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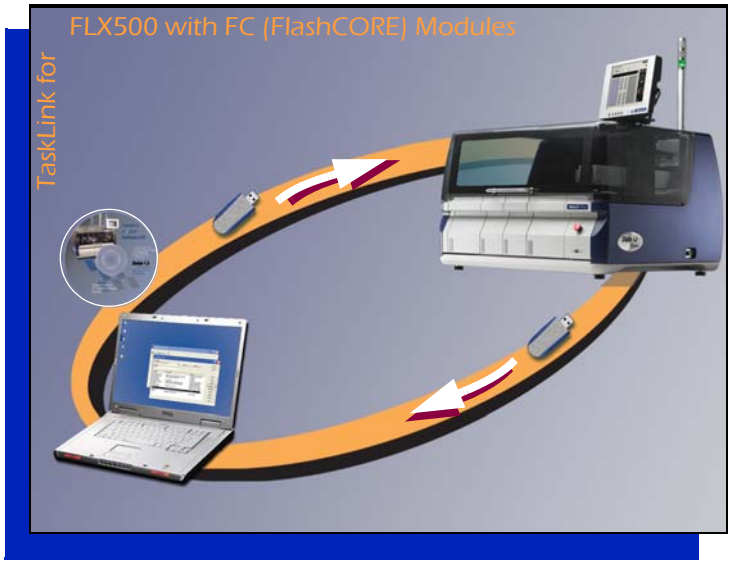
Warnings and Cautions

	Electrostatic Discharge	**Electrostatic Discharge (ESD) may cause damage. Discharge static electricity to a common ground.**
	Pinch Hazard	**Machine parts that move can cause injury and can move without notice. Keep clear and keep cover closed while operating.**
	Heavy	**Do not attempt to lift the FLX alone—requires two people. Do not attempt to lift the FLX with the modules in place—remove all modules first.**
	High Voltage	**Shock hazard. Do not remove covers. No user serviceable parts.**
	General warning or 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.**

FLX Overview

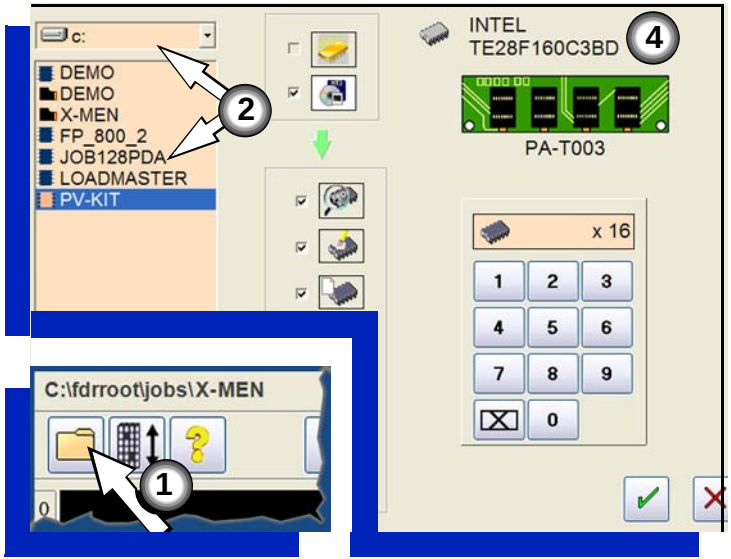


The Data I/O FLX500 is a desktop solution for production programming and handling of semiconductor devices (NAND and NOR, Micros, Serial, SD Cards, etc.).

TaskLink™ for FLX500® (included on a CD for installation on an external PC) is required to create and manage jobs. A FlashCORE job has all the information required to program a specified number of devices or cards.

A USB Flash drive (or a network) is used to transfer jobs between TaskLink and the FLX500. To learn more about creating a job, see page 9. ■

Running a Job



With the FLX set up (see page 19 to install modules and page 27 to install Socket Adapters), run a job as follows:

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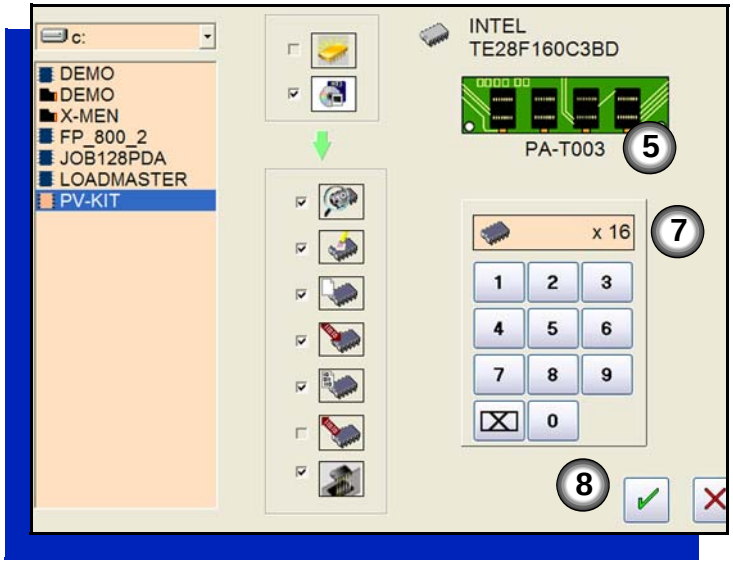
»»» CAUTION ««« Electrostatic Discharge may cause damage. Discharge static against a common ground or use a wrist strap. A ground connection is on the front of the unit.

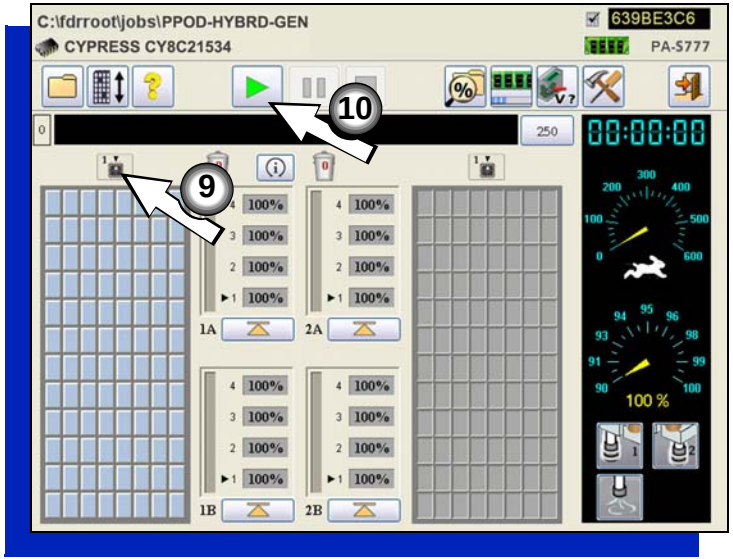
1. **Tap the** Job File **button (main screen).**
2. **Select a drive and your job file name;** PV-Kit**, for example.**
3. **Place a tray of input devices (or cards) on the left Tray Module with the bevel to the far and left corner.**
4. **Ensure that the devices/cards match the part number in the dialog.**



5. **Verify that the Socket Adapter number in the dialog matches the number on all the installed Socket Adapters. If not, or if they are not installed, see "Removing a Socket Adapter" on page 24, or "Installing Skt Adapter & Actuator Plate" on page 27.**

page 16

6. **Load an empty tray onto the right Tray Module with the bevel to the far and left corner.**
7. **Enter or edit the pass quantity if necessary.**
8. **Tap** OK **[✓].**



9. **Verify that the pin-1 location indicator matches the device orientation in the tray.**

10. **Tap** Start Job **[▶] (main screen). The progress bar will reset just before starting.**

    If a yellow rectangle appears where the tray image should be, that indicates that you need a Tray Map. See **“Selecting a Tray Map” on page 44.** ■

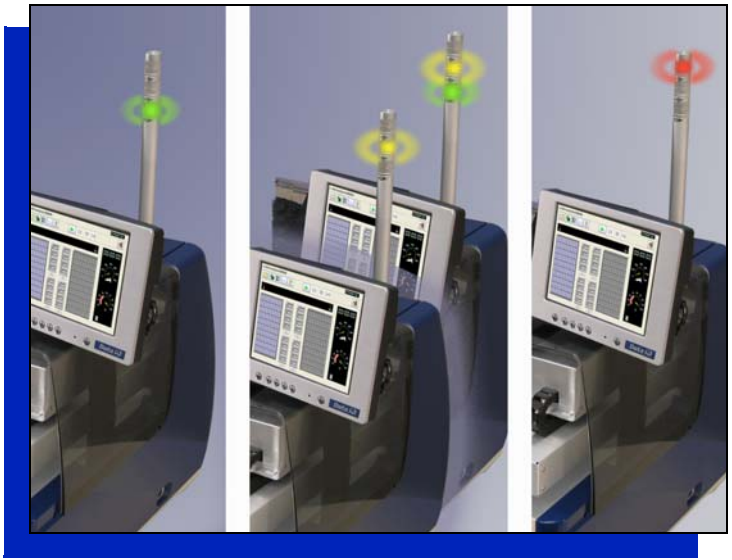
Gantry Learning Scheme

The FLX performs two learning procedures after tapping Start Job **[▶] if a module has been installed since it ran last or the first time after starting the software.**

1. **A sensor on the Pick & Place (PNP) Head locates reference marks (called fiducials) on all Modules (the** Fiducial Scan**).**
2. **The PNP Head learns the socket height by picking and placing one device or card. Follow the on–screen messages.**

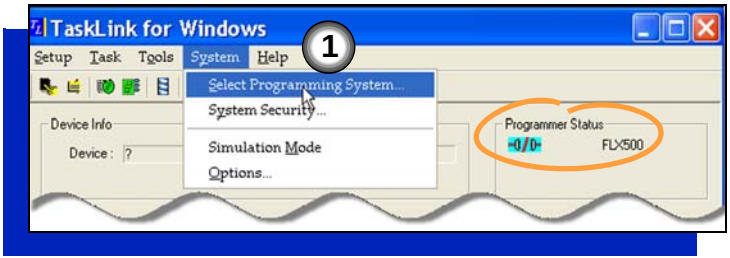
After both these learning procedures complete successfully, programming begins. ■

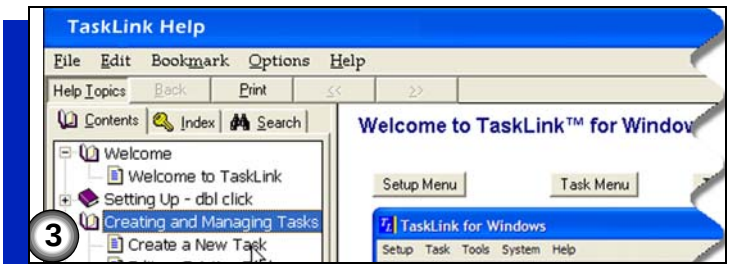
Tower Lamp Interpretations



- **Green - Normal (programming). No operator action is needed.**
- **Yellow - Normal stop such as *output media full* or *input media empty*. Operator assistance is imminent. Also, DO NOT REMOVE THE USB FLASH DRIVE (files may be transferring to it).**
- **Yellow & Green Blinking - A job has finished (has reached the Pass Quantity).**
- **Red - Programming or current operation has stopped (or cannot begin). Operator assistance needed, or service is required. ■**

Creating a Job



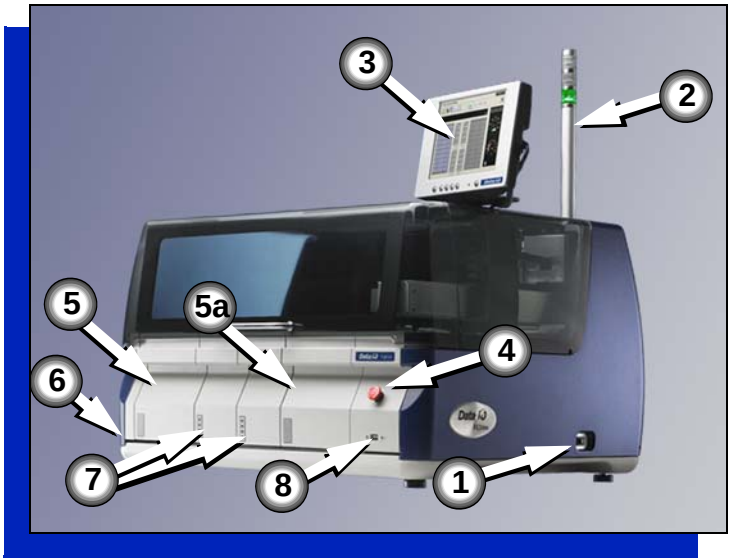


The FLX requires a job from TaskLink for programming devices.

To use the Help file in TaskLink to learn about creating an FC job (after TaskLink is installed on a PC):

1. **Start TaskLink. Ensure that** FLX500 **is the selected programming system.**
2. **Under the Help Menu, select** Help Topics**.**
3. **In the Contents list, select** Creating and Managing Tasks **>** Create a New Task**.** ■

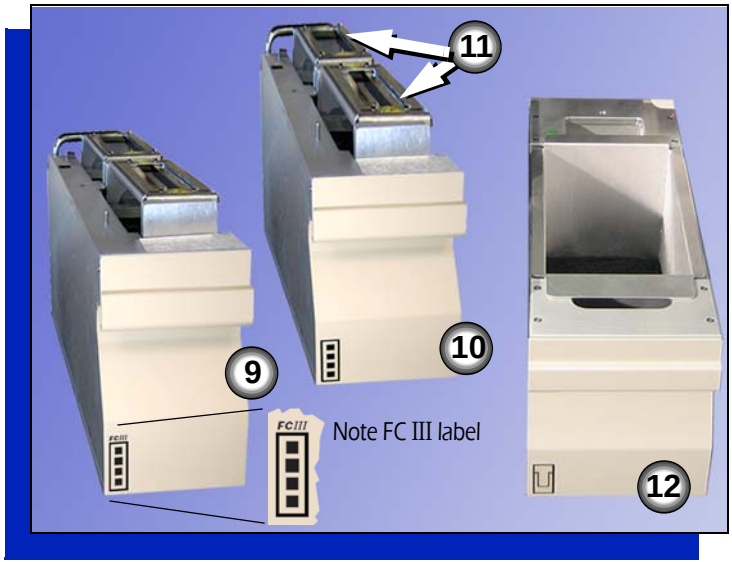
Feature Locator



1. **Power Switch (momentary rocker switch)**
2. **Light Tower**
3. **Monitor**
4. **Emergency Stop Button (E-Stop)**
5. **Input Tray Module**

5a. **Output Module; also see next page**

6. **Static Ground connection**
7. **Programmer Modules; also see next page**
8. **USB Port**

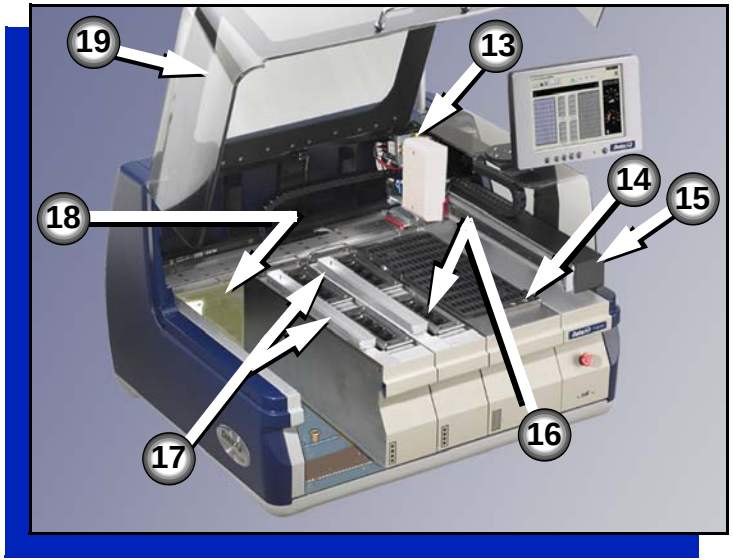


9. **FlashCORE III (FC) Programmer Module* (shown with Actuator Plates)**
10. **FlashCORE II (FC) Programmer Module (shown with Actuator Plates)**
11. **Actuator Plates**
12. **Drop Module with removable Drop Bin (for flash cards).**

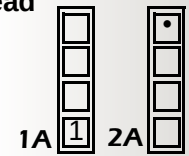
NOTE: Each module has a unique label for identification.

NOTE: Do not use FC II and FC III programmers in the same FLX machine simultaneously.

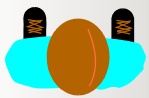
*Supports larger files and faster downloads than FC II.

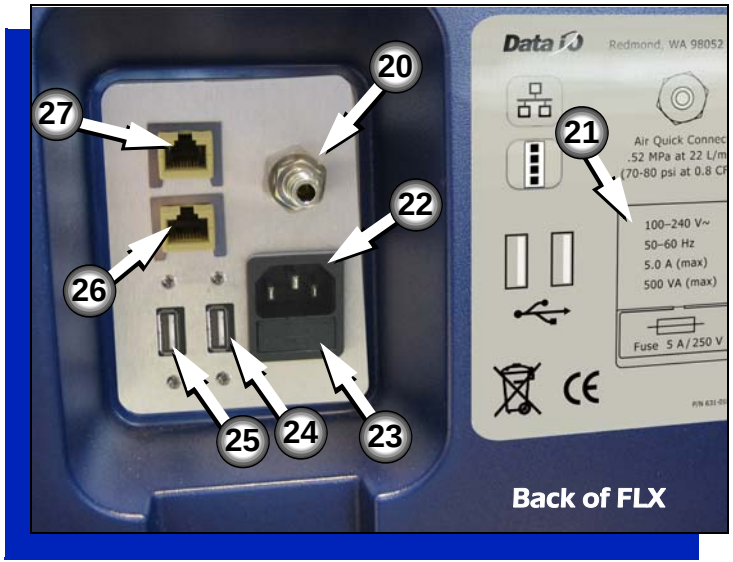


13. Pick & Place (PNP) Head
14. Tray Magnet
15. Gantry
16. Socket Adapter
17. Reject Bins
18. Communication wall (Serial Number)
19. Cover



Socket #1 (with four adapters installed)





20. Compressed air connection

21. Power requirements

22. AC Power connection

23. Fuse compartment

24. Keyboard[1,2] (or mouse) connection

25. Mouse[1,2] (or keyboard) connection

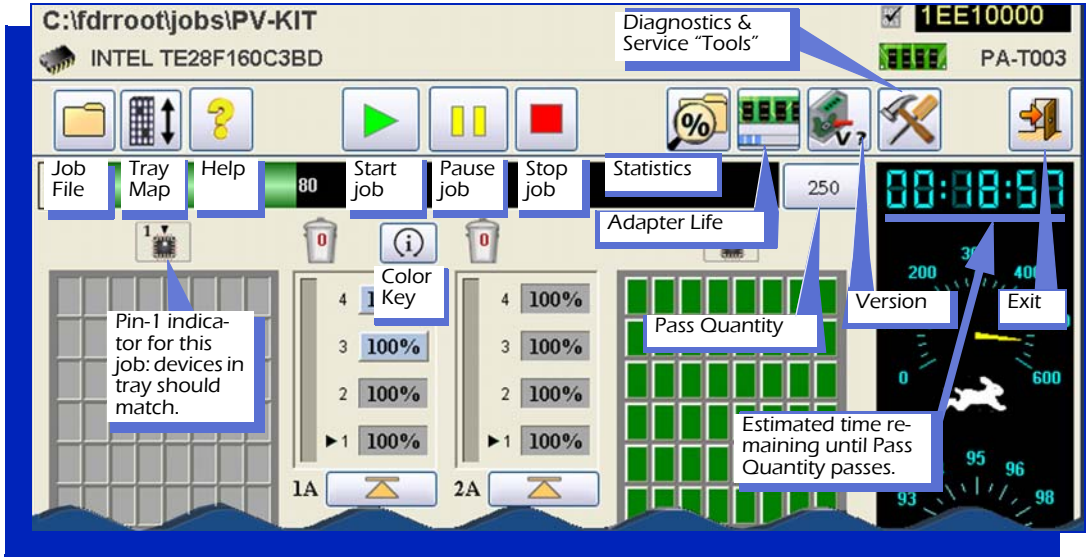
26. Serial Number Server[1] port

27. Ethernet[1] port (for network)
100 Base-T.

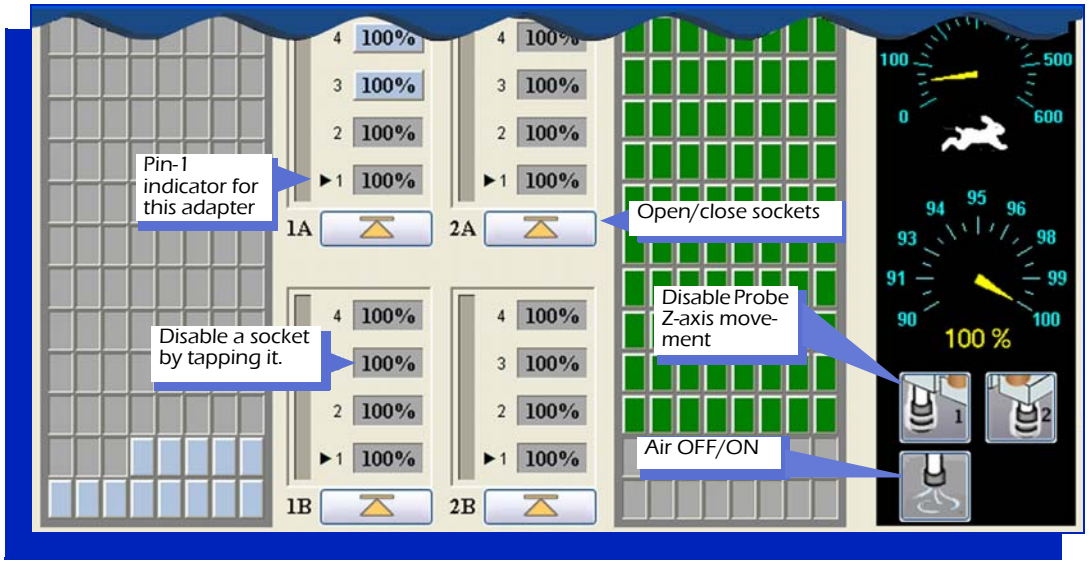
[1]Not required to run a job.

[2]Early models did not use USB ports and require restarting the FLX after connecting. ■

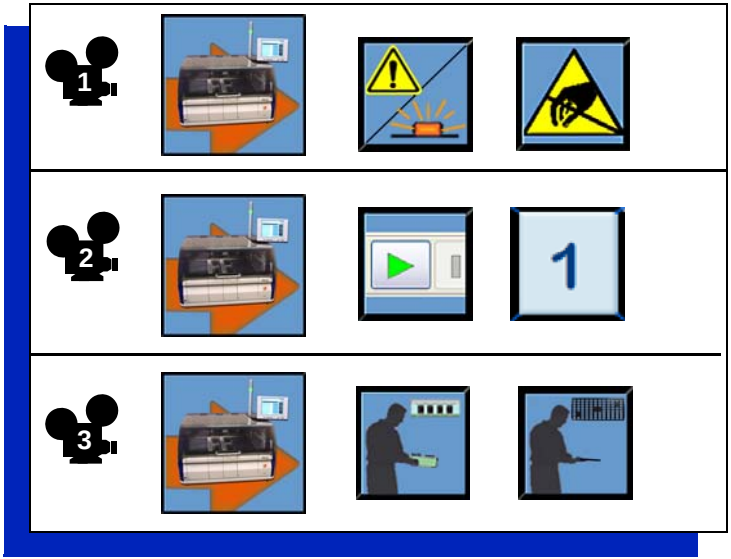
Button Names



Button Names, continued



Paths to Videos



Tap these buttons in the on-screen Help to view videos corresponding to the text noted.

(To open the Help, tap the question mark on the Run Window.)

1. **Plugging in an antistatic wrist strap.**
2. **Selecting a job and pass quantity.**
3. **Installing a Tray.** ■

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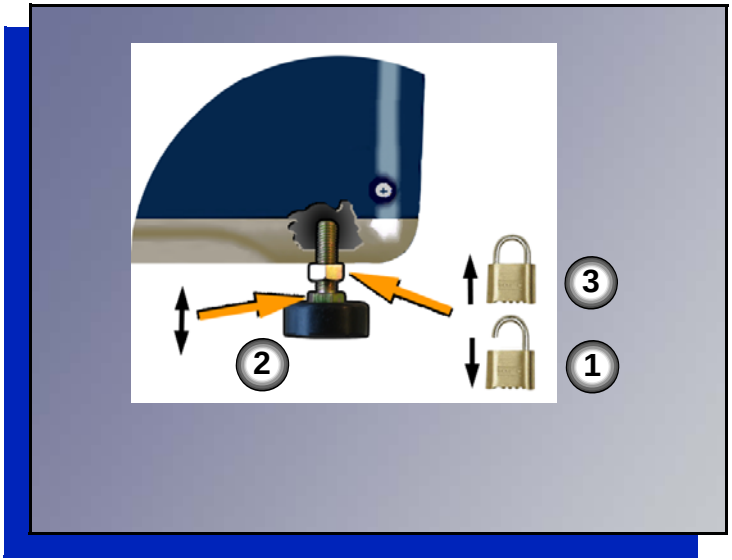
Installing the Modules 19
Switching on the Power 21
Paths to Videos 22

Leveling



Place the FLX on a solid, level surface.

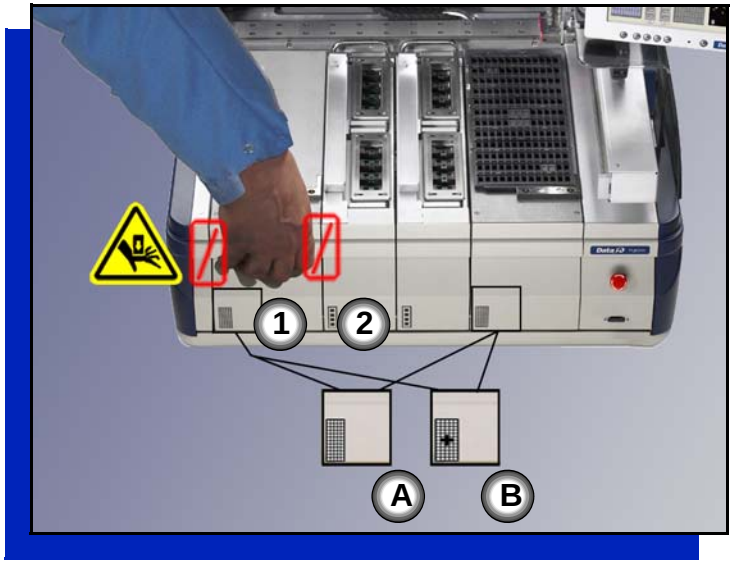
> ***»»» CAUTION «««*** ***Heavy. Requires two people to lift. Remove all modules prior to lifting. 38 kg (84 lbs) without modules.***

The machine was adjusted prior to shipping. Ensure that all four feet touch the table surface. If not, then adjust your table or adjust the feet of the FLX.

To adjust the feet of the FLX:

1. **Loosen the locking nut.**
2. **Rotate the foot up or down as required.**
3. **Tighten the locking nut against the chassis. ■**

Installing the Modules



To install the modules (power can be On or Off):

»»»» CAUTION «««« ***Pinch Point. As you grasp the module, do not let your hand extend beyond the sides of the module or it will get pinched.***

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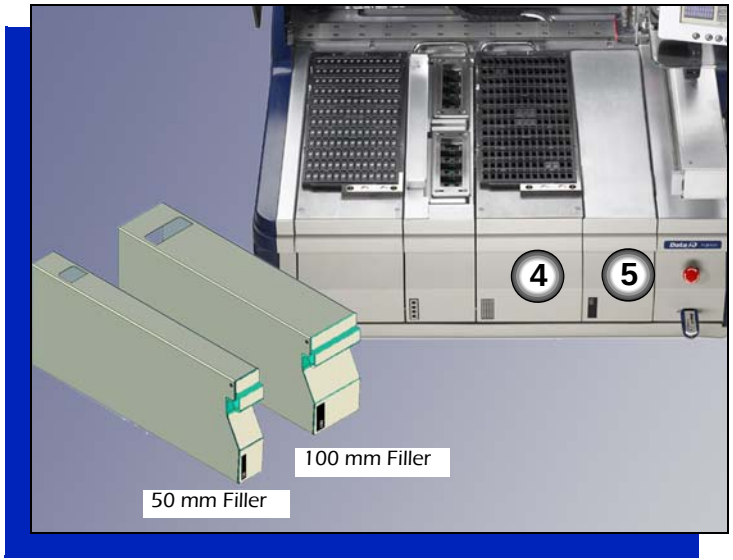
1. **Install a Tray Module (without a tray) on the left side. Depending on your tray, use the standard size module [A] or oversized module [B].**

»»»» CAUTION «««« ***Programmer Modules are heavy— 5.5 kg (12 lbs). Grasp firmly.***

2. **Install a Programmer Module next to the Tray Module.**



3. **If you have another Programmer Module, install the second one next to the first.**
4. **Install another Tray Module for the output.**
5. **If you have only one Programmer Module (as shown), or you use oversize Tray Modules, install the appropriate Filler Module in the empty space on the right.**

»»» CAUTION ««« Damage to communication pins might occur. When installing or transporting the modules, be sure not to damage the communication pins. When shipping modules, use the original foam packaging material. ■

page 22

Switching on the Power

Power can be switched On without modules or Socket Adapters installed.

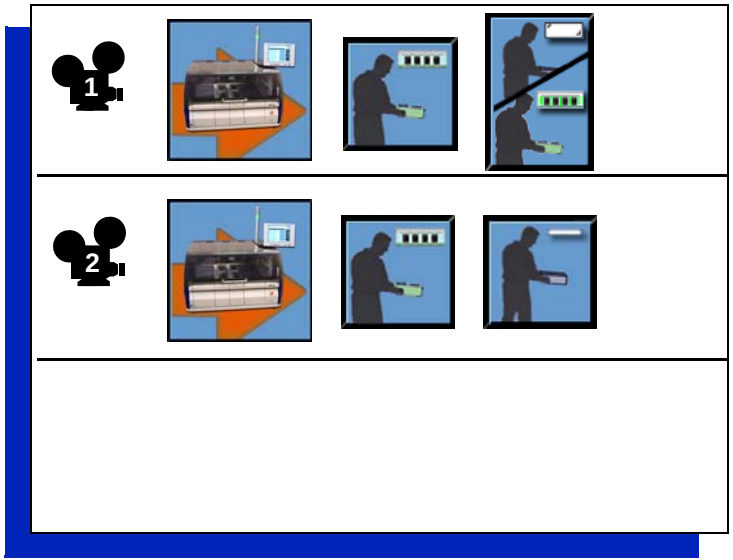
1. **To switch the power On, push the power switch once and release it.**

After the application starts, the Run Window appears on the monitor.

For Help, instructions, and setup information, tap the question mark button .

For socket status, tap the i button [ ] to see the socket color key. ■

Paths to Videos



Tap these buttons in the on-screen Help to view videos corresponding to the text noted.

(To open the Help, tap the question mark on the Run Window.)

1. **Installing Programmer and Tray Modules. Removing Programmer and Tray Modules.**
2. **Installing Filler Modules. ■**

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Removing a Socket Adapter

»»»» CAUTION «««« ***Electrostatic Discharge may damage adapters and devices. Discharge static against a common ground or use a wrist strap.***

NOTE: The correct Socket Adapter ID number for the selected job is displayed on the upper right corner of the Run Window an in the *Job File* ***dialog.***

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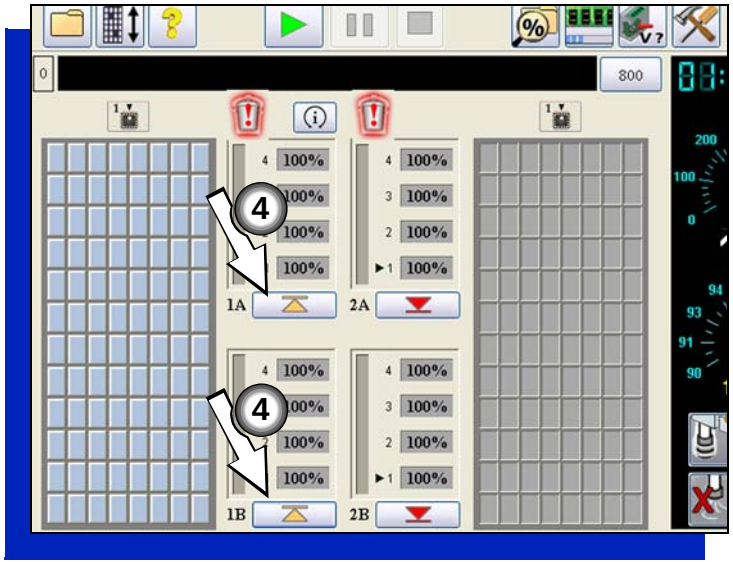
To change the Socket Adapter:

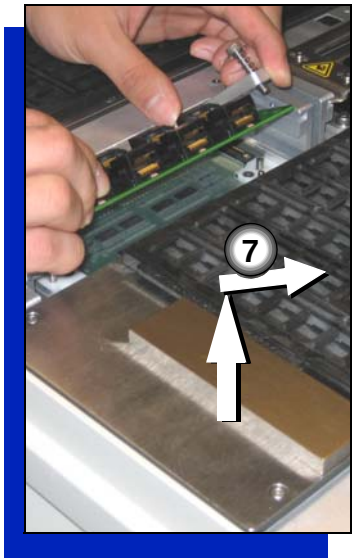
1. **Stop or pause a job (see page 46).**
2. **Open the cover.**
3. **Remove the Reject Bin(s) for access.**



»»»» ***CAUTION*** «««« ***Pinch point. Keep fingers away from the Actuator Plate when tapping the*** *Actuator Down* ***and*** *Actuator Up* ***buttons.***

4. **Ensure that the Actuator is in the up position (sockets closed). If it is not, then Tap the** Actuator Up **button for the appropriate Socket Adapter.**

continued



5. **Slide the Actuator Plate out of the grooved bracket.**
6. **With a 4 mm Allen Wrench (Hex key driver), unscrew the two captive screws and lift open the Adapter Bracket.**
7. **Without touching the gold surfaces on the bottom of the Socket Adapter, lift it up off the dowel pins, and out.** ■

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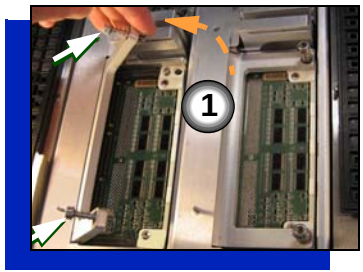
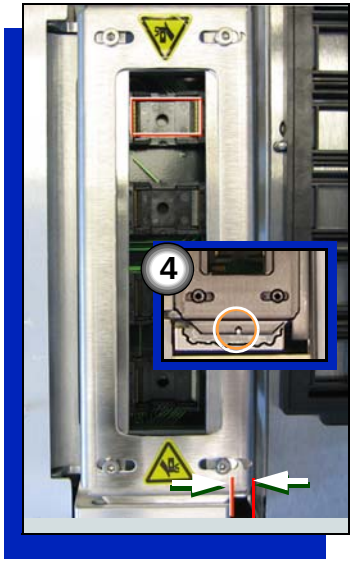
Installing Skt Adapter & Actuator Plate





To install a Socket Adapter with the Actuator Plate already removed:

NOTE: For* Actuator Plate *removal steps see page 24.

1. **Unscrew the two screws and lift open the Adapter Bracket.**
2. **Insert the correct Socket Adapter, setting it onto the programmer—NOT SLIDING it or connector pins might get damaged. Make sure that it seats on the dowel pins.**
3. **Tighten the Adapter Bracket screws.**
4. **Slide the Actuator Plate into the grooved bracket until it snaps in place at the detent.**

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HIC Socket Adapter & Actuator Plate shown.

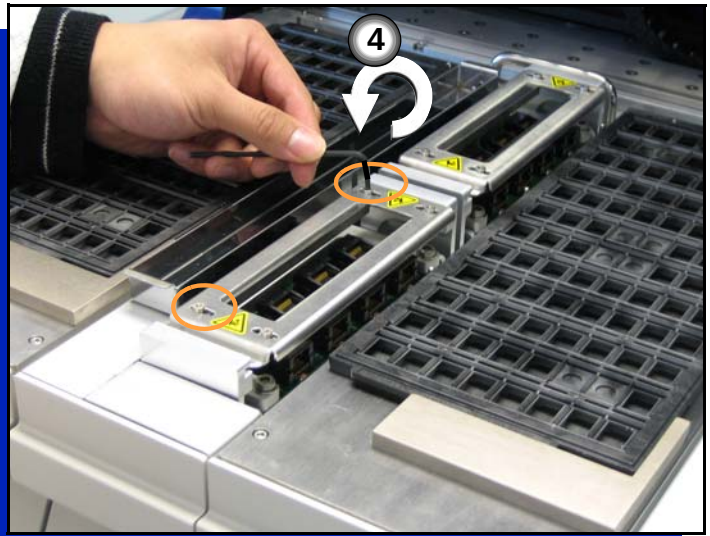
NOTE: Standard Socket Actuator Plates and HIC (High Insertion Count) Actuator Plates are different and not interchangeable. Actuator Plates for HIC Socket Adapters have three dots on the slider bars.

5. **Replace the Reject Bin(s).**

   NOTE: Next you must adjust the Actuator Plate for the current device or card; see page 29.

   NOTE: Only modules with the correct Socket Adapters will be available for programming. ■

Adjusting the Actuator Plates



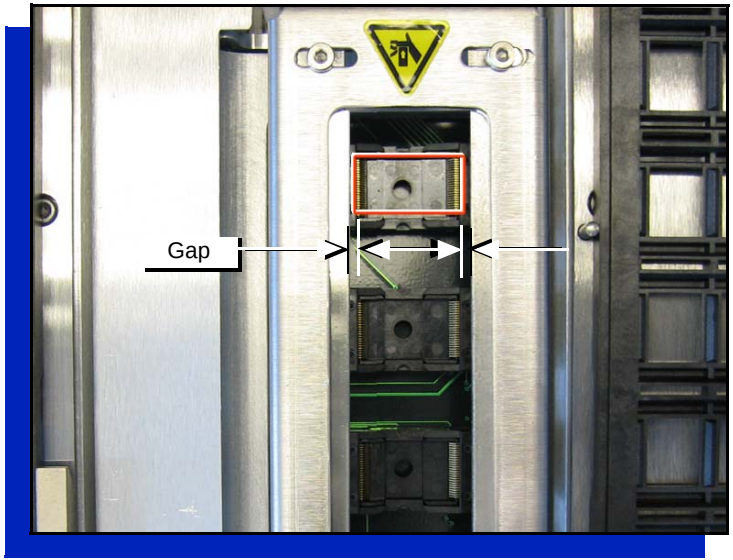
To adjust an Actuator Plate for your device or card (a job must be paused or stopped):

1. **Open the cover.**
2. **Ensure that the correct Socket Adapter is installed.**

»»»» CAUTION «««« Pinch point. Keep fingers away from the Actuator Plate when tapping the** Actuator Down **buttons.

3. **With the correct Actuator Plate Installed, ensure the actuator is in the up position. If it is not, then tap the** Actuator Up **button for the appropriate Socket Adapter.**
4. **With a 2 mm Allen Wrench, loosen both screws for one sliding bar and**

page 42



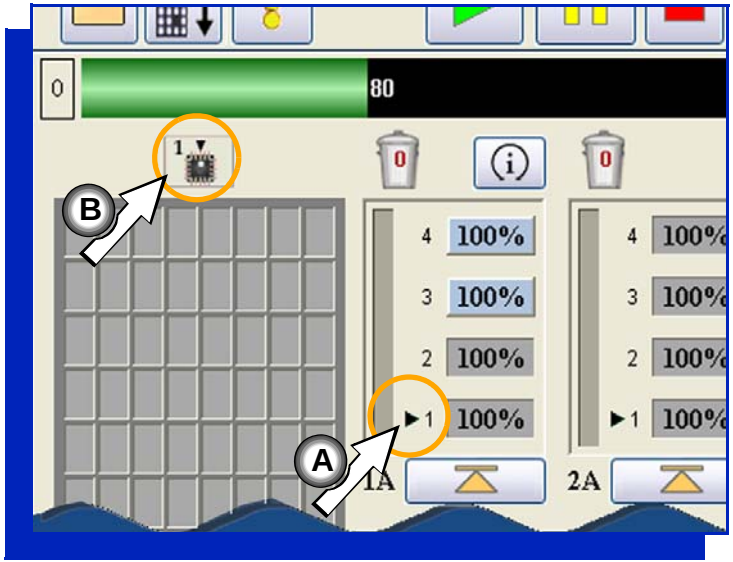
slide it inboard (toward center) as far as it will go.

5. Then slide the bar outboard just far enough to allow a device/card to pass and fit into the socket.
6. Tighten the two screws for that bar.
7. Perform steps 4, 5 and 6 for the other bar.

Best Practice: Cycle the actuator down and up to verify proper operation.

NOTE: All programmers to be used must have correctly adjusted Actuator Plates. ■

Pin-1 Orientation



A small arrow on the Run Window indicates the side of the socket where pin-1 is located when the Socket Adapters are installed [A].

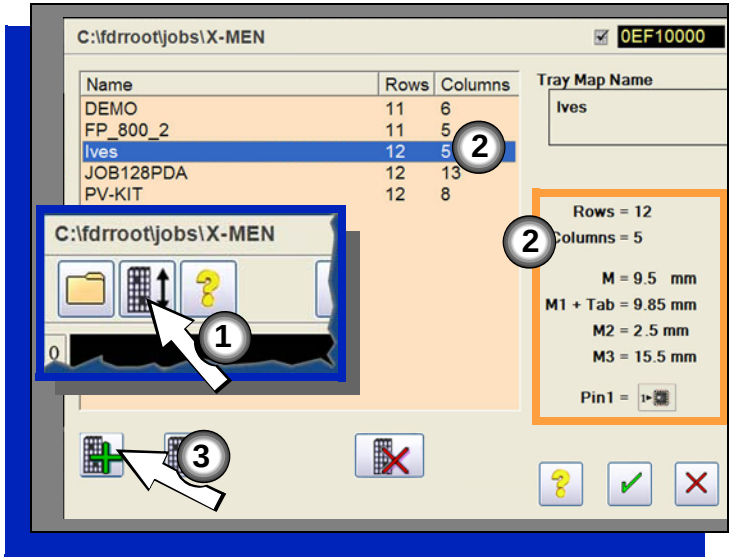
The window also indicates the orientation of pin-1 for the devices (or cards) in the tray (after the Tray Map has been selected) [B].

page 42

To set or change the pin-1-in-tray indicator, see “Selecting a Tray Map” on page 44.

These indicators are also useful for manually placed devices such as when programming from a master device. ■

Creating a Tray Map



When creating a Tray Map, there are three methods to enter tray dimensions:

A. **Enter values from a tray specifications sheet (best method).**

B. **Run the Auto-Tray Map routine.**

C. **Enter values measured with a caliper with resolution to .01 mm. (Method B is preferred over this method.)**

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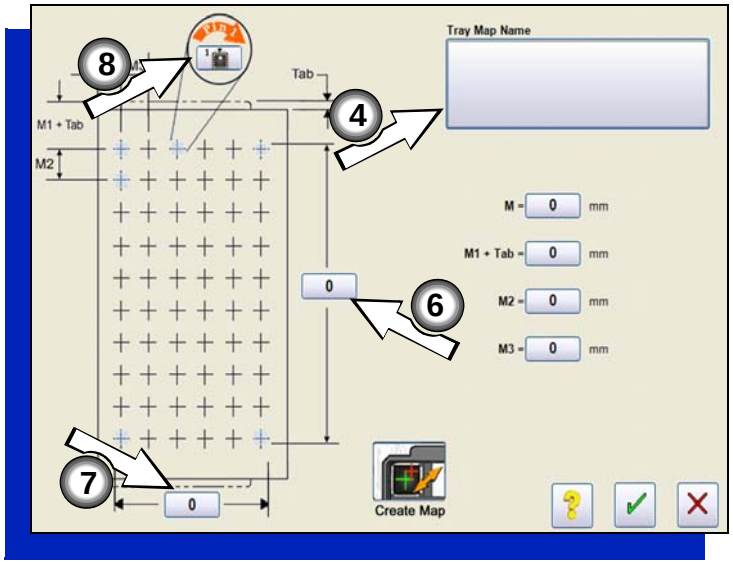
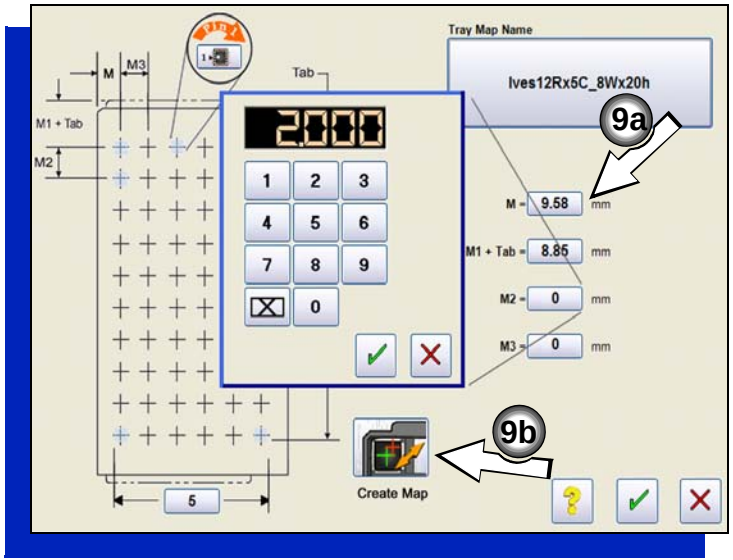
To create a Tray Map (after selecting a job, page 4):

1. **Tap the** Tray Map **button.**
2. **Check any existing Tray Maps to see if one has values that match your requirements. If not, continue.**
3. **Tap the** Add Tray Map **button.**



4. **Tap the** Tray Map Name **field and enter a name. Keep in mind that a Tray Map can be used for many different devices and jobs. Do not use these / \ > < " | or : in names.**
5. **Tap** OK **[✓] to accept the name.**
6. **Tap the** Rows **button and enter the number of rows, then tap** OK**.**
7. **Tap the** Columns **button and enter the number of columns, then tap** OK**.**
8. **Set the** Pin-1 **button to match the orientation of the devices (or cards) in the tray by tapping the button as necessary. The triangle pointer rotates.**

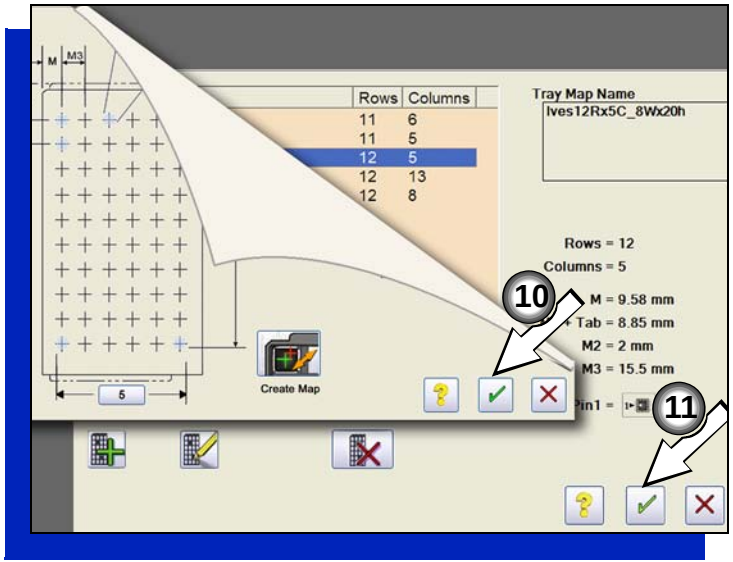


9a. If you have tray dimensions **(method A or C): enter the values for each of the four 'M' dimensions.**

If your tray does not have a tab, M1+Tab **is equal to** M1**.**

9b. If you don't have tray dimensions **(method B): Tap** Create Map**. Follow the on-screen instructions of the two-axes device-centering procedure.**

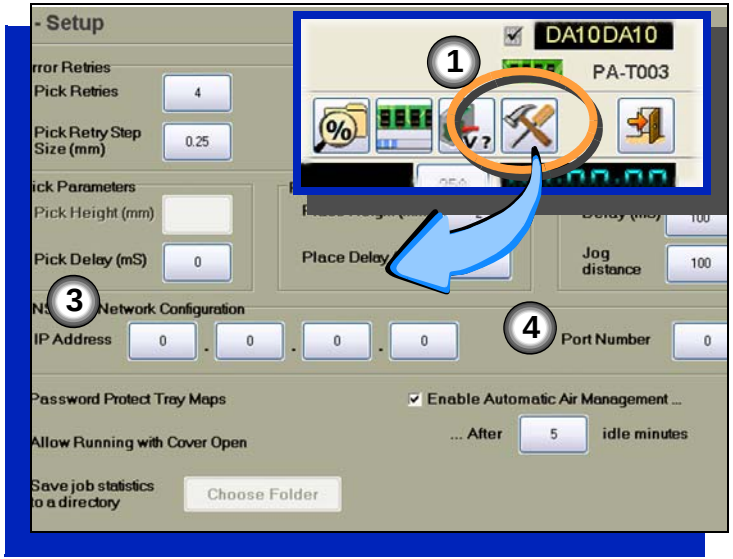
continued



10. **Tap** OK [✓] **to save your new Tray Map.**
11. **Tap** OK [✓] **to close the Tray Map Library.**

Your newly created Tray Map is selected. ■

Setting up Serial Number Server



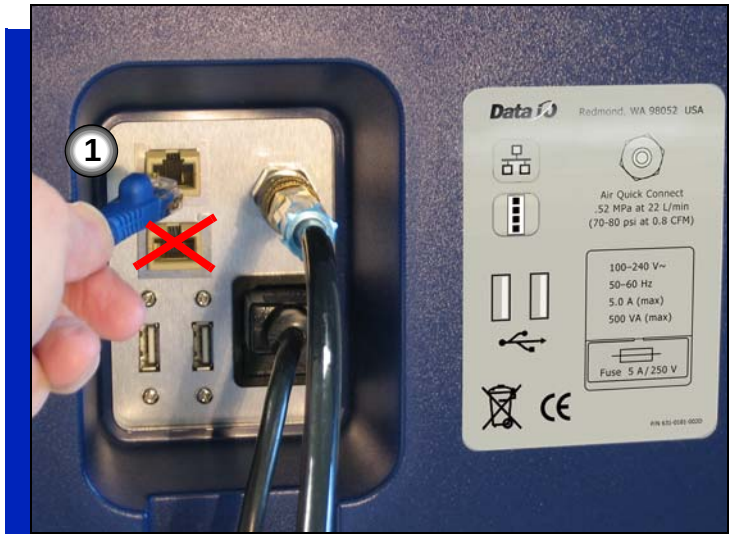
If installed onto your FLX500, Data I/O's Serial Number Server (SNS) Software allows digitally numbering devices. It is not necessary for non-serialized operation.

Follow the installation instructions that came with SNS.

You will need to know the password to the Tools (Diagnostics) dialog.

1. **Tap the** Tools **button.**
2. **Enter your password and Tap** OK **[✓].**
3. **Enter the IP Address of the FLX500 via the keypad that displays when each button is tapped.**
4. **Enter the Port Number.**
5. **Tap** OK **[✓].** ■

Connecting to a Network



Connecting FLX to a network (LAN) allows transferring files and running jobs that reside on a remote computer, although it is not necessary for stand-alone operation.

There are two methods for connecting to a network. Your IT Department can help you. One method makes use of the Dynamic Host Configuration Protocol (DHCP) which automates the assignment of IP addresses. The next heading suggests configurations for your setup.

To locate the FLX IP Address:

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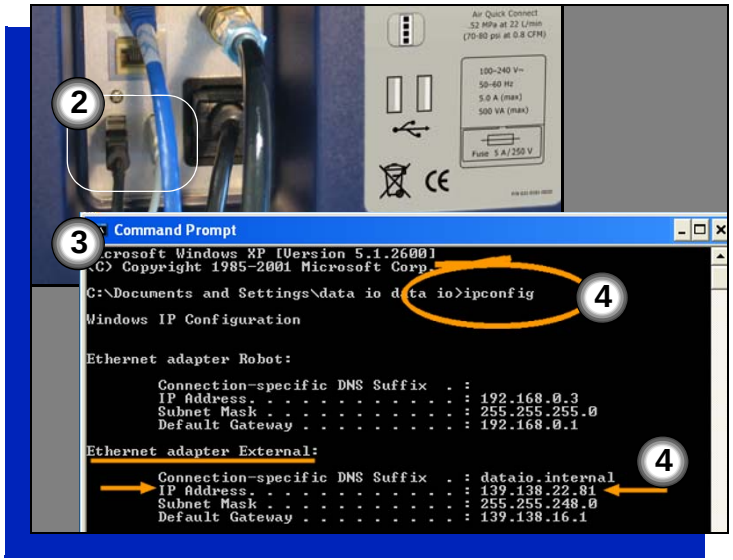
1. **Plug a network cable into the Ethernet port on the back of the FLX.**



2. **Plug a mouse and keyboard into the back of the FLX. (If your model has ports other than USB, restart the FLX.)**

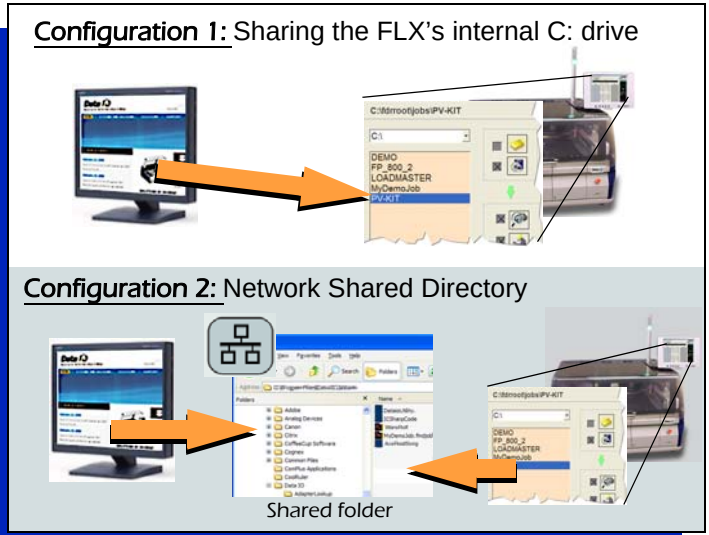
3. **With the FLX Application running, open the Microsoft Command Prompt Window (press the** Windows Key **on the keyboard, then tap** Start > All Programs > Accessories > Command Prompt**).**

4. **Type** ipconfig **and press Return to see the** External **IP Address.**

   »»» CAUTION ««« ***Do not change the*** *Robot* ***IP Address—FLX will not function.***

See the next heading for configuration. ■

Configuring your Connection



The Job Window can be set up to show jobs in the FLX C: drive **[1] by sharing the FLX host computer, or in a** network shared directory **[2] by mapping n:\fdrroot\ folder on a PC (with TaskLink). Use standard Windows procedures for network connections.**

NOTE: For configuration 2, using Load from Master jobs, or editing Tray Map files requires write permission as well as read permission to the shared folder.

It is okay to reassign the FLX host computer name. ■

Updating Software

When FLX updates become available, you can update the application software, system firmware, or module firmware. (To determine your current version see page 56.)

To update FLX:

1. **At a computer, download the update files to a USB Flash drive (one was included with the FLX).**
2. **WITH THE FLX POWER OFF, insert the USB Flash drive into the FLX.**
3. **Install a Programmer Module into either (or both) of the two center positions.**
4. **Switch the power On (press and release the switch).**

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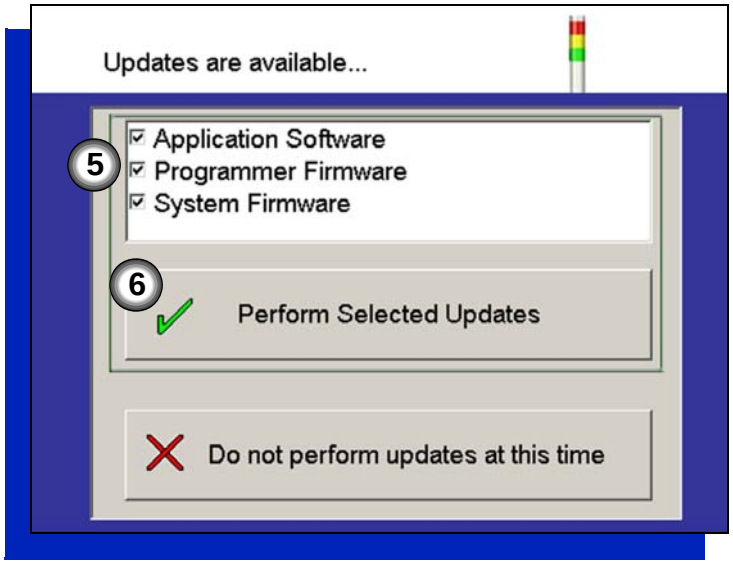


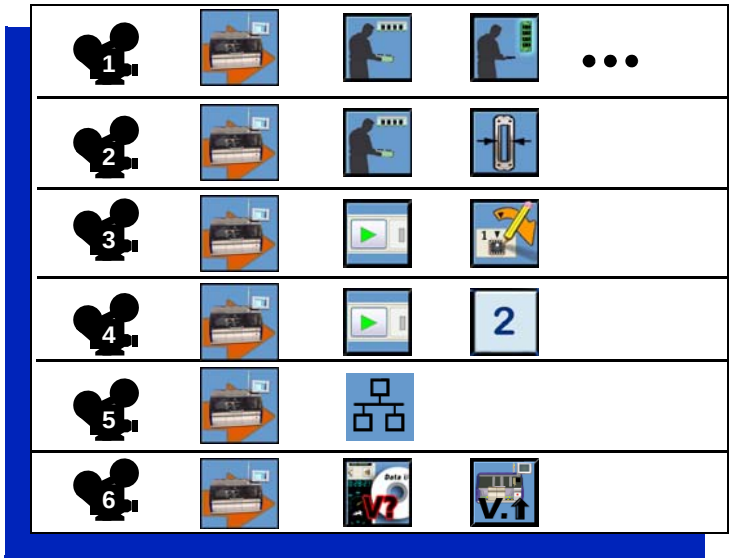
5. **When the update dialog displays, check or uncheck the items as desired (checking all items is recommended).**

»»» WARNING ««« Programmer corruption hazard. Do not interrupt machine power during update. Do not remove the USB Flash drive.

6. **Tap** Perform Selected Updates **and wait for the update to complete (possibly several minutes). After it has finished, (dialog closes) switch the machine power Off and then On again (after it shuts off).**

NOTE: If you have other FLX FlashCORE Modules, updating all of them to the same version is recommended. Check *Programmer Firmware* ***only in the update dialog.*** ■

Paths to Videos



Tap these buttons in the on-screen Help to view videos corresponding to the text noted.

(To open the Help, tap the question mark on the Run Window.)

1. **Changing a Socket Adapter.**
2. **Adjusting the Actuator Plate.**
3. **Setting pin–1 orientation.**
4. **Creating a Tray Map.**
5. **Connecting to a Network.**
6. **Updating Software.** ■

Selecting a Tray Map 44
Pausing and Stopping Jobs 46
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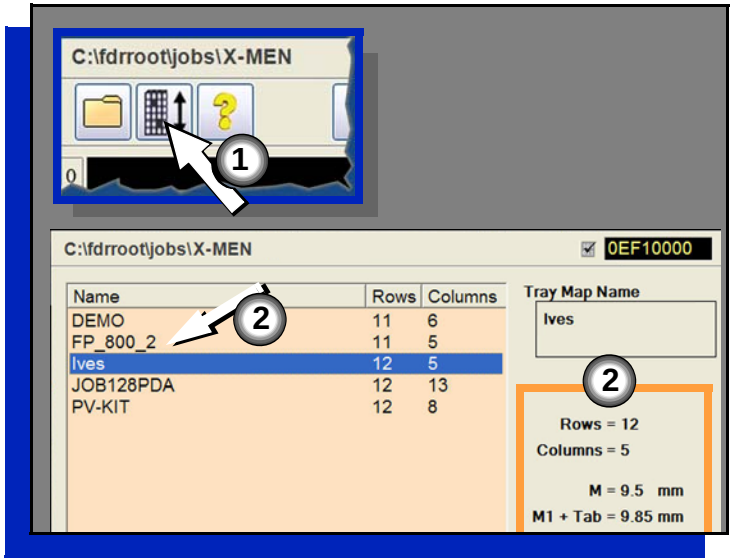
Selecting a Tray Map



After selecting a job, if a yellow rectangle appears on the Run Window instead of a tray, you need to select a Tray Map. Tray Maps define the layout of each different tray and are saved in a library.

To select (or change) a Tray Map:

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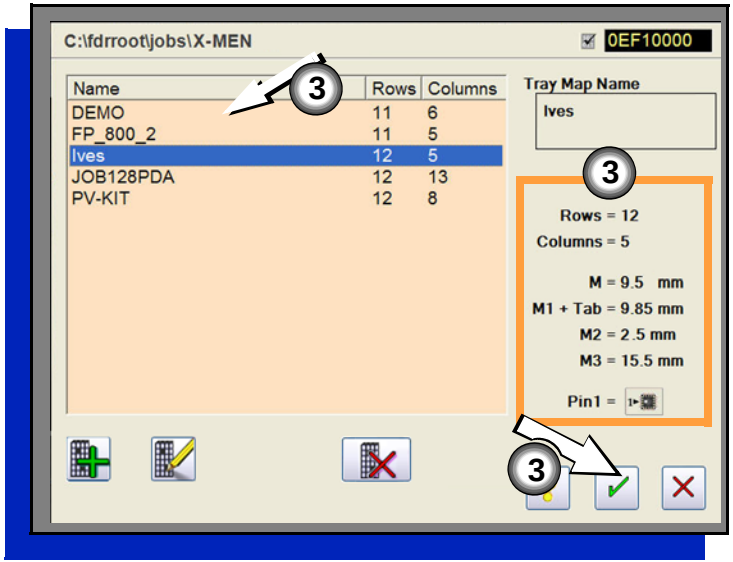
1. **Tap the** Tray Map **button.**
2. **Select a Tray Map from the list.** M**-values display for the selected map. Compare them to tray data sheet.**

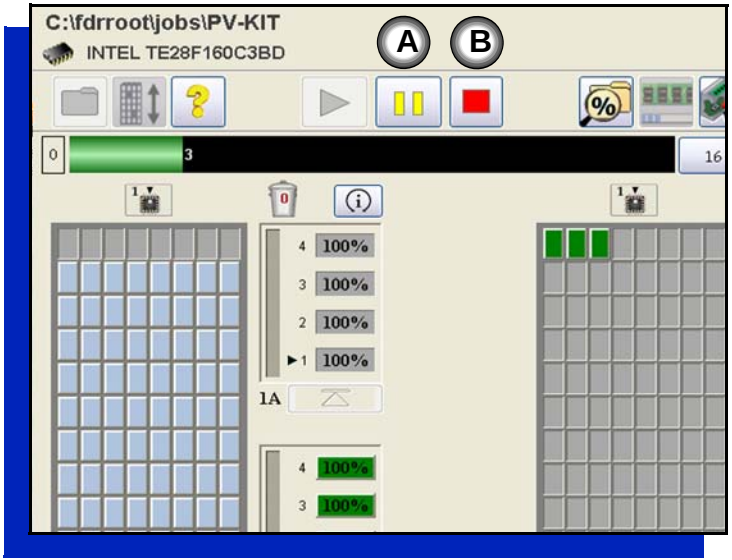


3. **If the highlighted map has values and pin-1 orientation that match your tray, tap** OK **[✓].**

   In this example, pin-1 is shown on the left side of the device when placed in the tray.

   If no Tray Maps match your tray, you need to create a new map. See **“Creating a Tray Map” on page 32.** ■

Pausing and Stopping Jobs



A job ends when the *Pass* quantity has been programmed successfully.

You can stop a job before it ends by tapping the Stop Job **button (B).**

Note that tapping Stop Job **ends the statistics report. The statistics and device count are saved for this job. The next time you start this same job, you can continue the count (and statistics) or start at zero.** Stop Job **also removes devices/cards from the programmers and probes.**

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You can pause a job by tapping the Pause Job **button (A).** Pause Job **does not end the statistics report and will continue the *programmed devices* count if you tap** Start Job **again (without tapping** Stop Job**).** Pause job **does not remove devices/cards from the programmers or probes.**

Pushing the Emergency Stop will stop the gantry immediately. It does not clear devices/cards from the programmers.

»»» CAUTION ««« Shock hazard. Pushing the Emergency Stop button does not remove power from the programmers.

To recover from an Emergency Stop, twist the button clockwise until it pops outward. To restart programming, follow the on-screen instruction. ■

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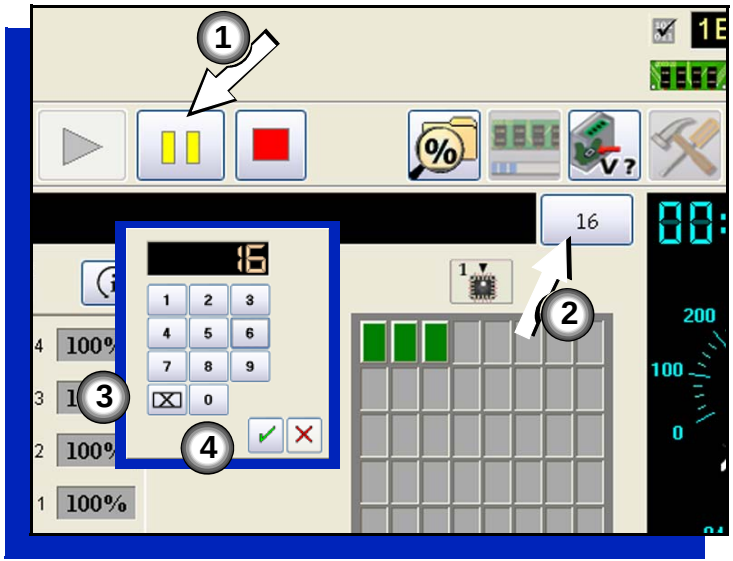
Changing the Pass Quantity



To change the *Pass* quantity (number of devices or cards to program) . . .

. . . before starting the job:

1A. Tap the Job File **button (not shown).**

2A. Use the calculator to set the new Pass quantity. (The keypad [x] **deletes the current number.)**

3A. Tap OK **[✓]** ■

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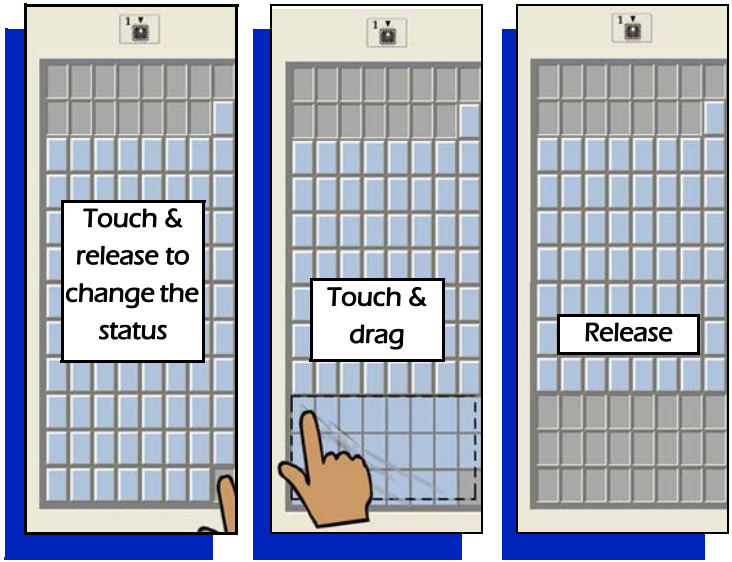
. . . after starting the job:

1. **Tap** Pause Job**.**
2. **Tap the** Pass Quantity **button.**
3. **Use the calculator to set the new Pass quantity. (The keypad** [x] **deletes the current number.)**
4. **Tap** OK **[✓]** ■

Changing Tray Pocket Status



The tray images on the Run Window automatically display the status of each pocket. If the images do not represent the current status of your trays (due to job interruptions or a new input tray that is not full) you can change the status as follows:

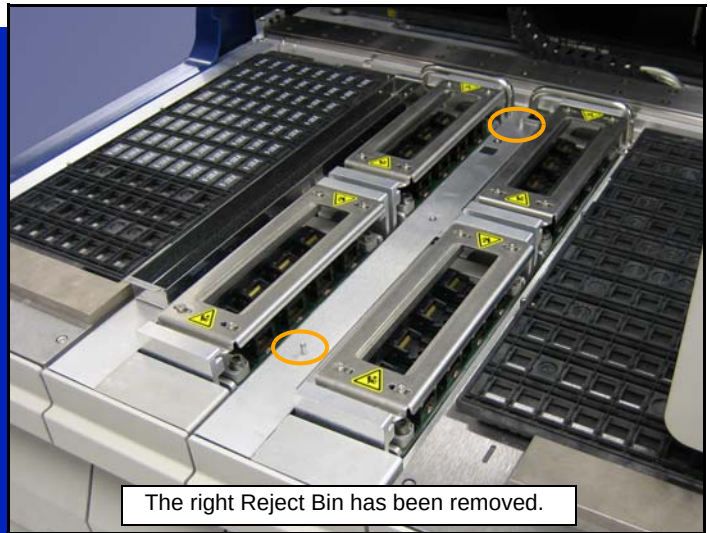
1. **Pause or stop the job.**
2. **Tap (click) the image of a tray pocket. It changes to show the alternate status—for the input tray, if it showed an unprogrammed device, it now shows no device.**

   Or, to change many pockets at once:

   Touch and drag your finger (or stylus) to include the desired number of pockets, then release. All the included pockets change to the same status as the pocket you started with. ■

page 59

Emptying the Reject Bin



The right Reject Bin has been removed.

To empty the Reject Bin(s), lift straight up off the work surface.

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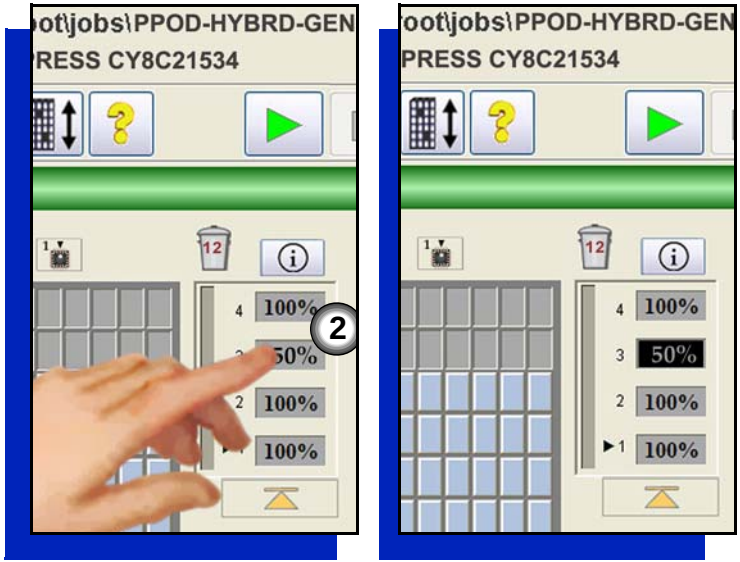
NOTE: When the Reject Bin is removed and replaced, it is assumed to have been emptied; the Reject Bin indicator will then indicate zero.

Replace the bin so that the two pins line up with the holes in the bin.

»»»» CAUTION ««« Machine damage hazard. If the bin is installed incorrectly the gantry might strike it. Ensure that both pins mate with the holes in the bin and that the bin bottom makes full contact with the work surface. ■

Disabling a Socket



A poorly performing socket can be disabled.

To disable a socket:

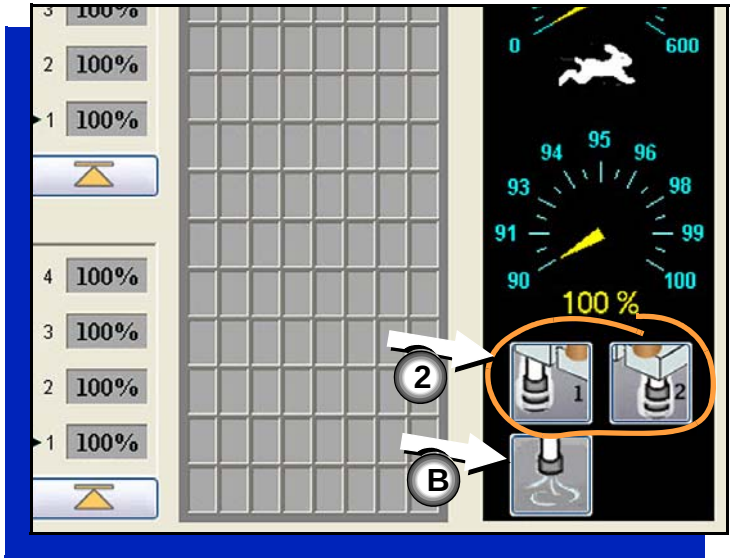
1. **Pause or stop the job if one is running (see "Pausing and Stopping Jobs" on page 46).**
2. **When the socket is empty, tap the image of the socket on the monitor.**

   The socket image changes to black.

To resume programming, tap Start Job **[▶]. The disabled socket is ignored.**

To re-enable a socket, pause the job and tap the socket again. (The socket must be empty or device removed manually.) ■

Disabling a Probe



If one of the probes is experiencing problems, it can be disabled.

To disable a probe:

1. **Pause or stop the job if one is running (see “Pausing and Stopping Jobs” on page 46).**
2. **Tap the** Disable Probe 1 **(far probe) or** 2 **button on the Run Window.**

To re-enable it, tap the button again.

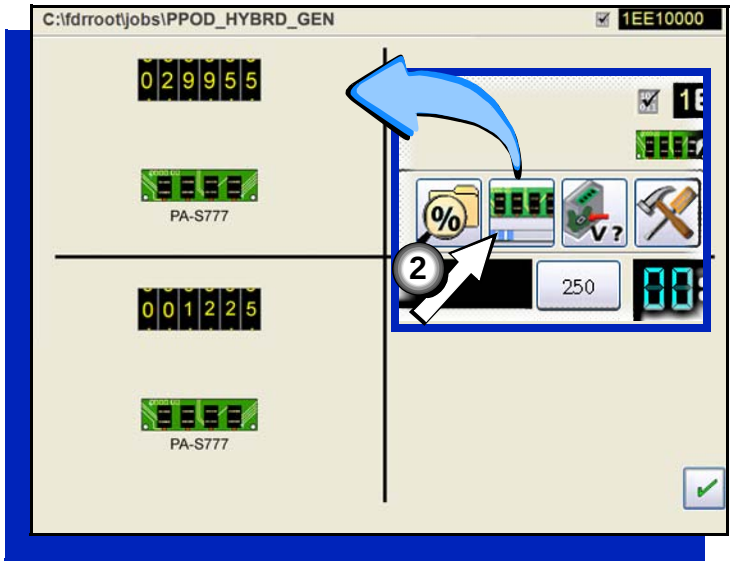
To shut off the air to both probes:

A. **Stop a job if one is running.**

B. **Tap the** Probe Air **button.**

Air starts automatically when a job is started. ■

Viewing Socket Adapter Life



The life of each Socket Adapter can be checked by viewing the dialog displaying actuation cycles.

To view Socket Adapter life:

1. **Stop a job if one is running.**
2. **Tap the** Adapter Life **button on the Run Window.**

If an adapter reaches end of life, its image on the Run Window blinks.

Tap OK **[✓] to close the dialog.** ■

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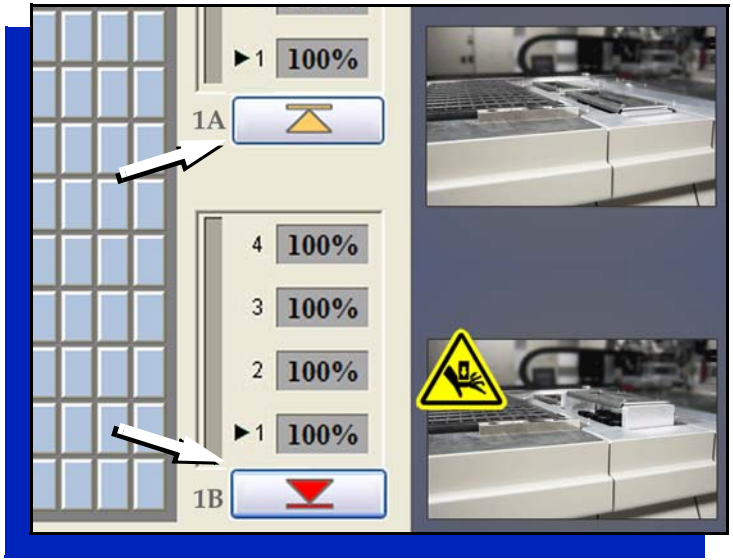
Opening and Closing Sockets



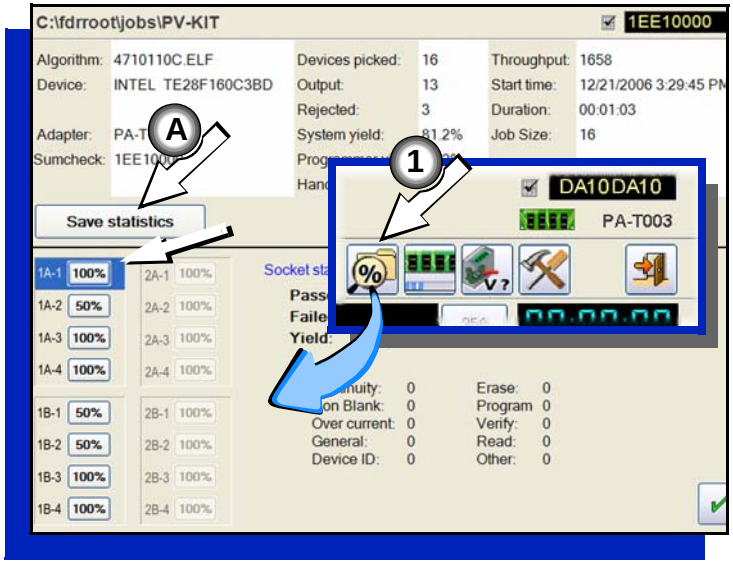
The FLX automatically opens and closes sockets as needed; for example, to insert a master device. If you need to open or close a socket at other times:

»»»» CAUTION «««« ***Pinch point. The Actuator Plate lowers when the red*** *Socket Actuation* ***button is tapped, and can injure you. Keep fingers, arms and clothing away from the Socket Adapter area on the work surface.***

1. **Pause or stop the job if one is running (see "Pausing and Stopping Jobs" on page 46).**
2. **To open sockets (red) or close them (orange), tap the** Socket Actuation **button beneath the image of the desired adapter on the Run Window.**

   Tap it again to toggle it. ■

Viewing Job Statistics



To view job statistics:

1. **Tap the** Statistics **button.**

The lower half of the dialog displays socket statistics. Tapping the button for a desired socket displays information for that socket only.

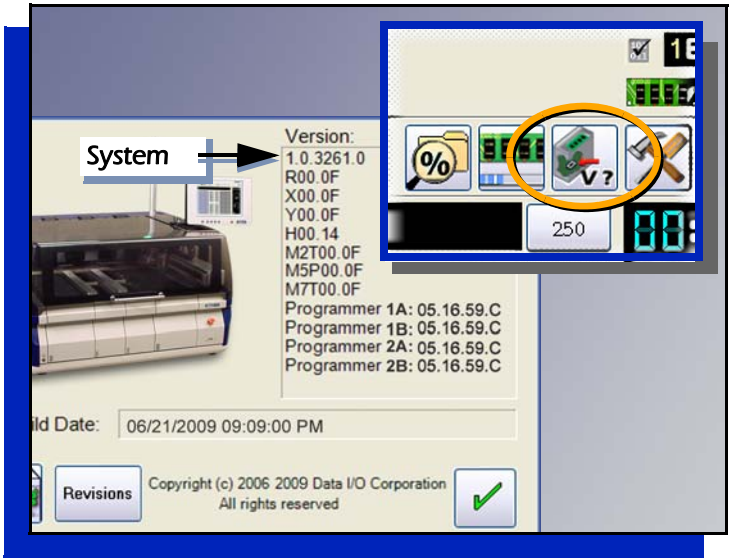
page 60

NOTE: Job statistics are viewable here only until another job is started or the FLX Application is closed (by tapping Exit).

Job statistics (.log files) are automatically saved in folder C:\FLX_500\stats **even if a job is ended prior to the Pass Limit. In addition, they are saved to the folder you choose when** Save statistics **[A] is tapped (job must be stopped).**

Tap OK **[✓] to close the dialog.** ■

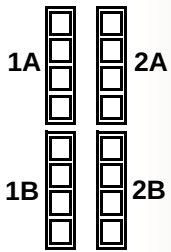
Viewing Version Numbers



All version numbers for the FLX, as well as for the programmers, are available from the Run Window:

- **Tap the** Version **button.**

  NOTE: *Programmer 1A* ***is the far and left programmer.***



Tap OK **[✓] to close the dialog.** ■

Exiting and Shutting Off

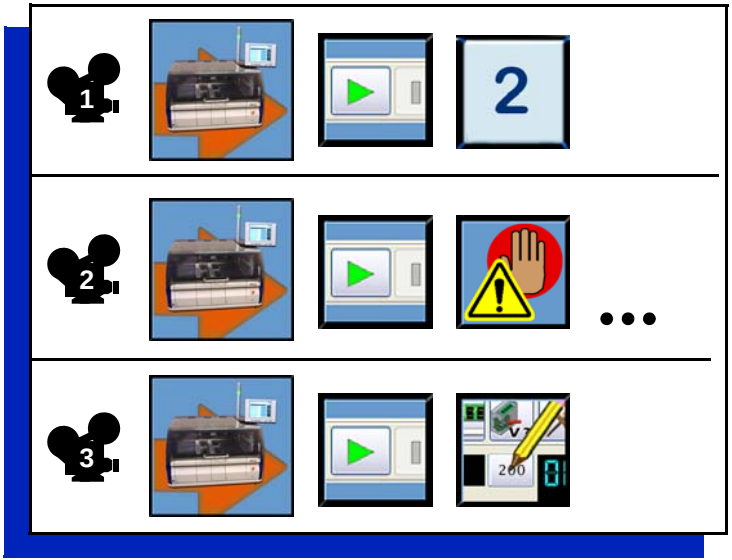
To switch Off:

A. Push and release the rocker switch on the right side of the chassis. The application will close properly first if it was open, asking for confirmation. Tap OK**.**

To close the FLX Application without switching off the power:

1. **Stop the job if one is running (see “Pausing and Stopping Jobs” on page 46).**
2. **Tap the** Exit **button, and tap** OK **to the confirmation.** ■

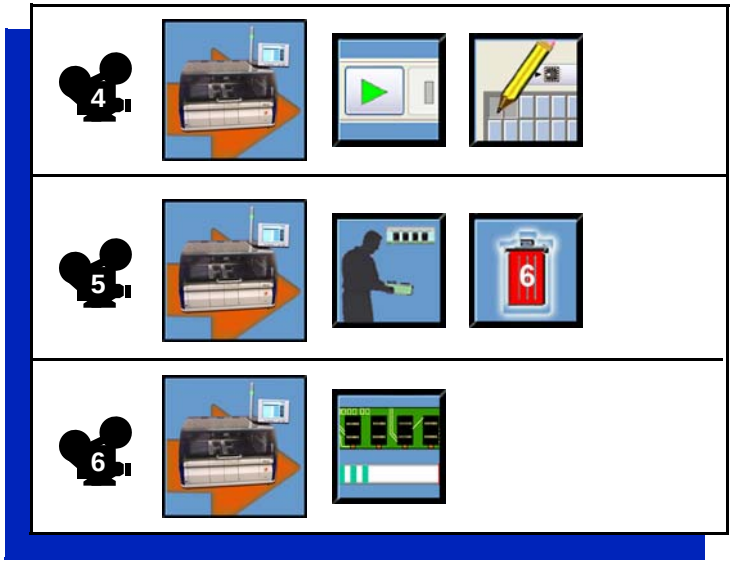
Paths to Videos



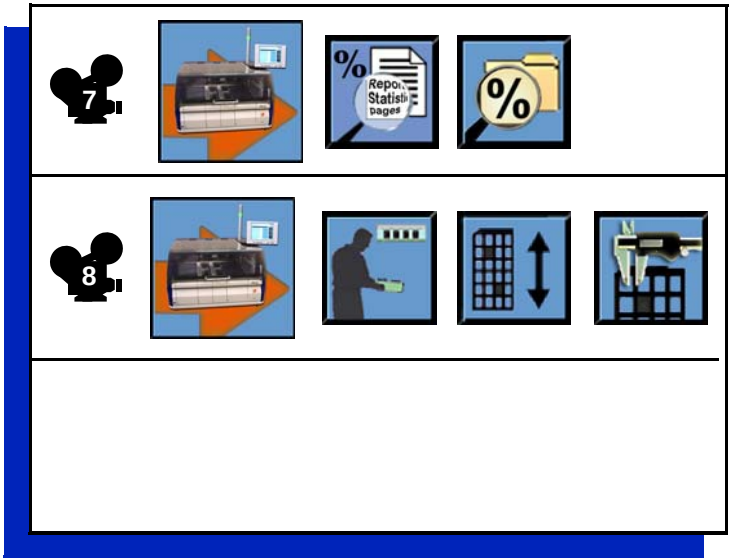
Tap these buttons in the on-screen Help to view videos corresponding to the text noted.

(To open the Help, tap the question mark on the Run Window.)

1. **Selecting a Tray Map.**
2. **Pausing and stopping jobs.**
3. **Changing the Pass quantity.**



4. **Changing tray pocket status.**
5. **Emptying the Reject Bin.**
6. **Viewing Socket Adapter life.**



7. **Viewing job statistics.**
8. **Taking tray measurements.** ■

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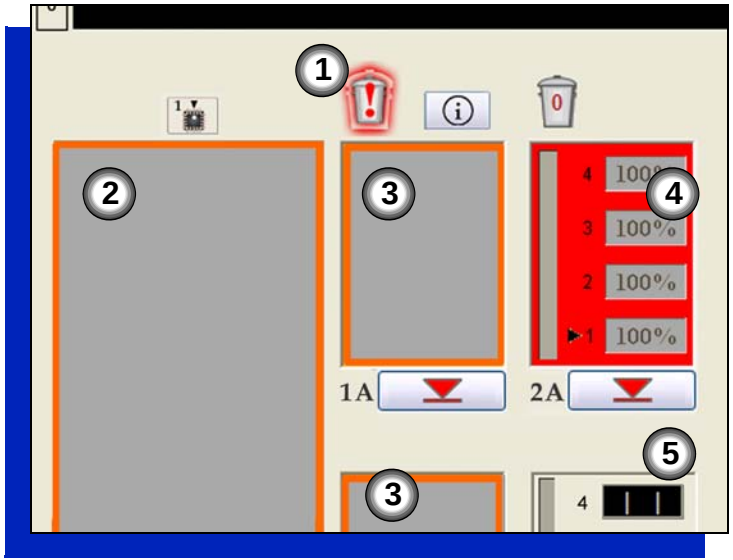
Viewing Errors



Error messages appear as dialog boxes or graphics displaying on the monitor. Remedy the condition indicated and tap OK [✓] **if applicable.**

Some messages appear in the real-time display of the work surface, such as:

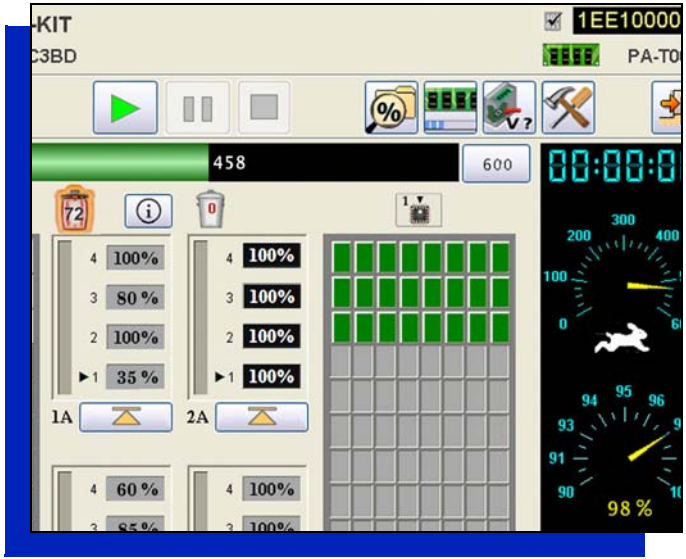
1. **Left Reject Bin not installed.**
2. **No input tray installed.**
3. **No Socket Adapter installed (or it is damaged).**
4. **Wrong Socket Adapter installed for the currently selected job.**
5. **Stacked devices/cards in socket.**

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

Error Resolution

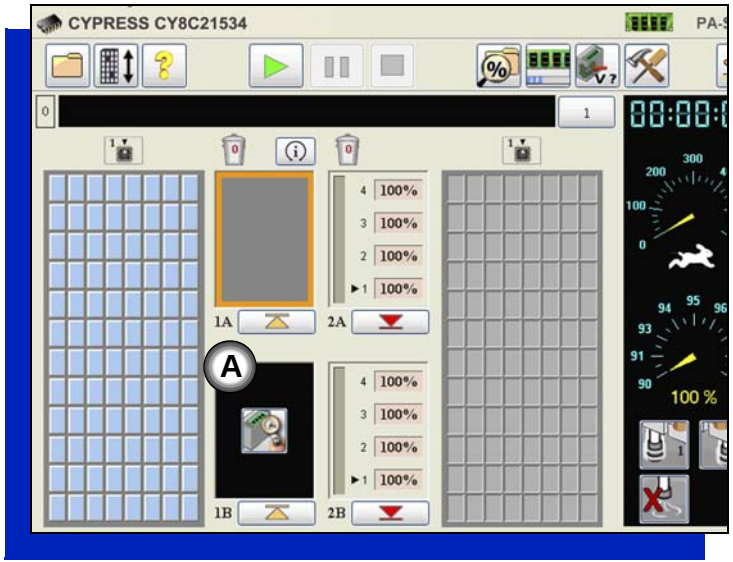
Programming Error message/graphic	Resolution
A socket displays white = Device/card continuity error. Programming is automatically retried; device/card is rejected if error persists.	• Continue, or • **Pause** job and check that: – you have the correct device/card for the job (view the **Job File** window for device/card name), – orientation is correct (page 31), – pins are not bent.
A socket displays red = device/card program error, verify error, erase error, or blank check error.	Okay to continue—device/card will be placed in Reject Bin. To check for specific error, view Socket Statistics (page 55). (Statistics show last socket error, reasons for being disabled, and any *place* failures.)

Non-Programming Error	Resolution
Tray appears as a solid yellow rectangle = no tray map for current job.	Select a Tray Map (page 44) or create a Tray Map (page 32).
A socket turns orange after start-up = unknown device(s) in sockets. (Skipped some Self-tests.)	• Remove the device(s) and continue programming, or • To run the Self-test fully, switch the power Off, tap OK to close and then switch the power On. (Diagnostics also has a Reset button.)
Head fails to identify a module fiducial.	Clean the fiducials with clean, dry, compressed air. Do not use hard objects to clean slots. See the Maintenance Manual for more.
Input or output tray is blinking = the tray is empty or full, respectively.	Replace the tray.
Device or card placement errors in all sockets.	Check the Actuator Plate adjustment (page 29) or Tray Map.



Non-Programming Error	Resolution
All sockets on an adapter are disabled (black).	• Re-enable (tap) the sockets and clean them, or • replace the Socket Adapter with a new one.
The gantry failed to home.	• Release the E-Stop, or • Manually move the gantry several cm by first pushing the E-Stop, pushing the gantry, then releasing the E-Stop.
No Socket Adapter.	Install the correct Socket Adapter. See the adapter identification at the upper right of the Run screen.
Reject Bin is full.	Empty the Reject Bin(s) by lifting it up off the pins and removing the contents.
No job selected.	Go to the job dialog and select a drive letter and job name. Tap the **OK** [✓] button. ■

Troubleshooting Tips

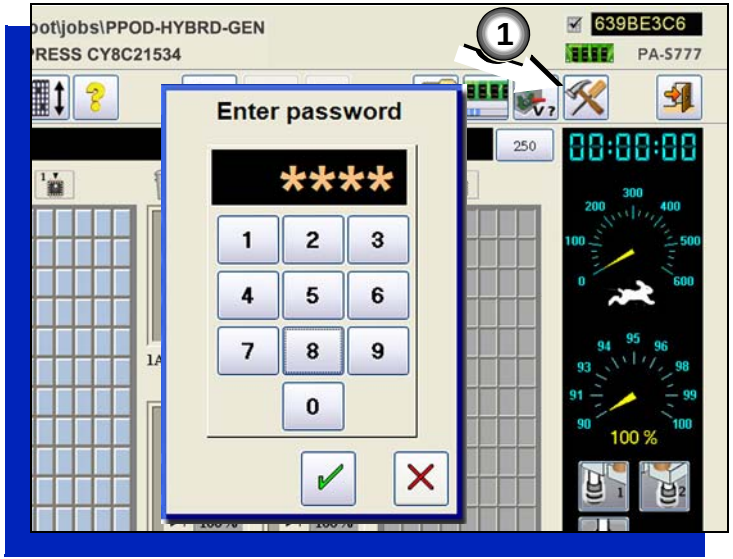


If you experience programmer problems, (or programmer communication problems) the red tower lamp lights and the programmer image turns black (A). To see if the problem is a Socket Adapter or the programmer:

1. Remove both Socket Adapters (see "Removing a Socket Adapter" on page 24).
2. Remove the Programmer Module.
3. Re-install the module. An orange and gray rectangle may appear indicating a missing adapter.

If the programmer still displays black, contact Data I/O Support (see page 69); otherwise the Socket Adapters may be causing the trouble. Confirm this by re-installing the adapters to see if the problem returns. ■

Diagnostic Tools



Diagnostic tools and utilities should only be used by supervisors or service technicians with FLX training.

»»» CAUTION ««« Machine damage hazard: Incorrect settings might cause probe collisions.

To access diagnostics or utilities:

1. **Stop a job (or Pause— some tools will be disabled).**
2. **Tap** Utilities **(***Tools* **button).**
3. **Enter your password.**
4. **Tap** OK [✓].

The factory password is available at http://ftp.dataio.com/public_docs/**. The Help available within the Diagnostics windows includes directions for changing the password. (Be sure to remember it.)** ■

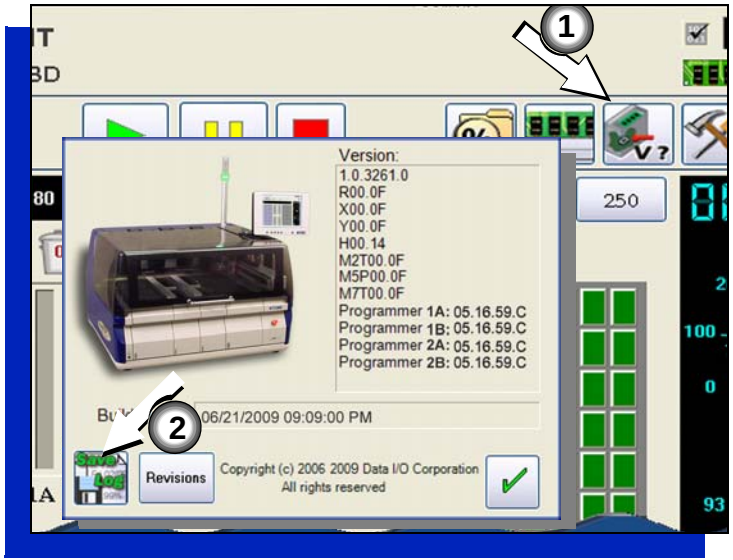
Correspondence

Visit our Web site for more information: www.dataio.com. For device and card support information, visit www.dataio.com/device.

If you wish to contact Data I/O Technical Support or a service center, see "Technical Support" on page 69. Please remember to include the following:

- **FLX Serial Number. It is printed on the communication wall of your machine (refer to page 12).**
- **The error message text (or graphic) if there is one.**
- **Device/card manufacturer and part number if relevant.**
- **The log file, if applicable; see the next page for instructions. ■**

Saving the Log File



The FLX automatically saves log files to the C:\ directory, in file FLXLog.zip**. Inside the zip file are text files named with the date and time.**

To save the log file to a different location:

1. **Tap the** Version **button.**
2. **Tap** Save Log**.**
3. **Select a drive and path where you want the** FLXLog.zip **file written, or insert a USB Flash drive and select the USB directory.**
4. **Tap** OK [✓]**, then** OK**, and close the dialog**. ■

Technical Support

Contact your local Data I/O representative. To find your local representative, visit http://www.dataio.com/contact/repsearch.asp

For maintenance information, see Maintaining the FLX500**— a separate document that came with your FLX. Manuals are also available at www.dataio.com, click** Support **>** Manuals**.**

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