```
=======================
** SGS/STS/SGR/STR **
=======================
```
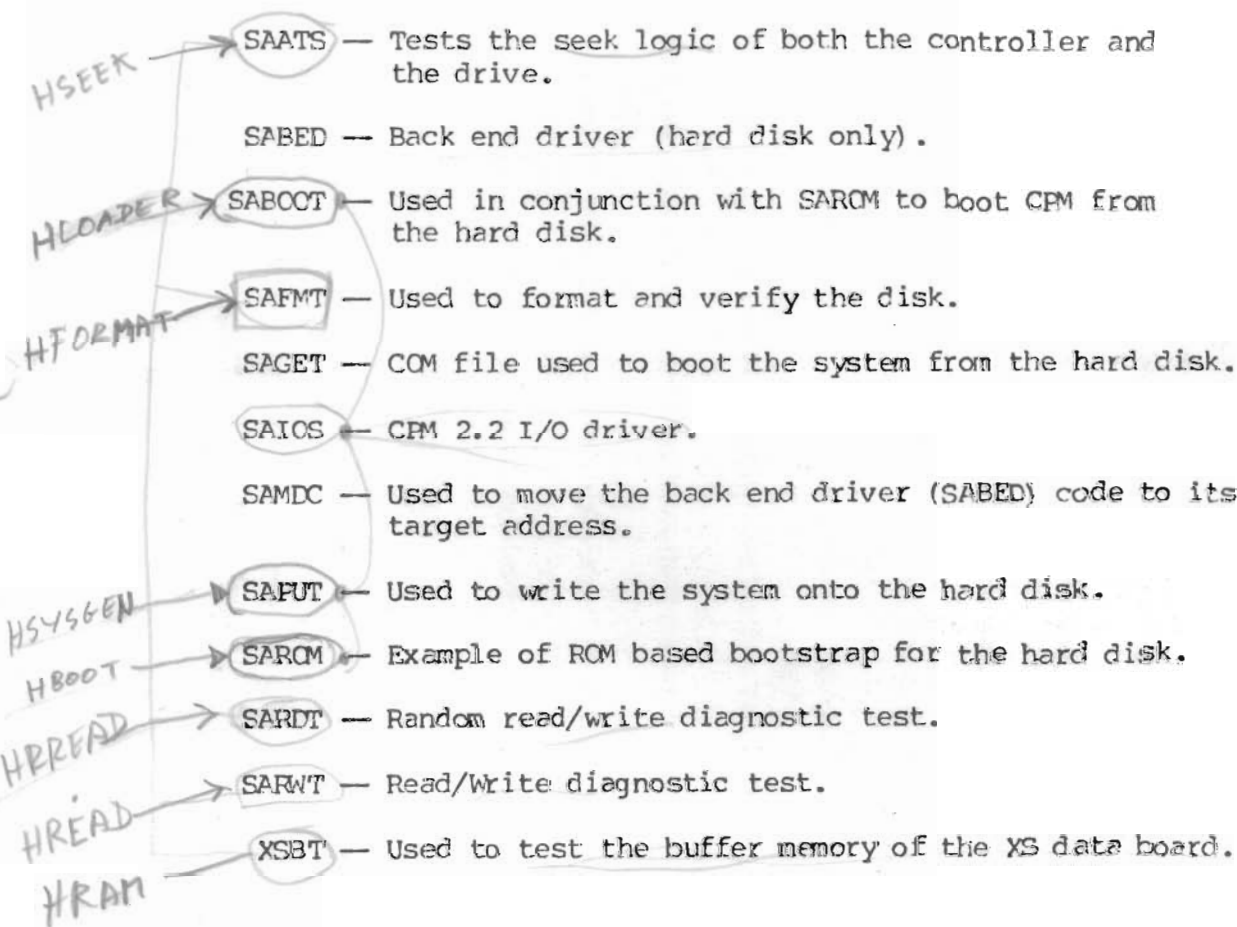
This is the second release of support software for CPM 2.2. The software is compatible with the following XCOMP controllers: SGS, STS, SGR, & STR.

All the software on the diskette was written using the Digital Research macro assembler MAC.

The following programs are provided on the diskette:

SAATS — Tests the seek logic of both the controller and the drive.

SABED — Back end driver (hard disk only).

SABOOT — Used in conjunction with SAROM to boot CPM from the hard disk.

SAFMT — Used to format and verify the disk.

SAGET — COM file used to boot the system from the hard disk.

SAIOS — CPM 2.2 I/O driver.

SAMDC — Used to move the back end driver (SABED) code to its target address.

SAPUT — Used to write the system onto the hard disk.

SAROM — Example of ROM based bootstrap for the hard disk.

SARDT — Random read/write diagnostic test.

SARWT — Read/Write diagnostic test.

XSBT — Used to test the buffer memory of the XS data board.

Handwritten annotations in left margin: HSEEK, HLOADER, HFORMAT, HSYSGEN, HBOOT, HRREAD, HREAD, HRAM

A number of support programs (SAROM, SAGET, & SAPUT) do direct CRT I/O. These programs will require modification to run properly in your system.

A number of the programs report errors. Some of the error messages include information about the drive and controller status and the place (on the disk) where the error(s) occured. Abbreviations are used and the the data is printed in hex. Abbreviations used are:

        DST = Drive Status
        CST = Controller Status
        CYL = Cylinder
        HD = Head

If you choose to use a set of I/O addresses other than 70H-77H
(XCOMP standard) you'll need to change the equate statement CBASE
in each program.

Please feel free to contact me reguarding any questions that you
may have reguarding the operation of the disk drive, the controller,
or the software.

Douglas J. Huggard
XCOMP, Inc.
7566 Trade Street
San Diego, Cal. 92121
Phone: (714) 271-8730

TELEX: 182786 (XCOMP INC SDG)

B>

Dong Huggard (614) 695-2155
his dept.

MINISCRIBES

Index pulse

1½

```
========================
** Back End Driver **
========================
```

INTRODUCTION

SABED is a back end driver for CP/M based systems. It allows the
user to attach hard disk to a current system without any alteration
to the user's CBIOS. This is accomplished by moving the current CP/M
system down 2K in memory; the back end driver is then loaded into the
free space made available at the end of memory. Once loaded, SABED alters
the user's CBIOS Jump Table to point to itself. It then arbitrates between
calls for the floppy disk and calls for the hard disk.

CONFIGURING THE DRIVER

Lets assume that you are currently running a 64K floppy system and you
want to use SABED. Using directions supplied by Digital Research or the
manufacturer of your system, build a 62K CP/M system. This opens up 2K of
RAM for the back end driver. In the program SABED.ASM alter the equate
statement STRT to read "STRT   EQU   62*1024". In the program SAMDC.ASM alter
the equate statement TADR to read "TADR   EQU   62*1024". Assemble both SABED
and SAMDC. Use DDT to create a COM file called BED.COM; its done like this:

```
A>DDT SAMDC.HEX          ;Load DDT & SAMDC (@ 100H) into RAM
-ISABED.HEX
-RC00                    ;Read SABED into RAM starting @ 400H
-G0                      ;Warm Boot CP/M
A>SAVE 7 BED.COM         ;Create the COM file
```


USING THE DRIVER

Boot your floppy disk system as you would normally. Execute the file
BED.COM by typing: "A>BED <CR>". This will load the driver code. The hard
disk becomes the next drive in line; i.e., if you are currently using
two floppy disks as drives A: & B:, the hard disk will automatically
become drive C:.

B>

```
XSUB
DDT CPM62.COM
ISAPUT.HEX
R
ISABOOT.HEX
R880
ISAICS.HEX
R2D80
G0
SAVE 38 SA62.COM

P>
```