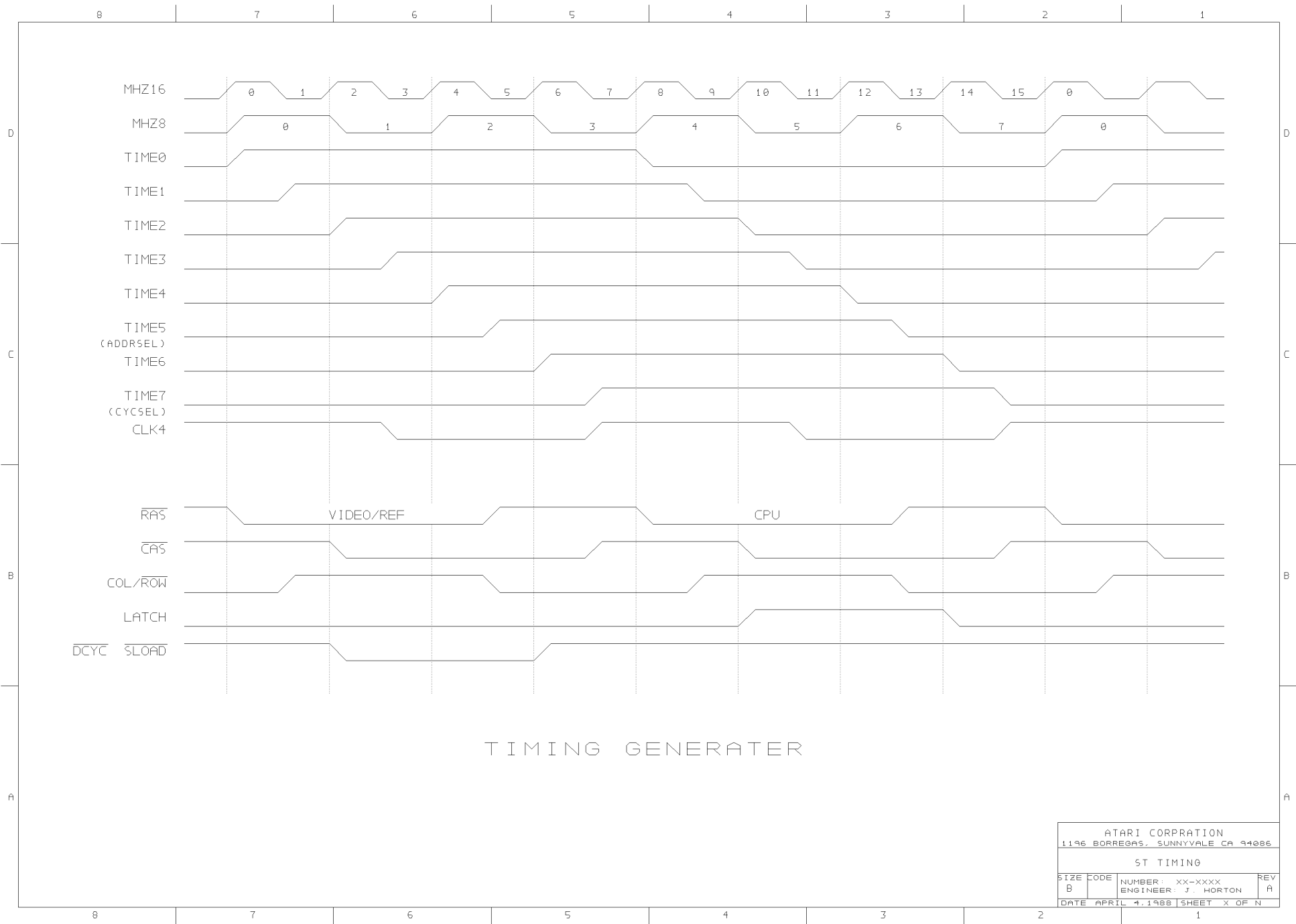
RLC2			
AT&T CORPORATION			
1146 BORREAS AVE. SUNNYVALE, CA 94066			
ST MCU / GLUE COMBO			
SIZE	CODE	NUMBER	REV
D		51-4081	A
ENGINEER: D. RENN			
DATE	OCT. 26, 1988	SHEET	11 OF 14

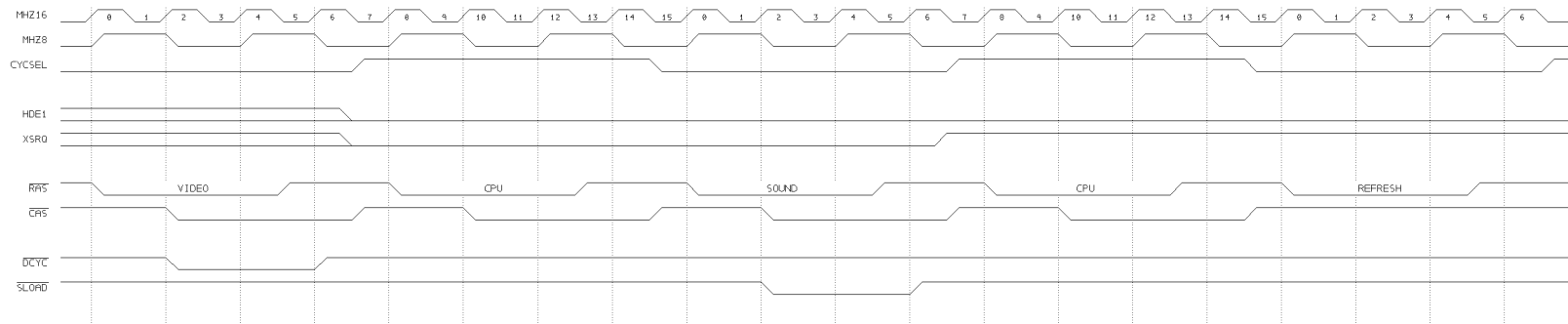


RLC3			
AT&T CORPORATION			
1196 BORREAS AVE. SUNNYVALE, CA 94066			
ST MCU / GLUE COMBO			
SIZE	CODE	NUMBER	REV
D		51-4081	A
ENGINEER: D. RENN			
DATE	OCT. 26, 1988	SHEET	12 OF 14



RLC4			
AT&T CORPORATION			
1146 BORREAS AVE. SUNNYVALE, CA 94086			
ST MCU / GLUE COMBO			
SIZE	CODE	NUMBER	REV
D		51-4081	A
ENGINEER: D. RENN			
DATE OCT. 26, 1988		SHEET 13 OF 14	





VIDEO / SOUND / REFRESH TIMING

ATARI CORPORATION			
1196 BORREAS, SUNNYVALE, CA 94086			
TITLE: ST TIMING			
CUSTOMER: INTERNAL			
SIZE	CODE	NUMBER	REV
D		XX-XXXX	A
ENGINEER: JOHN HORTON		DATE: APRIL 04, 1988	
SHEET		X OF N	