C-7000 SDK
REFERENCE MANUAL

Version 4.0

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1. Overview

C-7000 SDK(**S**oftware **D**evelopment **K**it) is the tool to develop application to control SEKONIC Spectrometer C-7000. This reference manual explains how to use C-7000 SDK.

1.1. About SDK

C-7000 SDK and sample program are developed using Visual Basic of Microsoft Visual Studio. Assuming application developer uses it, this reference manual explains how to program based on Microsoft Visual Studio. In case to use other program language, please also refer it.
The SDK is 32bit library, thus please develop program as 32bit application.

1.2. Supported OS

Windows 7 (32bit / 64bit)
Windows 8.1 (32bit / 64bit)
Windows 10 (32bit / 64bit)

1.3. Applied Models

C-7000
- FW V25 or higher is required to use all functions.
- Can be used with FW V20-24, but some functions are limited.
- Other models (C-700/C-700R/C-800) cannot be used.

1.4. Precaution in Use of Software

Please read carefully the license agreement on page 2 in the Software Guide for "C-700/7000 Utility) which is application software included in the package before downloading, installing or using the C-7000 SDK and sample program (called hereunder "PROGRAM"). Downloading, installing or using the PROGRAM shall be deemed your lawful acceptance of the terms and conditions of license agreement. If you do not agree to them, do not download, install nor use the PROGRAM.

2. Install / Uninstall

2.1. How to install

There is no installer for C-7000 SDK. Please copy below 2 files and put them in your any folder.

File	Content
C7000_SDK.dll	Library for interface (Library to access from application)
SkCommIo.dll	Library for device communication control (It's for internal processing. Don't use it directly from application.)

When you generate application using SDK, please add "C-7000_SDK.dill" from reference of property of generated project. And, add "SkCommIo.dill" from project menu of [Project (P)]-[add existing item], then make [CopyToOutputDirectory] always copy.
Set platform "x86"(32bit).

2.2. How to uninstall

Please delete the copied files.

2.3. How to install USB driver

In order to execute the application developed using the SDK, USB driver of C-7000 needs to be installed. To install USB driver, please refer the C-7000 utility software guide.

3. Instructions

3.1. Namespace to use

C-7000 SDK uses "C7000 " as the namespace.

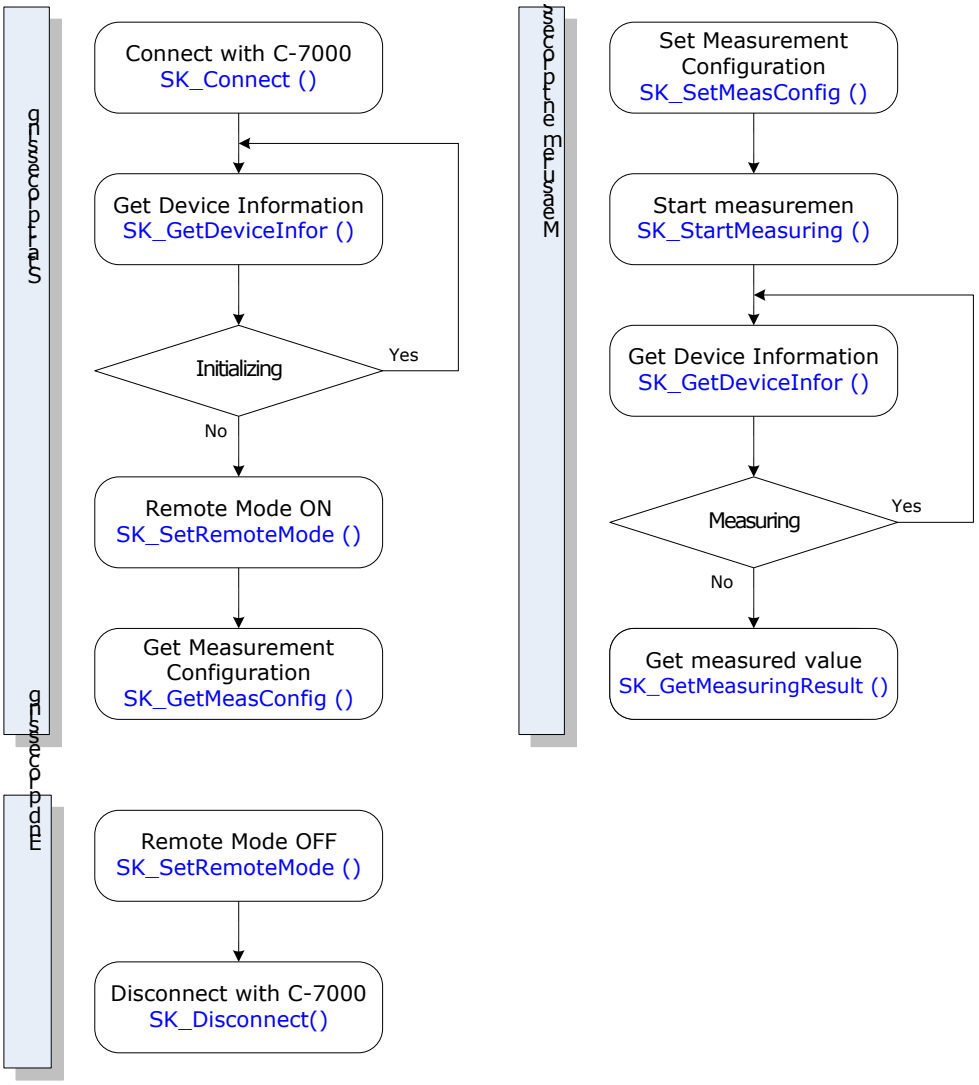
3.2. Class name

Class	Content
SDK	C-7000 SDK Body

3.3. Function

Function	Content
SK_Connect ()	Connect with C-7000
SK_Disconnect ()	Disconnect with C-7000
SK_GetDeviceInfo ()	Get device information
SK_SetRemoteMode ()	Set ON/OFF configuration of remote mode
SK_GetMeasConfig ()	Get the configuration of measurement set in the device
SK_SetMeasConfig ()	Set the configuration of measurement on the device
SK_StartMeasuring ()	Start measurement
SK_StopStandby ()	Stop standby mode of flash measurement
SK_GetMeasuringResult ()	Get the result of measurement

See basic flow of controlling C-7000 by using the SDK



3.4. Definitions

description	defined value	explanation
SKF_WAVELENGTH_1NM_COUNT	401	Number of spectrum data by 1nm
SKF_WAVELENGTH_5NM_COUNT	81	Number of spectrum data by 5nm
SKF_CRI_COUNT	15	CRI(R1～R15)
SKF_TM30_BINS_COUNT	16	TM-30-18 Hue Bins (*1)

*1 Available in C-7000 SDK V2.00 or higher

3.5. Status

3.5.1. SKF_STATUS_COM

Show result of communication with C-7000, as return value of all functions

SKF_STATUS_COM as long		
description	defined value	explanation
SUCCESS	&H00000000	Succeed
EXECUTE_ERR	&H20210001	Execution error of WindowAPI
NO_DEVICE	&H20210002	No device found
HANDLE_ERR	&H20210003	Handle error
PARAM_ERR	&H20210004	Parameter error
MEM_ALLOC_ERR	&H20210005	Memory allocation error
CREATE_EVENT_ERR	&H20210006	Event creation error
WAIT_TIMEOUT	&H2021000F	Time Out
ACK_NAK_ERR	&H80000000	ACK/NAK response error
NAK_COMMAND	&H80000001	NAK error(command error)
NAK_PARAM	&H80000002	NAK error(parameter error)
NAK_UNSUPPORTED_MODEL	&H80000003	NAK error(unsupported model error)
NAK_UNSUPPORTED_COMMAND	&H80000004	NAK error(unsupported command error)

3.5.2. SKF_STATUS_DEVICE

Show hardware operating status。

SKF_STATUS_DEVICE		
description	defined value	explanation
IDLE	0	idle status
IDLE_OUT_MEAS	1	idle status(out of measurement)
BUSY_FLASH_STANDBY	2	waiting for flash light (cordless mode)
BUSY_MEASURING	3	under measuring
BUSY_INITIALIZING	4	under initializing
BUSY_DARK_CALIBRATION	5	under dark calibration
ERROR_HW	6	Hardware error

3.5.3. SKF_STATUS_BUTTON

Show hardware button status

When multiple buttons are pressed, the logical OR is returned.

SKF_STATUS_BUTTON		
description	defined value	explanation
POWER	&H1	Power button on
MEASURING	&H2	measure button on
MEMORY	&H4	memory button on
MENU	&H8	menu button on
PANEL	&H10	touch panel on

3.5.4. SKF_STATUS_RING

Show light selection ring position status

SKF_STATUS_RING		
description	defined value	explanation
UNPOSITIONED	0	un-positioned
CAL	1	dark calibration position
LOW	2	Low position(without ND filter)
HIGH	3	High position(with ND filter)

3.5.5. SKF_REMOTE

Show remote mode ON/OFF status

SKF_REMOTE		
description	defined value	explanation
REMOTE_OFF	0	remote mode OFF
REMOTE_ON	1	Remote mode ON

3.5.6. SKF_MEASURING_MODE

Show measurement mode setting status

SKF_MEASURING_MODE		
description	defined value	explanation
AMBIENT	0	Ambient light measurement mode
CORDLESS_FLASH	1	flash light measurement mode (cordless)
CORD_FLASH	2	flash light measurement mode (corded)

3.5.7. SKF_FIELD_OF_VIEW

Show view angle setting status

SKF_FIELD_OF_VIEW		
description	defined value	explanation
_2DEG	0	View angle 2 degree
_10DEG	1	View angle 10 degree

3.5.8. SKF_EXPOSURE_TIME

Show exposure time setting status (ambient light)。

SKF_EXPOSURE_TIME		
description	defined value	explanation
AUTO	0	auto
_100msec	1	0.1second
_1SEC	2	1.0second

3.5.9. SKF_SHUTTER_SPEED

Show shutter speed setting status (flash light)

SKF_SHUTTER_SPEED		
description	defined value	explanation
_1SEC	0	1.0second
_1_2SEC	1	1/2second
_1_4SEC	2	1/4second
_1_8SEC	3	1/8second
_1_15SEC	4	1/15second
_1_30SEC	5	1/30second
_1_60SEC	6	1/60second
_1_125SEC	7	1/125second
_1_250SEC	8	1/250second
_1_500SEC	9	1/500second

3.5.10. SKF_MEASURING_METHOD

(Available in C-7000 SDK V2.00 or higher)

Show the Measuring Method in ambient light mode.

※1 C-7000 SDK is valid for setting/acquiring only. C-7000 SDK enables to use only "Single measuring method"

※2 FW V24 or lower supports only Single measuring method.

SKF_MEASURING_METHOD		
description	defined value	explanation
SINGLE_MODE	0	Single measuring method
CONTINUOUS_MODE	1	Continuous measuring method

3.5.11. SKF_RESULT_VALUE

Show measurement value status。

SKF_RESULT_VALUE		
description	defined value	explanation
VALUE_NONE	0	there is no measurement value
VALUE_ON	1	there is measurement value

3.6. Structure

3.6.1. SKS_DEVICE_INFO

SK_GetDeviceInfo()to get device information

SKS_DEVICE_INFO		
variable	type	explanation
Status	SKF_STATUS_DEVICE	Device status information (refer3.3.2)
Remote	SKF_REMOTE	Remote mode information (refer3.3.5)
Button	SKF_STATUS_BUTTON	Button information (refer3.3.3)
Ring	SKF_STATUS_RING	light selection ring position information (refer3.3.4)

3.6.2. SKS_TRISTIMULUS_VALUE

SK_GetMeasuringResult ()to get tri-stimulus value。

Measurement result is preserved as character string. 、It shows "Under" in case result is lower than measurement spec, and it shows "Over" in case the result is higher than measurement spec. ""

SKS_TRISTIMULUS_VALUE		
variable	type	explanation
X_Value	String	Tristimulus value X (X_{10})
Y_Value	String	Tristimulus value Y (Y_{10})
Z_Value	String	Tristimulus value Z (Z_{10})

3.6.3. SKS_CIE1931

SK_GetMeasuringResult ()to get the measurement result of CIE1931(CIE1964)

Measurement result is preserved as character string. 、It shows "Under" in case result is lower than measurement spec, and it shows "Over" in case the result is higher than measurement spec.

SKS_CIE1931		
variable	type	explanation
x_Value	String	CIE1931 (CIE1964) Chromaticity coordinates x (x_{10})
y_Value	String	CIE1931 (CIE1964) Chromaticity coordinates y (y_{10})
z_Value	String	CIE1931 (CIE1964) Chromaticity coordinates z (z_{10})

3.6.4. SKS_CIE1976

SK_GetMeasuringResult ()to get the measurement result of CIE1976Measurement result is preserved as character string. It shows " Under " in case result is lower than measurement spec, and it shows "Over" in case the result is higher than measurement spec.

SK_CIE1976		
variable	type	explanation
ud_Value	String	CIE1976 Chromaticity coordinates u' (u'_{10})
vd_Value	String	CIE1976 Chromaticity coordinates v' (v'_{10})

3.6.5. SKS_COLOR_TEMPERATURE

SK_GetMeasuringResult () to get the measurement result of color temperature and deviation

Measurement result is preserved as character string. It shows “Under” in case result is lower than measurement spec, and it shows “Over” in case the result is higher than measurement spec.

SK_COLOR_TEMPERATURE		
variable	type	explanation
Tcp	String	Correlated Color Temperature
Delta_uv	String	Deviation

3.6.6. SKS_COLOR_RENDERING_INDEX

SK_GetMeasuringResult () to get the measurement result color rendering index.

Measurement result is preserved as character string. It shows “Under” in case result is lower than measurement spec, and it shows “Over” in case the result is higher than measurement spec.

SK_COLOR_RENDERING_INDEX		
variable	type	explanation
Ra	String	Average Color Rendering Index Ra
Ri()	String	Color Rendering IndexR1～R15

3.6.7. SKS_TM30_HUE_BIN_VECTOR

(Available in C-7000 SDK V2.00 or higher)

SK_GetMeasuringResult() to get the measurement result of TM-30-18 hue bin vector.

Measurement result is preserved as data of single type. It shows “0.0F” in case the result is out of measurement spec or C-7000 firmware is not TM-30-18 (FW 24 or lower).

SKS_TM30_HUE_BIN_VECTOR		
variable	type	explanation
Test_X	Single	TM-30-18 Hue bin vector, test X
Test_Y	Single	TM-30-18 Hue bin vector, test Y
Refer_X	Single	TM-30-18 Hue bin vector, refer X
Refer_Y	Single	TM-30-18 Hue bin vector, refer Y

3.6.8. SKS_TM30

(Available in C-7000 SDK V2.00 or higher)

SK_GetMeasuringResult() to get the measurement result of TM-30-18

Measurement result of Rf, Rg is preserved as character string. It shows “Under” in case result is lower than measurement spec, it shows “Over” in case the result is higher than measurement spec and it shows “N/A” in case C-7000 firmware is not TM-30-18 (FW V24 or lower).

For measurement result of Hue Bins, please refer to 3.4.7SKS_TM30_HUE_BIN_VECTOR.

SKS_TM30		
variable	type	explanation
Rf	String	TM-30-18 Color fidelity(Rf)
Rg	String	TM-30-18 Gamut(Rg)
HueBins()	SKS_TM30_HUE_BIN_VECTOR	TM-30-18 Hue bins vector

3.6.9. SKS_SSI

(Available in C-7000 SDK V2.00 or higher)

SK_GetMeasuringResult () to get the measurement result of SSI

Measurement result is preserved as character string. It shows the following values in the table below.

FW Version	Conditions	SSIt, SSId	SSI1, SSI2
V24 or lower		"N/A"	"N/A"
V25 or higher	No Reference		"---"(*1)
	Within measuring range	Measured value	Measured value
	Lower than measurement spec	"Under"	"Under"
	Higher than measurement spec	"Over"	"Over"

*1 Reference light source cannot be selected from C-7000 SDK. Select it on the screen of SSI mode in C-7000 meter.

SKS_TM30

variable	type	explanation
SSIt	String	SSI Tungsten
SSId	String	SSI Daylight
SSI1	String	SSI Reference light source 1
SSI2	String	SSI Reference light source 2

3.6.10. SKS_TLCI

(Available in C-7000 SDK V2.00 or higher)

SK_GetMeasuringResult () to get the measurement result of TLCI-2012/TLMF-2013.

Measurement result is preserved as character string. It shows the following values in the table below.

FW Version	Conditions	TLCI	TLMF
V24 or lower		"N/A"	"N/A"
V25 or higher	No Reference		"---"(*1)
	Within measuring range	Measured value	Measured value
	Lower than measurement spec	"Under"	"Under"
	Higher than measurement spec	"Over"	"Over"

*1 Reference light source cannot be selected from C-7000 SDK. Select it on the screen of TLCI/TLMF mode in C-7000 meter.

SKS_TLCI

variable	type	explanation
TLCI	String	TLCI-2012
TLMF	String	TLMF-2013

3.6.11. SKS_ILLUMINANCE

SK_GetMeasuringResult ()to get the measurement result of Illuminance /Luminous exposure

Measurement result is preserved as character string. It shows “Under” in case result is lower than measurement spec, and it shows “Over” in case the result is higher than measurement spec.

SK_ILLUMINANCE		
variable	type	explanation
LUX	String	Illuminance(lx) / Luminous exposure(lx･s)
FOOT_CANDLE	String	Illuminance(fc) / Luminous exposure(fc･s)

3.6.12. SKS_DOMINANT_WAVELENGTH

SK_GetMeasuringResult () to get Dominant wavelength (complementary wavelength) / Excitation purity. Measurement result is preserved as character string. It shows “Under” in case result is lower than measurement spec, and it shows “Over” in case the result is higher than measurement spec.

SK_DOMINANT_WAVELENGTH		
variable	type	explanation
WAVELENGTH	String	Dominant wavelength (complementary wavelength)
EXCITATION_PURITY	String	Excitation purity

3.6.13. SKS_MEAS_CONFIG

SK_SetMeasConfig() to get or set the configuration of measurement

SK_MEAS_CONFIG		
variable	type	explanation
MeasuringMode	SKF_MEASURING_MODE	Measurement mode (refer3.5.6)
FieldOfView	SKF_FIELD_OF_VIEW	View angile (refer3.5.7)
ExposureTime	SKF_EXPOSURE_TIME	Exposure time (refer3.5.8)
ShutterSpeed	SKF_SHUTTER_SPEED	Shutter speed (refer3.5.9)
MeasuringMethod	SKF_MEASURING_METHOD	Mesuring method(※1) (refer3.5.10)

※1 Available in C-7000 SDK V2.00 or higher

3.6.14. SKS_MEAS_RESULT

SK_GetMeasuringResult ()to get measurement value result

SK_MEAS_RESULT		
variable	type	explanation
ResultFlag	SKF_RESULT_VALUE	Result flag NONE/ON (refer3.5.11)
Tristimulus	SKS_TRISTIMULUS_VALUE	Tristimulus value (refer3.6.2)
CIE1931	SKS_CIE1931	CIE1931(CIE1964) Chromaticity coordinates (refer3.6.3)
CIE1976	SKS_CIE1976	CIE1976 Chromaticity coordinates (refer3.6.4)
ColorTemperature	SKS_COLOR_TEMPERATURE	Correlated Color Temperature (refer3.6.5)
ColorRenditionIndexes	SKS_COLOR_RENDERING_INDEX	Color Rendering Index (refer3.6.6)
TM30	SKS_TM30	TM-30-18(*1) (refer3.6.8)
SSI	SKS_SSI	SSI(*1) (refer3.6.9)
TLCI	SKS_TLCI	TLCI-2012/TLMF-2013(*1) (refer3.6.10)
Illuminance	SKS_ILLUMINANCE	Illuminance /Luminous exposure (refer3.6.11)
DWL	SKS_DOMINANT_WAVELENGTH	Dominant wavelength (complementary wavelength) (refer3.6.12)
PPFD	String	Photosynthetic photon flux density (*2)
PeakWavelength	String	Peak wavelength (*2)
SpectralData_1nm()	Single	1nm spectral data
SpectralData_5nm()	Single	5nm spectral data

*1 Available in C-7000 SDK V2.00 or higher. C-7000 meter FW should be ver. 25 or higher to get the measured value.

*2 Measurement result is preserved as character string. It shows “Under” in case result is lower than measurement spec, and it shows “Over” in case the result is higher than measurement spec.

3.7. Function detail

3.7.1. SK_Connect ()

operation	Connect with C-7000
type	Function SK_Connect() as Long
argument	none
return value	Result of communication with C-7000(refer3.3.1)
note	In case of multiple devices, it connects with first device defined by PC
example	Private C7000Device as New C7000.SDK ' generate instance of SDK Private Sub Sample() Dim SDKResult As Long ' >>>>> connect <<<<< SDKResult = C7000Device.SK_Connect() If C7000.SDK.SKF_STATUS_COM.SUCCESS <> SDKResult Then ' connect error ?! ' add error processing... End If End Sub

3.7.2. SK_Disconnect ()

operation	Disconnect with C-7000
type	Function SK_Disconnect() as Long
argument	none
return value	Result of communication with C-7000(refer3.3.1)
note	Please set remote mode off before disconnecting
example	Private C7000Device As New C7000.SDK ' generate instance of SDK Private Sub Sample() Dim SDKResult As Long ' >>>>> disconnect <<<<< SDKResult = C7000Device.SK_Disconnect() If C7000.SDK.SKF_STATUS_COM.SUCCESS <> SDKResult Then ' disconnect error ?! ' add error processing... End If End Sub

3.7.3. SK_GetDeviceInfo ()

operation	Get device information
type	Function SK_GetDeviceInfo(ByRef DeviceInfo As SKS_DEVICE_INFO) as Long
argument	save destination of device info (refer3.4.1)
return value	Result of communication with C-7000 (refer3.3.1)
note	To get C-7000 status info, remote mode info, button info, light selection ring position info, etc
example	

```
Private C7000Device As New C7000.SDK                    ' generate instance of SDK

Private Sub Sample()
    Dim SDKResult As Long
    Dim DeviceInfo As C7000.SDK.SKS_DEVICE_INFO

    '  >>>>>  get device info  <<<<<
    SDKResult = C7000Device.SK_GetDeviceInfo(DeviceInfo)
    If C7000.SDK.SKF_STATUS_COM.SUCCESS <> SDKResult Then   ' get device info
error ?!
        'add error processing...
    End If

    '  >>>>>  check device status info <<<<<
    If C7000.SDK.SKF_STATUS_DEVICE.IDLE <> DeviceInfo.Status Then
        'add processing...
    End If
    '  >>>>>  check light selection ring position  <<<<<
    If C7000.SDK.SKF_STATUS_RING.LOW <> DeviceInfo.Ring Then
        'add processing...
    End If
    '  >>>>>>  check button status  <<<<<
    If 0 <> (C7000.SDK.SKF_STATUS_BUTTON.MEASURING And DeviceInfo.Button) Then
        'add processing..
    End If
End Sub
```

3.7.4. SK_SetRemoteMode ()

operation	Set ON/OFF of remote mode
type	Function SK_SetRemoteMode(ByVal RemoteMode As SKF_REMOTE) as Long
argument	Set ON/OFF of remote mode(refer3.3.5)
return value	Result of communication with C-7000(refer3.3.1)
note	Please set remote mode ON before before transacting function of SK_GetMeasConfig ()、SK_SetMeasConfig ()、SK_StartMeasuring ()、SK_StopStandby ()、SK_GetMeasuringResult (), etc
example	Private C7000Device As New C7000.SDK ' generate instance of SDK Private Sub Sample() Dim SDKResult As Long ' >>>>> remote mode ON <<<<< SDKResult = C7000Device.SK_SetRemoteMode(C7000.SDK.SKF_REMOTE.REMOTE_ON) If C7000.SDK.SKF_STATUS_COM.SUCCESS <> SDKResult Then ' remote ON error ?! ' add error processing... End If End Sub

3.7.5. SK_GetMeasConfig ()

operation	To get the configuration of measurement set in the device
type	Function SK_GetMeasConfig(ByRef MeasConfig As SKS_MEAS_CONFIG) as Long
argument	Save destination of measurement configuration refer3.4.9)
return value	Result of communication with C-7000 (refer3.3.1)
note	To get the measuremet configuration of connected C-7000 (view angle, measurement mode, exposure time, shutter speed)
example	Private C7000Device As New C7000.SDK ' generate instance of SDK Private Sub Sample() Dim SDKResult As Long Dim Config As C7000.SDK.SKS_MEAS_CONFIG ' >>>>> get measurement configuration <<<<< SDKResult = C7000Device.SK_GetMeasConfig(Config) If C7000.SDK.SKF_STATUS_COM.SUCCESS <> SDKResult Then ' get configuration error ?! ' add error processing... End If End Sub

3.7.6. SK_SetMeasConfig ()

opeartion	To set the configuration of measurement in the device
type	Function SK_SetMeasConfig(ByRef MeasConfig As SKS_MEAS_CONFIG) as Long
argument	Configuration of measurement set in the device (refer3.4.9)
return value	Result of communication with C-7000 (refer3.3.1)
note	To set the measuremet configuration of connected C-7000 (view angle, measurement mode, exposure time, shutter speed)
example	Private C7000Device As New C7000.SDK ' generate instance of SDK Private Sub Sample() Dim SDKResult As Long Dim Config As C7000.SDK.SKS_MEAS_CONFIG ' >>>>> set measurement configuration <<<<< Config.MeasuringMode = C7000.SDK.SKF_MEASURING_MODE.AMBIENT Config.FieldOfView = C7000.SDK.SKF_FIELD_OF_VIEW._2DEG Config.ExposureTime = C7000.SDK.SKF_EXPOSURE_TIME.AUTO Config.ShutterSpeed = C7000.SDK.SKF_SHUTTER_SPEED._1_125SEC SDKResult = C7000Device.SK_SetMeasConfig(Config) If C7000.SDK.SKF_STATUS_COM.SUCCESS <> SDKResult Then ' set configuration error ?! ' add error processing... End If End Sub

3.7.7. SK_StartMeasuring ()

opeartion	Start measurement
type	Function SK_StartMeasuring() as Long
argument	none
return value	Result of communication with C-7000 (refer3.3.1)
note	
example	Private C7000Device As New C7000.SDK ' generate instance of SDK Private Sub Sample() Dim SDKResult As Long Dim DeviceInfo As C7000.SDK.SKS_DEVICE_INFO ' >>>>> start measurement <<<<< SDKResult = C7000Device.SK_StartMeasuring () If C7000.SDK.SKF_STATUS_COM.SUCCESS <> SDKResult Then ' start measurement error ?! ' add error processing... End If ' >>>>> wait for completion of measurement <<<<< Do System.Threading.Thread.Sleep(100) SDKResult = C7000Device.SK_GetDeviceInfo(DeviceInfo) If C7000.SDK.SKF_STATUS_COM.SUCCESS <> SDKResult Then ' get device info error ?! ' add error processing... End If Loop While (C7000.SDK.SKF_STATUS_DEVICE.IDLE <> DeviceInfo.Status And C7000.SDK.SKF_STATUS_DEVICE.IDLE_OUT_MEAS <> DeviceInfo.Status) End Sub

3.7.8. SK_StopStandby ()

opeartion	Forcibly stop 90 seconds stanby for flash measuremnt in case of cordless flash measurement
type	Function SK_StopStandby() as Long
argument	none
return value	Result of communication with C-7000 (refer3.3.1)
note	
example	Private C7000Device As New C7000.SDK ' generate instance of SDK Private Sub Sample() Dim SDKResult As Long ' >>>>> start measurement <<<<< SDKResult = C7000Device.SK_StartMeasuring () If C7000.SDK.SKF_STATUS_COM.SUCCESS <> SDKResult Then ' start measurement error ?! ' add error processing... End If ' >>>>> stop stanby <<<<< SDKResult = C7000Device.SK_StopStandby() If C7000.SDK.SKF_STATUS_COM.SUCCESS <> SDKResult Then ' stop standby error ?! ' add error processing... End If End Sub

3.7.9. SK_GetMeasuringResult ()

operation	Get measurement result
type	Function SK_GetMeasuringResult(ByRef MeasResult As SKS_MEAS_RESULT) as Long
argument	Save destination of measurement result (refer3.4.10)
return value	Result of communication with C-7000 (refer3.3.1)
note	Variable of measurement result is generated by SKS_MEAS_RESULTIn this case, there is no alignment designated for 1nm spectral data, 5nm spectral data, Color Rendering Index and TM-30 Hue Bins(Available in C-7000 SDK V2.00 or higher.), thus alignment area needs to be initialized.
example	

```
    Private C7000Device As New C7000.SDK                ' generate instance of SDK

    Private Sub Sample()
      Dim SDKResult As Long
      Dim DeviceInfo As C7000.SDK.SKS_DEVICE_INFO
      Dim MeasResult As C7000.SDK.SKS_MEAS_RESULT

      '  >>>>>  alignment initialized  <<<<<
      ReDim MeasResult.SpectralData_1nm(C7000.SDK.SKF_WAVELENGTH_1NM_COUNT - 1)
      ReDim MeasResult.SpectralData_5nm(C7000.SDK.SKF_WAVELENGTH_5NM_COUNT - 1)
      ReDim MeasResult.ColorRenditionIndexes.Ri(C7000.SDK.SKF_CRI_COUNT - 1)
      ReDim MeasResult.TM30.HueBins(C7000.SDK.SKF_TM30_BINS_COUNT - 1) ' SDK V2.00
~

      '  >>>>>  start measuremet  <<<<<
      SDKResult = C7000Device.SK_StartMeasuring ()
      If C7000.SDK.SKF_STATUS_COM.SUCCESS <> SDKResult Then   ' start measurement
error ?!
          ' add error processing...
      End If
      '  >>>>>  wait for completion of measurement  <<<<<
      Do
          System.Threading.Thread.Sleep(100)
          SDKResult = C7000Device.SK_GetDeviceInfo(DeviceInfo)
          If C7000.SDK.SKF_STATUS_COM.SUCCESS <> SDKResult Then   'get device info ?!
              ' add error processing...
          End If
      Loop While (C7000.SDK.SKF_STATUS_DEVICE.IDLE <> DeviceInfo.Status And
          C7000.SDK.SKF_STATUS_DEVICE.IDLE_OUT_MEAS <> DeviceInfo.Status)
      '  >>>>>  get measurement result  <<<<<
      SDKResult = C7000Device.SK_GetMeasuringResult(MeasResult)
      If C7000.SDK.SKF_STATUS_COM.SUCCESS <> SDKResult Then   ' get measurement
result error ?!
          ' add error processing...
      End If
    End Sub
```

4. Sample program

4.1. Development environment

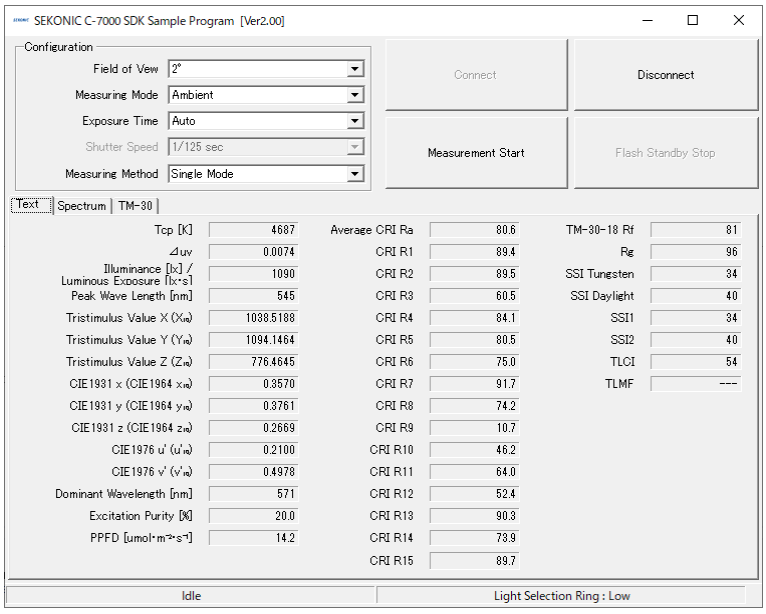
Generated by Visual Basic of Visual Studio 2019

4.2. How to register

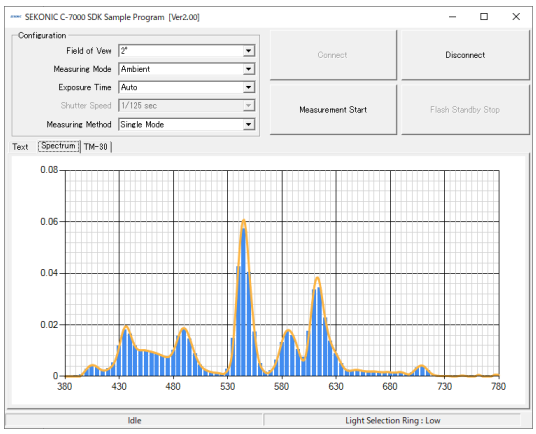
When you register SDK in your project, please add "C7000_SDK.dill" you made copy at procedure of [2.1 How to install] from reference of property of generated project. then make [CopyToOutputDirectory] always copy. Set platform "x86"(32bit).

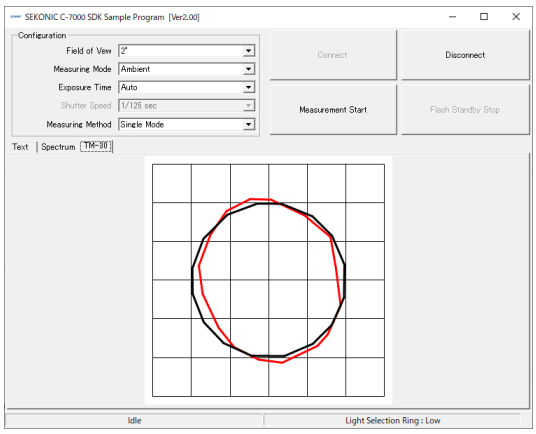
4.3. Operation

① Connect the device with PC and put power ON
② Execute Sample program " C7000_SDK_Sample.exe")
③ Click [Connect] button and connect with the device.
④ Set measurement configuration
⑤ To start measurement, click [Measurement Start] or push measure button of the device.
⑥ Result is showed after completion of the measurement.



⑦ Select the tab to display spectrum distribution data (tab of "Spectrum") or TM-30-18 color vector graphic (tab of "TM-30").





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【 改訂事由 】

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