PC2Flop and Flop2PC (Sol-20 Micropolis Version)

PC2Flop writes a Micropolis Mod-I or Mod-II floppy disk with a disk image transmitted from a PC. Flop2PC saves an image of a Micropolis Mod-I or Mod-II floppy disk to a PC. The disk image is transferred through the Sol-20 serial port. The XMODEM CRC or checksum protocol is used for the transfer. The image is read or written directly from/to the floppy in raw format (270 bytes per sector, 16 sectors per track, 35 or 77 tracks). Several disk images for the Sol-20 can be found in the processor_technology->sol-20->micropolis_floppy section of the download directory at deramp.com.

These programs run standalone at 0x100 or under CP/M. Any type of Micropolis diskette can be read or written even if running under CP/M. The program assumes the Micropolis FDC is strapped at F800.

Standalone operation may be required to create a bootable disk (e.g., CP/M) when no other bootable disk is available. There are a few ways to load PC2Flop into a cold machine:

1) Use the EN command of the SOLOS monitor to type in the 19 hex bytes of the program listed in LOADER.PRN. Execute the loader by running from zero (EX 0). Send the program PC2FLOP.COM through the Sol-20 serial port. After transmission is complete, reset the computer and run PC2FLOP at address 100h by typing EX 100.

2) Send the PC2Flop.ent file after using the “SET I=1” command in SOLOS. When sending the file, specify a delay of 100ms after each line and the Sol-20 can keep up at 9600 baud. Otherwise, you’ll have to drop to 1200 baud. Be sure to restore the baud rate to 9600 and turn off line delays before proceeding with disk image transfer.

3) If you have an Intel hex file loader in PROM, you can load PC2FLOP.HEX. A good Intel hex loader for the Sol-20 can be found in the ROMs folder of the processor_technology->sol-20->roms section of the download directory at deramp.com.

When copying a disk image to the PC (Flop2PC), the program attempts several retries, including restoring the track both from zero and from past the current track. If the read still fails, the error is noted and the copy process continues so that the remainder of the disk can still be recovered.

The disk image format matches the Vector Graphic Image (VGI) format defined by Howard Harte for his VG work on the Simh emulator. Each sector in the PC file is 275 bytes in length, organized as follows:

Length	Content
1	Sync byte (always 0xff)
1	Track number (0-76)
1	Sector number (0-15)
266	Sector data payload (CP/M uses last 256 bytes of this)
1	Checksum
4	ECC for HD-FD controller (not used by floppy)
1	ECC valid flag (not used by floppy)