

The SDK (Software Developers Kit) provides a control method for the i-SPEED TR, 3, FS and DF monochrome and colour cameras. It allows the user to integrate C++ commands into their own software to have full control of all of the cameras functions and features.

Below shows the Sections within the SDK guide and camera features that can be controlled via 100+ commands

### I-SPEED 3 SDK LIBRARY

#### DESCRIPTION

*General Notes on Usage*

#### RETURN VALUES

### SETUP AND MONITORING FUNCTIONS

*Initialize, Model, Serial number*

*Resolution*

*Speed*

*Shutter*

*Trigger*

*Sync mode*

*Manual economy resolution*

*Normal, ROC, BROCC buffer*

### STATUS FUNCTIONS

*Trigger*

*Recording*

*Power Off*

*Record Sate*

### POST RECORDING FUNCTIONS

*Number of frames*

*Buffer Information*

*Trigger Frame*

### IMAGE TRANSFER FUNCTIONS

*Live Frames*

*Thumbnails*

*Multi Frames*

### ADDITIONAL CAMERA STATUS AND SETTINGS

*Version, Battery Info, System Status*

*Permanent text*

*Optimise*

*White Balance*

*Dynamic range, Enhanced sensitivity*

*Configuration*

*iFocus*

### IRIG FUNCTIONS (FS CAMERA BUILD TYPES ONLY)

*IRIG Signal State*

*IRIG Sync*

*IRIG recording*

### PIV FUNCTIONS (DF CAMERA BUILD TYPES ONLY)

*PIV timing setting*

### BAYER CONVERSION FUNCTIONS

*Bayer Gains*

*Convert Bayer Image*

### ERROR AND TIMEOUT HANDLING

*Errors*

*Timeouts*

### EXAMPLES OF USAGE

*Incorporating the SDK into a Project*

*Initializing a Camera and Starting a recording*

*Retrieving frames from a Previous Recording*

*Handling Images*

*Handling Bayer Images*

*Using the Multi frame Transfer function*

Below is an example of the detail given per command

### GETMODEL

*HRESULT GetModel (char \* pcModel, short nLen)*

Get the model string of the camera associated with this instance of the SDK.

Parameters:

**char \* pcModel** Character array which will receive the model string of the camera.

The array should be at least 64 characters in length.

**short nLen** Size of the buffer pointed to by **pcModel**

Below is an example of usage

### RETRIEVING FRAMES FROM A PREVIOUS RECORDING

Below is a sample code fragment which queries the camera for information about the current recording stored in memory, and then retrieves a frame from the current recording. The code assumes that an instance of the **CISPEED3\_SDK** class has been created with the variable name **m\_iSPEED3**.

```
// get information about the last recording
// for readability, we have omitted error checking
IS3BufferInfo info;
m_iSPEED3.GetBufferInfo(&info);
// make sure there is a recording in memory
if ( info.IFrames > 0 )
{
    // allocate memory to receive the frame
    long lSize;
    IMAGE_BUFFER pFrame = AllocImageBuffer(&lSize);
    // get the first frame
    // frame numbers start from 0 up to the info.IFrames-1
    m_iSPEED3.GetFrame(0, &lSize, pFrame, CISPEED3_SDK::QUALITY_UNCOMPRESSED);
    // do processing on the frame or render the frame
    ...
    // free memory
```