

MicrUs Pro USB Ultrasound Scanner

Software Installation Guide



Contents

1.	Getting Started with Android System	3
1.1.	System Requirements	3
1.2.	Software Installation	3
1.3.	Connecting Android System	5
1.4.	Running Echo Wave A Application	6
2.	Getting Started with Windows PC	7
2.1.	PC Hardware Requirements	7
2.2.	Available Software	7
2.3.	Telemed Drivers Package Installation	7
2.4.	EchoWave II Application Installation	11
2.5.	EchoWave II Touch Application Installation	14
2.6.	Connecting MicrUs Pro to PC	19
2.7.	Running Echo Wave II and Echo Wave II Touch Software	19
2.8.	Additional Recommendations for Cybersecurity	21

1. Getting Started with Android System

1.1. System Requirements

Please ensure that your system meets the following requirements:



- Mobile phone or tablet computer
- Android 6.0 or more recent Android operating system
- USB OTG (USB On-The-Go) port Type-C
- Quad-core (> 2 GHz) or faster CPU
- 4 GB or more RAM
- 32 GB or larger storage
- 4000 mAh or larger capacity battery
- 5-inch 1080x1920 pixels or larger display

Note: The software is used in portrait screen orientation.

1.2. Software Installation

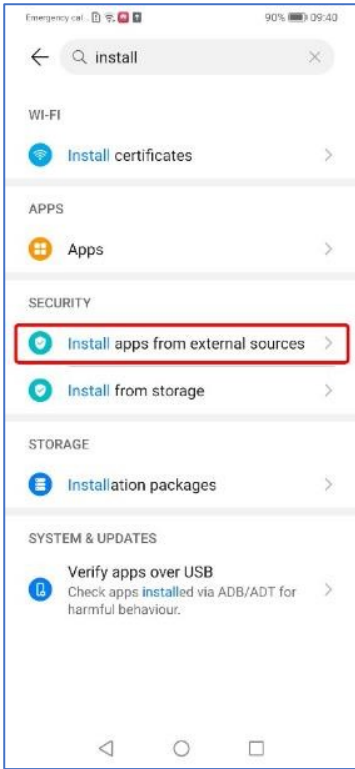
Echo Wave A software is available on USB key from your shipment. Alternatively, you can download the latest software version following this [link](#).

For questions, please contact support by e-mail support@telemed.it

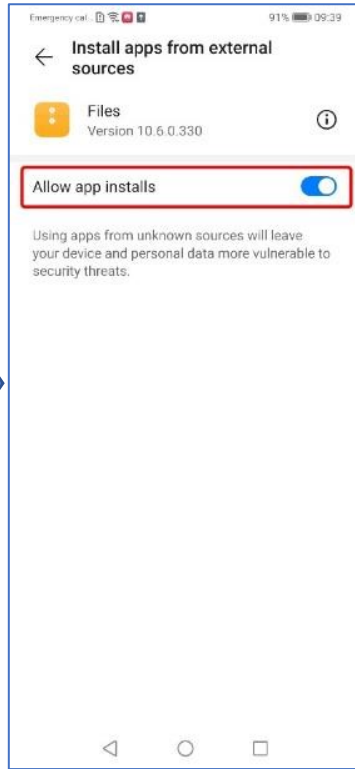
Note: Echo Wave A is not available from Google Play Market. It is distributed in a form of APK file. To install the software, you should allow installing applications from Unknown Sources in your system settings.

The following screenshots will give you an idea how to allow installing apps from unknown sources on Android devices, however different Android versions and different vendor devices can have slightly different user interface.

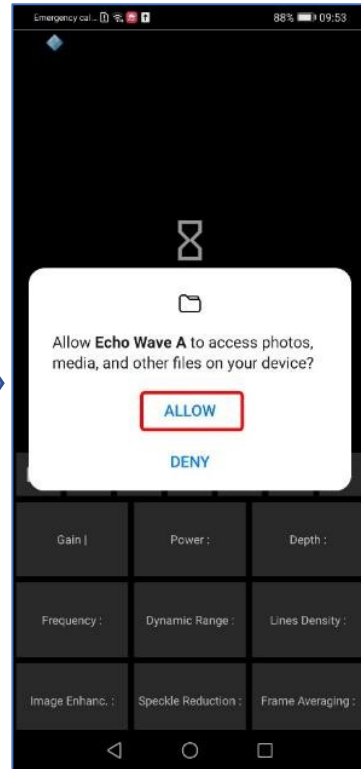
1. Copy EchoWaveA.apk file to your device by any means you like and note where it has been put
2. Open device Settings and perform search of “install” term and tap **Install apps from external sources** (see Step 2 pic.)
3. Select **Files** option and switch on **Allow app installs** option (see Step 3 pic.)
4. Now open the location of EchoWaveA.apk file and run the APK file
5. Allow Echo Wave A access to media files on your device if you would like to save ultrasound images or video loops to your device (see Step 5 pic.)
6. Finally, Echo Wave A is installed.



Step 2



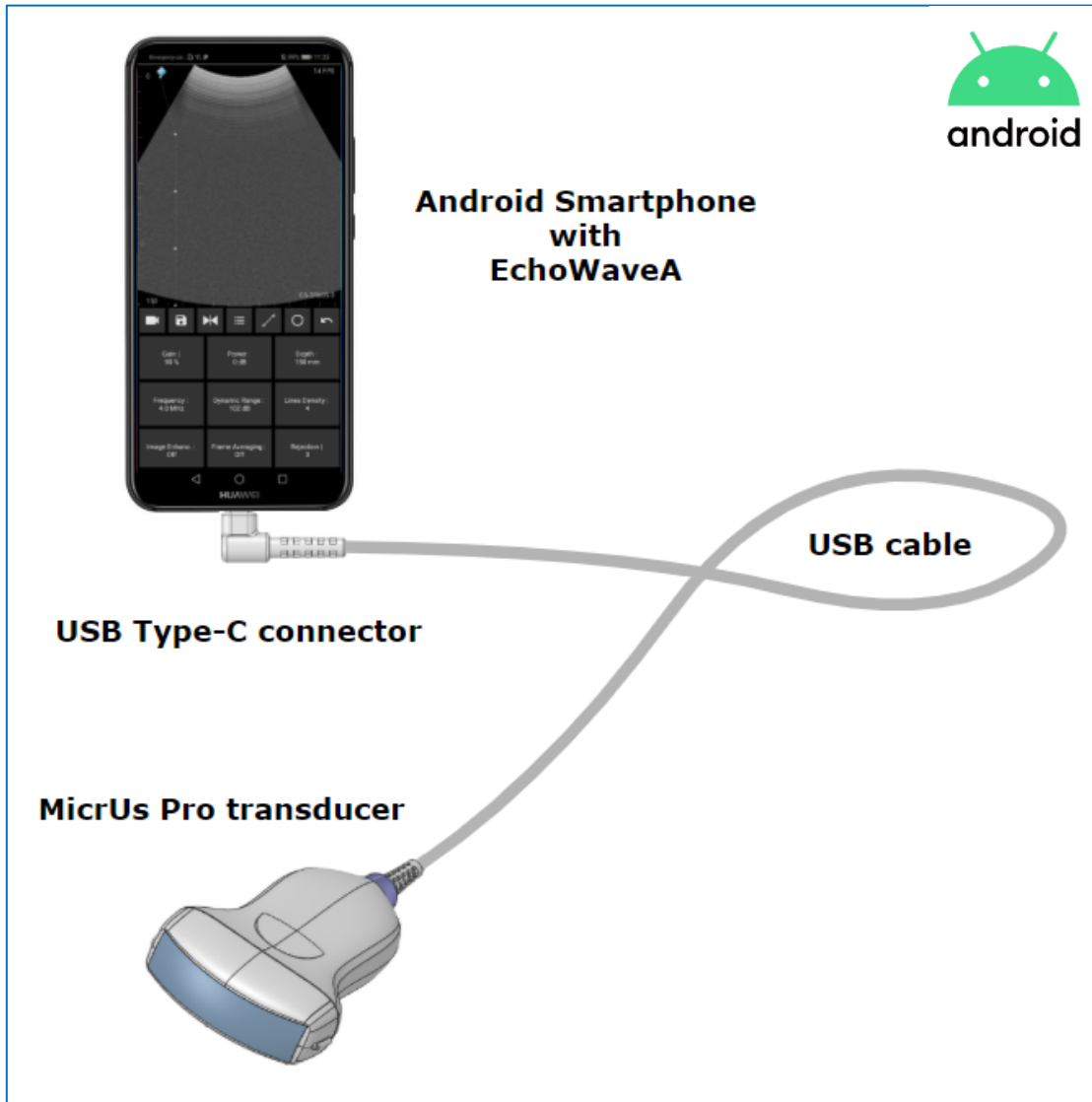
Step 3



Step 5

1.3. Connecting Android System

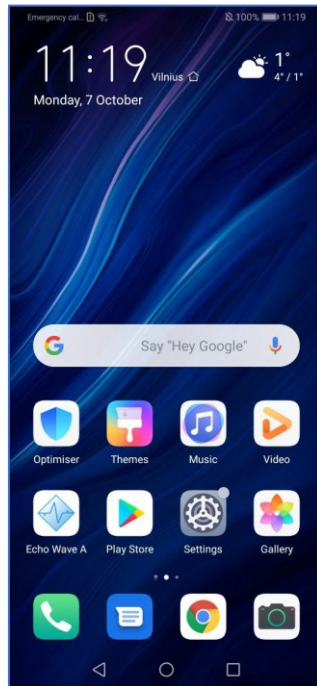
Connect MicrUs Pro to your Android phone or tablet with USB cable included. Ensure that Android device is well charged before you start scanning.



MicrUs Pro Android Connection Diagram

1.4. Running Echo Wave A Application

After you get installed Echo Wave A please locate its icon and tap it. See picture below showing the typical phone screen.



Locating Echo Wave A on a Home screen.

The first time you run Echo Wave A it brings the following message, asking if you would like to start Echo Wave A automatically when your MicrUs Pro scanner is connected. Set check box and tap OK button if you agree.



Echo Wave A message.

2. Getting Started with Windows PC

2.1. PC Hardware Requirements

Please ensure that your PC meets the following requirements:



Hardware

- Windows(R) operating system compatible desktop, notebook or Tablet PC
- Intel chipset-based motherboard
- available USB Type-C port
- CPU i5/i7/i9 1.8 GHz or better
- 2 GB RAM or more
- 2 GB free hard disk space
- display with 1024x768 resolution or higher; wide viewing angles and matte covering are recommended for better imaging; consider IPS/LPS/OLED technology, as example
- display adapter with CUDA support (optional, for NeatView image enhancement)
- TCO certified display
- certified for medical use computer power supply

Software

- Windows 10 operating system
- Microsoft .NET Framework 3.5.1

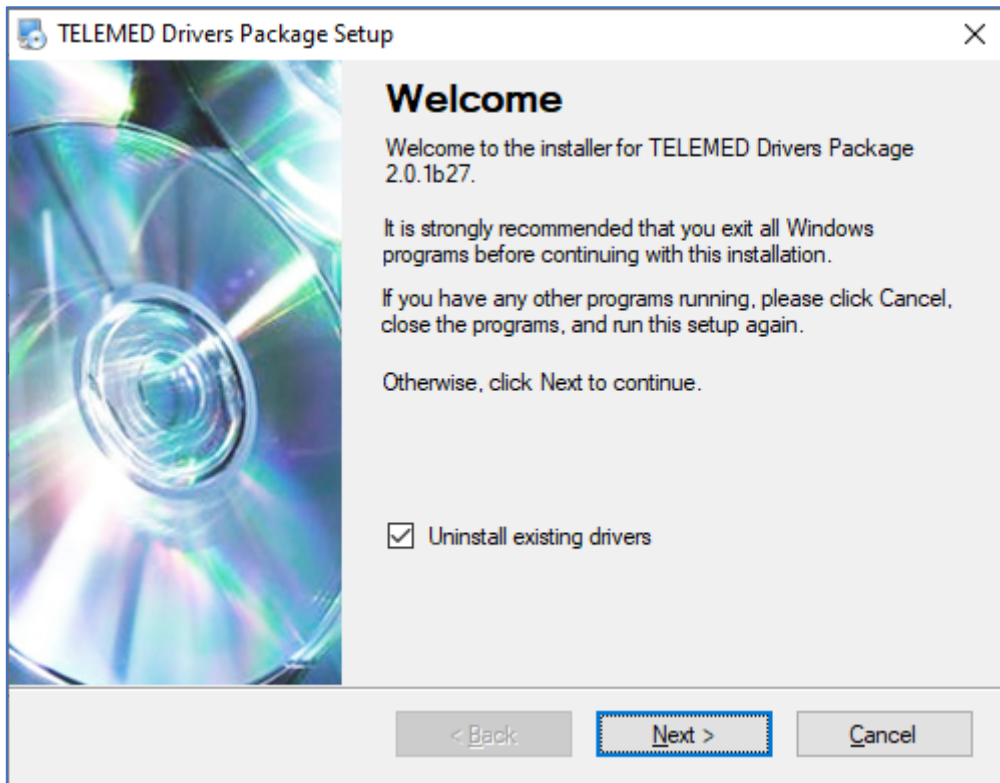
2.2. Available Software

Ensure that the software you have supports your device. At time of writing MicrUs Pro is supported by:

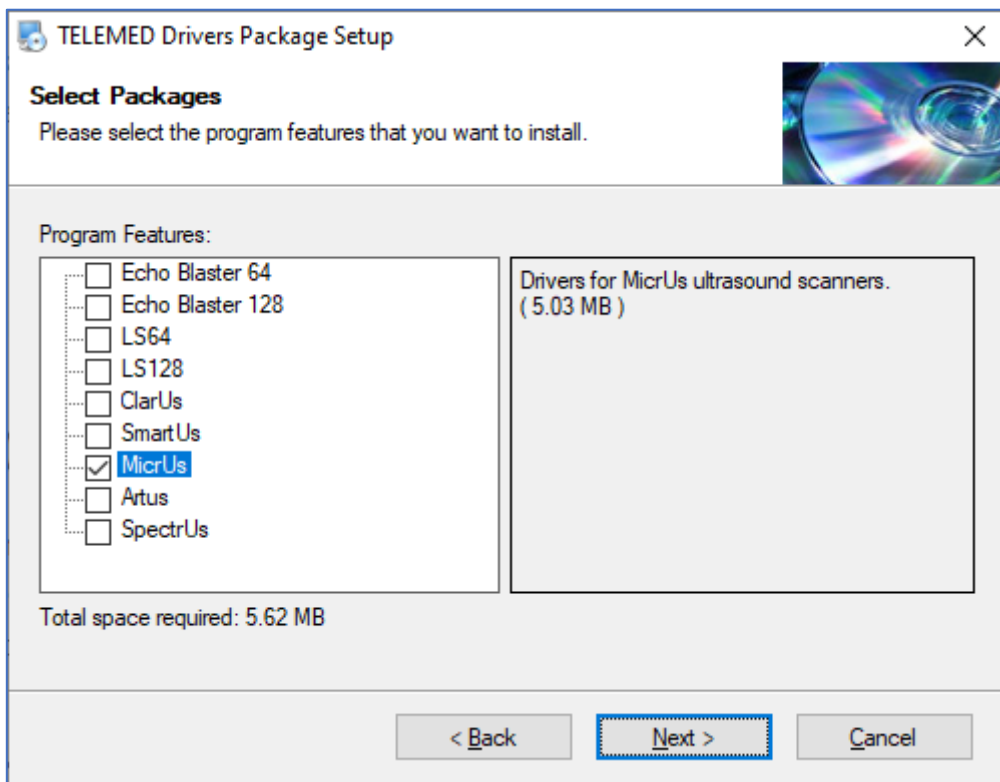
- Echo Wave II ver.4.0.1b22 and higher
- EchoWave II Touch ver.1.0.2b5 and higher
- Telemed Drivers Package ver. 2.0.1b26 and higher

2.3. Telemed Drivers Package Installation

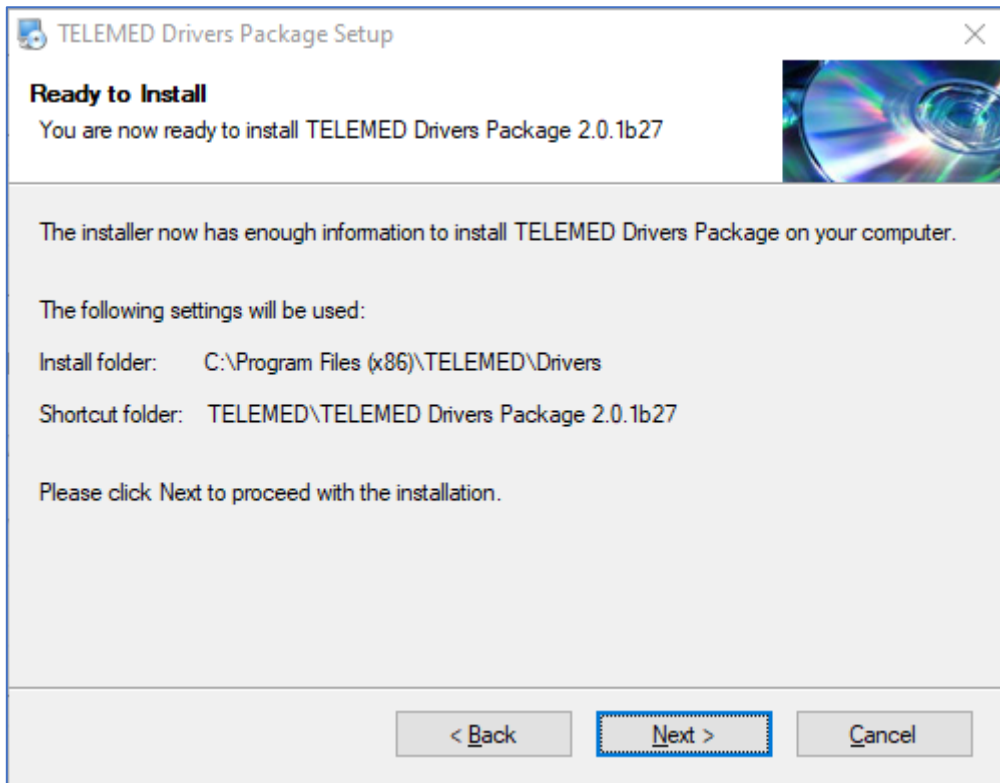
1. Insert your Telemed USB key drive into USB port of your computer
2. Go to **Software**TELEMED Drivers Package XXX\ folder and run **setup_tdp.exe**



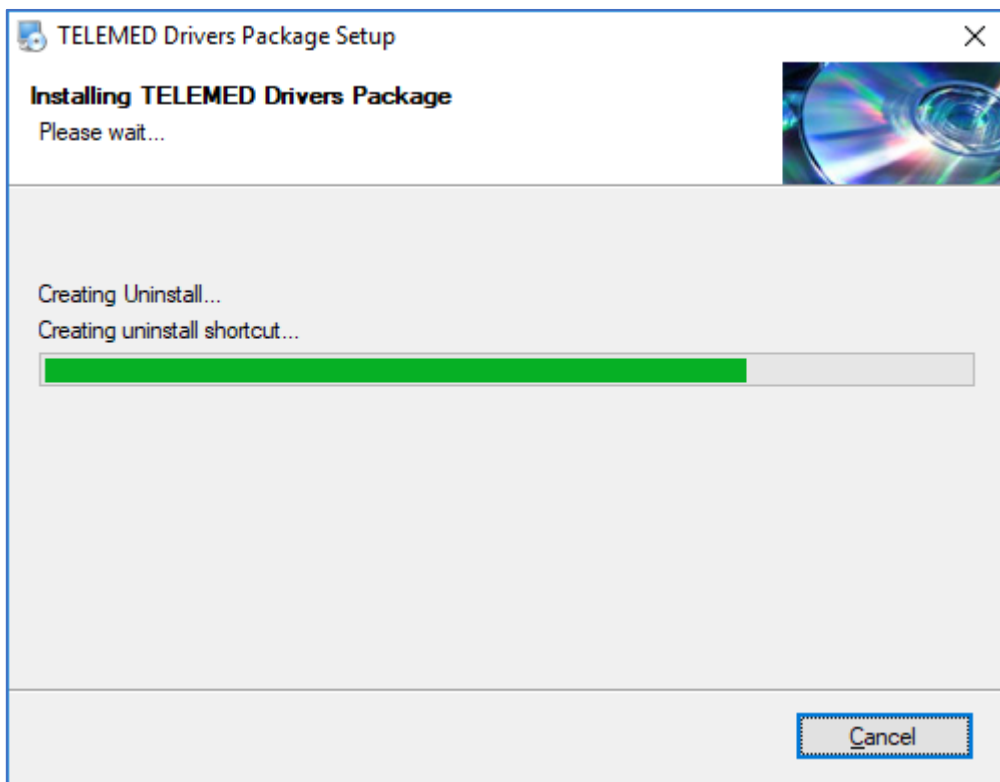
Installation windows will appear. Click “Next >”



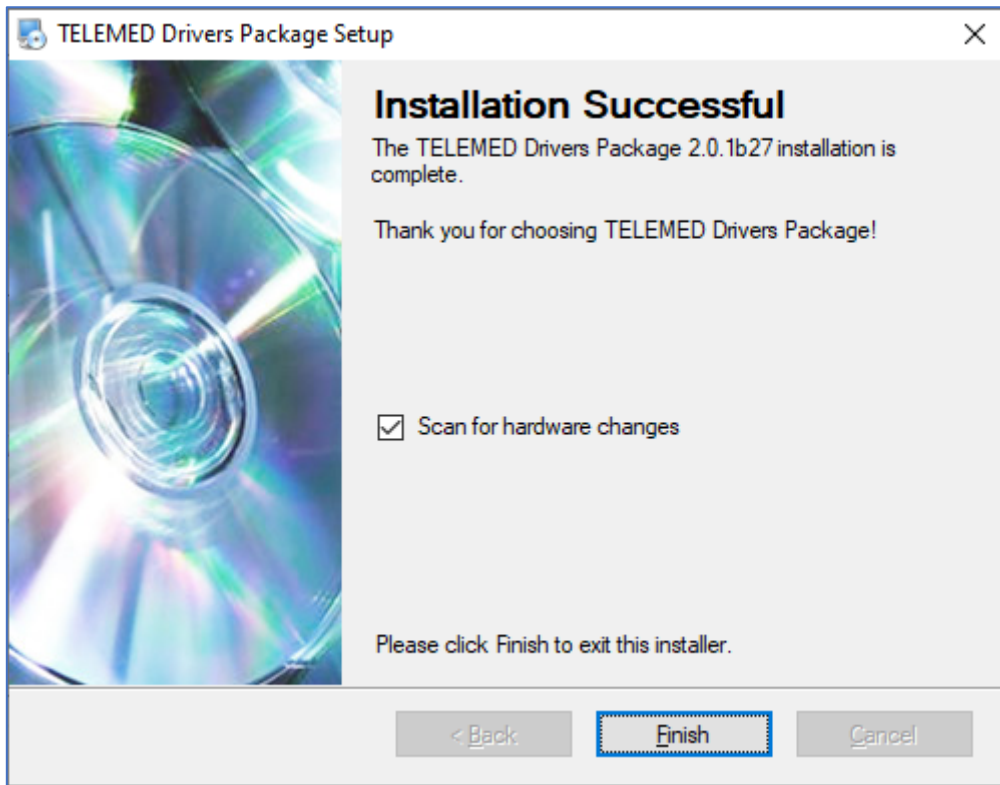
Select MicrUs checkbox, click “Next >”



Click "Next >"



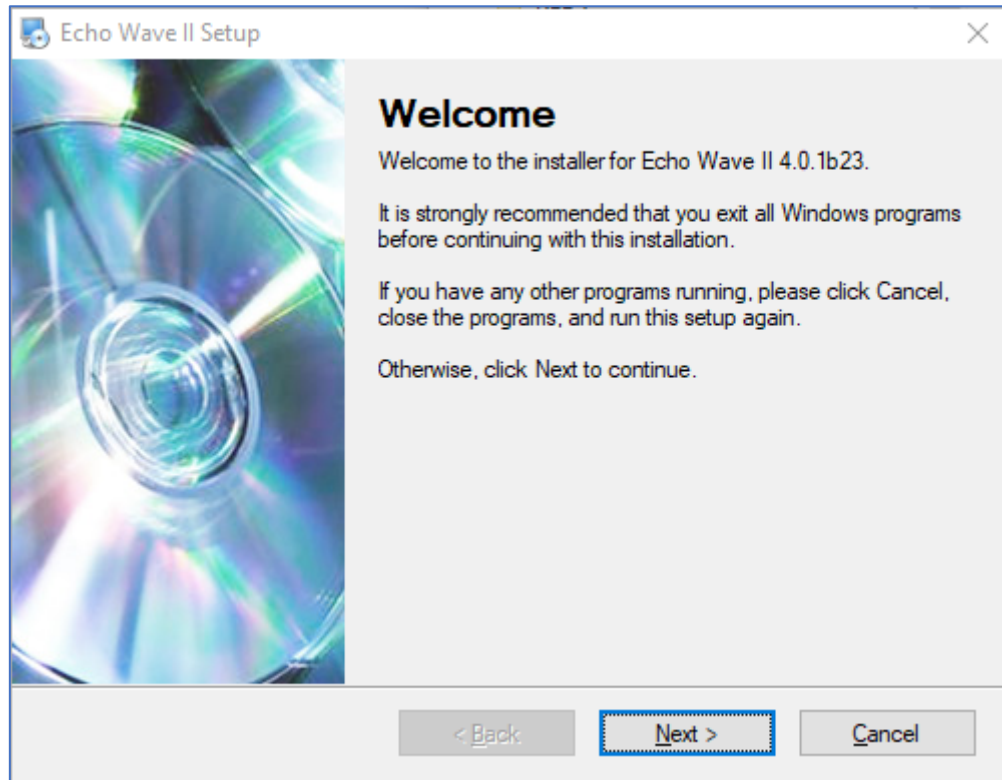
Wait until all files are copied to your hard drive...



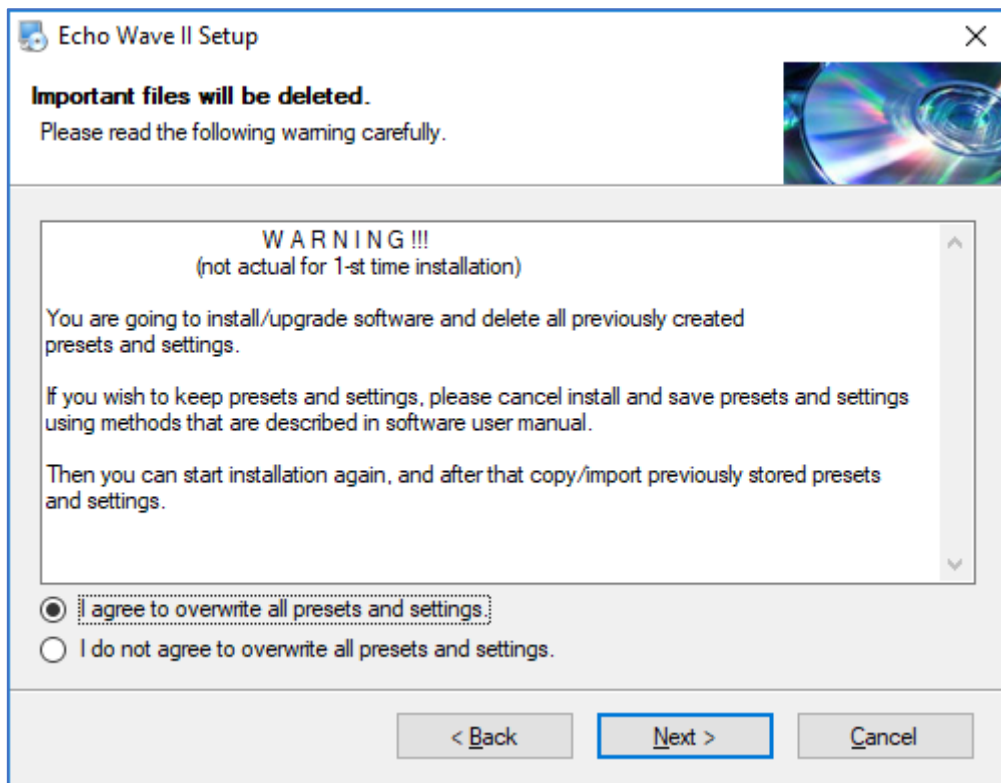
Click "Finish".

2.4. EchoWave II Application Installation

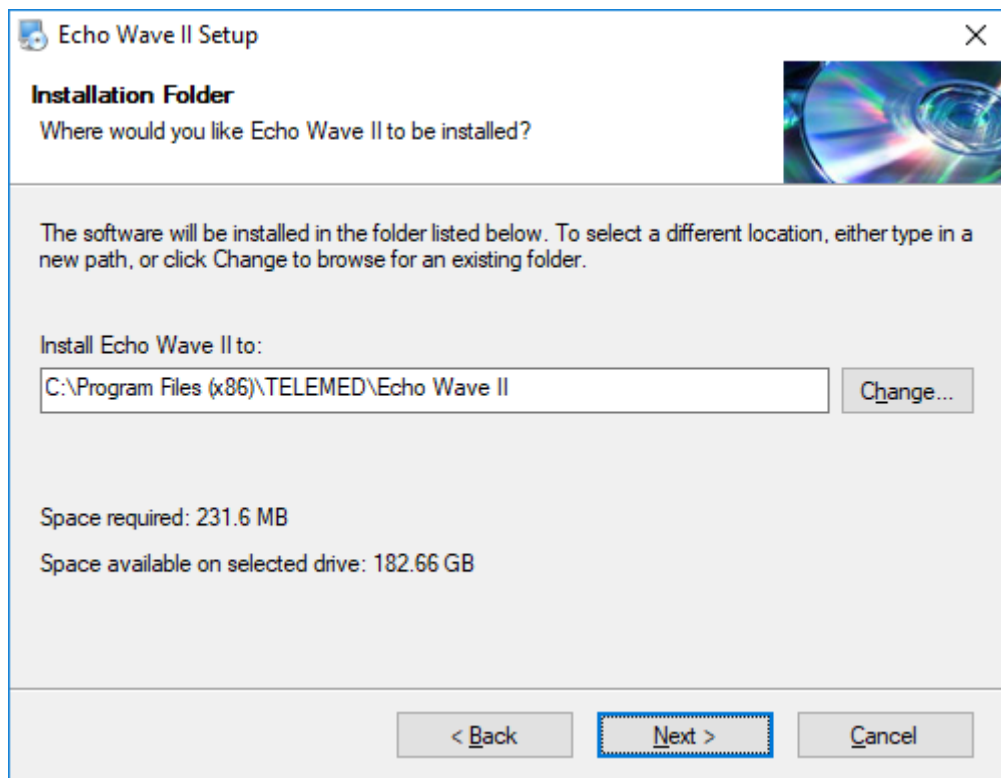
1. Insert your Telemed USB key drive into USB port of your computer
2. Go to \\Software\Echo Wave II XXX\ folder and run **setup_ew2.exe**



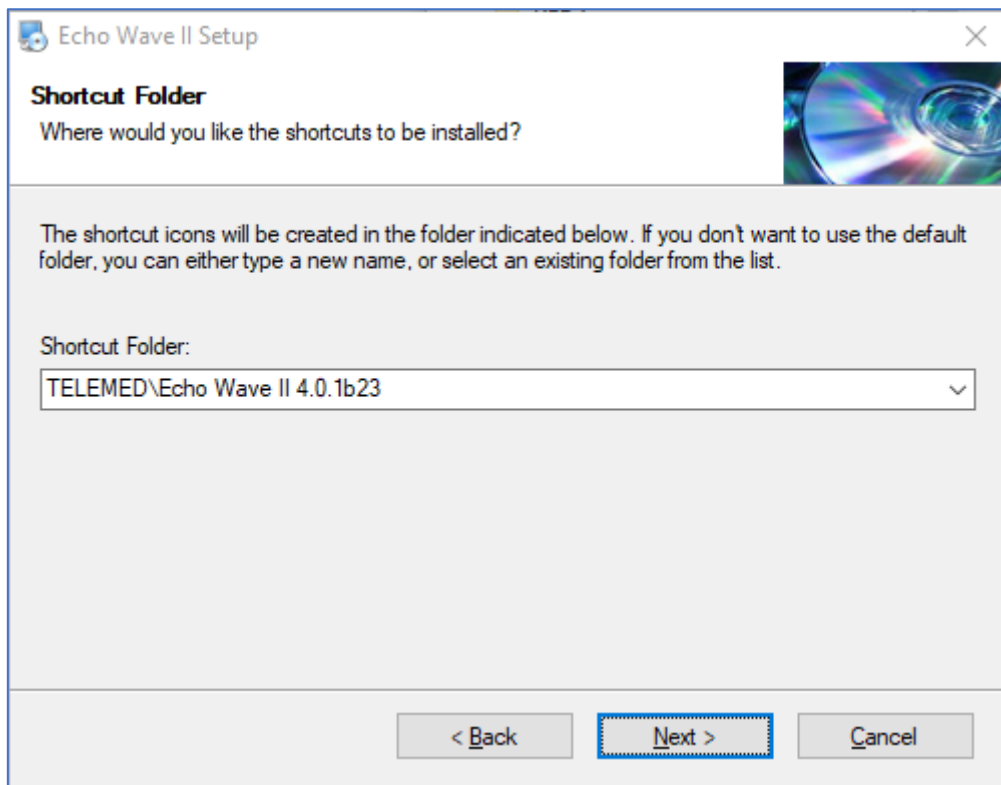
Installation windows will appear. Click “Next >”



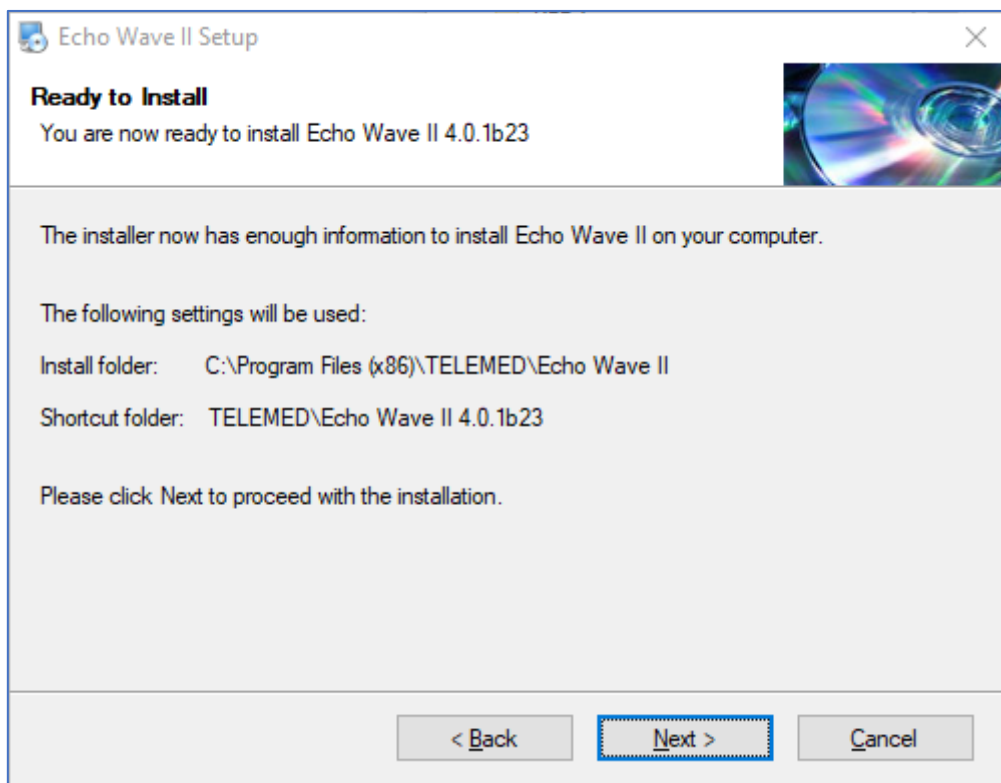
Choose “I agree to overwrite all presets and settings”, click “Next >” button



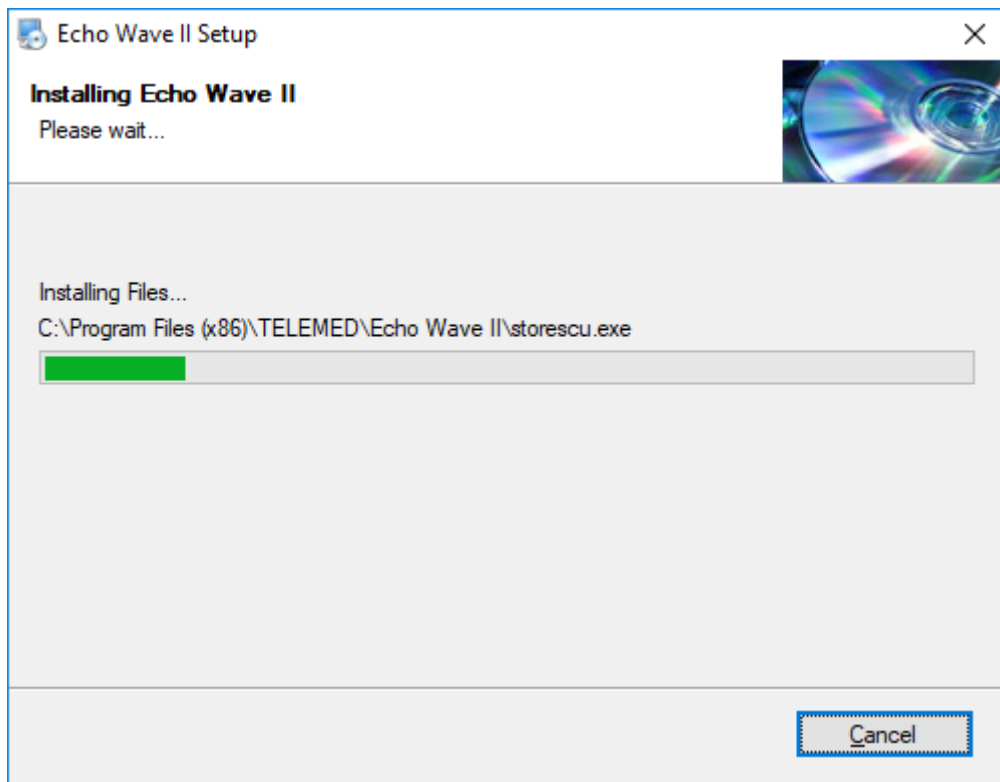
Click “Next >” button



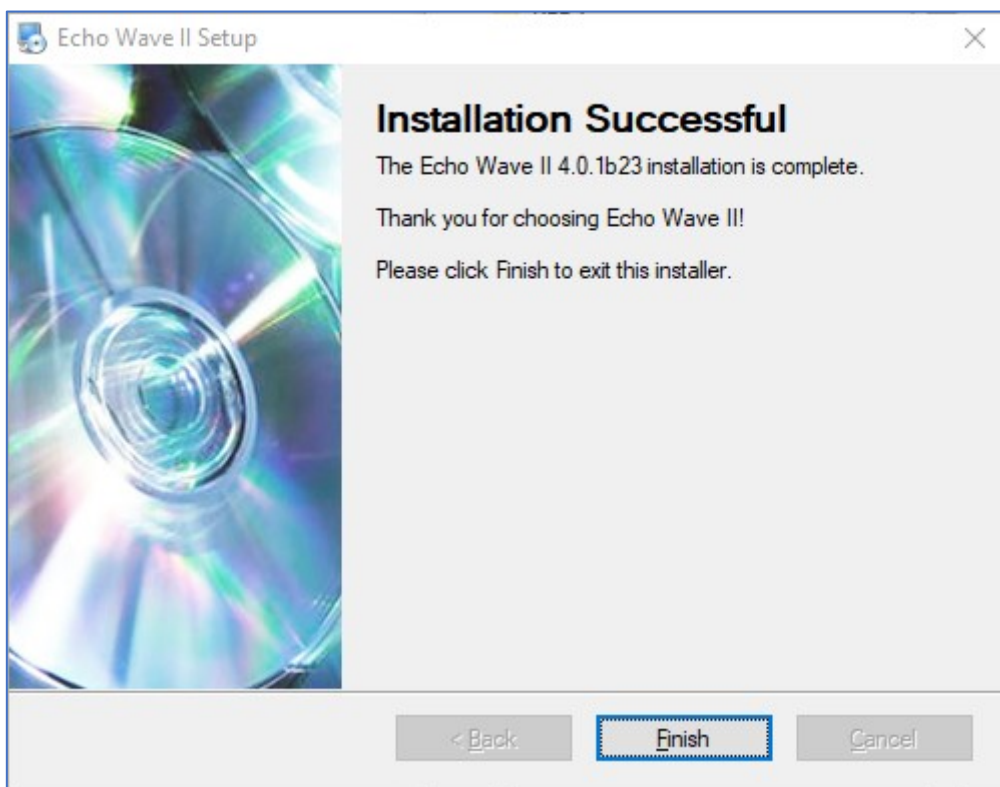
Click "Next >" button



Click "Next >" button



Wait till all files will be copied

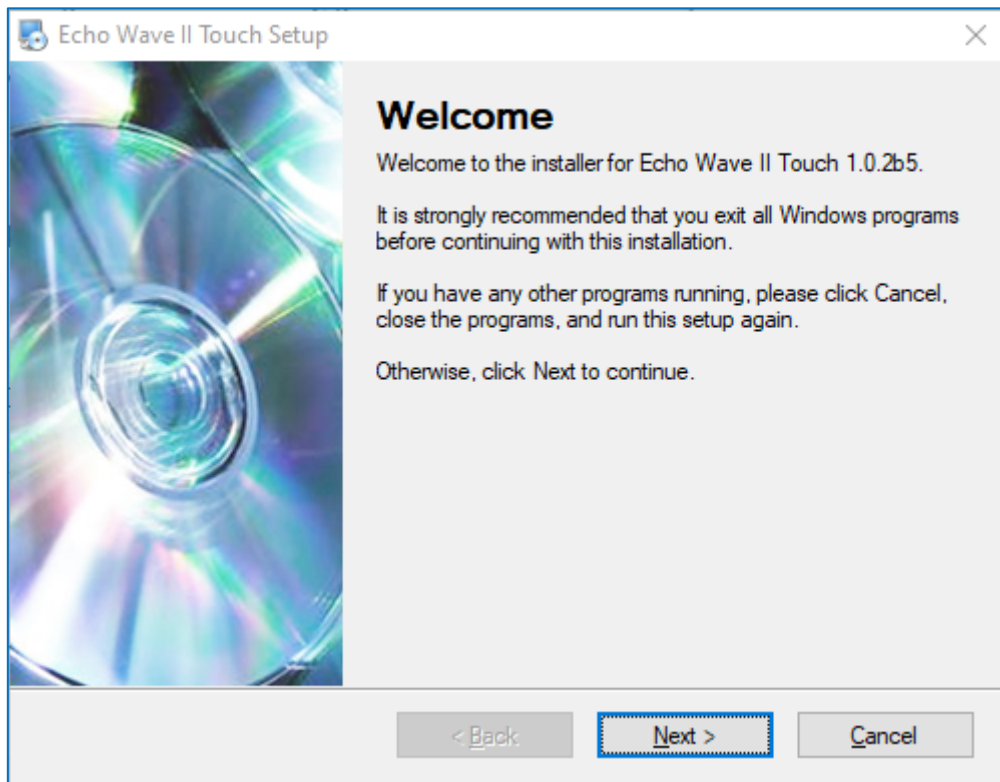


Click "Finish"

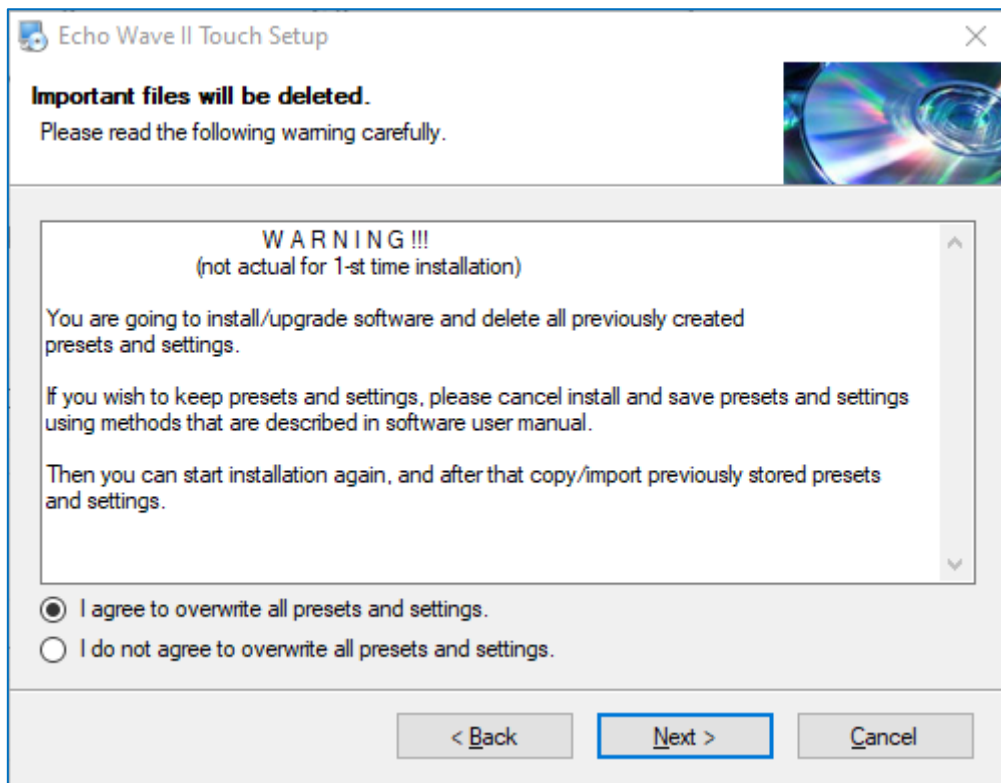
2.5. EchoWave II Touch Application Installation

Note: Before installing EchoWave II Touch application ensure that your PC has a touch screen to fully use touch options of the application. However, you can also use a mouse pointer if a touch screen is not available.

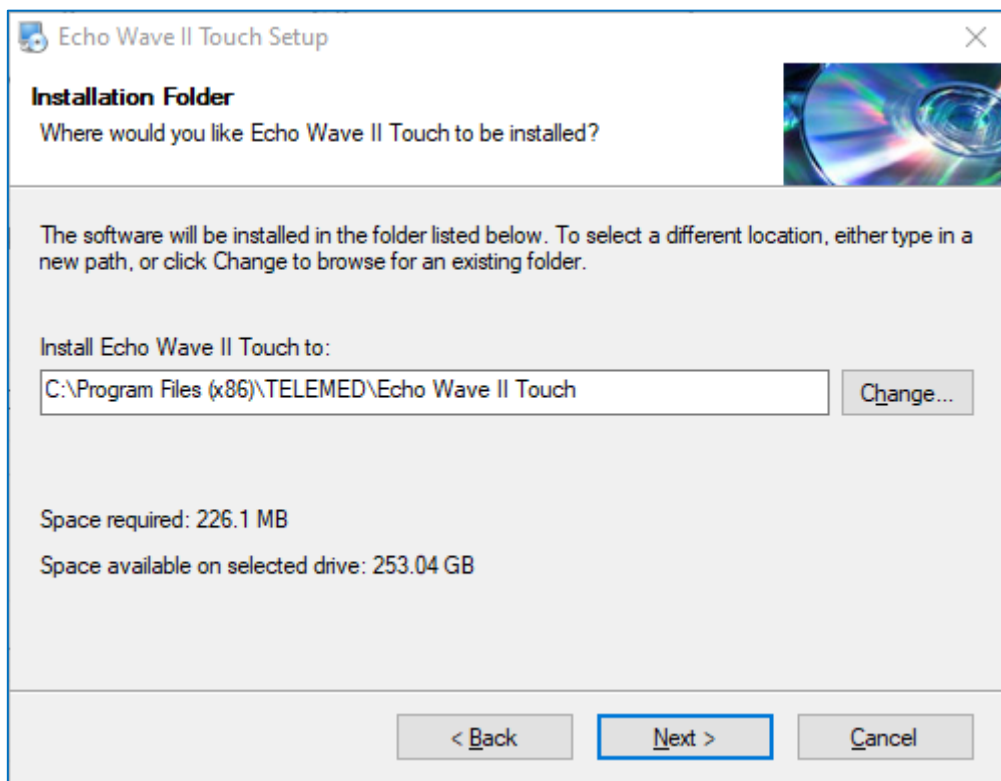
1. Insert your Telemed USB key drive into USB port of your computer
2. Go to \\Software\Echo Wave II Touch XXX\ folder and run **setup_ew2tch.exe**



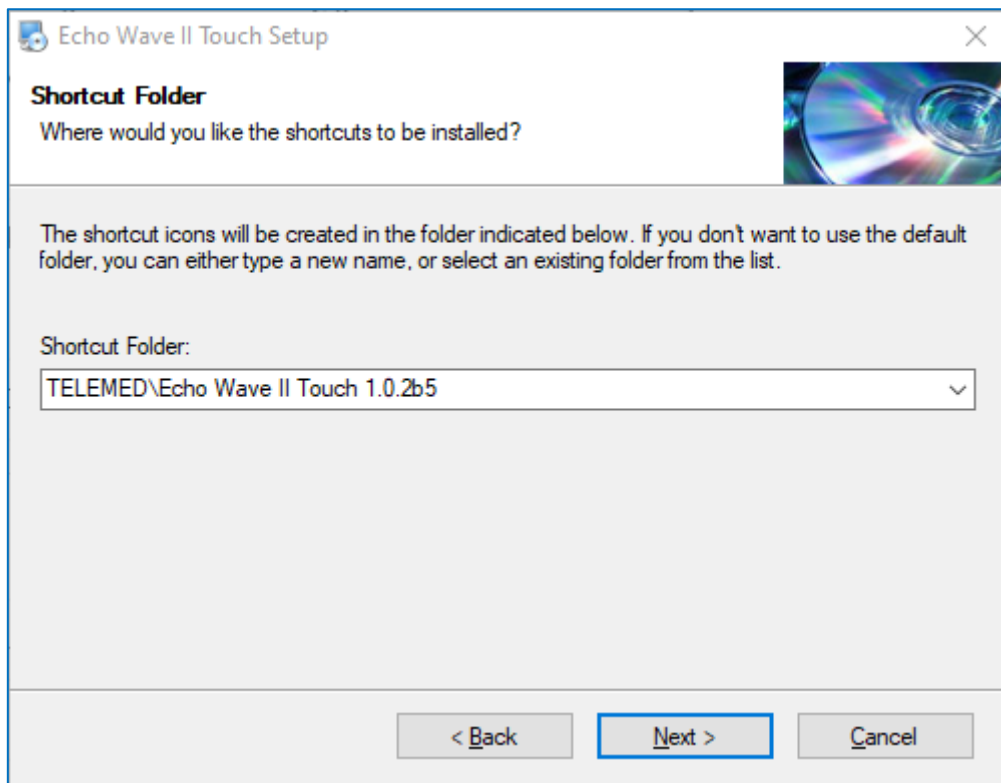
Installation windows will appear. Click “Next >”



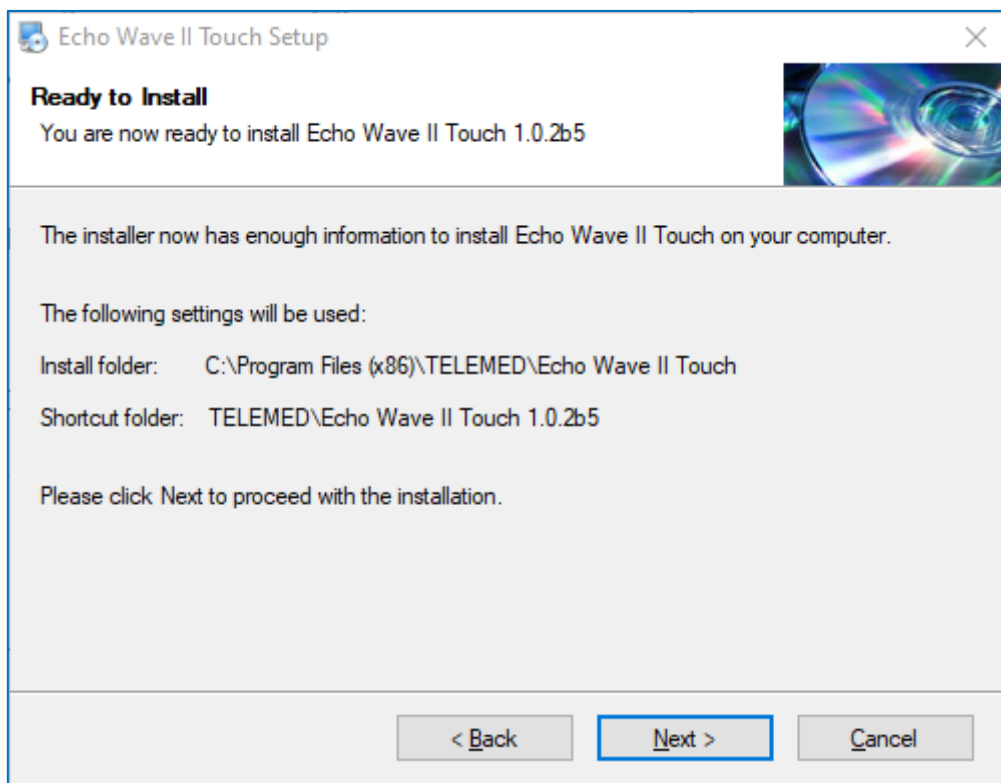
Choose "I agree to overwrite all presets and settings", click "Next >" button



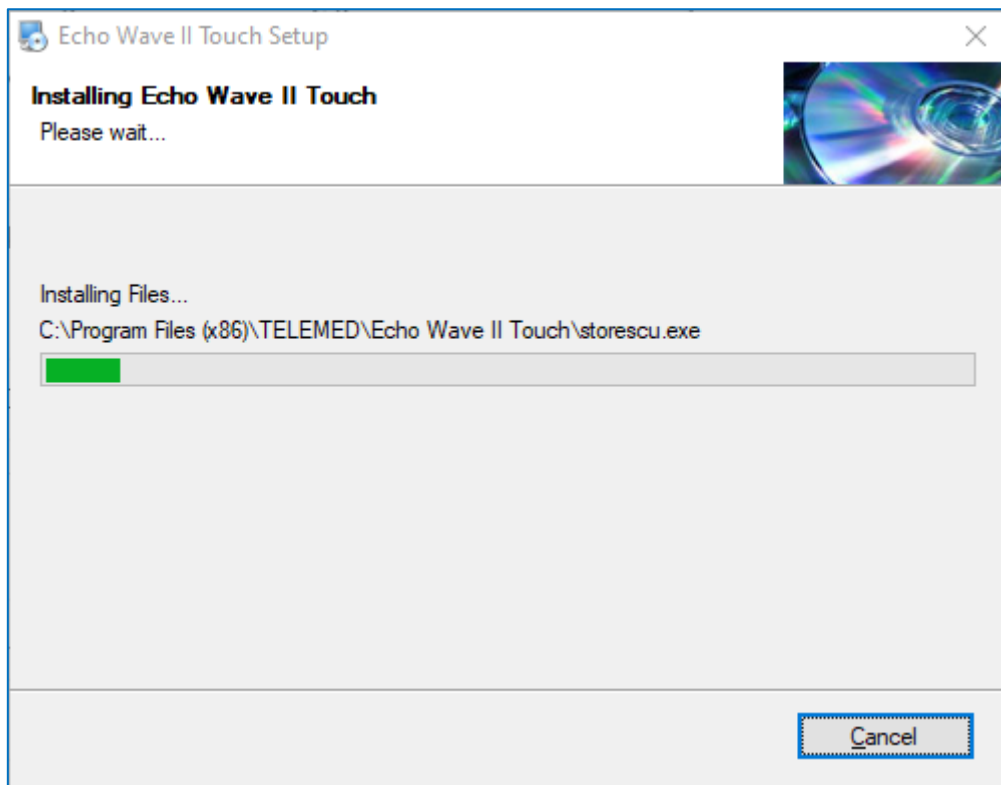
Click "Next >" button



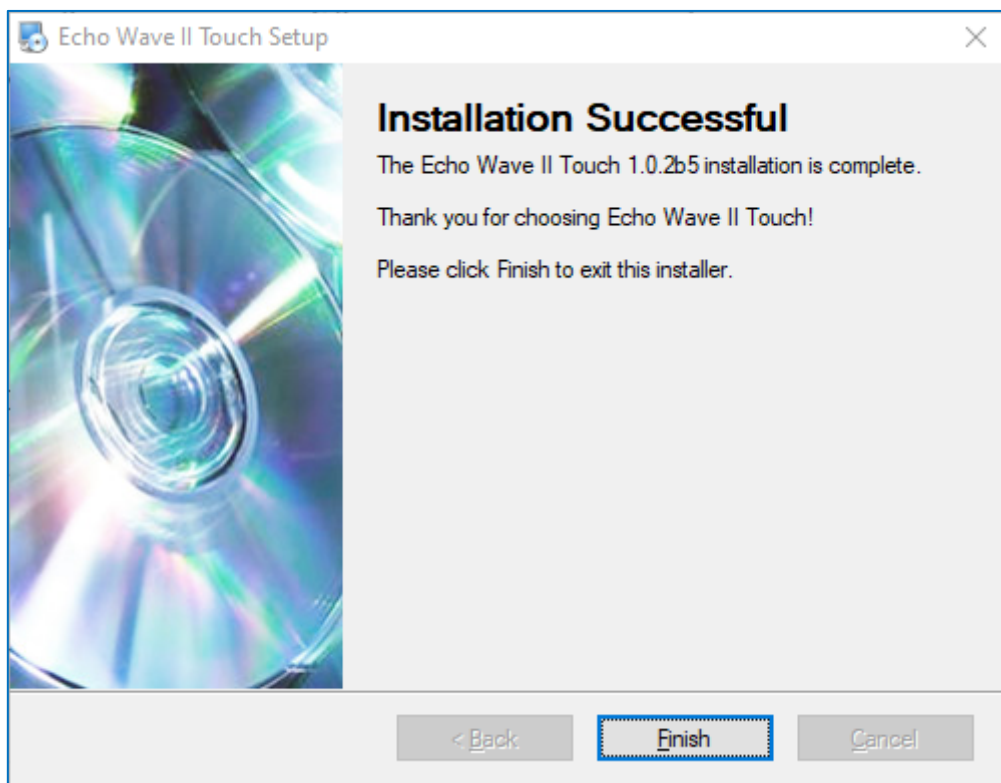
Click "Next >" button



Click "Next >" button



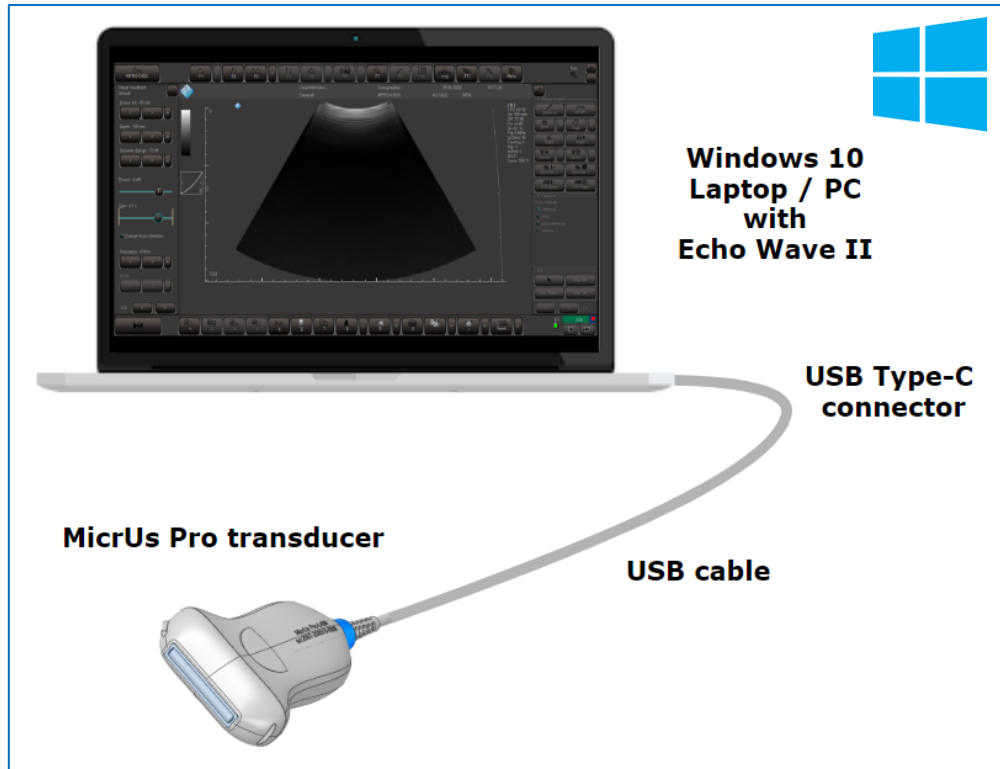
Wait till all files will be copied



Click "Finish"

2.6. Connecting MicrUs Pro to PC

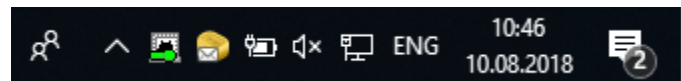
Connect ultrasound device to PC with included USB cable. Wait until Windows will finish device setup.



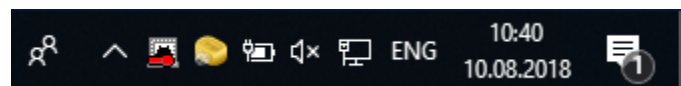
PC connection diagram

2.7. Running Echo Wave II and Echo Wave II Touch Software

1. Make sure, that “Ultrasound Scanner Monitor” utility icon in tray bar is lightened GREEN. This indicates, that drivers are installed properly, device is connected to USB port, powered and system is ready to start.



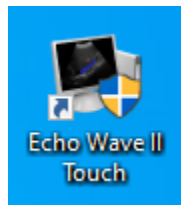
Green icon - system ready to be started



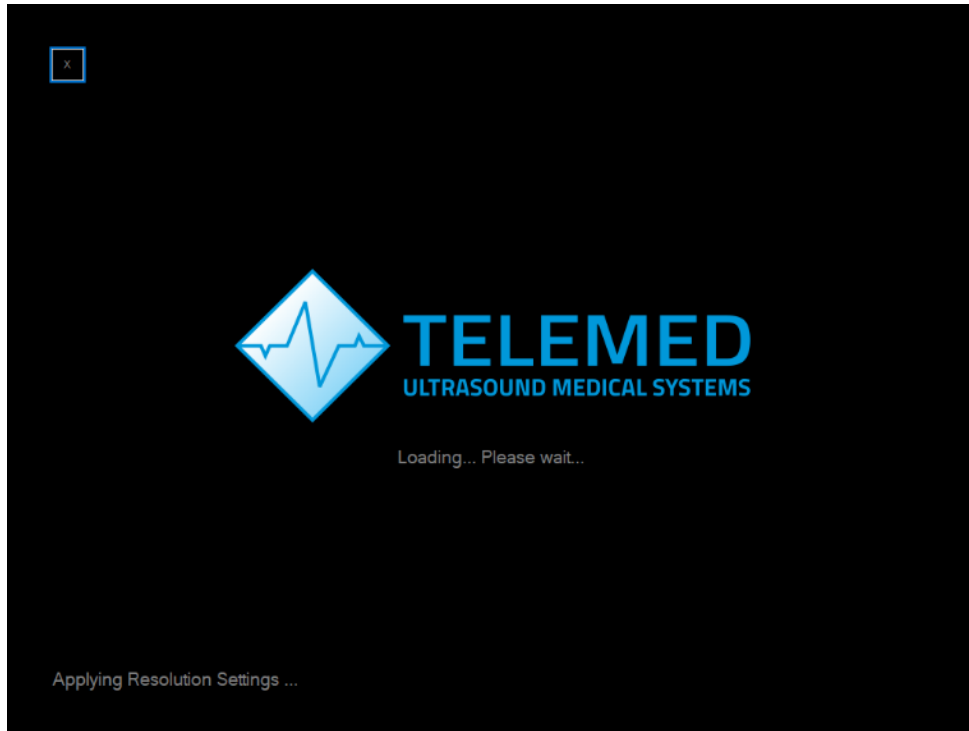
Red icon – something is wrong:

For example: drivers were not properly installed, USB cable is not connected or system is not powered

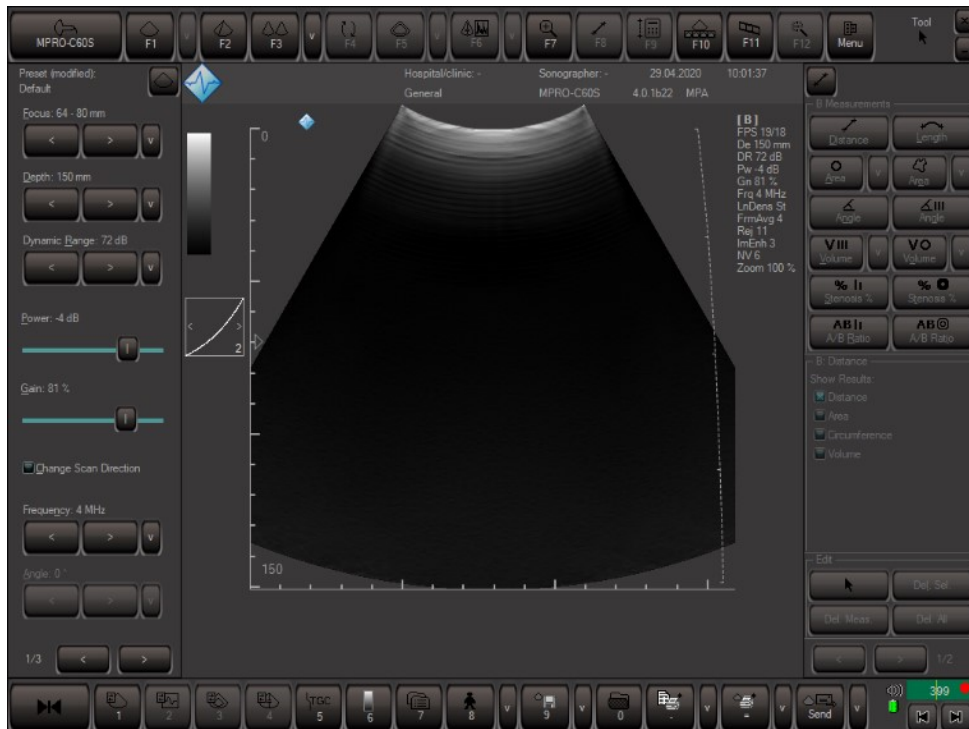
2. On Windows desktop find “Echo Wave II” (“Echo Wave II Touch”) icon, double click it.



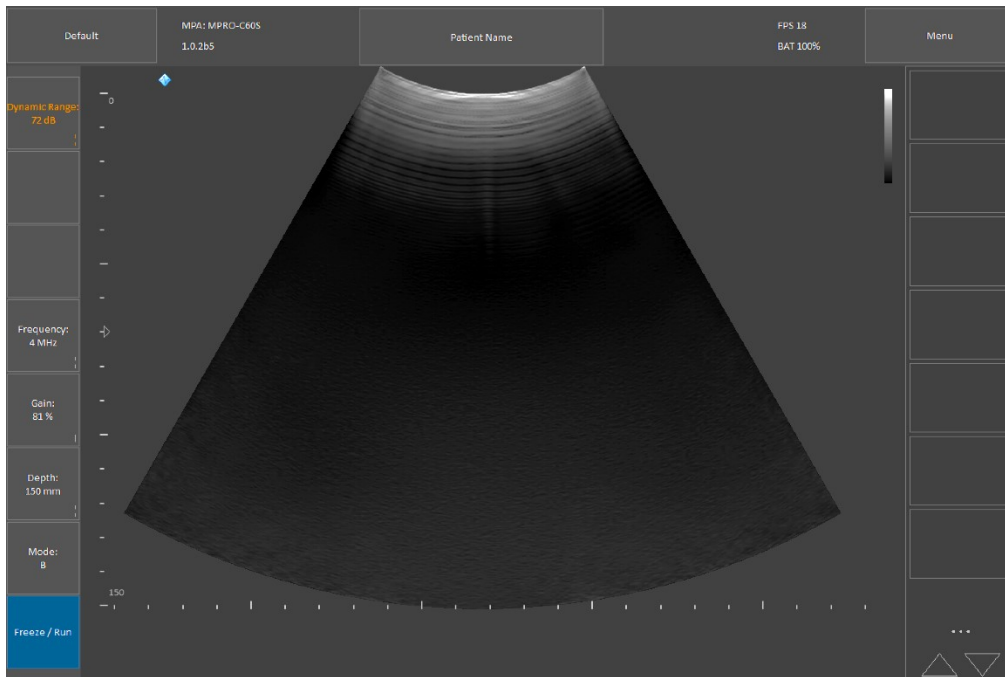
“Echo Wave II” and “Echo Wave II Touch” software launch icons



Software start-up in progress



Echo Wave II is running / system is ready for use.
Note: Picture shows image from MicrUs Pro-C60S



Echo Wave II Touch is running / system is ready for use.
 Note: Picture shows image from MicrUs Pro-C60S

- Further information and step by step instructions can be found in **Echo Wave II Software User Manual** and **Echo Wave II Touch Software User Manual** located on this USB key.

2.8. Additional Recommendations for Cybersecurity

Configure Windows:

- E-mail**
 Configure the e-mail program (for example Outlook Express). It is necessary for normal operation of the direct e-mail sending feature of the ultrasound software.
Note: You do not need to configure the e-mail software if you are not planning to use it or if your computer is not currently connected to the Internet.
- Windows account**
 For each system user must be created Windows account with separate login and password.
- Create a local user account**
[https://technet.microsoft.com/en-us/library/cc770642\(v=ws.11\).aspx](https://technet.microsoft.com/en-us/library/cc770642(v=ws.11).aspx)
- Create a user account in Windows**
<https://support.microsoft.com/en-us/help/13951/windows-create-user-account>
- User Accounts**
<https://technet.microsoft.com/en-us/library/dd277409.aspx>

- Windows security

It is strongly recommended that in Windows security will be strengthened using Security Policy Settings and monitored using Windows Security Audit.

- How to Configure Security Policy Settings

[https://technet.microsoft.com/en-us/library/dn135243\(v=ws.10\).aspx](https://technet.microsoft.com/en-us/library/dn135243(v=ws.10).aspx)

- Security Auditing Overview

[https://technet.microsoft.com/en-us/library/dn319078\(v=ws.11\).aspx](https://technet.microsoft.com/en-us/library/dn319078(v=ws.11).aspx)

- Antivirus

It is strongly recommended that on computers will be installed antivirus software, for example, Microsoft Security Essentials, Windows Defender, and will be turned on its updates.

- Microsoft Security Essentials Download

<https://support.microsoft.com/en-us/help/14210/security-essentials-download>

- Windows Defender

<https://support.microsoft.com/en-us/help/17464/windows-defender-help-protect-computer>

- Updating your Microsoft antimalware and antispyware software

<https://www.microsoft.com/security/portal/definitions/adl.aspx>

- Firewall

It is strongly recommended that on computer will be turned on Windows Firewall. How to Configure Windows Firewall on a Single Computer

<https://msdn.microsoft.com/en-us/library/cc875811.aspx>

- Windows updates

It is strongly recommended that computers will have turned on Windows Updates. Windows Update: FAQ

<https://support.microsoft.com/en-us/help/12373/windows-update-faq>

- Network communication

It is strongly recommended that for network communication will be used secure Virtual Private Networks (VPN).

Virtual Private Networks

<https://technet.microsoft.com/en-us/library/cc977889.aspx>

- Digital Signature

Ultrasound software distribution packages (setup(s)) and essential ultrasound software parts (drivers) are digitally signed.

This means that the user can check file properties and see if file signature (digital certificate) is valid and what company signed that file. 64-bit Windows operating systems does not load drivers that do not have signature or signature is invalid. This means that ultrasound scanning will not be started (driver will not be loaded) if it is modified by any malware.

- Digital Signatures for Kernel Modules on Systems Running Windows Vista

<https://msdn.microsoft.com/en-us/library/bb530195.aspx>

- Digital signatures and certificates
<https://support.office.com/en-us/article/Digital-signatures-and-certificates-8186cd15-e7ac-4a16-8597-22bd163e8e96>
- Windows AppsLocker
[https://technet.microsoft.com/en-us/library/dd759117\(v=ws.11\).aspx](https://technet.microsoft.com/en-us/library/dd759117(v=ws.11).aspx)
- Encrypted file system.
It is strongly recommended that computer data will be protected by using encrypted file system
- The Encrypting File System
<https://technet.microsoft.com/en-us/library/cc700811.aspx>
- BitLocker
<https://technet.microsoft.com/library/cc732774.aspx>

3. Revision history

Revision	Date	Changes	Author
1.0	2020-05-16	Initial release	A.Kovalev
1.1	2021-03-19	Changed ch. 1.2. Software Installation. Added ch 3 Revision history	A.Kovalev