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Data I/O endeavors to ensure that the information in this document is accurate.

**NOTE TO FLASHPAK CUSTOMERS:** This Operator's Guide is for all FlashPAK units, including predecessors to FlashPAK III. Although features have been added by the incorporation of our FlashCORE III technology and the maturation of the product, most of the procedures are identical.

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## Chapter 1



# Overview



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## Warnings and Cautions



**Electrostatic Discharge**

Electrostatic Discharge (ESD) may cause damage. Discharge static electricity to a common ground.



**Compressed Air**

Point air hoses away from body. Always wear eye protection.



**High Voltage**

Do not remove covers. No user serviceable parts.



**Radio Interference**

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.



## FlashPAK III™ and TaskLink™



Data I/O's FlashPAK III is for engineering and manual production programming of Flash memory devices, microcontrollers, and EPROMs. TaskLink™ for FlashPAK III™ (included) is software required to create and manage jobs. A job is the information required to program devices.

Use a PC card (or your network) to transfer files between TaskLink and FlashPAK. The PC card also stores jobs, algorithms, and statistics which do not reside in FlashPAK.

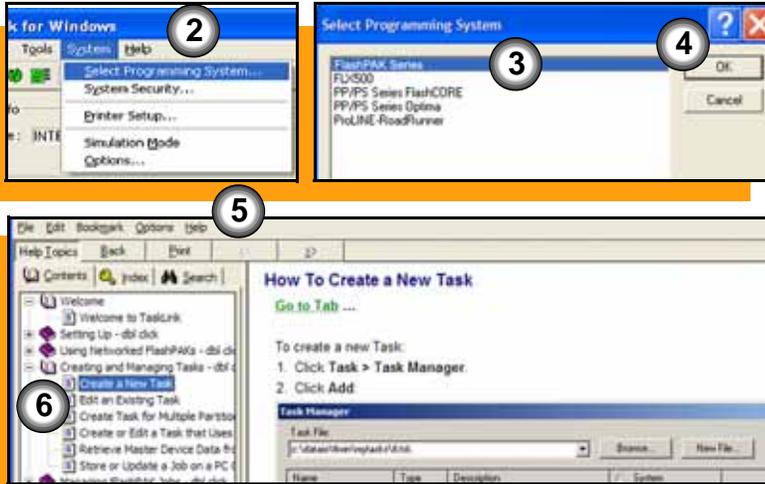
A job card is a PC card with a job written to it, and may or may not contain Supervisor Authority. ■



1



## Use TaskLink to Create a Job

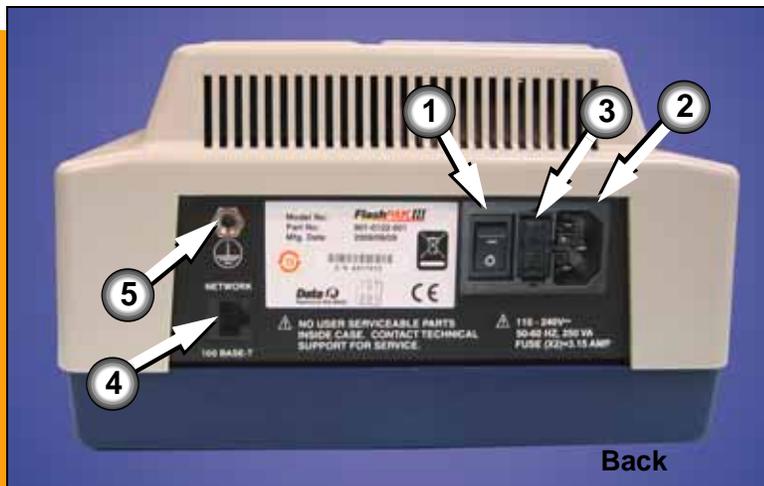


Within TaskLink is a Help file to assist you in creating a job. After TaskLink is installed on your PC:

1. Double-click the TaskLink icon.
2. Under the System Menu click *Select Programming System*.
3. Select *FlashPAK Series*.
4. Click OK.
5. Under the Help Menu select *Help Topics*.
6. In the list of help topics select *Creating and Managing Tasks > Create a New Task*. ■



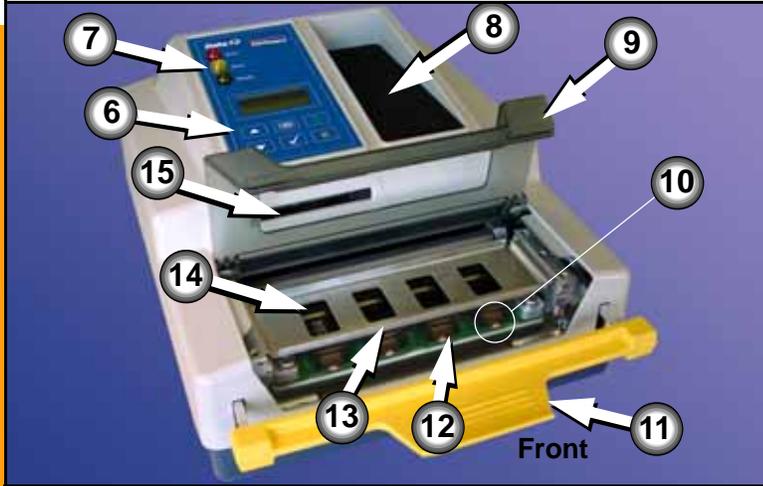
## Feature Locator



1. Power Switch 
2. Power Connection 
3. Fuses 
4. Network Connector (100Base-T on FlashPAK III only) 
5. Ground Strap Connection 

(For a key to symbols, see page 54.)





- 6. Control Panel with LCD display
- 7. Status Lamps
- 8. Reject Device Area
- 9. Actuator Cover
- 10. Socket LED (If sockets are extra large, LEDs may be in back.)
- 11. Actuating Bar
- 12. Socket Adapter (device specific)
- 13. Actuator Plate (adapter specific)
- 14. Socket Number 1 

1			
---	--	--	--
- 15. Card Slot & Eject Button ■



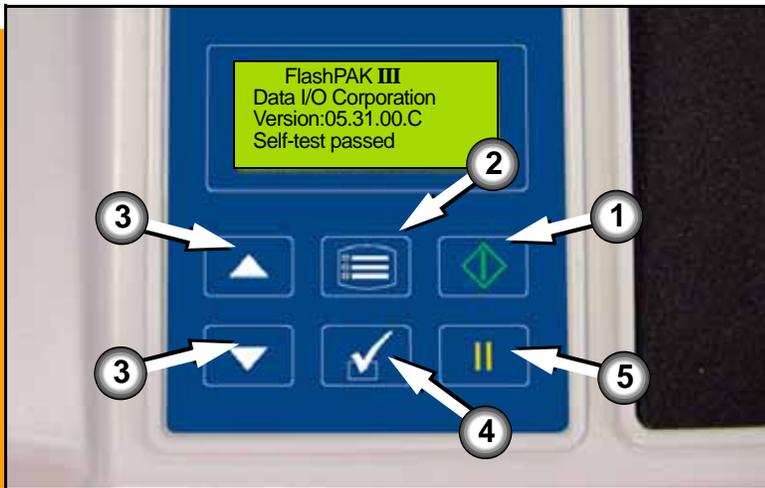
## Control Panel Lamps (Interpretations)



1. **Red** - One or more devices currently loaded has failed programming; or the Self-test failed; or any other errors.
2. **Yellow** - (blinking) Programming in progress, or the memory card is being accessed. Do not open sockets. Do not eject the card. Button presses are not recorded when blinking.
3. **Green** - Programmer is ready for input; or programming is complete and successful in all usable sockets (see page 28). Okay to open sockets. Okay to eject PC card. ■



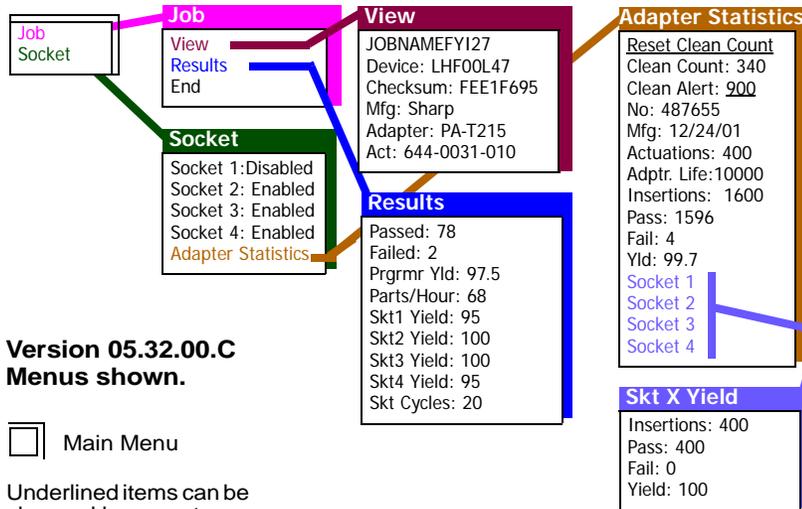
## Control Panel Buttons



1. **Start** - starts or resumes a job. If Auto Start (page 38) has been disabled, **Start** programs the next block (set of devices).
2. **Menu** - displays the main menu  
—or Exits to the previous menu  
—or Shows next error message  
—or Deselects an item.
3. **Up and Down Arrows** - navigates through menu items. A triangular pointer (not shown) indicates scrollable menus.
4. **Select** - selects menu items. (The word **Select** is used to mean *push the select button.*)
5. **Pause** - pauses the job and displays results. Pressing it twice ends a job. ■



## Operator Menus



**Version 05.32.00.C  
Menus shown.**

 Main Menu

Underlined items can be changed by operator.

Operator Menus are visible on FlashPAK III's control panel, and can be navigated by pressing the Up or Down Arrow buttons.

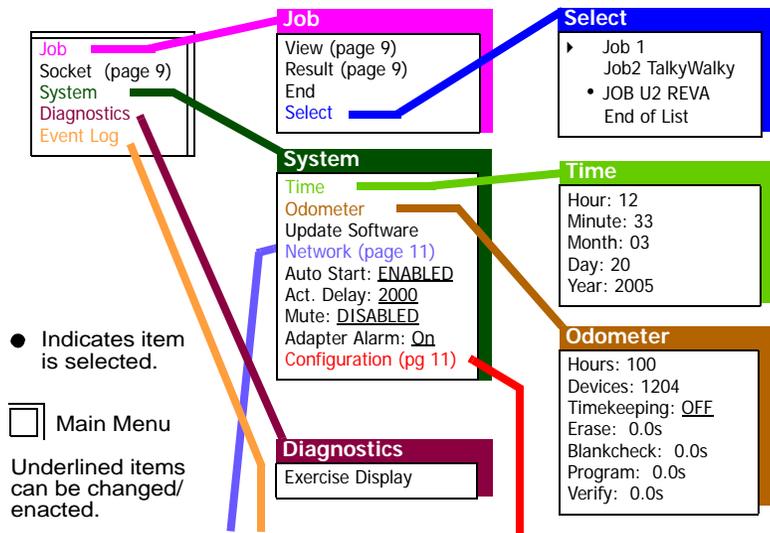
Pressing the Menu button displays the menu, or moves up one menu.

If you are at the main menu, pressing the Menu button will have no effect. ■





# Supervisor Menus



Version 05.32.00.C menus shown.

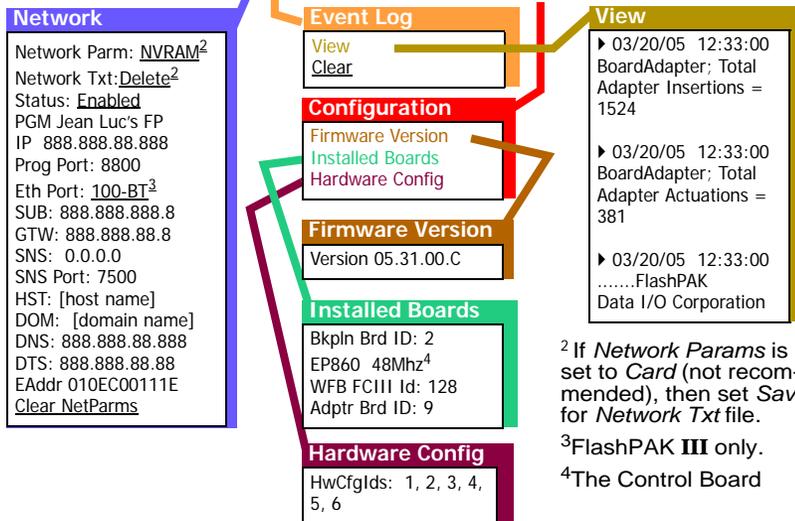
To view the Supervisor Menus insert a job card that has Supervisor Authority. Supervisor Authority is set in TaskLink: refer to TaskLink Help.

Pressing the Select item in the Supervisor menu allows viewing all the jobs on the current card and selecting one.

FlashPAK makes a subtle beep when it finishes programming each block of devices. The beep can be shut off by enabling the Mute command in the System menu.



## Supervisor Menus continued



<sup>2</sup> If *Network Params* is set to *Card* (not recommended), then set *Save* for *Network Txt* file.

<sup>3</sup>FlashPAK **III** only.

<sup>4</sup>The Control Board

### Network Menu Abbreviations:

- PGM** = Programmer name
- SUB** = Subnet mask
- GTW** = Gateway
- SNS** = Serial Number Server IP
- SNS Port** = Serial Number Server Port No.
- HST** = Host name
- DOM** = Domain name
- DNS** = Domain name server
- DTS** = Date and time server
- EAddr** = Ethernet address (not editable).

**Your FlashPAK firmware version is listed at System > Configuration > Firmware Version.**



## Supervisor Menus continued



At least one of the devices found in your search is supported. Click [here](#) to learn more about the World's Fastest Flash Programmer.

Hfg Name	Part Name	Package Technology	Algorithm	TaskLink	Firmware Version	Firmware Version Required*	Hardware Config ID Required+	Adapter(s) Required
<b>FlashPAK</b>								
SHAR	MB3381	CSP / 72	FLASH	KC1DC	8.00	Requires V.7.05	1	FP-PAK-G032 BQAT7,FAA-G032 BQAT7

Viewing records 1 - 1 of 1. [New Search](#)

Viewing records 1 - 1 of 1. Note: \* Minimum version required is listed, + any of the hardware config id's listed will work. [New Search](#)

Hardware Configuration IDs (listed at System > Configuration > Hardware Config) are useful for determining whether a new device algorithm is supported on your current FlashPAK configuration. (Configuration IDs represent different programmer features.)

The HwCfgIds are listed with the Data I/O Web site Device Search results. ■

## Chapter 2



# Installation



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## Connecting Power



To connect power:

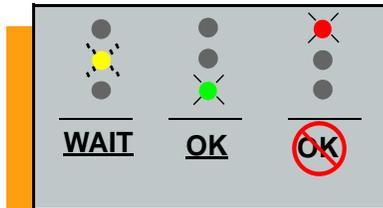
1. Push the FlashPAK power switch to the Off (0) position.
2. Connect to a grounded power source using a cable with a standard IEC 320 plug (supplied).

FlashPAK accepts power between 100 and 240 VAC, 50/60 Hz.

When power is switched On (I) the Self-test runs. If the keypad display is blank, check the fuse in the back of the unit. ■



## Running the Self-test



To run the Self-test:

1. Switch the power On. Or
  - 1a. End the job. See “Ending a Job” on page 31.
  - 1b. Remove any devices from the sockets.
  - 1c. Lift the Actuator Bar to the Up position and toggle the power switch Off (0) and then back On (I).
2. When the Self-test finishes, the yellow lamp stops blinking and, when successful, the green lamp lights and the system software version number displays. ■





## If the Red Lamp Lights



If the red lamp lights after switching the power on, an error has occurred and “Self-test failed” displays.

- To view socket status, at the main menu scroll to and select Sockets.
- To see if the problem is the Socket Adapter or the programmer, remove the Socket Adapter (see page 18) and rerun the Self-test without it by toggling the power switch. If the red lamp still lights, contact Technical Support (page 63). ■

## Chapter 3



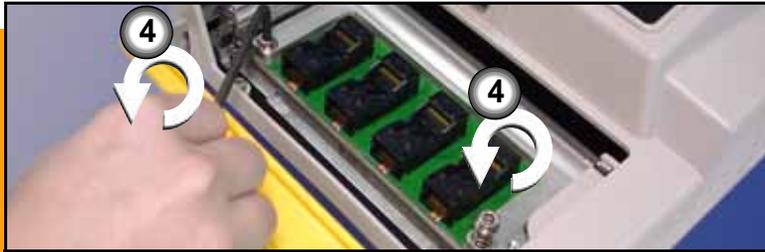
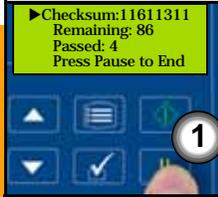
# Job Setup



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## Changing the Socket Adapter



To change the Socket Adapter and Actuator Plate:

**NOTE:** Plug your operator ESD strap into the back of FlashPAK to prevent electrostatic discharge.

1. End the job (see page 31).
2. Open (or lift off) the Actuator Cover.
3. Slide the Actuator Plate out of the grooved bracket. The Actuating Bar must be up.
4. Unscrew the two captive screws (4 mm hex key) and lift the Adapter Bracket open.



### Caution



Electrostatic Discharge May Cause Damage.  
Discharge Static Against Common Ground.



5. Without touching the gold contact surfaces on the bottom of the Socket Adapter, lift it up off the dowel pins, and out.
6. Insert the correct Socket Adapter, making sure that it seats on the dowel pins.
7. Tighten the screws.
8. Insert the correct Actuator Plate with the flanges up and the part number facing front.
9. Close (or replace) the Actuator Cover. ■



## First Time Network Connection (optional)



To make your FlashPAK III network accessible (for the first time):

1. Insert a blank PC card into a card reader (at a PC with TaskLink). Then in TaskLink, create a Network Configuration card.
2. Remove the PC card and insert it into FlashPAK.
3. Plug your ethernet cable into FlashPAK.
4. Switch the power On (or Off and then On). ■



## Subsequent Network Connection (optional)

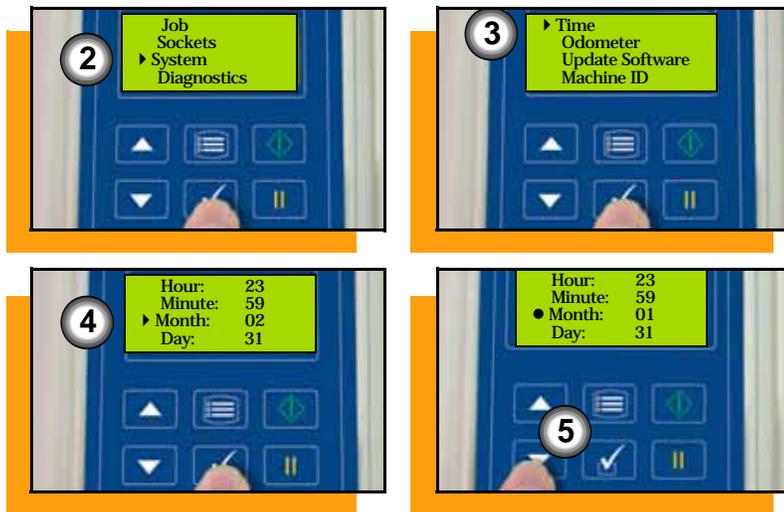


To network your FlashPAK III (after it has been previously network configured):

1. Put the PC Network Card into FlashPAK and switch power On.
2. Press Menu until you see the top level menu.
3. Scroll to and select System.
4. Scroll to and select Network.
5. Press Select again to edit.
6. Press the Down Arrow to change the setting to Card.
7. Press Menu to save. ■



## Setting the Date and Time



The time can only be set using a job card with Supervisor Authority.  
To set the time:

1. End the job (see page 31).
2. Scroll to and select System.
3. Select Time.
4. Scroll to, and select, the desired parameter. A round dot appears next to the parameter.
5. Press the Up Arrow or Down Arrow to adjust the parameter.
6. Press Menu to finish.

Select and set other date/time parameters as desired. ■

## Chapter 4

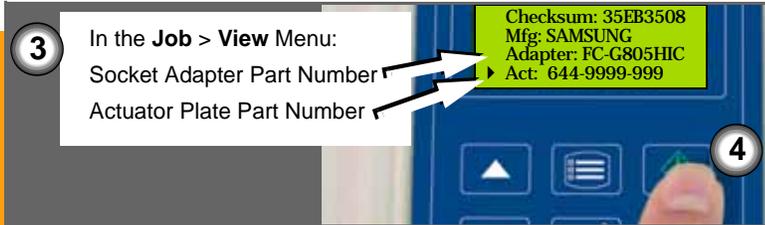


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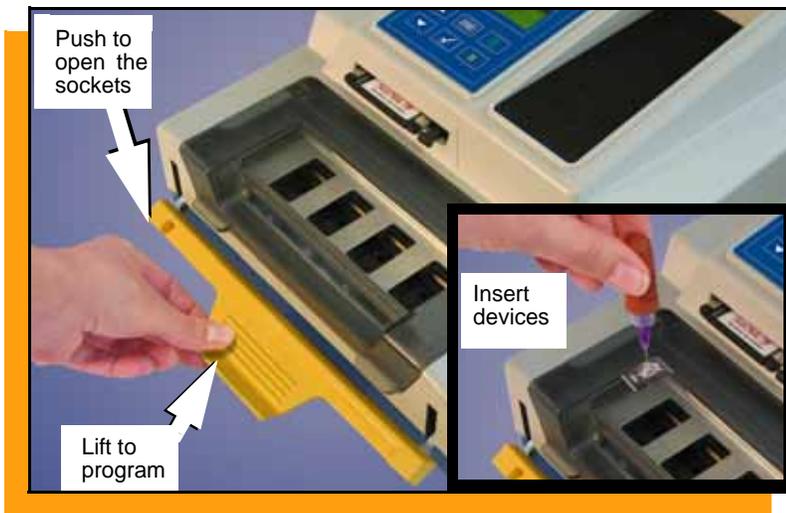
## Running a Job



To run a job:

**NOTE:** Connect operator ESD strap into the back of FlashPAK.

1. Insert a job card into the card slot. (Switch the power On (I) if it is not, and wait for the Self-test to complete.)
2. Press Start. While the job is loading the yellow lamp blinks—Do NOT remove the card. Do NOT remove power.
3. Verify that your setup matches the parts listed. Change parts that do not.
4. Press Start to run. Follow instructions in the display.



To continue (with Auto Start on) push the Actuating Bar down, load the sockets, lift the Bar to program. When the yellow lamp stops blinking, push the Bar down and remove devices. Continue until the job is done.

***NOTE: The Actuating Bar must be down (sockets open) to insert devices into the sockets.***

***Lifting the Bar automatically starts the programming phase (unless Auto Start is disabled, page 38).***

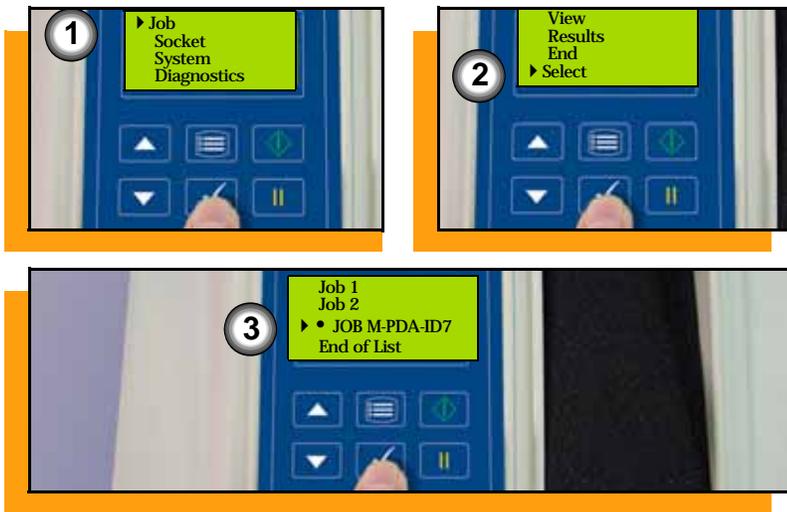
For Device Orientation, see page 27.

To create a job on a memory card use TaskLink; see its Help menu. ■





## Selecting a Job



If more than one job is loaded onto a card, a card with Supervisor Authority allows for job selection.

To change the selected job:

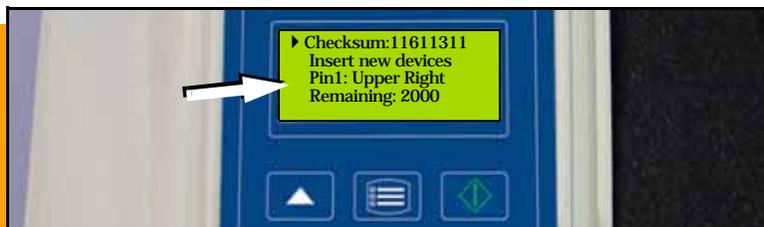
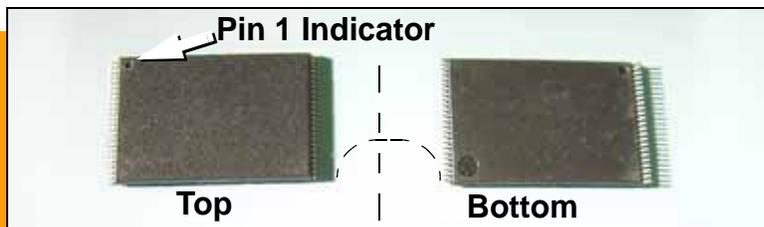
1. **Select Job.**
2. **Select Select.**
3. **Scroll to and select a job.**  
A round dot appears next to the job selected to run.

A job card *without* Supervisor Authority runs the job previously selected by a supervisor.

For more help, see the TaskLink Help Menu. ■



## Device Orientation



Most devices have a dimple located at pin 1. See manufacturers' specifications.

The five possible pin 1 device orientations in a socket are:

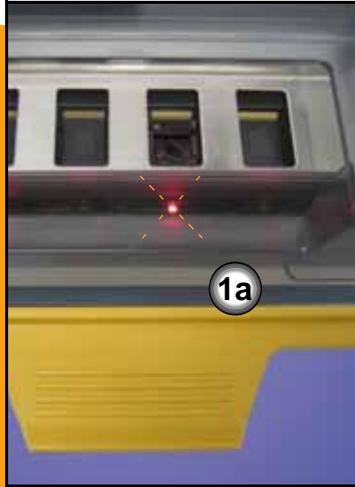
- Upper left
- Upper right
- Top center
- Lower left
- Lower right

When FlashPAK is ready for device insertion, see the pin 1 orientation in the display.

**NOTE:** Use a tool such as a vacuum tweezer for inserting and removing devices from sockets. ■

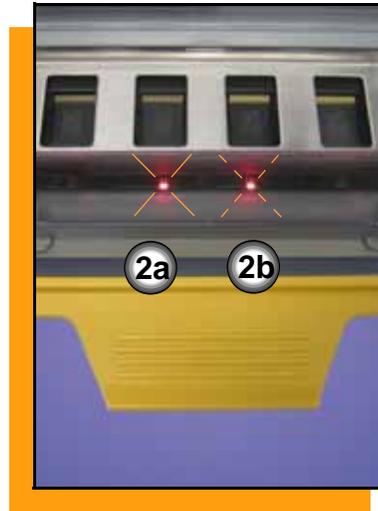


## Interpreting Block Programming Results



A block of devices is all the devices affected by one push of the Actuating Bar (usually four). After each block programming operation the lamps indicate the following:

1. ● Green lamp = All present devices were successfully programmed as defined by the job.
- 1a. ● A blinking red Light Emitting Diode (LED) indicates an empty socket or a device oriented incorrectly. (Empty sockets are not included in the statistics computation.)



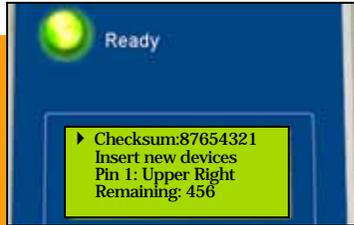
2. ● Red lamp = At least one device in the current block failed to program.
- 2a. ● An evenly lit LED indicates a device that failed programming. Place those devices into the reject area.
- 2b. ● A blinking LED indicates a continuity error (or an empty socket). Retry the device in another socket.

The display indicates devices remaining to program and socket status (scroll down to see).  
“Passed” is *total* devices passed for the job. ■





## Accessing the Menu



Access the menu to view information or to change settings. When the menu is accessed, job statistics are written to the job card.

To access the menu:

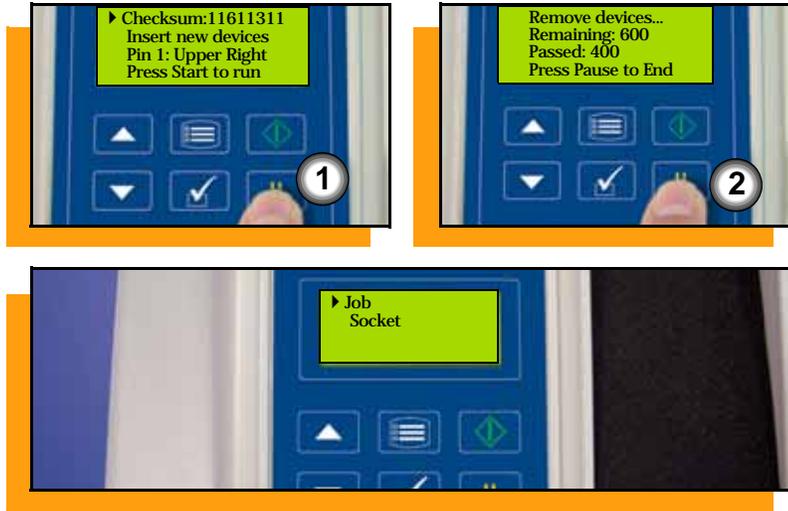
- Press Menu any time that the yellow lamp is not blinking.

To continue programming:

- Press Start. The job resumes. Follow the instructions in the display. ■



## Ending a Job



To end a job (before it finishes):

1. Press Pause any time that the yellow lamp is not blinking.
2. Programming results display. Remove devices. Press Pause.

(To cancel the End sequence, instead of Pause, press Start to resume the job or press Menu.)

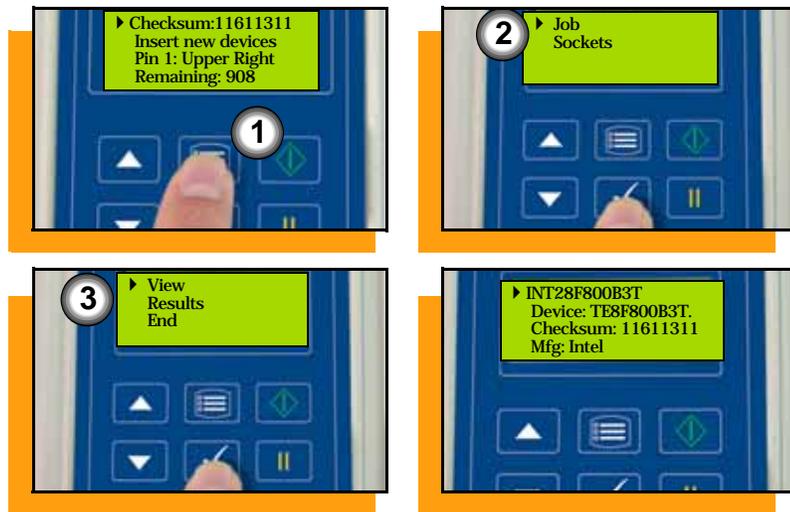
**NOTE:** *Programming of the current block of devices is always completed.*

**NOTE:** *Some menu parameters require ending a job before they can be changed. ■*





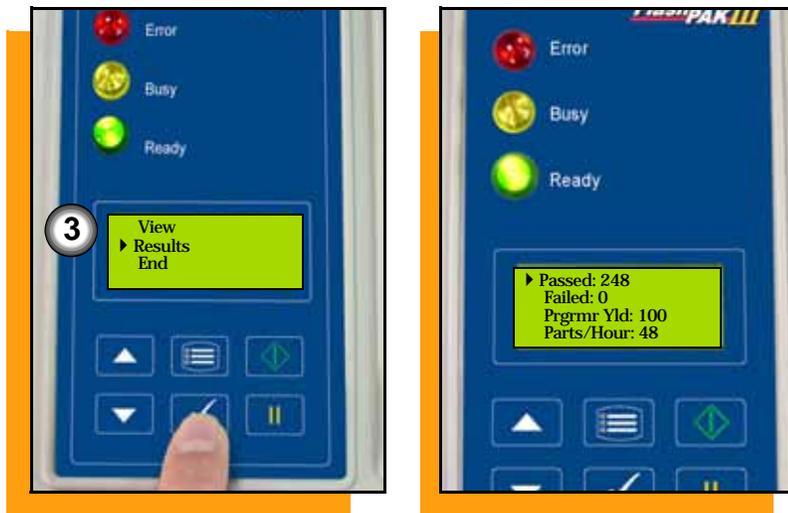
## Viewing Job Information



To view job information:

1. Press Menu any time that the yellow lamp is not blinking.
2. Select Job.
3. Scroll to, and select, View.

Scroll down to see more information; Actuator Plate and Socket Adapter numbers are also displayed for the current job. Press Menu to back up one level, or press Start to program devices.



To view yield calculations:

1. Press Menu any time that the yellow lamp is not blinking.
2. Select Job.
3. Scroll to and select Results.

Press Menu to back up one level, or press Start to program devices. ■





## Viewing the Event Log



The event log provides unit history useful to support personnel for troubleshooting.

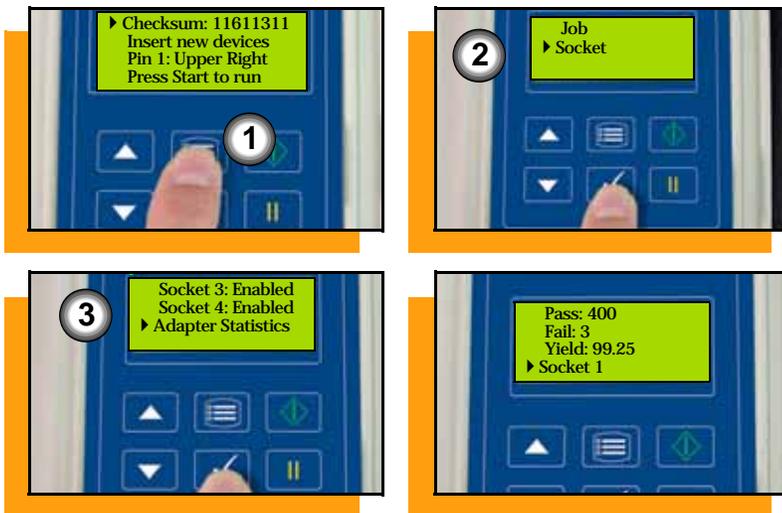
To view the event log (Supervisor Menu only):

1. Press Menu any time that the yellow lamp is not blinking.
2. Scroll to and select Event Log.
3. Select View.

To clear the event log, select Clear. ■



## Viewing Adapter Statistics



To view adapter statistics:

1. Press Menu any time that the yellow lamp is not blinking.
2. Scroll to and select Socket.
3. Scroll to and select Adapter Statistics.

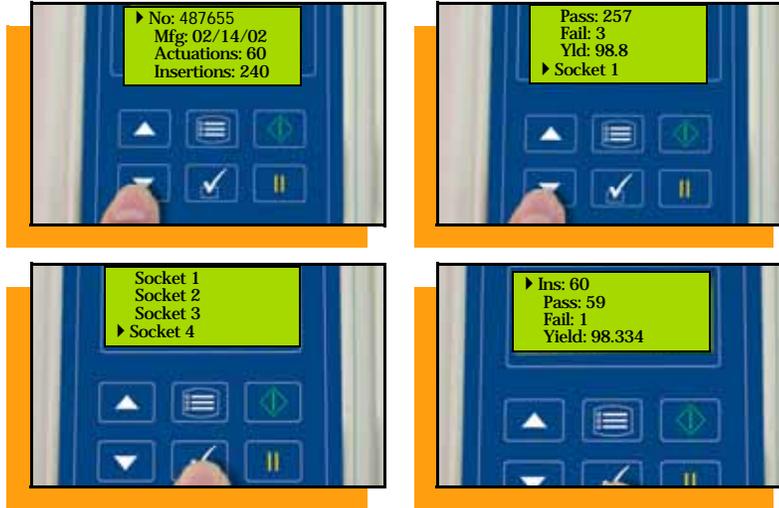
To view individual socket yields, scroll down and select the desired socket.

To start or resume a job, press Start. ■





## About Adapter Statistics



**No.** – unique Socket Adapter ID number.

**Mfg** – date that the Socket Adapter was first used.

**Actuations** – the number of times the Socket Adapter has been actuated during its life.

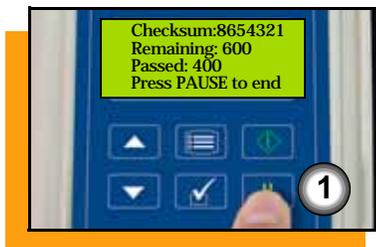
**Insertions** – the number of device insertions for the life of the Socket Adapter (counts all sockets).

**Pass, Fail, and Yld.** – total statistics for that Socket Adapter.

**Socket  $n$**  – press Select for statistics for socket  $n$  on that adapter. ■



## Switching Off



To switch off FlashPAK:

1. End the job (See “Ending a Job” on page 31).
2. Wait for the yellow lamp to stop blinking and then switch the power Off (0).

**—CAUTION—Do not switch power off when the yellow lamp is blinking. Damage to files on the PC card might occur. ■**



## Disabling and Re-enabling Auto Start

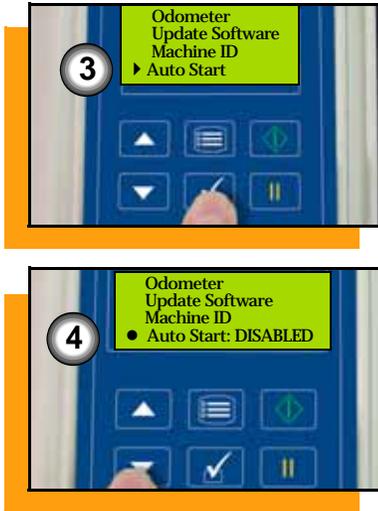


Auto Start is the feature which allows FlashPAK to begin programming simply by lifting the Actuating Bar (it also closes the sockets). When Auto Start is disabled, you must press Start after closing the sockets to begin programming each block of devices.

*NOTE: The job must be ended before changing this setting. For Ending a Job see page 31.*

To disable Auto Start:

1. Eject the job card and insert one with Supervisor Authority.
2. Scroll to and select System.



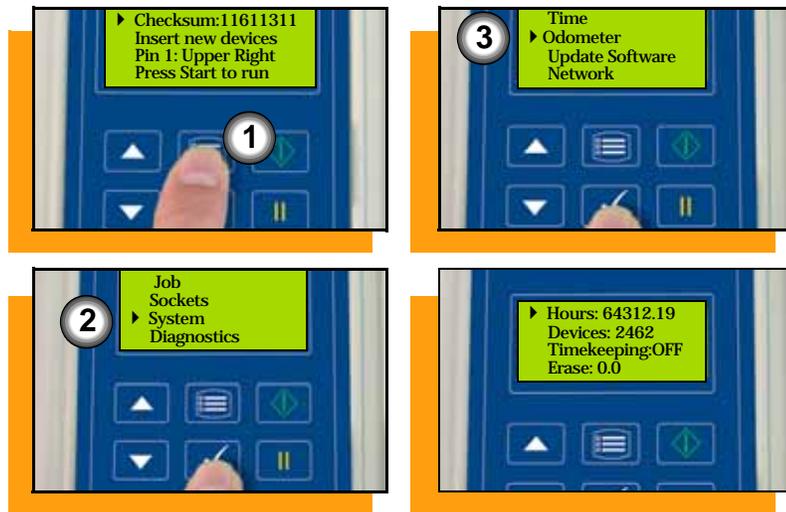
3. **Scroll to and select Auto Start.** A round dot appears next to the selected item.
4. **Press the Down Arrow to disable Auto Start.** (Use the Up Arrow to re-enable it.)
5. **Press Menu to finish.**

**FlashPAK retains the setting even after you turn the power off. ■**





## Viewing the Odometer



The odometer displays the total hours that FlashPAK has been switched On and total devices that PASSED programming. These settings cannot be altered.

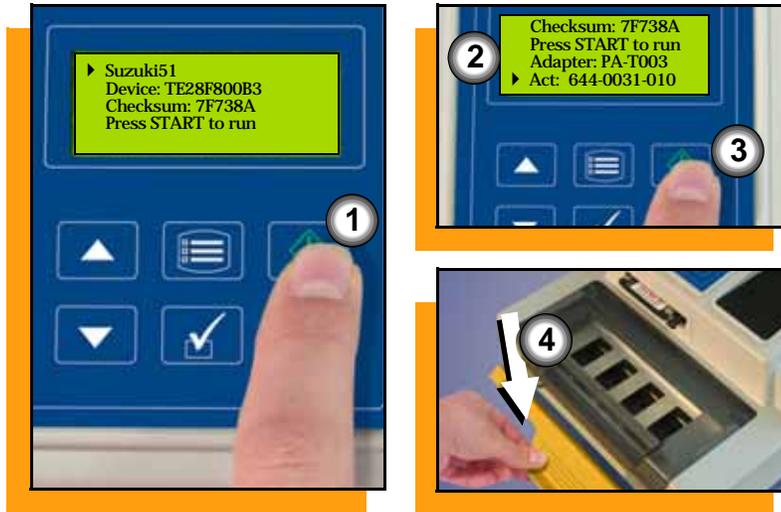
View the odometer with a card with Supervisor Authority:

1. Press Menu any time that the yellow lamp is not blinking.
2. Scroll to and select System.
3. Scroll to and select Odometer.

The Timekeeping feature is also in the Odometer menu. When set to ON, it records (and displays) programming/process times. ■



## Load Data from a Master Device

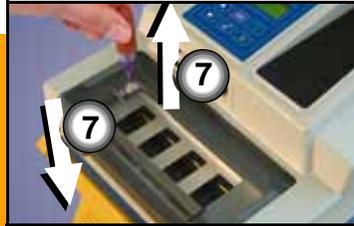


FlashPAK has the option to load source data from a master device rather than from a computer file.

### To Load from Master Device:

1. Using a job card in which the Load from Master option was selected in TaskLink, press Start.
2. Verify that your setup matches the parts listed. Change parts that do not.
3. Press Start again. The display reads "Insert MASTER dev." and indicates device orientation.
4. Push the Actuating Bar down.





5. Put your master device into any socket. Ensure that the other three sockets are empty.
6. Lift the Actuating Bar to read data from the master device. The master device checksum is compared to the job checksum (if one was entered at job creation). If they do not match, an error message will display.
7. When the display reads "Remove master device," push the Actuating Bar down and remove the device.
8. Your data is now in FlashPAK (and the PC card). Press Start to program devices. Follow screen instructions. ■

**Chapter 5**



# Maintenance



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## Removing Debris with Air



Use compressed air to prevent dust accumulation in the sockets.

1. Inject compressed air into the sockets.

Open and close the sockets while air is injected into them.

**NOTE:** Use compressed, dry, clean air only; 90 PSI maximum. A spray can of clean, dry air may be used. ■



### Warning



Point Air Hoses Away From Body.  
Wear Approved Eye Protection.



## Quarterly Cleaning



**Clean the case and Control Panel every three months with a damp cloth.**

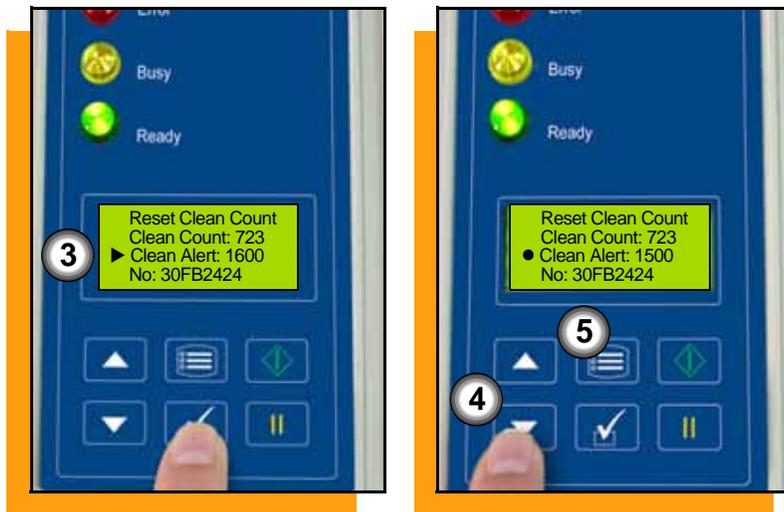
**FlashPAK displays an alert to clean the adapter when the sockets have performed a specified number of insertions (indicates adapter cleaning is needed ).**

- 1. Clean the sockets per manufacturers specifications.**
- 2. Press Menu to remove the message.**
- 3. (To reset the count) Select Socket.**
- 4. Scroll to and select Adapter Statistics.**
- 5. Select Reset Clean Count. ■**





## Socket Clean Alert



The Clean Alert number can be changed to display its cleaning message after a different number of insertions.

To change the Clean Alert number:

1. At the Job Menu, select Socket.
2. Scroll to and select Adapter Statistics.
3. Select Clean Alert.
4. Press the Up or Down Arrow buttons for adjustment.
5. Press the Menu button. ■



## Socket Life Alert



The Socket Life Exceeded message appears when the Sockets have been actuated a recommended number of cycles (see Socket > Adapter Statistics > Adapter Life.)

Change the Socket Adapter, or press Menu to remove the message.

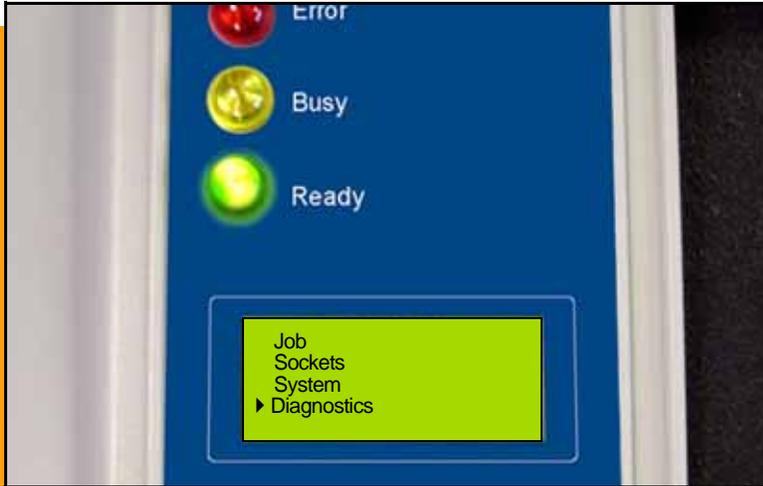
If the adapter is not changed, the message continues to appear each time you start or pause a job.

If you want to disable the subsequent messages:

1. Navigate to and select System > Adapter Alarm.
2. Press the Down Arrow to switch Off.
3. Press the Menu button to save. ■



## Yearly Programmer Diagnostics

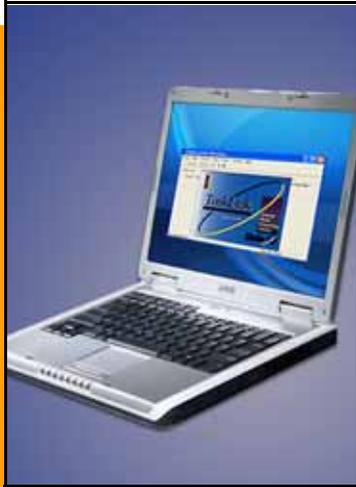


To ensure that your FlashPAK III continues to meet performance specifications, Data I/O recommends that you return it to an authorized Service Center every year for a complete diagnostic verification. Diagnostics used by the factory are not available in the field.

For more information contact Technical Support; see page 63. ■



## System Updates



Periodically, updates to FlashPAK III's system software will be available. An update is loaded from a PC card.

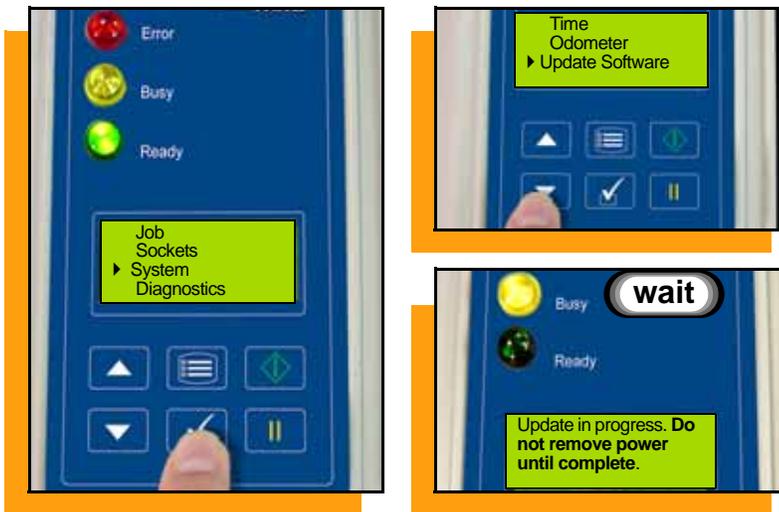
1. Use TaskLink to copy the update onto the PC card (an *Update Card*). It can be local or on a networked FlashPAK.

**NOTE:** See “Updating FlashPAK III Firmware,” in the *TaskLink Help Topics*.

The FlashPAK software version is displayed on the keypad at System > Configuration > Firmware Version, and also at start-up.

**NOTE:** Any job must be ended (page 31) before updating software.





2. Remove the job card and insert the Update card (unless network connected).
3. Scroll to and select System > Update Software. Press Start.

**—CAUTION—Do not turn the power off while the update is in progress. FlashPAK could be damaged and require servicing if the power is interrupted during an update. If the red lamp lights, contact Data I/O Technical Support.**

**NOTE: Algorithm updates are not performed using the Update Software menu item. See TaskLink Help for algorithm updates. ■**

## Chapter 6



# Troubleshooting and Reference Information

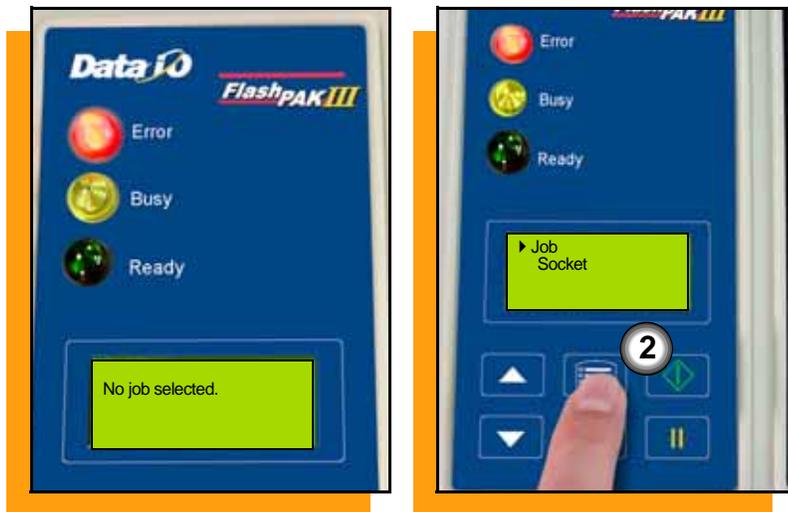


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## Viewing System Errors



If error messages appear in the display, the red lamp lights.

To view and correct errors:

1. Check the condition indicated by the message— for example: *No job selected.*

If you cannot correct the error condition, contact Data I/O Technical Support.

2. Press Menu to remove the message.

If there are other error messages the next one appears. ■



## Some Typical Errors

Programming Error Message	Resolution
Skt X: Continuity	Check that you have the correct device, and for bent pins. Reinsert or reject the device.
Skt X: Empty	If device is present, check pin orientation.
Skt X: Program Error	Reject the device or retry programming it.
Skt X: Verify error	Reject device or retry the device.
Skt X: Erase error	Reject device or retry the device.
Skt X: Blank check error	Reject device or retry the device.
Skt X: EE ID error	Check that you have the correct device for the job. (Press Menu. Select Job and then View).

Non-Programming Error Message	Resolution
No job selected.	Press Menu, and then insert a job card; or, select a job. See page 26.
<ul style="list-style-type: none"><li>• Skipped some Self-tests due to presence of devices in the sockets. OR</li><li>• Self-test failed.</li></ul>	To run the Self-test fully, remove all devices from sockets, <b>lift the Actuating Bar</b> , and toggle the power switch Off and then On. If Self-test still fails, contact Data I/O.
Disk full. Remove obsolete statistics files.	Use a card with larger memory. End the job. Eject the card. Recreate the job on a larger card using TaskLink; <b>or</b> , delete statistic files using TaskLink. They are listed as dates for Job Sessions.
Adapter board not supported by software. Update software.	Update the system software (page 49) or contact Data I/O Technical Support.

For more information see [www.dataio.com/support](http://www.dataio.com/support).





## Key to Symbols

	Attention. Used for Cautions and Warnings.
	ESD warning. Electrostatic discharges might cause damage.
	Air pressure warning. Compressed air might cause damage.
	An LED that is lit.
	An LED that is blinking.
	Power cord plug.
	Dispose in a separately managed collection for electronic equipment (per Directive 2002/96/EC) or return to Data I/O.

	Fuse.
	Power switch.
	Earth (ground) / Protective Earth (Static ground)
	Network connection.
	Socket Adapter with socket 1 labeled.
	Fail; not okay.
	For at least 10 years, product won't change in such a way as to result in severe environmental pollution, injury to health, or damage to property.



## RoHS for China

### Notice of Restriction of Hazardous Substances pertaining to China:

部件名称	有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr <sup>6+</sup> )	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
多插座压板	X	0	0	0	0	0
机壳	X	0	0	0	0	0
主机板	X	0	0	0	0	0
编程器支架	X	0	0	0	0	0
电缆	X	0	0	0	0	0
处理器	X	0	0	0	0	0

0 : 表示该有害物质在该器件所有均质材料中的含量均在 SJ/T 11636-2006 标准规定的限量要求以下。  
X : 表示该有害物质至少在该部件的某一均质材料中的含量超出 SJ/T 11636-2006 标准规定的限量要求。





## Glossary

<b>Auto Start–</b>	the feature that allows programming devices without pressing Start after closing the sockets	<b>ESD–</b>	electrostatic discharge
<b>Block–</b>	Up to four devices in the Socket Adapter that get programmed as a group	<b>Hex key</b>	Allen Wrench; also, Umbrako key
<b>Control Panel–</b>	the display and keypad	<b>HwCfgId–</b>	hardware configuration identification
<b>EPROM–</b>	Electrically Programmable Read-Only Memory	<b>Job card–</b>	a memory card with a job loaded onto it. It includes algorithms and may include statistics files. It may be assigned Supervisor Authority.
		<b>LCD–</b>	Liquid Crystal Display
		<b>LED–</b>	Light Emitting Diode



<b>PC–</b>	<b>Computer</b>
<b>PC card–</b>	a PCMCIA card which is a PC Memory Card that meets the requirements of the International Association
<b>Socket Adapter–</b>	a printed circuit board with sockets attached
<b>Supervisor card–</b>	a PC card with Supervisor Authority set in TaskLink

<b>TaskLink–</b>	a software package created by Data I/O for creating programming jobs and managing statistics.
<b>Update card–</b>	a PC card with system software for updating FlashPAK

**For the Network menu abbreviations, see page 11. ■**





## Correspondence

Many questions can be answered by visiting the Knowledge Base on our Web site. In your browser address line enter: [www.dataio.com/support](http://www.dataio.com/support) then click Knowledge Base.

Register and log in, or log in anonymously.

If you wish to contact Data I/O Technical Support or a service center, see the next page. Please remember to include the following:

- **FlashPAK III Serial Number.** It is printed on the back of your unit.
- **The error message text if there is one.**
- **Device manufacturer and part number if device related.**

For the latest version of this guide, see Support > Manuals on our Web site.



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## Technical Support

**Contact your local Data I/O representative.**



**To find your local representative, visit**  
<http://www.dataio.com/contact/repsearch.asp>



Dispose per Directive 2002//96/EC.  
Check with your Local Authority for recycling  
information.

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You can help us improve this guide with your feedback or  
comments: [userdocs@dataio.com](mailto:userdocs@dataio.com)

