

TO: Distribution  
FROM: Dick Snyder  
DATE: June 26, 1972  
SUBJECT: 355 Dumper/Patcher

There now exists a stand alone program for the 355 called the 355 dumper/patcher. This program was written for use primarily while checking out the 645 follow-on. It is intended to be an interim dumping and patching facility while the equivalent facilities in BOS are being debugged. This program can also be used to dump and patch the current 645 of course and specifically, it can be used to dump BOS if BOS dies while dumping nultics (this situation previously required one to either dump BOS to see why it died thereby losing the nultics dump or retry the nultics dump thereby losing the reason for the BOS failure).

This program is used as a self-bootloading card deck which is loaded into the 355. A 355 with a card reader, console attached to a 355 console adaptor, and an inter computer adaptor or direct interface adaptor to an iom is required. In addition, if dumping is to be done, a printer is required. Standard channel assignments are used (see 355/GERTS assignments).

#### OPERATION:

Place the card deck in the card reader and then ready the reader. Go to the 355, make sure that the 600 write protect switches on the 355 panel are not on, press initialize and bootload. The deck will be read in. Go now to the 355 console where the letters "COMMAND:" should be typed out. You may now type one of two commands. These are "DUMP" and "PATCH".

If you type "DUMP", the 355 will print "\*" which is an invitation to type in a dump request. A dump request is of the following form:

```
loc nlocs
```

where "loc" is the 645 location to start dumping from and "nlocs" is the number of words to dump. All numbers are octal. If you do not type "nlocs", only 1 word will be dumped. You may dump only the low 256k of the 645. When the dump has been completed, another "\*" will be printed out. You may type another dump request or you may type "QUIT". If you do this, you will return

to command level where "COMMAND:" will be printed and you may type "DUMP" or "PATCH" again.

If you type "PATCH", the 355 will print "\*" which is an invitation to type in a patch request. A patch request may be any of the following:

```
PEEK loc nlocs
SET loc cont1 cont2 ...contn
QUIET
LOUD
CARD
QUIT
```

Typing "PEEK" will print the contents of 645 memory on the console. Printing will start from location "loc" and will print "nlocs" values. If "nlocs" is not supplied, only one location will be typed.

Typing "SET" will fill cont1 into location "loc" in the 645, cont2 into location "loc+1" in the 645 etc. If you type less than 12 octal digits for a field, the value you do type will be right justified. For example, Typing "SET 100 776" will put the value 000000000776 into location 100 in the 645. If you type more than 12 characters, the leftmost characters beyond the limit of 12 will be lost. As each location in the 645 is modified, a message of the form

```
"LOC x CHANGED FROM n TO m"
```

will be typed out.

Typing "QUIET" will inhibit the printing of the loc changed messages.

Typing "LOUD" will enable the printing of the loc changed messages. This is the default.

Typing "CARD" will cause patch commands to be read from the card reader until it exhausts at which time commands will be read from the console again. The idea here is that if you have a large number of changes which you must continually make to the same locations, you may type the appropriate "SET" commands on cards and then type "CARD" on the console at which time the set commands will all be processed just as if they were typed in on the console. You can include a "QUIET" card as the first card to inhibit the printing of each change message to speed up the changing process. The last card in the deck might be a "LOUD" card to reenale the printing.

Typing "QUIT" will revert to command level as described above for the dumper.

At any time you may push the quit/interrupt/break button on the console. Doing this will cause control to revert to command level where

```
"COMMAND:"
```

will be typed out.

If you make a mistake while typing a field, typing any letter will kill that field. For example, typing the command

```
"SET 100 123 345 456K444 345"
```

will put 123 into 100, 345 into 101, 444 into 102 etc. Typing the "K" caused the 456 to be thrown away.

If any processor or ion faults occur, the 355 dumper/patcher will halt at a DIS instruction. The processor will stop at a DIS with address field 52 octal after an ion fault and DIS 77 octal after a processor fault.

The card deck for the 355 dumper/patcher may be obtained from Dave Jordan or Dick Snyder.