

Smoke Signal Broadcasting DOS-68

Smoke Signal Broadcasting (SSB) supplied the DOS-68 operating system with their BFD-68 Floppy Disk System for the SWTPC 6800. DOS68 was developed by SSB and is very similar to the FLEX operating system – both from the operator’s perspective and the internal workings of the OS.

DOS-68 came in versions that started in RAM at \$6080, \$A080, or \$C080. The version for which we have a bootable disk image is the \$C080 image which requires RAM from \$C000-\$DFFF. DOS-68 also expects the SWTBUG monitor and monitor RAM (\$A000-\$A07F) to be present and needs 32K of RAM installed from \$0000-\$7FFF.

Creating a DOS-68 Boot 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. DOS-68 disks have 35 tracks, 128 byte sectors, and 18 sectors per track. Double sided disks are supported with the BFD-68A controller. PC2FLOP provides the option to format the disk.

The PC2FLOP utility is located in the “Disk Image Transfer” folder. 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 “DOS68-v5.1-SS.DSK” from the “Disk Images” folder (choose the XMODEM checksum option, not CRC). This disk image is single sided and includes the PCGET and PCPUT file transfer utilities (see below). The file “DOS68-v5.1-DS” is a double-side disk image you can write to floppy if you have the BFD-68A controller. At 9600 baud it takes just over two minutes to create a single sided 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” in this same folder 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.

Booting DOS-68

To boot a DOS-68 disk, type “J 8020” in SWTBUG to jump to \$8020 which is the cold boot loader in the ROM on the BFD-68. See the file “Sample Session.txt” for a typical DOS-68 session. With the original BFD-68 controller, and just after power up, there may be a 10 second delay after executing the jump command until any disk activity takes place. This is a bug in the boot ROM and is normal. A very simple hardware mod can fix this bug, see the BFD-68 folder in the Hardware->Smoke Signals Broadcasting section of this website.

File Transfer between a PC and DOS-68

Using a terminal emulator and the XMODEM protocol, the PCGET and PCPUT utilities allow transfer of files between a PC and a DOS-68 system. PCGET retrieves a file from the PC into DOS-68 and PCPUT sends a file from DOS-68 to the PC. Both of these utilities are on “DOS68 v5.1 with PCGET PCPUT” disk image in the “Disk Images” folder. Random files (uncommon) are not supported at this time.