TestStand[™] **User Interface Controls**

Overview

The TestStand User Interface (UI) Controls are a set of ActiveX controls that implement the common functionality operator interface applications need in order to display, execute, and debug test sequences. These ActiveX controls greatly reduce the amount of source code an operator interface application requires.

The TestStand UI Controls are divided into two categories: manager controls and visible controls. This poster describes the visible controls—text display, selector, command, and view—as well as the manager controls.

National Instruments recommends that you use these controls to develop your operator interface applications. Refer to Chapter 9, Creating Custom Operator Interfaces, in the TestStand Reference Manual for more information about developing applications with the TestStand UI Controls.

The TestStand UI Controls greatly reduce the need for an application to directly call the TestStand API. However, you can still call the TestStand API directly on objects you create or obtain from the TestStand UI Controls properties, methods, or events. If you call the TestStand API from an operator interface that uses the TestStand UI Controls, follow the guidelines listed in the *Using the TestStand API* with TestStand UI Controls section of Chapter 9, Creating Custom Operator Interfaces, in the TestStand Reference Manual.

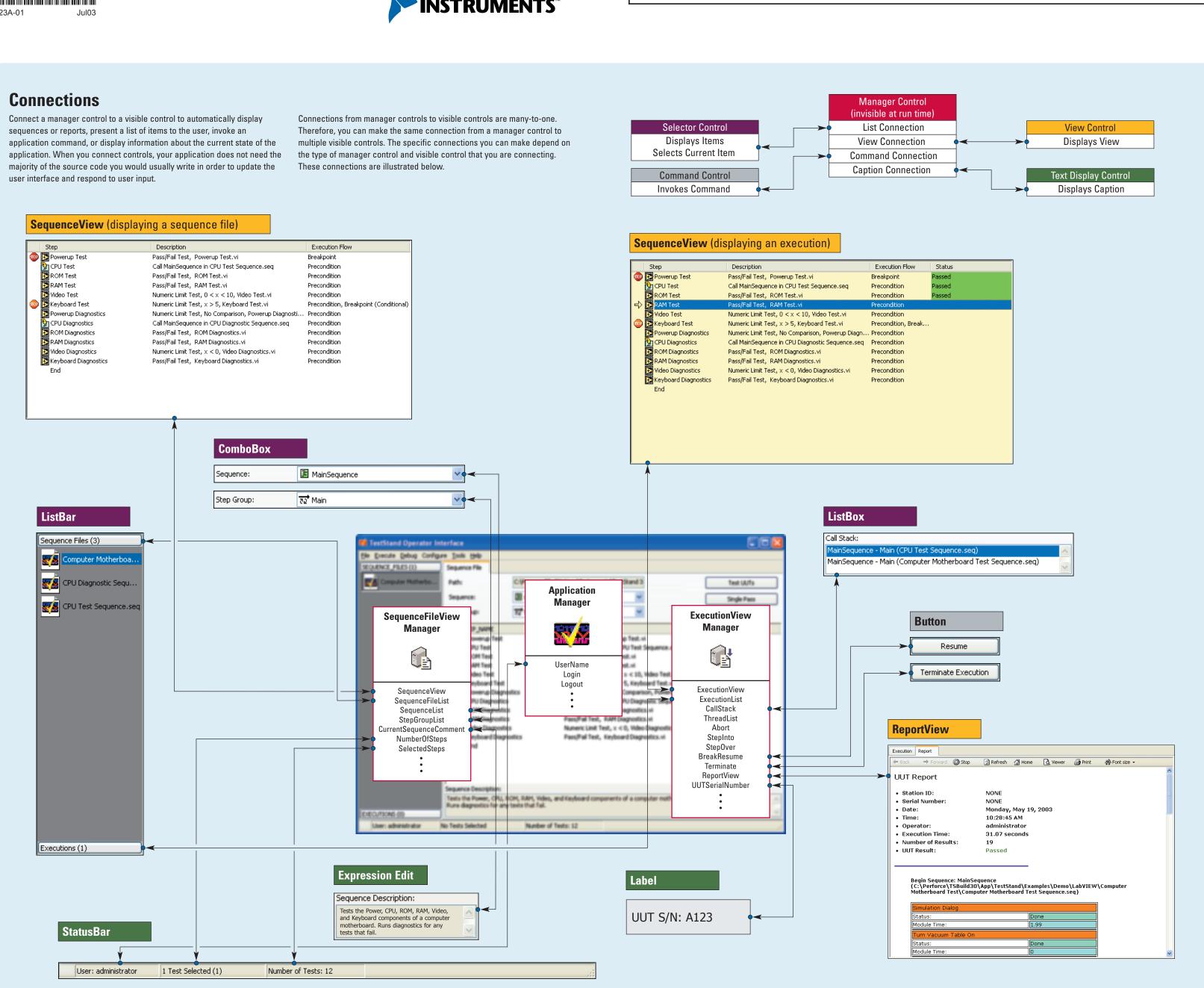
Note The TestStand UI Controls are not supported in Windows 98.

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Legend	
Control —	A visible or invisible ActiveX component that you use on user interface windows.
Object	A programmable software component representing an instance of a class. You interact with the object using the methods, properties, and events that the class defines.
Property	A container of information, which stores and maintains a setting or attribute of an object. A property can contain a single value, an array of values of the same type, or no value at all.
(Read Only)	Properties that can be read but not changed.
Method	Performs an operation or function on an object.
Event	Method that an object invokes to inform a client application of a status or state change.
Collection	An object that contains zero or more objects of the same class.
(Collection Class) (Class)	Denotes a class that has a corresponding collection class. The top (lighter box) represents the collection. The lower (darker box) represents the type of object the collection contains.
0←→0	Denotes a connection between a manager control and another control. Information is shared between the two controls. For example, a Button control instructs the manager control to execute the command, whereas the manager control determines when the Button control is dimmed.



Manager Controls

Properties

ConfigFilePath

CloseExecution

GetCaptionText

GetImageName

NewCommands

RaiseError

Start

Events

OpenSequenceFileDialog

ReloadModifiedSequenceFiles

RefreshAllViewMgrs

BreakOnRunTimeFrror

DisplaySequenceFile

PostCommandExecute

PreCommandExecute

QueryCloseExecution

QueryCloseSequenceFile

DisplayExecution

DisplayReport

EndExecution

ExecutionClosed

ExitApplication

QueryShutdown

RefreshWindows

SequenceFileClosed

SequenceFileOpened

ShutDownCancelled

ShutDownCompleted

StartExecution

UIMessageEvent

UserMessage

Command Controls

operator interface commands.

Properties

AutoSizing

FontSource

Mouselcon

Value

Methods

DoClick

Events

KeyDowi

KeyUp

KeyPress

MouseDown

MouseMove

MouseUp

Click

Localize

MousePointer

ScaleWithDPI

hWnd (Read Only)

Caption

Enabled

disables according to the application state.

Wait

ReportError

SetAutoCloseExecution

GetCommand

GetEngine

GetVisible

Logout

Manager controls call the TestStand API to perform tasks such as loading files, launching executions, and retrieving sequence information. Manager controls also notify you when application events occur, such as when a user logs in, an execution reaches a breakpoint, or a user changes the file or sequence that they are viewing. These controls are visible at design time but invisible at

Use an Application Manager control to perform basic operations which are necessary to use the TestStand Engine in your application. Your application must have a single Application Manager control that exists for the duration of the application.

Use a SequenceFileView Manger control to manage how visible TestStand UI Controls view and interact with a selected sequence file. Your application must have one SequenceFileView Manager control for each location, such as a window, form, or panel, in which you display a sequence file or allow a user to select the current sequence file.

Use an ExecutionView Manager control to manage how visible TestStand UI Controls view and interact with a selected TestStand execution. Your application must have one ExecutionView Manager control for each location, such as a window, form, or panel, in which you display an execution or allow a user to select the current execution.

SequenceFileViewMgr **Properties** BreakOnFirstStep ApplicationMgr (Read Only) ApplicationMgr (Read Only) ConfigurationEntryPoints (Read Only) ConfigurationEntryPoints (Read Only) BreakOnSequenceFailure BreakOnStepFailure Connections (Read Only) Connections (Read Only) CommandLineArguments (Read Only) ExecutionEntryPoints (Read Only) ConfigFile (Read Only) ExecutionEntryPoints (Read Only) ReplaceSequenceFileOnClose SelectedSteps (Read Only) ReplaceExecutionOnClose Connections (Read Only) RunState (Read Only) Seauence CurrentUIMessage (Read Only) SelectedSteps (Read Only) SequenceFile Executing (Read Only) SequenceContext StepGroup TerminationState (Read Only) UserData Executions (Read Only) IsShuttingDown (Read Only Methods IsStarted (Read Only) BuildEditArgs LoginLogoutRunning (Read Only) BuildInteractiveArgs AbortExecution ConnectCaption LogoutClosesSeqFilesAndExecs BreakExecution ConnectCommand MRUFiles (Read Only) BuildEditArgs ConnectImage ProcessCommandLine BuildInteractiveArgs ConnectSequenceFileList ReloadModifiedFilesInterval ConnectCallStack ConnectSequenceList ReloadSequenceFilesOnStar ConnectCaption ConnectSequenceView SequenceFiles (Read Only) ${\tt ConnectCommand}$ ConnectStepGroupList ConnectExecutionList GetCaptionText CloseAllExecutions ConnectExecutionView GetCommand CloseAllSequenceFiles ConnectImage GetlmageName ConnectNumeric LoopOnSelectedSteps CloseSequenceFile ConnectReportView ConnectCaption ConnectThreadList RefreshStep ConnectCommand GetCaptionText RunSelectedSteps GetAutoCloseExecution GetCommand GetImageName SetSequenceAndGroup GetNumericValue LoopOnSelectedStep RefreshWindow GetExecutionViewMgr Refresh SelectionChanged RefreshStep SequenceChanged GetSeauenceFileViewMar RestartExecution SequenceFileChanged ResumeExecution StepGroupChanged LocalizeAllControls RunSelectedSteps TerminateExecution SequenceFiles OpenSequenceFile

Properties Count (Read Only) Item (Read Only) Note This object has no methods. Note The SequenceFiles object is a collection that contains SequenceFile objects. The SequenceFile object is described on the

TestStand API Reference Poster.

Executions

L_______

Properties Count (Read Only) Item (Read Only) NumIncomplete (Read Only) NumPaused (Read Only) NumRunning (Read Only) Method Note The Executions object is a collection that contains Execution objects. The Execution object is described on the TestStand API Reference Poster.

Connect a manager control to a Button control to specify that the button performs a common operator

Refer to the Menus and Menu Items section of Chapter 9, Creating Custom Operator Interfaces, of the

Properties

ExecutionViewMa IsSeparator

Kind (Read Only)

LVShortcutModifie

ShortcutModifier

SubsidiaryCommands

SequenceFileViewMgr

LVShortcutKev

ShortcutKey

ToggleState

UserData

UserObject

Methods

GetDisplayName

Properties

Enabled (Read Only)

LoopOnSelectedStep

RunSelectedSteps

Name (Read Only)

SetDisplayName

EntryPoint

InteractiveExecutionAllowed (Read Only)

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Execute

Visible

Enabled

TestStand Reference Manual for information about how to create menu items that perform common

interface command. The Button control displays a localized caption and automatically enables or

ContextChanged

DisplavReport

ExecutionChanged

RefreshWindow

RunStateChanged

SelectionChanged

ThreadChanged

UserMessage

TerminationStateChanged

EndExecution

Borders orderDraggedEventEnabled BorderEdgeStyle BorderWidth FrameEdgeStyle

FrameInsideBorders FrameVisible /isibleBorders Methods

Miscellaneous

Note This object has no methods. L______

Text Display Controls

An ExpressionEdit control allows you to edit a TestStand expression with the convenience of syntax coloring, popup help, and statement completion.

While you do not typically need to edit expressions in an operator interface application, you can connect a manager control to a read-only ExpressionEdit control to automatically display text information about the application state, such as the pathname of the selected sequence file or the name of the current user.

AllowEmpty

AutoLocalize

Borders (Read Only)

BrowseExprDialogOptions

FunctionTipHwnd (Read Only)

RequiredNamedTypeArrays (Read Only)

RequiredNamedTypes (Read Only)

SyntaxHighlightingEnabled

TextLength (Read Only)

BrowseExprDialogTitle

BackColor

Engine

ErrorCheck

FontSource

HideSelection

MaxLength

Mouselcon

Multiline

MousePointer

RequiredTypes

ScaleWithDPI

ScrollBars

WantReturn

WordWrap

Methods

CheckExpression

DisplayError

BorderDragged

SelectAll

Events

DblClick

KeyDown

KeyPress

MouseDowr

MouseUp

SelChange

MouseMove

KeyUp

DisplayBrowseExprDialog

BrowseExprDialogClosed

SelLength

hWnd (Read Only

AutoCompletionHwnd (Read Only)

Connect a manager control to panes of a StatusBar control to display textual, image, or progress information about the application state. Connect a manager control to a Label control to automatically display text information about the application state in the label.

Properties AutoSize BackColor BorderStyle Caption Enabled FontSource ForeColor Mouselcon MousePointe ScaleWithDP UseMnemoni WordWrap Method Localize MouseDowr MouseMove

MouseUp

Propertie AutoSize FontSource hWnd (Read Only) Panes (Read Only) ScaleWithDPI ShowResizingGrip ShowTopDivider HitTest Localize ShowPanes DblClick MouseDowr

StatusBarPane

IconName Index (Read Only) ProcessPercent TextAlianment UseAvailableSpace

Width

MouseMove

MouseUp

Note This object has no methods.

View Controls

Connect a SequenceFileView Manager or an ExecutionView Manager control to a SequenceView control to display the steps of a sequence from a selected file or execution. Connect an ExecutionView Manager control to a ReportView control to display the report for the selected execution.

SequenceView

AutoSizeColumns BackColor Borders (Read Only Columns (Read Only) CommentsColor CommentsFont CommentsFontSource

CommentsOffset HeaderFont HeaderFontSource HorizLines

hWnd (Read Only) ItemBackColorExpressi ItemTextColorExpression LinesColor

MaxCommentsHeigh RoundItemRects ScaleWithDPI ShadeAlternateColumns ShowComments

ShowCommentsBars ShowItemTipStrips StepIconsEnabled TextColor TextFont TextFontSource

VertLines Methods HitTest

Localize Events BorderDragged ColumnResized CursorMoved

CreateContextMenu DblClick KeyDown

MouseMove MouseUp

MouseDown

ReportView

Note This object has no methods.

SeqViewColumns

SeqViewColumn

BackColorExpression

Index (Read Only)

TextColorExpression

BorderDragged

Expression

Visible

Width

Borders (Read Only) ButtonsVisible Largelcons ScaleWithDPI TextReportBackColor TextReportColor TextReportFont TextReportFontSource ToolBarTextStyle ToolBarVisible GetHTMLCtrl GetRichEditCtrl PrintReport UpdateFromExecution

Selector Controls

Connect a SequenceFileView Manager or ExecutionView Manager control to a ComboBox or ListBox control to view or select a list of files, sequences, step groups, executions, threads, or stack frames. Use a ListBar control to display multiple pages where each page contains a list of items. Connect a SequenceFileView Manager or ExecutionView Manager control to a ListBar page to view and select a list of items.

ComboBox

Properties Count (Read Only) Enabled FontSource HeightWithDropDow hWnd (Read Only) IconSize ItemIndex Mouselcon MousePointer ReadOnly ScaleWithDPI ShowImages ToolTipVisible Method GetItemText **Events** Change DropDown KeyDown KevPress

ListBox

KeyUp

BackColor Borders (Read Only) Count (Read Only) Enabled FontSource ForeColor hWnd (Read Only ItemIndex Mouselcon MousePointer ScaleWithDPI ToolTipVisible Method GetItemText HitTest **Events** BorderDragged KeyPress KeyUp MouseDown MouseMove MouseUp

ListBar

Properties

BackColor

KevDown

MouseDown

MouseMove

MouseUp

Borders (Read Only) ButtonFont ButtonFontSource ButtonStvle ButtonTextColor CurrentPage hWnd (Read Only) PageFontSource Pages (Read Only) PageTextColor ScaleWithDPI ShowItemCount ShowItemTipStrips Show Scroll BarMethods HitTest Localize **Events** BorderDragged CreateContextMen CurPageChanged CursorMoved DblClick

ListBarPage Enabled Index (Read Only Items (Read Only) Methods Note This object has no methods.

ListBarPageItem

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IconName Index (Read Only) Note This object has no methods.