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# Operating System Update (OS Update)

ProSave

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## Question

How do you do an operating system update (OS update) on operator panels with ProSave?

## Answer

Follow the instructions and notes listed in this document for a detailed answer to the above question.

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# 1 General Information

Below is a summary of how to do an operating system update (OS update) with ProSave.

- The operating system of the operator panel depends on the version of ProTool, WinCC flexible or WinCC (TIA) used.  
You should do always do an operating system update whenever the operating system of the operator panel does not match the software version used.  
Information about this is described in section 1.1.
- If no operable operator panel image exists on the operator panel, you can only update the operating system by means of a reset to factory settings.  
Information about this is described in sections 1.2 and 1.3.
- If you have questions on establishing the connection or problems with the operating system update, please refer to chapters 2 and 3.

## Note

Updating the operating system deletes all the data on the operator panel.

**Therefore, first make a backup of the data below:**  
(using ProSave or Automation License Manager, for example)

- User administration
- Recipes
- Licenses  
(If you reset the operating system to the factory settings.  
Information about this is available in Entry ID: [27005215](#).)

## 1.1 Operating System Update (OS Update)

Please proceed as follows to perform an operating system update.

Table 1-1

No.	Procedure
1.	<p><b>Back up data:</b> Updating the operating system deletes all the data on the operator panel. Therefore, first make a backup of the data below, with ProSave, for example:</p> <ul style="list-style-type: none"> <li>• User management.</li> <li>• Recipes.</li> </ul>
2.	<p><b>Set the PG/PC interface:</b></p> <ul style="list-style-type: none"> <li>• In the SIMATIC Manager, you select the menu command "Tools &gt; Set PG/PC Interface...".</li> <li>• There you set the interface parameters used, CP5512 (PROFIBUS), for example.</li> </ul>
3.	<p><b>Make transfer settings on the operator panel:</b> Make the corresponding transfer settings on the operator panel and then switch the operator panel to Transfer mode.</p>
4.	<p><b>Establish cable connection:</b> Connect the operator panel to the PG/PC with an appropriate connection cable (according to the transfer setting selected).</p>
5.	<p><b>ProSave:</b></p> <ul style="list-style-type: none"> <li>• Start ProSave via "Start &gt; SIMATIC &gt; ProSave &gt; ProSave".</li> <li>• In the ProSave menu bar you select the <b>General</b> menu and define the device type and connection.</li> <li>• Switch to the "<b>OS Update</b>" menu in the menu bar. Now, by default, an Image version for your operator panel is displayed.</li> <li>• Click on the "<b>Update OS</b>" button. Click the "Update OS" key to open a dialog window with safety note. Read the note. Acknowledge the message with "<b>Yes</b>" in order to make the operating system update.</li> </ul> <p><b>Note:</b> Make sure that the correct Image path is set. (See also section 2.2)</p>
6.	<p><b>Transfer the project:</b></p> <p>After updating the operating system, the operator panel switches to "Transfer Mode". Now you can transfer the configuration.</p> <p><b>Note:</b> For Touch operator panels, you should calibrate the screen beforehand under "Control Panel &gt; OP &gt; Touch".</p>

## 1.2 Resetting the Operating System to the Factory Settings via PPI Multi-Master Cable

Proceed as follows to reset an operator panel to the factory settings using a PPI multi-master cable.

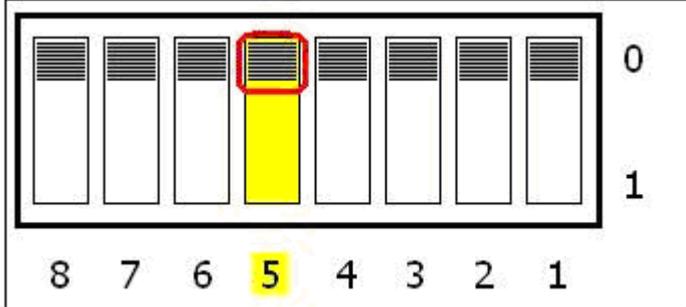
**Note**

If you reset the operating system to the factory settings, you cannot use all the communication connections and cables.

Information on which cable you can use for which operator panel is available in section 2.1.2.

Table 1-2

	Procedure
1.	<b>Back Up Licenses and Authorizations:</b>  Before resetting your operator panel to the factory settings, make sure that there are no licenses or authorizations on the operator panel. Information about this is available in Entry ID: <a href="#">27005215</a>
2.	<b>Set the PG/PC interface:</b>  For the "Reset to factory settings" function, the only setting you have to make in the PG/PC interface is for the transfer type "Ethernet". (See section 1.3)
3.	<b>Make transfer settings on the operator panel:</b>  No transfer settings need to be made on the operator panel.
4.	<b>Operator panel power supply:</b>  Switch off the power supply for the operator panel.

Procedure	
5.	<p><b>Establish cable connection:</b></p> <p>Connect the operator panel to the PG/PC using an appropriate RS232/PPI multi-master cable or USB/PPI multi-master cable.</p> <p><b>Settings on the RS232/PPI multi-master cable:</b></p> <p>For the operating system update you must set the fifth DIP switch to the ZERO position (PPI/Freeport). All other DIP switches are not relevant for operating system updates on an operator panel.</p> <div style="text-align: center;">  </div> <p><b>Note:</b> The DIP switch settings are marked with 0 and 1 on the cable housing.</p>
6.	<p><b>ProSave:</b></p> <ul style="list-style-type: none"> <li>• Start ProSave via "Start &gt; SIMATIC &gt; ProSave &gt; ProSave".</li> <li>• In the ProSave menu bar you select the <b>General</b> menu and define the device type.</li> <li>• Select "Serial (via RS232/PPI Multi-Master Cable)" as connection type.</li> <li>• Specify the serial port to which the PPI cable is connected on your PC.</li> <li>• You do not have to set the baud rate for an operating system update.</li> <li>• Switch to the "<b>OS Update</b>" menu in the menu bar. Now, by default, an Image version for your operator panel is displayed.</li> <li>• Check the "<b>Reset to factory settings</b>" option or "Boot" (in earlier versions of ProSave).</li> <li>• Click on the "<b>Update OS</b>" button. Click the "Update OS" key and depending on the operator panel used... <ul style="list-style-type: none"> <li>- A dialog window opens with a safety note. Read the note. Acknowledge the message with "<b>Yes</b>" and you will be requested to reboot the operator panel.</li> <li>- A dialog window opens and starts to establish the connection to the operator panel. You are requested to boot the operator panel. Read the note beforehand. If necessary, abort the action with the "Cancel" button.</li> </ul> </li> <li>• Switch the operator panel's power supply on again. The operator panel is reset to the factory settings.</li> </ul> <p><b>Note:</b> Make sure that the correct Image path is set. (See also section 2.2)</p>
7.	<p>Depending on the operator panel used, after transfer of the data, "ProSave" requests you to reboot the operator panel (switch off and on). The operator panel then performs additional installation steps.</p>

	Procedure
8.	<p><b>Transfer the project:</b></p> <p>After completion of the installation, the "Control Panel" is displayed on the operator panel.</p> <p>For a subsequent project transfer, you first make the required transfer settings on the operator panel.</p> <p>For Touch operator panels, you should calibrate the screen beforehand under "Control Panel &gt; OP &gt; Touch".</p> <p>Now you can transfer the configuration.</p>

## 1.3 Resetting the Operating System to the Factory Settings via Ethernet Connection

Below we will show how you reset to factory settings the **Comfort Panels, Mobile Panels 2nd Generation and Multi Panels with TIA Images** via Ethernet.

Table 1-3

No.	Procedure
1.	<p><b>Requirements:</b></p> <ul style="list-style-type: none"> <li>• The operator is connected to a PC via a standard Ethernet cable and ProSave is installed on that PC.</li> <li>• Have the MAC address of you operator panel's Ethernet interface ready. The MAC address <ul style="list-style-type: none"> <li>- is displayed in the "PROFINET" dialog in the Control Panel.</li> <li>- is displayed briefly when you switch on the operator panel.</li> <li>- can be read off the back of the panel.</li> </ul> </li> </ul>
2.	<p><b>Procedure for setting the PG/PC interface</b></p> <ol style="list-style-type: none"> <li>1. In the "Start &gt; Control panel" menu on the configuration PC you select the "Set PG/PC interface" command.</li> <li>2. In the "Access Point of the Application" area you select "S7ONLINE (STEP7) -&gt; TCP/IP".</li> <li>3. In the "Interface Parameter Assignment Used:" area you select the interface connected to the operator panel.</li> <li>4. Confirm your entries.</li> </ol>
3.	<p><b>Procedure for resetting to factory settings</b></p> <ol style="list-style-type: none"> <li>1. Start the ProSave software on the PC via the Start menu.</li> <li>2. Enter the operator panel type in the "General" tab.</li> <li>3. Select "Ethernet" for the connection.</li> <li>4. Enter an IP address. (The PC's IP address and the IP address used for the operator panel must be in the same subnetwork).</li> </ol> <p><b>Note:</b> There might be address conflicts if you enter the incorrect IP address. Do not use any dynamic IP configuration for "Reset to factory settings". Enter a unique IP address of the same subnetwork in which the PC is located. ProSave assigns the specified address to the operator panel for the duration of the update process. If you have already used the operator panel with WinCC flexible, WinCC (TIA Portal) or ProSave, for "Reset to factory settings" you should use the IP address already used.</p> <ol style="list-style-type: none"> <li>5. Switch to the "OS Update" tab.</li> <li>6. Check the "Reset to factory settings" check box. An input field is displayed for the MAC address. Enter the operator panel's MAC address in the input field.</li> <li>7. Under "Image path" you select the operator panel image file "*.img". The operator panel image files are located in the Installation folder of WinCC flexible under "WinCC flexible Images" and on the WinCC flexible Installation CD. If the operator panel image file opens successfully, information on the operator panel image version is displayed in the output area.</li> <li>8. On the PC you start "Reset to factory settings" with the "Update OS" button.</li> </ol>

No.	Procedure
	<p>9. In the Control Panel you open the "OP Properties" dialog and select the "Device" tab.</p> <p>10. Click the "Reboot" button. This opens a query dialog box.</p> <p>11. Click the "<b>Prepare for Reset</b>" button. The update is started.</p> <p><b>Note:</b> In the case of operating system images supplied before WinCC flexible 2008 there is no "<b>Prepare for Reset</b>" option and the operator panel immediately initiates a reboot.</p> <p>During the update of the operating system a status displayed is shown, which indicates the progress of the process.</p>
4.	<p><b>Result:</b> A corresponding message is displayed upon successful completion of the operating system update. There is no longer any project on the operator panel. The factory settings have been restored.</p> <p><b>Note:</b> You might have to recalibrate the touch screen after restoring the factory settings.</p>

## 2 Further Information

### 2.1 Cable Connection between PC and Operator Panel

#### 2.1.1 Operating System Update

When performing an operating system update, you can use all the communication connections supported by your operator panel.

#### 2.1.2 Resetting the Operating System to the Factory Settings (Booting)

If you reset the operating system to the factory settings, you cannot use all the communication connections and cables.

Information on this is available in the table below:

The settings were made in ProSave version V9.0.0.0.

Table 2-1

Operator panel	RS 232 Zero modem cable	RS232/PPI Multi-master cable	USB/PPI Multi-master cable	PN PtP Crossover	PN Ethernet
	6ES7 901- 1BF00-0XA0	6ES7 901- 3CB30-0XA0	6ES7 901- 3DB30-0XA0	6XV1 870- 3RH20 *1)	Standard Ethernet CAT5
C7-635 OP / TP	X	--	--	--	--
C7-636 Key / Touch	X	--	--	--	--
OP 73 micro	--	X	X	--	--
OP 73	--	X	X	--	--
OP 77A	--	X	X	--	--
OP 77B	X	--	--	--	--
TP 170 micro	--	X	--	--	--
TP 170A	X	--	--	--	--
OP 170B	X	--	--	--	--
TP 170B	X	--	--	--	--
TP 177 micro	--	X	X	--	--
TP 177A	--	X	X	--	--
TP 177B PN/DP	--	X	X <sup>*2)</sup>	--	--
TP 177B mono DP	--	X	X <sup>*2)</sup>	--	--
TP 177B 4" color PN/DP	--	--	--	X	X
OP 177B PN/DP	--	X	X <sup>*2)</sup>	--	--

## 2 Further Information

Operator panel	RS 232 Zero modem cable	RS232/PPI Multi-master cable	USB/PPI Multi-master cable	PN PtP Crossover	PN Ethernet
OP 177B mono DP	--	X	X <sup>+2)</sup>	--	--
OP 270	X	--	--	--	--
OP 277	--	X	X <sup>+2)</sup>	--	--
TP 270	X	--	--	--	--
TP 277	--	X	X <sup>+2)</sup>	--	--
MP177	--	X	X <sup>+2)</sup>	--	--
MP 270	X	--	--	--	--
MP 277	--	X	X <sup>+2)</sup>	--	--
MP 370	X	--	--	--	--
MP 377	--	--	--	X	X
Mobile Panel 170	X	--	--	--	--
Mobile Panel 177 DP	--	X	X <sup>+2)</sup>	--	--
Mobile Panel 177 PN	--	X	X <sup>+2)</sup>	--	--
Mobile Panel 277	--	X	X <sup>+2)</sup>	--	--
Mobile Panel 277 IWLAN	--	--	--	X	X
Mobile Panel 277F IWLAN	--	--	--	X	X
KTP400 Basic mono PN	--	--	--	X	X
KTP600 Basic DP	--	X	X	--	--
KTP600 Basic PN	--	--	--	X	X
KTP600 Basic mono PN	--	--	--	X	X
KTP1000 Basic DP	--	X	X	--	--
KTP1000 Basic PN	--	--	--	X	X
TP1500 Basic PN	--	--	--	X	X
KP400 Comfort	--	--	--	X	X
KTP400 Comfort	--	--	--	X	X
KP700 Comfort	--	--	--	X	X
TP700 Comfort	--	--	--	X	X

## 2 Further Information

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Operator panel	RS 232 Zero modem cable	RS232/PPI Multi-master cable	USB/PPI Multi-master cable	PN PtP Crossover	PN Ethernet
KP900 Comfort	--	--	--	X	X
TP900 Comfort	--	--	--	X	X
KP1200 Comfort	--	--	--	X	X
TP1200 Comfort	--	--	--	X	X

- \*1) For the RS232/PPI multi-master cable you set DIP switches 1 to 3 according to the baud rate selected in ProSave.  
DIP switches 4 to 8 must all be set to ZERO.
- \*2) With this cable connection you cannot deselect the "Reset to factory settings" option.

## 2.2 Set the Image Path / File in ProSave

In the following cases, you must change the image path or the image file accordingly:

1. After you have set the ProTool image path for the operator panel displayed, you must set the image path for WinCC flexible if you now wish to use the same operator panel in WinCC flexible.
2. If you need an earlier version of Image than the one currently displayed.

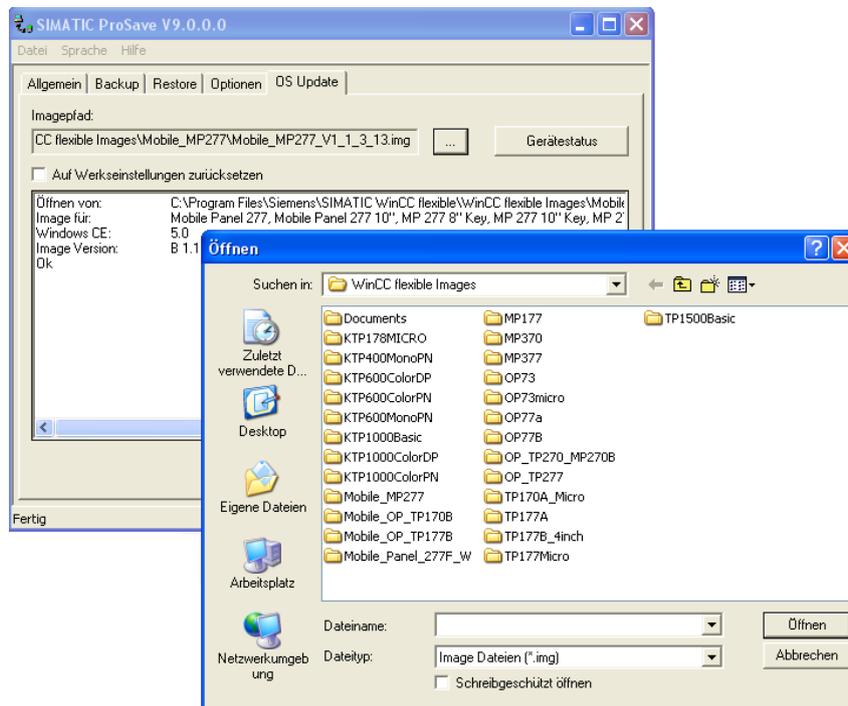
### Note

- The image path setting is device-related. The setting is retained for the selected panel type after ProSave is closed.
- Beforehand, make sure that the correct Image path is set. This applies, in particular, if, for example, WinCC flexible and ProTool are installed jointly on your computer.

In order to set the image path in ProSave, click the button to the right of the image path and browse through the folder tree to specify the folder path in which the image files are located.

In the folders you find the image files required for the respective operator panel.

Figure 2-1



### Sample image path in WinCC flexible

C:\Program Files\Siemens\SIMATIC WinCC flexible\WinCC flexible Images\Operator Panel\xxxxx.img

#### Note

The Image version of the operator panels depends on the version of WinCC flexible and ProTool used.

More information on this is available at the following links.

#### ProTool:

<http://support.automation.siemens.com/WW/view/en/21742389>

#### WinCC flexible:

<http://support.automation.siemens.com/WW/view/en/28263711>

## 2.3 Determine the MAC Address

You can determine the operator panel's MAC address as follows.

- The MAC address is printed on the back of the operator panel (for example, MAC-ADD.: 00-0E-8C-F8-6A-18)
- When you switch on the operator panel, the MAC address is displayed during startup.
- Via the "Control Panel" of the operator panel.  
In the Control Panel of the operator panel you open the "**OP**" dialog and select the "**Device**" tab.  
In this tab you find the device-specific data, like the MAC address.

## 3 Problem Analysis

### 3.1 Disconnected Connection when Using the RS232/PPI Multi-Master Cable

If the connection is disconnected when updating the operating system, set a lower bit rate.

If you are using high bit rates, then you must implement the RS232/PPI multi-master cable with "E-Stand 03" (development status 03) or higher.

### 3.2 Check Box Not Available in ProSave

If the "Reset to factory settings" check box is not displayed, then recheck the connection settings made ([Link](#)). It is possible that the operator panel does not support the transfer type required for this option.

Refer here to Table 2-1 under point 2.1.2.

### 3.3 Check Box Cannot be Deselected in ProSave

If you use the "USB/PPI Multi-Master Cable" transfer type, then, depending on the system, on some operator panels it might not be possible to deselect the "Reset to factory settings" option.

In this case, you cannot make an operating system update (OS Update) using the cable, but can only do a reboot ("Reset to factory settings").

Refer here to Table 2-1 under point 2.1.2.

### 3.4 Error Message During the Transfer of the Configuration

You have changed the operating system of your operator panel and during transfer of the configuration you receive the message that the operating system version of the operator panel does not match the software version used.

In this case, prior to updating the operating system, check that the image path has been set correctly and that you have selected the correct image file. See section 2.2 for this.

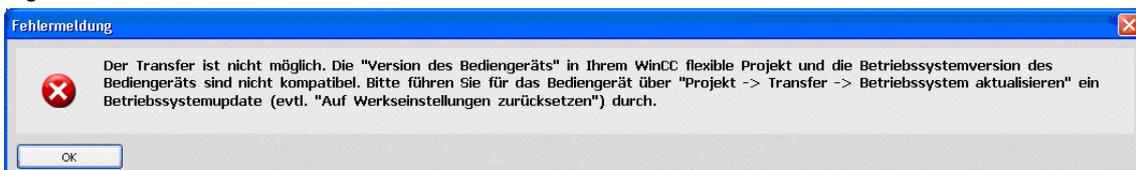
Example of an error message in WinCC flexible

Figure 3-1



or in older versions of WinCC flexible

Figure 3-2



### 3.5 MP 377 "Reset to Factory Settings" (Booting)

If the MP 377 operator panel cannot be reset to the factory settings, then check the Image version of the MP 377.

MP 377 operator panels with the Image version installed for WinCC flexible 2008 and higher (Image version as from V01.00.02.00\_01.83) have the new parameter "Prepare for Reset".

In this case refer to Entry ID [35677293](#).

### 3.6 A Connection to the Operator Panel Cannot be Established

Some points are given below, which you should check if no connection is established between the operator panel and the configuration computer.

#### 3.6.1 Check Transmission Type and Address on the Operator Panel

Compare the transfer settings on the operator panel with those on the configuration computer.

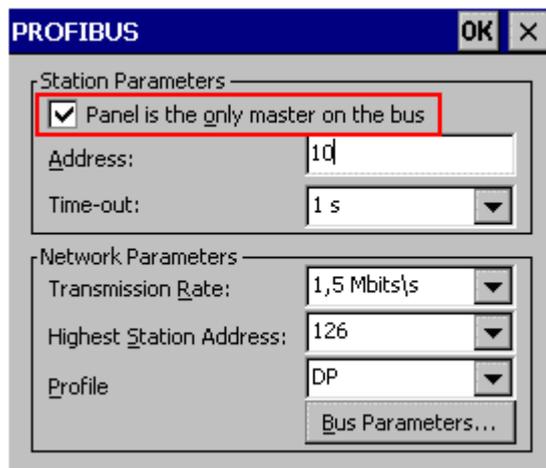
#### Example

Specification of configuration computer...

- Transfer via PROFIBUS;
- Panel address 10

Make sure that "Panel is the only master on the bus" is checked for the transfer settings on the operator panel.

Figure 3-3



More information on the topic of "Transfer Settings" is available in Entry ID: [23802404](#).

### 3.6.2 Check Cable Connection and Connector

#### MPI/PROFIBUS cable

Please check the following points:

- Cable connection between the operator panel and the configuration computer.
- Check the cable for damage.
- Bus connector especially the connection of the terminating resistors.
  - Terminating resistors ON/OFF.

The following guideline value applies:

- Bus terminating resistor OFF:
  - Bus connector with "two" cables connected.
- Bus terminating resistor ON:
  - Bus connector with "one" cable connected.

More information on the topic of "Bus terminating resistor" is available in Entry ID: [187276](#).

#### RS232/PPI multi-master cable

When using an "RS232/PPI multi-master cable", please note the switch settings.

More information on this topic is available in Entry ID: [16532946](#).

#### Ethernet cable

Use a "crossed" Ethernet cable for the connection between a PG/PC and an operator panel.

If you use a "patch" cable, you need a switch in addition.

#### Note

Operator panels with two "Ethernet interfaces" have an integrated switch.

### 3.6.3 Check the PG/PC Interface on the Configuration Computer

Check the PG/PC interface on your configuration computer.

- In Windows XP
  - "Start > SIMATIC > SIMATIC NET > Set PG-PC interface".
- In STEP 7
  - "Menu bar: Tools > Set PG/PC interface..."

When setting the interface parameters in MPI or PROFIBUS, make sure that the node address is set to "0". We also recommend that you select the "PG/PC is the only master on the bus" option.

Figure 3-4

