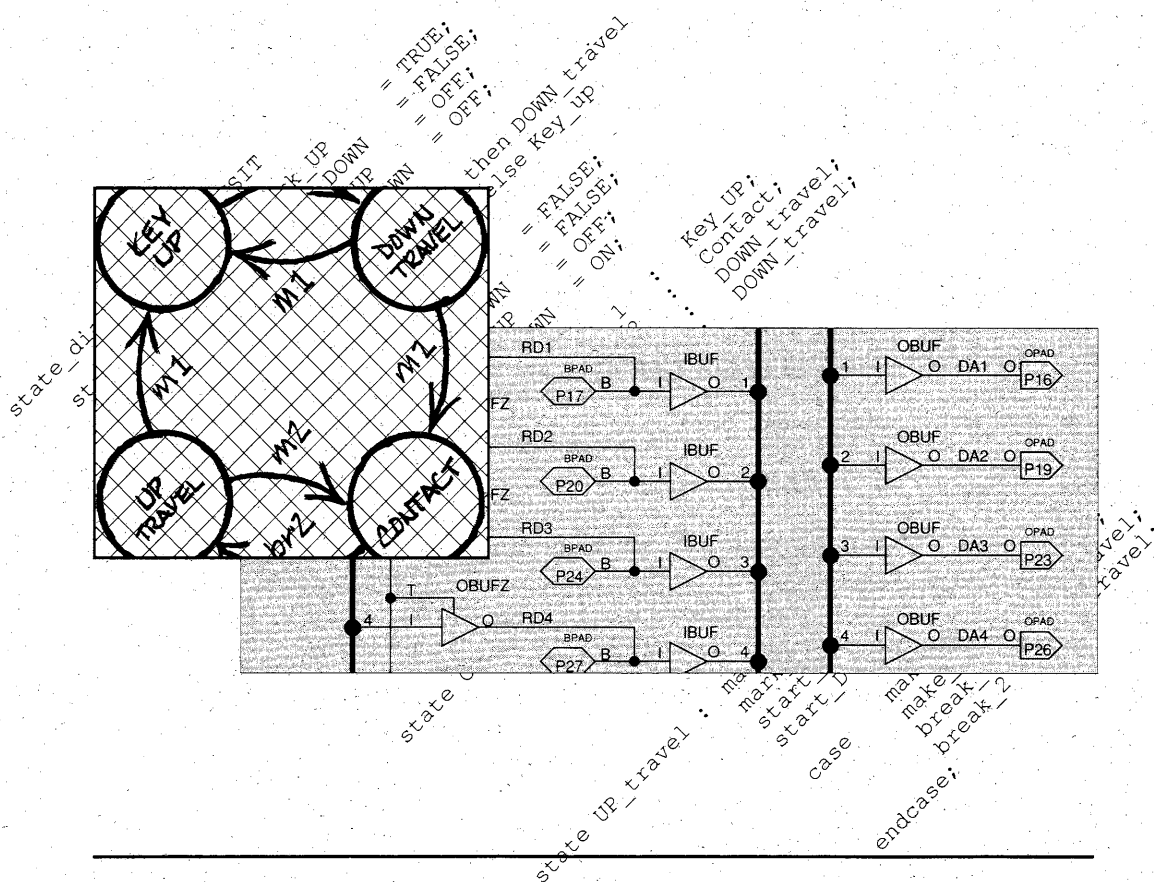


Logic Diagram Package



Logic Diagram Package

September 1990

981-0251-001

Data I/O has made every attempt to ensure that the information in this document is accurate and complete. However, Data I/O assumes no liability for errors, or for any damages that result from use of this document or the equipment which it accompanies.

Data I/O Corporation
10525 Willows Road N.E., P.O. Box 97046
Redmond, Washington 98073-9746 USA
(206) 881-6444

Acknowledgments:

Data I/O and PLDtest are registered trademarks of Data I/O Corporation. ABEL, PLDtest Plus, and GATES are trademarks of Data I/O Corporation.

PAL is a registered trademark of Monolithic Memories, Inc.

© 1986-1990 Data I/O Corporation
All rights reserved

Table of Contents

E0310	1
E0320	2
E0600-900	3
E5AC312 (1 of 3)	4
E5AC312 (2 of 3)	5
E5AC312 (3 of 3) Detail	6
E10P8	7
E12P6	8
E14P4	9
E16P2	10
E16P8	11
E16RP4	12
E16RP6	13
E16RP8	14
E1800	15
E204	16
E5AC324 (1 of 4)	17
E5AC324 (2 of 4)	18
E5AC324 (3 of 4)	19
E5AC324 (4 of 4)	20
EC12C4A	21
EC16C4A	22
EC16ET6	23
EC16LC4N	24
EC16LC8N	25
EC16LD4N	26
EC16LD8N	27
EC16LM4N	28

EC16P4	29
EC16P8N	30
EC16PE8	31
EC16RC4N	32
EC16RC8N	33
EC16RD4N	34
EC16RD8N	35
EC16RM4N	36
EC16TE6	37
EC20EG8A	38
EC20EV8A	39
EC20G8	40
EC20G8M	41
EC20P8M	42
F100	43
F103	44
F105	45
F151	46
F153	47
F155	48
F157	49
F159	50
F161	51
F162	52
F163	53
F167	54
F168	55
F173	56
F179	57
F253	58
F273	59
F30S16	60
F405	61
F415	62
F42VA12 (1 of 2)	63
F42VA12 (2 of 2)	64
F473	65
PML501	66
F506	67
F507	68
F529	69
F839	70

F2605	71
F2678	72
F6001 (1 of 2)	73
F6001 (2 of 2)	74
F9800	75
P6L16	76
P8L14	77
P10H8	78
P10L8	79
P10P8	80
P12H6	81
P12H10	82
P12L10	83
P12L6	84
P12P6	85
P12P10	86
P14H4	87
P14H8	88
P14L4	89
P14L8	90
P14P4	91
P14P8	92
P16C1	93
P16H2	94
P16H6	95
P16H8	96
P16HD8	97
P16L2	98
P16L6	99
P16L8	100
P16LD8	101
P16N8	102
P16P2	103
P16P6	104
P16P8	105
P16R4	106
P16R6	107
P16R8	108
P16RA8	109
P16RP4	110
P16RP6	111
P16RP8	112

P16SV8 . . . . .	.113
P16V8 (1 of 4) . . . . .	.114
P16V8C (2 of 4) . . . . .	.115
P16V8R (3 of 4) . . . . .	.116
P16V8S (4 of 4) . . . . .	.117
P16X4 . . . . .	.118
P16Z8 . . . . .	.119
P18G8 . . . . .	.120
P18CV8 . . . . .	.121
P18H4 . . . . .	.122
P18L4 . . . . .	.123
P18P4 . . . . .	.124
P18P8 . . . . .	.125
P18U8 . . . . .	.126
P18V8 . . . . .	.127
P18V10G . . . . .	.128
P19L8L . . . . .	.129
P19L8R . . . . .	.130
P19R4L . . . . .	.131
P19R4R . . . . .	.132
P19R6L . . . . .	.133
P19R6R . . . . .	.134
P19R8L . . . . .	.135
P19R8R . . . . .	.136
P20ARP4 . . . . .	.137
P20ARP6 . . . . .	.138
P20ARP8 . . . . .	.139
P20ARP10 . . . . .	.140
P20C1 . . . . .	.141
P20CG10 (1 of 2) . . . . .	.142
P20CG10 (2 of 2) . . . . .	.143
P20G10 . . . . .	.144
P20H2 . . . . .	.145
P20H8 . . . . .	.146
P20L2 . . . . .	.147
P20L8 . . . . .	.148
P20L10 . . . . .	.149
P20P2 . . . . .	.150
P20P8 . . . . .	.151
P20R4 . . . . .	.152
P20R6 . . . . .	.153
P20R8 . . . . .	.154

P20RA10 . . . . .	.155
P20RP4 . . . . .	.156
P20RP6 . . . . .	.157
P20RP8 . . . . .	.158
P20RS4 . . . . .	.159
P20RS8 . . . . .	.160
P20RS10 . . . . .	.161
P20S10 . . . . .	.162
P20SV8 . . . . .	.163
P20V8 (1 of 4) . . . . .	.164
P20V8C (2 of 4) . . . . .	.165
P20V8R (3 of 4) . . . . .	.166
P20V8S (4 of 4) . . . . .	.167
P20X4 . . . . .	.168
P20X8 . . . . .	.169
P20X10 . . . . .	.170
P20XRP4 . . . . .	.171
P20XRP6 . . . . .	.172
P20XRP8 . . . . .	.173
P20XRP10 . . . . .	.174
P22AP10 . . . . .	.175
P22CV10Z (1 of 2) . . . . .	.176
P22CV10Z (2 of 2) . . . . .	.177
P22IP6 . . . . .	.178
P22RX8A . . . . .	.179
P22V10 (1 of 2) . . . . .	.180
P22V10 (2 of 2) . . . . .	.181
P22VP10 (1 of 2) . . . . .	.182
P22VP10 (2 of 2) . . . . .	.183
P23S8 (1 of 2) . . . . .	.184
P23S8 (2 of 2) . . . . .	.185
P2500 (1 of 4) . . . . .	.186
P2500 (2 of 4) . . . . .	.187
P2500 (3 of 4) Detail . . . . .	.188
P2500 (4 of 4) Detail . . . . .	.189
P26CV12 (1 of 2) . . . . .	.190
P26CV12 (2 of 2) . . . . .	.191
P26V12 (1 of 2) . . . . .	.192
P26V12 (2 of 2) . . . . .	.193
P29M16 (1 of 2) . . . . .	.194
P29M16 (2 of 2) . . . . .	.195
P29MA16 (1 of 2) . . . . .	.196

P29MA16 (2 of 2) . . . . .	.197
P32R16 (1 of 2) . . . . .	.198
P32R16 (2 of 2) . . . . .	.199
P241 (1 of 3) . . . . .	.200
P241 (2 of 3) . . . . .	.201
P241 (3 of 3) Detail . . . . .	.202
P330 (1 of 3) . . . . .	.203
P330 (2 of 3) . . . . .	.204
P330 (3 of 3) . . . . .	.205
P331 (1 of 2) . . . . .	.206
P331 (2 of 2) . . . . .	.207
P332 (1 of 2) . . . . .	.208
P332 (2 of 2) . . . . .	.209
P448 . . . . .	.210
P5016 (1 of 3) . . . . .	.211
P5016 (2 of 3) . . . . .	.212
P5016 (3 of 3) . . . . .	.213
P5032 (1 of 5) . . . . .	.214
P5032 (2 of 5) . . . . .	.215
P5032 (3 of 5) . . . . .	.216
P5032 (4 of 5) . . . . .	.217
P5032 (5 of 5) . . . . .	.218
P508 . . . . .	.219
P750 (1 of 3) . . . . .	.220
P750 (2 of 3) . . . . .	.221
P750 (3 of 3) Detail . . . . .	.222
P48N22 . . . . .	.223
Pinout Diagrams, 4-Bit Proms . . . . .	.224
Pinout Diagrams, 8-Bit Proms	225-226
Pinout Diagrams, 16-Bit Proms . . . . .	.226

Preface

Technical Questions?

If you need technical assistance with your Data I/O product, our Customer Resource Center (CRC) Support Engineers are available between 6:00 AM and 5:00 PM Pacific Standard Time. To help us provide quick and accurate assistance, please be at your programmer or computer when you call, and have the following ready:

- Product version number
- Product serial number (if available)
- Detailed description of the problem you are experiencing
- Error messages (if any)
- Device manufacturer and part number (if device-related)
- Product manual

USA and Canada

800 247-5700
Fax: 206 882-1043

International

Data I/O Japan 03 432-6991

Data I/O Europe +31 (0)20 6622866

Data I/O
Intercontinental 206 881-6444

Written Inquiries

Data I/O Corporation
10525 Willows Rd N.E.
P.O. Box 97046
Redmond, WA 98073-9746 USA

Customer Support BBS

You can also call Data I/O's Customer Support Bulletin Board System (BBS). From the Customer Support BBS you can obtain a wide range of information on Data I/O products, including current product information, new revision information, known bugs (and work-arounds), helpful application notes, and other miscellaneous information. In addition, the BBS has a collection of DOS utilities you can download.

The Customer Support BBS also has a message facility which allows you to leave messages for Customer Support Personnel. For example, you could request support for a specific device, or suggest how we can improve our products. Or you could leave a message telling us what you think of Data I/O product(s).

To learn more about the Data I/O Customer Support BBS, call it at 206 882-3211. The protocol is 1200/2400/9600 (Courier HST) baud, 8 data bits, 1 stop bit, and no parity. Online help files are available throughout the BBS to help you learn more about the BBS.

End User Registration and Address Change

If your address has changed since you filled out your Warranty Registration Card, please notify your nearest Data I/O representative. This ensures that you receive information about product enhancements. Be sure to include the product serial number, if available.

Warranty Information

Description

Data I/O Corporation warrants its products against defects in materials and workmanship for a period of ninety (90) days for software and one (1) year for hardware unless specified otherwise. The warranty begins when the product is shipped.

Warranty Service

Data I/O maintains customer support centers throughout the world, each staffed with factory-trained technicians to provide prompt, quality service.

For warranty service, contact your nearest Data I/O Customer Support Center. If you do not have a name or phone number for your nearest office, refer to the list of Data I/O offices below.

United States
Data I/O Corporation
Customer Resource Center
10525 Willows Road N.E.
P.O. Box 97046
Redmond, WA 98073-9746
Telephone: 800 247-5700
Fax: 206 882-1043
Telex: 152167

Data I/O San Jose
1701 Fox Drive
San Jose, CA 95131
Telephone: 408 437-9600
Fax: 408 437-1218

Data I/O New Hampshire
20 Cotton Road
Nashua, NH 03063
Telephone: 603 889-8511
800 858-5803 (NJ & NY only)
Fax: 603 880-0697

Data I/O Intercontinental
10525 Willows Road N.E.
P.O. Box 97046
Redmond, WA USA 98073-9746
Telephone: 206 881-6444
Fax: 206 882-1043
Telex: 4740166

Data I/O Japan
Sumitomoseimei
Higashishinbashi Bldg. 8F
2-1-7, Higashi-Shinbashi
Minato-Ku, Tokyo 105, Japan
Telephone: 03 432-6991
Fax: 03 432-6094 (Sales)
03 432-6093 (Other)
Telex: 2522685 DATAIO J

Data I/O Canada
6725 Airport Road, Suite 302
Mississauga, Ontario
L4V 1V2 Canada
Telephone: 416 678-0761
Fax: 416 678-7306

Data I/O-Instrumatic Electronic
Systems Vertriebs GmbH
Lochhammer Schlag 5a
D-8032 Gräfelfing
West Germany
Telephone: 089 858580
Fax: 089 8585810

Data I/O Europe
World Trade Center
Strawinskylaan 633
1077 XX Amsterdam,
The Netherlands
Telephone: +31 (0)20 6622866
Fax: +31 (0)20 6624427
Telex: 16616 DATIO NL

Data I/O Update Service

Data I/O Customer Support is committed to providing you with the support programs you need to keep your Data I/O products in optimum operating condition and up to date with the latest, state-of-the-art capabilities.

For more information, or to order a Service Agreement or Update Agreement, call your nearest Data I/O representative. The name and phone number of your nearest Data I/O office can be found in the Warranty Service section of this chapter.

Data I/O Device Support Policy/Liability

1. Data I/O strives to achieve more device support approvals from semiconductor manufacturers than any other programmer manufacturer or software developer.
2. Every effort is made to program an adequate number of samples according to the manufacturer-supplied specification, and verify waveforms as per that specification prior to release of support. Manufacturers' approvals are to be sought in parallel with this process.
3. Data I/O's objective is to seek and obtain approvals on all devices.
4. Data I/O has made every attempt to ensure that the device information (as provided by the device manufacturer) contained in our programmers, software and documentation is accurate and complete. However, Data I/O assumes no liability for errors, or for any damages, whether direct, indirect, consequential or incidental, that result from use of documents provided with equipment, or from the equipment or software which it accompanies, regardless of whether or not Data I/O has been advised of the possibility of such loss or damage.

Logic Diagram Conventions

The logic diagrams describe the architecture of the programmable logic device. Fuse numbers and node numbers have been added to the logic diagrams. Each fuse is represented by the intersection of an input line (vertical) and a product term line (horizontal). The fuses of the logic device are numbered, and the number of a given fuse in the diagram can be found as follows:

1. Locate the fuse intersection in the logic diagram.
2. Follow the product term line from that intersection to its left and read the first fuse number for the row.
3. Follow the input line from the fuse intersection to either the top or bottom end and read the increment number.

17

or = pin number

17 —

48 — = node number

1024 — = first fuse number (at left of diagram)

14 = increment number (at top and bottom of diagram)
|

4. Compute the fuse number by adding the first fuse number and the increment number.

About the Logic Diagram Package

This package is a compilation of all the logic diagrams available at the time of printing. The diagrams are based on manufacturers data and have been modified to show fuse numbers and node numbers that are useful when using the following Data I/O products:

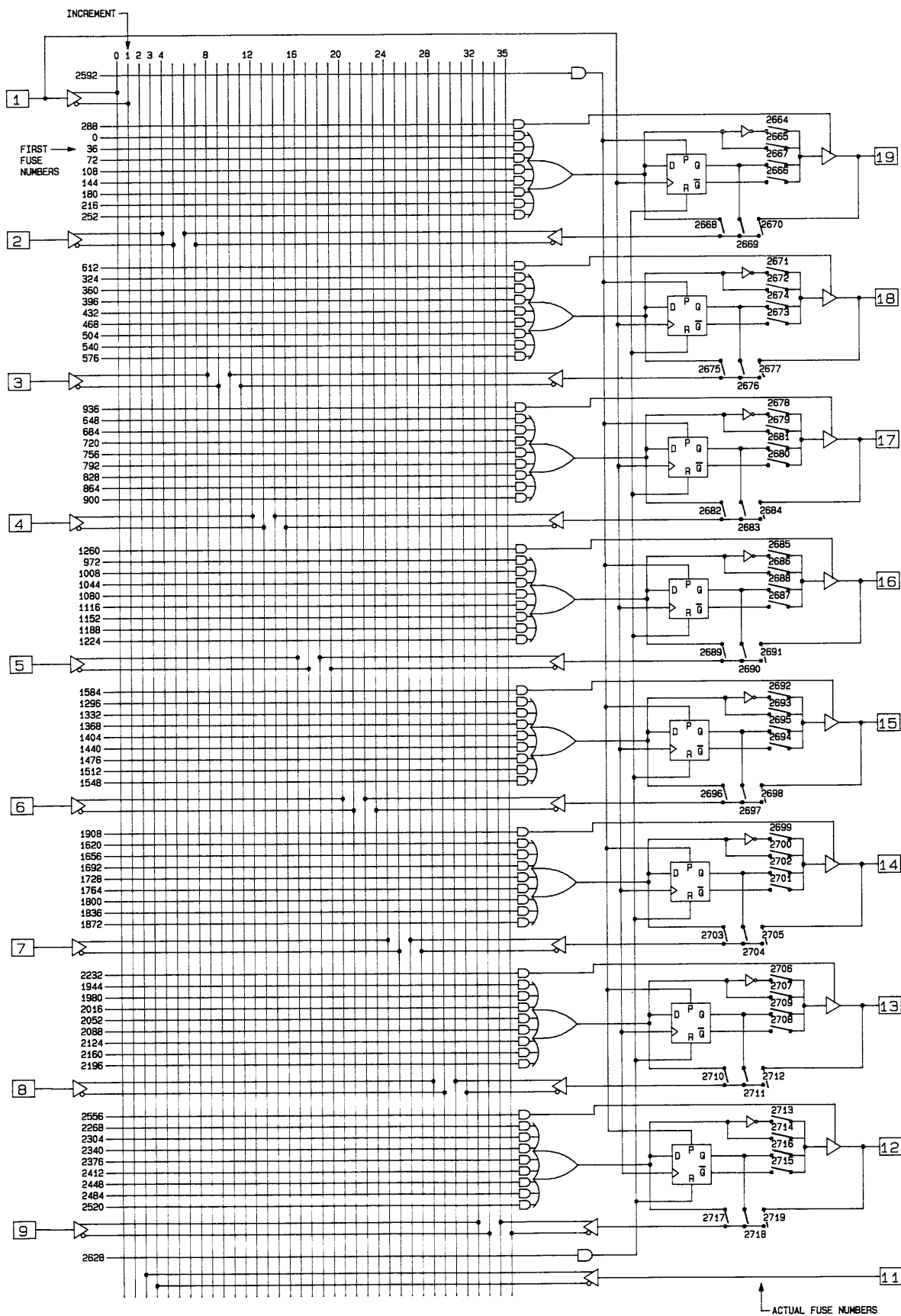
ABEL™
GATES™
PLDtest®
PLDtest Plus™
PLD-CADAT

Some of the products listed above do not support all of the programmable logic devices described in these logic diagrams, while others support devices not described within these pages. Every reasonable effort has been made to ensure the completeness and accuracy of these diagrams. However, Data I/O does not guarantee that these diagrams are, in fact, complete and accurate in every detail.

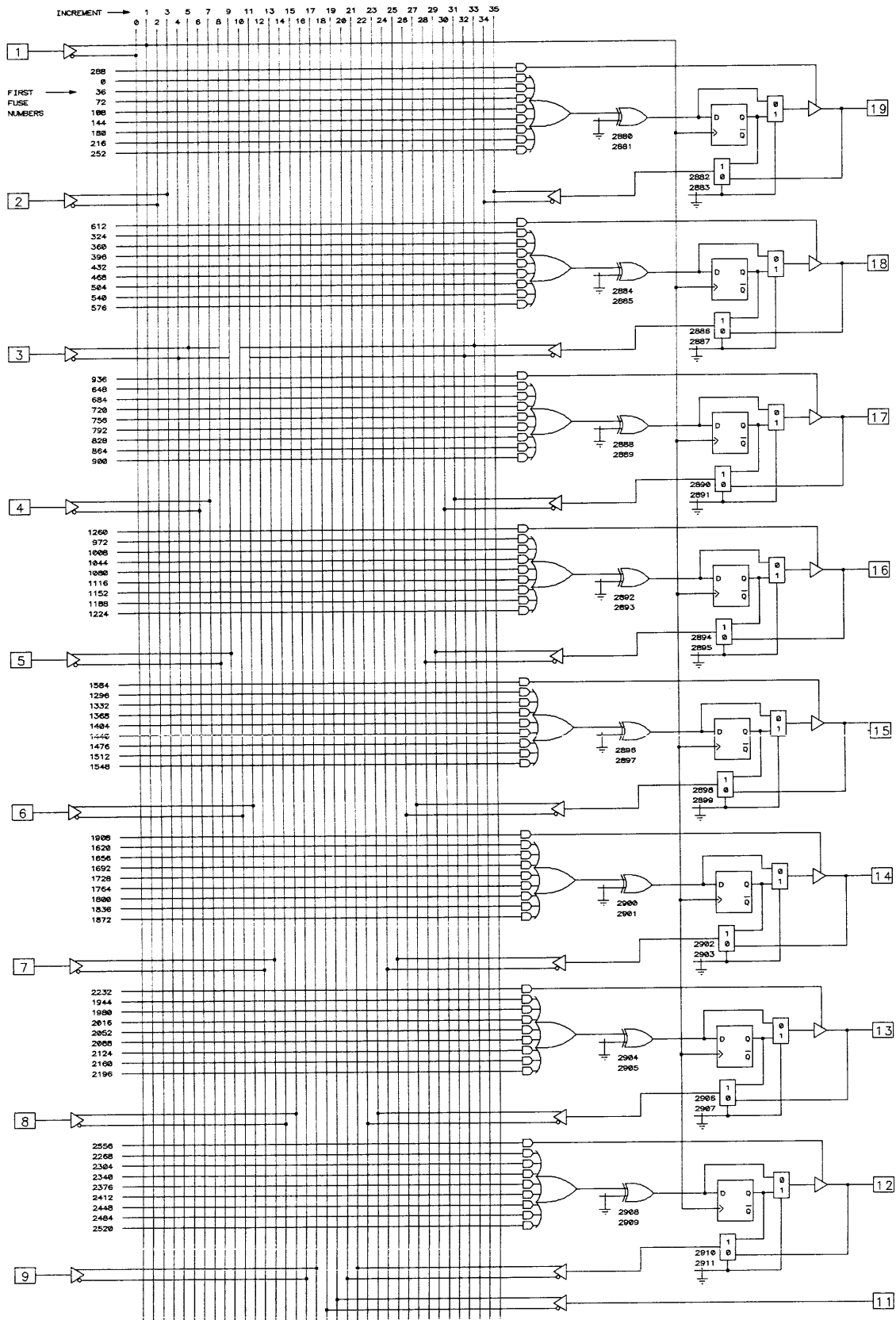
For each product, the supported devices are either in a printed list, or can be accessed using a software utility (for example, finddev4 for ABEL).

The *Data I/O Reference Chart of Programmable Devices* provides a cross-reference between manufacturer's device names and the device filenames used by Data I/O. Annual subscriptions are available by contacting your Data I/O representative and ordering REFCHART.

Data I/O Corporation



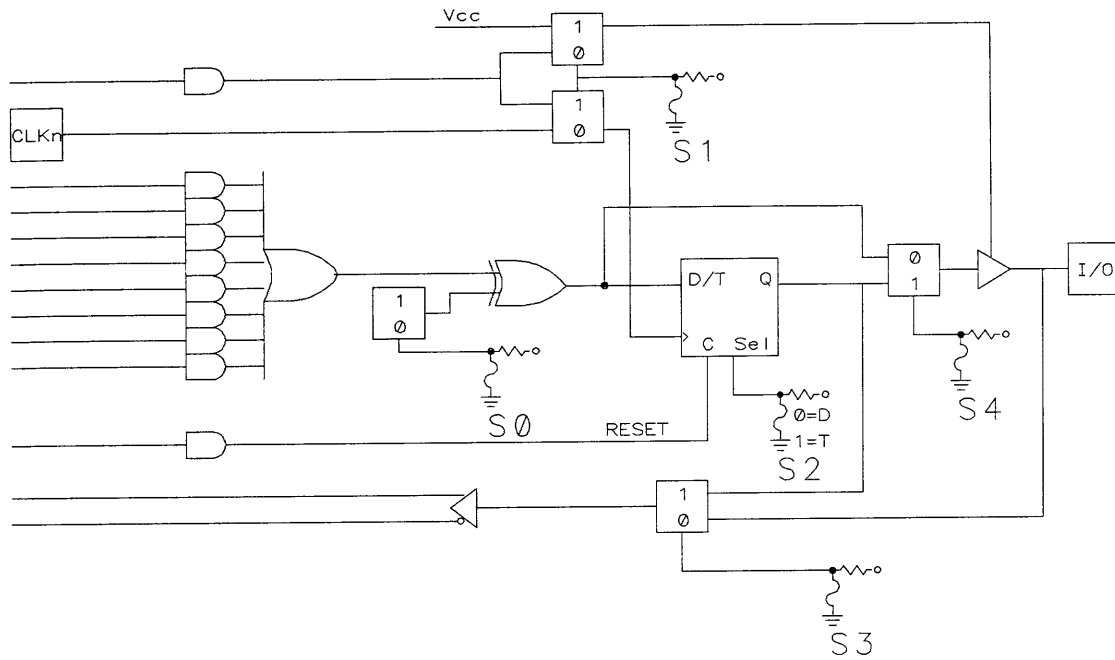
NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT



NOTES:

1. REFERENCE ARRAY = 2892 - 2879 ALWAYS SET TO JEDEC \1'
2. WISER-MODE (TM) = 2912 - 2913; A JEDEC \0' ENABLES THIS MODE
3. TURBO DIT (TM) = 2914 - 2915; A JEDEC \1' ENABLES THIS MODE
4. ALL FUSRS LISTED AS PAIRS SHOULD BE SET TO THE SAME STATE.

Data I/O Corporation

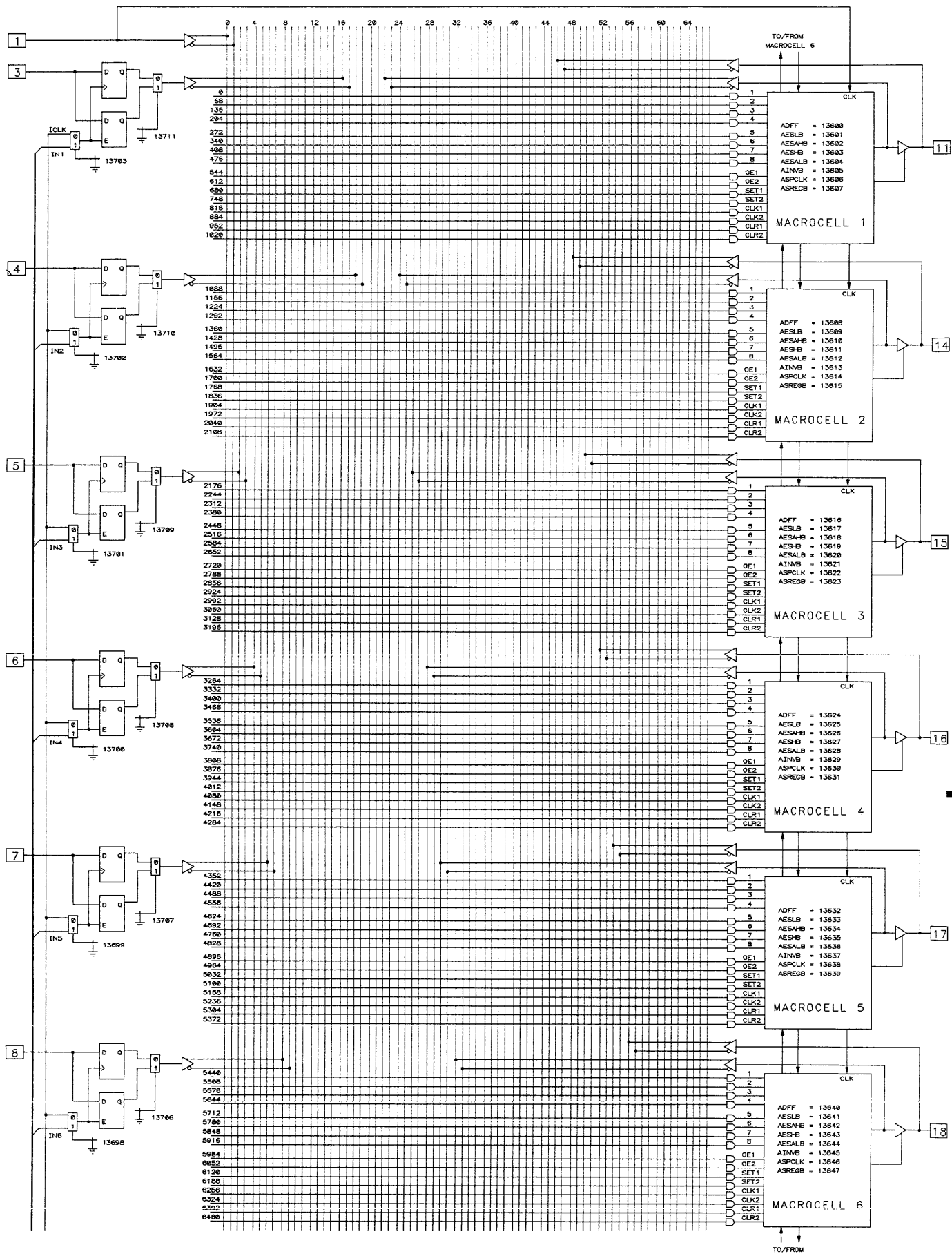


	E0600	E0900
Main Array Size	160 x 40	240 x 72
Fuse Numbers	0 - 6399	0 - 17279
Architecture Array	16 x 5	24 x 5
Fuse Numbers	6400 - 6479	17280 - 17399
Turbo Fuses	6480, 6481	17400, 17401

E600	CLKn
Pins 3-10	1
Pins 15-22	13

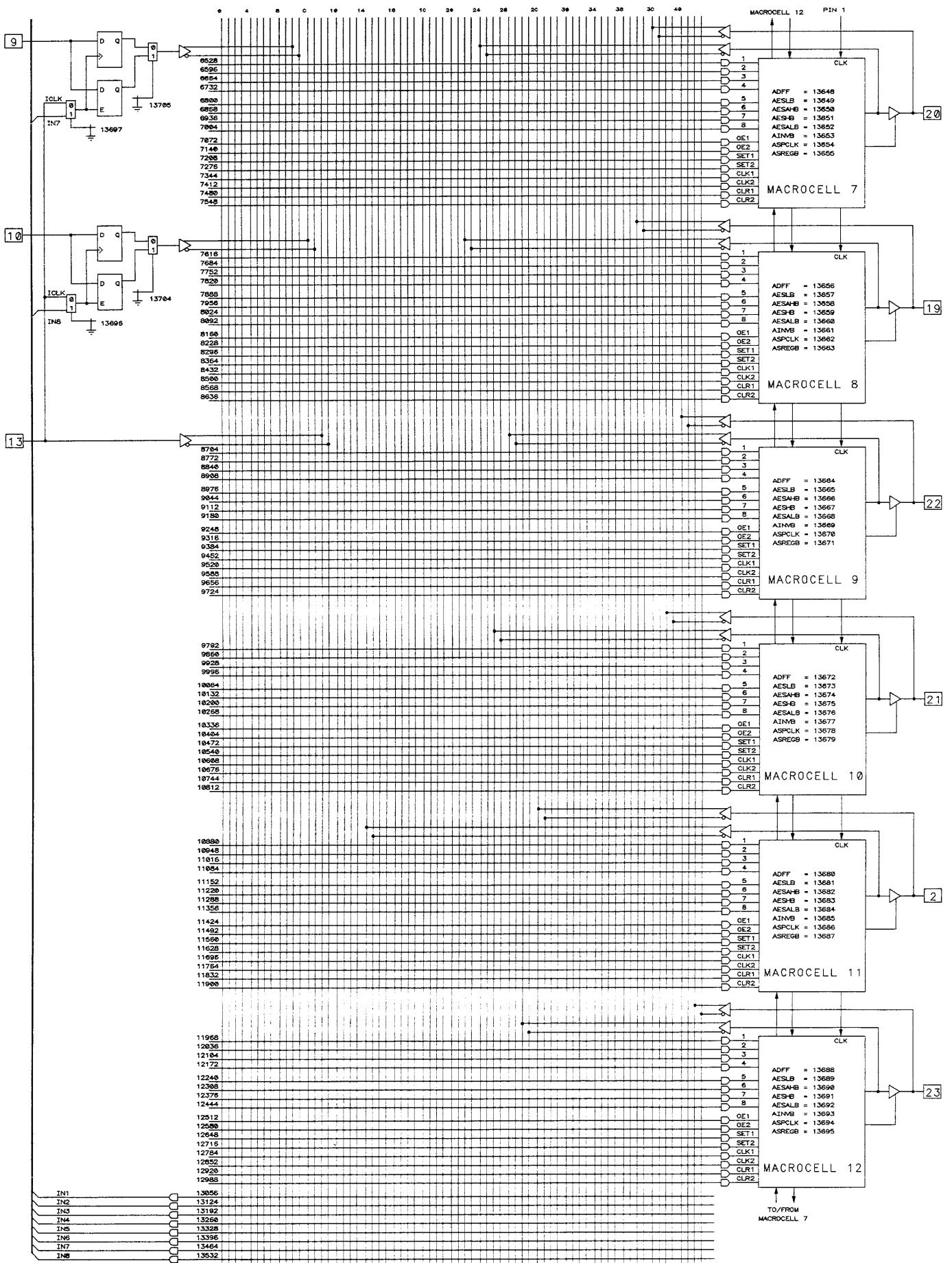
E900	CLKn
Pins 5-16	1
Pins 25-36	21

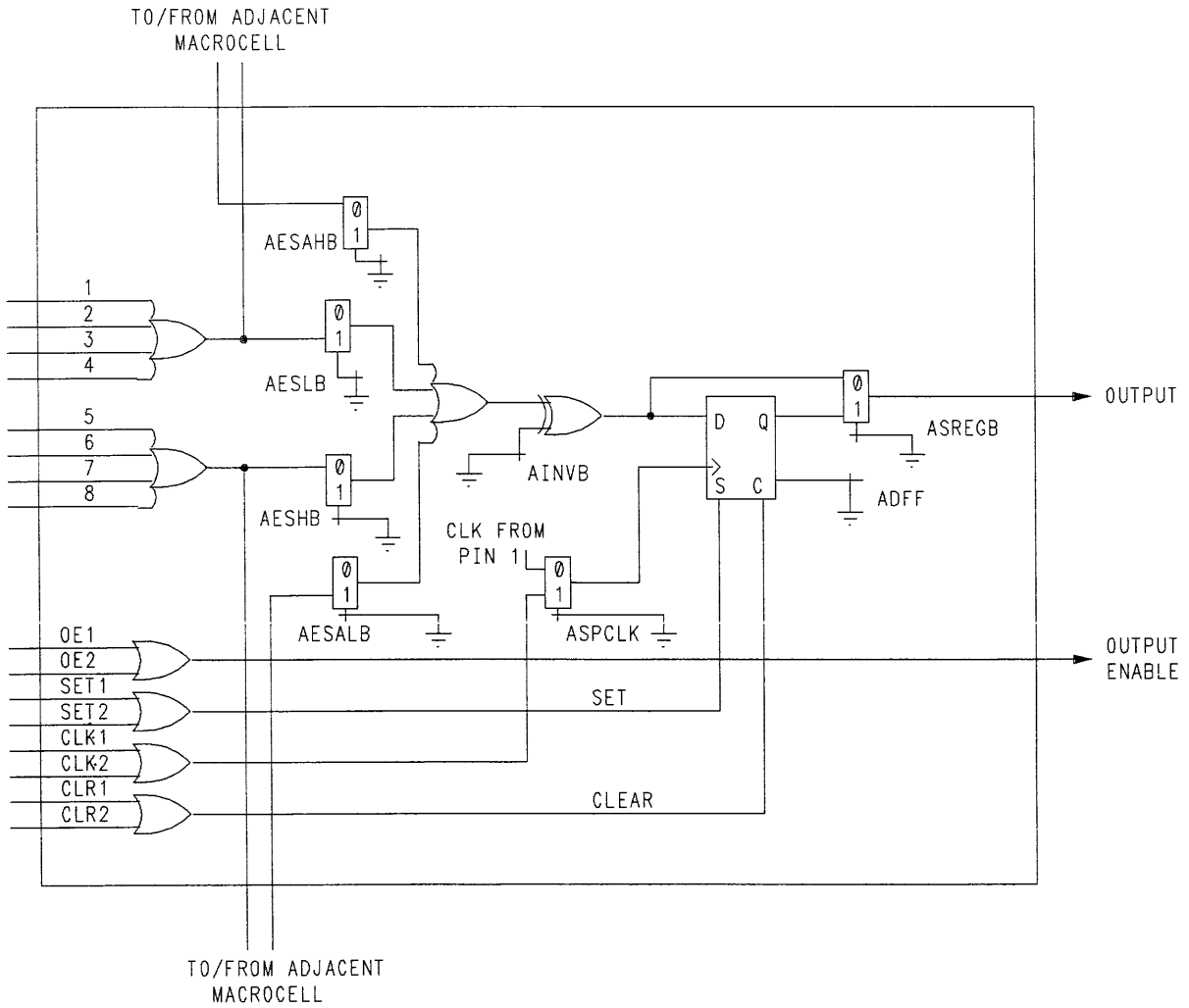
E0600/E0900 Output Macro-Cell Diagram



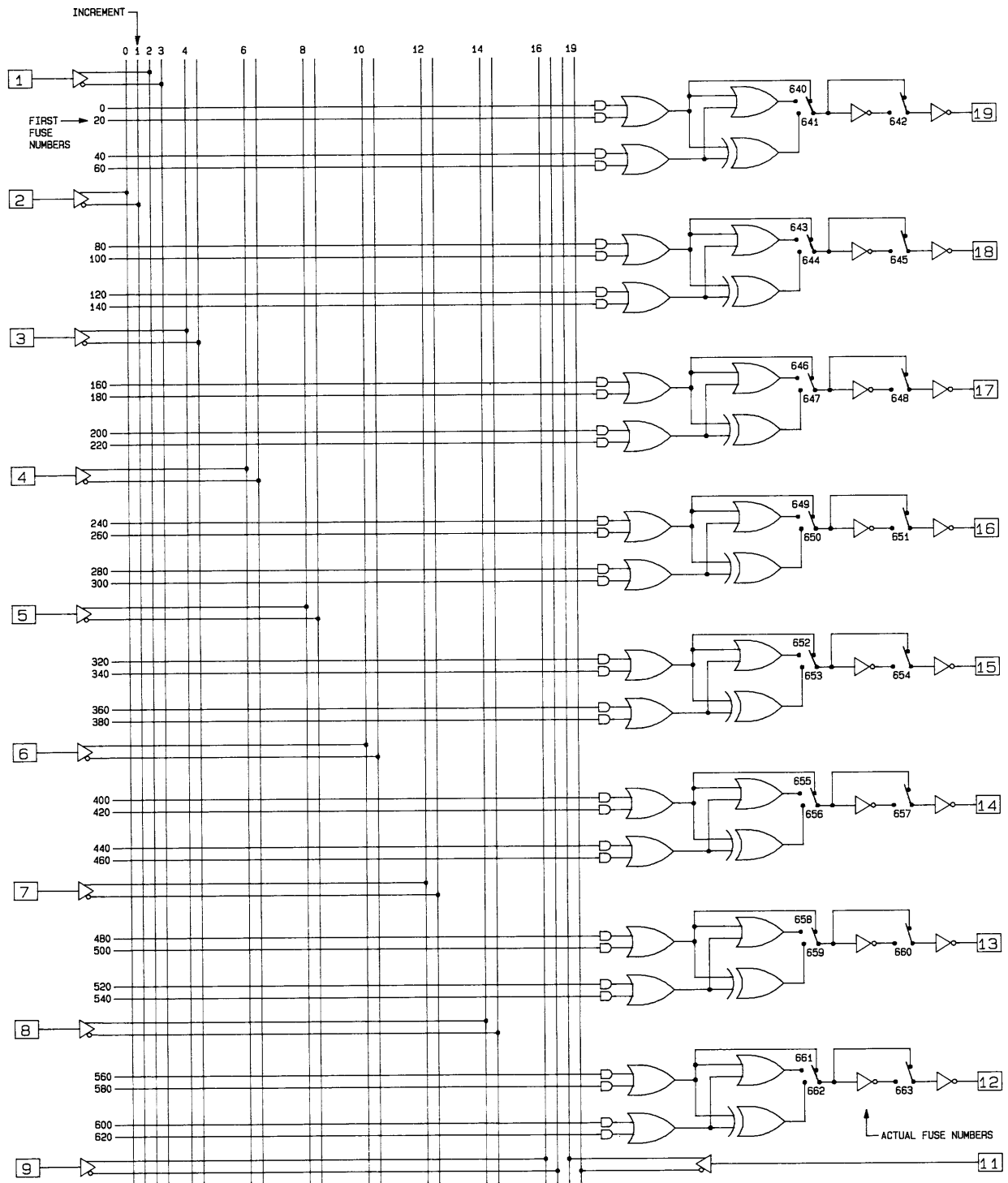
Data I/O Corporation

Data I/O Corporation

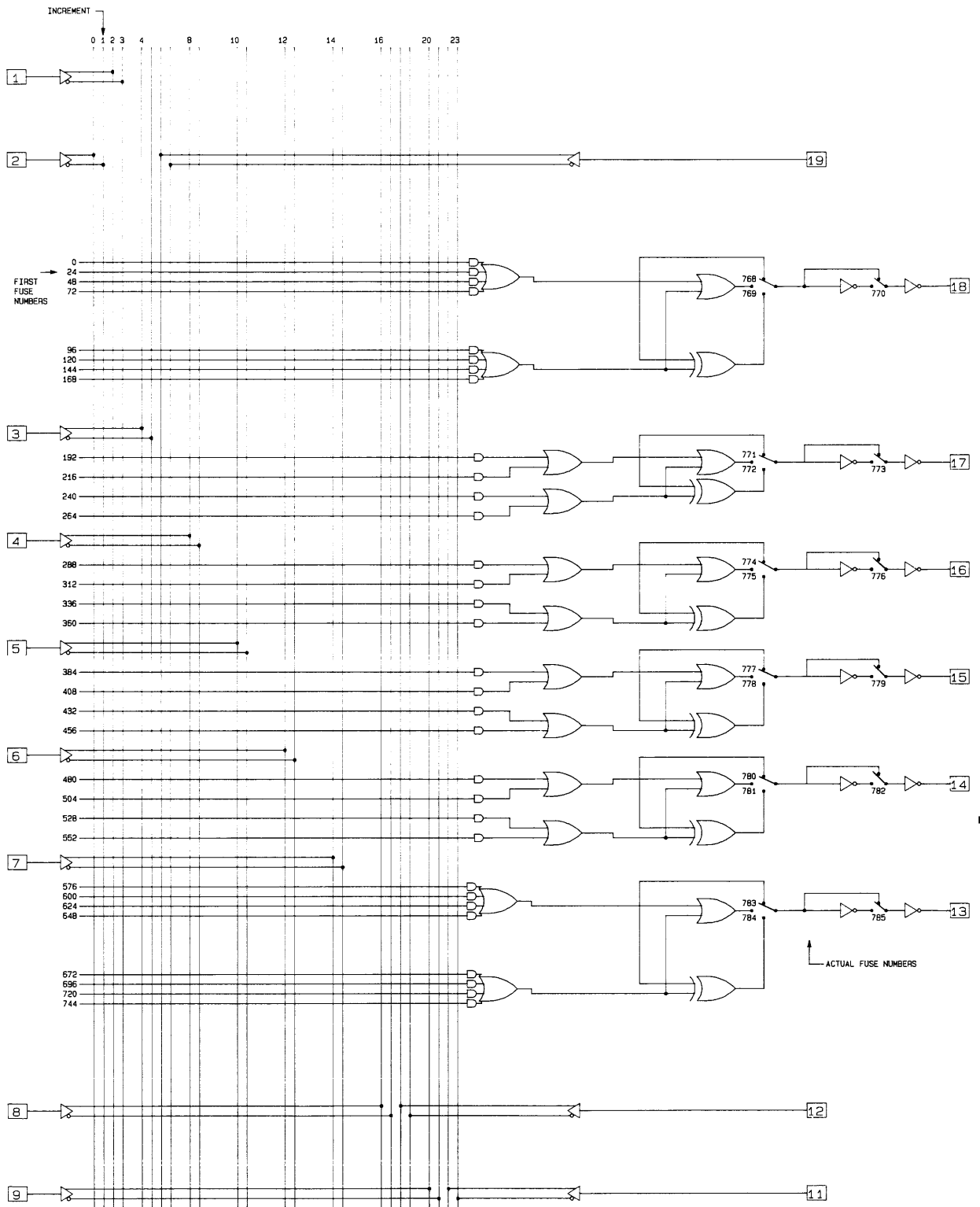




Data I/O Corporation



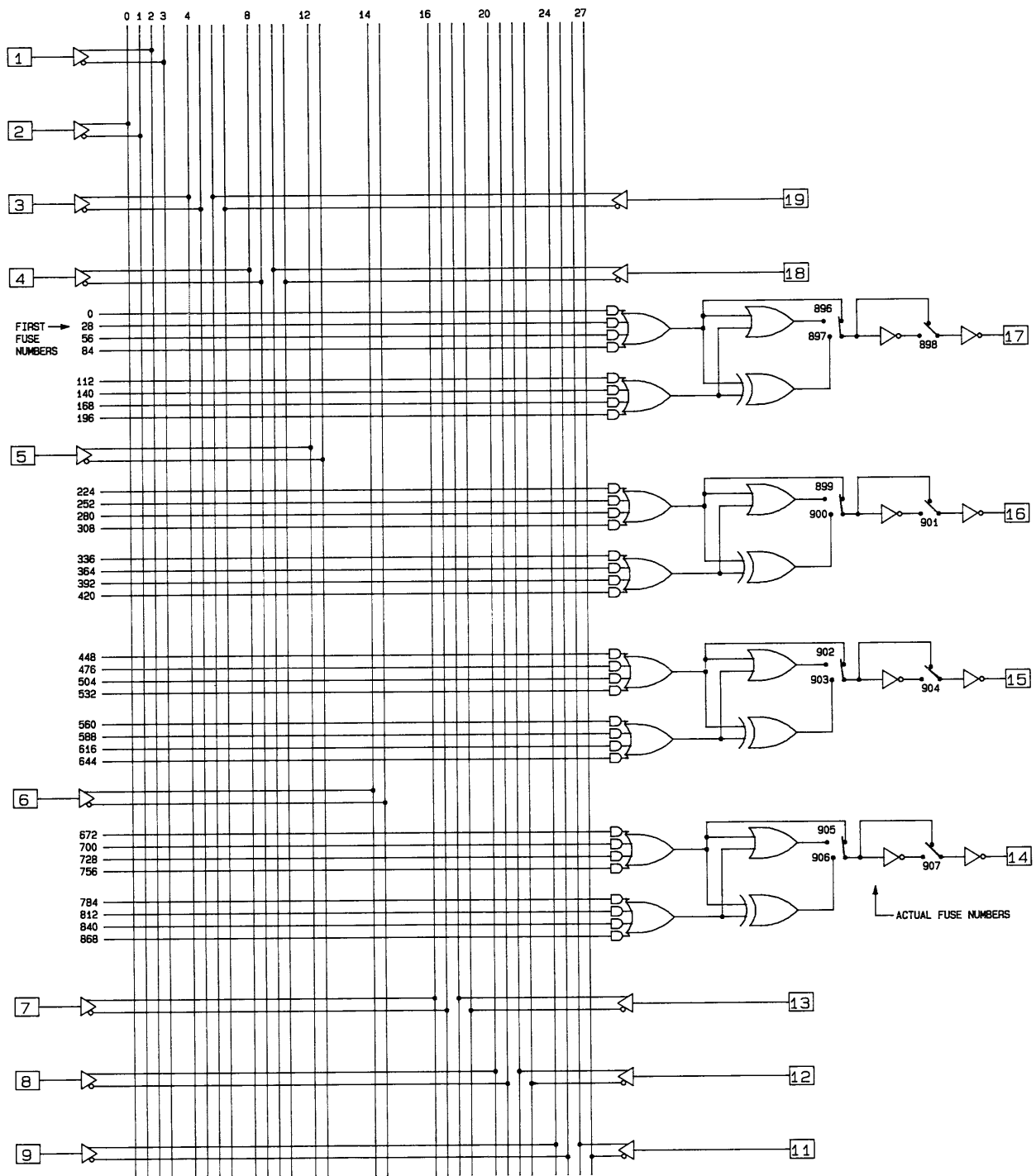
NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT



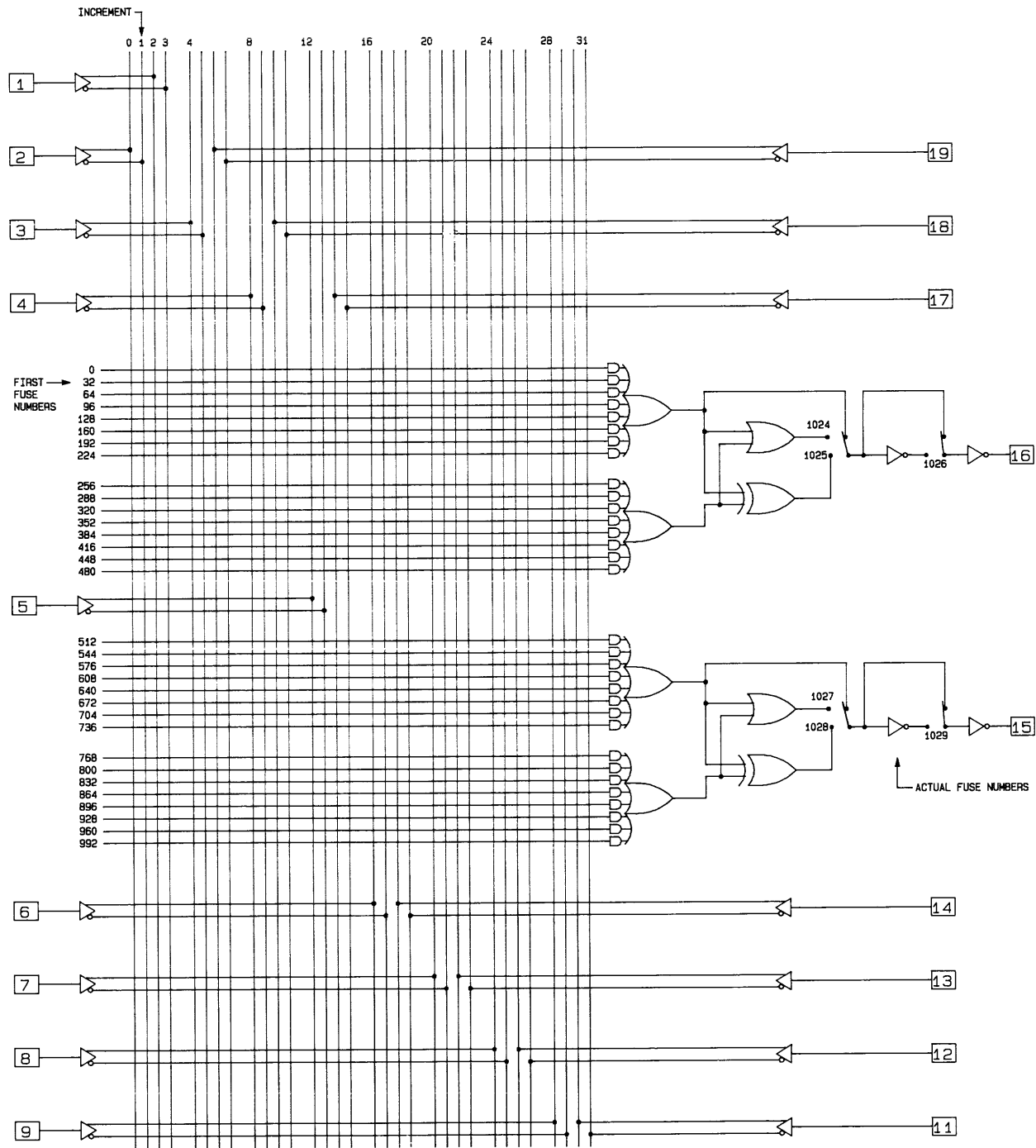
Data I/O Corporation

NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

Data I/O Corporation

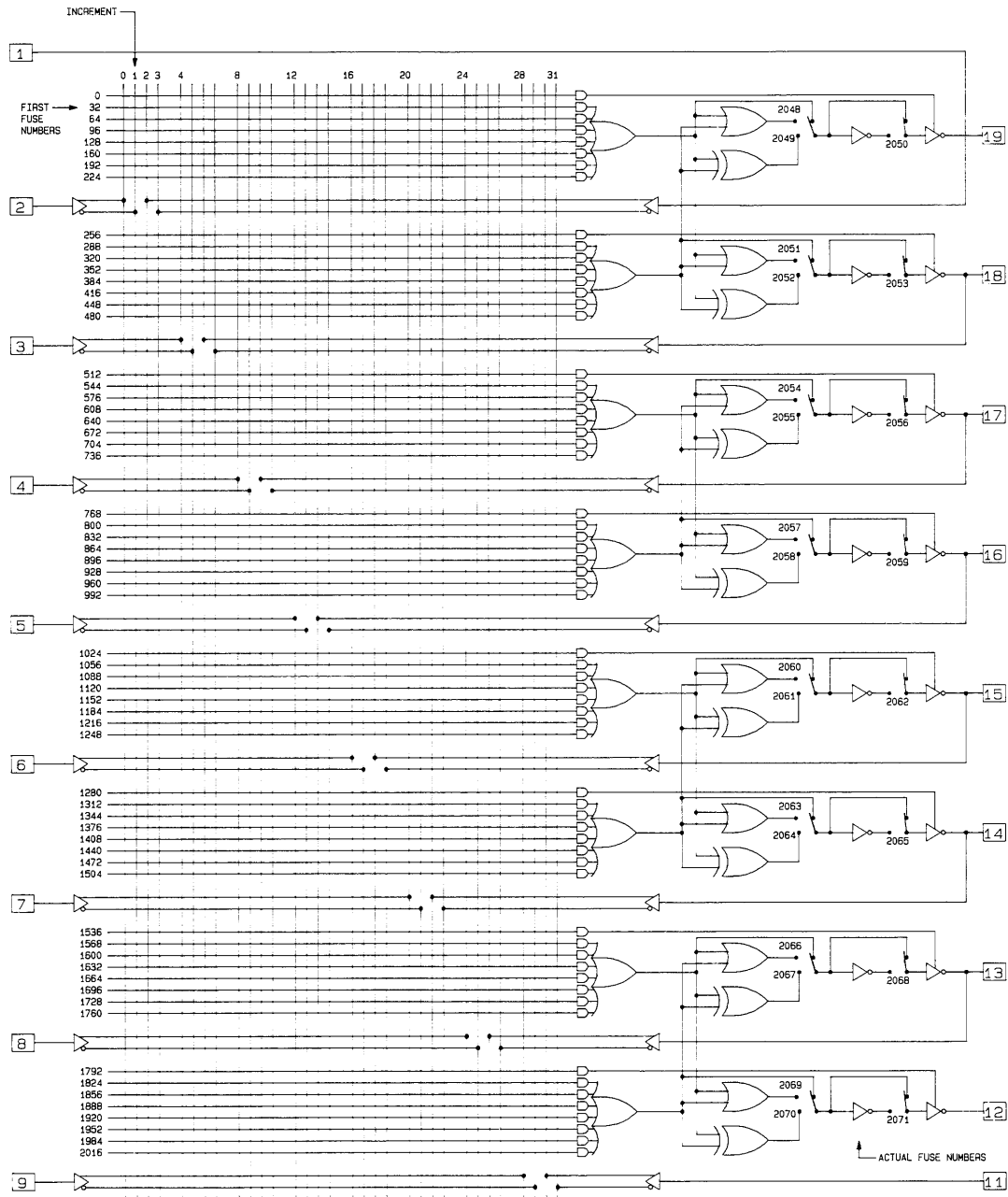


NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

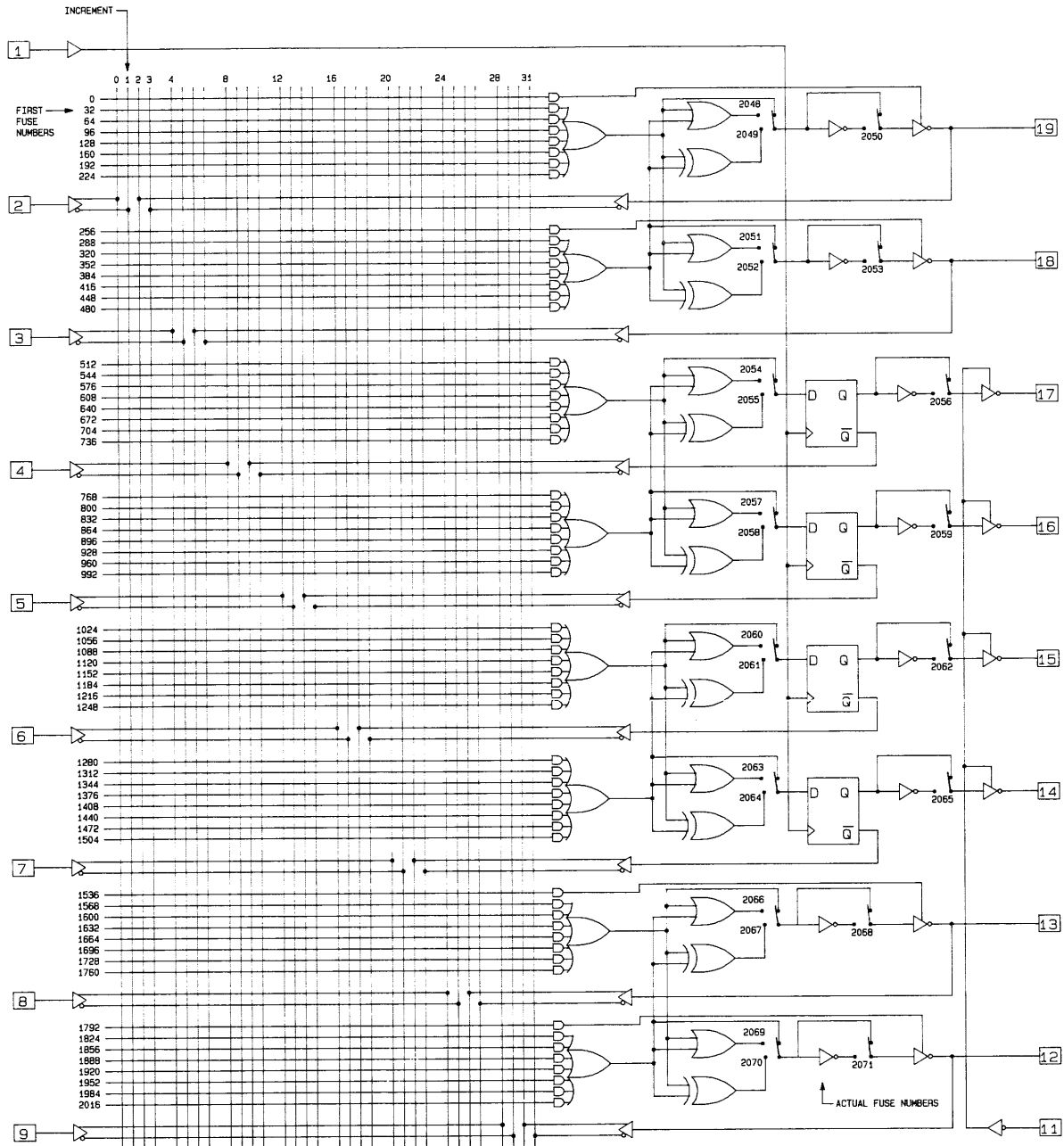


NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

Data I/O Corporation



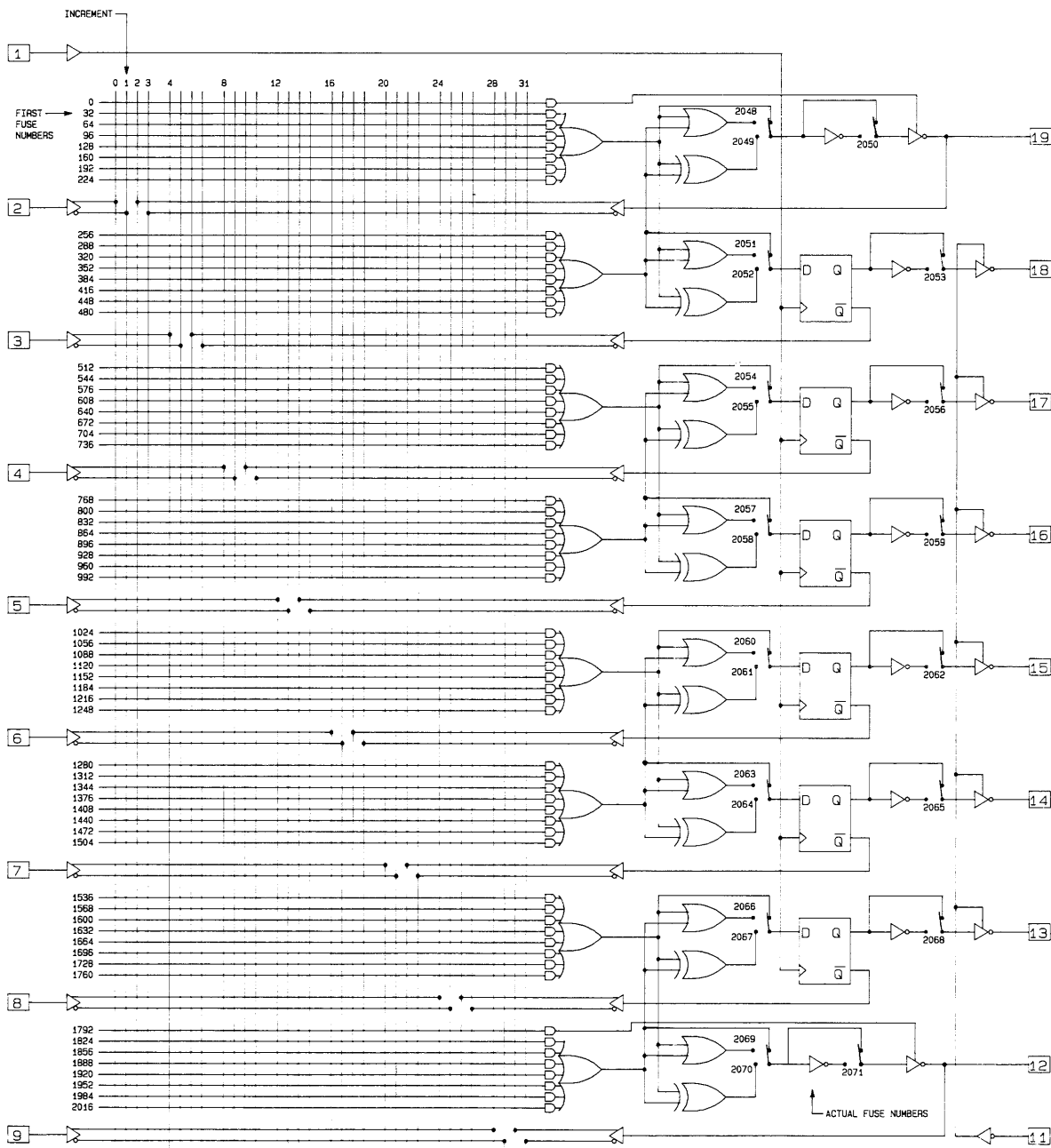
NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT



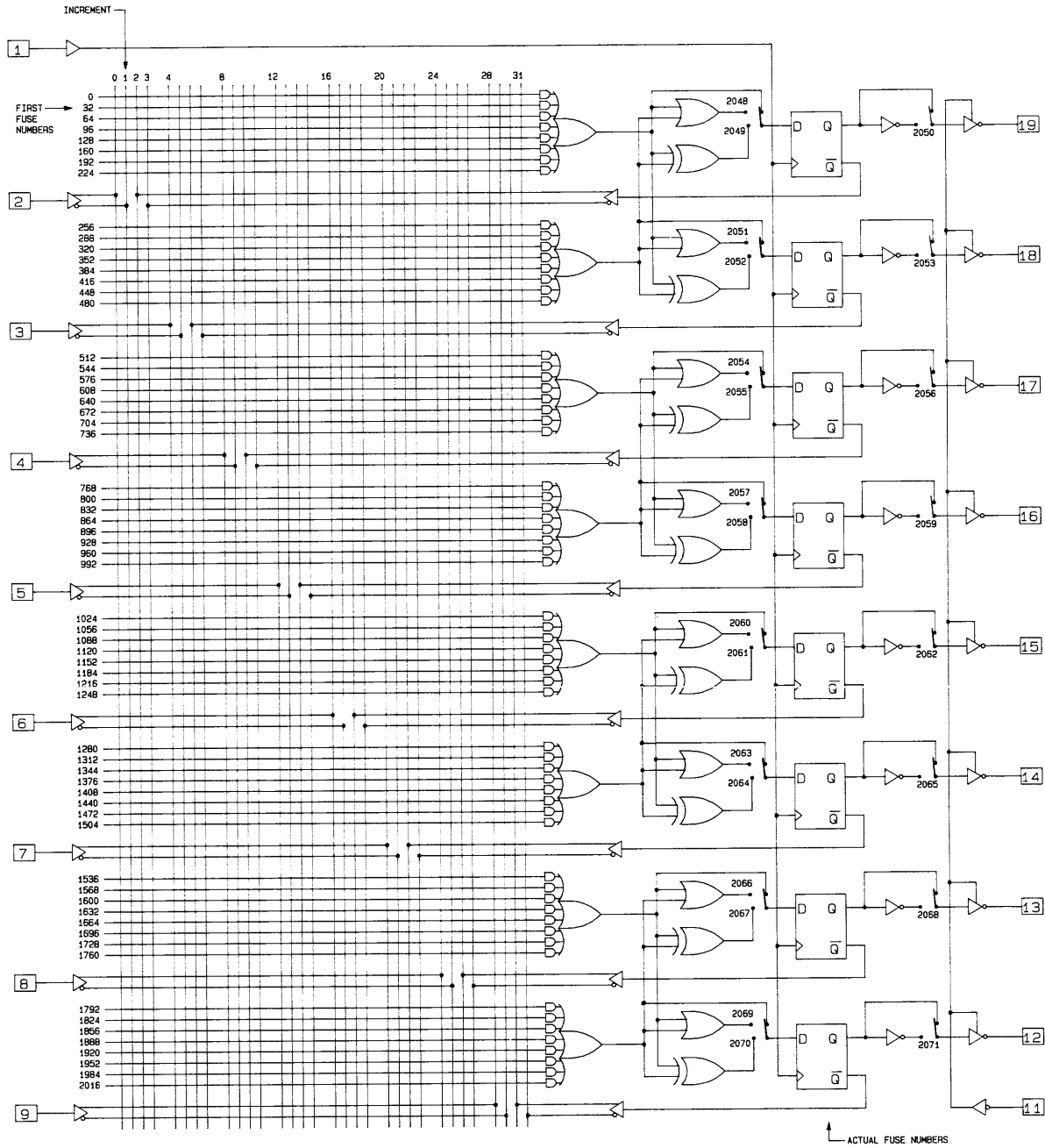
NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

Data I/O Corporation

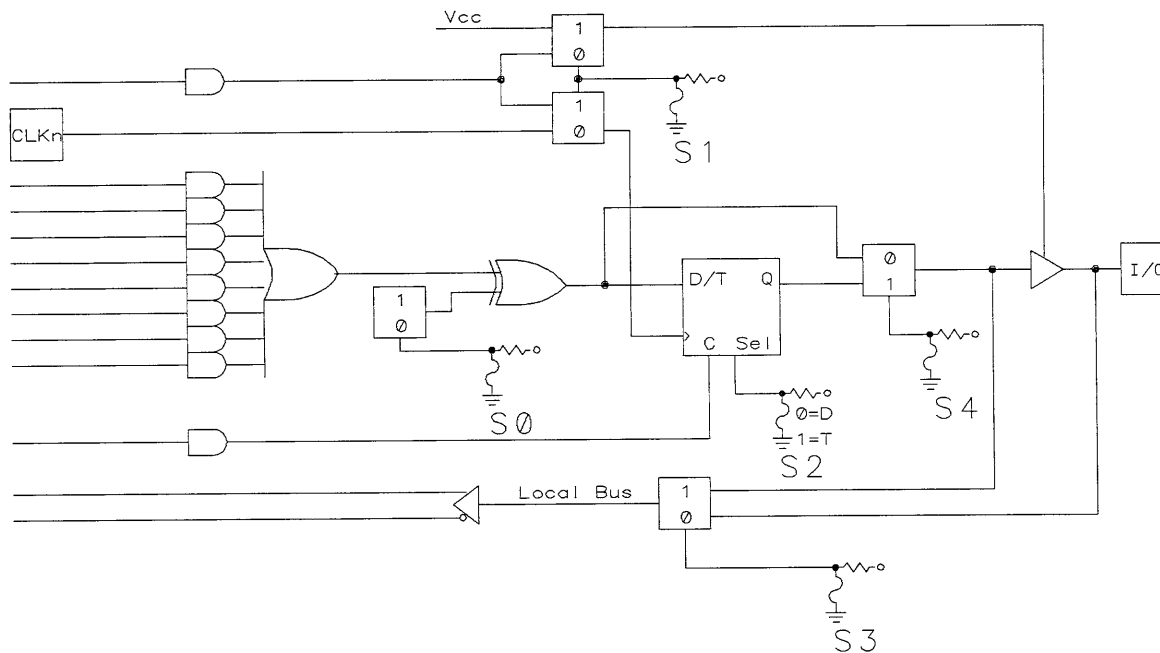
Data I/O Corporation



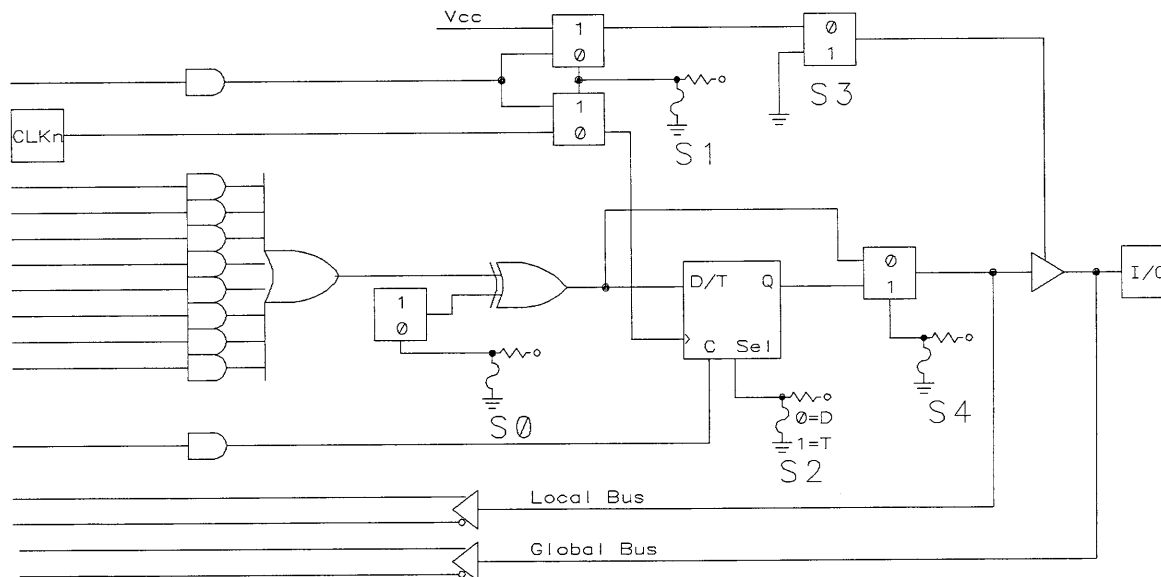
NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT



NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

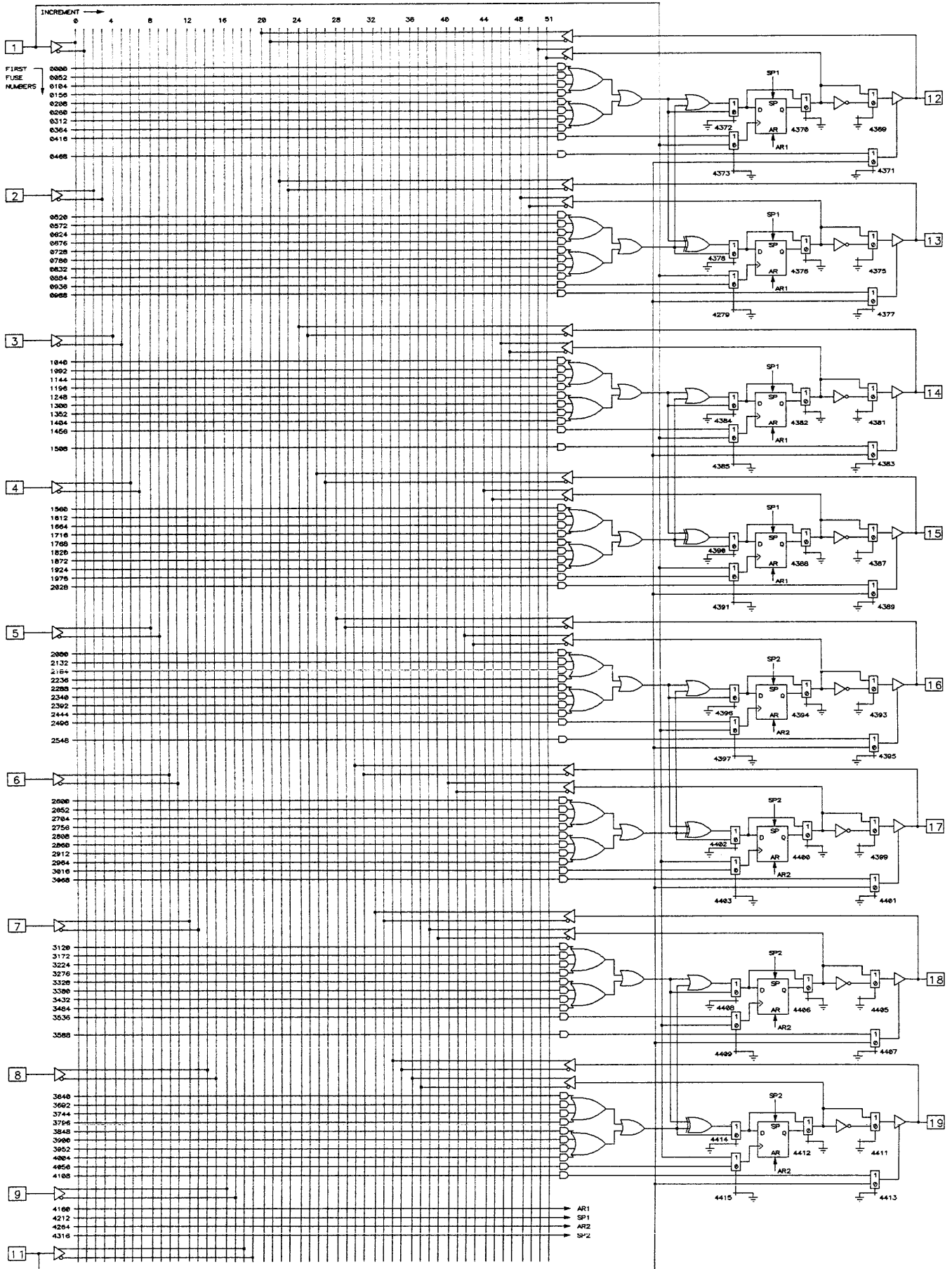


E1800 Local Output Macro-Cell

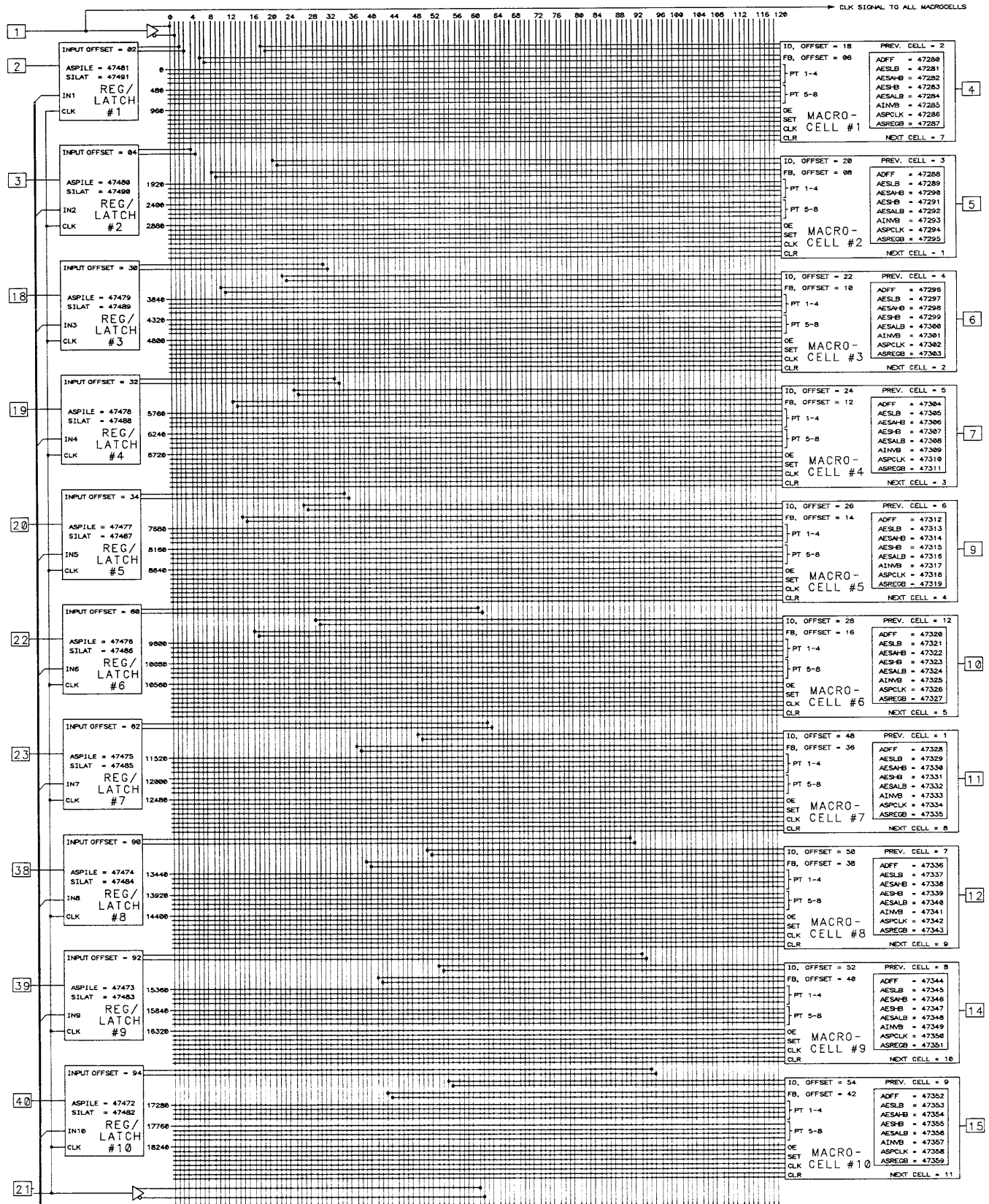


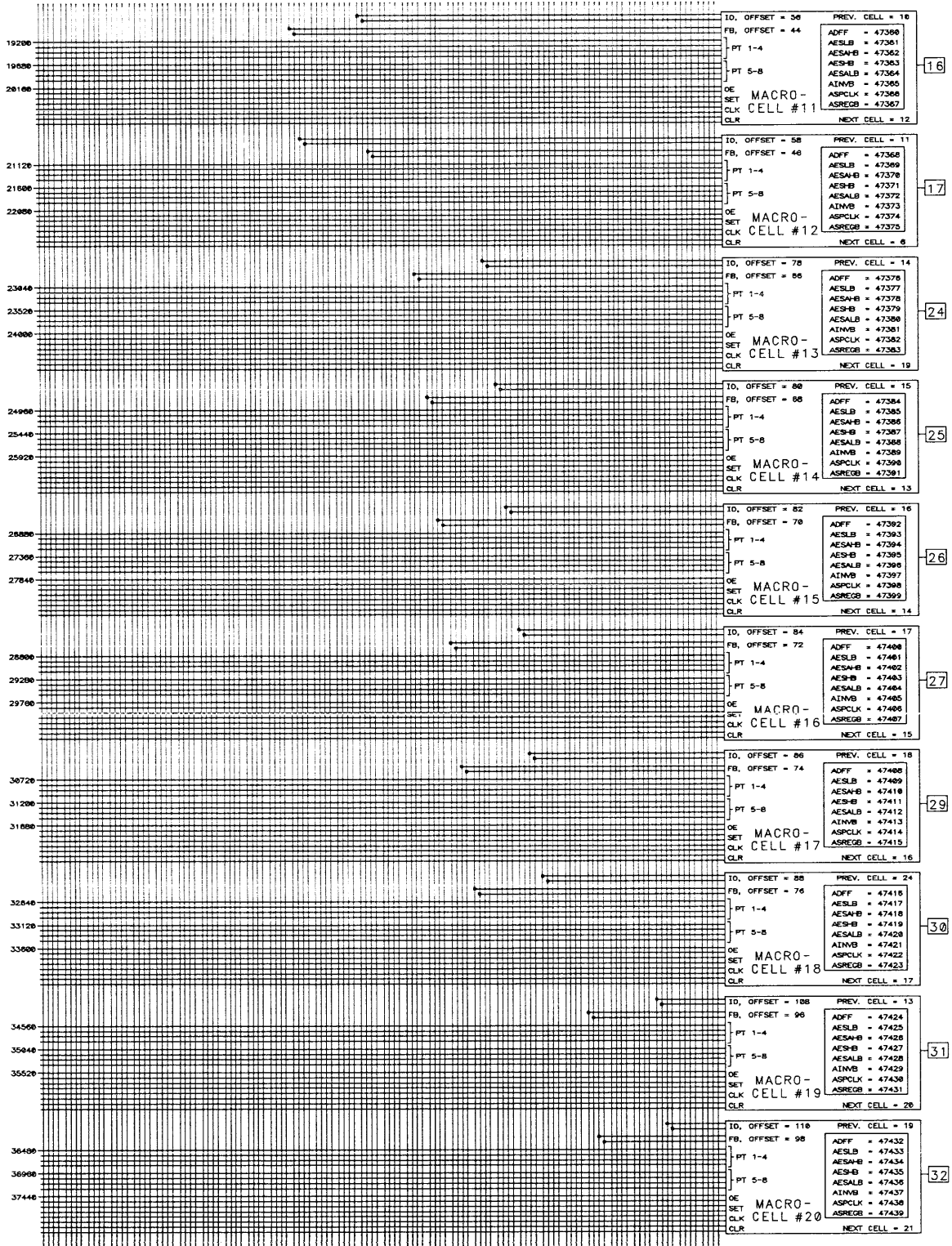
E1800 Global Output Macro-Cell

Macrocell	CLKn	Array	Fuses
01 - 12	17	Quadrant A	00000 - 10559
13 - 24	19	Quadrant B	10560 - 21119
25 - 36	51	Quadrant C	21120 - 31679
37 - 48	53	Quadrant D	31680 - 42239
		Architecture Fuses	42240 - 42479
		Miser Fuses	42480 - 42487
		Turbo Fuses	4248, 42489

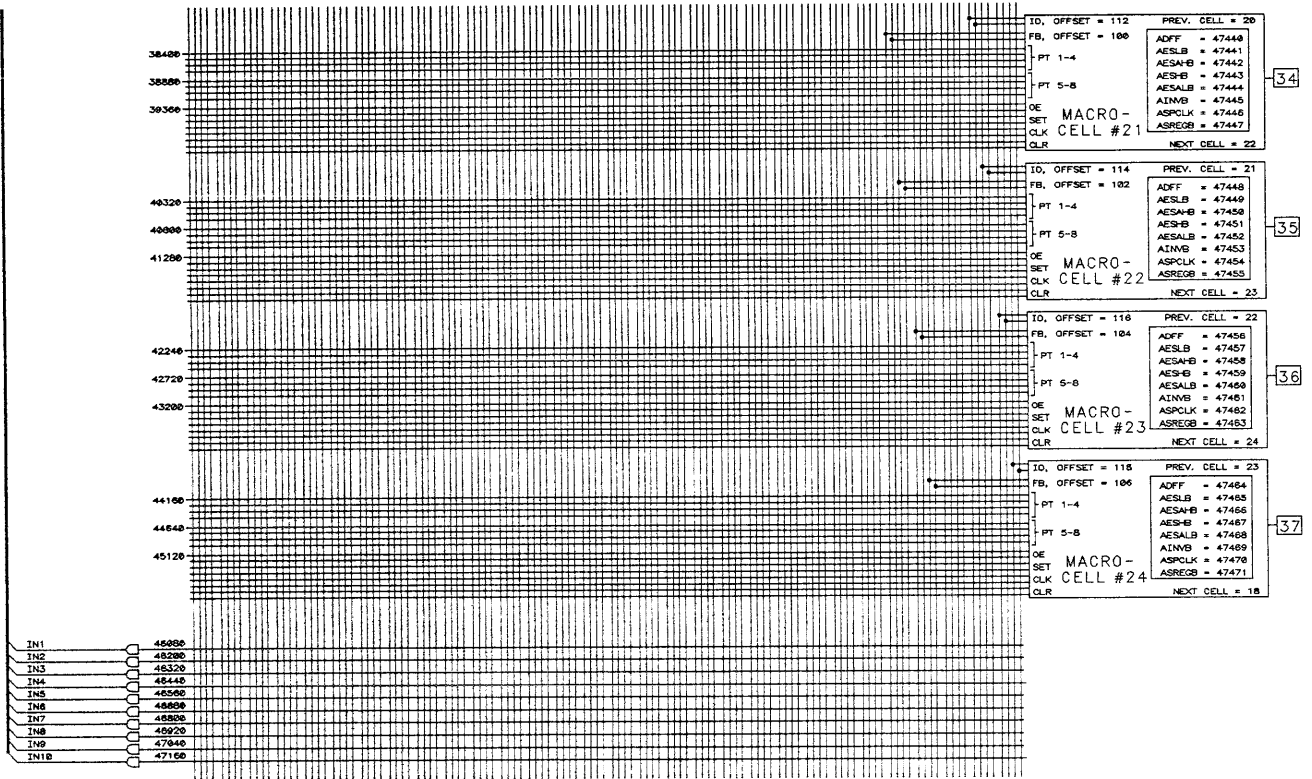


Data I/O Corporation

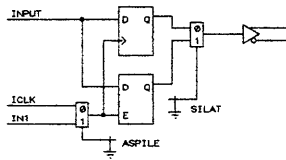




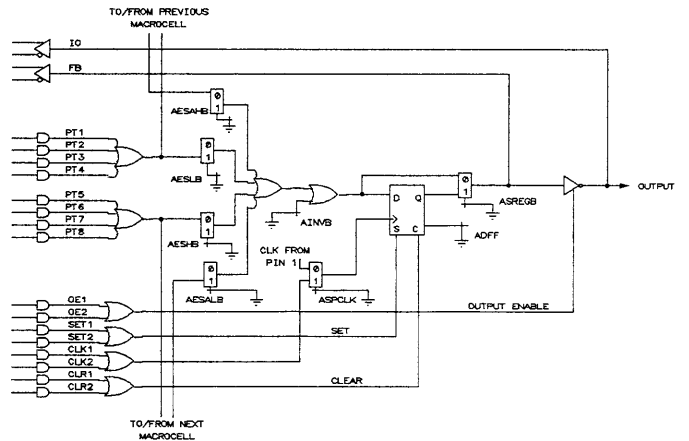
Data I/O Corporation

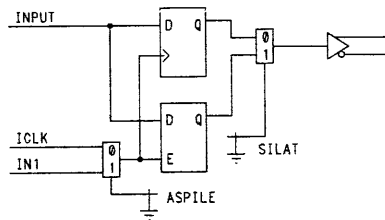
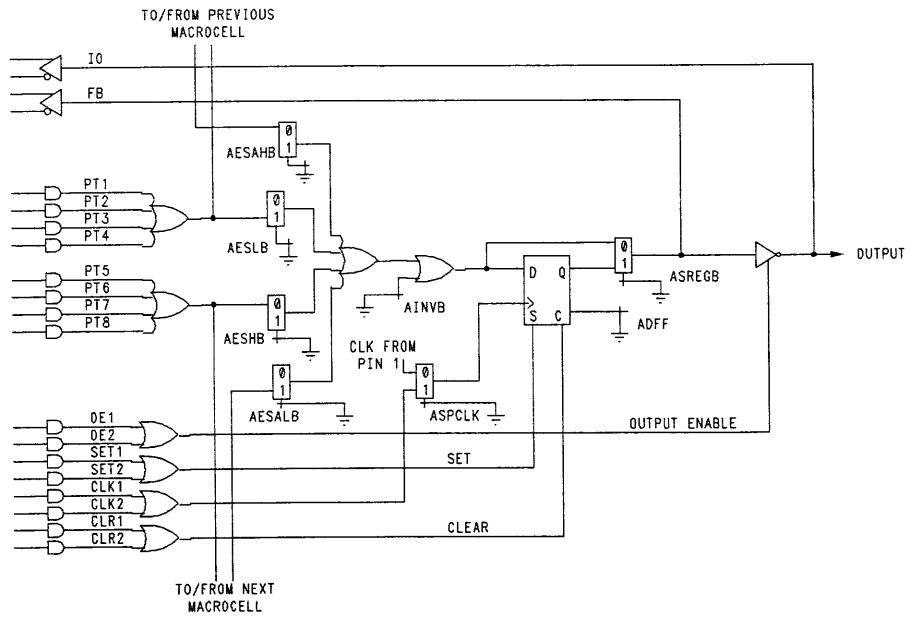


REG/LATCH (TYPICAL)

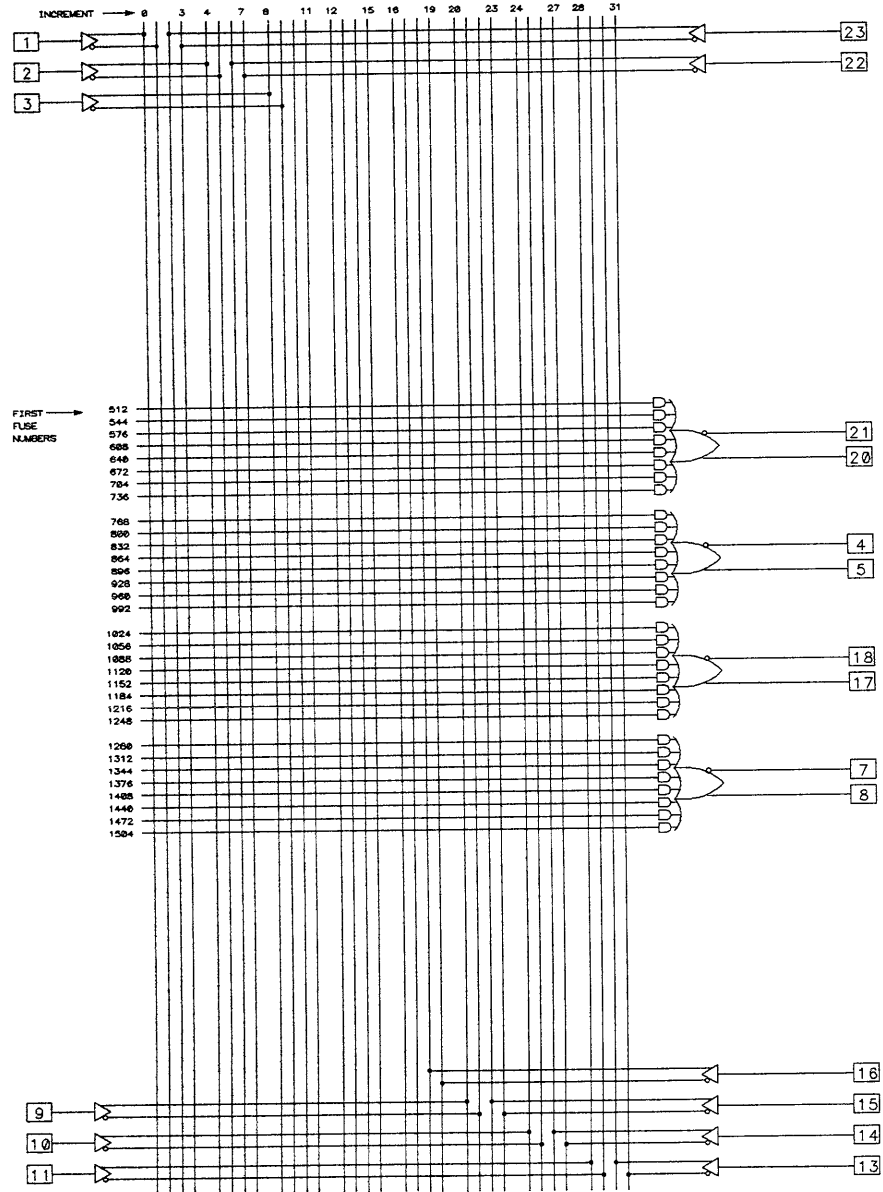


MACROCELL (TYPICAL)

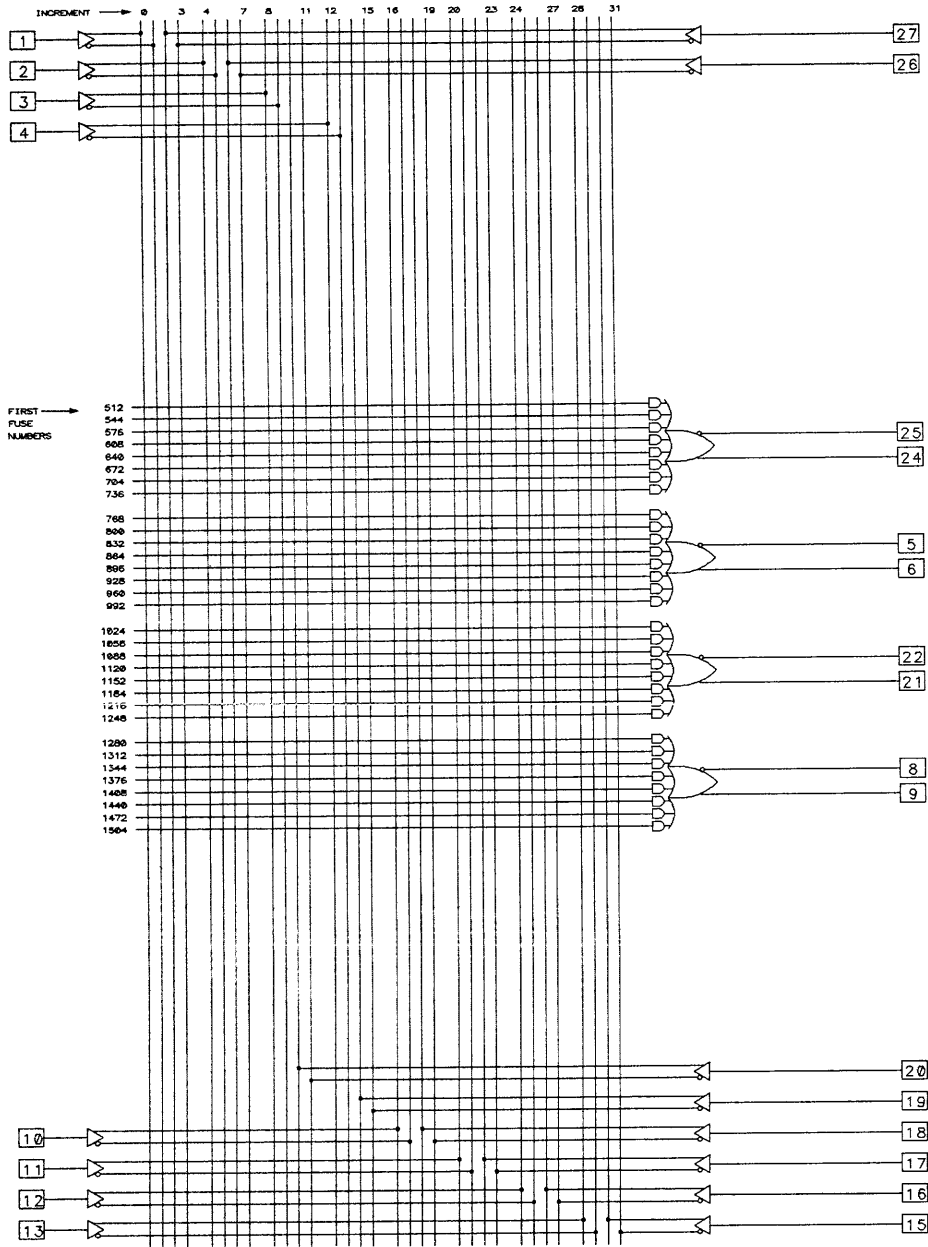




Data I/O Corporation

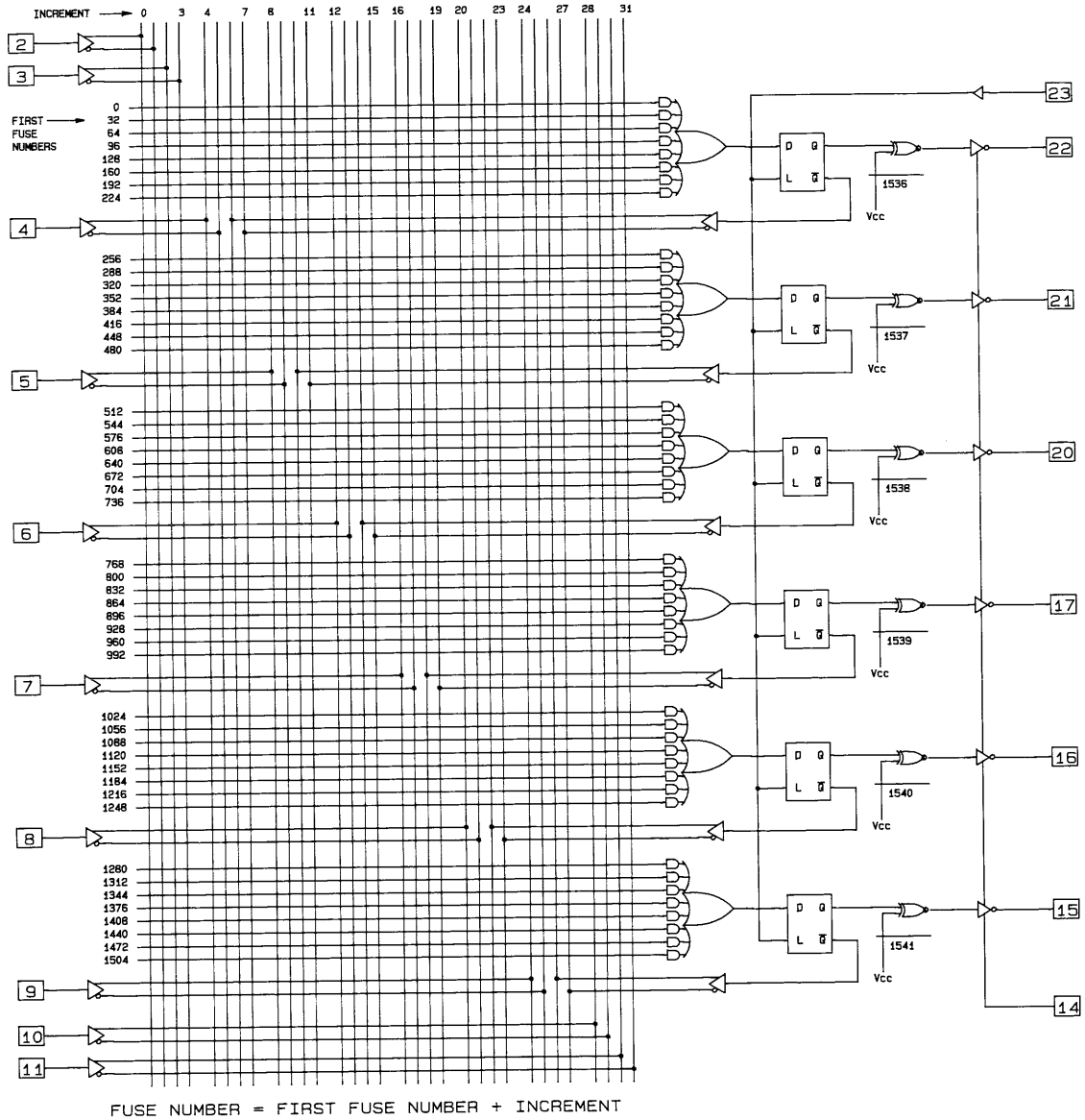


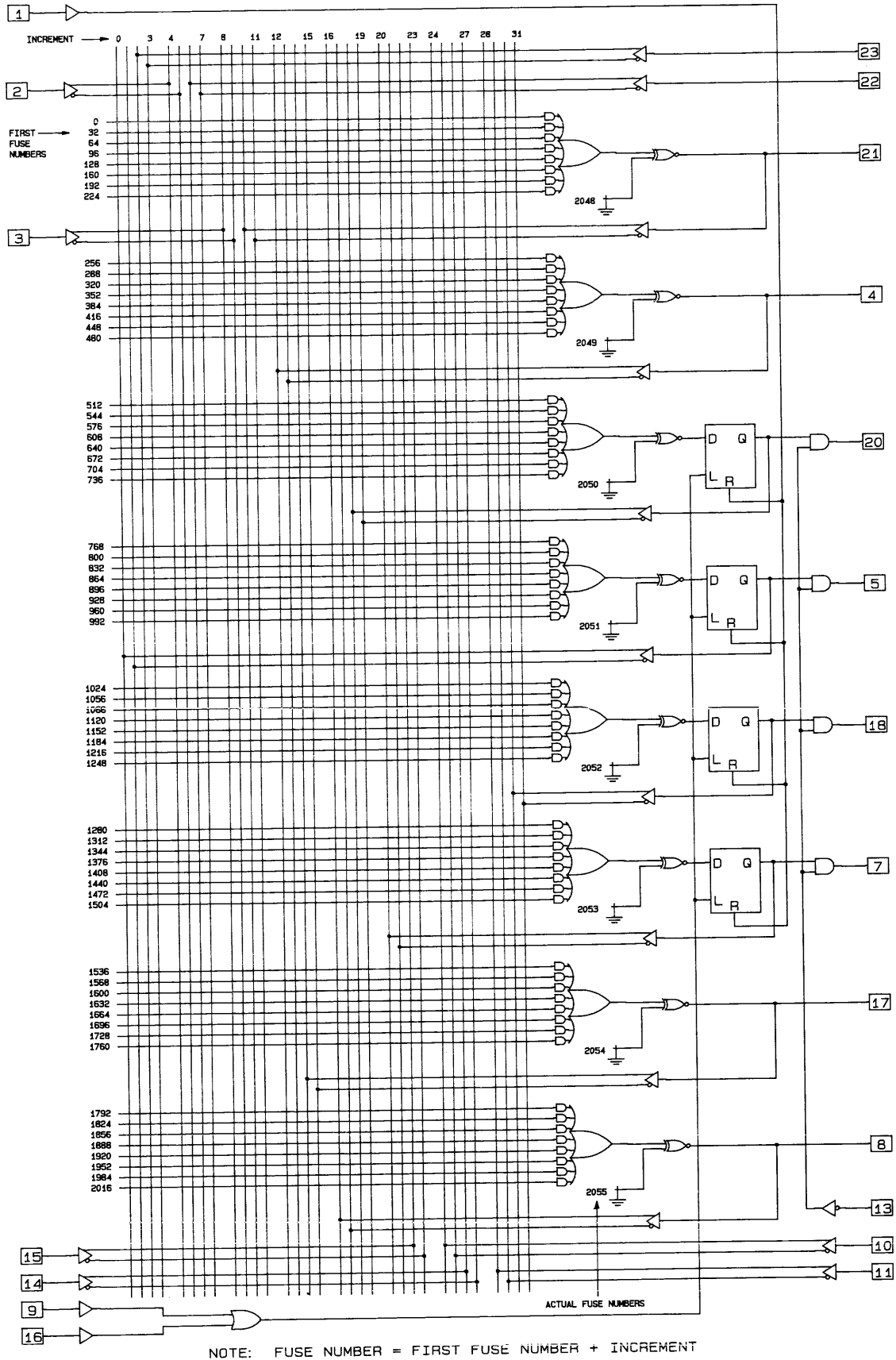
FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT



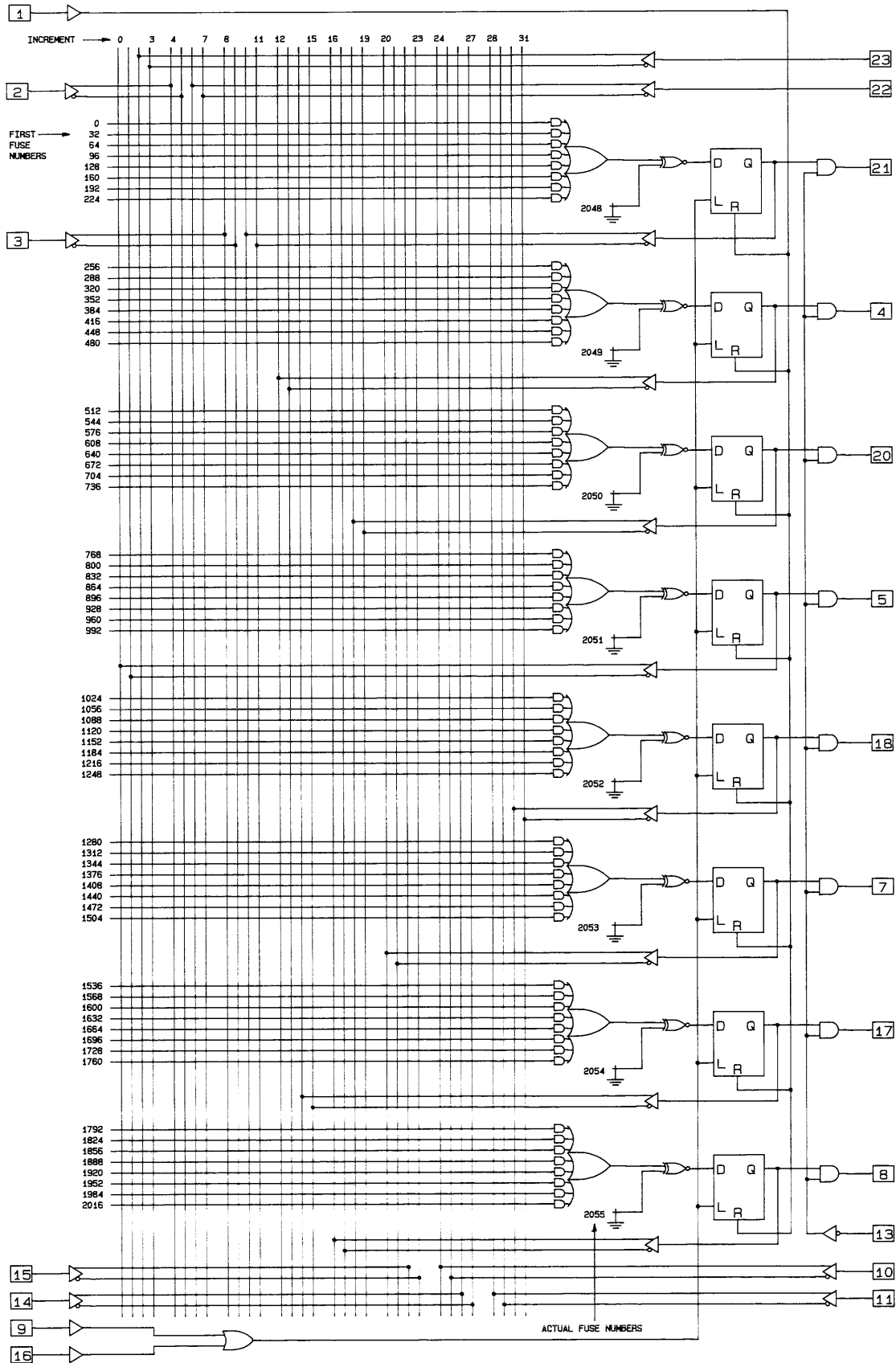
FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

Data I/O Corporation

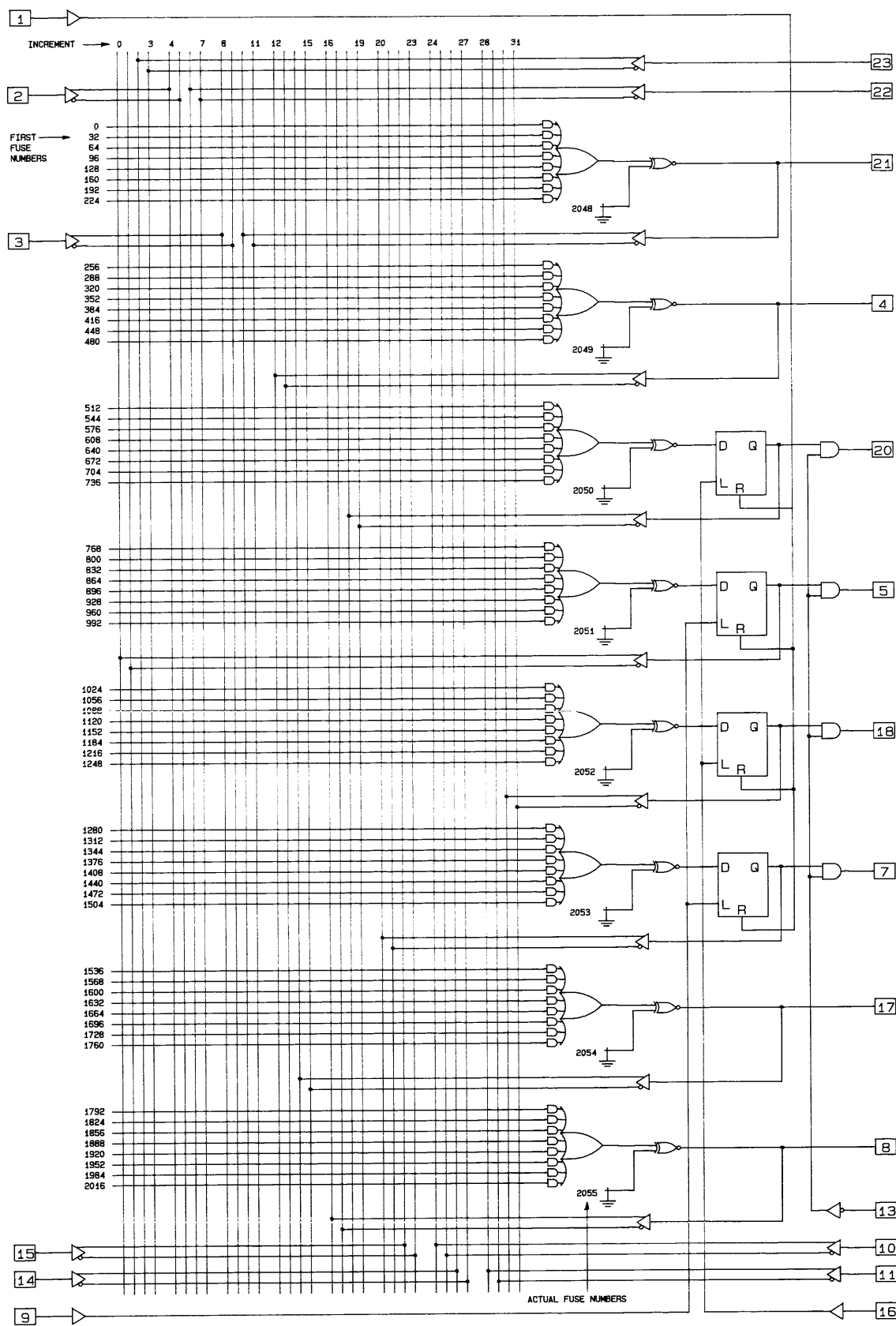




Data I/O Corporation

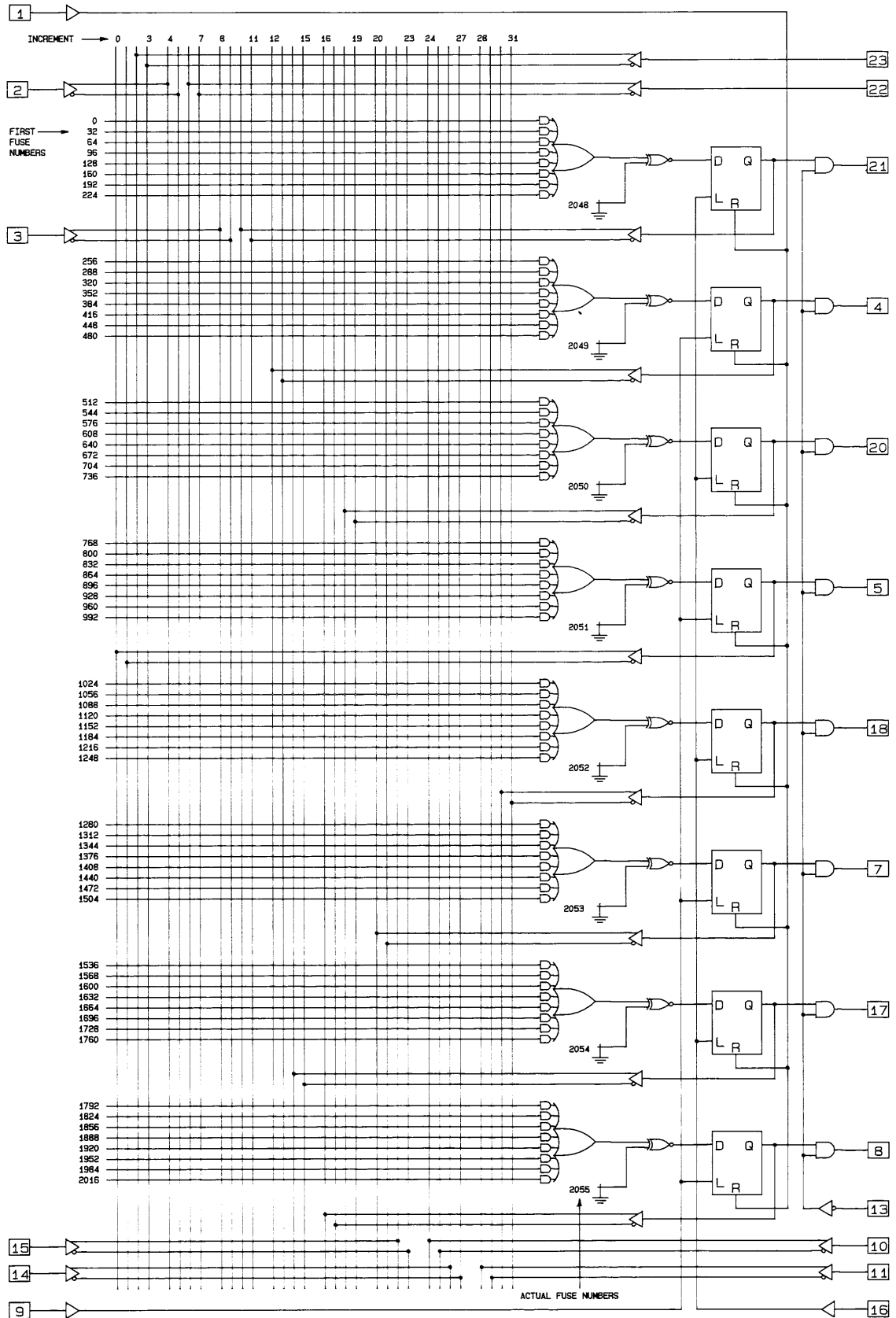


NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

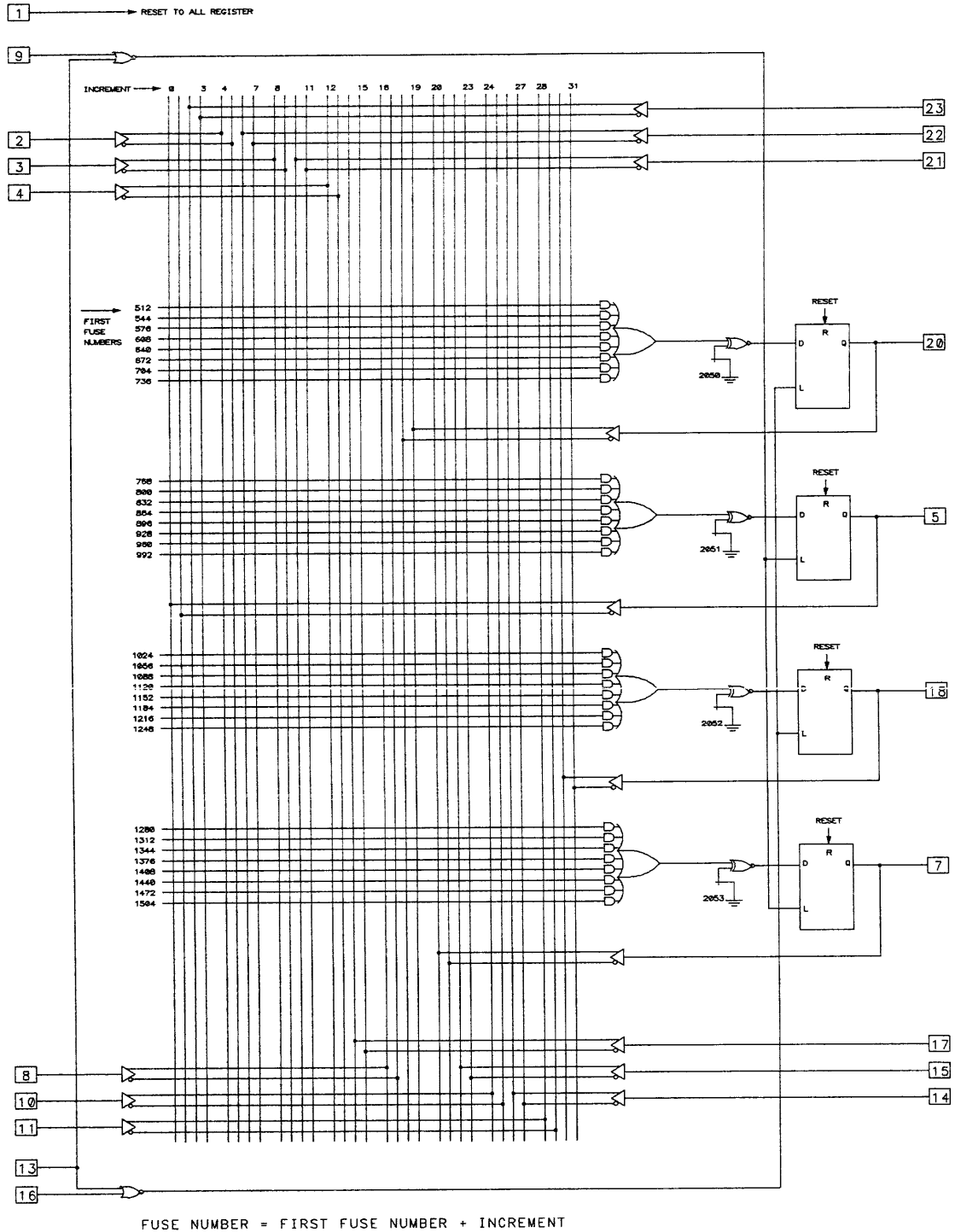


NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

Data I/O Corporation

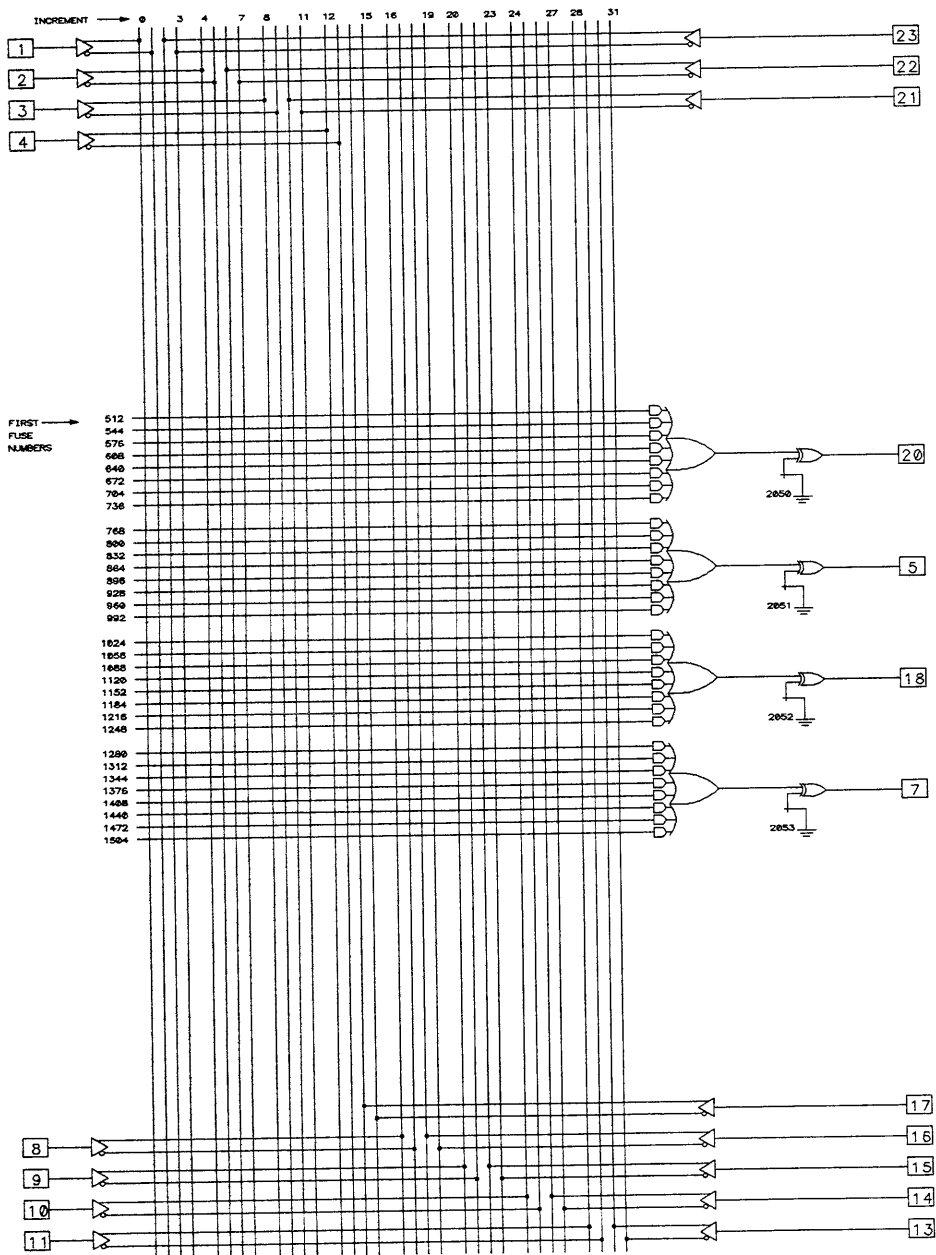


NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

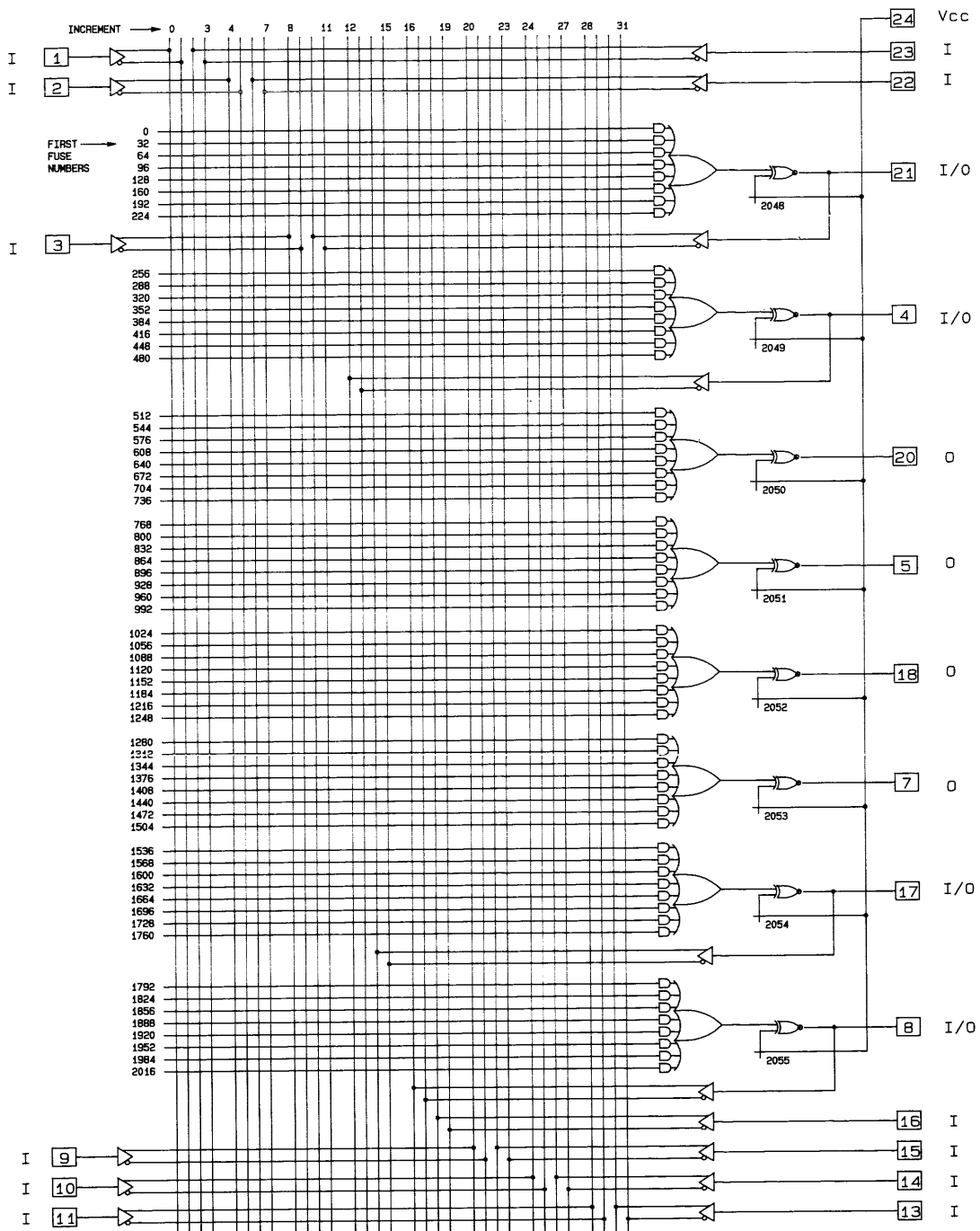


Data I/O Corporation

Data I/O Corporation



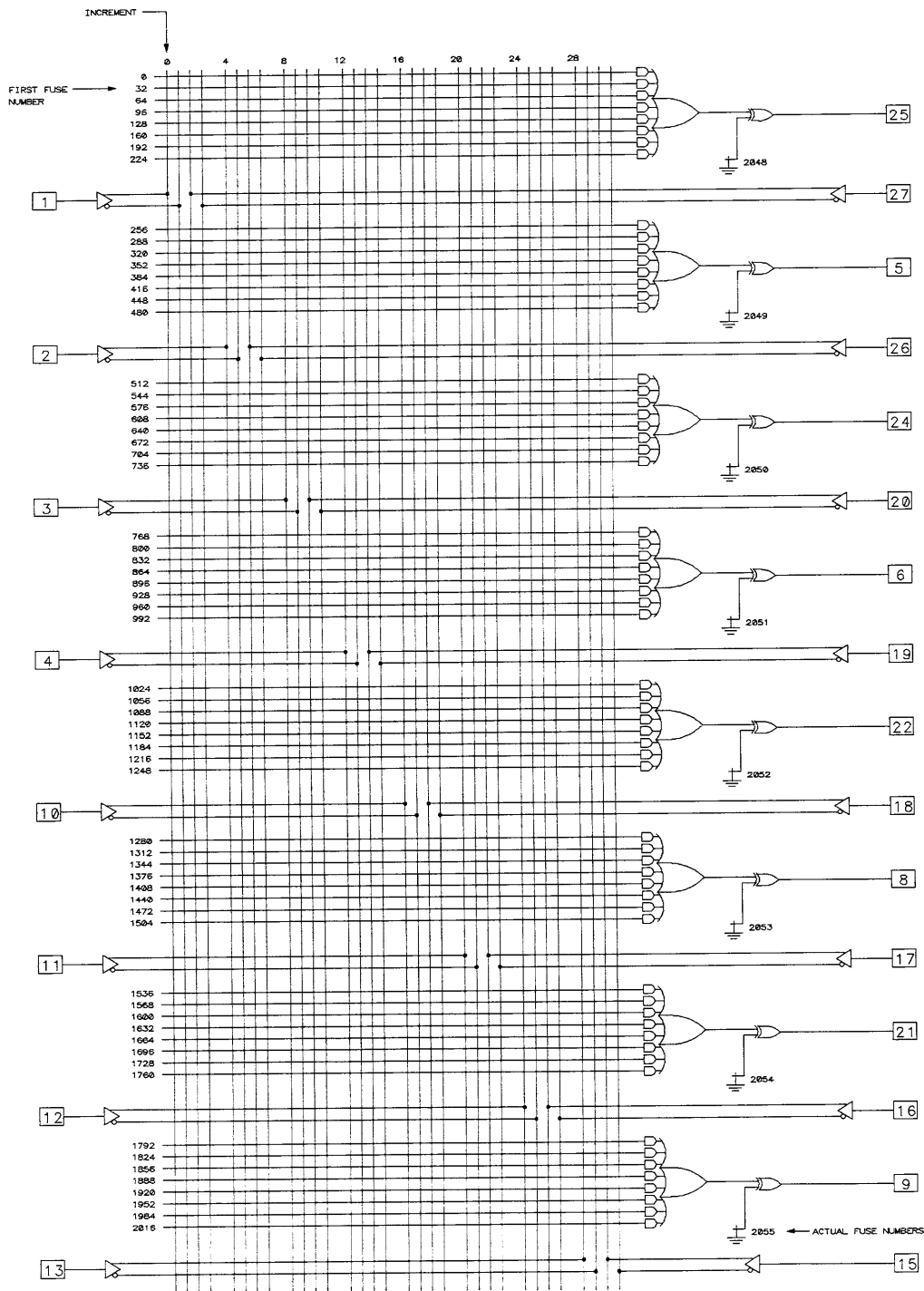
FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT



FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

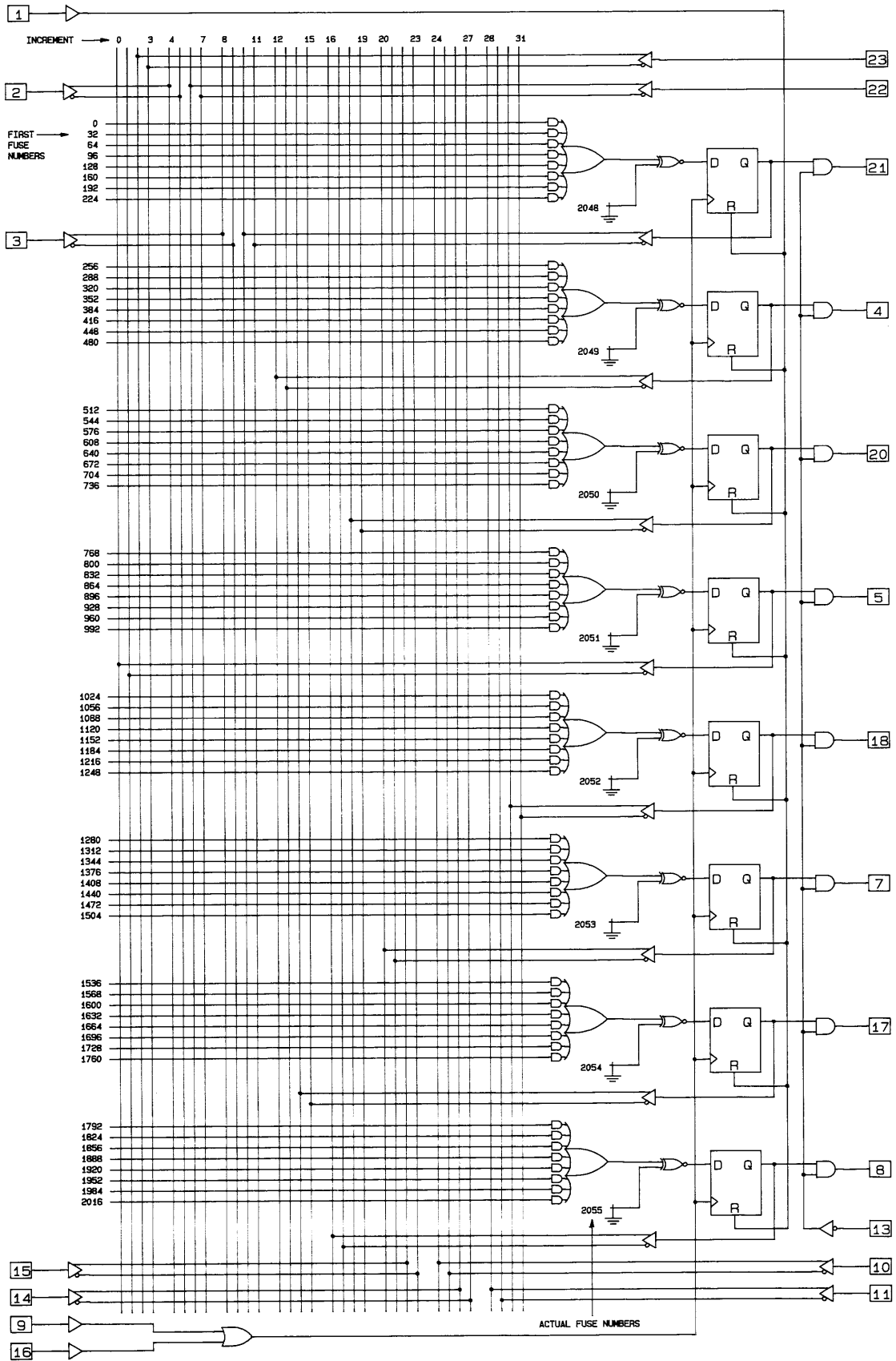
Data I/O Corporation

Data I/O Corporation

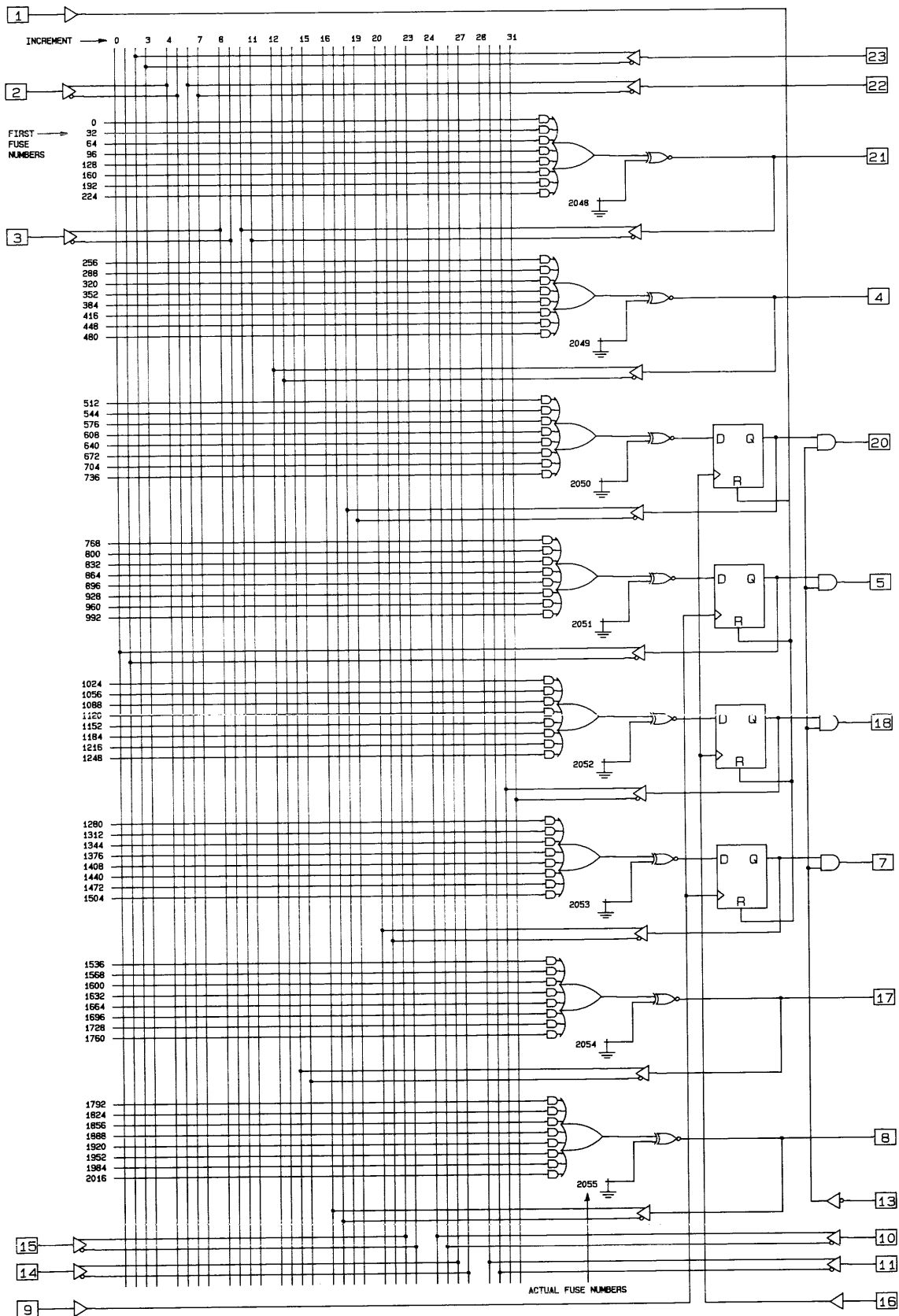


NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

Data I/O Corporation



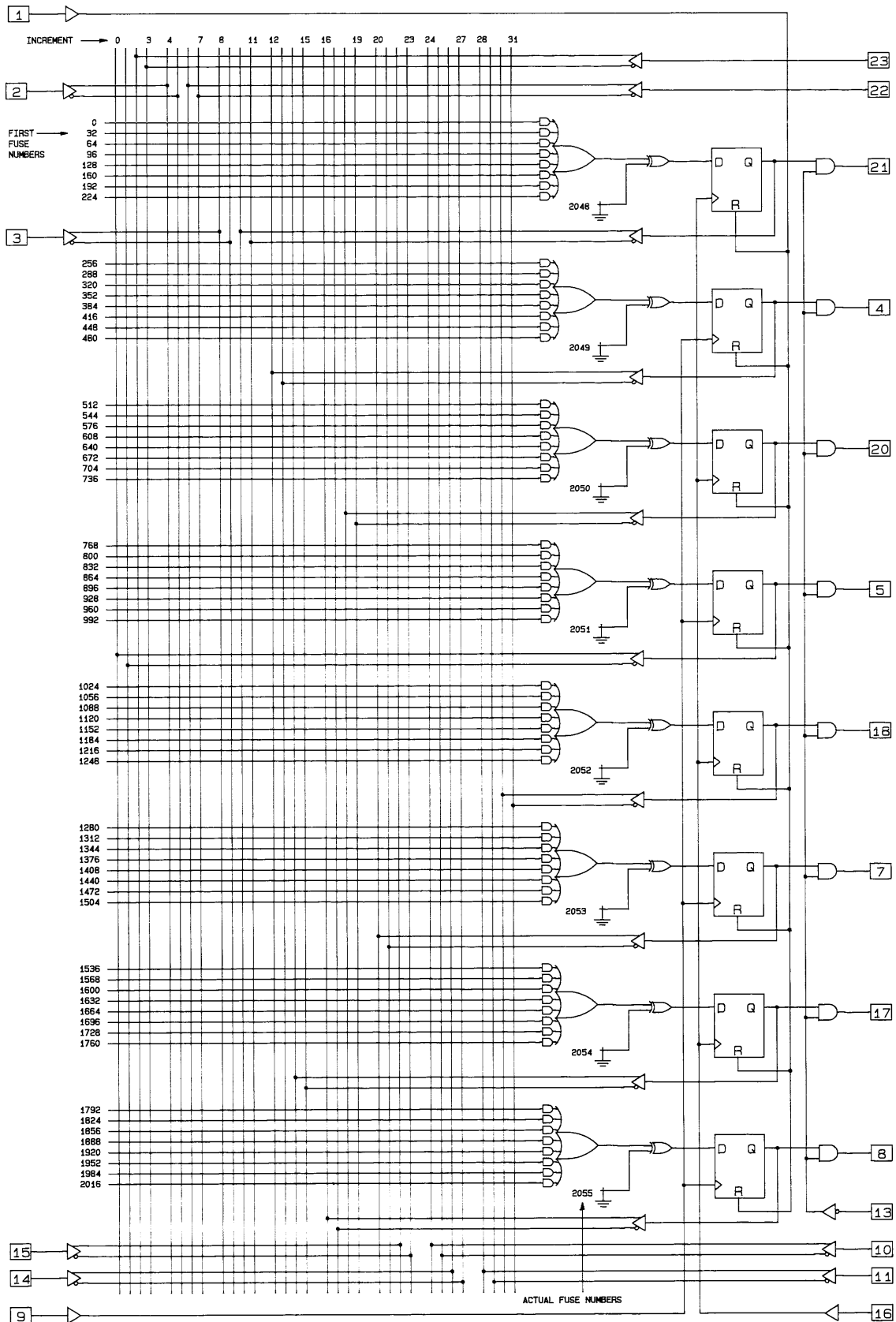
NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT



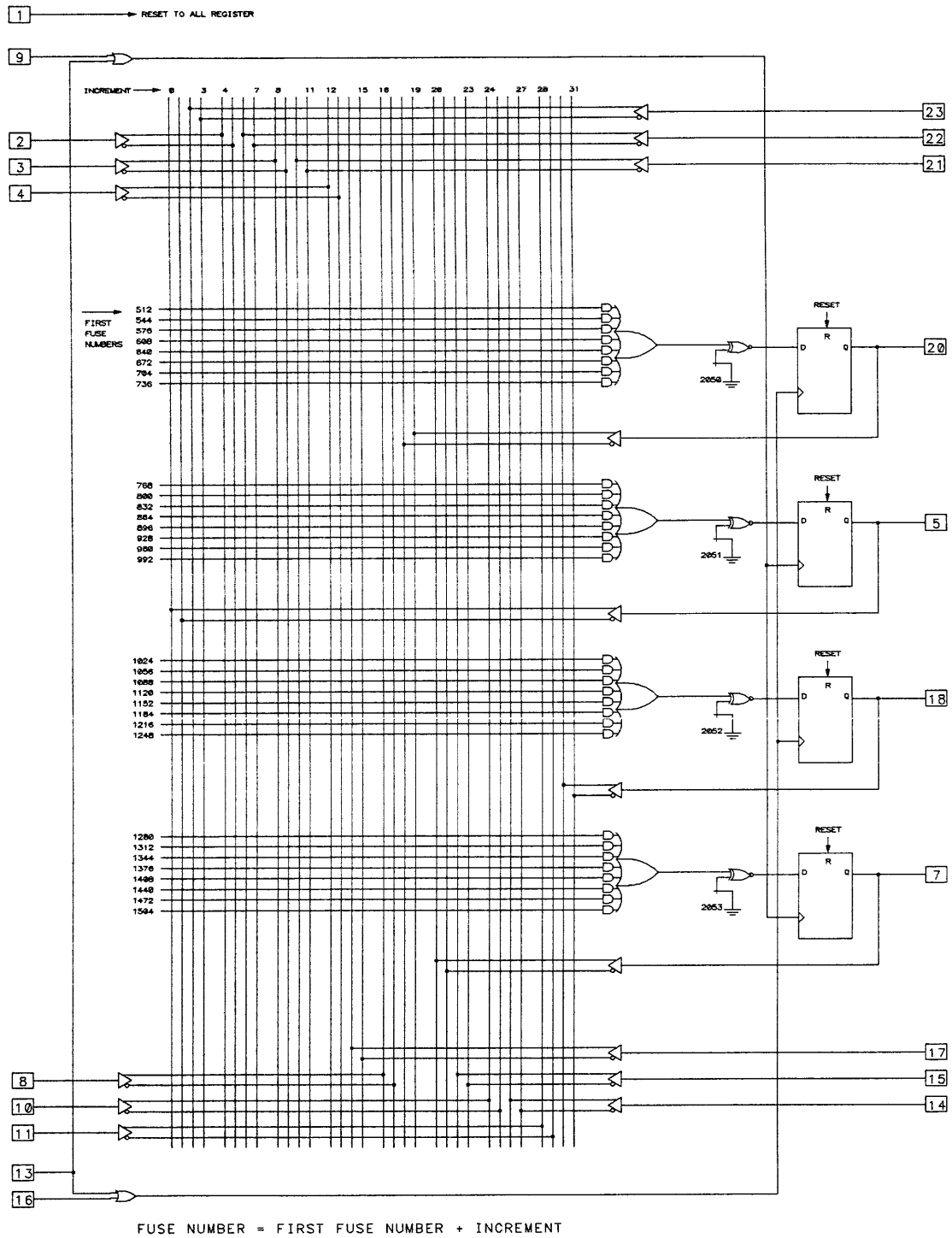
NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

Data I/O Corporation

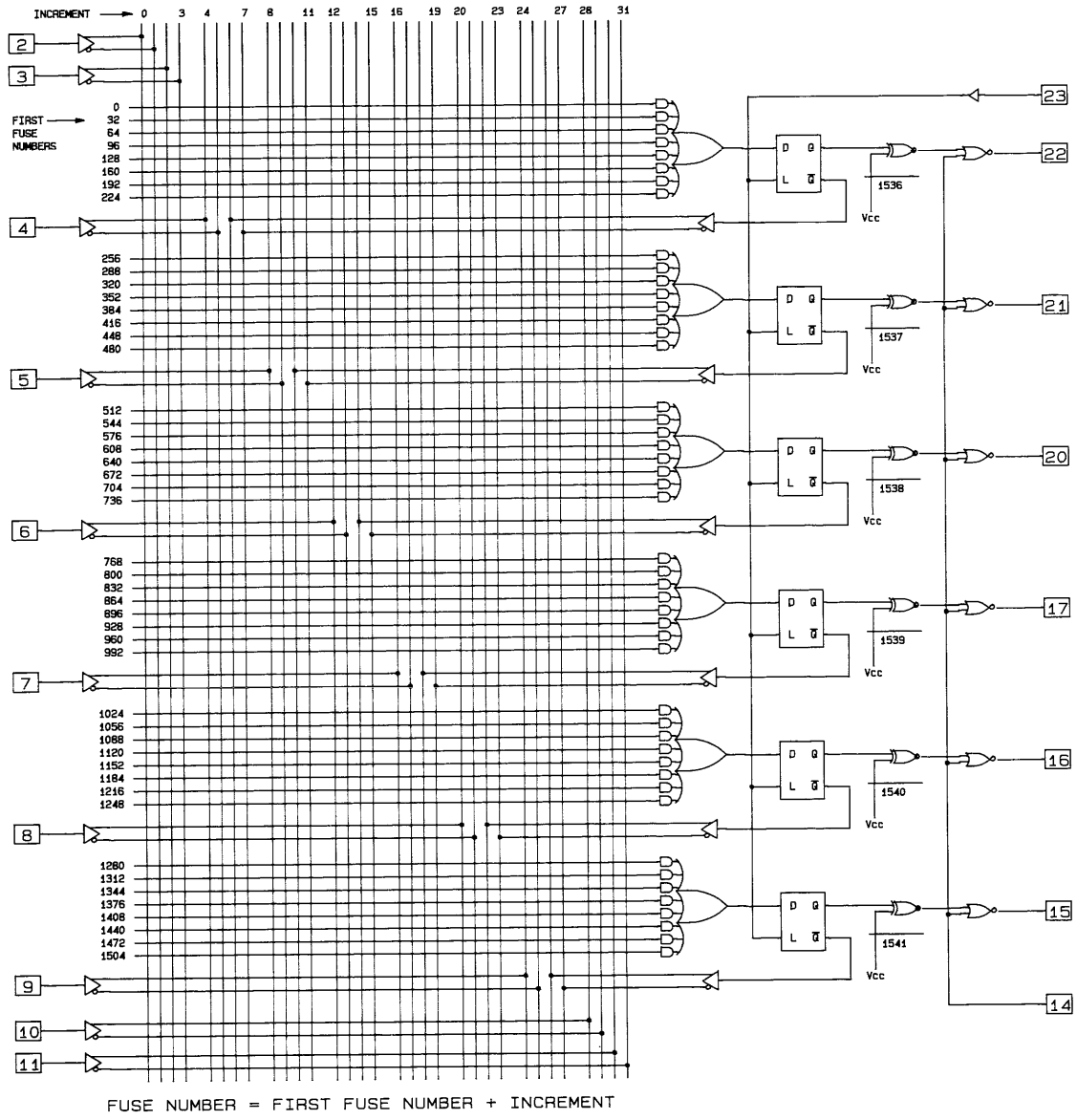
Data I/O Corporation

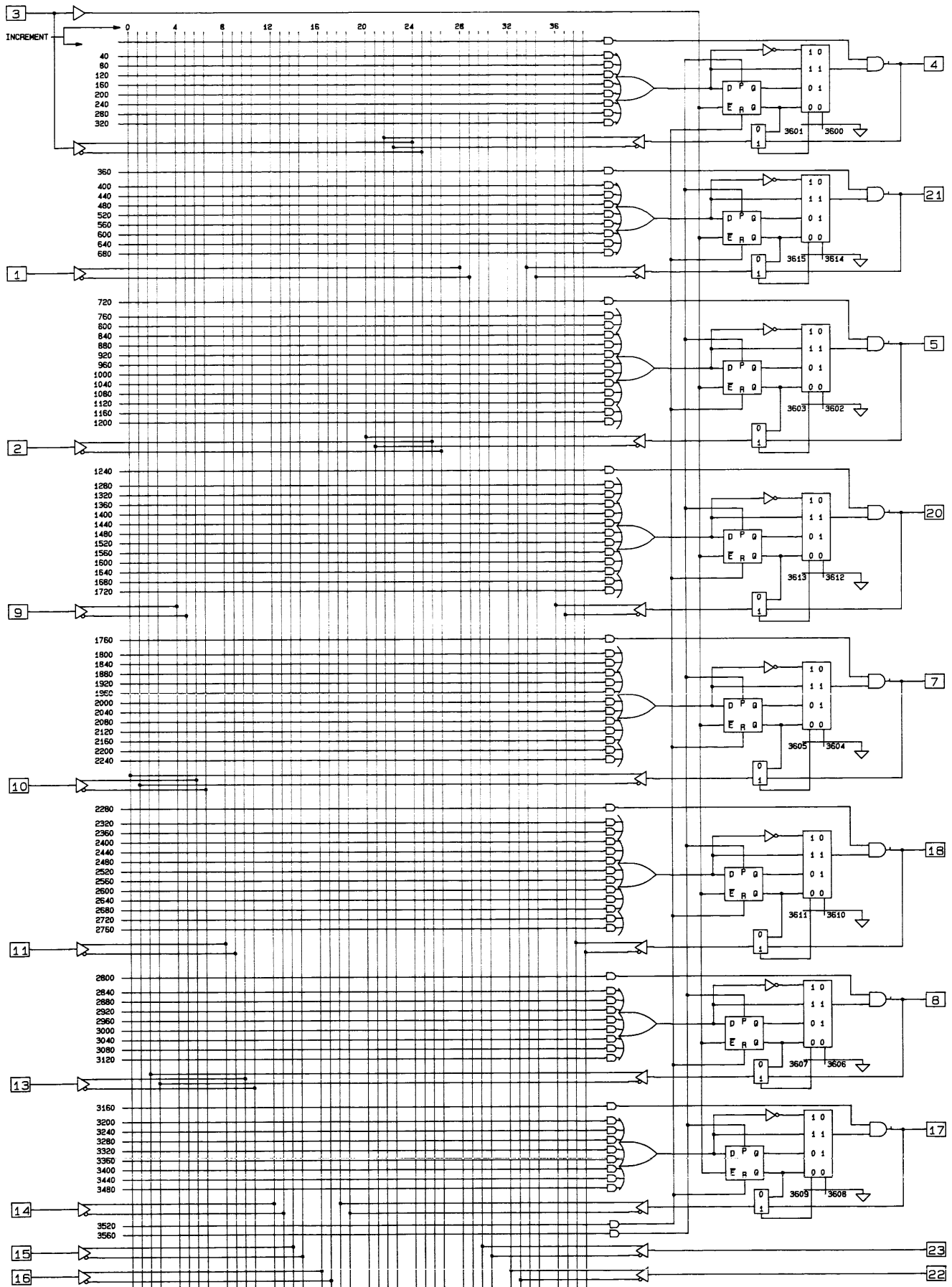


NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT



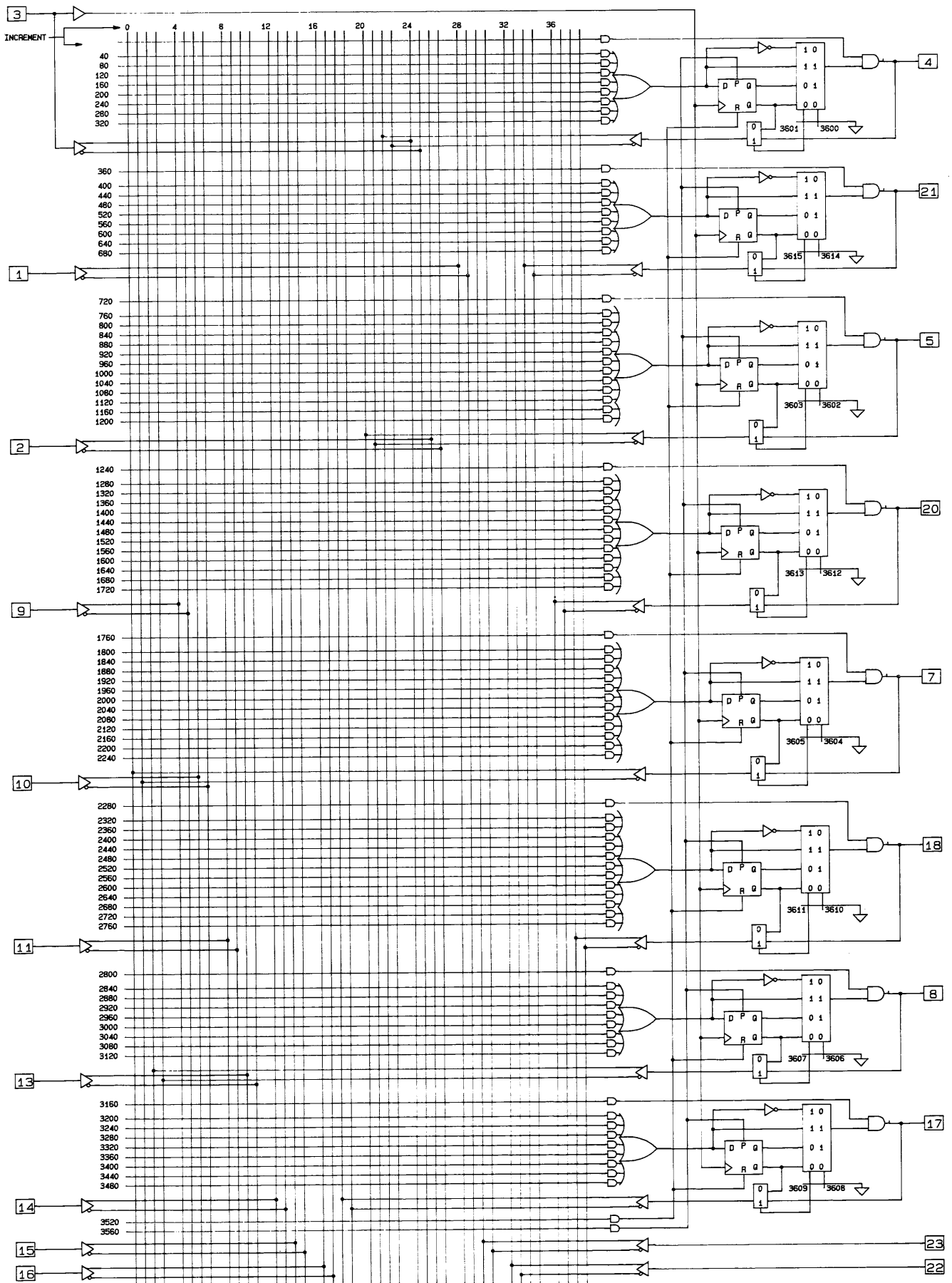
Data I/O Corporation

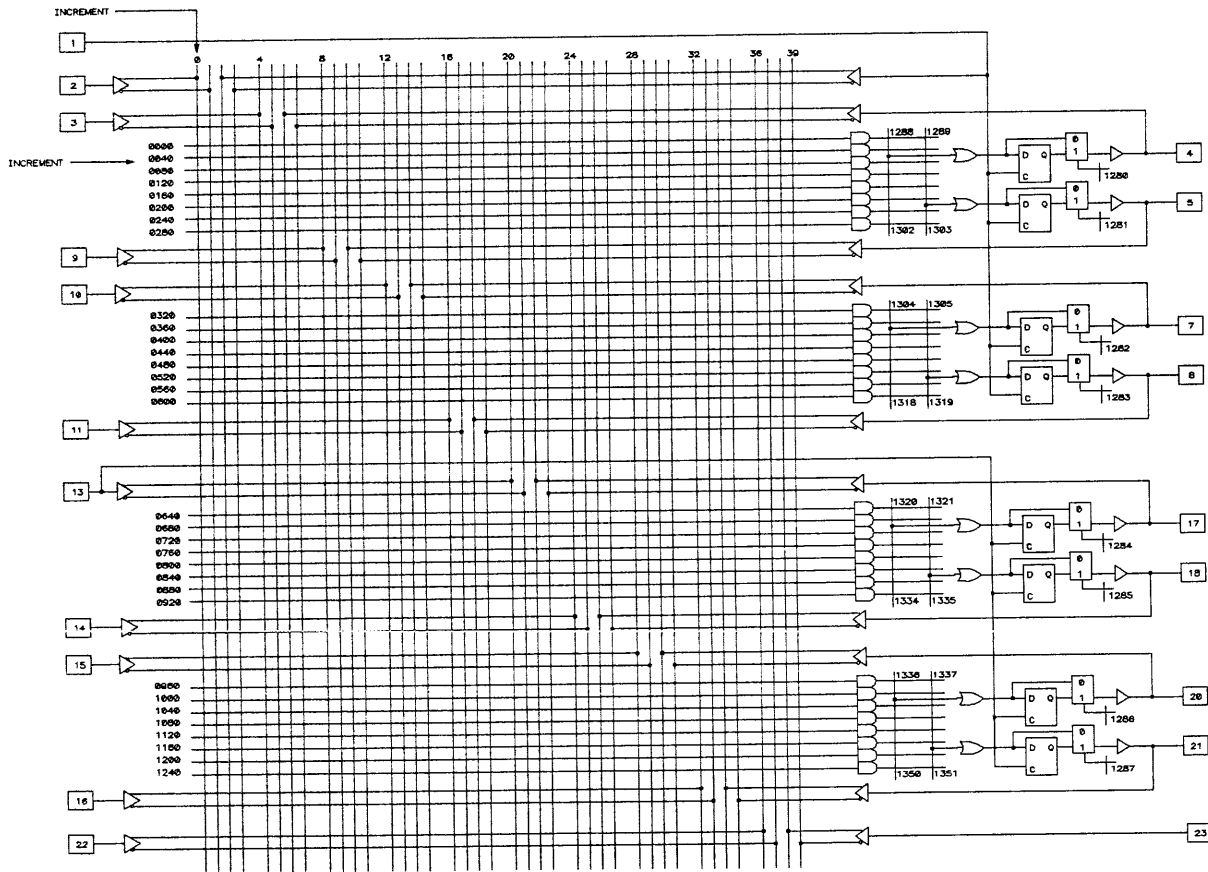




Data I/O Corporation

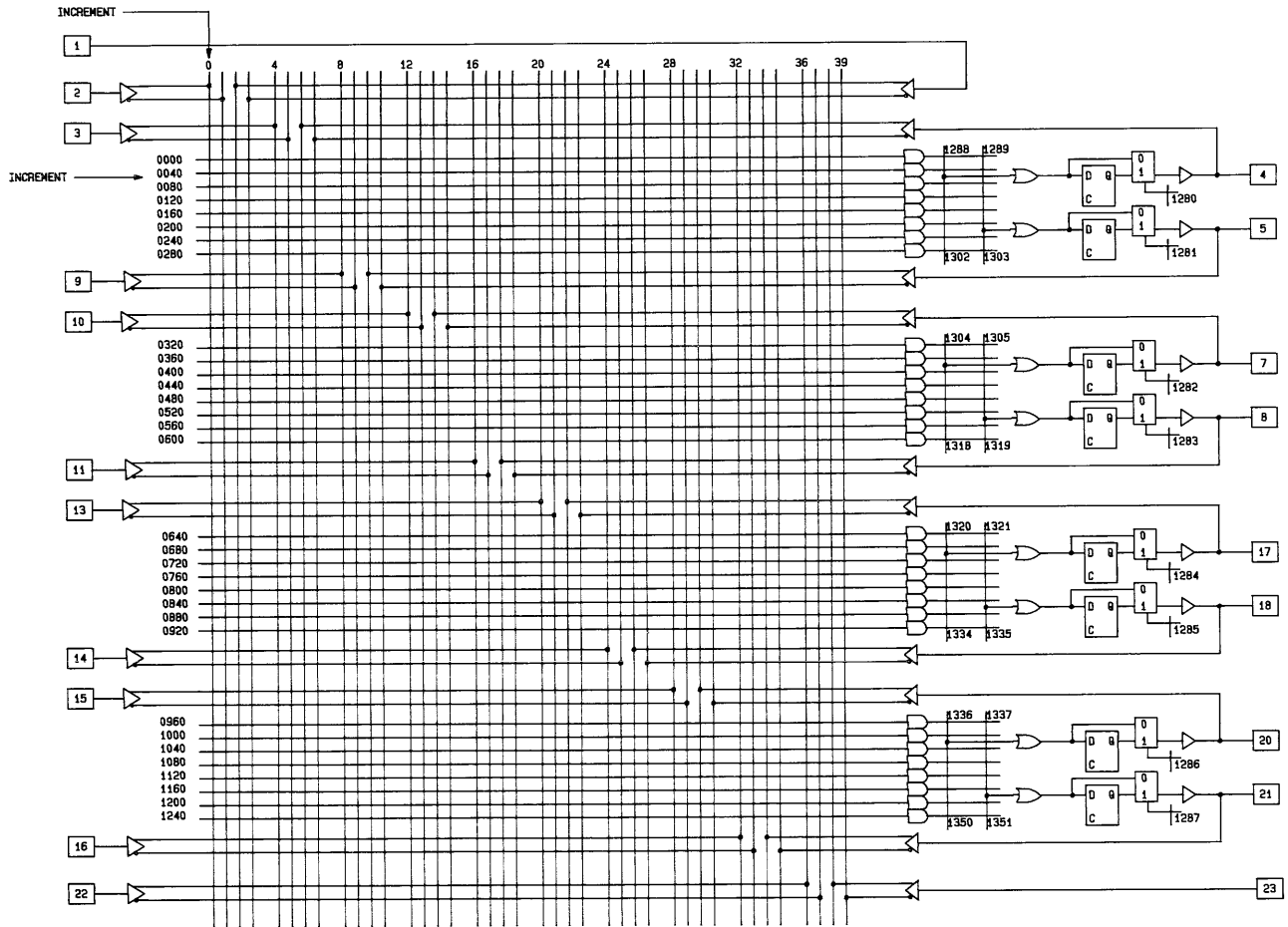
Corporation
Data I/O

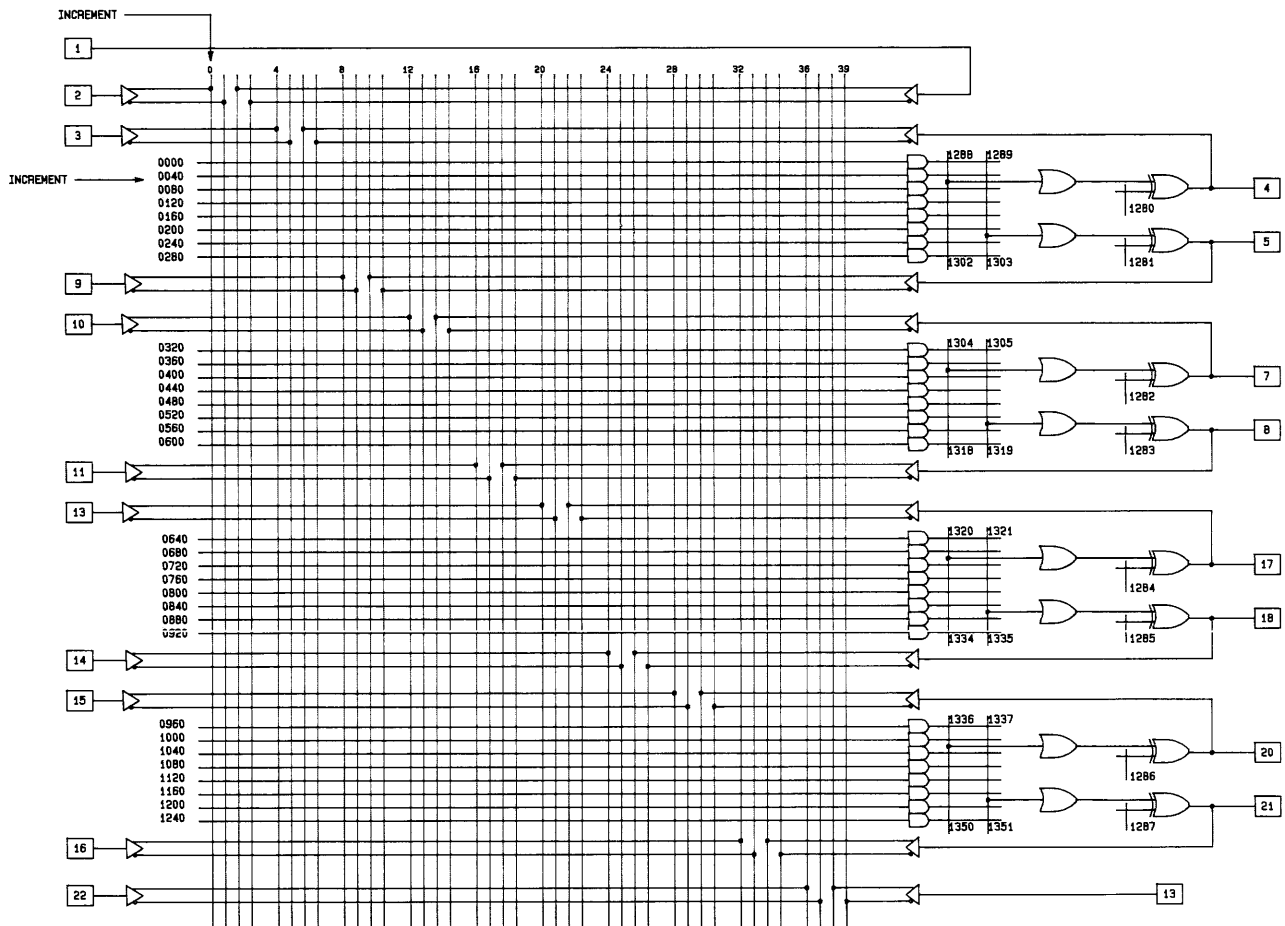




Data I/O Corporation

Data I/O Corporation

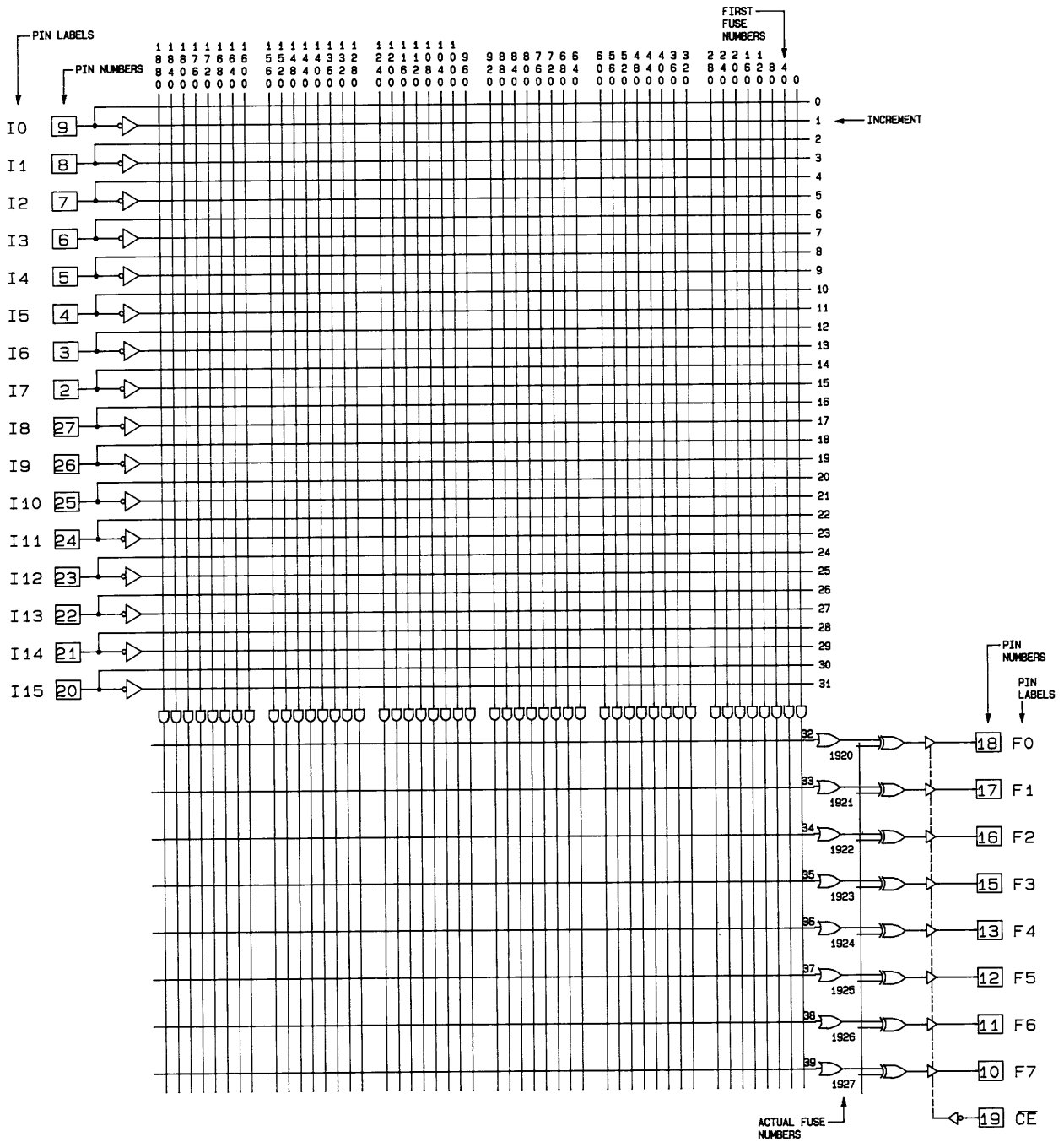




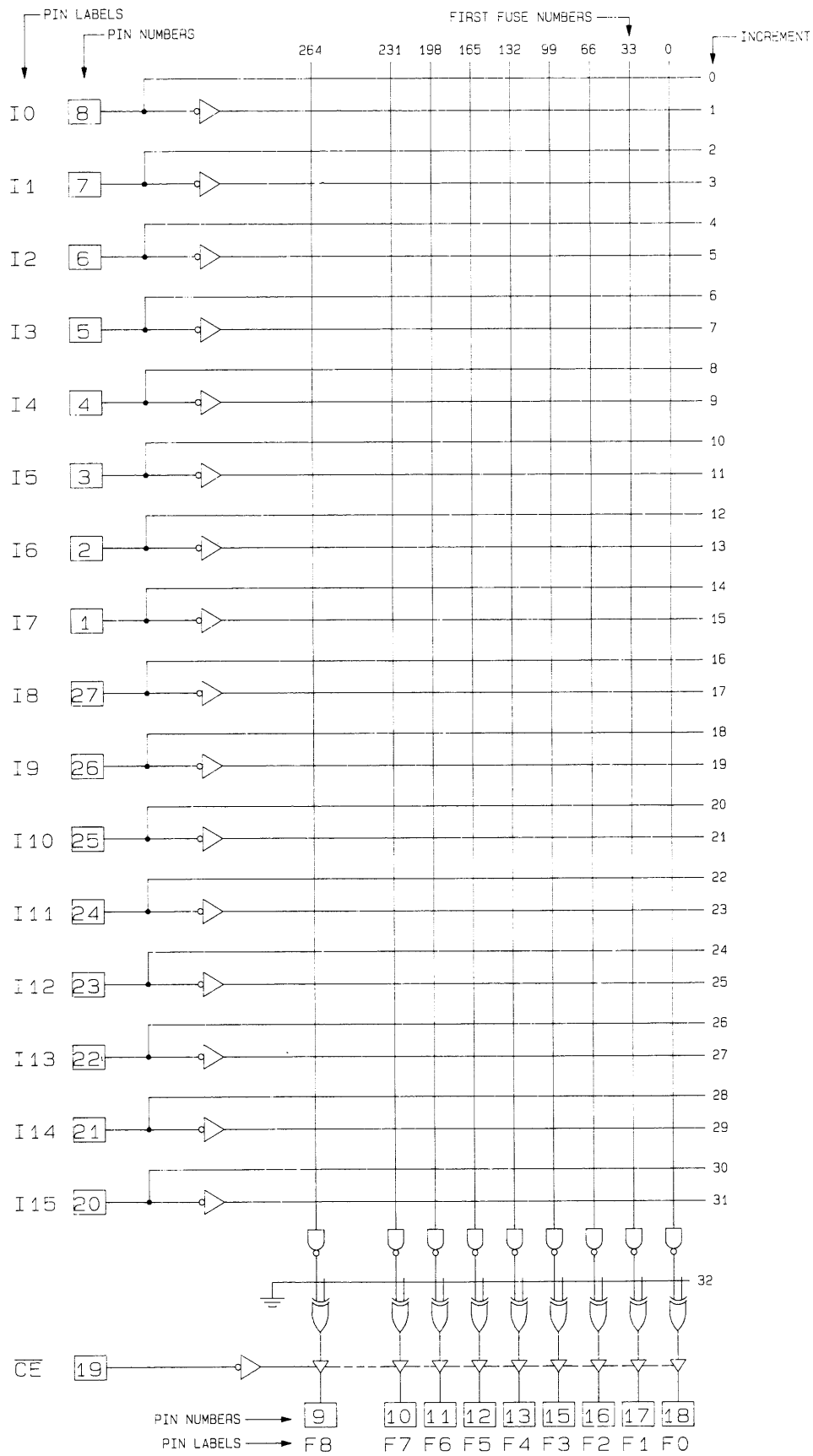
Data I/O

Corporation

Data I/O Corporation



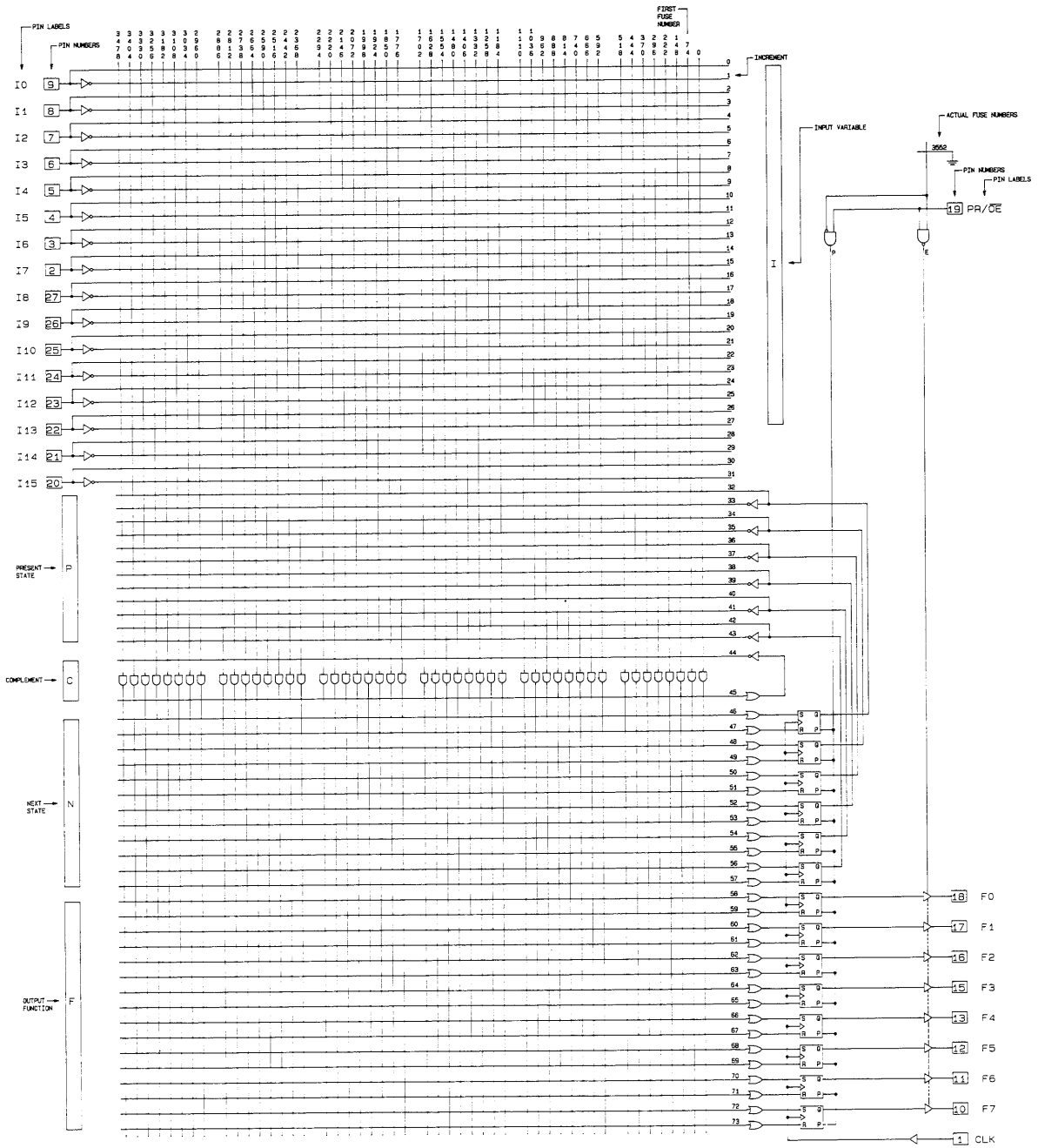
NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT



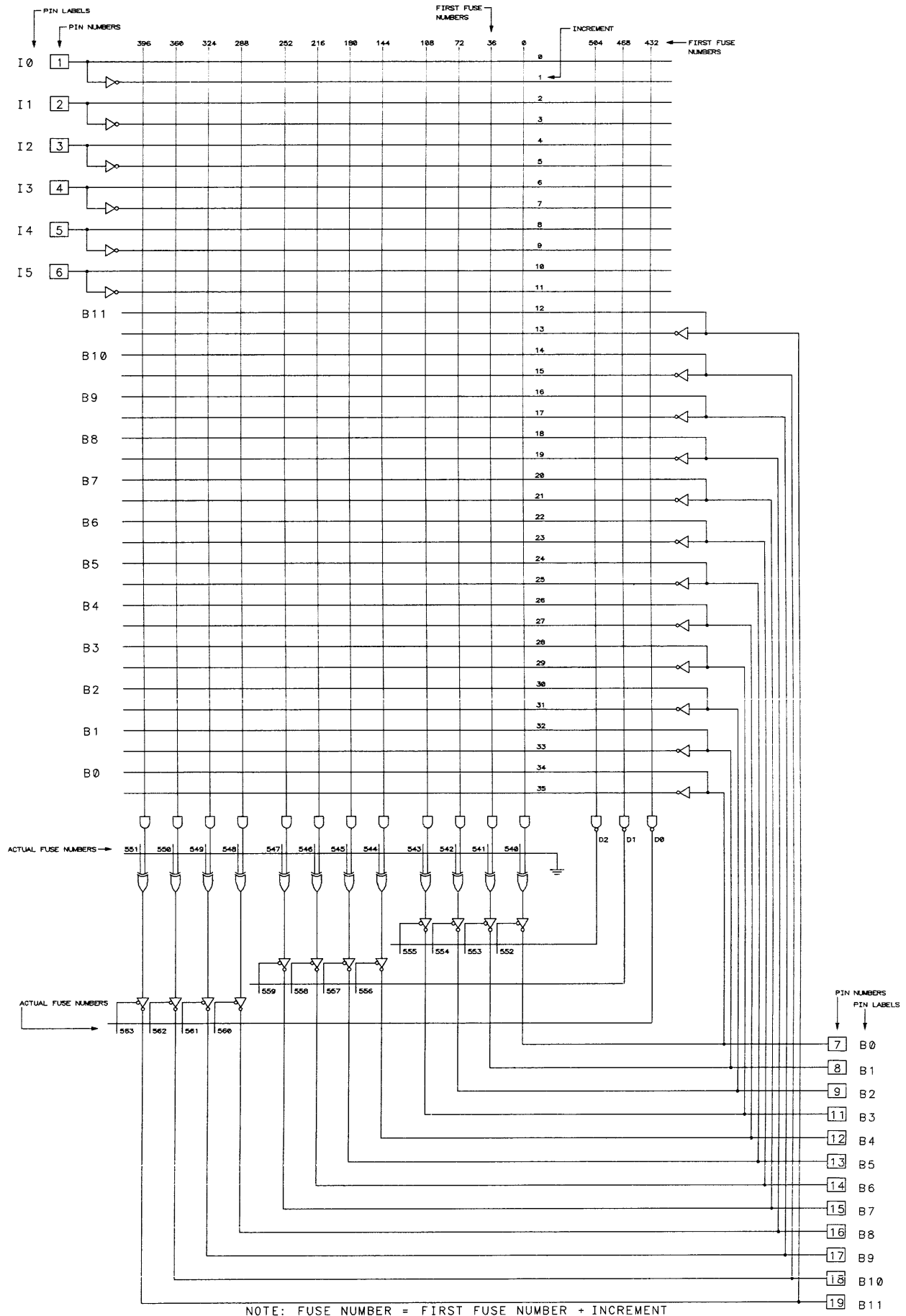
NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

Data I/O Corporation

Data I/O Corporation

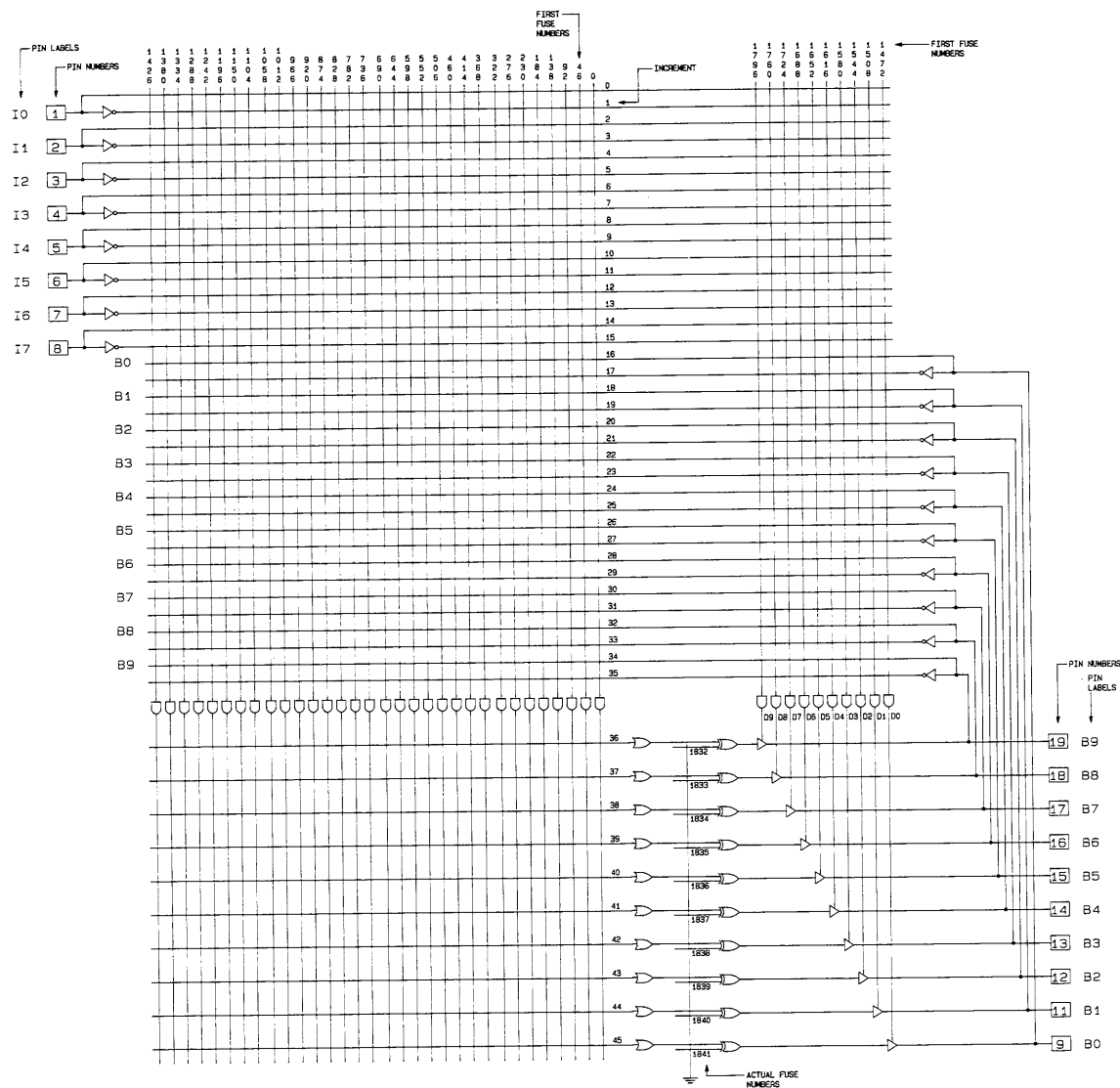


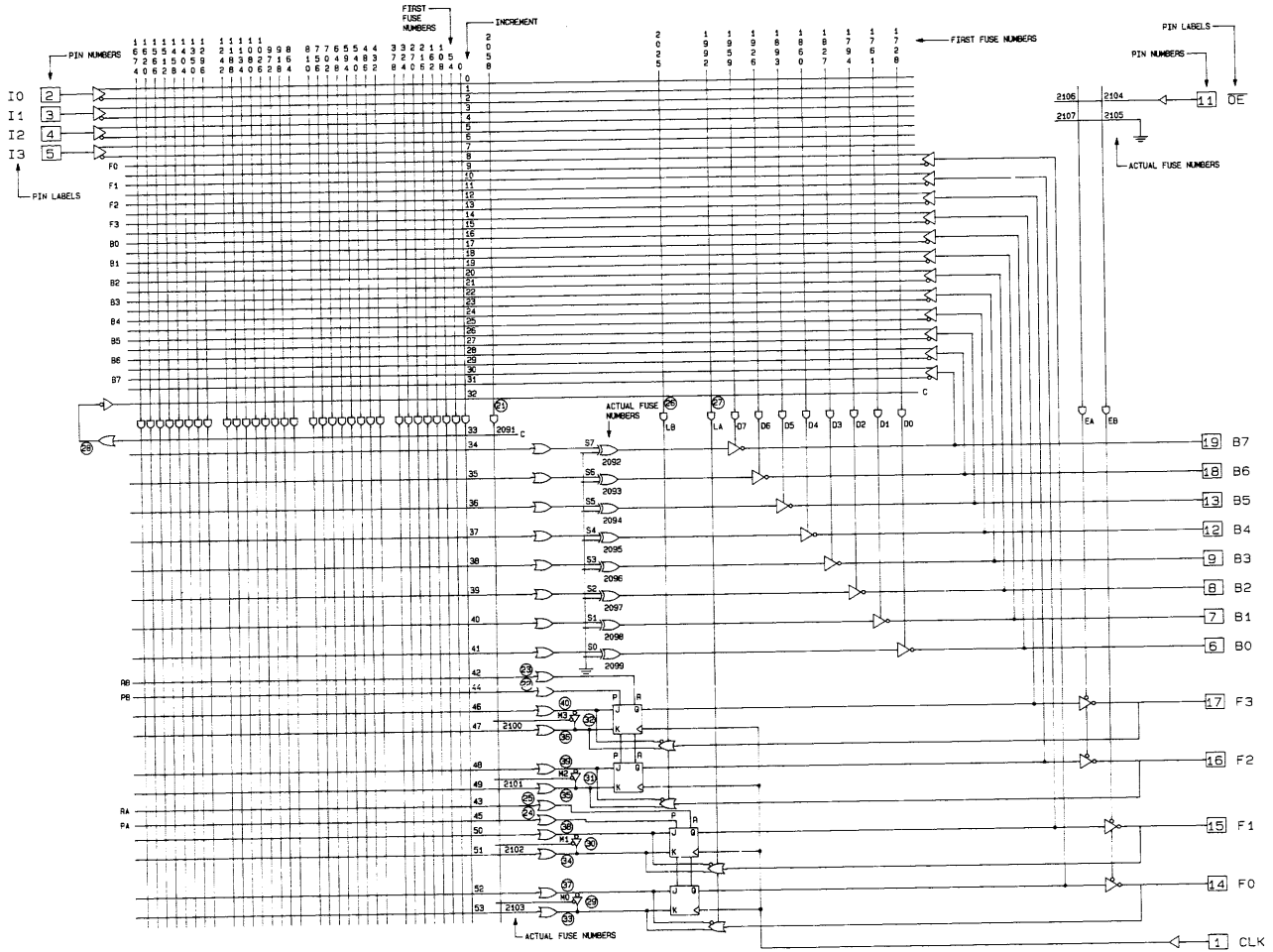
NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT



Data I/O Corporation

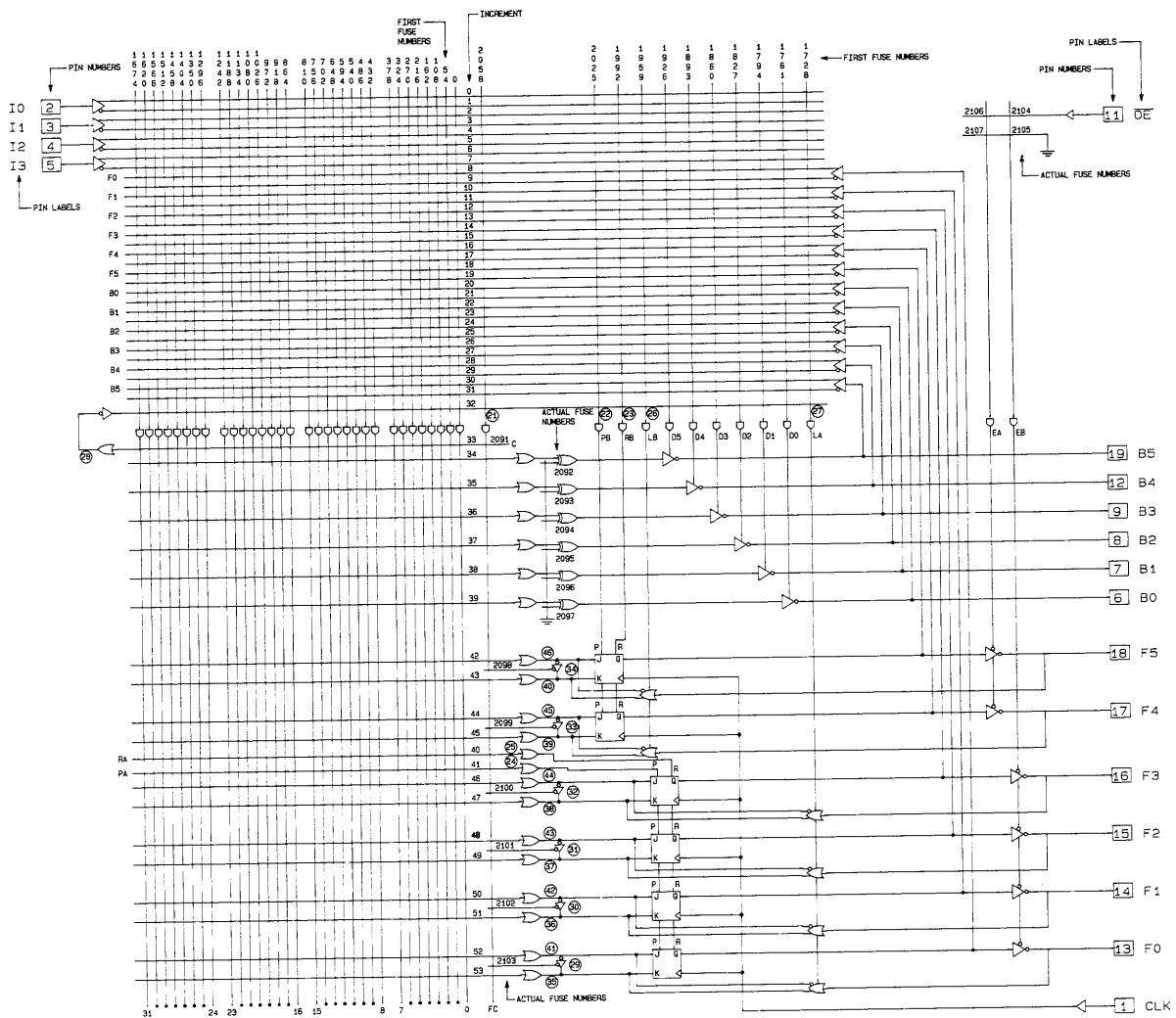
Data I/O Corporation



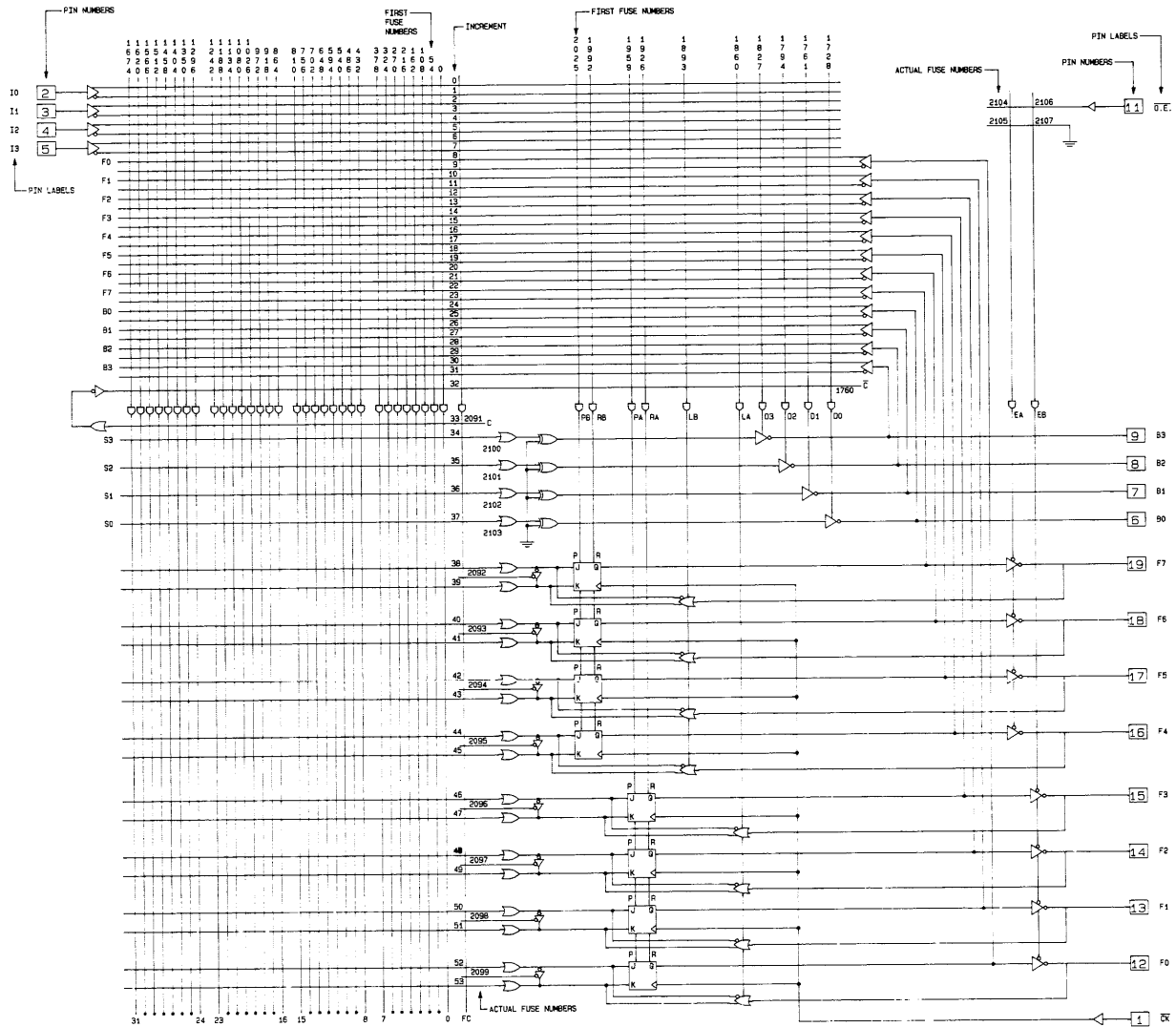


- NOTES:
1. ALL OR GATE INPUTS WITH A BLOWN LINK FLOAT TO LOGIC "0"
 2. ALL OTHER GATES AND CONTROL INPUTS WITH A BLOWN LINK FLOAT TO LOGIC "1"
 3. ○ DENOTES NODE NUMBER
 4. FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

Data I/O Corporation



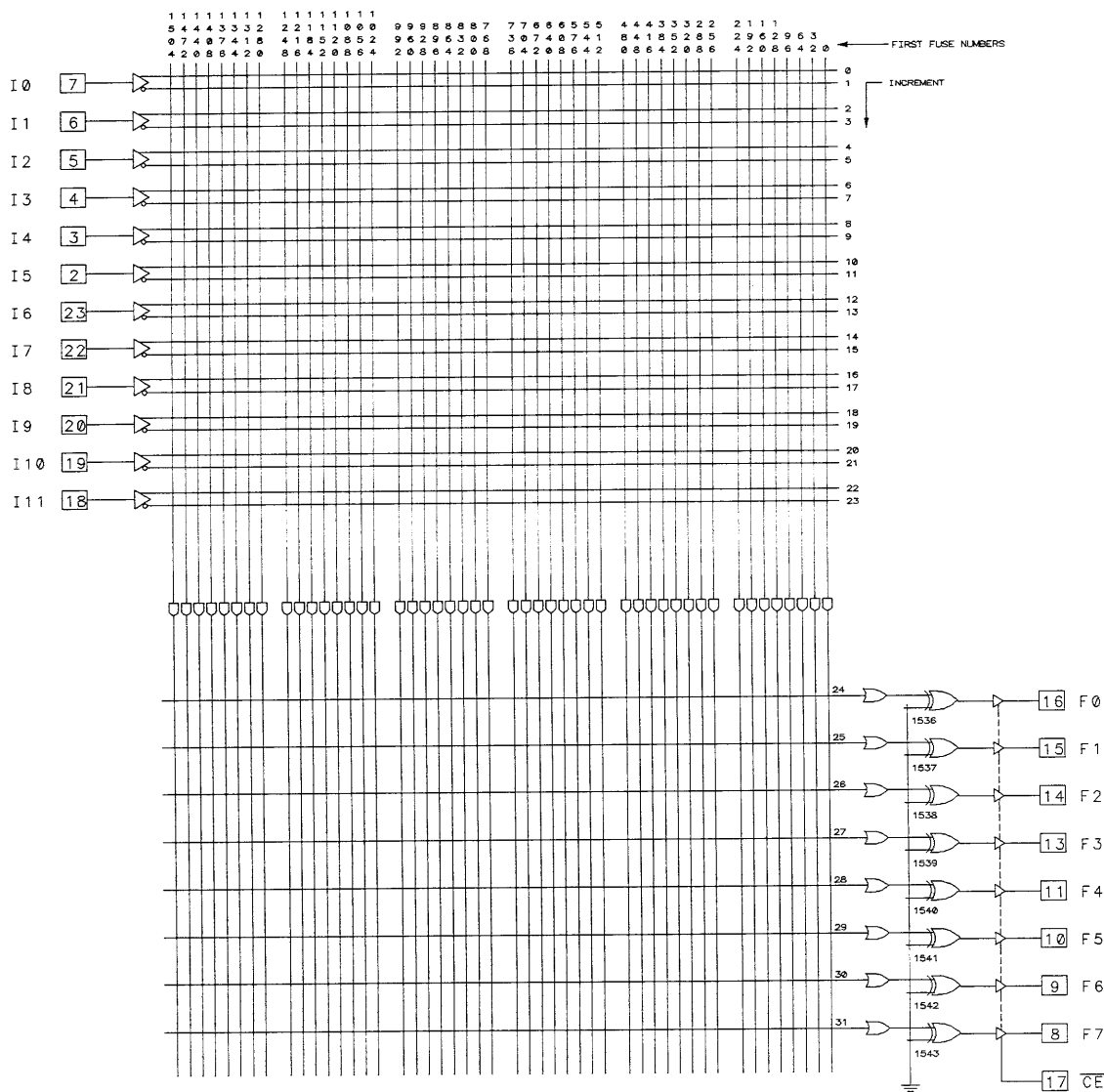
- NOTES:
1. ALL OR GATE INPUTS WITH A BLOWN LINK FLOAT TO LOGIC "0"
 2. ALL OTHER GATES AND CONTROL INPUTS WITH A BLOWN LINK FLOAT TO LOGIC "1"
 3. O DENOTES NODE NUMBER
 4. FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

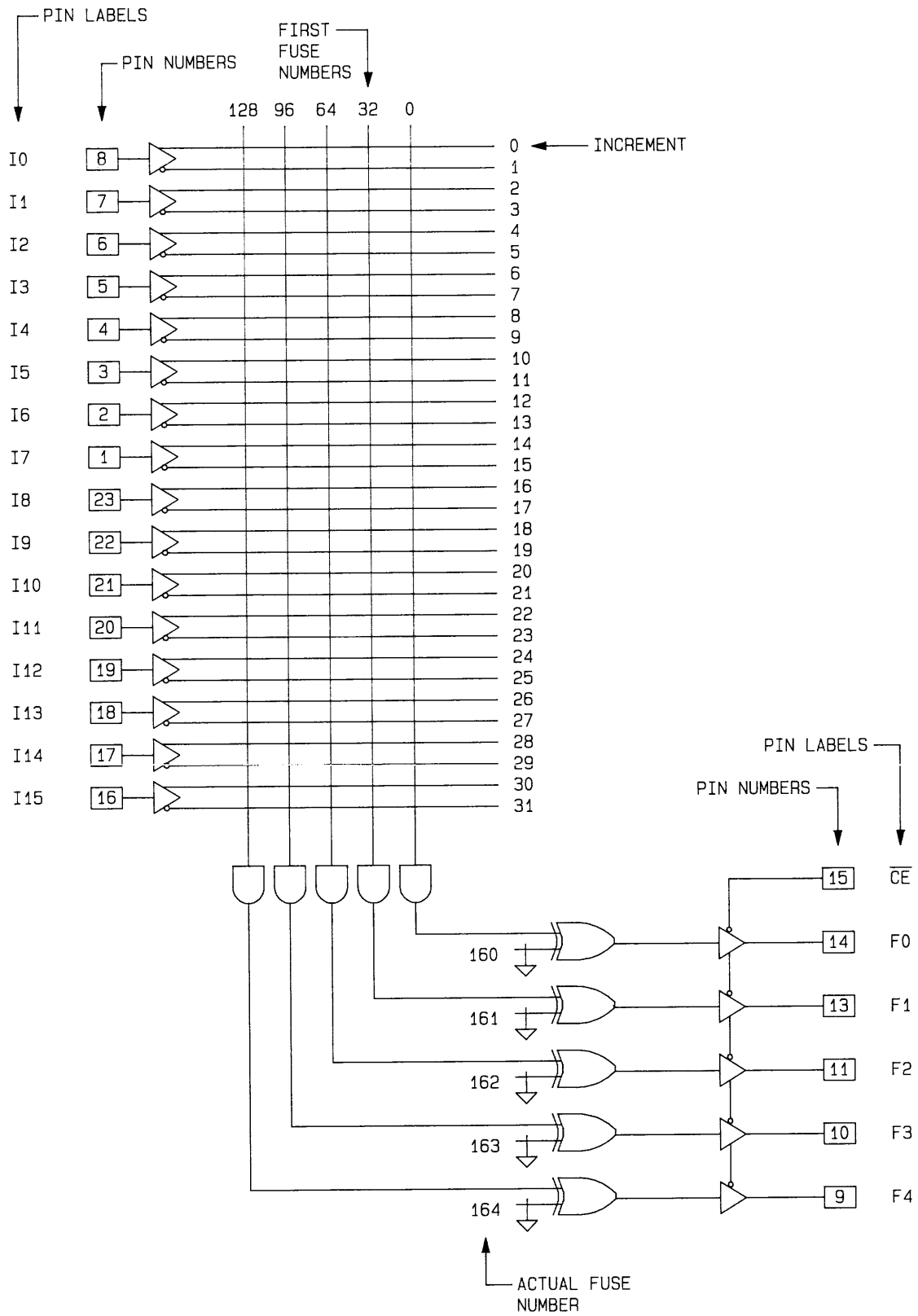


NOTES:
 1. ALL OR GATE INPUTS WITH A BLOWN LINK FLOAT TO LOGIC "0"
 2. ALL OTHER GATES AND CONTROL INPUTS WITH A BLOWN LINK FLOAT TO LOGIC "1"

NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

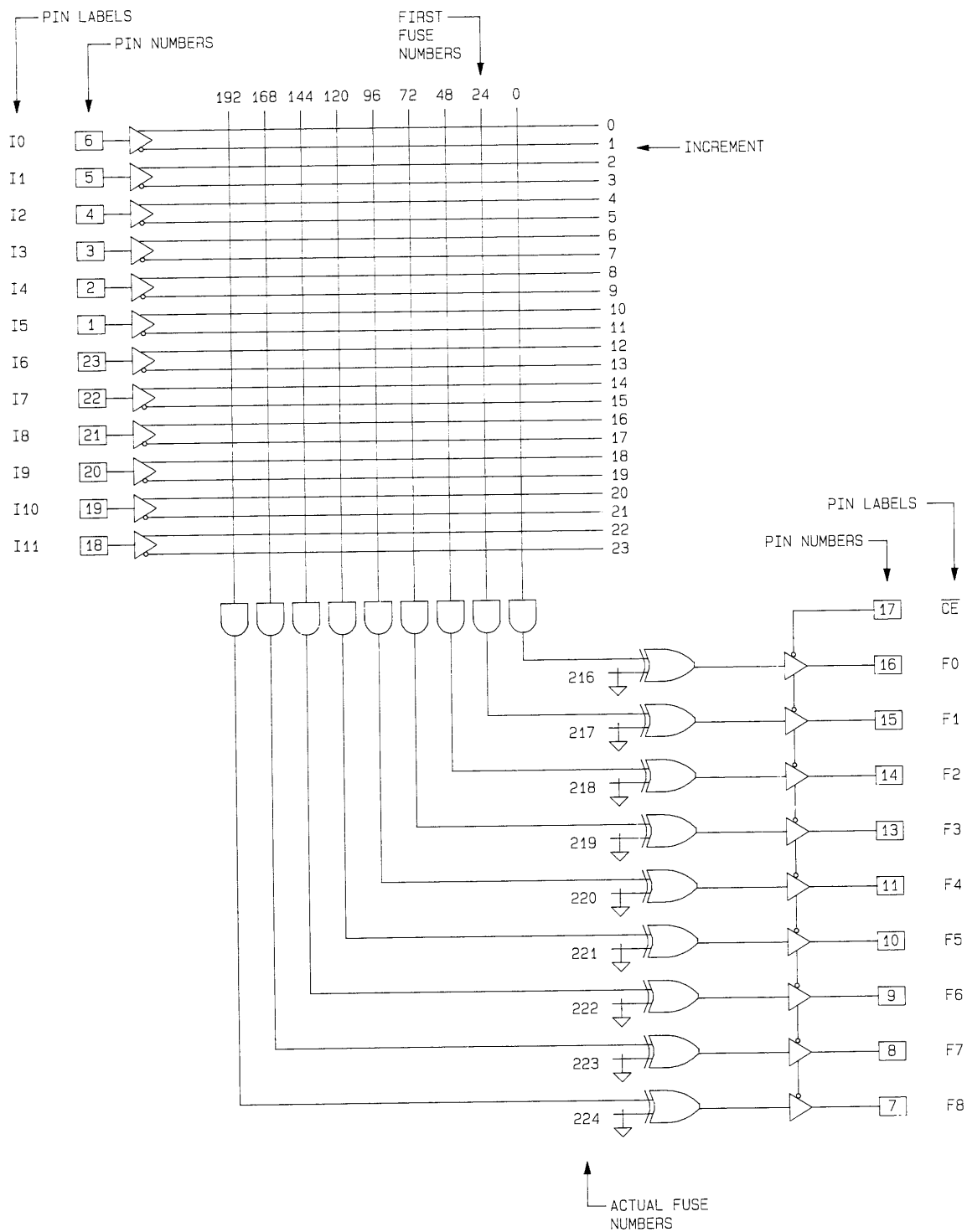
Data I/O Corporation



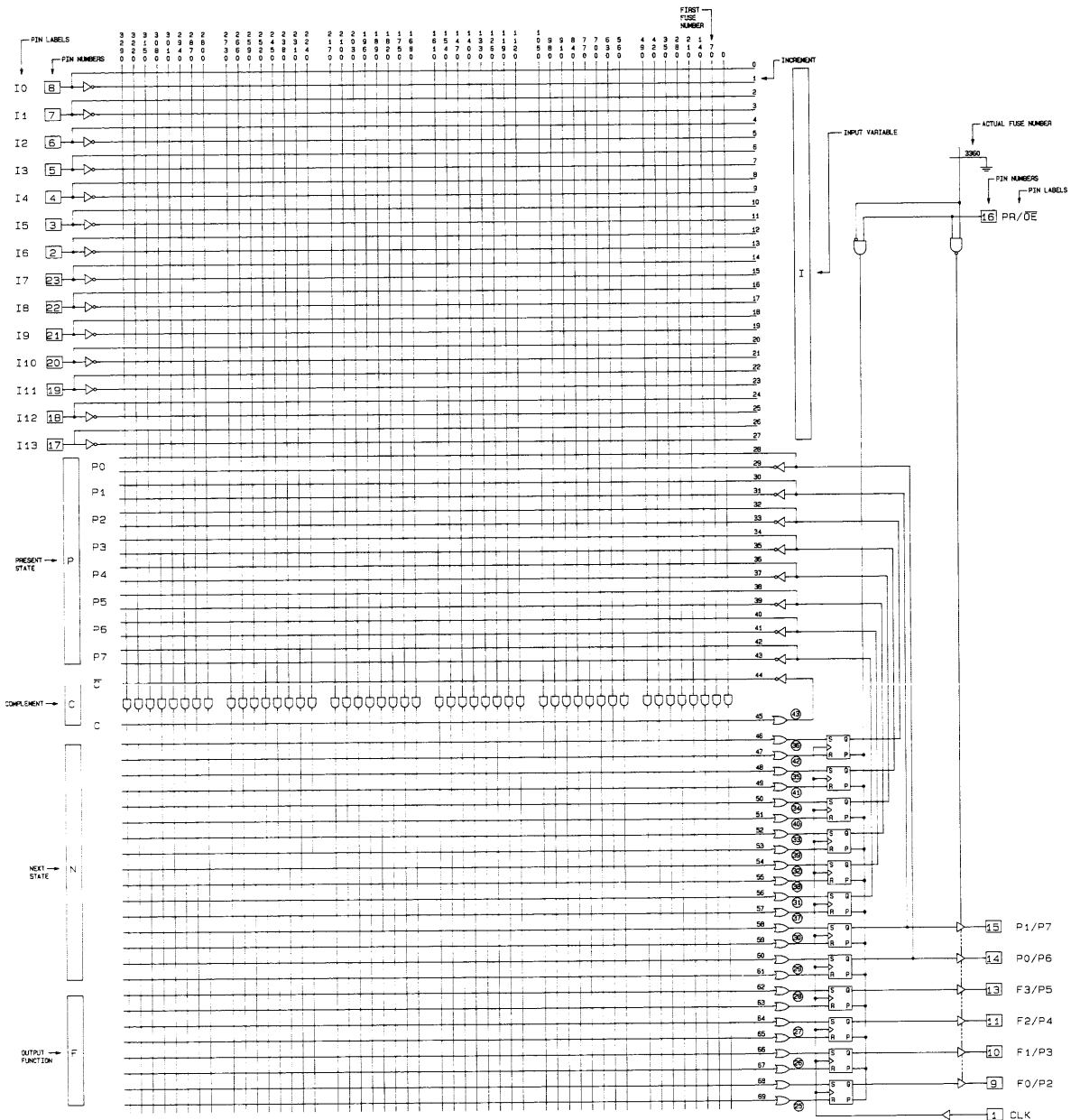


NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

Data I/O Corporation

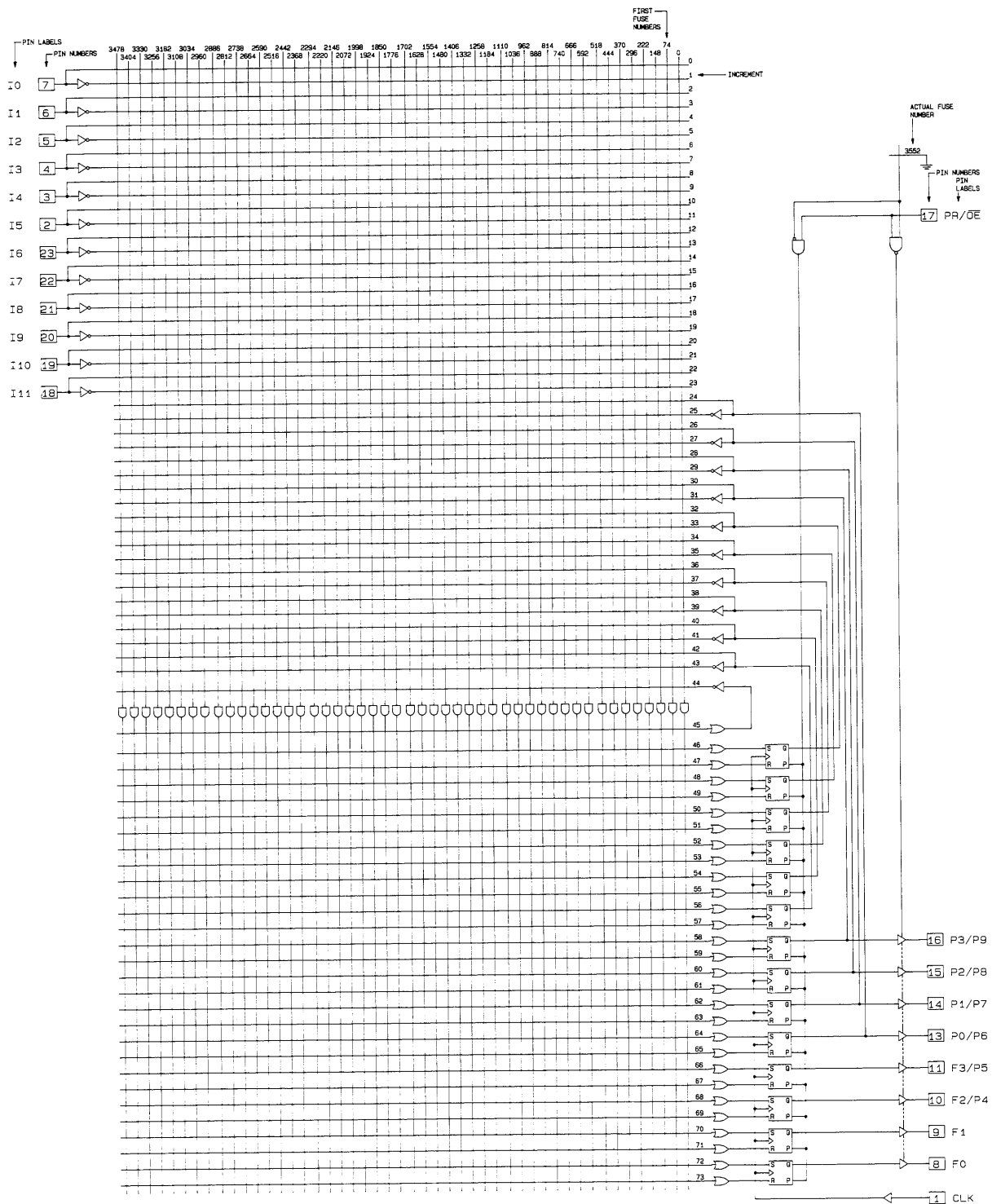


NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT.

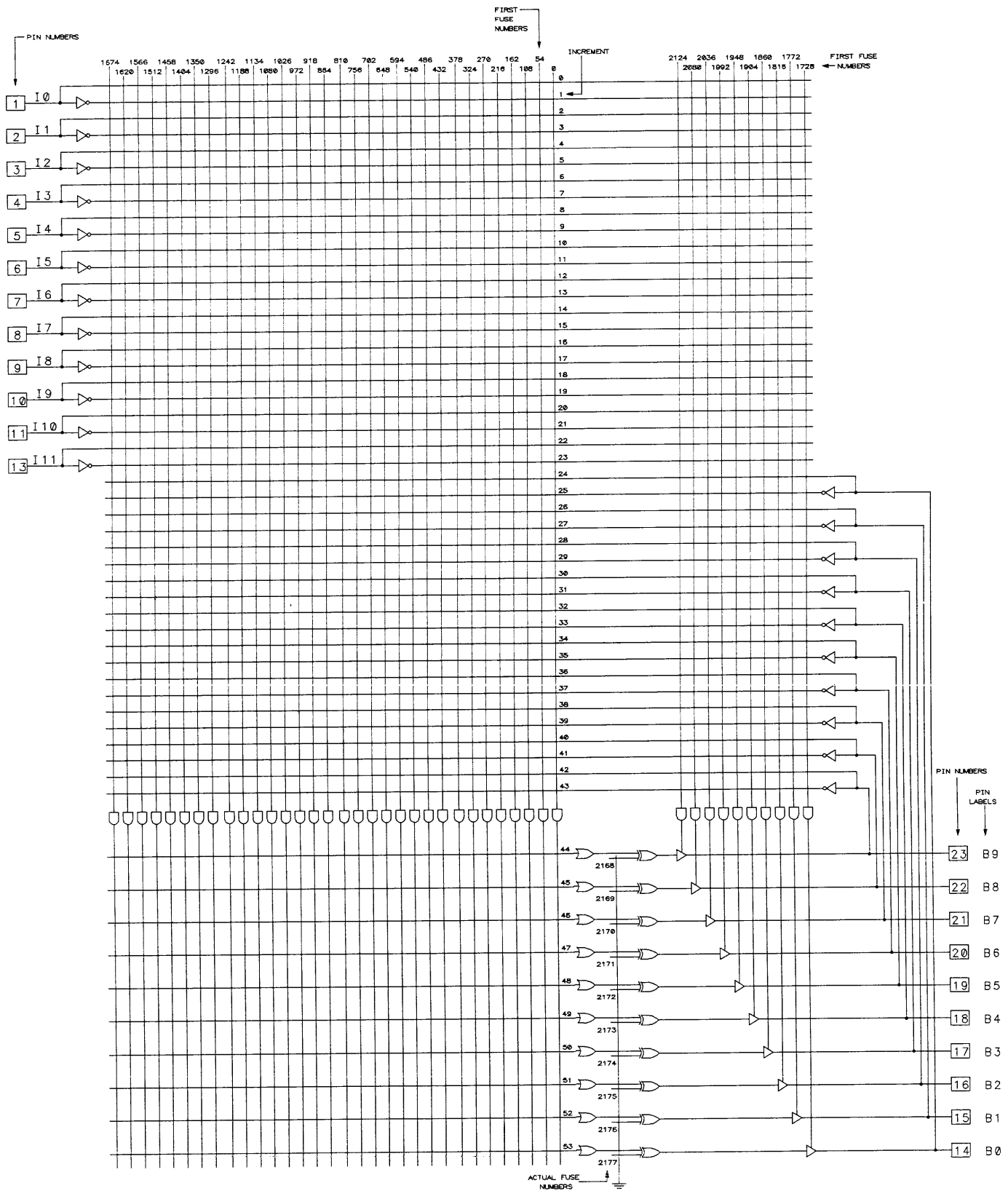


NOTES:
 1. ALL AND GATE INPUTS WITH A BLOWN LINK FLOAT TO A LOGIC "1"
 2. ALL OR GATE INPUTS WITH A BLOWN LINK FLOAT TO A LOGIC "0"
 3. O DENOTES NODE NUMBER
 4. FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

Data I/O Corporation



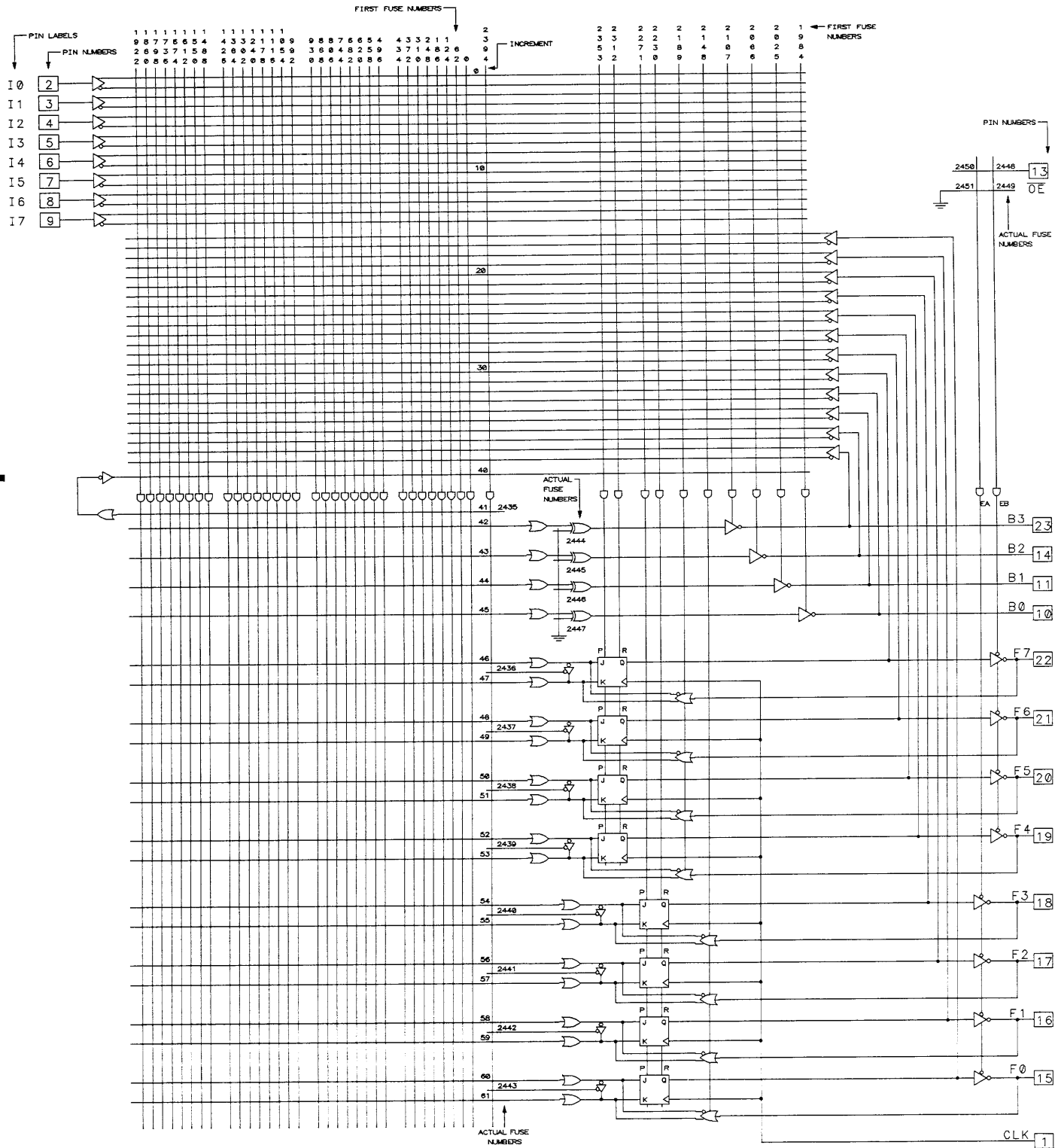
NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT



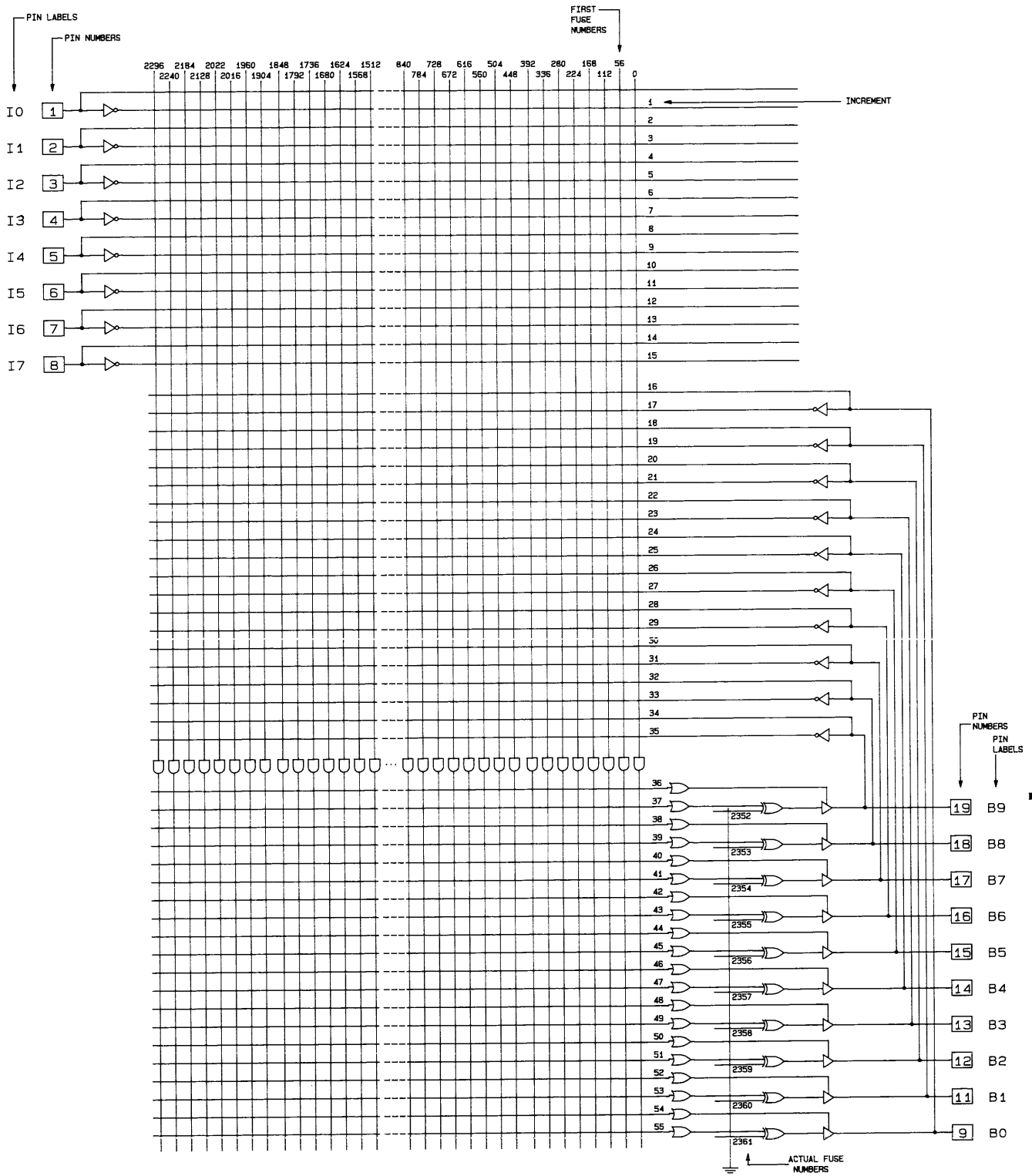
Data I/O Corporation

NOTE: FIRST FUSE = FIRST FUSE NUMBER + INCREMENT

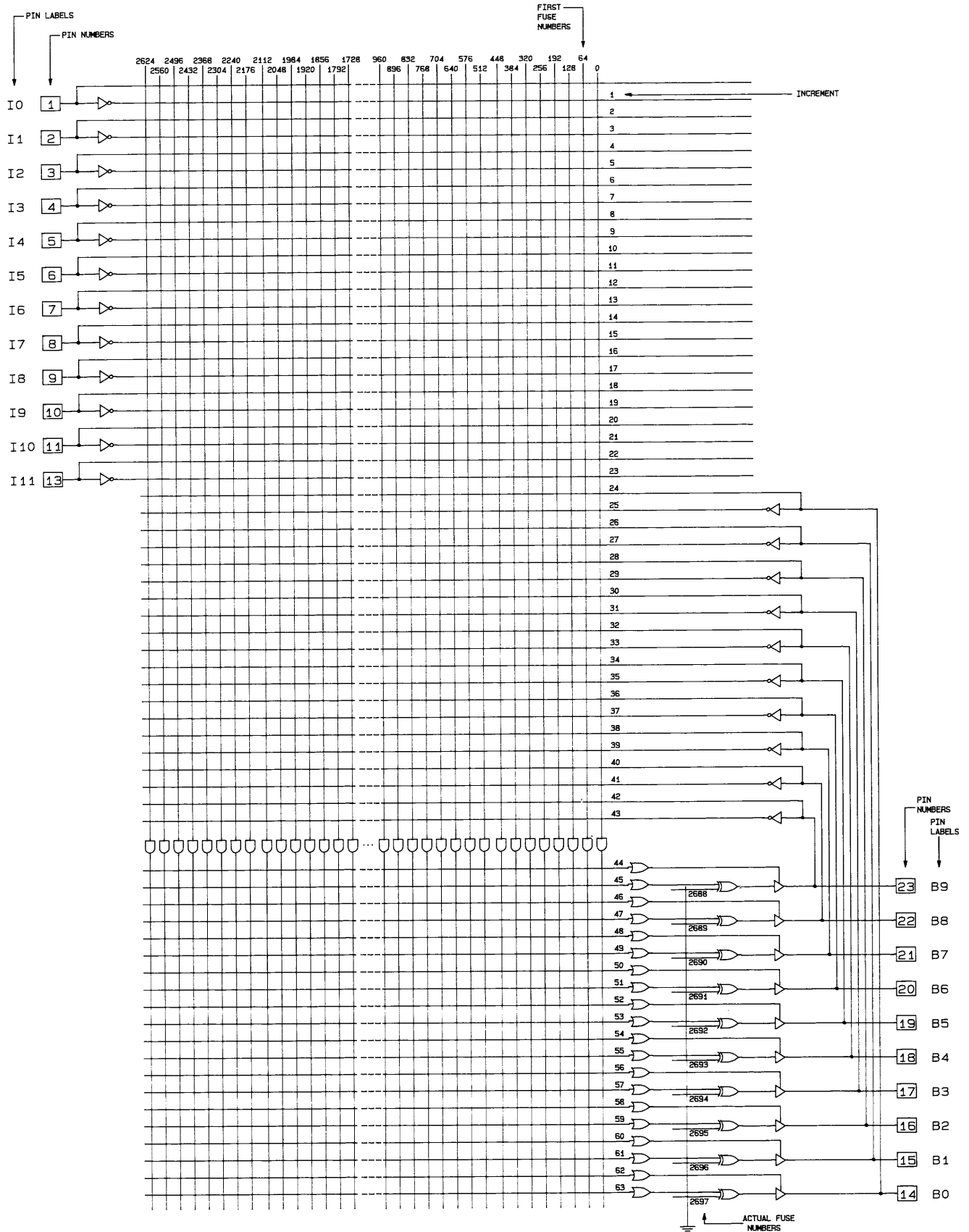
Data I/O Corporation

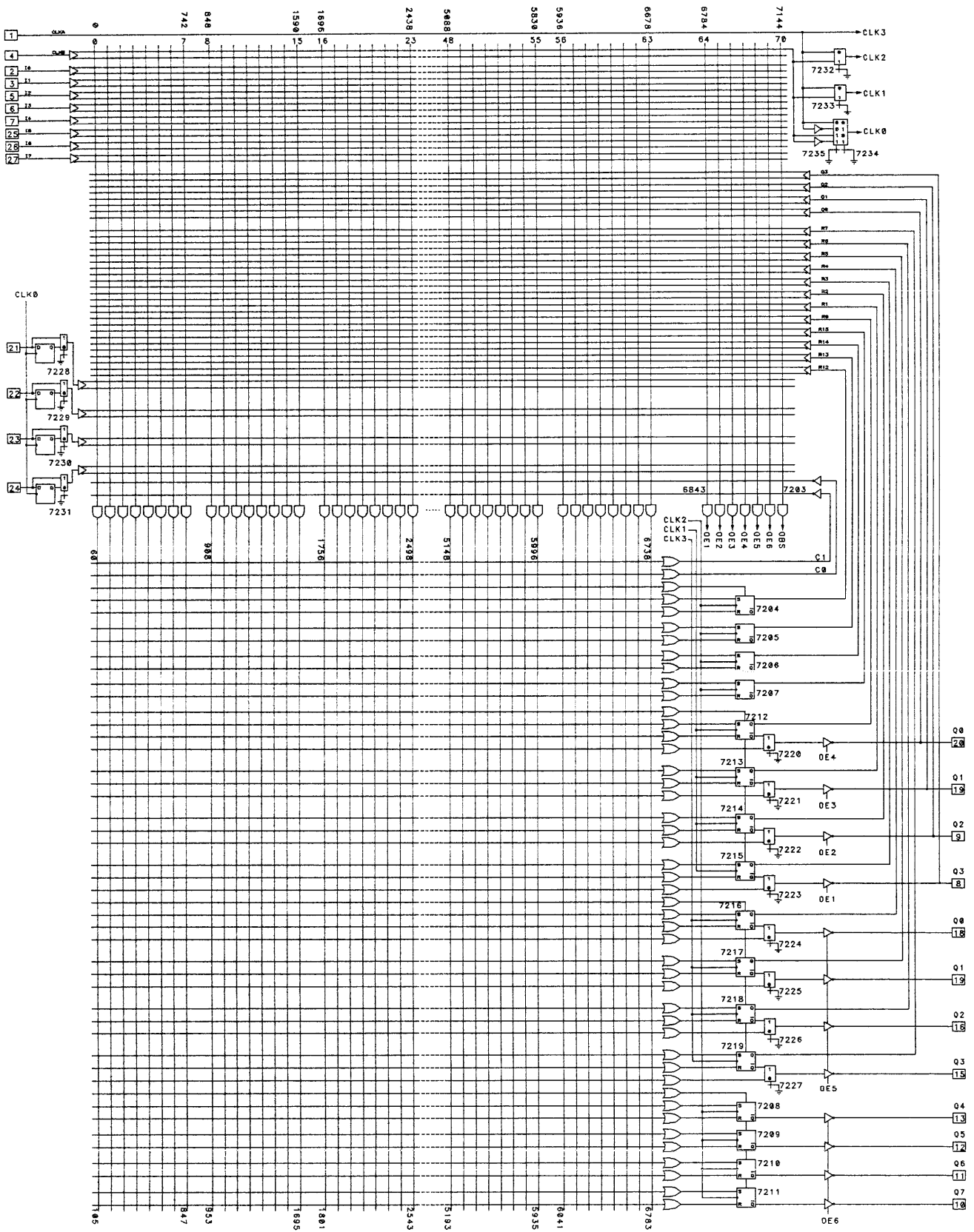


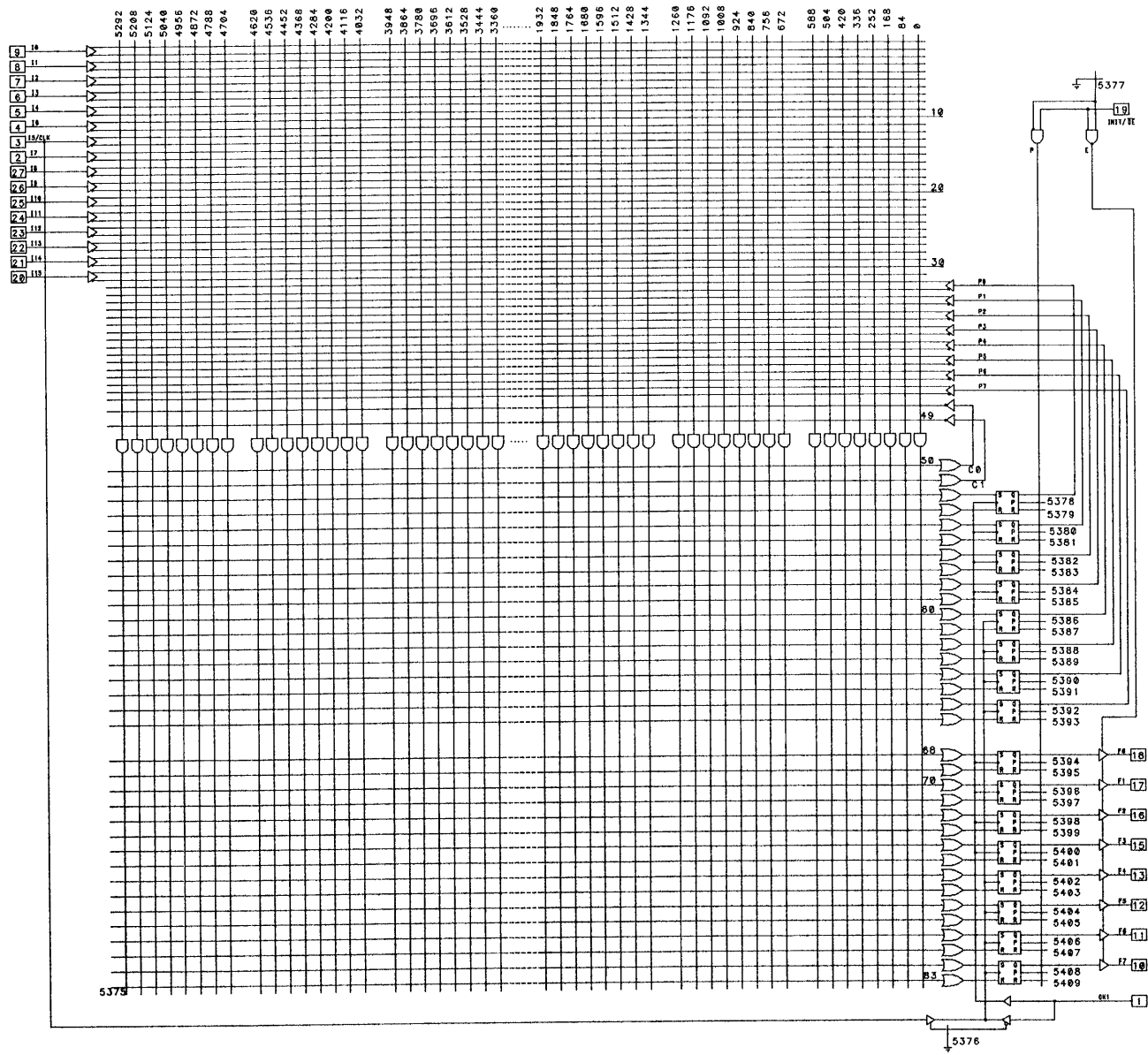
NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

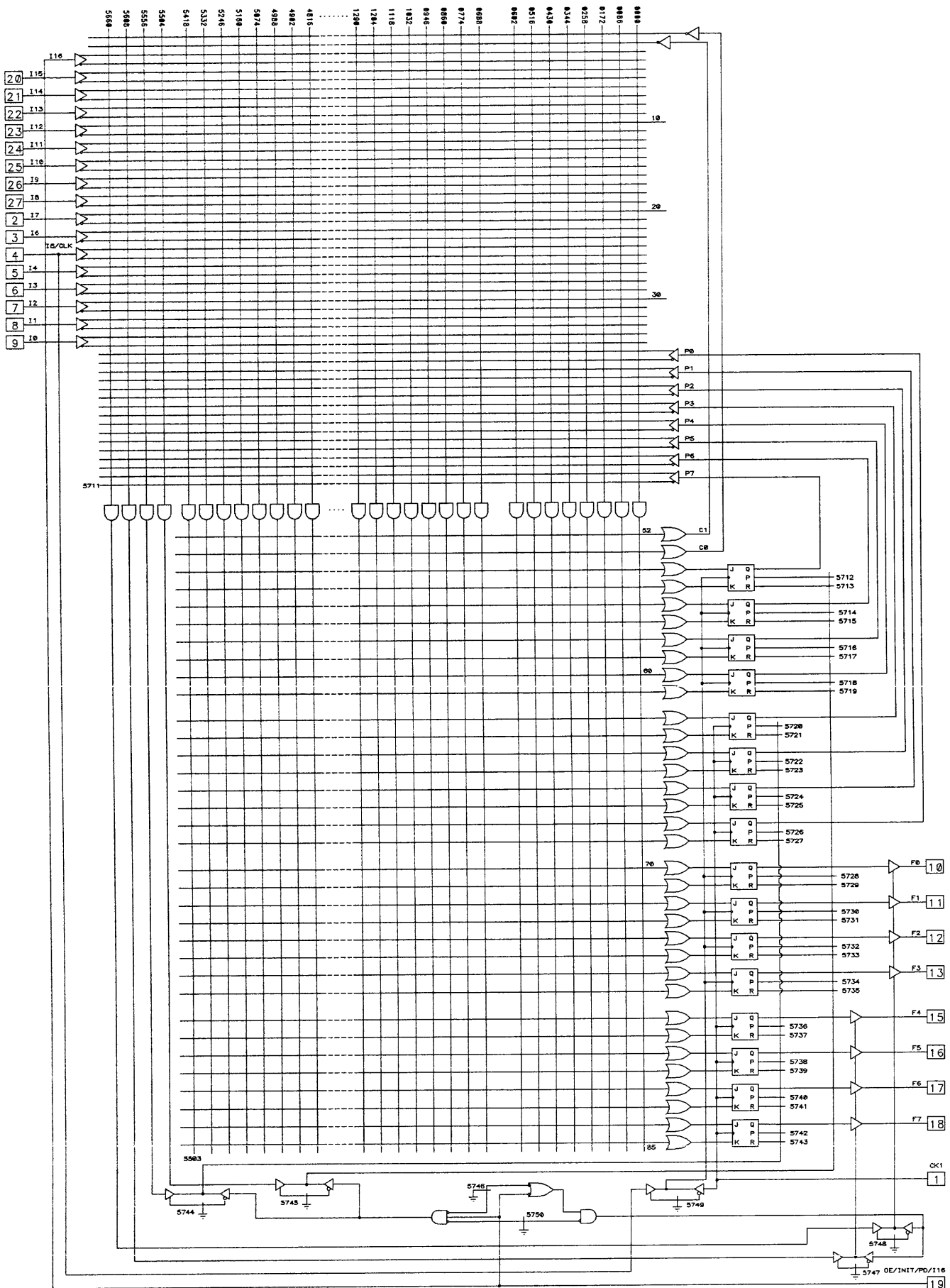


Data I/O Corporation

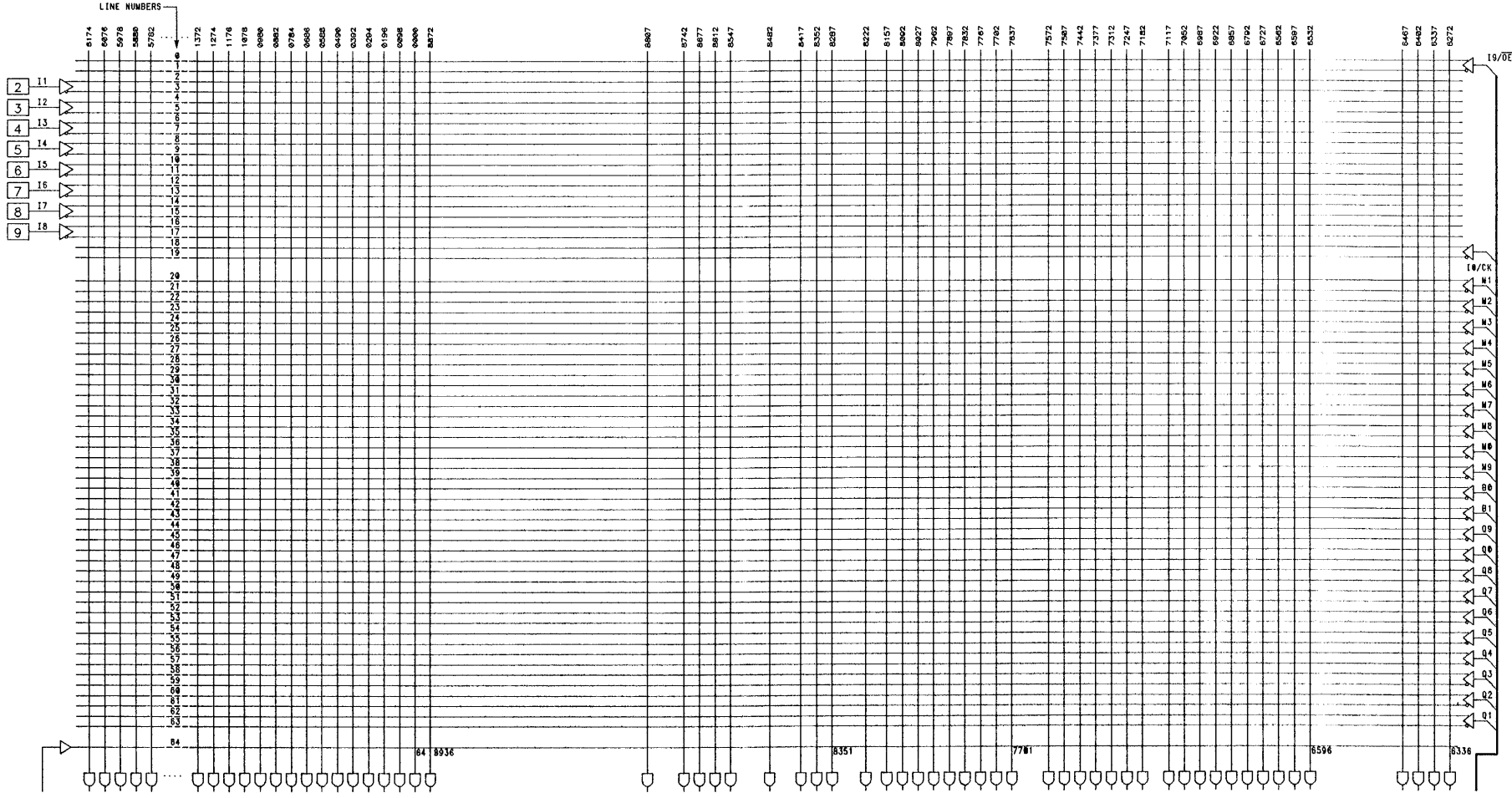




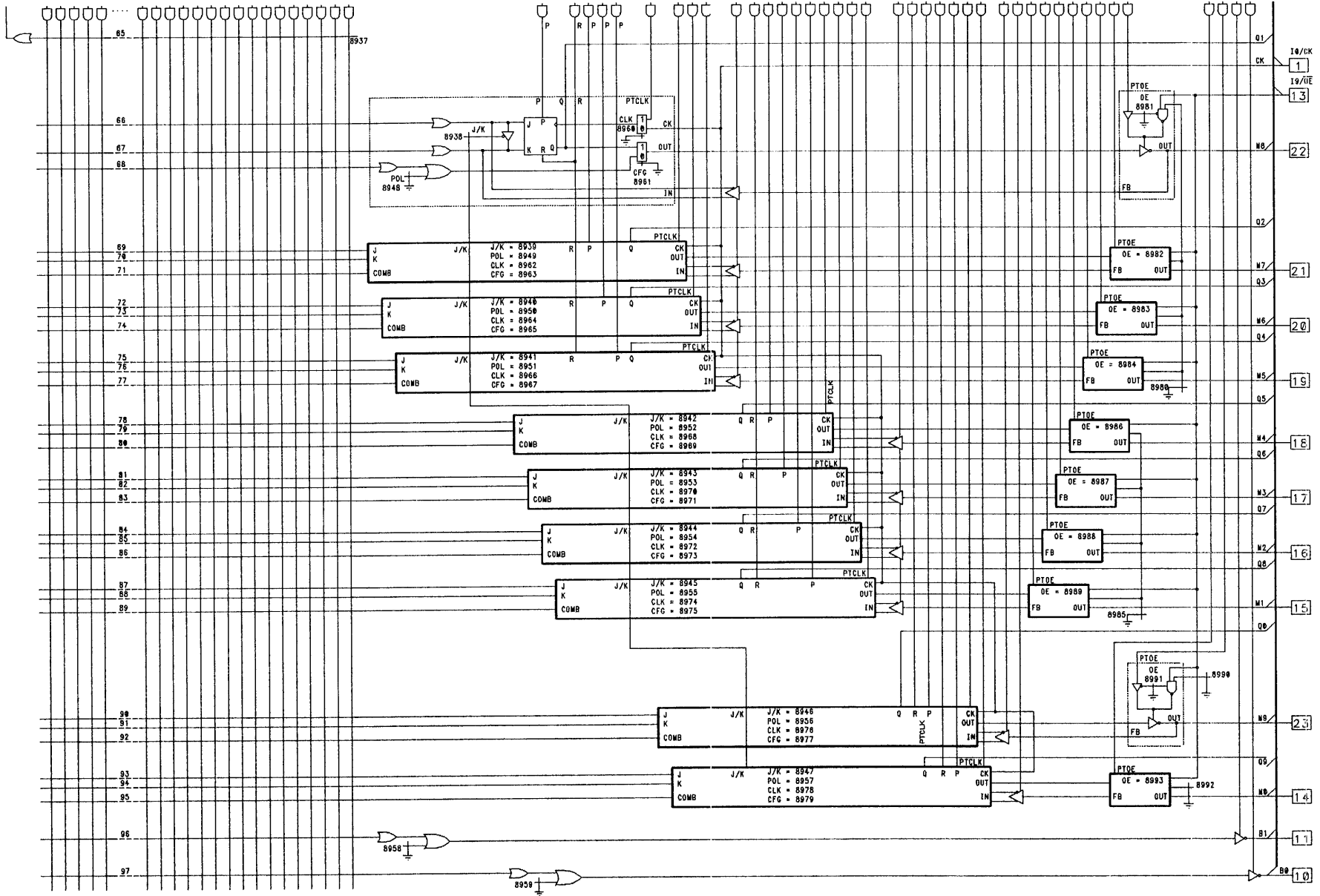


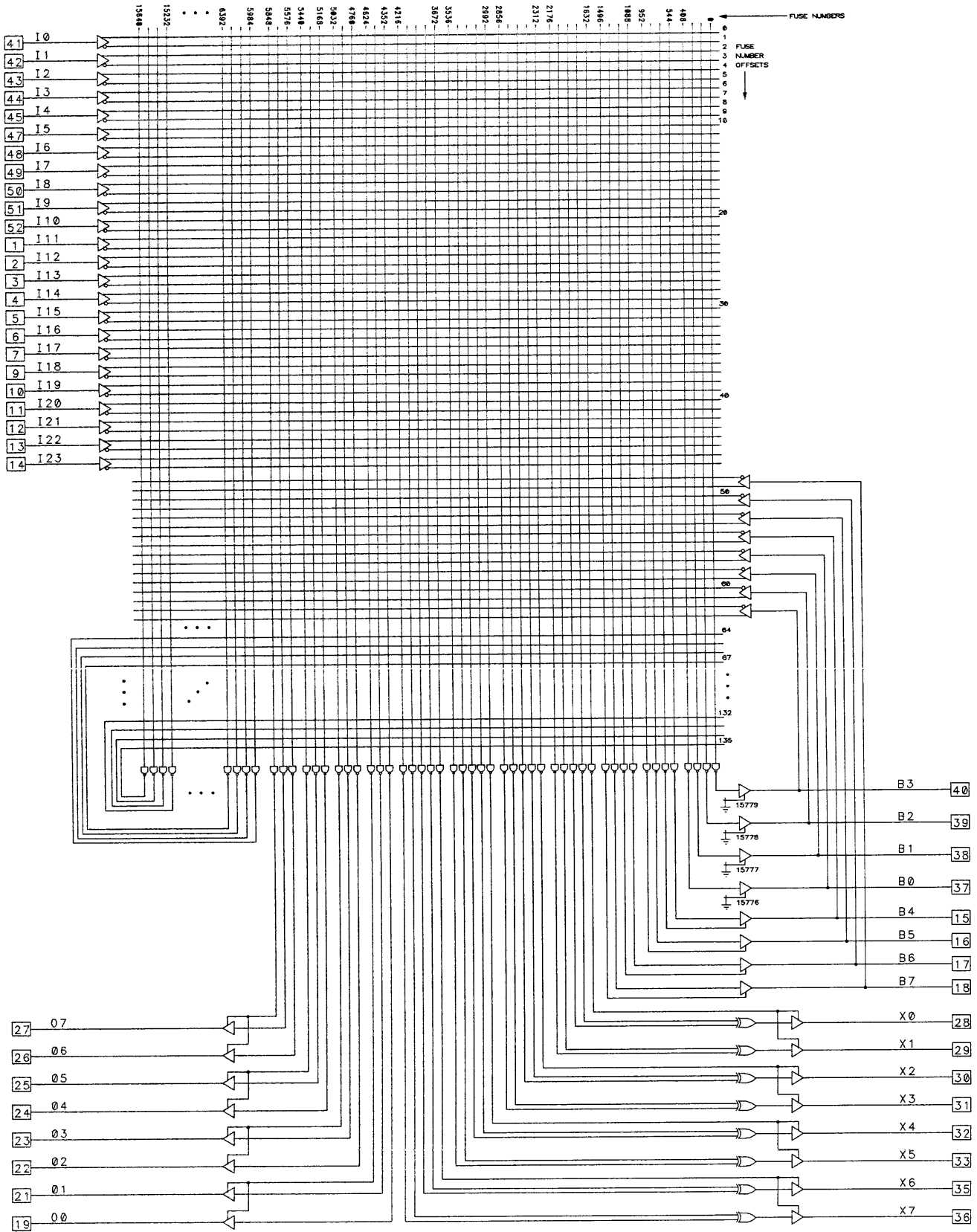


Data I/O Corporation

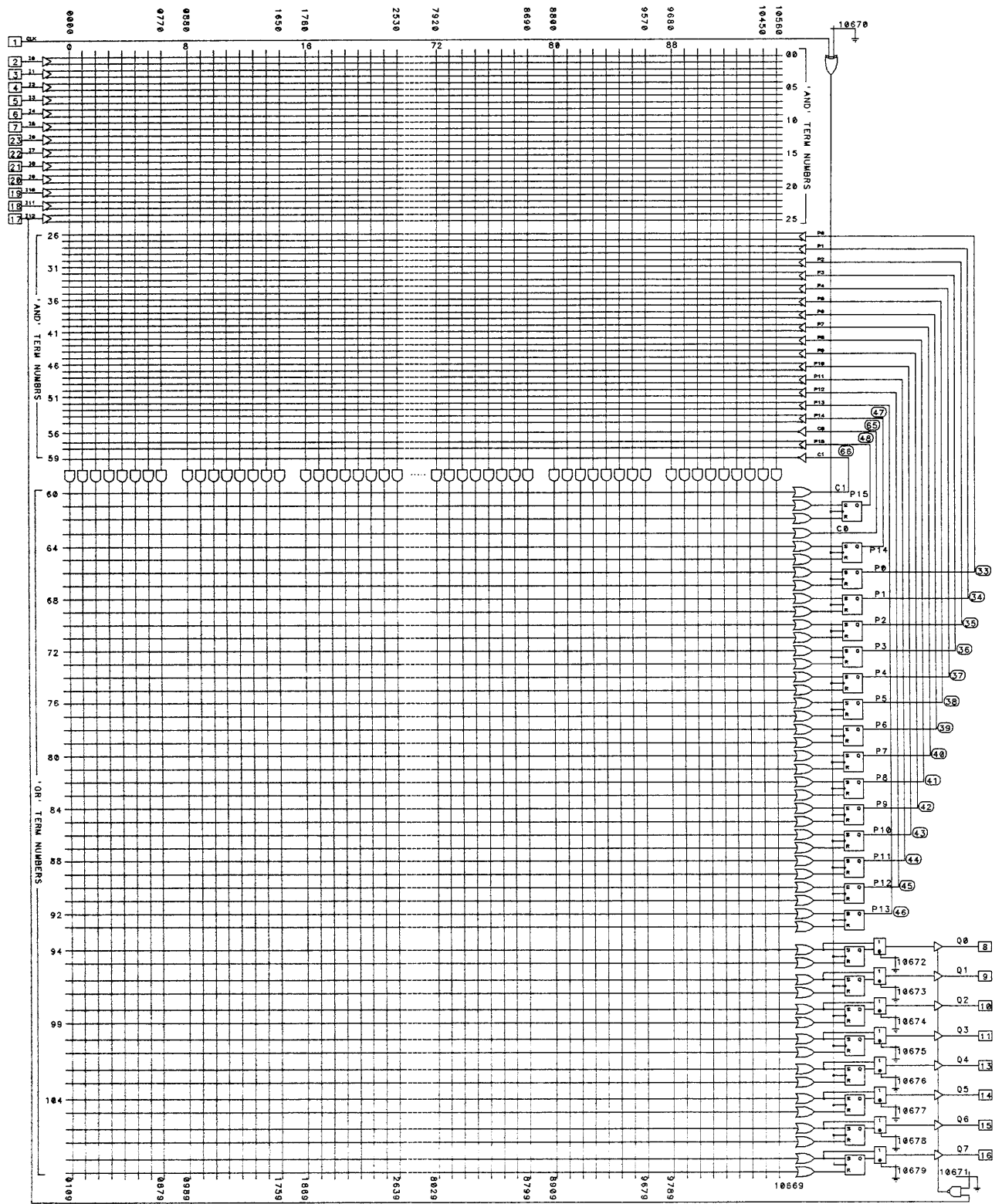


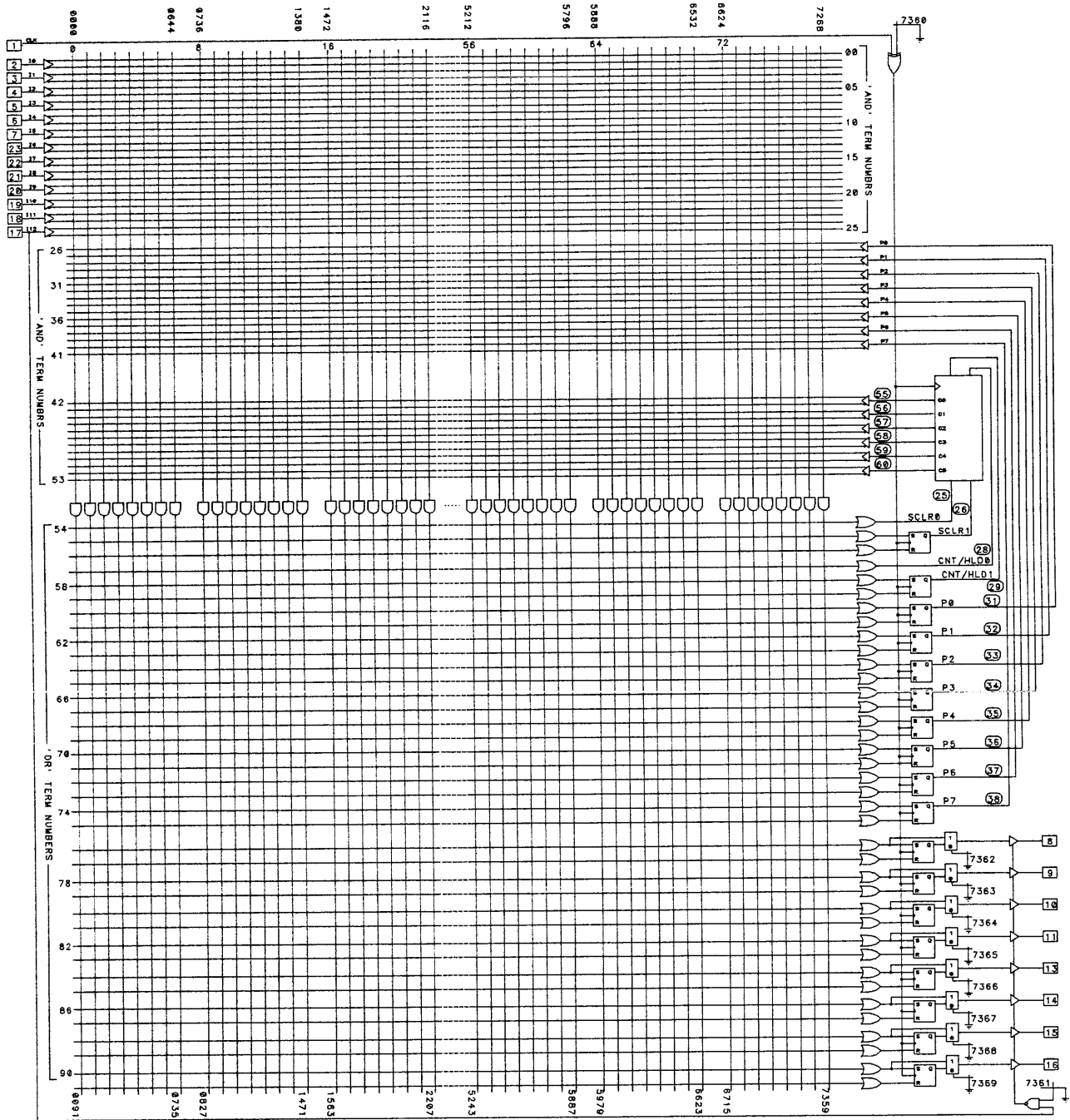
Data I/O Corporation





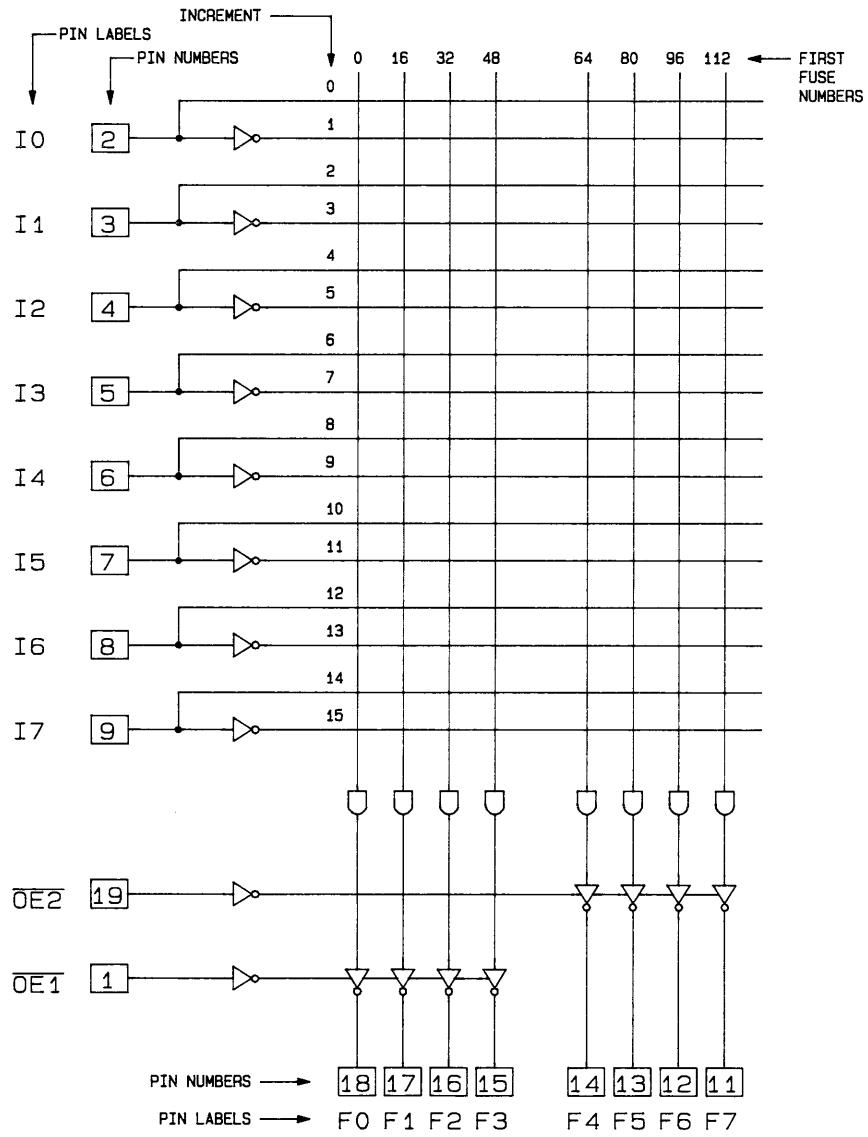
Data I/O Corporation



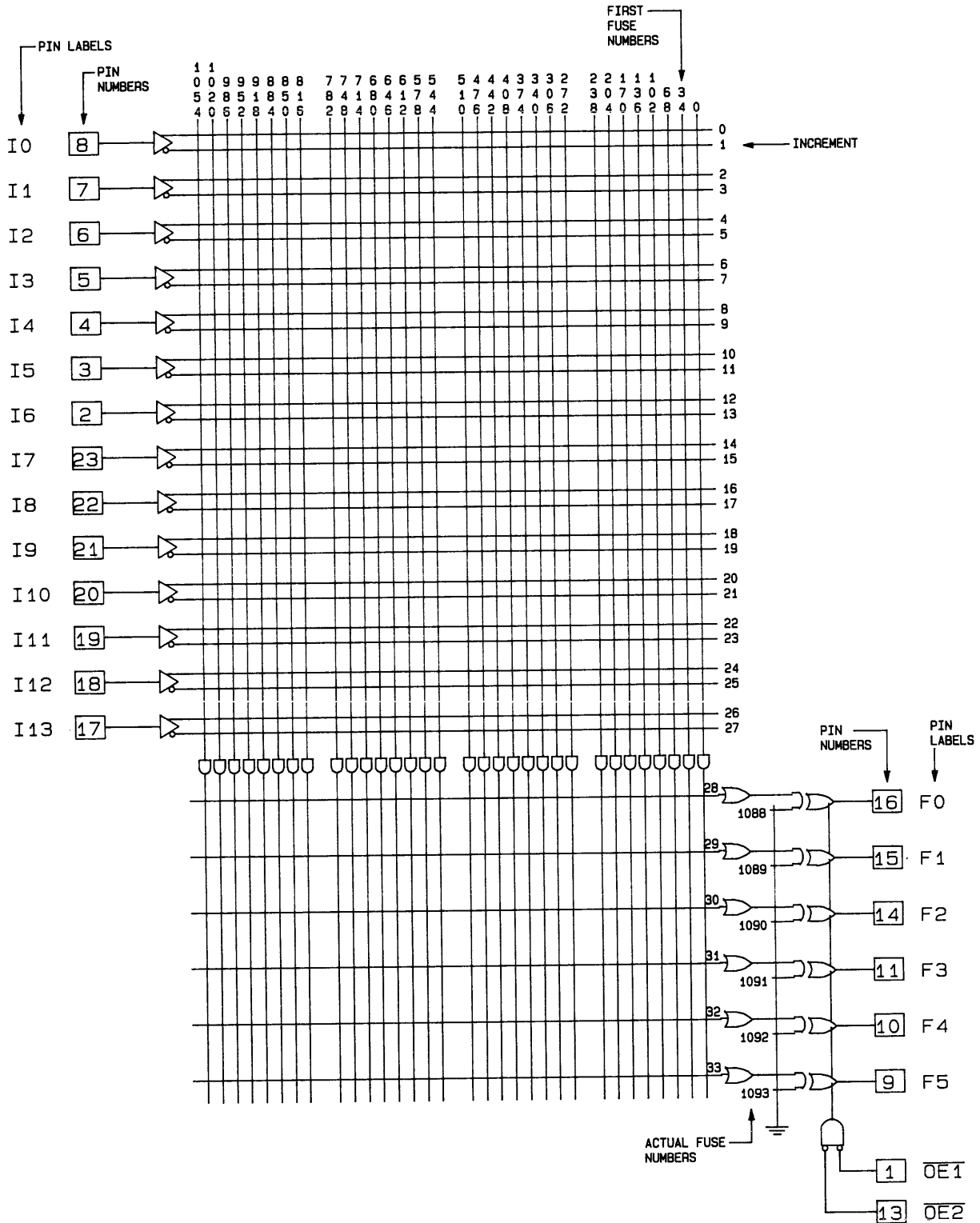


Ⓢ = NODE NUMBER

Data I/O Corporation

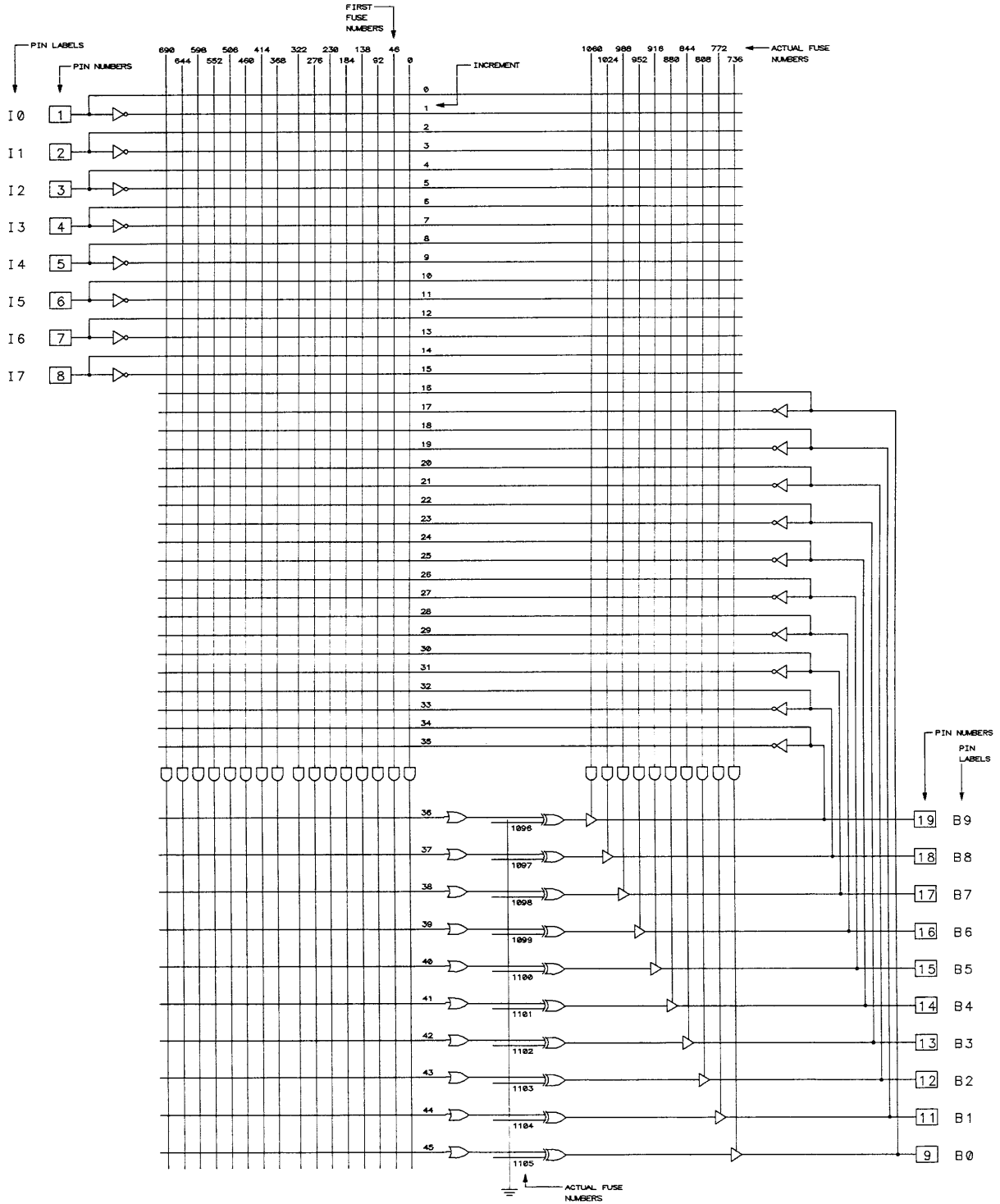


NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

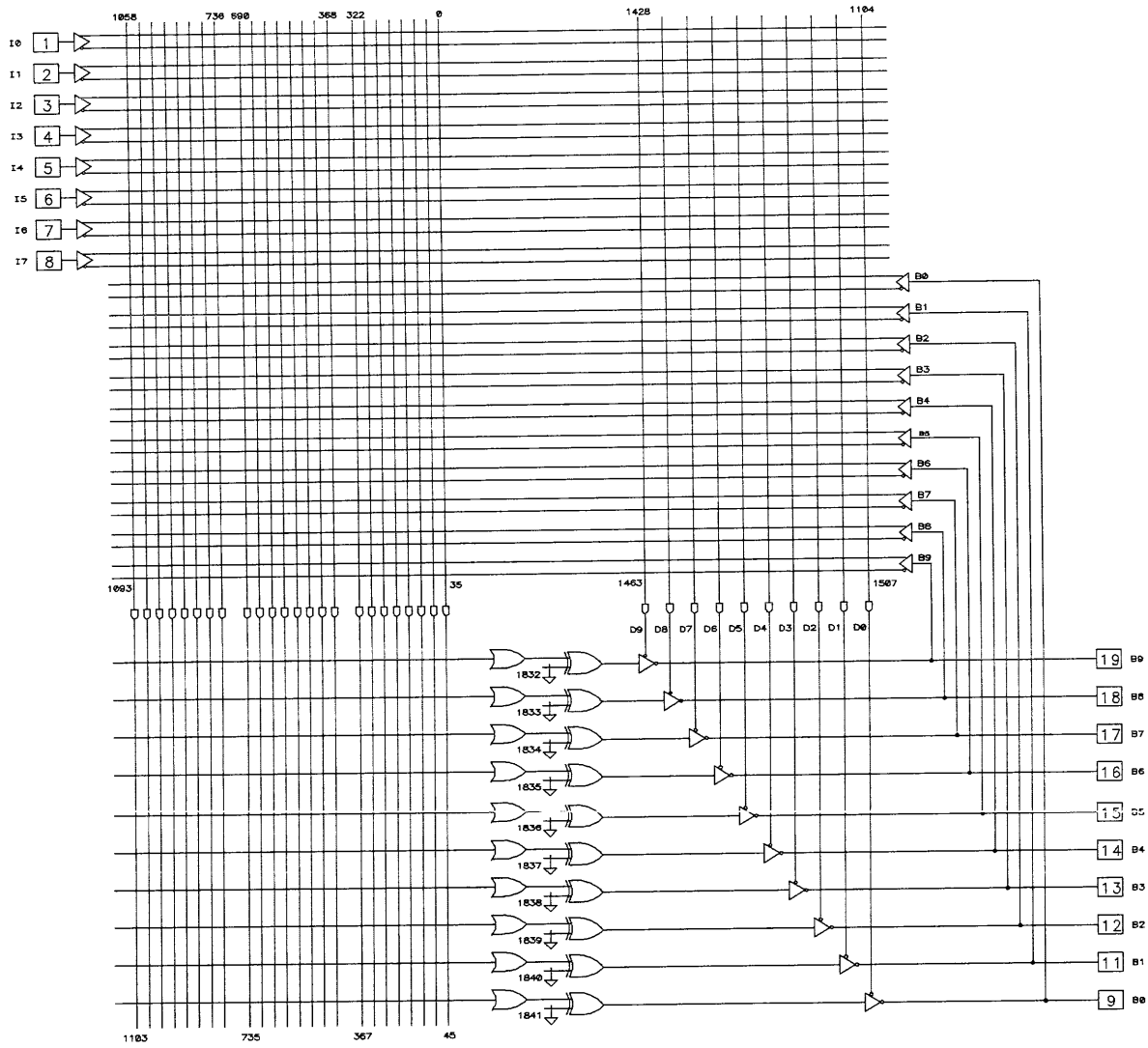


NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

Data I/O Corporation

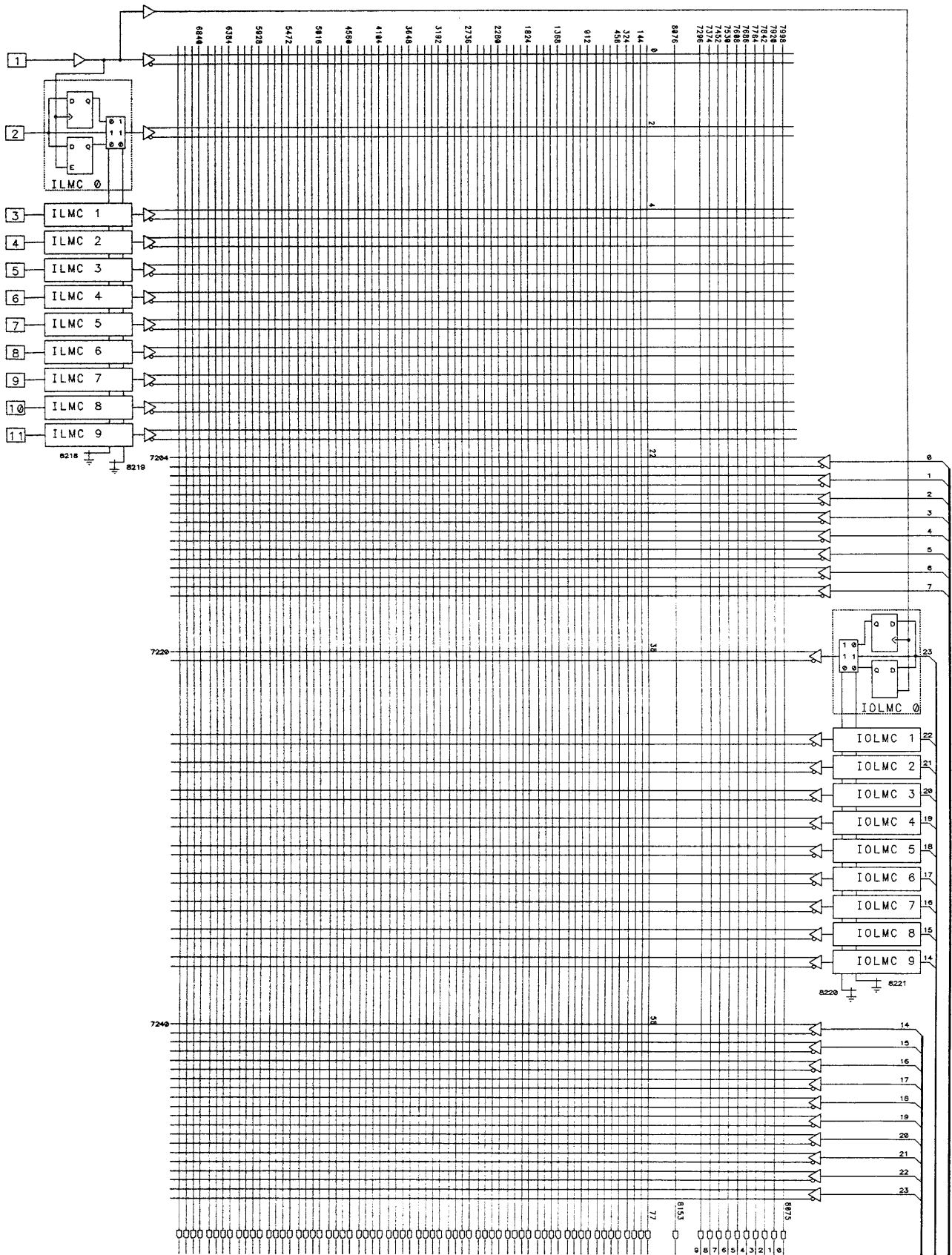


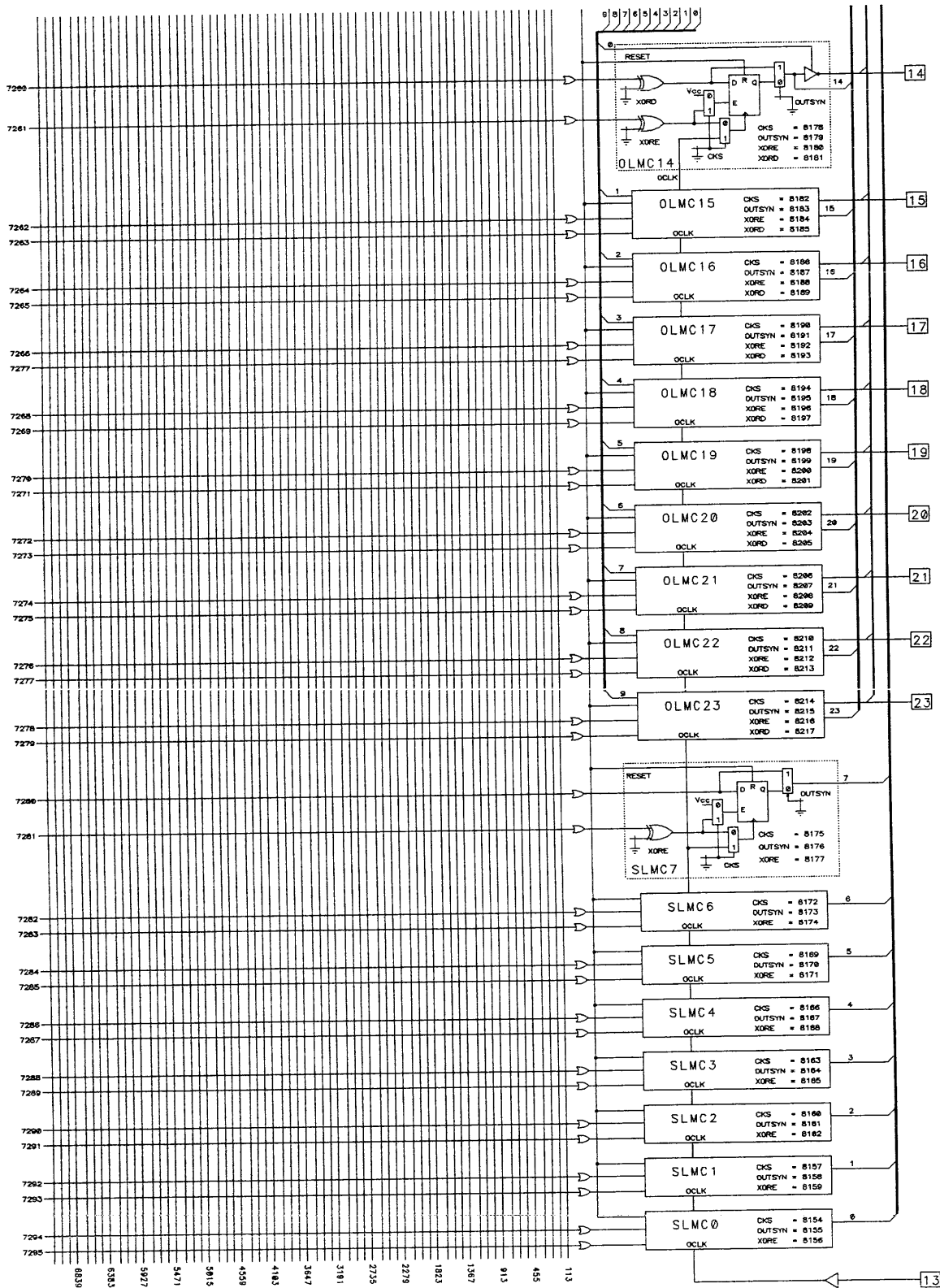
NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT



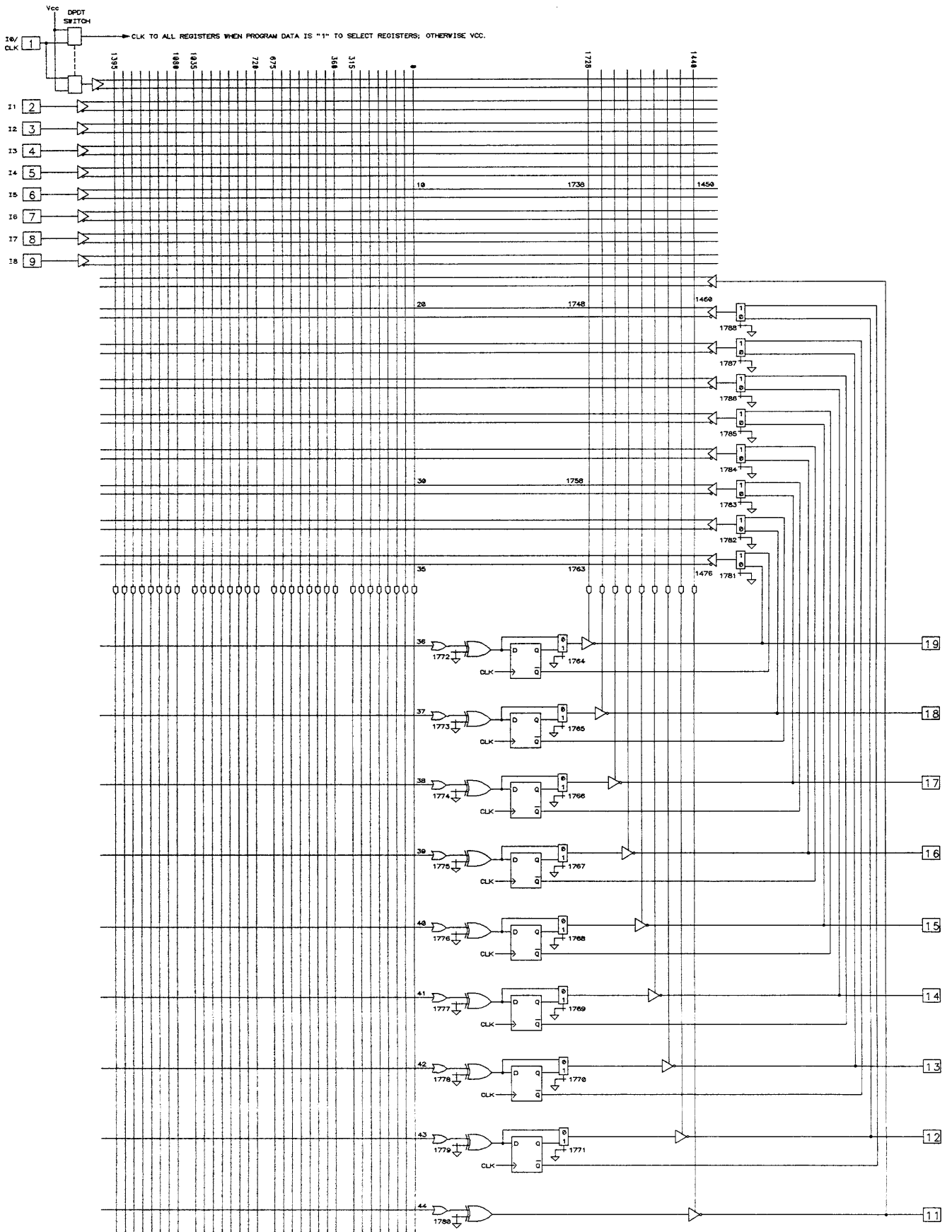
Data I/O Corporation

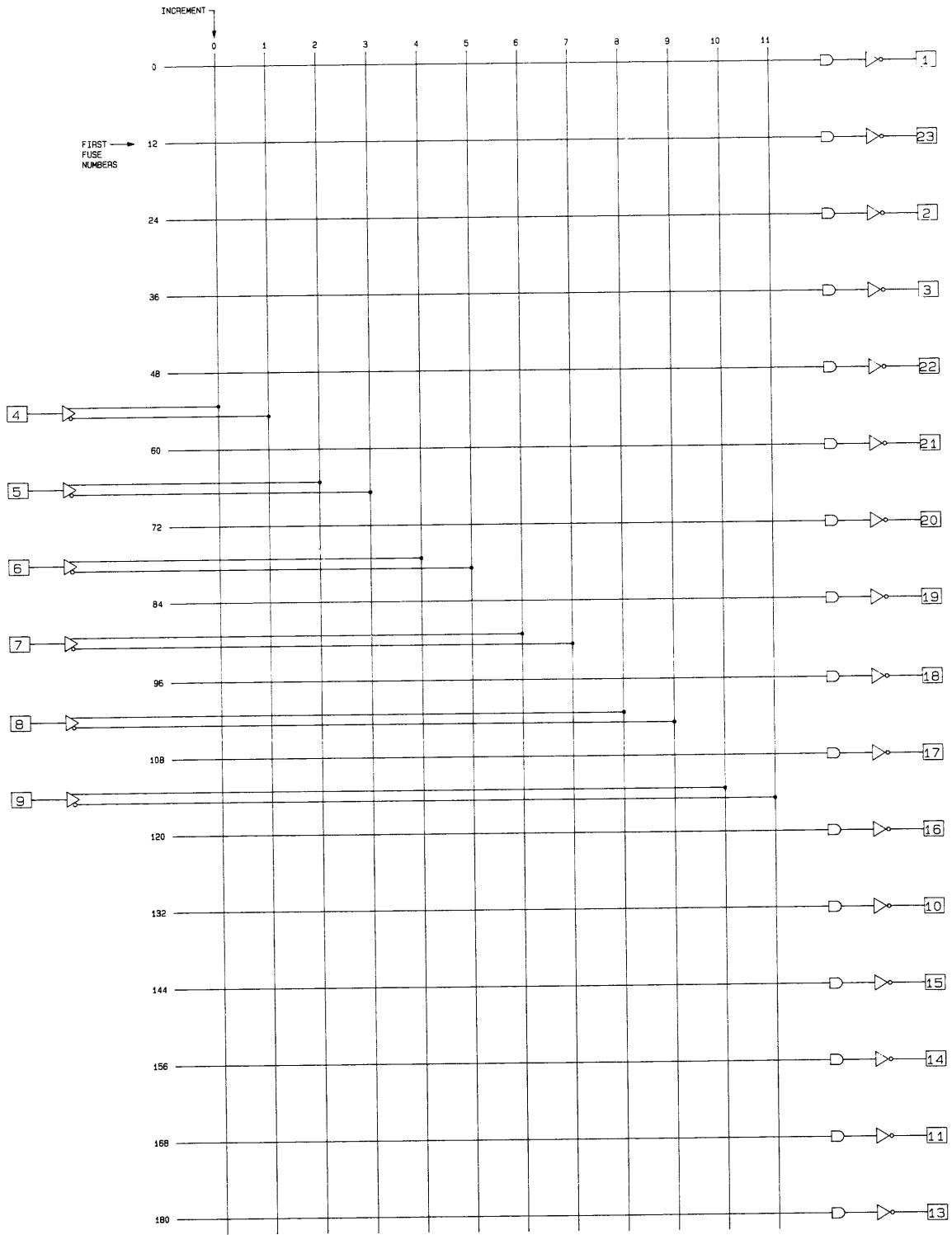
Corporation
Data I/O





Corporation
Data I/O

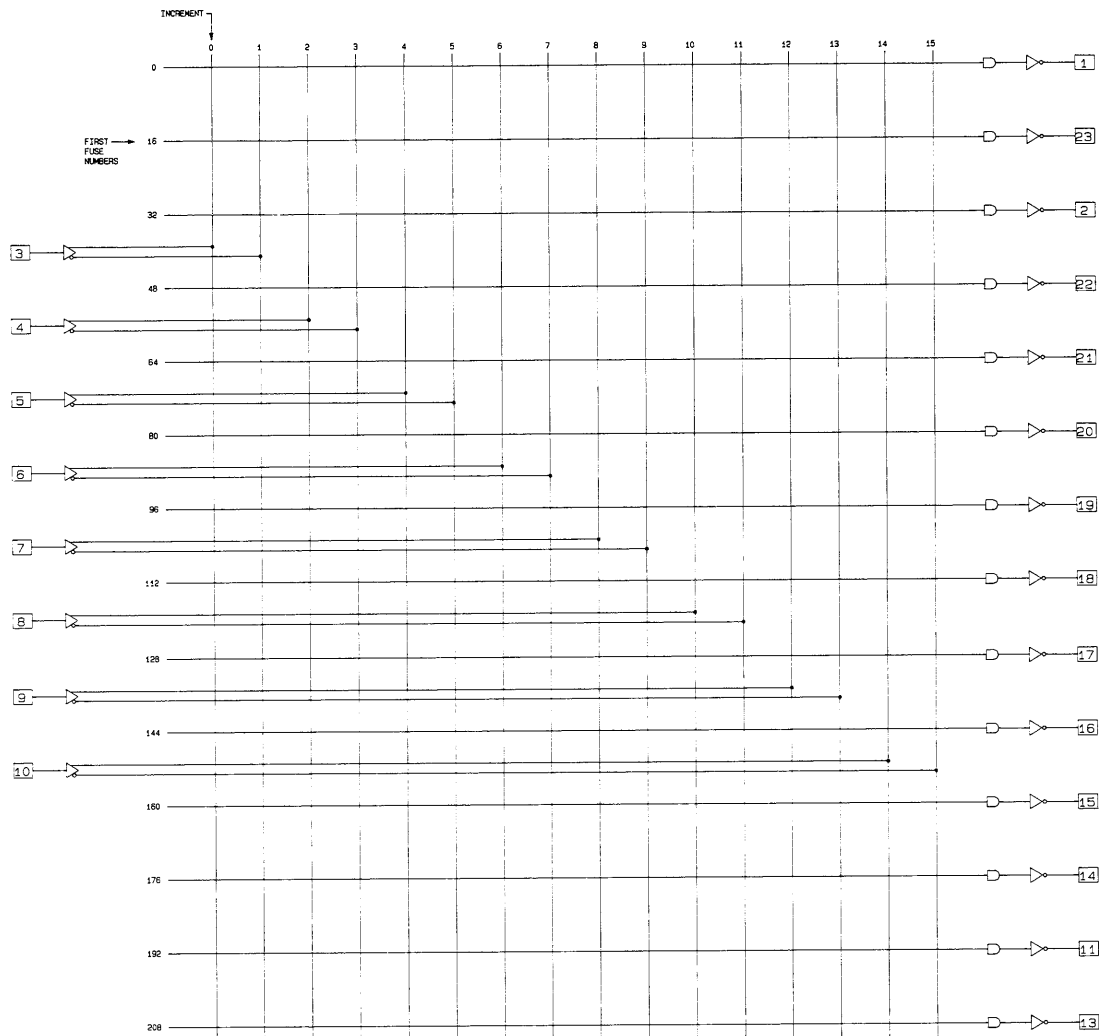




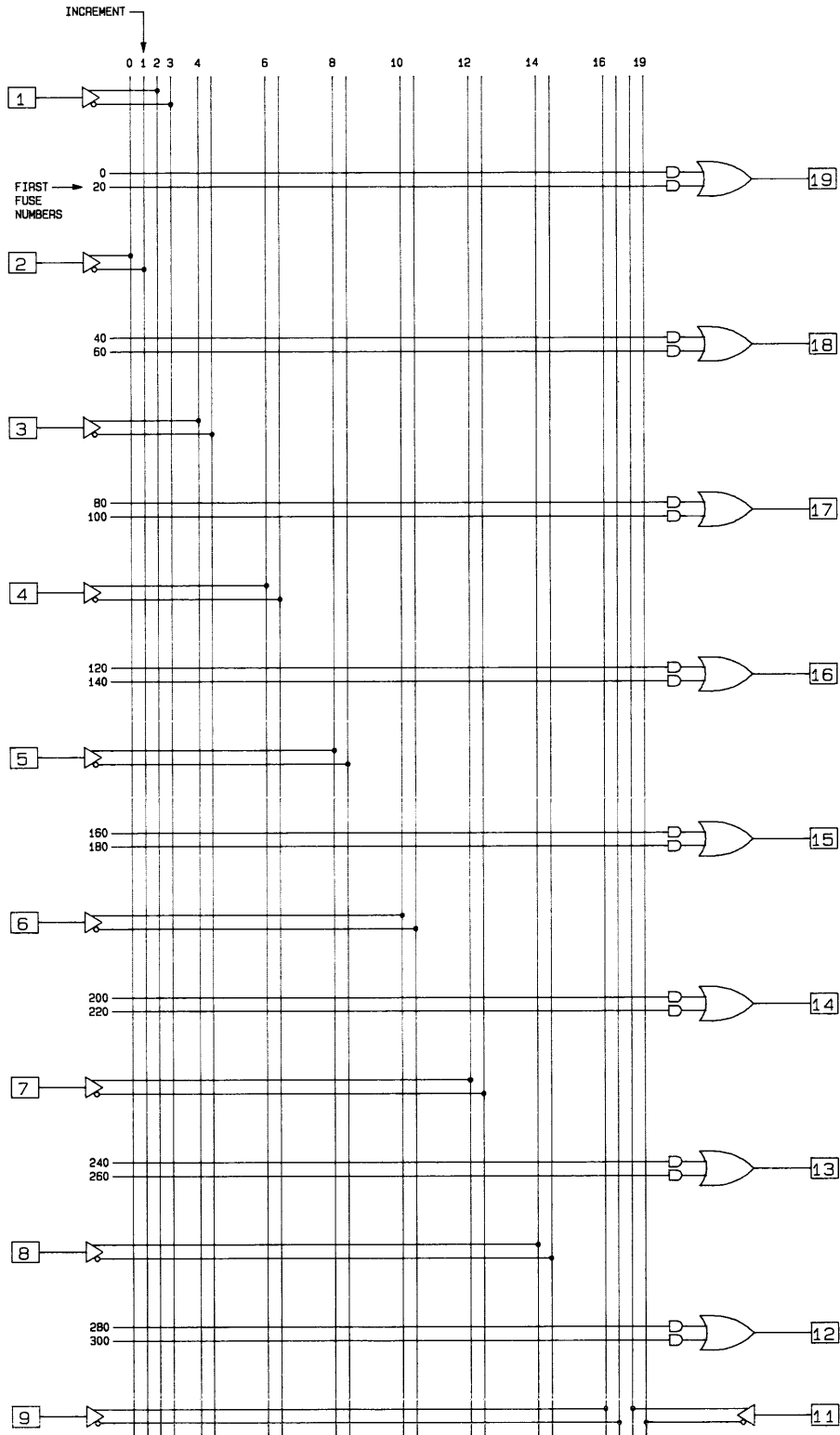
NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

Data I/O Corporation

Corporation
Data I/O

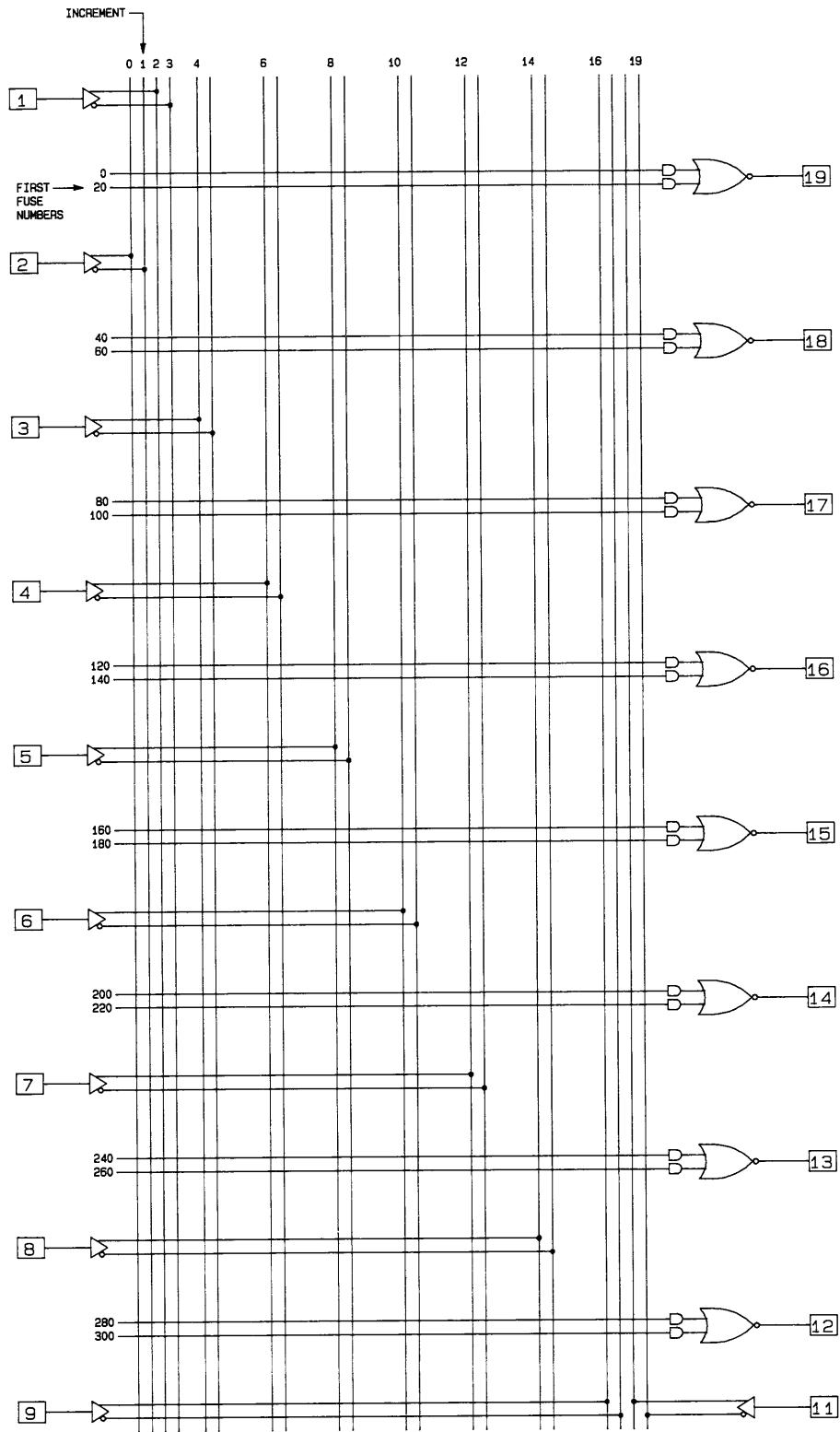


NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

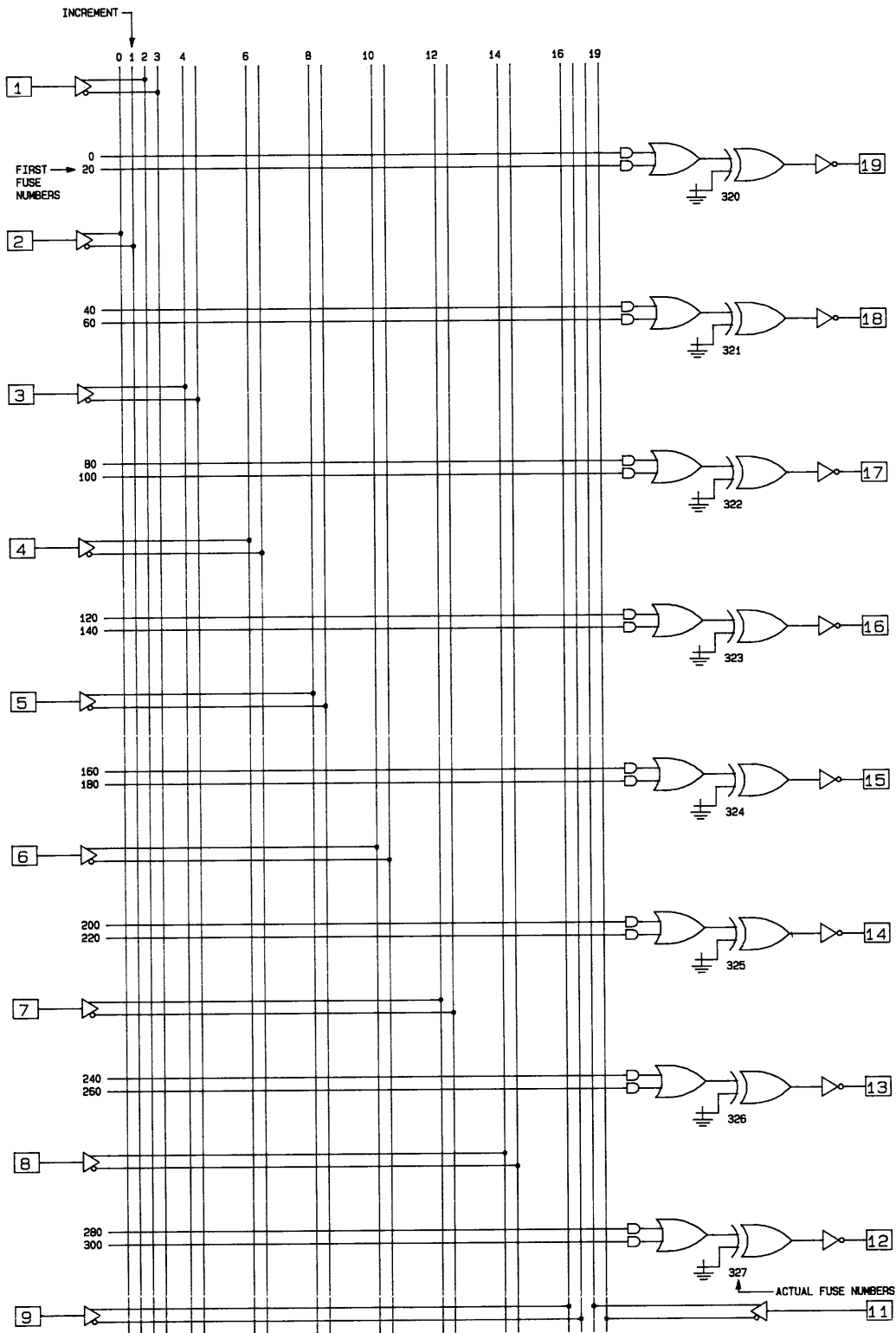


NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

Data I/O Corporation

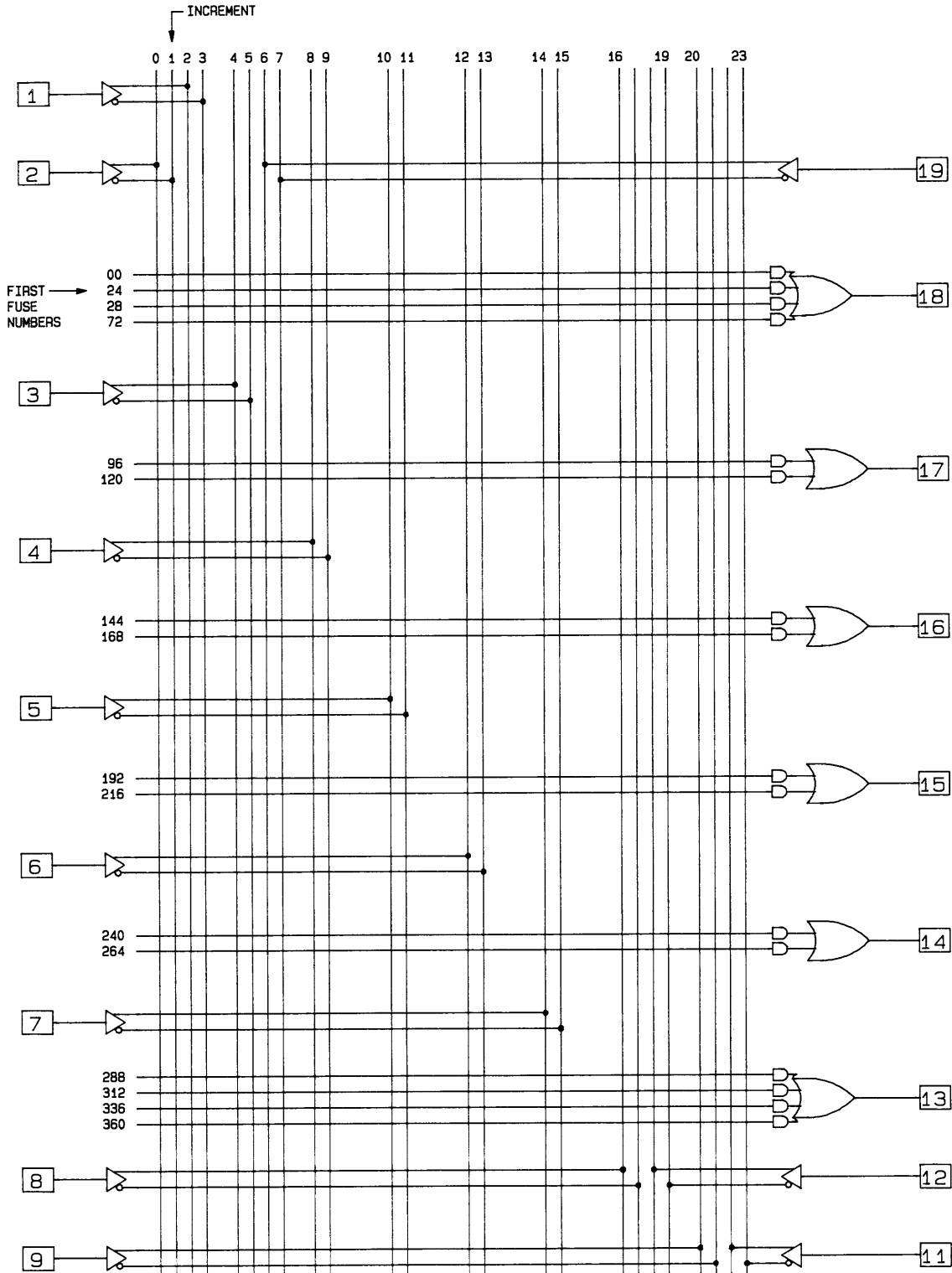


NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

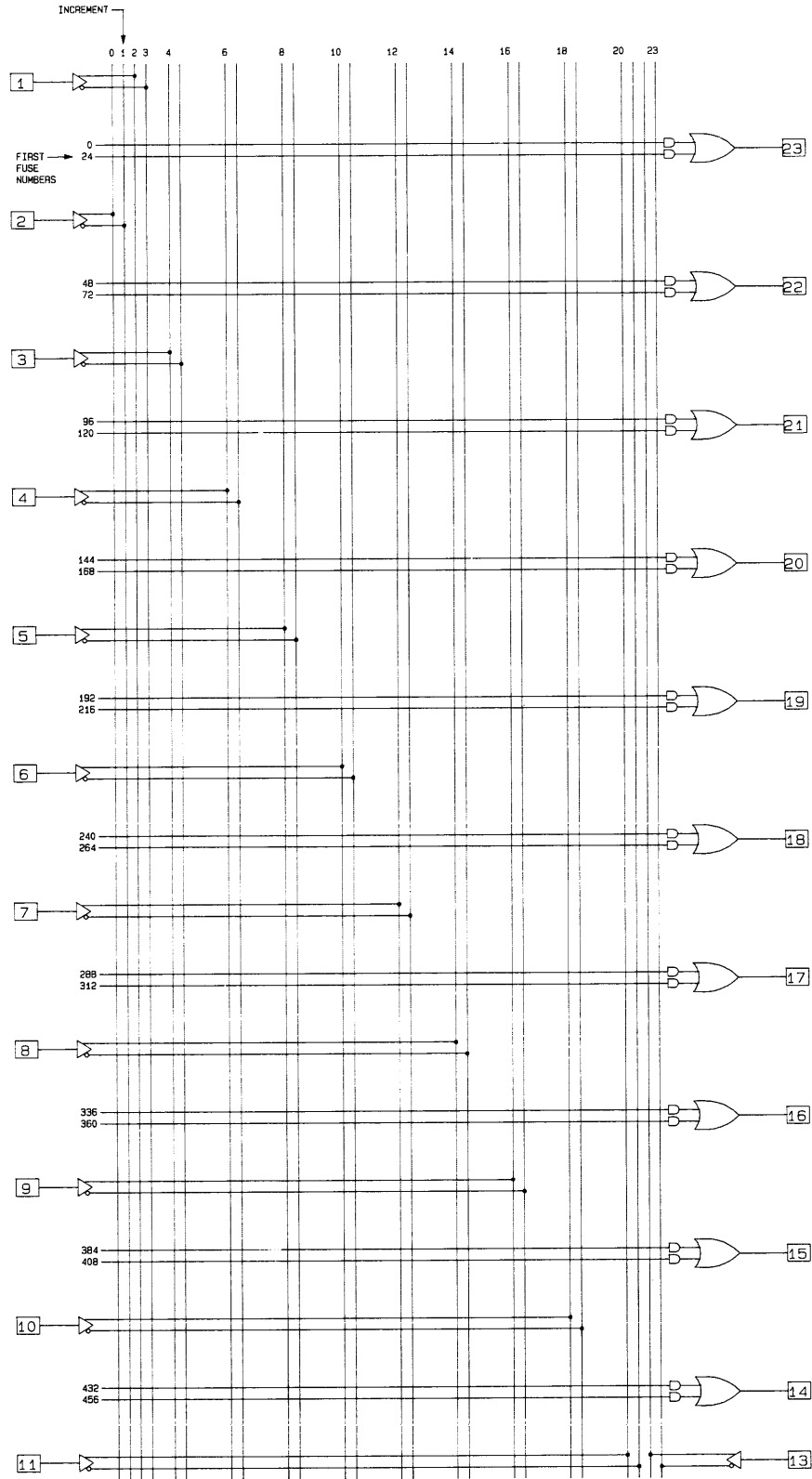


NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

Data I/O Corporation



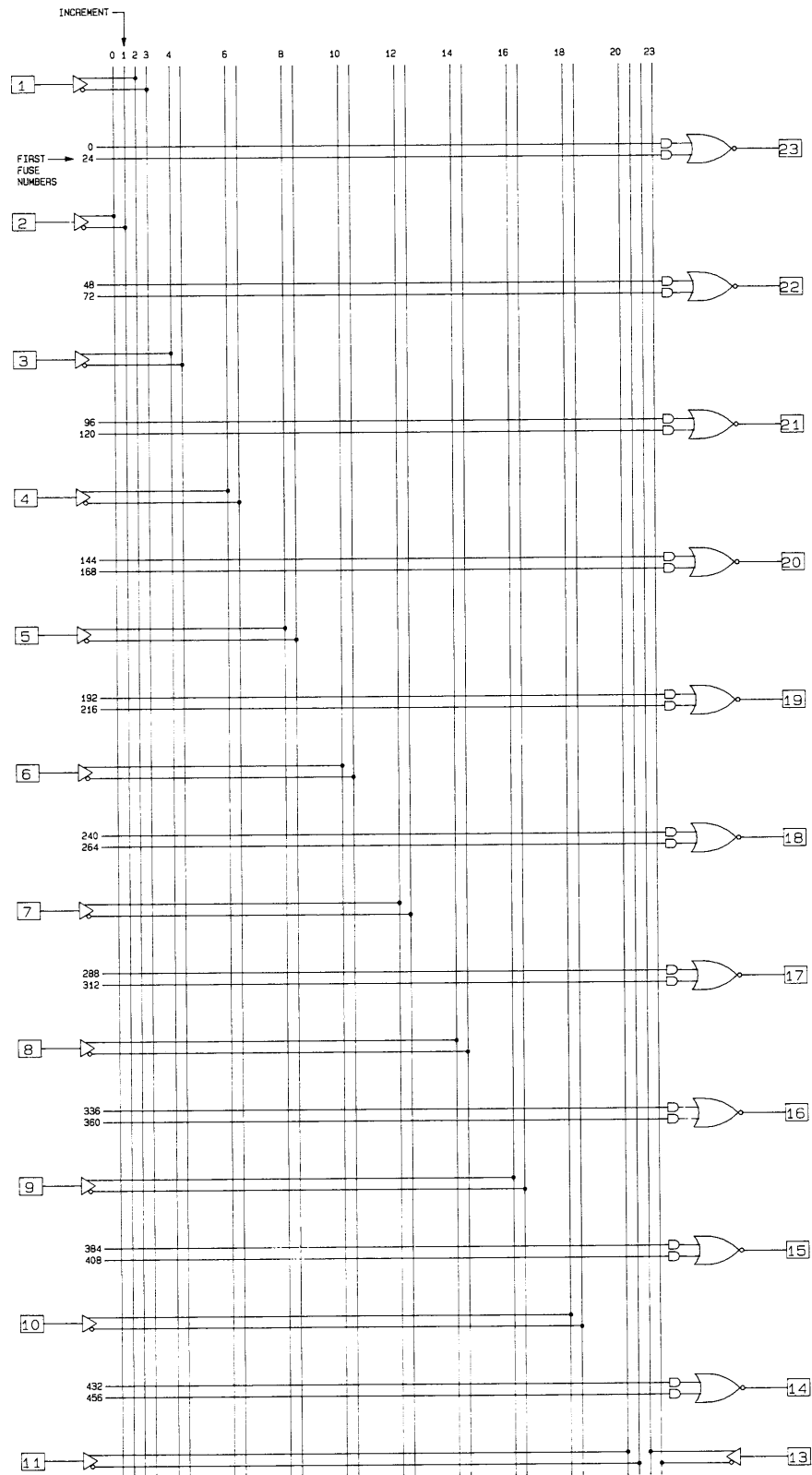
NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT



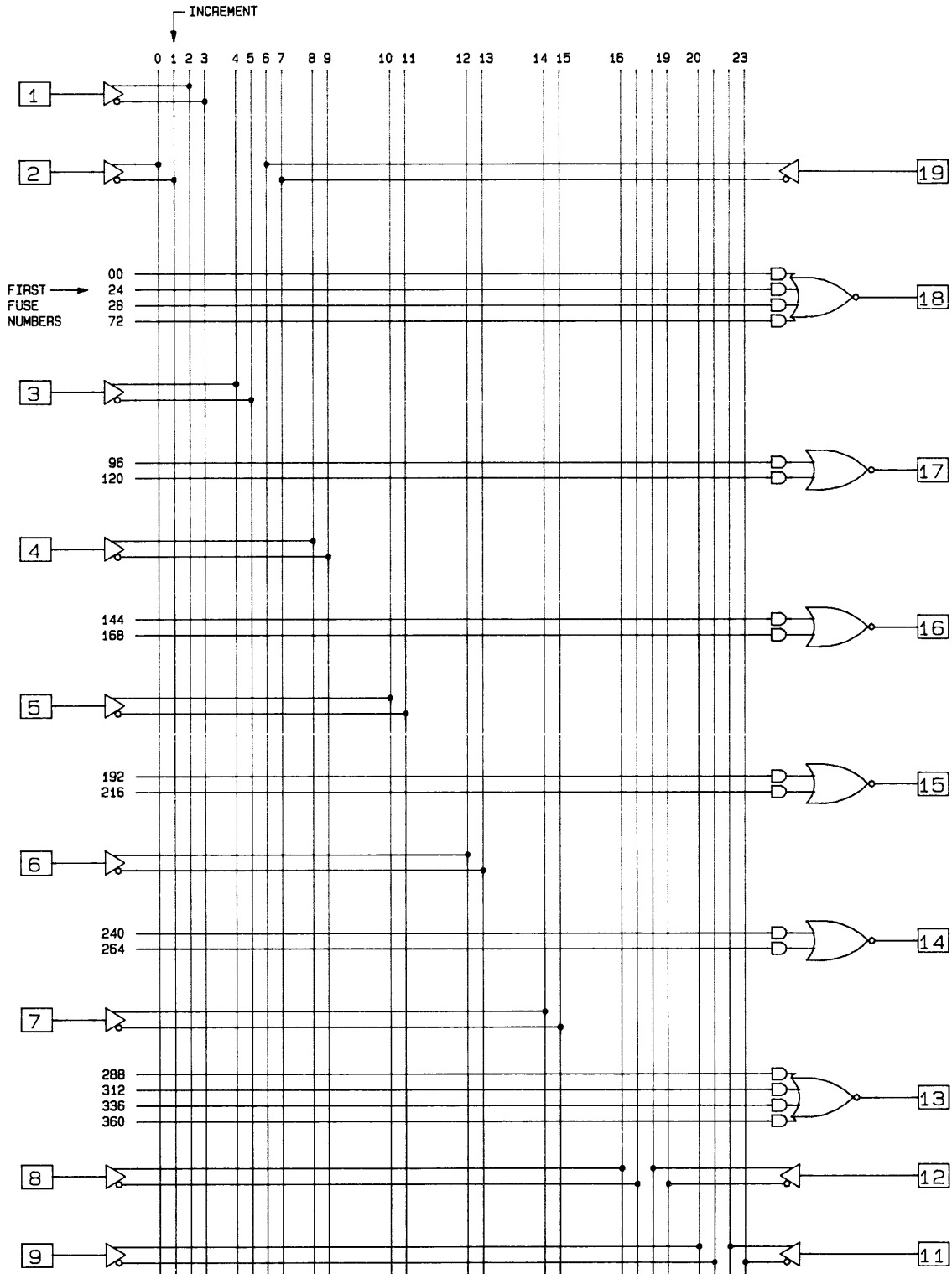
NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

Data I/O Corporation

Data I/O Corporation

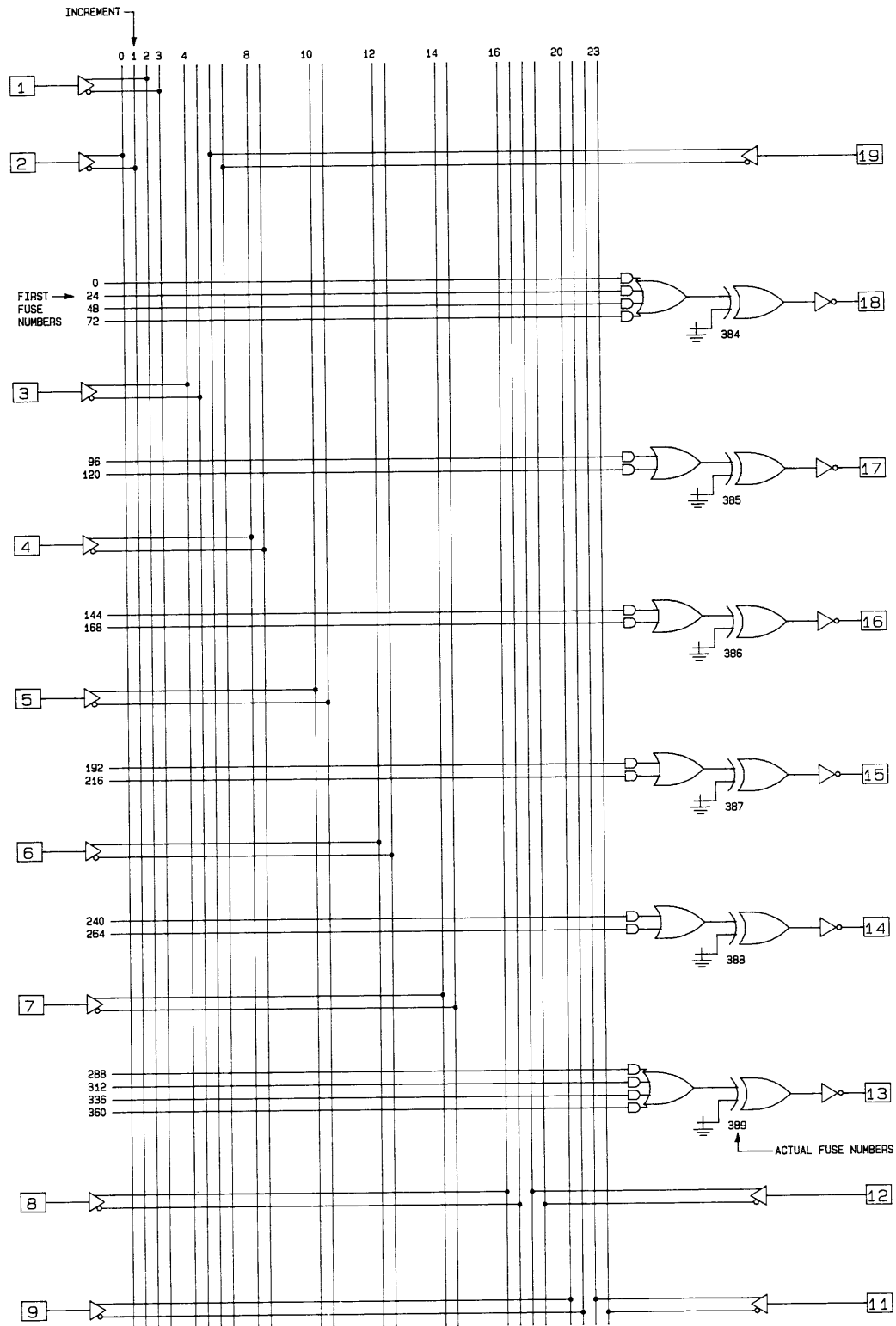


NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

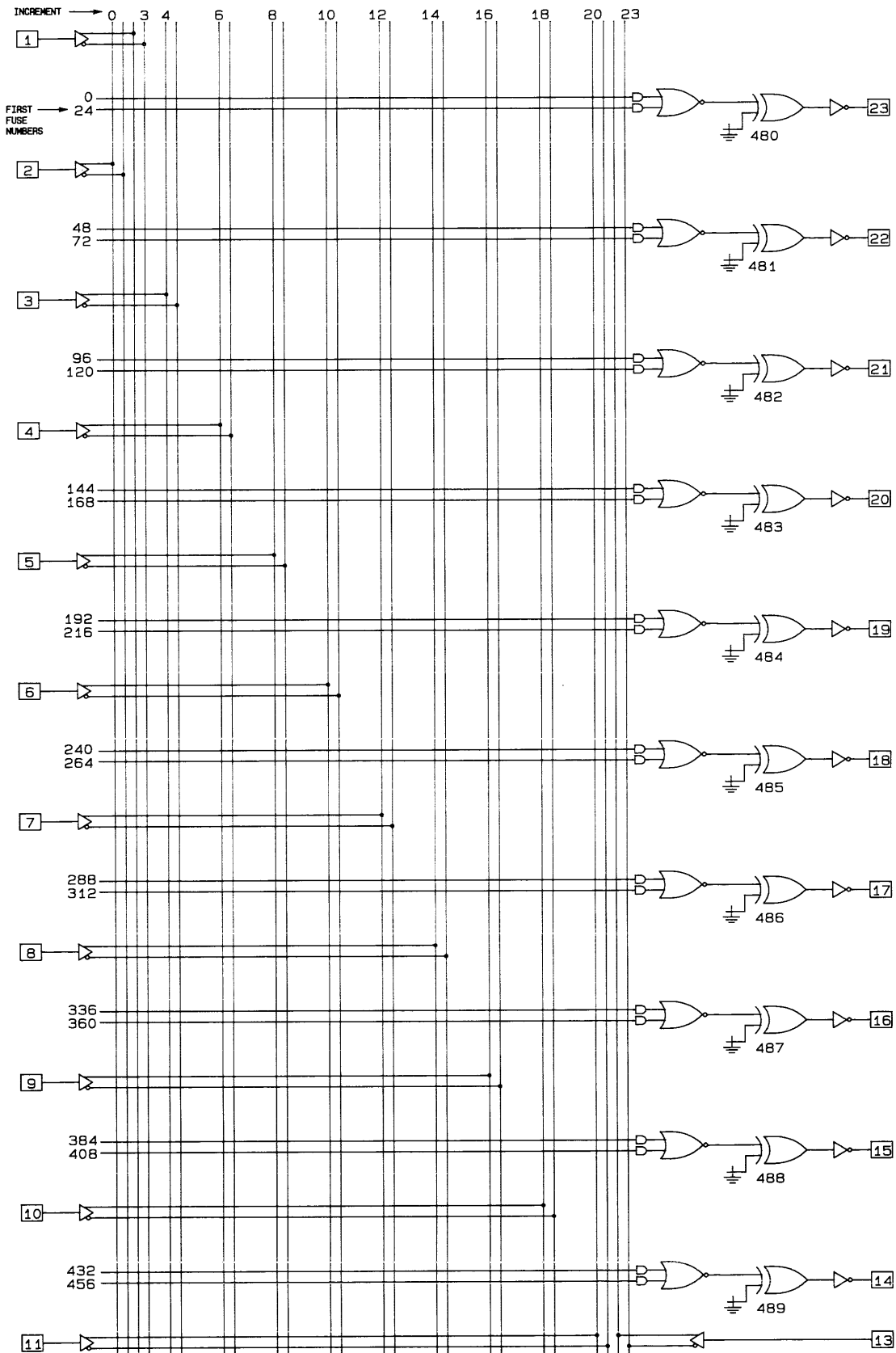


NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

Data I/O Corporation

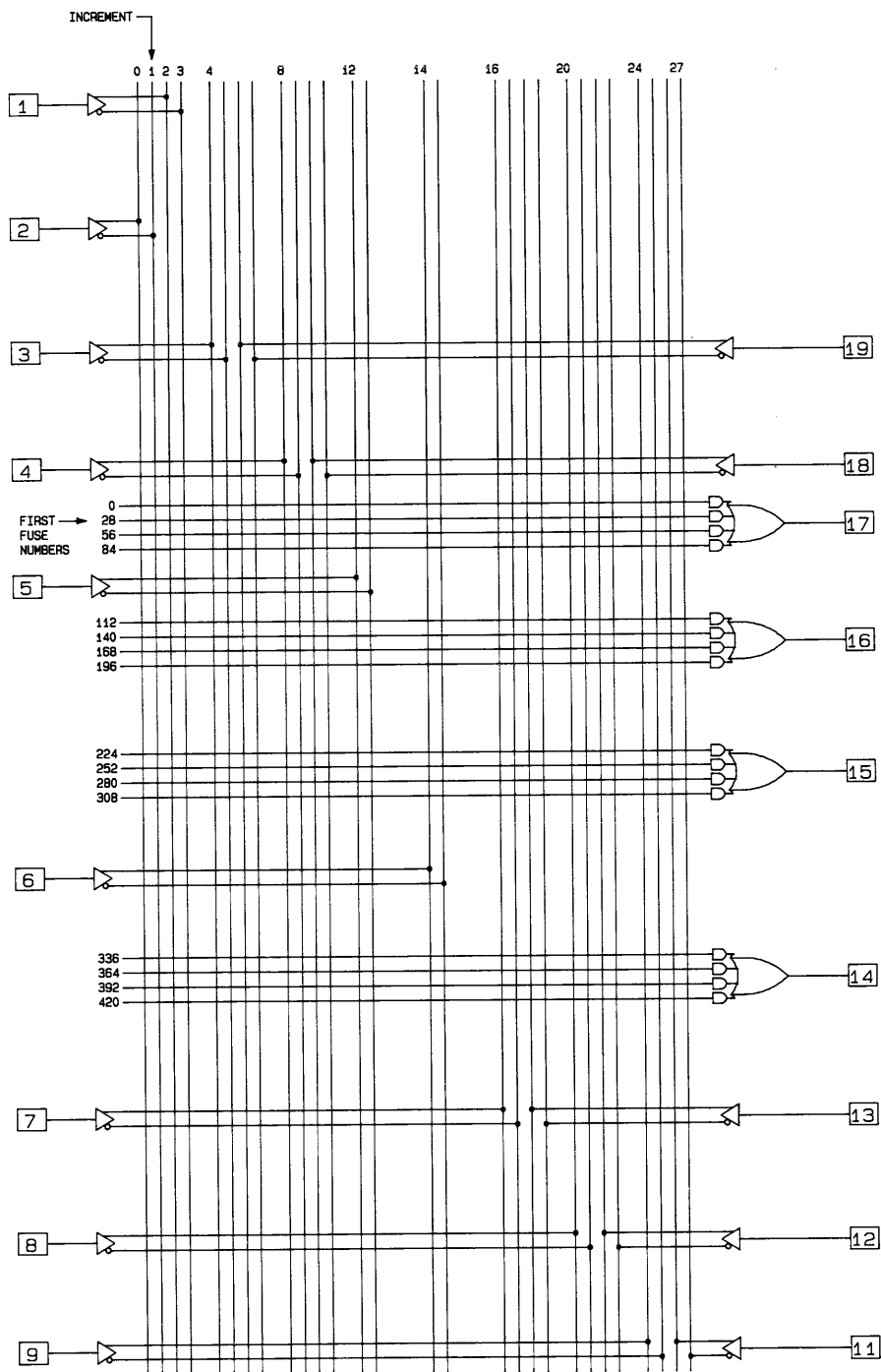


NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

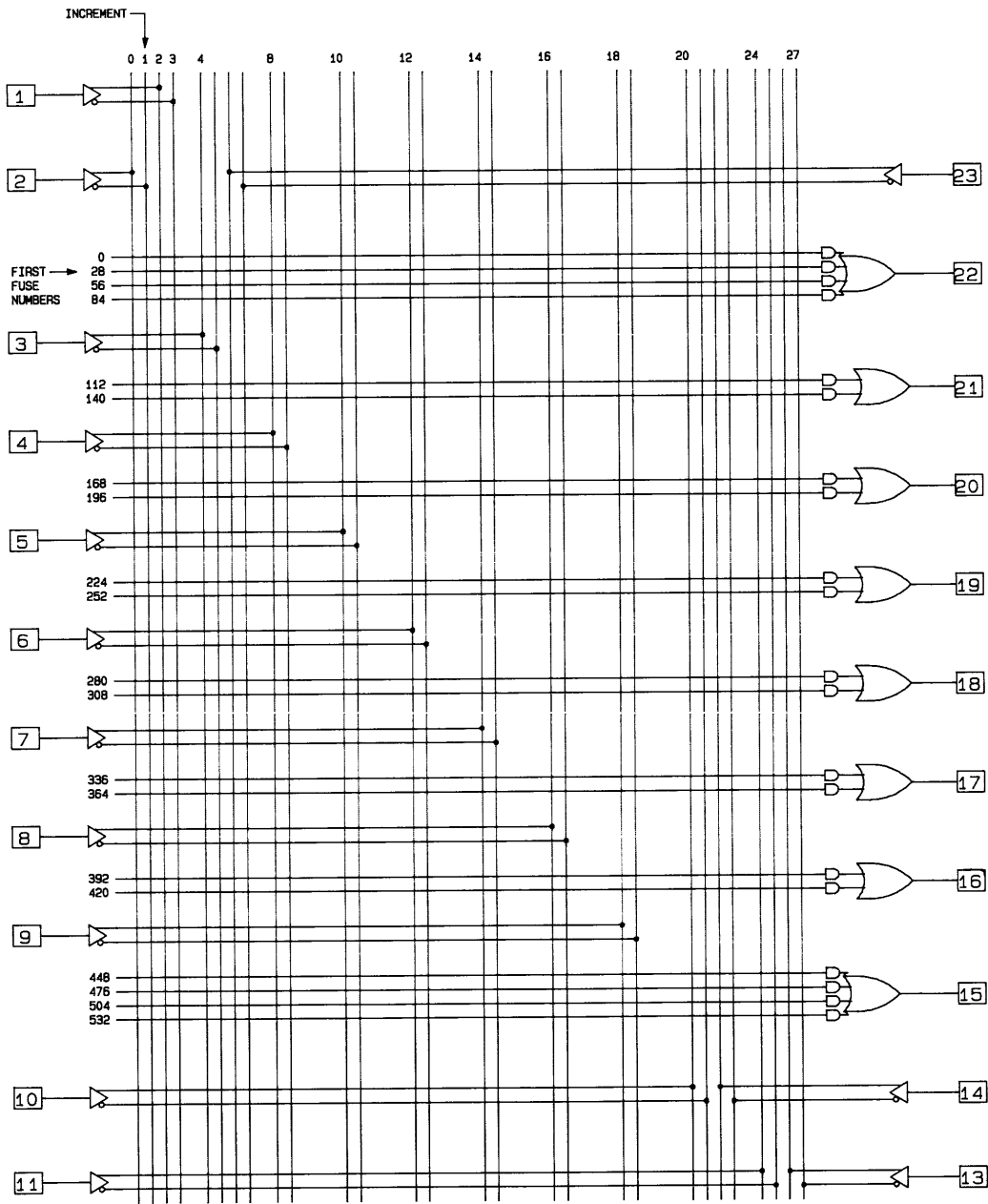


NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

Data I/O Corporation



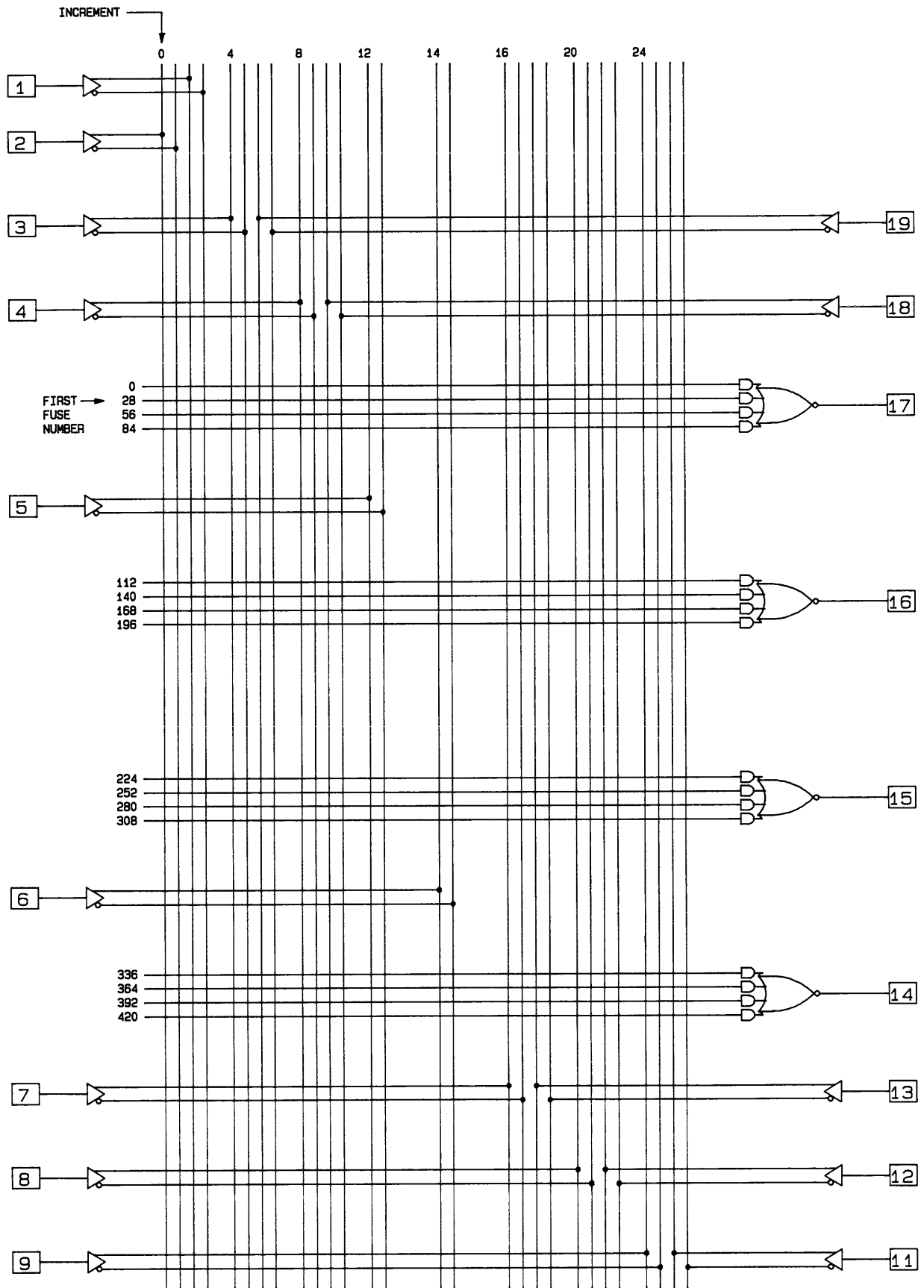
NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT



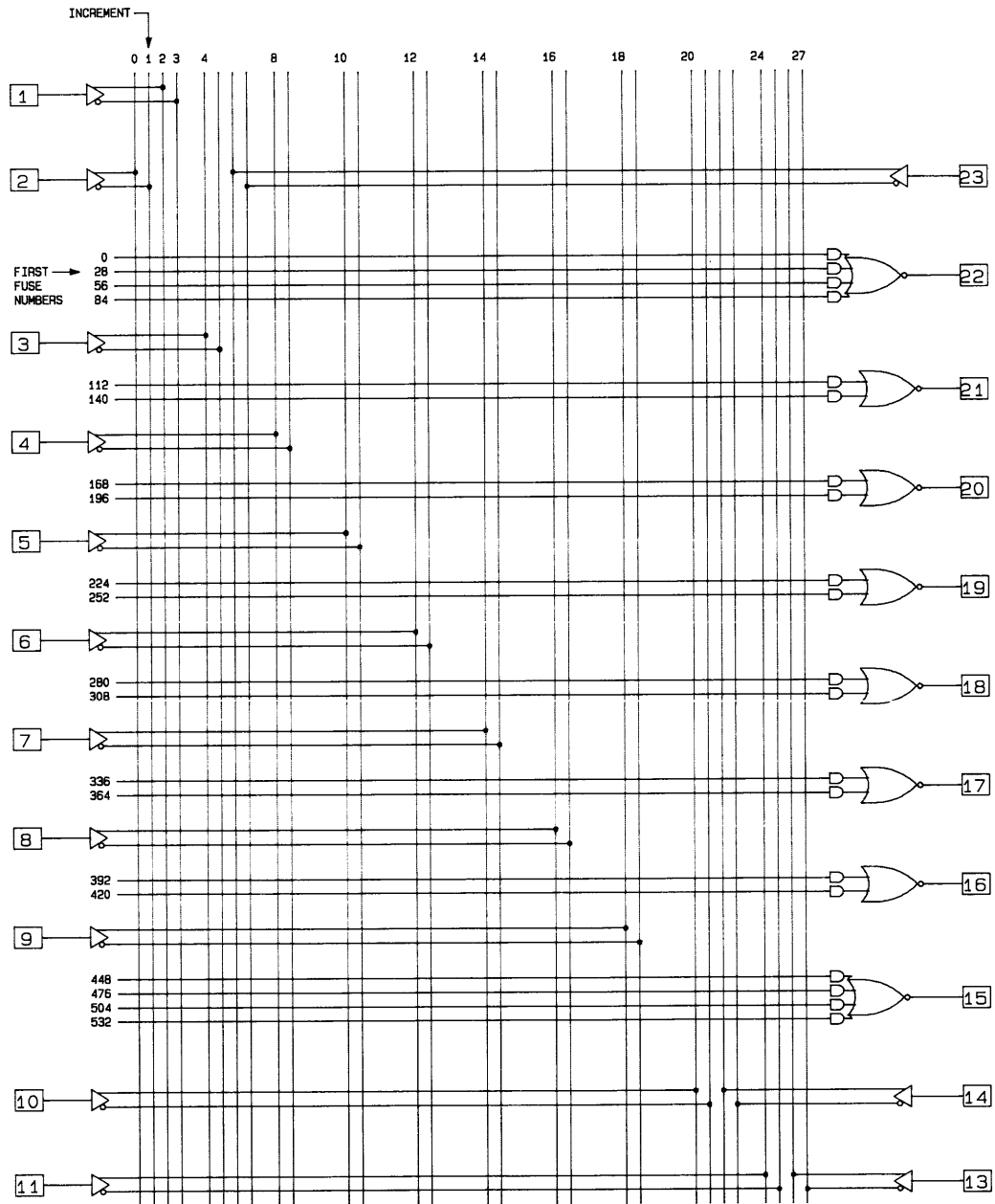
NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

Data I/O Corporation

Data I/O Corporation



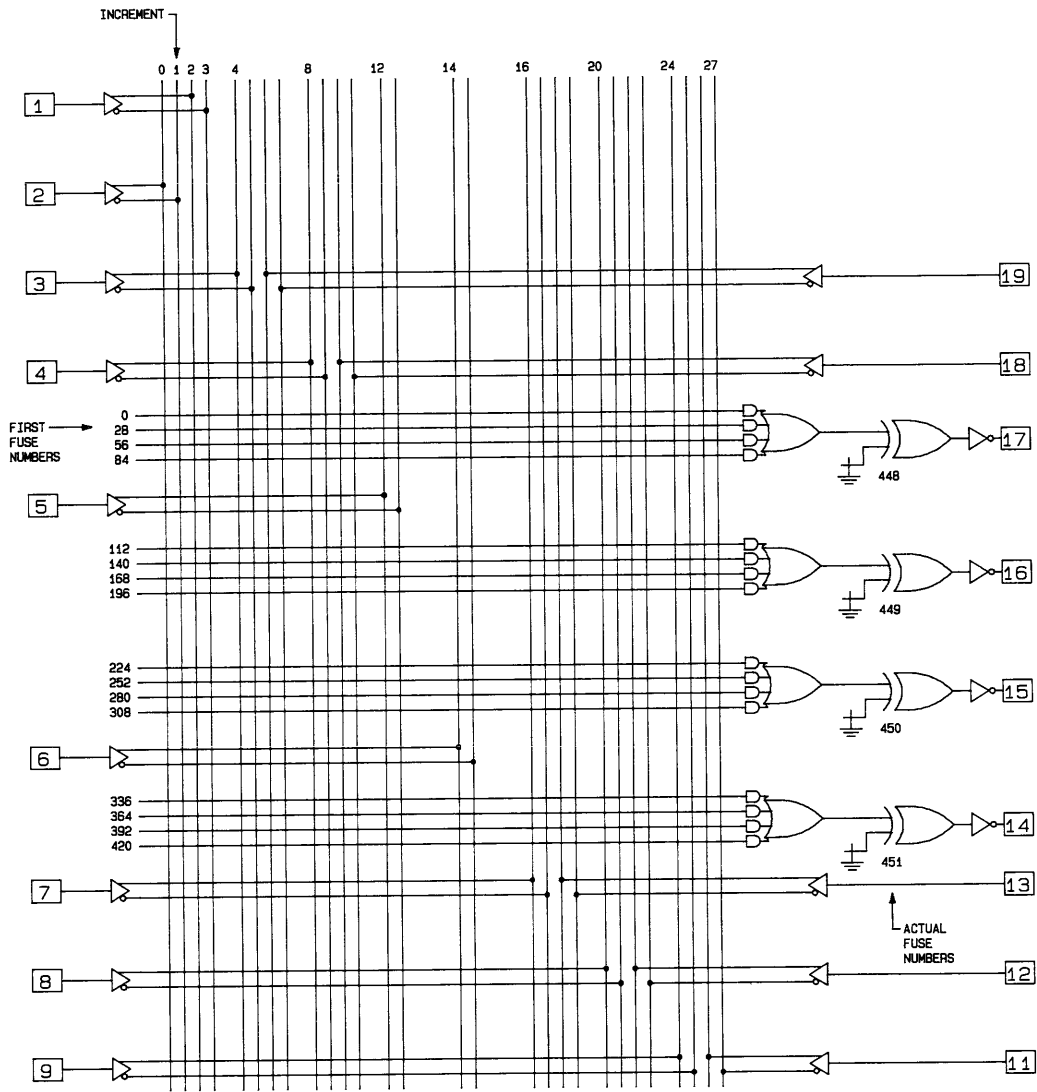
NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT



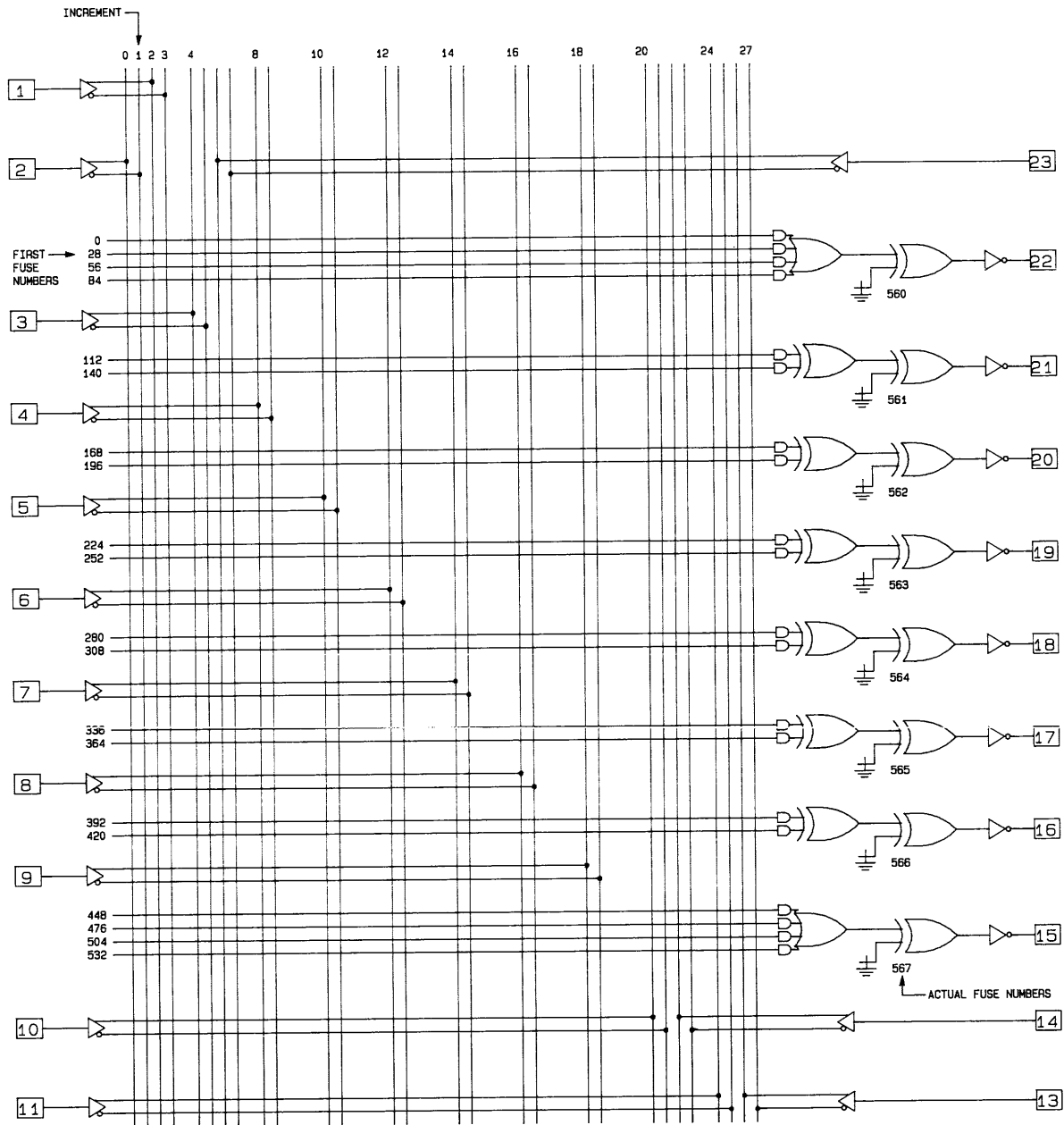
NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

Data I/O Corporation

Data I/O Corporation

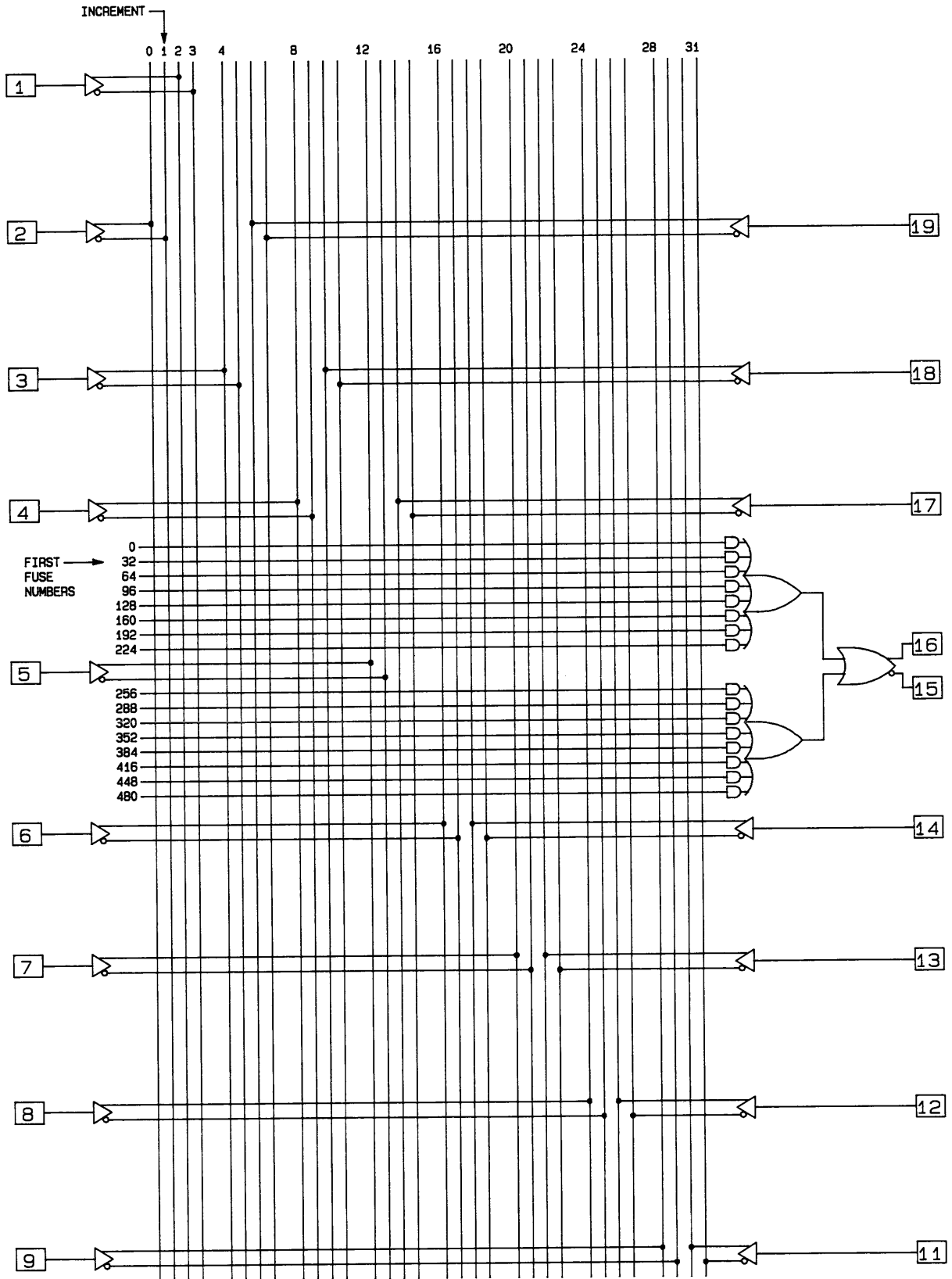


NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

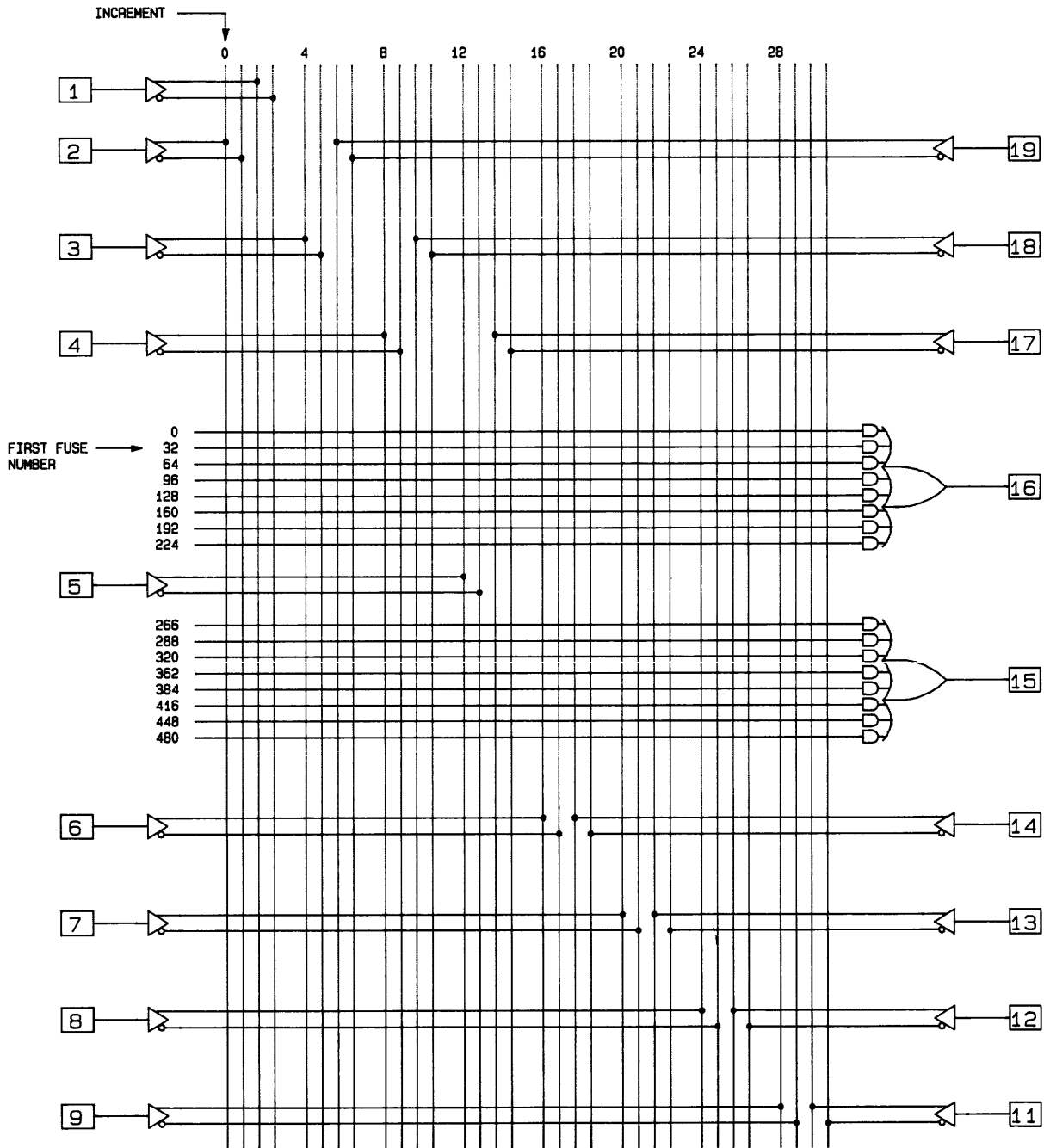


NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

Data I/O Corporation

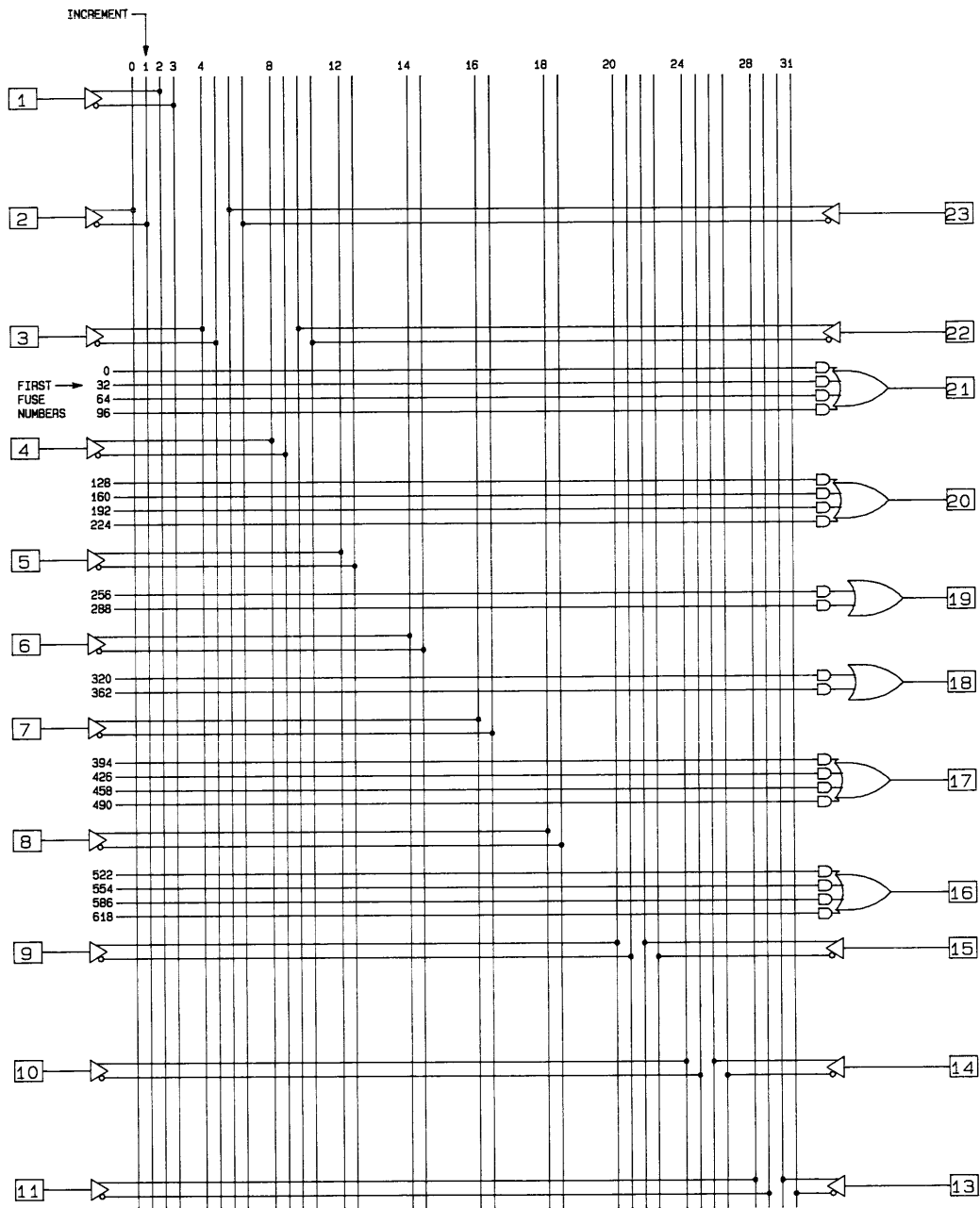


NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

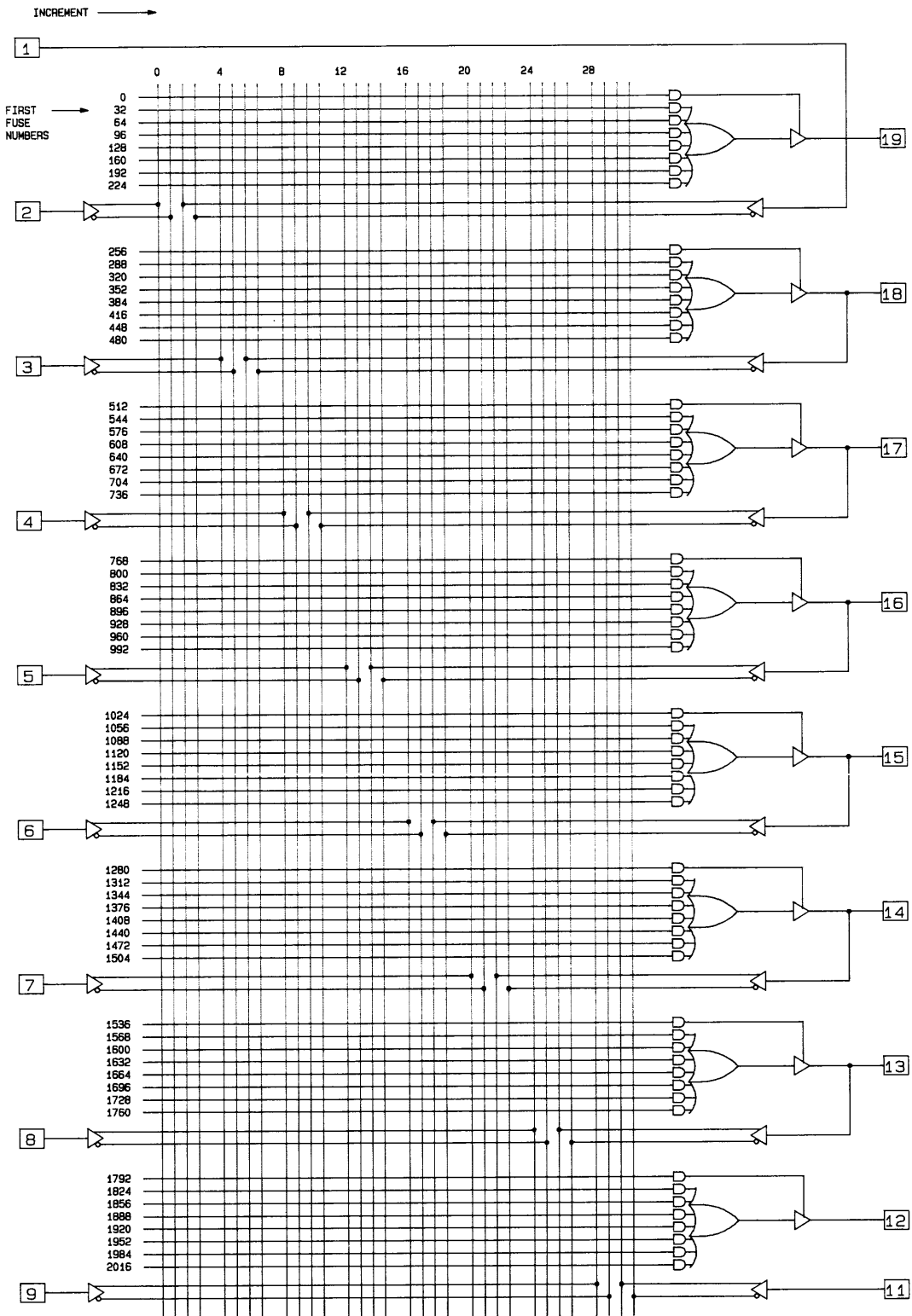


NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

Data I/O Corporation

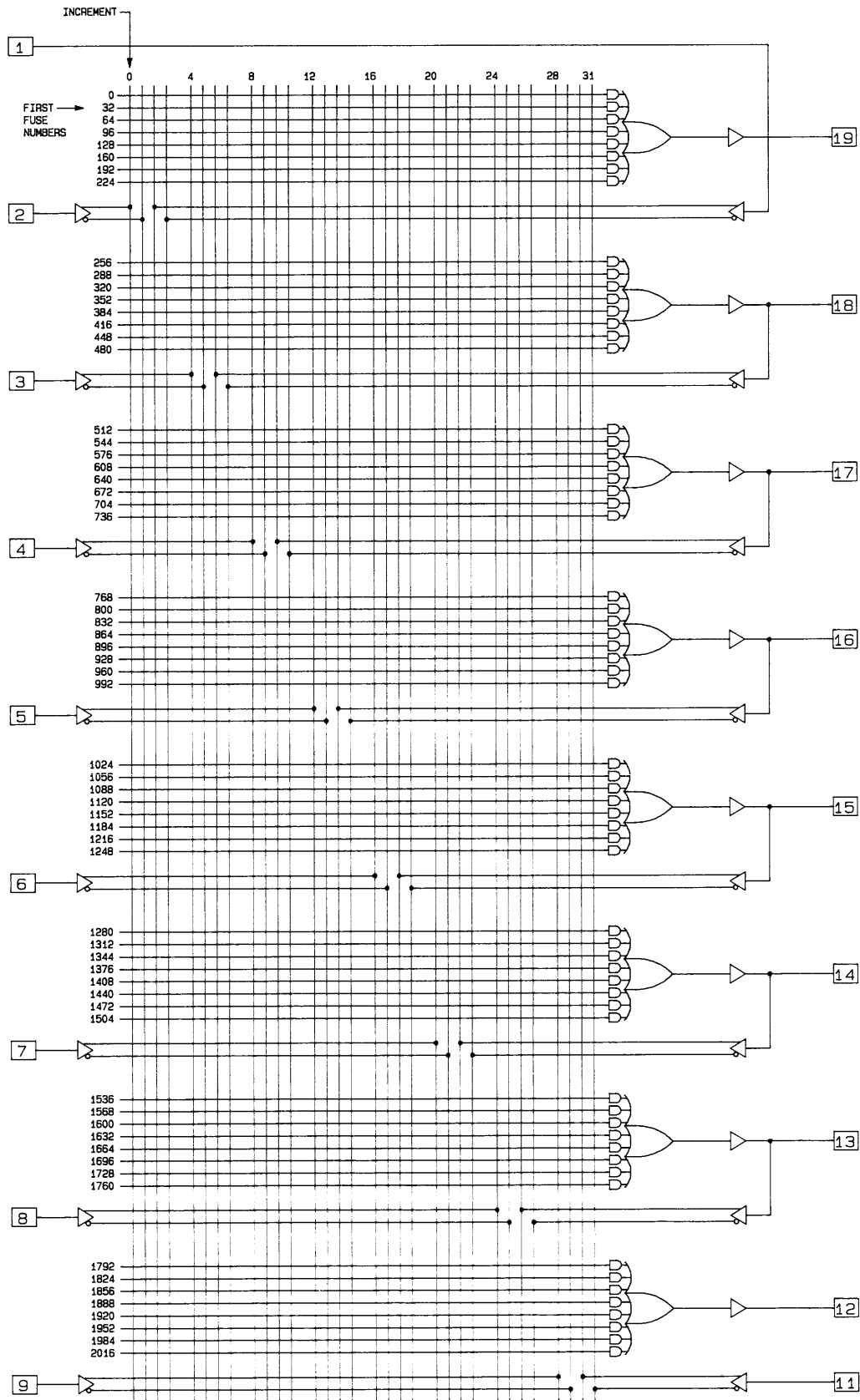


NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

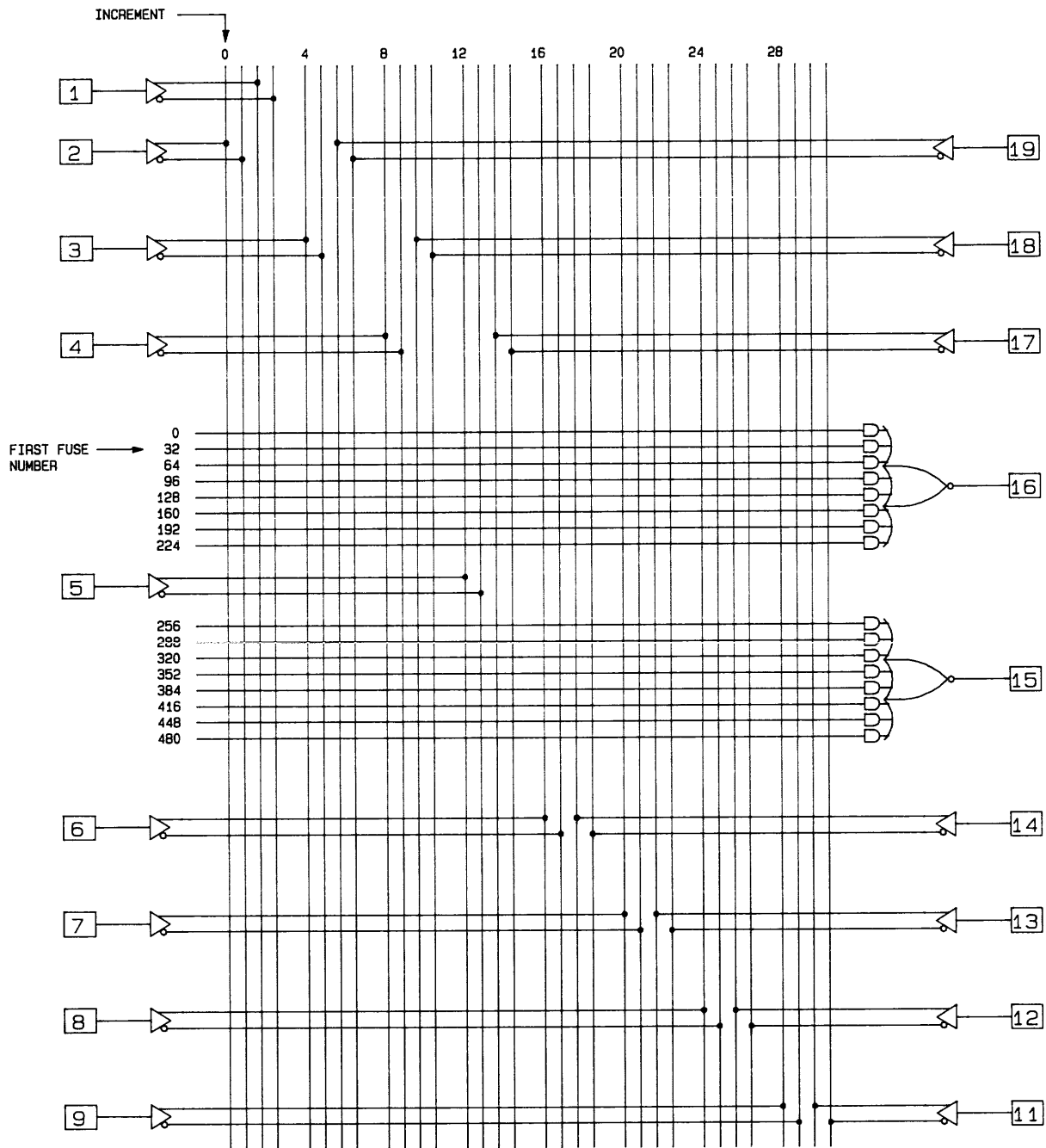


NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

Data I/O Corporation



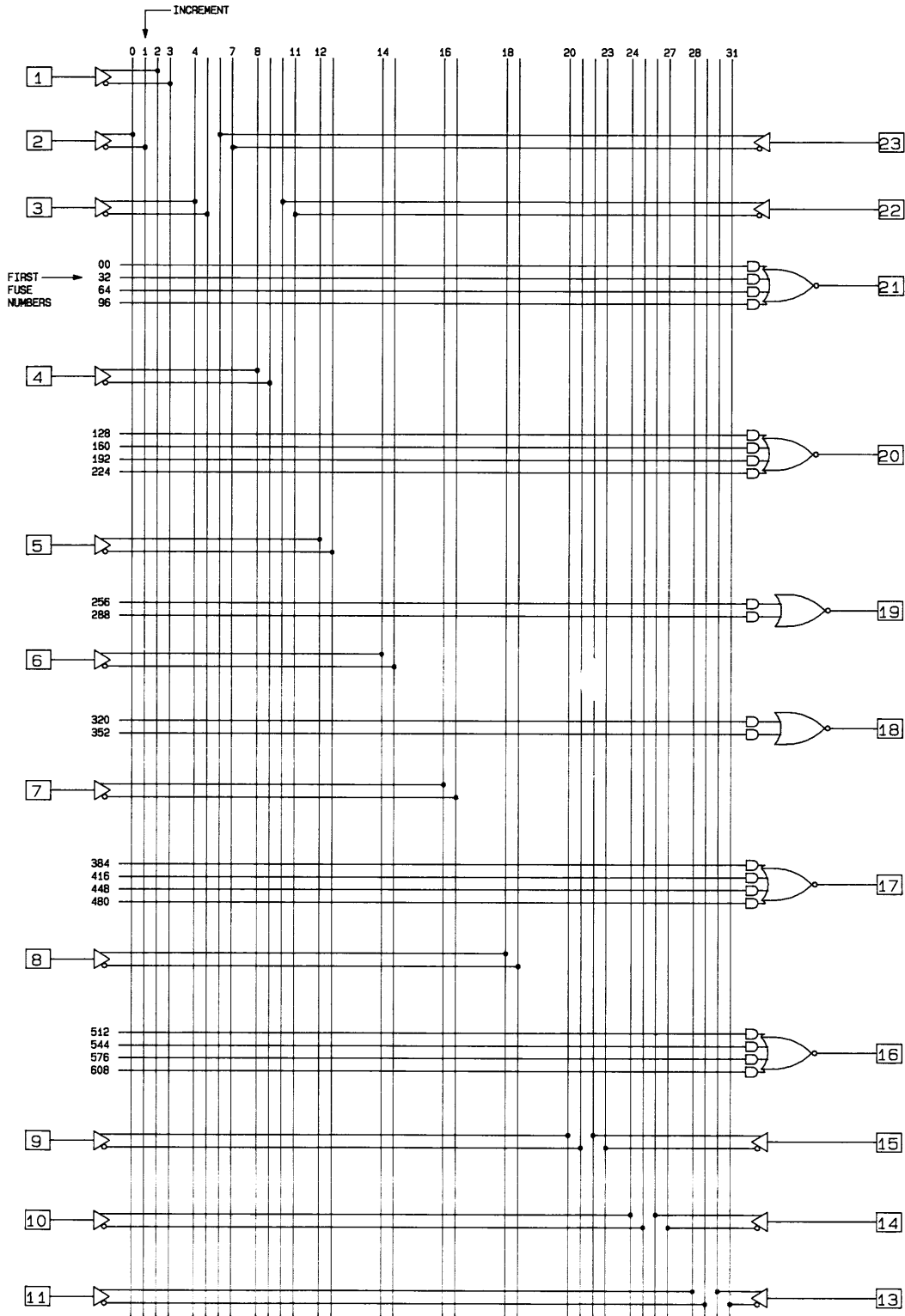
NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT



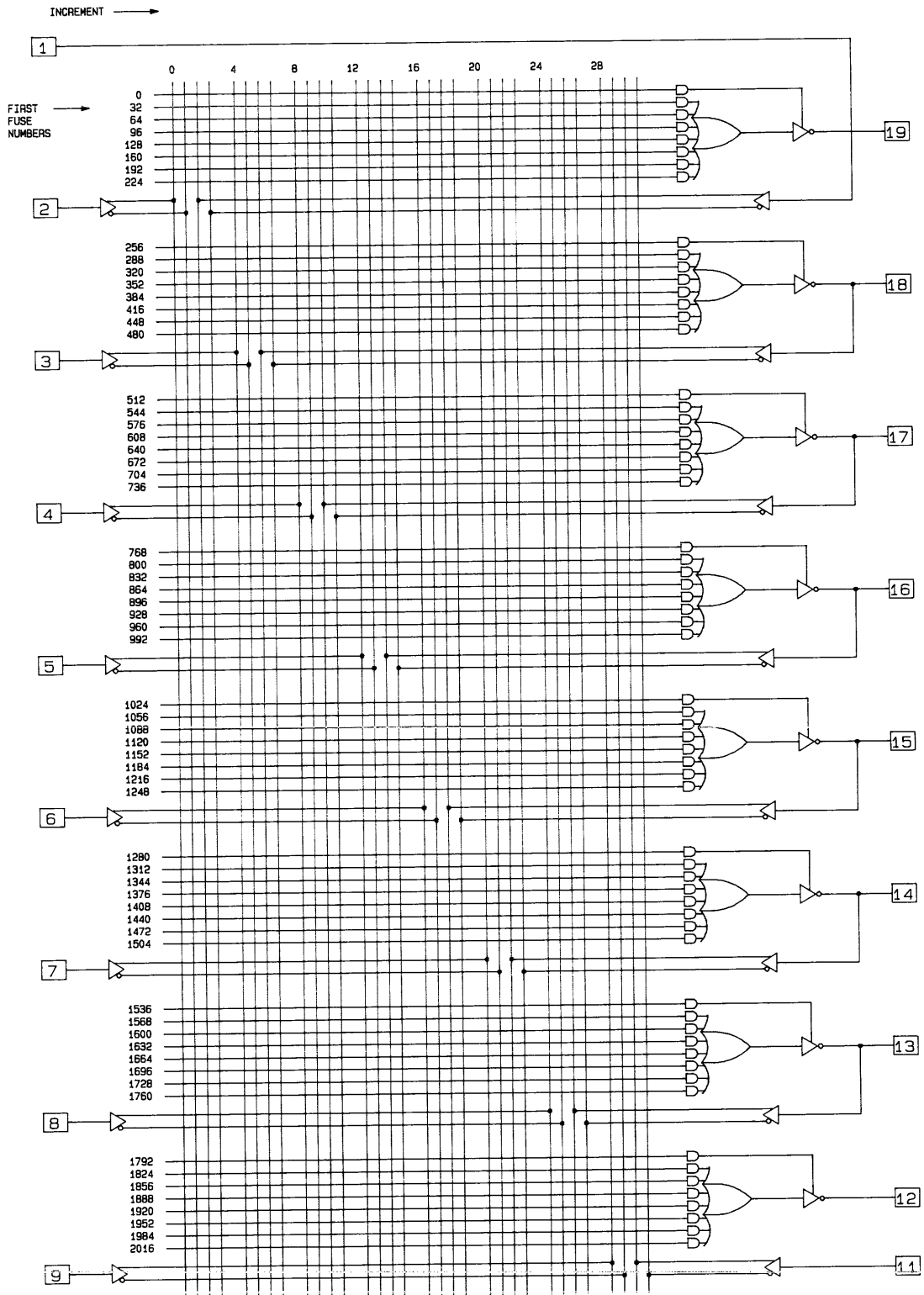
NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

Data I/O Corporation

Data I/O Corporation



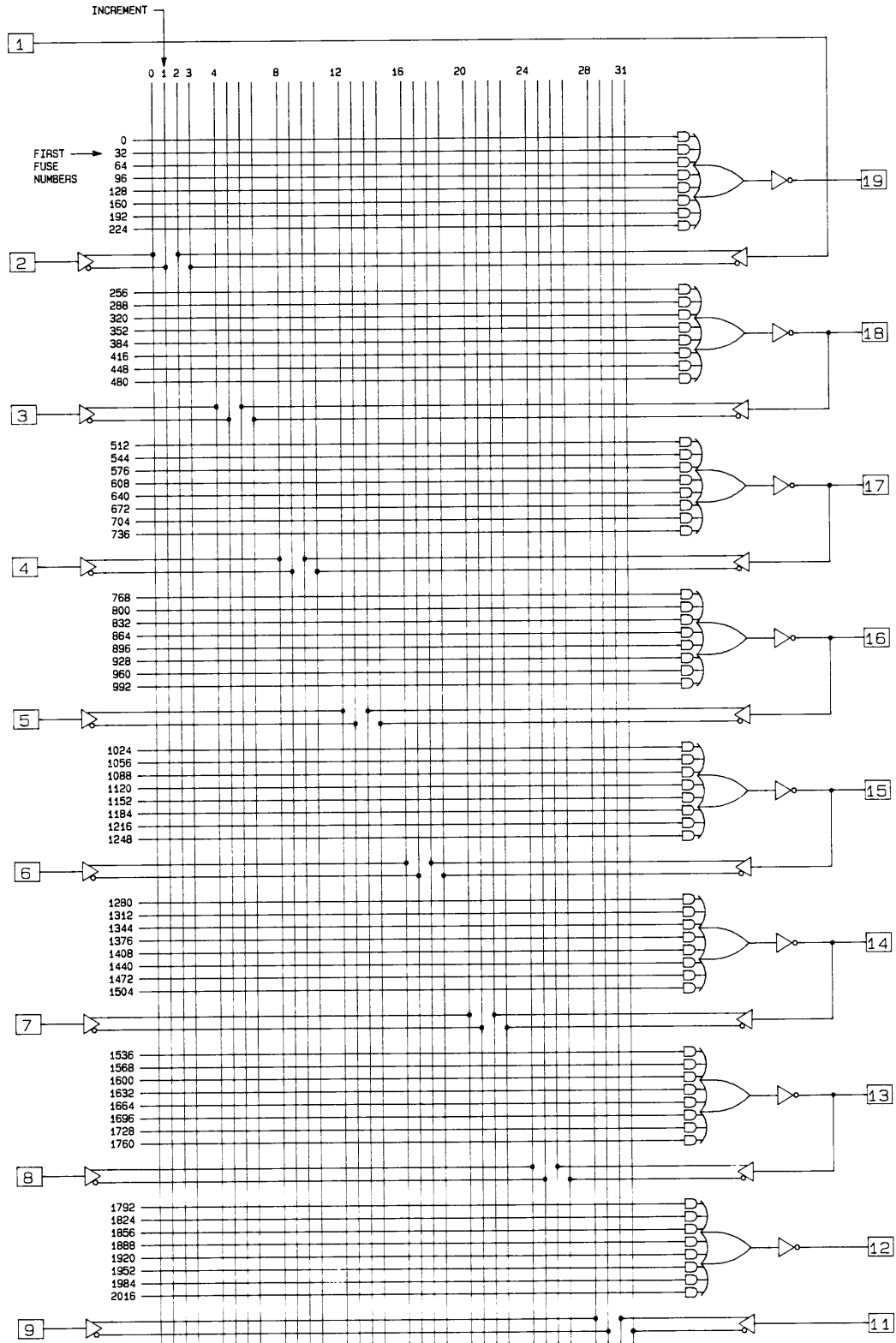
NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT



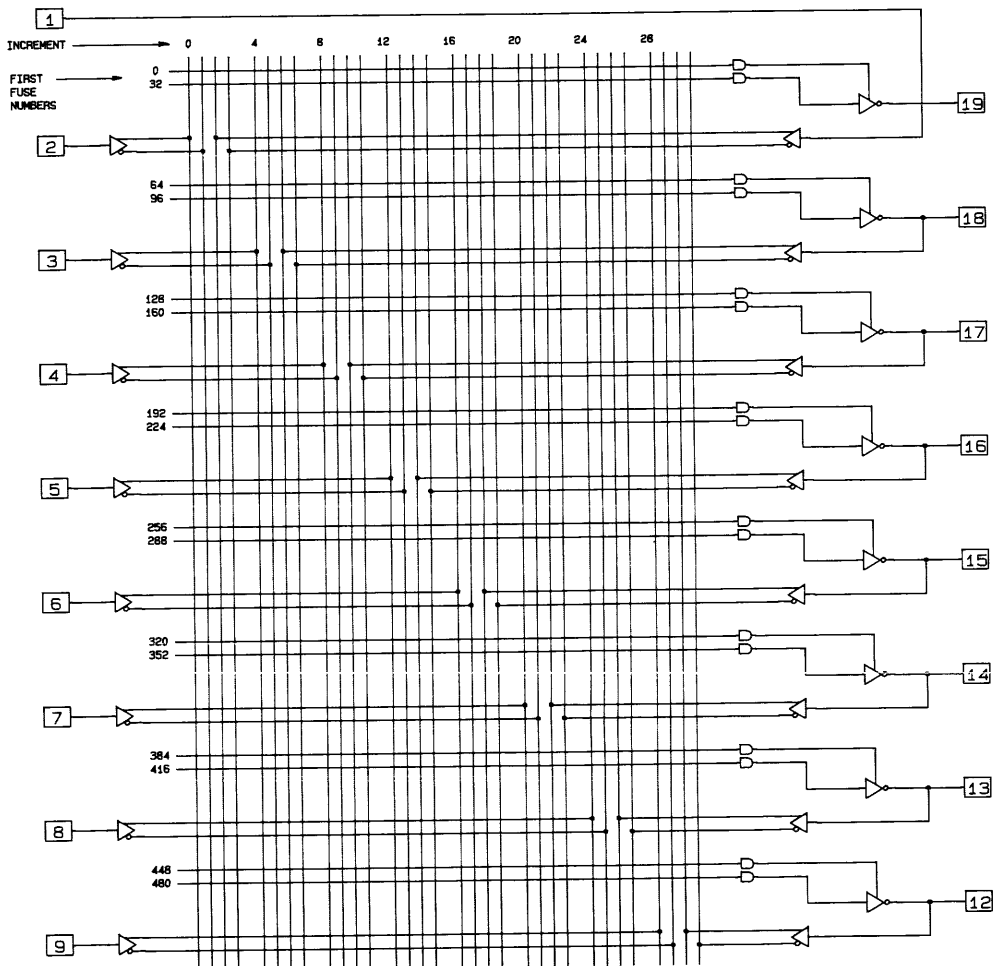
NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

Data I/O Corporation

Data I/O Corporation



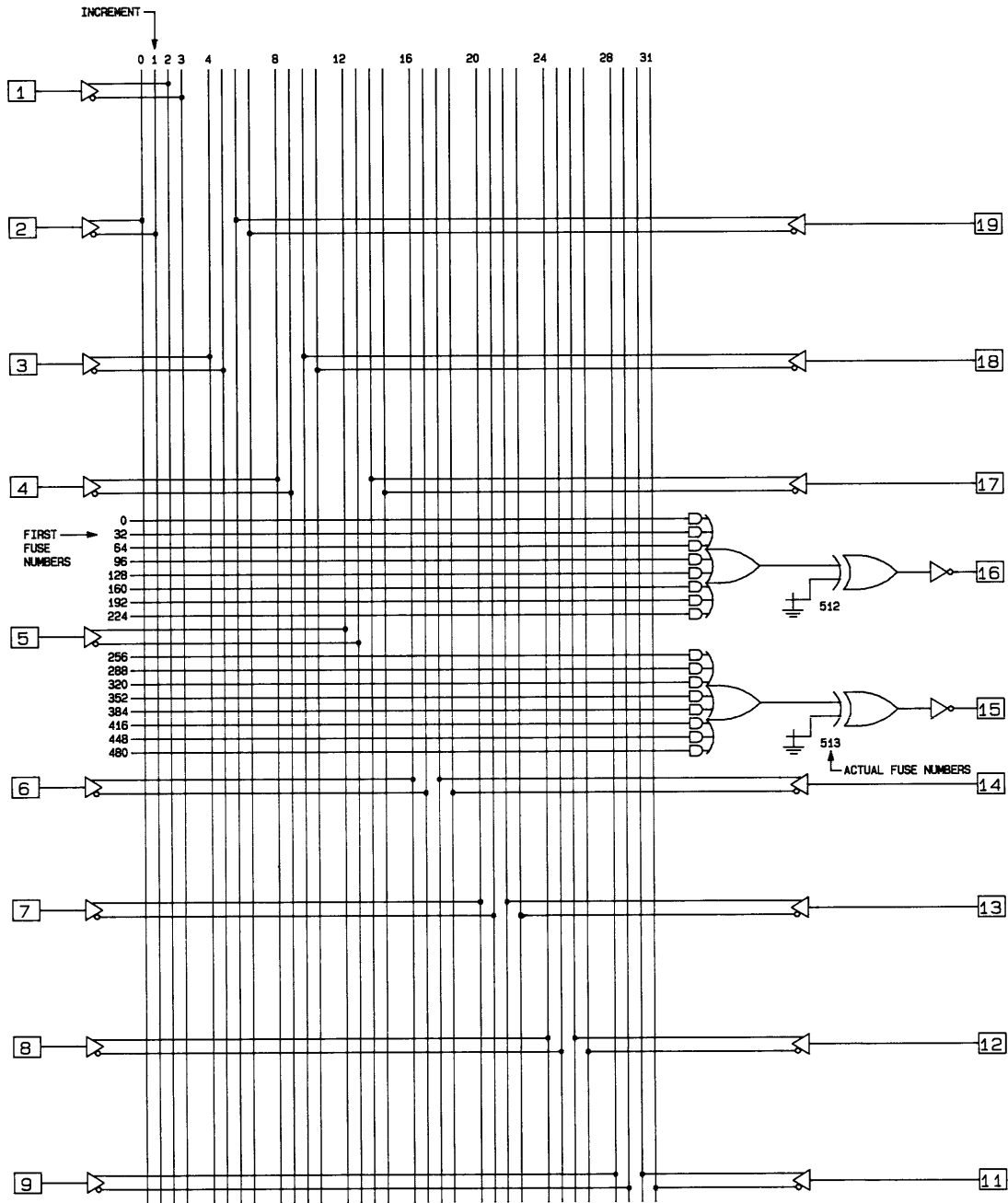
NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT



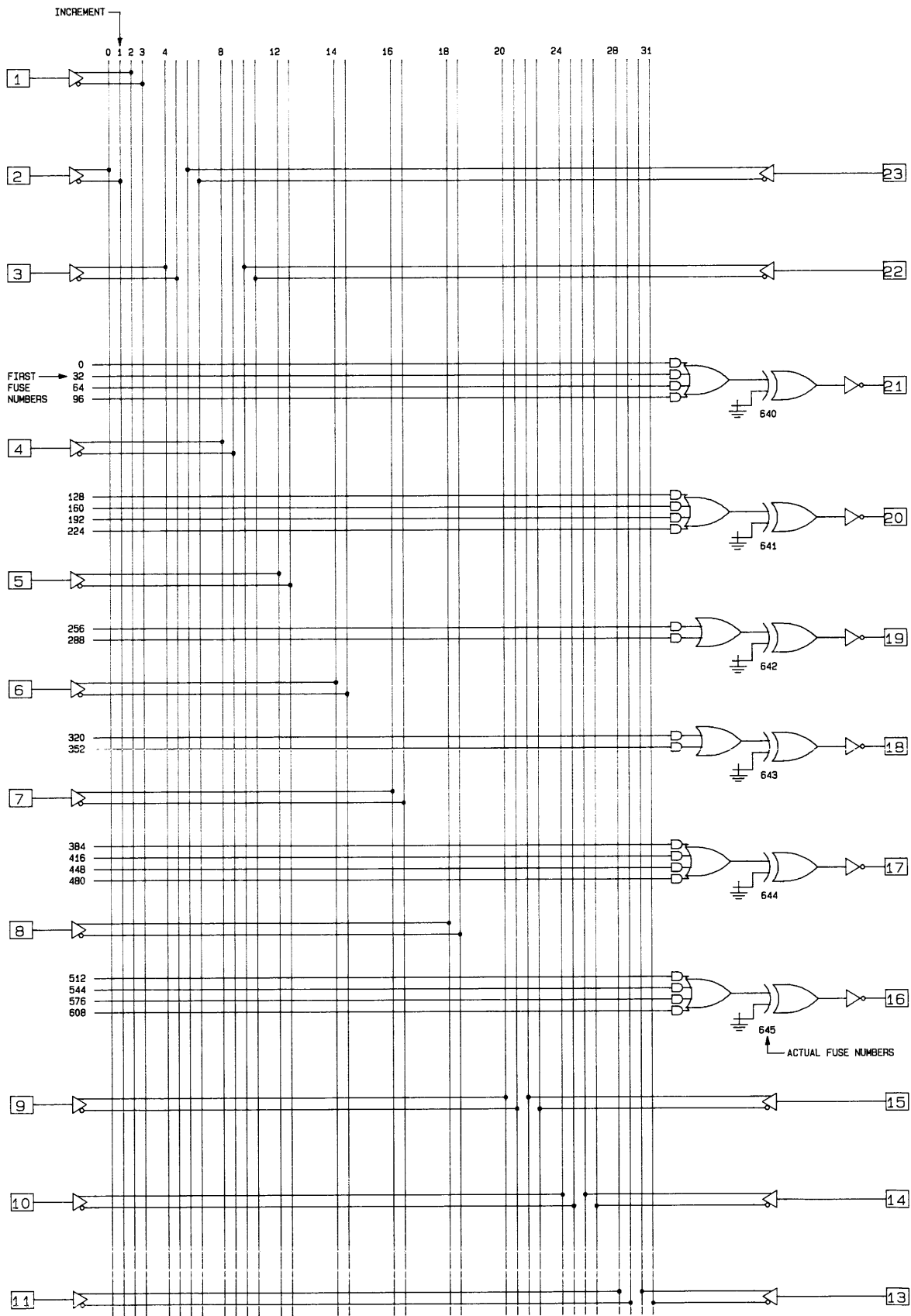
FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

Data I/O Corporation

Data I/O Corporation



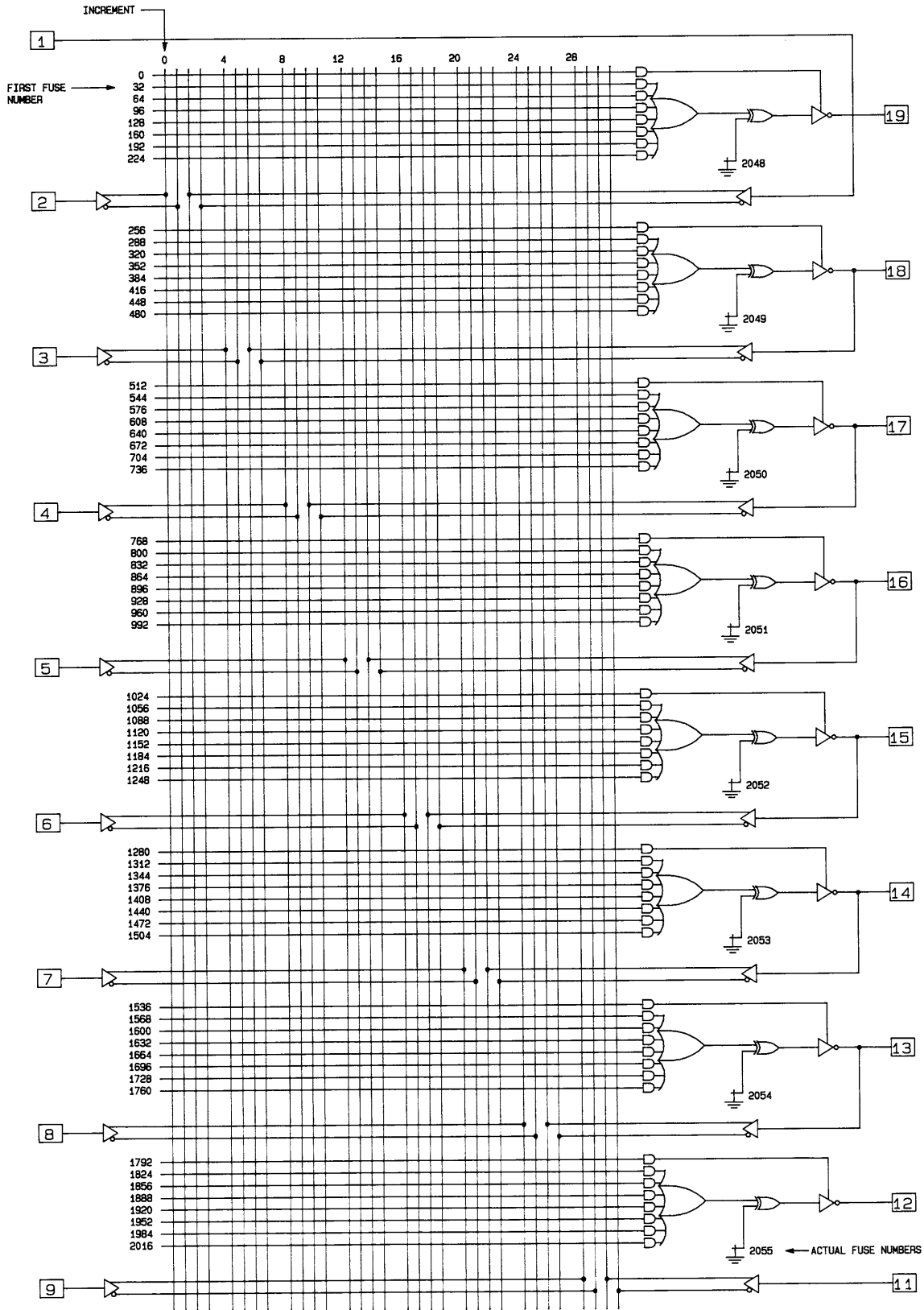
NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT



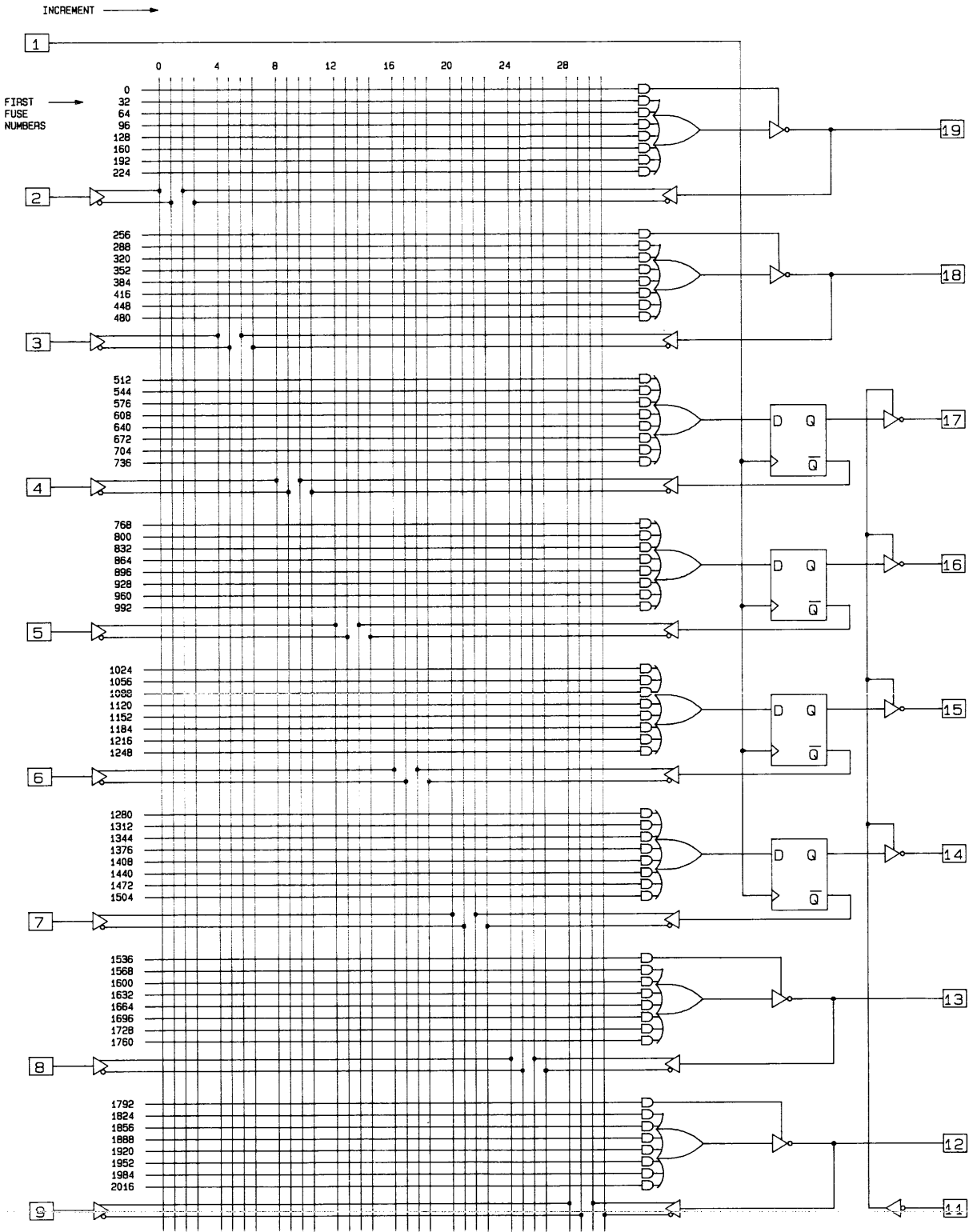
NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

Data I/O Corporation

Data I/O Corporation

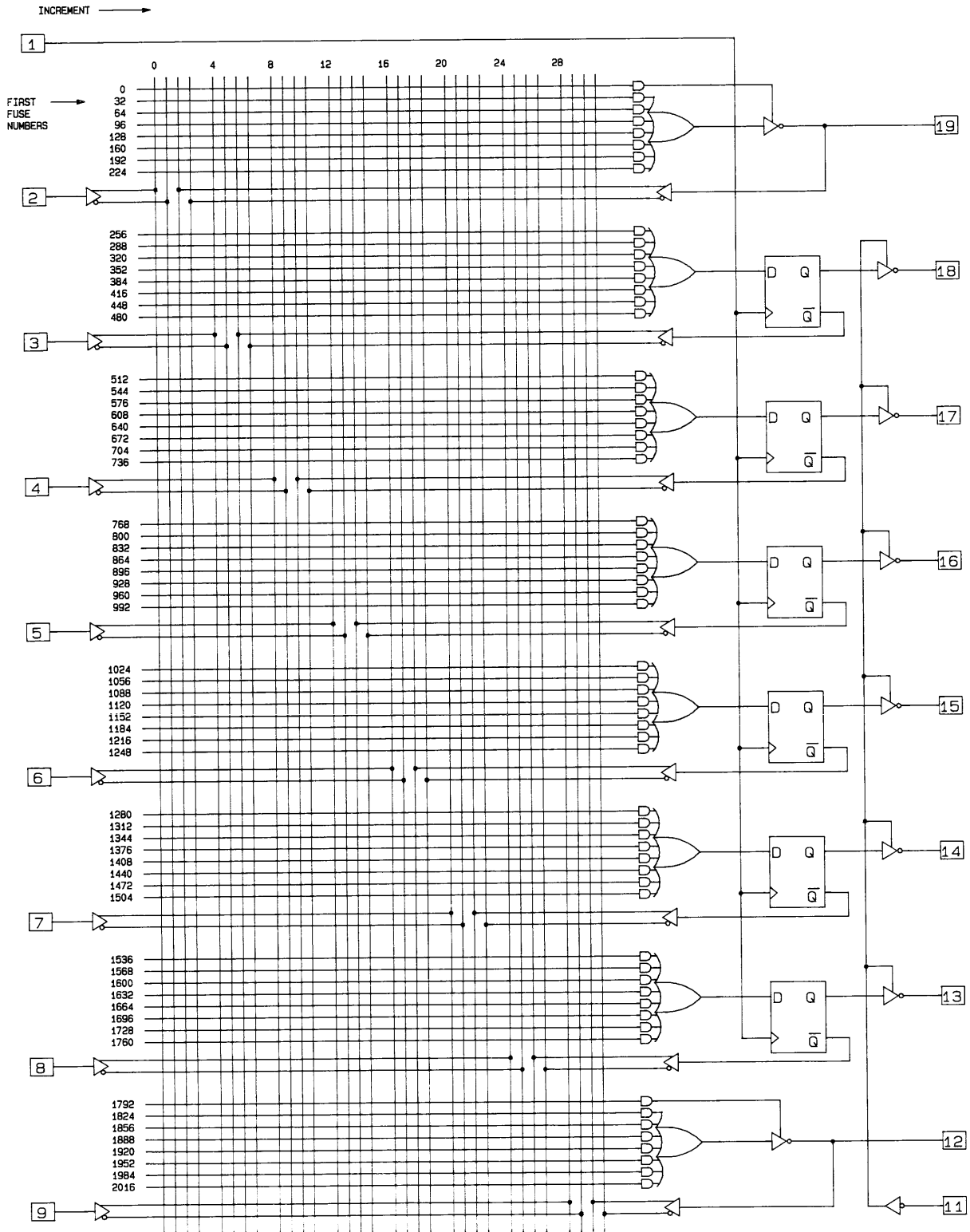


NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

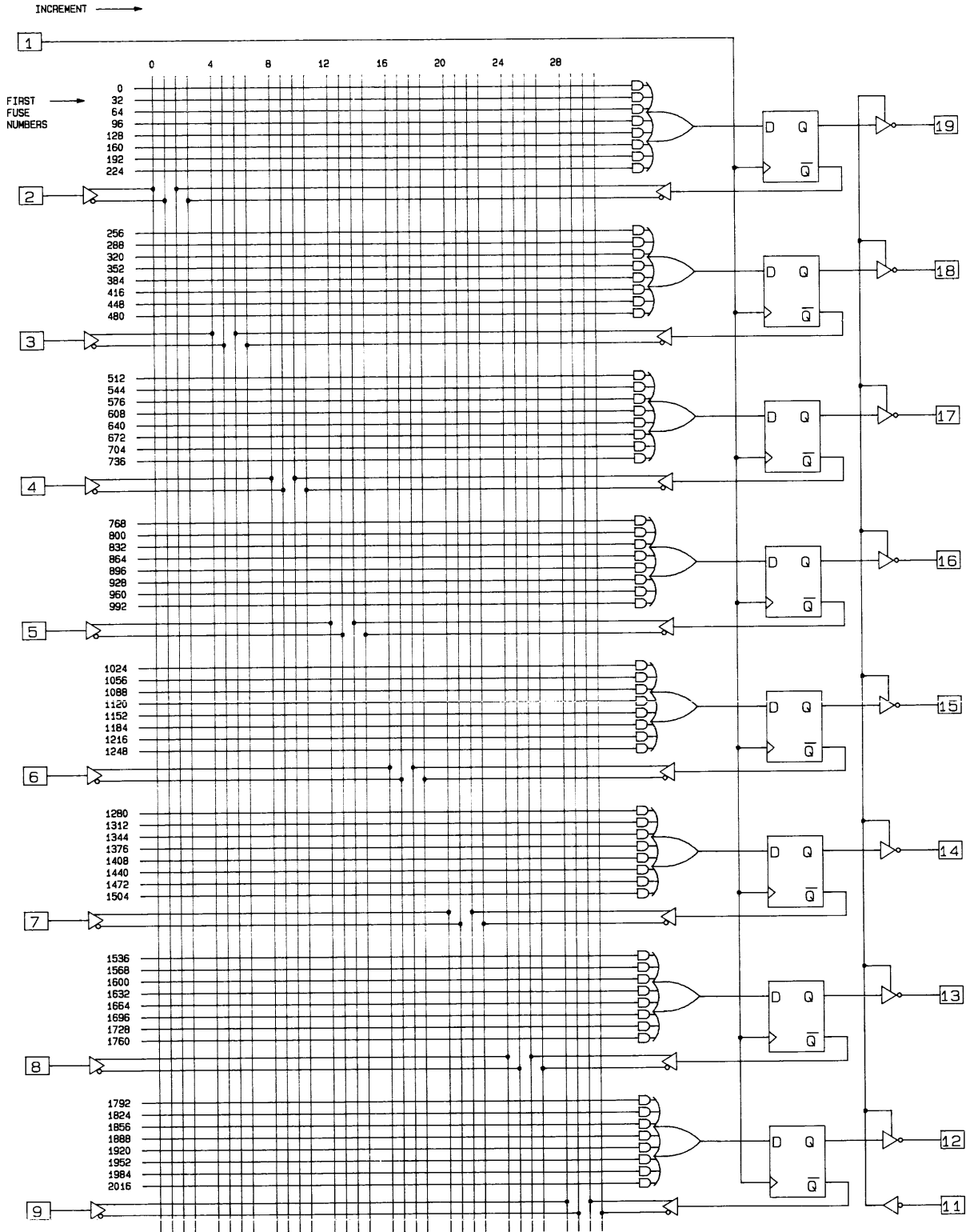


NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

Data I/O Corporation



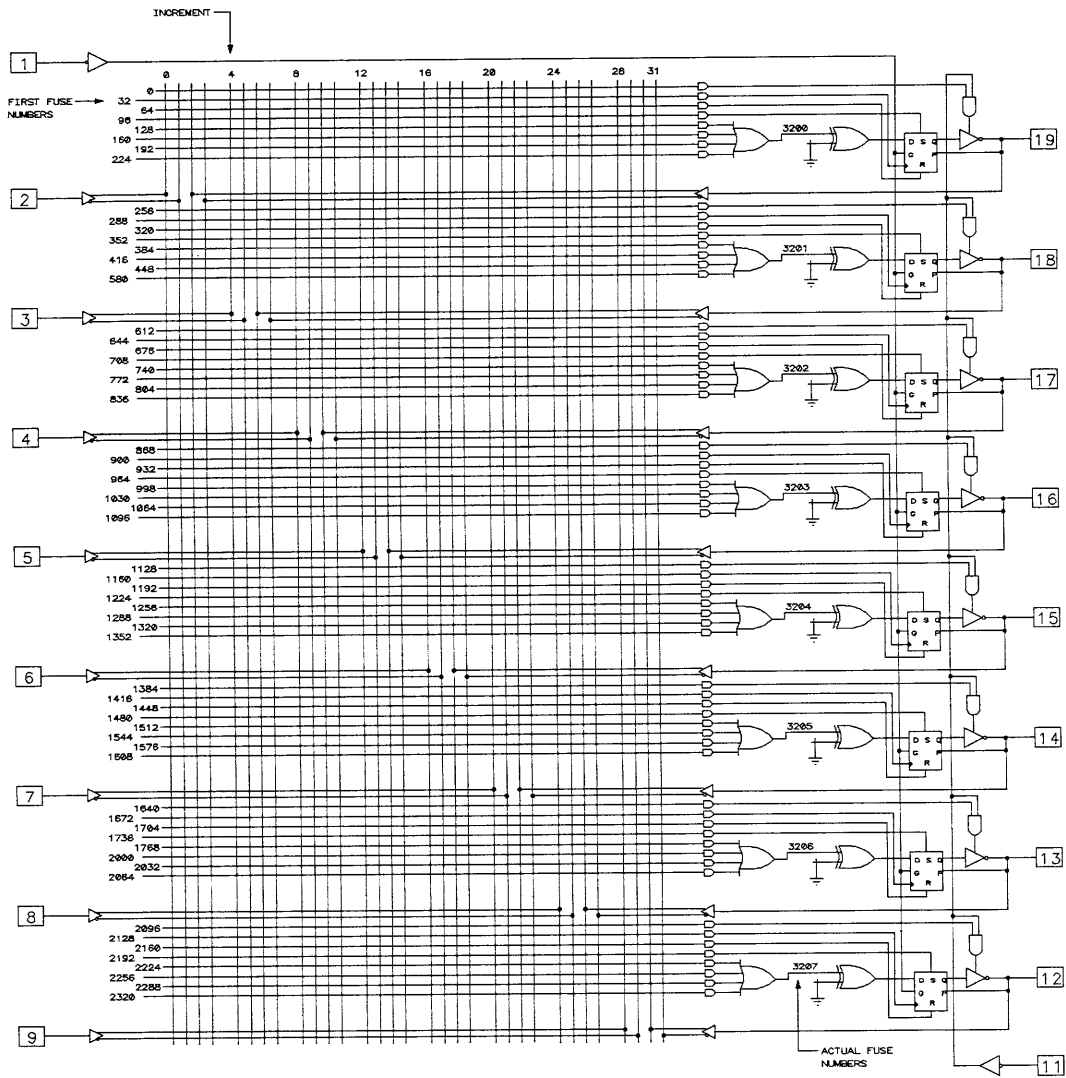
NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT



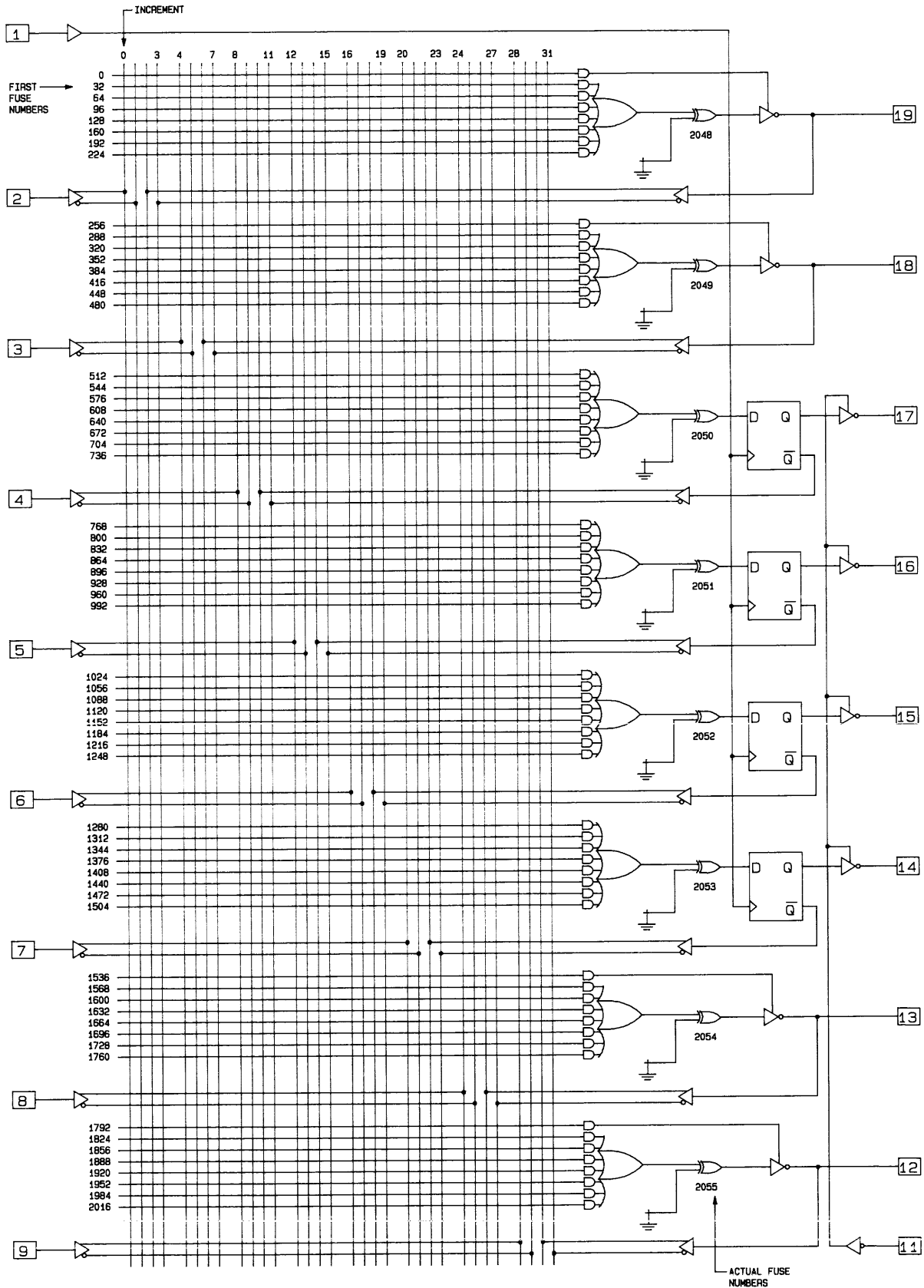
NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

Data I/O Corporation

Data I/O Corporation

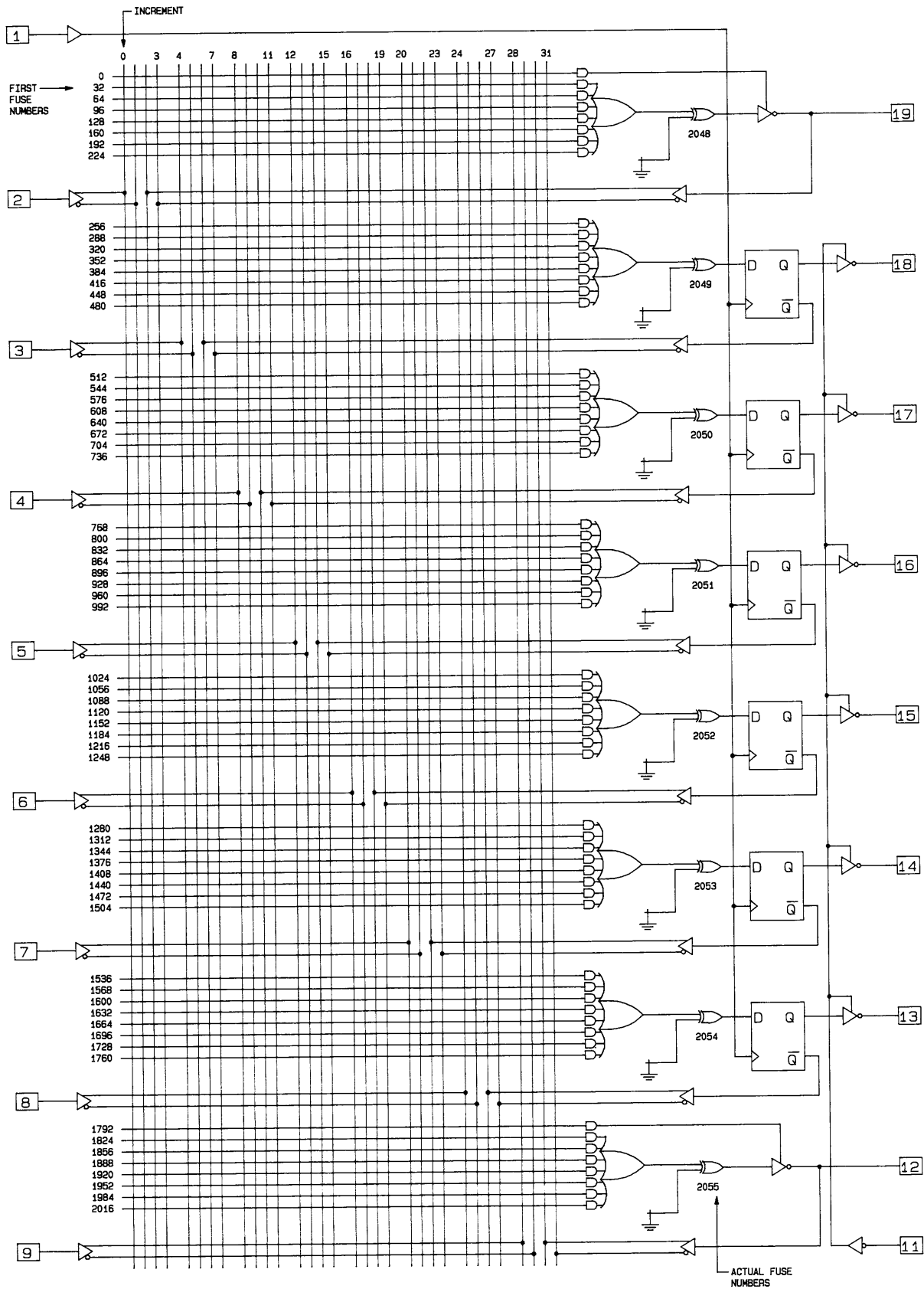


NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

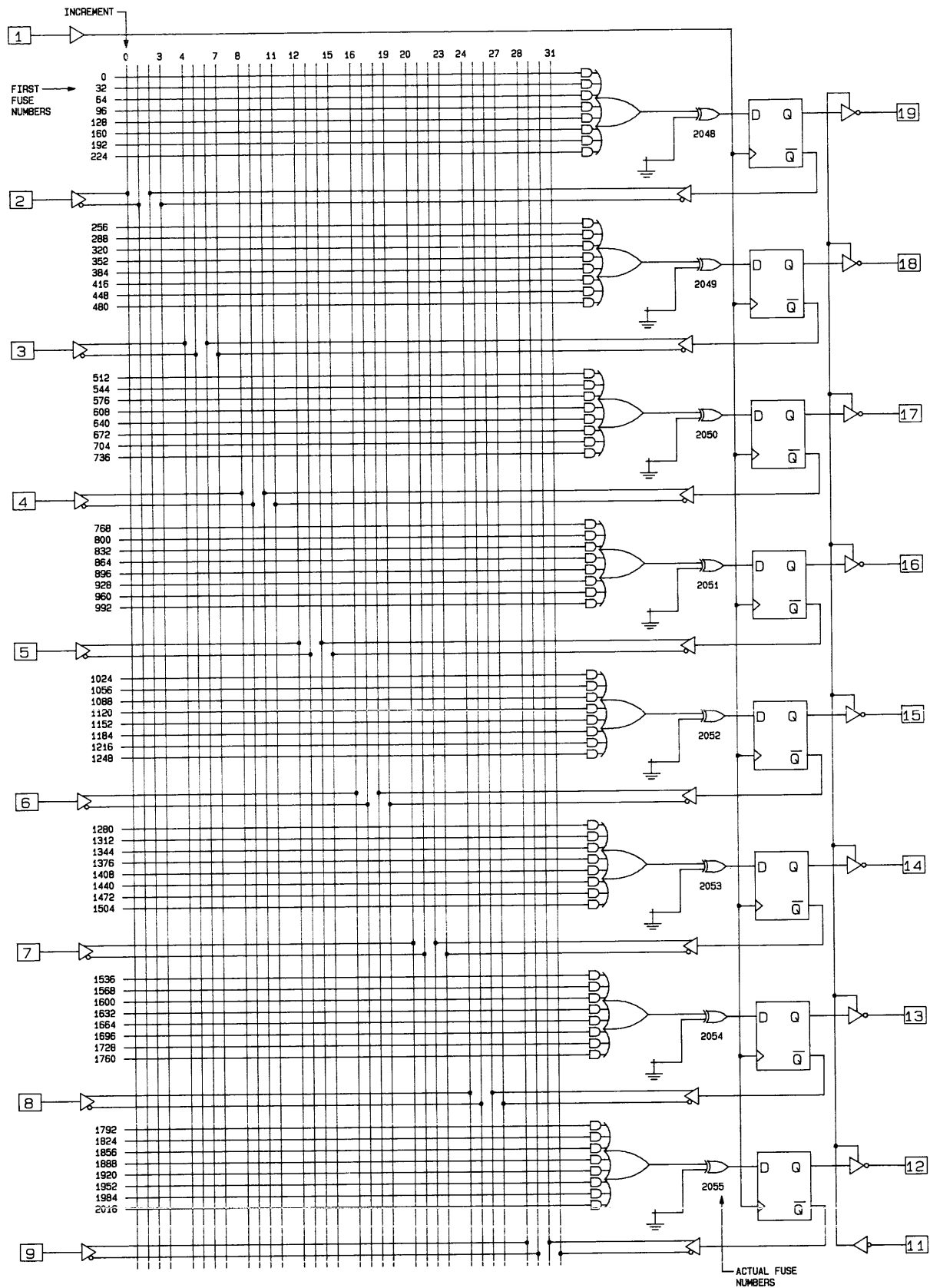


NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

Data I/O Corporation

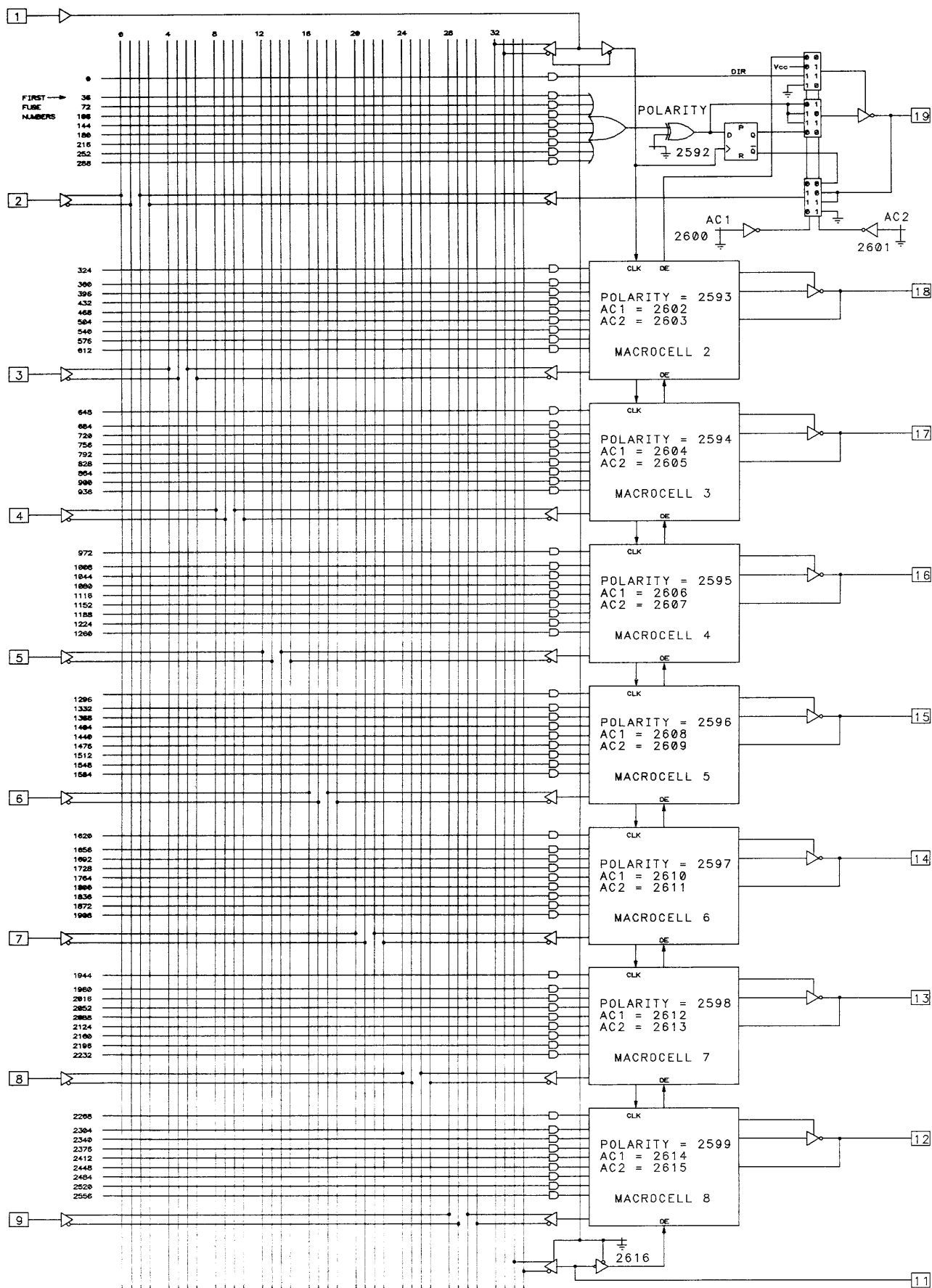


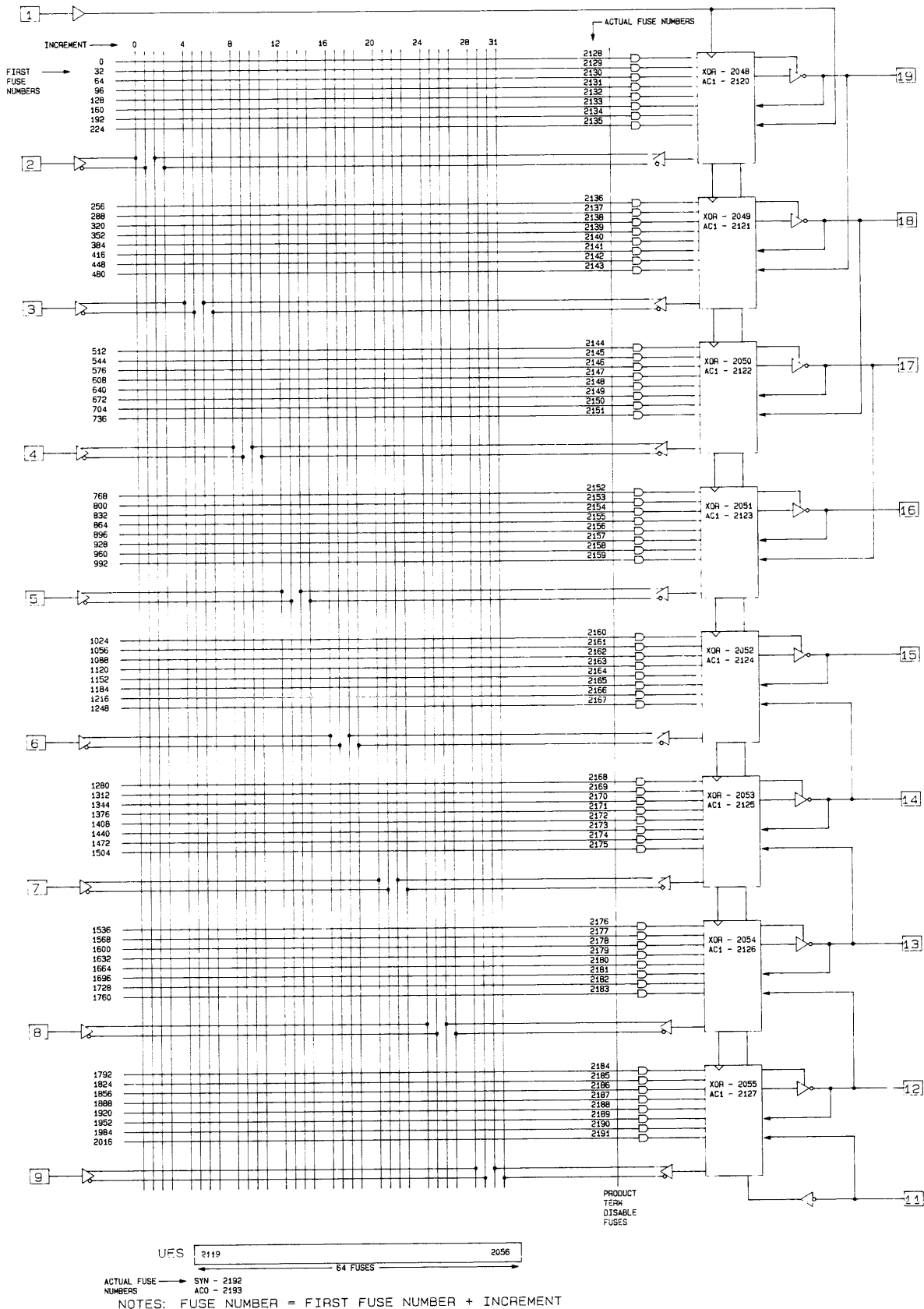
NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT



NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

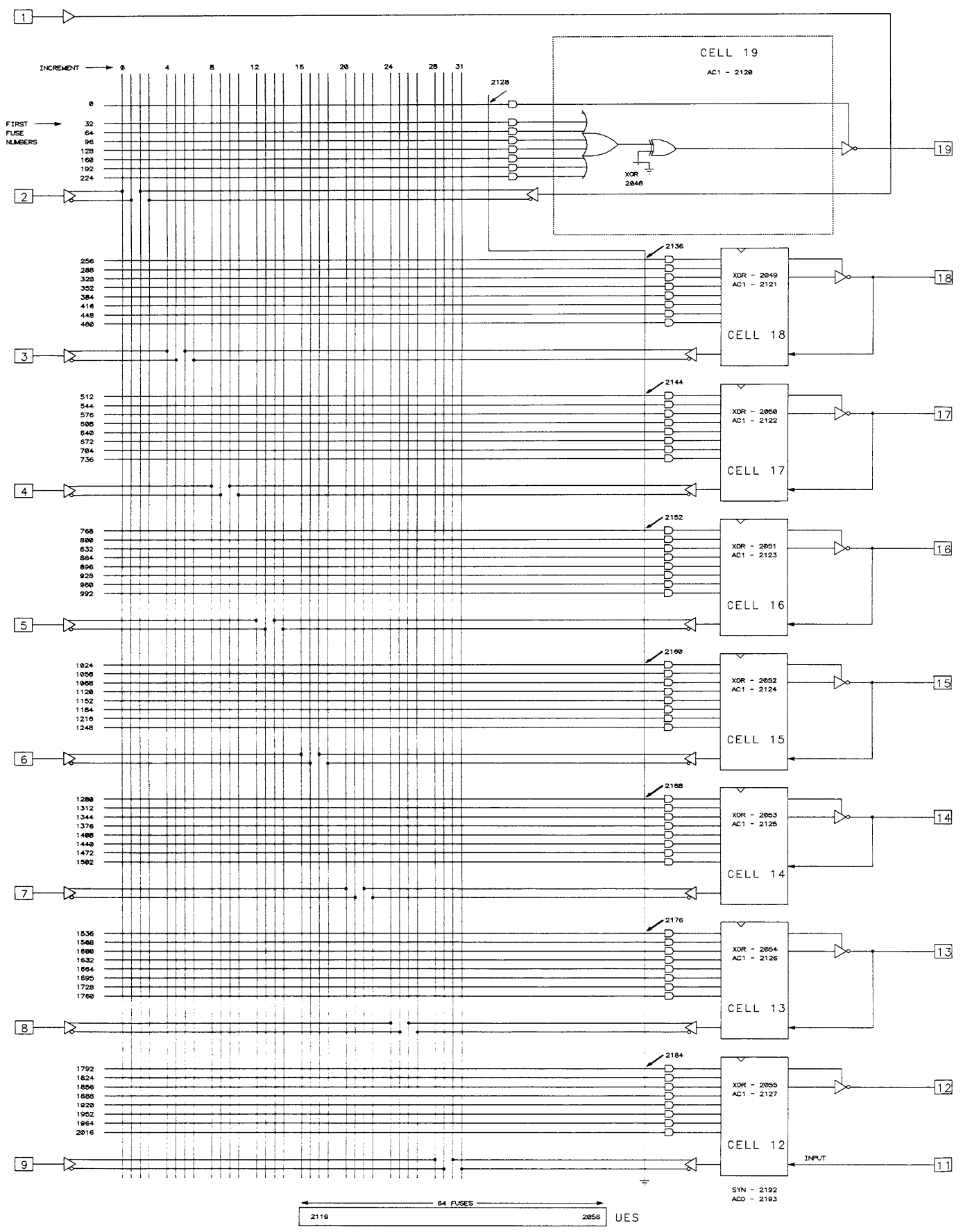
Corporation
Data I/O



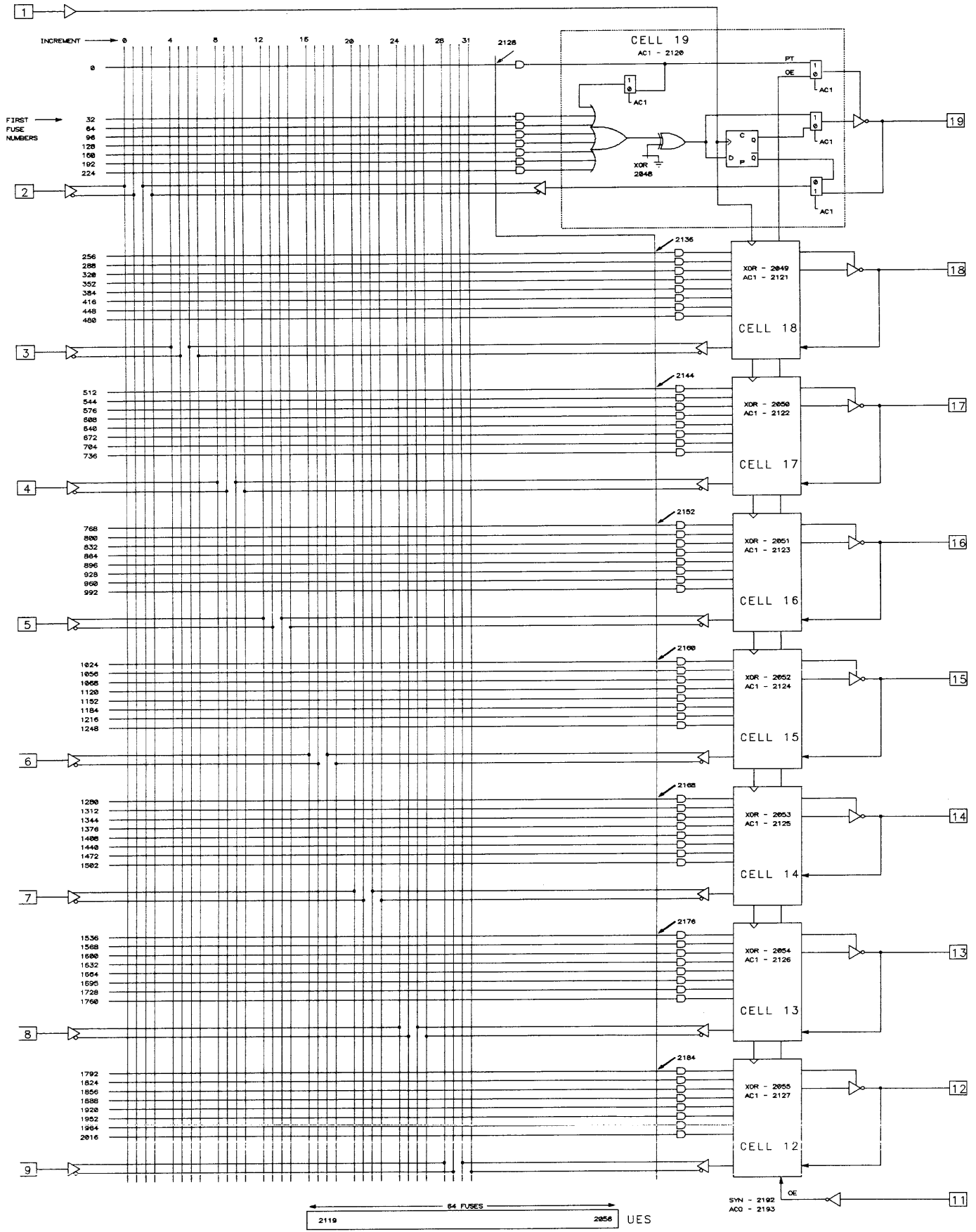


Data I/O Corporation

Data I/O Corporation



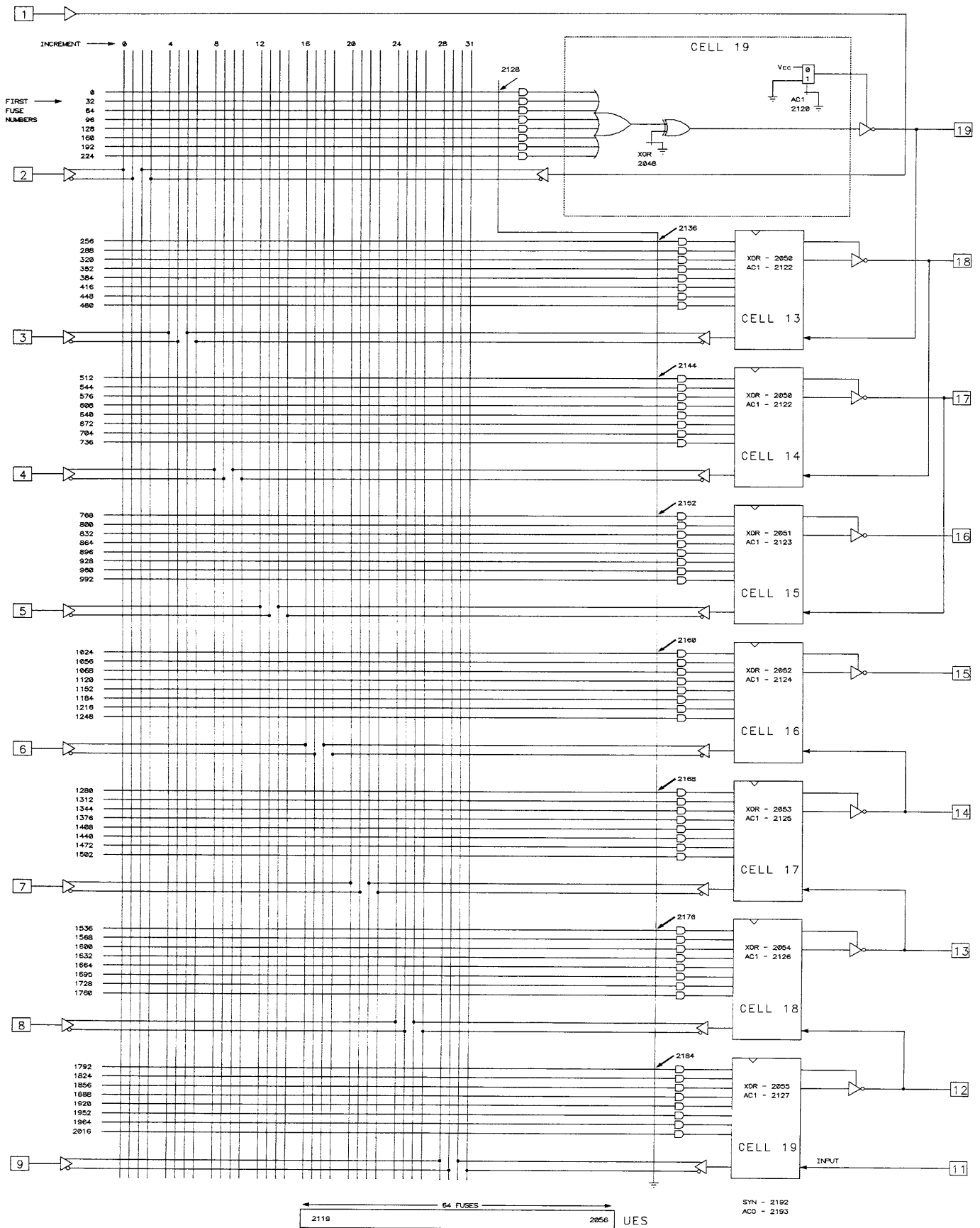
NOTES: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT
 SYN = 1, ACO = 1
 FUSES 2128 - 2191 DISABLE PRODUCT TERMS



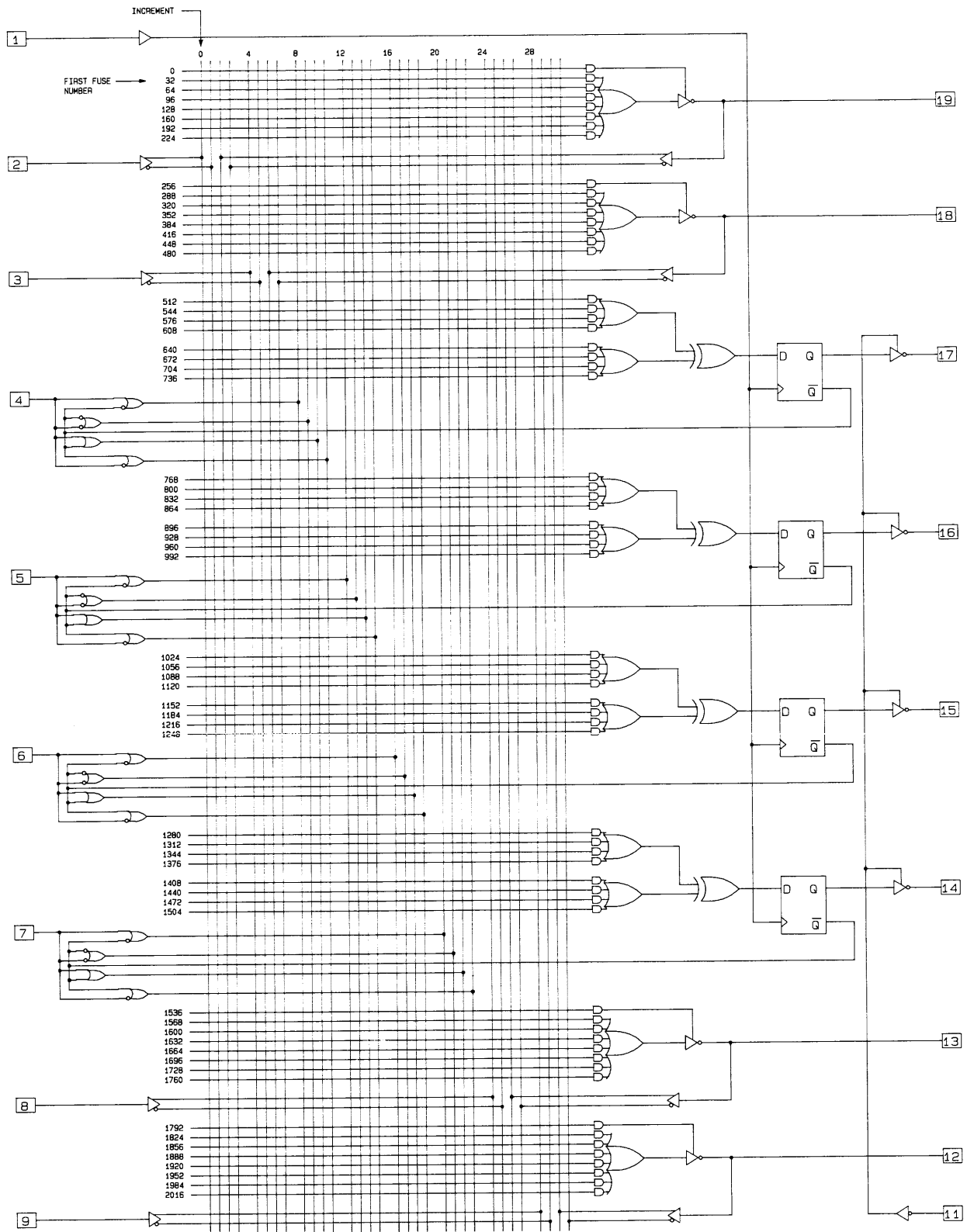
Data I/O Corporation

NOTES: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT
 SYN = 0, ACO = 1
 FUSES 2128 - 2191 DISABLE PRODUCT TERMS

Data I/O Corporation



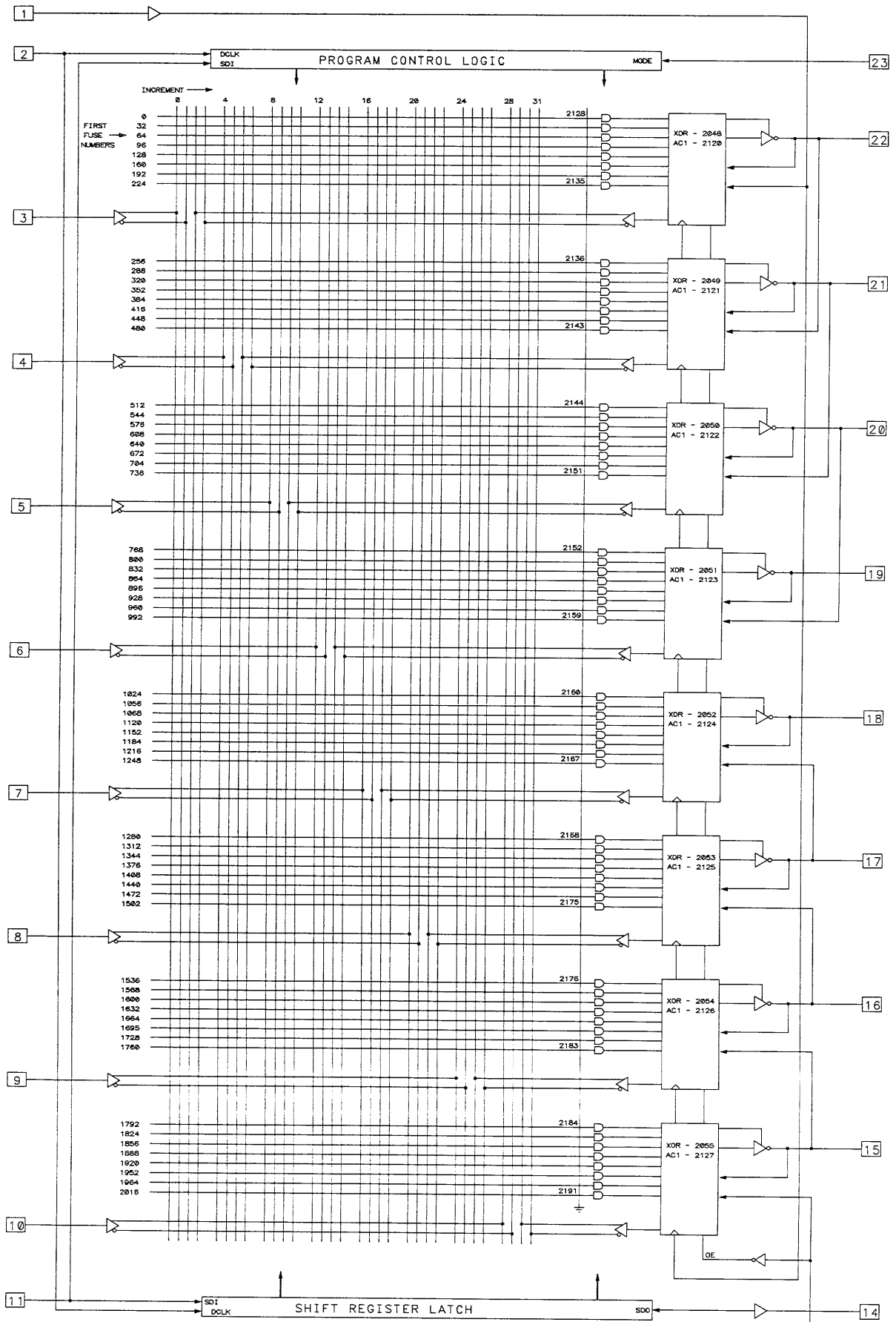
NOTES: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT
 SYN = 1, AC0 = 0
 FUSES 2128 - 2191 DISABLE PRODUCT TERMS



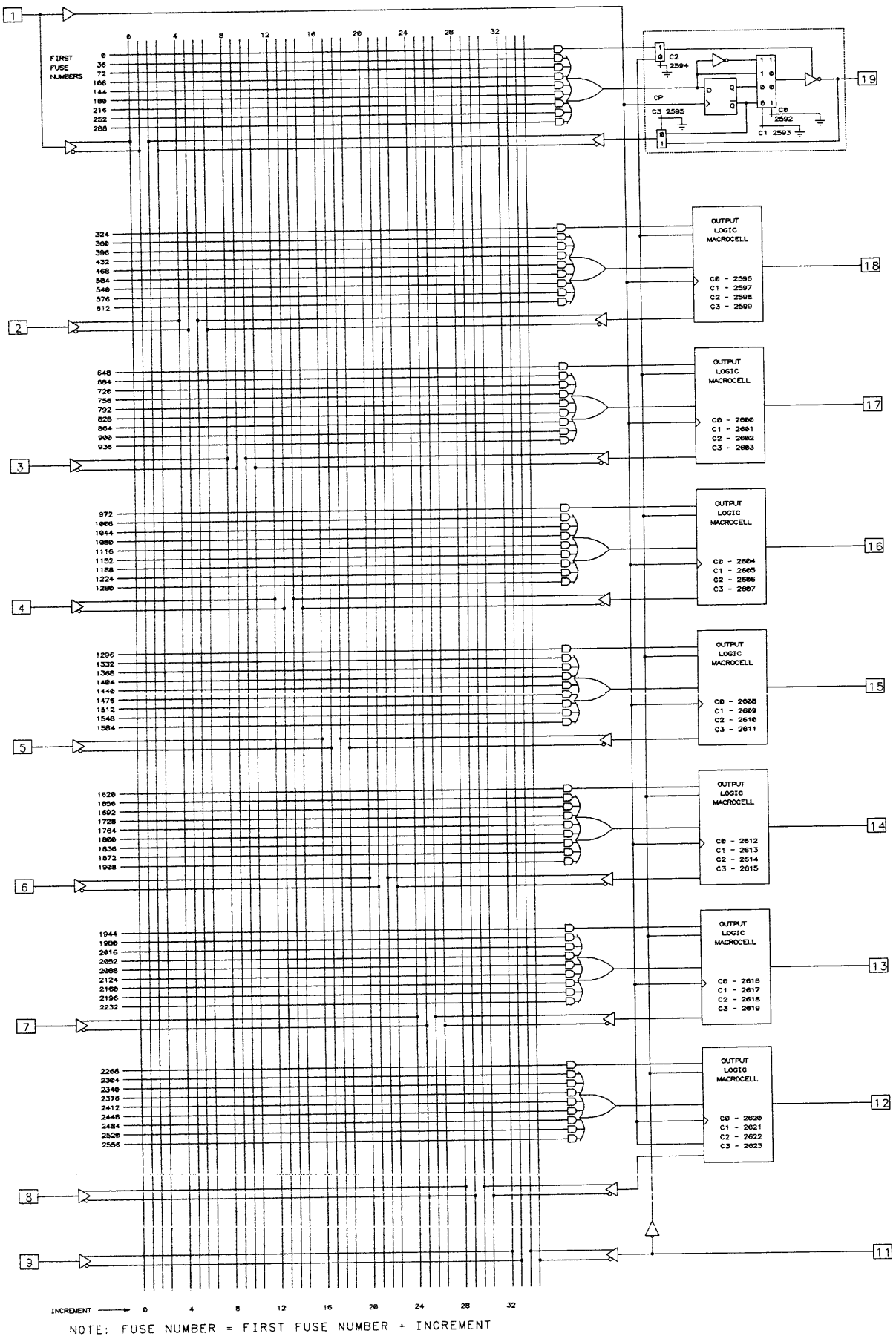
NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

Data I/O Corporation

Data I/O Corporation

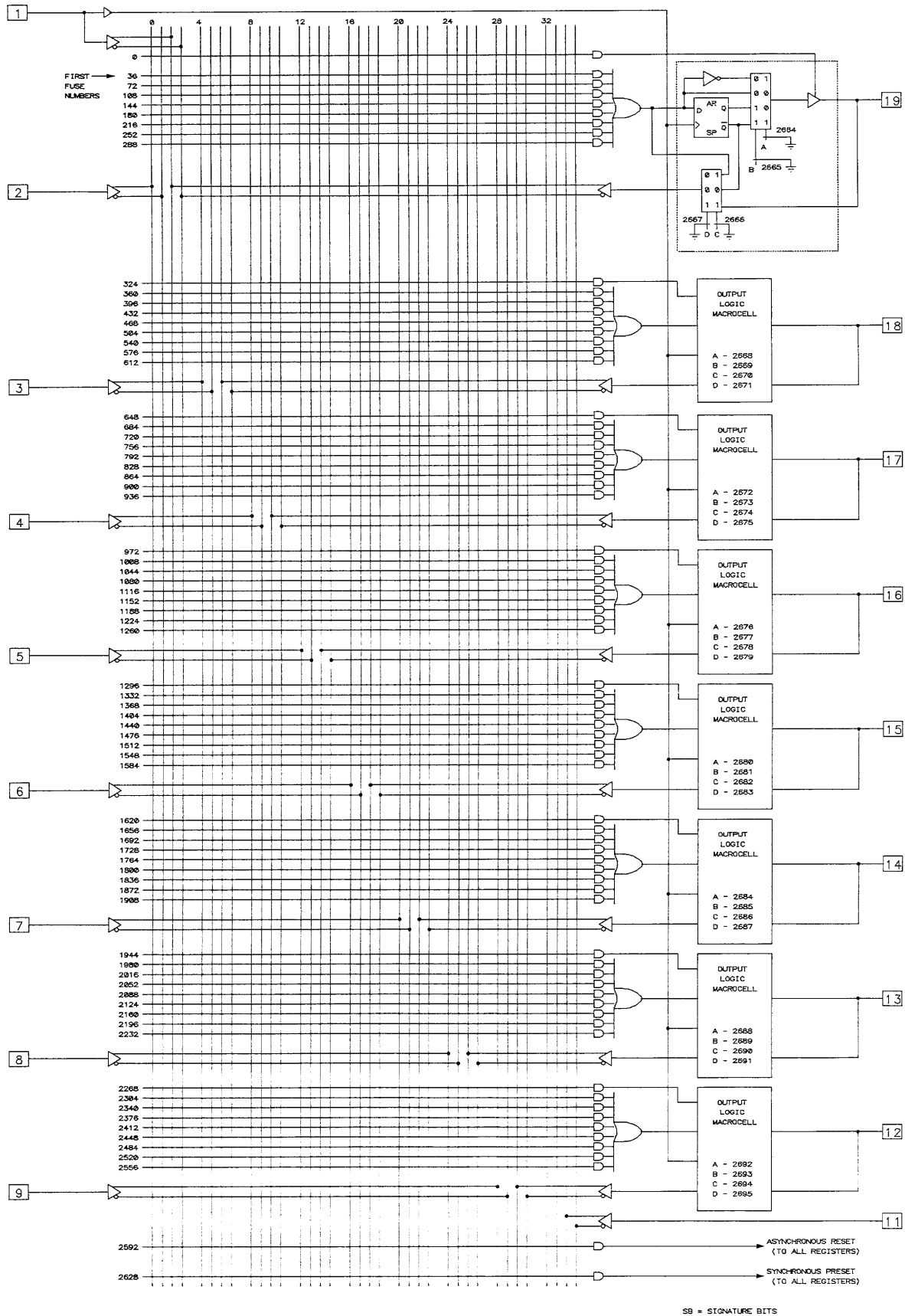


NOTES: FOR MACROCELL DETAILS, REFER TO P16V8 DIAGRAM
 FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT
 SYN = 2192, AC0 = 2193, & TC = 2194
 FUSES 2128 - 2191 DISABLE PRODUCT TERMS

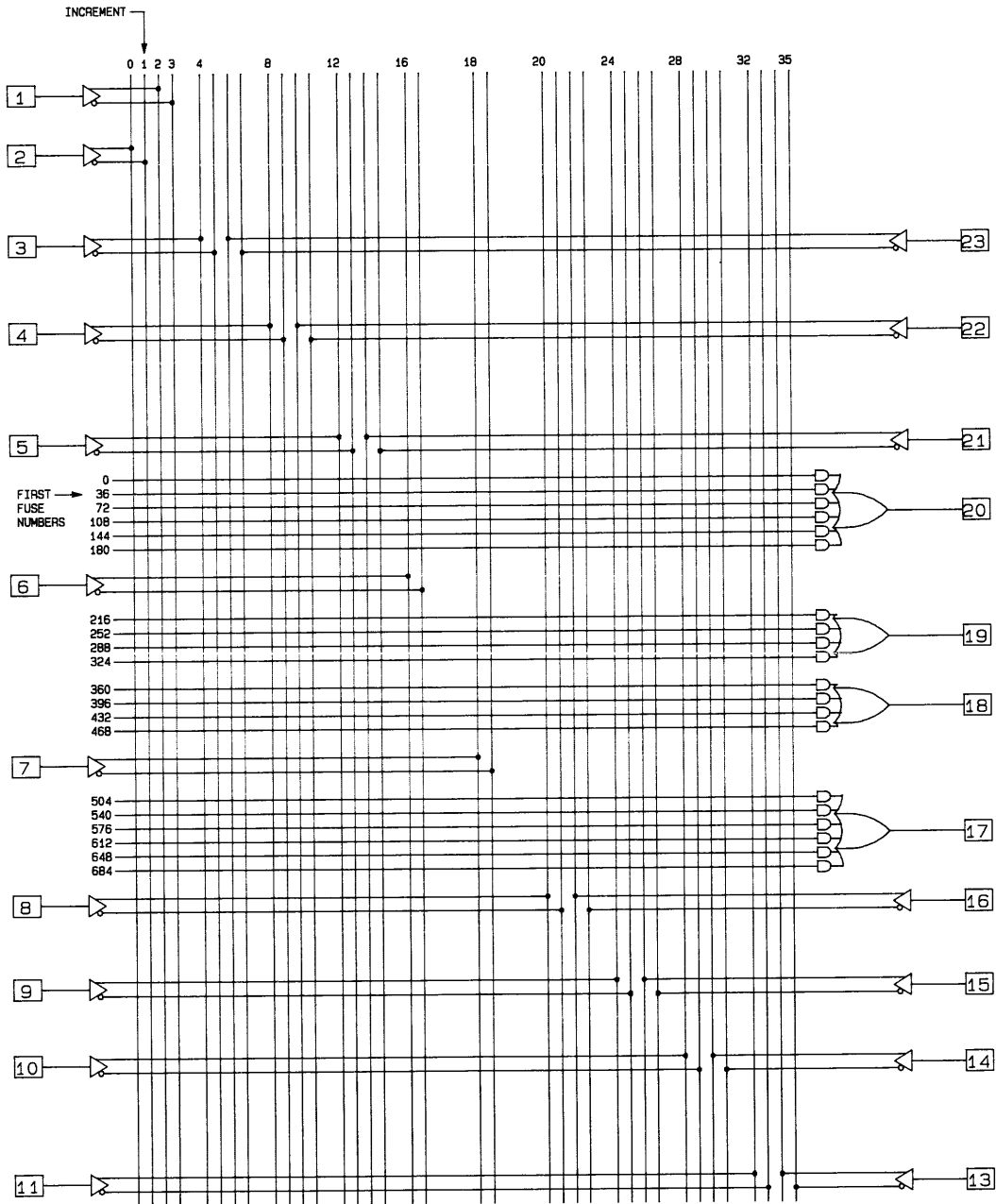


Data I/O Corporation

Data I/O Corporation

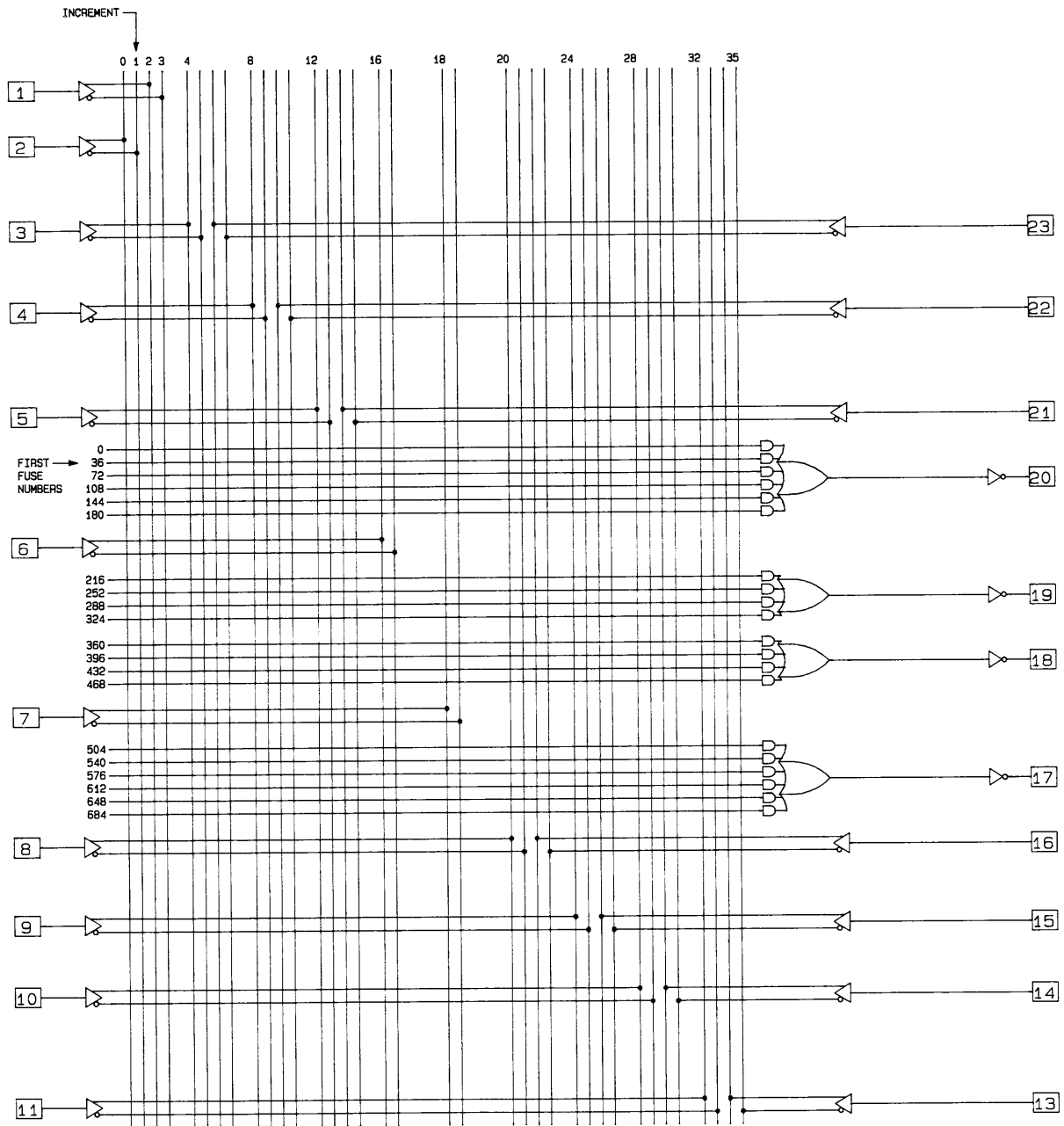


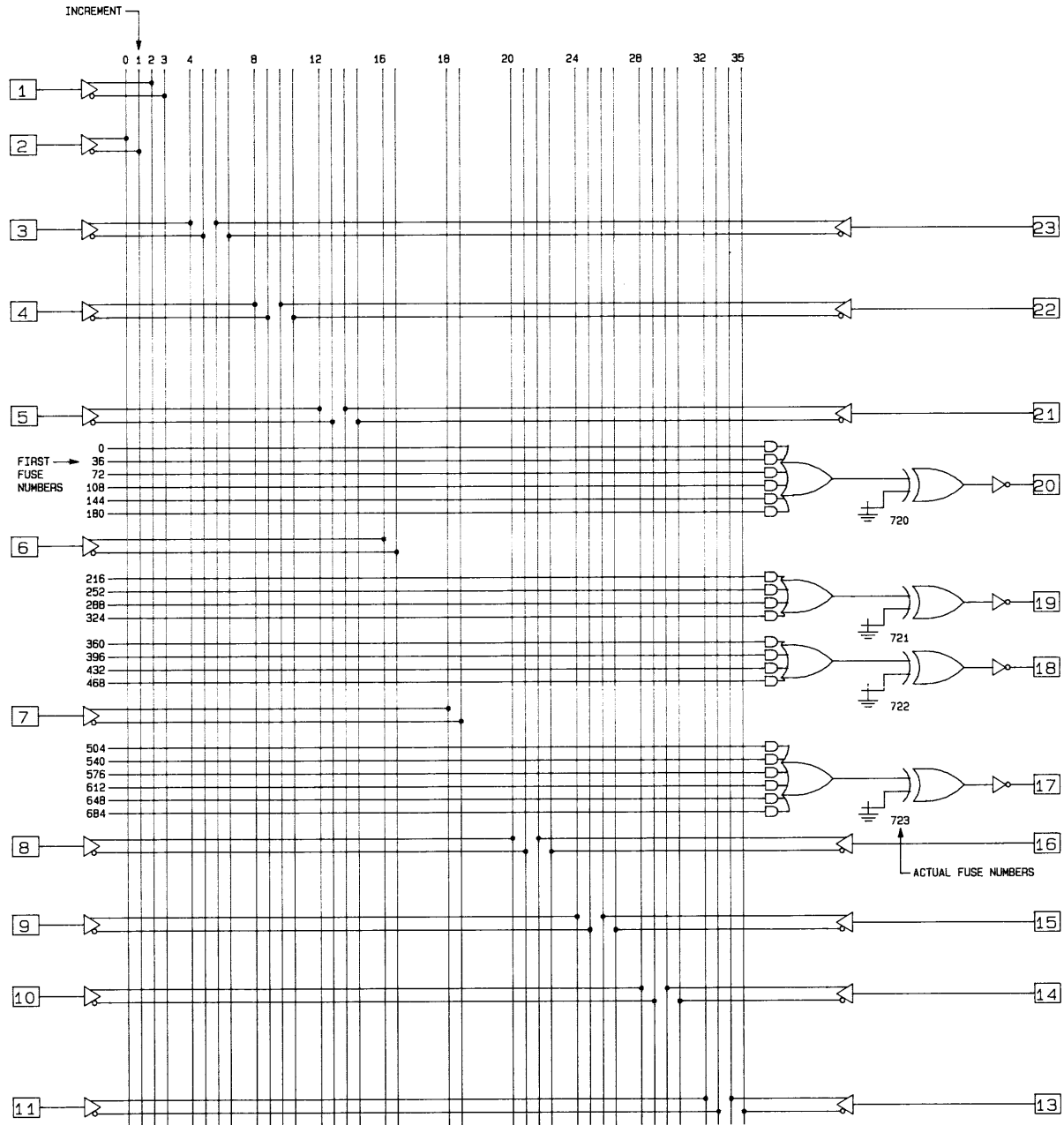
FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT



NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

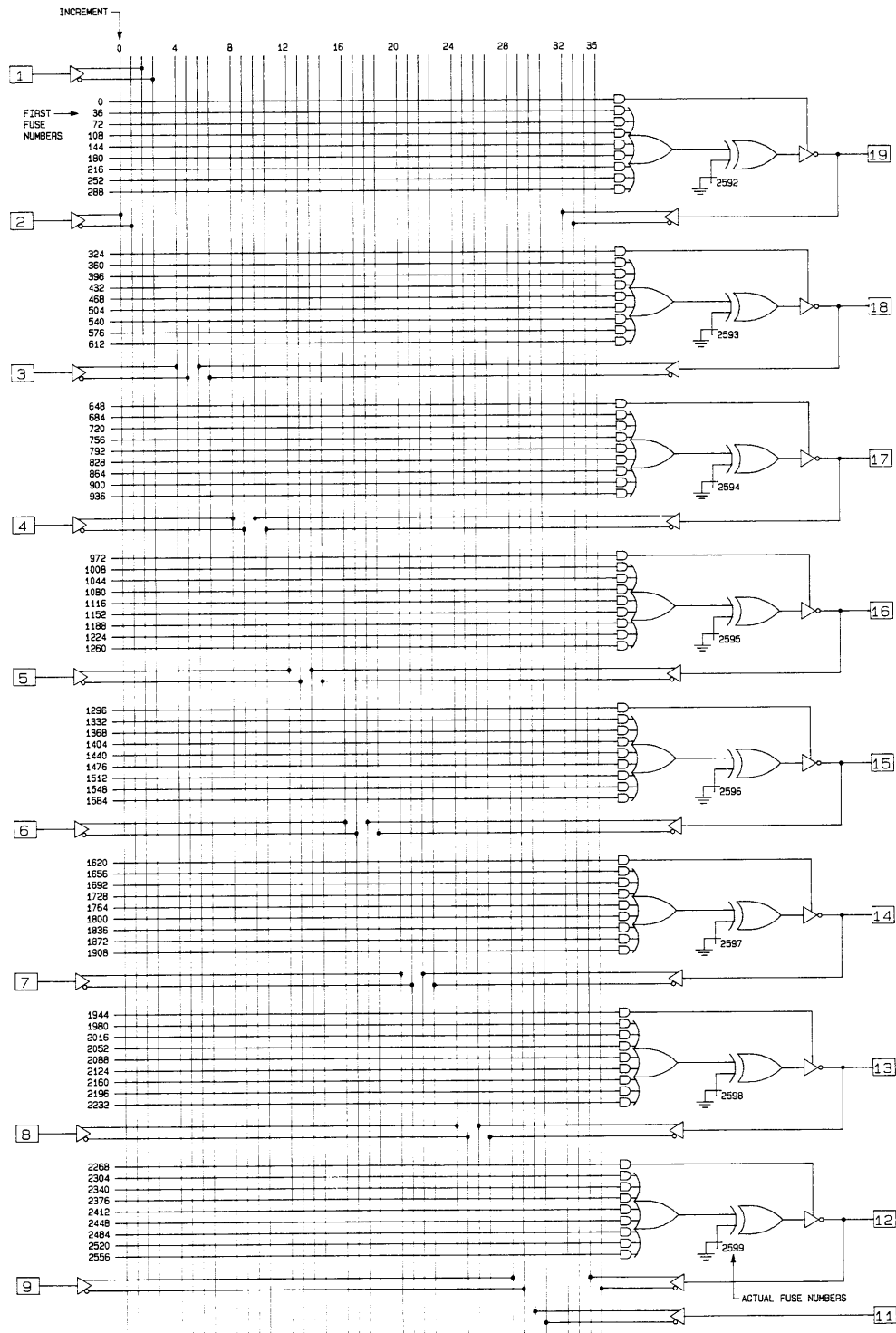
Data I/O Corporation



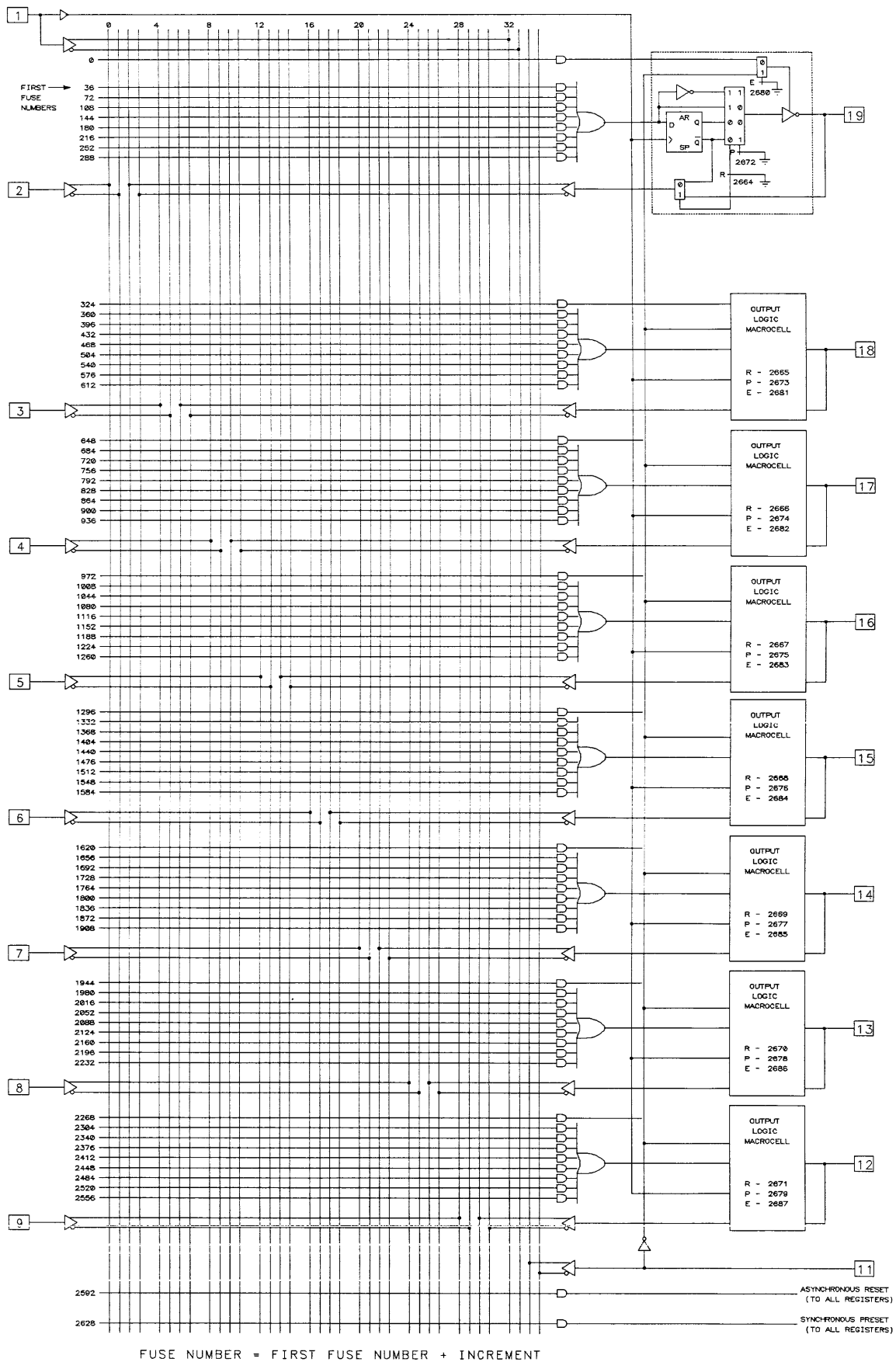


NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

Data I/O Corporation

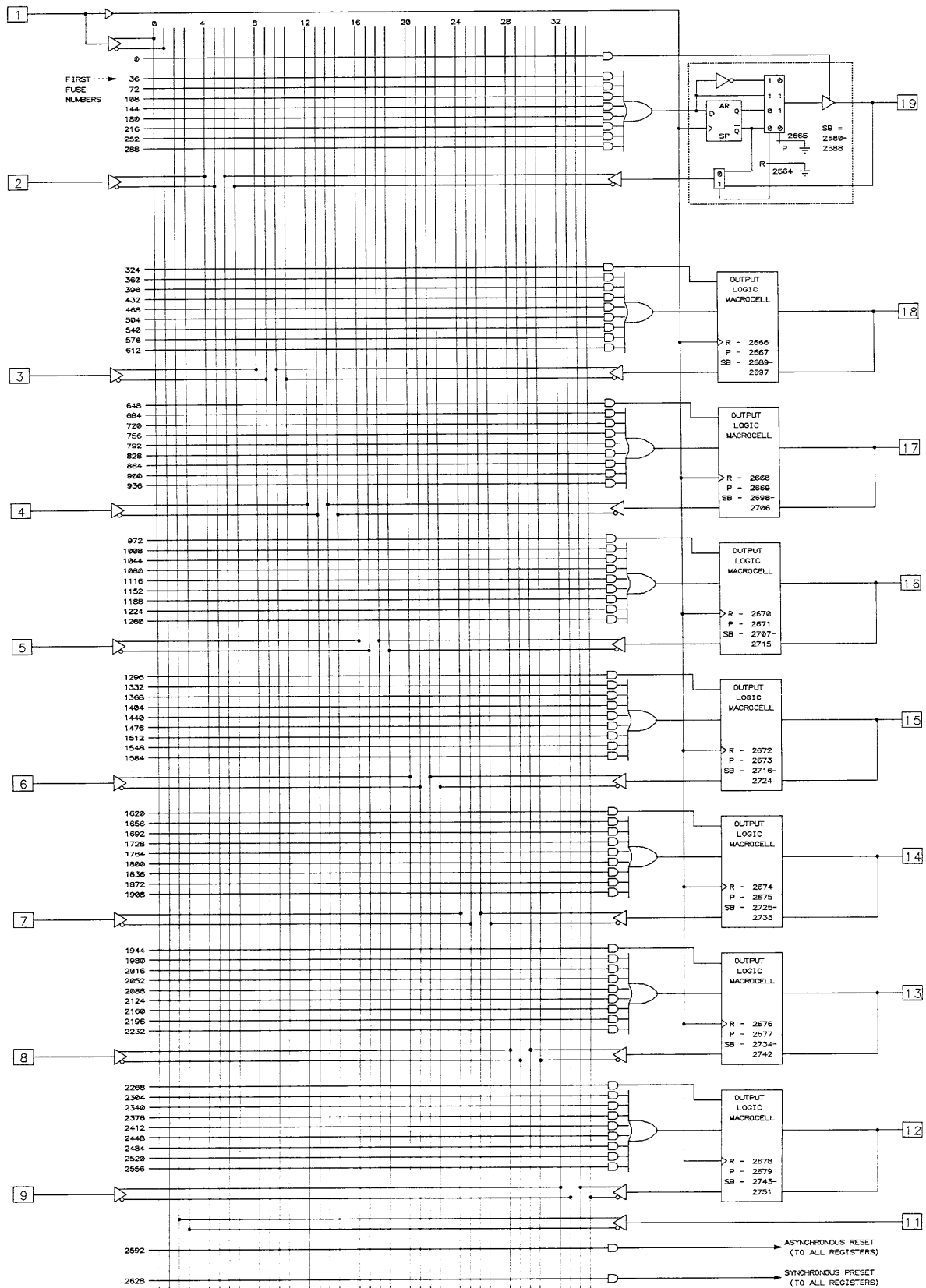


NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT



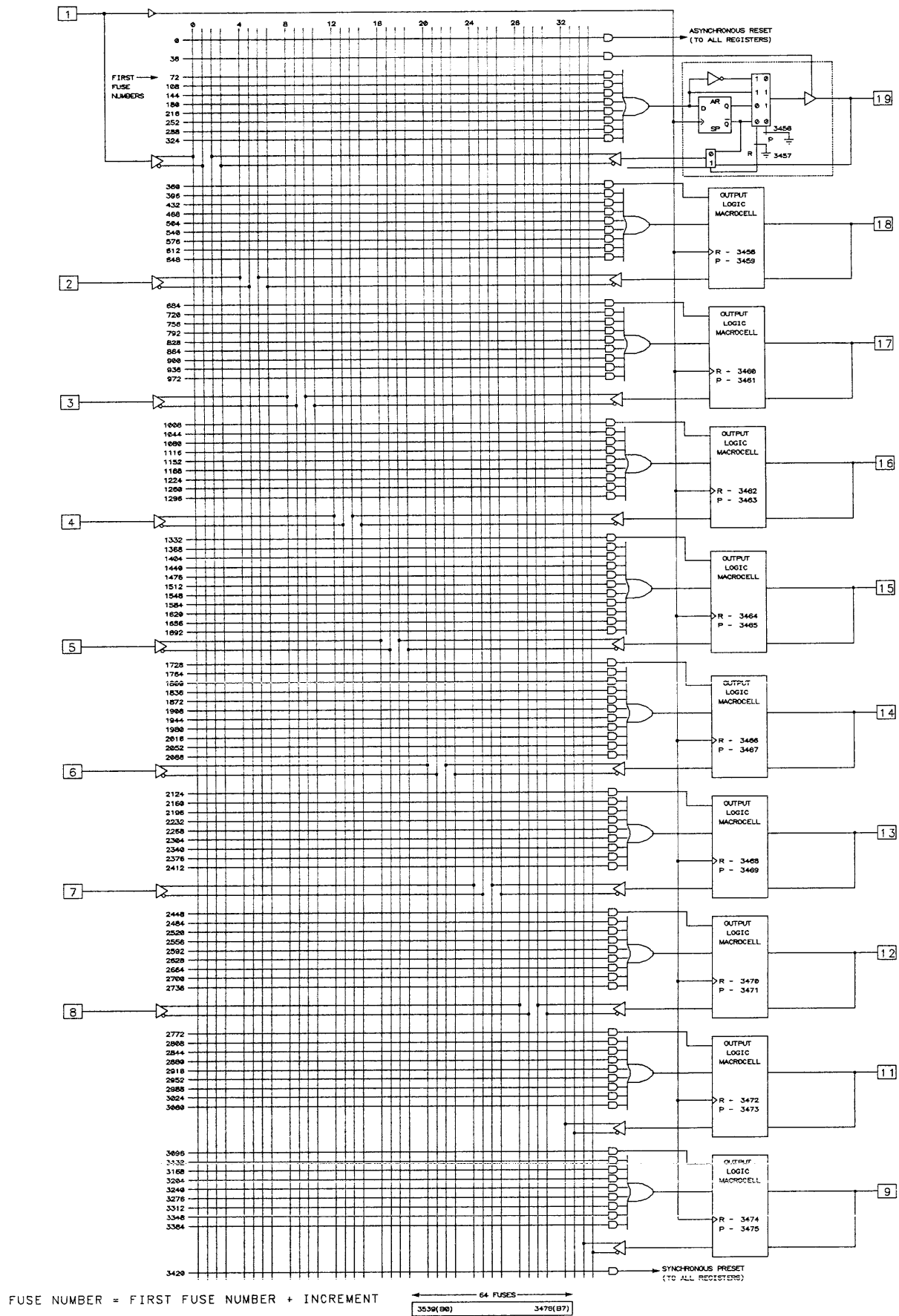
Data I/O Corporation

Data I/O Corporation

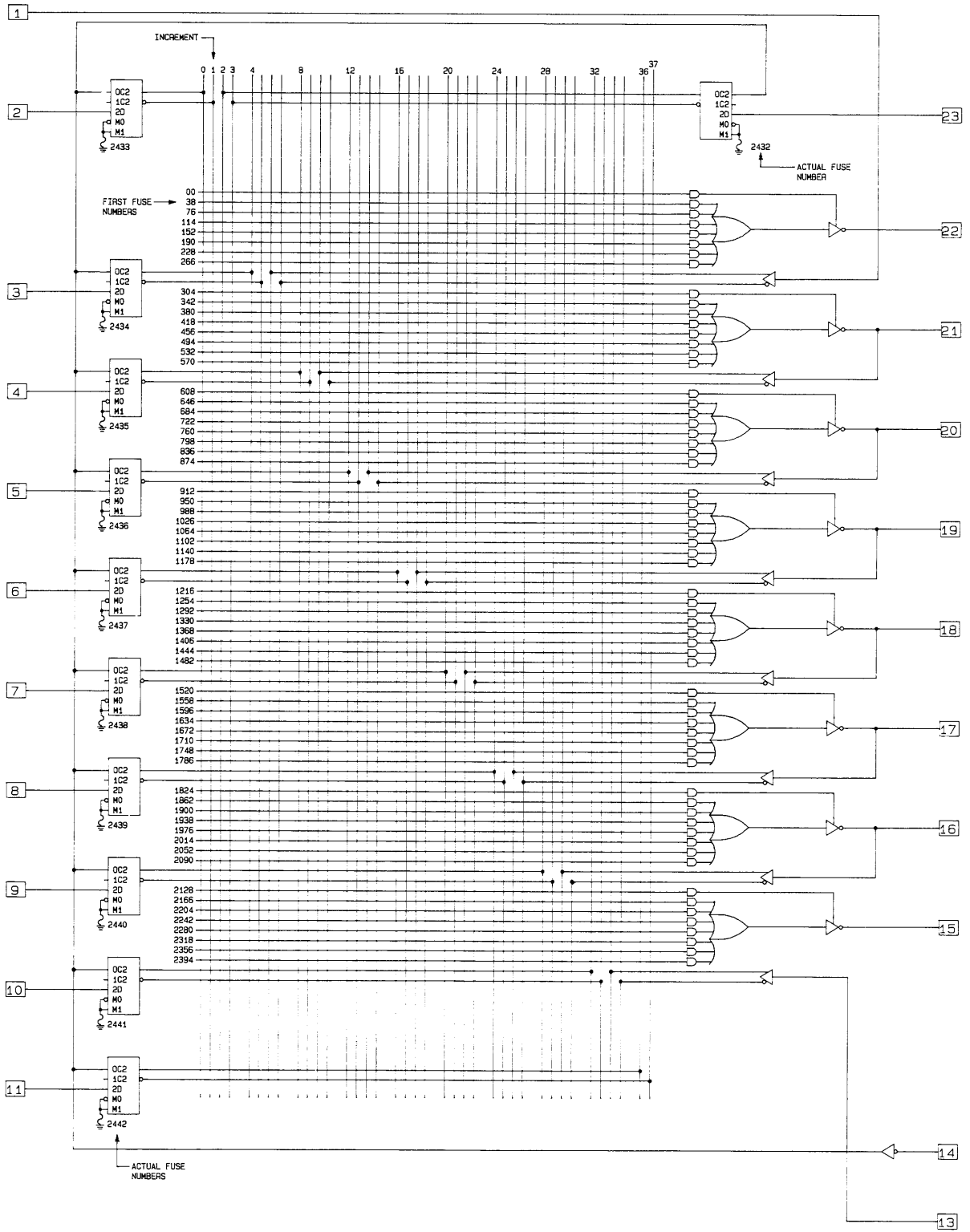


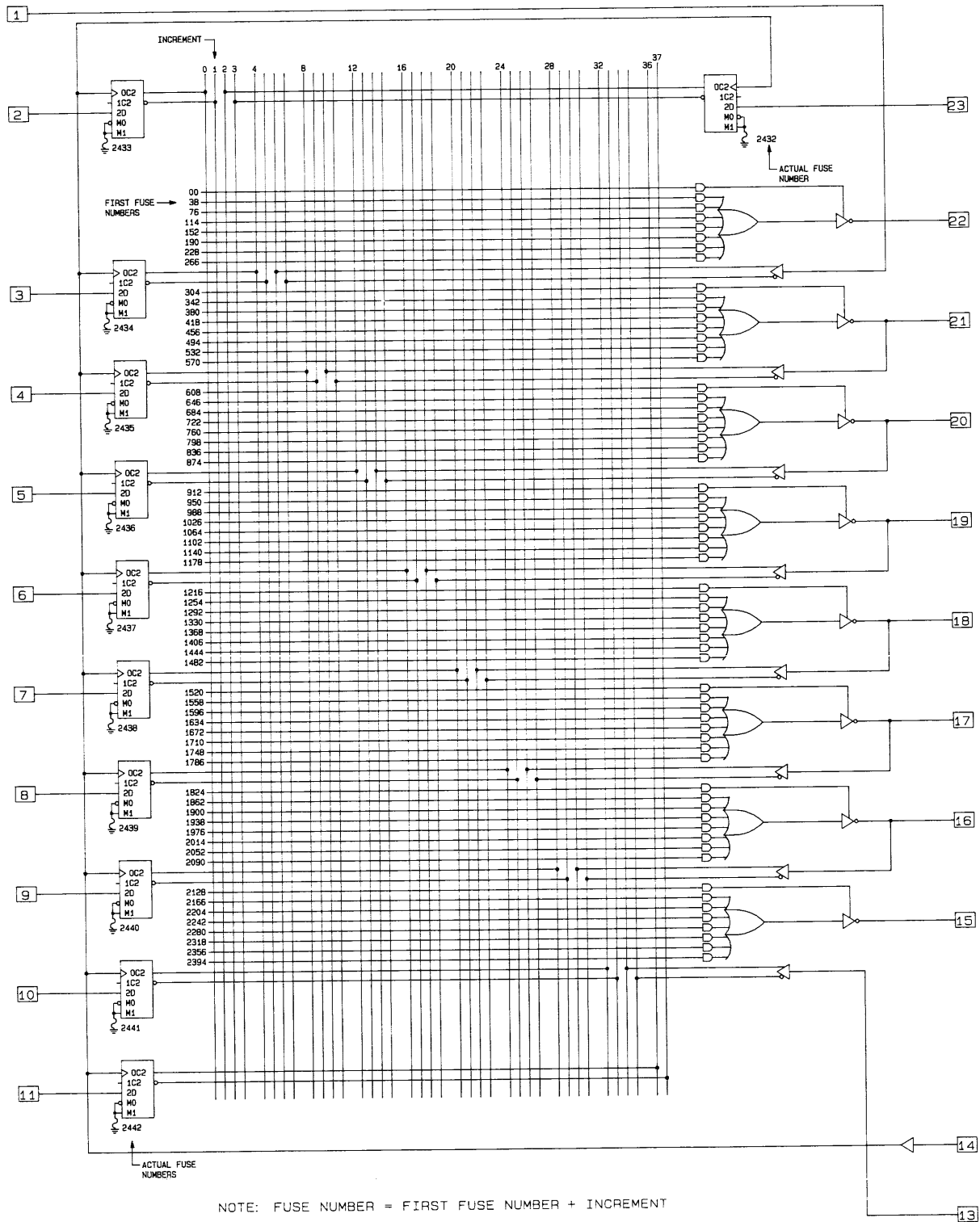
SB = SIGNATURE BITS

FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT



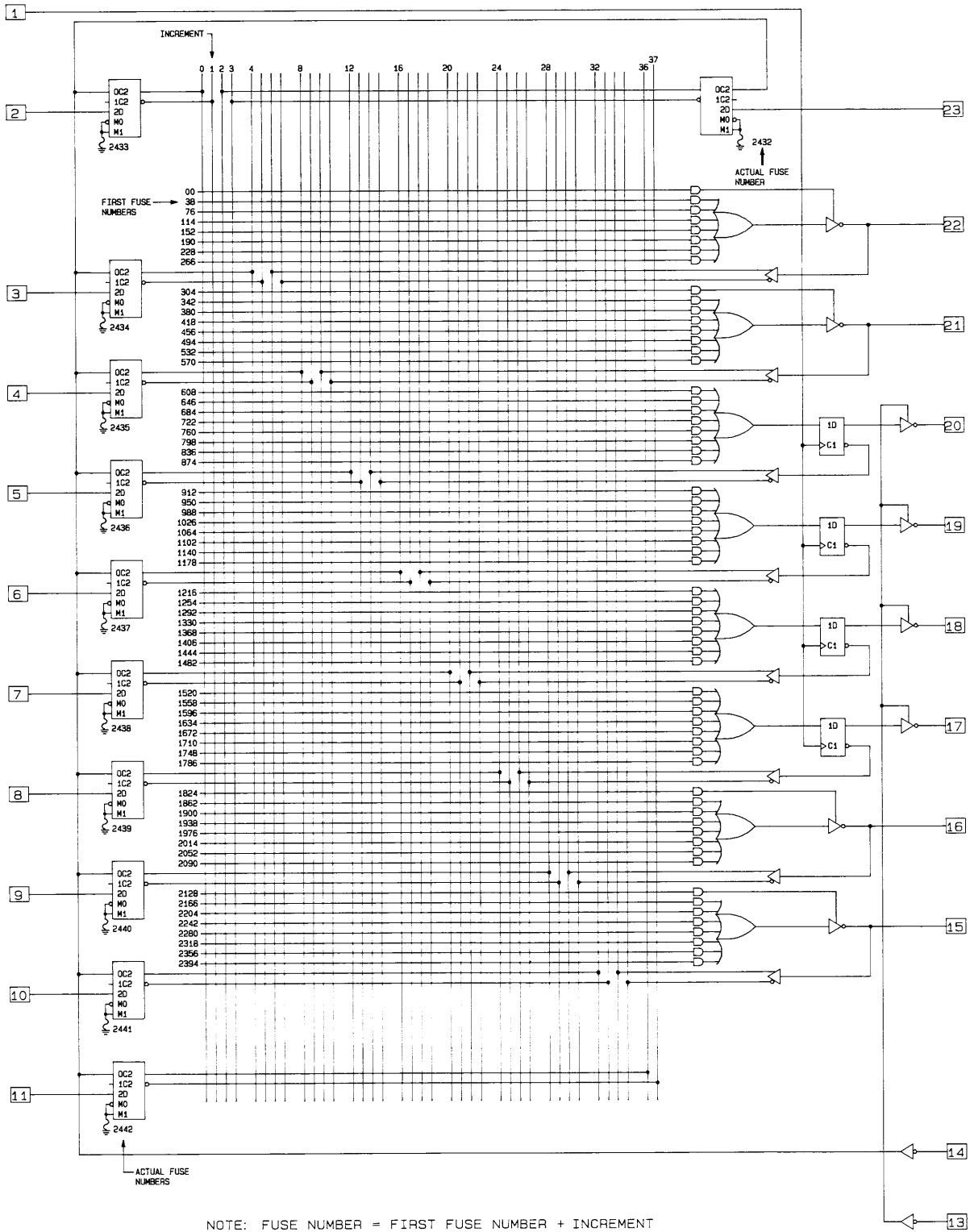
Corporation
Data I/O

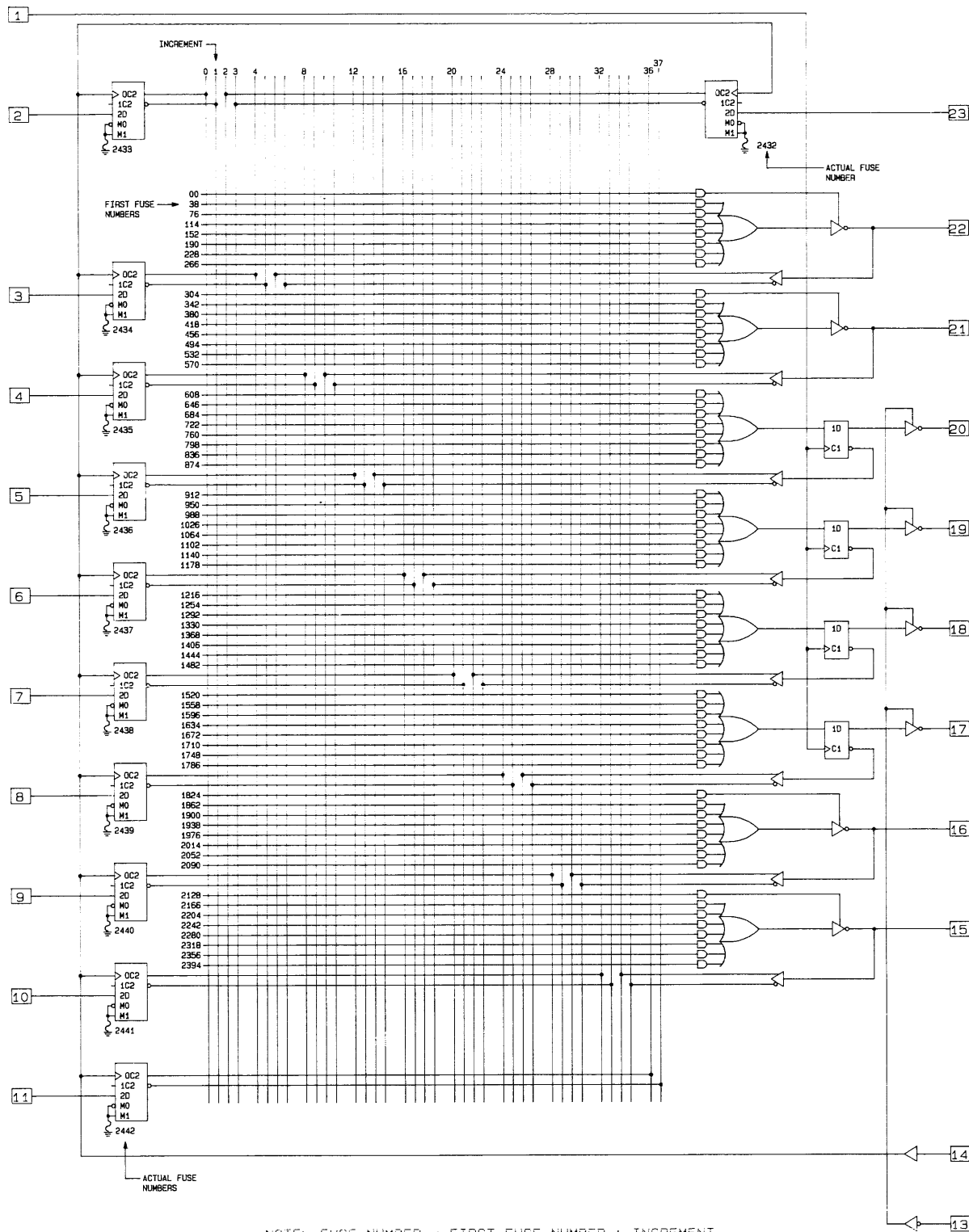




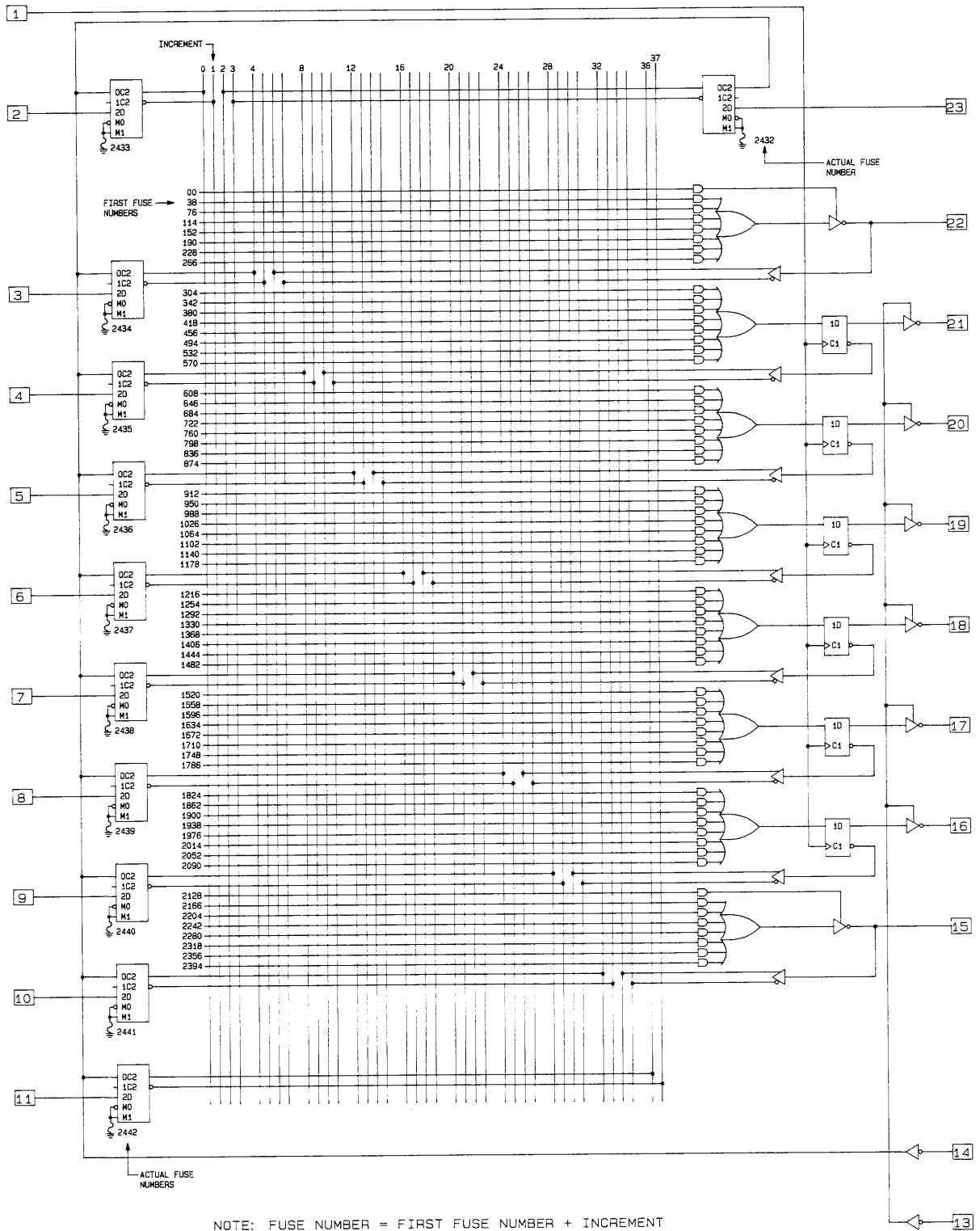
Data I/O Corporation

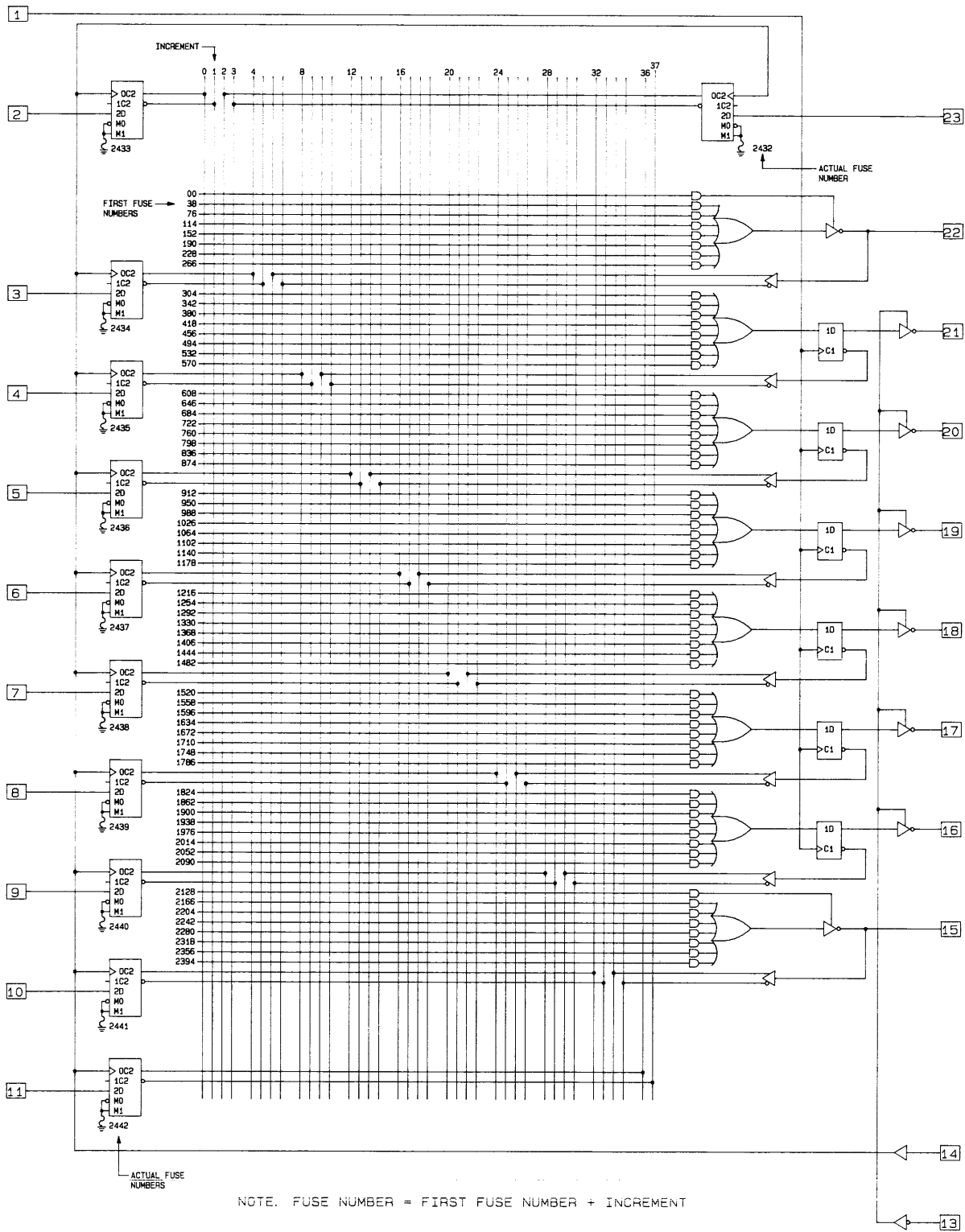
Data I/O Corporation





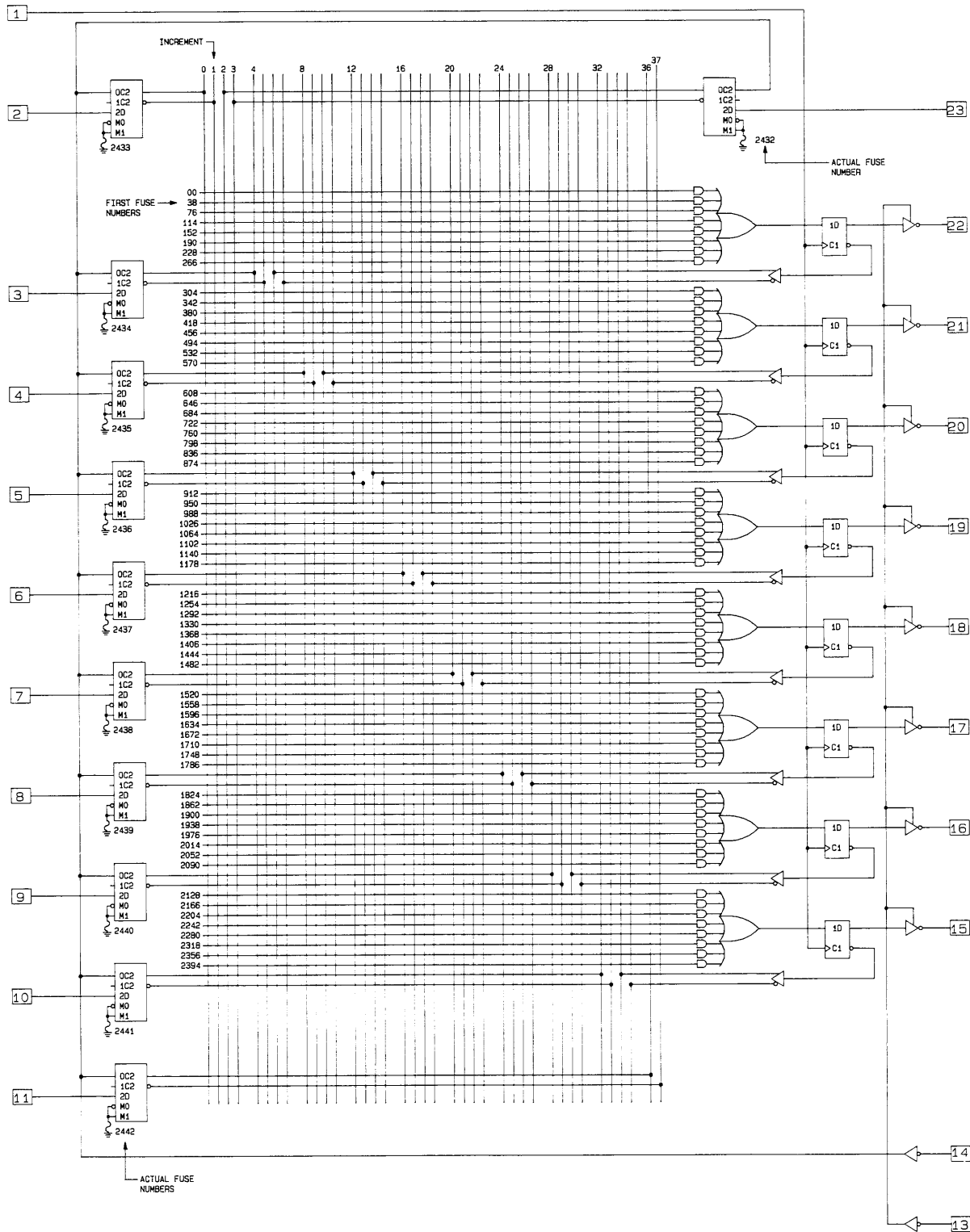
Data I/O Corporation



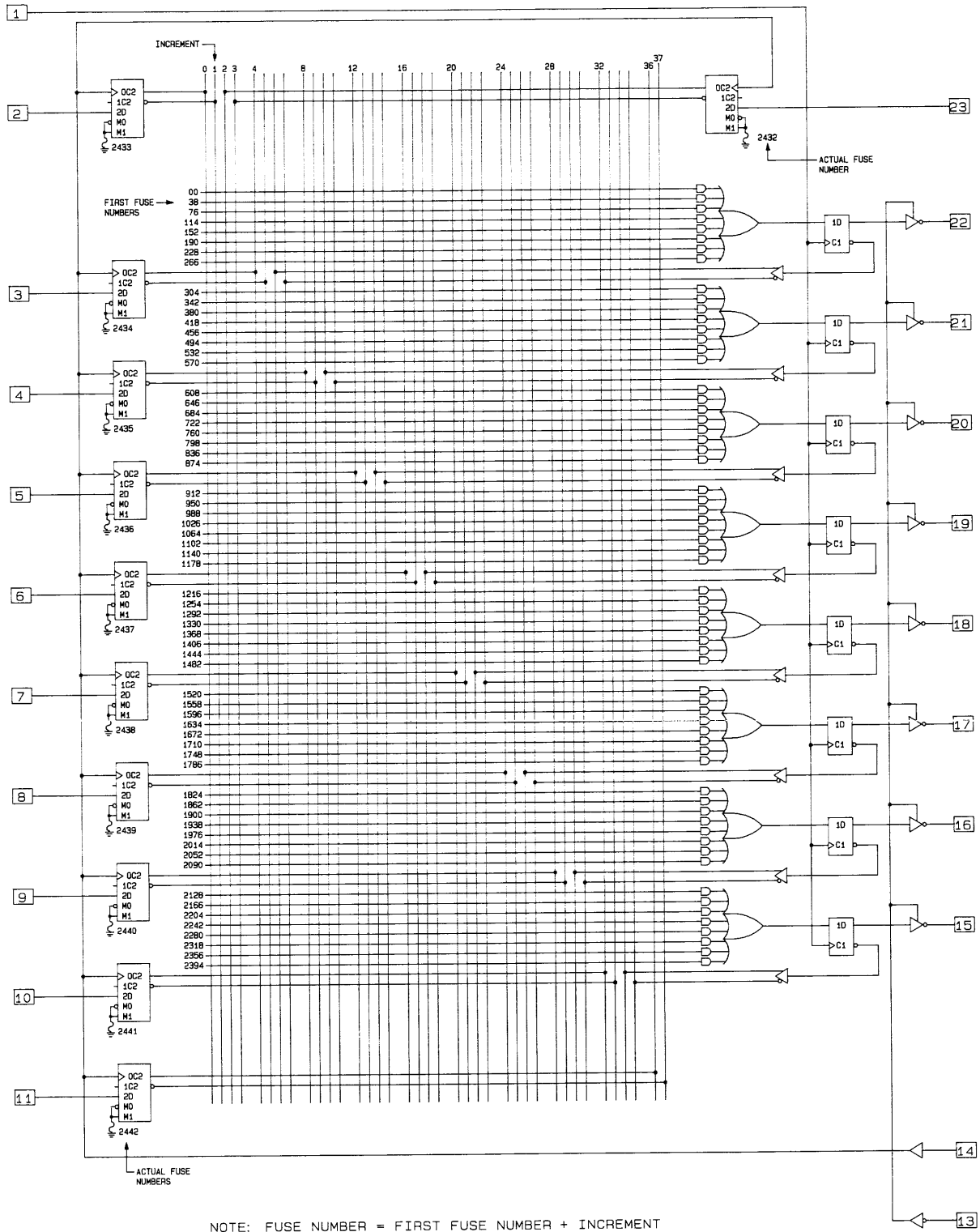


Data I/O Corporation

Data I/O Corporation

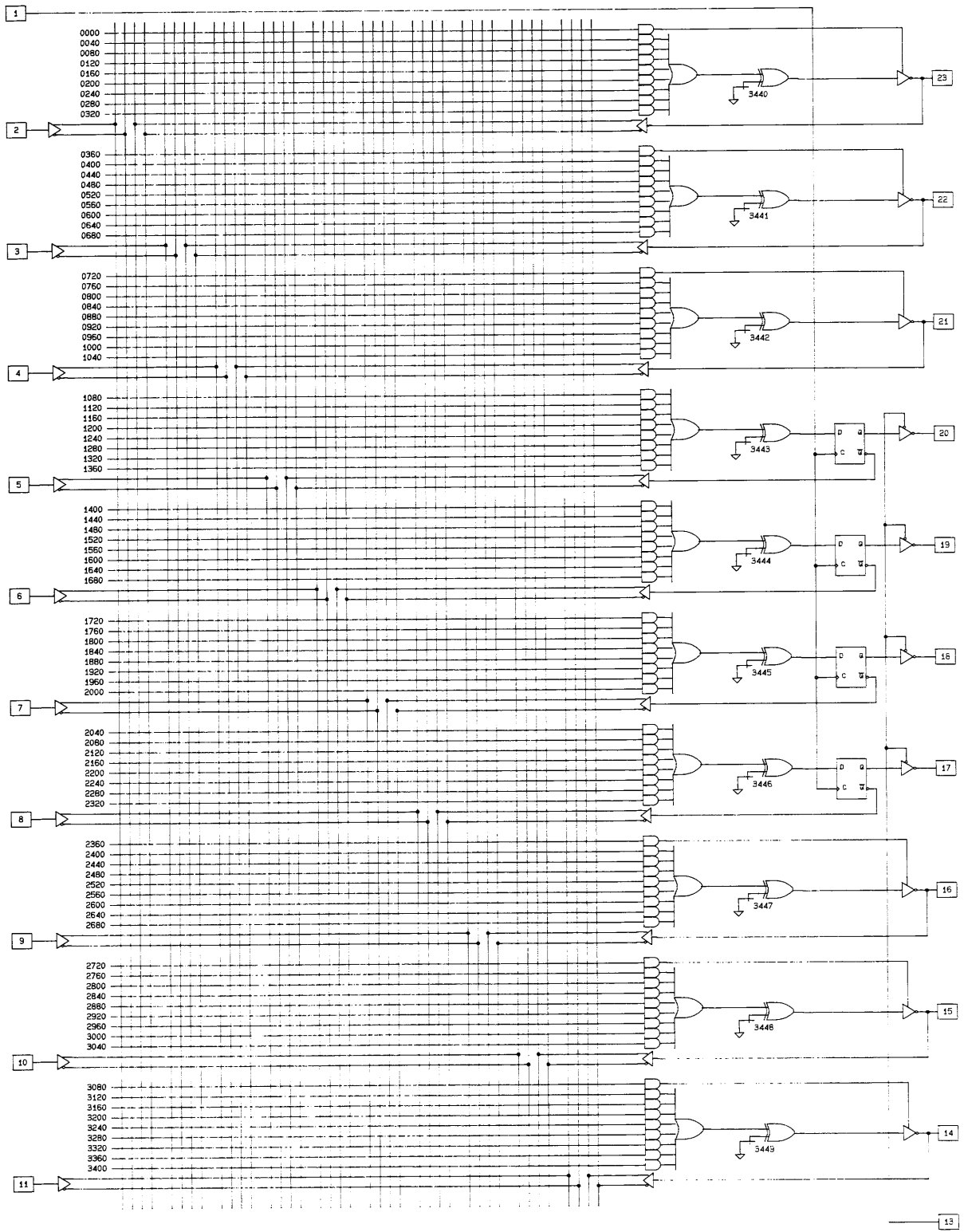


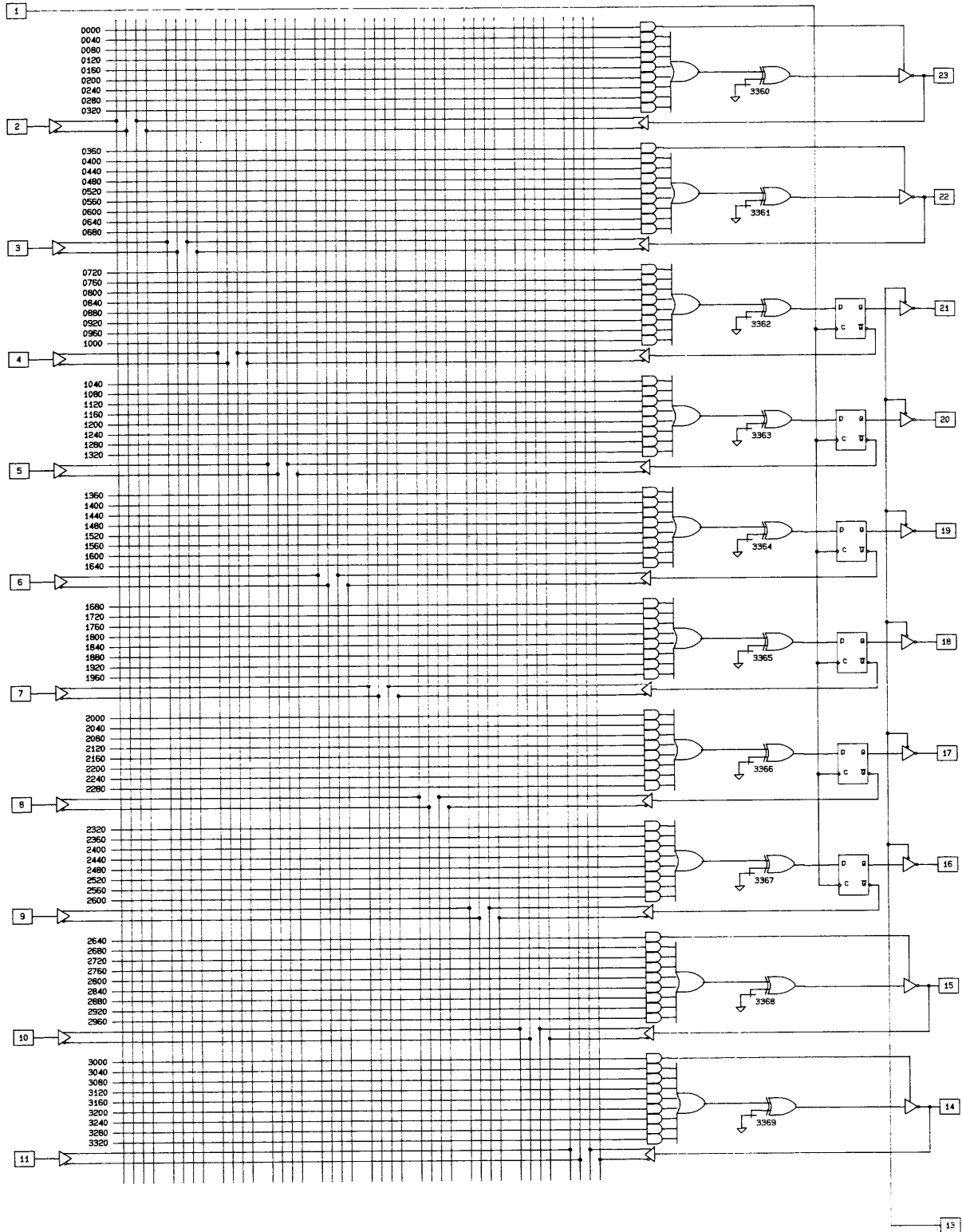
NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT



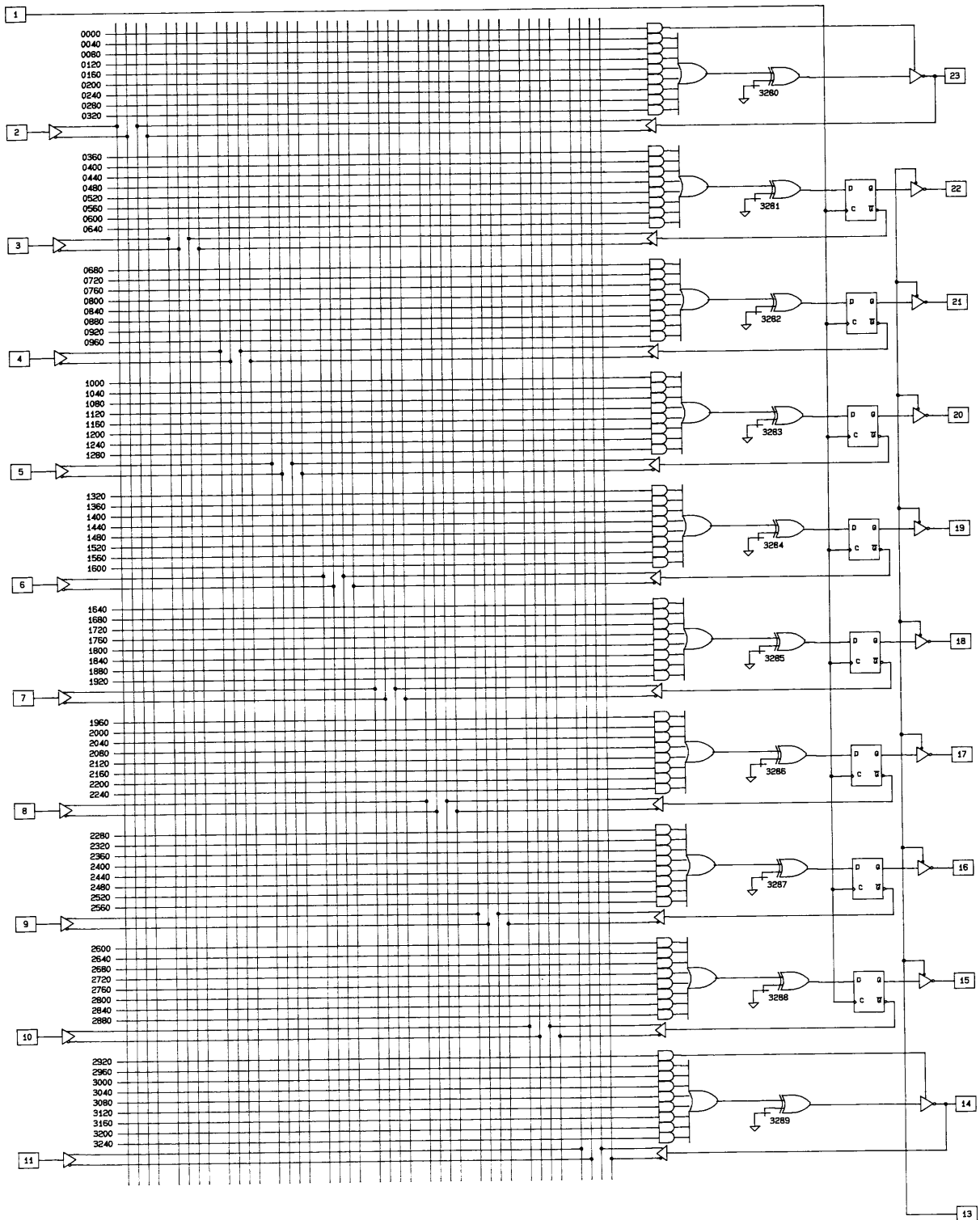
Data I/O Corporation

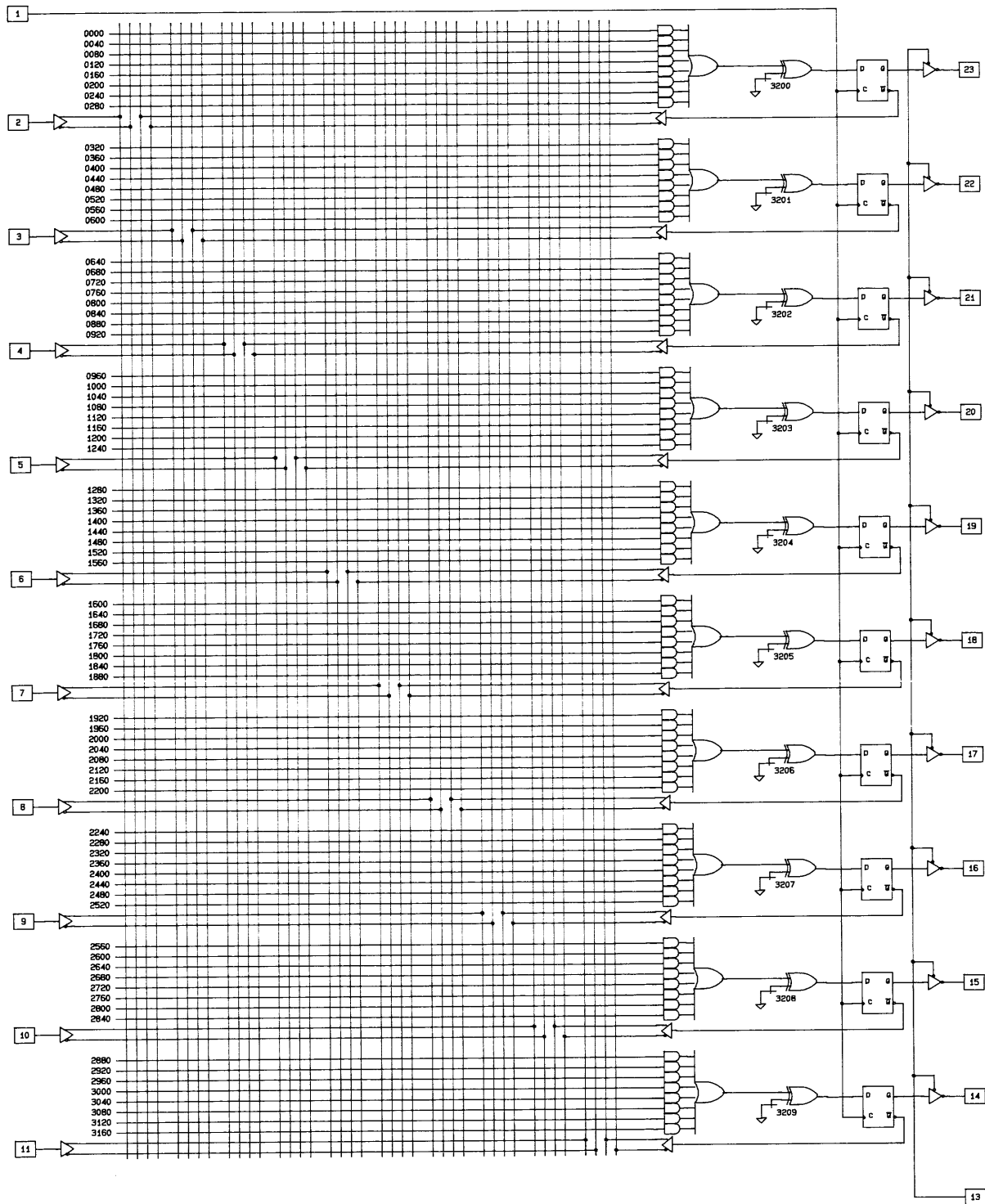
Data I/O Corporation



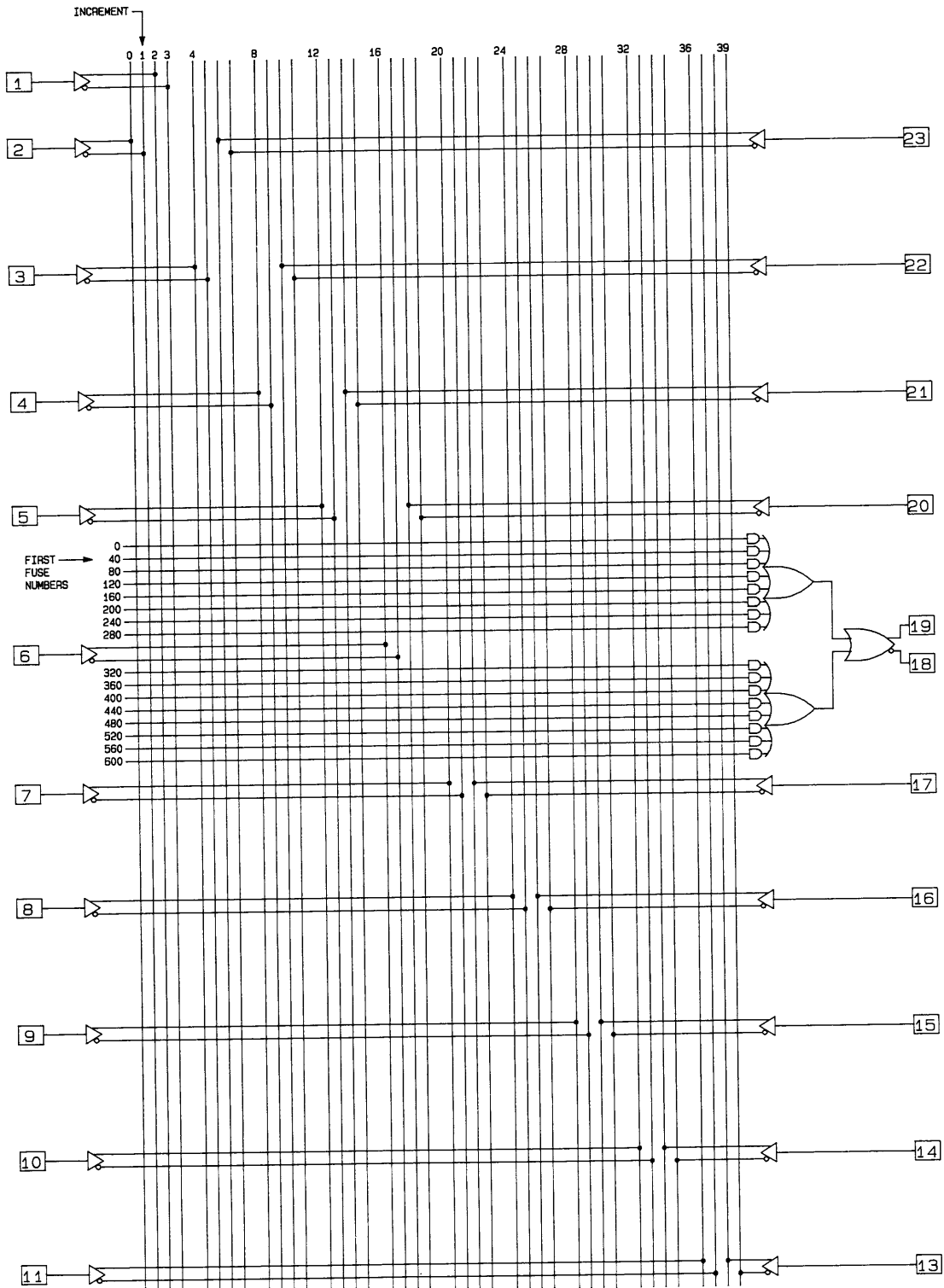


Data I/O Corporation

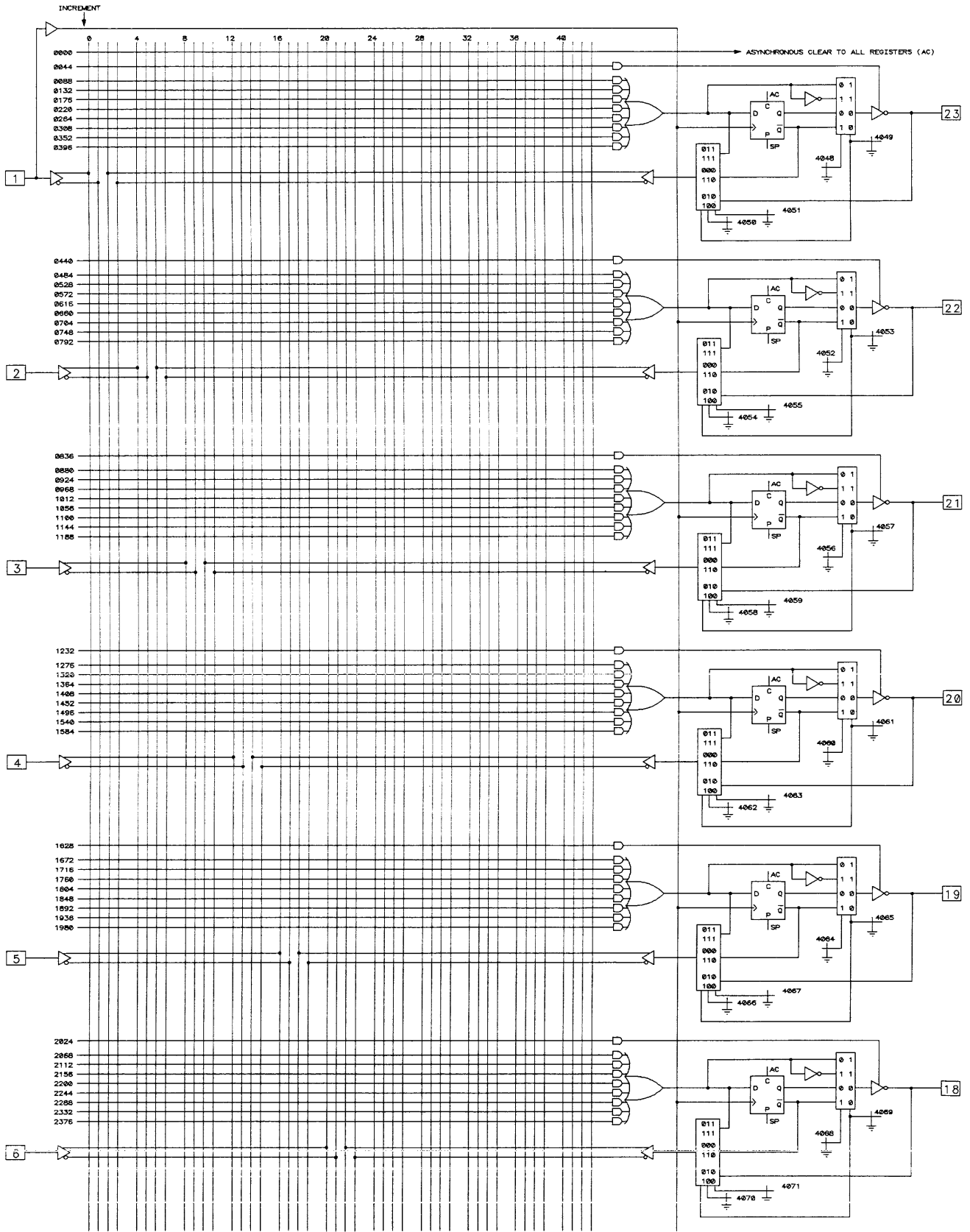




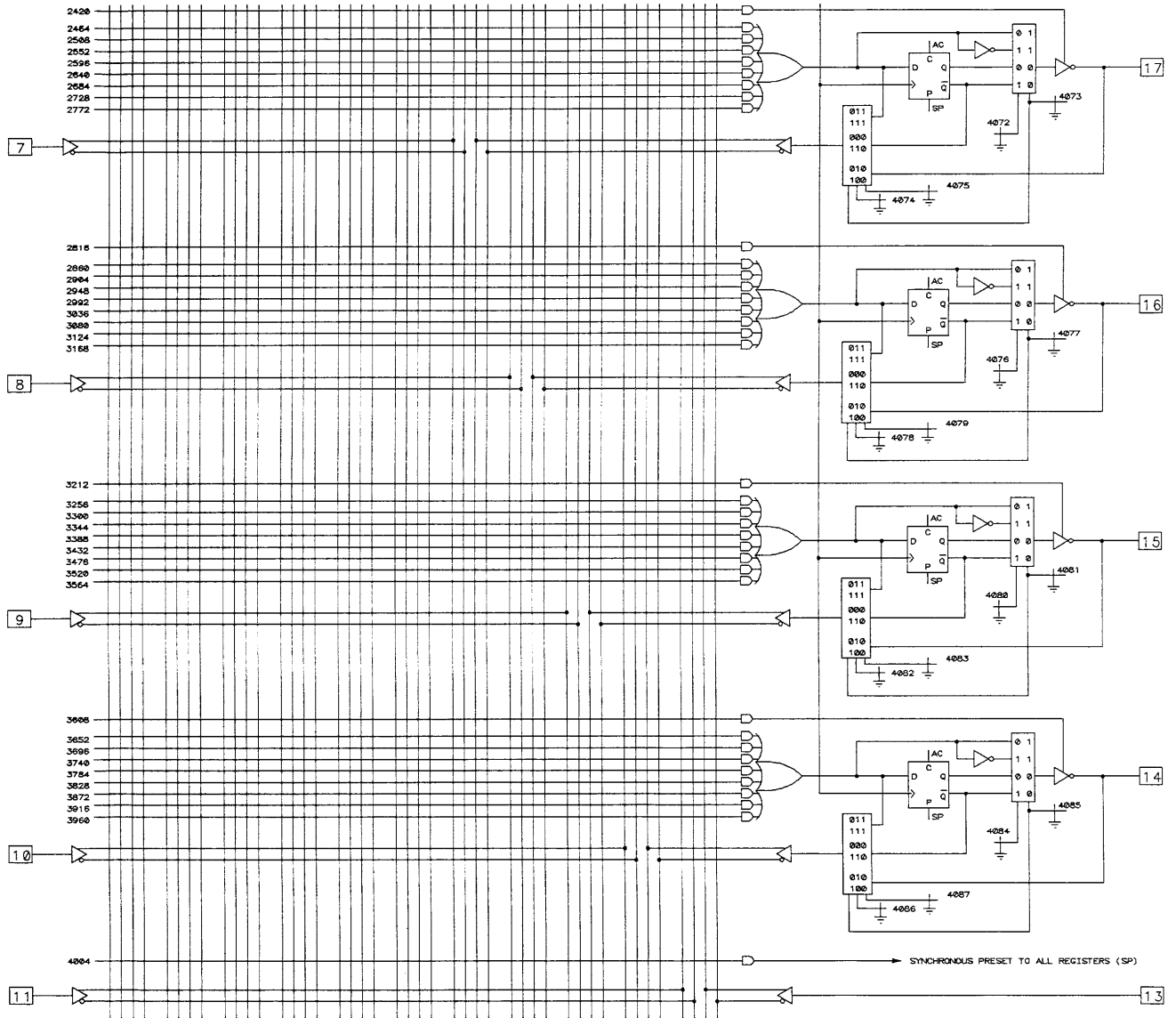
Data I/O Corporation

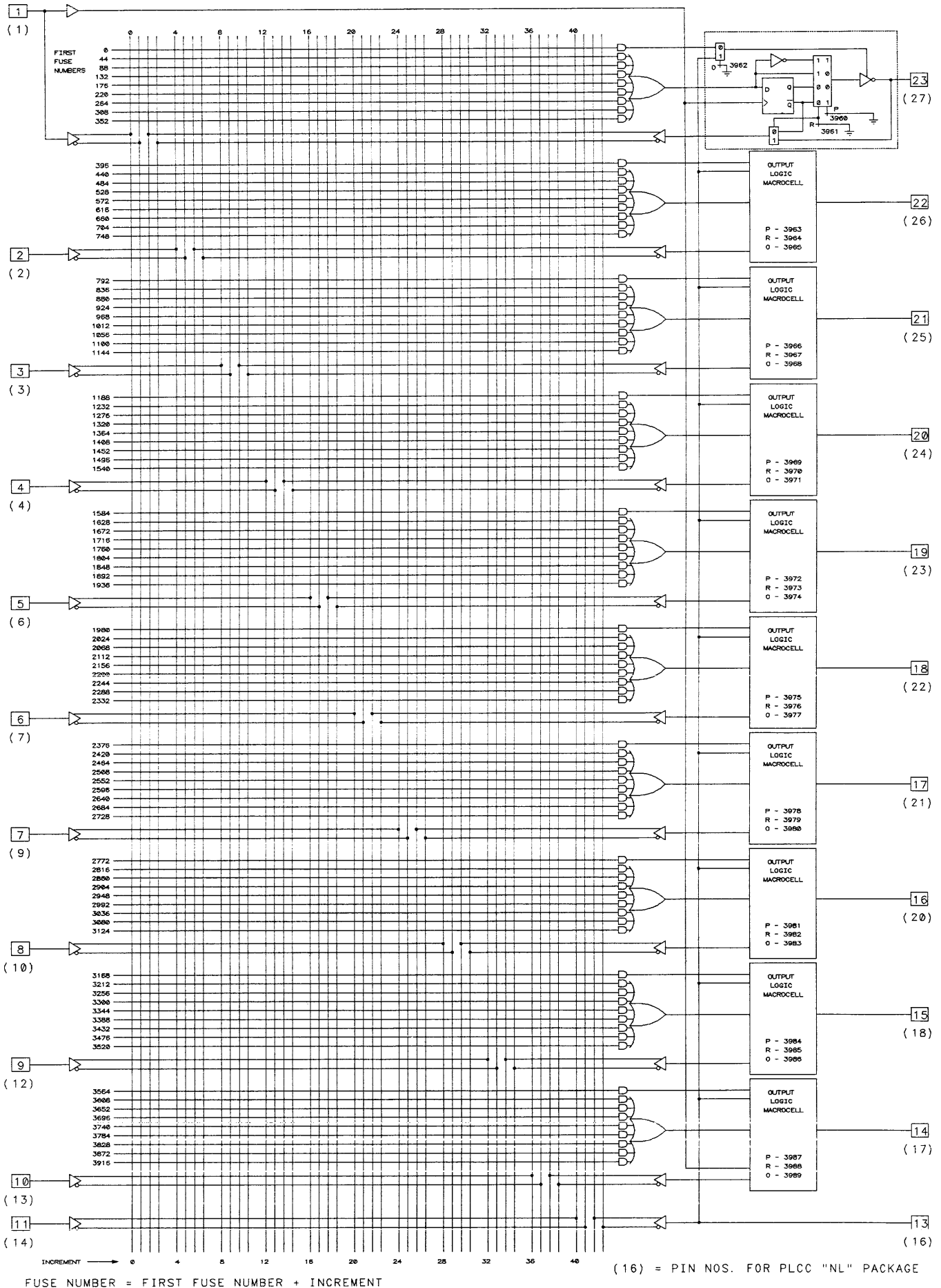


NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT



Data I/O Corporation



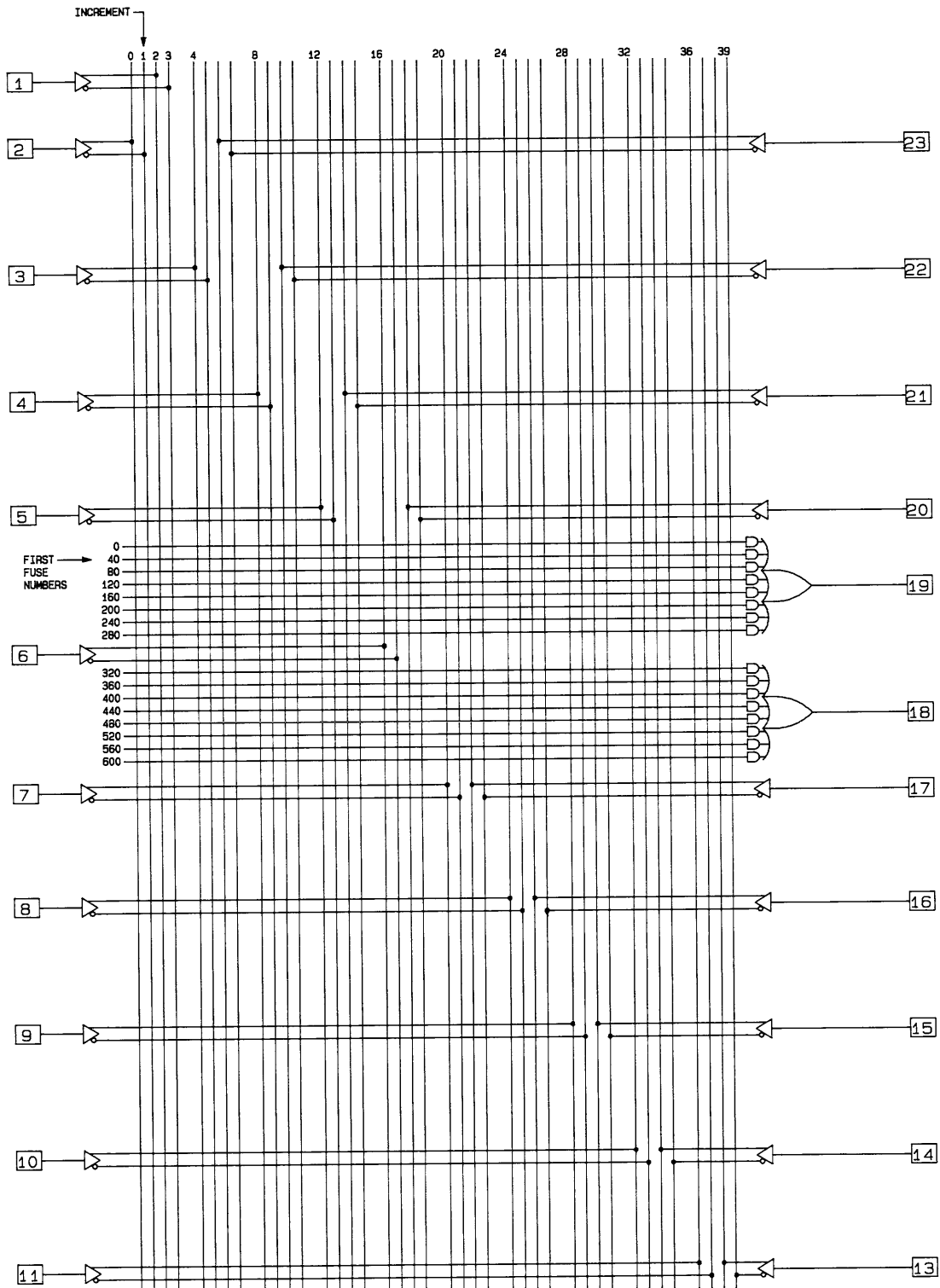


Data I/O Corporation

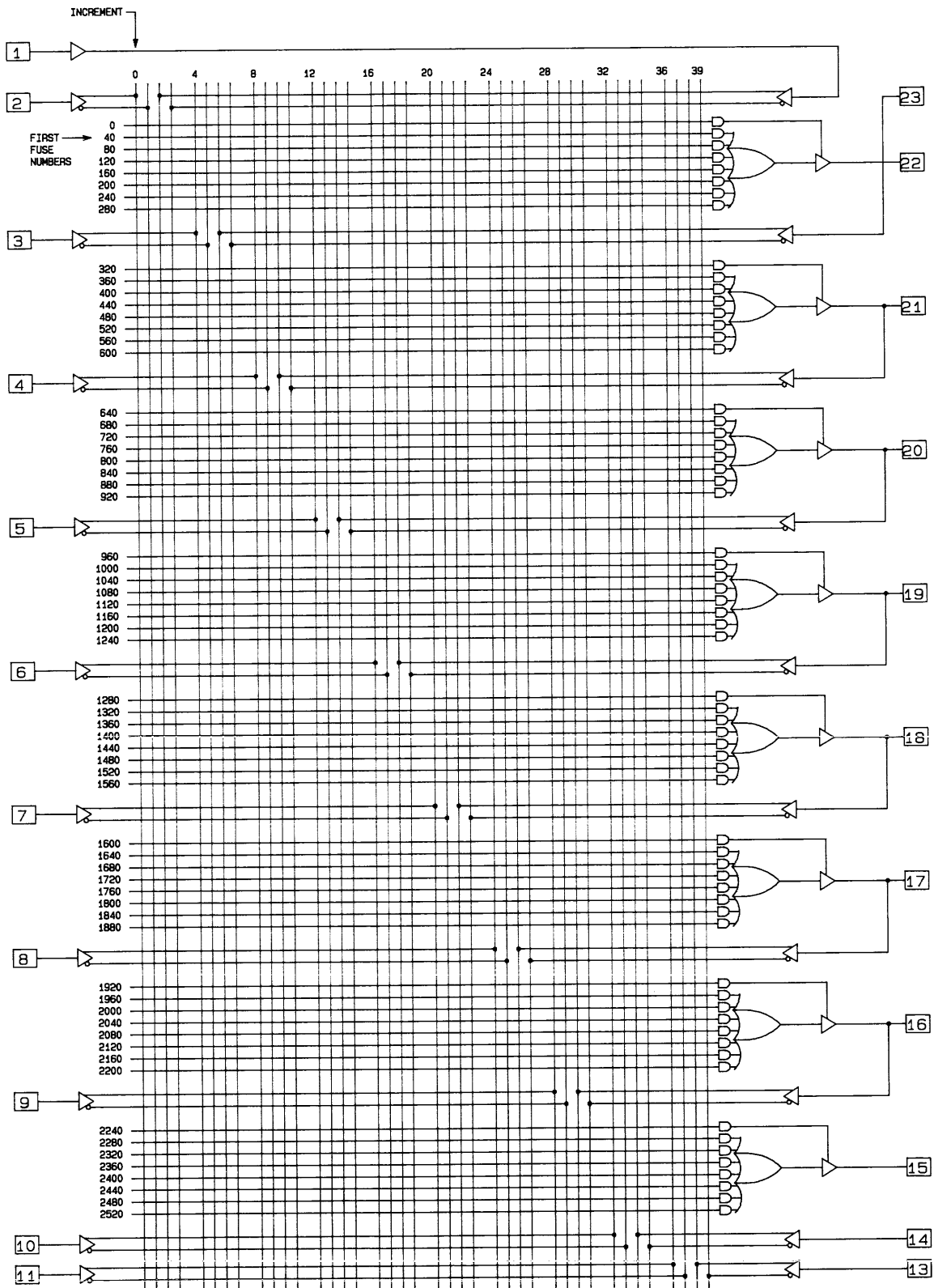
FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

(16) = PIN NOS. FOR PLCC "NL" PACKAGE

Data I/O Corporation



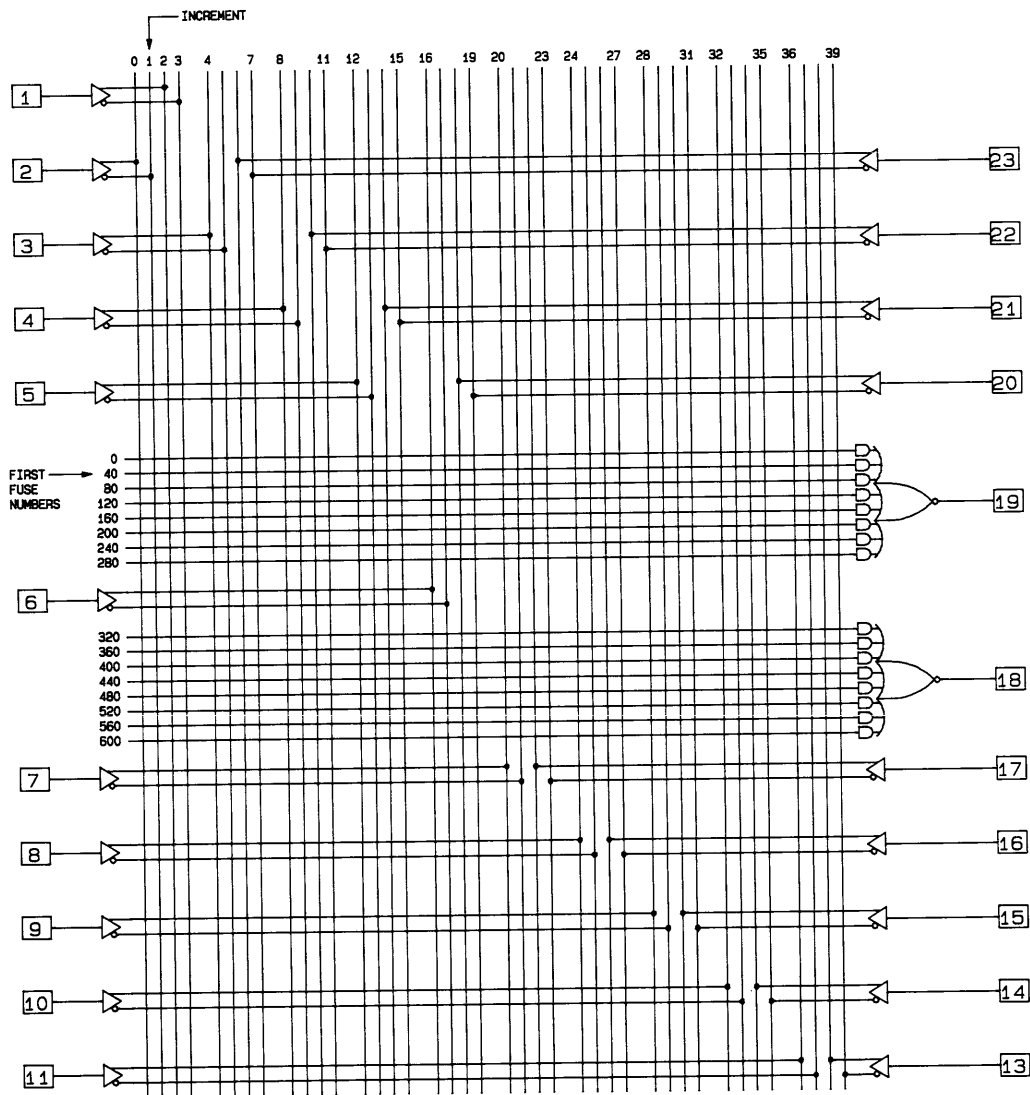
NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT



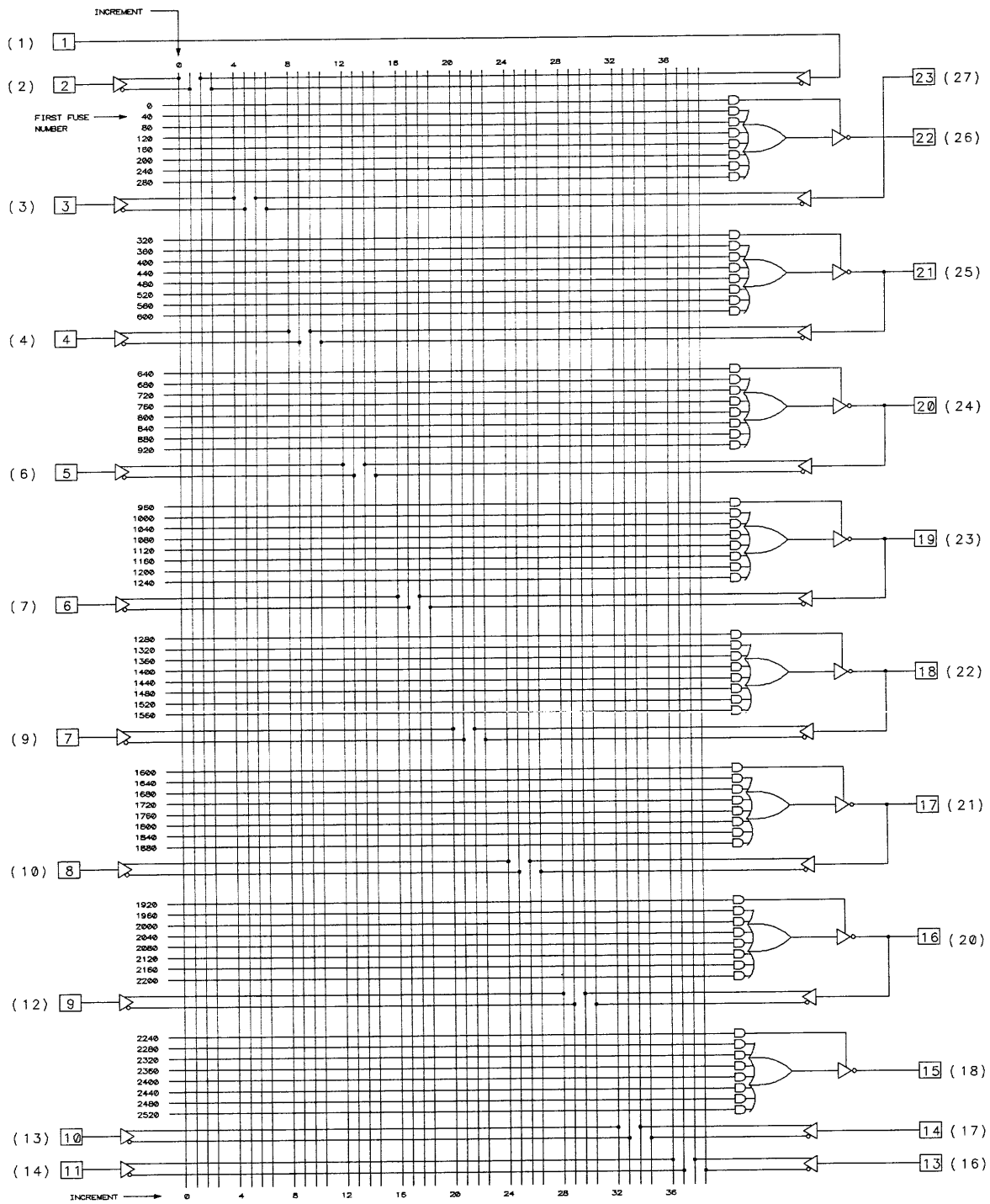
NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

Data I/O Corporation

Data I/O Corporation



NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

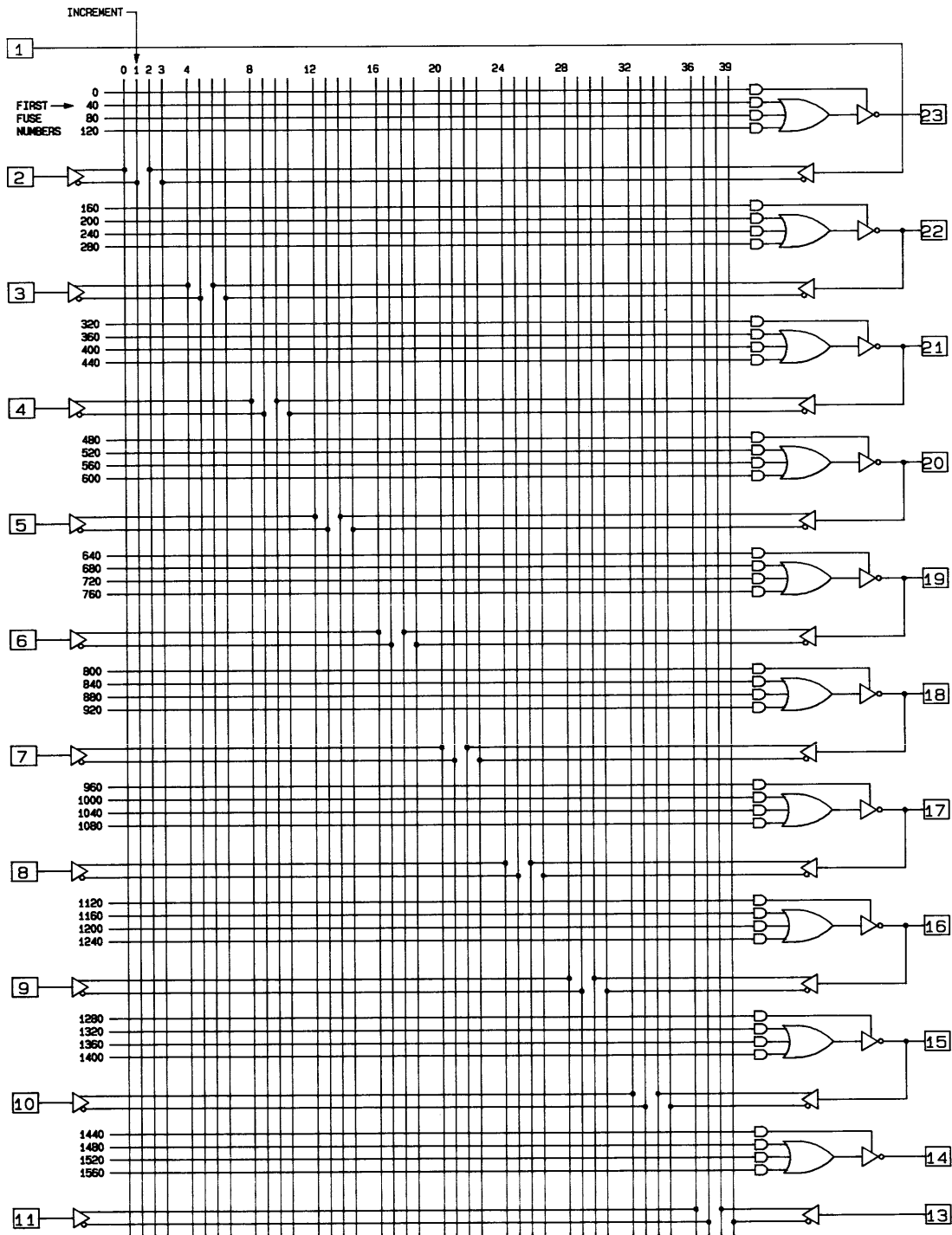


NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

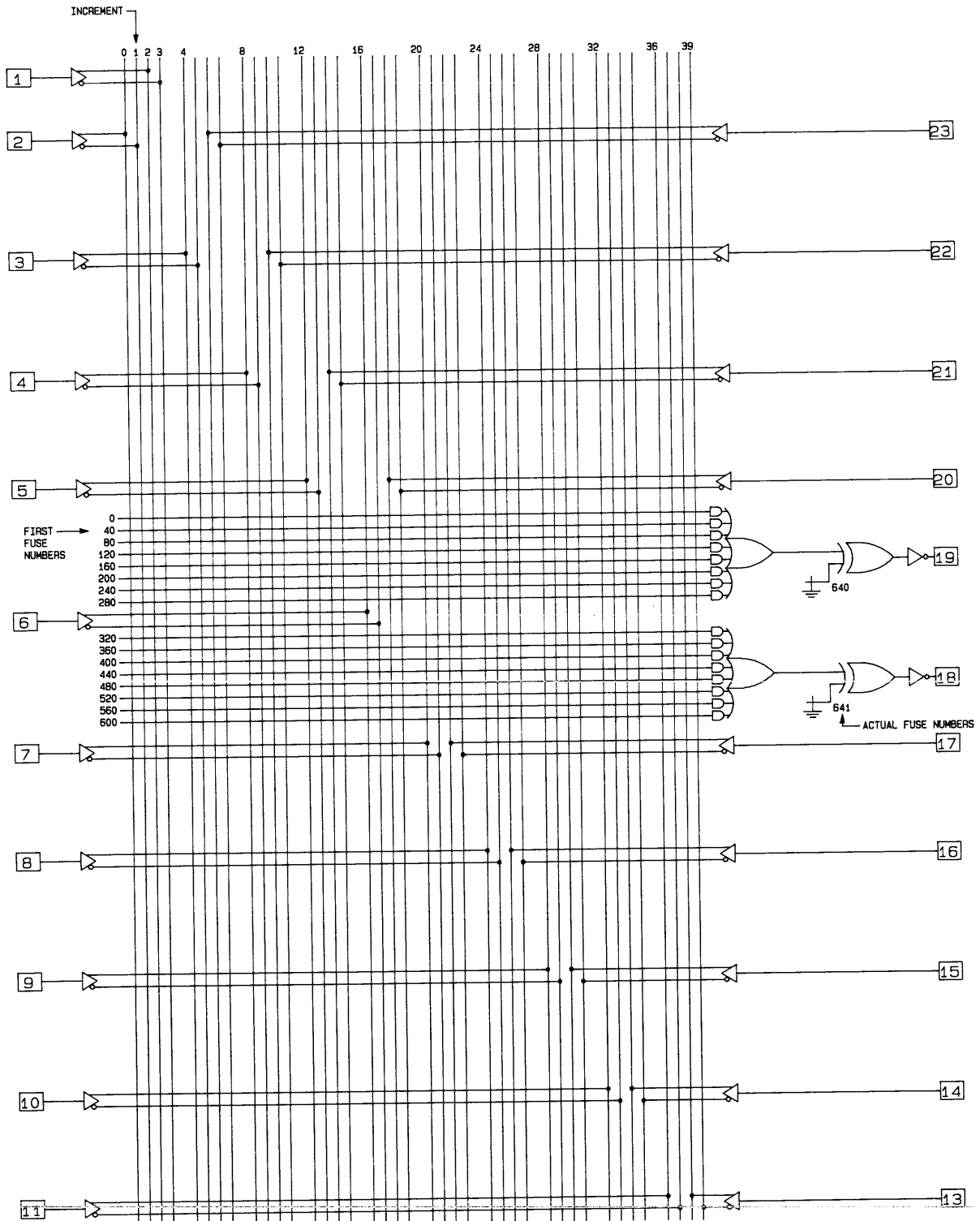
{16} = PIN NOS. FOR PLCC "NL" PACKAGE

Data I/O Corporation

Data I/O Corporation

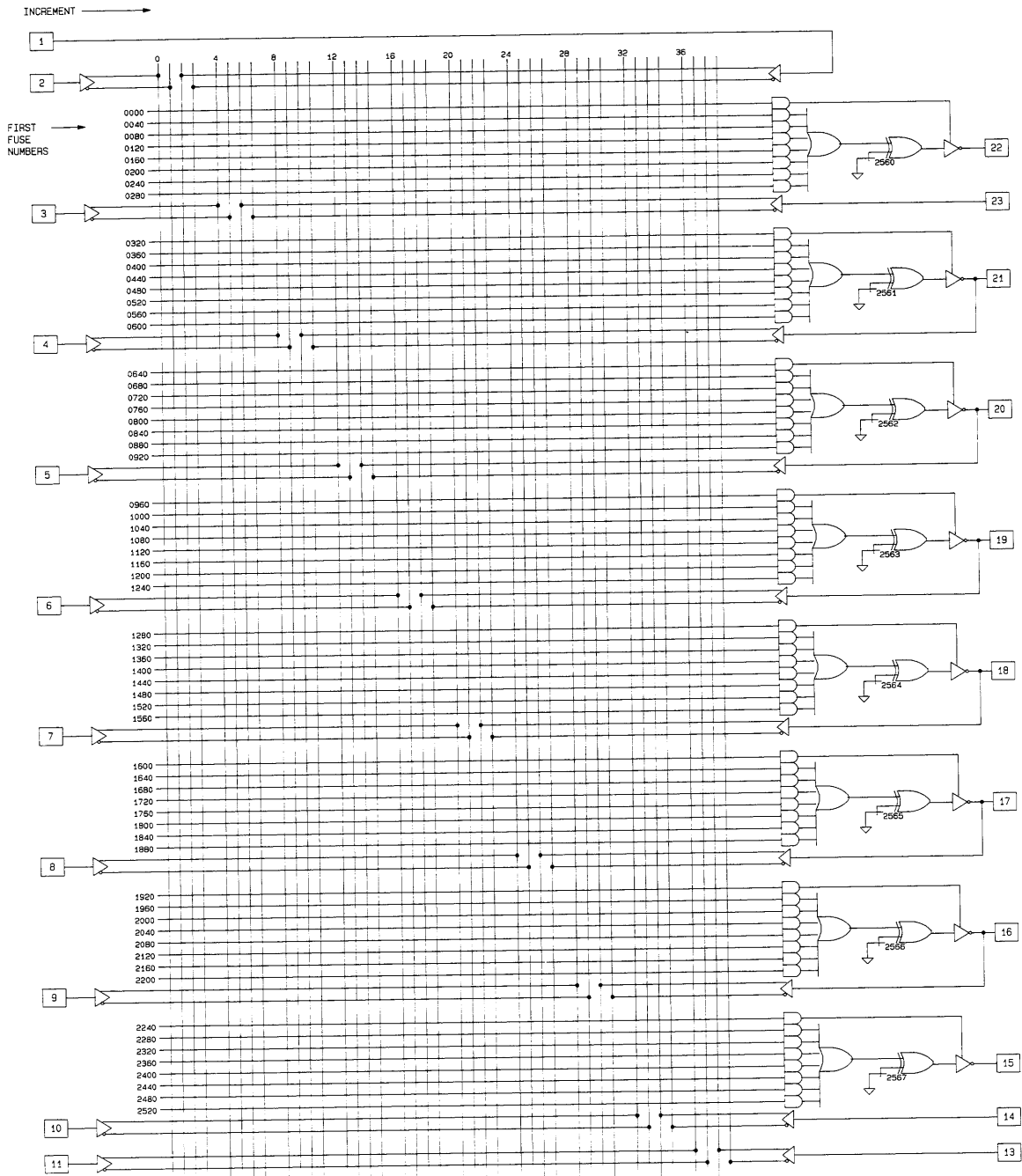


NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

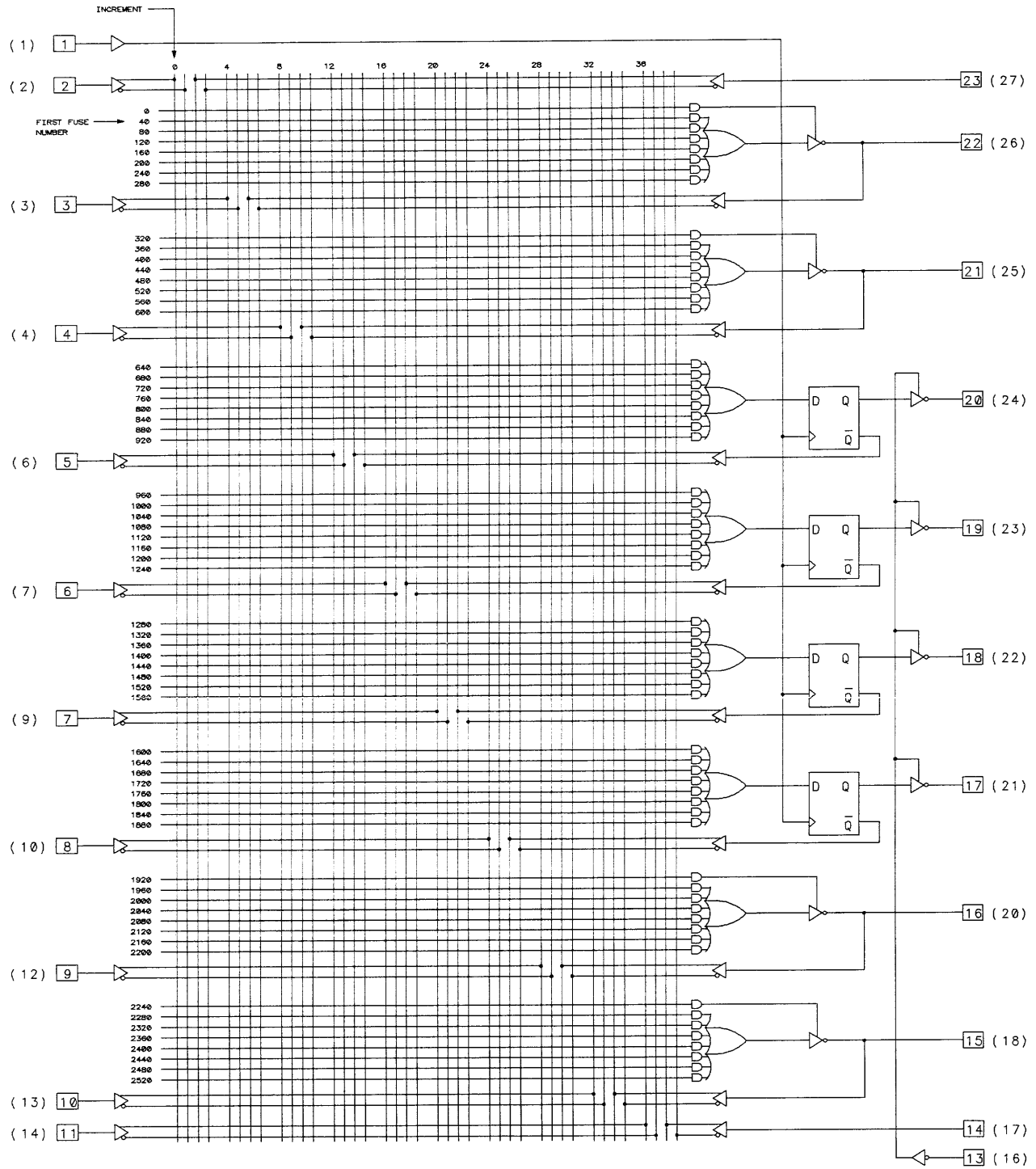


NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

Data I/O Corporation



NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

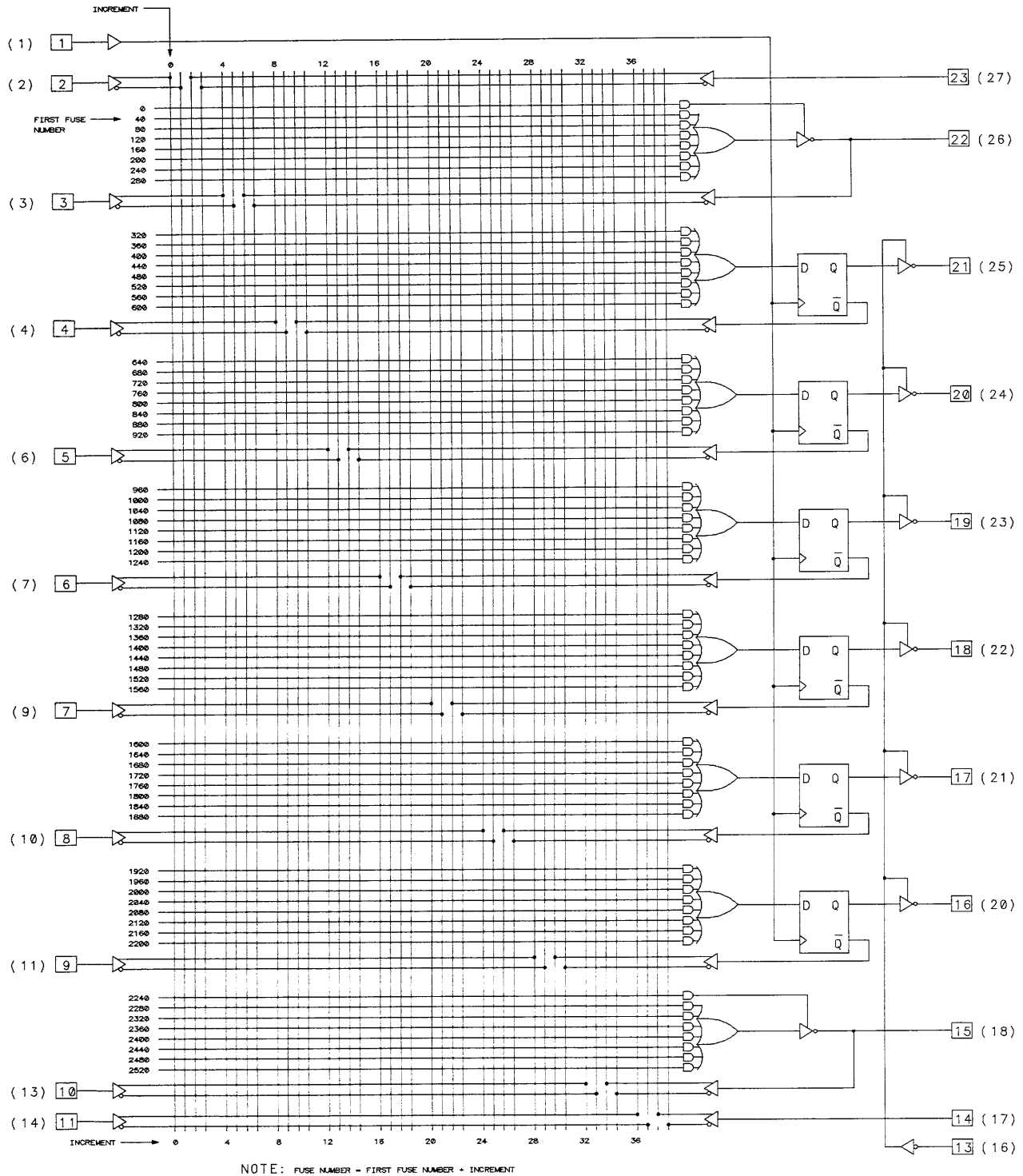


NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

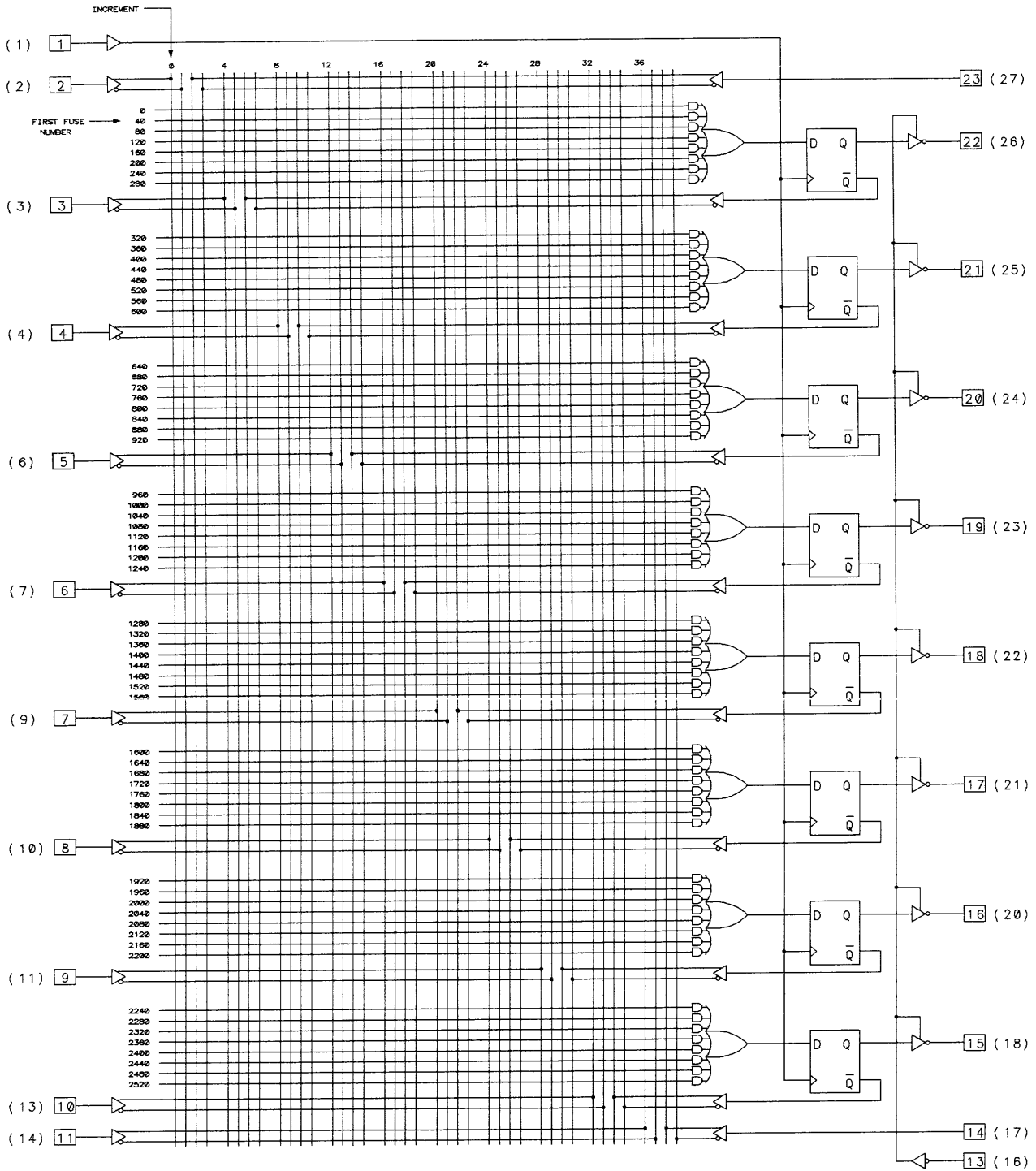
(16) = PIN NOS. FOR PLCC "NL" PACKAGE

Data I/O Corporation

Data I/O Corporation



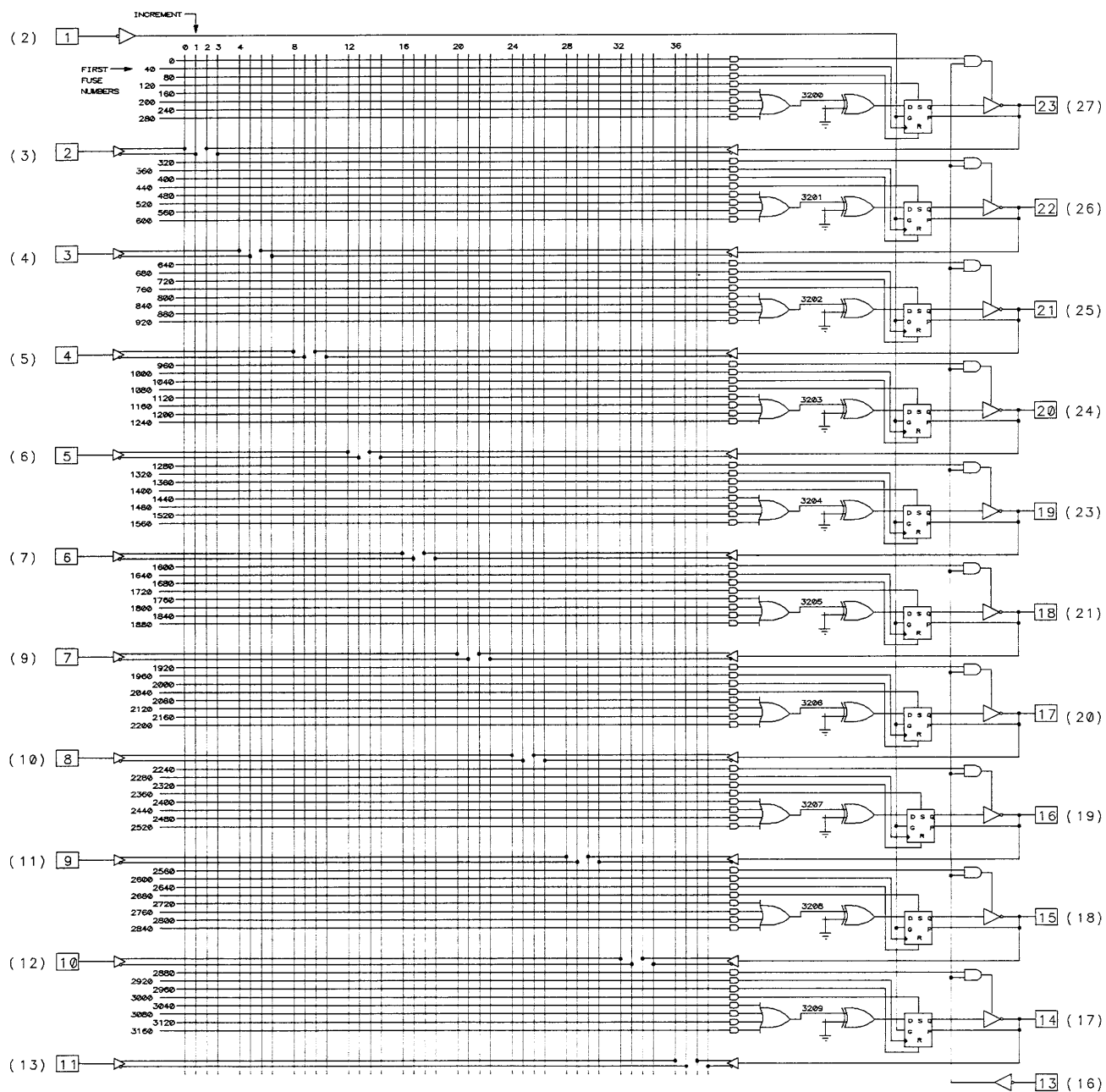
(16) = PIN NOS. FOR PLCC "NL" PACKAGE



(16) = PIN NOS. FOR PLCC "NL" PACKAGE

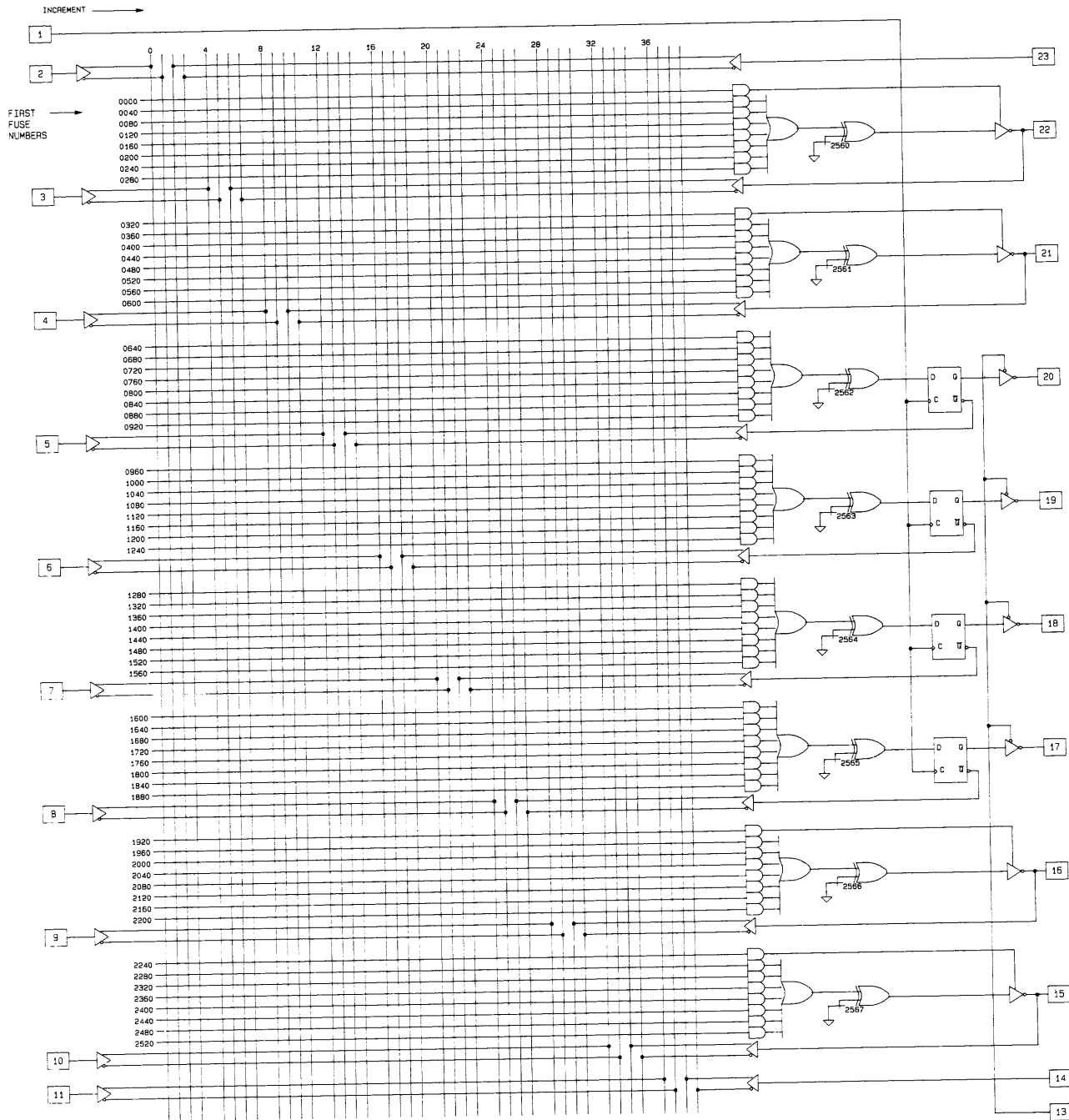
Data I/O Corporation

Data I/O Corporation



NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

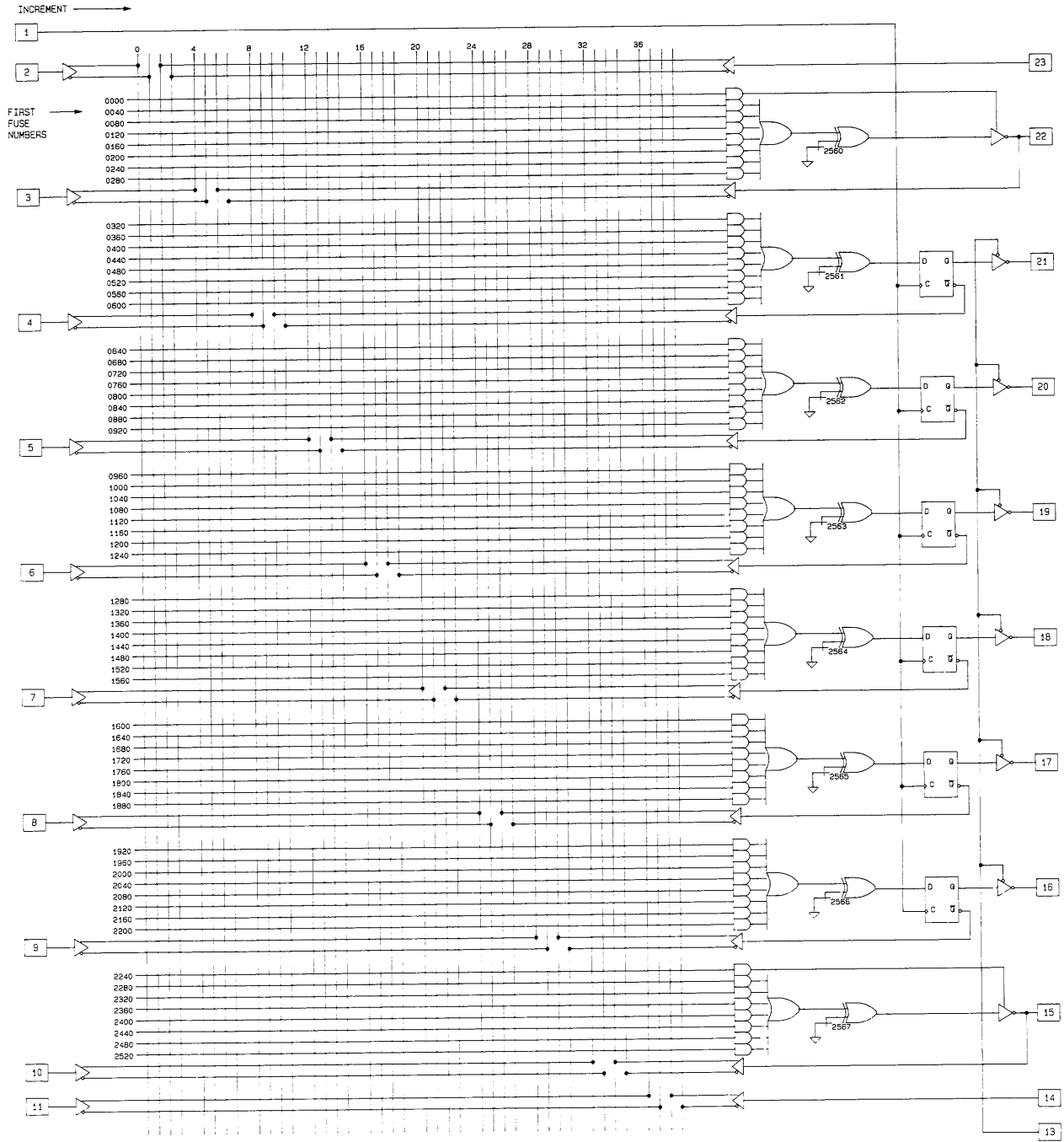
(16) = PIN NOS. FOR PLCC "NL" PACKAGE



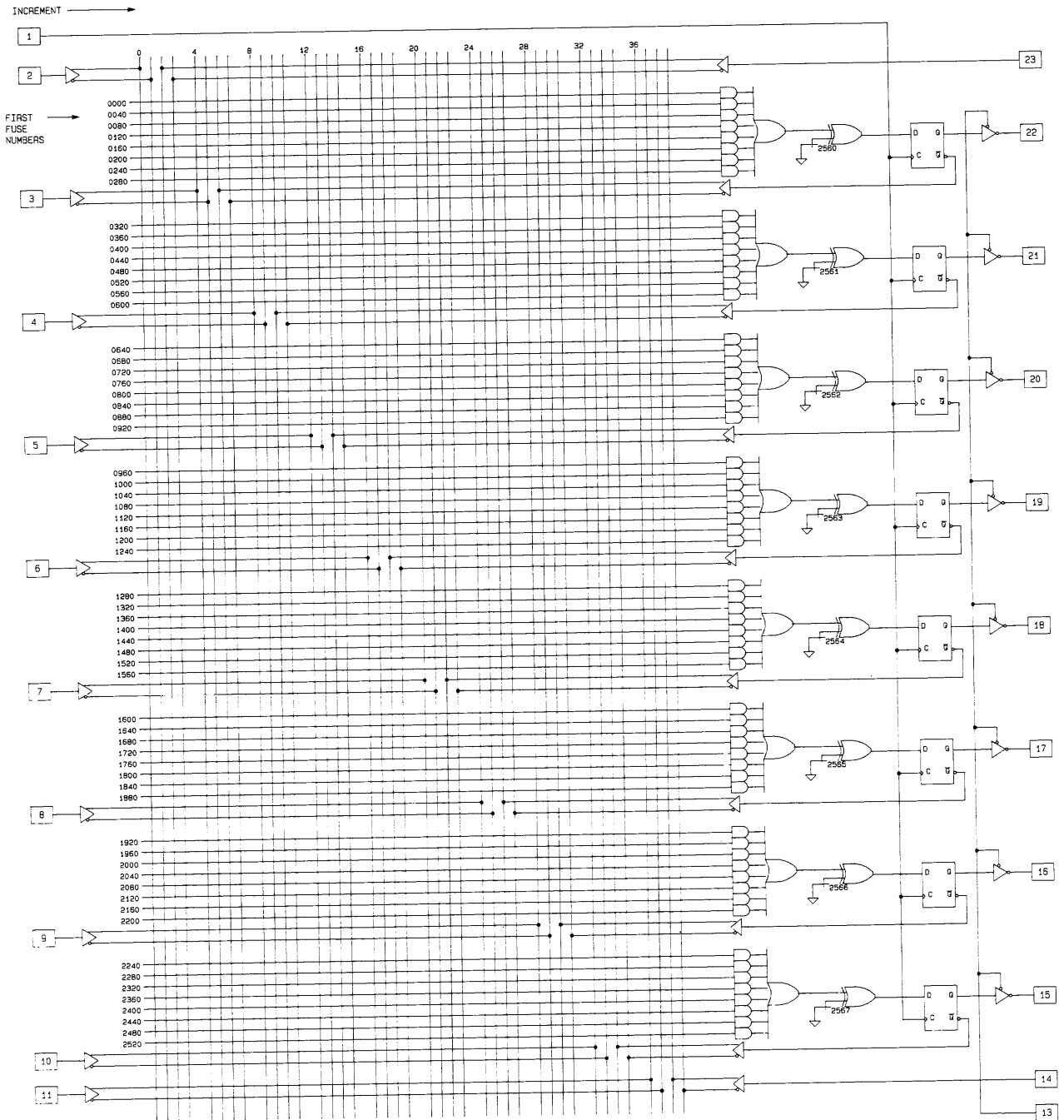
NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

Data I/O Corporation

Corporation
Data I/O

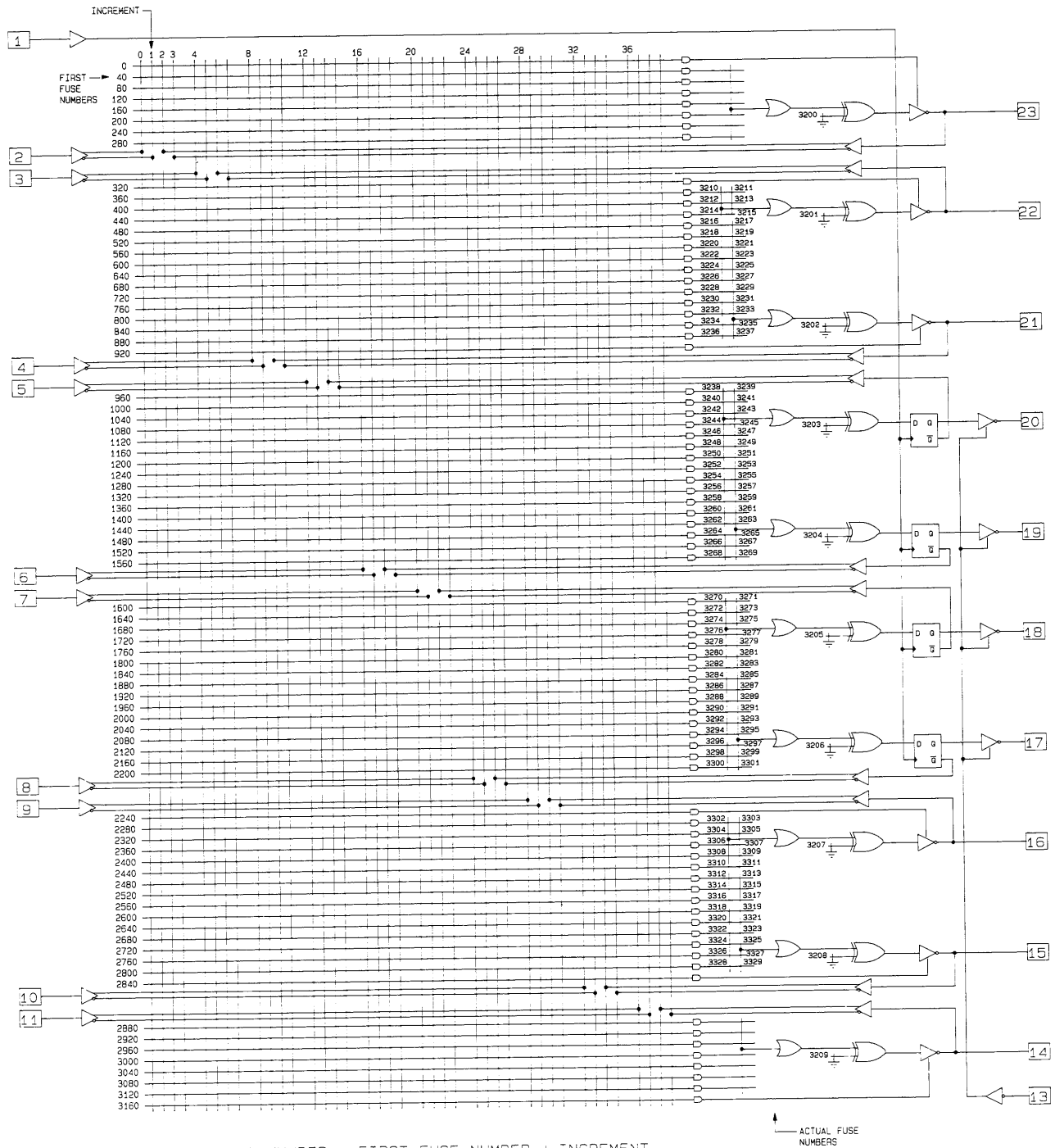


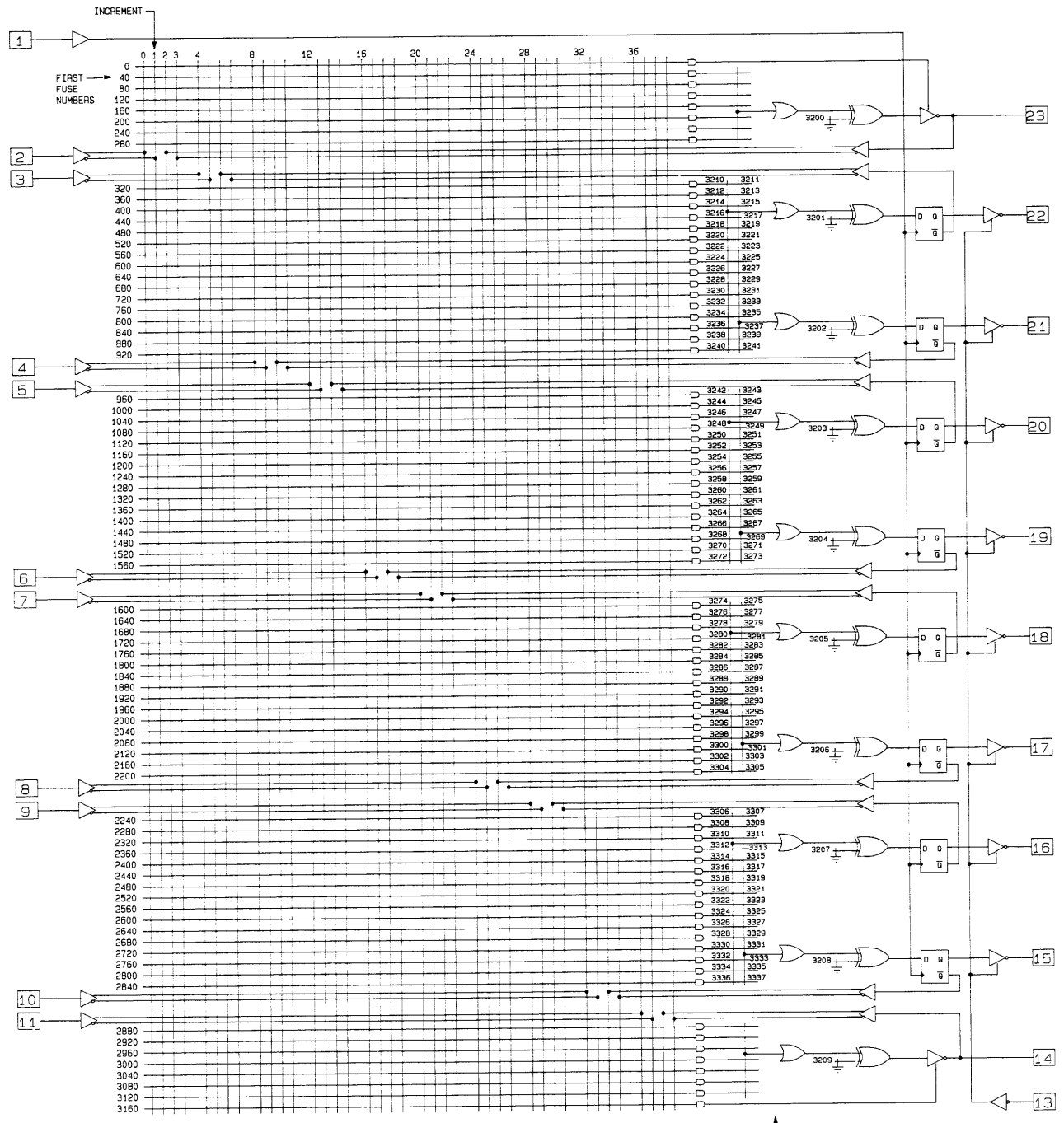
NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT



NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

Data I/O Corporation

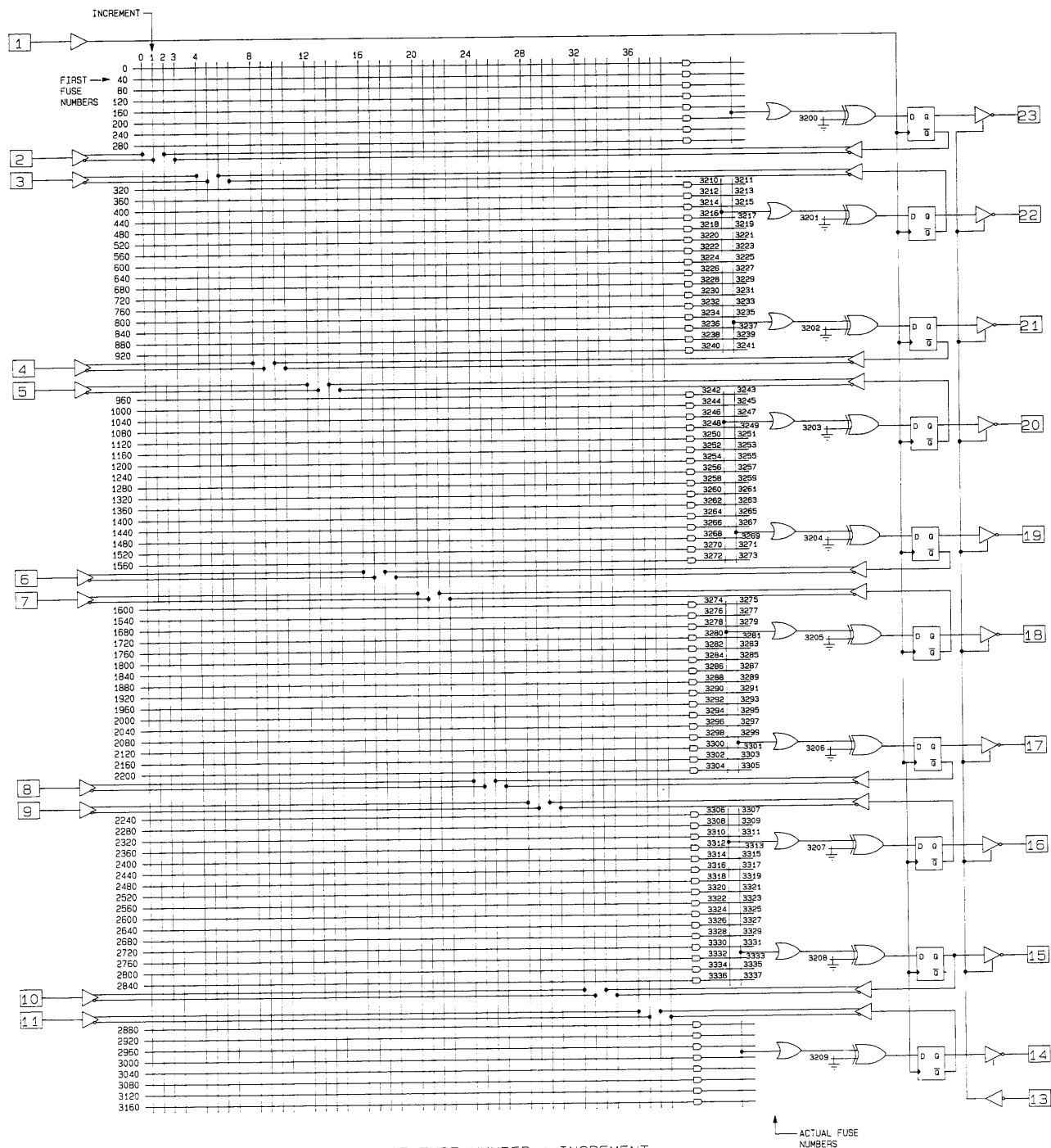


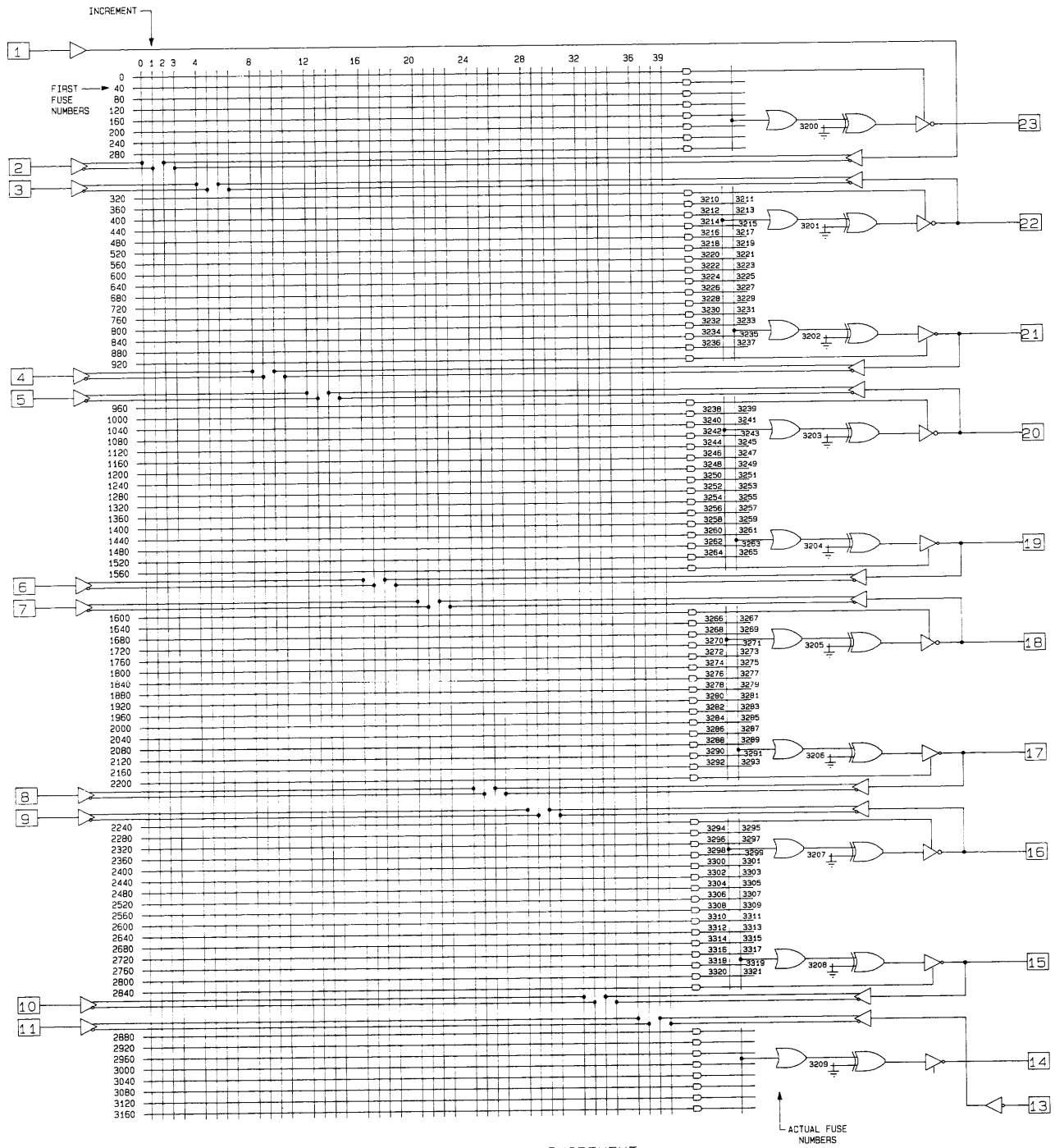


NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

ACTUAL FUSE NUMBERS

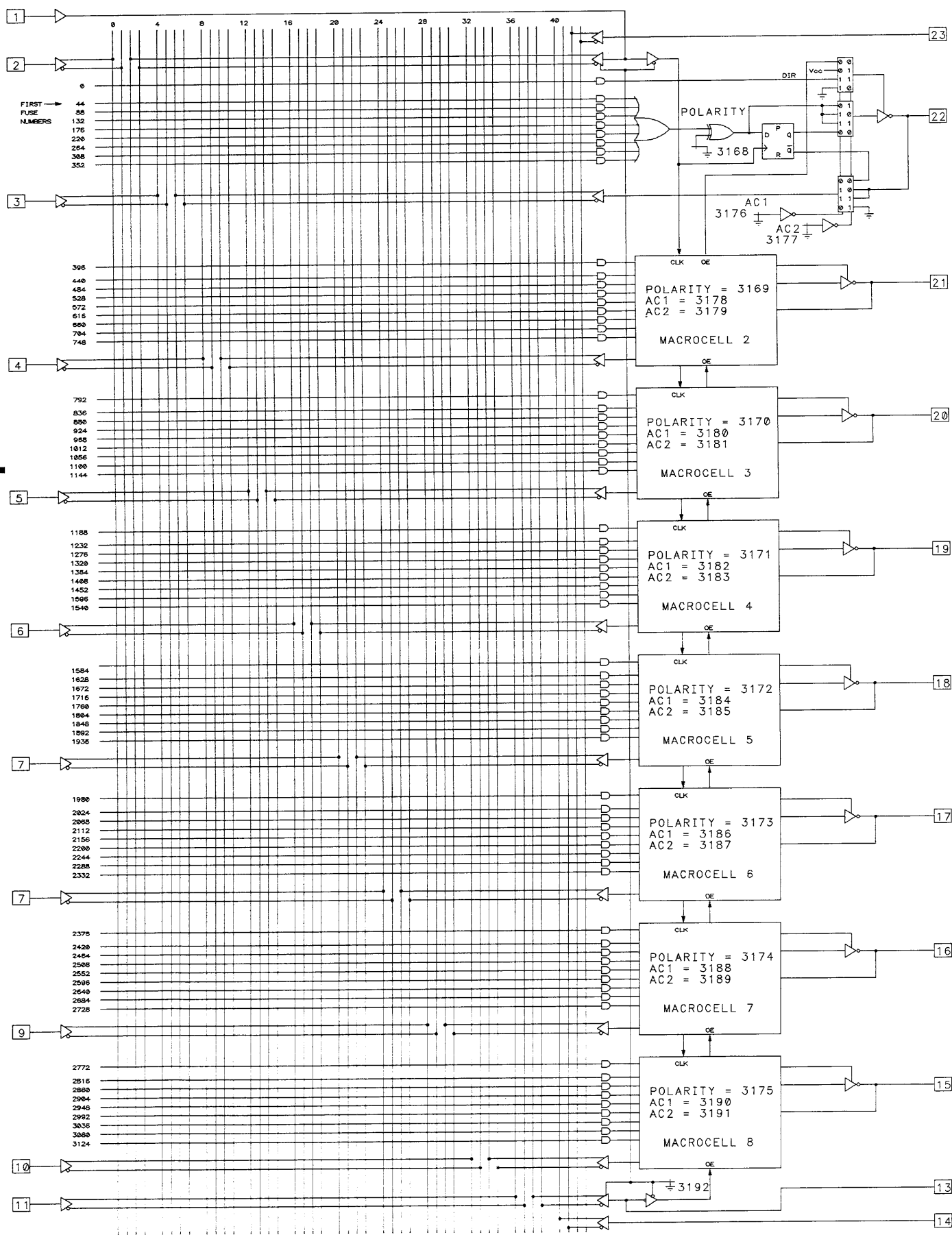
Data I/O Corporation

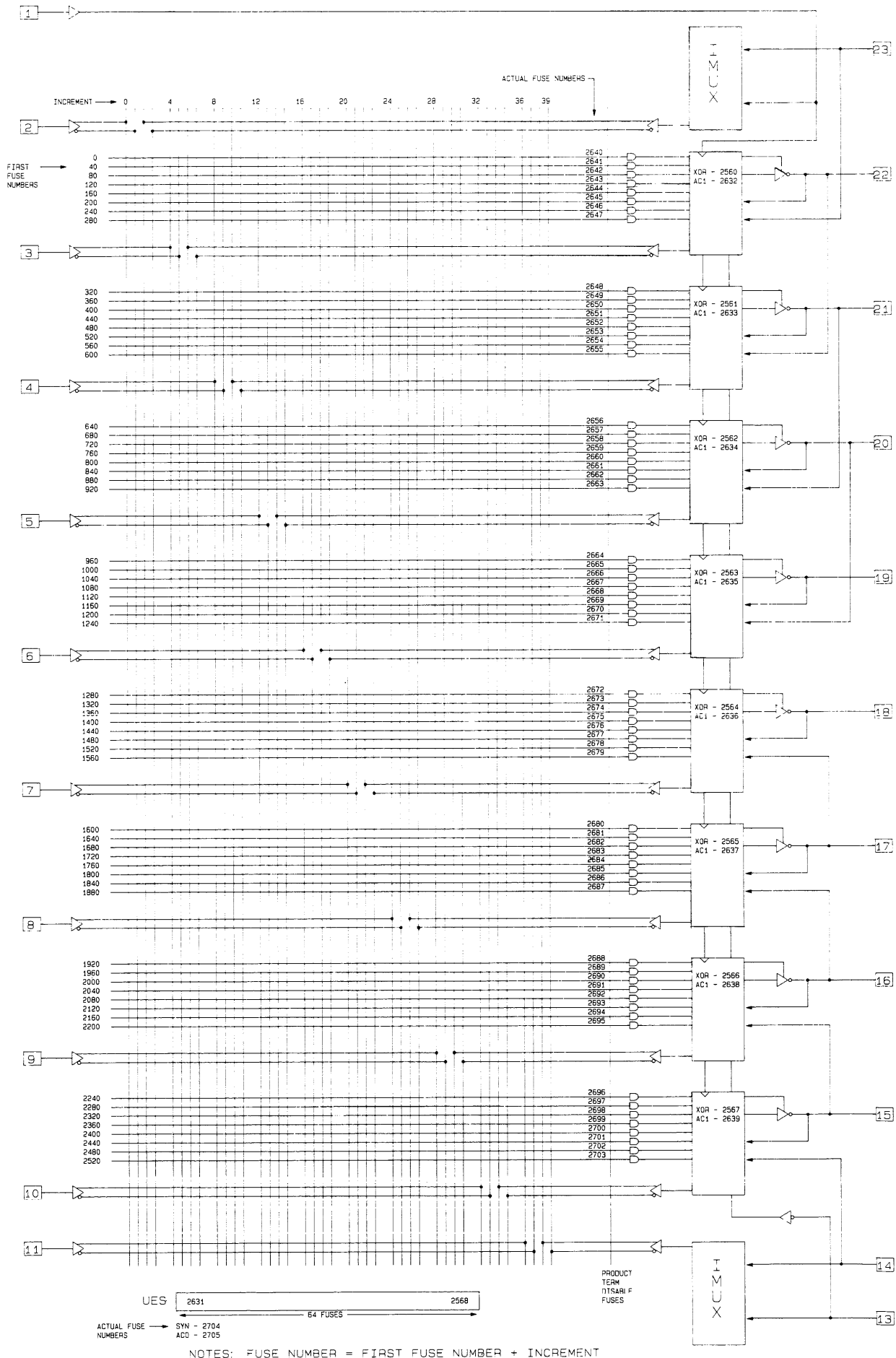




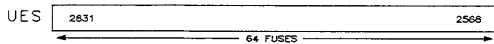
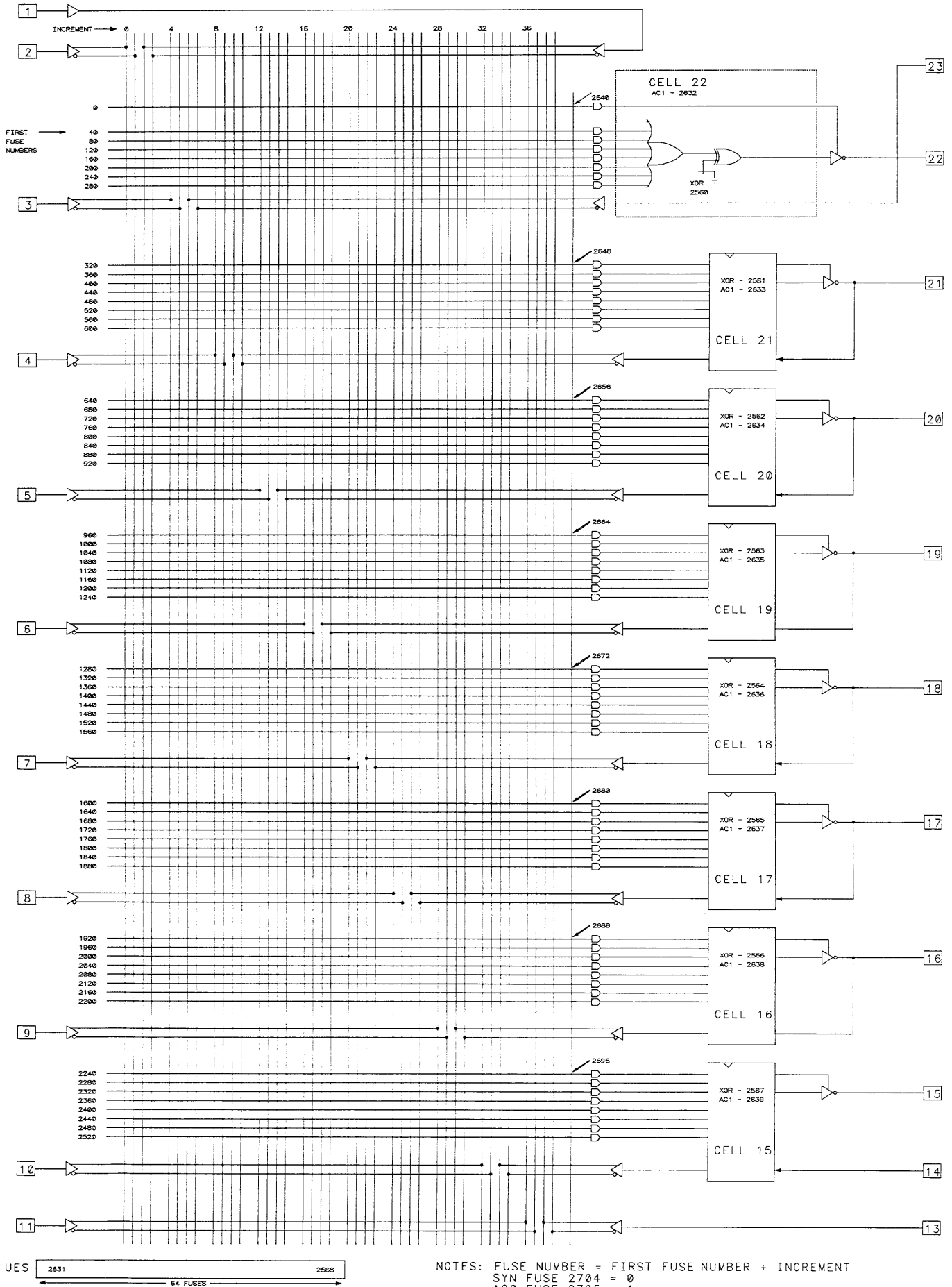
NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

Corporation
Data I/O

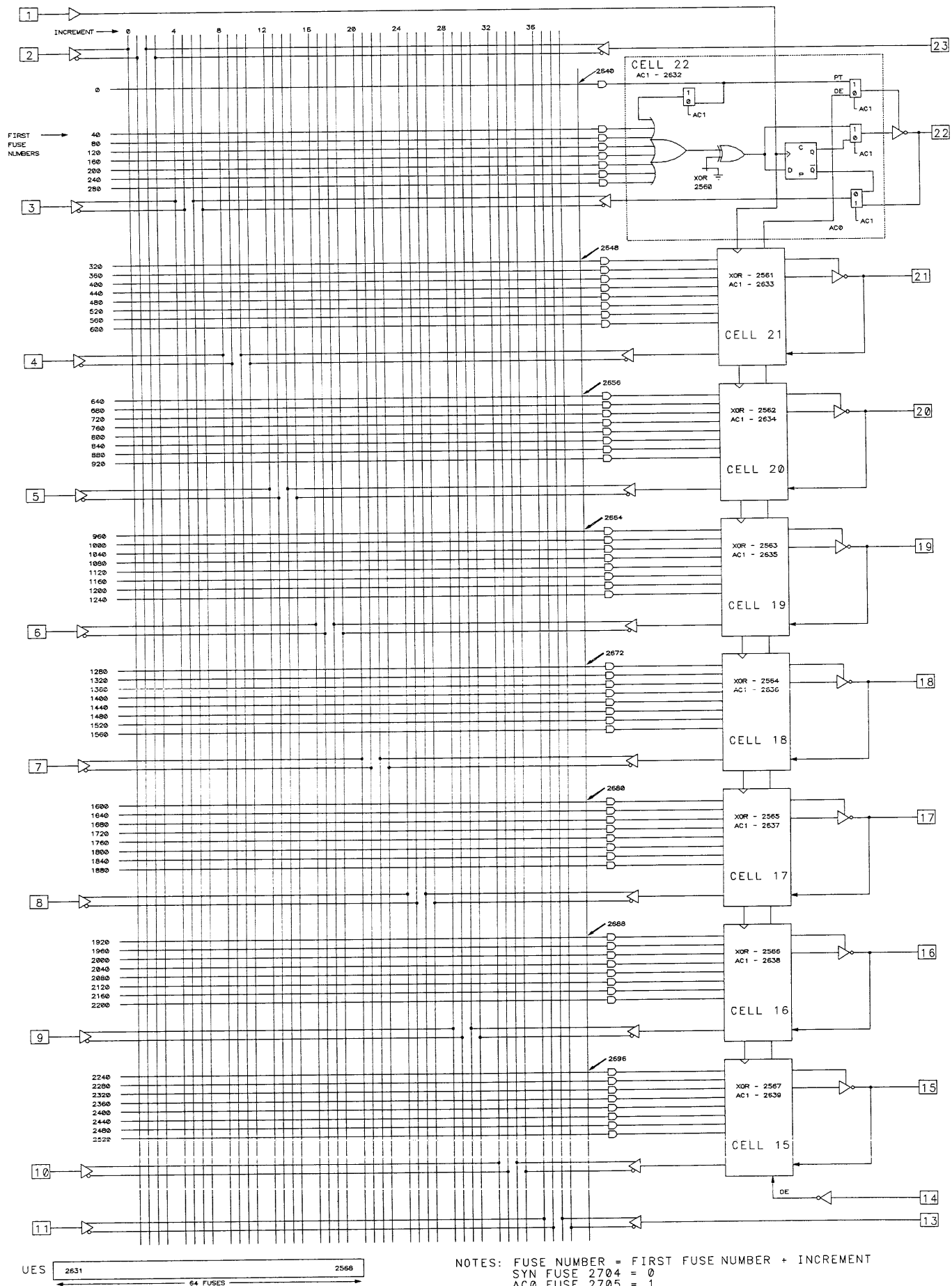




Data I/O Corporation



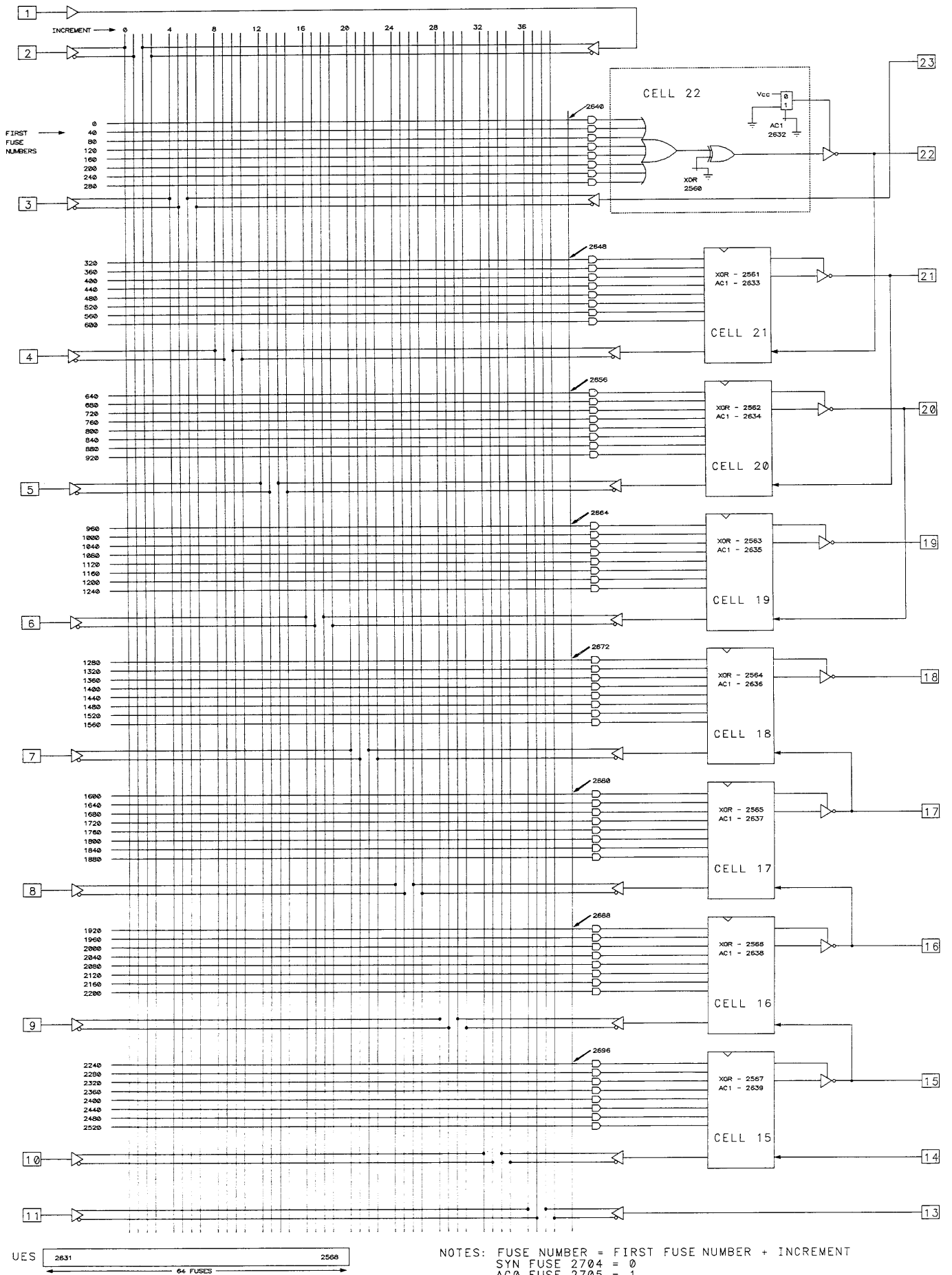
NOTES: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT
 SYN FUSE 2704 = 0
 AC0 FUSE 2705 = 1
 FUSES 2640 - 2703 DISABLE PRODUCT TERMS



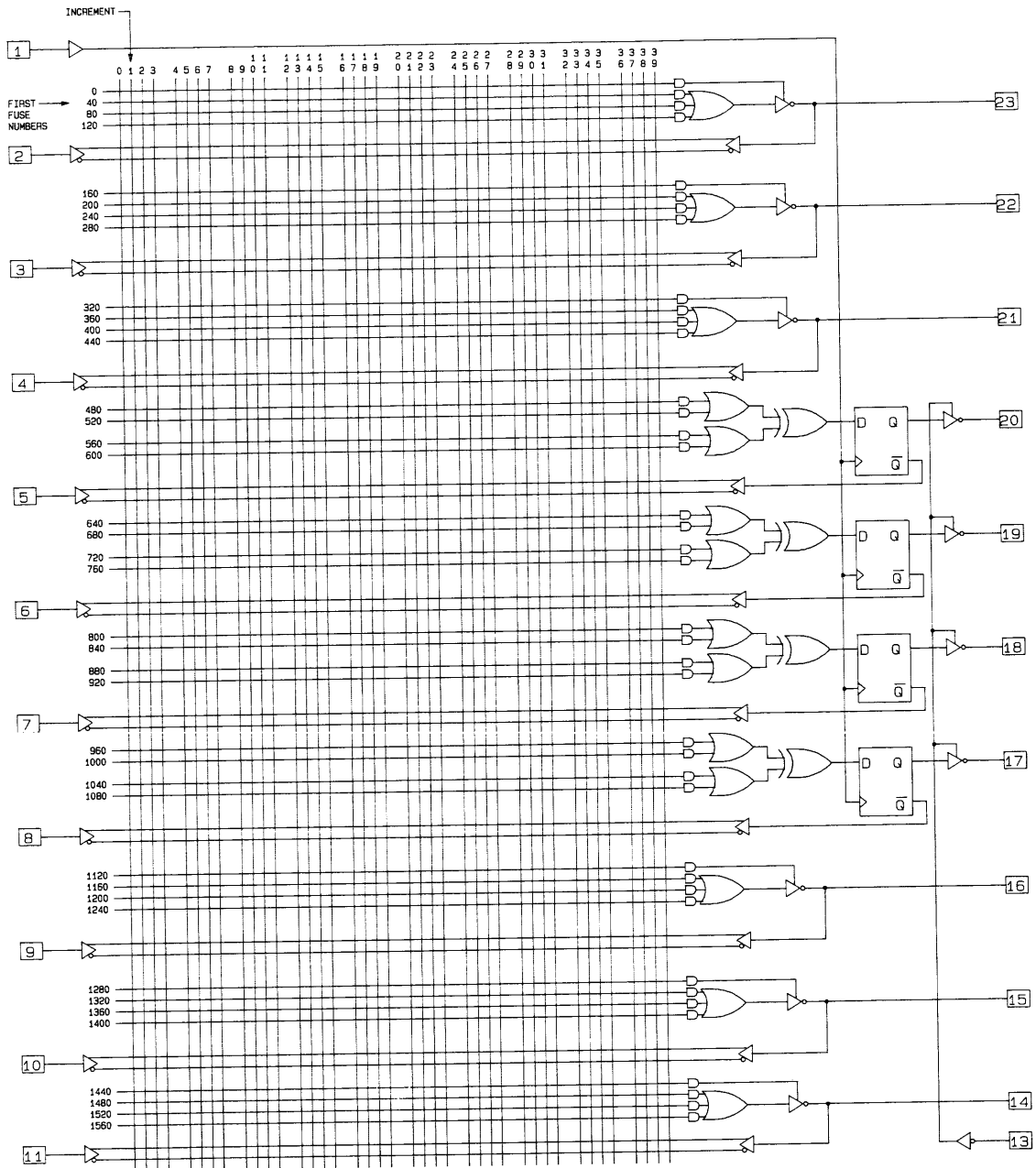
NOTES: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT
 SYN FUSE 2704 = 0
 AC0 FUSE 2705 = 1
 FUSES 2640 - 2703 DISABLE PRODUCT TERMS

Data I/O Corporation

Data I/O Corporation



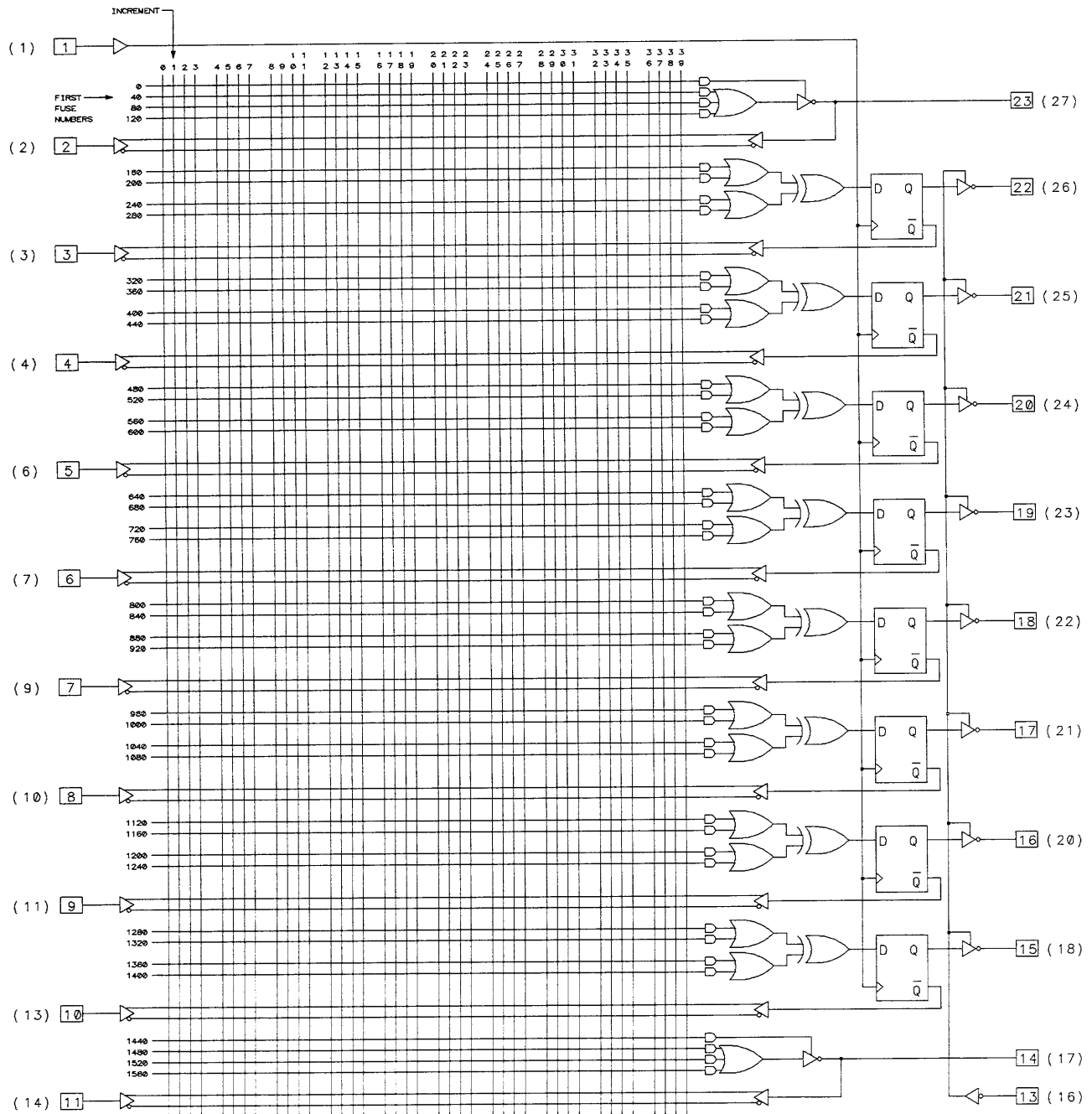
NOTES: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT
 SYN FUSE 2704 = 0
 AC0 FUSE 2705 = 1
 FUSES 2640 - 2703 DISABLE PRODUCT TERMS



NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

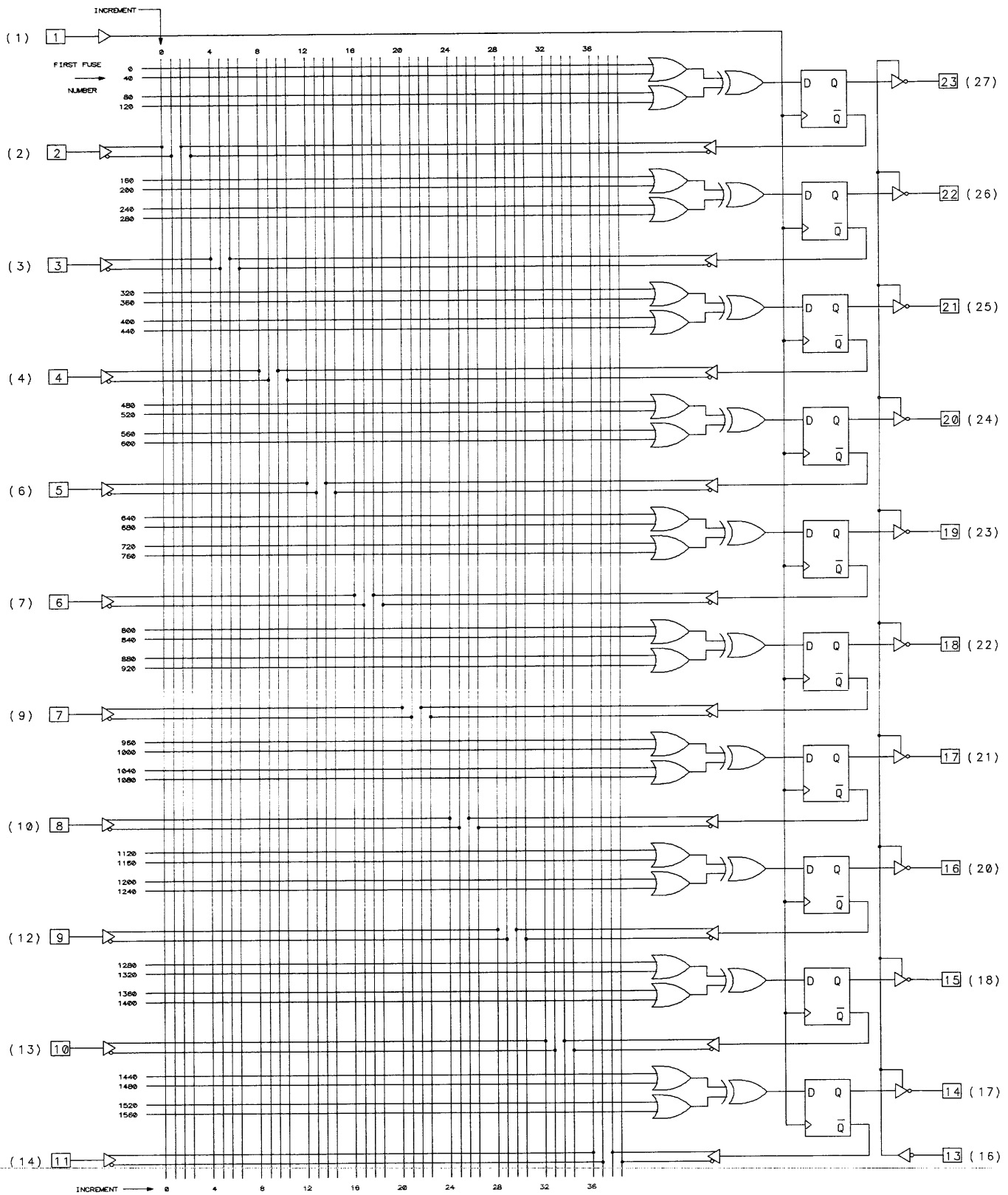
Data I/O Corporation

Data I/O Corporation



NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

(16) = PIN NOS. FOR PLCC "NL" PACKAGE

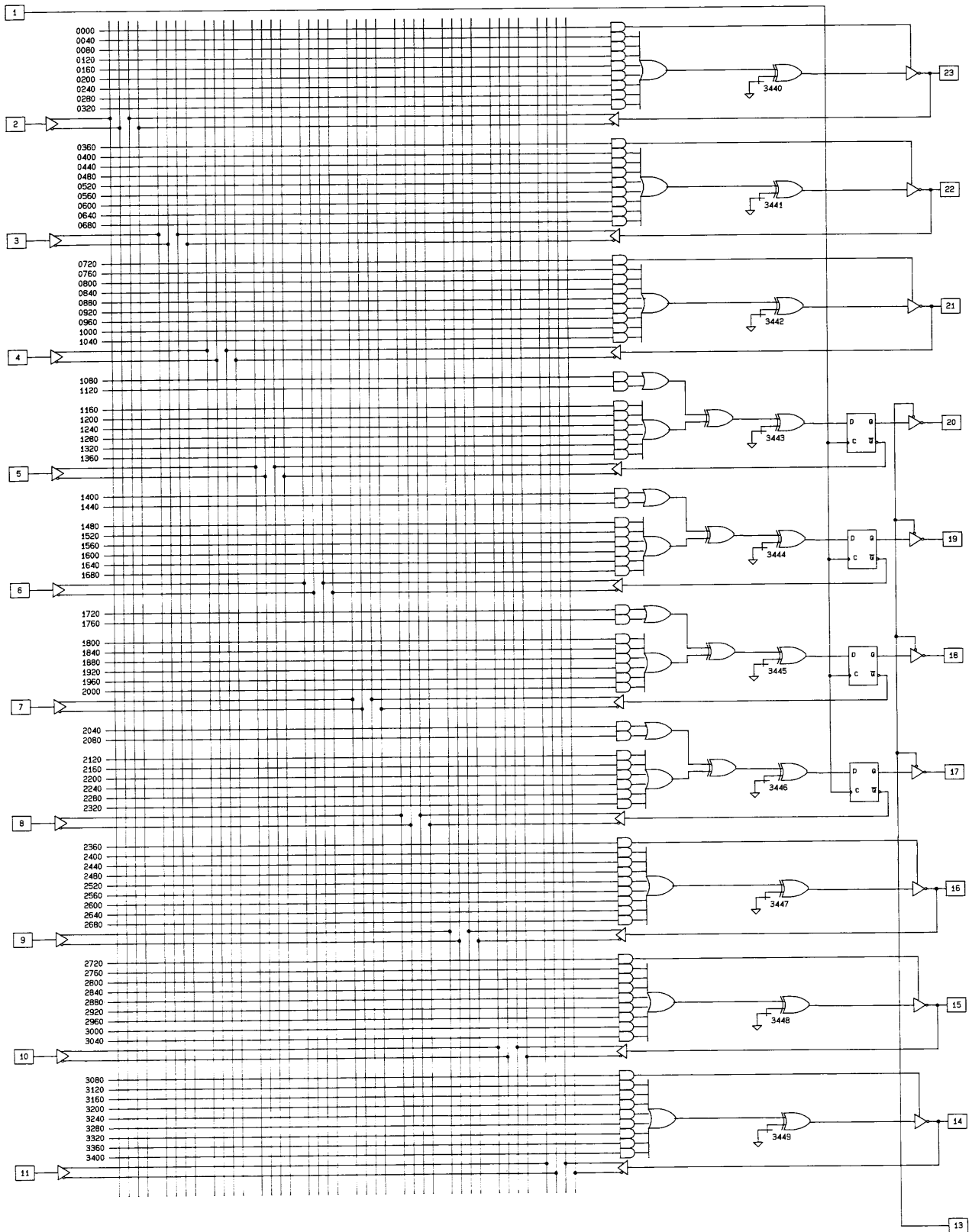


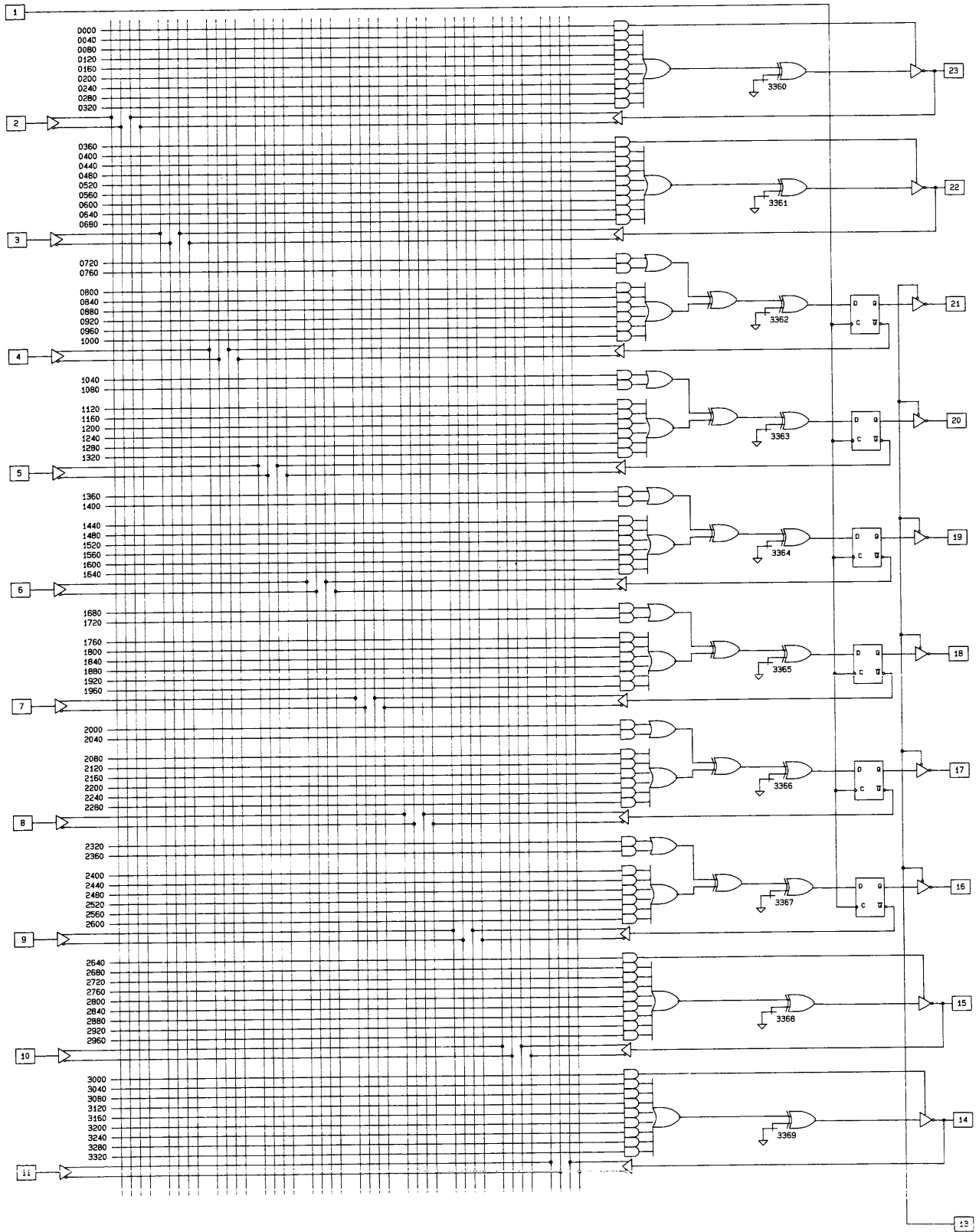
NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

(16) = PIN NOS. FOR PLCC "NL" PACKAGE

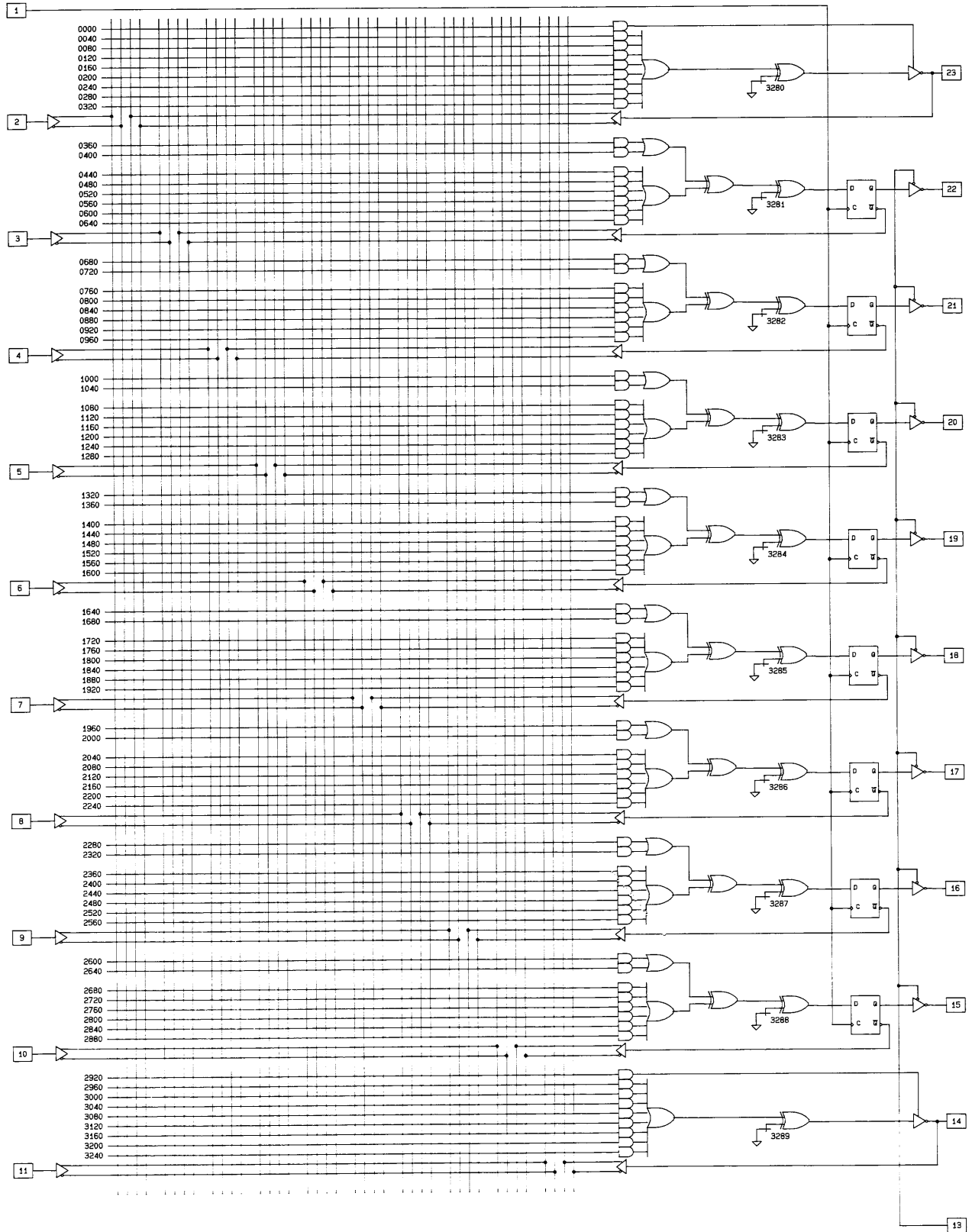
Data I/O Corporation

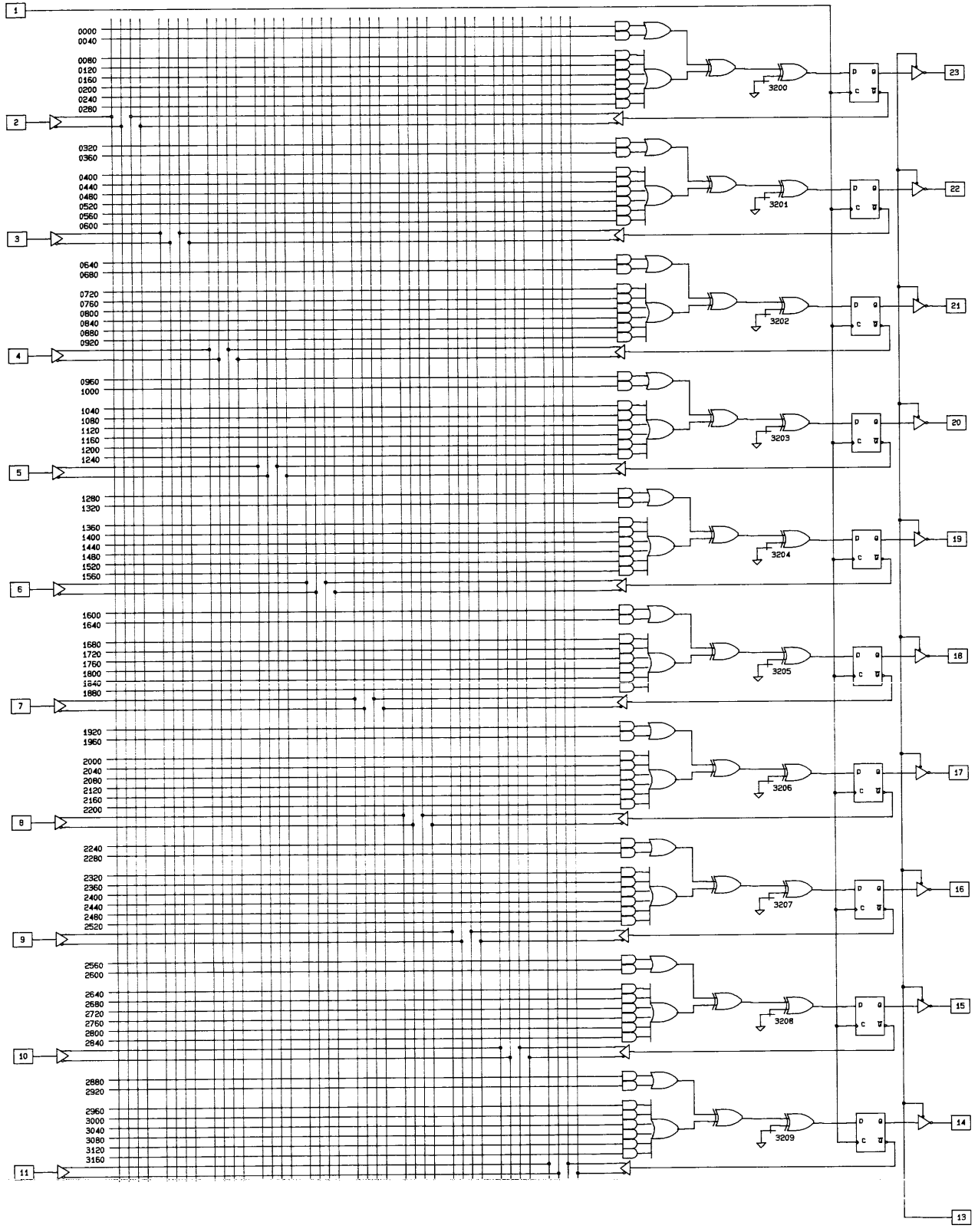
Corporation
Data I/O



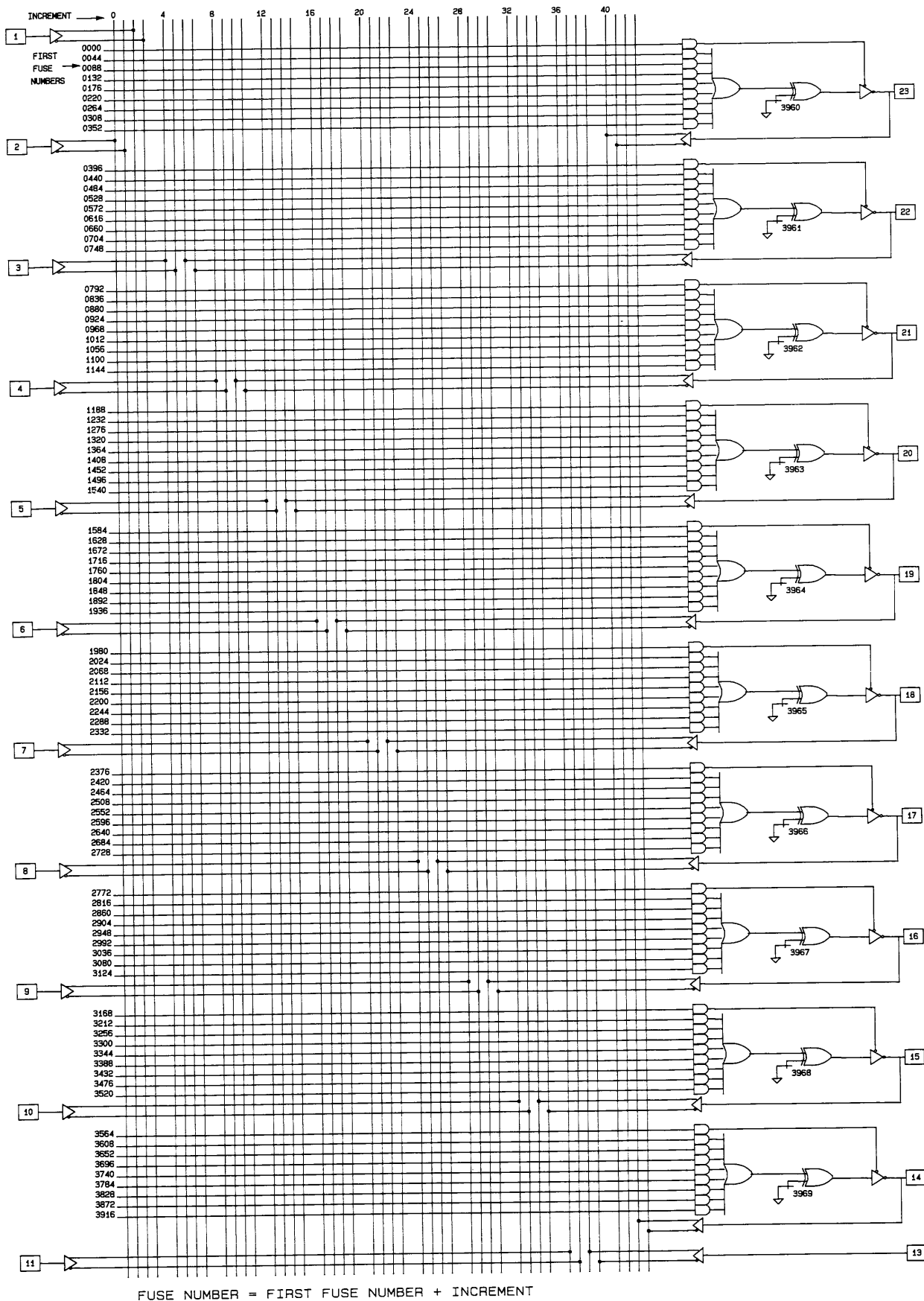


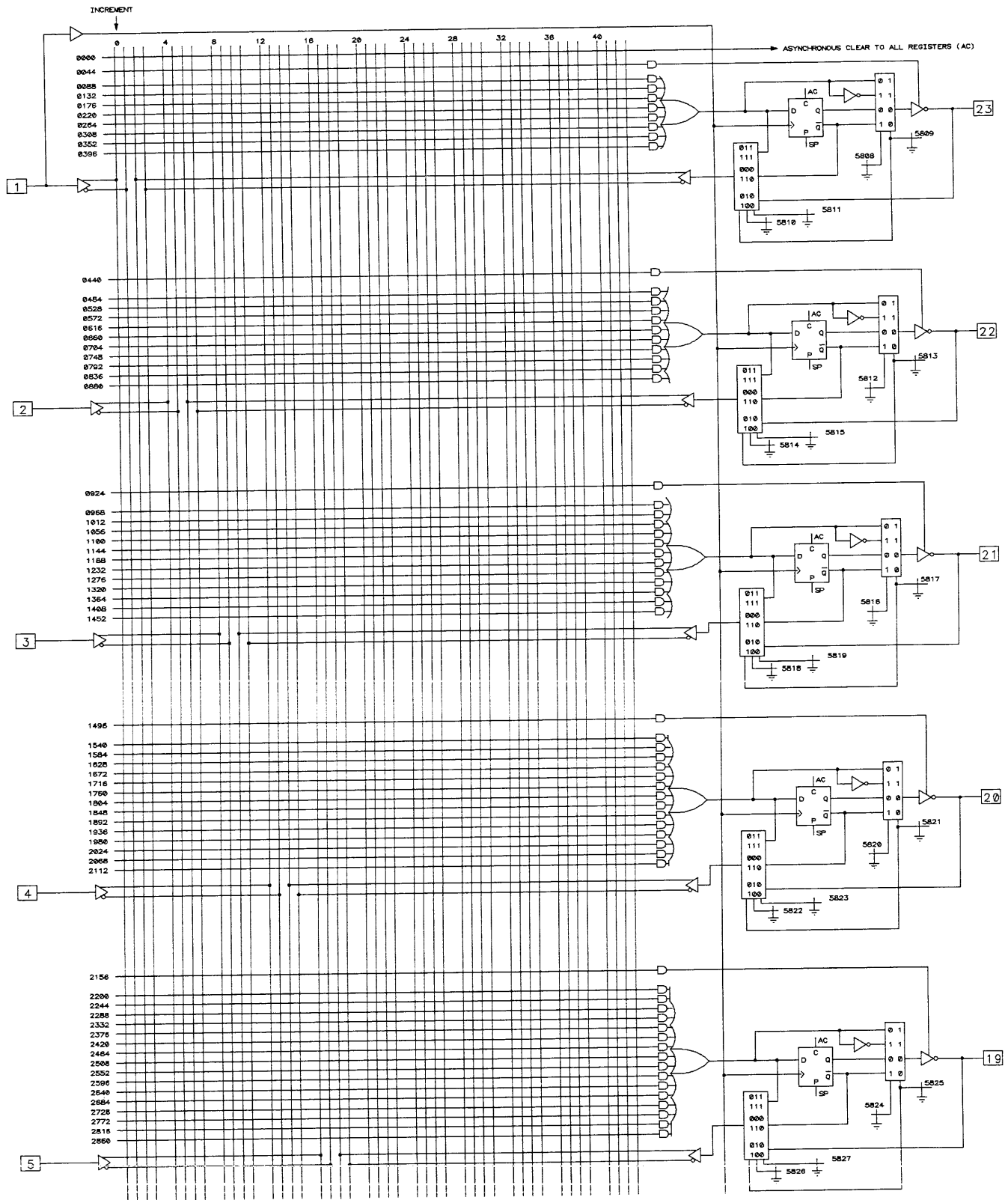
Corporation
Data I/O





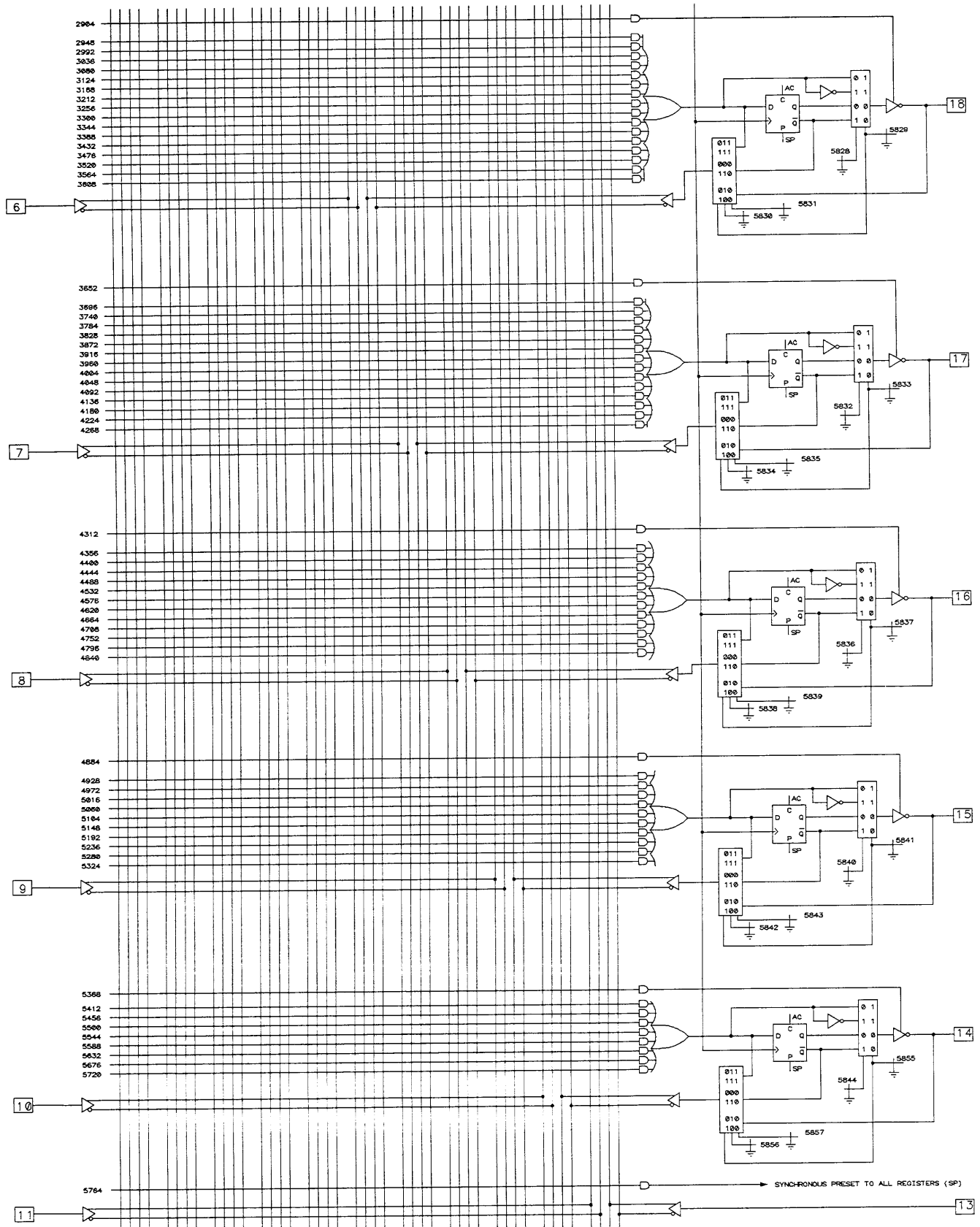
Corporation
Data I/O

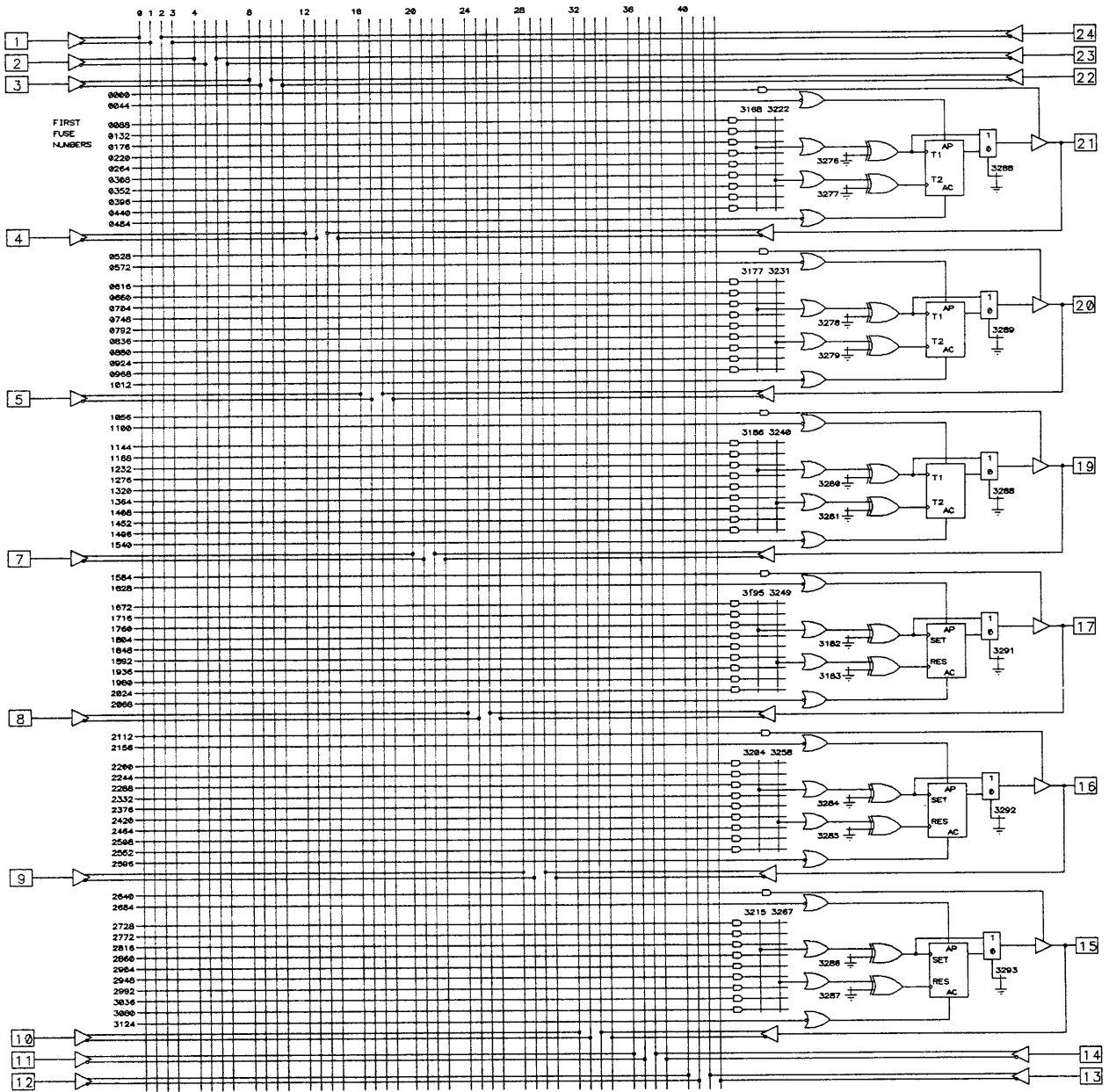




Data I/O Corporation

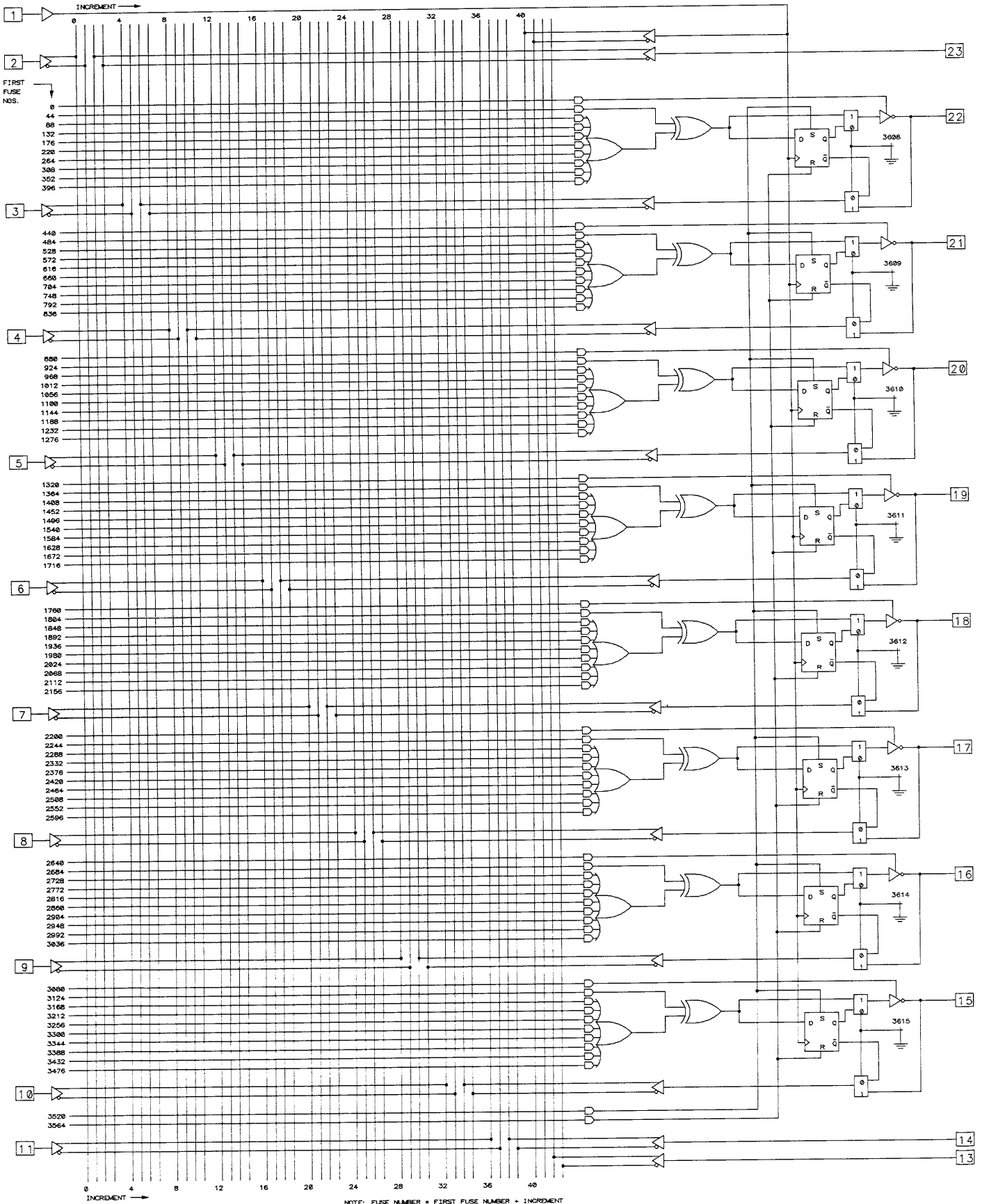
Data I/O Corporation



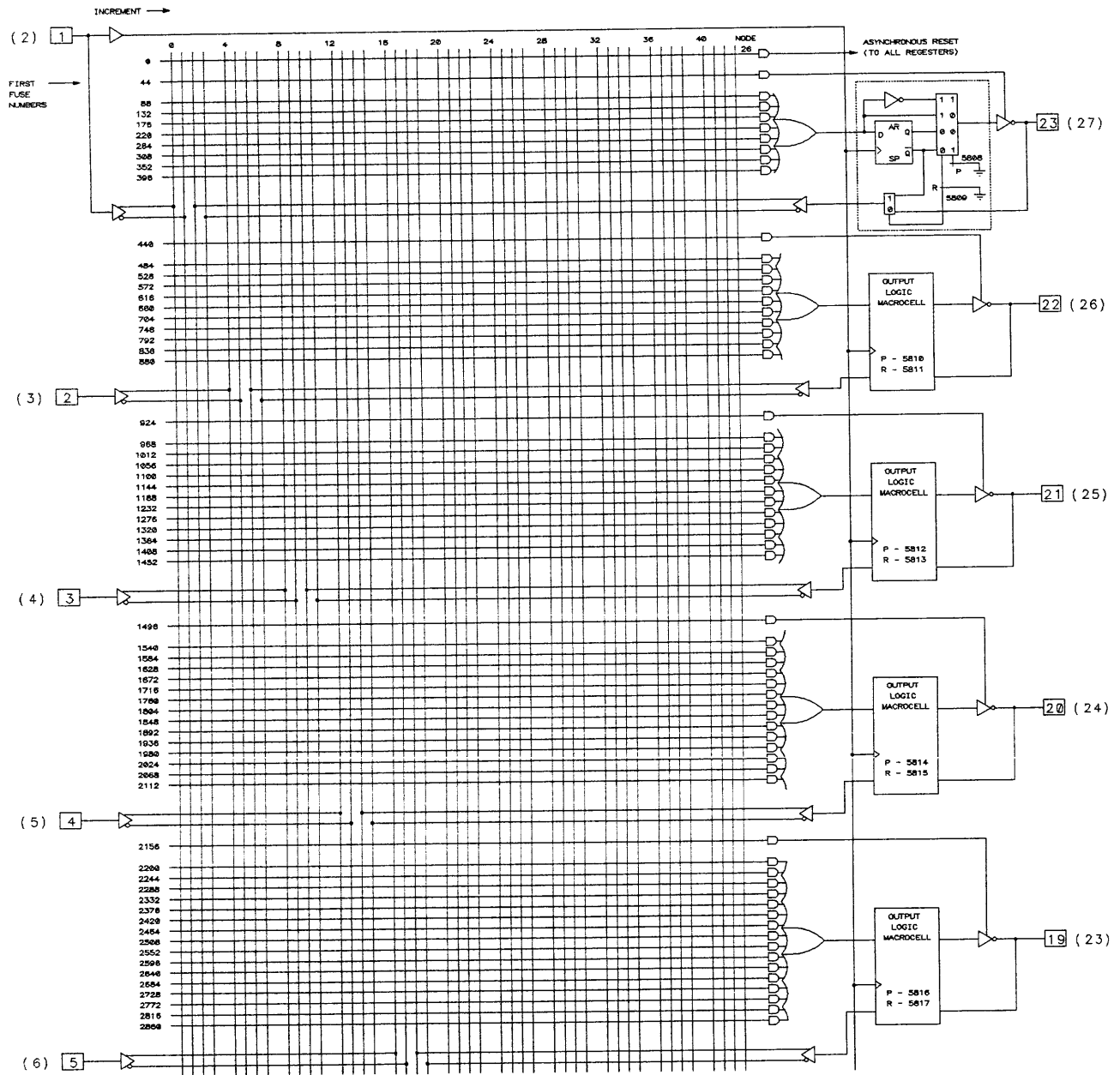


Data I/O Corporation

Corporation
Data I/O

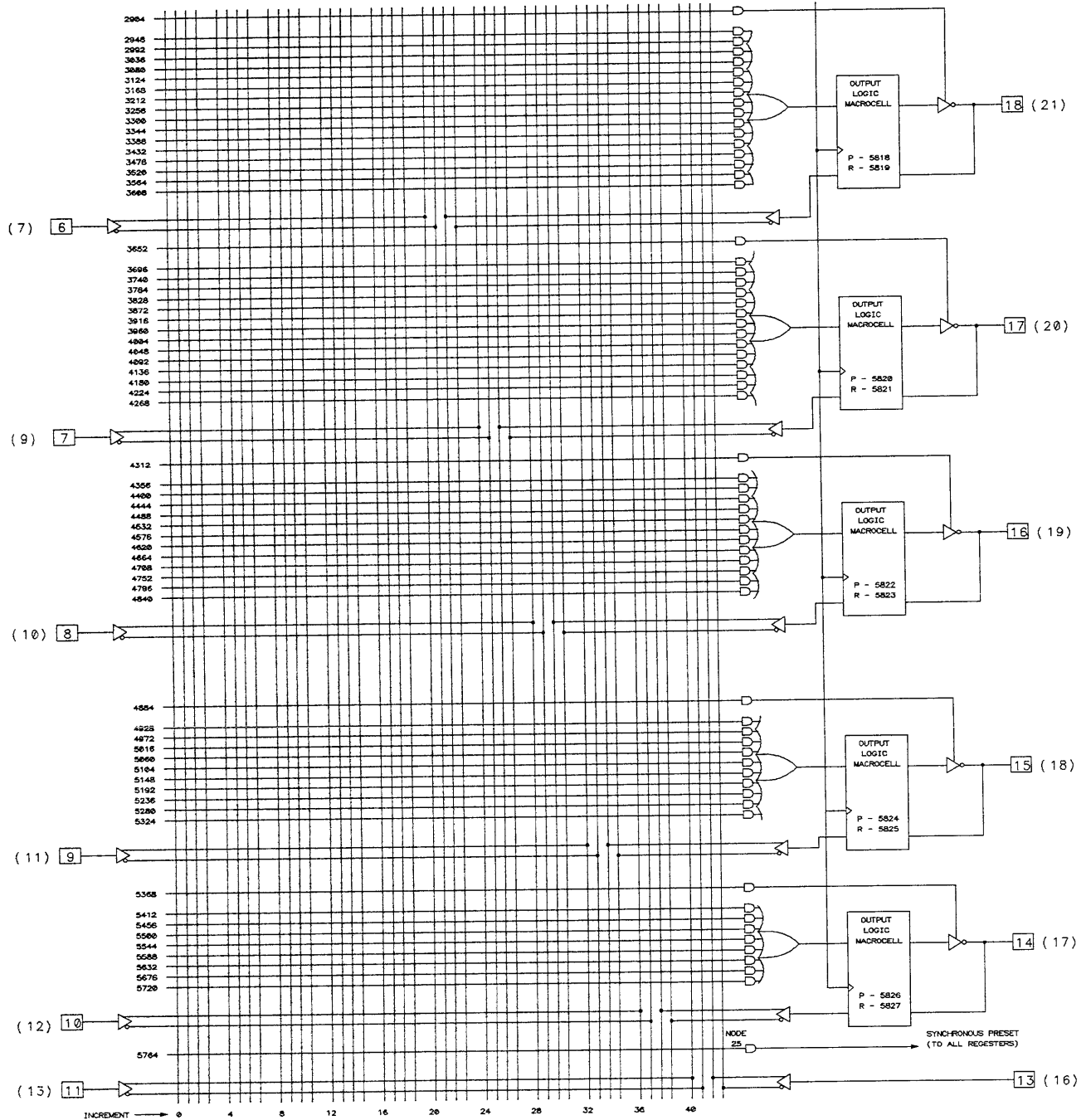


Copyright 1988, Data I/O Corporation



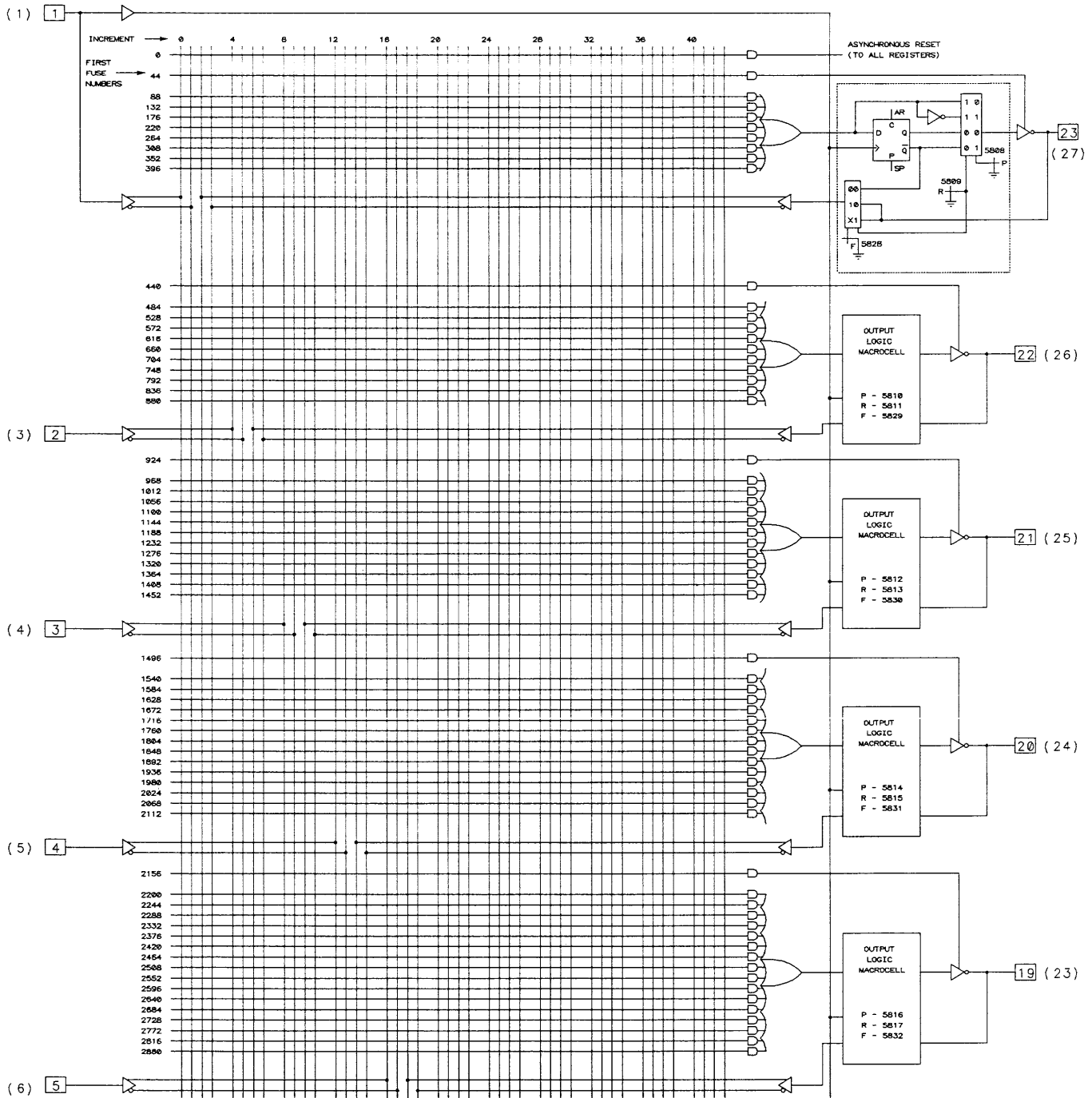
Data I/O Corporation

Data I/O Corporation



NOTES:
 1. INSIDE EACH MACROCELL, THE "P" FUSE NUMBER IS THE POLARITY FUSE, AND THE "R" FUSE IS THE REGISTER FUSE.
 2. FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

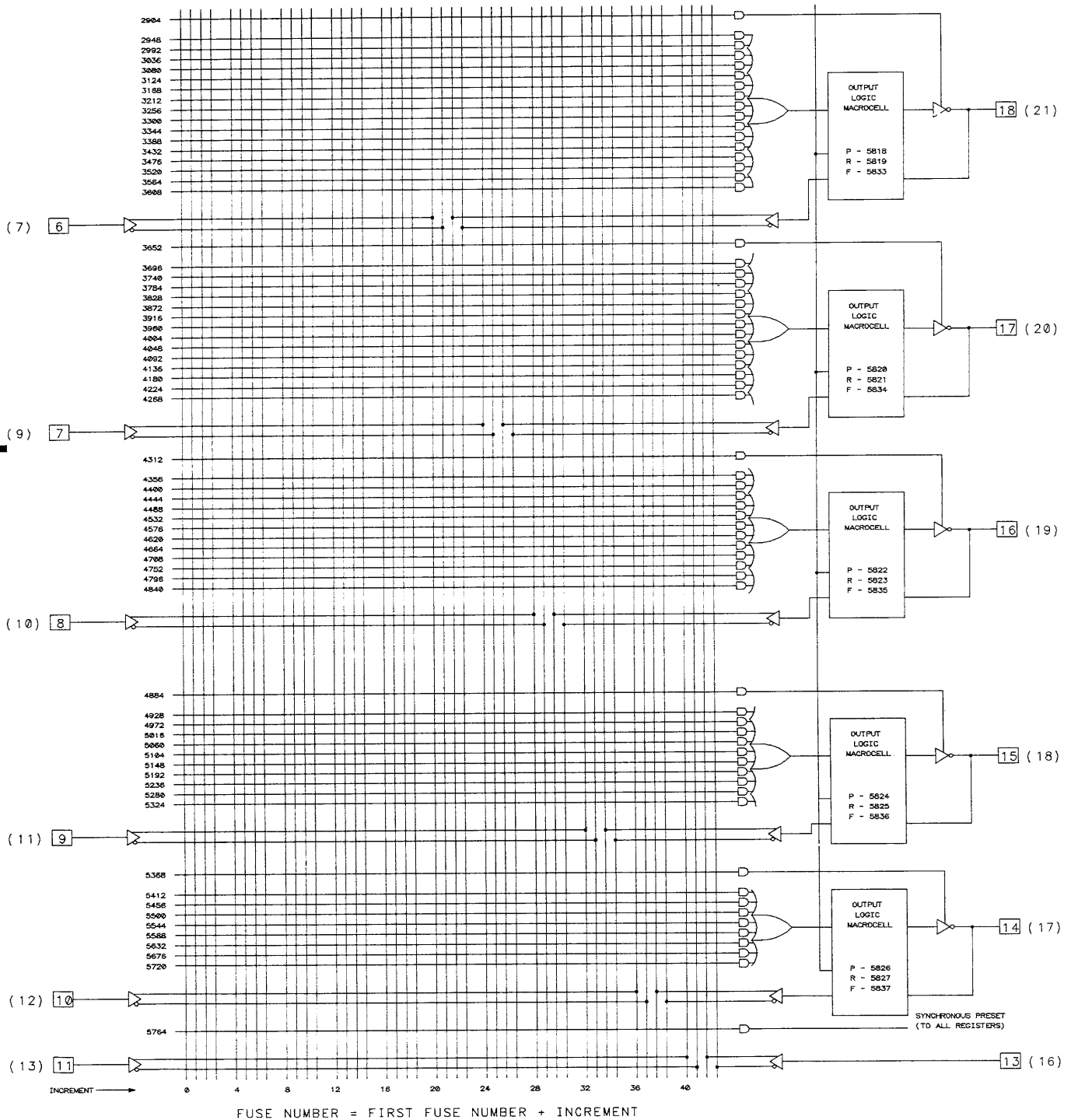
(16) = PIN NOS. FOR PLCC "NL" PACKAGE



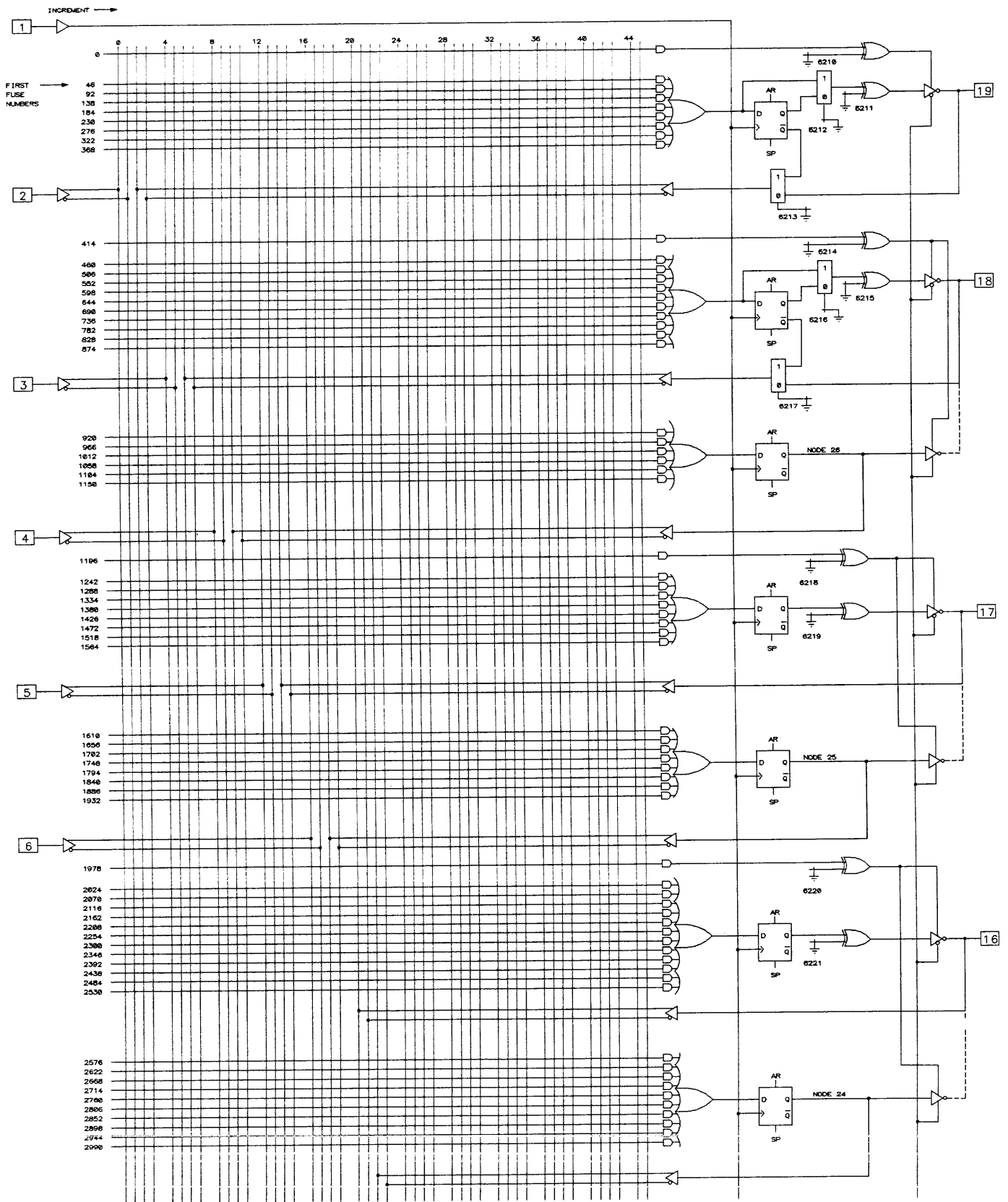
Data I/O Corporation

Corporation

Data I/O

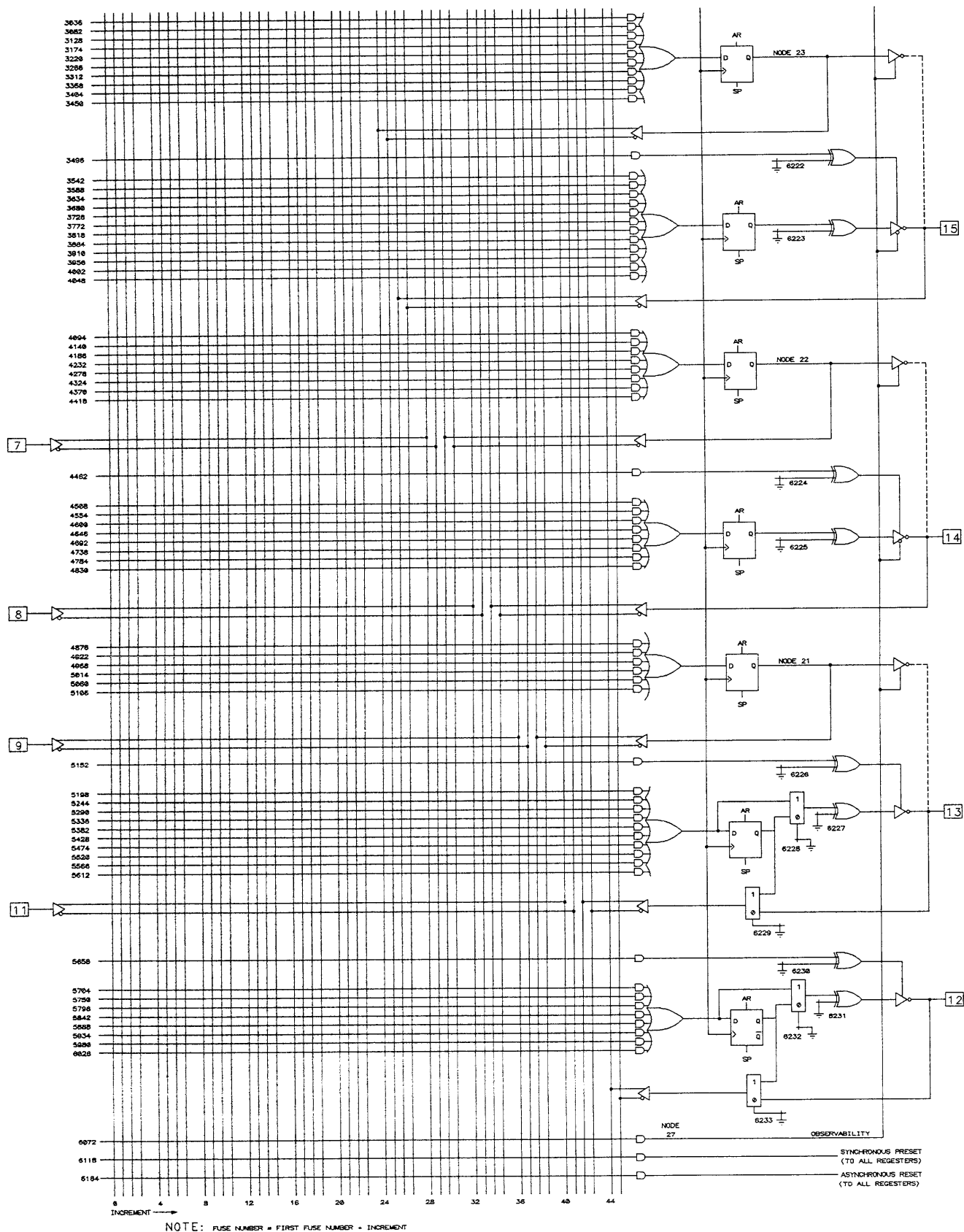


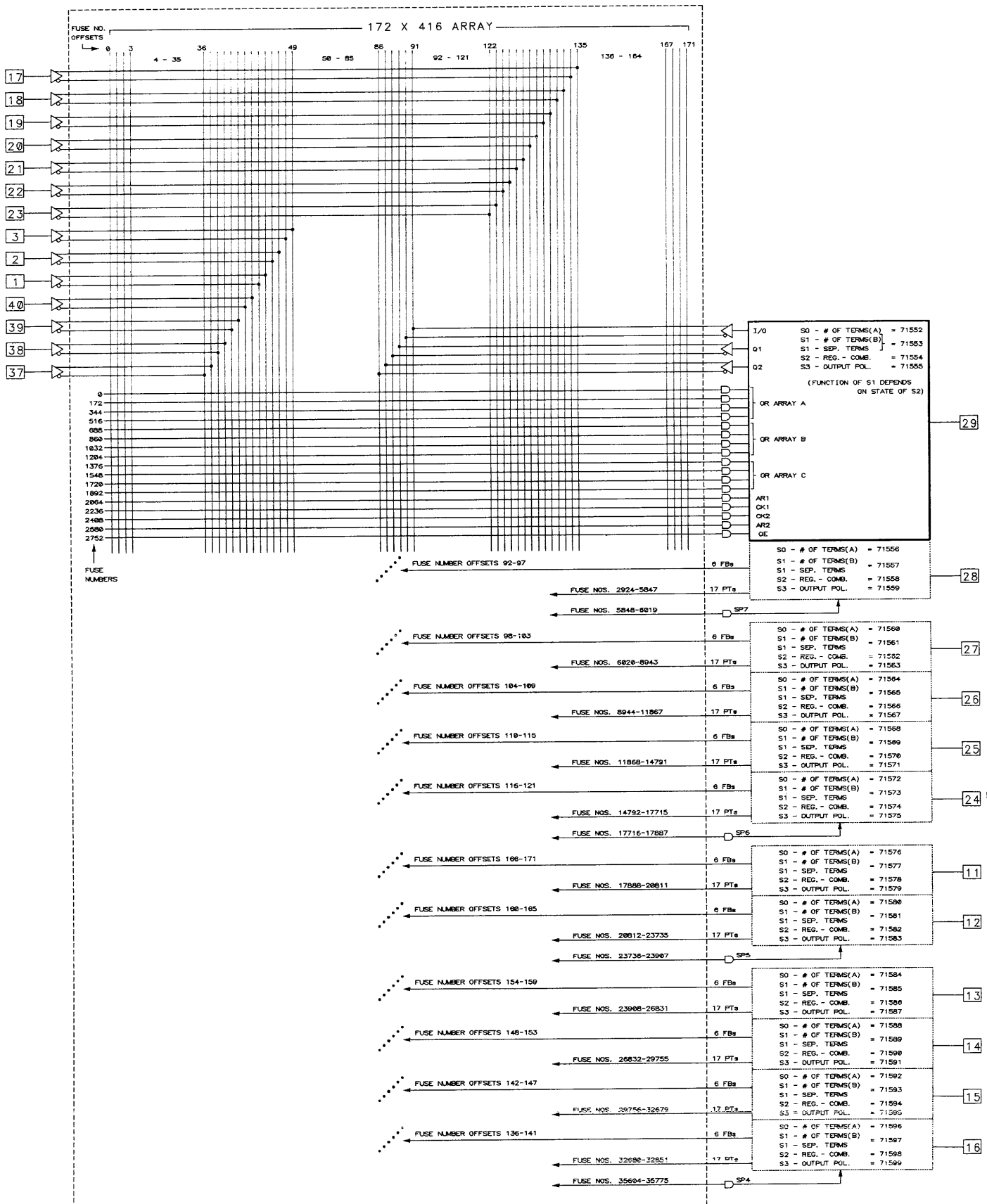
(16) = PIN NOS. FOR PLCC "NL" PACKAGE



Data I/O Corporation

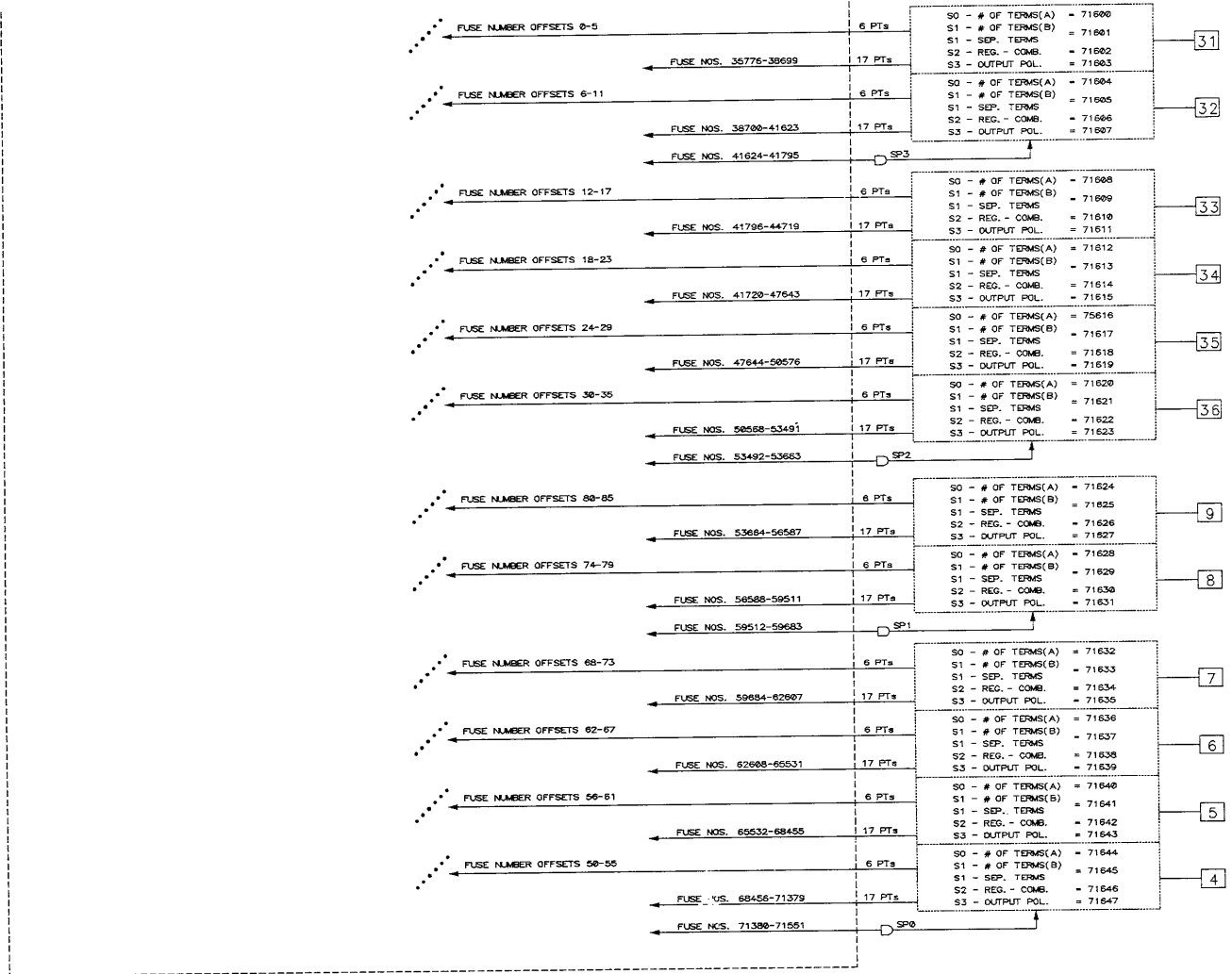
Data I/O Corporation

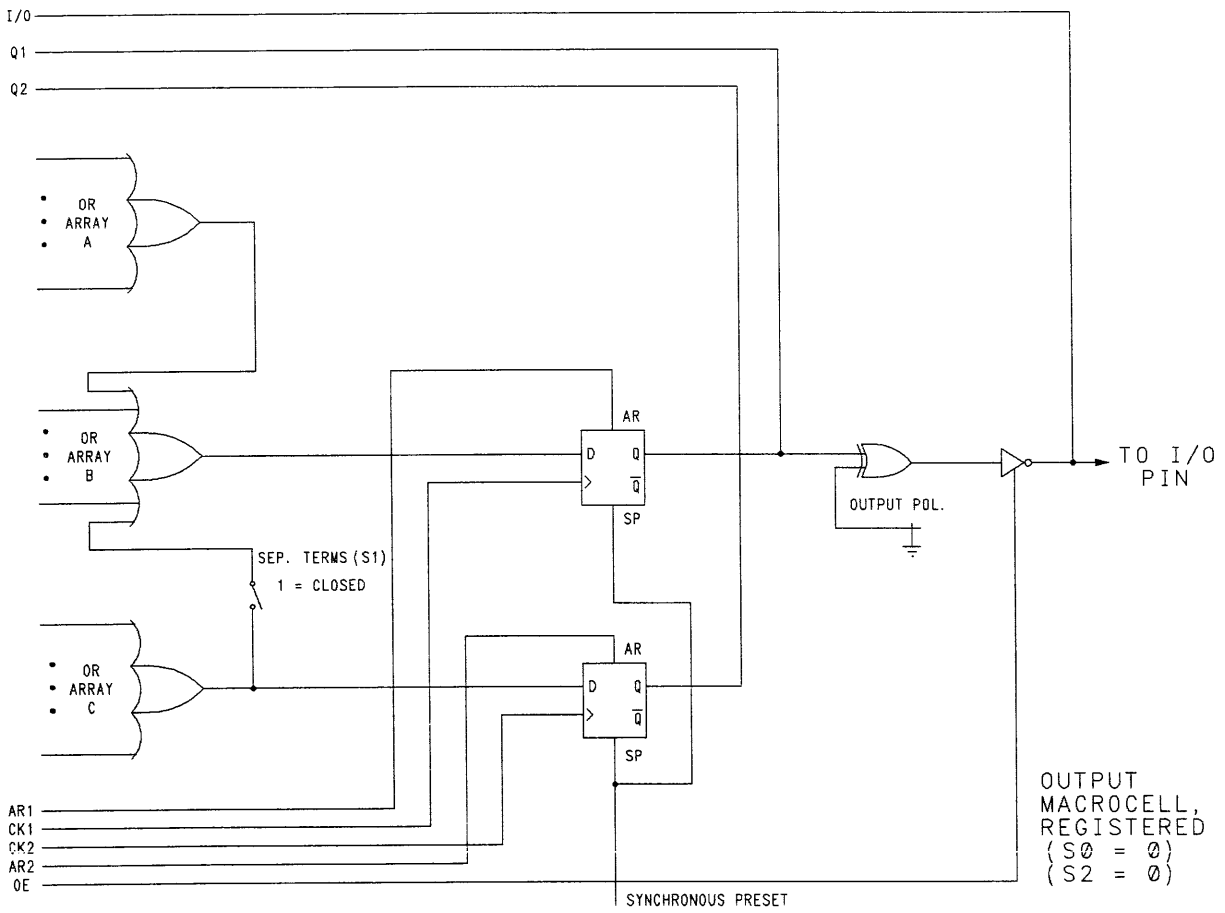




Data I/O Corporation

Data I/O Corporation



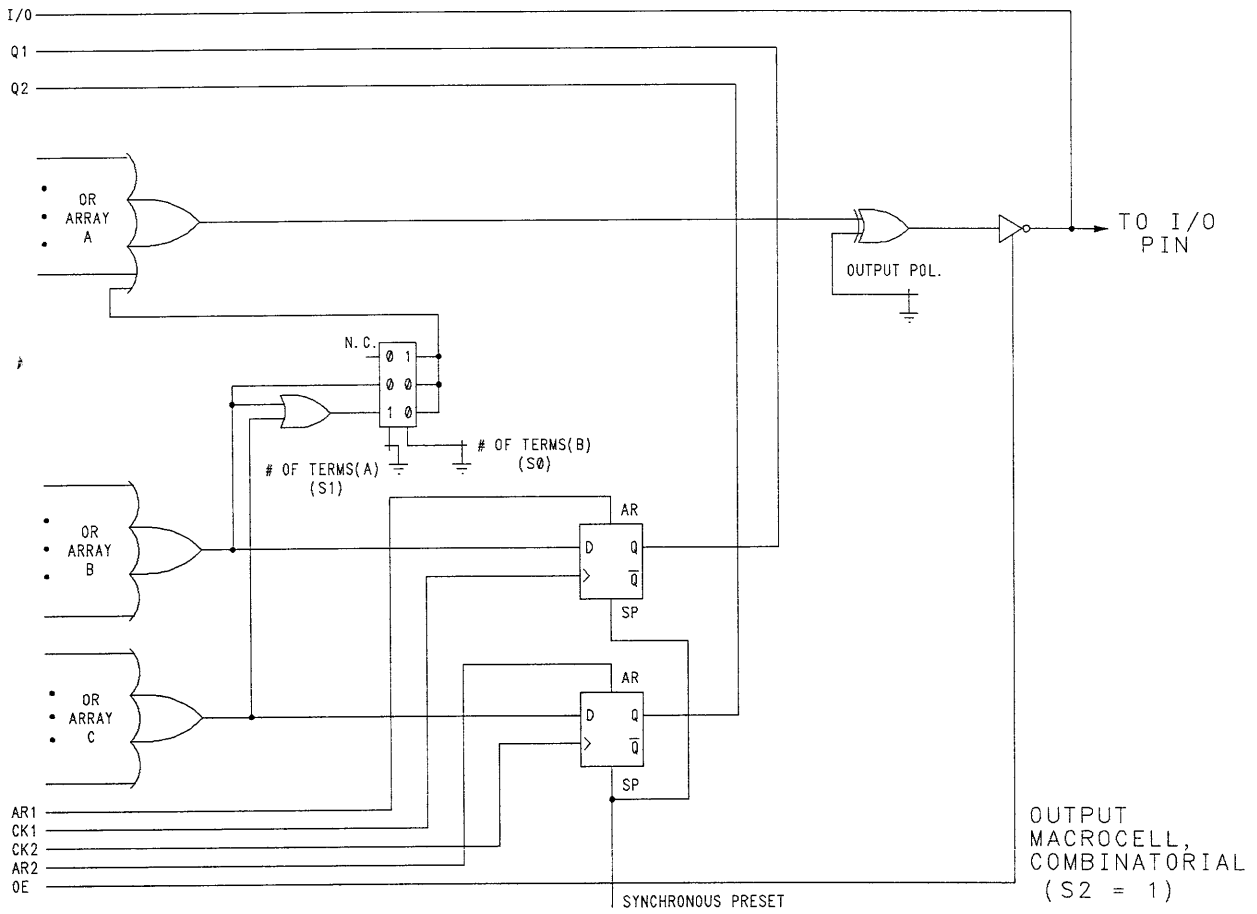


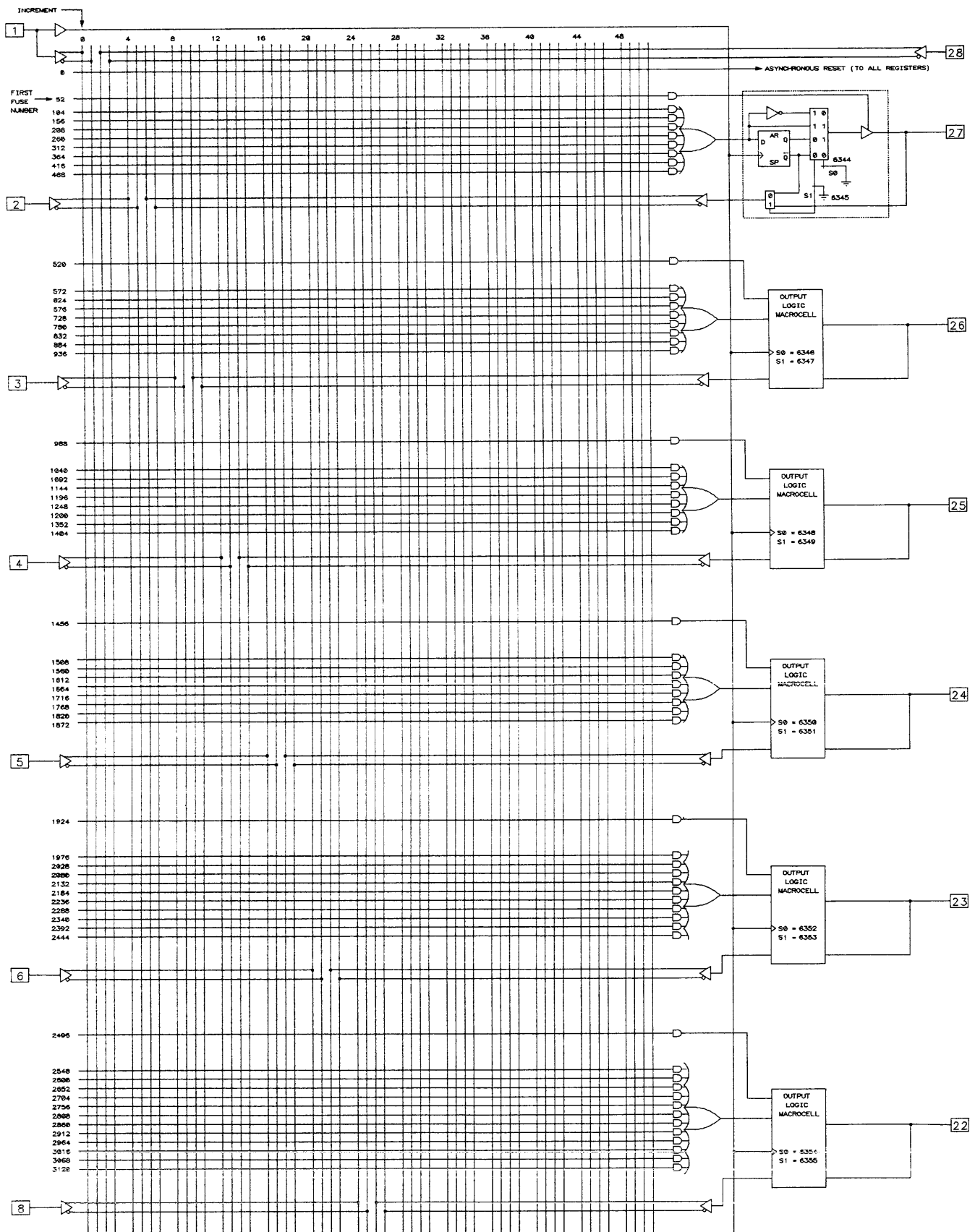
Data I/O

Corporation

Corporation

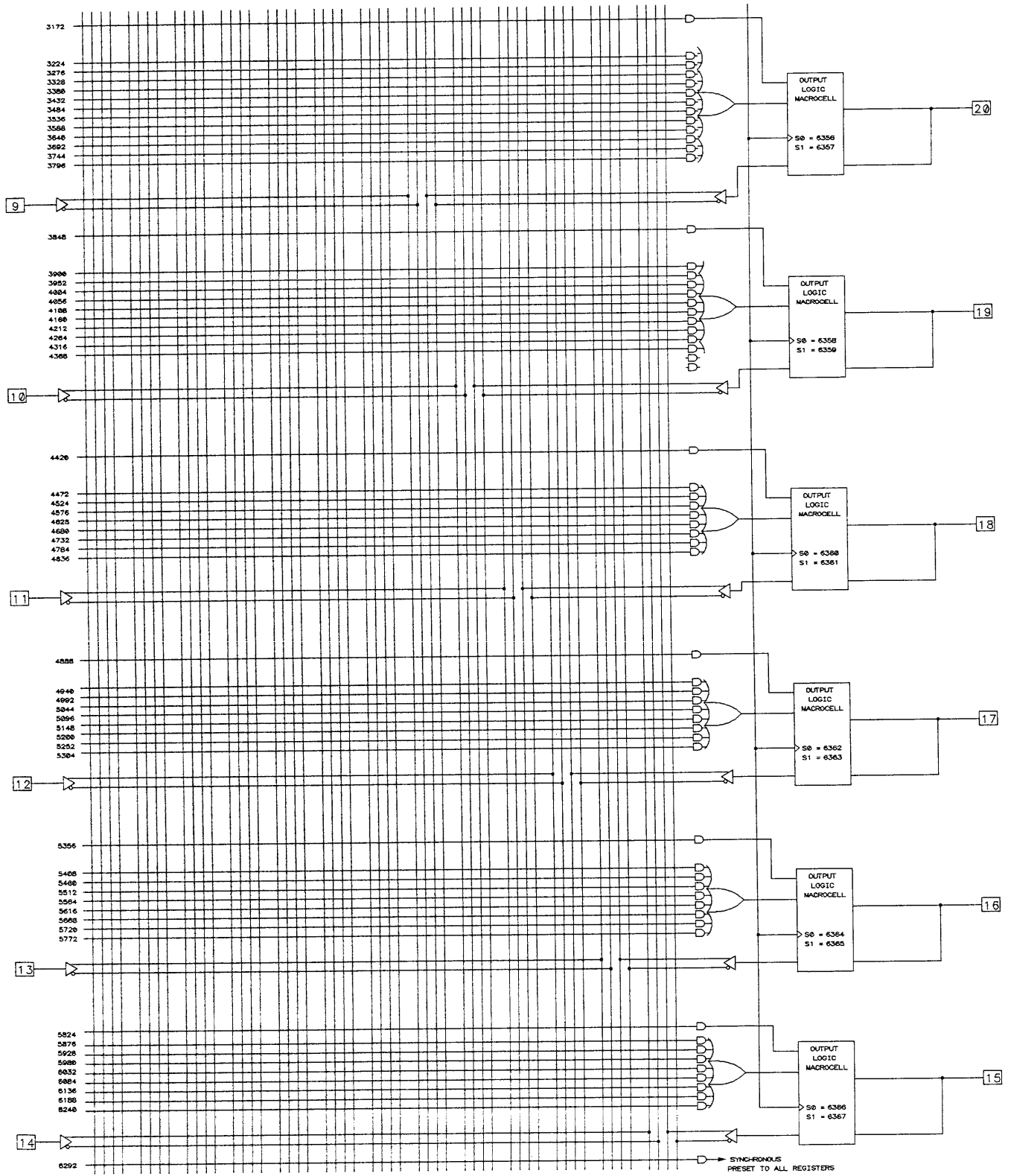
Data I/O

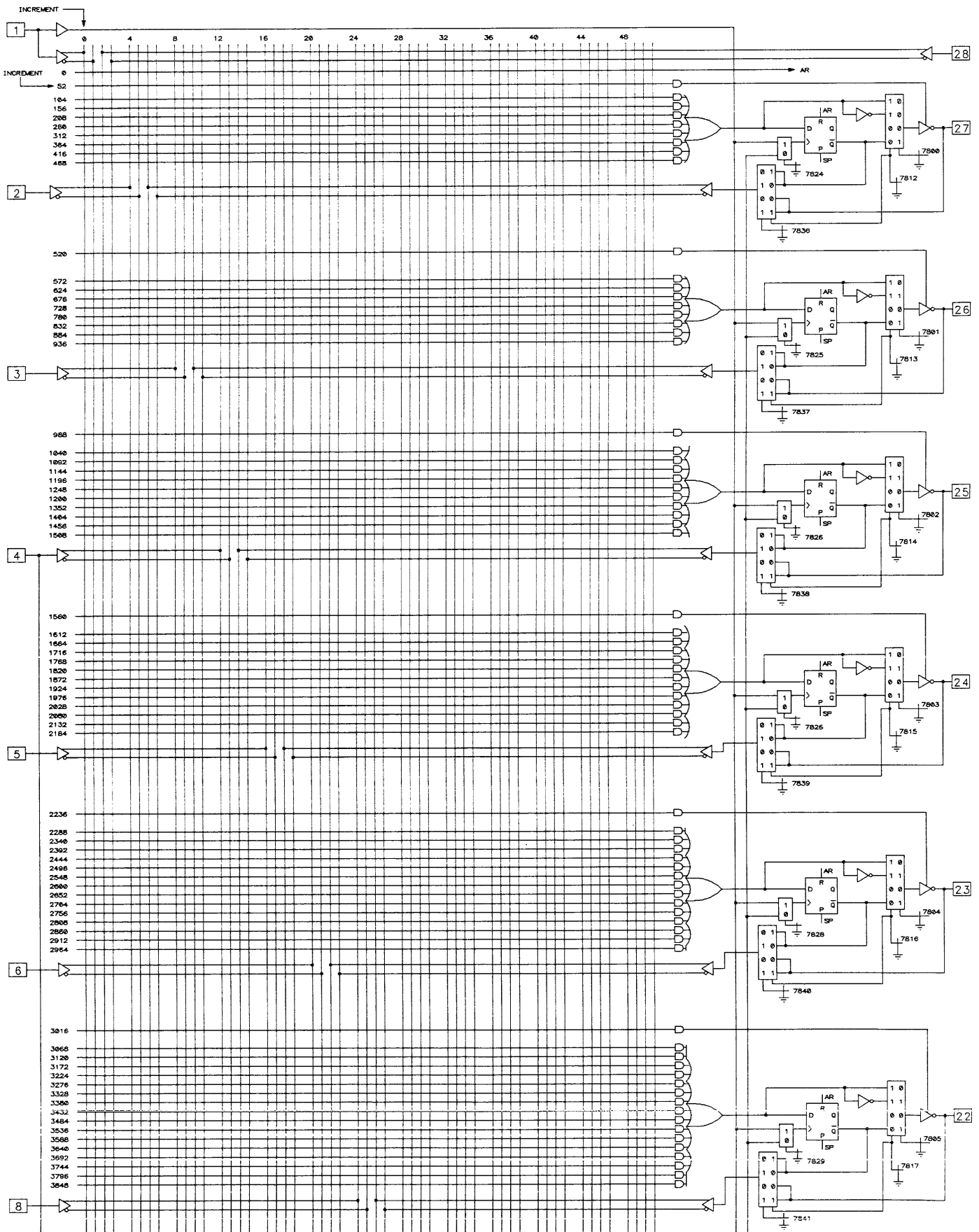




Data I/O Corporation

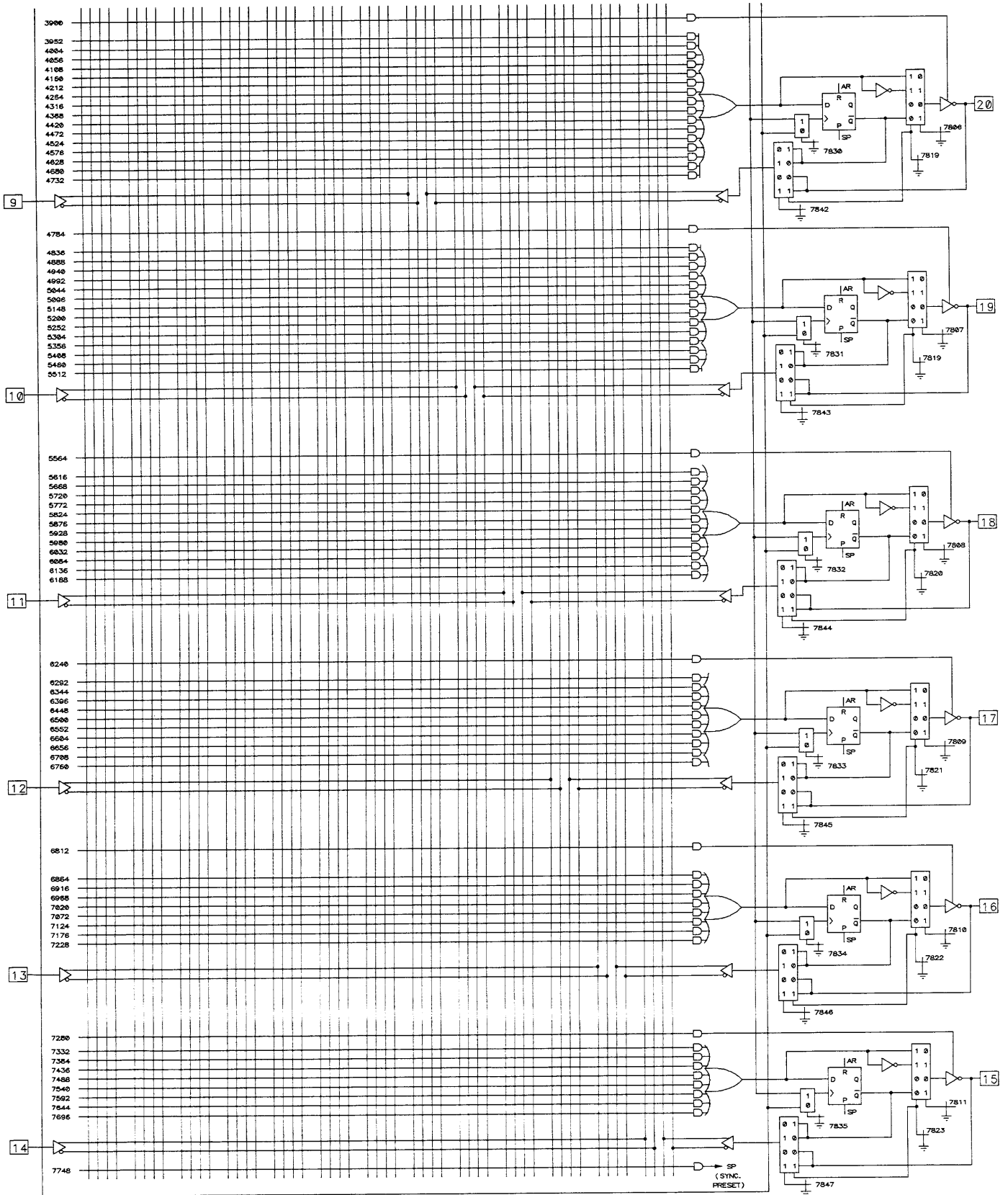
Corporation
Data I/O

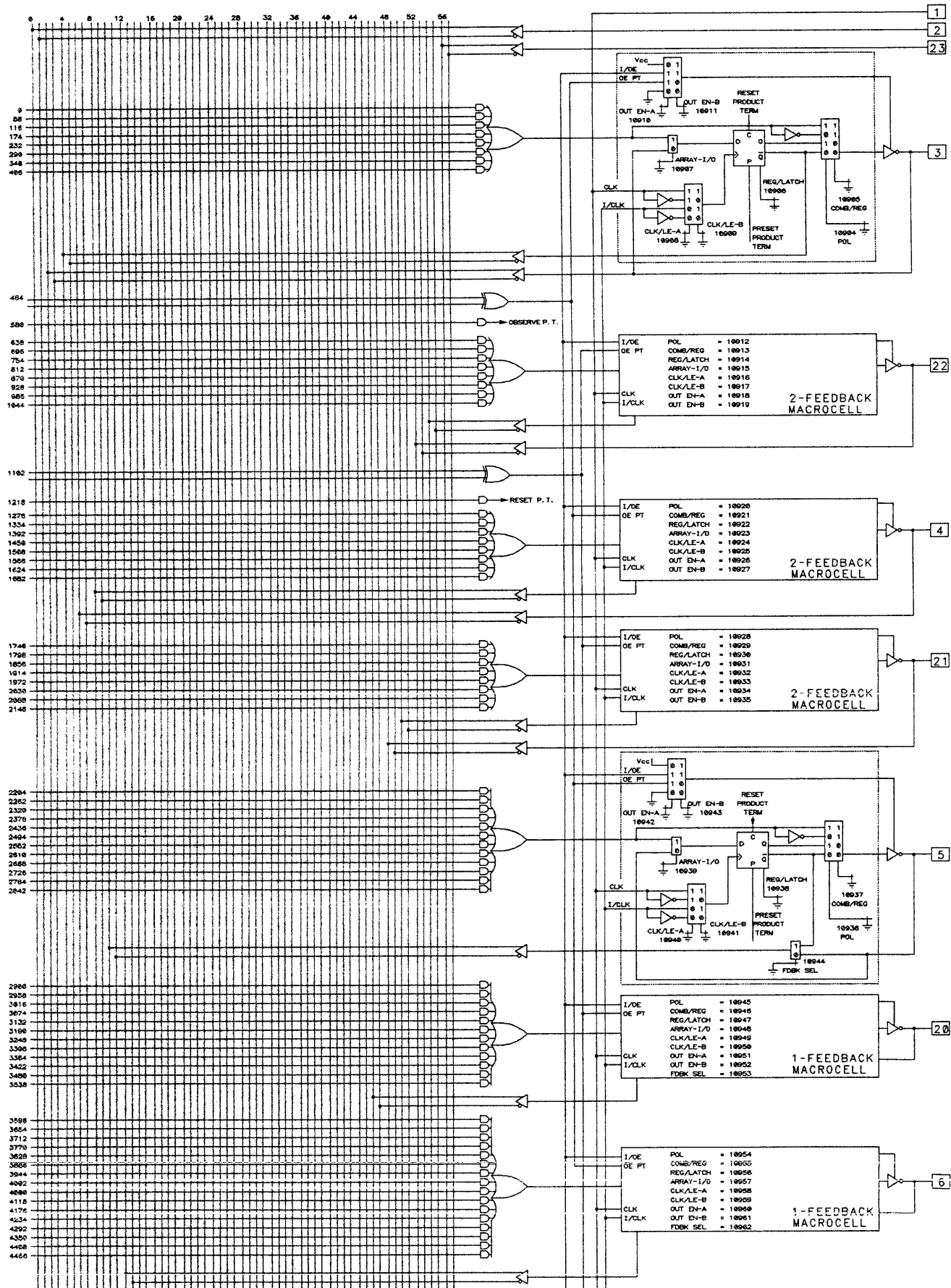




Data I/O Corporation

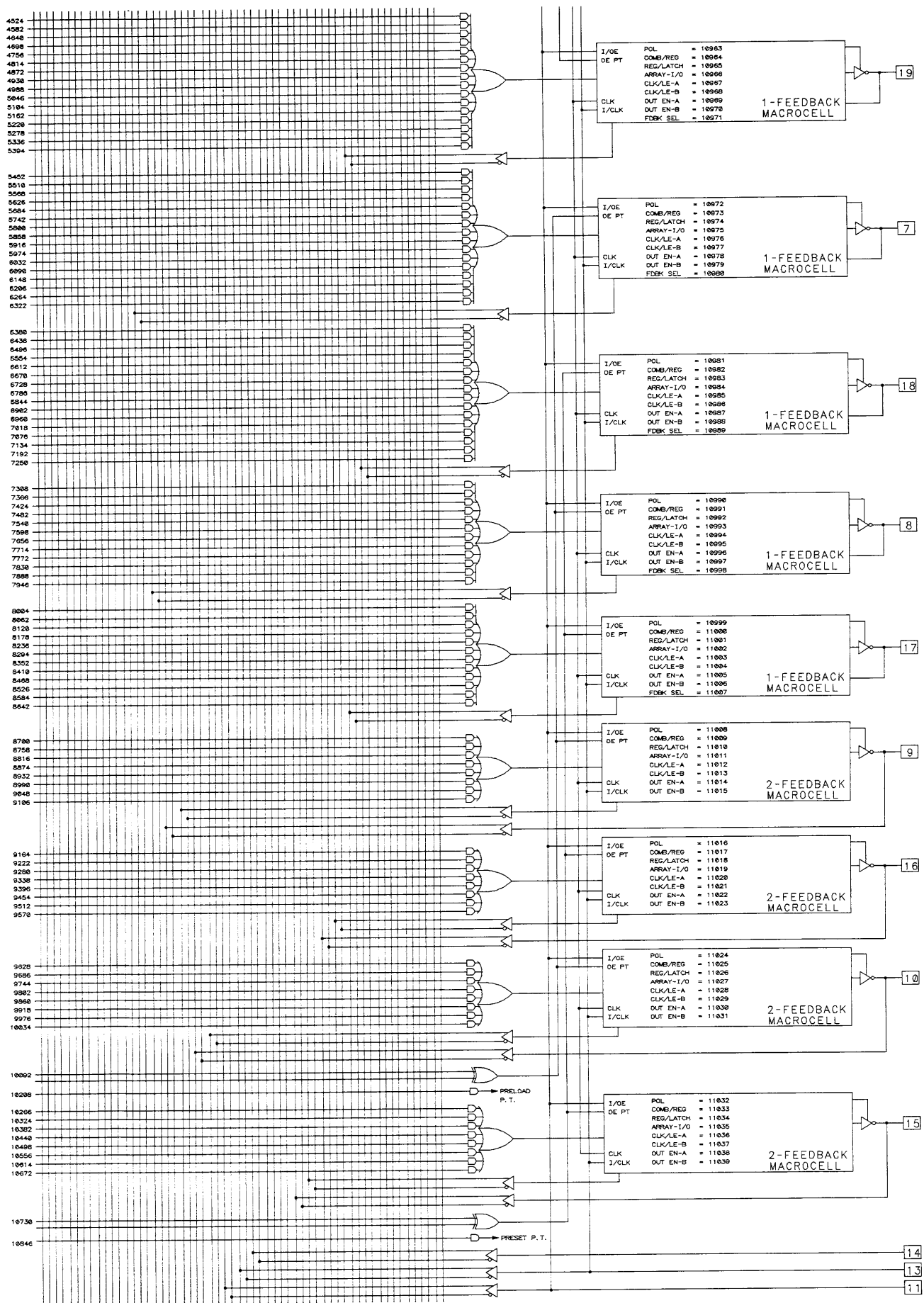
Data I/O Corporation

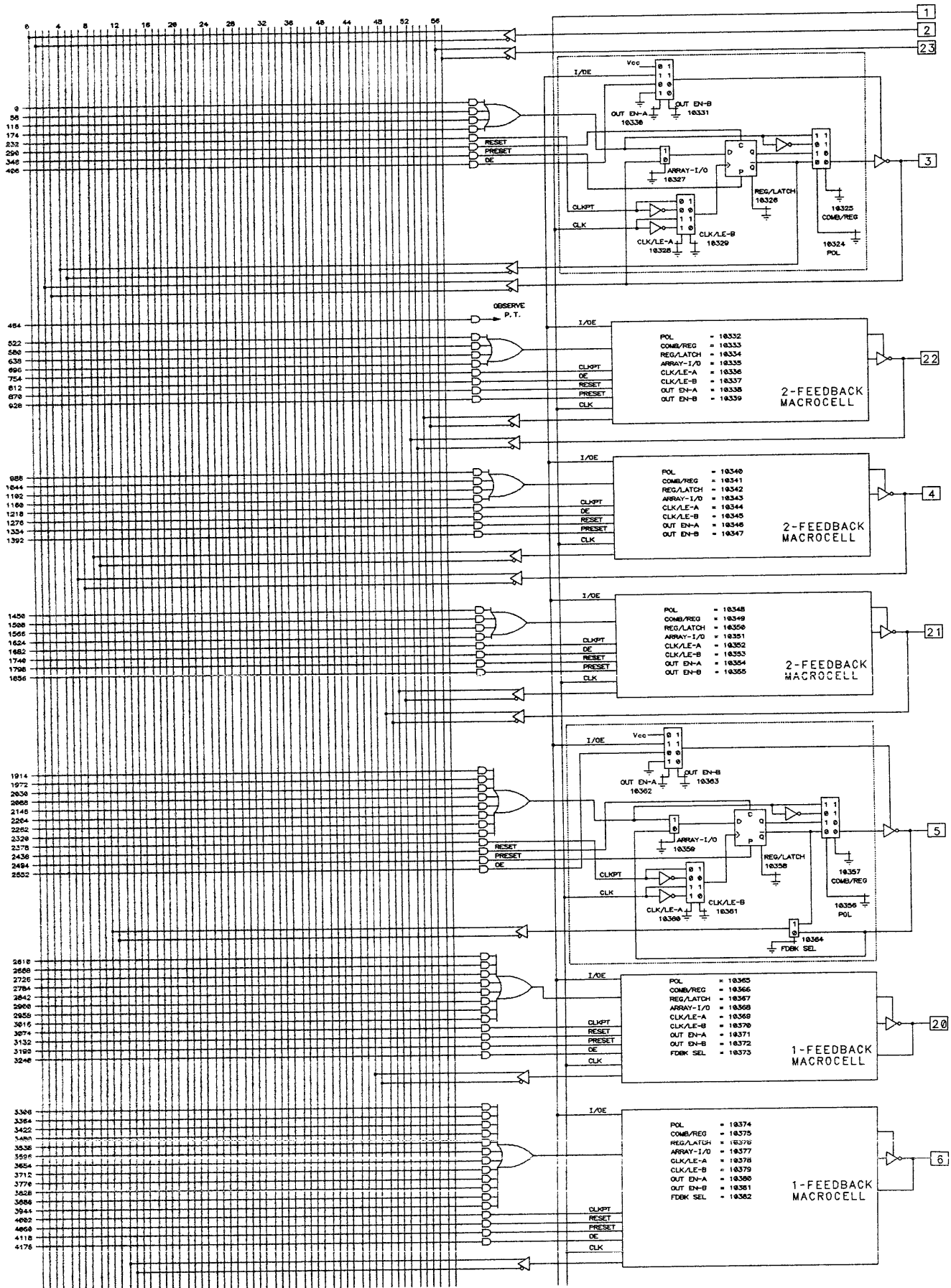




Data I/O Corporation

Data I/O Corporation

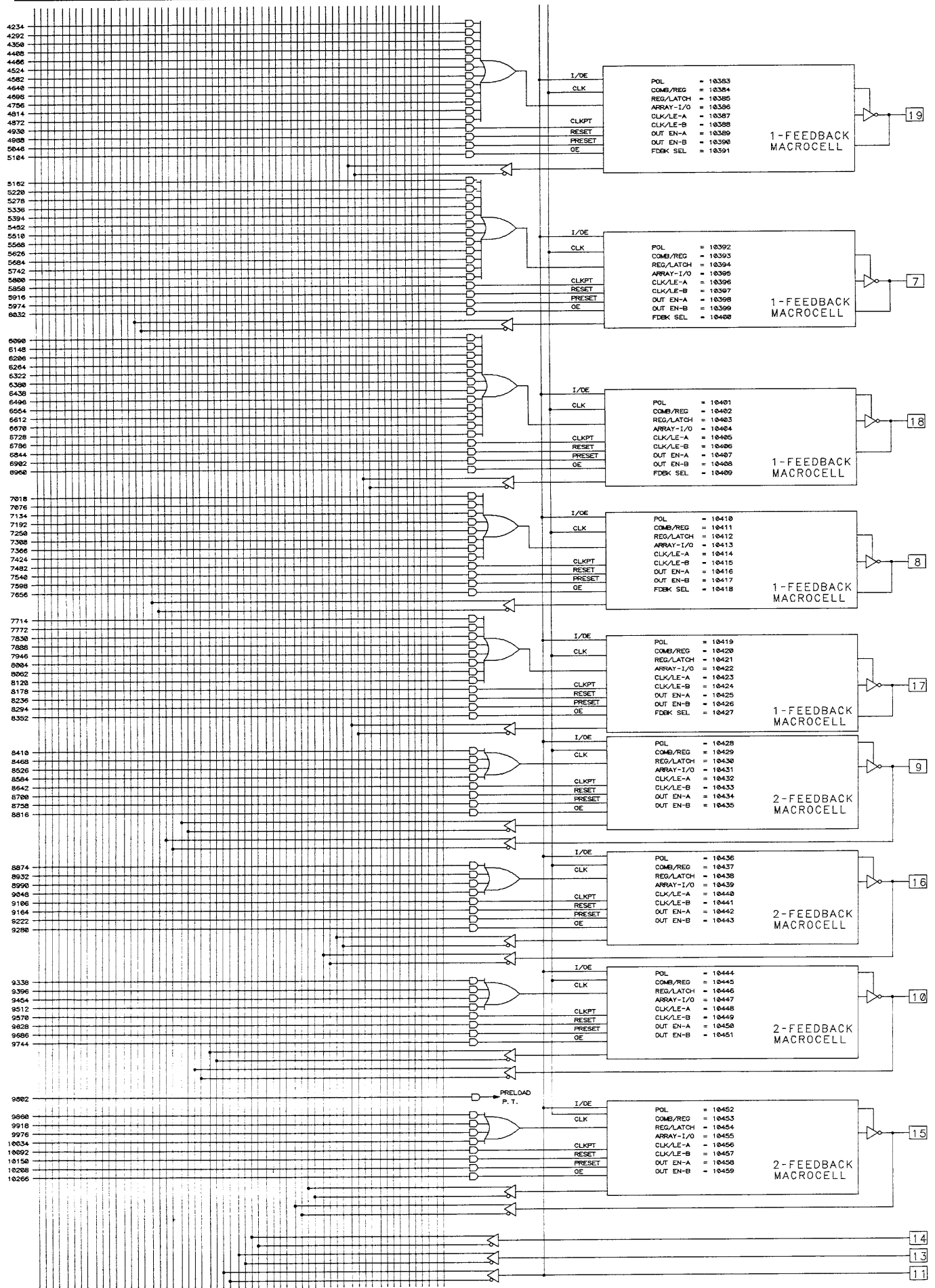


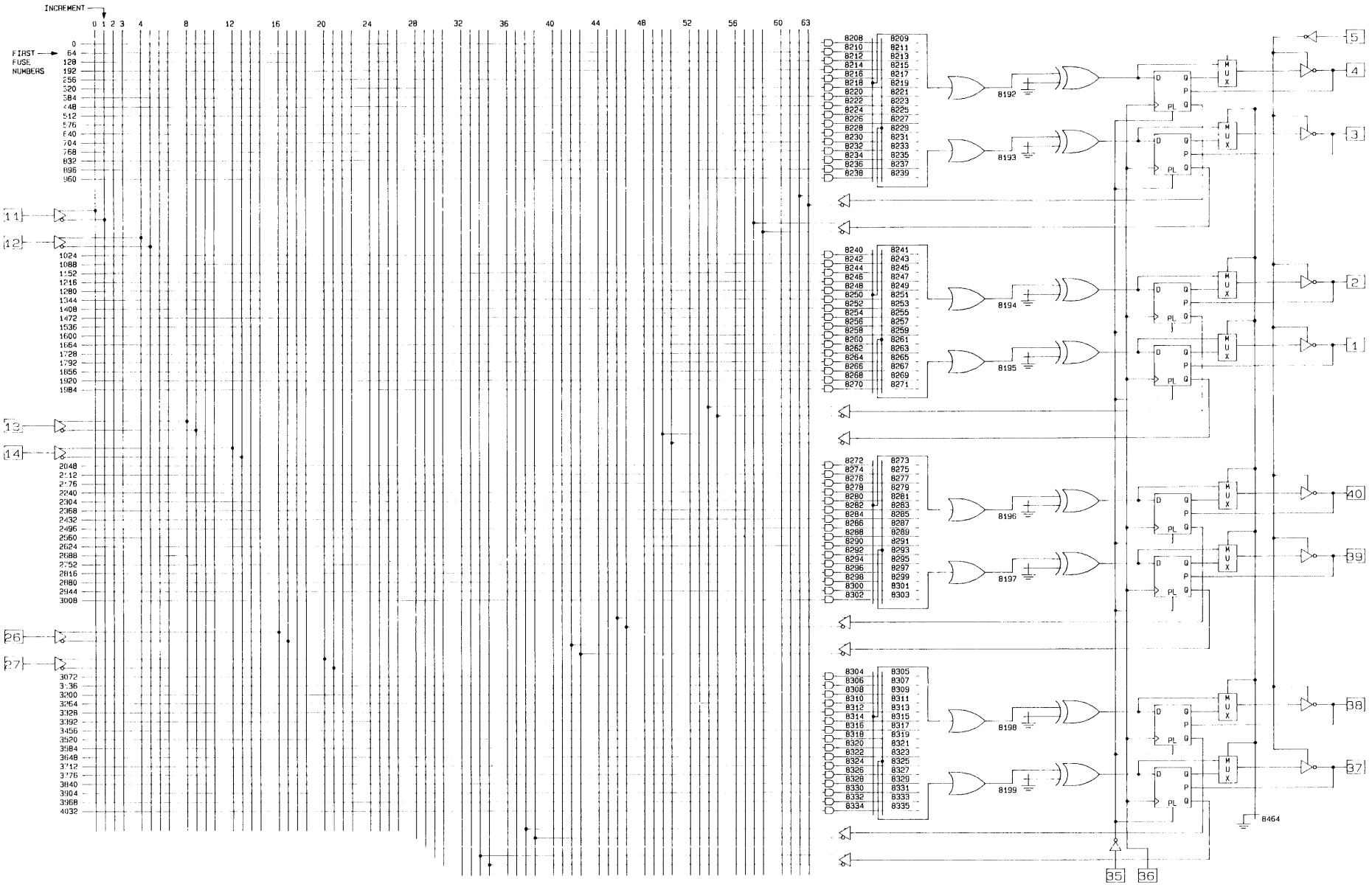


Data I/O

Corporation

Data I/O Corporation

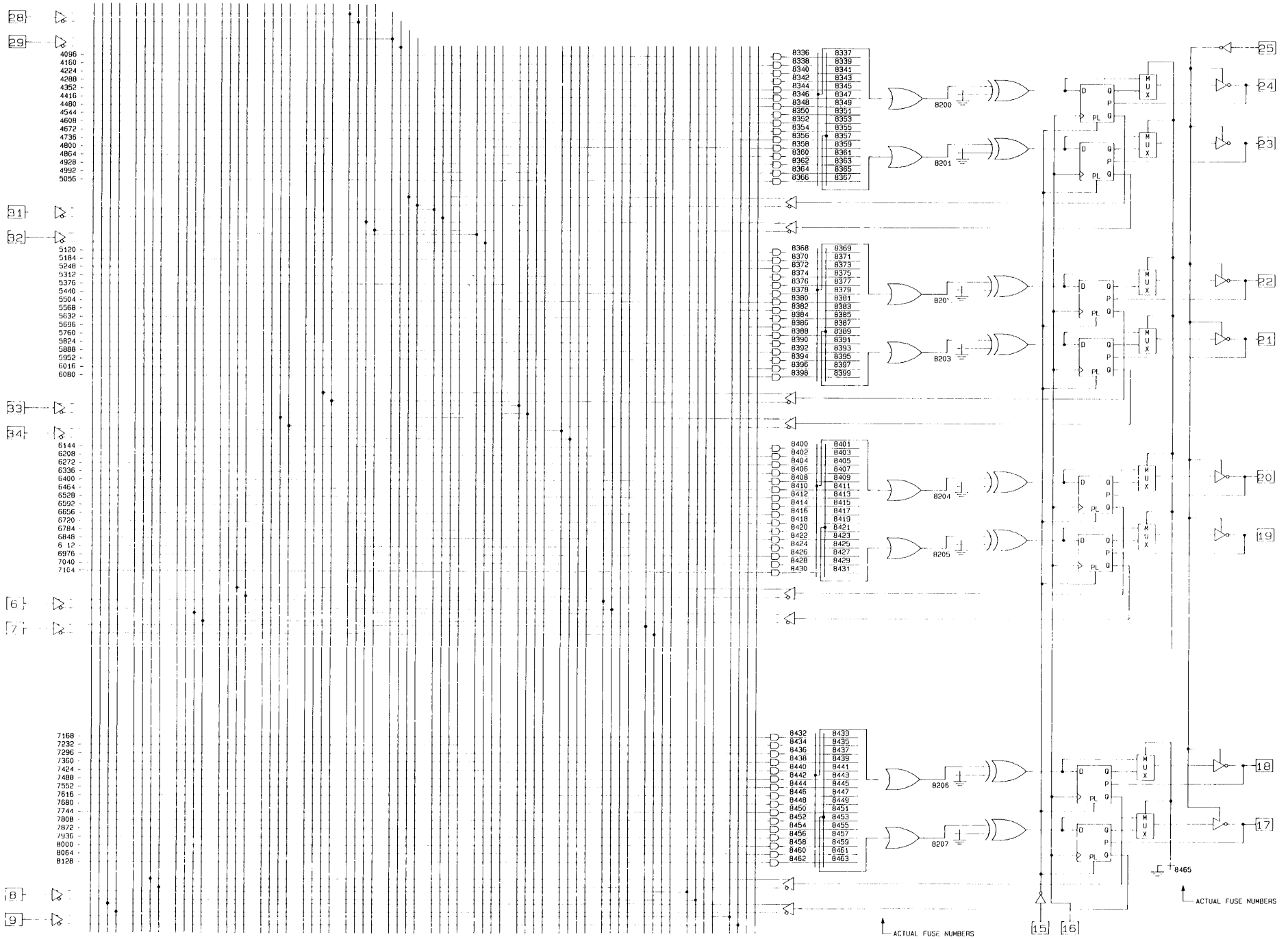




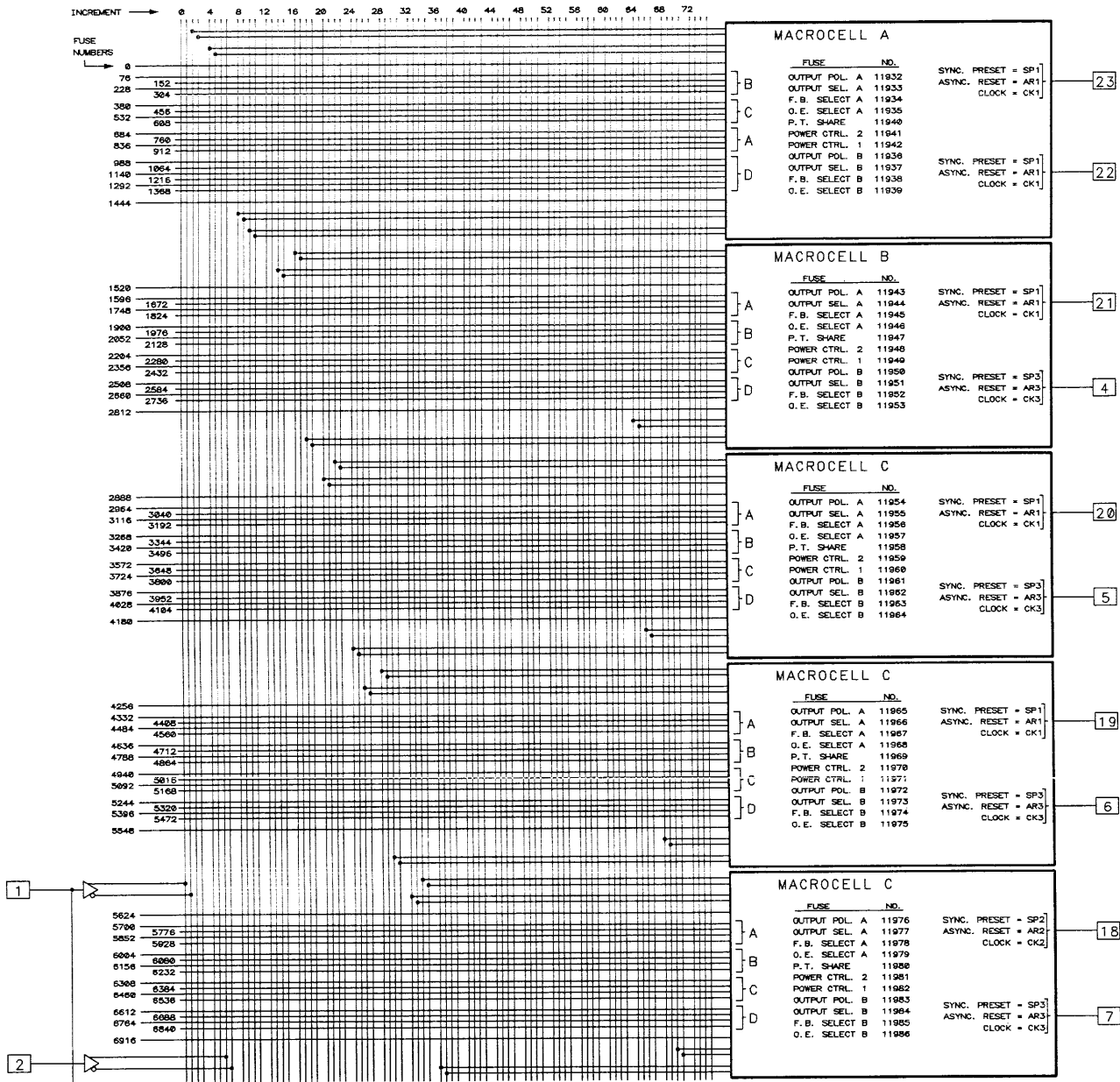
Data I/O

Corporation

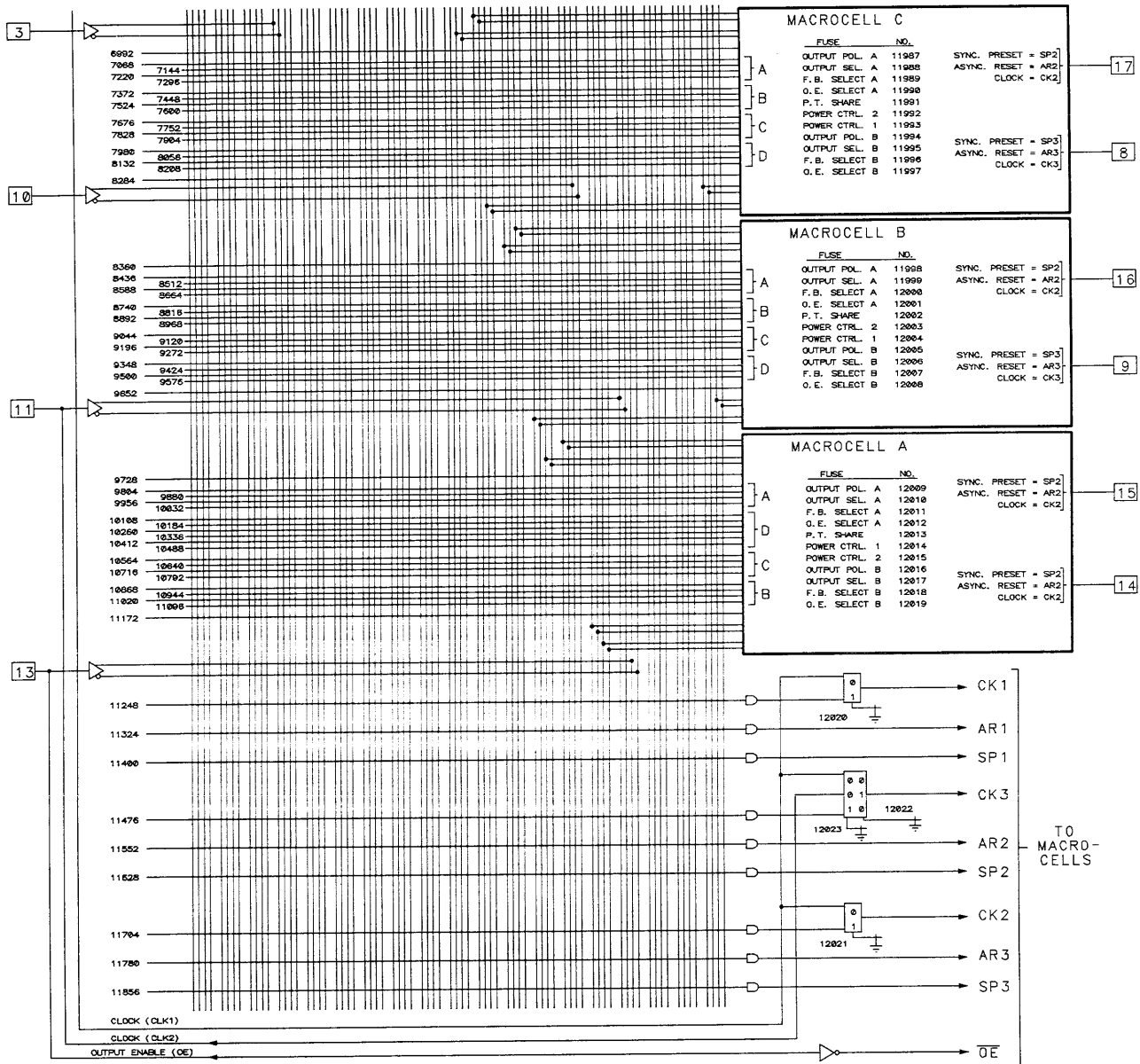
Data I/O Corporation

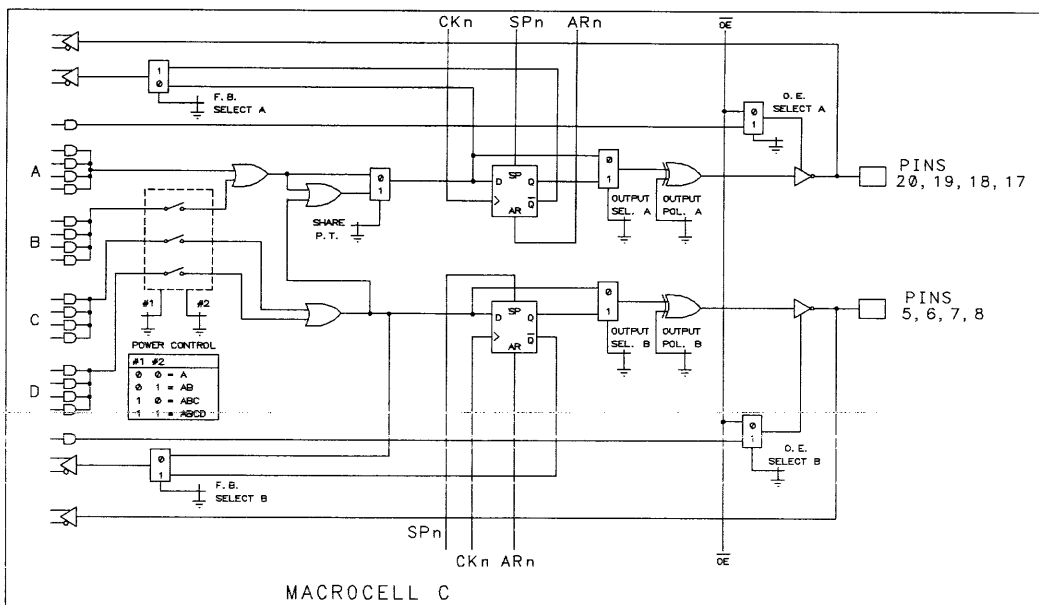
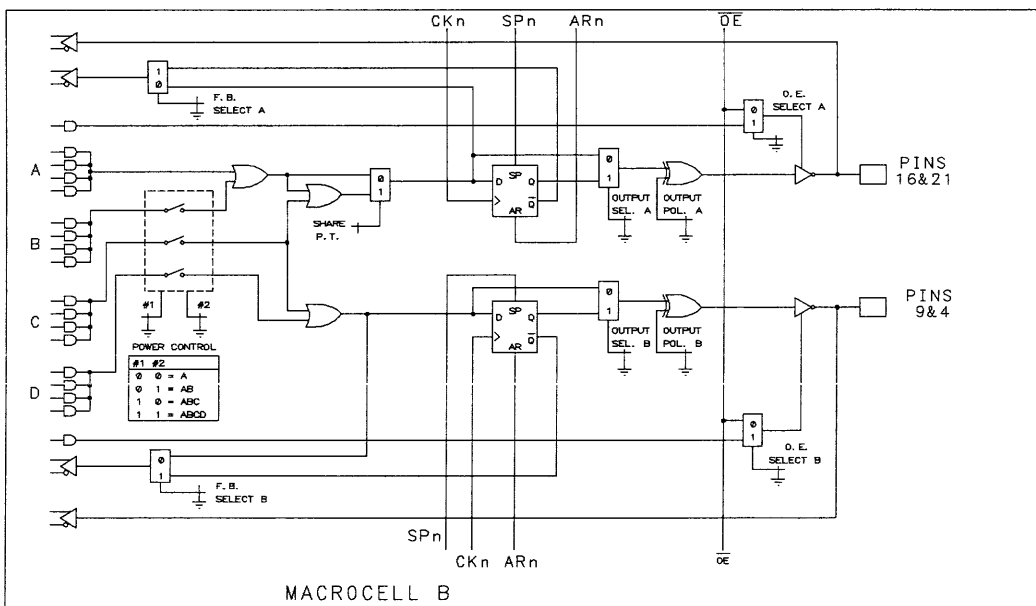
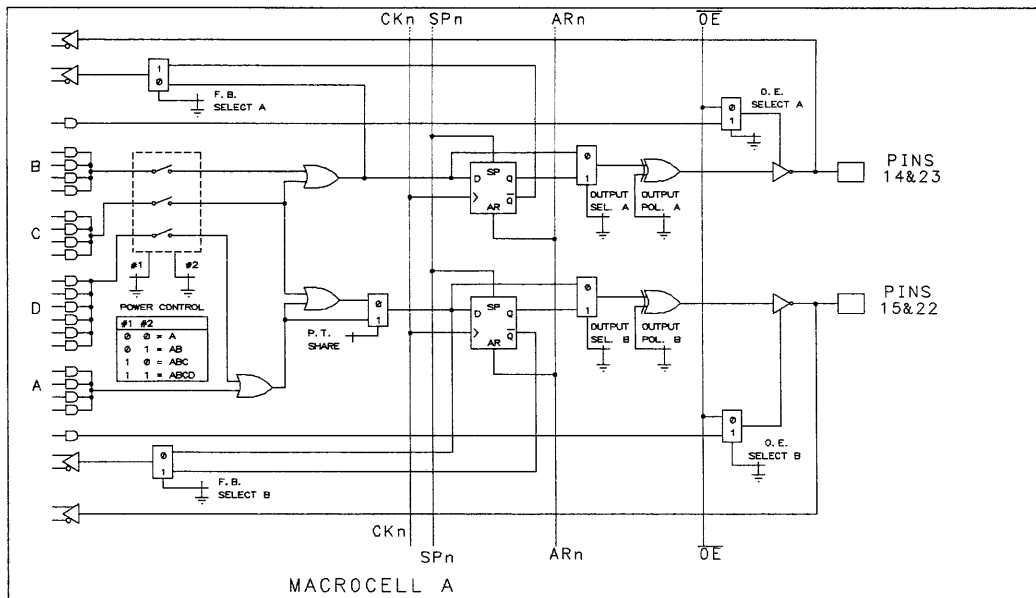


NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

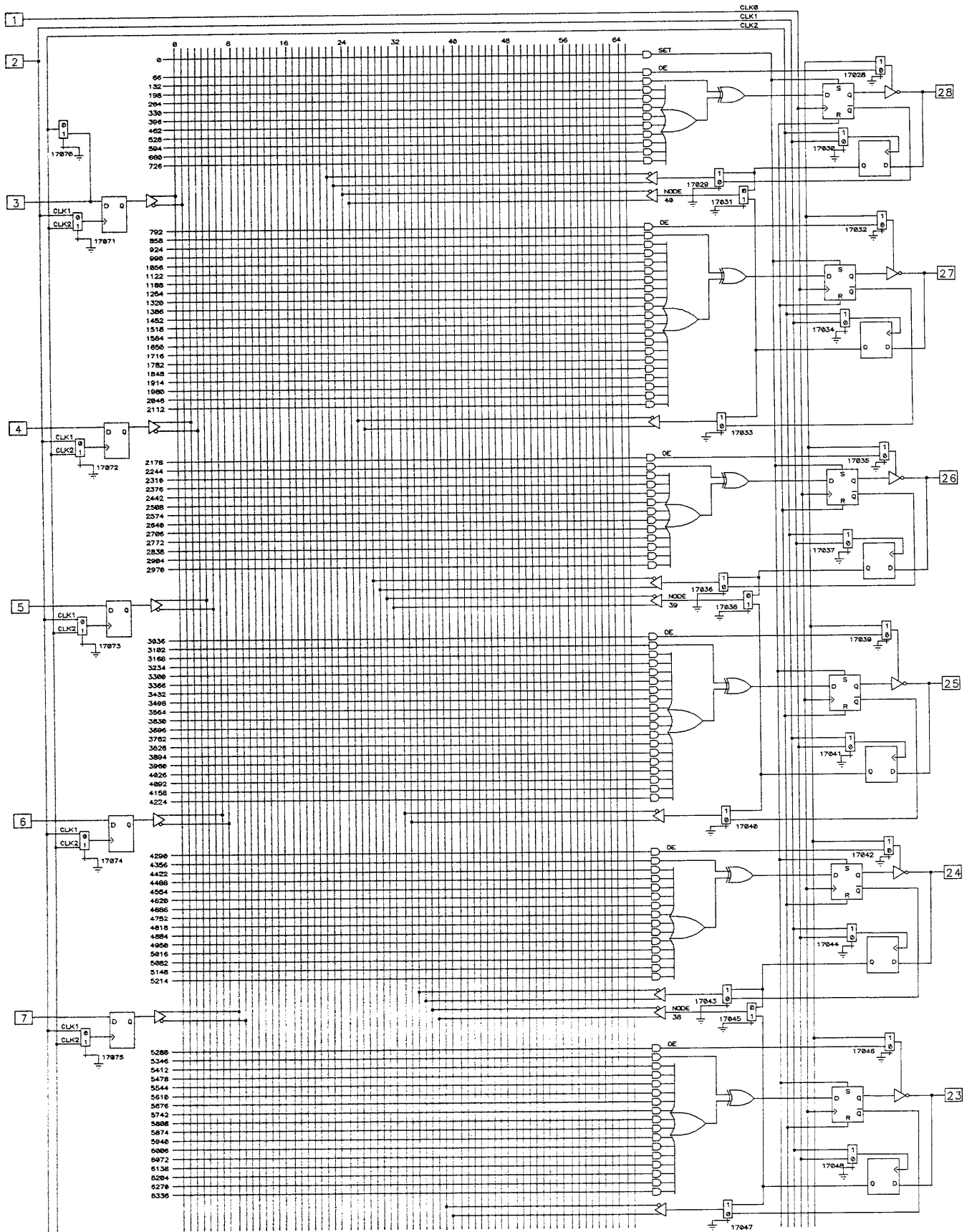


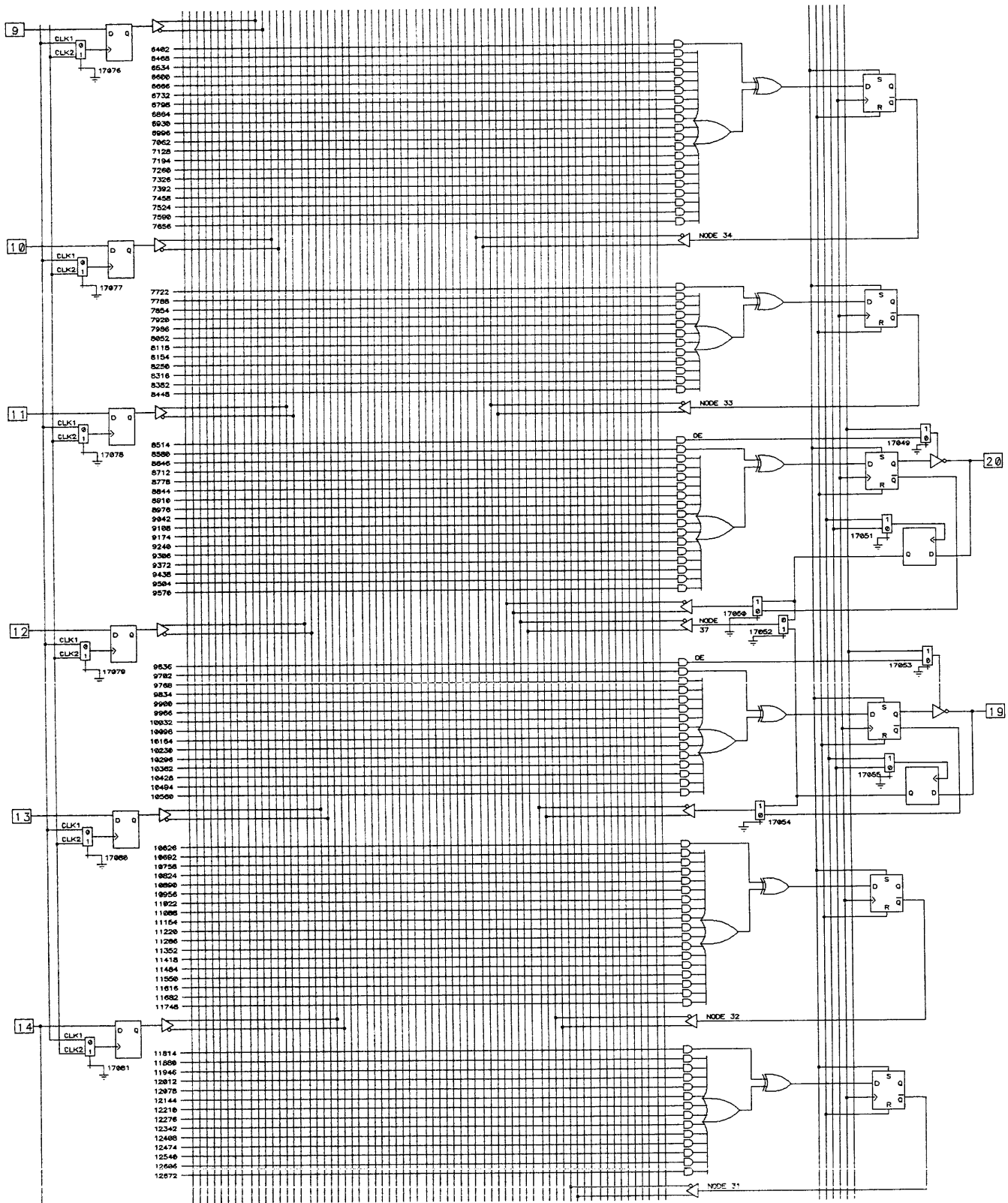
Data I/O Corporation





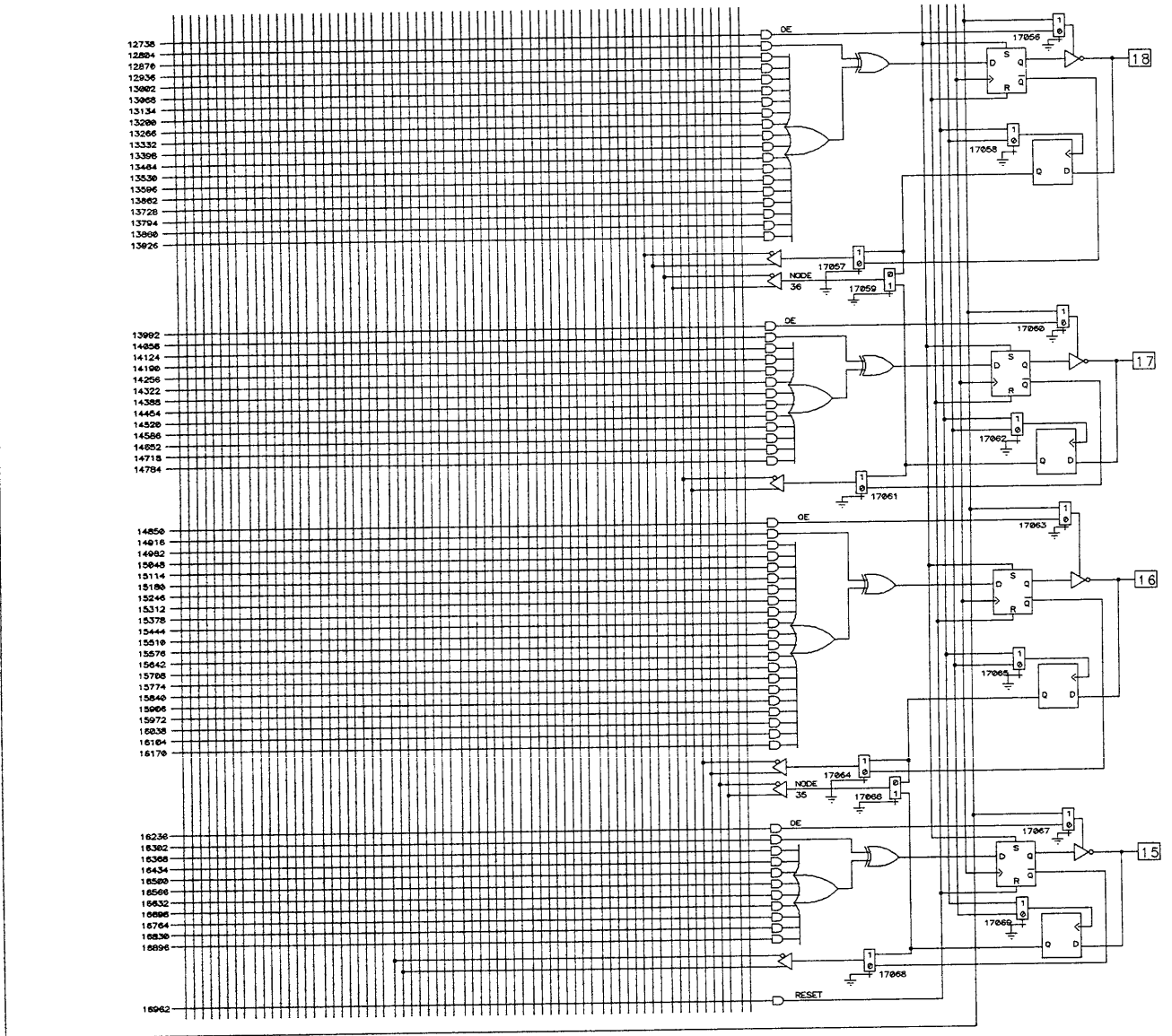
Data I/O Corporation

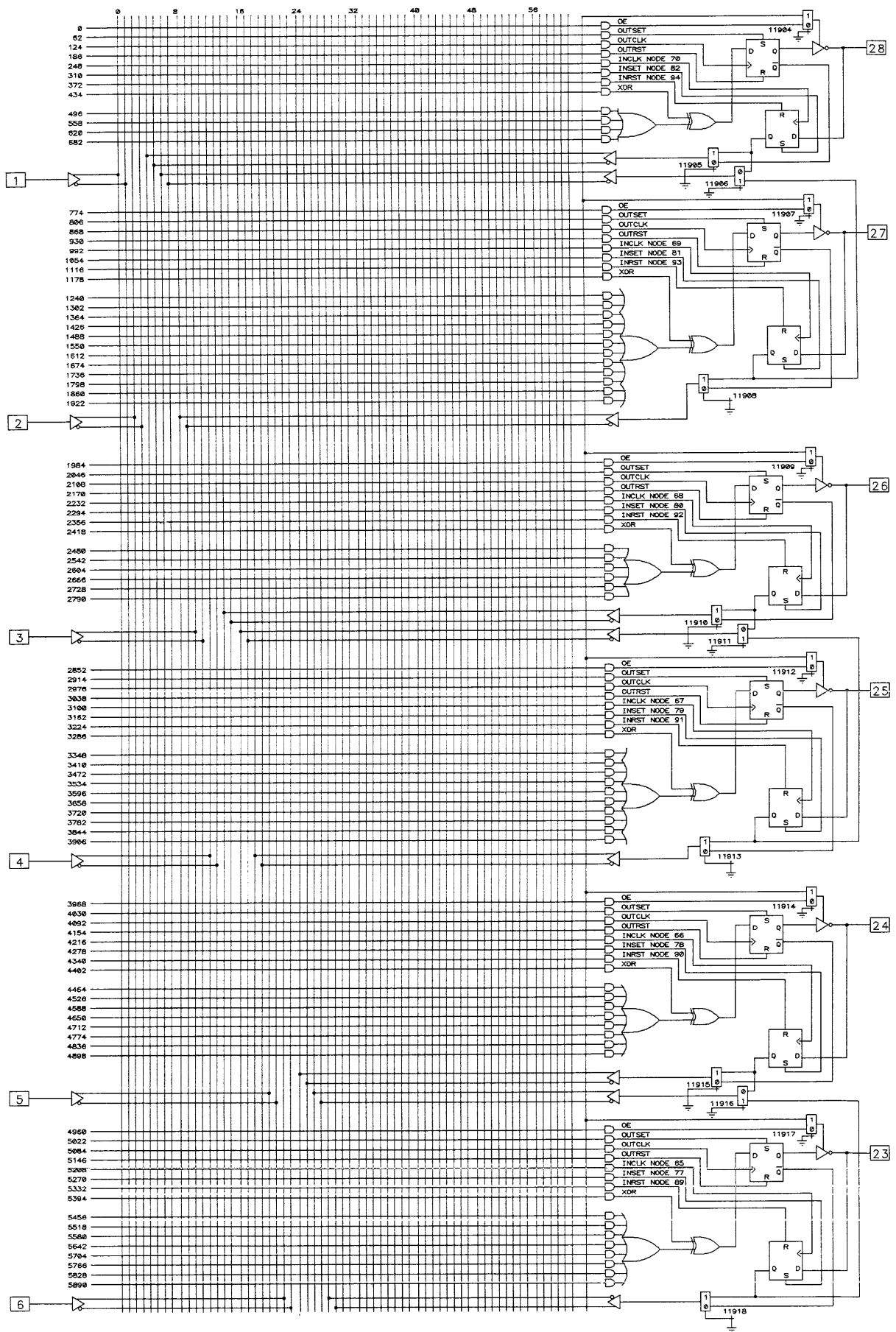




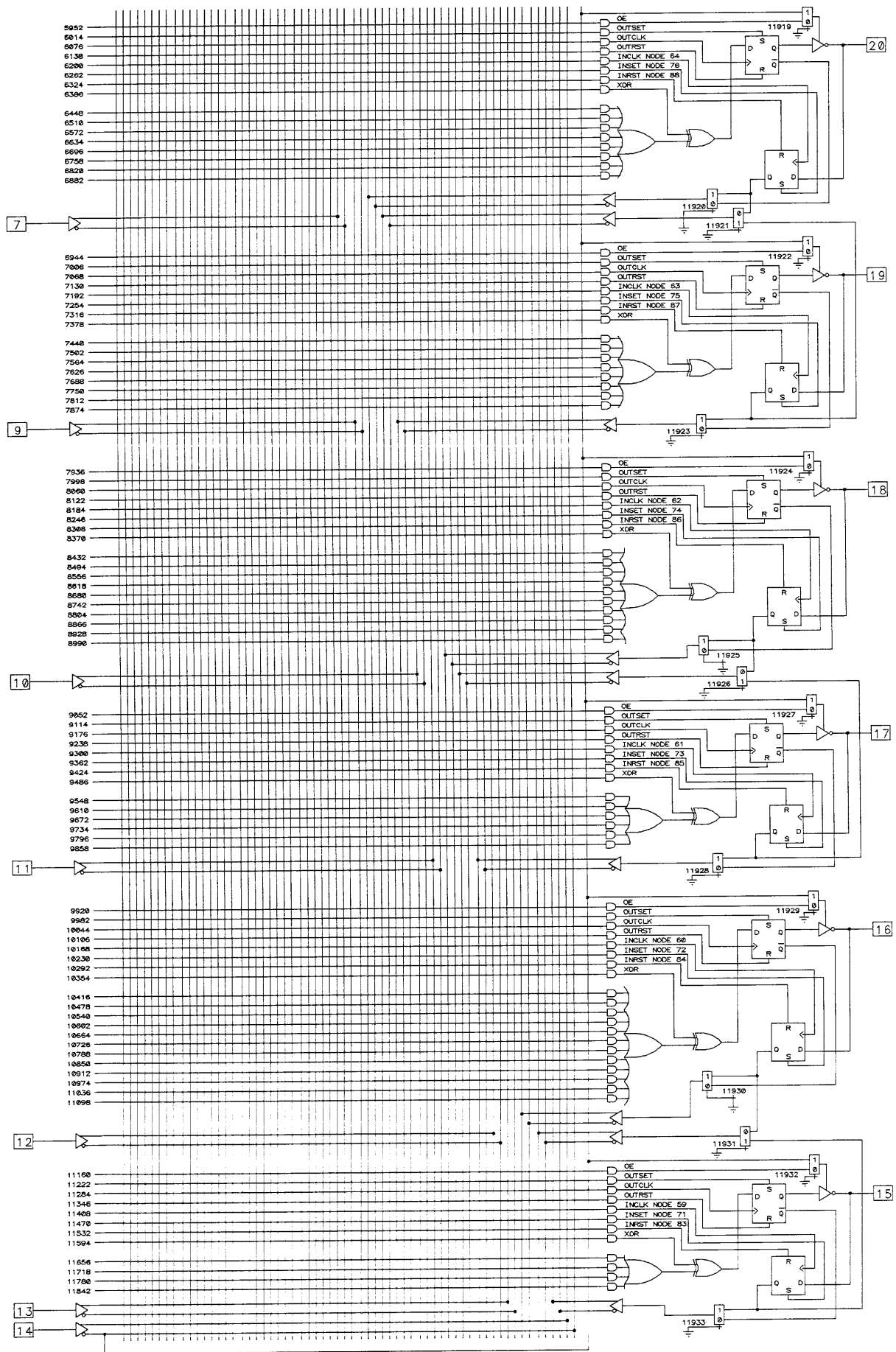
Data I/O Corporation

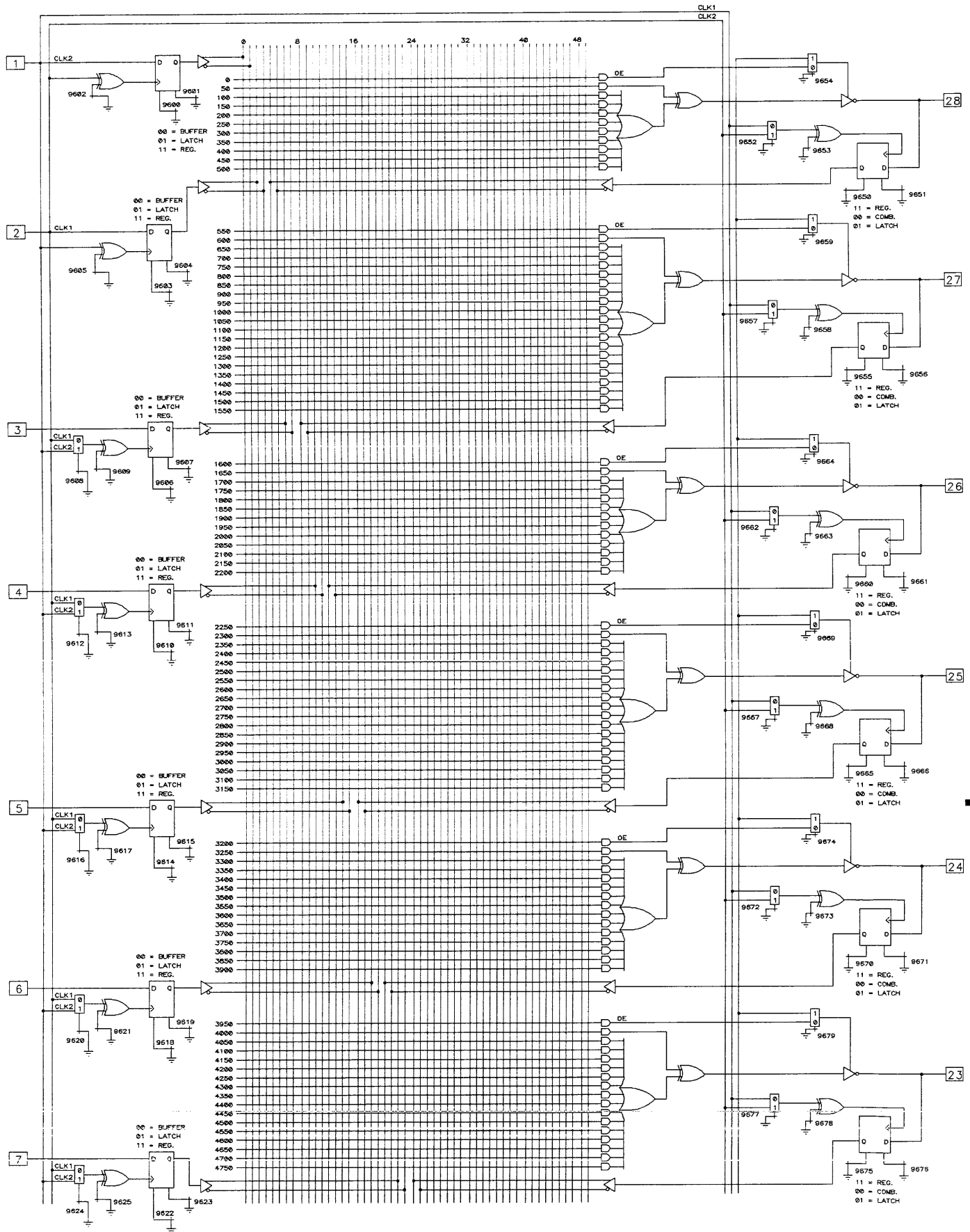
Corporation
Data I/O





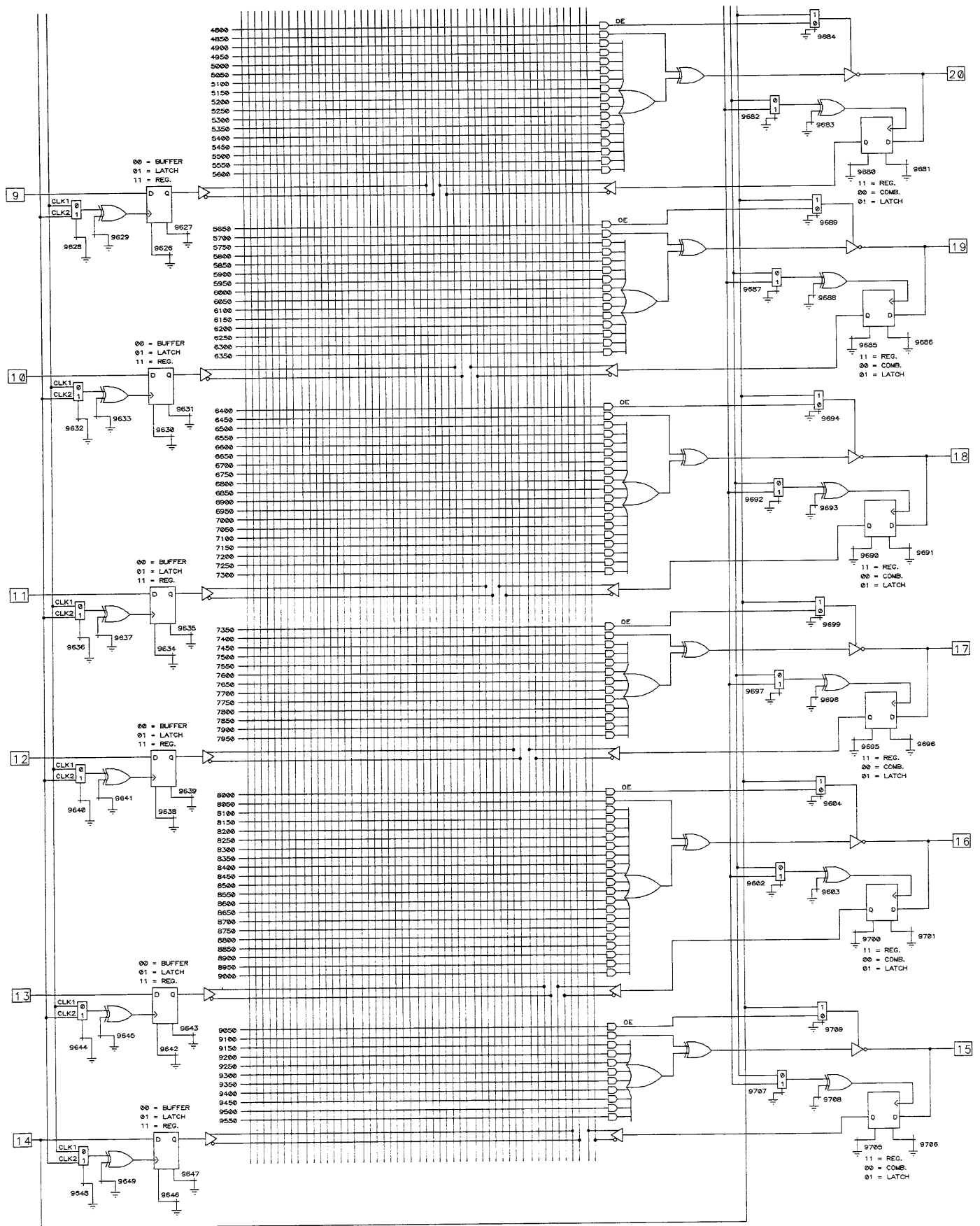
Data I/O Corporation

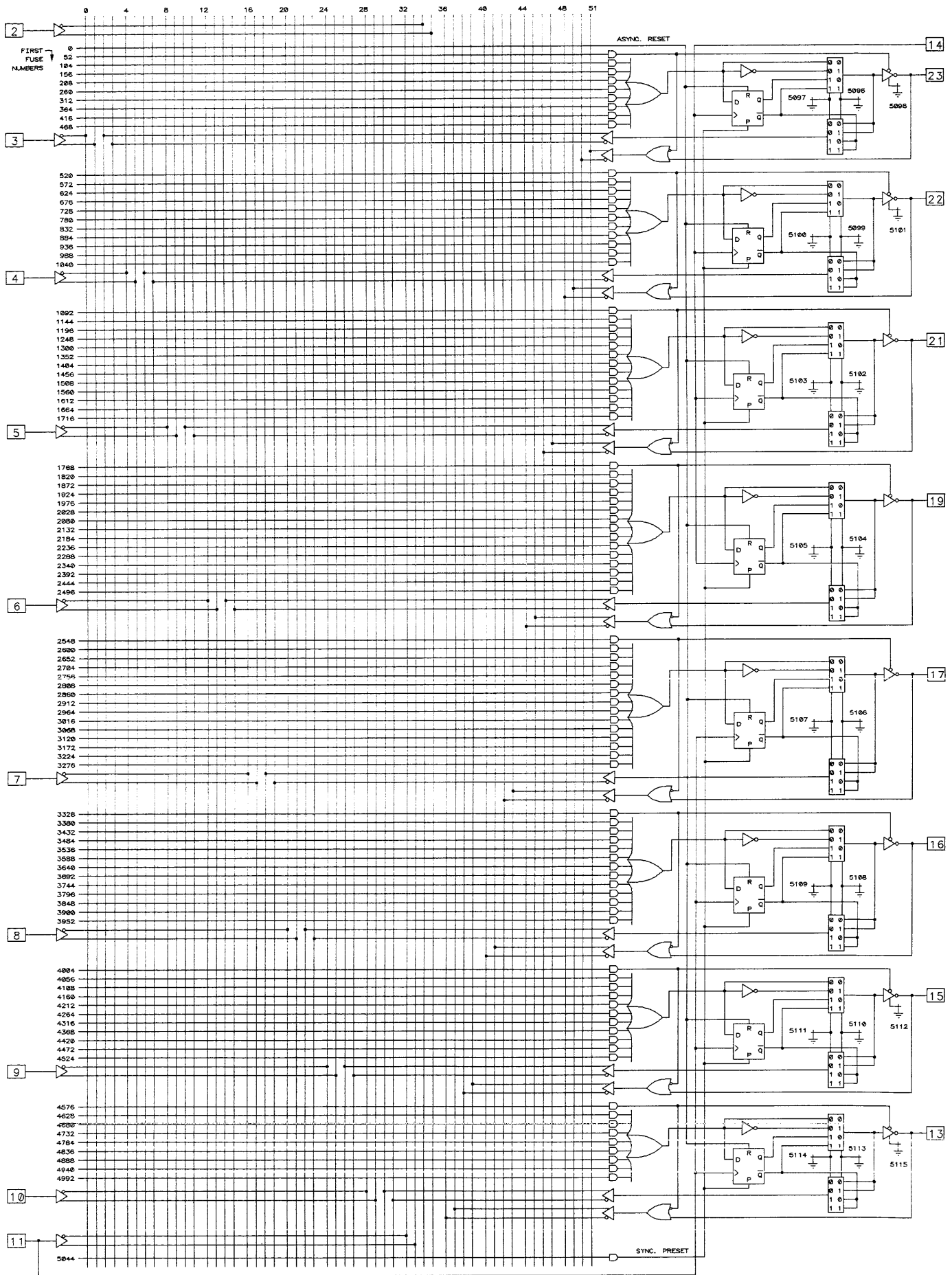




Data I/O Corporation

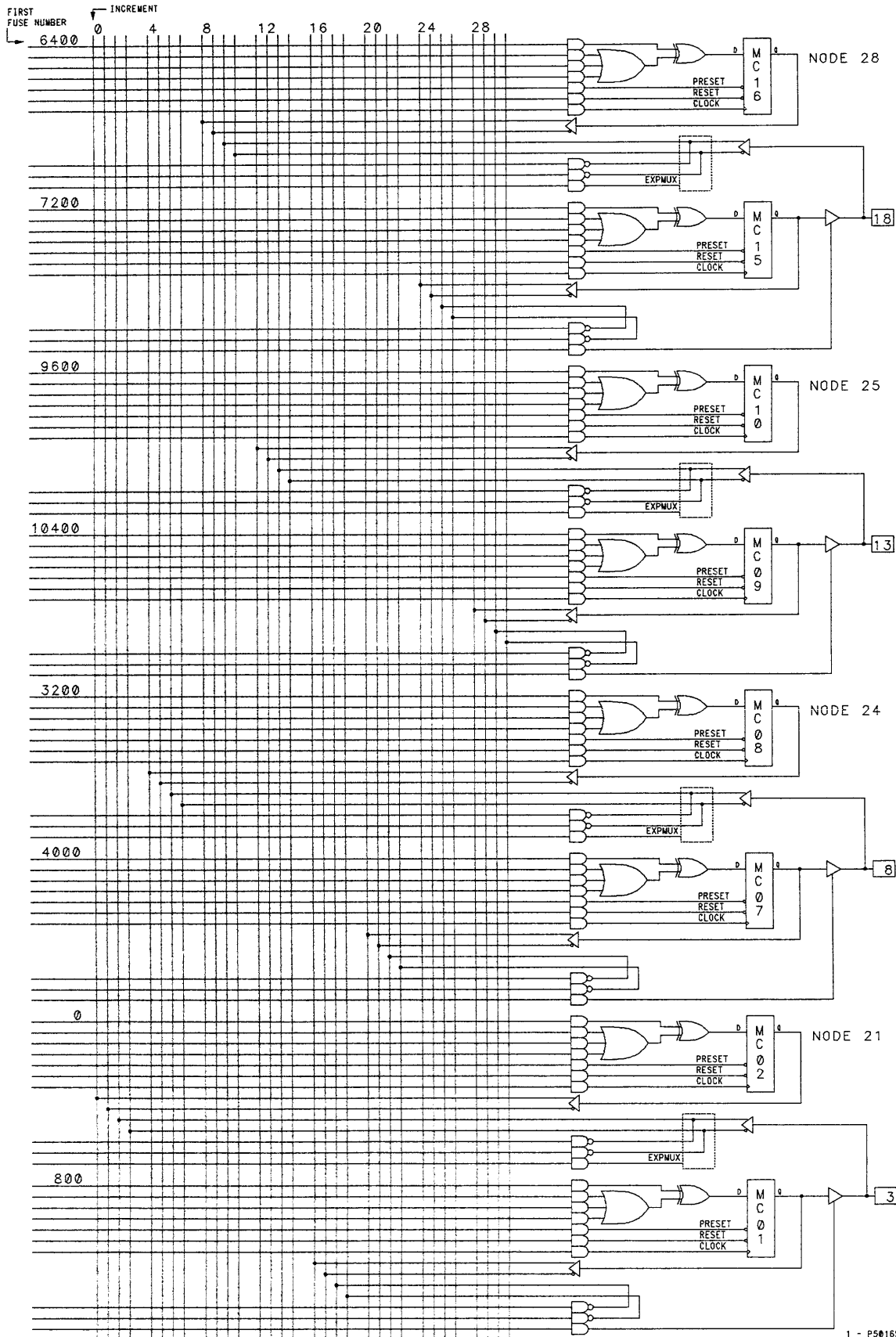
Data I/O Corporation





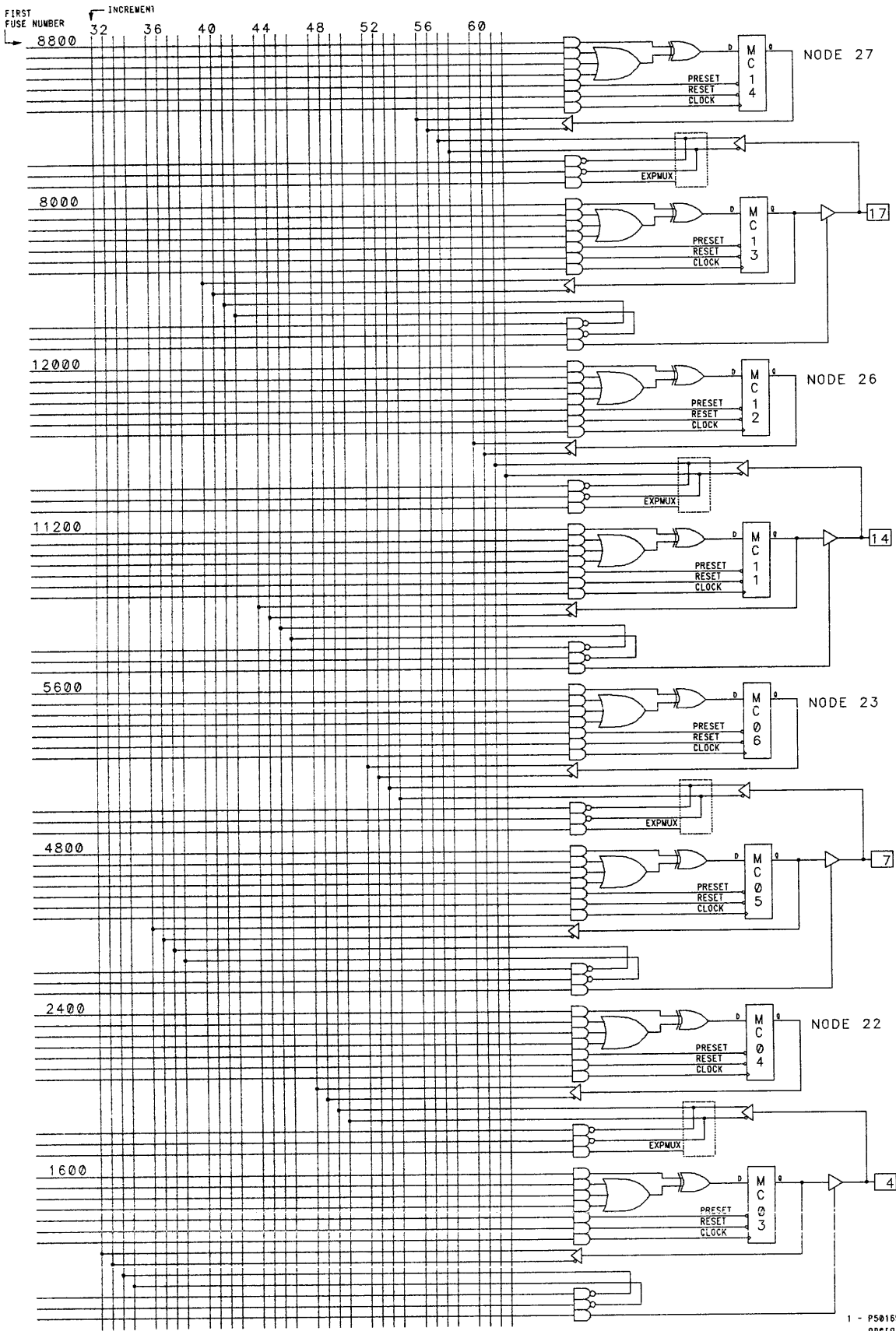
Data I/O Corporation

Data I/O Corporation



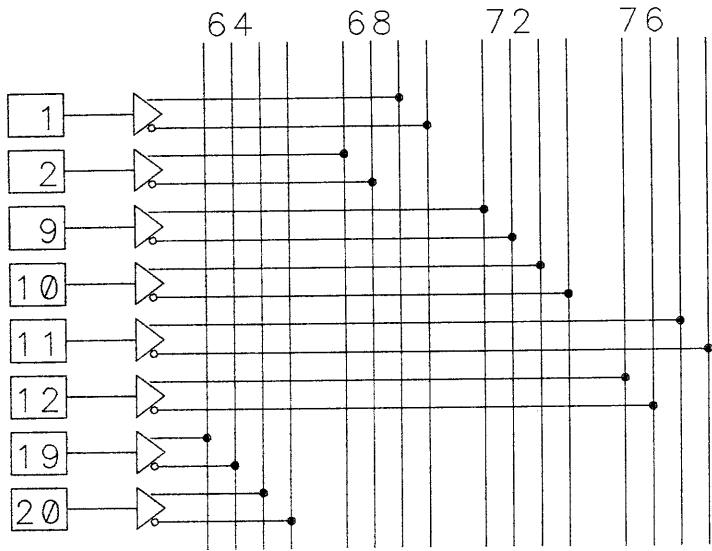
NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

1 - P5016S is synchronous mode operation. Clocking from pin 2.

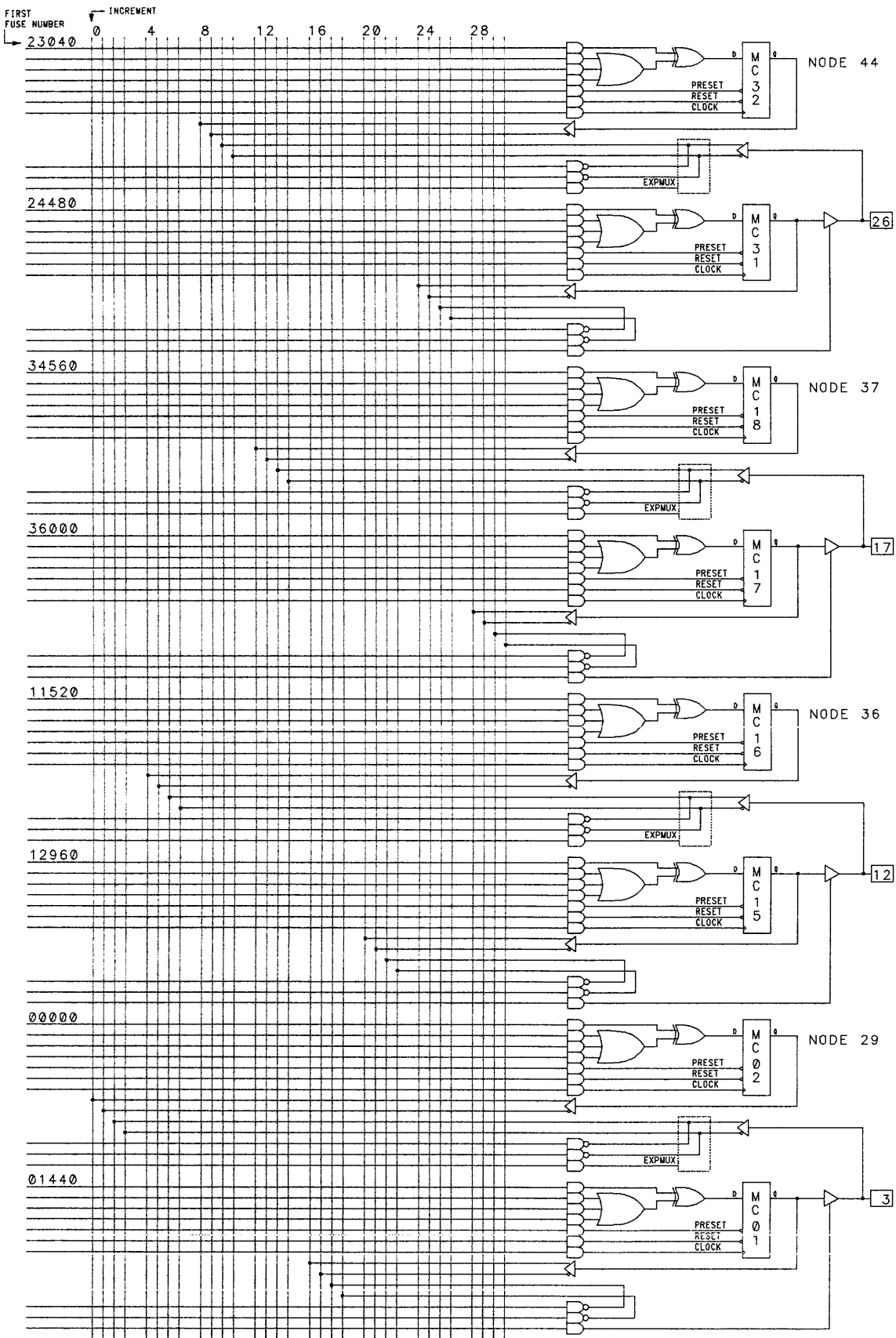


1 - P5016S is synchronous mode operation. Clacking from pin 2.

Data I/O Corporation



1 - P5016S is synchronous mode operation. Clocking from pin 2.

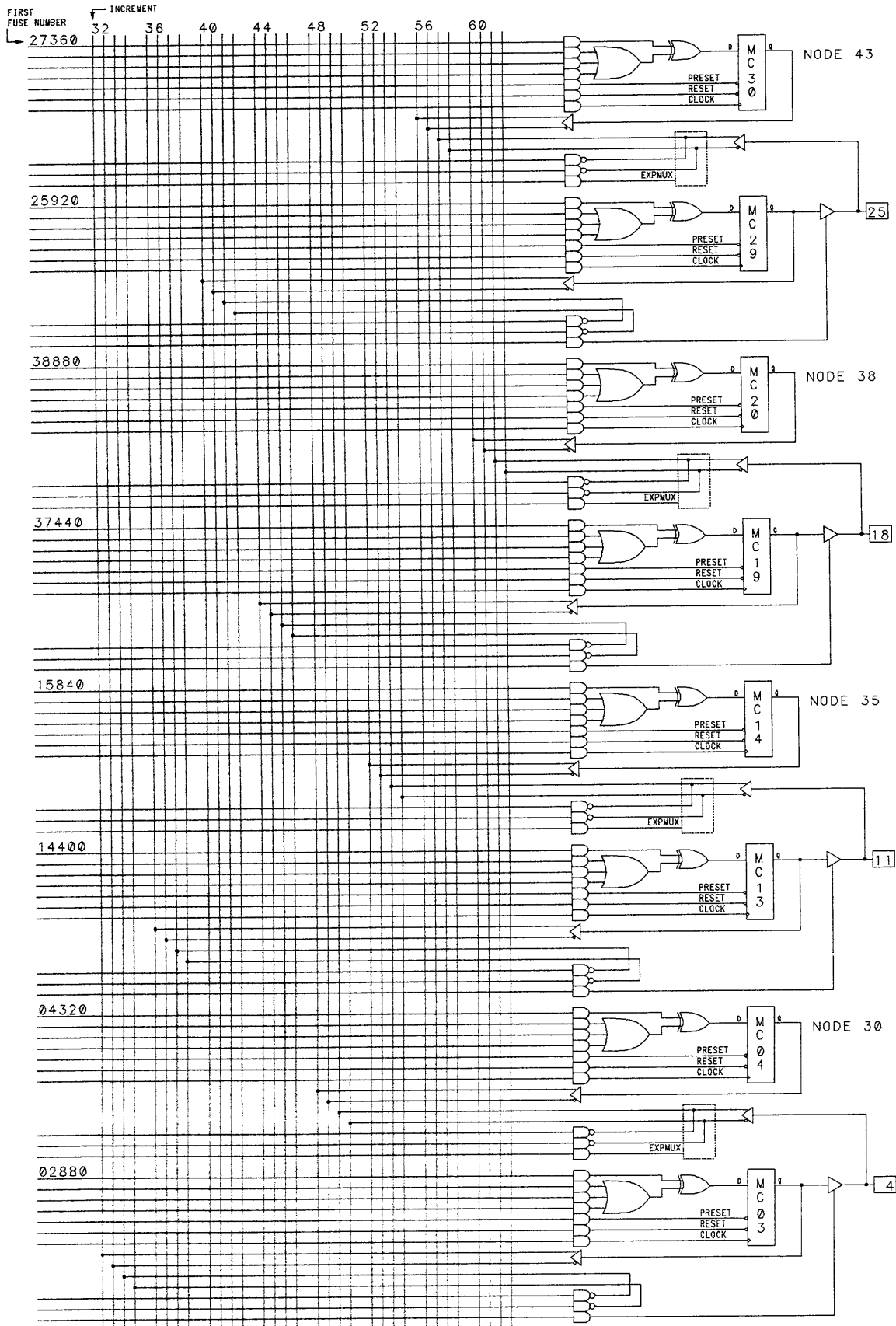


NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

1 - P5032S is asynchronous mode operation. Clocking from pin 2.

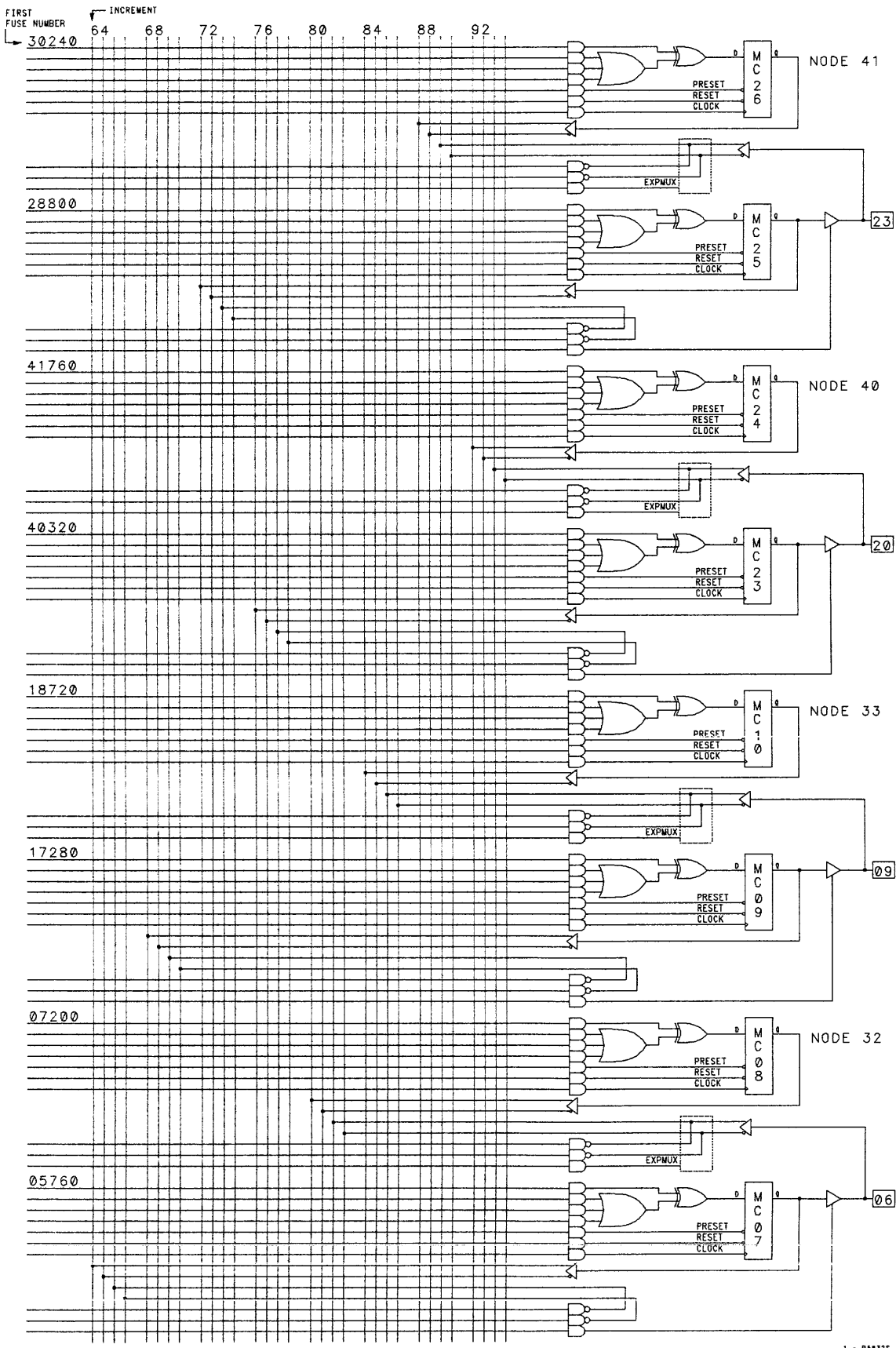
Data I/O Corporation

Data I/O Corporation



NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

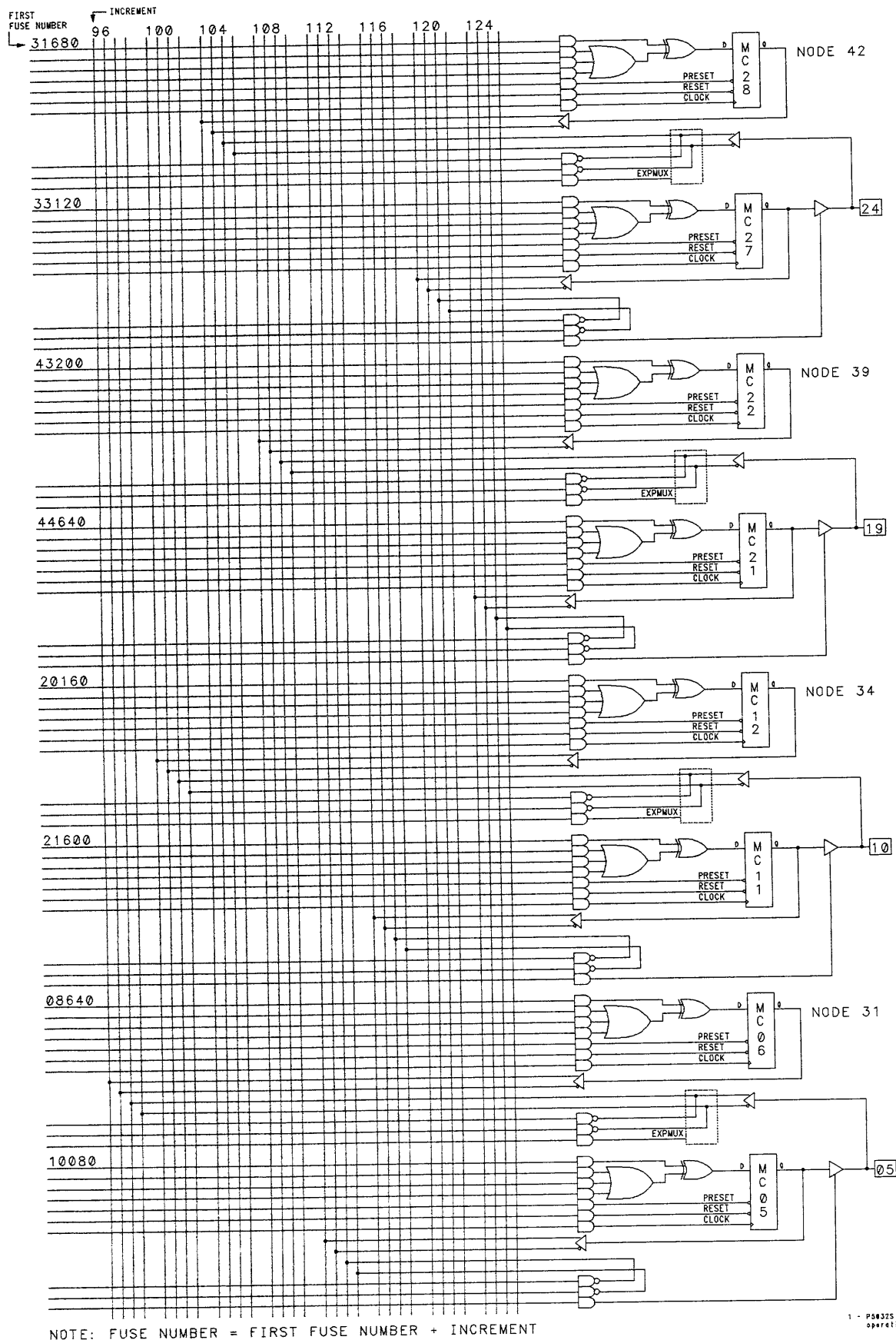
1 - P5032S is synchronous mode operation. Clocking from pin 2.



NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

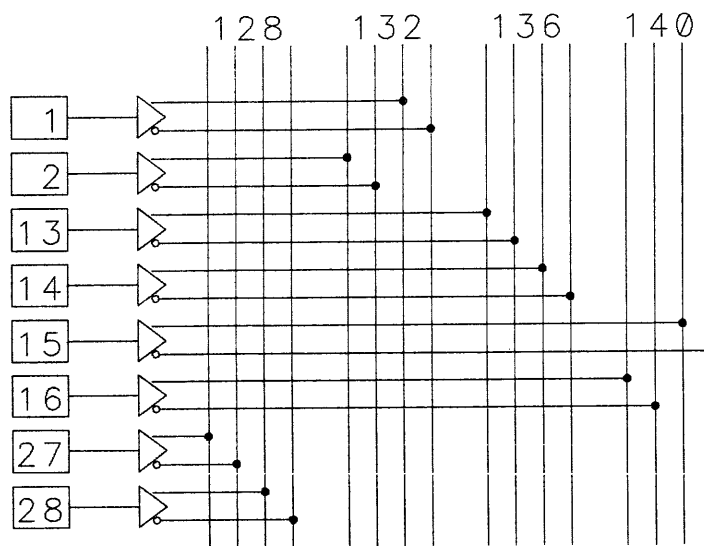
1 - P50325 is synchronous mode operation. Clocking from pin 2.

Data I/O Corporation



NOTE: FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

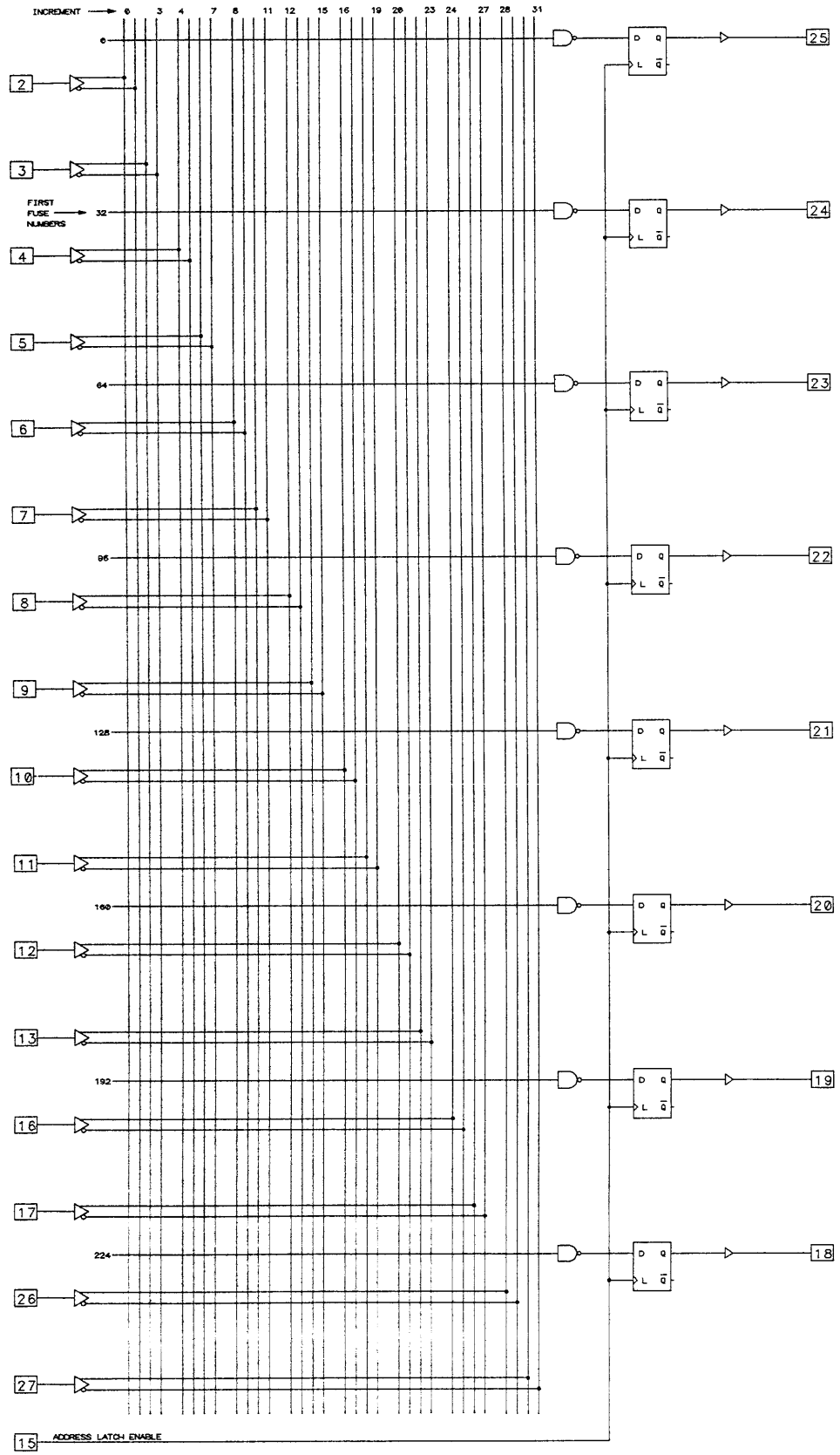
1 - P5032S is asynchronous mode operation. Clocking from pin 2.



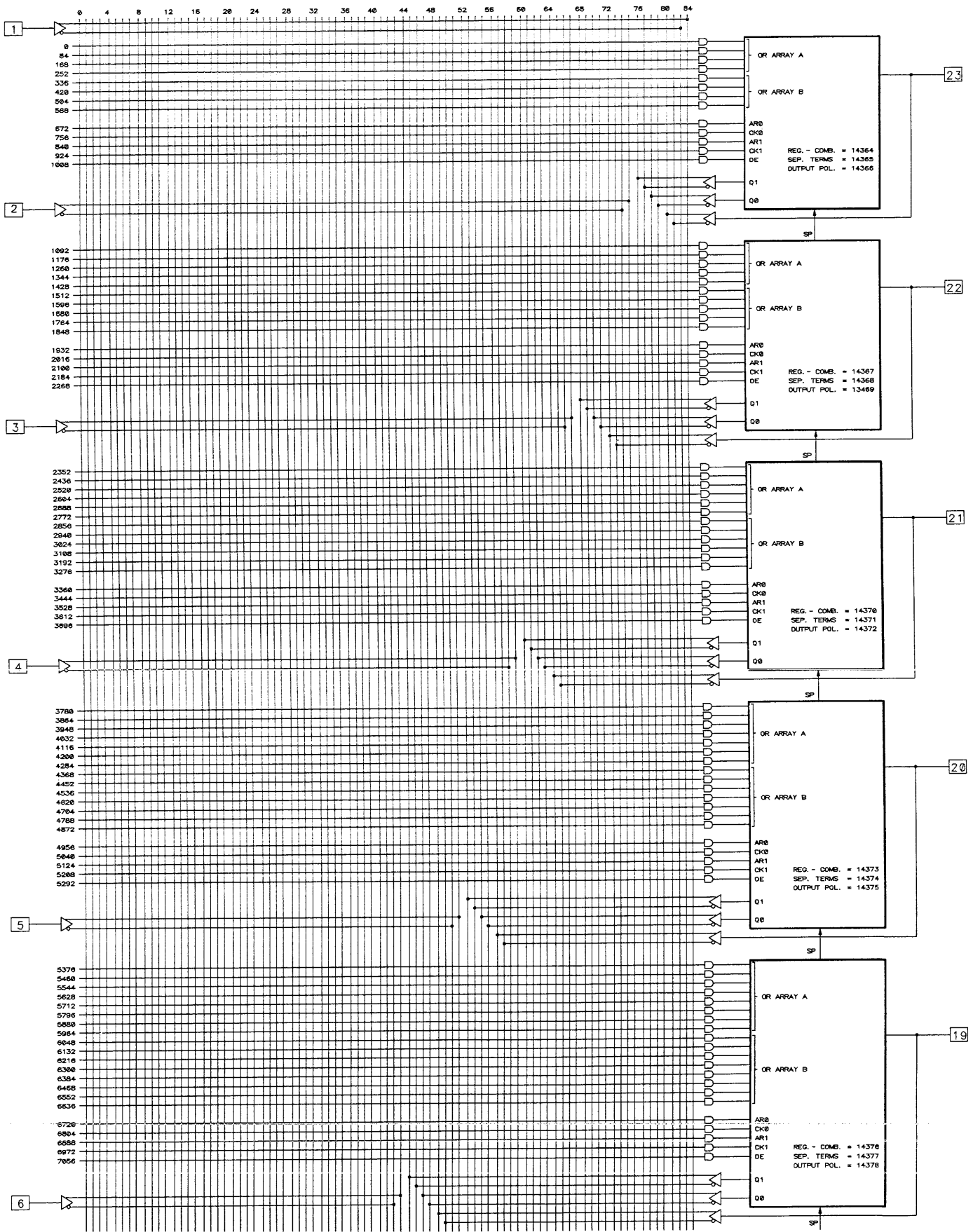
Data I/O

Corporation

Corporation
Data I/O

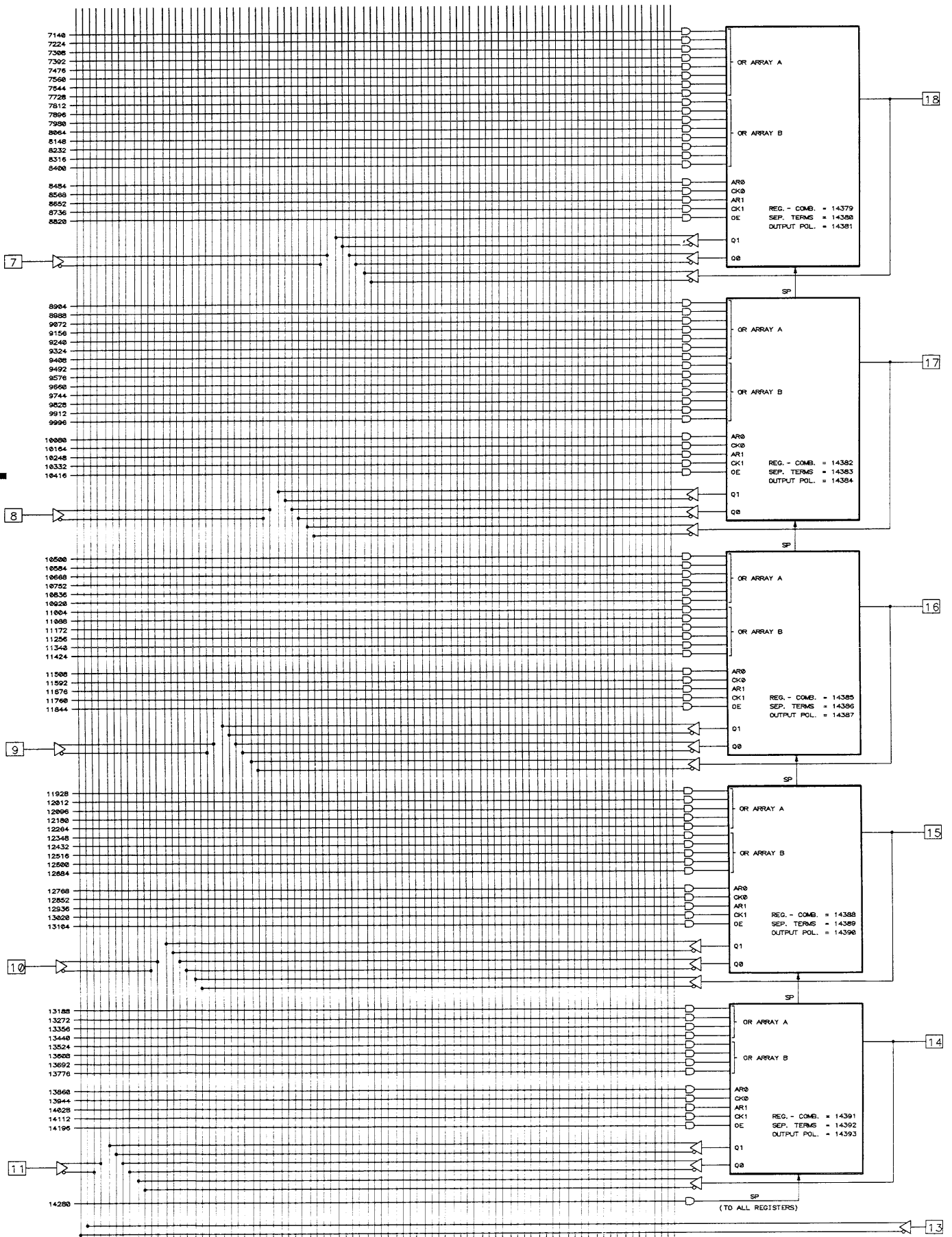


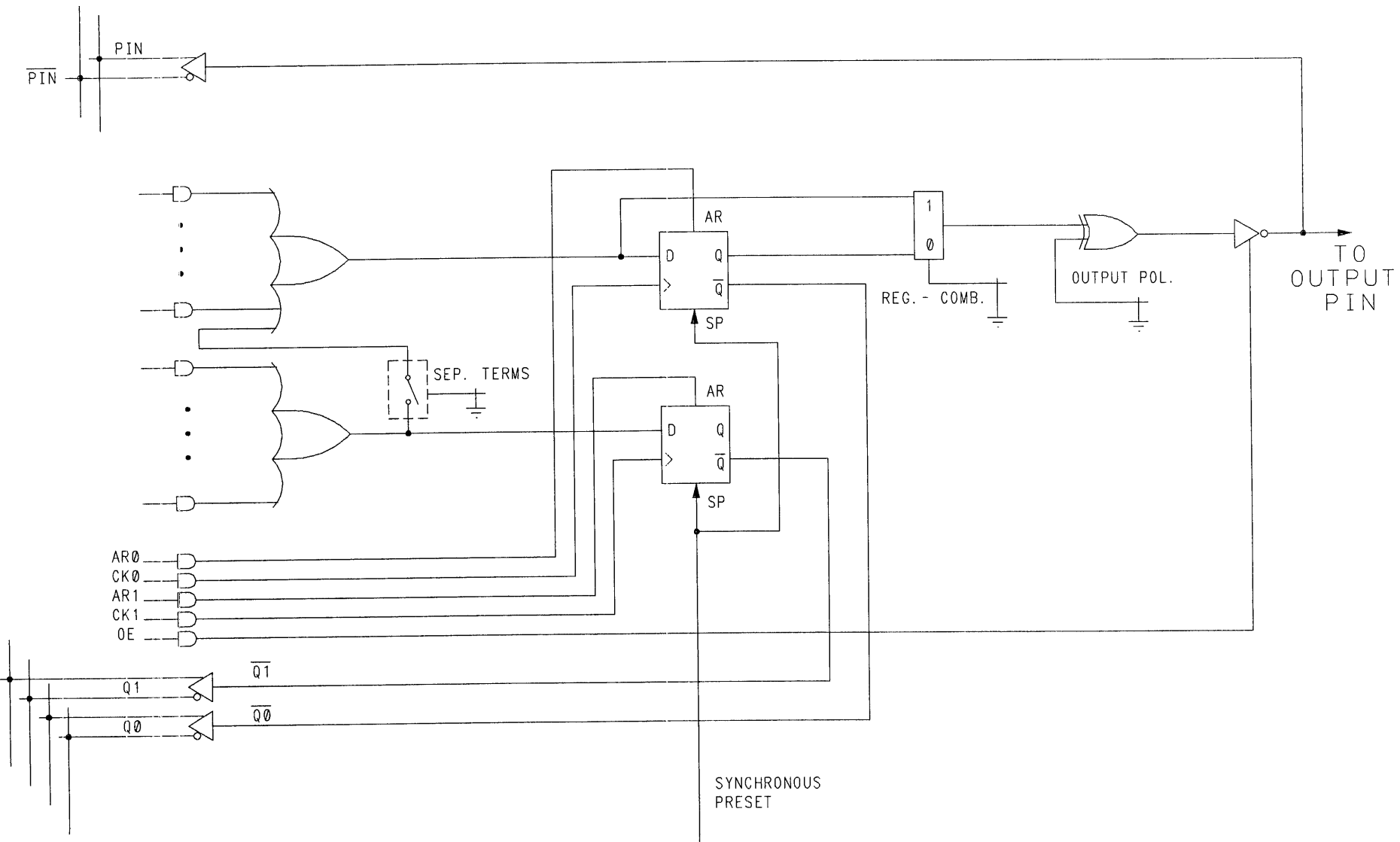
FUSE NUMBER = FIRST FUSE + INCREMENT



Data I/O Corporation

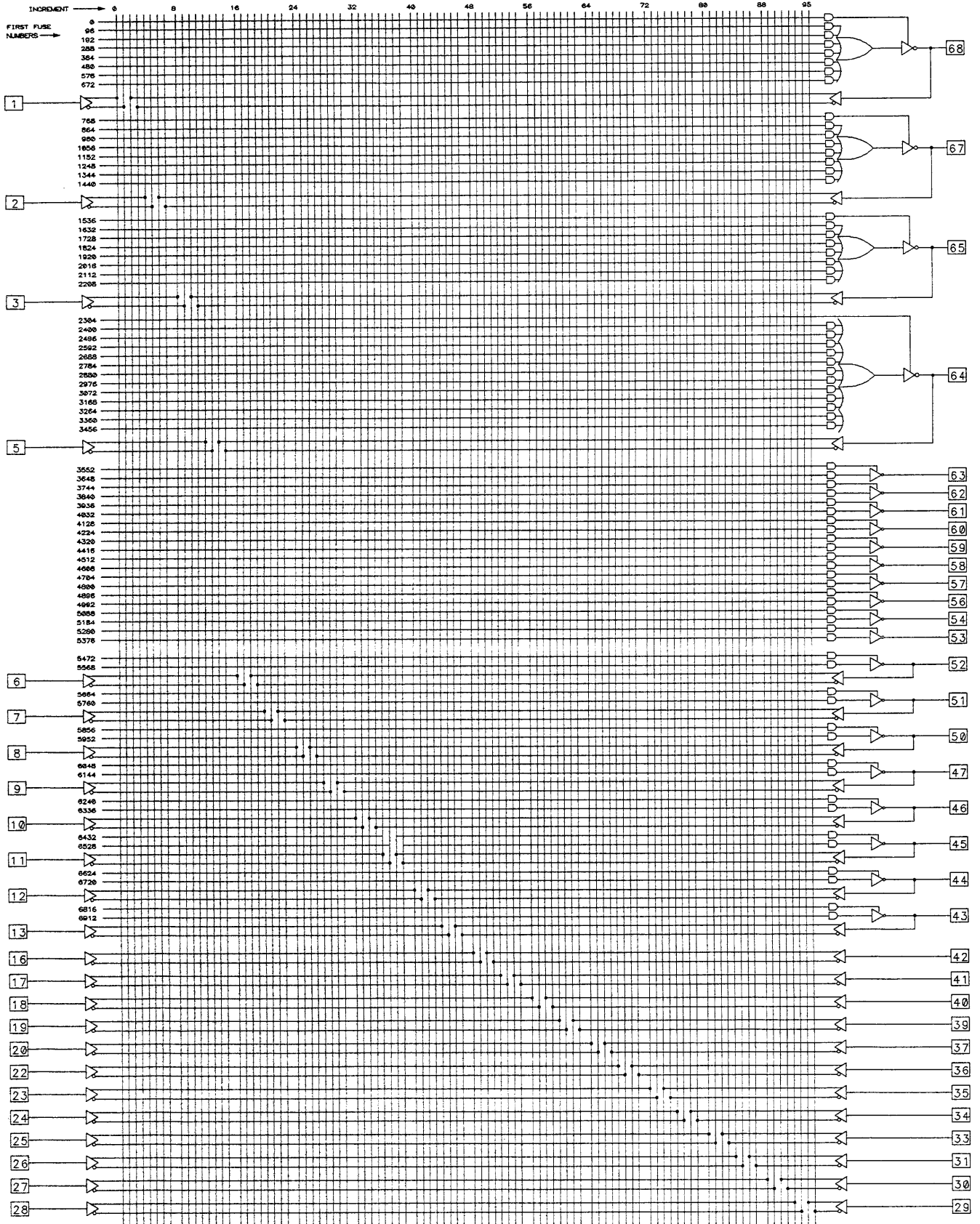
Corporation
Data I/O





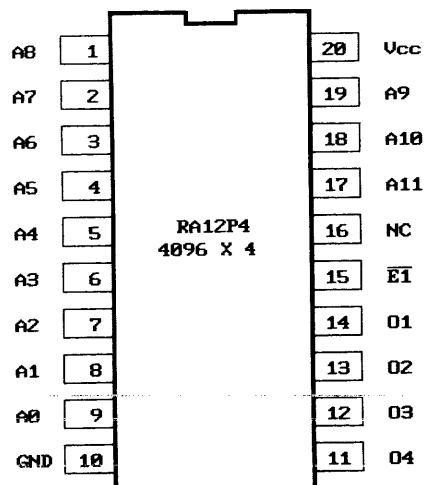
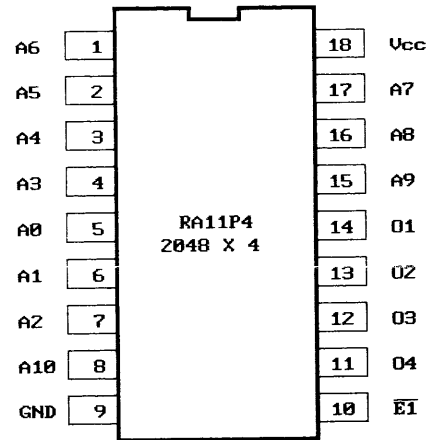
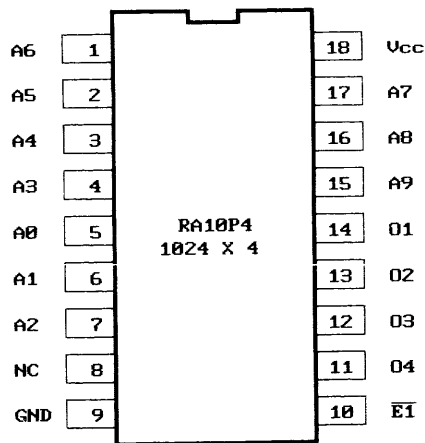
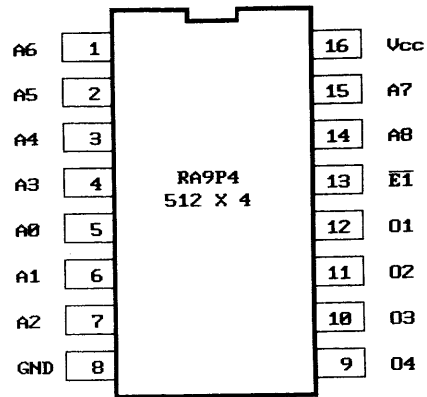
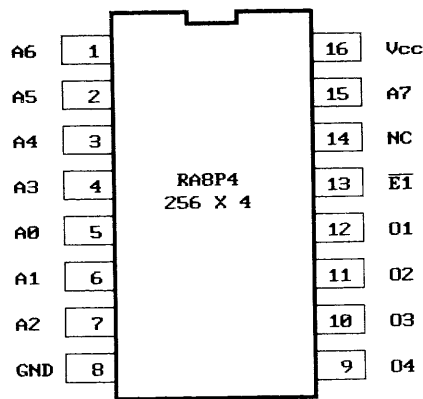
Data I/O Corporation

Corporation
Data I/O

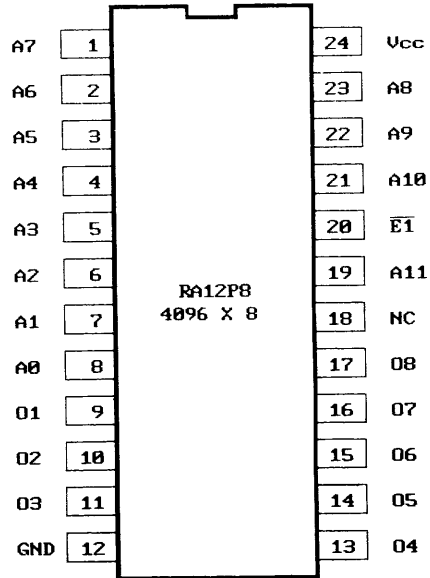
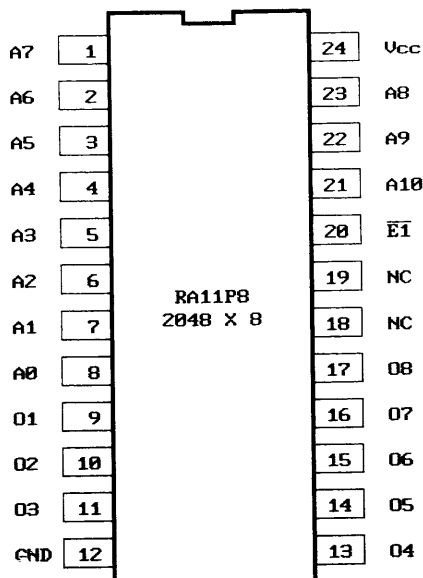
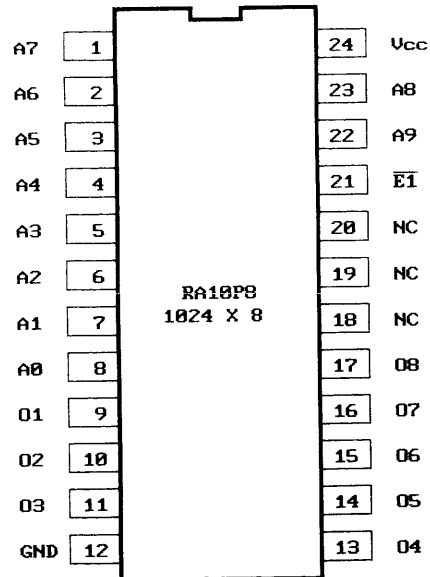
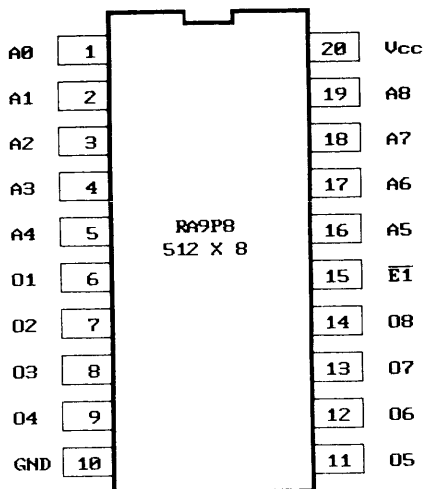
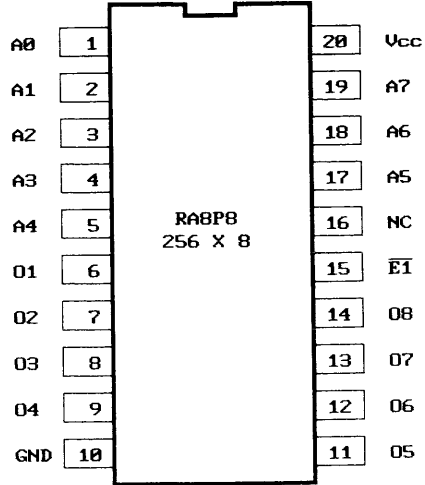
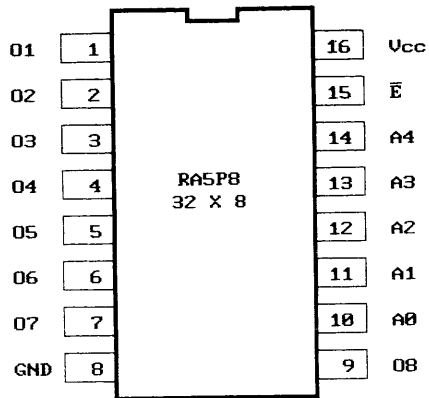


FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT

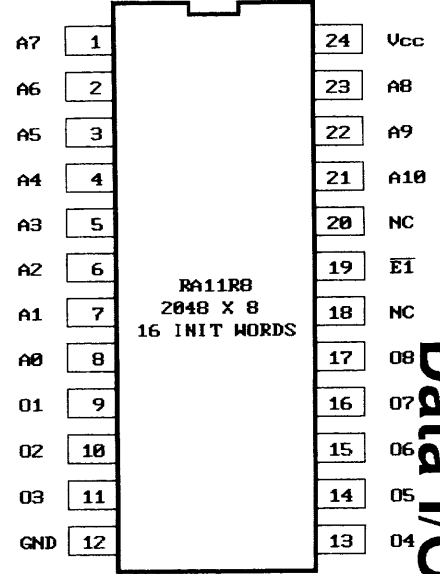
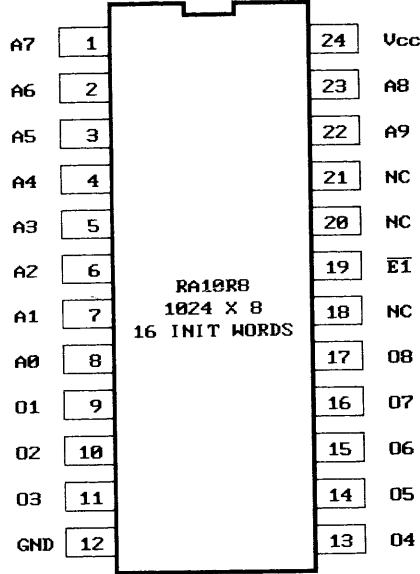
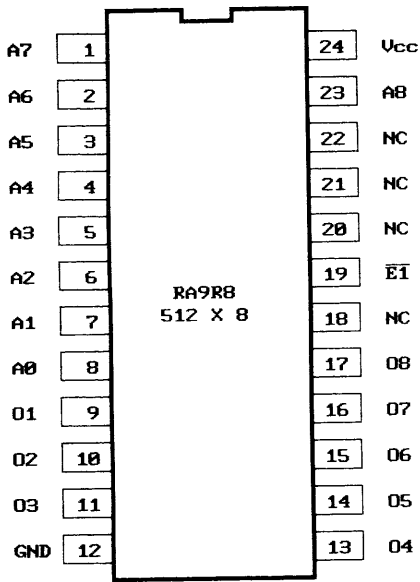
PINOUT DIAGRAMS 4-BIT PROMS



PINOUT DIAGRAMS 8-BIT PROMS

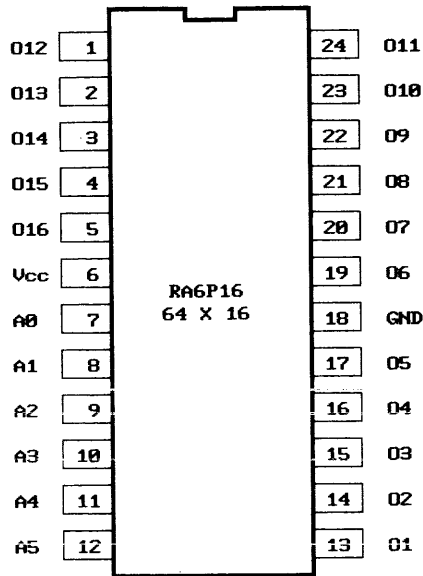
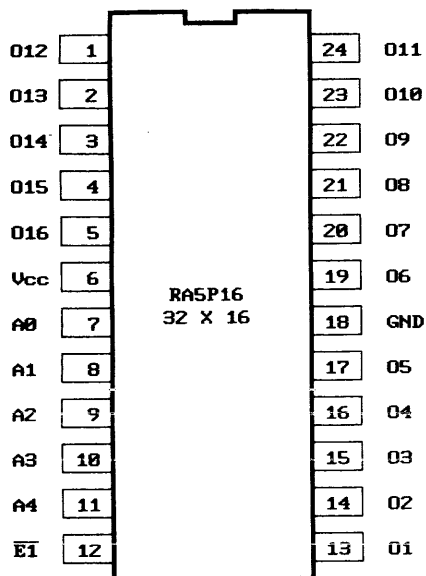


PINOUT DIAGRAMS 8-BIT PROMS



Data I/O

PINOUT DIAGRAMS 16-BIT PROMS



Corporation