# DRP/BXP/RKP Series Computers Windows 11 Pro 22H2 Manual

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www.moxa.com/products



### DRP/BXP/RKP Series Computers Windows 11 Pro 22H2 Manual

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This Windows 11 Professional 2022 (22H2) user manual is applicable to Moxa's x86-based computers listed below and covers the complete set of instructions for these series. Detailed instructions on configuring advanced settings are covered in the following chapters of the manual. Before referring to sections in these chapters, confirm that the hardware specification of your computer model supports the functions/settings covered therein.

# **Applicable Series**

- BXP-A100 Series
- BXP-C100 Series
- DRP-A100 Series
- DRP-C100 Series
- RKP-A110 Series
- RKP-C110 Series

### **Moxa Computers and Windows**

Moxa computers are integrated with Windows drivers and I/O controller utilities based on the Microsoft Windows up-to-date version so that you can use the most compatible hardware-software combinations in your application field.

In this chapter, we describe how to initialize the system settings when you boot up the computer for the first time. When you turn on the computer, you will see the Windows Out of Box Experience (OOBE) wizard. OOBE consists of a series of screens that require customers to accept the license agreement, connect to the internet, log in with or sign up for a Microsoft Account, and share information with the OEM.

### **Initializing User Settings**

The following is a non-exhaustive list of OOBE screens that you will see in the order that they are listed here:

1. Select a region.

Is this the right country or region?
United States
Afghanistan
Åland Islands
Albania
Algeria
American Samoa
Andorra
Angola
Yes
窟 40

2. Select a keyboard.

	<section-header><section-header><section-header><section-header><text><text><text><text><text></text></text></text></text></text></section-header></section-header></section-header></section-header>
--	---

3. Select a second keyboard.

÷	
	Want to add a second keyboard layout?
	Add layout Skop 핥 40

4. Connect to a network or continue with limited setup.

$\mathbf{\hat{s}}$	<b>Let's connect you to a network</b> Workerstein oversteiner to ronetine setting up your device. Once connected, you'n get the blassif traitures and security updates.	
	I don't have internet Next	



5. Sign in to or create a local account or a Microsoft account (MSA).

	Who's going to use this device? You'll use this name to sign in to your device.	
	Enter your name Name	
	Next	
	2 ai	

6. Set a password.

<del>~</del>		
	Create a	super memorable password
	Make sure to pi	ick something you'll absolutely remember.
	Enter a passv	word
	Password	
	9	Next
		载 40

7. Choose your privacy settings.

	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.
	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
0 @ @	services.
	Yes Ves
a threather in the	Tailored experiences
	Let Microsoft use your plagnostic data, excluding information about websites you browse, to offer you personalized tips, ads, and
	recommendations to ennance your Microsott experiences.
	Advertising ID
	Apps can use advertising ID to provide more personalized advertising in
	accordance with the privacy policy of the app provider.
	Select Learn more for into on the above settings, how Windows helps protect you from unsafe apps and web content, and the related data transfers and uses.
	Learn more Accept

# Initializing System

• After the OOBE settings, you will be redirected to the device desktop. Wait until the process is complete.

C\windows\System32\cmd.exe	-		×
C:\Windows\System32>start /wait c:\windows\system32\SetOEMModel.exe			
C:\Windows\System32>start /wait C:\windows\system32\SortNetName.exe			
C:\Windows\System32>reg delete "HKLM\SOFTWARE\Policies\Microsoft\Windows\WindowsUpdate" /v ExcludeWUDriversInQualityUpdate /f The operation completed successfully.			
C:\Windows\System32>reg add "HKLM\SOFTWARE\Microsoft\Windows\CurrentVersion\DriverSearching" /v SearchOrderConfig /t REG_DWORD The operation completed successfully.	/d 1	/f	

• The device will now reboot, and the new settings will take effect after the system restarts.

Bitlocker is a Windows disk encryption feature, designed to protect data by providing encryption for entire volumes. BitLocker addresses the threats of data theft or exposure from lost, stolen, or inappropriately decommissioned devices.

For more information about BitLocker : <u>https://learn.microsoft.com/en-us/windows/security/operating-system-security/data-protection/bitlocker/</u>

This chapter describes the BitLocker setup process.

### **Enabling the BitLocker**

1. In the Windows Devices and drives, right-click on the drive and select Turn on BitLocker.



2. Select an option to back up the recovery key. For example, select **Save to a file**.

		$\times$	
$\leftarrow$	New BitLocker Drive Encryption (C:)		
	How do you want to back up your recovery key?		
	<ol> <li>Some settings are managed by your system administrator.</li> </ol>		
	A recovery key can be used to access your files and folders if you're having problems unlocking your PC. It's a good idea to have more than one and keep each in a safe place other than your PC.		
	$\rightarrow$ Save to your <u>M</u> icrosoft account		
	$\rightarrow$ Save to a <u>file</u>		
	$\rightarrow$ <u>P</u> rint the recovery key		
	How can I find my recovery key later?		
	<u>N</u> ext Cancel		

3. Select the path to store the file in.

Rave BitLocker recovery	key as						×
$\leftarrow$ $\rightarrow$ $\checkmark$ $\uparrow$	> This PC > New	Volume (D:)		~	С	Search New Volume (	(D:) ,0
Organize 👻 New fold	er						≣ • 🕐
🚽 Downloads 🖈	Name	^	Date modified	Туре	Size		
📑 Documents 🖈			No items match y	our search.			
🔀 Pictures 🖈							
CreateSWRAID							
Ø Music							
🔀 Videos							
> 🌰 OneDrive							
> 📮 This PC							
Naturale							
File <u>n</u> ame: BitLo	cker Recovery Key B4	1DB368-BF9C-462D-8558-E74	C1EC3776C				~
Save as <u>type</u> : Text F	iles (*.txt)						~
∧ Hide Folders						Save	Cancel

4. Follow the onscreen instructions to specify the drive encryption options.

	:	×
←	New BitLocker Drive Encryption (C:)	
	Choose how much of your drive to encrypt	
	If you're setting up BitLocker on a new drive or a new PC, you only need to encrypt the part of the drive	
	that's currently being used. BitLocker encrypts new data automatically as you add it.	
	If you're enabling BitLocker on a PC or drive that's already in use, consider encrypting the entire drive. Encrypting the entire drive ensures that all data is protected—even data that you deleted but that might still contain retrievable info.	
	<ul> <li>Encrypt used disk space only (faster and best for new PCs and drives)</li> </ul>	
	<u>Encrypt entire drive (slower but best for PCs and drives already in use)</u>	
	<u>N</u> ext Cancel	)
		_
		1
←	Reference BitLocker Drive Encryption (C:)	×
~	Reference of the second	×
÷	Reference of the second	×
÷	<ul> <li>BitLocker Drive Encryption (C:)</li> <li>Choose which encryption mode to use</li> <li>Windows 10 (Version 1511) introduces a new disk encryption mode (XTS-AES). This mode provides additional integrity support, but it is not compatible with older versions of Windows.</li> <li>If this is a removable drive that you're going to use on older version of Windows, you should choose Compatible mode.</li> </ul>	×
÷	<ul> <li>BitLocker Drive Encryption (C:)</li> <li>Choose which encryption mode to use</li> <li>Windows 10 (Version 1511) introduces a new disk encryption mode (XTS-AES). This mode provides additional integrity support, but it is not compatible with older versions of Windows.</li> <li>If this is a removable drive that you're going to use on older version of Windows, you should choose Compatible mode.</li> <li>If this is a fixed drive or if this drive will only be used on devices running at least Windows 10 (Version 1511) or later, you should choose the new encryption mode</li> </ul>	×
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÷	<ul> <li>BitLocker Drive Encryption (C:)</li> <li>Choose which encryption mode to use</li> <li>Windows 10 (Version 1511) introduces a new disk encryption mode (XTS-AES). This mode provides additional integrity support, but it is not compatible with older versions of Windows.</li> <li>If this is a removable drive that you're going to use on older version of Windows, you should choose Compatible mode.</li> <li>If this is a fixed drive or if this drive will only be used on devices running at least Windows 10 (Version 1511) or later, you should choose the new encryption mode</li> <li>New encryption mode (best for fixed drives on this device)</li> <li>Compatible mode (best for drives that can be moved from this device)</li> </ul>	×
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4	<ul> <li>BitLocker Drive Encryption (C:)</li> <li>Choose which encryption mode to use</li> <li>Windows 10 (Version 1511) introduces a new disk encryption mode (XTS-AES). This mode provides additional integrity support, but it is not compatible with older versions of Windows.</li> <li>If this is a removable drive that you're going to use on older version of Windows, you should choose Compatible mode.</li> <li>If this is a fixed drive or if this drive will only be used on devices running at least Windows 10 (Version 1511) or later, you should choose the new encryption mode</li> <li>New encryption mode (best for fixed drives on this device)</li> <li>Compatible mode (best for drives that can be moved from this device)</li> </ul>	×
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#### 5. Click Continue.

		Х
~	RitLocker Drive Encryption (C:)	
	Are you ready to encrypt this drive?	
	Encryption might take a while depending on the size of the drive.	
	You can keep working while the drive is being encrypted, although your PC might run more slowly.	
	✓ <u>R</u> un BitLocker system check	
	The system check ensures that BitLocker can read the recovery and encryption keys correctly before encrypting the drive.	
	BitLocker will restart your computer before encrypting.	
	Note: This check might take a while, but is recommended to ensure that your selected unlock methor works without requiring the recovery key.	ł
	<u>C</u> ontinue Cancel	

#### 6. Restart the computer.

RitLocker Drive Encryption		
The computer must be restarte	d	
Restart <u>n</u> ow	Restart <u>l</u> ater	
Manage BitLocker		

7. Wait for the encryption process to complete and then click **Close**.

🔫 BitL	ocker Drive Encryption	×
R	Encrypting	
	Drive C: 56.9% Completed	
		Close
<u>Manag</u>	<u>e BitLocker</u>	

## **Disabling the BitLocker**

1. In the Windows Devices and drives, right-click on the drive and select Manage BitLocker.



7 items 1 item selected

#### 2. Click on Turn off BitLocker.

	BitLocker Drive Encryp	tion	- C	×
÷	$\rightarrow$ $\sim$ $\uparrow$	Control Panel > System and Security > BitLocker Drive Encryption		Q
	Control Panel Home	BitLocker Drive Encryption         Help protect your files and folders from unauthorized access by protecting your drives with BitLocker.         Ip For your security, some settings are managed by your system administrator.		3
		Operating system drive		
		C: BitLocker on	^	
		Suspend protection     Suspend protection     Sack up your recovery key <u>Turn off BitLocker</u>		
		Fixed data drives		
		Removable data drives - BitLocker To Go		
		WindowsRecoveryUSB (D:) BitLocker off	$\sim$	
\$ \$	See also TPM Administration Disk Management Privacy statement			

3. Wait for the decryption process to complete and click **Close** to exit the program.

BitLocker Drive Encryption			- 🗆 X
$\leftrightarrow \rightarrow \checkmark \uparrow$	Control Panel > System and Secu	rity > BitLocker Drive Encryption ~ C	م
Control Panel Home	BitLocker Drive Encry Help protect your files and	/ption folders from unauthorized access by protecting your drives with BitLocker.	Ø
	For your security, som	ne settings are managed by your system administrator.	
	On antina autom da		
	Operating system of	Ritlacker Drive Engrantion	
		Your off BitLocker           Your drive will be decrypted. This might take a long time, but you can keep using your PC during the decryption process.	
	Fixed data drives	Turn off BitLocker Cancel	
	Removable data driv	es - BitLocker To Go	
	WindowsRecovery	JSB (D:) BitLocker off	$\vee$
See also			
Disk Management			
Privacy statement			
BitLocker Drive Encryption $\leftarrow \rightarrow \checkmark \uparrow \blacksquare \Rightarrow Control$	Panel & System and Security & I	Ritl ocker Drive Encrumtion	- C X
BitLocker Drive Encryption $\leftrightarrow \rightarrow \checkmark \uparrow \blacksquare $ Control	Panel > System and Security > 1	BitLocker Drive Encryption	- C × V Search Control Panel P
BitLocker Drive Encryption ← → ← ↑ ► Control Control Panel Home	Panel > System and Security > I BitLocker Drive Encr	SitLocker Drive Encryption	- □ × VU Search Control Panel P
BitLocker Drive Encryption ← → * ↑ ▶ Control Control Panel Home	Panel > System and Security > I BitLocker Drive Encr Help protect your files and	BitLocker Drive Encryption yption folders from unauthorized access by protecting your drives with BitLocker.	- □ × v v Search Control Panel P
BitLocker Drive Encryption ← → * ↑ ▶ Control Control Panel Home	Panel > System and Security > 1 BitLocker Drive Encr Help protect your files and Operating system	BitLocker Drive Encryption yption folders from unauthorized access by protecting your drives with BitLocker. BitLocker Drive Encryption X	- □ × ∨ ʊ Search Control Panel P
BitLocker Drive Encryption ← → ∨ ↑ ▶ Control Control Panel Home	Panel > System and Security > I BitLocker Drive Encr Help protect your files and Operating system Windows (C:) Bit	BitLocker Drive Encryption         yption         folders from unauthorized access by protecting your drives with BitLocker.         K BitLocker Drive Encryption         X         Decryption of C: is complete.	- □ × ✓ ♥ Search Control Panel P €
BitLocker Drive Encryption ← → * ↑ ▶ > Control Control Panel Home	Panel > System and Security > I BitLocker Drive Encr Help protect your files and Operating system Windows (C:) Bit	BitLocker Drive Encryption yption folders from unauthorized access by protecting your drives with BitLocker. BitLocker Drive Encryption X Decryption of C: is complete. Close	- □ × ✓ ♥ Search Control Panel 𝒫 ●
BitLocker Drive Encryption ← → * ↑ ▶ Control Control Panel Home	Panel > System and Security > I BitLocker Drive Encr Help protect your files and Operating system Windows (C:) Bit	BitLocker Drive Encryption yption folders from unauthorized access by protecting your drives with BitLocker.  BitLocker Drive Encryption X Decryption of C: is complete. Close lanage BitLocker	- □ × ✓ ʊ Search Control Panel P ●
BitLocker Drive Encryption ← → * ↑ ▶ Control Control Panel Home	Panel > System and Security > I BitLocker Drive Encr Help protect your files and Operating system Windows (C:) Bit Sized data drives	BitLocker Drive Encryption         yption         folders from unauthorized access by protecting your drives with BitLocker.         RitLocker Drive Encryption         X         Decryption of C: is complete.         Close         lanage BitLocker	- □ × ✓ ♥ Search Control Panel
BitLocker Drive Encryption ← → * ↑ ▶ Control Control Panel Home	Panel > System and Security > I BitLocker Drive Encr Help protect your files and Operating system Windows (C:) Bit Fixed data drives Removable data drive	BitLocker Drive Encryption yption folders from unauthorized access by protecting your drives with BitLocker. BitLocker Drive Encryption Close anage BitLocker res - BitLocker To Go	- C × VU Search Control Panel P
BitLocker Drive Encryption ← → * ↑ ▶ Control Control Panel Home	Panel > System and Security > I BitLocker Drive Encr Help protect your files and Operating system Windows (C:) Bit Fixed data drives Removable data drive D: BitLocker off	BitLocker Drive Encryption yption folders from unauthorized access by protecting your drives with BitLocker. BitLocker Drive Encryption Close Lanage BitLocker res - BitLocker To Go	- C × Search Control Panel P
BitLocker Drive Encryption ← → * ↑ ▶ Control Control Panel Home	Panel > System and Security > H BitLocker Drive Encr Help protect your files and Operating system Windows (C:) Bit Fixed data drives Removable data drive D: BitLocker off	SitLocker Drive Encryption yption folders from unauthorized access by protecting your drives with BitLocker. K BitLocker Drive Encryption X Decryption of C: is complete. Close lanage BitLocker res - BitLocker To Go	- C × Search Control Panel P
BitLocker Drive Encryption ← → * ↑ ▶ Control Control Panel Home	Panel > System and Security > I BitLocker Drive Encr Help protect your files and Operating system Windows (C:) Bit Sized data drives Removable data drive D: BitLocker off	BitLocker Drive Encryption         folders from unauthorized access by protecting your drives with BitLocker.         BitLocker Drive Encryption         X         Decryption of C: is complete.         Close         anage BitLocker	- C × Search Control Panel P
Bittocker Drive Encryption ← → * ↑ ▶ Control Control Panel Home See also	Panel > System and Security > I BitLocker Drive Encr Help protect your files and Operating system Windows (C:) Bit Fixed data drives Removable data drive D: BitLocker off	BitLocker Drive Encryption         folders from unauthorized access by protecting your drives with BitLocker.         BitLocker Drive Encryption         X         Decryption of C: is complete.         Close         lanage BitLocker	- C × Search Control Panel P
<ul> <li>BitLocker Drive Encryption</li> <li>         ← → * ↑ ▲ &gt; Control         Control Panel Home     </li> <li>Control Panel Home     </li> <li>See also         TPM Administration     </li> </ul>	Panel > System and Security > I BitLocker Drive Encr Help protect your files and Operating system Windows (C:) Bit Fixed data drives Removable data drive D: BitLocker off	SitLocker Drive Encryption yption folders from unauthorized access by protecting your drives with BitLocker.  R BitLocker Drive Encryption Close Lanage BitLocker res - BitLocker To Go	
<ul> <li>BitLocker Drive Encryption</li> <li>         ← → * ↑ ▲ &gt; Control         Control Panel Home     </li> <li>Control Panel Home     </li> <li>See also</li> <li>TPM Administration</li> <li>Disk Management         Privacy statement</li> </ul>	Panel > System and Security > I BitLocker Drive Encr Help protect your files and Operating system Windows (C:) Bi Fixed data drives Removable data driv D: BitLocker off	SitLocker Drive Encryption yption folders from unauthorized access by protecting your drives with BitLocker.  K BitLocker Drive Encryption Close anage BitLocker exes - BitLocker To Go	

- 🗆 🗙 This PC (+) New × 🔏 🗘 🗊 🖄 Sort × 8= View × ···  $\leftarrow \rightarrow \checkmark \uparrow$  This PC ✓ C Q Search This PC Documents Desktop Downloads > 🚞 Boot COM\_Reorder Pictures Music Videos > 🚞 Diagnostic\_v2.0 > 🚞 EFI v Devices and drives Local Disk (C:) 416 GB free of 446 GB WindowsRecoveryUSB (D:) UEFI\_NTFS (E:) 📒 en-us 390 KB free of 494 KB 3.98 GB free of 29.5 GB > 🚞 home > 🚞 ImageValidator 🚞 Intel Optane M 늘 iperf-3.1.3-wint > 🚞 MoxaOOBE > 🚞 MoxaOOBE\_Wi > 🚞 PCommPro CP-114 > 🚞 RwPortableX64 a sources 9 items 1 item selected
- 4. Check the disk status after the decryption process is completed.

RAID is the acronym for **Redundant Array of Independent Disk** which indicates the use of combining a number of disks into one or more logical units for data redundancy, performance improvement, or both.

This chapter describes the setup process for FW RAID (Intel® RST or Intel® RAID) and SW RAID.

# Intel® RAID: Changing the RAID Mode

- 1. Power on the computer and press **F2** to enter the BIOS menu.
- 2. Select the Setup Utility option.



FW RAID is supported only in the RKP-A110 Series.



3. Select the SATA Configuration option.

		InsydeH20 Setup Utility	Rev. 5.0
Main Advanced Security	Power Boot Exit		
Hain Advanced Security +Boot Configuration +SATA Configuration +CPU Configuration +Video Configuration +Chipset Configuration +PCH-FW Configuration +Console Redirection +S10 1T8786E	Power Boot Exit	InsydeH20 Setup Utility	Rev. 5.0 Select the SATA controller and hard disk drive type installed in your system
F1 Help	1/1 Select Item	F5/F6 Change Values	F9 Setup Defaults
Esc Exit	+/+ Select Item	Enter Select ► SubMenu	F10 Save and Exit

4. Select the **Map SATA Root Port under VMD** and **Enable** this option. Enable the **Hot Plug** function on all ports.



	In	sydeH20 Setup Utility		Rev. 5.0
Advanced				
SATA Configuration			Map/UnMap SATA Root Port to VMD RAID mode	for
SATA Speed Limited Map SATA Root Port under	<auto> VMD <enabled></enabled></auto>			
▶Serial ATA Port 0 Hot Plug ▶Serial ATA Port 1	[2.5" SATA SSD 3ME4                    	1		
Hot Plug	<pre><enabled></enabled></pre>			
F1 Help	î/↓ Select Item	F5/F6 Change Values	F9 Setup Defaults	
Esc Exit	+/→ Select Item	Enter Select ► SubMenu	FIU Save and Exit	

5. Press F10 to save the settings and then press ESC to return to the main page.

		InsydeH20 Setup Utility	Rev. 5.0
Main Advanced Security	Power Boot Exit		
Main Advanced Security Exit Saving Changes Save Change Without Exit Exit Discarding Changes Load Optimal Defaults Load Custom Defaults Save Custom Defaults Discard Changes	Power Boot Exit		Exit system setup and save your changes.
F1 Help Esc Exit	1/↓ Select Item +/+ Select Item	F5/F6 Change Values Enter Select ► SubHenu	F9 Setup Defaults F10 Save and Exit

6. Select **Exit Saving Changes**, and then select **Yes** to save the settings.

		InsydeH20 Setup Utility	Rev	7. 5.0
Main Advanced Security Pow	er Boot Exit			
Main Advanced Security Pow Exit Saving Changes Save Change Without Exit Exit Discarding Changes Load Optimal Defaults Save Custom Defaults Discard Changes	er Boot Exit	InsydeH2O Setup Utility Exit Saving Changes [Yes] [No]	Rev Exit system setup and save your char	r. 5.0
F1 Help For Fuit	1/4 Select Item	F5/F6 Change Values	F9 Setup Defaults	

# Intel® RAID: Creating a RAID Disk in BIOS



### NOTE

Using hard disks of the same brand, same model, and same capacity to create FW RAID for best performance.

- 1. Power on the computer and press **F2** to enter the BIOS menu.
- 2. Select the **Device Management** option.

Front Page		
Front Page		
Front Page Continue Moot Manager Moot From File Modminister Secure Boot Modminister Secure Boot Setup Utility Intel(R) Management Engine BlOS Extension	Page This selection will take you to the Device Manager	
1/↓ Select Item	ante senet e subhenu	

3. Select Intel® Rapid Storage Technology.

Devic	e Manager
Devices List ▶Intel(R) Rapid Storage Technology	This formset allows the user to manage RAID volumes on the Intel(R) RAID Controller
Press ESC to exit.	
F1 Help Esc Exit	†/∔ SelectItem EnterSelect►SubMenu

4. Select Create RAID Volume.

Intel(R) Rapid Storage Technology			
Intel(R) RST 18.1.2.5596 RST V	MD Driver		This page allows you to create a RAID volume
▶Create RAID Volume			
Non-RAID Physical Disks: ▶SATA 0.0. 2.5" SATA SSD 3ME4	CA12307050250001. 59.6GB		
►SATA 0.1, 2.5" SATA SSD 3ME4	CA12307050250035, 59.6GB		
El Help	t/l Select Item	E5/E6 Change Values	EQ Sotup Defaults
Esc Exit	+/+ Select Item	Enter Select ► SubMenu	F10 Save

5. Select the **RAID Level** option and then press **Enter** to select the raid level; for example, **RAID1(Mirror)**.

Intel(R) Rapid Storage Technol	Intel(R)	Rapid Storage Technology	
Create RAID Volume			Select RAID Level
Name: RAID Level:	<mark>Vo∣ume1</mark> <raido (stri<="" td=""><td>pe)&gt;</td><td></td></raido>	pe)>	
Select Disks: SATA 0.0, 2.5" SATA SSD 3HE4 CA12307050250001, 59.6GB SATA 0.1, 2.5" SATA SSD 3HE4 CA12307050250035, 59.6GB	$\sim$		
Strip Size: Capacity (MB):	<16KB> [0]		
▶Create Volume			
Select at least two disks		RAIDO (Stripe) RAIDI (Mirror)	
F1 Help Esc Exit	1/↓ Select Item +/→ Select Item	F5/F6 Change Values Enter Select ▶ SubMenu	F9 Setup Defaults F10 Save
	Intel(R)	Rapid Storage Technology	
Intel(R) Rapid Storage Technol	logy		
Create RAID Volume			Select RAID Level
Name: RAID Level:	volumei <raid1 (mirr<="" td=""><td>or)&gt;</td><td></td></raid1>	or)>	
Select Disks: SATA 0.0, 2.5" SATA SSD 3ME4 CA12307050250001, 59.6GB SATA 0.1, 2.5" SATA SSD 3ME4 CA12307050250035, 59.6GB	< >		
Capacity (MB):	[0]		
▶Create Volume			
Select two disks			

6. Select the target disk.

Intel(R) Rapid Storage Technology				
Intel(R) Rapid Storage Technology				
Create RAID Volume			Select RAID Level	
Name: RAID Level:	<mark>Volume1</mark> <raid1 (mirro<="" th=""><th>r)&gt;</th><th></th></raid1>	r)>		
Select Disks: SATA 0.0, 2.5" SATA SSD 3ME4 CA12307050250001, 59.6GB	< >			
SATA 0.1, 2.5" SATA SSD 3HE4 CA12307050250035, 59.6GB	< >			
Capacity (MB):	[0]			
▶Create Volume				
Select two disks				
F1 Help Esc Exit	1/↓ Select Item +/→ Select Item	F5/F6 Change Values Enter Select ► SubMenu	F9 Setup Defaults F10 Save	

7. Enter **X** and then press **Enter**.

Intel(R) Rapid Storage Technology			
Create RAID Volume			X - to Select Disk
Name: RAID Level:	Volume1 <raid1 (mirr<="" td=""><td>ror)&gt;</td><td></td></raid1>	ror)>	
Select Disks: SATA 0.0, 2.5" SATA SSD 3ME4 CA12307050250001, 59.6GB SATA 0.1, 2.5" SATA SSD 3ME4 CA12307050250035, 59.6GB	<>		
Capacity (MB):	[0]		
▶Create Volume	_		_
Select two disks	SATA 0.0, 2.5" SATA X	A SSD 3HE4 CA12307050250001, 59.	GGB
F1 Help	1/↓ Select Item	F5/F6 Change Values	F9 Setup Defaults
Esc Exit	+/→ Select Item	Enter Select 🕨 SubMenu	F10 Save

8. The disk is now marked with an **X** next to it to indicate the selection.

Intel(R) Rapid Storage Technology			
Intel(R) Rapid Storage Technology			
Create RAID Volume			X - to Select Disk
Name: RAID Level:	Volume1 <raid1 (mirro<="" td=""><td>·)&gt;</td><td></td></raid1>	·)>	
Select Disks: SATA 0.0, 2.5" SATA SSD 3HE4 CA12307050250001, 59.6GB SATA 0.1, 2.5" SATA SSD 3HE4 CA12307050250035, 59.6GB	< >>		
Capacity (MB):	[61055]		
▶Create Volume			
F1 Help For Fxit	1/4 Select Item	F5/F6 Change Values Enter Select ► Sublemu	F9 Setup Defaults F10 Save

9. Select the Create Volume option.

Intel(R) Rapid Storage Technology			
Create RAID Volume Name: RAID Level:	Volume1 <raid1 (mirror)<="" th=""><th>2</th><th>Create a volume with the settings specified above</th></raid1>	2	Create a volume with the settings specified above
Select Disks: SATA 0.0, 2.5" SATA SSD 3HE4 CA12307050250001, 59.6GB SATA 0.1, 2.5" SATA SSD 3HE4 CA12307050250035, 59.6GB	<>>		
Capacity (MB):	[61055]		
▶Create Volume			
F1 Help Esc Exit	1/↓ Select Item +/+ Select Item	F5/F6 Change Values Enter Select ► SubMenu	F9 Setup Defaults F10 Save

10. A RAID volume is created based on the settings specified.

Intel(R) Rapid Storage Technology			
Intel(R) Rapid Stora	je Technology		
Intel(R) RST 18.1.2.5	i96 RST VMD Driver		Select to see more information about the RAID Volume
RAID Volumes: ▶Volume1, RAID1 (Hirro	or), 59.66B, Normal		
F1 Help Esc Exit	1/↓ Select Item +/→ Select Item	F5/F6 Change Values Enter Select ► SubMenu	F9 Setup Defaults F10 Save

11. Press F10 to save the settings.

# Intel® RAID: Replacing a Disk

1. Run Intel® Optane<sup>™</sup> Memory and Storage Management from the Windows Start menu.



2. Physically unplug the target SSD.

intel.	Intel® Optane™ Memory and Storage Management – □ ×
🔑 Manage	Status
Create RAID Volume	Your storage system is functioning normally.
Intel <sup>®</sup> Optane <sup>™</sup> Memory	Storage System View     Click on any component below to manage its properties.
Performance	SATA_Array_0000
Settings	- Volume1 Type: RAID 1 238 GB
1 About	SATA SSD (238 GB)
	Rescan

The status of the SSD that is unplugged will change to **Unknown hard disk (0 Bytes)** as shown below:

intel.	Intel® Optane™ Memory and Storage Management			×
🔑 Manage	Status			
Create RAID Volume	Your system is reporting one or more events, and data may be at risk. Refer to the details below for more information.			
	Storage System View			
Performance	SATA_Array_0000			
Settings	Unknown hard disk (0 Bytes) Volume1 Type: RAID 1 228 c.p.			
1 About	SATA SSD (238 GB)			
	Internal empty port 0 Rescan			

3. Install the new SSD in the same location.



4. Click on the **Settings** tab. Enable **Automatic rebuild on hot plug**.

intel.	Intel® Optane™ Memory and Storage Management		
🔑 Manage	Notifications settings		
Create RAID Volume	Current Windows notifications settings status: Enabled		
Intel® Optane™	Disabling toast notifications for Intel® Optane® Memory and Storage Management will prevent display of all notifications for this application.		
Memory	Change settings		
Performance	What's new window is:		
Settings	Enabled		
d About	Automatic rebuild on hot plug		
	Enabled		
	Automatic rebuild on hot plug support allows you to automatically start the rebuild process of a degraded volume by hot-plugging a compatible disk in the same location as a failed or missing array disk.		
	WARNING: Any existing data on the hot plug disk will be permanently deleted as soon as the migration process starts. Back up data before hot-plugging the disk.		
	E-mail notifications		
	Disabled		
	Configure		

5. It will start rebuilding automatically. Wait for the rebuild process to complete.



intel.	Intel® Optane™ Memory and Storage Management - □ ×
🔑 Manage	Status
Create RAID Volume	Vour storage system is functioning normally.
Intel <sup>®</sup> Optane <sup>™</sup> Memory	Click on any component below to manage its properties.
Performance	SATA_Array_0000
Settings	Volume1 Type: RAID 1 238 GB
1 About	SATA SSD (238 GB)
	Rescan

# Intel® RAID: Removing a RAID Volume From the BIOS

- 1. Power on the computer and press **F2** to enter the BIOS menu.
- 2. Select Device Management.
- \* N

### NOTE

FW RAID only supports RKP-A110 series.



3. Select the Intel® Rapid Storage Technology option.

Devic	e Manager
Devices List ▶Intel(R) Rapid Storage Technology	This formset allows the user to manage RAID volumes on the Intel(R) RAID Controller
Press ESC to exit.	
F1 Help Esc Exit	1/4 Select Item Enter Select ► SubMenu

4. Select the RAID volume that you want to remove.

	Intel(R)	Rapid Storage Technology	
Intel(R) Rapid Storage Techno			
Intel(R) RST 18.1.2.5596 RST V	HD Driver		Select to see more information about the RAID Volume
RAID Volumes: ▶Volume1, RAID1 (Hirror), 59.6	GB, Normal		
F1 Help Esc Exit	t/↓ Select Item +/→ Select Item	F5/F6 Change Values Enter Select ▶ SubHenu	F9 Setup Defaults F10 Save

5. Select **Delete** and then press **Enter**.

	Intel(R) R	apid Storage Technology	
Intel(R) Rapid Storage			
RAID VOLUME INFO			
Volume Actions ▶Delete			
Name: RAID Level: Strip Size: Size: Status: Bootable:	Volume1 RAID1 (Hirror N/A 59.6GB Normal Yes	)	
▶SATA 0.0, 2.5" SATA S: ▶SATA 0.1, 2.5" SATA S:	SD 3HE4 CA12307050250001, 59.6GB SD 3HE4 CA12307050250035, 59.6GB		
F1 Help Esc Evit	1/1 Select Item	F5/F6 Change Values Enter Select ▶ SubMenu	F9 Setup Defaults

6. Select **Yes** to confirm and then press **Enter**.

	Intel(R	) Rapid Storage Technology	
Intel(R) Rapid Storage Techn			
Delete			Deleting a volume will reset the disks to non-RAID.
Delete the RAID volume? ALL DATA ON VOLUME WILL BE LO	ST!		
▶Yes			
►No			
F1 Help	1/↓ Select Item	F5/F6 Change Values	F9 Setup Defaults
Esc Exit	+/+ Select Item	Enter Select 🕨 SubMenu	F10 Save

7. Press **F10** to save the settings.

# SW RAID: Creating the RAID 0 or RAID 1 From Disk Management

1. Run **Disk Management**. Connecting the new disks and checking all the disk status are **Unallocated**. If the disk status is not **Unallocated**, you can right-click the target disk and select **Delete Volume**.

	nent										-	×
Eile Action Vi	iew <u>H</u> elp											
⊨⇒  📰   🛿	🗊 📌 🖾											
Volume	Layout	Туре	File System	Status	Capacity	Free Spa	% Free					
= (C:)	Simple	Basic	NTFS	Healthy (B	446.41 GB	418.10 GB	94 %					
(Disk 0 partition)	1) Simple	Basic		Healthy (E Healthy (R	100 MB 625 MB	100 MB 625 MB	100 %					
Disk 0 Basic 447.12 GB Online	100 MB Healthy (EEI Sy	stem Partition	(C:) 446.4'	GB NTFS	ile Crash Dumr	Basic Data Par	ition)	 	 625 MB Healthy (Recov	very Partition		
			·	2 C - 2	1.							
Disk 1 Basic 238.46 GB	238.46 GB											
Disk 1 Basic 238.46 GB Online     Disk 2	238.46 GB Unallocated											
Disk 1 Basic 238.46 GB Online     Disk 2 Basic 238.46 GB Online	238.46 GB Unallocated 238.46 GB Unallocated											
Disk 1 Basic 238.46 GB Online     Disk 2 Basic 238.46 GB Online	238.46 GB Unallocated 238.46 GB Unallocated											
Disk 1 Basic 238.46 GB Online Disk 2 Basic 238.46 GB Online	238.46 GB Unallocated 238.46 GB Unallocated											

2. Right-click the target disk. Select the target volume type. For example: RAID1(Mirror).

Þ 🔿   📰   👔 (	II 🗩 🗹 🛙	8									
/olume = (C:) = (Disk 0 partition 1) = (Disk 0 partition 4	Layout Simple Simple Simple	Type Basic Basic Basic	File System NTFS	Status Healthy (B Healthy (E Healthy (R	Capacity 446.41 GB 100 MB 625 MB	Free Spa 418.10 GB 100 MB 625 MB	% Free 94 % 100 % 100 %				
Disk 0 Basic 447.12 GB Online Disk 1 Basic	100 MB Healthy (EFI Sys	tem Partition)	) (C:) 446.41 Health	GB NTFS 1y (Boot, Page File	e, Crash Dump, I	Basic Data Par	iition)	 	625 MB Healthy (Recove	ny Partition)	
238.46 GB	238.46 GB Unallocated				New Simple	e Volume					
Online Disk 2 Basic 238.46 GB Online	238.46 GB Unallocated				New Spann New Stripe New Mirror New RAID-	ed Volume d Volume red Volume 5 Volume					

3. To continue, click **Next**.

olume	Layout	Туре	File System	Status	Capacity	Free Spa	% Free			
<ul> <li>(C:)</li> <li>(Disk 0 partition 1)</li> <li>(Disk 0 partition 4)</li> </ul>	Simple Simple Simple	Basic Basic Basic	NTES	Healthy (B Healthy (E Healthy (R	446.41 GB 100 MB 625 MB	418.10 GB 100 MB 625 MB	94 % 100 % 100 %			
				New Mirrored Vo	olume				×	
						Welcome to Volume Wit	o the New zard	Mirrored		
Disk 0						A mirrored volume of mirrored volume if y your information to	duplicates your d ou want to keep prevent data los	ata on two disks. Create a two separate copies of a s.		
asic 47.12 GB nline	100 MB Healthy (EFI Sys	tem Partition	(C: 446 Hea			To continue, click	Next.			625 MB Healthy (Recovery Partition)
Disk 1 asic 18.46 GB nline	238.46 GB Jnallocated									
Disk 2 asic 38.46 GB nline	238.46 GB Jnallocated						< Back	Next > Canc	el	

#### 4. Select the disks you want to use, and then click **Add**.

/olume	Lavout Type	File System	Status	Canacity	Free Sna	% Free	1			
<ul> <li>(C:)</li> <li>(Disk 0 partition</li> <li>(Disk 0 partition)</li> </ul>	Simple Basic 1) Simple Basic 4) Simple Basic	NTFS	Healthy (B Healthy (E Healthy (R	446.41 GB 100 MB 625 MB	418.10 GB 100 MB 625 MB	94 % 100 % 100 %	I			
			New Mirrored Vo	lume					×	
			Select Disks You can sel	ect the disks and	set the disk size	for this volu	ne.			
			Select the d	isks you want to u	se, and then clic	k Add.				
<b>Disk 0</b> Basic 147.12 GB Dnline	100 MB Healthy (EFI System Par	tition) (C: 446 Hea	Available: Disk 2 24	4181 MB	Add > < Remov	/e	elected: Disk 1 244181	ИВ		625 MB Healthy (Recovery Partition)
<b>— Disk 1</b> Basic 238.46 GB Dnline	238.46 GB Unallocated		Total volume Maximum av Select the ar	size in megabytes ailable space in M nount of space in	s (MB): B: MB:	ji ji	44181			
Disk 2 Basic 138.46 GB Dnline	238.46 GB Unallocated				(	< Back	Next >	Cancel		
#### 5. Click Next.

📅 Disk Manage	ement						- D X
File Action	View Help						
(+ +) 🖬 🛛	👔 🖬 🏓 🖾						
Volume (C:) (Disk 0 partition (Disk 0 partition)	Layout Typ Simple Bas on 1) Simple Bas on 4) Simple Bas	e File System ic NTFS ic ic	Status         Capa           Healthy (B         446.4           Healthy (E         100 M           Healthy (R         625 M	city Free Spa 1 GB 418.10 GB 18 100 MB 18 625 MB	% Free 94 % 100 % 100 %		
			New Mirrored Volume Select Disks You can select the	disks and set the disk size	for this volume.	×	×
			Select the disks you	u want to use, and then cliv	sk Add.		
<b>— Disk 0</b> Basic 447.12 GB Online	100 MB Healthy (EFI System Pa	(C: 446 Hea	Available:	Add > < Remo	Selected: Disk 1 2 Disk 2 2	244181 MB 244181 MB	625 MB Healthy (Recovery Partition)
Disk 1 Basic 238.46 GB Online	238.46 GB Unallocated		Total volume size in Maximum available : Select the amount o	megabytes (MB): space in MB: f space in MB:	244181 244181 244181		
<b>Disk 2</b> Basic 238.46 GB Online	238.46 GB Unallocated			(	< Back Ne	xt > Cancel	
Unallocated	Primary partition						

#### 6. Assign the drive letter, click **Next**.

📑 Disk Manage	ment						- 🗆 X
File Action \	/iew Help						
	1 🖬 🗩 🗹 🖾						
Volume (C:) (Disk 0 partitio (Disk 0 partitio	Layout Type Simple Basic n 1) Simple Basic n 4) Simple Basic	File System NTFS	Status         Capacity           Healthy (B         446.41 GB           Healthy (E         100 MB           Healthy (R         625 MB	Free Spa         % Free           418.10 GB         94 %           100 MB         100 %           625 MB         100 %			
			New Mirrored Volume Assign Drive Letter or Path For easier access, you can a	assign a drive letter or drive pa	h to your volume.	×	
<b>— Disk 0</b> Basic 447.12 GB Online	100 MB Healthy (EFI System Partition	1) (C: 446 Hea	Assign the following drive     Mount in the following em     Do not assign a drive lettr	letter: [ pty NTFS folder: Brow er or drive path	× 96	625 M Heal	MB hty (Recovery Partition)
Disk 1 Basic 238.46 GB Online	238.46 GB Unallocated						
Disk 2 Basic 238.46 GB Online	238.46 GB Unallocated			< Back	Next > Cancel		
Unallocated	Primary partition						

7. Format the volume using **Quick Format**, click **Next**.

	Volume	Layout	Туре	File System	Status	Capacity	Free Spa	% Free			
New Mirrored Volume     X       Format Volume     X       To store data on this volume, you must format t first.     Choose whether you want to format this volume, and if so, what settings you want to use.       Disk 0 Basic 447712 GB Online     100 MB Healthy (EFI System Partition)     Console whether you want to format this volume with the following settings:       Poisk 1 Basic 238.46 GB Online     238.46 GB Vhallocated     NTFS Volume label:     Volume       Perform a quick format Databel file and folder compression     Perform a quick format Disk file and folder compression     S25 MB Healthy (Recovery Partition)	<ul> <li>(C:)</li> <li>(Disk 0 partition 1</li> <li>(Disk 0 partition 4</li> </ul>	Simple ) Simple ) Simple	Basic Basic Basic	NTFS	Healthy (B Healthy (E Healthy (R	446.41 GB 100 MB 625 MB	418.10 GB 100 MB 625 MB	94 % 100 % 100 %			
				-	New Mirrored Vo Format Volum To store da	olume ne ata on this volume, yu	ou must format	it first. e. and if so, wi	nat settings you	× vant to use	
- Disk 1     Volume label:     New Volume       Basic     238.46 GB     238.46 GB     Perform a quick format       Unallocated     Enable file and folder compression	Disk 0 Basic 447.12 GB Online	100 MB Healthy (EFI Sysi	tem Partition	(С: 446 Нег	O Do n Form A	not format this volume nat this volume with t ile system: Ilocation unit size:	e he following se NTFS Default	ttings:	~ ~		625 MB Healthy (Recovery Partition)
	<b>Disk 1</b> Basic 238.46 GB Online	238.46 GB Unallocated			V	olume label: Perform a quick fo Enable file and fok	New Vo mat der compressio	lume 1			
- Disk 2       Basic       238.46 GB       238.46 GB       Unallocated	<b>Disk 2</b> Basic 238.46 GB Online	238.46 GB Unallocated					(	< Back	Next >	Cancel	

8. Checking the RAID1(Mirror) information. Click **Finish** to create the RAID1 volume.

	1 🗩 🗹 🕻	2	1		1	1					
olume a (C:) a (Disk 0 partition 1) a (Disk 0 partition 4)	Layout Simple Simple Simple	Type Basic Basic Basic	File System NTFS	Status Healthy (B Healthy (E Healthy (R	Capacity 446.41 GB 100 MB 625 MB	Free Spa 418.10 GB 100 MB 625 MB	% Free 94 % 100 % 100 %				
				New Mirrored V	olume				×		
Disk 0     Basic     447.12 GB     10     Doline     Disk 1     Basic     233.46 GB     23	0 MB ealthy (EFI Sys 8.46 GB	stem Partition	n) (C: 446 Hez			Completin Volume W You have succes You selected the i Volume type: Min Disks selected: I Volume size: 244 Drive lette or path File system: NTF Allocation unit siz Volume label: Ne Cauck format: Ye To close this wiza	g the New zard fully completed official completed official completed official completed official completed issolution official completed issolution official completed issolution official completed issolution official completed official completed issolution official completed official completed issolution official completed issoluti issolution official completed issolution official completed is	/ Mirrored		625 MB Healthy (Recovery	Partition)
Disk 2 Basic 238.46 GB 238 Online Ur	8.46 GB nallocated					(	< Back	Finish	Cancel		

9. System will show the warning message about SW RAID volume, click **Yes** to continue.

📅 Disk Manag	ement		- 🗆 X
File Action	View Help		
(+ +) 🖬	🛙 📰 🔎 🖻 📧		
Volume	Layout Type File System	Status Capacity Free Spa % Free	
<ul> <li>(C:)</li> <li>(Disk 0 partiti</li> <li>(Disk 0 partiti</li> </ul>	Simple Basic NTFS on 1) Simple Basic on 4) Simple Basic	Healthy (B 446.41 GB 418.10 GB 94 % Healthy (E 100 MB 100 MB 100 % Healthy (R 625 MB 625 MB 100 %	
Disk 0 Basic 447.12 GB Online	100 MB Healthy (EFI System Parition)	Disk Management A 1 GB NTF thty (Boot Ar you will ob able to take). If you convert the disk(s) to dynamic, you will not be able to take it installed operating systems from any volume on the disk(s) (except the current boot volume). Are you sure you want to continue?	covery Partition)
Disk 1 Basic 238.46 GB Online	238.46 GB Unallocated	Yes No	
Disk 2 Basic 238.46 GB Online	238.46 GB Unallocated		
Unallocated	Primary partition		

#### 10. Checking the RAID1(Mirror) information from disk management.

📅 Disk Managen	nent											-	- 1		×
Eile Action Vi	iew <u>H</u> elp														
(+ - +	🗖 🗩 🖌 🛙														
Volume	Lavout	Type	File System	Status	Canacity	Free Sna	% Free								
- (C:)	Simple	Basic	NTFS	Healthy (B	446.41 GB	418.10 GB	94 %								
🛲 (Disk 0 partition	1) Simple	Basic		Healthy (E	100 MB	100 MB	100 %								
💳 (Disk 0 partition	4) Simple	Basic		Healthy (R	625 MB	625 MB	100 %								
Rew Volume (D	:) Mirror	Dynamic	NTFS	Healthy	238.46 GB	238.36 GB	100 %								
- Disk 0															
Basic			(C:)												
447.12 GB Online	100 MB	tom Dartition)	446.41	446.41 GB NTFS						625 M	625 MB Healthy (Recovery Partition)				
onnie	rieduny (cri sys	tem Partition)	Healun	Healthy (Boot, Page File, Crash Dump, Basic Data Partition)						Hear	iny (Recovery i	antitionj			
	1		1												
- Disk 1															
Dynamic 238.46 GB	New Volume (	D:)													
Online	Healthy														
- Disk 2														-	
238.46 GB	238.46 GB NTES	D:)													
Online	Healthy														
I have the sector of the se	During and the second station of														
Unallocated	Primary partition	Mirrored v	/olume												

# 5. Intel® Active Management Technology

Intel® AMT is part of the Intel vPro technology offering. Platforms equipped with Intel® AMT can be managed remotely, regardless of its power state or if it has a functioning OS or not. The Intel® Converged Security and Management Engine (Intel® CSME) powers the Intel® AMT system. As a component of the Intel vPro platform, Intel® AMT uses a number of elements in the Intel vPro platform architecture.

This chapter describes the setup process for the Intel® Active Management Technology. For more information about Intel® Active Management Technology:

https://www.intel.com/content/www/us/en/developer/articles/guide/getting-started-with-activemanagement-technology.html?wapkw=AMT



#### NOTE

Intel® AMT is not supported in models with Intel® Celeron®, Intel® Core<sup>™</sup> i3, and Intel Atom® processors.

### **Applicable Series**

- BXP-C100 Series
- DRP-C100 Series
- RKP-C110 Series

## **Turning on Intel® AMT on PC**

- 1. Power on the computer and press **F2** to enter the BIOS menu.
- 2. Select Intel(R) Management Engine BIOS Extension.



3. Select MEBx Login.

Intel(R) Management Eng Copyright(C)	ine BIOS Extension v11.0.0.0010/1 2003-16 Intel Corporation. All R	ntel(R) ME v11.8.70.3626 ights Reserved
	MAIN MENU	
MEBx Login > Intel(R) ME General Settings > Intel(R) AMT Configuration MEBx Exit		
Intel(R) ME Password		
[†↓]=Move Highlight	[Enter]=Select Entry	[Esc]=Exit

4. Type the Intel® ME default password: "admin".

Intel(R) Management Eng Copyright(C)	gine BlOS Extension v11.0.0.0010/Int 0 2003-16 Intel Corporation. All Rig	el(R) ME v11.8.70.3626 hts Reserved
	MAIN MENU	
<pre>HEBx Login &gt; Intel(R) ME General Settings &gt; Intel(R) AMT Configuration MEBx Exit</pre>	Intel(R) ME Password ****	
Intel(R) ME Password		
[†↓]=Move Highlight	[Enter]=Select Entry [	Esc]=Exit

- 5. Type the new password. The new Intel® MEBX password must meet the following requirements for strong passwords:
  - > **Password Length:** At least 8 characters, and no more than 32.
  - > **Password Complexity:** Password must include the following:
    - □ At least one digit character ('0', '1', ... '9')
    - □ At least one 7-bit ASCII non-alpha-numeric character (e.g., '!', '\$', ';'), but excluding ':', ',' and '''' characters.
    - □ At least one lower-case letter ('a', 'b'...'z') and at least one upper case letter ('A', 'B'...'Z').

Intel(R) Management En Copyright(C	gine BIOS Extension v11.0.0.0010/1 ) 2003-16 Intel Corporation. All R	ntel(R) ME v11.8.70.3626 ights Reserved
	MAIN MENU	
HEBx Login > Intel(R) ME General Settings > Intel(R) AMT Configuration MEBx Exit	Intel(R) ME New Password	
Intel(R) ME Password		
[↑↓]=Move Highlight	[Enter]=Select Entry	[Esc]=Exit

6. Verify the password and login MEBx.

Intel(R) Management Eng Copyright(C)	gine BIOS Extension v11.0.0.0010/1 ) 2003-16 Intel Corporation. All R	ntel(R) ME v11.8.70.3626 lights Reserved
	MAIN MENU	
<pre>HEBx Login &gt; Intel(R) ME General Settings &gt; Intel(R) AMT Configuration MEBx Exit</pre>	Verify password	
Intel(R) ME Password		
[†↓]=Move Highlight	[Enter]=Select Entry	[Esc]=Exit

#### 7. Select Intel(R) AMT Configuration.

Intel(R) Management En Copyright(C	gine BIOS Extension v11.0.0.0010/ ) 2003-16 Intel Corporation. All	Intel(R) ME v11.8.70.3626 Rights Reserved
	MAIN MENU	
> Intel(R) ME General Settings > Intel(R) AMT Configuration MEBx Exit		
[↑↓]=Move Highlight	[Enter]=Select Entry	[Esc]=Exit

8. Select Network Setup.

	Intel(R) Management Engine BIOS Extension v11.0.0.0010/Intel(R) ME v11.8.70.3626 Copyright(C) 2003-16 Intel Corporation. All Rights Reserved							
	INTEL(R) AMT CONFIGURATION							
>	Manageability Feature Selection <enabled> SOL/Storage Redirection/KVM</enabled>							
>	Diser Consent Password Policy <anytime> Network Setup Activate Network Access</anytime>							
>	Unconfigure Network Access Remote Setup And Configuration Power Control							
	[†↓]=Move Highlight [Enter]=Select Entry [Esc]=Exit							

9. Select **TCP/IP Settings**.

Intel(R) Management Engine BIOS Extension v11.0.0.0010/Intel(R) ME v11.8.70.3626 Copyright(C) 2003-16 Intel Corporation. All Rights Reserved						
	INTEL(R) ME NETWORK SETU	Þ				
> Intel(R) ME Network Name Set > TCP/IP Settings	tings					
[↑↓]=Move Highlight	[Enter]=Select Entry	[Esc]=Exit				

10. Select Wired LAN IPV4 Configuration.

Intel(R) Management Engine BlOS Extension v11.0.0.0010/Intel(R) ME v11.8.70.3626 Copyright(C) 2003-16 Intel Corporation. All Rights Reserved						
	TCP/IP SETTINGS					
> Wired LAN IPV4 Configuration						
[↑↓]=Move Highlight	[Enter]=Select Entry	[Esc]=Exit				

11. Select **DHCP Mode** and disable DHCP mode.

Intel(R) Management Engine BIOS Extension v11.0.0.0010/Intel(R) ME v11.8.70.3626 Copyright(C) 2003-16 Intel Corporation. All Rights Reserved							
	WIRED LAN IPV4 CONFIGURATION						
DHCP Mode	<enabled></enabled>						
	Di sab led Enab led						
[†↓]=Move Highlight	<enter>=Complete Entry [Esc]=Discard Changes</enter>						

12. Type the network settings for  $\ensuremath{\mathsf{Intel}}\xspace$  Active Management Technology.

Intel(R) Management Engine BIOS Extension v11.0.0.0010/Intel(R) ME v11.8.70.3626 Copyright(C) 2003-16 Intel Corporation. All Rights Reserved							
WIRED LAN IPV4 CONFIGURATION							
DHCP Mode IPV4 Address Subnet Mask Address Default Gateway Address Preferred DNS Address Alternate DNS Address	<disabled> 0.0.0.0 0.0.0.0 0.0.0.0 0.0.0.0 0.0.0.0</disabled>						
IP address (e.g. 123.123.100)							
[†↓]=Move Highlight	[Enter]=Select Entry	[Esc]=Exit					

13. Go back to the **Intel(R) AMT Configuration** page and select **Activate Network Access**. Enter **Y** to continue.

Intel(R) Management Engine BIOS Extension v11.0.0.0010/Intel(R) ME v11.8.70.3626 Copyright(C) 2003-16 Intel Corporation. All Rights Reserved									
	INTEL(R) ANT CONFIGURATION								
Manageability Feature Selecti > SOL/Storage Redirection/KVM	on <enabled></enabled>								
<ul> <li>&gt; User Consent Password Policy</li> <li>&gt; Network Setup Activate Network Access Unconfigure Network Access</li> <li>&gt; Remote Setup And Configurati</li> <li>&gt; Power Control</li> </ul>	<anytime> Activates the current network settings and opens the ME network interface Continue:(Y/N)</anytime>								
[†↓]=Move Highlight	[Enter]=Select Entry [Esc	:]=Exit							

14. Back to the main menu. Select **MEBx Exit** to finish the **Intel® Active Management Technology** configuration.

Intel(R) Management Engine BIOS Extension v11.0.0.0010/Intel(R) ME v11.8.70.3626 Copyright(C) 2003-16 Intel Corporation. All Rights Reserved							
MAIN MENU							
> Intel(R) ME General Settings > Intel(R) AMT Configuration MEBx Exit							
Exit							
[↑↓]=Move Highlight	[Enter]=Select Entry	[Esc]=Exit					

# Access the Intel® AMT From Website

1. Open the web browser and type Intel® AMT IP Address:16992 (ex: 192.168.1.1:16992)



2. The browser would show the sign in message box. Type the **Username** and **Password** of Intel® AMT. The default username is **admin**.

Sign in	
http://10.12 Your connec	3.10.65:16992 tion to this site is not private
Username	admin
Password	
	Sign in Cancel

3. After signing in, you can check the system status and hardware information of the managed device.

			~	- 1	
← → C ▲ No	ot secure	:16992/index.htm?		Ê	\$
Intel <sup>®</sup> Active Man Computer:	agement Tech	nology		ir	ntel.
System Status Hardware Information System Processor Memory Disk Battery Event Log Remote Control Power Policies Network Settings IPv6 Network Settings System Name Settings User Accounts Web Applications Links	System Status Power IP address IPv6 address System ID Date Time Refresh Copyright © 2005-202	On Disabled 12345678-1234-5678-90ab-cddeefaabb 9/29/2022 3:48 pm 1 Intel Corporation. All Rights Reserved. Intel® Active Manageme	DC CC ent Technology firmware versi	on: 16.0.15-b	uild 1620

4. The Intel® AMT website provides the basic remote power control feature for the managed device. The advanced remote power control and the remote KVM feature please reference to next chapter.

				~	-		×
← → C ▲ No	ot secure   :16992/re	emote.htm	i£ ☆				
Intel <sup>®</sup> Active Man Computer:	agement Technology					inte	el.
System Status Hardware Information System Processor Memory Disk Battery Event Log Remote Control Power Policies Network Settings IPv6 Network Settings System Name Settings User Accounts Web Applications Links	Remote Control Power state: On Send a command to this computer:  Turn power off* Cycle power off and on* Reset* *Caution: These commands ma Send Command	Select a boot option: Normal boot Boot from local CD/DVD drive Boot from local hard drive ay cause user application data loss.					

5. The Event Manager feature is responsible for dealing with internal alerts that occur in both the host platform and the Intel® AMT device, regardless of the power state.

					~	-		×
← → C ▲ No	ot secure	:16992/ren	note.htm	È	☆			
Intel <sup>®</sup> Active Man Computer:	nagement Tech	nology					inte	∋I.
System Status	Event Log							
Hardware Information System	Event Time	Source	Description					- 1
Processor Memory	10/6/2022 1:16 am	BIOS	Entering BIOS setup.					- 1
Disk Battery	2 10/6/2022 1:16 am	System board	keyboard test.					- 1
Event Log Remote Control	O 3 10/6/2022 1:16 am	System board	Keyboard controller initialization.					- 1
Power Policies Network Settings	4 10/6/2022 1:16 am	System board	keyboard test.					- 1
IPv6 Network Settings System Name Settings	0 5 10/6/2022 1:16 am	System board	Keyboard controller initialization.					
User Accounts Web Applications Links	0 6 10/6/2022 1:16 am	BIOS	Performing PCI configuration.					
	0 7 10/6/2022 1:16 am	BIOS	Performing PCI configuration.					- 1
	0 8 10/6/2022 1:16 am	Processor	Starting secondary processor initialization.					- 1
	9 10/4/2022     0:48 am     0:48 a	BIOS	Entering BIOS setup.					
	10/4/2022 0:48 am	System board	keyboard test.					-

6. You can configure the managed device network settings from the website.

							~	-		×
← → C ▲ N	ot secure	:1699	2/remote.h	tm		È	☆			
Intel <sup>®</sup> Active Mar Computer:	nagement Tec	hnology							inte	el.
System Status Hardware Information System Processor Memory Disk Battery Event Log Remote Control Power Policies Network Settings IPv6 Network Settings User Accounts Web Applications Links	Network Settin Configure the man ✓ Respond to pin TCP/IP settings for ○ Obtain IP settin ● Use the followi IP address: Subnet mas Gateway ad Preferred DI Alternate DF Submit	gs aged device ne g wired connect ags automatica ng IP settings: c tress: IS address: IS address:	etwork settings tion IIIy	s for this comp	nuter.					

# Access the Intel® AMT by Intel® Manageability Commander

1. Download and install the latest version of Intel® Manageability Commander from Intel.com.



2. Execute the Intel® Manageability Commander as administrator. Select File > Add Computer....

Intel® Manageability	Commander –	X
Add Computer Import Computers Export Computers	ageability Commander	intel.
EXIC	▼ Using TLS: ▼ Search By: Hostname ▼ search for computer Collapse Groups	
	No known computers	
	Get started by <u>adding</u> computers.	

3. Type the hostname, alias, and group. The hostname is the IP address of managed device Intel® AMT. The alias and group could keep empty value if not used. Click **OK** to apply settings.

📧 Intel® Manageability Commander		– 🗆 X
File Options Help		
Intel <sup>®</sup> Manageabilit	y Commander	intel
Authentication: Vising TLS:	Search By: Hostname      search for computer     Collapse Group:	s
	Hostname / FQDN Hostname / FQDN must be greater than 0 characters. Alias Group Authentication Mode Digest	
	Use TLS This product uses the HTTP Digest Authentication protocol to authenticate network connections between Intel® MC and Intel® AMT. Use of HTTP Digest Authentication without TLS increases the risk of network attacks on Intel® AMT devices (see RFC2677 Section 4 for details). Intel does not recommend using Intel® MC without TLS and accept the security risk or change your selection before proceeding. Cancel OK	

4. Select **Connect**, type the **Username** and **Password** of Intel® AMT. The default username is **admin**.

Intel® M version: 2.3.0	1anageabilit <u>;</u>	y Commander			intel.
Authentication:	▼ Using TLS:	▼ Search By: Hostname	<ul> <li>search for computer</li> </ul>	Collapse Groups	
		Login Requir Username: admin Password: 	ed ×		Connect

Tile Options Help			
Intel <sup>®</sup> Mana	ageability Co	ommander	intel.
Disconnect	System Status		
System Status	Power	Powered on, Plugged-in	
Remote Desktop	Name & Domain		
Serial Over LAN	System ID	127fd27b-48ad-46c6-8f68-df6bf86cf76b	
Network Settings	Intel® ME	v15.0.45, activated in Admin Control Mode (ACM)	
Security Settings	Active Features	Serial-over-LAN, IDE-Redirection	
Alarm Clocks	Remote Desktop	Primary display, 300 seconds opt-in, 3 minutes session timeout	
Event Log	User Consent	Required for KVM only	
Audit Log	Power Policy	Mobile: ON in S0, ME Wake in S3, S4-5 (AC only)	
Hardware Information	Date & Time	2023/8/21 下午7:32:05	
	Refresh		Remote Secure Erase

### **Remote Desktop**

Intel® Manageability Commander provides the remote KVM feature to connect to devices remotely.

To connect to a device using Remote Desktop, do the following:

1. Select Remote Desktop.

The redirection port feature is disabled when the remote function is activated for the first time. Click the warning message to enable it.

🐛 Intel® Manageability C	ommander	-	- 🗆 X
File Options Help			
Intel <sup>®</sup> Man	ageability Commander		intel.
Disconnect	Remote Desktop		
System Status	Profession Protonting to dealed and been to work of the		
Remote Desktop	Redirection Port feature is disabled, click here to enable it.		_
Serial Over LAN	Settings Connect IDE-R	Power Actions	Powered on
Network Settings			
Security Settings			
User Accounts			
Alarm Clocks			
Event Log			
Audit Log			
Hardware Information			_

2. Enable all features. Click **OK** to apply settings.

📃 Intel® Manageability C	ommander		- 🗆 X
File Options Help			
Intel <sup>®</sup> Man	ageability Commander		intel.
Disconnect	Remote Desktop		Î
System Status	Redirection Port feature is disabled, click here to ena	<u>ble it.</u>	
Serial Over LAN	Settings Connect IDE-R		Power Actions Powered on
Network Settings			
Security Settings		Active Features X	
User Accounts		Redirection Port	
Alarm Clocks		Serial-over-LAN	
Event Log		<ul> <li>IDE-Redirection</li> <li>KVM Remote Desktop</li> </ul>	
Audit Log		Cancel OK	
Hardware Information			

3. Click Settings..., Change the Image Encoding to RLE16, Recommended. Click OK to apply settings.

📃 Intel® Manageability Co	mmander		-	
File Options Help				
Intel <sup>®</sup> Mana version: 2.3.0	ageability Commande	r		intel.
Disconnect	Remote Desktop			
System Status	Settings Connect IDE-R		Power Actions	Powered on
Remote Desktop				
Serial Over LAN	Remote Desktop Settin	gs X		
Network Settings	Image Encoding	E16 Recommended		
Security Settings				
User Accounts	Other Settings	Show Local Mouse Cursor		
Alarm Clocks		Prefer Downscale		
Event Log				
Audit Log		Cancel OK		
Hardware Information				
	Ctrl + Alt + Del 🔻 Send Keys Primar	ry display ▼ Focus Off ▼	Full Screen	

4. Click **Connect** and type the user consent code.

The User Consent code is provided on the client-side as a sprite on the Intel® AMT device's display. This sprite is generated by the Intel® GPU and is not available to the OS. This is a 6-digit code that the technician will use when making the connection requiring the consent, such as an Intel KVM connection.

File Options Help     Intel® Manageability Commander     version: 2.30     Disconnect   System Status   Remote Desktop     Sertings.     Disconnect IDE-R     Power Actions     Version: Zastings     Security Settings   User Accounts   Alarm Clocks   Event Log   Audit Log   Hardware Information     Ctrl + Alt + Del * Send Keys Primary display * Focus Off * Full Screen © ctrl	🐛 Intel® Manageability Co	ommander –	
Intel® Manageability Commander   Primary display   Poisconnect     Disconnect   System Status   Remote Desktop   Serial Over LAN   Network Settings   Security Settings   User Accounts   Atarm Clocks   Event Log   Audit Log   Hardware Information     (Ctrl + Alt + Del • Send Keys • Primary display • Focus Off • Full Screen • Ot • O	File Options Help		
Disconnect   System Status   Remote Desktop     Serial Over LAN   Network Settings   Security Settings   User Accounts   Alarm Clocks   Event Log   Audit Log   Hardware Information     (Trl + Alt + Del * Send Keys * Primary display * Focus Off * Full Screen © )	Intel <sup>®</sup> Mana	ageability Commander	intel.
System Status   Remote Desktop   Serial Over LAN   Network Settings   Security Settings   User Accounts   Alarm Clocks   Event Log   Audit Log   Hardware Information   Ctrl + Alt + Del V Send Keys Primary display V Focus Off V Full Screen V G	Disconnect	Remote Desktop	
Remote Desktop     Serial Over LAN     Network Settings   Security Settings   User Accounts   Alarm Clocks   Event Log   Audit Log   Hardware Information     Ctrl + Alt + Del       Send Keys        Focus Off       Full Screen     User	System Status	Sattings Disconnect IDE D	Dewered on
Serial Over LAN   Network Settings   Security Settings   User Accounts   Alarm Clocks   Event Log   Audit Log   Hardware Information     Ctrl + Alt + Del T Send Keys Primary display T Focus Off T Full Screen C C	Remote Desktop		ered on
Network Settings   Security Settings   User Accounts   Alarm Clocks   Event Log   Audit Log   Hardware Information     Ctrl + Alt + Del ▼ Send Keys Primary display ▼ Focus Off ▼ Full Screen ℃ ♂	Serial Over LAN		
Security Settings User Accounts Alarm Clocks Event Log Audit Log Hardware Information Ctrl + Alt + Del V Send Keys Primary display V Focus Off V Full Screen V J	Network Settings		
User Accounts Alarm Clocks Event Log Audit Log Hardware Information Ctrl + Alt + Del ▼ Send Keys Primary display ▼ Focus Off ▼ Full Screen ℃ ♂	Security Settings		
Alarm Clocks Event Log Audit Log Hardware Information Ctrl + Alt + Del  Send Keys Primary display Focus Off Full Screen  O O	User Accounts		
Event Log Audit Log Hardware Information Ctrl + Alt + Del V Send Keys Primary display V Focus Off V Full Screen V U	Alarm Clocks		
Audit Log Hardware Information Ctrl + Alt + Del V Send Keys Primary display V Focus Off V Full Screen U U	Event Log	â	
Hardware Information         Ctrl + Alt + Del ▼       Send Keys       Primary display       ▼       Focus Off ▼       Full Screen ひ び	Audit Log		
Ctrl + Alt + Del ▼ Send Keys Primary display ▼ Focus Off ▼ Full Screen ひ ♂	Hardware Information		
Ctrl + Alt + Del ▼ Send Keys Primary display ▼ Focus Off ▼ Full Screen ひ ౮			
Ctrl + Alt + Del ▼ Send Keys Primary display ▼ Focus Off ▼ Full Screen ひ び			
Ctrl + Alt + Del ▼ Send Keys Primary display ▼ Focus Off ▼ Full Screen ひ ひ			
		Ctrl + Alt + Del ▼ Send Keys Primary display ▼ Focus Off ▼ Full Screen ひ ひ	



5. The Intel® AMT device authenticates the user consent code and then user can execute the remote desktop feature.



### **Advanced Power Control**

Intel® Manageability Commander provides the advanced power control features. Click **Power Action** to control managed device. For example, reset the device power and boot to the BIOS menu. With the advanced power control features, you can configure the BIOS settings and manage the device more easily. Such as **RAID Configuration**, **Boot Manager** and **OS Recovery**.





### **Remote RAID Configuration**

Reset to BIOS menu and select **Setup Utility** option. Reference **Chapter 4 Configuring RAID** to configure the RAID settings.



### **Remote Boot Manager**

Reset to BIOS menu and select **Boot Manager**. You can select a bootable USB disk to back up the OS image or recovery the OS with a bootable disk which includes the recovery image.

Disconnect	Remote Deckton	
System Status	NEI INCE DESNLY	
Remote Desktop	Settings. Disconned IDE-R	Power Actions Powered on
Serial Over LAN Network Settings		
Security Settings	Boot Manager	
User Accounts		
Event Log		
Audit Log	Boot Option Menu	
Hardware Information		
	EFI Boot Devices	
	Windows Boot Hanager (Intel Volume1)	
	EFI USB Device (USB)	
	t and I to change option. ENTER to select an option ESC to exit	

### **Remote Mount/Recovery Image**

1. User can select recovery image to remotely mount. Click **IDE-R** option and select the target image.



Intel® Manageability Co	ommander	- O X
Intel <sup>®</sup> Man	ageability Commander	intel.
Disconnect System Status Remote Desktop	Remote Desktop Settings Disconnect Stop IDE-R VIDER Session in Progress.	Power Actions Powered on
Semi Over LAN Network Settings Security Settings User Accounts Alarn Clocks Event Log Audit Log Hardware Information	Front Page Continue +Boot Hanager +Device Hanagent +Boot For File +Administer Secure Boot +Setup Utility +Device Hanager +HEBx	This selection will take you to the Boot Hanager

3. Select Intel Virtual CD to boot to mount image.

Intel® Manageability C	Commander	- 🗆 ×
Intel <sup>®</sup> Man	ageability Commander	intel.
Disconnect	Remote Desktop	^
System Status Remote Desktop	Settings Disconnect Stop IDE-R C IDER Session in Progress	Power Actions Powered on
Serial Over LAN Network Settings	Boot Hanager	
Security Settings User Accounts		
Alarm Clocks	Boot Option Menu	
Event Log Audit Log Hardware Information	EFI Boot Devices Windows Boot Manager (BTWA528203BJ240AGN-INTEL SSDSC2BB240G6) EFI USB Device (Intel Virtual CD)	
	† and $\downarrow$ to change option, ENTER to select an option, ESC to exit	

4. Following the steps to recovery image.

Intel® Manageability Co File Options Help	ommander	- 0 X
Intel® Man	ageability Commander	intel.
Disconnect System Status Remote Desktop Serial Over LAN Network Settings User Accounts Alarn Clocks Event Log Audit Log Hardware Information	Remote Desktop Settings	Power Actions Powered on

#### NOTE

You can reset to IDE-R image using the power action.



### **Reset to PXE**

1. Enable the Network Stack and PXE Boot capability from BIOS menu of managed device.

	In	sydeH20 Setup Utility		Rev. 5.0
Main Advanced Security	Power Boot Exit			
Boot Type Network Stack PXE Boot capability USB Boot Timeout Boot Order ▶EFI	vouer Boot Exit <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uerstand <uer< th=""><th>Type&gt;</th><th>Select boot type to Dual ty type or UEFI type</th><th>rpe, Legacy</th></uer<></uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand </uerstand 	Type>	Select boot type to Dual ty type or UEFI type	rpe, Legacy
F1 Help Fsc Fxit	1/↓ Select Item	F5/F6 Change Values Enter Select ▶ Sublienu	F9 Setup Defaults F10 Save and Exit	

2. Click Power Actions and select Reset to PXE.



3. The managed device will boot to PXE.

💌 Intel® Manageability C	ommander	– 🗆 X
File Options Help		
Intel <sup>®</sup> Man	ageability Commander	intel.
Disconnect	Remote Desktop	
System Status	Sattings Disconnect IDE D	Dewar Actions - Deward an
Remote Desktop	Settings Disconnect IDE-R	Power Actions Powered on
Serial Over LAN	Distart DVE over IDud. Drees [ESC] to EVIT	
Network Settings	Station IP address is	
Security Settings		
User Accounts	Server IP address is	
Alarm Clocks	NBP filename is boot\x64\wdsmgfw.efi	
Event Log	Downloading NBP file	
Audit Log		
Hardware Information	Succeed to download NBP file.	
		*

Moxa provides verified drivers for each device on our official website. Please access the Moxa support page (<u>https://www.moxa.com/en/support</u>) and search for the device from the searching window (For Example: MC-3201).

ΜΟΧΛ	Products	Solutions	Support	Contact U: How to Buy	s   Partner Zone   My Moxa About Us	Sign In
Home > Support						
Support Find product resources, request s	support, or send in	your product for re	pair.			

#### Select a Product Series

Select	<b>▼</b> 0	
Q MC-3201		
MC-3201 Series	anty	Resources
Software & Documentation Easily find drivers, software, and documentation for a specific product.	Product Repair Service/RMA Moxa's product repair service centers provide quick, quality service with complete traceability of your product.	Literature Library Moxa offers a wealth of resources to help you find in-depth information on our products and solutions as well as the technologies that drive them.

From the **Software & Documentation** page, filter by **Driver** and download the driver package. The driver packages are categorized by OS version, with separate sections for **Peripheral** and **Expansion modules**.

	u Drivers				
LTER Operating System		All Driver(4) Software	e Package(3) Utility(2)		
NAME	TYPE	CHECKSUM		OPERATING SYSTEM	RELEASE DATE 🗸
Driver for MC-3201 Series (wireless for Windows 10 IoT Enterprise LTSC 2021) 143.6 MB	⊥ Driver	SHA-512 🗎	v1.0	- Windows 10 IoT Enterprise LTSC 2021	May 11, 2023 Release notes
Driver for MC-3201 Series Peripherals for Windows 10 Enterprise LTSC 21H2) 1.0 bytes	↓ Driver	SHA-512 🗎	v1.0	- Windows 10 IoT Enterprise LTSC 2019	May 11, 2023 Release notes
Driver for MC-3201 Series Peripherals for Windows 10 IoT Enterprise LTSC 2019) .2 GB	⊥ Driver	SHA-512 🗎	v1.0	- Windows 10 IoT Enterprise LTSC 2019	May 11, 2023 Release notes
Driver for MC-3201 Series (Expansion modules for Windows 10 oT Enterprise LTSC 2019) 157 9 MB	Juniver	SHA-512 🗎	v1.0	- Windows 10 IoT Enterprise LTSC 2019	May 11, 2023 Release notes

This chapter describes the usage of the following utilities:

- Moxa IO Controller Utility
- Moxa Serial Interface Utility
- Moxa Sort Net Name Utility

# Where to Find the Windows Utility

The utilities are preinstalled on your device if the Windows 11 OS is provided by Moxa. If you install Windows 11 on your own, go to the Moxa support page (<u>https://www.moxa.com/en/support</u>) to download the utility.

1. Search for the device from the searching window (example: MC-3201).



#### Select a Product Series

Select		
R MC-3201		
MC-3201 Series	anty	Resources
oftware & Documentation	Product Repair Service/RMA	Literature Library
iasily find drivers, software, and ocumentation for a specific roduct.	Moxa's product repair service centers provide quick, quality service with complete traceability of your product.	Moxa offers a wealth of resources to help you find in-depth information on our products and solutions as well as the technologies that drive them

2. Go to the **Software & Documentation** page, filter by **Utility** and download the required file. The installation file for the device is in a \*.zip file.



	na Drivers		6 <u></u>		
ILTER Operating System	•	All Driver(4) Softwar	e Package(3) Utility(2		
NAME	TYPE	CHECKSUM		OPERATING SYSTEM	RELEASE DATE Y
Utility for MC-3201 Series (Windows 10 IoT Enterprise LTSC 2021) 5.9 MB	.↓. Utility	SHA-512 🗎	v1.0	- Windows 10 IoT Enterprise LTSC 2021	May 11, 2023 Release notes
Utility for MC-3201 Series (Windows	达 Utility	SHA-512 🗎	v1.0	- Windows 10 IoT Enterprise	May 11, 2023

3. After extracting the files, you will obtain the following setup files.

MC-3201_Utility_W11_Pr	ro_22H2_V1.0					– 🗆 X
🕀 New 🗸 🐰	0 6 4 6 0	∿ Sort ~ 🗮 View ~				
$\leftarrow \rightarrow \checkmark \uparrow$	> 20170518 (D:) > MC-3201_Utility_W11_Pro	_22H2_V1.0			~ C	Q Search MC-3201_Utility_W11
This PC	Name	Date modified	Туре	Size		
· •	👆 MoxalOControllerSetup-6.0.0	8/8/2023 1:13 PM	Application	2,337 KB		
✓ Ø 20170518 (D:)	MoxaSortNetName_V2.0.0	8/16/2023 9:04 AM	Application	1,670 KB		
aisk 🔁	👫 SerialInterfaceSetup-5.0.0	8/8/2023 11:18 AM	Application	2,082 KB		
늘 [BOOT]						
늘 0804 kvm mou:						
> 🚞 boot						
> 🚞 Cellular						
> 🚞 Data						
> 🚞 DifferentialBack						
> 📒 efi						
> 📒 EFI_Clonezilla						
> 📒 home						
📒 live						
📒 MC-3201_Utility						
3 items						

# **Dependent Packages**

- After the installation of Windows 11 pro and drivers are completed, you will need to install **dependent** packages to ensure the smooth operation of the utility. Please attach the following link to download
   and install the packages.
- Microsoft Visual C++ Redistributable: <u>https://learn.microsoft.com/en-us/cpp/windows/latest-supported-vc-redist?view=msvc-170</u>
- Microsoft .NET Framework 4.8: <u>https://support.microsoft.com/en-us/topic/microsoft-net-framework-4-8-offline-installer-for-windows-9d23f658-3b97-68ab-d013-aa3c3e7495e0</u>

# **Moxa IO Controller Utility**

Moxa IO Controller Utility is developed to control the peripherals' IO as well as expansion modules interface of the device.

This section describes how to use the Moxa IO Controller utility and the following content will be included.

- Setting the DIO Status
- Setting the UART Mode

Use the pre-installed utility or install the MoxaIOControllerSetup utility from the Moxa support page.

To use the Moxa IO Controller utility, first install the utility and enable the utility to configure the DIO and UART mode. After the installation process is complete, run the Windows command prompt as an Administrator and change the path to C:\Program Files\Moxa\Moxa IO Controller.

Administrator: Command Prompt	_	$\times$
Microsoft Windows [Version 10.0.22621.525] (c) Microsoft Corporation. All rights reserved.		
C:\Windows\System32>cd /d "C:\Program Files\Moxa\Moxa IO Controller"		
C:\Program Files\Moxa\Moxa IO Controller>		

### Setting the DIO Status

Type the **mx-dio-ctl --help** command to see the instructions on using this utility and follow them to get or set the DIO status.



#### **IMPORTANT!**

The DIN and DOUT indices start at 0. Even though the console output starts at 1, the indices still start at 0.



#### **Example:**



### Setting the UART Mode

Type the **mx-uart-ctl --help** command to see instructions on using this utility and follow the onscreen instructions to get or set the UART mode.



#### **IMPORTANT!**

The UART index starts from 0. Even though the console output starts at 1, the index still starts at 0.



#### **Example:**



# **Moxa Serial Interface Utility**

In this section, we describe how to use the Moxa Serial Interface utility to set the UART mode in your computer's serial interface.

### **Setting the Serial Port Mode**

- 1. Use the preinstalled **SerialInterfaceSetup** utility or install it from the Moxa support page.
- 2. From the Windows Start menu, run the **Moxa Serial Interface utility**.

All ap	ops	< Back
D	Media Player	
C	Microsoft Edge	
	Microsoft News	
	Microsoft Store	
~	Microsoft To Do	
5	Movies & TV	
888	Moxa Serial Interface New	
Ν		
	Notepad	
0		
0	Office	
-	OneDrive	
Р		
-		
•	moxa	Ċ

3. Select the target COM port and UART mode and click **Apply** to save the settings.

OM Port -		Status
COM	Mode	
COM1	RS-232	KS-232
COM2	RS-232	RS-485-2W
		RS-485-4W/ O

# **Moxa Sort Net Name Utility**

In this section, we describe how to use the Moxa Sort Net Name utility to rename Ethernet adapter for mapping physical LAN port order on chassis.

- 1. Use the pre-installed utility or install the **MoxaSortNetName** utility from the Moxa support page.
- 2. The initial order of network names may be random.



3. Run the SortNetName.exe from C:\Program Files\Moxa\Moxa Sort Net Name\SortNetName.exe as an Administrator.

늘 Moxa Sort Net Nam	e						-	×
🕀 New -		0 6 4 6 0	∿ Sort ~ ≡ View ~	• • • • • • • • • • • • • • • • • • • •				
$\leftarrow \  \   \rightarrow \  \   \checkmark \  \   \uparrow$		> This PC > Windows (C:) > Program File:	s → Moxa → Moxa Sort Ne	t Name	~ C	Q Search Moxa Sort Net Name		
V 🛆 Home		Name	Date modified	Туре	Size			
Desktop	*	SortNetName	8/14/2023 5:50 PM	Application	25 KB			
Downloads		🗋 unins000.dat	8/16/2023 9:10 AM	DAT File	6 KB			
Decumente		r∰ unins000	8/16/2023 9:09 AM	Application	3,130 KB			
Pictures	*	🗋 unins000.msg	8/16/2023 9:10 AM	MSG File	24 KB			



4. Wait for the process to complete to rename Ethernet adapter. The order of the Ethernet adapter will correspond to the order of label (e.g., **LAN 2** on chassis is mapping to **Ethernet 2** in Windows).





This chapter describes how to use the IO Control API.

# **Downloading the API**

3.

- 1. Access the Moxa support page: <u>https://www.moxa.com/en/support</u>
- 2. Select the product series (example: DA-820).

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Related Software, Firmware, and Drivers         FiltER Operating System       VERSION OPERATING SYSTEM       RELEASE DATE V         NAME       TYPE       VERSION OPERATING SYSTEM       RELEASE DATE V         NAME       TYPE       VERSION OPERATING SYSTEM       RELEASE DATE V         Library for DA-820 Series (Windows 7 Damping)       1.0       UBrery VI.0       Jan 28, 2015         Diver for DA-820 Series (Windows 7 Damping)       Library VI.0       Jan 28, 2015         Diver for DA-820 Series (Windows 7 Damping)       Library VI.0       Jan 28, 2015         Diver for DA-820 Series (Windows 7 Damping)       Library VI.0       Jan 22, 2015       Jan 22, 2015 <t< th=""><th>Software &amp; Documentation Product FA</th><th>λΩs Security</th><th>a dvisories</th><th>TO PRODUCT PAGE</th><th>∏ Save</th><th></th><th></th></t<>	Software & Documentation Product FA	λΩs Security	a dvisories	TO PRODUCT PAGE	∏ Save		
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Driver for DA-820 Series (Perpheral for Linux)	Library for DA-820 Series (Windows 7 Example 1459.9 KB	imple)	Library	v1.0		Jan 29, 2015	
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Univer is UP-sQU Seting (Linux) でいい ながらない しょう							
# **List of APIs and Supported Series**

# mxdgio

- BXP-A100 Series
- BXP-C100 Series
- RKP-A110 Series
- RKP-C110 Series

# mxsp

- BXP-A100 Series
- BXP-C100 Series
- DRP-A100 Series
- DRP-C100 Series
- RKP-A110 Series
- RKP-C110 Series

# mxwdg

- BXP-A100 Series
- BXP-C100 Series
- DRP-A100 Series
- DRP-C100 Series
- RKP-A110 Series
- RKP-C110 Series

# mxdgio

The **mxdgio** library operates on the digital I/Os and consists of the following:

- GetDinCount
- GetOutCount
- GetDinStatus
- GetDoutStatus
- SetDoutStatus

# GetDinCount

## <u>Syntax</u>

int GetDinCount();

### **Description**

Get the numbers of a digital input port.

### Parameters

N/A.

### **Return Value**

The numbers of the digital input port.

## Error codes

The following error codes can be retrieved by the **DIO\_STATUS** function.

Name	Value	Meaning
LIB_INITIALIZE_FAIL	-1	The mxdgio library initialization failed. Cannot open json profile.

Name	Items
Header	mxdgio.h
Library	mxdgio.lib
DLL	mxdgio.dll
Profile	MxdgioProfile[ModelName].json

# GetDoutCount

## <u>Syntax</u>

int GetDoutCount();

### **Description**

Get the numbers of a digital output port.

### **Parameters**

N/A.

## <u>Return Value</u>

The numbers of the digital output port.

### Error codes

The following error codes can be retrieved by the **DIO\_STATUS** function.

Name	Value	Meaning
LIB_INITIALIZE_FAIL	-1	The mxdgio library initialization failed. Cannot open json profile.

#### **Requirements**

Name	Items
Header	mxdgio.h
Library	mxdgio.lib
DLL	mxdgio.dll
Profile	MxdgioProfile[ModelName].json

# GetDinStatus

#### <u>Syntax</u>

int GetDinStatus(int port);

#### **Description**

Gets the status of a digital input port.

### **Parameters**

*port*: The index of the digital input port; starts at 0.

### Return Value

The status of the digital input port; 0 for low and 1 for high.

### Error codes

The following error codes can be retrieved by the **DIO\_STATUS** function.

Name	Value	Meaning
LIB_INITIALIZE_FAIL	-1	The mxdgio library initialization failed. Cannot open json profile.
PORT_OUTOF_INDEX	-2	Target port index is out of range.

Name	Items
Header	mxdgio.h
Library	mxdgio.lib
DLL	mxdgio.dll
Profile	MxdgioProfile[ModelName].json

# GetDoutStatus

## <u>Syntax</u>

int GetDoutStatus(int port);

### **Description**

Gets the status of a digital output port.

### **Parameters**

*port*: The index of the digital output port; starts at 0.

### <u>Return Value</u>

The status of the digital output port; 0 for low and 1 for high.

### Error codes

The following error codes can be retrieved by the **DIO\_STATUS** function.

Name	Value	Meaning
LIB_INITIALIZE_FAIL	-1	The mxdgio library initialization failed. Cannot open json profile.
PORT_OUTOF_INDEX	-2	Target port index is out of range.

#### **Requirements**

Name	Items
Header	mxdgio.h
Library	mxdgio.lib
DLL	mxdgio.dll
Profile	MxdgioProfile[ModelName].json

# SetDoutStatus

### Syntax

int SetDoutStatus(int port, int status);

### **Description**

Sets the status of a digital output port.

### Parameters

*port*: The index of the digital output port; starts at 0.

status: The status of the digital output port; 0 for low and 1 for high.

#### **Return Value**

Returns the value 0 if the digital output status is successfully set.

#### Error codes

The following error codes can be retrieved by the **DIO\_STATUS** function.

Name	Value	Meaning
LIB_INITIALIZE_FAIL	-1	The mxdgio library initialization failed. Cannot open json profile.
PORT_OUTOF_INDEX	-2	Target port index is out of range.
SET_STATUS_ERR	-3	Status setting failed or is defined with a bad format.

Name	Items
Header	mxdgio.h
Library	mxdgio.lib
DLL	mxdgio.dll
Profile	MxdgioProfile[ModelName].json

# mxsp

The mxsp library operates on the serial port and consists of the following:

- GetUartCount
- GetUartMode
- SetUartMode

# GetUartCount

### <u>Syntax</u>

int GetUartCount();

### **Description**

Gets the numbers of the UART port.

### Parameters

N/A

### **Return Value**

The numbers of the UART port.

### Error codes

The following error codes can be retrieved by the **UART\_STATUS** function.

Name	Value	Meaning
LIB_INITIALIZE_FAIL	-1	The mxsp library initialization failed. Cannot open json profile.

Name	Items
Header	mxsp.h
Library	mxsp.lib
DLL	mxsp.dll
Profile	MxspProfile[ModelName].json

# GetUartMode

## <u>Syntax</u>

int GetUartMode(int port);

### **Description**

Gets the status of the UART port.

### Parameters

port: The index of the UART port; starts at 0.

### <u>Return Value</u>

The mode of a UART interface; 0 for RS-232, 1 for RS-485-2W, and 2 for RS-422/RS-485-4W.

### Error codes

The following error codes can be retrieved by the **UART\_STATUS** function.

Name	Value	Meaning
LIB_INITIALIZE_FAIL	-1	The mxsp library initialization failed. Cannot open json profile.
PORT_OUTOF_INDEX	-2	Target port index is out of range.

#### **Requirements**

Name	Items
Header	mxsp.h
Library	mxsp.lib
DLL	mxsp.dll
Profile	MxspProfile[ModelName].json

# SetUartMode

#### <u>Syntax</u>

int SetUartMode(int port, int mode);

### **Description**

Sets the status of the UART port.

## Parameters

*port*: The index of the UART port; starts at 0.

mode: The mode of a UART interface; 0 for RS-232, 1 for RS-485-2W, and 2 for RS-422/RS-485-4W.

#### **Return Value**

Returns 0 if the UART mode is successfully set.

#### Error codes

The following error codes can be retrieved by the **UART\_STATUS** function.

Name	Value	Meaning
LIB_INITIALIZE_FAIL	-1	The mxsp library initialization failed. Cannot open json profile.
PORT_OUTOF_INDEX	-2	Target port index is out of range.
SET_STATUS_ERR	-3	Status setting failed or is defined with a bad format.
NOT_SUPPORT_MODE	-4	Target mode is not supported for this port.

Name	Items
Header	mxsp.h
Library	mxsp.lib
DLL	mxsp.dll
Profile	MxspProfile[ModelName].json

# mxwdg

The **mxwdg** library operates on the relay output and consists of the following:

- mxwdg\_open
- mxwdg\_refresh
- mxwdg\_close

# mxwdg\_open

### <u>Syntax</u>

PVOID mxwdg open(unsigned long time);

### **Description**

Initializes the watchdog timer.

### **Parameters**

time: The interval at which the watchdog timer is refreshed; the unit is seconds.

### **Return Value**

Returns the pointer to the watchdog handle; returns -1 on failure to initialize the watchdog timer.

### **Requirements**

Name	Items
Header	mxwdg.h
Library	mxwdg.lib
DLL	mxwdg.dll

# mxwdg\_refresh

### <u>Syntax</u>

int mxwdg\_refresh(PVOID fd);

### **Description**

Refreshes the watchdog timer.

### Parameters

fd: The handle of the watchdog timer.

### **Return Value**

Returns 0 for success; otherwise, the function has failed.

Name	Items
Header	mxwdg.h
Library	mxwdg.lib
DLL	mxwdg.dll

# mxwdg\_close

## <u>Syntax</u>

void mxwdg\_close(PVOID fd);

### **Description**

Disables the watchdog timer.

## Parameters

*fd*: The handle of the watchdog timer.

## <u>Return Value</u>

This function does not return a value.

Name	Items
Header	mxwdg.h
Library	mxwdg.lib
DLL	mxwdg.dll

This chapter describes the usage of the following tools for system backup and restoration.

WindowsRecovery

# WindowsRecovery

WindowsRecovery is a disk imaging backup/restore program for system deployment, backup, and recovery. You will need to create a WindowsRecovery USB to perform these actions. WindowsRecovery can only be booted on a **UEFI BIOS** machine. This chapter describes the Windows Recovery setup process.

# **Supported Devices**

- BXP-A100 Series
- BXP-C100 Series
- DRP-A100 Series
- DRP-C100 Series
- RKP-A110 Series
- RKP-C110 Series

# **Preparing the USB device**

1. Contact a Moxa technical staff and get the required file.

l	ndows Share	Recovery View				~
← → ~ ↑ 📘	> Wi	indowsRecovery	. 5 v	Search WindowsRe	covery	
1011		Name	Date modified	Туре	Size	
Quick access		BuildWindowsRecoveryUSB_V1.1.0	12/23/2020 10:10 AM	Application		54 KB
Desktop	×	Microsoft.Wim.dll	4/10/2019 2:31 PM	Application exten		37 KB
Downloads	*	MxUsbFormatLib.dll	12/23/2020 10:09 AM	Application exten		2,617 KB
Documents	*	WindowsRecovery_V1.5_Build_22100313.wim	7/26/2023 11:40 AM	WIM File		887,689 KB

### 2. Run the **BuildWindowsRecoveryUSB\_V1.1.0.exe**.

Select USB	and WinPE	E image			
USB Drive:					
TestUSB (D:	) [32 GB]				$\sim$
Windows Re	covery File				

3. Select the USB drive to format.

😸 BuildRecoveryUSB		-	×
Select USB and WinPE image			
USB Drive:			
TestUSB (D:) [32 GB]			~
TestUSB (D:) [32 GB]			
Windows Recovery File.			
Start	Cancel	]	

4. Click ... to select .wim file from the folder.

🖳 BuildRecoveryUSB	-	×	
Select USB and WinPE image			
TestUSB (D:) [32 GB]		~	
Windows Recovery File:			
Start Cance			
Chose the WindowsRecovery file		 	

Chose the WindowsRecovery file	×
← → ~ ↑ 📴 > WindowsRecovery	✓ O Search BuildUSB P
Organize 🔻 New folder	B== • 🔟 👔
<ul> <li>✓ A Quick access</li> <li>Desktop</li> <li>↓ Downloads</li> <li>☆ Documents</li> <li>☆ Pictures</li> </ul>	Date modified     Type     Size       7/26/2023 11:40 AM     WIM File     887,689 KB
File <u>n</u> ame:	VIIM files V
	<u>O</u> pen ▼ Cancel

5. Click **Start** and make sure the selected USB can be formatted. Click **Yes** to start creating the recovery USB.

BuildRecoveryUSB	_	×
Select USB and WinPE image		
USB Drive:		
TestUSB (D:) [32 GB]		$\sim$
Windows Recovery File:		
owsRecovery\WindowsRecovery_V1.2.0_Build_22012518.	wim	
Start Cancel		

6. Wait for the process to complete.

The program will format the USB device and create a UEFI bootable volume and a WinPE volume. You may see additional windows for folder information; do not close these. You can close the windows after the process finishes.



7. To create a recovery USB disk with the Windows 11 image, copy the **os\_image\_ModelName** directory to the **\home\partimag** folder in the USB drive.



# **Booting From the USB Disk**

1. Turn on the computer and press **F2** when you hear the beep sound to enter the BIOS setup menu, select **Boot Manager** and press **Enter** to continue.



2. Select the EFI USB Device on the computer and press Enter to continue to boot from the USB device.



# System Image Backup

To back up the image from the USB disk, run Windows Preinstallation Environment(WinPE) and the

Windows Recovery utility will display. Follow these steps.

1. Click Backup.



2. Select the **Source disk** to backup and **Destination USB** to store the OS image, also give an image name and description. Click **Start to backup**.

20 Windows Recovery				
MOXA				
	vvindows васкир	2.5		
	Source			
	Disk - 0	~		
	Model: MRSAJAA064GTW25C00 Used Space: 19.3 GB (20.719,685,632) Bytes Free Space: 36.59 GB (39,284,023,296) Bytes		0101	
	Destination		Story.	
	E:	~		
10	Patriot Memory USB Device, Partition#0 Used Space: 12.09 GB (12.985,724.928) Bytes Free Space: 42.97 GB (46,136,131,584) Bytes			
010101011111	Image Information Build ID:			
	Image Description:	_	)	
Committee of the second s				
Backup R			on	Shutdown
	os_image_yyyyMMddHHmmss			Vindouvo
	Start to backup		Re	covery
		_		

3. Click **Yes** to continue.

🐌 Windows Recovery		
MOXA	Windows Backup	
	Source	
	Disk-0	
0	Model: MRSAJAA064GTW25C00 Used Space: 19.3 GB (20,719,685,632) Bytes Free Space: 36.59 GB (39,284,023,296) Bytes	
	Destination	
	E. V	
	Patriot Memory USB Device, Partition#0 Used Space: 12.09 GB (12.985,724,928) Bytes Free Sp Question 28 Image In Build ID: Windows Image DE DA-8200 DA-8200 20190325 Test Image	
Васкир R	pn	Shutdown
	J os_image_Windows_Image_01	Windowo
	Start to backup	covery

4. Wait for the backup process to complete.

X:\windows\system32\cr	nd.exe				
X:\windows\Moxa\win ows_Image_01.wim" /	dowsRecovery>Dism /Cap CaptureDir:C:\ /Name:'	"Image"	me\partimag\os_image_window	s_image_01\os_image_wind	
Deployment Image Se Version: 10.0.17134	rvicing and Management	t tool			
Saving image [=	3.0%			2°	
			Loading		
			Image	Capturing	
		X			
		Backup	R os_image_Windows_II	mage_01	Shutdown
			Sta	rt to backup	ecovery

5. When the process is done, click **OK**.



6. Click **OK**, the computer will shut down.

B Windows Recovery				
	Vaming Tree			
Васкир	Recovery	Option	Information	Shutdown
			R	Windows Covery

7. The OS image will be saved in USB disk **home\partimag**.

📙   💆 🔄 🖛   partimag			_		×
File Home Share View	V				~ 🕐
$\leftarrow$ $\rightarrow$ $\checkmark$ $\uparrow$ $\square$ $\Rightarrow$ This PC $\Rightarrow$	WindowsRecoveryUSB (D:) $\rightarrow$ home $\rightarrow$ partimag $\rightarrow$	ٽ ~	Search partimag		Q
🛄 Desktop	^ Name	Date modified	Туре	Size	
Documents	os_image_Windows_Image_01	7/20/2020 3:49 PM	File folder		
👆 Downloads					
👌 Music					
Pictures					
📲 Videos					
🏪 Windows (C:)					
WindowsRecoveryUSB (D:)					
	*				
1 item					::: <b>E</b>

8. In the **os\_image** folder you can view the backup information and the image files.

→ 👻 🛧 📙 « home > j	partima	ag → os_image_Windows_Image_01	ٽ ~	Search os_image_Wi	ndows_l
Desktop	^	Name	Date modified	Туре	Size
Documents		🔊 comm	11/29/2019 9:53 AM	Configuration sett	1 k
Downloads		os_image_Windows_Image_01.wim	11/29/2019 10:03	WIM File	5,438,672 k
Music		Windows_Image_01	11/29/2019 9:53 AM	Configuration sett	1 k
E Pictures		Windows_Image_01	3/3/2020 11:08 AM	Text Document	1 k
Videos					
Lindows (C:)					
WindowsRecoverd ISB (D)					

# **Restoring the System From a Backup**

To restore the image, run the **Windows Preinstallation Environment (WinPE)** and the **Windows Recovery utility** will display. Follow these steps.

1. Click Recovery.



2. Select the **Source USB Device**, **Image Folder File** and check the image information, select the **Destination Disk** to restore. Click **Apply**.

B Windows Recovery		
ΜΟΧΛ		
	Windows Recovery	
	Source	
0.0	E: (Patriot Memory USB Device)	
	Select Folder File	
	os_image_vvindows_image_0 i  Build ID Windows_image_0 1	
	Image Size:6.51 GB Image Description: V2406C 20190325 Test Image	
	I	
	Destination	
	Disk - 0 (MRSAJAA064GTW25C00)	
Backup R	Model: MRSAJAA064GTW25C00 Used Space: 55.9 GB (60,019,868,160) Bytes	Shutdown
	Apply	Windows

3. Click **Yes** to continue the process.

Do Windows Recovery			
MOX/	•		
	Windows Recovery		
	Source		
	Device	0	
5 0	E: (Patriot Memory USB Device)		
0	Select Folder File	201	
	os_image_Windows_Image_01	066	
	Build ID:Windows_Image_01		
2. 10 00	In Question	x l	
1010	20		
	Recovery the system now?		
101010101010			
	Yes No	Cancel	
in main	Disk - 0 (MRSAJAA064GTW25C00)		
in market	Model: MRSAJAA064GTW25C00		
Backup	Used Space: 55.9 GB (60,019,868,160)	Bytes lation	Shutdown
	wichiy		Windows
			ecoverv

4. Click **Yes** to overwrite the destination drive.

Windows Recovery		
ΜΟΧΛ	Windows Recovery	
	Source	
(O)	Device E: (Patriot Memory USB Device)	
*	Select Folder File	
10	Build ID:Windows_Image_01	
	DA Apply image 20 Te Destination drive will be overwritten !!! Do you want to continue?	
	Yes No	
Backup R	Disk - 0 (MRSAJA4064GTW25C00)	Shutdown
4	Apply.	Vindows

5. Wait for the process to complete.



6. Click **OK**.



7. Click **OK**, the system will shut down.



# NOTE

When you restart the computer, you will need to wait about 5 minutes for the computer to go through two cycles of the reboot process. The system configuration files will be initiated during the first boot- up process. Do not turn off or shut down the computer while the system is restarting.