

5. LOADING THE PDP-10 EMULATOR

Assuming system power has been turned on and the Nova or Alto is at command level (Nova DOS or the Alto Executive), one may load the microcode and start Tenex by means of the single command:

```
MIDAS TENGO<cr>
```

Midas will run through the TENGO command file which loads the microcode, displays some junk on the screen, and starts up Tenex. This takes several minutes on Maxc1 and about a minute on Maxc2.

After loading the microprocessor, TENGO resets the machine (21;G) and checks the microcode (25;G). The microprocessor may crash (IMA=20) if there were any failures detected during loading. LM 10 will contain the address of the incorrect word (if only one word was clobbered).¹ Note the values of LM 10 and IMA in the log and call system maintainers if the microprocessor crashes. If you cannot get the system maintainers, get out of Midas (by typing control-A on Maxc1 or selecting "Exit" with the mouse on Maxc2) and repeat MIDAS TENGO, since hardware flakiness has been known to cause loads to fail spuriously and you may be lucky on the second try.

If the load succeeds, NVIO or AltIO is started, which in turn boots in Micro-Exec from one of the Maxc disks. The following message is printed out on the Maxc console:

```
Micro-Exec, Ver <version identifying string>
*
```

Micro-Exec immediately executes an automatic "Go" command, which causes Tenex to be loaded from disk and started. Further procedures are described in the next section.

If it is desired to load the microcode without starting NVIO/AltIO or Micro-Exec, use the TENLOAD command file instead of TENGO; i.e. type:

```
MIDAS TENLOAD <cr>
```

TENLOAD is identical to TENGO except that it does not start NVIO/AltIO, Micro-Exec, or Tenex, but rather leaves control in Midas.

Maxc1: Then, to start NVIO and boot in Micro-Exec (without starting Tenex), type:

```
!NVIO.SV/B <cr>
```

Maxc2: To start AltIO and boot in Micro-Exec (without starting Tenex), select "AltIO", "Boot-MExec", and "Do-It" with the mouse.

The MEXECGO command file combines the effect of TENLOAD followed by starting NVIO or AltIO and booting in Micro-Exec.

Note: The above procedure only works when Micro-Exec is on save area 1 of disk unit A. This is normally the case. However, during periods when disk controllers are being checked out or when there has been hardware flakiness with disk controllers, MEXEC may not be on unit A. In this case it is probably on another disk drive. You should follow the procedure discussed in "Calling NVIO" (Maxc1) or "Calling AltIO" (Maxc2) in order to boot Micro-Exec from another drive.

¹Checker failure interpretation is discussed in more detail in section 13.