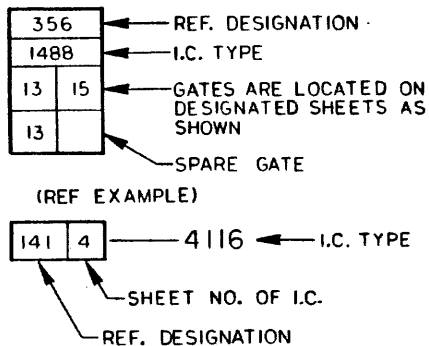
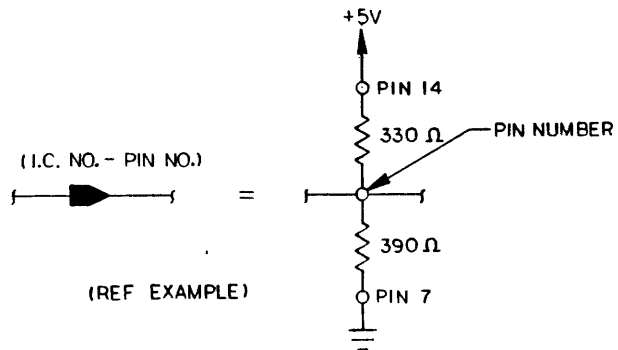


NOTES - UNLESS OTHERWISE SPECIFIED:

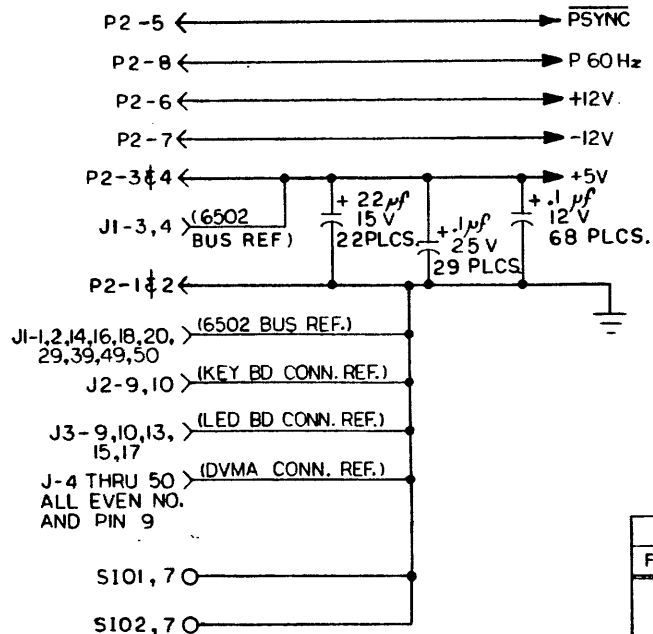
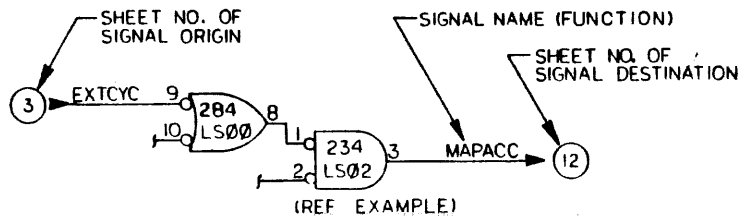
- CONNECTOR PIN DESIGNATIONS ARE PER SILK-SCREENED LED BOARD, NOT J1 CONNECTOR PIN DESIGNATOR.
- ALL RESISTORS ARE IN OHMS AND ARE 1/4 W UNLESS OTHERWISE SPECIFIED.
- FOR MODULE MAP, SEE SHEETS 29, 30 AND 31. GATES ARE IN ORDER OF OUTPUT PIN NUMBERS AND ARE DEPICTED FROM LEFT TO RIGHT, TOP TO BOTTOM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



- 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:



- INPUT AND OUTPUT SIGNALS ARE DEPICTED AS FOLLOWS:



USE 890027-01 60HZ  
USE 890027-02 50HZ

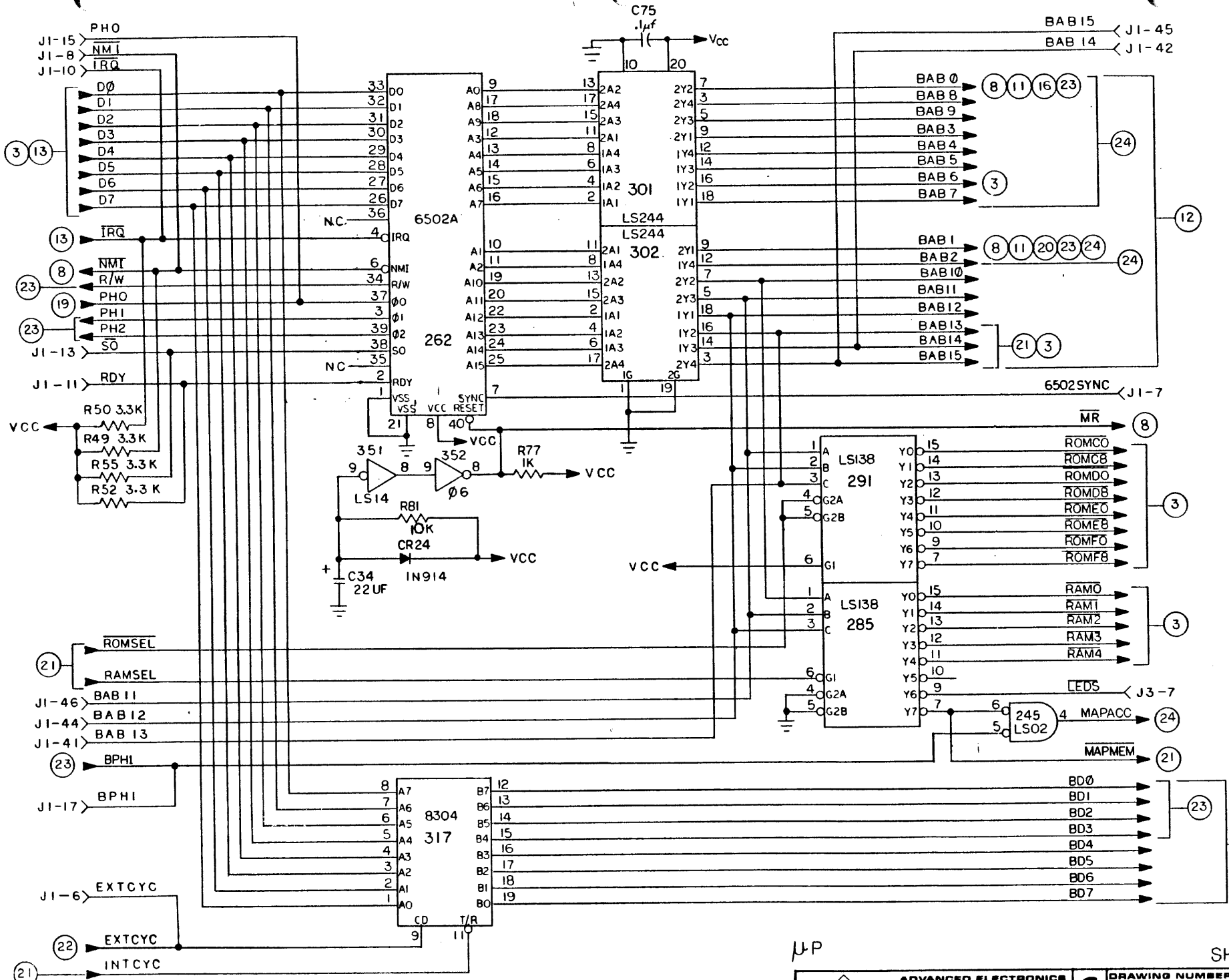
ISSUE	DESCRIPTION	DATE	APPROVED
A	REL. PER ECO-204	12/15/81	HG
B	ECO NO. 2068A	4/1/82	R
C	ECO 2166	6/1/83	R
D	ECO 2263	8/1/83	R
E	ECO 2386	7/1/84	R
F	ECO 2392	8/1/84	R
G	ECO 2410	10/1/84	R

# MASTER

IF THIS STATEMENT APPEARS IN RED, RETURN TO: DOCUMENT CONTROL

COMPONENT REF. DESIG.		
FIRST	LAST	UNUSED
RI	R174	8, 15, 22, 23, 27, 31, 45, 51, 57, 63, 72, 78, 80, 99, 100, 102, 103 - 130
CI	C102	2, 4, 5, 13, 14, 23, 25, 42 - 50, 66 - 69, 82
A00	A368	198
CRI	CR30	CR15 - 20, 23, 26 - 29
Q1	Q10	Q8, Q9
REG 4	10	REG 1, 2, 3, 5
P1	P3	—
J1	J4	—

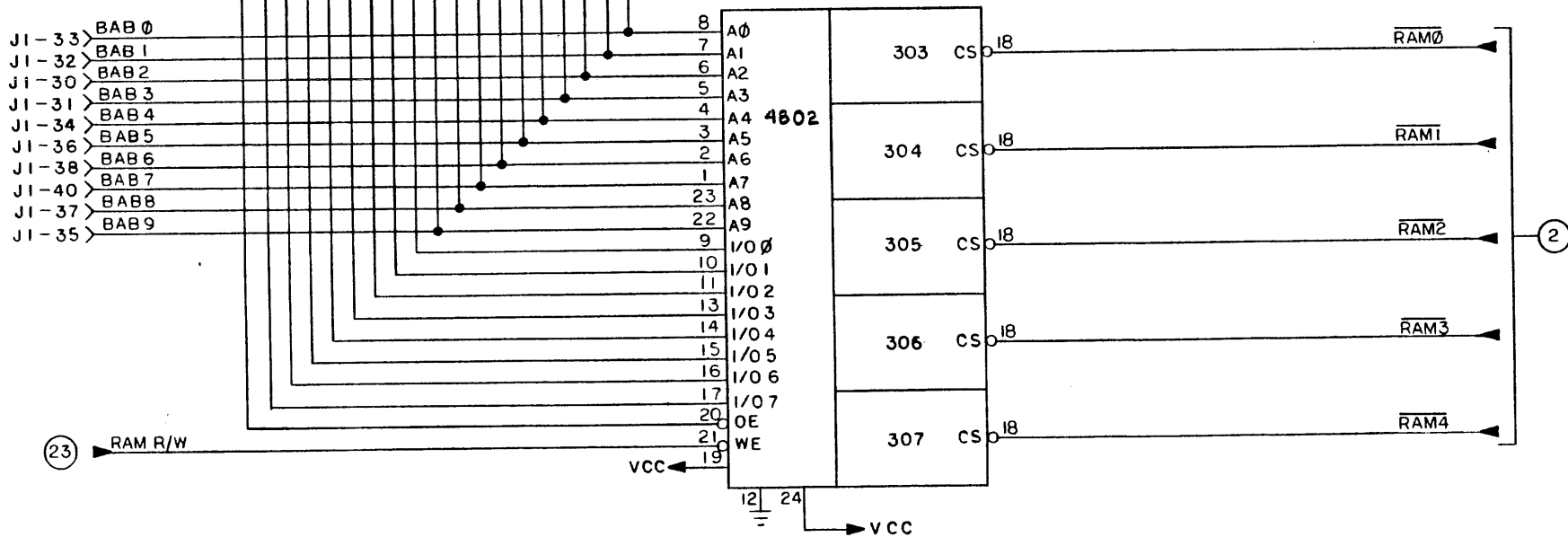
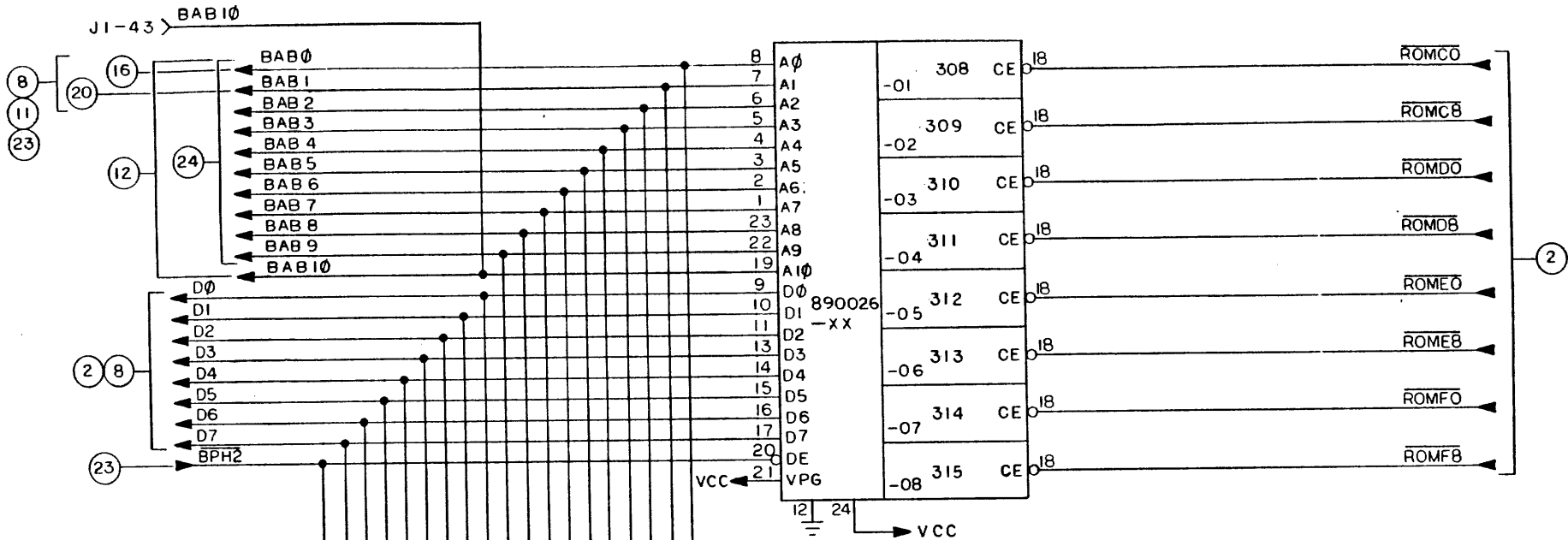
-03	-02	-01	PART NUMBER	CODE IDENT	DESCRIPTION	ITEM NO.
QTY	REQD					
TOLERANCE UNLESS OTHERWISE SPECIFIED			MATERIAL		DWN. 7-15-81 Jim Ammon	
.XX = ± .XXX = ±			FINISH		CHK F. Ammon 7/15/81	
ANGULAR			DRAWING TITLE		APPROV.	
SURFACE			SCHEMATIC AED - 512			
SCALE			DRAWING NUMBER 120102-01			
DASH NO.			NEXT ASSY		REV G	
USED ON			ADVANCED ELECTRONICS DESIGN, INC. SUNNYVALE, CALIF. 94088			
APPLICATION			SHEET 1 OF 31			



µP

SHT-2

	ADVANCED ELECTRONICS DESIGN, INC.		DRAWING NUMBER	REV
	SUNNYVALE, CALIF. 94088		C	120102-01



RAM/ROM

SHT-3

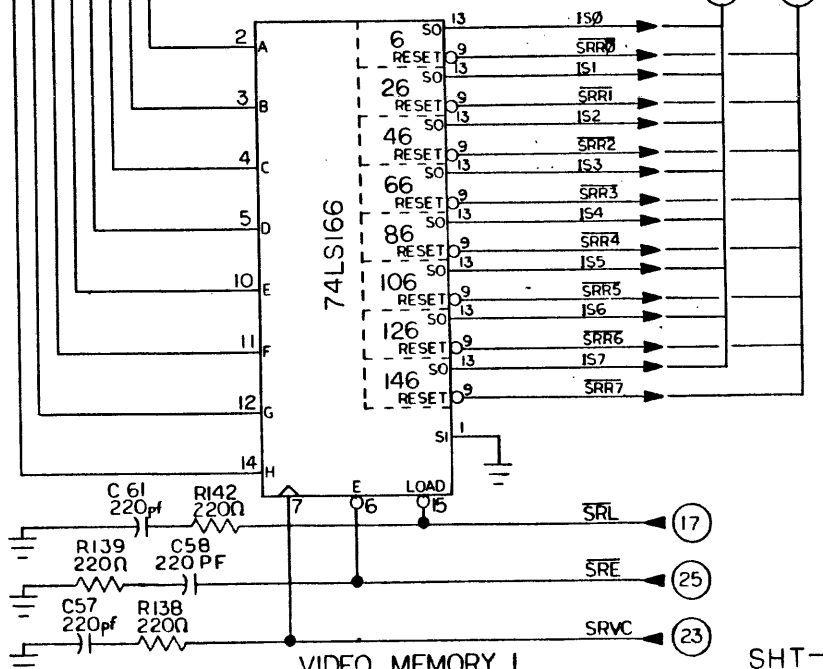
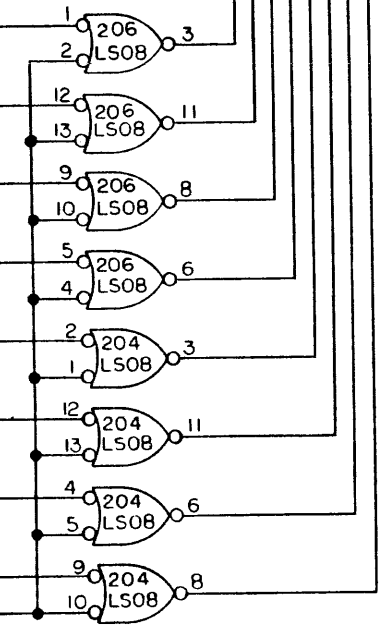
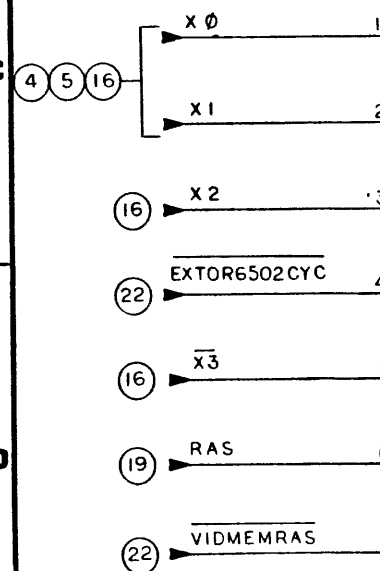
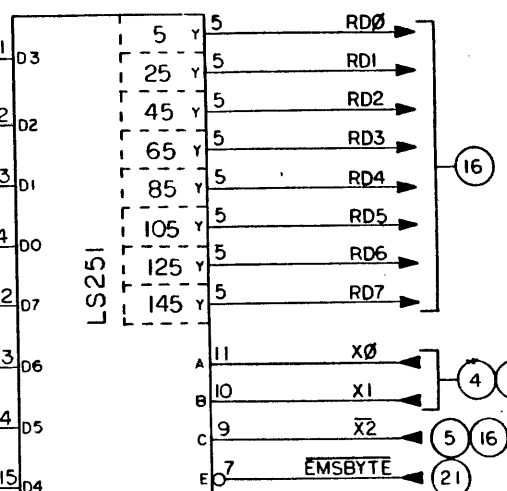
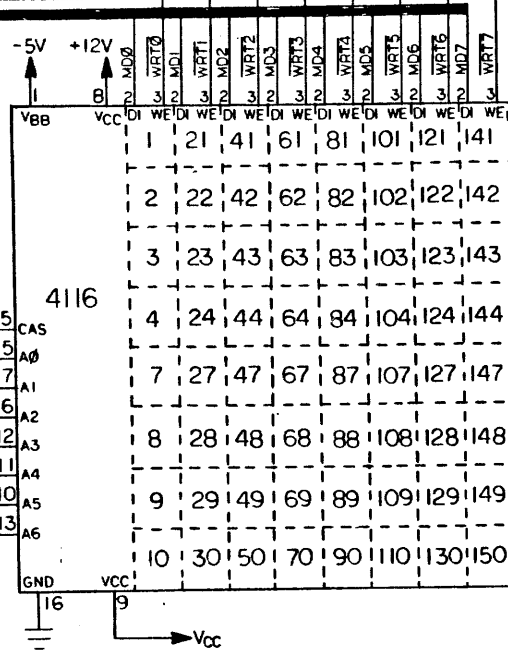
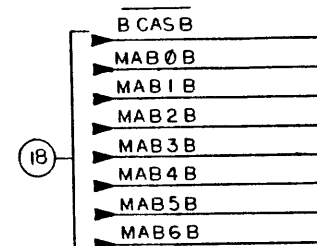
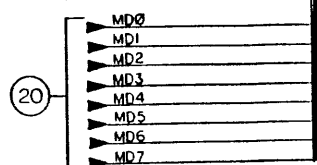
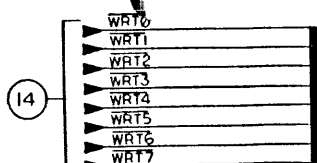


ADVANCED ELECTRONICS  
DESIGN, INC.  
SUNNYVALE, CALIF. 94088

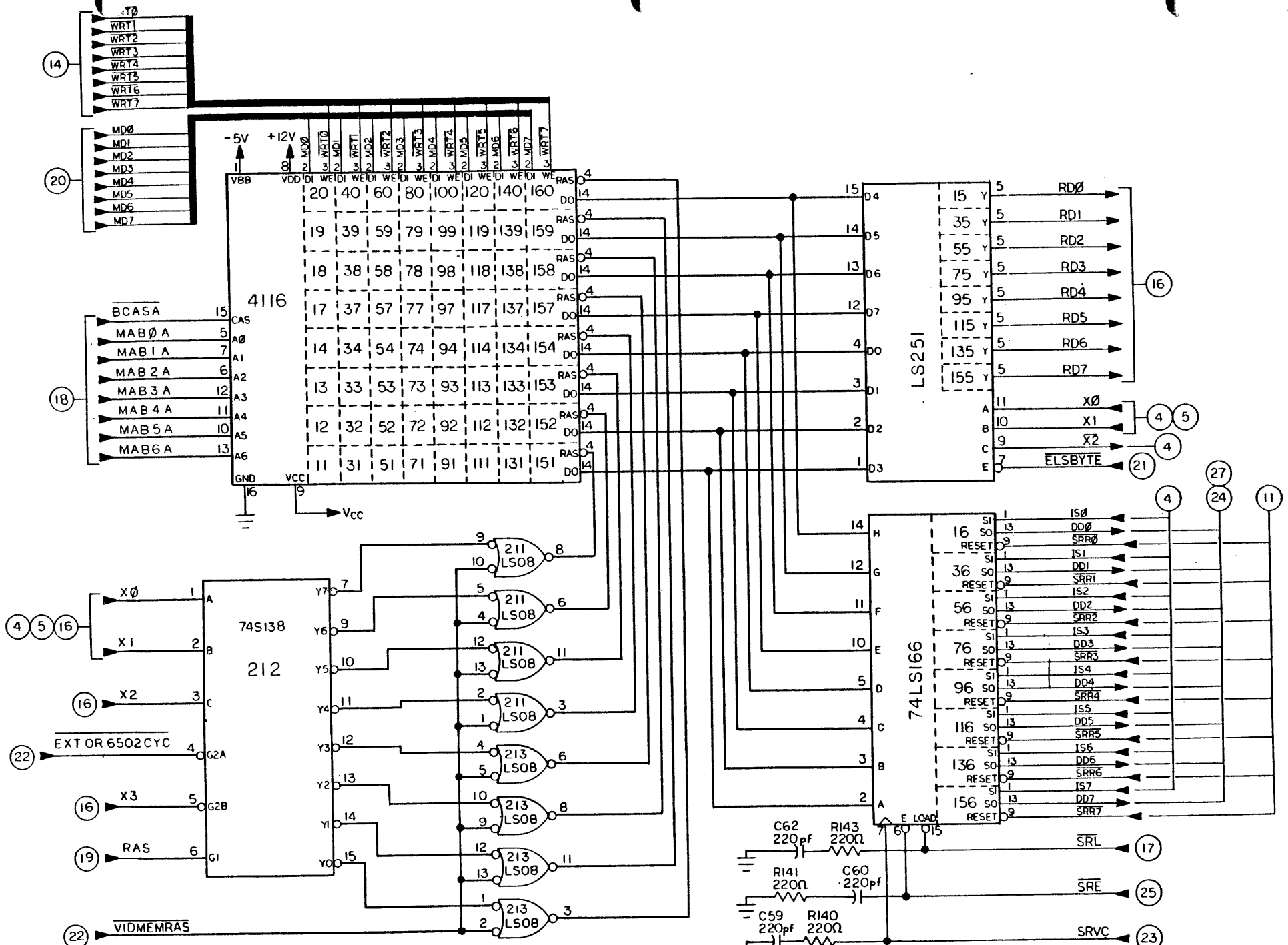
C

DRAWING NUMBER  
120102-01

REV  
G



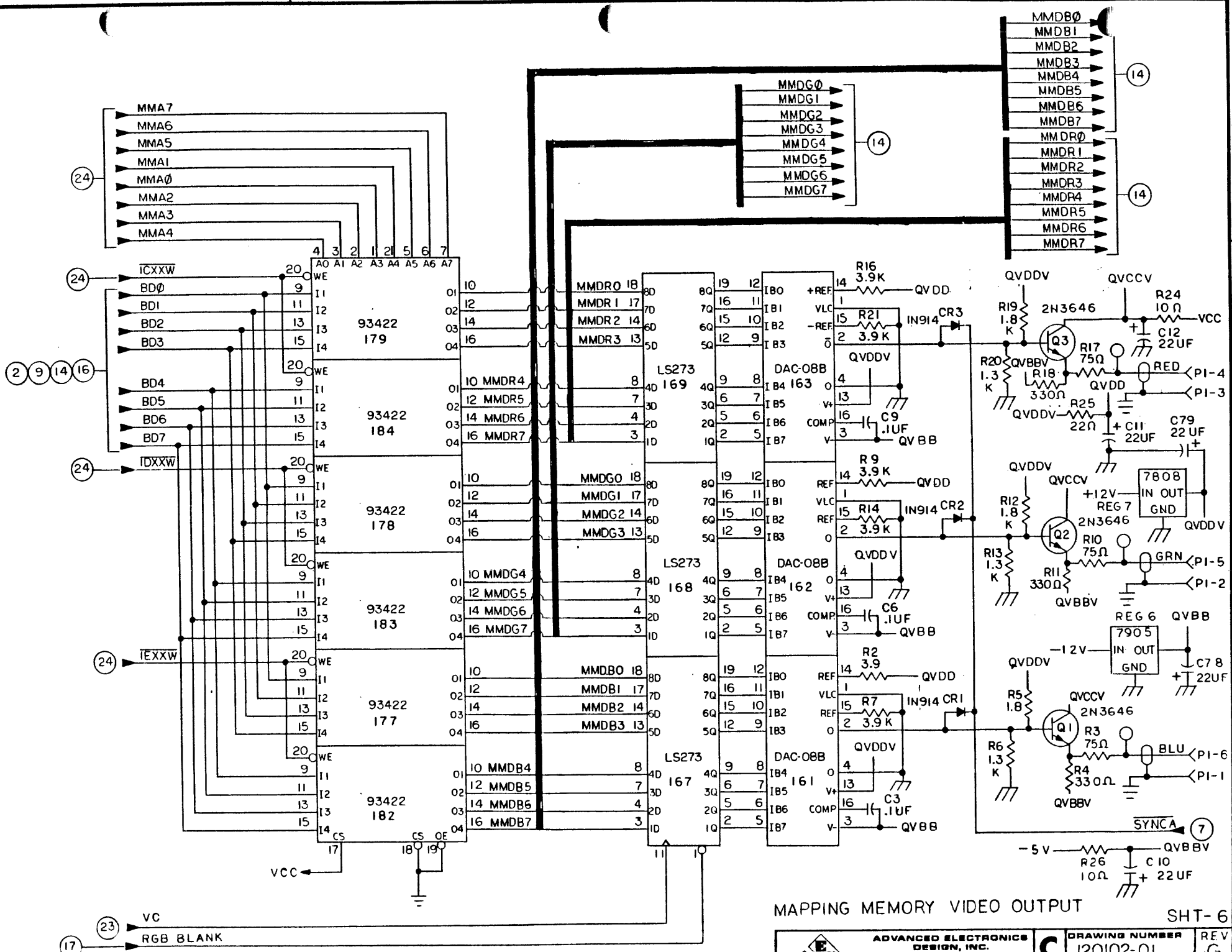
VIDEO MEMORY I SHT-4



VIDEO MEMORY 2

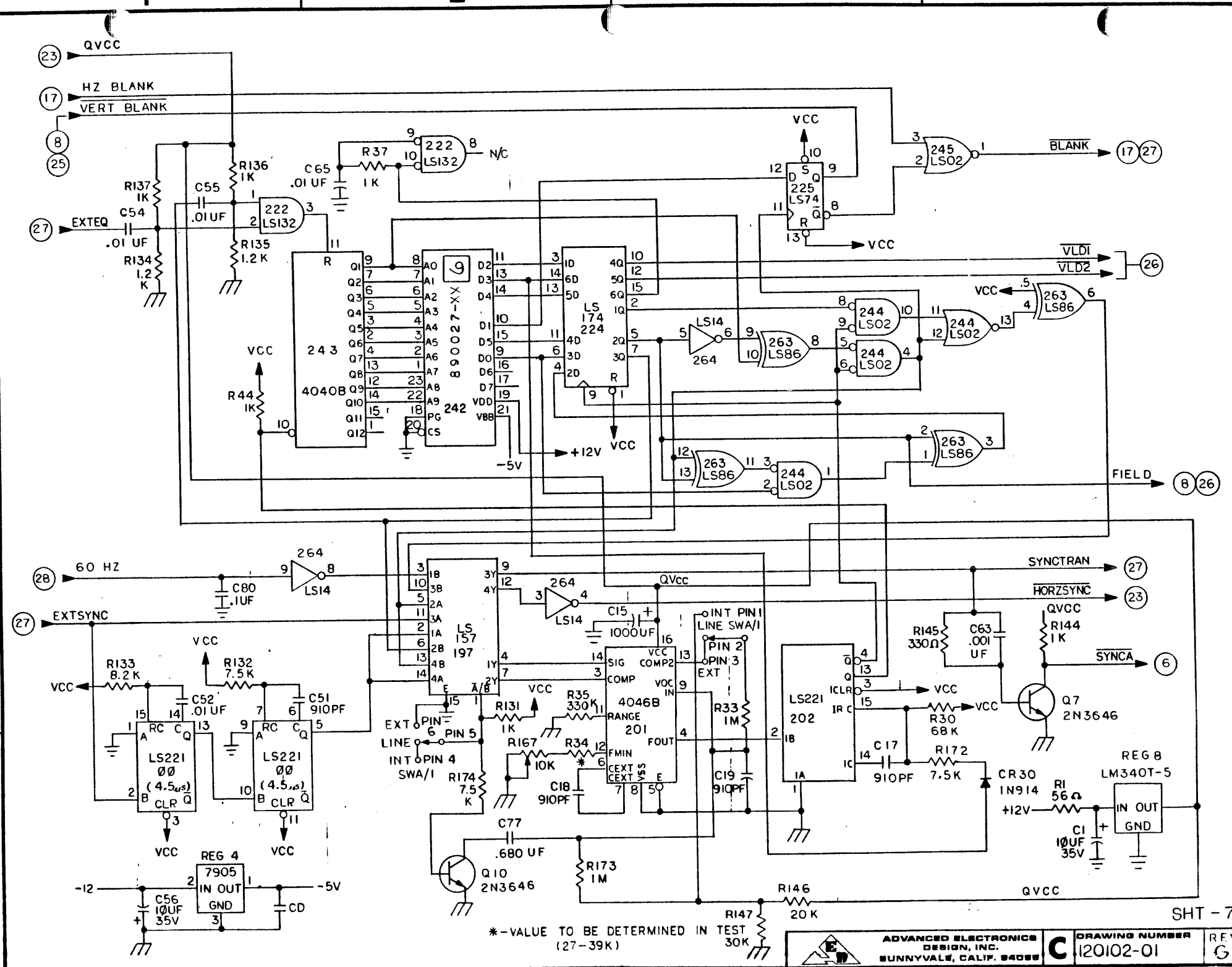
SHT-5

	ADVANCED ELECTRONICS DESIGN, INC.	<b>C</b> DRAWING NUMBER 120102-01	REV
	BUNNYVALE, CALIF. 94088		G

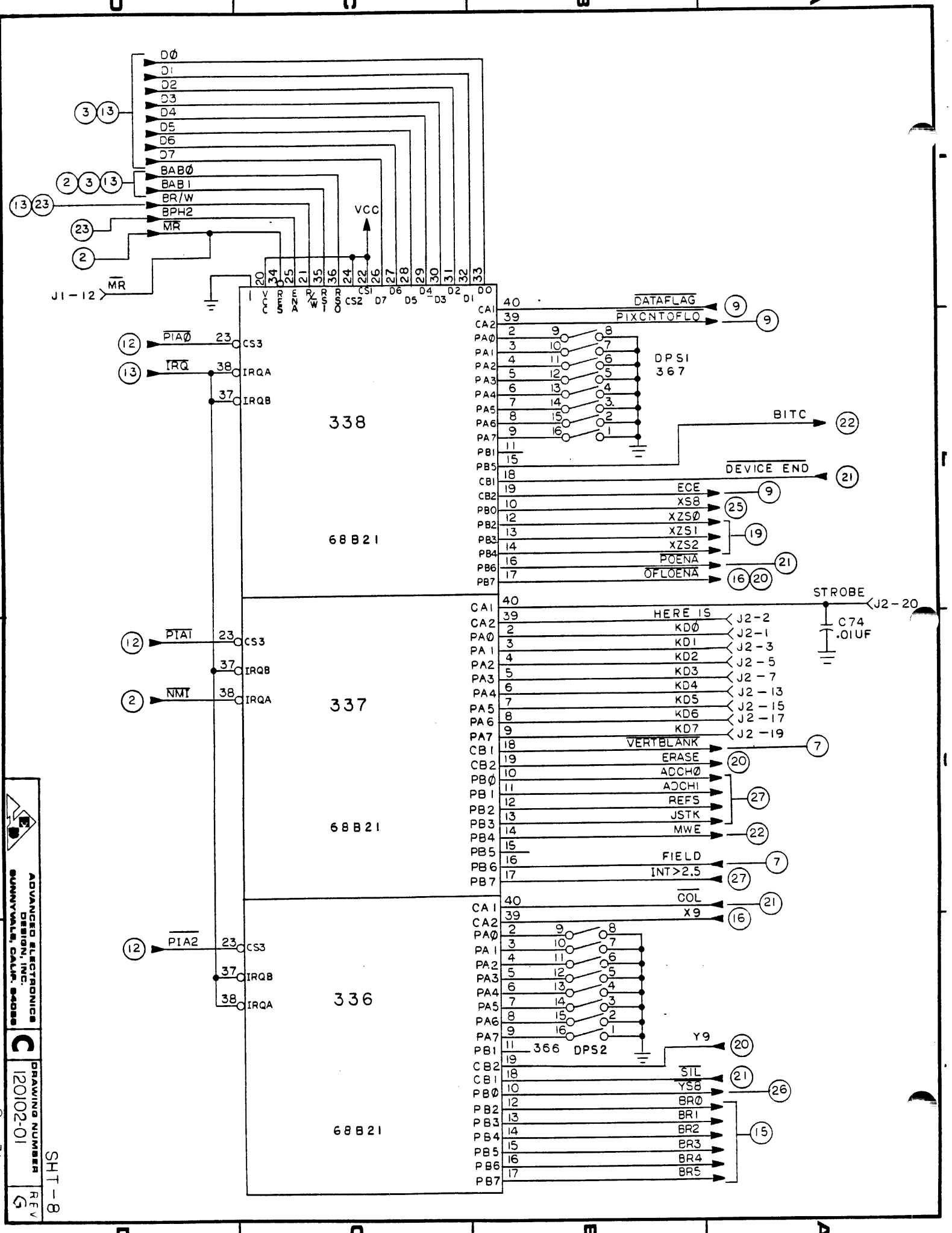


MAPPING MEMORY VIDEO OUTPUT SHT-6

	ADVANCED ELECTRONICS DESIGN, INC. SUNNYVALE, CALIF. 94088	<b>C</b> DRAWING NUMBER 120102-01	REV G
	SHEET 6 OF 31		



\*-VALUE TO BE DETERMINED IN TEST (27-39K)



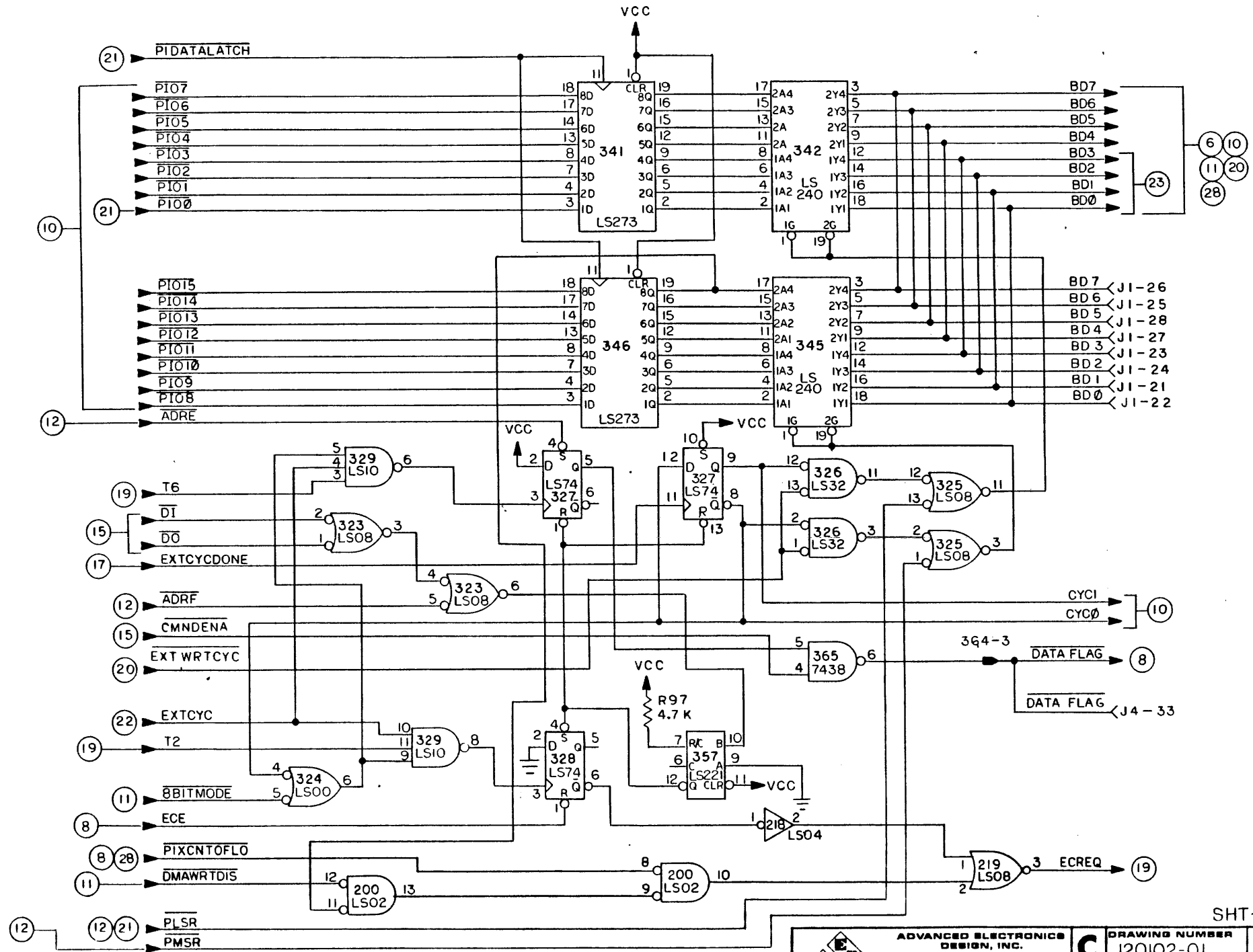
ADVANCED ELECTRONICS  
 DESIGN, INC.  
 SUNNYVALE, CALIF. 94088

DRAWING NUMBER  
 120102-01

REV  
 5

SHEET 9 OF 71

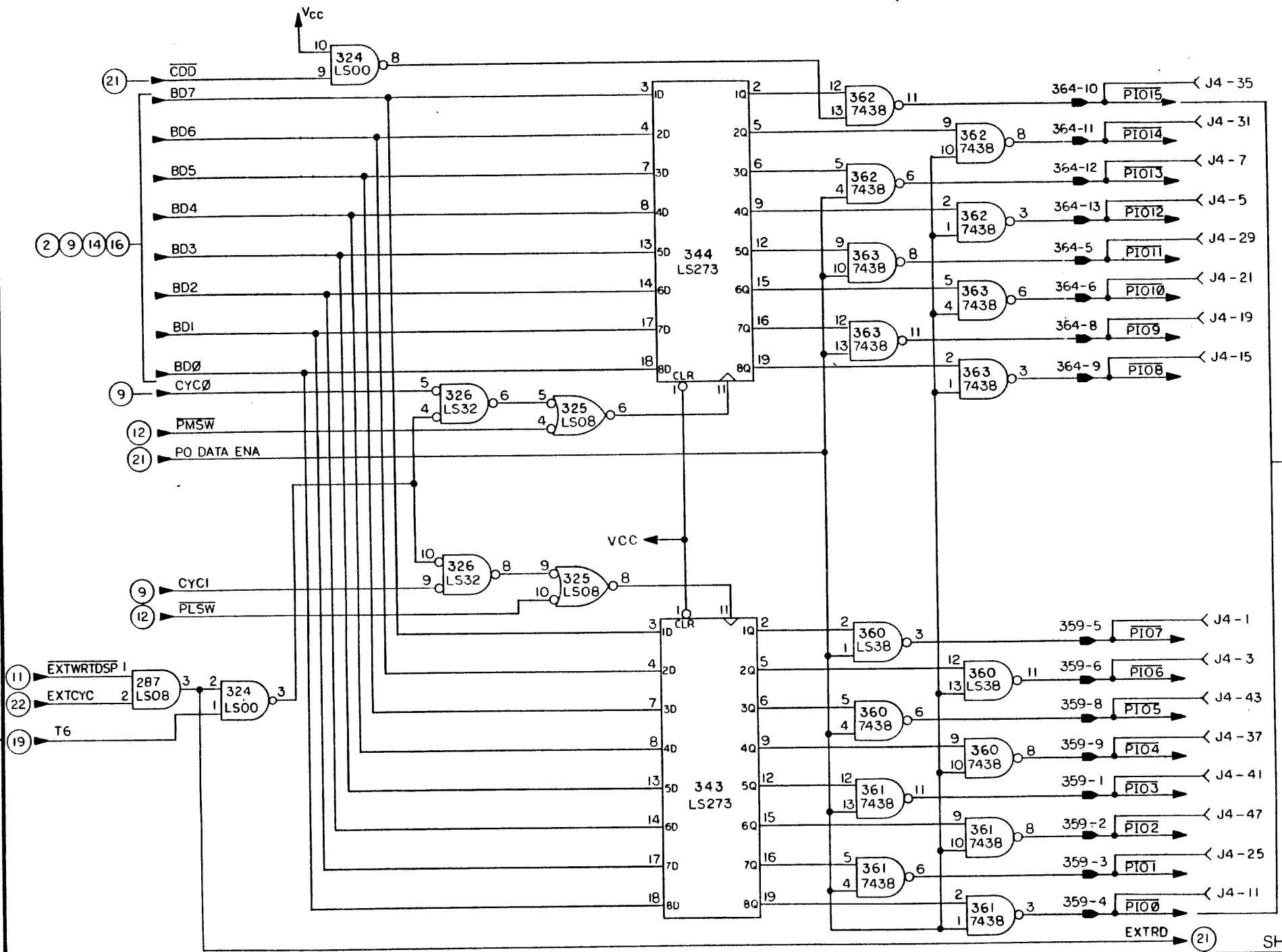




SHT-9

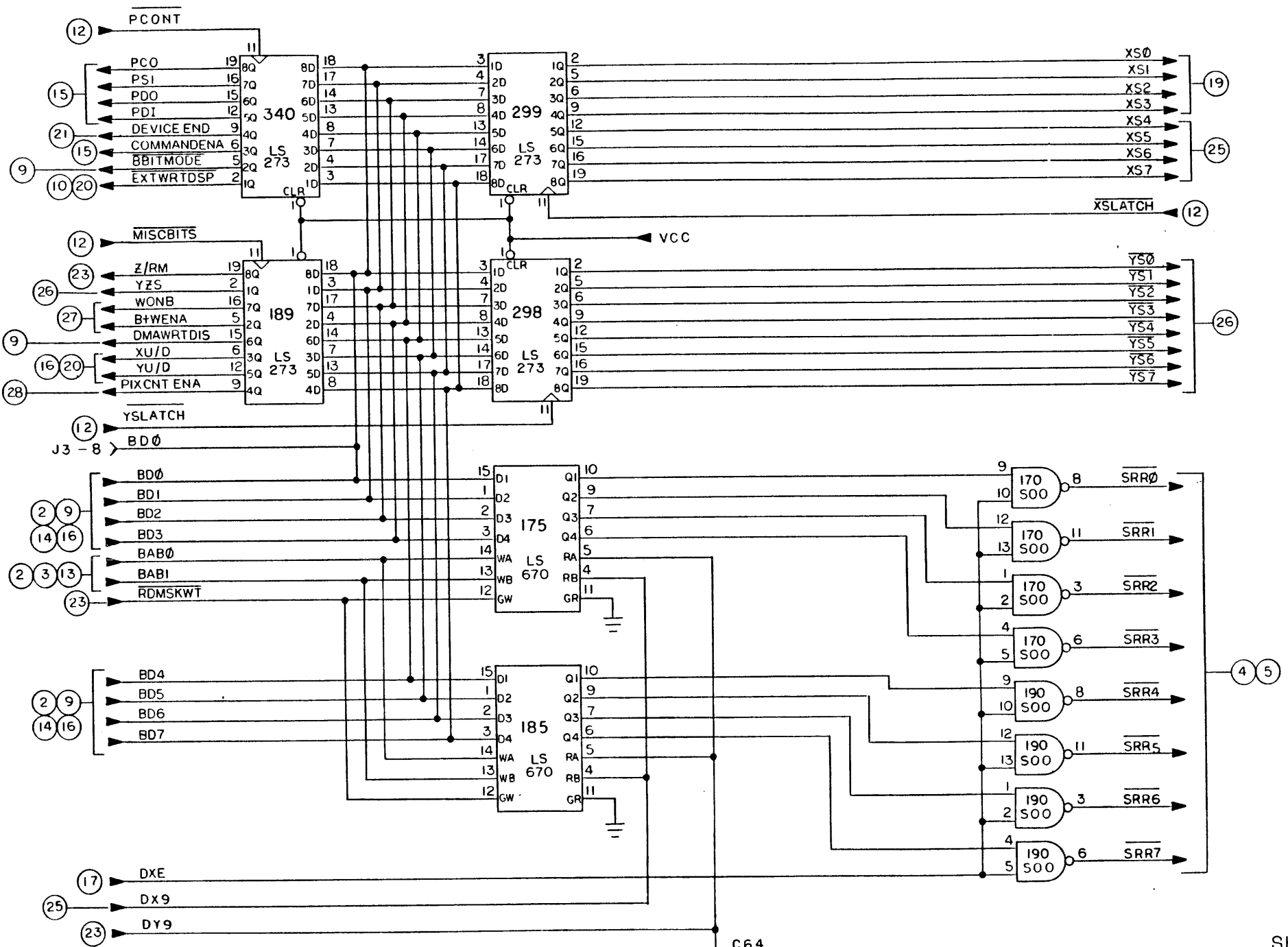
ADVANCED ELECTRONICS  
DESIGN, INC.  
SUNNYVALE, CALIF. 94088

DRAWING NUMBER  
120102-01  
REV  
G



A  
B  
C  
D

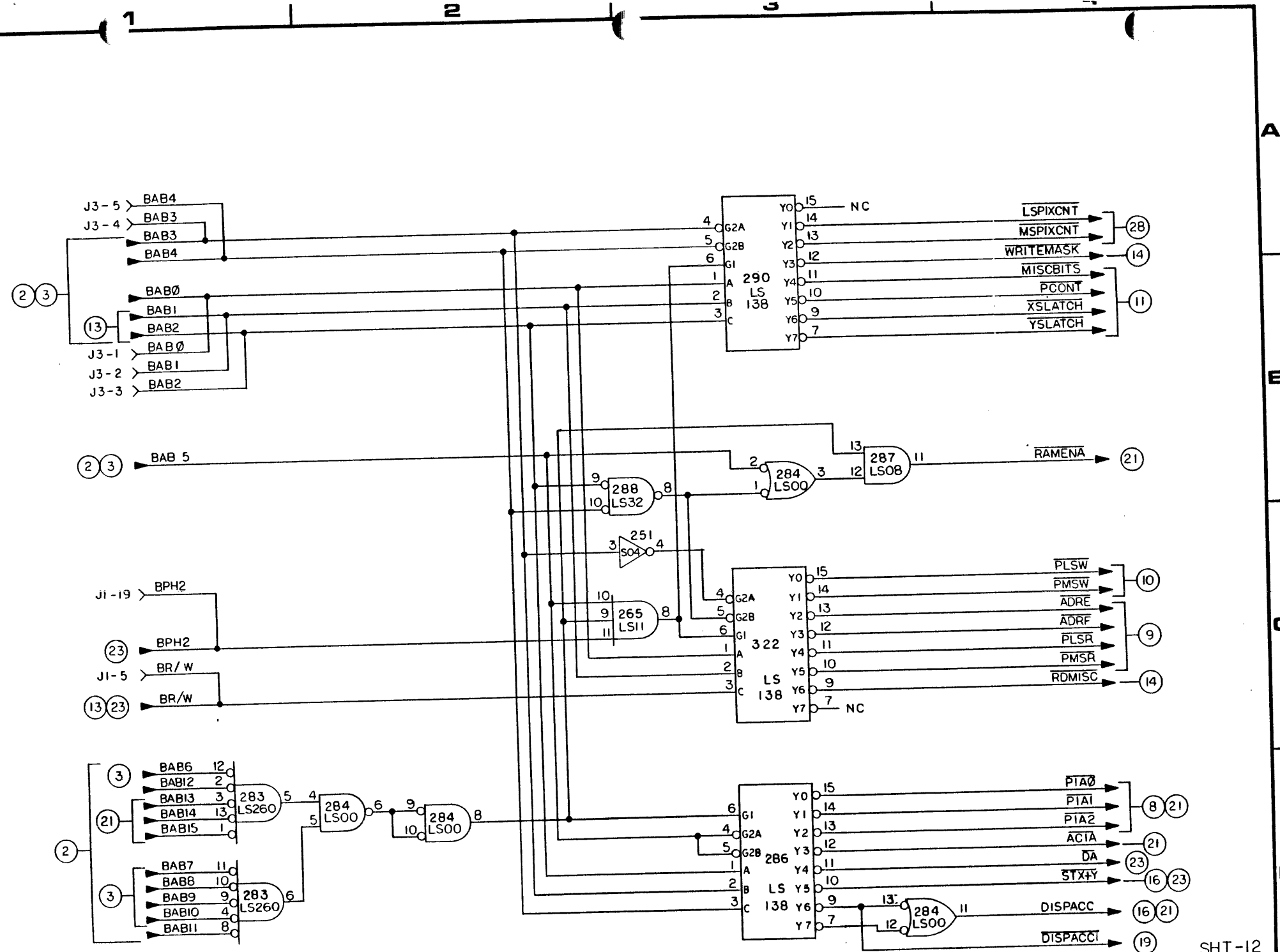
	<b>ADVANCED ELECTRONICS DESIGN, INC.</b> SUNNYVALE, CALIF. 94088	<b>C</b>	<b>DRAWING NUMBER</b> 120102-01	<b>REV</b> G
	SHEET 10 OF 31		SHT - 10	



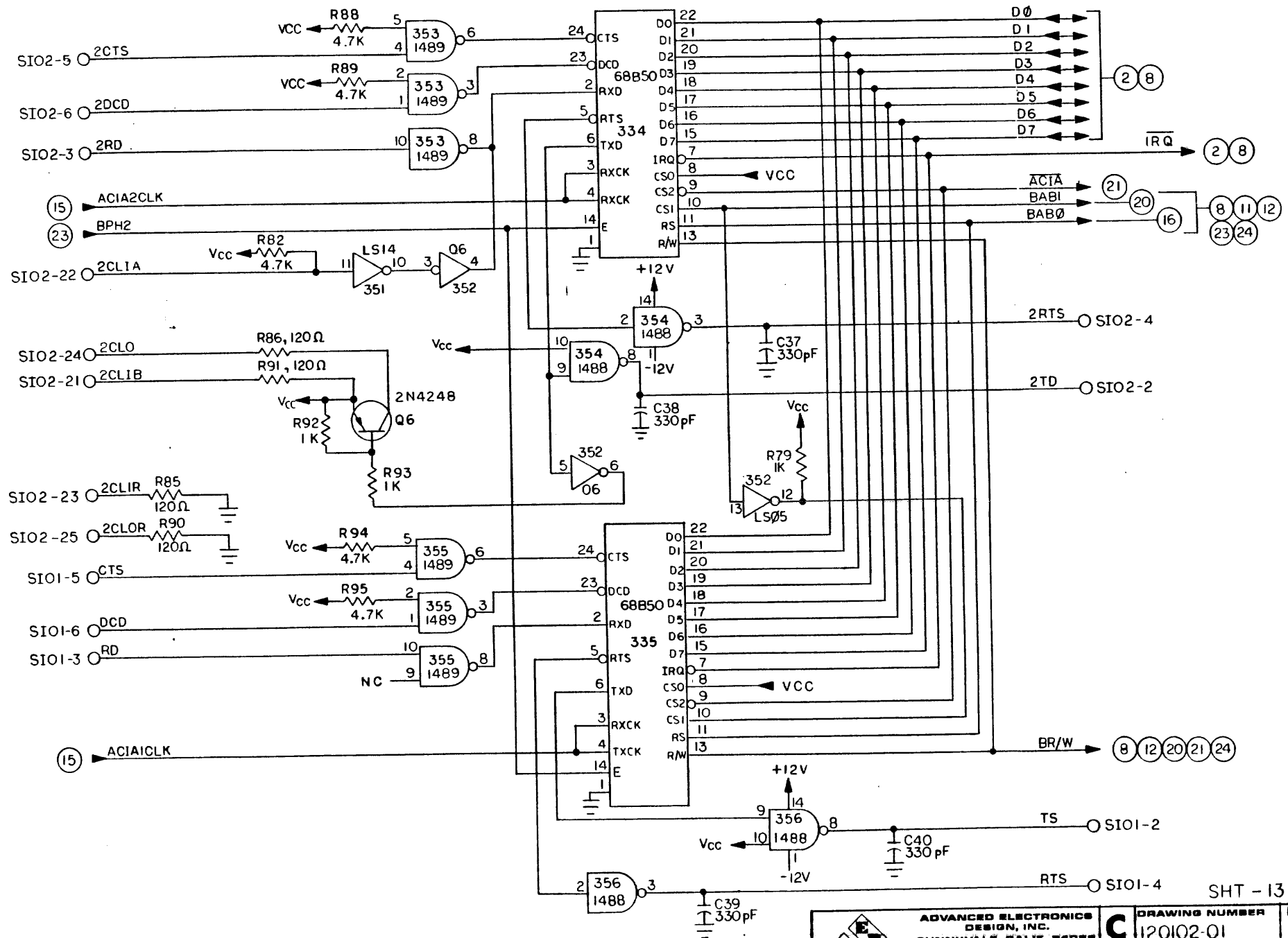
A  
B  
C  
D

SHT-11

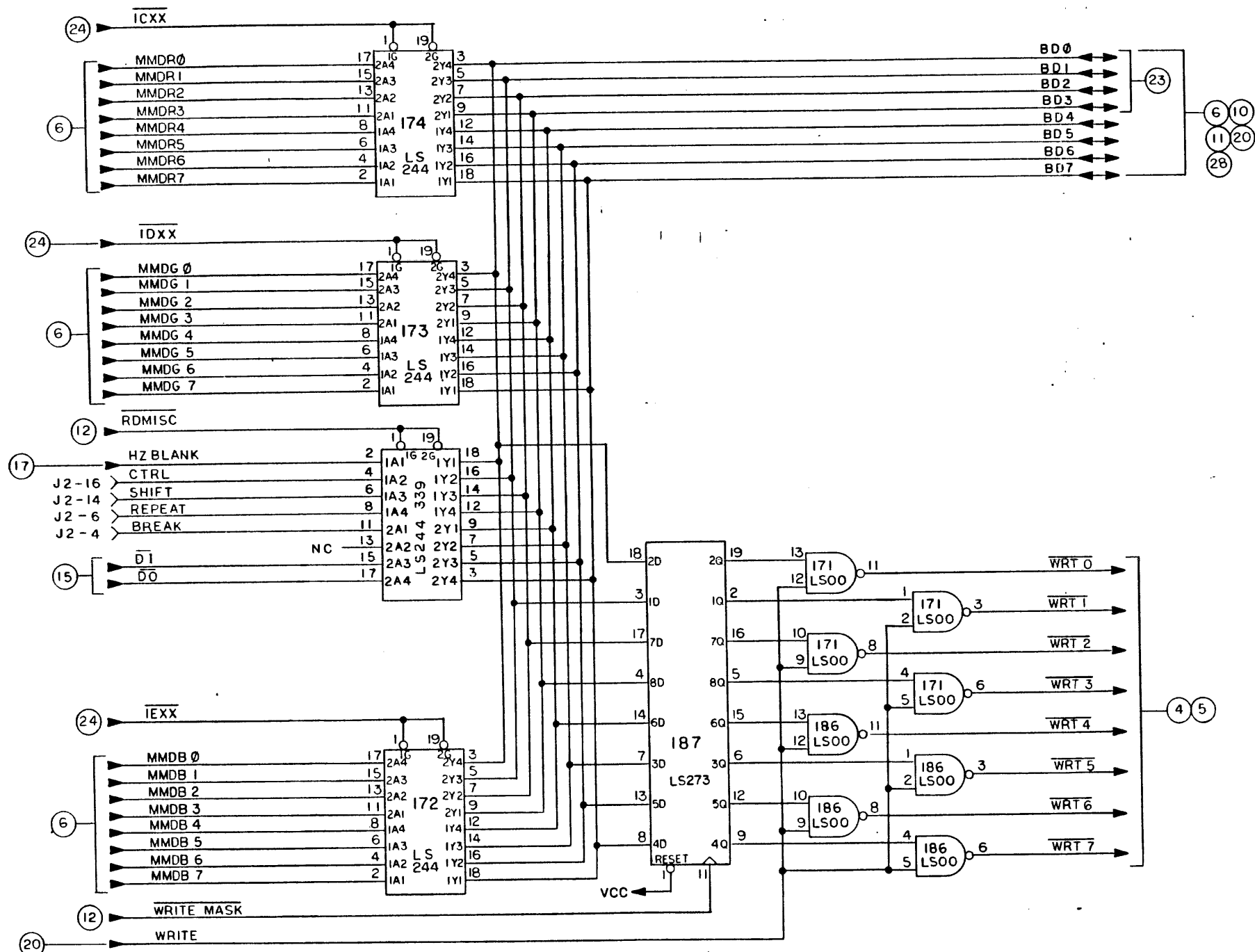
	<b>ADVANCED ELECTRONICS DESIGN, INC.</b> SUNNYVALE, CALIF. 94086	<b>C</b>	<b>DRAWING NUMBER</b> 120102-01	<b>REV</b> G
	SHEET 11 OF 21			



SHT-12



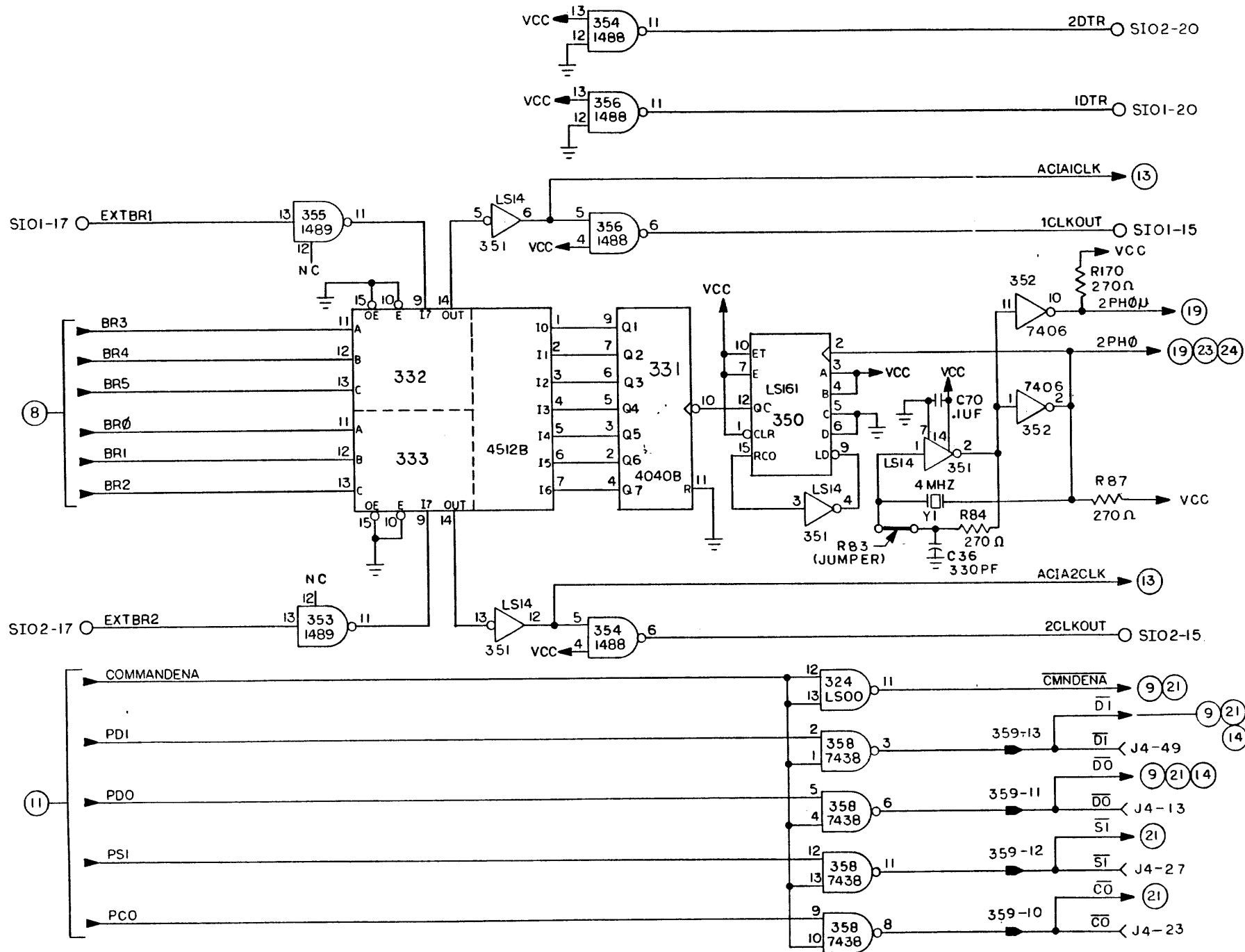
SHT - 13



A  
B  
C  
D

SHT-14

	<b>ADVANCED ELECTRONICS DESIGN, INC.</b> SUNNYVALE, CALIF. 94088	<b>C</b>	<b>DRAWING NUMBER</b> 120102-01	<b>RFV</b> G
	<b>SHEET 14 OF 31</b>			



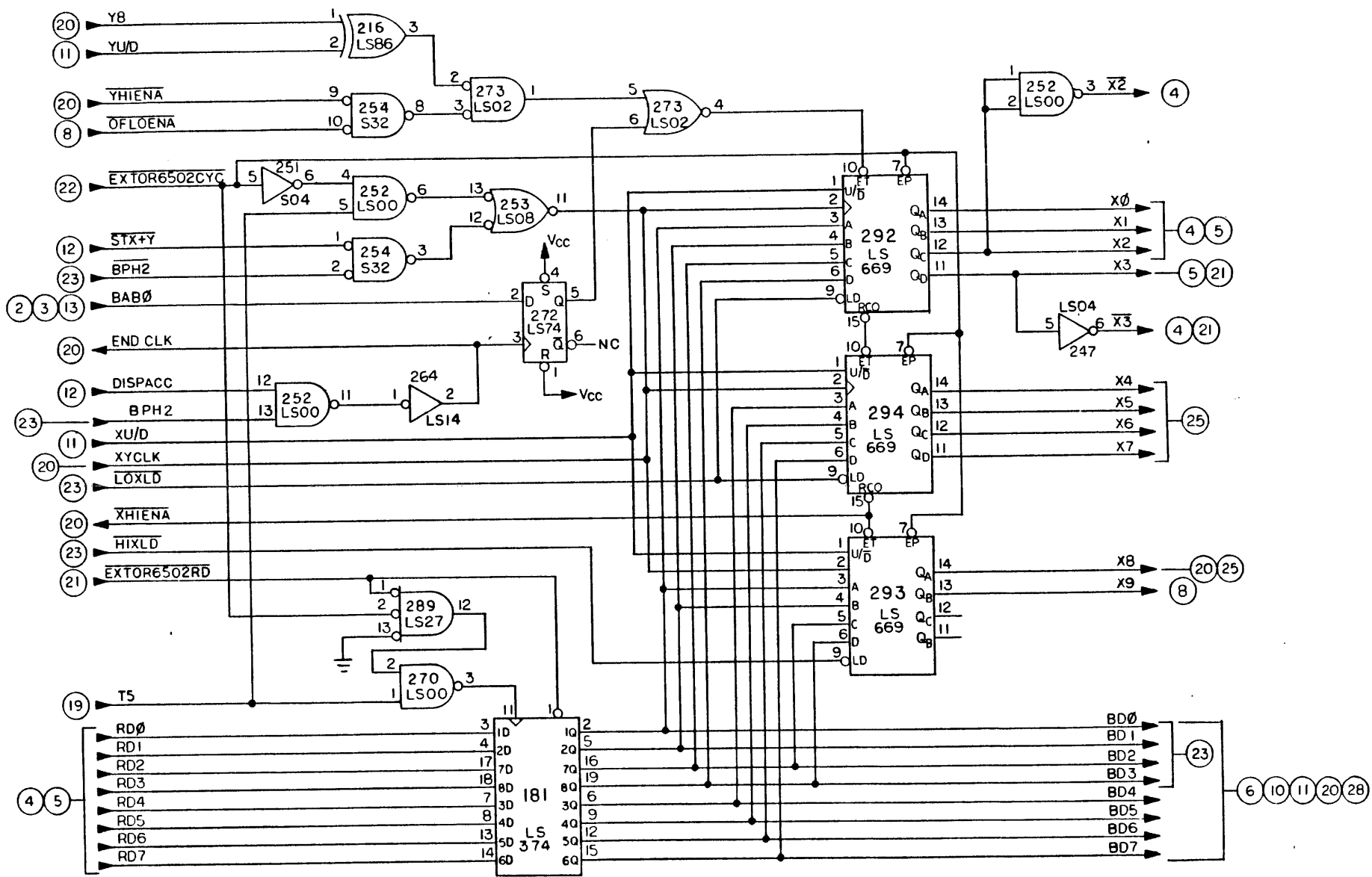
SHT-15



ADVANCED ELECTRONICS  
DESIGN, INC.  
SUNNYVALE, CALIF. 94088

**C** DRAWING NUMBER  
120102-01

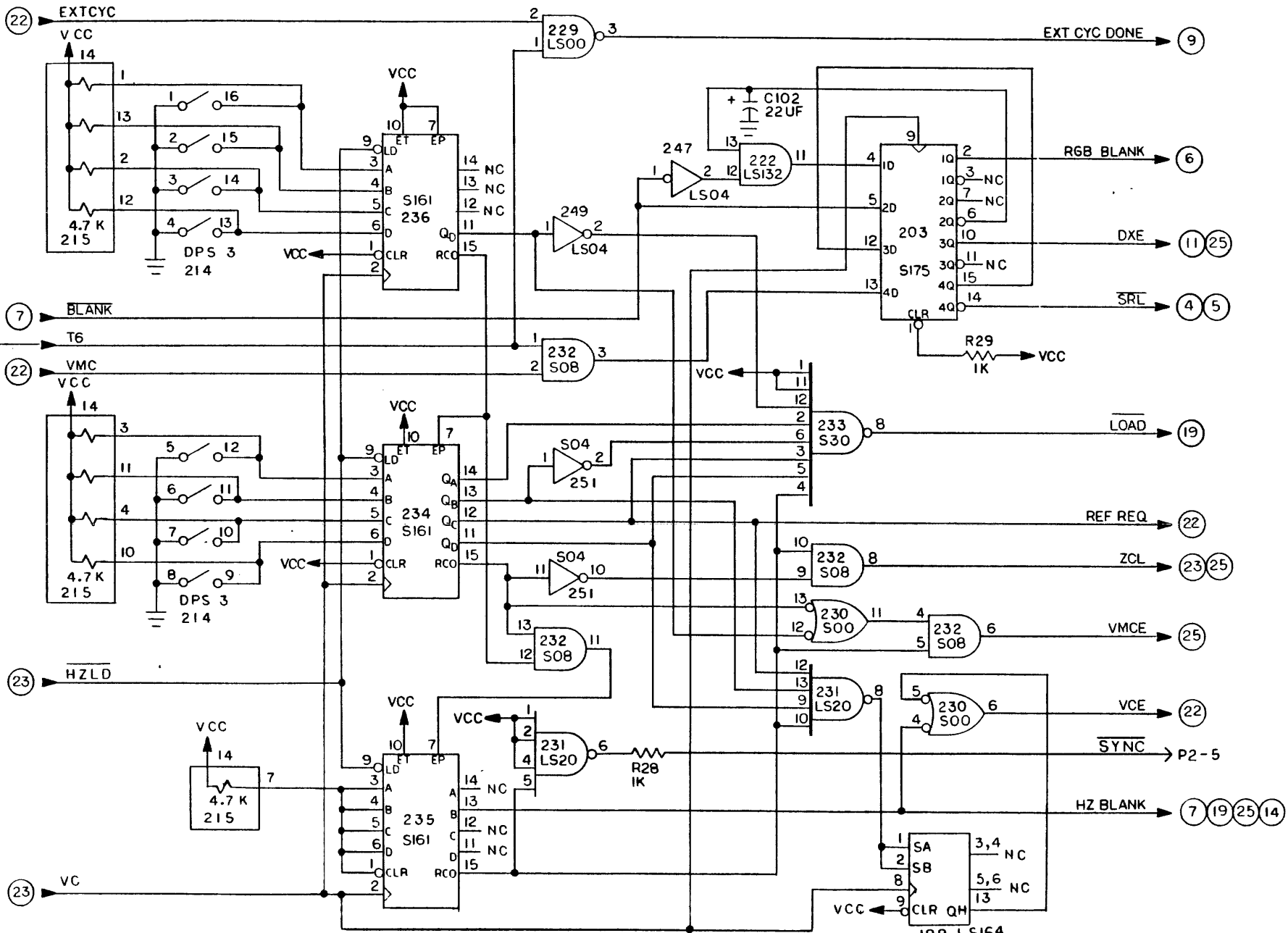
REV  
G



SHT-16

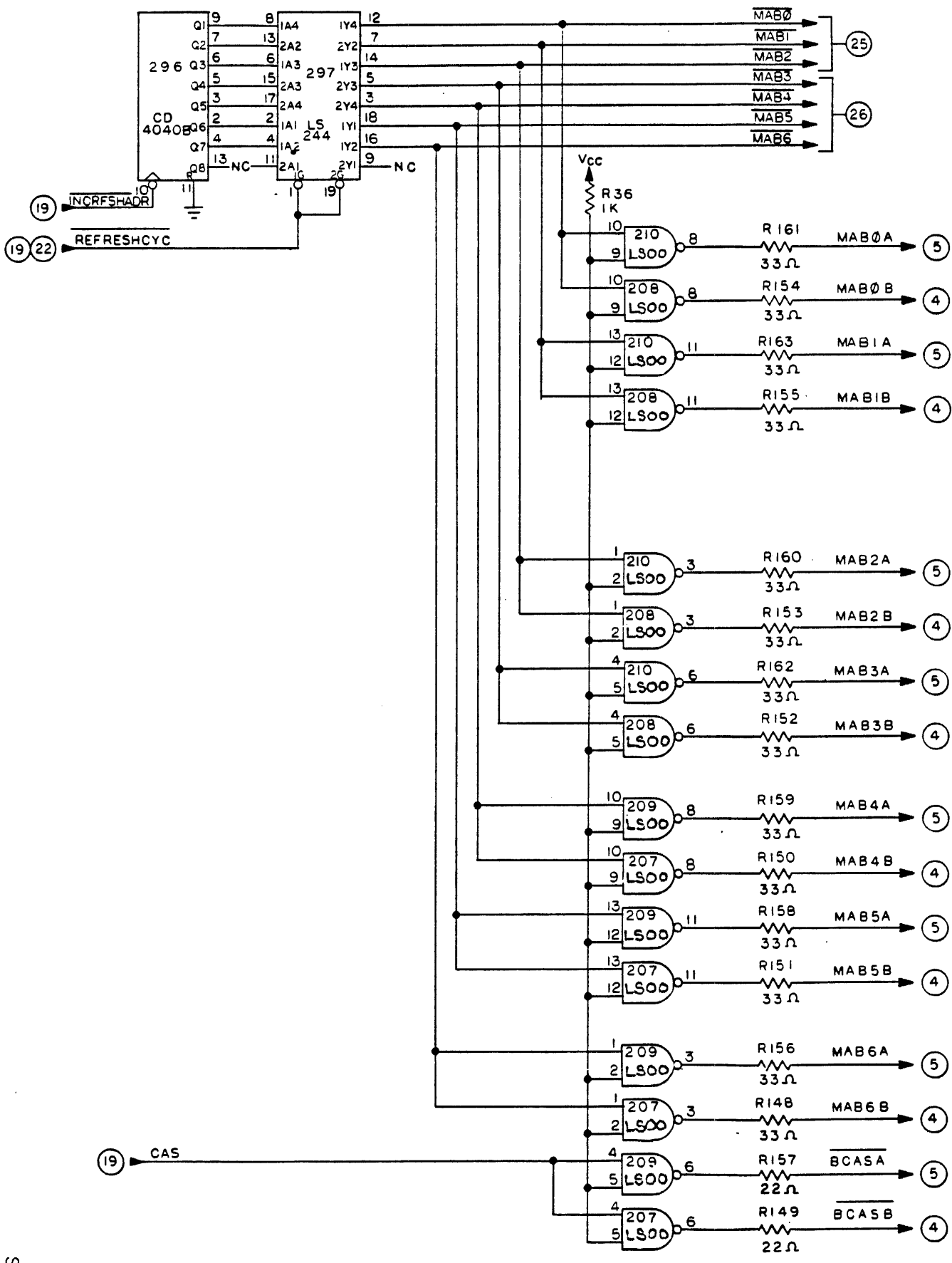
	ADVANCED ELECTRONICS DESIGN, INC.		DRAWING NUMBER	REV
	SUNNYVALE, CALIF. 94088		120102-01	





SHT-17

ADVANCED ELECTRONICS  
SUNNYVALE, CALIF. 94088

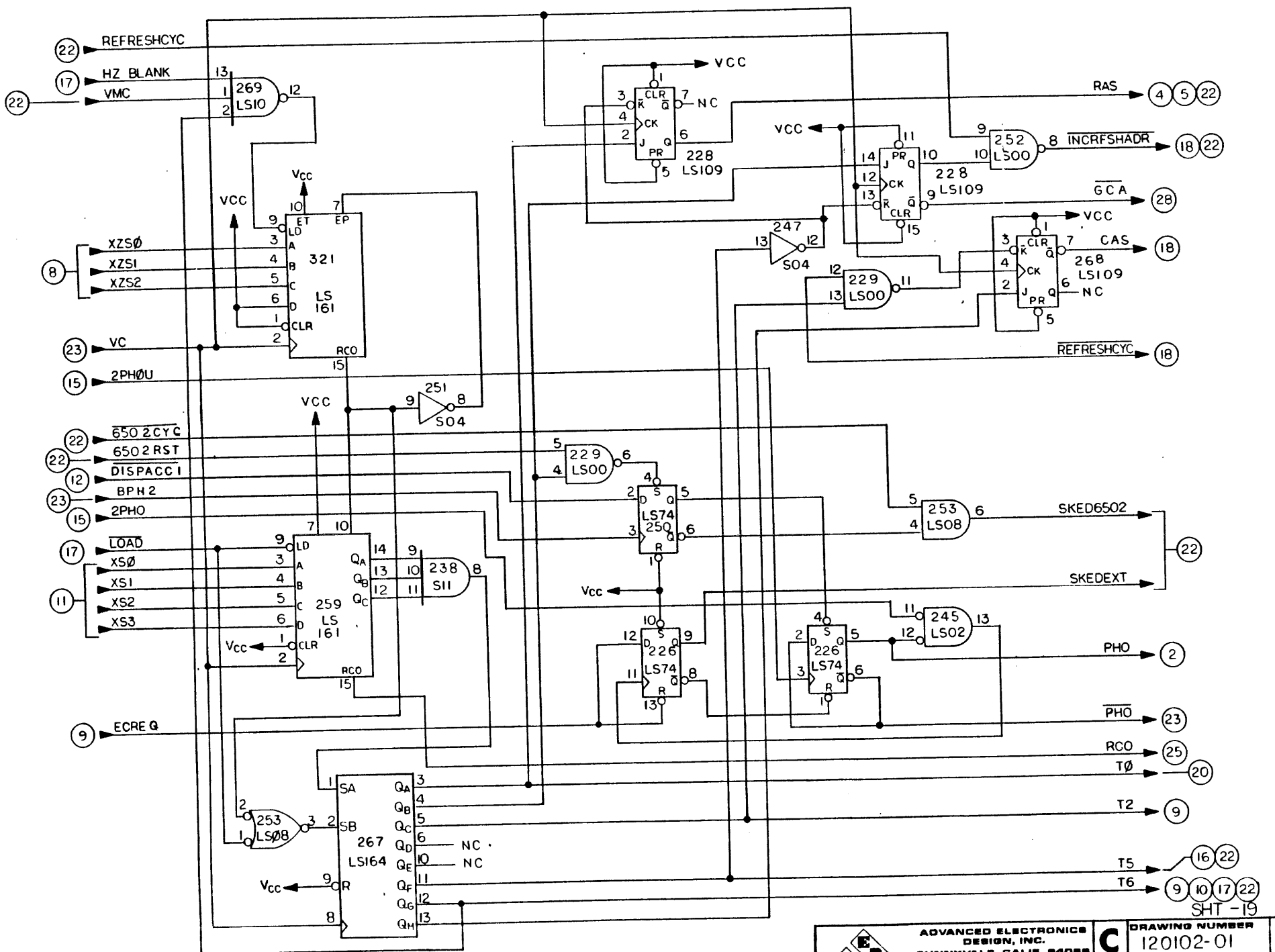


ADVANCED ELECTRONICS  
DESIGN, INC.  
SUNNYVALE, CALIF. 94088  
DRAWING NUMBER  
120102-01  
REV  
6

SHT - 18

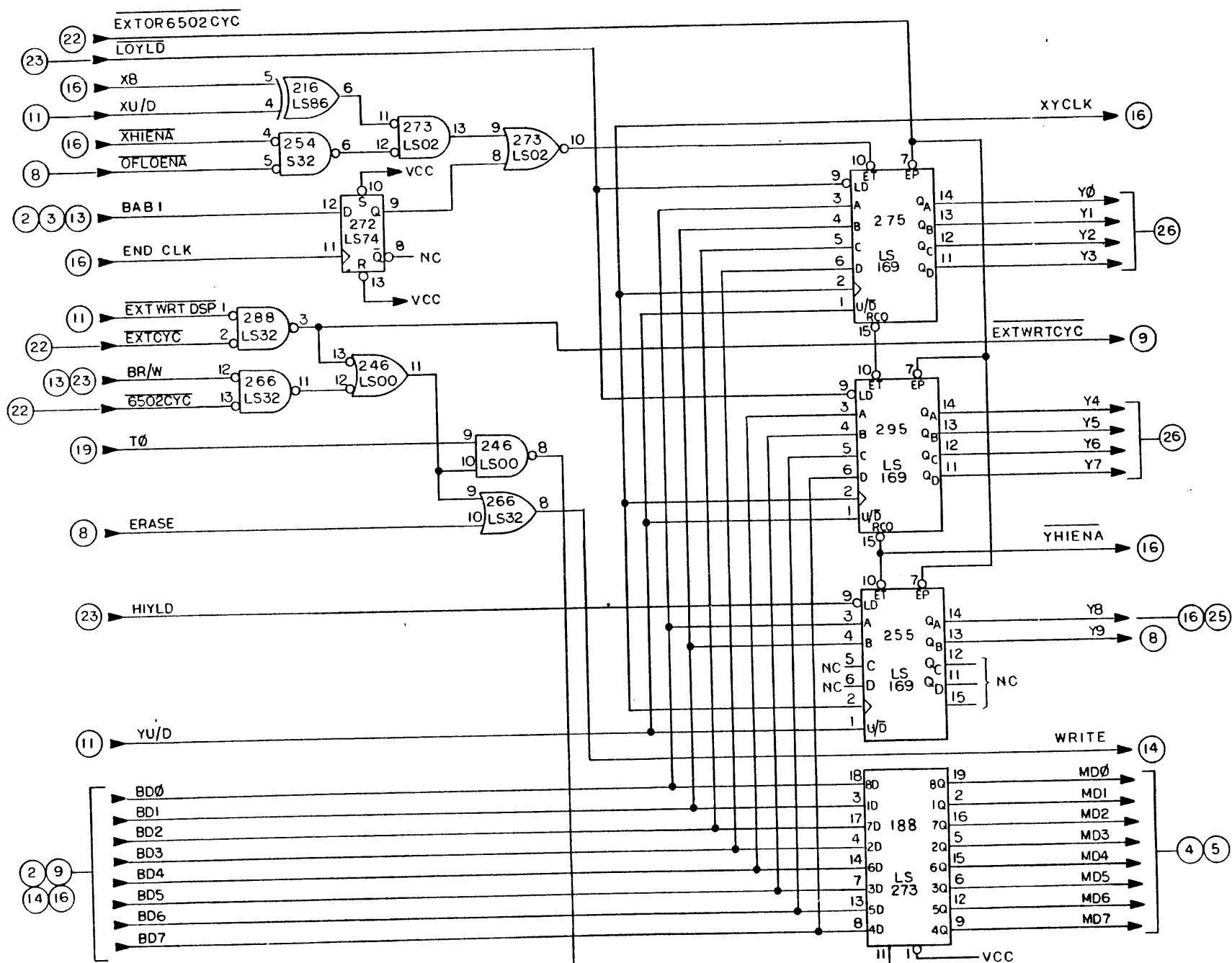
120102-01

REV  
6



A  
 B  
 C  
 D

	<b>ADVANCED ELECTRONICS DESIGN, INC.</b> SUNNYVALE, CALIF. 94088	<b>C</b>	<b>DRAWING NUMBER</b> 120102-01	<b>REV</b> G
	SHEET 13 OF 31			SHT - 19



A

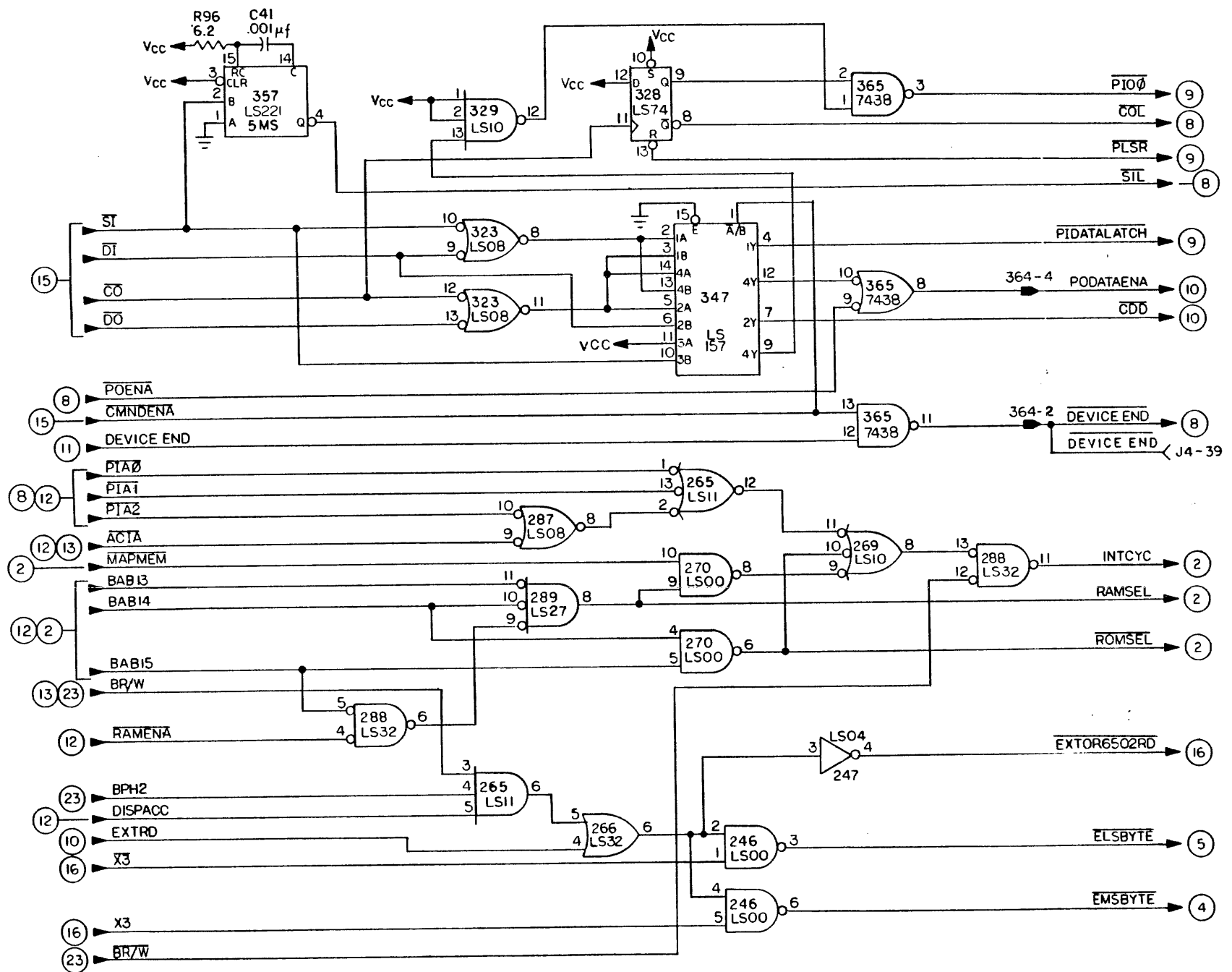
B

C

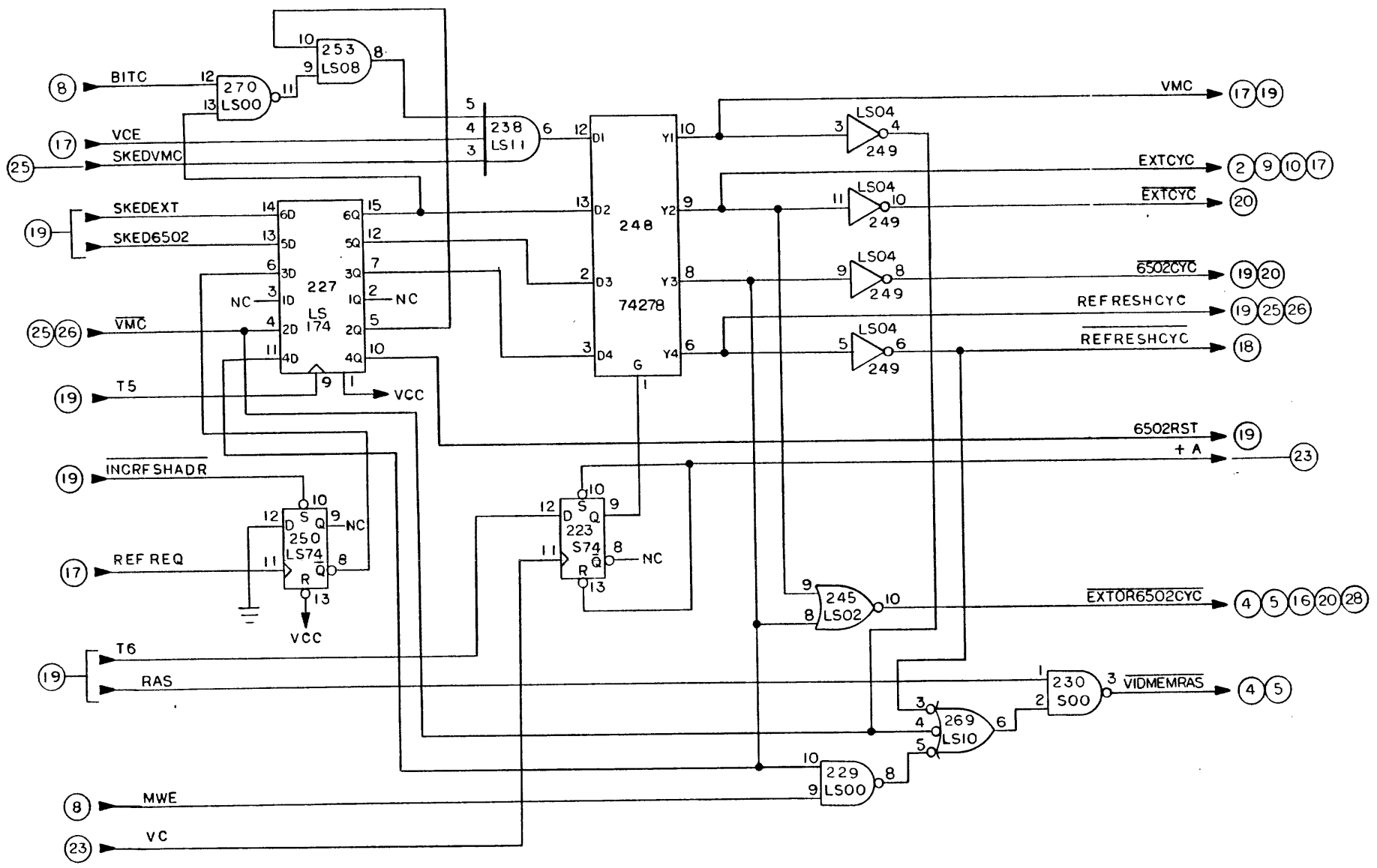
D

SHT-20


	ADVANCED ELECTRONICS DESIGN, INC.		DRAWING NUMBER	REV
	SUNNYVALE, CALIF. 94088		120102-01	G



SHT - 21



SHT-22

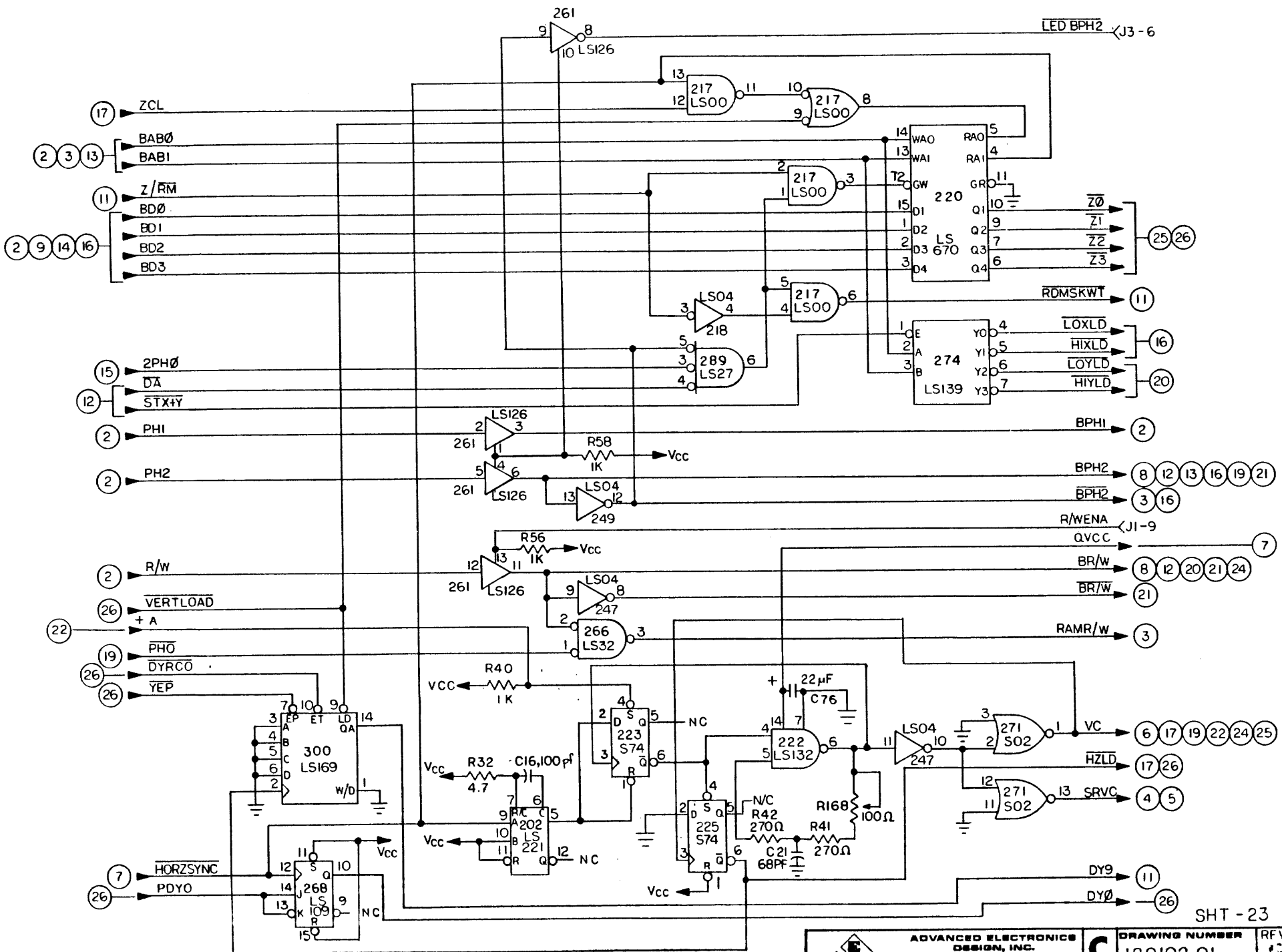
	ADVANCED ELECTRONICS DESIGN, INC. SUNNYVALE, CALIF. 94088	<b>C</b>	DRAWING NUMBER 120102-01	REV G
	SHEET 22 OF 31			

A

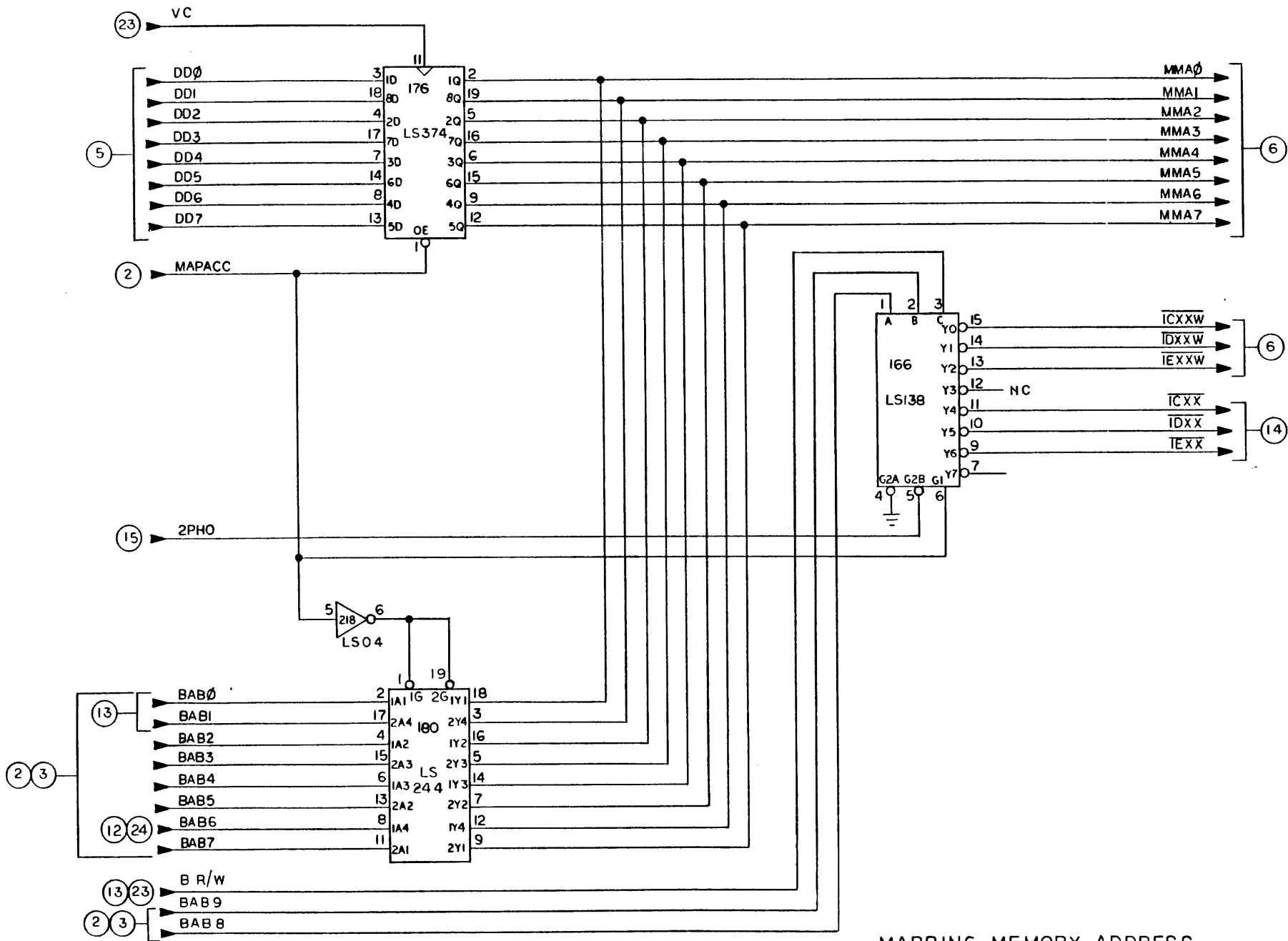
B

C

D



SHT - 23



MAPPING MEMORY ADDRESS

SHT 24



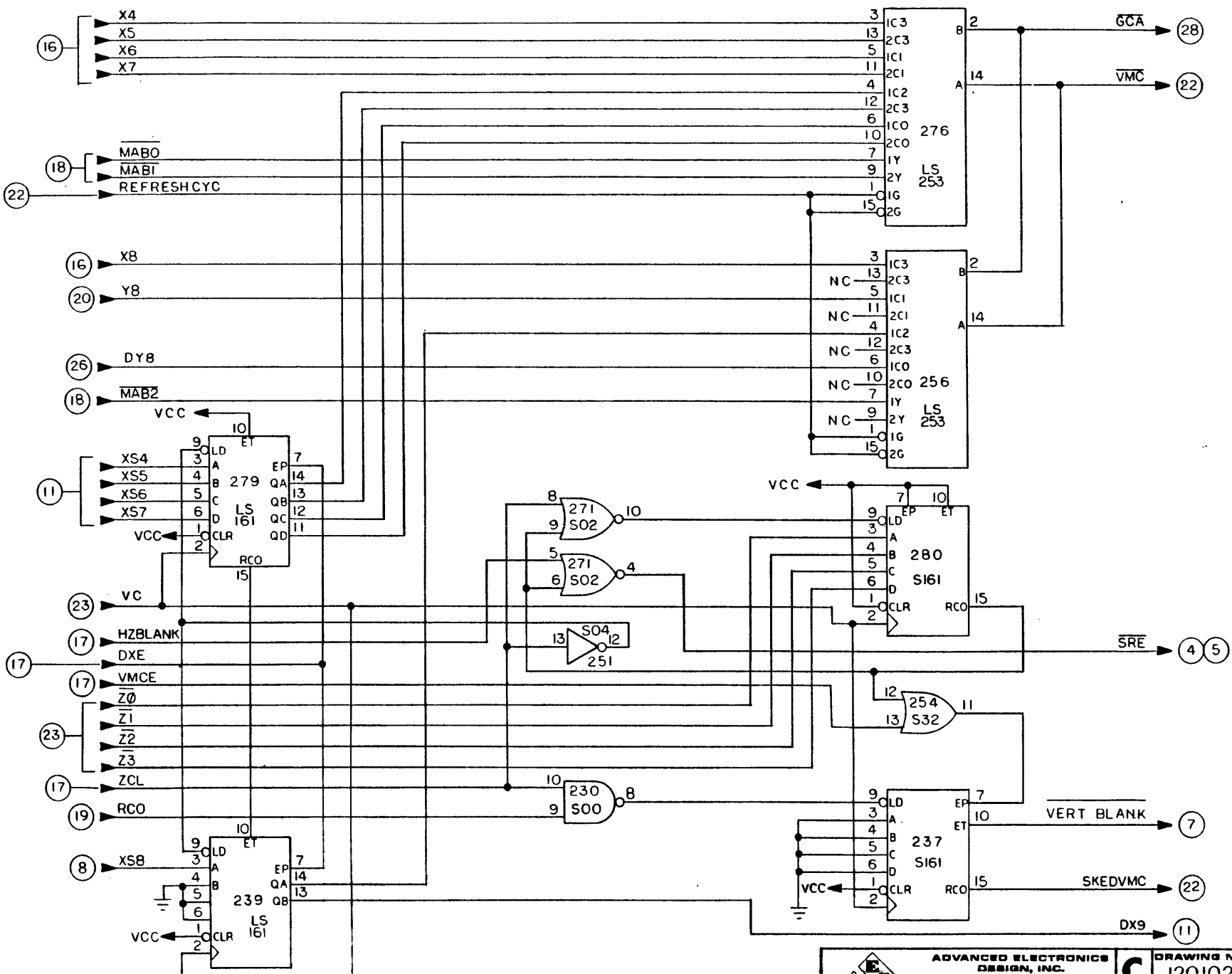
ADVANCED ELECTRONICS  
DESIGN, INC.  
SUNNYVALE, CALIF. 94088

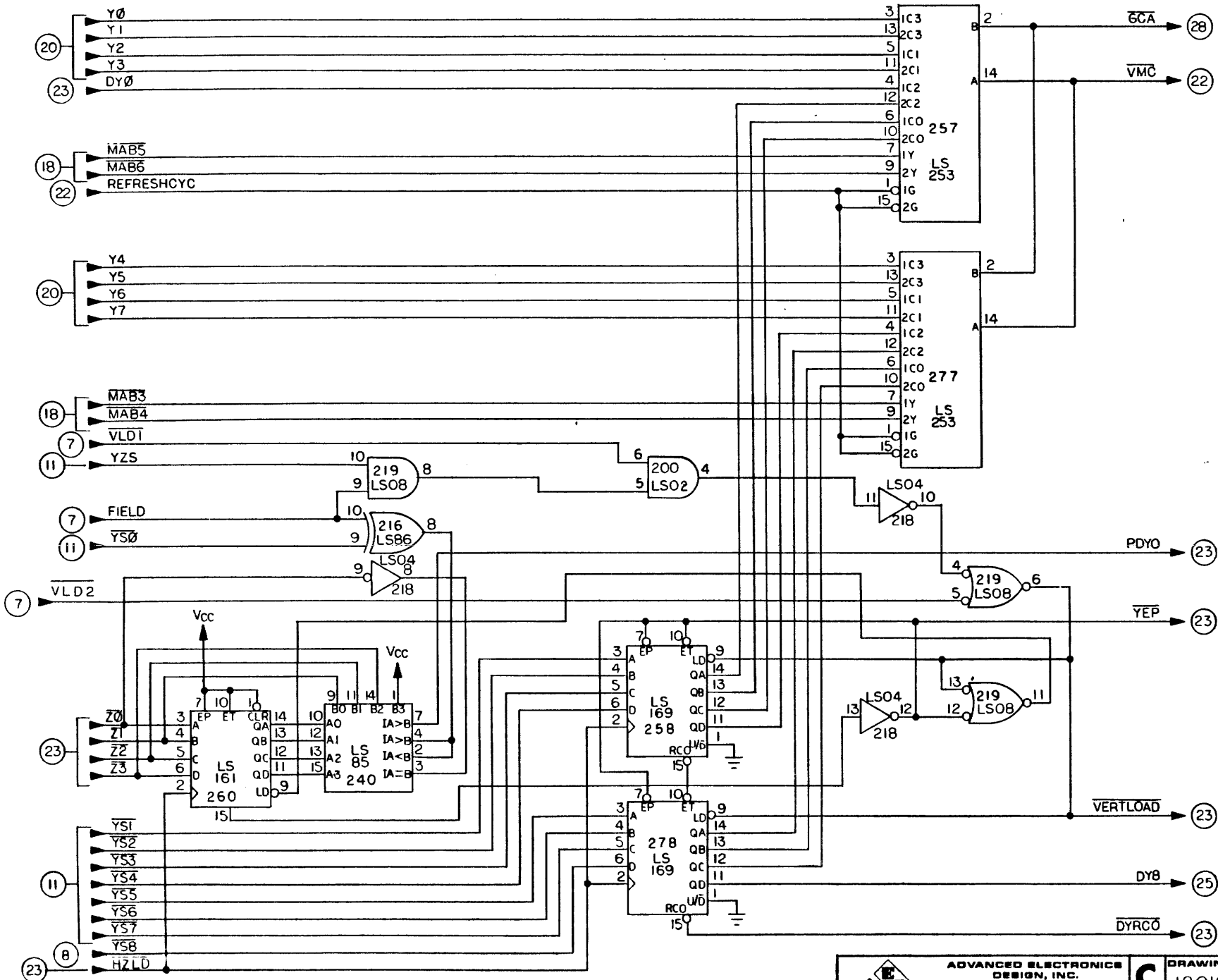


DRAWING NUMBER  
120102-01

REV  
G







SHT -26

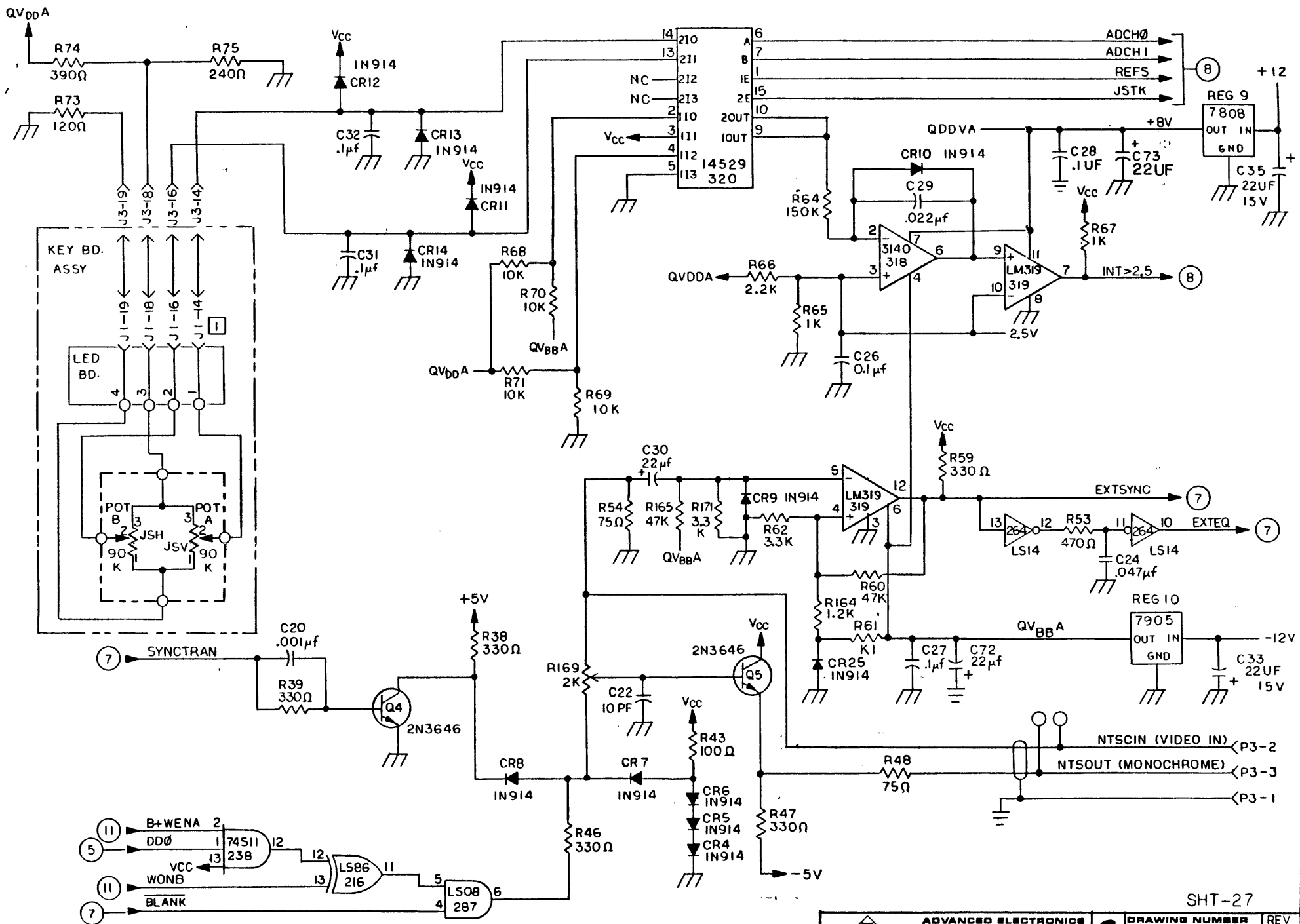


ADVANCED ELECTRONICS  
DESIGN, INC.  
SUNNYVALE, CALIF. 94088

C

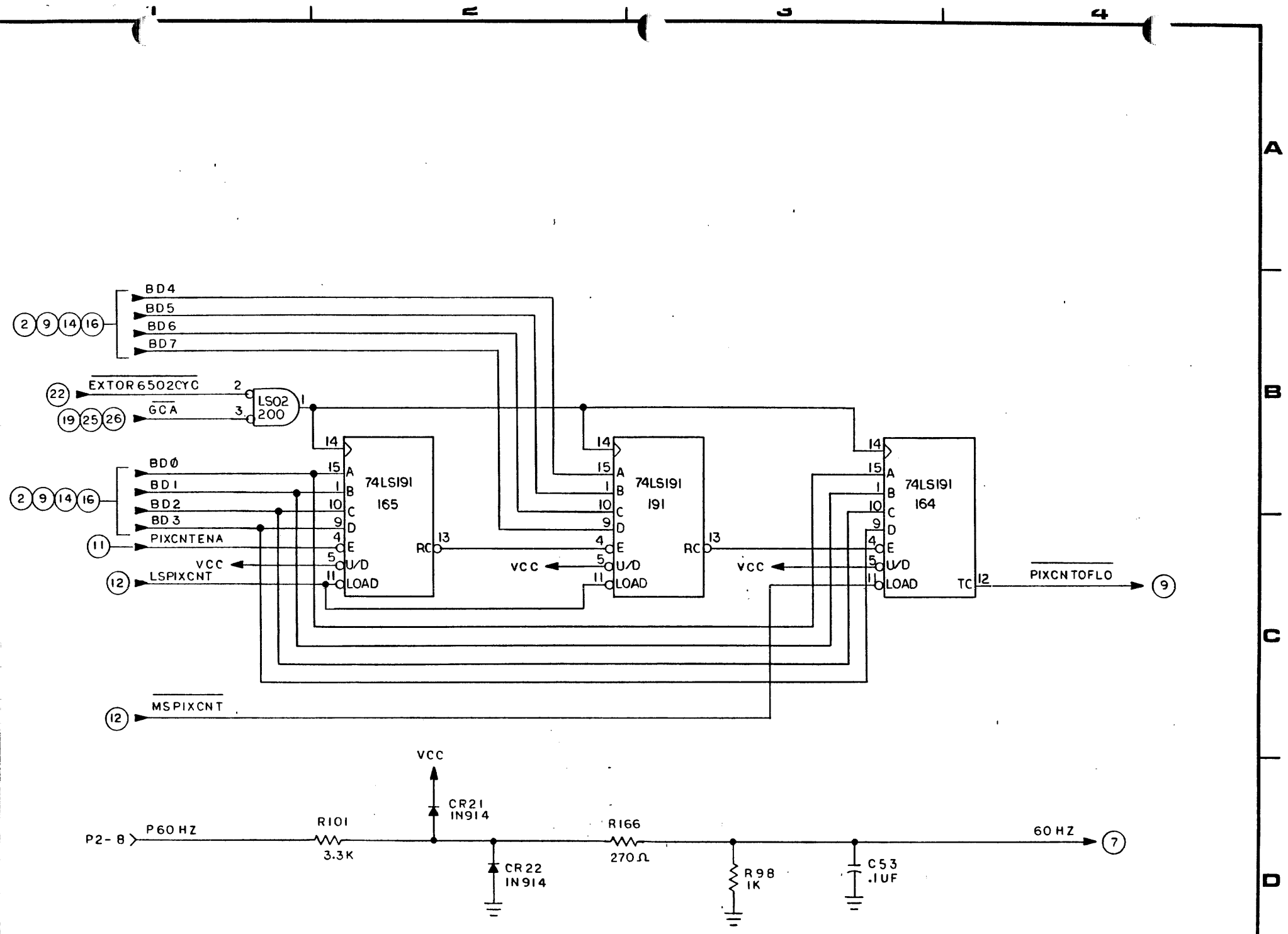
DRAWING NUMBER  
120102-01

REV  
G



SHT-27

	ADVANCED ELECTRONICS DESIGN, INC.		DRAWING NUMBER	
	SUNNYVALE, CALIF. 94088		120102-01	



SHT-28

	ADVANCED ELECTRONICS DESIGN, INC. SUNNYVALE, CALIF. 94088	C	DRAWING NUMBER 120102-01	REV G

00	141	4	121	4	101	4	81	4	61	4	41	4	21	4	1	4
LS221	142	4	122	4	102	4	82	4	62	4	42	4	22	4	2	4
7	143	4	123	4	103	4	83	4	63	4	43	4	23	4	3	4
	144	4	124	4	104	4	84	4	64	4	44	4	24	4	4	4
	145	4	125	4	105	4	85	4	65	4	45	4	25	4	5	4
	146	4	126	4	106	4	86	4	66	4	46	4	26	4	6	4
	147	4	127	4	107	4	87	4	67	4	47	4	27	4	7	4
	148	4	128	4	108	4	88	4	68	4	48	4	28	4	8	4
	149	4	129	4	109	4	89	4	69	4	49	4	29	4	9	4
	150	4	130	4	110	4	90	4	70	4	50	4	30	4	10	4
	151	5	131	5	111	5	91	5	71	5	51	5	31	5	11	5
	152	5	132	5	112	5	92	5	72	5	52	5	32	5	12	5
	153	5	133	5	113	5	93	5	73	5	53	5	33	5	13	5
	154	5	134	5	114	5	94	5	74	5	54	5	34	5	14	5
	155	5	135	5	115	5	95	5	75	5	55	5	35	5	15	5
	156	5	136	5	116	5	96	5	76	5	56	5	36	5	16	5
	157	5	137	5	117	5	97	5	77	5	57	5	37	5	17	5
	158	5	138	5	118	5	98	5	78	5	58	5	38	5	18	5
	159	5	139	5	119	5	99	5	79	5	59	5	39	5	19	5
	160	5	140	5	120	5	100	5	80	5	60	5	40	5	20	5

4116-3

74LS251

74LS166

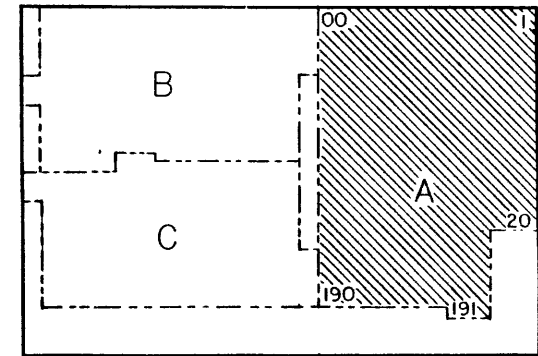
4116-3

74LS251

74LS166

4116-3

186	181	176	171	166					
LS00	LS374	LS374	LS00	LS138					
14	14	16	24	14	14	24			
14	14			14	14				
187	182	177	172	167	161				
LS273	93422	93422	LS244	LS273	DAC-08B				
14	6	6	14	6	6				
188	183	178	173	168	162				
LS273	93422	93422	LS244	LS273	DAC-08B				
20	6	6	14	6	6				
189	184	179	174	169	163				
LS273	93422	93422	LS244	LS273	DAC-08B				
11	6	6	14	6	6				
190	185	180	175	170	164	165	191		
74S00	LS670	LS244	LS670	74S00	LS191	LS191	LS191		
11	11	11	24	11	11	11	11	28	28
11	11			11	11				



A

B

C

D

SHT - 29

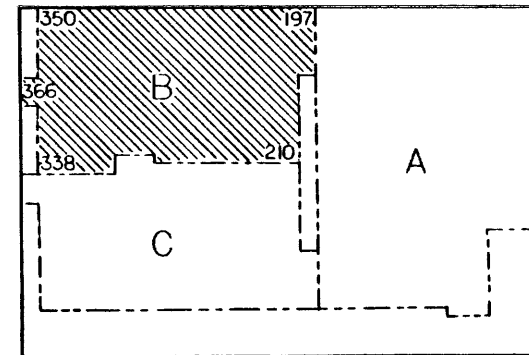


ADVANCED ELECTRONICS  
DESIGN, INC.  
SUNNYVALE, CALIF. 94088

**C** DRAWING NUMBER  
120102-01

REV  
G

350				261				201		197	
LS161				LS126				4046B		LS157	
15				23 23				7		7	
23 23											
351		331		262		242		222		202	
LS14		4040B		6502A		890027-XX		LS132		LS221	
15 15		15		2		7		7 23		7	
15 2								7 17		23	
13 15											
352		332		301		283		263		243	
7406		4512B		LS44		LS26		LS86		4040B	
15 13		15		2		12		7 7		7	
13 2						12		7 7		23	
15 13										22	
353		333		317		302		284		264	
1489		4512B		8304		LS244		LS00		LS14	
13 13		15		2		2		12 12		16 7	
13 15								12 12		7 7	
								27 27		7 7	
354		334		318		303		285		265	
1488		68B50		3140		4802		LS138		LS11	
13 15		13		27		3		2		21	
13								12		7 2	
								21		23	
								21		7	
366		355		319		304		286		266	
DPS2		1489		LM319		LS138		LS32		LS00	
8		13 13		27		4802		12		23 21	
		68B50		27						21 21	
		13		27		3		20 20		20 20	
		13 15								19	
										4 4	
356		336		320		305		287		267	
1488		68B21		14529		4802		LS08		LS164	
13 15		8		27		306		19		17 21	
13						4802		21 12		16 23	
										22	
										23 19	
										18 18	
										18 18	
										228	
										248	
										228	
										228	
										208	
										LS32	
										LS109	
										7427B	
										LS109	
										LS00	
										20 21	
										19	
										18 18	
										18 18	
										22	
										19	
										18 18	
										18 18	
										289	
										269	
										249	
										229	
										209	
										LS27	
										LS10	
										LS04	
										LS00	
										LS00	
										23	
										22	
										17 22	
										17 19	
										18 18	
										18 18	
										21	
										22 22	
										22 19	
										18 18	
										18 18	
										307	
										16 19	
										22 23	
										22 19	
										18 18	
										18 18	
										290	
										270	
										250	
										230	
										210	
										LS138	
										LS00	
										LS74	
										S00	
										LS00	
										12	
										16 21	
										19	
										22 17	
										18 18	
										21 22	
										22 25	
										17 18	
										18 18	



SHT - 30

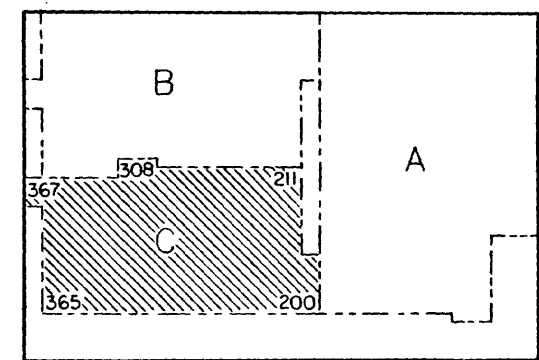


ADVANCED ELECTRONICS  
DESIGN, INC.  
SUNNYVALE, CALIF. 94088

**C** DRAWING NUMBER  
120102-01

REV  
**G**

					291	271	251	231	211			
					LS138	74S02	74S04	LS20	LS08			
				308		23	25	17	12	17	5	5
				890026-01	2			16	19			
						25	23	17	25	17	5	5
367		357	339	321	3	292	272	252	232	212		
PSI		LS221	LS244	LS161		LS669	LS74	LS00	S08	S138		
8		21	14	19	309	16	16	16	16	17	17	5
		9			890026-02		20	19	16	17	17	
		358	340	322	3	293	273	253	233	213		
		7438	LS273	LS138		LS669	LS02	LS08	74S30	LS08		
		15	15	11		16	16	16	19	19	17	5
		15	15	12	310		20	20	22	16		5
		359	341	323	890026-03	294	274	254	234	214		
		330/390	LS273	LS08		LS669	LS139	74S32	S161	DPS3		
		10	10	10	3	16	23	16	20	17	17	
		10	10	9				16	25			
		15	15	21								
		360	342	324	311	295	275	255	235	215		
		LS38	LS240	LS00	890026-04	LS169	LS169	LS169	S161	4.7K RN		
		10	10	10	3	20	20	20	17	17	17	17
		10	10	9						17	17	17
		10	10	10						17	17	17
		361	343	325	312	296	276	256	236	216		
		7438	LS273	LS08	890026-05	40408	LS253	LS253	S161	LS86		
		10	10	9		18	25	25	17	16	20	
		10	10	10	3					26	27	
		362	344	326		297	277	257	237	217		
		7438	LS273	LS32	313	LS244	LS253	LS253	74S161	LS00		
		10	10	9	890026-06	18	26	26	25	23	23	
		10	10	10						23	23	
		363	345	327	3	298	278	258	238	218	198	
		7438	LS240	LS74		LS273	LS169	LS169	74S11	LS04	SPARE	
		10	10	9		11	26	26	22	9	23	
		10	10	9	314				19	24	26	
					890026-07				27	26	26	
		364	346	328	3	299	279	259	239	219	199	
		330/390	LS273	LS74		LS273	LS161	LS161	LS161	LS08	LS164	
		21	9	9		11	25	19	25	9	26	17
		10	10	10	315					26	26	
		10	10	10	890026-08	300	280	260	240	220	200	
		7438	LS157	LS10		LS169	74S161	LS161	LS85	LS670	LS02	
		21	9	9	3	23	25	26	26	23	28	26
		21	21	21							9	9



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