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PROGRAM LIBRARY

DECUS NO.	8-552
TITLE	STORAGE DISPLAY DEVICE HANDLER
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COMPANY	TROPEL, Inc. Fairport, New York
DATE	May 19, 1972
SOURCE LANGUAGE	PAL-8

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STORAGE DISPLAY DEVICE HANDLER

DECUS Program Library Write-up

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This program permits use of the Storage Scope as a line printer. A TTY key is hit to display the next page. (Pages are delimited by Form Feeds.) TABS are not expanded.

Program runs in PS/8 or OS/8 wherever 2 page handlers are permitted.

/STORAGE DISPLAY DEVICE HANDLER

/ WRITTEN BY:

/ ROBERT MOORE
/ TROPEL INC,
/ 52 WEST AVE,
/ FAIRPORT, N Y

/ REQUIRES EAE OR BE TO GET MQ

MQA=7501

MQL=7421

ACL=7701

SWP=7521

/SEE DECUSCOPE 11 #2 P 26 FOR 8-I

LOAD3=7325

*5600

/LOADS OVER CDR HANDLER

/ FOR USE WITH VCB-E OR VCB-I CONTROLLER

DILX=6053

DILY=6054

DIXY=6055

DISD=6052

/DELAY MUST BE SET TO 80 MICROSECONDS FOR 611

/ STORAGE DISPLAY DEVICE HANDLER

/ 4 X 6 DOT MATRIX METHOD

SDENT, 0 /ENTRY
JMS DSETUP /CONTAINS ITS ADDRESS
DSETUP, 0
RDF /GET DATA FIELD TO
TAD CIFCDF /MAKE RETURN TO
DCA SDEXIT /CALLING FIELD

/ PROCESS ARG1

TAD I SDENT /GET ARG1
AND (70 /ISOLATE BITS 6-8
TAD CUF0 /INCLUDE IN CUF
DCA SDATAF /WHICH POINTS TO DATA
TAD I SDENT /NUMBER OF WORD
AND (5700 /PAIRS IN BUFFER
CIA /PREPARE FOR ISZ
DCA COUNT /COUNTING

/ ARG 2 IS POINTER TO BUFFER

```

ISZ      SDENT  /GET TO ARG2
TAD I    SDENT  /GET ARG2
DCA      SDPNT  /USE AS POINTER
CDF0,   CDF     0   /MOVE DATA FIELD HOME
                   /ALSO GOOD DATA WORD

```

/ ISOLATE CHARACTERS FROM PS/8 BUFFER

```

SDOUT,  JMS      GDT      /GET DATA WORD1
        JMS      OUTPUT   /PUT ON SCREEN
        DCA      CH1      /ONLY GARBAGE RETURNED IN AC
        JMS      GUT      /GET WORD 2
        JMS      OUTPUT   /PUT CHAR2 ON SCREEN
        CLL RTR    /ASSEMBLE GARBAGE
        RTR      /INTO CHAR 3
        TAD      CH1
        RTR
        RTR      /CHAR 3
        JMS      OUTPUT   /PUT ON SCREEN
                   /AC=0 SINCE THERE IS
                   /NO GARBAGE

```

```

SDISZ,  ISZ      COUNT   /BUFFER EMPTY?
        JMP      SDOUT   /NO-OUTPUT MORE
SDERR,  7325     /MOVE PAST ARG3
        TAD      SUENT   /AND PAST ERROR
        DCA      SUENT   /TO PROPER RETURN
SDEXIT, NOP      /RETURN WITH PROPER FIELDS
        JMP I    SDENT

```

/ GET DATA FROM BUFFER

```

GDT,    0          /ENTRY
SDATAF, NOP       /FROM PROPER FIELD
        TAD I     SDPNT /GET DATA
        ISZ      SDPNT /ADVANCE POINTER

CIFCDF, CIF CDF 0 /RESET FIELD
                   /ALSO GOOD DATA WORD
        JMP I     GDT  /RETURN

```

/ DECODE CHARS AND LOOKUP IN TABLE

```

OUTPUT, 0
DCA CHAR /ENTRY
TAD CHAR /SAVE CHAR
AND (377 /REMOVE GARBAGE
TAD (-240 /REMOVE BIAS
SPA /TEST FOR MOST
JMP SPEC /SPECIAL CHARACTERS
CLL RAL /1 NOT = 2 FOR MATRIX
TAD (TABLE-DSETUP /OFFSET ADDR
TAD DSETUP /COMPUTE MATRIX
DCA PNTR /FOR A POINTER TO PATTERNS

```

/NOTE: ALTMODE, PREFIX, AND RUBOUT PRODUCE ERRORS

/ DISPLAY A CHARACTER

/ DO ONE WORD AT A TIME

```

JMS WORD /WORD1
ISZ PNTR /POINT TO 2
JMS WORD /DO WORD 2
LOAD3 /ADD AN EXTRA SPACE BETWEEN LETTERS
TAD X
DCA X
OUTXIT, TAD CHAR /CHAR
AND (7400 /ISOLATE TRASH
JMP I OUTPUT /AND RETURN WITH IT

```

CHAR=GDT

/ EACH WORD CONTAINS 2 COLUMNS

```

WORD, 0
TAD I PNTR
JMS DCH /1 AND 3
TAD I PNTR
RTR;RTR;RTR /OR BSW
JMS DCH /2 AND 4
JMP I WORD

```

/ DISPLAY A COLUMN

DCH, 0 /ENTRY
 MQL /PATTERN TO MQ

 LOADS /+3 TO AC
 TAD X
 DILX
 DCA X /MOVE OVER A COLUMN

 TAD Y /LOAD Y TO AC
 SWP /Y TO MQ, PATTERN TO AC
 RAR /LSB TO LINK

TOPP, SWP /Y TO AC; PATTERN TO MQ
 TAD (S) /ADD S TO Y CORD

 DILY /LOAD Y
 SZL /SKIP IF BIT OFF
 DIXY /INTENSIFY
 SWP /Y TO MQ; PATTERN TO AC
 DISD

 JMP .-1
 ISZ ICNT /COUNT DOT COUNT
 JMP TOPP

 7527 /+6 TO AC
 CIA /-6 TO AC
 DCA ICNT /RESET COUNTER
 JMP T DCH /DONE COLUMN

/ SPECIAL CONTROL CHARACTERS

SPEC, TAD (240-215 / (23) CHECK FOR
 SNA /CARRIAGE RETURN
 JMP RETURN

 IAC /215-214=1
 SZA CLA /FORM FEED
 JMP OUTXIT /IGNORE OTHERS

/ FORM FEED ENCOUNTERED, WAIT FOR GO AHEAD

KSF /WAIT FOR TTY
JMP .-1 /
KLC /TURN OFF TTY FLAG
TAD YORG
JMP FRET /USE DUPLICATE CODE IN CR

/ CARRIAGE RETURN

RETURN, TAD Y /GET Y COORD
TAD (-30 /LINE SEP.
FRET, DCA Y /TO RESET TOP OF CHAR
7333 /LHS OF SCREEN (6000)
DCA X
JMP OUTXIT

ICNT, -6 /DOT COUNTER IN COLUMN
/MUST BE INITIALIZED
X, 0 /X COORDINATE
Y, 777
YORG, 777 /TOP OF SCREEN
PNTR, 0 /POINTS INTO PATTERN TABLE
CH1, 0 /EXTRA BITS FROM CHAR1
COUNT, 0 /-NUMBER OF WORD PAIRS LEFT TO DO
SDPNT, 0 /POINTS TO DATA IN
PAGE

*OSETUP+176
TABLE=.

/ CHARACTER TABLE

CHART,		/BLANK=240
0000		
0000		
7500	/!	
0000		
0060	/"	
6000		
7714	/#	
1477		
7722	/S	
2277		
6661	/%	
4333		
6205	/&	
3355		
0000	/'	
0070		
2214	/('	
4141		
4141	/)	
1422		
3655	/*	
5536		
0404	/+	
0437		
0500	/,	
0006		
0404	/-	
0404		
0001	/.	
0000		
0001	// =257	
4030		
4136	/0 =260	
3041		
2101	/1	
0177		
4523	/2	
2151		
4122	/3	
2651		
2414	/4	
0477		
5172	/5	
0651		
1506	/6	
4225		
4443	/7	
6050		
5126	/8	
2651		
5120	/9	
3651		
0000	/: =272	
0022		
0500	/;	

0020	
2410	/K
0142	
1212	/L = 275
1212	
4201	/M = 276
1024	
4020	/N = 277
2055	
0	/O = 300
0	
4477	/P = 301
7744	
5177	/Q
2651	
4136	/R
2241	
4177	/S
3641	
4577	/T
4145	
4477	/U
4044	
4136	/V
2645	
1077	/W
7710	
7741	/X
0041	
4142	/Y
4076	
1077	/Z
4324	
0177	/AA
0501	
3077	/AB
7730	
3077	/AC
7706	
4177	/AD
7741	
4477	/AE
3044	
4276	/AF
0376	
4477	/AG
3146	
5121	/AH
4651	
4040	/AI
4077	
0177	/AJ
7701	
0176	/AK
7402	
0677	/AL
7700	

7701
1463
6314
0770
7007
4543
6151
4100
0077
3040
0106
7700
0041
7720
2077
3614

/X

/Y

/Z=332

/[(SHIFT K) =333

/\ (SHIFT L) =334

/] (SHIFT M) =335

/^ (SHIFT N) =336

/_ (SHIFT O) =337

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