



# DECUS

## PROGRAM LIBRARY

DECUS NO.	12-32
TITLE	COMPAR12
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SOURCE LANGUAGE	LAP6-DIAL



# COMPAR12

DECUS Program Library Write-up

DECUS No. 12-32

## ABSTRACT

COMPAR12 (Compare program for the PDP-12) allows the programmer to compare either source or binary DIAL files or block by block comparisons. The output is displayed on the PDP-12 scope. Data may be compared in one of the following three formats:

- Single word (word by word)
- Two word (two words at a time)
- Three word (three words at a time)

The program is a standard load and go LAP6-DIAL binary. All input information is via a standard QANDA frame.

## REQUIREMENTS

COMPAR12 will run on any PDP-12 system that supports DIAL-MS.

## LOADING

The program uses the DIAL-MS I/O routines for its input and output and reads the I/O routines from the systems device (tape  $\emptyset$  if tape systems, disk unit  $\emptyset$  if disk system). The program is loaded in normal fashion:

—>LO COMPAR12,U            where U-Unit

Starting address, if not self starting, is 4 $\emptyset$ 2 $\emptyset$ , LINC MODE. After the program has been started and the I/O routines read into core, the following QANDA message will appear:

COMPARE 12

WHAT TYPE?

(1) SINGLE WORD

(2) TWO WORD

(3) THREE WORD '-

Choose one of the three options 1) word by word, 2) two words at a time for double precision files, or 3) three words at a time for three word floating point files. Word 377 of each tape block is ignored. Then type a linefeed.

The next frame to be displayed is:

REFERENCE DATA

B - BY BLOCK NUMBER

N - BY NAME '-

The user now specifies which way to reference the data, by name (N) or by block number (B) followed by a linefeed.

If the user has specified a comparison by block number the following message will be displayed:

COMPARE STARTING AT

BLOCK '---- UNIT --

WITH

BLOCK ---- UNIT --

FOR ---- BLOCKS

The user now specifies the starting block number, then a return, starting unit, return, then second block number, return and next unit, return and then the number of blocks to be compared, followed by a linefeed. If a mistake is noticed before the linefeed is typed, position the cursor over the incorrect line, by pressing the return key, retype the line and then type the linefeed.

If the user has specified a comparison by name the following message will be displayed:

COMPARE

NAME '----- UNIT --

WITH

NAME '----- UNIT --

S(SOURCE)

B(BINARY) -

The user now specifies the first file name, then a return, the unit where the file is stored, return, then the second file name, return and the unit, return, then an S linefeed for source files or B linefeed for binary files. Again, if a mistake is made, reposition the cursor in front of the incorrect line, correct the mistake, then type the linefeed.

One of three error messages are possible:

### LENGTHS UNEQUAL

The files must be the same lengths in order to do a block by block comparison.

### FIRST FILE NOT FOUND

The first file that was requested was not found - type a linefeed to return to the first frame.

### SECOND FILE NOT FOUND

The second file that was requested was not found - type a linefeed to return to the first frame.

If no discrepancies are found the following message will be displayed:

### GOOD COMPARE

- CTRL/R - RESTART
- CTRL/D - RETURN TO DIAL
- CTRL/B - BY BLOCK (SAME WORD TYPE)
- CTRL/N - BY NAME (SAME WORD TYPE)

The user chooses which option he wants:

- CTRL/R - Returns to first frame
- CTRL/D - Returns to DIAL editor
- CTRL/B - Returns to QANDA frame that asks for starting block number with the same word type as specified in the first frame.
- CTRL/N - Same as CTRL/B except program returns to QANDA which requests the first file name.

If a word in two blocks does not agree, one of the following three error messages will appear (depending on the word type):

Single Word:       BAD COMPARE!

UNIT XX BLOCK XXXX WORD XXX = XXXX

UNIT XX BLOCK XXXX WORD XXX = XXXX

SET SSW  $\emptyset$  =  $\emptyset$  FOR SAME BLOCK

SET SSW  $\emptyset$  = 1 FOR NEXT BLOCK

THEN TYPE LINEFEED

Two Word:           BAD COMPARE !

UNIT XX BLOCK XXXX	UNIT XX BLOCK XXXX
WORD XXX = XXXX	WORD XXX = XXXX
WORD XXX = XXXX	WORD XXX = XXXX

SET SSW  $\emptyset = \emptyset$  FOR SAME BLOCK  
SET SSW  $\emptyset = 1$  FOR NEXT BLOCK

THEN TYPE LINEFEED

Three Word:           BAD COMPARE !

UNIT XX BLOCK XXXX	UNIT XX BLOCK XXXX
WORD XXX = XXXX	WORD XXX = XXXX
WORD XXX = XXXX	WORD XXX = XXXX
WORD XXX = XXXX	WORD XXX = XXXX

SET SSW  $\emptyset = \emptyset$  FOR SAME BLOCK  
SET SSW  $\emptyset = 1$  FOR NEXT BLOCK

THEN TYPE LINEFEED

If the user does not want to see the rest of the discrepancies in that particular block, set sense switch  $\emptyset$  to 1 and press a linefeed to go on to the next block.

After all blocks have been compared and error displayed, the following message will be displayed:

COMPARE DONE

CTRL/R - RESTART  
CTRL/D - RETURN TO DIAL  
CTRL/B - BY BLOCK NUMBER (SAME WORD TYPE)  
CTRL/N - BY NAME (SAME WORD TYPE)

The user now has the same options as in the good compare frame.

The following is a list of the active teletype keys during most QANDA displays:

CTRL/R	}           See GOOD COMPARE frame
CTRL/D	
CTRL/B	
CTRL/N	

ALTMODE

If the user presses the altmode key on the teletype the following message will be displayed:

SELECT UNIT Ø, THEN TYPE A NUMBER (1-7)  
TO UNLOAD THAT TAPE DRIVE

OR

TYPE ANY OTHER CHARACTER TO RETURN TO  
INITIAL DISPLAY

This option allows the user to unwind a tape that is on units 1 to 7. Make sure unit Ø is in the remote position. If a number is typed and unit Ø is not in the remote position the following display will appear:

WAITING FOR UNIT Ø

At this point, no control keys are active and the user has two options; either make unit Ø remote or restart the program at 4Ø2Ø in LINC mode. (Unit Ø must be "remote" so that it can be selected once the specified tape drive has been set in motion; this allows the drive to unwind completely.)

#### ASSEMBLY INSTRUCTIONS

The source is in two parts, COMP1 and COMP2. To assemble do:

```
Z E
AS COMP1,U
SB COMPART2,U,L
```

COMP1 chains to COMP2; both must be on the same unit. Because the program uses remnants of the DIAL-MS loader to bootstrap the DIAL-MS I/O routines, the program must be saved and loaded as a named file. It cannot be loaded directly from the working area.

