

Hampshire TSHARC XP Embedded Driver

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Version: 6.20csXPE

Installing the Hampshire XPE driver using Microsoft XP Embedded tools

The following procedure describes how to install the Hampshire XPE driver components

1. Import the “UniWinXPEcs.sld” into the database as described in the “Importing the TSHARC component” section.
2. Add any Hampshire components that are to be included in the target image according to the procedure described in the “Creating a XPE Embedded Image using Target Designer” section.
3. Boot your target machine

Installing Hampshire driver using the Hampshire 6.20cs Universal Driver directly on XPE target

Before proceeding with this section, it should be noted that it is not recommended installing directly on an XP Embedded target machine using the Hampshire 6.20cs Universal Driver. It is instead recommended that the Hampshire XP Embedded solution is used. This is because very often, all the necessary components for the Hampshire setup and control panel application do not exist on the target system. Using the Hampshire embedded driver ensures that all of the necessary components that the Hampshire driver depends on are included in the target image.

One of the most common issues with installing the Hampshire driver in this manner is the display font will be incorrect in the setup and control panel applications. In order to correct this font issue of the Hampshire control panel, this procedure should be followed:

1. Browse to the following registry location on the target machine:
HKEY_LOCAL_MACHINE\Software\Microsoft\Windows NT\CurrentVersion\Fonts
2. Create a string value with name “MS San Serif 8,10,12,14,18,24 (VGA Res)” and a value of “SSERIFE.FON”
3. Copy the file “SSERIFE.fon” from the directory “C:\Windows\Fonts” from any non-embedded XP machine into the same directory on the embedded target machine.

If errors of missing files and components are reported during installation, the XPE target, you may attempt to manually install these components and files on the XPE target. However, this method of installation on XPE systems is not recommended.

Removing the TSHARC components from the database

1. Start the *Microsoft Component Database Manager* application.
2. Click on the “Packages” tab.
3. Select “TSHARC components” and click on the “Delete” button.

Importing the TSHARC Component

4. Start the *Microsoft Component Database Manager* application.
5. Click on the “Import” button from within the “Database” tab. The “Import SLD” dialog will now appear.
6. Click on the “...” button that is located to the right of the “SLD file” text box. Select the “UniWinXPE620cs.sld” file from the directory that contains all of the XP Embedded files for the Hampshire touch screen XP Embedded driver.

7. Click the “Open” button.
8. If this is the first time importing this SLD file, the “Copy repository files to repository root” checkbox must be checked; otherwise this checkbox should be left blank.
9. Click the “Import” button. The message “Import Succeeded. Changes to the database have been committed. File(s) Processed: 1, File(s) Succeeded: 1” should now appear. The TSHARC component has now been successfully imported into the database.

Creating an XP Embedded Image using Target Designer

There are a couple different approaches to creating an XP Embedded image using *Target Designer*.

- One way to create an image is to generate a PMQ file on the target system and import this into *Target Designer*. After this, components can be added and/or removed.
- Another approach is to add a template that best matches the target system and then add and/or remove components.
- A macro can be added, then components can be added and/or removed

In order to get a working XP Embedded system, importing a PMQ file into Target Designer is likely the best approach in order to have an image with all devices attached to target system working correctly. However, if size is a concern, it may be easier to start with a macro such as “WinLogon Sample Macro”.

Creating an XP Embedded image starting with PMQ file:

1. There is a utility application TAP.EXE (Target Analyzer) in the utilities subdirectory off of the Windows Embedded directory. This application should be run with Windows XP environment from the target machine. After this application is run a devices.pmq file will be generated. This file needs to be copied to the XP Embedded machine or removable media for later use. If it is not possible to run tap.exe from an XP operating system of the target machine, the DOS application TA.EXE may be used instead. It is worth noting however that the PMQ file generated from TA.EXE contains less information than the PMQ file generated from TAP.EXE.
2. Start the *Target Designer* application.
3. Select “File->New” from the menu and choose a name for the configuration.
4. Select “File->Import...” from the menu. A dialog should now appear asking for a file to import.
5. Select the PMQ file generated from running TAP.EXE or TA.EXE on the target machine.
6. Click the “Open” button. An “Import File” dialog should now appear.
7. Click the “Start” button. The appropriate components will now be added to the configuration.
8. Click the “Close” button. The detected components will be displayed.
9. The TSHARC component can now be added to the configuration. This component can be found under “Hardware : Devices : Mice and other pointing devices”. Right-click this component and select “Add”.
10. The components for the image can now be added and/or removed based on needs.
11. Select “Configuration->Check Dependencies” from the menu.
12. Continue to resolve dependency errors and run the previous step until all dependencies have been resolved.
13. Select “Configuration->Build Target Image” from the menu.
14. Click the “Build” button.
15. Save the configuration. See the Microsoft Embedded documentation on how to transfer this image to the target machine.

Creating an XP Embedded image starting with a macro or template:

1. Start the *Target Designer* application.
2. Select “File->New” from the menu and choose a name for the configuration.
3. Add a template that best describes the target machine or a macro from “Software : Test & Development”. Note: All our SLD files have been verified as correct working with the “WinLogon Sample Macro” since this macro results in an image that works correctly on most hardware platforms.

4. The TSHARC component that is desired can now be added to the configuration. This component can be found under “Hardware : Devices : Mice and other pointing devices”. Right-click this component and select “Add”.
5. **If using the “TSHARC 6.20cs USB” component, it is important that the proper universal host controller must be added to the configuration.** If the proper universal host controller is not added to the configuration, all USB devices will fail to respond when attached to USB ports. The proper host controller can usually be found under “Hardware : Devices : Universal Serial Bus Controllers”. For example, for a recent VIA motherboard, the “VIA Rev 5 or later Universal Host Controller” should enable USB devices to work. If the components in target designer were selected by importing a pmq file (a file generated using the ta.exe or tap.exe utility), then this will likely not be an issue.
6. **If using the “TSHARC 6.20cs SERIAL” component, the following additional steps need to be taken:**
 - a. In Target Designer, under the “Edit” menu, check “Resources” if it is not already checked.
 - b. Click on “Registry Data” under the “TSHARC 6.20cs SERIAL” component that was added in Step 4.
 - c. Enable all registry items from TSHARCS1 to TSHARCS<X>, where <X> is the number of controllers that is to be supported. For example, if COM1, COM3, and COM4 are to be used by serial controllers, then TSHARCS1, TSHARCS2 and TSHARCS3 should be enabled.
 - d. Edit registry items TSHARC1 to TSHARCS<X> such that each item references a different COM port that is to be used. For example, if COM1, COM3, and COM4 are to be used by serial controllers, then TSHARCS1 should contain the value “\DosDevices\COM1”, TSHARCS2 should contain the value “\DosDevices\COM3”, and TSHARCS4 should contain the value “\DosDevices\COM4”.
 - e. Verify that registry items from TSHARCS<X> to TSHARCS8, where <X> is the number of controllers that is to be supported, are disabled.
7. Additional components for the image can now be added and/or removed based on needs.
8. Select “Configuration->Check Dependencies” from the menu.
9. Continue to resolve dependency errors and run the previous step until all dependencies have been resolved.
10. Select “Configuration->Build Target Image” from the menu.
11. Click the “Build” button.
12. Save the configuration. See the Microsoft Embedded documentation on how to transfer this image to the target machine.

Troubleshooting

Issue:

There is a blue screen stop 0x0000007b error when starting my XP Embedded image.

Resolution:

This is usually before TA.EXE was used to generate a PMQ file instead of a TAP.EXE. TAP.EXE includes more information about the target machine in its PMQ file than TA.EXE.

For other boot-up issues, it may be useful to try using the “WinLogon Sample Macro” since this macro results in an image that works correctly on most hardware platforms. Also, all of our components have been verified as working with this macro as part of our testing.