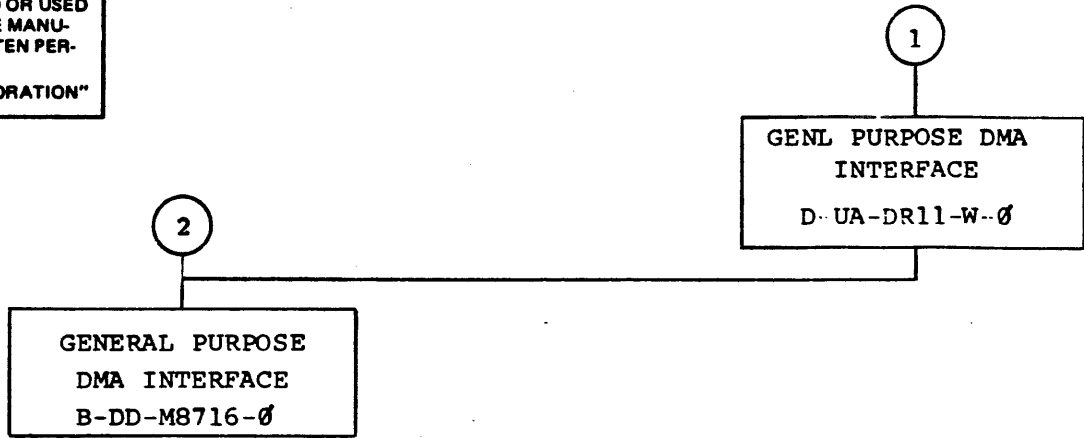


REV.	DR11-W	DD	B
	NUMBER	CODE	SIZE

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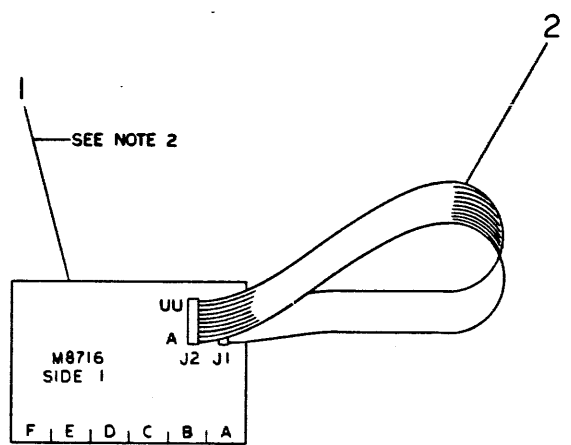


TITLE	SIZE CODE	NUMBER	REV
GENERAL PURPOSE DMA INTERFACE	B DD	DR11-W	
SHEET 2 OF 3			

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D-00-DR11-W-0 2

- NOTES:
1. THE M8716 MODULE IS PLUGGED INTO ANY SPC SLOT THAT IS WIRED FOR ALL UNIBUS SIGNALS.
 2. THE NPR GRANT JUMPER (CA1 TO CBI) MUST BE REMOVED BEFORE INSTALLING THE M8716 (ITEM 1). THIS JUMPER MUST BE REPLACED IF THE M8716 IS REMOVED FROM THE SYSTEM.



REF	GENL PURPOSE DMA INTERFACE	D-AR-DR11-W-2	7
1	OUTER BOX	9906088-07	6
1	COURGATED SLEVE	9906089-07	5
1	DR11-W SHIPPING LIST	A-PL-DR11-W	4
1	MODULE BOX	9905816-00	3
1	BC05L CABLE, JUMPER	D-UA-BC05L-1C	2
1	GENL PURPOSE DMA INTERFACE	D-UA-M8716-0-0	1

QUANTITY & VARIATION	DESCRIPTION	DWG/PART NO.	ITEM NO.	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES														
				ANGLE	CLASS OF ACCURACY	NORMAL DIMENSION RANGE INCHES												
				1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/2	2	3	4	6	10	18	30

THIRD ANGLE PROJECTION

REMOVE BURRS AND BREAK SHARP CORNERS

DO NOT SCALE DWG

MATERIAL SEE PARTS LIST

DR11-W

10-10-78

10-10-78

10-10-78

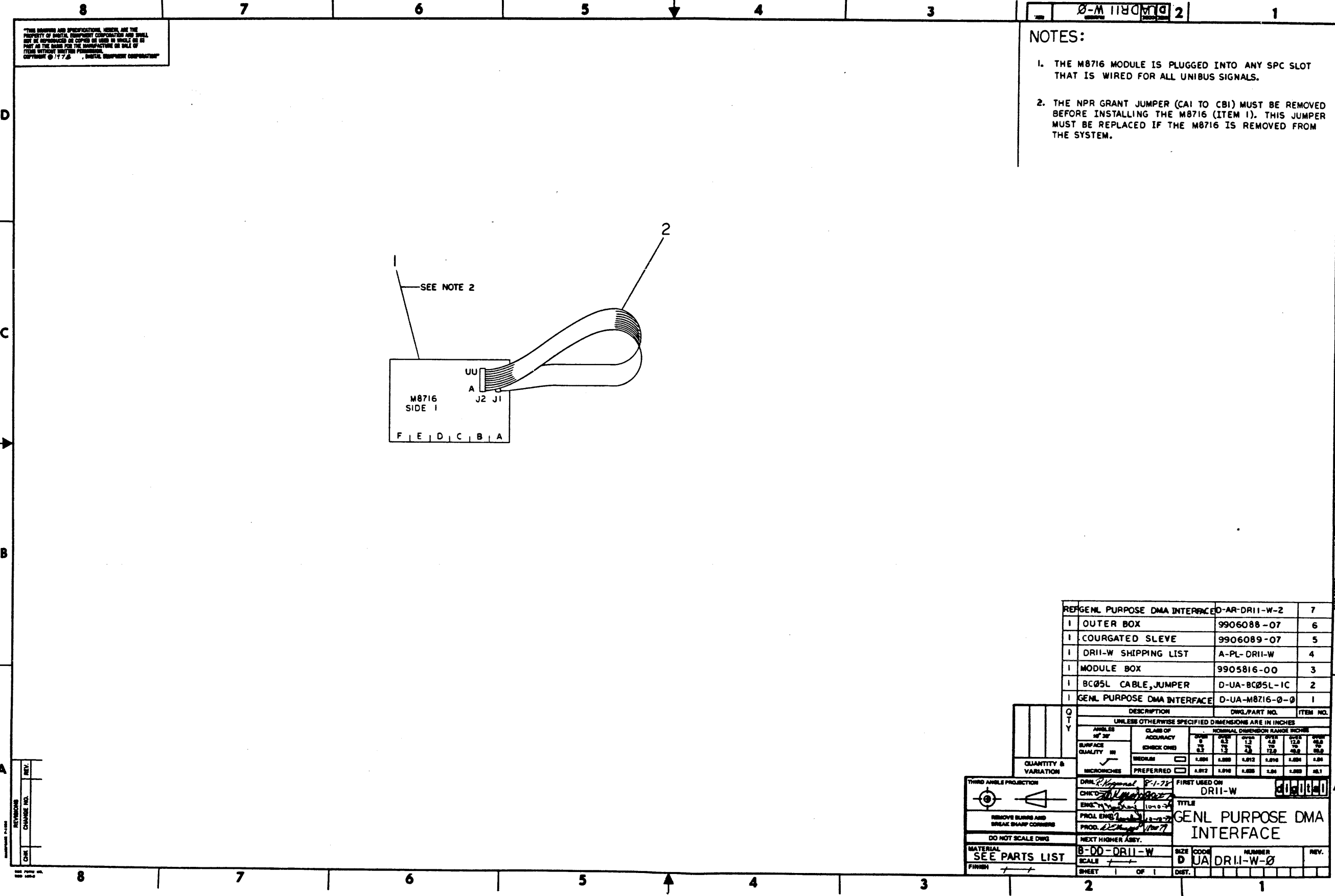
GENL PURPOSE DMA INTERFACE

B-00-DR11-W

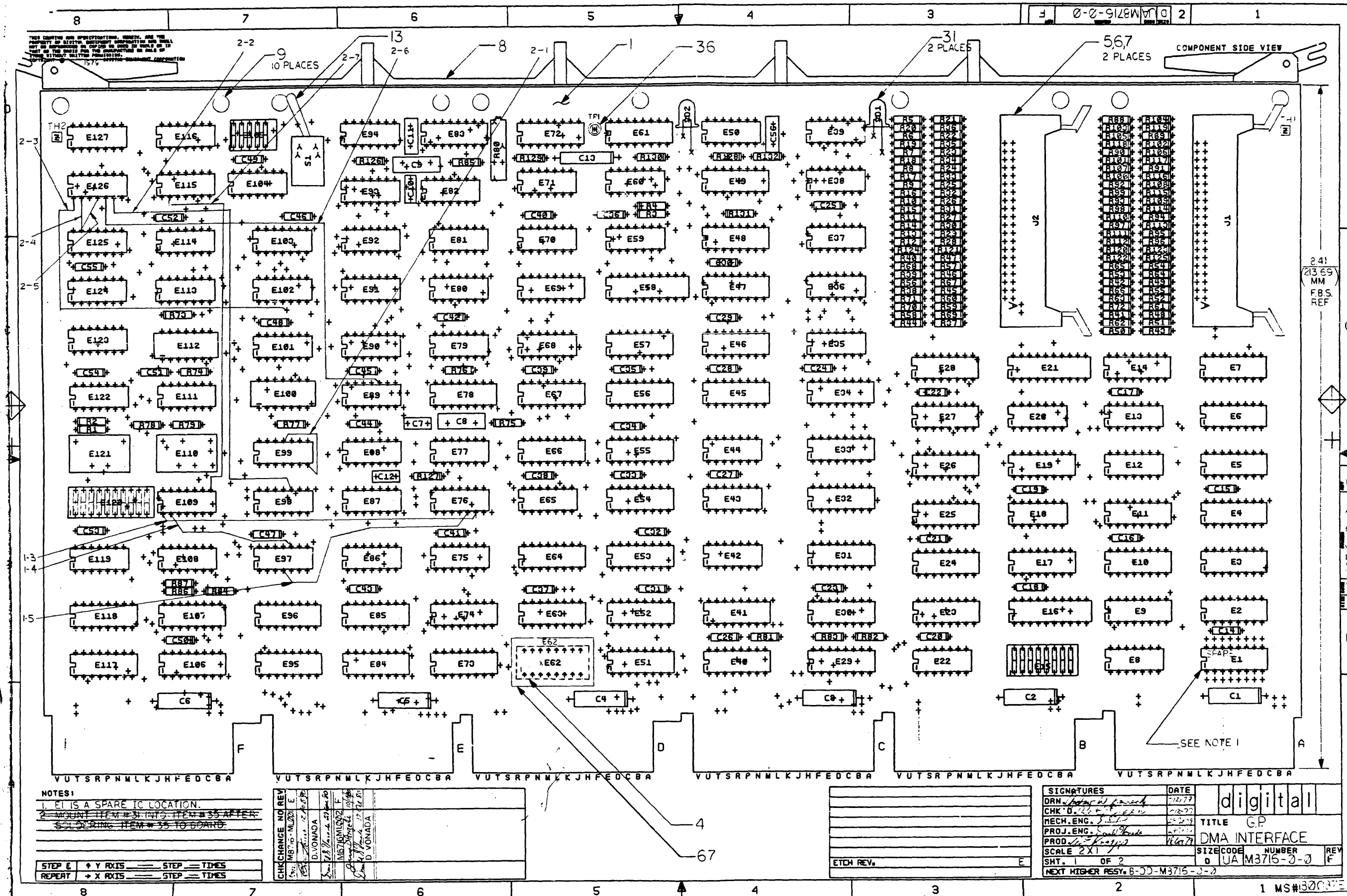
D UA DR11-W-0

REV. 00

REV.	CHANGE NO.



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241
213.69
MM
F.S.
REF

NOTES:
1. E1 IS A SPARE IC LOCATION.
2. MOUNT ITEM #31 INTO ITEM #35 AFTER SOLDERING ITEM #35 TO BOARD.

STEP E + Y AXIS STEP TIMES
REPEAT + X AXIS STEP TIMES

CHK	CHANGE NO	REV	DATE	BY	APP

ETCH REV.	E
-----------	---

SIGNATURES		DATE	digital
DRN. <i>[Signature]</i>		12/77	
CHK. <i>[Signature]</i>		02-77	TITLE G.P. DMA INTERFACE
MECH. ENG. <i>[Signature]</i>		02-77	
PROJ. ENG. <i>[Signature]</i>		02-77	
PROD. <i>[Signature]</i>		02-77	
SCALE 2X1			SIZE CODE NUMBER
SHT. 1 OF 2			0 UJA M3715-2-2
NEXT HIGHER REV. 6-00-M3715-2-2			REV F

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REWORK INSTRUCTIONS:

ETCH CUTS SIDE 2:

- 1-1 REFER TO D-EC-5013369-0-0
- 1-2 REFER TO D-EC-5013369-0-0
- WIRE ADDS
- 1-3 FROM E76-6 TO E109-1
- 1-4 FROM E109-2 TO E97-10
- 1-5 FROM E76-5 TO E97-4

WIRE ADDS

- 2-1 FROM E99-11 TO E99-7
- 2-2 FROM E126-6 TO E98-10
- 2-3 FROM E126-1 TO PLATE THRU HOLE AT E102-4
- 2-4 FROM E126-2 TO E125-13
- 2-5 FROM E126-4 TO E125-13
- 2-6 FROM E126-5 TO E89-10
- 2-7 FROM E115-2 TO E109-8

ETCH CUTS SIDE 1

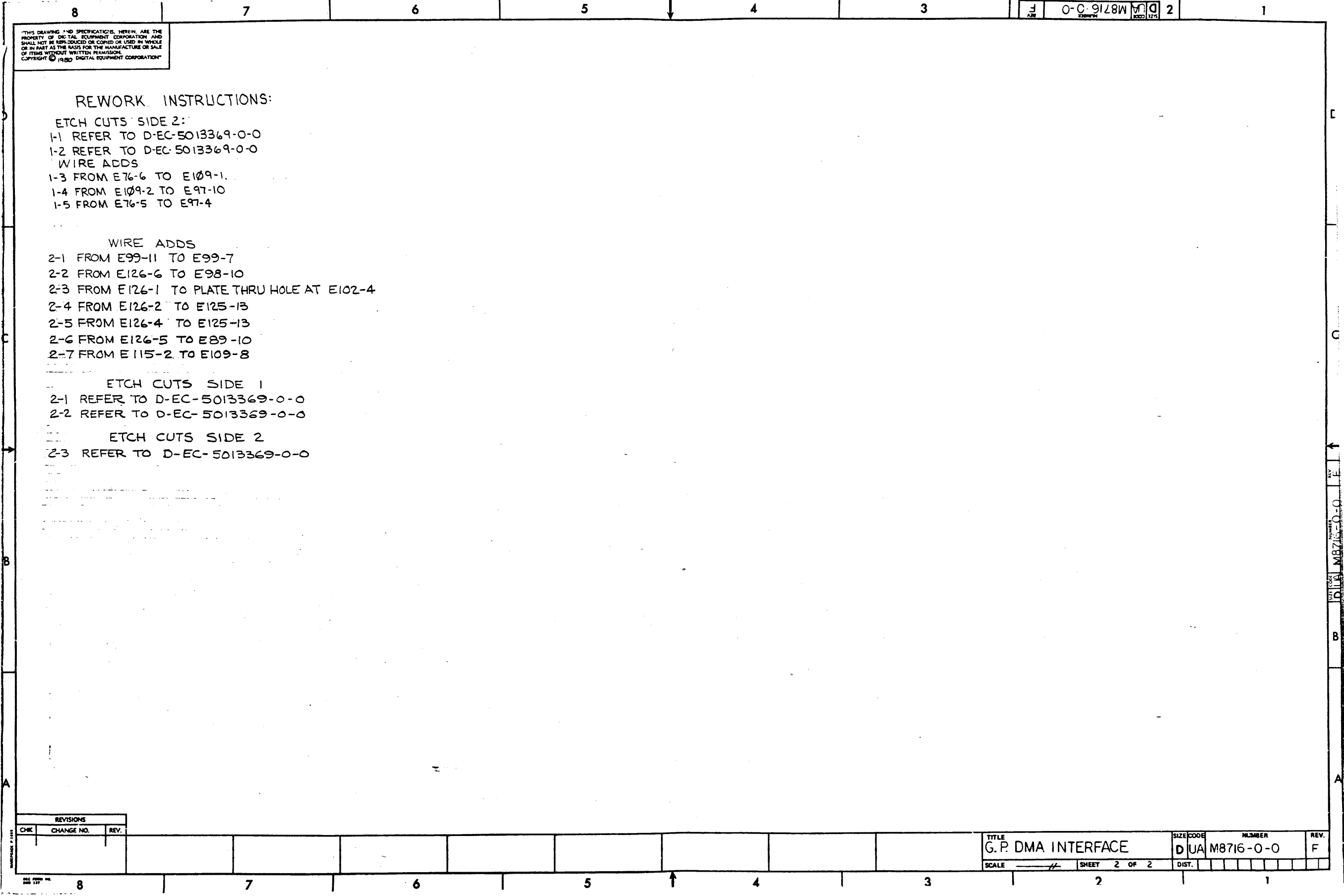
- 2-1 REFER TO D-EC-5013369-0-0
- 2-2 REFER TO D-EC-5013369-0-0

ETCH CUTS SIDE 2

- 2-3 REFER TO D-EC-5013369-0-0

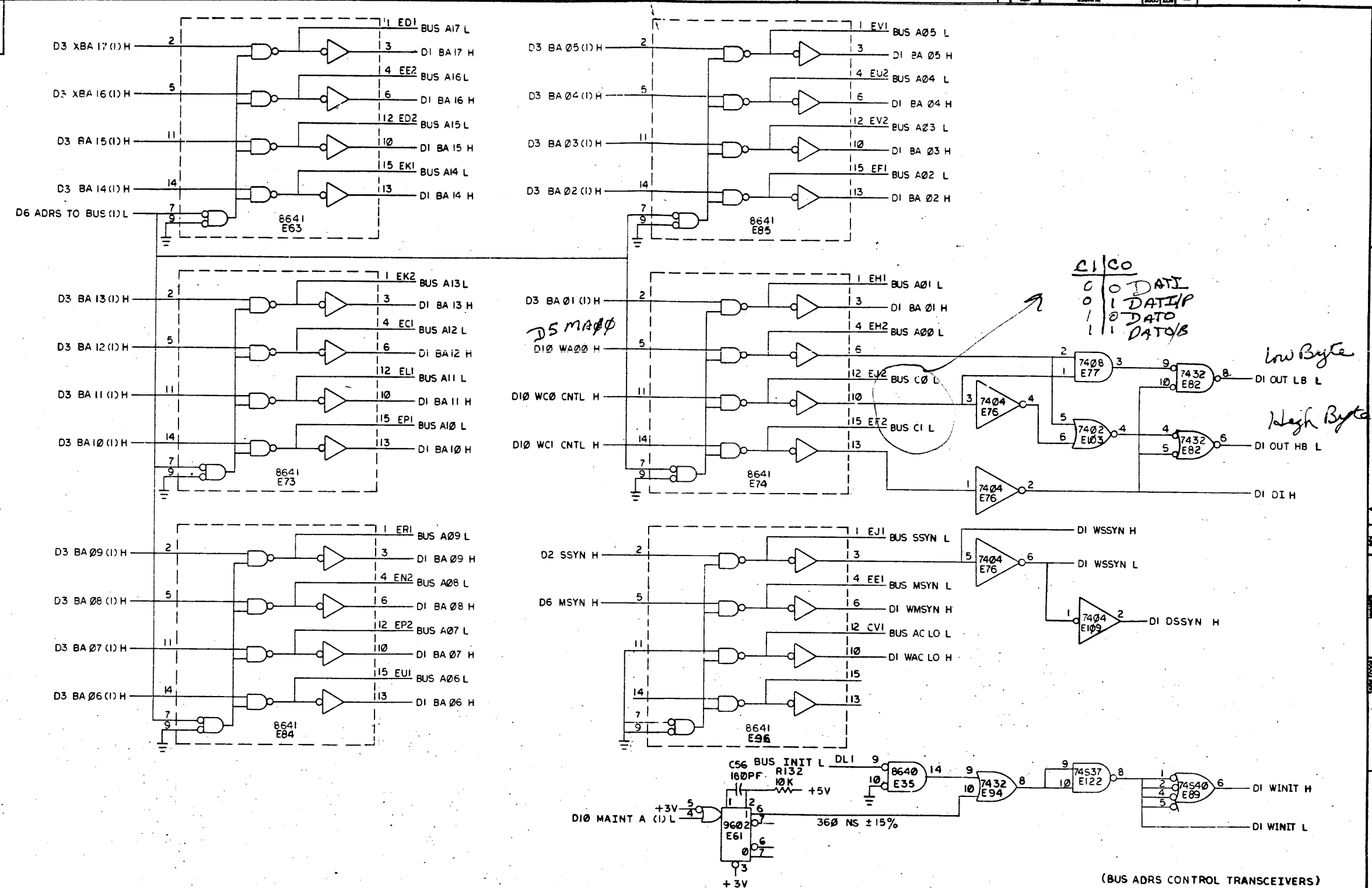
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE CODE	NUMBER	REV.
G.P. DMA INTERFACE	DUA	M8716-0-0	F
SCALE	SHEET	DIST.	
	2 OF 2		



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1-0-9128W SCS 2



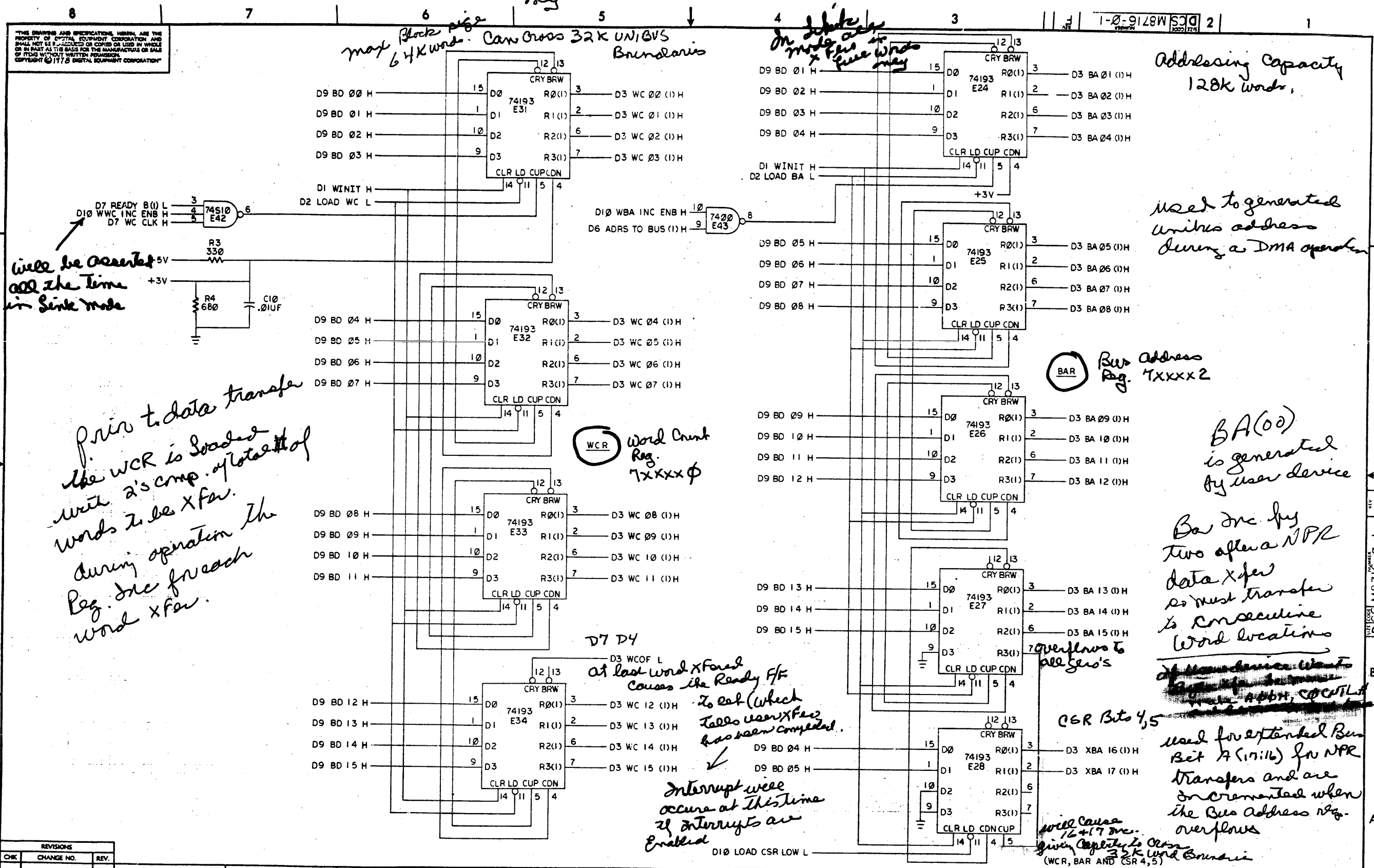
REV.	CHG.	CHANGE NO.	BY	DATE
1				
2				
3				
4				
5				
6				
7				
8				

REVISIONS		FIRST USED ON	
CHKD	MB716-M1001	DR11-W	
ENGR			
PROJ. ENGR			
PROD. ENGR			
NEXT HIGHER ASSY.			
B-DD-M8716-0		SIZE CODE	NUMBER
SCALE		D	CS M8716-0-1
SHEET 1 OF 14		DIST.	

(BUS ADRS CONTROL TRANSCEIVERS)

G. P. DMA INTERFACE (DU)

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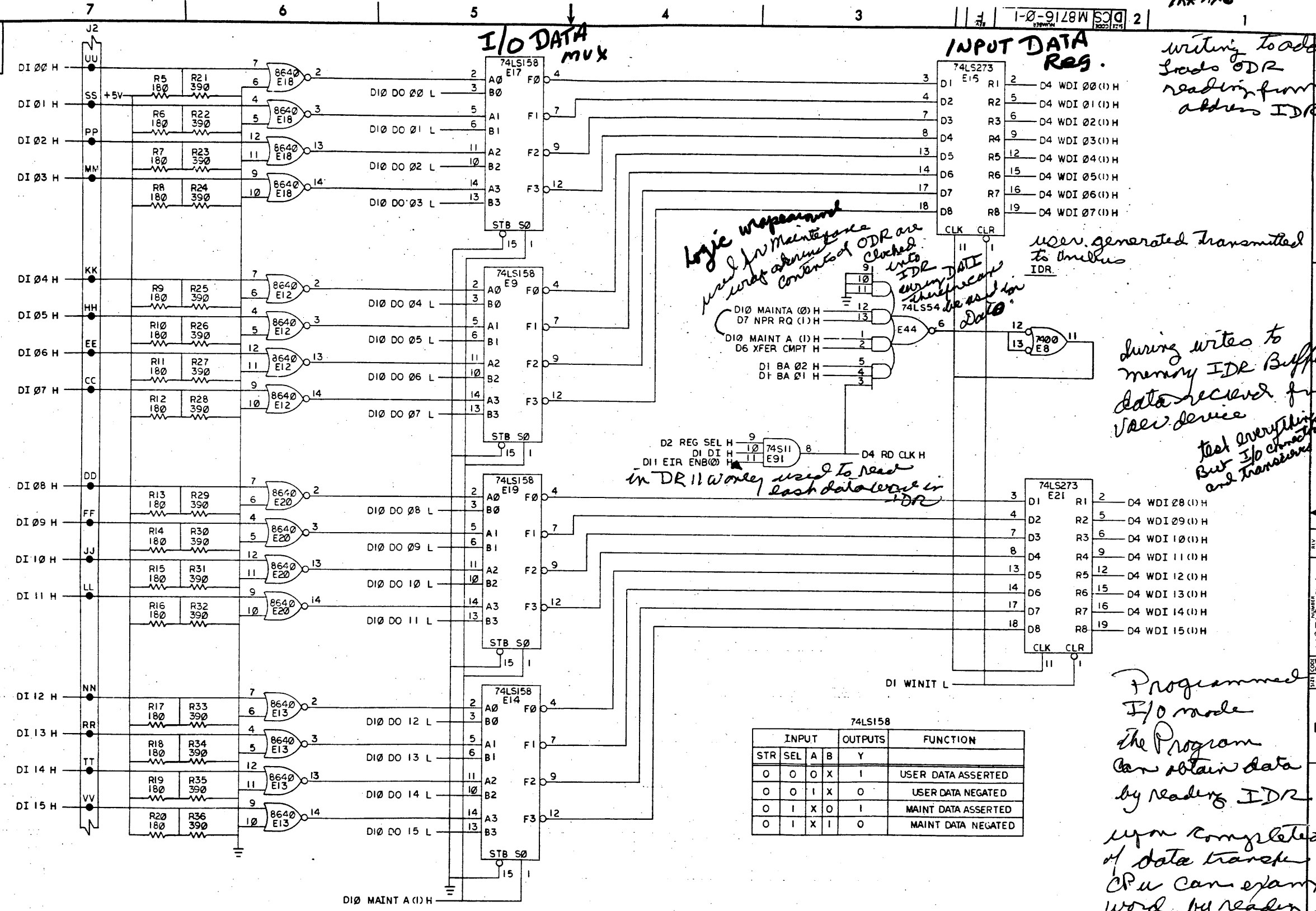


REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	G. P. DMA INTERFACE (D3)	SIZE CODE	DCS	NUMBER	M8716-0-1	REV.	F
SCALE	+	SHEET	3 OF 14	DIST.			

Input/output data reg same address 7x7x6

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Logic wraparound used for maintenance mode address contents of ODR are clocked into IDR every time DR11-W is used in DR11-W only used to read last data left in IDR

user generated transmitted to bus IDR

during writes to memory IDR buffers data received from user device

test everything but I/O channels and transmit BUS → ODR → IDR → BUS

2 maintenance modes Logic wraparound Cable wraparound.

Logic wraparound Unibus data is applied to DR11-W

then gated back to Unibus for comparison check

may have to do data service during this testing

Programmed I/O mode the Program can obtain data by reading IDR

upon completion of data transfer CPU can examine last word by reading IDR must turn on Bit 15 of CSR to do this

74LS158					
INPUT		OUTPUTS		FUNCTION	
STR	SEL	A	B	Y	
0	0	0	X	1	USER DATA ASSERTED
0	0	1	X	0	USER DATA NEGATED
0	1	X	0	1	MAINT DATA ASSERTED
0	1	X	1	0	MAINT DATA NEGATED

REVISIONS		
CHK	CHANGE NO.	REV.

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1-0-9128W SC 2

I/O Center mux

user device status their application is part of CSR 11:07

used to determine if device is requesting or presenting data

held true DR11-W ops in NPR Burst mode

user defined user device error signals

will turn on bit 13 of CSR

used for NPR x bus to odd even byte

used to drive the bus address reg.

In Link operation several DR11-W will prevent address Operational Mode switch Pack permits user selection of Busy, Cycle Inhibit Ready, DR11-B/DR11-W mode.

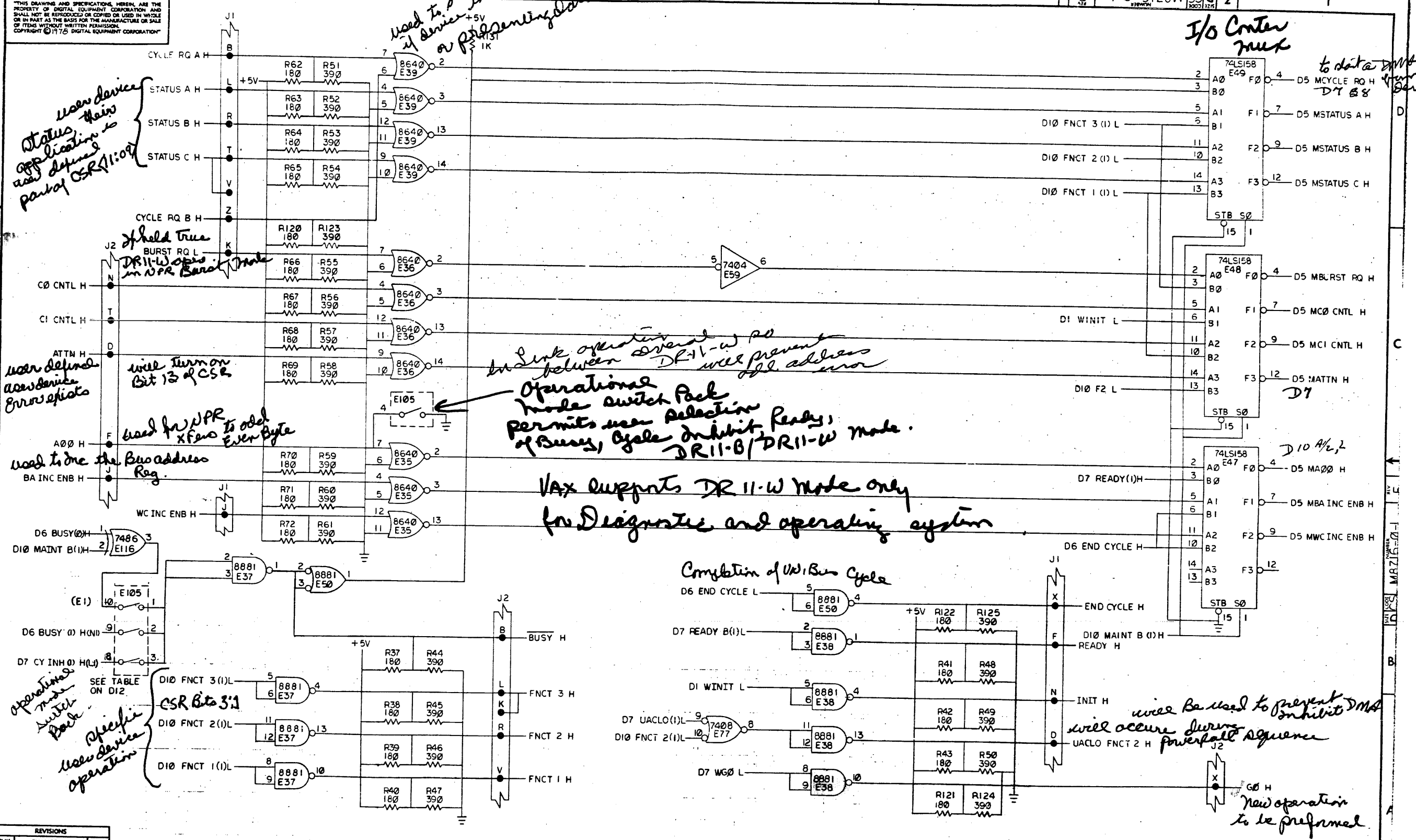
VAX supports DR 11-W mode only for Diagnostic and operating system

Operational mode switch Pack Specific user device operation

CSR Bits 3:1

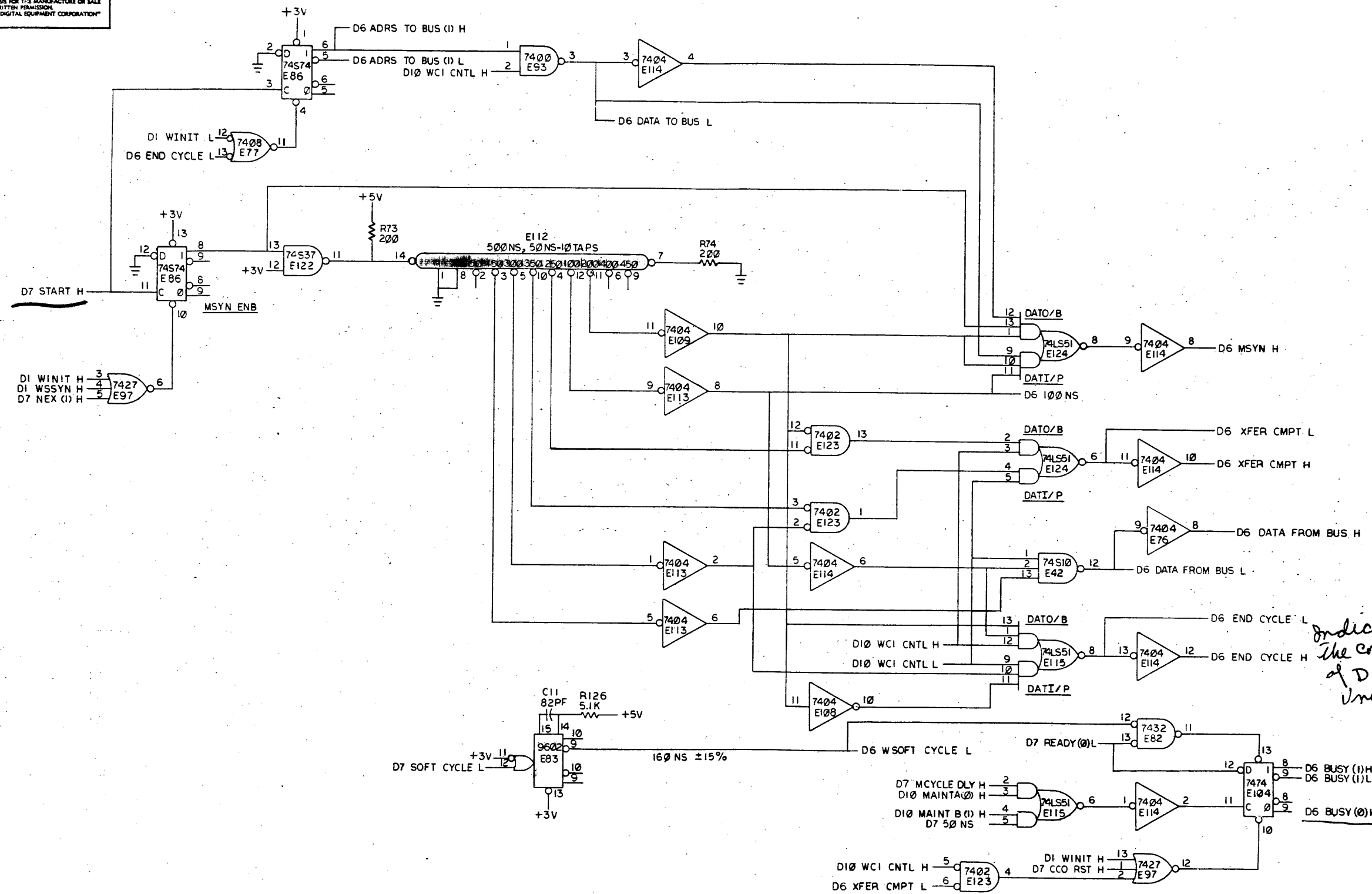
will be used to prevent DMA inhibit during powerfall sequence

new operation to be performed



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1-0-9170W SCD 2



Indicates the completion of DR11-W inbus cycle

DR11W bus cycle in progress

REVISIONS		
CHK	CHANGE NO.	REV.

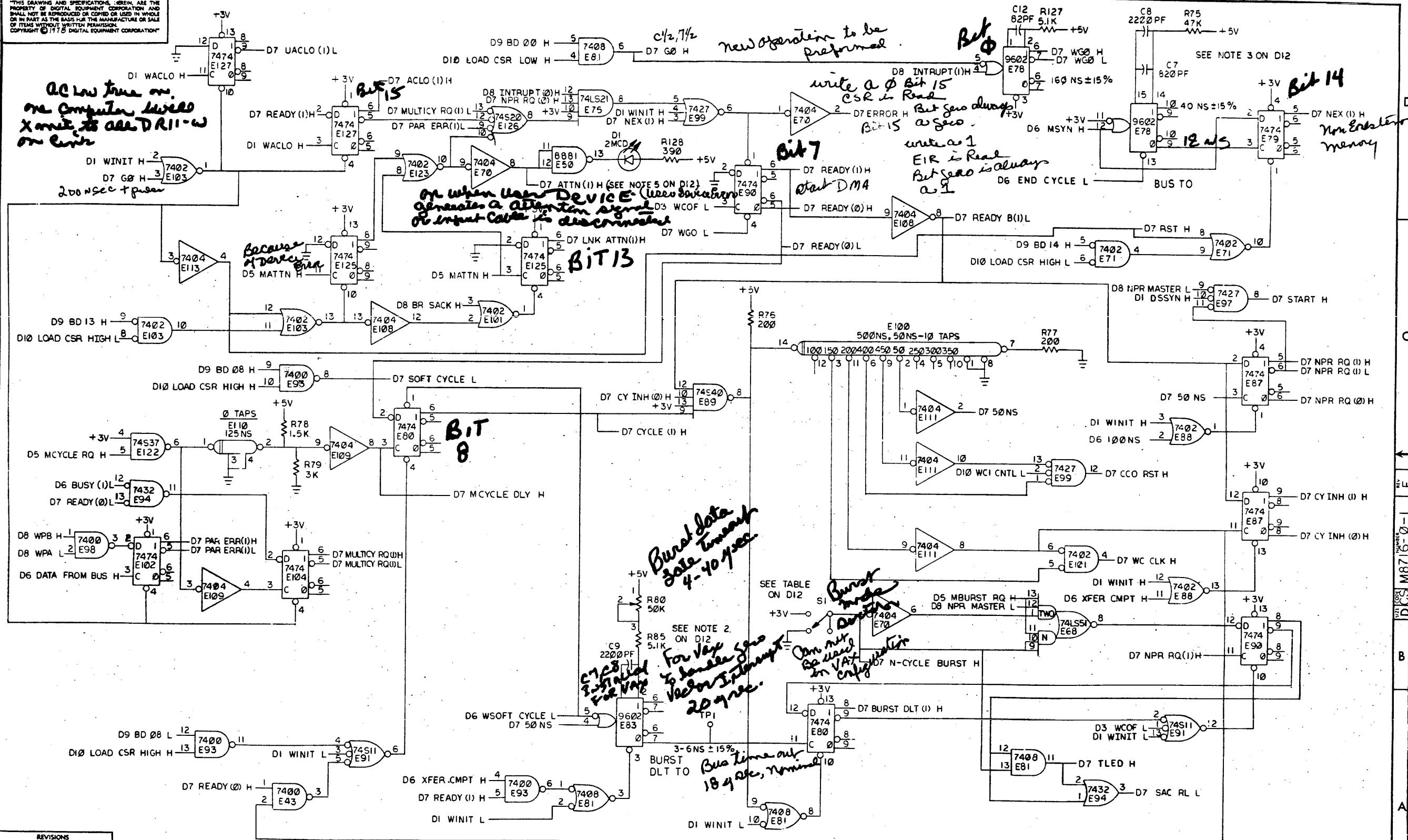
(ADRS TO BUS, MSYN, CCIO RST, XFER END, CYCLE CMPT)

TITLE	G. P. DMA INTERFACE (06)	SIZE CODE	D CS	NUMBER	M8716-0-1	REV.	F
SCALE	+	SHEET	6 OF 14	DIST.			

CSK/EIK name
 Writing the address write to CSR
 ↓ EIR read only

1-0-9128W SCD 2

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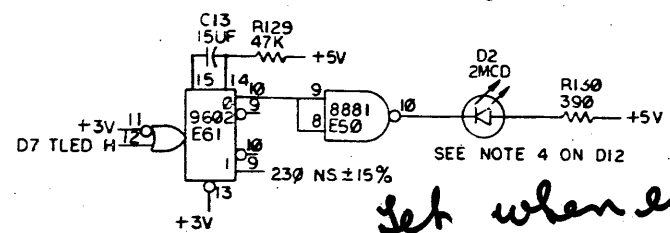
REVISIONS		
CHK	CHANGE NO.	REV.

(CSR 0,7,8,13,14 AND 15 AND CONTROL LOGIC)			
TITLE	G. P.	SIZE CODE	NUMBER
DMA INTERFACE (D7)	D CS	M8716-0-1	F
SCALE	SHEET 7 OF 14	DIST.	

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1-0-9128W SCD 2

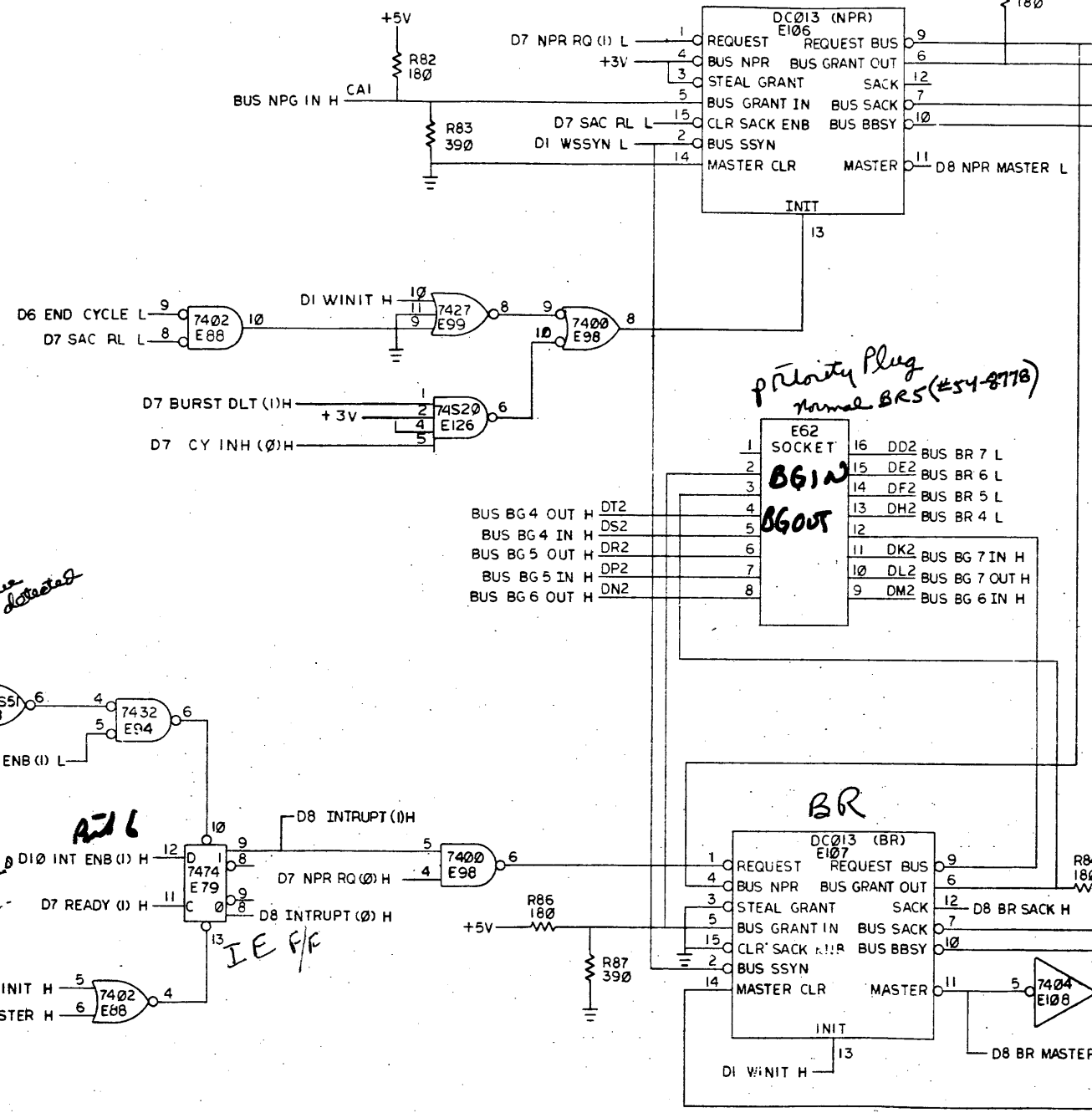
DMA operation
 Transfer 1 word per address arbitrarily
 can be changed to include standard or non standard burst modes.
 during Standard Burst mode 2 words are transferred at completion of each address.
 Non standard unlimited amount of words.
N-cycle Burst



Set when ever Burst mode toggle switch is set in N-cycle position and a NPR is in progress.

Programmed I/O CPU Controls

Previous operation complete
if 80 bit is true after error detected
Bit 6 on CSN causes interrupt
if Bit 6 on WCR overflows ahead of Xfer error condition is detected
ERR (Bit 15) NEX, ATTN, & CLR MULTICY REQ. from error during DMA
user device error signal set to PR HW



REVISIONS		
CHK	CHANGE NO.	REV.

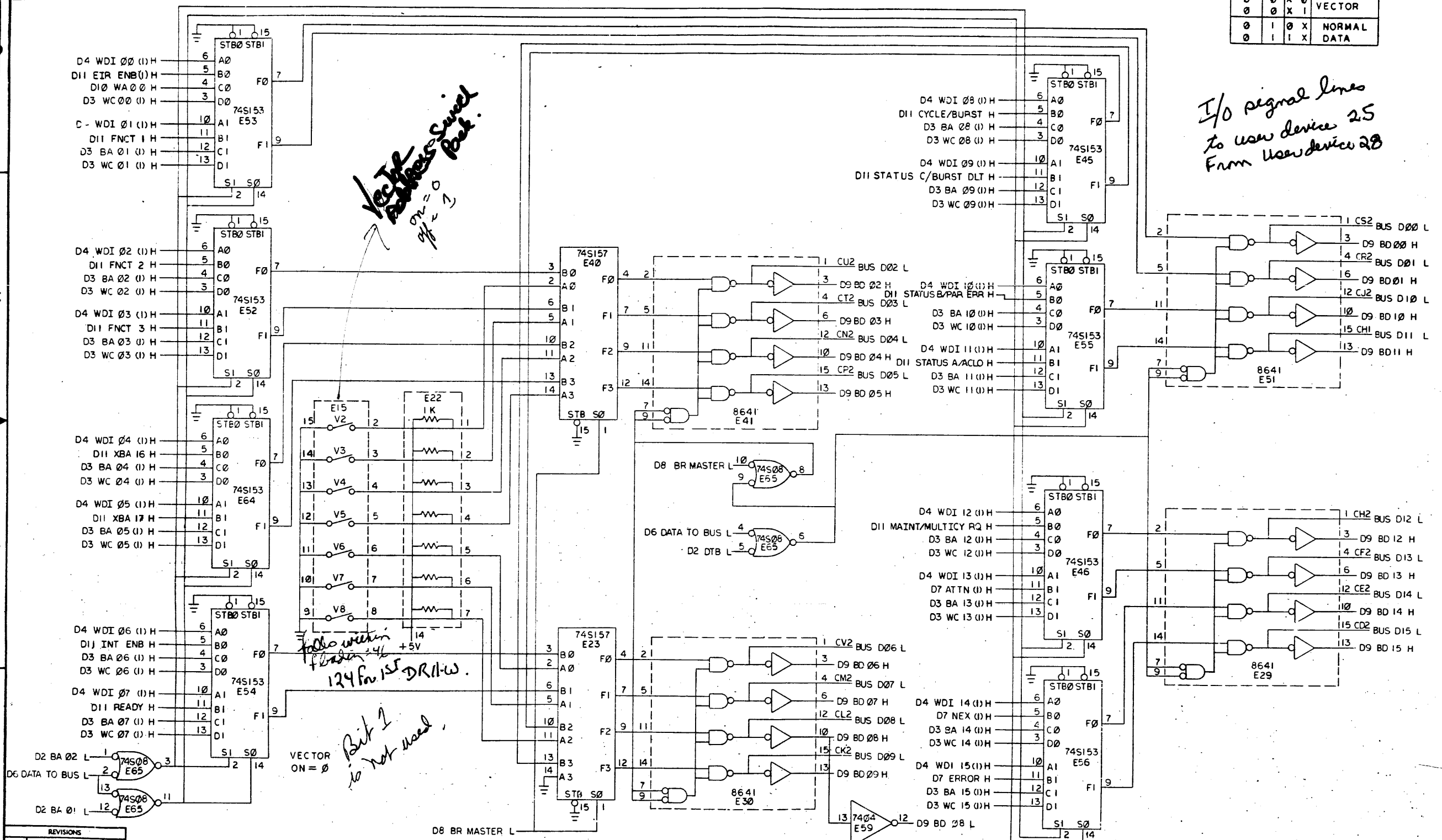
TITLE	G. P. DMA INTERFACE (D8)	SIZE CODE	D CS	NUMBER	M8716-0-1	REV.	F
SCALE	++	SHEET	8 OF 14	DIST.			

Error is cleared at start of next DMA operation

DR11-w detects memory parity error during DATA and DATA/P on DMA op. Error detection gen. on interrupt at end of current cycle and terminated DMA operation.

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STB	S0	B	A	F	OUTPUT
0	0	X	0		VECTOR
0	0	X	1		VECTOR
0	1	0	X		NORMAL DATA
0	1	1	X		NORMAL DATA



REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	G. P. DMA INTERFACE (09)	SIZE CODE	NUMBER	REV.
SCALE	SHEET 9 OF 14	DIST.	DCS M8716-0-1	F

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Don't address as I/O
OUTPUT DATA REG

Can only be written to not read from

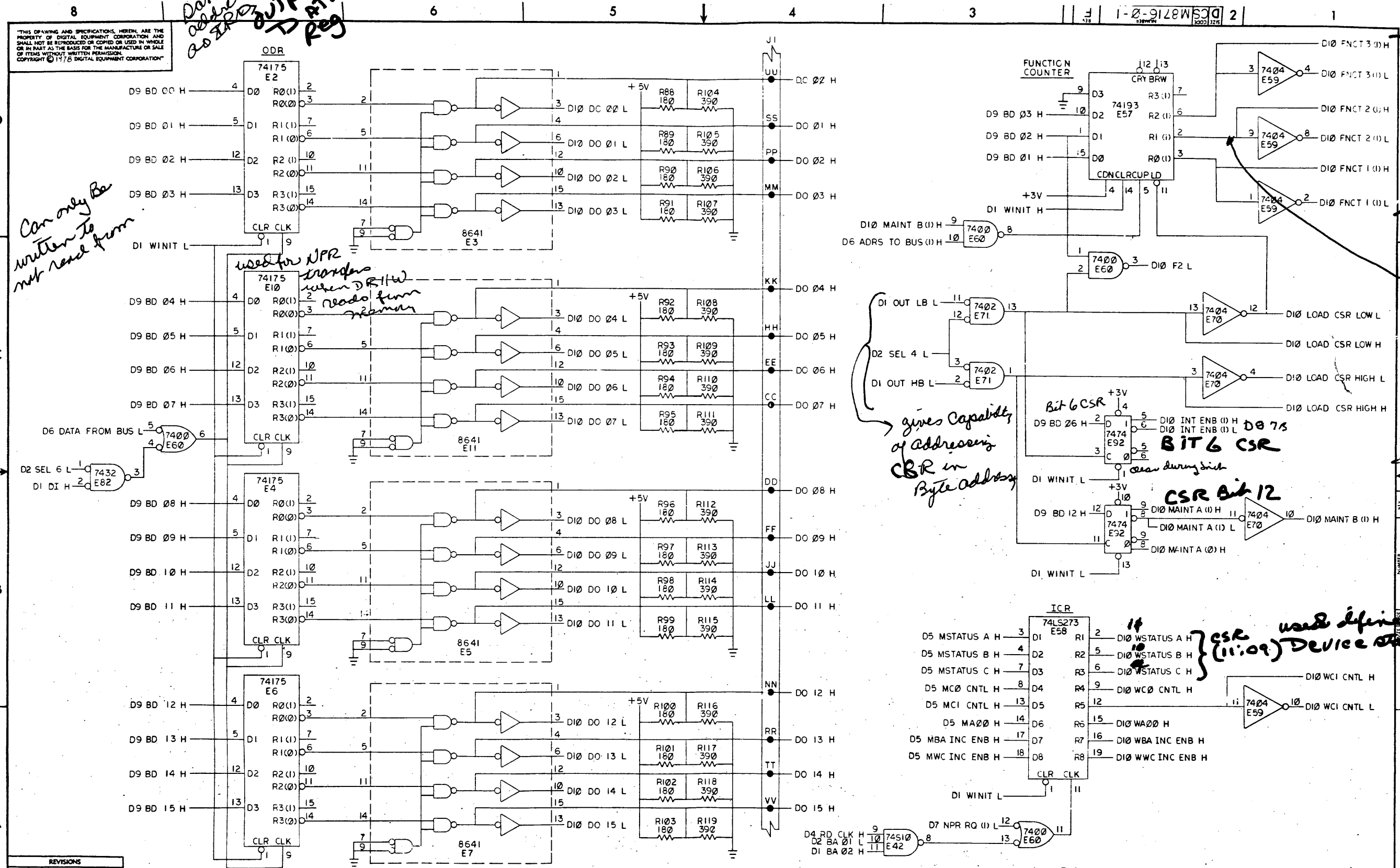
used for NPR transfer when DR1W read from memory

gives capability of addressing CBR in Byte Address

CSR (3:1)
user defined Tell what he wants to do through DR11-W

setting CSR bit 2 in X-mitting DR11-W also both CSR bit 10 and CSR bit 13 in Receiving DR11-W
 Bit 13 attr. when set will set Bit 15 ERase which will generate a interrupt if Bit 6 Interrupt Enable Bit is set.

CSR used defined (11:09) Device Status Bits



REVISIONS		
CHK	CHANGE NO.	REV.

(CDR, ICR, FUNCTION COUNTER AND CSR 1, 2, 3, 6, 9, 10, 11 AND 12)

TITLE	G. P. DMA INTERFACE (D10)	SIZE/CODE	DCS	NUMBER	M8716-0-1	REV.	7
SCALE	1:1	SHEET	10	OF	14	DIST.	

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NOTES:

1. ALL RESISTORS ARE 1/4 W, 5% UNLESS OTHERWISE SPECIFIED.
2. THE BURST DLT TIME OUT IS USED FOR NPR BURST MODE ONLY AND MAY BE ADJUSTED BETWEEN 3 AND 30 μS TO ACCOMMODATE INPUT DATA RATE. IT IS TYPICALLY ADJUSTED TO 10 μS TO RUN WITH MOST PDP-11 FAMILY OF PROCESSORS.
3. THE BUS TIME OUT MAY BE CONFIGURED FOR UNIBUS-11, UBA OF VAX AND 11/74. FOR UNIBUS-11 TIME OUT C8 MUST BE CUT. FOR UBA OF VAX AND 11/74, BOTH C7 AND C8 MUST BE INSTALLED.
4. THE LED IS LIT WHEN PULSED BY ONE-SHOT. THE ONE SHOT IS TRIGGERED WHEN BI IS IN N-CYCLE POSITION, BURST RQ IS ASSERTED AND AN NPR OPERATION BEGINS.
5. THE LED IS LIT WHEN USER ATTN SIGNAL IS STUCK ASSERTED OR USER CABLE IS NOT CONNECTED TO MODULE CONNECTOR.

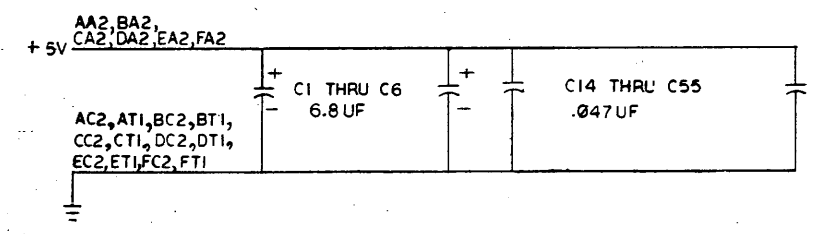


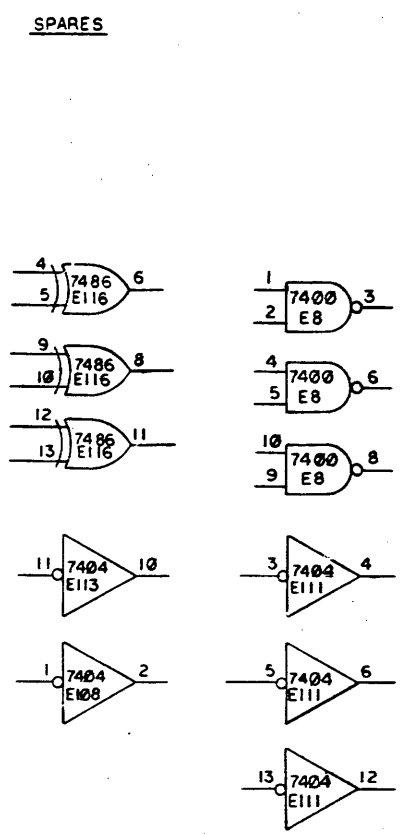
TABLE I
POWER AND GND TABLE

IC TYPE	GND	+5V
14 PIN IC'S	PIN 7	PIN 14
16 PIN IC'S	PIN 8	PIN 16
8640	PIN 1	PIN 8
74LS273	PIN 10	PIN 20

TABLE II

MODES OF OPERATION	SWITCH A00	MODE B-W	BUSY		CY INH L1	BURST BI *
			E1	N1		
USER DEVICE	4	5	ON	OFF	OFF	USER SELECT
MAINT, CABLE AND DR11-W TO DR11-W LINK	ON	SELECT	OFF	ON	OFF	USER SELECT
DR11-W TO DR11-B LINK	ON	SELECT	OFF	OFF	ON	USER SELECT

* UP POSITION FOR N-CYCLE BURST AND DOWN FOR TWO-CYCLE BURST.



REVISIONS

CHK	CHANGE NO.	REV.

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1-0-918W SCD 2

FOR REFERENCE ONLY

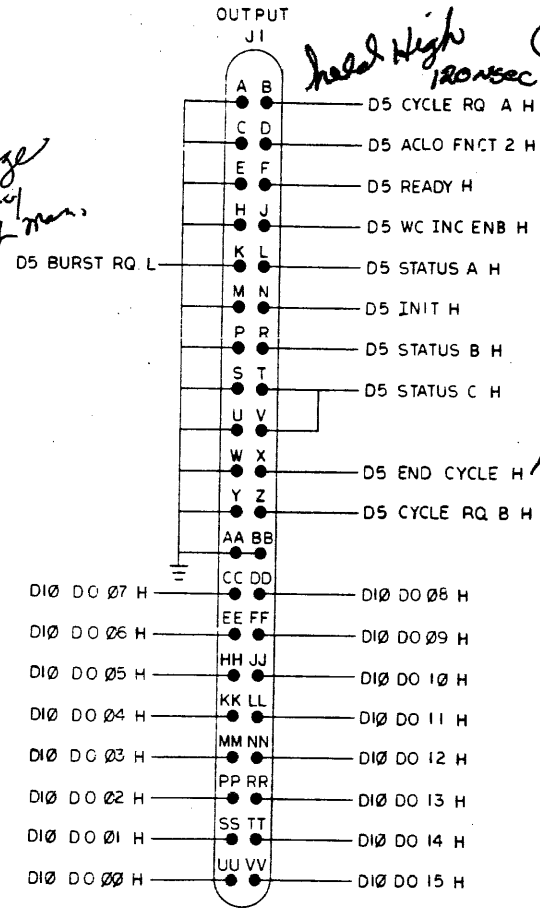
Normal hook up approved Interface Cable BC06R-xx Cable impedance 120Ω Max length .50 ft. 1524cm

Cable wraparound BCOSL test cable is installed between J1 output J2 input so that data can be looped back to module. This checks out connectors and bus transceivers.

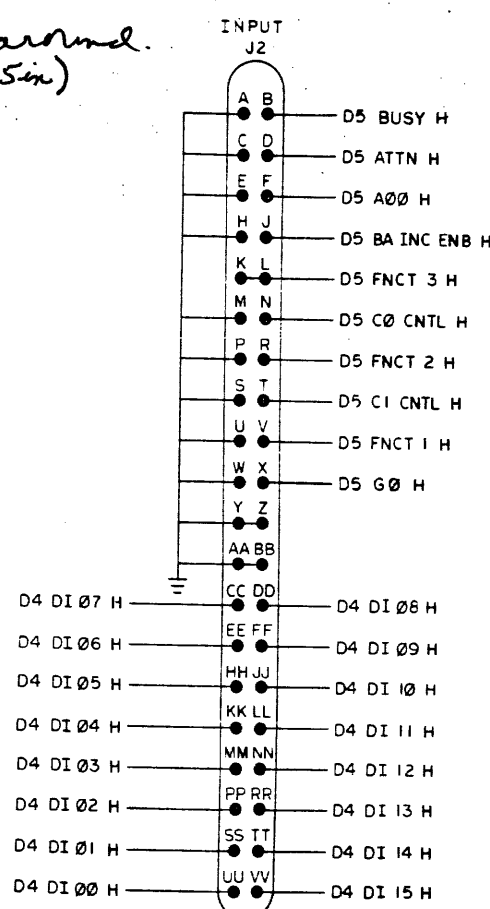
Page 3-3 tech manual

25 lines

28 lines



held High 120nsec Cable wraparound 38cm (15in)



Page 3-3 tech manual

Start a DMA J1 END cycle H, G0 H, Busy H, Ready H go to user device

user device response with

DI (15:00) H. J2 also. C0 CNTL H C1 CNTL H Cycle Rq A (or B) WC INC ENB H BA INC ENB H BURST RQL

REVISIONS		
CHK	CHANGE NO.	REV.

(I/O CONNECTOR PIN ASSIGNMENT)

TITLE	G.P. DMA INTERFACE (D13)	SIZE CODE	DCS	NUMBER	M8716-0-1	REV.	F
SCALE	+	SHEET	13 OF 14	DIST.			

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY	PER VARIATION	REFERENCE DESIGNATOR
				00		
1	1	D-MD-5013369-0-0	5013369-00	DR11W	1	
2	2		1012784-00	.047 MFD 50V +80-20% CER	42	C14-C55
3	3		1005306-00	6.8MFD 35V 10% S.TANT	6	C1-C6
4	4		1209838-00	SOCKET 16PIN	1	XE62
5	5		1209941-02	HEADER 100 40POS RT ANGLE	2	J1,J2
6	6		1209941-03	HEADER RT ANGLE LEFT L	2	
7	7		1209941-04	HEADER RT ANGLE,RIGHT	2	
8	8		1210711-02	/REPLACED BY 12-16988-02	1	
9	9		9009000-00	EYELET, ROLLED FLANGE, .121 OD X	10	
10	10		1211164-01	SW,DIP 1P 1A 5POS	1	E105
11	11		1211164-04	SW,DIP 1P 1A 8POS	1	E15
12	12		1211164-06	SW,DIP 1P 1A 10POS	1	E120
13	13		1210209-00	SW,TOG,SPDT,.01A@6V,ON/ON,SUBMIN	1	S1
14	14		1301322-00	180.0 .25 W 5.0 % CC	57	R5-R20,R37-R43,R62-R72, CONT R120-R122,R88-R103,R81,R82,R84, CONT R86
15	15		1300309-00	390.0 .25 W 5.0 % CC	57	R21-R36,R44-R61,R83,R87, CONT R104-R119,R123-R125,R128,R130
16	16		1300005-01	R NETWORK 13-1K 5.0 % 14PIN	2	E119,E22
17	17		1611197-00	DELAY=50-500NS,10TAPS	2	E100,E112
18	18		1611327-00	DELAY= 125NS,0TAPS	2	E110,E121
19	19		1300391-00	1.50 K .25 W 5.0 % CC	2	R1,R78
20	20		1300432-00	3.0 K .25 W 5.0 % CC	2	R2,R79
21	21		1300295-00	330.0 .25 W 5.0 % CC	1	R3
22	22		1301424-00	680.0 .25 W 5.0 % CC	1	R4
23	23		1311522-00	200.0 .25 W 5.0 % CC	4	R73,R74,R76,R77
24	24		1312930-00	5.10 K .25 W 5.0 % CC	3	R85,R126,R127
25	25		1302177-00	47.0 K .25 W 5.0 % CC	2	R75,R129
26	26		1309143-13	50.0 K .75 W10.0 % POT	1	R80
27	27		1000027-00	820.0 MMF 100V 5%200PPM MICA	1	C7

REVISION HISTORY		BASIC PART NO: M8716		DRN:	BOB PAULEY	DATE: 03-JAN-79	D I G I T A L				
ENG	ECD NUMBER	REV	SECTION A OF A	CHK'D:	KENT GLEEZEN	DATE: 24-SEP-79	TITLE	PARTS LIST			
	INITIAL	D	SECTION VARIATION INDEX				DR11-W				
DV	M8716-ML001	E	[A] 00								
CN	M8716-ML002	F	[B]								
			[C]	DES.ENG:	C. NAVEDONSKY	DATE: 18-OCT-79		DOCUMENT NUMBER			
			[D]								
			[E]	RESP.ENG.:	C. NAVEDONSKY	DATE: 18-OCT-79		SIZE CODE NUMBER REV			
			[F]								
			[G]								
			[H]								
			[I]	MFG.ENG.:	WALTER KNAPP	DATE: 18-OCT-79	K	FL	M8716-0-DBP	F	
			[J]								
			[K]	ASSEMBLY NUMBER:		TOP DOCUMENT NUMBER:	FILE NAME:	EDIT #			
			[L]	D-UA-M8716-0-0			Z0233F.PLS	11			
			[M]								
			[N]								

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LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION 00	REFERENCE DESIGNATOR
28	28	SEE NOTE			
28		1000055-00	2200.0 MMF 250V 20% Y5S DISC	2	C8,C9
29	29	10C4812-00	15 MFD 20V 10% S.TANT	1	C13
30	30	1000015-00	82.0 MMF 100V 5%200PPM MICA	2	C11,C12
31	31	1110864-00	LED 2MCD@10MA	2	D1,D2
32	32	1910651-00	DEC 74175 FF-D QUAD	4	E2,E4,E6,E10
33	33	1912847-00	LS157 MUX 1 OF 2 (QUAD)	3	E66,E67,E69
34	34	1910951-00	9602 ONE SHOT-DUAL	3	E78,E61,E83
35	36	9008085-00	TERM PCB 1POS SOLDER TURRET	1	TF1
36	37	1910547-00	74S153 MUX 1 OF 4 (DUAL)	8	E45,E46,E52,E64,E53,E54,E55,E56
37	38	1914438-00	DC 013 UNIBUS INTERRUPT-BIP	2	E106,E107
38	39	1905547-00	7474 FF-D DUAL,EDGE TRIGG	9	E127,E80,E90,E104,E87,E102,E92, CONT E79,E125
39	40	1912820-00	LS51 A-O-I GATE 2-WIDE 2I	3	E115,E124,E68
40	41	1910018-00	DEC 74193 COUNTER,SYNCHR. UP/D	10	E24,E25,E26,E27,E31,E32,E33,E34, CONT E28,E57
41	42	1912848-00	LS158 MUX 1 OF 2 (QUAD)	7	E9,E14,E17,E19,E47,E48,E49
42	43	1911676-00	74S139 DECODER-DUAL TWO-IMP	1	E72
43	44	1912821-00	LS54 A-O-I GATE,3-2-2-3IN	1	E44
44	45	1912863-00	LS273 FF-D OCTAL W/CLEAR	3	E16,E58,E21
45	46	1910011-00	DEC 7486 X-OR GATE-QUAD 2INPU	1	E116
46	47	1910548-00	74S157 MUX 1 OF 2 (QUAD)	2	E40,E23
47	48	1912395-00	DM 8136 COMPARATOR-6BIT UNIF	2	E117,E118
48	49	1912811-00	LS21 AND GATE-DUAL 4IN,PO	1	E75
49	50	1910541-00	74S40 NAND GATE-DUAL 4IN,B	1	E89
50	51	1912746-00	DEC 74S37 NAND GATE-QUAD 2IN	1	E122
51	52	1910537-00	74S11 AND GATE-TRIPLE 3INP	1	E91
52	53	1910536-00	74S10 NAND GATE-TRIPLE 3IN	1	E42
53	54	1912389-00	74S08 AND GATE-QUAD 2IN,PO	1	E65
54	55	1910155-00	DEC 7408 AND GATE,POS.QUAD 2I	2	E81,E77
55	56	1909686-00	7404 INVERTER GATE-HEX 1I	8	E59,E76,E70,E111,E108,E113,E109, CONT E114
56	57	1905575-00	7400 NAND GATE-QUAD 2IN	5	E60,E43,E93,E98,E8
57	58	1910878-00	7427 NOR GATE-TRIPLE 3IN	2	E97,E99
58	59	1909004-00	DEC 7402 NOR GATE-QUAD 2IN	5	E88,E123,E101,E103,E71
59	60	1911469-00	DEC 8640 RECEIVER,BUS,QUAD,U	7	E12,E18,E13,E20,E35,E36,E39
60	61	1911579-00	8641 TRANSCEIVER,BUS,QUA	15	E3,E5,E7,E11,E30,E29,E41,E51, CONT E96,E63,E95,E73,E84,E85,E74
61	62	1911521-00	7432 OR GATE-QUAD 2IN, PO	2	E94,E82
62	63	1909705-00	DEC 8881 NAND GATE-QUAD 2IN O	3	E37,E38,E50
63	64	1910539-00	74S20 NAND GATE-DUAL 4INPU	1	E126
64	65	1001610-00	.01 MFD 50V +80-20% 25U CER	1	C10
65	66	1300365-00	1.0 K .25 W 5.0 % CC	1	R131
66	67	540E778-00	PLUG PRIORITY	1	E62
67	68	1300479-00	10.0 K .25 W 5.0 % CC	1	R132
68	69	1000020-00	180.0 MMF 100V 5%200PPM MICA	1	C56
69	70	1910544-00	74S74 FF-D DUAL,EDGE TRIGG	1	E86
70	71	9105740-55	WIRE(WRAP)30AWG UL1423	A/R	

! D ! I ! G ! I ! T ! A ! L !	! TITLE !	! SECTION A OF A !	! SIZE !	! CODE !	! DOCUMENT NUMBER !	! REV !
! ! ! ! ! ! ! !	! DR11-W !	! ! ! ! ! ! ! !	! ! ! ! ! ! ! !	! ! ! ! ! ! ! !	! MB716-0-DBP !	! F !

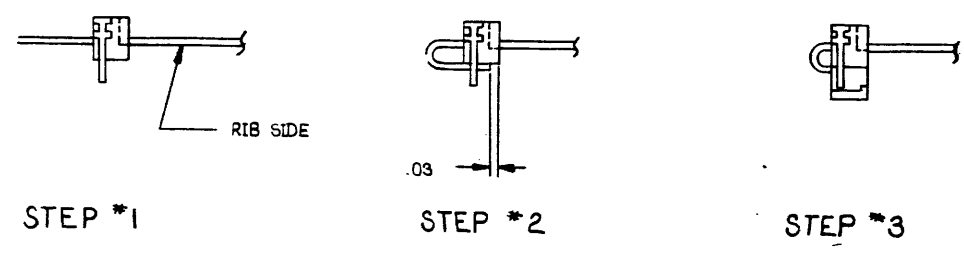
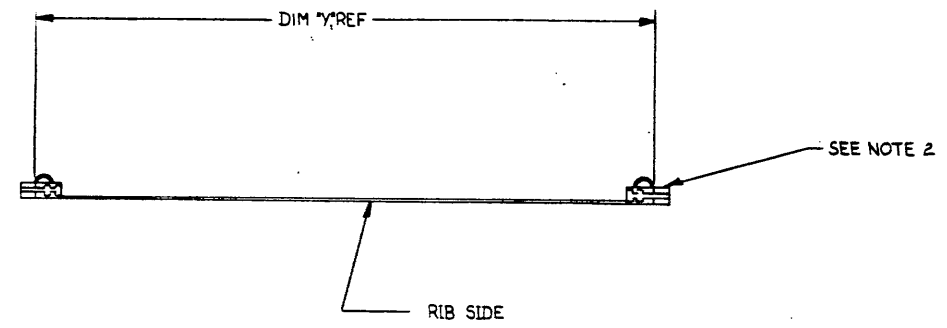
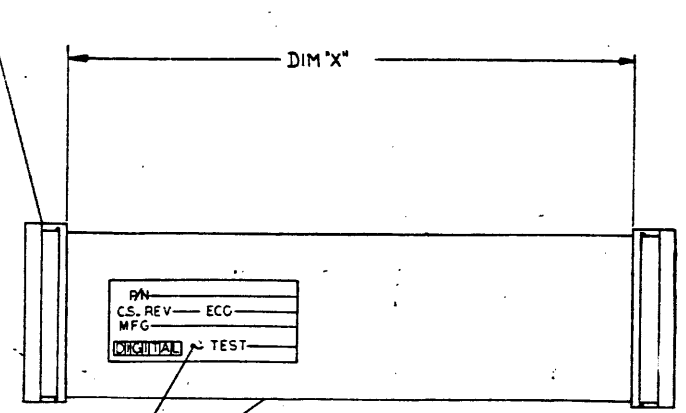
LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION	REFERENCE DESIGNATOR
				00	

71 NOTE: C8 IS NOT FOR VOLUME PRODUCTION IT IS USED FOR TIME OUT ON 11/780

D	I	G	I	T	A	L	TITLE	SECTION A OF A	SIZE	CODE	DOCUMENT NUMBER	REV
							DR11-W		K	PL	MB716-0-IBP	F

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FROM	TO
PI-A	P2-VV
PI-B	P2-UU
PI-C	P2-TT
PI-D	P2-SS
PI-E	P2-RR
PI-F	P2-PP
PI-H	P2-NN
PI-J	P2-MM
PI-K	P2-LL
PI-L	P2-KK
PI-M	P2-JJ
PI-N	P2-HH
PI-P	P2-FF
PI-R	P2-EE
PI-S	P2-DD
PI-T	P2-CC
PI-U	P2-BB
PI-V	P2-AA
PI-W	P2-Z
PI-X	P2-Y
PI-Y	P2-X
PI-Z	P2-W
PI-AA	P2-V
PI-BB	P2-U
PI-CC	P2-T
PI-DD	P2-S
PI-EE	P2-R
PI-FF	P2-Q
PI-HH	P2-N
PI-II	P2-M
PI-KK	P2-L
PI-LL	P2-K
PI-MM	P2-J
PI-NN	P2-H
PI-PP	P2-F
PI-RR	P2-E
PI-SS	P2-D
PI-TT	P2-C
PI-UU	P2-B
PI-VV	P2-A



LEGEND		
NUMBER	DIM X VARIATION	DIM Y (PRECUT) REF
BC05L-0C	3IN ± 0.5IN	4.2 IN.
BC05L-1C	15 IN ± 0.5IN	16.2 IN.
BC05L-1J	20 IN ± 1.0IN	21.3 IN.
BC05L-2	2 FT ± 0.5IN	2.4 FT.
BC05L-3	3 FT ± 0.5IN	3 FT, 1.2 IN.
BC05L-4	4 FT ± 0.5IN	4 FT, 1.2 IN.
BC05L-5	5 FT ± 0.5IN	5 FT, 1.2 IN.
BC05L-6	6 FT ± 0.5IN	6 FT, 1.2 IN.
BC05L-7	7 FT ± 1.0IN	7 FT, 1.2 IN.
BC05L-8	8 FT ± 1.0IN	8 FT, 1.2 IN.
BC05L-9	9 FT ± 1.0IN	9 FT, 1.2 IN.
BC05L-10	10 FT ± 2.0IN	10.5 FT.
BC05L-11	11 FT ± 2.0IN	11 FT, 1.2 IN.
BC05L-12	12 FT ± 2.0IN	12 FT, 1.2 IN.
BC05L-13	13 FT ± 2.0IN	13 FT, 1.2 IN.
BC05L-14	14 FT ± 2.0IN	14 FT, 1.2 IN.
BC05L-15	15 FT ± 0.5IN	15 FT, 1.2 IN.
BC05L-16	16 FT ± 1.0IN	16 FT, 1.2 IN.
BC05L-0E	5 IN ± 0.5IN	6.2 IN.

NOTES

1 ASSY OF ITEM # 1 (CONNECTOR) TO ITEM # 2 (CABLE) IS AS FOLLOWS:
A CABLE TO BE CUT SQUARE AT BOTH ENDS.
 STEP 1: INSERT CABLE THRU SLOT IN TOP HALF OF CONNECTOR. NOTE POSITION OF CABLE RELIEF SHOWN AS DOTTED LINE. **RIBS ON CABLE MUST BE LOCATED DOWN.**
 STEP 2: BEND CABLE DOWN AND UNDER AND SECURE AGAINST ADHESIVE. NOTE DIMENSION SHOWN.
 STEP 3: POSITION LOWER HALF OF CONNECTOR ON LOCKING PINS AND PRESS TWO HALVES TOGETHER. PULL CABLE THRU SLOT, THEN BEND CABLE TO POSITION CONNECTOR AS SHOWN IN FINAL ASSY.

2 PHYSICAL APPEARANCE OF CONNECTOR MAY BE DIFFERENT, DEPENDING ON VENDOR PART USED. FOR DETAILED DESCRIPTION, REFER TO SPEC. *A-PS-1211206-0-0, LATEST REVISION.

QTY.	DESCRIPTION	PART NO.	ITEM NO.
1	LABEL, IDENTIFICATION	9009255	4
2	LABEL THIS SIDE UP	3611907	3
2	CONN. 40 PIN	121206	2
A/R	CABLE, FLAT, 40 COND.	9107747-01	1

FIRST USED ON OPTION/MODEL		PARTS LIST	
TU60		digital EQUIPMENT CORPORATION	
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES. TOLERANCES	DATE 11-16-72	TITLE CABLE, JUMPER	
DECIMALS .XXX - .009	DATE 11-21-72	SIZE CODE DUA	
ANGLES .XX - .02	DATE 11-21-72	NUMBER BC05L-0-0	
X - .1	DATE 11-21-72	REV. M	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	DATE 11-21-72	DIST	
MATERIAL	SCALE 1/1	SHEET 1 OF 1	
FINISH			

REV	CHANGE NO	REV
A	BC05L-00001	A
B	BC05L-00002	B
C	BC05L-00003	C
D	BC05L-00004	D
E	BC05L-00005	E
F	BC05L-00006	F
G	BC05L-00007	G
H	BC05L-00008	H
J	BC05L-00009	J
K	BC05L-00010	K
L	BC05L-00011	L
M	BC05L-00012	M
N	BC05L-00013	N
O	BC05L-00014	O
P	BC05L-00015	P
Q	BC05L-00016	Q
R	BC05L-00017	R
S	BC05L-00018	S
T	BC05L-00019	T
U	BC05L-00020	U
V	BC05L-00021	V
W	BC05L-00022	W
X	BC05L-00023	X
Y	BC05L-00024	Y
Z	BC05L-00025	Z
AA	BC05L-00026	AA
AB	BC05L-00027	AB
AC	BC05L-00028	AC
AD	BC05L-00029	AD
AE	BC05L-00030	AE
AF	BC05L-00031	AF
AG	BC05L-00032	AG
AH	BC05L-00033	AH
AI	BC05L-00034	AI
AJ	BC05L-00035	AJ
AK	BC05L-00036	AK
AL	BC05L-00037	AL
AM	BC05L-00038	AM
AN	BC05L-00039	AN
AO	BC05L-00040	AO
AP	BC05L-00041	AP
AQ	BC05L-00042	AQ
AR	BC05L-00043	AR
AS	BC05L-00044	AS
AT	BC05L-00045	AT
AU	BC05L-00046	AU
AV	BC05L-00047	AV
AW	BC05L-00048	AW
AX	BC05L-00049	AX
AY	BC05L-00050	AY
AZ	BC05L-00051	AZ
BA	BC05L-00052	BA
BB	BC05L-00053	BB
BC	BC05L-00054	BC
BD	BC05L-00055	BD
BE	BC05L-00056	BE
BF	BC05L-00057	BF
BG	BC05L-00058	BG
BH	BC05L-00059	BH
BI	BC05L-00060	BI
BJ	BC05L-00061	BJ
BK	BC05L-00062	BK
BL	BC05L-00063	BL
BM	BC05L-00064	BM
BN	BC05L-00065	BN
BO	BC05L-00066	BO
BP	BC05L-00067	BP
BQ	BC05L-00068	BQ
BR	BC05L-00069	BR
BS	BC05L-00070	BS
BT	BC05L-00071	BT
BU	BC05L-00072	BU
BV	BC05L-00073	BV
BW	BC05L-00074	BW
BX	BC05L-00075	BX
BY	BC05L-00076	BY
BZ	BC05L-00077	BZ
CA	BC05L-00078	CA
CB	BC05L-00079	CB
CC	BC05L-00080	CC
CD	BC05L-00081	CD
CE	BC05L-00082	CE
CF	BC05L-00083	CF
CG	BC05L-00084	CG
CH	BC05L-00085	CH
CI	BC05L-00086	CI
CJ	BC05L-00087	CJ
CK	BC05L-00088	CK
CL	BC05L-00089	CL
CM	BC05L-00090	CM
CN	BC05L-00091	CN
CO	BC05L-00092	CO
CP	BC05L-00093	CP
CQ	BC05L-00094	CQ
CR	BC05L-00095	CR
CS	BC05L-00096	CS
CT	BC05L-00097	CT
CU	BC05L-00098	CU
CV	BC05L-00099	CV
CW	BC05L-00100	CW
CX	BC05L-00101	CX
CY	BC05L-00102	CY
CZ	BC05L-00103	CZ
CA	BC05L-00104	CA
CB	BC05L-00105	CB
CC	BC05L-00106	CC
CD	BC05L-00107	CD
CE	BC05L-00108	CE
CF	BC05L-00109	CF
CG	BC05L-00110	CG
CH	BC05L-00111	CH
CI	BC05L-00112	CI
CJ	BC05L-00113	CJ
CK	BC05L-00114	CK
CL	BC05L-00115	CL
CM	BC05L-00116	CM
CN	BC05L-00117	CN
CO	BC05L-00118	CO
CP	BC05L-00119	CP
CQ	BC05L-00120	CQ
CR	BC05L-00121	CR
CS	BC05L-00122	CS
CT	BC05L-00123	CT
CU	BC05L-00124	CU
CV	BC05L-00125	CV
CW	BC05L-00126	CW
CX	BC05L-00127	CX
CY	BC05L-00128	CY
CZ	BC05L-00129	CZ
CA	BC05L-00130	CA
CB	BC05L-00131	CB
CC	BC05L-00132	CC
CD	BC05L-00133	CD
CE	BC05L-00134	CE
CF	BC05L-00135	CF
CG	BC05L-00136	CG
CH	BC05L-00137	CH
CI	BC05L-00138	CI
CJ	BC05L-00139	CJ
CK	BC05L-00140	CK
CL	BC05L-00141	CL
CM	BC05L-00142	CM
CN	BC05L-00143	CN
CO	BC05L-00144	CO
CP	BC05L-00145	CP
CQ	BC05L-00146	CQ
CR	BC05L-00147	CR
CS	BC05L-00148	CS
CT	BC05L-00149	CT
CU	BC05L-00150	CU
CV	BC05L-00151	CV
CW	BC05L-00152	CW
CX	BC05L-00153	CX
CY	BC05L-00154	CY
CZ	BC05L-00155	CZ
CA	BC05L-00156	CA
CB	BC05L-00157	CB
CC	BC05L-00158	CC
CD	BC05L-00159	CD
CE	BC05L-00160	CE
CF	BC05L-00161	CF
CG	BC05L-00162	CG
CH	BC05L-00163	CH
CI	BC05L-00164	CI
CJ	BC05L-00165	CJ
CK	BC05L-00166	CK
CL	BC05L-00167	CL
CM	BC05L-00168	CM
CN	BC05L-00169	CN
CO	BC05L-00170	CO
CP	BC05L-00171	CP
CQ	BC05L-00172	CQ
CR	BC05L-00173	CR
CS	BC05L-00174	CS
CT	BC05L-00175	CT
CU	BC05L-00176	CU
CV	BC05L-00177	CV
CW	BC05L-00178	CW
CX	BC05L-00179	CX
CY	BC05L-00180	CY
CZ	BC05L-00181	CZ
CA	BC05L-00182	CA
CB	BC05L-00183	CB
CC	BC05L-00184	CC
CD	BC05L-00185	CD
CE	BC05L-00186	CE
CF	BC05L-00187	CF
CG	BC05L-00188	CG
CH	BC05L-00189	CH
CI	BC05L-00190	CI
CJ	BC05L-00191	CJ
CK	BC05L-00192	CK
CL	BC05L-00193	CL
CM	BC05L-00194	CM
CN	BC05L-00195	CN
CO	BC05L-00196	CO
CP	BC05L-00197	CP
CQ	BC05L-00198	CQ
CR	BC05L-00199	CR
CS	BC05L-00200	CS

8
7
6
5
4
3
2
1

BC05L-0-0
DUA
M

