Fast and Easy SDK for the VALCam USB Zoom+

Introduction:

This SDK allows quick and easy access to all **VALCam** functions through all major Window's development platforms. Visual Basic, Visual Studio 6 C++ and the .Net platform are supported.

All commands are accessed through one dll, **VALCam USB Easy SDK.dll**.
This DLL can start and control a fully functional camera application called "USB SDK.exe" This application provides all camera functions including flash control, capturing and "One Click AutoCentering".

Three files are needed for camera control:

1. **USB SDK.exe** - This is a fully functional VALCam application.

2. **VALCam USB Easy SDK.Dll** - This is the DLL that the end user application will use for access **USB SDK.exe**.

3. **End User App** - This is the end user application that will control USB SDK.exe via **VALCam USB Easy SDK.Dll**

A sample C# .NET application, **VALCam Quick Tester.exe**, is provided to demonstrate full SDK usage. Source code for this application is also included.

Defining DLL Function Calls

Visual Basic Declaration:

```
Private Declare Function VALCamCt  Lib "VALUSB.DLL"
(ByVal Message As Long, ByVal Param1 As Long, ByVal Param2
As Long) As Long

Private Declare Function VALCamCtFileName Lib "VALUSB.DLL"
(ByVAL FileName As String) As Long
```

.NET Declaration

```
[DllImport("VALUSB.DLL")]
        public static extern int  VALCamCt(int Msg, int Param1, int Param2);

[DllImport("VALUSB.DLL")]
        public static extern int  VALCamCtFileName(string FileName);

[DllImport("VALUSB.DLL")]
        public static extern int  VALCamAdmin(structAdmin);
```

C++

```
extern "C" _declspec(dllexport) int CALLBACK
VALCamCt (int, Message,int Param1,int Param2, int, Param3, int Param4);
```

Delphi

Function VALCam_Ct(Msg,Param1,Param2: Integer) :Integer;stdcall;
external 'USB_SDK.Dll' name 'VALCam_Ct';

Function VALCam_CtFileName (FileName: String) :Integer;stdcall;
external 'USB_SDK.Dll' name 'VALCam_Ct';

SDK Commands:

Starting the “USB SDK.exe”
VALCamCt(1,0,0);

This command will start **USB SDK.exe**. **USB_SDK.exe** will be started invisible.

The USB_SDK.exe will not be visible until the **VALCamCt(4,0,int(handle))** command is issued.

This must be the first command issued. Other commands will not work until this command has been issued successfully.

Return value:
If unsuccessful returns 0, otherwise return handle of camera app

NOTE:
This command should only be used once per instance of the application.

Make the application invisible.
VALCamCt(3,0,(int)Window handle of user app);

This command will make the camera interface invisible. It also frees system resources.
This command should be used when not using the camera.

Param2 must be the handle of the user application to receive messages

Return value:
If unsuccessful returns 0, otherwise return handle of camera app

Make the application visible.
VALCamCt(4,0,(int)Window handle of user app);

This command will make the camera interface visible.

Param2 must be the handle of the user application to receive messages.

Return value:
If unsuccessful returns 0, otherwise return handle of camera app

Set Capture Type and Compression Level:

VALCamCt(5,CaptureType,Compression)

CaptureType is an integer the indicates capture type. The following values are allowed:

```
// 0 =Clipboard
// 1= JPG
// 2= BMP
// 3= DDB
```

Compression is the quantization factor for JPG captures.
Values can range from 4 (highest quality, largest size) to 255(lowest quality, smallest size)

Return value:

If unsuccessful returns 0, otherwise return handle of camera app

NOTE:

This command must be sent before the first capture

Close USB SDK.exe

VALCamCt(2,0,0);

This command should ONLY be called when exiting the end user application.

Return value:

If unsuccessful returns 0, otherwise return handle of camera app

Setting a location and name for BMP and JPG files

VALCamCtFileName(FileName)

This command determines the File Name and Path for JPG and BMP captures.
This command should be issued at least once before calling the Capture command.
If the command is not issued the default path-filename is: **C:\\Photo ID.JPG**"

Admin Control

VALCamAdmin(structAdmin structAP)

Definition of structAdmin

```
struct structAdmin
{
unsigned int Adjust;
unsigned int WhiteBalance;
unsigned int Zoom;
unsigned int Brightness;
};
```

This command will enable/disable the following controls on the user interface:

Adjust button
WhiteBalance button
Zoom buttons
Brightness buttons

Set structure members to 1 to enable controls
Set structure members to 0 to disable controls

Communication from the Camera Application to the User Application.

The camera application communicates with the user application by sending two messages to the user application. The user application must respond to these messages.

Message 1:

When the camera application (USB_SDK.EXE) takes a capture, a message is sent to the user application.
wParam/lParam return error codes. A value of 1 indicates no error. Any other value indicates an error during capture.

This message is (hex) 0401

wParam and lParam return error codes
Any value other than 1 indicates an error.

Message 2:

When the camera application is closing a message is sent to the user application.

This message is (hex) 0402

The sample source code demonstrates handling both of these messages.