

## **Firmware Download Utility Instructions**

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PSA-66-ST



**PSA-66-ST (RS232 Interface)**  
**PSA-66-001N (Netplex Interface)**

## Firmware Download Utility Instructions

PSA-66-ST

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The PSA-66-ST (RS232 Interface) printer described in this manual is in compliance with all applied CE standards.

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# 1 Background

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In recognition of the need for multiple versions of firmware both for different gaming applications and normal enhancements, FutureLogic, Inc. has developed a Download Utility to provide a secure yet simple means to reload printer firmware.

This publication describes how to re-flash the printer firmware using the following:

- **Download Utility.** Use this software to change the printer firmware on one or multiple printers connected using different communication ports. See Chapter 2 on page 2.
- **PSA-66 4-Station Stand (Part Number 5005008).** Use this hardware with the Download Utility to change the printer firmware on four printers at one time. See Chapter 3 on page 10.

## 2 Changing Firmware on One or More Printers

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This section describes how to remove a printer from a machine, change the firmware on one or more printers at a time using a standalone Stationary Module for each printer, each connected to different communication ports.

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### CAUTION!

#### ESD Sensitive Equipment!

Electronic boards and their components are sensitive to static electricity. Care must be taken during all handling operations and inspections of this product in order to ensure product integrity at all times.

Do not handle this product out of its protective enclosure while it is not used for operations purposes unless it is otherwise protected.

Discharge your clothing before touching the assembly. Discharge tools before use.

Whenever possible, unpack or pack this product only at EOS/ESD safe workstations. Where a safe workstation is not guaranteed, it is important for the user to be electrically discharged before touching the product with his/her hands or tools.

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**Note:** If using a Nexplex printer, connect using the power supply. For additional information on the Netplex interface, please contact International Game Technology.

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### 2.1 Removing the Printer from the Machine

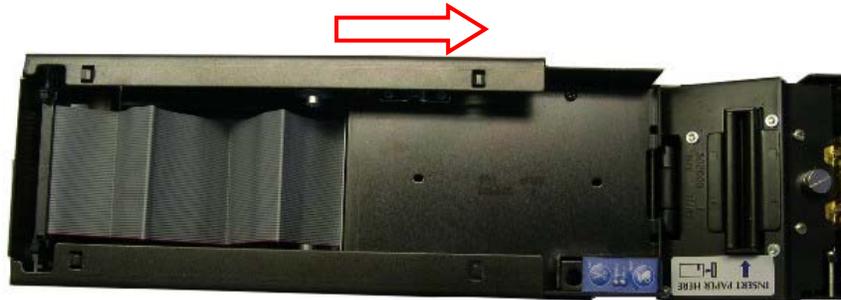


**Note:** Skip this section if the printer is not already in a machine.

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To remove the printer from the machine:

1. Power down the printers to be downloaded.
2. Slide the unit open until it locks in the open position.



**Figure 2-1** Slide the Unit until It Locks

3. If you can access the Ribbon Cable which attaches the Sliding Module to the Stationary Module, go to the next step.

If you cannot access the Ribbon Cable because of the Paper Tray, grab the back of the Paper Tray by the back fin and rock it forward, pulling it out of the unit.



**Figure 2-2** Pull Out Paper Tray

4. Release the Ribbon Cable by spreading the finger latches at the rear of the unit.

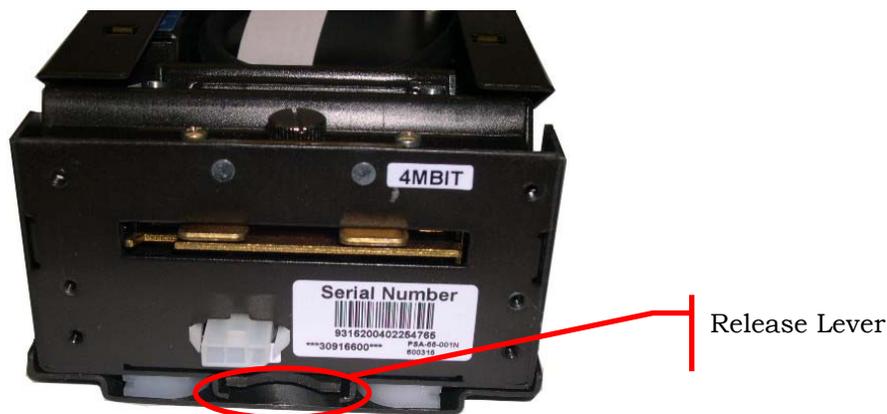


**Figure 2-3** Eject the Ribbon Cable



**Note:** The black end of the Ribbon Cable connects to the rear Daughter Board. The gray end of cable connects to main controller.

5. Press in the Release Lever under the front of the Sliding Module to release the locking mechanism.



**Figure 2-4** Press the Release Lever

6. Remove the printer from the machine.
7. Slide the printer into the standalone Stationary Module which will be connected to the PC.
8. Connect the black end of the Ribbon Cable to the rear Daughter Board of the Stationary Module.

## 2.2 Using the Download Utility

Verify that you have installed the FutureLogic, Inc. Download Utility. You can acquire this software from the FutureLogic, Inc. Web site (<http://www.futurelogic-inc.com>) or CD-ROM.

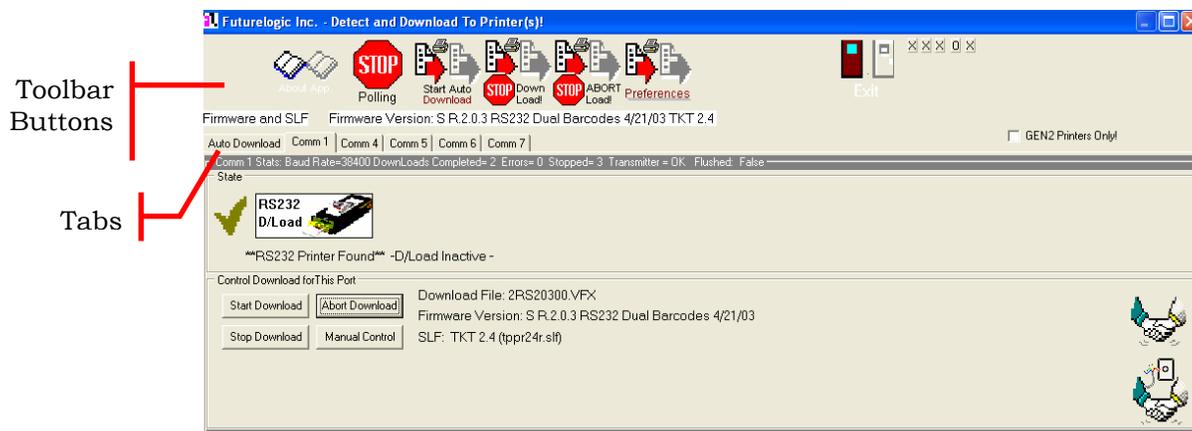


**Note:** The main window of the Download Utility displays a tab marked Auto Download. Additional tabs for each communications port you select on the Auto Download Preferences dialog display as well.

When the Download Utility detects a printer connected to a communications port, the tab for that port displays "Printer Found." If not printer is detected, the tab for that port displays "??No Printer??".

To change the firmware on the PSA-66-ST printer:

1. Access the Download Utility.



**Figure 2-5** Download Utility – Main Window

2. Click the **Abort Load** or **Stop Download** toolbar button to verify that the download process is NOT active.



**Figure 2-6** Download Utility Toolbar

3. Connect the printer to the PC using the FutureLogic, Inc. Evaluation Cable (Part Number 150-00013) or other approved cabling.

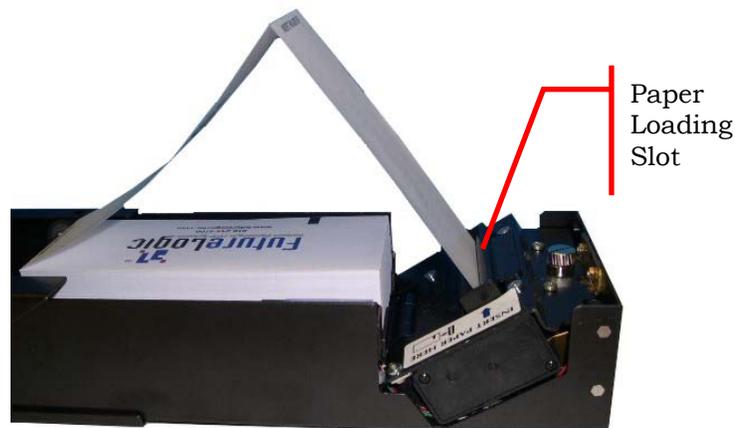


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**Note:** If using a Nexplex printer, connect using the power supply.

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4. Power up the printer.
5. Load paper into the printer.

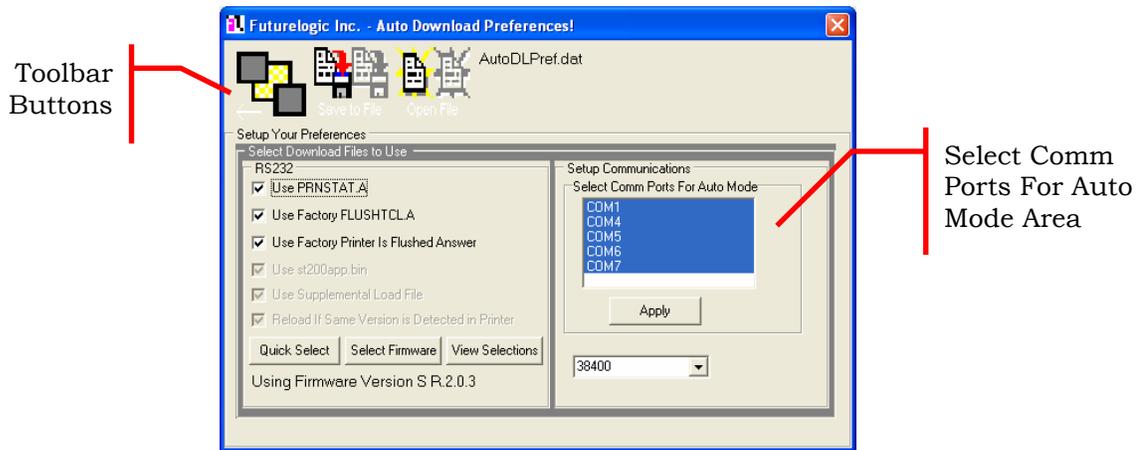


**Figure 2-7** Load Paper into Slot

The paper will self feed and stop with the second ticket in place.

6. Tear off the extended ticket.
7. (Optional) Set up your preferences if using the Download Utility for the first time.
  - a. Click the **Preferences** toolbar button.

The Auto Download Preferences dialog displays.



**Figure 2-8 Auto Download Preferences Dialog**

- b. Select the communications port to which the printer is connected in the Select Comm Ports for Auto Mode area.
- c. Click the **Apply** button.
- d. Click the **Select Firmware** button to set up the firmware.



**Note:** The firmware file (.VFX) must be located in the same folder as the Download Utility.

- e. Select the firmware file and click the **Open** button.

The Auto Download Preferences dialog updates to display the version number of the selected firmware file.

- f. Click the **Save Preferences** toolbar button to save these preferences and use them each time you access the Download Utility.



**Note:** If you move your Download Utility files to another computer, double-check your preferences settings on the new computer as they may no longer apply.

- g. Click the **Back to Prior** toolbar button to return to the main window of the Download Utility.

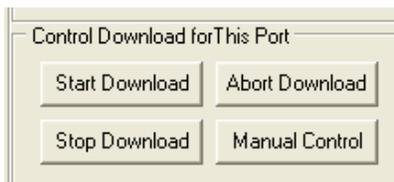
The main window refreshes to display the download file name, firmware version, and (optionally) the ticket template(s).



**Tip:** To view the selections for the printer, click the **View Selections** button.

- After the printer powers up, the image(s) on the screen will change to indicate that the printer was detected.

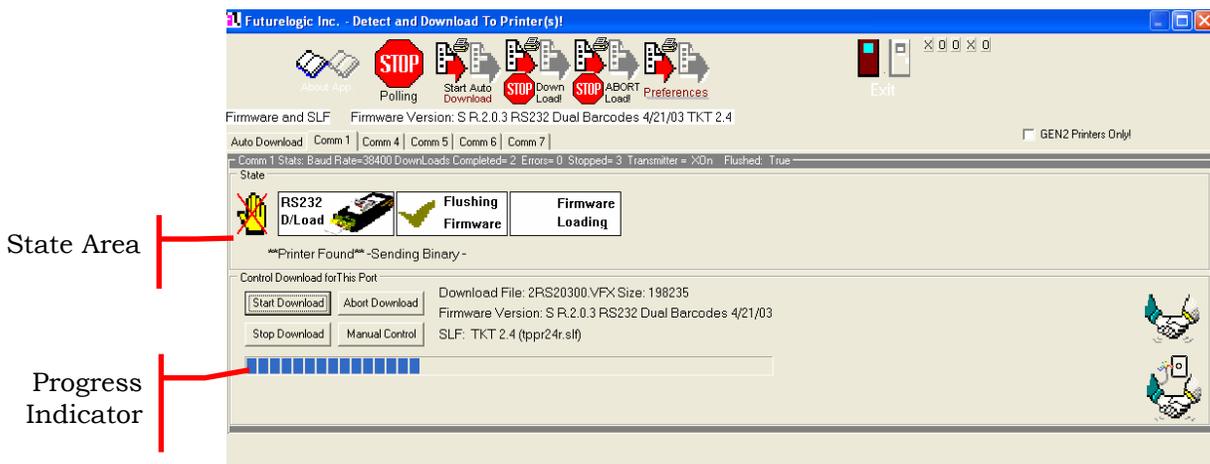
If the printer is detected, click the **Start Download** button.



**Figure 2-9 Download Utility – Control Download for This Port Commands**

The process will continue automatically through completion.

The State area of the main window updates to display the status of the download in progress.



**Figure 2-10 Download Utility – Main Window**

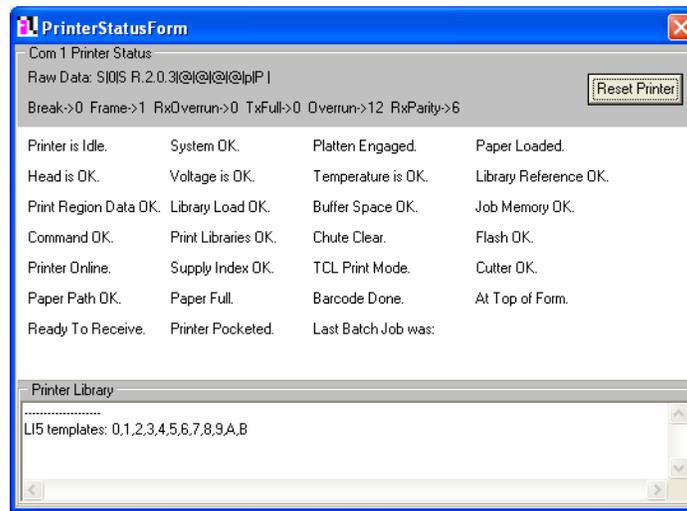


**Caution:** Do NOT power down the printer or disconnect the RS232 cable from the PC during this process! Doing so MAY result in an unusable printer that is flushed and will not communicate!

After the printer downloading is complete, the printer prints a ticket showing the firmware version and ticket package. Compare the firmware version with the version displayed on the screen. If the version numbers match, the download was successful.

- Click the **Abort Download** button.
- (Optional) Click anywhere in the State area of the main window to view the status of the printer download.

The Printer Status Dialog displays.



**Figure 2-11 Printer Status Dialog**

11. Power down the printer.
12. Double-check the results by printing a self test ticket.
  - a. Pull the printer out of the Stationary Module until the FEED button is visible.
  - b. Press and hold the FEED button while powering up the printer.
  - c. Continue to hold the FEED button until the ticket starts to print, then release.

This self test ticket will show the firmware version that is loaded. Double-check this against the version printed on the prior test ticket (step 9). Also, check the library inventory. There should be entries for Templates, Print Regions, and System Resources.

The self test ticket contains information similar to the following:

Model:	PSA-66-xxxx
Firmware:	STPV2.1.1 TKT-2.3
COMMUNICATION	
Interface:	Serial
Baud Rate	19,200
Data Bits:	8
Parity:	NONE
Handshaking:	XON/OFF+HARDWARE
PRINT CONTROL:	
Darkness Control:	+00%
Black Bar Index:	Enabled
Print On Demand:	Disabled
Auto Sleep Timer:	Off
SYSTEM RESOURCES	
Templates:	1,2,3,4,5,6,7,8,9,A,B
Print Regions:	1,2,3,4,5,6,7,8,h,9,A,B C,D,E,F,G,I,J,K,L,N,O,P Q,R,S,T,U,Z,X,a,b,c,d,e, f,g,i,j,k,l,m,n,o,p,q
Graphics:	
Fonts:	3(0), 1(0), 2(0), 4(0) 7(0), 8(0), 5(0)

**Figure 2-12 Sample Self Test Ticket**



**Note:** The download process will not complete if any of these steps are not successful. The result of a failed download process will be a printer with its memory flushed or otherwise unable to boot successfully. Specifically, the printer will not be capable of printing. If this occurs, repeat these steps. If not successful, follow your RMA procedure for this printer.

13. Remove this printer.

14. Go back to step 2 and repeat this process until all printers have been loaded.

### 2.2.1 Version Control and Verification

The firmware version number will be printed on the ticket after the download is complete. Verify that this matches the firmware version displayed on the screen.

## 3 Changing Firmware Using the PSA-66 4-Station Stand

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This section describes how to remove a printer from a machine, use the PSA-66 4-Station Stand (Part Number 5005008) with PSA-66-ST or PSA-66-001N printers and the FutureLogic, Inc. Download Utility to re-flash the printer firmware on four printers at one time.



### CAUTION!

#### ESD Sensitive Equipment!

Electronic boards and their components are sensitive to static electricity. Care must be taken during all handling operations and inspections of this product in order to ensure product integrity at all times.

Do not handle this product out of its protective enclosure while it is not used for operations purposes unless it is otherwise protected.

Discharge your clothing before touching the assembly. Discharge tools before use.

Whenever possible, unpack or pack this product only at EOS/ESD safe workstations. Where a safe workstation is not guaranteed, it is important for the user to be electrically discharged before touching the product with his/her hands or tools.

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**Note:** Before you can use the PSA-66 4-Station Stand, you must order and install a 4-port serial card on the PC. FutureLogic, Inc. recommends the [Quatech](#) 4-Port Serial Card (Part Number QSP-100-D9) with accompanying adapter cable.

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### 3.1 Removing the Printer from the Machine

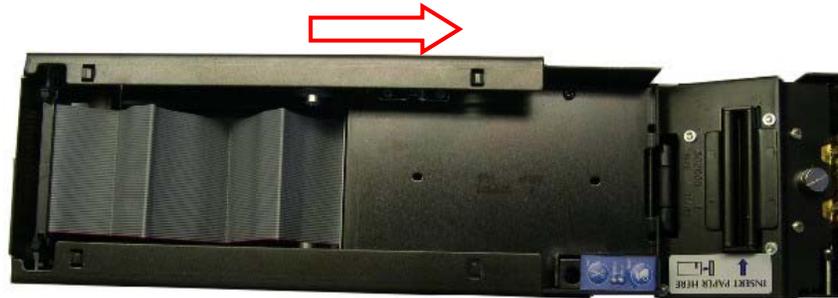


**Note:** Skip this section if the printer is not already in a machine.

---

To remove the printer from the machine:

1. Power down the printers to be downloaded.
2. Slide the unit open until it locks in the open position.



**Figure 3-1 Slide the Unit until It Locks**

3. If you can access the Ribbon Cable which attaches the Sliding Module to the Stationary Module, go to the next step.

If you cannot access the Ribbon Cable because of the Paper Tray, grab the back of the Paper Tray by the back fin and rock it forward, pulling it out of the unit.



**Figure 3-2 Pull Out Paper Tray**

4. Release the Ribbon Cable by spreading the finger latches at the rear of the unit.



**Figure 3-3 Eject the Ribbon Cable**



**Note:** The black end of the Ribbon Cable connects to the rear Daughter Board. The gray end of cable connects to main controller.

5. Press in the Release Lever under the front of the Sliding Module to release the locking mechanism.



**Figure 3-4** Press the Release Lever

6. Remove the printer from the machine.
7. Repeat steps 1 through 6 for each printer.

### 3.2 Using the PSA-66 4-Station Stand



**Note:** Before you can use the PSA-66 4-Station Stand, you must order and install a 4-port serial card on the PC. FutureLogic, Inc. recommends the [Quatech](#) 4-Port Serial Card (Part Number QSP-100-D9) with accompanying adapter cable.

To use the PSA-66 4-Station Stand:

1. Insert a printer into a Stationary Module on the PSA-66 4-Station Stand.



**Figure 3-5** PSA-66 4-Station Stand

2. Connect the black end of the Ribbon Cable to a Daughter Board of the PSA-66 4-Station Stand.



**Figure 3-6** Connect the Ribbon Cable to a Daughter Board

3. Slide the printer into a Stationary Module on the PSA-66 4-Station Stand.
4. Repeat steps 1 through 3 for each printer.
5. Connect the PSA-66 4-Station Stand to the PC using a D-9 male adapter cable.
6. Connect the power cable of the PSA-66 4-Station Stand.



**Figure 3-7** PSA-66 4-Station Stand – Rear View

### 3.3 Using the Download Utility

Verify that you have installed the FutureLogic, Inc. Download Utility. You can acquire this software from the FutureLogic, Inc. Web site (<http://www.futurelogic-inc.com>) or CD-ROM.

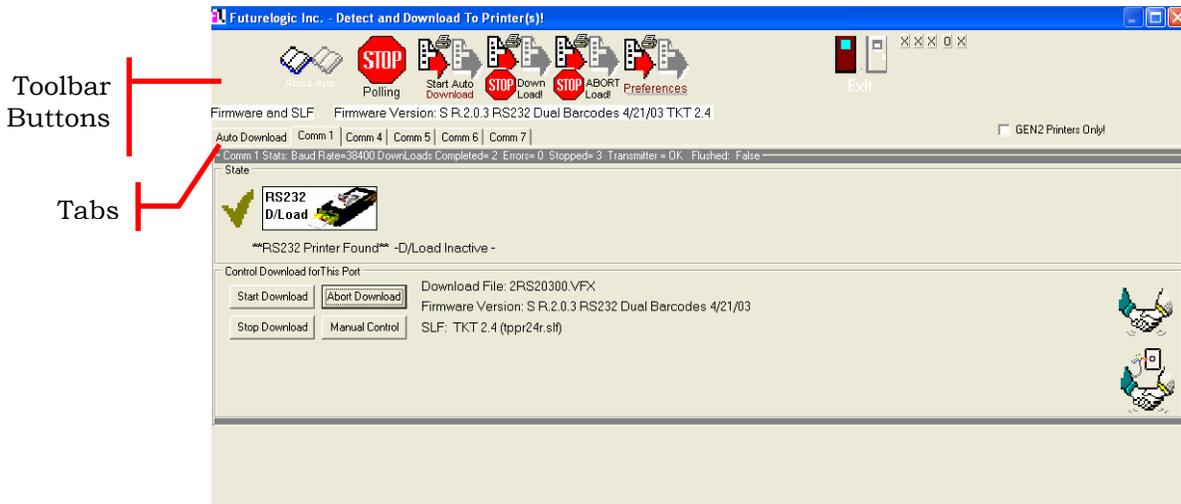


**Note:** The main window of the Download Utility displays a tab marked Auto Download. Additional tabs for each communications port you select on the Auto Download Preferences dialog display as well.

When the Download Utility detects a printer connected to a communications port, the tab for that port displays "Printer Found." If not printer is detected, the tab for that port displays "??No Printer??".

To change the firmware using the PSA-66 4-Station Stand:

1. Access the Download Utility.



**Figure 3-8 Download Utility – Main Window**

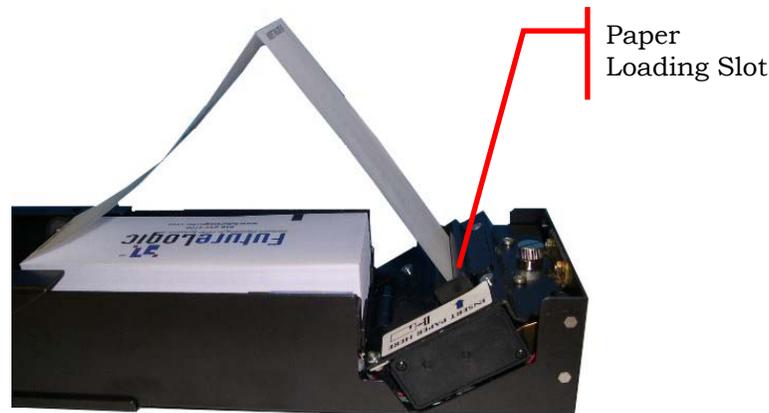
2. Verify that the download process is NOT active.

Click the **Abort Load** or **Stop Download** toolbar button.



**Figure 3-9 Download Utility Toolbar**

3. Power up the PSA-66 4-Station Stand.
4. Load paper into the printers.



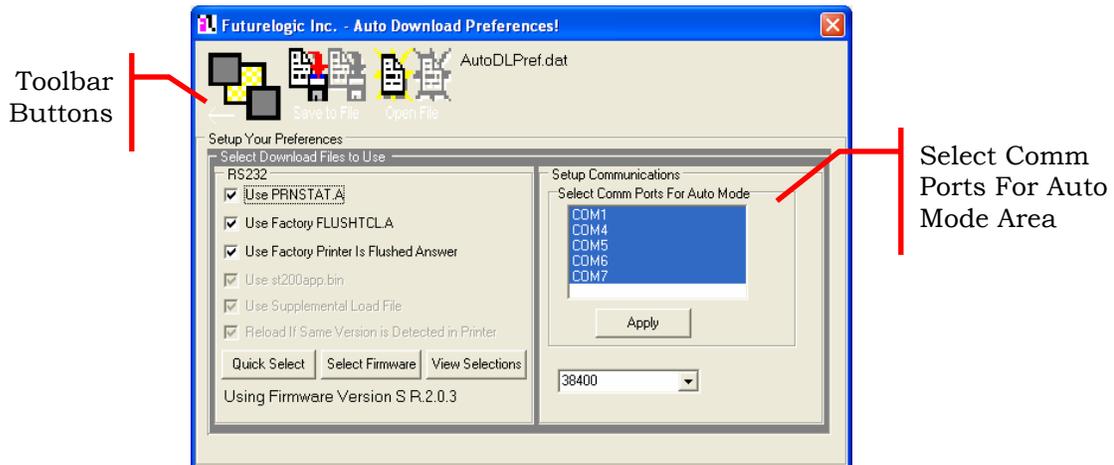
**Figure 3-10 Load Paper into Slot**

The paper will self feed and stop with the second ticket in place.

5. Tear off the extended ticket.

6. (Optional) Set up your preferences if using the Download Utility for the first time.
  - a. Click the **Preferences** toolbar button.

The Auto Download Preferences dialog displays.



**Figure 3-11 Auto Download Preferences Dialog**

- b. Select the communications port to which the printer is connected in the Select Comm Ports for Auto Mode area.
  - c. Click the **Apply** button.
  - d. Click the **Select Firmware** button to set up the firmware.



**Note:** The firmware file (.VFX) must be located in the same folder as the Download Utility.

- e. Select the firmware file and click the **Open** button.

The Auto Download Preferences dialog updates to display the version number of the selected firmware file.

- f. Click the **Save Preferences** toolbar button to save these preferences and use them each time you access the Download Utility.



**Note:** If you move your Download Utility files to another computer, double-check your preferences settings on the new computer as they may no longer apply.

- g. Click the **Back to Prior** toolbar button to return to the main window of the Download Utility.

The main window refreshes to display the download file name, firmware version, and (optionally) the ticket template(s).



**Tip:** To view the selections for the printer, click the **View Selections** button.

- After the PSA-66 4-Station Stand powers up, the image(s) on the screen will change to indicate that the printers are detected.

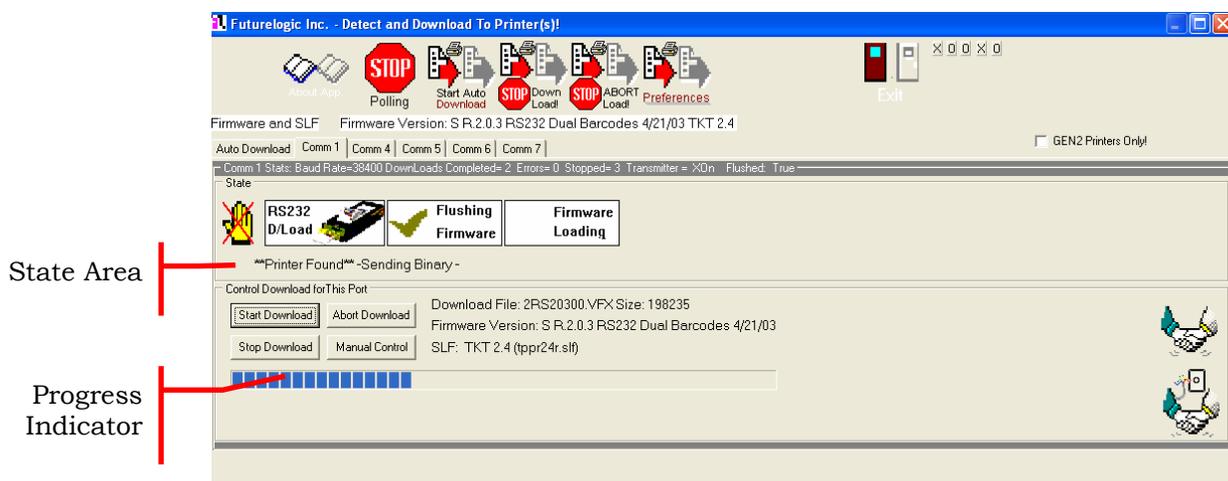
If the printers are detected, click the **Start Download** button.



**Figure 3-12 Download Utility – Control Download for This Port Commands**

The process will continue automatically through completion.

The State area of the main window updates to display the status of the download in progress.



**Figure 3-13 Download Utility – Main Window**



**Caution:** Do NOT power down the PSA-66 4-Station Stand or disconnect the cable from the PC during this process! Doing so MAY result in unusable printers that are flushed and will not communicate!

After the printer(s) downloading is complete, the printer(s) prints a ticket showing the firmware version and ticket package. Compare the firmware version with the version displayed on the screen. If the version numbers match, the download was successful.

- Click the **Abort Download** button.
- (Optional) Click anywhere in the State area of the main window to view the status of the printer download.

The Printer Status Dialog displays.



**Figure 3-14 Printer Status Dialog**

10. Power down the PSA-66 4-Station Stand.

11. Double-check the results by printing a self test ticket.

- a. Pull the printer out of the Stationary Module of the PSA-66 4-Station Stand until the FEED button is visible.
- b. Press and hold the FEED button on the printer while powering up the PSA-66 4-Station Stand.
- c. Continue to hold the FEED button until the ticket starts to print, then release.
- d. Repeat steps 11a through 11c for each printer in the PSA-66 4-Station Stand.

This self test ticket will show the firmware version that is loaded. Double-check this against the version printed on the prior test ticket (step 8). Also, check the library inventory. There should be entries for Templates, Print Regions, and System Resources.

The self test ticket contains information similar to the following:

Model:	PSA-66-xxxx
Firmware:	STPV2.1.1 TKT-2.3
COMMUNICATION	
Interface:	Serial
Baud Rate	19,200
Data Bits:	8
Parity:	NONE
Handshaking:	XON/OFF+HARDWARE
PRINT CONTROL:	
Darkness Control:	+00%
Black Bar Index:	Enabled
Print On Demand:	Disabled
Auto Sleep Timer:	Off
SYSTEM RESOURCES	
Templates:	1,2,3,4,5,6,7,8,9,A,B
Print Regions:	1,2,3,4,5,6,7,8,h,9,A,B C,D,E,F,G,I,J,K,L,N,O,P Q,R,S,T,U,Z,X,a,b,c,d,e, f,g,i,j,k,l,m,n,o,p,q
Graphics:	
Fonts:	3(0), 1(0), 2(0), 4(0) 7(0), 8(0), 5(0)

**Figure 3-15 Sample Self Test Ticket**



**Note:** The download process will not complete if any of these steps are not successful. The result of a failed download process will be a printer with its memory flushed or otherwise unable to boot successfully. Specifically, the printer will not be capable of printing. If this occurs, repeat these steps. If not successful, follow your RMA procedure.

12. Remove each printer from the PSA-66 4-Station Stand.
13. Return each printer to the appropriate machine.

### 3.3.1 Version Control and Verification

The firmware version number will be printed on the ticket after the download is complete. Verify that this matches the firmware version displayed on the screen.



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