

M E M O

To: Alto Users

Date: June 13, 1974

From: Ed McCreight

Location: Palo Alto

Subject: Changeover to New Disk Format

Organization: PARC/CSL

File: OLDTONEW

This memo describes the only officially supported method of creating a new format Alto disk containing user files from an old format Alto disk. It sets forth a procedure, and it states a policy about what Altos will be in what state at what time.

The Procedure

Step 1: Augment the files on your old disk to include an Ethernet driver. This is done by placing your old disk in DPO of the MAXD Alto (the one in the CSL lab with Nova attached) and performing the following ritual:

a. Set the disk frequency to 3124 kHz by adjusting the pulse period vernier on the Hewlett-Packard pulse generator atop the Nova and observing the frequency on the readout below. Plus or minus 50 kHz is acceptable.

b. Type the following to the Nova:

```
DP1:HDEBAL#           (# represents cr)
;L
;G                     (may need ctrl-A ;G several times)
```

c. Type the following to the Alto:

```
GETNOVA#
SC
B#
```

d. Type the following to the Nova:

```
;X
DP1:ESCAPE.DM#
;P
```

e. Type the following to the Alto:

```
P#
F#
PURGE#
```

(There follows here a long interaction during which you and the Alto decide which files do delete. This is done to make room for the dump file, which is created next.)

```
DUMP/V CLUMP.DM#
```

(The dumper will ask for each file on the disk whether you want it to appear in the dump. Send only user files, since the operating system and BCPL and utilities are already present on your new disk.)

g. You have now finished step 1. Take heart! Only 2 more steps to go!

Step 2: Obtain an initialized new format Alto disk from G. McDaniels. If this is not possible, such a disk may be "QUICK"ed from the disk marked "BEAUTIFUL" using the MAXD Alto as follows:

- a. Obtain a virgin 902-12HD disk pack (stored in MAXC machine room).
- b. Set the disk frequency on the MAXD Alto to 3333 kHz; see details above.
- c. Insert the "BEAUTIFUL" disk in DPO of the MAXD Alto.
- d. Type the following to the Nova:

```
DP1:DEBAL#  
;A  
DP1:ALTOCODE.X9#  
#  
;L  
;G
```

e. At this point the Alto should have booted itself from "BEAUTIFUL". If not, try the boot button a couple of times, then punt. If so, type the following to the Alto:

```
QUICK#
```

f. After the QUICK program has asked whether you are ready, remove the "BEAUTIFUL" disk and place it in DP1 of the MAXD Alto. Place your own virgin disk in DPO of the MAXD Alto. After both disks are ready, type the following to the Alto:

```
Y  
P
```

f. The Alto will now copy "BEAUTIFUL" onto your disk and check the accuracy of the copy. When it finishes, you are done with step 2.

Step 3: The following is a model of what ought to happen. Unfortunately, the Goldberry end of this interaction is shaky at best. It frequently happens that—without hardware adjustment Goldberry is unable to read old format disk packs written on other Altos, and that the GEEFTP program must be nursed along by hand. Metcalfe and Boggs have graciously volunteered to help people with Step 3 if they have done Steps 1 and 2 themselves. The following is how Step 3 goes when everything is working perfectly.

Take your old format disk and place it in the Goldberry Alto (in Alan Kay's lab) and take your new disk and place it in the MAXC2 Alto. First you will form a dump file on Goldberry of all user files you want to send to your new disk, then you will send this dump file to the MAXC2 Alto across the Ethernet, and then you will unbundle this dump file on the MAXC2 Alto.

a. Place your old format disk in Goldberry and boot it twice. If the boot doesn't work, which happens all too often, you will have to enlist the aid of David Boggs to adjust the disk drive, and do your transfer at his convenience. (Go directly to Jail; do not pass GO; do not collect \$200.)

b. Type the following to Goldberry:

@RAM@#

(This causes the Ethernet microcode to be loaded into Goldberry's microcode RAM. Press any key to terminate the RAM test after a short while, then confirm the load question with a carriage return, and press Goldberry's boot button once when the program requests it.)

GEEFTP CLUMP.DM TO 5#

(This begins attempting to send your dump file to the MAXC2 Alto. If you type a space at any point during the running of this program, it will give you a status report.)

c. Place your new format disk in the MAXC2 Alto and boot it.

d. Type the following to the MAXC2 Alto:

EEFTP CLUMP.DM FROM 1#

(The transfer will now begin. Typing a space at any time will cause the generation of a status report. When the transfer finishes, continue with)

LOAD CLUMP.DM#

(This will cause the DUMP clump to be disassembled onto your disk as separate files.)

DELETE CLUMP.DM#

(This will cause the DUMP clump to be removed from your disk space.)

The Policy

During the next week every attempt will be made to convert all Altos except Goldberry to the new disk format. The MAXC2 Alto has already been converted to this format. The only fixed points which are guaranteed during this period are that MAXC2 Alto will operate using the new format, that Goldberry will operate using the old format, that MAXD will operate using either format, and that we shall endeavor to keep all these machines working. Current planning is to convert Goldberry to the new format (and therefore terminate forever all support for old format disks) on Tuesday, June 18, 1974. This memo will serve as a goad and a warning.