2038742

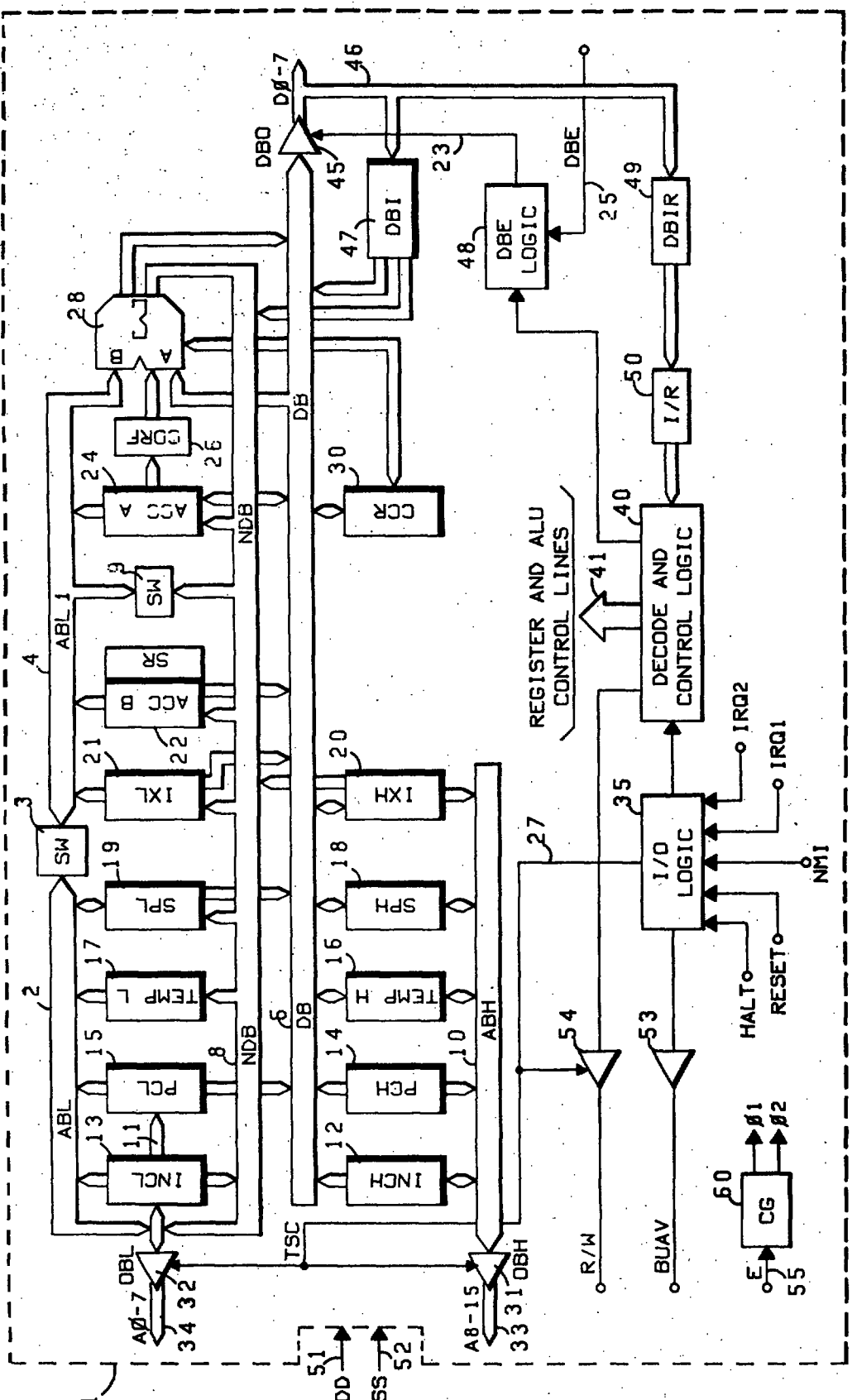
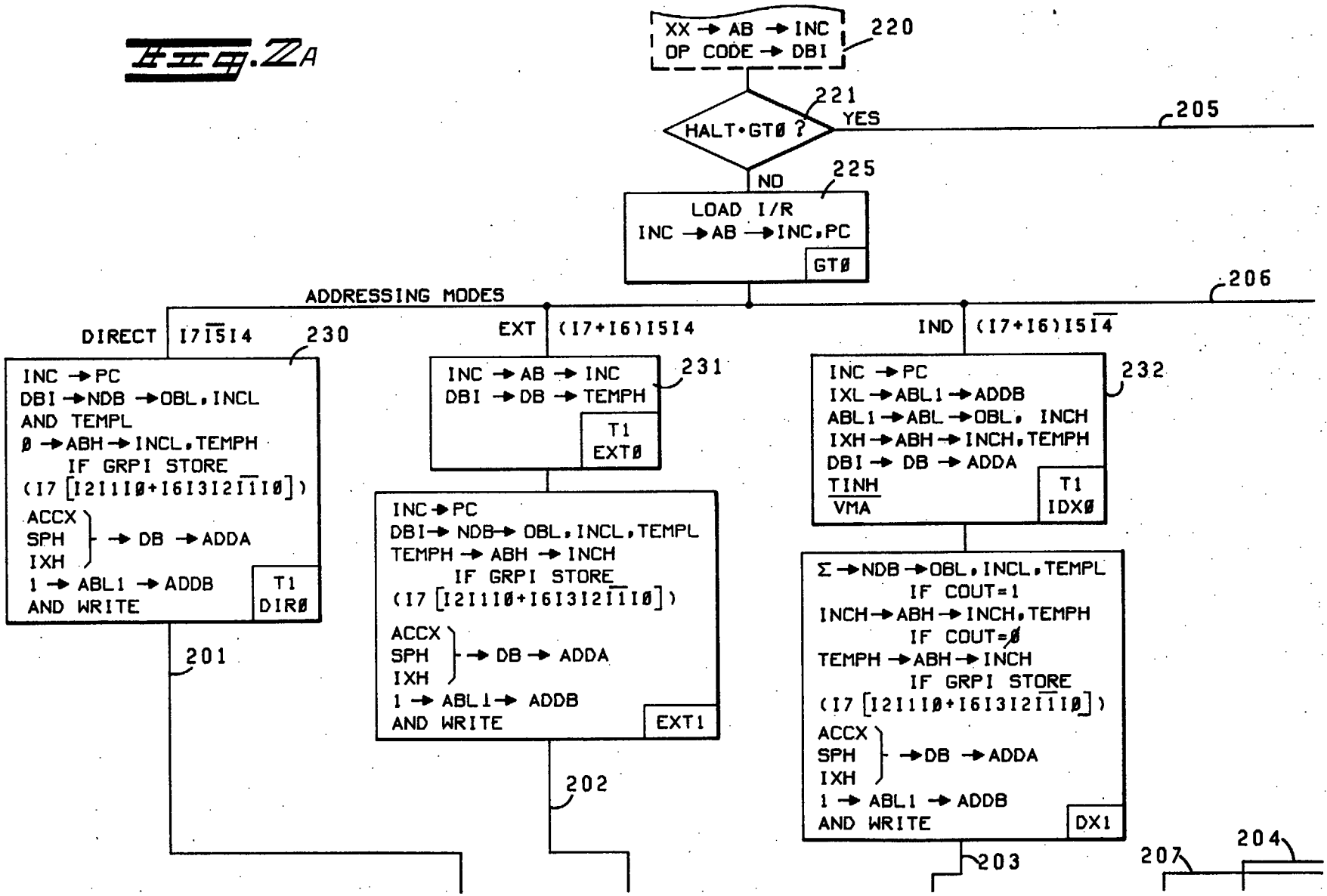


FIG. 1

FIG. 2A



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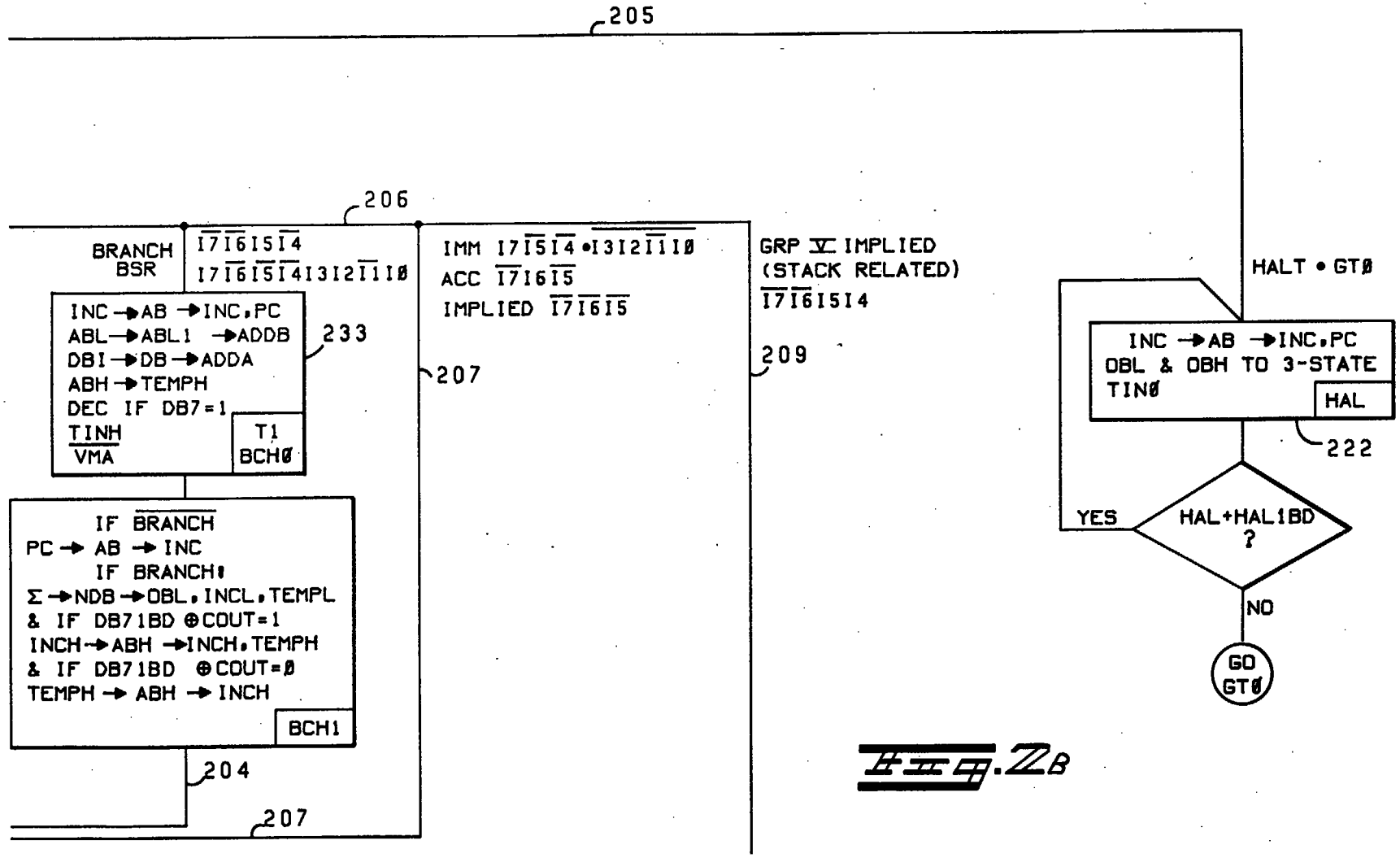


Fig. 2B

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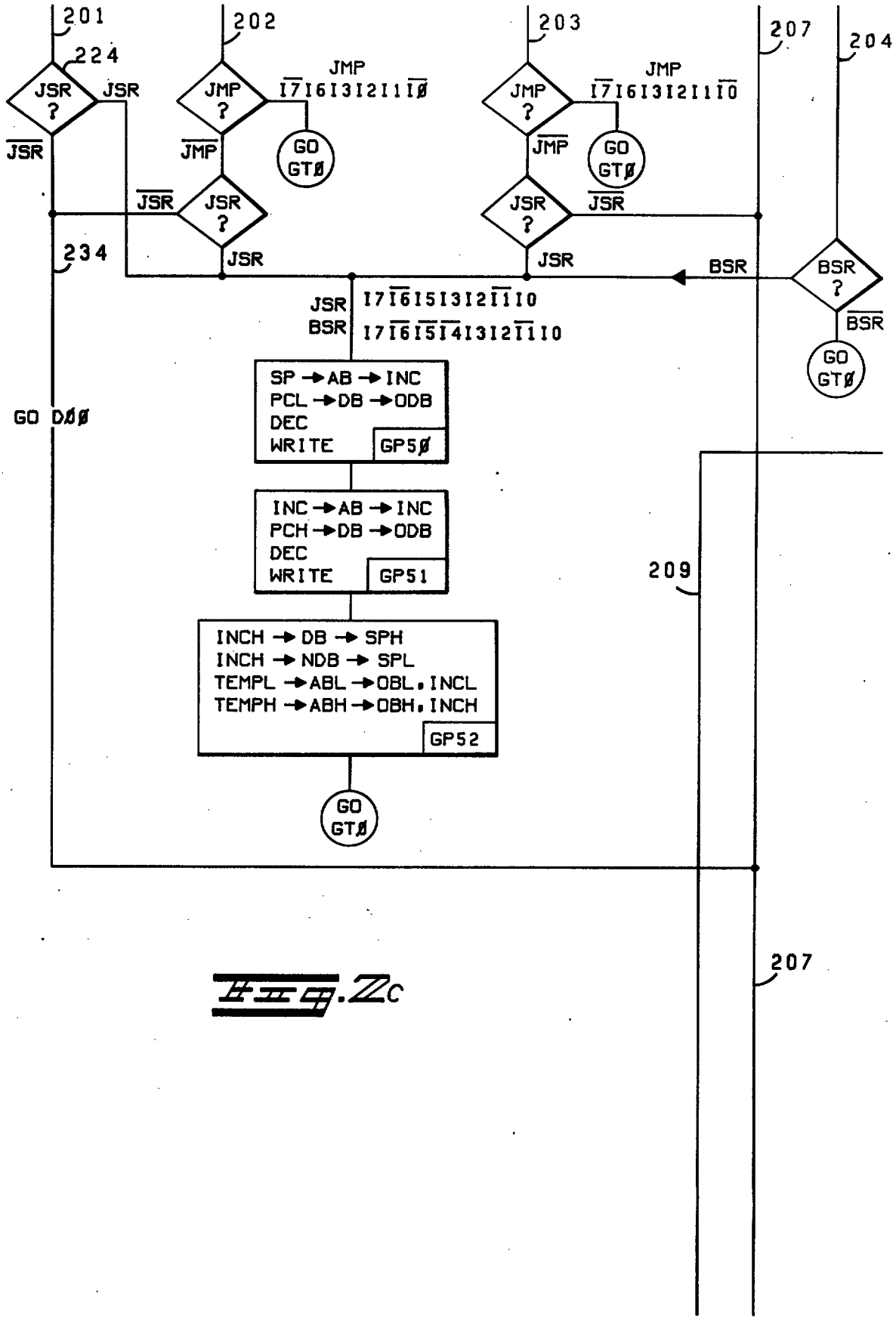


Fig. 2c

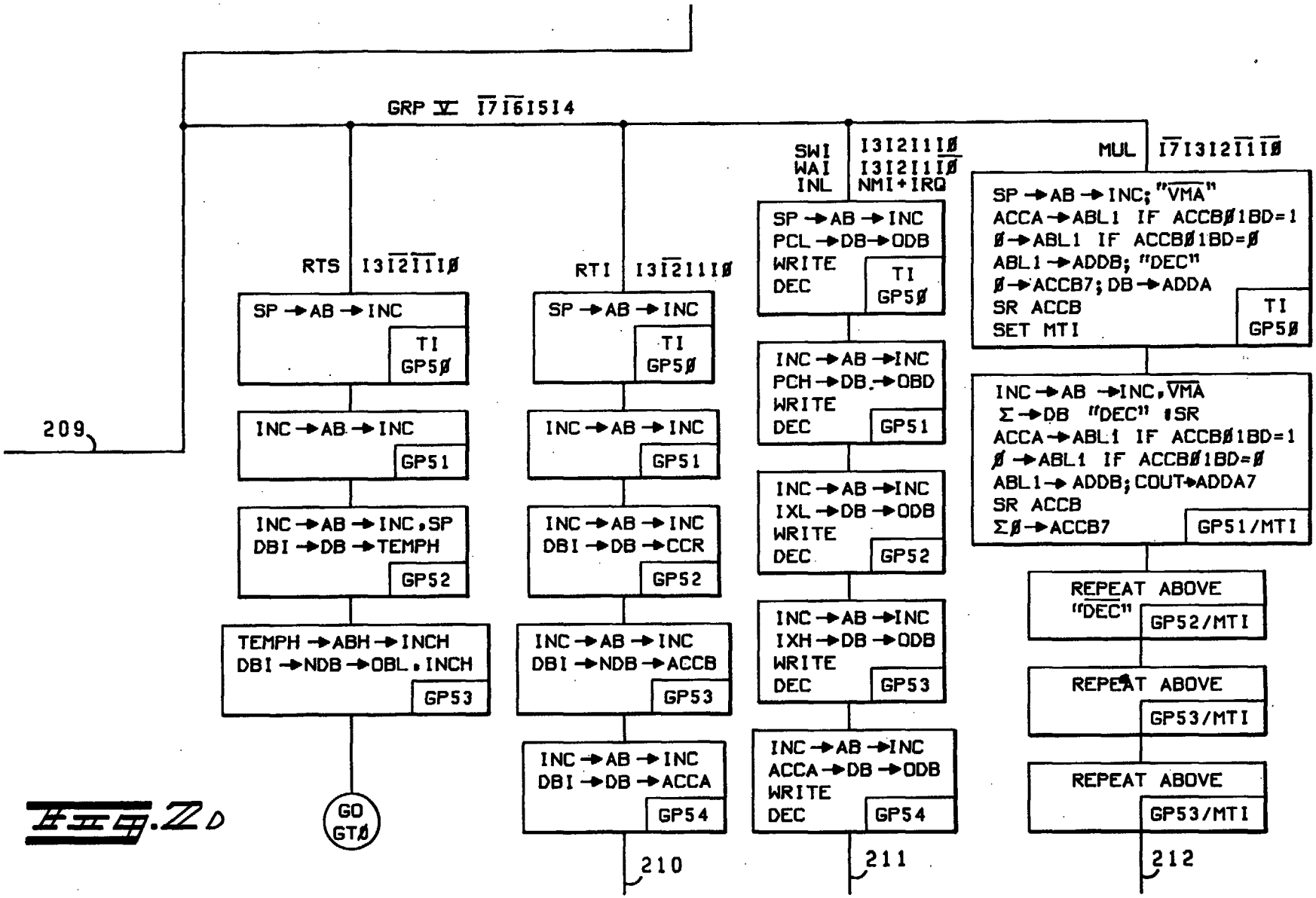
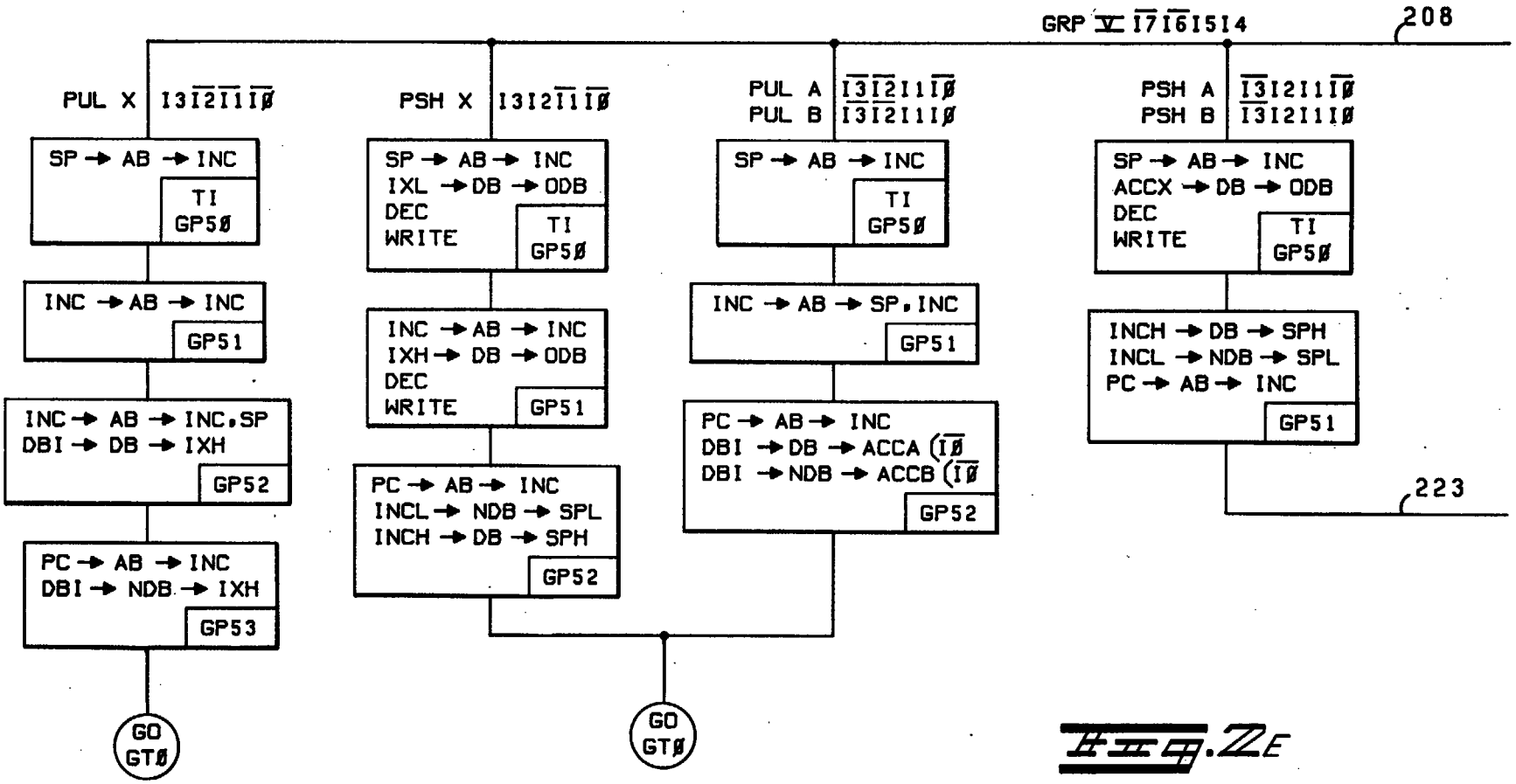


Fig. 2D

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第二图.2E

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FIG. 2F

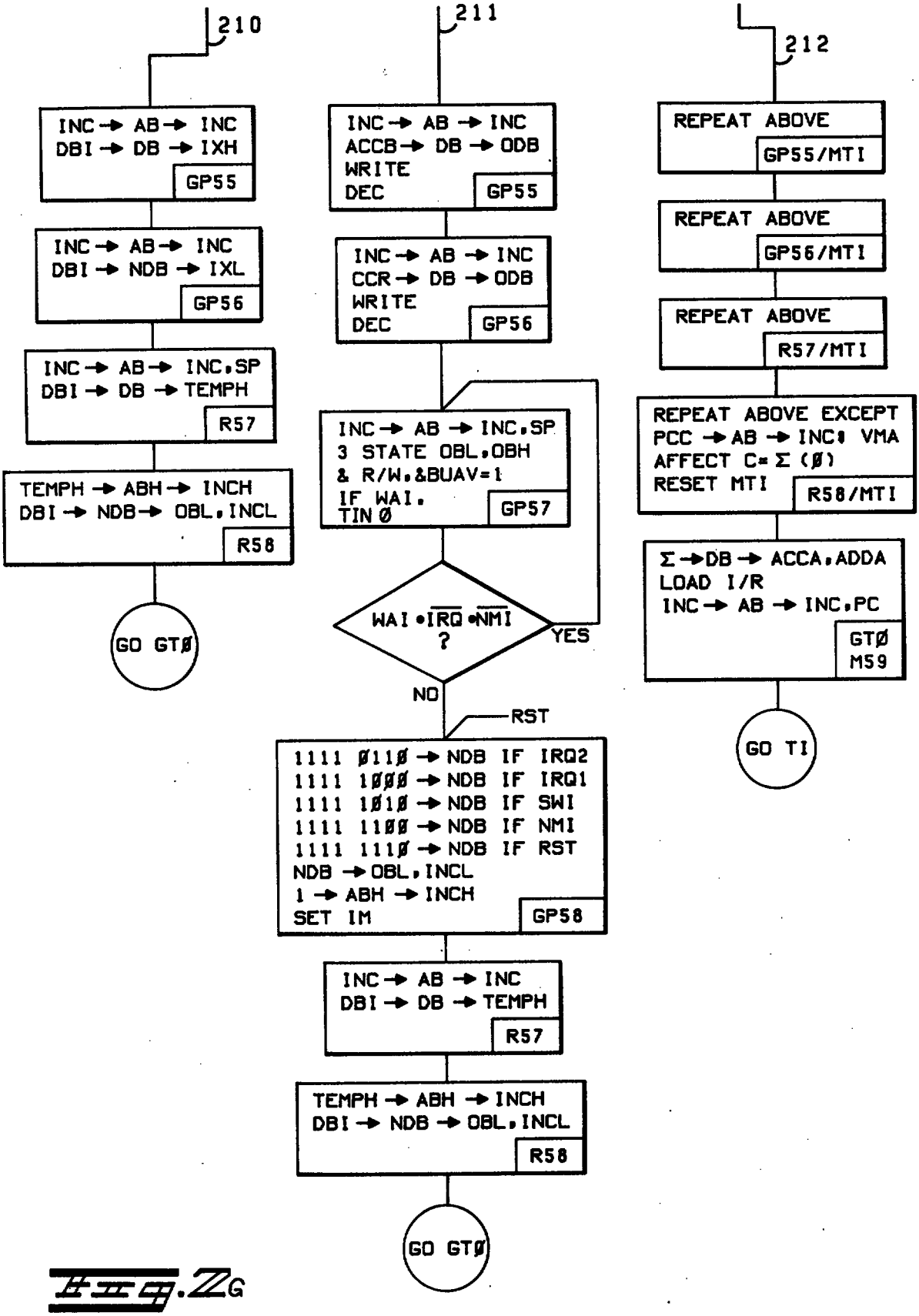

210
INC → AB → INC
DBI → DB → IXH
GP55
INC → AB → INC
DBI → NDB → IXL
GP56
INC → AB → INC, SP
DBI → DB → TEMPH
R57
TEMPH → ABH → INCH
DBI → NDB → OBL, INCL
R58
GO GTØ
211
INC → AB → INC
ACCB → DB → ODB
WRITE
DEC
GP55
INC → AB → INC
CCR → DB → ODB
WRITE
DEC
GP56
INC → AB → INC, SP
3 STATE OBL, OBH
& R/W, &BUAV=1
IF WAI, TIN Ø
GP57
WAI • IRQ • NMI ?
YES
NO
RST
1111 Ø11Ø → NDB IF IRQ2
1111 1ØØØ → NDB IF IRQ1
1111 1Ø1Ø → NDB IF SWI
1111 11ØØ → NDB IF NMI
1111 111Ø → NDB IF RST
NDB → OBL, INCL
1 → ABH → INCH
SET IM
GP58
INC → AB → INC
DBI → DB → TEMPH
R57
TEMPH → ABH → INCH
DBI → NDB → OBL, INCL
R58
GO GTØ
212
REPEAT ABOVE
GP55/MTI
REPEAT ABOVE
GP56/MTI
REPEAT ABOVE
R57/MTI
REPEAT ABOVE EXCEPT
PCC → AB → INC, VMA
AFFECT C= Σ (Ø)
RESET MTI
R58/MTI
Σ → DB → ACCA, ADDA
LOAD I/R
INC → AB → INC, PC
GTØ
M59
GO TI

Fig. 2G

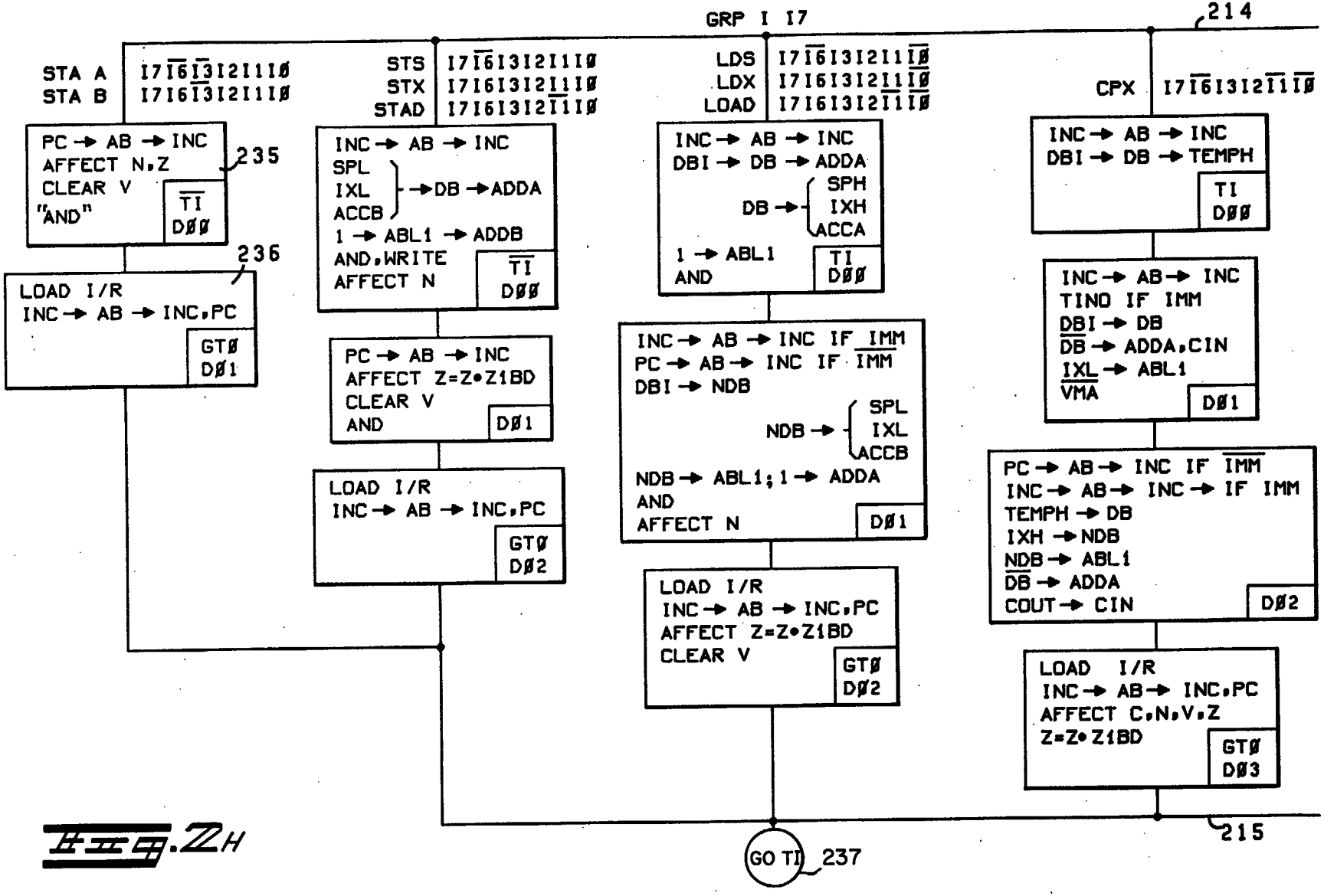


FIG. 2H

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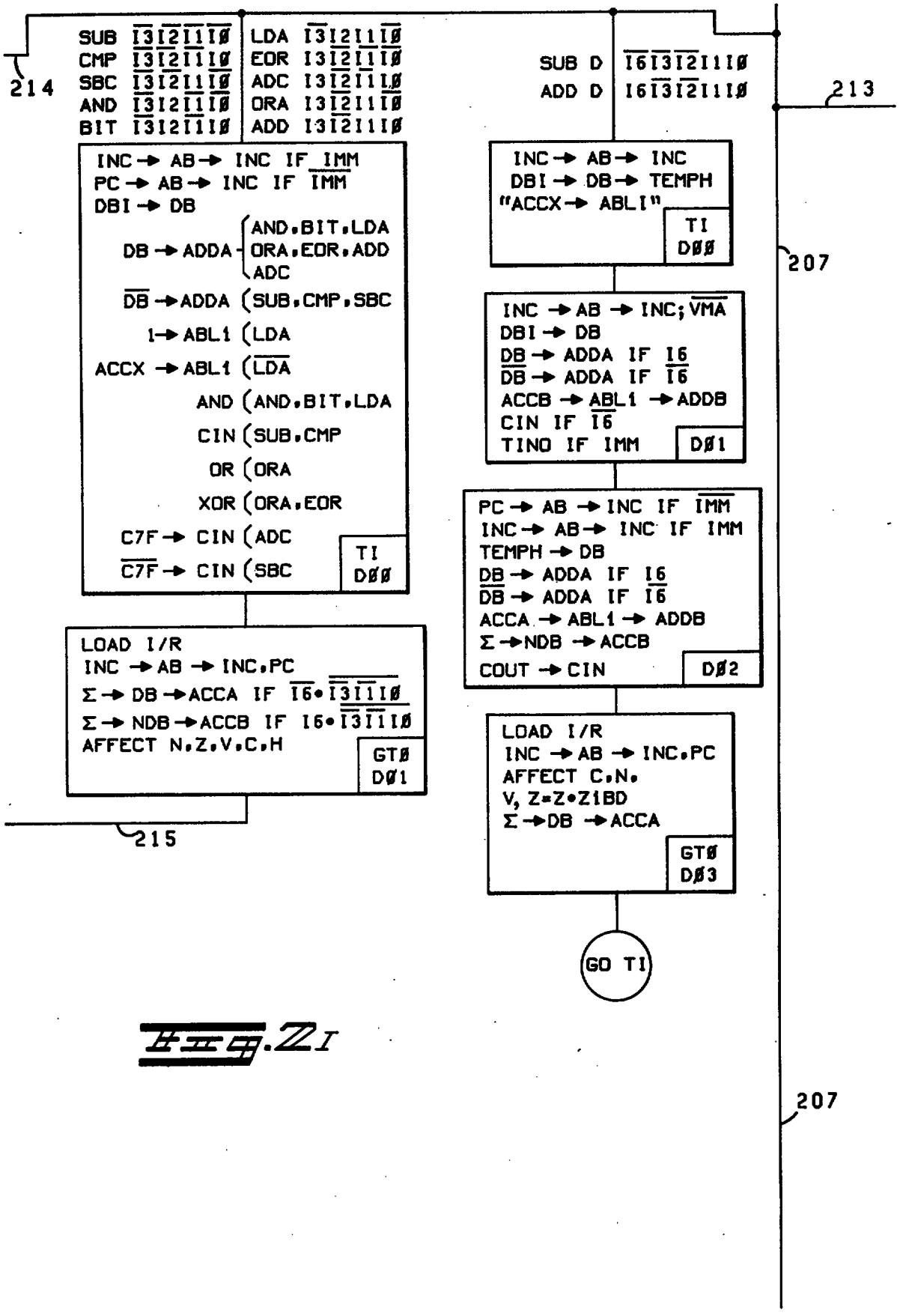

SUB $\overline{I3}I2\overline{I1}\overline{I0}$ | LDA $\overline{I3}I2I1\overline{I0}$
CMP $\overline{I3}I2\overline{I1}I0$ | EOR $\overline{I3}I2I1I0$
SBC $\overline{I3}I2I1I0$ | ADC $I3\overline{I2}\overline{I1}\overline{I0}$
AND $\overline{I3}I2\overline{I1}I0$ | ORA $I3\overline{I2}\overline{I1}I0$
BIT $\overline{I3}I2\overline{I1}I0$ | ADD $I3\overline{I2}\overline{I1}I0$
214
INC → AB → INC IF $\overline{IMM}$
PC → AB → INC IF $\overline{IMM}$
DBI → DB
DB → ADDA (AND, BIT, LDA; ORA, EOR, ADD; ADC)
$\overline{DB}$ → ADDA (SUB, CMP, SBC
1 → ABL1 (LDA
ACCX → ABL1 ($\overline{LDA}$
AND (AND, BIT, LDA
CIN (SUB, CMP
OR (ORA
XOR (ORA, EOR
C7F → CIN (ADC
$\overline{C7F}$ → CIN (SBC
TI DØØ
LOAD I/R
INC → AB → INC, PC
Σ → DB → ACCA IF $\overline{I6} \cdot \overline{I3}\overline{I1}\overline{I0}$
Σ → NDB → ACCB IF $I6 \cdot \overline{I3}\overline{I1}\overline{I0}$
AFFECT N, Z, V, C, H
GTØ DØ1
215
SUB D $\overline{I6}\overline{I3}\overline{I2}I1\overline{I0}$
ADD D $I6\overline{I3}\overline{I2}I1\overline{I0}$
213
INC → AB → INC
DBI → DB → TEMPH
"ACCX → ABL1"
TI DØØ
207
INC → AB → INC; $\overline{VMA}$
DBI → DB
$\overline{DB}$ → ADDA IF $\overline{I6}$
$\overline{DB}$ → ADDA IF $\overline{I6}$
ACCB → ABL1 → ADDB
CIN IF $\overline{I6}$
TINO IF IMM
DØ1
PC → AB → INC IF $\overline{IMM}$
INC → AB → INC IF IMM
TEMPH → DB
$\overline{DB}$ → ADDA IF $\overline{I6}$
$\overline{DB}$ → ADDA IF $\overline{I6}$
ACCA → ABL1 → ADDB
Σ → NDB → ACCB
COUT → CIN
DØ2
LOAD I/R
INC → AB → INC, PC
AFFECT C, N,
V, Z=Z•Z1BD
Σ → DB → ACCA
GTØ DØ3
GO TI
207

Fig. 2I

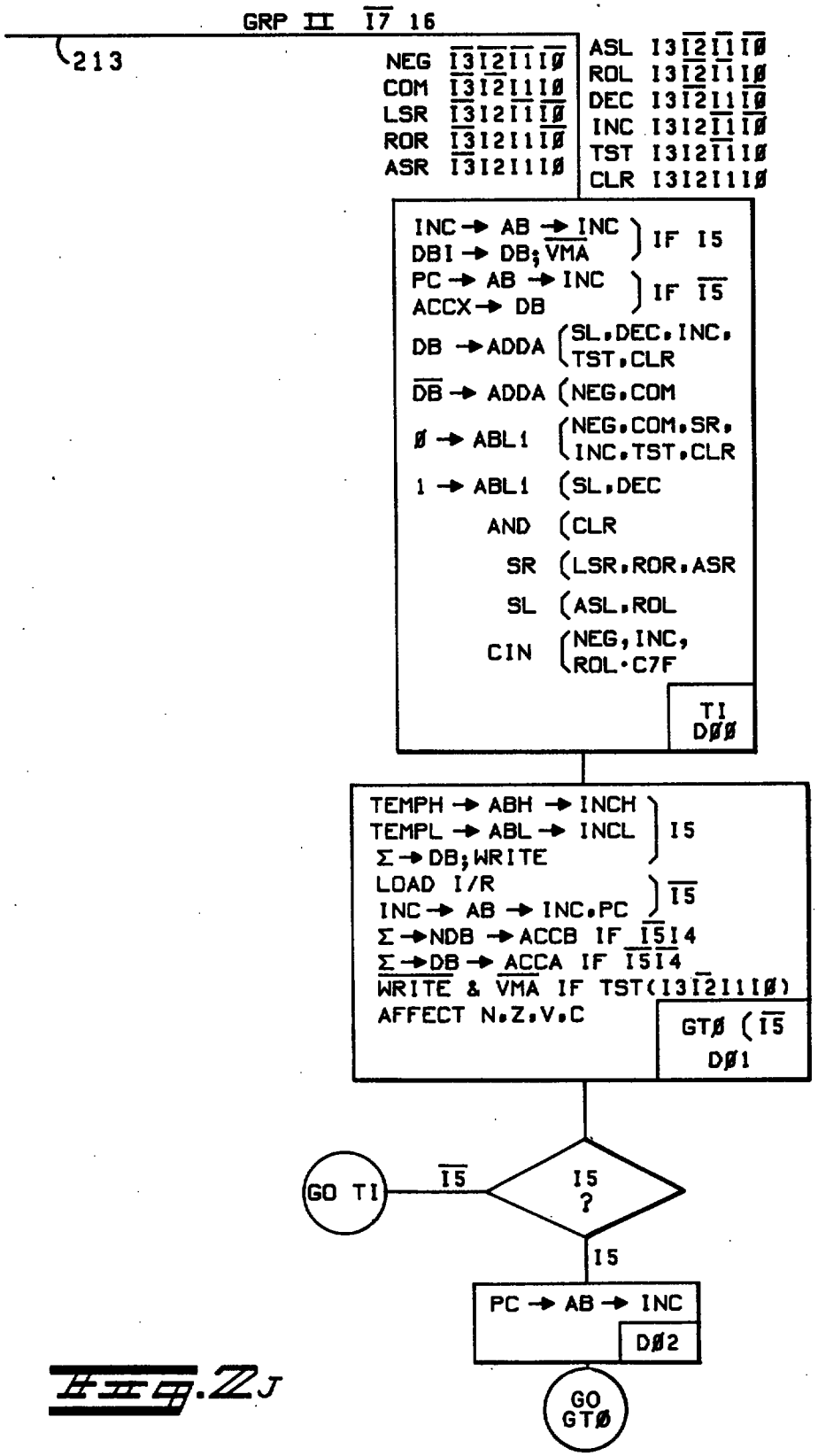
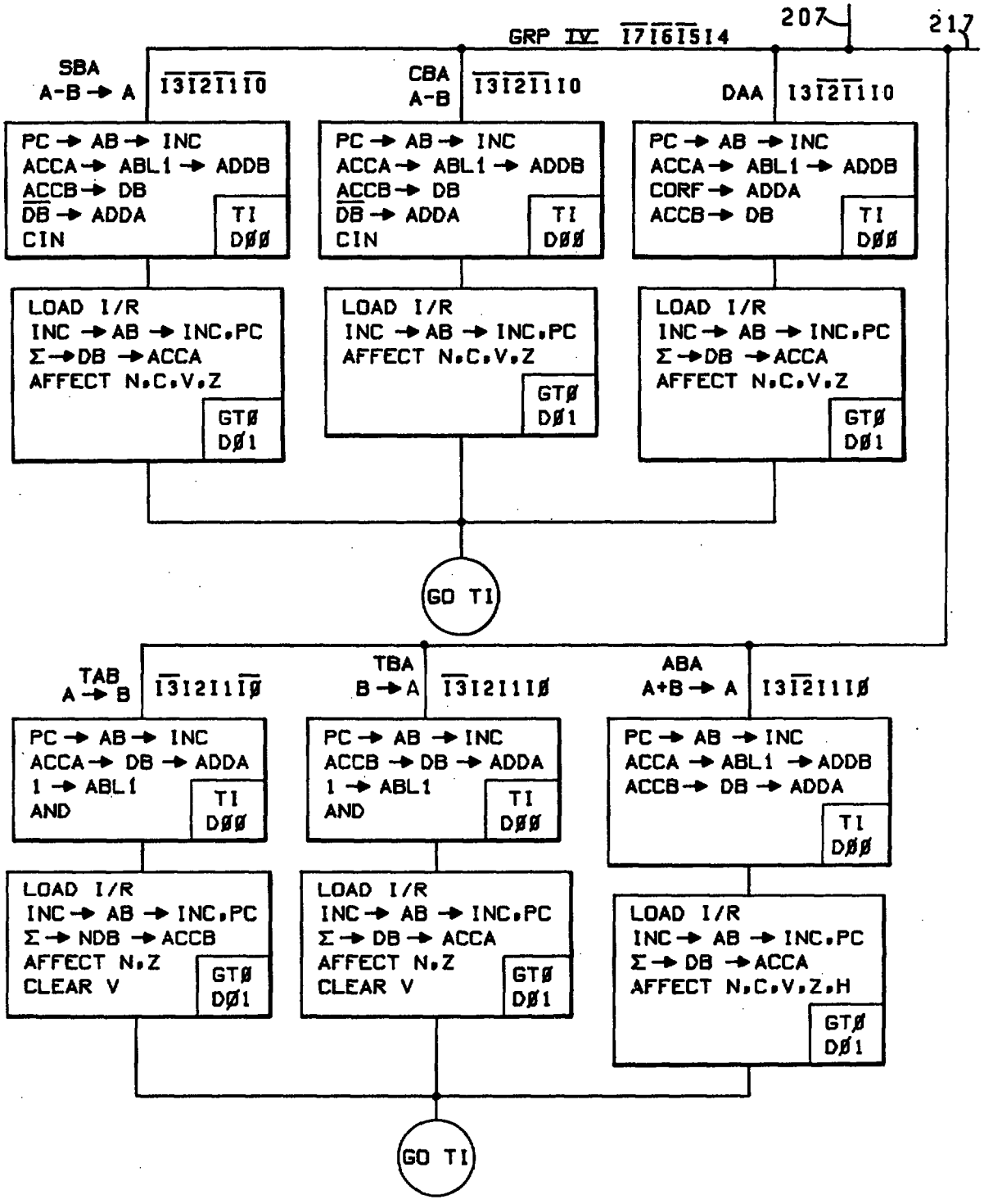
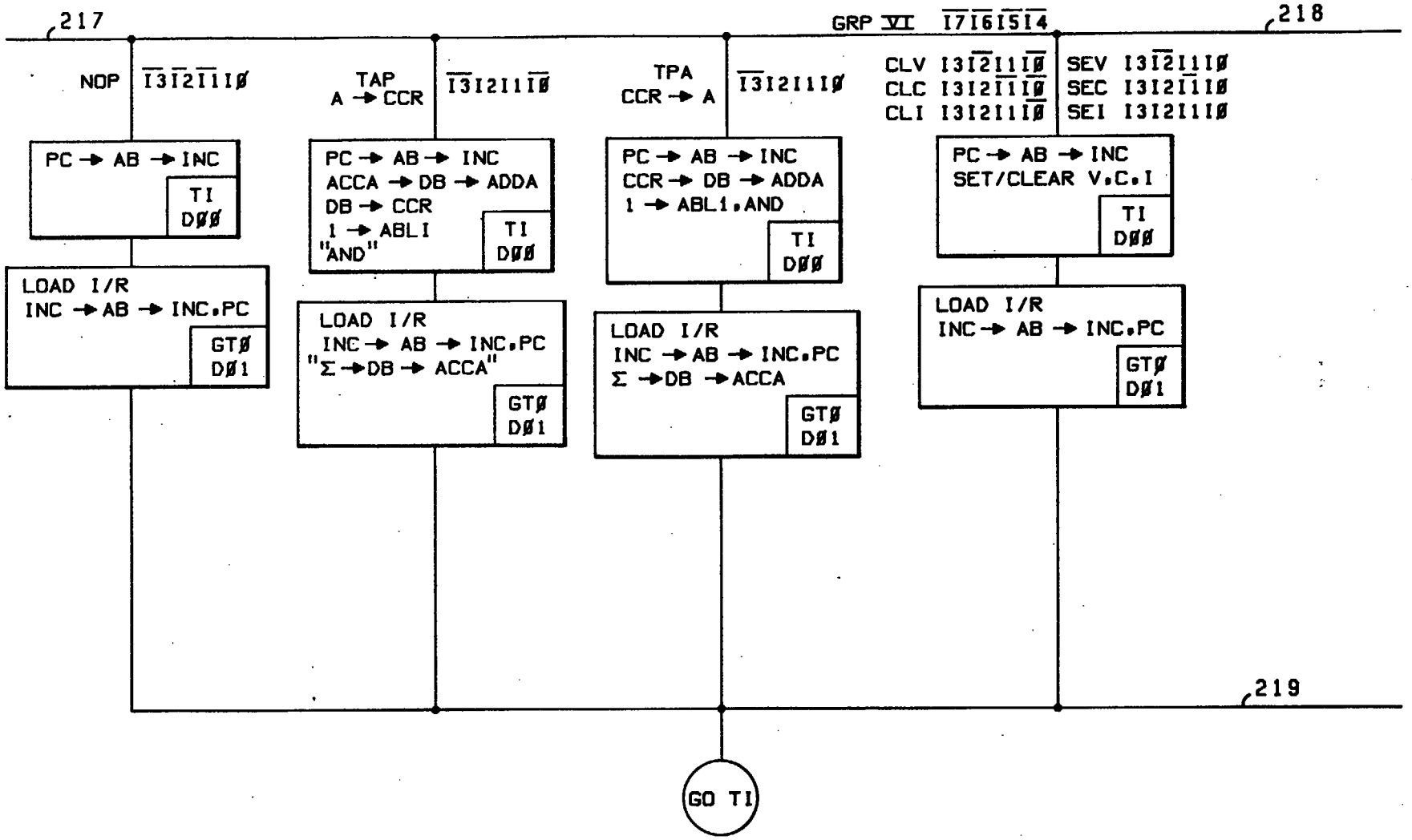

GRP II I7 16
213
NEG I3I2I1IØ
COM I3I2I1IØ
LSR I3I2I1IØ
ROR I3I2I1IØ
ASR I3I2I1IØ
ASL I3I2I1IØ
ROL I3I2I1IØ
DEC I3I2I1IØ
INC I3I2I1IØ
TST I3I2I1IØ
CLR I3I2I1IØ
INC → AB → INC
DBI → DB; VMA
IF I5
PC → AB → INC
ACCX → DB
IF I5
DB → ADDA (SL, DEC, INC, TST, CLR
DB → ADDA (NEG, COM
Ø → ABL1 (NEG, COM, SR, INC, TST, CLR
1 → ABL1 (SL, DEC
AND (CLR
SR (LSR, ROR, ASR
SL (ASL, ROL
CIN (NEG, INC, ROL·C7F
TI DØØ
TEMPH → ABH → INCH
TEMPL → ABL → INCL
Σ → DB; WRITE
I5
LOAD I/R
INC → AB → INC, PC
I5
Σ → NDB → ACCB IF I5I4
Σ → DB → ACCA IF I5I4
WRITE & VMA IF TST(I3I2I1IØ)
AFFECT N, Z, V, C
GTØ (I5
DØ1
GO TI
I5
I5 ?
I5
PC → AB → INC
DØ2
GO GTØ

Fig. 2J

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GRP IV $\overline{I7}\,\overline{I6}\,I5\,I4$
207
217
SBA
A-B → A
$\overline{I3}\,I2\,\overline{I1}\,\overline{I0}$
CBA
A-B
$\overline{I3}\,\overline{I2}\,\overline{I1}\,I0$
DAA
$I3\,\overline{I2}\,\overline{I1}\,\overline{I0}$
PC → AB → INC
ACCA → ABL1 → ADDB
ACCB → DB
DB → ADDA
CIN
TI DØØ
PC → AB → INC
ACCA → ABL1 → ADDB
CORF → ADDA
ACCB → DB
TI DØØ
LOAD I/R
INC → AB → INC.PC
Σ → DB → ACCA
AFFECT N.C.V.Z
GTØ DØ1
AFFECT N.C.V.Z
GO TI
TAB
A → B
$\overline{I3}\,I2\,\overline{I1}\,I\overline{0}$
TBA
B → A
$\overline{I3}\,I2\,I1\,I\overline{0}$
ABA
A+B → A
$I3\,\overline{I2}\,I1\,I\overline{0}$
1 → ABL1
AND
Σ → NDB → ACCB
Σ → DB → ACCA
AFFECT N.Z
CLEAR V
AFFECT N.C.V.Z.H



第五圖.24

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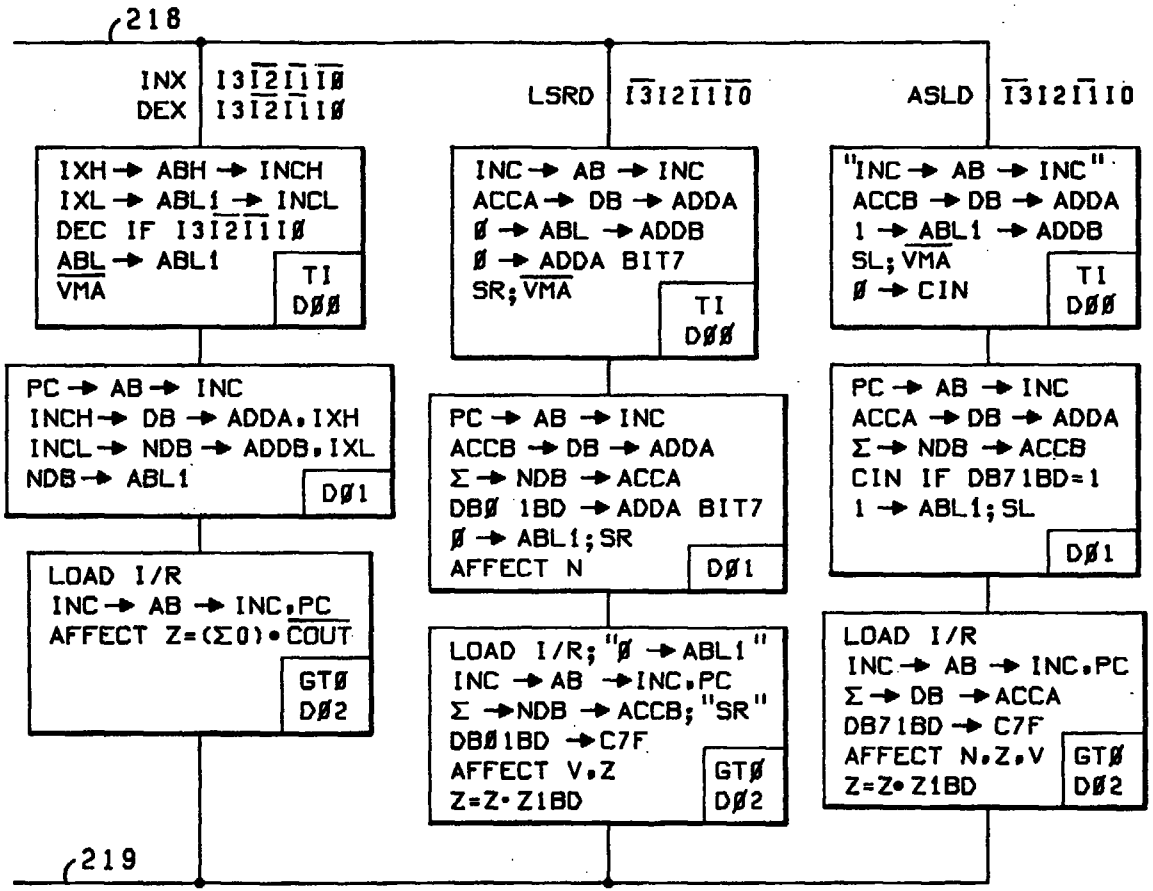


FIG. 2M

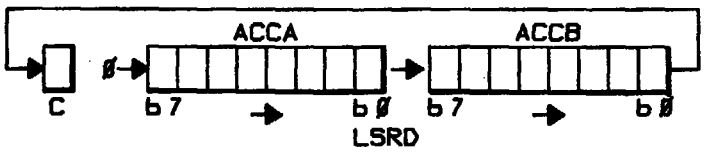


FIG. 10A

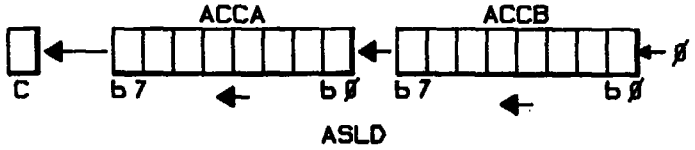


FIG. 10B

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(13)

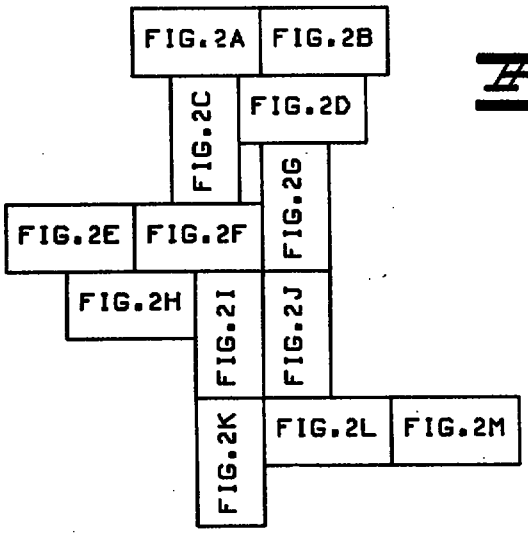


FIG. 3

FIG. 4A

		IMPLIED RELATIVE				ACC A	ACC B	IND	EXT	ACC A IMM	ACC A DIR	ACC A IND	ACC A EXT	ACC B IMM	ACC B DIR	ACC B IND	ACC B EXT	
MSB / LSB		0000	0001	0010	0011	0100	0101	0110	0111	1000	1001	1010	1011	1100	1101	1110	1111	7654
		0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
0000	0		SBA	BRA	TSX	NEG				SUB								0
0001	1	NOP	CBA	BAN	INS					CMP								1
0010	2			BHI	PULA					SBC								2
0011	3			BLS	PULB	COM				SUBD				ADDD				3
0100	4	LSRD		BCC	DES	LSR				AND								4
0101	5	ASLD		BCS	TXS					BIT								5
0110	6	TAP	TAB	BNE	PSHA	ROR				LDA								6
0111	7	TPA	TBA	BEQ	PSHB	ASR					STA A				STA B			7
1000	8	INX		BVC	PULX	ASL				EOR								8
1001	9	DEX	DAA	BYS	RTS	ROL				ADC								9
1010	A	CLV		BPL	ABX	DEC				ORA								A
1011	B	SEV	ABA	BMI	RTI					ADD								B
1100	C	CLC		BGE	PSHX	INC				CPX				LDAD				C
1101	D	SEC		BLT	MUL	TST				BSR	JSR				STAD			D
1110	E	CLI		BGT	WAI	*	JMP			LDS				LDX				E
1111	F	SEI		BLE	SWI	CLR					STS				STX			F
3210		0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
		VI	IV	III	V	II				I								

* INC UNTIL RESET

OP CODE MAP

FIG. 4B

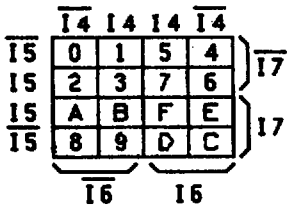
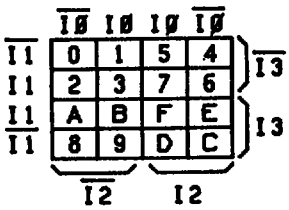


FIG. 4C



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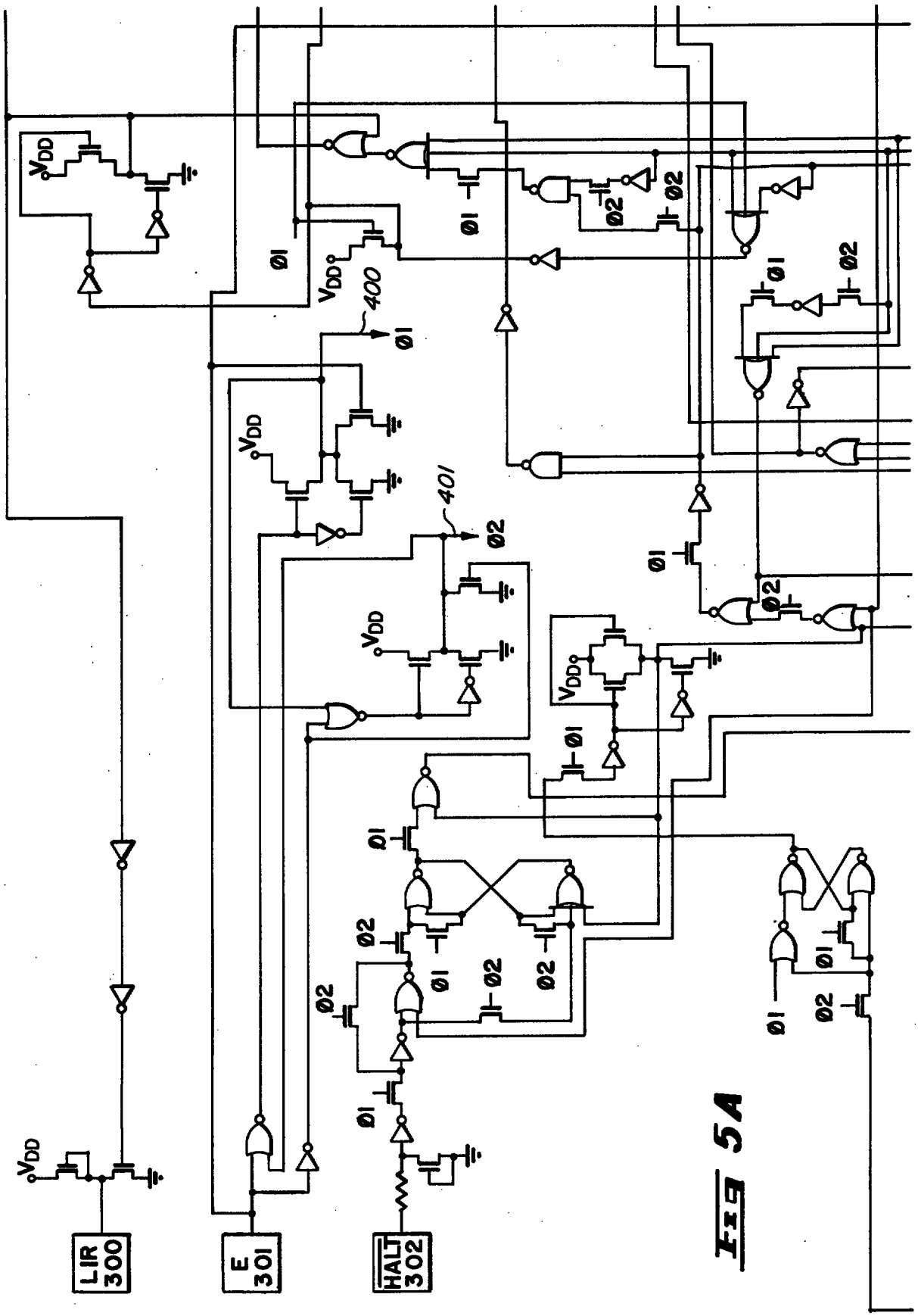


Fig 5A

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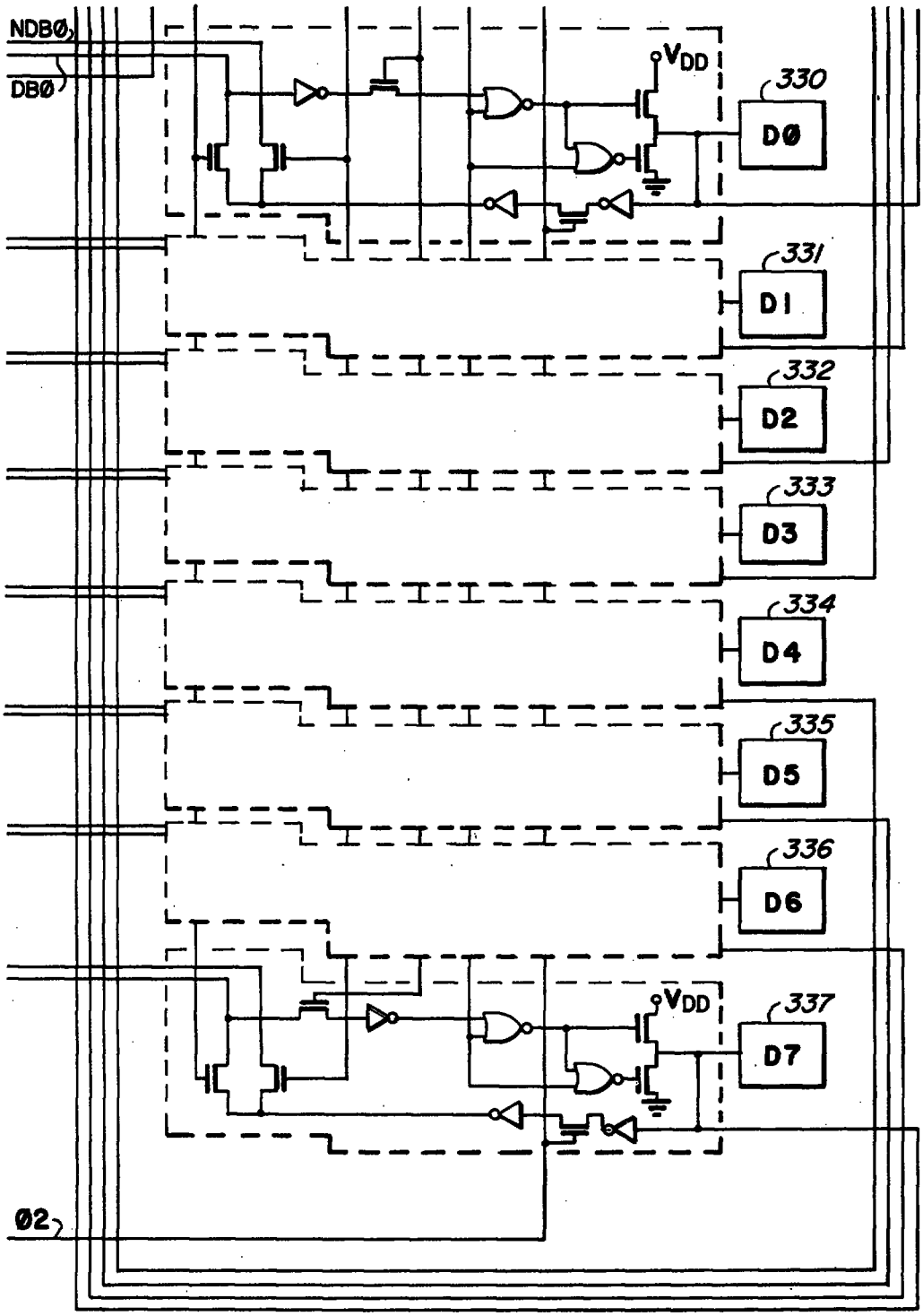


Fig 5AA

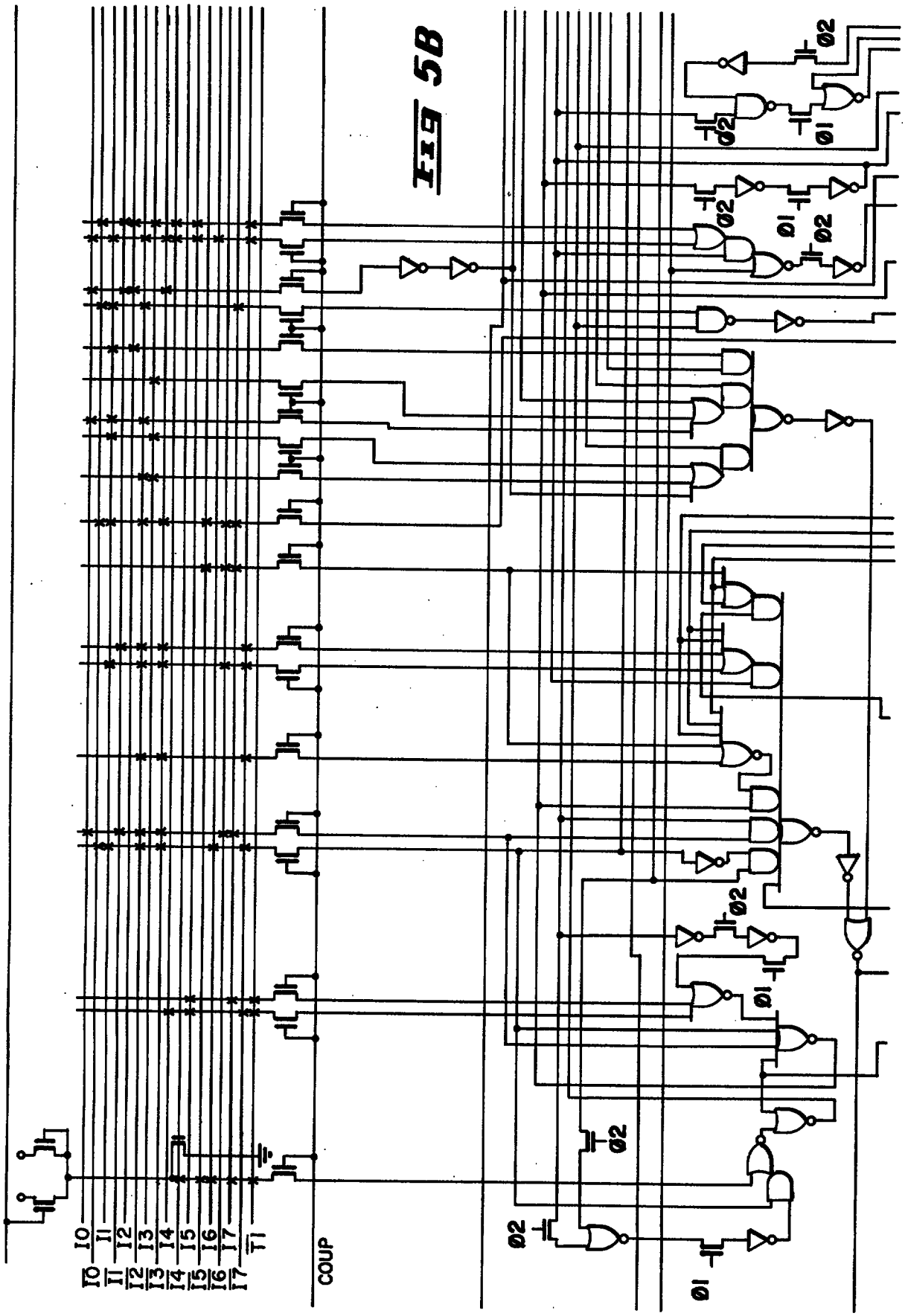


Fig 5B

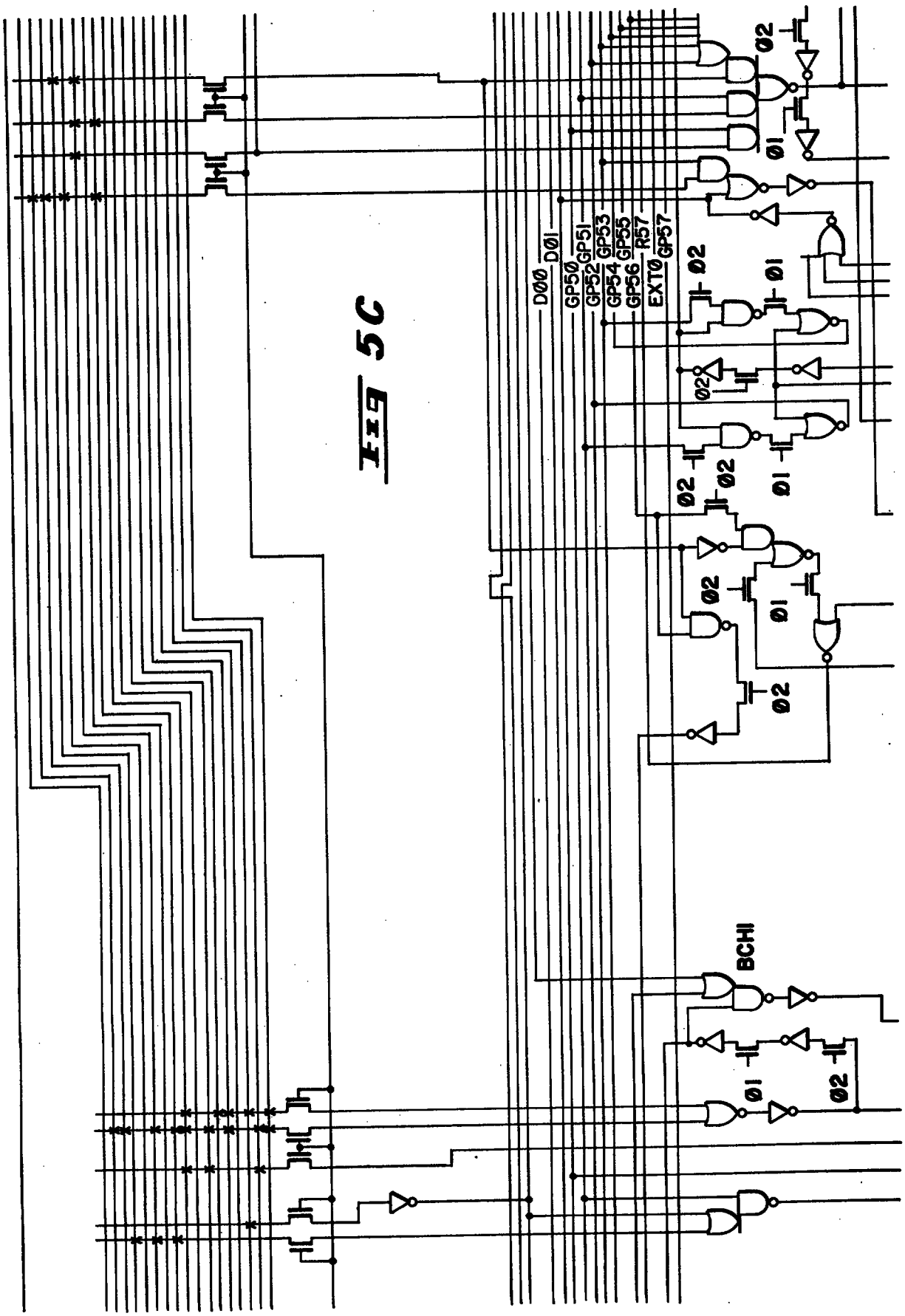
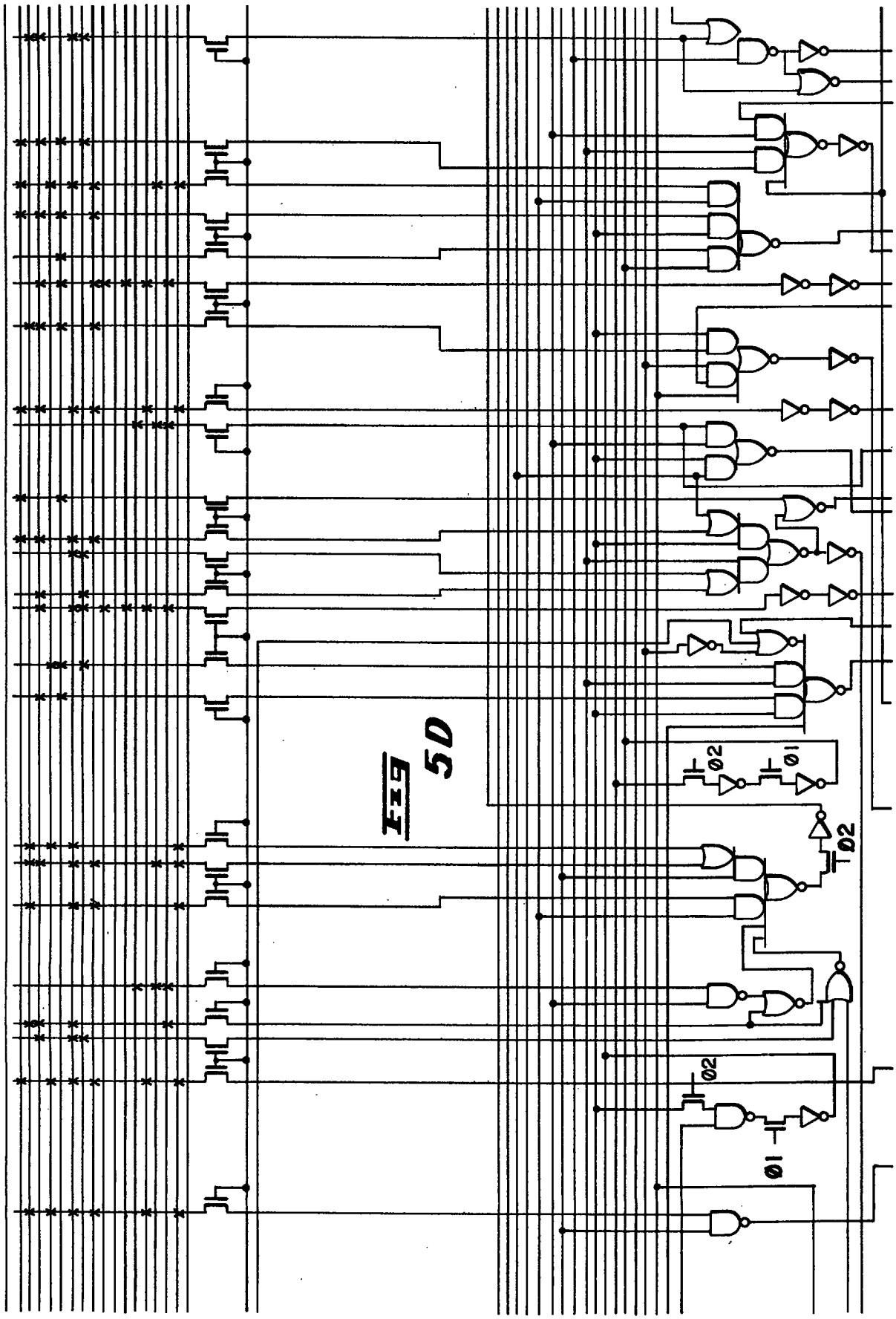

D00
D01
GP50
GP51
GP52
GP53
GP54
GP55
GP56
R57
EXT0
GP57
BCHI
ø1
ø2

Fig 5C


EXT
50
ø2
ø1
ø2
ø2
ø1

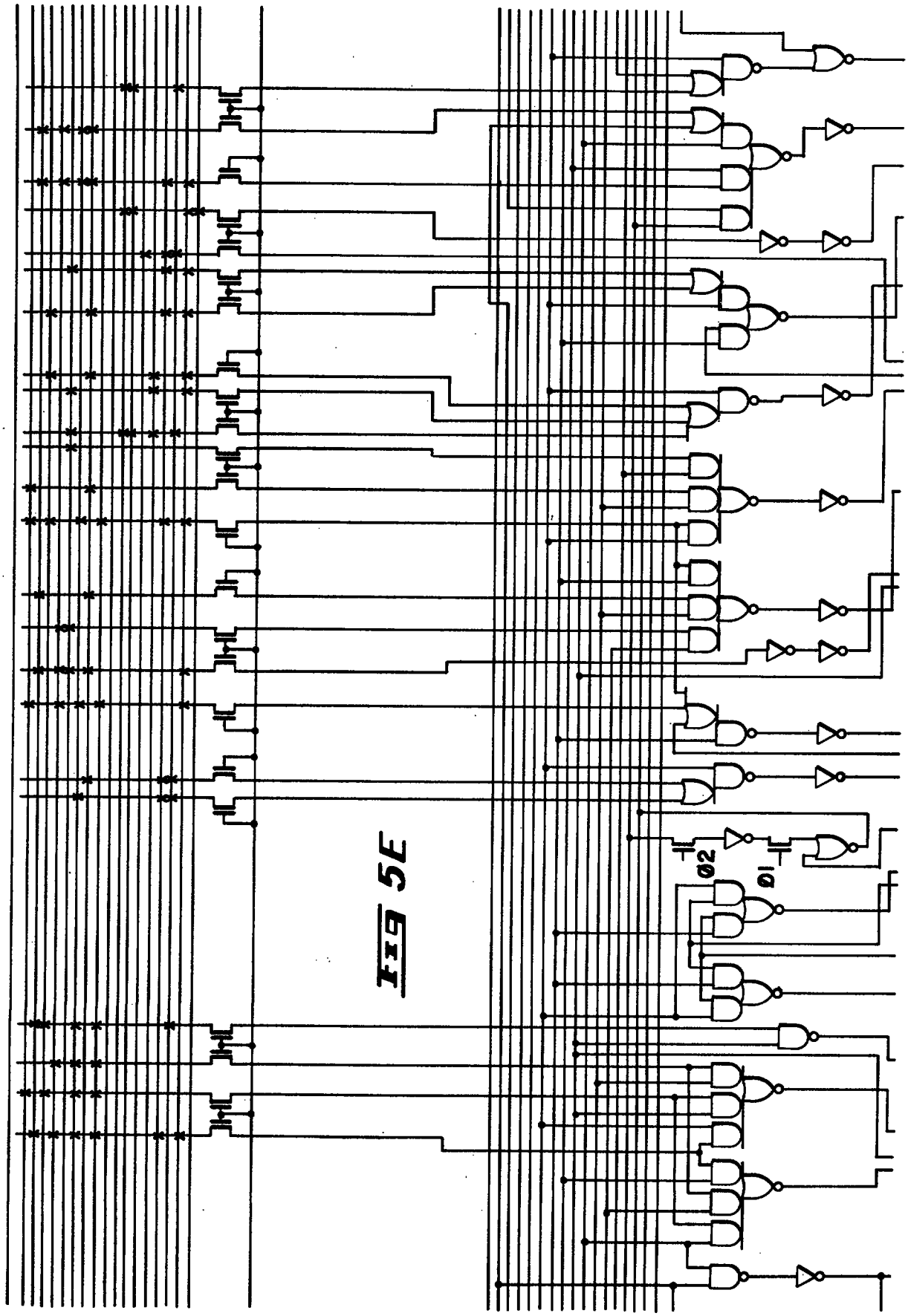


Fig 5E

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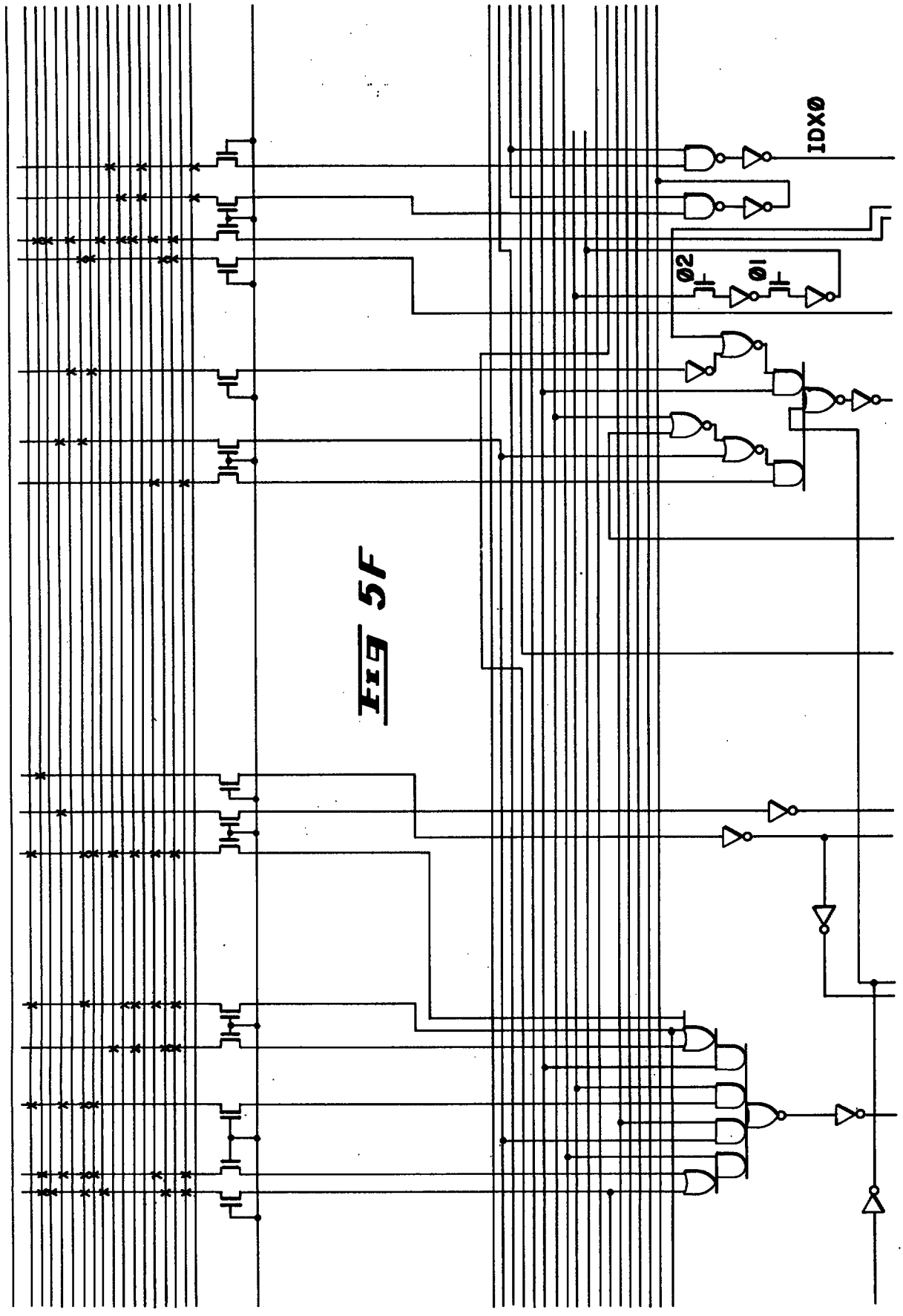


Fig 5F

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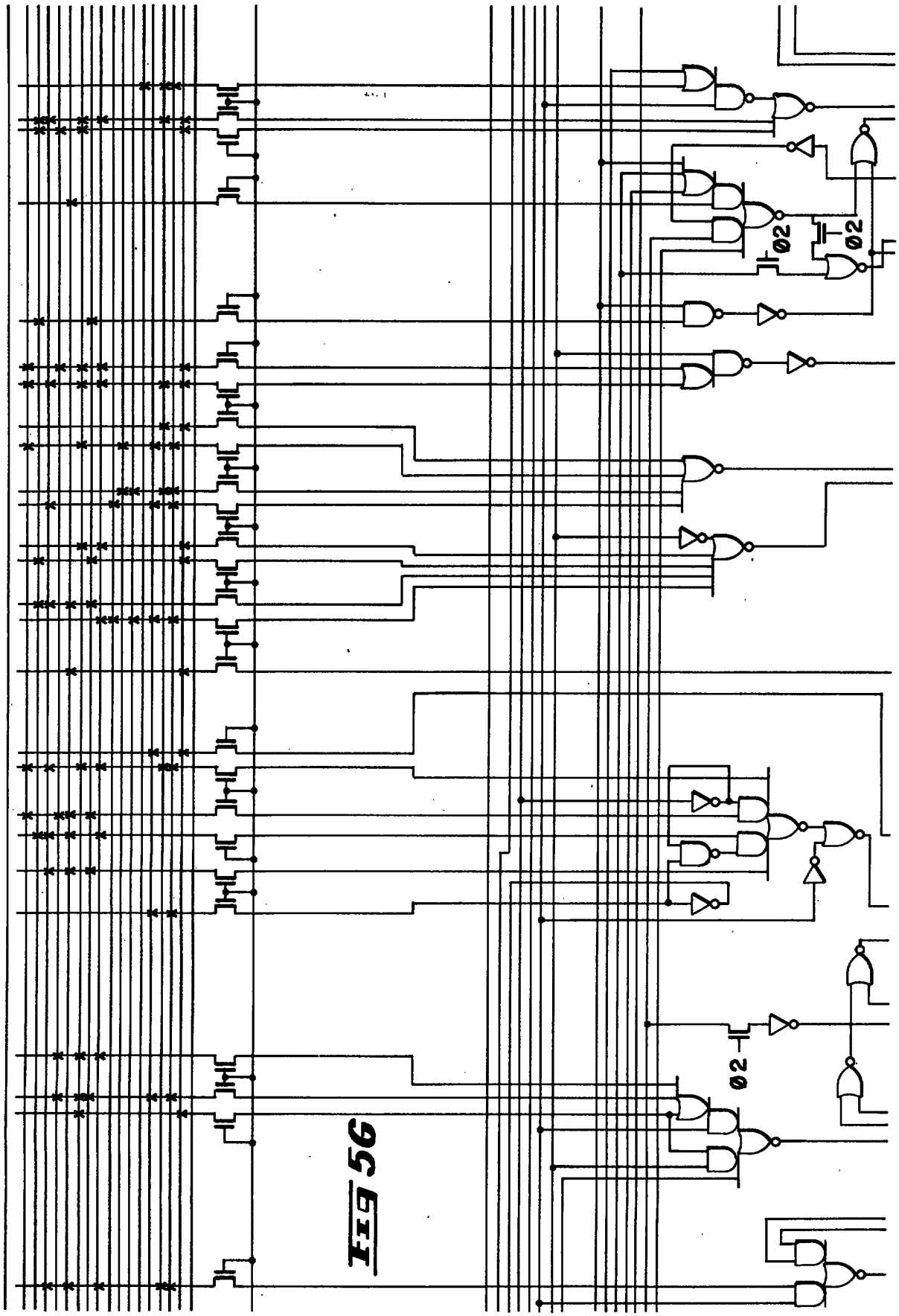


Fig 5G

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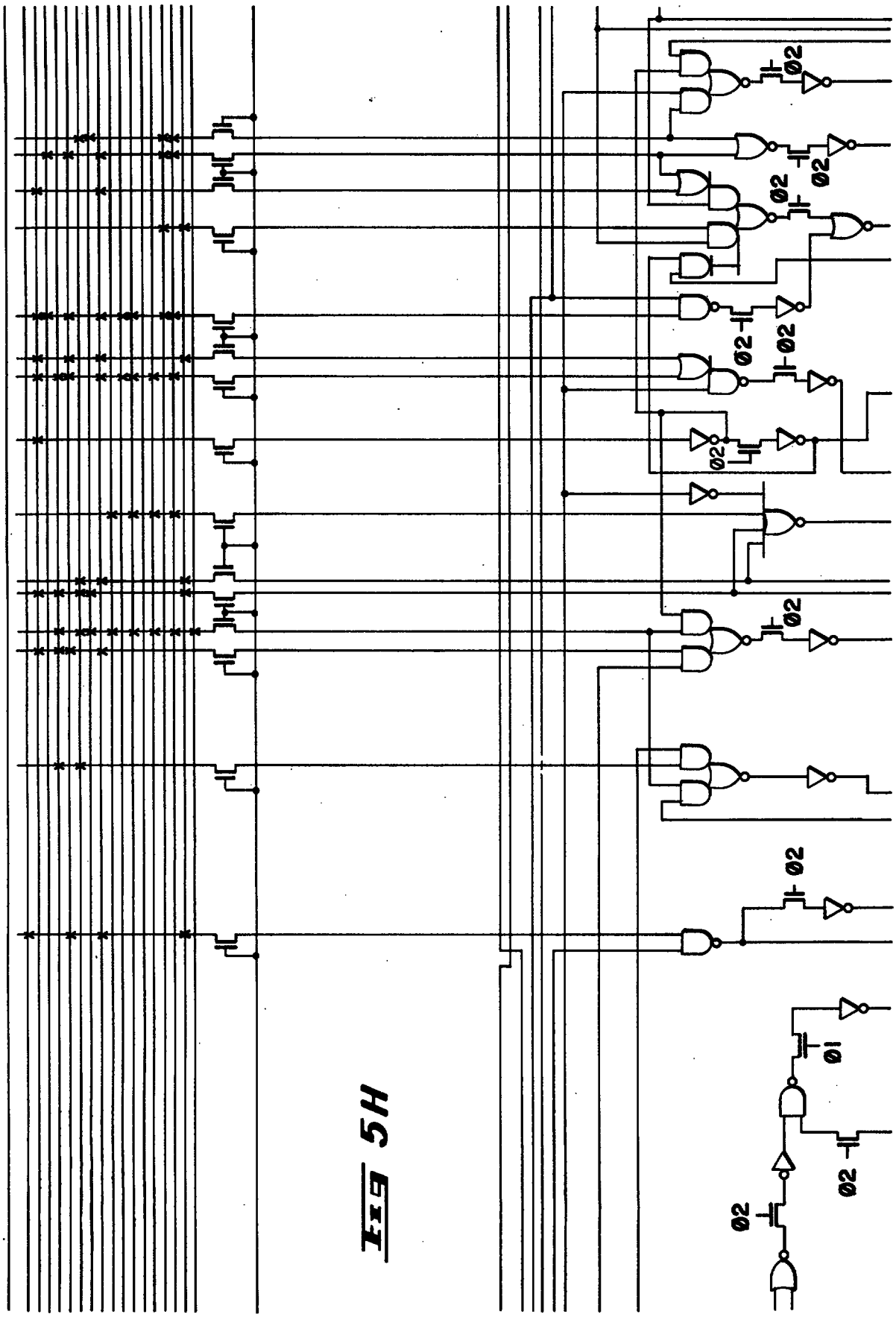


Fig 5H

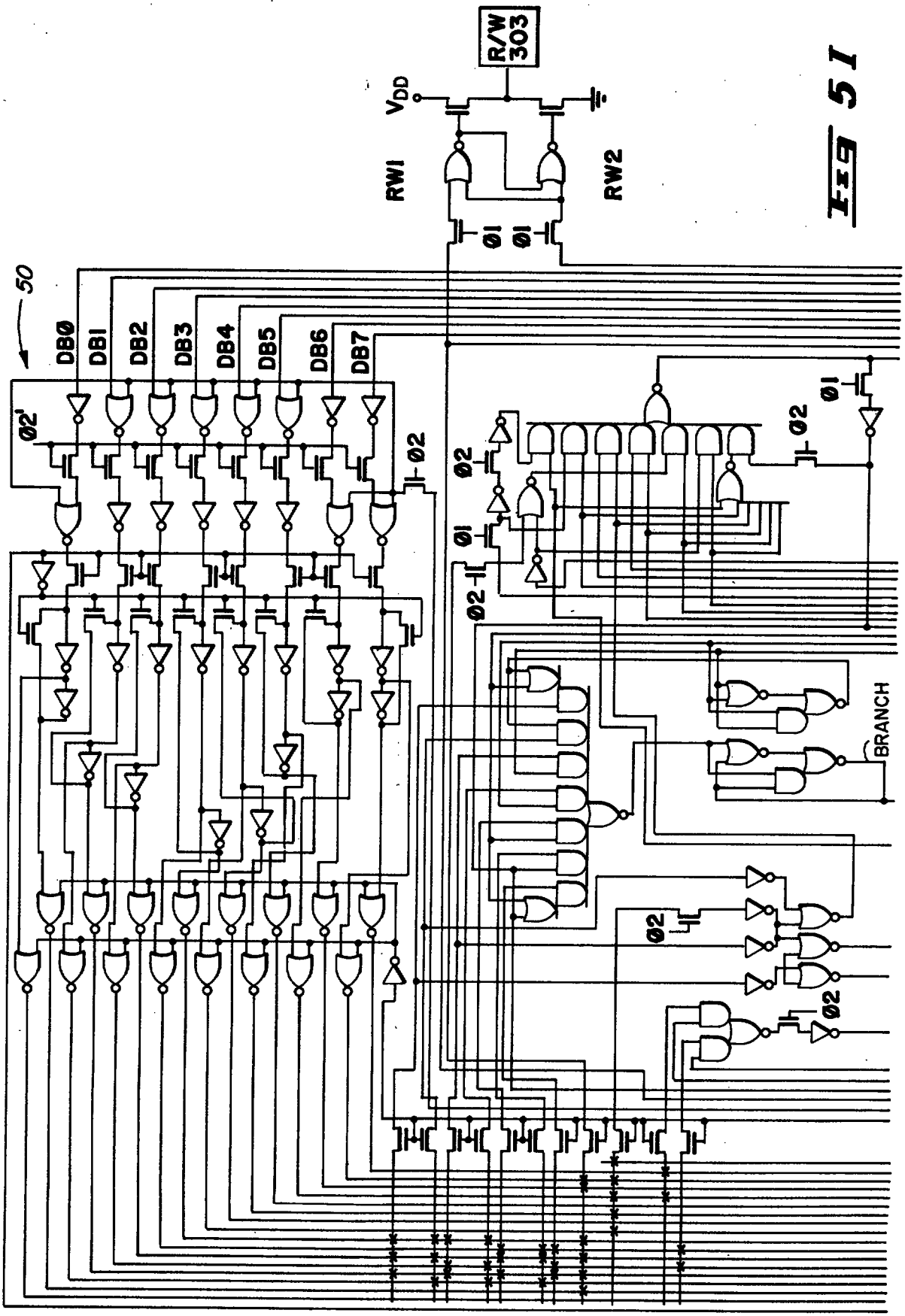

R/W
303
V_{DD}
RW1
RW2
Ø1
Ø1
50
DB0
DB1
DB2
DB3
DB4
DB5
DB6
DB7
Ø2'
Ø2
Ø2
Ø1
Ø2
Ø1
Ø2
BRANCH
Ø2
Ø2

Fig 5I

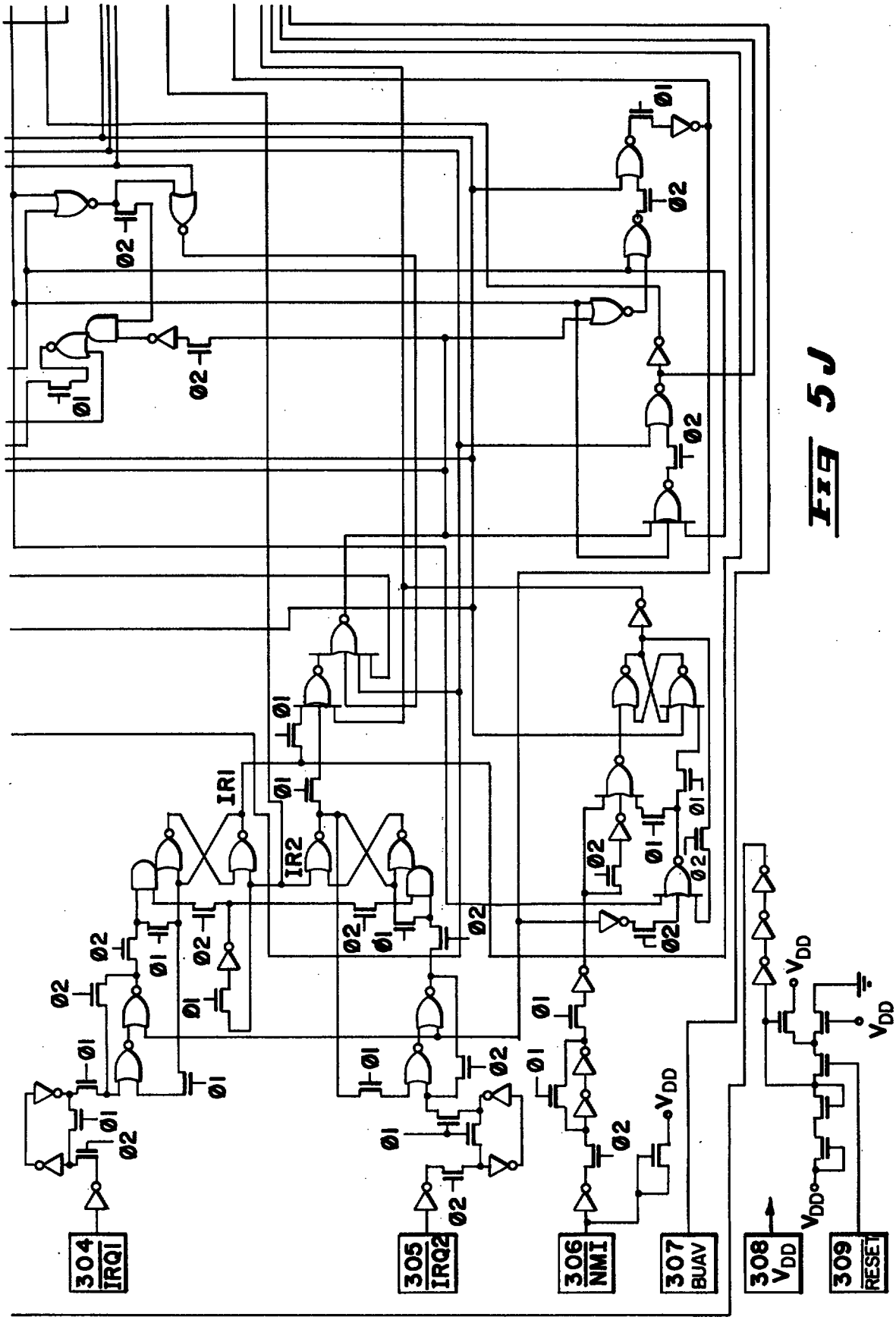

Ø1
Ø2
IR1
IR2
304 IRQ1
305 IRQ2
306 NMI
307 BUAV
308 V_{DD}
309 RESET
V_{DD}

Fig 5J

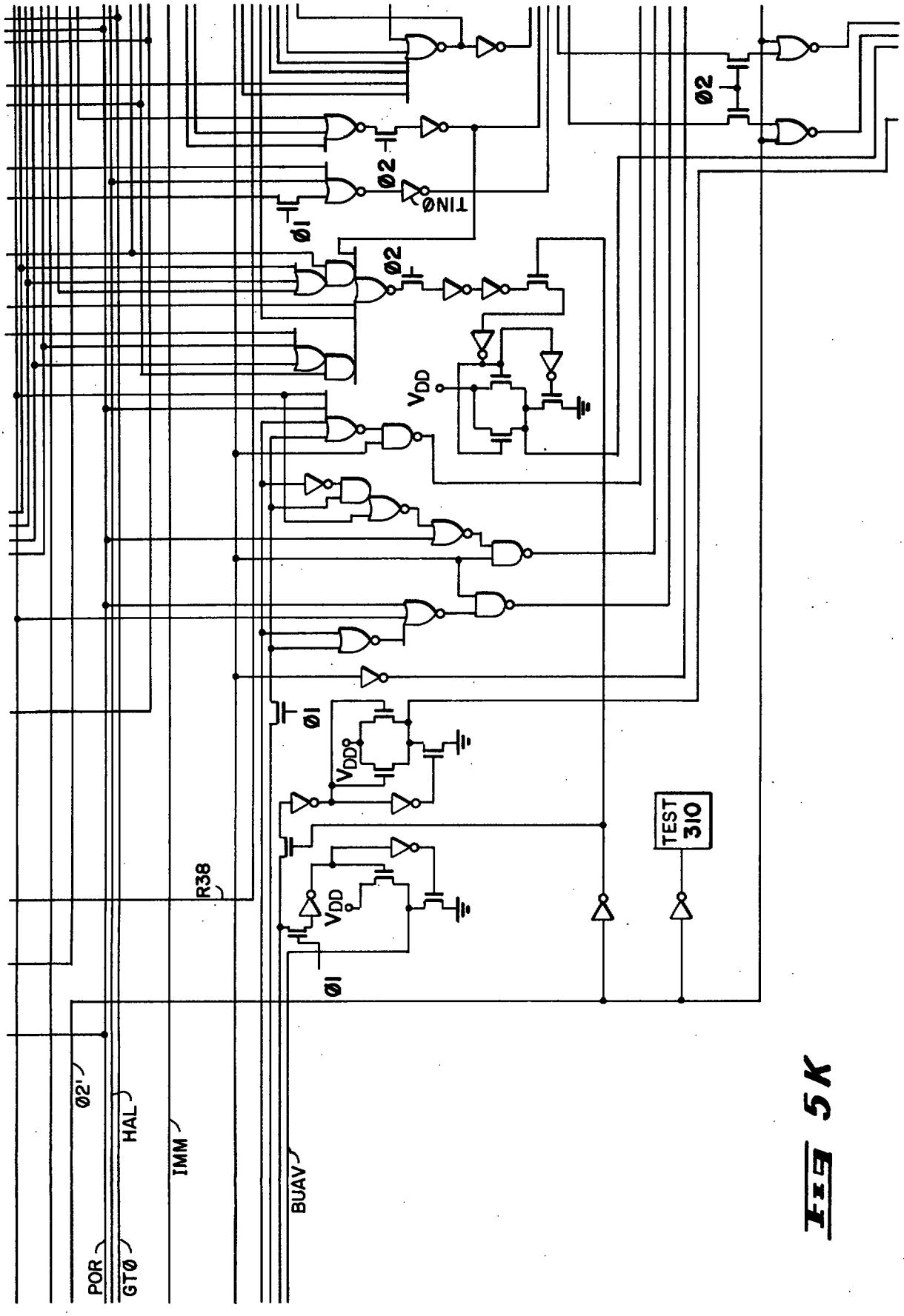
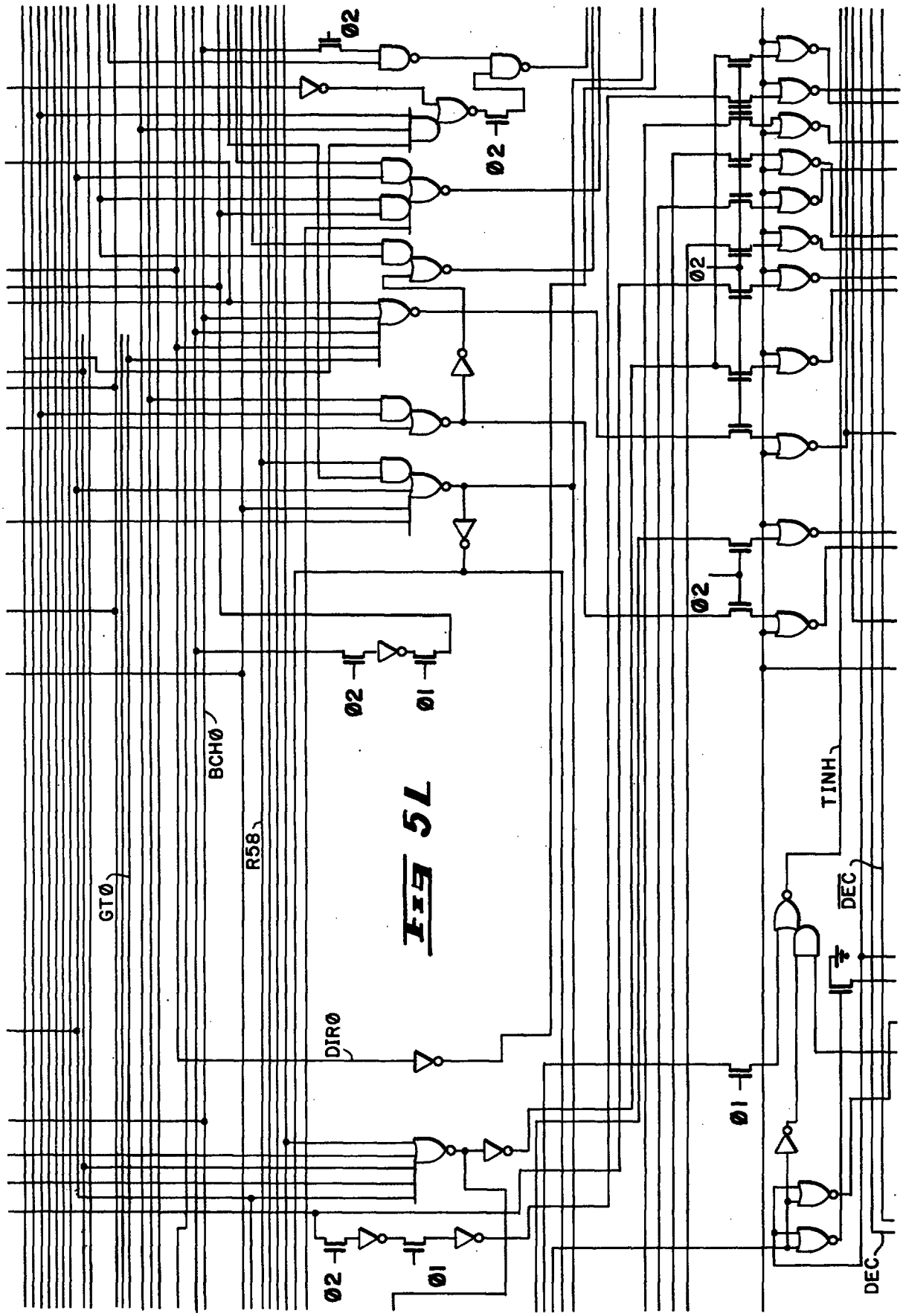
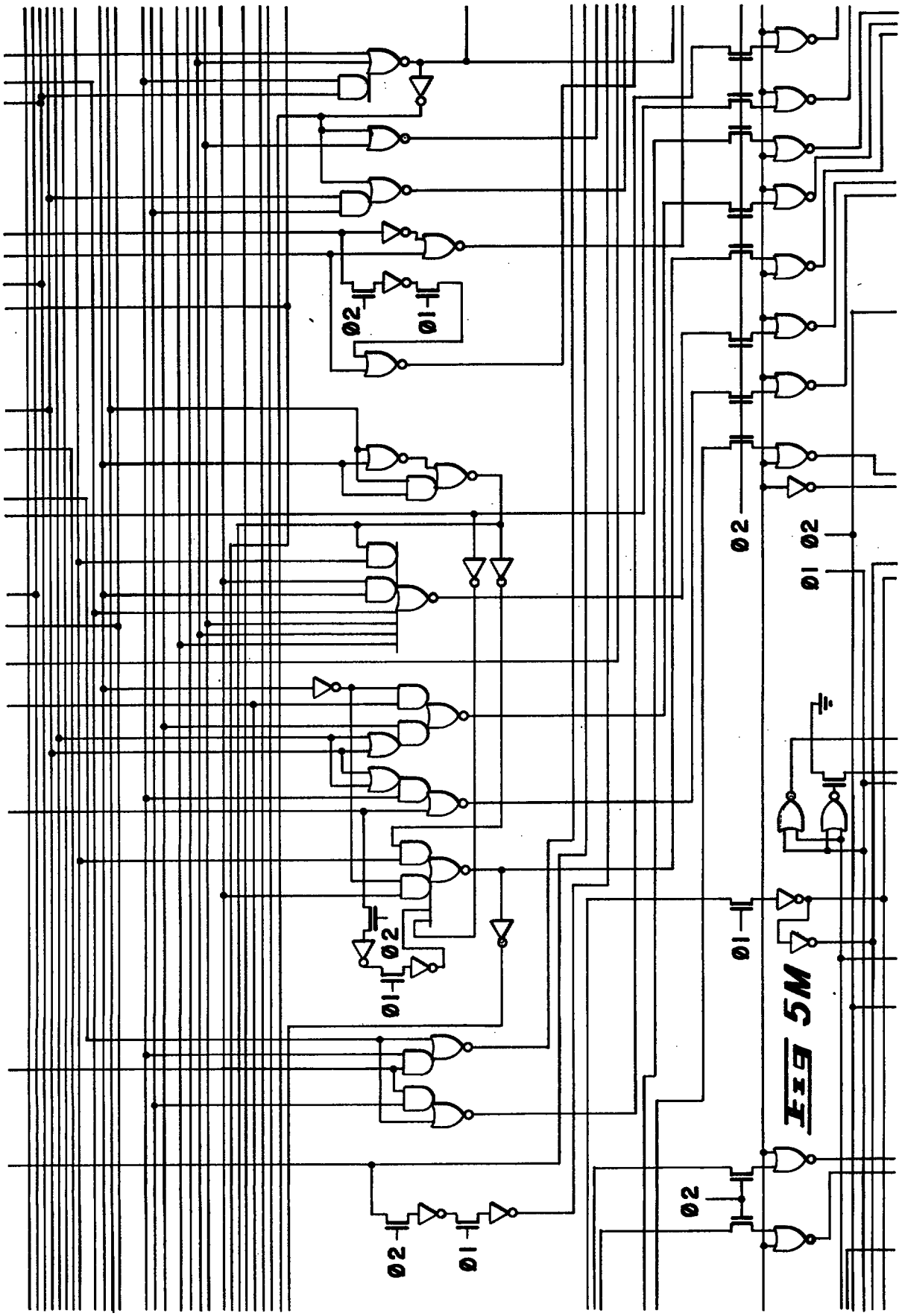

Ø2
Ø2
ØNIT
Ø1
Ø2
VDD
Ø1
VDD
VDD
TEST
310
R38
Ø1
Ø2'
HAL
IMM
BUAV
POR
GTØ

Fig 5K

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Ø2
Ø1
Ø2
Ø1
Ø2
Ø1

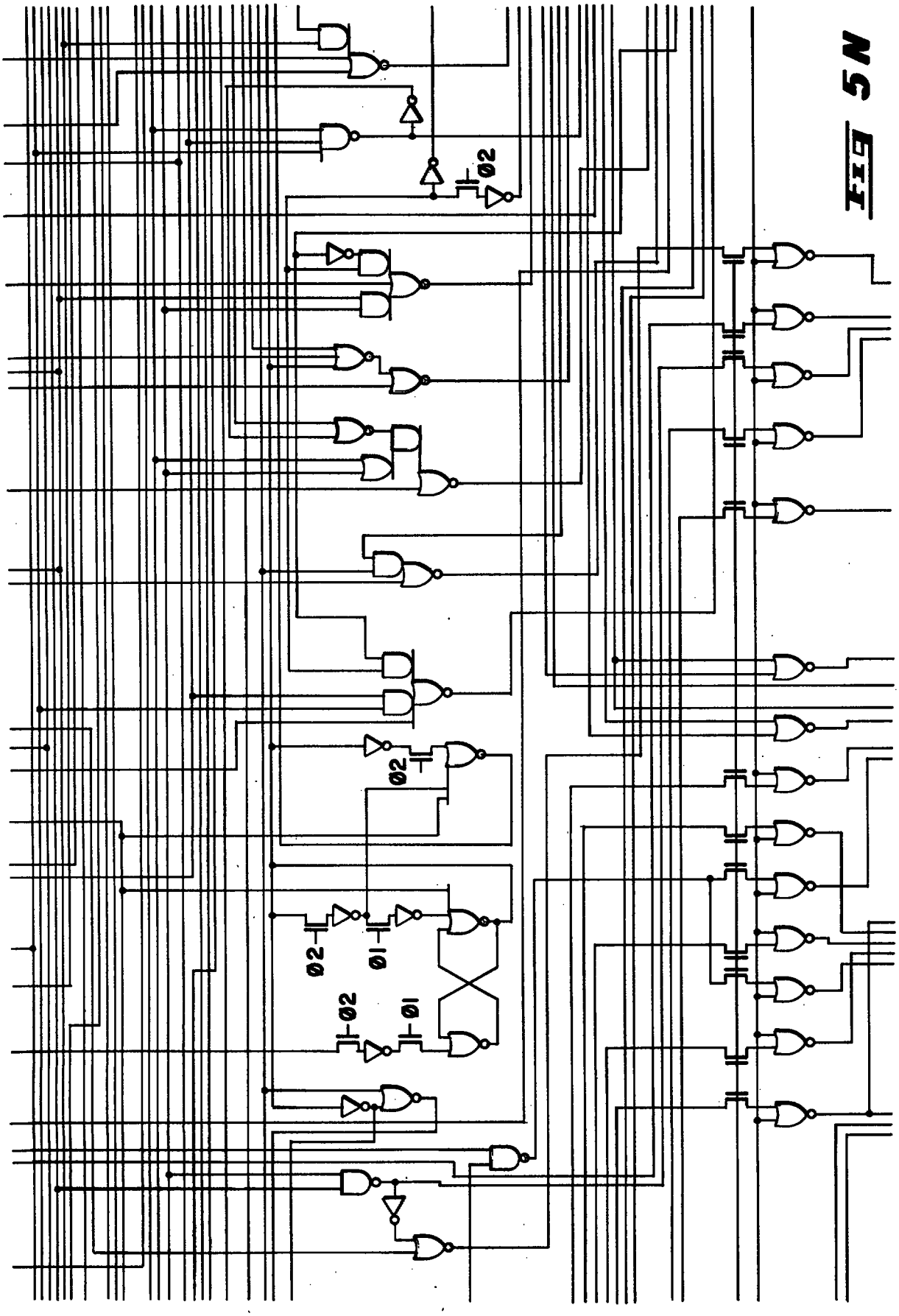


Fig 5N

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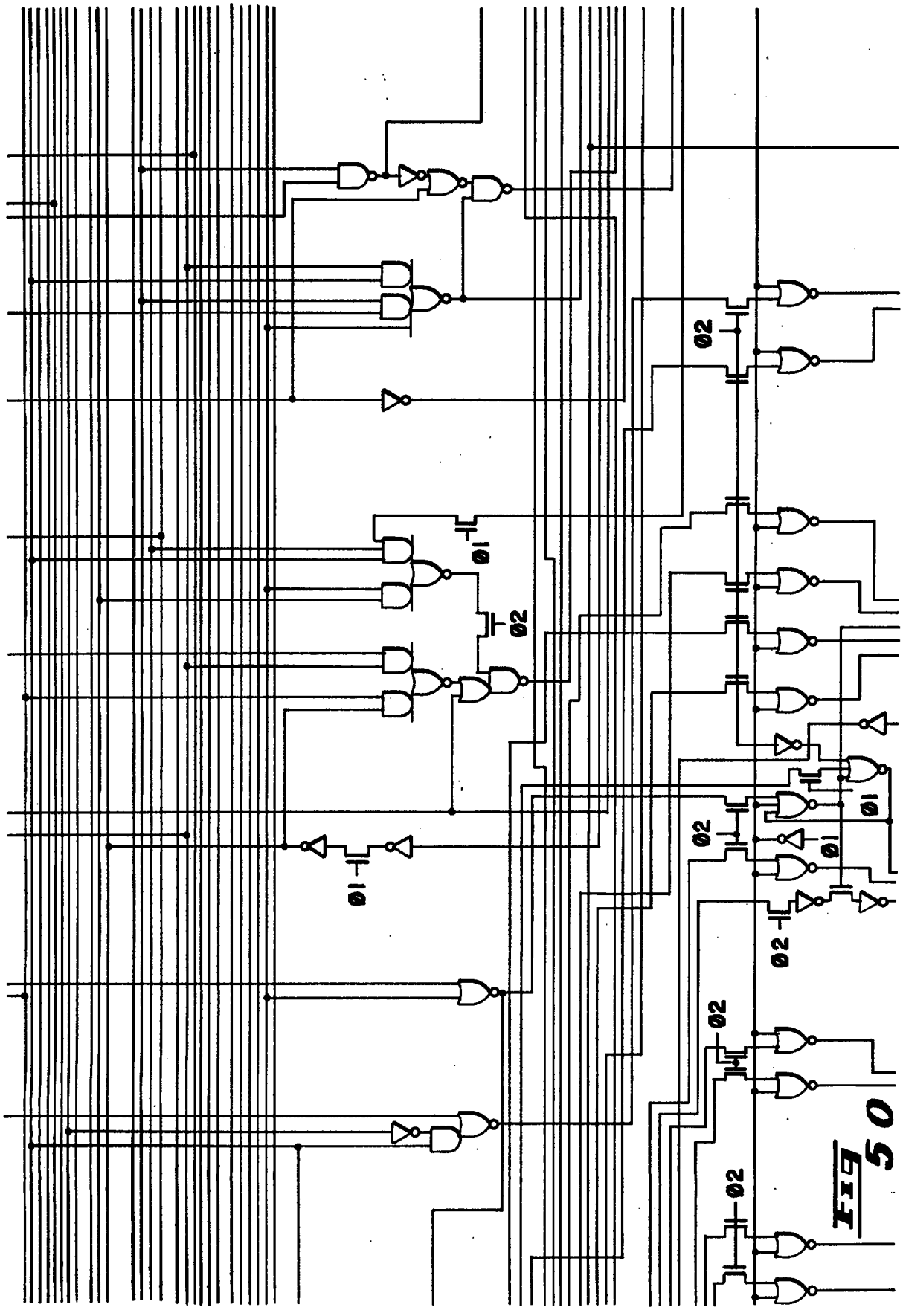
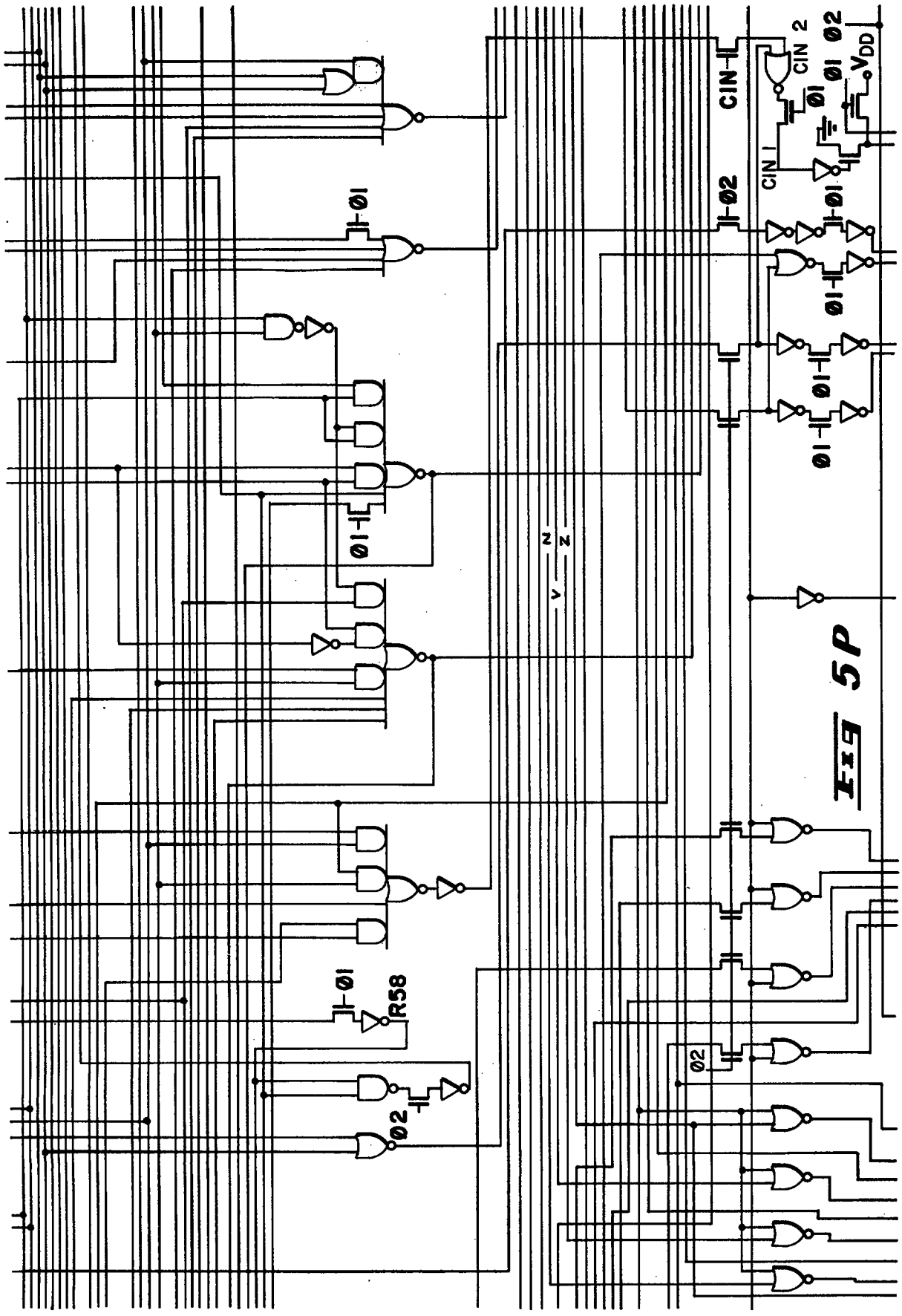


FIG 5

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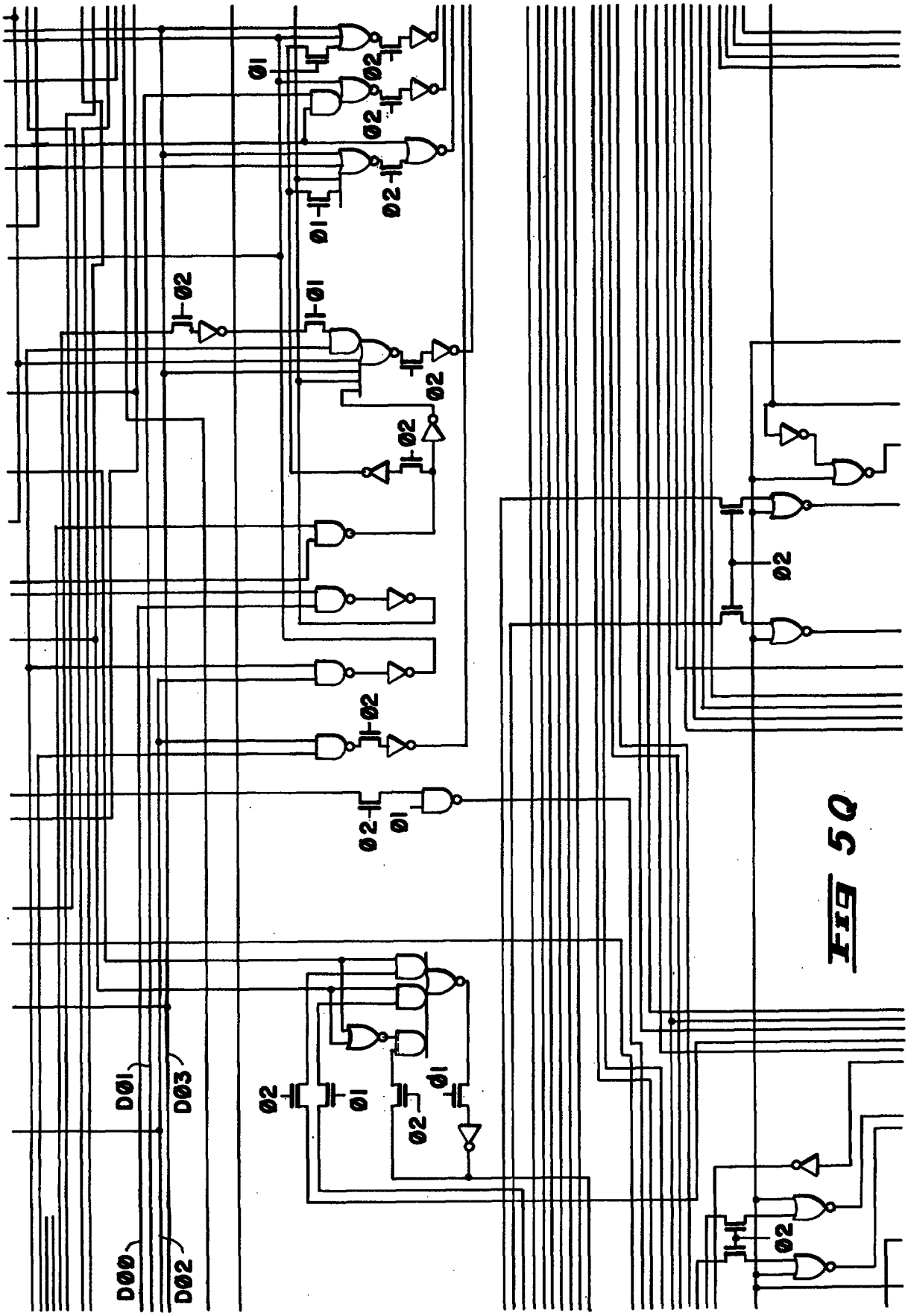


Fig 5Q

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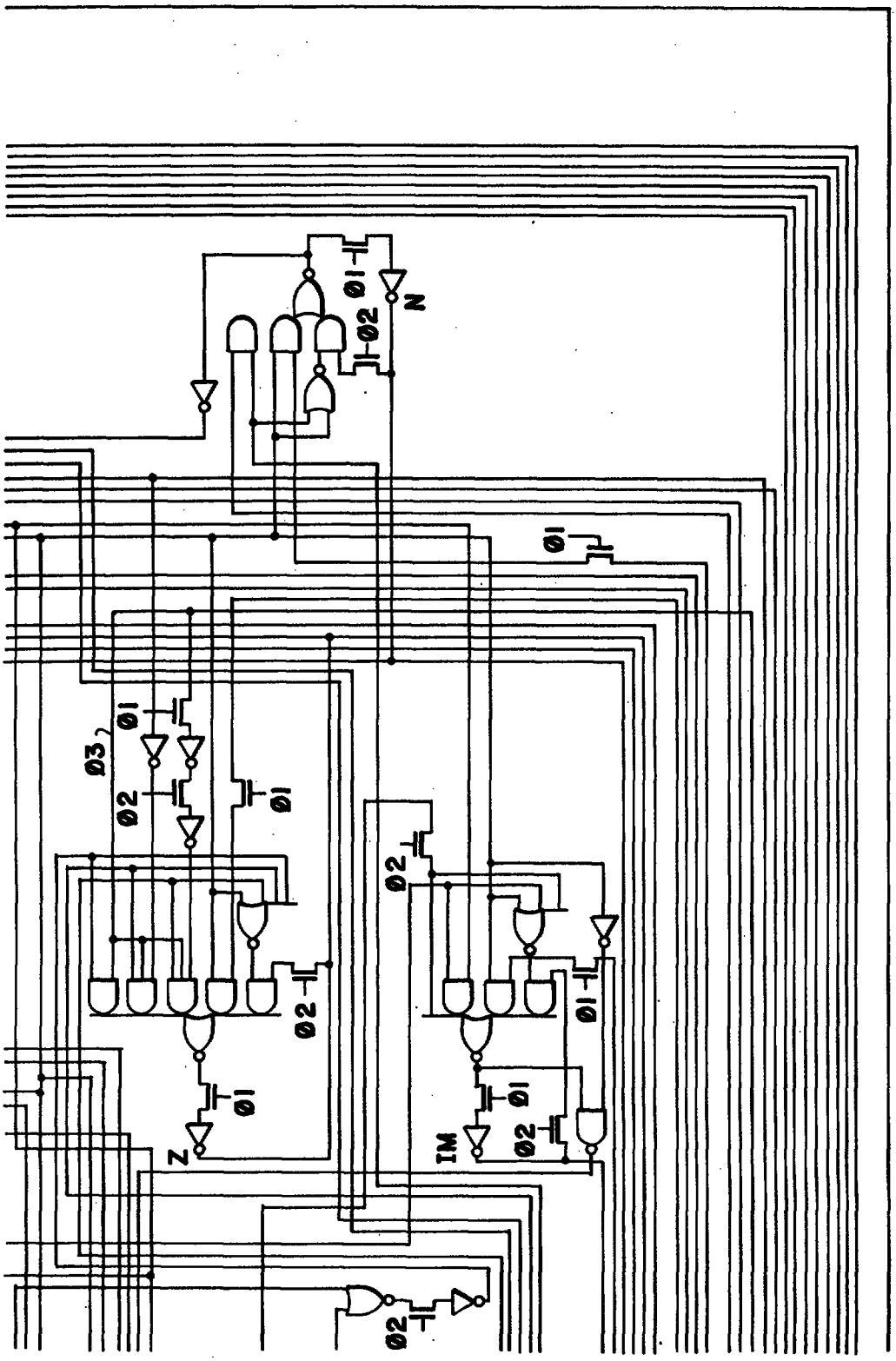


Fig 5R

2030742

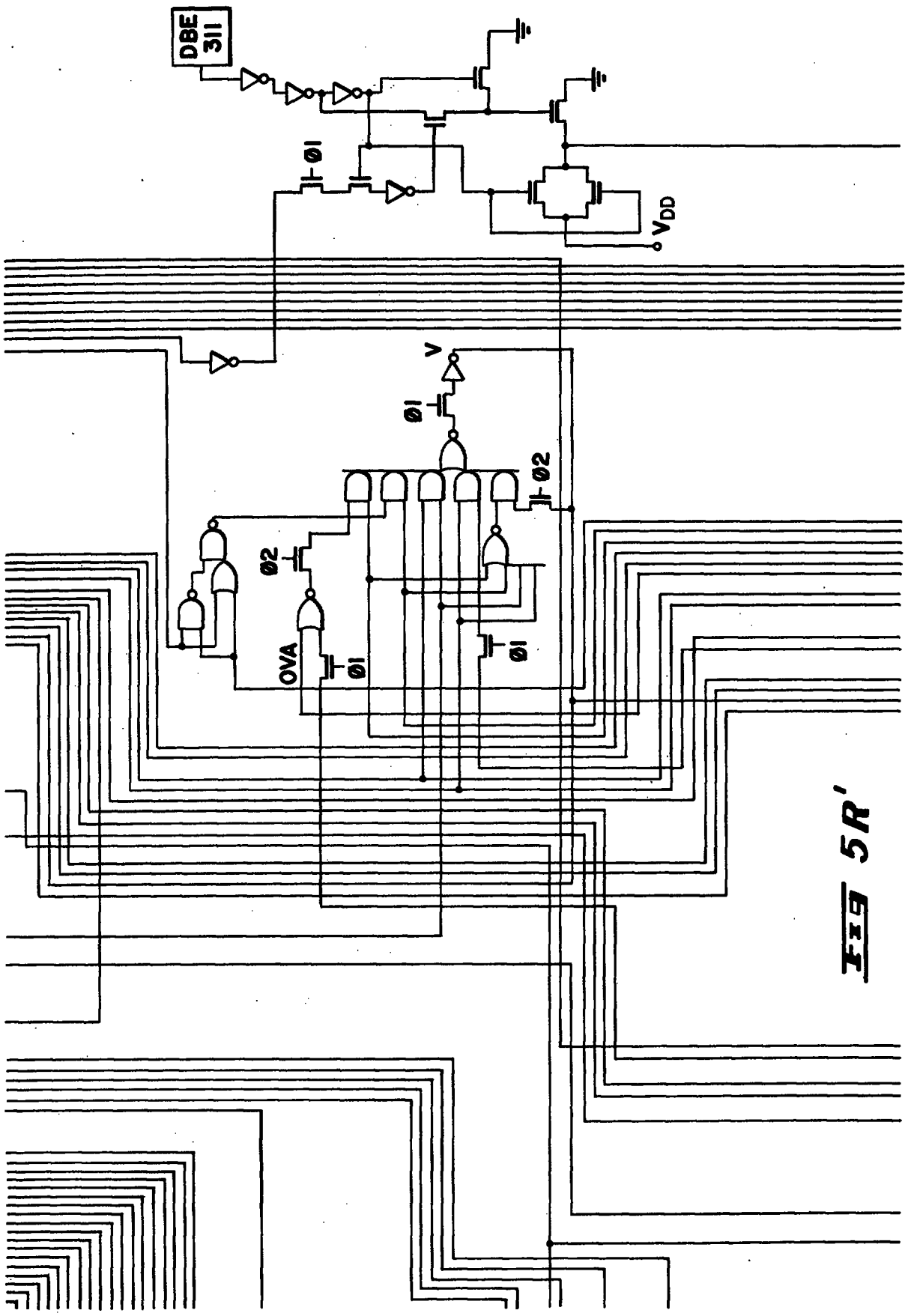


Fig 5R'

2030762

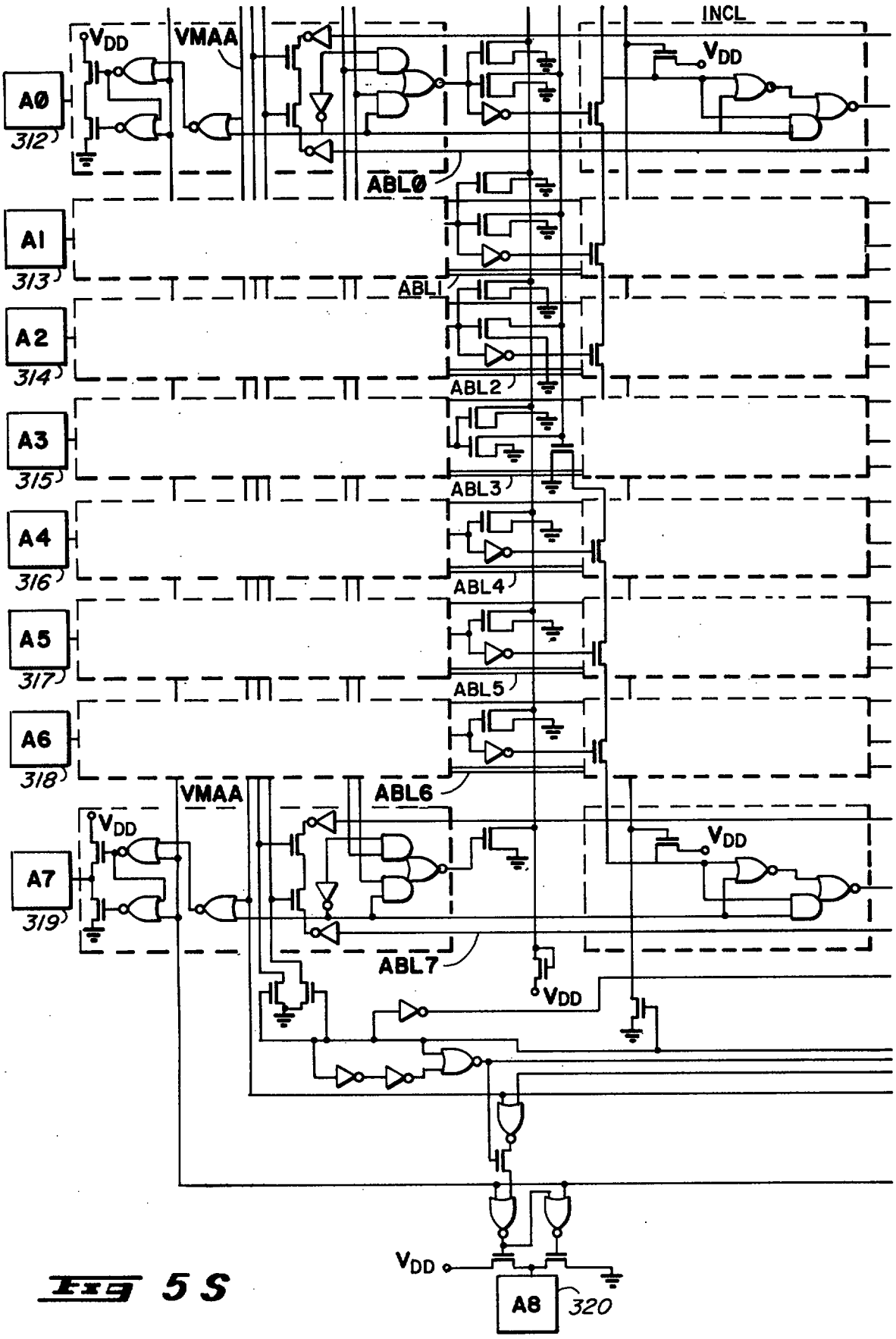


Fig 5S

2330742

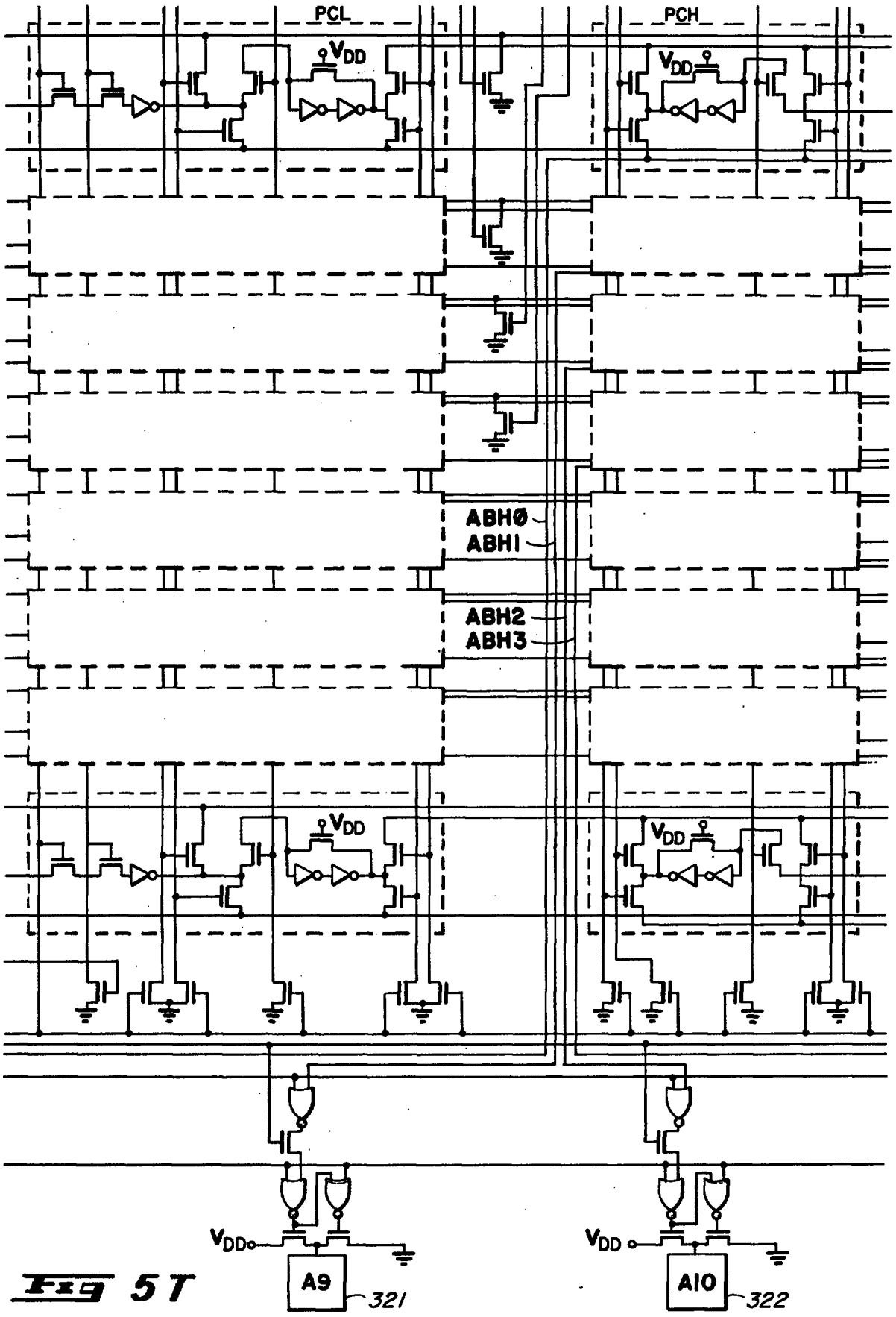


Fig 5T

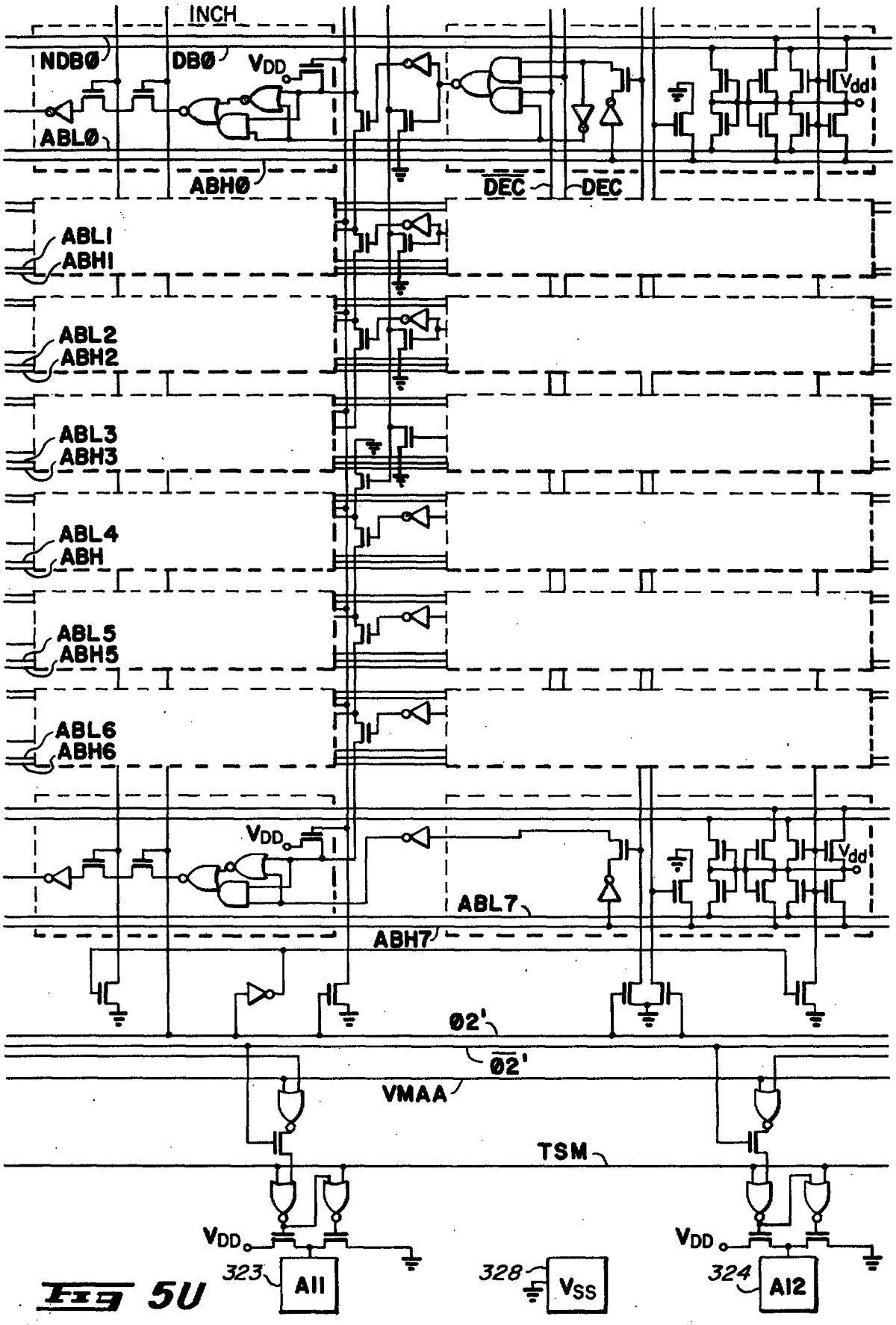

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NDBØ
DBØ
VDD
ABLØ
ABHØ
DEC
DEC
Vdd
ABLI
ABHI
ABL2
ABH2
ABL3
ABH3
ABL4
ABH
ABL5
ABH5
ABL6
ABH6
VDD
Vdd
ABL7
ABH7
Ø2'
Ø2'
VMAA
TSM
VDD
323
AII
328
VSS
VDD
324
AI2

Fig 5U

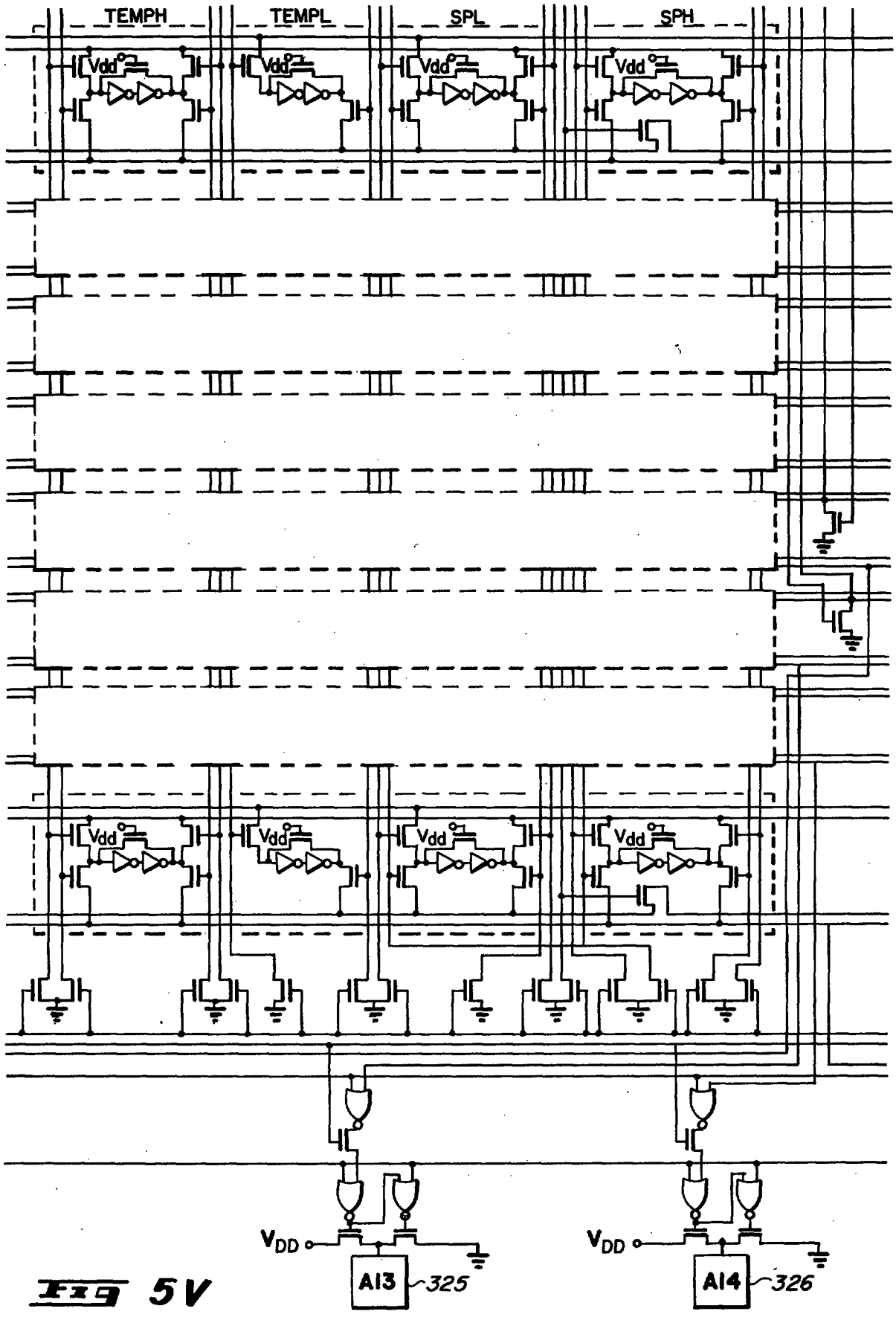

TEMPH
TEMPL
SPL
SPH
Vdd
Vdd
Vdd
Vdd
Vdd
Vdd
Vdd
Vdd
VDD
A13
325
VDD
A14
326

Fig 5V

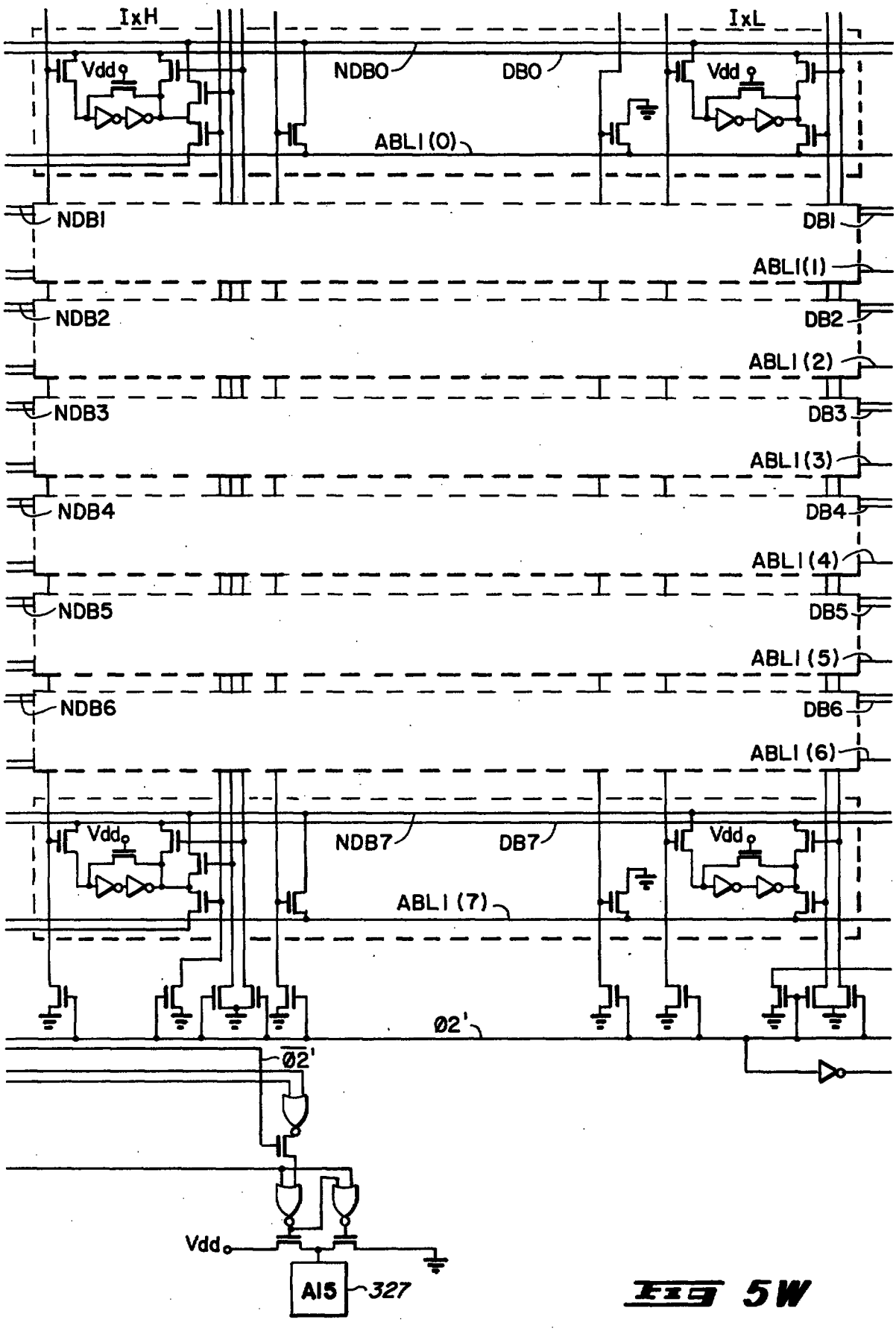

IxH
IxL
Vdd
NDBO
DBO
ABLI(0)
NDBI
DBI
ABLI(1)
NDB2
DB2
ABLI(2)
NDB3
DB3
ABLI(3)
NDB4
DB4
ABLI(4)
NDB5
DB5
ABLI(5)
NDB6
DB6
ABLI(6)
NDB7
DB7
ABLI(7)
Ø2'
Ø2'
Vdd
AI5
327

Fig 5W

2333742

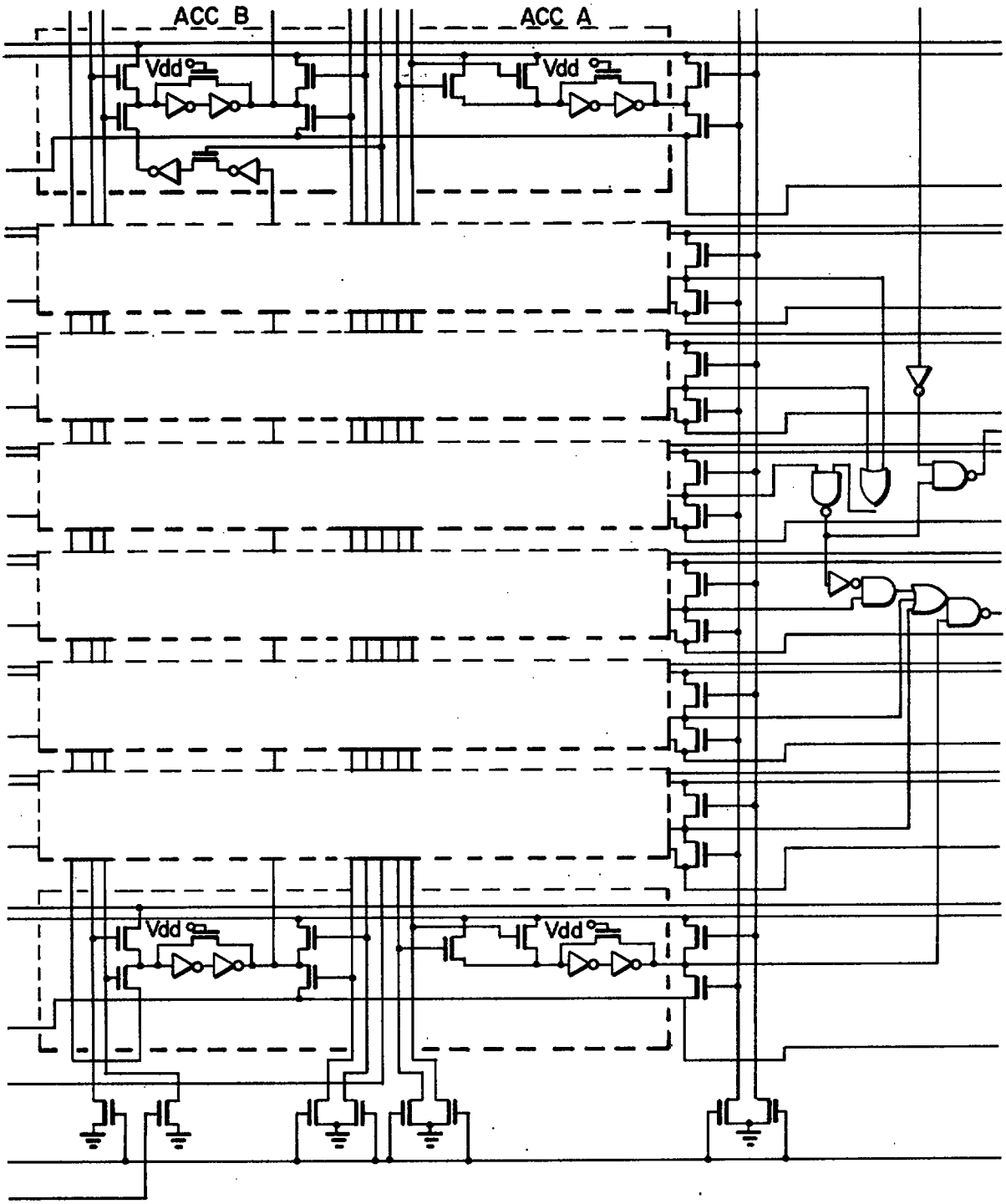


Fig 5X

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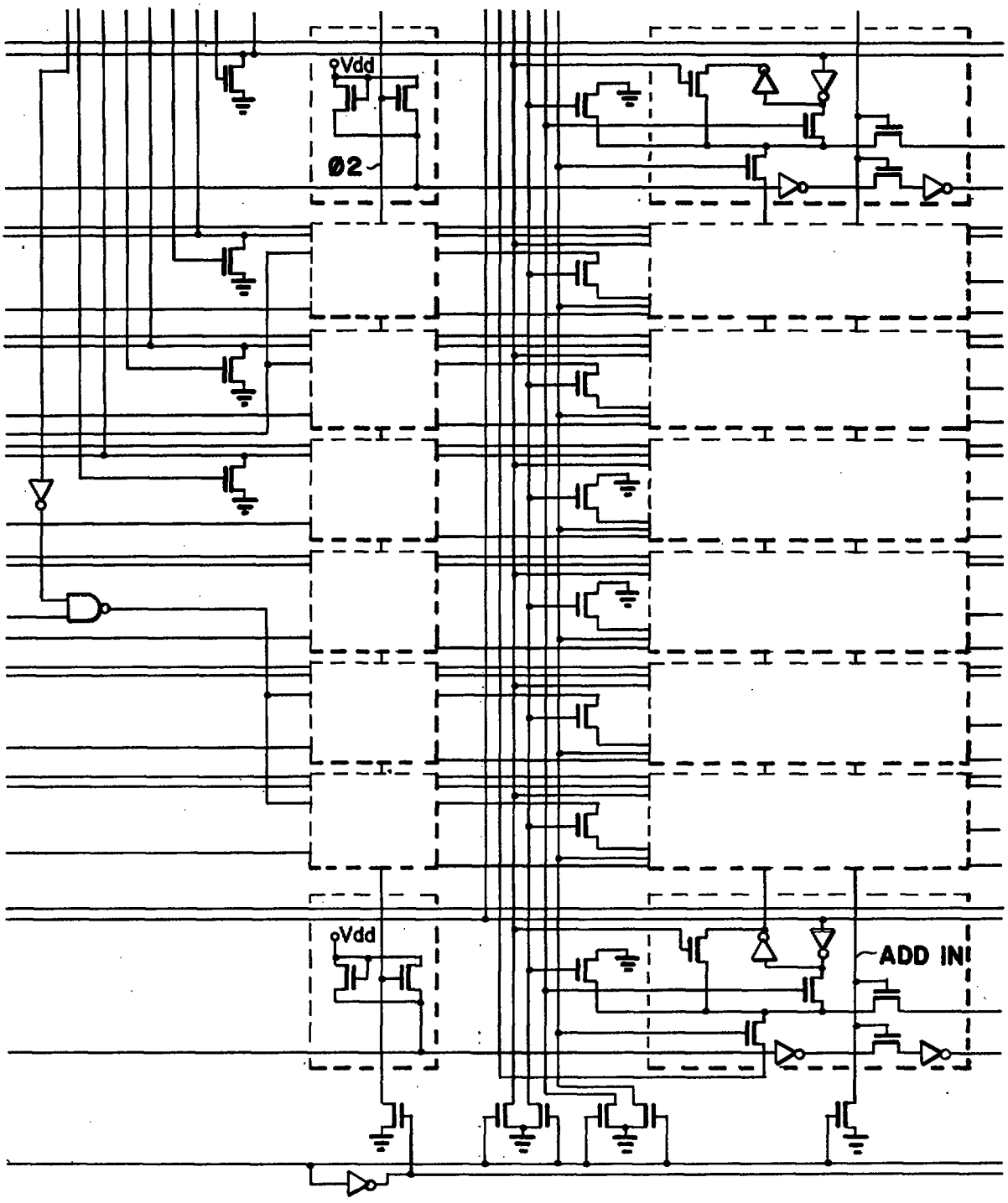


Fig 5Y

2330742

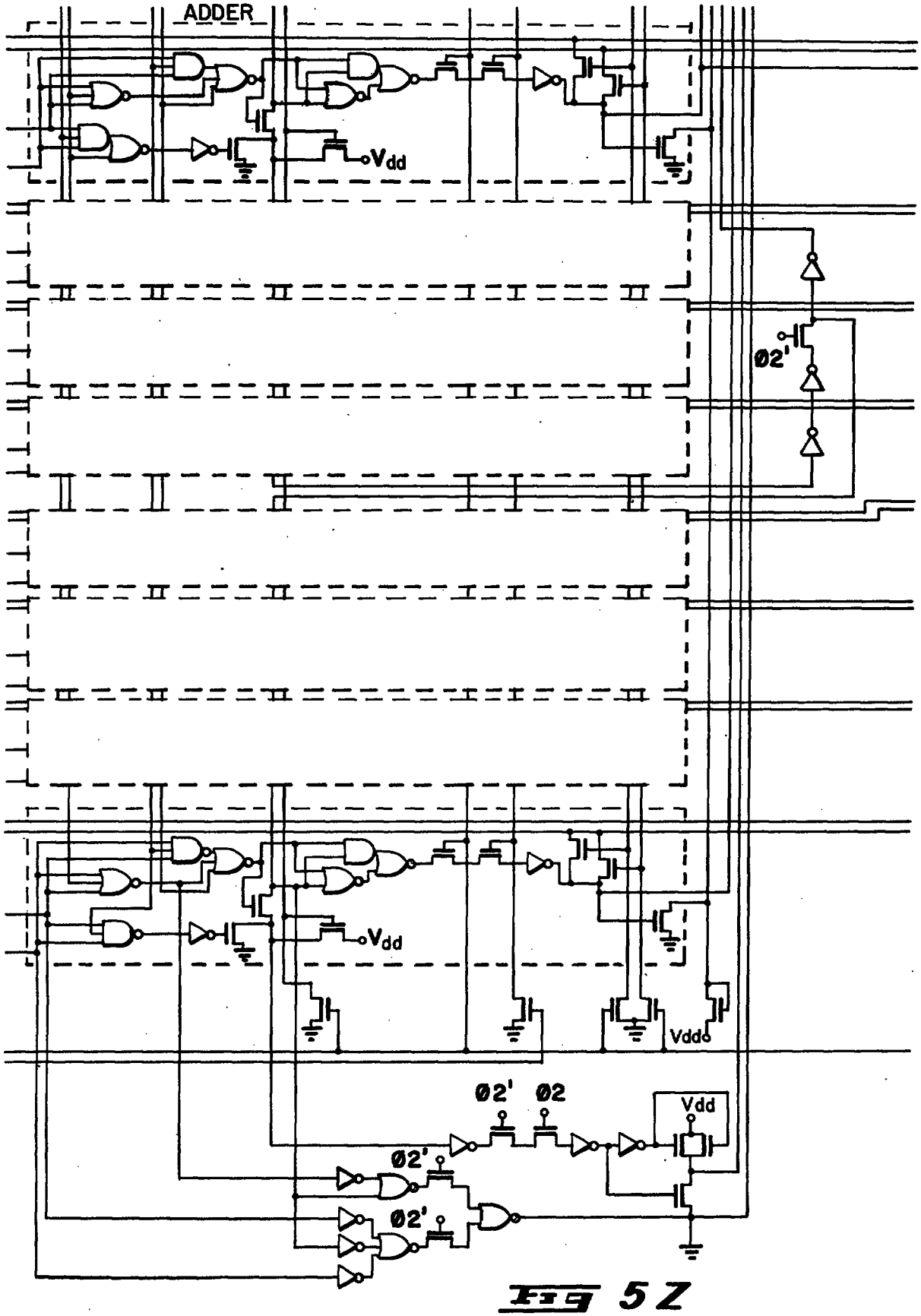


Fig 5Z

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												5I
												5R'
												5R
											5H	5Q
											5G	5P
											5F	5O
											5E	5N
											5D	5M
											5C	5L
											5B	5K
											5A	5J
										5AA		
									5Z			
								5Y				
							5X					
						5W						
					5V							
				5U								
			5T									
		5S										

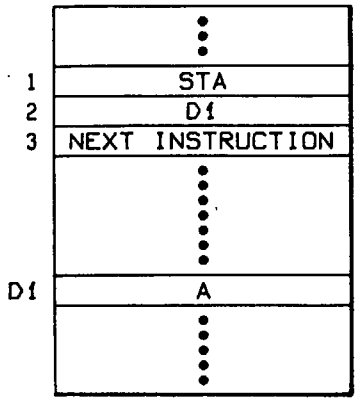
Fig 6

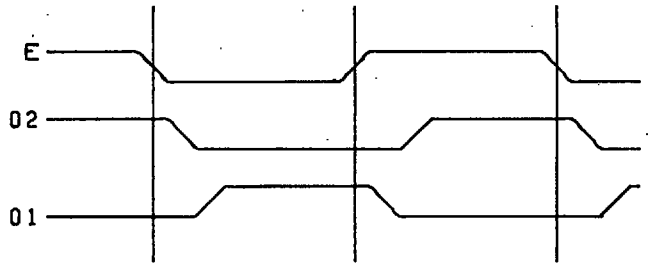
TIME FRAME	DB	NDB	ABL	INCL	OBL	DBI	IR	PCL	ABL1	TEMPL
GTØ			2	2	2		STA	2		
Ø2				3		D1				
T1	A	D1	D1	D1	D1	D1		3	1	D1
Ø2				X						
DØØ			3	3	3			3		
Ø2				4		NEXT INSTR.				

FIG. 7

FIG. 8

FIG. 8





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