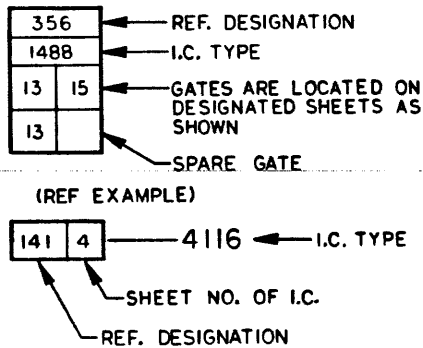
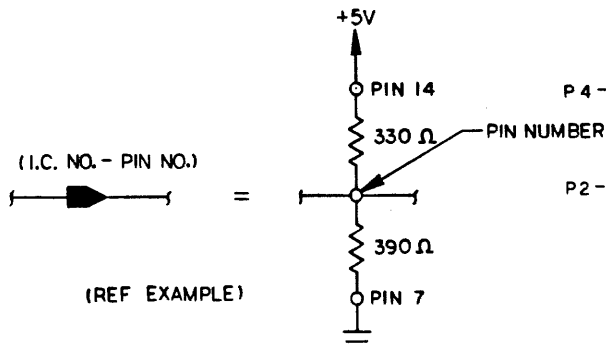


NOTES - UNLESS OTHERWISE SPECIFIED:

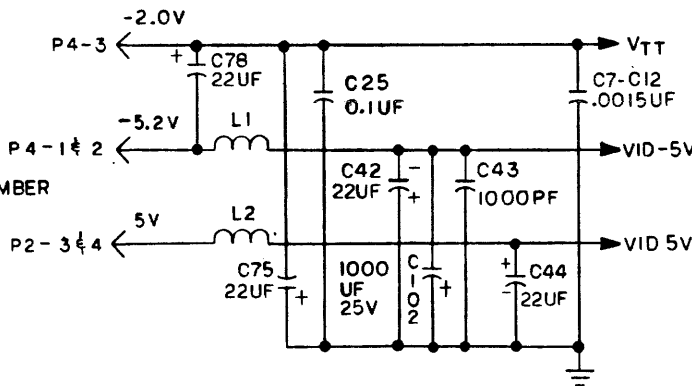
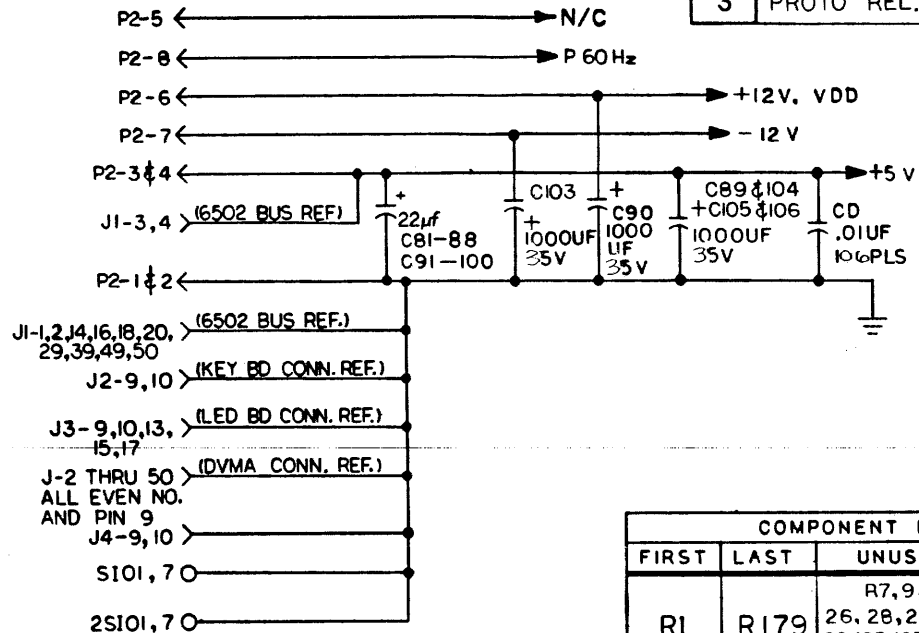
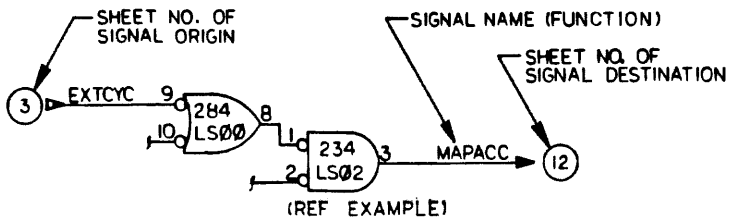
- CONNECTOR PIN DESIGNATIONS ARE PER SILK-SCREENED LED BOARD, NOT J1 CONNECTOR PIN DESIGNATOR.
- ALL RESISTORS ARE IN OHMS AND ARE 1/4 W UNLESS OTHERWISE SPECIFIED.
- FOR MODULE MAP, SEE SHEETS 29, 30 AND 31. GATES ARE IN ORDER OF OUTPUT PIN NUMBERS AND ARE DEPICTED FROM LEFT TO RIGHT, TOP TO BOTTOM ORDER.



4. THIS SYMBOL DENOTES A PULL-UP AND PULL-DOWN RESISTOR, FOR I.C.'S 359 AND 364, THAT ARE LOCATED ON SHEETS 9, 10, 15 AND 21:



5. INPUT AND OUTPUT SIGNALS ARE DEPICTED AS FOLLOWS:



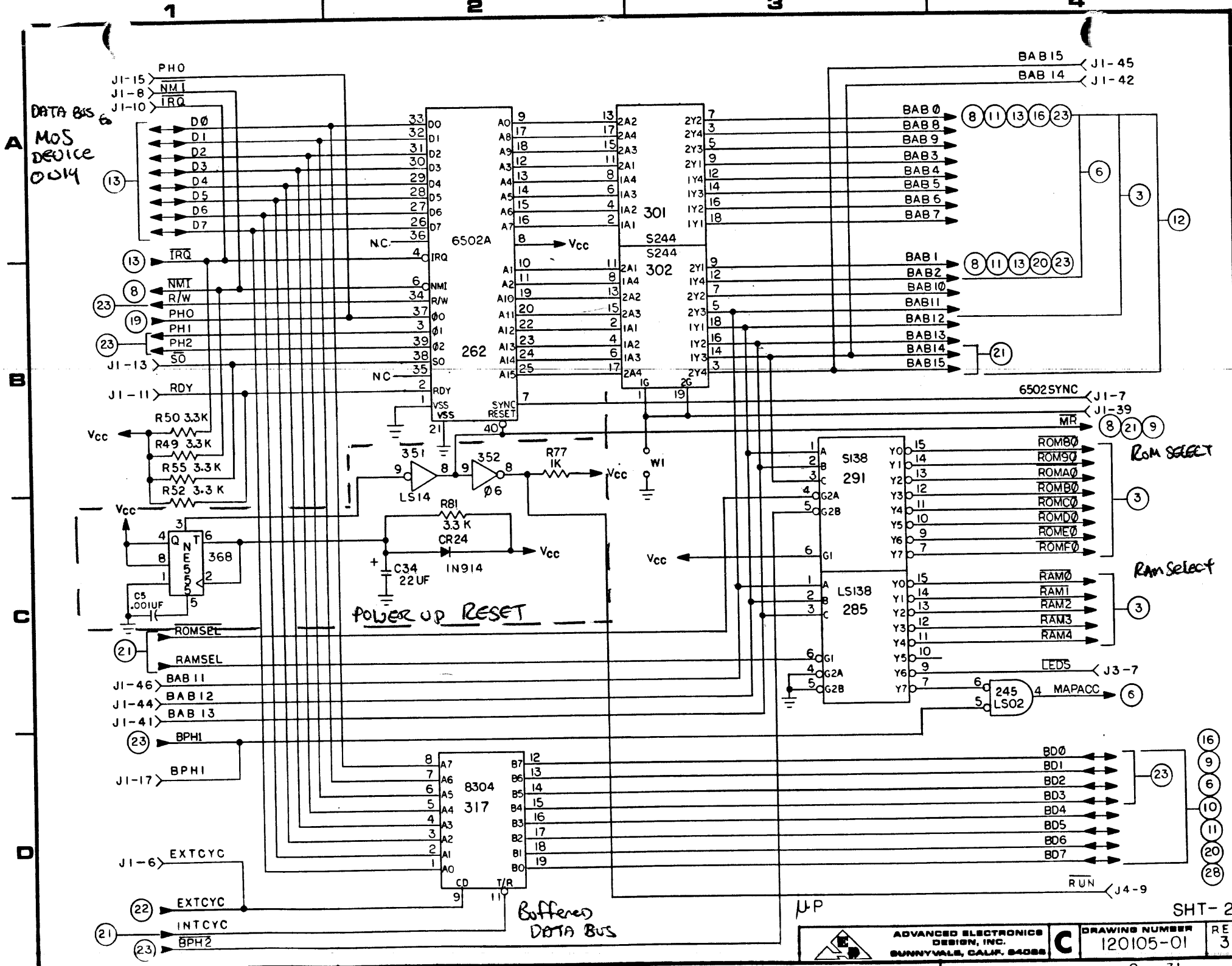
ISSUE	DESCRIPTION	DATE	APPROVED
1	PROTO RELEASE		
2	PROTO REL PCN147		<i>W.C. Moore</i>
3	PROTO REL PCN157		<i>W.C. Moore</i>

COMPONENT REF. DESIG.		
FIRST	LAST	UNUSED
R1	R179	R7, 9, 10, 12, 13, 14, 16, 26, 28, 29, 30, 36, 37, 76, 99, 103, 123-130, 139, 141, 144, 145, 167, 168, 169, 172
C1	C106	C3, 45-50, 58, 60, 63, 65-69, 71, 101.
A00	A375	
CR1	CR29	CR9, CR15-18
Q1	Q14	Q2, 3, 7.
REG 4	10	REG 1, 2, 3, 5, 6, 7.
P1	P7	
L1	L2	

-03	-02	-01	PART NUMBER	CODE IDENT	DESCRIPTION	ITEM NO.
QTY	REQD					
TOLERANCE UNLESS OTHERWISE SPECIFIED						DWN. 7-15-81 <i>Jim Ammon</i> CNS <i>E. Anderson</i> 7/29/81 APPD.
FINISH						
DRAWING TITLE						
SCALE						
DASH NO.						
NEXT ASSY						
USED ON						
APPLICATION						
ADVANCED ELECTRONICS DESIGN, INC. SUNNYVALE, CALIF. 94088						
DRAWING NUMBER						REV
120105-01						3

01	120104	767
----	--------	-----

SCHEMATIC
AED 767



A
MOS
DEVICE
0014

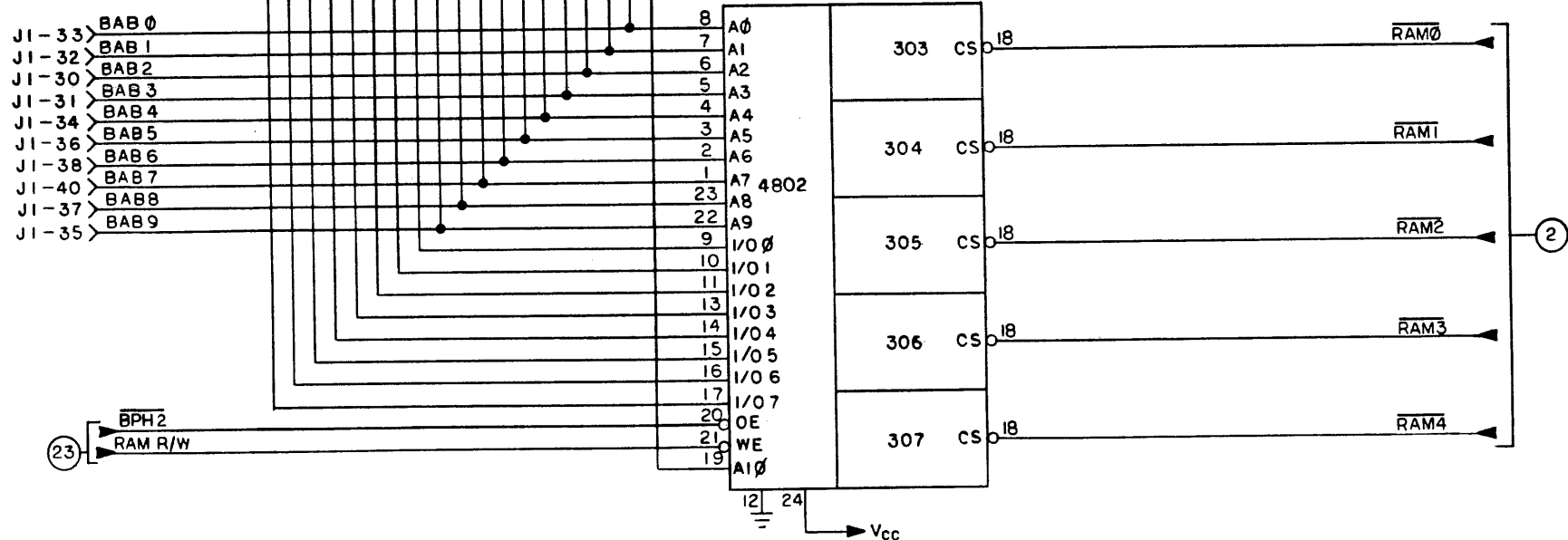
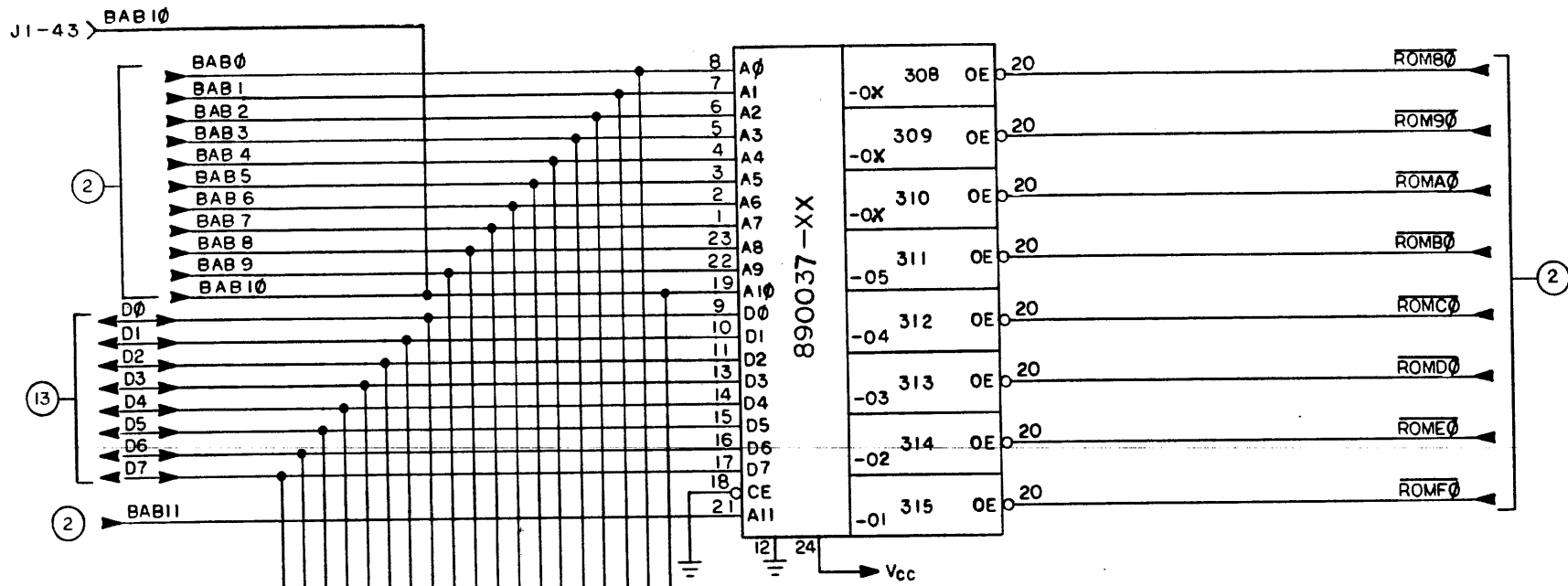
POWER UP RESET

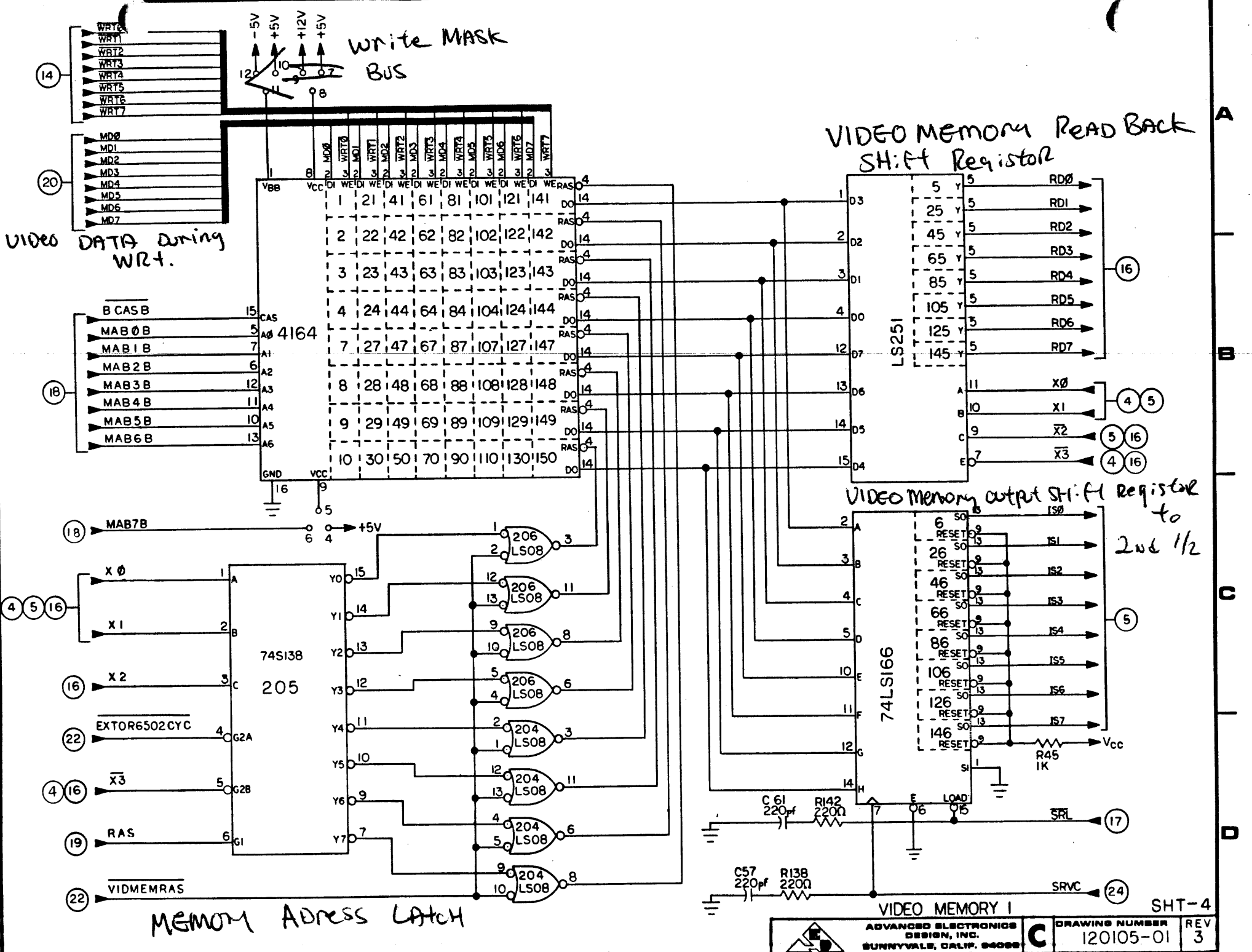
Buffered
DATA BUS

µP

SHT-2

	ADVANCED ELECTRONICS DESIGN, INC. SUNNYVALE, CALIF. 94088	C	DRAWING NUMBER 120105-01	REV 3
	SHEET 2 OF 31			





VIDEO MEMORY READ BACK
Shift Register

VIDEO Memory output Shift Register
to
2nd 1/2

MEMORY ADDRESS LATCH

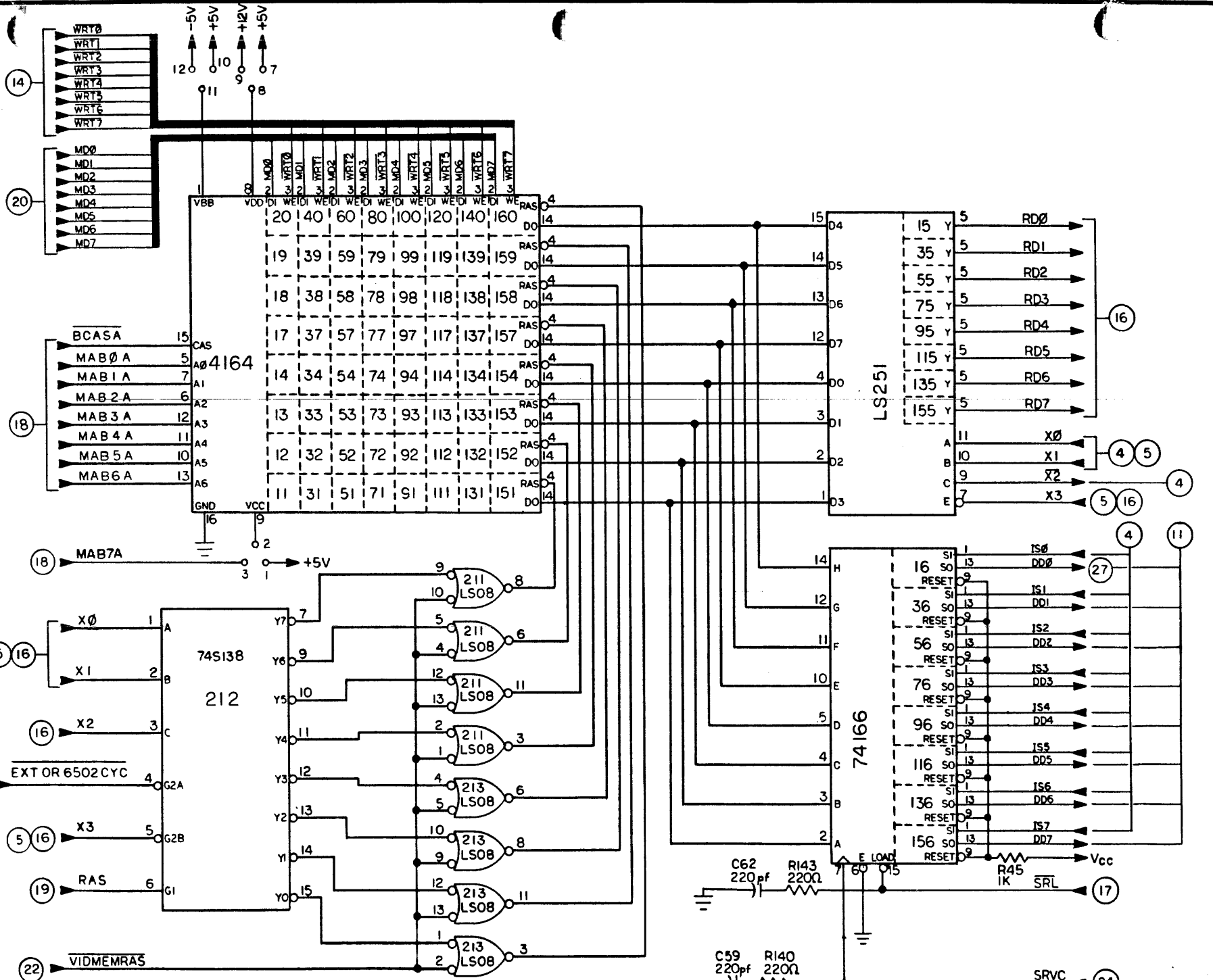
VIDEO MEMORY I SHT-4

ADVANCED ELECTRONICS
DESIGN, INC.
SUNNYVALE, CALIF. 94088


DRAWING NUMBER
120105-01

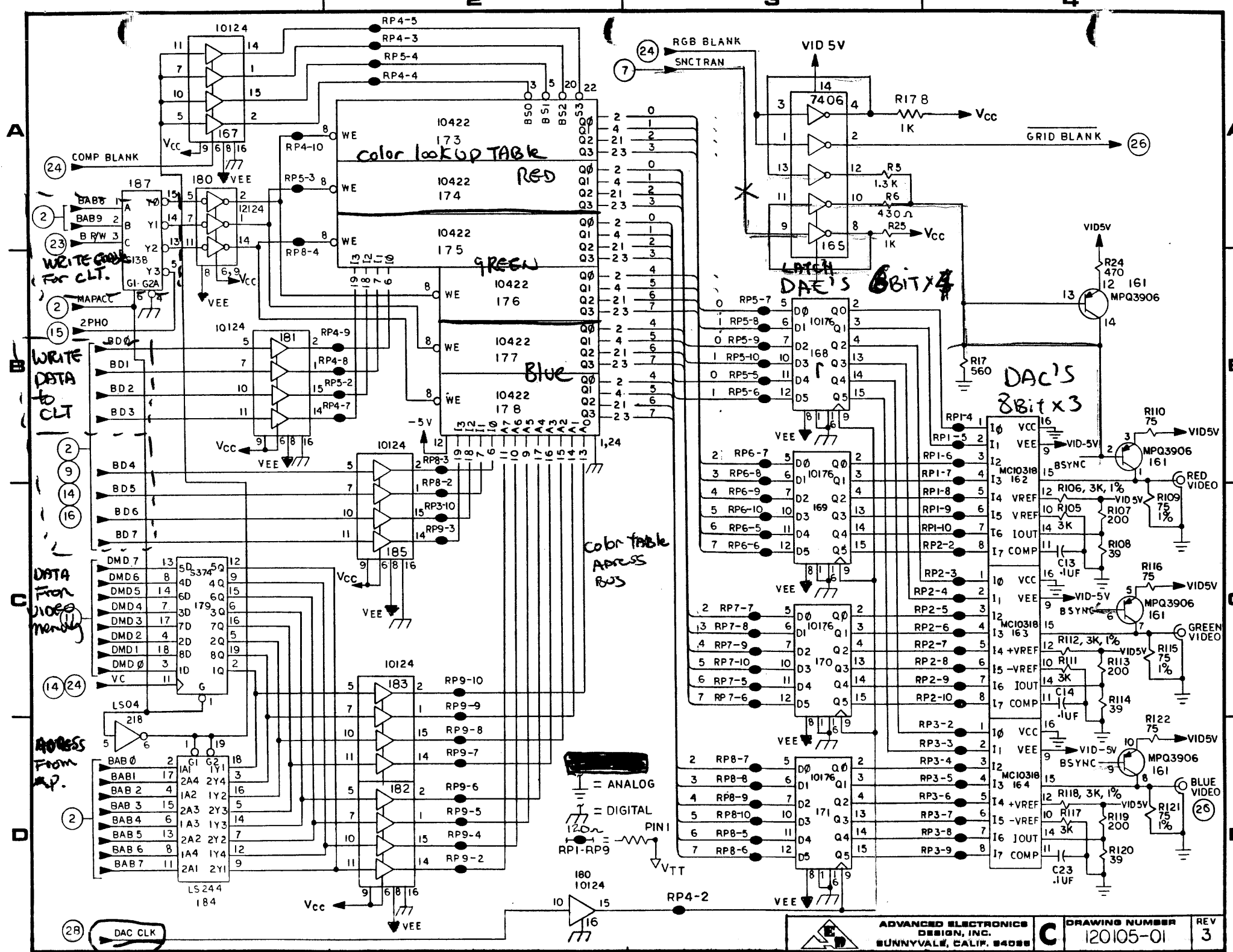
REV
3

A
B
C
D



VIDEO MEMORY 2 SHT-5

 ADVANCED ELECTRONICS DESIGN, INC. SUNNYVALE, CALIF. 94088	DRAWING NUMBER 120105-01	REV 3
--	------------------------------------	-----------------



COMP BLANK
 (24)
 (2) BAB8
 (23) BAB9
 (2) B RW 3
 (2) MAPACC
 (15) 2PHO

WRITE DATA to CLT
 (2)
 (9)
 (14)
 (16)

DATA From Video Memory
 (14)
 (24)

ADDRESS From AP
 (2)

(28) DAC CLK

color lookup TABLE
 RED

GREEN

Blue

Color Table Address BUS

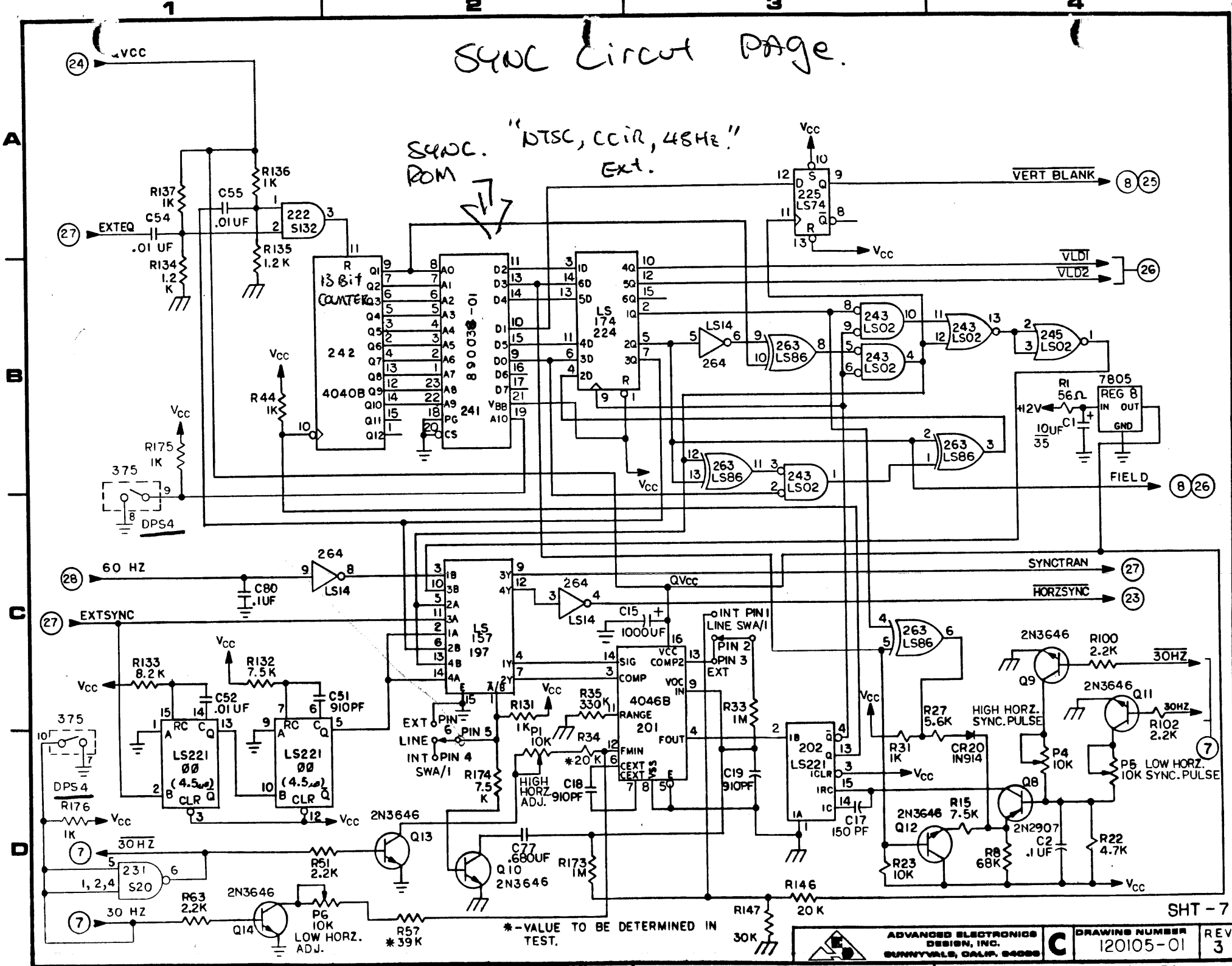
LATCH DAC'S 8Bit x 4

DAC'S 8Bit x 3

= ANALOG
 = DIGITAL
 RPI-RP9

SYNC Circuit Page.

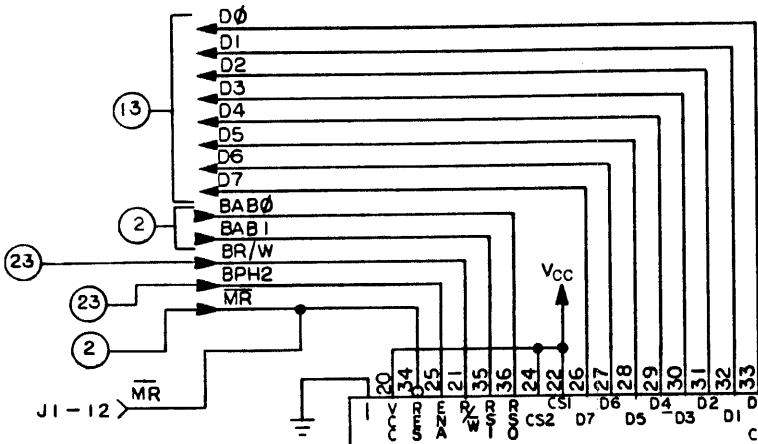
SYNC. "NTSC, CCIR, 48Hz"
ROM Ext.



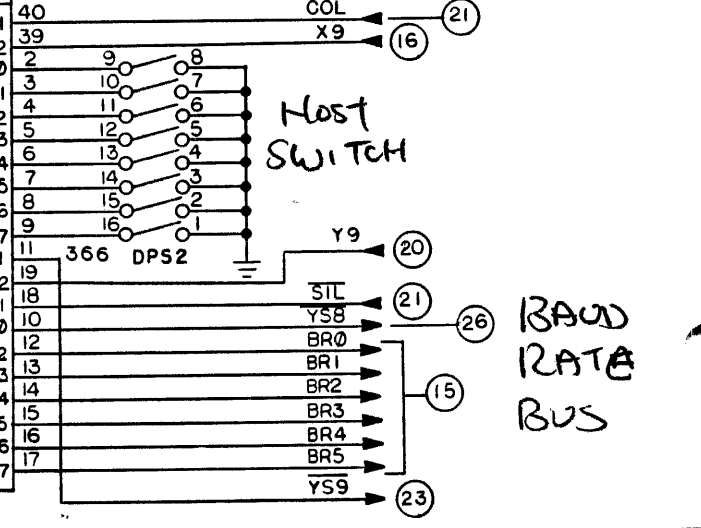
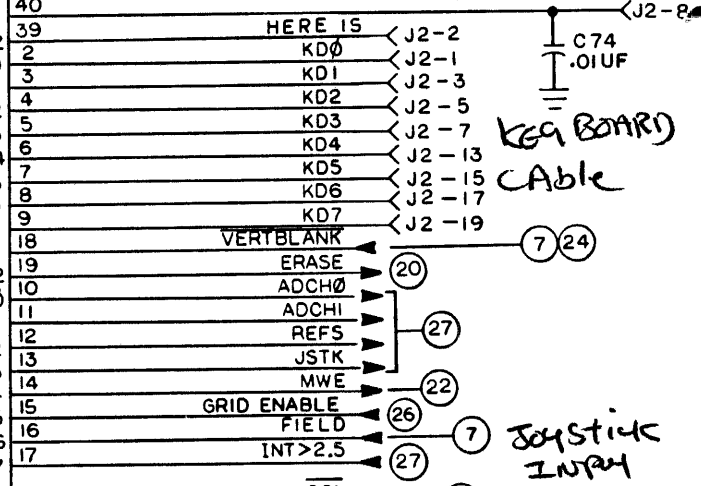
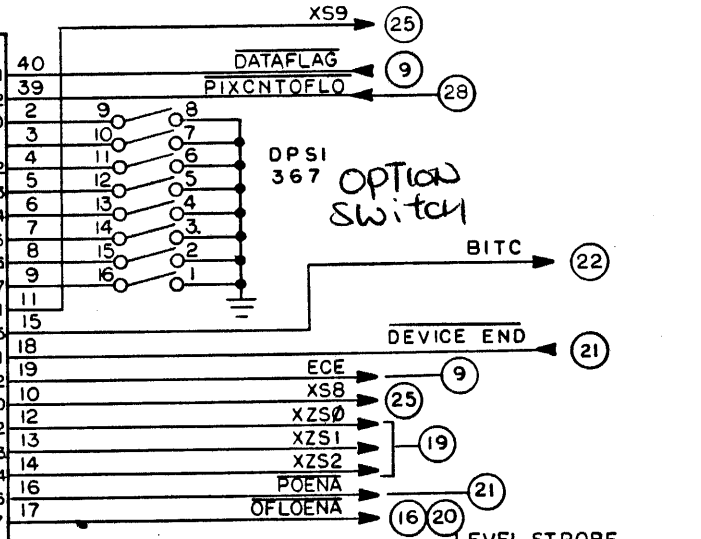
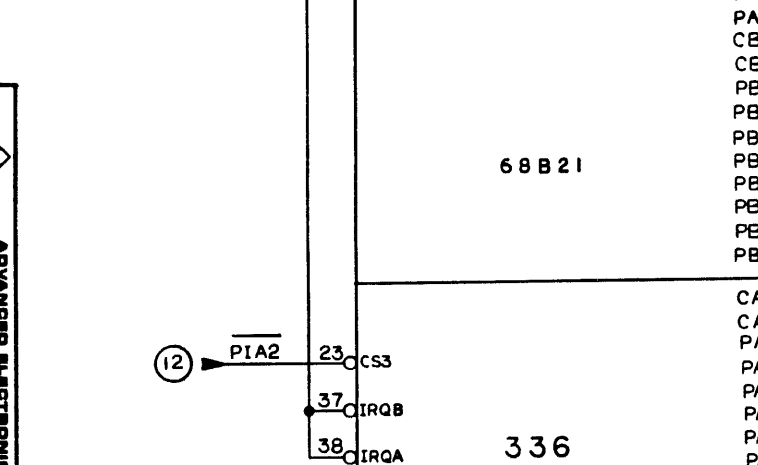
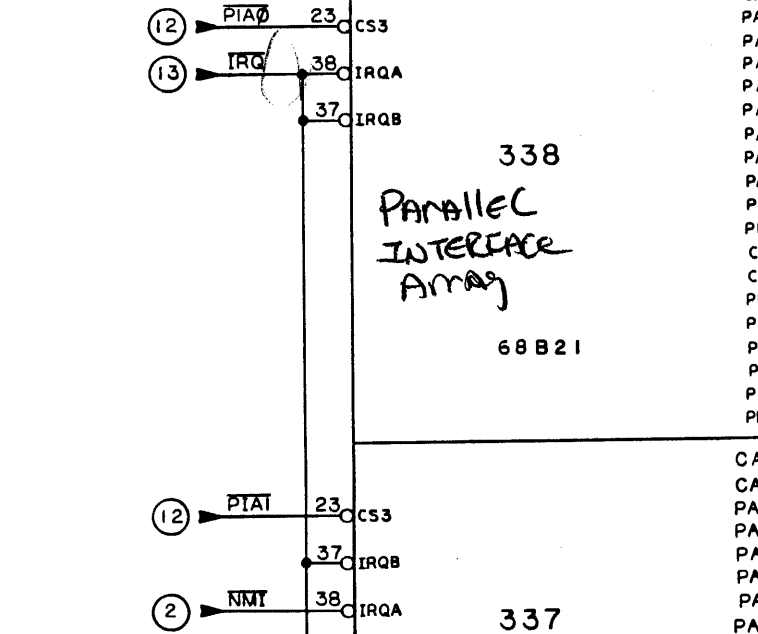
SHT-7

ADVANCED ELECTRONICS
DESIGN, INC.
SUNNYVALE, CALIF. 94086

DRAWING NUMBER
120105-01
REV 3



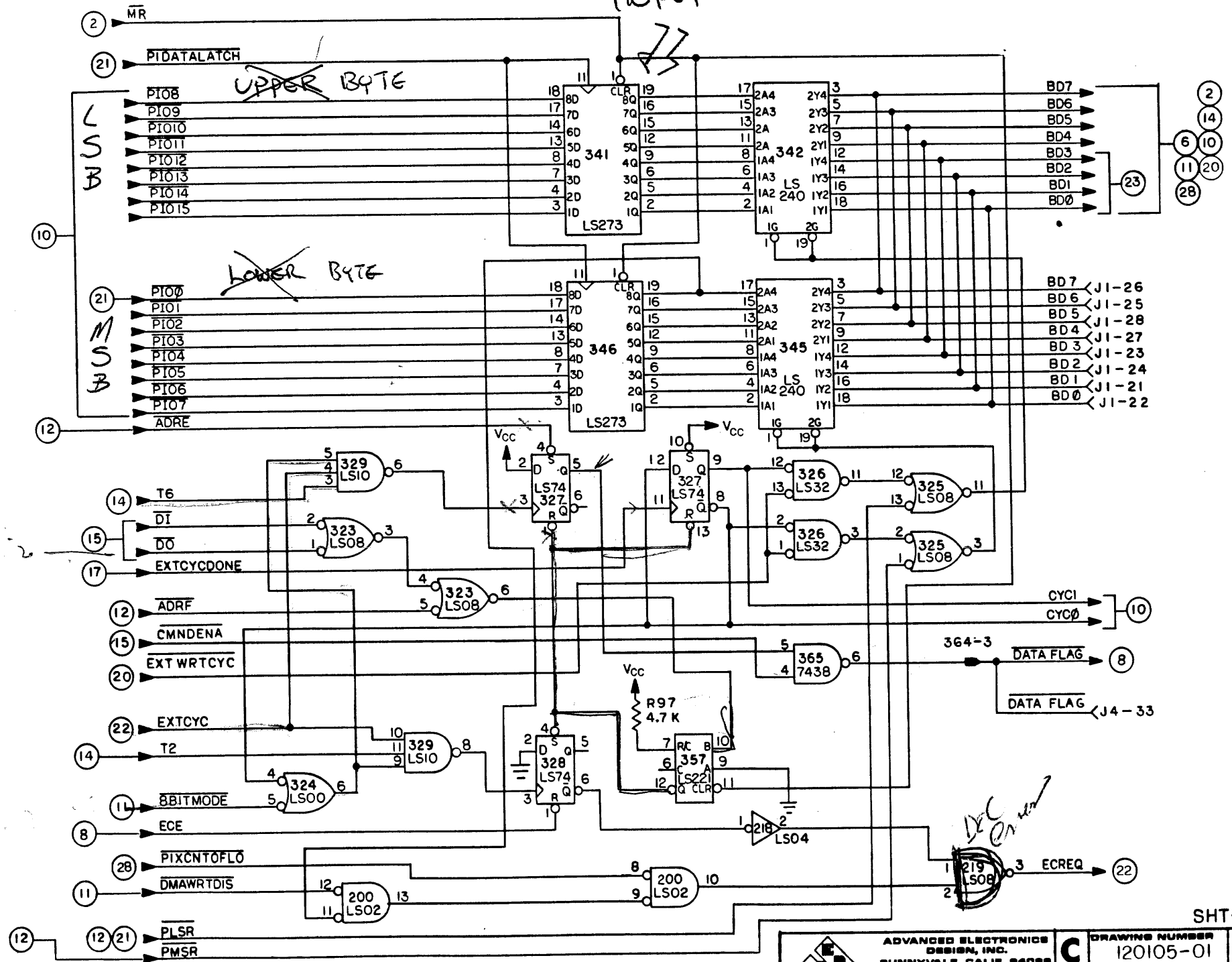
PARALLEL INTERFACE Array



ADVANCED ELECTRONICS DESIGN, INC. SUNNYVALE, CALIF. 94088
 DRAWING NUMBER 120105-01
 REV 3
 SHT-8

PARALLEL DATA BUS LATCH

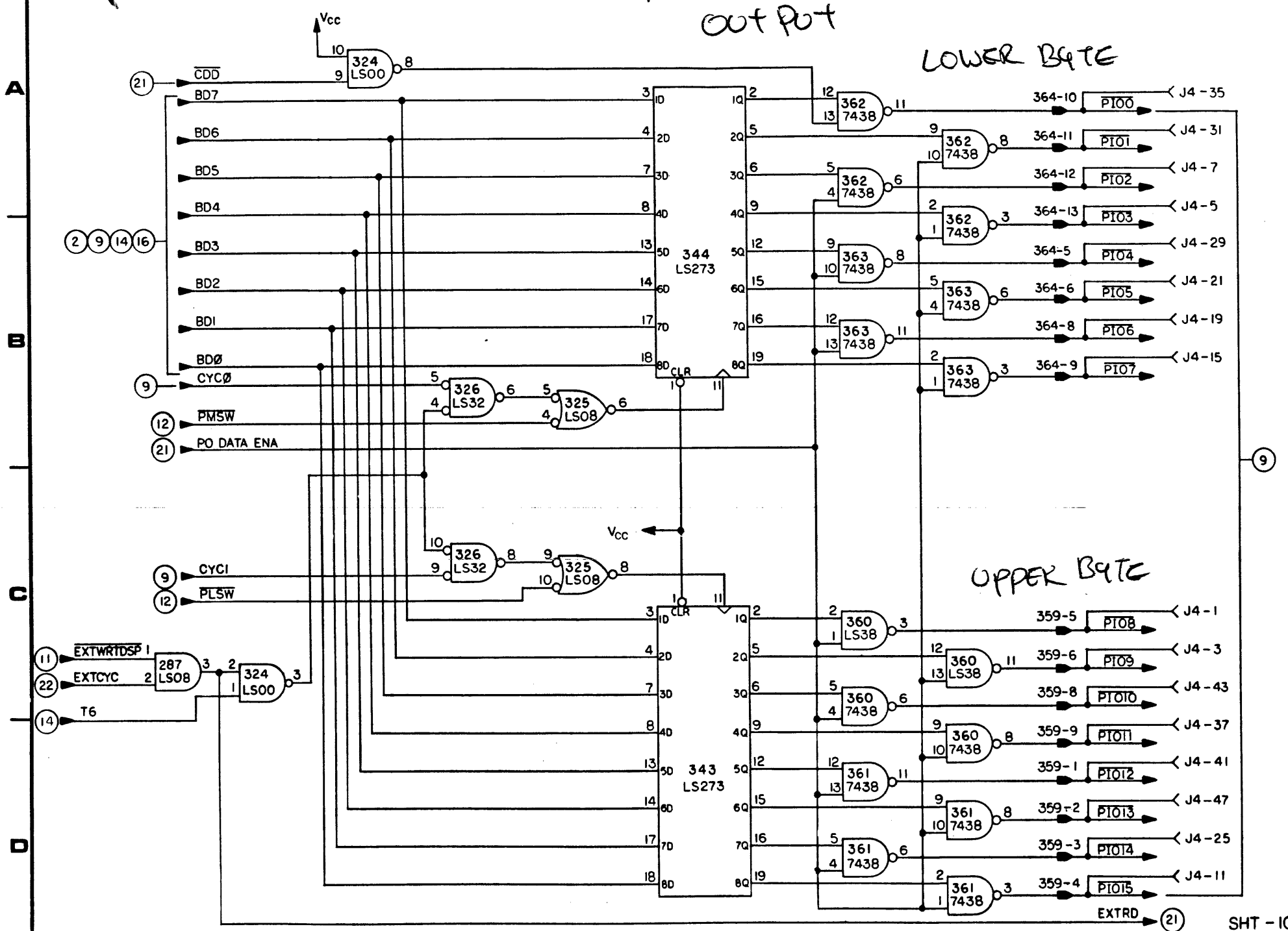
INPUT



SHT-9


	ADVANCED ELECTRONICS DESIGN, INC. SUNNYVALE, CALIF. 94088	C	DRAWING NUMBER 120105-01	REV 3
	SHEET 9 OF 31			

PARALLEL DATA BUS OUTPUT



LOWER BYTE

UPPER BYTE

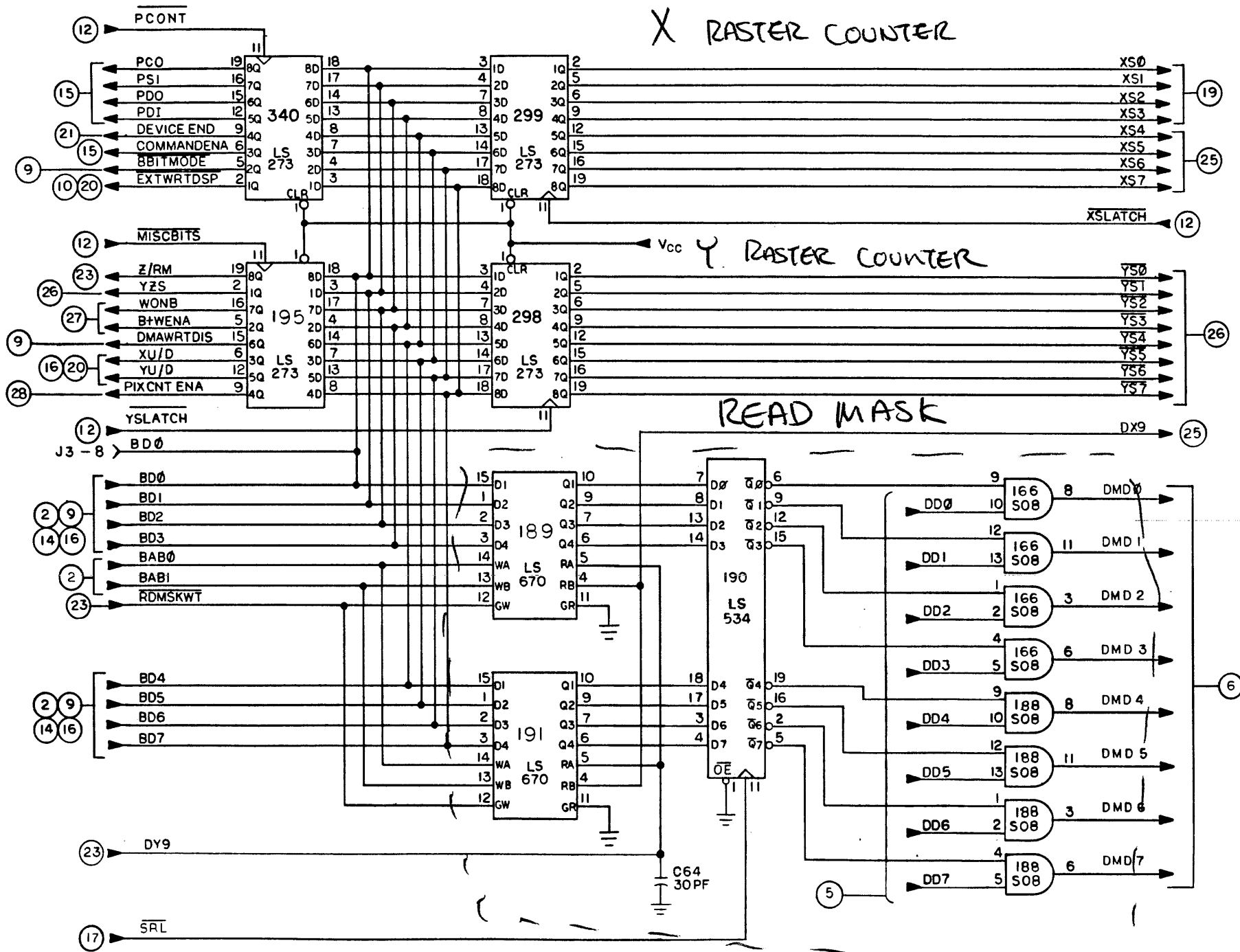
	ADVANCED ELECTRONIC DESIGN, INC. SUNNYVALE, CALIF. 94088	C DRAWING NUMBER 120105-01	REV 3
	SHEET 10 OF 31		SHT - 10

MISC. LATCHES

X RASTER COUNTER

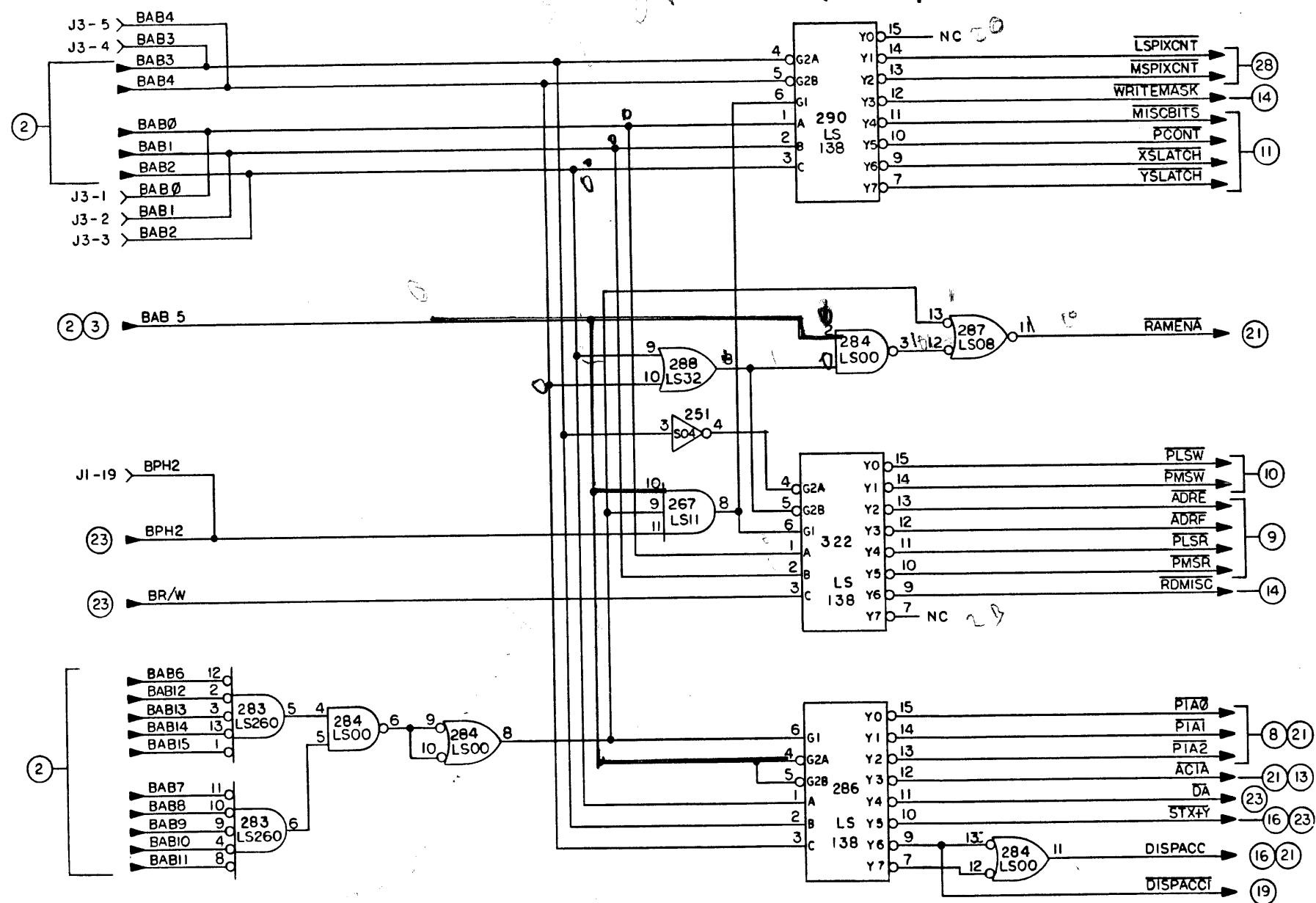
Y RASTER COUNTER

READ MASK



SHT-11

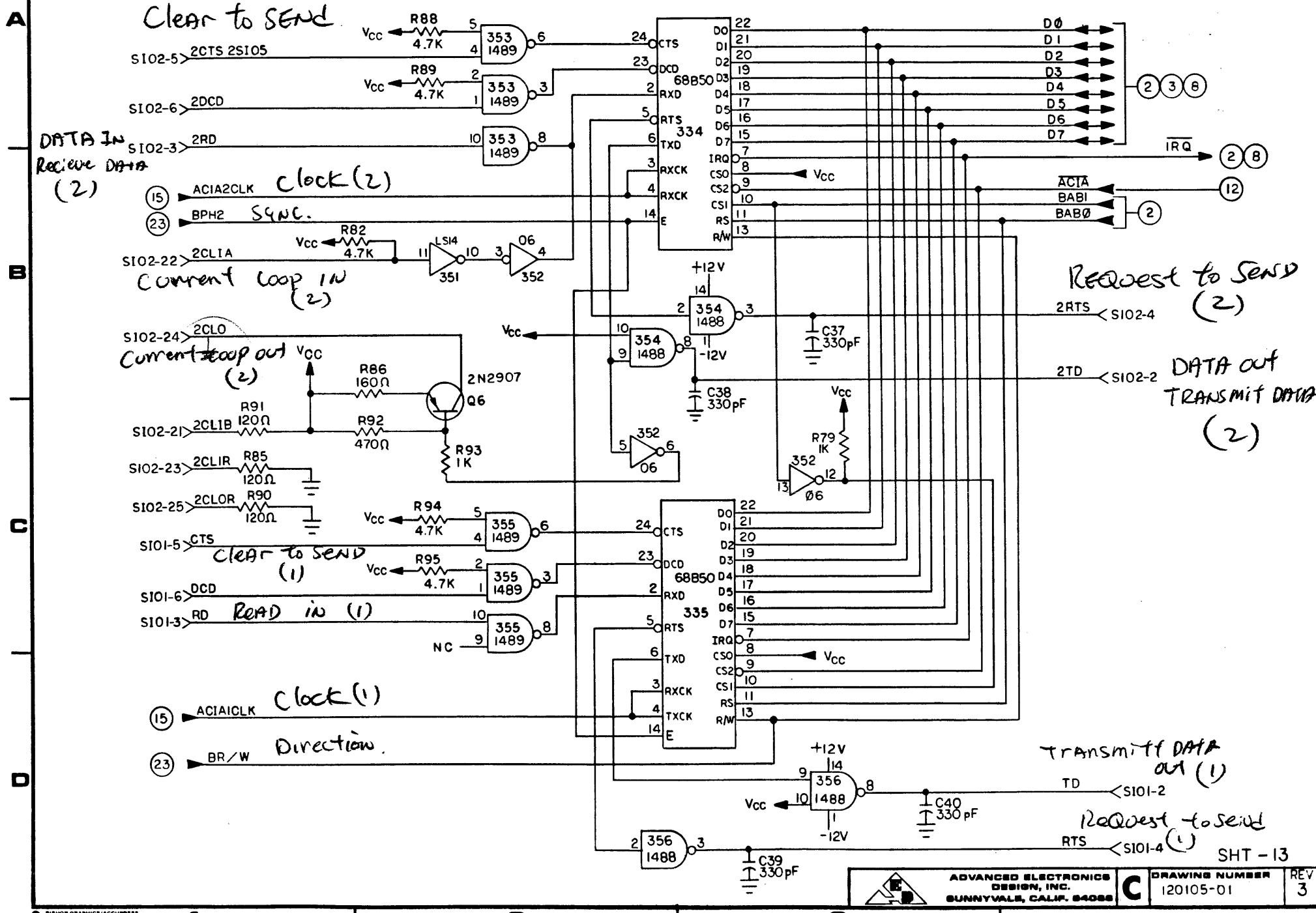
LATCH ENABLE Multiplexer



SHT-12

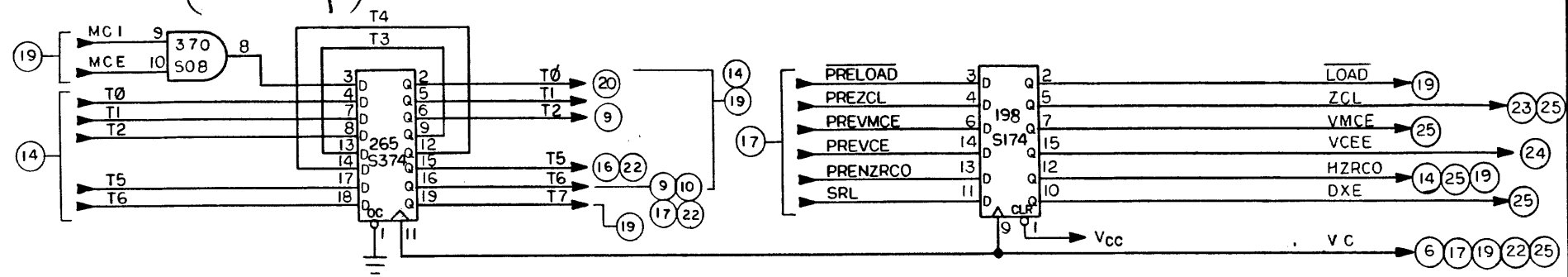
SERIAL COMMUNICATION PAGE.

2 = (lost)
1 = Aux



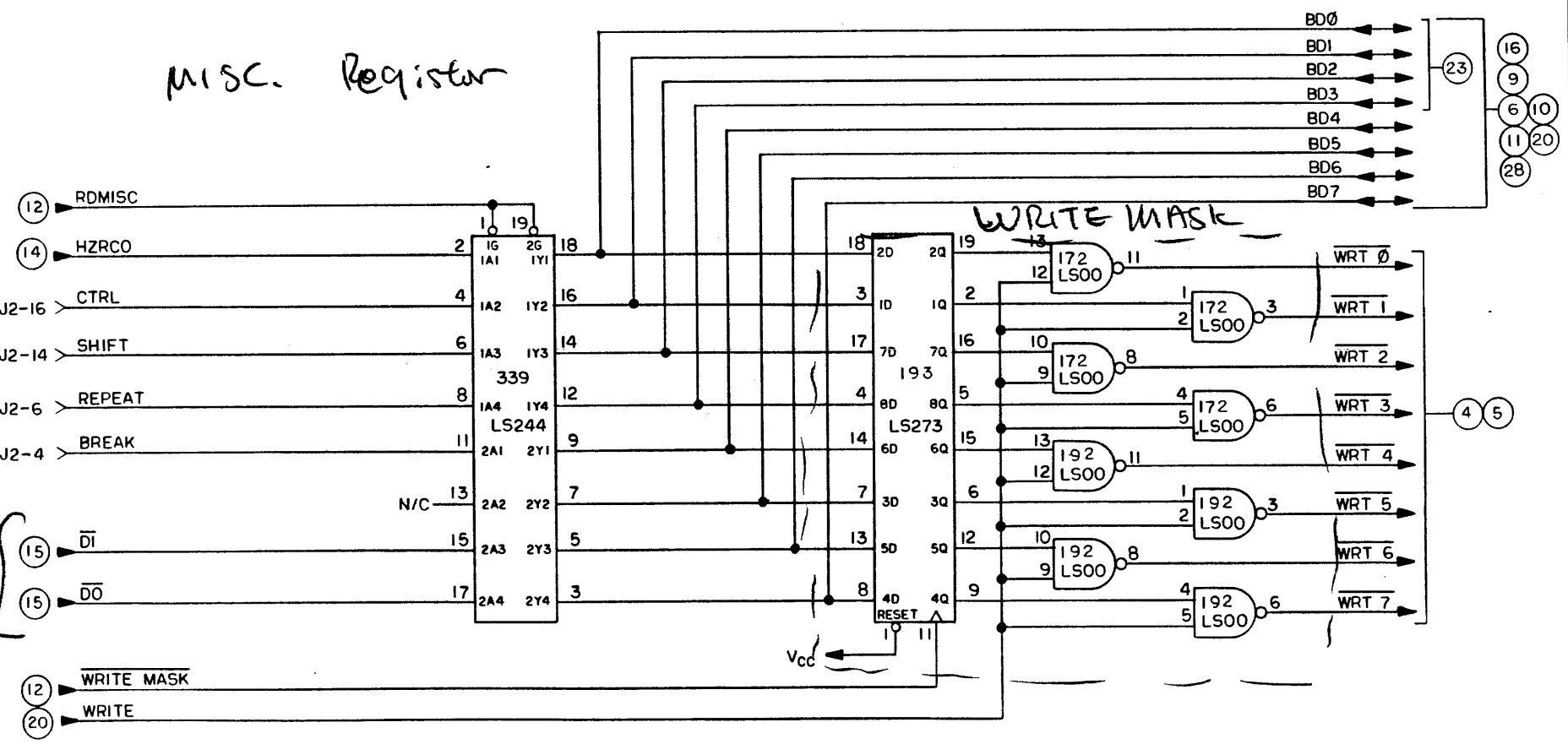
(Timing)

A



B

MISC. Register

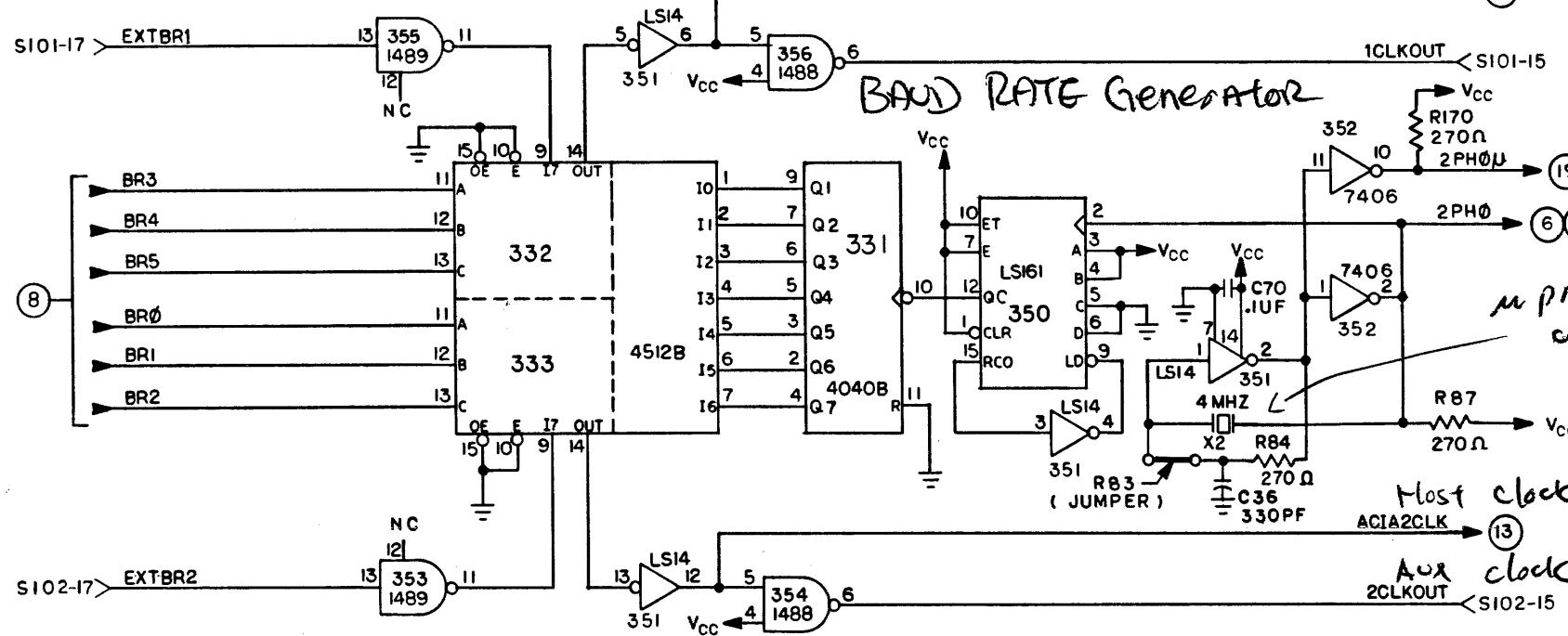
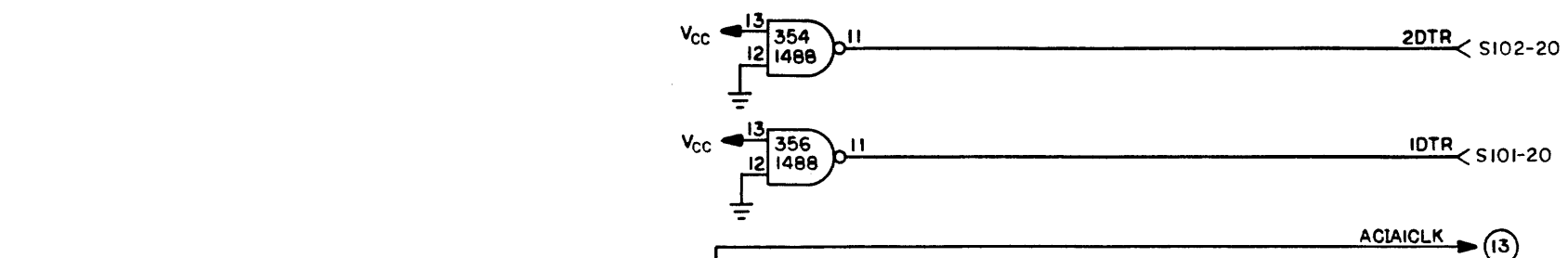


Keyboard

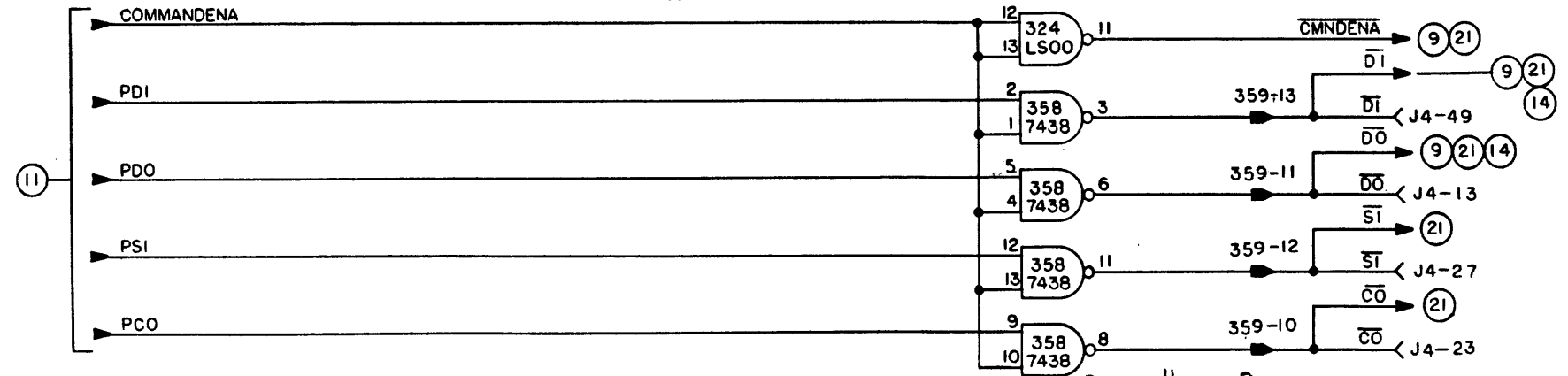
C

Parallel Bus

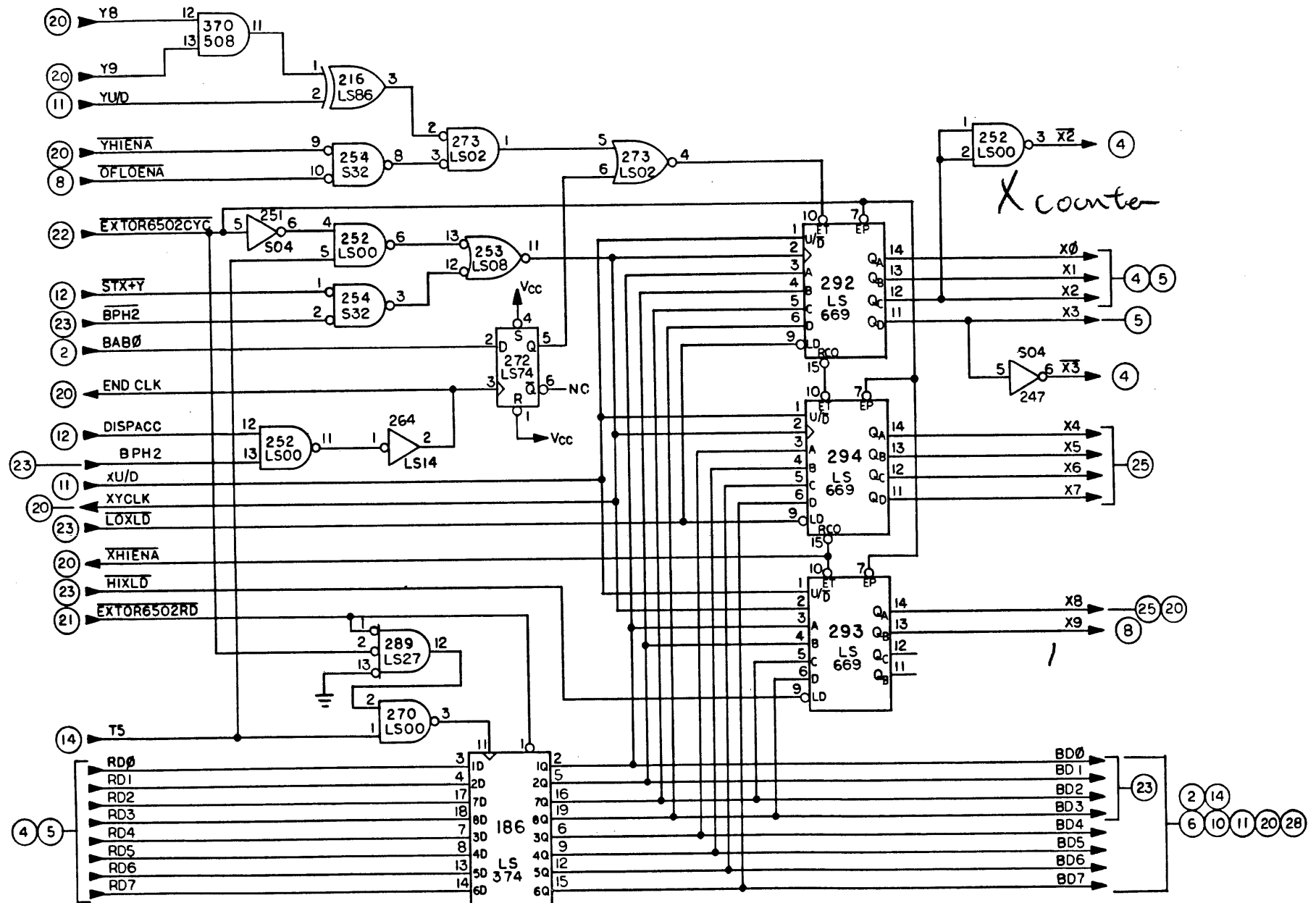
D



From PiA

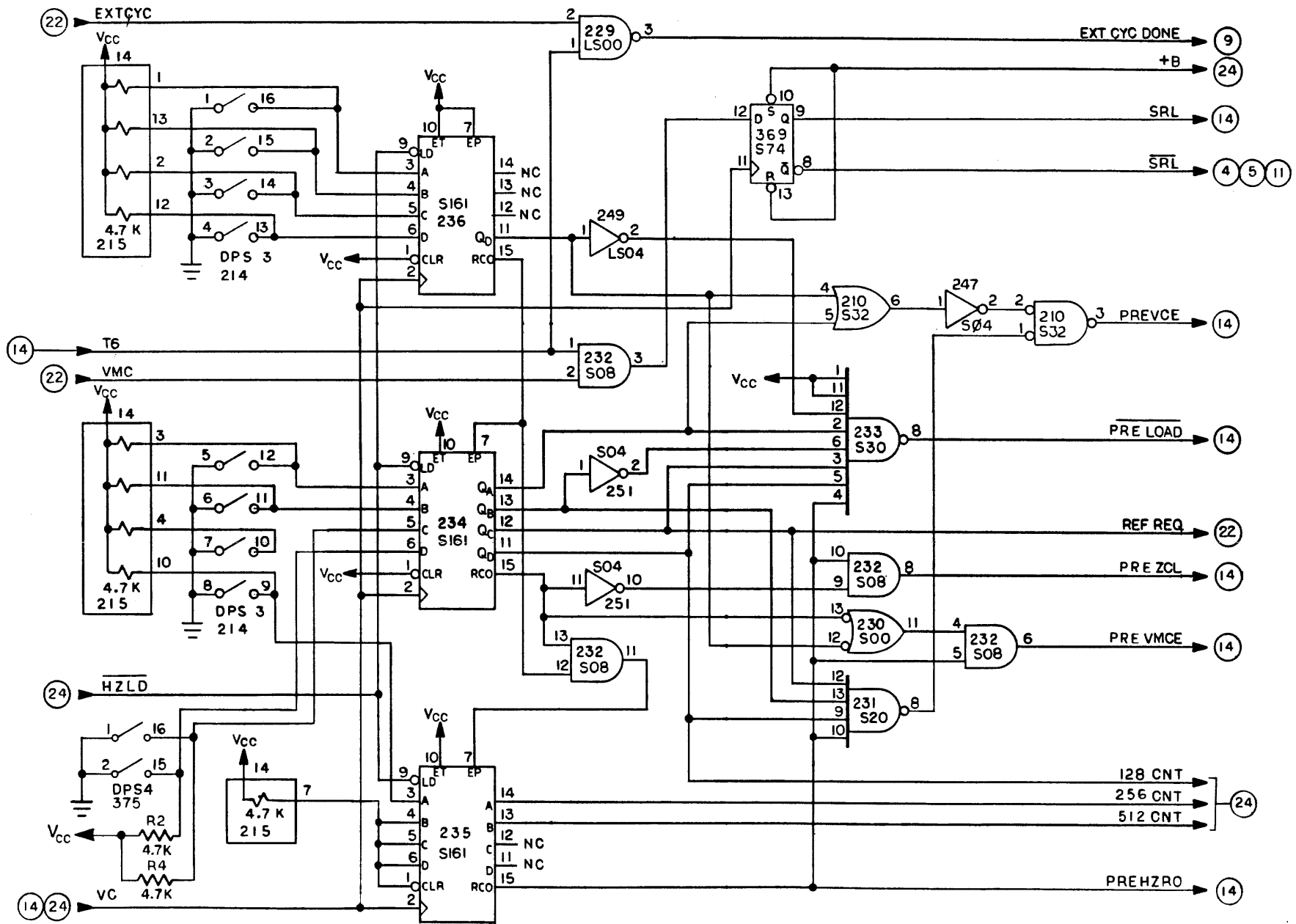


Parallel Bus Control SHT-15



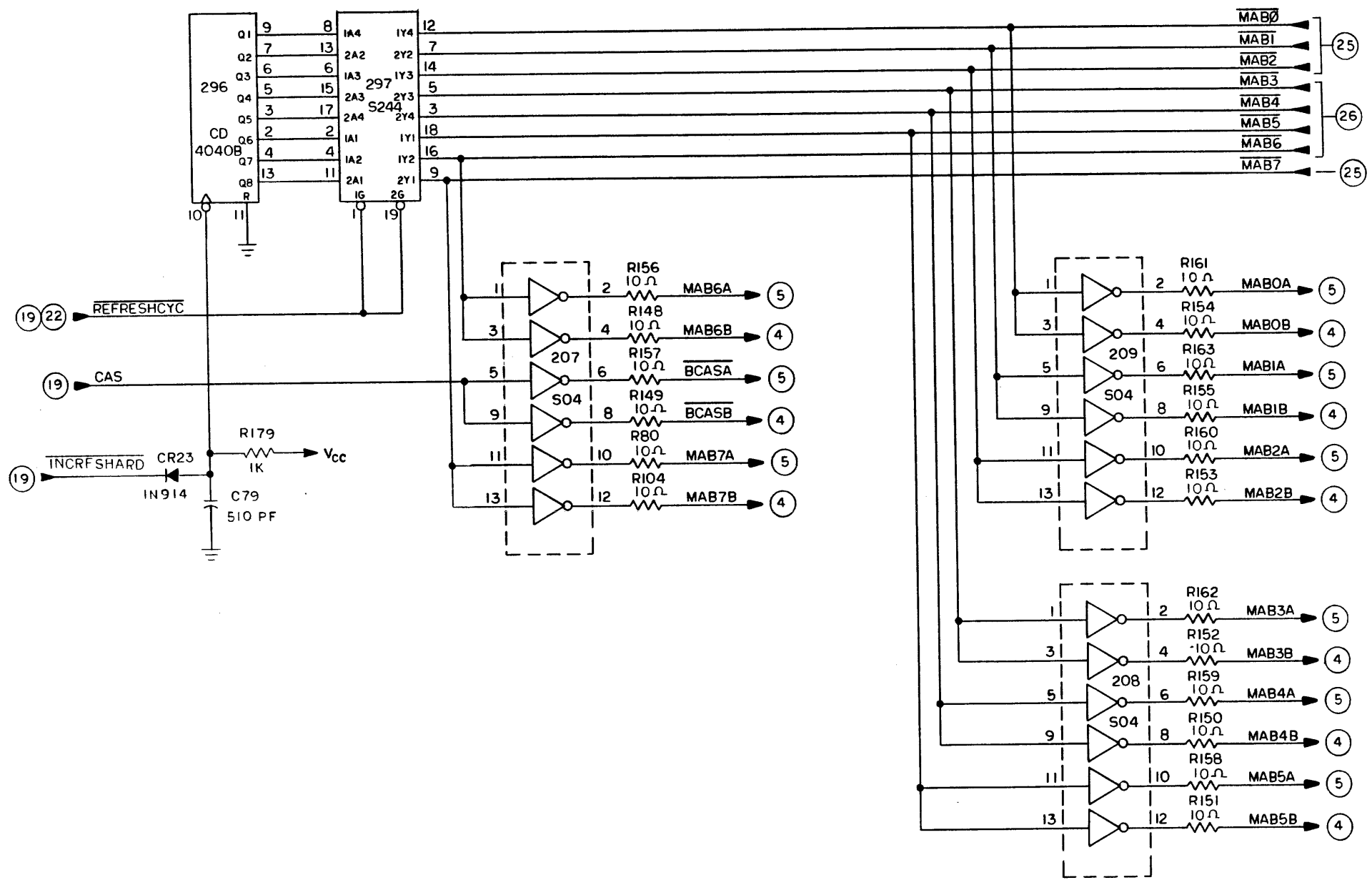
VIDEO memory READ BACK LATCH

FRONT & BACK PORCH ADJUSTMENT SWITCH



SHT-17

REFRESH COUNTER.



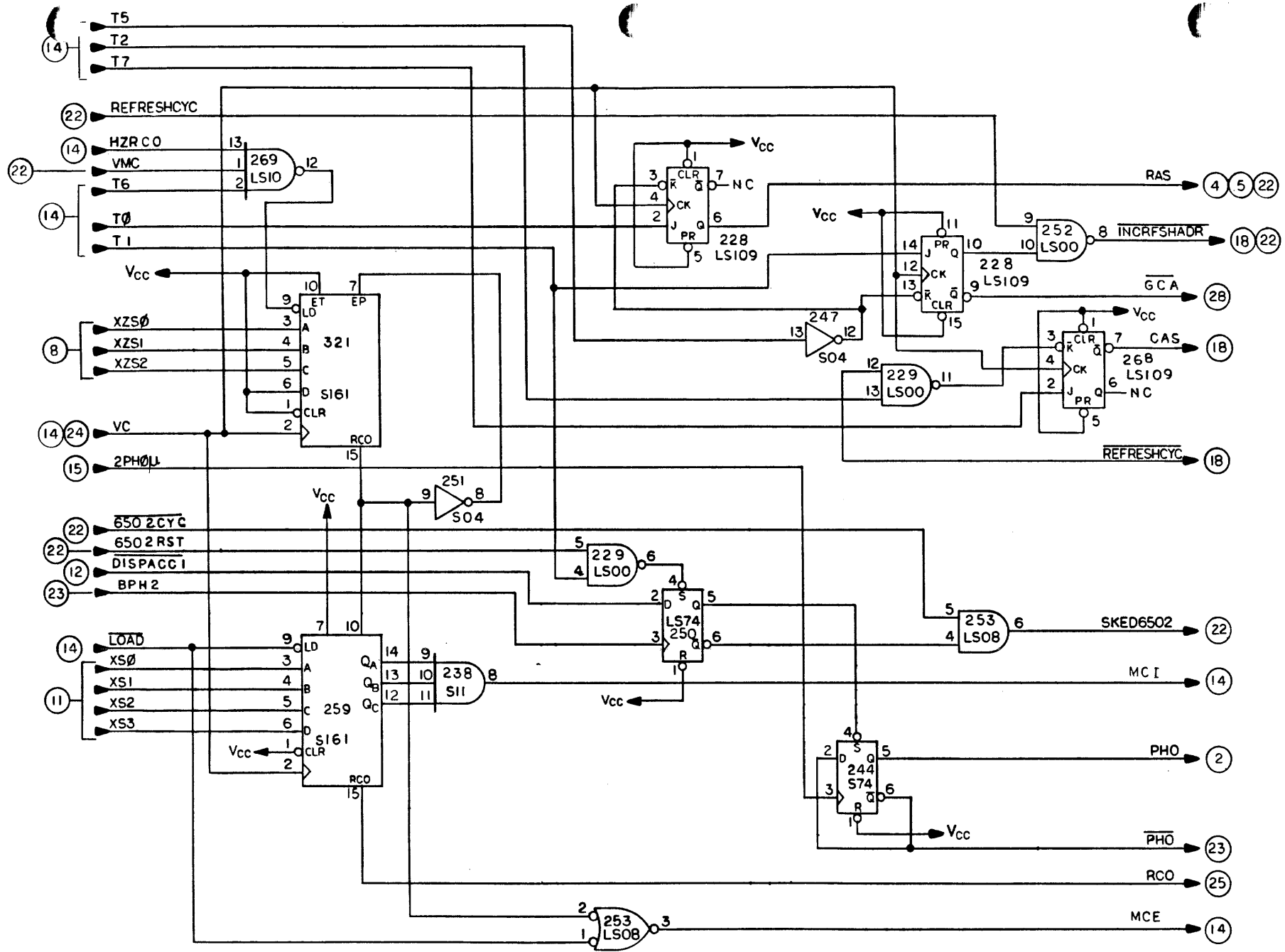
SHT-18

A

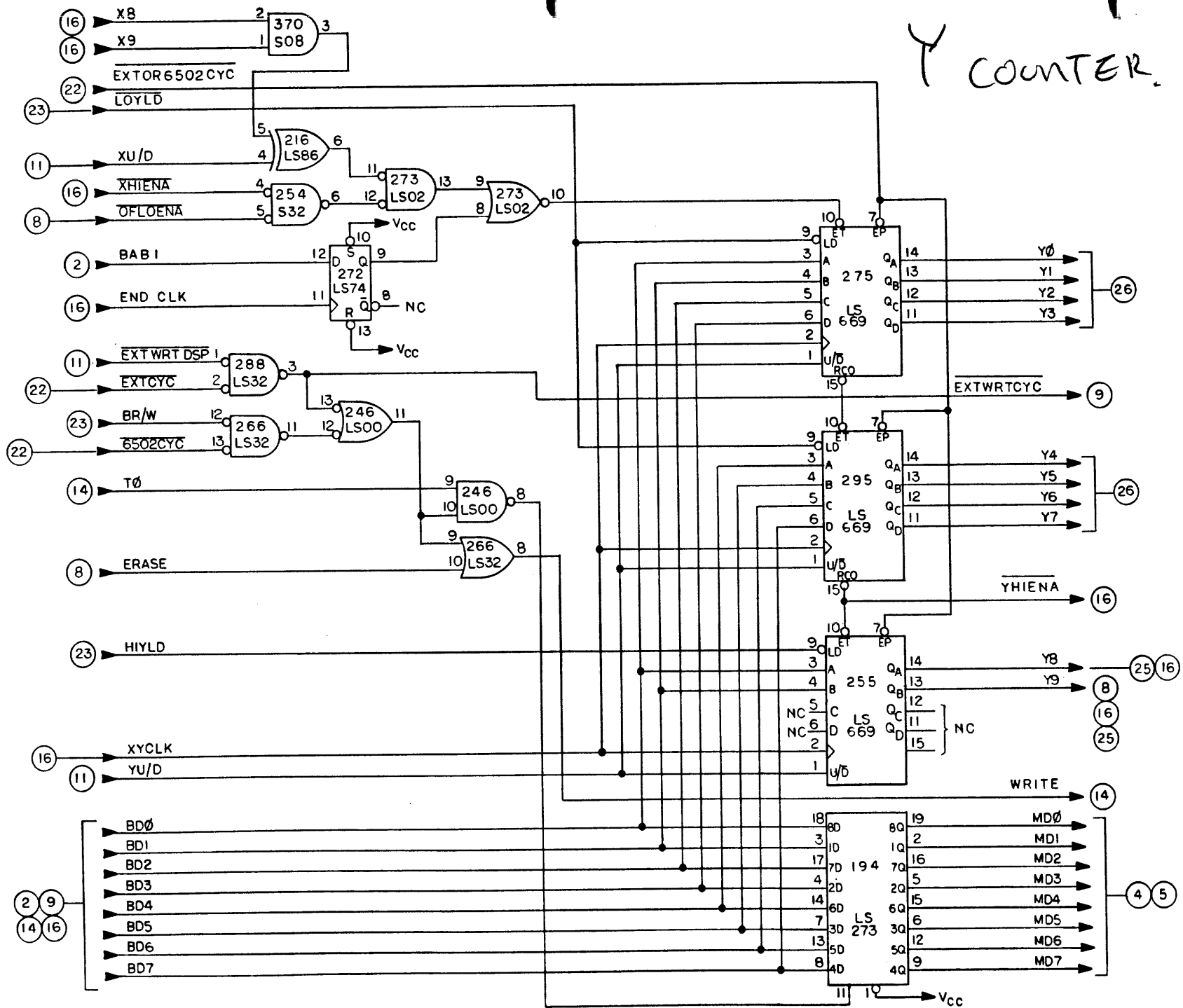
B

C

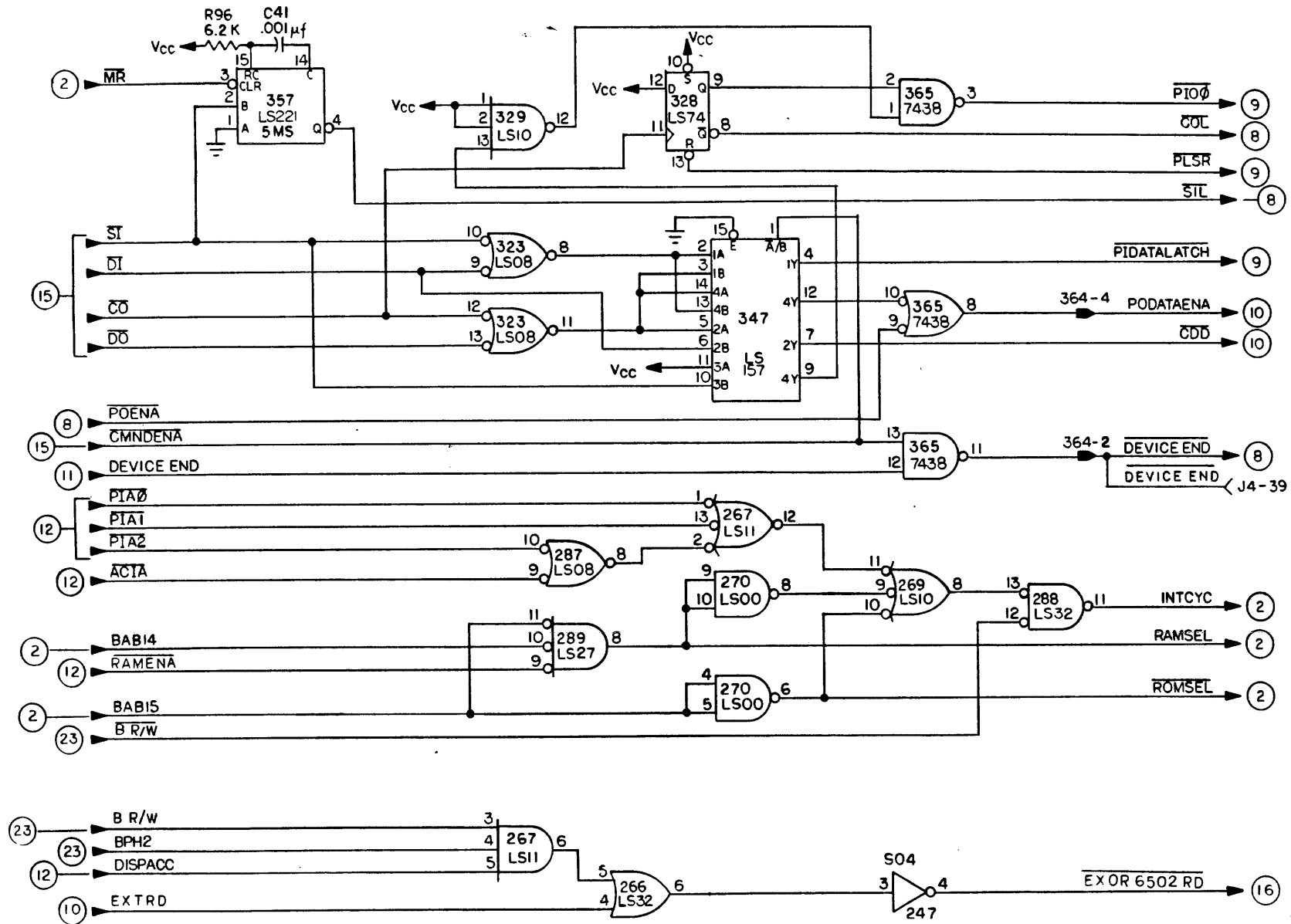
D



Y COUNTER.



SHT-20



SHT - 21

	ADVANCED ELECTRONICS DESIGN, INC. SUNNYVALE, CALIF. 94088	C	DRAWING NUMBER 120105-01	REV 3
	SHEET 01 OF 71			

1

2

3

4

A

A

B

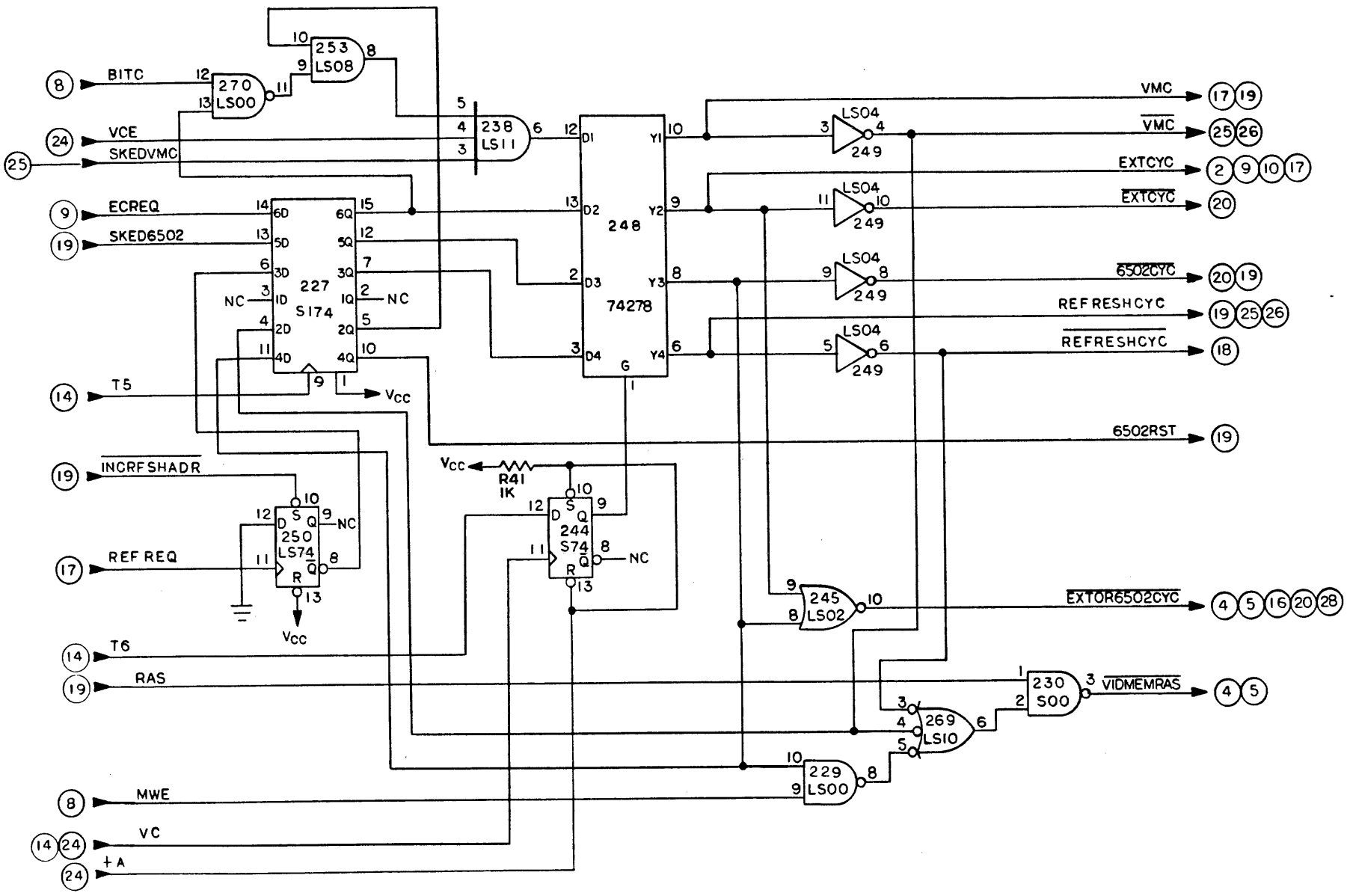
B

C

C

D

D

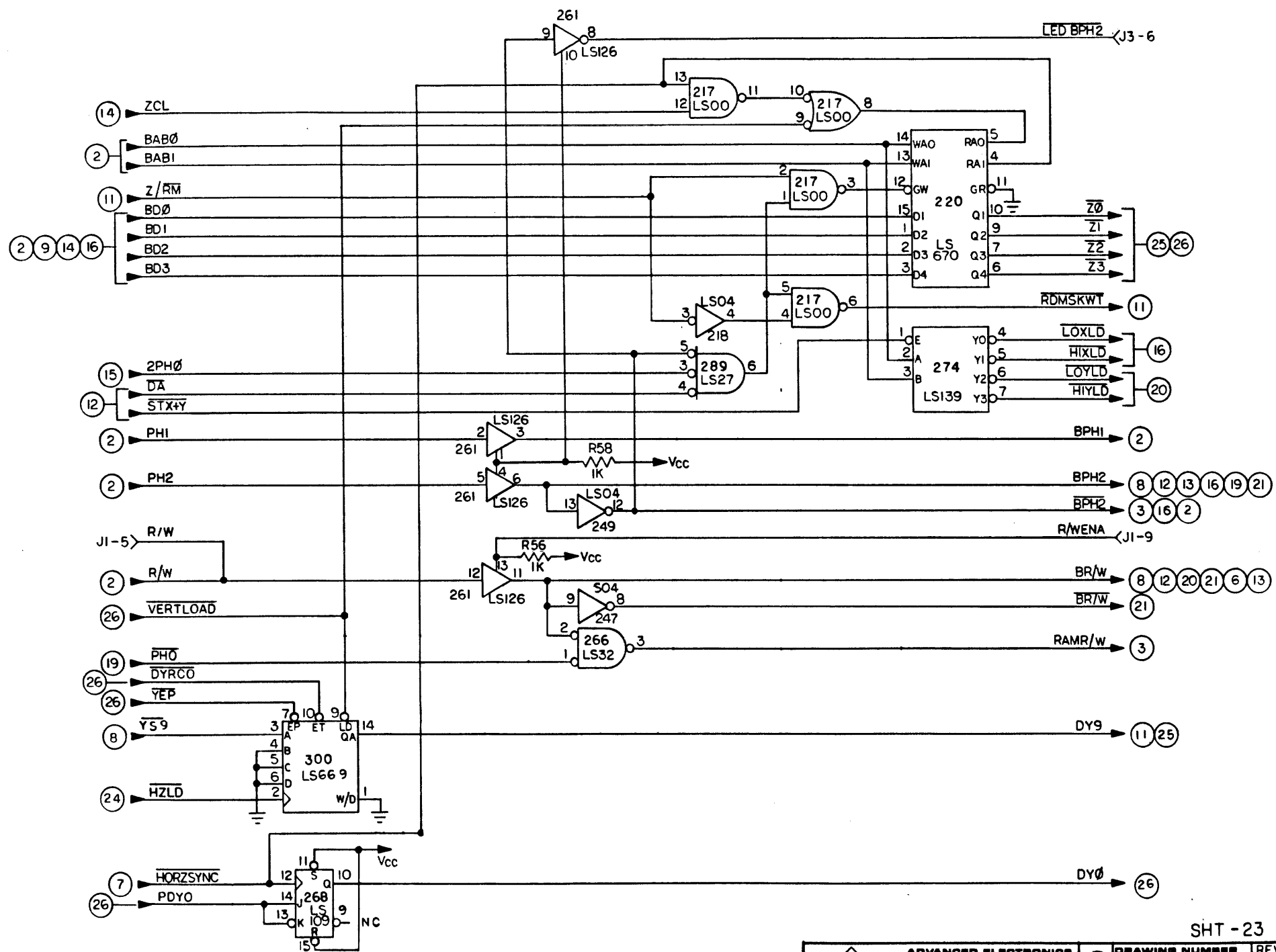


SHT-22

	ADVANCED ELECTRONICS DESIGN, INC. SUNNYVALE, CALIF. 94088	C	DRAWING NUMBER 120105-01	REV 3
	SHEET 22 OF 31			

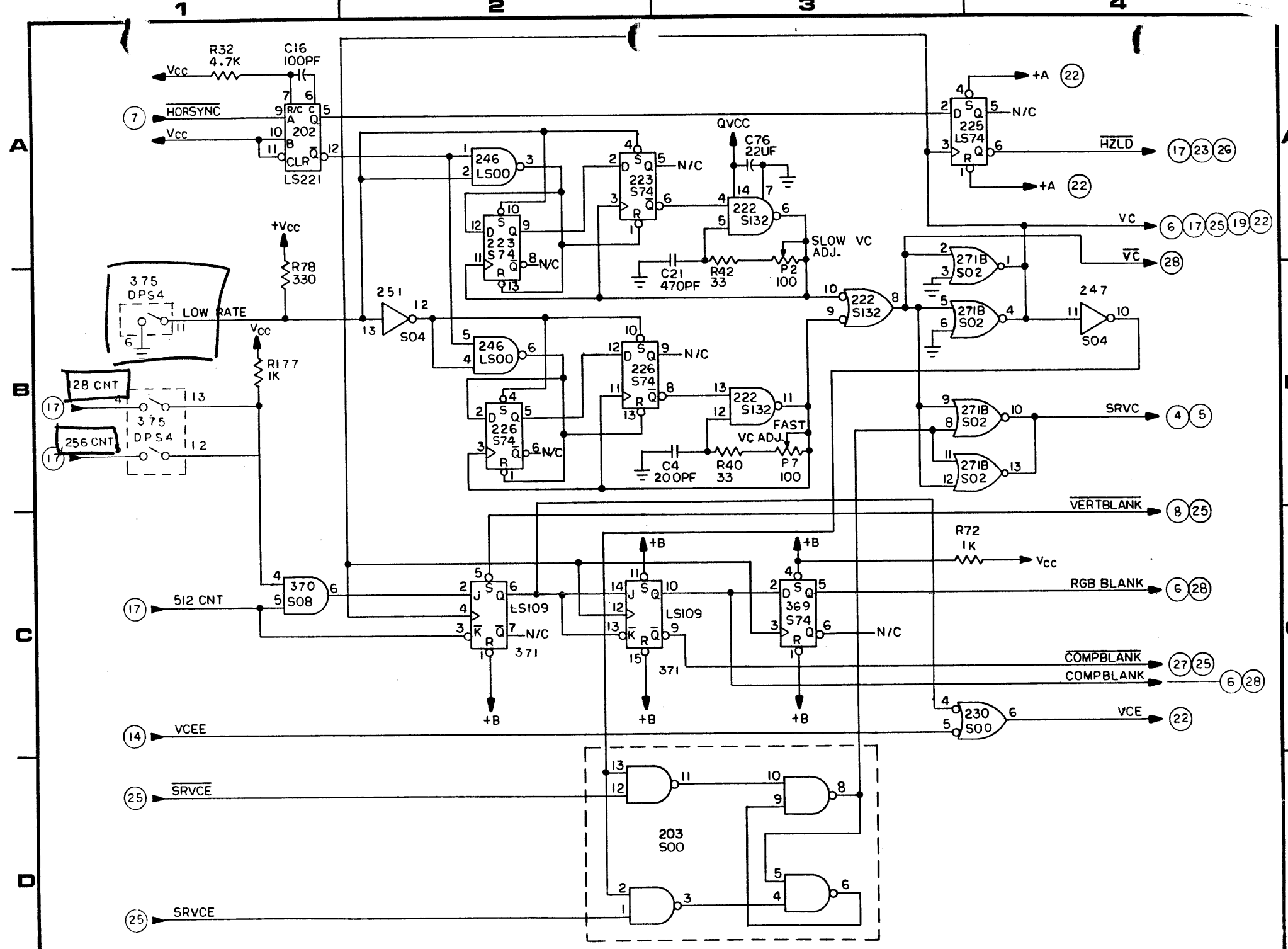
1 2 3 4

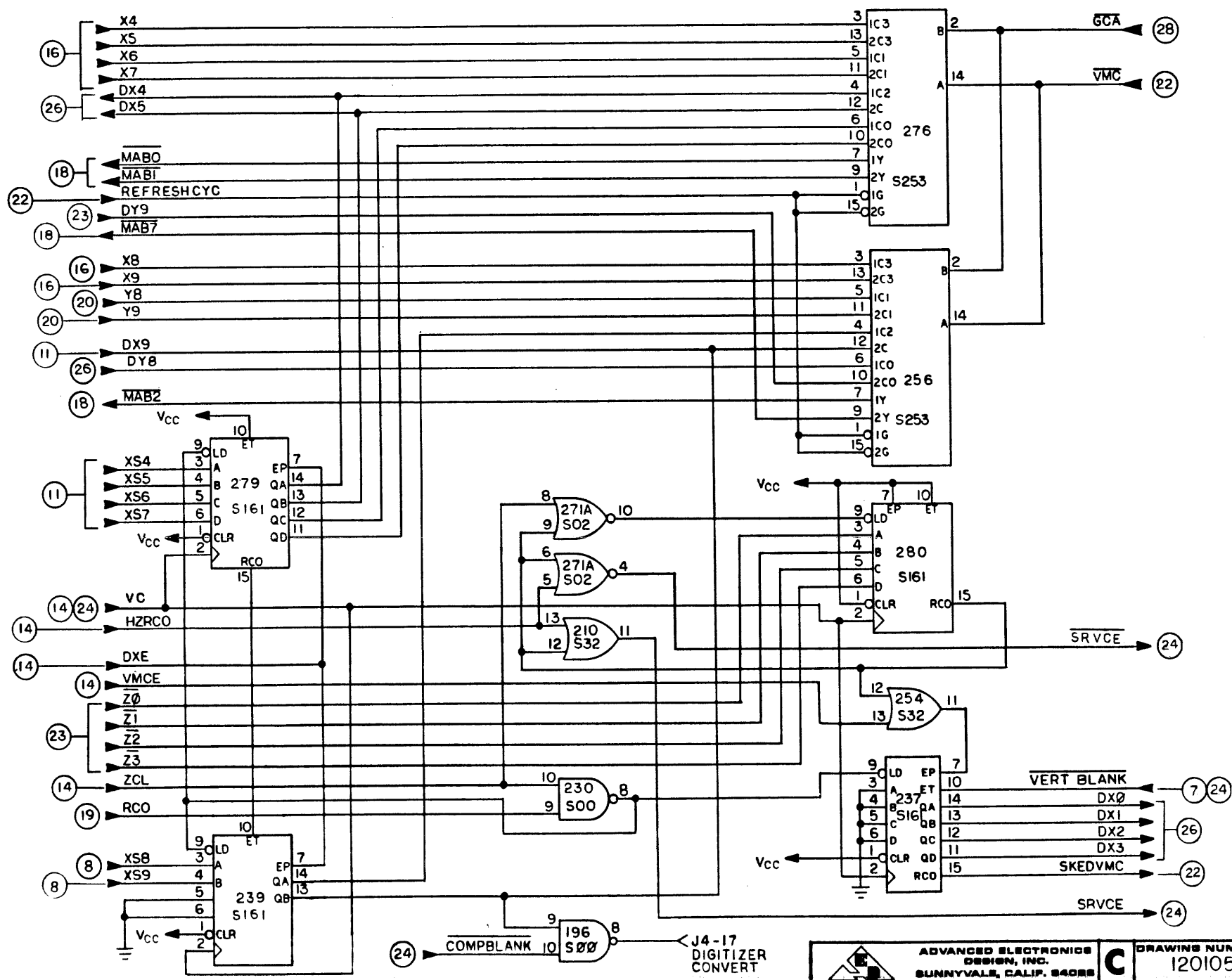
A
B
C
D



SHT -23

	ADVANCED ELECTRONICS DESIGN, INC.	C	DRAWING NUMBER	REV
	SUNNYVALE, CALIF. 94088		120105-01	3

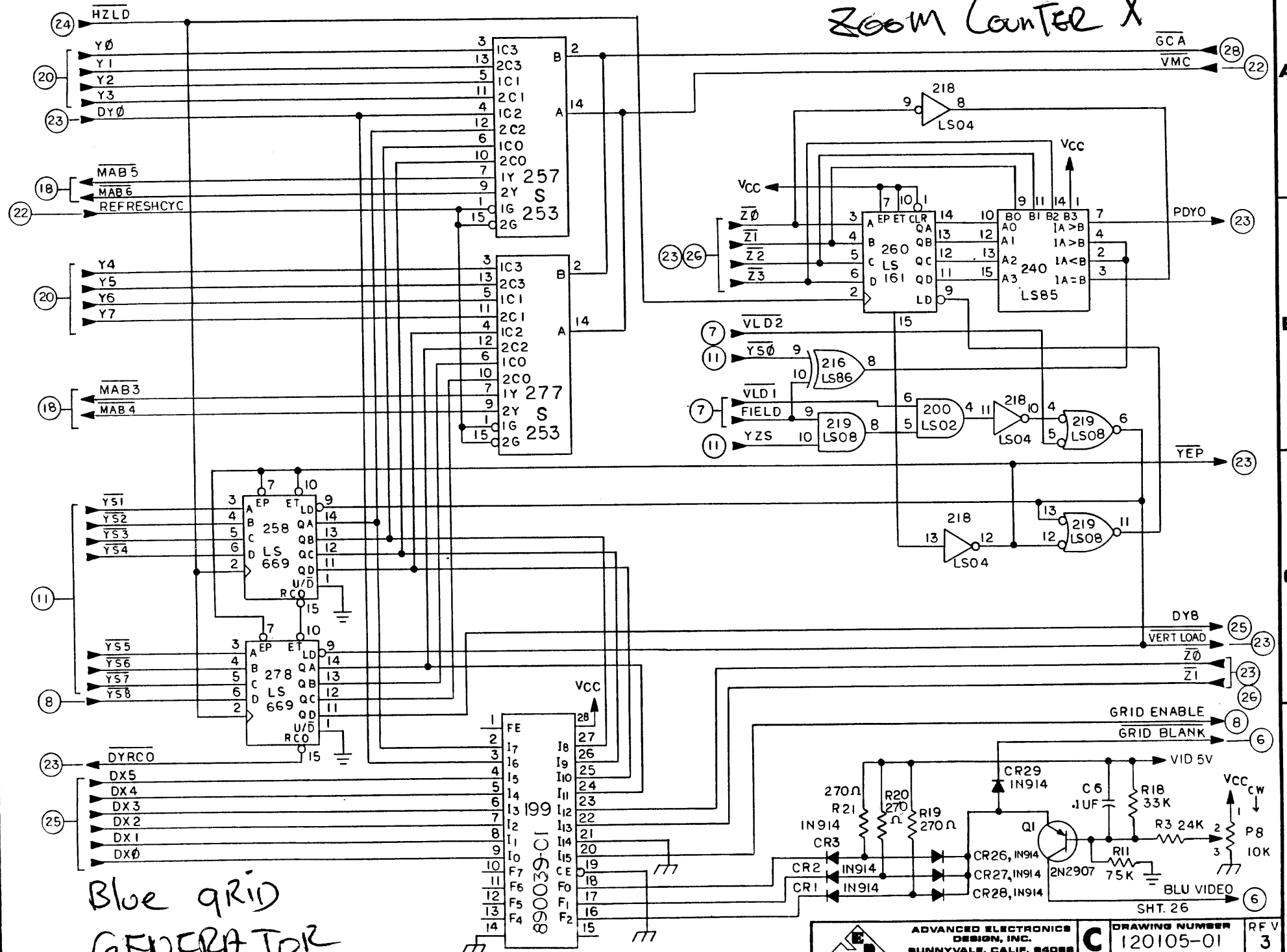




SHT-25

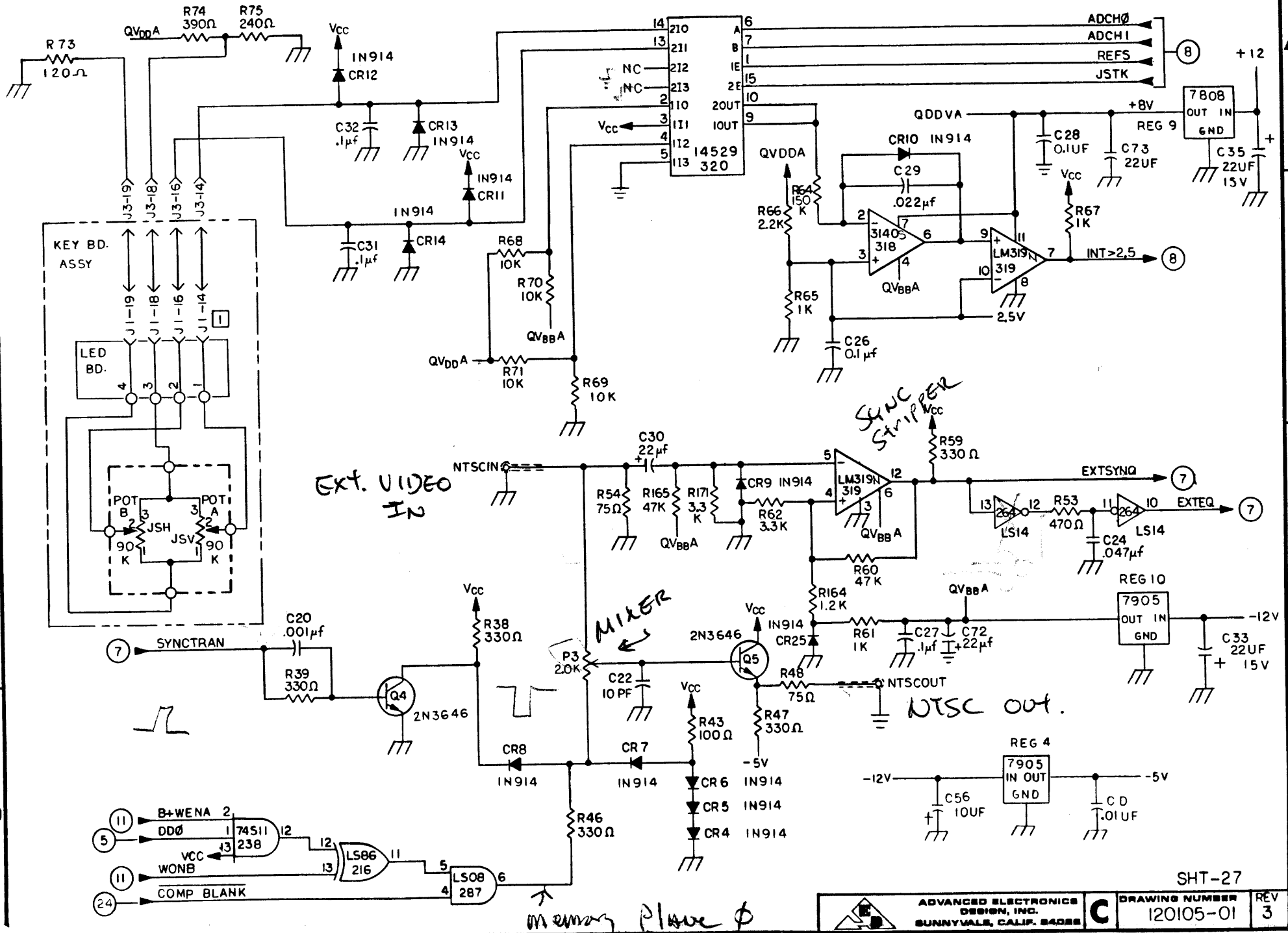
	ADVANCED ELECTRONIC DESIGN, INC. SUNNYVALE, CALIF. 94088	C	DRAWING NUMBER 120105-01	REV 3
	SHEET 25 OF 31			

ZOOM Counter "X"



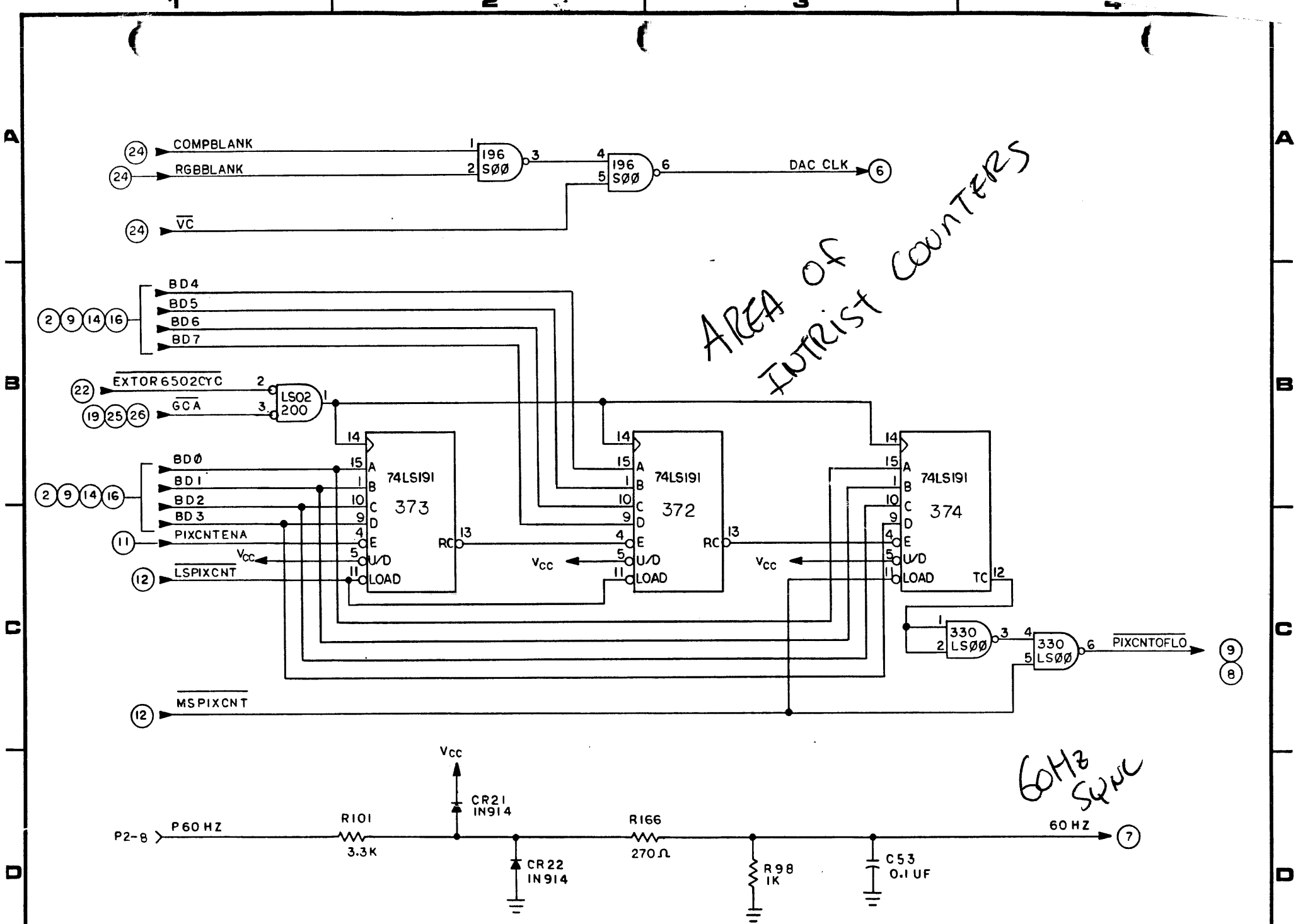
Blue grid
GENERATOR

Joystick Interface



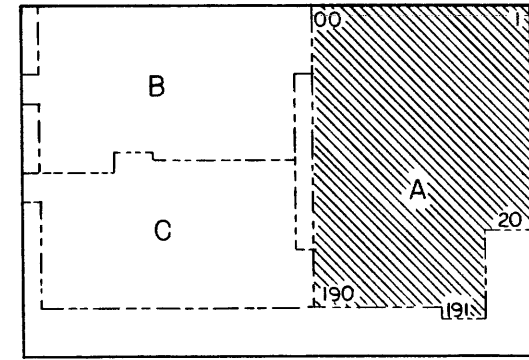
SHT-27

memory plane φ



00	141	4	121	4	101	4	81	4	61	4	41	4	21	4	1	1	4
LS221	142	4	122	4	102	4	82	4	62	4	42	4	22	4	2	4	4
7	143	4	123	4	103	4	83	4	63	4	43	4	23	4	3	4	4
	144	4	124	4	104	4	84	4	64	4	44	4	24	4	4	4	4
	145	4	125	4	105	4	85	4	65	4	45	4	25	4	5	4	4
	146	4	126	4	106	4	86	4	66	4	46	4	26	4	6	4	4
	147	4	127	4	107	4	87	4	67	4	47	4	27	4	7	4	4
	148	4	128	4	108	4	88	4	68	4	48	4	28	4	8	4	4
	149	4	129	4	109	4	89	4	69	4	49	4	29	4	9	4	4
	150	4	130	4	110	4	90	4	70	4	50	4	30	4	10	4	4
	151	5	131	5	111	5	91	5	71	5	51	5	31	5	11	5	5
	152	5	132	5	112	5	92	5	72	5	52	5	32	5	12	5	5
	153	5	133	5	113	5	93	5	73	5	53	5	33	5	13	5	5
	154	5	134	5	114	5	94	5	74	5	54	5	34	5	14	5	5
	155	5	135	5	115	5	95	5	75	5	55	5	35	5	15	5	5
	156	5	136	5	116	5	96	5	76	5	56	5	36	5	16	5	5
	157	5	137	5	117	5	97	5	77	5	57	5	37	5	17	5	5
	158	5	138	5	108	5	98	5	78	5	58	5	38	5	18	5	5
	159	5	139	5	119	5	99	5	79	5	59	5	39	5	19	5	5
	160	5	140	5	120	5	100	5	80	5	60	5	40	5	20	5	5
	192	LS00	186	LS374	179	S374	172	LS00	166	S08	165	06					
	14	14	16		6		14	14	11	11	6						
	14	14					14	14	11	11							
	193	LS273	187	S138	180	10124	173	10422	167	10124	162						
	14	6		6		6		6		MC10318							
	194	LS273	188	S08	181	10124	174	10422	168	10176	6						
	20	11	11	6		6		6									
		189	LS670	182	10124	175	10422	169	10176	163							
		11		6		6		6		MC10318							
	195	LS273	190	LS534	183	10124	176	10422	170	10176	6						
	11	11		6		6		6									
	196	S00	191	LS670	184	LS244	177	10422	171	10176	164						
	28	28	11		6		6		6		MC10318						
	25									6							
					185	10124	178	10422									
					6		6										

4164
74LS251
74LS166
4164
74LS251
74166
4164



161
MPQ3906
6
6
6
6

A
B
C
D

SHT-29

	ADVANCED ELECTRONICS DESIGN, INC.	C	DRAWING NUMBER	REV
	SUNNYVALE, CALIF. 94088		120105-01	3

1

2

3

4

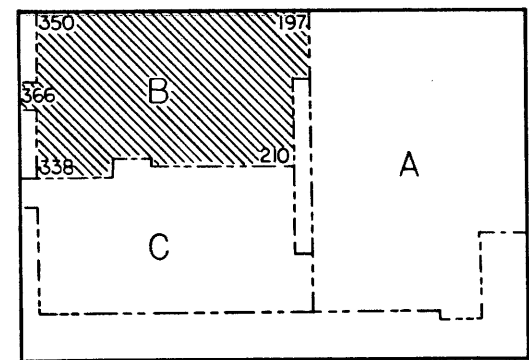
368	350	330			261			20	197	
NE555	LSI61	LS00			LSI26			4046B	LSI57	
2	15	28 28			23 23			7	7	
					23 23					
	351	331			262	241	222	202		
	LSI4	4040B			6502A	890038-01	SI32	LS221		
	15 15				2	7	7 24	7		
	15 2	15					24 24	24		
	13 15									
	352	332		301	283	263	242	223	203	
	7406	4512B		S244	LS260	LS86	4040B	74S74	74S00	
	15 13			2	12	7 7	7	24	24 24	
	13 2	15			12	7 7		24	24 24	
	15 13									
	353	333	317	302	284	264	243	224	204	244
	1489	4512B	8304	S244	LS00	LSI4	LS02	LSI74	LS08	S74
	13 13				12 12	16 7	7 7	7	4 4	19
	13 15	15	2	2	12 12	7 7	7 7	7	4 4	22
					27 27					
	354	334	318	303	285	265	245	225	205	
	1488	68B50	3140	4802	LSI38	S374	LS02	LS74	SI38	
	13 15				2	14	7 2	24		4
	13 15	13	27	3			22 19	7		
366	355		319		286	266	246	226	206	
DPS2	1489	335	LM319	304	LSI38	LS32	LS00	S74	LS08	
8	13 13	68B50	27	4802	12	23 21	24 24	24	4 4	
	13 15		27			20 20	20 20	24	4 4	
		13			3					
	356				287	267	247	227	207	
	1488				LS08	LSI1	S04	SI74	74S04	
	13 15	336		305	10 27	21	17 21		18 18	
	13 15	68B21		4802	21 12	12	16 23	22	18 18	
						21	24 19		18 18	
		8	320	3	288	268	248	228	208	
			14529		LS32	LSI09	74278	LSI09	74S04	
					20 21	19		19	18 18	
	337	27	306		12 21	23	22	19	18 18	
	68B21		4802							
					289	269	249	229	209	
		8		3	LS27	LSI0	LS04	LS00	74S04	
					23	22	17 22	17 19	18 18	
					21	21	22 22		18 18	
	338		307		16	19	22 23	22 19	18 18	
	68B21		4802							
					290	270	250	230	210	
		8		3	LSI38	LS00	LS74	S00	74S32	
					12	16 21	19	22 24	17 17	
						21 22	22	25 17	25	

A

B

C

D



SHT - 30

	ADVANCED ELECTRONICS DESIGN, INC. SUNNYVALE, CALIF. 94088	C DRAWING NUMBER 120105-01	REV 3
	SHEET 30 OF 31		

1

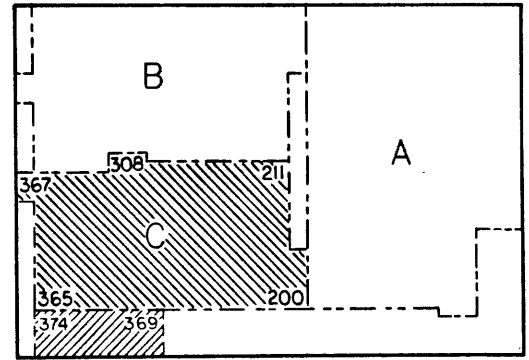
2

3

4

				291	271A	251	231	211	271B	
				S138	74S02	74S04	S20	LS08	74S02	
				308		25	17 12	7	5 5	24 24
				2			16 19			
					25		17 24	17	5 5	24 24
367	357	339	321	3	292	272	252	232	212	
DPS1	LS221	LS244	SI61		LS669	LS74	LS00	S08	SI38	
8	21	14	19	309	16	16	16 16	17 17	5	
	9					20	19 16	17 17		
				3	293	273	253	233	213	
					7438	LS273	LS138	LS669	LS02	LS08
				310	16	16	16 16	19 19	17	5 5
						15 15	11	12		20 20
				3	294	274	254	234	214	
					359	341	323	LS669	LS139	74S32
				3	16	23	16 20	17	17	
							330/390			LS273
				311	295	275	255	235	215	
					7438	LS240	LS00	890037-05	LS669	LS669
				3	20	20	20	17	17	17 17 17
										10 10
				312	296	276	256	236	216	
					7438	LS273	LS08	4040B	S253	S253
				3	18	25	25	17	16	20
										10 10
				313	297	277	257	237	217	
					7438	LS273	LS32	S244	S253	S253
				314	18	26	26	25	23	23
										10 10
				3	298	278	258	238	218	198
					7438	LS240	LS74	LS273	LS669	LS669
				315	11	26	26	22	9	23
										10 10
				3	299	279	259	239	219	199
					330/390	LS273	LS74	LS273	SI61	SI61
				3	11	25	19	25	9	26
										10 10 10
				3	300	280	260	240	220	200
					7438	LS157	LS10	LS669	74S161	LS161
				3	23	25	26	26	23	28 26
										10 10 10
				3	23	25	26	26	23	9 9
										24 24 7 7

374	373	372	371	370	369
LS191	LS191	LS191	LS109	S08	S74
28	28	28	24	20 24	24
			24	14 16	17



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