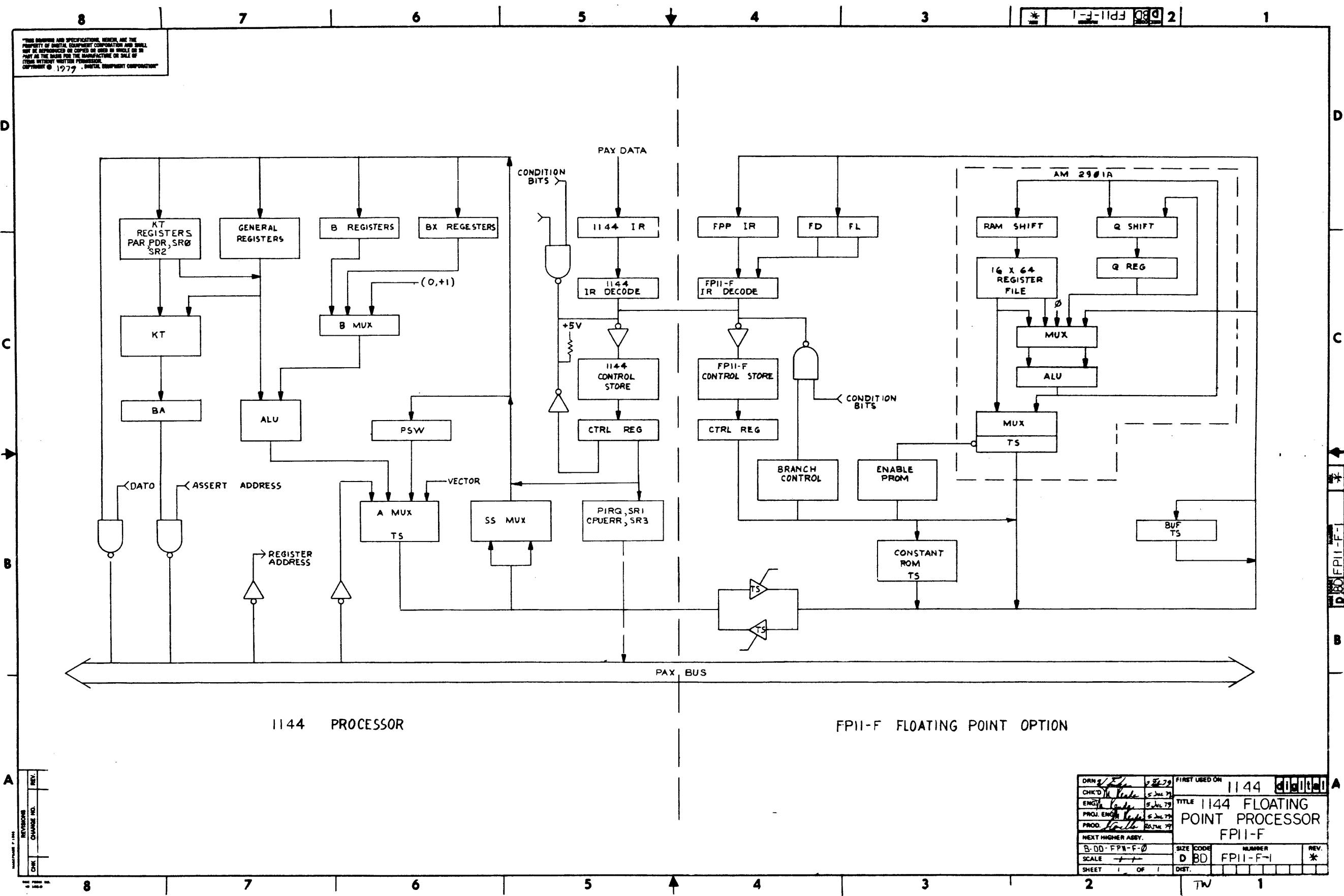


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REV. NO. 1
 CHANGE NO. 1
 DATE 11/14/79

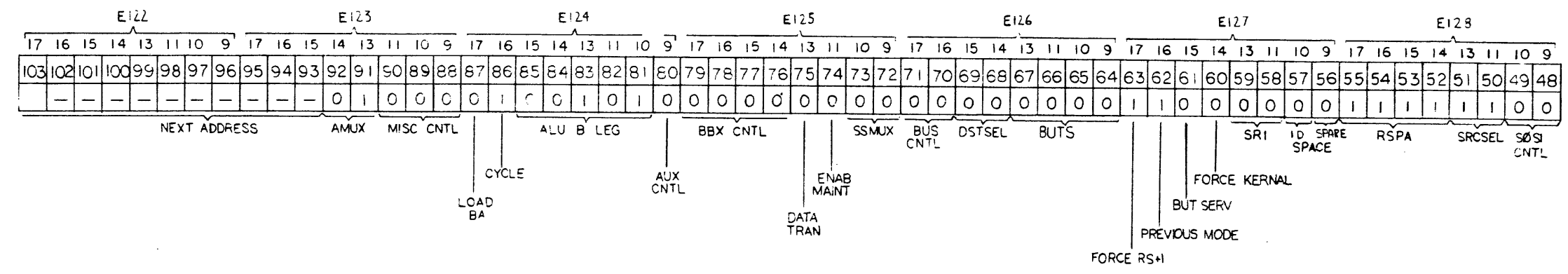
| | |
|--------------------|--|
| DRN # 28239 | FIRST USED ON 1144 |
| CHK'D 6/24/79 | TITLE 1144 FLOATING POINT PROCESSOR FPII-F |
| ENGR 6/24/79 | |
| PROJ. ENGR 6/24/79 | |
| PROD. 6/24/79 | |
| NEXT HIGHER ASSY. | |
| B-00-FPII-F-0 | SIZE CODE D |
| SCALE 1/1 | NUMBER FPII-F-1 |
| SHEET 1 OF 1 | REV. * |

D B D FPII-F-1

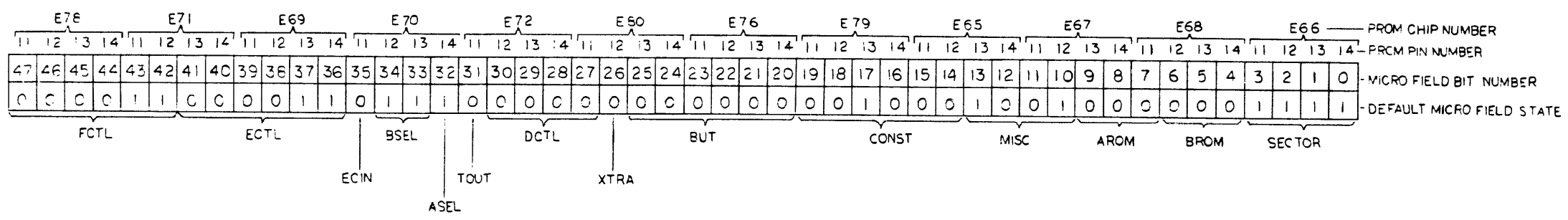
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D FD FPII-F-2 B 2

FPII-F CONTROL WORD WITHIN M7095



FPII-F CONTROL WORD WITHIN M7093



| REV | DATE | BY | CHK | CHANGE NO. |
|-----|---------|------------|-----|----------------|
| 1 | 1/21/80 | MIKE FENNA | | FPII-F-TW001 B |
| 2 | 1/22/80 | MIKE FENNA | | FPII-F-TW001 B |

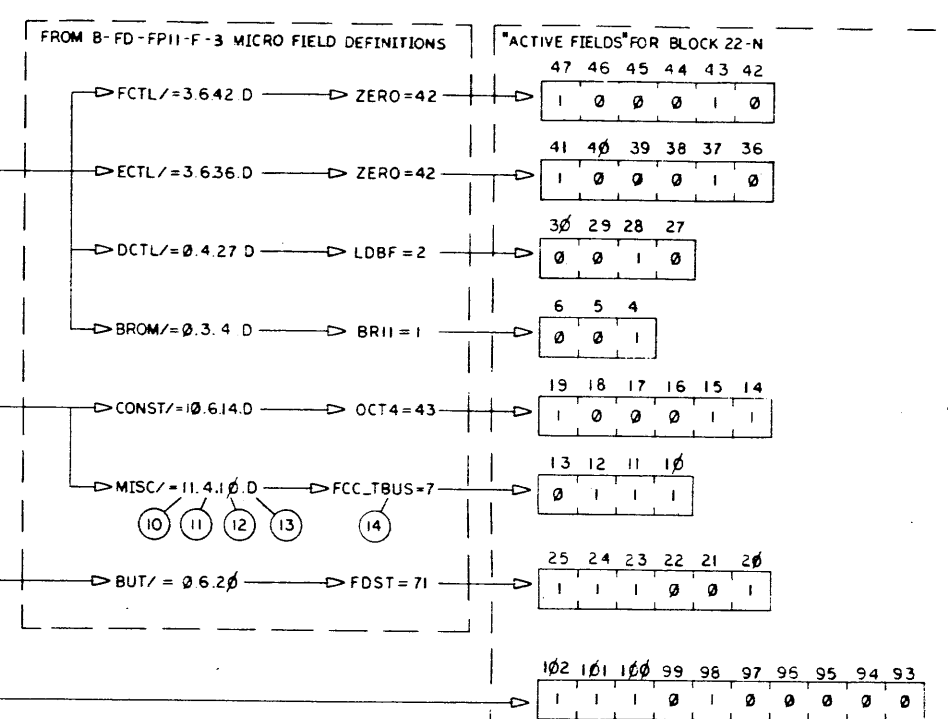
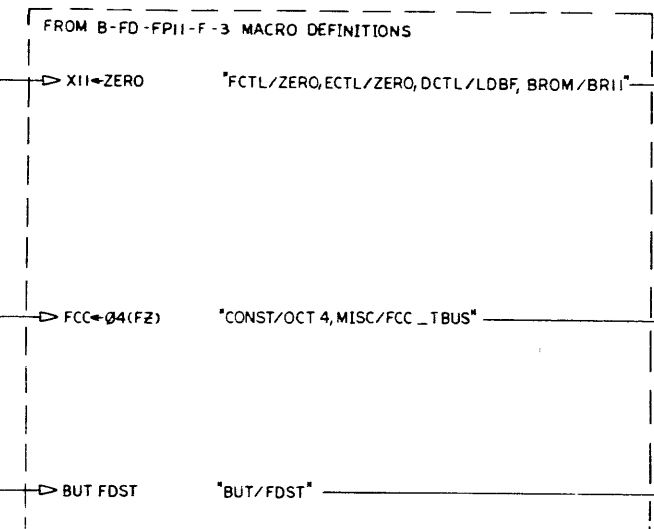
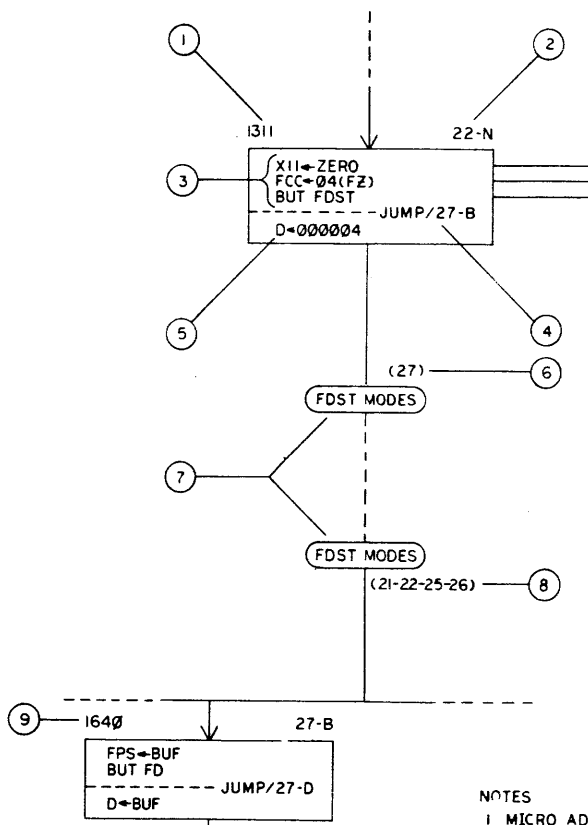
| | | | |
|-------------------|---------------|---------------|----------------------|
| DRMS CHARTER | 27FEB79 | FIRST USED ON | FPII-F |
| CHK'D | | TITLE | FPII-F FLOW DIAGRAMS |
| ENGL | | SIZE | D FD |
| PROL ENGL | | NUMBER | FPII-F-2 |
| PROD | | REV. | B |
| NEXT HIGHER ASSY. | B-00-FPII-F-0 | SCALE | NONE |
| SHEET | 1 of 40 | DIST. | |

D FD FPII-F-2 B

TV 1

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KEY TO MICRO FLOW SYMBOLOGY



- NOTES
- 1 MICRO ADDRESS OF CURRENT WORD.
 - 2 SYMBOLIC TAG OF CURRENT WORD CONSISTS OF PAGE NUMBER AND BLOCK LABEL (PAGE-BLOCK)
 - 3 MICRO OPERATIONS WHICH TAKE PLACE DURING THIS STATE. THE FIELDS WHICH ARE INVOLVED IN CARRYING OUT THESE OPERATIONS CAN BE DETERMINED USING:
 - FPII-F MACRO DEFINITIONS
 - FPII-F MICRO FIELD DEFINITIONS
 - 4 27-B IS THE SYMBOLIC TAG OF THE NEXT MICRO WORD (TARGET) ASSUMING NO BRANCHING (DESTINATION MODE 0) THIS CAN BE USED TO DETERMINE THE NEXT ADDRESS FIELD OF THE CURRENT MICRO WORD.
 - 5 "D" STANDS FOR DISPLAY IN THE NUMBER WILL APPEAR ON THE MFM ASCII CONSOLE UPON USING THE "DISPLAY UCATA" COMMAND.
 - 6 INDICATES PAGE IN FLOWS WHERE THIS ENTRY POINT CAN BE FOUND.
 - 7 EXIT AND ENTRY LABELS ARE USED TO INDICATE LOGICAL FLOW FROM PAGE TO PAGE.
 - 8 INDICATES PAGES IN FLOWS FROM WHICH ENTRY POINT IS CALLED.
 - 9 THIS ADDRESS IS THE TARGET OF THE JUMP FIELD OF BLOCK 22-N
 - 10 DEFAULT VALUE OF THIS FIELD
 - 11 NUMBER OF BITS IN THIS FIELD
 - 12 LOCATION OF RIGHT MOST BIT OF THIS FIELD WITHIN MICRO WORD.
 - 13 INDICATES THAT THE DEFAULT IS TAKEN IF NOTHING ELSE IS SPECIFIED
 - 14 OCTAL VALUE OF MICRO FIELD LITERAL

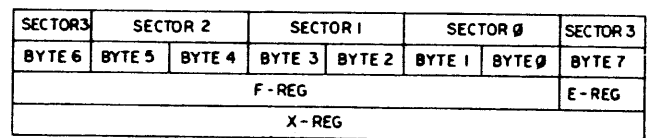
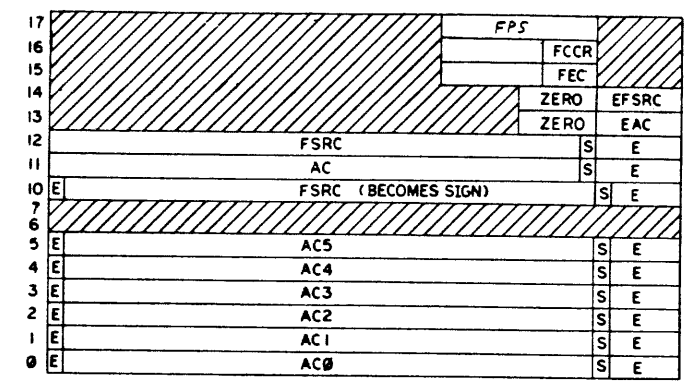
NOTE: ALL OTHER FIELDS ARE SET TO THEIR DEFAULT VALUES (SEE PRECEDING PAGE FOR MICRO FIELD DEFINITIONS)

| REVISIONS | | |
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| CHK | CHANGE NO. | REV. |
| | | |

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REV. B
D E D F D
FPII-F-2
2 1

FPII-F TYPICAL REGISTER USAGE



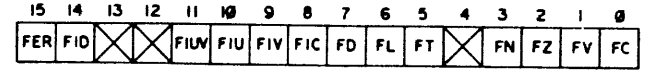
FPII-F TS BUS ASSIGNMENT

| | | |
|------|------|-----|
| TS0 | | Y8 |
| TS1 | | Y9 |
| TS5 | FT | Y61 |
| TS6 | | Y62 |
| TS8 | FIC | |
| TS9 | FIV | |
| TS10 | FIU | |
| TS11 | FIUV | |
| TS14 | FID | |

FPII-F MPC BUTOFF BITS

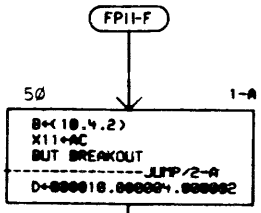
| MPC | 1144 | FPX TS BUT | FPX CONDITIONS | FPX BUT OPI | FPX BUT OP2 |
|-----|----------|------------|----------------|-------------|-------------|
| 0 | BUT BOOT | — | — | OP10 | OP20 |
| 1 | ZBIT | TS0 | TS14 | OP11 | OP21 |
| 2 | C05 | TS1 | XOUT | OP12 | OP22 |
| 3 | NOSERY | TS8 | QB-Q40 | OP13 | OP23 |
| 4 | BX00 | TS9 | XZBT | — | — |
| 5 | BX01 | TS10 | XNBT | — | — |
| 6 | NBIT | TS11 | BUSRQ | — | — |
| 7 | COUT | TS5 | EZBT | — | — |
| 8 | | TS6 | ENBT | — | — |

FLOATING POINT STATUS REGISTER

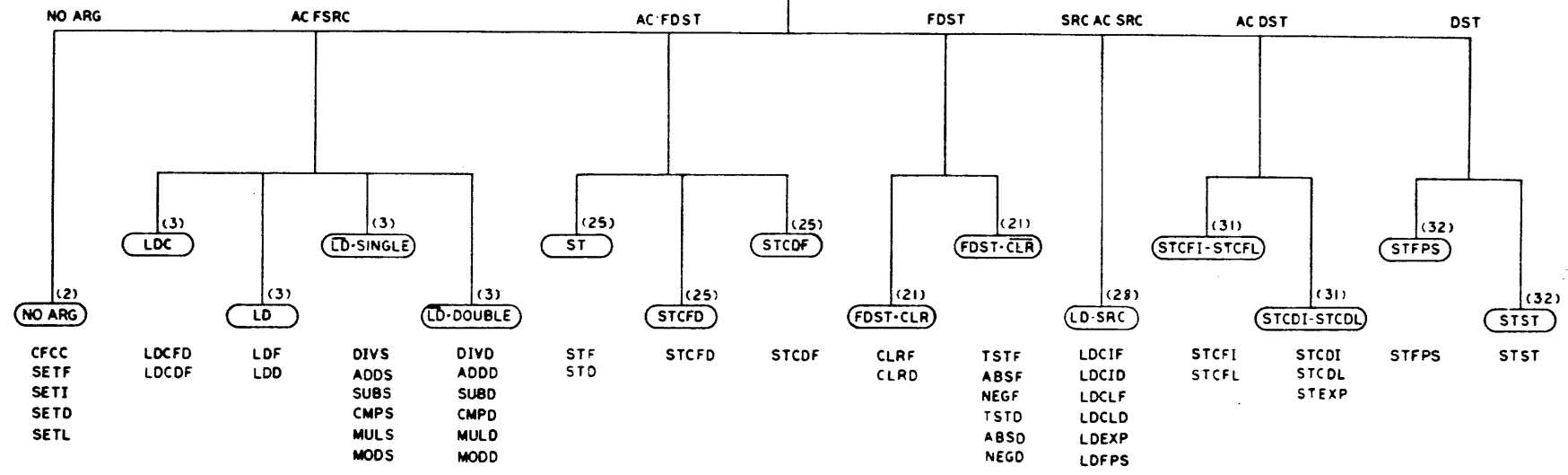


| REVISIONS | | |
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| CHK | CHANGE NO. | REV. |
| | | |

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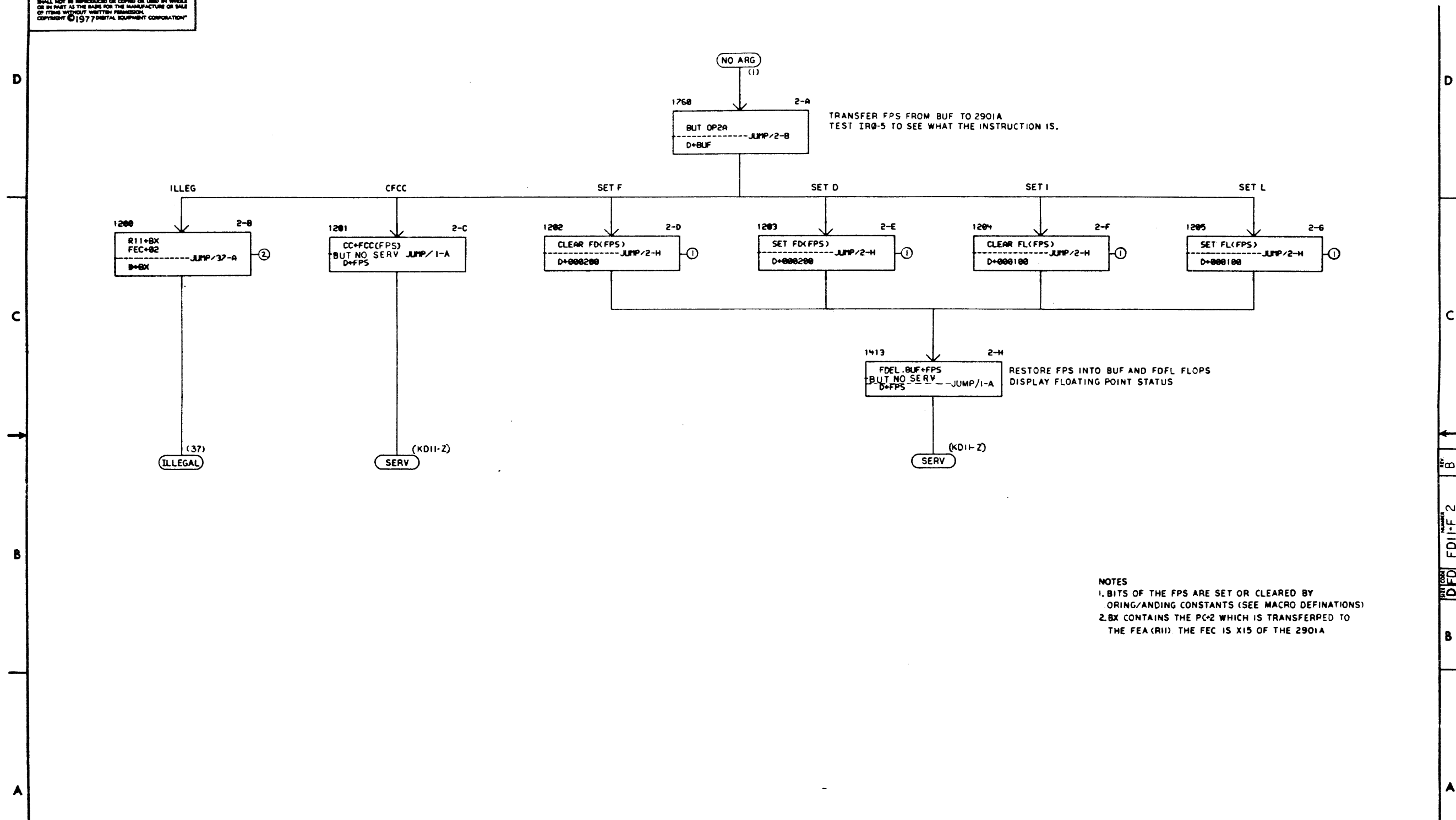


PUT INDEX CONSTANT INTO B-REGISTER
LOAD X11 WITH ACCUMULATOR SPECIFIED BY IR6-7
BREAKOUT INSTRUCTION USING IR6-11 AND OPI PROM (E60)
DISPLAY INDEX CONSTANT AS FOLLOWS (DOUBLE-SINGLE-IMMEDIATE)



| REVISIONS | | |
|-----------|------------|------|
| CHK. | CHANGE NO. | REV. |
| | | |

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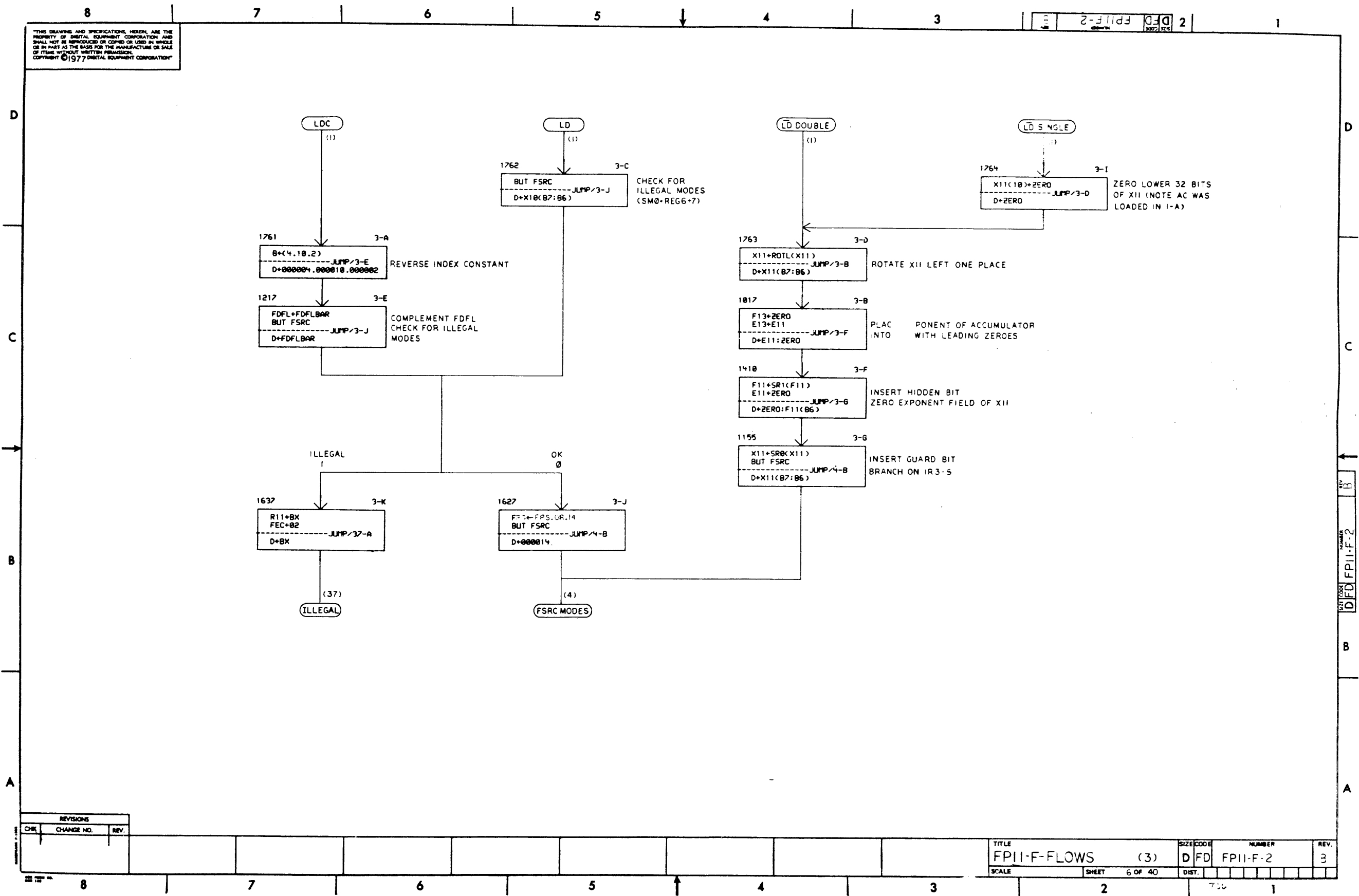


NOTES
 1. BITS OF THE FPS ARE SET OR CLEARED BY ORING/ANDING CONSTANTS (SEE MACRO DEFINATIONS)
 2. BX CONTAINS THE PC-2 WHICH IS TRANSFERRED TO THE FEA (R11). THE FEC IS X15 OF THE 2901A

| REVISIONS | | |
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| CHK | CHANGE NO. | REV. |
| | | |

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REV. 2
D FD FPII-F-2

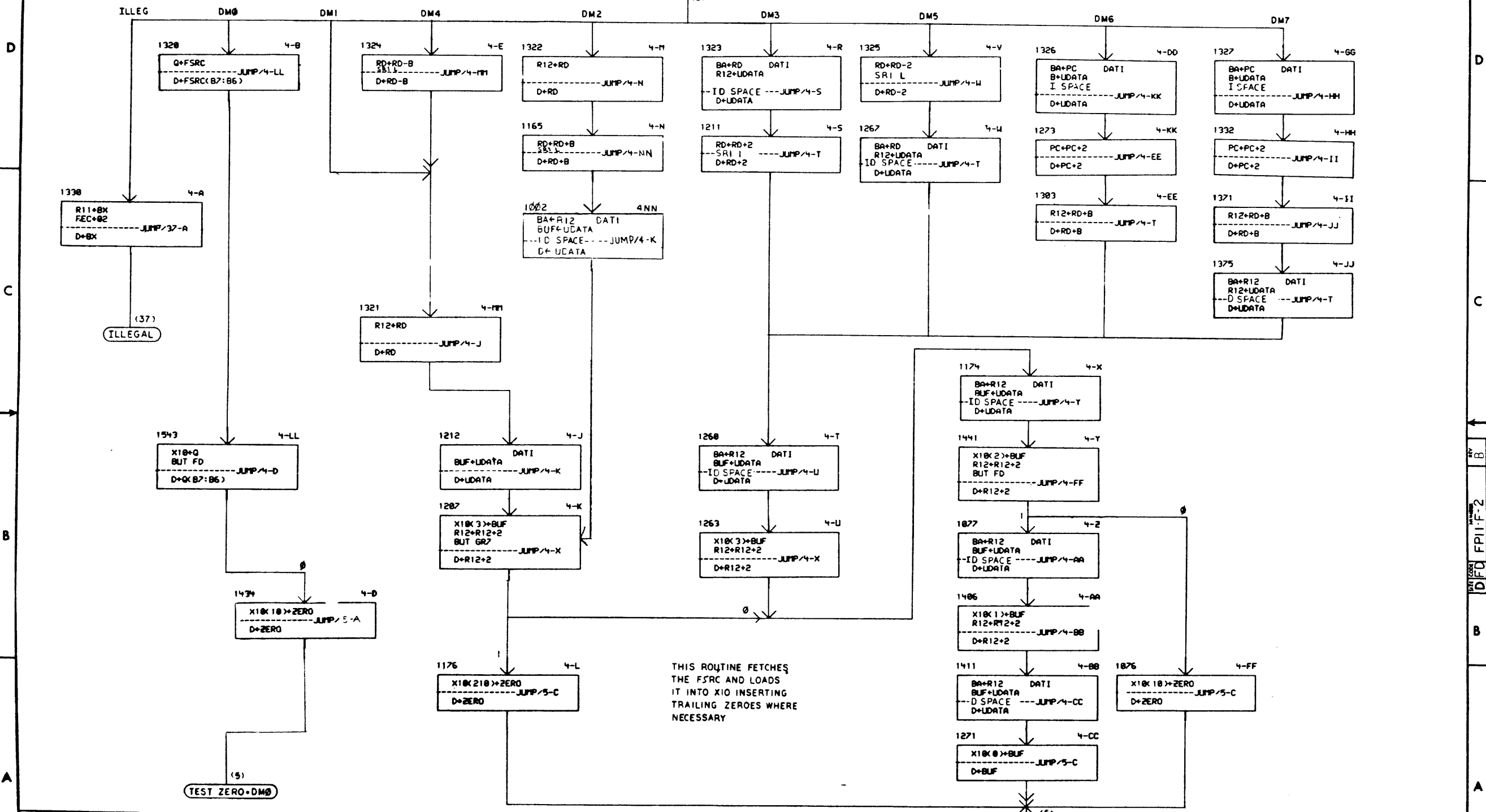


| REVISIONS | | |
|-----------|------------|------|
| CHK | CHANGE NO. | REV. |
| | | |

TITLE: FPII-F-FLOWS (3) SIZE CODE: D FD NUMBER: FPII-F-2 REV: 3
SHEET: 6 OF 40 DIST: 700

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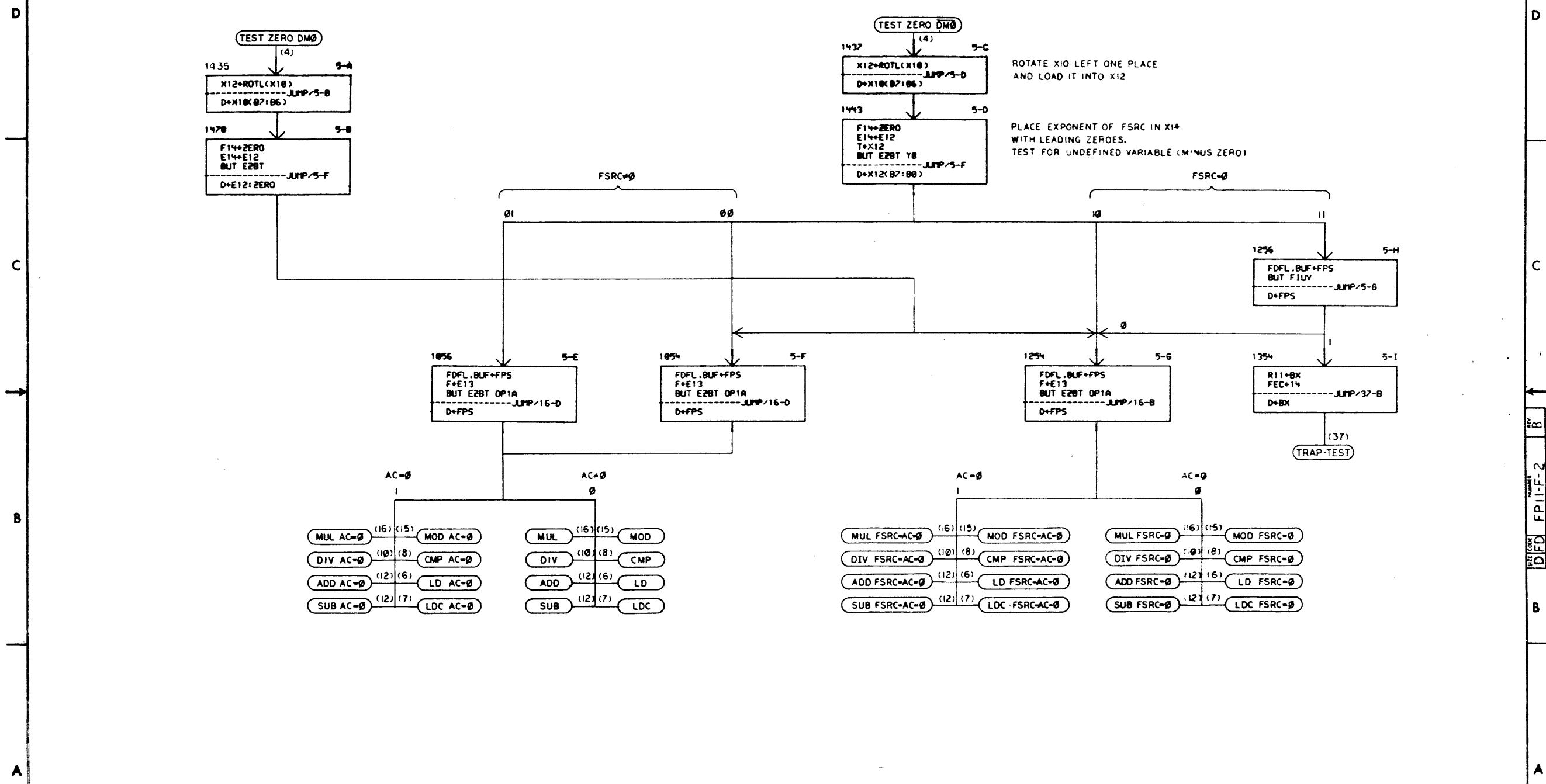
FSRC MODES (3)



THIS ROUTINE FETCHES THE FSRC AND LOADS IT INTO X10 INSERTING TRAILING ZEROES WHERE NECESSARY

| REVISIONS | | |
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| CHK | CHANGE NO. | REV. |
| | | |

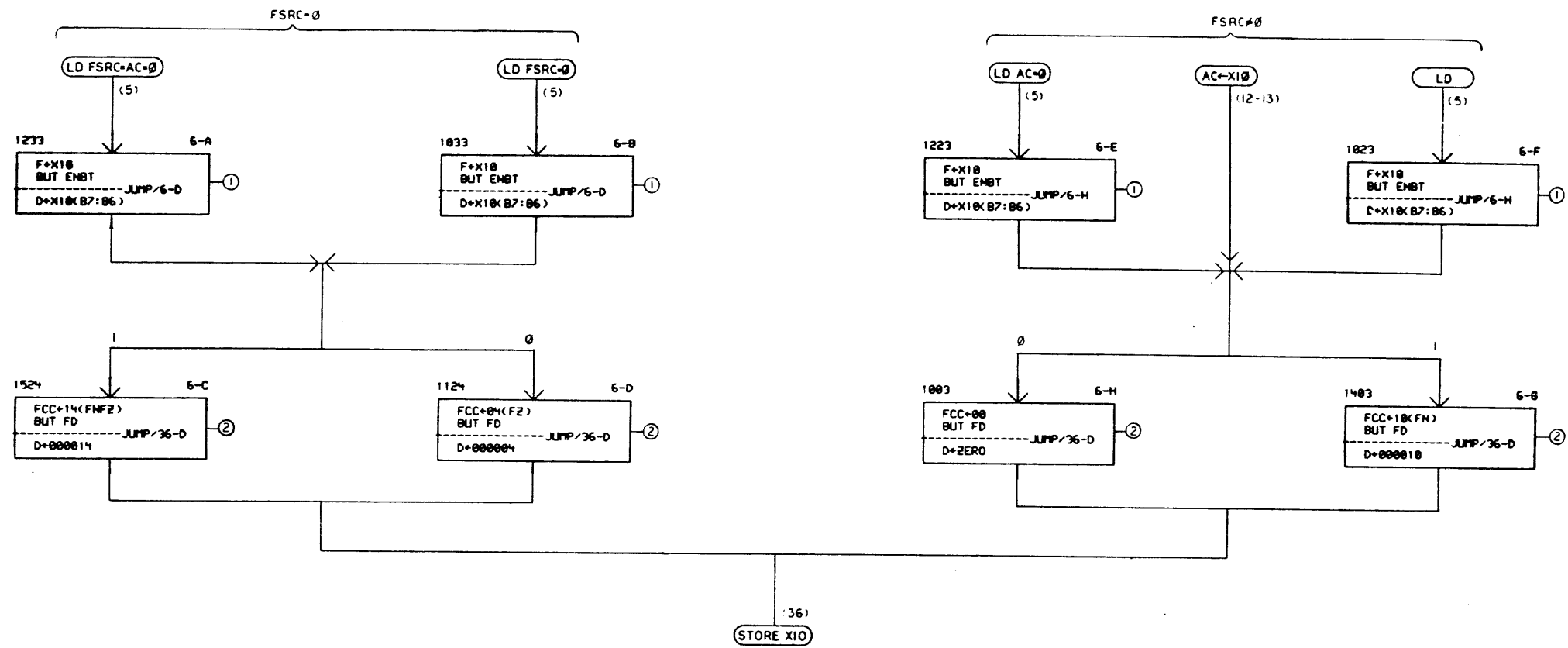
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8 7 6 5 4 3 2 1
 8 FPII-F-2 2



NOTES
 1. TEST SIGN OF FSRC (X10:BIT 7)
 2. SET FLOATING CONDITION CODES (FCC) USING THE APPROPRIATE CONSTANT. NOTE THAT THE FCC IS CONTAINED IN THE LOWER FOUR BITS OF THE BUFFER (BUF).

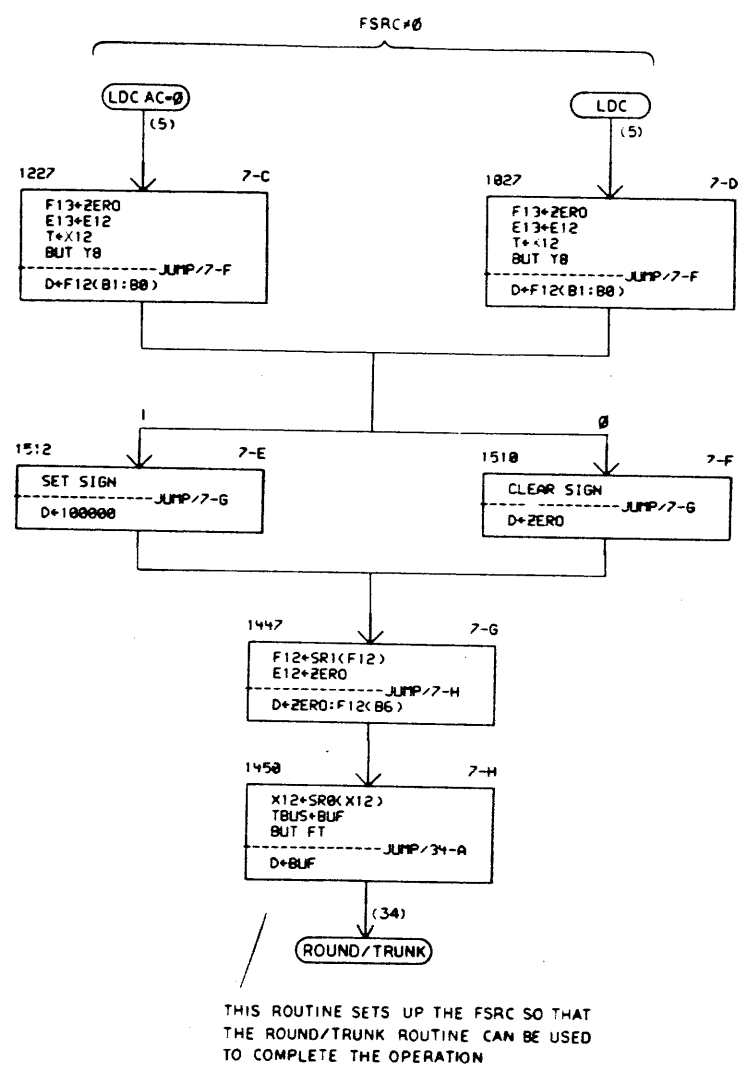
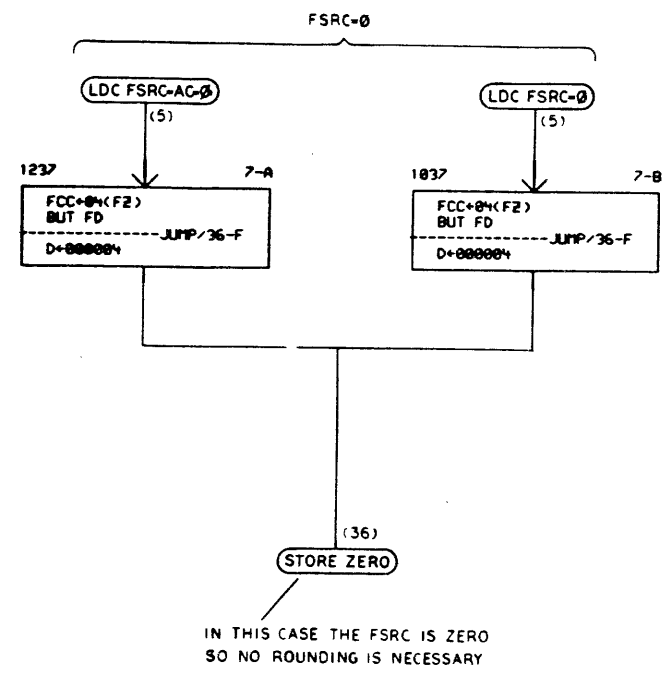
| REVISIONS | | |
|-----------|------------|------|
| CHK | CHANGE NO. | REV. |
| | | |

TITLE: FPII-F FLOWS (6)
 SIZE CODE: DFD
 NUMBER: FPII-F-2
 SHEET: 9 OF 40
 SCALE: TW

8 FPII-F-2 2
 DFD
 8

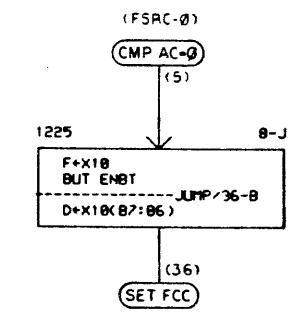
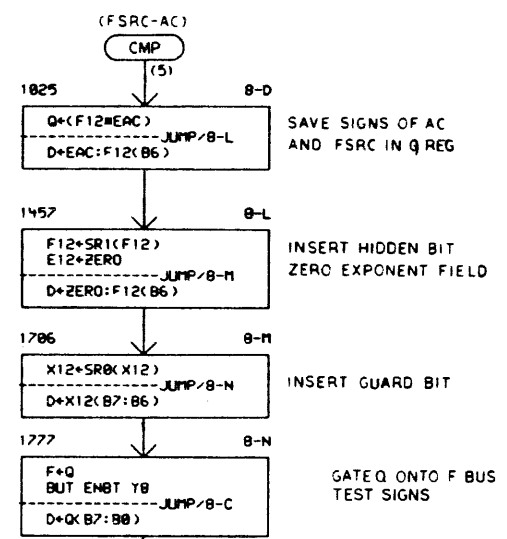
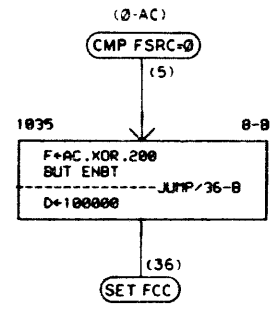
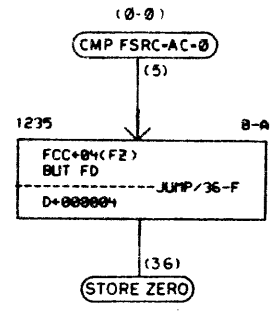
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REV. NO. 2
 SIZE CODE D FD
 NUMBER FPII-F-2



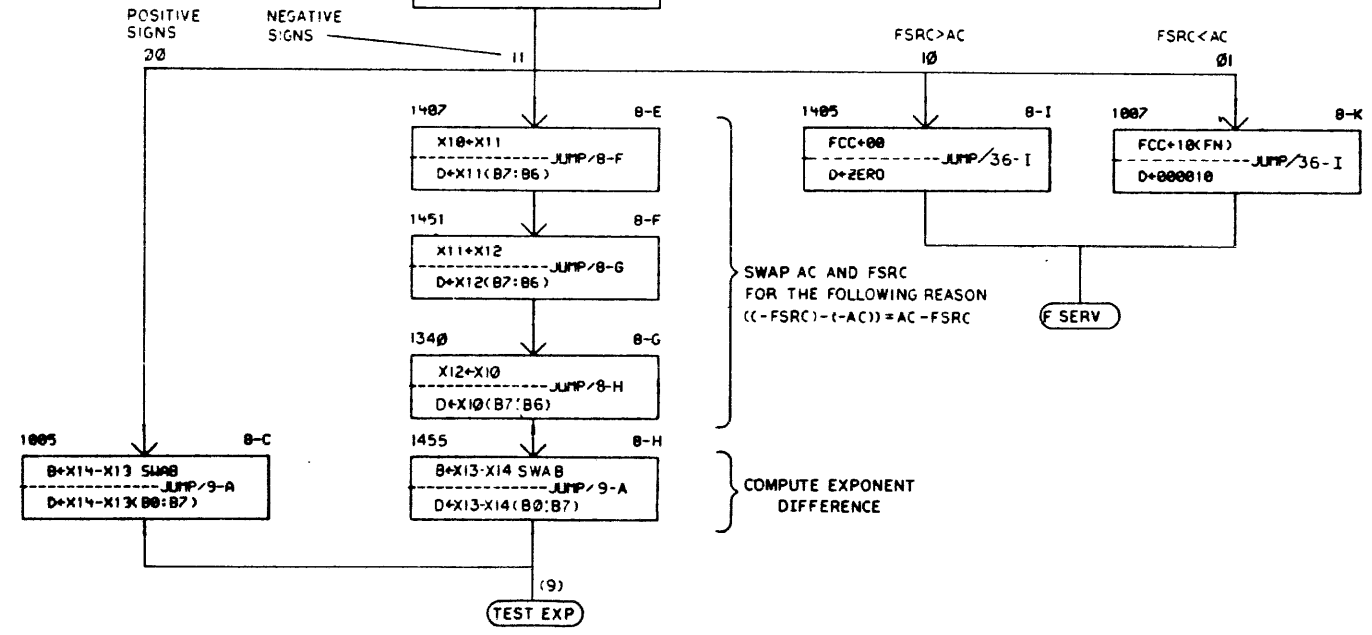
| REVISIONS | | |
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| CHK | CHANGE NO. | REV. |
| | | |

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THE COMPARE INSTRUCTION IS ACCOMPLISHED BY SUBTRACTING THE AC FROM THE FSRC AND SETTING THE CONDITION CODES ON THE RESULT. THIS ALGORITHM FORCES TRIVIAL CASES TO FALL OUT AS FOLLOWS:

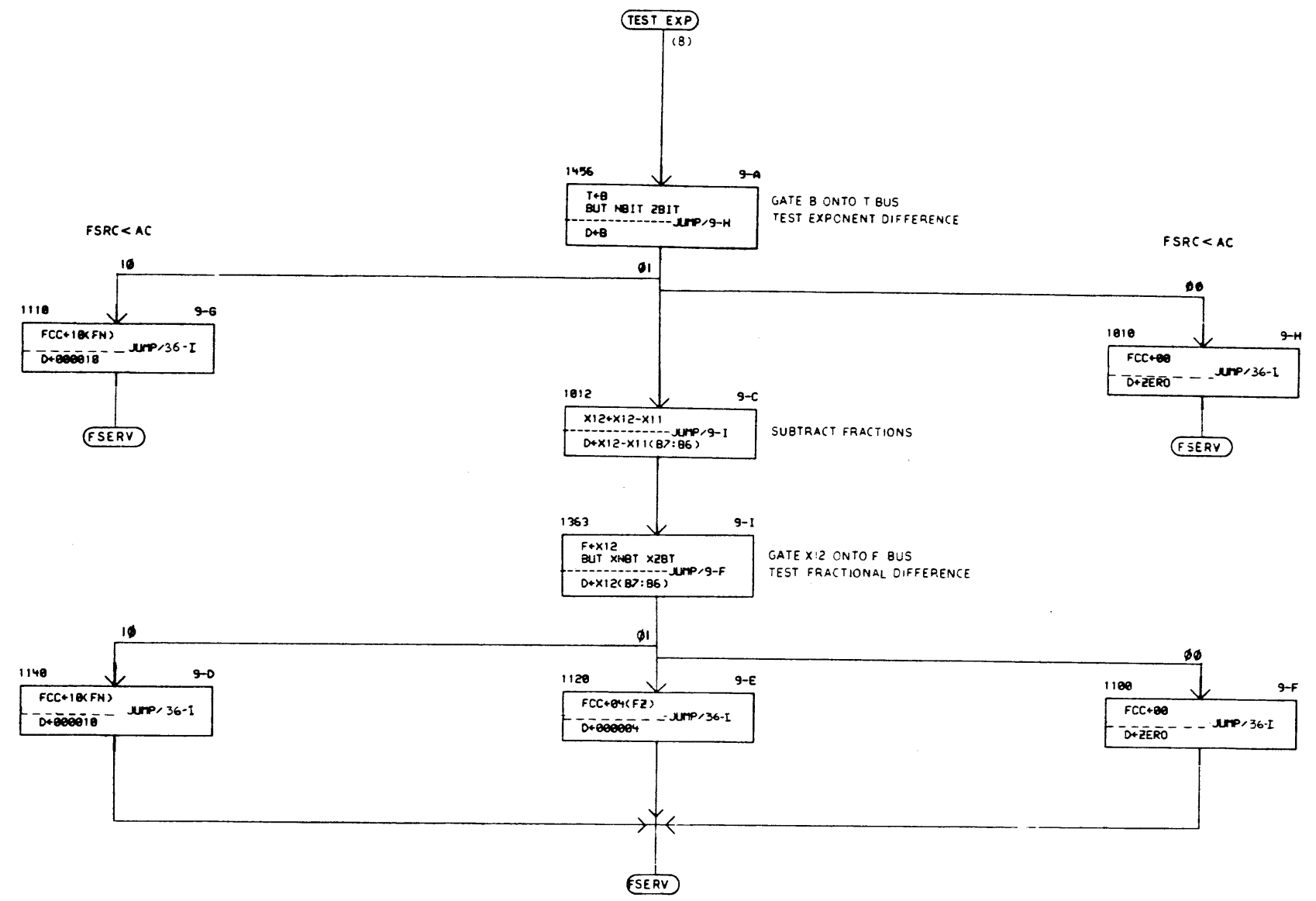
- 1 TEST FOR ZERO OPERANDS (8-A,8-B,8-J)
- 2 TEST FOR OPPOSITE SIGNS (8-I,8-K)
- 3 TEST FOR NONEQUAL EXPONENTS (9-G,9-H)
- 4 TEST FRACTIONAL DIFFERENCE



| REVISIONS | | |
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| CHK | CHANGE NO. | REV. |
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8 7 6 5 4 3 2 1
 9
 2-3-1183
 DFD
 2



9
 DFD
 FPII-F-2
 B

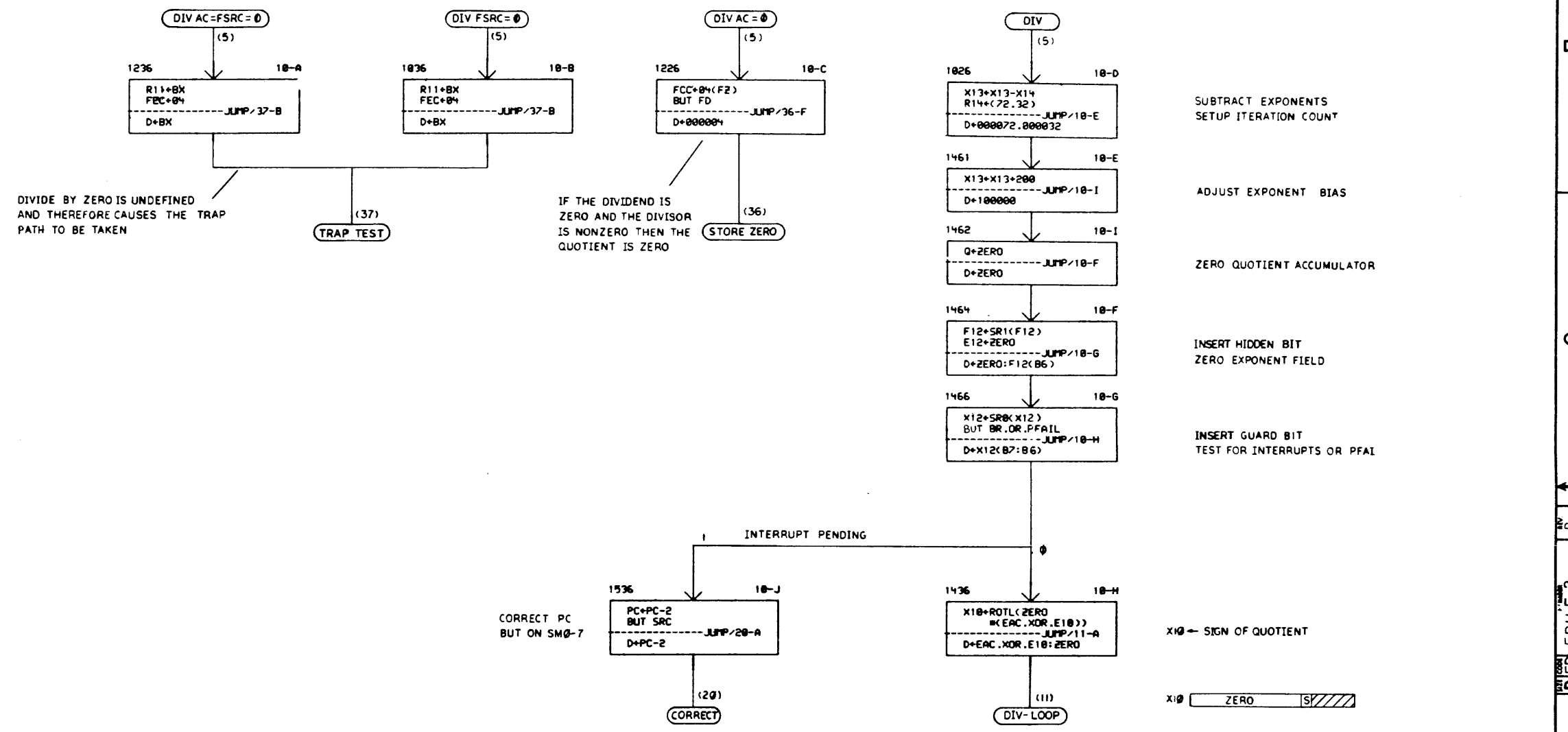
| REVISIONS | | |
|-----------|------------|------|
| CHK | CHANGE NO. | REV. |
| | | |

TITLE: FPII-F-FLOWS (9)
 SCALE: →
 SHEET: 12 OF 40
 SIZE CODE: DFD
 NUMBER: FPII-F-2
 REV.: B

8 7 6 5 4 3 2 1

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D E D F P I I - F - 2 2



DIVIDE BY ZERO IS UNDEFINED AND THEREFORE CAUSES THE TRAP PATH TO BE TAKEN

IF THE DIVIDEND IS ZERO AND THE DIVISOR IS NONZERO THEN THE QUOTIENT IS ZERO

SUBTRACT EXPONENTS
SETUP ITERATION COUNT

ADJUST EXPONENT BIAS

ZERO QUOTIENT ACCUMULATOR

INSERT HIDDEN BIT
ZERO EXPONENT FIELD

INSERT GUARD BIT
TEST FOR INTERRUPTS OR PFAL

X10 ← SIGN OF QUOTIENT

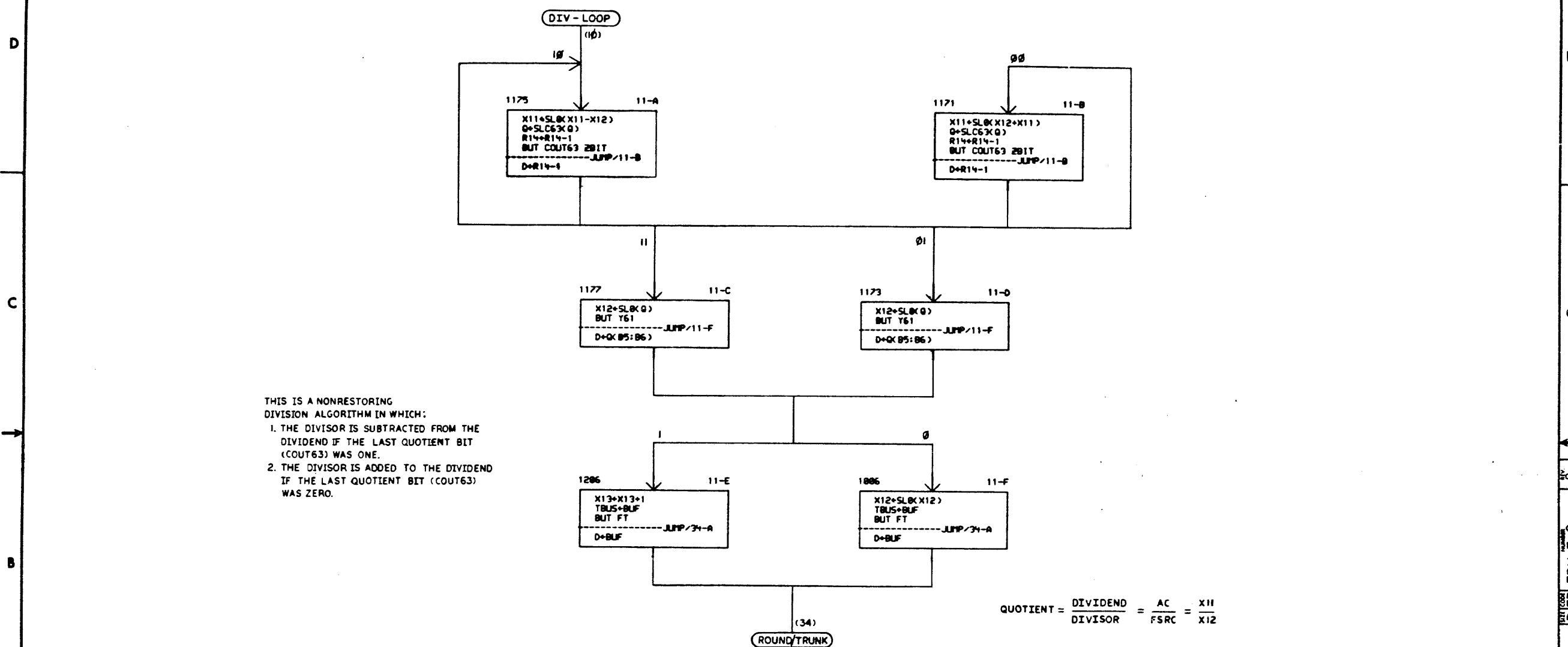
X10 ZERO SF

| REVISIONS | | |
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| CHK | CHANGE NO. | REV. |
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| | | | | | | | |
|-------|-------------------|-----------|----------|--------|----------|------|---|
| TITLE | FPII-F FLOWS (10) | SIZE CODE | D FD | NUMBER | FPII-F-2 | REV. | B |
| SCALE | | SHEET | 13 OF 40 | DIST. | | | |

D E D F P I I - F - 2

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THIS IS A NONRESTORING DIVISION ALGORITHM IN WHICH:
 1. THE DIVISOR IS SUBTRACTED FROM THE DIVIDEND IF THE LAST QUOTIENT BIT (COUT63) WAS ONE.
 2. THE DIVISOR IS ADDED TO THE DIVIDEND IF THE LAST QUOTIENT BIT (COUT63) WAS ZERO.

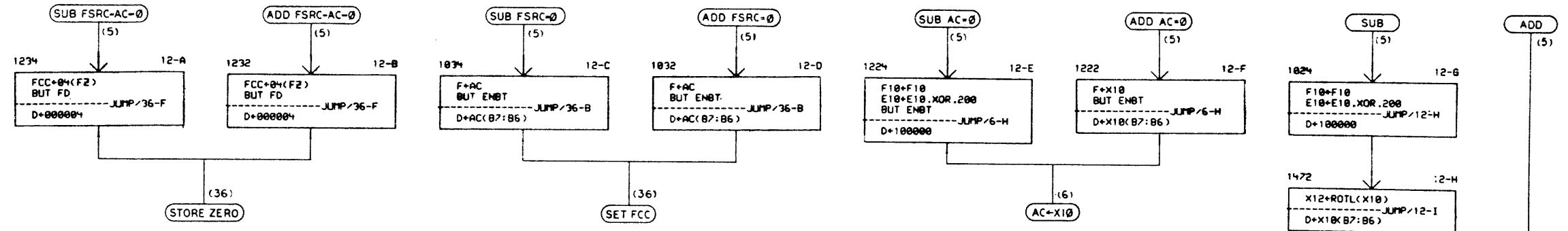
$$\text{QUOTIENT} = \frac{\text{DIVIDEND}}{\text{DIVISOR}} = \frac{AC}{FSRC} = \frac{X11}{X12}$$

| REVISIONS | | |
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| CHK | CHANGE NO. | REV. |
| | | |

D FD FPII-F-2

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REV. 2 FPII-F-2



ADD AND SUBTRACT HAVE THE FORM AC←AC±FSRC
OPERATIONS FALL INTO FOUR CATEGORIES

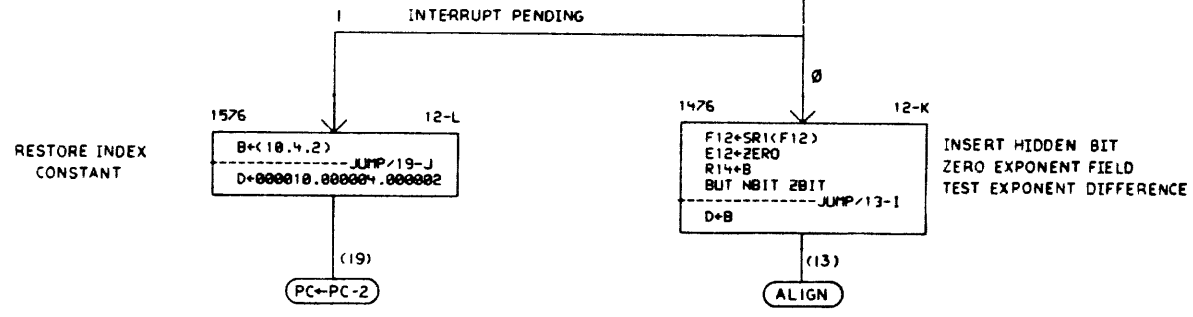
- BOTH OPERANDS ARE ZERO (12-A,12-B)
AC←ZERO
- FSRC IS ZERO (12-C,12-D)
AC←AC
- AC IS ZERO (12-E,12-F)
AC←FSRC (ADD)
AC←-FSRC (SUB)
- NEITHER OPERAND IS ZERO (12-G,12-I)
IN SUBTRACT, THE SIGN OF THE FSRC
IS COMPLEMENTED (12-G,12-I) AND THE
ADD FLOWS ARE ENTERED.(12-J)

R17 HOLDS THE MAXIMUM
ALIGNMENT COUNT
57-DOUBLE 25-SINGLE

SAVE SIGNS OF
FSRC AND AC IN Q

SUBTRACT EXPONENTS
TEST FOR INTERRUPTS
OR PFAIL

INSERT HIDDEN BIT
ZERO EXPONENT FIELD
TEST EXPONENT DIFFERENCE



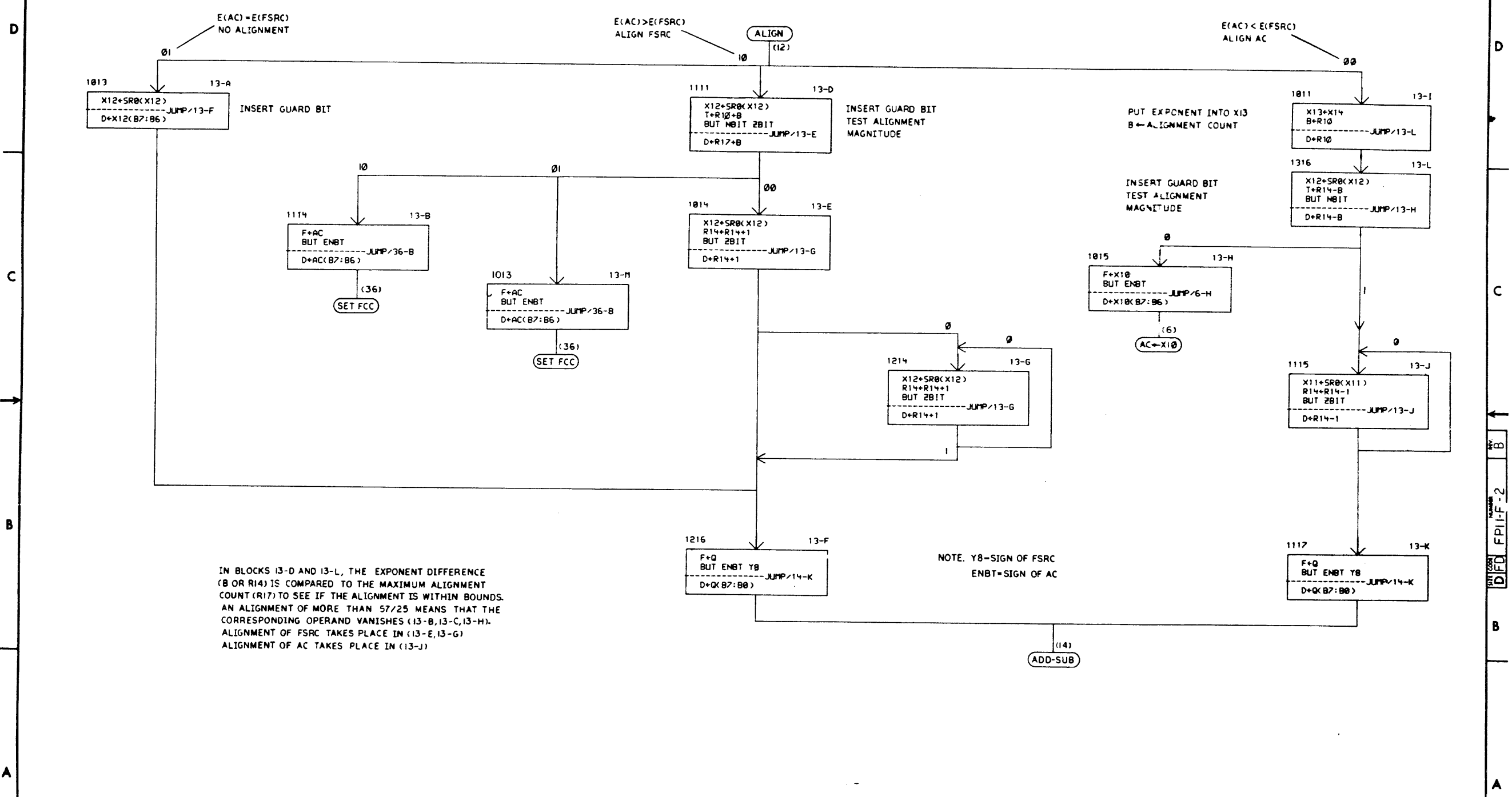
| REVISIONS | | |
|-----------|------------|------|
| CHK | CHANGE NO. | REV. |
| | | |

TITLE: FPII-F-FLOWS (12)
SIZE CODE: DFD
NUMBER: FPII-F-2
REV.: B

SCALE: SHEET 15 OF 40

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D F D FPII-F-2 2

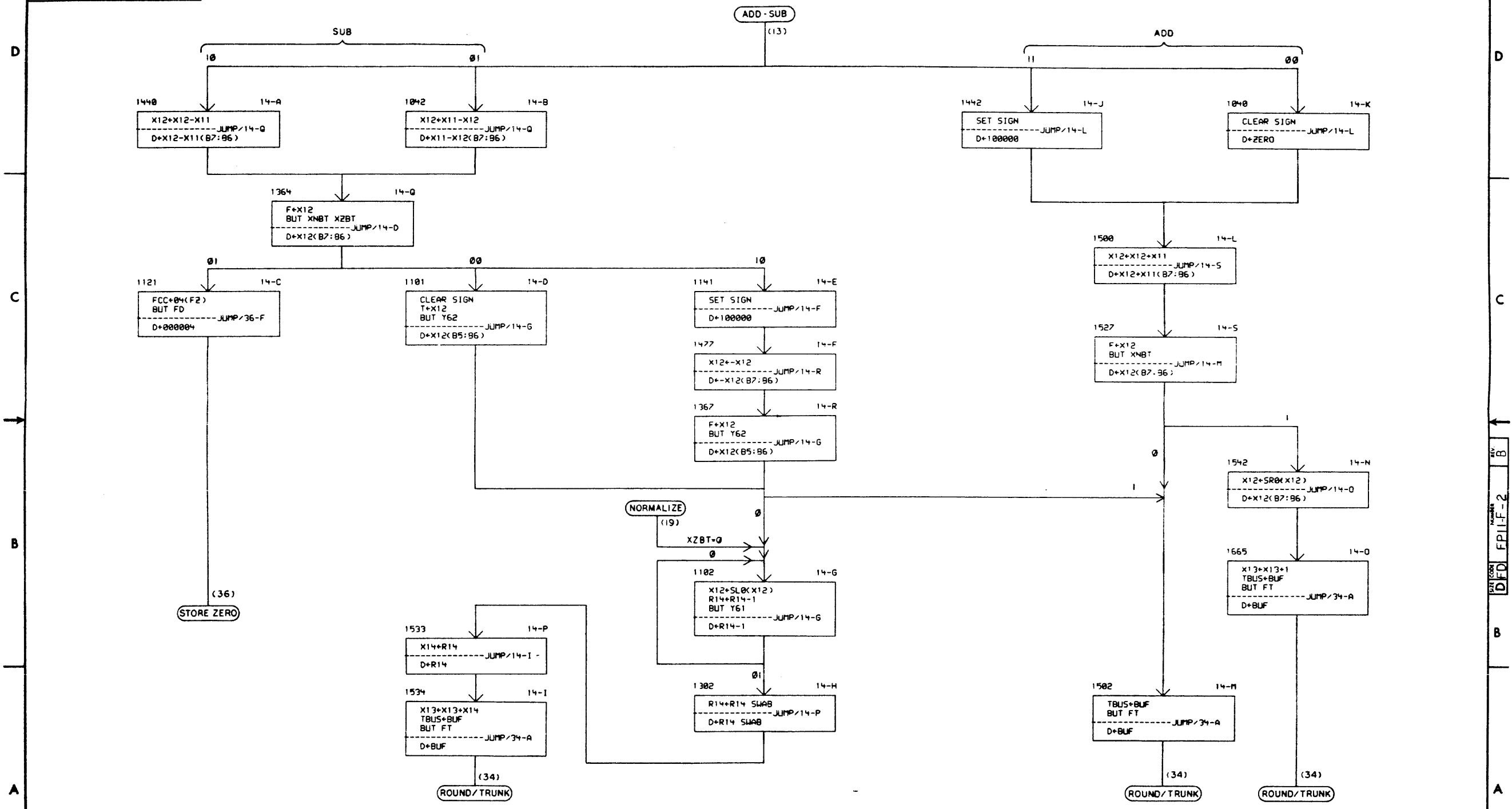


IN BLOCKS 13-D AND 13-L, THE EXPONENT DIFFERENCE (B OR R14) IS COMPARED TO THE MAXIMUM ALIGNMENT COUNT (R17) TO SEE IF THE ALIGNMENT IS WITHIN BOUNDS. AN ALIGNMENT OF MORE THAN 57/25 MEANS THAT THE CORRESPONDING OPERAND VANISHES (13-B, 13-C, 13-H). ALIGNMENT OF FSRC TAKES PLACE IN (13-E, 13-G). ALIGNMENT OF AC TAKES PLACE IN (13-J).

NOTE: Y8-SIGN OF FSRC
ENBT=SIGN OF AC

| REVISIONS | | |
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| CHK | CHANGE NO. | REV. |
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| | | |

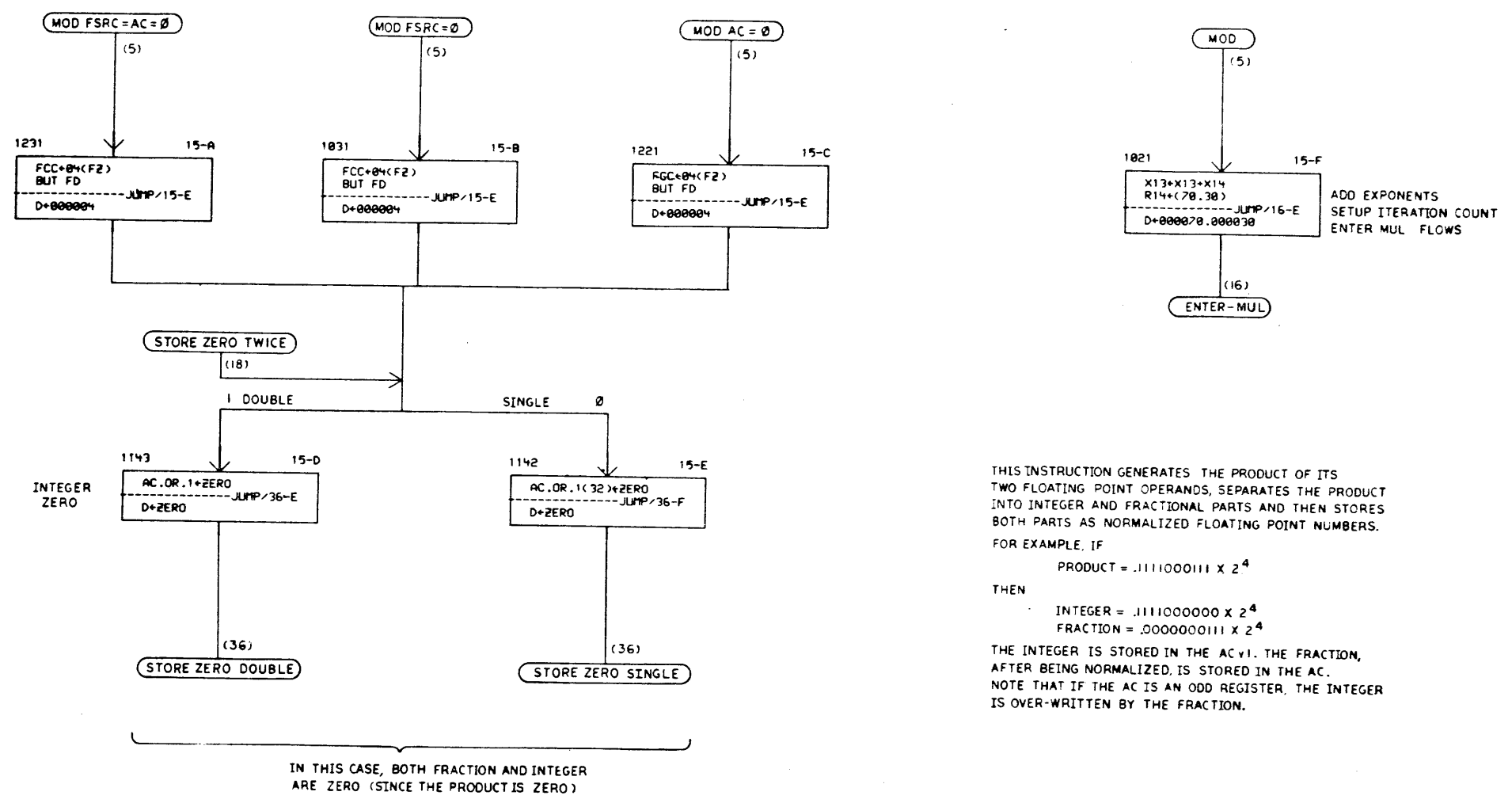
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| CHK | CHANGE NO. | REV. |
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2-F-11-F-2



THIS INSTRUCTION GENERATES THE PRODUCT OF ITS TWO FLOATING POINT OPERANDS, SEPARATES THE PRODUCT INTO INTEGER AND FRACTIONAL PARTS AND THEN STORES BOTH PARTS AS NORMALIZED FLOATING POINT NUMBERS. FOR EXAMPLE, IF

PRODUCT = .1111000111 X 2⁴

THEN

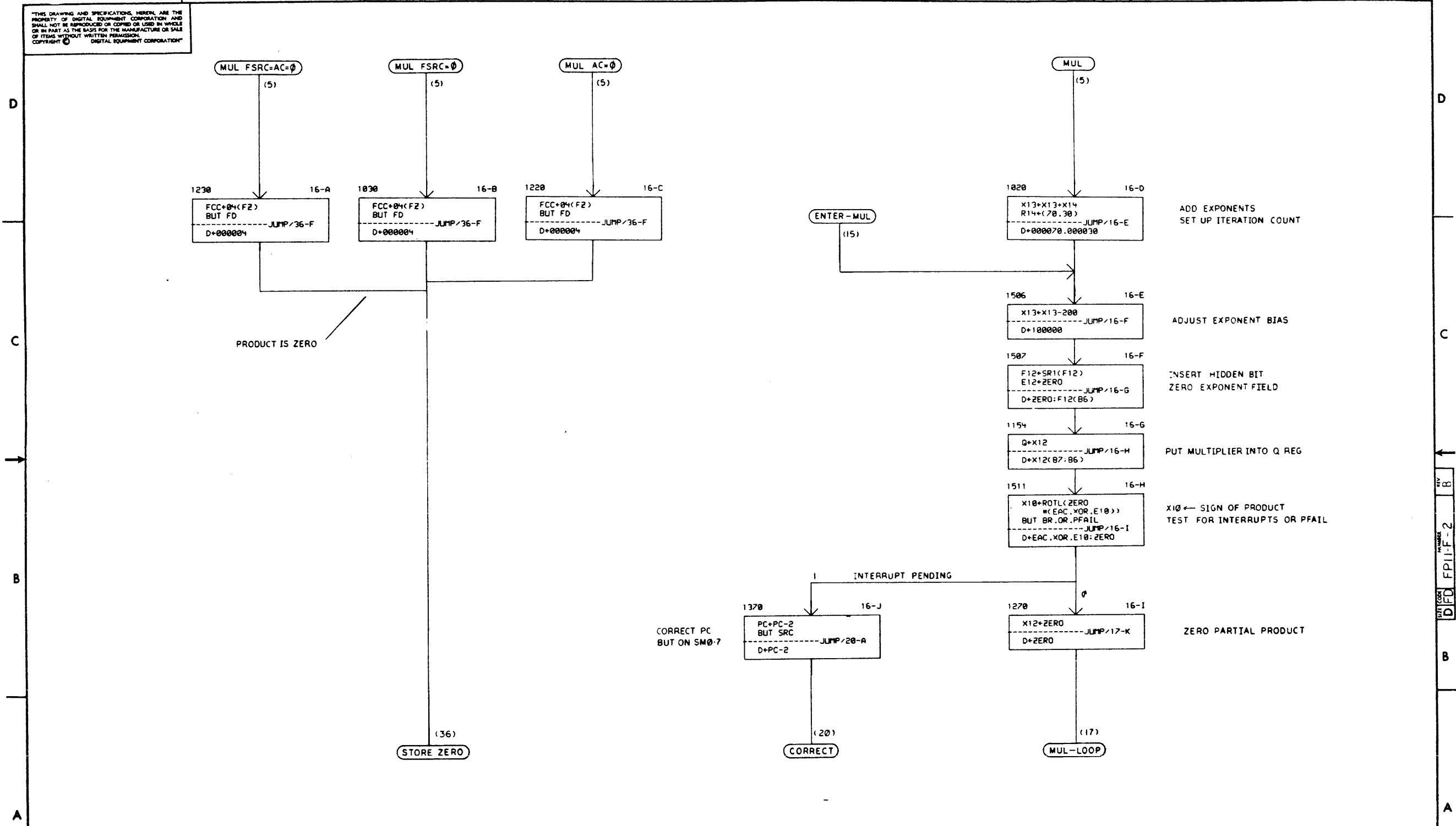
INTEGER = .1111000000 X 2⁴

FRACTION = .0000000111 X 2⁴

THE INTEGER IS STORED IN THE AC v1. THE FRACTION, AFTER BEING NORMALIZED, IS STORED IN THE AC. NOTE THAT IF THE AC IS AN ODD REGISTER, THE INTEGER IS OVER-WRITTEN BY THE FRACTION.

| REVISIONS | | |
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ADD EXPONENTS
SET UP ITERATION COUNT

ADJUST EXPONENT BIAS

INSERT HIDDEN BIT
ZERO EXPONENT FIELD

PUT MULTIPLIER INTO Q REG

X10 ← SIGN OF PRODUCT
TEST FOR INTERRUPTS OR PFAIL

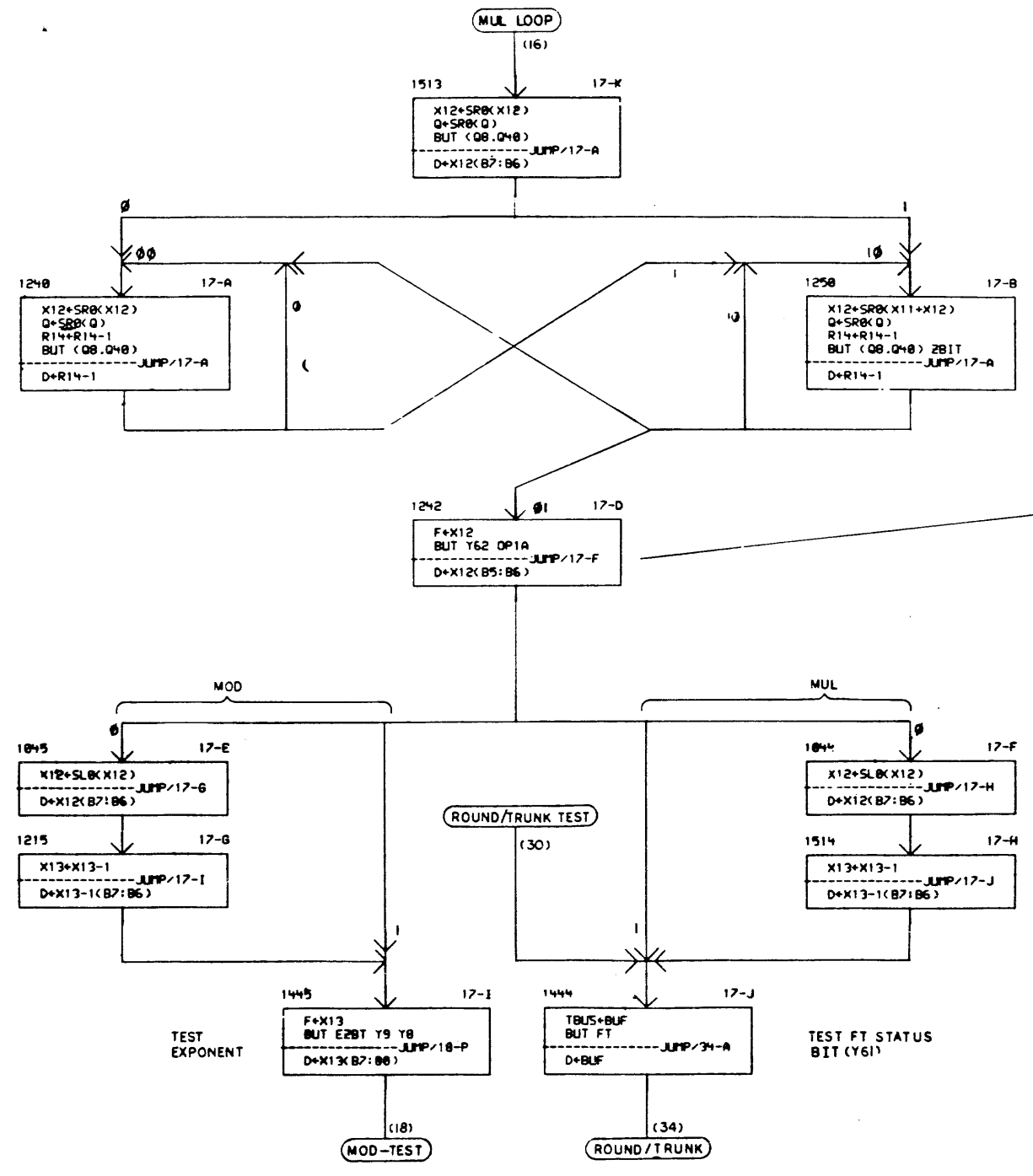
ZERO PARTIAL PRODUCT

| REVISIONS | | |
|-----------|------------|------|
| CHK | CHANGE NO. | REV. |
| | | |

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D
C
B
A

D
C
B
A



ALL SHIFTING IS DONE WHEN WE DROP OUT OF THIS LOOP LEFT GARD BIT IS ZERO

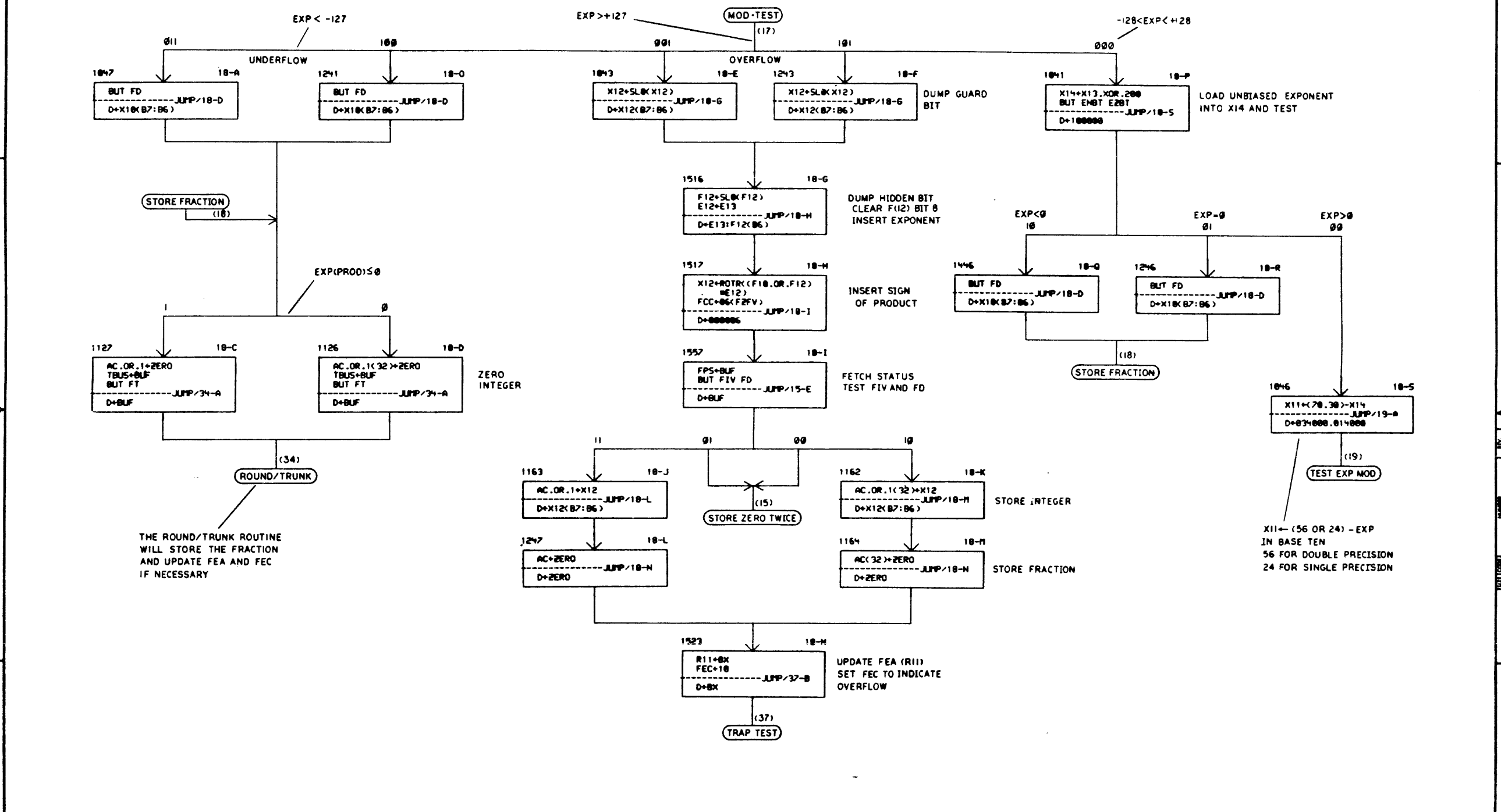
TEST MSB OF PRODUCT TO SEE IF PRE-NORMALIZATION IS NECESSARY. ALSO BREAK OUT MUL AND MOD INTO SEPARATE FLOWS.

SHIFT PRODUCT LEFT ONE PLACE

DECREMENT EXPONENT

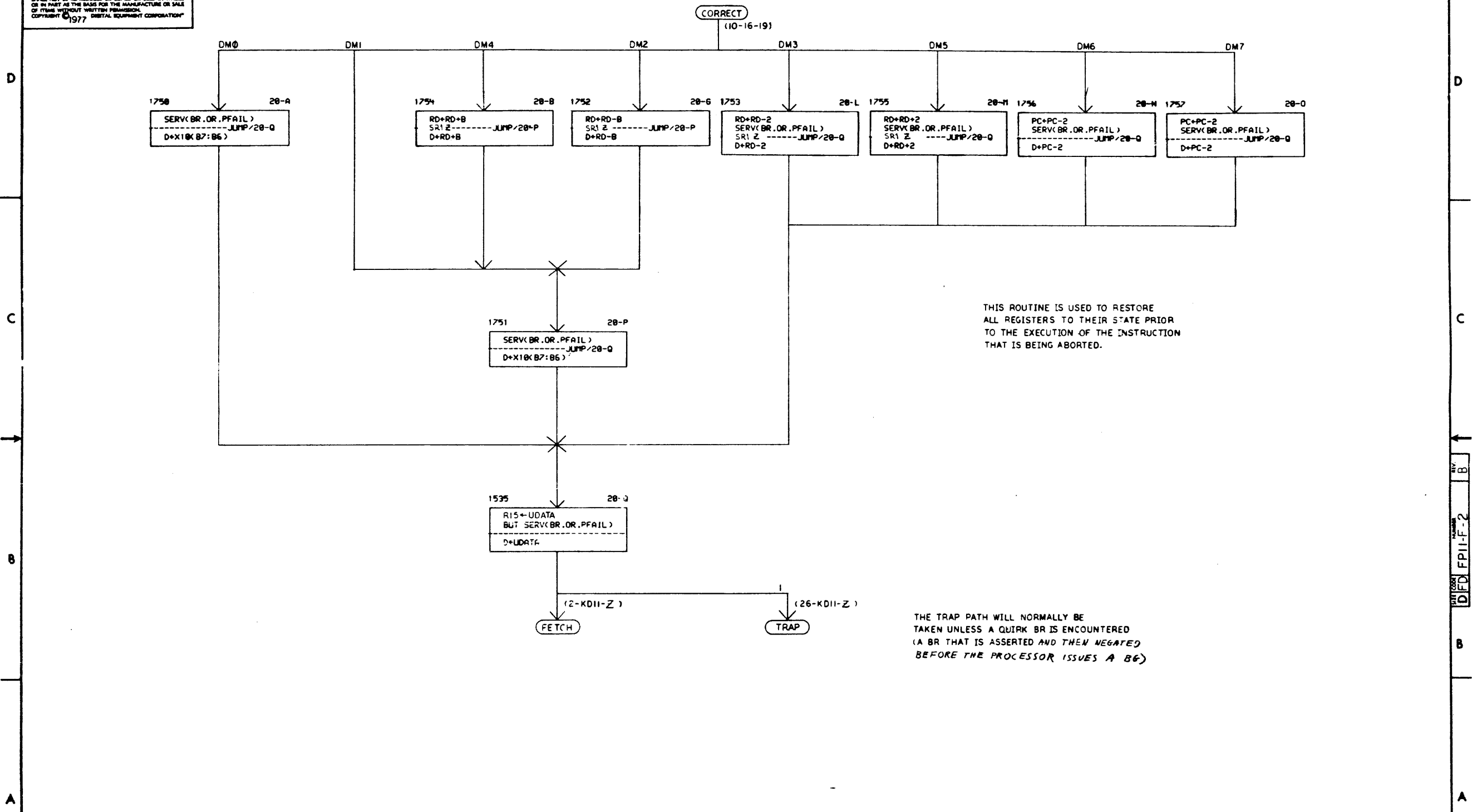
| REVISIONS | | |
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| CHK | CHANGE NO. | REV. |
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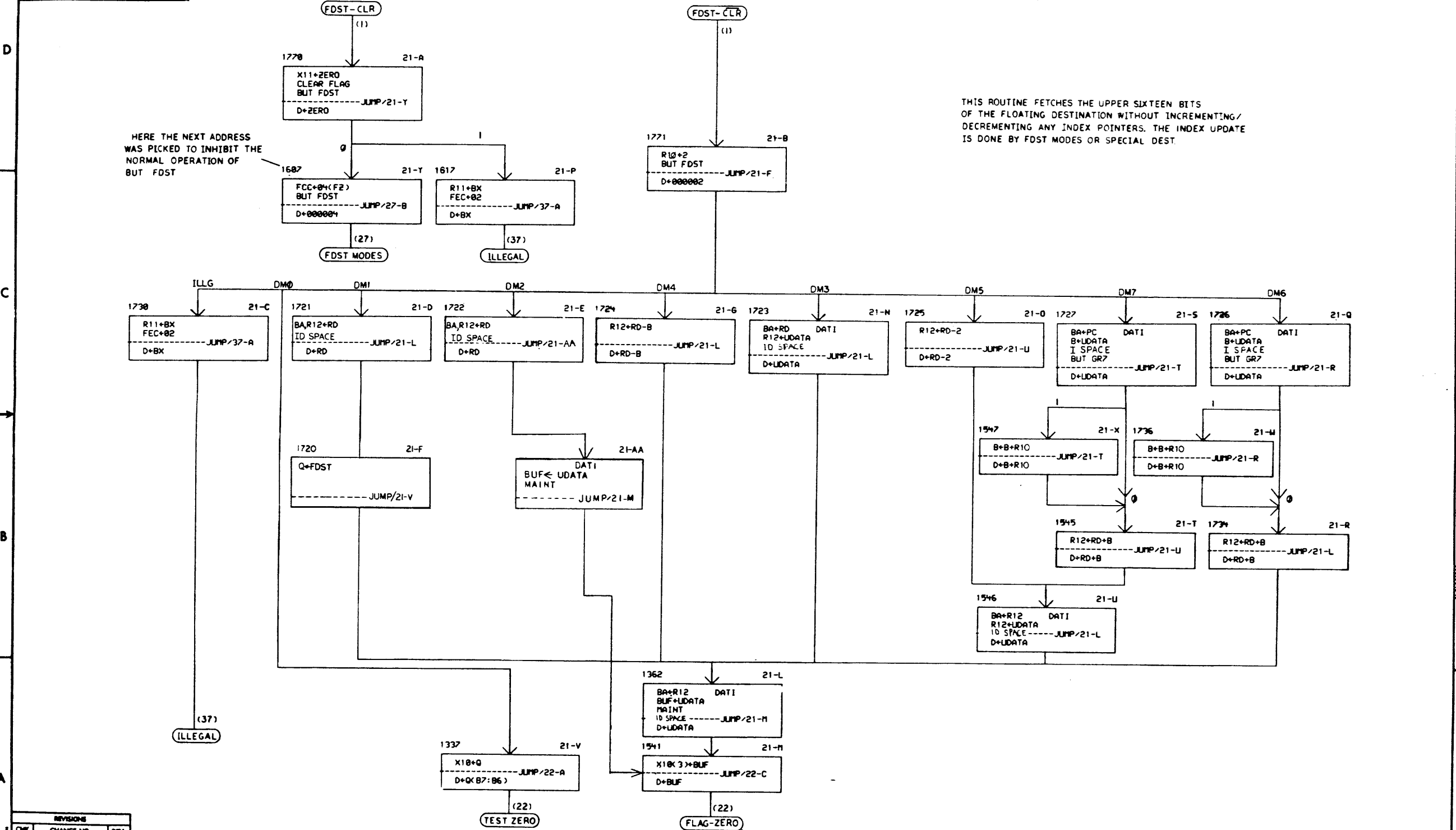
| REVISIONS | | |
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| CHK | CHANGE NO. | REV. |
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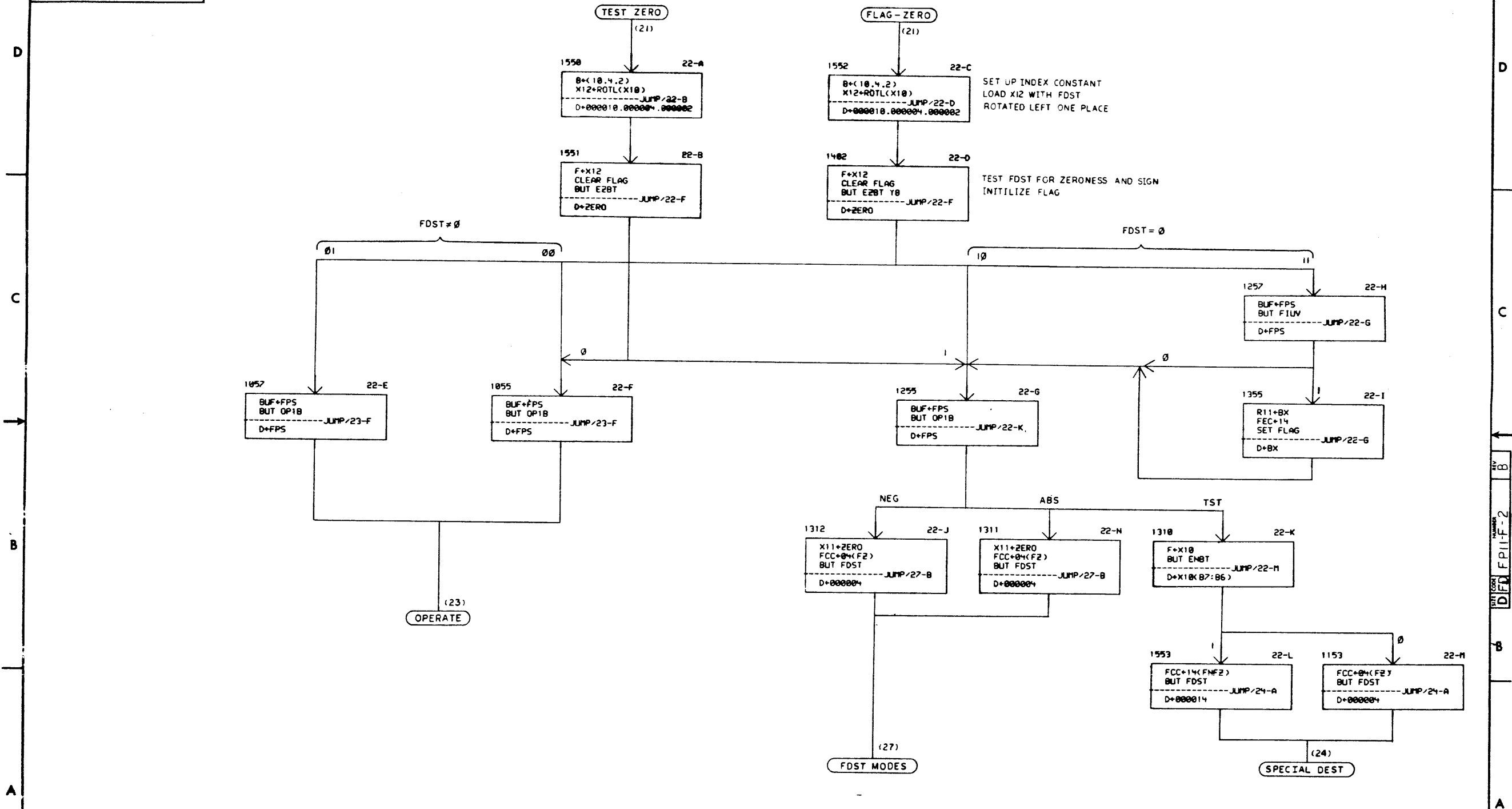
| REVISIONS | | |
|-----------|------------|------|
| CHK | CHANGE NO. | REV. |
| | | |

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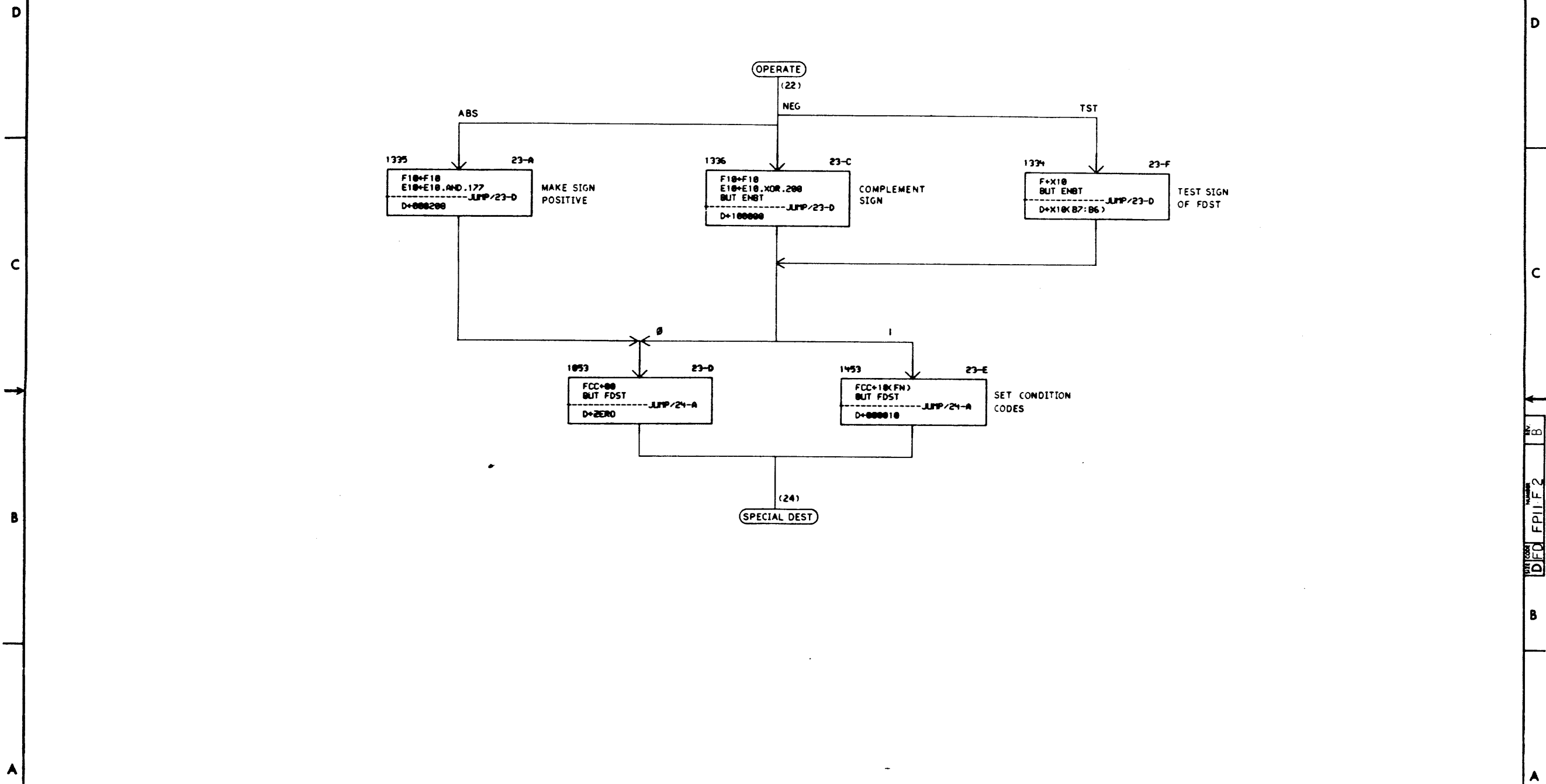
| REVISIONS | | |
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| REVISIONS | | |
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| CHK | CHANGE NO. | REV. |
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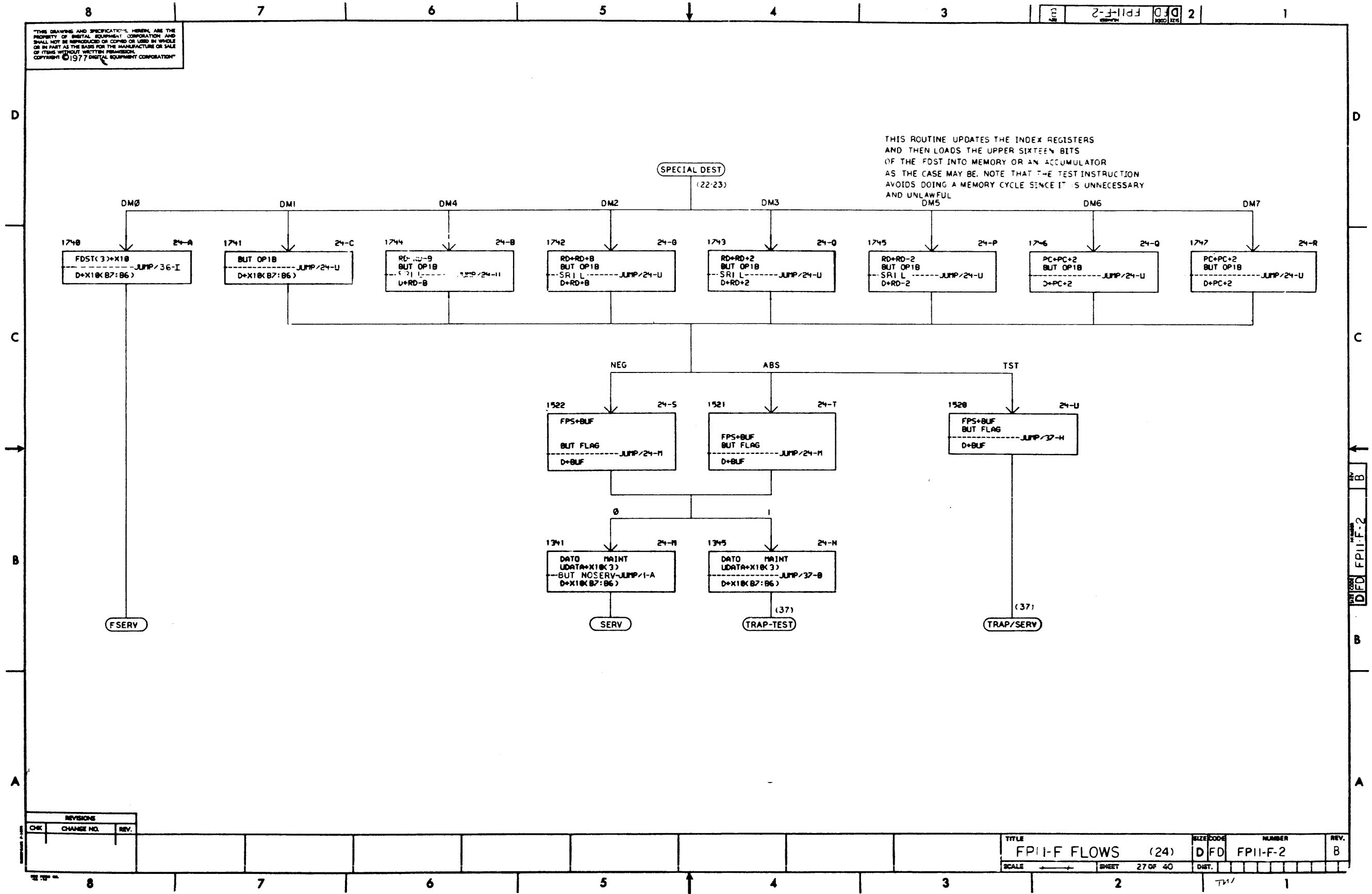
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THIS ROUTINE UPDATES THE INDEX REGISTERS AND THEN LOADS THE UPPER SIXTEEN BITS OF THE FOST INTO MEMORY OR AN ACCUMULATOR AS THE CASE MAY BE. NOTE THAT THE TEST INSTRUCTION AVOIDS DOING A MEMORY CYCLE SINCE IT IS UNNECESSARY AND UNLAWFUL

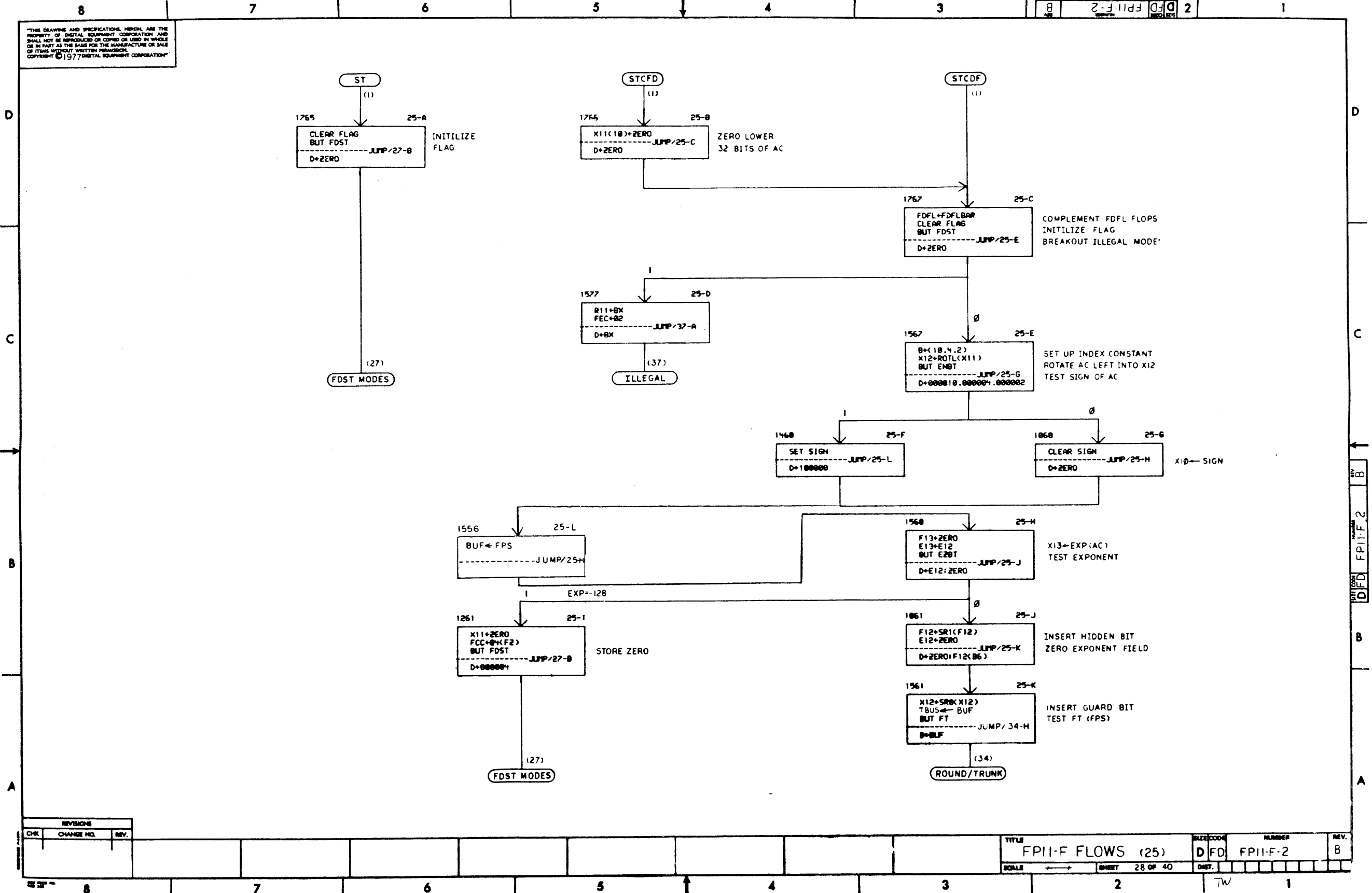


| REVISIONS | | |
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| CHK | CHANGE NO. | REV. |
| | | |

| | | | | | | | |
|-------|-------------------|-----------|----------|--------|----------|------|---|
| TITLE | FPII-F FLOWS (24) | SIZE CODE | D FD | NUMBER | FPII-F-2 | REV. | B |
| SCALE | | SHEET | 27 OF 40 | DIST. | | | |

REV B
 DFD FPII-F-2
 REV B

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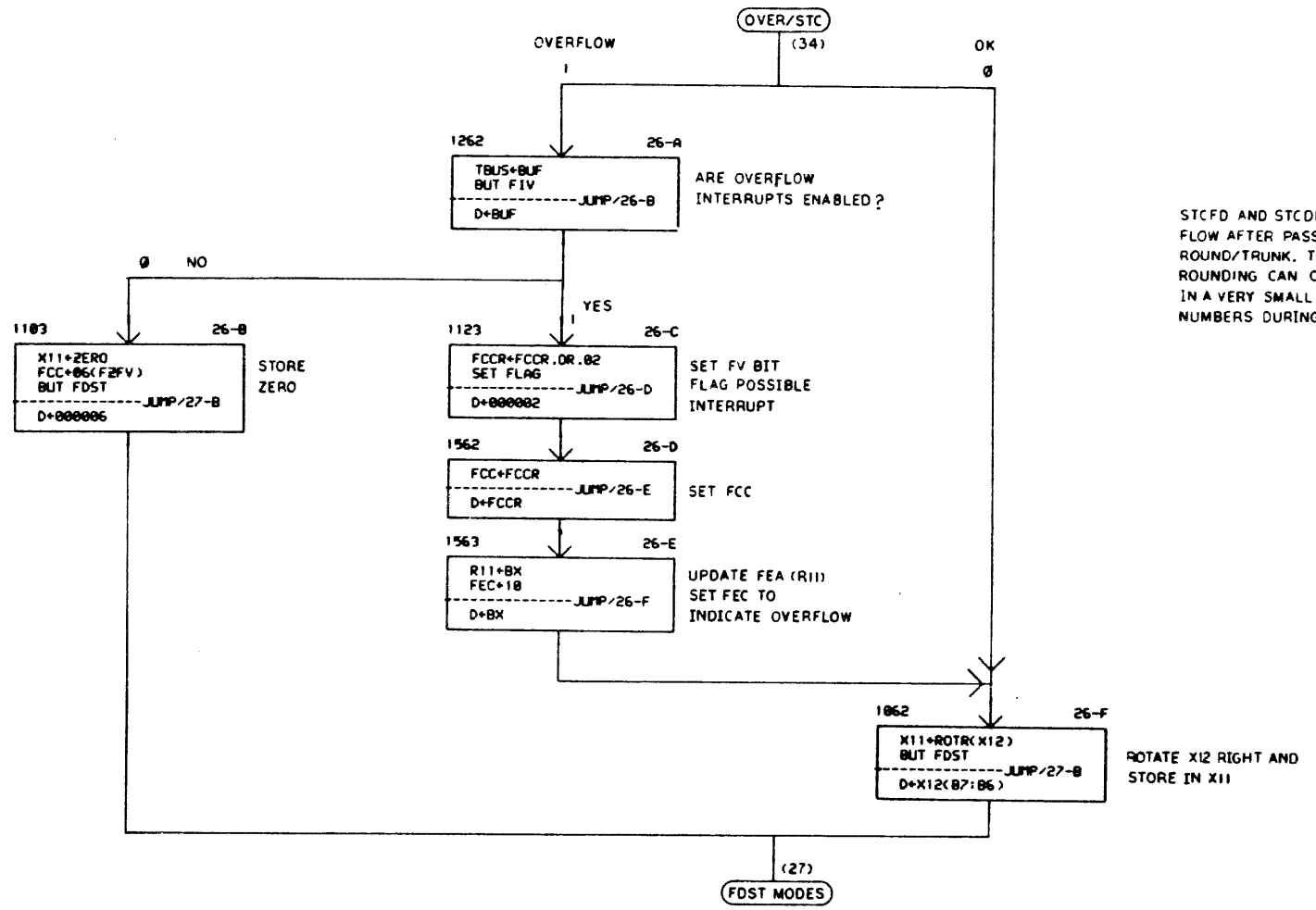
| REVISIONS | | |
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| CHK | CHANGE NO. | REV. |
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REV. 2
D FD FPII-F-2

D
C
B
A

D
C
B
A



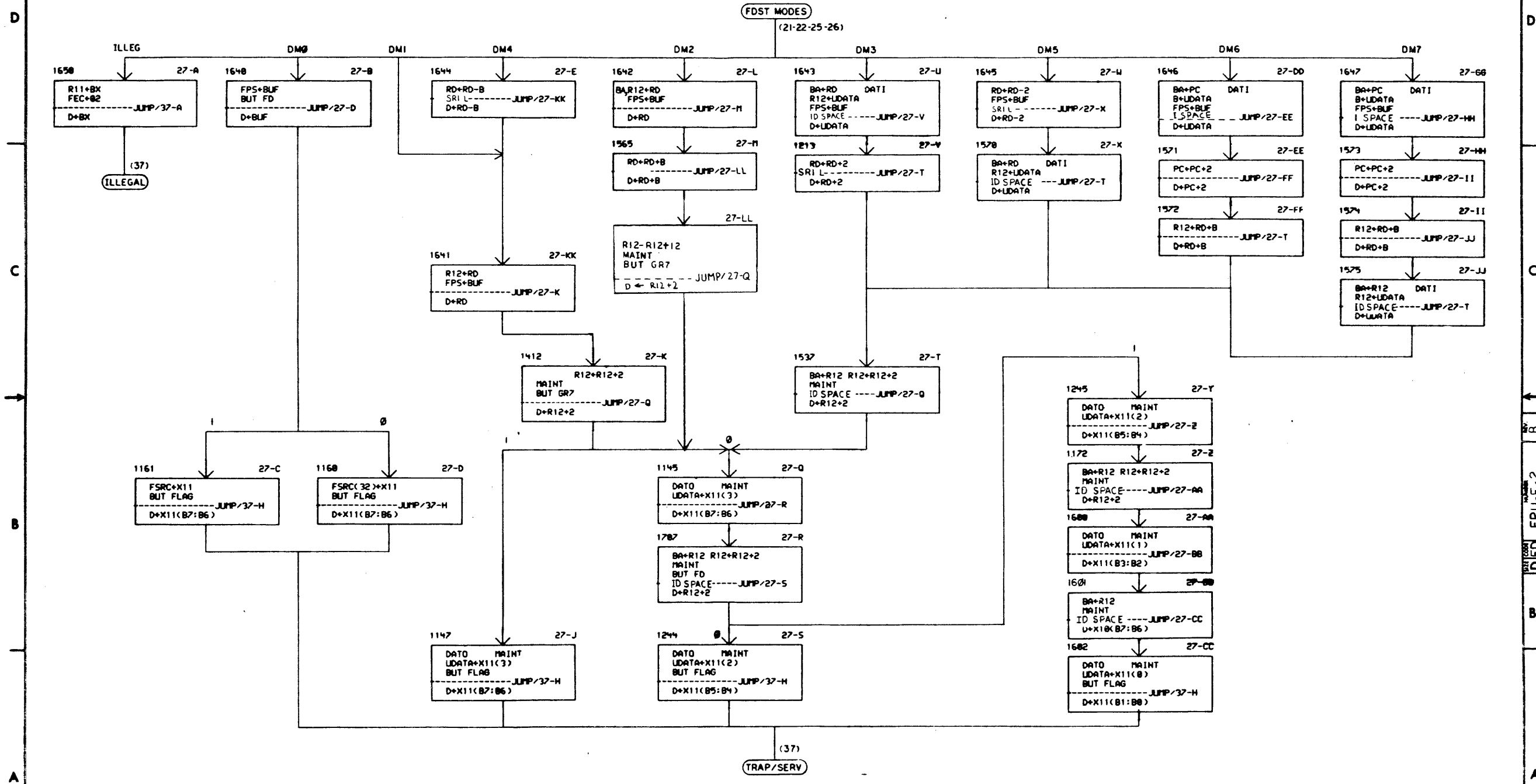
STCFD AND STCDF ENTER THIS FLOW AFTER PASSING THROUGH ROUND/TRUNK. THE PROCESS OF ROUNDING CAN CAUSE AN OVERFLOW IN A VERY SMALL CLASS OF VERY LARGE NUMBERS DURING STCDF (PROBABILITY = 1/∞)

| REVISIONS | | |
|-----------|------------|------|
| CHK | CHANGE NO. | REV. |
| | | |

| | | | | | | | |
|-------|-------------------|-----------|----------|--------|----------|------|---|
| TITLE | FPII-F FLOWS (26) | SIZE/CODE | D FD | NUMBER | FPII-F-2 | REV. | 8 |
| SCALE | + | SHEET | 29 OF 40 | DIST. | | | |

8 7 6 5 4 3 2 1

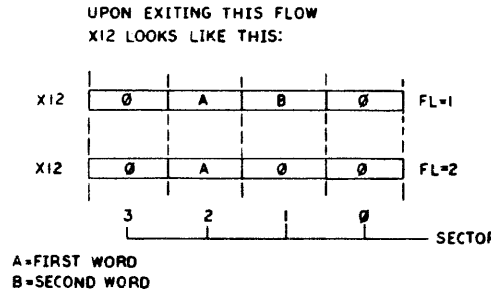
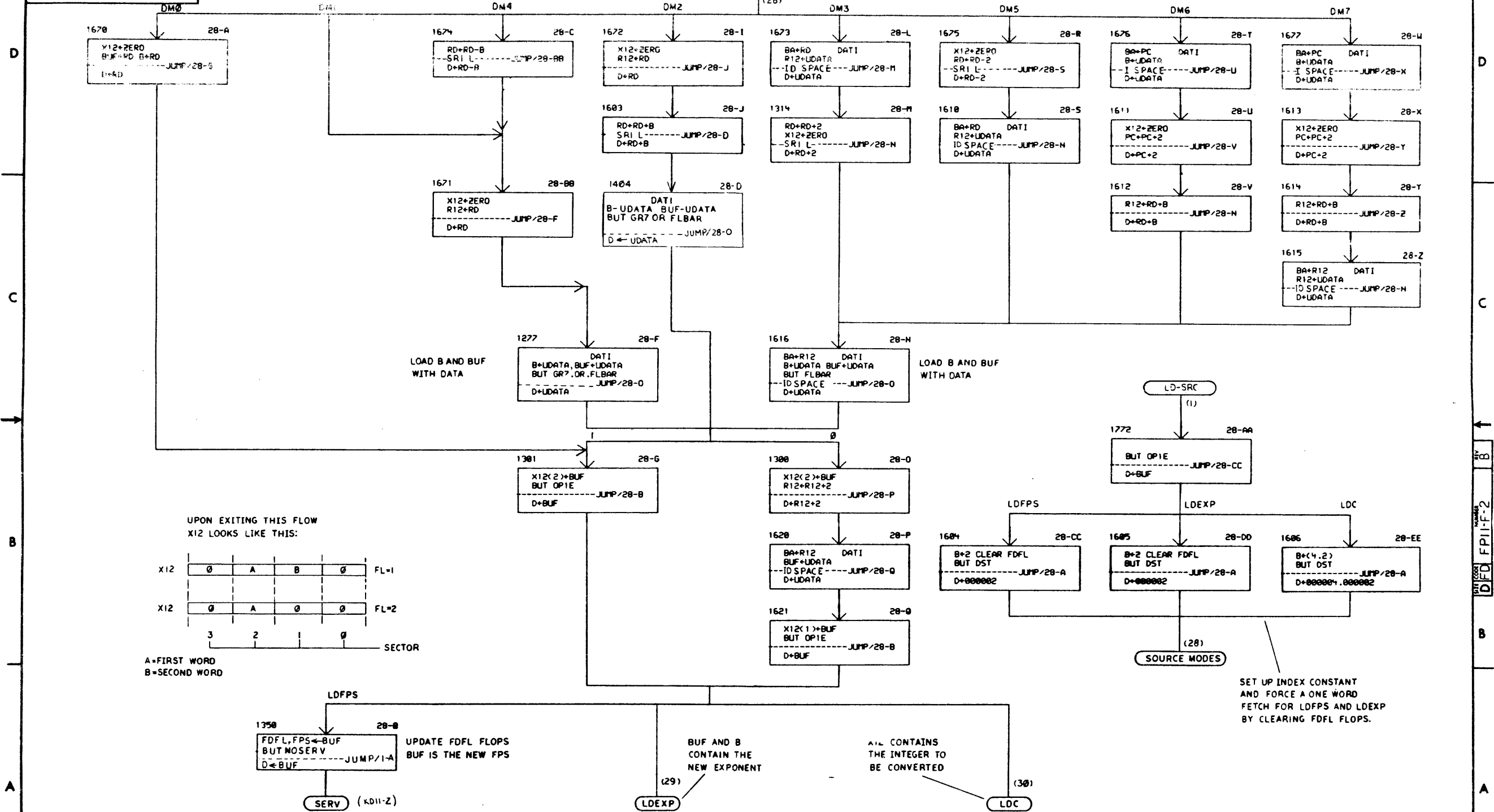
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| REVISIONS | | |
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| CHK | CHANGE NO. | REV. |
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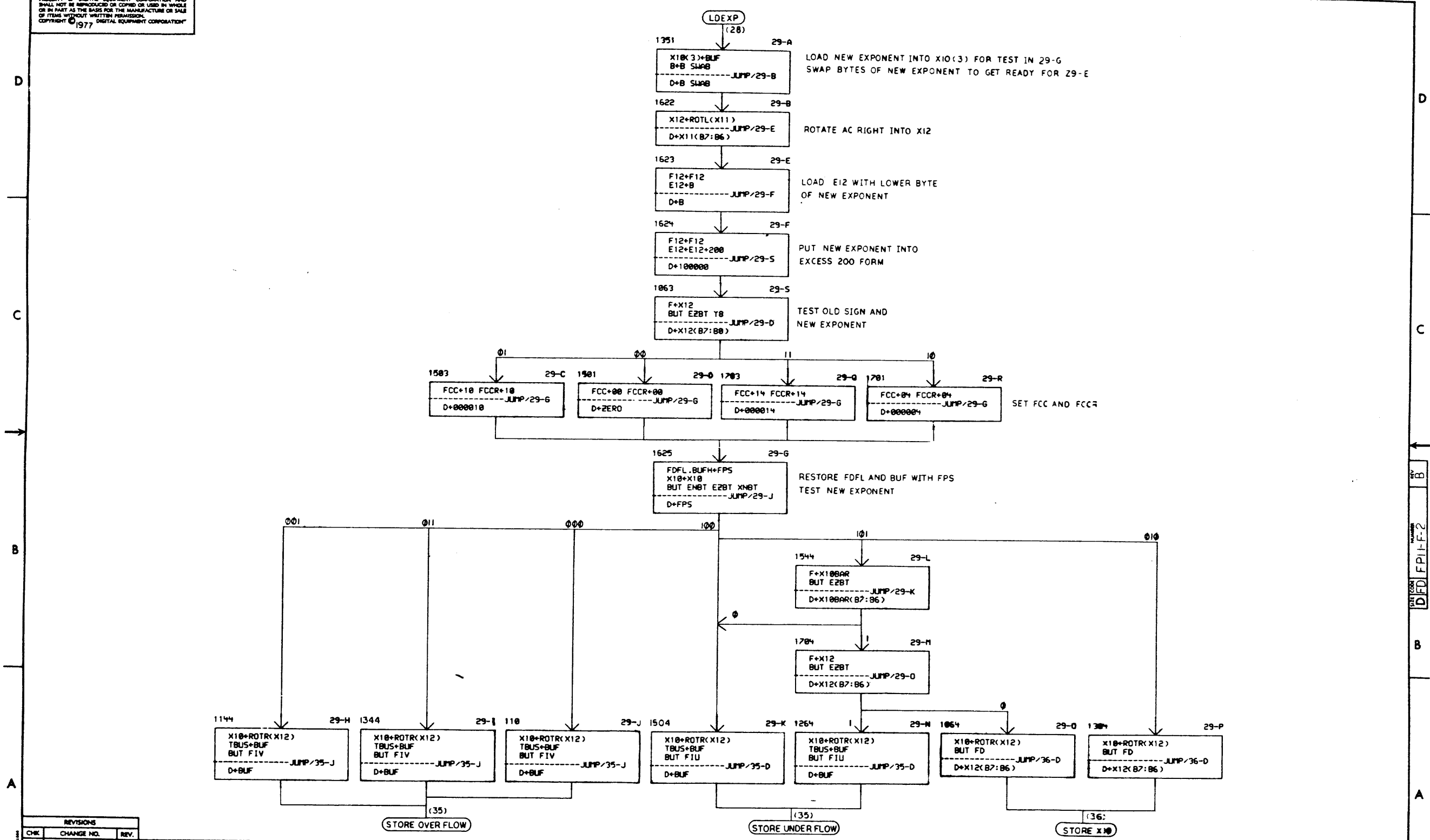
SOURCE MODES



| REVISIONS | | |
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| CHK | CHANGE NO. | REV. |
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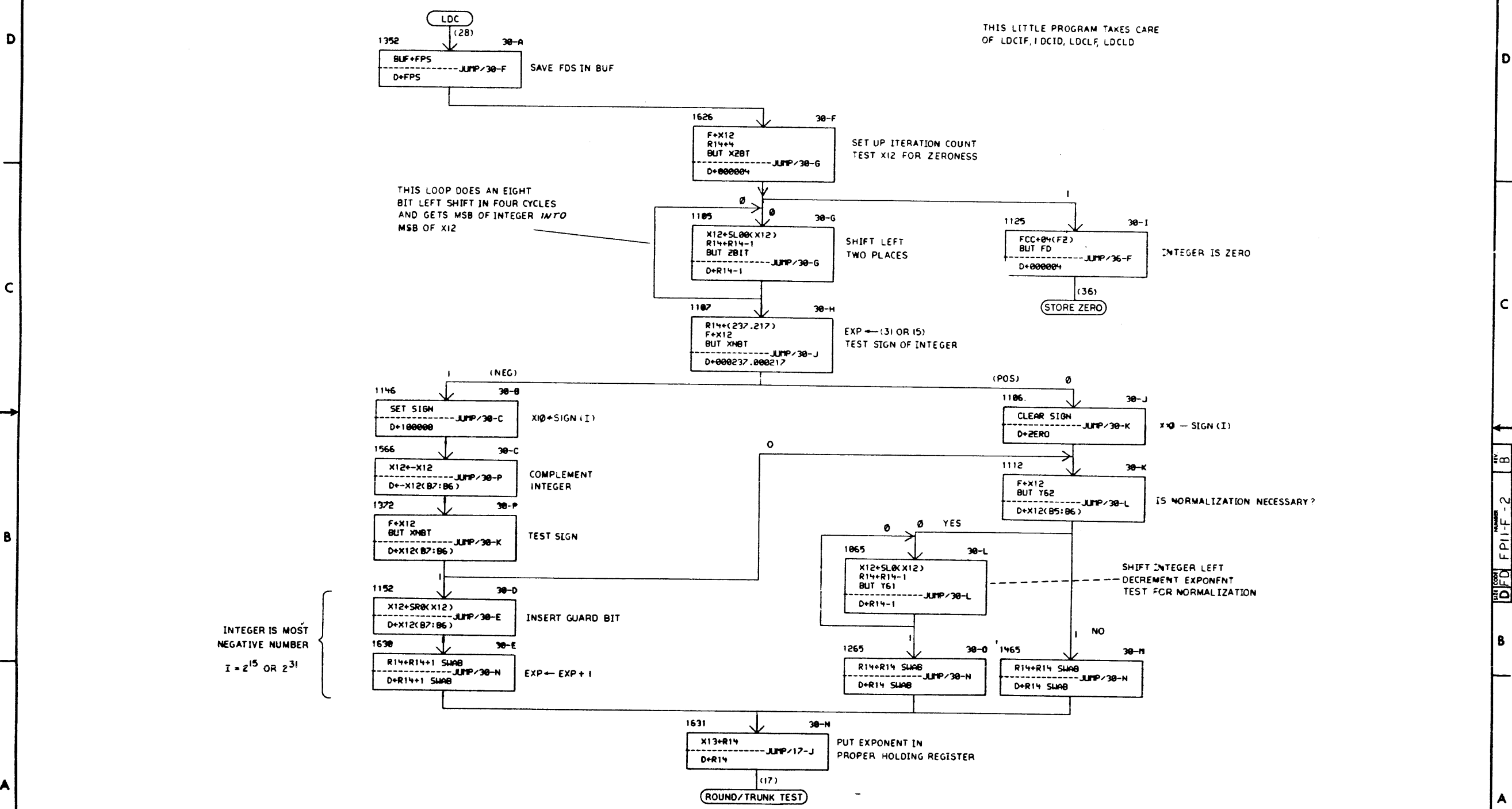
D E F D F P I I - F - 2 2



| REVISIONS | | |
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| CHK | CHANGE NO. | REV. |
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5
2
1

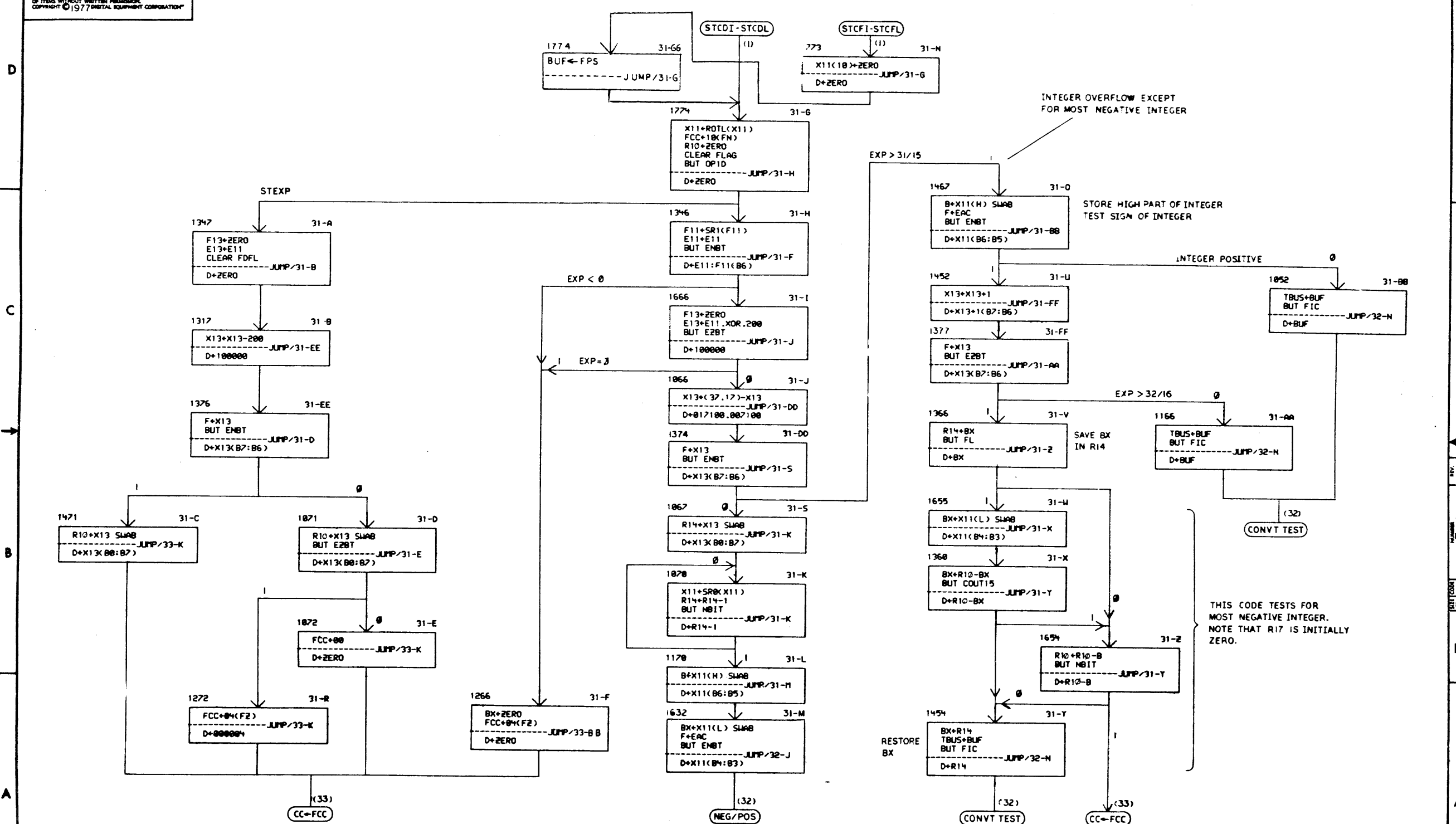


| REVISIONS | | |
|-----------|------------|------|
| CHK | CHANGE NO. | REV. |
| | | |

TITLE: FPII-F-FLOWS (30)
 SIZE CODE: DFD
 NUMBER: FPII-F-2
 REV: B

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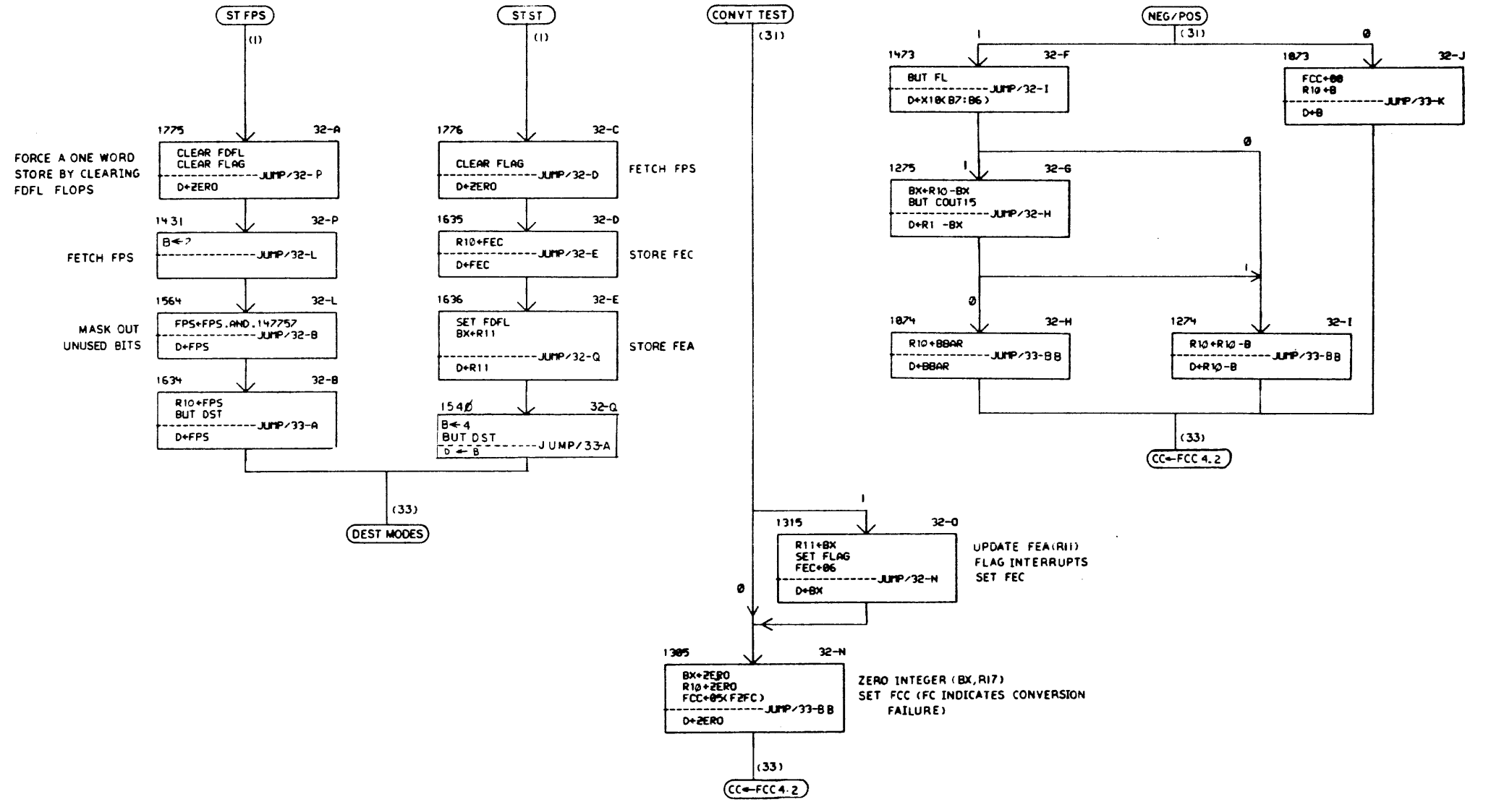
2-3-1113 DFD 2



| REVISIONS | | |
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| CHK | CHANGE NO. | REV. |
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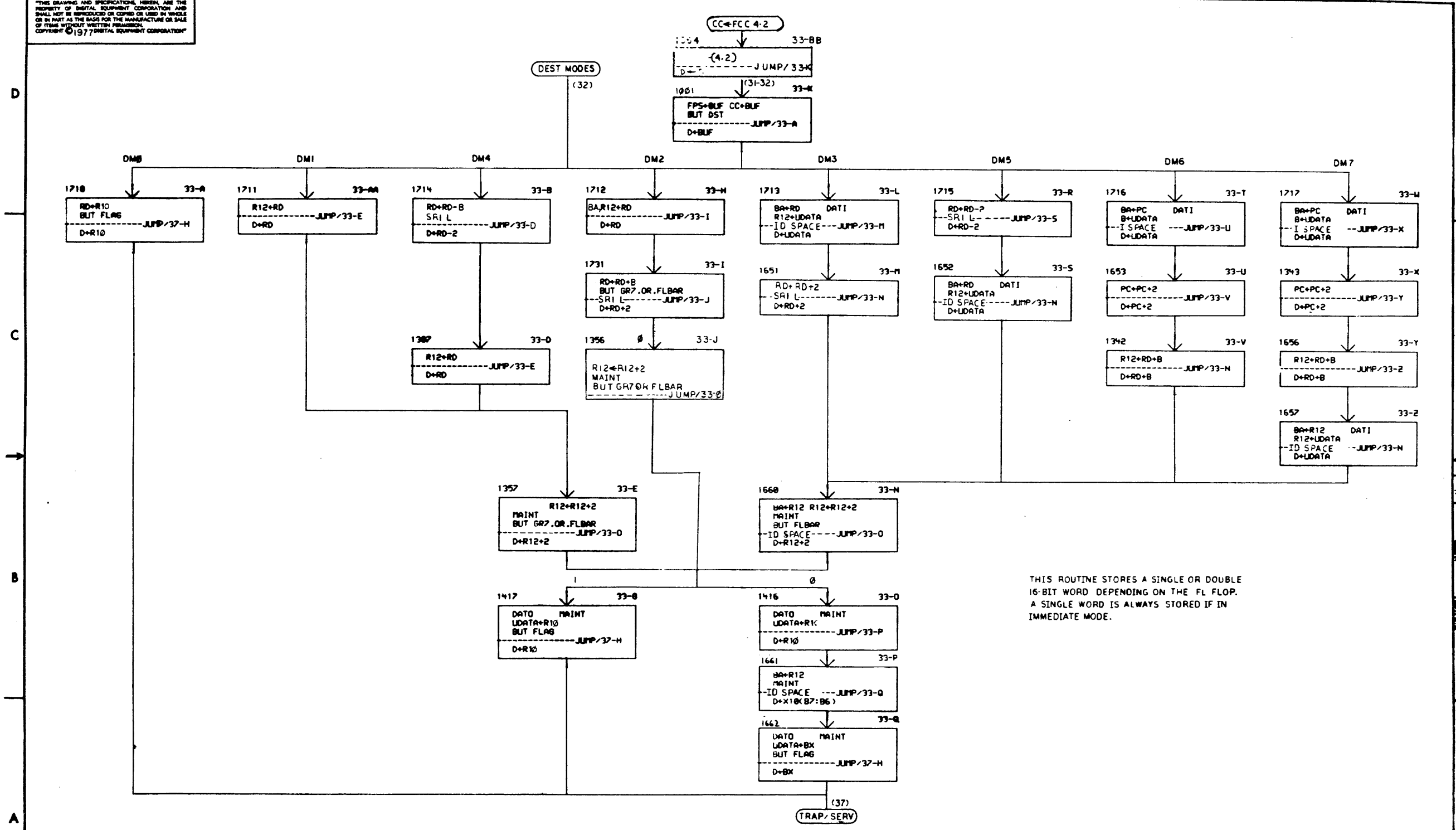
UPON ENTERING THIS ROUTINE, THE INTEGER IS IN B AND BX, R17 CONTAINS ZERO. THE INTEGER IS COMPLEMENTED (IF NECESSARY) AND STORED IN R17 AND BX.



| REVISIONS | | |
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| CHK | CHANGE NO. | REV. |
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D FD FPII-F-2 2



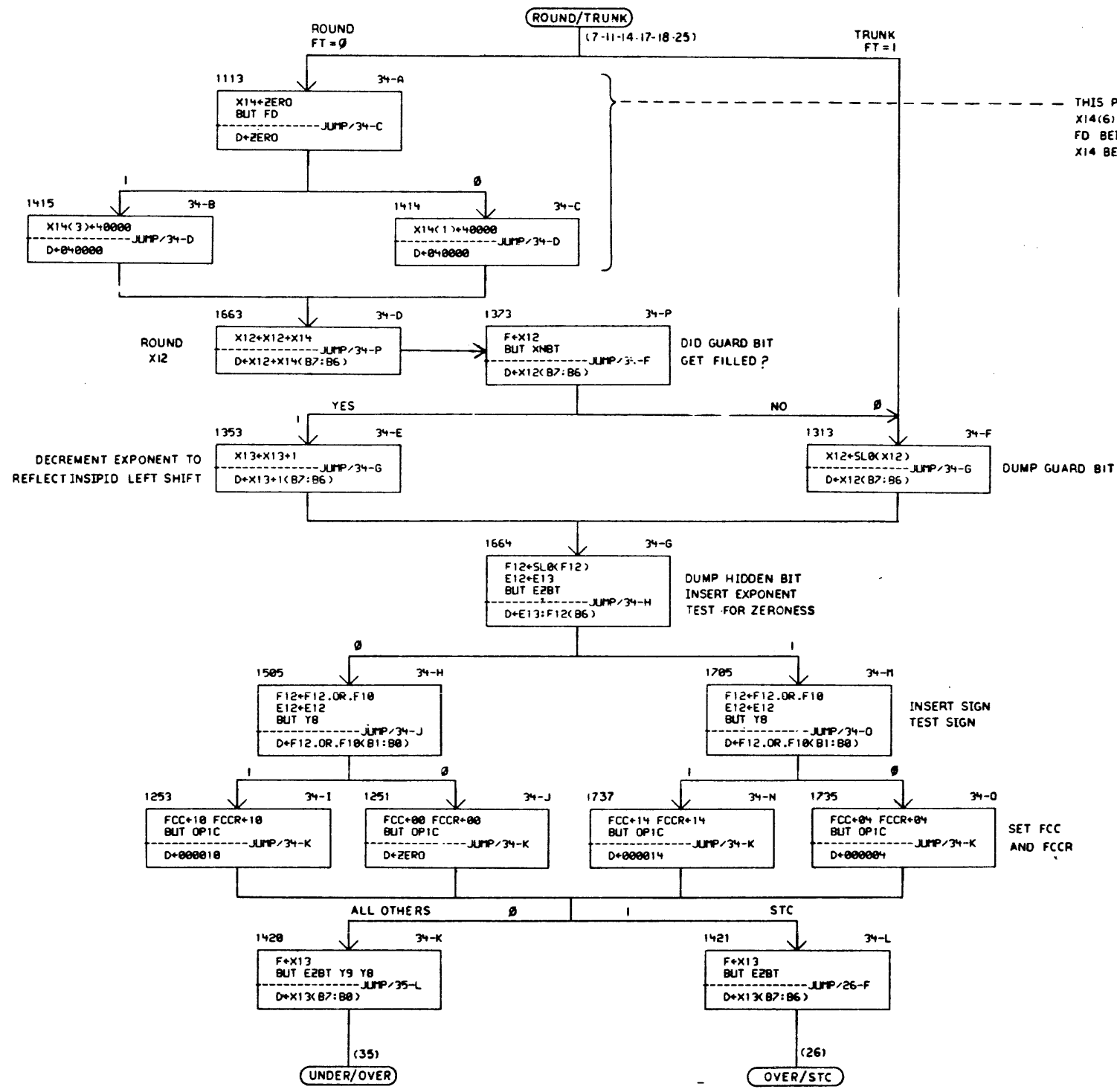
THIS ROUTINE STORES A SINGLE OR DOUBLE 16-BIT WORD DEPENDING ON THE FL FLOP. A SINGLE WORD IS ALWAYS STORED IF IN IMMEDIATE MODE.

| REVISIONS | | |
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| CHK | CHANGE NO. | REV. |
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|-------|-------------------|-----------|----------|--------|----------|-----|---|
| TITLE | FPII-F FLOWS (33) | SIZE CODE | D FD | NUMBER | FPII-F-2 | REV | B |
| SCALE | ← | SHEET | 36 OF 40 | DIST. | | | |

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8 7 6 5 4 3 2 1
 D FD FPII-F-2



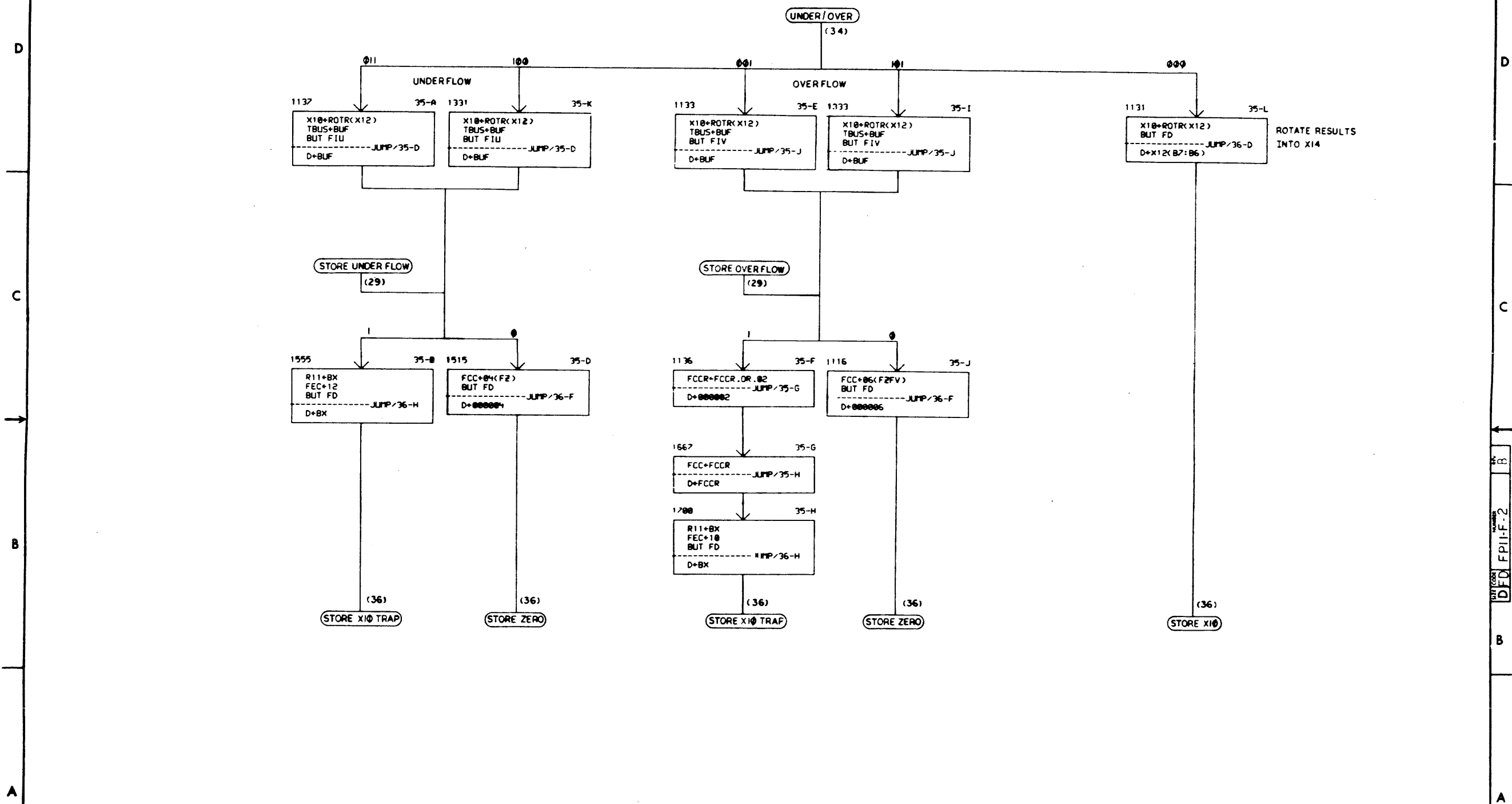
THIS PUTS A 'ROUNDING BIT' IN X14(6) OR X14(38) DEPENDING ON FD BEING ONE OR ZERO. IN EFFECT, X14 BECOMES A ROUNDING CONSTANT

| REVISIONS | | |
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| CHK | CHANGE NO. | REV. |
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| | | | | | | | |
|-------|-------------------|-----------|----------|--------|----------|------|---|
| TITLE | FPII-F-FLOWS (34) | SIZE CODE | D FD | NUMBER | FPII-F-2 | REV. | B |
| SCALE | --- | SHEET | 37 OF 40 | DIST. | | | |

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REV. B
D E D F P I I - F - 2

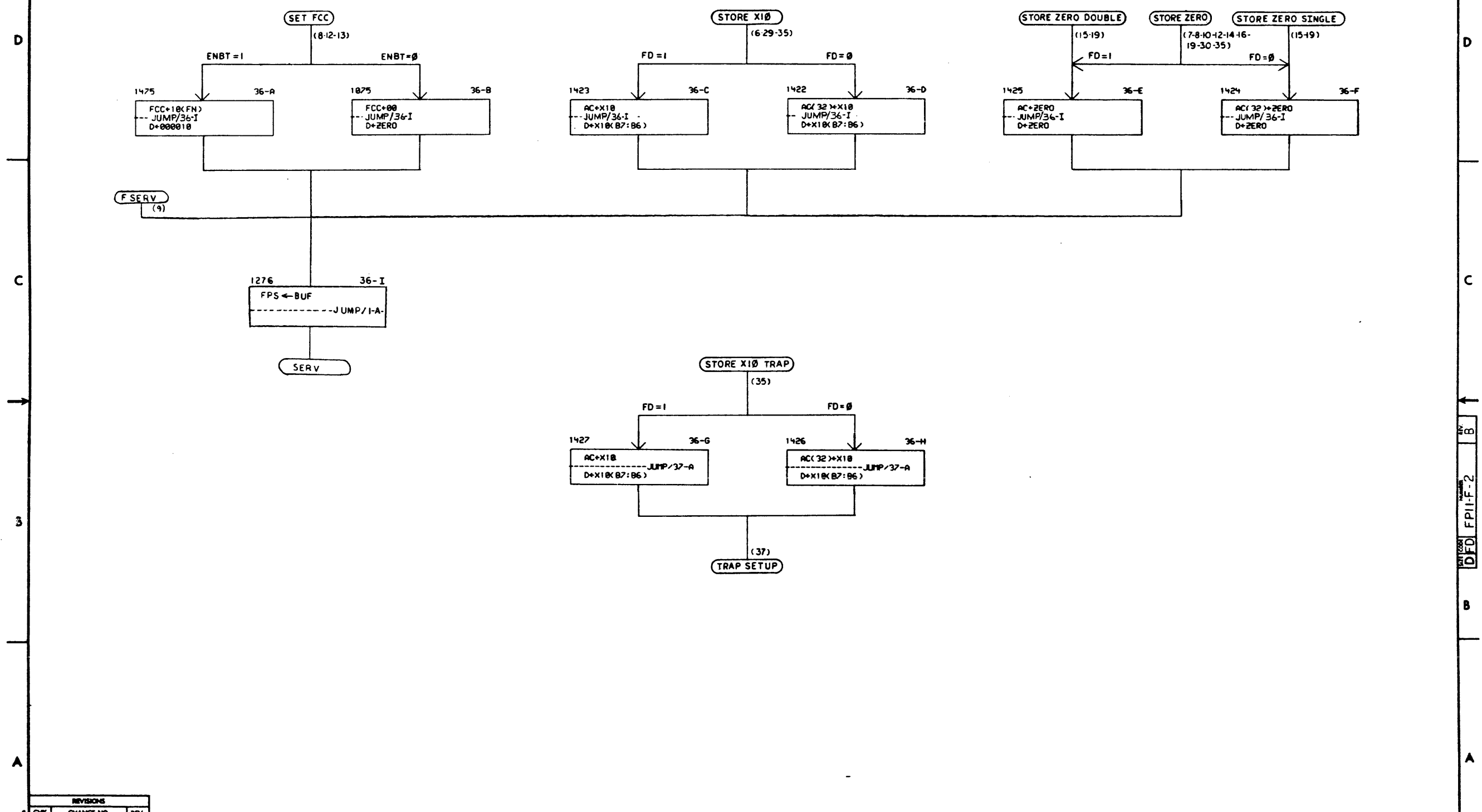


| REVISIONS | | |
|-----------|------------|------|
| CHK | CHANGE NO. | REV. |
| | | |

TITLE: FPII-F-FLOWS (35)
 SCALE: →
 SHEET: 38 OF 40
 DIST. TW
 NUMBER: FPII-F-2
 REV. B

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REV. B
D F D F P I I F - 2
2



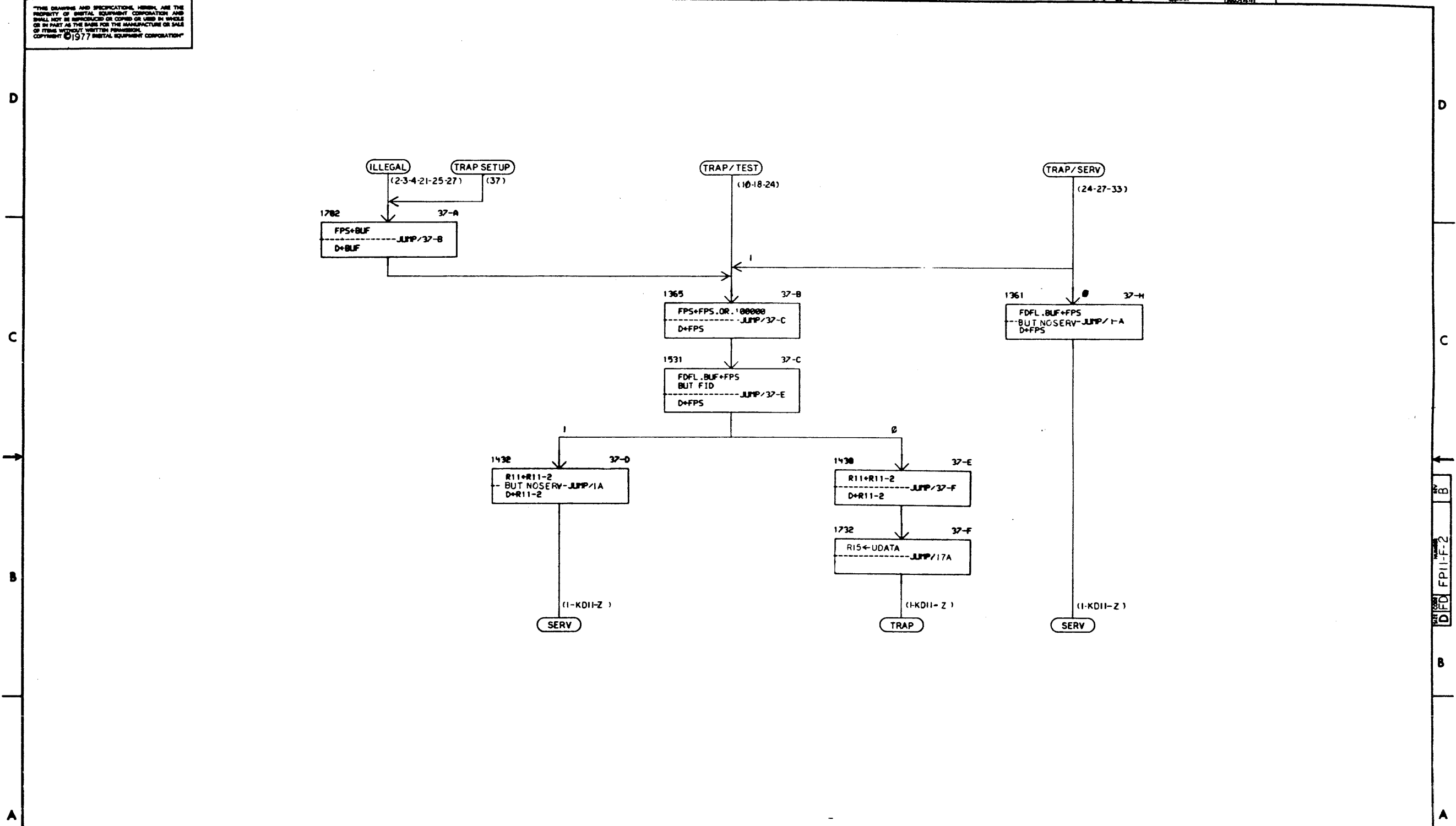
| REVISIONS | | |
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| CHK | CHANGE NO. | REV. |
| | | |

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|-------|------------------|-----------|----------|--------|----------|------|---|
| TITLE | FPIIF-FLOWS (36) | SIZE CODE | D F D | NUMBER | FPII-F-2 | REV. | B |
| SCALE | + | SHEET | 39 OF 40 | DIST. | | | |

8 7 6 5 4 3 2 1 TW

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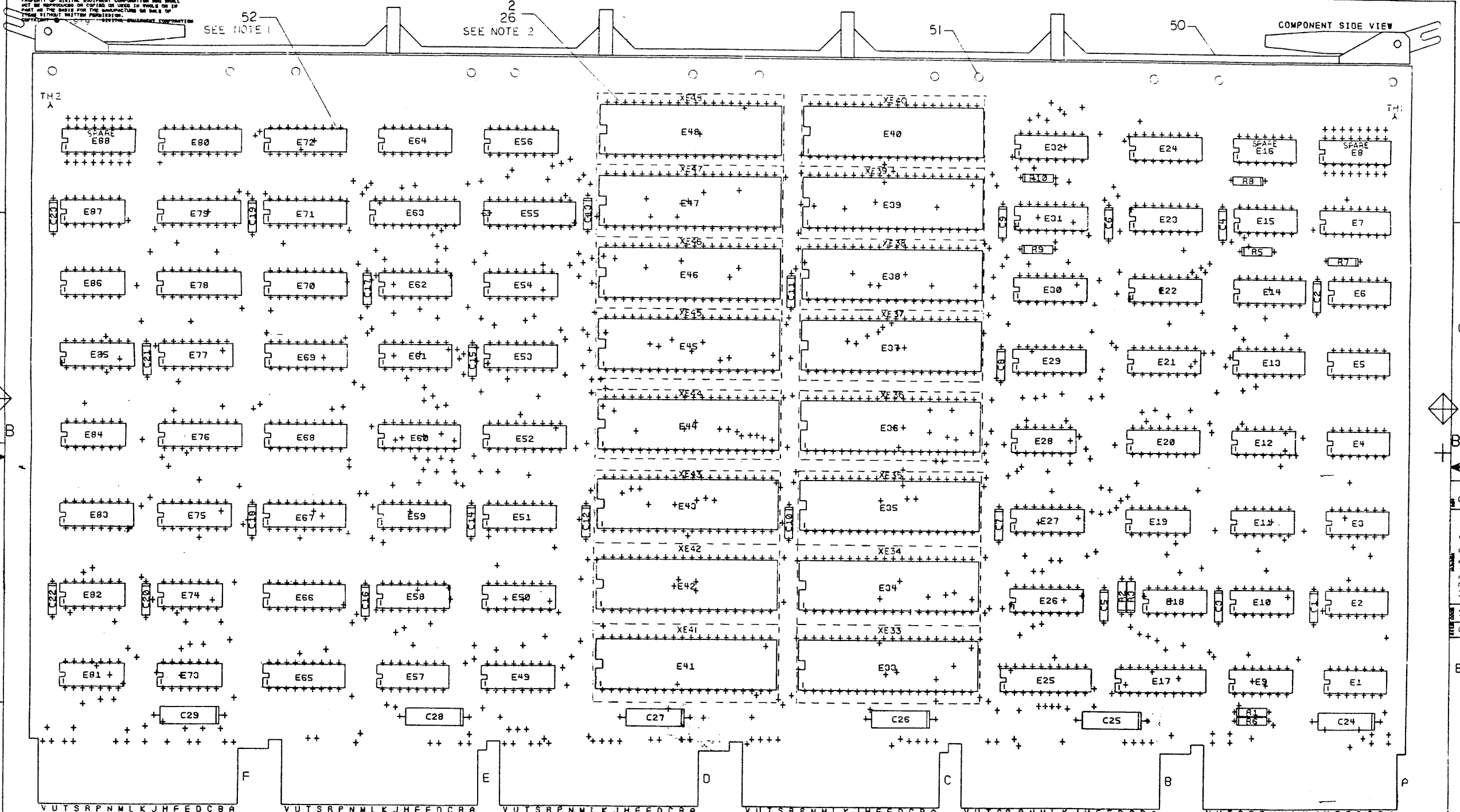
8 7 6 5 4 3 2 1



| REVISIONS | | |
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| CHK | CHANGE NO. | REV. |
| | | |

| | | | |
|-------------------|-----------|----------|------|
| TITLE | SIZE/COOR | NUMBER | REV. |
| FPII-F-FLOWS (37) | D FD | FPII-F-2 | B |
| SCALE | SHEET | DIST. | |
| | 40 OF 40 | | |

8 7 6 5 4 3 2 1



NOTES:

1. _____

2. E33 THRU E48 WILL BE MOUNTED INTO SOCKETS. (P/L ITEM 2)

| | | | |
|-----------|-----|----------|----------|
| CHANGE NO | REV | DATE | BY |
| 1 | 1 | 11/24/44 | ET GERRY |
| 2 | 1 | 12/4/44 | ET GERRY |
| 3 | 1 | 12/14/44 | ET GERRY |
| 4 | 1 | 12/14/44 | ET GERRY |

| | |
|----------------------------|---|
| ETCH REV. | B |
| P.C. DESIGN DATA BASE REV. | A |

| | | |
|--------------------------------|----------|------------------|
| SIGNATURES | DATE | digital |
| DRN. <i>ET Gerry</i> | 11/24/44 | |
| CHK'D. <i>ET Gerry</i> | 12/4/44 | TITLE 11/44 |
| ENG. <i>ET Gerry</i> | 12/14/44 | FLOATING POINT |
| PROJ. ENG. <i>ET Gerry</i> | 12/14/44 | SIZE CODE NUMBER |
| PRD. <i>ET Gerry</i> | 12/14/44 | D UA M7093-G-0 |
| SCALE 2/1 | | REV B |
| SHT. 1 OF 3 | | |
| NEXT HIGHER ASSY. B-DD-M7093-0 | | |

| LINE | ITEM | DOCUMENT NUMBER | PART NUMBER | DESCRIPTION | QTY PER VARIATION | REFERENCE DESIGNATOR |
|------|------|-----------------|-------------|------------------------------|-------------------|---|
| | | | | | 00 | |
| 1 | 1 | | 5013639-00 | 11/44 FLOATING POINT | 1 | |
| 2 | 2 | | 1215006-08 | SOCKET 40PIN IC LOW PROFILE | 16 | YE33-XE48 |
| 3 | 3 | | 1005306-00 | 6.8MFD 35V 10% S.TANT | 6 | C24-C29 |
| 4 | 4 | | 1012784-00 | .047 MFD 50V +80-20% CER | 23 | C1-C23 |
| 5 | 5 | | 1300271-00 | 220.0 .25 W 5.0 % CC | 1 | R1 |
| 6 | 6 | | 1300295-00 | 330.0 .25 W 5.0 % CC | 3 | R5,R7,R8 |
| 7 | 7 | | 1300316-00 | 470.0 .25 W 5.0 % CC | 4 | R2,R3,R9,R10 |
| 8 | 8 | | 1301401-00 | 750.0 .25 W 5.0 % CC | 1 | R6 |
| 9 | 9 | | 1910533-00 | 74503 NAND GATE-QUAD 2IN,0 | 4 | E74,E82,E84,E87 |
| 10 | 10 | | 1910532-00 | 74500 NAND GATE-QUAD 2IN | 2 | E11,E28 |
| 11 | 11 | | 1912388-00 | 74502 NOR GATE-QUAD 2IN,PO | 1 | E2 |
| 12 | 12 | | 1910534-00 | 74504 INVERTER GATE-HEX 1I | 3 | E6,E73,E91 |
| 13 | 13 | | 1910535-00 | 74505 INVERTER GATE-HEX 1 | 1 | E19 |
| 14 | 14 | | 1912389-00 | 74508 AND GATE-QUAD 2IN,PO | 1 | E10 |
| 15 | 15 | | 1910536-00 | 74510 NAND GATE-TRIPLE 3IN | 1 | E86 |
| 16 | 16 | | 1910539-00 | 74520 NAND GATE-DUAL 4IN,PU | 1 | E18 |
| 17 | 17 | | 1912746-00 | DEC 74537 NAND GATE-QUAD 2IN | 1 | E1 |
| 18 | 18 | | 1910544-00 | 74574 FF-D DUAL,EDGE TRIGG | 2 | E9,E15 |
| 19 | 19 | | 1910547-00 | 745153 MUX 1 OF 4 (DUAL) | 2 | E21,E22 |
| 20 | 20 | | 1910548-00 | 745157 MUX 1 OF 2 (QUAD) | 1 | E50 |
| 21 | 21 | | 1910550-00 | 745174 FF-D HEX | 9 | E24,E27,E51,E58,E59,E61,E62,E75, E77 |
| | | | | | | CONT |
| 22 | 22 | | 1910837-00 | 8093 BUFFER GATE-QUAD 2IN | 3 | E4,E5,E12 |
| 23 | 23 | | 1910957-00 | 745175 FF-D QUAD COMMON CLO | 2 | E53,E57 |
| 24 | 24 | | 1915218-00 | LS245 TRANSCEIVER,BUS,OCT | 2 | E17,E25 |
| 25 | 25 | | 1912097-00 | SN 74S182 LOOK AND CARRY GEN | 6 | E7,E23,E26,E29,E31,E32 |
| 26 | 26 | | 1913245-01 | 2901A MICROPROCESSOR-4 BIT | 16 | E33-E48 |
| 27 | 27 | | 1913340-00 | 74532 OR GATE-QUAD 2IN | 1 | E3 |
| 28 | 28 | | 23153A1-00 | A1-07 | 1 | E85 |
| 29 | 29 | | 23154A1-00 | A1-07 | 1 | E83 |

| REVISION HISTORY | | BASIC PART NO: M7093 | | DRN: M.FUNARO | | DATE: 22-JAN-79 | | DIGITAL | |
|------------------|-------------|----------------------|-------------------------|------------------|----------------|----------------------|----------|-----------------------------|------------|
| ENG | ECO NUMBER | REV | SECTION A OF A | CHK'D: | E.T.GERRY | DATE: | 6-JUN-79 | TITLE | PARTS LIST |
| --- | INIT | A | SECTION VARIATION INDEX | CHK'D: | E.T.GERRY | DATE: | 6-JUN-79 | 11/44 FLOATING POINT OPTION | |
| --- | INIT | A | [A] 00 | DES.ENG: | M.RENDA | DATE: | 6-JUN-79 | DOCUMENT NUMBER | |
| MR | M7093-TW001 | B | [B] | RESP.ENG.: | M.RENDA | DATE: | 6-JUN-79 | SIZE | CODE |
| JK | M7093-TW002 | C | [C] | MFG.ENG.: | J.COMELLA | DATE: | 6-JUN-79 | K | PL |
| | | | [D] | ASSEMBLY NUMBER: | D-UA-M7093-0-0 | TOP DOCUMENT NUMBER: | | M7093-0-DBP | C |
| | | | [E] | | | FILE NAME: | | Z0395.PLS | EDIT # |
| | | | [F] | | | | | | 14 |
| | | | [G] | | | | | | |
| | | | [H] | | | | | | |
| | | | [I] | | | | | | |
| | | | [J] | | | | | | |
| | | | [K] | | | | | | |
| | | | [L] | | | | | | |
| | | | [M] | | | | | | |
| | | | [N] | | | | | | |

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| LINE | ITEM | DOCUMENT NUMBER | PART NUMBER | DESCRIPTION | QTY PER VARIATION 00 | REFERENCE DESIGNATOR |
|------|------|-----------------|-------------|----------------------------------|-------------------------|----------------------|
| 30 | 30 | | 23155A1-00 | A1-07 | 1 | E14 |
| 31 | 31 | | 23156A1-00 | A1-07 | 1 | E49 |
| 32 | 32 | | 23157A1-00 | A1-07 | 1 | E20 |
| 33 | 33 | | 23158A1-00 | A1-07 | 1 | E13 |
| 34 | 34 | | 23014F1-00 | F1-02 | 1 | E52 |
| 35 | 35 | | 23015F1-00 | F1-02 | 1 | E60 |
| 36 | 36 | | 23432F1-00 | F1-01 | 1 | E78 |
| 37 | 37 | | 23433F1-00 | F1-01 | 1 | E71 |
| 38 | 38 | | 23434F1-00 | F1-01 | 1 | E69 |
| 39 | 39 | | 23435F1-00 | F1-01 | 1 | E70 |
| 40 | 40 | | 23436F1-00 | F1-01 | 1 | E72 |
| 41 | 41 | | 23437F1-00 | F1-01 | 1 | E80 |
| 42 | 42 | | 23438F1-00 | F1-01 | 1 | E76 |
| 43 | 43 | | 23439F1-00 | F1-01 | 1 | E79 |
| 44 | 44 | | 23440F1-00 | F1-01 | 1 | E65 |
| 45 | 45 | | 23441F1-00 | F1-01 | 1 | E67 |
| 46 | 46 | | 23442F1-00 | F1-01 | 1 | E68 |
| 47 | 47 | | 23443F1-00 | F1-01 | 1 | E66 |
| 48 | 48 | | 23010B1-00 | B1-01 | 1 | E55 |
| 49 | 49 | | 23011B1-00 | B1-01 | 1 | E63 |
| 50 | 50 | | 1210711-02 | /REPLACED BY 12-16988-02 | 1 | |
| 51 | 51 | | 9000024-01 | EYELET, ROLLED FLANGE, .121 OD X | 12 | |
| 52 | 52 | BLANK | | *** THIS ITEM IS NOT USED *** | - | |
| 53 | 53 | | 1911330-00 | 74173 FF-D QUAD, TRISTATE | 4 | E30, E54, E56, E64 |

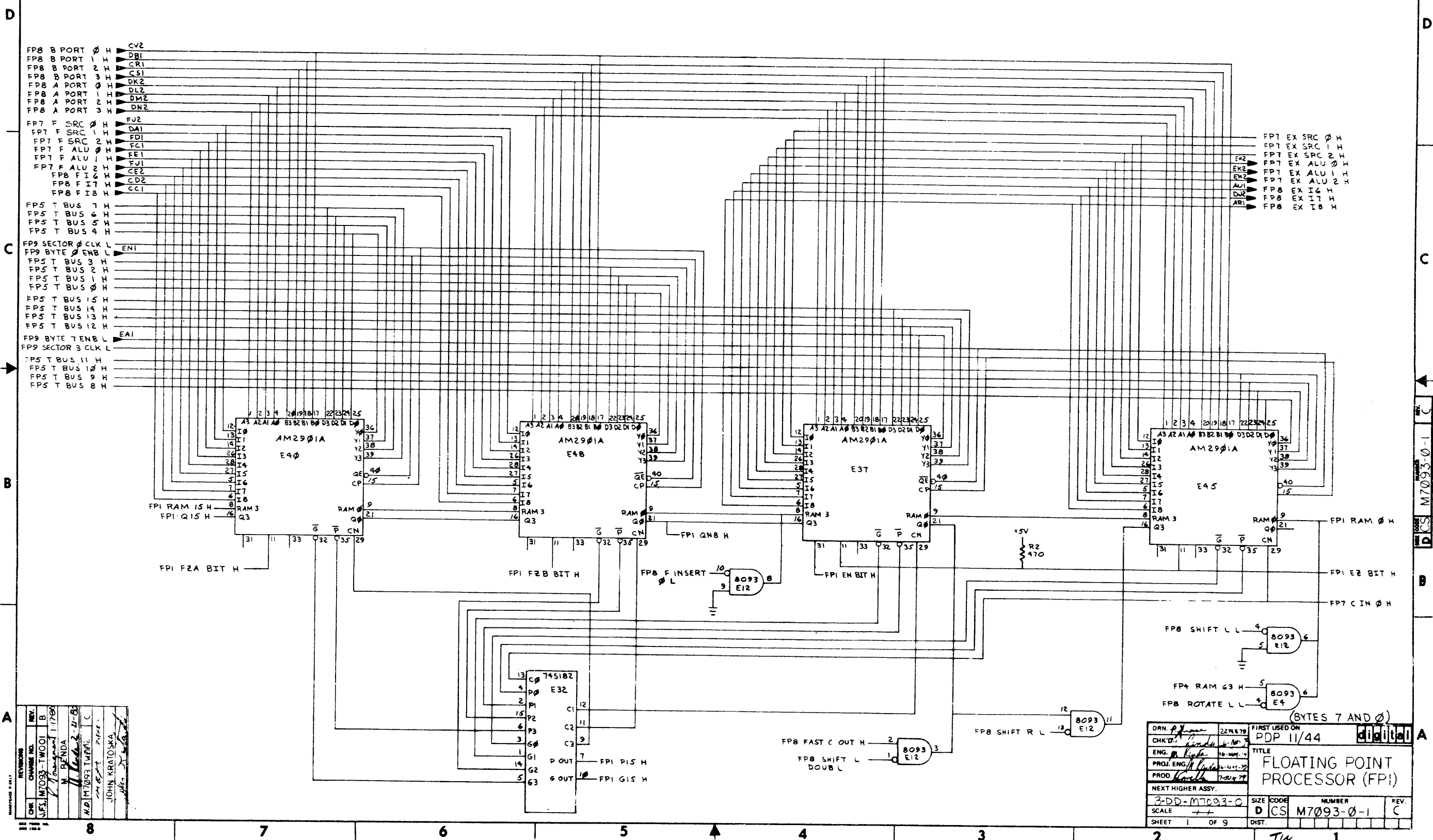
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*****
D I G I T A L TITLE 11/44 FLOATING POINT OPTION SECTION A OF A SIZE CODE DOCUMENT NUMBER REV
K PL M7093-0-DBP C
*****
    
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1-0-2602W CS 2

NOTES:
 1. FIND POWER SUPPLY AND DE-COUPLING CAPS LOCATED ON SH. 5.



| REV. | CHG. | BY | DATE |
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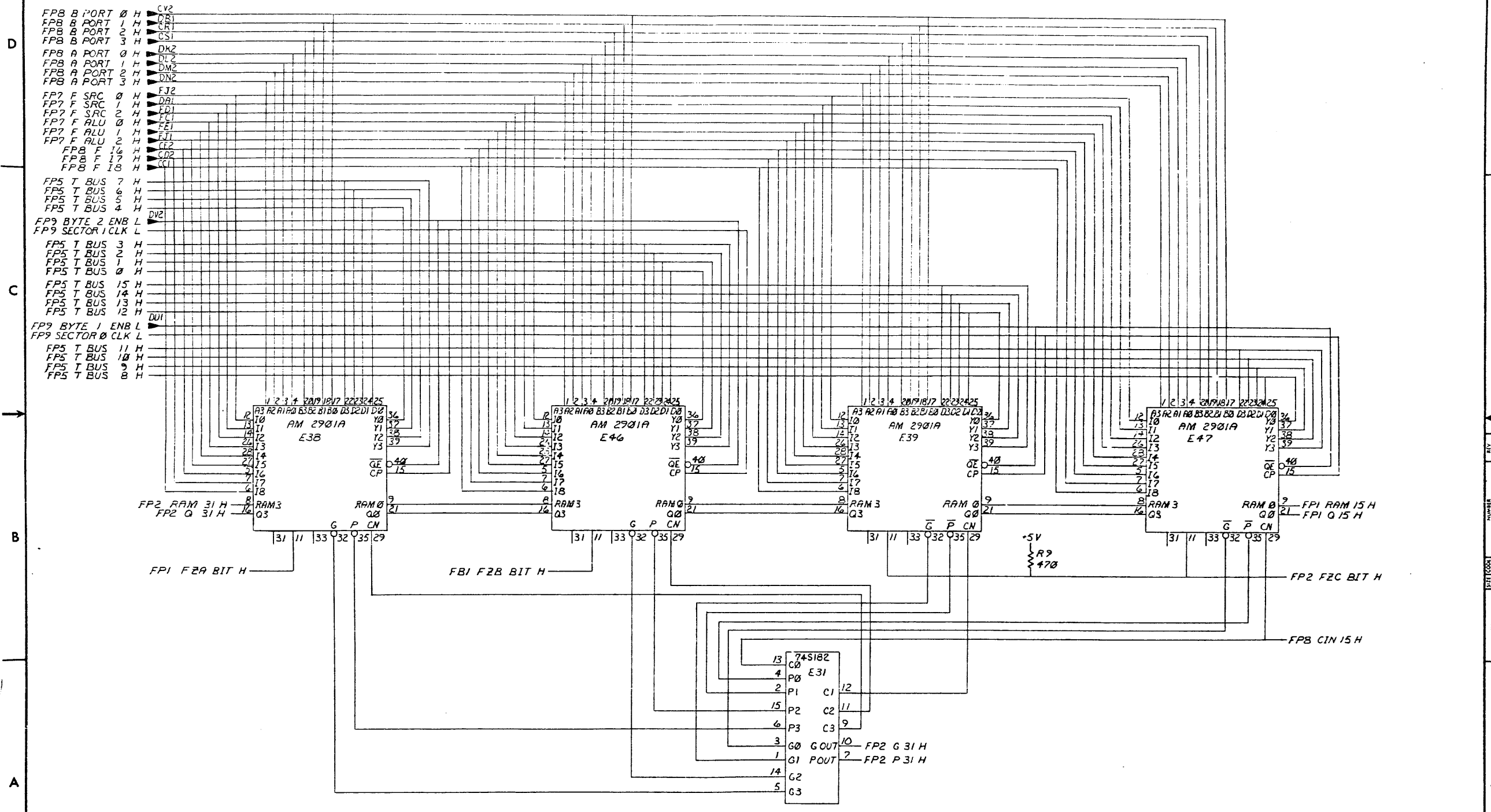
| | | | |
|-------------------------------|-----------|---------------|--------------------------------|
| DRN. <i>[Signature]</i> | 22 FEB 79 | FIRST USED ON | PDP 11/44 |
| CHK'D. <i>[Signature]</i> | | TITLE | FLOATING POINT PROCESSOR (FPI) |
| ENG. <i>[Signature]</i> | | SCALE | ++ |
| PROJ. ENG. <i>[Signature]</i> | | SIZE | D CS M7093-0 |
| PROD. <i>[Signature]</i> | | NUMBER | M7093-0-1 |
| NEXT HIGHER ASSY. | | REV. | C |
| 3-DD-M7093-0 | | DIST. | |
| SHEET 1 OF 9 | | | |

CS M7093-0-1

(BYTES 7 AND 0)

Tu

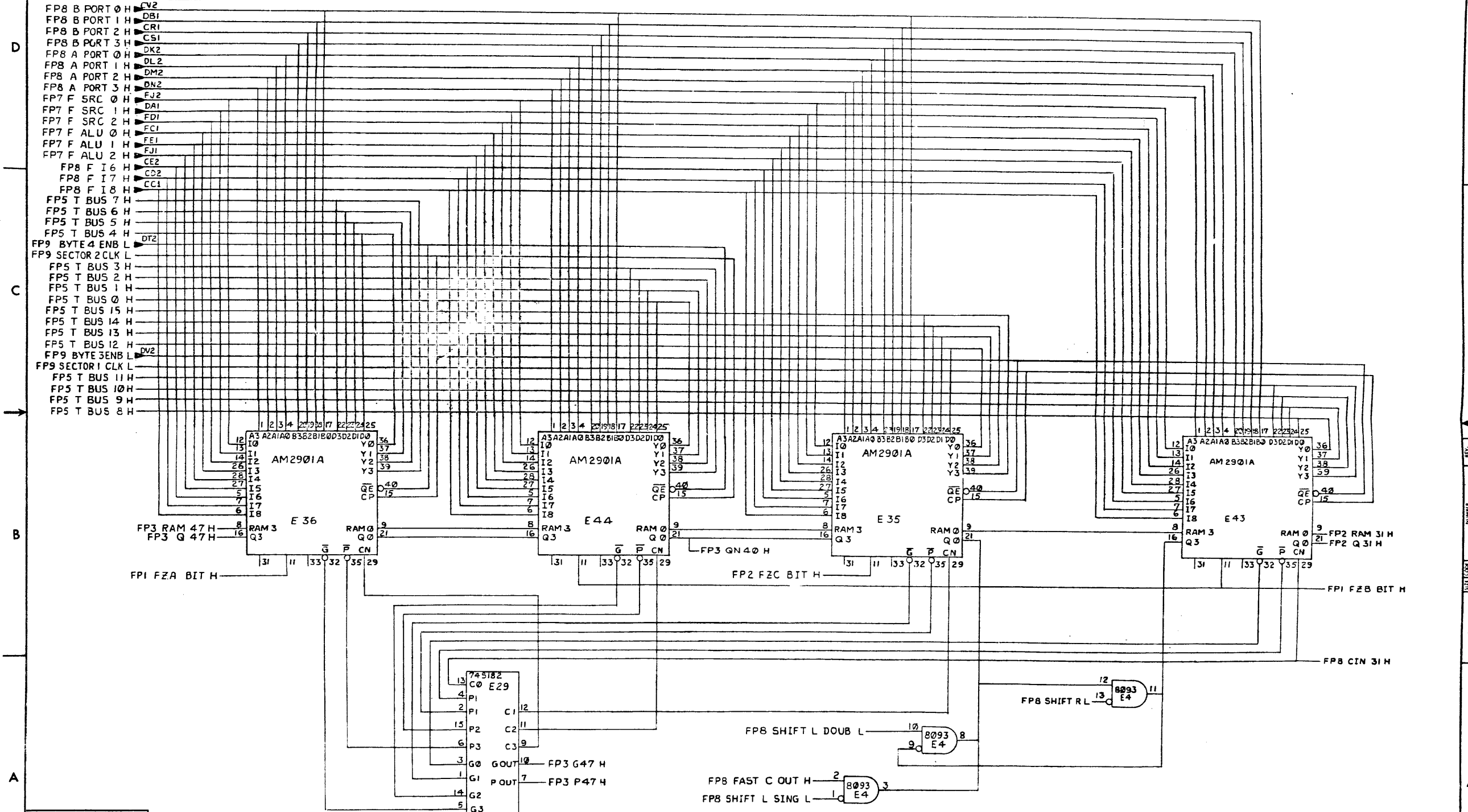
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| REVISIONS | | |
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| CHK | CHANGE NO. | REV. |
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| TITLE | | (BYTES 1 AND 2) | | SIZE | CODE | NUMBER | REV. |
| FLOATING POINT PROCESSOR (FP2) | | | | DCS | M7093-0-1 | | C |
| SCALE | SHEET | OF | TOTAL | DIST. | | | |
| | 2 | 9 | | | | | |

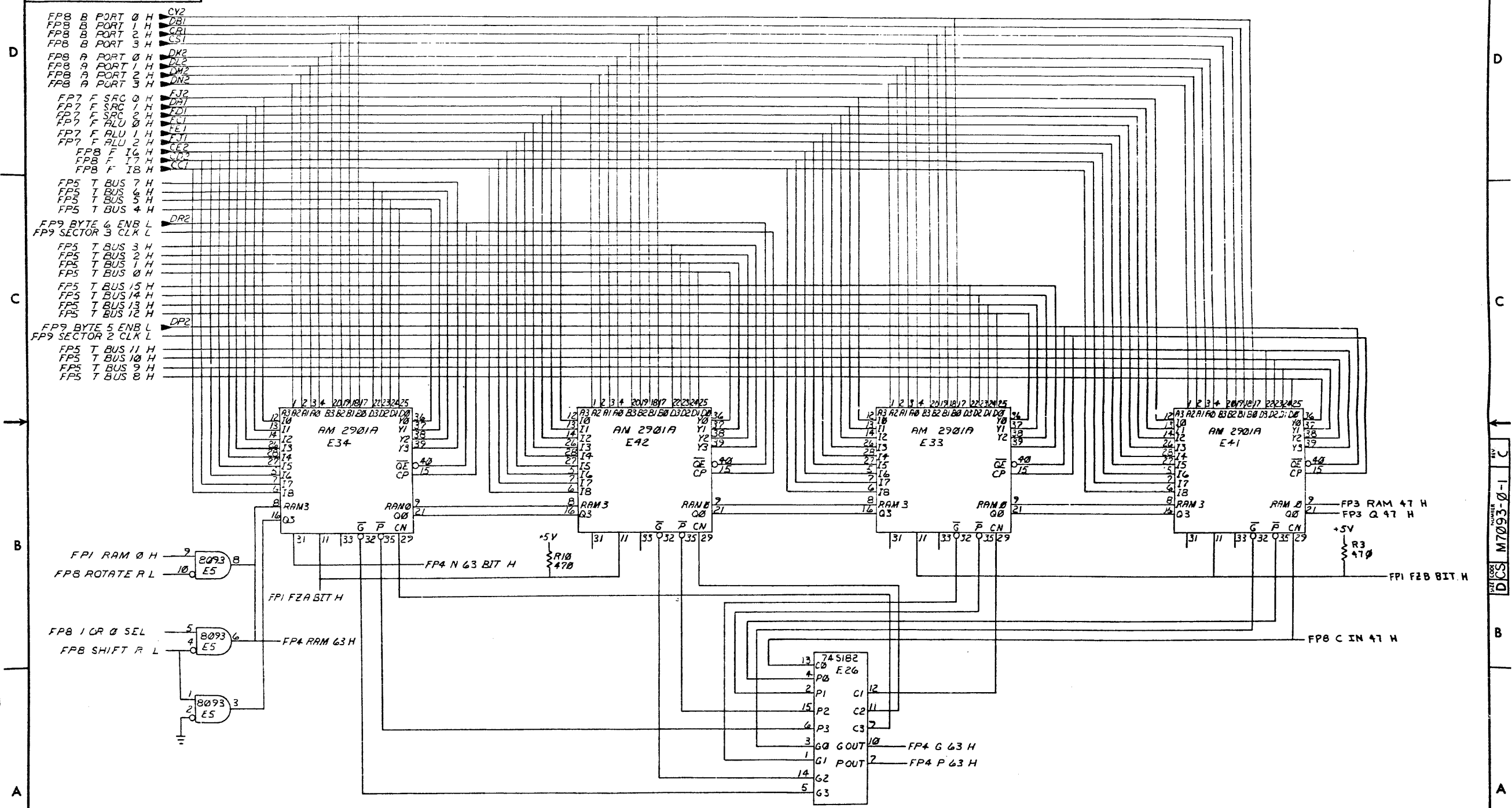
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| REVISIONS | | |
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| CHK | CHANGE NO. | REV. |
| | | |

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1-0-ε602W DCS M7093-0-1 2

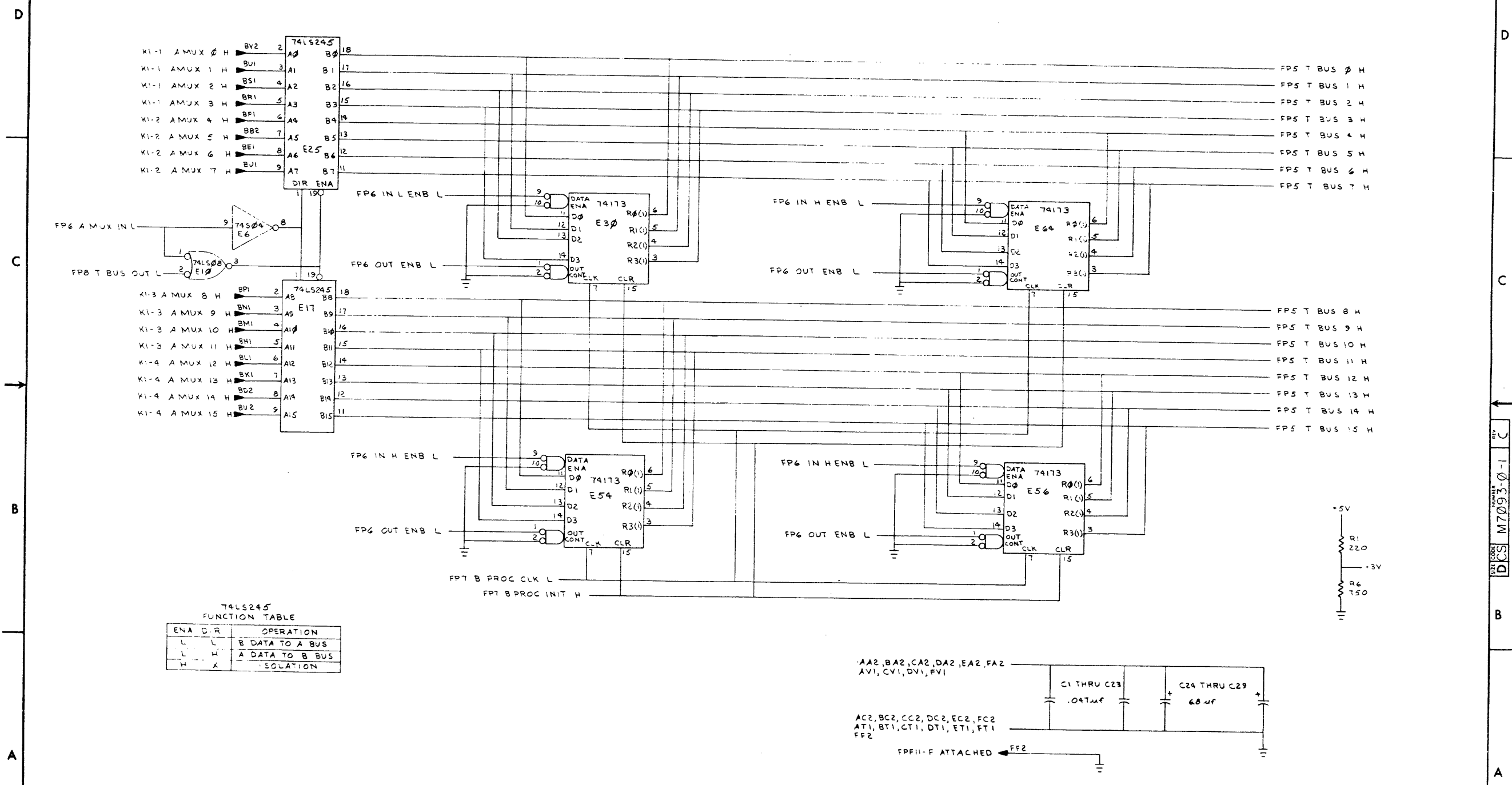


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| CHK | CHANGE NO. | REV. |
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|--------------------------------|-------|---------------|-------|------|
| TITLE | | NUMBER | | REV. |
| FLOATING POINT PROCESSOR (FP4) | | DCS M7093-0-1 | | C |
| SCALE | SHEET | OF | DIST. | |
| → | 4 | 9 | | |

(BYTES 5 AND 6)

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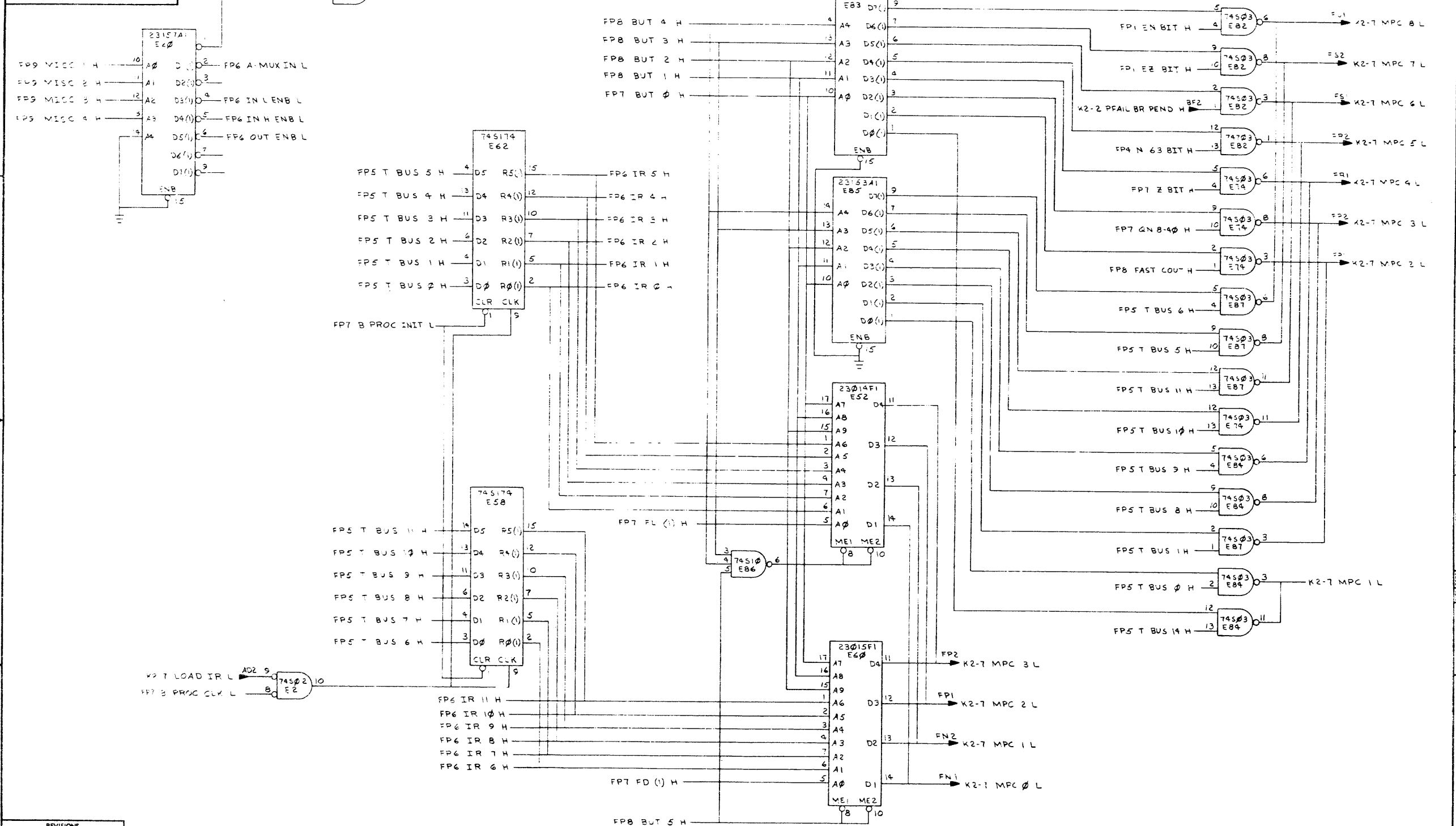


74LS245
FUNCTION TABLE

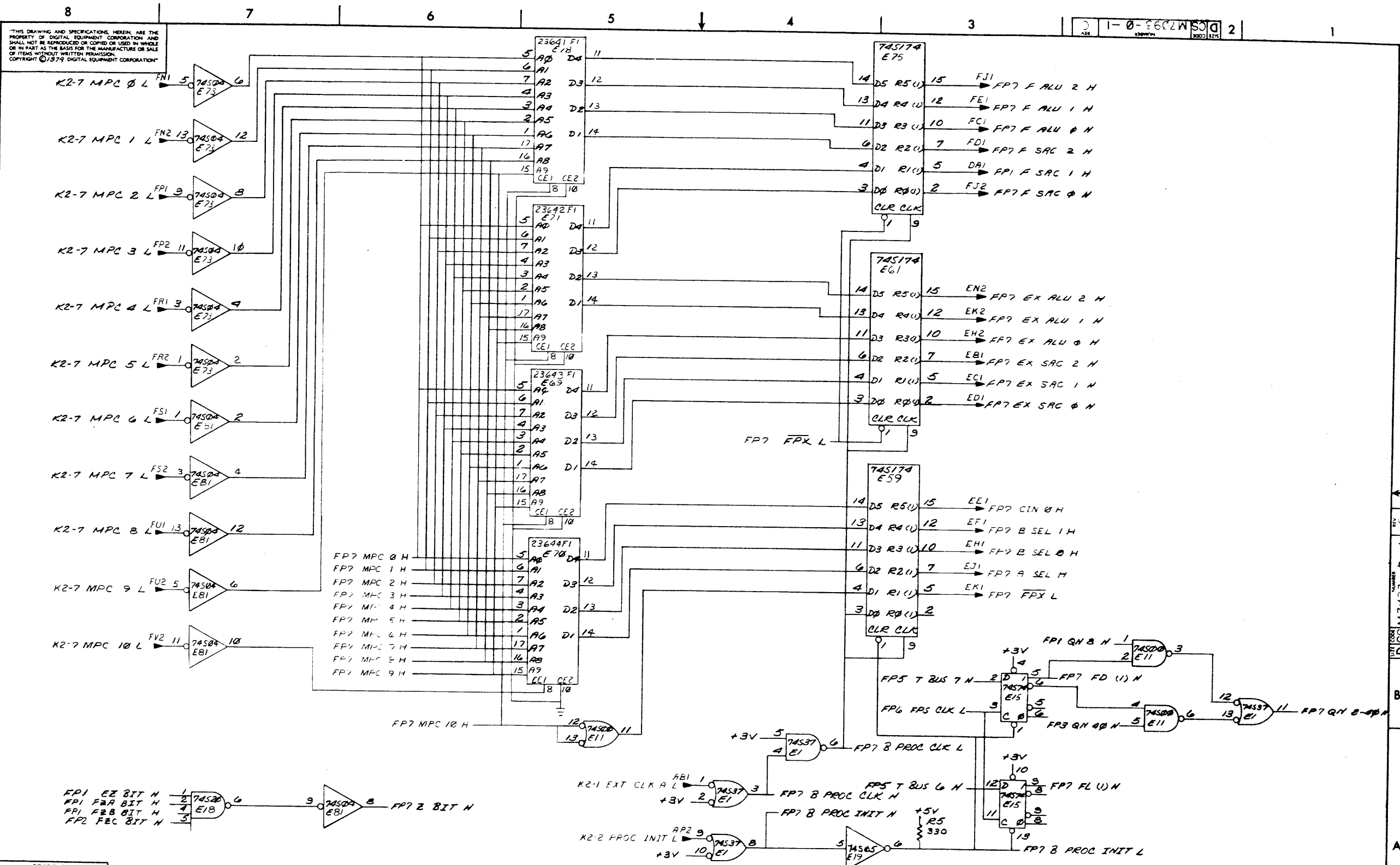
| ENA | D | R | OPERATION |
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| L | H | H | A DATA TO B BUS |
| H | X | X | ISOLATION |

| REVISIONS | | |
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| CHK | CHANGE NO. | REV. |
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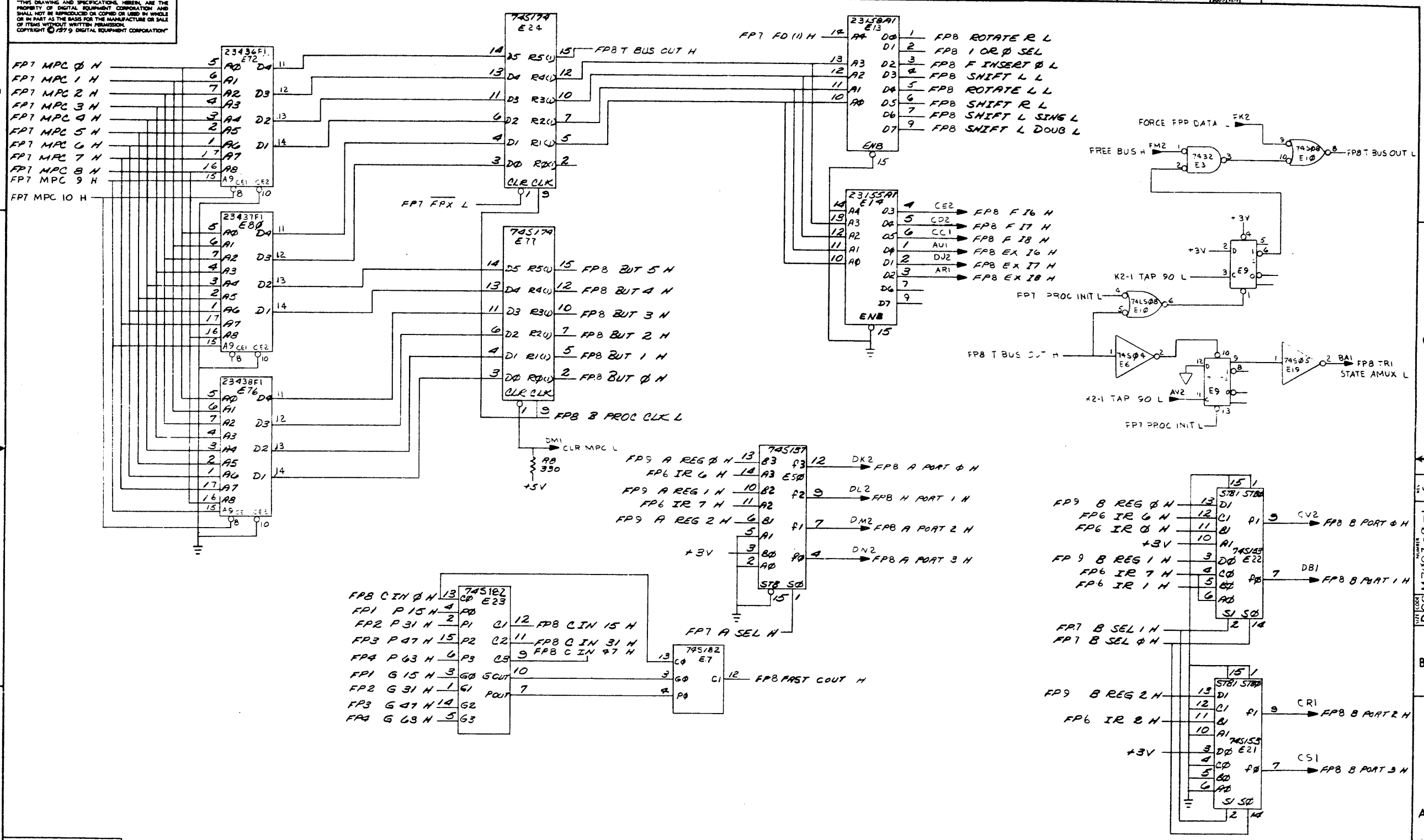


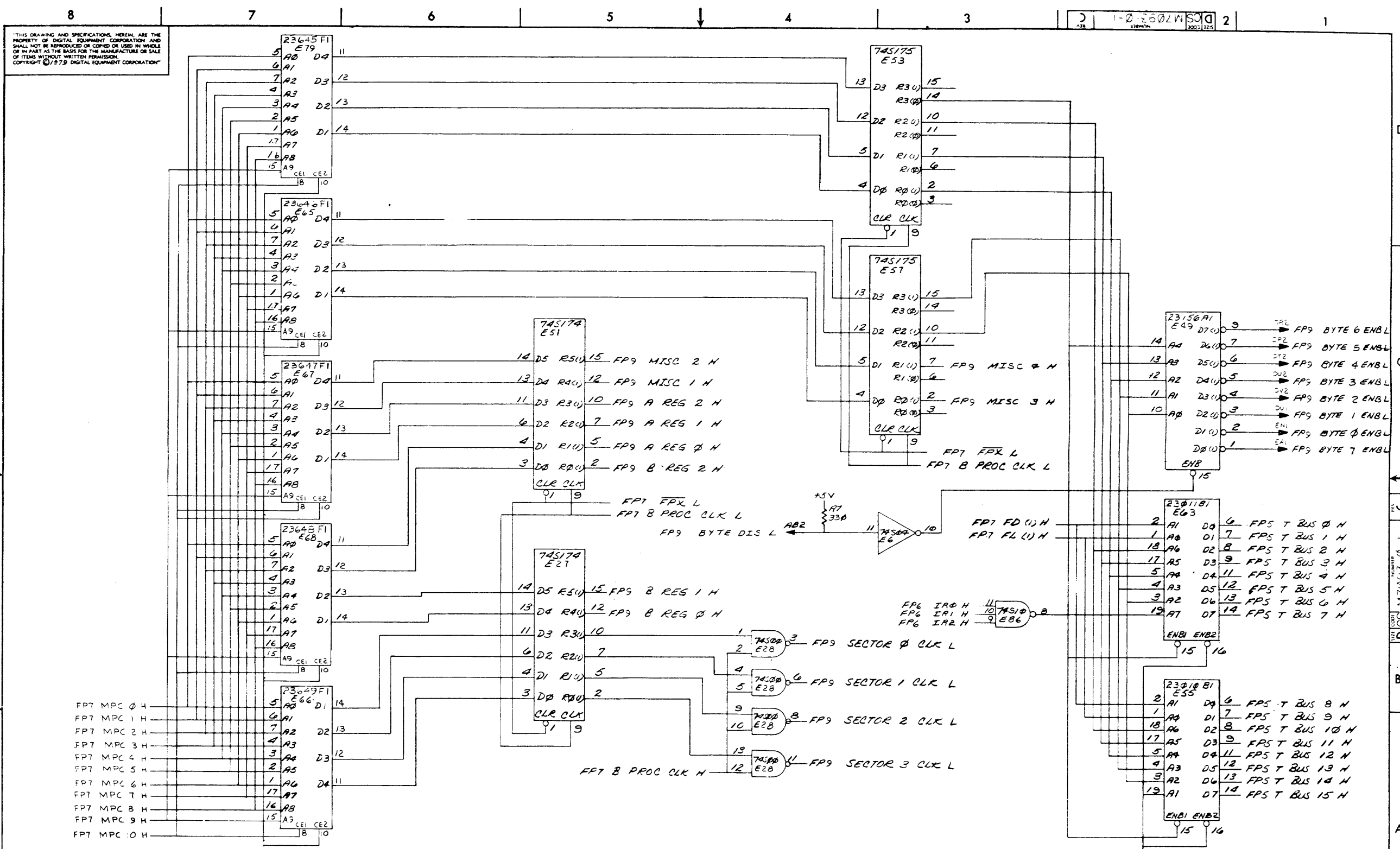
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1-0-9602W SCD 2

| REVISIONS | | |
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TITLE FLOATING POINT PROCESSOR (FP7) SIZE CODE NUMBER REV. DCS M7093-0-1 C





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| CHK | CHANGE NO | REV. |
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(CONSTANTS, BYTE ENABLE, CLOCKS)

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|-------|--------------------------------|-----------|--------|------|
| TITLE | FLOATING POINT PROCESSOR (FP9) | SIZE CODE | NUMBER | REV. |
| SCALE | | SHEET | 9 OF 9 | |
| DIST. | | | | |

| DIGITAL EQUIPMENT CORPORATION PARTS LIST | | | | QUANTITY / VARIATION | | | | | | | | | | NOTES: | | | | | |
|---|-----------------|--------------|----------------------------------|----------------------|--|--|--|--|--|--|--|-----------------|--|--------|--|--|--|--|--|
| MADE BY DATE | | CHECKED DATE | | | | | | | | | | | | | | | | | |
| ENG DATE | | PROD DATE | | | | | | | | | | | | | | | | | |
| SECTION | ISSUED SECTION | | | | | | | | | | | REF DESIGNATION | | | | | | | |
| ITEM NO. | DRAWING NO. | PART NO. | DESCRIPTION | FP11F | | | | | | | | | | | | | | | |
| 1 | MP-00810 | | Field Maintenance Print Set | 1 | | | | | | | | | | | | | | | |
| 2 | EK-FP11F-TM-001 | | Floating Point Tech. Manual | 1 | | | | | | | | | | | | | | | |
| 3 | ZJ-301-FR | | Floating Point Diag. (Fiche) | 1 | | | | | | | | | | | | | | | |
| 4 | ZJ-301-PB | | Floating Point Diag. (Papertape) | 1 | | | | | | | | | | | | | | | |

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|------------|--|------------------------|---------------------------|------------------|------------------------------------|--------------------|-----------|
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| | | | SHEET 1 OF 1 | | INSERTION PARTS LIST DATA BASE REV | | |

TW