Sample Application

for Camera Remote SDK

Instruction Manual

version 1.02.01

SONY Sony Imaging Products & Solutions Inc.

Contents

0. Preparation

[OS common]

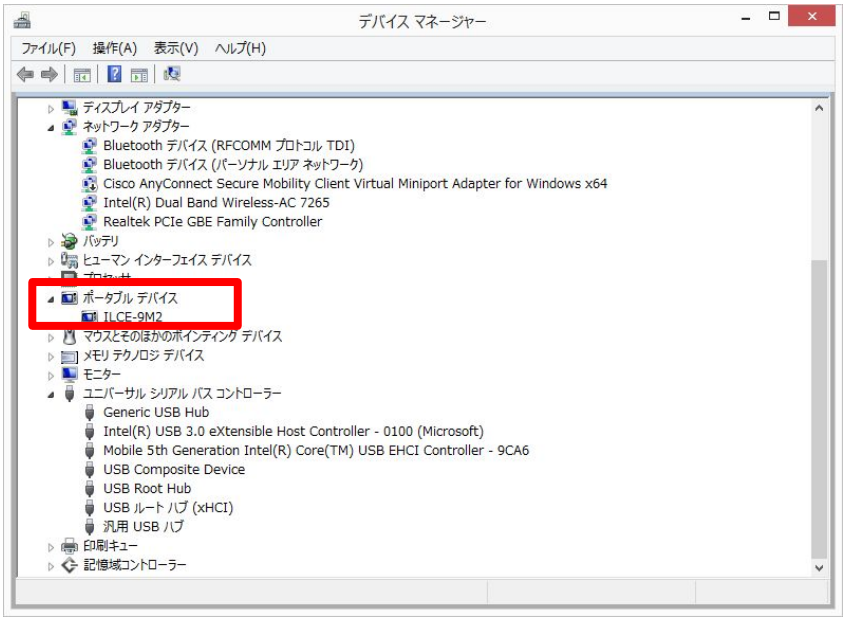
■Camera settings and connect to PC(/SBC).

1.Please set “On” for “PC Remote” and
“USB” for “PC Remote Cnct Method”
in “PC Remote Function” Menu.

2.Please connect the Camera to your PC(/SBC).

[For Windows]

3.Please check “Device Manager”
if your camera “ILCE-xxx”
is under “portable device”.



0. Preparation

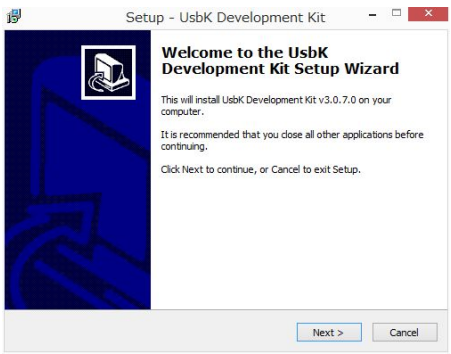
[For Windows]

■Installation of libusbK

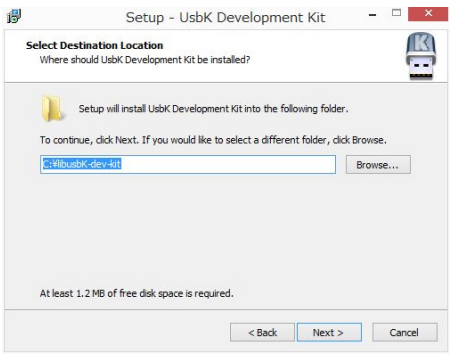
1.Please download “libusbK-3.0.7.0-setup.exe” and install like below.

※ “libusbK-3.0.7.0” is the version verified for SDK.

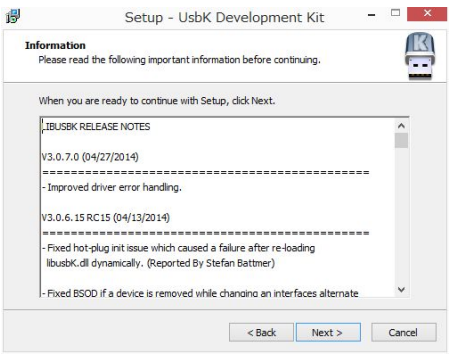
Please select “Next”.



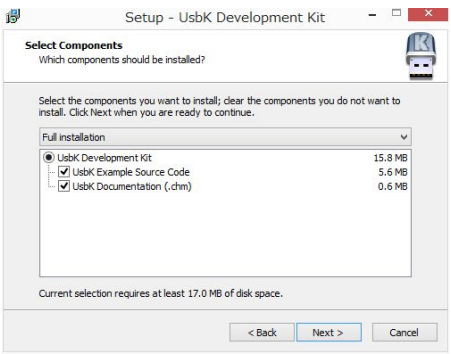
Please select “Next”.



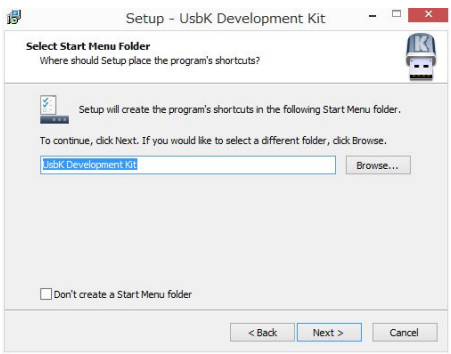
Please select “Next”.



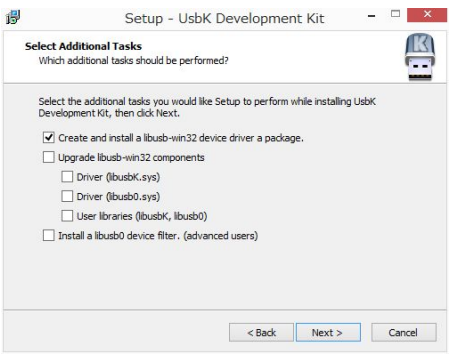
Please select “Next”.



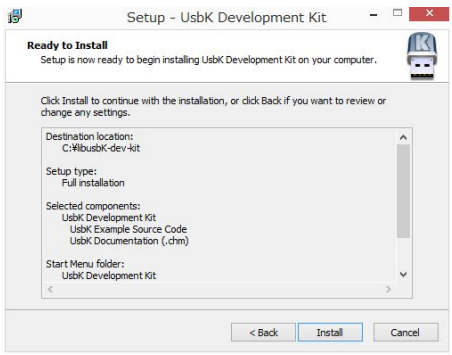
Please select “Next”.



Please select “Create and install...”

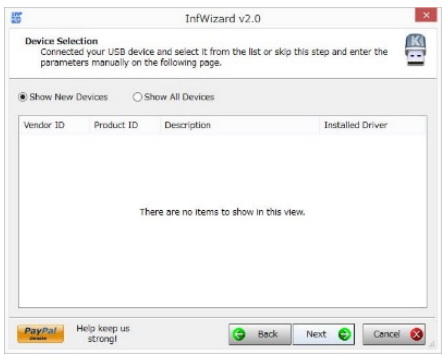


Please select “Next”.



Please select “libusbK v3.0.7.0...”.

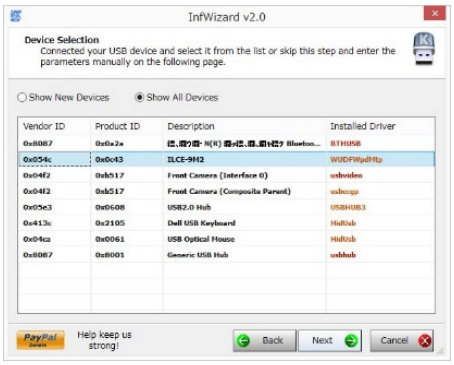
Please select “Show All Devices”.



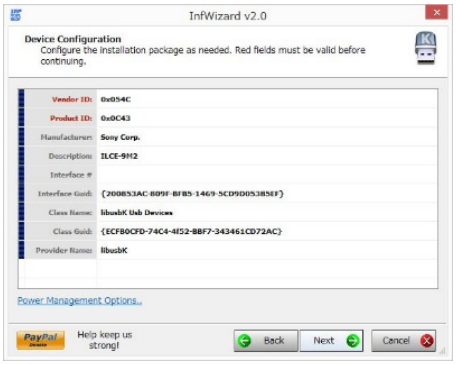
0. Preparation

[For Windows]

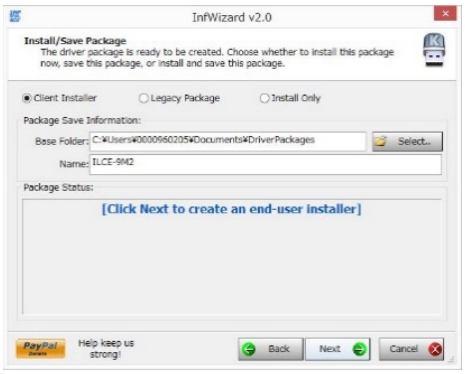
Please select your camera “ILCE-xxx”.



Please select “Next”.



Please select “Next”.



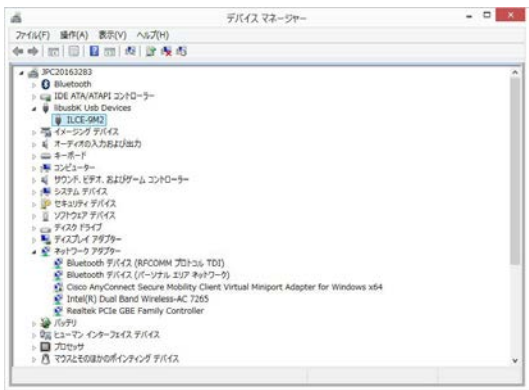
Please select “Finish & Install ...”.

Please select “Next”.

Please select “Complete”.

3. Please check “Device Manager” if your camera “ILCE-xxx” is under “libusbK Usb Devices”.

4. If you come to this step, you are ready to develop your application by using Camera Remote SDK.



0. Preparation

[For Linux]

■Installation of some necessary packages.

1. Install some necessary packages below.

```
$ sudo apt install autoconf libtool libudev-dev gcc g++ make cmake unzip
libxml2-dev
```

■USB setting

1. Change USB bulk setting

[Raspberry Pi OS]

Add the command below at the end of the file “/etc/rc.local”
before "exit 0" to modify Bulk Transfer Rate configuration file

Add this command:

```
sudo sh -c 'echo 150 > /sys/module/usbcore/parameters/usbfs_memory_mb’
exit 0
```

[Ubuntu (for Embedded)]

Change “APPEND ${cbootargs} quiet” to the command below in the file “/boot/extlinux/extlinux.conf”.

before:

```
APPEND ${cbootargs} quiet
```

after:

```
APPEND ${cbootargs} usbcore.usbfs_memory_mb=150 usbcore.autosuspend=-1
```

[Ubuntu (for x86)]

Change “quiet splash” to the command below in the file “/etc/default/grub” and update grub.

before:

```
GRUB_CMDLINE_LINUX_DEFAULT="quiet splash“
```

after:

```
GRUB_CMDLINE_LINUX_DEFAULT="quiet splash usbcore.usbfs_memory_mb=150"
```

```
sudo update-grub
```

2. Reboot and check the configuration

Save & Close the file and reboot.

Make sure that “150” is written in the configuration file.
“/sys/module/usbcore/parameters/usbfs_memory_mb”.

```
$ cat /sys/module/usbcore/parameters/usbfs_memory_mb
150
```

1. Sample Application Build [For Windows]

■Conditions

1. “Visual Studio 2019 / 2017” are available
2. Windows SDK version 10.0 (and above)
3. Both Debug build / Release build are available
4. CMake 3.17.3 (and above) is needed.

■Steps

1.Unzip the package file downloaded.

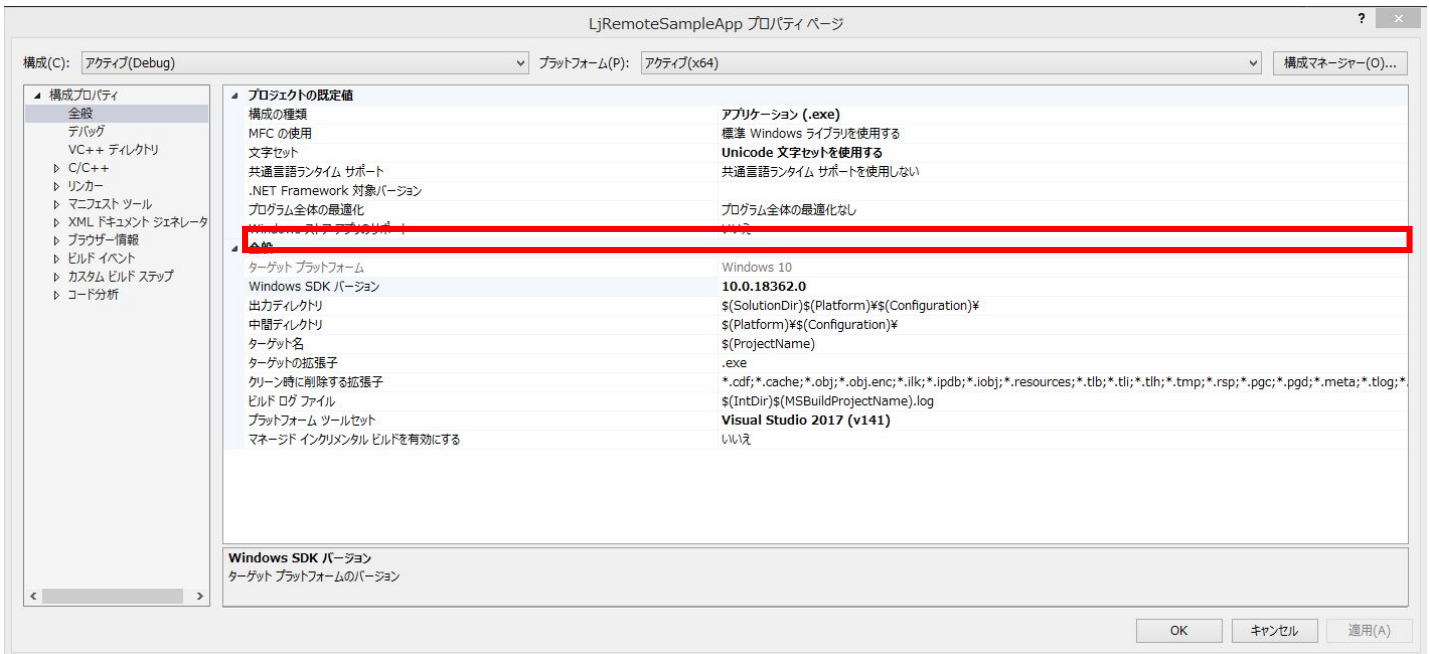
2.Make build folder and execute cmake.

```
mkdir build
cd build
cmake -A "x64" -T "v141,host=x64" ..
```

3.Open the solution file “..¥build¥RemoteCli.sln”

4.Build.

5.If an error requires “10.0.10240.0” for Windows SDK version, please change the setting in the project property to the version you have in your environment.



1. Sample Application Build [For Linux]

■Steps

1. Copy the package file downloaded to a work directory.
   (such as “/home/user01/work/”).
2. Unzip the file.

```
$ cd /home/user01/work
$ unzip [the package file]
```

3. (Update the SDK related libraries to the latest version if necessary.)
   external/crsdk/libCr_Core.so
   external/crsdk/CrAdapter/libCr_PTP_USB.so
   external/crsdk/CrAdapter/libusb-1.0.so
4. Make a build directory and execute cmake build.

```
$ cd /home/user01/work/[Sample Application unzipped directory]
$ mkdir build
$ cd build
$ cmake -DCMAKE_BUILD_TYPE=Release ..
$ cmake --build .
```

5. Execute Sample Application.

```
$ ./RemoteCli
```

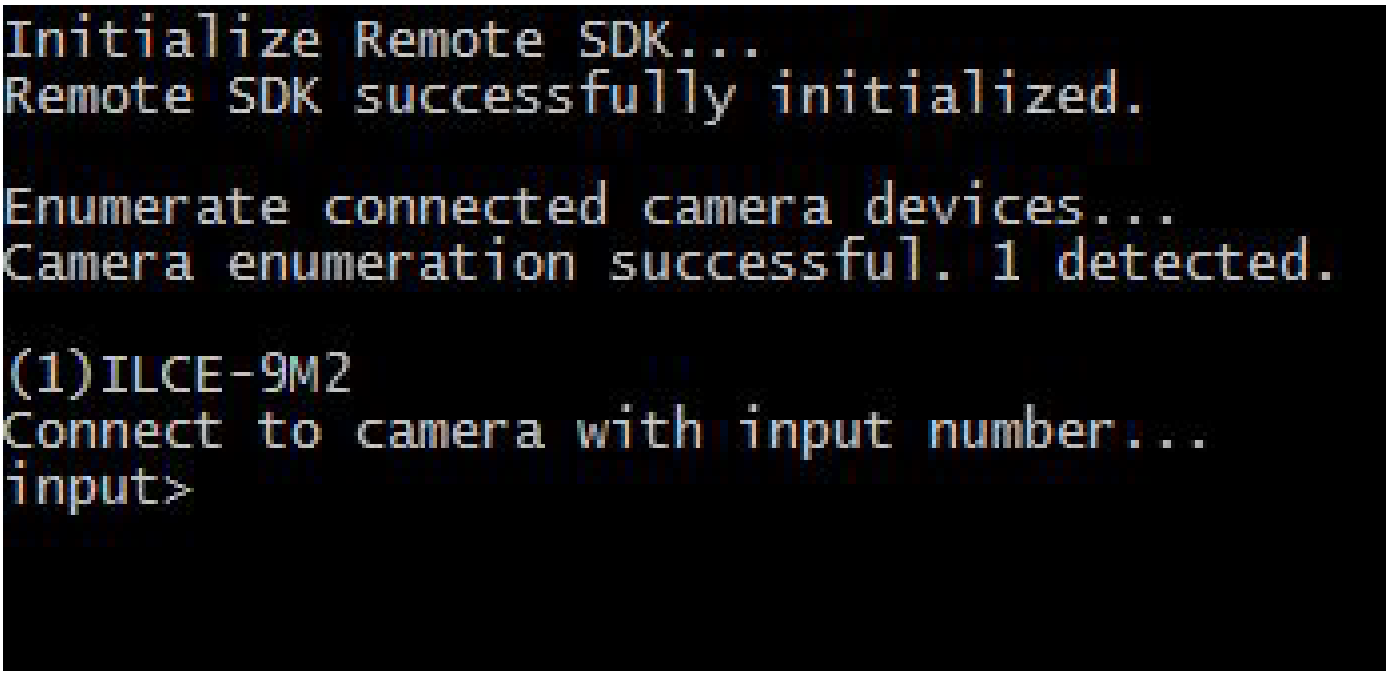
※ (If you use Sample Application without building in your environment, you may need “chmod”.)

```
$ chmod +x RemoteCli
```

2. Sample Application Usage [OS common]

■Steps

1.Firstly, please connect camera to your PC(/SBC).
(As same settings in Page 3.)
2.Please find the RemoteCli Sample Application file under the folder “..¥build¥Release”.
3.Please execute the file.
4.Console window will show up like below.



5.Please input “1” and enter.

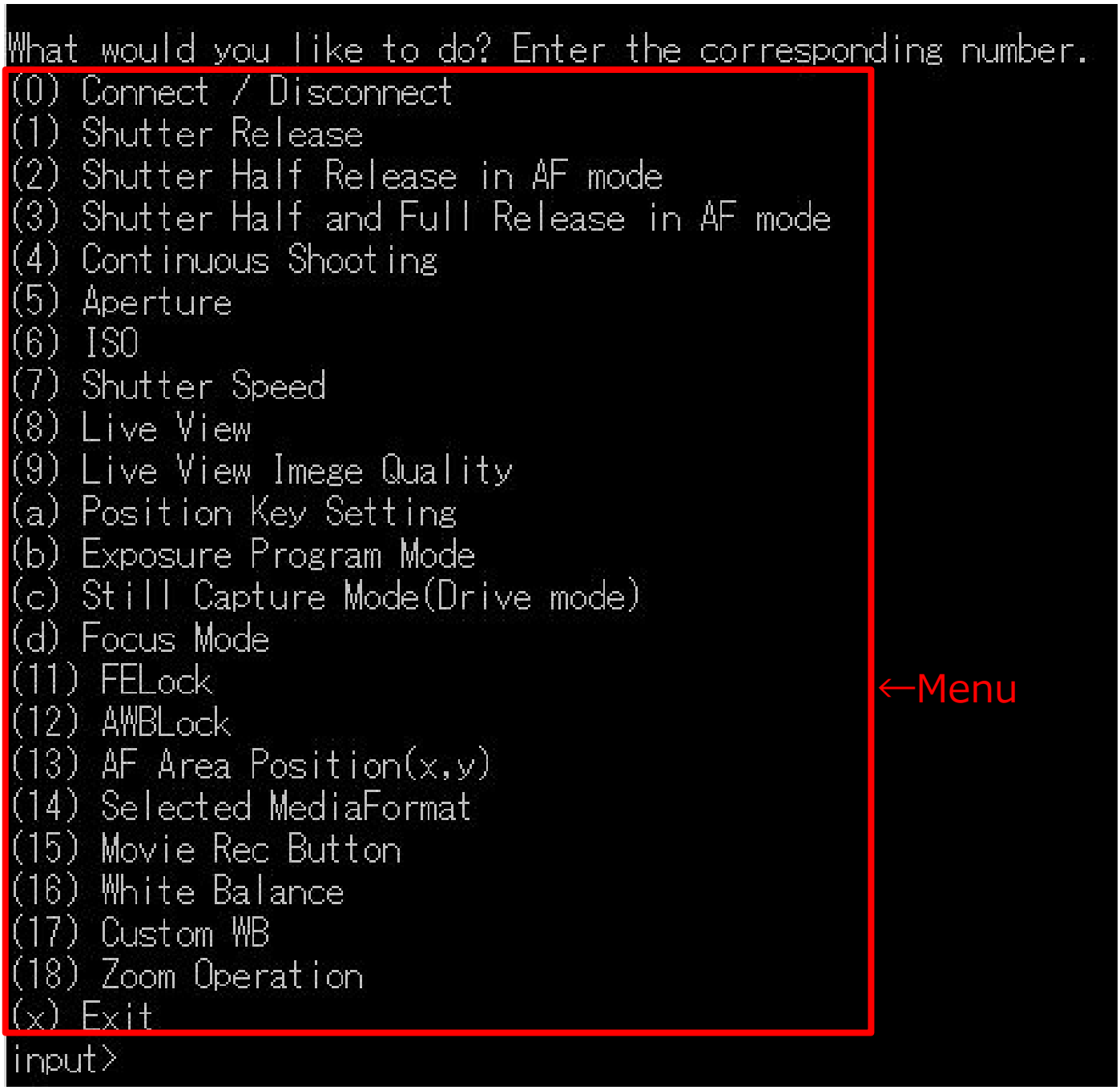
2. Sample Application Usage [OS common]

■Menu

1.Console window shows menu like below.

2.Please choose a number/alphabet and enter.

#If you choose “x” and enter, the application closes.



2. Sample Application Usage [OS common]

■Shutter Release

1.Please input “1” and enter.

2.Camera takes photo and stores in the folder set by “set_save_info()” in the source code.

#If you can not take photo,

#please try again after changing

#mode dial “M” and focus mode dial “MF”.

```
input> Connected to ILCE-9M2
1

Capture image...
Shutter down
Shutter up
Get captured image C:\RemoteSampleApp\x64\Release
1
```

focus mode dial “MF”

mode dial “M”

2. Sample Application Usage [OS common]

■Shutter Half Release in AF mode

1.Please input “2” and enter.
2.Please input “y” and enter.
3.Camera makes AF control only with half release.

```
2

Is the focus mode set to AF? (y/n): y
S1 shooting...
Shutter Halfpress down
Shutter Halfpress up
```

■Shutter Half and Full Release in AF mode

1.Please input “3” and enter.
2.Please input “y” and enter.
3.Camera makes AF control with half release
and Camera takes photo and stores in the folder
set by “set_save_info()” in the source code.

#If you can not take photo,
#please try again after changing
#mode dial “M” and focus mode dial “AF-S”.

```
input> 3

Is the focus mode set to AF? (y/n): y
S1 shooting...
Shutter Halfpress down
Shutter down
Shutter up
Shutter Halfpress up
Get captured image C:\RemoteSampleApp\x64\Release
1
```

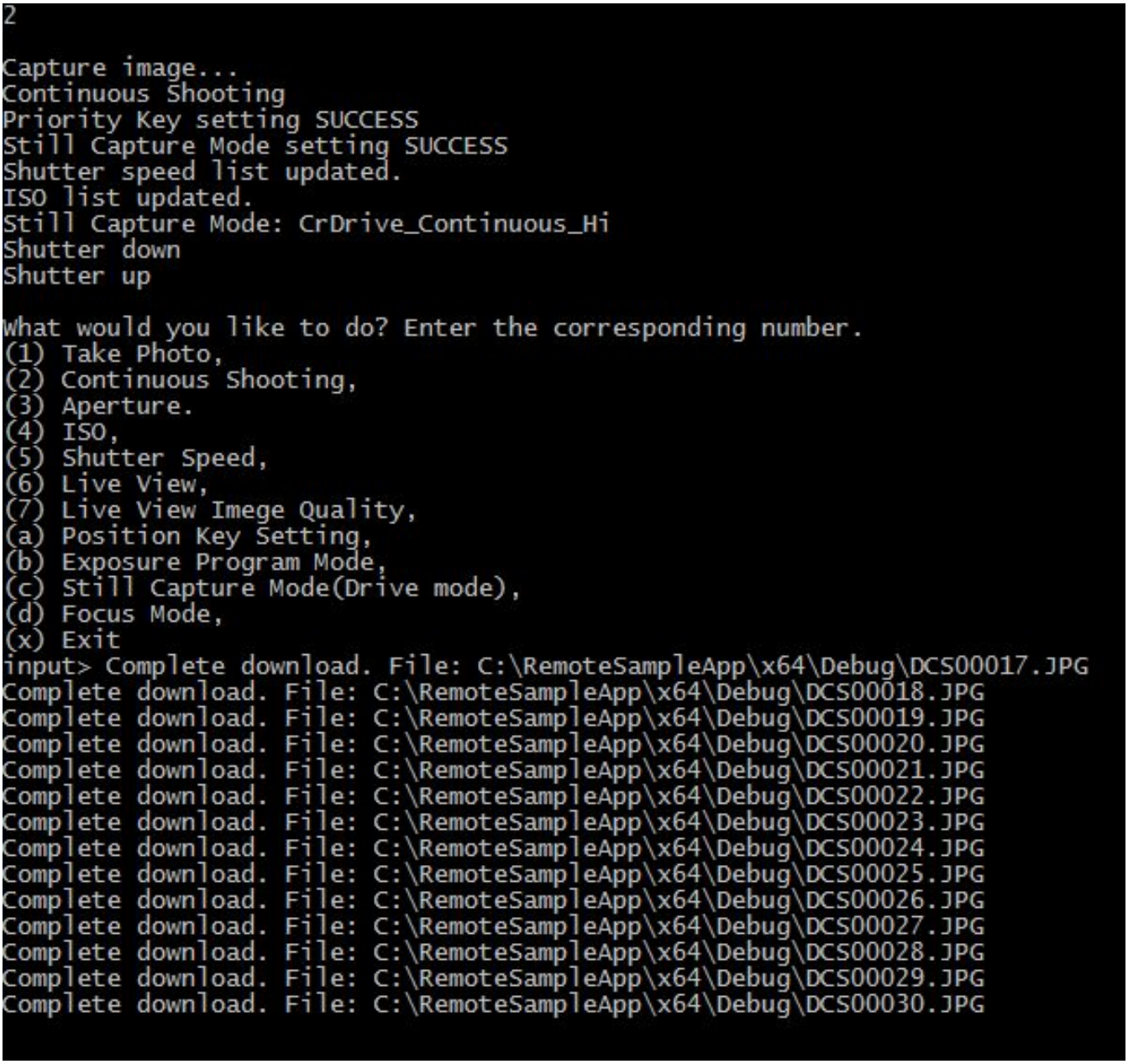
2. Sample Application Usage [OS common]

■Continuous Shooting

1.Please input “4” and enter.

2.Camera takes several photos and stores in the folder set by “set_save_info()” in the source code.

#If you can not take photos,
#please try again after changing
#mode dial “M” and focus mode dial “MF”.



2. Sample Application Usage [OS common]

■Display and change Aperture

1.Please input “5” and enter.
2.Console window shows current F number value.
3.Then if you choose “y”,
　　console window shows candidate values.
4.Please choose the number and enter.

```
F20
Would you like to set a new Aperture value? (y/n): y
Choose a number set a new Aperture value:
[-1] Cancel input
[0] F4
[1] F4.5
[2] F5
[3] F5.6
[4] F6.3
[5] F7.1
[6] F8
[7] F9
[8] F10
[9] F11
[10] F13
[11] F14
[12] F16
[13] F18
[14] F20
[15] F22
[16] F25
[-1] Cancel input
Choose a number set a new Aperture value:
input>
```

2. Sample Application Usage [OS common]

- Display and change ISO
- Display and change Shutter Speed
- Display and change Position Key Setting

Basically same steps with the Aperture case.

```
input> 4

ISO Mode: Normal
ISO 1600
Would you like to set a new ISO value? (y/n): y
Choose a number set a new ISO value:
[-1] Cancel input
[0] ISO AUTO
[1] ISO 50
[2] ISO 64
[3] ISO 80
[4] ISO 100
[5] ISO 125
[6] ISO 160
[7] ISO 200
[8] ISO 250
[9] ISO 320
[10] ISO 400
[11] ISO 500
[12] ISO 640
[13] ISO 800
[14] ISO 1000
[15] ISO 1250
[16] ISO 1600
[17] ISO 2000
[18] ISO 2500
[19] ISO 3200
[20] ISO 4000
[21] ISO 5000
[22] ISO 6400
[23] ISO 8000
[24] ISO 10000
[25] ISO 12800
[26] ISO 16000
[27] ISO 20000
[28] ISO 25600
[-1] Cancel input
Choose a number set a new ISO value:
input>
```

```
input> 5

Shutter speed: 1/1250
Would you like to set a new Shutter Speed value? (y/n): y
Choose a number set a new Shutter Speed value:
[-1] Cancel input
[0] 1/8
[1] 1/10
[2] 1/13
[3] 1/15
[4] 1/20
[5] 1/25
[6] 1/30
[7] 1/40
[8] 1/50
[9] 1/60
[10] 1/80
[11] 1/100
[12] 1/125
[13] 1/160
[14] 1/200
[15] 1/250
[16] 1/320
[17] 1/400
[18] 1/500
[19] 1/640
[20] 1/800
[21] 1/1000
[22] 1/1250
[23] 1/1600
[24] 1/2000
[25] 1/2500
[26] 1/3200
[27] 1/4000
[28] 1/5000
[29] 1/6400
[30] 1/8000
[31] 1/10000
[32] 1/12800
[33] 1/16000
[34] 1/32000
[-1] Cancel input
Choose a number set a new Shutter Speed value:
input>
```

```
input> a

F Number list updated.
Focus Mode list updated.
Exposure Program Mode list updated.
Still Capture Mode list updated.
Shutter speed list updated.
ISO list updated.
Position Key Settings list updated.
Shutter speed list updated.
Position Key Setting: PC Remote Setting
Would you like to set a new Position Key Setting value? (y/n): y
Choose a number set a new Position Key Setting value:
[-1] Cancel input
[0] Camera Position
[1] PC Remote Setting
[-1] Cancel input
Choose a number set a new Position Key Setting value:
input> 1
```

2. Sample Application Usage [OS common]

■Receive Live View image

1.Please input “8” and enter.
2.Console window shows “SUCCESS”
3.You can find the file “LiveView000000.JPG” in the folder set by “set_save_info()” in the source code.

```
8

GetLiveView...
C:\RemoteSampleApp\x64\Release\LiveView000000.JPG
GetLiveView SUCCESS
```

■Live View Image Quality

1.Please input “9” and enter.
2.Console window shows current Live View Image Quality value.
3.Then if you choose “y”,
console window shows candidate values.
4.Please choose the number and enter.

```
input> 9

Live View Imege Quality: High
Would you like to set a new Live View Image Quality value? (y/n): y
Choose a number set a new Live View Image Quality value:
[-1] Cancel input
[0] Low
[1] High
[-1] Cancel input
Choose a number set a new Live View Image Quality value:
input>
```

2. Sample Application Usage [OS common]

■Display and change Exposure Program Mode

0.Please change “Position Key Setting” to “PC Remote Setting” beforehand.

1.Please input “b” and enter.

2.Console window shows current Exposure Program Mode value.

3.Then if you choose “y”, console window shows candidate values.

4.Please choose the number and enter.

```
input> b

Exposure Program Mode list updated.
Exposure Program Mode: Auto
Would you like to set a new Exposure Program Mode value? (y/n): y
Choose a number set a new Exposure Program Mode value:
[-1] Cancel input
[0] P_Auto
[1] A_AperturePriority
[2] S_ShutterSpeedPriority
[3] M_Manual
[4] Movie_P
[5] Movie_A
[6] Movie_S
[7] Movie_M
[8] Movie_SQMotion_P
[9] Movie_SQMotion_A
[10] Movie_SQMotion_S
[11] Movie_SQMotion_M
[12] Auto
[-1] Cancel input
Choose a number set a new Exposure Program Mode value:
input> 3
```

2. Sample Application Usage [OS common]

■Display and change Still Capture Mode(Drive Mode)

0. Please change “Position Key Setting” to “PC Remote Setting” beforehand.
1. Please input “c” and enter.
2. Console window shows current Still Capture Mode value.
3. Then if you choose “y”, console window shows candidate values.
4. Please choose the number and enter.

```
input> c

F Number list updated.
Still Capture Mode list updated.
Shutter speed list updated.
ISO list updated.
Still Capture Mode: CrDrive_Single
Would you like to set a new Still Capture Mode value? (y/n): y
Choose a number set a new Still Capture Mode value:
[-1] Cancel input
[0] CrDrive_Single
[1] CrDrive_Continuous_Lo
[2] CrDrive_Continuous_Mid
[3] CrDrive_Continuous_Hi
[4] CrDrive_Timer_10s
[5] CrDrive_Timer_5s
[6] CrDrive_Timer_2s
[7] CrDrive_Continuous_Timer_3pics
[8] CrDrive_Continuous_Timer_5pics
[9] CrDrive_Continuous_Timer_5s_3pics
[10] CrDrive_Continuous_Timer_5s_5pics
[11] CrDrive_Continuous_Timer_2s_3pics
[12] CrDrive_Continuous_Timer_2s_5pics
[13] CrDrive_Continuous_Bracket_03Ev_3pics
[14] CrDrive_Continuous_Bracket_03Ev_5pics
[15] CrDrive_Continuous_Bracket_03Ev_9pics
[16] CrDrive_Continuous_Bracket_05Ev_3pics
[17] CrDrive_Continuous_Bracket_05Ev_5pics
[18] CrDrive_Continuous_Bracket_05Ev_9pics
[19] CrDrive_Continuous_Bracket_07Ev_3pics
[20] CrDrive_Continuous_Bracket_07Ev_5pics
[21] CrDrive_Continuous_Bracket_07Ev_9pics
[22] CrDrive_Continuous_Bracket_10Ev_3pics
[23] CrDrive_Continuous_Bracket_10Ev_5pics
[24] CrDrive_Continuous_Bracket_10Ev_9pics
[25] CrDrive_Continuous_Bracket_20Ev_3pics
[26] CrDrive_Continuous_Bracket_20Ev_5pics
[27] CrDrive_Continuous_Bracket_30Ev_3pics
[28] CrDrive_Continuous_Bracket_30Ev_5pics
[29] CrDrive_Single_Bracket_03Ev_3pics
[30] CrDrive_Single_Bracket_03Ev_5pics
[31] CrDrive_Single_Bracket_03Ev_9pics
[32] CrDrive_Single_Bracket_05Ev_3pics
[33] CrDrive_Single_Bracket_05Ev_5pics
[34] CrDrive_Single_Bracket_05Ev_9pics
[35] CrDrive_Single_Bracket_07Ev_3pics
[36] CrDrive_Single_Bracket_07Ev_5pics
[37] CrDrive_Single_Bracket_07Ev_9pics
[38] CrDrive_Single_Bracket_10Ev_3pics
[39] CrDrive_Single_Bracket_10Ev_5pics
[40] CrDrive_Single_Bracket_10Ev_9pics
[41] CrDrive_Single_Bracket_20Ev_3pics
[42] CrDrive_Single_Bracket_20Ev_5pics
[43] CrDrive_Single_Bracket_30Ev_3pics
[44] CrDrive_Single_Bracket_30Ev_5pics
[45] CrDrive_WB_Bracket_Hi
[46] CrDrive_WB_Bracket_Lo
[47] CrDrive_DRO_Bracket_Hi
[48] CrDrive_DRO_Bracket_Lo
[-1] Cancel input
Choose a number set a new Still Capture Mode value:
input>
```

2. Sample Application Usage [OS common]

■ Display and change Focus Mode

1.Please input “d” and enter.
2.Console window shows current Focus Mode value.
3.Then if you choose “y”,
  console window shows candidate values.
4.Please choose the number and enter.

```
input> d

Focus Mode: MF
Would you like to set a new Focus Mode value? (y/n): y
Choose a number set a new Focus Mode value:
[-1] Cancel input
[0] AF_S
[1] AF_C
[2] DMF
[3] MF
[-1] Cancel input
Choose a number set a new Focus Mode value:
input>
```

2. Sample Application Usage [OS common]

■FEL lock

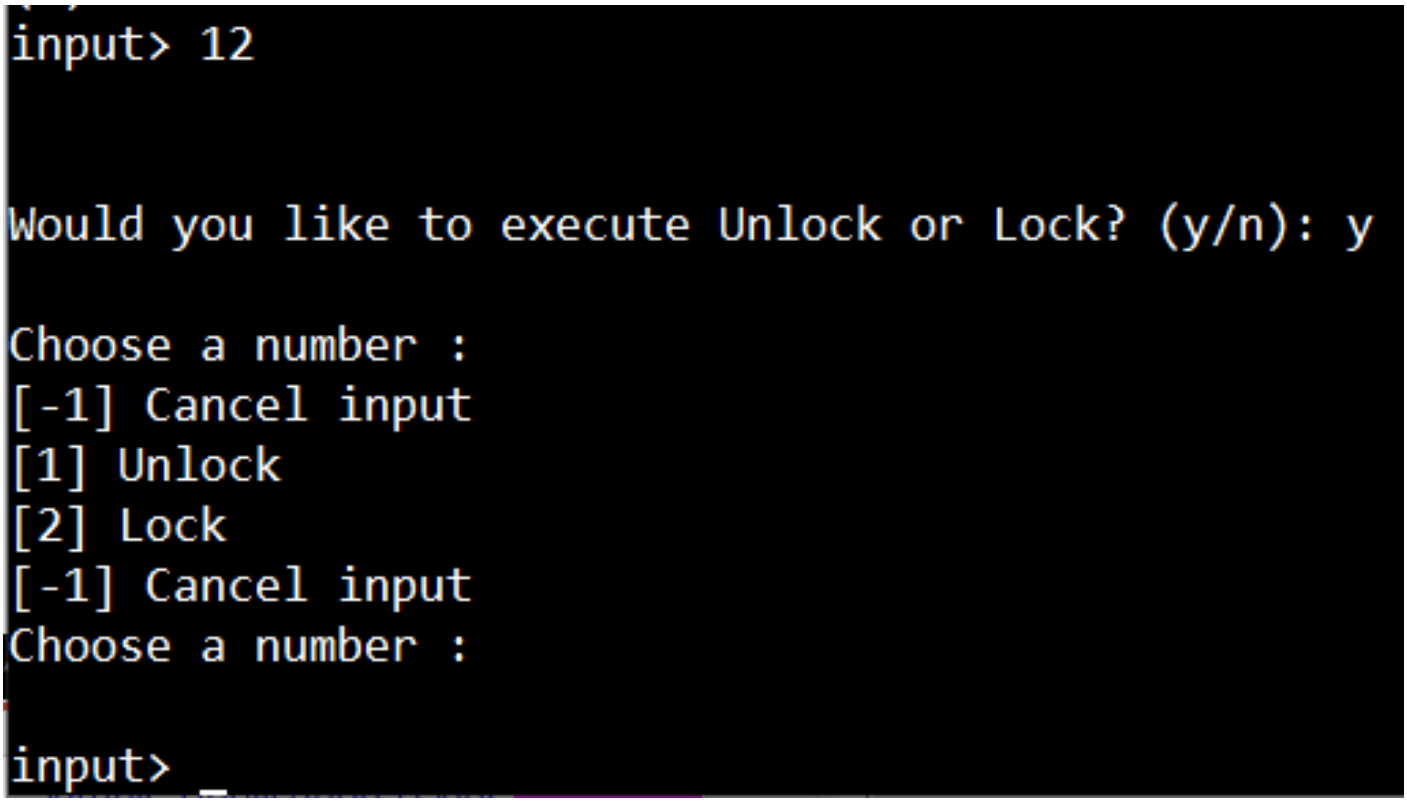
1.Please input “11” and enter.
2.Please check if you attached a flash device on your camera.
3.Then if you choose “y”, console window shows candidate values.
4.Please choose the number and enter.

```
input> 11

Flash device required.
Would you like to execute Unlock or Lock? (y/n): y

Choose a number :
[-1] Cancel input
[1] Unlock
[2] Lock
[-1] Cancel input
Choose a number :

input> _
```

2. Sample Application Usage [OS common]

■AWB lock

1.Please input “12” and enter.
2.Then if you choose “y”,
  console window shows candidate values.
3.Please choose the number and enter.



2. Sample Application Usage [OS common]

■AF Area Position(x,y)

1.Please input “13” and enter.

2.Sample Application will change focus area setting to “Flexible Spot S” automatically.

3. Then if you choose “y”, console window ask you to input x, y position for the center of the focus frame.

4.Please input values.
(It is recommended to input values at the center of camera view, such as 320, 240, for trial purpose.)

```
input> 13

Set FocusArea to Flexible_Spot
FocusArea SUCCESS

Change position ? (y/n):y

Set the value of X (decimal)
(The range of X is 0 to 639 (0x027F))

input X> 300
input X = 300

Set the value of Y (decimal)
(The range of Y is 0 to 479 (0x01DF))

input Y> 200
input Y = 200

input X_Y = 0x1,2c0,0c8
```

2. Sample Application Usage [OS common]

■Selected Media Format

1.Please input “14” and enter.
2.Please check if “Format Enable Status” is Enabled.
3.Then if you choose “y”,
  console window ask you to select a slot.
4.Please choose a number and enter.
5.Select “y” and enter, then format will start.

```
14

Media SLOT1 Format Enable Status: Enabled
Media SLOT2 Format Enable Status: Disable

Would you like to format the media? (y/n):y

Choose a number Which media do you want to format ?
[-1] Cancel input
[1] SLOT1
[2] SLOT2
[-1] Cancel input
Choose a number :

input> 1

All data will be deleted.Is it OK ? (y/n)
y

Formatting .....
FormatProgressRate:100
Warning: 0x20,00b

Format completed
```

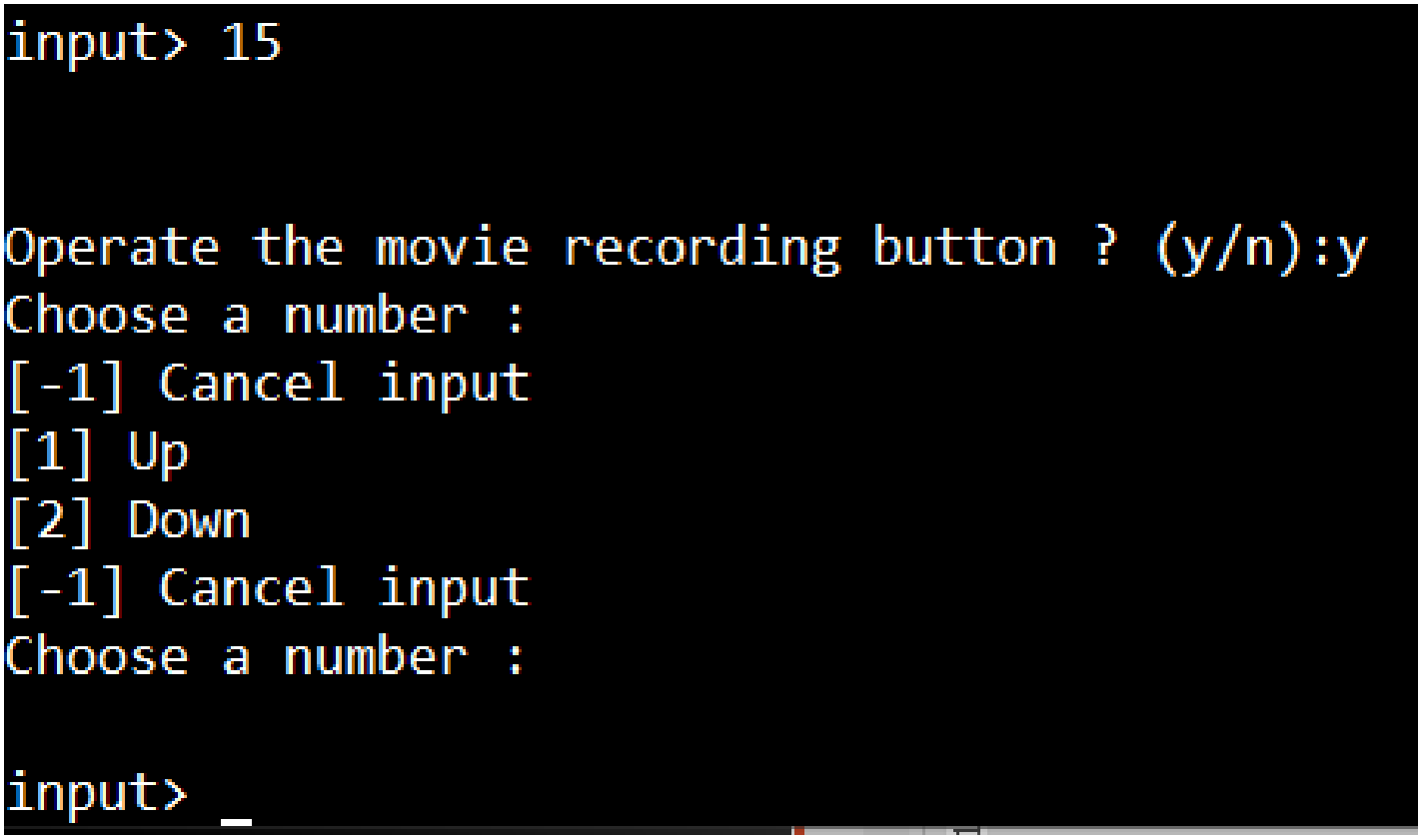
2. Sample Application Usage [OS common]

■Movie Rec Button

1.Please input “15” and enter.

2.Then if you choose “y”,
console window shows candidate values.

4. Please choose “[2] Down”
to start movie rec(make movie rec button down).



2. Sample Application Usage [OS common]

■ White Balance

1. Please input “16” and enter.
2. Console window shows
   current White Balance setting.
3. Then if you choose “y”,
   console window shows candidate values.
4. Please choose a number and enter.

```
input> 16

White Balance: AWB

Would you like to set a new White Balance value? (y/n): y

Choose a number set a new White Balance value:
[-1] Cancel input
[0] AWB
[1] Daylight
[2] Shadow
[3] Cloudy
[4] Tungsten
[5] Fluorescent_WarmWhite
[6] Fluorescent_CoolWhite
[7] Fluorescent_DayWhite
[8] Fluorescent_Daylight
[9] Flush
[10] Underwater_Auto
[11] ColorTemp
[12] Custom_1
[13] Custom_2
[14] Custom_3
[-1] Cancel input

Choose a number set a new White Balance value:

input> _
```

2. Sample Application Usage [OS common]

■Custom WB (1/2)

1.Please input “17” and enter.

2.Console window shows
current Custom WB related values
and set up some settings for Custom WB.

3.Then if you choose “y”,
console window shows candidate values.

```
(x) Exit
input> 17

CustomWB Capture Standby Operation: Disable
CustomWB Capture Standby CancelOperation: Disable
CustomWB Capture Operation: Disable
CustomWB Capture Execution State : Invalid

Set camera to PC remotePriority Key setting SUCCESS
Position Key Setting: PC Remote Setting

Set the Exposure Program mode to P modeExposure Program mode SUCCESS
Exposure Program Mode: P_Auto

Set the White Balance to Custom1
White Balance SUCCESS
White Balance: Daylight

Set custom WB capture standby

CustomWB Capture Standby Operation: Enable
CustomWB Capture Standby CancelOperation: Disable
CustomWB Capture Operation: Disable
CustomWB Capture Execution State : Invalid

CustomWB Capture Standby Operation: Disable
CustomWB Capture Standby CancelOperation: Enable
CustomWB Capture Operation: Enabled
CustomWB Capture Execution State : Standby

Set custom WB capture
Change position ? (y/n):y
```

2. Sample Application Usage [OS common]

■Custom WB (2/2)

4. Please input values.
(It is recommended to input values at the center of camera view, such as 300, 200, for trial purpose.)

```
Set custom WB capture
Change position ? (y/n):y

Set the value of X (decimal)
(The range of X is 0 to 639 (0x027F))

input X> 300
input X = 300

Set the value of Y (decimal)
(The range of Y is 0 to 479 (0x01DF))

input Y> 200
input Y = 200

input X_Y = 0x1,2c0,0c8

Set custom WB capture standby cancel. Pease enter something
```

2. Sample Application Usage [OS common]

■Zoom Operation

Please note that Power Zoom Lens is needed to be attached to the camera body for this operation.

1.Please input “18” and enter.
2.Console window shows current Zoom related values.
3.Then if you choose “y”, console window shows candidate values.
4.Please choose a number for zoom operation.

```
input> 18

Zoom Operation Status: Enable
Zoom Setting Type: OpticalZoom
Zoom Type Status: OpticalZoom
Zoom Operation: Stop
Zoom Bar Information: 0x1,000,000

Operate the zoom ? (y/n):y

Choose a number :
[-1] Cancel input
[1] Wide
[2] Tele
[-1] Cancel input
Choose a number :

input> _
```

3. Note

[OS common]

■Character code

There is a rare issue that no output will be displayed in the sample application command window when you use the different character code for your path name from your pc character code setting.