



**AT&T**

Installing Software  
on the **AT&T** 3B2 Computer

**UNIX** System V  
Release 2.0



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on the **AT&T** 3B2 Computer

**UNIX** System V  
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# INTRODUCTION

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The following pages guide you through installing and removing software on AT&T 3B2 computers running UNIX\* System V Release 2.0, and provide related information. The material is divided into five parts, as follows.

- Diskette Care and Handling
- Installing 3B2 Software
- Checking and Setting Your Terminal Type
- Running 3B2 Software
- Uninstalling 3B2 Software

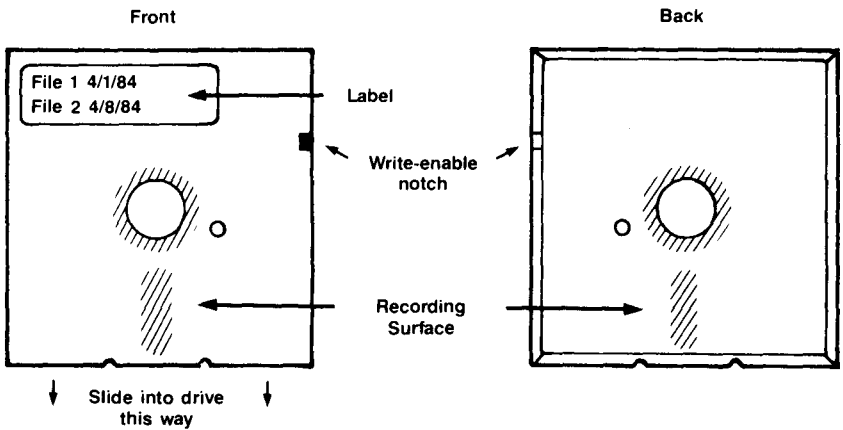
Each section provides an overview, then a step-by-step procedure.

This summary of installation and related procedures is provided for your convenience. For more information, consult the 3B2 owner/operator and UNIX manuals.

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\* UNIX is a registered trademark of AT&T Bell Laboratories.

## DISKETTE CARE AND HANDLING



While the 3B2 computer can run programs from a floppy diskette, the diskettes are primarily "backup" media. That is, their main purpose is to store "backup" copies of programs and files. Working copies of programs and files should reside on the internal disk where they can be quickly accessed.

If diskettes are to store copies of important data dependably, you must care for them correctly. Follow the recommendations below and you won't have problems with diskette data loss.

1. Buy *quality* diskettes. They should meet the following specifications:
  - Double-sided
  - Double-density
  - Soft-sectored
  - Certified for 96 track-per-inch use (i.e., 80-tracks total)

(Most computer stores carry diskettes that meet these standards.)

2. Keep diskettes away from magnetic fields. This means not only magnets, but any electric appliances, especially:

- Tape recorders/players
  - Televisions or CRTs
  - Electrical motors (including blenders, food processors, etc.)
3. Write on diskettes only with a felt-tip or porous-tip pen. Pencils or ballpoint pens can damage the recording surface.
  4. Keep diskettes out of sunlight.
  5. Store diskettes upright and in their envelopes.
  6. Never touch the recording surface of the diskette (on either side!).
  7. Don't put heavy objects on diskettes, bend them, erase writing on the label, or do anything else that puts pressure on the recording surface.
  8. To protect data you do not want to write over, cover the write-enable notch on the diskette with a piece of tape. (Small pieces of tape for this purpose are provided with most packages of diskettes.)

# INSTALLING 3B2 SOFTWARE

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## Installation

3B2 software is provided on one or more diskettes. Before using the software, you must *install* it; that is, copy it onto the 3B2 internal disk. The following procedure describes how this is done.

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## PROCEDURE: INSTALLING SOFTWARE

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- To install 3B2 software:
  - Start the machine (if necessary) and log in at the Console as "root"
  - Use the *shutdown* command to enter single-user mode
  - Use the *mount* command to access the /usr filesystem
  - Type *sysadm installpkg*, then answer any prompts
  - Return the computer to multi-user mode.
- 1. Make sure your terminal is plugged into the "Console" port at the back of the computer, then switch on the terminal and 3B2.

The system diagnostics will run, and in a minute or two you will see the start-up messages:

DIAGNOSTICS PASSED

UNIX System V Release 2.0 3B2 Version 1

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Console Login:

2. Type in *root* and press **RETURN**.
3. Type in the password if UNIX requests one.
4. Now type *shutdown -y* **RETURN**.

UNIX will broadcast a shutdown message in case anyone else is on the system, then proceed with the shutdown. When all processes have been stopped, UNIX will come up in "single-user" mode, displaying the following messages:

```
INIT: New run level: S  
INIT: SINGLE USER MODE  
#
```

5. Type the following:

```
mount /dev/idisk02 /usr RETURN.
```

This allows UNIX to access the programs and files in the */usr* filesystem (where the *installpkg* program is located).

6. Now you can run the *installpkg* program. Type the following:

```
sysadm installpkg RETURN.
```



UNIX will display messages:

Running command 'installpkg' in menu 'softwaremgmt'  
SOFTWARE MANAGEMENT

Insert the removable medium for the package  
you want to install into the diskette drive.

Press <RETURN> when ready. Type q to quit.

7. Find the program diskette that came with this manual. (If there is more than one, take out the diskette marked "Disk 1.") Insert it into the disk drive, label up (see the illustration above). Push until you feel a click, then close the latch.\*
8. Press **RETURN**.
9. The next prompt tells you what is on the diskette.

This diskette contains *packagename*. Do you want  
to install it?

Answer "Y" (or "N" if this is the wrong package).

10. Next, you are asked if you want to read the Package Description File. Answer "Y" here, too. This file contains current information about the package and how to run it.

(The information, should you need to refer to it, will be stored as */usr/lib/readme/program* where *program* is the package name.)

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\* If you don't know how to do this, reread the "Installation" section of your 3B2 Owner/Operator manual.

11. The *installpkg* program will now copy the program files onto the internal disk, and you will be told when to remove the diskette. If more than one diskette must be installed, you'll be prompted later to enter the second one. Should you receive any warnings, or should the installation stop unexpectedly, consult "Troubleshooting" at the end of this section.
  
12. When the software is installed, return the 3B2 to multiuser mode by typing *init 2*. You should now let 3B2 users know that the new application is available.

### Troubleshooting

If your 3B2 seems to have trouble reading a diskette, carefully reinsert it and try to continue the installation procedure. Should this not work, you probably have a faulty diskette. Contact your software supplier or service representative.

*Installpkg* checks several factors before installing software, and will stop if it detects either of the following:

- Insufficient memory or buffer settings on your 3B2
- Insufficient free space on the 3B2 hard disk

Memory or buffer problems during installation indicate that the package requires more working memory or buffers than are presently set on your machine. Check the manual supplied with the package and see if this is discussed. If not, you'll have to use the System Reconfiguration add-on utility to change these settings. (See the System Reconfiguration manual.)

Insufficient space on the hard disk is a common problem and is easily fixed. Files can be removed from the hard disk two ways:

- Use *rm* and *rmdir* to remove unneeded files and directories from the disk.

- 
- Use *removepkg* to remove *installpkg*-installed software packages from the disk.

The *removepkg* command is covered later in this section.

*Rm* and *rmdir* are explained in your *3B2 User Guide and Essential Utilities Manual*.

## CHECKING AND SETTING TERMINAL TYPE

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With some software packages (e.g., dBASE II<sup>\*</sup> and Multiplan<sup>†</sup>) UNIX must know what type of terminal you are using. A UNIX variable called "TERM" holds this information. The procedure below shows how to check or change TERM.

NOTE: TERM must be set *every time* a user logs in and uses a screen-oriented program. You can type it in each time, as shown below, or put it in a user's UNIX ".profile" so that it is set at every login. See the "Fundamentals" section of the *3B2 User Guide and Essential Utilities Manual* for more information on this.

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### PROCEDURE: SETTING TERMINAL TYPE

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- To check or set the terminal type:
  - Display the current terminal setting by typing *echo \$TERM*
  - Change it by typing *TERM=termtype; export TERM*  
(Use a terminal name that UNIX recognizes.)

1. First, type *echo \$TERM* **RETURN**.

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\* dBASE II is a registered trademark of Ashton-Tate.

† Multiplan is a registered trademark of Microsoft<sup>®</sup> Corporation.

UNIX will print out the value it has stored as TERM. (Here, the TERM setting for an AT&T 4415 terminal.)

```
#echo $TERM
4415
```

If UNIX printed nothing in response to "echo \$TERM," or printed an abbreviation for a terminal different than yours, the TERM setting must be changed.

2. To change it, type in *TERM=termtype; export TERM*. *Termtype* should be an abbreviated name for your present terminal. For example,

```
TERM=4410;export TERM
```

tells UNIX you are using an AT&T 4410 terminal.

These abbreviations are stored in the */etc/termcap* file on your system.\* If you type

```
grep '|' /etc/termcap
```

UNIX will list all terminals the 3B2 "knows." (Note: This is a *large* listing.) Each entry in */etc/termcap* will resemble the following sample:

```
T3|33|tty33|tty|model 33 teletype:\
:cr=^M:do=^J:nl=^J:bl=^G:\
:co#72:hc:os:
```

The first four entries on Line 1 are the valid UNIX abbreviations for this terminal. The last entry on the line is the

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\* If */etc/termcap* is not on your 3B2, you must install the Editing utility that came with the machine.

full name of the terminal. In other words, TERM=T3, TERM=33, TERM=tty33, or TERM=tty all tell UNIX you are using a Teletype® \* Model 33 terminal. \*\*

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\* Teletype is a registered trademark of Teletype Corporation.

\*\* If you cannot determine the UNIX name for your terminal, call your AT&T representative.

# RUNNING 3B2 SOFTWARE

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## Running Software

In order to run a program, you must know its name and (generally) where it is located. This information (along with any related data) is displayed whenever you install software. The following guidelines briefly describe how to use the program name and location to run a software package.

(Some software packages, for example, those using a *run-time compiler*, may require procedures different than those shown here. Check your software manual for any special information about running the package.)

- If the software was installed in */usr/bin*, you need only type in the program name. Using our earlier example, you'd type *multiplan* at the UNIX prompt.
- If the software was *not* installed in */usr/bin*, there are two ways to access it:
  - Type in both location and name at once. For example, if the program "chess" is installed in */usr/mygames*, you type */usr/mygames/chess* at the system prompt.
  - Move to the directory where the program resides, then type the name. Using the same example, you'd type:

```
cd /usr/mygames
chess
```

## The PATH Variable

UNIX maintains a "PATH" variable that tells it where to look for a user's files or programs. PATH usually contains */bin* and */usr/bin*; it will contain other directories if the System Administrator has added them. In any case, whenever you type in a program name,

or make a reference to a file, UNIX looks in the current directory (unless you are "root"), and then in the directories specified by "PATH."

To add new locations to "PATH" without overwriting the old ones, type *PATH=\$PATH:directory;export PATH*. Using the earlier example, you'd type the following:

```
PATH=$PATH:/usr/mygames;export PATH.
```

Once you've typed this, UNIX will add */usr/mygames* to the list of directories checked for files or programs. This will stay in effect until you log off. If you want UNIX to *always* check the specified directory, this data (like TERM) should be added to a user's ".profile." (See "Fundamentals" in the 3B2 User Guide and Essential Utilities manual.)



## REMOVING 3B2 SOFTWARE

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The *removepkg* command deletes any software package that has been installed. Typically, you will use this command to remove rarely-used software and thus free up disk space. Since it erases *all* files copied in by an *installpkg* procedure, it is generally more convenient than removing the files with the UNIX *rm* command.

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### PROCEDURE: REMOVING SOFTWARE

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- To remove a software package:
  - Make sure you are logged in as "root," and plugged into the "Console" port
  - Type *sysadm removepkg*
  - Open the disk drive and insert the diskette that was used to install the software
- 1. First, turn to the *installpkg* procedure in this section and follow steps 1 through 5. These steps are the same for *installpkg* and *removepkg*.
- 2. Now type *sysadm removepkg* **RETURN**.

UNIX prints several messages, then lists all software that has been installed. Your screen should look like the following one, though the number of installed packages and their names may differ:

Running command 'removepkg' in menu 'softwaremgmt'  
SOFTWARE MANAGEMENT

The following software packages have been installed:

3BNET Utility  
BASIC Language Add-On  
Editing Utility  
Basic Networking Utility  
FORTRAN Language Add-On  
Software Generation Utilities  
Extended Software Generation Utilities  
Shell Programming Utilities

Insert the removable medium for the package you wish to remove into the diskette drive. Press <RETURN> when ready. Type q to quit.

3. Follow the prompt: Insert the diskette used to install the software, close the disk drive, and press (**RETURN**).

The *removepkg* program will ask you to verify that you want the package removed, then remove the files.

4. Take out the diskette when prompted. The software is now deleted, and the space it took up on your internal disk is free. You may repeat this process for any other utilities you have installed.

# NOTES

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