Timeline of FDOS, MiniFLEX, and FLEX 2.0 for the MF-68 Disk System

August 1977

The MF-68 Disk System is introduced. It ships with FDOS 1.0 which is basically North Star DOS for the 6800. These are very primitive operating systems without the feature set or powerful user interface of FLEX or CP/M. The manual for the MF-68 makes it clear the OS must be FDOS, not MiniFLEX, based on the memory requirement (16K) and the startup message produced by the OS ("SWTPC READY"). Price lists of the time also list "FDOS" as being supplied with the MF-68 and list the commands available which are clearly FDOS commands and not MiniFLEX. FDOS was written by Robert Uiterwyk who wrote a few versions of BASIC sold by SWTPC. The 1977 copyright date on the FDOS manual is consistent with the August 1977 release date of the MF-68.

May 1978

The DMAF1Disk System is introduced. This a dual 8" drive with a DMA controller that installs in the main SS-50 bus of the SWTPC 6800. This system ran FLEX 1.0 developed by Technical Systems Consultants (TSC) at the request of SWPTC.

FLEX 1.0 for the DMAF1 requires 8K of RAM at $A000-$BFFF where FLEX resides. This requires a modification to the MP-A CPU board to go off-board in this address range (the MP-A2 did not need a mod) and also requires a mod to the SWTPC RAM boards to allow addressing above $8000. FLEX 1.0 uses 128 byte sectors which was common for single density 8" drives.

Creation of MiniFLEX (FLEX 1.0 for the MF-68 "mini" disk drives) appears to have been at about this time as well based on dates mentioned in the "FLEX 1.0" manual for the MF-68. This manual also equates "the mini-floppy version of FLEX" to the term "MiniFLEX." The startup message when booting MiniFLEX is "FLEX 1.0"

MiniFLEX is a fairly minor revision of the DMAF1 version of FLEX. MiniFLEX stayed with 128 byte sectors, but the memory foot print is reduced slightly to allow the use of FLEX in lower cost systems. 4K of RAM is required at $7000-$7FFF where MiniFLEX resides. This allows its use without modifying the MP-A CPU board and with less RAM in the system. This also avoids having to modify RAM boards to operate above $8000. A few capabilities of the resident portion of FLEX were removed to allow it to fit in 4K, but overall, MiniFLEX still feels pretty much like the full version of FLEX.

Prior to this May 1978 time frame, the MF-68 was shipping with FDOS. Once MiniFLEX was available, it appears MiniFLEX quickly became the standard OS to ship with the MF-68 as mentioned in TSC ads of the time.

February 1979

In the first issue of the "FLEX Newsletter" published by TSC, FLEX 2.0 was announced. "new version of FLEX for owners of the SWTPC MF-68 system. This version, called FLEX 2.0, is EXACTLY like the version of FLEX SWTPC includes with their 8" DMAF1 system

(called FLEX 1.0) except for the disk driver routines." TSC then offered the following summary of the different FLEX versions:

Mini FLEX

This is the version which SWTPC includes with the 5" MF-68 disk system. It is located at $7000.

FLEX 1.0

This is the version which SWTPC includes with the 8" DMAF1 disk system. It is located at $A000.

FLEX 2.0

This is a new version which can be implemented on the MF-68. It is software equivalent to FLEX 1.0 except for the disk drivers. It is located at $A000 hex.

With the introduction of FLEX 2.0, the disk layout was changed to use ten sectors of 256 bytes instead of 18 sectors of 128 bytes. This increased disk capacity by about 13% and also increased soft-sector gap sizes slightly for better reliability.