IBM Manual of Instruction

1401

Data Processing System
Instructional Logic Diagrams
Volume 4

IBM Form 56 898

Ausgabe August 1962

1401 INTERMEDIATE LEVEL DIAGRAMS

Units Addr.

no A or B Bit = 0000 - 3999

A Bit = 4000 - 7999

B Bit = 8000 - 11999

A+B Bit = 12000 - 16000

Hundr. Addr

no A or B Bit = 000 - 999

A Bit = 1000 - 1999

B Bit = 2000 - 2999

A+B Bit = 3000 - 3999

IBM 1401 SYSTEM DATA FLOW

Serial Lines

Höhe 10

Höhe 11

Höhe 2
Activate Storage Höhe 13

Höhe 19

Höhe 19 - 21

Höhe 14

Höhe 15

Höhe 12

Höhe 17

Höhe 17 A6
1 A

Höhe 19 D 6
Set Bus Enable Gate

605 Lines

UA · UB
siehe 92.61.03.2

WM
1
2
4
8
A
B
C

Bit Switches
Manual Enter

Transfer B Reg
35.18.11

35.18.21 B Reg Zone Inh
35.18.31 B Reg Digit Inh
35.18.21 B Reg Wm Inh
35.18.21 B Reg C Inh

B Reg Inh Controls
C Bit Gen
35.17.11
INH DR
WM

B Reg
C Zone
B Reg
C Digit

A Reg
C Zone
A Reg
C Digit

A Reg Inh Controls

Arith C Digit
Arith C Zone
Arith Zone Inhibit
35.18.51
Arith Zone Inh Controls
Zone Adder
34.33.12-13
Zone Bit Gen
34.33.11
Sign

A Reg Zone
A Reg Digit 35.18.41
A Reg Wm +C Bit
B Reg B
B Reg A
A Reg B
A Reg A

Arith Digit Inh Controls
Arith Digit Inhibit 35.18.51
Xlate From Qui-Binary to BCD
To Display Lights 34.32.18
Adder Output
Quinary Adder
34.32.14-15
Binary Adder
34.32.16

Not Wm
045-075

35.11.11
35.13.51
A Reg

Translates From BCD to Qui-Binary
X L A T O R
34.32.12
T/C Translate To A Complement for Subt.
34.32.13
X L A T O R
34.32.11
Translator via B Register

Inhibit Drivers
42.58.11

42.41.11
C Plane
B Plane
Core
A Plane
8 Plane
Storage
4 Plane
2 Plane
1 Plane
WM Plane

068-105

Strobe 014-030
42.5[illegible].11
Sense Amp

35.11.11
35.13.51
B Reg

50 X Lines
80 Y Lines
Address Decoder
42.53.11 42.54.11 42.55.11 42.56.11

Reset 000-015

Reset vor Set.
Höhe 10

Translate von A Reg.

060-090
030-060
000-030

32.35.11 - 32.38.31
Main, I, A & B Stars
Are All on Same
Logic Pages

Huns
Tens
Units
MAIN STAR
← 00-105 reset

Units Manual
Addr Switch
Tens
Hundreds
D Cycle
Alter
Char Disp
Start

I STAR
A STAR
B STAR

Δ I 090-000 32.34.21
Δ A 090-000 32.32.21
Δ B 090-000 32.33.31

Modifier
32.43.11-81
32.42.21 + 1
32.42.21 - 1
Mod Control Xfer
32.42.41
I Cycle
Not I Cycle

CD
1
2
4
8
A
B
CZ

030-060
Not Units B/C
060-090
Not Tens B/C

I Cycle Not WM
090-000

Start Reset
E to I Change
Program Skip
Set IOP Latch
31.30.11
31.31.31-41
IOP
J1
J2
J3
J4
J5
J6
J7
J8
000-015
1 Ring Drive
Δ I Cycle 31.30.11

IOP
OP Reg
35.21.11

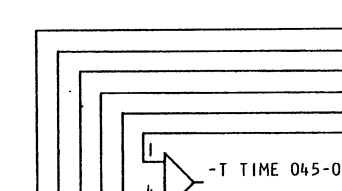
CZ and CD Digit
Kommen von der
2HD-Schaltung
(CZ-CD Generator)

Start Reset
E to I Change
Program Skip

A REGISTER

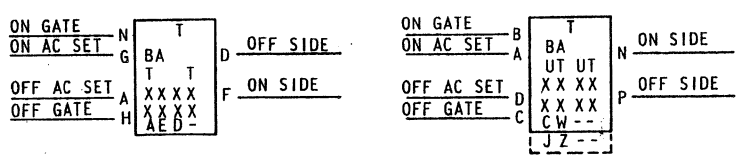
R
OSC
C
OSC
NOT OSC
R
DLY 1.0 USEC
STAR RESET
NOT PRINT READY
CLOCK CONTROL
I
CLOCK STOP
TR
31.10.11.1
-6V
DLY 0.6 USEC
K.D
31.10.11.2
TRIGGER 1
TR
31.10.11.2
TRIGGER 2
TR
31.10.11.2
TRIGGER 3
TR
31.10.12.2
TRIGGER 4
TR
31.10.12.2
TRIGGER 5
TR
31.10.12.2
-T TIME 045-075
-T TIME 075-105
-T TIME 030-105
-T TIME 090-030
-T TIME 045-060
-T TIME 075-090
-T TIME 090-000
-T TIME 090-105
-T TIME 015-030
-T TIME 060-075
-T TIME 105-000
-T TIME 015-045
-T TIME 000-030
+U TIME 000-030
+U TIME 000-060
+U TIME 030-060
+U TIME 060-090
-T TIME 030-090
+U TIME 030-090
+U TIME 090-000
+U TIME 030-000
+U TIME 000-015
+U TIME 030-045
+U TIME 045-060
+U TIME 060-000
-T TIME 000-060
-T TIME 030-060
-T TIME 000-015
-T TIME 060-090
-U TIME 015-075
+U TIME 075-090
+U TIME 060-075
-T TIME 075-000
-T TIME 060-000
+U TIME 105-000
+U TIME 075-105
DLY 0.6 USEC
-U TIME 000-036
R1
-U TIME 008-075
R2
DLY 0.8 USEC
+T TIME 008-068
DLY 0.6 USEC
-T STROBE A
31.12.93.2
TIME 000-030
NOT UNITS B ADDR REG
HUND B ADDR REG
DLY 0.8 USEC
TIME 030-000
T
31.12.94.2
2 THOU
+T TIME 068-105
-U TIME 068-105 Z2
Z CONTROL
-U TIME 068-105 Z1
NOT 2 THOU
31.12.94.2

NOTE:
TRIGGERS WILL BE ILLUSTRATED FOR ILD'S IN THE FOLLOWING MANNER.

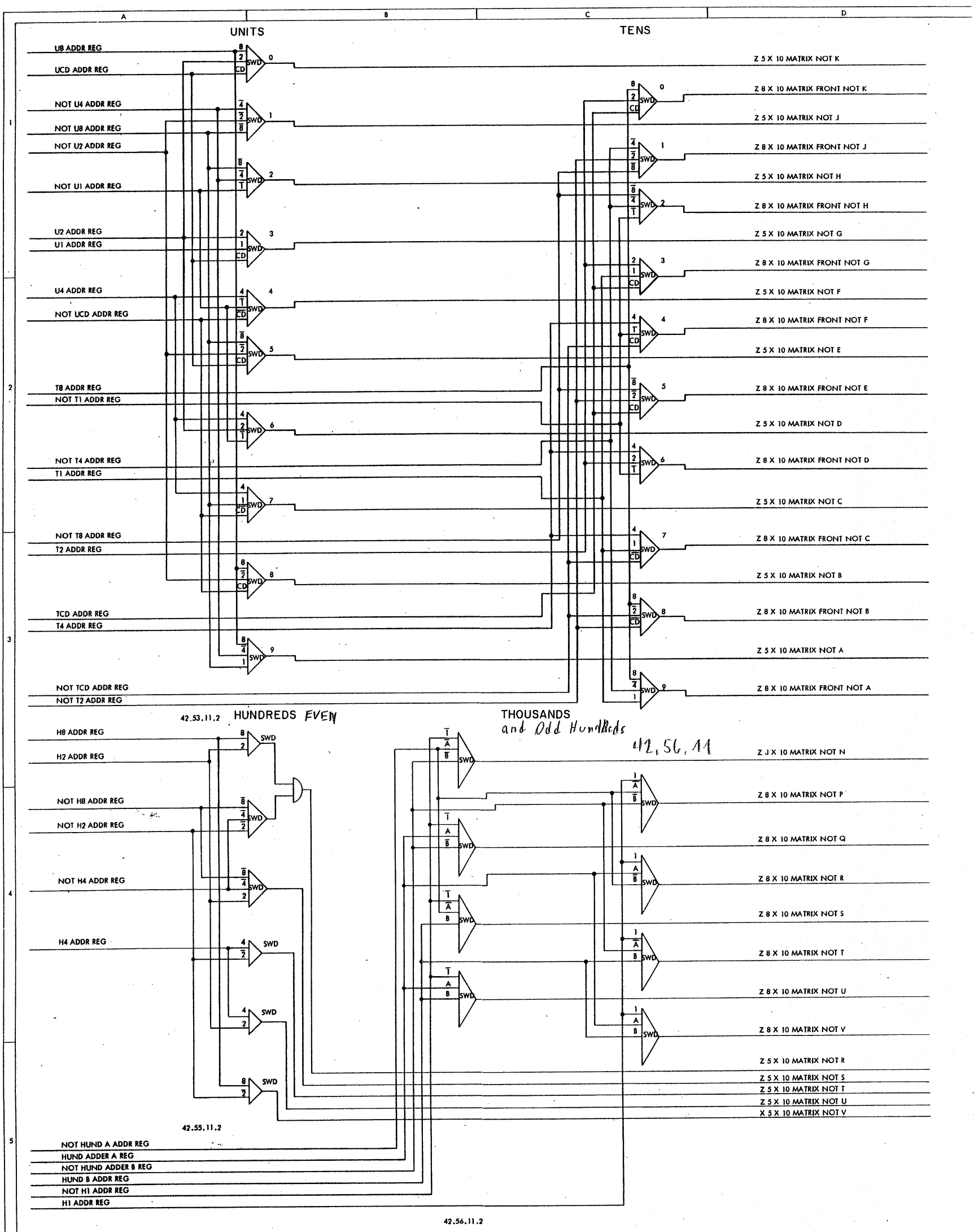


THIS STANDARD WILL BE FOLLOWED REGARDLESS OF TRIGGER TYPE.
IT SHOULD BE NOTED THAT TRIGGERS IN THE ALD'S DO NOT
NECESSARILY CORRESPOND TO THIS STANDARD.

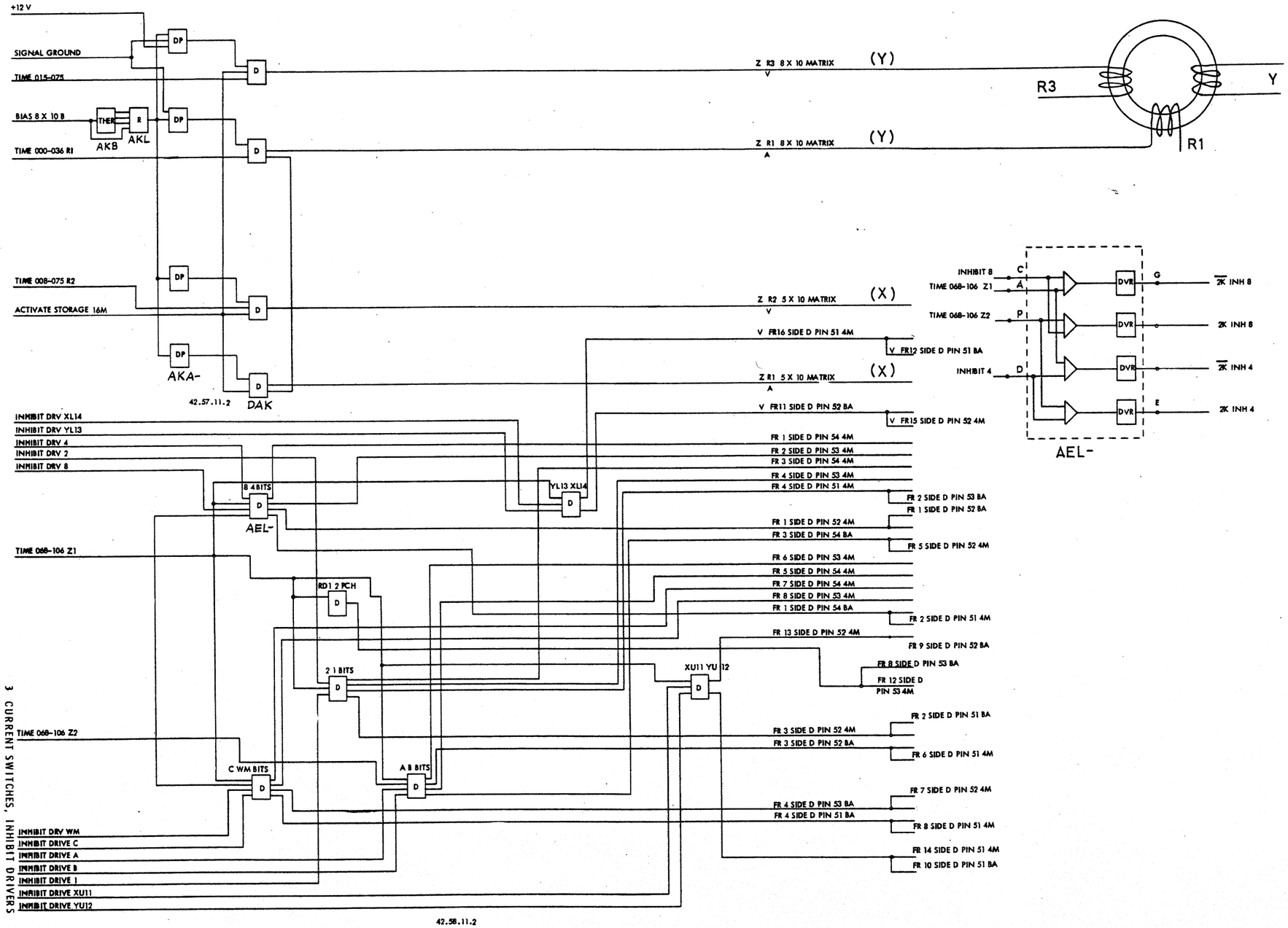
FOR EXAMPLE:



1. CLOCK CONTROL AND CLOCK PULSES



2. STORAGE DECODE SWITCHES


+12 V
SIGNAL GROUND
TIME 015-075
BIAS 8 X 10 B
TIME 000-036 R1
THER
R
AKB
AKL
DP
D
AKA-
42.57.11.2
DAK
TIME 008-075 R2
ACTIVATE STORAGE 16M
Z R3 8 X 10 MATRIX
V
(Y)
Z R1 8 X 10 MATRIX
A
(Y)
R3
Y
R1
Z R2 5 X 10 MATRIX
V
(X)
V FR16 SIDE D PIN 51 4M
V FR12 SIDE D PIN 51 BA
Z R1 5 X 10 MATRIX
A
(X)
V FR11 SIDE D PIN 52 BA
V FR15 SIDE D PIN 52 4M
INHIBIT 8
TIME 068-106 Z1
TIME 068-106 Z2
INHIBIT 4
C
A
P
D
DVR
G
E
2K INH 8
2K INH 4
AEL-
INHIBIT DRV XL14
INHIBIT DRV YL13
INHIBIT DRV 4
INHIBIT DRV 2
INHIBIT DRV 8
8 4 BITS
AEL-
YL13 XL14
TIME 068-106 Z1
RD1 2 PCH
2 1 BITS
XU11 YU 12
TIME 068-106 Z2
C WM BITS
A B BITS
INHIBIT DRV WM
INHIBIT DRIVE C
INHIBIT DRIVE A
INHIBIT DRIVE B
INHIBIT DRIVE 1
INHIBIT DRIVE XU11
INHIBIT DRIVE YU12
FR 1 SIDE D PIN 54 4M
FR 2 SIDE D PIN 53 4M
FR 3 SIDE D PIN 54 4M
FR 4 SIDE D PIN 53 4M
FR 4 SIDE D PIN 51 4M
FR 2 SIDE D PIN 53 BA
FR 1 SIDE D PIN 52 BA
FR 1 SIDE D PIN 52 4M
FR 3 SIDE D PIN 54 BA
FR 5 SIDE D PIN 52 4M
FR 6 SIDE D PIN 53 4M
FR 5 SIDE D PIN 54 4M
FR 7 SIDE D PIN 54 4M
FR 8 SIDE D PIN 53 4M
FR 1 SIDE D PIN 54 BA
FR 2 SIDE D PIN 51 4M
FR 13 SIDE D PIN 52 4M
FR 9 SIDE D PIN 52 BA
FR 8 SIDE D PIN 53 BA
FR 12 SIDE D
PIN 53 4M
FR 2 SIDE D PIN 51 BA
FR 3 SIDE D PIN 52 4M
FR 3 SIDE D PIN 52 BA
FR 6 SIDE D PIN 51 4M
FR 7 SIDE D PIN 52 4M
FR 4 SIDE D PIN 53 BA
FR 4 SIDE D PIN 51 BA
FR 8 SIDE D PIN 51 4M
FR 14 SIDE D PIN 51 4M
FR 10 SIDE D PIN 51 BA
3 CURRENT SWITCHES, INHIBIT DRIVERS
42.58.11.2

4 PRESENSE AND SENSE AMPLIFIERS

B REGISTER

A REGISTER

B REG INH ENTRY

A REG INH ENTRY

MANUAL ENTRY

ARITH INH ENTRY

EXPANDED EDIT ENTRY

SENSE 1 — 1 LAT — 01A3 B03A — 35.11.11 — B REG 1 / B REG NOT 1

SENSE 2 — 2 LAT — 01A3 B03H — 35.11.51 — B REG 2 / B REG NOT 2

SENSE 4 — 4 LAT — 01A3 B06A — 35.12.11 — B REG 4 / B REG NOT 4

SENSE 8 — 8 LAT — 01A3 B06H — 35.12.51 — B REG 8 / B REG NOT 8

B 04C2 SENSE A — A LAT — 01A3 B09A — 35.13.11 — B REG A / B REG NOT A

SENSE B — B LAT — 01A3 B09H — 35.13.51 — B REG B / B REG NOT B

SENSE C — C LAT — 01A3 B12A — 35.14.11 — B REG C / B REG NOT C

SENSE WM — WM LAT — 01A3 B12H — 35.14.51 — B REG WM / B REG NOT WM

13A4 ACTIVATE MEM 000-015

B REG RESET INDEX

* Note: OR CIRCUIT FOR A-REG 1 LATCH IS TYPICAL FOR USUAL A-REGISTER SET CONDITIONS.

73A5 42A6 80D6 — A REG SET 1 (BUFFER) / A REG SET 1 (IND) / A REG SET 1 TAPE — 35,01,08,2 A REG SET 1 (FITE)

73A5 42A6 80D6 — A REG SET 2 / A REG SET 2 TAPE

42B6 73A5 80C6 — A REG SET 4 / A REG SET 4 TAPE

42C6 73B5 80C6 — A REG SET 8 / A REG SET 8 TAPE

31C4 42C5 73B5 80C6 — A REG SET A / A REG SET A TAPE

42C5 73C5 62B3 31D4 80C6 — A REG SET B / A REG SET B TAPE / A REG SET B RD-PCH

42D6 A REG SET C / 73C5 A REG SET C TAPE / 60B5 80C6 A REG SET C RD-PCH / SET A REG C 12D2 / 30A4 SET A REG C BIT CALC

73C5 A REG SET WM

A REG SET 11A1

A REG SET 82C

A REG RESET DRIVE 11A2

1 LAT — 01A3 C02B — 35.11.11 — A REG 1 / A REG NOT 1

2 LAT — 01A3 C02G — 35.11.51 — A REG 2 / A REG NOT 2

4 LAT — 01A3 C04B — 35.12.11 — A REG 4 / A REG NOT 4

8 LAT — 01A3 C04G — 35.12.31 — A REG 8 / A REG NOT 8

A LAT — 01A3 C08B — 35.13.11 — A REG A / A REG NOT A

B LAT — 01A3 C08G — 35.13.31 — A REG B / A REG NOT B

C LAT — 01A3 C10B — 35.14.11 — A REG C / A REG NOT C

WM LAT — 01A3 C10G — 35.14.51 — A REG WM / A REG NOT WM

B REG 1 — B REG 2 — B REG 4 — B REG 8 — B REG A — B REG B — B REG C — B REG WM

12 A2 B REG C DIGIT — CD

12 B5 A REG C DIGIT — CD

12 B2 B REG C ZONE — CZ

12 C5 A REG C ZONE — CZ

1 BIT SWITCH 37.31.11 — 26C4 ARITH 1 — 67A5 INHIBIT COL BIN 1

2 BIT SWITCH 37.31.11 — 26C5 ARITH 2 — 67A5 INHIBIT COL BIN 2

4 BIT SWITCH 37.31.11 — 26C5 ARITH 4 — 67B5 INHIBIT COL BIN 4

8 BIT SWITCH 37.31.11 — 26C5 ARITH 8 — 67B5 INHIBIT COL BIN 8

A BIT SWITCH 37.31.11 — ZONE ADDER ARITH A 25D1 — 67B5 INHIBIT COL BIN A — 31C4 Set A Arith.

B BIT SWITCH 37.31.11 — ZONE ADDER ARITH B 25D1 — 67B5 INHIBIT COL BIN B — 31C4 Set B Arith.

C BIT SWITCH 37.31.11 — 70.61.41.2 INHIBIT C TAPE / 67B5 INHIBIT COL BIN C

WM BIT SWITCH 37.31.11 — WM AND EDIT INHIBIT ENTRY: NOT BLOCK OPR / WM SET OPR NOT I CYCLE / EDIT WM SET NOT BLOCK OPR B CY — 35.14.51 — 81D4 (TRAPS) INHIBIT WM / INH. WM 1405 — WM 35.14.51

MANUAL ENTRY 14C1

40D2 EXP EDIT ENT FLOAT DOLLAR

40D2 EXP EDIT ENT ASTERISK FILL

INHIBIT DRIVE 1 / INHIBIT DRIVE 2 / INHIBIT DRIVE 4 / INHIBIT DRIVE 8 / INHIBIT DRIVE A / INHIBIT DRIVE B / INHIBIT DRIVE C / INHIBIT DRIVE WM

TO MEMORY ALSO TAPE COL BIN MULT-DIV

FORCE 82

C BIT GENERATOR

INHIBIT CD — NOT C DIGIT 12C5

INHIBIT C ZONE — NOT C ZONE 12C5

INHIBIT C — 75,01,06,2. (FILE)

35.17 11.2.

25D1 ARITH C DIGIT — 40C2 EDIT RGEN C BIT / NOT BLOCK OPR B CY

6685 FORCE C DIGIT

3585 CLEAR OPR / 6083 (6485) FIRST ROW / (TAPE) 80 D8 FORCE CD-CZ — 35.15.11

25D1 ZONE ADDER ARITH C

(OPT-FEAT) NOT ADDRESS MODE OPR.

25A3 NOT 2ND B CYCLE CKT 2

39A3 EDIT 1ST A CYCLE B CYCLE

25A2 NOT 1ST B CYCLE / RESET ADD OPR / RESET SUBT OPR

67B5 INHIBIT COL BIN C ZONE / 31C4 SET C ZONE BIT CAL — 35.17.11

TRANSFER A REG / TRANSFER B REG / 3501062 BLOCK C BIT GEN (FILE) / 60D2 (64D5) BLOCK C GEN (RD-PCH) / 14C1 MANUAL ENTRY / (TAPE) BLOCK C BITGEN — 35.15.11 — 70.61.41.2

A REG C / B REG C / NORMAL MODE / 60D2 (64D5) ENCODE C GATE

B REG NOT C / A REG NOT C — 35.14.11.2

B REG DIG INHIBIT / B REG ZONE INHIBIT / NOT MANUAL ENTRY / B REG WM INHIBIT / B REG CONTAINMENT / A REG DIGIT INHIBIT / A REG ZONE INHIBIT / XFER A REG — TO 11A3

ARITH DIG INH / ARITH ZN INH

A-REG SET 82 C

10 DATA FLOW

WM CZ CD

WM CZ CD

WM CZ CD

WM CZ CD

Set 8.2.

Force 8.2

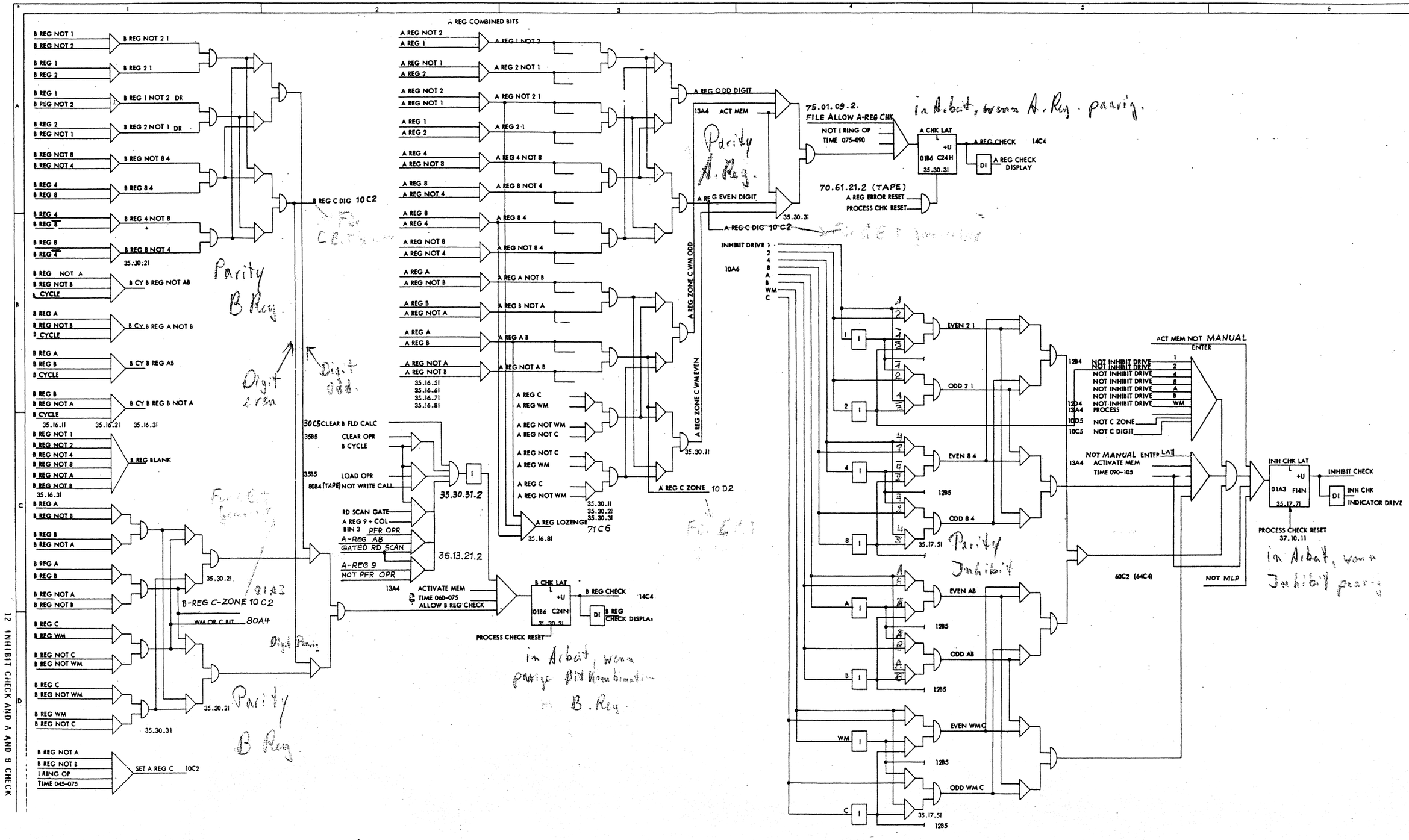
A REG ENCODE SET 60A5
NOT STORE
B REG NOT WM
I CYCLE
NOT INDEX I
NOT STORE
TIME 045-075
A CYCLE
READR TR 26B3
A REG SET
35.10.51
PR STOR SCAN A REG RESET 73D5
B CYCLE
NOT RECOMP 26A3
015-030
ARITH A WM LATCH
26C2
I RING OP
B REG NOT A
B REG NOT B
045-060
I CYCLE
045-060
READR TR 26B3
NOT STORE
A CYCLE
35.10.51
NOT INDEX I
I CYCLE
B REG NOT WM
ST IN A REG RESET 41D5
RESET A REG CAL 30A5
ENCODE RESET
RESET A REG TAPES 8183 80C3
RESET A REG ENCODE 60A5(66B6)
FILE RES A-REG 75.01.06.2
ING. A-REG RES. 77.01.11.2

A REG RESET DRIVE
ADD OR SUBTRACT OPR
FIRST B CYCLE 26A2
(NOT) RECOMPLEMENT 26A3
OTHER EDIT 40D2
MOVE Z SUP OR E EXE
B-REG DIG INH 77.01.02.2
B REG DIGIT INH 60D2(64D5)
MOVE ZN OPR 35B1
TRANSFER DIGIT AND ZONE
SECOND B CYCLE 26A2
ADD OR SUBTRACT OPR
B-REG ZONE INH 31B6
MOVE Z SUP OR E EXE
OTHER EDIT 40D2
FIRST B CYCLE 26A2
TRUE 25A6
TRANSFER B REG 35B4
MOVE DIG OPR 35B3
B REG ZONE INH 60C2(64D5) 31B6
35.18.31.2
B REG DIG INHIBIT
35.18.31
NOT MAN. ENTRY
14D1
B REG ZONE INHIBIT
35.18.21.2
B REG DIGIT INH
B REG ZONE INH
NOT MANUAL ENTRY
B REG WM INH
B REG C BIT INH
A REG DIGIT INH
A REG ZONE INH
XFER A REG
FIRST ROW 60B3(64B5)
14D4 LOAD LATCH
60B5(66C5) NOT REGEN B REG WM
35B4 WM CLEAR OPR
35B3 CLEAR OPR
35B4 LOAD OPR
BLOCK IN Q B-REG WM 77.01.11
14D1 MANUAL ENTRY
35B4 MOVE Z SUP OR E EXE
35.18.21
14C1 NOT MANUAL ENTRY
45C2 45A3 BRANCH OPR
38A1 ZONE TEST OPR
35B6 BIT TEST OPR
PLUS 3 CTRL MOD
35B3 COMPARE OPR
PROCESS
NOT READR TR
ADD OR SUBT OPR
26C1 CY CTRL RVRS SCAN
BLOCK OPR 14D3
I CYCLE
3136 B REG TRF GATE CAL
35.18.11.2
XFER B REG
TRANSFER DIGIT & ZONE
11A2
38C1 38B3 WM SET OPR
35B4 WM CLEAR OPR
80C4
A CYCLE
NOT STORE
(INQ) X-FER B-REG 77.10.11
INQ-B-REG X FER MOD-D
(TAPE) 8034 WRITE CALL
11 60B2 B-REG TRANSFER
(RD-PCH)
35.18.11.2
35B3 LOAD OPR
14D2 NOT BLOCK OPR AND B CY
80C4 A REG INH
RESET ADD OPR
39B3 EDIT A DIGIT
35B2 MOVE DIGIT OPR
35B3 35B5 LOAD OPR
35B2 MOVE OPR
RESET SUBT OPR
41B1 A REG ST INH (INDEXING)
(TAPE) 86B5 TRANSFER A REG DIG ZONE
3582 MOVE ZN OPR
3983 EDIT A ZONE
(ING) TRANSF A-REG
A REG DIG INH
STORE A REG DIG
(FILE) 75.01.05.2
(ING) 77.01.03.2
14D2 NOT BLOCK OPR AND B CYCLE
(TAPE) 80D5 INHIBIT A REG DIG + ZONE
NOT FILE OP
35.18.41
A REG DIGIT INHIBIT 60D2(64D5)
(RD-PCH)
A REG DIG INH
STORE A REG ZONE
7501.05.2 (FILE)
A REG ZONE INHIBIT
35.18.41
60D2-(64D5) A REG ZONE INH (RD-PCH)
A REG ZONE INH
77 0102.2 (ING)
A REG ZONE INH

B REG NOT A
B REG NOT B
I RING OP
045-075
I CYCLE
NOT RCMP
B CYCLE
ARITH A WM
015-045
35.18.61.2.
A REG SET 82 C
3IC6 ARITH DIG GATE CALC
60A5(66B5) RD PCH ARITH DIGIT INH
ARITH DIGIT INH
ARITH ZONE INH
14D3 NOT BLOCK OPR AND B CYCLE
NOT CY CTRL RVS SCAN
NOT READR TR
ADD OR SUBT
NOT TRANS STAR
3186 ARITH ZN INH FROM CALC
RESET ADD
35.18.51.2
RESET SUBT
NOT READER TRIG
RCMP
1st B CYCLE
COMP
NOT RCMP
ADD OR SUBT
B REG WM
NOT 1st B CYCLE
TRUE
NOT 2nd B CYCLE
60B5 RD-PCH ARITH ZONE INH
NOT BLOCK OPR AND B CYCLE
14 D3

35.18.31
RECOMPLEMENT
READR TRIG
NOT BLOCK OPR AND B CYCLE
MD-30C5 FORCE 82 CD CZ
TAPE 86C5 FORCE INH 82 CD CZ
FORCE 82
60B3 (64B5) RD-PCH FORCE 82

11 DATA FLOW CONTROLS


A REG COMBINED BITS
B REG NOT 1
B REG NOT 2
B REG NOT 2 1
B REG 1
B REG 2
B REG 2 1
B REG 1 NOT 2 DR
B REG 2 NOT 1 DR
B REG NOT 8
B REG NOT 4
B REG NOT 8 4
B REG 4
B REG 8
B REG 8 4
B REG 4 NOT 8
B REG 8 NOT 4
35.30.21
B REG NOT A
B REG NOT B
B CYCLE
B CY B REG NOT AB
B REG A
B CY B REG A NOT B
B CY B REG AB
B REG NOT A
B CY B REG B NOT A
35.16.11
35.16.21
35.16.31
B REG BLANK
B REG C DIG 10C2
Parity B Reg.
Digit 2 or 4
Digit odd
A REG NOT 2
A REG 1
A REG 1 NOT 2
A REG NOT 1
A REG 2
A REG 2 NOT 1
A REG 2 1
A REG 4
A REG NOT 8
A REG 4 NOT 8
A REG 8
A REG NOT 4
A REG 8 NOT 4
A REG 8 4
A REG NOT A
A REG A NOT B
A REG NOT B
A REG B NOT A
A REG A B
A REG NOT A B
35.16.51
35.16.61
35.16.71
35.16.81
A REG C
A REG WM
A REG NOT WM
A REG NOT C
A REG C ZONE 10D2
A REG LOZENGE
35.30.11
35.30.21
35.30.31
71C6
A REG ODD DIGIT
A REG EVEN DIGIT
13A4 ACT MEM
Parity A. Reg.
75.01.09.2.
FILE ALLOW A-REG CHK
NOT I RING OP
TIME 075-090
A CHK LAT
+U
01B6 C24H
35.30.31
A REG CHECK 14C4
DI
A REG CHECK DISPLAY
70.61.21.2 (TAPE)
A REG ERROR RESET
PROCESS CHK RESET
35.30.31
A REG C DIG 10C2
A REG ZONE C WM ODD
A REG ZONE C WM EVEN
INHIBIT DRIVE
10A6
1
2
4
8
A
B
WM
C
EVEN 2 1
ODD 2 1
EVEN 8 4
ODD 8 4
EVEN AB
ODD AB
EVEN WM C
ODD WM C
1285
35.17.51
ACT MEM NOT MANUAL ENTER
12B4 NOT INHIBIT DRIVE 1
NOT INHIBIT DRIVE 2
NOT INHIBIT DRIVE 4
NOT INHIBIT DRIVE 8
NOT INHIBIT DRIVE A
NOT INHIBIT DRIVE B
12D4 NOT INHIBIT DRIVE WM
13A4 PROCESS
10D5 NOT C ZONE
10C5 NOT C DIGIT
NOT MANUAL ENTER
13A4 ACTIVATE MEM
TIME 090-105
60C2 (64C4)
NOT MLP
INH CHK LAT
+U
01A3 F14N
35.17.71
INHIBIT CHECK
DI
INH CHK INDICATOR DRIVE
PROCESS CHECK RESET
37.10.11
Parity Inhibit
30C5 CLEAR B FLD CALC
3585 CLEAR OPR
B CYCLE
3585 LOAD OPR
8084 (TAPE) NOT WRITE CALL
RD SCAN GATE
A REG 9 + COL BIN 3 PFR OPR
A-REG AB GATED RD SCAN
A-REG 9 NOT PFR OPR
35.30.31.2
36.13.21.2
13A4 ACTIVATE MEM
TIME 060-075
ALLOW B REG CHECK
B CHK LAT
+U
01B6 C24N
35.30.31
B REG CHECK 14C4
DI
B REG CHECK DISPLAY
PROCESS CHECK RESET
B REG C-ZONE 10C2
WM OR C BIT 80A4
35.30.21
35.30.31
Parity B Reg
B REG NOT A
B REG NOT B
I RING OP
TIME 045-075
SET A REG C 10C2
12 INHIBIT CHECK AND A AND B CHECK

Panel Switches and Lights 37.10.11

Trigger bei 1B2B12A = −T Δ Process

Single Cycle

13 CYCLE CONTROL

14 ADDRESS STOP, I RING, PROG SKIP

37.30.21 UNITS 1 · TENS 1 · HUNDREDS 1 · UNITS 2 · TENS 2 · HUNDREDS 2 · UNITS 4 · TENS 4 · HUNDREDS 4 · UNITS 8 · TENS 8 · HUNDREDS 8 · HUNDREDS A · UNITS A · HUNDREDS B · TIME 060-090 · TIME 030-060 · TIME 000-030 · UNITS B

1982 SERIAL NOT 1 · ADR SW 1 · ADR SW NOT 1 · 1983 SERIAL 1
1983 SERIAL NOT 2 · ADR SW 2 · ADR SW NOT 2 · 1983 SERIAL 2
1983 SERIAL NOT 4 · ADR SW 4 · ADR SW NOT 4 · 1983 SERIAL 4
1083 SERIAL NOT 8 · ADR SW 8 · ADR SW NOT 8 · 1983 SERIAL 8
1985 SERIAL NOT HA · ADR SW A · ADR SW NOT A · 1985 SERIAL HA
ADR SW B · 1986 SERIAL NOT HB · ADR SW NOT B · 1986 SERIAL HB · 32.45.21
32.45.11

DELTA B CY · I-O OPS
ADDRESS STOP · TIME 075-105
ADR STOP · TIME 000-015 · 01A8 B14P · 32.45.31
COMP SYNC · 35B6 · +U 01A8 B04N · AVAILABLE AS CE SCOPE SYNC POINT · PIN ROAF CAN BE USED FOR SCOPE SYNC INPUT. · TIME 090-105

45A4 45D1 BRANCH OPR · 19 B 3 · I RING 4 · B REG BLANK · TIME 030-000
I RING 7 · CLEAR OPR
STACK SEL OPR · GATED WM · I RING 5
FORM CTRL OPR
PRINT OPR
45A1 45A2 STOP OPR · 45A2 45D1 BRANCH OPR
I RING 4
64A2 PFR PRG SKIP · 36A2, B2, C2 TRANSFER PRG SKIP · 36A2 37B6 TRANSFER PRG SKIP · 93C4 83C3 TAPE PROGRAM SKIP · 67B2 COL BIN PROG SKIP · FILE PRG SKIP
14D4 LOAD LATCH · START RESET
I RING OP · TIME 045-060

NOT UNIT SELECT · I-O OPS
OSC · NOT PROCESS · I CYCLE · GATED WM

NOT · NOT TIME 000-015 · NOT I RING OP · 26C2 NOT TRANSFER STAR · 86B4 NOT INDEX PREVENT GWM · 41B6 41D3 NOT INDEX PREVENT GWM
3881 WM SET OPR · I RING 7
B REG WM
UNCONDITIONAL TRANSFER · 31.07.11
GATED WM 36B2, 25A2, 30A3, 31A3, 32A4 · -T B 2 2 A · 01B2

PRG SKIP · L · -T · 01B2 C23A · 31.08.11
PROGRAM SKIP · A-I STAR GATE · 41C3
1 · NOT A-I STAR GATE
START RESET
SET I OP · L · +U · 01B2 E15A · 31.30.11
I RING OP
EXE ELIM · GATED WM
I-E CHANGE · TIME 075-105 · NOT I CYCLE

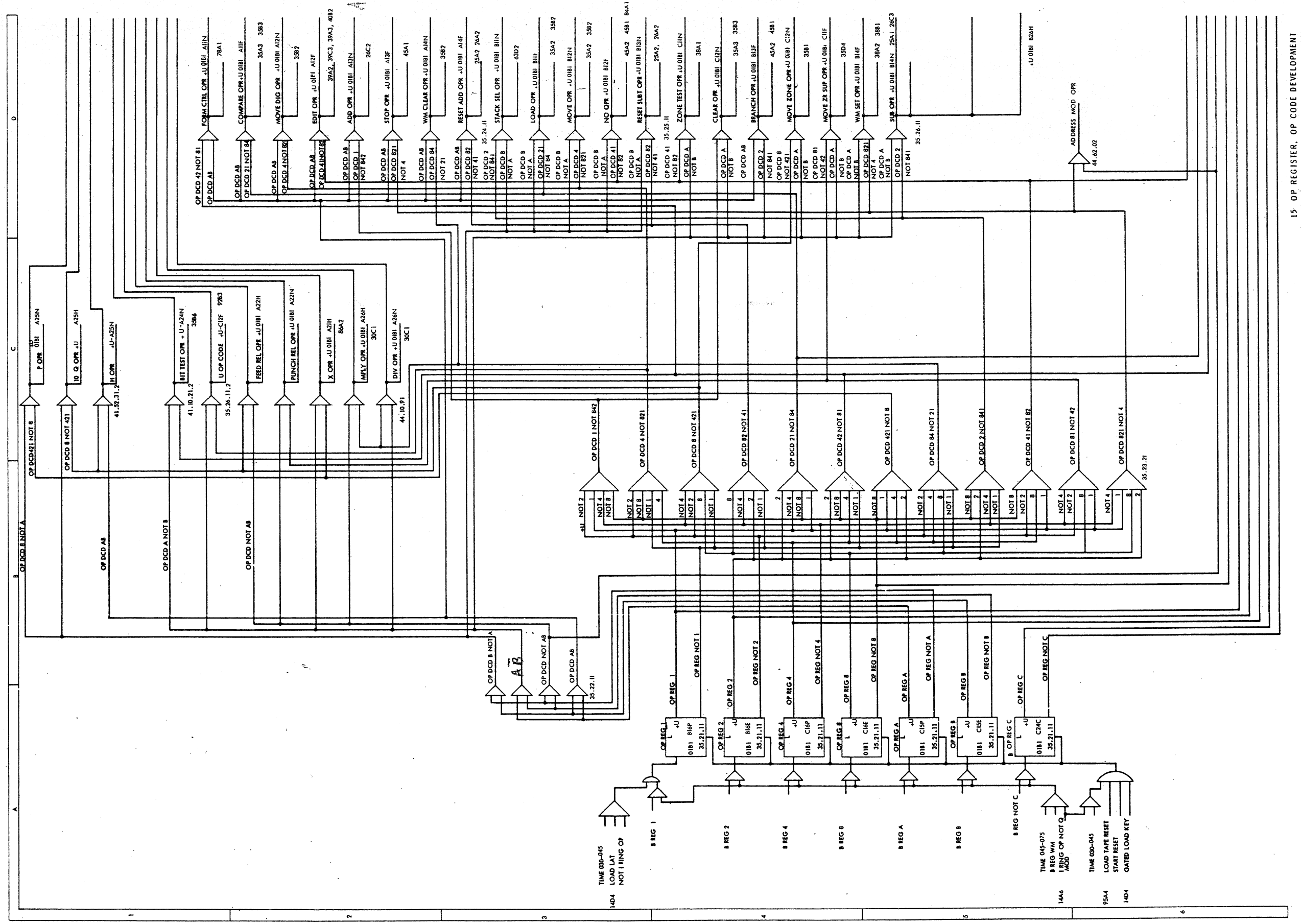
SET TO I RING OP · NOT RESET CY LATCHES · TIME 015-030 · 41D3 NOT I B START · DELTA I CYCLE · RESET I RING · TIME 000-015 · DELTA PROCESS · 41A3 BLOCK I RING · 31.30.11 · NOT SET TO I RING OP
TURN ON I OP
I RING OP · T · -T · 01B6 E20N · 31.31.31 · NOT I RING OP · NOT Q MODIFY · I RING OP · NOT Q MODIFY
I RING 1 · T · -T · 01B6 E21N · 31.31.37 · I RING 1 · NOT I RING 1
I RING 2 · T · -T · 01B6 E22N · 31.31.31 · I RING 2 · 36B2 · NOT I RING 2
I RING 3 · T · -T · 01B6 F21N · 31.31.31 · I RING 3 · NOT I RING 3
I RING 4 · T · -T · 01B6 F22N · 31.32.41 · I RING 4 · NOT I RING 4
I RING 5 · T · -T · 01B6 F23N · 31.31.41 · I RING 5 · NOT I RING 5
I RING 6 · T · -T · 01B6 F24N · 31.31.41 · I RING 6 · 36B2 · NOT I RING 6
I RING 7 · T · -T · 01B6 F25N · 31.31.41 · I RING 7 · NOT I RING 7
I RING 8 · T · -T · 01B6 F26N · 31.31.41 · I RING 8 · NOT I RING 8 · B REG NOT WM
START RESET

OPR. CHECK · STAR ERROR · B REG CHECK · A REG CHECK · INH. CHECK · ARITH. CHECK · +U PROC. CHECK · 13 B 1 · -T NOT PROCESS CHECK · UNIT SEL.
RD/PCH ERROR · STOR. SCAN · PR. ERROR

8585 GENERATE 001 FROM 71.71.21 · DEL I CY · +U GENERATE 001 01B2 B24N
GATED LOAD KEY (36.10.11) · LOAD LATCH · -T · 01B2 D06N · 31.07.11 · LOAD LATCH · NOT LOAD LATCH 18A6 · I RING OP
001 WM · T · -T · 01B4 B04N · 36.10.11 · INHIBIT WM · NOT READ TRANS · TIME 000-030 · START RESET

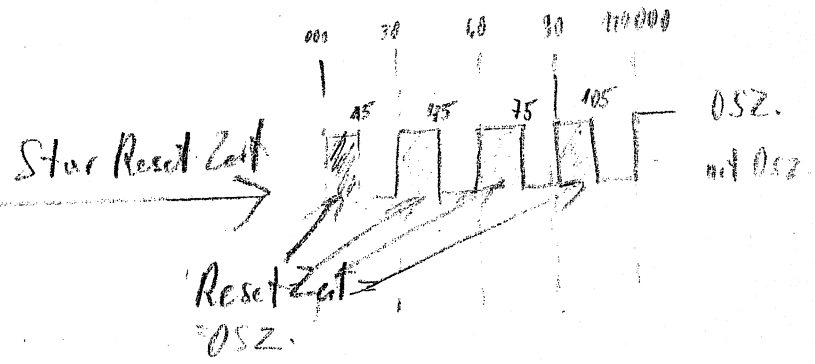
37.31.11 ENTER KEY · STORAGE ALTER MODE · SCAN TIME 030-060
ENTER LAT · L · -T · 01B2 A11N · 31.03.11
MANUAL ENTRY · START · ACTIVATE MEMORY · ACT MEM NOT START OR ENTRY
TIME 090-000 · MODE SELECT
D CY LAT · L · -T · 01B2 A21C · 31.03.31
D CYCLE SET · 37.30.11 NOT CHAR DISPLAY · NOT MANUAL ENTRY · T GATED D CYCLE 01B2 A25N
MAN ENT · L · -U · 01B2 A06P · 31.03.11 · MANUAL ENTRY · NOT MANUAL ENTRY · 11C2 14C3
TIME 090-000 · (NOT) NOT START LT RST · TIME 075-105
ADR REG RST · +U 01B2 A24H · 31.03.31
MODE SELECT · TIME 090-105

37.30.11 ALTER MODE · 37.30.11 CHAR DISP MODE · 71B6 PR SCAN END · 14C4 PROCESS CHK · 37.30.11 STORAGE SCAN · 13A4 NOT START INLK · 37.30.11 NOT STORAGE PRINT OUT TIME 075-105
31.03.31
B CYCLE · NOT BLOCK OPR + B ~ · NOT BLOCK OP
SINGL ~ NON PROC. · STORAG PR. OUT · ALTER MODE · CHARR DISPL. · STORAG. SCAN · BLOCK OPER.


15 OP REGISTER, OP CODE DEVELOPMENT
P OPR
10 Q OPR +U
H OPR
BIT TEST OPR
U OP CODE
FEED REL OPR
PUNCH REL OPR
X OPR
MPLY OPR
DIV OPR
FORM CTRL OPR
COMPARE OPR
MOVE DIG OPR
EDIT OPR
ADD OPR
STOP OPR
WM CLEAR OPR
RESET ADD OPR
STACK SEL OPR
LOAD OPR
MOVE OPR
NO OPR
RESET SUBT OPR
ZONE TEST OPR
CLEAR OPR
BRANCH OPR
MOVE ZONE OPR
MOVE ZR SUP OPR
WM SET OPR
SUB OPR
ADDRESS MOD OPR
OP REG 1
OP REG 2
OP REG 4
OP REG 8
OP REG A
OP REG B
OP REG C
B REG 1
B REG 2
B REG 4
B REG 8
B REG A
B REG B
B REG NOT C
LOAD TAPE RESET
START RESET
GATED LOAD KEY

16 OP CODE AND OP CHECK

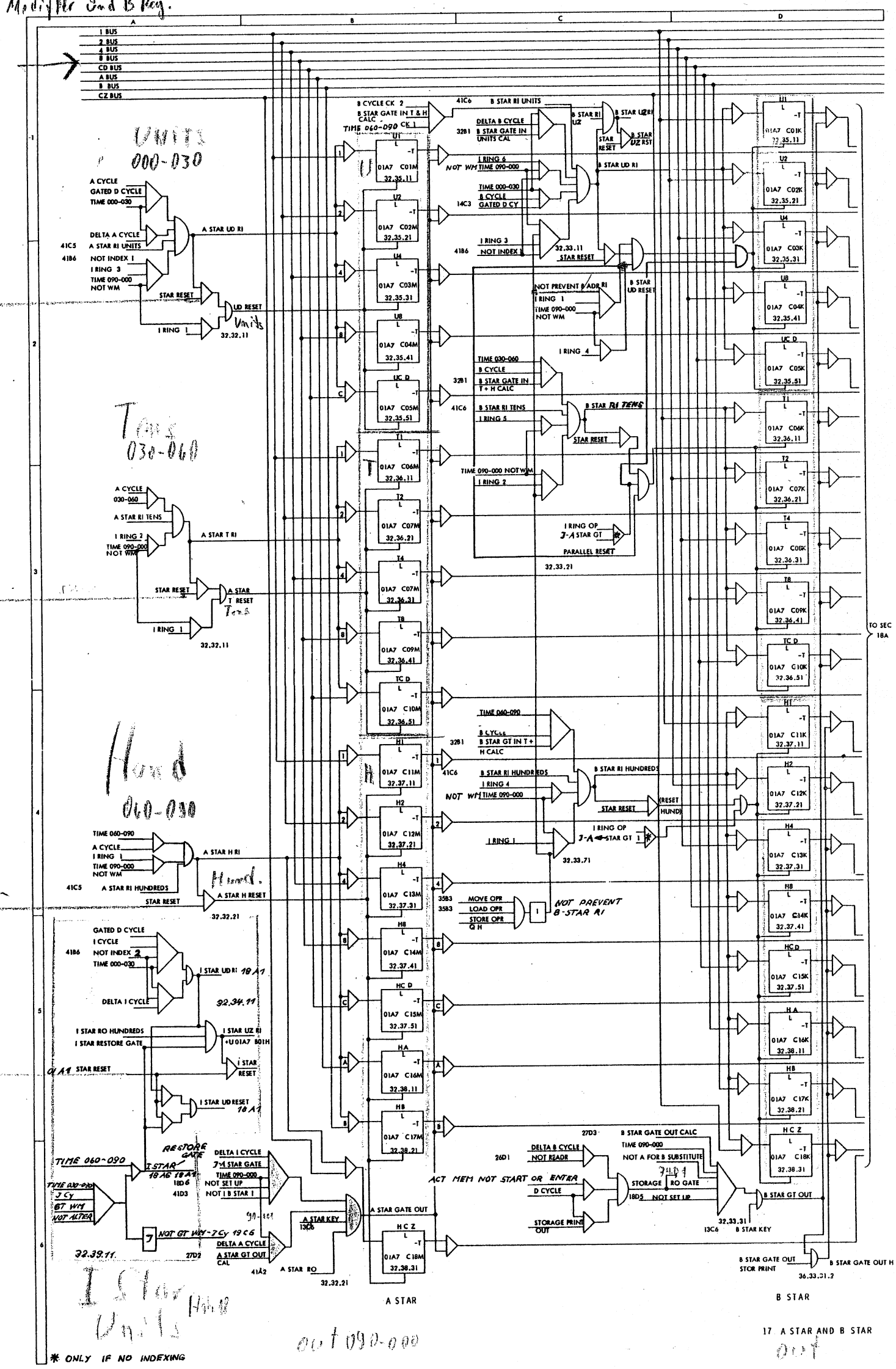
Oscillat - Time = Star Reset



A-Star

B-Star

Assign for Modifier and B Reg.



I Star Hund Units

out 090-000

17 A STAR AND B STAR

out 090-000

Löschung siehe 17

I-Star

I STAR

MEM ADDR SW

AUTO SCAN SET UP

1 BUS
2 BUS
4 BUS
8 BUS
BUS CD
A BUS
B BUS
CZ BUS

U 1 ADDR REG
17 A6 I STAR RESTORE GATE
U 2 ADDR REG
17 A5 I STAR UD RI
U4 ADDR REG
RESET UNITS 17 A6
U8 ADDR REG
UCD ADDR REG
ADR REG TENS 1
B STAR SET TENS 1
ADR REG TENS 2
B STAR SET TENS 2
ADR REG TENS 4
B STAR SET TENS 4
ADR REG TENS 8
B STAR SET TENS 8
ADR REG TENS C
B STAR SET TENS C
HI ADR REG
H2 ADR REG
STAR RESET
TIME 030-060
NOT INDEX .2
I CYCLE
I STAR RI TENS
H4 ADR REG
H8 ADR REG
HCD ADR REG
HA ADR REG
HB ADR REG
NOT GT WM I CYCLE
TIME 060-090
I CYCLE
NOT INDEX .2
I STAR RI HUNDREDS
RESET HUNDREDS
STAR RESET
I STAR RO
NOT A-I STAR GATE
TIME 090-000
14D4 NOT LOAD LATCH
DELTA I CYCLE
18D6 NOT SET UP
4/A2 NOT INDEX
NOT READR
32.34.21
I STAR KEY 13C6
I STAR GATE OUT
17 A6 I STAR RESTORE GATE
HCZ ADDR REG

U1 L -T 01A7 D01D 32.35.11
U2 L -T 01A7 D02D 32.35.21
U4 L -T 01A7 D03D 32.35.31
U8 L -T 01A7 D04D 32.35.41
UC L -T 01A7 D05D 32.35.51
T1 L -T 01A7 D06D 32.36.11
T2 L -T 01A7 D07D 32.36.11
T4 L -T 01A7 D08D 32.36.31
T8 L -T 01A7 D09D 32.36.41
TCD L -T 01A7 D10D 32.36.51
H1 L -T 01A7 D11D 32.37.11
H2 L -T 01A7 D12D 32.37.21
H4 L -T 01A7 DI3D 32.37.31
H8 L -T 01A7 DI4D 32.37.41
HC L -T 01A7 DI5D 32.37.51
TH A L -T 01A7 DI6D 32.38.11
OPT 4K TH B L -T 01A7 DI7D 32.38.21
HCZ L -T 01A7 DI8D 32. 38.31

UNITS 1
UNITS 2
UNITS 4
UNITS 8
UNITS C D
TENS 1
TENS 2
TENS 4
TENS 8
TENS CD
HUNDREDS 1
HUNDREDS 2
HUNDREDS 4
HUNDREDS 8
HUNDREDS CHK
THOUSANDS A
THOUSANDS B
HUNDREDS CZ
STORAGE PRINT OUT

PRINT STORAGE 1
NOT STORAGE PRINT
14 C3 D CYCLE SET
NOT PRINT BUFFER SCAN
UTD CYCLE SET TENS 4
8585 GEN 001
14C5 GEN 001
PFR GEN 001
NOT FULL STOR PRINT
TIME 090-000
AUTO SET
32.30.11
TIME 090-000
RD SCAN CTRL
PCH SCN CTRL
32.30.21 TENS CD
7184 201 SET
7184 202 SET
71C4 203 SET
AUTO SET TENS 92C
32.31.21
000 SET TIME
001 SET TIME
100 SET TIME
201 SET TIME
202 SET TIME
203 SET TIME

27 A4 ADR REG SET U 1 CALC
AUTO SET UNITS 1
U1 ADR REG SET U 1
27 A5 ADR REG SET U2 CALC
U2
ADR REG SET U4 CALC
U4
ADR REG SET U8 CALC
U8
28 A3 ADR REG SET UCD CALC
UCD
ADR REG SET T1 CALC
T1
ADR REG SET T2 CALC
T2
ADR REG SET T4 CALC
T4
28 B2 ADR REG SET T8 CALC
T8
ADR REG SET TC CALC
TC
ADR REG SET H1 CALC
H1
ADR REG SET H2 CALC
H2
27 D6 ADR REG SET H4 CALC
H4
ADR REG SET H8 CALC
H8
28 D3 ADR REG SET HCD CALC
HC
28 A4 ADR REG SET HA CALC
A
ADR REG SET HB CALC
B
28 D6 ADR REG SET HCZ CALC
AUTO SET HCZ
HCZ
AUTO SET UCZ

TO SECTION 19A

18 I STAR, AUTO SCAN, STAR MANUAL SET

out 090-030

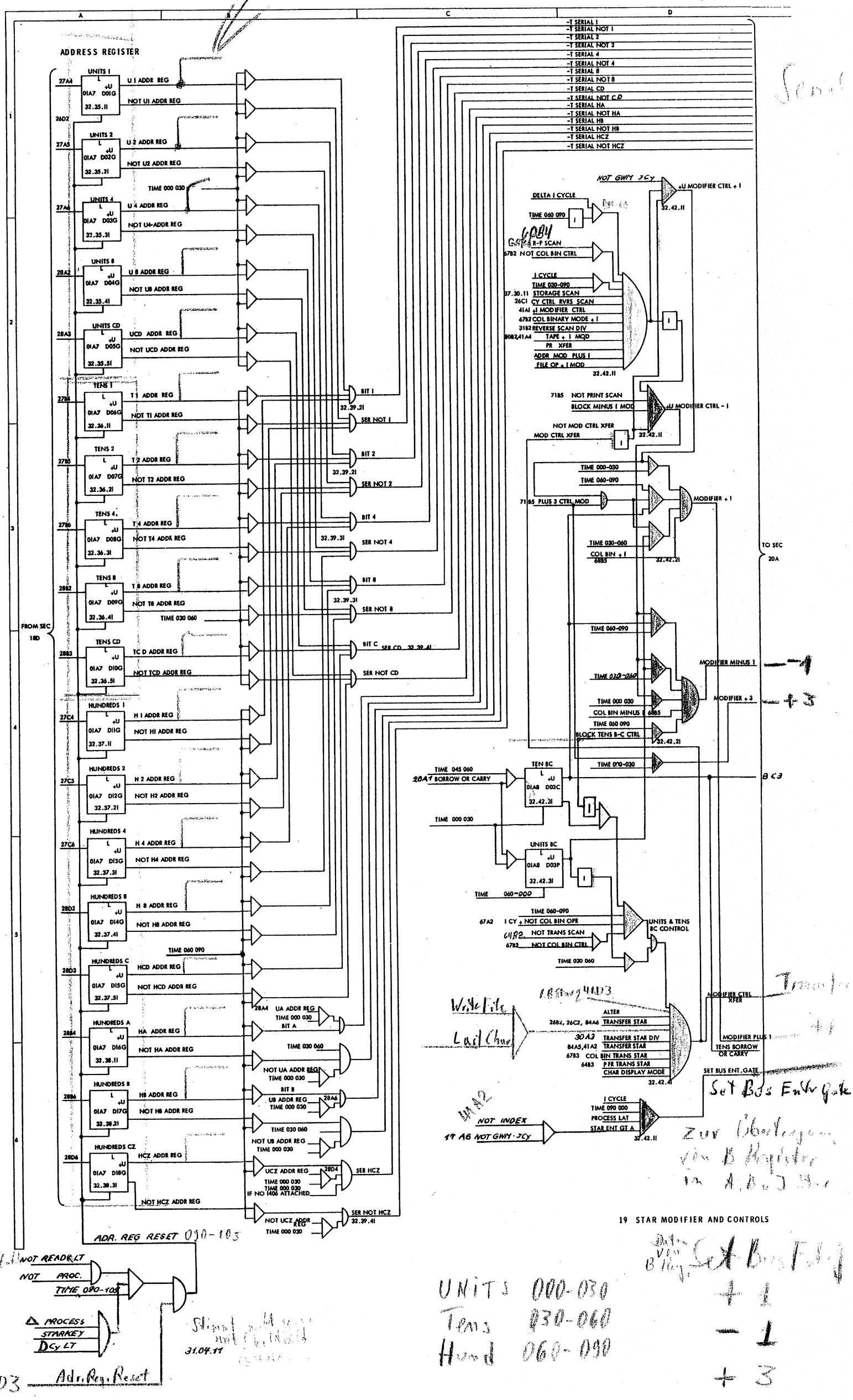
NOT SET UP 18 A6 17 A6

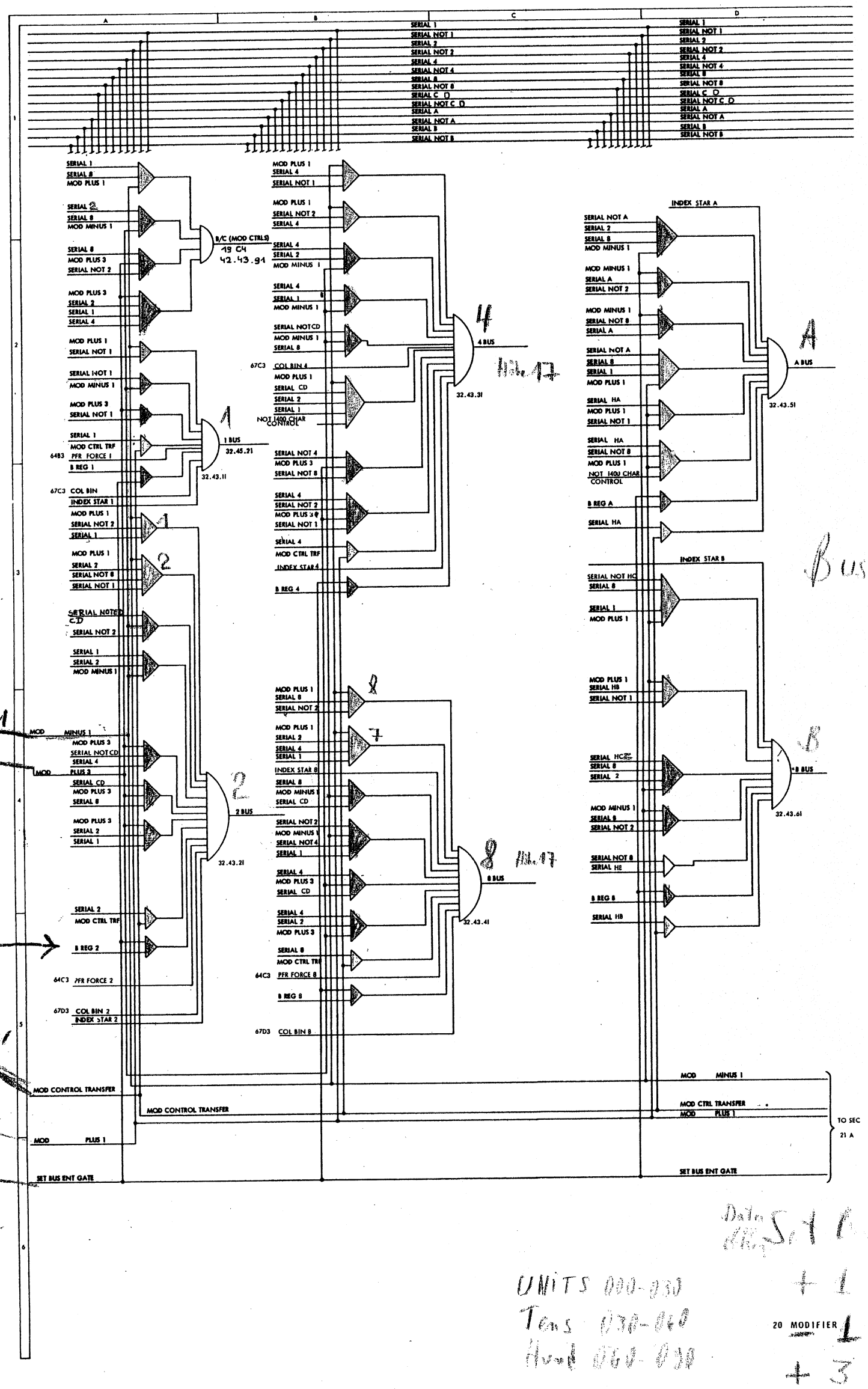
für B Star Gate out.

Ausgänge Main Star
direkt nach I Star über
I Star Restore Gate
18 A 1 - 6

Löschung siehe 17

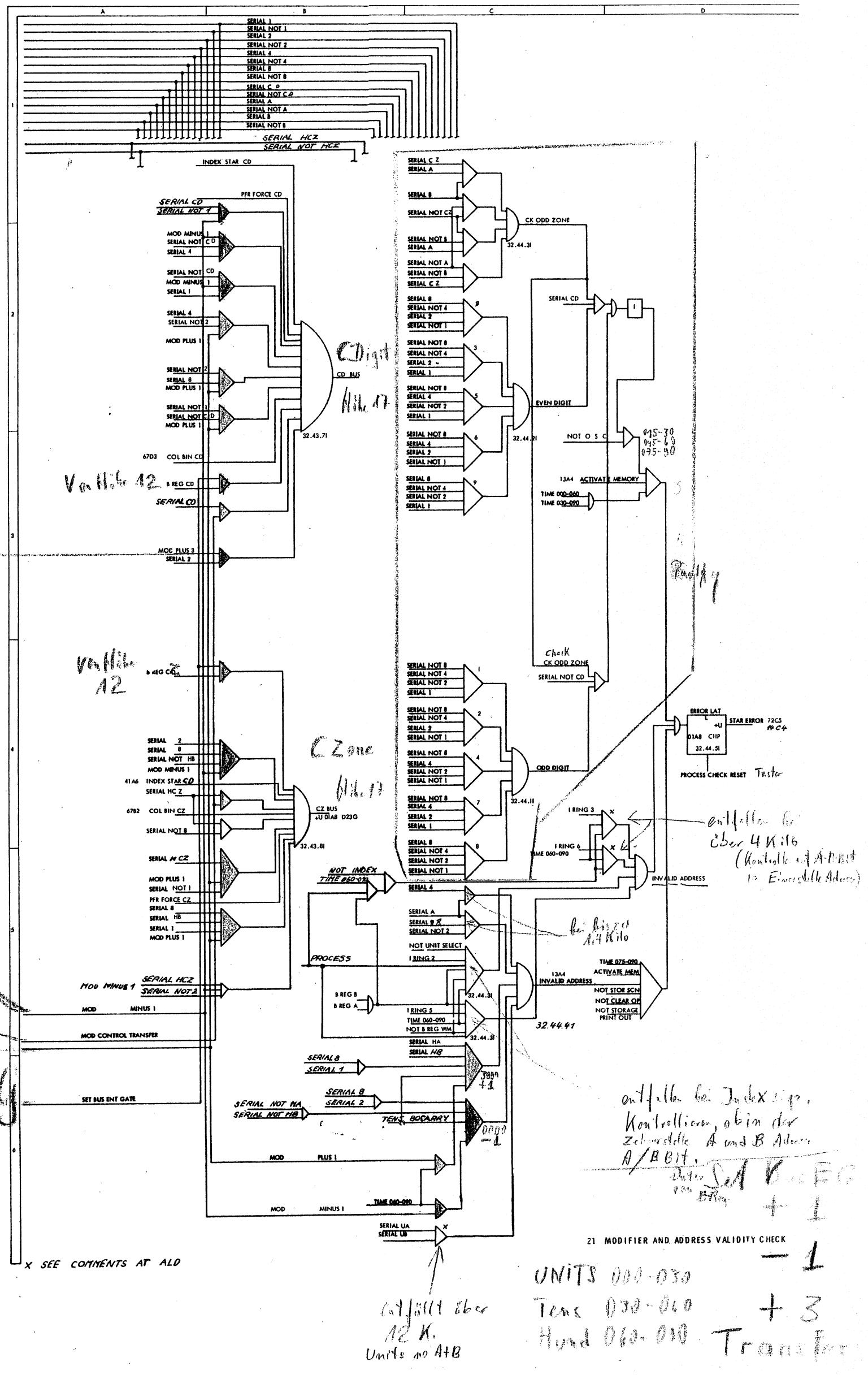
Main Star





UNITS 000-030
Tens 030-060
Hund 060-090

20 MODIFIER


SERIAL 1
SERIAL NOT 1
SERIAL 2
SERIAL NOT 2
SERIAL 4
SERIAL NOT 4
SERIAL 8
SERIAL NOT 8
SERIAL C D
SERIAL NOT C D
SERIAL A
SERIAL NOT A
SERIAL B
SERIAL NOT B
SERIAL HCZ
SERIAL NOT HCZ
INDEX STAR CD
PFR FORCE CD
SERIAL CD
SERIAL NOT CD
MOD MINUS 1
SERIAL 4
SERIAL NOT CD
MOD MINUS 1
SERIAL 1
SERIAL 4
SERIAL NOT 2
MOD PLUS 1
SERIAL NOT 2
SERIAL 8
MOD PLUS 1
SERIAL NOT 1
SERIAL NOT C D
MOD PLUS 1
CD BUS
32.43.71
67D3 COL BIN CD
B REG CD
SERIAL CD
MOC PLUS 3
SERIAL 2
B REG CZ
SERIAL 2
SERIAL 8
SERIAL NOT HB
MOD MINUS 1
41A6 INDEX STAR CD
SERIAL HC 2
67B2 COL BIN CZ
SERIAL NOT 8
SERIAL NOT CZ
MOD PLUS 1
SERIAL NOT 1
PFR FORCE CZ
SERIAL 8
SERIAL HB
SERIAL 1
MOD PLUS 1
CZ BUS
+U 01A8 D23G
32.43.81
MOD MINUS 1
SERIAL HCZ
SERIAL NOT 2
MOD MINUS 1
MOD CONTROL TRANSFER
SET BUS ENT GATE
SERIAL C Z
SERIAL A
SERIAL B
SERIAL NOT C Z
SERIAL NOT B
SERIAL A
SERIAL NOT A
SERIAL B
SERIAL NOT C Z
CK ODD ZONE
32.44.31
SERIAL 8
SERIAL NOT 4
SERIAL 2
SERIAL NOT 1
SERIAL NOT 8
SERIAL NOT 4
SERIAL 2
SERIAL 1
SERIAL NOT 8
SERIAL 4
SERIAL NOT 2
SERIAL 1
SERIAL NOT 8
SERIAL 4
SERIAL 2
SERIAL NOT 1
EVEN DIGIT
32.44.21
SERIAL CD
NOT O S C
13A4 ACTIVATE MEMORY
TIME 000-060
TIME 030-090
SERIAL NOT 8
SERIAL NOT 4
SERIAL NOT 2
SERIAL 1
SERIAL NOT 8
SERIAL 4
SERIAL 2
SERIAL NOT 1
SERIAL NOT 8
SERIAL 4
SERIAL NOT 2
SERIAL NOT 1
SERIAL NOT 8
SERIAL 4
SERIAL 2
SERIAL 1
SERIAL 8
SERIAL 4
SERIAL 2
SERIAL 1
ODD DIGIT
32.44.11
CK ODD ZONE
SERIAL NOT CD
ERROR LAT
+U
01A8 C11P
32.44.51
STAR ERROR 72C5
PROCESS CHECK RESET
I RING 3
I RING 6
TIME 060-090
INVALID ADDRESS
NOT INDEX
TIME 060-090
SERIAL 4
SERIAL A
SERIAL B
SERIAL NOT 2
NOT UNIT SELECT
I RING 2
PROCESS
B REG B
B REG A
I RING 5
TIME 060-090
NOT B REG WM
32.44.31
32.44.31
SERIAL HA
SERIAL HB
SERIAL 8
SERIAL 1
SERIAL 8
SERIAL 2
SERIAL NOT HA
SERIAL NOT HB
TENS BO CARRY
MOD PLUS 1
MOD MINUS 1
TIME 060-090
SERIAL UA
SERIAL UB
13A4
INVALID ADDRESS
TIME 075-090
ACTIVATE MEM
NOT STOR SCN
NOT CLEAR OP
NOT STORAGE
PRINT OUT
32.44.41
21 MODIFIER AND ADDRESS VALIDITY CHECK
X SEE COMMENTS AT ALD

ZONE ADDER
ZONE ADDER CARRY
RESET ADD SIGN CTRL
ZONE BIT GENERATOR
B REG TRANSLATOR
34.32.12
DIGIT ADDER
BINARY ADDER
34.32.16
QUINARY ADDER
34.32.14
34.32.15
ADDER CARRY
EVEN ZONE BITS
ODD ZONE BITS
BIT TOTAL 2 + 3 + 6
BIT TOTAL 0 + 1 + 4 + 5
ODD A-BITS
EVEN A-BITS
ZONE ADDER GATE
INDEX ZONE ADDER GATE
NOT ADDER CARRY
ZONE ADDER ARITH A
ZONE ADDER ARITH B
ZONE ADDER ARITH CZ
ZONE ADDER ARITH A
ZONE ADDER ARITH B
ZONE ADDER ARITH C ZONE
B-REG PLUS
B CYCLE B REG B Ā
ADD OP
SUB'T OP
COMPL LAT
COMPLEMENT
1 CYCLE
TIME 000-060
B-REG Q0
B-REG Q2
B-REG Q4
B-REG Q6
B-REG Q8
A-REG 1 FROM CALC
A-REG NOT 1 FROM CALC
A-REG Q0 29A1
A-REG Q2 29B1
A-REG Q4 29A1
A-REG Q6 29B1
A-REG Q8 29C1
A-REG B 1 T-C
A-REG B 0 T-C
A-REG Q0 T-C
A-REG Q2 T-C
A-REG Q4 T-C
A-REG Q6 T-C
A-REG Q8 T-C
TRUE
A-REG TRUE-COMPLEMENT
COMPL.
ADDER B 0
ADDER B 1
BINARY CARRY
NOT BINARY CARRY
Q0 NOT CARRY
Q0 CARRY
Q2 NOT CARRY
Q2 CARRY
Q4 NOT CARRY
Q4 CARRY
Q6 NOT CARRY
Q6 CARRY
Q8 NOT CARRY
LEADS THROUGH M|D CIRCUITS IF INSTALLED
25 ADD SUBT AND ADDER CONTROL

REV SCAN TR
CY CNTL REV SCAN
NOT CYCLE CTRL REV SCAN
START RESET
READR L
NOT READDRESS
PROCESS
TIME 050-060
ADR REG RST
ARITH A WM
ARITH A WM
CARRY TR ON (EXP STOR)
CARRY TR
EXT
NOT CARRY
OFL LATCH
OFL
BRANCH OPR OFL RESET
READR TR
NOT READR TR
CARRY OFF
RESET CARRY
CARRY TR OFF DRIVE
ADDER B 0
ADDER B 1
BINARY CARRY
NOT BINARY CARRY
RD-PCH FORCE ZONE CARRY
NOT ADDER CARRY
ADDER CARRY
ADDER Q 4
ADDER Q0
ADDER Q 6
ADDER Q 2
ADDER Q 8
ARITH 1
ARITH 2
ARITH 4
ARITH 8
ARITH C D
RD PCH ARITH DIG INH
TIME 075-090
ADD OR SUB'T OP
B-CYCLE
GLU BIN
CHECK
INDEX ARITH CHK
SET ARITH CHK LAT
CALC
ARITH CHECK
PROC CHK RST
Q0 NOT CARRY
Q0 CARRY
Q2 NOT CARRY
Q2 CARRY
Q4 NOT CARRY
Q4 CARRY
Q6 NOT CARRY
Q6 CARRY
Q8 NOT CARRY
26 ADD SUBT AND ADDER CONTROLS

A
B
1
2
4

A AUX U
A AUX STAR RESET U1
28A3
Exp.Stor.
A AUX U
A AUX STAR RESET U2
27A6 A AUX STAR RI UNITS
27C6 A AUX STAR RI HUNDREDS
A AUX T
A AUX STAR RESET TENS
27B6 A AUX STAR RI TENS
A AUX H
A AUX STAR RESET HUNDREDS
44.16.21.2
B AUX U
B AUX STAR RESET U1
28A3
STAR RESET 01A1
B AUX U
B AUX STAR RESET U2
27A6 B AUX STAR RI UNITS
27D6 B AUX STAR RI HUNDREDS
B AUX T
B AUX STAR RESET TENS
27B6 B AUX STAR RI TENS
B AUX H
B AUX STAR RESET HUNDREDS
44.16.31.2
27 A AUX STAR AND B AUX STAR REG GATE IN AND OUT CONTROL

TIME 060-090
ALTER
32C4 A AUX CYCLE
32B1 A AUX STAR SET TENS HUND
TIME 030-060
TIME 000-030
32B1 A AUX STAR SET UNITS
TIME 090-000
32A4 DELTA A AUX CYCLE
A AUX STAR KEY 1
1 +U A STAR GATE-OUT CALC 17B6
44.15.11.2

TIME 060-090
ALTER
32C6 B AUX CYCLE
32A1 B AUX STAR SET T + H CALC
TIME 030-060
TIME 000-030
32A1 B AUX STAR SET U CALC
TIME 090-000
32B6 DELTA B AUX CYCLE
B AUX STAR KEY 1
1 +U B STAR GATE-OUT CALC 17D6

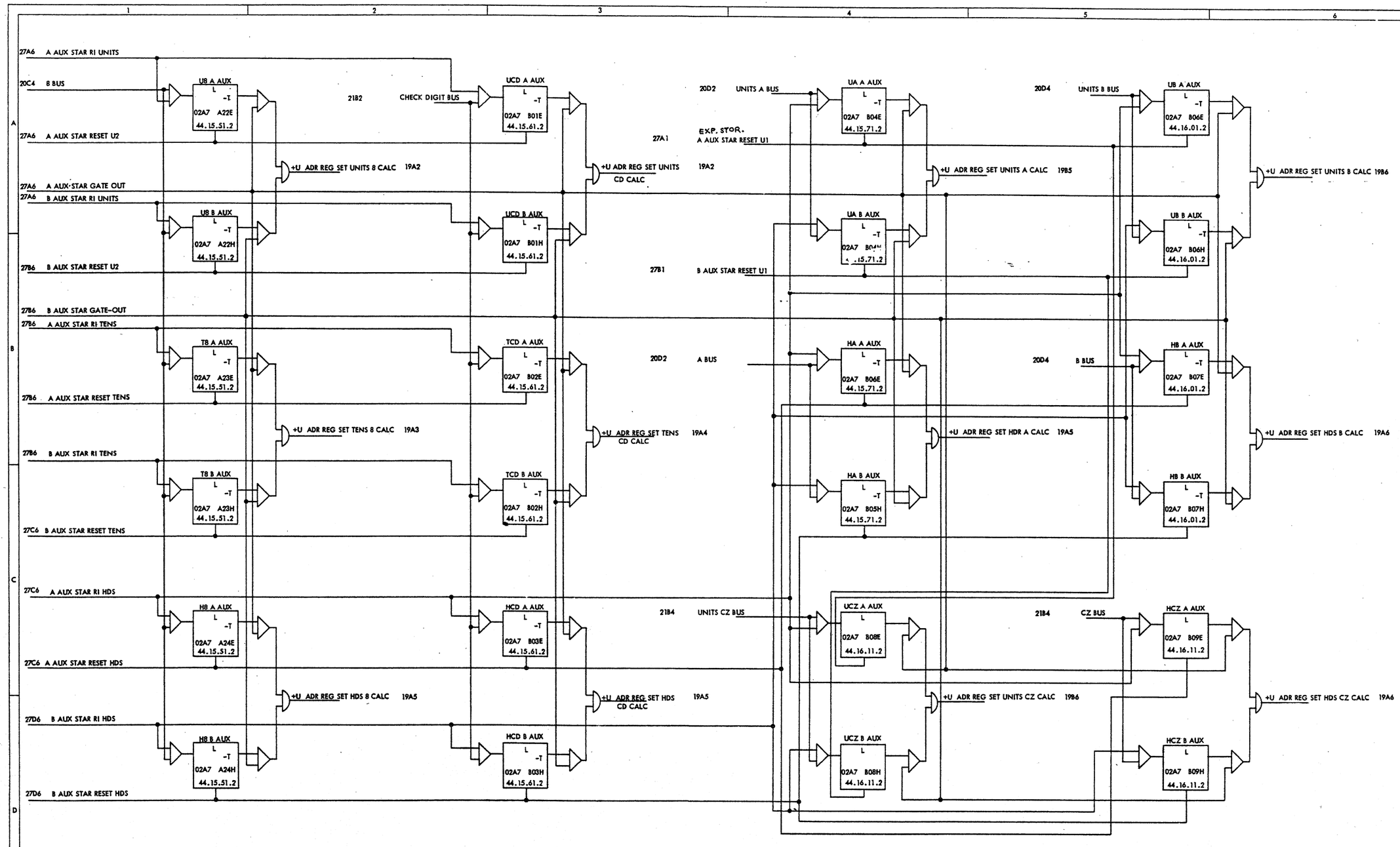
A AUX STAR RI UNITS
20A2 1 BUS
U1 A AUX -T 02A7 A12E 44.15.21.2
A AUX STAR RESET U2
+U ADR REG SET UNITS 1 CALC 19A1
A AUX STAR GATE-OUT
B AUX STAR RI UNITS
U1 B AUX -T 02A7 A12H 44.15.21.2
B AUX STAR RESET U2
B AUX STAR GATE-OUT
A AUX STAR RI TENS
T1 A AUX -T 02A7 A14E 44.15.21.2
A AUX STAR RESET TENS
+U ADR REG SET TENS 1 CALC 19A2
B AUX STAR RI TENS
T1 B AUX -T 02A7 A14H 44.15.21.2
B AUX STAR RESET TENS
A AUX STAR RI HUNDREDS
H1 A AUX -T 02A7 A15E 44.15.21.2
A AUX STAR RESETS HUNDREDS
+U ADR REG SET HDS 1 CALC 19A4
B AUX STAR RI HUNDREDS
H1 B AUX -T 02A7 A15H 44.15.21.2
B AUX STAR RESET H

20A4 2 BUS
U2 A AUX -T 02A7 A16E 44.15.31.2
+U ADR REG SET UNITS 2 CALC 19A1
T2 A AUX -T 02A7 A17E 44.15.31.2
+U ADR REG SET TENS 2 CALC 19A3
H2 A AUX -T 02A7 A18E 44.15.31.2
+U ADR REG SET HDS 2 CALC 19A4
U2 B AUX -T 02A7 A16H 44.15.31.2
T2 B AUX -T 02A7 A17H 44.15.31.2
H2 B AUX -T 02A7 A18H 44.15.31.2

20C2 4 BUS
A AUX STAR RI UNITS
U4 A AUX -T 02A7 A19E 44.15.41.2
+U ADR REG SET UNITS 4 CALC 19A1
T4 A AUX -T 02A7 A20E 44.15.41.2
+U ADR REG SET TENS 4 CALC 19A3
H4 A AUX -T 02A7 A21E 44.15.41.2
+U ADR REG SET HDS 4 CALC 19A5
U4 B AUX -T 02A7 A19H 44.15.41.2
T4 B AUX -T 02A7 A20H 44.15.41.2
H4 B AUX -T 02A7 A21H 44.15.41.2

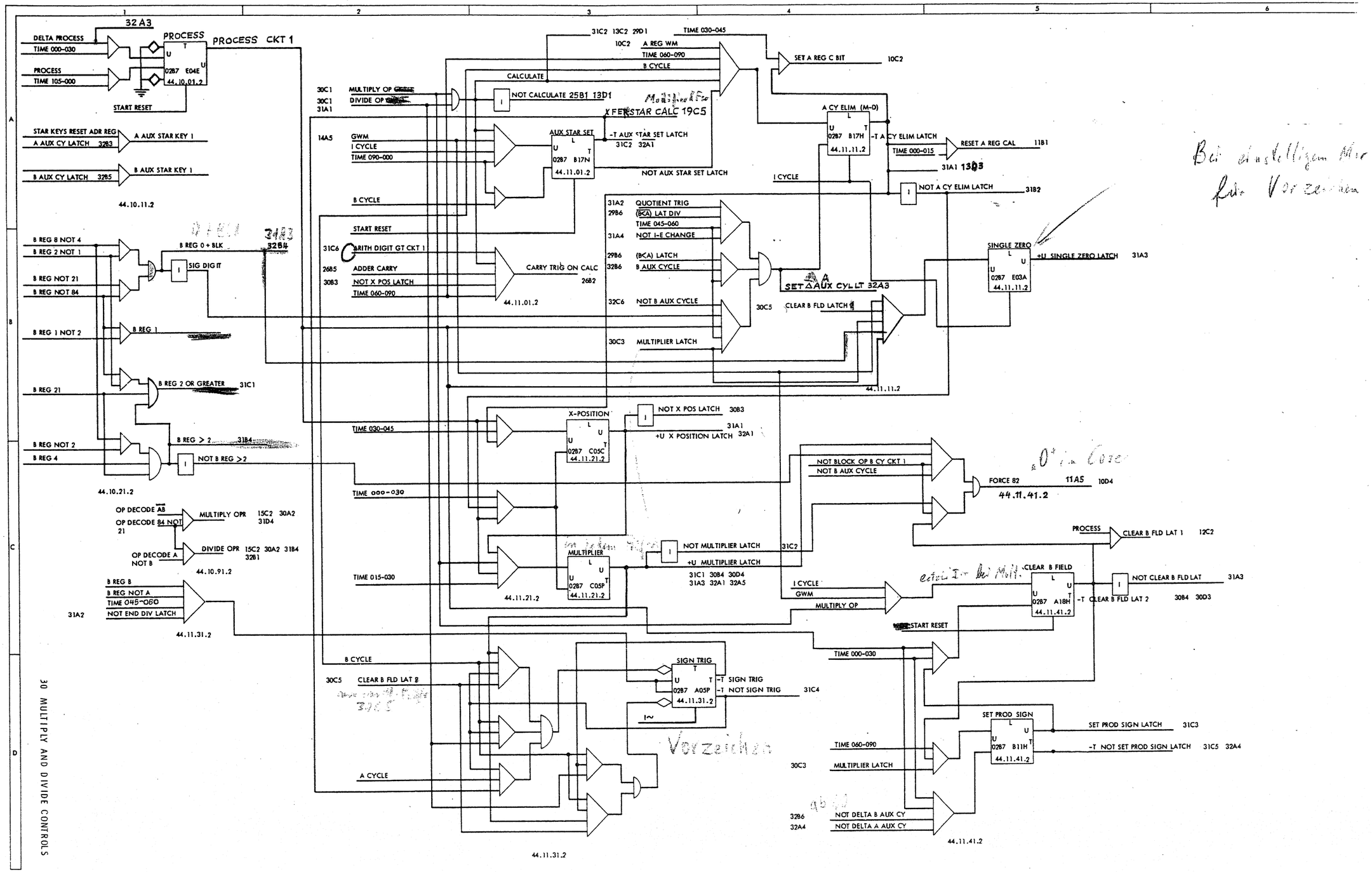
28A1 27B1 28A1
28B1
27B1 28B1
28B1
27C1 28B1
28C1
27A1 28C1
28C1
27C1 28D1
28D1

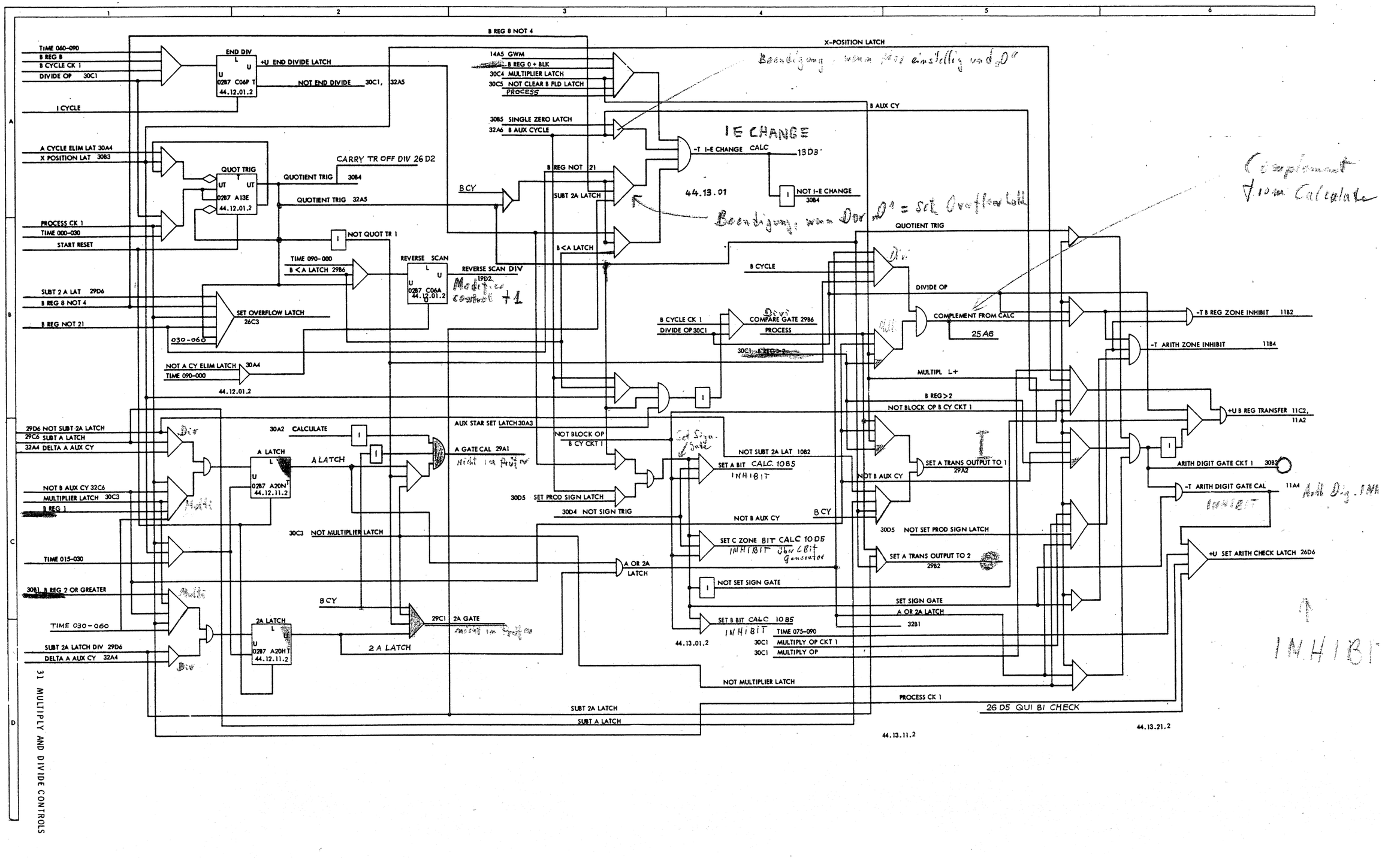
1
2
4
A
B

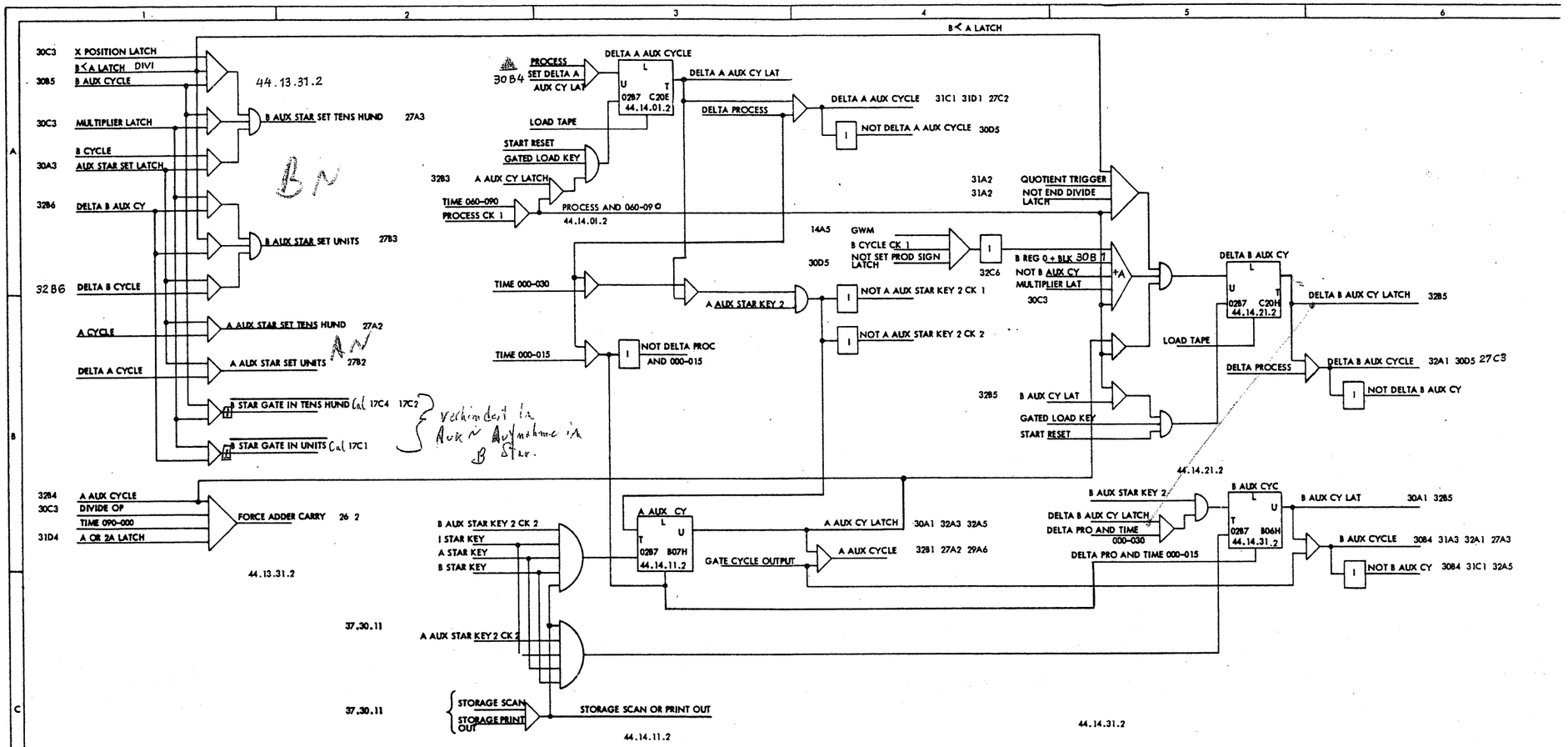


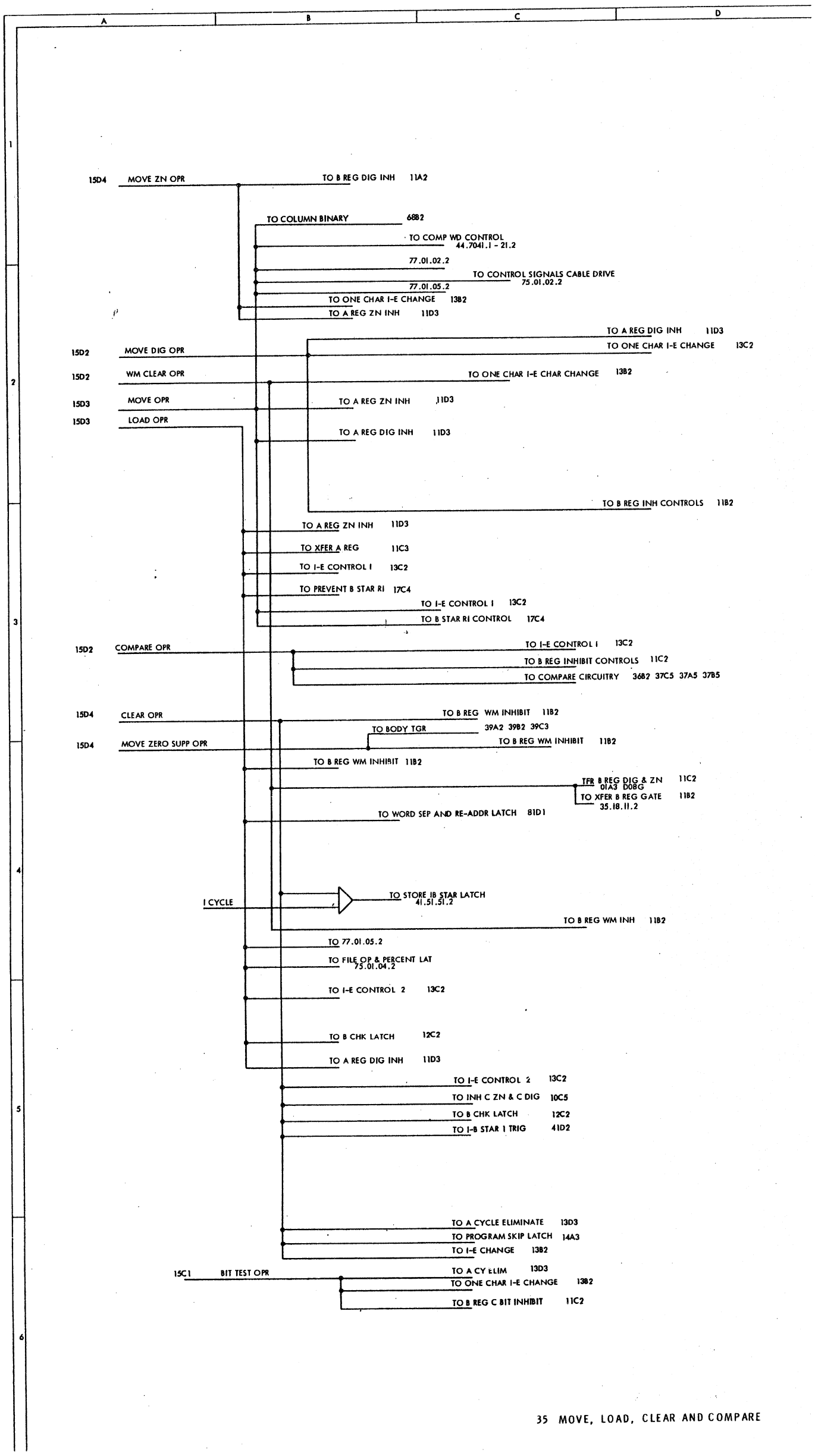
28 A AUX STAR AND B AUX STAR REG GATE IN AND OUT CTRLS

A REG Q0
DOUBLER Q0
A REG NOT 1
A GATE CALC
A GATE CALC 31C2
A REG Q0 25A5
A REG NOT 1
-1 DOUBLER Q0
A REG Q4 25A6
A REG 1
SET A TRANS OUTPUT TO 2 31C4
31C4 SET A TRANS OUTPUT TO 1
44.18.41.2
44.18.31.2
+U A REG Q0 FROM CAL 25B5
25D4
ADDER B0
A REG 1
ADDER B1
+U A REG 1 FROM CAL 25A5
25D4
44.18.31.2
2685
ADDER Q6
31C4 SET A TRANS OUTPUT TO 2
+U A REG Q2 FROM CAL 25B6
-T DOUBLER Q2
DOUBLER Q2
A REG Q2
2685 ADDER Q2
A REG Q6 25A6
+U A REG Q4 FROM CAL 25B6
A REG Q4
-T DOUBLER Q4
DOUBLER Q4
A REG Q2 25A6
+U A REG Q6 FROM CAL 25B6
DOUBLER Q6
A REG Q6
-T DOUBLER Q6
+U A REG Q8 FROM CAL 26B6
A REG Q8 25A6
44.18.41.2
+U A REG NOT 1 FROM CAL 25A5
44.18.31.2
44.18.31.2
-T DOUBLER Q8
DOUBLER Q8
A REG Q8
A REG 1
44.18.11.2
2A GATE CALC 31D2
44.18.31.2
A REG NOT 1
-T QUI-BI DOUBLER CARRY T
-T NOT QUI-BI DOUBLER CARRY T
02A7 C89 44.18.21.1
30A2 CALCULATE B-CYCLE
TIME 105-000 PROCESS START RESET
44.18.21.2
29 MULTIPLY AND DIVIDE CONTROLS
2685 ADDER Q4
2685 ADDER Q6
2685 ADDER Q8
44.19.11.2
-T B EQUALS A
-T NOT B EQUALS A
-T B EQUALS 2A
-T NOT B EQUALS 2A
-T B<2A
-T (B<2A)
3184 COMPARE GATE DIV TIME 075-090
32C4 A AUX CYCLE 1 CYCLE
B>A
(B<A) LAT DIV
(B<2A) LAT DIV
B<A
02A7 D12N 44.19.21
-T B<A LAT DIV 3182 2084
-T (B<A) LAT DIV 30A4
SUBT A
02A7 D12H 44.19.21
SUBT A LAT DIV 31C1
44.19.21
B<2A
02A7 D2JN 44.19.31
SUBT 2A
02A7 D15A 44.19.31
SUBT 2A LAT DIV 3181 31D1
-T NOT SUBT 2A LAT DIV 31C1
44.19.31
44.10.3


32A3
PROCESS
PROCESS CKT 1
DELTA PROCESS
TIME 000-030
PROCESS
TIME 105-000
0287 E04E
44.10.01.2
START RESET
STAR KEYS RESET ADR REG
A AUX CY LATCH 3283
A AUX STAR KEY 1
B AUX CY LATCH 3285
B AUX STAR KEY 1
44.10.11.2
B REG B NOT 4
B REG 2 NOT 1
B REG 0 + BLK
SIG DIGIT
B REG NOT 21
B REG NOT 84
B REG 1
B REG 1 NOT 2
B REG 21
B REG 2 OR GREATER 31C1
B REG NOT 2
B REG 4
B REG > 2 31B4
NOT B REG >2
44.10.21.2
OP DECODE AB
OP DECODE 84 NOT 21
MULTIPLY OPR 15C2 30A2 31D4
OP DECODE A NOT B
DIVIDE OPR 15C2 30A2 31B4 32B1
44.10.91.2
B REG B
B REG NOT A
TIME 045-060
NOT END DIV LATCH
31A2
44.11.31.2
31C2 13C2 29D1
TIME 030-045
10C2 A REG WM
TIME 060-090
B CYCLE
SET A REG C BIT 10C2
CALCULATE
30C1 MULTIPLY OP
30C1 31A1 DIVIDE OP
NOT CALCULATE 25B1 13D1
X FER STAR CALC 19C5
A CY ELIM (M-D)
0287 B17H
44.11.11.2
-T A CY ELIM LATCH
RESET A REG CAL 11B1
TIME 000-015
31A1 13D3
14A5 GWM
I CYCLE
TIME 090-000
AUX STAR SET
0287 B17N
44.11.01.2
-T AUX STAR SET LATCH
31C2 32A1
NOT AUX STAR SET LATCH
I CYCLE
NOT A CY ELIM LATCH 31B2
B CYCLE
START RESET
31C6 ARITH DIGIT GT CKT 1
2685 ADDER CARRY
30B3 NOT X POS LATCH
TIME 060-090
CARRY TRIG ON CALC
2682
44.11.01.2
31A2 QUOTIENT TRIG
29B6 (BCA) LAT DIV
TIME 045-060
31A4 NOT I-E CHANGE
29B6 (BCA) LATCH
32B6 B AUX CYCLE
32C6 NOT B AUX CYCLE
30C3 MULTIPLIER LATCH
SET Δ AUX CYCLE 32A3
30C5 CLEAR B FLD LATCH
SINGLE ZERO
0287 E03A
44.11.11.2
+U SINGLE ZERO LATCH 31A3
44.11.11.2
TIME 030-045
X-POSITION
0287 C05C
44.11.21.2
NOT X POS LATCH 30B3
31A1
+U X POSITION LATCH 32A1
TIME 000-030
TIME 015-030
MULTIPLIER
0287 C05P
44.11.21.2
NOT MULTIPLIER LATCH
+U MULTIPLIER LATCH
31C2
31C1 30B4 30D4
31A3 32A1 32A5
44.11.21.2
NOT BLOCK OP B CY CKT 1
NOT B AUX CYCLE
FORCE 82 11A5 10D4
44.11.41.2
PROCESS
CLEAR B FLD LAT 1 12C2
CLEAR B FIELD
0287 A18H
44.11.41.2
I CYCLE
GWM
MULTIPLY OP
START RESET
NOT CLEAR B FLD LAT 31A3
-T CLEAR B FLD LAT 2 30B4 30D3
B CYCLE
30C5 CLEAR B FLD LAT 2
SIGN TRIG
0287 A05P
44.11.31.2
-T SIGN TRIG
-T NOT SIGN TRIG 31C4
A CYCLE
TIME 000-030
SET PROD SIGN
0287 B11H
44.11.41.2
SET PROD SIGN LATCH 31C3
-T NOT SET PROD SIGN LATCH 31C5 32A4
TIME 060-090
30C3 MULTIPLIER LATCH
3286 NOT DELTA B AUX CY
32A4 NOT DELTA A AUX CY
44.11.41.2
A
B
C
D
30 MULTIPLY AND DIVIDE CONTROLS


B REG B NOT 4
X-POSITION LATCH
TIME 060-090
B REG B
B CYCLE CK 1
DIVIDE OP 30C1
END DIV
+U END DIVIDE LATCH
0287 C06P T
44.12.01.2
NOT END DIVIDE 30C1, 32A5
14A5 GWM
B REG 0 + BLK
30C4 MULTIPLIER LATCH
30C5 NOT CLEAR B FLD LATCH
PROCESS
B AUX CY
I CYCLE
3085 SINGLE ZERO LATCH
32A6 B AUX CYCLE
IE CHANGE
-T I-E CHANGE CALC 13D3
44.13.01
NOT I-E CHANGE 3084
A CYCLE ELIM LAT 30A4
X POSITION LAT 3083
QUOT TRIG
0287 A13E
44.12.01.2
CARRY TR OFF DIV 26 D2
QUOTIENT TRIG 3084
QUOTIENT TRIG 32A5
B REG NOT 21
B CY
SUBT 2A LATCH
B<A LATCH
PROCESS CK 1
TIME 000-030
START RESET
NOT QUOT TR 1
QUOTIENT TRIG
TIME 090-000
B<A LATCH 29B6
REVERSE SCAN
0287 C06A
44.12.01.2
REVERSE SCAN DIV
SUBT 2 A LAT 29D6
B REG B NOT 4
B REG NOT 21
SET OVERFLOW LATCH
26C3
030-060
B CYCLE
DIVIDE OP
B CYCLE CK 1
DIVIDE OP 30C1
COMPARE GATE 29B6
PROCESS
30C1 B REG>2
COMPLEMENT FROM CALC
25A6
-T B REG ZONE INHIBIT 11B2
-T ARITH ZONE INHIBIT 11B4
MULTIPL L+
B REG>2
NOT BLOCK OP B CY CKT 1
NOT A CY ELIM LATCH 30A4
TIME 090-000
44.12.01.2
+U B REG TRANSFER 11C2, 11A2
ARITH DIGIT GATE CKT 1 30B2
-T ARITH DIGIT GATE CAL 11A4
29D6 NOT SUBT 2A LATCH
29C6 SUBT A LATCH
32A4 DELTA A AUX CY
30A2 CALCULATE
A LATCH
0287 A20N T
44.12.11.2
A GATE CAL 29A1
AUX STAR SET LATCH 30A3
NOT BLOCK OP B CY CKT 1
NOT SUBT 2A LAT 10B2
SET A BIT CALC. 10B5
INHIBIT
NOT B AUX CY
SET A TRANS OUTPUT TO 1
29A2
NOT B AUX CY 32C6
MULTIPLIER LATCH 30C3
B REG 1
30D5 SET PROD SIGN LATCH
30D4 NOT SIGN TRIG
B CY
30D5 NOT SET PROD SIGN LATCH
30C3 NOT MULTIPLIER LATCH
SET C ZONE BIT CALC 10D5
INHIBIT
SET A TRANS OUTPUT TO 2
29B2
+U SET ARITH CHECK LATCH 26D6
TIME 015-030
A OR 2A LATCH
3081 B REG 2 OR GREATER
NOT SET SIGN GATE
SET SIGN GATE
A OR 2A LATCH
3281
TIME 030-060
2A LATCH
0287 A20H T
44.12.11.2
B CY
29C1 2A GATE
SET B BIT CALC 10B5
INHIBIT
TIME 075-090
30C1 MULTIPLY OP CKT 1
30C1 MULTIPLY OP
44.13.01.2
SUBT 2A LATCH DIV 29D6
DELTA A AUX CY 32A4
NOT MULTIPLIER LATCH
PROCESS CK 1
SUBT 2A LATCH
SUBT A LATCH
26 D5 QUI BI CHECK
44.13.11.2
44.13.21.2
31 MULTIPLY AND DIVIDE CONTROLS


B< A LATCH
30C3 X POSITION LATCH
B<A LATCH DIVI
3085 B AUX CYCLE
44.13.31.2
30C3 MULTIPLIER LATCH
B CYCLE
30A3 AUX STAR SET LATCH
3286 DELTA B AUX CY
B AUX STAR SET TENS HUND 27A3
B AUX STAR SET UNITS 27B3
3286 DELTA B CYCLE
A CYCLE
DELTA A CYCLE
A AUX STAR SET TENS HUND 27A2
A AUX STAR SET UNITS 27B2
B STAR GATE IN TENS HUND Cal 17C4 17C2
B STAR GATE IN UNITS Cal 17C1
verhindert in Aux-Aufnahme in B Star.
30B4 PROCESS SET DELTA A AUX CY LAT
DELTA A AUX CYCLE
02B7 C20E 44.14.01.2
DELTA A AUX CY LAT
DELTA PROCESS
DELTA A AUX CYCLE 31C1 31D1 27C2
NOT DELTA A AUX CYCLE 30D5
LOAD TAPE
START RESET
GATED LOAD KEY
3283 A AUX CY LATCH
TIME 060-090
PROCESS CK 1
PROCESS AND 060-090
44.14.01.2
31A2 QUOTIENT TRIGGER
31A2 NOT END DIVIDE LATCH
14A5 GWM
B CYCLE CK 1
30D5 NOT SET PROD SIGN LATCH
B REG 0 + BLK 30B 1
32C6 NOT B AUX CY MULTIPLIER LAT
30C3
+A
DELTA B AUX CY
02B7 C20H 44.14.21.2
DELTA B AUX CY LATCH 3285
LOAD TAPE
DELTA PROCESS
DELTA B AUX CYCLE 32A1 30D5 27C3
NOT DELTA B AUX CY
TIME 000-030
A AUX STAR KEY 2
NOT A AUX STAR KEY 2 CK 1
NOT A AUX STAR KEY 2 CK 2
TIME 000-015
NOT DELTA PROC AND 000-015
3285 B AUX CY LAT
GATED LOAD KEY
START RESET
44.14.21.2
3284 A AUX CYCLE
30C3 DIVIDE OP
TIME 090-000
31D4 A OR 2A LATCH
FORCE ADDER CARRY 26 2
44.13.31.2
B AUX STAR KEY 2 CK 2
I STAR KEY
A STAR KEY
B STAR KEY
A AUX CY
02B7 B07H 44.14.11.2
GATE CYCLE OUTPUT
A AUX CY LATCH 30A1 32A3 32A5
A AUX CYCLE 3281 27A2 29A6
37.30.11
A AUX STAR KEY 2 CK 2
37.30.11
STORAGE SCAN
STORAGE PRINT OUT
STORAGE SCAN OR PRINT OUT
44.14.11.2
B AUX STAR KEY 2
DELTA B AUX CY LATCH
DELTA PRO AND TIME 000-030
DELTA PRO AND TIME 000-015
B AUX CYC
02B7 B06H 44.14.31.2
B AUX CY LAT 30A1 3285
B AUX CYCLE 3084 31A3 32A1 27A3
NOT B AUX CY 3084 31C1 32A5
44.14.31.2
A Aux
B Aux


A
B
C
D
1
2
3
4
5
6
15D4 MOVE ZN OPR
TO B REG DIG INH 11A2
TO COLUMN BINARY 68B2
TO COMP WD CONTROL 44.7041.1 - 21.2
77.01.02.2
TO CONTROL SIGNALS CABLE DRIVE 75.01.02.2
77.01.05.2
TO ONE CHAR I-E CHANGE 13B2
TO A REG ZN INH 11D3
15D2 MOVE DIG OPR
15D2 WM CLEAR OPR
15D3 MOVE OPR
15D3 LOAD OPR
TO A REG DIG INH 11D3
TO ONE CHAR I-E CHANGE 13C2
TO ONE CHAR I-E CHAR CHANGE 13B2
TO A REG ZN INH 11D3
TO A REG DIG INH 11D3
TO B REG INH CONTROLS 11B2
TO A REG ZN INH 11D3
TO XFER A REG 11C3
TO I-E CONTROL 1 13C2
TO PREVENT B STAR RI 17C4
TO I-E CONTROL 1 13C2
TO B STAR RI CONTROL 17C4
15D2 COMPARE OPR
TO I-E CONTROL 1 13C2
TO B REG INHIBIT CONTROLS 11C2
TO COMPARE CIRCUITRY 36B2 37C5 37A5 37B5
15D4 CLEAR OPR
15D4 MOVE ZERO SUPP OPR
TO B REG WM INHIBIT 11B2
TO BODY TGR 39A2 39B2 39C3
TO B REG WM INHIBIT 11B2
TO B REG WM INHIBIT 11B2
TFR B REG DIG & ZN 11C2 01A3 D08G
TO XFER B REG GATE 11B2 35.18.11.2
TO WORD SEP AND RE-ADDR LATCH 81D1
I CYCLE
TO STORE IB STAR LATCH 41.51.51.2
TO B REG WM INH 11B2
TO 77.01.05.2
TO FILE OP & PERCENT LAT 75.01.04.2
TO I-E CONTROL 2 13C2
TO B CHK LATCH 12C2
TO A REG DIG INH 11D3
TO I-E CONTROL 2 13C2
TO INH C ZN & C DIG 10C5
TO B CHK LATCH 12C2
TO I-B STAR 1 TRIG 41D2
TO A CYCLE ELIMINATE 13D3
TO PROGRAM SKIP LATCH 14A3
TO I-E CHANGE 13B2
15C1 BIT TEST OPR
TO A CY ELIM 13D3
TO ONE CHAR I-E CHANGE 13B2
TO B REG C BIT INHIBIT 11C2

Beschreibung V
Seite 42

prüfen D Charakter und Verzweigen

Sec. Ler. 14B3

Unbedingt Verzweigen

Prog. Skip Latch
Bedingter Verzweigen

-T B CYCLE AND TIME 060-000
01B6 B20A

4581 BRANCH OPR

CHAR TEST

10B2 A REG A
10B1 B REG A
10B2 A REG NOT A
10B1 B REG NOT A
10B2 A REG B
10B1 B REG B
10B2 A REG NOT B
10B1 B REG NOT B
10B2 A REG NOT 8
10B1 B REG NOT 8
10B2 A REG 8
10B1 B REG 8
10A2 A REG NOT 4
10A1 B REG NOT 4
10A2 A REG 4
10A1 B REG 4
10A2 A REG NOT 2
10A1 B REG NOT 2
10A2 A REG 2
10A1 B REG 2
10A2 A REG NOT 1
10A1 B REG NOT 1
10A2 A REG 1
10A1 B REG 1
34.21.11.2

A ZN BIT EQUAL
B ZN BIT EQUAL

TIME 060-000
B CYCLE

3BA1 ZONE TEST OPR

ZN TEST

TRANSFER PRG SKIP 14B3
01B6 A08A

10A2 A REG 2

WM TEST

10A2 A REG 1
10C1 B REG WM

bei EQUAL
-T EQUAL CHAR
01B6 B05H
Latch Reset

35B3 COMPARE OPR
37C5

10C1 B REG NOT WM
10C2 A REG WM

1486 I RING 2
34.21.21.2

+U UNEQUAL CHAR
01B6 B18

+U EQUAL DISPLAY
01B6 A12G

-T UNEQUAL LAT
01B6 A16A

UNEQUAL LATCH

+U UNEQUAL DISPLAY
01B6 A12P

+U EQUAL LATCH
01B6 A16P

COMP EQ LAT
01B6 B17
01B6 A16
34.21.21.2

14C6 I RING 4
14A5 GATED WM
4581 BRANCH OPR

UNCOND

+U TRANSFER PRG SKIP 14B3
01B6 A11N

Siehe Höhe 14B3

Branch OP
Gated WM
J-Ring 5
time 030-000

UNEQUALS

12B2 A REG NOT 84

7686 PR OR CARR BUSY
37C6 TEST POS HI-LO-EQ
12A2 A REG 8 NOT 4
7885 CH 9
12A2 A REG 1 NOT 2
78D2 NOT CARR INLK
SENSE SW A
12B2 A REG AB
60C6 READ END
7885 CH 12
12B2 A REG NOT AB
12B2 A REG B4
12A2 A REG NOT 21
12B2 A REG A NOT B
14C4 PROCESS CHECK
26C3 OVERFLOW LATCH

CH 9
LAST CD A
CH 12
PROC CK 70

TEST POS

TEST POS
OVER FLOW

+U TRANSFER PRG SKIP 14B3
01B6 A10N

+U BRANCH OPR OVERFLOW RESET 26D3, 26C3
01B6 A11H
TIME 090-000
TIME 090-000
34.21.41.2

72C4 PRINTER CHECK

PRINT CK +

63A4 PUNCH CHECK
12B2 A REG B NOT A

PCK CK +0

12A2 A REG 2 NOT 1
63B4 READ CHECK

READ CK +0

34.21.31.
34.21.31.2

36 COMPARE

Digit B<A

Zone B<A

Sp.char. B<A

B-Reg

A - Reg

84
B NOT 4
21
NOT 84
NOT 21
B CY · A NOT B
NOT 84
1 NOT 2

B REG SPEC CHAR
B REG ALPHA-NUM
A REG SPEC CHAR
A REG ALPHA-NUM

TEST ZONE (BOTH OR NEITHER SC)
44.31.11.2

B REG 12 OR 11 ZONE < A REG NO ZONE OR 0 ZONE
B REG 12 ZONE < A REG 11 ZONE
A REG NOT B
A REG NOT BL
B REG B
A REG NOT BA
A REG NOT 84
A REG NOT 21
A REG BL
A REG B
A REG NOT A
B REG B
B REG A
B REG 0 < A REG NUM
44.32.11

36 A 1
36 A 1
B BIT ZONE EQUAL
A BIT ZONE EQUAL

B REG NUM OR 0 ZONE > A REG 11 OR 12 ZONE
A REG B
B REG NOT B
B REG NOT BL

B REG 11 ZONE > A REG 12 ZONE
A REG B
A REG A
B REG B
B REG NOT A

B REG NUM > A REG 0 ZONE
A REG A
B REG NOT B
B REG NOT A
B REG NOT BL

44.31.11.
A REG BLANK
B REG BLANK

B REG NOT 84
B REG NOT 21
B DIG NOT BL

B REG NOT 84 SC <
A REG 84 SC
A REG 84
B REG NOT 8
B DIG NOT BLANK

B REG 0-7 <
A REG 9
A REG 8
A REG 1
B REG NOT 8
B DIG NOT BL

B REG 0-7 <
A REG 8 OR 9
A REG 8
A REG NOT 2
B REG NOT 8
B DIG NOT BL

B REG 1, 2, 3 <
A REG 4, 5, 6, 7
A REG 4
B REG NOT 84
B DIG NOT BL

B REG 2 OR 6 <
A REG 7
A REG 4
A REG 21
B REG NOT 8
B REG 2 NOT 1

B REG 4 <
A REG 5 OR 7
A REG 4
A REG 1
B REG 4 NOT 8
B REG NOT 21

B REG BLANK <
A REG NOT BLANK
A REG NOT BL
B REG BLANK

B REG 4-8 SC <
A REG 7-8 OR 5-8 SC
A REG 84
A REG 1
B REG 4
B REG NOT 21

B REG 6-8 SC <
A REG 7-8 SC
A REG 84
A REG 21
B REG 2 NOT 1

B REG DIG NOT BLANK <
A REG A OR B OR AB
A REG NOT BL
A REG NOT 8
A REG NOT 4
A REG NOT 2
A REG NOT 1
B DIG NOT BL

B REG 0 <
A REG 1-7
A REG NOT 8
B REG 8 NOT 4
B REG 2
B REG NOT 1

B REG 0 <
A REG 1, 4, 5, 8, 9
A REG NOT 2
B REG 8 NOT 4
B REG 2 NOT 1

B REG 3-8 SC <
A REG 4-8, 5-8, 6-8, 7-8, SC
A REG 84
B REG 8 NOT 4

B REG 4-8 OR 5-8 SC <
A REG 6-8 OR 7-8 SC
A REG 84
A REG 2
B REG 4
B REG NOT 2

B REG 2 OR 0 <
A REG 3 OR 7
A REG 21
B REG NOT 4
B REG 2 NOT 1

B REG 8 <
A REG 9
A REG 8
A REG 1
B REG 8 NOT 4
B REG NOT 1

B REG 1 <
A REG 2 OR 3 OR 6 OR 7
A REG NOT 8
A REG 2
B REG NOT 84
B REG NOT 2
B REG 1

B REG 4 OR 5 <
A REG 6 OR 7
A REG 4
A REG 2
B REG 4 NOT 8
B REG NOT 2

44.34.11.2
44.33.31.2

TEST DIGIT (ZONES EQUAL)

B<A
B>A

44.34.11.2

A REG WM
B REG NOT WM
3583 COMPARE OP

TIME 060-000
B CYCLE

3681 EQUAL CHAR
3583 COMPARE Gate
comp op
1 RING 2

EQUAL LATCH
L
34.21.21.2

TIME 090-000
B CYCLE
3583 COMPARE OP

A REG WM
B REG NOT WM
TIME 090-000

+U 02A8 A02H
HIGH
L
0187 F04A
44.34.21.2

IND

UNEQUAL LATCH

TEST HI
U
A REG 4 NOT 8
A REG NOT 21
A REG A NOT 8
UNEQUAL LATCH

TEST LO
T
A REG NOT 84
A REG 21

TEST EQ

TEST POSITIVE
34.21.41.2

EQUAL LATCH +U 0186 A16P
S
A REG NOT 84
A REG 2 NOT 1

TEST POS HI-LO-EQ 36C1
44.34.31.2

36 C 1

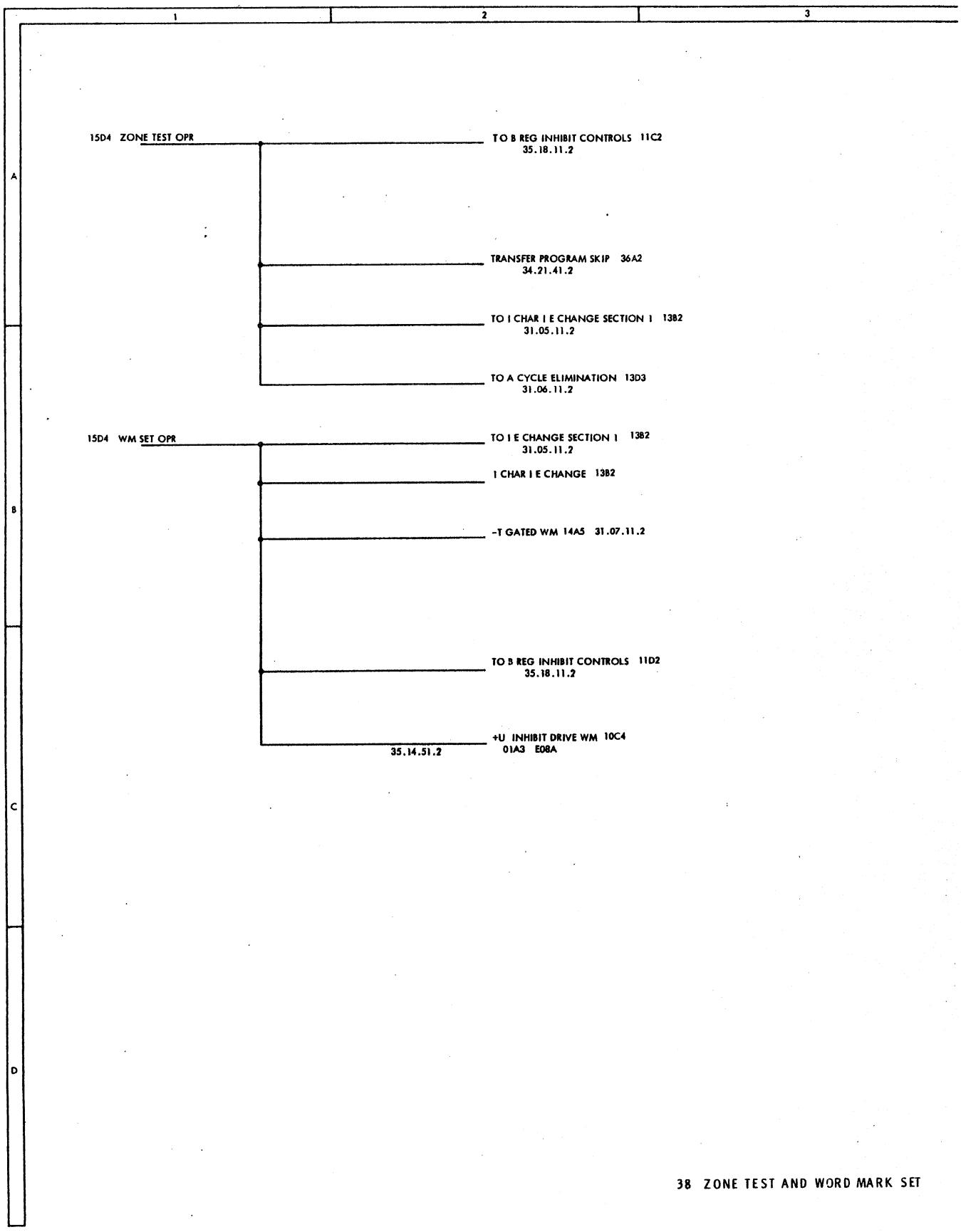
37 HI LO EQUAL COMPARE

Optional

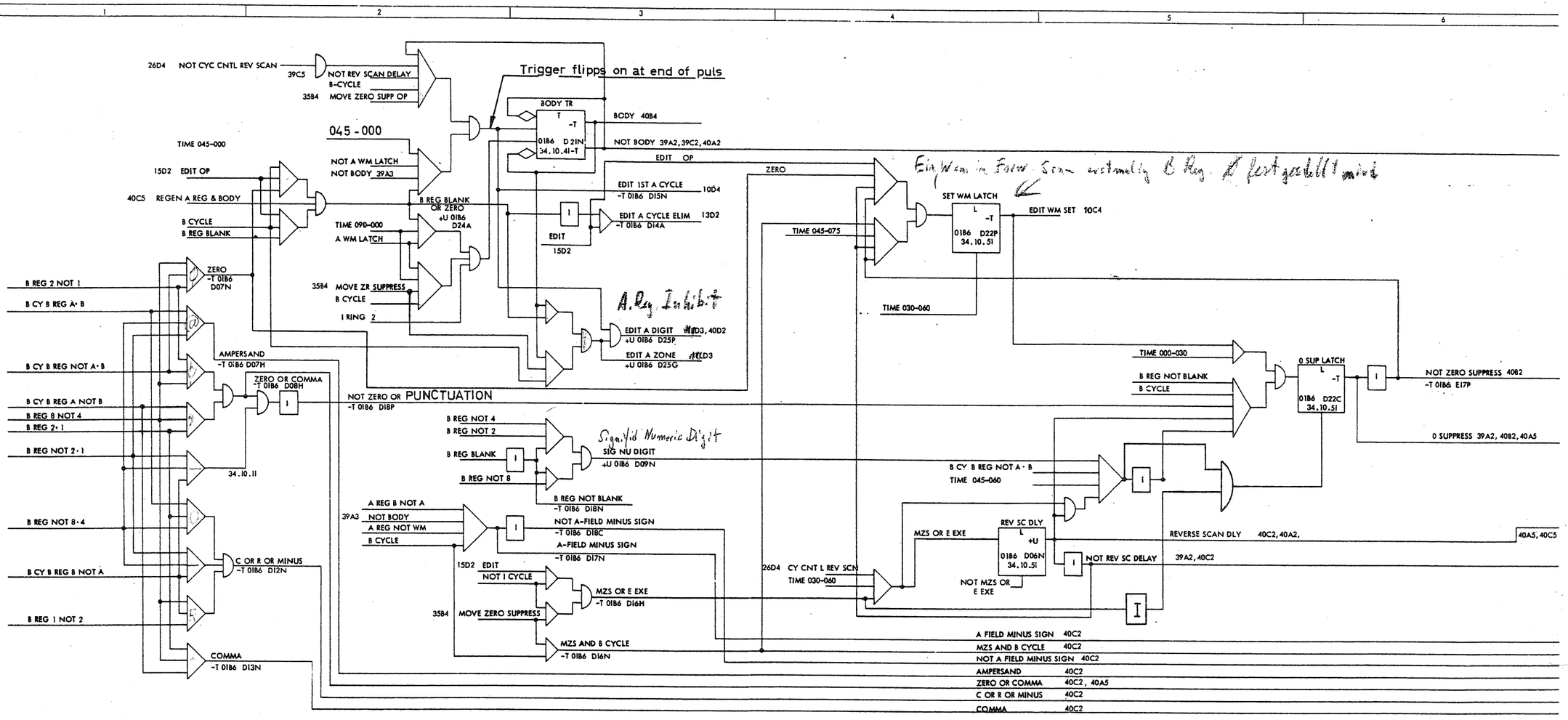
Compare A-Reg - B Reg.

A+B

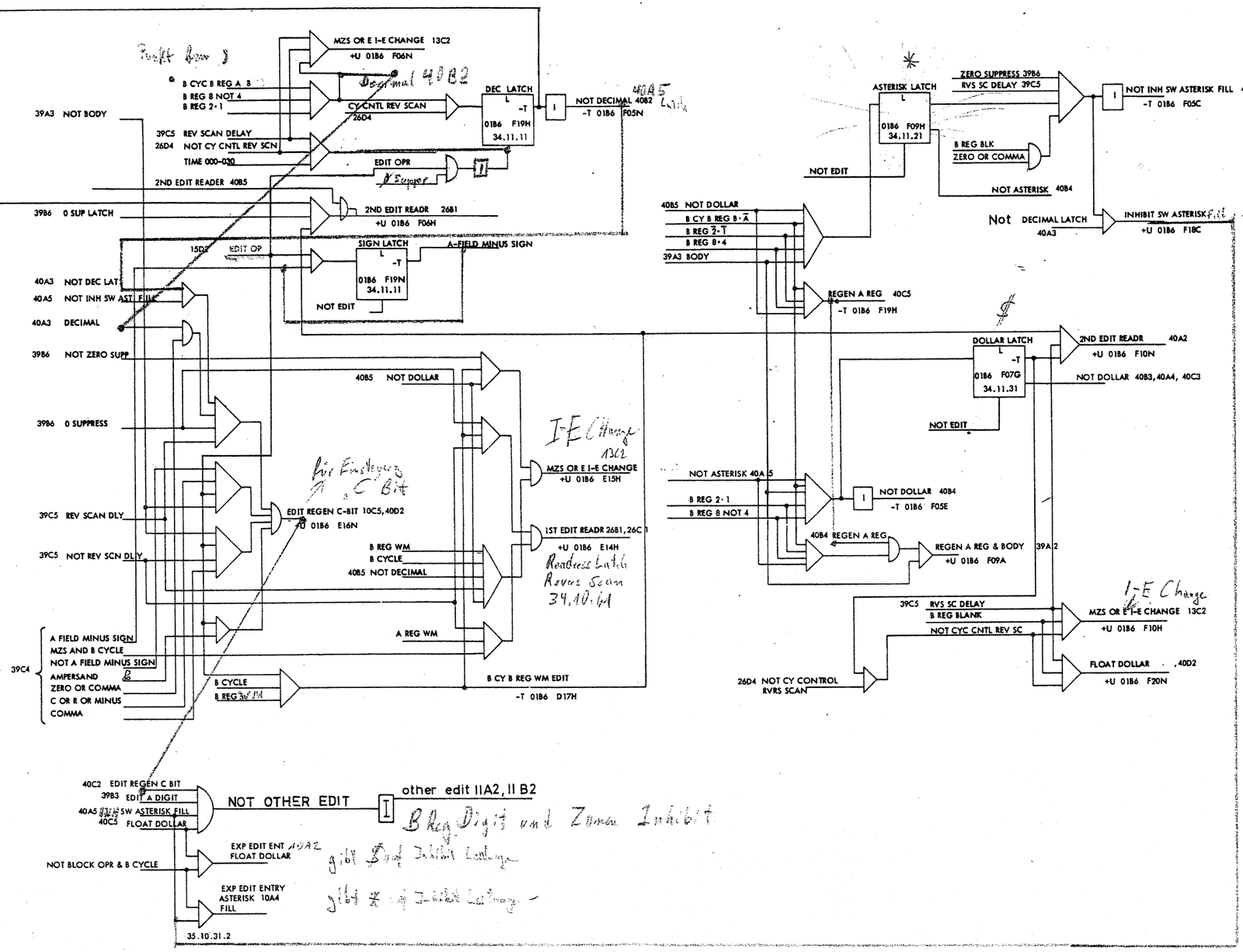
Sp. Char Equal? no / Yes
Zone Equal? no / Yes
Digit Equal? no / Yes
Equal Latch
B>A? Yes / no
Hi Latch
Hi Lo Off

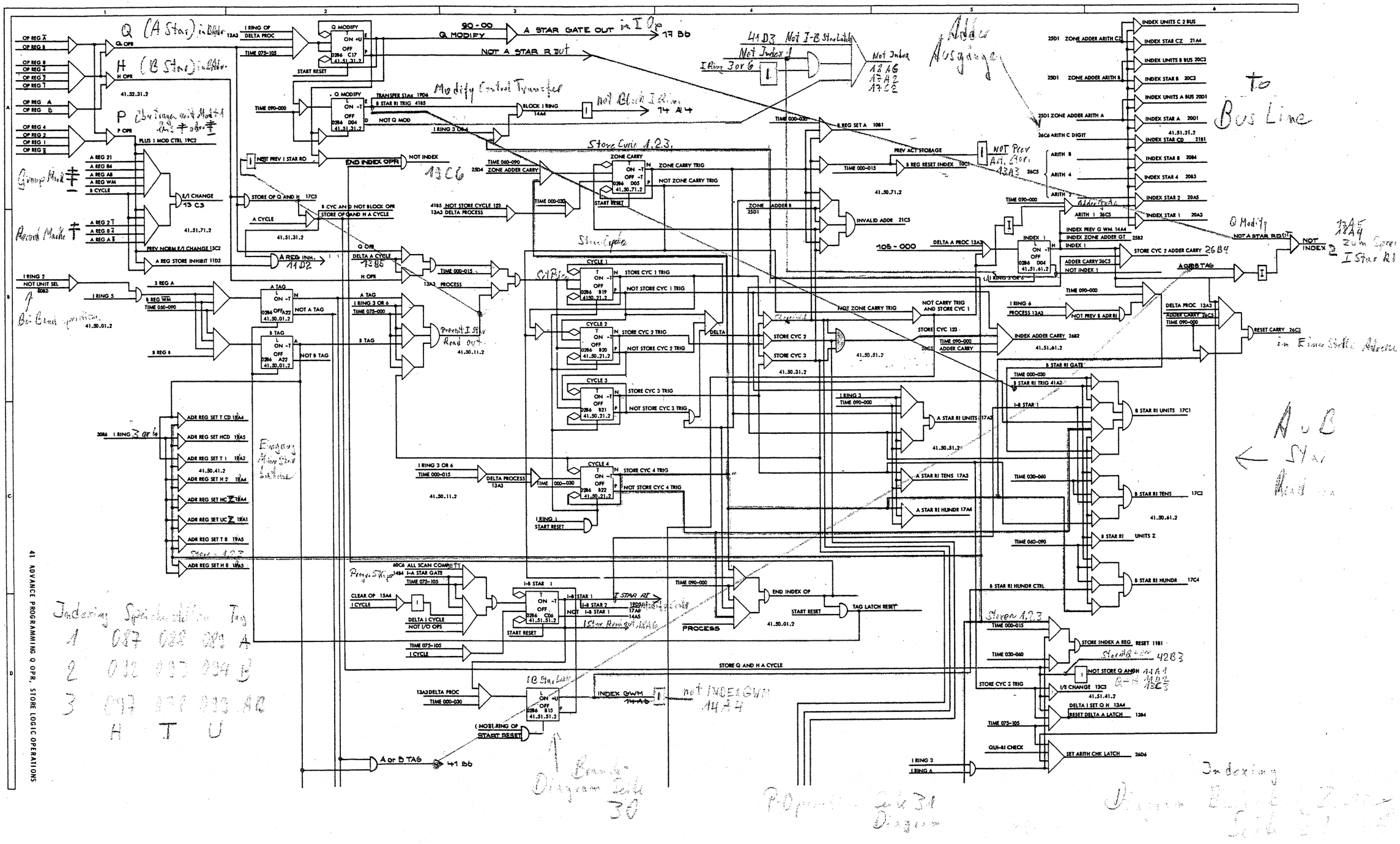


38 ZONE TEST AND WORD MARK SET



39 EDIT AND EXPANDED EDIT


MZS OR E I-E CHANGE 13C2
+U 01B6 F06N
B CYC B REG A B
B REG B NOT 4
B REG 2-1
CY CNTL REV SCAN 26D4
DEC LATCH
-T
01B6 F19H
34.11.11
NOT DECIMAL 40B2
-T 01B6 F05N
39A3 NOT BODY
39C5 REV SCAN DELAY
26D4 NOT CY CNTL REV SCN
TIME 000-030
EDIT OPR
2ND EDIT READER 40B5
39B6 0 SUP LATCH
2ND EDIT READR 26B1
+U 01B6 F06H
15D2 EDIT OP
SIGN LATCH
-T
01B6 F19N
34.11.11
A-FIELD MINUS SIGN
NOT EDIT
40A3 NOT DEC LAT
40A5 NOT INH SW AST FILL
40A3 DECIMAL
39B6 NOT ZERO SUPP
39B6 0 SUPPRESS
40B5 NOT DOLLAR
MZS OR E I-E CHANGE
+U 01B6 E15H
1ST EDIT READR 26B1, 26C1
+U 01B6 E14H
EDIT REGEN C-BIT 10C5, 40D2
01B6 E16N
39C5 REV SCAN DLY
39C5 NOT REV SCN DLY
B REG WM
B CYCLE
40B5 NOT DECIMAL
A REG WM
39C4
A FIELD MINUS SIGN
MZS AND B CYCLE
NOT A FIELD MINUS SIGN
AMPERSAND
ZERO OR COMMA
C OR R OR MINUS
COMMA
B CYCLE
B REG WM
B CY B REG WM EDIT
-T 01B6 D17H
ASTERISK LATCH
01B6 F09H
34.11.21
ZERO SUPPRESS 39B6
RVS SC DELAY 39C5
B REG BLK
ZERO OR COMMA
NOT ASTERISK 40B4
NOT EDIT
NOT INH SW ASTERISK FILL 40B2
-T 01B6 F05C
Not DECIMAL LATCH
40A3
INHIBIT SW ASTERISK FILL 40D2
+U 01B6 F18C
40B5 NOT DOLLAR
B CY B REG B-Ā
B REG 2-T̄
B REG B-4
39A3 BODY
REGEN A REG 40C5
-T 01B6 F19H
DOLLAR LATCH
01B6 F07G
34.11.31
2ND EDIT READR 40A2
+U 01B6 F10N
NOT DOLLAR 40B3, 40A4, 40C3
NOT EDIT
NOT ASTERISK 40A5
B REG 2-1
B REG 8 NOT 4
NOT DOLLAR 40B4
-T 01B6 F05E
40B4 REGEN A REG
REGEN A REG & BODY 39A2
+U 01B6 F09A
39C5 RVS SC DELAY
B REG BLANK
NOT CYC CNTL REV SC
MZS OR E I-E CHANGE 13C2
+U 01B6 F10H
26D4 NOT CY CONTROL RVRS SCAN
FLOAT DOLLAR 40D2
+U 01B6 F20N
40C2 EDIT REGEN C BIT
39B3 EDIT A DIGIT
40A5 INH SW ASTERISK FILL
40C5 FLOAT DOLLAR
NOT OTHER EDIT
other edit 11A2, 11B2
NOT BLOCK OPR & B CYCLE
EXP EDIT ENT FLOAT DOLLAR
EXP EDIT ENTRY ASTERISK FILL
35.10.31.2


Q (A Star) in
H (B Star) in
P
OP REG A
OP REG B
OP REG 4
OP REG 2
OP REG 1
OP REG 8
Q OPR
H OPR
P OPR
PLUS 1 MOD CTRL 19C2
A REG 21
A REG B4
A REG AB
A REG WM
B CYCLE
E/I CHANGE 13 C3
PREV NORM E/I CHANGE 13C2
A REG STORE INHIBIT 11D2
I RING 2
NOT UNIT SEL
I RING 5
3 REG A
B REG WM
TIME 090-090
A TAG
NOT A TAG
B TAG
NOT B TAG
B REG B
I RING OP
DELTA PROC
TIME 075-105
START RESET
Q MODIFY
ON +U
OFF
0286 C17
41.51.31.2
90-00
Q MODIFY
A STAR GATE OUT
NOT A STAR R OUT
Modify Control Transfer
TRANSFER STAR 19D6
B STAR RI TRIG 41B5
NOT Q MOD
BLOCK 1 RING
14A4
not Block 1 Ring
TIME 090-000
I RING 3 OR 4
NOT PREV I STAR RO
END INDEX OPR
NOT INDEX
13C6
Store Cycle 1,2,3,
TIME 060-090
25D4 ZONE ADDER CARRY
ZONE CARRY
ON -T
OFF -T
0286 D05
41.50.71.2
ZONE CARRY TRIG
NOT ZONE CARRY TRIG
START RESET
TIME 000-030
4185 NOT STORE CYCLE 123
13A3 DELTA PROCESS
STORE OF Q AND H
B CYC AND NOT BLOCK OPR
STORE OF Q AND H A CYCLE
A CYCLE
41.51.31.2
Q OPR
DELTA A CYCLE
1385
H OPR
A REG INH.
11D2
TIME 000-015
13A3 PROCESS
CYCLE 1
STORE CYC 1 TRIG
NOT STORE CYC 1 TRIG
0286 B19
41.50.21.2
CYCLE 2
STORE CYC 2 TRIG
NOT STORE CYC 2 TRIG
0286 B20
CYCLE 3
STORE CYC 3 TRIG
NOT STORE CYC 3 TRIG
0286 B21
CYCLE 4
STORE CYC 4 TRIG
NOT STORE CYC 4 TRIG
0286 B22
I RING 3 OR 6
TIME 075-000
Prevent I Str Read Out
41.50.11.2
I RING 3 OR 6
TIME 000-015
DELTA PROCESS 13A3
TIME 000-030
41.50.11.2
I RING 1
START RESET
ADR REG SET T CD 19A4
ADR REG SET HCD 19A5
ADR REG SET T 1 19A2
ADR REG SET H 2 19A4
ADR REG SET HC 19A4
ADR REG SET UC 19A1
ADR REG SET T 8 19A5
ADR REG SET H 8 19A5
41.50.41.2
3086 I RING 3 or 6
Enable Adding Entries
Store 1,2,3
60C6 ALL SCAN COMPLETE
1484 I-A STAR GATE
TIME 075-105
I-B STAR 1
CLEAR OP 15A4
I CYCLE
DELTA I CYCLE
NOT I/O OPS
I-B STAR 2
NOT I-B STAR 1
1ST or Remote STAR
START RESET
TIME 075-105
I CYCLE
13A3 DELTA PROC
TIME 000-030
(NOB) RING OP
START RESET
A or B TAG
41 B6
INDEX G WM
14A6
not INDEX G WM
14A4
STORE Q AND H A CYCLE
TIME 090-000
END INDEX OP
START RESET
TAG LATCH RESET
PROCESS
41.50.01.2
41.50.51.2
STORE CYC 2
STORE CYC 3
41.50.31.2
NOT ZONE CARRY TRIG
NOT CARRY TRIG AND STORE CYC 1
STORE CYC 123
TIME 090-000
ADDER CARRY
26C5
INDEX ADDER CARRY 26B2
41.51.61.2
I RING 3
TIME 090-000
A STAR RI UNITS 17A2
A STAR RI TENS 17A3
A STAR RI HUNDR 17A4
41.50.51.2
B STAR RI GATE
TIME 000-030
B STAR RI TRIG 41A2
I-B STAR 1
B STAR RI UNITS 17C1
TIME 030-060
B STAR RI TENS 17C2
41.50.61.2
TIME 060-090
B STAR RI UNITS Z
B STAR RI HUNDR 17C4
B STAR RI HUNDR CTRL
Store 1,2,3
TIME 000-015
STORE INDEX A REG RESET 11B1
TIME 030-060
Store B+ 4283
NOT STORE Q AND H 41A1
I/E CHANGE 13C3
41.51.41.2
STORE CYC 3 TRIG
DELTA I SET Q H 13A4
RESET DELTA A LATCH 1384
TIME 075-105
QUI-RI CHECK
SET ARITH CHK LATCH 2606
I RING 3
I RING 6
41.51.71.2
PREV ACT STORAGE
B REG RESET INDEX 10C1
TIME 000-015
INVALID ADDR 21C5
105-000
DELTA A PROC 13A3
TIME 000-030
B REG SET A 1081
41 D3 Not I-B Start Latch
Not Index 1
I Ring 3 or 6
Not Index
12A6
17A2
17C2
Adder Ausgänge
25D1 ZONE ADDER ARITH C2
INDEX UNITS C 2 BUS
INDEX STAR CZ 21A4
INDEX UNITS B BUS 20C3
25D1 ZONE ADDER ARITH B
INDEX STAR B 20C3
INDEX UNITS A BUS 20D1
25D1 ZONE ADDER ARITH A
INDEX STAR A 2001
41.51.21.2
INDEX STAR CD 2181
26C6 ARITH C DIGIT
INDEX STAR B 2084
ARITH 8
ARITH 4
INDEX STAR 4 2083
ARITH 2
INDEX STAR 2 20A5
ARITH 1 26C5
INDEX STAR 1 20A3
TIME 090-000
Adder Inputs
INDEX PREV G WM 14A4
INDEX ZONE ADDER GT 2582
INDEX 1
ADDER CARRY 26C5
NOT INDEX 1
0286 D04
41.51.61.2
NOT Prev Act. Stor. 43A3
I RING 3 OR 6
STORE CYC 2 ADDER CARRY 26B4
A OR B TAG
Q Modify
NOT A STAR R OUT
NOT INDEX
I RING 6
PROCESS 13A3
NOT PREV B ADR RI
TIME 090-000
DELTA PROC 13A3
ADDER CARRY 26C3
TIME 090-000
RESET CARRY 26C1
to Bus Line
13A5
12A4
Zum Speic
I Star RI
in Einer Stufe Addie
Indexing Specification Tag
1 087 028 084 A
2 012 033 034 B
3 097 099 093 AB
A T U
Indexing Diagram Sht 30
Indexing Diagram Sht 27

B Tag not A Tag A Tag Store Cyc. 1 not Carry Store Cycle 3 1 2

1 not Carry

Indexing Spindelle TAG

	H	T	U	
1	087	088	089	A
2	092	093	094	B
3	097	098	099	AB

NOT A TAG
B TAG
B $\overline{A}$ TAG

B Tag
$\overline{A}$ Tag

41.50.41.2

ADR REG SET U 1 INDEX 10A1
ADR REG SET U 2 INDEX 10A1
ADR REG SET U 4 INDEX 10A2
ADR REG SET U 8 INDEX 10A2
ADR REG SET UC INDEX 10A2

Eingang Main Star Latch

STORE CYCLE 1
STORE CYC 2
STORE CYC 3

INDEX A STAR UNITS GATE
INDEX A STAR TENS GATE
INDEX A STAR HUNDR GATE
41.50.81.2
INDEX B STAR UNITS GATE
INDEX B STAR TENS GATE
INDEX B STAR HUNDR GATE

1 RING 3
TIME 000-030

1 RING 6
H/G + A~
41 B2

FORCE CZ BIT

A STAR RO UNITS A
B STAR RO UNITS A
A STAR RO UNITS B
B STAR RO UNITS B
A STAR RO UNITS CZ
B STAR RO UNITS CZ

UNITS A BIT OPTION
UNITS B BIT OPTION
41.51.11.2
UNITS CZ BIT OPTION

A STAR RO HUNDR B
B STAR RO HUNDR B
A STAR RO HUNDR A
B STAR RO HUNDR A

A REG SET B 1082
41.51.01.2
A REG SET A 1082

Store Cycles

A STAR RO UNITS 1
A STAR RO TENS 1
A STAR RO HUNDR 1
B STAR RO UNITS 1
B STAR RO TENS 1
B STAR RO HUNDR 1

A REG SET 1 10A2
1

A STAR RO UNITS 2
A STAR RO TENS 2
A STAR RO HUNDR 2
B STAR RO UNITS 2
B STAR RO TENS 2
B STAR RO HUNDR 2

A REG SET 2 10A2
2

41.50.91.2

A STAR RO UNITS 4
A STAR RP TENS 4
A STAR RO HUNDR 4
B STAR RO UNITS 4
B STAR RO TENS 4
B STAR RO HUNDR 4

A REG SET 4 10A2
4

A STAR RO UNITS B
A STAR RO TENS B
A STAR RO HUNDR B
B STAR RO UNITS B
B STAR RO TENS B
B STAR RO HUNDR B

A REG SET B 1082
B

A STAR RO UNITS CD
A STAR RO TENS CD
A STAR RO HUNDR CD
B STAR RO UNITS CD
B STAR RO TENS CD
B STAR RO HUNDR CD
A STAR RO HUNDR CZ
B STAR RO HUNDR CZ
FORCE CZ BIT
UNITS CZ BIT OPTION

41.51.01.2

1
1
STORE CYC 123
000 - 030

A REG SET C 1082
Set C

A Reg.

A kam B
Star Latch

B-REG A
090 - 000
STORE ~4 TRIGG

B REG B

4K
8K

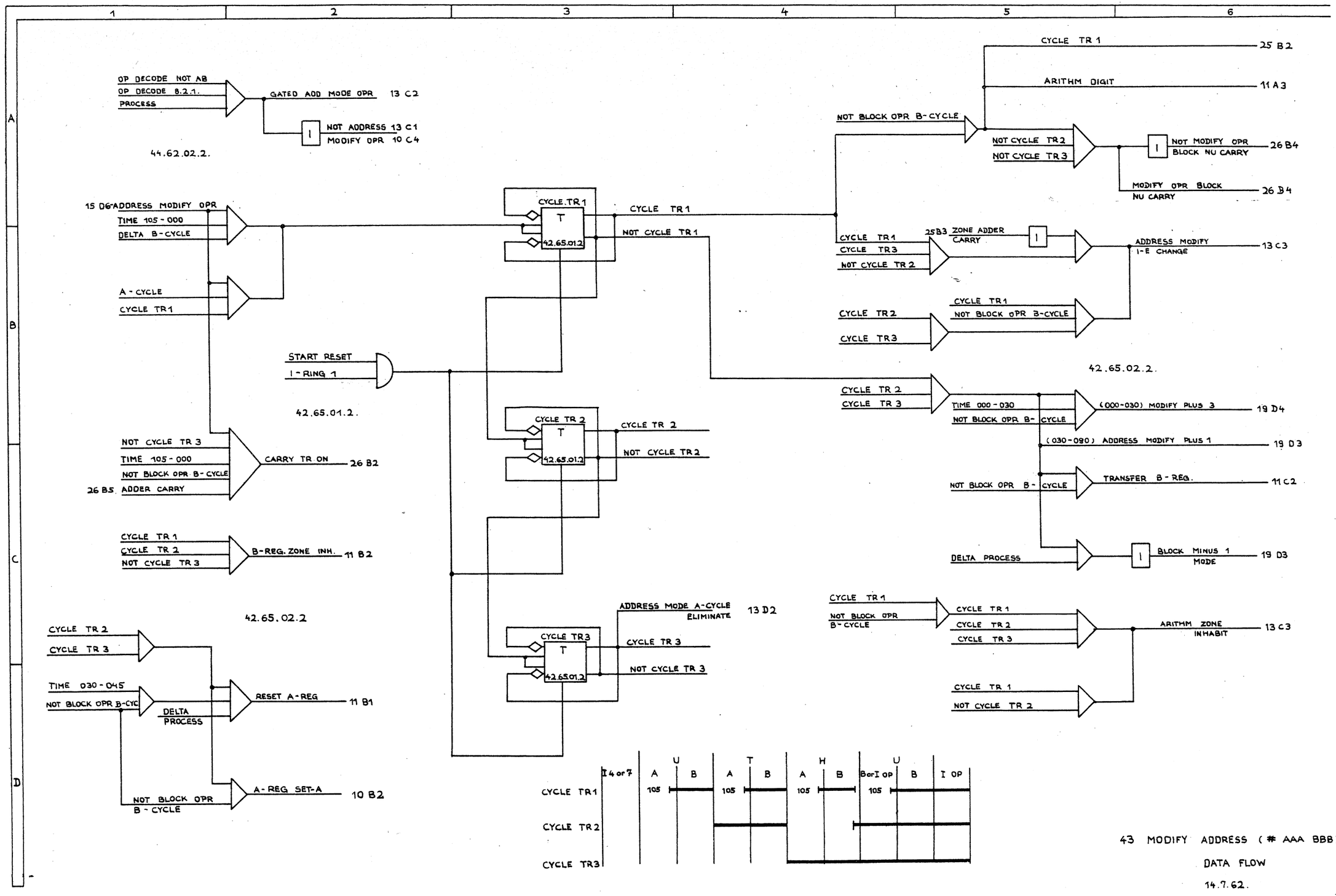
LT
41.50.71
NOT B OR AB

STORE ~4
ZONE CARRY
090 - 000

4K
8K

INVALID ADDRESS 21 C5

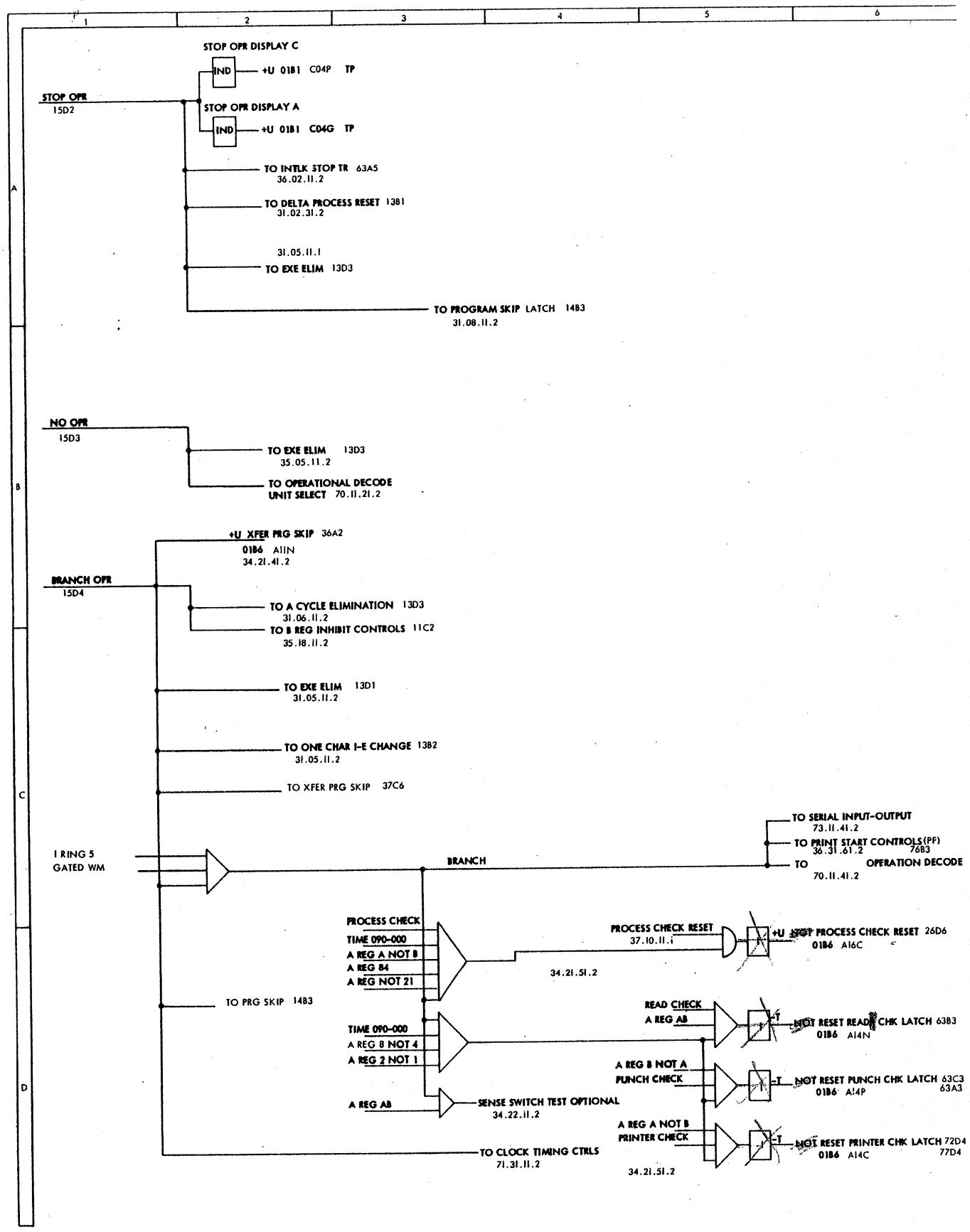
ZONE ADD B
PROCESS
NOT STORE ~4



43 MODIFY ADDRESS (# AAA BBB)

DATA FLOW

14.7.62.



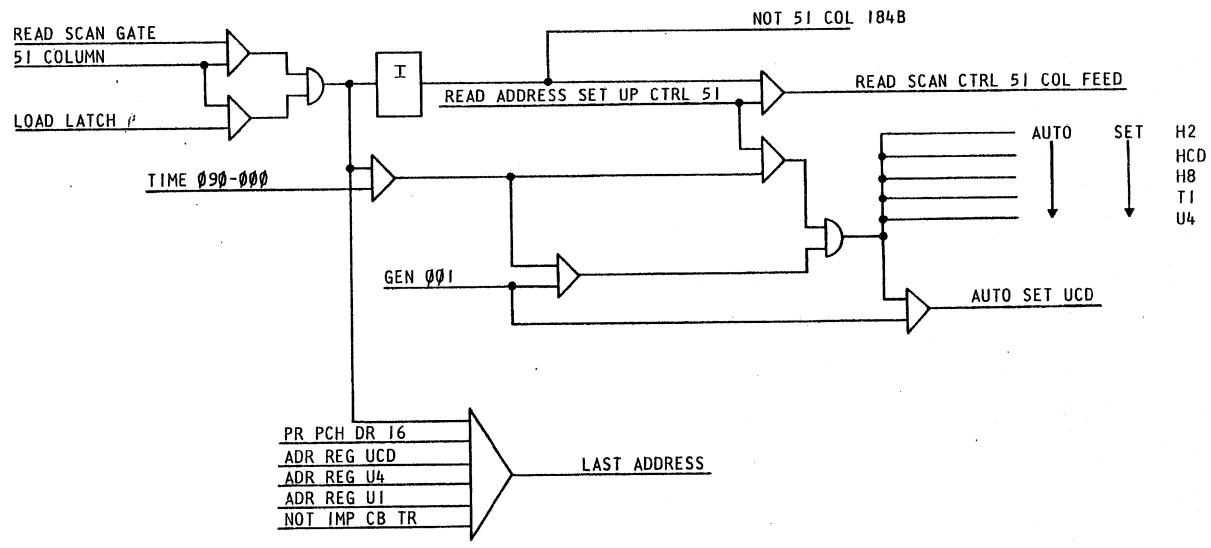
45 BRANCH, NO OP AND STOP OPR

A
B
C
D
6
5
4
3
2
1
FILE UNSAFE
FILE CHECK LIGHT
ANY FILE CHECK
A REG NOT 21
A REG 8 NOT 4
A REG A NOT B
FILE OP
B CYCLE
FILE ALLOW A REG CHECK
INQUIRY ATTACHMENT - CONTROL CKTS
77.01.11.2
VALIDITY CHECK
A REG 1 NOT 2
A REG 4 NOT 8
A REG NOT 21
BRANCH
A REG B NOT A
TIME 045-075
TRANS PROG SKIP
FILE PROGRAM SKIP
INQ + U LOOP
INQ Q REQST LATCH
A REG 8 NOT 4
WRONG LENGTH RECORD
A REG 2 NOT 1
BRANCH
INQ *CLEAR LATCH
A REG 84
NO ADDR COMPARE
A REG 21
A REG B
INVALID ADDRESS
A REG NOT A
TRANSFER PROGRAM
75.01.09.2
INQ P START
TIME 060-075
DELTA P SET
I-E MODE
SNG CY PROC
SNG CY NON PROCESS
L
75.01.11.2
START KEY
INQ CONTROL RELEASE
INQ SET DELTA I LATCH
SET DELTA I LATCH
TIME 075-105
DELTA PROC
INQ A REG RESET
RESET A REG
FILE RESET A REG
TIME 000-030
RESET DELTA A LATCH
INQ RESET DELTA A LATCH
DELTA PROCESS
RESET DELTA B LATCH
INQ RESET DELTA B LATCH
SET I OP LATCH
INQ STORE A
INQ NOT MOVE
TRANSFER A REG
TRANS A REG FILE
INQ 1 BIT
SET A REG 1
INQ 2 BIT
SET A REG 2
INQ 4 BIT
SET A REG 4
PROCESS
TIME 015-045
INQ P START
INQ CHECKING GATE
SET A REG 8
INQ B BIT
INQ A BIT
SET A REG A
INQ B BIT
SET A REG B
INQ C BIT
SET A REG C
INQ WM BIT
SET A REG WM

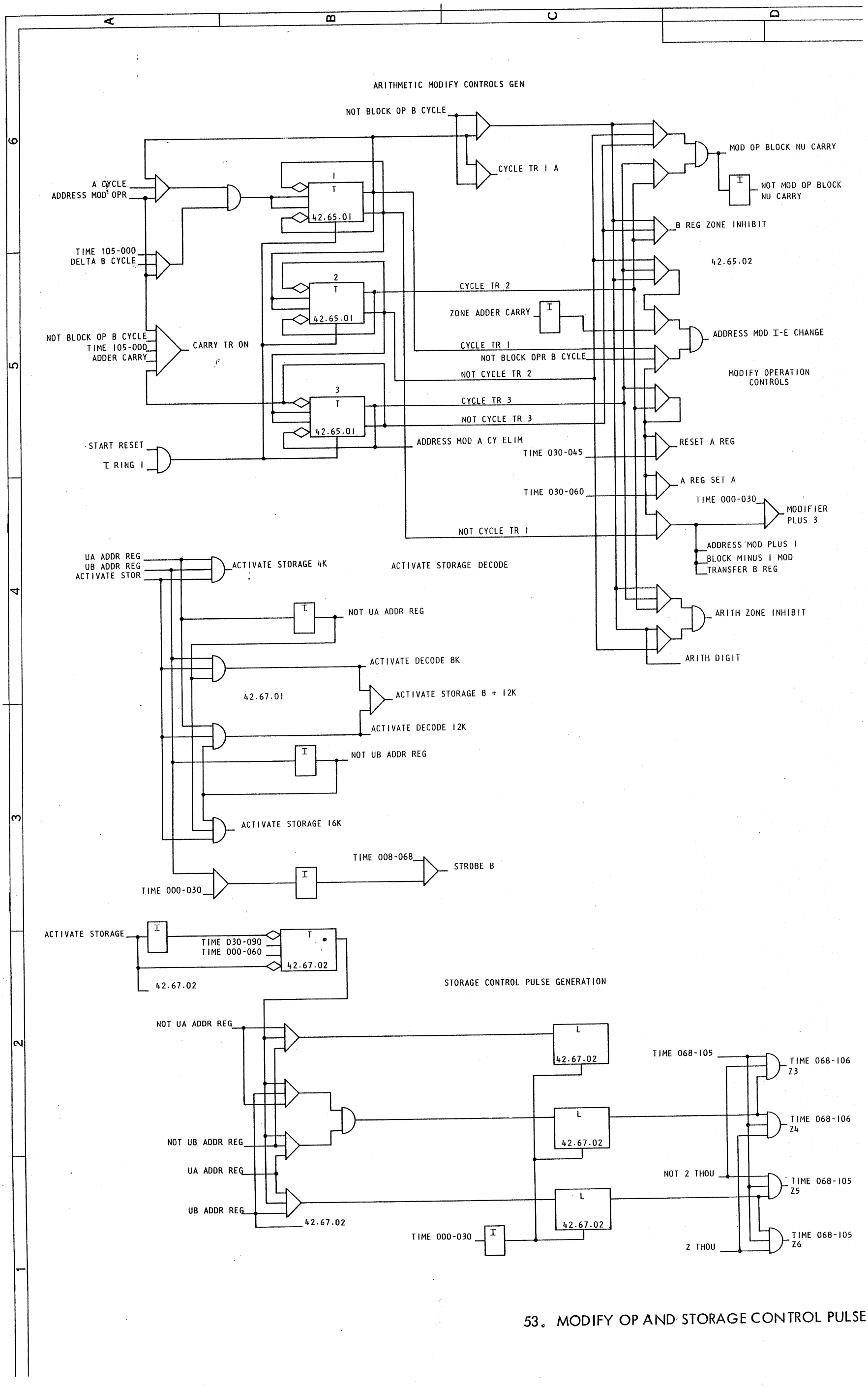
INQ RESET UNIT SELECT
B REG 8
B REG A
I RING 2
B REG 4
NOT SNG CYC NON PROC
FILE OP
RESET UNIT SEL OPT FT
TIME Ø6Ø-Ø9Ø
FILE OP
B CYCLE
FILE XFER B REG
PERCENT
INQ MOD PLUS 1
FILE OP +1 MOD
I RING 1
B REG C
B REG B
B REG 2
B REG 1
FILE OP
L
75.Ø1.Ø4.2
NOT FILE OP
MOVE OPR
LOAD OPR
PERCENT
L
75.Ø1.Ø4.2
NOT FILE PERCENT LATCH
I RING OP
START RESET
A REG DIGIT INHIBIT
STORE A REG
STORE A REG DIGIT
A REG ZONE INHIBIT
STORE A REG ZONE
C A FOR B SUBSTITUTE
TIME Ø9Ø-ØØØ
GATED A FOR B SUBSTITUTE
NOT A FOR B SUBSTITUTE
A REG WM
LOAD OP
FILE TRANS A REG WM
TRANS A REG FILE
DIAGNOSTIC
BLOCK C BIT GEN
MOVE OP
SET A REG C
INHIBIT C
INHIBIT DRIVE WM
SET A REG I
CHAR REG I
DATA STROBE
SET A REG I
SET A REG 2
CHAR REG 2
SET A REG 2
SET A REG 4
CHAR REG 4
SET A REG 4
SET A REG 8
CHAR REG 8
SET A REG 8
SET A REG A
CHAR REG A
SET A REG A
SET A REG B
CHAR REG B
SET A REG B
SET A REG C
CHAR REG C
SET A REG C
SET A REG WM
CHAR REG WM
A REG WM
FIRST ADDRESS TRANSFER
75.Ø1.1Ø.2
DELTA B CYCLE
TIME ØØØ-Ø3Ø
FIRST ADDR XFER CYCLE
A STAR RI FILE UNITS
TIME Ø3Ø-Ø6Ø
B CYCLE
A STAR RI FILE TENS
A STAR RI FILE HUNDREDS
A STAR RI UNITS ZONE
TIME Ø6Ø-Ø9Ø

FIG 52

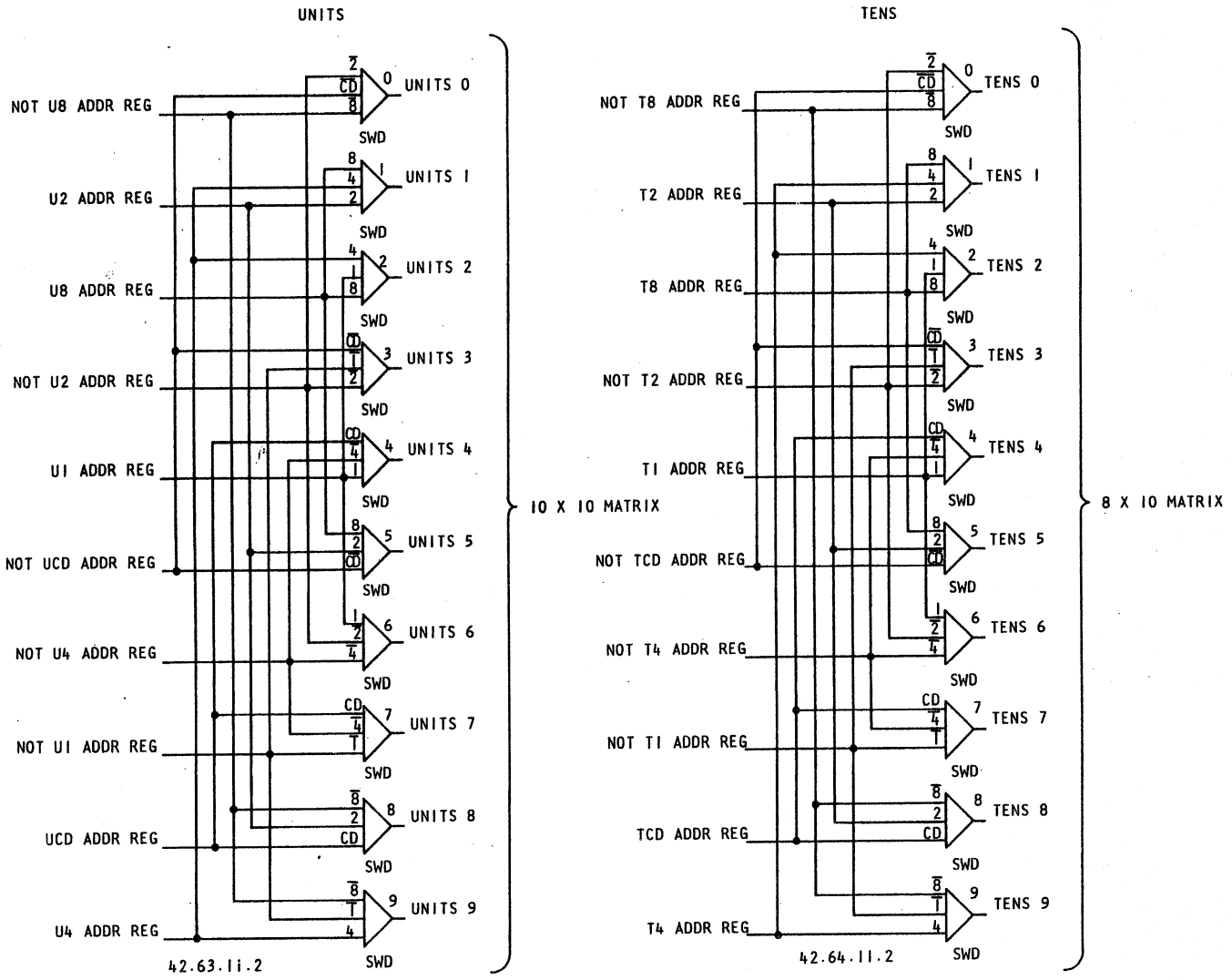
51 COLUMN FEED

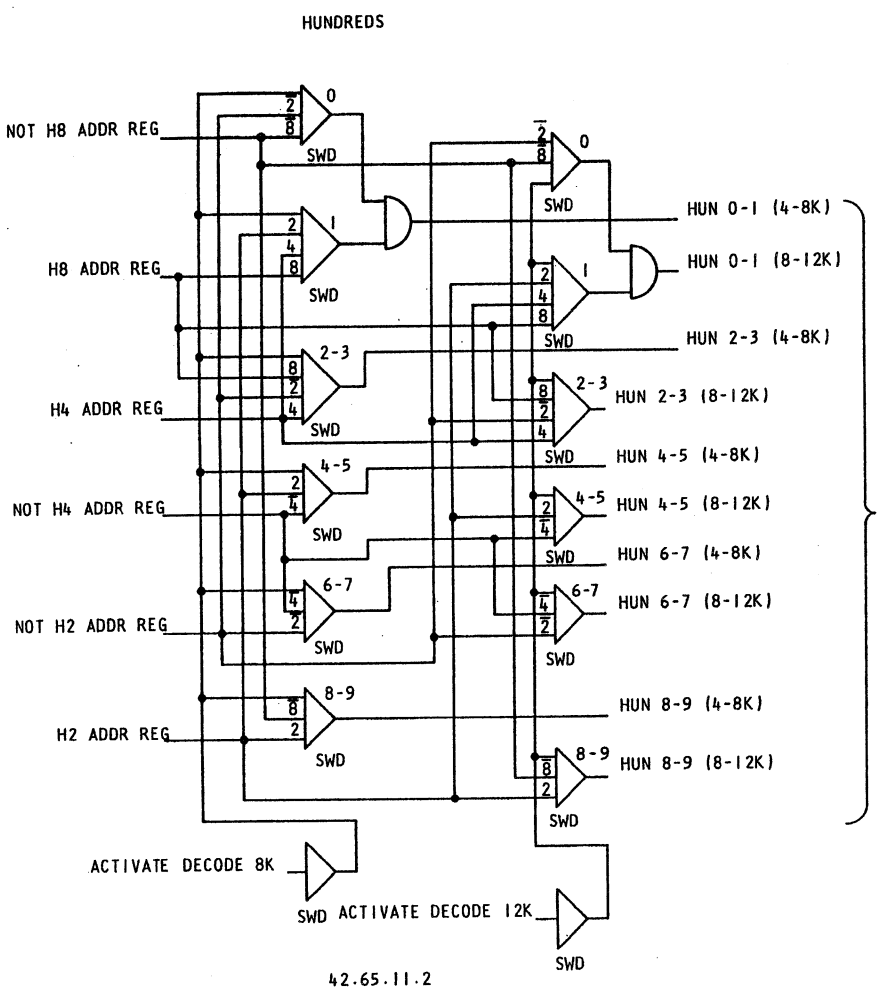


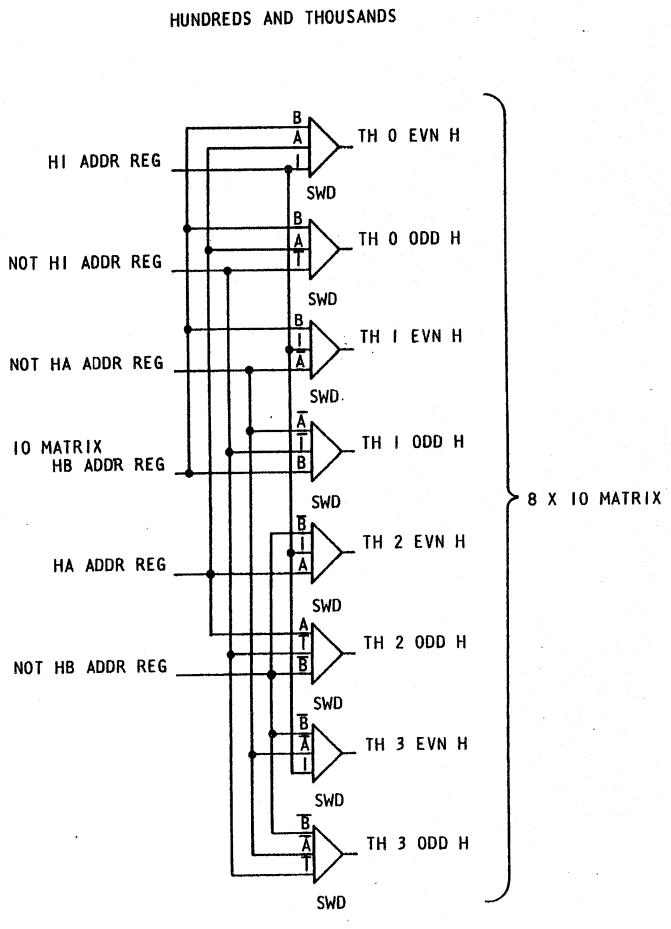
52. 51-COLUMN FEED



53. MODIFY OP AND STORAGE CONTROL PULSES

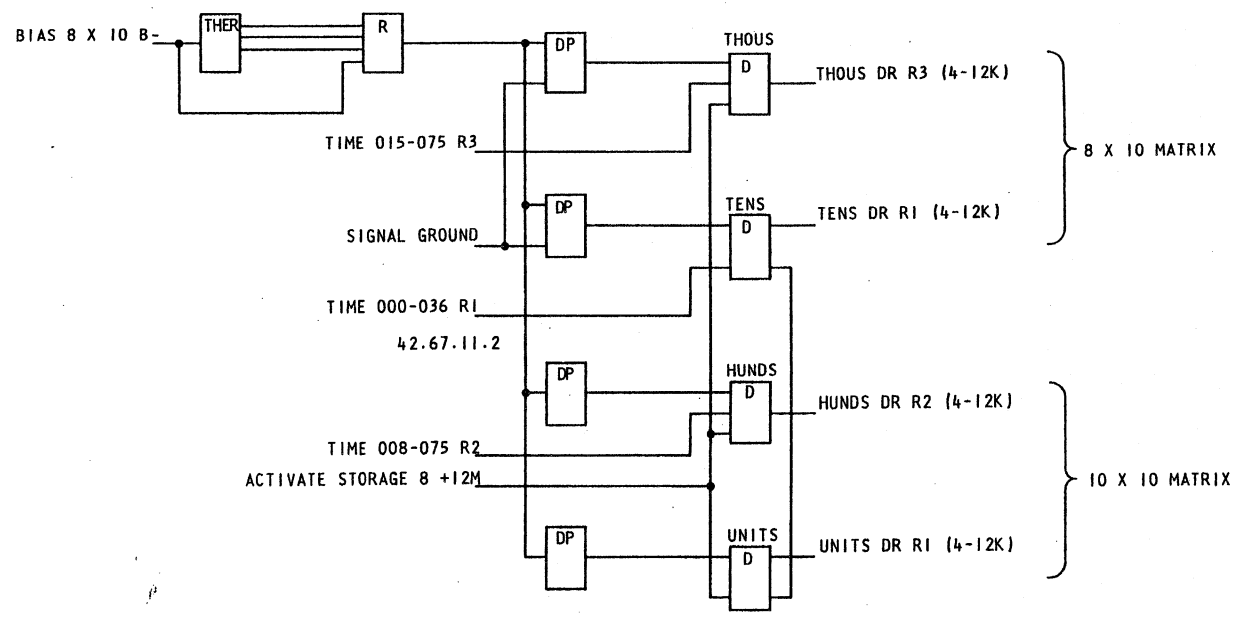




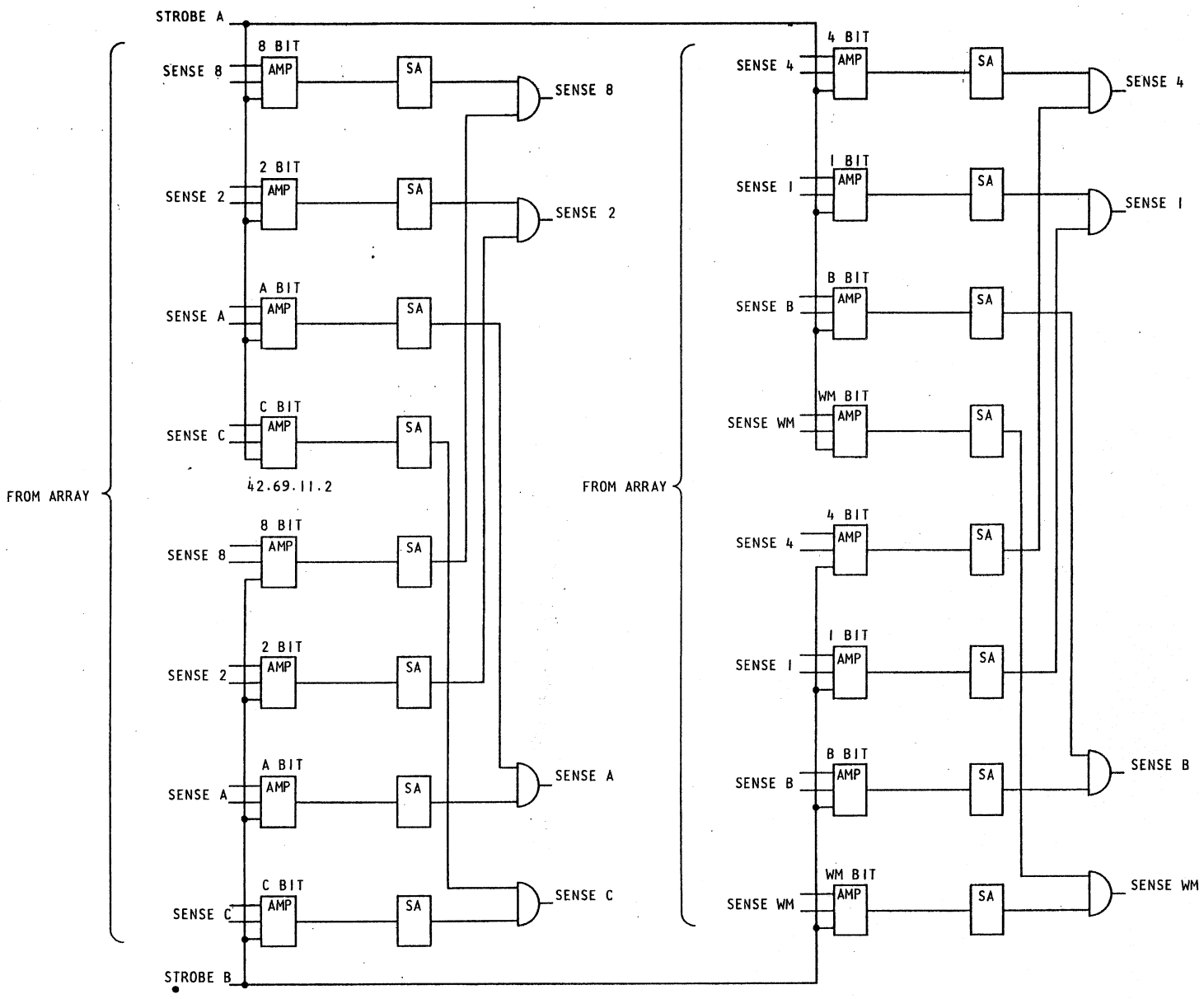


54. STORAGE DECODE SWITCHES 4 TO 12K

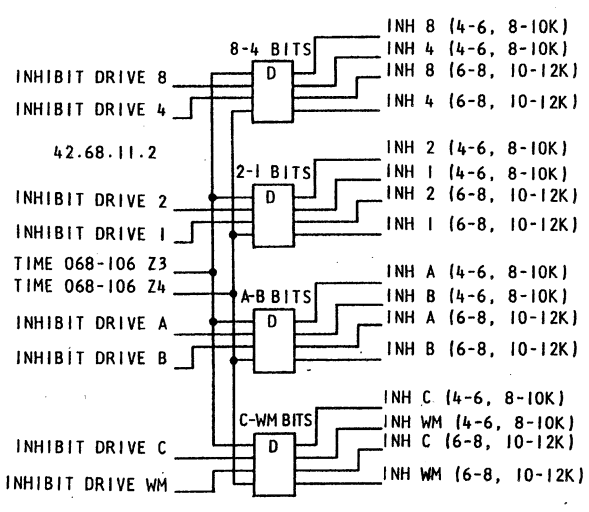
CURRENT DRIVERS AND CURRENT SOURCES



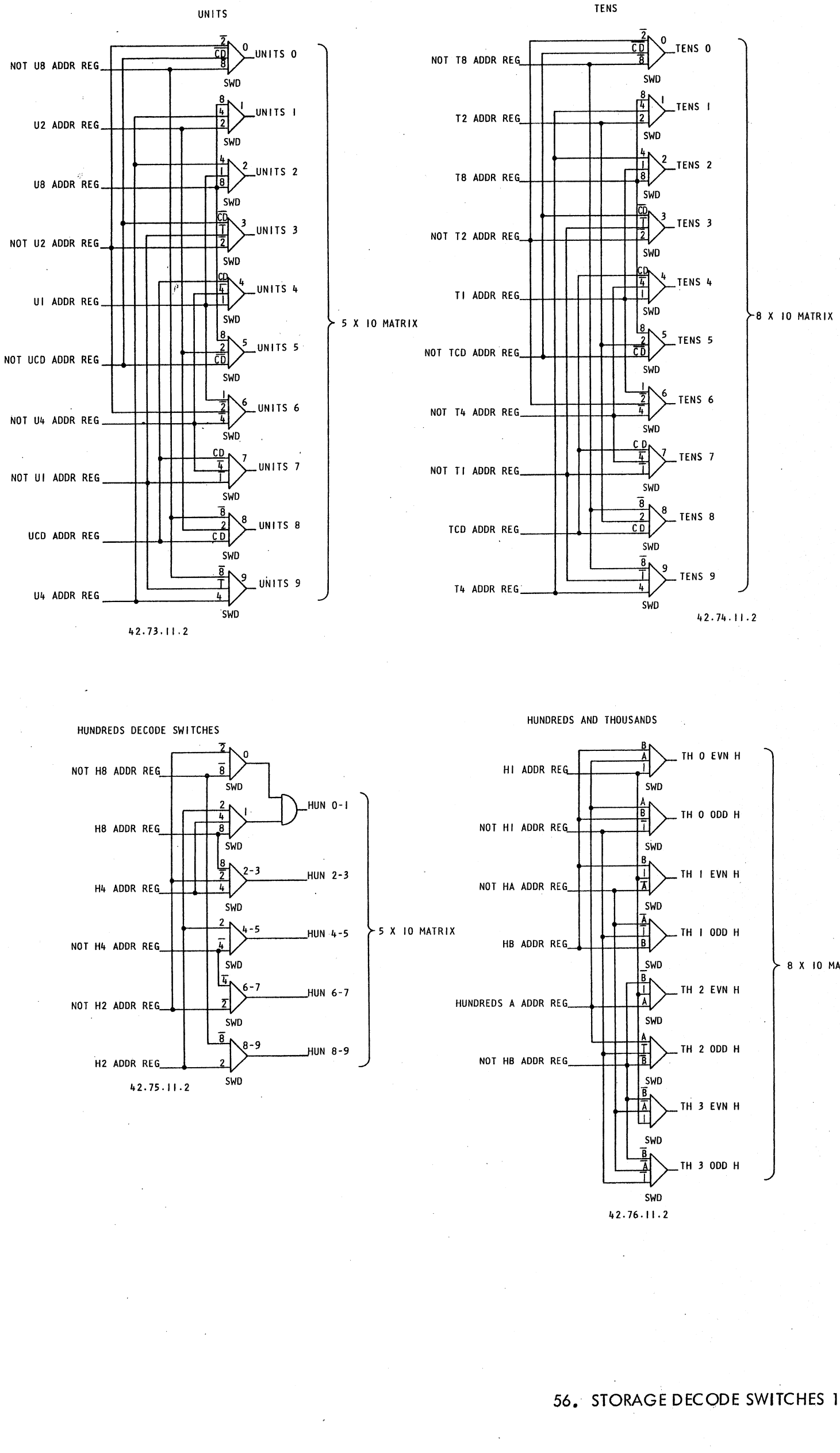
PRESENSE AND SENSE AMPLIFIERS



INHIBIT DRIVERS

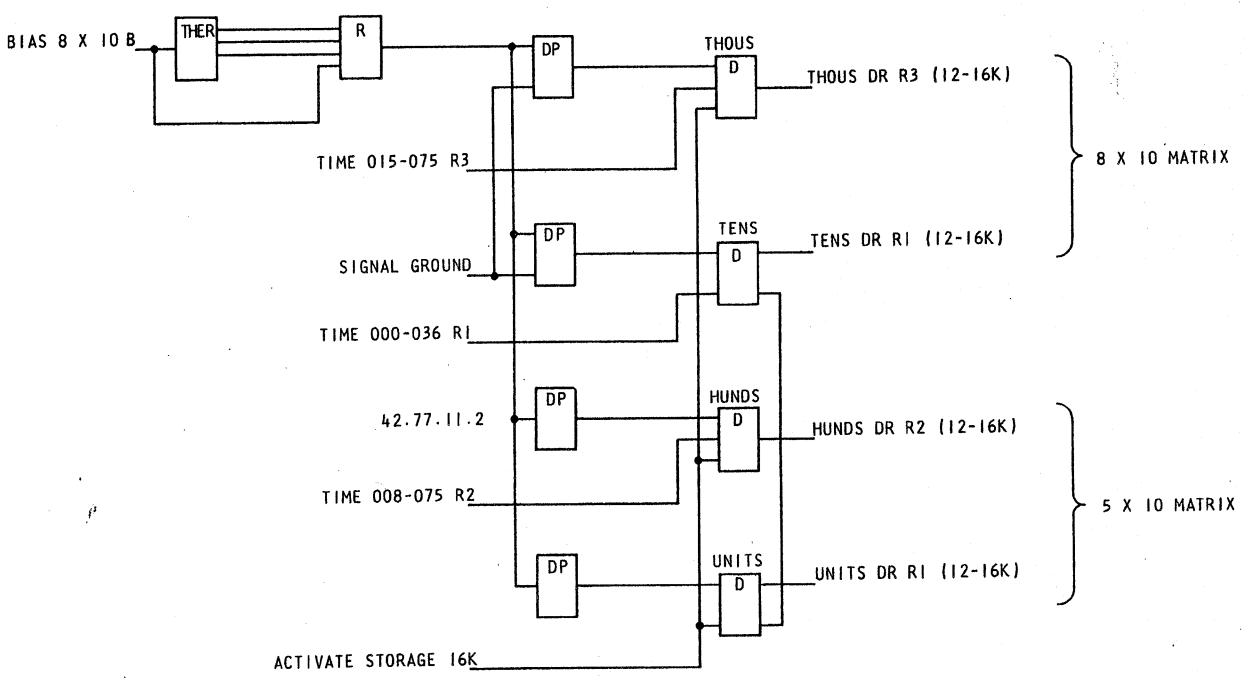


55. CORE STORAGE DRIVE CKTS AND SENSE CKTS 4 TO 12K

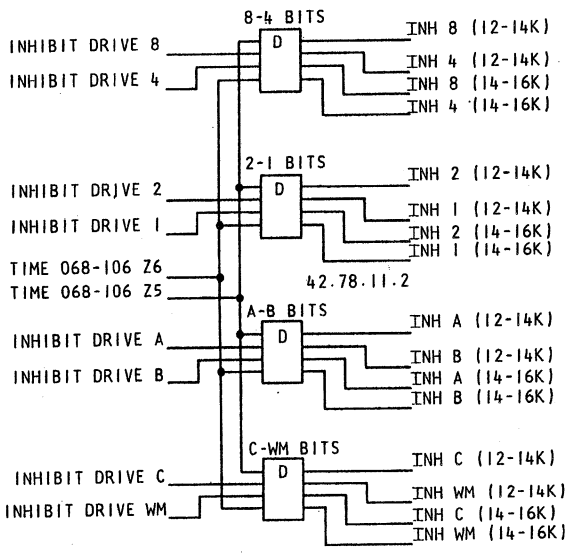


56. STORAGE DECODE SWITCHES 12 TO 16K

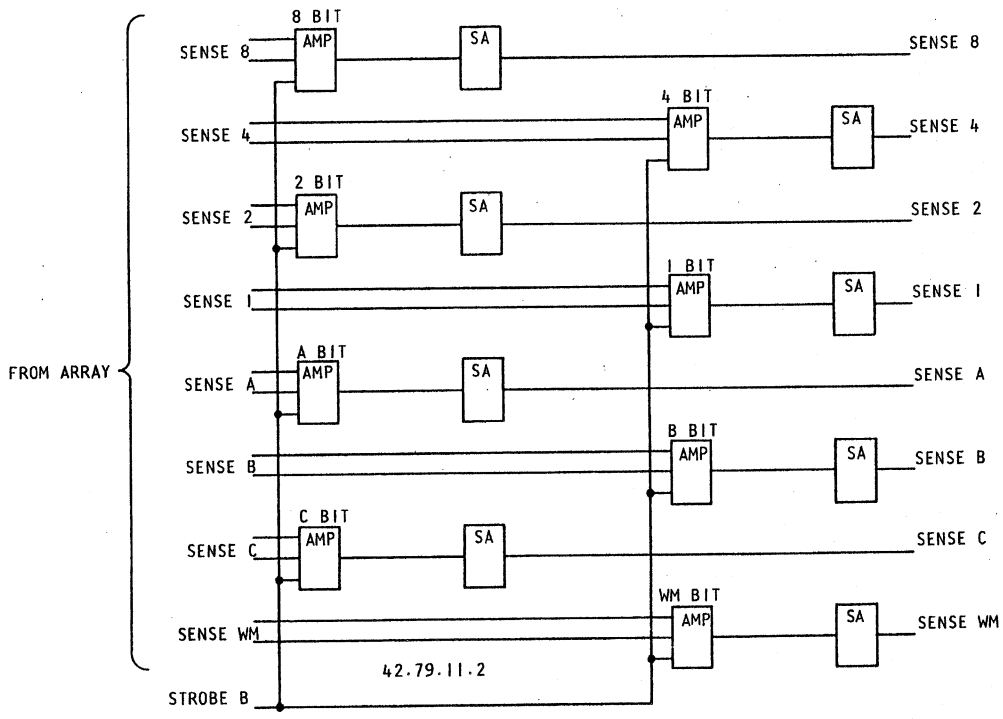
CURRENT DRIVERS AND CURRENT SOURCES



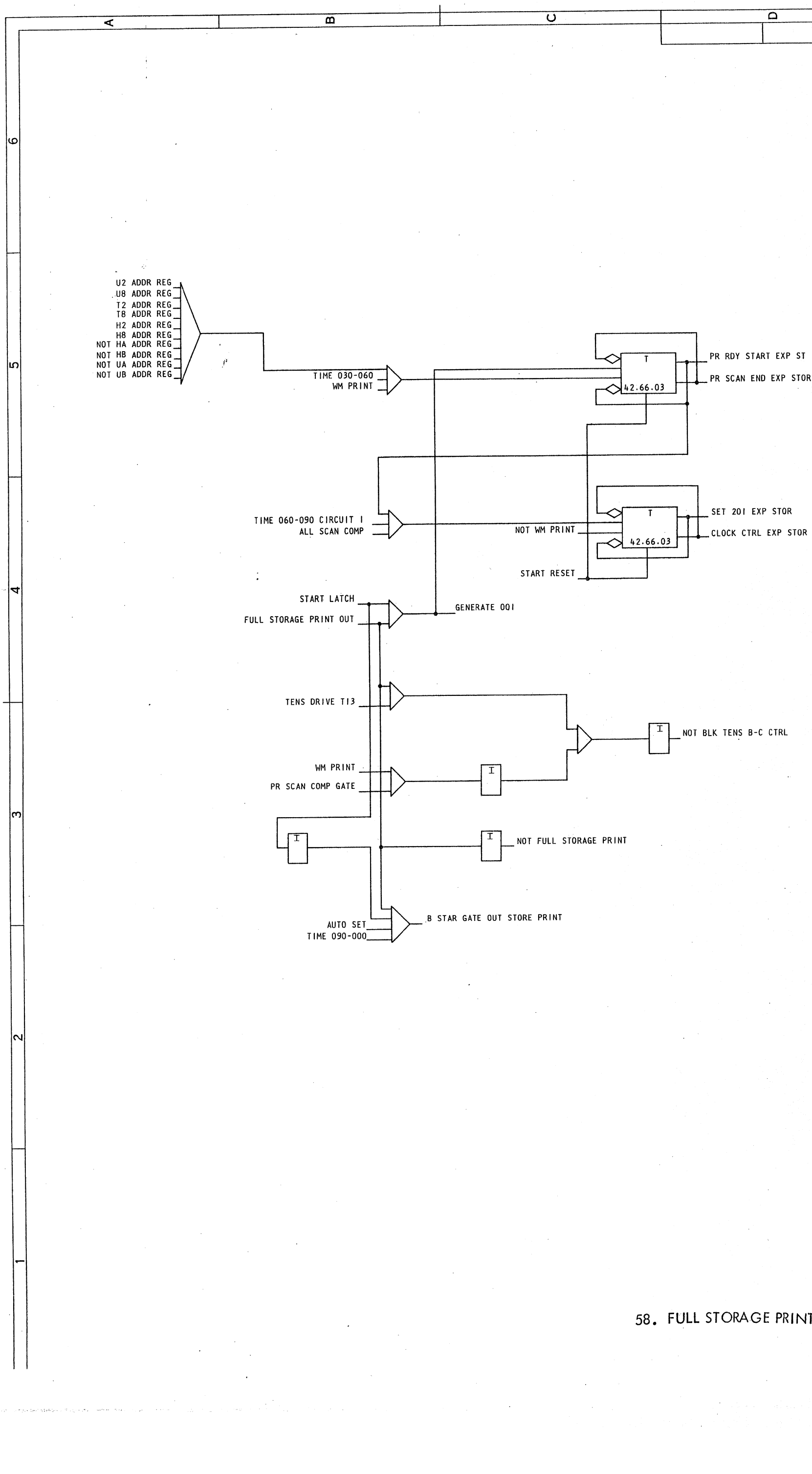
INHIBIT DRIVERS



PRE-SENSE AND SENSE AMPLIFIERS



57. CORE STORAGE DRIVE CKTS AND SENSE CKTS 12 TO 16K



58. FULL STORAGE PRINT OUT

Lade Taste:

1409	1)	Lade Taste → Load Latch
1583+6	2)	Op. Reg. du Reset → Set M° (Read Op.)
6[illegible]F	3)	Read Scan Compl. → Aus'
13	4)	Set ΔB-Latch und Read ΔAuI Latch
1404	5)	Set WM in 001
6[illegible]2	6)	Read WM in 002–020
[illegible]3	7)	Set Memories to 004
60[illegible]3	8)	Read Scan Compl. erst im 3. Zyk. [illegible]
1404	9)	Load Latch → Aus'.

60 DATA FLOW AND READ CONTROLS

PUNCH DECODE

A REG AB
B CYC B REG AB → 12

A REG B NOT A
B CYC B REG B NOT A → 11

A REG A NOT B
B CYCLE B REG A NOT B
B REG B NOT 4
B REG 2 NOT 1
B REG A NOT B → 0

A REG NOT B4
A REG 1 NOT 2
B REG NOT B4
B REG 1 NOT 2 → 1

B REG NOT 4
A REG 2 NOT 1
B REG 2 NOT 1
A REG NOT B4 → 2

A REG 21
A REG NOT B4
B REG 21
B REG NOT 4 → 3

A REG 4 NOT 8
A REG NOT 21
B REG 4
B REG NOT 21 → 4

A REG 1 NOT 2
B REG 1 NOT 2 → 5

A REG 2 NOT 1
B REG 2 NOT 1 → 6

A REG 21
A REG 4 NOT 8
B REG 21
B REG 4 → 7

ZERO DECODE

B REG NOT 4
B REG 1 NOT 2 → 10

A REG 8 NOT 4
A REG NOT 21
B REG 8 → 8

A REG 1 NOT 2
B REG 1 NOT 2
B REG 8 NOT 4 → 9

67C6 COL BIN PCH DECODE
67B2 NOT COL BIN CTRL
63A3 NOT PUNCH SETUP

36.23.11.2
36.23.21.2
36.23.31.2

36.23.31.2

7185 PRINT SCAN → PCH DECODE
PR SCAN
36.38.41.2

UNITS ADDRESS DECODE

19A2 ADR REG U8
19A1 ADR REG U2 → UNITS DECODE U0 69A1 — PCH PR DR U0 +U

19A1 ADR REG U1 → UNITS DECODE U1 69A1 — PCH PR DR U1 +U

19A2 ADR REG UCD → UNITS DECODE U2 69A1 — PCH

19A1 ADR REG U4 → UNITS DECODE U3 69A2

ADR REG T1 19A2 → UNITS DECODE U4 69A2

ADR REG T2 19A3 → UNITS DECODE U5 69A2

ADR REG T4 19A3 → UNITS DECODE U6 69A3

ADR REG T8 19A3 → UNITS DECODE U7 69A3

ADR REG TCD 19A4 → UNITS DECODE U8 69A3

UNITS DECODE U9 69A4

TENS ADDRESS DECODE

36.38.41.2

TENS DRIVE T0 69B1 — PR PCH DRV T0 −U
TENS DRIVE T1 69B1 — PR PCH DRV T1 −U
TENS DRIVE T2 69B1 — PR PCH DRV T2 −U
TENS DRIVE T3 69B2 — PR PCH DRV T3
TENS DRIVE T4 69B2 — PR PCH DRV T4
TENS DRIVE T5 69B2 — PR PCH DRV T5
TENS DRIVE T6 69B3 — PR PCH DRV T6
TENS DRIVE T7 69B3 — PR PCH DRV T7
TENS DRIVE T8 69B3 — PR PCH DRV T8 60B4
TENS DRIVE T9 69B4

PUNCH MATRIX

36.29.11.2 TO 36.29.51.2

RD 01 RD 02
RD 10 RD 11 RD 12
RD 20 RD 21 RD 22
RD 30 RD 31 RD 32
RD 40 RD 41 RD 42
RD 50 RD 51 RD 52
RD 60 RD 61 RD 62
RD 70 RD 71 RD 72
RD 80

PUNCH CHECK DECODE

PUNCH SCAN GATE
INT PDCLD 62A4

A REG B NOT A
B REG B NOT 84
B REG NOT 21 → DIGIT

A REG AB
B CYCLE B REG NOT AB → ZONE

A REG A NOT B
B REG 21
B REG B NOT 4
B REG 2 NOT 1
1281 B CYC B REG A NOT B → B Reg 8.4

36.23.41.

67B2 NOT COL BIN CTRL
62A3 NOT PUNCH SCAN CB TR
6283 NOT PUNCH TRANS
67D2 COL BIN PCH CHECK DECODE

→ PUNCH CHECK DECODE 62D2

+U 0187 PUNCH MAGNETS

	UNITS									
	0	1	2	3	4	5	6	7	8	9
0		E05H	F09H	E09H	F13H	E13H	F17H	E17H	F21H	E21H
1	F05F	E05F	F09F	E09F	F13F	E13F	F17F	E17F	F21F	E21F
2	F06H	E06H	F10H	E10H	F14H	E14H	F18H	E18H	F22H	E22H
3	F06F	E06F	F10F	E10F	F14F	E14F	F18F	E18F	F22F	E22F
4	F07H	E07H	F11H	E11H	F15H	E15H	F19H	E19H	F23H	E23H
5	F07F	E07F	F11F	E11F	F15F	E15F	F19F	E19F	F23F	E23F
6	F08H	E08H	F12H	E12H	F16H	E16H	F20H	E20H	F24H	E24H
7	F08F	E08F	F12F	E12F	F16F	E16F	F20F	E20F	F24F	E24F
8	F05H									
LOGIC	36.29.11.2		36.29.21.2		36.29.31.2		36.29.41.2		36.29.51.2	

7185 NOT PR SCAN → RESET 1 (Units 0-4)
11.07.11 NOT LATCH RESET → INT → 36.28.11
INT → Reset 2 (Units 5-9)
36.21.11.

61 PUNCH DATA FLOW

PFR Hole Count Check

Rd. Scan | Punch Scan | ↗RD2 RD ↗B.Reg.P. PFR | Punch Check B.Ü.

Transfer Scan
läuft immer nach 13. Scan und überlagert von 001-180 nach 101-180

X	X	—	Y Planes →	Y Planes
X	Y	— —	Y Planes →	X Planes
X	X	— — —	Y Planes →	Y Planes
X	Y	— — —	Y Planes →	X Planes

Read Scan mit X Gate und PFR Bü liest in Y Planes 001-080
Read Scan mit Y Gate und PFR Bü liest in X Planes 001-080

Punch Scan mit X Gate und P.C.D. liest in X Planes 101-180
Punch Scan mit X Gate und P.C.Bü liest in Y Planes 101-180
Punch Scan mit Y Gate und P.C.D. liest in Y Planes 101-180
Punch Scan mit Y Gate und P.C.Bü liest in X Planes 101-180

In der Stanzstation PFR + P.C.D = P.C.Bü.

Falls durch Fehler im 13. Scan noch regeneriert wird, sorgt im Transfer Scan X oder Y Select (6205) dafür, daß von den B.Reg. Check Latchen nichts auf die Inhibit leitungen kommen kann.

Kartenlänge 9

	Kartenbreite	RD2 2.Bü	RD1 1.Bü	
8 3 12	2	6	6	
4	3	6	6	
4		6	6	

RD2 RD1

Read

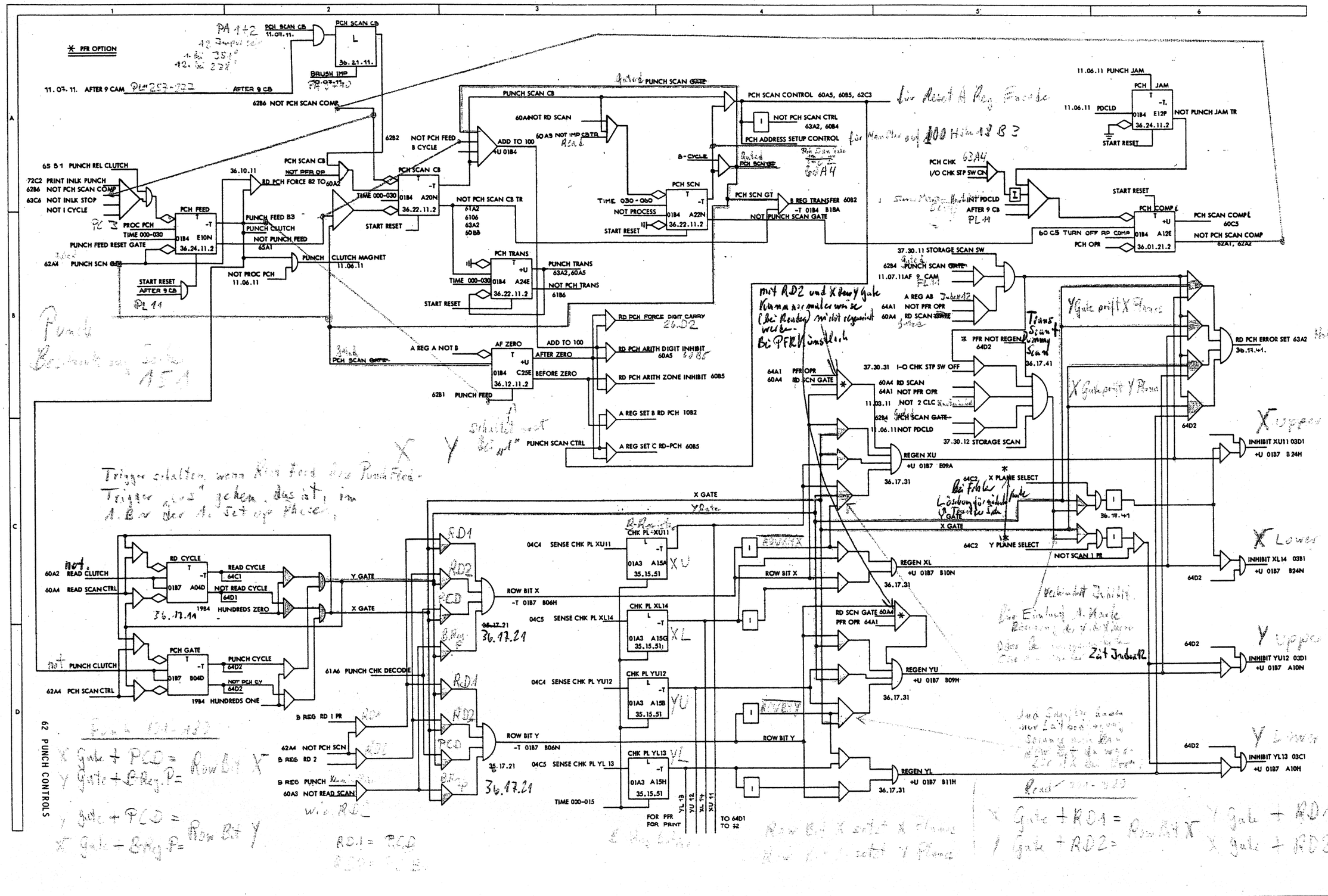
Durchgang:	1 X	2 Y	3 X	4 Y
XU	1	0	1	0
XL	1	0	1 0	1 0
YU		1	0	
YL		1 0 1	0 1 0	

X Gate + RD1 = Row Bit X
Y Gate + RD2 =

Y Gate + RD1 = Row Bit Y
X Gate + RD2 =

ROW Bit X setzt X Planes
ROW Bit Y setzt Y Planes

U_{pper} 1 X
L_{ower} = für jede Lochung


* PFR OPTION
11.03.11. AFTER 9 CAM
AFTER 9 CB
PCH SCAN CB 11.03.11.
PCH SCAN CB L 36.21.11.
BRUSH IMP
6286 NOT PCH SCAN COMP
PUNCH SCAN CB
60A NOT RD SCAN
60A5 NOT IMP CB TR
6282 NOT PCH FEED B CYCLE
ADD TO 100 +U 01B4
PCH SCAN CONTROL 60A5, 6085, 62C3
NOT PCH SCAN CTRL 63A2, 60B4
PCH ADDRESS SETUP CONTROL
B-CYCLE
PCH SCN 36.22.11.2
TIME 030-060 NOT PROCESS
PCH SCN GT
B REG TRANSFER 6082
-T 01B4 B18A
NOT PUNCH SCAN GATE
START RESET
11.06.11 PUNCH JAM
PCH JAM
11.06.11 PDCLD
NOT PUNCH JAM TR
36.24.11.2
PCH CHK 63A4
I/O CHK STP SW ON
INT PDCLD AFTER 9 CB PL 11
PCH COMP
PCH SCAN COMP 60C5
NOT PCH SCAN COMP 62A1, 62A2
60 C5 TURN OFF RP COMP
PCH OPR 36.01.21.2
65 B1 PUNCH REL CLUTCH
72C2 PRINT INLK PUNCH
6286 NOT PCH SCAN COMP
63C6 NOT INLK STOP
NOT I CYCLE
PROC PCH TIME 000-030
PCH FEED 36.24.11.2
PUNCH FEED RESET GATE
62A4 PUNCH SCN GATE
START RESET AFTER 9 CB
PL 11
36.10.11
RD PCH FORCE B2 TO 60A2
PCH SCAN CB NOT PFR OP
TIME 000-030 36.22.11.2
START RESET
PUNCH FEED B3
PUNCH CLUTCH
NOT PUNCH FEED 65A1
NOT PROC PCH 11.06.11
PUNCH CLUTCH MAGNET 11.06.11
NOT PCH SCAN CB TR 61A2, 6106, 63A2, 60B8
PCH TRANS TIME 000-030 36.22.11.2
PUNCH TRANS 63A2, 60A5
NOT PCH TRANS 61B6
START RESET
RD PCH FORCE DIGIT CARRY 26.02
RD PCH ARITH DIGIT INHIBIT 60A5 61B6
RD PCH ARITH ZONE INHIBIT 60B5
A REG SET B RD PCH 10B2
A REG SET C RD-PCH 60B5
PUNCH SCAN CTRL
A REG A NOT B
AF ZERO AFTER ZERO BEFORE ZERO 36.12.11.2
ADD TO 100
6281 PUNCH FEED
PCH SCAN GATE
37.30.11 STORAGE SCAN SW
62B4 PUNCH SCAN GATE
11.07.11AF 9 CAM PL 11
A REG AB
64A1 NOT PFR OPR
60A4 RD SCAN GATE
* PFR NOT REGEN 64D2
37.30.31 I-O CHK STP SW OFF
64A1 PFR OPR
60A4 RD SCN GATE
60A4 RD SCAN
64A1 NOT PFR OPR
11.03.11 NOT 2 CLC
6284 PCH SCAN GATE
11.06.11 NOT PDCLD
37.30.12 STORAGE SCAN
Trans Scan + Dummy Scan 36.17.41
64D2
REGEN XU +U 01B7 E09A 36.17.31
REGEN XL +U 01B7 B10N 36.17.31
REGEN YU +U 01B7 B09H 36.17.31
REGEN YL +U 01B7 B11H 36.17.31
RD SCN GATE 60A4
PFR OPR 64A1
RD PCH ERROR SET 63A2 36.19.41
INHIBIT XU11 03D1 +U 01B7 B24H
INHIBIT XL14 03B1 +U 01B7 B24N
INHIBIT YU12 03D1 +U 01B7 A10N
INHIBIT YL13 03C1 +U 01B7 A10H
64C2 X PLANE SELECT
64C2 Y PLANE SELECT
X GATE
Y GATE
RD1
RD2
PCO
B REG P
RD1
RD2
PCO
B REG P
ROW BIT X
ROW BIT Y
-T 01B7 B06H
36.17.21
B REG RD 1 PR
62A4 NOT PCH SCN
B REG RD 2
B REG PUNCH
60A3 NOT READ SCAN
61A6 PUNCH CHK DECODE
Y GATE
X GATE
RD CYCLE
60A2 READ CLUTCH
60A4 READ SCAN CTRL
READ CYCLE 64C1
NOT READ CYCLE 64D1
1984 HUNDREDS ZERO
36.17.11
PCH GATE
not PUNCH CLUTCH
62A4 PCH SCAN CTRL
PUNCH CYCLE 64D2
NOT PCH CY 64D2
1984 HUNDREDS ONE
04C4 SENSE CHK PL XU11
CHK PL XU11 01A3 A15A 35.15.51
XU
04C5 SENSE CHK PL XL14
CHK PL XL14 01A3 A15G 35.15.51
XL
04C4 SENSE CHK PL YU12
CHK PL YU12 01A3 A15B 35.15.51
YU
04C5 SENSE CHK PL YL 13
CHK PL YL13 01A3 A15H 35.15.51
YL
TIME 020-015
FOR PFR
FOR PRINT
YL-13
YU 12
XL 14
XU 11
TO 64D1
TO 52
62 PUNCH CONTROLS

12. D 2. ALLOW B REG CHECK
62A4 PUNCH SCAN GATE
62A4 NOT PCH SCAN CB
6283 NOT PCH TRANS
TIME 060-090
NOT PUNCH SET UP 61A2
PUNCH REL CHECK 65B1
62A1 AFTER 9 CB
A REG 2
A REG B
1
62A4 PUNCH SCAN GATE
ROL. PCH CHCK 14C4
READ SCN GATE
A. REG. NOT AB
READ COMPL. GATE
6286 RD PCH ERROR SET
TIME 060-090
RD REL CHK 66A2
60 A5 NOT READ TRANS
60 A3 NOT IMP. CB TR
60A4 RD SCAN GATE
36.14.11
NOT SET UP A REG 60 B2
NOT VALCHK. TRANS. 60 C4
6782 NOT COL BIN CTRL
TIME 060-090
60C3(64C6) VALIDITY CHECK
45D5 RESET PCH CHK LATCH
11.06.11 PCH CHK RESET
37.31.11 I-O CHECK RESET
PCH CHK L -T 0184 D06G 36.14.11
PUNCH CHECK
D1 PCH CK LIGHT 36.18.11.
65B3 63B4 63B5 62A5
PUNCH STOP 11.02.11
D1 PUNCH LIGHT 34.21.51
READ CHK L -T 0184 D24N 36.14.11
READ STOP (11.03.11)
D1 READER LT 36.18.11
D1 RD CHECK LIGHT 36.18.11.
READ ERROR 60C4
ID CHK ST. SW ON
VAL CHK L -T 0184 D24H 36.14.11
D1 INVALID LIGHT 36.18.11.
37.31.11 I-O CHECK RESET SW
45D5 RES READ CHK LATCH
11.03.11 RD CHECK RESET
INT PUNCH STOP
START RESET
STOP LT
66. A4 RD PCH REL STOP
60 C6 RD PCH SCN. COMP.
I-E OR SNG CY PROCESS
PROCESS CHK
37. 31. 11. PROC CHK STOP SW ON
RD ERROR STOP
63 A4 PCH CHECK
PCH ERROR STOP
36.02.11
INT RD STOP
STOP QP
INLK STOP T -T 0184 C12N 36.02.11
INLK STOP
LOAD KEY 11.02.11.
NOT INLK STOP
NOT START RESET
RD INLK STOP 11.03.11
NOT INLK STOP 66A1, 60A1
Mode Switch
37.30.11 RUN SW
13A1 START
14D3 I-E OR SNG CY PROC
60 D6 NOT RD PCH SCN COMP.

Starker Select

A REG 8
A REG 4
A REG 2
A REG 1
15D2 STACK SEL OPR
GATED WM
I CYCLE
A REG NOT AB
STACK LAT RESET
RD STACK 8 11.05.11
RD STACK 4 11.05.11
STACK 2 11.02.11
STACK 2 11.02.11
0184 F10A 36.50.11
STACK 1
STACK 1 11.02.11
0184 F10N 36.50.11
11.03.11(NOT) STACK SELECT
RD STACK RESET

63A4 PUNCH CHK
RD STACK INH 11.06.11
62A4 PUNCH SCAN GATE
A REG 4 NOT 8

Read compl. Gate
Read Scan
Zeit zur Erregung
All Scan Compl. U I/E Change
Starker Select RC6
Starker Latch
Starker Magnet

Letzter B~ des 13 Punkt Scan

Transfer Scan

		B	B	B	B	B	B	B	B	B	B		Up.
Main Star	180	001	101	002	102	003	→	179	080	180			
B. Star	181	101	002	102	003	103	→	080	180				
13 Delta Process	2												
Process	2												
66C4 Last Adress	1												
65B4 Pch Scan Trigger	1												
64B1 Trans Scan Tr.													
66B4 RD-Pch Si. Gate	2												
64B2 Adr. Sel Tr. Gen. 001													
64C2 Alter. Cycle Trigger		Adr. Rest		Adr. Rest		Adr. Rest				Adr. Rest			
64B3 PFR Transf. Star. No Modif.													
PFR Force Hundr. 1			1		1		1				1		
4B3 " " 82,C				1		1			1			1	
56B6 Punch Compl. Tr.													
66D6 ALL Compl. Tr.													
I/E Change													
13 Delta I Latch													
I~ Latch													

19D5 Hundr. kann nicht modifiziert werden, da Not Trans Scan Lehl. 19D5

Bei Transfer Star immer B-Reg. Transfer für Daten

Upper = 1 K
Lower = für jede Lochung

64 PFR DATA FLOW, CHECKING AND CONTROLS

36.01.31.
GT WM
PROL
I CY LT
090 - 000
SET OPR TR

I RING 5
PCH OPR
PFR PROG SKIP 1483
56.15.11

NOT READ OPR
A REG B NOT 4
A REG 1 NOT 2
A REG B NOT A
56.15.11.
I RING 2
I RING 3

PCH OPR
PFR OP
T
-T
TIME 060-090
I RING OP
01B7 D07N
56.15.11

START RESET
63C4 PCH ERROR STOP

65 C2 PCH FEED
NOT PROCESS PUNCH
56.15.11
RD
TRANS READ BRUSHES 11.08.11
PUNCH SCAN 6583

PFR OPR
6284, 65C5, 65B2, 65B5
NOT PFR OPR 66A5

11.06.11 PDCLC
11.07.11 AFTER 9 CB
62A4 NOT PCH SCAN GATE
13A4 NOT PROC
TRANS SCAN
T
-T
01B7 D09N
56.12.11
66B4, 66C4, 65C2
NOT TRANS SCN 19C5
START RESET

TIME 060-090
B REG TRANSFER
-T 01B7 F04A
PFR TRANSFER STAR 19D6
PFR FORCE 1 20A2 BUS 1
NORMAL MODE 67C2

ADDR SET
T
-T
01B7 D10N
56.12.11
PFR GEN 001 18C3
NOT ADDR SET 66 C3
TIME 000-015

TRANS SCAN
ALT CYC
T
-T
01B7 D12N
56.12.11
ADDRESS READ AREA 64D2
NOT ADDRESS SET
ADDR PUNCH AREA
TIME 090-105
TIME 060-090
PFR FORCE 2 20A5
PFR FORCE 8 20B5
PFR FORCE C D 21B1
PFR FORCE CZ 21A5
ADR REG SET UC Z PFR 42.61.02

ADDRESS RD AREA
NOT TRANS SCAN
TRANS SCAN
NOT PCH CYC 62D4
Y PLANE SELECT 62C5
X PLANE SELECT 62C5

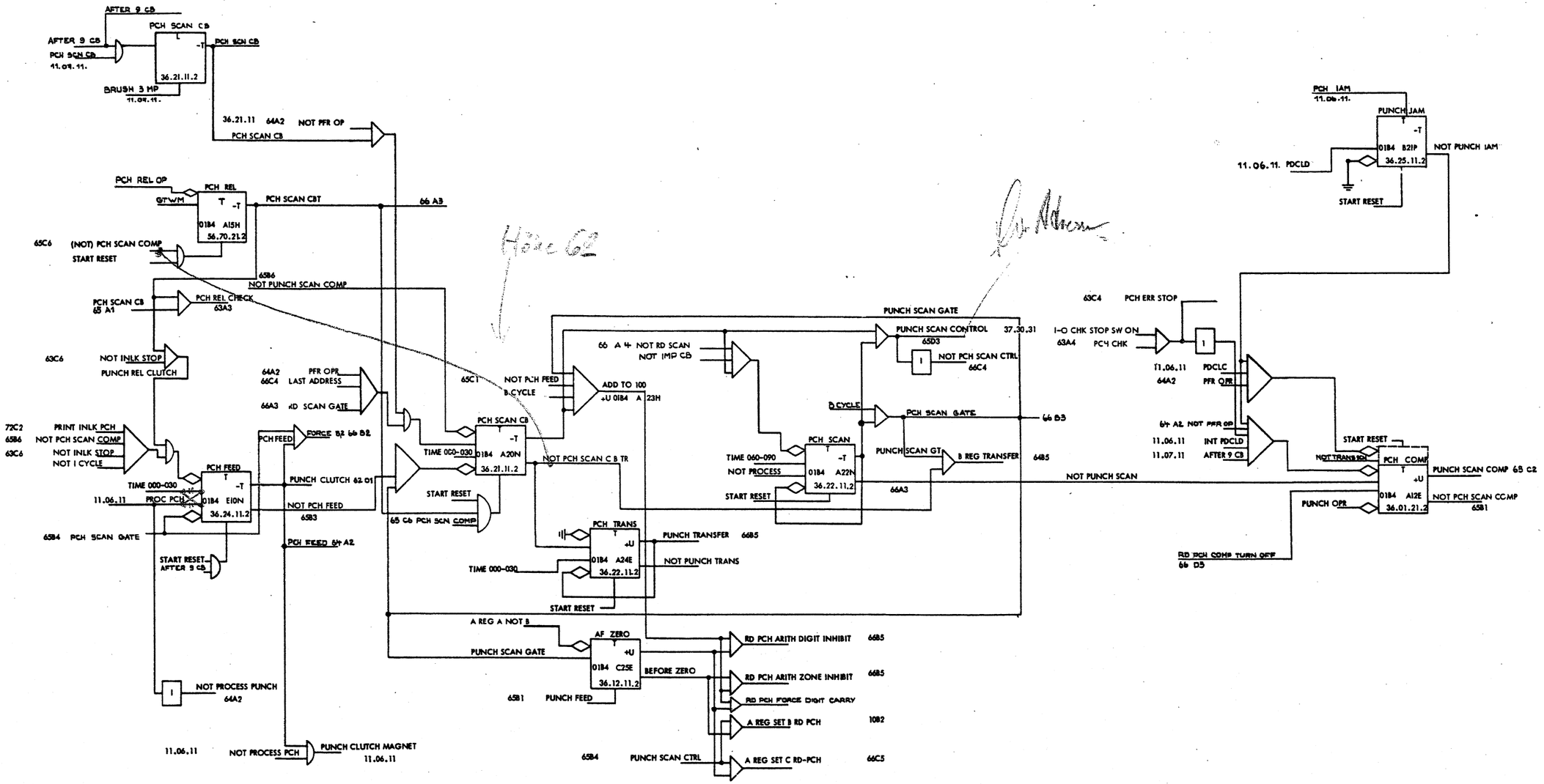
CHK PL XU11 62D4
62C1 READ CYCLE
PFR CHECK PLANE REGISTER
L
+U
01B7 D19N
56.10.91
TIME 000-015
CHK PL YU12 62D4
NOT READ CYCLE 62C7
01B7 D19P
CHK PL YL13 62D4
01B7 D22N
CHK PL XL14 62D4
01B7 D22P
ADDRESS PCH AREA
PUNCH CYCLE 62D1
UPPER TRANS REG
LOWER TRANS REG
INHIBIT XU11 62C6 +U 01B7 D25N
INHIBIT XL14 62C6 +U 01B7 D25H
INHIBIT YU12 62C6 +U 01B7 D26N
62D1 NOT PCH CYCLE
INHIBIT YL13 62D6 +U 01B7 D26H

56.17.41
62B1 PCH FEED
64A2 PFR OPR
60A4 RD SCAN GATE
64C2 ADDRESS READ AREA
PFR NOT REGEN 6285
+U 01B7 D08H

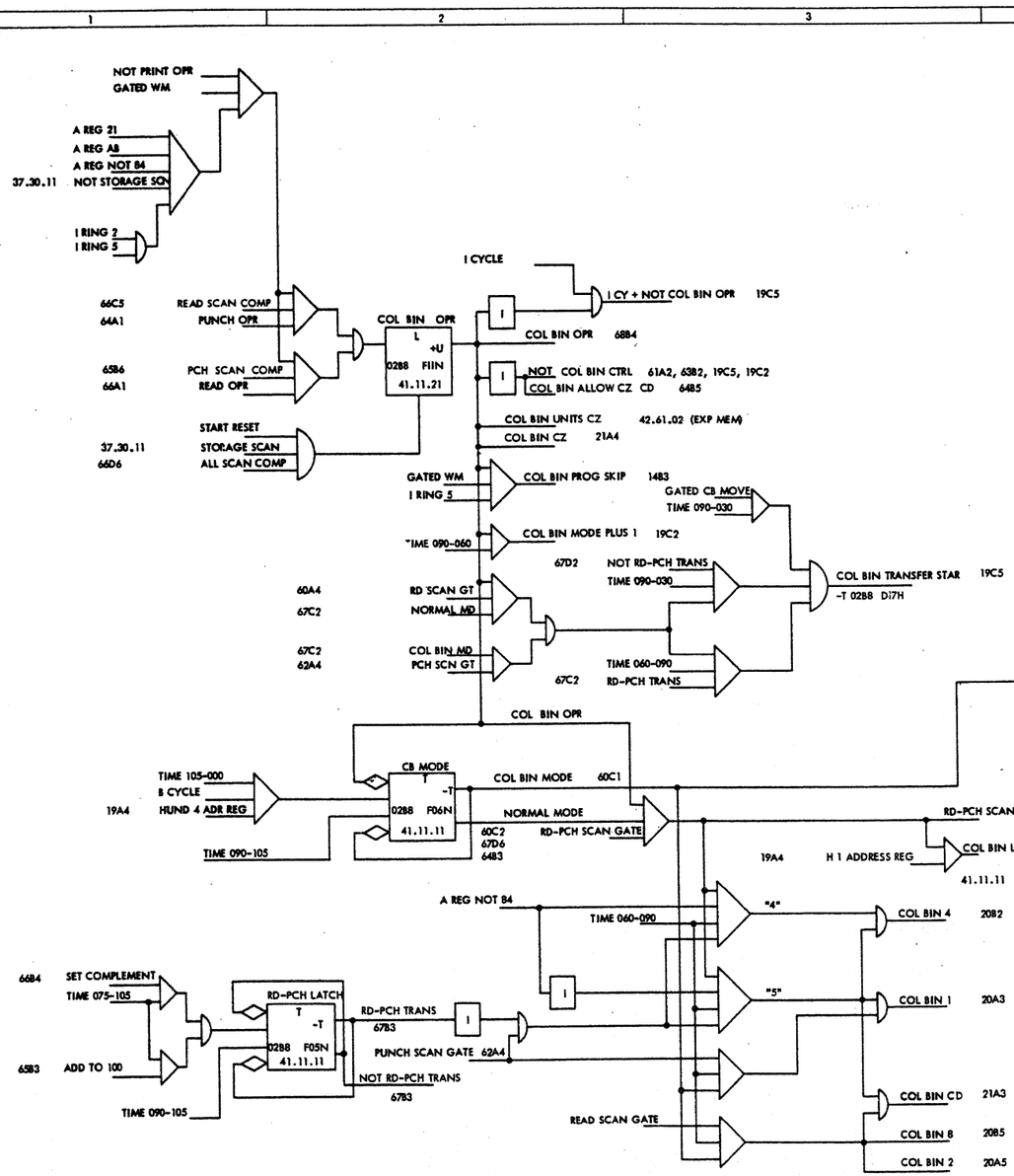
66A4 READ SCAN GA TE
RD 2
RD SCAN RD 2
READ SCAN NOT READ 2
RD SCAN NOT RD 2
B REG NOT 84
B REG NOT 21
B REG A NOT B
A REG 8 NOT 4
A REG 1 NOT 2
PFR OPR
A REG A NOT B
B REG 8
PFR ZERO
56.13.11.2
A REG A NOT B
B REG NOT 84
B REG NOT 21
NORMAL MODE
NOT PFR OPR
36.13.11.2
NOT SET UP A-REG
63 B3
A REG 8 NOT 4
A REG NOT 21
B REG 1 NOT 2
NORMAL MODE
NOT PFR OPR
MLP
36.13.21.2
6383
COL BIN MODE
A REG 21
A REG NOT 84
PFR OPR
A REG AB
A REG 1 NOT 2
A REG 8 NOT 4
NOT PFR OPR
36.13.21.2
NOT RD-PCH FORCE 82
NORMAL MODE
36.13.21.2

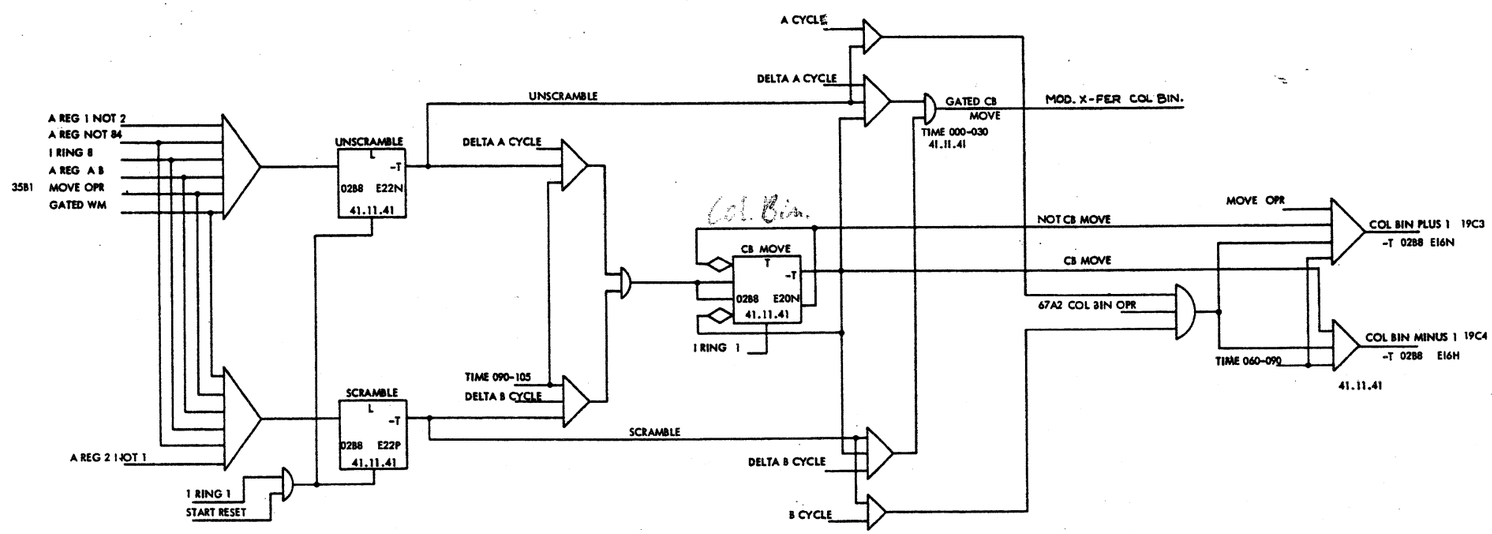
B REG A NOT B
B REG NOT 4
B REG 2 NOT 1
B REG NOT B4
B REG 1 NOT 2
56.13.11.
PFR B TIME
READ SCAN NOT RD 2
A REG A NOT B
B REG B NOT 4
B REG 2 NOT 1
67B2 COL BIN OP
FIRST ROW
10C5, 11B2
36.13.11.
B REG TRANSFER
65B4 B REG TRANSFER
66A5 B REG TRANSFER
B REG TRANSFER 11C2
36.13.11.2
66B2 RD PCH FORCE 82
RD-PCH FORCE 82 11A5
36.13.11.2
PFR OP
A-REG B T
A-REG B -T
56.15.11.
A REG NOT AB
PFR NOT B TIME
B REG 1
B REG 2
B REG 4
NOT MLP
12C6
36.13.21.2
NOT MLP
RD SCAN RD 2
A REG B
B REG NOT AB
BLOCK B REG CHK 12C2
NOT FIRST ROW
A REG NOT 84
A REG 1 NOT 2
B REG 8
B REG ZONE INHIBIT -T 01B4 C2IA 11B2
B REG DIGIT INHIBIT -T 01B4 D09C 11B1
ENCODE C GATE 10D6
-T 01B4 A08H
BLOCK C GEN 10D5
-T 01B4 B24H
36.13.21.2
A REG ZONE INHIBIT 11D3
-T 01B4 D09P
A REG DIGIT INHIBIT 11C3
-T 01B4 D09A
NORMAL MODE
36.13.21.2
VALIDITY CHK 6382
36.13.21.2
NORMAL MODE
COL BIN OP
NOT VAL CHK
TO CHK. ST SW OFF

Dummy Read Scan
Trans Scan verhindert Aktivwerden der Inhibitleitungen auf 62 C06



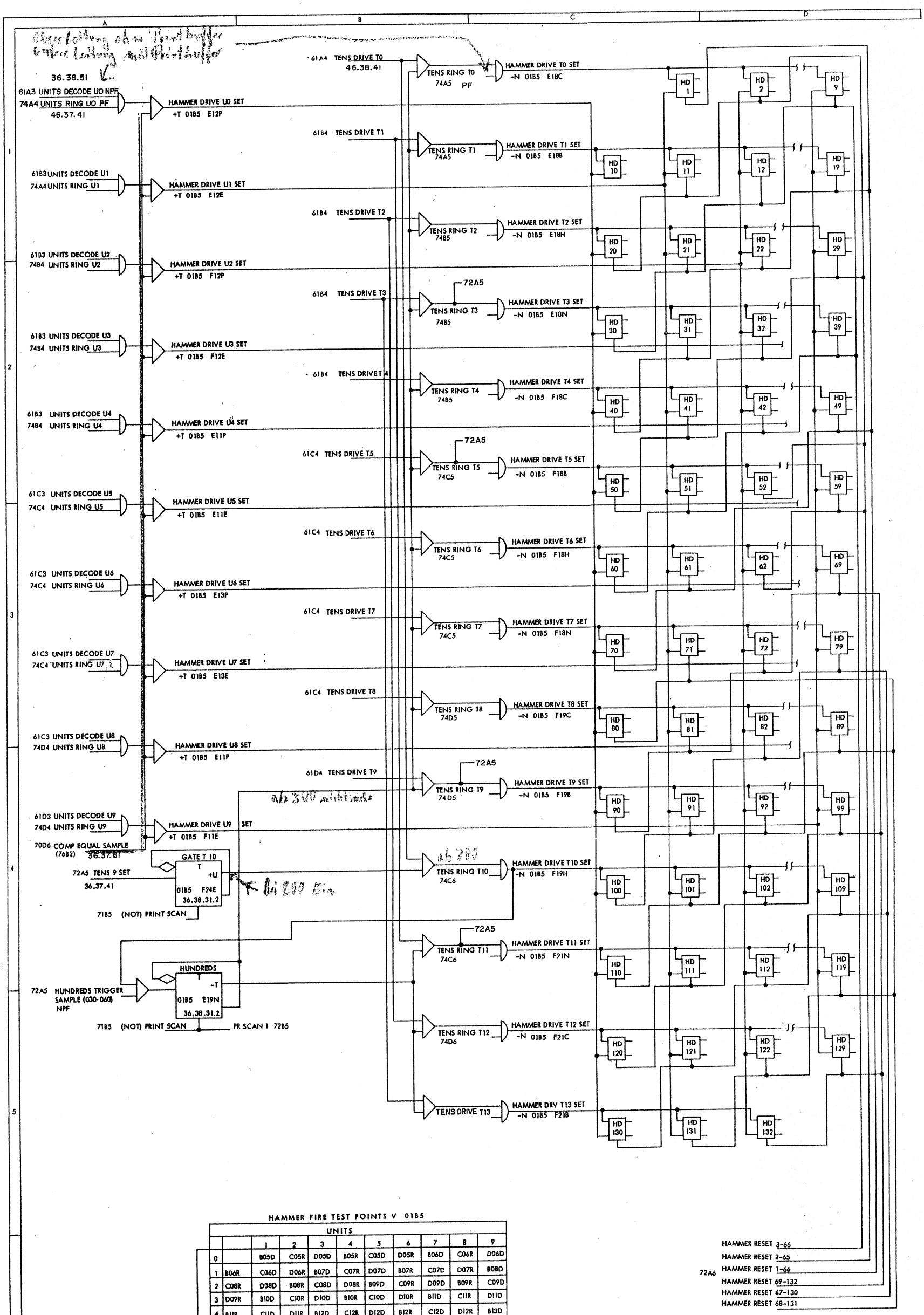
65 PFR PUNCH CONTROLS


NOT PRINT OPR
GATED WM
A REG 21
A REG AB
A REG NOT B4
37.30.11 NOT STORAGE SCN
1 RING 2
1 RING 5
66C5 READ SCAN COMP
64A1 PUNCH OPR
65B6 PCH SCAN COMP
66A1 READ OPR
START RESET
37.30.11 STORAGE SCAN
66D6 ALL SCAN COMP
COL BIN OPR
L
+U
0288 F11N
41.11.21
1 CYCLE
1 CY + NOT COL BIN OPR 19C5
COL BIN OPR 68B4
NOT COL BIN CTRL 61A2, 63B2, 19C5, 19C2
COL BIN ALLOW CZ CD 64B5
COL BIN UNITS CZ 42.61.02 (EXP MEM)
COL BIN CZ 21A4
GATED WM
1 RING 5
COL BIN PROG SKIP 1483
GATED CB MOVE
TIME 090-030
TIME 090-060
COL BIN MODE PLUS 1 19C2
67D2 NOT RD-PCH TRANS
TIME 090-030
60A4 RD SCAN GT
67C2 NORMAL MD
67C2 COL BIN MD
62A4 PCH SCN GT
TIME 060-090
67C2 RD-PCH TRANS
COL BIN TRANSFER STAR 19C5
-T 0288 D17H
COL BIN OPR
TIME 105-000
B CYCLE
19A4 HUND 4 ADR REG
CB MODE
T
-T
0288 F06N
41.11.11
TIME 090-105
COL BIN MODE 60C1
NORMAL MODE
60C2 RD-PCH SCAN GATE
67D6
64B3
RD-PCH SCAN NORMAL
19A4 H 1 ADDRESS REG
COL BIN LAST ADDRESS 66C4
41.11.11
A REG NOT B4
TIME 060-090
"4"
"5"
COL BIN 4 20B2
COL BIN 1 20A3
COL BIN CD 21A3
COL BIN 8 20B5
COL BIN 2 20A5
READ SCAN GATE
66B4 SET COMPLEMENT
TIME 075-105
65B3 ADD TO 100
TIME 090-105
RD-PCH LATCH
T
-T
0288 F05N
41.11.11
RD-PCH TRANS
67B3
PUNCH SCAN GATE 62A4
NOT RD-PCH TRANS
67B3
04C5 SENSE RD 2
19A4 ADDR REG HUND 4
CB RD 2
L
+U
0288 F11H
41.11.11
RD 2
19A4 (NOT) ADDR REG H 4
66A4 (NOT) READ SCN GATE
HUNDREDS 4 66C4
TIME 030-000
READ OPR
COL BIN MODE
COL BIN READ ENCODE
INHIBIT COL BIN 1
10A5
INHIBIT COL BIN 2
10A5
INHIBIT COL BIN 4
10A5
INHIBIT COL BIN 8
10B5
INHIBIT COL BIN A
10B5
INHIBIT COL BIN B
10B5
41.23.31
INHIBIT COL BIN C ZONE
INHIBIT COL BIN C
10C5
B REG NOT C
41.23.31
COL BIN MODE
COLUMN BIN PUNCH DECODE
A REG AB
A REG 8 4 2 1
A REG 12 + 4
B REG B
A REG A B
A REG 8 4 2 1
A REG 11 + 5
B REG A
A REG A B
A REG 8 4 2 1
A REG 0 + 6
B REG 8
A REG A B
A REG 8 4 2 1
A REG 1 + 7
B REG 4
A REG 8 4 2 1
A REG 8 4 2 1
A REG 2 + 8
B REG 2
A REG 9 + 3
B REG 1
CB PUNCH OUT
41.23.11
TIME 060-090
PUNCH SCAN GT
COL BIN PCH DECODE 61A5
-T 02A8 F20H
COL BIN PUNCH HOLE COUNT
B REG 1
B REG 2
B REG 4
B REG 8
B REG A
B REG B
11.06.11 INT PDCLD
TIME 060-090
PUNCH SCAN GT
TRIGGER FLIPS AT END OF PULS
CB PCH CHK
T
-T
0288 E08N
41.23.21
START RESET
COL BIN PCH CHK DECODE
61A6
(NOT) NORM MD
41.23.21



68 MOVE COLUMN BINARY CONTROLS

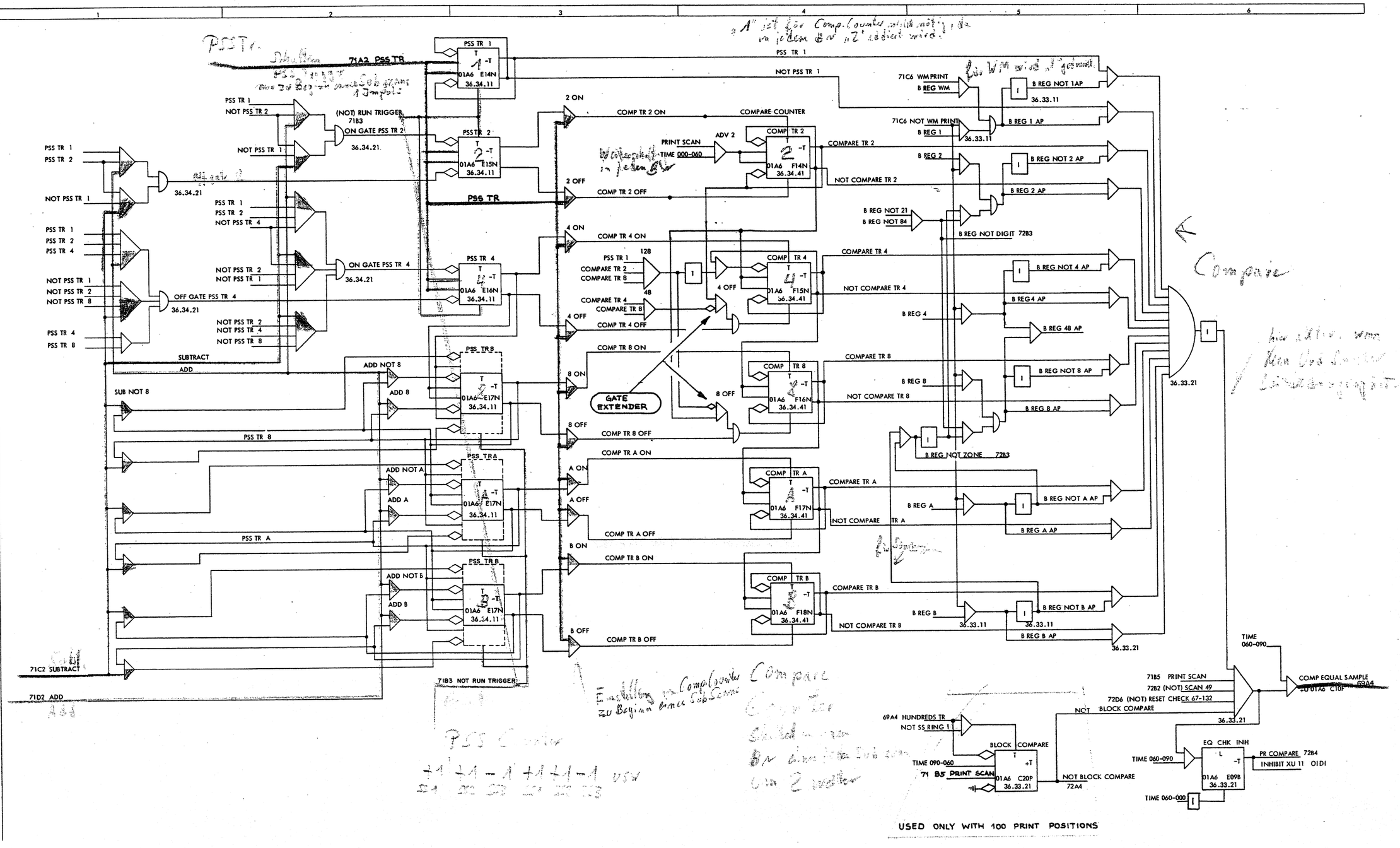
Col. Bin



HAMMER FIRE TEST POINTS V 01B5

	UNITS									
		1	2	3	4	5	6	7	8	9
0		B05D	C05R	D05D	B05R	C05D	D05R	B06D	C06R	D06D
1	B06R	C06D	D06R	B07D	C07R	D07D	B07R	C07D	D07R	B08D
2	C08R	D08D	B08R	C08D	D08R	B09D	C09R	D09D	B09R	C09D
3	D09R	B10D	C10R	D10D	B10R	C10D	D10R	B11D	C11R	D11D
4	B11R	C11D	D11R	B12D	C12R	D12D	B12R	C12D	D12R	B13D
5	C13R	D13D	B13R	C13D	D13R	B14D	C14R	D14D	B14R	C14D
6	D14R	B15D	C15R	D15D	B15R	C15D	D15R	B16D	C16R	D16D
7	B16R	C16D	D16R	B17D	C17R	D17D	B17R	C17D	D17R	B18D
8	C18R	D18D	B18R	C18D	D18R	B19D	C19R	D19D	B19R	C19D
9	D19R	B20D	C20R	D20D	B20R	C20D	D20R	B21D	C21R	D21D
10	B21R	C21D	D21R	B22D	C22R	D22D	B22R	C22D	D22R	B23D
11	C23R	D23D	B23R	C23D	D23R	B24D	C24R	D24D	B24R	C24D
12	D24R	B25D	C25R	D25D	B25R	C25D	D25R	B26D	C26R	D26D
13	B26R	C26D	D26R							

69. PRINT DATA FLOW


71A2 PSS TR
PSS TR 1
NOT PSS TR 1
PSS TR 2
NOT PSS TR 2
PSS TR 4
NOT PSS TR 4
PSS TR 8
NOT PSS TR 8
PSS TR A
NOT PSS TR A
PSS TR B
NOT PSS TR B
(NOT) RUN TRIGGER 7183
ON GATE PSS TR 2
36.34.21
OFF GATE PSS TR 4
ON GATE PSS TR 4
SUBTRACT
ADD
SUB NOT 8
ADD 8
ADD NOT 8
ADD NOT A
ADD A
ADD NOT B
ADD B
71C2 SUBTRACT
71D2 ADD
71B3 NOT RUN TRIGGER
01A6 E14N
01A6 E15N
01A6 E16N
01A6 E17N
36.34.11
PSS TR 8
PSS TR A
PSS TR B
PSS TR
2 ON
2 OFF
4 ON
4 OFF
8 ON
8 OFF
A ON
A OFF
B ON
B OFF
COMP TR 2 ON
COMP TR 2 OFF
COMP TR 4 ON
COMP TR 4 OFF
COMP TR 8 ON
COMP TR 8 OFF
COMP TR A ON
COMP TR A OFF
COMP TR B ON
COMP TR B OFF
GATE EXTENDER
COMPARE COUNTER
PRINT SCAN
ADV 2
TIME 000-060
01A6 F14N
01A6 F15N
01A6 F16N
01A6 F17N
01A6 F18N
36.34.41
128
48
COMPARE TR 2
COMPARE TR 4
COMPARE TR 8
COMPARE TR A
COMPARE TR B
NOT COMPARE TR 2
NOT COMPARE TR 4
NOT COMPARE TR 8
NOT COMPARE TR A
NOT COMPARE TR B
71C6 WM PRINT
B REG WM
71C6 NOT WM PRINT
B REG 1
B REG 2
B REG 4
B REG 8
B REG A
B REG B
B REG NOT 1AP
B REG 1 AP
B REG NOT 2 AP
B REG 2 AP
B REG NOT 4 AP
B REG4 AP
B REG 48 AP
B REG NOT 8 AP
B REG 8 AP
B REG NOT A AP
B REG A AP
B REG NOT B AP
B REG B AP
B REG NOT 21
B REG NOT 84
B REG NOT DIGIT 7283
B REG NOT ZONE 7283
36.33.11
36.33.21
TIME 060-090
7185 PRINT SCAN
7282 (NOT) SCAN 49
72D6 (NOT) RESET CHECK 67-132
NOT BLOCK COMPARE
COMP EQUAL SAMPLE
01A6 C10P
69A4
69A4 HUNDREDS TR
NOT SS RING 1
BLOCK COMPARE
TIME 090-060
71 B5 PRINT SCAN
01A6 C20P
NOT BLOCK COMPARE
72A4
EQ CHK INH
TIME 060-090
01A6 E09B
PR COMPARE 7284
INHIBIT XU 11 01D1
TIME 060-000
USED ONLY WITH 100 PRINT POSITIONS

RUN
GATED WM
I CYCLE
RUN
TIME 060-000
16A6 PRINT OPR
I-E SNG CY
PRINT START 13A1
PRINT INITIATE 71C5
36.31.31
14D3 I-E OR SNG CY PROC
DELTA 8 I-O
13-106 NOT PROC CHK STOP
13-186 START
ST PR OUT
37.30.11 STORAGE PRINT OUT
NOT PRINT READY 01B1 CLOCK
NOT PSS SS
PSS TR
PSS 1 70C3
70B2
72A1
400 µ SEC
SS
PSS
01A6 A09N
36.31.01
SENSE AMP
NOT PSS TR 72A4
21.00.11
72A3
HOME
B02N
01A6 B02N
36.31.11
NOT I-O CHECK RESET
HOME ERROR 72A4
37.30.11
RUN
B03N
01A6 B03N
36.31.11
78B4
70A2
70D3
PR READY
B04N
01A6 B04N
36.31.31
NOT PRINT READY
NOT TR 5
PRINT READY
START RESET
PR SCAN
B05N
01A6 B05N
36.31.21
PLUS 3 CTRL MOD
PRINT SCAN
19D3 11C2
7181, 72A1, 72C3, 72C5
7284, 70D6
TIME 075-000
7185 PRINT SCAN
PSS RING RESET
NOT PSS TR
72A2 NOT FIRST SCAN
RESET CHECK
PRINT COMPARE
04C3 PR LINE COMP LATCH
72A2
72A2 NOT FIRST SCAN
FIRST SCAN
NOT TR 5
SS RING 3
RUN TRIGGER
72A4 NOT HOME ERR
78A4 NOT CARRIAGE INLK
72D2 FORMS CTRL
B07H
JUMPER FOR TROUBLESHOOTING ALLOWS PRINTING TO BEGIN AT HOME TIME ONLY
16 M SEC
78A4 CARR INLK
SS
36.31.31
ADR 130-131
ADR 132
UNITS DRIVE U2
TENS DRIVE T 13
7282 NOT SCAN 49
ST PR OUT
PR RDY SET
7186 NOT WM PRINT
PR RDY START EXP ST
37.30.11 STORAGE PRINT OUT
TIME 060-090
LAST ADDRESS 132
72A2
FIRST SCAN
SS RING 3
SS RING 1
SS RING 2
SET 201 18C3
+U 01A6 C03C
SET 202 18C4
+U 01A6 C01N
SET 203 18C4
+U 01A6 C01H
36.31.31
NOT FIRST SCAN
71 A4 PSS TRIGGER
71 B5 PRINT READY
36.31.41
71 A4 PRINT INITIATE
7282 SCAN 49
TIME 030-060
LAST ADDRESS 132
72A2 SCAN 2 CTR
PR SCN COMP GT
01A6 A01P
36.31.41
7882
WM PRINT
PR SCAN END EXP ST
PR SCAN END 14D2
+U 01A6 A17N
36.31.61
NOT STOR PRINT OUT
PRINT OPR
12C3 A REG LOZENGE
STORAGE PRINT OUT
START RESET
PR SC COMP
B11N
01A6 B11N
36.31.41
72A3 7285
13-106 72C2
NOT PR SCN COMP CKT1
72A1, 72D5
WM PR
B12N
01A6 B12N
36.31.41
WM PRINT 7283
NOT WM PRINT
71C3, 72C3
START RESET
SS 1
SS RING 1
01A6 A13N
36.31.21
NOT SS RING 1
70 D5
SS 2
SS RING 2
01A6 A14N
36.31.21
NOT SS RING 2
SUBT
70 D1
SS 3
01A6 A15N
36.31.21
NOT ADD SS RING 72A1
NOT SS RING 3
NOT SS RING 3
ADD
70 D1
555 µsec
PSS Pulse
Home Pulse
Home Gate
400 µsec
Home Trigger
PSS Trigger
PSS Ring Tr 1
" " 2
" " 3
PSS Counter 1
" " 2
Run Trigger
PSS Ring

SS1 SS2 SS3

Takt → 0 1 2 3 4 5 6 7 8 9 10 11 0 1 2 3 4 5 6 7 8 9 10 11 0 1 2 3 4 5 6 7 8 9 10 11 0

T 9-11

T 3-5

Reset 1,4,7 usw - 64
67, 70, 73 usw - 130

Reset 2,5,8 usw - 65
68, 71, 74 usw - 131

Reset 3,6,9 usw - 66
69, 72, 75 usw - 132

T 3-9

Prog 3-9 Ein
3-9 Aus

T 5-11

Prog 5-11 Ein
5-11 Aus

← 555 µsek →

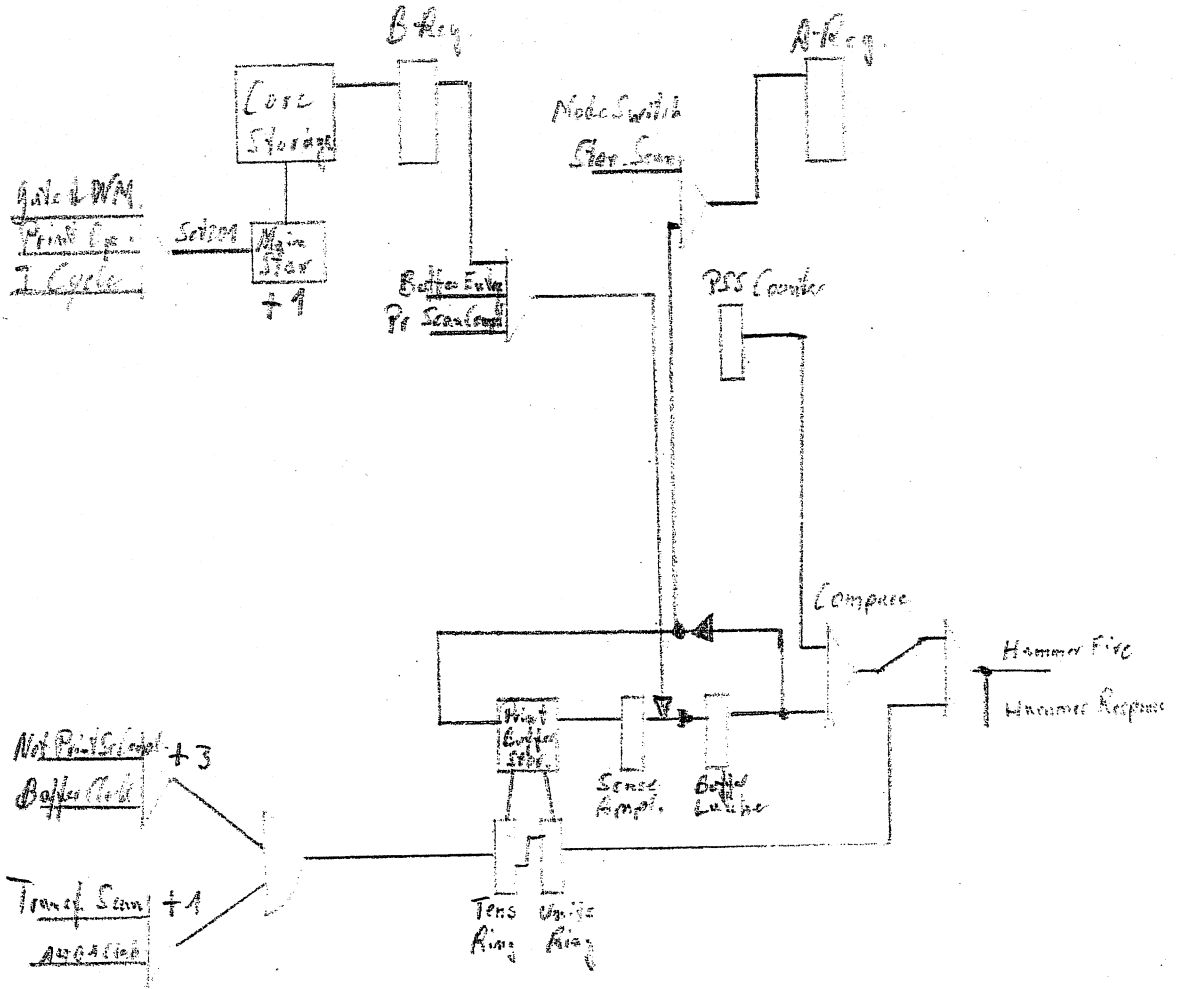
← 1,665 ms. →

Reset Konnex Drive Leitde

Reset
mögliche Erregung

Check

Data Flow Print Buffer



73. PRINT BUFFER STORAGE AND DATA FLOW

PRINT STORAGE LATCHES

74A4 UNIT RING U0 — 46.10.71 — U0 READ LINE FR-2 S-B P-8 — U0 WRITE LINE FR-14 S-D P-7
74A4 UNIT RING U1 — U1 READ LINE — U1 WRITE LINE
74B4 UNIT RING U2 — U2 READ LINE — U2 WRITE LINE
74B4 UNIT RING U3 — U3 READ LINE — U3 WRITE LINE
74B4 UNIT RING U4 — U4 READ LINE — U4 WRITE LINE
74C4 UNIT RING U5 — U5 READ LINE — U5 WRITE LINE
74C4 UNIT RING U6 — U6 READ LINE — U6 WRITE LINE
74C4 UNIT RING U7 — U7 READ LINE — U7 WRITE LINE
74D4 UNIT RING U8 — U8 READ LINE — U8 WRITE LINE
74D4 UNIT RING U9 — U9 READ LINE — U9 WRITE LINE — 46.10.71

TENS RING T0 74A5 — 46.10.81 — T0 READ LINE — T0 WRITE LINE
TENS RING T1 74A5 — T1 READ LINE — T1 WRITE LINE
TENS RING T2 74B5 — T2 READ LINE — T2 WRITE LINE
TENS RING T3 74B5 — T3 READ LINE — T3 WRITE LINE
TENS RING T4 74B5 — T4 READ LINE — T4 WRITE LINE
TENS RING T5 74C5 — T5 READ LINE — T5 WRITE LINE
TENS RING T6 74C5 — T6 READ LINE — T6 WRITE LINE
TENS RING T7 74C5 — T7 READ LINE — T7 WRITE LINE
TENS RING T8 74D5 — T8 READ LINE — T8 WRITE LINE
TENS RING T9 74D5 — T9 READ LINE — T9 WRITE LINE
TENS RING T10 74C6 — 46.10.91 — T10 READ LINE — T10 WRITE LINE
TENS RING T11 74C6 — T11 READ LINE — T11 WRITE LINE
TENS RING T12 74D6 — T12 READ LINE — T12 WRITE LINE
TENS RING T13 74D6 — T13 READ LINE — T12 WRITE LINE

1 SENSE IN FR-6 S-D P-1 — 46.10.61 — 1 PLANE SEN AMP 1 +T 01A4 C01A — B REG 1
1 SENSE OUT FR-6 S-2 P-2
2 SENSE IN — 2 PLANE SEN AMP 2 +T 01A4 C01H — B REG 2
2 SENSE OUT
4 SENSE IN — 4 PLANE SEN AMP 4 +T 01A4 C02A — B REG 4
4 SENSE OUT
8 SENSE IN — 8 PLANE SEN AMP 8 +T 01A4 C02H — B REG 8
8 SENSE OUT
A SENSE IN — A PLANE SEN AMP A +T 01A4 C03A — B REG A
A SENSE OUT
B SENSE IN — B PLANE SEN AMP B +T 01A4 C03H — B REG B
B SENSE OUT
C SENSE IN — C PLANE SEN AMP C +T 01A4 C04A — B REG C
C SENSE OUT
WM SENSE IN — WM PLANE SEN AMP WM +T 01A4 C04H — B REG WM
WM SENSE OUT
PEC SENSE IN — PR ERR CHECK SEN AMP 1 +T 01A4 C05A — I/O CHK RESET
PEC SENSE OUT
PLC SENSE IN — PR LINE COMP SEN AMP 1 +T 01A4 C05H
PLC SENSE OUT
EC SENSE IN — EQUAL CHECK SEN AMP 1 +T 01A4 C06A
EC SENSE OUT
HF SENSE IN — HAMMER FIRE SENSE AMP +T 01A4 C06H
HF SENSE OUT — 46.10.61
74D2 BUFFER ENTRY
RI TIME 030-060 — 46.10.61

1 LATCH — L +U — 01A4 E01C — 46.10.21 — 1 LATCH — 77 C2 — NOT 1 LATCH
2 LATCH — L +U — 01A4 E05C — 46.10.21 — 77 C2
4 LATCH — L +U — 01A4 E07C — 46.10.31
8 LATCH — L +U — 01A4 E12C — 46.10.31
A LATCH — L -T — 01A4 E17A — 46.10.41
B LATCH — L -T — 01A4 E17C — 46.10.41
C LATCH — L +U — 01A4 E01E — 46.10.21
WM LATCH — L +U — 01A4 E05E — 46.10.21
PR ERROR — L +U — 01A4 E07E — 46.10.31 — PR ERROR LATCH 77C3
PL COMP — L — 01A4 E12E — 46.10.31 — PR LINE COMP LATCH 77C3
EQ CK — L -T — 01A4 E17C — 46.10.41 — EQUAL CHECK LATCH 77D3
H FIRE — L -T — 01A4 E17G — 46.10.41 — HAMMER FIRE LATCH 77D2
RO TIME 000-030 74A3

46.36.81
A REG SET 1 10A2 — INHIBIT 1
A REG SET 2 10A2 — INHIBIT 2
A REG SET 4 10A2 — INHIBIT 4
A REG SET 8 10B2 — INHIBIT 8
A REG SET A 10B2 — INHIBIT A
A REG SET B 10B2 — INHIBIT B 10B2
A REG SET C 10B2 — INHIBIT C
A REG SET WM 10C2 — INHIBIT WM
77D4 PR ERR CHK INHIBIT — INHIBIT PR ERR CHECK
77C4 PR LINE COMP INH — INHIBIT PR LINE COMP
PR STOR SCAN A REG RESET 11B1
37.31.11 PR STORAGE SCAN 77D3 — NOT PR STORAGE SCAN 74D2
7682 EQUAL CHECK INHIBIT — INHIBIT EQUAL CHECK
INHABIT SAMPLE 74C3

1 LATCH
2 LATCH
4 LATCH
8 LATCH
A LATCH
B LATCH
WM LATCH

76B5 WM PRINT WM LATCH
B REG 1 AP — 76B1 — B REG NOT 1 AP
B REG 2 AP — 76B1 — B REG NOT 2 AP
B REG 4 AP — 76B1 — B REG NOT 4 AP — B REG 48 AP 77C2
B REG 8 AP — 76B1 — B REG NOT 8 AP
B REG A AP — 76C1 — B REG NOT A AP
B REG B AP — 76C1 — B REG NOT B AP
NOT WM PRINT 7685

NOT 1 LATCH
NOT 2 LATCH
NOT 4 LATCH
NOT 8 LATCH
NOT BUFFER DIGIT 77C2
NOT BUFFER ZONE 77C2

11,1 µsec Beschreibung Seite 122

OSC

75C3 CLOCK CTRL TR
76B4 NOT PR SCN COMP GT
76A4 PRINT SCN
76A3 NOT PRINT READY

CLOCK RUN L -T 01A5 B09G 46.37.21

36.31.21 (NOT) PRINT CLOCK CTRL

TIME 000-030
STORAGE RO GATE
76C5 PR XFER TR
77C5 NOT PRINT STOP

UNITS DRIVE 000-030.

RO TIME 000-030 73D4
+U 01A5 B14H

TA ON
CLOCK TA T A -T 01A5 A10N 46.37.21
TA OFF
TR A
NOT CLOCK CTRL TR 75C3

TIME 030-060
46.37.31
RI TIME 030-060
+U 01A5 B14N

0-60

TB ON
CLOCK TB T B -T 01A5 A11N 46.37.21
TB OFF
NOT TR B

15-75

TIME 060-090
1431 Cu
WO TIME 060-090
+U 01A5 A15H

TC ON
CLOCK TC T C -T 01A5 A12N 46.37.21
TC OFF
TR C 75BI
NOT TR C 75BI

30-90

TIME 090-000
46.37.31
W1 TIME 090-000
+U 01A5 B15H

PRINT SCAN 76A4

TIME 075-000
INHIBIT 73D4
+U 01A5 B15N
46.37.11

TD ON
CLOCK TD T D -T 01A5 A13N 46.37.21
TD OFF
TR D

45-105

75BI

TE ON
CLOCK TE T E -T 01A5 A14N 46.37.21
TE OFF
TR E
NOT TR E

60-000

CLOCK GATE
TRANS 46.37.31
76C6 NOT PR XFER COMP - TRANSFER
CLOCK GT NOT PRSTOR SCAN 73D5
BUFFER ENTRY 73D2
TIME 075-090
TRANSFER 46.37.81
46.37.31
PR CK SAMPLE 77D3, 77B6, 76B2
-T 01A5 D15P
46.37.81

START RESET

TIME 000-030
STORAGE RO GATE 17C6

UNITS RING U7 76B5 NOT PR SCAN COMP
UNITS RING U8
TENS RING T 13
UNITS RING U2
UNITS RING U9

TENS DRIVE T -U 01A5 E16H 46.37.71
RO TIME 000-030
WO TIME 060-090

RING RESET
UNITS DRIVE

UNITS RING U9
76B6 NOT PR XFER COMP - TRANSFER
UNITS RING U7
76B4 NOT PR SCAN COMP

UNITS RING U8
TENS RING T 13
UNITS RING U 0
UNITS RING U 9
UNITS RING U 1
UNITS RING U 0
(NOT) TENS RING T 13
UNITS RING U 1
UNITS RING U 2
UNITS RING U 3
UNITS RING U 4
UNITS RING U 5
UNITS RING U 6

PRINT BUFFER UNITS RING

UNITS U0 T -T 01A5 C07N 46.37.41 — UNITS RING U0 69A1 73A1
UNITS U1 T -T 01A5 C08N 46.37.41 — UNITS RING U1 69A1 73A1
UNITS U2 T -T 01A5 C09N 46.37.41 — UNITS RING U2 69A2 73A1
UNITS U3 T -T 01A5 C10N 46.37.41 — UNITS RING U3 69A2 73B1
UNITS U4 T -T 01A5 C11N 46.37.41 — UNITS RING U4 69A2 73B1
UNITS U5 T -T 01A5 C12N 46.37.51 — UNITS RING U5 69A2 73B1
UNITS U6 T -T 01A5 C13N 46.37.51 — UNITS RING U6 69A3 73C1
UNITS U7 T -T 01A5 C14N 46.37.51 — UNITS RING U7 69A3 73C1
UNITS U8 T -T 01A5 C15N 46.37.51 — UNITS RING U8 69A3 73C1
UNITS U9 T -T 01A5 C16N 46.37.51 — UNITS RING U9 69A4 73D1

PRINT BUFFER TENS RING

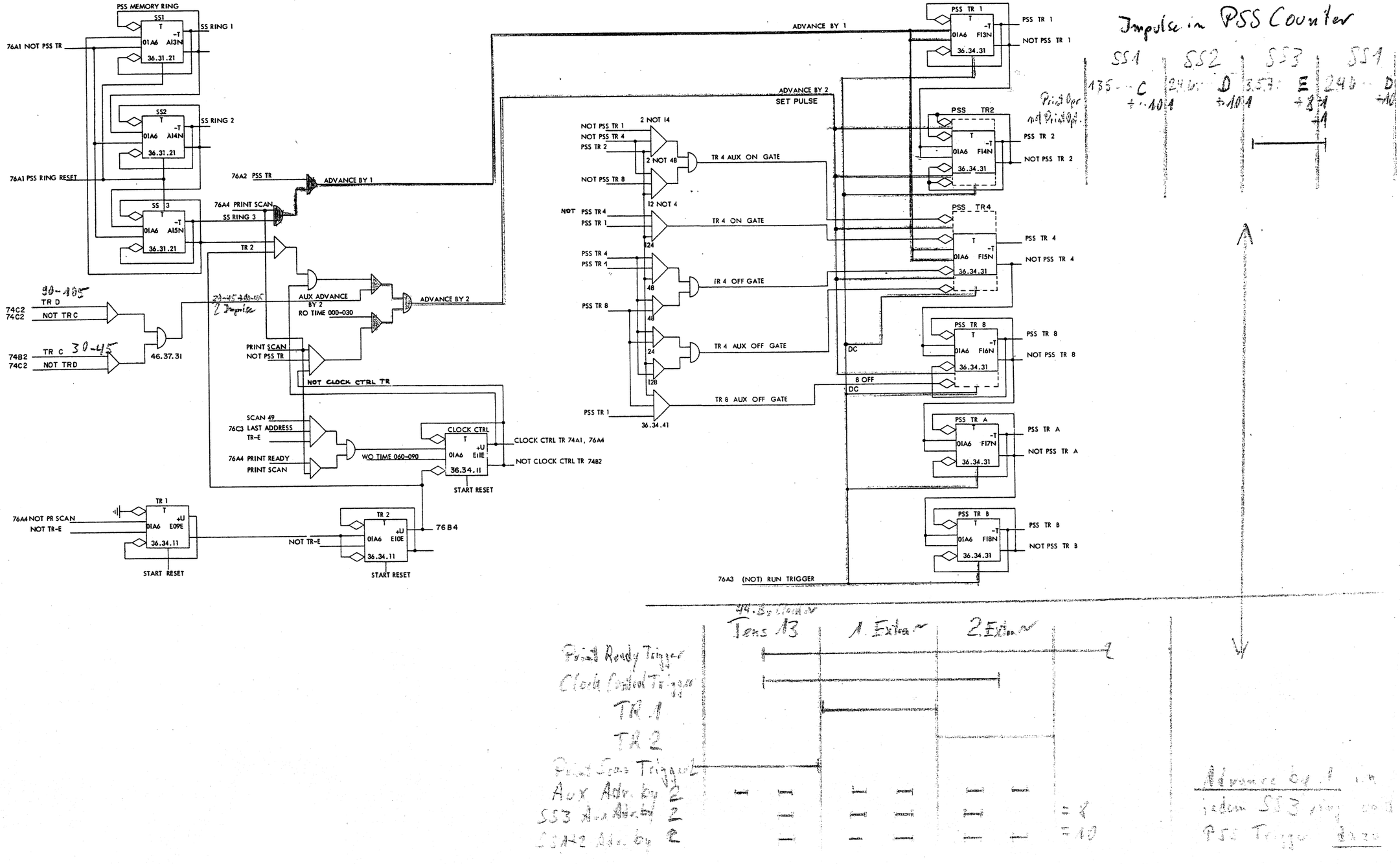
TENS T0 T +T 01A5 D07P 46.37.61 — TENS RING T0 69B1, 73A2
TENS T1 T +T 01A5 D08P 46.37.61 — TENS RING T1 69B1, 73A2
TENS T2 T +T 01A5 D09P 46.37.61 — TENS RING T2 69B1, 73A2
TENS T3 T +T 01A5 D10P 46.37.61 — TENS RING T3 69B2, 73B2
TENS T4 T +T 01A5 D11P 46.37.61 — TENS RING T4 69B2, 73B2
TENS T5 T +T 01A5 D12P 46.37.61 — TENS RING T5 69B2, 73B2
TENS T6 T +T 01A5 D13P 46.37.61 — TENS RING T6 69B3 73C2
TENS T7 T +T 01A5 E07P 46.37.61 — TENS RING T7 69B3 73C2
TENS T8 T +T 01A5 E08P 46.37.61 — TENS RING T8 69B3 73C2
TENS T9 T +T 01A5 E09P 46.37.61 — TENS RING T9 69B4 73D2
TENS T10 T +T 01A5 E10P 46.37.61 — TENS RING T10 69B4, 73D2
TENS T11 T +T 01A5 E11P 46.37.61 — TENS RING T11 69B4, 73D2
TENS T12 T +T 01A5 E12P 46.37.61 — TENS RING T12 69B5, 73D2
TENS T13 T +T 01A5 E13P 46.37.61 — TENS RING T13 73D2, 69B3

TENS T13
TENS RING T13 OFF

RING RESET
RING RESET

TENS DRIVE

76B5 NOT PR SCAN COMP
NOT GATED T13 46.37.91



Impulse in PSS Counter

SS1 SS2 SS3 SS1

135 C 240 D 357 E 240 D

+-1014 +1011 +1011 +11

Print Ready Trigger

Clock Control Trigger

TR 1

TR 2

Print Scan Trigger

Aux Adv. by 2

SS3 Aux Adv. by 2

SS1 Aux Adv. by 2

99 Buffers

Tens 13 1. Extens. 2. Extens.

= 8

= 10

Advance by 1 in

Position SS3 and SS1

PSS Trigger

NOT PSS SS
PSS TR
PSS TR
400 μ/SEC
SENSE AMP
PSS
SS
01A6 A09N
36.31.01
NOT PSS TR
36.31.11
PSS DRUM
HOME
01A6 A10N
36.31.11
7782
HOME TR
A10N
7784
NOT EO CHK RESET
HOME ERROR
RUN
01A6 A11N
36.31.11
RUN TRIGGER
76C5
76 D4
TENS DRIVE T 13
NOT UNITS DRV U2
WO TIME 060-090
TR-E
76A4 PRINT SCN
PSS RING RESET
PSS TR
75A1 CHAIN INLK
21.04.11
TO PSS RING
75A1
76C6 NOT PR XFER COMP
76C5 NOT PR XFER
37.31.11 NOT PR STORAGE SCAN
PRINT INITIATE
+T 01A6 C11A
(30-000 OF LAST TRANSFER B CYCLE)
PRINT READY START
PR READY
01A6 B09N
36.31.31
START RESET
PRINT SCAN
PR SCAN
NOT PR READY
NOT TR-E
01A6 B10N
36.31.41
CLOCK CTRL TR
75C3
PRINT SCAN 75B2, 74C2, 74A1, 77C3
PRINT SCAN 76B2, 77D3, 76A1
NOT PRINT SCAN 75C1
PR SCAN COMP
72A2 NOT FIRST SCAN
RESET CHECK
7786
PRINT COMPARE
PR LINE COMP LATCH
NOTE: JUMPER FOR TROUBLE SHOOTING. ALLOWS PRINTING TO BEGIN AT HOME TIME ONLY
NOT FIRST SCN
72A2
36.31.31
FORMS INLK
SS RING 3
FIRST SCAN
7884 NOT CAR INLK
16 MS
7884 CAR INLK
SS
1
B07H
ADR 132
7282 NOT SCAN 49
CIRCUIT 1
WO TIME 060-090
37 30.11 STORAGE PRINT OUT
76B5 NOT WM PRINT
ST PR OUT
36.31.31
36.31.71
132
TENS DRIVE T 13
UNITS DRIVE U 2
LAST ADDRESS
75C2
PRINT OPR
A REG LOZENGE
76C6 NOT PR XFER COMP TR
STORAGE PRINT OUT
37.30.11
WM PR
+U
01A6 B12H
36.31.41
WM PRINT
NOT WM PRINT
START RESET
7282 SCAN 49
SCAN 2 CTR
START RESET
7282 SCAN 49
75C2 TR 2
75B1 SS RING 3
NOT TR-E
74C2
PR SCN COMP
01A6 B11N
36.31.41
PR SCAN COMP
76C3, 77A3
NOT PR SCAN COMP
7783, 74D1
76A1 PSS TR
STORAGE PRINT OUT
NOT CLOCK CTRL EXPST
CLOCK CTRL RAMAC
NOT PRINT READY 01 B1
36.31.51.2
A REG 4 NOT B
A REG 2 1
A REG B NOT A
PR OR CARR BUSY 34.21.41. 36 C1
-T 01A6 F22N (ALLOW BRANCHING)
A REG B NOT 4
A REG 1 NOT 2
78 D3 CAR INLK CTRL
36.01.11
7401 CLOCK CONTROL
36.31.51
NOT RING 1
NOT PSS TR 1
B REG 1 AP
PSS TR 1
B REG NOT 1 AP
NOT PSS TR 2
B REG 2 AP
PSS TR 2
B REG NOT 2 AP
NOT PSS TR 4
B REG 4 AP
PSS TR 4
B REG NOT 4 AP
NOT PSS TR 8
B REG 8 AP
PSS TR 8
B REG NOT 8 AP
NOT PSS TR A
B REG A AP
PSS TR A
B REG NOT A AP
NOT PSS TR B
B REG B AP
PSS TR B
B REG NOT B AP
WØ TIME 060-090
HUNDREDS TR
NOT TR-E
BLOCK COMP
+T
01A6 D06P
36.33.21
77D3
76 A4 PRINT SCAN
36.33.21
76A4 PRINT SCAN
7282 NOT SCAN 49
(NOT) RESET CHECK 67-132
77 B3,C3
A REG A NOT B
A REG 2 NOT 1
A REG B NOT 4
PR ERR
1 Character
PR COMPARE
NOT TRE
000-060
36.33.24
EQUAL CHECK INHIBIT
73 D4
74 D3 PRCK SAMPLE
COMP EQUAL SAMPLE
69 A4
RUN
7685 PR SCAN COMP
45C5 BRANCH
31.02.11 NOT PROC CHK STP
TIME 045-060
DELTA PROCESS
U 01A6 B17N
36.31.61
Δ Process on
NOT OVLP CYCLE
NOT OVLP INLK
TIME 045-060
7884 NOT CAR INLK
CH 9
A REG 1 NOT 2
A REG 8 NOT 4
A REG NOT AB
CH 12
A REG 84
A REG NOT 21
Channel 9 Character
66 C5 PR x FER
76 B4 PR SCAN COMPTR
76 C6 NOT PR XTER COMPTR
x FER INLK
START RESET
NOT RUN MODE
NOT PROC CHEC STOP
14A2
PROC CHECK STOP
76 D4 PRINT INLK
PR x FER COMP
GATED WM
1 CYCLE LAT
PRINT OPR
RUN
1-E SNG CY
DELTA PROC
NOT SNG CY
NON PROCESS
132
TIME 045-075
SET 201
+U 01A6 B01N
36.31.31
RI TIME 030-060
PR x FER COMP
PRINT STOR SCAN
START
STPR OUT
37.30.11 STORAGE PRINT OUT
SET 201
EXPST
NOTE: SET 202 AND +U SET SET 203 HELD DOWN BY TYING TO -12 VOLTAGE PIN.
PRINT XFER
01A6 B04N
36.31.51
START RESET
NOT PR XFER COMP
PR STORAGE SGN CY CTRL
PR XFER 74 A2
76A3
PR INLK RD 60A1
PR INLK PCH 62A1
TIME 000-030
PR XF COMP
01A6 B05N
36.31.51
START RESET
PR XFER COMP 77A3
NOT PR XFER COMP 76A3, 76A5, 74D2, 74A3
+1
74D2
PLUS 3 CTRL MOD 11 C2
TO TRANS B REG
36.31.
PR XFER
RO TIME 000-030
NOT PR SCN COMP
78A4 CAR INLK BRANCH
PR SCAN END
14 D2
36.31.61
XFER END
NOT PR SCAN COMP
LAST ADDRESS
PR SCAN END EXP ST
60C5 RD-PCH SCAN COMP
TIME 105-000
ALL SCN
01A6 F21N
36.01.11
ALL SCAN COMP
1382
NOT ALL SCAN COMP
START RESET
Δ Process
77 D5 PRINT ERROR
110 CHECK STOP SW ON
PRINT STOP
77 B4 HOME ERROR
76 A3 NOT RUNTR
PRINT X FER
PRINT INTERLOCK
76 D1
Transfer Process
Print Operation
Print Scan Comp
Print XFer Tr.
Overlap 2 Words

PRINT SUBSCANS (Stage 1 only)

Connect 01A6/B02/N MIT 01A6/D17/F, BEI PF D04/B

20 30 40 50 60 70 80 90 00 110 120 130 ON BUFFER PRINT MOD IS +11 EXCEPT ON SUBSCAN 3 WHEN IT IS +8

PRINT SCAN 01

PRINT SCAN 02

PRINT SCAN 03

PRINT SCAN 04

PRINT SCAN 05

PRINT SCAN 06

PRINT SCAN 07

PRINT SCAN 08

PRINT SCAN 09

PRINT SCAN 10

PRINT SCAN 11

PRINT SCAN 12

PRINT SCAN 13

PRINT SCAN 14

PRINT SCAN 15

PRINT SCAN 16

PRINT SCAN 17

PRINT SCAN 18

PRINT SCAN 19

PRINT SCAN 20

PRINT SCAN 21

PRINT SCAN 22

PRINT SCAN 23

PRINT SCAN 24

PRINT SCAN 25

PRINT SCAN 26

PRINT SCAN 27

PRINT SCAN 28

PRINT SCAN 29

PRINT SCAN 30

PRINT SCAN 31

PRINT SCAN 32

PRINT SCAN 33

PRINT SCAN 34

PRINT SCAN 35

PRINT SCAN 36

PRINT SCAN 37

PRINT SCAN 38

PRINT SCAN 39

PRINT SCAN 40

PRINT SCAN 41

PRINT SCAN 42

PRINT SCAN 43

PRINT SCAN 44

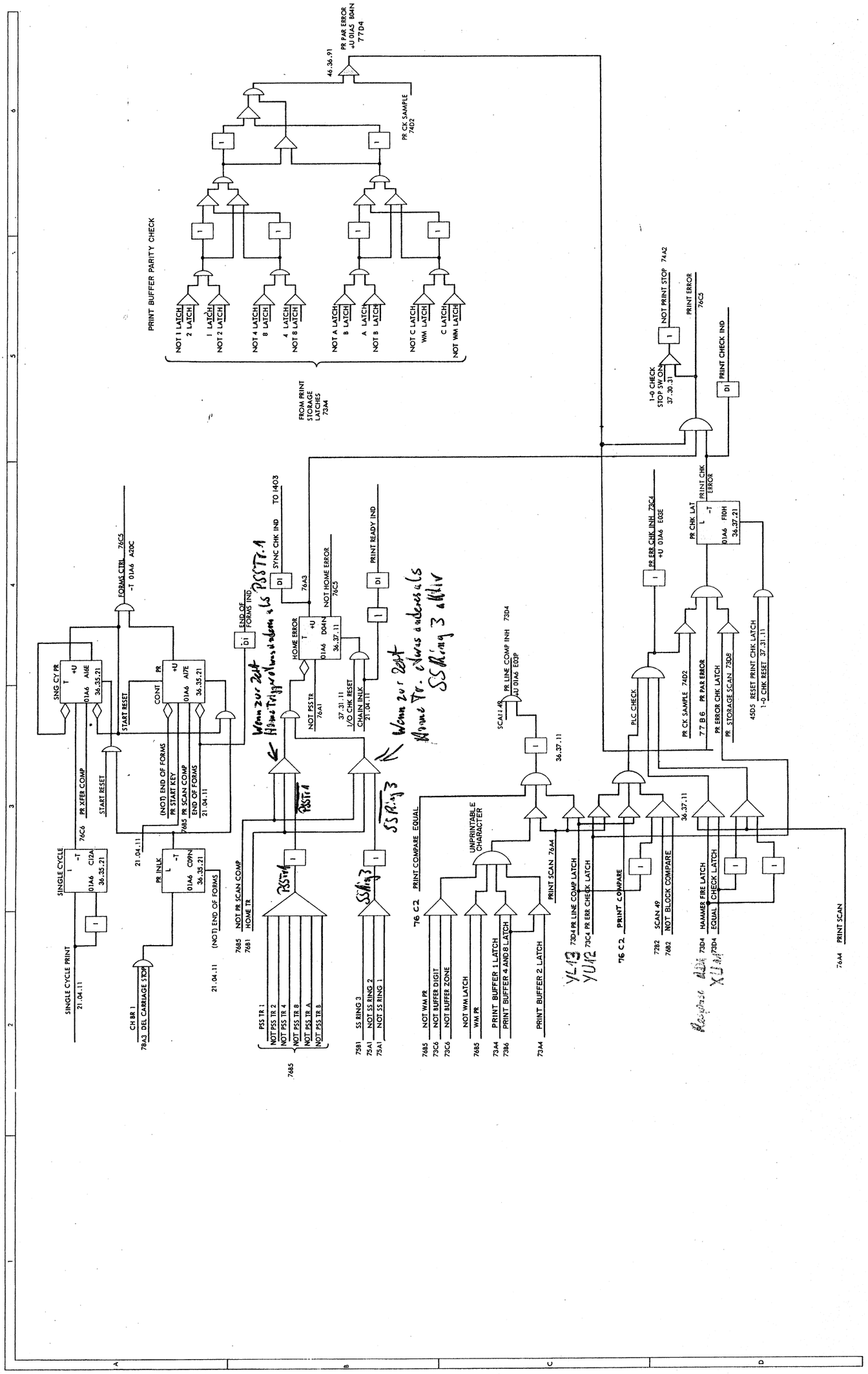
PRINT SCAN 45

PRINT SCAN 46

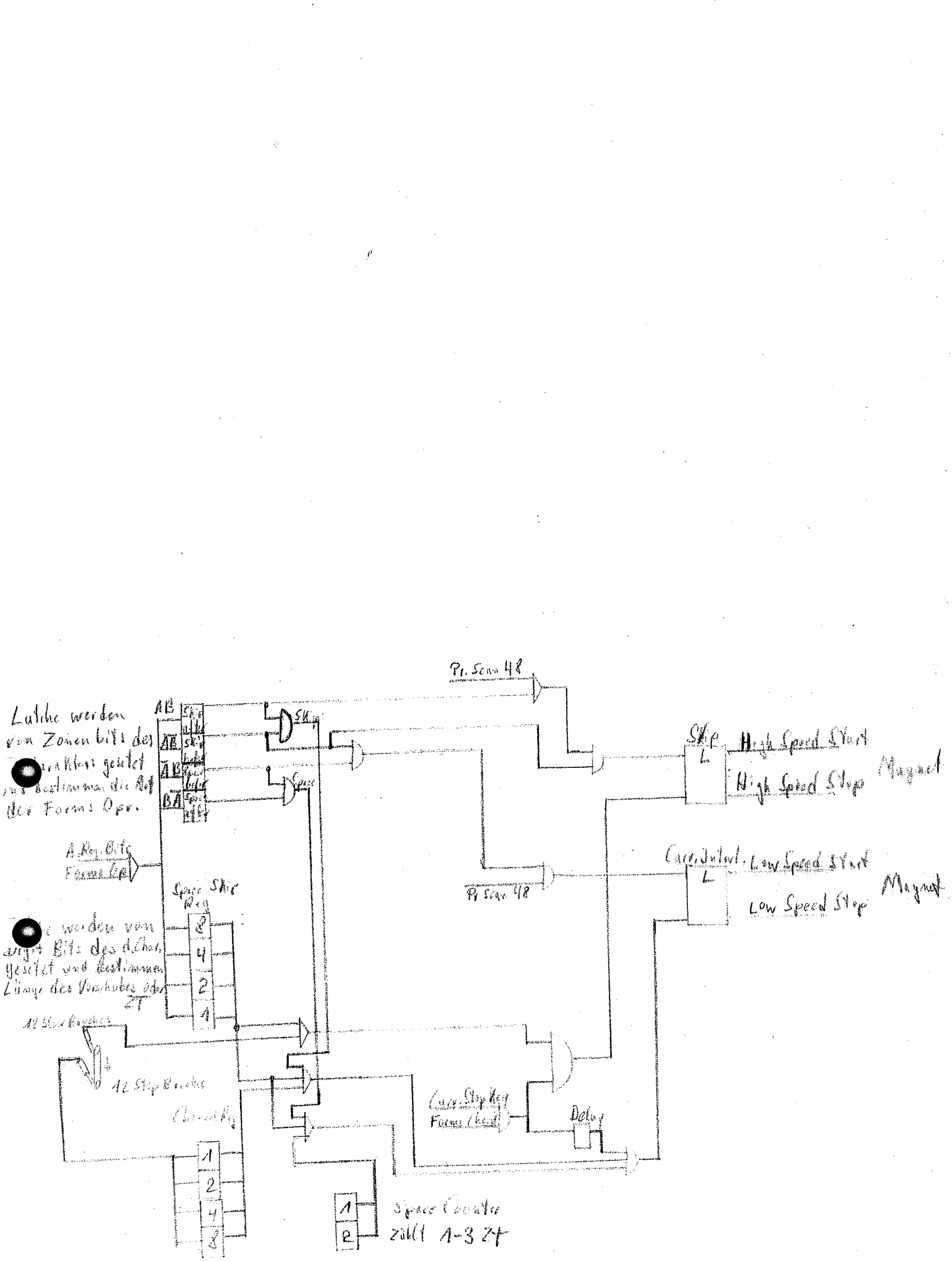
PRINT SCAN 47

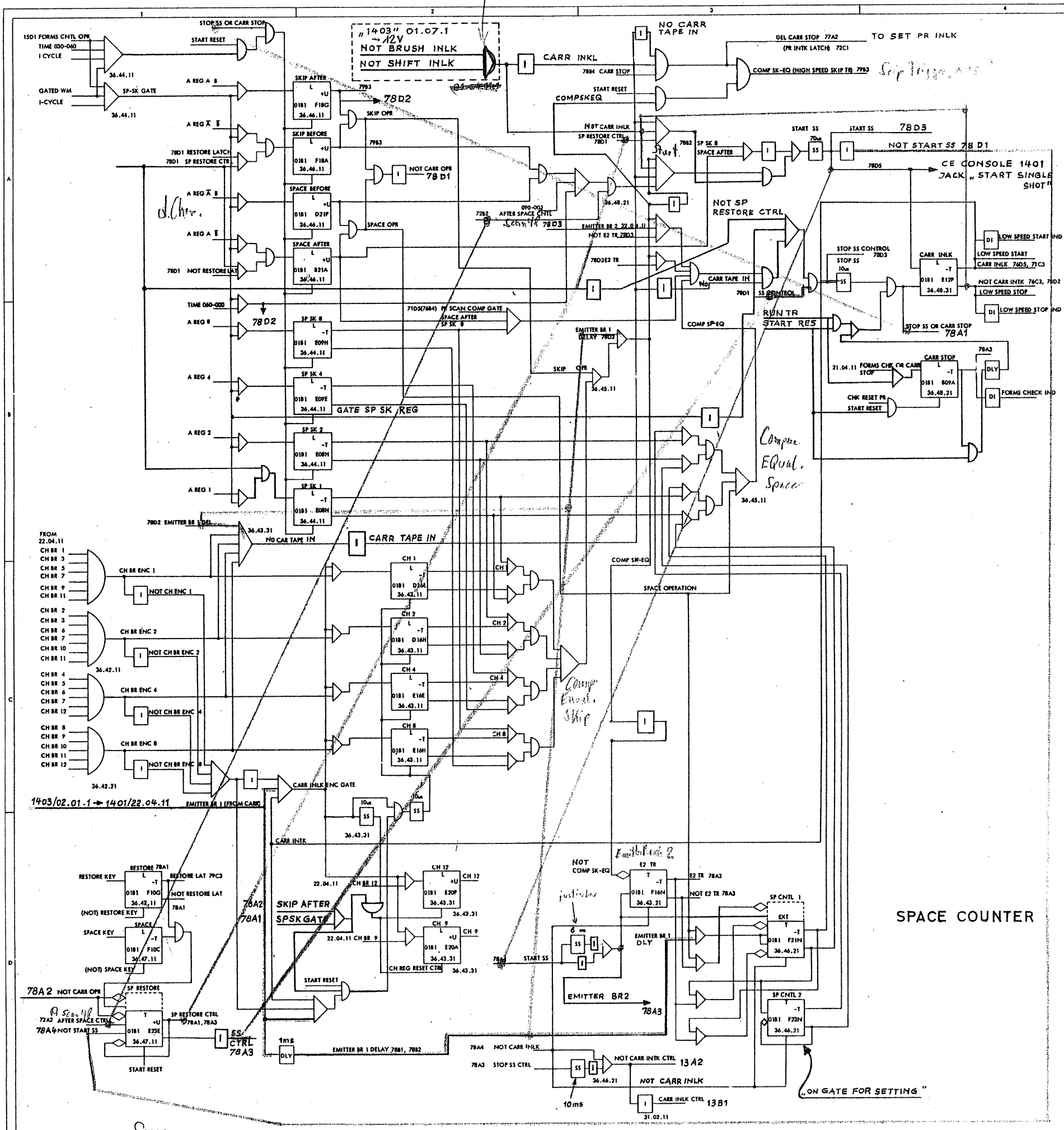
PRINT SCAN 48 ← D

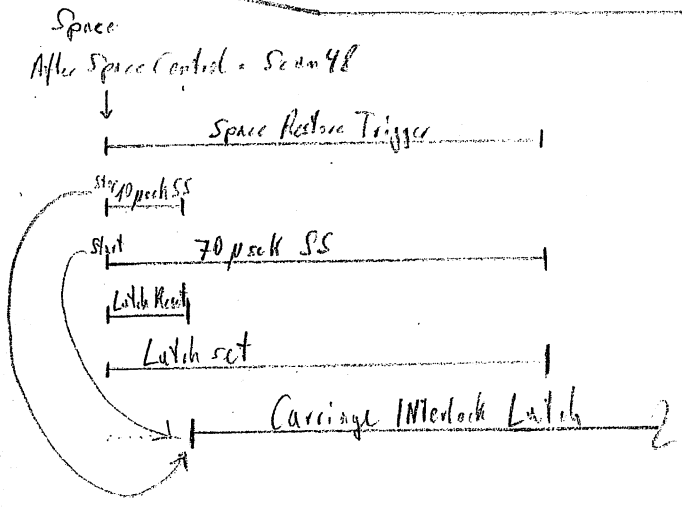
PRINT SCAN 49



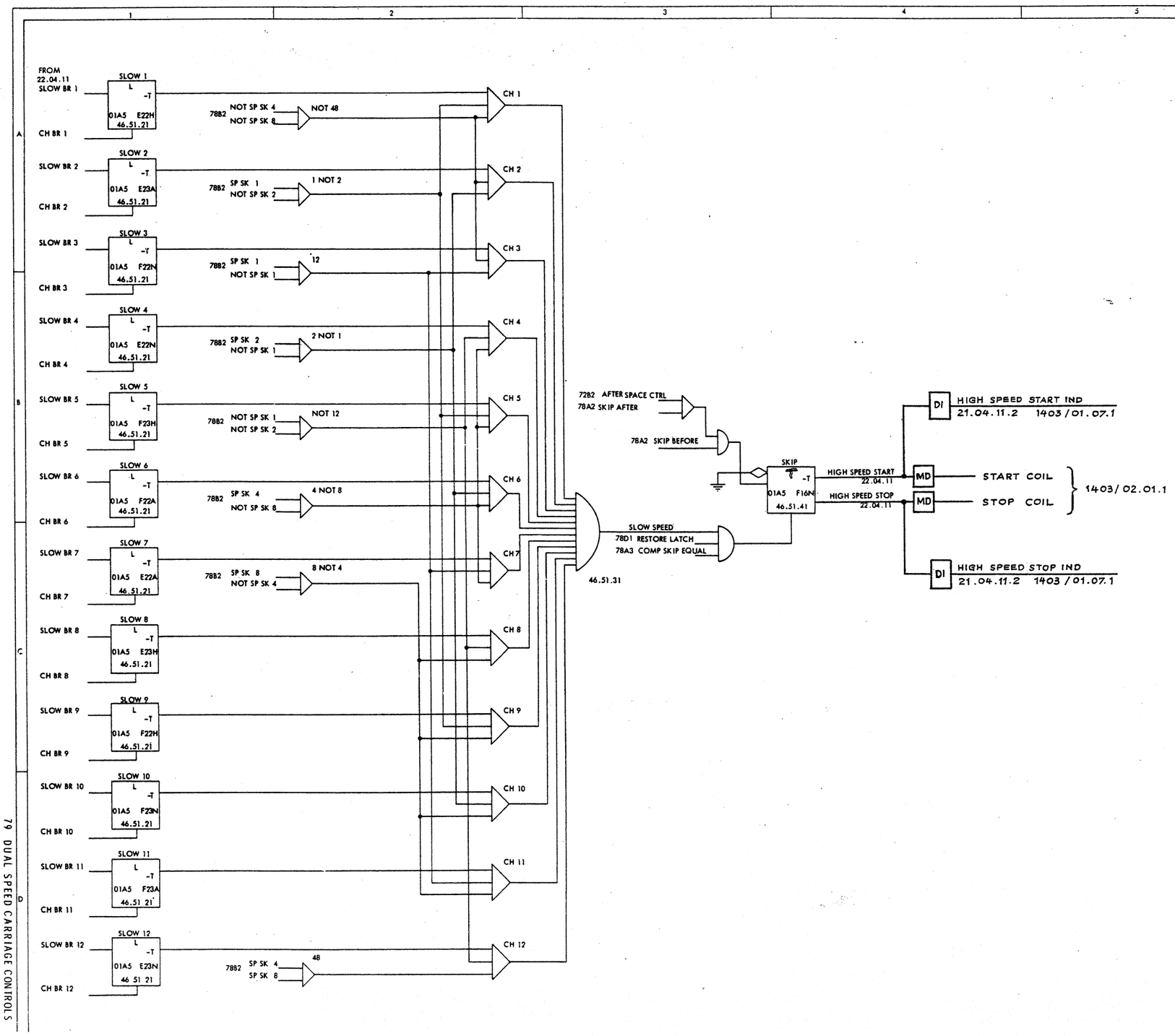
77. PRINT BUFFER CONTROLS


Pl. Scan 48
Latche werden vom Zonen bits des
Formats gesetzt
A Reg. Bits Formular
Space Shift Reg
8
4
2
1
12 Step Counter
Counter
1
2
4
8
Pl. Scan 48
Shift
High Speed Start
High Speed Stop
Magnet
Carr. Jubil.
Low Speed Start
Low Speed Stop
Magnet
Carr. Stop Key Formular (hand)
Delay
1
2
Space Counter
zählt 1-3 ZT





78 CARRIAGE CONTROLS


FROM 22.04.11 SLOW BR 1
SLOW 1 L -T 01A5 E22H 46.51.21
CH BR 1
SLOW BR 2
SLOW 2 L -T 01A5 E23A 46.51.21
CH BR 2
SLOW BR 3
SLOW 3 L -T 01A5 F22N 46.51.21
CH BR 3
SLOW BR 4
SLOW 4 L -T 01A5 E22N 46.51.21
CH BR 4
SLOW BR 5
SLOW 5 L -T 01A5 F23H 46.51.21
CH BR 5
SLOW BR 6
SLOW 6 L -T 01A5 F22A 46.51.21
CH BR 6
SLOW BR 7
SLOW 7 L -T 01A5 E22A 46.51.21
CH BR 7
SLOW BR 8
SLOW 8 L -T 01A5 E23H 46.51.21
CH BR 8
SLOW BR 9
SLOW 9 L -T 01A5 F22H 46.51.21
CH BR 9
SLOW BR 10
SLOW 10 L -T 01A5 F23N 46.51.21
CH BR 10
SLOW BR 11
SLOW 11 L -T 01A5 F23A 46.51.21
CH BR 11
SLOW BR 12
SLOW 12 L -T 01A5 E23N 46 51 21
CH BR 12
78B2 NOT SP SK 4
NOT SP SK 8
NOT 48
78B2 SP SK 1
NOT SP SK 2
1 NOT 2
78B2 SP SK 1
NOT SP SK 1
12
78B2 SP SK 2
NOT SP SK 1
2 NOT 1
78B2 NOT SP SK 1
NOT SP SK 2
NOT 12
78B2 SP SK 4
NOT SP SK 8
4 NOT 8
78B2 SP SK 8
NOT SP SK 4
8 NOT 4
78B2 SP SK 4
SP SK 8
48
CH 1
CH 2
CH 3
CH 4
CH 5
CH 6
CH 7
CH 8
CH 9
CH 10
CH 11
CH 12
72B2 AFTER SPACE CTRL
78A2 SKIP AFTER
78A2 SKIP BEFORE
SKIP -T 01A5 F16N 46.51.41
HIGH SPEED START 22.04.11
HIGH SPEED STOP 22.04.11
SLOW SPEED
78D1 RESTORE LATCH
78A3 COMP SKIP EQUAL
46.51.31
MD START COIL
MD STOP COIL
1403/02.01.1
DI HIGH SPEED START IND
21.04.11.2 1403/01.07.1
DI HIGH SPEED STOP IND
21.04.11.2 1403/01.07.1
79 DUAL SPEED CARRIAGE CONTROLS

Rot 2.3.1980

Progr RV 230 CO4 Remind Bleiben

weil Load Point vom CO3 schuldig bleibt!

Load Pt Lampe zu spät Reset (an Indicator zu sehen)

- U Load Pt (71.31.21.)

LP Lampe (09.60.02)

DB2 Karte im 02 BL CO8 - CO3 getauscht

A. B System CO9 wird nicht benutzt

OP = 'M'

OP REG B
OP REG A
OP REG 4
OP REG 1
OP REG 2
OP REG 8

NOT PREVENT B ADR READ IN

B CYCLE
MOVE OP
I/E CHANGE
CYCLE CONTROL SHEET 1

A WM LATCH

OP REG C
OP CODES
PROCESS LATCH
NOT I RING OP
TIME 030-060
OPR CHECK

A REG INHIBIT
NOT BLOCK B CY
A REG ZONE INHIBIT

A REG DIGIT INHIBIT

LOAD OPR
MOVE OPR
COMPARE OPR
I/E CONTROL 1

NOT GATED WM
15D3 NOT NO OP
DELTA PROC
I RING 1
71.71.11.2 NO MAN OP
A REG A 8
A REG 8 4
A REG 1 2
TIME 075-105
70.11.21

A = '0' (I1)

UNIT SEL
TIME 090-000
UNIT SEL GATE
70.11.21
I RING 3

85 A4 UNIT SEL LOAD

UNIT SEL
L
ON +U
OFF
70.11.21.

TIME 045 - 075
UNIT SELECT
UNIT RESET
TAPE + 1 MOD 19C2

80C2 NOT READ WRITE GT
80C4 FORCED GM
RESET UNIT SEL
1 OP

DELTA B CYC LATCH
B CYCLE LATCH
READ WRITE GATE
GM
A REG 1 2
A REG 8 4
A REG 8 A
NOT READ WRITE GATE 80B1
83C4 A REG INH 11C3
37.30.11 2 NOT RUN

TIME 000-015
A REG RESET TAPES 11B1
RD CALL
70.11.21
RD CALL LOAD B5A4

85 B3 LOAD TAPE
I RING 2
TIME 030-060
REDUNDANCY
L
ON -T
OFF -T
70.61.31.
(NOT)GATED WM
O ODD REDUNDANCY 80A4
E EVEN REDUNDANCY 80A5
NOT MANUAL OPR

A02 = 'B' (binary)

I RING 2
TIME 075-105
A REG A B
A REG 8 4
A REG 2 1

READ OP
PUNCH OP
PRINT OP
I/O OPS
ZONE TEST OPR
SIT TEST OPR
ARITH READR
CLEAR OPR
A CYCLE ELIM

EDIT A CYCLE ELIM
B CYCLE
BRANCH OPR
CALC A CYCLE ELIM

A CYCLE ELIM
I CYC LATCH & I/E CHANGE
DELTA B CYCLE
8382 BRANCH
A REG B 8
A REG 2 1
A REG 8 4
SEL + T I ON
A1.02.35
E OF TEST
73.11.31.2

84A5 UNIT SEL
NOT COMPRESSED WD
B REG 1
85A4 NOT LD TAPE LATCH
B REG 2
B REG 8
B REG 4
70.51.21

B REG A
B REG WM CKT
B REG B
DISCONNECT 81D1 81D3

A REG 1 2
A REG 4 8
71.71.11.2 NO MAN OP
TAPE LOAD SET TU1
71.71.21.2
MAN SEL T U 1
71.11.11
TU 1
L
ON -T
OFF
71.11.11
SELECT TAPE UNIT

A REG 2 1
A REG 4 8
71.11.31
MAN SEL T U 6
71.71.11.2
LOAD TAPE
8583
TU 6
L
ON -T
OFF
71.11.31.

A REG 2 1
A REG 4 8
A REG A 8
80C3 (NOT)RD CALL
WRITE CALL
1 CYCLE LATCH

81D2 NOT READRLAT
80D2 NOT DISCONNECT
UNIT WRITE GATE
70.51.31
81D1

WS ON TAPE
NOT WM OR C BIT
WM OR C BIT
80C3 ODD REDUN
MAN C BIT
C DATA LINE TAU

80C3 EVEN REDUN
B REG BLANK
MAN A BIT
B REG A
A DATA LINE TAU
MAN B BIT
B REG B
B DATA LINE TAU
MAN 8 BIT
B REG 8
8 DATA LINE TAU
70.51.21
B REG 4
MAN 4 BIT
4 DATA LINE TAU
B REG 2
2 DATA LINE TAU
MAN 2 BIT
MAN 1 BIT
1 DATA LINE TAU
81D3 WS ON TAPE

A1.02.30

TAPE CLOCK 80D4
EVEN REDUN
NOT C TAU
80C3
ODD REDUN
C DATA TAU
R.D. GATE
B DATA TAU
A DATA TAU
A1.02.35
8 DATA TAU
4 DATA TAU
2 DATA TAU
1 DATA TAU
71.61.11
SET C BIT A REG
C DATA
SET B BIT A REG
B DATA
SET A BIT A REG
A DATA
SET 8 BIT A REG
8 DATA
SET 4 BIT A REG
4 DATA
SET 2 BIT A REG
2 DATA
SET 1 BIT A REG
1 DATA
10x2
SET A REG C TAPE
SET A REG B TAPE
SET A REG A TAPE
SET A REG 8 TAPE
SET A REG 4 TAPE
SET A REG 2 TAPE
SET A REG 1 TAPE
70.61.21
FORCED GM SET

A1.02.35 RC 7 TAU
A1.02.35 WC 3 TAU
CLOCK START
ON -T
OFF
71.31.21.
TIME 000-030
TIME 000-015 TAU NOT BUSY
FORCED I/E CHANGE 80B1 8584
RD CALL
L
ON +U
OFF
70.11.21.
P READ CALL
H
A1.02.35 CHECK CHAR TAU
FORCED GM 13C3
11C
01 B1
TIME 090-000
NOT READ-WRITE GATE
80C3 TAPE PRDG-SKIP
TAPE CLOCK 80 B5
CLOCK CTRL 01 B1
70.11.41

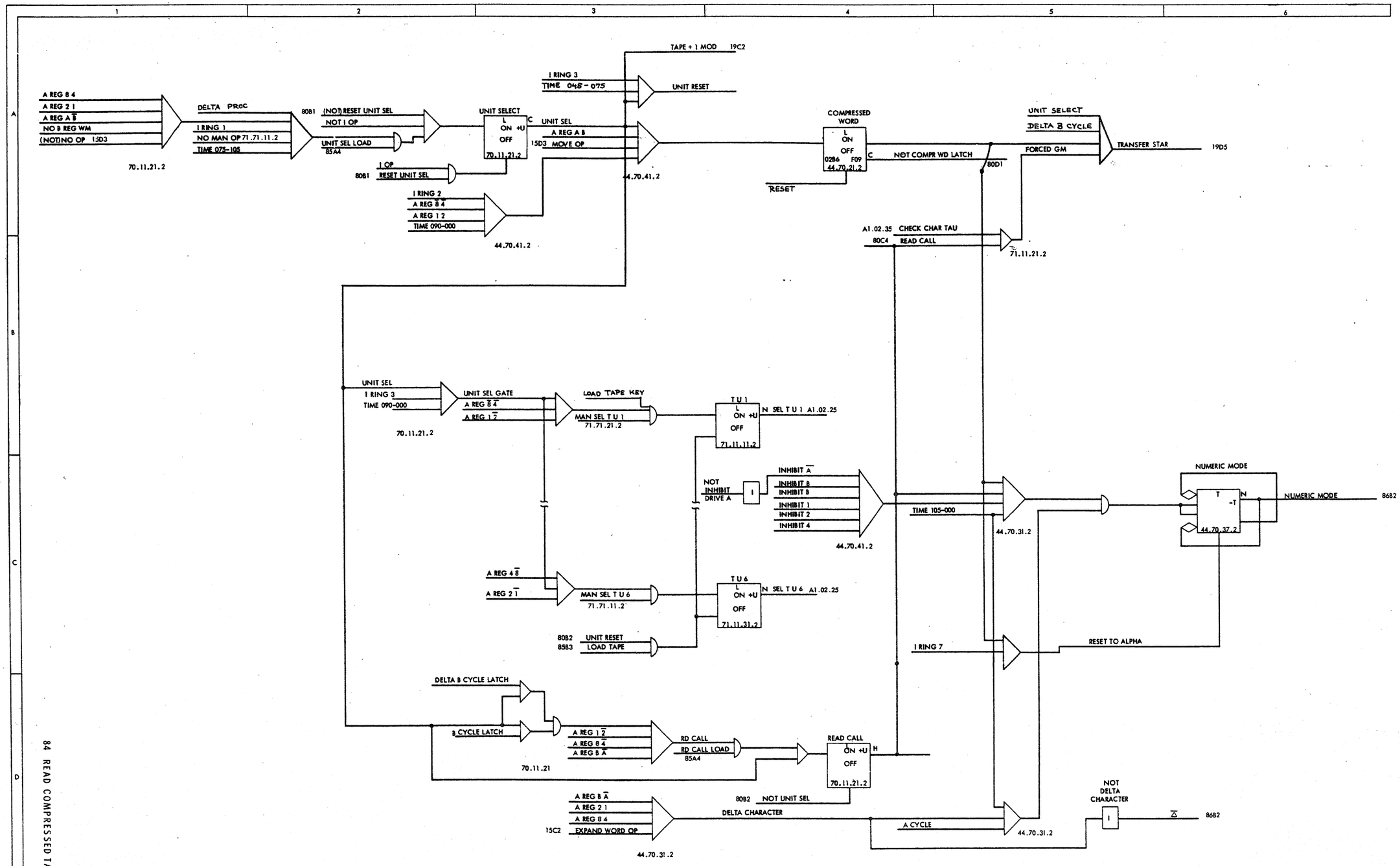
A REG C
70.61.31
BLANK SAMPLE
A REG 2 1
A REG 8 4
A REG A 8
BLANK
FORCE INHIBIT CD CZ 10C4
NOT WRITE CALL
A REG INHIBIT ZONE DIGIT 11C3
70.61.41

80 READ AND WRITE TAPE

81 READ AND WRITE TAPE WITH LOAD MARKS

OP REG $\overline{8}$
OP REG A
OP REG 4
OP REG $\overline{8}$
OP REG $\overline{2}$
OP REG $\overline{1}$
U OP CODE
35.23.11.2
35.26.11.2
DELTA PROC
1 RING 1
71.71.11.2 NO MAN OP
A REG A $\overline{8}$
A REG 8 4
A REG $\overline{2}$ $\overline{1}$
TIME 075-105
UNIT SEL
15D3 NOT NO OP
NOT B REG WM
70.11.21.2
85A4 UNIT SEL LOAD
80C2 NOT READ WRITE GATE
80C4 FORCED GM
RESET UNIT SEL
1 OP
UNIT SEL
L
ON +UC
OFF
70.11.21.2
TIME 090-000
1 RING 3
70.11.21.2
TIME 045-075
UNIT RESET
TAPE +1 MOD
19C2
A REG 1 $\overline{2}$
A REG 4 $\overline{8}$
NO MAN OP
LOAD TAPE KEY
MAN SEL T U 1
71.71.21.2
T U 1
L
ON -T
OFF
71.11.11.2
N A1.02.25
A REG 2 $\overline{1}$
A REG 4 $\overline{8}$
MAN SEL TU 6
71.71.11.2
85B3 LOAD TAPE
T U 6
L
ON -T
OFF
71.11.31.2
N A1.02.25
1
U OP CODE GATE
B REG WM
70.11.21.2
1384 PROCESS
A REG 4 $\overline{8}$
A REG B $\overline{A}$
A REG $\overline{2}$ $\overline{1}$
WRITE TM
TIME 075-105
70.11.41.2
MAN WRITE TM
71.71.31.2
WRITE TM CALL
71.71.61
85D4
REDUNDANCY
L
ON -T N
OFF -T E EVEN REDUN
70.61.31.2
1 RING 2
TIME 030-060
NOT LOAD TAPE
85B3
A1.02.35 LOAD POINT
A REG B $\overline{A}$
A REG 1 $\overline{2}$
A REG 8 $\overline{4}$
REWIND TAPE
MAN REWIND
71.71.31.2
REWIND CALL
SEL + REWIND TAU
A1.02.35
71.11.21.2
A REG 1 $\overline{2}$
A REG A B
A REG 4 $\overline{8}$
ERASE TAPE
NOT I/O SEL
73.11.11.2
MAN ERASE CALL
71.71.31.2
ERASE CALL
71.11.21.2
A REG A B
A REG $\overline{8}$ $\overline{4}$
A REG 2 $\overline{1}$
1384 PROCESS
BACKSPACE
TIME 075-105
71.11.21.2
MAN BACKSPACE CALL
85D4
BACKSPACE CALL
71.31.21.2
A1.02.35 LOAD POINT
A REG 4 $\overline{8}$
A REG A $\overline{B}$
A REG $\overline{2}$ $\overline{1}$
REWIND + UNLOAD
SEL + REWIND TAU
A1.02.35
71.11.21.2
A1.02.35 TAU BUSY
TAPE CLOCK
71.31.21.2
80D3

OP REG A
OP REG B
OP REG 2
OP REG $\overline{B}$
OP REG $\overline{4}$
OP REG $\overline{T}$
BRANCH OPR.
A1.02.35 TAU BUSY
71.31.11
TURN OFF DELTA PROCESS 13B3
.A REG $\overline{BA}$
A REG $\overline{B4}$
A REG 21
37.30.11.2 RUN
71.71.21.2 NOT MAN OPR.
A1.02.35
NOT BUSY TAU
13A2 NOT PROC.CHK.STOP
TIME 045-060
DELTA P ON 13A3
TAPE RESET
71.71.21.2 MAN. OP.
71.71.21.2
START RESET
NOT MAN. OP
71.71.21.2
MACH RESET A1.02.30
TURN OFF T.I. A1.02.30
GATED WM
1 RING 5
34.21.31.2
BRANCH 80D3
TIME 090-030
E OF TEST
1
NOT E OF
NOT UNIT SEL
A REG $\overline{B4}$
A REG $\overline{B}$ $\overline{A}$
A REG 2 $\overline{T}$
A1.02.35 SEL. + TI ON
TIME 045-075
70.11.41.2
NOT RD. WR. GATE
80C3
82D6 TAPE CLOCK
80C4 FORCED GM
CLOCK CONTROL 01B1
FORCED I/E CHANGE 13C3
A REG B $\overline{A}$
A REG $\overline{B4}$
A REG 21
A1.02.35 TAU ERROR
ERROR TEST
TAPE PROG. SKIP 14B3
A1.02.35
1 CYC. LTCH
TAU NOT BUSY
37.30.11.2 NOT RUN
NOT GATED WM
NOT MANUAL OPR
70.11.41.2



84 READ COMPRESSED TAPE

37.30.31.2 START RESET
71.71.21.2 NO MAN OP
A1.02.30
MACHINE RESET
71.71.31.2 TAPE RESET
71.71.21.2
MAN OPR
71.71.21.2
TURN OFF T 1
A1.02.30

71.71.11.2 LOAD TAPE SW
LOAD TAPE SWITCH
ON +T
OFF
02A1 D10
71.71.21.2
H
1 OP
IM SEC
SS
I/O LOAD
73.12.11.2
13B4 PROCESS
LOAD TAPE
ON +U
OFF
02A1 C16
71.71.21.2
G
A
1 OP
OP DECODE 8 Ā
OP DECODE 2 1 B̄2̄
RD CALL LOAD 80C3
UNIT SEL LOAD 81A1
SEL T U 1 LOAD 80A3
LOAD TAPE RESET
80C5 GROUP MARK
GENERATE 001 14C4
71.71.21.2
TIME 060-075
DELTA P ON 13A3

73.12.11.2 NOT I/O LOAD
LOAD TAPE 80C2 80B3 82C3
71.71.21.2

A1.02.35
WD 32
WD 80
WD 768
71.71.31.2
CONTINUOUS OP
A1.02.35 TI ON
71.71.61.2
MAN WRITE 71.71.31.2
SINGLE SHOT START 85C2
MAN WRITE DISC A1.02.30
MAN WRITE CALL A1.02.30

A1.02.35 NOT SEL + T I ON
4.5M Sec
SS
71.71.21.2 MAN OP
71.71.21.2 BKSP SW N-C
71.71.31.2 MAN RD
71.11.21.2
DIAGNOSTIC READ CALL
MAN READ CALL
MAN READ CALL A1.02.30

10m - 400 MS VARIABLE
Sec
SS
1
SINGLE SHOT INTLK
71.71.31.2 CONTINUOUS OP
A1.02.35.0 CHECK CHAR
85C5 SINGLE SHOT START
71.71.31.2 START TAPE OP
71.71.21.2 BKSP SW N-O

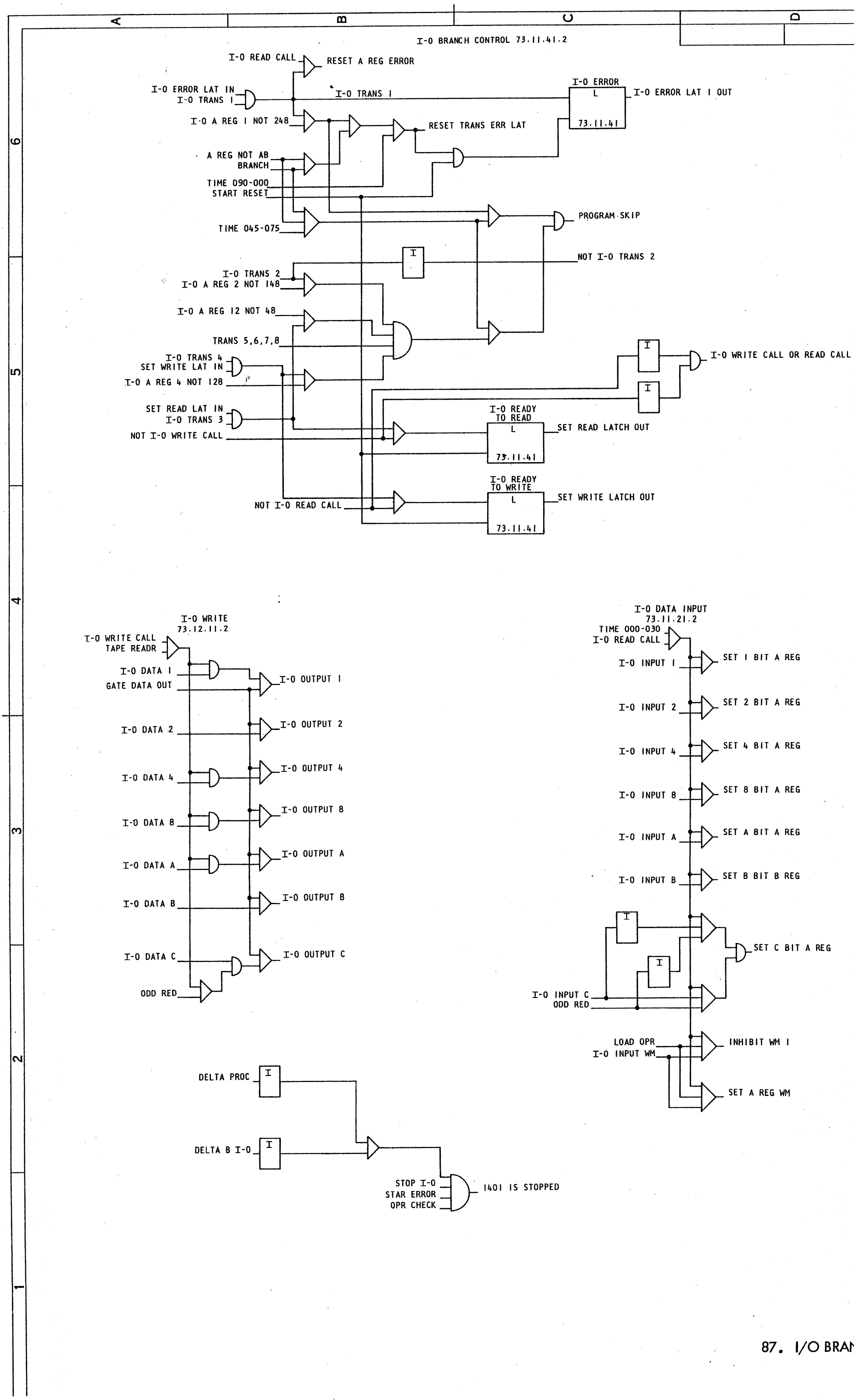
80C3 EVEN REDUN
71.71.31.2 MAN EVEN REDUN
EVEN REDUN CALL A1.02.30
80C3 ODD REDUN
71.71.31.2 MAN ODD REDUN
ODD REDUN CALL A1.02.30

TAU BUSY
RESET MANUAL INTLK
BKSP SW NC
L

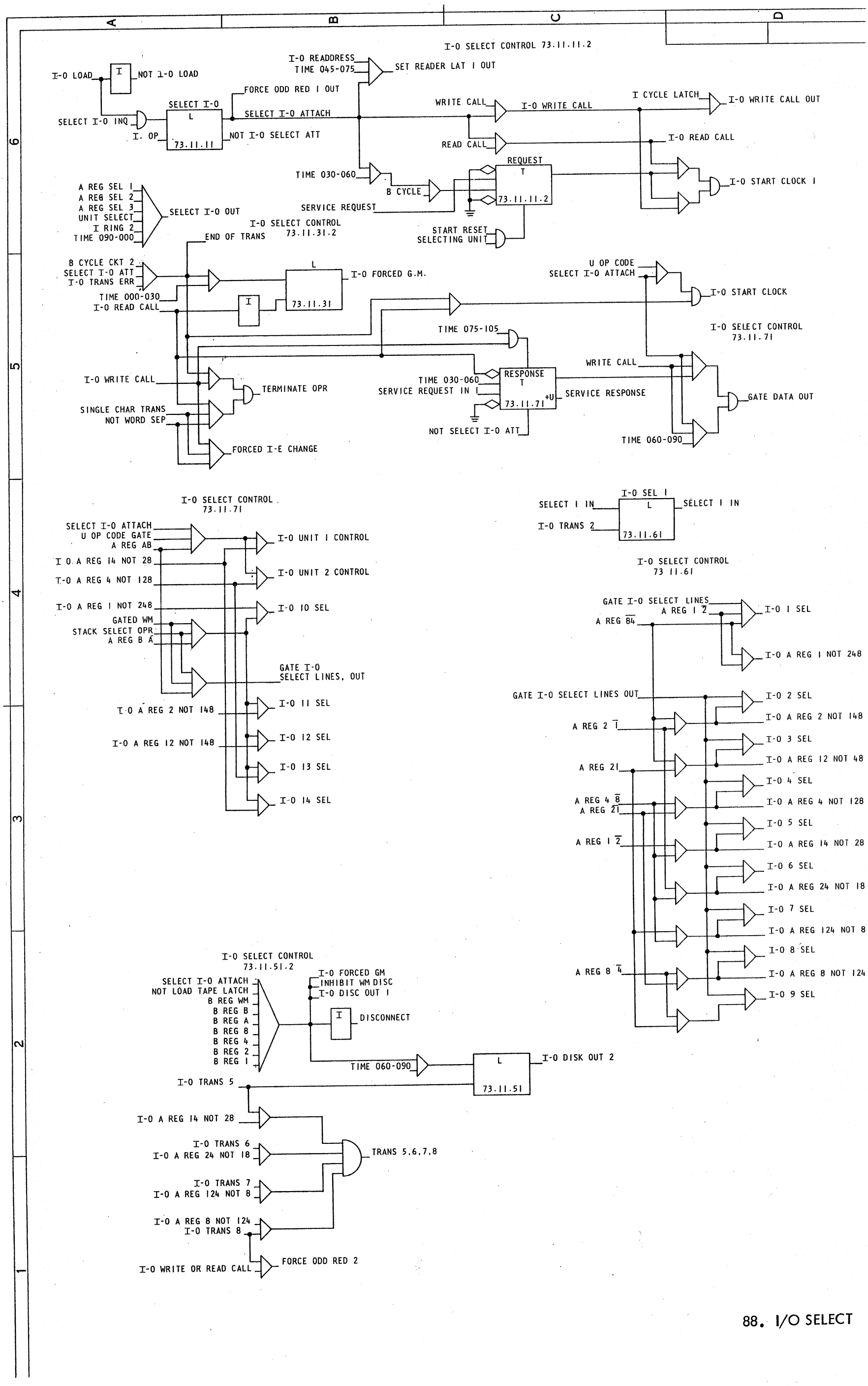
71.71.31.2
71.71.21.2
WRITE TM SW
BKSP SW N-C
MAN WRITE TM
71.71.61.2
WRITE TM CALL A1.02.30
MAN WRITE CALL A1.02.30
82D4 WRITE TM CALL
TIME 075-105
71.71.61.2
71.71.61.1
MAN BKSP CALL
A1.02.30
82D4
71.71.21.2 BKSP SW

85 MANUAL TAPE OPERATION, RESET AND LOAD

15C2 OP DECODE A T
15C2 OP DECODE 421 T
44.70.11.2
EXPAND WORD OP 15C2
14D3 B CYCLE NOT BLOCK OPR
TRANS A REG DIGIT ZONE
44.70.21.2
11D2
NOT I CYCLE
INDEX PREVENT GATED WM 14A4
44.70.21.2
NOT 2ND B BIT
1ST B BIT
84D5 NO DELTA CHAR
TIME 090-000
T ON+U OFF F25 0286 44.70.41.2 E
A REG 21
A REG B6
A REG A8
GM
NOT GM
1
44.70.41.2
84D5 NOT 2ND B BIT
84D5 NO DELTA CHAR
NOT GM
A REG B
84C6 NUMERIC MODE
B CYCLE
44.70.41
2ND B BIT
TIME 075 - 105
ON +U OFF +U 44.70.21.2 N H
A CYCLE
TIME 105-000
B REG WM
44.70.21
RESET
I RING OP
B CYCLE
2ND B BIT
44.70.21.2
TIME 105 - 000
44.70.21.2
EXPAND WORD OP
B CYCLE
A REG AB
A REG B4
A REG WM
A REG 12
A CYCLE ELIMINATE 13D3
E/I CHANGE 13C3
44.70.31.2
FORCE INHIBIT B2 CD C7 10D4 10C4
I RING OP
EXPAND ON
ON OFF -T 44.70.31.2 E
NOT EXPAND ON


A
B
C
D
6
5
4
3
2
1
I-0 BRANCH CONTROL 73.11.41.2
I-0 READ CALL
RESET A REG ERROR
I-0 ERROR LAT IN
I-0 TRANS 1
I-0 TRANS 1
I-0 ERROR
L
73.11.41
I-0 ERROR LAT 1 OUT
I-0 A REG 1 NOT 248
RESET TRANS ERR LAT
A REG NOT AB BRANCH
TIME 090-000
START RESET
TIME 045-075
PROGRAM SKIP
I
NOT I-0 TRANS 2
I-0 TRANS 2
I-0 A REG 2 NOT 148
I-0 A REG 12 NOT 48
TRANS 5,6,7,8
I-0 TRANS 4
SET WRITE LAT IN
I-0 A REG 4 NOT 128
I
I
I-0 WRITE CALL OR READ CALL
SET READ LAT IN
I-0 TRANS 3
NOT I-0 WRITE CALL
I-0 READY TO READ
L
73.11.41
SET READ LATCH OUT
I-0 READY TO WRITE
L
73.11.41
NOT I-0 READ CALL
SET WRITE LATCH OUT
I-0 WRITE
73.12.11.2
I-0 WRITE CALL TAPE READR
I-0 DATA 1
GATE DATA OUT
I-0 OUTPUT 1
I-0 DATA 2
I-0 OUTPUT 2
I-0 DATA 4
I-0 OUTPUT 4
I-0 DATA 8
I-0 OUTPUT 8
I-0 DATA A
I-0 OUTPUT A
I-0 DATA B
I-0 OUTPUT B
I-0 DATA C
I-0 OUTPUT C
ODD RED
I-0 DATA INPUT
73.11.21.2
TIME 000-030
I-0 READ CALL
I-0 INPUT 1
SET 1 BIT A REG
I-0 INPUT 2
SET 2 BIT A REG
I-0 INPUT 4
SET 4 BIT A REG
I-0 INPUT 8
SET 8 BIT A REG
I-0 INPUT A
SET A BIT A REG
I-0 INPUT B
SET B BIT B REG
I
SET C BIT A REG
I
I-0 INPUT C
ODD RED
LOAD OPR
I-0 INPUT WM
INHIBIT WM 1
SET A REG WM
DELTA PROC
I
DELTA B I-0
I
STOP I-0
STAR ERROR
OPR CHECK
1401 IS STOPPED

87. I/O BRANCH


I-0 SELECT CONTROL 73.11.11.2
I-0 LOAD
I
NOT I-0 LOAD
SELECT I-0 INQ
I. OP
SELECT I-0
L
73.11.11
FORCE ODD RED I OUT
SELECT I-0 ATTACH
NOT I-0 SELECT ATT
I-0 READDRESS
TIME 045-075
SET READER LAT I OUT
WRITE CALL
I-0 WRITE CALL
READ CALL
I CYCLE LATCH
I-0 WRITE CALL OUT
I-0 READ CALL
TIME 030-060
B CYCLE
SERVICE REQUEST
REQUEST
T
73.11.11.2
START RESET
SELECTING UNIT
I-0 START CLOCK I
A REG SEL 1
A REG SEL 2
A REG SEL 3
UNIT SELECT
I RING 2
TIME 090-000
SELECT I-0 OUT
I-0 SELECT CONTROL
73.11.31.2
END OF TRANS
B CYCLE CKT 2
SELECT I-0 ATT
I-0 TRANS ERR
TIME 000-030
I-0 READ CALL
I
L
73.11.31
I-0 FORCED G.M.
U OP CODE
SELECT I-0 ATTACH
I-0 START CLOCK
TIME 075-105
I-0 SELECT CONTROL
73.11.71
I-0 WRITE CALL
TERMINATE OPR
SINGLE CHAR TRANS
NOT WORD SEP
FORCED I-E CHANGE
TIME 030-060
SERVICE REQUEST IN I
RESPONSE
T
73.11.71
+U
SERVICE RESPONSE
NOT SELECT I-0 ATT
WRITE CALL
GATE DATA OUT
TIME 060-090
I-0 SELECT CONTROL
73.11.71
SELECT I-0 ATTACH
U OP CODE GATE
A REG AB
I-0 UNIT 1 CONTROL
I-0 UNIT 2 CONTROL
I-0 A REG 14 NOT 28
I-0 A REG 4 NOT 128
I-0 A REG 1 NOT 248
I-0 10 SEL
GATED WM
STACK SELECT OPR
A REG B A
GATE I-0
SELECT LINES, OUT
I-0 A REG 2 NOT 148
I-0 11 SEL
I-0 A REG 12 NOT 148
I-0 12 SEL
I-0 13 SEL
I-0 14 SEL
I-0 SEL 1
SELECT 1 IN
I-0 TRANS 2
L
73.11.61
SELECT 1 IN
I-0 SELECT CONTROL
73 11.61
GATE I-0 SELECT LINES
A REG 1 2
A REG 84
I-0 1 SEL
I-0 A REG 1 NOT 248
GATE I-0 SELECT LINES OUT
I-0 2 SEL
A REG 2 1
I-0 A REG 2 NOT 148
I-0 3 SEL
A REG 21
I-0 A REG 12 NOT 48
I-0 4 SEL
A REG 4 8
A REG 21
I-0 A REG 4 NOT 128
I-0 5 SEL
A REG 1 2
I-0 A REG 14 NOT 28
I-0 6 SEL
I-0 A REG 24 NOT 18
I-0 7 SEL
I-0 A REG 124 NOT 8
A REG 8 4
I-0 8 SEL
I-0 A REG 8 NOT 124
I-0 9 SEL
I-0 SELECT CONTROL
73.11.51.2
SELECT I-0 ATTACH
NOT LOAD TAPE LATCH
B REG WM
B REG B
B REG A
B REG 8
B REG 4
B REG 2
B REG 1
I-0 FORCED GM
INHIBIT WM DISC
I-0 DISC OUT 1
I
DISCONNECT
TIME 060-090
L
73.11.51
I-0 DISK OUT 2
I-0 TRANS 5
I-0 A REG 14 NOT 28
I-0 TRANS 6
I-0 A REG 24 NOT 18
TRANS 5,6,7,8
I-0 TRANS 7
I-0 A REG 124 NOT 8
I-0 A REG 8 NOT 124
I-0 TRANS 8
I-0 WRITE OR READ CALL
FORCE ODD RED 2