## Software Dynamics SDOS

SDOS from Software Dynamics is a disk operating system for 6800 and 6809 computers. Compared to other 6800 operating systems of the time – like FDOS, DOS-68, and FLEX – the design of SDOS is more of what you'd expect in an operating system for mini-computers (e.g., DEC, Data General). This includes longer file names, a more robust and flexible file system, LRU disk cache, disk read-ahead, better support of variety of mass storage devices, a virtual terminal driver with capabilities similar to termcap in Unix, interrupt driven I/O with a multi-tasking kernel, and more. However, this also means the creation of device drivers to support SDOS on a given hardware platform is substantially more complex than creating the same for a simpler OS like FLEX. Similarly, application code to use SDOS system calls is also more complicated. Because of this, SDOS did not achieve the widespread adoption that FLEX enjoyed in the late 1970's. In general, OS's like FLEX (and CP/M) were sufficient for most users during this time period.

## Trying SDOS on a SWTPC 6800

Thanks to the work of Roberto Sancho Villa, the SDOS operating system has been resurrected. Roberto was able to recreate a working version of SDOS 1.1 on his fork of the SIMH emulator. I took Roberto's work and got it working on real hardware. The hardware required is a SWTPC 6800 fully loaded with RAM ($0000-$7FFF and $A000-$DFFF), a Peripheral Technology FD-2 disk controller, and double-sided 5.25" floppy drives. A boot disk is created using the PC2FLOP utility (see below) which can then be booted using the "D" (disk boot) command in SWTBUG.

## Creating an SDOS Disk

The PC2FLOP utility allows creation of a floppy disk from a disk image on the PC. The disk image is transferred using the XMODEM protocol through an MP-S serial port on the SWTPC 6800 and using a terminal emulator on the PC.  The disk images provided are double-sided, single density, 35 tracks, 18 sectors per track, with 128 bytes per sector. PC2FLOP provides the option to format the disk.

To run PC2FLOP on the SWTPC 6800, load the file "PC2FLOP.S19" using the "L" command in SWTBUG. After the load completes, type "G" to execute the program (or "J 0100"). When PC2FLOP prompts you to send the file, use the XMODEM send option of your terminal emulator to send the disk image file "SDOS_System.dsk" (choose the XMODEM checksum option, not CRC). At 9600 baud it takes about 4-1/2 minutes to create a disk. I like to put the 9600 baud clock from the CPU board onto the 600 baud motherboard line. I've never needed to use 600 baud and the "600" reminds me of 9600. See "MP-A 9600 Baud Mod.jpg" for details.

The FLOP2PC utility can be used to backup a disk to a disk image file on your PC. Load and execute FLOP2PC.S19 in the same manner as PC2FLOP.