

## Constructors

**UI\_BIOS\_KEYBOARD** (USHORT initialState = D\_ON);

**UI\_CURSOR** (USHORT initialState = D\_OFF);

**UI\_DATE** (void);

Set to system date.

**UI\_DATE** (int packedDate);

**UI\_DATE** (int year, int month, int day);

**UI\_DATE** (const char \*string, USHORT dtFlags = DTF\_NO\_FLAGS);

**UI\_DOS\_BGI\_DISPLAY** (void);

**UI\_DOS\_TEXT\_DISPLAY** (TEXT\_DISPLAY\_MODE displayMode = TDM\_AUTO);

**UI\_ELEMENT** (void);

**UI\_ERROR\_SYSTEM** (void);

**UI\_ERROR\_WINDOW\_SYSTEM** (void);

**UI\_EVENT\_MANAGER** (int maxEvents, UI\_DISPLAY \*display);

**UI\_HELP\_SYSTEM** (void);

**UI\_HELP\_WINDOW\_SYSTEM** (char \*helpFileName, UI\_WINDOW\_MANAGER \*windowManager, int defaultHelpContext = NO\_HELP\_CONTEXT);

**UI\_LIST** (int (\*compare)(void \*element1, void \*element2) = NULL);

**UI\_MOUSE** (USHORT initialState = D\_VIEW);

**UI\_TIME** (void);

Set to system time.

**UI\_TIME** (int packedTime);

**UI\_TIME** (int hour, int minute, int second, int hundredth = 0);

**UI\_TIME** (const char \*string, USHORT tmFlags = TMF\_NO\_FLAGS);

**UI\_WINDOW\_MANAGER** (UI\_DISPLAY \*display, UI\_EVENT\_MANAGER \*eventManager);

**UIW\_BORDER** (void);

**UIW\_BUTTON** (int left, int top, int width, char \*string, USHORT btFlags, USHORT woFlags, void (\*userFunction)(void \*button, UI\_EVENT &event));

**UIW\_DATE** (int left, int top, int width, UI\_DATE \*date, char \*range, USHORT dtFlags, USHORT woFlags, int (\*validate)(void dateField, int ccode) = NULL);

**UIW\_FORMATTED\_STRING** (int left, int top, int width, char \*string, char \*editMask, char \*literalMask, USHORT woFlags, int (\*validate)(void \*stringField, int ccode) = NULL);

editMask values:

a - letter	c - letter or number	L - place holder - skip	x - any character
A - letter, force upper case	C - letter or number, force upper case	N - digit	X - any character, force upper case

**UIW\_ICON** (int left, int top, USHORT \*\*bitmapArray, UI\_PALETTE \*paletteArray, USHORT icFlags, USHORT woFlags, void (\*userFunction)(void \*icon, UI\_EVENT &event));

**UIW\_MATRIX** (int left, int top, int width, int height, int maxRowsColumns, int cellWidth, int cellHeight, int (\*compare)(void \*element1, void \*element2), USHORT mxFlags, USHORT woFlags, USHORT woAdvancedFlags);

**UIW\_MAXIMIZE\_BUTTON** (void);

**UIW\_MINIMIZE\_BUTTON** (void);

**UIW\_NUMBER** (int left, int top, int width, TYPE, char \*range, USHORT nmFlags, USHORT woFlags, int (\*validate)(void \*numberField, int ccode) = NULL);

TYPE may be any of the following (signed or unsigned):

char *value	short *value	int *value	long *value	float *value	double *value
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**UIW\_POP\_UP\_ITEM** (void);

Adds a separator.

**UIW\_POP\_UP\_ITEM** (char \*string, USHORT mnFlags, USHORT btFlags, USHORT woFlags, void (\*userFunction)(void \*item, UI\_EVENT &event) = NULL);

**UIW\_POP\_UP\_MENU** (int left, int top, USHORT mnFlags, USHORT woFlags, USHORT woAdvancedFlags);

**UIW\_POP\_UP\_WINDOW** (int left, int top, int width, char \*string, UIW\_WINDOW \*window, USHORT btFlags, USHORT woFlags);

**UIW\_PROMPT** (int left, int top, const char \*prompt, USHORT woFlags);

**UIW\_PULL\_DOWN\_ITEM** (char \*string, USHORT mnFlags, void (\*userFunction)(void \*object, UI\_EVENT &event) = NULL);

**UIW\_PULL\_DOWN\_MENU** (int indentation, USHORT woFlags, USHORT woAdvancedFlags);

**UIW\_SCROLL\_BAR** (int left, int top, int width, int height, USHORT sbFlags, USHORT woFlags);

## Class Hierarchy

```

class UI_DATE
class UI_DISPLAY
  class UI_DOS_BGI_DISPLAY
  class UI_DOS_TEXT_DISPLAY
class UI_ELEMENT
  class UI_DEVICE
  class UI_BIOS_KEYBOARD
  class UI_CURSOR
  class UI_KEY
  class UI_MS_MOUSE
  class UI_WINDOW_OBJECT
    class UIW_BORDER
    class UIW_BUTTON
      class UIW_MAXIMIZE_BUTTON
      class UIW_MINIMIZE_BUTTON
      class UIW_POP_UP_ITEM
      class UIW_POP_UP_WINDOW
      class UIW_PULL_DOWN_ITEM
      class UIW_SYSTEM_BUTTON
    class UIW_FORMATTED_STRING
    class UIW_ICON
    class UIW_NUMBER
  class UIW_PROMPT
  class UIW_STRING
    class UIW_DATE
    class UIW_TEXT
    class UIW_TIME
  class UIW_TITLE
  class UIW_WINDOW
    class UIW_MATRIX
    class UIW_POP_UP_MENU
    class UIW_PULL_DOWN_MENU
class UI_EDIT_INFO
  class UIW_FORMATTED_STRING
  class UIW_NUMBER
  class UIW_STRING
class UI_ERROR_SYSTEM
  class UI_WINDOW_ERROR_SYSTEM
class UI_EVENT_MANAGER
class UI_HELP_SYSTEM
  class UI_WINDOW_HELP_SYSTEM
class UI_LIST
class UI_TIME
class UI_WINDOW_MANAGER
  
```

## Start Up

```

UI_DOS_TEXT_DISPLAY
UI_EVENT_MANAGER
UI_WINDOW_MANAGER
UI_HELP_WINDOW_SYSTEM
UI_ERROR_WINDOW_SYSTEM
  
```

**UIW\_STRING** (int left, int top, int width, char \*string, short maxLength, USHORT strFlags, USHORTwoFlags, int (\*validate)(void \*stringField, UI\_EVENT &event) = NULL);

**UIW\_SYSTEM\_BUTTON** (void);

**UIW\_TEXT** (int left, int top, int width, int height, char \*text, short maxLength, USHORT txtFlags, USHORT woFlags, int (\*validate)(void \*textField, int ccode) = NULL);

**UIW\_TIME** (int left, int top, int width, UI\_TIME \*time, char \*range, USHORT tmFlags, USHORT woFlags, int (\*validate)(void \*timeField, UI\_EVENT &event) = NULL);

**UIW\_TITLE** (char \*title, USHORT woFlags = WOF\_JUSTIFY\_CENTER);

**UIW\_WINDOW** (int left, int top, int width, int height, USHORT woFlags, USHORT woAdvancedFlags, int helpContext = NO\_HELP\_CONTEXT);

## Palette

### QUEUE

Q\_NORMAL  
Q\_NO\_BLOCK  
Q\_BEGIN  
Q\_END  
Q\_NO\_DESTROY  
Q\_NO\_POLL

PM\_ANY  
PM\_ACTIVE  
PM\_INACTIVE  
PM\_SELECTED  
PM\_CURRENT  
PM\_INVALID  
PM\_VIEW  
PM\_HOT\_KEY  
PM\_NON\_SELECTABLE

## Flags

btFlags	dtFlags	icFlags	mnFlags	mnFlags	mxFlags
BTF_NO_FLAGS	DTF_NO_FLAGS	ICF_NO_FLAGS	MNF_NO_FLAGS	MNIF_NO_FLAGS	MXF_NO_FLAGS
BTF_NO_TOGGLE	DTF_US_FORMAT	ICF_TRANSPARENT	MNF_SELECT_ONE	MNIF_SEPARATOR	MXF_COLUMNS_FILL
BTF_DOWN_CLICK	DTF_EUROPEAN_FORMAT		MNF_AUTO_SORT	MNIF_MAXIMIZE	MXF_ROWS_FILL
BTF_CHECK_MARK	DTF_JAPANESE_FORMAT		MNF_SELECT_LEFT	MNIF_MINIMIZE	MXF_AUTO_FILL
BTF_REPEAT	DTF_MILITARY_FORMAT		MNF_SELECT_RIGHT	MNIF_MOVE	MXF_SELECT_ONE
BTF_DOUBLE_CLICK	DTF_DASH†			MNIF_SIZE	
	DTF_SLASH†			MNIF_DUAL_MONITOR	
	DTF_ALPHA_MONTH†			MNIF_RESTORE	
	DTF_DAY_OF_WEEK†			MNIF_CLOSE	
	DTF_UPPER_CASE†				
	DTF_SHORT_YEAR†				
	DTF_SHORT_MONTH†				
	DTF_SHORT_DAY†				
	DTF_ZERO_FILL†				
	DTF_FORCE_ALPHA_MONTH†				
	DTF_SYSTEM‡				
nmFlags	sbFlags	strFlags	tmFlags	WoAdvancedFlags	woFlags
NMF_NO_FLAGS	SBF_NO_FLAGS	STR_NO_FLAGS	TMF_NO_FLAGS	WOAF_NO_FLAGS	WOF_NO_FLAGS
NMF_DECIMAL_FLOAT	SBF_CORNER		TMF_NO_HOURS	WOAF_OUTSIDE_REGION	WOF_JUSTIFY_CENTER
NMF_CURRENCY	SBF_VERTICAL		TMF_NO_MINUTES	WOAF_NON_CURRENT	WOF_JUSTIFY_RIGHT
NMF_CREDIT	SBF_HORIZONTAL		TMF_SECONDS	WOAF_TEMPORARY	WOF_BORDER
NMF_COMMAS			TMF_HUNDREDTHS†	WOAF_HOT_REGION	WOF_NO_ALLOCATE_DATA
NMF_PERCENT			TMF_TWELVE_HOUR†	WOAF_NO_DESTROY	WOF_VIEW_ONLY
NMF_SCIENTIFIC			TMF_TWENTY_FOUR_HOUR†	WOAF_NORMAL_HOT_KEYS	WOF_NO_UNANSWERED
NMF_UNSIGNED			TMF_ZERO_FILL†	WOAF_NO_SIZE	WOF_NO_INVALID
			TMF_COLON_SEPARATOR†	WOAF_NO_MOVE	WOF_UNANSWERED
			TMF_NO_SEPARATOR†	WOAF_MODAL	WOF_NON_FIELD_REGION
			TMF_UPPER_CASE†	WOAF_LOCKED	WOF_NON_SELECTABLE
			TMF_LOWER_CASE†		WOF_AUTO_CLEAR
			TMF_SYSTEM‡		

† Export only  
‡ Import only

## Events

HOT_KEY_MAXIMIZE	252	L_EXIT	1000	L_BEGIN_MARK	1101	S_ERROR	-1
HOT_KEY_MINIMIZE	253	L_VIEW	1001	L_CONTINUE_MARK	1102	S_UNKNOWN	-2
HOT_KEY_SYSTEM	254	L_SELECT	1002	L_END_MARK	1103	S_NO_OBJECT	-3
HOT_KEY_SUB_WINDOW	255	L_BEGIN_SELECT	1003	L_CUT	1104	S_MINIMIZE	-4
		L_CONTINUE_SELECT	1004	L_PASTE	1105	S_MAXIMIZE	-5
E_KEY	10	L_END_SELECT	1005	L_UNDO	1106	S_ALT_KEY	-6
E_MOUSE	30	L_GENERAL_HELP	1006	L_REDO	1107	S_CONTINUE	-7
E_DIGITIZER	31	L_CONTEXT_HELP	1007	L_CUT_PASTE	1108	S_ERROR_RESPONSE	-8
E_CURSOR	50	L_WINDOW_NEXT	1010	L_MARK	1109	S_CREATE	-10
E_DEVICE	99	L_WINDOW_MOVE	1011	L_DELETE_WORD	1110	S_DELETE	-11
		L_WINDOW_SIZE	1012	L_DELETE_EOL	1112	S_CURRENT	-12
S_DEFAULT_MATCH	-1000	L_WINDOW_CASCADE	1013	L_DELETE	1113	S_NON_CURRENT	-13
S_SELECTED	-1001	L_FIELD_UP	1020	L_INSERT_TOGGLE	1114	S_MOVE	-14
S_VIEW_ONLY	-1002	L_FIELD_DOWN	1021	L_WORD_TAB_LEFT	1115	S_REDISPLAY	-17
S_CHECK_HOT_KEY	-2000	L_FIELD_LEFT	1022	L_WORD_TAB_RIGHT	1116	S_DELETE_LEVEL	-18
		L_FIELD_RIGHT	1023	L_MOVE_BOL	1117	S_CANCEL	-19
		L_FIELD_PREVIOUS	1024	L_MOVE_EOL	1118	S_CLEAR	-20
		L_FIELD_NEXT	1025	L_MOVE_LEFT	1119	S_SIZE	-200
		L_FIELD_FIRST	1026	L_MOVE_RIGHT	1120	S_CHANGE	-201
		L_FIELD_LAST	1027	L_MOVE_TOP	1121	S_DISPLAY_ACTIVE	-202
		L_WINDOW_RESTORE	1028	L_MOVE_BOTTOM	1122	S_DISPLAY_INACTIVE	-203
		L_ITEM_UP	1030	L_MOVE_PAGE_UP	1123	S_SCROLL_VERTICAL	-300
		L_ITEM_DOWN	1031	L_MOVE_PAGE_DOWN	1124	S_SCROLL_HORIZONTAL	-301
		L_ITEM_LEFT	1032	L_MOVE_UP	1125	S_SCROLL_VERTICAL_SET	-302
		L_ITEM_RIGHT	1033	L_MOVE_DOWN	1126	S_SCROLL_HORIZONTAL_SET	-303
		L_ITEM_PREVIOUS	1034	L_COPY_MARK	1127		
		L_ITEM_NEXT	1035	L_MOVE	1131		
		L_ITEM_FIRST	1036				
		L_ITEM_LAST	1037				

## ID's

ID_END	-1
ID_SCREEN	0
ID_BORDER	1
ID_BUTTON	2
ID_DATE	3
ID_FORMATTED_STRING	4
ID_ICON	6
ID_MATRIX	7
ID_MAXIMIZE_BUTTON	8
ID_MENU	9
ID_MENU_ITEM	10
ID_MINIMIZE_BUTTON	11
ID_NUMBER	12
ID_PROMPT	13
ID_SCROLL_BAR	14
ID_STRING	15
ID_SYSTEM_BUTTON	16
ID_TEXT	17
ID_TEXT_ERROR	18
ID_TIME	19
ID_TITLE	20
ID_TEXT_VIEW	21
ID_WINDOW	22
ID_WINDOW_OBJECT	23
ID_WINDOW_MANAGER	24

Quick Reference Information  
Courtesy of Kev Ashley  
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