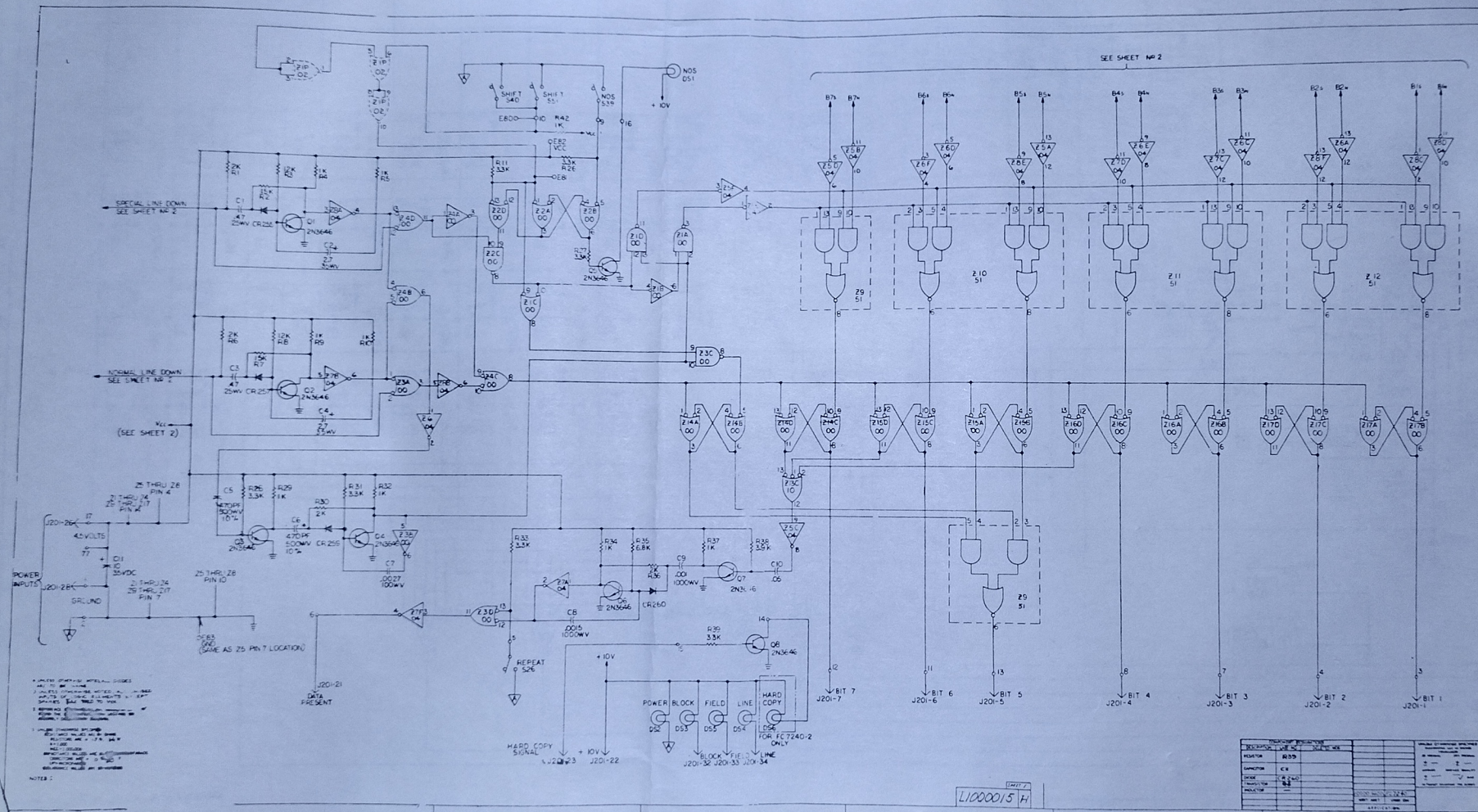


REVISIONS		
NO.	DESCRIPTION	DATE APPROVED
A	ORIGINAL ISSUE	
B	REVISED PER ECO 70-083	
C	REVISED PER ECO 70-140	
D	REV. 1.0 PER ECO 70-861	
E	REVISED PER ECO 70-810	
F	REVISED PER ECO 70-810	

4 FOR 620 VALUE OF R9 TO BE 2.7K, FOR 720 VALUE OF R9 TO BE 2.4K.
 5 UNLESS OTHERWISE SPECIFIED ALL DIODES ARE INFERA.
 6 DIODES FOLLOWED BY AN ASTERISK (*) ARE FOR 620 ONLY.
 7 DIODES FOLLOWED BY A DOUBLE ASTERISK (**) ARE FOR 720 ONLY.
 8 DIODES FOLLOWED BY A TRIPLE ASTERISK (***) ARE FOR 820 ONLY.
 9 UNLESS OTHERWISE NOTED ALL UNUSED PORTS OF LOGIC ELEMENTS MUST BE WIRED TO VCC.
 10 IN LOGIC DIAGRAMS ALL UNUSED INPUTS OF LOGIC ELEMENTS MUST BE WIRED TO VCC.
 11 UNLESS OTHERWISE NOTED ALL UNUSED PORTS OF LOGIC ELEMENTS MUST BE WIRED TO VCC.

PARTS LIST	
RESISTORS	10K, 15K, 20K, 25K, 30K, 33K, 36K, 39K, 43K, 47K, 51K, 56K, 62K, 68K, 75K, 82K, 91K, 100K, 150K, 200K, 250K, 300K, 350K, 400K, 450K, 500K, 560K, 620K, 700K, 800K, 900K, 1M, 1.5M, 2M, 2.5M, 3M, 3.5M, 4M, 4.5M, 5M, 5.5M, 6M, 6.5M, 7M, 7.5M, 8M, 8.5M, 9M, 9.5M, 10M
CAPACITORS	100PF, 200PF, 300PF, 400PF, 500PF, 600PF, 700PF, 800PF, 900PF, 1000PF, 1500PF, 2000PF, 2500PF, 3000PF, 3500PF, 4000PF, 4500PF, 5000PF, 5500PF, 6000PF, 6500PF, 7000PF, 7500PF, 8000PF, 8500PF, 9000PF, 9500PF, 10000PF
DIODES	1N4148, 1N4149, 1N4150, 1N4151, 1N4152, 1N4153, 1N4154, 1N4155, 1N4156, 1N4157, 1N4158, 1N4159, 1N4160, 1N4161, 1N4162, 1N4163, 1N4164, 1N4165, 1N4166, 1N4167, 1N4168, 1N4169, 1N4170, 1N4171, 1N4172, 1N4173, 1N4174, 1N4175, 1N4176, 1N4177, 1N4178, 1N4179, 1N4180, 1N4181, 1N4182, 1N4183, 1N4184, 1N4185, 1N4186, 1N4187, 1N4188, 1N4189, 1N4190, 1N4191, 1N4192, 1N4193, 1N4194, 1N4195, 1N4196, 1N4197, 1N4198, 1N4199, 1N4200
TRANSISTORS	2N3550, 2N3551, 2N3552, 2N3553, 2N3554, 2N3555, 2N3556, 2N3557, 2N3558, 2N3559, 2N3560, 2N3561, 2N3562, 2N3563, 2N3564, 2N3565, 2N3566, 2N3567, 2N3568, 2N3569, 2N3570, 2N3571, 2N3572, 2N3573, 2N3574, 2N3575, 2N3576, 2N3577, 2N3578, 2N3579, 2N3580, 2N3581, 2N3582, 2N3583, 2N3584, 2N3585, 2N3586, 2N3587, 2N3588, 2N3589, 2N3590, 2N3591, 2N3592, 2N3593, 2N3594, 2N3595, 2N3596, 2N3597, 2N3598, 2N3599, 2N3600
ICs	7401, 7402, 7403, 7404, 7405, 7406, 7407, 7408, 7409, 7410, 7411, 7412, 7413, 7414, 7415, 7416, 7417, 7418, 7419, 7420, 7421, 7422, 7423, 7424, 7425, 7426, 7427, 7428, 7429, 7430, 7431, 7432, 7433, 7434, 7435, 7436, 7437, 7438, 7439, 7440, 7441, 7442, 7443, 7444, 7445, 7446, 7447, 7448, 7449, 7450, 7451, 7452, 7453, 7454, 7455, 7456, 7457, 7458, 7459, 7460, 7461, 7462, 7463, 7464, 7465, 7466, 7467, 7468, 7469, 7470, 7471, 7472, 7473, 7474, 7475, 7476, 7477, 7478, 7479, 7480, 7481, 7482, 7483, 7484, 7485, 7486, 7487, 7488, 7489, 7490, 7491, 7492, 7493, 7494, 7495, 7496, 7497, 7498, 7499, 7500

LOGIC DIAGRAM
 622/720 KEYBOARD



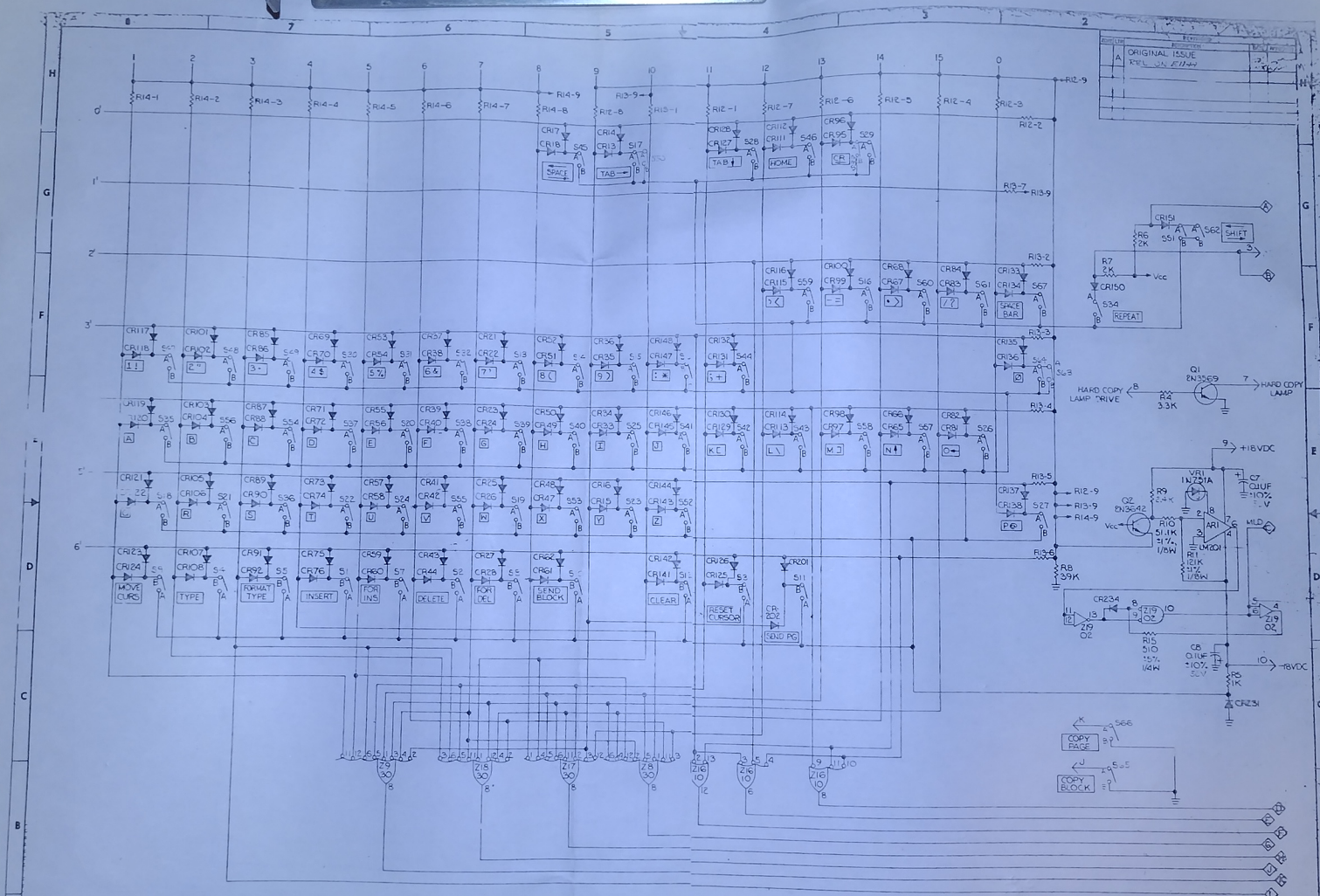
NO	REVISION	DATE	BY
1	ORIGINAL DRAW	12/1/58	J. J. [unclear]
2	REVISED PER [unclear]	12/1/58	J. J. [unclear]
3	REVISED PER [unclear]	12/1/58	J. J. [unclear]
4	REVISED PER [unclear]	12/1/58	J. J. [unclear]
5	REVISED PER [unclear]	12/1/58	J. J. [unclear]
6	REVISED PER [unclear]	12/1/58	J. J. [unclear]
7	REVISED PER [unclear]	12/1/58	J. J. [unclear]
8	REVISED PER [unclear]	12/1/58	J. J. [unclear]

- 1. ALL PARTS SHOWN MUST BE USED UNLESS OTHERWISE SPECIFIED.
- 2. ALL PARTS SHOWN MUST BE USED UNLESS OTHERWISE SPECIFIED.
- 3. ALL PARTS SHOWN MUST BE USED UNLESS OTHERWISE SPECIFIED.
- 4. ALL PARTS SHOWN MUST BE USED UNLESS OTHERWISE SPECIFIED.
- 5. ALL PARTS SHOWN MUST BE USED UNLESS OTHERWISE SPECIFIED.
- 6. ALL PARTS SHOWN MUST BE USED UNLESS OTHERWISE SPECIFIED.
- 7. ALL PARTS SHOWN MUST BE USED UNLESS OTHERWISE SPECIFIED.
- 8. ALL PARTS SHOWN MUST BE USED UNLESS OTHERWISE SPECIFIED.
- 9. ALL PARTS SHOWN MUST BE USED UNLESS OTHERWISE SPECIFIED.
- 10. ALL PARTS SHOWN MUST BE USED UNLESS OTHERWISE SPECIFIED.

NOTES:

NO	REVISION	DATE	BY
1	ORIGINAL DRAW	12/1/58	J. J. [unclear]
2	REVISED PER [unclear]	12/1/58	J. J. [unclear]
3	REVISED PER [unclear]	12/1/58	J. J. [unclear]
4	REVISED PER [unclear]	12/1/58	J. J. [unclear]
5	REVISED PER [unclear]	12/1/58	J. J. [unclear]
6	REVISED PER [unclear]	12/1/58	J. J. [unclear]
7	REVISED PER [unclear]	12/1/58	J. J. [unclear]
8	REVISED PER [unclear]	12/1/58	J. J. [unclear]

L100005/H



UNLESS OTHERWISE SPEC'D, ALL CIRCLES ARE IN CMOS

A: UNLESS OTHERWISE NOTED, ALL UNPUBLISHED POINTS OF LOGIC ELEMENTS EXCEPT SWITCHES AND RELAYS ARE LOGIC INPUTS

NO.	DESCRIPTION	DATE
1	DESIGNED BY SANDERS	12/21/64
2	DESIGNED BY SANDERS	12/21/64
3	DESIGNED BY SANDERS	12/21/64
4	DESIGNED BY SANDERS	12/21/64
5	DESIGNED BY SANDERS	12/21/64
6	DESIGNED BY SANDERS	12/21/64
7	DESIGNED BY SANDERS	12/21/64
8	DESIGNED BY SANDERS	12/21/64
9	DESIGNED BY SANDERS	12/21/64
10	DESIGNED BY SANDERS	12/21/64
11	DESIGNED BY SANDERS	12/21/64
12	DESIGNED BY SANDERS	12/21/64
13	DESIGNED BY SANDERS	12/21/64
14	DESIGNED BY SANDERS	12/21/64
15	DESIGNED BY SANDERS	12/21/64
16	DESIGNED BY SANDERS	12/21/64
17	DESIGNED BY SANDERS	12/21/64
18	DESIGNED BY SANDERS	12/21/64
19	DESIGNED BY SANDERS	12/21/64
20	DESIGNED BY SANDERS	12/21/64

SANDERS ASSOCIATES


LOGIC DIAGRAM


12/21/64


BIT 4	BIT 3	BIT 2	BIT 1	5	0	1	0	1	0	1	0	1	HEX EQUIV FOR ASCII (UNITS)
0	0	0	0	NULL		(POLL) SPACE	0	(WRITE) @	P	COPY BLOCK		0	
0	0	0	1	(SOM) SOH	[RTS] DC1	!	1	A	Q	MOV CUR		1	
0	0	1	0	(EOA) STX	[RTR] DC2	"	2	B	R	TYP		2	
0	0	1	1	(EOM) ETX		. DOT	3	C	S	FORM TYP		3	
0	1	0	0	EOT		\$	4	D	T	INS		4	
0	1	0	1		NAK	%	5	E	U	FORM INS		5	
0	1	1	0	ACK	SYN	&	6	F	V	DEL		6	
0	1	1	1			(APOS)	7	G	W	FORM DEL		7	
1	0	0	0	FS	BS	(	8	H	X	SEND BLOCK		8
1	0	0	1	HT	BT	)	9	I	Y	SEND PAGE		9
1	0	1	0	LINE FEED		*	:	J	Z	CLEAR		A	
1	0	1	1	VT	SB	+	;	K	[	RES CUR		B
1	1	0	0	HM	CB	COMMA	<	L	\	COPY PAGE		C	
1	1	0	1	CR	BR	-	=	M	]			D
1	1	1	0	FORM FEED	FORM FEED	PERIOD	>	N	↑	MEM START		E	
1	1	1	1			/	?	O	←	CONV TYPE	PARITY ERROR	F	
HEX EQUIVALENTS FOR ASCII-8 (16'S)				0	1	4	5	A	B	E	F		

EXAMPLE: THE ASCII CODE FOR THE LETTER V, IS 1010110.
 THE ASCII-8 HEX EQUIVALENT FOR THE LETTER V IS B6.

NOTES:

 = FUNCTIONS IN SHADED AREAS ARE ASSOCIATED WITH THE 720 SYSTEM ONLY.

 = FUNCTIONS IN SHADED AREAS ARE ASSOCIATED WITH THE 620 SYSTEM ONLY.

 = ALL OTHER FUNCTIONS ARE COMMON TO BOTH SYSTEMS.