



# DECUS

## PROGRAM LIBRARY

DECUS NO.	12-12
TITLE	8TO12 FILE CONVERTER
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SOURCE LANGUAGE	DIAL



## 8TO12 FILE CONVERTER

DECUS Program Library Write-up

DECUS No. 12-12

### OPERATING INSTRUCTIONS

#### ABSTRACT

The PDP-12 program "8TO12" allows the user to read PDP-8 DECTape source files created by the 4K PDP-8 Disk Monitor System ( DEC-D8-SBAF) and output them directly to a PDP-12 DIAL tape, utilizing the TC-12F hardware option available on the PDP-12. Both input and output files may be specified by name, and all necessary corrections in text packing are performed.

#### MINIMUM HARDWARE REQUIREMENTS

PDP-12B with 4K of core memory and the TC12-F hardware option.

#### LOADING PROCEDURE

The program binary is loaded by:

LO 8TO12,U                    where U = unit number

When loaded, 8TO12 will respond with an initial message on the scope. The program may be restarted at any time at 4020 in LINC mode. Including buffer space, the program occupies virtually all of 4K

#### USING 8TO12

All regular QANDA conventions apply when responding to the various questions.

The first scope display is:

Mount LINCtape on unit 0,  
DEC tape on unit 1

The LINCtape on unit 0 will be used to hold the converted file that will be read from the PDP-8 DECTape on unit 1. When the tapes have been mounted, type "LINEFEED." The program will read in the DECTape directory blocks and display the QANDA frame:

#### INPUT

FILENAME ----

Type in the name of the ASCII file you wish to read from DECTape. The name does not have to necessarily be four characters long. If there is no such file,

## NOT FOUND

will appear. Type "LINEFEED" to return to the previous display

Once a legal input file has been found, the program will display:

## OUTPUT

FILENAME -----

Type in the name the resulting LINCtape file is to be called. Again, the name does not necessarily have to be eight characters long. The special reserved DIAL characters should be avoided. The DIAL tape on unit  $\emptyset$  will be searched by FRED to determine if there is sufficient space or a duplicate name. If the file already exists,

REPLACE?

R-REPLACE -

will appear. Typing R will update the directory for the new file. Any other answer will ask for a new output name.

If there is insufficient space on the tape

NO ROOM

R-TRY AGAIN -

will appear.

If "R" is typed, the program will make another attempt to find space on the tape. This allows the user to mount a new DIAL tape on unit  $\emptyset$  if he wishes. Any other response will return control to the request for an input file.

Once a space has been allocated, the program will begin to read data from the DECtape on unit 1, correct the packing to be DIAL-compatible, and output it to the LINCtape on unit  $\emptyset$ . When completed, the program will ask for another input file.

If no end-of-file mark (two consecutive formfeeds) is found,

BAD INPUT

will be displayed. When "LINEFEED" is typed, the output file will be closed at that point and control will return to the request for an input file.

## THE FOLLOWING CONSIDERATIONS APPLY:

1. All number signs, linefeeds, backarrows, and apostrophes are ignored. They are illegal in DIAL.
2. Carriage returns and horizontal tabs are corrected to follow DIAL conventions.
3. Slashes are inserted on blank lines and in place of single formfeeds.

4. No attempt is made to change characters which may at certain times be considered illegal by DIAL (such as PAL-D's terminating dollar sign) or PAL-D's pseudo-ops (such as XLIST) to be DIAL-compatible. Before assembling, the user should make any such necessary corrections (and add a PMODE pseudo-op at the beginning) by means of the DIAL EDITOR.

There is another by-product of this conversion; the file will shrink in length. This is because the packing format of the DECtape files requires a full word for CARRIAGE RETURN, LINEFEED, TAB, FORMFEED, and QUESTION MARK. DIAL uses only six bits and does not recognize either LINEFEED or FORMFEED. As a result, the conversion process saves as much as two full words per line, or more.

The original estimate of the file length is obtained by counting the number of PDP-8 DECtape blocks and dividing by two; this gives the maximum possible length, assuming no shrinkage, since one PDP-12 block is ~~400~~ words long while a PDP-8 block is ~~200~~ words long. This is the number used in the initial search of the DIAL directory, because there is no way to tell exactly how long a file is going to be until after it has been translated. As a result, the final file is almost certainly shorter than indicated in the directory. To correct the directory, do a

```
CLEAR  
AP NAME,U  
SP NAME,U
```

where "NAME" is the name specified under OUTPUT FILENAME. DIAL will only add up to the end-of-file mark; when re-saved, the program will only be saved to that length.

Patch the following location in core after the program is loaded:

	LOC	OLD	NEW
PATCH:	4604	6617	0016

This allows percent signs as legal characters; they were incorrectly thought to be illegal as DIAL text. If your source has no percent signs or if you don't care if they are ignored, this patch is unnecessary.

