



**UIMS**

Version 2.0

---

**DATA/BASIC API  
Quick Reference Guide**

All trademarks including but not limited to brand names, logos and product names referred to in this document are trademarks or registered trademarks of Northgate Information Solutions UK Limited (Northgate) or where appropriate a third party.

This document is protected by laws in England and other countries. Unauthorised use, transmission, reproduction, distribution or storage in any form or by any means in whole or in part is prohibited unless expressly authorised in writing by Northgate. In the event of any such violations or attempted violations of this notice, Northgate reserves all rights it has in contract and in law, including without limitation, the right to terminate the contract without notice.

© Copyright Northgate Information Solutions UK Limited, 1994.

Document No. UM70006277B  
September 1994

Northgate Information Solutions UK Limited  
Boundary Way  
Hemel Hempstead  
Hertfordshire, UK  
HP2 7HU

Tel +44 (0)1442 232424  
Fax +44 (0)1442 256454

[www.northgate-is.com](http://www.northgate-is.com)

## About this Guide

This guide is intended for DATA/BASIC programmers who are writing applications which use the REALITY UIMS User Interface Management System. It is divided into four sections:

- This section describes the purpose of the guide, and lists any related documents and conventions used.
- The second section, Subroutines, lists the UIMS subroutines in alphabetical order, and gives the full syntax of each.
- The third, Constants, lists the predefined UIMS constants by category.
- The fourth, Resource Compiler, lists the keywords recognised by the resource compiler and gives details of mandatory attributes and valid attribute settings. Attributes that are common to a number of objects are listed separately at the end.

This guide does not attempt to give full details of the subroutines and constants. The programmer should refer to the *UIMS DATA/BASIC API, Reference Manual* for further information.

This guide has been produced in Filofax format for you to insert into the binder containing your other REALITY Quick Reference Guides.

## Related Documents

*UIMS DATA/BASIC API, Reference Manual.*  
*UIMS DATA/BASIC API, Programmer's Guide.*  
*RealLink for Windows User Manual.*  
*REALITY DATA/BASIC Quick Reference Guide.*

## Conventions

The following conventions are used in this manual:

**Bold text** Bold text in syntax descriptions represents characters typed exactly as shown. For example:

**Disable**(*Context*, *Contact*, *vErr*)

In the Resource Compiler section, bold text is used for mandatory attributes.

*Text* Characters or words in italics indicate parameters which must be supplied by the user. For instance, in the example above, the parameters *Context*, *Contact* and *vErr* are italicized to indicate that this is the general form of the **Disable** sub-routine. In an actual program, the user supplies particular arguments for the place-holders *Context*, *Contact* and *vErr*.

Italic text is also used for titles of documents referred to by this document.

*vText* A lower case 'v' prefixing a place-holder name indicates that a variable must be supplied so that a value can be returned. In the example above, for instance, the 'v' prefix to the parameter name *vErr* indicates that, in an actual program, the user must supply the name of a variable in which to return a completion status code.

*aText*,  
*vaText* A lower case 'a' prefixing a place-holder name indicates that either the programmer must supply a dynamic array or, when combined with a lower case 'v', that on return the parameter will contain a

dynamic array with one value in each attribute.

Header  
items

In the list of subroutines, each subroutine name is preceded by one or more lower case letters; these indicate the header items that must be included when using the subroutine concerned. The letters have the following meanings:

- d UIMSDEFS
- c UIMSCOMMON
- r RFWDEFS
- k RFWKEYS
- e UIMS-DDE

All these header items are in the file UIMS-TOOLS.

For example, in

dc **Disable**(*Context*, *Contact*, *vErr*)

the letters 'dc' indicate that the header items UIMSDEFS and UIMSCOMMON must be included in your program when using this subroutine.

**Note:** These letters are for information only and do not form part of the syntax. They must be omitted when using the subroutines.

#### About this Guide

---

#### **User Comments**

We welcome your comments on this guide. Please send your comments to the Technical Publications Manager at the address on the title page.

## Subroutines

dc **AddChild**(Context, Object, Index, Child, vErr)  
dc **AddChildren**(Context, Object, Index, aChildren, vErr)  
dc **AddTimer**(Context, Interval, vHandle)  
dc **AppHelp**(Context, Section, vErr)  
dc **AppWinGetDisplay**(Context, AppWindow, vDisplay)  
dc **AppWinGetHScroll**(Context, AppWindow, vHScrollBar)  
dc **AppWinGetMenuBar**(Context, AppWindow, vMenuBar)  
dc **AppWinGetStyle**(Context, AppWindow, vWinStyle)  
dc **AppWinGetVScroll**(Context, AppWindow, vVScrollBar)  
dc **AppWinMaximize**(Context, AppWindow, vErr)  
dc **AppWinMinimize**(Context, AppWindow, vErr)  
dc **AppWinRemoveMenuBar**(Context, AppWindow, vErr)  
dc **AppWinRestore**(Context, AppWindow, vErr)  
dc **AppWinSetDefButton**(Context, AppWindow, Button, vErr)  
dc **AppWinSetMenuBar**(Context, AppWindow, MenuBar, vErr)  
dc **AppWinSetSizing**(Context, AppWindow, Sizing, vErr)  
dc **AppWinSetStyle**(Context, AppWindow, WinStyle, vErr)  
dc **AppWinSetTitle**(Context, AppWindow, Title, vErr)  
dc **BitTest**(Value, Bit, vState)  
dc **BrushGetColour**(Context, Brush, vColour)  
dc **BrushSetColour**(Context, Brush, Colour, vErr)  
dcr **ChangeNVButtonGroup**(Context, Group, Control, aTitles, aResponses, vErr)  
dcr **ChangeNVContacts**(Context, Group, FirstContact, Number, aResponses, vErr)  
dc **CheckButtonDeselect**(Context, Button, vErr)  
dc **CheckButtonGetSelected**(Context, Button, vSelected)  
dc **CheckButtonSelect**(Context, Button, vErr)  
dc **CheckButtonSetSelected**(Context, Button, Selected, vErr)  
dc **CheckButtonSetTitle**(Context, Button, Title, vErr)  
dc **CheckButtonSetToggle**(Context, Button, Toggle, vErr)  
dc **ChildWinGetHScroll**(Context, ChildWindow, vHScrollBar)  
dc **ChildWinGetStyle**(Context, ChildWindow, vWinStyle)  
dc **ChildWinGetVScroll**(Context, ChildWindow, vVScrollBar)  
dc **ChildWinSetDefButton**(Context, ChildWindow, Button, vErr)  
dc **ChildWinSetStyle**(Context, ChildWindow, WinStyle, vErr)  
dc **ClipboardGetContent**(DataFormat, vContent, vLength)  
dc **ClipboardGetSize**(Format, vSize)

## ClipboardSetContent - CreateRect

---

dc **ClipboardSetContent**(*Format, Content, Length, vErr*)  
dc **Copy**(*Context, Contact, StartChar, StartLine, EndChar, EndLine, vErr*)  
dc **CreateAppWin**(*Context, Ident, Title, HPos, VPos, Width, Height, Style, BorderStyle, Parent, vAppWindow*)  
dc **CreateCheckButton**(*Context, Ident, Title, HPos, VPos, Width, Height, Parent, vButton*)  
dc **CreateChildWin**(*Context, Ident, HPos, VPos, Width, Height, Style, BorderStyle, Parent, vChildWindow*)  
dc **CreateDlgBox**(*Context, Ident, Title, HPos, VPos, Width, Height, Style, Parent, vDlgBox*)  
dc **CreateDrawBrush**(*Context, Ident, Colour, Style, vBrush*)  
dc **CreateDrawFont**(*Context, Ident, Style, TypeFace, PointSize, vFont*)  
dc **CreateDrawPen**(*Context, Ident, Colour, Width, Style, vPen*)  
dc **CreateDrawrule**(*Context, Ident, Foreground, Background, DrawMode, TextMode, vDrawrule*)  
dc **CreateEditBox**(*Context, Ident, HPos, VPos, Width, Height, Style, Mask, Parent, vEditBox*)  
dc **CreateExGroup**(*Context, Ident, Title, HPos, VPos, Width, Height, Style, Parent, vGroup*)  
dc **CreateIncGroup**(*Context, Ident, Title, HPos, VPos, Width, Height, Style, Parent, vGroup*)  
dc **CreateLine**(*Context, Ident, HStart, VStart, HEnd, VEnd, EndStyles, Parent, vLine*)  
dc **CreateListBox**(*Context, Ident, HPos, VPos, Width, Height, Controls, Parent, vListBox*)  
dc **CreateMenuBar**(*Context, Ident, Parent, vMenuBar*)  
dc **CreateMenuItem**(*Context, Ident, Title, Parent, vMenuItem*)  
dc **CreateMessageBox**(*Context, Style, Title, Message, aButtonTitles, vResponse, vErr*)  
dcr **CreateNVContactGroup**(*Context, Group, FirstContact, Number, aResponses, vErr*)  
r **CreateNVHotspotGroup**(*Context, Group, Number, aHPos, aVPos, aWidth, aHeight, aResponses, vErr*)  
dc **CreateOptionButton**(*Context, Ident, Title, HPos, VPos, Width, Height, Parent, vButton*)  
dc **CreatePointer**(*Context, Ident, Type, vPointer*)  
dc **CreatePullDownMenu**(*Context, Ident, Title, Parent, vMenu*)  
dc **CreateRect**(*Context, Ident, HPos, VPos, Width, Height, Style, Parent, vRect*)



---

## CreateScrollBar - DrawruleGetPen

---

dc **CreateScrollBar**(Context, Ident, Type, HPos, VPos, Width, Height, Parent, vScrollBar)  
dc **CreateText**(Context, Ident, String, HPos, VPos, Width, Height, Parent, vText)  
dc **CreateTextEditor**(Context, Ident, HPos, VPos, Width, Height, Style, Parent, vEditor)  
dc **CreateTitledButton**(Context, Ident, Title, HPos, VPos, Width, Height, Parent, vButton)  
dc **Cut**(Context, Contact, StartChar, StartLine, EndChar, EndLine, vErr)  
re **DDE.ADVISE**(LinkIdent, vData, vStatus)  
re **DDE.CLOSEADVISE**(LinkIdent, vErr)  
re **DDE.EXECUTE**(Application, Topic, Command, vErr)  
re **DDE.OPENADVISE**(Application, Topic, Item, vLinkIdent, vErr)  
re **DDE.PEEK**(Application, Topic, Item, vData, vErr)  
re **DDE.POKE**(Application, Topic, Item, Data, vErr)  
dc **Destroy**(Context, Object, vErr)  
dcr **DestroyNVGroup**(Context, Group, vErr)  
dc **Disable**(Context, Contact, vErr)  
dc **DisplayGetMetrics**(Context, Display, vBdrWidth, vBdrHeight, vSizeBdrWidth, vSizeBdrHeight, vTitleBarHeight, vMenuBarHeight, vVScrollWidth, vHScrollHeight, vErr)  
dc **DisplayGetPixelSize**(Context, Display, vPWidth, vPHeight, vErr)  
c **DisplayImage**(ImageMan, Left, Top, Right, Bottom, ImageFile, ScaleFactor, Window, Context, vImage)  
dc **DlgBoxGetMode**(Context, DlgBox, vMode)  
dc **DlgBoxGetStyle**(Context, DlgBox, vStyle)  
dc **DlgBoxSetDefButton**(Context, DlgBox, Button, vErr)  
dc **DlgBoxSetMode**(Context, DlgBox, Mode, vErr)  
dc **DlgBoxSetStyle**(Context, DlgBox, Style, vErr)  
dc **DlgBoxSetTitle**(Context, DlgBox, Title, vErr)  
dc **Draw**(Context, Contact, vErr)  
dc **DrawLine**(Context, Contact, HStart, VStart, HEnd, VEnd, EndStyles, vErr)  
dc **DrawRect**(Context, Contact, Left, Top, Right, Bottom, RectStyle, vErr)  
dc **DrawruleGetBrush**(Context, Drawrule, vBrush)  
dc **DrawruleGetColour**(Context, Drawrule, vForeground, vBackground, vErr)  
dc **DrawruleGetFont**(Context, Drawrule, vFont)  
dc **DrawruleGetPen**(Context, Drawrule, vPen)

## DrawruleSetBrush - GetDrawrule

---

dc **DrawruleSetBrush**(Context, Drawrule, Brush, vErr)  
dc **DrawruleSetColour**(Context, Drawrule, Foreground, Background, vErr)  
dc **DrawruleSetFont**(Context, Drawrule, Font, vErr)  
dc **DrawruleSetPen**(Context, Drawrule, Pen, vErr)  
dc **DrawTextString**(Context, Contact, Text, HPos, VPos, vErr)  
dc **EditBoxGetContent**(Context, EditBox, vText, vComplete, vErr)  
dc **EditBoxSetContent**(Context, EditBox, Text, vErr)  
dc **EditBoxSetSelected**(Context, EditBox, StartPos, EndPos, State, vErr)  
dc **Enable**(Context, Contact, vErr)  
dc **Erase**(Context, Contact, Left, Top, Right, Bottom, vErr)  
c **EraseImage**(ImageMan, Image, vErr)  
r **Execute**(CommandLine, WindowState, Control, vErr)  
dc **ExGroupGetSel**(Context, Group, vSelection)  
dc **ExGroupSetStyle**(Context, Group, Style, vErr)  
dc **ExGroupSetTitle**(Context, Group, Title, vErr)  
dc **FontGetMetrics**(Context, Font, vHeight, vAscent, vDescent, vLeading, vLcWidth, vUcWidth, vMaxWidth, vErr)  
dc **FontGetPointSize**(Context, Font, vPointSize)  
dc **FontGetStyle**(Context, Font, vStyle)  
dc **FontGetTextLen**(Context, Font, String, vLength)  
dc **FontGetTypeFace**(Context, Font, vTypeFace)  
dc **FontSetPointSize**(Context, Font, PointSize, vErr)  
dc **FontSetStyle**(Context, Font, Style, vErr)  
dc **FontSetTypeFace**(Context, Font, TypeFace, vErr)  
dc **GetAppName**(Context, vAppName, vErr)  
dc **GetBorderStyle**(Context, Contact, vStyle)  
dc **GetChild**(Context, Object, Index, vChild)  
dc **GetChildCount**(Context, Object, vCount)  
dc **GetChildren**(Context, Object, vaChildren, vErr)  
dc **GetChildFocus**(Context, Contact, vFocus)  
dc **GetClip**(Context, Window, vTop, vLeft, vBottom, vRight, vErr)  
dc **GetCoordMode**(Context, vCoordMode)  
dc **GetCursorPosition**(Context, Window, vHPos, vVPos, vErr)  
dc **GetCursorState**(Context, Window, vVisible, vCurType, vErr)  
dc **GetDefaults**(vDisplay, vPrinter, vTypeFace, vErr)  
dc **GetDrawrule**(Context, Object, vDrawrule)

---

## GetErrorText - ListBoxRemoveContents

---

dc **GetErrorText**(Error, vText, vErr)  
dc **GetEventMask**(Context, Object, vEventMask)  
dc **GetFrontWindow**(Context, vTopWindow)  
dc **GetHelpFile**(Context, vFilename, vErr)  
dc **GetHelpIndex**(Context, Contact, vSection)  
dc **GetHelpKey**(Context, vKey)  
dc **GetMsg**(TimeOut, vContext, vWindow, vContact,  
vMsgType, vTimeStamp, vData1, vData2, vData3,  
vData4)  
dc **GetObjectParent**(Context, Object, vParent)  
dc **GetPointer**(Context, Object, vPointer)  
dc **GetPointerPos**(Context, Contact, vHPos, vVPos, vErr)  
dc **GetPosition**(Context, Contact, vHPos, vVPos, vErr)  
dc **GetRootWindow**(Context, vRootWindow)  
dc **GetSecondaryEventMask**(Context, vEventMask,  
vUnmaskable, vAlert, vErr)  
dc **GetSize**(Context, Contact, vWidth, vHeight, vErr)  
dc **GetSolidColour**(Context, Colour, vSolidColour)  
dc **GetState**(Context, Contact, vState)  
dc **GetTeFontSize**(vPointSize, vWidth, vHeight)  
dc **GetTeFontSizes**(vaPointSizes, vaWidths, vaHeights)  
dc **GetTypeFace**(Index, vTypeFace)  
dc **GetTypeFaces**(vaTypeFaces, vErr)  
dc **GetUimsVersion**(vMajor, vMinor, vRevision, vErr)  
dc **GetUpdate**(Context, Contact, vUpdate)  
dc **GrabPointer**(Context, Contact, vErr)  
dc **HiByte**(Word, vHiByte)  
dc **IncGroupSetStyle**(Context, Group, Style, vErr)  
dc **IncGroupSetTitle**(Context, Group, Title, vErr)  
dc **InitialiseUims**  
dc **IsUimsCapable**(vCapable)  
dc **ListBoxAddContent**(Context, ListBox, Index, Item, vErr)  
dc **ListBoxAddContents**(Context, ListBox, Index, altemList,  
vErr)  
dc **ListBoxAddSelection**(Context, ListBox, Selection, vErr)  
dc **ListBoxAddSelections**(Context, ListBox, aSelectList,  
vErr)  
dc **ListBoxGetContent**(Context, ListBox, Index, vItem, vErr)  
dc **ListBoxGetContents**(Context, ListBox, valtemList, vErr)  
dc **ListBoxGetSelections**(Context, ListBox, vaSelectList,  
vErr)  
dc **ListBoxRemoveContent**(Context, ListBox, Item, vErr)  
dc **ListBoxRemoveContents**(Context, ListBox, Index, Count,  
vErr)

## ListBoxRemoveSelection - ScrollBarSetInc

---

dc **ListBoxRemoveSelection**(Context, Listbox, Selection, vErr)  
dc **ListBoxRemoveSelections**(Context, Listbox, aSelectList, vErr)  
dc **ListBoxSetLink**(Context, ListBox, EditBox, vErr)  
dc **LoadAppRes**(Context, FileName, vErr)  
dc **LoByte**(Word, vLoByte)  
dc **MakePullDownMenu**(Context, Ident, Title, FirstItem, altemTitles, Parent, vMenu)  
dc **Map**(Context, Contact, vErr)  
dc **MenuItemCheck**(Context, MenuItem, vErr)  
dc **MenuItemGetCheckMark**(Context, MenuItem, vCheck)  
dc **MenuItemSetAutoCheck**(Context, MenuItem, Autocheck, vErr)  
dc **MenuItemSetCheckMark**(Context, MenuItem, Check, vErr)  
dc **MenuItemSetTitle**(Context, MenuItem, Title, vErr)  
dc **MenuItemUncheck**(Context, MenuItem, vErr)  
dc **MenuSetTitle**(Context, Menu, Title, vErr)  
dc **Move**(Context, Contact, HPos, VPos, vErr)  
dc **OptionButtonDeselect**(Context, Button, vErr)  
dc **OptionButtonGetSelected**(Context, Button, vSelected)  
dc **OptionButtonSelect**(Context, Button, vErr)  
dc **OptionButtonSetSelected**(Context, Button, Selected, vErr)  
dc **OptionButtonSetTitle**(Context, Button, Title, vErr)  
dc **OptionButtonSetToggle**(Context, Button, Toggle, vErr)  
dc **Paste**(Context, Contact, Character, Line, vErr)  
dc **PenGetColour**(Context, Pen, vColour)  
dc **PenGetWidth**(Context, Pen, vWidth)  
dc **PenSetColour**(Context, Pen, Colour, vErr)  
dc **PenSetWidth**(Context, Pen, Width, vErr)  
dc **PointerType**(Context, Pointer, vType)  
dc **PointerTypeSet**(Context, Pointer, Type, vErr)  
r **ReMapNVLine25**(Context, Enable, vErr)  
dc **RemoveChild**(Context, Object, Child, vErr)  
dc **RemoveChildren**(Context, Object, Index, Count, vErr)  
dc **RemoveTimer**(Context, Timer, vErr)  
dc **Resize**(Context, Contact, Width, Height, vErr)  
dc **Scroll**(Context, Window, HScroll, VScroll, Left, Top, Right, Bottom, vErr)  
dc **ScrollBarGetThumb**(Context, ScrollBar, vPosition)  
dc **ScrollBarSetInc**(Context, ScrollBar, PageInc, LineInc, vErr)

---

ScrollBarSetRange - TitledButtonSetTitle

---

dc **ScrollBarSetRange**(Context, ScrollBar, Min, Max, vErr)  
dc **ScrollBarSetThumb**(Context, ScrollBar, Position, vErr)  
dc **ScrollBarSetTracking**(Context, ScrollBar, Track, vErr)  
rk **SendKeys**(Keys, Control, vErr)  
dc **SetBorderStyle**(Context, Contact, Style, vErr)  
dc **SetClip**(Context, Window, Top, Left, Bottom, Right, vErr)  
dc **SetContactFocus**(Context, Contact, vErr)  
dc **SetCoordMode**(Context, CoordMode, vErr)  
dc **SetCursorPosition**(Context, Window, HPos, VPos, vErr)  
dc **SetCursorState**(Context, Window, Visible, CurType, vErr)  
dc **SetDrawrule**(Context, Object, Drawrule, vErr)  
dc **SetEnabled**(Context, Contact, Enabled, vErr)  
dcr **SetEnabledNVGroup**(Context, Group, Enable, vErr)  
dc **SetEventMask**(Context, Object, EventMask, vErr)  
dc **SetHelpFile**(Context, Filename, vErr)  
dc **SetHelpIndex**(Context, Contact, Section, vErr)  
dc **SetHelpKey**(Context, Key, vErr)  
dc **SetMapped**(Context, Contact, Mapped, vErr)  
dcr **SetMappedNVGroup**(Context, Group, Mapped, vErr)  
r **SetNVHelp**(Filename, vErr)  
dc **SetPointer**(Context, Object, Pointer, vErr)  
dc **SetPointerPos**(Context, Contact, HPos, VPos, vErr)  
dc **SetSecondaryEventMask**(Context, EventMask, Unmaskable, Alert, vErr)  
dc **SetSync**(Context, Mode, vErr)  
dc **SetTeFontSize**(PointSize, Flags, vErr)  
dc **SetTeWindow**(Context, Window, Controls, Err)  
dc **SetUimsMode**  
dc **SetUpdate**(Context, Contact, Update, vErr)  
dc **SignOff**(Context, vErr)  
dc **SignOn**(AppName, vContext)  
dc **SoundSpeaker**(Pitch, Duration, Repeat, Delay, vErr)  
c **StartImage**(vImageMan)  
c **StopImage**(ImageMan, vErr)  
r **SystemCommand**(CommandCode, Options, ParamString, vResponse, vErr)  
dc **TextEditorGetContent**(Context, Editor, vText, vErr)  
dc **TextEditorGetTextLen**(Context, Editor, vLength)  
dc **TextEditorSetContent**(Context, Editor, Text, vErr)  
dc **TextGetContent**(Context, Text, vString, vErr)  
dc **TextSetContent**(Context, Text, String, vErr)  
dc **TextSetJustification**(Context, Text, Just, vErr)  
dc **TitledButtonSetStyle**(Context, Button, Style, vErr)  
dc **TitledButtonSetTitle**(Context, Button, Title, vErr)

## TypeFaceGetName - WaitPointerOn

---

dc   **TypeFaceGetName**(*Context, TypeFace, vFontName,*  
                          *vErr*)

dc   **TypeFaceGetPointSize**(*Context, TypeFace, Index,*  
                              *vPointSize*)

dc   **TypeFaceGetPointSizes**(*Context, TypeFace,*  
                              *vaPointSizes, vErr*)

dc   **UngrabPointer**(*vErr*)

dc   **UnMap**(*Context, Contact, vErr*)

dc   **WaitPointerOff**(*Context, vErr*)

dc   **WaitPointerOn**(*Context, vErr*)

## Constants

### **App Window Sizes.** *One of:*

UIMS.WS.MAX	Maximize
UIMS.WS.MIN	Minimize
UIMS.WS.NORMAL	Normal/restored

### **App Window Styles.** *Combination of:*

UIMS.WIN.CLOSABLE	
UIMS.WIN.DIALOG	Allow tabbing between children
UIMS.WIN.HSCROLL	Display horizontal scroll-bar
UIMS.WIN.ICONISABLE	Allow minimise
UIMS.WIN.MOVABLE	
UIMS.WIN.SIZABLE	
UIMS.WIN.TEXT	Attach a text canvas
UIMS.WIN.VSCROLL	Display vertical scroll-bar

### **Pre-defined combinations.** *One of:*

UIMS.WIN.ALL	All except UIMS.TEXT
UIMS.NONE	None of the above

### **Border Style.** *One of:*

UIMS.BORDER	Square, single border
UIMS.NONE	No border

### **Brush Style.** *One of:*

UIMS.BRUSH.HOLLOW	Transparent.
UIMS.BRUSH.SOLID	

### **Child Window Styles.** *Combination of:*

UIMS.NONE	
UIMS.WIN.DIALOG	Allow tabbing between children
UIMS.WIN.HSCROLL	Display horizontal scroll-bar
UIMS.WIN.TEXT	Attach a text canvas
UIMS.WIN.VSCROLL	Display vertical scroll-bar

## Constants

---

### **Colours.** *One of:*

UIMS.BLACK	
UIMS.BLUE	
UIMS.BROWN	
UIMS.CYAN	
UIMS.DARKBLUE	
UIMS.DARKCYAN	
UIMS.DARKGREEN	
UIMS.DARKGREY	
UIMS.DARKMAGENTA	
UIMS.DARKRED	
UIMS.DEFAULT	Use colour from default Drawrule
UIMS.GREEN	
UIMS.GREY	
UIMS.MAGENTA	
UIMS.RED	
UIMS.WHITE	
UIMS.YELLOW	

### **Contact States.** *Combination of:*

UIMS.ENABLED
UIMS.MAPPABLE

### **Coordinate Mode.** *One of:*

UIMS.COORD.GRAPHIC	Graphics (pixel) mode
UIMS.COORD.TEXT	Text (character) mode

### **Cursor Style.** *One of:*

UIMS.BAR	Vertical bar
UIMS.BLOCK	Block cursor
UIMS.OUTLINE	Outline cursor
UIMS.UNDERLINE	Underline cursor

### **DDE.ADVISE Status Codes**

2000	ADV.NODATA	Item has not changed.
2001	ADV.MOREDATA	Item has changed more than once.
2002	ADV.LASTDATA	Item has changed once.



### **DDE Error Codes**

2003	ADV.CONFAIL	An 'advise' DDE link was not established or has been terminated by the server.
2010	ERR.DDE.CONFAIL	Failed to initiate the conversation.
2101	ERR.DDE.BUSY	The server is busy.
2107	ERR.DDE.LOW.MEMORY	Insufficient memory due to an internal error condition.
2108	ERR.DDE.MEMORY.ERR	Memory allocation failed.
2114	ERR.DDE.SERVER.DIED	Conversation terminated prematurely.
2115	ERR.DDE.SYS.ERR	Internal error.

### **Dialog Box Mode. One of:**

UIMS.MODE.ALLAPPS	UIMS application modal.
UIMS.MODE.APP	Application modal (default)
UIMS.MODE.LESS	Modeless
UIMS.MODE.SYS	System modal

### **Dialog Box Style. Combination of:**

UIMS.NONE  
UIMS.WIN.CLOSABLE  
UIMS.WIN.MOVABLE

### **Drawing Mode. One of:**

UIMS.DRAW.CLEAR  
UIMS.DRAW.COPY  
UIMS.DRAW.NOTCLEAR  
UIMS.DRAW.NOTCOPY  
UIMS.DRAW.NOTOR  
UIMS.DRAW.NOTXOR  
UIMS.DRAW.OR  
UIMS.DRAW.XOR

### **Edit Box Style. Combination of:**

UIMS.EBOX.BORDER	Rectangular border
UIMS.NONE	

---

## Constants

### **Error Codes**

0	ERR.RFW.SUCCESS	No Error
0	ERR.SUCCESS	No Error
1	ERR.FAIL	General failure
2	ERR.UNSUPPORTED	Unsupported facility
3	ERR.INVHANDLE	Invalid handle
5	ERR.MALLOC	No memory allocated
8	ERR.INVCLASS	Invalid class
10	ERR.NOITEM	Couldn't find the item to delete
11	ERR.INVPARAM	Invalid parameter
12	ERR.ITEMEXISTS	Item already exists
15	ERR.INVPARENT	Parent is not of appropriate type
16	ERR.DRAW.ORPHAN	Cannot Draw an orphan
21	ERR.COORDMODE	Invalid coordinate mode
24	ERR.NOSCREEN	Couldn't get the default screen
27	ERR.NOTREALISED	Contact has not yet been realised
35	ERR.FILEOPEN	Error opening file
38	ERR.INVFILENAME	Invalid file name specified
501	ERR.CLIP.FORMAT	Format is not available
502	ERR.CLIP.OPEN	Failed to open clipboard
603	ERR.EBOX.NOTEXTSEL	No text selected
800	ERR.DLGBOX.INVMODE	Invalid dialog box mode
8201	ERR.NV.NOMEM	Out of memory.
8202	ERR.NV.EXISTS	Identifier already in use.
8203	ERR.NV.INVALIDID	Group does not exist.
8204	ERR.NV.INVALIDINST	Invalid context handle.

See also:                      Execute Errors, SendKeys  
Errors, System Command Errors

### **Event Mask. Combination of:**

UIMS.EM.BUTTONPRESS	Button contact pressed
UIMS.EM.CLICK	Mouse button click
UIMS.EM.CLOSE	Window closed
UIMS.EM.DBLCLICK	Mouse button double click
UIMS.EM.DRAG	Mouse move with button down
UIMS.EM.ENTER	Focus enter
UIMS.EM.EXIT	Application exit

### **Event Mask (cont.)**

UIMS.EM.HSCROLL	Horizontal scroll on window
UIMS.EM.IDLE	No events pending
UIMS.EM.KEYPRESS	Key pressed
UIMS.EM.KILL	Window killed
UIMS.EM.LBOX.DESELECT	
	ListBox item deselected
UIMS.EM.LBOX.SELECT	ListBox item selected
UIMS.EM.LEAVE	Focus leave
UIMS.EM.MENUITEM	Menu item selected
UIMS.EM.MOTION	Mouse move
UIMS.EM.MOVE	Window moved
UIMS.EM.NOTIFY	Error occurred
UIMS.EM.PRESS	Mouse button press
UIMS.EM.RELEASE	Mouse button release
UIMS.EM.SCROLL	Scroll bar moved
UIMS.EM.SELECT	Contact contents selected
UIMS.EM.SIZE	Window re-sized
UIMS.EM.TIMER	Timer expired
UIMS.EM.UPDATE	Contact exposed, needs update
UIMS.EM.VSCROLL	Vertical scroll on window

### **Pre-defined combinations. One of:**

UIMS.EM.NEWVIEW	Event mask for NewView
-----------------	------------------------

### **Default Application Context Event Mask. Combination of:**

UIMS.EM.BUTTONPRESS  
 UIMS.EM.CLOSE  
 UIMS.EM.EXIT  
 UIMS.EM.KEYPRESS  
 UIMS.EM.MENUITEM  
 UIMS.EM.NOTIFY

### **Default Object Event Mask. All events except:**

UIMS.EM.IDLE:

### **ExclusiveGroup Styles**

UIMS.BORDER	Enclose the group in a box
UIMS.NONE	

---

## Constants

### **Execute Controls** Combination of:

EXECUTE.SINGLE	Do not start a second instance.
EXECUTE.REFOCUS	Return when running;
EXECUTE.WAIT	Return when complete;
RFW.NONE	Do not return.

### **Execute Errors**

8100	ERR.EXECUTE.MEMALLOC	Out of memory.
8102	ERR.EXECUTE.NOFILE	File not found.
8104	ERR.EXECUTE.NOPATH	Path not found.
8105	ERR.EXECUTE.LINK	Attempt to dynamically link to a task.
8106	ERR.EXECUTE.DATASEG	Each task requires separate data segments.
8110	ERR.EXECUTE.WINVERSION	Incorrect Windows version.
8111	ERR.EXECUTE.INVEXE	Invalid Windows executable file (non-Windows application or error in .EXE image).
8112	ERR.EXECUTE.OS2	OS/2 application.
8113	ERR.EXECUTE.DOS	DOS 4.0 application.
8114	ERR.EXECUTE.INVEXE2	Unknown executable type.
8115	ERR.EXECUTE.OLDEXE	Windows program not supported in current mode.
8116	ERR.EXECUTE.RUNNING	Attempt to run a second instance of a program containing multiple, writeable data segments.
8117	ERR.EXECUTE.RUNNING2	Attempt to run a second instance of a program that links to non-shareable DLLs.
8118	ERR.EXECUTE.PROTECTED	Attempt to run a protected mode application in real mode.
8132	ERR.EXECUTE.INUSE	Application already in use.
8133	ERR.EXECUTE.MEMLOCK	Internal error.

**Execute Window States.** One of:

EXECUTE.HIDE	
EXECUTE.MAXIMIZE	
EXECUTE.MINIMIZE	Minimise and activate top-level window.
EXECUTE.NORMAL	As EXECUTE.SHOWNORMAL
EXECUTE.RESTORE	As EXECUTE.SHOWNORMAL
EXECUTE.SHOW	
EXECUTE.SHOWMAXIMIZED	
EXECUTE.SHOWMINIMIZED	Activate, but display as an icon.
EXECUTE.SHOWMINNOACTIVE	
EXECUTE.SHOWNA	
EXECUTE.SHOWNOACTIVATE	
EXECUTE.SHOWNORMAL	Activate and restore window.

**Font Style.** Combination of:

UIMS.FONT.BOLD	
UIMS.FONT.ITALIC	
UIMS.FONT.OUTLINE	
UIMS.FONT.STRIKEOUT	
UIMS.FONT.UNDERLINE	
UIMS.NONE	Plain text

**InclusiveGroup Styles**

UIMS.BORDER	Enclose the group in a box
UIMS.NONE	

**Key Codes**

UIK.0 – UIK.9	
UIK.A – UIK.Z	
UIK.AMPERSAND	&
UIK.APOSTROPHE	'
UIK.ASTERISK	*
UIK.AT	@
UIK.BACKSLASH	\
UIK.BACKSPACE	
UIK.BAR	
UIK.BRACELEFT	{
UIK.BRACERIGHT	}
UIK.BRACKETLEFT	[

---

## Constants

### **Key Codes** (cont.)

UIK.BRACKETRIGHT	]
UIK.CANCEL	
UIK.CIRCUMFLEX	^
UIK.CLEAR	
UIK.COLON	:
UIK.COMMA	,
UIK.DELETE	
UIK.DOLLAR	\$
UIK.DOWN	
UIK.END	
UIK.EQUAL	=
UIK.ESCAPE	
UIK.EXCLAM	!
UIK.F1 – UIK.F15	
UIK.GRAVE	`
UIK.GREATER	>
UIK.HELP	
UIK.HOME	
UIK.INSERT	
UIK.LEFT	
UIK.LESS	<
UIK.MINUS	-
UIK.MULTI00 – UIK.MULTI7F	
UIK.NEXT	
UIK.NUMBERSIGN	#
UIK.PARENLEFT	(
UIK.PARENRIGHT	)
UIK.PERCENT	%
UIK.PERIOD	.
UIK.PLUS	+
UIK.PRIOR	
UIK.QUESTION	?
UIK.QUOTEDBL	"
UIK.QUOTELEFT	(deprecated)
UIK.QUOTERIGHT	(deprecated)
UIK.RETURN	
UIK.RIGHT	
UIK.SCRLOCK	Scroll Lock
UIK.SEMICOLON	;
UIK.SLASH	/
UIK.SPACE	Space
UIK.TAB	

**Key Codes (cont.)**

UIK.TILDE	~
UIK.UNDERSCORE	_
UIK.UNKNOWN	Unknown key
UIK.UP	

**Key Modifiers. Combination of:**

UIK.ALT  
 UIK.CAPSLOCK  
 UIK.CTRL  
 UIK.NUMLOCK  
 UIK.SHIFT

**List Box Controls. One of:**

UIMS.LBOX.MULTISELECT	Multiple selections allowed
UIMS.NONE	Single selection only

**Message Box Styles**

A combination of one value from each of the following groups:

**Number of Buttons**

0	Use pre-defined style
1	One button
2	Two buttons
3	Three buttons

**Icon**

0	Use pre-defined style
16	Information icon
32	Warning icon
48	Alert icon
64	Query icon

**Default button**

0	Leftmost button
256	Second button
512	Third button

**Predefined Styles. One of:**

UIMS.ALERT2	Alert Box with 2 Buttons.
UIMS.ALERT3	Alert Box with 3 Buttons.
UIMS.INFO	Information Box with 1 button.(default)

## Constants

---

### **Message Box Styles** (cont.)

#### **Predefined Styles** (cont.)

UIMS.QUERY2	Query Box with 2 Buttons.
UIMS.QUERY3	Query Box with 3 Buttons.
UIMS.WARN2	Warning Box with 2 Buttons.
UIMS.WARN3	Warning Box with 3 Buttons.

### **Messages**

1	UIMS.MSG.ENTER	Focus enter
2	UIMS.MSG.LEAVE	Focus leave
3	UIMS.MSG.PRESS	Mouse button press
4	UIMS.MSG.RELEASE	Mouse button release
5	UIMS.MSG.CLICK	Mouse button click
6	UIMS.MSG.DBLCCLICK	Mouse button double click
7	UIMS.MSG.MOTION	Mouse move
8	UIMS.MSG.DRAG	Mouse move with button down
9	UIMS.MSG.KEYPRESS	Key pressed
10	UIMS.MSG.UPDATE	Contact exposed, needs update
11	UIMS.MSG.CLOSE	Window closed
12	UIMS.MSG.KILL	Window killed
13	UIMS.MSG.SIZE	Window re-sized
14	UIMS.MSG.VSCROLL	Vertical scroll on window
15	UIMS.MSG.HSCROLL	Horizontal scroll on window
16	UIMS.MSG.EXIT	Application exit
17	UIMS.MSG.NOTIFY	Error occurred
18	UIMS.MSG.TIMER	Timer expired
19	UIMS.MSG.IDLE	No events pending
21	UIMS.MSG.MENUITEM	Menu item selected
22	UIMS.MSG.SCROLL	Scroll bar moved
23	UIMS.MSG.SELECT	Contact contents selected
24	UIMS.MSG.BUTTONPRESS	Button contact pressed
25	UIMS.MSG.LBOX.SELECT	ListBox item selected
26	UIMS.MSG.LBOX.DESELECT	ListBox item deselected
27	UIMS.MSG.MOVE	Window moved
97	UIMS.MSG.CREATE	Appwin created
98	UIMS.MSG.DESTROY	Appwin destroyed



## Constants

### **NewView Options** (*ChangeNVButtonGroup* subroutine)

NV.CHANGE.MAP	Change the mapped states of the buttons
UIMS.NONE	Change only the titles and responses

### **Pen Styles.** One of:

UIMS.PEN.HOLLOW
UIMS.PEN.SOLID

### **Pointer Modifiers.** One of:

UIK.P.BUTTON1	
UIK.P.BUTTON2	
UIK.P.BUTTON3	
UIK.P.BUTTON4	
UIK.P.BUTTON5	
UIK.P.DRAG	Drag is active

### **Pointer Types.** One of:

UIMS.PTR.ARROW
UIMS.PTR.CROSS
UIMS.PTR.IBEAM
UIMS.PTR.PLUS
UIMS.PTR.WAIT

### **Rectangle Styles.** One of:

UIMS.NONE	
UIMS.RECT.BORDER	Square corners

### **Scroll-bar Operations.** One of:

UIMS.SB.DOWN	Down arrow
UIMS.SB.LEFT	Left arrow
UIMS.SB.PAGEDOWN	Page down region
UIMS.SB.PAGELEFT	Page left region
UIMS.SB.PAGERIGHT	Page right region
UIMS.SB.PAGEUP	Page up region
UIMS.SB.RIGHT	Right arrow
UIMS.SB.THUMB	Thumb positioned

---

## Constants

### **Scroll-bar Operations** (cont.)

UIMS.SB.THUMBTRACK	Thumb dragged
UIMS.SB.UP	Up arrow

### **Scroll-bar Types**. One of:

UIMS.SCROLLBAR.HORZ	Horizontal scroll-bar
UIMS.SCROLLBAR.VERT	Vertical scroll-bar

### **SendKeys Control Codes**

SVK.DELAY:*delay:terminator*  
SVK.KEYRATE:*time:terminator*

### **SendKeys Controls**. One of:

SENDKEYS.WAIT	Don't send until next Execute.
RFW.NONE	Send immediately.

### **SendKeys Errors**

8135	ERR.SENDKEYS.FAIL	Internal error.
8136	ERR.SENDKEYS.INUSE	SendKeys is in use by another instance of RealLink

### **SendKeys Key Definitions**

SVK.ALTGRKEY	ALT GR
SVK.ALTKEY	ALT
SVK.BKSP	Backspace
SVK.BREAK	BREAK (CTRL+PAUSE)
SVK.CAPSLOCK	CAPS LOCK
SVK.CTRLKEY	CTRL
SVK.DEL	DELETE
SVK.DOWN	DOWN (cursor key)
SVK.END	END
SVK.ENTER	RETURN
SVK.ESC	ESC
SVK.F1	Function key F1
SVK.F10	Function key F10
SVK.F11	Function key F11
SVK.F12	Function key F12
SVK.F13	Function key F13

**SendKeys Key Definitions (cont.)**

SVK.F14	Function key F14
SVK.F15	Function key F15
SVK.F16	Function key F16
SVK.F2	Function key F2
SVK.F3	Function key F3
SVK.F4	Function key F4
SVK.F5	Function key F5
SVK.F6	Function key F6
SVK.F7	Function key F7
SVK.F8	Function key F8
SVK.F9	Function key F9
SVK.GREYMINUS	Keypad minus (-)
SVK.GREYPLUS	Keypad plus (+)
SVK.HOME	HOME
SVK.INS	INSERT
SVK.LEFT	LEFT (cursor key)
SVK.LSHIFTKEY	SHIFT (left)
SVK.NUMLOCK	NUM LOCK
SVK.PAUSE	PAUSE
SVK.PGDN	PAGE DOWN
SVK.PGUP	PAGE UP
SVK.PRTSC	PRINT SCREEN
SVK.RIGHT	RIGHT (cursor key)
SVK.RSHIFTKEY	SHIFT (right)
SVK.SCROLL	SCROLL LOCK
SVK.TAB	TAB
SVK.UP	UP (cursor key)

**SendKeys Key Modifiers**

SVK.ALT	ALT
SVK.ALTGR	ALT GR
SVK.CTRL	CTRL
SVK.SHIFT	SHIFT

**System Commands. One of:**

SYS.CREATEDIR	Create a directory on the PC
SYS.DELDIR	Delete a directory on the PC
SYS.DELFILE	Delete a file on the PC
SYS.EXIST	Check if a file or directory exists on the PC
SYS.LOOKUP	

---

## Constants

### **System Command Options**

EXIST.TIMESTAMP	Return the time of the last modification to the file or directory
EXIST.SIZE	Return the size of the file
EXIST.HEADER	Return the first line of the file
RFW.NONE	

### **System Command Errors**

0	ERR.SYS.SUCCESS	
8142	ERR.SYS.FAIL	
8141	ERR.SYS.INVCOMMAND	Invalid command
8140	ERR.SYS.DIRECTORY	A directory with the specified name exists
8143	ERR.SYS.NOFILE	The file or directory does not exist

### **TE Window Controls**

TE.SHOWWIN	Don't hide the RealLink window
TE.NOAUTOSCROLL	Disable horizontal scroll bar.
TE.NOAUTORESIZE	Disable Auto Resize Window
TE.NOAUTOFONT	Disable RealLink Auto Select Font
TE.10PTFONT	Change the text to 10pt size

### **Text Alignment. One of:**

UIMS.JUST.BOTH	Both left and right aligned (justified)
UIMS.JUST.CENTRED	Centred
UIMS.JUST.LEFT	Left aligned
UIMS.JUST.RIGHT	Right aligned

### **Text Editor Styles. Combination of:**

UIMS.NONE	
UIMS.TXED.AUTOSCROLL	Auto-scrolling
UIMS.TXED.BORDER	Rectangular border
UIMS.TXED.HSCROLLBAR	Horizontal scrollbar
UIMS.TXED.READONLY	Read only, no editing
UIMS.TXED.VSCROLLBAR	Vertical scrollbar

**Text Mode.** One of:

```
UIMS.TEXT.HOLLOW
UIMS.TEXT.OPAQUE
```

**Titled Button Styles.** Combination of:

UIMS.NONE	
UIMS.TB.THICK	Thickened border

**Update Mode.** One of:

UIMS.IMMEDIATE	Update immediately
UIMS.NONE	Don't update, wait for draw command

### General Constants

FALSE  
TRUE

## Resource Compiler

### Object Types

APPWINDOW	BRUSH
CHECKBUTTON	CHILDWINDOW
DIALOGBOX	DRAWRULE
EDITBOX	EXCLUSIVEGRP
INCLUSIVEGRP	LINE
LISTBOX	MENU
MENUBAR	MENUITEM
OPTIONBUTTON	PEN
POINTER	RECTANGLE
SCROLLBAR	TEXT
TEXTEDITOR	TITLEDBUTTON

### Object Attributes

Note: Attributes shown in **bold** are mandatory.

#### **APPWINDOW**

<b>BDRSTYLE</b>	Border style – one of: NONE BORDER
CHILDREN	List of Object IDs.
CLIPREGION	List of four coordinate values (top, left, bottom, right).
CURSORPOS	Cursor position – list of two coordinate values (horizontal, vertical).
CURSORSTATE	List of two settings (Visible, Type). Visible – one of: TRUE FALSE Type – one of: OUTLINE BLOCK UNDERLINE BAR

<i>Attributes in bold are mandatory</i>
---

**APPWINDOW** (cont.)

<b>DRAWRULE</b>	Object ID.
<b>ENABLED</b>	TRUE or FALSE
<b>EVENTMASK</b>	List of settings (see page 37).
<b>HELPINDEX</b>	Help identifier value.
<b>MAPPED</b>	TRUE or FALSE
<b>MENUBAR</b>	Object ID.
<b>POINTER</b>	Object ID.
<b>POSITION</b>	List of two coordinate values (horizontal, vertical).
<b>SIZE</b>	List of two coordinate values (width, height).
<b>SIZING</b>	One of: MAX MIN NORMAL
<b>STYLE</b>	List of settings, each one of: CLOSABLE DIALOG HSCROLL ICONISABLE MOVABLE NONE SIZABLE TEXT VSCROLL
<b>TITLE</b>	String.
<b>UPDATE</b>	NONE or IMMEDIATE

**BRUSH**

<b>FOREGROUND</b>	Colour (see page 38).
<b>STYLE</b>	One of: HOLLOW SOLID

**CHECKBUTTON**

<b>ENABLED</b>	TRUE or FALSE
<b>EVENTMASK</b>	List of settings (see page 37).
<b>HELPINDEX</b>	Help identifier value.
<b>MAPPED</b>	TRUE or FALSE
<b>POSITION</b>	List of two coordinate values (horizontal, vertical).

*Attributes in bold are mandatory*

**CHECKBUTTON** (cont.)

SELECTED	One of: TRUE FALSE
<b>SIZE</b>	List of two coordinate values (width, height).
<b>TITLE</b>	String.
TOGGLE	One of: TRUE FALSE
UPDATE	NONE or IMMEDIATE

**CHILDWINDOW**

<b>BDRSTYLE</b>	Border style — one of: NONE BORDER
CHILDREN	List of Object IDs.
CLIPREGION	List of four coordinate values (top, left, bottom, right).
CURSORPOS	Cursor position — list of two coordinate values (horizontal, vertical).
CURSORSTATE	List of two settings (Visible, Type). Visible — one of: TRUE FALSE Type — one of: OUTLINE BLOCK UNDERLINE BAR
DRAWRULE	Object ID.
ENABLED	TRUE or FALSE
EVENTMASK	List of settings (see page 37).
HELPINDEX	Help identifier value.
MAPPED	TRUE or FALSE
POINTER	Object ID.
<b>POSITION</b>	List of two coordinate values (horizontal, vertical).
<b>SIZE</b>	List of two coordinate values (width, height).

<i>Attributes in bold are mandatory</i>
---



**CHILDWINDOW** (cont.)

<b>STYLE</b>	List of settings, each one of: DIALOG HSCROLL NONE TEXT VSCROLL
<b>UPDATE</b>	NONE OR IMMEDIATE

**DIALOGBOX**

<b>CHILDREN</b>	List of Object IDs.
<b>DEFBUTTON</b>	Object ID.
<b>ENABLED</b>	TRUE or FALSE
<b>EVENTMASK</b>	List of settings (see page 37).
<b>HELPINDEX</b>	Help identifier value.
<b>MAPPED</b>	TRUE or FALSE
<b>MODE</b>	One of: APP LESS SYS
<b>POSITION</b>	List of two coordinate values (horizontal, vertical).
<b>SIZE</b>	List of two coordinate values (width, height).
<b>STYLE</b>	List of settings, each one of: CLOSABLE MOVABLE NONE
<b>TITLE</b>	String.
<b>UPDATE</b>	NONE OR IMMEDIATE

**DRAWRULE**

<b>BACKGROUND</b>	Colour (see page 38)
<b>BRUSH</b>	Object ID.
<b>DRAWMODE</b>	One of: CLEAR COPY NOTCLEAR NOTCOPY NOTOR NOTXOR

<i>Attributes in bold are mandatory</i>
---

**DRAWRULE** (cont.)

<b>DRAWMODE</b> (cont.)	OR XOR
<b>FOREGROUND</b>	Colour (see page 38)
<b>PEN</b>	Object ID.
<b>TEXTMODE</b>	One of: OPAQUE HOLLOW

**EDITBOX**

<b>CONTENT</b>	String
<b>ENABLED</b>	TRUE or FALSE
<b>EVENTMASK</b>	List of settings (see page 37).
<b>HELPINDEX</b>	Help identifier value.
<b>MAPPED</b>	TRUE or FALSE
<b>MASK</b>	Must be a null string.
<b>POSITION</b>	List of two coordinate values (horizontal, vertical)
<b>SIZE</b>	List of two coordinate values (width, height).
<b>STYLE</b>	One of: BORDER NONE
<b>UPDATE</b>	NONE OR IMMEDIATE

**EXCLUSIVEGRP**

<b>BORDER</b>	BORDER or NONE
<b>CHILDREN</b>	List of Object IDs
<b>ENABLED</b>	TRUE or FALSE
<b>EVENTMASK</b>	List of settings (see page 37).
<b>HELPINDEX</b>	Help identifier value.
<b>MAPPED</b>	TRUE or FALSE
<b>POSITION</b>	List of two coordinate values (horizontal, vertical).
<b>SIZE</b>	List of two coordinate values (width, height).
<b>TITLE</b>	String
<b>UPDATE</b>	NONE OR IMMEDIATE

<i>Attributes in bold are mandatory</i>
---

**INCLUSIVEGRP**

<b>BORDER</b>	BORDER or NONE
CHILDREN	List of Object IDs
ENABLED	TRUE or FALSE
EVENTMASK	List of settings (see page 37).
HELPINDEX	Help identifier value.
MAPPED	TRUE or FALSE
<b>POSITION</b>	List of two coordinate values (horizontal, vertical)
<b>SIZE</b>	List of two coordinate values (width, height).
<b>TITLE</b>	String
UPDATE	NONE OR IMMEDIATE

**LINE**

DRAWRULE	Object ID
ENABLED	TRUE or FALSE
<b>ENDPOS</b>	List of two coordinate values (horizontal, vertical), relative to STARTPOS.
<b>ENDSTYLE</b>	Must be set to DEFAULT.
MAPPED	TRUE or FALSE
<b>STARTPOS</b>	List of two coordinate values (horizontal, vertical)
UPDATE	NONE OR IMMEDIATE

**LISTBOX**

CONTENT	List of strings
<b>CONTROLS</b>	One of: NONE MULTISELECT
ENABLED	TRUE or FALSE
EVENTMASK	List of settings (see page 37).
HELPINDEX	Help identifier value.
LINK	Object ID
MAPPED	TRUE or FALSE
<b>POSITION</b>	List of two coordinate values (horizontal, vertical)
SELECTION	Value

*Attributes in bold are mandatory*

## Resource Compiler

---

### **LISTBOX** (cont.)

<b>SIZE</b>	List of two coordinate values (width, height).
<b>UPDATE</b>	NONE OR IMMEDIATE

### **MENU**

<b>CHILDREN</b>	List of Object IDs
<b>ENABLED</b>	TRUE or FALSE
<b>EVENTMASK</b>	List of settings (see page 37).
<b>HELPINDEX</b>	Help identifier value.
<b>MAPPED</b>	TRUE or FALSE
<b>TITLE</b>	String

### **MENUBAR**

<b>CHILDREN</b>	List of Object IDs
<b>EVENTMASK</b>	List of settings (see page 37).
<b>MAPPED</b>	TRUE or FALSE
<b>UPDATE</b>	NONE OR IMMEDIATE

### **MENUITEM**

<b>AUTOCHECK</b>	One of: TRUE FALSE
<b>CHECKMARK</b>	One of: TRUE FALSE
<b>ENABLED</b>	TRUE or FALSE
<b>EVENTMASK</b>	List of settings (see page 37).
<b>HELPINDEX</b>	Help identifier value.
<b>MAPPED</b>	TRUE or FALSE
<b>TITLE</b>	String

### **OPTIONBUTTON**

<b>ENABLED</b>	TRUE or FALSE
<b>EVENTMASK</b>	List of settings (see page 37).
<b>HELPINDEX</b>	Help identifier value.
<b>MAPPED</b>	TRUE or FALSE
<b>POSITION</b>	List of two coordinate values (horizontal, vertical)

<i>Attributes in bold are mandatory</i>
---

**OPTIONBUTTON** (cont.)

SELECTED	One of: TRUE FALSE
<b>SIZE</b>	List of two coordinate values (width, height).
<b>TITLE</b>	String
TOGGLE	One of: TRUE FALSE
UPDATE	NONE OR IMMEDIATE

**PEN**

<b>FOREGROUND</b>	Colour (see page 38).
<b>STYLE</b>	One of: HOLLOW SOLID
<b>WIDTH</b>	Number of pixels

**POINTER**

<b>TYPE</b>	One of: ARROW CROSS CUSTOM IBEAM PLUS WAIT
-------------	---

**RECTANGLE**

DRAWRULE	Object ID.
ENABLED	TRUE or FALSE
<b>ENDPOS</b>	List of two coordinate values (horizontal, vertical), relative to STARTPOS.
MAPPED	TRUE or FALSE
<b>STARTPOS</b>	List of two coordinate values (horizontal, vertical)
<b>STYLE</b>	One of: BORDER NONE
UPDATE	NONE OR IMMEDIATE

<i>Attributes in bold are mandatory</i>
---

**SCROLLBAR**

ENABLED	TRUE or FALSE
EVENTMASK	List of settings (see page 37).
HELPINDEX	Help identifier value.
INC	List of two increment values (page, line).
MAPPED	TRUE or FALSE
<b>POSITION</b>	List of two coordinate values (horizontal, vertical)
RANGE	List of two coordinate values (minimum, maximum).
<b>SIZE</b>	List of two coordinate values (width, height).
THUMBPOS	Value
TRACK	One of: TRUE FALSE
<b>TYPE</b>	One of: HORZ VERT
UPDATE	NONE OR IMMEDIATE

**TEXT**

<b>CONTENT</b>	String
DRAWRULE	Object ID
ENABLED	TRUE or FALSE
HELPINDEX	Help identifier value.
JUSTIFICATION	One of: BOTH CENTRED LEFT RIGHT
MAPPED	TRUE or FALSE
<b>POSITION</b>	List of two coordinate values (horizontal, vertical)
<b>SIZE</b>	List of two coordinate values (width, height).
UPDATE	NONE OR IMMEDIATE

**TEXTEDITOR**

CONTENT	String
ENABLED	TRUE or FALSE
EVENTMASK	List of settings (see page 37).

<i>Attributes in bold are mandatory</i>
---

**TEXTEDITOR** (cont.)

HELPINDEX	Help identifier value.
MAPPED	TRUE or FALSE
<b>POSITION</b>	List of two coordinate values (horizontal, vertical)
<b>SIZE</b>	List of two coordinate values (width, height).
<b>STYLE</b>	List of settings, each one of: NONE AUTOSCROLL BORDER HSCROLLBAR READONLY VSCROLLBAR
UPDATE	NONE OR IMMEDIATE

**TITLEDBUTTON**

ENABLED	TRUE or FALSE
EVENTMASK	List of settings (see page 37).
HELPINDEX	Help identifier value.
MAPPED	TRUE or FALSE
<b>POSITION</b>	List of two coordinate values (horizontal, vertical)
<b>SIZE</b>	List of two coordinate values (width, height).
STYLE	One of: NONE THICK
<b>TITLE</b>	String.
UPDATE	NONE OR IMMEDIATE

**Common Object Attributes****EVENTMASK.** List of:

BUTTONPRESS	CLICK
CLOSE	DBLCLICK
DRAG	ENTER
EXIT	HSCROLL
IDLE	KEYPRESS
KILL	LBOXDESELECT
LBOXSELECT	LEAVE

<i>Attributes in bold are mandatory</i>
---

## Resource Compiler

### **EVENTMASK** (cont.)

MENUITEM	MOTION
MOVE	NEWVIEW
NOTIFY	PRESS
RELEASE	SCROLL
SELECT	SIZE
TIMER	UPDATE
VSCROLL	

### **Colours.** One of:

BLACK	CYAN
DARKGREEN	DARKRED
MAGENTA	YELLOW
BLUE	DARKBLUE
DARKGREY	GREEN
RED	BROWN
DARKCYAN	DARKMAGENTA
GREY	WHITE

### **Virtual Keys.** One of:

0 – 9	A – Z
AMPERSAND	APOSTROPHE
ASTERISK	AT
BACKSLASH	BACKSPACE
BAR	BRACELEFT
BRACERIGHT	BRACKETLEFT
BRACKETRIGHT	
CIRCUMFLEX	CLEAR
COLON	COMMA
DELETE	DOLLAR
DOWN	
END	EQUAL
ESCAPE	EXCLAM
F1 – F15	
GREATER	
HELP	HOME
INSERT	
LEFT	LESS
MINUS	MULTI00 – MULTI7F

**Attributes in bold are mandatory**



**Virtual Keys (cont.)**

NEXT	NUMBERSIGN
PARENLEFT	PARENRIGHT
PERCENT	PERIOD
PLUS	PRIOR
QUOTERIGHT	QUESTION
QUOTEDBL	QUOTELEFT
RETURN	RIGHT
SEMICOLON	SLASH
SPACE	
TAB	TILDE
UNDERSCORE	UP

**Key Modifiers. Combination of:**

CAPSLOCK	NUMLOCK
SHIFT	CTRL
ALT	

**Attributes in bold are mandatory**