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| DECUS NO. | FOCAL8-58 |
| TITLE | A PATCH TO FOCAL-W TO USE THE LINC-8 DISPLAY |
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| SOURCE LANGUAGE | FOCAL |

A PATCH TO FOCAL-W TO USE THE LINC-8 DISPLAY

DECUS Program Library Write-up

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ABSTRACT

The following program is a patch for FOCAL-W (8/68) which lets users with Linc-8's use the LINC point display in FOCAL programs. The user sets up and intensifies the X and Y coordinates the same way as for the PDP-8 display except for the following differences:

A. X and Y coordinates are reversed so that for example,

SET H = FDXS(X)+FDIS(Y)
should be rewritten as
SET H = FDXS(Y)+FDIS(X)

B. The range of X is from 0 to 512_{10} ,
and the range of Y is from -256_{10} to $+256_{10}$.

The patch clobbers the ARCTAN FOCAL function. If the ARCTAN function is needed, it can be computed from the FEXP function.

```

    .PDP-8
    .BANK2
    (BOOTSTRAP DISPLAY FOR LINC-8
    (P. LEMKIN, AUGUST 28, 1969
    (NATIONAL INSTITUTES OF HEALTH
    (USING FOCAL-W
    (KEEP EXTENDED FUNCTIONS AS IT SITS
    (AND CLOBBERS THE ARCTAN FUNCTION.
    (NOTE: X AND Y ARE REVERSED.
    (I. E. FDXS<X> IS NOW FDXS<Y>
    (AND FDIS<Y< IS NOW FDIS<X>
    (X RANGES FROM 0 TO 512 DECIMAL.
    (Y RANGES FROM -256 TO +256 DECIMAL.
    (MANUALLY INSERT THE FOLLOWING CHANGES:
    (LOC. 1142 CHANGE TO 4743=JMS I.+1
    (LOC. 1143 CHANGE TO 5000=DISP
    (LOC. 1145 CHANGE TO 6167=IACA
    (THEN, SAVE THE NEW VERSION OF
    (FOCAL-W WITH THE PATCH.
    (
    (
    (
    @ 1000      ( 5000
5000  0000  #DISP  0
5001  3227      DCA ACSAV  (SAVE X COORD.
      (Y COORDINATE IN LINC AC.
5002  1622      TAD I K4010 (SAVE MEMORY
5003  3225      DCA A1
5004  1227      TAD ACSAV  (PUT X IN LINC
      (INDEX REGISTER
5005  3622      DCA I K4010
5006  1226      TAD LINC GO (SET UP LINC PC REGISTER.
5007  6165      ISSP
5010  7200      CLA
5011  1224      TAD K10
5012  6141      ICON
5013  1223      TAD K2
5014  6141      ICON      (GO
5015  7200      CLA
5016  1225      TAD A1
5017  3622      DCA I K4010 (RESTORE MEMORY.
      (SET UP RETURN WITH AC=0
5020  2200      ISZ DISP  (RETURN +2
5021  5600      JMP I DISP (RETURN
  
```

```

      (****CONSTANTS****
5022  4010  #K4010  4010
5023  0002  #K2     2
5024  0010  #K10    10
5025  0000  #A1     0
5026  5030  #LINGO GO
5027  0000  #ACSAV  0
      ( LITTLE LINC PROGRAM TO
      ( DISPLAY 1 POINT.
5030  0150  #GO     150          DIS 10
5031  0000          0          LINC HLT
      (END.....

```

