How to enable the Surface Laptop keyboard during MDT deployment

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Applies to: Surface Laptop (1st Gen), Surface Laptop 2, Surface Laptop 3, Surface Laptop 4, Surface Laptop 5, Surface Laptop Studio, Surface Pro 8, Surface Pro 9, Windows 10, Windows 11

This article addresses a deployment approach that uses Microsoft Deployment Toolkit (MDT). You can also apply this information to other deployment methodologies. On most types of Surface devices, the keyboard should work during Lite Touch Installation (LTI). However, Surface Laptop requires some extra drivers to enable the keyboard. For Surface Laptop (1st Gen) and Surface Laptop 2 devices, you must prepare the folder structure and selection profiles that allow you to specify keyboard drivers for use during the Windows Preinstallation Environment (Windows PE) phase of LTI. For more information about this folder structure, see Deploy a Windows 10 image using MDT: Step 5: Prepare the drivers repository.

> **Tip**
>
> When using keyboard drivers for Surface Laptop 2 and Surface Laptop 3 in the same Windows PE boot instance, you may need to manually reset the firmware if the keyboard or touchpad don't work in Windows PE:
>
> - Press and hold the Power button for 30 seconds. If you are connected to a power supply unit (PSU), press and hold the Power button until you see the light at the end of the PSU cord briefly turn off before turning back on.

> **Important**
>
> If you are deploying a Windows 10 image to a Surface Laptop that has Windows 10 in S mode preinstalled, see KB **4032347, Problems when deploying Windows to Surface devices with preinstalled Windows 10 in S mode** .

Add keyboard drivers to the selection profile

1. Download the latest Surface Laptop .msi file from the appropriate locations:

- Surface Pro 9 with Intel Processor Drivers and Firmware
- Surface Pro 8 Drivers and Firmware

- Surface Laptop Studio Drivers and Firmware
- Surface Laptop 5 with Intel Processor Drivers and Firmware
- Surface Laptop 4 with Intel Processor Drivers and Firmware
- Surface Laptop 4 with AMD Processor Drivers and Firmware
- Surface Laptop 3 with Intel Processor Drivers and Firmware
- Surface Laptop 2 Drivers and Firmware
- Surface Laptop (1st Gen) Drivers and Firmware

2. Extract the contents of the Surface Laptop .msi file to a folder that you can easily locate (for example, c:\surface_laptop_drivers). To extract the contents, open an elevated Command Prompt window and run the command from the following example:

   Windows Command Prompt

   ```
   Msiexec.exe /a SurfaceLaptop_Win10_15063_1703008_1.msi
   targetdir=c:\surface_laptop_drivers /qn
   ```

3. Open the Deployment Workbench and expand the **Deployment Shares** node and your deployment share, then navigate to the **WindowsPEX64** folder.

4. Right-click the **WindowsPEX64** folder and select **Import Drivers**.

5. Follow the instructions in the Import Driver Wizard to import the driver folders into the WindowsPEX64 folder.

> **Note**
>
> Check the downloaded .msi package to determine the format and directory structure. The directory structure will start with either SurfacePlatformInstaller (older .msi files) or SurfaceUpdate (newer .msi files) depending on when the .msi file was released.

Import drivers for Surface devices

Import the following folders as appropriate for your Surface Laptop device.

Device	Import folders	More information
Surface Pro 9 with Intel processor	adlserial alderlakepchpsystem alderlakesystem gna intelprecisetouch managementengine	n/a

Device	Import folders	More information
	msump64x64sta surfaceacpiplatformextension surfacebattery surfacedockintegration surfacehidmini surfacehotplug surfaceintegrationdriver surfacesarmanager surfaceserialhubdriver surfaceservicenulldriver surfacetimealarmacpifilter surfaceucmucsihidclient tbtslimhostcontroller	
Surface Laptop Studio	heci ialpss2_gpio2_tgl ialpss2_uart2_tgl intelthcbase surfacehidminidriver surfacehotplug surfaceintegrationdriver surfacepenwirelesschargerhotkey surfacesarmanager surfaceserialhubdriver surfacestoragefwupdateenum surfacestoragefwupdatekbg40zns256gpackage surfacewakeontouchcontrol	n/a
Surface Pro 8	intelthcbase ManagementEngine surfaceacpiplatformextension SurfaceBattery SurfaceCoverClick SurfaceEthernetAdapter SurfaceHidMini SurfaceHotPlug surfaceintegrationdriver SurfaceSar SurfaceSerialHub surfacetimealarmacpifilter surfacetypecoverv7fprude SurfaceUcmUcsiHidClient surfacevirtualfunctionenum tbtslimhostcontroller TglChipset TglSerial	n/a

Device	Import folders	More information
Surface Laptop 5 with Intel processor	adlserial alderlakepchpsystem gna heci intelprecisetouch msump64x64sta surfaceacpiplatformextensiondriver surfacebattery surfacebutton surfacedockintegration surfacehidminidriver surfacehotplug surfaceintegration surfaceserialhubdriver surfacetimealarmacpifilter tbtslimhostcontroller	n/a
Surface Laptop 4 with Intel processor	TglSerial IntelPreciseTouch SurfaceEthernetAdapter SurfaceBattery SurfaceHidMini SurfaceHotPlug SurfaceSerialHub SurfaceTconDriver surfacetimealarmacpifilter surfacevirtualfunctionenum TglChipset ManagementEngine	n/a
Surface Laptop 4 with AMD processor	U0361415 AMDfendr AMDGpio2 AMDI2c AMDLpcFilterDriverAMDMicroPEP AMDPsp AMDSmf AMDSpi AMDUart SurfaceEthernetAdapter SMBUS SurfaceBattery SurfaceButton SurfaceDigitizerHidSpiExtnPackage SurfaceHIDFriendlyNames SurfaceHidMini SurfaceHotPlug	n/a

Device	Import folders	More information
	SurfaceOemPanel SurfacePowerMeter SurfacePowerTrackerCore SurfaceSerialHub SurfaceSMFClient SurfaceSmfDisplayClient SurfaceSystemManagementFramework SurfaceTconDriver SurfaceThermalPolicy Surfacetimealarmacpifilter SurfaceUcmUcsiHidClient	
Surface Laptop 3 with Intel processor	SurfaceUpdate\SerialIOGPIO SurfaceUpdate\SerialIOI2C SurfaceUpdate\SerialIOSPI SurfaceUpdate\SerialIOUART SurfaceUpdate\SurfaceHidMini SurfaceUpdate\SurfaceSerialHub SurfaceUpdate\SurfaceHotPlug SurfaceUpdate\Itouch	Importing the following folders will enable full keyboard, trackpad, and touch functionality in PE: SerialIOGPIO SerialIOI2C SerialIOSPI SerialIOUART itouch Chipset ChipsetLPSS ChipsetNorthpeak ManagementEngine SurfaceAcpiNotify SurfaceBattery SurfaceDockIntegration SurfaceHidMini SurfaceHotPlug SurfaceIntegration SurfaceSerialHub SurfaceService SurfaceStorageFwUpdat
Surface Laptop 2	SurfacePlatformInstaller\Drivers\System\GPIO SurfacePlatformInstaller\Drivers\System\SurfaceHIDMiniDriver SurfacePlatformInstaller\Drivers\System\SurfaceSerialHubDriver SurfacePlatformInstaller\Drivers\System\I2C SurfacePlatformInstaller\Drivers\System\SPI SurfacePlatformInstaller\Drivers\System\UART SurfacePlatformInstaller\Drivers\System\PreciseTouch	For newer .msi files beginning with "SurfaceUpdate", use: SurfaceUpdate\SerialIOGPIO SurfaceUpdate\serialioi2c SurfaceUpdate\SerialIOSPI SurfaceUpdate\SerialIOUART SurfaceUpdate\SurfaceHidMini SurfaceUpdate\SurfaceSerialHub SurfaceUpdate\Itouch
Surface Laptop	SurfacePlatformInstaller\Drivers\System\GPIO SurfacePlatformInstaller\Drivers\System\SurfaceHidMiniDriver	For newer .msi files beginning with **"SurfaceUpdate"**, use:

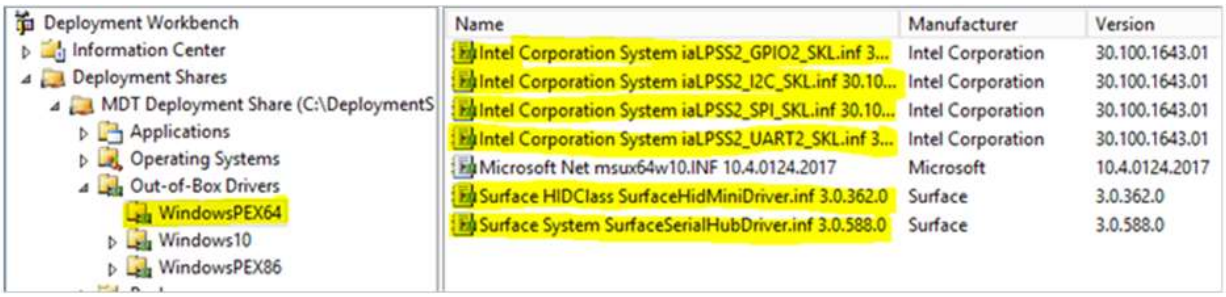
Device	Import folders	More information
(1st Gen)	SurfacePlatformInstaller\Drivers\System\SurfaceSerialHubDriver SurfacePlatformInstaller\Drivers\System\PreciseTouch	SurfaceUpdate\SerialIOGPIO SurfaceUpdate\SurfaceHidMiniDriver SurfaceUpdate\SurfaceSerialHubDriver SurfaceUpdate\Itouch

Tip

Check the downloaded .msi package to determine the format and directory structure. The directory structure will start with either SurfacePlatformInstaller (older .msi files) or SurfaceUpdate (Newer .msi files) depending on when the .msi was released.

Verify imported drivers & configure Windows PE properties

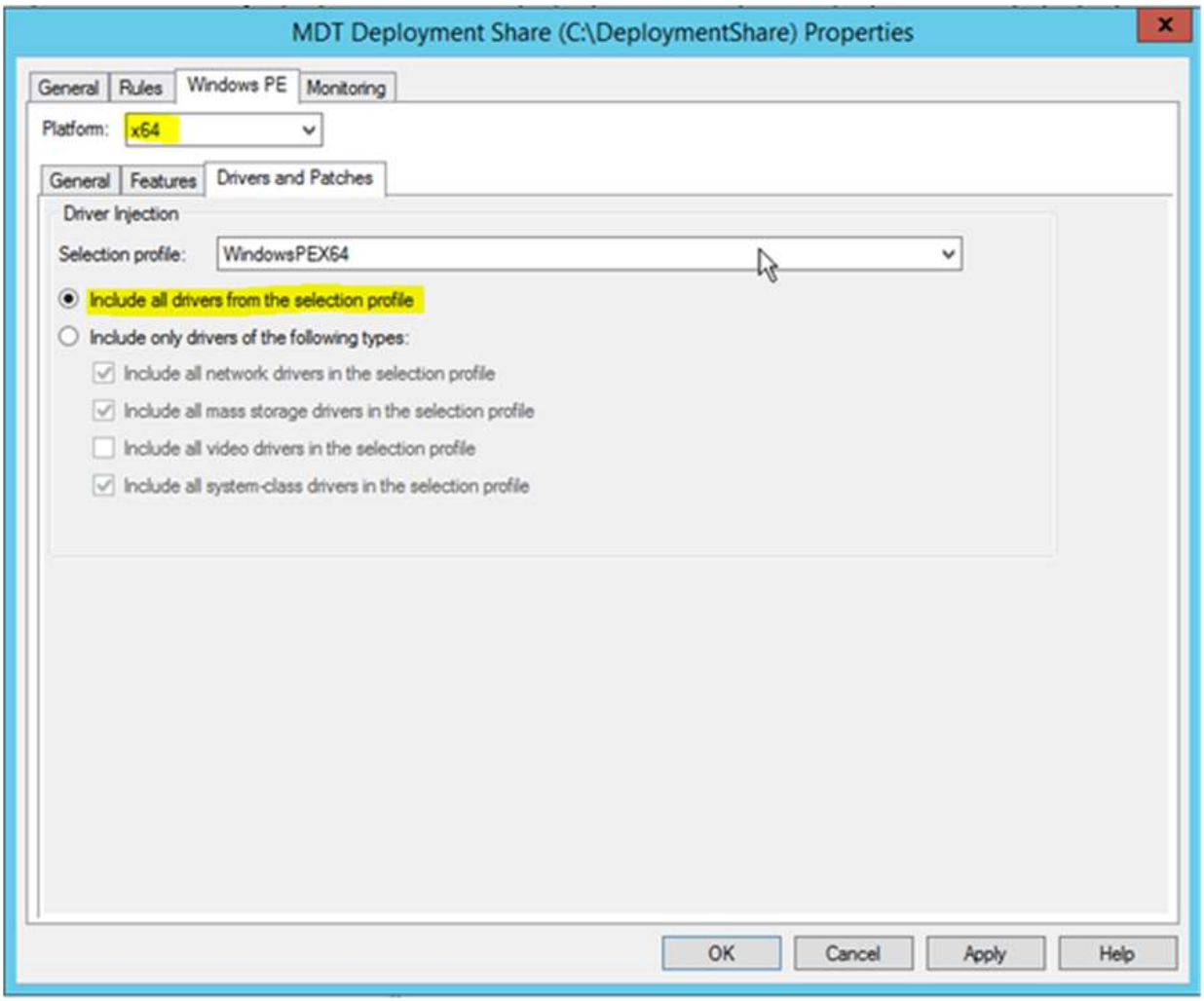
1. Verify that the WindowsPEX64 folder now contains the imported drivers, as shown in the following figure:



2. Configure a selection profile that uses the WindowsPEX64 folder, as shown in the following figure:

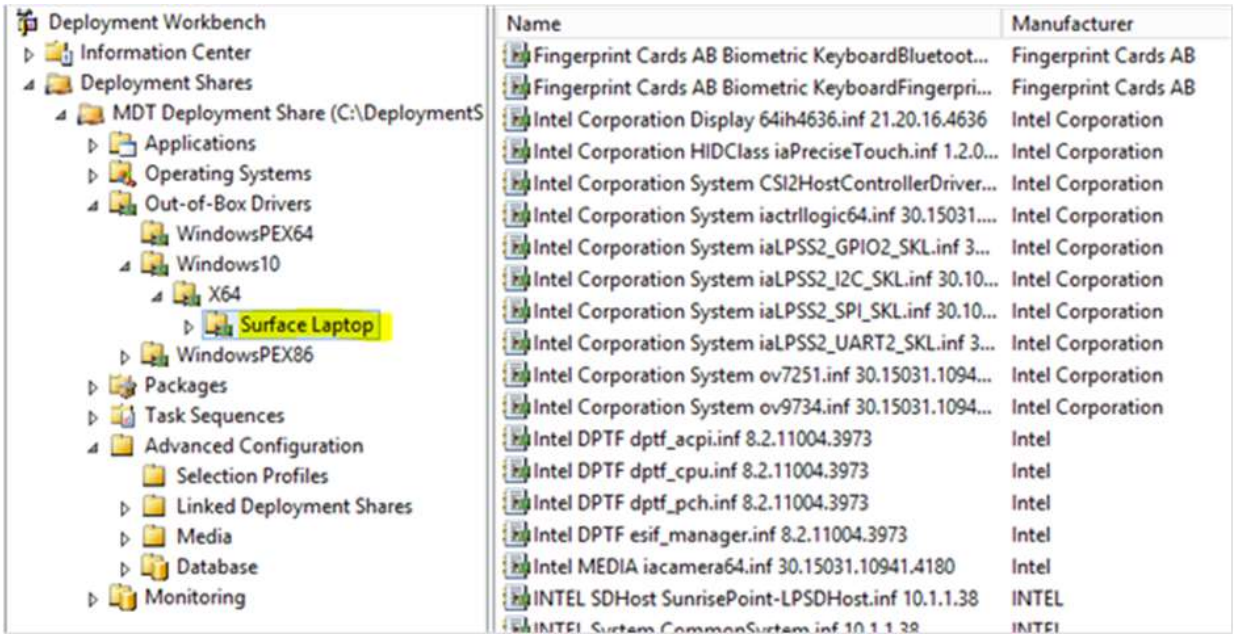
3. Configure the Windows PE properties of the MDT deployment share to use the new selection profile, as follows:

   - For **Platform**, select **x64**.
   - For **Selection profile**, select the new profile.
   - Select **Include all drivers from the selection profile**.



4. Verify that you have configured the remaining Surface Laptop drivers by using either a selection profile or a **DriverGroup001** variable.

    - For Surface Laptop (1st Gen), the model is **Surface Laptop**. The remaining Surface Laptop drivers should reside in the \MDT Deployment Share\Out-of-Box Drivers\Windows10\X64\Surface Laptop folder as shown in the following figure.
    - For Surface Laptop 2, the model is **Surface Laptop 2**. The remaining Surface Laptop drivers should reside in the \MDT Deployment Share\Out-of-Box Drivers\Windows10\X64\Surface Laptop 2 folder.
    - For Surface Laptop 3 with Intel processor, the model is Surface Laptop 3. The remaining Surface Laptop drivers are located in the \MDT Deployment Share\Out-of-Box Drivers\Windows10\X64\Surface Laptop 3 folder.



After configuring the MDT Deployment Share to use the new selection profile and related settings, continue the deployment process as described in Deploy a Windows 10 image using MDT: Step 6: Create the deployment task sequence.