Instruction Sheet – Upgrading from Original SmartPAC or SmartPAC 2 to SmartPAC PRO

This document shows you how to replace your existing original SmartPAC (SmartPAC 1) or SmartPAC 2 with SmartPAC PRO.

Refer to your *SmartPAC PRO Installation Manual* (1143200), as needed.

Checking That Mounting Location Can Accommodate SmartPAC PRO

The SmartPAC PRO control enclosure and panel mount are larger than the control enclosure and panel mount models of original SmartPAC and SmartPAC 2.

Before you start the process of upgrading to a SmartPAC PRO, make sure the mounting location has enough space. See your SmartPAC PRO Installation Manual for the space required to install SmartPAC PRO, either control enclosure or panel mount, including clearance required in front of or behind the mounting surface:

- Control enclosure: 18 in. (457 mm) clearance required in front of the mounting surface
- Panel mount: 6 in. (152 mm) clearance required behind the mounting surface

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NOTICE

If the existing installation location provides insufficient space, find another location for the SmartPAC PRO. Follow the guidelines in your SmartPAC PRO Installation Manual.

Instruction Sheet   *April 2020*   *1145200*
Upgrading from Original SmartPAC or SmartPAC 2 to SmartPAC PRO   *Revision A*   *1*
Wintriss Controls Group   *978-268-2700*   *toll free 800-586-8324*

Recording SmartPAC Initialization Settings Before Upgrading

NOTICE

Original SmartPAC or SmartPAC 2 Initialization settings cannot be restored to SmartPAC PRO using SBR. Be sure to copy Initialization settings to a paper form or take photos before the backup so you can enter them manually into SmartPAC PRO after you have restored the tool settings.

Also, delete any obsolete tools before backup.

Copy the following settings listed below to a paper form or take photos before the backup. You don't need to record settings for AutoSetPAC, WaveFormPAC, ProPAC, or RamPAC, since this information is stored at the PAC.

- Position Sensor (If Installed): Enabled or Disabled
- Counter Setup Mode: Incremented in All Modes or Not Incremented in Inch Mode
- Press Name
- Brake Monitor: Stop and Start Time Limits
- Custom Cam Names
- Auto Advance Settings (If Used)
- Custom Sensor Names
- Sensor Enable Mode: Manual Enable, Auto by Tool, Auto by Sensor
- Setup Mode: Inch or Disabled
- Tool Information
- Security Access: All Settings
- Installed Options (if applicable): Settings for SFC (Set Communications), PM Monitor, SFI, MultiPAC

You don't need to record settings for AutoSetPAC, WaveFormPAC, ProPAC, or RamPAC (Note: This information is stored at the PAC).

Backing Up the Tools on Your Existing SmartPAC

Use one of the methods below to back up (copy) the tool settings from your existing SmartPAC.

- If your existing unit is a SmartPAC 2 with the BACKUP/RESTORE installed option, back up (copy) the tools onto a USB drive according to *Using the SmartPAC 2 USB Disk BACKUP/RESTORE Installed Option to* Back Up Tools, below.

- If your existing SmartPAC is either an original SmartPAC or a SmartPAC 2 without the BACKUP/RESTORE installed option, back up (copy) the tools onto a USB drive according to *Appendix A – Backing Up Tools Using SmartPAC Backup and Restore (SBR)*, page 16.

Using the SmartPAC 2 USB Disk BACKUP/RESTORE Installed Option to Back Up Tools

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NOTICE

These instructions require the SmartPAC 2 firmware to be V10.08 or higher and have the USB Disk Backup as an installed option. If your unit does not have this installed option contact your Wintriss Rep or Wintriss Customer Service department for upgrade and ordering information (Installed USB Disk Backup - P/N 9679619).

NOTICE

Original SmartPAC or SmartPAC 2 Initialization settings cannot be restored to SmartPAC PRO. Be sure to copy Initialization settings to a paper form or take photos before the backup (*Recording SmartPAC Initialization Settings Before Upgrading*, above) so you can enter them manually into SmartPAC PRO after you have restored the tool settings.

You should delete any obsolete tools before performing the backup.

Back up your tools on a USB disk using the BACKUP/RESTORE feature on the Initialization Menu. Follow the instructions in *Backing Up Tools to a USB Disk* in Chapter 4 of your *SmartPAC 2 User Manual*. After you back up the tool information to the USB disk, proceed with your SmartPAC PRO upgrade.

Keep the USB drive in a safe place until ready to load into your SmartPAC PRO.

NOTICE

If you are upgrading an original SmartPAC or a SmartPAC 2 without the BACKUP/RESTORE installed option, back up the tool information according to the instructions in *Appendix A – Backing Up Tools Using SmartPAC Backup and Restore (SBR)*, page 16.

Removing Your Existing SmartPAC

NOTICE

Before removing your existing original SmartPAC or SmartPAC 2, back up your tool data and record the installation settings as described in Recording SmartPAC Initialization Settings Before Upgrading, page2.

To uninstall your existing SmartPAC, follow these steps:

1. Mark cables and disconnect terminal blocks from the terminal block connectors. Remove from your existing unit.

2. Remove and set aside in a safe place any PAC modules from your existing SmartPAC

3. Remove mounting fasteners and remove SmartPAC control enclosure or panel mount unit.

Mounting Your SmartPAC PRO

Mounting Your Control Enclosure SmartPAC PRO

Follow the instructions in your *SmartPAC PRO Installation Manual* for mounting the SmartPAC PRO control enclosure.

Mounting Your Panel Mount SmartPAC PRO

Referring to your *SmartPAC PRO Installation Manual*, enlarge the cutout in your panel or console to fit the SmartPAC PRO, making sure 6 in. (152 mm) clearance exists behind the panel.

Follow the instructions in your installation manual for mounting SmartPAC PRO panel mount.

Terminating Cable Shields

NOTICE

TERMINATE CABLE SHIELDS CORRECTLY TO MINIMIZE ELECTROMAGNETIC INTERFERENCE (EMI)

Shielded cables are used with the SmartPAC PRO Servo. For effective shielding, terminate the cable shields as near as possible to the terminal block you are wiring to.

NOTICE

TERMINATE BOTH ENDS OF SHIELD

Be sure to terminate cable shields at both ends (for example, at SmartPAC PRO Servo and DSI 2).

For each shielded cable, perform the following steps.

1. Strip the cable jacket back about 3 inches.

2. You can terminate the shield braid or drain wire to either a chassis ground stud or under the screw on a PC board standoff. Find one of these as close as possible to the terminal block you are wiring.

3. Connect the shield drain wire or braid to the chassis ground stud or beneath the screw in the PC board standoff.

4. Connect the insulated wires to their designated positions on the terminal block.

Wiring Your SmartPAC PRO

Connect the wires you removed from your existing SmartPAC according to the appropriate wiring table. Refer to the wiring diagrams at the end of your *SmartPAC PRO Installation Manual.*

- *Table 1. Original SmartPAC to SmartPAC PRO Conversion Wiring*, below
- *Table 2. SmartPAC 2 to SmartPAC PRO Conversion Wiring*, page 8

Refer to the wiring diagrams at the end of your *SmartPAC PRO Installation Manual.*

When you have completed making wiring connections, perform the procedures in *Final Checkout* in your installation manual.

Table 1. Original SmartPAC to SmartPAC PRO Conversion Wiring

Original SmartPAC			➡	SmartPAC PRO RTS		
Signal Type	Connector	Pin number		Connector	Pin number	Done ✓
Main Power ** PS Module Plug						
L1	TB101	201	→	Line	L1	
L2	TB101	202	→	New	L2	
Grd	TB101	203	→	Chas	Grd	
Zero Cam						
Z Cam	TB101	211	→	TB5	248	
Input Check / Stop Circuit						
A (input ck.)	TB101	205	→	TB4	205	
B (input ck.)	TB101	206	→	TB4	206	
E-STOP	TB101	207	→	TB4	207	
E-STOP	TB101	208	→	TB4	208	
T-STOP	TB101	209	→	TB4	209	
T-STOP	TB101	210	→	TB4	210	
Resolver Port						
S1	TB106	213	→	TB3	213	
S2	TB106	214	→	TB3	214	
R1	TB106	215	→	TB3	215	
S3	TB106	216	→	TB3	216	
R2	TB106	217	→	TB3	217	
S4	TB106	218	→	TB3	218	

Original SmartPAC			➡	SmartPAC PRO RTS		
Signal Type	**Connector**	**Pin number**		**Connector**	**Pin number**	**Done** ✓
Position Sensor (if used)						
+V	TB107	245	→	TB5	245	
POS.	TB107	246	→	TB5	246	
GRD.	TB107	247	→	TB5	247	
WPC Port (Integration only)						
+RXD	TB104	219	→	TB8	327	
-RXD	TB104	220	→	TB8	328	
+TXD	TB104	221	→	TB8	329	
-TXD	TB104	222	→	TB8	330	
GRD.	TB104	223	→	TB8	326	
Remote Dual Op Station Select (Optional Remote Reset Switch)						
GRD.	TB202	256	→	TB5		
Rem rest	TB202	257	→	TB5	249	
Op Sta. 1	TB202	253	→	TB2 HMI	Bd 4 24vdc	
Op Sta. 2	TB202	254	→	TB2 HMI	Bd 3 24vdc	
WPC Adjustment Lockout Switch (Optional)						
GRD.	TB202	256	→	TB5	247	
Lockout	TB202	255	→	TB5	251	
Remote Reset (Optional)						
GRD.	TB203	258	→	TB5	247	
Remote Res.	TB203	257	→	TB5	249	

Original SmartPAC			➡	**SmartPAC PRO RTS**		
Signal Type	**Connector**	**Pin number**		**Connector**	**Pin number**	**Done** ✓
AutoSetPAC / WaveFormPAC 2 or 4 Channel (Optional)						
GRD.	TB102	240	→	TB6	240	
+RXD2	TB102	241	→	TB6	241	
-RXD2	TB102	242	→	TB6	242	
+TXD2	TB102	243	→	TB6	243	
-TXD2	TB102	244	→	TB6	244	
SFI (Optional)						
+RXD1	TB102	235	→	TB6	235	
-RXD1	TB102	236	→	TB6	236	
TXD1	TB102	237	→	TB6	237	
+TXD1	TB102	238	→	TB6	238	
-TXD1	TB102	239	→	TB6	239	
GRD.	TB102	240	→	TB6	240	
MultiPAC (Special Port - Optional)						
+RXD3	TB103	224	→	TB7	224	
-RXD3	TB103	225	→	TB7	225	
TDX3	TB103	226	→	TB7	226	
+TXD3	TB103	227	→	TB7	227	
-TXD3	TB103	228	→	TB7	228	
GRD.	TB103	229	→	TB7	229	

Original SmartPAC			➡	SmartPAC PRO RTS		
Signal Type	**Connector**	**Pin number**		**Connector**	**Pin number**	**Done** ✓
PACNet (Optional)						
GRD.	TB103	229	→	TB7	229	
+RXD4	TB103	230	→	TB7	230	
-RXD4	TB103	231	→	TB7	231	
TXD4	TB103	232	→	TB7	232	
+TXD4	TB103	233	→	TB7	233	
-TXD4	TB103	234	→	TB7	234	

NOTE: Connect all shields / ground wires to chassis ground

Table 2. SmartPAC 2 to SmartPAC PRO Conversion Wiring

SmartPAC 2			➡	SmartPAC PRO RTS		
Signal Type	**Connector**	**Pin number**		**Connector**	**Pin number**	**Done** ✓
Main Power ** PS Module Plug						
L1	Grey Plug	201	→	Line	L1	
L2	Grey Plug	202	→	Neu	L2	
Grd	Chas	Grd	→	Chas	Grd	
Zero Cam						
ZCam	TB107	248	→	TB5	248	
Input Check / Stop Circuit						
A (input ck.)	TB102	205	→	TB4	205	
B (input ck.)	TB102	206	→	TB4	206	
E-STOP	TB102	207	→	TB4	207	
E-STOP	TB102	208	→	TB4	208	
T-STOP	TB102	209	→	TB4	209	
T-STOP	TB102	210	→	TB4	210	

SmartPAC 2			➡	SmartPAC PRO RTS		
Signal Type	**Connector**	**Pin number**		**Connector**	**Pin number**	**Done** ✓
Resolver Port						
S1	TB101	213	→	TB3	213	
S2	TB101	214	→	TB3	214	
R1	TB101	215	→	TB3	215	
S3	TB101	216	→	TB3	216	
R2	TB101	217	→	TB3	217	
S4	TB101	218	→	TB3	218	
Shield	TB101	212	→	TB3	212	
Position Sensor (if used)						
+V	TB107	245	→	TB5	245	
POS.	TB107	246	→	TB5	246	
GRD.	TB107	247	→	TB5	247	
WPC Port (Integration only)						
+RXD	TB105	327	→	TB8	327	
-RXD	TB105	328	→	TB8	328	
+TXD	TB105	329	→	TB8	329	
-TXD	TB105	330	→	TB8	330	
GRD.	TB105	326	→	TB8	326	
Remote Dual Op Station Select (Optional Remote Reset Switch)						
GRD.	TB107	256	→	TB5		
Rem rest	TB107	257	→	TB5	249	
Op Sta. 1	TB107	254	→	TB2 HMI	Bd 4 24vdc	
Op Sta. 2	TB107	253	→	TB2 HMI	Bd 3 24vdc	

SmartPAC 2			➡	SmartPAC PRO RTS		
Signal Type	**Connector**	**Pin number**		**Connector**	**Pin number**	**Done** ✓
WPC Adjustment Lockout Switch (Optional)						
GRD.	TB107	250	→	TB5	247	
Lockout	TB107	251	→	TB5	251	
Remote Reset (Optional)						
GRD.	TB107	250	→	TB5	247	
Remote Res.	TB107	249	→	TB5	249	
AutoSetPAC / WaveFormPAC 2 or 4 Channel (Optional)						
GRD.	TB103	240	→	TB6	240	
+RXD2	TB103	241	→	TB6	241	
-RXD2	TB103	242	→	TB6	242	
+TXD2	TB103	243	→	TB6	243	
-TXD2	TB103	244	→	TB6	244	
SFI (Optional)						
+RXD1	TB103	235	→	TB6	235	
-RXD1	TB103	236	→	TB6	236	
TXD1	TB103	237	→	TB6	237	
+TXD1	TB103	238	→	TB6	238	
-TXD1	TB103	239	→	TB6	239	
GRD	TB103	240	→	TB6	240	

SmartPAC 2			➡	SmartPAC PRO RTS		
Signal Type	**Connector**	**Pin number**		**Connector**	**Pin number**	**Done ✓**
MultiPAC (Special Port - Optional)						
+RXD3	TB104	224	→	TB7	224	
-RXD3	TB104	225	→	TB7	225	
TXD3	TB104	226	→	TB7	226	
+TDX3	TB104	227	→	TB7	227	
-TDX3	TB104	228	→	TB7	228	
GRD.	TB104	229	→	TB7	229	
PACNet (Optional)						
GRD.	TB104	229	→	TB7	229	
+RXD4	TB104	230	→	TB7	230	
-RXD4	TB104	231	→	TB7	231	
TXD4	TB104	232	→	TB7	232	
+TXD4	TB104	233	→	TB7	233	
-TXD4	TB104	234	→	TB7	234	

NOTE: Connect all shields / ground wires to chassis ground

Restoring (Copying) Tools to the SmartPAC PRO

Follow the steps below to restore your original SmartPAC or SmartPAC 2 tools to the SmartPAC PRO that you previously backed up (copied) to a USB disk.

1. Insert the USB disk into the SmartPAC PRO USB connector on the front of the unit. When the "USB disk has been inserted" message appears, press Cancel (Figure 1).
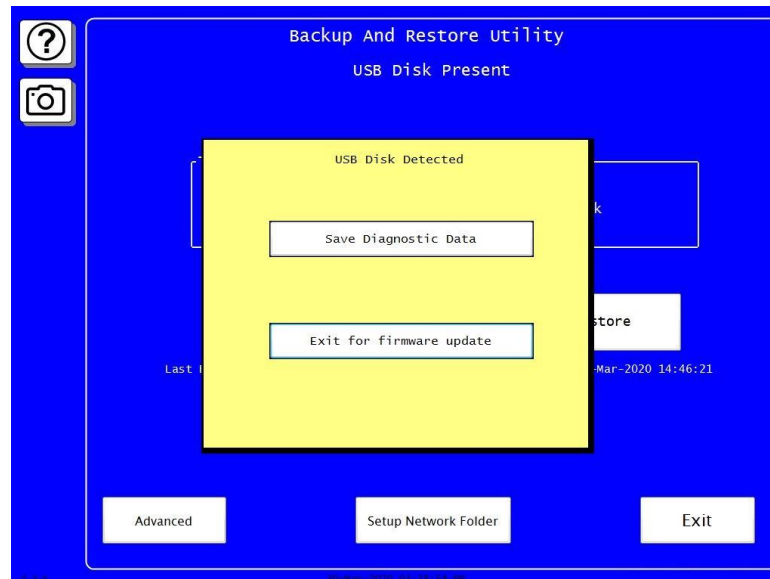
Figure 1. "USB Disk Detected" Message

2. Press Advanced (Figure 2).
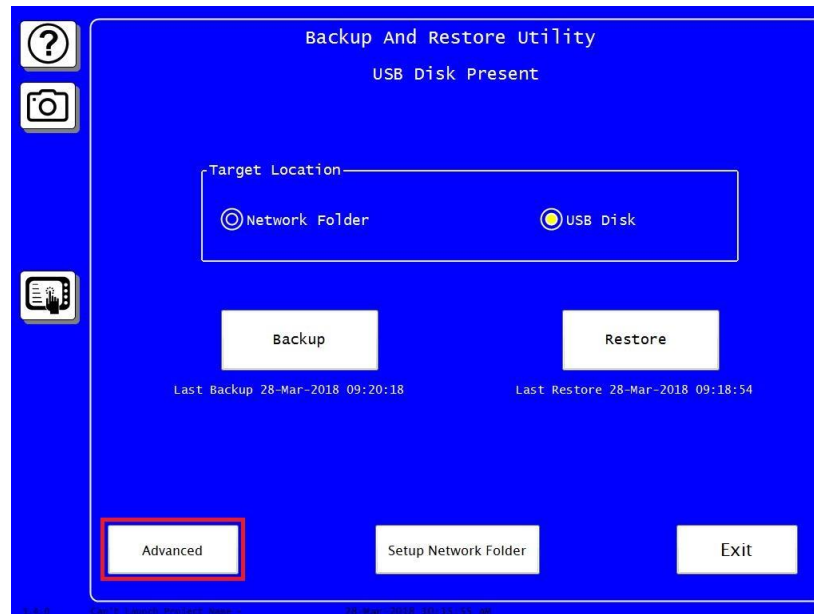
Figure 2. Backup and Restore Utility Menu Advanced

3. Press Restore SmartPAC 1 or 2 Tools (Figure 3).
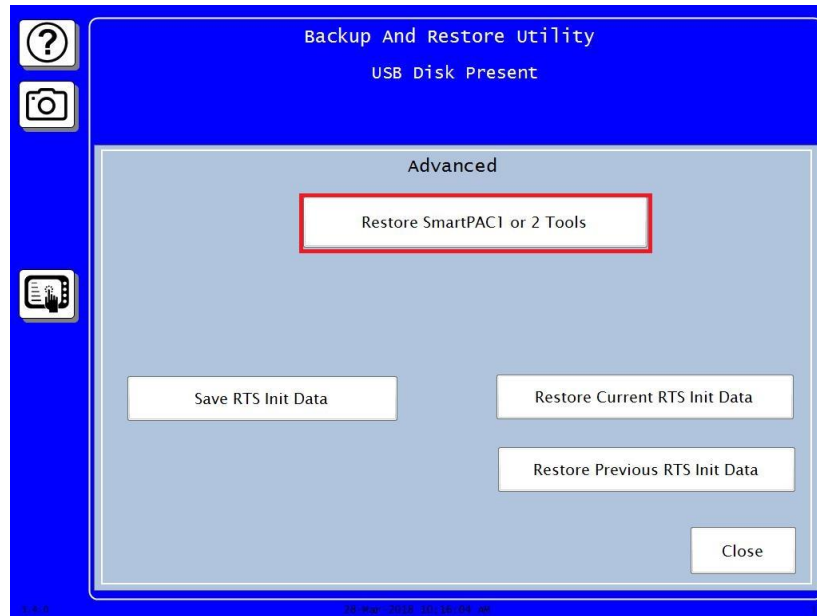
Figure 3. Backup and Restore Utility: Restore SmartPAC 1 or 2 Tools

4. Press Search for Tool Files (Figure 4).
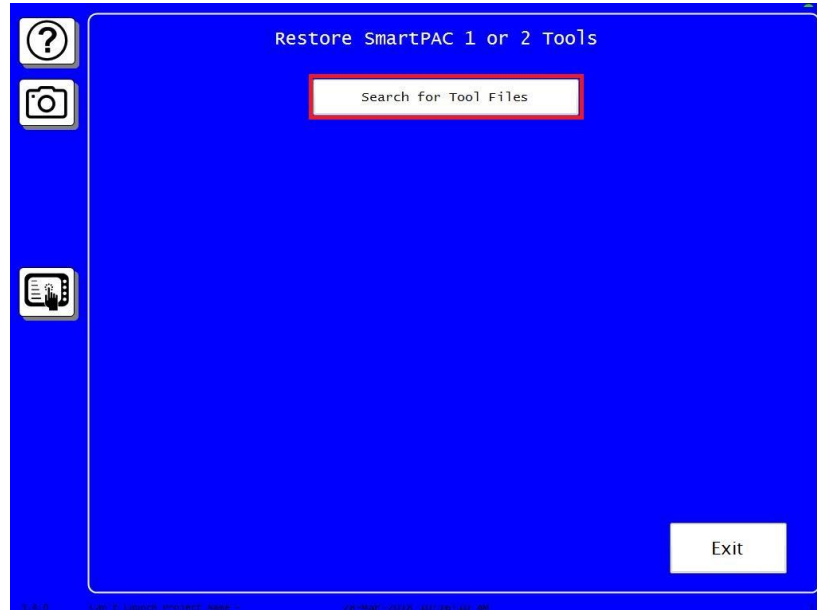
Figure 4. Search for Tool Files

5. Press the tool file you want (Figure 5).
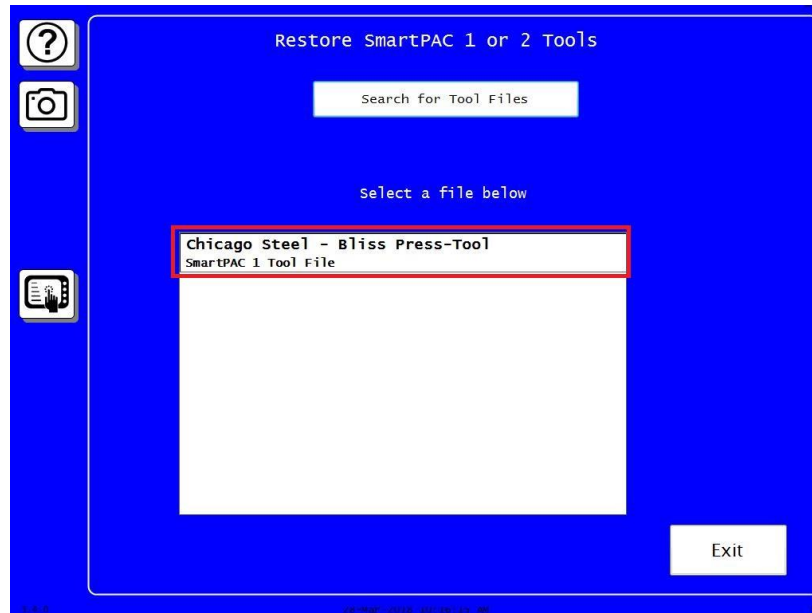
Figure 5. Select a File Below

6. Tools that are checked will be restored to the SmartPAC PRO. Uncheck any of the tools you do not want restored. Then press Convert to Spro (Figure 6).
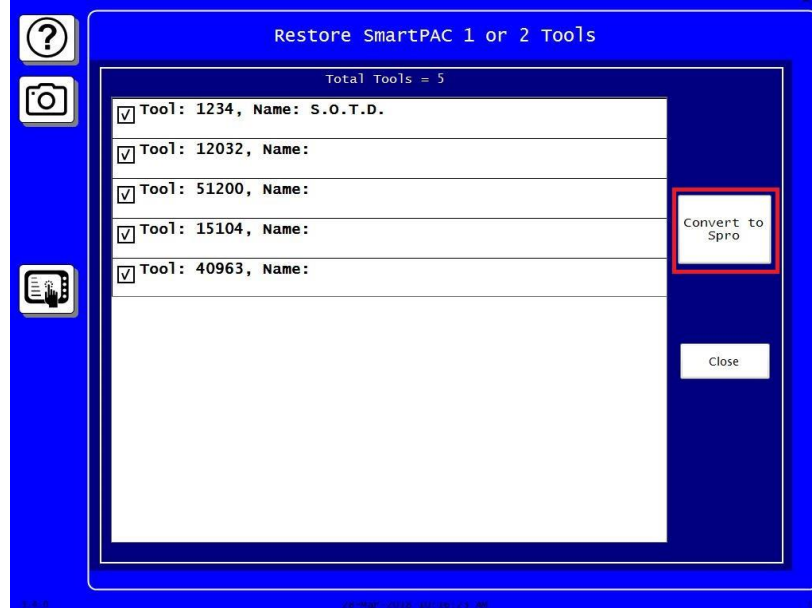
Figure 6. Convert to Spro

7. The conversion process and restoring of your tools to the SmartPAC PRO takes only a moment to complete. When you see the *Conversion completed!* message (Figure 7), press Exit. Then navigate to the Tool Manager in Program Menu and verify that the tools have been restored.
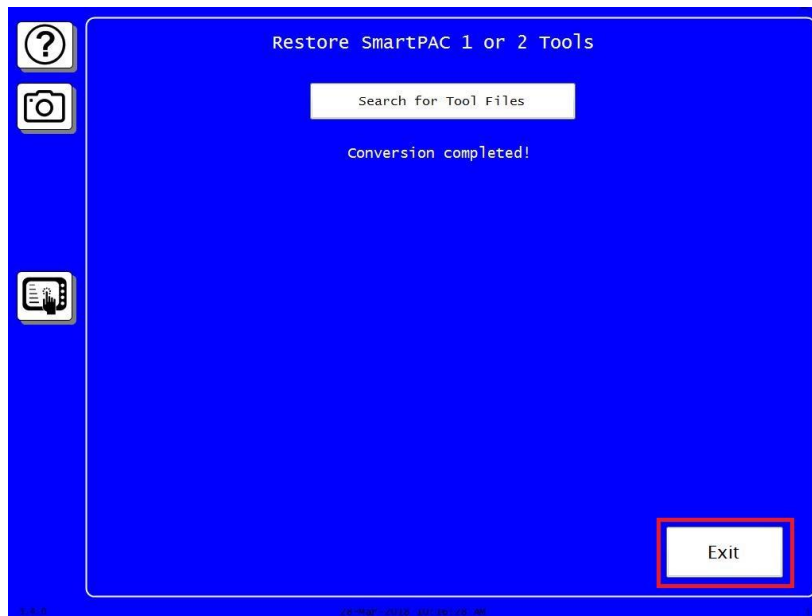
Figure 7. Conversion completed! Message

8. Re-enter into the SmartPAC PRO all relevant Initialization data that you copied or took photos of before starting your upgrade.

9. Load a tool and make any adjustments, if necessary, to operate the press.

Appendix A – Backing Up Tools Using SmartPAC Backup and Restore (SBR)

This appendix shows you how to install the SmartPAC Backup and Restore (SBR) utility and use it to back up (copy) up to 200 tools from your original SmartPAC or SmartPAC 2 onto a USB drive. After you install your SmartPAC PRO, copy the tools from the USB drive to the SmartPAC PRO, as described in *Restoring (Copying) Tools to the SmartPAC PRO*, page 12.

In order to use SBR, you must be running original SmartPAC or SmartPAC 2 with SBR/PACNet or LETS as an installed option.

This appendix is organized in the following sections:

Installing SBR on Your Laptop, page 17

Connecting Your Laptop to SmartPAC, page 18

Backing Up Tools, page 19

Responding to Errors That Interrupt Processing, page 25

Responding to a Checksum Error, page 27

NOTICE

ORIGINAL SMARTPAC (SMARTPAC 1) FIRMWARE AND INSTALLED OPTION REQUIREMENTS

SBR requires your original SmartPAC firmware to be version 7.95 or above (see the next NOTICE) and have one of the following installed options:

- PACNet/RST
- SFC/LETS
- Third-party communications

NOTICE

FOR ORIGINAL SMARTPAC (SMARTPAC 1): KNOW THE FIRMWARE VERSION NUMBER BEFORE CONTACTING YOUR WINTRISS REPRESENTATIVE.

Your Wintriss representative needs to know the firmware version number of your original SmartPAC. Find the version number on the List of Installed Options screen in Initialization.

Firmware versions 7.95 and earlier reside on a 4 MB board; versions 7.95 and later are on an 8 MB board. An 8 MB board is required to access PACNet/RSR for backing up your tool settings.

Firmware versions 7.95 and earlier will NOT work with the 8MB board, which must have current firmware (i.e., versions later than 7.95) with or without SFI. In order to allow backup of original SmartPAC data, the 8 MB board must also have the PACNet/RSR option installed.

The procedure for converting from a 4 MB to an 8 MB board must be followed exactly. When SmartPAC displays the message "IF YOU HAVE JUST UPDATED THE FIRMWARE IN THIS SMARTPAC, PRESS THE ENTER KEY TO SHIFT THE TOOL NUMBER TABLES," make sure to press ENTER to have the conversion work properly. Once converted to an 8 MB board, your original SmartPAC cannot use the 4 MB board again.

Installing SBR on Your Laptop

NOTICE

YOU MAY NEED ADMINISTRATOR PRIVILEGES TO INSTALL SBR ON SOME SYSTEMS

On some Windows operating systems, you may need Administrator privileges to install SBR.

SBR is compatible with the Windows 10 operating system. To install the software on your laptop or other computer, do the following:

1. Download the SBR files you receive from Wintriss Customer Service.

NOTICE

CLOSE ALL APPLICATIONS BEFORE STARTING INSTALLATION

If other applications are running on your computer during execution of the SBR installation program, SBR may not install successfully. Make sure to close all applications on your computer before launching the installation program.

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2. Open the SBR Install Package folder, and click on the Setup icon.

3. When a screen with the message "Welcome to the SBR Install installation program" displays, click on $\boxed{OK}$. The screen shown in Figure A - 1 displays.
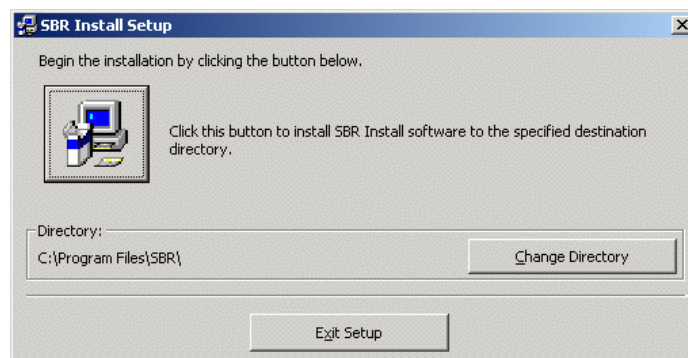
Figure A - 1. SBR Begin Installation Screen

4. Click on the large button at upper left on the SBR Begin Installation screen (see Figure A - 1) if you want SBR installed in the destination directory shown in the Directory: field in the lower half of the screen. The Choose Program Group screen, shown in Figure A - 2, displays.

NOTICE

If you want to specify a different directory for the SBR software installation, click on Change Directory, navigate to the directory you want in the "Directories:" window on the Change Directory screen, and click on OK. Then click on the large button in the top half of the Begin Installation screen.
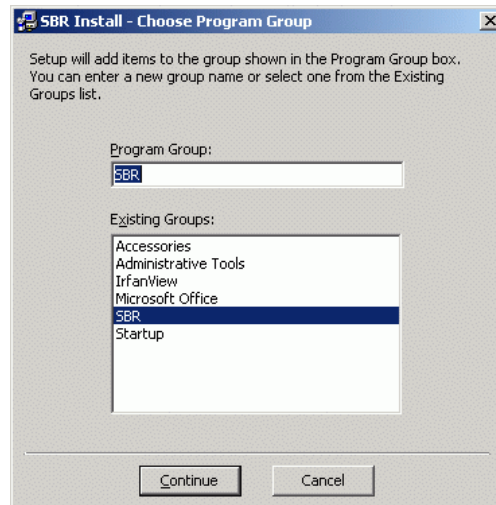

Figure A - 2. SBR Install – Choose Program Group Screen

5. Click on Continue if you want SBR installed in the group shown in the "Program Group:" window ("SBR" is the default entry).

    If you want to specify a different Program Group name, select an item in the "Existing Groups:" window by clicking on it, or type a new entry in the "Program Group:" window, then click on Continue.

6. A screen displays briefly, showing the progress of the installation, followed by a screen displaying the message "SBR Install Setup was completed successfully." Click on OK to return to your desktop.

Connecting Your Laptop to SmartPAC

⚠ WARNING
ELECTRIC SHOCK HAZARD
Before making any wiring connections turn off and disconnect power from the SmartPAC you are backing up and from the machinery it is connected to.
Failure to comply with these instructions could result in death or serious injury.

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.

To establish communications between your laptop and the SmartPAC you wish to back up, you need to connect the computer's serial port to the communications port on the SmartPAC. The communications port is labelled TB103 on original SmartPAC, TB104 on SmartPAC 2. To make the connection, use an SBR cable (Wintriss part #4199105) with a 9-pin DB-9 female connector at one

end to plug into the serial port on the laptop and an 11 pin Phoenix connector at the other end to plug into TB103 or TB104 on the SmartPAC.

NOTICE

If your laptop does not have a serial port or the serial port is not configured with 9 pins, you will have to use a serial adapter to connect to the SmartPAC. Older adapters may not be compatible with Windows 10. Contact Wintriss Tech Support for help or more information about the serial adapter.

To connect your laptop to a SmartPAC, using the SBR cable, do the following:

1. With your laptop and SmartPAC both turned off, plug the Phoenix connector at one end of the cable into TB103 on the original SmartPAC board or TB104 on the SmartPAC 2 board. The connector can be inserted in only one orientation.

2. Plug the DB-9 connector at the other end of the cable into your computer's serial port.

NOTICE

If you are using a serial converter, plug the DB-9 connector into the mating DB-9 connector on the adapter. Plug the other end of the adapter into a USB port on your laptop.

---

3. Turn on power at the SmartPAC, and turn on the laptop.

Backing Up Tools

To back up tools from an original SmartPAC or SmartPAC 2, do the following:

1. On your existing SmartPAC, check to make sure the CPU number in the communications menu is set to 1:

   Original SmartPAC: "CPU NUMBER = 1"

   > See Communications (optional) in Chapter 4 - Initialization Mode of your original SmartPAC manual

   SmartPAC 2: "RSR/SBR CPU NUMBER = 1"

   > See SETUP DATA COMMS (Optional) in Chapter 4 - Initialization Mode of your SmartPAC 2 manual

2. With the SmartPAC control turned on and the laptop wired to the control (see previous section), launch the SBR program by clicking on Start | Programs | SBR (or the Program Group you specified during installation) | SBR. The SBR Startup screen displays briefly, then a screen with the caption "SBR" followed by the SBR version number displayed on the title bar appears.

3. Click on File | Settings on the SBR screen. The SBR Settings screen with the General tab selected displays (see Figure A - 3).
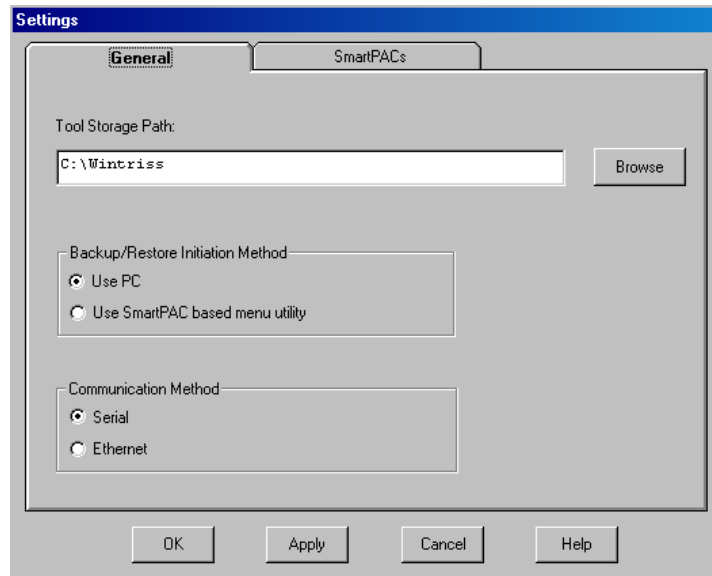
Figure A - 3. SBR Settings Screen, General Tab

4. If you want to change the disk location to which tools will be backed up (the default is "C:\Wintriss"), click on Browse to the right of the "Tool Storage Path:" field on the General tab, then navigate to the folder you want on the Browse for Folder screen, and click on OK. You are returned to the General tab with the folder you selected displayed in the "Tool Storage Path:" window.

5. Make sure that the **Use PC** radio button is selected in the Backup/Restore Initiation Method field and the **Serial** radio button is selected in the Communication Method field. These are the default settings. If **Use PC** and **Serial** are not selected, select them.

6. Click Apply.

   If you have selected "C:\Wintriss" as the backup destination and no folder by that name exists on your computer, a screen will display asking if you want to create that folder. Click on OK to create the folder.

7. Click on the SmartPACs tab.

8. Click Add (see Figure A - 5). The Add SmartPAC screen displays (see Figure A - 4), on which you enter identification information about the SmartPAC you are backing up. Information must be entered in all fields.
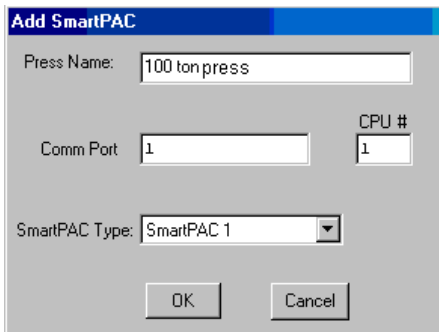
Figure A - 4. Add SmartPAC Screen

9. Type a name for the press in the Press Name field. You may want to use the name you assign to the press in SmartPAC Initialization, but this is not required.

10. Type in the Comm Port field the number assigned to the serial communications port on your laptop that is connected to your SmartPAC. The default setting is "1." Your Comm Port is likely to be different; find the correct Comm Port, according to the notice below and enter it in the Comm Port field.

NOTICE

The Comm Port field number when using a USB to Serial Adapter will be different from the default setting "1."   Go to your computer's Device Manager under Ports (COM & LPT) to identify the COM port number. Enter it in the Comm Port field.

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11. Enter in the CPU# field a unique number to identify the SmartPAC to the SBR program. The default setting is "1."

12. Specify in the SmartPAC Type: field the type of SmartPAC you are backing up: original SmartPAC (SmartPAC 1) or SmartPAC 2. Use the Down Arrow (▼) to display the two options, then select the option you want.

13. Click on OK. You are returned to the SmartPACs tab with the information you just entered displayed on a line beneath the Press Name, Port-CPU No, and SmartPAC Type captions. See Figure A - 5.
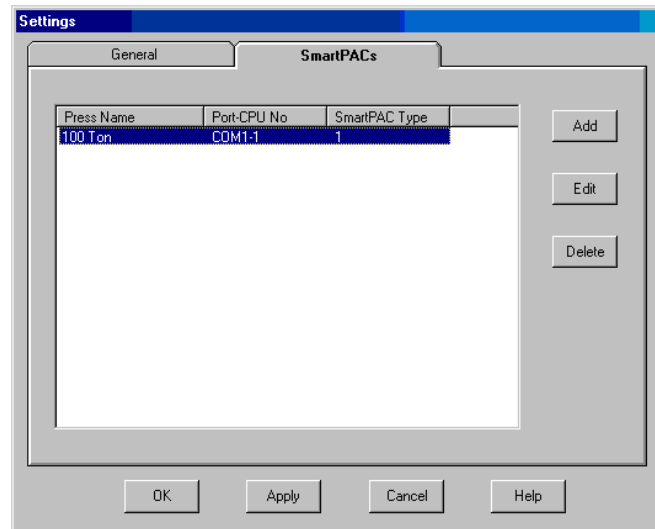
Figure A - 5. SBR Settings Screen, SmartPACs Tab

14. Click on OK . You are returned to the SBR screen (see Figure A - 6). The information you specified for the SmartPAC you are backing up is displayed on the first line of the screen to the right of an icon representing the SmartPAC control.
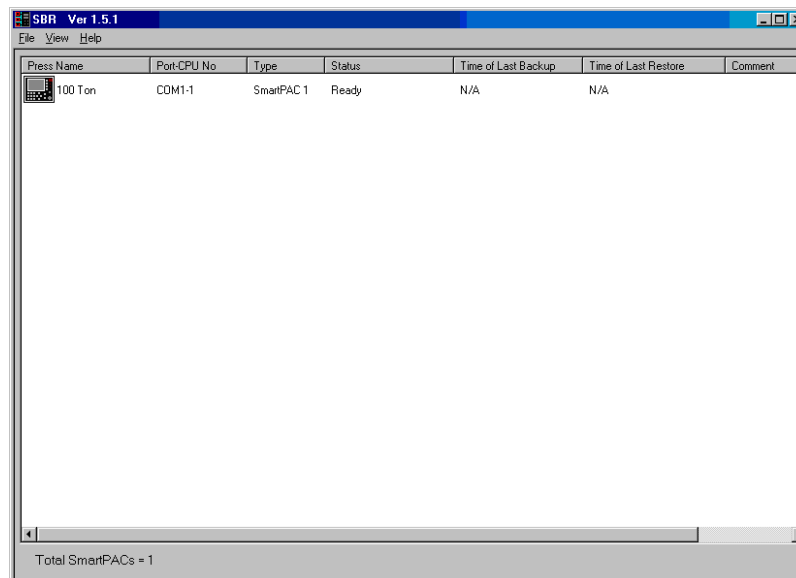

Figure A - 6. SBR Screen with SmartPAC Information Displayed

15. If the specified SmartPAC is turned on and your laptop and the SmartPAC are communicating, the entry in the Status field on the SBR screen should be Ready.

16. Click anywhere on the line of SmartPAC information to highlight it, then double-click on the highlighted line. A screen showing the press name you specified followed by the SmartPAC model –"SmartPAC 1" (original SmartPAC) or "SmartPAC 2" – displays on the title bar (Figure

A - 7). The Detail tab is selected. The entry in the Status: field should be Ready, as it is on the SBR screen, which is visible behind the current screen.
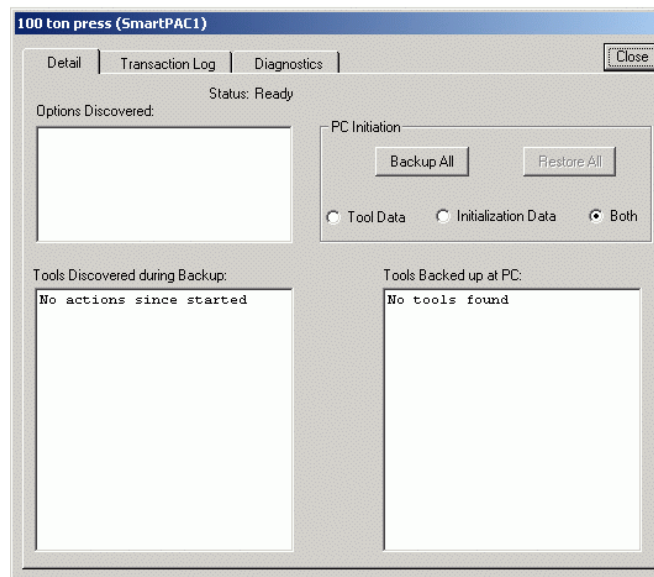

Figure A - 7. SBR Backup/Restore Screen

17. Click the **Tool Data** radio button (the default) to back up only tool information.

18. Click on Backup All.

The entry in the Status: field changes momentarily to "Getting Options," and then to "Getting Tool List," as the SBR program searches for installed options and tools on the SmartPAC. The results of these searches are displayed in the "Options Discovered:" and "Tools Discovered During Backup:" windows at the left of the screen, as shown in Figure A - 8.
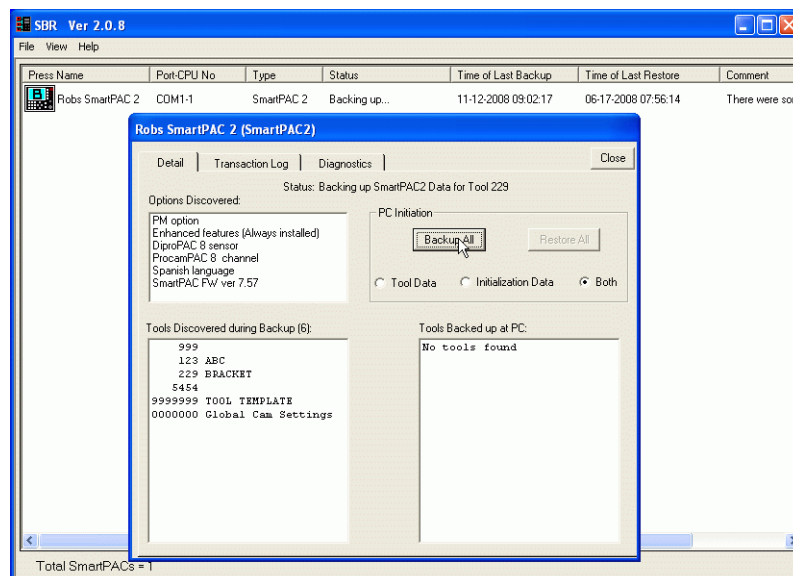

Figure A - 8. SBR Backup/Restore Screen with Installed Options and Tools Displayed

After the installed options and tool searches have been completed, the backup process begins. As tools are backed up, messages like the following display in the Status: field

> Backing up SmartPAC Data for Tool nnnnnn

> where nnnnnn is the number of the tool being backed up.

If the backup is proceeding smoothly, the letter "B" will appear on a turquoise LCD display on the icon for that SmartPAC on the SBR screen, as shown below and in Figure A - 8.

When the backup is complete, the message Finished Backup displays in the Status: field on the SBR Backup/Restore screen, and the message Finished displays in the Status: field on the SBR screen. Also, the SmartPAC icon in the Press Name field on the SBR screen displays a white check mark (√) on a grey LCD, as shown below,

and the date and time of the backup are shown in the Time of Last Backup: field.

NOTICE

If an error prevents the backup from being completed, the message "Operation Failed!" displays in the Status: field on the SBR Backup/Restore screen, and the message "Alert" displays in the Status: field on the SBR screen. Also, the icon on the SBR screen for the SmartPAC you are backing up displays a black exclamation mark (!) on a yellow LCD, as shown below.

For help with these errors, refer to *Responding to Errors That Interrupt Processing*, page 25.

If a checksum error occurs during the backup, the backup process runs to completion, but the message "Error" displays in the Status: field on the SBR screen, and the icon for the SmartPAC you are backing up shows a white question mark (?) on a red LCD, as shown below.

For help with checksum errors, refer to *Responding to a Checksum Error*, page 27.

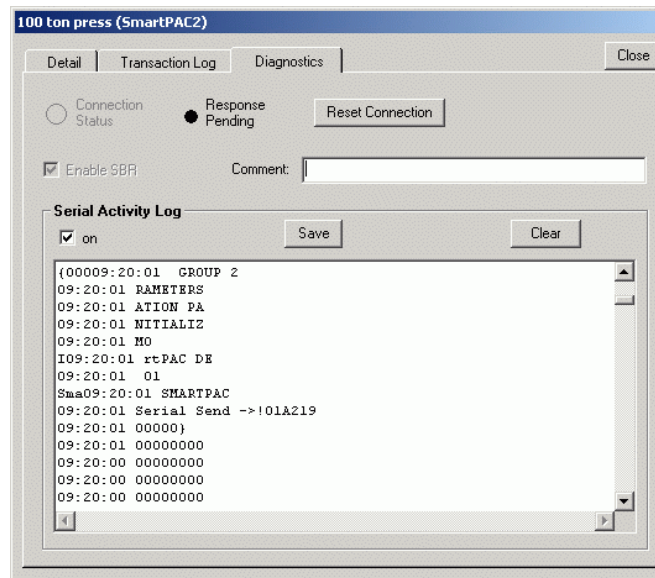19. Click on CLOSE when you are finished to return to the SBR screen.

Figure A - 9. SBR Backup/Restore Screen, Diagnostics Tab

Copy the backed-up tools to a USB drive for later transfer to your SmartPAC PRO, as follows:

1. On your computer, navigate to the Wintriss folder (or where you specified the Tool file to be saved).

2. Plug a USB drive into your computer.

3. Drag the Tool file to the USB drive. Keep the USB drive in a safe place until ready to load into your SmartPAC PRO.

After you back up the tool information to the USB disk, proceed with your SmartPAC PRO upgrade.

Responding to Errors That Interrupt Processing

Errors that interrupt the backup or restore process are indicated by the following displays:

*   The message "Operation Failed!" appears in the Status: field on the SBR Backup/Restore screen

*   The message "Alert" appears in the Status: field on the SBR screen

*   The icon for the SmartPAC you are backup up or restoring to displays a yellow exclamation mark on a yellow LCD, as shown below,

To respond to these errors, do the following:

1. Try running the backup or restore again by clicking on the Diagnostics tab, then clicking on Reset Connection (see Figure A - 9).

2. If this doesn't correct the problem, contact Wintriss Tech. Support.

Be prepared to provide the Tech. Support person with information about the backup or restore that appears in the Transaction Log and Diagnostics tabs.

The Transaction Log tab (to access this tab, click on Transaction Log) displays the date and time of each transaction in the backup or restore process (see Figure A - 10). For example, in Figure A - 10 you can see that a backup was initiated at 09:58:45 on 10/28/2018 and that the process was interrupted (this transaction is described as "Serial Action Timed Out") at 09:58:56. A Reset Connection command to rerun the backup (documented as "Manual Reset") was executed at 10:00:05.
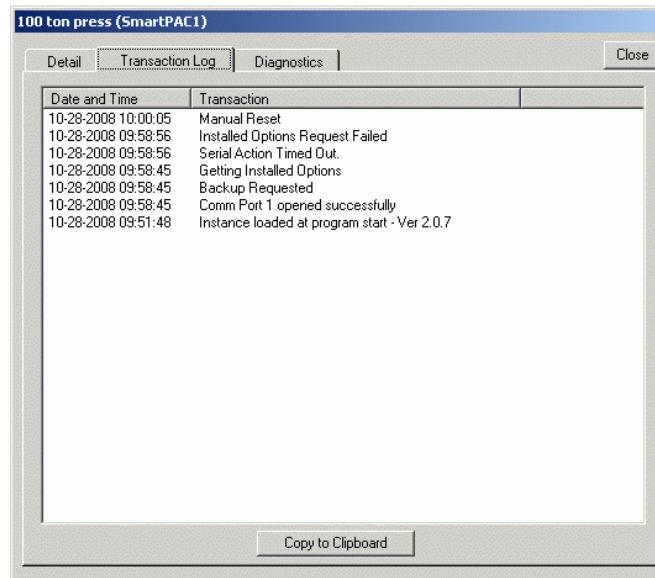

Figure A - 10. SBR Backup/Restore Screen, Transaction Log Tab

You can copy the Transaction Log to the clipboard by clicking on the Copy to Clipboard button at the bottom of the screen. From the clipboard, you can paste the log into an e mail (press Ctrl-V) and send it to Wintriss Tech. Support.

Once you have located the date/time that the problem occurred, you can check the Diagnostics tab (see Figure A - 11) for more detail. To do so, click on Diagnostics.

The Diagnostics tab shows the data being transmitted from the SmartPAC to your laptop (during a backup) or from your laptop to the SmartPAC (during a restore) with the date and time recorded for each piece of data. This information is displayed in the "Serial Activity Log" window.

You can display the transmission of data in real time by clicking on the on check box just beneath the Serial Activity Log caption. A check mark ($\sqrt{}$) appears in the box, and the data being transmitted scrolls down the window. When the receiving machine processes a data item, the Response Pending indicator turns green briefly.

When the backup or restore is finished, you can view individual data items and the time at which they were transmitted by moving back up the stream of data, using the vertical scroll bar, until you find the item you want.

You can also save the activity log to a file, which can be e-mailed to Wintriss Tech. Support for troubleshooting. To do so, select the on check box before you start the backup or restore and click

on the Save button when the process is complete. The log is saved to a file consisting of the press name you entered on the Add SmartPACs screen (see step 8 of *Backing Up Tools*, which starts on page *19*) followed by the suffix .diag. The file is saved to the destination you specified on the SBR Settings screen (see step 3 of *Backing Up Tools*, which starts on page *19*). The destination folder and filename are displayed on the first line of the log, as shown in Figure A - 11.
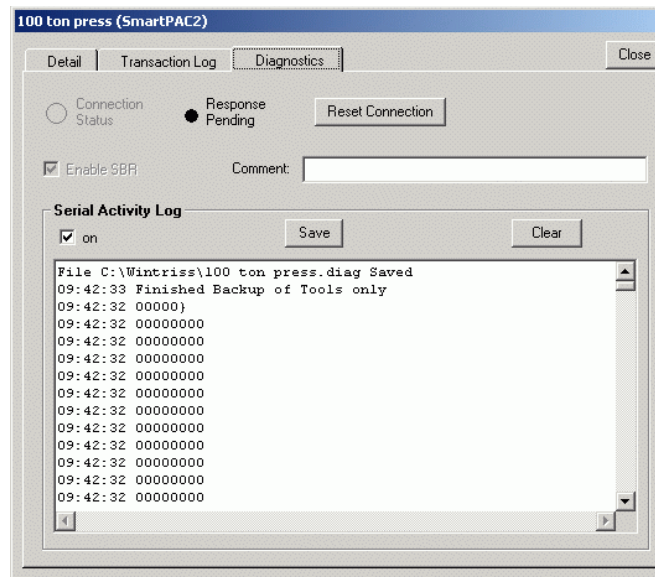

Figure A - 11. SBR Backup/Restore Screen, Diagnostics Tab

To clear information displayed in the "Serial Activity Log" window, click on the Clear button.

Responding to a Checksum Error

A checksum error is indicated by a white question mark (?) on a red LCD on the icon for the selected SmartPAC on the SBR screen, as shown below,

A "checksum" is a calculated number used to verify that the tool data being loaded at the SmartPAC is identical to the settings programmed for the tool. SmartPAC calculates the checksum whenever a tool number is programmed or tool settings are changed; the checksum is verified whenever a tool number is loaded. When there is a discrepancy between the two sets of data, SmartPAC generates a checksum error. Checksum calculations ensure that tool settings do not change unexpectedly.

While performing a backup, SBR calculates a checksum for the data retrieved for each tool and compares that value with the last checksum calculated by SmartPAC following tool programming. When the two values disagree, SBR generates a checksum error, as described above, to alert the user that one or more backed-up tools may be corrupted.

Checksum errors do not interrupt the backup process. You can check to see which tools have generated a checksum error by clicking on the Transaction Log tab and viewing the transactions for your backup job displayed in the log (see Figure A - 12, in which the third item displayed in the Transaction Log example is a checksum error).
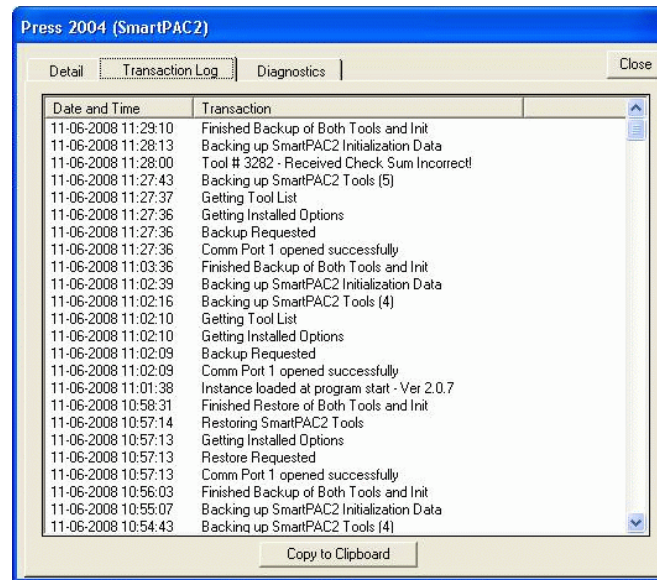
Figure A - 12. Transaction Log Tab Showing Checksum Errors

For each tool that generates a checksum error, do the following:

1. In SmartPAC Program mode, select a tool to edit on the Tool Program Menu.

2. Select each of the Tool Program Menu items (i.e., COUNTERS, DIE PROTECTION, CAM SWITCH, etc.) and check the settings, correcting any parameters that have been corrupted. When you press RESET to save your changes and/or return to the Tool Program Menu, SmartPAC recalculates the tool's checksum.

3. Reload the tool. If you don't get a "Tool number table checksum error" message, the tool programming has been restored.

4. When you have eliminated the checksum errors for all identified tools, re-run the backup.

5. If you can't correct checksum errors for one or more tools, contact Wintriss Tech. Support.