

SIEMENS

SIMATIC HMI

Software RemoteOperate V2

Programming Manual

Preface

Overview

1

Range of functions of the
RemoteOperate software

2

Hardware and software
requirements

3

Installing RemoteOperate

4

Server and client
administration

5

Using a client

6

Legal information

Warning notice system

This manual contains notices you have to observe in order to ensure your personal safety, as well as to prevent damage to property. The notices referring to your personal safety are highlighted in the manual by a safety alert symbol, notices referring only to property damage have no safety alert symbol. These notices shown below are graded according to the degree of danger.

⚠ DANGER
indicates that death or severe personal injury will result if proper precautions are not taken.
⚠ WARNING
indicates that death or severe personal injury may result if proper precautions are not taken.
⚠ CAUTION
with a safety alert symbol, indicates that minor personal injury can result if proper precautions are not taken.
CAUTION
without a safety alert symbol, indicates that property damage can result if proper precautions are not taken.
NOTICE
indicates that an unintended result or situation can occur if the corresponding information is not taken into account.

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The device/system may only be set up and used in conjunction with this documentation. Commissioning and operation of a device/system may only be performed by **qualified personnel**. Within the context of the safety notes in this documentation qualified persons are defined as persons who are authorized to commission, ground and label devices, systems and circuits in accordance with established safety practices and standards.

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We have reviewed the contents of this publication to ensure consistency with the hardware and software described. Since variance cannot be precluded entirely, we cannot guarantee full consistency. However, the information in this publication is reviewed regularly and any necessary corrections are included in subsequent editions.

Preface

Purpose of the programming manual

This programming manual forms part of the documentation for HMI devices supplied with the RemoteOperate V2 software package.

The manual will help you to install and use RemoteOperate V2.

This manual is intended for:

- RemoteOperate users

RemoteOperate users connect to a server using the RemoteOperate Client software package. They operate and monitor the system during the process control phase.

The following chapters are relevant to RemoteOperate users:

- Overview
- Range of functions of the RemoteOperate software
- Using a client

- RemoteOperate administrators

RemoteOperate administrators install and configure the RemoteOperate system. They define and control client access to the RemoteOperate Server before and during the process control phase.

The following chapters are relevant to RemoteOperate administrators:

- Overview
- Range of functions of the RemoteOperate software
- Hardware and software requirements
- Installing RemoteOperate
- Server and client administration

Basic knowledge required

General knowledge of automation technology and process communication is required to understand the programming manual.

It is also assumed that those using the manual have experience in using personal computers and knowledge of Microsoft operating systems.

Validity of the programming manual

The programming manual is valid for the RemoteOperate V2 software application used in conjunction with the Mobile Panel 277 RO HMI device.

Position in the information landscape

This programming manual forms part of the SIMATIC HMI documentation. The following section provides an overview of other documents from the SIMATIC HMI information scheme on subjects covered in this programming manual.

Operating instructions

- Operating instructions for mobile SIMATIC HMI devices:
 - Mobile Panel 277
 - Mobile Panel 277 RO
- Operating instructions (compact) for SIMATIC HMI devices:
 - Mobile Panel 277
- Panel PC 677 Operating Instructions

Online availability

- Technical documentation on SIMATIC products and SIMATIC systems is available in PDF format in various languages at http://www.automation.siemens.com/simatic/portal/html_00/techdoku.htm.

Conventions

The following designations for hardware and software are used in this manual:

Designation	Meaning
RemoteOperate Server	The RemoteOperate Server software package
RemoteOperate Client	The RemoteOperate Client software package
RemoteOperate	The RemoteOperate software package (Server and Client)
Server	A system on which the RemoteOperate Server software is installed or runs.
Client, HMI device	A system on which the RemoteOperate Client software package runs.

The following text notation will facilitate reading this manual:

Notation	Scope
"Add screen"	<ul style="list-style-type: none"> • Terminology that appears in the user interface, for example dialog names and buttons. • Required inputs, for example, an IP address • Path information
"File > Edit"	Operating sequences, for example, menu commands, shortcut menu commands
<F1>, <Alt + P>	Keyboard actions

Please observe notes labeled as follows:

Note

Notes containing important information about the product and its use or a specific section of the documentation to which you should pay particular attention.

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SIMATIC®
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Siemens AG offers a variety of training courses in order to familiarize you with automation systems. Please contact your regional training center, or our central training center in 90327 Nuremberg, Germany, for details.

Phone: +49 (911) 895-3200

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Technical support for all SIMATIC products is available:

- Using the Web form to request support
<http://www.siemens.com/automation/support-request>
- Phone: + 49 180 5050 222
- Fax: + 49 180 5050 223

Service & Support in Internet

- Service & Support provides additional comprehensive information on SIMATIC products through online services at <http://support.automation.siemens.com> information about your products
- A large document base is available using our Service & Support search engine
- A forum for global exchange of information by users and experts
- Current product information, FAQs and downloads
- You local representative
- Information about on-site services, repairs, spare parts, and more

Table of contents

	Preface	3
1	Overview.....	9
2	Range of functions of the RemoteOperate software	11
3	Hardware and software requirements	13
4	Installing RemoteOperate	15
5	Server and client administration.....	17
5.1	Overview	17
5.2	The "Server - RemoteOperate V2" dialog box.....	18
5.3	Add client	20
5.4	Editing client properties.....	23
5.5	Removing a client	27
5.6	Changing server settings	28
6	Using a client.....	31
6.1	Creating/editing a server selection list	31
6.2	Connecting a client	35
6.3	Changing the server.....	39
6.4	Closing the RemoteOperate Client	41
6.5	Example: Assigning operator authorization	43
	Index.....	47

Overview

The use of personal computers in the automation sector is a fact of life today. To reduce the costs for hardware, software and maintenance, it is common practice to use several screens with one PC. In addition, the use of several screens makes it possible for staff to observe or operate a plant from a remote location.

The use of simple displays with a standard video cable is usually prevented by restrictions on the maximum possible cable length and the EMC load in industrial environments. In such an environment, Ethernet data transfer networks are the first choice in terms of operational reliability and cabling costs.

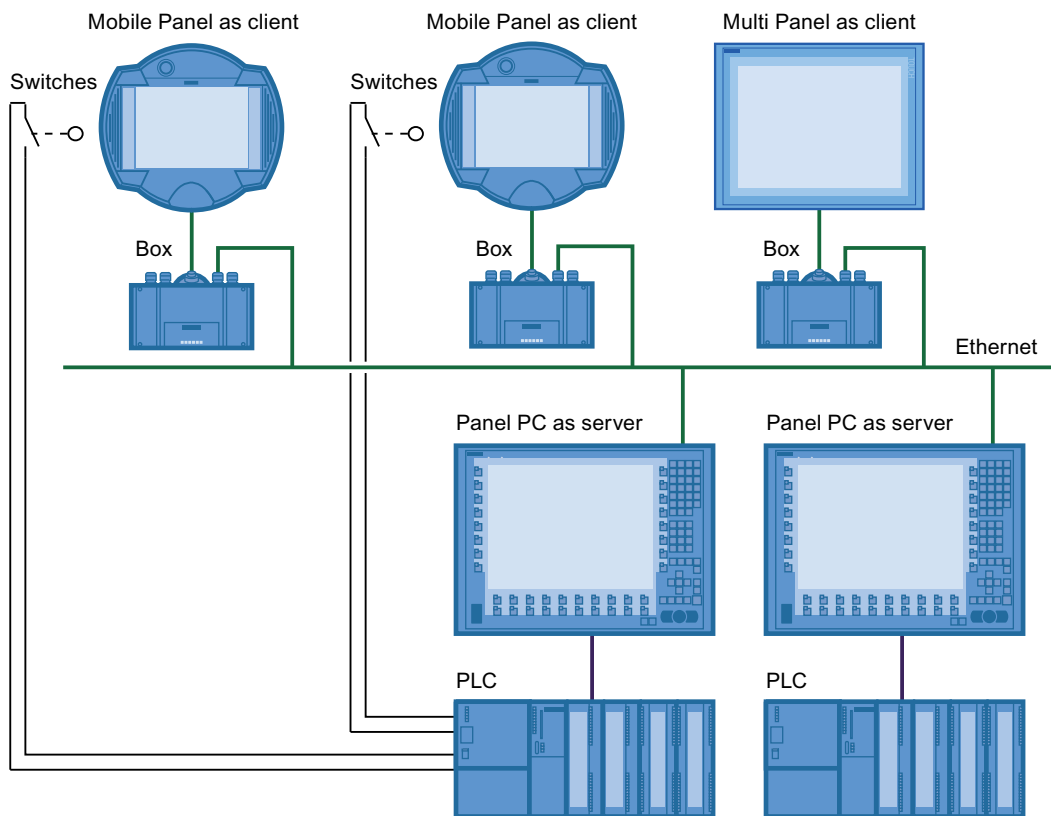
RemoteOperate software

RemoteOperate software enables remote access to process data and the implementation of cost-effective client/server solutions at a machine level.

With RemoteOperate, you can monitor or operate a server from a client. The range of operations covers all the functions of the server.

The RemoteOperate client/server structure

The following figure shows an example of the design for a RemoteOperate client/server structure.



The network devices communicate via Ethernet.

The RemoteOperate user interface

The RemoteOperate user interface is simple and easy to use. All buttons and authorization displays are identified by language-independent icons.

Range of functions of the RemoteOperate software

Server and client

After installation, the RemoteOperate software runs on the server as a Windows service. Clients can connect to the server even if no users are logged on to the server.

When a client connects to a server, the screen contents of the server are displayed on the client's screen. This is known as a "server-identical screen".

Depending on its access authorization, a client can either monitor or operate the server.

Range of functions of RemoteOperate Server

The RemoteOperate Server software offers the following functions:

- Add a client: You can connect up to six clients to one server, either manually or by confirmation of an incoming operator request.
- Remove a client: You can delete entries from the list of authorized clients.
- Edit the properties of a client: You can define the server access authorization for each authorized client: "No access", "Access", "Monitor" or "Operate".
- Change the server settings, for example:
 - Restart the "RemoteOperate V2 Server" service.
 - Specify the network adaptor for the Ethernet connection.
 - Specify the color depth of the client.
- Access control: Only one client can operate the server at any one time. The RemoteOperate Server assigns the operator authorization. The following types of operator authorization are available:
 - The "operate" mode: A client receives the operator authorization. Other clients can make an operator request.
 - The "operate exclusively" mode: A client receives the exclusive operator authorization. Other clients can only make another operator request if the "operate exclusively" mode was released once again using the RemoteOperate Client software.
 - "Forced Exclusive" mode: A client receives the exclusive operator authorization via a bit that was set in the PLC, for example with a switch close to an HMI device. Only if the "Forced Exclusive" mode is disabled by resetting the bit in the PLC, will other clients be able to make an operator request.
The "Forced Exclusive" mode can only be used in connection with mobile HMI devices.
Additional information on "Forced Exclusive" mode is available in the following chapter.

Range of functions of RemoteOperate Client

The RemoteOperate Client software offers the following functions:

- Create or edit the server selection list.
- Connect the client to a server.
- Monitor or operate a server as an identical screen.
- Operate the server exclusively. A client can block and release the operator authorization that has been granted. Other clients cannot request operator authorization until it has been released.
- Automatic reconnection after interruption: If the network connection between the client and server is unintentionally interrupted, RemoteOperate Client automatically establishes a new connection to the server.

The client is immediately ready for operation again after a short-term network problem. In case of an ongoing network problem, the client will permanently try to establish a connection again. You can choose to abort this repeated attempt to establish a connection.

See also

Add client (Page 20)

Editing client properties (Page 23)

Removing a client (Page 27)

Changing server settings (Page 28)

Creating/editing a server selection list (Page 31)

Connecting a client (Page 35)

Hardware and software requirements

Server hardware

RemoteOperate supports the following devices as server:

- Panel PC 677
- Panel PC 677B

Server operating system

The RemoteOperate Server software is compatible with the following operating systems:

- Windows XP Pro SP2

Client hardware

RemoteOperate supports the following devices as client:

- Mobile Panel 277 RO
- MP 377

Client operating system

The following applications are pre-installed on the HMI device:

- The Microsoft Windows CE 5.0 operating system;
- The RemoteOperate Client software;

The operating system and the RemoteOperate Client software are located in an image on the "SIMATIC RemoteOperate - Applications & Documentation" CD-ROM. The CD-ROM is supplied with the HMI device.

If the operating system or the RemoteOperate Client software is missing from an HMI device, you need to transfer the image to the HMI device. To do this, follow the instructions in the "Mobile Panel 277 RO" operating instructions, "Commissioning the HMI device" chapter.

HMI software

To use the "Forced Exclusive" mode for Mobile Panels, you will have to implement the following mechanisms in the HMI software that runs on the server.

- Monitoring the control bits that enable and disable the "Forced Exclusive" mode. The control bits can be interconnected, for example, with switches.
- Evaluation of the control bit and detection of the connection box ID of the mobile HMI device that may operate the server in "Forced Exclusive" mode.
- Create the following registry entry of the type REG_SZ (string or character string) on the server if the registry entry does not exist yet:
HKEY_LOCAL_MACHINE\SOFTWARE\SIEMENS\RemoteOperate_V2\ForceExclusive

- Enter the connection box ID as value of the registry entry "ForceExclusive."

The valid range of values for the entry "ForceExclusive" is "0" to "255."

This entry is permanently monitored by a polling mechanism of the RemoteOperate Server software. As soon as the registry entry "ForceExclusive" receives a value between "0" and "255," the exclusive operator authorization will be assigned to the mobile HMI device with this connection box ID.

- Delete the registry entry "ForceExclusive" as soon as one of the following states is assumed:
 - The control bit of the client operated in "Forced Exclusive" mode will be reset. Reset of the control bit can, for example, be triggered by pressing the switch once again.
 - The HMI software running on the server will be closed.

 WARNING
Restart required
The HMI software is to take over administration of the registry entry "ForceExclusive" and check validity of the entry.
Errors in the registry entry "ForceExclusive" may force a restart of the "RemoteOperate Server" software or the server.

Note

The registry entry "ForceExclusive" will be automatically reset after a restart of the server and the "RemoteOperate Server" software.

Installing RemoteOperate

RemoteOperate Client

The following applications are pre-installed on the HMI device:

- The Microsoft Windows CE 5.0 operating system;
- The RemoteOperate Client software;

The operating system and the RemoteOperate Client software are contained in an image on the CD-ROM "SIMATIC RemoteOperate - Applications & Documentation".

If the operating system or RemoteOperate is missing from an HMI device, you need to transfer the image to the HMI device. To do this, follow the instructions in the "Mobile Panel 277 RO" operating instructions, "Commissioning the HMI device" chapter.

RemoteOperate Server software - requirements

Make sure that the following requirements have been satisfied before starting to install the RemoteOperate Server software.

- The PC on which you are installing RemoteOperate Server satisfies the requirements described in the "Hardware and software requirements" chapter.
- You have administrator rights on the server and are logged on as administrator in Windows. Administrator rights are only needed for installing RemoteOperate. After installation you can use RemoteOperate on the server without administrator rights.

Previous versions of RemoteOperate Server

RemoteOperate or a previous version of RemoteOperate may not be already installed on the server.

- Select "Start" > "Settings" > "Control Panel" > "Add or Remove Programs."
- Enable the entry "RemoteOperate V2.1.x."
- Remove the previous version of the RemoteOperate software with the "Change/Remove" button.
- Make sure that the "Siemens RemoteOperate V2 Mirror Driver" driver is not present on the server. You can verify this setting in the Control Panel: "Start" > "Settings" > "Control Panel" > "System" > "Hardware" tab > Device Manager" button > "Display adapters."

If the driver "Siemens RemoteOperate V2 Mirror Driver" is still on the server, then remove it prior to installation.

Settings in the Windows Control Panel

Check the following settings in the Windows Control Panel:

- Visual effects are disabled. To do this, set the system to the "Adjust for best performance" setting:
"Start" > "Settings" > "Control Panel" > "System" > "Advanced" tab > "Performance", "Settings" button > "Visual Effects" tab, setting: "Adjust for best performance".
- Hardware acceleration of the graphics card is disabled:
"Start" > "Settings" > "Control Panel" > "Display" > "Settings" tab > "Advanced" button > "Troubleshoot" tab > Hardware acceleration: "None".
- The Windows profile is set to "Classic Start menu":
"Start" > "Settings" > "Taskbar and Start Menu" > "Start Menu" tab.
- If you use a firewall, make sure that the "roServer.exe" file is included in the exceptions list.
"Start" > "Settings" > "Control Panel" > "Network and Internet Connections" > "Windows Firewall" > "Exceptions" tab.
- Set the screen resolution of the server to one of the following values:
 - 640 x 480
 - 800 x 600
 - 1024 x 768
 - 1280 x 1024


For setting the resolution, select

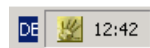
"Start" > "Settings" > "Control Panel" > "Display" > "Settings" tab.

Installing RemoteOperate Server

Proceed as follows:

1. Insert the "SIMATIC RemoteOperate - Applications & Documentation" CD-ROM into the server's CD or DVD drive.
2. Run "setup.exe" from the \Server folder of the CD-ROM.
3. Read and accept the terms of the license agreement.
4. Follow the steps in the installation program.
5. Select "Finish" at the end of the installation process.
6. Once you have successfully completed the installation, you need to reboot the server. Leave the CD-ROM in the drive for this.
7. After the restart, log on with the same logon used for the installation process.

If the installation completes successfully, the RemoteOperate icon  is shown in the Windows taskbar.



Result

You have successfully installed the RemoteOperate software.

Server and client administration

5.1 Overview

This chapter describes the tasks and processes involved in server configuration and client administration.

Requirements

- You have successfully installed the RemoteOperate Server software on the server. The "RemoteOperate V2 Server" service is running in the background on the server.
- You have logged on to the server as a user. You can either connect to the server itself or connect via an authorized client and log on to the server.

Server and client administration

RemoteOperate offers the following functions for server and client administration:

- Add a client manually or via an incoming connection request;
- Edit the properties of a client;
- Remove a client.
- Change the following RemoteOperate Server software settings:
 - Define a shortcut to display the "Server - RemoteOperate V2" dialog box;
 - Specify the limit for the maximum CPU load on the server by the RemoteOperate Server software;
 - Restart the "RemoteOperate V2 Server" service.
 - Specify the server network adapter used for the Ethernet connection.
 - Specify the color depth of the client.

See also

Installing RemoteOperate (Page 15)

Connecting a client (Page 35)

Add client (Page 20)

Editing client properties (Page 23)

Removing a client (Page 27)


Changing server settings (Page 28)

5.2 The "Server - RemoteOperate V2" dialog box

Opening the "Server - RemoteOperate V2" dialog box

The "RemoteOperate Server" icon is located at the lower right corner of the Windows taskbar.

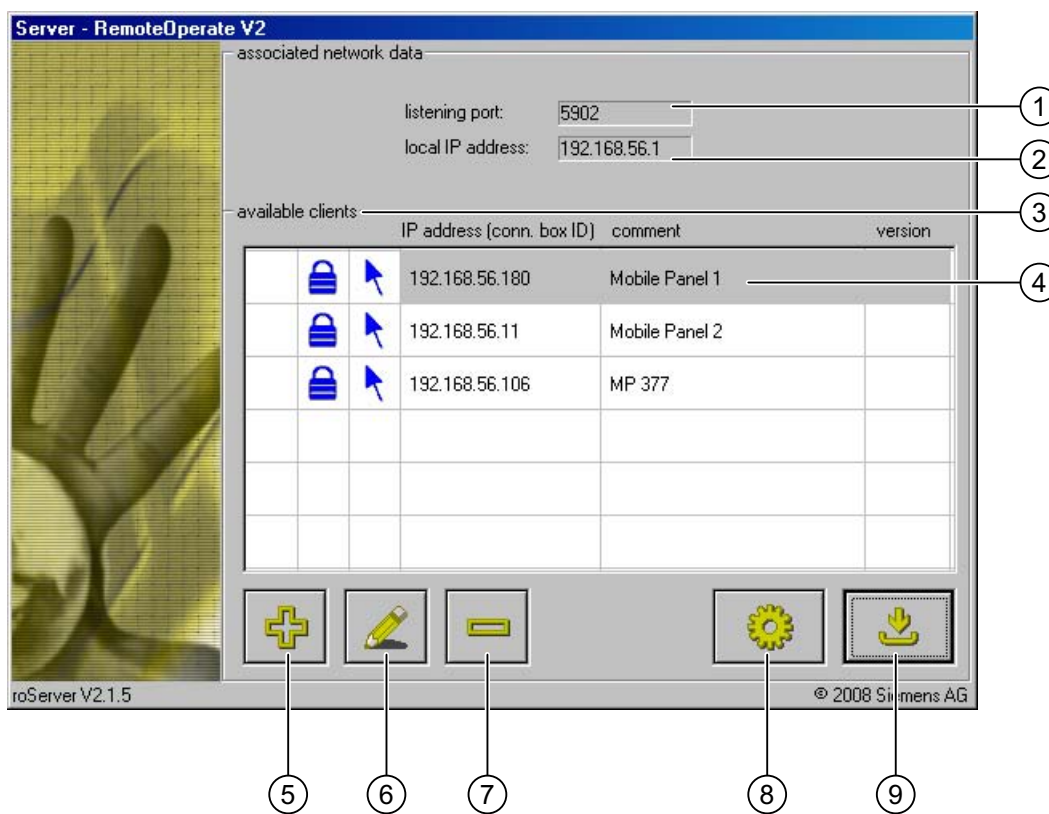


Click the "RemoteOperate Server" icon  to open the "Server - RemoteOperate V2" dialog box.

Alternatively, you can open the "Server - RemoteOperate V2" dialog box using a shortcut you have defined in the server settings.


Description of the "Server - RemoteOperate V2" dialog box

The following figure shows the "Server - RemoteOperate V2" dialog box:



- ① Port for the RemoteOperate server
- ② IP address of the RemoteOperate server network adapter
- ③ List of available clients
- ④ Status, authorization, IP address, and description of a client
- ⑤ "Add client" button
- ⑥ "Edit client" button
- ⑦ "Remove client" button
- ⑧ "Edit server settings" button
- ⑨ "Close server dialog box" button

Closing the "Server - RemoteOperate V2" dialog box

Minimize the "Server - RemoteOperate V2" dialog box by clicking the  button.

See also

Changing server settings (Page 28)

5.3 Add client

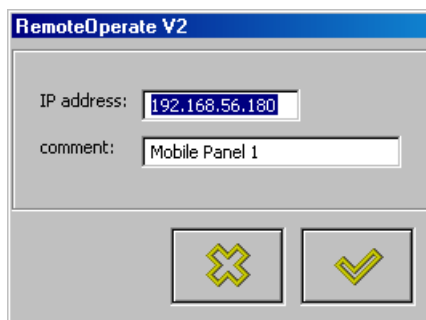
Requirement


- The "Server - RemoteOperate V2" dialog box is open.

Procedure

Proceed as follows:

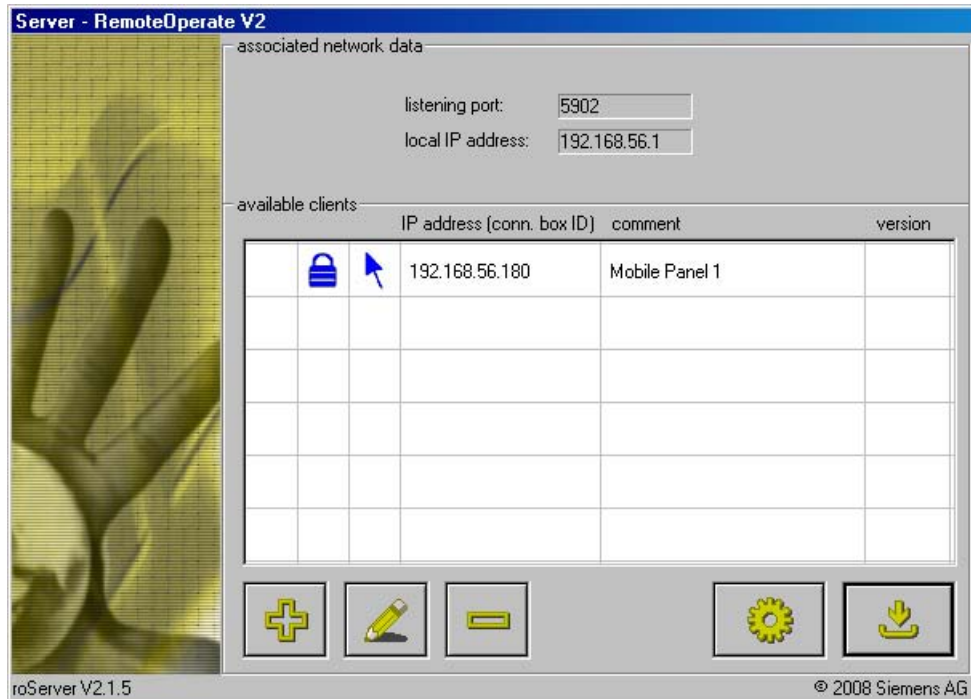
1. Open the "RemoteOperate V2" dialog box with the  button to create a new client.



2. Enter in the "IP address:" box the physical address of the client which you want to add to the list of clients.
3. Optional: Enter a comment in the "comment:" box .
The comment is then displayed in the list of "available clients" as a text description of the client next to its IP address.
Choose a meaningful comment, such as the name or type of HMI device.
4. Click  to confirm your inputs.
The "RemoteOperate V2" dialog box is closed.

Result

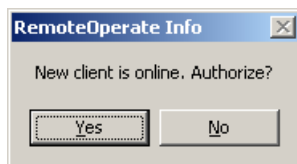
You have added a new client to the list of "available clients":



You can include a maximum of six clients in the list of "available clients" of a server.

Alternative procedure

If a client makes a connection request during operation, the "RemoteOperate Info" dialog box is displayed on the server screen:



Select "Yes" to add the client that made the connection request to the list of "available clients." The client is granted authorization to connect at the same time.

If you select "No", you add the client that made the connection request to the list of available clients, but the client is not granted authorization to connect.

Note

Adding a comment

After processing a connection request, the comment box to the right of the IP address of the new client in the list of available clients is still blank.

Click  to edit the client properties and add a comment.

See also

The "Server - RemoteOperate V2" dialog box (Page 18)

Editing client properties (Page 23)

5.4 Editing client properties

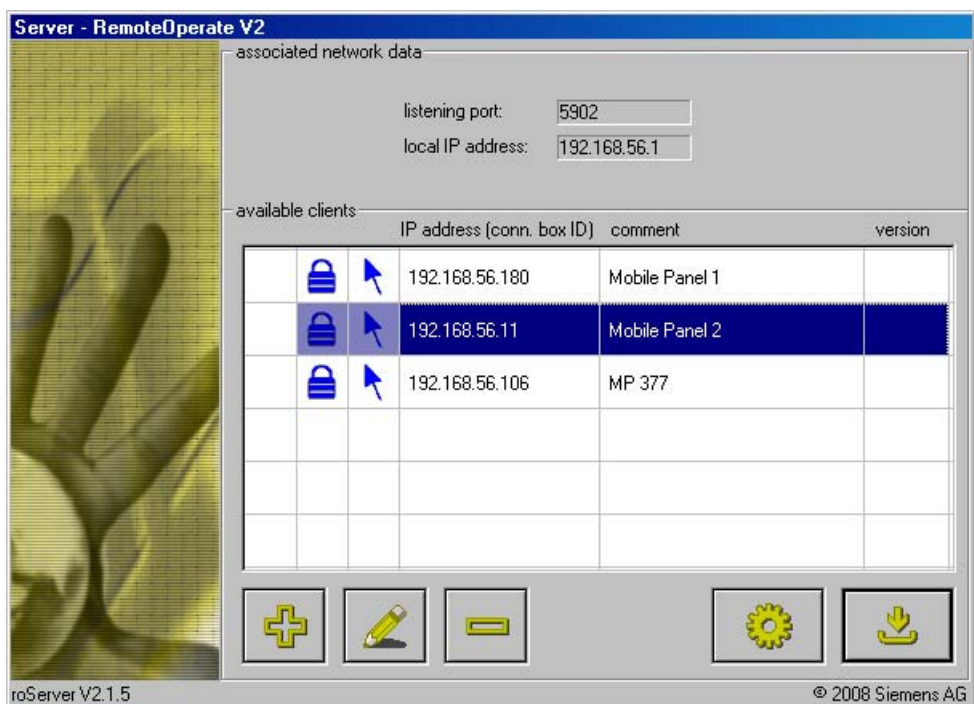
Requirement

- The "Server - RemoteOperate V2" dialog box is open.

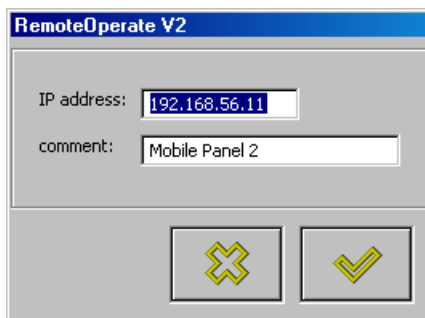
Edit client properties

Proceed as follows:

1. Select the client whose properties you wish to edit from the list of "available clients." The selected row is displayed with a blue background:




2. Open the "RemoteOperate V2" dialog box with the button to change the client properties.



3. Make your changes to the client properties in the "RemoteOperate V2" dialog box. You can edit the IP address and the comment.

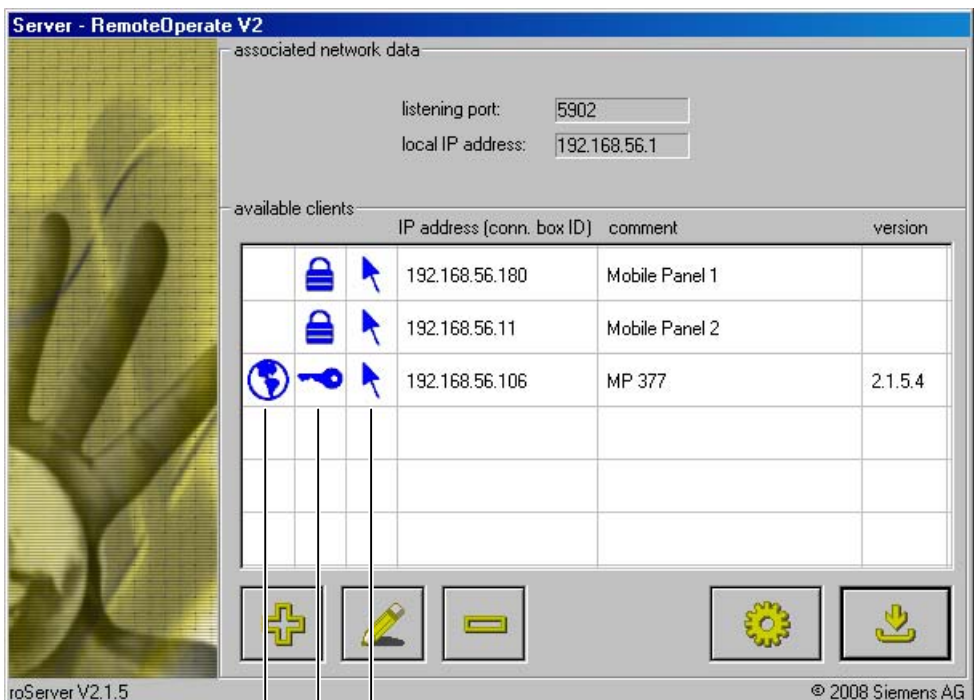
Note

If the client is currently connected to the server, you can only work on the comment while the input field "IP address" is grayed out.

4. Confirm your settings by clicking . The "RemoteOperate V2" dialog box will be closed.




Editing client access authorization




The connection status, the access authorization, and the operator authorization of a client are displayed in columns 1 to 3 of the "available clients" list.



- ① Connection status
- ② Access authorization
- ③ Operator authorization

The following table shows the meaning of the icons.

Number	Symbol	Type	Meaning
①		Information	The client is offline, not connected to the server.
		Information	The client is online, connected to the server.
②		Switches	The client is not authorized and may not connect to the server.


Number	Symbol	Type	Meaning
		Switches	The client is authorized and may connect to the server.
③		Switches	The client is authorized to monitor the server.
		Switches	The client is authorized to operate the server.

You can switch the icons in columns 2 and 3 as follows:

- Mouse operation: Click the icon.
- Touch operation: Touch the icon.

! DANGER

Full access to the server

The  icon denotes full access to the server.

Improper use of the server by unauthorized personnel may cause the server to malfunction. Malfunctions can result in death or serious injury.

You should assign passwords to the HMI devices. Develop an operator authorization plan. This will enable you to ensure that only authorized personnel are given full access to the server.

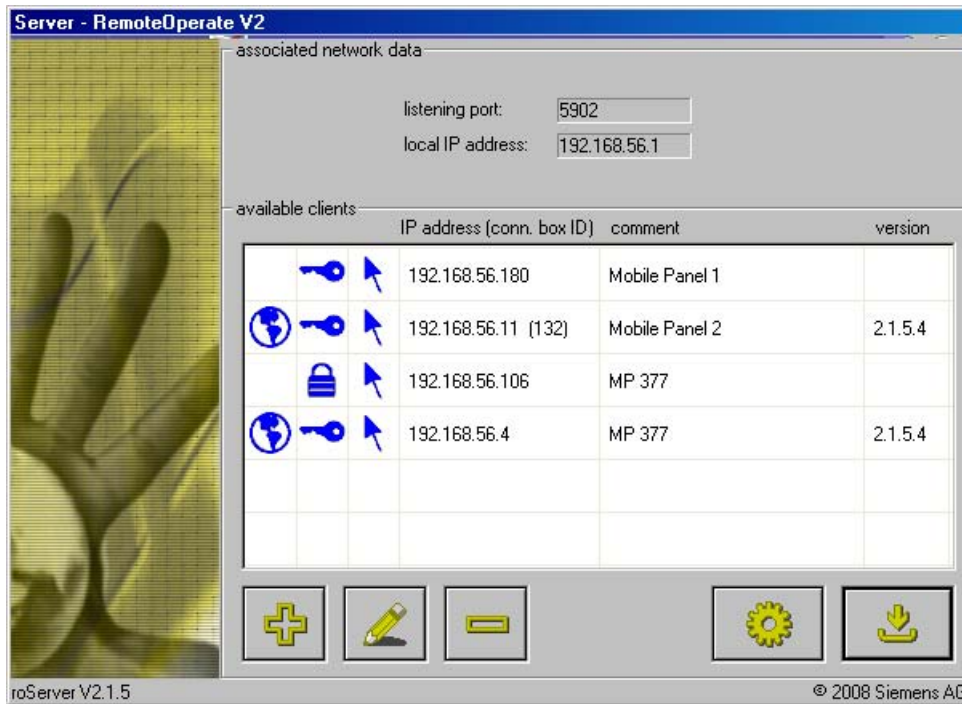
Result

You have changed the properties and access authorization of the client.

Indication of the Box ID

The column "IP address (conn. box ID)" indicates either the IP address of a client or the IP address with Box ID. The indication of the Box ID works only for mobile HMI devices that are currently connected to the server via a connection box.

The following example shows when the Box ID is displayed and when it is not.



- "Mobile Panel 1" is included in the "available clients" list and authorized but currently not online and, therefore, not connected with the server. The Box ID is not displayed.
- "Mobile Panel 2" is included in the "available clients" list, authorized and currently online and, therefore, connected with the server. The Box ID is displayed.
- "MP 377" is not a Mobile Panel. This means the Box ID is not displayed.

See also

The "Server - RemoteOperate V2" dialog box (Page 18)


5.5 Removing a client

Requirements

- The "Server - RemoteOperate V2" dialog box is open.

Procedure

Proceed as follows:

1. Select the client that you wish to remove from the list of available clients.
2. Remove the selected client from the list of available clients using the  button.

Result

You have removed the selected client. The client is no longer displayed in the list of available clients.

See also

The "Server - RemoteOperate V2" dialog box (Page 18)

5.6 Changing server settings

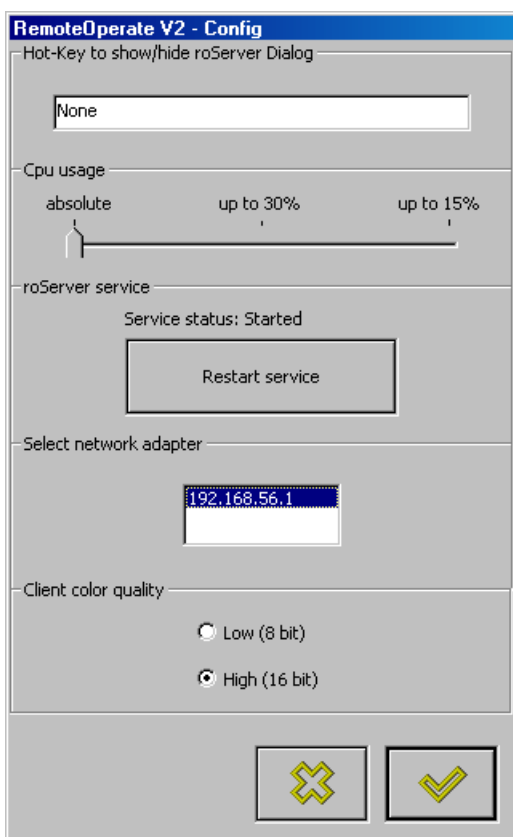
Requirements

- The "Server - RemoteOperate V2" dialog box is open.


Procedure

Proceed as follows:

1. Open the "RemoteOperate V2 - Config" dialog box using the  button.



2. In the "Hot-Key to show/hide roServer Dialog" input box you can enter a shortcut for opening and closing the "Server - RemoteOperate V2" dialog box. Do this by pressing a letter key or a combination of one or more control keys and a letter key on the keyboard or the screen keyboard.
Examples: <CTRL+R>, <SHIFT+S>, <ALT+T>, <CTRL+ALT+S>
3. Specify the limit for the maximum CPU load on the server by the "RemoteOperate Server" software with the "Cpu usage" button. Select a value less than "absolute."
4. Use the "Restart service" button to restart the "RemoteOperate V2 Server" service. If you have made changes to the advanced server settings in the "roServer.ini" file, for example, you need to restart the service.

5. In the "Select network adapter" list, select the IP address of the network adapter used to connect the server to the Ethernet network.
If you change the IP address, the "RemoteOperate V2 Server" service is automatically restarted.
If you change the IP address of the server in the Control Panel, you have to restart the "RemoteOperate V2 Server" service manually using the "Restart service" button.
6. Use the "Client color quality" radio buttons to specify the color depth of the clients connected to this server. You can set a low color depth with 8 bits or a high color depth with 16 bits.
7. Confirm your settings with .

Note**Screen resolution of the clients**

The screen content of the server will be automatically scaled to match the screen size of the client.

The following screen resolutions of the clients are supported by the RemoteOperate software:

- 640 x 480
 - 800 x 600
 - 1024 x 768
 - 1280 x 1024
-

Result

You have changed and saved the settings for the RemoteOperate server.

Advanced settings in the "roServer.ini" file

The "roServer.ini" file contains advanced configuration settings. If RemoteOperate Server has been started as a service, the "roServer.ini" file can be found in the "\system32" folder of the Windows installation directory.

The "roServer.ini" file is divided into two areas:

- The [CONFIG] area contains the definition of wait times during client/server operation.
- The [CONNECT] area contains the server network parameters required for client/server communication.

To adjust client/server operation to your requirements, proceed as follows:

1. Stop the "RemoteOperate V2 Server" service via the Control Panel:
"Start" > "Settings" > "Control Panel" > "Administrative Tools" > "Services".
2. Make your changes to the "roServer.ini" file.
3. Start the "RemoteOperate V2 Server" service via the "Restart service" button in the "RemoteOperate V2 - Config" dialog box or via the Control Panel:
"Start" > "Settings" > "Control Panel" > "Administrative Tools" > "Services".

You can change the following variables:

Tag	Value range	Default value	Meaning
TIMEIDLE	1-60 seconds	5	If the client is not used within this time, the server switches to "idle" mode. All server and client traffic lights change to green.
TIMENEXTREQUEST	1-60 seconds	5	Time for which the server waits before a new operator request can be made.
TIMEWAITACCESS	1-60 seconds	10	Time for which the operator request dialog box is displayed. At the end of this time, operator authorization is automatically granted.
TIMETOOLBAR	1-60 seconds	5	Time for which the user must press the touch screen of the HMI device to open the RemoteOperate toolbar.

NOTICE

Connection reliability

You should only change the values of the variables listed above. Leave all other settings unchanged.

Otherwise, a reliable client/server connection cannot be guaranteed.

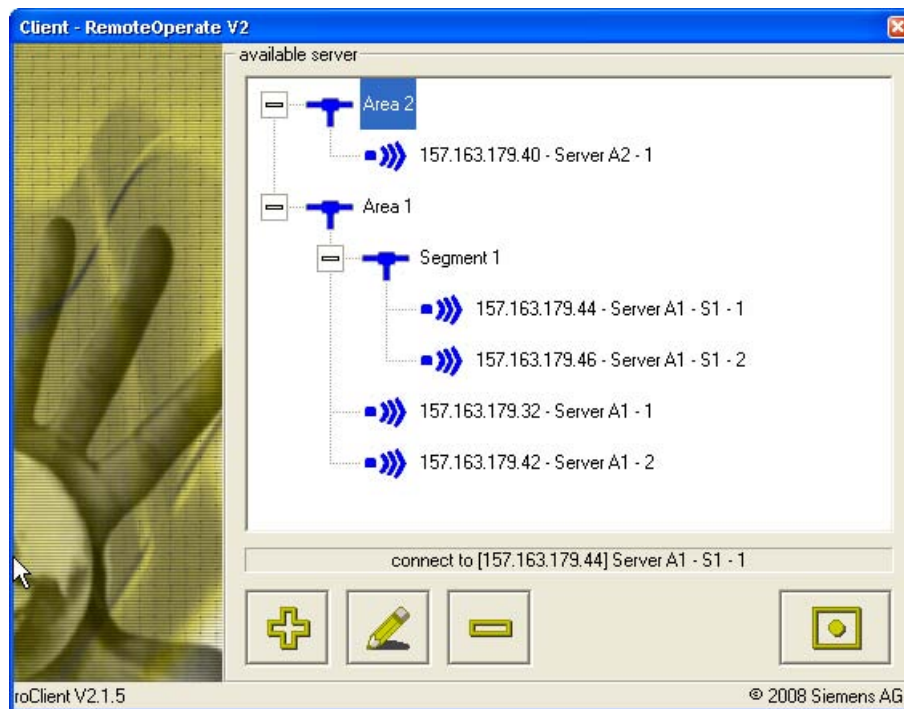
See also

The "Server - RemoteOperate V2" dialog box (Page 18)

Using a client

6.1 Creating/editing a server selection list


When you switch on the HMI device and once the HMI device starts up, the server selection list is displayed in the "Client - RemoteOperate V2" dialog box:



Note

When you switch on the HMI device for the first time, the server selection list is empty. You must first create a new server.

Password protection

If your HMI device is password protected, the  icon also appears in the "Client - RemoteOperate V2" dialog box.

The password is requested once per connection attempt and with the following actions:

- Create server
- Change server properties
- Delete server
- Close RemoteOperate Client

Creating a new server


Note

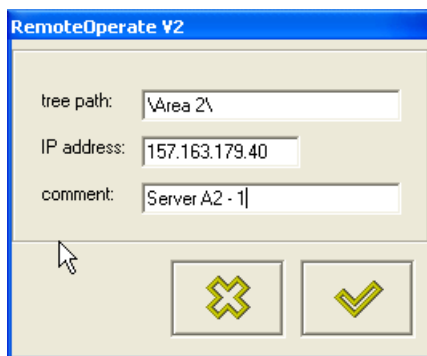
Limited number of servers per client

RemoteOperate supports a maximum of ten servers in a client's server selection list.

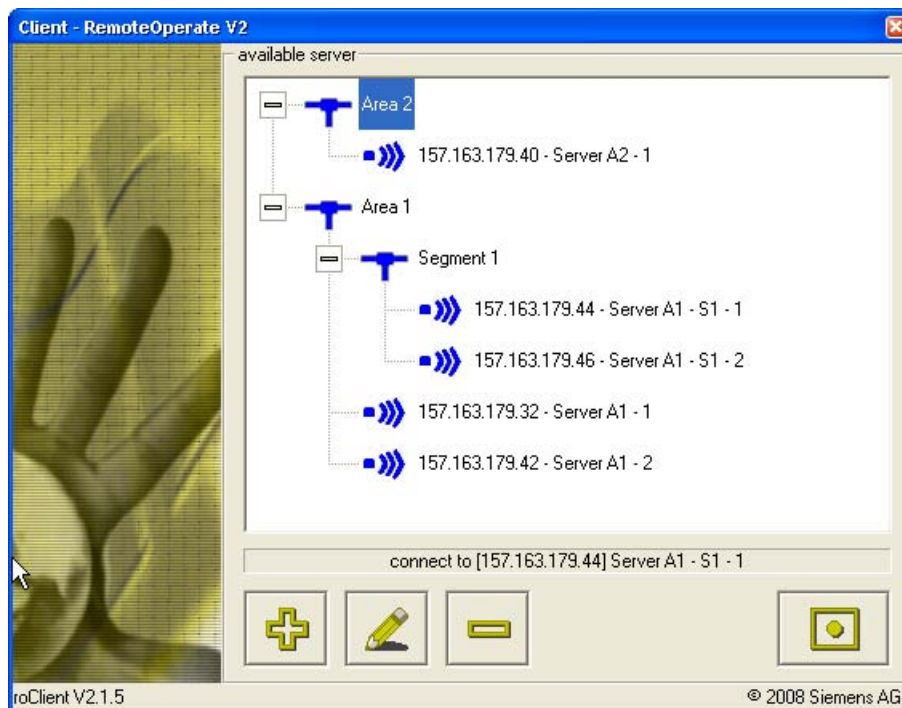
If you wish to create a new server, make sure that there are no more than nine servers in the server selection list.

Proceed as follows:

1. Open the "RemoteOperate V2" dialog box with the  button to create a server.



2. Enter in the "tree path:" box the path of the server inside the server selection list. "Path" denotes the node in the server tree under which the server will be created. For example, if you specify "\Area1\", the IP address of the server will subsequently appear under the "Area1" node:




Note

The path of the server selection list has a maximum of three levels. Specify no more than three path levels for a server, for example "\Area2\Segment1\Place2\". If the path already exists in the server selection list, the new server will be inserted at this point. If the path does not yet exist, it is created automatically.

3. Enter the IP address of the new server in the "IP address:" text box.
4. Enter the name of the new server in the "comment:" text box that is displayed in addition to the IP address in the tree of the server drop down list box.
5. Confirm your settings with


Changing the properties of a server

Proceed as follows:

1. Select the server whose properties you wish to edit.
2. Open the "RemoteOperate V2" dialog box with the  button to change the server properties.
3. Follow steps 2 to 5 of the instructions for creating a new server.

Remove server

Proceed as follows:

1. Select the server that you wish to remove from the server selection list.
2. Remove the selected server from the server selection list using the  button.

Result

You have created a new server selection list or changed an existing server selection list.

6.2 Connecting a client

Requirements

- You have switched on the HMI device.
- You have entered your password to authorize access if your HMI device is password protected.

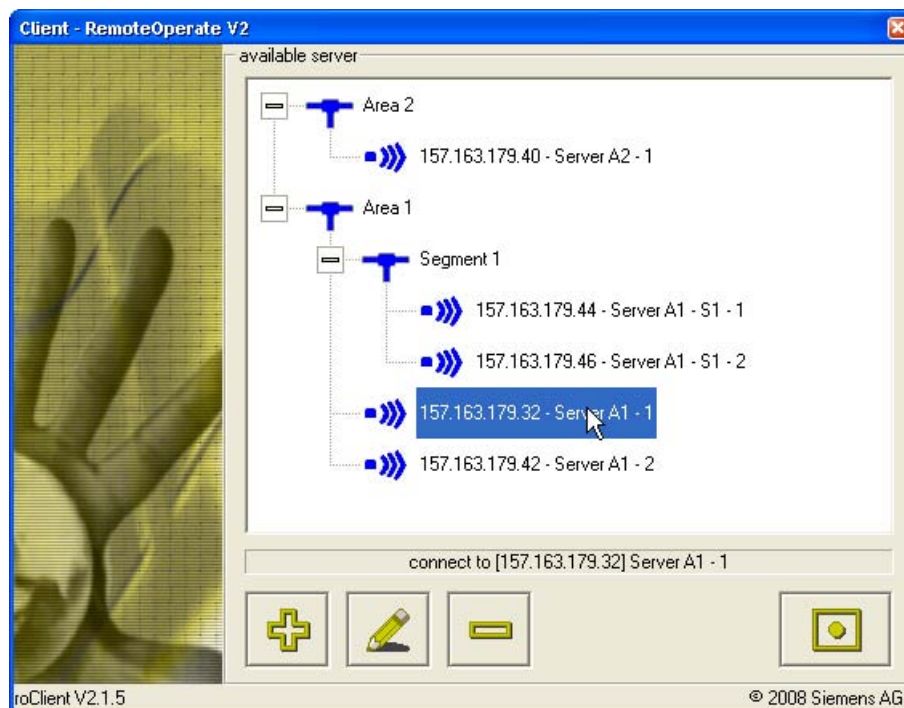
Note

If you have switched on the HMI device for the first time, the server selection list is empty. Create a new server selection list.

Procedure

Proceed as follows:

1. Select the name of the server to which you want to connect.



! DANGER

Full access to the server

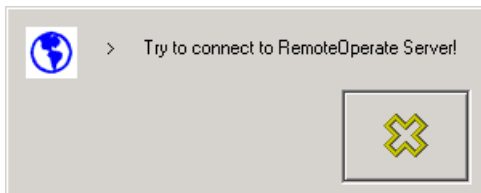
Depending on your access authorization, when you connect to the server, you have full access.

Improper use of the server by unauthorized personnel may cause the server to malfunction. Malfunctions can result in death or serious injury.

You should assign passwords to the HMI devices. Develop an operator authorization plan. This will enable you to ensure that only authorized personnel are given full access to the server.


- 2. Connect the client to the selected server using the  button.

While the client is trying to connect to the server, the following message is displayed on your HMI device:



Note

Response to a network fault

If a transient or long-term network fault occurs, the client repeatedly tries to establish a connection to the server. You can abort this repeated attempt to establish a connection with the  button.

Result

Once a connection to the server has been established, the following options are available:



- The server grants you access. The project running on the server is displayed. Depending on your authorization, you can either monitor or operate the project on the server.
- The server grants you access. The Windows desktop of the server is displayed. If you have operator authorization, you can launch your project via the appropriate desktop icon.
- The server grants you access. The server's Windows logon screen is displayed. Press the touch screen until the RemoteOperate toolbar is displayed:



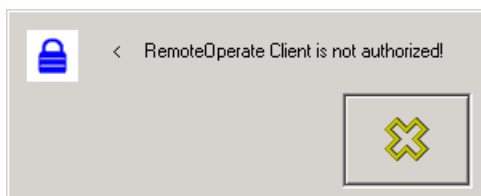
Note

Setting the time to display the toolbar

The length of time you need to press the touch screen before the RemoteOperate toolbar is displayed is defined in the "roServer.ini" file.

If you have operator authorization, press the "Ctrl+Alt+Del" button . Then press the  button and log onto the server. Launch your project via the appropriate desktop icon.

- The server does not grant you access. The following message is displayed on your HMI device:



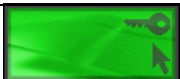





You can abort the attempt to establish a connection using the  button.

Once the server has rejected your access attempt, your client will remain unauthorized until the server explicitly grants you access.

The operator authorization window ("traffic lights")

The operator authorization window, known as "traffic lights", are displayed in the foreground on the server screen and the screens of all connected clients with operator authorization. The traffic lights can assume the following states:

Traffic light icon	Activated by	Meaning
	Touching the touch screen on a client with operator authorization or enabling exclusive operator authorization on another client with operator authorization.	You have authorization to operate the server. Other clients can make an operator request.
	Two rapid touches (double-click) on the traffic lights of the current client with operator authorization.	You have exclusive authorization to operate the server. Other clients will only be able to make an operator request when you relinquish the exclusive operator authorization by double-clicking the traffic light once again.
	Enable the "Forced Exclusive" mode, for example with a switch close to the Mobile Panel.	You have exclusive authorization to operate the server. Other clients will only be able to make an operator request when you relinquish the exclusive operator authorization disabling the "Forced Exclusive" mode.
	Touching the touch screen on another client with operator authorization.	Another client has authorization to operate the server. You can make an operator request on your client by touching the touch screen.
	Double-click on the traffic lights on another client with operator authorization.	Another client has exclusive authorization to operate the server. You cannot make another operator request until the other client has given up the exclusive operator authorization by double-clicking the traffic light.

Traffic light icon	Activated by	Meaning
	Enable the "Forced Exclusive" mode, for example with a switch close to the Mobile Panel.	Another client has exclusive authorization to operate the server. You cannot make another operator request until the other client has given up the exclusive operator authorization by disabling the "Forced Exclusive" mode.

The RemoteOperate toolbar

If you press the touch screen for more than five seconds, the RemoteOperate toolbar is displayed in the foreground on your screen.









Note

Setting the time to display the toolbar

The length of time you need to press the touch screen before the RemoteOperate toolbar is displayed is defined in the "roServer.ini" file.

The special functions of the RemoteOperate toolbar are shown in the table below:

Buttons	Functions
	Executes a right-click on the server. Proceed as follows: 1. Select a screen object which has a right-click function. 2. Touch the "Right-click" button. 3. Execute the desired function.
	Opens the screen keyboard.
	Operates the Windows button on the server.
	Executes the <Ctrl+Alt+Del> shortcut on the server, e.g., to log onto the server.
	Terminates the connection to the server.
	Closes the RemoteOperate toolbar.

See also

Creating/editing a server selection list (Page 31)

Changing server settings (Page 28)

6.3 Changing the server

Requirements

- The HMI device is connected as a client to a server.

Procedure

Proceed as follows:

1. Press the touch screen until the RemoteOperate toolbar is displayed.



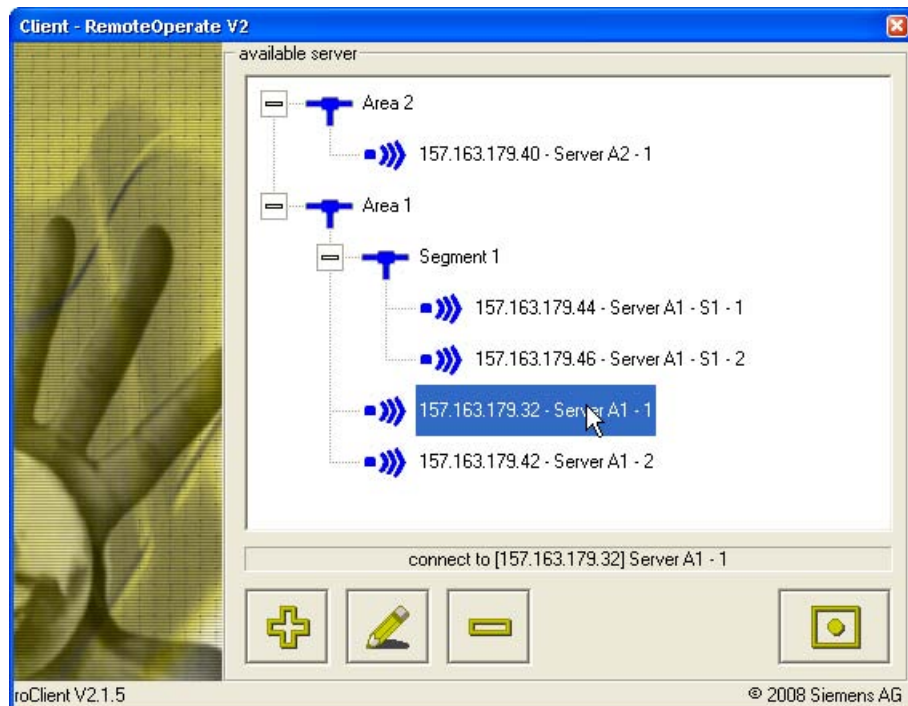
Note

Setting the time to display the toolbar

The length of time you need to press the touch screen before the RemoteOperate toolbar is displayed is defined in the "roServer.ini" file.

2. Terminate the connection to the server using the button.

The server selection list is displayed:



3. Connect to a different server, following the instructions in the "Connecting a client" chapter.

Result

You have connected to a different server.

See also

Connecting a client (Page 35)

Changing server settings (Page 28)

6.4 Closing the RemoteOperate Client

Procedure

Proceed as follows:

If you are still connected to a server, terminate the connection as follows:

1. Press the touch screen until the RemoteOperate toolbar is displayed:



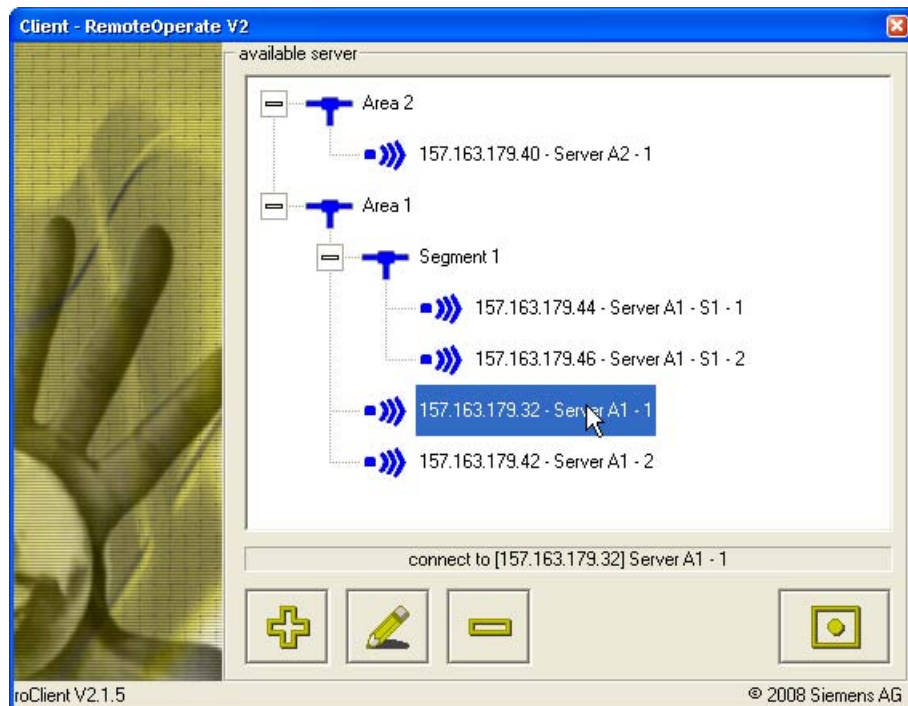
Note

Setting the time to display the toolbar

The length of time you need to press the touch screen before the RemoteOperate toolbar is displayed is defined in the "roServer.ini" file.

2. Terminate the connection to the server using the button.

The server selection list is displayed:



Close the RemoteOperate Client software using the button in the upper right corner of the window.

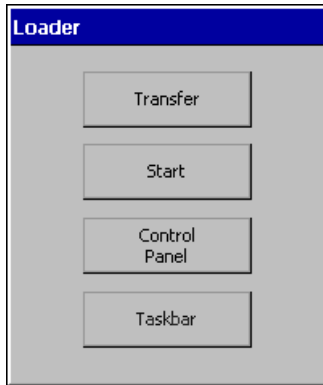
Note

Password protection

If your HMI device is password protected, you will be prompted for the password at this point. To close RemoteOperate Client, enter the password for the HMI device.

Result

You have closed the RemoteOperate Client software. The loader is displayed:



The loader contains the following four buttons:

- Use the "Transfer" button to transfer data from a PC to the HMI device
- Use the "Start" button to open the server selection list
- Use the "Control Panel" button to configure the operating system
- Use the "Taskbar" button to activate the taskbar when the Windows CE Start menu is open

See also

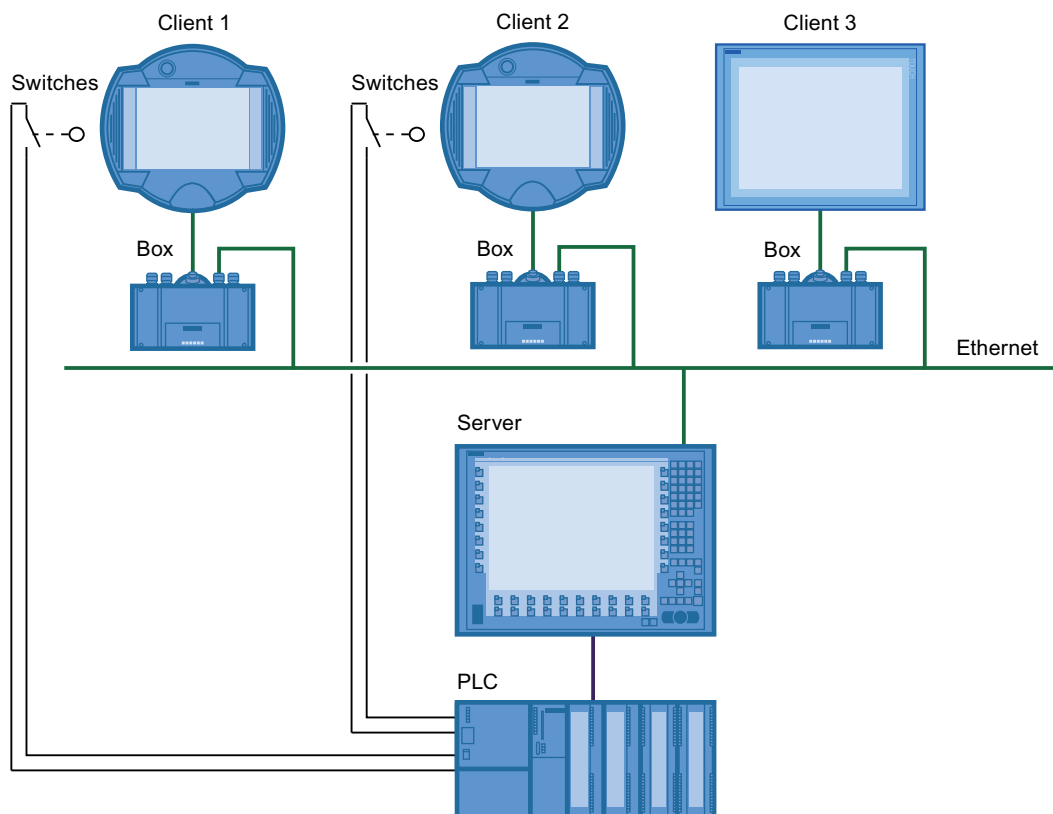
Changing server settings (Page 28)

6.5 Example: Assigning operator authorization

Introduction

This chapter describes how to assign operator authorization on the server to different clients in succession.

The description uses an example configuration with one server and three HMI devices connected to the server as clients via Ethernet.



Sequence of the example scenario

During the operation of a plant control system, the request, refusal and transfer of operator authorizations could look like this:

Client 1, client 2, and client 3 are entered in the list of "available clients" on the server. All clients are granted the right to connect to the server and to operate on the server.

- Client 1, client 2, and client 3 connect to the server. All clients can see the project that is running on the server on their screen.

If neither client executes an operation, all traffic lights are green at first:

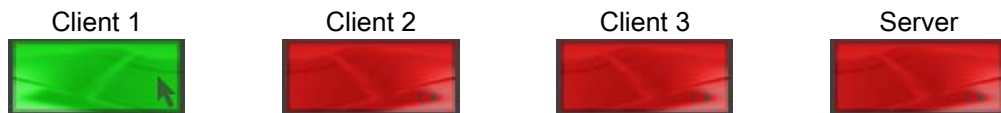


6.5 Example: Assigning operator authorization

- A user starts to operate on client 1 by pressing the touch screen. Client 1 is immediately granted operator authorization since no other user is operating on the server. The traffic light for client 1 stays green. The traffic lights for client 2, client 3, and the server turn red:



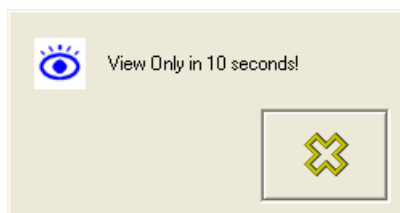
- The user on client 1 touches the green traffic light twice in quick succession (double-click). Client 1 is granted exclusive operator authorization. The traffic light for client 1 turns entirely green. The traffic lights for client 2, client 3, and the server turn completely red:




- A user tries to operate on client 2. Client 2 is not granted operator authorization because the user on client 1 has exclusive operator authorization. All traffic lights remain unchanged.
- The user on client 1 touches the green traffic light twice in quick succession (double-click) and gives up exclusive operator authorization. Client 1 continues to operate. The traffic light for client 1 turns green. The traffic lights for client 2, client 3, and the server turn red:



- A user tries to operate on client 2. The operator request dialog opens on the screens of client 1, client 2, client 3 as well as the server screen:



- Since the user on client 1 has operator authorization, he decides on whether to transfer operator authorization:
 - If the operator on client 1 with the button  denies the operator request of client 2 within the specified time, client 1 will still have operator authorization. All traffic lights will remain unchanged.
 - If the user on client 1 ignores the operator request, client 2 is granted operator authorization after a predefined time.

The traffic light for client 2 turns green. The traffic lights for client 1, client 3, and the server turn red:



Note

The time interval for the automatic transfer of operator authorization is defined by the "TIMEWAITACCESS" variable in the "roServer.ini" file on the server. The "roServer.ini" file is part of the advanced server settings.

- The operator at client 1 enables the "Forced Exclusive" mode, for example with a switch close to the HMI device. The traffic light of client 1 turns completely green and all other traffic lights turn completely red. The traffic lights also come equipped with a key symbol:



Client 1 has exclusive operator authorization. Only when the operator at client 1 has disabled the "Forced Exclusive" mode, will operators at other clients or the server be able to make other operator requests.

- The operator at client 1 disables the "Forced Exclusive" mode, for example by pressing the switch close to the HMI device.

If the operator at client 1 continues operation, the traffic light will stay green while all other traffic lights will turn red:



If the operator at client 1 stops operation, all traffic lights will turn green:



See also

Changing server settings (Page 28)

Add client (Page 20)

Creating/editing a server selection list (Page 31)

Connecting a client (Page 35)

Index

A

- Administration
 - Requirements, 17
 - Server and client, 17
- Agency, 5
- available clients list
 - Add client, 20
 - Edit client properties, 23
 - Editing client access authorization, 24
- Available clients list
 - Remove client, 27

B

- Basic knowledge
 - Required, 3
- Buttons
 - Add client, 18, 20
 - Close RemoteOperate Client, 41
 - Close server dialog box, 18
 - Close toolbar, 38
 - Connect client, 36
 - Create server, 32
 - Ctrl+Alt+Del, 38
 - Edit client, 18
 - Edit client properties, 23
 - Edit server settings, 18, 28
 - Editing server properties, 34
 - RemoteOperate Server, 18
 - Remove client, 18, 27
 - Remove server, 34
 - Restart service, 28
 - Right-click, 38
 - Screen keyboard, 38
 - Terminate connection, 38
 - Windows button, 38

C

- Changing
 - IP address of server, 29
 - Server, 39
 - Server properties, 34
 - Server selection list, 33
- Client

- Add (via connection request), 21
- Adding, 20
- Closing, 41
- Comment, 20
- Connect to a new server, 39
- Connect to a server, 35
- Definition, 4
- Editing access authorization, 24
- Editing properties, 23
- IP address, 20, 23
- Removing, 27
- Supported hardware, 13
- Supported operating systems, 13
- Client color quality - radio button, 29
- Client/server structure, 10
- Closing
 - RemoteOperate Client, 41
 - 'Server - RemoteOperate V2' dialog box, 19
- Comment input box
 - Comment box for the client, 20
 - Server comment box, 33
- Connect
 - Client to a server, 35
- Connection request, 21
- Control Panel
 - Settings, 16
- Control Panel button, 42
- Conventions, 4
- Creating
 - Client in the 'available clients' list, 20
 - Server in server selection list, 32

D

- Dialog box
 - Close Server - RemoteOperate V2, 19
 - Connection request, 21
 - Opening Server - RemoteOperate V2, 18
 - RemoteOperateV2-Config, 28
 - Server - RemoteOperate V2, 18

E

- Editing
 - Client access authorization, 24
 - Client properties, 23
 - Server properties, 34

- Server selection list, 31
- Ethernet, 10, 43
- Example configuration, 43

F

- Full access to the server, 25, 36
- Functional scope
 - RemoteOperate, 11
 - RemoteOperate Client, 12
 - RemoteOperate Server, 11

H

- Hardware and software requirements, 13
- HMI device, 4
- Hot-Key to show/hide roServer Dialog input box, 28

I

- Icons
 - Client access authorization, 24
 - RemoteOperate Server, 18
- Installation
 - RemoteOperate Client, 15
 - RemoteOperate Server, 16
 - Requirements, 15
- Internet
 - Service, 6
 - Support, 6
- IP address
 - Changing the server, 29
- IP address input box
 - IP address of client, 20, 23
 - IP address of server, 33

L

- Loader, 42
 - 'Control Panel' button, 42
 - 'Start' button, 42
 - 'Taskbar' button, 42
 - 'Transfer' button, 42
- Logon
 - Server, 38

N

- Network
 - Response to a fault, 36

- Network fault, 36

O

- Offices, 5
- Operator authorization, 24, 43
- Operator authorization window, 37

P

- Password, 35
- Password protection, 31
 - For closing the client, 41
 - Icon, 31
- Previous version
 - Removing, 15
- Programming manual
 - Purpose of the, 3
 - Scope, 3

R

- Registered trademarks, 5
- RemoteOperate
 - Client/server structure, 10
 - Definition, 4
 - Functional scope, 11
 - Overview, 9
 - Toolbar, 36
- RemoteOperate Client
 - Changing the server, 39
 - Closing, 41
 - Definition, 4
 - Functional scope, 12
 - Installing, 15
- RemoteOperate Server
 - Add client, 20
 - Definition, 4
 - Dialog box, 18
 - Edit client properties, 23
 - Editing client access authorization, 24
 - Functional scope, 11
 - Installing, 16
 - Opening the Server dialog box, 18
 - Previous versions, 15
 - Remove client, 27
 - Requirements, 15
 - Server settings, 28
 - Server settings, advanced, 29
 - Settings in the Control Panel, 16
 - TIMEIDLE, 30

TIMENEXTREQUEST, 30
 TIMETOOLBAR, 30
 TIMEWAITACCESS, 30
 Removing
 Client from available clients list, 27
 Server from server selection list, 34
 Restart service button, 28
 roServer.ini, 29
 [CONFIG], 29
 [CONNECT], 29

S

Select network adapter list, 29
 Server
 Changing, 39
 Comment, 33
 Definition, 4
 Full access, 36
 IP address, 33
 Settings, 28
 Supported hardware, 13
 Supported operating systems, 13
 Server selection list
 Changing the server, 34
 Create server, 32
 Creating, 31
 Password protection, 31
 Remove server, 34
 Server settings, 28
 Service
 On the Internet, 6
 Settings
 RemoteOperate Server, 28
 RemoteOperate Server, advanced, 29
 Start button, 42
 Support
 On the Internet, 6
 Online manuals, 4

T

Taskbar button, 42
 Technical Support, 5
 TIMEIDLE, 30
 TIMENEXTREQUEST, 30
 TIMETOOLBAR, 30
 TIMEWAITACCESS, 30
 Toolbar
 "Screen keyboard" button, 38
 'Close' button, 38
 'Ctrl+Alt+Del' button, 38

RemoteOperate, 36
 'Right-click' button, 38
 'Terminate' button, 38
 'Windows' button, 38
 Traffic lights, 37
 Training center, 5
 Transfer button, 42
 Tree path input box, 33

V

Validity of the programming manual, 3

