#### Windows 11 Installation

Lenovo ThinkStation PX, P7, P5



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## Overview

The purpose of this document is to provide high-level guidance for users to adequately install a retail Windows 11 operating system on the ThinkStation PX, P7, and P5 platforms.

## Section 1 – BIOS Setup

Prior to installing any operating system, it is important to make sure BIOS recognizes the storage devices appropriately.

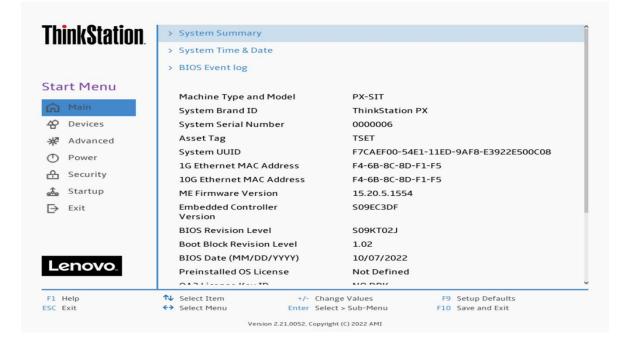
Here are some key items to look for within BIOS setup.

At the Lenovo splash screen, press the function key F1 to enter BIOS setup.



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Select 'System Summary' from the main BIOS setup page.



Scroll down through the list until you see the type of drive(s) you are intending to use. Note, drives may <u>not</u> show up here if drives are part of a RAID array.

<b>ThinkStation</b>	Front Fan 2	Operating
i mininotution.	Front Fan 3	Operating
	Rear Fan 1-1	Operating
	Rear Fan 1-2	Operating
Start Menu	Flex Bay Fan 1	Operating
Main	Flex Bay Fan 2	Operating
P Devices	Flex Bay Fan 3	Not Operating
T Devices	PSU HDD Fan	Not Operating
* Advanced	M.2 Drive 1	SAMSUNG MZVL22T0HBLB-00BL7
Power	M.2 Drive 2	None
🔒 Security	M.2 Drive 3	None
Startup	MCIO Drive 1-1	None
	MCIO Drive 1-2	None
Exit Exit	MCIO Drive 2-1	None
	MCIO Drive 2-2	None
	PCIe Drive 1	None
	PCIe Drive 2	None
Lenovo	PCIe Drive 3	None
	PCIe Drive 4	None
F1 Help		ange Values F9 Setup Defaults
SC Exit	♦ Select Menu Enter Se	lect > Sub-Menu F10 Save and Exit

Select 'Devices' -> 'Storage Setup' to make sure the drive is enabled.

ThinkStation	<i>←</i>	
	Storage Setup	
Start Menu	SATA Controller Select whether to enable or disable SATA controller.	Enabled 🗸
Main	SATA Drive 1 Select whether to enable or disable SATA drive 1.	Enabled 🗸
* Advanced	SATA Drive 2 Select whether to enable or disable SATA drive 2.	Enabled 🗸
Power	SATA Drive 3 Select whether to enable or disable SATA drive 3.	Enabled 🗸
Security	SATA Drive 4 Select whether to enable or disable SATA drive 4.	Enabled 🗸
Exit	M.2 Drive 1 Select whether to enable or disable M.2 Drive 1.	Enabled 🗸
	M.2 Drive 2 Select whether to enable or disable M.2 Drive 2.	Enabled 🗸
Lenovo	M.2 Drive 3 Select whether to enable or disable M.2 Drive 3.	Enabled 🗸
	MCIO Drive 1-1	Enabled 🗸
F1 Help ESC Exit	↑↓         Select Item         +/- Change Values           ♦→         Select Menu         Enter         Select > Sub-Menu	F9 Setup Defaults F10 Save and Exit

For PCIe drives, select 'Devices' -> 'PCI Express Setup' and select the slot for where the drive is physically installed. In this example, the M.2 drive is installed in Slot 1.



Make sure the drive is linking properly.

ThinkStation	←	- firmentia -		
Start Menu	M.2 Slot1 Co	-	Auto	~
<ul> <li>Main</li> <li>☆ Devices</li> <li>☆ Advanced</li> </ul>	PCIe Port Link Sta PCIe Port Link Ma: PCIe Port Link Spe	x	Linked as x4 Max Width x4 Gen 4 (16.0 GT/s)	
Power     Security     Startup				
🚵 Startup [→ Exit				
Lenovo.				
F1 Help ESC Exit	<ul> <li>↑↓ Select Item</li> <li>↔ Select Menu</li> </ul>	+/- Change Values Enter Select > Sub-Menu	F9 Setup Defaults F10 Save and Exit	

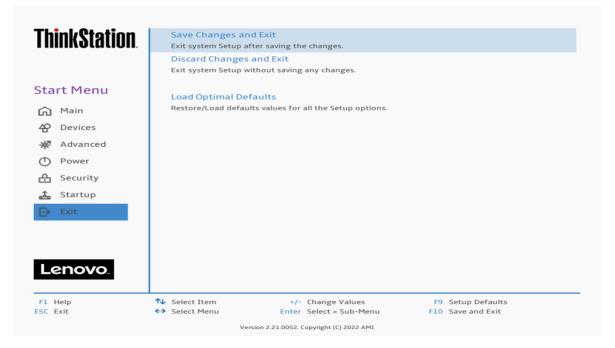
Here's an example of BIOS not recognizing a PCIe drive.



Select the 'Exit' menu option -> 'Load Optimal Defaults' to load BIOS defaults.

ThinkStation.	Save Changes and Exit Exit system Setup after saving the changes. Discard Changes and Exit Exit system Setup without saving any changes.	
Start Menu	Load Optimal Defaults	
🛱 Main	Restore/Load defaults values for all the Setup options.	
谷 Devices		
✤ Advanced		
O Power		
🕂 Security		
💑 Startup		
⊨ Exit		
Lenovo.		
F1 Help ESC Exit		etup Defaults ave and Exit

Select the 'Exit' menu option -> 'Save Changes and Exit' to reboot the system.



## Section 2 – Windows 11 Installation

Here are some step-by-step instructions on how to get a Windows 11 operating system installed on the ThinkStation PX, P7, and P5 systems.

- 1. Obtain a copy of the Windows 11 installation media. If the Windows 11 media is an .iso image, extract the .iso image to the root of a freshly formatted FAT32 USB memory key.
- 2. Insert the USB memory key into one of the USB ports on the system and power on the system.
- 3. At the Lenovo splash screen, press the function F12 key to enter the BIOS startup menu and select the USB installation media from the list.

<b>ThinkStation</b> . <u>App Menu</u>	Startup Device Menu Network 1-[UEFI: PXE IPv4 M Network 2-[UEFI: PXE IPv4 M USB HDD 1-[UEFI: SMI USB D Enter Setup	ntel(R) Ethernet Connection (15) I21 1arvell AQC113C]	l9-LM]
<b>↑↓</b> Select Item Del key to enter Deploymen	<ul> <li>↔ Select Menu</li> <li>t boot mode</li> </ul>	Enter Select > Sub-Menu	ESC Exit

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4. At the Windows 11 setup screen, select the Language, Time, and Keyboard Layout from the dropdown menus and select 'Next'.

	Windows	
	English (United States)	-
<u>T</u> ime and currency format: <u>K</u> eyboard or input method:		- -
Enter your language	and other preferences and click "Next" to continue.	
Microsoft Corporation. All rights reserved.		N

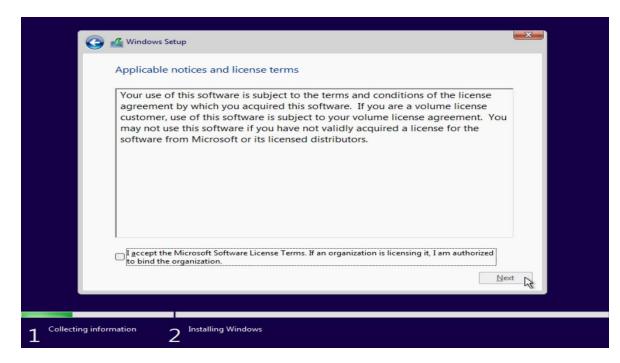
5. Select 'Install now'.

🟜 Windows Setup		
	Windows	
	Install now	
<u>R</u> epair your computer		•

6. For a multiple Windows 11 version operating system media, select the type of Windows 11 operating system to install. In this example, "Windows 11 Pro for Workstations" was used.

Windows Setup Select the operating system you want to insta	II		
Operating system	Architecture	Date modified	
Windows 11 Enterprise N	x64	9/27/2021	
Windows 11 Pro	x64	9/27/2021	
Windows 11 Pro N	x64	9/27/2021	
Windows 11 Pro Education	x64	9/27/2021	
Windows 11 Pro Education N	x64	9/27/2021	
Windows 11 Pro for Workstations	x64	9/27/2021	
Windows 11 Pro N for Workstations	x64	9/27/2021	
		1	yext 13

7. Check the box next to "I accept the license terms" and select 'Next'.



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- 8. Choose the type of installation to perform.
  - <u>To upgrade to Windows 11 from an earlier version of Windows</u>, select the "Upgrade" option below.
  - <u>To perform a clean OS installation</u>, select "Custom: Install Windows only (advanced)" option below. *(This option was selected below!)*

Which type of installation do you want?	
<b>Upgrade: Install Windows and keep files, settings, and applications</b> The files, settings, and applications are moved to Windows with this option. This option is only available when a supported version of Windows is already running on the computer.	
<u>Custom: Install Windows only (advanced)</u> The files, settings, and applications aren't moved to Windows with this option. If you want to make changes to partitions and drives, start the computer using the installation disc. We recommend backing up your files before you continue.	
	L.

9. Select the drive to install the operating system on from the list below and select 'Next'.

Note, some drives and RAID controllers may <u>not</u> be native to the Windows 11 operating system and may require a proprietary driver to get them to show up here. If so, load the proprietary driver to a USB memory key and select 'Load driver' from the screen below.

	Name		Total size	Free space	Туре
	Drive 0 Unall	ocated Space	1907.7 GB	1907.7 GB	
€9 <u>R</u> e	fresh ad driver	Delete	Eormat	<mark>∦</mark> N <u>e</u> w	

10. The Windows 11 operating system will begin to install on the drive selected above.



11. After the installation completes, the system should automatically reboot.

	🕰 Windows Setup	
	Windows needs to restart to continue	
	Restarting in 5 seconds	
	Bestart now	
1 Collecting	information 2 Installing Windows	

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# Section 3 – Windows 11 Setup

Here are some step-by-step instructions on how to get a Windows 11 operating system setup on the new ThinkStation PX, P7, and P5 systems.

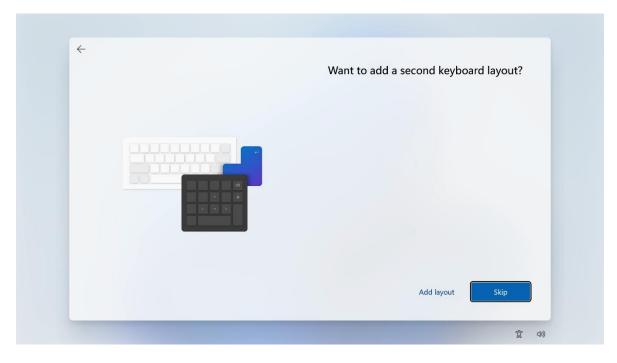
1. Select the appropriate location from the list below.

Is this the right country or region?
Ukraine
United Arab Emirates
United Kingdom
United States
Uruguay
Uzbekistan
Yes
UZDEKIStan Yes

2. Select the appropriate keyboard layout from the list below.

Is this the right keyboard layout or input method?
If you also use another keyboard layout, you can add that next.
US
Canadian Multilingual Standard
English (India)
Irish
NZ Aotearoa
 Yes

3. Select an optional second keyboard layout or 'Skip' below.



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4. Connect to a network or select "I don't have internet".

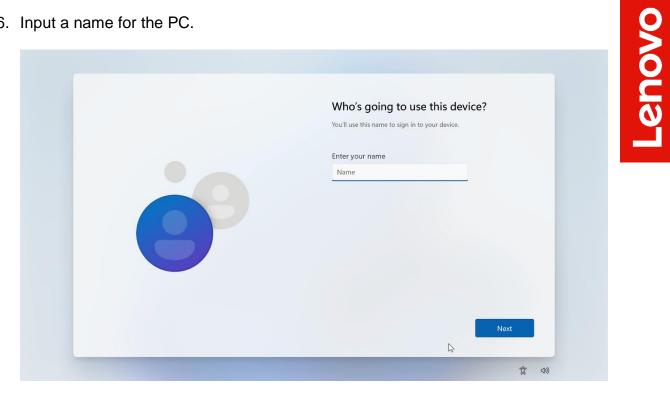
Let's connect you to a network
device. Once connected, you'll get the latest features and security updates.
Ethernet Not connected
I don't have internet Next

5. With no internet connection, select 'Continue with limited setup'.

	Connect now to quickly get started on your device
	Access the full range of apps that help you work and play the way you want when you connect to a network and sign in with Microsoft. Along with being able to browse the internet, get email, and work across devices, you'll also get enhanced features and security.
?	
	Continue with limited Connect now

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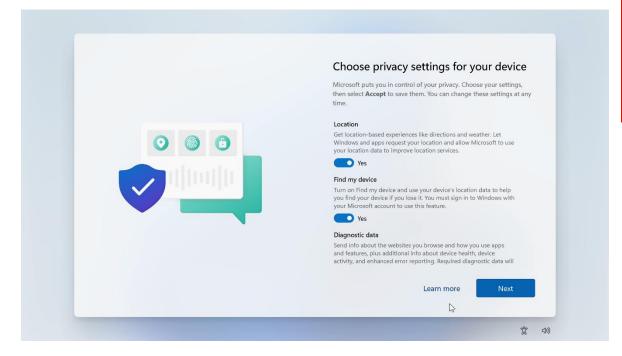
6. Input a name for the PC.



7. Create a password or leave blank to continue with no password.

<del>\</del>	
	Create a super memorable password
	Make sure to pick something you'll absolutely remember.
	Enter a password
	Password
9	Next
	N N
	6

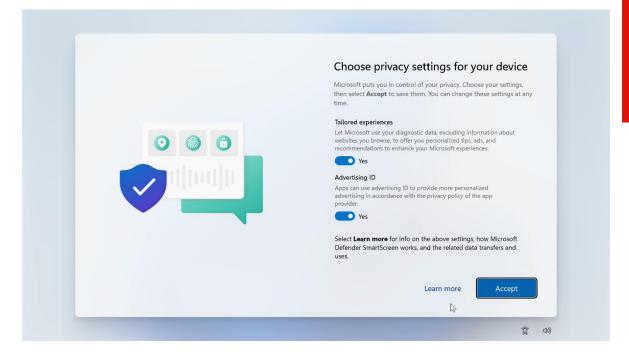
8. Choose the appropriate privacy settings and select 'Next'.



9. Choose the appropriate privacy settings and select 'Next'.

Choose privacy settings for your device
Microsoft puts you in control of your privacy. Choose your settings, then select <b>Accept</b> to save them. You can change these settings at any time.
always be included when you choose to send Optional diagnostic data.
Include Optional
Inking & typing
Send optional inking and typing diagnostic data to Microsoft to improve the language recognition and suggestion capabilities of Microsoft apps and services.
Yes
Tailored experiences
Let Microsoft use your diagnostic data, excluding information about websites you browse, to offer you personalized tips, ads, and recommendations to enhance your Microsoft experiences.
Yes
Learn more Next
5

10. Choose the appropriate privacy settings and select 'Accept'.



11. Windows 11 desktop screen.

C Bacycle Bin								
	,O Type here to	o search						
Witerceoft Edge	Pinned					All apps >		
coña	CO Microsoft Edge	Mail	Calendar	Microsoft Store	Photos	Settings		
-							:	
						Calculator		
	Recommende	d						
	Get Star Welcom	rted ne to Windows						
	A Lenovo					Ċ		
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## Section 4 – Install Device Drivers

Once the Windows 11 installation is complete and has been setup, it is important to make sure all the correct device drivers get installed. At a high-level, here are the drivers that will need to get installed. All of these drivers can be obtained from the Lenovo Support Site.

- Intel Chipset
- Intel AMT
- Intel RSTe
- Realtek Audio
- Intel I219 Ethernet
- Aquantia AQC113C Ethernet
- Nvidia Graphics

Additionally, other third-party adapters that could be installed in the system may need an appropriate device driver as well.

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<b>N</b>

# **Revision History**

Version	Date	Author	Changes/Updates
1.0	5/26/2023	Jason M.	Initial launch release.