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DECUS NO.	12-58
TITLE	FIFOCON
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SOURCE LANGUAGE	FOCAL-12

FIFOCON - File Format Converter

Abstract

FIFOCON is a FIle FOrmat CONverter program to transform single precision integer, double precision fraction, or floating point format data sets into any of those formats with output as a standard DIAL file. Input can be by DIAL file name or block number and can be in double precision integer format.

Loading

FOCAL-12 is loaded using standard DIAL commands, e.g. (refer to FOCAL-12 User's Manual for details),

LO FOCAL-12,Ø)

When '*' is typed by FOCAL-12, then type

*L G,$FIFOCON,Ø)

to load and start FIFOCON.

This frame will then appear on the scope.

```
FIFOCON:

FILE FORMAT CONVERTOR




    FOR INPUT FILE:

TYPE '1' THEN A COMMA. ENTER DATA MODE (F,S,I),

A COMMA, THE FILENAME

OR '#NNN' WHERE NNN IS AN OCTAL STARTING BLOCK NO,

A COMMA, THE UNIT NO., THEN HIT 'RETURN'

    AND TYPE 'D 2'

L  O,F 1,I,DUMMY,Ø
*D 2
```

The information requested is as shown by the display.

Typing D 2 then brings up the second display frame,

```
    FOR OUTPUT FILE:

TYPE '2' THEN A COMMA. ENTER DATA MODE (F,S,I),

A COMMA, THE FILENAME ,

A COMMA, THE UNIT NO., THEN HIT 'RETURN'

    AND TYPE 'D 3'

L 0,F2,I,NUDMY,0
*D 3
```

Typing D 3 brings up this display,

```
04.15 L 0,F2,I,NUDMY,0


TYPE 'M',A COMMA, NO. BLOCKS FOR OUTPUT (OCTAL),

A COMMA, THE FILENAME ,

, COMMA, THE UNIT NO., THEN HIT 'RETURN'

    AND TYPE 'D 4'

L M,2,NUDMY,0
*D 4
```

The top line is to remind the user of the filename and unit number since these are again requested and must be typed.

When D 4 is typed, FOCAL-12 now sets up input (if any) and output files. Several error conditions could arise and the user is hereby referred to the FOCAL-12 User's Manual in that event. For example, if the output filename requested already exists on the output unit, the question,

REPLACE ?

will be blinked on the scope. Type R to replace the file. Type N to stop at this point, then G and RETURN to restart FIFOCON.

If the filenames are legal, this display will appear,

```
    ENTEP NUMBER OF POINTS TO
    INPUT AND A SCALING MULTIPLIER:200 :1.5



    DOUBLE PRECISION INTEGER INPUT (Y OR N)?:N
```

The scaling multiplier is used to scale the input numbers to a size convenient for the output format. For example, if the input numbers had a range of 10,000 and single precision integer output is desired, a scaling multiplier of 0.2 could be used to reduce the range to 2,000 to prevent integer overflow and truncation.

The transcription will now commence and when complete this message is displayed:

```
    OK.    TYPE 'G' TO RESTART.



*
```

Further file transcriptions can now be performed as desired.

The following is a listing of the FOCAL-12 program:

```
C  FOCAL-12

01.05  O S;O C;T !!!!!"FIFOCON:"!!"FILE FORMAT CONVERTOR"!!
01.10  T !!!!"    FOR INPUT FILE:"!!"TYPE '1'";D 10;T " 'D 2'"!!;M 4.1

02.05  O C;T !!!!"    FOR OUTPUT FILE:"!!
02.10  T "TYPE '2'";D 10.1;D 10.2;T ",";DO 10.4;DO 10.5
02.15  T " 'D 3'"!!;M 4.15

03.03  O C;T !!!!!!;W 4.15;T !!!
03.05  T !!"TYPE 'M',A COMMA, NO. BLOCKS FOR OUTPUT (OCTAL), "!
03.10  D 10.2;T ",";D 10.4;D 10.5;T " 'D 4'"!!;M 4.05

04.05  L M,1,DUMMY,0
04.10  L O,F1,I,#100,0
04.15  L O,F2,I,DUMMY,0
04.20  O C;T !!!"ENTER NUMBER OF POINTS TO"
04.22  T !"INPUT AND A SCALING MULTIPLIER"
04.24  A P,SC,!;T !!"DOUBLE PRECISION INTEGER INPUT (Y OR N)?";A AN,!
04.25  I (AN-0Y)4.3,4.26,4.3
04.26  F I=0,2,2*P-2;S F2(I/2)=SC*(F1(I)*4096+F1(I+1))
04.27  G 4.35
04.30  F I=0,P-1;S F2(I)=F1(I)*SC
04.35  L C,F1;L C,F2;O C;T !!!"         OK.    TYPE 'G' TO RESTART."!!!;O
```

```
10.10 T " THEN A COMMA. ENTER DATA MODE (F,S,I),"!
10.20 T !"A COMMA, THE FILENAME "
10.30 T !!"OR '#NNN' WHERE NNN IS AN OCTAL STARTING BLOCK NO,"
10.40 T !!"A COMMA, THE UNIT NO., THEN HIT 'RETURN'"
10.50 T !!"   AND TYPE"
*
```