

Loader Utility



Loader Utility

for the Series 200 Computers

Manual Part No. 09800-10611
Disc No. 09800-10314 (3½" disc)
or 09800-10514 (5¼" disc, external drive)
or 09800-10614 (5¼" disc, internal drive)

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Printing History

New editions of this manual will incorporate all material updated since the previous edition. Update packages may be issued between editions and contain replacement and additional pages to be merged into the manual by the user. Each updated page will be indicated by a revision date at the bottom of the page. A vertical bar in the margin indicates the changes on each page. Note that pages which are rearranged due to changes on a previous page are not considered revised.

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Important

The flexible disc containing the Loader Utility is very reliable, but being a mechanical device, is subject to wear over a period of time. To avoid having to purchase replacement program discs, we recommend that you immediately duplicate the contents of the discs onto a permanent backup disc. You should also keep backup copies of your important programs and data on separate media to minimize the risk of permanent loss.



Chapter 1

Introduction

The Loader is a utility that allows you to load a BASIC 2.0 system and binary programs with one operation. It uses disc drivers in the Boot ROM to load other drivers from an external disc. For example, if you want to use Shared Resource Management (SRM) but do not have a local mass storage device, you can use the Loader to load BASIC and the SRM Binary Program from the SRM. Another example: you want to use a CS80 disc but the AP Binary Program is on the hard disc. You can use the Loader to load BASIC and the AP Binary Program from that disc.

The Loader can also benefit users on the SRM who want to load different operating systems at each node without having to override the default operating system selection by pressing a key during the boot process. For example, one user on the SRM wants to load BASIC 2.0 and the SRM binary program; a second user needs Pascal; a third wants to use HPL and a fourth needs VisiCalc.® (Note that HPL does not support SRM, so the HPL user would have to have a local mass storage device to store HPL files.) Each of these users can use the Loader to get the needed system.

Note

In order to use the Loader, your Series 200 computer must have a Boot ROM that is revision 3.0 or greater but not revision 3.0L. Upon power up your computer should display "BOOTROM 3.0". If no Boot ROM message is displayed, you have an earlier version of the Boot ROM. If "BOOTROM 3.0L" is displayed, your boot ROM is a subset of the 3.0 boot ROM and does not support the Loader.

The Loader is a system which performs its function and then deletes itself, turning control over to the operating system. It is loaded just like any other operating system. The files needed for proper operation are the Loader system, an operating system file such as BASIC 2.0, any binary program files (needed only for BASIC), and an ASCII file called a configuration file. All of these files must reside on the same mass storage device and on the same directory for SRM.

The configuration file is created by you and contains names of the operating system and binary program files you want to load. That file may also contain a string of keystrokes (called a key string) which provides autostart capability, but is general enough to be tailored to meet your specific needs. The binary program files and key string are only applicable for BASIC.

® "VisiCalc is a registered trademark of VisiCorp."

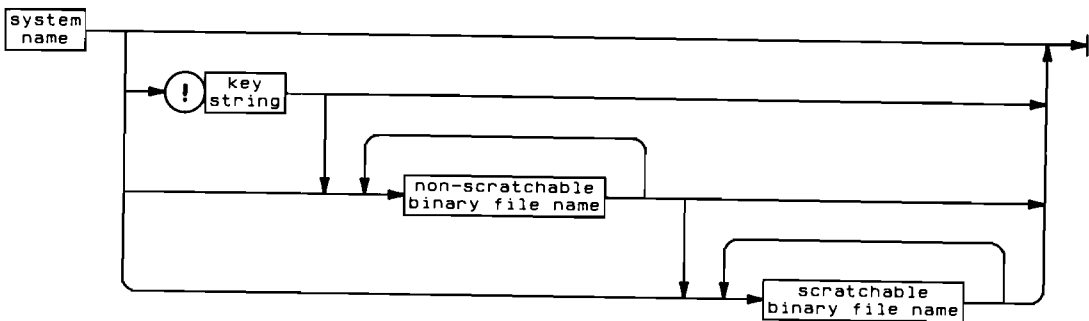
2 Introduction

Chapter 2

Using the Loader

The Configuration File

As mentioned in Chapter 1, you must create an ASCII file called a configuration file prior to using the Loader. For BASIC 2.0, the configuration file contains the names of the system and binary programs to load. It may also have a key string.



For operating systems other than BASIC 2.0, the configuration file should contain only the name of the system file to load. Everything else in the file is ignored.

Item	Description/Default	Range Restrictions
system name	a logical record containing a string constant; the name of a SYSTM file.	any valid file name
key string	a logical record containing a string constant.	100 characters maximum (not counting "!"); valid keystrokes only
non-scratchable binary file name	a logical record containing a string constant; the name of a BIN file.	any valid file name
scratchable binary file name	a logical record containing a string constant; the name of a BIN file.	any valid file name

4 Using the Loader

Here's a sample configuration file consisting of 4 strings:

```
SYSTEM_BAS
!MSI "MY_DIRECTORY:REMOTE" XLOAD "AUTOST" X X R
APBIN
SRM_BINARY
```

If you want to load a BASIC 2.0 ROM system instead of a soft system, use "ROM" for the system name. If you want to load a ROM system other than BASIC 2.0, use "X^N" where X is the first character of the language name. For instance, use "H^N" to load a ROM HPL system. If you use "B^N" instead of "ROM" for BASIC 2.0, BASIC will be loaded but binary programs will not be loaded. ("^N" is the null character and is accessed in BASIC by using the **ANY CHAR** and inputting the 3 digits 000.)

There may be as many binary programs specified as desired, including none at all. The only requirements are:

1. If you want to load a scratchable binary program (e.g., PHYREC), that file name must appear in the configuration file after any non-scratchable binary program file names.
2. If you are using the Loader to load a binary program that contains drivers for your source device, that binary program file name must be the last file name in the configuration file. Note that only non-scratchable binary programs contain drivers for mass storage devices.

The key string is a feature that was included to provide autostart capability when using BASIC on Shared Resource Management (SRM), but it is general enough to meet many needs. The character string in this line will be sent to the keyboard line after the BASIC system and specified binary programs are loaded. This line begins with a "!" to distinguish it from a file name and may contain up to 100 characters not counting the "!". For a detailed explanation of key-code strings, refer to "Outputs to the Keyboard" in Chapter 9 of the BASIC Interfacing Techniques Manual.

Naming the Configuration File

There is a correspondence between the name of the Loader system file and the configuration file. The file name of the Loader system file on your Loader Utility disc is "SYSTEM_LD"; therefore, your configuration file name must be "CONFIG_LD". If you change the file name of the Loader system file, say to "SYSTEM_XYZ", you must also change the file name of your configuration file to "CONFIG_XYZ".

An exception occurs when the device is SRM. In this case, the Loader appends the node number to the configuration file name and looks for it. If the Loader does not find it, it will then look for the file without the node number appended. For example, if the Loader system file is "SYSTEM_LD" and the SRM node number is 10, the Loader will first look for the configuration file "CONFIG_LD10", and if it is not found, it will use the file "CONFIG_LD". This is to allow each node on the SRM to have its own configuration file. (To find out your SRM node number, you can use the program "CONFIG" on the BASIC Utilities Disc 2, part number 09800-10305, 09800-10505 or 09800-10605.)

Keep in mind the file name length restrictions; that is, 10 characters for a file name not on SRM, 16 characters for a file name on SRM.

Creating the Configuration File in BASIC

Following is a sample BASIC program that you can use to create your configuration file. A copy of this program is on your Loader Utility disc under the file name "CONFIGER".

```

10   ! Program "CONFIGER"
20   DIM File$[16],Str$[100]
30   LINPUT "CONFIG FILE NAME",File$
40   CREATE ASCII File$,1
50   ASSIGN @File TO File$
60   OUTPUT 2 USING "#,B";255,75 ! Clear screen
70   PRINT "File: ";File$
80   LINPUT Str$
90   IF Str$="" THEN Done
100  OUTPUT @File;Str$
110  PRINT Str$
120  GOTO 80
130 Done:ASSIGN @File TO *
140      END

```

Here is a sample BASIC program to check your configuration file. A copy of this program is on your Loader Utility disc under the file name "CONFIG_CHK".

```

10   ! Program "CONFIG_CHK"
20   DIM File$[16],Str$[100]
30   LINPUT "CONFIG FILE NAME",File$
40   PRINT "FILE: ";File$
50   ASSIGN @File TO File$
60   ON END @File GOTO Done
70   ENTER @File;Str$
80   PRINT Str$
90   GOTO 70
100 Done: ASSIGN @File TO *
110      END

```

Remember that the key string capability is available only for BASIC, and that a configuration file containing a key string should be created by a BASIC program. To insure that your key string is correct, you should try the sequence of keystrokes prior to creating your configuration file.

Creating the Configuration File in Pascal

You can create your configuration file in Pascal by accessing the Editor and inserting a line of text for each logical record. When you save the file on your mass storage device, save it as an ASCII file. You can do this by appending ".ASC" to the file name when you save the file; e.g., "CONFIG.ASC".

After creating the configuration file, you must change the name of the file to correspond to the name of the Loader system file. In the above example, you would need to access the Filer and use the Change command to change the file name from "CONFIG.ASC" to a file named "CONFIG_LD" assuming the Loader system file name is "SYSTEM_LD".

The Final Step

Now that you have created your configuration file, you must place all of the necessary files on the appropriate mass storage device. Those files are:

- The Loader system file (the SYSTM file on your Loader Utility disc).
- Your configuration file that is named to correspond to the Loader system file.
- An operating system file
- If the operating system is BASIC 2.0, any binary program files you want to load.

Copying Files with BASIC

If your mass storage device is supported by BASIC 2.0, you can use the COPY command to copy the appropriate files onto the device. If your device is supported by the AP Binary Program, set up your system as you normally would for accessing the desired mass storage device. You can then use the COPY command to copy the appropriate files onto the device. Remember that all of the files must reside on one disc.

If you intend to use the Loader on SRM, you must first load the SRM Binary Program onto a node that has a local mass storage device. You can then use the SRM Copy Utility which is on the same disc as the SRM Binary Program to copy the appropriate files onto the SRM "SYSTEMS" directory. If you have Revision B of the SRM Binary Program, you can use the COPY command to perform the file transfer.

Copying files with Pascal

Access the Filer and use the Fcopy command to copy the files. If you intend to use the Loader to load Pascal unattended from SRM, you must copy the operating system file "SYSTEM_P" from your Boot disc to the "SYSTEMS" directory on SRM. Consult your Pascal Language System User's Manual for more information on how to set up the Pascal operating system on SRM.

Chapter 3

Operating Details

Loader Examples

Following are three sample applications using the Loader:

Example 1

You want to use your HP 9885 disc drive with BASIC, but the AP Binary Program that supports the drive is on an HP 9885 disc. You also want to load the HP 98627A Binary Program that supports the color video interface. This binary program file must also reside on the HP 9885 disc. Once the files are loaded, you want to display a message to the user. You should create the configuration file below and place it on the HP 9885 disc with the Loader system file, BASIC system file and the binary program files needed.

```
SYSTEM_BAS
!DISP "BASIC, COLOR VIDEO AND AP BINARY PROGRAMS LOADED." X
HP98627A
AP_BINARY
```

Notice that the AP Binary Program file name is the last file name in the configuration file. (See requirements under "The Configuration File" in Chapter 2.)

Example 2

You want to load BASIC and the SRM Binary Program and run an autostart program from your directory on SRM. Here is the configuration file you need:

```
SYSTEM_BAS
!LOAD "MY_DIRECTORY/AUTOST:REMOTE" X X R
SRM_BINARY
```

Example 3

A user on SRM node 10 wants to use BASIC, one on SRM node 11 needs Pascal, and one on SRM node 12 wants to load VisiCalc.®.

The user on node 10 should create a configuration file called "CONFIG_LD10"; the user on node 11 should create a file called "CONFIG_LD11", etc. All 3 configuration files should be placed in the SRM "SYSTEMS" directory. The "SYSTEMS" directory should also contain the Loader system file called "SYSTEM_LD" as well as the operating system files and binary programs needed by each of the nodes. When each node is powered up, the Loader will perform the tasks specified by that node's configuration file.

Contents of "CONFIG_LD10":

```
SYSTEM_BAS
!MSI "MY_DIRECTORY:REMOTE" X X KCAT X X
SRM_BINARY
```

Contents of "CONFIG_LD11":

```
SYSTEM_P
```

Contents of "CONFIG_LD12":

```
SYSTEM_VC
```

Notice that the key string in "CONFIG_LD10" contains "X K" which clears the screen prior to displaying the directory. If the clear screen were not performed, items displayed by the Loader would be left on the screen.

Potential Problems

Following are some potential problems you may encounter when using the Loader:

SITUATION: You are using the Loader for BASIC on SRM but forget to include the SRM Binary Program in your configuration file. When you use the configuration file to load BASIC from SRM, if you do not have a local mass storage device, you have no way to access SRM to change the configuration file.

SOLUTION: Be sure to include the SRM Binary Program file name in your configuration file.

SITUATION: You have a configuration file set up with your SRM node appended, and you have placed it on the SRM "SYSTEMS" directory. When you power up your computer, it loads another operating system instead of your Loader system.

SOLUTION: The default operating system loaded from SRM is the first one on the "SYSTEMS" directory. You can use your configuration file if you override the default selection during loading by pressing a key. If you want to load a system unassisted, make sure the Loader system file is the first system file on the SRM "SYSTEMS" directory. (See your computer's Installation Manual for more information about the boot process.)

SITUATION: You want to use the Loader to load BASIC and selected binary programs from a 5 1/4" disc, but the files do not fit on one disc.

SOLUTION: You cannot use the Loader for this situation. Instead of using the Loader, use an AUTOST file that loads the binary programs. The AUTOST file can load those binary programs from another disc drive; eg., the left-hand drive on the Model 36, or can prompt the user to insert the disc containing the binary programs. Since LOAD BIN is not a programmable statement, the binary programs must be loaded by performing outputs to the keyboard. (See Chapter 9 in the BASIC Interfacing Techniques Manual.)

SITUATION: You have a configuration file set up to load BASIC. You have placed an AUTOST file on your mass storage device with the Loader system, BASIC operating system and configuration files. When the Loader system is executed, BASIC is loaded but the system does not automatically LOAD and RUN the AUTOST file.

SOLUTION: You must use the key string in your configuration file to provide autostart capability for BASIC. However, you can use an autostart file with the Loader and Pascal.

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Loader Error Messages

The following error messages indicate some problems that may occur while the Loader system is executing.

Error Message	Description
NOT FOUND	File name in configuration file not found. Check your configuration file for misspelled file names and make sure all files are on the same mass storage device.
IMPROPER NAME	File name in configuration file contains improper characters.
NAME TOO LONG	File name in configuration file contains more than 10 characters (16 characters for SRM).
DEVICE MISSING	Mass storage device is disconnected during Loader execution.
MASS STORAGE ERROR	Any error related to a mass storage device that occurs while device is being accessed (eg., door opened).
INSUFFICIENT MEMORY	Not enough read/write memory to load operating system or binary program.
INCOMPATIBLE RELEASE	A binary program cannot be loaded because it is not compatible with the version of the BASIC operating system which has just been loaded.
INCOMPATIBLE BOOTROM	Loader cannot be used with this version of the Boot ROM. Boot ROM is earlier than 3.0 or is 3.0L (Model 16A).
DUPLICATE	Configuration file contains the same binary program file twice. Binary program has already been loaded.
FAILED POWERUP	A binary program does not initialize properly after it is loaded. Binary program is scratched.





