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PROGRAM LIBRARY

DECUS NO.	12-81
TITLE	VR12 SCOPE HANDLER FOR OS/8
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DATE	June 21, 1972
SOURCE LANGUAGE	PAL 8

VR12 SCOPE HANDLER FOR OS/8 (RUNNING ON PDP-12)

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ET. AL.

I WISH TO THANK THE FOLLOWING ORGANIZATIONS FOR
THEIR UNQUESTIONABLE HELP:

P.S
I.S
RERORG
FDEM

IN PARTICULAR, I WOULD LIKE TO THANK THE FOLLOWING GUYS:

STANLEY RABINOWITZ
RICHARD LARY
PETER MAURER
TERRY CLERMAN
JACK BURNESS
BILL DURHAM
FRED JACOBS
BOB DEAN
FRED HITHRANLIN
ALLYSIUS OLRE
FLUIR

TV11 IS THE ELEVENTH VERSION OF THE PROGRAM, 'TV',
WHICH IS A VR12 SCOPE HANDLER FOR OS/8 RUNNING ON THE PDP-12.
IT WILL ALSO RUN WITH PS/8.

RESTRICTIONS

IT IS CALLED LIKE ANY DS/8 DEVICE HANDLER WITH THE
FOLLOWING CONDITIONS AND RESTRICTIONS:

1.   IT IS A 1 (PAGE HANDLER.

2.   THE BUFFER SPECIFIED IN THE CALL TO THIS HANDLER
        MUST START AT AN EVEN ADDRESS.

3.   THE HANDLER DOES NOT PRESERVE THE STATUS OF THE
        KEYBOARD FLAG. THE HANDLER ALWAYS RETURNS
        WITH THE KEYBOARD FLAG CLEARED.

4.   THE HANDLER DOES NOT PRESERVE THE STATUS OF THE
        (LINE MODE) SPECIAL FUNCTIONS REGISTER. THE HANDLER
        ALWAYS RETURNS WITH THE DISPLAY CHARACTER FLAG
        SET TO SMALL SIZE CHARACTERS.

5.   THE HANDLER DOES NOT CHECK FOR CTRL/C.

6.   THE HANDLER IS A WRITE-ONLY DEVICE; BUT NO ERROR
        IS GIVEN IF YOU TRY TO READ FROM IT. IN SUCH
        CASES, UNPREDICTABLE RESULTS MAY HAPPEN, ALTHOUGH
        YOUR PROGRAM WILL NOT BOMB.

7.   IF THE BUFFER ASSOCIATED WITH THE HANDLER CALL
        HAPPENS TO OVERLAP BETA REGISTER 1 OF THE LINC
        SEGMENT CONTAINING THE HANDLER, TWO CHARACTERS OF
        EVERY BUFFER LOAD MAY DISPLAY BADLY. NOTE HOWEVER,
        THAT THE CONTENTS OF YOUR BUFFER ARE ALWAYS PRESERVED.
        (THIS CONDITION HAPPENS IN PAL8.)
        N.B. THE HANDLER TEMPORARILY DESTROYS BETA REGISTER 1,
        BUT IT IS CAREFUL TO RESTORE IT BEFORE LEAVING.
        THEREFORE, DEPRESSING STEP WHILE IN THE HANDLER
        MAY LEAVE CORE SLIGHTLY DIFFERENT FROM THE WAY YOU MAY EXPECT
        IT.

8.   WHILE THE HANDLER IS IN FACT PAGE RELOCATABLE, ONCE IT
        IS LOADED INTO CORE, IT MAY NOT BE MOVED TO ANOTHER PAGE.

9.   THE HANDLER MAY DISPLAY SOME GARBAGE CHARACTERS
        AFTER THE END OF FILE IF IT ENCOUNTERS A CTRL/Z.

10.   THE LAST CHARACTER DISPLAYED ON A SCOPE PAGE
        MIGHT BE DISPLAYED AGAIN AT THE TOP OF THE NEXT PAGE.

11.   THE HANDLER DOES NOT HANDLE TABS AND FORM FEEDS CORRECTLY.

12.   THE HANDLER DOES NOT HANDLE VERTICAL TABS CORRECTLY.

13.   RUBOUTS ARE NOT IGNORED BY THE HANDLER.

HANDLER USAGE

THE RECOMMENDED DEVICE NAME FOR THE HANDLER IS TV:.
IT MAY ONLY BE USED AS AN OUTPUT DEVICE.
IT MAY BE USED WITH ANY PROGRAM WHICH SUPPORTS 2 PAGE HANDLERS.

TYPICAL USAGE:

TO GET A DIRECTORY LISTING ON THE SCOPE:

```
.R PIP
*TV:<SYS:/L
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TO PUT A PAL PASS 3 LISTING ON THE SCOPE:

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.R PALG
*,TV:<PROGRM.PA
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TO LOOK AT A SOURCE FILE VIA THE SCOPE:

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.R PIP
*TV:<FILENM.AS/T
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NOTE THAT THE /T OPTION IS USED IN PIP SINCE THE HANDLER
CANNOT HANDLE TABS CORRECTLY.

OPERATION

WHEN CHARACTERS ARE SENT TO THE SCOPE USING THIS HANDLER,
THEY ARE DISPLAYED ON THE VR12 SCOPE. WHENEVER THE SCOPE
GETS FULL, THE HANDLER STOPS READING MORE CHARACTERS FROM THE
BUFFER AND JUST SITS THERE DISPLAYING CHARACTERS ON THE SCOPE.
IT DISPLAYS WHAT IS KNOWN AS A SCOPE PAGE.
THE USER CAN ADVANCE TO THE NEXT SCOPE PAGE BY HITTING ANY
CHARACTER ON THE TELETYPE.
THE SCREEN IS FULL WHENEVER THE END OF THE BUFFER IS REACHED,
OR WHENEVER THE NUMBER OF LINES DISPLAYED BECOMES EQUAL
TO THE MAXIMUM NUMBER SPECIFIED BY THE USER.
CONTROL DOES NOT RETURN TO THE CALLING PROGRAM UNTIL AFTER A
CHARACTER HAS BEEN STRUCK AT A POINT WHEN THE HANDLER IS
DISPLAYING THE LAST SCOPE PAGE IN A PARTICULAR BUFFER LOAD.

THE USER SETS THE NUMBER OF LINES HE WISHES TO SEE IN
A SINGLE SCOPE PAGE VIA THE RIGHT SWITCHES (SWITCH REGISTER).
THE RIGHT SWITCHES ARE SET TO THE NEGATIVE OF THE NUMBER
OF LINES TO BE DISPLAYED IN A SCOPE PAGE. DEPENDING
ON THE LENGTH OF THE LINES BEING DISPLAYED, FEWER LINES SHOULD
BE ALLOWED SO AS TO PREVENT FLICKER.
THE DISPLAY FLICKERS MORE THAN TYPICAL DEDICATED
DISPLAY ROUTINES BECAUSE THE HANDLER DISPLAYS DIRECTLY FROM THE
ASCII IN THE USER'S BUFFER. NO INTERMEDIATE BUFFER IS USED
BECAUSE THE HANDLER MUST FIT ENTIRELY IN 2 PAGES.
IF THE LINE BEING DISPLAYED HITS THE RIGHT MARGIN OF
THE SCOPE, ADDITIONAL CHARACTERS ARE THEN DISPLAYED ON THE NEXT
LINE.

CREATING THE HANDLER

THE BINARY OF THE HANDLER IS IN A FILE CALLED TV11.BN .
THIS IS IN A FORM SUITABLE TO BE LOADED BY OS/8 BUILD.
THE PERMANENT DEVICE NAME IS VR12. THE SPECIFIC HANDLER
NAME IS TV.
YOU CAN LOAD THE HANDLER INTO BUILD FROM BUILD BY
THE COMMAND

.LOAD SYS:TV11

IT IS THEN INSERTED VIA THE COMMAND

.INSERT VR12,TV

FOR DETAILS OF USING OS/8 BUILD, PLEASE CONSULT THE OS/8
USER'S REFERENCE MANUAL.

TV CAN ALSO BE INSERTED INTO AN OS/8 SYSTEM USING CONFIG.
THIS IS A STRAIGHTFORWARD THOUGH TEDIOUS JOB. USERS WHO WISH TO
DO IT THIS WAY SHOULD CONSULT THE PS/8 (OR OS/8) USER'S GUIDE
AND SOFTWARE SUPPORT MANUAL, AND THEY SHOULD HAVE A LISTING OF
CONFIG, AND THEY SHOULD REALLY KNOW WHAT THEY'RE DOING.
THE SOURCE OF THE HANDLER IS IN THE FILE CALLED TV11.PA .
IF USING CONFIG, BE SURE TO CHANGE THE HANDLER ORIGIN SETTING
AND REMOVE THE CODE AT *V WHICH IS USED ONLY BY BUILD.

TV14

AN EXPERIMENTAL IMPROVED VERSION OF THE SCOPE HANDLER IS GIVEN
IN THE SOURCE FILE CALLED TV14.PA. ITS FEATURES ARE

1.   THE NUMBER OF LINES DISPLAYED IN A SCOPE PAGE
        ARE DETERMINED BY A POTENTIOMETER (POT) ON THE PDP-12
        INSTEAD OF THE RIGHT SWITCHES.

2.   A FORM FEED ENCOUNTERED IN THE BUFFER INDICATES END OF
        CURRENT SCOPE PAGE.

        THIS VERSION HAS BEEN TESTED AND WORKS, BUT HAS NOT BEEN TESTED
        AS THOROUGHLY AS VERSION 11.

        COMMENTS ARE WELCOME CONCERNING THIS PROGRAM
(EITHER VERSION 11 OR VERSION 14). THE USER SHOULD FEEL FREE
TO MODIFY THE PROGRAM HIMSELF. THE CODE WAS WRITTEN VERY HASTILY
AND SO SEVERAL USEFUL FEATURES ARE MISSING. A LITTLE CAREFUL
THOUGHT SHOULD BE ABLE TO REMEDY THIS DEPLORABLE SITUATION.

        ALL COMMENTS, CRITICISMS, AND ESPECIALLY QUESTIONS
SHOULD BE DIRECTED TO:

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        C/O BOX [
        POLY JUPSTICK SOCIETY
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This LINCtape contains the source and binary for two programs:
1. The VR12 Scope handler for PS/8
> Source is TV11.PA
> Binary is TV11.BN
> Experimental source is TV14.PA
2. The LAP6-DIAL to PS/8 Converter.
> Source is DIAL15.PA
> Save image is DIAL15.SV

This LINCtape is already a PS/8 system tape containing the following handlers:

SYS:
DSK: (same as SYS:)
LTA0:
LTA1:
LTA2:
LTA3:
LTA4:
TTY:
PTR: (high speed)
PTP: (high speed)
RKA0:
TV: (VR12 scope handler)
LPT: (LP08 line printer)
LPT2:   (Annalex line printer)
CDR: