Model 750-IPC

Foreground/Background Interface

600-0538-00
Revision: A

TABLE OF CONTENTS

1.0 INTRODUCTION

The 750-IPC controller is a single board controller which allows the generation of interrupts under software control for the purpose of expediting the transition between RDOS Foreground and Background. The 750-IPC also provides 16 bit DOA/DIA registers at both the even and odd device codes which can be loaded and read under software control.

Features of the 750-IPC includes:

1) Selection of any Even, Odd Device Code Pair (i.e. 2,3 or 40,41 or 76,77).

2) Selection of any Mask Bits (Data 0 through Data 15).

The controller occupies one slot in the CPU chassis.

2.0 INSTALLATION INSTRUCTIONS

2.1 UNPACKING

Upon receiving the Interface Package, unpack the contents and inspect the board for visual damage. The package contains:

1) Controller Board
2) Manual
3) Diagnostic Tape

If any damage is apparent, do not attempt to install the controller, but notify the Shipper and Zetaco immediately.

2.2 BOARD INSTALLATION

The controller board may be installed in any General I/O, Memory I/O or I/O Only slot of the Data General Nova or Eclipse Minicomputer.

Verify the Device Code and Mask Bit selections are correct (these are Switch Selectable).

Install the controller in the desired slot, component side up, and lock into position with the release levers.

If with the selection of the I/O slot, a vacant slot or slots exist between the controller and the board below it, the DCHP (Data Channel Priority) and the INTP (Interrupt Priority) signals must be physically jumpered on the computer backpanel to maintain priority interrupt continuity. Install one end of a wire-wrap jumper to the DCHP-OUT signal at Pin 93 of the "A" connector occupied by the device below the controller. Connect the remaining end to the DCHP-IN signal at Pin 94 of the "A" connector occupied by the controller, bridging the vacant slot or slots. Similarly, connect the INTP-OUT signal (Pin A-95) from the lower device to the INTP-IN signal at Pin A-96 of the controller. This will complete the priority interrupt continuity to the card. If vacant slots exist between the controller and the device above the controller, perform similar strapping of the DCHP and INTP signals to maintain interrupt priority.

CAUTION: Be sure NO existing cabling or devices are connected to the backplane of the slot the 750-IPC is to be installed in.

3.0 CONFIGURATION (OPTIONS)

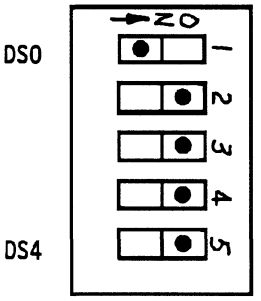
3.1 DEVICE CODE SELECTION

The five position switch at location D2 selects the Even Device Code of the required Even-Odd Device Code Pair. use the Table to set the desired Device Code.

DEVICE CODE TABLE

DEVICE CODE	(DS0) S1	(DS1) S2	(DS2) S3	(DS3) S4	(DS4) S5
0X	ON	ON	ON	-	-
1X	ON	ON	OFF	-	-
2X	ON	OFF	ON	-	-
3X	ON	OFF	OFF	-	-
4X	OFF	ON	ON	-	-
5X	OFF	ON	OFF	-	-
6X	OFF	OFF	ON	-	-
7X	OFF	OFF	OFF	-	-
X(0 & 1)	-	-	-	ON	ON
X(2 & 3)	-	-	-	ON	OFF
X(4 & 5)	-	-	-	OFF	ON
X(6 & 7)	-	-	-	OFF	OFF

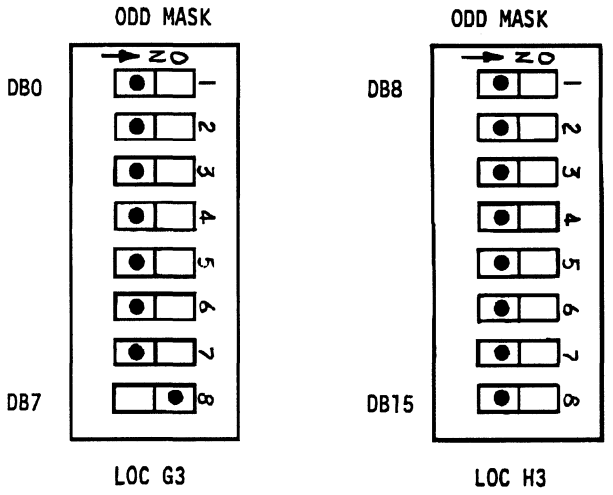
- = Don't care



Switch is shown with Position 2, 3, 4 and 5 ON which equals Device Code Selection of 40, 41.

3.2 MASK BIT SELECTION

Switches at Location J3 and K3 select 1 of the 16 possible Mask Bits associated with the Even Device Code and switches at Locations G3 and H3 select 1 of the 16 possible Mask Bits associated with the Odd Device Code. Only one switch position can be ON for the J3, K3 Mask Bit Select Switches, and only one switch position can be ON for the G3, H3 Mask Bit Select Switches. See drawing for further definition.



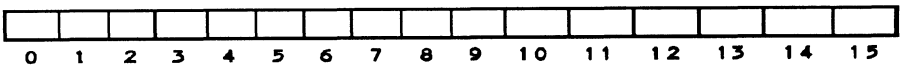
DBO =Data Bit 0, DB15 = Data Bit 15, Mask Bit 7 shown selected

4.0 PROGRAMMING NOTES

The Model 750 Inter-Program Communications Device is used with Data General RDOS to provide a software controlled signal between the foreground and background partitions for the purpose of indicating without delay the completion of any task.

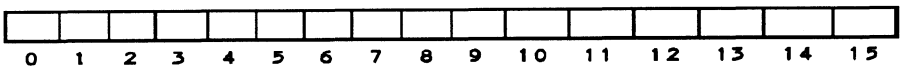
The Device is an I/O Interrupt Generating Device. The Start Command initiates the interrupt sequence, and the Clear Command clears the interrupt. The following Instruction Formats explain the Commands and what results are achieved.

.DOA XX Load Register (Even or Odd Device Code).



Load Bits 0 to 15 into Load Register.

.DIA XX Read Register (Even or Odd Device Code)



Read Bits 0 to 15 from Register. DIA reads what DOA Command stored in the Register.

.START (ODD DEVICE CODE)

a) Sets Odd Done F/F
b) Sets Odd INTR F/F
c) Sets the INTR F/F if not Masked

An INTA command returns Bits 10 through 15 (Device Code) of the Interrupting Device, initiated by the Start Command.

.START (EVEN DEVICE CODE)

a) Sets the Even Busy F/F
b) Sets the Even INTR F/F
c) Sets the INTR F/F if not Masked

An INTA Command returns Bits 10 through 15 (Device Code) of the Interrupting Device, initiated by the Start Command.

.CLEAR (ODD DEVICE CODE)

a) Clears Odd Done F/F
b) Clears Odd INTR F/F

.CLEAR (EVEN DEVICE CODE)

a) Clears Even Busy F/F
b) Clears Even INTR F/F

.PULSE (ODD DEVICE CODE)

a) Clears Odd Done F/F

.PULSE (EVEN DEVICE CODE)

a) Clears Even Busy F/F

.DOC (ODD DEVICE CODE)

a) Clears Odd INTR F/F

.DOC (EVEN DEVICE CODE)

a) Clears Even INTR F/F

.IORST

a) Clears Odd, Even Mark F/F
b) Clears Odd Done F/F, Even Busy F/F
c) Clears Odd INTR F/F, Even INTR F/F

5.0 SPECIFICATIONS

Power Requirements:

Power is supplied by the minicomputer power supplies. The board requires only +5 Volt DC.

+5 VDC Current = 1 Amp

Environmental:

Operating Temperature	10 C to 40 C degrees
Operating Humidity	10% to 90% non-condensing
Non-Operating Temperature	-40 C to 55 C degrees
Non-Operating Humidity	10% to 90%

6.0 DIAGNOSTICS

A diagnostic tape is provided with the 750-IPC which contains a stand-alone diagnostic to test the controller board.

In order to run the diagnostic:

1) Boot the support tape and select the diagnostic from the menu.

2) The diagnostic will prompt you for input. Enter the even device code and the even and odd device code mask bit numbers that were configured per sections 3.1 and 3.2.

3) The diagnostic will display "Testing..." and report PASS upon completion. Any errors encountered will be displayed on the screen.

FOREGROUND/BACKGROUND

CONTROLLER

NOTE

1. NUMBERS FOUND WITHIN THE HERRBON SYMBOLS INDICATE SHEETS WHERE CONTINUED LOGIC WILL BE FOUND EXAMPLE: (2) - SHEET 2

SHEET 1 OF 4

FOREGROUND/BACKGROUND

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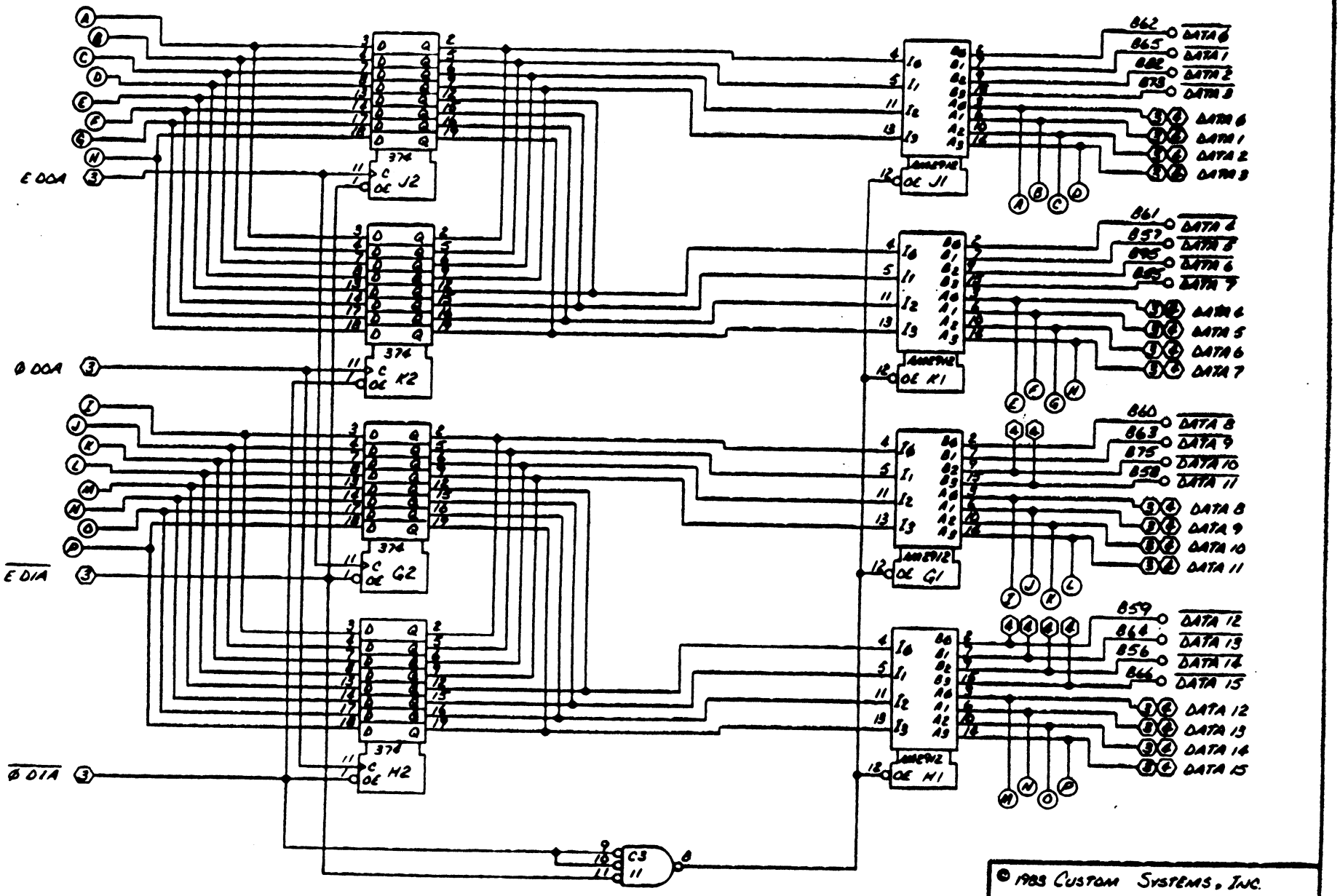

(SHEET 2)

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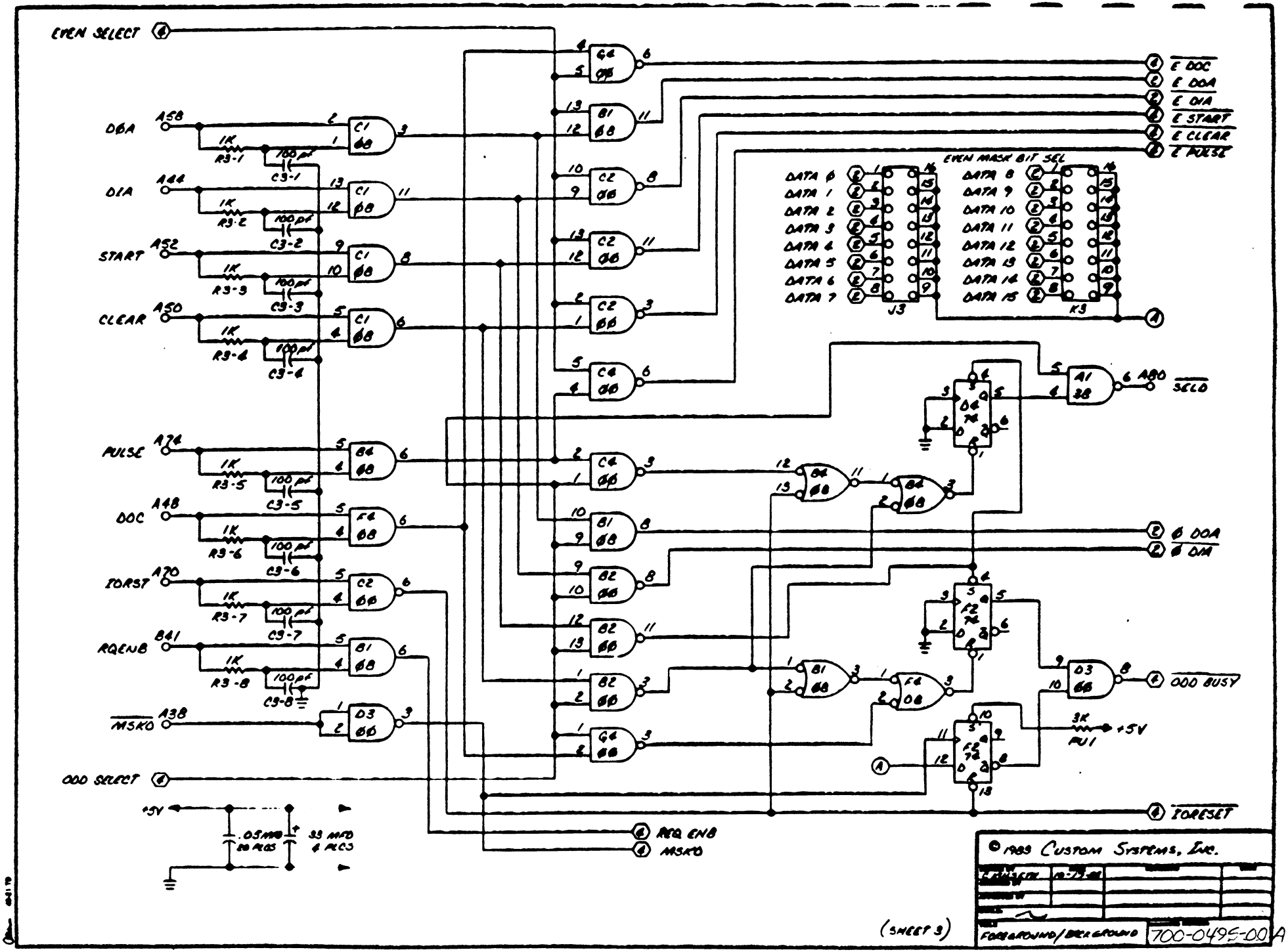
EVEN SELECT
DBA
DIA
START
CLEAR
PULSE
DOC
FORST
RQENB
MSKO
ODD SELECT
+5V
.05MFD 50 PICS
33 MFD 4 PICS
R3-1
R3-2
R3-3
R3-4
R3-5
R3-6
R3-7
R3-8
C3-1
C3-2
C3-3
C3-4
C3-5
C3-6
C3-7
C3-8
1K
100 pf
EVEN MASK BIT SEL
DATA 0
DATA 1
DATA 2
DATA 3
DATA 4
DATA 5
DATA 6
DATA 7
DATA 8
DATA 9
DATA 10
DATA 11
DATA 12
DATA 13
DATA 14
DATA 15
J3
K3
E DOC
E DOA
E DIA
E START
E CLEAR
E FORST
SELO
Ø DOA
Ø DIA
ODD BUSY
3K
RU1
FORESET
REQ ENB
MSKO
(SHEET 3)
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FOREGROUND/BACKGROUND
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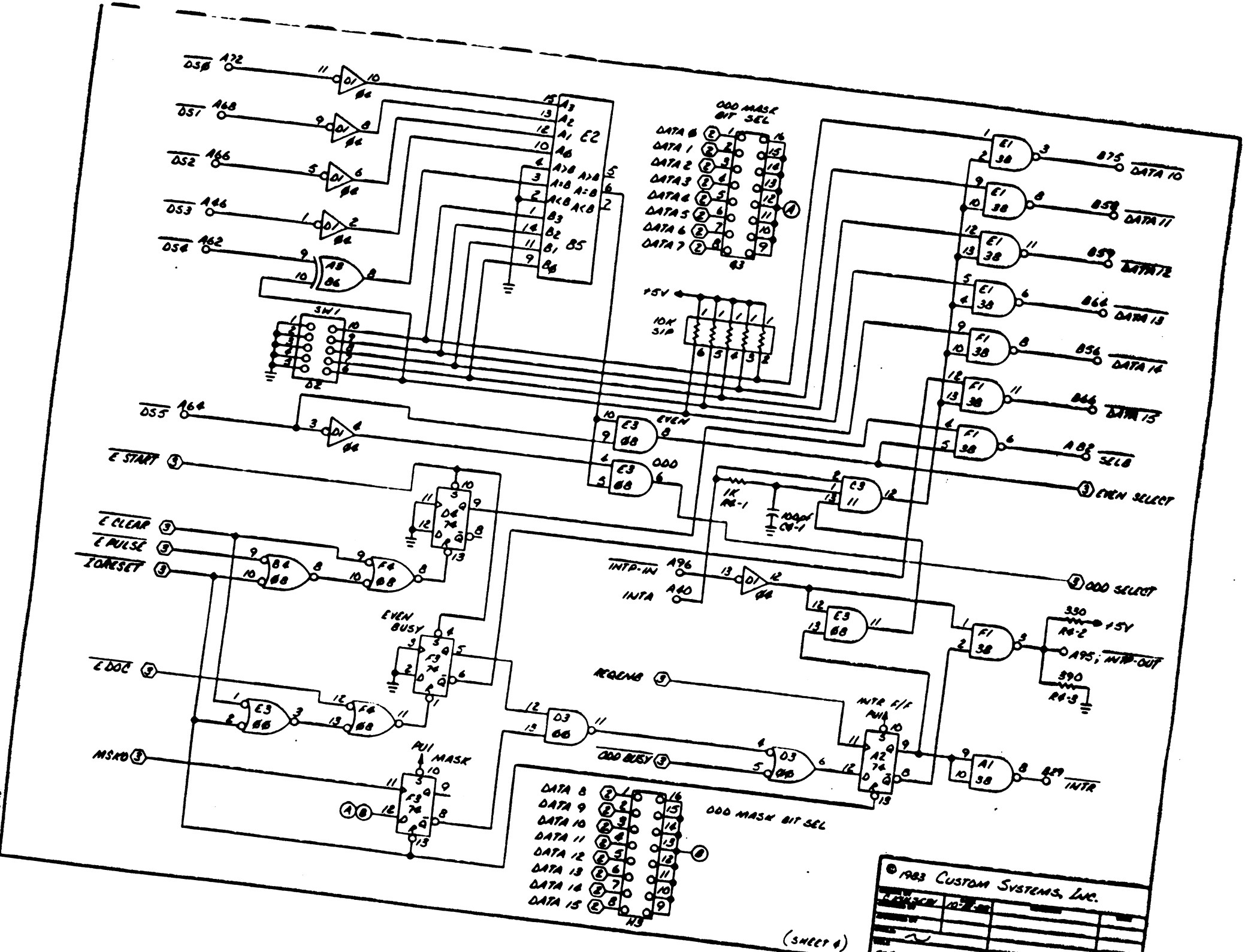
DS0
DS1
DS2
DS3
DS4
DS5
A72
A68
A66
A66
A62
A64
SW1
E2
B5
ODD MASK BIT SEL
DATA 0
DATA 1
DATA 2
DATA 3
DATA 4
DATA 5
DATA 6
DATA 7
+5V
10K SIP
EVEN
ODD
E START
E CLEAR
E PULSE
E RESET
E DOC
MSK0
PU1 MASK
EVEN BUSY
ODD BUSY
INTP-IN
INTA
A96
A40
REQENB
INTR F/F
1K R4-1
100pF C4-1
330 R4-2
390 R4-3
A95, INTP-OUT
B75 DATA 10
B58 DATA 11
B59 DATA 12
B66 DATA 13
B56 DATA 14
B66 DATA 15
A88 SELB
EVEN SELECT
ODD SELECT
B29 INTR
ODD MASK BIT SEL
DATA 8
DATA 9
DATA 10
DATA 11
DATA 12
DATA 13
DATA 14
DATA 15
A3
(SHEET 4)
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