



syngo CT

Instructions for Use – *syngo* Expert-i client
Version 10.0



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Legend



Indicates a hint

Is used to provide information on how to avoid operating errors or information emphasizing important details



Indicates the solution of a problem

Is used to provide troubleshooting information or answers to frequently asked questions



Indicates a list item



Indicates a prerequisite

Is used for a condition that has to be fulfilled before starting a particular operation



Indicates a one-step operation



Indicates steps within operating sequences

Italic

Is used for references and for table or figure titles



Is used to identify a link to related information as well as previous or next steps

Bold

Is used to identify window titles, menu items, function names, buttons, and keys, for example, the Save button

Orange

Is used to emphasize **particularly** important sections of the text

Courier

Is used for on-screen output of the system including code-related elements or commands

Courier

Is used to identify inputs you need to provide

Menu > Menu Item

Is used for the navigation to a certain submenu entry

<variable>

Is used to identify variables or parameters, for example, within a string



CAUTION

Used with the safety alert symbol, indicates a hazardous situation which, if not avoided, could result in minor or moderate injury or material damage.

CAUTION consists of the following elements:

- Information about the nature of a hazardous situation
- Consequences of not avoiding a hazardous situation
- Methods of avoiding a hazardous situation

WARNING

Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

WARNING consists of the following elements:

- Information about the nature of a hazardous situation
 - Consequences of not avoiding a hazardous situation
 - Methods of avoiding a hazardous situation
-





Legend

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1 Introduction

This *syngo* CT Instructions for Use document serves as a guide to find the information needed to work with the *syngo* Expert-i client software.

The *syngo* Expert-i software enables:

- Every user to access and use the *syngo* Workplace and its full range of functionality from any Expert-i client in the network.
(→ Page 23 *Direct Login*)
- Experts (for example, physicians) to support local users at any *syngo* Workplace via a single-session password.
(→ Page 27 *Single session*)

This remote access is handled via a suitable computer (remote computer) connected to the local network.

The software provides full-screen display and allows the remote user to use all *syngo* Workplace functionalities like image viewing, filming, exporting data, 3D reconstruction, and data postprocessing.



To learn more about the security of your SOMATOM CT system and to obtain the Manufacturer Disclosure Statement for Medical Device Security (MDS), contact your Siemens Healthineers Representative and ask for the document entitled Product & Solution Security Whitepaper and MDS².

1.1 Scope

These Instructions for Use apply to all SOMATOM CT systems equipped with the following software versions:

- *syngo* CT 2012B
- *syngo* CT 2013A
- *syngo* CT VA48A

1 Introduction

- *syngo* CT VA50A
- *syngo* CT VA62A
- *syngo* CT VB10
- *syngo* CT VB20
- *syngo* CT VC28
- *syngo* CT VC30
- *syngo* CT VC40
- *syngo* CT VC50

1.2 Authorized users

The system must only be operated by persons with the certified specialist knowledge according to country-specific regulations, for example, physicians, trained radiologists or trained technologists, after an appropriate application training. This document is addressed to these persons. If more than the frequently used functions are required, the Siemens Healthineers Service must be consulted.

1.3 Trademarks

Product names, logos, brands, and other trademarks featured or referred to in the instructions for use are the property of their respective trademark holders.

Exemplary list of trademarks used in the instructions for use:

- SOMATOM®
- Microsoft® (for example, Windows 10, Windows 7, Windows Explorer)

1.4 Availability of functions

The following functions are available since the software versions *syngo* CT VB20 and *syngo* CT VC50:

- Direct Login at the *syngo* Acquisition Workplace
- Expert-i during CARE Bolus

1.5 Names and parameters

All names and data of patients and institutions that are used in these instructions for use are entirely fictional.

Any resemblance to names of existing people or organizations past or present is entirely coincidental.

All parameters and images shown in this manual are examples. Only the parameters displayed by your system are definite.

Configuration-dependant designations, such as names of drives, network nodes, and databases, that are used in these instructions for use are usually not the same as the designations to be found on a particular installation of the system in a clinical environment.

1 Introduction

2 Safety information



Follow the safety information in this document.




To ensure the safe use of your product and the safety of people, you must adhere to the safety information provided in the Instructions for use documents. In addition, also observe your country-specific regulations and guidelines.

Safety information is located in the safety section and repeated within context where a hazardous situation may occur. To make sure safety information is understood, always read it in context of the situation.

WARNING and CAUTION are highlighted in the text:

 WARNING	Indicates a hazardous situation which, if not avoided, could result in death or serious injury.
 CAUTION	Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

WARNING and CAUTION have the same structure. The following example CAUTION instructs you how to read a WARNING or a CAUTION:

 **CAUTION**

This text describes the hazardous situation: Images with lossy compression are used for diagnosis!

This text describes the hazard: Wrong diagnosis.

- ◆ **This text describes how to avoid the hazardous situation:**
Always verify your evaluation results with the original DICOM images (first reader duty).
- ◆ Never use lossy ...

2 Safety information

2.1 General safety information

For the secure operation of your medical device, it is the responsibility of the system owner to ensure that each person who operates the system reads and understands the provided Instructions for Use.

WARNING

Not observing the Instructions for Use and the safety information of the medical device and the equipment!

Injury to the patient or personnel, and damage to the equipment.

- ◆ Always observe the Instructions for Use of the particular units used. This includes the labels applied on the equipment as well as the Instructions for Use documents.
- ◆ Always use this Instructions for Use document in conjunction with all Instructions for Use documents provided.
- ◆ Follow the safety instructions and safety signs.
- ◆ For references purposes, store the Instructions for Use near your workplace.

Electronic Instructions for Use are provided on your CT system and on the workplace.

2.2 Specific safety information

In this chapter, you find safety information concerning the *syngo* Expert-i software and its usage.

CAUTION

Misuse of data handling!

Wrong diagnosis

- ◆ Make sure that only a trained user gets remote access to the system.

CAUTION

Remote and uncontrolled patient movement!

Possible injury to the patient by moving parts.

- ◆ Do not leave the *syngo* Acquisition Workplace unattended if full access is enabled. Local user still has full responsibility for appropriate usage of system.

CAUTION

The display quality at the remote assistance workplace cannot be guaranteed!

Wrong basis for diagnosis.

- ◆ If the remote assistance workplace shall be used for diagnostic purposes, make sure that all necessary regulatory and legal requirements for the monitor are fulfilled.

2 Safety information

3 Installation

3.1 Hardware requirements

The remote computer, respectively the local network, have to meet the minimum requirements listed below.

Computer hardware

<i>Processor remote computer</i>	<i>850 MHz</i>
<i>Operating system</i>	<i>Windows 10, 7, XP, Vista</i>
<i>Primary storage</i>	<i>256 MB</i>
<i>Network card</i>	<i>100 Mbit/s</i>
<i>Graphics card, monitor</i>	<i>1280 × 1024</i>
<i>Color</i>	<i>32 bit</i>

Local network

<i>Local network</i>	<i>100 Mbit/s or higher</i>
<i>Min. transfer rate</i>	<i>> 6 Mbit/s</i>
<i>Response time</i>	<i>< 30 ms</i>

If the remote computer and the network meet the recommended requirements, it is possible to use the connection in high quality mode. (→ Page 19 *Installation at the remote computer*)

If the requirements are not met, the performance and the display on the remote computer may be affected.

3 Installation



The data is not encoded during transfer. For this reason, use the *syngo* Expert-i software only in the local network. If you use the wide area network (WAN) connection, use router encryption.

You should use this feature in a secure network environment only, for example, from outside the secure hospital network by means of a virtual private network (VPN) connection.



Additionally to a remote connection within the local network, the service engineer can connect from outside to the *syngo* Workplace. The service engineer connects via Smart Remote Service by using the *syngo* Remote Assist.

You can only establish either a *syngo* Remote Assist connection or a *syngo* Expert-i connection on your *syngo* Workplace at the same time.

3.2 Installation at the *syngo* Workplace

The installation at the *syngo* Workplace will be performed by a Siemens Healthineers service technician. The service technician installs the license needed to activate the *syngo* Expert-i functionality at the *syngo* Workplace and hands out to you the installation medium, IP-address, and computer name. These things are necessary for setting up a connection from the remote computer to the *syngo* Workplace. The service technician can also activate the Direct Login functionality.



You can see this icon in the status bar of the *syngo* Workplace if the *syngo* Expert-i license is available.

After installation, the Direct Login functionality of *syngo* Expert-i can be configured. The configuration can be done by the user or administrator. (→ Page 24 *Configuration at the syngo Workplace*)

3.3 Installation at the remote computer



Always install the newest client version on your remote computer, disregarding the version of the *syngo* Workplaces. You do not have to uninstall the old version. If you do not uninstall it, you can also import old connections.

To install the software on the remote computer, perform the following steps:

- 1 Insert the installation medium.
- 2 Double-click the install.exe file.
- 3 Follow the installation instructions and select the path where Expert-i shall be installed.

After completed installation, the system asks whether a reboot shall be performed.

- 4 Click **No**, a reboot is not necessary.

You will find additional information in the **Readme** file on the installation medium.



In case you do not have write access to the directory where Expert-i is installed, contact your local system administrator.

3.3.1 Setting up connections

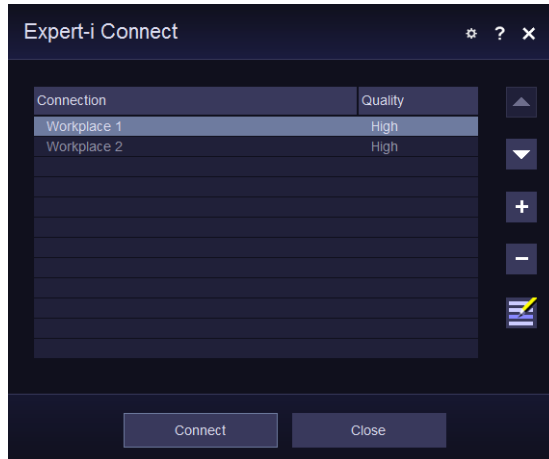
After having installed the Expert-i software, you must set up connections to workplaces.



- 1 Click the program icon to start the Expert-i software at the remote computer.

The **Expert-i Connect** dialog box opens.

3 Installation



2 Click the **Add** icon to create a new connection.

– or –



Click the **Edit** icon to modify an existing connection.

The **Expert-i Edit Connection** dialog box opens.

The 'Expert-i Edit Connection' dialog box has a title bar with a close button (X). The main area contains three input fields: 'Name' with the text 'Workplace 1', 'HostName / IP Address' with the text '10.81.36.137', and 'Quality' with three radio buttons: 'High' (selected), 'Medium', and 'Low'. At the bottom are two buttons: 'OK' and 'Cancel'.

3 In the **Name** field, enter a unique and meaningful name for the connection.

- 4 In the **HostName / IP Address** field, enter the host name or IP address of the workplace, you want to connect to.
- 5 In the **HostName / IP Address** field, additionally enter the prefix **directlogin: //** if you wish to use the **Direct Login** remote access, and if it is configured on the *syngo* Workplace.
- 6 To ensure a smooth image transmission, select the **Quality** of the Expert-i display according to your network bandwidth:
 - **High:** For diagnostic purposes, high quality mode is required. (→ Page 17 *Hardware requirements*)
 - **Medium or Low:** You can use low or medium quality to accelerate the data transfer. A message is displayed warning you that the display quality is not suitable for primary reading. You can hide the message.
- 7 Click **OK**.
- 8 When you configure the first connection, click this icon to set the default port number 5900 or the port number used in your network. You need administration privileges.



3.4 Using more than one monitor



If you use the Expert-i client on a PACS system with more than one monitor, it is not recommended to switch to full-screen mode.

Otherwise, it may occur that the virtual network computing (VNC) dialog box disappears. This happens if you have moved the dialog box to another monitor other than the main monitor, and you have switched to full-screen mode. To display it again, use the control elements for the dialog box in the upper right corner of the main monitor.



By default, the primary display (right monitor) is visible when a dual monitor configuration is connected using *syngo* Expert-i, and you can use hot key combination **Alt + F5** to switch between primary monitor display and dual monitor display.

3 Installation



If you are using three monitors, the Expert-i client starts always on the primary display. When a remote connection is established, the remote dialog box will start on the primary display, too. If the remote dialog box is moved to another display and is maximized to full screen, it may disappear to the background. This depends on other software running on the system, for example, some PACS systems.

You can activate the remote dialog by moving the cursor to the upper right corner of the primary monitor. To display the remote dialog box, click the **Maximize** icon in the upper right corner.

4 Direct Login

4.1 Overview

With the **Direct Login** remote access, every user can access and use the *syngo* Workplace from any Expert-i client in the network. Only one workplace-specific password is needed for all Expert-i clients.

For working as a remote user on the *syngo* Workplace, the following steps have to be performed:

- At the *syngo* Workplace, the local user configures a workplace-specific password and configures the connection timeout.
- The remote user connects to the *syngo* Workplace.



If you have already established a connection from a PACS system to a *syngo* Workplace, you can use the same connection to load a new series. Therefore, you have to load the new series on the PACS system and click the **Expert-i** icon again. The Patient Browser opens automatically with the preselected series on the *syngo* Workplace.



If the *syngo* Security Package is available, you can switch to a user account with fewer rights. Thus, you can ensure that your data is protected before you grant the remote user access to the *syngo* Workplace.



If the *syngo* Security Package is available, each time you use the *syngo* Expert-i software, the protocol inputs are entered into the audit trail.

4.2 Configuration at the *syngo* Workplace

The local user configures a workplace-specific password to grant remote users access to a *syngo* Workplace. The local user can also enter a time to determine for how long the local user can deny the connection attempt of the remote user.

1 From the main menu, choose **Options > Configuration**.



2 Click the **Expert-i** icon.

The **Expert-i Configuration** dialog box opens.

3 Select the **Direct Login Enabled** check box.

4 Enter a password in the **Password** field.

5 Enter a time between 0 s and 30 s (default 10 s) in the **Confirmation timeout** field.



If you enter zero, the dialog box will not be displayed. Zero is recommended if the *syngo* Workplace is used exclusively remotely.

6 Inform all remote users about the password that has to be entered as **Access Code** for the login.



You can configure a timeout to terminate an established remote connection after a certain time. A timeout from 1 min through 8 h is possible. The timeout is deactivated by default.

If you have set up a timeout, a message box is displayed for 20 s before the connection will be terminated.

4.3 Connecting to the *syngo* Workplace

Expert-i allows remote access to a customer workplace from a PC in the same local area network (LAN).

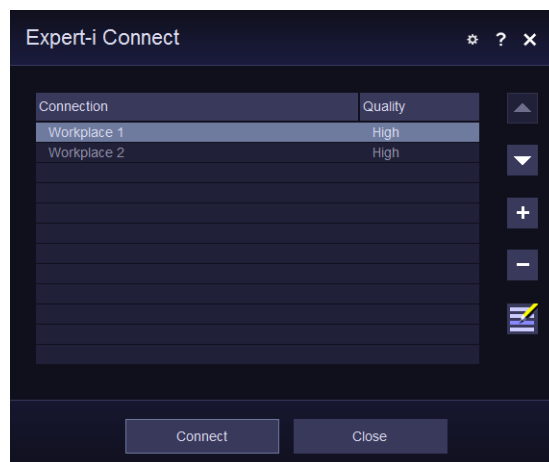
The following restrictions apply:

- Only one remote session can be activated at a time.
- A connection to a *syngo* Acquisition Workplace cannot be established if an interventional examination is being performed.
- When the remote connection is established, interventional examinations are disabled.
- When the remote connection is established in **Full Access** mode, the **Feed** icons are dimmed for the remote user. The table movement is only possible by pressing the **MOVE** key on the control box (also during **Calibration**).
- ✓ You know the password that was generated at the *syngo* Workplace. (→ Page 24 *Configuration at the syngo Workplace*)



- 1 Click the program icon to start the Expert-i software at the remote computer.

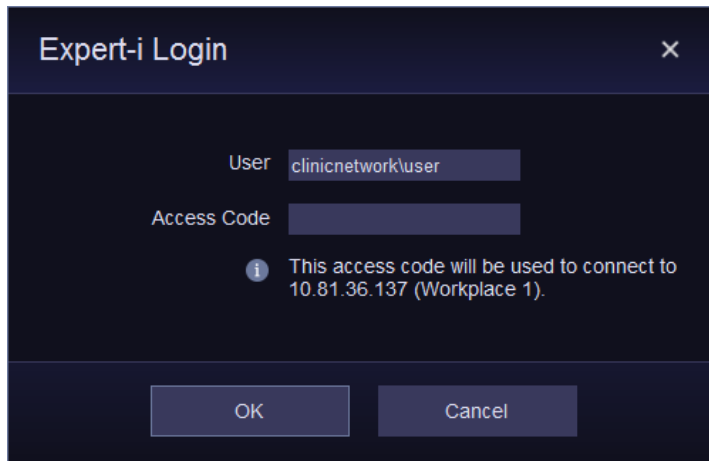
The **Expert-i Connect** dialog box opens.



- 2 Select one of the available connections you have already configured.
- 3 Click the **Connect** button.

The **Expert-i Login** dialog box opens on the remote computer.

4 Direct Login



4 Enter the password generated at the *syngo* Workplace as **Access Code**.

5 Click **OK**.

At the *syngo* Workplace, a dialog box is displayed for the time configured in the **Expert-i Configuration** dialog box (default 10 s). The local user has the option of declining this remote session by clicking **Deny**.

If the local user clicks **Connect** or if the configured time is over, the Expert-i connection is established automatically in **Full Access** mode.



After the connection is established, the icon in the status bar of the *syngo* Workplace changes.



The connection is not going to be established if another remote user is already logged in.

A message box is displayed, informing you about login, IP address and/or host name of the user already logged in, depending on the network configuration.

5 Single session

5.1 Overview

Experts (for example, physicians) can support local users at any *syngo* Workplace, accessing the *syngo* Workplace remotely via a single-session password.

It enables the simultaneous operation from the *syngo* Workplace as well as from the remote computer.

For working as a remote user on the *syngo* Workplace, the following steps have to be performed:

- The local user generates a password and establishes the Expert-i connection at the *syngo* Workplace via Expert-i client.
- The remote user connects to the *syngo* Workplace via Expert-i client.



If you have already established a connection from a PACS system to a *syngo* Workplace, you can use the same connection to load a new series. Therefore, you have to load the new series on the PACS system and click the **Expert-i** icon again. The Patient Browser opens automatically with the preselected series on the *syngo* Workplace.



If the *syngo* Security Package is available, you can switch to a user account with fewer rights. Thus, you can ensure that your data is protected before you grant the remote user access to the *syngo* Workplace.



If the *syngo* Security Package is available, each time you use the *syngo* Expert-i software, the protocol inputs are entered into the audit trail.

5.2 Workflow at the *syngo* Workplace



- 1 Click the tray icon in the status bar of the *syngo* Workplace.

The **Expert-i Connection Status** dialog box opens and a password is displayed.

- 2 Select the **Full Access** option to allow the remote user full access to the *syngo* Workplace.

– or –

Select the **View Only** option to allow the remote user only to view the user interface of the *syngo* Workplace and to point to items on the screen with a separate red mouse cursor.

- 3 Inform the remote user about the password.

- 4 Click **OK**.



After confirming the **Expert-i Connection Status** dialog box with **OK**, the remote user has 120 s to establish the remote connection. When this time has passed, a new password has to be generated and the software has to be restarted.



If the password is entered wrongly three times, the local user has to open a new session and a new password will be generated.



The tray icon changes to the wait mode.



After the connection is established, the icon changes again.

The local user must be present at the *syngo* Workplace as long as the remote connection is established and must pay attention to actions performed remotely.

5.3 Connecting to the *syngo* Workplace

Expert-i allows remote access to a customer workplace from a PC in the same local area network (LAN).

The following restrictions apply:

- Only one remote session can be activated at a time.
- A connection to a *syngo* Acquisition Workplace cannot be established if an interventional examination is being performed.
- When the remote connection is established, interventional examinations are disabled.
- When the remote connection is established in **Full Access** mode, the **Feed** icons are dimmed for the remote user. The table movement is only possible by pressing the **MOVE** key on the control box (also during **Calibration**).
- ✓ You know the password that was generated at the *syngo* Workplace. (→ Page 28 *Workflow at the syngo Workplace*)



- 1 Click the program icon to start the Expert-i software at the remote computer.

The **Expert-i – Connect** dialog box opens.

- 2 Select one of the available connections you have already configured.
- 3 Click the **Connect** button.

The **Expert-i Login** dialog box opens on the remote computer.

Expert-i Login

User clinicnetwork\user

Access Code

i This access code will be used to connect to 10.81.36.137 (Workplace 1).

OK Cancel

5 Single session

- 4 Enter the password generated at the *syngo* Workplace as **Access Code**.
- 5 Click **OK**.

The screen of the remote computer displays the user interface of the *syngo* Workplace. You have access to the *syngo* Workplace.

6 Disconnecting

6.1 Disconnecting the active connection



You can terminate a currently established connection instantly by pressing **Alt+Q** on your keyboard.

At the client, you can terminate it only if you have a **Full Access** connection.

6.1.1 Local user



1 Click the tray icon in the *syngo* Expert-i software at the *syngo* Workplace.

The **Expert-i** status dialog box opens.

2 Click **Terminate** to disconnect the remote connection.



The remote connection is disconnected and the tray icon changes appearance to indicate the disconnected state.

6.1.2 Remote user



1 Move the cursor to the top of the window and click the **Expert-i** icon to open the menu.

2 Choose **Close**.

– or –

Click the tray icon at the remote computer.

The **Expert-i Connection Status** dialog box opens.

3 Click **End connection** to disconnect the remote connection.

6 Disconnecting



The remote connection is disconnected and the tray icon changes appearance to indicate the disconnected state.

7 License disclaimer

Among other components, the product contains Open Source Software that is licensed under an Open Source Software License and that was developed by third parties.



You can find further information about third-party software components in the **About syngo Expert-i** box.

7 License disclaimer

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Caution: Federal law restricts this device to sale by or on the order of a physician, dentist, or veterinarian (21 CFR 801.109(b) (1)).

The original language of this document is English.

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