



AT&T

**AT&T Display
Enhancement Board**

Installation Guide

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NOTICE

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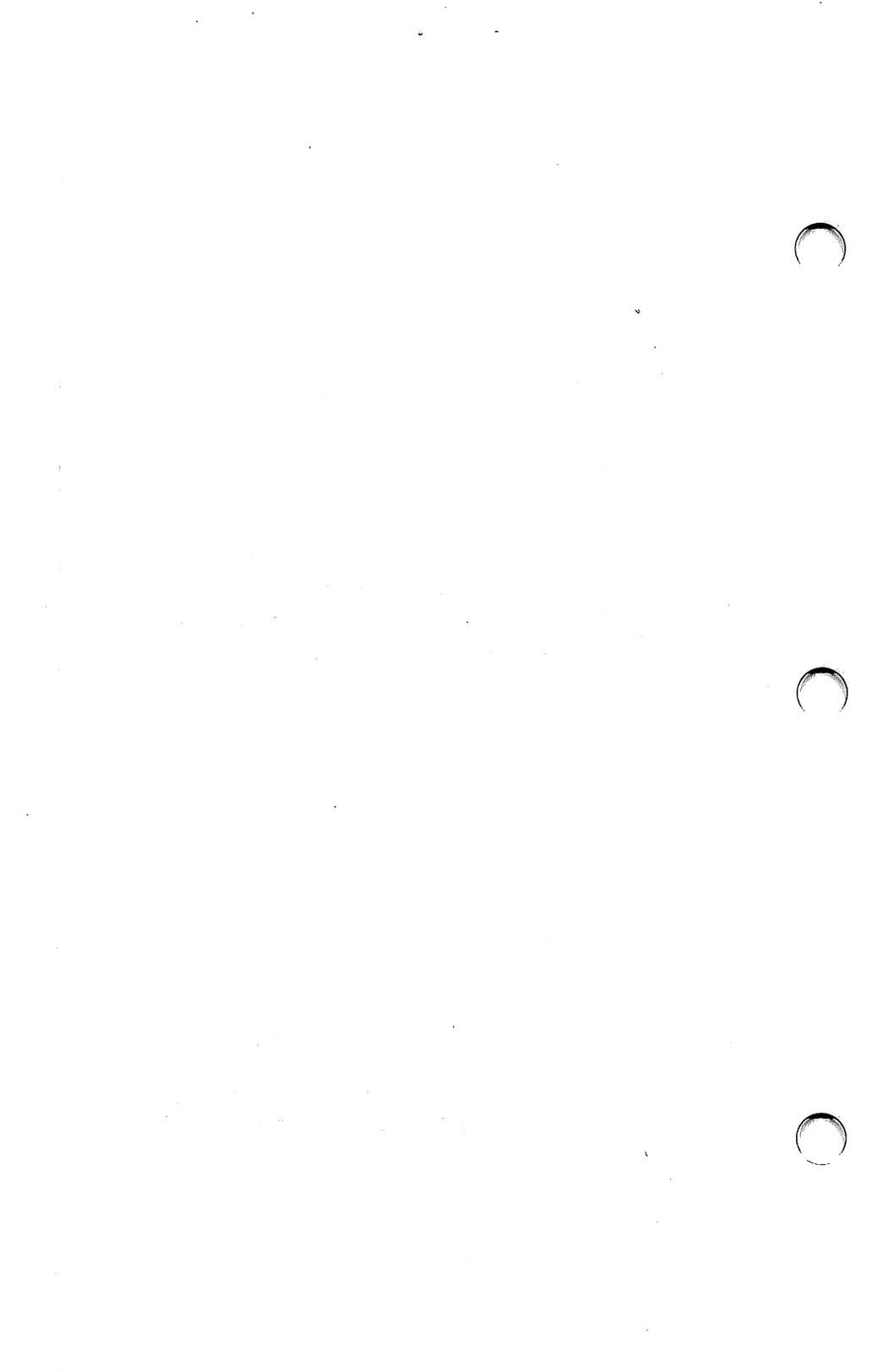
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Interference Information: Part 15 of FCC Rules

WARNING!

Federal Communications Commission (FCC) Rules require that you be notified of the following:

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance within the manufacturer's instructions, may cause interference to radio and TV reception. It has been type-tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. If this equipment does cause interference to radio or TV reception, which can be determined by turning the equipment off and on, the user is encouraged to try and correct the interference by one or more of the following measures:

- Reorient the receiving TV or radio antenna where this may be done safely.
- To the extent possible, relocate the receiver with respect to the computer equipment.
- Where the computer equipment requires A.C. power, plug the computer into a different A.C. outlet so that the computer equipment and receiver are on different branch circuits.

If necessary, the user should consult the AT&T-IS representative or an experienced radio/television technician for additional suggestions. The user may find the following booklet, "How to Identify and Resolve Radio-TV Interference Problems," helpful. The booklet, prepared by the Federal Communications Commission, is available from the U.S. Government Printing Office, Washington, D.C. 20402, Stock No. 004-000-00345-4.

Interference Warning

This device must be used with a shielded monitor cable. The use of a nonshielded cable may result in interference.



Your Display Enhancement Board

Introduction

The standard, unenhanced AT&T Personal Computer 6300, AT&T Personal Computer 6300 PLUS and AT&T Personal Computer 6310 have unusually fine display capabilities, with a resolution of 640 x 400 picture elements (pixels), compared to the industry standard of 640 x 200. With the AT&T Display Enhancement Board, the AT&T Personal Computers can produce images of near-photographic quality—in 16 colors or 16 monochrome shades. The new display techniques can be mastered quickly and easily through added GWBASIC™ commands. In addition, the Display Enhancement Board (DEB) offers the experienced programmer a sophisticated technology for the creation, selection, and display of colors. Designed for the widest possible range of applications, the DEB includes the following convenient features:

- It can be used with either the PC 6300, the PC 6300 PLUS or the PC 6310.
- It works in conjunction with the standard Video Display Controller (VDC) built into both computers.
- It works with a standard AT&T monochrome or color monitor.
- It provides displays that combine text and graphics.
- It allows a software-selectable color palette.

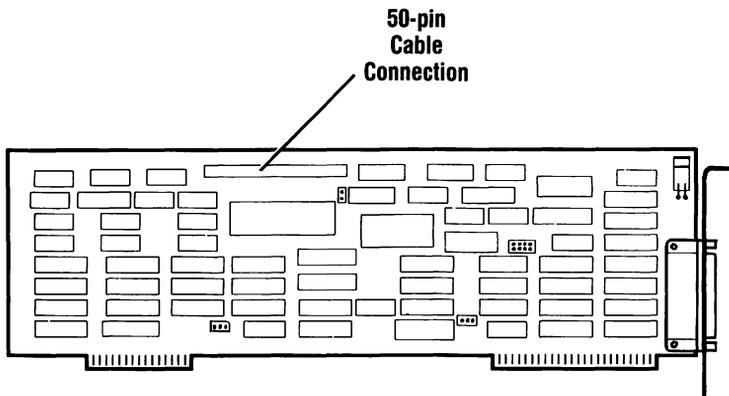
What You Should Have

Inside the Package

Your AT&T Display Enhancement Board (DEB) package should contain the following items.

- The board (DEB) itself.
- A flat cable with a 50-pin connector at each end. The cable may already be attached to the DEB.
- A small plastic bag containing four 2-pin jumpers and one 3-pin jumper.

FIGURE 1-1 AT&T Display Enhancement Board (DEB)



In addition, your package contains:

- This manual—which should be inserted into the User's Guide that came with your personal computer.
- Diskettes containing the following software:
 - An enhanced version of GWBASIC
 - The Display Enhancement Board device driver (DEDRIVER.DEV)
 - A monitor setup program
 - Sample programs

You will be using all of these programs during this installation process.

- Documentation, including the Display Enhancement Board supplements to:
 - *AT&T Personal Computer 6300 GWBASIC™ Programmer's Guide* (The same manual is applicable to all three computers.)
 - *AT&T Personal Computer 6300 System Programmer's Guide*
 - *AT&T Personal Computer 6300 PLUS System Programmer's Guide*
 - *AT&T Personal Computer 6310 System Programmer's Guide*

Check now and make sure you have all of these.

Other Equipment

An ordinary screwdriver—medium sized, with a flat (not Phillips) blade—is the only tool you need.

Before you begin the installation procedure, please make sure you are familiar with the information provided in your AT&T Personal Computer User's Guide and the *AT&T MS-DOS® User's Guide*. You should know how to reboot your system and understand how to work with diskettes. All of the information you need is in this manual in abbreviated form, but if you are unfamiliar with the procedures for copying diskettes and files, you may want to refer to the manuals that came with your personal computer.

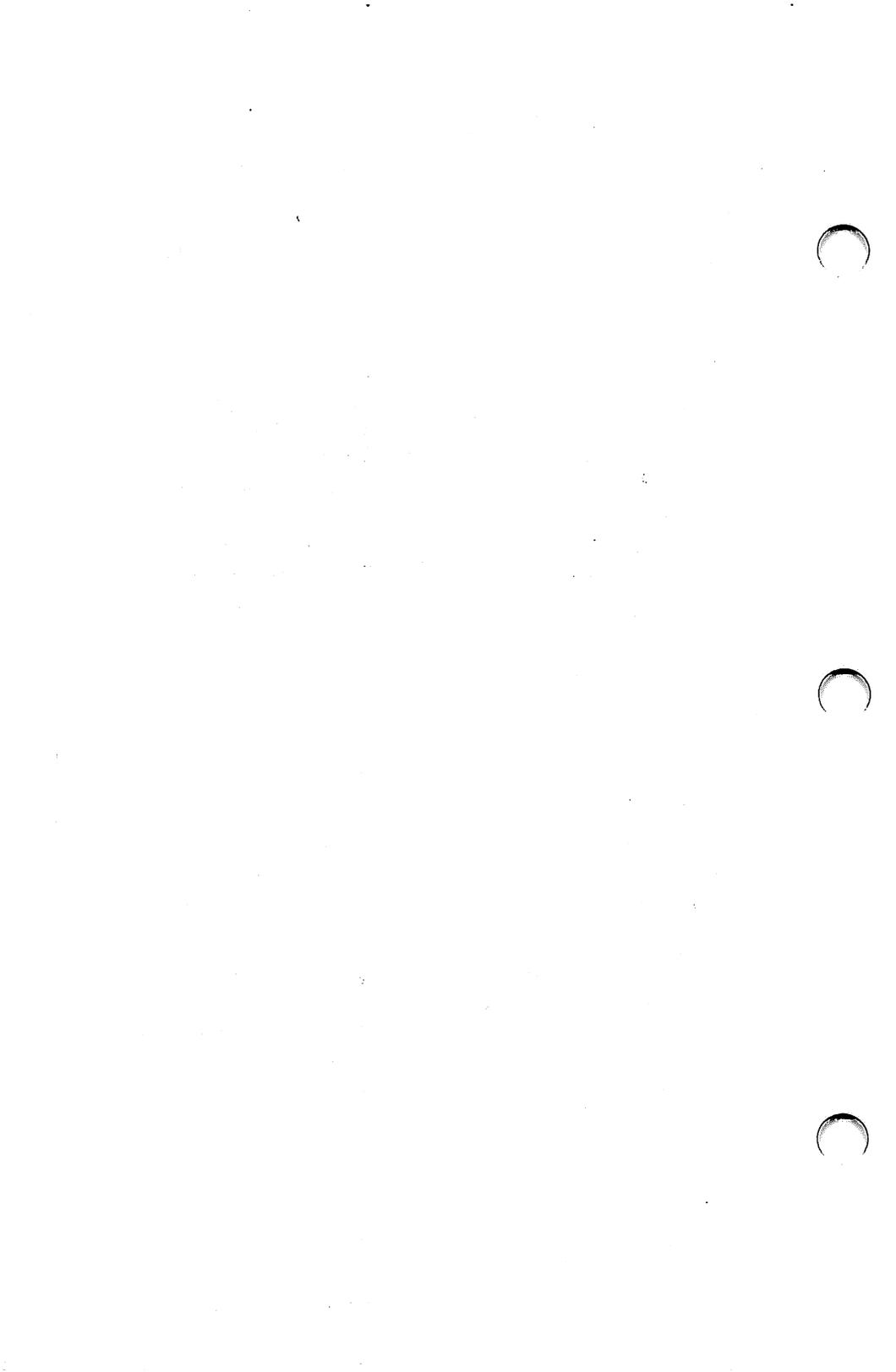
How to Proceed

Most of the instructions in this manual are identical for the AT&T Personal Computers. Where procedures vary, you will find separate instructions identified for each computer.

There are two basic parts to the DEB installation procedure:

- DEB hardware installation
- DEB software installation

A troubleshooting guide is also included, just in case you run into unexpected difficulties. You should plan to complete at least the hardware installation procedure in one sitting to avoid leaving your personal computer open for long periods of time. It doesn't take long--about half an hour. The software installation should take even less time.



DEB Hardware Installation

Preparing the PC

If you have installed any additional circuit boards in your personal computer, you will be familiar with most of the associated tasks; if you haven't, you will find that the steps look more difficult than they really are.

Before you start, you need to know the best way to handle your DEB—or any circuit board: Hold it by the upper corners, and avoid touching the gold "fingers" at the base of the card.

You also need to know how to protect your computer from accidental damage.

- 1 Turn the power switch off.

If you have an expansion unit, turn its power switch off, too.

- 2 Unplug your computer.

If you have an expansion unit, unplug it, too.

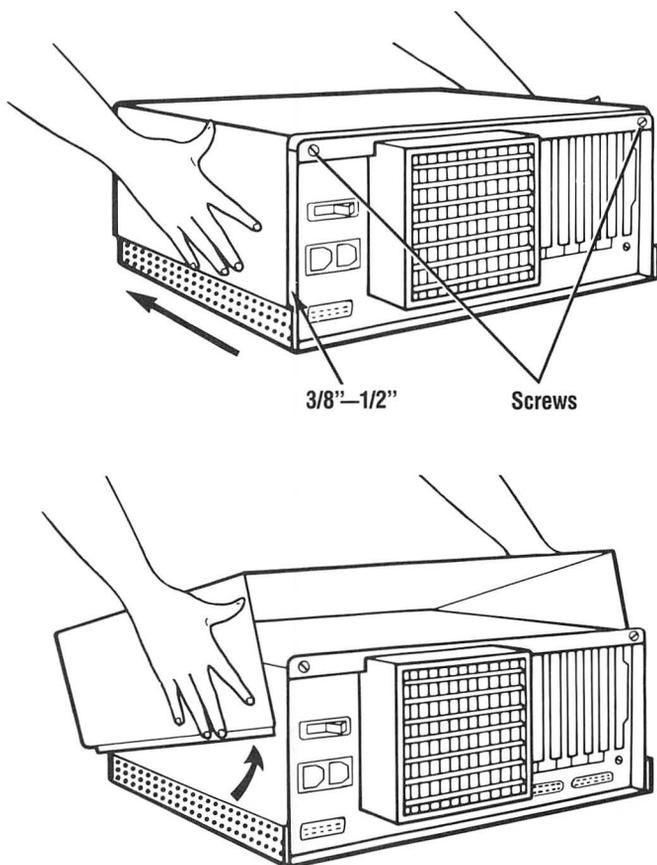
Warning

Never install or remove anything inside an AT&T Personal Computer with the power on. You could damage its circuits, or, worse, *you* could be injured.

- 3 Discharge static electricity. Once you have unplugged your computer, it is no longer grounded. This means that it is vulnerable to static electricity. If you can, touch grounded metal just before touching your unplugged computer—and especially before touching anything inside it. If this is impossible, avoid walking on carpeting before you touch any part of the unplugged unit.

- 4 Disconnect your monitor.
- 5 Remove the cover of your personal computer. Loosen the two top screws at the back of the unit, push the cover 3/8 to 1/2 inch toward the front, then lift the cover from the unit. (The cover is designed to fit tightly to protect the unit, so you will need to push firmly.)

FIGURE 2-1 Removing the Cover of Your Personal Computer



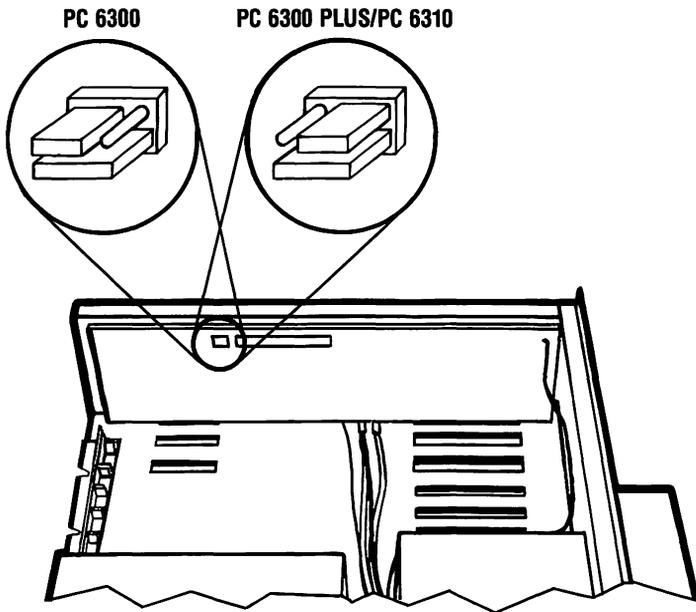
- 6 If you have a memory board installed, remove it temporarily to provide yourself with working space. Put the memory board on a clean surface and remember not to touch its gold "fingers."
- 7 Locate jumper block A on the VDC. You will have to reset the lower jumper. The upper jumper, whose setting depends on your computer, is correctly set as shown in Figure 2-2. You may find it easier to remove both jumpers and then reinstall them, the lower one first.

Remove jumper 5 to 6 (the lower jumper) and connect the 3-pin jumper (supplied with your DEB) in its place.

Note

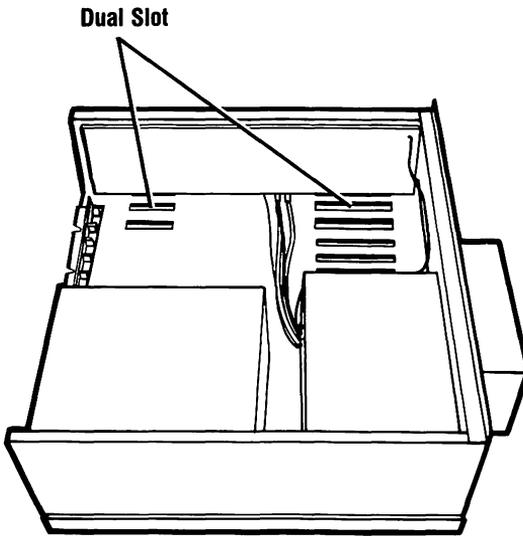
Don't throw the old 2-pin jumper away. If you remove the DEB from your computer, you will have to remove the 3-pin jumper and reinstall the 2-pin jumper from 5 to 6.

FIGURE 2-2 Jumper A on the Video Controller Board (VDC)



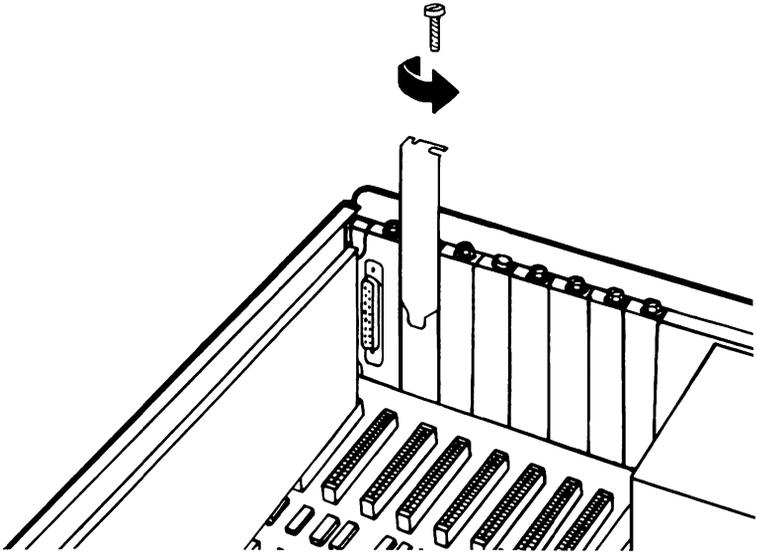
- 8 Choose the expansion slot where you are going to install your DEB. You must pick one of the dual slots so that both bases of the DEB (sets of gold "fingers") will be connected properly. Your unit has at least two dual slots. (They are right next to the VDC.) Because the connecting cable is quite short, you will probably want to install the DEB in the first slot. If you have an AT&T memory board, it can go conveniently into the second slot.

**FIGURE 2-3 Expansion Slots in the PC 6300/6300 PLUS/
PC 6310**



- 9 Remove the expansion slot cover that corresponds to the slot you have chosen. The slot cover is held in place by a single screw.

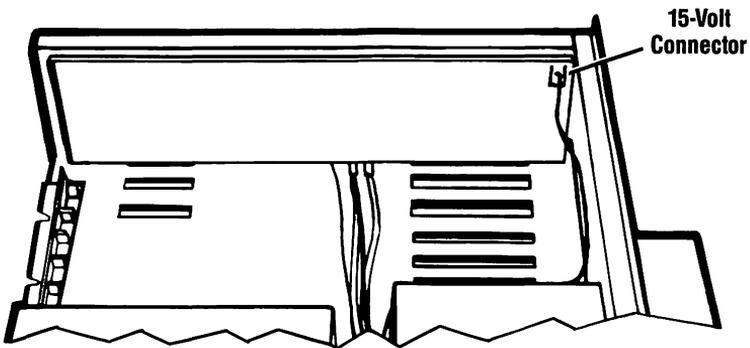
FIGURE 2-4 Removing the Expansion Slot Cover



- 10 This step is necessary only if you are using a monochrome monitor. If you are connecting *only* a color monitor, go on to "Connecting the DEB Jumpers."

Locate the 15-volt connector at the top right of the VDC. Disconnect it, and set it aside temporarily. You will need it later.

FIGURE 2-5 The 15-Volt Connector



Connecting the DEB Jumpers

There are four jumpers on the DEB that must be set correctly. Table 2-1 shows the correct settings for each computer; Figure 2-6 illustrates the settings for the PC 6300, and Figure 2-7 illustrates those for the PC 6300 PLUS and PC 6310.

- Jumper A tells your system whether your monitor is connected to the VDC (you will probably want to connect your monitor to the DEB, not the VDC).
- Jumper B indicates the displacement of internal addressing space. The setting differs for the PC 6300 and PC 6300 PLUS/PC 6310.
- Jumper C enables jumper block B. This jumper is used with the PC 6300 PLUS and PC 6310.
- Jumper D provides signal synchronization; its setting depends on your computer.

TABLE 2-1 DEB Jumper Settings

<u>Jumper</u>	<u>Position</u>	<u>Function</u>
A	* Closed Open	No monitor connected to VDC Monitor connected to VDC
B	* Open Closed	PC 6300/6300 PLUS/PC 6310 setting PC 6300 PLUS/PC 6310 setting with addressing displacement
C	* 1 to 2 2 to 3	PC 6300/6300 PLUS/PC 6310 setting PC 6300 PLUS/PC 6310 setting with jumper block B
D	* 1 to 2 2 to 3	PC 6300 setting PC 6300 PLUS/PC 6310 setting

* Default Settings

For the PC 6300

If you are attaching only one monitor and it is to be connected to the DEB, you can skip this section and go on to "Inserting the Board." The default settings will be correct for your system.

If you are connecting more than one monitor, you must perform the following step.

- Jumper A must be open. (It is shown both open and closed in Figure 2-6.) Remove the jumper and put it with the jumpers supplied with your DEB. This is the only DEB jumper you need to touch; once it is set to open, you can go on to "Inserting the Board."

For the PC 6300 PLUS and PC 6310

- 1 Jumper A is set exactly as it is for the PC 6300: closed for one monitor, and open for two monitors. Figure 2-7 shows both positions. Follow the instructions for the PC 6300 *for this jumper only*.
- 2 You may need to set one or more of the four jumpers in jumper block B, depending on whether you want to displace addressing space. Appendix A explains the closed settings for jumper block B in detail. If you do not want to displace your 6845 addressing space, leave this jumper block open and skip to Step 4.
- 3 Jumper C enables jumper block B. If you have set any of the jumpers in jumper block B to closed, then you must set this jumper 2 to 3 as shown in Figure 2-7.
- 4 Jumper D must be set 2 to 3 for the PC 6300 PLUS and PC 6310. Figure 2-7 illustrates this setting.

FIGURE 2-6 DEB Jumpers for the PC 6300

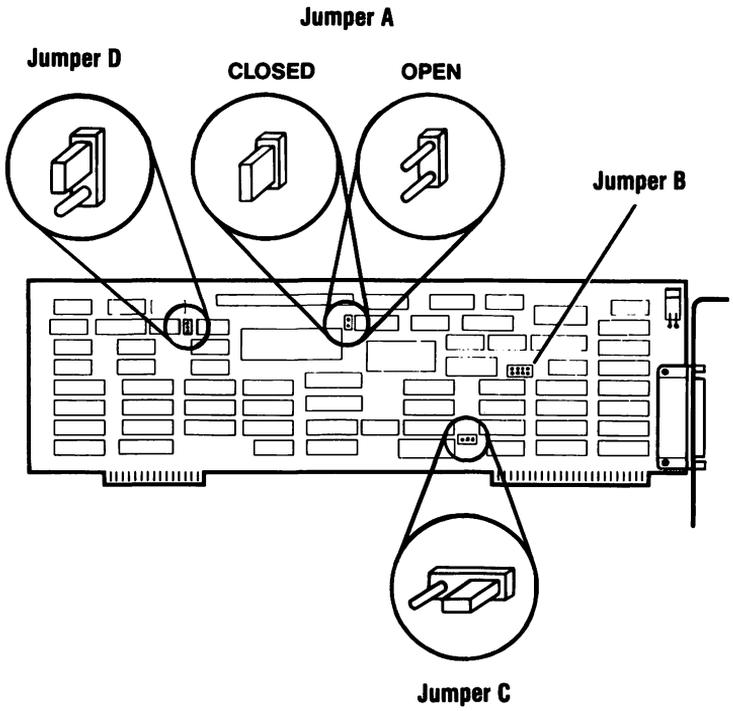
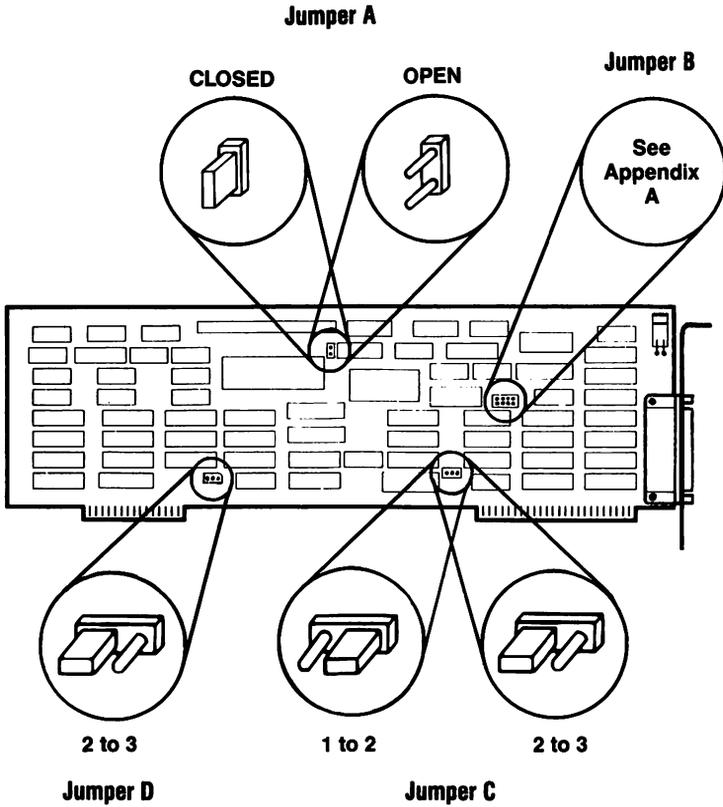


FIGURE 2-7 DEB Jumpers for the PC 6300 PLUS/PC 6310

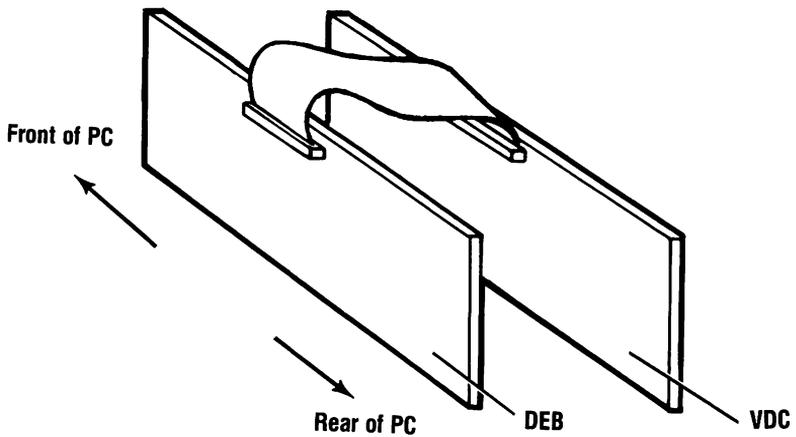


Inserting the Board

Five steps suffice to insert the board into your computer.

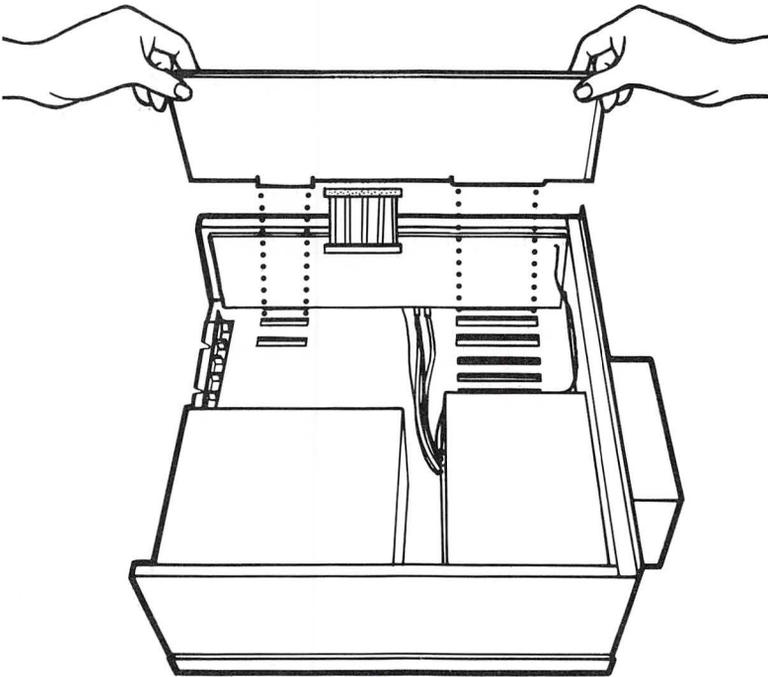
- 1 Connect the 50-pin connector cable to the VDC. The cable should emerge from the top of the connector, as shown in Figure 2-8. You may find it helpful to hold the screwdriver against the back of the board to support it temporarily while you are plugging in the connector. Make sure that all of the pins are both horizontally and vertically aligned and inserted.

FIGURE 2-8 Connecting the 50-Pin Cable



- 2 Insert the DEB into the expansion slot closest to the VDC (or into the slot that you have chosen). The component side of the DEB (the chips) should face outward (toward the center of the Personal Computer). Hold the board by its upper corners and press it into the slot, making sure that both connections are firmly seated. The top should be evenly aligned with the edge of the computer; it should not appear to slant.

FIGURE 2-9 Inserting the DEB



- 3 Connect the other end of the 50-pin connector cable to the DEB. The cable should emerge from the top of the connector, as shown in Figure 2-8. It should have no twists.
- 4 Now reinsert your memory board, if you have one. Again, the component side faces toward the center of the computer, away from the VDC and the DEB.
- 5 Secure the DEB by replacing the screw in the expansion slot. (You removed this screw when you removed the slot cover. See "Preparing the PC," Step 9 and Figure 2-4.)

Note

For the PC 6310, make the following JU2 settings on the motherboard.

TABLE 2-2 PC 6310 Motherboard JU2 Settings

<u>JU2</u>	<u>DEB Installed</u>	<u>DEB Not Installed</u>
Pin 5	OFF	ON
Pin 6	ON	OFF

Attaching the Monitor

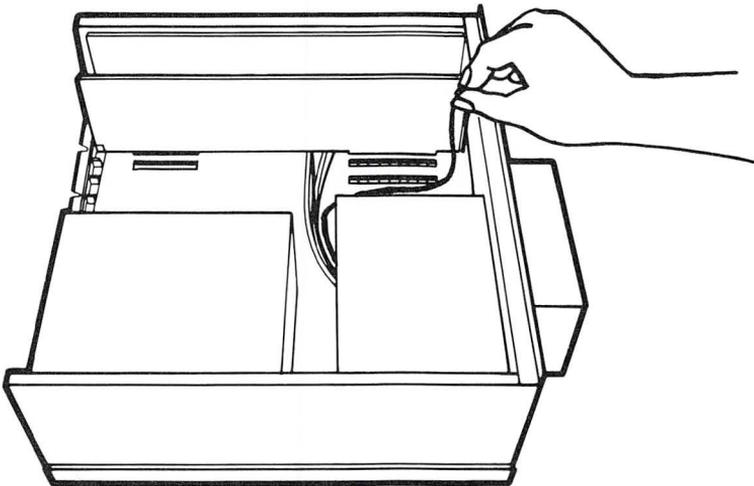
You can attach one or two monitors to your system, depending on how you want to use the DEB. Follow the instructions appropriate for your system configuration ("One Monitor" or "Two Monitors"), then proceed to "Recabling."

One Monitor

1 Monochrome monitor only:

Earlier on, you disconnected the 15-volt connector from the VDC (refer to "Preparing the PC," Step 10). Now you have to connect it to the corresponding connector at the top right of the DEB. This step is important, as your monochrome monitor gets its power through this connector.

FIGURE 2-10 Connecting the 15-Volt Connector to the DEB



2 Monochrome or Color:

Connect your monitor to the DEB through the expansion slot and secure the connection with the two screws on the mounting bracket.

Two Monitors

You have already defined your monitors with the jumper configuration described in "Connecting the DEB Jumpers." Jumper A should be open, indicating that one monitor will be attached to the VDC. Your other monitor will be attached to the DEB. The enhanced display features are available only to the monitor attached to the DEB.

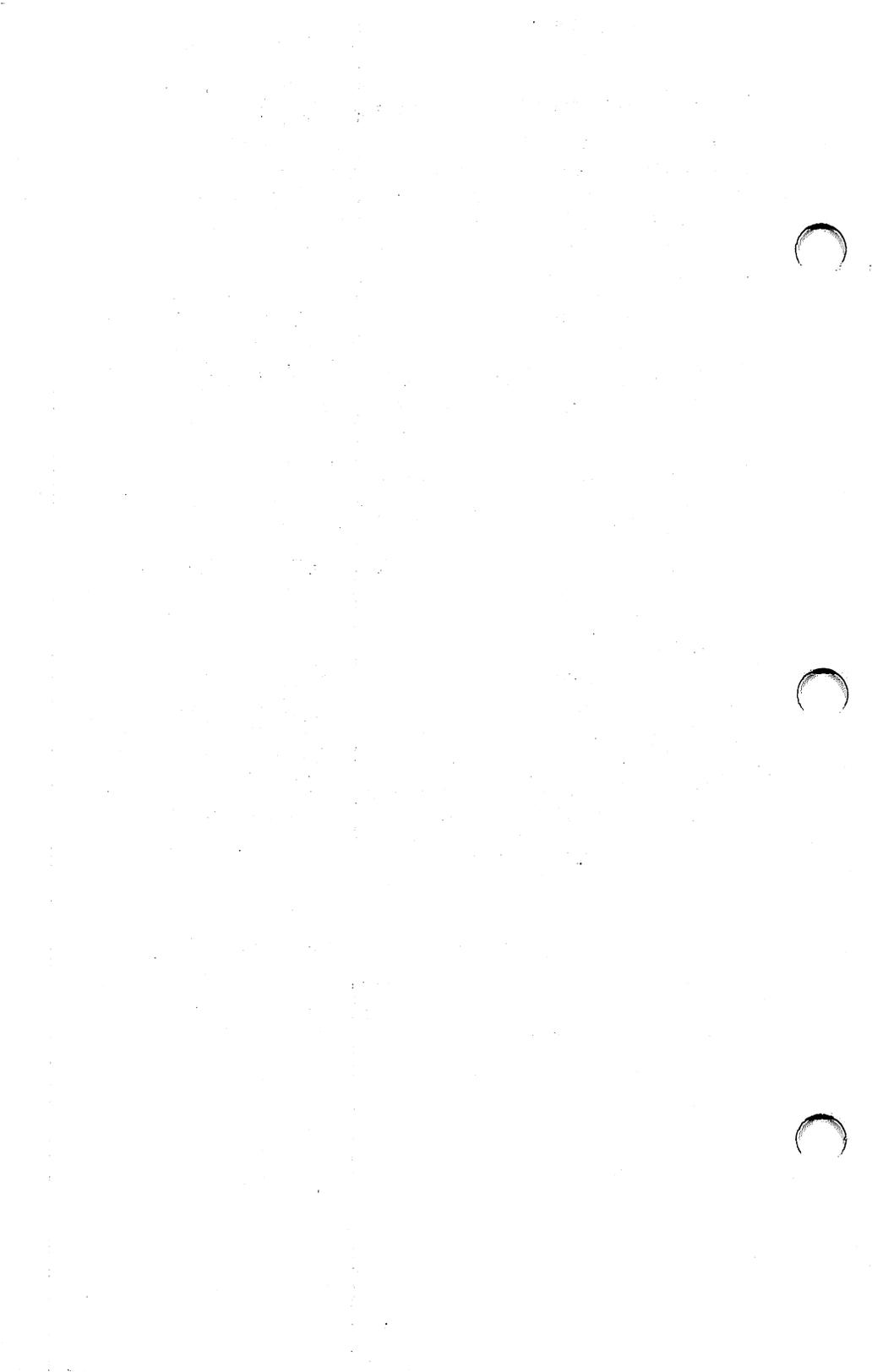
Connect one monitor to the DEB through the expansion slot and secure the connection with the two screws on the mounting bracket. Connect the other monitor to the VDC. (Your original monitor was connected to the VDC.)

Note

The monochrome monitor is powered through the 15-volt connector. If you are using a monochrome monitor, you must reconnect the 15-volt connector to the appropriate board. (You disconnected the 15-volt connector from the VDC in "Preparing the PC," Step 10.)

Recabling

Now replace the cover on your PC, reconnect any cables you may have disconnected, and plug the computer in again. Don't forget to plug in the AC cord for your color monitor, if you are using one. When you turn on the computer, you should see a display of internal boot diagnostic messages. If you don't, turn to the chapter entitled "Troubleshooting," and correct the problem before installing the DEB software.



DEB Software Installation

The DEB Device Driver

At this point, your AT&T Personal Computer should be completely recabled and plugged in. Your DEB hardware has been installed, and your monitor is connected. Your next task is to install the DEB device driver. This involves four steps:

- Replacing your old version of GWBASIC with the enhanced version that comes with your DEB
- Copying the file DEDRIVER.DEV onto your system disk
- Editing a special file called CONFIG.SYS to tell your system where to find the DEB driver
- Rebooting your system

The file, CONFIG.SYS, is processed automatically by the operating system of your personal computer each time you start up your system. CONFIG.SYS defines your specific system to DOS. Whenever you use a nonstandard device--and the DEB is a nonstandard device--DOS needs to know where to find the driver for that device. Then DOS automatically loads the special device driver as an extension of itself.

A DEB driver of Release 1.2a or later must be used to take advantage of the DEB high resolution capabilities.

Please follow the instructions appropriate for your system (floppy disk or hard disk). If you are uncertain about any of the procedures that follow, refer to your *AT&T MS-DOS User's Guide*.

Floppy Disk Systems

The following instructions apply whether your system has one or two floppy disk drives. The only differences will be in the messages you get from your system as you perform each step.

- 1 Copy your system diskette (MS-DOS disk), using the "diskcopy" command.
 - Make sure you are using the system diskette that came with your computer. Insert the system diskette in Drive A and boot up.
 - Insert a blank diskette in Drive B. (If you have a single drive, MS-DOS treats it as both Drive A and Drive B. Switch diskettes--target and source--whenever you are prompted to do so.)

Note

You do not need to format the target (blank) diskette; the "diskcopy" command does that for you.

- Type the following:

diskcopy a: b:

- 2 When the MS-DOS prompt (**A>**) appears, your copy is finished. Remove your original system diskette and put it away. Insert the new system diskette into Drive A. Now you are ready to copy the new version of GWBASIC and the DEDRIVER.DEV file onto your new system diskette.
- 3 If you have two drives, insert the diskette containing the new version of GWBASIC into Drive B. If you have only one drive, follow the prompts and insert the appropriate diskettes as required. The new version of GWBASIC will replace your older version.
- 4 Type the following:

copy b: gwbasic.exe a:

When the copy has been made, you will see a message:

1 file(s) copied

- 5 Now copy the file DEDRIVER.DEV onto your system disk. Proceed exactly as above, but type:

copy b: dedriver.dev a:

You will see the same message when the copy is complete:

1 file(s) copied

- 6 Finally, you are going to edit the CONFIG.SYS file. You can use EDLIN or any other text editor that you prefer. Add the following line at the end of your CONFIG.SYS file:

DEVICE = dedriver.dev

If you don't have a CONFIG.SYS file (and you won't if you copied your original MS-DOS system diskette), a new file will be created.

- 7 Now reboot your system. (Press the reset button at the front of your computer or press the **CTRL** - **ALT** - **DEL** keys simultaneously.)

At this point, you should see a display of internal boot diagnostic messages. If you don't, turn to the chapter entitled "Troubleshooting" before adjusting your monitor.

Hard Disk Systems

The following instructions are for systems that include a hard disk.

- 1 Replace the GWBASIC on your system disk (hard disk) with the new version of GWBASIC that comes with the DEB.
 - Make sure you are in the directory where your original GWBASIC resides (or specify the appropriate pathnames).
 - Insert the diskette containing the new version of GWBASIC into Drive A.
 - Proceed to install the new version of GWBASIC. Refer to the *User's Guide* that came with your computer if you are unsure of this procedure. All you really need to do is copy the new version; it will automatically replace the older version. Type the following:

```
copy a: gwbasic.exe c:
```

- 2 When the copy has been made, you will see a message:

```
1 file(s) copied
```

- 3 Now copy the file DEDRIVER.DEV onto your system disk. Type the following:

```
copy a: dedriver.dev c:
```

You can put this file in any directory. When the copy is complete, you will again see the message:

```
1 file(s) copied
```

- 4 Next you must edit the CONFIG.SYS file to add the line that will tell your system where to find the DEB driver.
 - CONFIG.SYS must be in the ROOT directory, so type the following two commands:

```
c:  
cd \
```

- You can use EDLIN or any text editor that you may prefer to add the following line to the CONFIG.SYS file:

DEVICE = [d:] [path] dedriver.dev

where [d:] is the drive, in this case Drive C which need not be specified, and [path] is the name of the directory where you put the DEDRIVER.DEV file. Your system will automatically create a CONFIG.SYS file for you if one does not already exist.

- 5 Now reboot your system. (Press the reset button at the front of your computer or press the **CTRL** - **ALT** - **DEL** keys simultaneously.)

You should see a display of internal boot diagnostic messages. If you don't, turn to the chapter entitled "Troubleshooting" before adjusting your monitor.

The Monitor Setup Program

Your package contains a monitor setup program on one of the diskettes. This is a GWBASIC program (named SETUP.BAS) designed to help you adjust your color or monochrome monitor. The program guides you in adjusting the brightness and contrast controls on your monitor so that all 16 colors or monochrome shades are displayed correctly.

Note

To use this setup program, you must have installed the DEB Device Driver.

You must also be using the correct version of GWBASIC. Make sure you are using the new GWBASIC that is now on your system disk. Your older version does not have the additional commands you will need with your DEB. If you try to use the enhanced features with an older version of GWBASIC, you will not damage your system, but you will get errors.

To use the setup program, place the program diskette in Drive A and type the command:

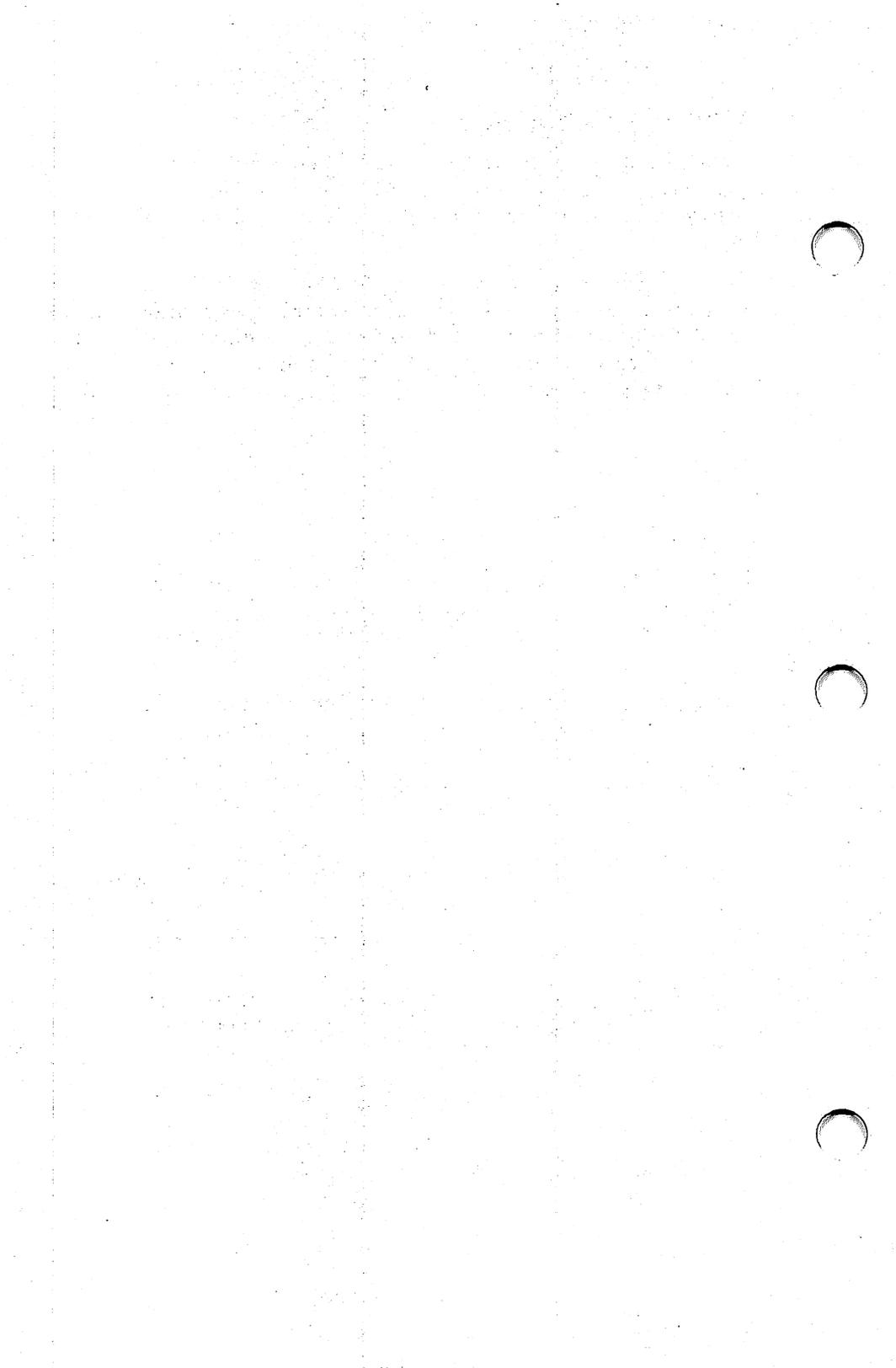
gwbasic a: setup

You will be prompted to enter your monitor type (color or monochrome). You will then see 16 color bars or 16 monochrome shades. If the display is not satisfactory, adjust your brightness and contrast controls until all the colors or shades appear correctly. When you are satisfied with the display, you are ready to run the sample programs accompanying your Display Enhancement Board.

Sample Programs

Your DEB package includes some sample programs. You will probably want to run these programs now just to see the effects you can achieve with your new AT&T Display Enhancement Board.

The DEB supplement to the *GWBASIC Programmer's Guide* (also included with your DEB) describes some additional features of GWBASIC that you will want to study. Familiarity with all of the material included with your DEB will increase your enjoyment of its features.



Troubleshooting

Sometimes the installation of the DEB doesn't run smoothly. There are several things you can check on your own; one of them will probably correct your problem. Consult the table below. Then, if your difficulty persists, there is a toll-free hotline for you to call.

TABLE 4-1 DEB Troubleshooting Guide

<u>Symptom</u>	<u>Solution</u>
No display/ blank video screen	<p>Make sure that the video monitor is plugged in--either to the Display Enhancement Board or to the Video Display Controller.</p> <p>Make sure the 50-pin connector cable is correctly connected at both ends. (It is possible to connect the cable so that some of the pins are beyond the end of the connector.) See "Inserting the Board," Steps 1 and 3.</p> <p>If a Monochrome Monitor is being used, make sure the 15V connector is attached to the correct board. See "Attaching the Monitor."</p> <p>If a Color Monitor is being used make sure the AC cord on the monitor is plugged in.</p> <p>Make sure both connectors (sets of gold "fingers") are firmly seated in their respective slots. (See "Inserting the Board," Step 2.</p>

(continued)

TABLE 4-1 DEB Troubleshooting Guide (continued)

<u>Symptom</u>	<u>Solution</u>
Jagged lines/ garbage on the screen	<p>Make sure that jumper A on the VDC is correctly installed. See "Preparing the PC," Step 7.</p> <p>Make sure that jumper C is set correctly. The correct setting depends on which personal computer you have. See "Connecting the DEB Jumpers," Step 3.</p> <ul style="list-style-type: none">□ For the PC 6300 the jumper should be set C to 1.□ For the PC 6300 PLUS and PC 6310 jumper C to 2 reflects the displacement of your addressing space. See "Connecting the DEB Jumpers," Step 3.
Other problems with garbled display	<p>Make sure that jumper A on the VDC is correctly installed. See "Preparing the PC," Step 7.</p>
Application software indicates wrong monitor is connected (monochrome instead of color, or vice versa)	<p>Make sure jumper A on the DEB is set correctly. See "Connecting the DEB Jumpers," Step 1 for the correct setting. Run the "Customer" diagnostic, and it will tell you whether your system is identifying its monitor as color or monochrome. If "Customer" shows a monochrome system when a color monitor is attached, then the monitor may be at fault.</p>

(continued)

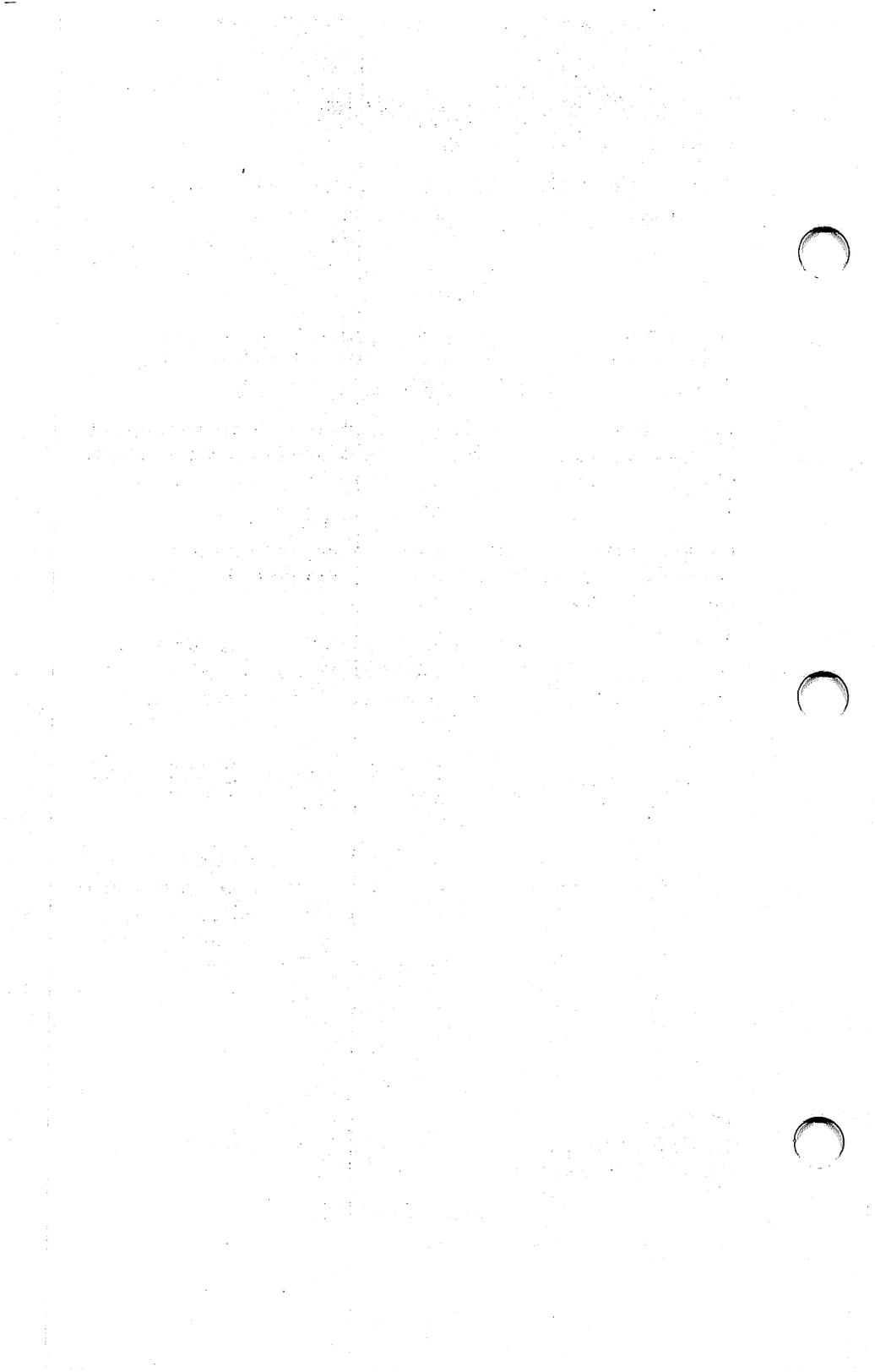
TABLE 4-1 DEB Troubleshooting Guide (continued)

<u>Symptom</u>	<u>Solution</u>
Color bar pattern is not correct	Adjust the contrast and/or brightness controls on your monitor. As on a color TV, these controls can seriously affect the color displayed. See "Adjusting Your Monitor."
Monochrome shades are not correct	Adjust the contrast and/or brightness controls on your monitor. See "Adjusting Your Monitor."
Monitor does not display all colors or all monochrome shades.	Make sure the monitor is plugged into the DEB. The enhanced features are available only through the DEB connector. See "Attaching the Monitor."
You get an error message when you run SETUP.BAS.	Reboot your system and try again. If the error persists, the problem is one of the following: <ul style="list-style-type: none"><input type="checkbox"/> You are using the wrong version of GWBASIC. Reinstall the new version. See "The DEB Device Driver."<input type="checkbox"/> You haven't loaded DEDRIVER.DEV correctly. See "The DEB Device Driver."<input type="checkbox"/> You haven't edited the CONFIG.SYS file, or, if you have a hard disk system, you may have specified the wrong pathname in your CONFIG.SYS file. See "The DEB Device Driver."

Note

If your problem cannot be solved with the above information, please call the toll-free hotline on:

(800) 922-0354



Appendix A

Displacement of Addressing Space on the PC 6300 PLUS and PC 6310

Jumpers B and C on the Display Enhancement Board are used to indicate displacement (if any) of your computer's 6845 addressing space.

The PC 6300 can be operated in two graphics modes: 640 x 400 pixels, or 640 x 200 pixels (IBM-compatible mode). In IBM-compatible mode, addressing space is fixed (from xxx03D0 through xxx03D7).

The PC 6300 PLUS and PC 6310 does not have an IBM-compatible graphics mode, so the 6845 addressing space can be displaced. Jumper B, which is enabled by jumper C, indicates the displacement of this addressing space. Figure A-1 shows jumper block B completely open. This is its default setting, as it is supplied on your DEB. Any or all of the four positions (B to 1, B to 2, B to 3, or B to 4) can be closed.

FIGURE A-1 Jumper Block B

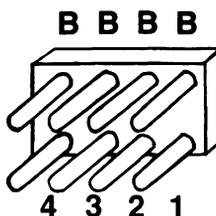
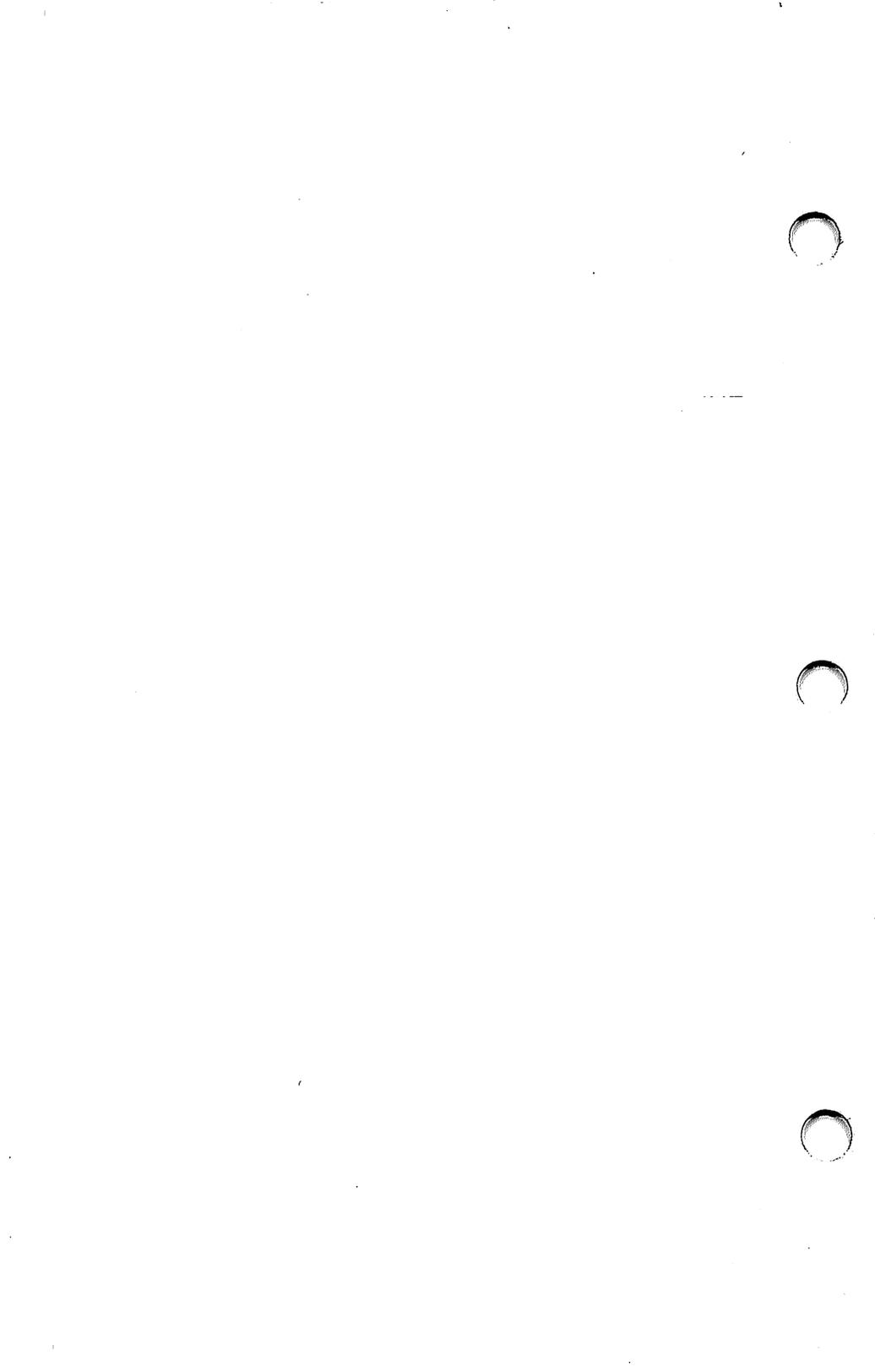


Table A-1 shows the displacement of addressing space designated by each of the possible 16 jumper positions. The closed position, indicating that a jumper has been installed, is represented in the table by 1; the open position, indicating that no jumper is present, is represented in the table by 0.

TABLE A-1 Addressing Space Jumper Settings

<u>B to 1</u>	<u>B to 2</u>	<u>B to 3</u>	<u>B to 4</u>	<u>6845 Addr. Space</u>
1	1	1	1	03D0 through 03D7
1	1	1	0	07D0 through 07D7
1	1	0	1	0BD0 through 0BD7
1	1	0	0	0FD0 through 0FD7
1	0	1	1	13D0 through 13D7
1	0	1	0	17D0 through 17D7
1	0	0	1	1BD0 through 1BD7
1	0	0	0	1FD0 through 1FD7
0	1	1	1	23D0 through 23D7
0	1	1	0	27D0 through 27D7
0	1	0	1	2BD0 through 2BD7
0	1	0	0	2FD0 through 2FD7
0	0	1	1	33D0 through 33D7
0	0	1	0	37D0 through 37D7
0	0	0	1	3BD0 through 3BD7
0	0	0	0	3FD0 through 3FD7

Jumper C enables jumper block B by initiating a comparison of addresses A10, A11, A12, and A13 to the value of the jumper block B configuration.



IMPORTANT

If you are a user of the **Context Switch** or **Concurrent Context Switch** prior to version 3.0 you will require a new version of these packages that supports the Display Enhancement Board (DEB). To allow you to do this AT&T Information Systems is offering a free upgrade to all DEB users who have purchased these packages.

For you to receive your new version of these packages you must send in this card and the title page from either your **Context Switch** or **Concurrent Context Switch** of your users guide. Please send this to:

AT&T Consumer Systems Support
Department 5
P.O. Box 8355
Iselin, New Jersey 08830

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