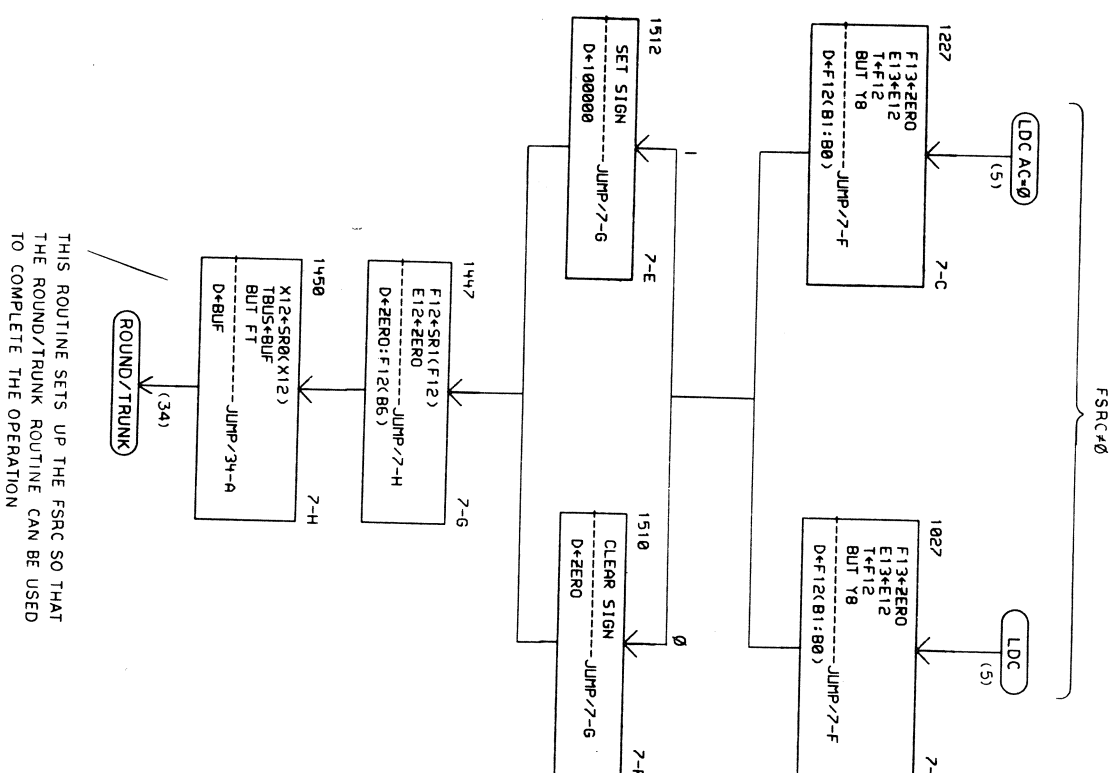
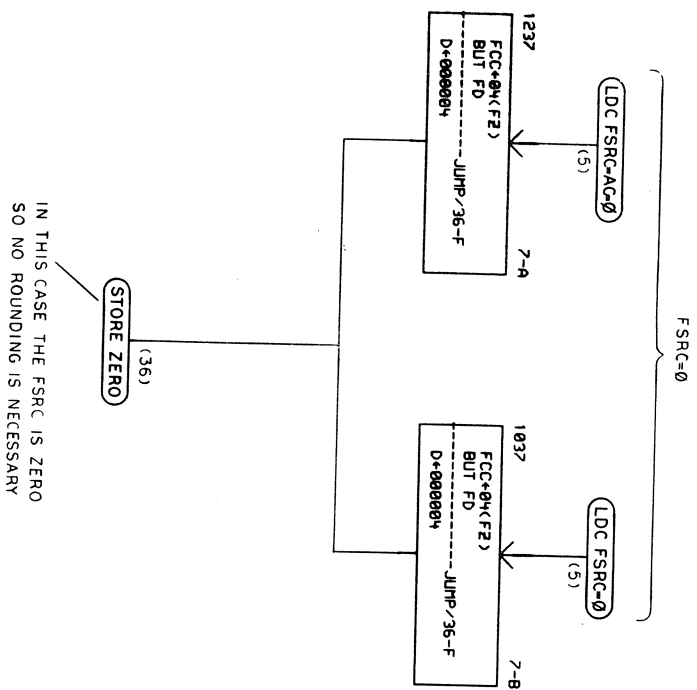


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2-A-1113 DFD 2

1



REVISIONS		
CHK	CHANGE NO.	REV.

8

7

6

5

4

3

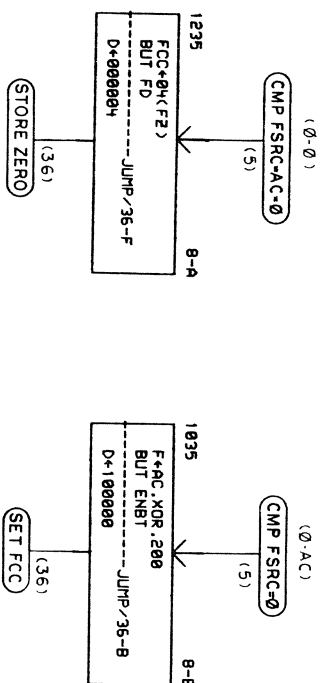
2

1

TITLE		SIZE CODE		NUMBER		REV.	
FPII-A FLOWS (7)		D FD		FPII-A-2			
SCALE	SHEET 10 OF 40	DIST.					

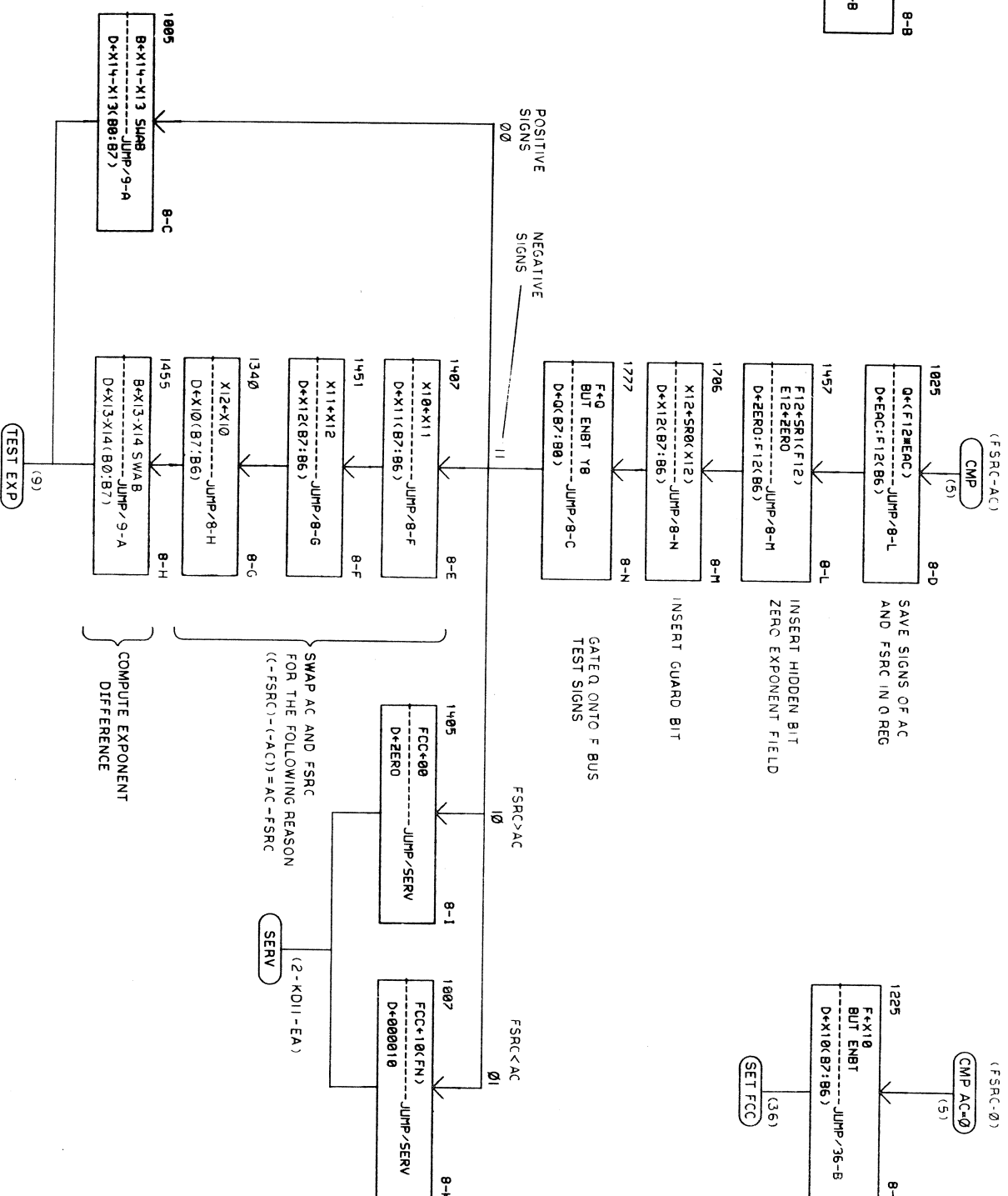
SIZE CODE NUMBER REV. DFD FPII-A-2

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

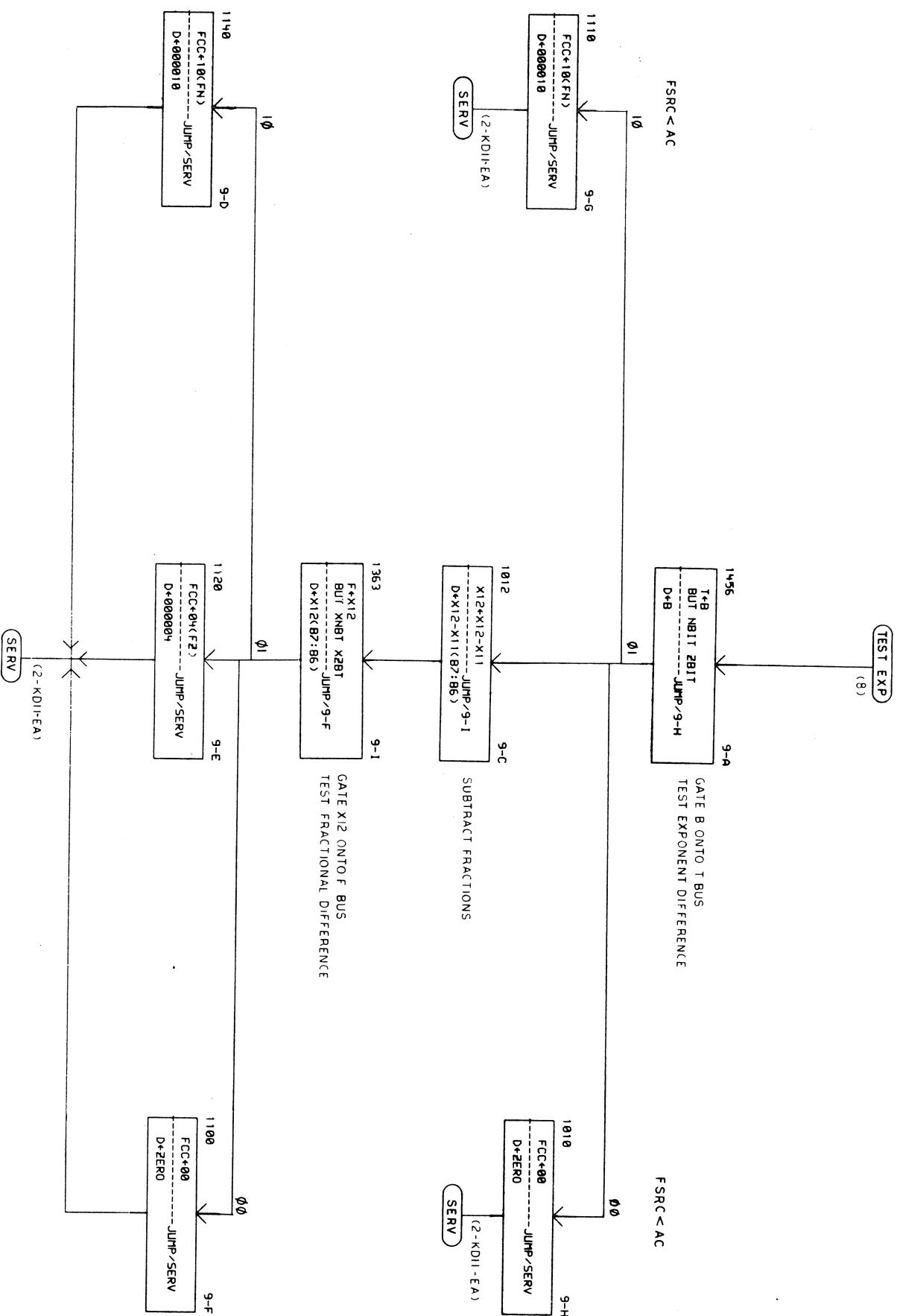


REVISIONS		
CHK	CHANGE NO.	REV.

TITLE		SCALE		SHEET		SIZE CODE		NUMBER		REV.	
FPII-A FLOWS		(8)		11		D		FPII-A-2			

SIZE CODE DFD NUMBER FPII-A-2 REV

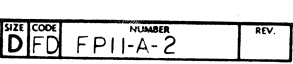
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REVISIONS	
CHK	CHANGE NO. REV.

TITLE		SIZE CODE		NUMBER		REV.	
FPII-A FLOWS (9)		D		FPII-A-2			
SCALE		SHEET 12 OF 40		DIST.			

SIZE CODE	NUMBER	REV.
D	FPII-A-2	

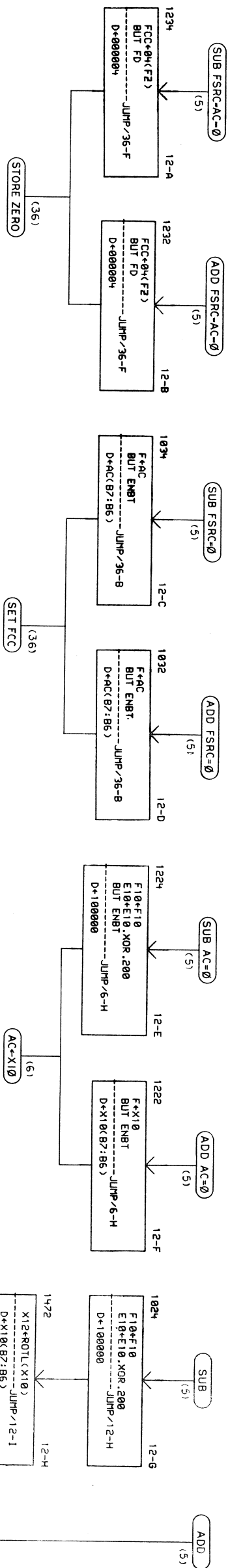
[illegible]

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

SIZE	CODE	NUMBER	REV.
D	FD	FPII-A-2	

SIZE CODE		NUMBER	REV.
D	FD	FP11-A-2	
DIST.			

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8

7

6

5

4

3

2-A-111

2

1

$E(A)C) = E(F)S(R)C$
NO ALIGNMENT

$E(A)C) > E(F)S(R)C$
ALIGN FSRC

$E(A)C) < E(F)S(R)C$
ALIGN AC

01

10

01

10

0

0

00

1013

13-A

X12+SR0(X12)
D+X12(B7:B6) JUMP/13-F

INSERT GUARD BIT

1114

13-B

F+AC
BUT ENBT
D+AC(B7:B6) JUMP/36-B

(36)
SET FCC

1016

13-C

F+AC
BUT ENBT
D+X10(B7:B6) JUMP/13-H

(36)
SET FCC

1014

13-E

X12+SR0(X12)
R1+R14+1
BUT 2BIT
D+R14+1 JUMP/13-G

1111

13-D

X12+SR0(X12)
T+R14+1
BUT 2BIT
D+R14+1 JUMP/13-E

INSERT GUARD BIT
TEST ALIGNMENT
MAGNITUDE

1015

13-H

F+X10
BUT ENBT
D+X10(B7:B6) JUMP/6-H

(6)
AC←X10

1011

13-I

X13+X14
B+R17
D+R17 JUMP/13-L

PUT EXPONENT INTO X13
B←ALIGNMENT COUNT

1316

13-L

X12+SR0(X12)
T+R14+1
BUT 2BIT
D+R14+1 JUMP/13-H

INSERT GUARD BIT
TEST ALIGNMENT
MAGNITUDE

1115

13-J

X11+SR0(X11)
R14+R14+1
BUT 2BIT
D+R14+1 JUMP/13-J

AC←X10

1117

13-K

F+Q
BUT ENBT Y8
D+Q(B7:B0) JUMP/14-K

ADD-SUB

(14)

1214

13-G

X12+SR0(X12)
R14+R14+1
BUT 2BIT
D+R14+1 JUMP/13-G

1216

13-F

F+Q
BUT ENBT Y8
D+Q(B7:B0) JUMP/14-K

13-B

13-H

13-E

13-G

13-F

13-H

13-L

13-J

13-K

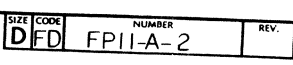
IN BLOCKS 13-D AND 13-L, THE EXPONENT DIFFERENCE (B OR R14) IS COMPARED TO THE MAXIMUM ALIGNMENT COUNT (R17) TO SEE IF THE ALIGNMENT IS WITHIN BOUNDS. AN ALIGNMENT OF MORE THAN 57/25 MEANS THAT THE CORRESPONDING OPERAND VANISHES (13-B, 13-C, 13-H). ALIGNMENT OF FSRC TAKES PLACE IN (13-E, 13-G). ALIGNMENT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

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

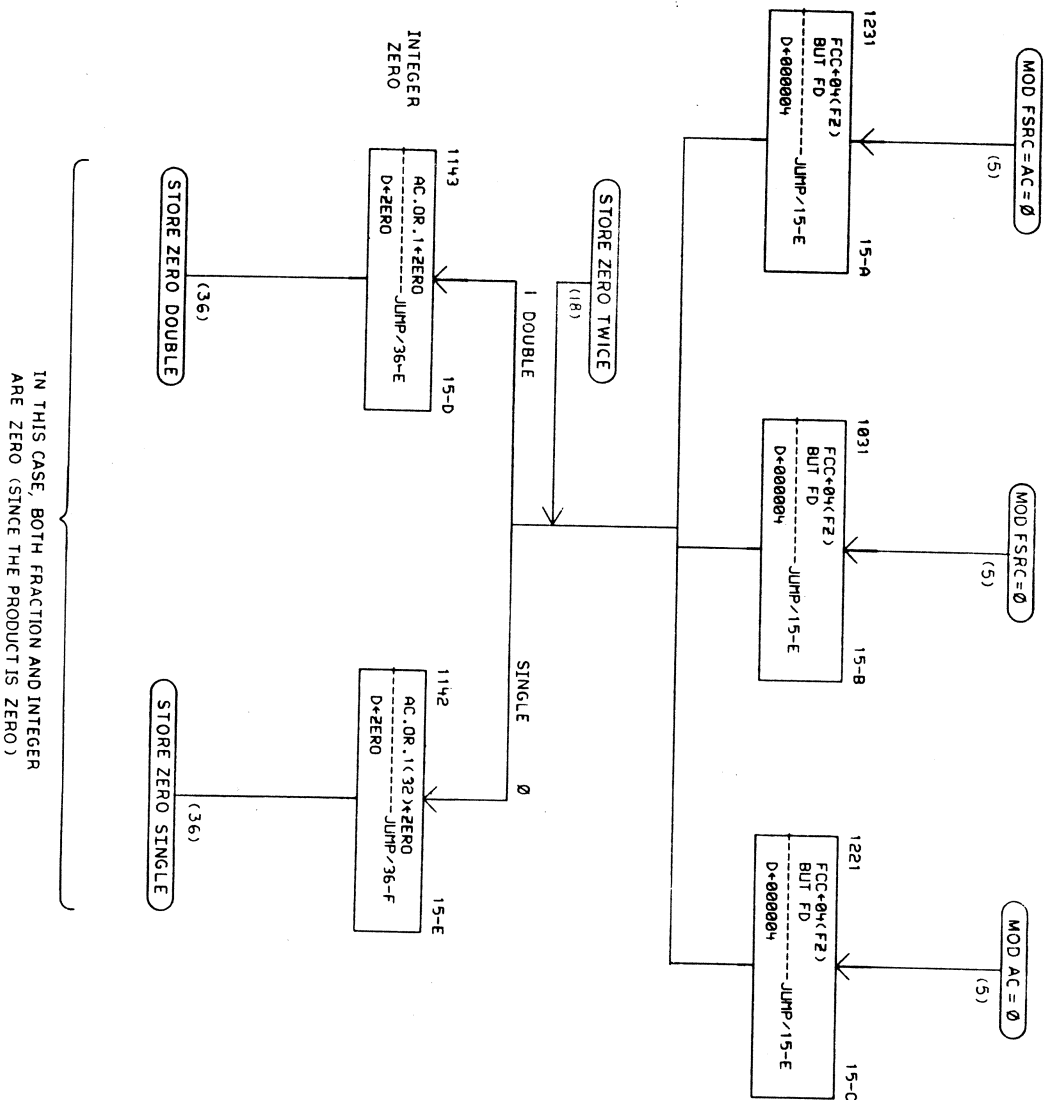
REVISIONS	
CHK	CHANGE NO.
	REV.

TITLE		SIZE CODE		NUMBER		REV.	
FP11-A FLOWS		(13)		D FD		FP11-A-2	
SCALE		SHEET		16 OF 40		DIST.	
2		1					

SIZE CODE		NUMBER		REV.	
D FD		FP11-A-2			



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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.VI. 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		
CHK	CHANGE NO.	REV.

TITLE		SIZE CODE		NUMBER		REV.	
FP11-A FLOWS (15)		DFD		FP11-A-2			
SCALE 1/8 OF 40		SHEET		18 OF 40		DIST.	

SIZE	CODE	NUMBER	REV.
DFD		FP11-A-2	

