

# Instruction Sheet

## Updating SmartPAC 2 Firmware

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This document shows you how to update SmartPAC 2 firmware, using a USB disk, and load SmartPAC 2 firmware installed on a replacement Compact Flash (CF) card. The document is organized in the following sections:

- Updating Firmware Using a USB Disk, next
- Installing Firmware from a Replacement Compact Flash (CF) Card, page 10

### Updating Firmware Using a USB Disk

#### NOTICE

##### FIRMWARE ORDER MUST INCLUDE SMARTPAC 2 SERIAL NUMBER

When you order new firmware, make sure to include the serial number of your SmartPAC 2 unit. Wintriss needs the serial number to create the correct firmware for your SmartPAC 2.

The serial number is located on the top-mounting flange of the SmartPAC 2 enclosure and on the Boot Loader chip (U124) on the SmartPAC 2 board (see your SmartPAC 2 manual for location). If you have a panel mount unit, the serial number can be found on the other side of the plate on which the AC input terminal block is mounted.

To order new SmartPAC 2 firmware, you must fill out a “SmartPAC 2 Firmware Upgrade” form, available from your Wintriss representative or Wintriss Tech. Support. Make sure to specify on the form the serial number of your SmartPAC 2. The firmware upgrade file you receive from Wintriss includes this serial number in its file name (i.e., SP2nnnnnnnn, where *SP2* stands for SmartPAC 2 and *nnnnnnnn* is the eight-digit SmartPAC 2 serial number).

You can obtain SmartPAC 2 firmware in several ways. This instruction sheet describes two methods in which the firmware is loaded on a USB disk and installed via the USB connector on your SmartPAC 2 PC board. The two methods are as follows:

- **Firmware is loaded on a USB disk and sent to you by United Parcel Service (UPS)** or other shipping method. If you select this option, you pay for shipping and the cost of the USB disk. You also have to wait for delivery of the order. Follow the instructions in “Installing Updated Firmware from USB Disk to SmartPAC 2” on the next page if you choose this method.
- **Firmware is available via an e-mail with a link** to the Wintriss download site. You download a compressed file containing the firmware, then copy the firmware to your own USB disk and install it on the SmartPAC 2. To transfer the firmware to the USB disk, follow the instructions in “Downloading Updated Firmware from the

Wintriss Server” on page 8. Then load the firmware into SmartPAC 2, using the “Installing Updated Firmware from USB Disk to SmartPAC 2” procedure (below).

**Other options are available if your SmartPAC 2 unit is networked.** Call Wintriss Tech. Support for more information.

**NOTICE**

If you elect to download SmartPAC 2 firmware from Wintriss, you must have

- A PC with a working USB port
- A USB disk with at least 4 MB of available space

## Installing Updated Firmware from USB Disk to SmartPAC 2

Follow these steps to load new firmware from a USB disk to your SmartPAC 2:

**NOTICE**

If you downloaded your firmware from Wintriss, go to page 8 and follow the instructions in “Downloading Updated Firmware from the Wintriss Server” to load the firmware onto a USB disk. Then return to this page and install the firmware on your SmartPAC 2.

1. If a tool is loaded and you are currently running a job, you must record the current tool number, tool name or tool ID, and counter values before installing the new firmware. You do not need to record the preset values, which are saved with the tool settings. You can use Table 1 to record counter settings.

**Table 1. Record of Current Counts**

<b>Tool Number</b> _____		
<b>Tool Name or Tool ID</b> _____		
COUNTER	COUNT	PRESET VALUE
Strokes		You do not have to record Preset Values. They are saved with the tool settings.
Good Parts		
Batch 1		
Batch 2		
Batch 3		
Total Hits		

2. If you have a SmartPAC 2 Servo or SmartPAC 2 Hydraulic, you must record the current Linear Sensor settings in Initialization mode. You can use Table 2 (next page) for this purpose.

**Table 2. Record of Linear Sensor Initialization Settings**

PARAMETER	SETTING
Sensor Resolution	
Offset Value	
Zero Value*	
Upper Limit	
Units	

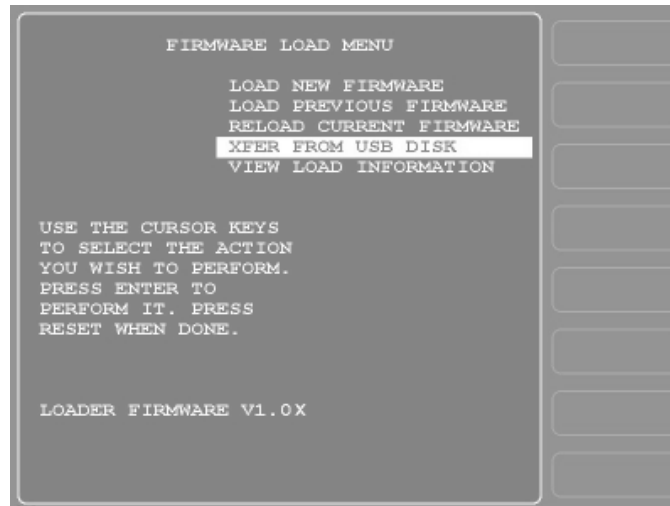
\* If your firmware version does not support this item, make sure to set the field to zero after updating the firmware.

3. Check the serial number of the new firmware to make sure it matches the serial number of your SmartPAC 2. The firmware serial number begins with the prefix “SP2” (for SmartPAC 2) followed by a numeric code (i.e., SP2nnnnnnnn). The numeric code is the serial number of your SmartPAC 2 unit.

#### NOTICE

- If you received your firmware on a USB disk, the serial number is the name of the folder stored on the disk. To verify the serial number, insert the disk into your computer’s USB port, double-click on *My Computer*, and open the USB disk (usually identified by the label “Removable Disk” with a drive letter next to it.)
- If you downloaded your firmware from Wintriss, the serial number is the name of the compressed file you downloaded.

4. Power down your SmartPAC 2.
5. Press and hold down the **F1** function key while powering up the SmartPAC 2, releasing **F1** when the red Wintriss SmartPAC 2 screen displays. After about a minute the FIRMWARE LOAD MENU will appear (see Figure 1, next page).



**Figure 1. Firmware Load Menu with “XFER FROM USB DISK” Highlighted**

### **⚠ WARNING**

#### **ELECTRIC SHOCK HAZARD**

- Ensure that the power source is off before you replace electronic components in a control.
- Disconnect power from the machinery it is connected to before replacing electronic components. This includes disconnecting power to the machine control and motor.
- Ensure that servicing is performed by qualified personnel.

**Failure to comply with these instructions could result in death or serious injury.**

6. Open the SmartPAC 2 enclosure or console.

### **CAUTION**

#### **DAMAGE TO BOARD FROM STATIC DISCHARGE**

Ground yourself before touching circuit boards or chips by touching a large metal object such as the press. Static electricity can destroy electronic components.

**Failure to comply with these instructions could result in property damage.**

7. Find the USB connector, J121, on the SmartPAC 2 board (refer to your SmartPAC 2 manual for location of this component).

### **NOTICE**

The USB disk can fit into the USB connector in only one orientation. DO NOT try to force the USB disk into the connector when it is in the wrong orientation.

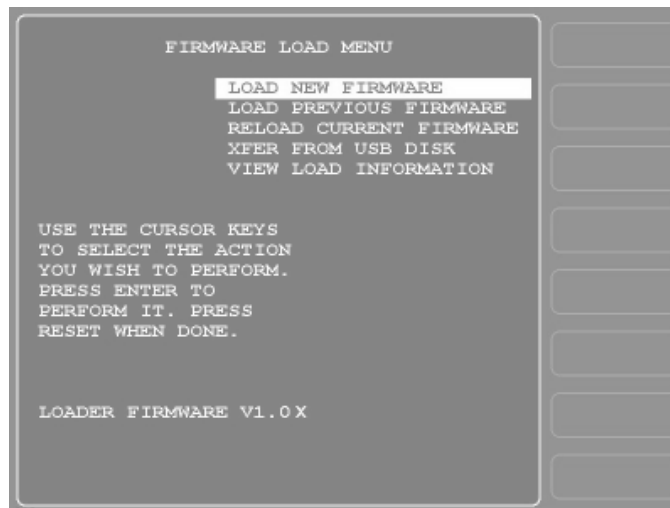
8. Making sure that the USB disk is oriented correctly, carefully insert the USB disk into the USB connector. Wait about 30 seconds for the SmartPAC 2 to recognize the USB disk.

9. Close the door of the enclosure or console.

**NOTICE**

Make sure to wait at least 30 seconds after inserting the USB disk before performing the next step.

10. Using the cursor keys, highlight “XFER FROM USB DISK,” as shown in Figure 1, and press ENTER. After a few seconds, the message “USB DISK TRANSFER COMPLETE” displays briefly, then the Firmware Load Menu appears again, as shown in Figure 2.

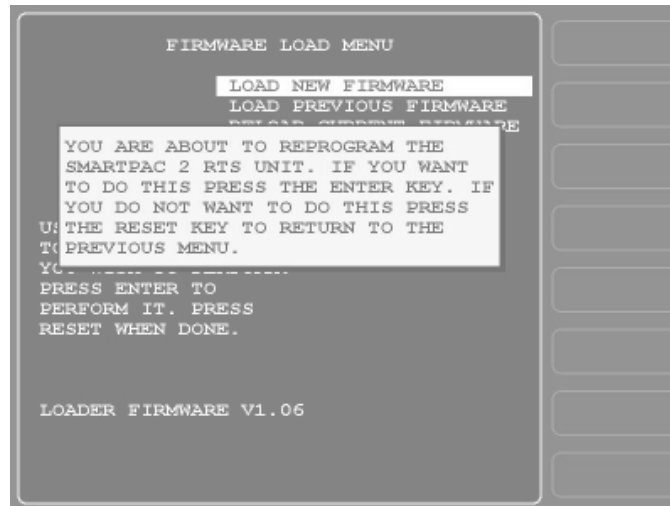


**Figure 2. Firmware Load Menu with “LOAD NEW FIRMWARE” Highlighted**

**NOTICE**

If the USB disk does not contain the correct folder for this SmartPAC 2 serial number, you will first see a message at the bottom of the screen that says “SP2nnnnnnnn DIRECTORY NOT FOUND” and then a red window with the message “THERE WAS NO RESPONSE TO THE USB DISK FILE TRANSFER REQUEST.” If these messages display, re-check the serial numbers of the SmartPAC 2 and the SmartPAC 2 firmware you are trying to load. If the two serial numbers match, try loading the firmware again. If this still does not work, contact Wintriss Tech. Support.

11. With “LOAD NEW FIRMWARE” selected, as shown in Figure 2, press ENTER. A yellow status window appears with the message “YOU ARE ABOUT TO REPROGRAM THE SMARTPAC 2 RTS UNIT . . .” (see Figure 3, next page).



**Figure 3. Firmware Load Menu with Yellow Status Window**

12. Press ENTER to continue. A display like the one shown in Figure 4 (next page) appears, indicating that the firmware is being loaded. It takes about five minutes for the firmware to load.

### NOTICE

If power is lost to SmartPAC 2 during installation of the firmware, SmartPAC 2 will default to the Firmware Load Menu display when the unit is powered back up. Repeat steps 9-11 to install the firmware again.

13. When the firmware is completely loaded, the Load Time counter stops incrementing, a yellow status window appears briefly saying “THE DOWNLOAD SEQUENCE IS COMPLETE,” and the SmartPAC 2 will restart (reboot) itself. Once the reboot is complete, another yellow status window appears saying, “YOU HAVE NOW UPDATED THE SMARTPAC SOFTWARE. SHUT THE POWER OFF AND THEN TURN IT BACK ON TO RESTART THE SMARTPAC 2.”



**Figure 4. SmartPAC 2 Display with “Loading Firmware” Message**

14. Power down the SmartPAC 2. Remove the USB disk from the USB connector.
15. Power up the SmartPAC 2. Access the Main Initialization Menu and select “INSTALLED OPTIONS” to check for new installed options or enhancements, if any.

#### **NOTICE**

If you have a MultiPAC module connected to SmartPAC 2, the following message may appear when you power up the unit: “A MULTIPAC MODULE WAS INSTALLED THE LAST TIME THE UNIT WAS POWERED-UP AND WAS NOT SEEN THIS TIME.” If you receive this message, power down SmartPAC 2 again, then power the unit back up. If the message still appears, contact Wintriss Tech. Support.

16. If you suspended a job in order to load SmartPAC 2 firmware, reload the tool and enter the counts for your job-in-progress from Table 1 (see page 2), as follows:
  - a. Enter Run mode and select COUNTERS.
  - b. Enter the count values from Table 1 for each line in the display.
  - c. When you are finished, you can continue running the job that was in progress.

#### **NOTICE**

Your Security Access settings may be set to prevent changing the count values in Run mode. If this is the case, go to the Main Initialization Menu, select “SECURITY ACCESS”, and set “CHANGE COUNT” to “PROGRAM AND RUN MODES.” After you change the count values, you can reset the Security Access if desired.

17. If you have SmartPAC 2 Servo or SmartPAC 2 Hydraulic, enter the settings you recorded in step 2 on the Linear Sensor screen in Initialization mode.

## Downloading Updated Firmware from the Wintriss Server

### NOTICE

To copy firmware downloaded from Wintriss to a USB disk, you must have:

- A PC with a USB port and one of the following Windows operating systems: Windows 98 (second edition), Windows 2000 or Windows XP
- A USB disk with at least 4 MB of available space

To download firmware from the Wintriss server, perform the following steps:

1. Click on the link provided in the e-mail you received from Wintriss in response to your firmware order. If the link has been disabled by your security settings, copy the link, paste it into a Browser window, and press ENTER.
2. When a window displays asking if you want to open the file or save the file to your computer, select the *Save* option.
3. When the *Save As* window displays, click on *Save* with the following settings selected:  
**Save in:** Desktop  
**File name:** SP2nnnnnnnn (where *nnnnnnnn* is your SmartPAC 2 serial number)  
**Save as type:** Application
4. Click on *Save* to save the file to your desktop. This may take a few minutes.
5. When the *Download Complete* window displays, click on *Close* to end the download. (On some systems, the window may close automatically.)
6. Locate the downloaded, compressed file on your desktop (the icon displays the WinZip logo and the file name SP2nnnnnnnn), and double-click on it to launch the WinZip Self-Extractor utility.
7. When the WinZip Self-Extractor window displays, select the folder to which you want the contents of the unzipped file saved (the default is C:\WintrissUpdates), and click on *Unzip*.

### NOTICE

You can change the drive and/or folder to which you save the file by clicking on the *Browse* button and navigating to the desired location. You can create a new folder by typing the folder name in the **Unzip to folder:** field.

8. Click on *OK* in the window that displays with the message that the file has been unzipped successfully, then click on *Close* in the WinZip Self-Extractor window.



9. Double-click on the *My Computer* icon on your desktop, and when the “My Computer” window opens, navigate to the folder in which you placed the unzipped SmartPAC 2 firmware file. (The contents of the unzipped file are in a folder named SP2nnnnnnnn, where nnnnnnnn is the serial number of your SmartPAC 2.)
10. Insert a USB disk into your computer’s USB port. Wait a few moments for it to be recognized.
  - If your computer is already set up to use a USB disk, the USB drive (usually named “Removable Disk” with a drive letter next it) will appear in the “My Computer” window.
  - If you have never used a USB disk on your computer, you will be prompted with a message saying, “New hardware has been found.” Follow the on-screen instructions to find and install the proper drivers for your USB disk. For assistance, contact your information technology staff.
11. With both the SP2nnnnnnnn folder and the USB “Removable Disk” icon visible in “My Computer” windows, copy the SP2nnnnnnnn folder to the USB disk.
12. Stop the USB disk, using the “Unplug or Eject Hardware” utility on your computer. (The “Unplug or Eject Hardware” icon is often displayed on the far right side of the Task Bar.)

**NOTICE**

Be sure to stop the USB disk before removing it from the computer. If you don’t, valuable data on your computer may be corrupted or lost.

If you are using Windows XP, you do not need to “unplug” or “eject” the USB disk.

13. Remove the USB disk from the USB drive.
14. To install downloaded firmware from the USB disk to SmartPAC 2, follow the instructions in “Installing Updated Firmware from USB Disk to SmartPAC 2,” page 2.

## Installing Firmware from a Replacement Compact Flash (CF) Card

### NOTICE

#### MAKE SURE TO SPECIFY YOUR SMARTPAC 2 SERIAL NUMBER

When you order a replacement Compact Flash (CF) card, make sure to include the serial number of your SmartPAC 2. Wintriss needs the serial number to create the correct firmware for your SmartPAC 2.

The serial number is located on the top-mounting flange of the SmartPAC 2 enclosure and on the Boot Loader chip (U124) on the SmartPAC 2 board (see your SmartPAC 2 manual for location). If you have a panel mount unit, the serial number can be found on the other side of the plate on which the AC input terminal block is mounted.

If you are replacing a Compact Flash (CF) card, perform the following steps to reload the SmartPAC 2 firmware resident on it:

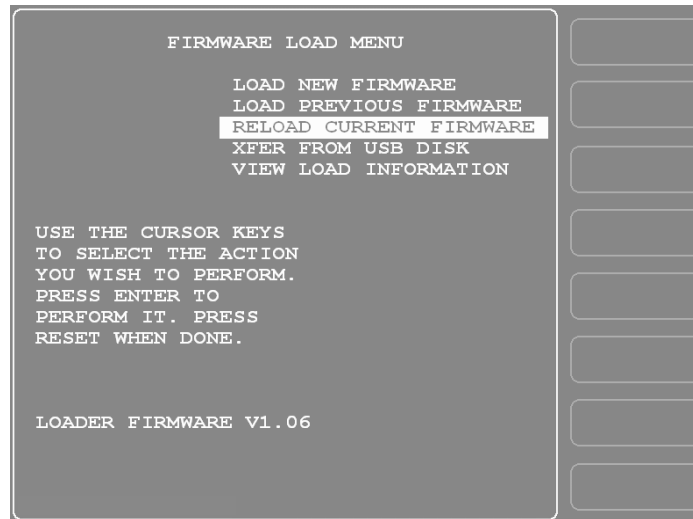
### WARNING

#### ELECTRIC SHOCK HAZARD

- Ensure that the power source is off before you replace electronic components in a control.
- Disconnect power from the machinery it is connected to before replacing electronic components. This includes disconnecting power to the machine control and motor.
- Ensure that installation is performed by qualified personnel.

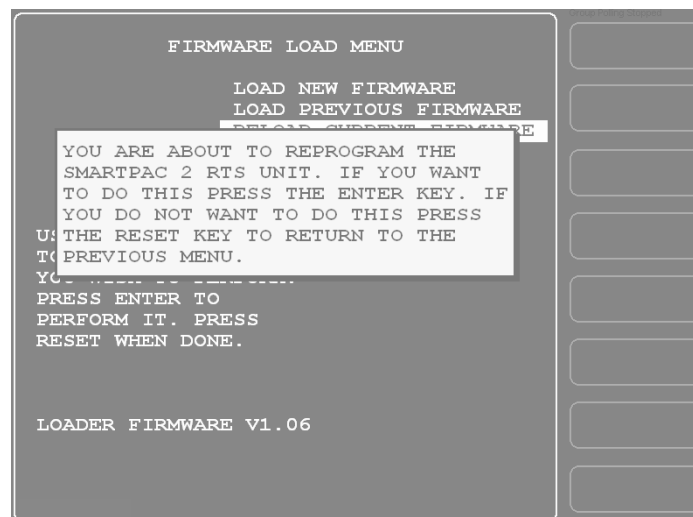
**Failure to comply with these instructions could result in death or serious injury.**

1. With power to the SmartPAC 2 turned off, insert the replacement Compact Flash card in the receptacle on the SmartPAC 2 board (see your SmartPAC 2 manual for location). If a ProCamPAC board is installed, you will have to remove it to access the Compact Flash slot.
2. Close the door of the enclosure or console.
3. Press and hold down the **F1** function key while powering up the SmartPAC 2, releasing **F1** when the red Wintriss SmartPAC 2 screen displays. After about a minute the FIRMWARE LOAD MENU will appear (see Figure 5, next page).



**Figure 5. Firmware Load Menu with “RELOAD CURRENT FIRMWARE” Highlighted**

- Using the cursor keys, highlight “RELOAD CURRENT FIRMWARE,” as shown in Figure 5, and press ENTER. A yellow status window appears with the message “YOU ARE ABOUT TO REPROGRAM THE SMARTPAC 2 RTS UNIT . . .” (see Figure 6).



**Figure 6. Firmware Load Menu with Yellow Status Window**

- Press ENTER to continue. The message “PLEASE WAIT WHILE THE FIRMWARE MEMORY IS BEING ERASED” displays briefly, followed by a display like the one shown in Figure 7 (next page), indicating that the firmware is being loaded. It takes about five minutes for the firmware to load.



**Figure 7. SmartPAC 2 Display with “Loading Firmware” Message**

### **NOTICE**

If power is lost to SmartPAC 2 during installation of the firmware, SmartPAC 2 will default to the Firmware Load Menu display when the unit is powered back up. Repeat steps 4 and 5 to install the firmware again.

- When the firmware is completely loaded, the Load Time counter stops incrementing, a yellow status window appears briefly saying “THE DOWNLOAD SEQUENCE IS COMPLETE,” and the SmartPAC 2 will restart (reboot) itself. Once the reboot is complete, another yellow status window appears saying, “YOU HAVE NOW UPDATED THE SMARTPAC SOFTWARE. SHUT THE POWER OFF AND THEN TURN IT BACK ON TO RESTART THE SMARTPAC 2.”
- Power down the SmartPAC 2, then power the unit back up.
- Access the Main Initialization Menu, and select “INSTALLED OPTIONS” to verify that all the options in your SmartPAC 2 configuration have been installed.

### **NOTICE**

If you have a MultiPAC module connected to SmartPAC 2, the following message may appear when you power up the unit: “A MULTIPAC MODULE WAS INSTALLED THE LAST TIME THE UNIT WAS POWERED-UP AND WAS NOT SEEN THIS TIME.” If you receive this message, power down SmartPAC 2 again, then power the unit back up. If the message still appears, contact Wintriss Tech. Support.

## Assembly Sheet

Doc. # 1138300F – DA70322 Document name SmartPAC 2 FW Upgrade Instr. Sht.

side	page #	contents/comment	side	page #	contents/comment
<b>F</b>	1		<b>F</b>	-	
<b>B</b>	2		<b>B</b>	-	
<b>F</b>	3		<b>F</b>	-	
<b>B</b>	4		<b>B</b>	-	
<b>F</b>	5		<b>F</b>	-	
<b>B</b>	6		<b>B</b>	-	
<b>F</b>	7		<b>F</b>	-	
<b>B</b>	8		<b>B</b>	-	
<b>F</b>	9		<b>F</b>	-	
<b>B</b>	10		<b>B</b>	-	
<b>F</b>	11		<b>F</b>	-	
<b>B</b>	12		<b>B</b>	-	
<b>F</b>	-		<b>F</b>	-	
<b>B</b>	-		<b>B</b>	-	
<b>F</b>	-		<b>F</b>	-	
<b>B</b>	-		<b>B</b>	-	
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2-sided, 3-hole drilled.

Note: print only the pages indicated. If other pages, such as this assembly sheet, are included in the file, do not print them.