



# ibaDAQ

System recovery

Manual

Issue 1.2

Measurement Systems for Industry and Energy  
[www.iba-ag.com](http://www.iba-ag.com)

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The content of this publication has been checked for compliance with the described hardware and software. Nevertheless, discrepancies cannot be ruled out, and we do not provide guarantee for complete conformity. However, the information furnished in this publication is updated regularly. Required corrections are contained in the following regulations or can be downloaded on the Internet.

The current version is available for download on our web site [www.iba-ag.com](http://www.iba-ag.com).

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## Certification

The device is certified according to the European standards and directives. This device corresponds to the general safety and health requirements. Further international customary standards and directives have been observed.

Issue	Date	Revision – Chapter / page	Author	Version HW/FW
1.2	11-2023	System recovery to Win10 21H2		

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# 1 About this manual

This manual is a supplement to the ibaDAQ/ibaDAQ-C manual. Information about all the other characteristics and functions of the devices may be found in the corresponding device manuals.

## 1.1 Target group

This manual addresses in particular the qualified professionals who are familiar with handling electrical and electronic modules as well as communication and measurement technology. A person is regarded to as professional if he/she is capable of assessing safety and recognizing possible consequences and risks on the basis of his/her specialist training, knowledge and experience and knowledge of the standard regulations.

## 1.2 Notations

The following designations are used in this manual:

Action	Notations
Menu command	Menu <i>Logic diagram</i>
Call of menu command	<i>Step 1 – Step 2 – Step 3 – Step x</i> Example: Select menu <i>Logic diagram – Add – New logic diagram</i>
Keys	<Key name> Example: <Alt>; <F1>
Press keys simultaneously	<Key name> + <Key name> Example: <Alt> + <Ctrl>
Buttons	<Button name> Example: <OK>; <Cancel>
File names, Paths	„File name“, „Path“ Example: „Test.doc“

## 1.3 Used symbols

If safety instructions or other notes are used in this manual, they mean:



### **⚠ DANGER**

The non-observance of this safety information may result in an imminent risk of death or severe injury:

- By an electric shock!
- Due to the improper handling of software products which are coupled to input and output procedures with control function!

If you do not observe the safety instructions regarding the process and the system or machine to be controlled, there is a risk of death or severe injury!



### **⚠ WARNING**

The non-observance of this safety information may result in a potential risk of death or severe injury!



### **⚠ CAUTION**

The non-observance of this safety information may result in a potential risk of injury or material damage!



### **Note**

A note specifies special requirements or actions to be observed.



### **Tip**

Tip or example as a helpful note or insider tip to make the work a little bit easier.



### **Other documentation**

Reference to additional documentation or further reading.

## 2 Introduction

This manual describes how to create a USB recovery media for ibaDAQ family devices using the software called Rufus and how to use the created media to recover/reinstall a device from the ibaDAQ family.

## 3 System requirements

### 3.1 Hardware

- Windows PC to create the recovery media
- System of the ibaDAQ family (ibaDAQ/ibaDAQ-C)

**For operation:**

- 24 V DC voltage supply
- USB Flash drive minimum size of 16GB
- USB hub
- USB keyboard and mouse
- Monitor with DisplayPort connector or a DisplayPort to VGA/DVI/HDMI converter
- Network connection with Internet access



**Note**

Internet access is mandatory because Windows needs to be activated.

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### 3.2 Software

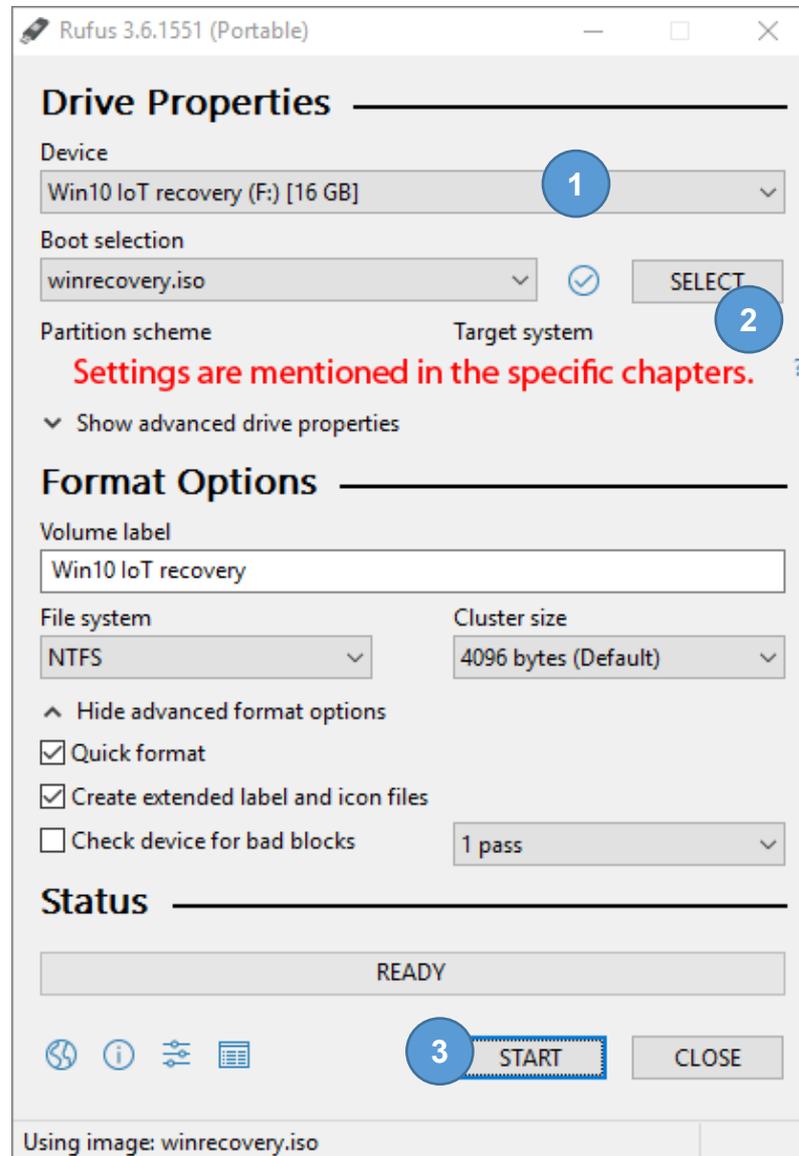
- Recovery media (ISO File) from iba support
- Rufus (<https://rufus.akeo.ie/>)

## 4 System recovery Win10 LTSC 2019/v1809

### 4.1 Creation

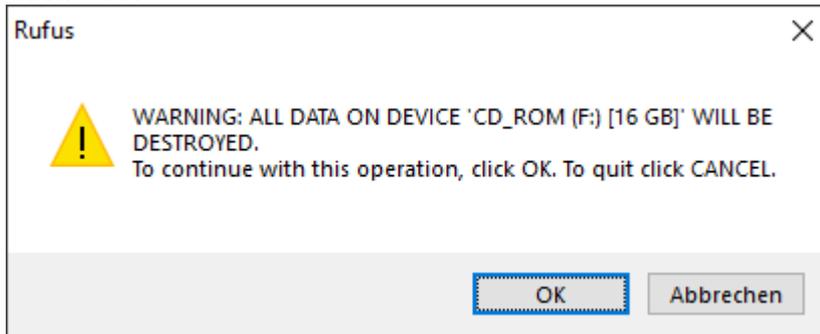
Download the latest Version of Rufus from <https://rufus.akeo.ie/>. The portable edition is sufficient.

Connect the USB Flash drive you want to use as recovery media to your PC. Then start “Rufus” and proceed as follows:

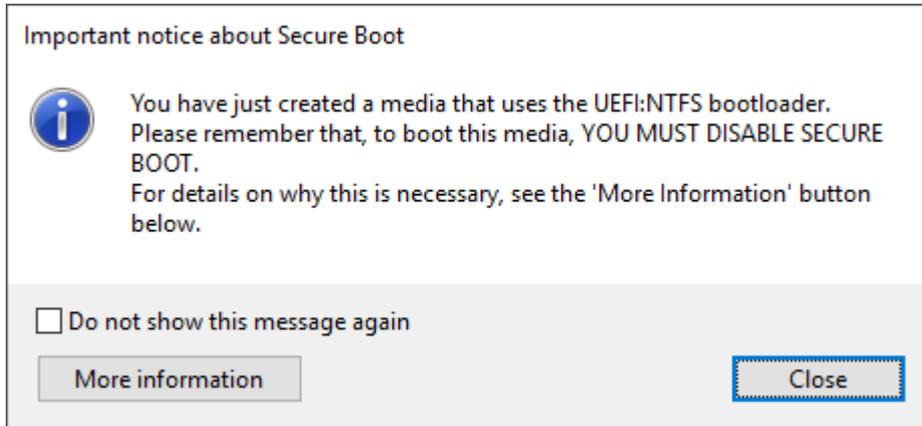


1. Select the correct USB drive  
Note that all data is erased on that drive!
2. Select the ISO file.  
Some devices of the ibaDAQ family have different CPU modules therefore the settings for “Partition scheme” and “Target system” must be set accordingly. Please refer for the correct settings to the individual subchapters 4.2.2, 4.2.3 or 4.2.4.
3. Click <Start> to create the USB recovery media.

4. Click <OK>



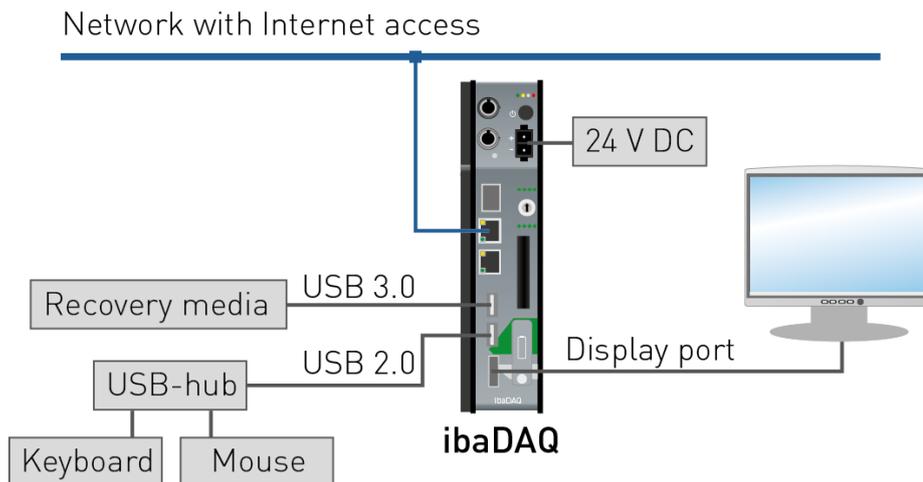
5. Note



6. Eject the USB Flash drive within Windows so it can be safely removed.

7. Follow the steps of your ibaDAQ device variant.

## 4.2 Usage



Connect the DAQ-System as seen above.

Note that the Recovery media is connected to the USB 3.0 port, X24, for optimal performance during the recovery process.

### 4.2.1 Device variant identification

To identify the used CPU module follow these steps.

1. Turn on the system by pushing the power button.
2. Press <DEL> or <ESC> during the startup process to enter the UEFI/BIOS.

If you see the "Main" page of the "Aptio Setup Utility", look for the "Main BIOS Version":

MA3#R### → MA3 variant, see chapter 4.2.2

MA5#R### → MA5 variant, see chapter 4.2.3

If you see a menu, select "Device Manager", then "SIO TQMx86". After that look for the board information.

TQMxE39M → TQ variant, see chapter 4.2.4



#### Tip

Chapter 4.3.1 shows the BIOS screens and where the information is located.

## 4.2.2 ibaDAQ/-C (MA3 Variant)

□ Order No. 10.170001 / 10.170002

### Rufus settings

- Partition scheme: MBR
- Target system: BIOS (or UEFI-CSM)

1. Turn on the system by pushing the power button.
2. Press <DEL> during the startup process to enter the UEFI/BIOS.
3. Select the menu item “Security” and enter the “Secure Boot Menu” option.  
Set the option “Secure Boot” to disabled. Otherwise, the recovery media won’t boot.
4. Go back to the “Main” menu with <ESC>.
5. Navigate to “Save & Exit” and apply the changes with “Save Changes and Reset”
6. Press <DEL> during the startup process to enter the UEFI/BIOS.
7. Navigate to the menu item “Boot”, scroll down and change “Boot Option #1” to the USB Flash drive.
8. Navigate to “Save & Exit” and apply the changes with “Save Changes and Reset”.
9. Press <DEL> during the startup process to enter the UEFI/BIOS.
10. Navigate to the menu item “Boot”, scroll down and make sure that the USB Flash drive is still selected as “Boot Option #1”.
11. Navigate to “Save & Exit” and leave the UEFI/BIOS with “Save Changes and Exit”.
12. Follow the onscreen instructions.
13. After the recovery is finished, remove the USB Flash drive.
14. The device will finish the installation and reboots several times.  
This will take about 15 to 20 minutes. After the installation is finished the device reboots and will automatically login to Windows.
15. Enable the “Secure Boot” option in the UEFI/BIOS again.
16. Apply the security settings used by your company.



### Tip

Chapter 4.3.2 shows the BIOS screens and where the options are located.

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### 4.2.3 ibaDAQ/-C (MA5 Variant)

□ Order No. 10.170031 / 10.170032

#### Rufus settings

- Partition scheme: GPT
- Target system: UEFI (non CSM)

1. Turn on the system by pushing the power button.
2. Press <DEL> during the startup process to enter the UEFI/BIOS.
3. Select the menu item “Security” and enter the “Secure Boot Menu” option.  
Set the option “Secure Boot” to disabled. Otherwise, the recovery media won’t boot.
4. Go back to the “Main” menu with <ESC>.
5. Navigate to “Save & Exit” and apply the changes with “Save Changes and Reset”.
6. Press <DEL> during the startup process to enter the UEFI/BIOS.
7. Navigate to the menu item “Save & Exit”, select the USB Flash drive within the “Boot Override” options and press <RETURN> to boot from the USB Flash drive.
8. Follow the onscreen instructions.
9. After the recovery is finished, remove the USB Flash drive.
10. The device will finish the installation and reboots several times.  
This will take about 15 to 20 minutes. After the installation is finished the device reboots and will automatically login to Windows.
11. Enable the “Secure Boot” option in the UEFI/BIOS again.
12. Apply the security settings used by your company.



---

#### Tip

Chapter 4.3.3 shows the BIOS screens and where the options are located.

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#### 4.2.4 ibaDAQ/-C (TQ Variant)

□ Order No. 10.170041 / 10.170042

##### Rufus settings

- Partition scheme: GPT
- Target system: UEFI (non CSM)

1. Turn on the system by pushing the power button.
2. Press <ESC> during the startup process to go to the boot options.
3. Select “Boot Manager”.
4. Select the USB Flash drive and press <RETURN>.
5. Follow the onscreen instructions.
6. After the recovery is finished, remove the USB Flash drive.
7. The device will finish the installation and reboots several times.  
This will take about 15 to 20 minutes. After the installation is finished the device reboots and will automatically login to Windows.
8. Enable the “Secure Boot” option in the UEFI/BIOS again.
9. Apply the security settings used by your company.



##### Tip

Chapter 4.3.4 shows the BIOS screens and where the options are located.

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## 4.3 UEFI/BIOS

### 4.3.1 Device variant identification

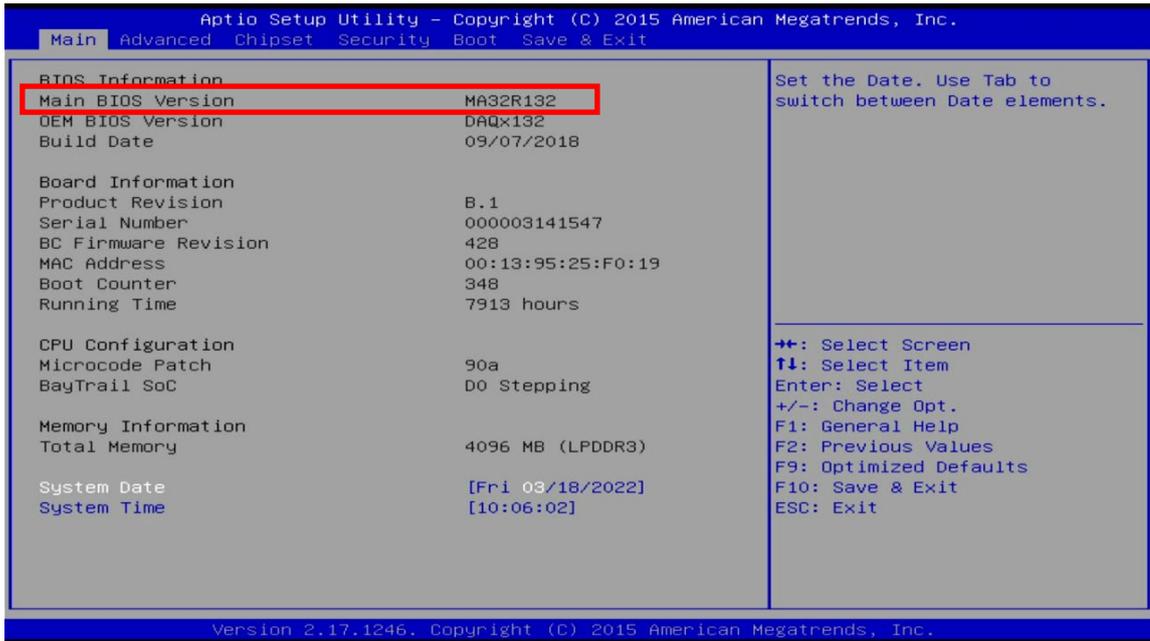


Figure 1: MA3 variant

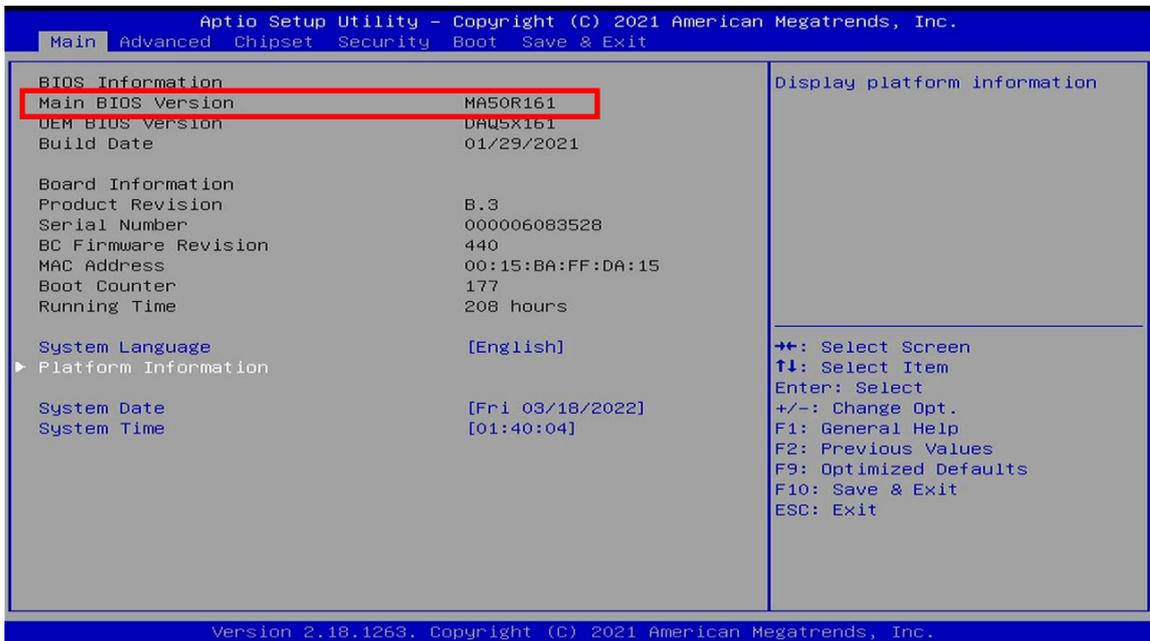


Figure 2: MA5 variant

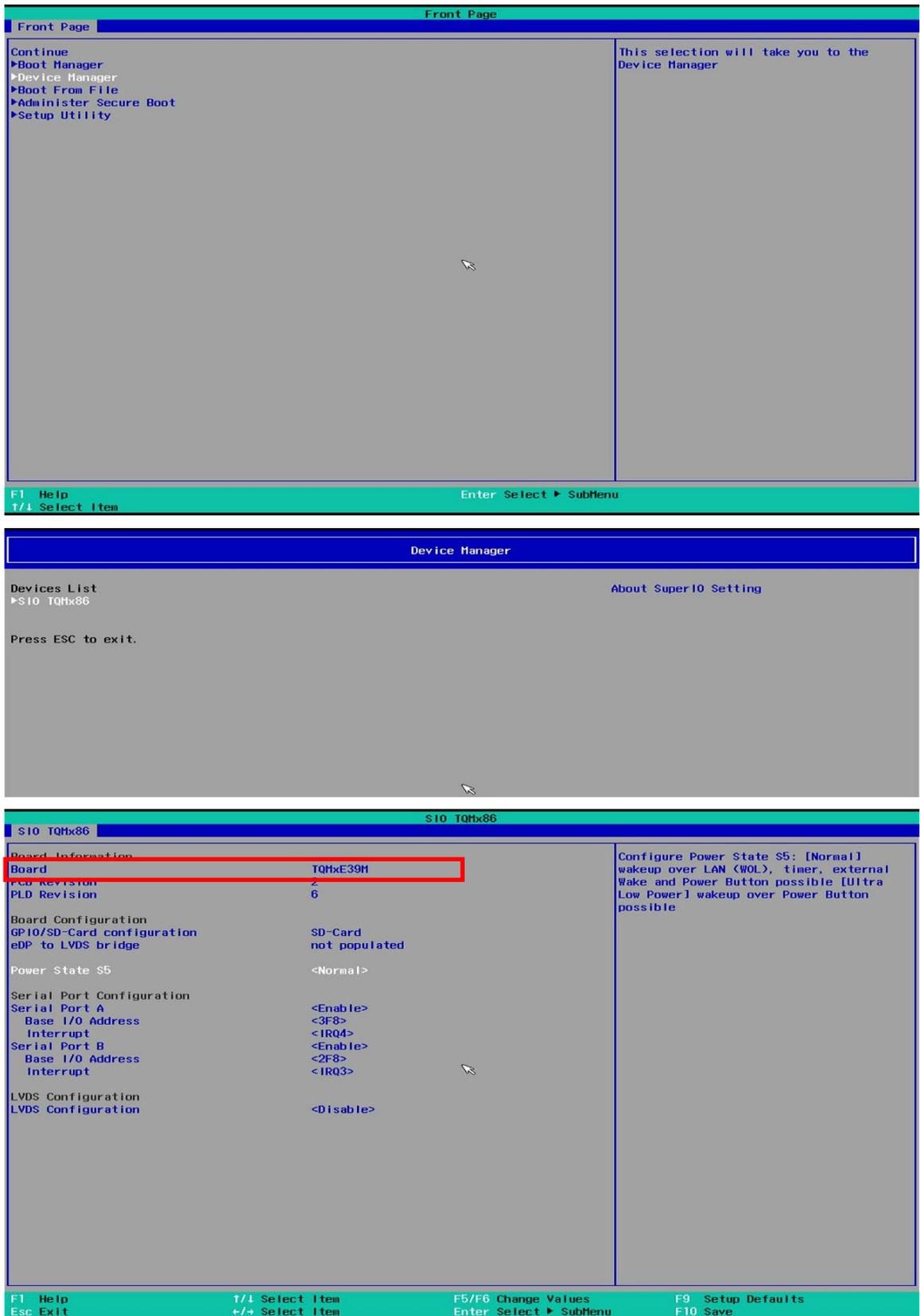
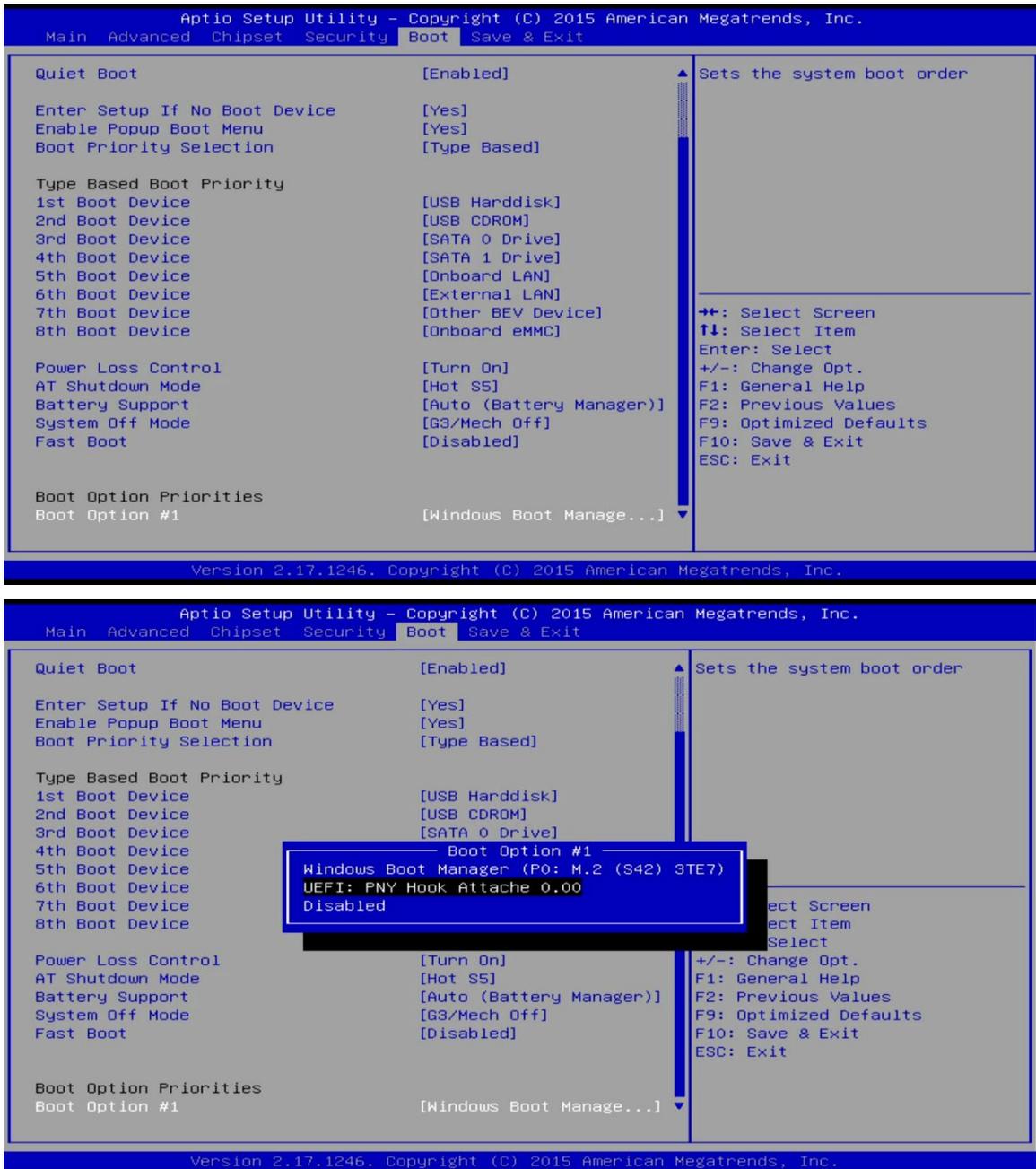
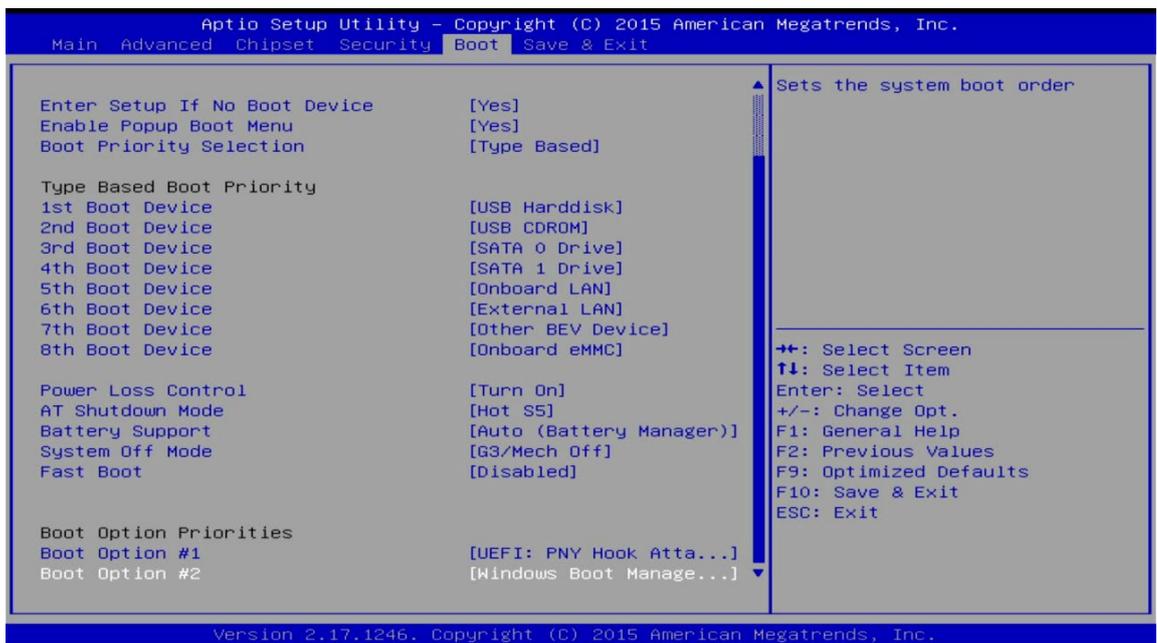
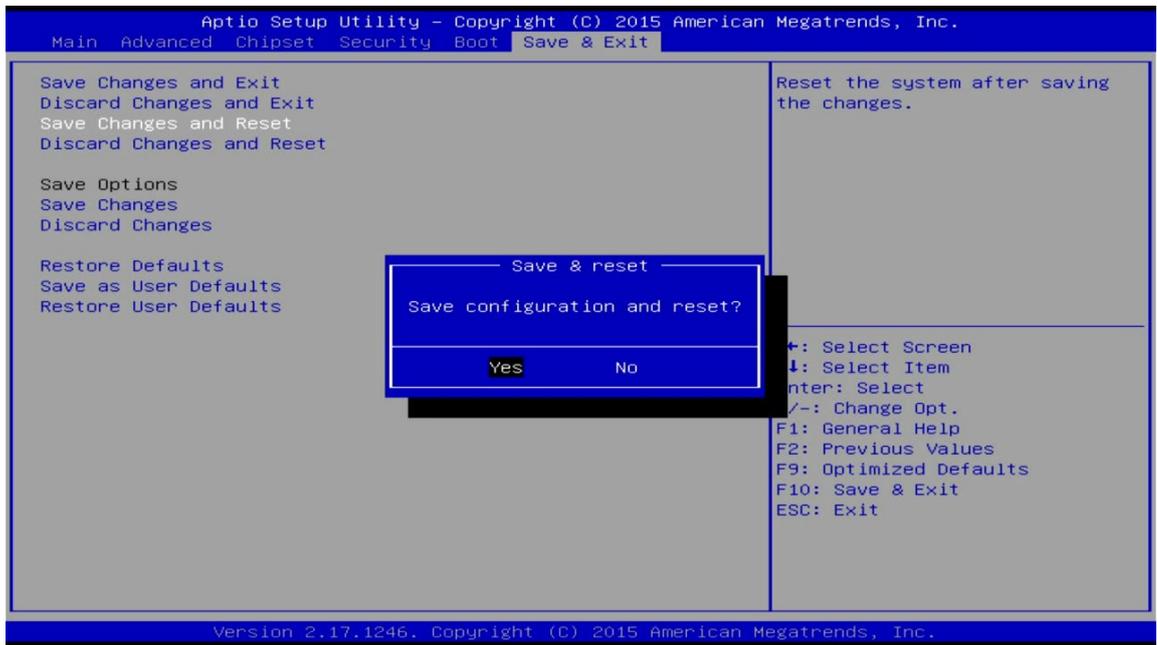


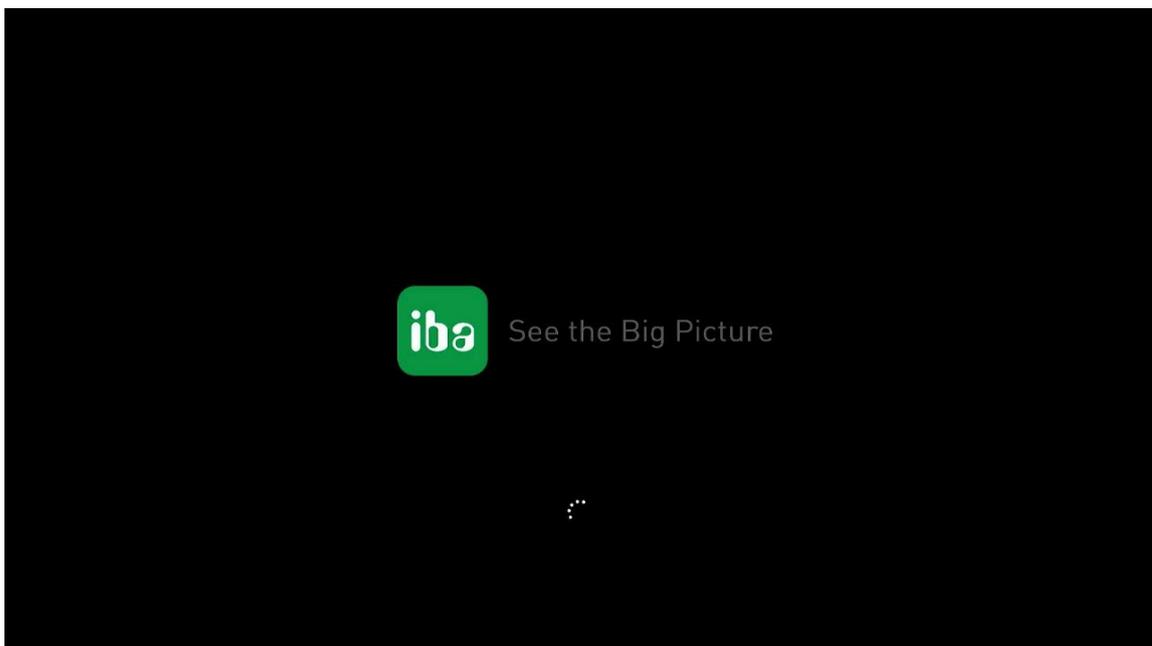
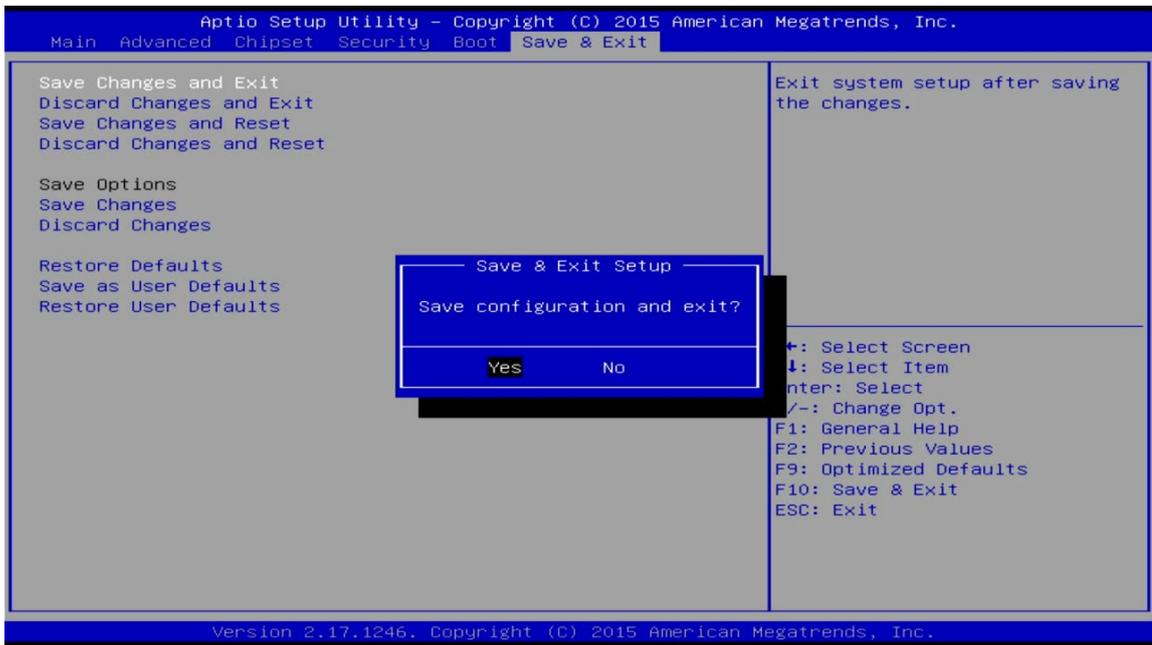
Figure 3: TQ variant

### 4.3.2 ibaDAQ/-C (MA3 Variant)

□ Order No. 10.170001 / 10.170002)







### 4.3.3 ibaDAQ/-C (MA5 Variant)

❑ Order No. 10.170031 / 10.170032

Aptio Setup Utility - Copyright (C) 2021 American Megatrends, Inc.  
Main Advanced Chipset **Security** Boot Save & Exit

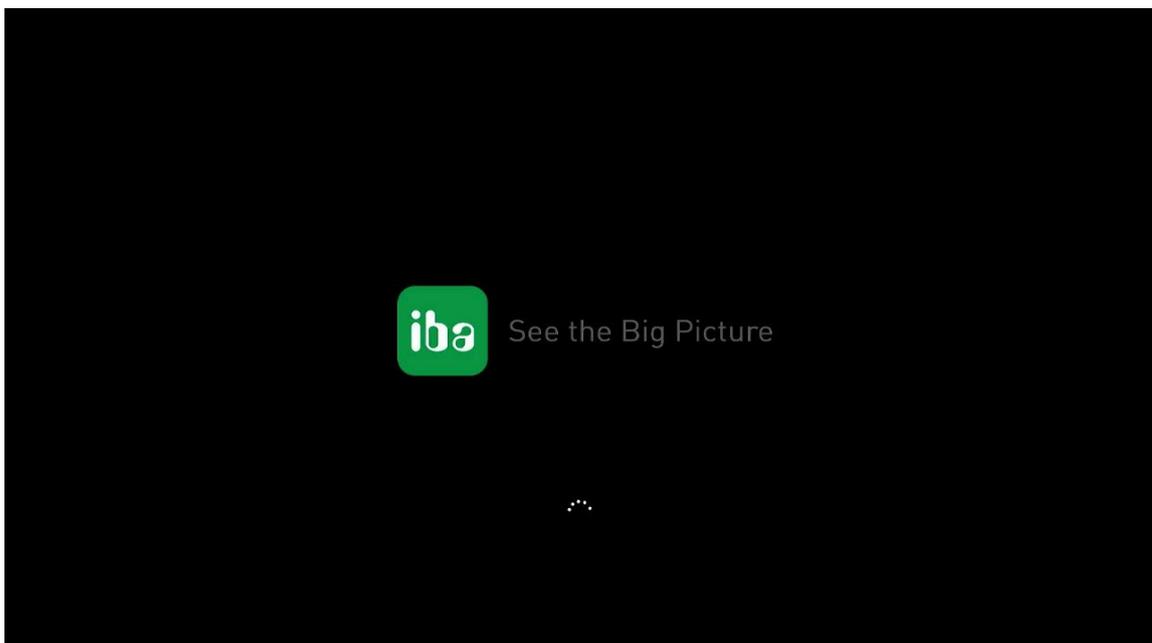
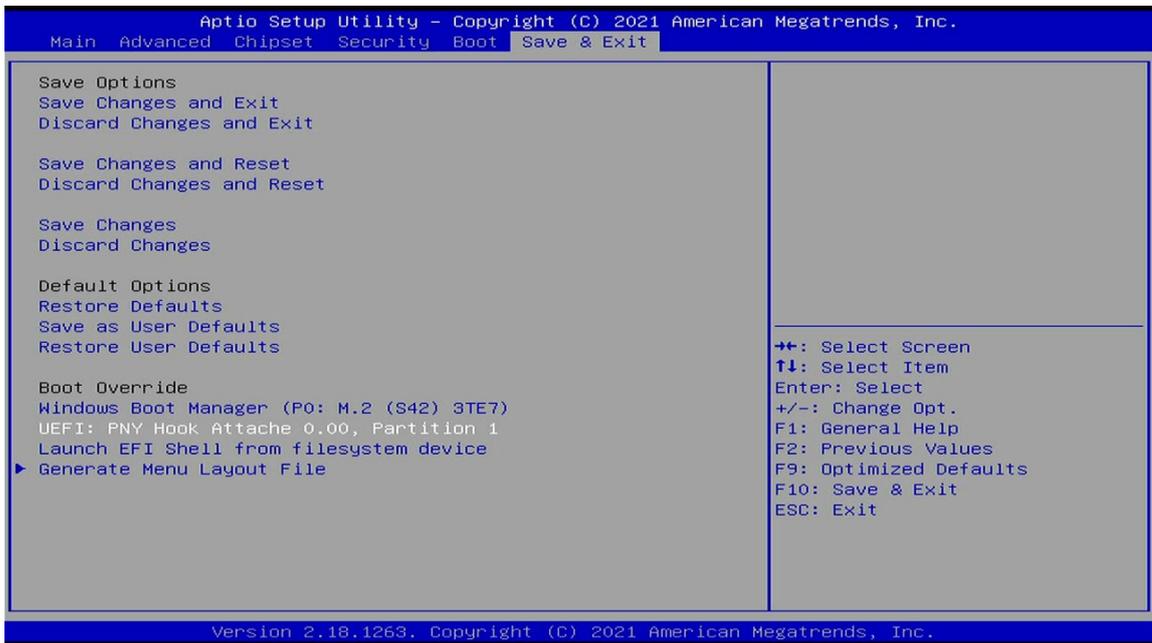
<p>Password Description</p> <p>If BIOS password is set, it limits access to Setup and is asked for when entering Setup. Only if BIOS password and BIOS lock are set, BIOS update &amp; write protection can be enabled.</p> <p>Minimum length                    3 Maximum length                    20</p> <p>BIOS Password</p> <p>BIOS Update and Write Protection      [Disabled]</p> <p>HDD Security Configuration: P0:M.2 (S42) 3TE7</p> <p>▶ Secure Boot Menu</p>	<p>Customizable Secure Boot settings</p> <hr/> <p>↔: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F9: Optimized Defaults F10: Save &amp; Exit ESC: Exit</p>
---	--

Version 2.18.1263. Copyright (C) 2021 American Megatrends, Inc.

Aptio Setup Utility - Copyright (C) 2021 American Megatrends, Inc.  
**Security**

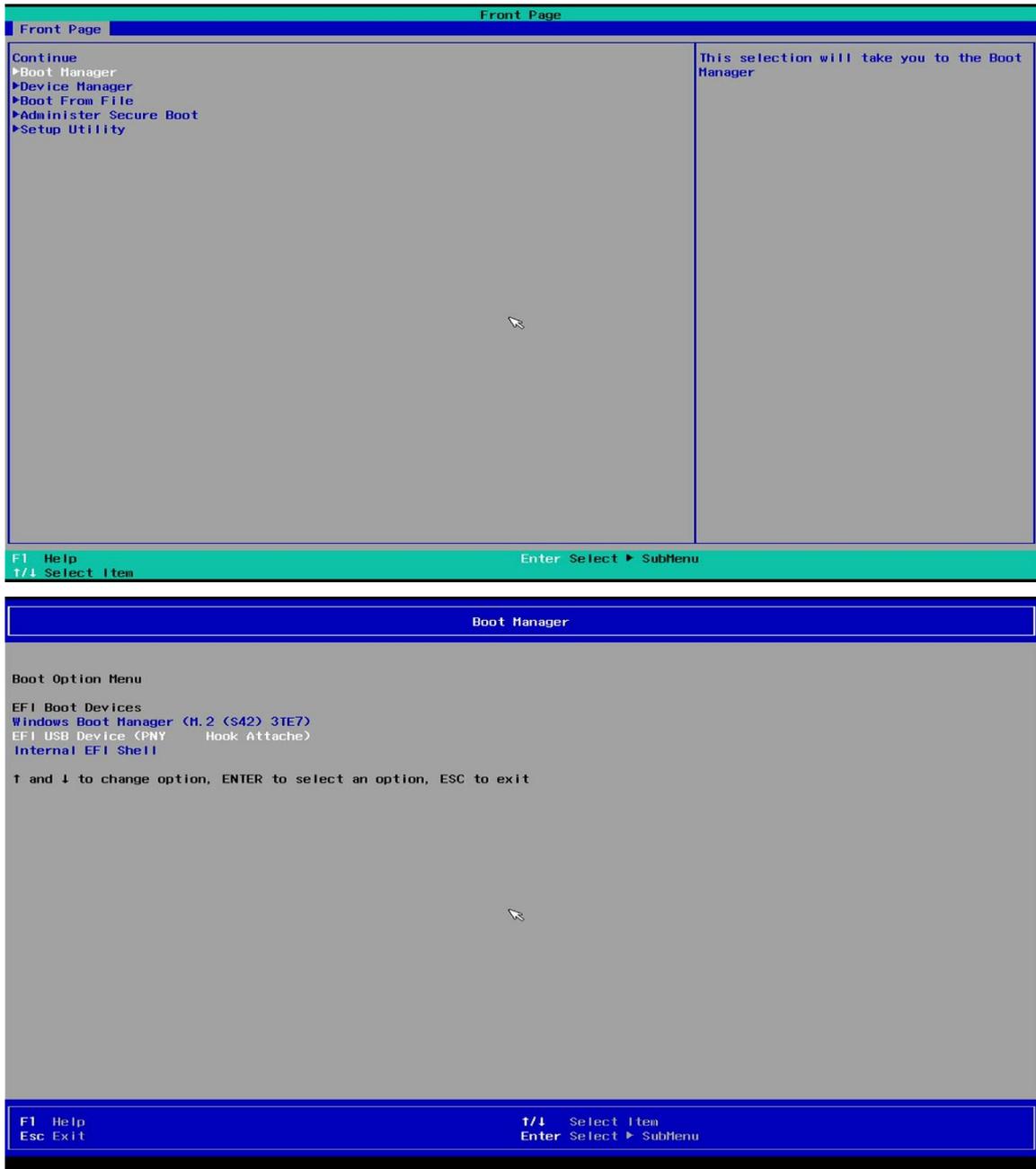
<p>System Mode                                    Setup Vendor Keys                                    Not Modified</p> <p>Secure Boot                                    [Disabled]     Not Active</p> <p>Secure Boot Customization                    [Custom]</p> <p>▶ Restore Factory Keys ▶ Reset To Setup Mode</p> <p>▶ Key Management</p>	<p>Secure Boot can be enabled if:</p> <ol style="list-style-type: none"> <li>1. System running in User Mode with enrolled Platform Key (PK)</li> <li>2. CSM function is disabled</li> </ol> <p>Information: Do not deploy a Secure Boot enabled BIOS with the default AMI PK !</p> <hr/> <p>↔: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F9: Optimized Defaults F10: Save &amp; Exit ESC: Exit</p>
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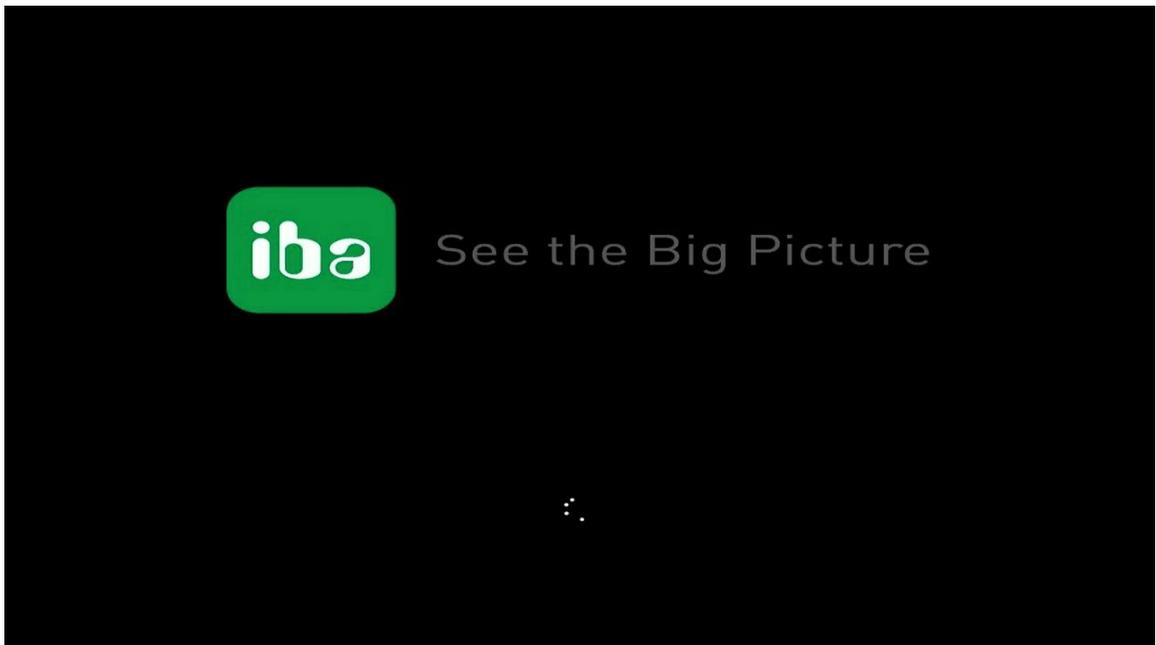
Version 2.18.1263. Copyright (C) 2021 American Megatrends, Inc.



### 4.3.4 ibaDAQ/-C (TQ Variant)

❑ Order No. 10.170041 / 10.170042





## 5 System recovery Win10 LTSC 2021/v21H2

The system recovery of ibaDAQ/-C comprises three steps.

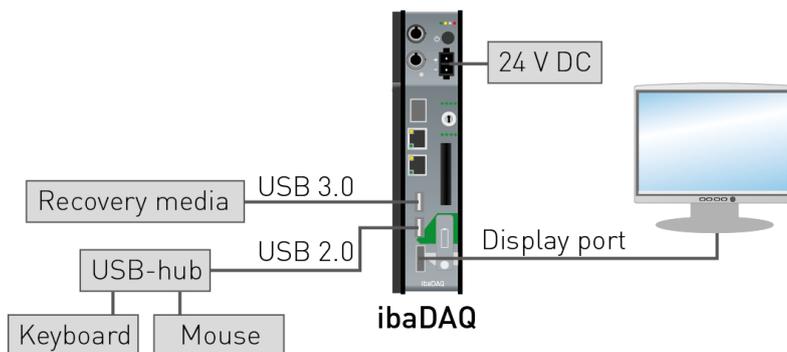
- ❑ Installation, applies to all 3 device variants, see chapter 5.1.
- ❑ Media creation and usage, varies depending on the device variant.



### Note

New factory settings take effect after an upgrade from Win10 LTSC 2019/v1809 to Win10 LTSC 2021/v21H2.

### 5.1 Installation



Connect the ibaDAQ-System as seen above.

Note that the Recovery media is connected to the USB 3.0 port, X24, for optimal performance during the recovery process. The connection shown above is an example.

### 5.2 ibaDAQ /-C 10.17000x

Order No. ibaDAQ 10.170001 / ibaDAQ-C 10.170002 (MA3 variant)

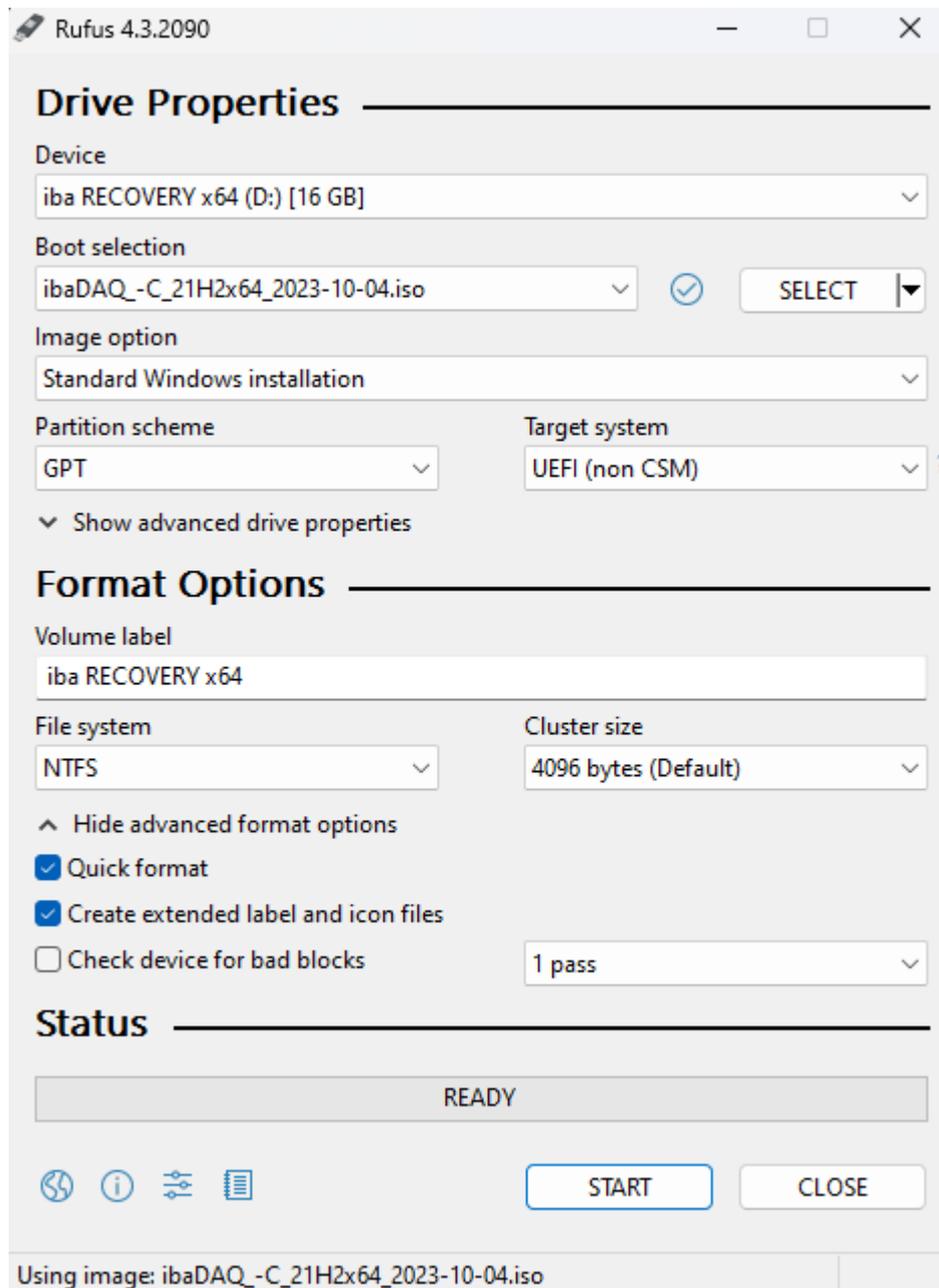
#### 5.2.1 Media Creation

Contact the iba support for getting the recovery media (ISO) file.

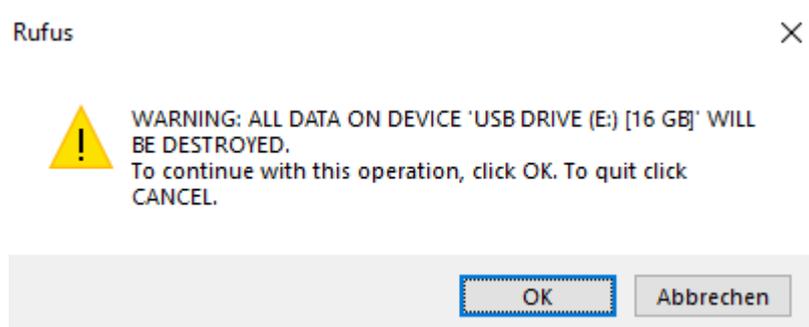
Download the latest version of Rufus from <https://rufus.akeo.ie/>. The portable edition is sufficient.

Connect the USB Flash drive you want to use as recovery media to your PC. Then start "Rufus" and proceed as follows:

1. Select the correct USB Flash drive. Note that all data is erased on that drive!
2. Select the ISO file.
3. Click <Start> to create the USB recovery media.



4. Click <OK>



5. After the creation close "Rufus" and eject the USB Flash drive within Windows so it can be safely removed.
6. Follow the steps described in the following chapter.

## 5.2.2 Usage

- Time required: approx. 30 minutes
  - Interactive input required
1. Insert the USB recovery media in one of the USB ports of the ibaDAQ.
  2. Turn on the system by pushing the power button.
  3. Press <DEL> during the startup process to enter the UEFI/BIOS.
  4. Navigate to the menu item “Save & Exit”, select the USB Flash drive within the “Boot Override” options and press <RETURN> to boot from the USB Flash drive.

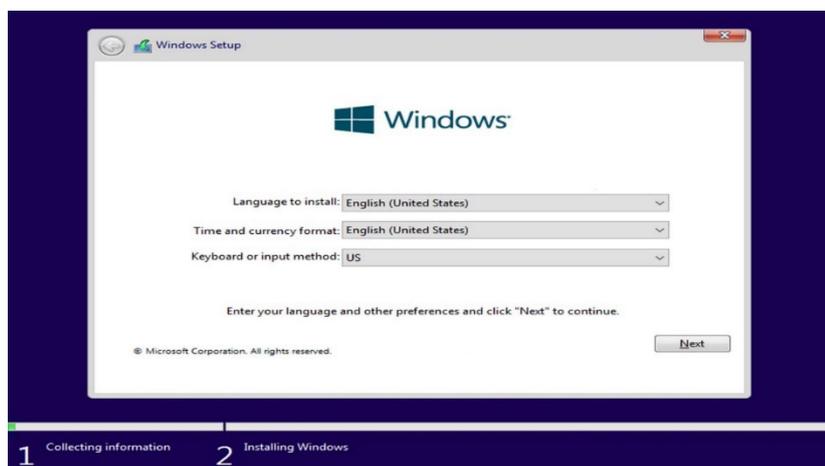


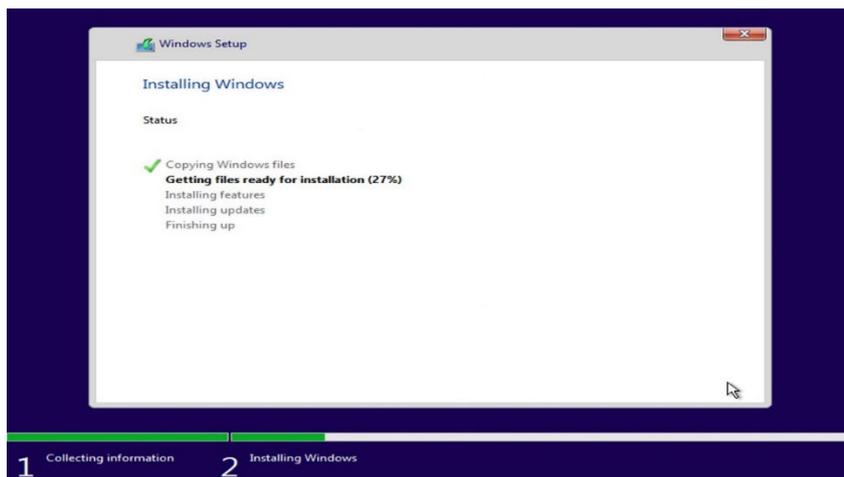
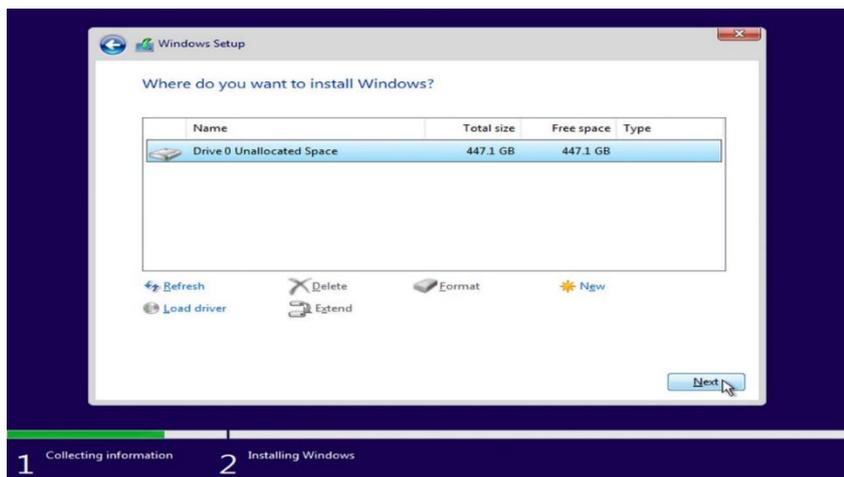
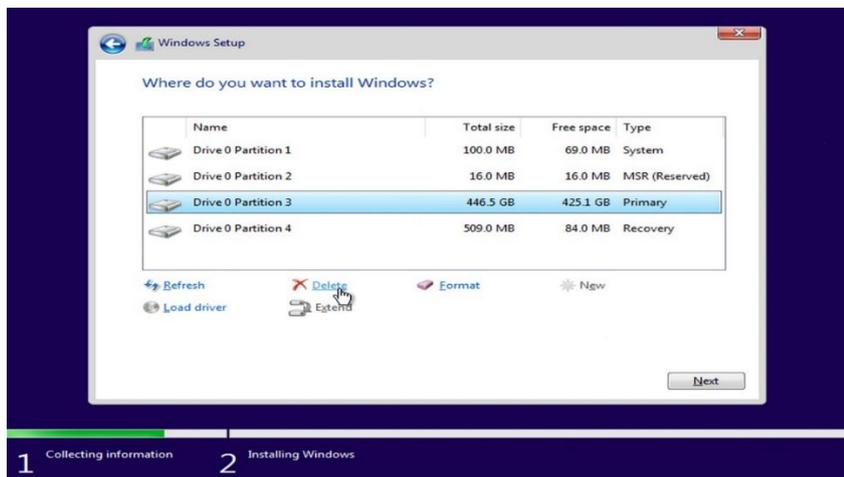
5. Follow the onscreen instructions.



### Note

This system recovery is basically the same as a new installation. For example, you can choose the installation language at the beginning and then you have to reset the hard disk for the reinstallation.



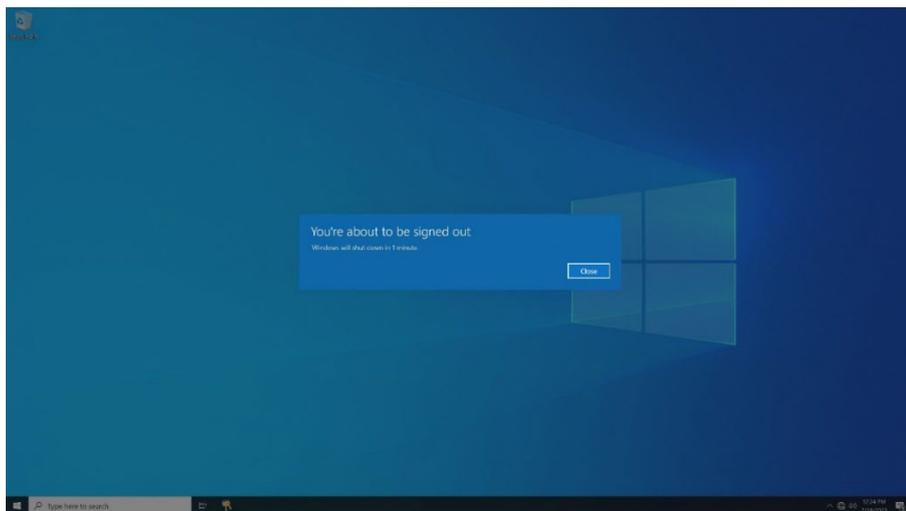
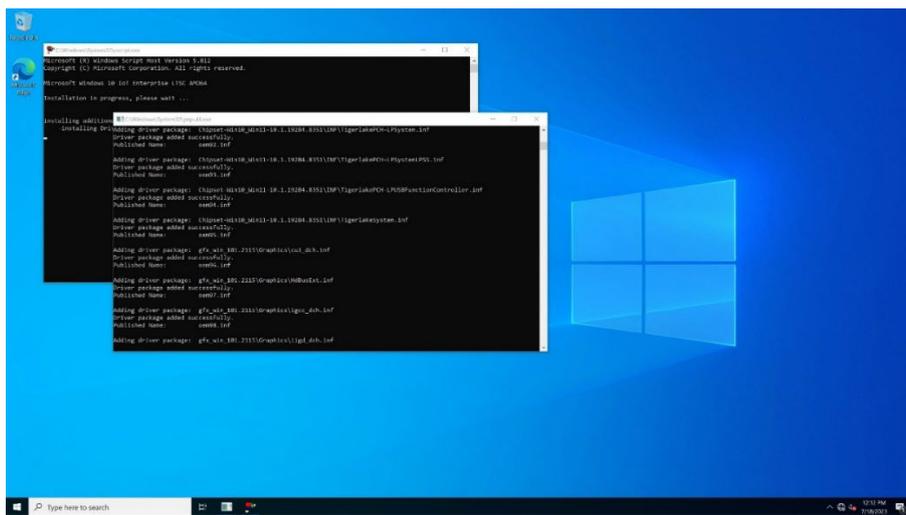
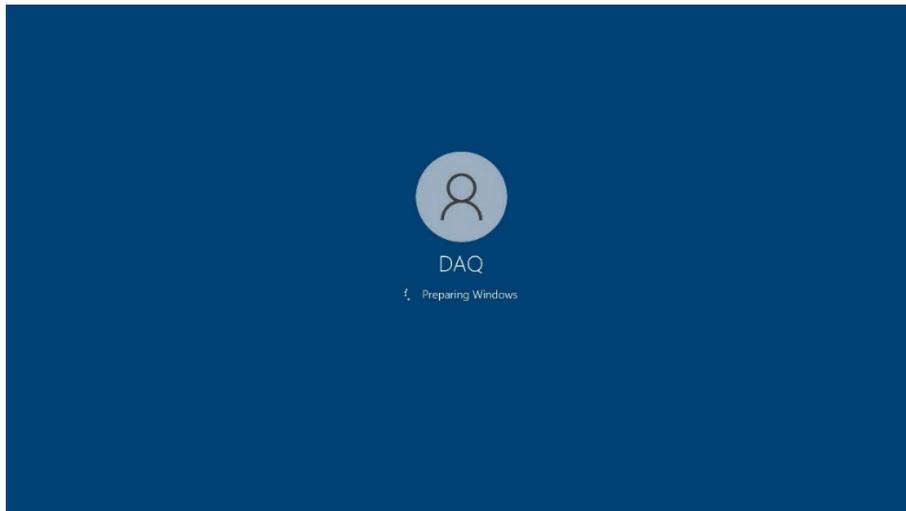


6. After Windows installation, proceed with further adjustments and installations.



### Note

This automated process must not be interrupted or influenced by simultaneous operation of mouse/keyboard.





7. The recovery is finished when you see the Windows login screen. After that, remove the USB Flash drive and log in with the default password.
8. Finally  
Configure and apply the security settings used by your company.  
Don't forget to check latest Windows updates.  
Install the iba software.




---

**Note**

The system recovery from 2021/v21H2 includes the ibaDAQ recovery and the installation of the ibaDAQ Manager/Service. It is only necessary to install ibaPDA and to check the firmware of ibaDAQ for actuality. If necessary update the firmware.

---

Please note the changed user account:

User	Password
daq	iba.SNxxxxxx

xxxxxx = 6-digit serial number; the serial number can be found on the type label, e. g. iba.SN000036

## 5.3 ibaDAQ /-C 10.17003x

Order No. ibaDAQ 10.170031 / ibaDAQ-C 10.170032 (MA5 variant)

### 5.3.1 Media creation

The procedure is identical to ibaDAQ 10.170001 / ibaDAQ-C 10.170002 (MA3 variant).

Please refer to chapter 5.2.1.

### 5.3.2 Usage

The procedure is identical to ibaDAQ 10.170001 / ibaDAQ-C 10.170002 (MA3 variant).

Please refer to chapter 5.2.2.

## 5.4 ibaDAQ /-C 10.17004x

Order No. ibaDAQ 10.170041 / ibaDAQ-C 10.170042 (TQ variant)

### 5.4.1 Media creation

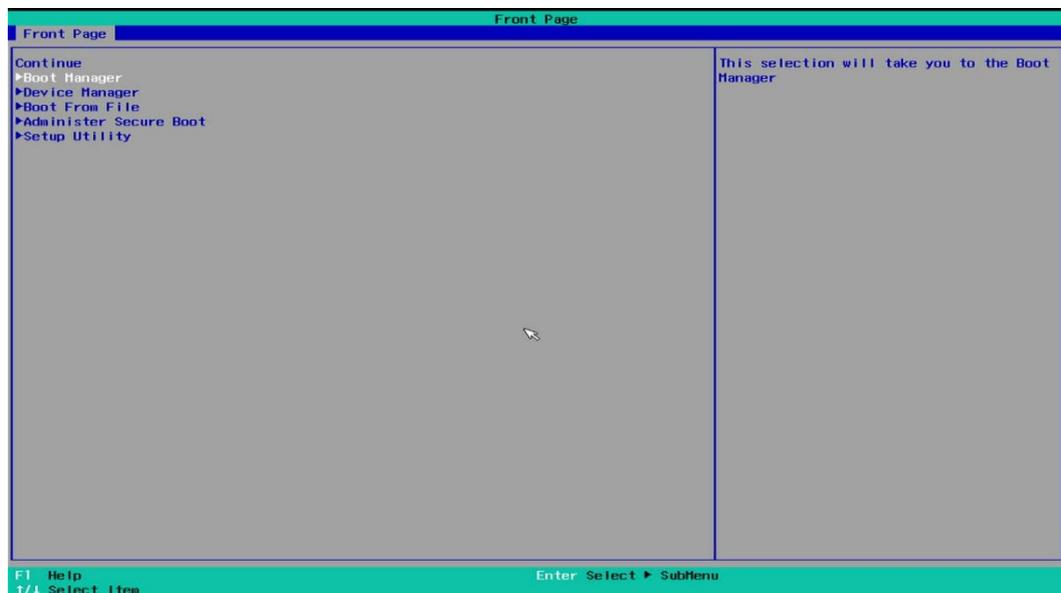
The procedure is identical to ibaDAQ 10.170001 / ibaDAQ-C 10.170002 (MA3 variant).

Please refer to chapter 5.2.1.

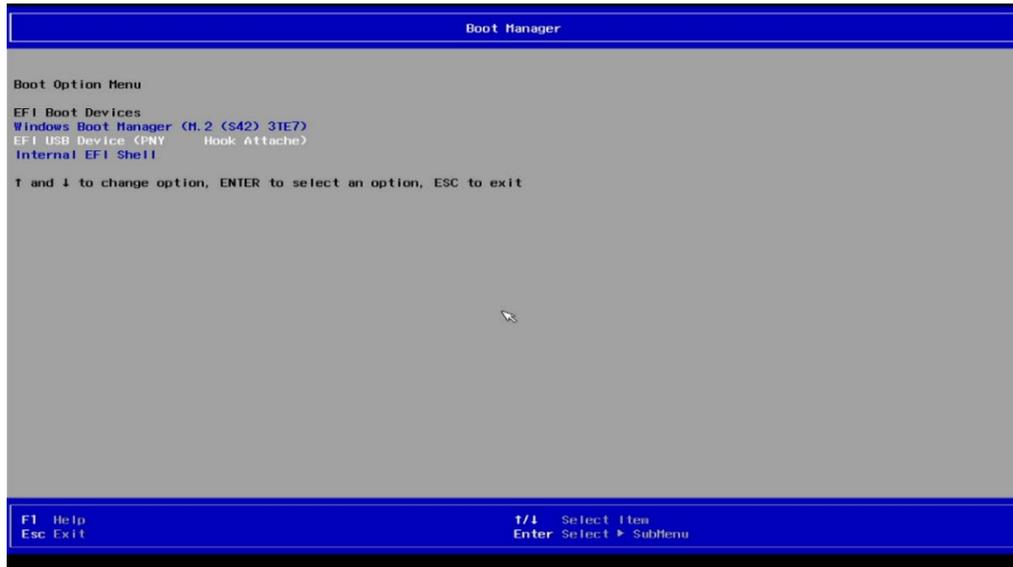
### 5.4.2 Usage

- Time required: approx. 30 minutes
- Interactive input required

1. Insert the USB recovery media in one of the USB ports of the ibaDAQ.
2. Turn on the system by pushing the power button.
3. Press <ESC> during the startup process to enter the UEFI/BIOS.
4. Select “Boot Manager”.



5. Select the USB Flash drive and press <RETURN> to boot from the USB Flash drive

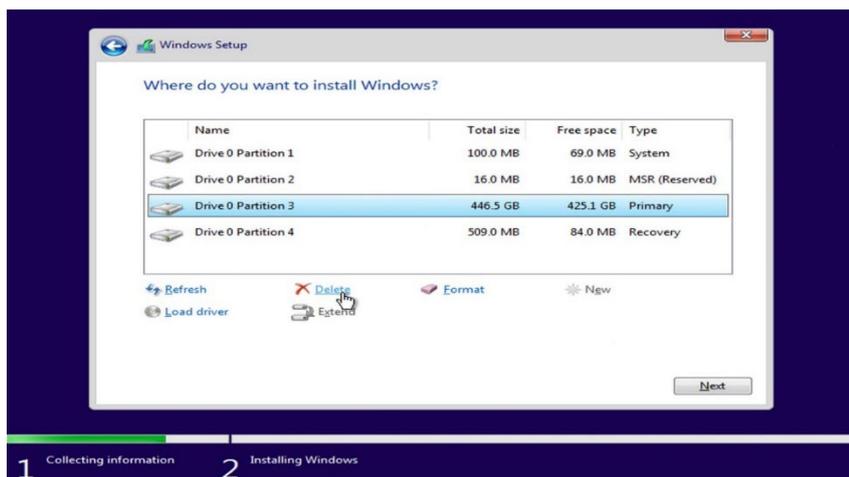
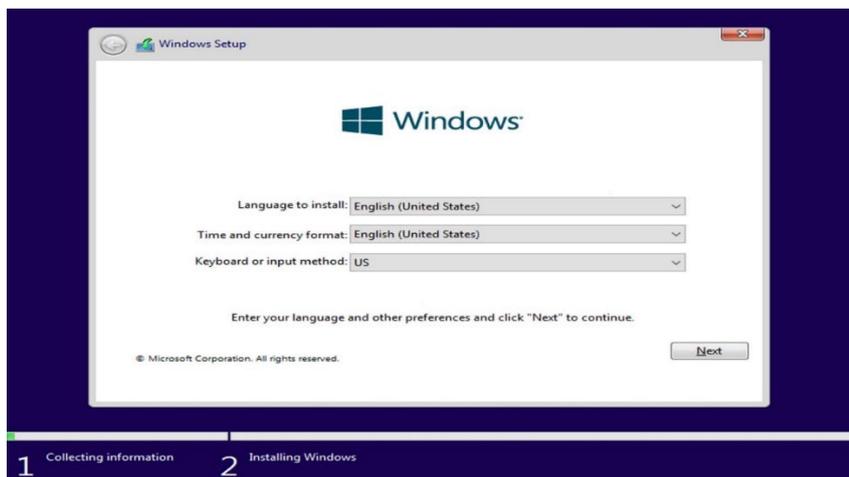


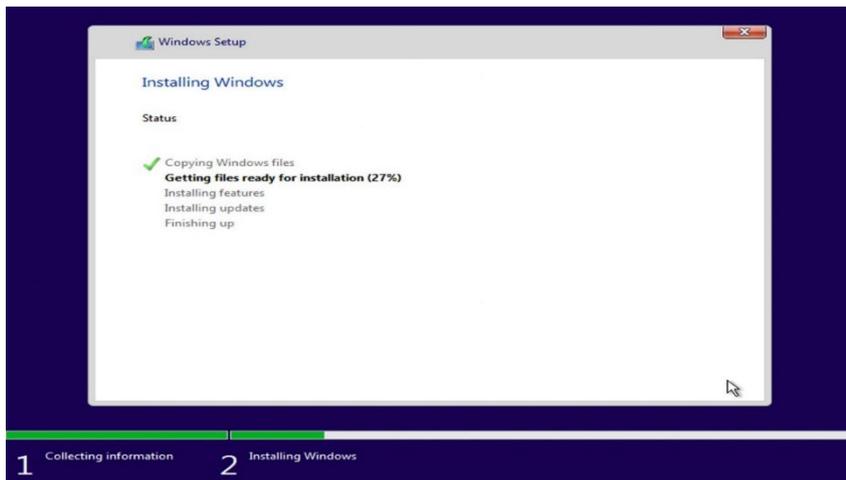
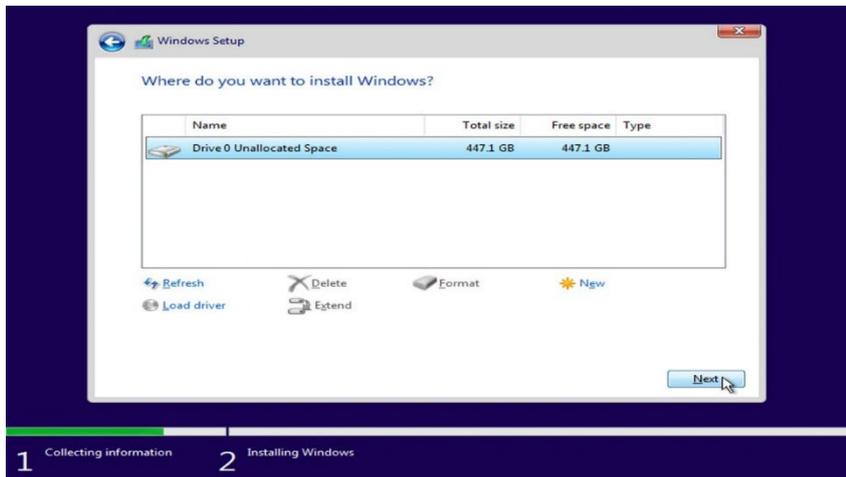
6. Follow the onscreen instructions.



### Note

This system recovery is basically the same as a new installation. For example, you can choose the installation language at the beginning and then you have to reset the hard disk for the reinstallation.



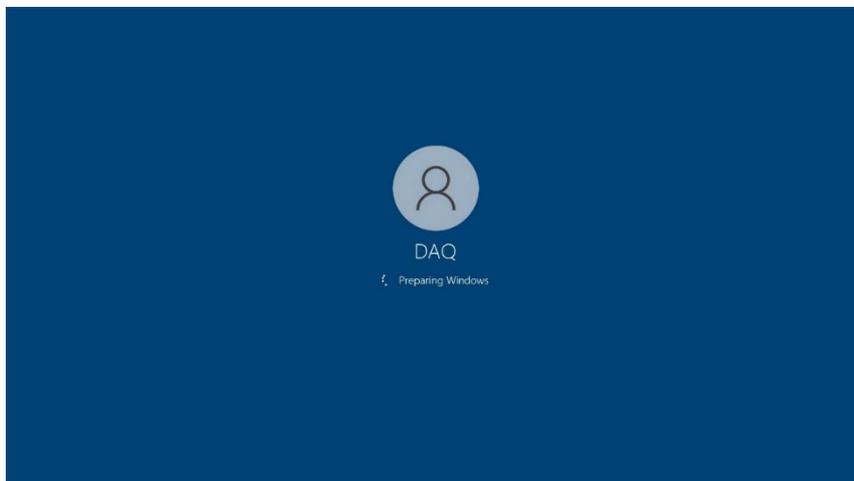


7. After Windows installation, proceed with further adjustments and installations.



**Note**

This automated process must not be interrupted or influenced by simultaneous operation of mouse/keyboard.





Please note the changed user account:

User	Password
daq	iba.SNxxxxxx

xxxxxx = 6-digit serial number; the serial number can be found on the type label, e. g. iba.SN000036

## 6 Support and contact

### Support

Phone: +49 911 97282-14

E-Mail: [support@iba-ag.com](mailto:support@iba-ag.com)



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### Note

If you need support for software products, please state the license number or the Code-Meter container number (WIBU dongle). For hardware products, please have the serial number of the device ready.

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