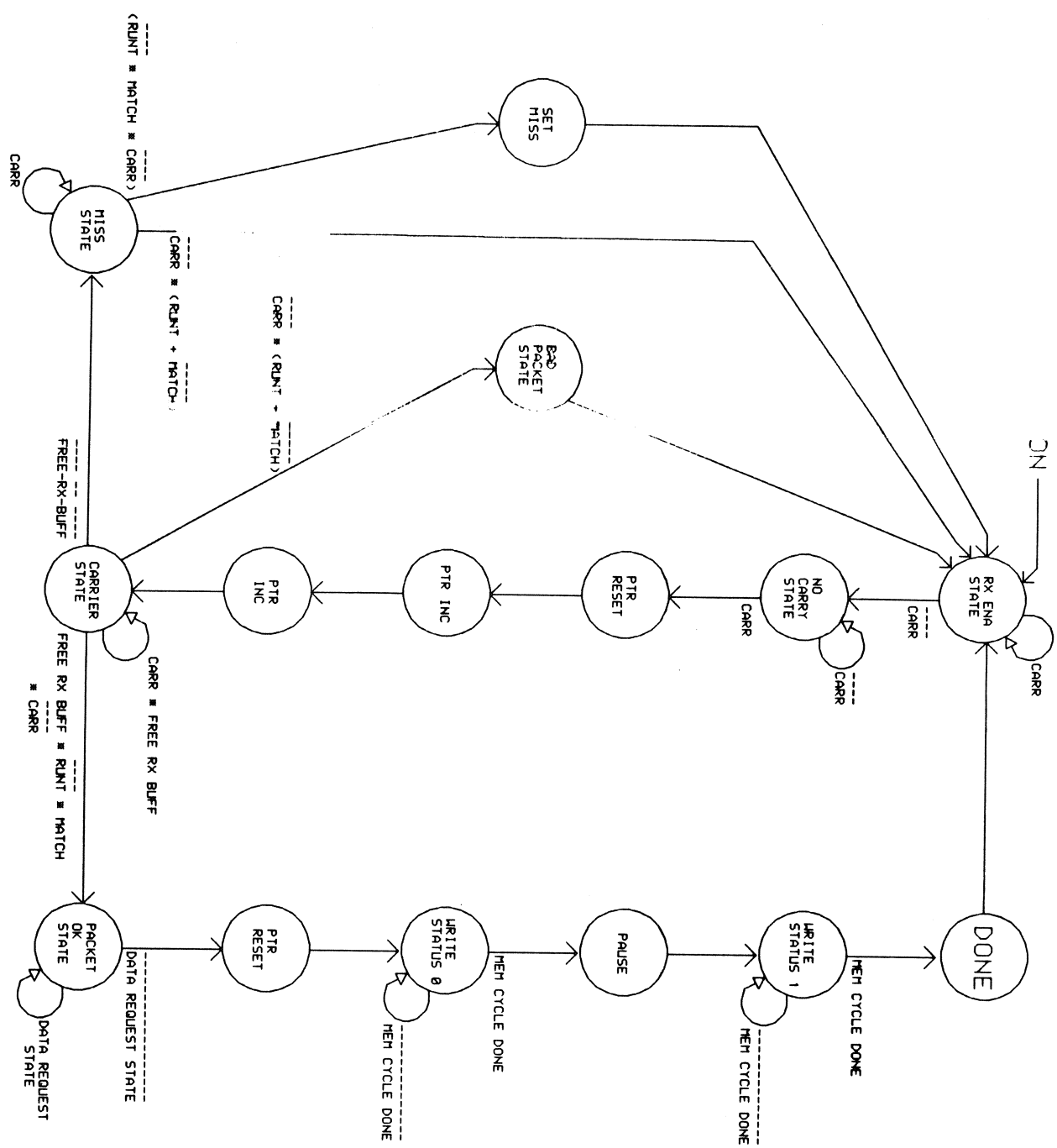
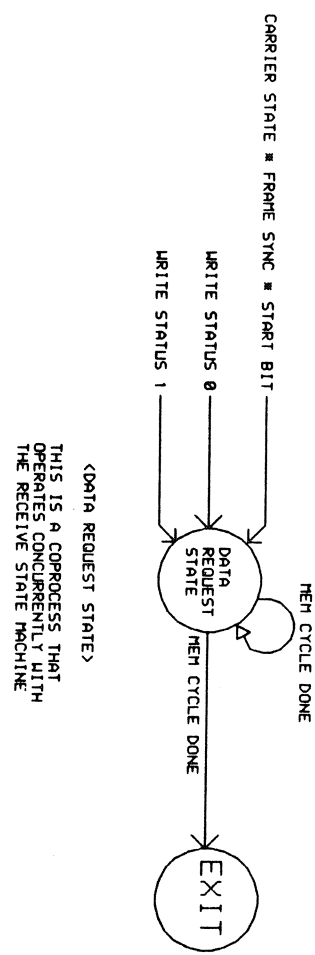




PROCESS STATE	REFERENCE SIGNAL	REFERENCE PIN
CARRIER ON	LKXN DLY CAR DET H	E61-5
RUNT	LKXN DLY HIGH	E110-2
HATCH	LKXN HIGH ASSERTED	E110-1
FREE RX BUFF	LKXN RX FREE H	E138-6
TX CYCLE DONE	PB RX FREE BUFF H	E68-15
FRAME SYNC	LKXN RX TXN CTDN H	E41-7
START BIT	LKXN RX FRAME SYNC H	E107-9
	LKXN RX START BIT H	E73-10

[illegible]RECEIVE STATE MACHINE-LINKH
STATE DIAGRAM-2[illegible]

DRN.		DATE	ENG.	DATE	TITLE:
D. BLANCHARD		12-Nov-82	Hell	Bloomberg	DEUNA LINK MODULE
CHECKED BY:		DATE	BOARD LOCATION:		
<i>D. Blanchard</i>		12-Nov-82			
	SHEET	OF			
	1	1			
DISKO: <SARGENT>LINK.S02.DRN1 05-NOV-82 16:08 NEXT HIGHER ASSEMBLY:			SIZE	CODE	NUMBER
					REV.

W	SIZE K	CODE CS	NUMBER M7793-0-5D2	REV. A
---	-----------	------------	-----------------------	-----------



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[illegible]

	DNR.	DATE	ENG.	DATE	TITLE:
CHECKED BY D-01 BLANCHARD	DATE 17-Nov-82	BORDED LOCATION Bell Bloomberg	DATE 17-Nov-82		DEUNA LINK MODULE
DISK#: C5-SAGGENT LK-MK33-DNR185-NOV-82	NEXT HIGHLEVEL: 1	SHEET OF: 1			(LINK)
FIRST USED ON OPTION/MODEL:	DEUNA	D-LIA-M7793-0-0			
				SIZE CODE	NUMBER
				K CS M7793-0-SD3	REV. A

PROCESS STATE	PROCESS STATE	PROCESS STATE
TX ENA	TX ENA STATE H	E35-6
TX STATE	LNKL SCLOTITE EN H	E33-13
TX STATE	LNKL SINC CISH H	E81-12
TX STATE	LNKL SINC CASH H	E91-16
TX STATE	LNKL TRKRI STATE H	E79-4
TX STATE	LNKL TX ACTIVE H	E109-8
LCAR, LCOL STATE OUTPUTS		
PROCESS STATE	REFERENCE SIGNAL	REFERENCE PIN
LNKL LCOL H		E35-10
LNKL LCAR H		E78-8
PROCESS STATE	REFERENCE SIGNAL	REFERENCE PIN

W	SIZE K	CODE CS	NUMBER M7793-0-SD3	REV. A
---	-----------	------------	-----------------------	-----------

- PREAMBLE

- DATA

0 1 1 0 1 0 1 0 1 0 0 1 0 0 0

LINKA RX DATA IN (CEC):

LNKA RX DATA IN 1 (EC)

(E151-7 H) (ECL)
D-INPUT

D-INPUT

(E151-6 H) (ECL)
CLK-INPUT

CLK-IN₀[7]

(E151-2 H) (ECL)
0-OUTPUT

1-2 H) /
G-OUTPUT

(E151-3) (ECL)

START BIT

MANCHESTER DECODER INPUTS/OUTPUTS

4-1 BIT CELL →

(E128-2 H) (ECL)

(E151-15 H) (ECL)

LNK ARE CLK I

THESE ARE RX RESULTS

START BIT

CLOCK SHAPER INPUTS/OUTPUTS

LNKE RX START BIT 1

RECEIVE DATA DECODE AND CLOCK GENERATOR-LNKC
TIMING DIAGRAM-2

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REVISIONS	
CHANGE NO.	REV

5KD: <SARGENT> LNK T

DRN.
G. M. HOFNER

DATE	ENG.	DATE
12-4-92	11/11	12-4-92

TITLE:	
--------	--

DELING 1 INK MODUL E

DSKD: <SARGENT> LNK TDB.DRI 17-NOV-82 1

1:02 NEXT HIGHER ASSEMBLY!

SIZE	CODE	NUMBER
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REV.

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2
REV. A
DOL-8-86424
CS
K
SIZE

1

(E143-8 H)
CRYSTAL OSC.

LNKB 20 MHz L (ECL)

LNKB 10 MHz L (ECL)

LNKB TX ACTIVE L

LNKB TX STR L

(E174-15 L) (ECL)

(E174-3 H) (ECL)

(E164-13 H) (ECL)

(E175-15 L) (ECL)

(E175-2 H) (ECL)

LNKB TX DATA OUT H (ECL)

LNKB TX DATA OUT L (ECL)

PREPABLE

BEGINNING OF PACKET

DATA

END OF PACKET

20ns

STARTBIT

* DATA INDICATED HERE
CAN BE ANY PATTERN

TRANSMIT DATA ENCODE-LNKB
TIMING D1-5824-3

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REVISIONS

REV. A

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DRN. PAUL HEBERT
CHKD. 17-NOV-82
DATE 17-NOV-82
BY 17-NOV-82
LOCATION: DEUNA
FIRST USED ON OPTION/MODEL: DEUNA

DATE 17-NOV-82
BY 17-NOV-82
LOCATION: DEUNA

DATE 17-NOV-82
BY 17-NOV-82
LOCATION: DEUNA

DATE 17-NOV-82
BY 17-NOV-82
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BY 17-NOV-82
LOCATION: DEUNA

DATE 17-NOV-82
BY 17-NOV-82
LOCATION: DEUNA

DATE 17-NOV-82
BY 17-NOV-82
LOCATION: DEUNA

SIZE K
CODE CS
NUMBER M7793-8-TDC

REV. A

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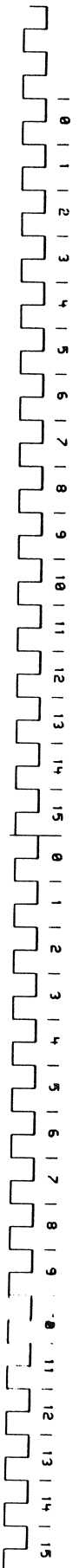
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DDL-8-8-TDD
NUMBER
M7793-0-TDD
SIZE CODE CS K

1

LINKB 10MHz L



LINKL TX ENA STATE L



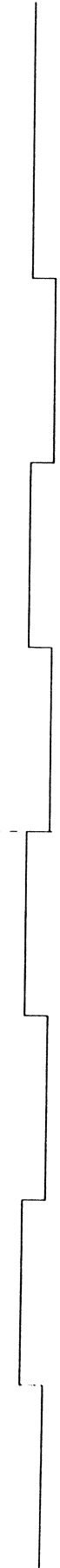
LINKL TX ACTIVE L



(E16-11 H)



(E16-12 H)



(E16-13 H)



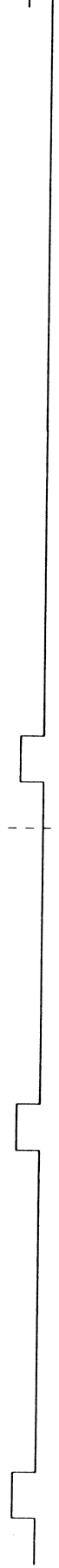
(E16-14 H)



LINKJ TX FRAME H



LINKN TX BYTE SYNC L



TRANSMIT BYTE/FRAME TIMING-LINKJ
TIMING DIAGRAM-4

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DRAWING ENGINEER.

REVISIONS

CHK CHANGE NO. REV

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DRN
PAUL HERBERT

DATE
12-01-82

DATE
12-01-82

TITLE
DEUNA LINK MODULE
(LINK)

OSKOI(SARGENT)LINKID:DRH17-NOV-82 11:02

FILE CODE
K CS

NUMBER
M7793-0-TDD

REV.
A

SIZE CODE NUMBER
K CS M7793-0-TDD

REV.
A

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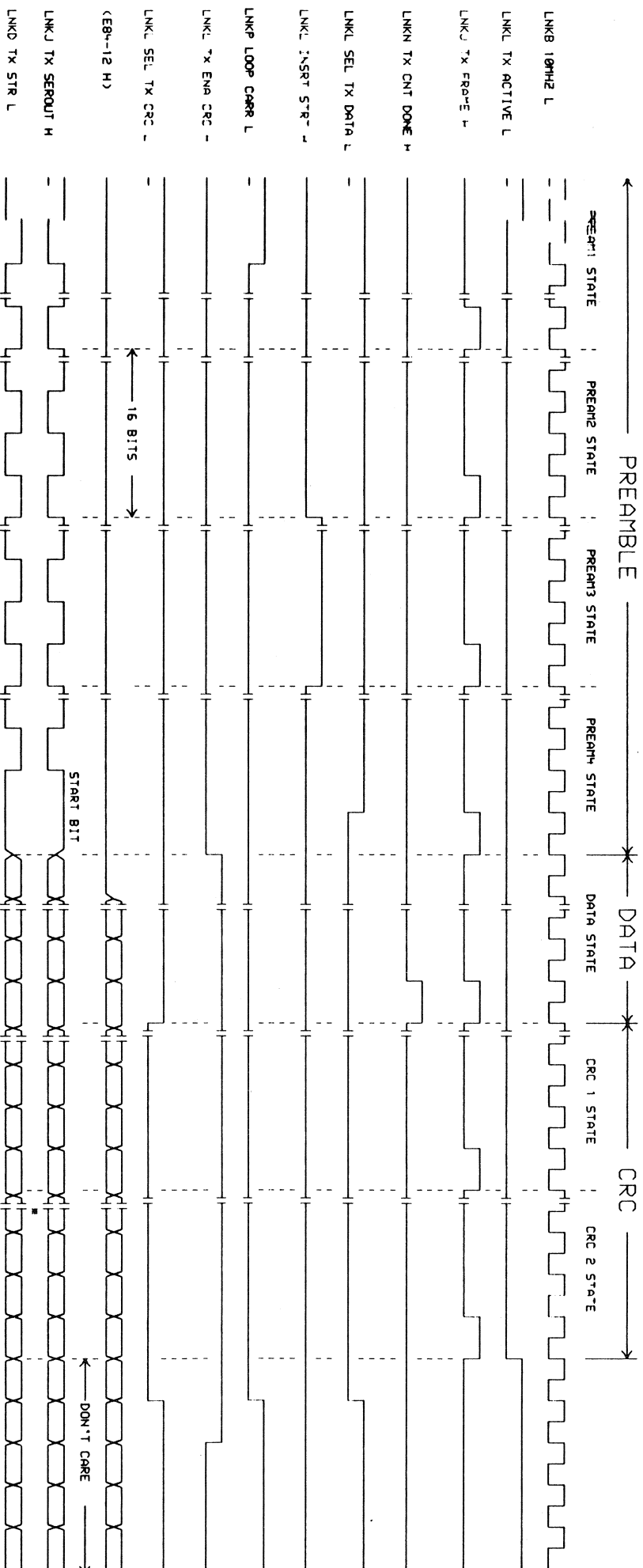
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2 A

REV. A
NUMBER
M7793-0-TDE

SIZE CODE CS K

1



TRANSMIT BIT STREAM-LNKD
TIMING DIAGRAM-5

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REVISIONS		REV. 1	
1. ORIGINAL DESIGN		REV. 1	
2. CHANGED TO DEUNA		REV. 1	
3. CHANGED TO DEUNA		REV. 1	
4. CHANGED TO DEUNA		REV. 1	
5. CHANGED TO DEUNA		REV. 1	
6. CHANGED TO DEUNA		REV. 1	
7. CHANGED TO DEUNA		REV. 1	
8. CHANGED TO DEUNA		REV. 1	

DESIGNER: CARLSON	DATE: 17-NOV-82	ENG. NAME: BLOMBERG	DATE: 17-NOV-82	TITLE: DEUNA LINK MODULE (LNK)
CHECKED: [Signature]	DATE: 17-NOV-82	DESIGNED: [Signature]	DATE: 17-NOV-82	SIZE CODE CS K
FIRST USED ON OPTION/MODEL: DEUNA				NUMBER: M7793-0-TDE
D-UNA-M7793-0-0				REV. A

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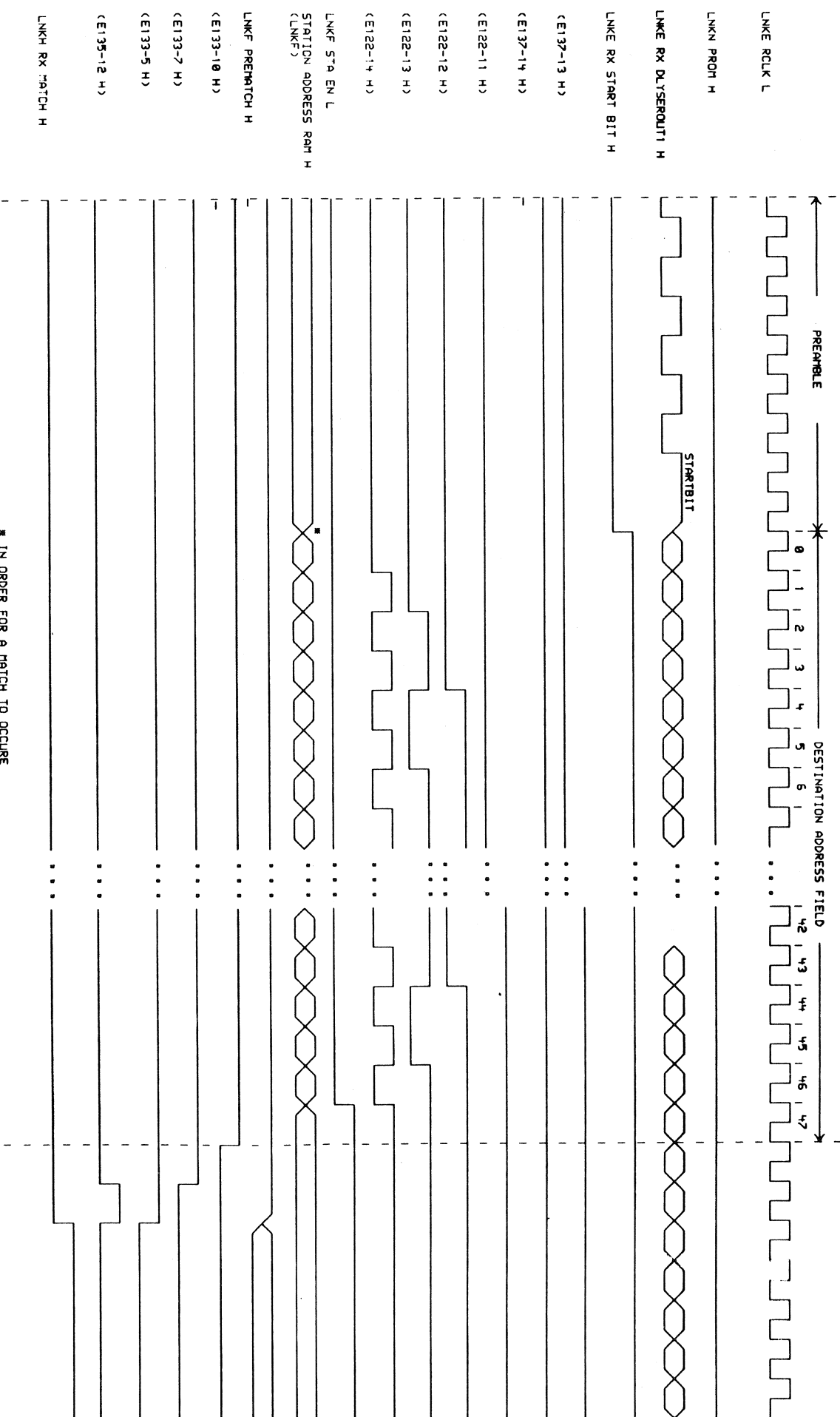
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■ IN ORDER FOR A MATCH TO OCCURE AT LEAST ONE OF THE OUTPUTS OF THE STATION ADDRESS RAM MUST MATCH THE SIGNAL LNKE RX D17 SEROUT1 H FOR ALL 48 BITS OF THE DESTINATION ADDRESS FIELD.

STATION ADDRESS DETECTION-LINK, LINK
+8 BIT ADDRESS RECOGNITION
TIMING DIAGRAM-7

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REVISIONS

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— 10 —

OSKD: <SARGENT>LINK IDH
FIRST USED ON OPTION

DR. C. GIROUARD

CHICKS

1/17-NOV-82
MODEL: DELIN

17088-88
EMG.
Mc11

DATE BOAR

11:23 NEXT HIGH
A D-LA-7

17-NOV-03	DALE	Bloomberg
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2 LOCATION: _____

7793-0-0

FILE: DEUT

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SIZE	CODE	
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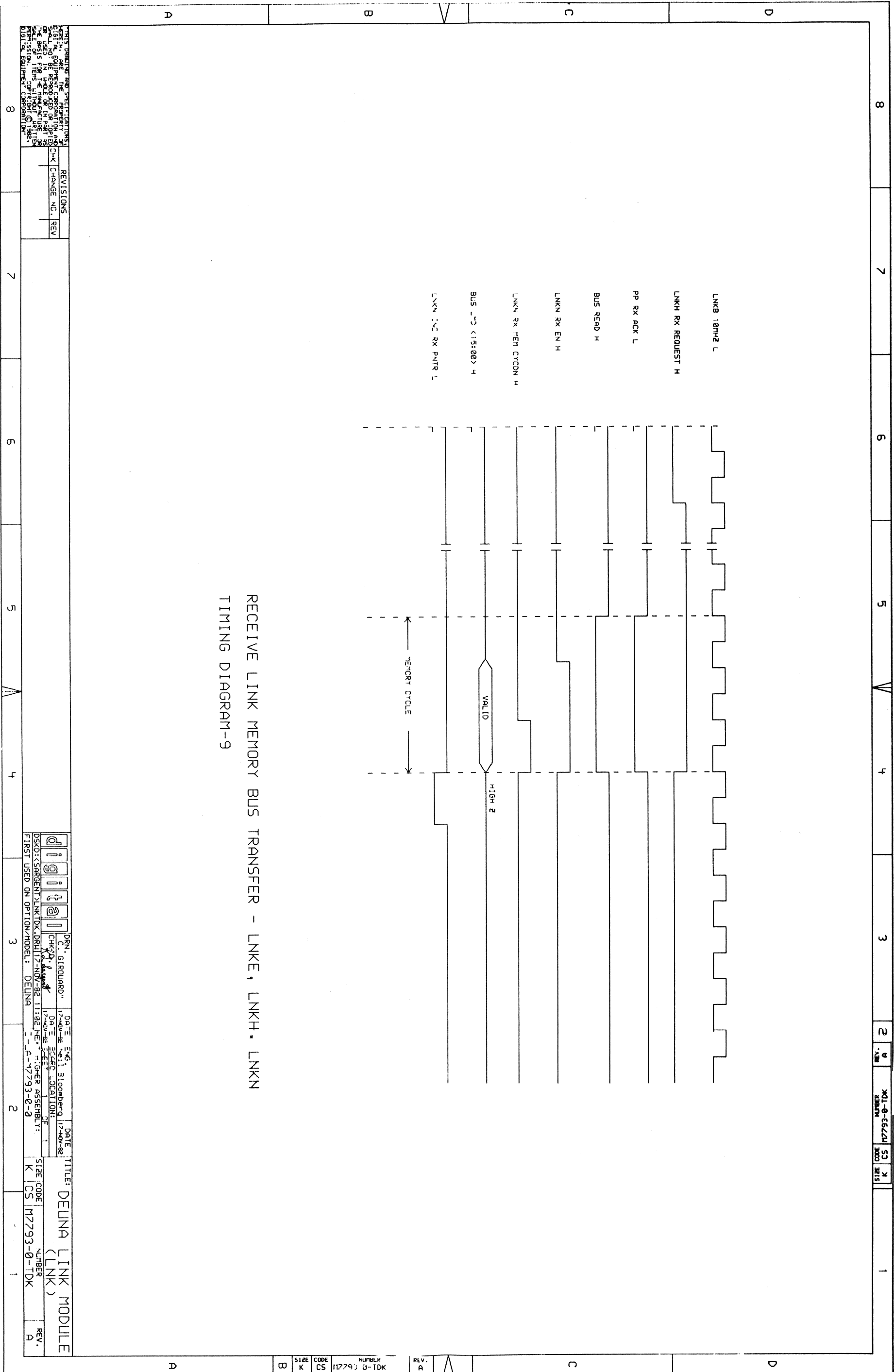
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NUMBER
793-0-TDH

MODEL

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	REV. A
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REV. A	SIZE K	CODE CS	NUMBER 117793-0-TDK	REV. A
TITLE: DELUNIA LINK MODULE (LNK)		DATE: 11-02-82		
DESIGNED BY: G. GIRONARD		CHECKED BY: J. L. LAMAR		
DRAWN BY: J. L. LAMAR		DATE: 11-02-82		
FIRST USED ON OPTION/MODEL: DELUNA		DATE: 11-02-82		
PARTS LIST: 117793-0-TDK		DATE: 11-02-82		
REVISIONS		REVISIONS		
1	CHANGE NO. REV	1		

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REV. A

TDL-8-66/44

CS

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REV. 15

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LNKB 10MHz L

LNKN DLY CAR DET H

LNKE RX FRAME STROBE L

LNKH RX FRAME SYNC H

LNKN RX FRAME CLR H

LNKH RX REQUEST H

LNKN RX MEM CYCND H

LNKH SEL RX DATA H

LNKH RX LR STAT0 H

LNKH RX LR STAT1 L

LNKH ADV RX PTR L

LNKH RES RX PTR L

LNKH PR RX INC PTR L

LNKH INC RDLY PTR L

LNKN INC RX PTR L

PACKET

WRITE STATUS

DONE

MEMORY CYCLE

LINK RECEIVE MEMORY BUS TRANSFER-LNKE, LNKH, LNKN
TIMING DIAGRAMS-10

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REVISIONS

CHK CHANGE NO. REV

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DESIGNED BY: PAUL HERBERT
CHECKED BY: J. J. JONES
DATE: 12-10-82
FIRST USED ON OPTION/MODEL: DEUNA

DATE: 12-10-82
BY: J. J. JONES
CHECKED BY: J. J. JONES
DATE: 12-10-82
FIRST USED ON OPTION/MODEL: DEUNA

DATE: 12-10-82
BY: J. J. JONES
CHECKED BY: J. J. JONES
DATE: 12-10-82
FIRST USED ON OPTION/MODEL: DEUNA

DATE: 12-10-82
BY: J. J. JONES
CHECKED BY: J. J. JONES
DATE: 12-10-82
FIRST USED ON OPTION/MODEL: DEUNA

DATE: 12-10-82
BY: J. J. JONES
CHECKED BY: J. J. JONES
DATE: 12-10-82
FIRST USED ON OPTION/MODEL: DEUNA

DATE: 12-10-82
BY: J. J. JONES
CHECKED BY: J. J. JONES
DATE: 12-10-82
FIRST USED ON OPTION/MODEL: DEUNA

DATE: 12-10-82
BY: J. J. JONES
CHECKED BY: J. J. JONES
DATE: 12-10-82
FIRST USED ON OPTION/MODEL: DEUNA

NUMBER
M7793-0-TDL

REV. A

SIZE K

CODE CS

NUMBER

REV. A

TITLE: DEUNA LINK MODULE
(LNK)

SIZE CODE

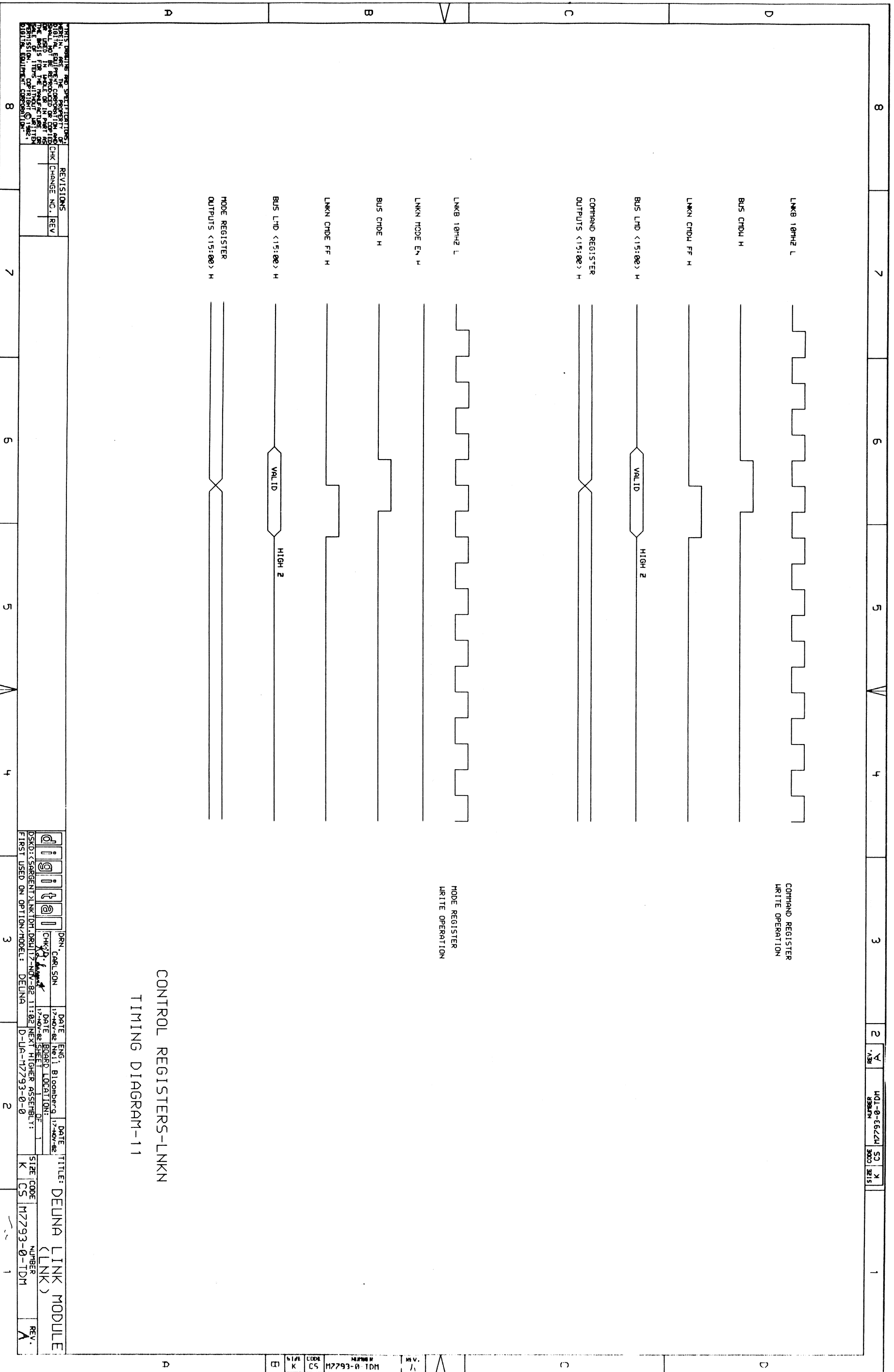
CS

NUMBER

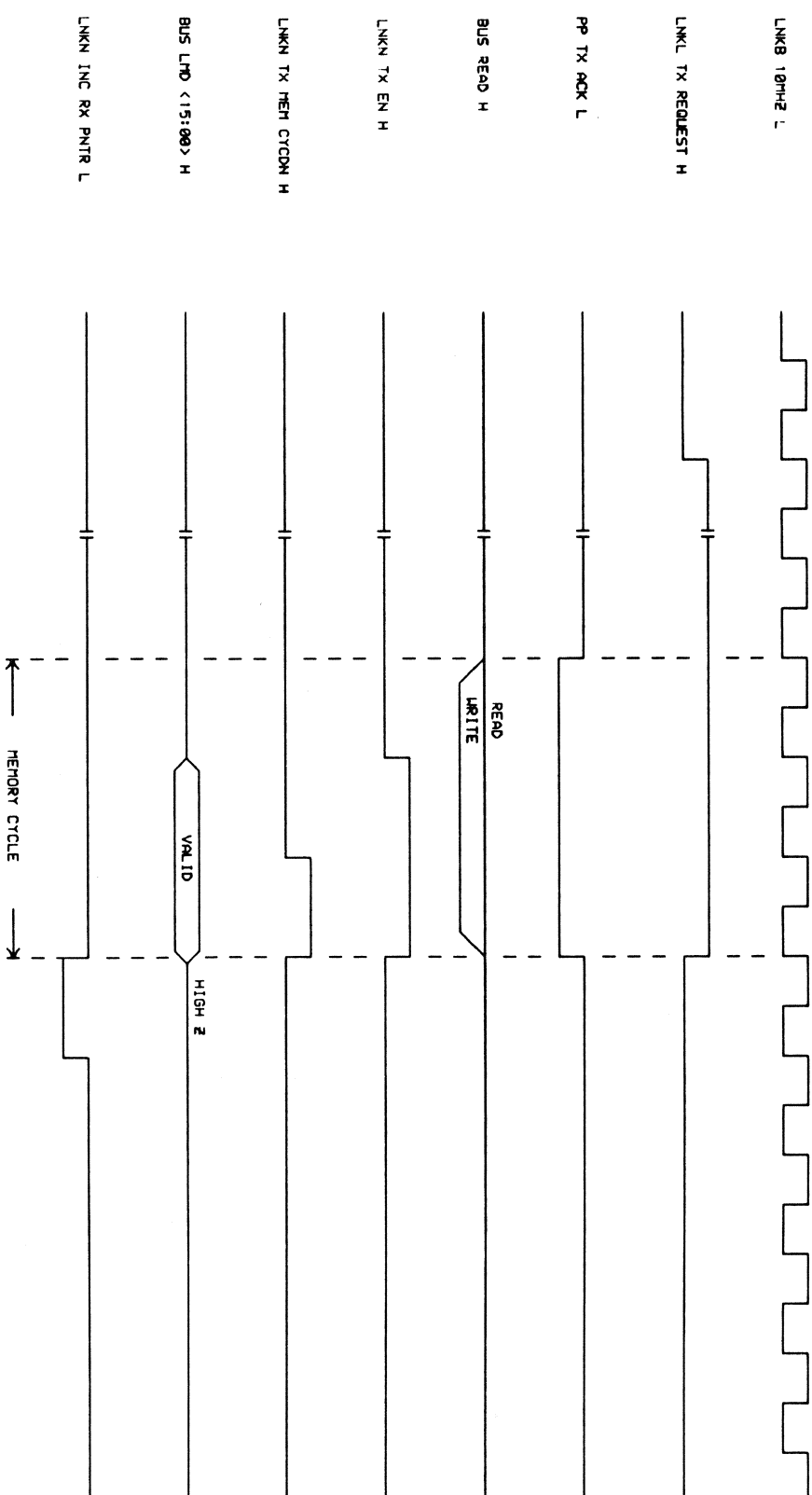
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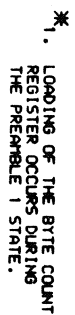


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REVISIONS		CHK. CHANGE NO. REV.	
DRN. CARLSON		DATE 17-NOV-82	
CHK. 1		DATE 17-NOV-82	
OSKO (SARGENT/JUNKION) DRN 17-NOV-82 11:02 NEXT HIGHER ASSEMBLY: D-1A-17793-0-0		DATE 17-NOV-82	
FIRST USED ON OPTION/MODEL: DEUNA		DATE 17-NOV-82	
TITLE: DEUNA LINK MODULE (LINK)		DATE 17-NOV-82	
SIZE CODE: K		DATE 17-NOV-82	
NUMBER: 17793-0-TDM		DATE 17-NOV-82	
REV. A		DATE 17-NOV-82	



TRANSMIT MEMORY BUS TRANSFER-LINKU,L,N
TIMING DIAGRAM-13

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										CHK	CHANGE NO.	REV		



TRANSMIT LINK MEMORY TRANSFER-LINKJ, LINKL, LINKN
TIMING DIAGRAM-14

[illegible]

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REV. A

SDI-0-66244

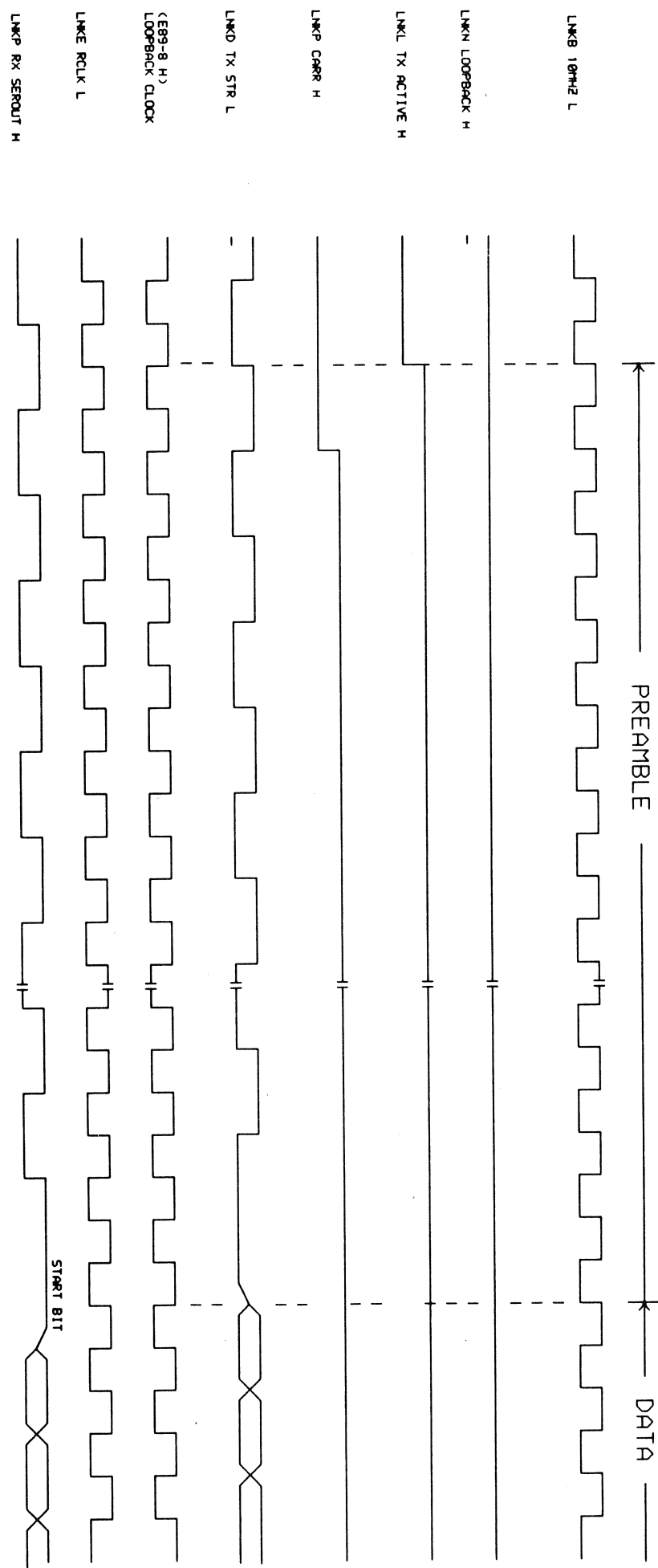
NUMBER

CS

SIZE

K

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LOOPBACK LNK1, LNK8
TIMING DIAGRAM-15

REVISIONS		DATE		ENG.		TITLE: DEUNA LINK MODULE (LNK)	
CHK	CHANGE NO.	REV	DATE	NO.	DATE	NO.	REV.
1	1	1	17-NOV-82	1	17-NOV-82	1	1
DESIGNED BY: DEUNA		CHECKED BY: DEUNA		DATE: 17-NOV-82		SIZE: K	
FIRST USED ON OPTION/MODEL: DEUNA		DATE: 17-NOV-82		NO. 1		REV. A	

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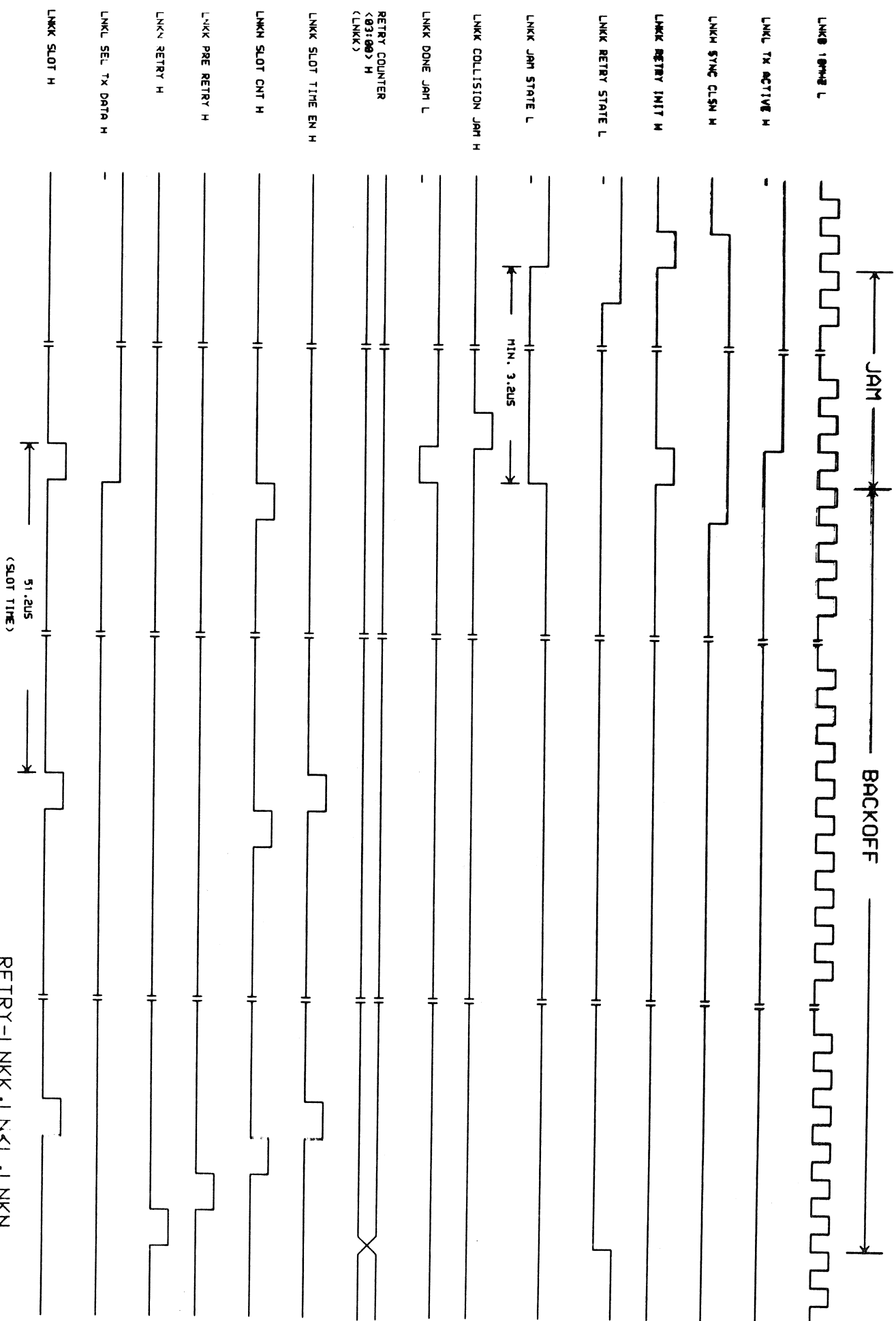
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RETRY-LINK, LINK, LINKN
JAN AND BACKOFF
TIMING DIAGRAM-16

REVISIONS	CHK	CHANGE NO.	REV
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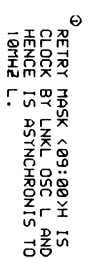
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ORIN	DATE	ENIG	3A-2E
CARLSON	17-NOV-82	11	Bloomberg
CHICK <i>Handwritten</i>	17-NOV-82	1	SOBET
	17-NOV-82	11:33	NEXT HIGHER PESTELTY

OSKO:SPACENET,LANEID,ORIN,17-NOV-82 11:33 NEXT HIGHER PESTELTY
 DISK1 USED ON OPTICAL MOUNT - DELTA

TITLE: DEUNA LINK MODULE (LNK)		REV.
SIZE CODE	NUMBER	

W	SIZE K	CODE CS	NUMBER M7793-0-TDT	REV. A
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RETRY-LINK, LOADING OF INTERVAL, CON- TINING DIAGRAM-17

[illegible]

LNKL OSC L

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①
RETRY COUNT (E21-1 H)
(LINK)

```

(E21-12 H)

(E21-13 H)

(E21-14 H)

RANDOM NUMBER <09:00> H

```
INTERVAL COUNT <09:05> L
(LNKK)
```

(E22-18 L)

(E22-17 L)

(E22-16 L)

(E22-15 L)

(E22-14 L)

NOTE 1. THIS COUNT IS INCREMENTED AT

RETRY-LINK-1 LINKL
RANDOM NUMBER TASK OPENING
TIMING DIAGRAM-18

	REVISIONS
	CHK CHANGE NO. REV
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REVISIONS

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[illegible]

SIZE	CODE	NUMBER	REV.
K	CS	M7793-8-TDV	A

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HDL-8-66241

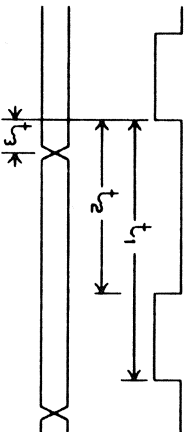
CS

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(E151-6 HX ECL)
CLK OUTPUT

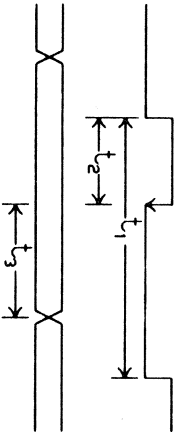
(E151-3 HX ECL)
DATA OUTPUT



PARAMETER	MIN	TYPE	MAX
t_1	80	100	120
t_2	26	50	70
t_3		2	

MANCHESTER DECODER -

LNKC PRE RCLK H



LNKC PRE RX SEROUT H

PARAMETER	MIN	TYPE	MAX
t_1	80	100	120
t_2		30	
t_3		50	

CLOCK SHAPER -

RECEIVE CLOCK, DATA OUTPUTS--LNKC TIMING DIAGRAMS-19

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DIGITAL EQUIPMENT CORPORATION

REVISIONS

CHK CHANGE NO. REV

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DESIGN	DATE	TITLE
PAUL HEBERT	12-20-82	DELUNA LINK MODULE
CHK'D BY	DATE	REVISION
12-20-82	12-20-82	1
OSKD:CSARGENTLNKTDJ,DEB117-NOV-82 11:33	NEAT HIGHER ASSEMBLY	
FIRST USED ON OPTION/MODEL:	DELUNA	2-J6-17793-0-0
SIZE	CODE	NUMBER
K	CS	M7793-0-TDM
REV.		A

SIZE CODE NUMBER
K CS M7793-0-TDM

REV. A