

**UNIPAK 2/2B™**

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***Software Update Kit***

985-0002-019

November 1990

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#### ORDERING INFORMATION

When ordering this manual, use Part Number 985-0002-019.  
Applies to: Engineering part numbers 953-0002-023 and up  
and 953-0017-017 and up.

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# INTRODUCTION

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## WARNING

The procedures described in this document are intended for use only by personnel qualified to service electronic equipment. Do not attempt to perform these procedures unless you are qualified to do so.

This manual provides the software update instructions necessary for updating either the UniPak 2 or the UniPak 2B. The parts included in each of the update kits are listed in Table 1 below:

Table 1. Software Update Kit Parts

Type of Kit	Description	Quantity	Data I/O Part No.	Installation Location
UniPak 2	EPROM	1	324-0059-053	U19
	EPROM	1	324-0059-054	U20
	Decode PAL	1	324-1760-013	U13
	Label	1	—	
	Documentation Notice	1	090-0332	
	UniPak 2 User Notes	1	984-0001	
UniPak 2B	EPROM	1	324-0059-053	U19
	EPROM	1	324-0059-054	U20
	Decode PAL	1	324-1760-013	U13
	Label	1	—	
	UniPak 2B Device List	1	984-0179	
	UniPak 2B Acceptance Test	1	984-0179	
	UniPak 2B User Notes	1	984-0179	

Firmware Version Number: VER 23.0

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## CAUTION

*The software update kit EPROMs are static-sensitive. Observe standard handling precautions, such as performing the update kit procedures at an anti-static workstation or wearing a grounded wrist-strap, otherwise, damage to the EPROMs may result.*

## UNIPAK 2/2B SOFTWARE UPDATE KIT INSTALLATION

The following paragraphs describe how to install the software update kit. You will need the following tools for installation of the kit:

- One Phillips-head screwdriver (medium size, #1 or #2)
- One slot-head screwdriver (medium size)
- One pair of needle-nose pliers
- IC extractor tool, or small slot-head screwdriver
- Soldering Iron

For the Software Update Kit to work, your UniPak 2/2B must have a 701-2126 Memory Board. To determine if your pak has the correct memory board, perform the following steps:

1. Install the UniPak 2/2B in the programmer and turn the programmer on.
2. Press **SELECT**. Type **E F** on the programmer keyboard and then press **START**.

If the display does not show version 13.0 or greater, the new Memory Board must be installed. A hardware update kit (951-0045) is required.

### NOTE

*If you are installing only the Software Update Kit, go directly to the UniPak 2/2B Disassembly section on the following page.*

*If you are installing the Hardware Update Kit, go to UniPak 2/2B Disassembly section of the Hardware Update Kit manual. Complete the instructions and when instructed to do so, go to the Firmware Installation section in this manual.*

*If you are installing a UniPak 2 to 2B Conversion Kit and/or the Hardware Update Kit, begin installing the conversion kit first. When the conversion kit instructions direct you to install the software and/or hardware update kit:*

1.
  - a. *If you are installing a new memory board, go to step 6 of the Hardware Update Kit manual, complete the instructions and then go directly to the Firmware Installation section in this manual.*
  - b. *If you are not installing a new memory board, go directly to the Firmware Installation section in this manual.*
2. *Complete the software update kit installation as directed in the Firmware Installation section of this manual.*
3. *Proceed to the Testing the UniPak 2B section of the conversion kit manual and*
  - a. *If the conversion kit was installed, complete the conversion kit installation.*
  - b. *If a hardware update kit was installed, go to the calibration section of the Hardware Update Kit manual and complete the installation there.*

# UniPak 2/2B Disassembly

To disassemble the UniPak 2/2B for installation of the updated firmware, follow the procedures listed below.

1. Remove the UniPak 2/2B from the programmer, if it is installed.
2. Set the UniPak 2/2B face down on the flat surface of a static-free workstation.
3. Using the medium size slot-head screwdriver, unscrew the captive fasteners (Figure 1, Step 1) until they hang loosely; the fasteners will not separate from their standoffs.
4. Lift the card cage up slightly, then pull out (as shown in Figure 1, Step 2) to unlock the flanges.

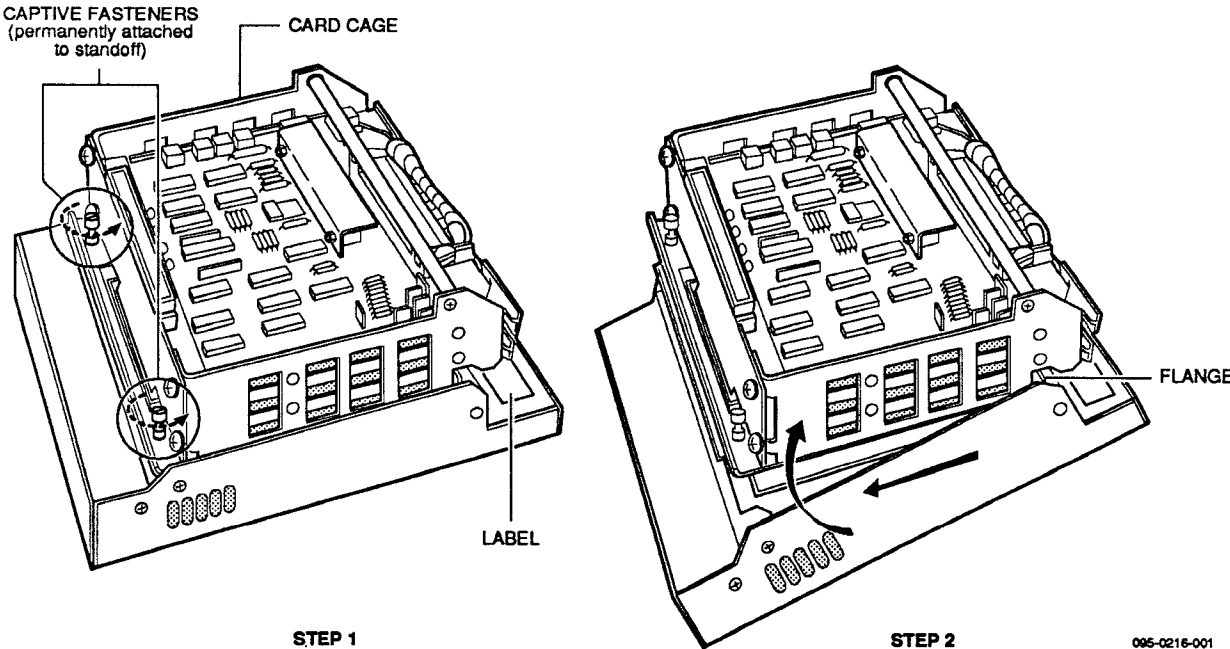
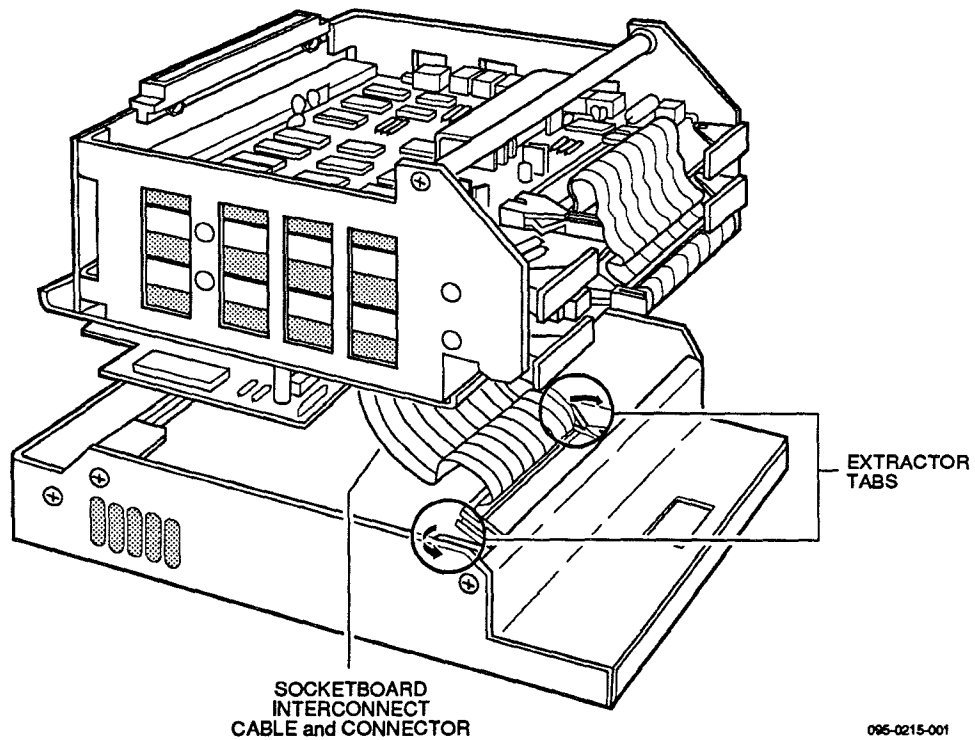


Figure 1. UniPak 2/2B Disassembly (UniPak 2 shown)

5. Lift the card cage up and out of its top cover until you can see the socketboard interconnect cable (see Figure 2). Do not detach the socketboard interconnect cable.
6. Turn the card cage over and set it on the flat surface next to the top cover. This step exposes the armite or mylar shield which covers the memory board.



*Figure 2. Socketboard Interconnect Cable*

7. Remove the two Phillips-head screws and armiture or mylar shield from the memory board (see Figure 3). Retain the washers and screws for reassembly. (If you are updating a UniPak 2B that was factory built, rather than a field conversion, it will not contain any washers.)
8. Pull the memory board straight up to unplug it from the card edge connector (as shown in Figure 3).

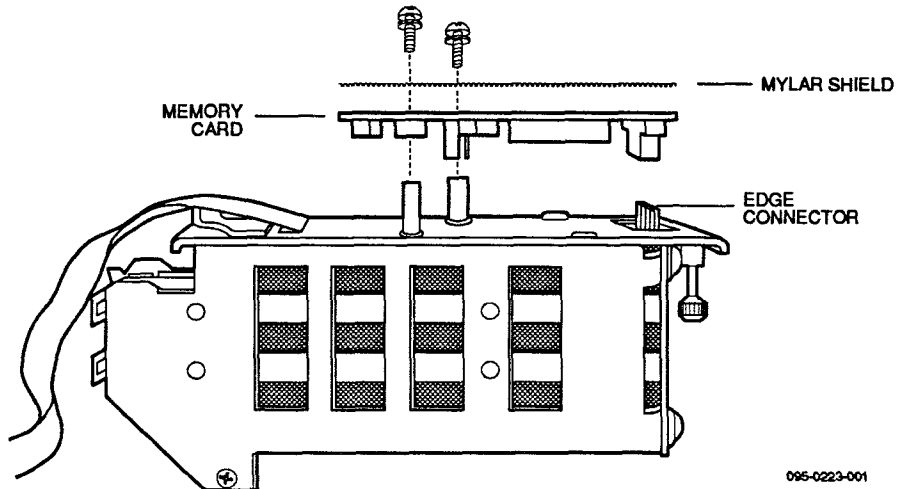


Figure 3. Memory Board Removal

9. Turn the 701-2126 memory board over so the component side faces up (Figure 4) in preparation for firmware installation.

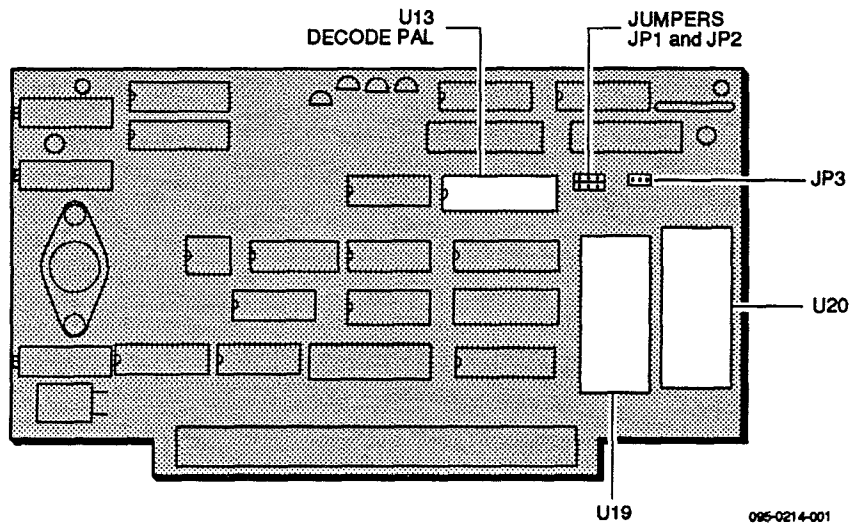


Figure 4. Update Component Location

Table 2. Jumper Configuration

Jumper	Position
JP1	Position B
JP2	Position B
JP3	Position B

## Firmware Installation

The following steps describe how to install the firmware components of the update kit into your disassembled UniPak 2/2B. Follow the procedures in the order that they are presented here.

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### CAUTION

***The software update kit EPROMs are static-sensitive. Perform the following procedures at a static-free work station to prevent static-related damage to the EPROMs.***

1. Remove EPROMs U19, U20 and decode PAL U13 (see figure 4) from the memory board using an IC extractor tool or small slot-head screwdriver.
2. Refer to Table 2 for jumper configurations. If any jumpers are not in the correct locations, use the needle-nose pliers and soldering iron to change them to the correct location.

### NOTE

*Prior to installing the firmware, check the socket contacts to ensure that they are not damaged. If any socket contact is damaged, repair or replace that part before proceeding with the firmware installation.*

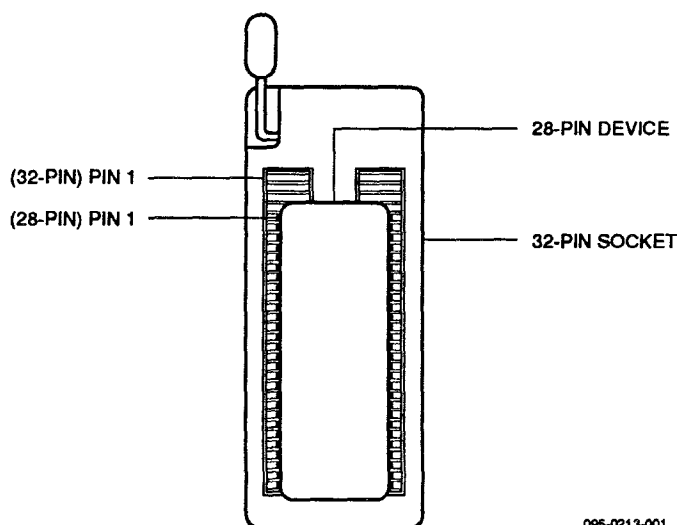
3. Install the software update kit Decode PAL U13 in memory board socket U13. Refer to Table 1 for software update kit firmware part numbers and their corresponding installation locations.

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### WARNING

**When installing EPROMs be sure to bottom justify them in the socket (Figure 5).**

4. Install the software update kit EPROMs U19 and U20 in sockets U19 and U20, respectively. Refer to table 1 for software update kit component part numbers and their corresponding installation locations.



095-0213-001

Figure 5. EPROM Installation Alignment



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## UniPak 2/2B Reassembly and Testing

Reassembly of the UniPak 2/2B is performed by reversing the disassembly procedures. Follow the steps listed below and refer to Figures 1 through 3 on the previous pages.

1. Plug the memory board into its card cage edge connector (figure 3) until it is firmly seated.
2. Replace the armita or mylar shield, washers (if included) and two Phillips-head screws.
3. Reinsert the card cage into the top cover with the memory board facing into the top cover (Figure 2). Tilt the card cage up and push gently forward to lock the top cover's flange between the card cage's top and bottom flanges (Figure 1, Step 2). Then gently set the card cage back into the top cover.
4. Using the medium size slot-head screwdriver, tighten the captive fastener slot screws finger tight.
5. Perform a self-test on the UniPak 2/2B by installing it in a programmer and applying power.

If the programmer fails to power up correctly, or the self-test message is not displayed, check to make sure that all of the software update kit installation procedures (and conversion kit installation procedures, if you are installing the conversion kit) were performed correctly. If the self-test fails again, contact your local Data I/O Service Center for assistance.

6. Verify the correct firmware configuration/version number by pressing **SELECT E F START** on the programmer's keyboard. Check the programmer display for the four-character configuration number and the version number. See the bottom of Table 1 on the first page of this document for the correct configuration and version numbers.

If the correct configuration and version numbers are not displayed, the firmware has not been installed correctly. Check to make sure that all installation procedures were performed correctly. Make sure that all PROMs are fully inserted into their sockets and are making proper contact at their connections. Install the UniPak 2/2B in a programmer and again press **SELECT E F START**. If the configuration/version number displayed still does not match that listed in Table 1, contact your local Data I/O Service Center for assistance.

If the configuration/version number listed in Table 1 is displayed, then the update kit firmware installation is complete.

7. Using an indelible ink pen, write the serial number of your unit on the serial number label provided. Affix the enclosed label over the existing label on the back side of the front panel. The UniPak 2 label location is shown in Figure 1, Step 1. The UniPak 2B label is located on the vertical surface facing the indicated UniPak 2 label location.

If you are installing a UniPak 2 to 2B conversion kit, complete the conversion kit installation at this time, starting with the subsection Testing the UniPak 2B.

If a hardware update kit was installed, go to the calibration section of the Hardware Update Kit manual and complete that section before doing the acceptance test.

If you are updating a UniPak 2B, an acceptance test was included in the user note. If you want to re-accept the UniPak 2B after updating it, perform the acceptance test procedures as directed in the enclosed acceptance test manual.

