ETAS

ETAS ES820 Drive Recorder Configurator and Service Pack V7.5

Installation and Administration

Copyright

Contents

1   Introduction

1.1   Intended Use

The ES820 Drive Recorder hardware together with the Drive Recorder Service Pack software and the Drive Recorder Configurator software is designed for the following purposes:

- Configuration via the Drive Recorder Configurator software for automatic execution of recording jobs on the basis of INCA export files
- Use in a vehicle for the purpose of test drives as well as use in the laboratory
- Integration into existing vehicle instrumentation, replacing the INCA PC
- Signal recording from ECUs, buses, networks, and measuring instruments
- Data transfer via USB and FTP

The Drive Recorder software consists of two components:

- Drive Recorder Configurator
- Drive Recorder Service Pack

To be able to operate the ES820 Drive Recorder, the Drive Recorder Configurator has to be installed on your local PC.

The Drive Recorder Service Pack is installed on the ES820 Drive Recorder already upon receipt of the device and can be updated regularly. The Drive Recorder Service Pack includes INCA installation files.

The Drive Recorder software also includes a Display App, which is designed to access the Drive Recorder by a touch screen monitor. For further information and the intended use of the Display App, read the ETAS Drive Recorder Display App - User Guide.

The ES820 Drive Recorder and the Drive Recorder Configurator software must only be used by qualified personnel as defined in "Target Group" below, under consideration of the "Safety Information" on page 3 , and for the purposes that are described in the corresponding user documentation. ETAS GmbH cannot be made liable for damage that is caused by improper use and not adhering to the safety instructions.

1.2   Target Group

The ES820 Drive Recorder together with the Drive Recorder Service Pack and the Drive Recorder Configurator is designed for engineers working in the field of measurement and calibration. Experience with the ETAS software INCA is necessary.

Test drivers may use the ES820 Drive Recorder after instruction and under supervision of a responsible calibration engineer.

This document addresses tool coordinators and also all those who manage their own device.

1.3   Classification of Safety Messages

Safety messages warn of dangers that can lead to personal injury or damage to property:

> ⚠️ **DANGER**
>
> **DANGER** indicates a hazardous situation that, if not avoided, will result in death or serious injury.

> ⚠️ **WARNING**
>
> **WARNING** indicates a hazardous situation that, if not avoided, could result in death or serious injury.

> ⚠️ **CAUTION**
>
> **CAUTION** indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.

> *NOTICE*
>
> **NOTICE** indicates a situation that, if not avoided, could result in damage to property.

1.4 Safety Information

1.4.1 Hardware

⚠️ For safe connection and operation of the ES820 Drive Recorder, read the "ETAS ES800 Measurement, Calibration, and Prototyping System - User Guide" and the "ETAS ES800 System - Safety Advice".

1.4.2 Software

⚠️ Observe the ETAS Safety Advice, which is displayed when starting the Drive Recorder Configurator software.

Drive Recorder Configurator

Additionally, observe the following safety messages when configuring the device settings. You can access the **Device Settings** in the **Hardware Configuration** window of the Drive Recorder Configurator.

⚠️ **WARNING**

Risk of unexpected vehicle behavior

If the Drive Recorder is operated in combination with an ETK, an ECU reset is possible. An ECU reset can result in engine shutdown, which can cause unexpected vehicle behavior.

Even if **Allow ETK Reset** is turned **OFF**, the ETK and the ECU can be reset by executing the command **Run selected recording job with risk of ECU reset** or **Run selected experiment with risk of ECU reset**.

- Only modify the test setup when the vehicle is stationary.
- Only load experiments when the vehicle is stationary.
- Only update the software when the vehicle is stationary.
- Only start recording jobs when the vehicle is stationary.
- Before driving, always wait until the MEAS LED of the Drive Recorder is permanently lit.

Display App

If using the Display App, additionally pay attention to the following safety message:

⚠️ **WARNING**

Risk of unexpected vehicle behavior

If the Drive Recorder is operated in combination with an ETK, an ECU reset is possible. An ECU reset can result in engine shutdown, which can cause unexpected vehicle behavior.

- Only modify the test setup when the vehicle is stationary.
- Only start recording jobs when the vehicle is stationary.
- Before driving, always wait until the **Recorder Status** window of the Display App shows green side bars.

1.5   Data Protection

If the product contains functions that process personal data, legal requirements of data protection and data privacy laws shall be complied with by the customer. As the data controller, the customer usually designs subsequent processing. Therefore, he must check if the protective measures are sufficient.

1.6   Data and Information Security

To securely handle data in the context of this product, see the next sections about data and storage locations as well as technical and organizational measures.

1.6.1   Data and Storage Locations

The following sections give information about data and their respective storage locations for various use cases.

Licensing

When using the ETAS License Manager in combination with user-based licenses that are managed on the FNP license server within the customer's network, the following data are stored for license management purposes:

Data

- Communication data: IP address
- User data: Windows user ID

Storage location

- FNP license server log files on the customer network

When using the ETAS License Manager in combination with host-based licenses that are provided as FNE machine-based licenses, the following data are stored for license management purposes:

Data

- Activation data: Activation ID
  - Used only for license activation, but not continuously during license usage

Storage location

- FNE trusted storage
  `C:\ProgramData\ETAS\FlexNet\fne\license\ts`

File Transfer

When configuring automated file transfer via FTP, the ES820 Drive Recorder stores the following data:

Data

- User data: FTP file transfer User ID and password

When configuring automated file transfer to a Windows share, the ES820 Drive Recorder stores the following data:

— User data: Windows User ID and password

Storage location

— User-defined, see Drive Recorder Configurator help

End-to-End-Encryption

If you want to use end-to-end-encryption, you have to store the following data on the Drive Recorder hard disk:

Data

— Encryption algorithms

Storage location

— `..\ETASData\Drive Recorder Con-figurator<Version>\Security`

For more information see "Using End-to-End Encryption" on page 34

Measurement and Analysis

When using the Drive Recorder for measurement, it stores the following data on the Drive Recorder hard disk:

Data

— Measurement data

— Additional data for the purpose of measurement analysis

Additional data can be collected when using the Drive Recorder with other software components. Your organization can determine which data are collected when configuring the measurement system. These data are stored in the measurement files and you can only delete them by deleting the respective measurement files. Possible examples for additional data are the vehicle identification number (VIN), number plate, GPS data video data, audio data, and further measurement data.

Storage location

— `..\ETASData\Drive Recorder Con-figurator<Version>\Measure`

1.6.2 Technical and Organizational Measures

We recommend that your IT department takes appropriate technical and organizational measures, such as classic theft protection and access protection to hardware and software.

Encryption Features

By default, the ES820 Drive Recorder does not encrypt data that is stored on the Drive Recorder hard disk. For file transfer security settings, SFTP is set by default.

To protect data that is stored on the ES820 Drive Recorder hard disk or transmitted via a network, the Drive Recorder Configurator software provides features for data encryption. The following features can be accessed and applied via the Drive Recorder Configurator **Hardware Configuration** window:

- Hard disk encryption
- FTP security settings
- End-to-end encryption for file transfer

You can find a detailed description about how to configure and apply the security settings in the section "Managing Data Security" on page 30.

System Recovery

The possibilities for system recovery are described in "Resetting the Drive Recorder System to Factory Settings" on page 21

Decommissioning

In case of decommissioning or before deploying a Drive Recorder for a new project, you can delete all data on the ES820 Drive Recorder hard disk, related ES820 Memory Modules, and related USB Rescue Sticks.

Follow the instructions in "Decommissioning" on page 37.

Internet Connectivity

The ES820 is directly connected to the Internet via a USB dongle.

The current PANTARIS solution has no direct connection to the Internet. Therefore no special protection measures are required.

PANTARIS will be replaced by a successor solution in the future. As soon as the successor solution is active, the following protective measures are applied if the ES820 is configured for PANTARIS mode:

- The integrated Ethernet interfaces, i.e. the Host and GE port, are assumed to be in a trusted network and their firewall profile is set to private without further restrictions.
- The firewall profile for external interfaces that are connected by the user is set to public, blocking all incoming TCP and UDP traffic except for the ports required for the VPN connection to the cloud.

If the ES820 is not configured for PANTARIS mode, there are no protective measures, neither for an integrated nor for external interfaces.

You can configure the PANTARIS mode in the **Device Options** on the left side of the Drive Recorder Configurator **Hardware Configuration** window.

2 Finding out More

Apart from this document, you can find more information on the Drive Recorder in the following user documentation:

— ETAS ES800 Measurement, Calibration, and Prototyping System - User Guide

— ETAS ES800 System - Safety Advice

— ETAS Drive Recorder Display App - User Guide

— Drive Recorder Configurator - Online Help

— INCA - Online Help

3 Installation

To install the Drive Recorder software components, take into account the overview of the Drive Recorder package contents, the system requirements, and necessary preparations as described in this chapter.

You get information on how to download the installation files and how to install the software components in the correct order.

3.1 Package Contents

The Drive Recorder software consists of three installation packages with the listed components:

- Drive Recorder Configurator
  - Drive Recorder Configurator software
  - Documentation:
    Online Help
    Manuals in PDF format
    Release Notes
    What's New
- Drive Recorder Service Pack
  - Drive Recorder Control Software
  - Drive Recorder Configurator
  - INCA including basic add-on:
    INCA Drive Recorder Add-On
  - INCA licensed add-ons:
    INCA EIP Add-On
    INCA LIN Add-On
    INCA FlexRay Add-On
    INCA ODX-Link Add-On
    INCA Vector Hardware Add-On
- Drive Recorder Image
  - The Drive Recorder Image contains all necessary system software for resetting the Drive Recorder system to factory settings by use of the USB Rescue Stick. For more information, read "Resetting the Drive Recorder System to Factory Settings" on page 21.

3.2 System Requirements

The following system requirements are necessary to install and run the Drive Recorder Configurator software on your PC and to connect to the Drive Recorder:

	Minimum Requirements
Processor	Intel® Core™ i5 8 GB RAM
Operating System	Windows 10 / Windows 11
Ethernet	Free Gigabit Ethernet RJ45 connector
USB	Free USB port (USB 3.0 recommended)

You may install INCA on the same PC. In this case, also take the system requirements for INCA into account. You can find the system requirements for INCA in the ETAS INCA - Installation Guide.

3.3 Version Compatibility

If you already have a Drive Recorder Configurator installation on your local PC, you must observe the following version compatibility requirements:

3.3.1 Drive Recorder Software

It is possible to have both installation versions Drive Recorder Configurator V7.5 and Drive Recorder Configurator V7.3 on your local PC at the same time. For operation, the versions of the Drive Recorder Configurator and the Drive Recorder Service Pack must match. In case of mismatch, a warning message is displayed.

To find out your current Drive Recorder Configurator version

- In the menu bar of the **Drive Recorder Configurator** window, click **Help** › **About**.

  The Drive Recorder Configurator version is displayed in the **About** window.

To find out the installed Drive Recorder Service Pack version

- In the menu bar of the Drive Recorder Configurator, click **Tools** › **Install** or click 🛠.

  The **Installation** dialog window opens. You can see the available EXE files in the **Available Installations** window area and the installes Service Pack version in the **Currently installed version** window area.

3.3.2 INCA

The Drive Recorder Service Pack version also indicates the INCA version that is included in the Drive Recorder Service Pack. Thus, best compatibility is given when you always use the same version of the INCA Service Pack, the Drive Recorder Service Pack, and the Drive Recorder Configurator. For more information on compatibility, read the Drive Recorder - Release Notes.

3.3.3   HSP

The Drive Recorder replaces the INCA PC in the measurement setup. Therefore it is necessary to use the same INCA and Drive Recorder Service Pack versions and to regularly update the firmware of the connected devices to the compatible HSP version.

You can either perform the HSP update from the local PC that is connected to the Drive Recorder or directly from the Drive Recorder.

3.3.3.1   HSP Update from the Local PC

The Drive Recorder must be connected to your local PC via the HOST connector and via the Drive Recorder Configurator.

All hardware that is relevant for the HSP update must be connected to the Drive Recorder.

<u>To perform HSP via the Drive Recorder from your local PC</u>

1. Switch the Drive Recorder into the passive mode.

   To switch between the active mode and the passive mode, press the Drive Recorder power button. In the passive mode, the ON LED is blinking with a 50% duty cycle. In the active mode, the ON LED is lit permanently.

2. Download the installation ZIP file for the appropriate HSP version from the ETAS Download Center.

3. To install the HSP Update Tool on your local PC, unzip the HSP ZIP file and double-click on `setup`.

4. Open the HSP Update Tool.

5. To perform the firmware update for the connected ETAS hardware, refer to the information provided on the ETAS Download Center and in the HSP Update Tool – Online Help.

3.3.3.2   HSP Update from the Drive Recorder

The Drive Recorder must be connected to your local PC via the HOST connector or remotely.

<u>To install the HSP Update Tool on the Drive Recorder</u>

1. Download the installation file for the appropriate HSP version from the ETAS Download Center to your local PC and copy the ZIP file to `..\ETASData\DriveRecorder<Version>\Installations`.

2. On your local PC, open the Drive Recorder Configurator and click **File** › **Connect to Drive Recorder**.

3. Click **Tools** › **Enter Service Mode**.

4. Click **Tools** › **File Transfer from/to Drive Recorder**.

   The **File Transfer** window opens.

5. On the left hand side of the **File Transfer** window, click + to open the Installations folder, select the ZIP file, and click ➡ to transfer it to the Drive Recorder.

6. Click **Close**.

7. Connect to the Drive Recorder remotely as described in "Using Remote Desktop Connection" on page 28

8. On the Drive Recorder, open the File Explorer, and navigate to ..\ETASData\DriveRecorder‹Version›\Installations\.

9. Unzip the HSP ZIP file and double-click on `setup`.

   A wizard leads you through the installation. When the installation is finished, the HSP Update Tool icon appears on the remote desktop.

10. In the Drive Recorder Configurator, click **Tools** › **Quit Service Mode**.

    The Drive Recorder restarts and automatically reconnects to the local PC.

11. To update the firmware on the connected devices, continue with the next section.

To perform HSP update from the Drive Recorder

The Drive Recorder must be remotely connected to your local PC as described in "Using Remote Desktop Connection" on page 28.

1. On the Drive Recorder, open the HSP Update Tool.

2. Click **Functions** › **Search for Hardware**.

   All devices that are connected to the Drive Recorder are listed.

3. Click **Functions** › **Perform Update**.

   The firmware on the connected devices is updated and a message is displayed when the update is finished.

4. Close the HSP Update Tool and the Remote Desktop connection.

3.4 Installing the Drive Recorder Configurator

To be able to install the Drive Recorder Service Pack on the Drive Recorder, you must install the Drive Recorder Configurator on your local PC first.

You might have acquired a single license, which you can install by yourself by download from the ETAS Download Center. Alternatively, your company may provide a network installation. Ask your tool coordinator or administrator how to proceed.

3.4.1 Installing via the ETAS Installation Wizard

To install the Drive Recorder Configurator on your local PC via the ETAS Installation Wizard

1. From the ETAS Download Center, download the Drive Recorder Configurator ZIP file to your local PC.

   Depending on your company-specific regulations, the installation files might alternatively be provided on DVD or on a network drive.

2. In the Windows File Explorer, select the downloaded ZIP file, right-click and select **Properties**.

3. On the **General** tab, at the Security option, disable the **Unblock** button.

4. Unzip the file on your local PC.

5. Double-click `DriveRecorder Configurator_<version>.exe`.

   A wizard leads you through the installation.

> ⓘ **Note**
>
> Selecting the `Program Files` Windows standard folder for Drive Recorder data files may lead to problems in the Drive Recorder Configurator since the access to the program folder depends on the Windows user rights.
>
> Do not save Drive Recorder data files in the `Program Files` folder. Select a folder in a data area where all users have read and write access rights.

> ⓘ **Note**
>
> The language that you select during installation changes the global language settings of all ETAS software that is already installed on your PC.

3.4.2 Customizing the Installation

This section is intended for tool coordinators or administrators.

To provide the users with the installation files, you can copy the data from the ETAS Download Center or the DVD to a network drive. A network installation has the advantage of allowing you to adjust the installation files even before actually installing the software on the computer. This allows you to set company-specific defaults.

Customizing the installation is possible via the `InstallationDefaultSettings.xml` configuration file. The settings made in this XML file can be used for installation via command line arguments.

To customize the Drive Recorder Configurator installation

1. From the ETAS Download Center, download the Drive Recorder Configurator ZIP file to your local PC
2. Unzip the file on your local PC.
3. Open the `InstallationDefaultSettings.xml` file in a text editor.
4. In the XML file, customize the parameter settings according to the table below and save your changes.
5. Copy the installation files together with the `InstallationDefaultSettings.xml` file to your desired location.
6. According to your company-specific regulations, run the automated installation or advise users how to install the software via command line arguments. Follow the description in "Setting the Installation Behavior via Command Line Arguments" below.

Adjustable parameters in the `InstallationDefaultSettings.xml` file:

Parameter	Comment
PRODINSTDIR	Path for the installation files directory
PRODDATAINSTDIRALL	Path for the data files directory

Parameters other than PRODINSTDIR and PRODDATAINSTDIRALL must not be changed in the `InstallationDefaultSettings.xml` file.

3.4.3 Setting the Installation Behavior via Command Line Arguments

This section is intended for tool coordinators or administrators.

After the customization of the `InstallationDefaultSettings.xml` file, you can use command line arguments to start and set up an installation routine. This means that the installation is carried out in silent mode and neither dialog windows nor commands are displayed on the users' PCs during the installation routine. For example, you can use this option to install the Drive Recorder Configurator without interrupting the users' work.

This is an example for a silent installation initiated by command line arguments:

```
DriveRecorder Configurator_7.5.exe /Silent /UninstallPreviousVersion /AllowRestart /EULAAccepted /SafetyHintsAccepted /DefaultSettings <full path>/InstallationDefaultSettings.xml
```

An explanation as well as a list of the available commands and error codes is given in the `setup.pdf` file that is delivered together with the installation files.

3.5   Files and Folders

After the installation of the Drive Recorder Configurator, installation files and data files are stored on your local PC.

The installation files, data files, log files, and temp files are stored in different directories. If you uninstall or upgrade the software later, only the installation files are deleted or overwritten, respectively. The data files are still available.

The following folders contain files and folders for special use cases:

— "Data Folders" below

— "Manuals Folder" on the next page

— "PANTARIS Folder" on the next page

3.5.1   Data Folders

The data files are stored in the following subfolders of `..\ETASdata\DriveRecorder<Version>` by default:

Data Folder	Content
Archives	Drive Recorder Archive files (`*.dra`) with multiple content, e.g. INCA export files, recording job configuration files, hardware configuration files, Seed&Key files, etc.)
Configurations	Hardware configuration files (`*.xml`)
Export	INCA export files (`*.exp` and `*.exp.wsmd`)
ExternalTools	Software installation files (`*.exe`) for external applications
Installations	Drive Recorder Service Pack files (`*.exe`)
Licenses	ETAS license files (`*.lic`)
LogFiles	Log files (`*.log`) created by the Drive Recorder and INCA
Measure	Measurement files (`*.mf3` or `*.mf4`) Supported measurement file formats: MDF 3.0, MDF 3.3, MDF 4.0, MDF 4.1
RescueStickCreator	Installation files to create a USB Rescue Stick Subfolder for the Drive Recorder image file
Runtime	Firmware components for the Drive Recorder
Security	Customer-specific files for end-to-end encryption: .Net DLL files for the file encryption algorithms, subfolder `Certificates` for XML file for the public key Seed&Key files

On the Drive Recorder, the same folders exist. You can access them via the Drive Recorder Configurator for file transfer between your local PC and the Drive Recorder as described in the Drive Recorder Configurator - Online Help. This kind of file transfer is also used for .

NOTICE

Risk of data loss in case of resetting the device to factory settings

- Transfer your measurement data to a different storage location regularly.

- Make a backup of the following subfolders of `...\ETASdata` from the Drive Recorder: `Configurations`, `Runtime`, `LogFiles`, `Licenses`, and `Security`.

3.5.2 Manuals Folder

The `Manuals` folder contains user documentation in PDF format. You can find it at the following default location:

`c:\ETAS\DriveRecorder<Version>\Manuals`

In the Drive Recorder Configurator, you can access the `Manuals` folder via **Help** › **Manuals**.

3.5.3 PANTARIS Folder

The PANTARIS folders are available on the Drive Recorder if the relevant PANTARIS software for the Drive Recorder is installed on the device.

The default locations are as follows:

`D:\PANTARIS\Download`

`D:\PANTARIS\Upload`

(i) Note

If you want to use PANTARIS with your Drive Recorder, contact the ETAS support for help with the installation of the relevant software components on the Drive Recorder, see .

You can enable or disable the PANTARIS option via the Drive Recorder Configurator in the **Hardware Configuration** window under **Device Options** › **General Settings** › **PANTARIS**.

- If **PANTARIS Mode** is enabled, file transfer between the PANTARIS backend and the Drive Recorder is enabled.

- If both, **PANTARIS Mode** and **Process Drive Recorder Archives after transfer**, are enabeld, the archives transferred to the PANTARIS `Download` folder are applied to the Drive Recorder after the currently active recording job is finished.

The files in the PANTARIS `Download` folder are temporary. According to their file extensions, they are distributed to the "Data Folders" on page 15.

PANTARIS Folder	Content
D:\PANTARIS\Download	Drive RecorderArchive files (`*.dra`) with multiple content, e.g. INCA export files, recording job configuration files, hardware configuration files, Seed&Key files, etc., deployed via PANTARIS
D:\PANTARIS\Upload	Measurement files (`*.mf3` or `*.mf4`), Log files (`*.zip`) if requested by PANTARIS

3.6 Preparing to Install Software on the Drive Recorder

To be able to install software on the Drive Recorder, you have carried out the instructions of "Installing the Drive Recorder Configurator" on page 13. When properly connected, you can install software on the Drive Recorder from your local PC via the Drive Recorder Configurator. Read how to connect the Drive Recorder to your local PC in the next sections.

3.6.1 Connecting the Drive Recorder Hardware to the Local PC

To install software on the Drive Recorder, the device must be connected to a suitable power supply and to your local PC. The permissible supply voltage range is 6 V to 32 V.

> ⚠️ For safe connection and operation of the ES820 Drive Recorder, read the "ETAS ES800 Measurement, Calibration, and Prototyping System - User Guide" and the "ETAS ES800 System - Safety Advice".

To connect the Drive Recorder hardware to your local PC

1. Establish the connection of the ES820 Drive Recorder hardware to a suitable power supply as well as the Ethernet connection between Drive Recorder and your PC. For this purpose, follow the instructions in the "ETAS ES800 Measurement, Calibration, and Prototyping System - User Guide" and use cables and a power supply as described therein.
2. Turn on the Drive Recorder and wait until the ON LED is lit permanently.
3. If you connect to the Drive Recorder from your local PC for the first time, see how "To configure the network settings on your local PC" on the next page.

3.6.2 Configuring the Network Settings on the Local PC

The default Drive Recorder IP address is 192.168.40.228. To be able to establish an Ethernet connection between your local PC and the Drive Recorder, you must adapt the network settings on your local PC.

To configure the network settings on your local PC

The Drive Recorder must be connected to your local PC and turned on as described in"Connecting the Drive Recorder Hardware to the Local PC" on the previous page. When the ON LED of the Drive Recorder is permanently lit, you can proceed with the following steps:

1. From the Windows Start menu ⊞, select ⚙ **Settings** › **Network & Internet** › **Network and Sharing Center**.

   The **Network and Sharing Center** window is displayed.

2. Click according to the sequence in the image below.

   After click 4, the **Internet Protocol Version 4** window opens.
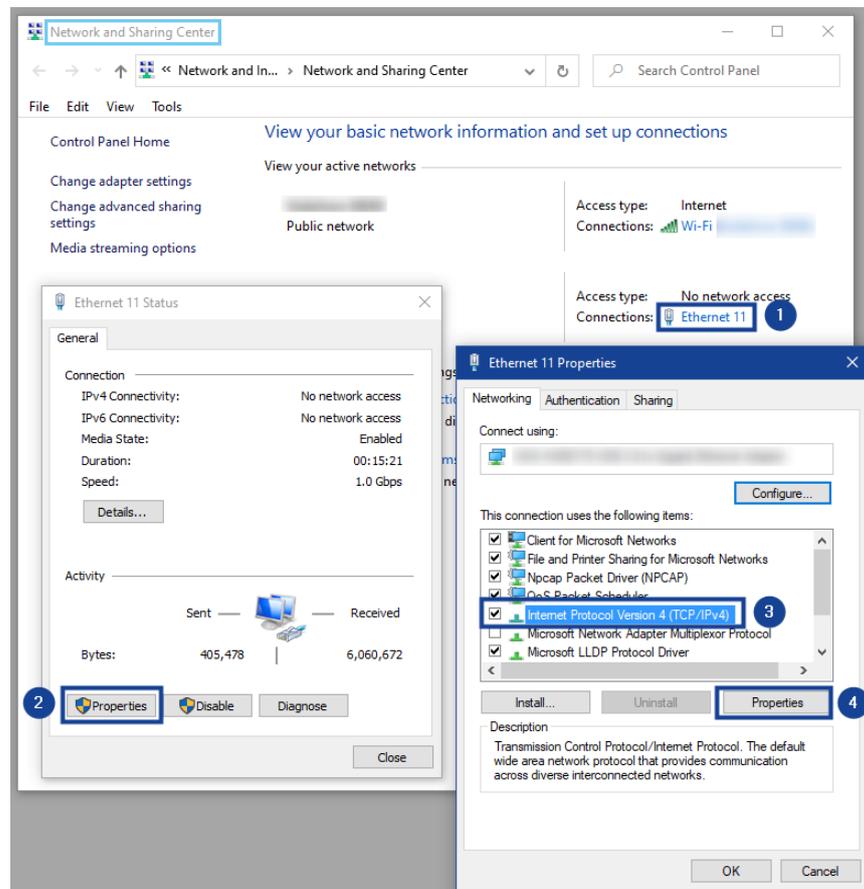
3. In the **Alternate Configuration** tab of the **Internet Protocol Version 4** window, make the following **User Configured** entries, according to the image below:

- IP adress: 192.168.40.99
- Subnet mask: 255.255.255.0

4. After you have confirmed the settings with **OK**, you can close the **Network and Sharing Center**.

3.6.3 Connecting to the Drive Recorder via the Drive Recorder Configurator

According to the previous sections, you have connected the Drive Recorder hardware to your local PC, turned on the Drive Recorder, and made the appropriate network settings on your local PC.

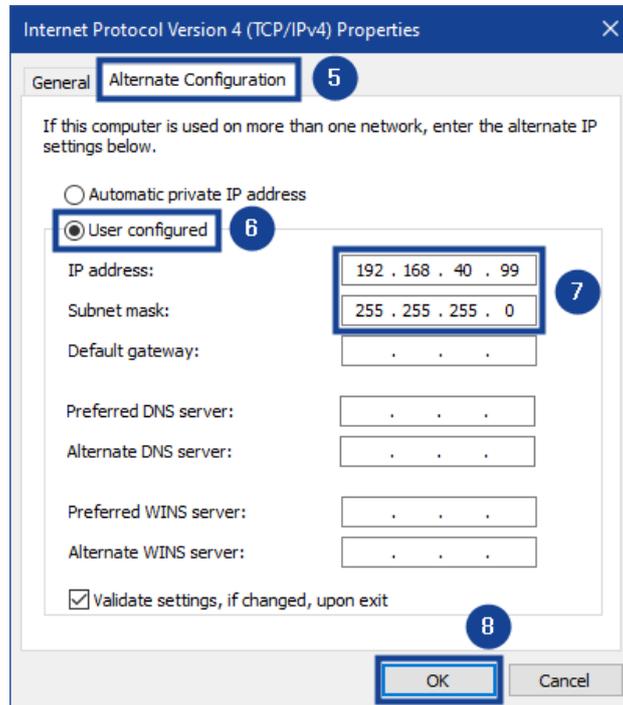To connect to the Drive Recorder from your local PC via the Drive Recorder Configurator

Make sure that the ON LED of the Drive Recorder is lit permanently.

1. Start the Drive Recorder Configurator on your local PC.

2. In the menu bar, click **File** › **Connect to Drive Recorder** or click .

   The **Connect Device** dialog window opens.

3. To connect your local PC to the Drive Recorder, do one of the following:

   a. Enter the following IP address under **Device**:
      192.168.40.228

   or

   b. Enter the device name with suffixed serial number SN under **Device**:
      ES820SNXXXXXXX

      For example, if the serial number is SN1300464, the device name would be ES820SN1300464.

4. Optionally, enable the **Automatically open configuration from device** option to open the current hardware configuration in the Drive Recorder Configurator.

5. Click **Connect**.

   The device connects to the Drive Recorder Configurator on your PC.

Now you can use the Drive Recorder Configurator for "Installing the Drive Recorder Service Pack" below or "Installing 3rd Party Software" on page 28.

3.7 Installing the Drive Recorder Service Pack

Before you begin to install the Drive Recorder Service Pack on the Drive Recorder, make sure that you have finished all steps described in "Preparing to Install Software on the Drive Recorder" on page 17.

> (i) **Note**
>
> In order to transfer files and to install software, the Drive Recorder must be turned on and connected to your local PC.

To transfer the Service Pack EXE file to the Drive Recorder

Download the Service Pack EXE file from the ETAS Download Center and store the EXE file on your local PC at the following location:

`..\ETASdata\DriveRecorder<Version>\Installations`

Make sure that the ON LED of the Drive Recorder is lit permanently.

1. In the menu bar of the Drive Recorder Configurator, click **Tools** › **File Transfer from/to Drive Recorder** or click 📥.

   The **File Transfer** window opens. You can see the folder structure on the local PC and on the Drive Recorder in the left and right part of the window, respectively.

2. To open the installation folders on both sides, click +. Select the EXE file that you want to transfer.

3. Click ➡ to transfer the EXE file to the `installations` folder on the Drive Recorder.

To install the Service Pack on the Drive Recorder
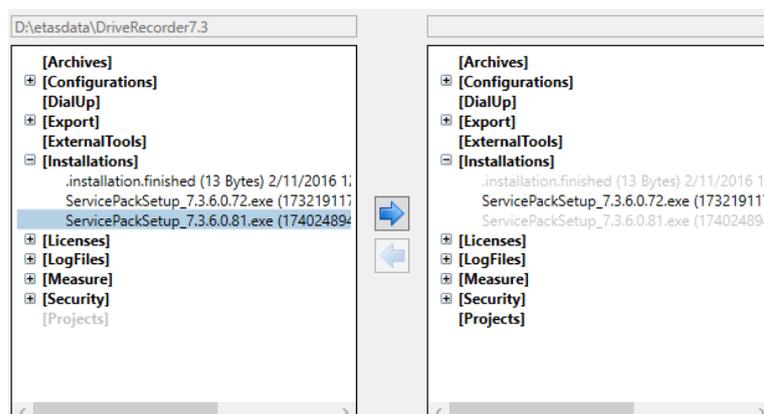
Make sure that the ON LED of the Drive Recorder is lit permanently.

1. In the menu bar of the Drive Recorder Configurator, click **Tools** › **Install** or click .

   The **Installation** dialog window opens. You can see the available EXE files in the **Available Installations** window area and the installed Service Pack version in the **Currently installed version** window area.

2. In the **Available Installations** window area, select the corresponding EXE file.

3. Click **Run installation**.

   The selected software is installed on the Drive Recorder. The installation and the rebooting of the Drive Recorder takes some time.

   When the ON LED is permanently lit again, the installation of the Service Pack is finished and your Drive Recorder is ready for operation.

3.8 Resetting the Drive Recorder System to Factory Settings

To upgrade or to downgrade your Drive Recorder, or to repair your Drive Recorder installation, you have the option to create a USB stick for flashing. This option is called *USB Rescue Stick*.

Note that downgrading is allowed from V7.5 to V7.3, but not from V7.5/V7.3 to V7.2.

By default, the USB Rescue Stick solution is provided in the following folder, together with your installation files:

`..\ETASData\DriveRecorder<Version>\RescueStickCreator`

3.8.1 Saving the License and the Data

NOTICE

Risk of Data Loss

If you reset the Drive Recorder to the factory settings by the USB Rescue Stick, all your measurement data on the Drive Recorder hard disk are lost. From the `..\ETASdata\DriveRecorder<Version>` data folder, only data in the `Configurations`, `Runtime`, `LogFiles`, `Licenses`, and `Security` folders are preserved. These data are stored on the USB Rescue Stick. The corresponding files are copied to the Drive Recorder hard disk again by flashing.

For an encrypted Drive Recorder, data in the above listed folders are lost as well.

- Transfer your measurement data to a different storage location regularly.

- Make a backup of the following Drive Recorder subfolders of `..\ETASdata`: `Configurations`, `Runtime`, `LogFiles`, `Licenses`, and `Security`.

- Make sure that you have a backup USB Security Key for your Drive Recorder.

3.8.2 Creating the USB Rescue Stick

To create the USB Rescue Stick with a system recovery image for your Drive Recorder on it, you need the following prerequisites:

- USB stick with a required memory size of at least 16 GB

  USB 3.0 is recommended.
- Recovery image for your Drive Recorder

  to be downloaded (see below)

To create the USB Rescue Stick

1. Download the Drive Recorder image on your Drive Recorder from the ETAS Download Center.

2. To install the recovery image on your Drive Recorder, copy the image from the Download Center to the **images** folder.

   The default location for this folder is: `..\ETASData\DriveRe-corder<Version>\RescueStickCreator\images`

3. Connect the USB stick to your local PC.

4. In the **RescueStickCreator** folder, double click `start.bat`.

ETASData › DriveRecorder7.3 › RescueStickCreator

Name

- externalDependencies
- files
- images
- utils
- .gitignore
- createRescueStick.ps1
- README_de.pdf
- README_en.pdf
- README_fr.pdf
- README_jp.pdf
- start.bat
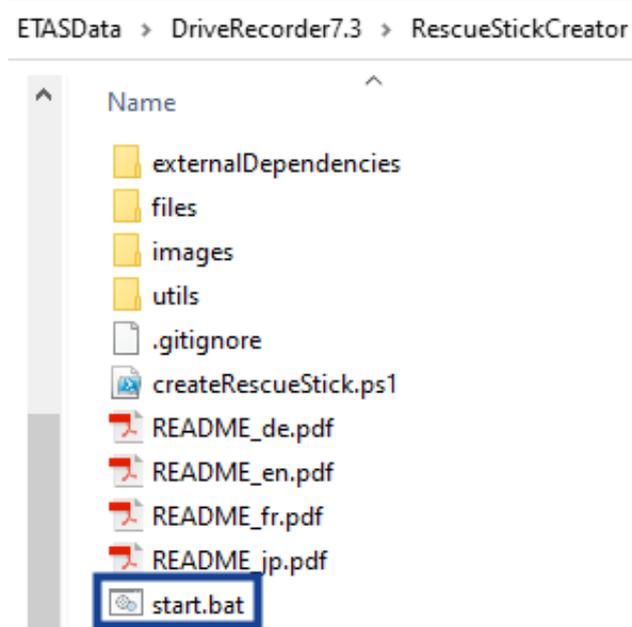
The **Administrator: Windows Power Shell** window opens.

5. In the **Administrator: Windows Power Shell** window, proceed according to the following screenshot and the further steps listed below:

```
Administrator: Windows PowerShell                          —    □    ✕
Available disks:
1: Generic Flash Disk USB Device
Please select disk id: 1
Available images:
1: ES820_Rev.B_all_partitions_image_v7.4.5.0.1.tar
Please select image: 1

#################################
Rescue stick configuration:
  Selected disk       : 1
  Selected image      : ES820_Rev.B_all_partitions_image_v7.4
.5.0.1.tar
  Unpack image        : False
  Developer mode      : False
  Required Application: 3.6.0
  Required Bootloader : 2.2.0
  Required PLX EEPROM : 0.2.1
#################################

Proceed with Rescue stick creation? (WARNING: This will erase
 all content from the target USB drive.) [y/N]: y

The target disk contains license files. To avoid any data los
s all the license, configuration and log files have been copi
ed to <C:\ETASData\Drive Recorder Configurator7.4\RescueStick
Creator\backup\2023-06-13-12-04-00>.
Backing up backup logs
All necessary files have been backed up
Partitioning selected disk...
Unpacking files...
Copying files to target location...
Copying image ES820_Rev.B_all_partitions_image_v7.4.5.0.1.tar
 to USB stick
100% copied         1 file(s) copied.
Setting up boot sector...
Rescue stick creation completed successfully.
Press Enter to continue...: _
```

6. Select the USB drive that you want to convert into the USB Rescue Stick and press ‹ENTER›. This means, according to the above example, enter "1".

7. Select the image that you copied from the Download Center and press ‹ENTER›. This means, according to the above example, enter "1".

8. Confirm that you want to proceed with the USB Rescue Stick creation.

9. Wait until the **Administrator: Windows PowerShell** window displays the message that the USB Rescue Stick has successfully been created and press ‹ENTER›.

10. The creation of your USB Rescue Stick is finished. You can continue with "Flashing the Drive Recorder via the USB Rescue Stick" below.

3.8.3 Flashing the Drive Recorder via the USB Rescue Stick

As a prerequisite, you need a prepared USB Rescue Stick, see "Creating the USB Rescue Stick" on the previous page.

Before flashing your Drive Recorder, note the following:

— If the Drive Recorder hard disk is not encrypted, a backup of the license file is generated on the USB Rescue Stick and restored on the Drive Recorder during the flashing procedure. The same applies for hardware configuration files..

— If the ...\Configuration\ES720Settings.xml hardware settings file on the USB Rescue Stick is company-specific, the hardware settings file on the USB Rescue Stick overwrites the device-specific hardware settings file

on your Drive Recorder.

Otherwise, the device-dependent hardware settings file on your Drive Recorder remains unchanged.

1. Place the created USB Rescue Stick into a USB port of your Drive Recorder.

   The preferred port is 3.0.

2. Unplug all other stacked or connected devices and cables.

3. Restart the Drive Recorder.

   Flashing of the Drive Recorder starts. It takes about 15 minutes.

4. Wait until flashing is finished, which is the case when the Drive Recorder enters the low power standby mode.

5. Unplug the USB stick and activate the Drive Recorder.

   The restart scripts are launched.

6. Wait until the firmware update is finished.

   An ongoing firmware update is indicated by the ON LED and the MEM LED blinking synchronously. When the firmware update is finished, both LEDs stop blinking.

   The Drive Recorder reboots.

   When the ON LED is ON permanently, rebooting is finished.

NOTICE

Risk of system breakdown

If you interrupt the ongoing firmware update, it is possible that flashing fails in such a mode that the Drive Recorder system cannot be recovered even by restarting the flashing procedure.

In this case, use the "Contact Information" on page 39 and send your Drive Recorder to ETAS for repair.

3.9 Upgrading and Downgrading

3.9.1 Drive Recorder Configurator

To upgrade the Drive Recorder Configurator, follow the same steps as described in "Installing the Drive Recorder Configurator" on page 13. Downgrading is possible in the same way.

In case of upgrading, the current Drive Recorder Configurator version is automatically deleted first. An exception is upgrading from Drive Recorder Configurator V7.2 to Drive Recorder Configurator V7.3 and from V7.3 to V7.5. In this case, the older version also remains on your PC.

The data files on your local PC remain unchanged upon upgrading or downgrading.

3.9.2 Drive Recorder Service Pack

Upgrading from V7.3.x to V7.3.(x+n) and from V7.3 to V7.5 is possible by following the instructions in "Installing the Drive Recorder Service Pack" on page 20. All files in the "Data Folder" on page 15 are preserved upon upgrading.

Upgrading from V7.2 to V7.3 as well as downgrading from any version is only possible by using the Drive Recorder image with the corresponding version. Follow the steps described in "Resetting the Drive Recorder System to Factory Settings" on page 21. In case the hard disk is encrypted, use the USB Security Key to unlock the hard disk first. Then the files in the `Configurations`, `Runtime`, `LogFiles`, and `Security` folders are preserved upon upgrading or downgrading. For more information about these folders, see "Data Folder" on page 15.

3.10 Licensing

A valid license is required to use the software. You can obtain a license in one of the following ways:

- from your tool coordinator
- via the self-service portal on the ETAS website at www.etas.com/support/licensing
- via the ETAS License Manager

To activate the license, you must enter the Activation ID that you received from ETAS during the ordering process.

For more information about ETAS license management, see the ETAS License Management FAQ or the ETAS License Manager help.

To open the ETAS License Manager help

The ETAS License Manager is available on your computer after the installation of any ETAS software.

1. From the Windows Start menu, select **E** > **ETAS** > **ETAS License Manager**.

   The ETAS License Manager opens.

2. Click in the ETAS License Manager window and press F1.

   The ETAS License Manager help opens.

The licensing process has changed to an FNE (FlexNet Embedded) licensing process. The FNE license also includes an INCA version. To handle FNE licenses, see "Activating, Migrating, Renewing, and Returning Licenses on the Drive Recorder" on the next page

For INCA add-ons, you can purchase an additional license for each add-on. The Drive Recorder LIN add-on and the Drive Recorder FlexRay add-on are already included in the license for the Service Pack.

> ⓘ **Note**
>
> Store the activation IDs at a save location. You need the activation ID again after returning a license to reactivate the license on a device later.

3.10.1 Activating, Migrating, Renewing, and Returning Licenses on the Drive Recorder

This section is valid for FNE licenses.

The Drive Recorder Configurator has an Interface to the ETAS License Manager.

In the **Manage Licenses** window, you have the following options:

— **Activate**

With this option, you can activate available licenses. For this purpose, you also need your activation ID.

— **Renew**

This option allows reactivating licences when the maintenance time has expired.

— **Migrate**

With this option, you can migrate your MAC-based licenses to the new FNE licenses. This is important for renewing the licenses in future when the maintenance time is expired.

— **Return**

With this option, you can return a license if the respective Drive Recorder is not needed any more or if you want to reset the device to factory settings.

ⓘ **Note**

You must adapt the internet proxy settings in the ETAS License Manager to the network environment in which the ETAS License Manager is working. For this, open the ETAS License Manager and click **Device** › **Settings**. You can adjust the internet proxy settings in the **Internet Proxy** window area.

The default setting for the **Proxy Mode** is **Auto**.

If there is no proxy, set the **Proxy Mode** to **None**.

Otherwise, set the **Proxy Mode** to **Manual** and adapt the proxy address in the first line of the **Internet Proxy** window area.

To activate, migrate, renew or return licenses on the Drive Recorder

Your local PC must be connected to the Internet.

1. To connect the Drive Recorder to your local PC, open the Drive Recorder Configurator and click **File** › **Connect to Drive Recorder**. Enter the IP 192.168.40.228 and click **OK**.

2. Click **Tools** › **Enter Service Mode**.

3. Click **Tools** › **Manage Licenses**.

   The **License Manager** window opens.

   All licenses that are stored on your Drive Recorder are listed.

4. Depending on your desired action, select the respective licenses and click one of the following: **Activate**, **Renew**, **Migrate**, or **Return**.

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A context window opens.

5. In case of activating licenses, insert the activation ID into the context window. In all other cases, the activation ID is already displayed.

6. Click **Activate**, **Renew**, **Migrate**, or **Return**.

7. **Close** the context window

The states of the licenses on the Drive Recorder are now updated.

3.11   Uninstalling

To uninstall the Drive Recorder Configurator

1. In the Windows Start menu ⊞, select ⚙**Settings** › **Apps**.

   The **Apps and Features** window opens.

2. In the **Apps and Features**, select the Drive Recorder Configurator and click **Uninstall**.

   The Drive Recorder Configurator is uninstalled from your local PC.

4   Administration

4.1   Installing 3rd Party Software

If you want to install 3rd party software on the Drive Recorder, the steps in "Preparing to Install Software on the Drive Recorder" on page 17 must be finished.

To install 3rd party software on the Drive Recorder, like drivers or 3rd party hardware configuration tools, follow the steps in "Using the Service Mode" below.

> (i) **Note**
>
> In this document, only the general procedure for the installation of 3rd party software is described.
>
> You can find product-specific installation and configuration instructions in the Drive Recorder Configurator - Online Help, in the sections "Configuring 3rd Party Hardware" and "Drive Recorder Display App".

4.2   Using Remote Desktop Connection

For certain tasks, such as installing 3rd party software on the Drive Recorder, you must establish a remote connection.

To connect to the Drive Recorder from your local PC via Remote Desktop Connection

Make sure that the ON LED of your Drive Recorder is lit permanently and that you are connected to the Drive Recorder by the Drive Recorder Configurator.

1. On your local PC, open the **Remote Desktop Connection** Windows App.
2. Enter the following IP adress and User Name:

   Computer: 192.168.40.228

   User Name: DriveRecorder

   Password: etasdr
3. Click **Connect**.

   The **Windows Security** window opens.
4. In the **Windows Security** window, enter the following login data:

   Password: etasdr

   Click **OK**.

   You are remotely connected to the Drive Recorder.

4.3   Using the Service Mode

The service mode allows carrying out installations and/or configurations on the Drive Recorder in such a way that they are preserved on the Drive Recorder even after a power cycle (ON/OFF), after wake-up, and after reconnecting the Drive

Recorder.

> **(i) Note**
>
> The service mode replaces the "persist" option of Drive Recorder V7.2. For some features, like hard disk encryption, the service mode is automatically applied by the Drive Recorder. In these cases, a dialog window is displayed for information.

The following tasks are possible in the service mode:

- Installing drivers
- Connecting 3rd party hardware
- Creating hardware configuration files
- Creating recording job configuration files
- Encrypting and decrypting the hard disk

  In this case, the service mode is entered automatically.
- Transferring files from the Drive Recorder to the local PC and vice versa

The following tasks are *not* possible in the service mode:

- Applying a hardware configuration
- Applying a recording job
- Running a recording job or an experiment
- Installing a Service Pack
- Applying an archive
- Automatic file transfer

To use the service mode

1. To connect the Drive Recorder to your local PC, open theDrive Recorder Configurator and click **File** › **Connect to Drive Recorder**. Enter the IP 192.168.40.228 and click **OK**.

2. Make sure that the Drive Recorder is in the active idle state, which is the case when the ON LED is lit permanently.

3. In the menu bar, click **Tools** › **Enter Service Mode**.

   The Drive Recorder performs a restart. Wait until the ON LED and the MEM LED are both blinking. Then, the device is in the service mode.

4. If you want to install 3rd party software on the Drive Recorder and make configuration chages in 3rd party software, connect to the Drive Recorder from your local PC via Remote Desktop Connection.

   For other use cases, you can skip this step.

   i. On your local PC, open the **Remote Desktop Connection** Windows App.

   ii. In the **Computer** field, enter the following IP adress:

      192.168.40.228

   iii. Click **Connect**.

      The **Windows Security** window opens.

iv. In the **Windows Security** window, enter the following login data:

Password: etasdr

Click **OK**.

You are remotlley connected to the Drive Recorder.

5. On the Drive Recorder, make the installations or configuration changes that shall persist.

6. In the menu bar, click **Tools** › **Quit Service Mode**.

The Drive Recorder restarts and quits the service mode. The device reboots. Wait until the ON LED is lit permanently again. The installation of software is finished and the settings you have made remain on the Drive Recorder. You can now continue to use the device as usual.

4.4 Managing Data Security

To protect data that are stored on the hard disk of the Drive Recorder, the following measures are available from Drive Recorder V7.3:

You can access the security options via the Drive Recorder **Hardware Configuration** window and save the security settings in the Drive Recorder hardware configuration.

If you lose the USB Security Key for your device, a way to reaccess the hard disk is to reset the Drive Recorder to the factory settings by using the USB Rescue Stick.

> **NOTICE**
>
> **Risk of Data Loss**
>
> If you reset the Drive Recorder to the factory settings by the USB Rescue Stick, all your measurement data on the Drive Recorder hard disk are lost. From the `..\ETASdata\DriveRecorder<Version>` data folder, only data in the `Configurations`, `Runtime`, `LogFiles`, `Licenses`, and `Security` folders are preserved. These data are stored on the USB Rescue Stick. The corresponding files are copied to the Drive Recorder hard disk again by flashing.
>
> For an encrypted Drive Recorder, data in the above listed folders are lost as well.
>
> - Transfer your measurement data to a different storage location regularly.
> - Make a backup of the following Drive Recorder subfolders of `..\ETASdata`: `Configurations`, `Runtime`, `LogFiles`, `Licenses`, and `Security`.
> - Make sure that you have a backup USB Security Key for your Drive Recorder.

4.4.1 Encrypting the Hard Disk and Creating the USB Security Key

When the Drive Recorder Configurator and the Drive Recorder Service Pack are installed, you can encrypt the Drive Recorder hard disk. During this process, a device-specific USB Security Key is created. ETAS recommends creating a backup USB Security Key for each encrypted Drive Recorder as well.

To encrypt the hard disk of your Drive Recorder

To create the device-specific USB Security Key and a backup USB Security Key, you need two USB sticks.

1. Connect one of the USB sticks to an appropriate USB port of your Drive Recorder.

2. To connect the Drive Recorder to your local PC, open the Drive Recorder Configurator and click **File** › **Connect to Drive Recorder**. Enter the IP 192.168.40.228 and click **OK**.

3. Open an existing hardware configuration on the connected Drive Recorder. To do this, proceed as follows:

   - In the menu bar, select **File** › **Open from Device** › **Open Hardware Configuration From Device**.

     The **Hardware Configuration** dialog window opens with the stored properties.

4. Click **Device Options** › **Hard Disk Encryption** › **Encrypt Disk**.

   A wizard leads you through the hard disk encryption process. It takes about 30 minutes.

   Additionally, the USB stick now serves as a device-specific USB Security Key for your Drive Recorder.

5. To create a backup USB Security Key, insert the other USB stick into an appropriate USB port of your Drive Recorder.

6. Click **Create USB Security Key**.

   A backup USB Security Key is created for your device.

NOTICE

Risk of data loss

- Do not interrupt the hard disk encryption. Interruption leads to data corruption.

- The encryption process assigns the USB Security Key the name `ETAS-SECURE-KEY`. You must not change this name, otherwise the security key does no longer work.

4.4.2 Using the USB Security Key

To access the data of an encrypted Drive Recorder hard disk, you need the device-specific USB Security Key.

– Connect the USB Security Key to an appropriate USB port of the Drive Recorder.

   You can insert the USB Security Key either before you connect or after you have connected to the Drive Recorder from your local PC. Now you can access the data on the encrypted Drive Recorder hard disk.

(i) Note

The USB Security Key unlocks the Drive Recorder hard disk for one power-up period after wake-up. After wake-up, you can disconnect the USB Security Key. If the Drive Recorder is switched off or falls into the standby mode, you must insert the USB Security Key again to make the Drive Recorder hard disk accessible after the next wake-up.

4.4.3 Replicating a USB Security Key

To create a backup USB Security Key for a specific device, you need the already encrypted Drive Recorder, the device-specific USB Security Key and another USB stick.

1. Connect the USB Security Key to an appropriate USB port of your Drive Recorder.

2. To connect the Drive Recorder to your local PC, open theDrive Recorder Configurator and click **File** › **Connect to Drive Recorder**. Enter the IP 192.168.40.228 and click **OK**.

3. Wait until the ON LED is permanently lit. The hard disk of the Drive Recorder is then accessible. Now you can remove the USB Security Key.

4. Connect the USB stick that is considered as backup.

5. Open an existing hardware configuration on the connected Drive Recorder. To do this, proceed as follows:

- In the menu bar, click **File** › **Open from Device** › **Open Hardware Configuration From Device**.

  The **Hardware Configuration** dialog window opens with the stored properties.

6. Click **Device Options** › **Hard Disk Encryption** › **Create USB Security Key**.

   The USB stick now serves as an additional device-specific USB Security Key for your Drive Recorder.

NOTICE

Risk of data loss

- Do not interrupt the replication process. Interruption leads to data corruption.

- The encryption process assigns the USB Security Key the name `ETAS-SECURE-KEY`. You must not change this name, otherwise the key does no longer work.

4.4.4   Decrypting the Hard Disk

To decrypt the hard disk of your Drive Recorder, you need the device-specific USB Security Key.

1. Connect the USB Security Key to an appropriate USB port of your Drive Recorder.

2. To connect the Drive Recorder to your local PC, open theDrive Recorder Configurator and click **File** › **Connect to Drive Recorder**. Enter the IP 192.168.40.228 and click **OK**.

3. In the menu bar, select **File** › **Open from Device** › **Open Hardware Configuration From Device**.

   The **Hardware Configuration** dialog window opens with the stored properties.

4. Click **Device Options** › **Hard Disk Encryption** › **Decrypt Disc**.

   A wizard leads you through the decryption process. It takes about 30 minutes.

NOTICE

Risk of data loss

Do not interrupt the hard disk decryption. Interruption leads to data corruption.

4.4.5   Using FTPS or SFTP

To encrypt data during transmission via FTP, you can select FTPS or SFTP.

To select the security option for FTP

1. Open the Drive Recorder Configurator.

2. In the menu bar, click **File** › **Open from Device** › **Open Hardware Configuration from Device**.

   The **Hardware Configuration** window opens.

3. In the **Hardware Configuration** window, click **File transfer settings**.

4. In the **Server settings** window area, select the **Security type None**, **FTPS**, or **SFTP**.

5. Click **Apply on Drive Recorder**.

> (i) **Note**
>
> If you apply FTPS or SFTP, the data is only encrypted during transmission. To protect the data also at the receiving location or on intermediary servers, use the end-to-end encryption feature which is described in the next chapter

4.4.6 Using End-to-End Encryption

To transfer your data securely and to protect it on intermediary servers, you can select the option for end-to-end encryption in the **File transfer settings** of the **Hardware Configuration** window. You can save this option in your Drive Recorder hardware configuration and apply it to the Drive Recorder. For this purpose, see "To apply end-to-end encryption for file transfer" on the next page.

A hybrid encryption method is used, which combines symmetric encryption of the data and asymmetric encryption of the symmetric key. The asymmetric encryption uses the public key / private key method.

– At the sender's end, a random, unique key is generated for each file transfer session. This key is used as the symmetric key to encrypt the files. For secure transmission to the receiver, the symmetric key is encrypted by a public key. Then each encrypted file is transmitted along with the encrypted symmetric key. For this purpose, the encrypted symmetric key is copied for each file and the file name is adapted as follows:

- Encrypted file: `<filename>.enc`
- Encrypted symmetric key: `<filename>.key`

– The receiver uses his private key to decrypt the symmetric keys. Then the receiver can decrypt each file by its respective symmetric key.

To provide the public key and algorithms for key encryption and file encryption

The public key has to be provided by your company. The Drive Recorder supports the XML file format. The PEM file format is not supported.

ETAS provides the **RSA** algorithm for key encryption and the **AES-256** algorithm for file encryption by default. You can use your own algorithms as well. A .Net DLL file is needed that references the following file:

```
C:\ETAS\DriveRecorder<Version>\Etas.Cryp-
tography.Contracts.dll
```

Implement the interface `ISymmetricCryptographyAlgorithm` for the file encryption algorithm and `IAsymmetricCryptograhpyAlgorithm` for the key encryption algorithm.

- To transfer the security files from your local PC to the Drive Recorder, in the Drive Recorder Configurator, click **Tools** › **File Transfer** and use the **File transfer** window to copy the files to the appropriate directories:

  - Store the XML file for the public key on your Drive Recorder at the following location:

    ```
    ..\ETASData\DriveRecorder<Version>\Se-
    curity\Certificates
    ```

  - Store the .Net DLL file for the key encrypion algorithm at the follwing location:

    ```
    ..\ETASData\DriveRecorder<Version>\Security
    ```

  - Store the .Net DLL file for the file encryption algorithm at the following location:

    ```
    ..\ETASData\DriveRecorder<Version>\Security
    ```

> (i) **Note**
>
> If you have questions about the implementation of the public key and encryption algorithms, use the "Contact Information" on page 39 to ask ETAS for help.

To apply end-to-end encryption for file transfer

The Drive Recorder must be connected to your local PC.

1. In the Drive Recorder Configurator, open the **Hardware Configuration** window by one of the following options:

   - Click **File** › **New** › **New Hardware Configuration**
   - Click **File** › **Open from File** › **Open Hardware Configuration from File**
   - Click **File** › **Open from Device** › **Open Hardware Configuration from Device**

   The **Hardware Configuration** window opens.

2. On the left, click **File transfer settings** › **Encryption (E2E)** .

3. In the right part of the window, make the following selections:

   - Select **End-to-end encryption**.
   - Select the **Path to public key** from the drop-down menu. This is your public key.
   - Select the **Key Encryption Algorithm** from the drop-down menu.
   - Select the **File Encryption Algorithm** from the drop-down menu.

4. To select the file types that shall be encrypted, click **File transfer settings** › **Automatic transfer settings**. Select the file types and the option **To Share**.

5. To save your settings to the Drive Recorder hardware configuration, click **Safe to File and Close** or **Apply to Drive Recorder**, depending on whether you have opened the hardware configuration from a file or from the device.

   End-to-end encryption is now saved to the current hardware configuration. After clicking **Apply to Drive Recorder**, end-to-end encryption is applied to all file types that are selected in the **Automatic transfer settings**.

   At the receiving location, the file names for the encrypted files and the respective keys are as follows:

   - Encrypted file: `<filename>.enc`
   - Encrypted symmetric key: `<filename>.key`

   The receiver can use the private key to decrypt the symmetric keys. Each file can then be decrypted by its respective symmetric key.

4.4.7 Internet Connectivity

The current PANTARIS solution has no direct connection to the Internet. Therefore no special protection measures are required.

PANTARIS will be replaced by a successor solution in the future. As soon as the successor solution is active, the following protective measures are applied if the ES820 is configured for PANTARIS mode:

- The integrated Ethernet interfaces, i.e. the Host and GE port, are assumed to be in a trusted network and their firewall profile is set to private without further restrictions.

- The firewall profile for external interfaces that are connected by the user is set to public, blocking all incoming TCP and UDP traffic except for the ports required for the VPN connection to the cloud.

If the ES820 is not configured for PANTARIS mode, there are no protective measures, neither for an integrated nor for external interfaces.

You can configure the PANTARIS mode in the **Device Options** on the left side of the Drive Recorder Configurator **Hardware Configuration** window.

See also

5   Decommissioning

When decommissioning an ES820 Drive Recorder or when deploying an ES820 Drive Recorder for a new project, ETAS recommends to delete all unnecessary data on the Drive Recorder as well as on all related ES820 Memory Modules and USB Rescue Sticks. This allows having enough memory for new measurements in future projects as well as deleting user data that might be stored in files, such as measurement files and log files.

For decommissioning, the following actions are recommended:

— Resetting the Drive Recorder to factory settings by the USB Rescue Stick

— Formatting the related ES820 Memory Modules by a PC using the ES820 Docking Station

To reset the Drive Recorder to factory settings

You need a USB 3.0 stick.

1. Connect to the Drive Recorder by the Drive Recorder Configurator.

2. Return the license file according to "Activating, Migrating, Renewing, and Returning Licenses on the Drive Recorder" on page 26.

3. Perform the steps described in "Creating the USB Rescue Stick" on page 22 and "Flashing the Drive Recorder via the USB Rescue Stick" on page 23.

   All data in the Drive Recorder Data folders including user data on the Drive Recorder is now deleted.

4. Format the USB Rescue Stick to delete remaining data that might contain user data, like log files and hardware configuration files.

Your Drive Recorder is now decommissioned.

To format related ES820 Memory Modules

You need the "ETAS ES800 System - User Guide" and an ES820 Docking Station for ES820 Memory Module.

1. Insert the ES820 Memory Module into the Docking Station for the ES820 Memory Module according to the description in the "ETAS ES800 System - User Guide".

2. Connect the ES820 Docking Station to a PC by USB 3.0.

   The hard disk of the ES820 Memory Module is now visible in the Windows File Explorer.

3. Format the hard disk of the ES820 Memory Module.

   All data is now removed from the ES820 Memory Module.

To delete data on the built-in ES820 Memory Module

If you want to delete data on the built-in ES820 Memory Module without removing it from the Drive Recorder, you can do this via the **File Transfer** window of the Drive Recorder Configurator.

1. Connect to the Drive Recorder by the Drive Recorder Configurator.

2. Click **Tools** › **File transfer from/to Drive Recorder**.

   The **File Transfer** window opens. In the right window area, the `Measure files on Memory Module` folder is displayed.

3. Delete all files in the `Measure files on Memory Module` folder by clicking ❌ .

   The remaining data including user data is now deleted from the built-in ES820 Memory Module.

6 Contact Information

Technical Support

For details of your local sales office as well as your local technical support team and product hotlines, take a look at the ETAS website:

www.etas.com/hotlines

ETAS offers trainings for its products:

www.etas.com/academy

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