SequenceManager™ Controls

1756 ControlLogix, 1756 GuardLogix, 1769 CompactLogix, 1769 Compact GuardLogix, 1789 SoftLogix, Studio 5000 Logix Emulate

Rockwell Automation

Reference Manual

Original Instructions

Important User Information

Read this document and the documents listed in the additional resources section about installation, configuration, and operation of this equipment before you install, configure, operate, or maintain this product. Users are required to familiarize themselves with installation and wiring instructions in addition to requirements of all applicable codes, laws, and standards.

Activities including installation, adjustments, putting into service, use, assembly, disassembly, and maintenance are required to be carried out by suitably trained personnel in accordance with applicable code of practice.

If this equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

In no event will Rockwell Automation, Inc. be responsible or liable for indirect or consequential damages resulting from the use or application of this equipment.

The examples and diagrams in this manual are included solely for illustrative purposes. Because of the many variables and requirements associated with any particular installation, Rockwell Automation, Inc. cannot assume responsibility or liability for actual use based on the examples and diagrams.

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Throughout this manual, when necessary, we use notes to make you aware of safety considerations.

WARNING: Identifies information about practices or circumstances that can cause an explosion in a hazardous environment, which may lead to personal injury or death, property damage, or economic loss.

ATTENTION: Identifies information about practices or circumstances that can lead to personal injury or death, property damage, or economic loss. Attentions help you identify a hazard, avoid a hazard, and recognize the consequence.

IMPORTANT Identifies information that is critical for successful application and understanding of the product.

Labels may also be on or inside the equipment to provide specific precautions.

SHOCK HAZARD: Labels may be on or inside the equipment, for example, a drive or motor, to alert people that dangerous voltage may be present.

BURN HAZARD: Labels may be on or inside the equipment, for example, a drive or motor, to alert people that surfaces may reach dangerous temperatures.

ARC FLASH HAZARD: Labels may be on or inside the equipment, for example, a motor control center, to alert people to potential Arc Flash. Arc Flash will cause severe injury or death. Wear proper Personal Protective Equipment (PPE). Follow ALL Regulatory requirements for safe work practices and for Personal Protective Equipment (PPE).

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Studio 5000 environment

The Studio 5000 Automation Engineering & Design Environment® combines engineering and design elements into a common environment. The first element is the Studio 5000 Logix Designer® application. The Logix Designer application is the rebranding of RSLogix 5000® software and will continue to be the product to program Logix 5000™ controllers for discrete, process, batch, motion, safety, and drive-based solutions.

The Studio 5000® environment is the foundation for the future of Rockwell Automation® engineering design tools and capabilities. The Studio 5000 environment is the one place for design engineers to develop all elements of their control system.

Legal Notices

Rockwell Automation publishes legal notices, such as privacy policies, license agreements, trademark disclosures, and other terms and conditions on the Legal Notices page of the Rockwell Automation website.

End User License Agreement (EULA)

You can view the Rockwell Automation End-User License Agreement ("EULA") by opening the License.rtf file located in your product's install folder on your hard drive.

Open Source Licenses

The software included in this product contains copyrighted software that is licensed under one or more open source licenses. Copies of those licenses are included with the software. Corresponding Source code for open source packages included in this product are located at their respective web site(s).

Alternately, obtain complete Corresponding Source code by contacting Rockwell Automation via the Contact form on the Rockwell Automation website: http://www.rockwellautomation.com/global/about-

us/contact/contact.page
Please include "Open Source" as part of the request text.

A full list of all open source software used in this product and their corresponding licenses can be found in the OPENSOURCE folder. The default installed location of these licenses is `C:\Program Files (x86)\Common Files\Rockwell\Help\FactoryTalk Services Platform\Release Notes\OPENSOURCE\index.htm`.

Additional resources

These documents contain additional information concerning related Rockwell Automation products.

Resource	Description
Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1	Provides general guidelines for installing a Rockwell Automation industrial system.
Product Certifications webpage, available at http://ab.rockwellautomation.com	Provides declarations of conformity, certificates, and other certification details.

View or download publications at http://www.rockwellautomation.com/literature. To order paper copies of technical documentation, contact the local Rockwell Automation distributor or sales representative.

System requirements

Review these minimum and recommended system requirements for installing, configuring, and running SequenceManager Event Console. Unless noted, these requirements assume that no other applications are installed on the computer. Preferred operating systems and software applications are prioritized for support, testing, and post-release patch qualifications.

Systems that do not meet the minimum requirements for the version of the operating system and database being used are not covered under warranty.

IMPORTANT For more information about supported operating systems and other Rockwell Software product version support, refer to the Product Compatibility and Download Center (PCDC).

Operating systems

Ensure that all selected hardware is on the compatibility list for any one of the following:

- Windows Server®
  Windows Server 2019 Standard Edition (preferred)
  Windows Server 2016 Standard Edition (preferred)
  Windows Server 2019 DataCenter Edition
  Windows Server 2016 DataCenter Edition
  Windows Server 2012 R2 Standard Edition or DataCenter
  Windows Server 2012 Standard Edition or DataCenter
- Windows®
  Windows 10 Professional (64-bit) Build 1909 or later (preferred)
  Windows 10 Enterprise (64-bit) Build 1909 or later

Database applications

- SQL Server®
  SQL Server 2019 (English version only)
  SQL Server 2017 (English version only)
  SQL Server 2016 Service Pack 1 (English version only)
  SQL Server 2014 Service Pack 3 (32-bit and 64-bit, English version only)
  SQL Server 2012 Service Pack 4 (32-bit and 64-bit, English version only)

Rockwell Software

- Logix Designer version 33
- FactoryTalk Linx version 6.20 (CPR 9 SR 12) or later
- FactoryTalk Activation version 4.04 or later
- >FactoryTalk Services Platform version6.20 (CPR 9 SR 12) or later
- FactoryTalk View SE version 12.0 (preferred)
- FactoryTalk View SE version 11.0

Rockwell Automation Test Environment

Rockwell Automation tests software products under a standard configuration of operating systems and antivirus software. For additional information see the Knowledgebase Document ID: PN24 - Rockwell Software Products and Antivirus Software.

The SequenceManager Controls

The SequenceManager sequences a series of Equipment Phases to the Control Logix platform. The operator views and interacts with the Equipment Sequences downloaded to a Logix controller through three types of controls:

- Sequence Detail Control

  The **Sequence Detail Control** provides the operator with a detailed view of an Equipment Sequence, including its chart structure, steps, and transitions. The runtime status of the sequence program and its sequence elements are also shown. The operator can command the Equipment Sequence from this control.

- Sequence Summary Control

  The **Sequence Summary Control** displays the sequence program status for each of the Equipment Sequences downloaded to the controller. The **Sequence Summary Control** also allows the operator to view and command a selected Equipment Sequence.

- Sequence Parameters Control

  The **Sequence Parameters Control** displays a table of all sequencing parameters and step tags of a specified Equipment Sequence, and allows the operator to command a selected sequencing parameter or step tag. To refine the display, configure the table to filter the information displayed.

See also

Sequence Detail Control on page 21

Sequence Summary Control on page 11

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Install the SequenceManager Server Service and SequenceManager ActiveX Controls applications

Install the SequenceManager Server Service and SequenceManager ActiveX Controls applications.

To install the SequenceManager Server Service and SequenceManager ActiveX Controls application:

1. Access the Product Compatibility and Download Center (PCDC) to download the **SequenceManager ActiveX Controls** file.

2. Double-click the **SequenceManager ActiveX Controls** file to begin the installation process.

Important:	The user must have administrator privileges to install the application.

- The SequenceManager Server Service application must be installed on a machine that has FactoryTalk View Site Edition (SE) HMI Server installed.
- Install the SequenceManager ActiveX Controls on every machine that will run the FactoryTalk View SE Editor or a FactoryTalk View SE Client.
- The installation program provides the option to install the SequenceManager ActiveX Controls, the SequenceManager Server Service, or both.
- The installation program opens the port in a Windows Firewall. If a different firewall is being used, the port must be opened for use.

Important:	The specified port should not be used by other applications. Doing so could result in the controls not loading when the display is invoked. To check that the port number is valid, select **Check**.

Sequence Summary Control

Use the Sequence Summary Control to see status information for the Equipment Sequences downloaded to a controller. You can select a sequence in the list and command it.

To open the Sequence Summary Control:

1. On the **Start** menu, choose **Rockwell Software > FactoryTalk View > FactoryTalk View Site Edition Client**.
2. Click **Sequence Summary Control**.

See also

Command an Equipment Sequence using the Sequence Summary controls on page 18

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Configure the Sequence Summary Control

Configure the **Sequence Summary Control** to communicate with a controller or to use VBA by customizing settings in the **Property Panel** for the control. There is also the option to customize display options.

Before you begin:

- Open the FactoryTalk View Site Edition (SE) application.
- Open a display that contains the **Sequence Summary Control**.

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Configure the Sequence Summary Control to communicate with a controller

Configure the Sequence Summary Control to communicate with a controller.

To configure the Sequence Summary Control to communicate with a controller:

1. In the display window, right click the **Sequence Summary Control**.
2. Select **Property Panel**.
3. Select **Connections** tab.
4. In the **ControllerPath** property text box, enter the path to the controller.

   For example: AB_ETH-1\99.99.99.99\Backplane\0
5. In the **ControllerShortcut** property text box, enter the RSLinx Enterprise device shortcut name to the controller.
6. In the **DataServerPath** property text box, enter the FactoryTalk path to the RSLinx Enterprise Data Server.

   For example: RNA://$Local/MyProject/
7. In the **SeqMgrServerPortNumber** property text box, enter the port number that was defined during the installation of the server.
8. Close the **Property Panel** window.
9. Select **Save**.

See also

Configure the Sequence Summary Control display options on page 12

Configure the Sequence Summary Control display options

Configure the Sequence Summary Control by customizing display options.

To configure the Sequence Summary Control display options:

1. Right click the **Sequence Summary Control** in the display window.
2. Select **Property Panel**.
3. Select display options.
   - (optional) In the **Column1Content** property text box, select a content option for the column.
   - (optional) In the **Column2Content** property text box, select a content option for the column.
   - (optional) In the **Column3Content** property text box, select a content option for the column.
   - (optional) In the **Column4Content** property text box, select a content option for the column.

- (optional) In the **Column5Content** property text box, select a content option for the column.
- (optional) In the **Column6Content** property text box, select a content option for the column.
- (optional) In the **Column7Content** property text box, select a content option for the column.
- (optional) In the **CommandButtonLocation** property text box, choose the location.
- (optional) In the **ShowCommandButtons** property text box, select **True** to display the command buttons.
- (optional) In the **ShowStatusBar** property text box, select **True** to display the status bar.
- (optional) In the **TouchPointerSize** property text box, select an option to auto-size, decrease, or increase the size of buttons.

4. Close the **Property Panel** window.
5. Click **Save**.

See also

Configure the Sequence Summary Control to communicate with a controller on page 12

Configure the Sequence Summary Control to use VBA on page 13

Configure the Sequence Summary Control to use VBA

Configure the Sequence Summary Control to use VBA.

To configure the Sequence Summary Control to use VBA:

1. In the display window, right click the **Sequence Summary Control**.
2. Select **Property Panel**.
3. In the **ExposeToVBA** property text box, select **VBA Control** to allow the Sequence Detail Control to use VBA for scripting.
4. Close the **Property Panel** window.
5. Click **Save**.

See also

Configure the Sequence Summary Control to communicate with a controller on page 12

Configure the Sequence Summary Control display options on page 12

Sequence Summary Control columns in table area

The following columns are displayed in the Equipment Sequence list in the table area of the Sequence Summary Control. The list can be sorted in alphabetical order for any column to group Equipment Sequences based on status.

Status column	Description
Sequence Name	The Equipment Sequence name.
ID	The identifier assigned to the Equipment Sequence before it runs. This field is editable when the sequence is inactive, or in the IDLE state. When the sequence is active, the ID field is locked.
State	The current execution state of the Equipment Sequence. Possible states include NOT CONNECTED, IDLE, RESTARTING, RUNNING, RESETTING, HOLDING, STOPPING, ABORTING, HELD, STOPPED, ABORTED, and COMPLETE.
Mode	The operational mode for the Equipment Sequence, either **Automatic**, in which sequence steps advance automatically, or **Manual**, in which the operator advances sequence steps manually.
Phase Failure	Indicates a failure in an Equipment Phase associated with the sequence.
Sequence Failure	Indicates a failure in the Equipment Sequence.
Owners	The current owner of the Equipment Sequence.
Unit ID	A numerical representation of the piece of equipment that the Equipment Sequence is controlling.

See also

Sequence Summary Control on page 11

Sequence Summary Control property settings

The **Sequence Detail Control** has the following properties that are configurable in the **Property Panel** of the control in the FactoryTalk View SE application.

Property name	Description	Read only	Value type
AutoLoad	Determines if the sequence chart is loaded automatically after the FactoryTalk View SE runtime starts.	No	Boolean
Column1Content	Determines what content is displayed in Column 1.	No	• 1 - ID • 2 - State • 3 - Mode • 4 - Phase Failure • 5 - Sequence Failure • 6 - Owners • 7 - Unit ID • 8 - NotUsed
Column2Content	Determines what content is displayed in Column 2.	No	• 1 - ID • 2 - State • 3 - Mode • 4 - Phase Failure • 5 - Sequence Failure • 6 - Owners • 7 - Unit ID • 8 - NotUsed

Property name	Description	Read only	Value type
Column3Content	Determines what content is displayed in Column 3.	No	• 1 - ID • 2 - State • 3 - Mode • 4 - Phase Failure • 5 - Sequence Failure • 6 - Owners • 7 - Unit ID • 8 - NotUsed
Column4Content	Determines what content is displayed in Column 4.	No	• 1 - ID • 2 - State • 3 - Mode • 4 - Phase Failure • 5 - Sequence Failure • 6 - Owners • 7 - Unit ID • 8 - NotUsed
Column5Content	Determines what content is displayed in Column 5.	No	• 1 - ID • 2 - State • 3 - Mode • 4 - Phase Failure • 5 - Sequence Failure • 6 - Owners • 7 - Unit ID • 8 - NotUsed
Column6Content	Determines what content is displayed in Column 6.	No	• 1 - ID • 2 - State • 3 - Mode • 4 - Phase Failure • 5 - Sequence Failure • 6 - Owners • 7 - Unit ID • 8 - NotUsed
Column7Content	Determines what content is displayed in Column 7.	No	• 1 - ID • 2 - State • 3 - Mode • 4 - Phase Failure • 5 - Sequence Failure • 6 - Owners • 7 - Unit ID • 8 - NotUsed
CommandButtonLocation	Determines the location of the command buttons displayed.	No	• 0 - sqmBottom • 1 - sqmRight • 2 - sqmTop • 3 - sqmLeft
ConfirmedCommands	Specifies a command group that requires confirmation when any of the command buttons in that group is pressed.	No	• 0 - sqmNone • 1 - sqmStopAndAbort • 2 - sqmAll

Property name	Description	Read only	Value type
ControllerPath	Controller path of the Equipment Sequence. This path is specific to the workstation on which the Web Server is communicating with is located. Path example: `AB_ETH-1\99.99.99.99\Backplane\0`	No	String
ControllerShortcut	RS Linx(RSLinx) Enterprise device shortcut to the controller. Default value: MY_CONTROLLER	No	String
DataServerPath	The FactoryTalk path to the RS Linx(RSLinx) Enterprise Data Server. Path Example: `RNA://$Local/MyProject/`	No	String
IsEveryTagConnected	Displays whether every tag is connected to the ActiveX Control. Default value: True	Yes	Boolean
IsLiveDataConnected	Displays whether the live data server is connected to the ActiveX Control. Default value: False	Yes	Boolean
IsWebServerConnected	Displays whether the web server is connected to the ActiveX Control. Default value: False	Yes	Boolean
IsWebServerToControllerConnected	Displays whether the web server is connected to the controller. Default value: False	Yes	Boolean
LoadTable	Determines if the table is loaded to the window.	No	Boolean
SelectedSequenceName	String containing the name of the currently selected Equipment Sequence.	No	String
SelectedSequenceState	Displays the state of the selected Equipment Sequence.	Yes	String
ShowCommandButtons	Determines if the command buttons are shown.	No	Boolean
ShowStatusBar	Determines if the status icons are shown.	No	Boolean
TouchPointerSize	Determines the size of the command buttons and the height of the fields in the header and footer areas.	No	• 0 – sqmAutoSelect • 1 - sqmLarge • 2 - sqmSmall
WebServerAddress	The IP address of the workstation hosting the Web Server.	No	String
WebServerPortNumber	The port number of the workstation hosting the Web Server.	No	String

See also

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Sequence Summary Control on page 11

Sequence Summary Control events

The **Sequence Summary Control** has the following events that can be used by a client in runtime.

Name	Description

doubleClicked	The doubleClicked event can be used to directly display the double clicked Equipment Sequence in the Sequence Detail Control using VBA script.
	Example VBA Script:
	`Private Sub SeqMgrSummaryControl2_sequenceRequested(ByVal p_SequenceName As String)`
	`SeqMgrDetailControl1.SequenceName = p_SequenceName`
	`SeqMgrDetailControl1.LoadChart = True`
	`End Sub`

sequenceSelected	The sequenceSelected event can be used to directly display the selected Equipment Sequence in the Sequence Detail Control using VBA script.

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Sequence Summary Control property settings on page 14

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Sequence Summary command controls

Use the following commands to control an Equipment Sequence using the Sequence Summary Control. The availability of some commands depends on the selected Equipment Sequence owner, state, mode, and failure status. Click **More** to display all the commands on the toolbar.

Icon	Command	Description
	Take Ownership	Take ownership of the Equipment Sequence. Taking ownership means that this application now has the right to command this Equipment Sequence; other internal sequencers, external sequencers, and operators are not allowed to command this sequence. The Logix Designer application can override ownership.
	Release Ownership	Release ownership of the Equipment Sequence. Releasing ownership makes the sequence available to internal sequencers, external sequencers, and operators for attachment.
	Set ID	Opens the **Set Sequence ID** dialog box where you can assign an identifier to the Equipment Sequence. This command is enabled only when an Equipment Sequence is idle.
	Start	Start execution of the Equipment Sequence.
	Hold	Halt all attached phases for the Equipment Sequence and stop evaluating transitions until the Equipment Phase runs its HOLDING routine.
	Restart	Resume execution of the Equipment Sequence from the HELD state.
	Stop	Stop all attached phases and active transitions for the Equipment Sequence. Any attached Equipment Phases run their STOPPING routines.
	Abort	Abort all attached phases and active transitions for the Equipment Sequence. Any attached Equipment Phases run their ABORTING routines.
	Reset	Reset any remaining active phases for the Equipment Sequence.
	Clear Failures	Clear the failure flags on the Equipment Sequence.

Icon	Command	Description
	Pause	Pause execution of the Equipment Sequence. When the active transition evaluates TRUE, it does not transition to the FIRING state until you click **Resume**. The **Resume** command resets the **Pause** flag so the sequence will continue execution uninterrupted.
	Auto-Pause	Automatically pause the Equipment Sequence as transitions evaluate TRUE. The **Resume** command resets the **Pause** flag. The **Auto-Pause** flag immediately causes the **Pause** flag to be turned on again, so the sequence pauses when the next transition expression evaluates TRUE.
	Resume	Continue execution of the Equipment Sequence.
	Automatic	Put the Equipment Sequence in **Automatic** mode, which allows the sequencing engine to automatically fire transitions and execute the Equipment Sequence.
	Manual	Put the Equipment Sequence in **Manual** mode, in which the sequencing engine does not automatically fire transitions, and an operator commands the Equipment Sequence step by step. On the toolbar, only the **Release Ownership**, **Pause**, **Auto-Pause**, and **Automatic** commands are enabled.

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Command an Equipment Sequence using the Sequence Summary controls on page 18

Command an Equipment Sequence using the Sequence Summary Control

Use the commands on the Sequence Summary Control to send commands to an Equipment Sequence.

To command an Equipment Sequence using the Sequence Summary controls:

1. Select an Equipment Sequence in the list.
2. Click **Take Ownership** .
3. Click the command buttons to command the Equipment Sequence.
4. When finished, click **Release Ownership** .

See also

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Sequence Summary command controls on page 17

Sequence Summary Control runtime data

Use Sequence Summary Control to make data available for VBA programmers at runtime. Following is a list of properties that are read-only assigned data.

Property Name	Description	Read Only	Value Type

IsEveryTagConnected	Displays whether every tag is connected to the ActiveX control. True = -1 and False = 0. Default value: -1	Yes	Integer
IsLiveDataConnected	Displays whether the live data server is connected to the ActiveX control. True = -1 and False = 0. Default value: 0	Yes	Integer
IsSeqMgrServerConnected	Displays whether the SequenceManager Server Service application is connected to the ActiveX control. True = -1 and False = 0. Default value: 0	Yes	Integer
IsSeqMgrServerConnectedBackup	Displays whether the backup SequenceManager Server Service application is connected to the ActiveX control. True = -1 and False = 0. Default value: 0	Yes	Integer
IsSeqMgrServerToControllerConnected	Displays whether the SequenceManager Server Service application is connected to the controller. True = -1 and False = 0. Default value: 0	Yes	Integer
IsSeqMgrServerToControllerConnectedBackup	Displays whether the backup SequenceManager Server Service application is connected to the controller. True = -1 and False = 0. Default value: 0	Yes	Integer
SelectedSequenceName	Displays the name of the selected Equipment Sequence.	Yes	String
SelectedSequenceState	Displays the state value of the selected Equipment Sequence	Yes	String

Settings and status in the Control footer

The footer section on the Sequence Control contains the following settings and status indicators.

The communication, failure, and unscheduled/inhibited icons are also displayed in the upper left corner of the diagram window, in the status bar, and on any step or tag the status is detected.

Setting or status	Description
Zoom control	Adjusts the zoom on the control window.
Auto-Scroll	Turn Auto-Scroll on or off.
Sequence name	The name of the Equipment Sequence.

Status bar	Displays the following status icons: – There is a communication problem with the controller, the web server, the live data server, or the tags. – No known communication problem. – There is a failure in the Equipment Sequence. – No known failure in the Equipment Sequence. – The controller is in Program, Remote Program, or an unknown mode. – The controller is in Run, Remote Run, or an unknown mode. – The Equipment Sequence or task is inhibited, or the Equipment Sequence is unscheduled. – The Equipment Sequence is scanning, or the status is unknown.

See also

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Sequence Detail Control

Use the Sequence Detail Control to see a detailed view of an Equipment Sequence, including its chart structure, steps, and transitions. You can also view the runtime status of the Equipment Sequence and the sequence elements.

To open the Sequence Detail Control:

1. On the **Start** menu, choose **Rockwell Software > FactoryTalk View > FactoryTalk View Site Edition Client**.
2. Click **Sequence Detail Control**.

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Overview of the Sequence Detail Control status header area on page 30

Monitor a transition in the Sequence Detail Control on page 36

Monitor a step in the Sequence Detail Control on page 33

Configure the Sequence Detail Control

Configure the **Sequence Detail Control** to communicate with a controller or to use VBA by customizing settings in the **Property Panel** for the control. There is also the option to customize display options.

Before you begin:

- Open the FactoryTalk View SE application.
- Open a display that contains the **Sequence Detail Control**.

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Configure the Sequence Detail Control display options on page 22

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Configure the Sequence Detail Control to communicate with a controller

Configure the Sequence Detail Control to communicate with a controller.

To configure the Sequence Detail Control to communicate with a controller:

1. In the display window, right click the **Sequence Detail Control**.
2. Select **Property Panel**.
3. In the **ControllerPath** property text box, enter the path for the controller.
4. In the **ControllerShortcut** property text box, enter the RSLinx Enterprise device shortcut name to the controller.
5. In the **DataServerPath** property text box, enter the FactoryTalk path to the RSLinx Enterprise data server.
6. In the **SequenceName** property text box, enter the name of the Equipment Sequence.
7. In the **SeqMgrServerPortNumber** property text box, enter the port number that was defined during the installation of the server.
8. Close the **Property Panel** window.
9. Click **Save**.

See also

Configure the Sequence Detail Control display options on page 22

Configure the Sequence Detail Control to use VBA on page 23

Configure the Sequence Detail Control display options

Configure the Sequence Detail Control display options.

To configure the Sequence Detail Control display options:

1. In the display window, right click the **Sequence Detail Control**.
2. Select **Property Panel**.
3. (optional) In the **AutoScroll** property text box, select **True**.
4. (optional) In the **CommandButtonLocation** property text box, choose the location for the Equipment Sequence command buttons.
5. (optional) In the **ShowCommandButtons** property text box, select **True** to display the command buttons.
6. (optional) In the **ShowStatusBar** property text box, select **True** to display the status bar.
7. (optional) In the **TouchPointerSize** property text box, select an option to auto-size, decrease, or increase the size of buttons.
8. Close the **Property Panel** window.
9. Click **Save**.

See also

Configure the Sequence Detail Control to communicate with a controller on page 22

Configure the Sequence Detail Control to use VBA on page 23

Configure the Sequence Detail Control to use VBA

Configure the Sequence Detail Control to use VBA.

To configure the Sequence Detail Control to use VBA:

1. In the display window, right click the **Sequence Detail Control**.
2. Select **Property Panel**.
3. In the **ExposeToVBA** property text box, select **VBA Control** to allow the **Sequence Detail Control** to use VBA for scripting.
4. Close the **Property Panel** window.
5. Click **Save**.

See also

Configure the Sequence Detail Control to communicate with a controller on page 22

Configure the Sequence Detail Control display options on page 22

Sequence Detail Control command controls

Use the following commands to control an Equipment Sequence using the Sequence Detail Control. The availability of some commands depends on the selected Equipment Sequence owner, state, mode, and failure status. Click **More** to display all the commands on the toolbar.

The following commands are always displayed:

- Take/Release ownership
- Set ID
- Initialize parameters
- Start
- Hold
- Restart
- Stop
- Abort
- Reset
- More/Less

These commands are available after selecting the **More** button and can be hidden by selecting the **Less** button:

- Clear Failures
- Pause/Cancel Pause
- Auto Pause/Cancel Auto Pause

- Resume
- Enter/Exit Manual
- Step change
- Force transition

Icon	Command	Description
	Take Ownership	Take ownership of the Equipment Sequence. Taking ownership means that this application now has the right to command this Equipment Sequence; other internal sequencers, external sequencers, and operators are not allowed to command this sequence.
	Release Ownership	Release ownership of the Equipment Sequence. Releasing ownership means that internal sequencers, external sequencers, and operators with attachments are allowed to command this sequence.
	Set ID	Opens the **Set Sequence ID** dialog box where you can assign an identifier of up to 82 characters to the Equipment Sequence. This command is enabled only when an Equipment Sequence is idle.
	Start	Start execution of the Equipment Sequence.
	Hold	Halt all connected phases for the Equipment Sequence and stop evaluating transitions until the Equipment Phase runs its Hold routine.
	Restart	Resume execution of the Equipment Sequence from the HELD state.
	Stop	Stop all connected phases and active transitions for the Equipment Sequence.
	Abort	Abort all connected phases and active transitions for the Equipment Sequence.
	Reset	Reset any remaining active phases for the Equipment Sequence.
	Clear Failures	Clear the failure flags on the Equipment Sequence.
	Pause	Pause execution of the Equipment Sequence. When the active transition evaluates TRUE, it does not transition to the FIRING state until you click **Resume**.
	Auto-Pause	Automatically pause the Equipment Sequence as transitions evaluate TRUE. When you click **Resume**, the next transitions fire, but the Equipment Sequence pauses again after each transition evaluates TRUE.
	Resume	Continue execution of the Equipment Sequence.
	Enter Manual	Put the Equipment Sequence in **Manual** mode, in which the sequencing engine does not automatically fire transitions, and an operator commands the Equipment Sequence step by step. On the toolbar, only the **Release Ownership**, **Pause**, **Auto-Pause**, and **Automatic** commands are enabled.
	Exit Manual	Put the Equipment Sequence in **Automatic** mode, which allows the sequencing engine to automatically fire transitions and execute the Equipment Sequence.

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Command an Equipment Sequence using the Sequence Detail Control on page 32

Sequence Detail Control property settings

The Sequence Detail Control has the following properties that are configurable in the **Property Panel** of the control in the FactoryTalk View SE application.

Property name	Description	Read only	Value type
ActiveStepsCount	Contains the number of active steps in the currently loaded Equipment Sequence.	Yes	Integer

Property name	Description	Read only	Value type
AutoLoad	Determines if the sequence chart is loaded automatically after the FactoryTalk View SE applicationruntime starts.	No	Boolean
AutoScroll	Specifies whether automatic scrolling to active steps is enabled or disabled.	No	Boolean
CommandButtonLocation	Determines the location of the command buttons.	No	• 0 – sqmBottom • 1 – sqmRight • 2 – sqmTop • 3 – sqmLeft
ConfirmedCommands	Specifies a command group that requires confirmation when any one of the command buttons in that group is clicked.	No	• 0 – All • 1 – StopAndAbort • 2 – None
ControllerPath	The controller path. Example Path: AB_ETH-1\99.99.99.99\Backplane\0	No	String
ControllerShortcut	RSLinx Enterprise application device shortcut to the controller. Example Shortcut: MY_CONTROLLER	No	String
DataServerPath	The FactoryTalk View SE path to the RSLinx Enterprise Data Server. Example Path: RNA://$Local/MyProject/	No	String
FailedStepCount	Contains the number of steps with failures in the currently loaded Equipment Sequence. If no Equipment Sequence is loaded, the value is zero.	Yes	Integer
IsEveryTagConnected	Displays whether every tag is connected to the ActiveX Control. Default value: True	Yes	Boolean
IsLiveDataConnected	Displays whether the live data server is connected to the ActiveX Control. Default value: False	Yes	Boolean
IsWebServerConnected	Displays whether the web server is connected to the ActiveX Control. Default value: False	Yes	Boolean
IsWebServerToControllerConnected	Displays whether the web server is connected to the controller. Default value: False	Yes	Boolean
LoadChart	Initiates the loading of the Equipment Sequence chart using the current property values.	No	Boolean
SelectedStepName	String containing the name of the currently selected step in the Equipment Sequence. The Sequence Detail Control stores the names of the currently selected steps here to be used as data by VBA scripts.	No	String

Property name	Description	Read only	Value type
SequenceName	Name of the Equipment Sequence that the chart loads if a load is initiated using the AutoLoad or LoadChart properties.	No	String
ShowCommandButtons	Determines if the command buttons are shown.	No	Boolean
ShowStatusBar	Determines if the status icons are shown.	No	Boolean
TouchPointerSize	Determines the size of the command buttons and the height of the fields in the header and footer areas.	No	• 0 – sqmAutoSelect • 1 – sqmLarge • 2 - sqmSmall
WebServerAddress	The IP address of the workstation hosting the Web Server.	No	String
WebServerPortNumber	The port number of the workstation hosting the Web Server.	No	String

See also

Configure the Sequence Detail Control on page 21

Sequence Detail Control methods

The **Sequence Detail Control** has the following methods that can be used by a client in runtime.

Method	Description
navNextStep	This method causes the control to select the 'Next' sequence step in the loaded sequence and scroll to make the step visible. If no step is selected in the chart when this method is invoked, then the 'next' step is the first step of the sequence.
navPriorStep	This method causes the control to select the 'Prior' sequence step in the loaded sequence and scroll to make the step visible. If no step is selected in the chart when this method is invoked, then the 'prior' step is the final step of the sequence.
navNextActiveStep	This method causes the control to select the 'Next' active sequence step in the loaded sequence and scroll to make the step visible. If no steps are active, then any selected chart element is deselected and no other effect occurs. If no step is selected in the chart, then the 'next' step is the first active step in the chart.
navPriorActiveStep	This method causes the control to select the 'Prior' active sequence step in the loaded sequence and scroll to make the step visible. If no steps are active, then any selected chart element is deselected and no other effect occurs. If no step is selected in the chart, then the 'prior' step is the last active step in the chart.
navNextFailedStep	This method causes the control to select the 'Next' failed sequence step in the loaded sequence and scroll to make the step visible. If no steps are failed, then any selected chart element is deselected and no other effect occurs. If no step is selected in the chart, then the 'next' step is the first failed step in the chart.
navPriorFailedStep	This method causes the control to select the 'Priors' failed sequence step in the loaded sequence and scroll to make the step visible. If no steps are failed, then any selected chart element is deselected and no other effect occurs. If no step is selected in the chart, then the 'prior' step is the last failed step in the chart.

Next and previous step navigation VBA scripting

Next and Previous Step Navigation functionality can be implemented by adding two buttons to the FactoryTalk View SE display. The Next button would have a Released event handler configured in the VBA code that calls the Sequence Detail Control's navNextStepMethod.

An example of this VBA code follows:

```
Private Sub Button62_Released()
    SeqMgrDetailControl1.navNextStep
End Sub
```

Similarly, the Prior button would have a Released event handler configured in the VBA code that calls the Sequence Detail Control's navPriorStepMethod. An example of this VBA code could appear as follows:

```
Private Sub Button61_Released()
    SeqMgrDetailControl1.navPriorStep
End Sub
```

Next and previous active step navigation VBA scripting

VBA logic to provide Next and Previous active step functionality is recommended to be more complex to enable and disable the Prior and Next buttons based on whether there are active steps in the loaded Equipment Sequence.

The 'Release' event handlers on the Prior and Next buttons is coded to invoke the navPriorActiveStep/navNextActiveStep method, as shown in the following example:

```
Private Sub Button59_Released()
    SeqMgrDetailControl1.navNextActiveStep
End Sub


Private Sub Button60_Released()
    SeqMgrDetailControl1.navPriorActiveStep
End Sub
```

To control the enabling and disabling of the Prior and Next active step buttons, run initialization logic when the screen loads. The following code is an example of using the Display's AnimationStart event to provide this functionality:

```
Private Sub Display_AnimationStart()
        If (SeqMgrDetailControl1.ActiveStepsCount > 0)
Then
```

```
            Button59.Enabled = True
            Button60.Enabled = True
        Else
            Button59.Enabled = False
            Button60.Enabled = False
        End If
End Sub
```

The final piece of logic for controlling the enabling and disabling of the Prior and Next active step buttons is VBA code configured to handle the ActiveStepCountChanged event. The following code is an example implementation:

```
Private Sub
SeqMgrDetailControl1_ActiveStepCountChanged(ByVal p0 As
Long)
    If (p0 > 0) Then
        Button59.Enabled = True
        Button60.Enabled = True
    Else
        Button59.Enabled = False
        Button60.Enabled = False
    End If
End Sub
```

Next and previous failed step navigation VBA scripting

VBA logic to provide Next and Previous failed step functionality is implemented identically to the active step example, but using the Failed versions of the Sequence Detail Control's methods, properties, and events.

See also

Sequence Detail Control property settings on page 24

Configure the Sequence Detail Control on page 21

Sequence Detail Control events

The **Sequence Detail Control** has the following events that can be used by a client in runtime.

Event	Description
ActiveStepCountChanged	Event indicates that the count of active steps in the displayed Equipment Sequence has changed. The event has a single integer parameter that is the ActiveStepsCount property value.
AutoScrollChanged	Event is emitted whenever the value of the AutoScroll property changes. The event has a single Boolean parameter that is the current AutoScroll property value.

Event	Description
FailedStepCountChanged	Event indicates that the count of failed steps in the displayed Equipment Sequence has changed. The event has a single integer parameter that is the FailedStepsCount property value.
StepSelectionChanged	Event is emitted when the value of the SelectedStepName property changes. The event has a single string parameter that is the SelectedStepName property value.

See also

Sequence Detail Control property settings on page 24

Sequence Detail Control methods on page 26

Configure the Sequence Detail Control on page 21

Sequence Detail Control runtime data

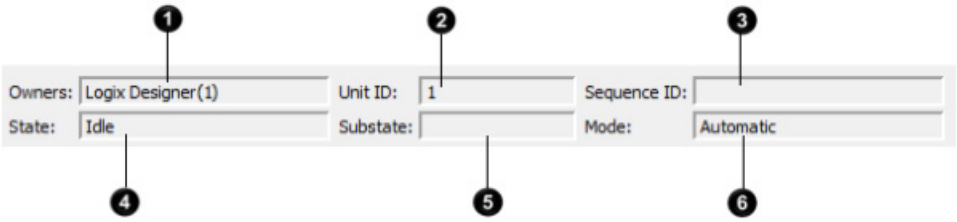
Use Sequence Detail Control to make data available for VBA programmers at runtime. Following is a list of properties that are read-only assigned data.

Property Name	Description	Read Only	Value Type
IsEveryTagConnected	Displays whether every tag is connected to the ActiveX control. True = -1 and False = 0. Default value: -1	Yes	Integer
IsLiveDataConnected	Displays whether the live data server is connected to the ActiveX control. True = -1 and False = 0. Default value: 0	Yes	Integer
IsSeqMgrServerConnected	Displays whether the SequenceManager Server Service application is connected to the ActiveX control. True = -1 and False = 0. Default value: 0	Yes	Integer
IsSeqMgrServerConnectedBackup	Displays whether the backup SequenceManager Server Service application is connected to the ActiveX control. True = -1 and False = 0. Default value: 0	Yes	Integer
IsSeqMgrServerToControllerConnected	Displays whether the SequenceManager Server Service application is connected to the controller. True = -1 and False = 0. Default value: 0	Yes	Integer
IsSeqMgrServerToControllerConnectedBackup	Displays whether the backup SequenceManager Server Service application is connected to the controller. True = -1 and False = 0. Default value: 0	Yes	Integer
ActiveStepCount	A count of the number of active steps in the displayed Sequence.	Yes	Integer

Property Name	Description	Read Only	Value Type
FailedStepCount	A count of the number of failed steps in the displayed Sequence.	Yes	Integer
SelectedStepName	The name of the currently selected step in the sequence. If no sequence is loaded, no element is selected, or the selected element is not a step, then this property contains an empty string.	Yes	String
SequenceState	Displays the state value of the displayed Sequence.	Yes	Integer (unsigned)

Overview of the Sequence Detail Control status header area

The header area of the Sequence Detail Control shows live data values for the currently loaded Equipment Sequence.



Item	Name	Description
1	Owners	This box shows the current owner of the displayed Equipment Sequence and visual indication of ownership overrides. • Blank: No ownership. • Logix Designer (<number>): The <number> indicates the number of Logix Designer applications that have overridden ownership of the sequence. • Operator: A user through the Sequence Manager Detail of the Sequence Manager Summary ActiveX controls has attached to the sequence. • Internal Sequencer: A program running within the controller has used the Attach to Equipment Sequence (SATT) command to attach to the sequence. • External Sequencer: An application outside the controller, the FactoryTalk Batch Server, has attached to the sequence.
2	Unit ID	Indicates the integer value currently assigned to the sequence. Configured on the **Sequence Properties Dialog Box**, **Configuration** tab, that represents the equipment unit the sequence is coordinating.
3	Sequence ID	A string entered by the operator or control engineer using the **Set ID** button to specify an identifier for this execution of the equipment sequence. Once the sequence is executing (not in an IDLE state), the Sequence ID cannot be changed.

Item	Name	Description
4	State	Shows the current state of the displayed Equipment Sequence. States are: • IDLE • RESTARTING • RUNNING • RESETTING • HOLDING • STOPPING • ABORTING • HELD • STOPPED • ABORTED • COMPLETE
5	Substate	Displays the state of the bits in Pause Control. The following states are: • Paused • Pause Enabled • Auto Pause Enabled • Paused, Auto Pause Enabled
6	Mode	Shows the current execution mode of the displayed Equipment Sequence, either **Automatic** or **Manual**.

Overview of the Sequence Detail Control status footer area

The footer section on the Sequence Detail Control contains the following settings and status indicators.

The communication, failure, and unscheduled/inhibited icons are also displayed in the upper left corner of the diagram window, in the status bar, and on any step or tag the status is detected.

Setting or status	Description
Zoom control	Adjusts the zoom on the control window.
Auto-Scroll	Turn Auto-Scroll on or off.
Sequence name	The name of the Equipment Sequence.
Status bar	Displays the following status icons: – There is a communication problem with the controller, the web server, the live data server, or the tags. – No known communication problem. – There is a failure in the Equipment Sequence. – No known failure in the Equipment Sequence. – The controller is in Program, Remote Program, or an unknown mode. – The controller is in Run, Remote Run, or an unknown mode. – The Equipment Sequence or task is inhibited, or the Equipment Sequence is unscheduled. – The Equipment Sequence is scanning, or the status is unknown.

See also

Sequence Detail Control on page 21

Command an Equipment Sequence using the Sequence Detail Control

Use the commands on the Sequence Detail Control to send commands to an Equipment Sequence.

Before you begin:

- Open a display that contains the Sequence Detail Control.

To command an Equipment Sequence using the Sequence Detail Control:

1. Click **Take Ownership** .
2. Click the command buttons to command the Equipment Sequence.
3. When finished, click **Release Ownership** .

See also

Sequence Detail Control on page 21

Sequence Detail Control command controls on page 23

Command a step or Equipment Phase using the Sequence Detail Control

Command an Equipment Phase through a step using the Sequence Detail Control.

Tip: Click **Active Step Change** to make a step active.

Before you begin:

- Open a display that contains the Sequence Detail Control.
- The Equipment Sequence must be in **Manual** mode.
- The step to be commanded must be active. This implies the step is attached to the Equipment Phase to be commanded.

To command a step using the Equipment Sequence Monitor:

1. Select **Take Ownership** to take ownership of the Equipment Sequence.
2. Select the active step to see the Equipment Sequence step command toolbar.
3. Select a command to command the equipment phase associated with the step.

4. (optional) Once commanding phases completed, select **Exit Manual** to go back to **Automatic** mode.
5. When finished, select **Release Ownership** .

See also

Overview of the Sequence Detail Control status header area on page 30

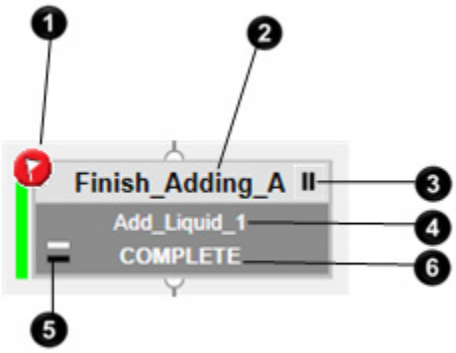
Monitor a transition in the Sequence Detail Control on page 36

Monitor a step in the Sequence Detail Control on page 33

Monitor a step in the Sequence Detail Control

A monitored equipment sequence step shows several functions:

- The user-configured step name and the Equipment Phase name.
- The step execution state.
- If the step is a source or target for a transfer of control.
- If the step has a failure.
- The step is executing.
- If the step or associated phase is paused.



	Item	Description
1	**Failure**	Phase failure - generated by the Equipment Phase Failure (PFL) instruction in the Equipment Phase logic. Internal failure - the sequencing engine has encountered a problem with the Equipment Sequence.
2	**Step Name**	The name of the step as configured during creation of the Equipment Sequence.
3	**Pause status**	The symbol shows that: • A pause of the phase logic is pending. • An auto-pause of the phase logic is pending. • The associated Equipment Phase is paused. • The associated Equipment Phase is paused and auto-pause is pending.
4	**Equipment Phase Name**	Each step is configured to reference one phase. The name of the phase is displayed so you know which equipment phase is executing.

5	**Transfer of Control (TOC)**	A step that has been configured as the source to transfer ownership to a following target step, without stopping the execution of the phase. The symbol shows: • When the top bar is filled, this step is the beginning of a TOC step pair. • When the bottom bar is filled, this step is the end of a TOC step pair. • When both top and bottom bars are filled, this step is the end of a TOC step pair and the beginning of another TOC step pair. When transfer of control is not configured, the symbols are not drawn.
6	**Step State**	When a step is active, and attached to its phase, the step state mirrors the state of the phase. The set of displayed states are: INACTIVE, NOT CONNECTED (active but not attached), IDLE, RESTARTING, RUNNING, RESETTING, HOLDING, STOPPING, ABORTING, HELD, STOPPED, ABORTED, and COMPLETE. **Tip:** <No phase> steps have no associated phase and only have two displayed states: RUNNING and IDLE. The step state is also represented by the color of the step.

Command a transition using the Sequence Detail Control

You can force an active transition to evaluate TRUE, STOPPING and RESETTING the preceding steps while attaching and STARTING the following steps.

Tip: The Equipment Sequence must be in **Automatic** mode.

Before you begin:

- Open a display that contains the Sequence Detail Control.
- The Equipment Sequence should be RUNNING.
- The transition must be active.

To command a transition using the Equipment Sequence Monitor:

1. Click **Take Ownership** to take ownership of the Equipment Sequence.
2. Click on the active transition.
3. Click **Force Transition** to force the expression to TRUE.
4. When finished, click **Release Ownership**.

See also

Monitor a transition in the Sequence Detail Control on page 36

Overview of transition display states on page 35

Overview of transition firing states on page 35

Transition display states

Transition display states show how the transition execution relates to the overall Equipment Sequence execution.

Transition Display State	Transition Color	Description
IDLE	GRAY	The transition is not actively executing.
ARMED	GREEN	The transition is actively evaluating its expression.
FIRING	GREEN	The transition expression has evaluated TRUE. The previous steps is STOPPED and the next steps is started.
STOPPED	BLUE	The transition has completed processing a STOP command and has stopped the transition's execution.
ABORTED	PURPLE	A Equipment Sequence transition in the ABORTED state has been disabled by an ABORT command and will not advance an Equipment Sequence chart.
HELD	YELLOW/BROWN	An Equipment Sequence transition in the HELD state has been halted by a HOLD command or HELD because of an Equipment Sequence failure and will not initiate or advance the Equipment Sequence transition firing process until issued a RESTART command. If the transition has been HELD due to an Equipment Sequence failure, the failure should be cleared before issuing a RESTART command.
HOLDING	YELLOW/BROWN	An Equipment Sequence transition in the HOLDING state is advancing the Equipment Sequence transition firing process. This transitional state is only visible until the scan processing the HOLD command has finished.

See also

Transition firing states on page 35

Transition firing states

The firing attribute is a subset of the FIRING state and gives a visual indication of the current state.

This firing attribute is visible when the transition expression has evaluated TRUE. The firing process requires several interactions with different phases and is an asynchronous process. Some phases may have programs that can take a long time to finish running (stopping a motor for example), so the firing object shows what the transition is doing. The displayed Firing Attribute values are: COMMITTED, STOPPING, RESETTING, PENDING, and PAUSED.

Firing Attribute	Description
ACQUIRING	The Equipment Sequence is acquiring the right to command the Equipment Phase. For every step that follows the transition, the Equipment Sequence must attach to each associated Equipment Phase before the steps can be activated.
COMMITTED	The transition is committed to firing because the transition expression has evaluated TRUE, but the transition cannot activate the following steps because it is in Manual mode or the Equipment Sequence is in the PAUSED substate.
STOPPING	As part of firing, the Equipment Sequence commands all the active preceding steps to stop. The transition firing state is STOPPING until all commanded steps are STOPPED.
RESETTING	As part of firing, the Equipment Sequence commands all the preceding steps that are STOPPED to RESET. The transition firing state is RESETTING until all the commanded steps are IDLE.
PENDING	The transition is not able to fire because the Equipment Phases of the steps above or below the transition are not in the correct state to permit the transfer of control function.

PAUSED	The transition is committed to fire, but cannot because the Equipment Sequence has been PAUSED. The transition is waiting for a RESUME command.
POST SCANNING	The transition is at the end of the firing process. On the next scan of the Equipment Sequence chart, the transition advances the chart.

See also

Transition display states on page 35

Monitor a transition in the Sequence Detail Control

A transition has several displayed attributes and status. The transition name and expression are defined when the sequence is configured and static when the sequence is online. The display state and firing attribute are dynamic and update as the transition executes.

	Item	Description
1	**Transition Name**	The name of the transition is assigned by the Equipment Sequence Editor. It is an incremented value beginning with Tran_000.
2	**Transition Display State**	The transition display state is indicated by the color of the transition. For more information about transition display states, see **Transition display states**.
3	**Transition Expression**	Transition expressions define the criteria to STOP, RESET, and detach all preceding steps and their associated Equipment Phases and attach and START the Equipment Phases and steps. The expression must always evaluate to either TRUE or FALSE.
4	**Transition Firing Attribute**	The Transition Firing Attribute is only displayed when the transition is in the FIRING state, which means the expression has evaluated TRUE. The firing attribute is a subset of the FIRING state and gives a visual indication of the current state.

Sequence Parameters Control

Use the Sequence Parameters Control to see a list of the step tags and sequence parameters in an Equipment Sequence. Select tags and parameters in the list to modify them or view more information about them.

To open the Sequence Parameters Control:

1. On the **Start** menu, choose **Rockwell Software > FactoryTalk View > FactoryTalk View Site Edition Client**.
2. Click **Sequence Parameters Control**.

See also

Modify step tags or sequence parameters using the Sequence Parameters Control on page 45

Statuses in the Control footer on page 19

Configure the Sequence Parameters Control

Configure the **Sequence Parameters Control** to communicate with a controller or to use VBA by customizing settings in the **Property Panel** for the control.

Before you begin:

- Open the FactoryTalk View Site Edition (SE) application.
- Open a display that contains the **Sequence Parameters Control**.

See also

Configure the Sequence Parameters Control to communicate with a controller on page 38

Configure the Sequence Parameters Control display options on page 38

Configure the Sequence Parameters Control to use VBA on page 39

Sequence Parameters Control on page 37

Sequence Parameters Control property settings on page 40

Configure the Sequence Parameters Control to communicate with a controller

Configure the Sequence Parameters Control to communicate with a controller.

To configure the Sequence Parameters Control:

1. In the display window, right click the **Sequence Parameters Control**.
2. Select **Property Panel**.
3. In the **ControllerPath** property text box, enter the path for the controller.
4. In the **ControllerShortcut** property text box, enter the RSLinx Enterprise device shortcut name to the controller.
5. In the **DataServerPath** property text box, enter the FactoryTalk path to the RSLinx Enterprise data server.
6. In the **SequenceName** property text box, enter the name of the Equipment Sequence.
7. In the **SeqMgrServerPortNumber** property text box, enter the port number that was defined during the installation of the server.

See also

Configure the Sequence Parameters Control display options on page 38

Configure the Sequence Parameters Control to use VBA on page 39

Configure the Sequence Parameters Control display options

Configure the Sequence Parameters Control by customizing display options.

To configure the Sequence Parameters Control display options:

1. Right click the **Sequence Parameters Control** in the display window.
2. Select **Property Panel**.
3. Select display options:
   - (optional) In the **Column1Content** property text box, select a content option for the column.
   - (optional) In the **Column2Content** property text box, select a content option for the column.
   - (optional) In the **Column3Content** property text box, select a content option for the column.
   - (optional) In the **Column4Content** property text box, select a content option for the column.
   - (optional) In the **Column5Content** property text box, select a content option for the column.
   - (optional) In the **Column6Content** property text box, select a content option for the column.

- (optional) In the **Column7Content** property text box, select a content option for the column.
- (optional) In the **Column8Content** property text box, select a content option for the column.
- (optional) In the **CurrentFilter** property text box, select an option to filter the display to Sequence Parameters, step tags, selected steps, active steps, or all.
- (optional) In the **ShowFilter** property text box, select **True** to display the filter control.
- (optional) In the **ShowSequenceHeader** property text box, select **True** to display the sequence header.
- (optional) In the **ShowStatusBar** property text box, select **True** to display the status bar.
- (optional) In the **SortField** property text box, select an option to sort by that field.
- (optional) In the **SortOrder** property text box, select an option to sort ascending or descending.
- (optional) In the **TouchPointerSize** property text box, select an option to auto-size, decrease, or increase the size of buttons.

4. Close the **Property Panel** window.
5. Select **Save**.

See also

Configure the Sequence Parameters Control to communicate with a controller on page 38

Configure the Sequence Parameters Control to use VBA on page 39

Configure the Sequence Parameters Control to use VBA

Configure the Sequence Parameters Control to use VBA.

To configure the Sequence Parameters Control to use VBA:

1. In the display window, right click the **Sequence Parameters Control**.
2. Select **Property Panel**.
3. In the **ExposeToVBA** property text box, select **VBA Control** to allow the Sequence Detail Control to use VBA for scripting.
4. Close the **Property Panel** window.
5. Click **Save**.

See also

Configure the Sequence Parameters Control to communicate with a controller on page 38

Configure the Sequence Parameters Control display options on page 38

Sequence Parameters Control table columns

The following table describes the columns in the Sequence Parameters Control list. The Parameters Control list includes all the step tags and sequence parameters in an Equipment Sequence.

Use the **Filter** setting to limit the types of tags and parameters that are included in the list. Click the column headers to sort the list alphabetically to group similar tags and parameters.

Column	Description
Name	The name of the step tag or sequencing parameter.
4	The usage type of the step tag or sequencing parameter. Usage types include **Step input** and **Step output** for step tags, and **Input** and **Output** for sequencing parameters.
Value	The current value of the step tag or sequencing parameter. Values can be edited when the **External Access** for the tag or parameter is set to **Read/Write**. Use the Tag Editor in the Logix Designer application to change the external value for a tag or parameter.
Initial Value	The initial value of the step tag or sequencing parameter. This value is assigned to the **Value** field when the Equipment Sequence is initialized. Initialization occurs when the Equipment Sequence is commanded to START, RESET, or both. Step tag and sequencing parameter initial values are editable.
Initialize as Valid	Indicates whether the step output tag or sequencing output parameter value is valid or invalid on initialization of the Equipment Sequence.
Expression	Defines an expression that is evaluated to a value for step input tags and sequencing output parameters.
Data Type	Displays the data type of the step tag or sequencing parameter. Data types for step tags and sequencing parameters include SEQ_DINT, SEQ_SINT, SEQ_INT, SEQ_REAL, SEQ_BOOL, and SEQ_STRING.
Description	Displays the text entered to describe the tag or parameter. Description text is optional and can be blank.
Engineering Unit	Displays the text entered to describe the engineering unit.

See also

Sequence Parameters Control on page 37

Modify step tags or sequence parameters using the Sequence Parameters Control on page 45

Sequence Parameters Control property settings

The **Sequence Detail Control** has the following properties that are configurable in the Property Panel of the control in the FactoryTalk View SE application.

Property name	Description	Read only	Value type
AutoLoad	Determines if the sequence chart is loaded automatically after the FactoryTalk View SE runtime starts.	No	Boolean

Column1Content	Determines what content is displayed in Column 1.	No	• 1 – Usage • 2 – Value • 3 – Initial Value • 4 – Initialize As Valid • 5 – Expression • 6 – Data Type • 7 – Description • 8 – Engineering Unit • 9 – Not Used
Column2Content	Determines what content is displayed in Column 2.	No	• 1 – Usage • 2 – Value • 3 – Initial Value • 4 – Initialize As Valid • 5 – Expression • 6 – Data Type • 7 – Description • 8 – Engineering Unit • 9 – Not Used
Column3Content	Determines what content is displayed in Column 3.	No	• 1 – Usage • 2 – Value • 3 – Initial Value • 4 – Initialize As Valid • 5 – Expression • 6 – Data Type • 7 – Description • 8 – Engineering Unit • 9 – Not Used
Column4Content	Determines what content is displayed in Column 4.	No	• 1 – Usage • 2 – Value • 3 – Initial Value • 4 – Initialize As Valid • 5 – Expression • 6 – Data Type • 7 – Description • 8 – Engineering Unit • 9 – Not Used
Column5Content	Determines what content is displayed in Column 5.	No	• 1 – Usage • 2 – Value • 3 – Initial Value • 4 – Initialize As Valid • 5 – Expression • 6 – Data Type • 7 – Description • 8 – Engineering Unit • 9 – Not Used

Column6Content	Determines what content is displayed in Column 6.	No	• 1 – Usage • 2 – Value • 3 – Initial Value • 4 – Initialize As Valid • 5 – Expression • 6 – Data Type • 7 – Description • 8 – Engineering Unit • 9 – Not Used
Column7Content	Determines what content is displayed in Column 7.	No	• 1 – Usage • 2 – Value • 3 – Initial Value • 4 – Initialize As Valid • 5 – Expression • 6 – Data Type • 7 – Description • 8 – Engineering Unit • 9 – Not Used
Column8Content	Determines what content is displayed in Column 8.	No	• 1 – Usage • 2 – Value • 3 – Initial Value • 4 – Initialize As Valid • 5 – Expression • 6 – Data Type • 7 – Description • 8 – Engineering Unit • 9 – Not Used
ControllerPath	Controller path of the Equipment Sequence. This path is specific to the workstation on which the Web Server is communicating with is located. Path Example: `AB_ETH-1\99.99.99.99\Backplane\0`	No	String
ControllerShortcut	RS Linx(RSLinx) Enterprise device shortcut to the controller. Default Value: MY_CONTROLLER	No	String
CurrentFilter	Determine which filter is currently being used. Default value: 0 – All	No	• 0 – All • 1 – SequencingParameters • 2 – StepTags • 3 – SelectedSteps • 4 – ActiveSteps
DataServerPath	The FactoryTalk path to the RS Linx(RSLinx) Enterprise Data Server. Example Path: `RNA://$Local/MyProject/`	No	String
IsEveryTagConnected	Displays whether every tag is connected to the ActiveX Control. Default value: True	Yes	Boolean

IsLiveDataConnected	Displays whether the live data server is connected to the ActiveX Control. Default value: False	Yes	Boolean
IsWebServerConnected	Displays whether the web server is connected to the ActiveX Control. Default value: False	Yes	Boolean
IsWebServerToControllerConnected	Displays whether the web server is connected to the controller. Default value: False	Yes	Boolean
LoadTable	Determines if the table is loaded to the window.	No	Boolean
SelectedSteps	Names of the selected steps. If multiple step names are entered, each step name must be separated by a comma from other step names.	No	String
SequenceName	Name of the Equipment Sequence that the chart loads if a load is initiated using the AutoLoad or LoadChart properties.	No	String
SequenceState	Displays the state value of the displayed Equipment Sequence.	Yes	Integer
ShowFilter	Determines if the filter box is shown.	No	Boolean
ShowSequenceHeader	Determines if the sequence header is shown.	No	Boolean
ShowStatusBar	Determines if the status icons are shown.	No	Boolean
SortField	Determines which column the table is sorted on.	No	• 0 – ParameterName • 1 – ParameterUsage • 2 – ParameterExpression • 3 – ParameterDataType • 4 – ParameterDescription
SortOrder	Determines which order the table is sorted, ascending, or descending.	No	• 0 – Ascending • 1 – Descending
TouchPointerSize	Determines the size of the command buttons and the height of the fields in the header and footer areas.	No	• 1 – sqmLarge • 2 - sqmSmall
WebServerAddress	The IP address of the workstation hosting the Web Server.	No	String
WebServerPortNumber	The port number of the workstation hosting the Web Server.	No	String

See also

Configure the Sequence Parameters Control on page 37

Sequence Parameters Control on page 37

Sequence Parameter Control events

The **Sequence Parameter Control** has the following event that can be used by a client in runtime.

Name	Description

stepSelectionChanged	Whenever a new step is selected in the Sequence Detail Control, the Sequence Parameters Control displays all the tags of the selected step in the Sequence Detail Control.
	Example VBA Code:
	`Private Sub SeqMgrDetailControl1_stepSelectionChanged(ByVal p_strStepName As String)`
	`  SeqMgrParametersControl1.SelectedSteps = p_strStepName`
	`End Sub`

See also

Sequence Parameters Control property settings on page 40

Configure the Sequence Parameters Control on page 37

Sequence Parameters Control runtime data

Use Sequence Parameters Control to make data available for VBA programmers at runtime. Following is a list of properties that are read-only assigned data.

Property Name	Description	Read Only	Value Type
IsEveryTagConnected	Displays whether every tag is connected to the ActiveX control. True = -1 and False = 0. Default value: -1	Yes	Integer
IsLiveDataConnected	Displays whether the live data server is connected to the ActiveX control. True = -1 and False = 0. Default value: 0	Yes	Integer
IsSeqMgrServerConnected	Displays whether the SequenceManager Server Service application is connected to the ActiveX control. True = -1 and False = 0. Default value: 0	Yes	Integer
IsSeqMgrServerConnectedBackup	Displays whether the backup SequenceManager Server Service application is connected to the ActiveX control. True = -1 and False = 0. Default value: 0	Yes	Integer
IsSeqMgrServerToControllerConnected	Displays whether the SequenceManager Server Service application is connected to the controller. True = -1 and False = 0. Default value: 0	Yes	Integer
IsSeqMgrServerToControllerConnectedBackup	Displays whether the backup SequenceManager Server Service application is connected to the controller. True = -1 and False = 0. Default value: 0	Yes	Integer
SequenceState	Displays the state value of the selected Equipment Sequence.	Yes	String

Modify step tags or sequencing parameters using the Sequence Parameters Control

Select a step tag or sequence parameter from the list on the Sequence Parameters Control to modify, disable or enable, force evaluation of, or view more information about the step tag or sequence parameter.

Tip: To modify settings for tags and parameters, the external value for the tags and parameters must be set to **Read/Write**. Use the Tag Editor in the Logix Designer application to change the external value for a tag or parameter.

To modify a tag or parameter:

1. Select the tag or parameter.
2. In the **Value** box, type the new value for the tag or parameter.
3. To disable or enable a tag or parameter, click **Expression** and then click **Disable Expression** or **Enable Expression**. The disabled icon appears in the **Expression** box. To re-enable a disabled tag or parameter, click **Expression** and then click **Enable Expression**. The disabled icon disappears from the **Expression** box.
4. To force evaluation of a tag or parameter, click **Expression** and then click **Force Evaluation**. The **Force Evaluation** button is disabled when any of the following is true:
   - The Equipment Sequence is in the IDLE state.
   - The controller is in Program mode.
   - The Equipment Sequence or its assigned task is disabled.
   - The Equipment Sequence is unscheduled.

To view more information for a tag or parameter:

1. Select the tag or parameter.
2. Click **View Expression** to display the complete expression. Click **View Description** to display the complete description.

See also

Sequence Parameters Control on page 37

Sequence Parameters Control table columns on page 40

Redundant SequenceManager Server Service

The SequenceManager Server Service application is a SequenceManager component for operator visualization and interaction. The SequenceManager Server Service application makes controller data available to the ActiveX Controls and allows the operator to command sequences. If the SequenceManager Server Service application is not running, SequenceManager ActiveX Control will not display data. For this reason, it is possible to use redundant SequenceManager Server Services.

The Sequence Manger Server Service must be installed on a machine that has a FactoryTalk View Site Edition (SE) HMI Server installed. Install the SequenceManager Server Service application on machines that are hosting a redundant pair of FactoryTalk View SE Servers. The SequenceManager ActiveX Controls know the location of the SequenceManager Server Service application that it needs because the display in the ActiveX Control is part of a display that belongs to a particular FactoryTalk View SE HMI Server.

At runtime, the SequenceManager ActiveX Controls connect to the SequenceManager Server Service application to obtain data from the controller. If links are broken in these two places, the connection can fail:

- Between the ActiveX Control and the SequenceManager Server Service application.
- Between the SequenceManager Server Service application and the controller.

Status properties in the ActiveX Controls display the status of both links to help diagnose communication problems.

If communication is lost (on either link between the ActiveX Control and the controller), a timer is started. Should communications not be restored within approximately 4 minutes, the ActiveX Control attempts to connect to the secondary SequenceManager Server Service application. If the connection is successful, communications continues through the secondary service.

- Refer to FactoryTalk View SE HMI Server documentation for information on running redundantly and for details that describe architectural and configuration recommendations.
- The primary and secondary SequenceManager Servers that are on the same computers as the primary and secondary HMI Servers are configured in FactoryTalk View SE. However, the switchover option **Continue using the secondary server even when the primary server becomes available again** in FactoryTalk View SE does not apply to SequenceManager Server. The SequenceManager Server Service application always switches to the primary server when it becomes available.
- Use the read-only properties in the ActiveX Controls to make redundancy data available for VBA within the control:
  - **IsSeqMgr Server Connected**: Read only property that shows whether the primary SequenceManager server is connected to the ActiveX control (default: 0 or False)
  - **IsSeqMgrServerConnectedBackup**: Read only property that shows whether the backup Sequence ManagerSequenceManager server is connected to the ActiveX control (default: 0 or False)
  - **IsSeqMgrServerToControllerConnected**: Read only property that shows whether the primary SequenceManager server is connected to the controller (default: 0 or False)

- **IsSeqMgrServerToControllerConnectedBackup**: Read only property that shows whether the backup SequenceManager server is connected to the controller (default: 0 or False)
- **SeqMgrServerAddress**: Read only property that shows the IP Address of the machine hosting the primary SequenceManager Server Service. (default: 99.99.99.99)
- **SeqMgrServerAddressBackup**: : Read only property that shows the IP Address of the machine hosting the backup SequenceManager Server Service. (default: 99.99.99.99)
- **SeqMgrServerPortNumber**: Port number of the hosting primary and backup SequenceManager server. (default: 7452)

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Rockwell Automation support

Use these resources to access support information.

Technical Support Center	Find help with how-to videos, FAQs, chat, user forums, and product notification updates.	rok.auto/support
Knowledgebase	Access Knowledgebase articles.	rok.auto/knowledgebase
Local Technical Support Phone Numbers	Locate the telephone number for your country.	rok.auto/phonesupport
Literature Library	Find installation instructions, manuals, brochures, and technical data publications.	rok.auto/literature
Product Compatibility and Download Center (PCDC)	Get help determining how products interact, check features and capabilities, and find associated firmware.	rok.auto/pcdc

Documentation feedback

Your comments help us serve your documentation needs better. If you have any suggestions on how to improve our content, complete the form at rok.auto/docfeedback.

Waste Electrical and Electronic Equipment (WEEE)

At the end of life, this equipment should be collected separately from any unsorted municipal waste.

Rockwell Automation maintains current product environmental information on its website at rok.auto/pec.

Rockwell Otomayson Ticaret A.Ş. Kar Plaza İş Merkezi E Blok Kat:6 34752, İçerenköy, İstanbul, Tel: +90 (216) 5698400 EEE YÖnetmeliğine Uygundur

Connect with us.

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AMERICAS: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204-2496 USA, Tel: (1) 414.382.2000, Fax: (1) 414.382.4444
EUROPE/MIDDLE EAST/AFRICA: Rockwell Automation NV, Pegasus Park, De Kleetlaan 12a, 1831 Diegem, Belgium, Tel: (32) 2 663 0600, Fax: (32) 2 663 0640
ASIA PACIFIC: Rockwell Automation, Level 14, Core F, Cyberport 3, 100 Cyberport Road, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846

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