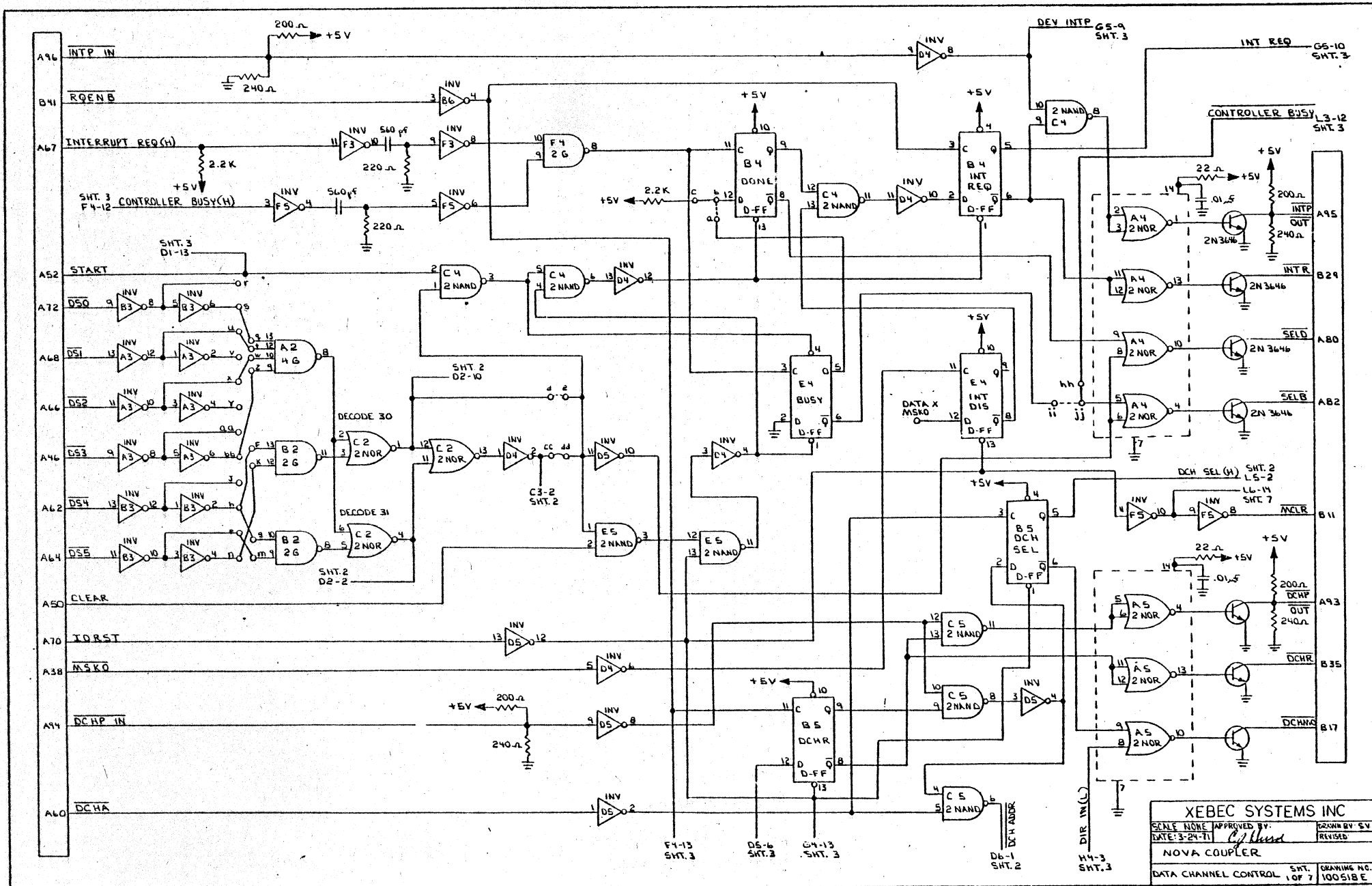


This logic diagram is furnished for test and maintenance purposes only.
 Proprietary circuits are shown and should be treated accordingly.

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REV. D

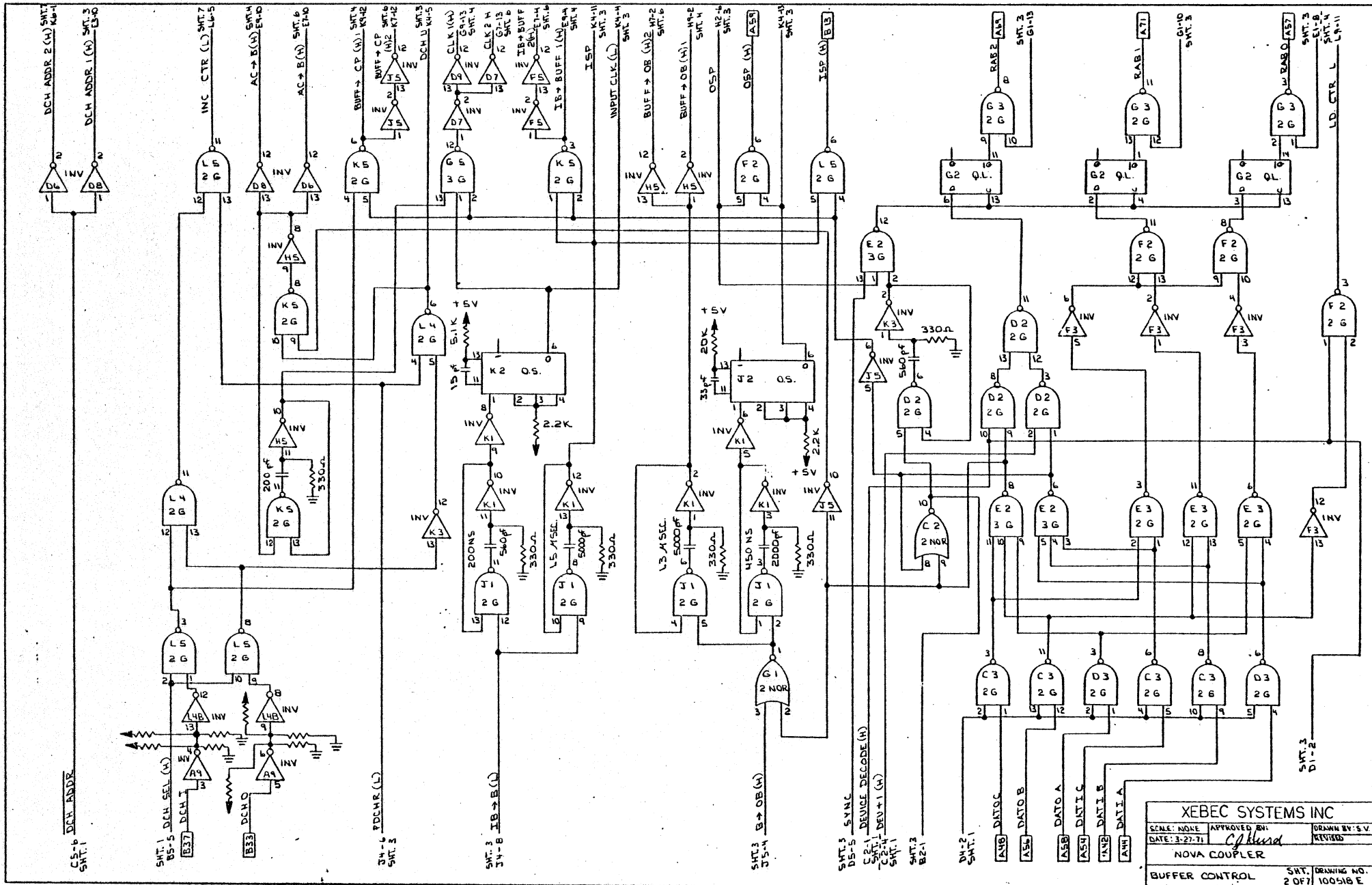


XEBEC SYSTEMS INC			
SCALE NONE	APPROVED BY:	DESIGNED BY: SV	REVISION:
DATE: 3-24-71	<i>C. H. H.</i>		
NOVA COUPLER			
DATA CHANNEL CONTROL 1 OF 7	SHT. 100518 E	GRADING NO.	

This logic diagram is furnished for test and maintenance purposes only.
 Proprietary circuits are shown and should be treated accordingly.

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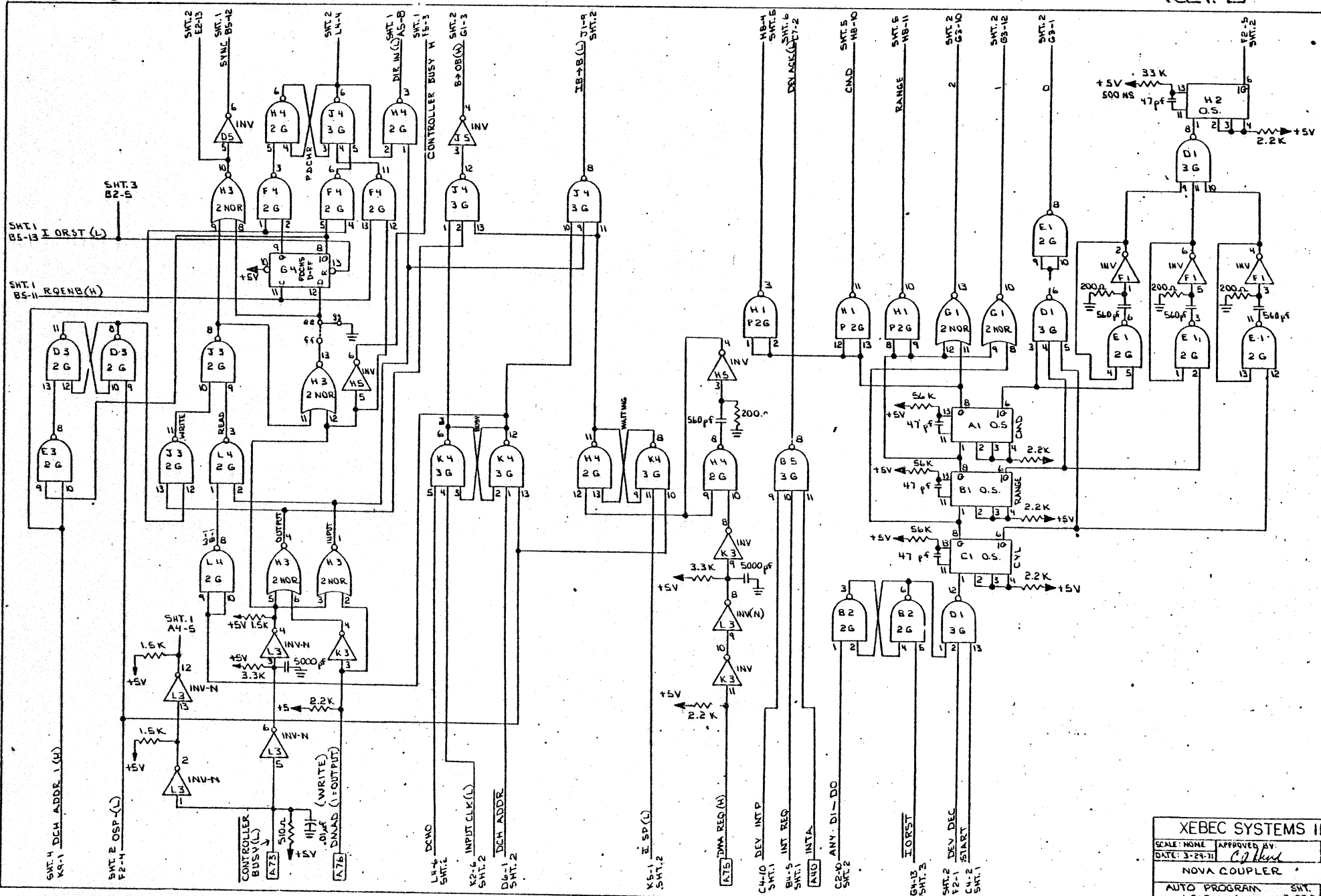
REV. D



XEBEC SYSTEMS INC			
SCALE: NONE	APPROVED BY:	DRAWN BY: S.V.	
DATE: 3-27-71	<i>C. Jensen</i>	REVISED	
NOVA COUPLER			
BUFFER CONTROL		SMT. DRAWING NO. 2 OF 7 100518 E	

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REV. D

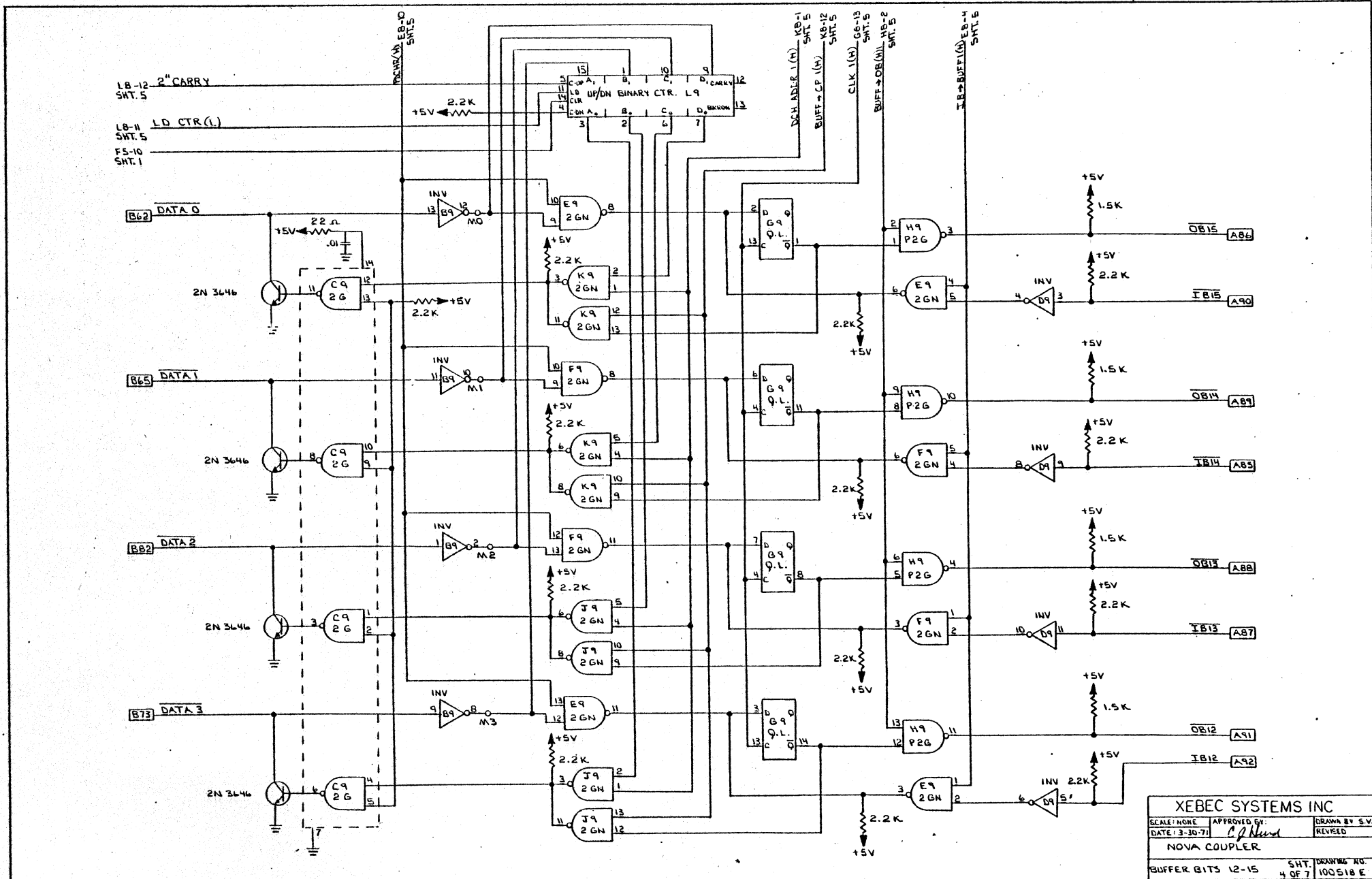


XEBEC SYSTEMS INC		
SCALE: NONE	APPROVED BY: <i>C. J. Hens</i>	DRAWN BY: S
DATE: 3-29-71		REVISED
NOVA COUPLER		
AUTO PROGRAM LOAD	SWT. 3 OF 7	DRAWING NO. 100518 E

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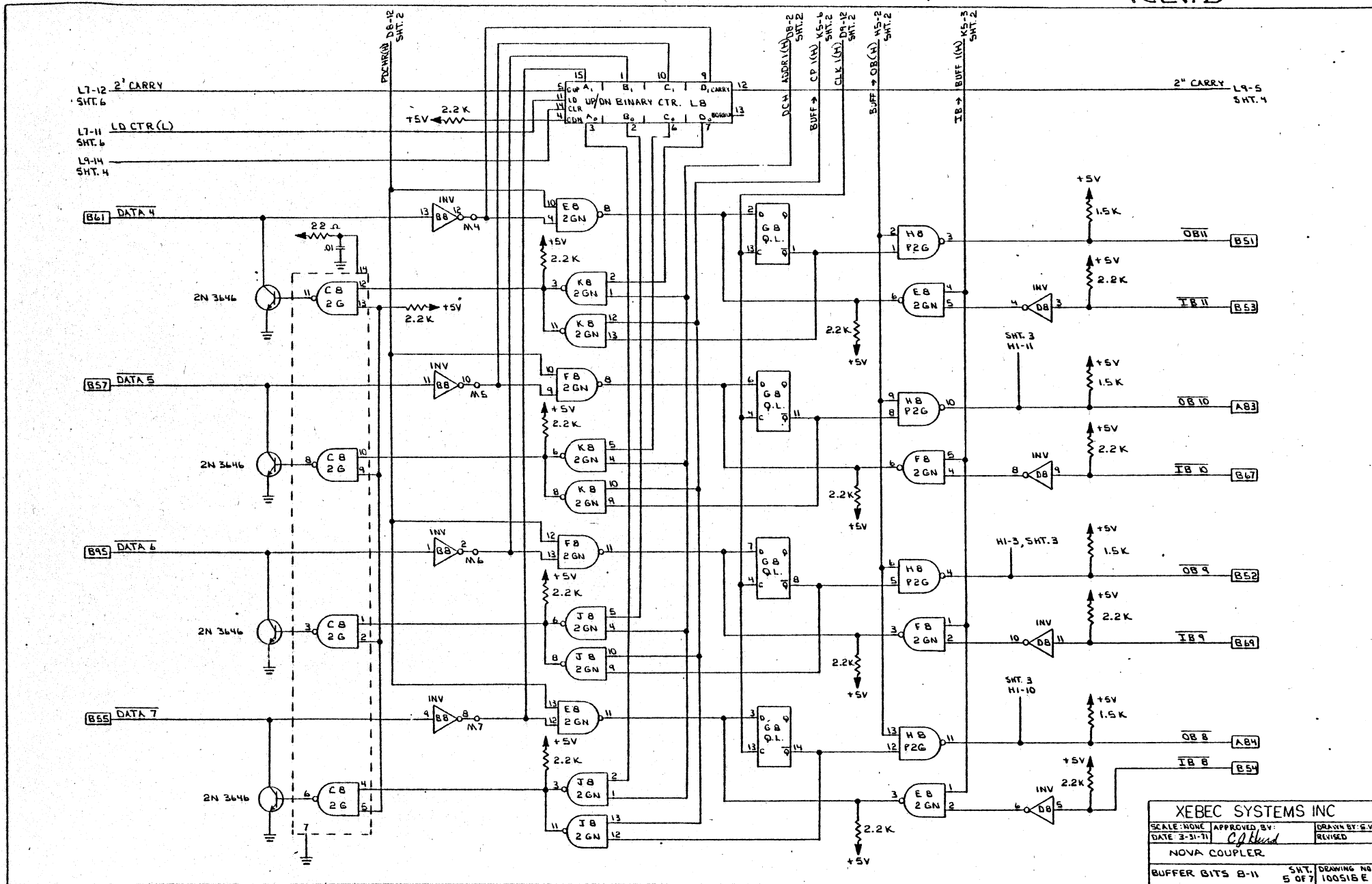
REV. D



XEBEC SYSTEMS INC		
SCALE: NONE	APPROVED BY: <i>C. J. ...</i>	DRAWN BY: S.V.
DATE: 3-30-71		REVISED
NOVA COUPLER		
BUFFER BITS 12-15	SHT. 4 OF 7	DRAWING NO. 100518 E

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REV. D

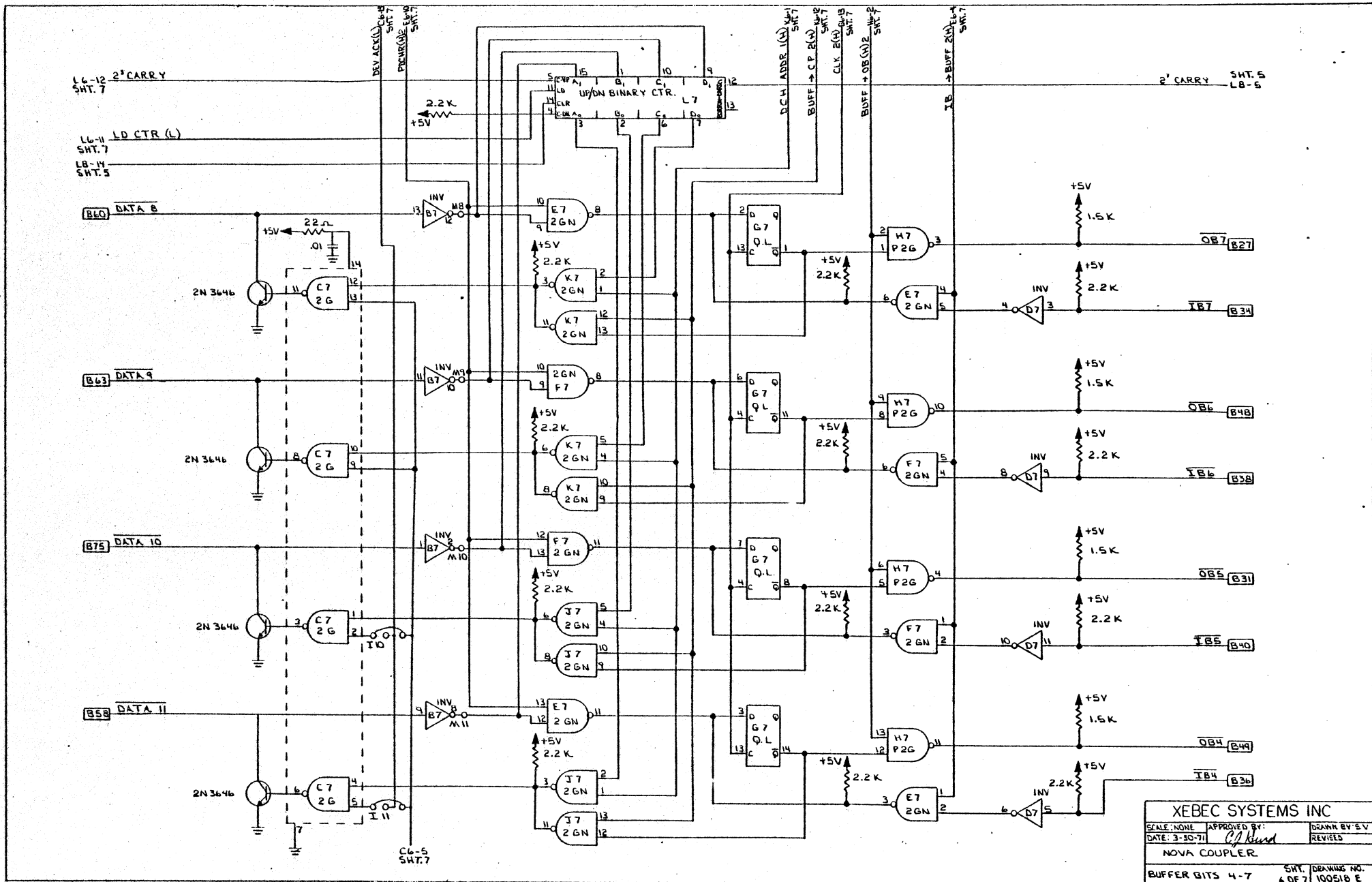


XEBEC SYSTEMS INC		
SCALE: NONE	APPROVED BY:	DRAWN BY: E.V.
DATE: 3-31-71	<i>C. J. Head</i>	REVISED
NOVA COUPLER		
BUFFER BITS B-11		SHT. DRAWING NO. 5 OF 7 100518 E

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 Proprietary circuits are shown and should be treated accordingly.

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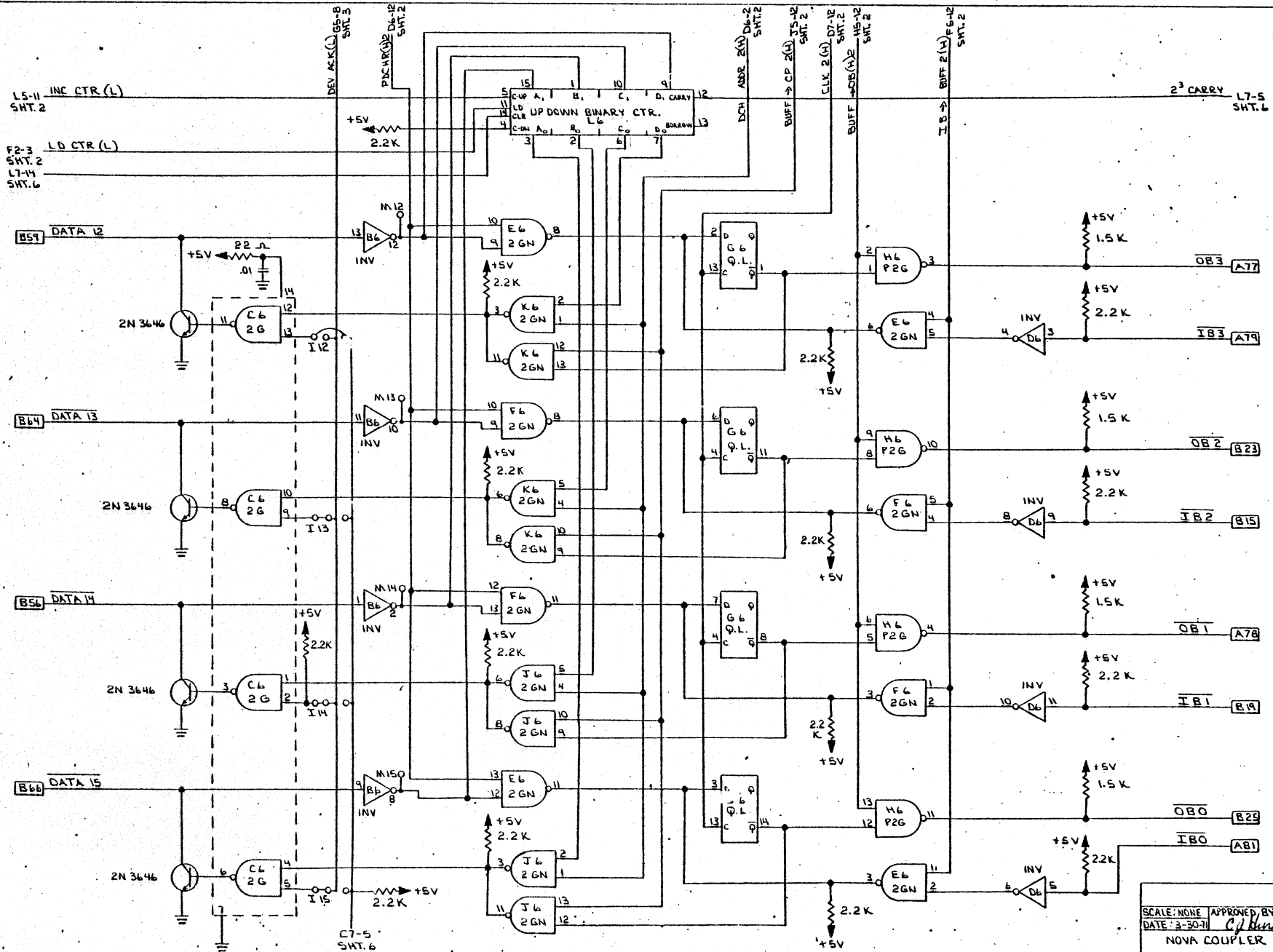
REV. D



XEBEC SYSTEMS INC		
SCALE: NONE	APPROVED BY: <i>C.P. Reed</i>	DRAWN BY: S.V.
DATE: 3-30-71		REVISED
NOVA COUPLER		
BUFFER BITS 4-7	SHT. 6 OF 7	DRAWING NO. 100518 E

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REV. D



SCALE: NONE	APPROVED BY:	DRAWN BY: SV
DATE: 3-30-71	<i>Cyland</i>	REVISED:
NOVA COUPLER		
BUFFER BITS 0-3		SMT. DRAWING NO. 7 OF 7 100518 E

HEBEC SYSTEMS, INC. 519 San Xavier, Sunnyvale, California	ENGINEERING CHANGE NOTICE	PRODUCT XMD 5000	SHEET 1 OF 1	ECON. NO. 193
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REASON FOR CHANGE: TO SYNC. BUFFER TO CPU TIMING IN WRITE MODE BY USING DCHO AS BUFFER CLOCK.	XPN 100518	AFFECTS REV. D	NEW REV. E	TITLE NOVA COUPLER	FIELD CHANGES REQUIRED: 800's ONLY
	OTHER DRAWINGS AFFECTED: DWG. NO. SHT. TYPE		MFG'G INSTRUCTIONS:		
INTERCHANGEABILITY AFFECTED FIT? FUNCTION?	100518		LOGIC	UPDATE ALL CARDS IN STOCK, TEST AND IN PROCESS.	
	100519		ARTWORK		

DESCRIPTION OF CHANGE:

MFG. AND DRAFTING —

CUT - K4-5 TO K5-10
G5-12 TO D7-1
D7-2 AT CHIP.

ADD - G1-4 TO D7-13
G1-6 TO G5-12
G1-5 TO L4.5-2
L4.5-1 TO L4-6
K5-10 TO L4.5-4
L4.5-3 TO J4-2

ORIGINATOR:	DATE	ENGRG. APPROVAL:	DATE	MFG'G APPROVAL:	DATE	FIELD SERVICE APPROVAL:	DATE	ECON. RELEASE DATE:
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XEBEC SYSTEMS, INC. 595 San Xavier, Sunnyvale, California	ENGINEERING CHANGE NOTICE	PRODUCT NOVA COUPLER	SHEET 1 OF 1	ECN NER. 204
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REASON FOR CHANGE: SAME AS ECN #179. NOW ALL P.C. BOARDS AFFECTED. TIMING RACE BETWEEN FIRST DMA AND RAB'S DURING READ OPERATION.	XPN 100518	AFFECTS REV. E	NEW REV. F	TITLE NOVA COUPLER	FIELD CHANGES REQUIRED:
	OTHER DRAWINGS AFFECTED: DWG. NO. SHT. TYPE		MFG'G INSTRUCTIONS: REWORK ALL BDS. IN STOCK, TEST AND IN PROCESS.		
INTERCHANGEABILITY AFFECTED FIT? FUNCTION?		100518 100519 100518	2,3 LOGIC ARTWORK ASSY.		

DESCRIPTION OF CHANGE: MFG. AND DRAFTING.

1. CUT TRACE AT FEEDTHROUGH OFF E2-13 (COMP. SIDE)
2. ADD WIRE FEEDTHROUGH OFF E2-13 TO K3-10.


ORG NAME: R. LONG	DATE: 6-22-72	ENGRG. APPROVAL: <i>C. J. Hand</i>	DATE: 6-26-72	MFG'G APPROVAL: <i>[Signature]</i>	DATE: 6-26-72	FIELD SERVICE APPROVAL: <i>Charles W. Smith</i>	DATE: 	ECN RELEASE DATE:
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REASON FOR CHANGE: ILLEGAL TO PREVENT DNA TRANSFER WHEN USING AUTO PROG. LOAD.	XPN	AFFECTS REV	NEW REV	TITLE	FIELD CHANGES REQUIRED: INSTALL WHERE AUTO LOADING USED
	100518	F	G		
	OTHER DRAWINGS AFFECTED:		MFG'G INSTRUCTIONS:		
	DWG. NO.	SHT. TYPE	INSTALL IN ALL -518 BDS.		
	100518	3 LOGIC			
	100519	2 ART/DRK			
OTHER CHANGES AFFECTED FUNCTION?					

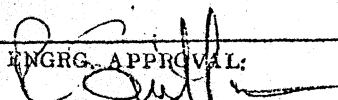
DESCRIPTION OF CHANGE:

MFG:
 CUT K4-10, 13 AFTER FEED THRU (BACK SIDE BETWEEN 3 & 4)
 CUT D3-9 " " " (BACKSIDE BETWEEN 3 & 4)

ADD K4-10, 13 TO D3-9 TO J3-3
 F2-6 TO J3-1 & 2

CREATOR RDB	DATE 1-26-73	ENGR. APPROVAL: CJH	DATE 1-30	MFG. APPROVAL: 	DATE 1-30-73	FIELD SERVICE APPROVAL:	DATE	SIGNATURE
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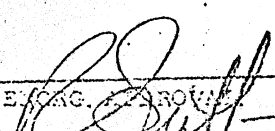
XEBEC EMS, INC. 566 San Xavier, Sunnyvale, California		ENGINEERING CHANGE NOTICE			PRODUCT Nova Coupler	SHEET 1 of 2	ECN NBR. 456	
REASON FOR CHANGE: Change line drivers to IC7438		XPN 100518	AFFECTS REV. G	NEW REV H	TITLE Nova Coupler	FIELD CHANGES REQUIRED: N/R		
		OTHER DRAWINGS AFFECTED:		MFG'G INSTRUCTIONS:				
		DWG. NO. 100518-E	SHT. TYPE 5-7	Incorporate in all NEW production				
INTERCHANGEABILITY AFFECTED FIT? NO FUNCTION? No		ARTWORK Rev. G						
DESCRIPTION OF CHANGE: 1. Remove IC's H1, H6, H7, H8, H9 2. Cut the following traces H1-8 (two places ckt side) H1-10 (before feedthrough ckt side) H6-8 (ckt side) H7-8 (ckt side) H8-8 (ckt side) H9-8 (ckt side) H6-4,6,10 (comp side) H7-4,6,10 (comp side) H8-4,6,10 (comp side) H9-4,6,10 (comp side) 3. Install IC7438 in locations H1, H6, H7, H8, H9								
ORIGINATOR: E. LONG	DATE 12/4	ENGRG. APPROVAL: <i>[Signature]</i>	DATE	MFG'G APPROVAL:	DATE	FIELD SERVICE APPROVAL:	DATE	ECN RELEASE DATE:

XEBEC SYSTEMS, INC. 566 San Xavier, Sunnyvale, California		ENGINEERING CHANGE NOTICE				PRODUCT Nova Coupler	SHEET 2 OF 2	ECN NBR. H56																						
REASON FOR CHANGE:		XPN 100518	AFFECTS REV G	NEW REV H	TITLE Nova Coupler		FIELD CHANGES REQUIRED:																							
		OTHER DRAWINGS AFFECTED:		MFG'G INSTRUCTIONS:																										
		DWG. NO.	SHT. TYPE																											
INTERCHANGEABILITY AFFECTED FIT? FUNCTION?																														
DESCRIPTION OF CHANGE:																														
<p>4. Add the following wires</p> <table border="0"> <tr> <td>H1-10 to H1-9</td> <td>H6-2 to H6-4</td> </tr> <tr> <td>H1-9 to G1-12</td> <td>H7-2 to H7-4</td> </tr> <tr> <td>H1-8 to feed through off H1-10</td> <td>H8-2 to H8-4</td> </tr> <tr> <td>H6-6 to resistor off H6-4</td> <td>H9-2 to H9-4</td> </tr> <tr> <td>H6-8 to resistor off H6-10</td> <td>H6-10 to G6-11</td> </tr> <tr> <td>H7-6 to resistor off H7-4</td> <td>H7-10 to G7-11</td> </tr> <tr> <td>H7-8 to resistor off H7-10</td> <td>H8-10 to G8-11</td> </tr> <tr> <td>H8-6 to resistor off H8-4</td> <td>H9-10 to G9-11</td> </tr> <tr> <td>H8-8 to resistor off H8-10</td> <td></td> </tr> <tr> <td>H9-6 to resistor off H9-4</td> <td></td> </tr> <tr> <td>H9-8 to resistor off H9-10</td> <td></td> </tr> </table> <p>was with 100518</p>									H1-10 to H1-9	H6-2 to H6-4	H1-9 to G1-12	H7-2 to H7-4	H1-8 to feed through off H1-10	H8-2 to H8-4	H6-6 to resistor off H6-4	H9-2 to H9-4	H6-8 to resistor off H6-10	H6-10 to G6-11	H7-6 to resistor off H7-4	H7-10 to G7-11	H7-8 to resistor off H7-10	H8-10 to G8-11	H8-6 to resistor off H8-4	H9-10 to G9-11	H8-8 to resistor off H8-10		H9-6 to resistor off H9-4		H9-8 to resistor off H9-10	
H1-10 to H1-9	H6-2 to H6-4																													
H1-9 to G1-12	H7-2 to H7-4																													
H1-8 to feed through off H1-10	H8-2 to H8-4																													
H6-6 to resistor off H6-4	H9-2 to H9-4																													
H6-8 to resistor off H6-10	H6-10 to G6-11																													
H7-6 to resistor off H7-4	H7-10 to G7-11																													
H7-8 to resistor off H7-10	H8-10 to G8-11																													
H8-6 to resistor off H8-4	H9-10 to G9-11																													
H8-8 to resistor off H8-10																														
H9-6 to resistor off H9-4																														
H9-8 to resistor off H9-10																														
ORIGINATOR: C. LONG	DATE 12/4	ENGRG. APPROVAL: 	DATE	MFG'G APPROVAL:	DATE	FIELD SERVICE APPROVAL:	DATE	ECN RELEASE DATE:																						

KELCO SERVICES, INC. 545 San Xavier, Sunnyvale, California		ENGINEERING CHANGE NOTICE			PRODUCT Nova Coupler	SHEET 1 of 1	FIGURE 484	
REASON FOR CHANGE: Improve timing.	EFFECTS REV		NEW REV	TITLE		FIELD CHANGES REQUIRED: A/R		
	100518		H	J	Nova Coupler			
	OTHER DRAWINGS AFFECTED:		MFG'G INSTRUCTIONS:					
DWG. NO.		SHT. TYPE		ALL production				
100518-E		2,3 logic						
Assy Drawg		Rev. J						
INTERCHANGEABILITY AFFECTED								
FIT? FUNCTION?								

DESCRIPTION OF CHANGE:

1. Change value of cap at J1-3 from 2000pf to 1000pf.
2. Change value of cap at L3-8 from 5000pf to 910pf.

ENGINEER:	DATE	ENGINEER APPROVAL:	DATE	MFG'G APPROVAL:	DATE	FIELD SERVICE APPROVAL:	DATE	CON RELEASE DATE:
	9/5		3/8					

REASON FOR CHANGE:

Improve tuning

XPB	AFFECTS REV.	NEW REV.	TITLE	FIELD CHANGES REQUIRED: Martin Wolfe Nova-2 Systems
100518	J	K	Nova Interface	
OTHER DRAWINGS AFFECTED:		MFG'G INSTRUCTIONS:		
DWG. NO.	SHT. TYPE		All production	
100518-E assy.	2	Logic		
INTERCHANGEABILITY AFFECTED FIT? FUNCTION?				

DESCRIPTION OF CHANGE:

1. Change value of cap. at J1-3, to 330 (390) pfd
2. Change value of resistor at J2-13 from 20K to 15K
3. Change value of cap. at J1-6 to .002 ufd.

REASON FOR CHANGE: TO COMPENSATE FOR NOVA 2/10 VOLTAGE CHANGES DUE TO CHASSIS LOADING.	XPN 100518	AFFECTS REV K	NEW REV L	TITLE NOVA INTERFACE	FIELD CHANGES REQUIRED: A/R ALL MARTIN WOLFE
	OTHER DRAWINGS AFFECTED:			MFG'G INSTRUCTIONS:	
	DWG. NO.	SHT. TYPE			
	100518	2	LOGIC	ADD THIS COMPONENT CHANGE TO ALL PRODUCTS BEFORE SHIPMENT.	
	100518	1	MATL LIST		
	100518	1	ASSY.		
INTERCHANGEABILITY AFFECTED FIT? FUNCTION?					

DESCRIPTION OF CHANGE:

CHANGE RESISTOR VALUE AT J2-13 FROM 15K 1/4 WATT TO
 10K 1/4 WATT, THIS WILL SHORTEN OSP WIDTH AND ALLOWS MORE
 TOLERANCE WITH RESPECT TO BUFF. TO OB.

AFFECTS MATL. LIST ITEM NO. 33.
 PART NO. 15 199184
WAS 199185

XEBEC SYSTEMS, INC. 575 San Xavier, Sunnyvale, California		ENGINEERING CHANGE NOTICE			PRODUCT Nova Coupler	SHEET 1 OF 1	ECN NO. 549	
REASON FOR CHANGE: To improve Auto load on the 518 Nova Coupler		XPN 100518	AFFECTS REV. L	NEW REV. M	TITLE 518 Coupler		FIELD CHANGES REQUIRED: All boards A/R	
		OTHER DRAWINGS AFFECTED: DWG. NO. SHT. TYPE		MFG'G INSTRUCTIONS:				
		100518-5			Incorporate in all PCB's in the stores, production			
INTERCHANGEABILITY AFFECTED FIT? FUNCTION?								
DESCRIPTION OF CHANGE: Change the 33K Ω Resistor off #2 to a 20K Ω Resistor								
ORIGINATOR:	DATE	EMERG. APPROVAL:	DATE	MFG'G APPROVAL:	DATE	FIELD SERVICE APPROVAL:	DATE	ECN RELEASE DATE: