Camera Control Manager
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Introductions

This document is the instruction manual for Camera Control Manager, the dedicated PC application software for “UMC-S3C”, a 4K compatible video camera for professional use.

If you install PC application software, you can operate the camera as well as set/adjust the image quality depending on the shooting environment.

Properly install and connect the camera, separately sold accessories, and connecting devices referring to their operating instructions, then operate the camera referring to this application guide.

The screens on this document is for reference only. They might be different from the actual screens.

Designs or specifications of the PC application software and this document are subject to change without notice.

How to use this application guide

This application guide is written with the assumption that it will be displayed on a computer. This section describes things you should know when utilizing this application guide.

Read before operation

Jump to the related pages

When you read this document on a computer screen, clicking where the related page is displayed allows you to jump to the page with the related instruction. You can search for the related page easily.

Sample screens of the software

PC application software screens on this application guide is for sample use only. They might be different from the actual screens. Also, the Menu screen is an example for instructions.

Printing out this application guide

When you print out this application guide, the details of screens or illustrations might not be displayed depending on the system.

Required system configurations

To control the camera, the environment below is required.
(As of October 2016)

OS

Microsoft Windows 7 (32bit, 64bit)
Windows 8.1 (32bit, 64bit)
Windows 10 (32bit, 64bit)
  Operation confirmed editions
    Windows 7:Ultimate, Professional
    Windows 8.1:Pro
    Windows 10:Pro

When you use antivirus software on the computer

If you use antivirus software, security software, personal firewall, pop-up blocker, etc., the performance of the camera, including lower frame rate of image display, might be lower.
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Using the Camera Control Manager

This section describes the functions of Camera Control Manager.

Notes

Camera Control Manager may not work properly when a firewall or anti-virus program is installed on your PC. In this case, please disable these software.

How to install Camera Control Manager

1. Download the Camera Control Manager installer to any folder from the website: http://www.sony.net/CameraSystem

2. Extract the zip file which contains the downloaded installer.

3. Launch “CameraControlManager_Setup.exe”.

4. Install “Camera Control Manager” following the wizard on the screen.

Tip

Install with administrative privilege.

5. Select “Finish” to complete installation.

Launching Camera Control Manager

1. Connect the camera and PC with USB micro cable.

2. Launch the Camera Control Manager.
   • On Windows 7, select Start menu – All programs – Sony – Camera Control Manager on Windows.
   • On Windows 8.1 or Windows 10, select Start menu – Camera Control Manager on Windows.

3. Press Connect button.
   If multiple cameras are connected, the dialogue to select the camera to connect will appear.
Screen operations and settings

1. **Select buttons for Still Mode and Movie Mode**
   You can select Still Mode or Movie Mode.

2. **Information**
   Displays the current camera setting status.

3. **Camera setting menu**
   Changes the settings on the camera.

4. **Power button**
   Turns the camera off.
   To turn on the power of camera, disconnect and connect the power source.

5. **Live View**
   Shows images from the camera.

6. **Settings tab**
   Controls output images from the camera.
Still image mode

Information

1 Shooting mode
Displays the current shooting mode.

2 Aspect
Displays the aspect ratio

3 Quality
Displays the currently set quality of still images.

4 Drive Mode
Displays currently set shooting method, one-shot shooting, or continuous shooting.

5 Remain
Displays the number of still images which can be stored on the memory card inserted to the camera. If a memory card is not found or is faulty, will be shown.

6 ISO Sensitivity
Displays the setting status of sensitivity against the brightness.

7 Aperture
Displays the currently set F Number.

8 Exposure Compensation
Displays the exposure compensation status to make the whole image brighter or darker.

9 Focus Mode
Displays the focus selected. Automatic focus or manual focus.

10 White Balance
Displays the color adjustment status.

11 Shutter Speed
Displays the set shutter speed.

Camera setting menu

AF/AE
Performs Auto Focus or Auto Exposure. Press again to cancel. When the camera is in focus, the focus display changes into or . What the focus display means

<table>
<thead>
<tr>
<th>Focus display</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>● illuminating</td>
<td>In focus and fixed.</td>
</tr>
<tr>
<td>(○) illuminating</td>
<td>In focus. As the subject moves, the focal point changes.</td>
</tr>
<tr>
<td>(●) illuminating</td>
<td>In the process of focusing.</td>
</tr>
<tr>
<td>● flashing</td>
<td>Out of focus.</td>
</tr>
</tbody>
</table>

Shutter Button
Press the shutter button to shoot.

Drive Mode
Switches single shooting and continuous shooting depending on the objective.
- Single Shooting
  Normal shooting method.
- Cont. Shooting
  When you press the shutter button, the camera starts continuous shooting; when you press it again, it stops.
**Shoot Mode**
Selects the shoot mode below.

- **i [Intelligent Auto]**
  A value the camera determines the most suitable is set. Easy shooting is possible regardless of objectives and environment.

- **i [Superior Auto]**
  The camera recognizes the shooting status and makes settings automatically. It performs continuous shooting when needed and saves the best image by combining photos or extracting.

- **P [Program Auto]**
  The camera automatically sets exposure (shutter speed and aperture), but other settings can be adjusted by yourself.

- **A [Aperture Priority]**
  You can adjust the aperture setting manually to change the range in which objects appear in focus and the blurriness of the background.

- **S [Shutter Priority]**
  Adjusts the shutter speed and shoots moving object with different expressions.

- **M [Manual Exposure]**
  You can adjust both the aperture setting and the shutter speed manually to shoot with your own favorite exposure setting.

**Shutter Speed**
Selects the shutter speed.

**Aperture**
Selects aperture (F number). When the aperture is small, the area around the object will be blurred. When the aperture is large, the area around the object will be focused clearly.

**ISO Sensitivity**
Sets ISO Sensitivity (ISO 50-409600/ISO AUTO/Multi Flame NR ISO 100-409600/Multi Flame NR ISO AUTO)

**Exposure Compensation**
Compensates the brightness of the whole image. (-5.0EV to +5.0EV)

**Zoom**
Display the current zoom position guide. Wide side is on left, Tele side is on right.

- [ ] Zooms out when pressed down.
- [ ] Press to zoom out slightly.
- [ ] Press to zoom in slightly.
- [ ] Zooms in when pressed down.

**Focus mode**

- **AF-S [Single AF (AF-S)]**
  Press AF/AF and the focus is stacked, then the focus will be fixed.

- **AF-C [Continuous AF (AF-C)]**
  Keeps trying to focus on during AF/AE button pressed. To release, press AF/AE button again. * Focus lock is not available.

- **MF [Manual focus (MF)]**
  When Automatic focus doesn't work effectively, you may want to focus manually. Same settings will be applied for still image and movie shooting.

**Focus Position**
Displays the current focus position guide. Near side is on the left, Far side is on the right.

- [ ] When pressed down, moves focus to the Near side.
- [ ] Press to move focus to the Near side slightly.
- [ ] Press to move focus to the Far side slightly.
- [ ] When pressed down, moves focus to the Far side.

**Power Off**
Turns off the power of the camera.

---

**Live View**

Displays Live View.

1. **Focus Indication**
   Indicates the status of Auto Focus.

2. **View Mode**
   Minimizes Settings tab area to expand the display area.

3. **Adjusts to the window size**
   You can change the display of LiveView.
Movie image mode

**Information**

1. **Shooting mode**
   Displays the current shooting mode.

2. **Movie File Format**
   Displays the movie recording format.

3. **Frame Rate**
   Displays the frame rate of the movie to be recorded.

4. **Bit rate**
   Displays the bit rate of the movie to be recorded.

5. **Available recording time**
   Displays the available recording time for the memory card in the camera. If a memory card is not found or is faulty, will be shown.

6. **ISO Sensitivity**
   Displays the setting status of the sensitivity against the brightness.

7. **Aperture**
   Displays the currently set F Number.

8. **Exposure Compensation**
   Displays the exposure compensation status to make the whole image brighter or darker.

9. **Focus Mode**
   Displays the focus selected. Automatic focus or manual focus.

10. **White Balance**
    Displays the color adjustment status.

11. **Shutter Speed**
    Displays the set shutter speed.

**Camera setting menu**

**AF/AE**
Performs Auto Focus or Auto Exposure. Press again to cancel.

**Movie Start Stop**
Specifies start and stop of recording.

**Shoot Mode**
- **Program Auto**
  The camera sets the exposure automatically.
- **Aperture Priority**
  Adjust the aperture manually and shoot by changing the focusing range and background blur.
- **Shutter Priority**
  Adjust the shutter speed manually and shoot moving objects with different expressions.
- **Manual Exposure**
  Adjust the exposure (shutter speed and aperture) manually.
- **Intelligent Auto**
  Shoots in a condition the camera thinks is suitable.
- **High frame rate**
  The camera sets the exposure automatically and shoots slow motion movies.
- **High frame rate**
  Adjusts the aperture automatically and shoots slow motion movies changing the focusing range and background blur.
- **High frame rate**
  Adjust the shutter speed manually and shoot moving objects in slow motion with different expressions.

- **High frame rate**
  Adjust the exposure (shutter speed and aperture) manually and shoot slow motion movies.

**Shutter Display**
Sets the displaying method of the exposure time.
- **Second**
  Indicates with time.
- **Angle**
  Indicates with opening angle.

Switching the shutter display, shutter display will be set one from the below.
- **Shutter Speed**
  Sets the time of exposure.
- **Shutter Angle**
  Sets the exposure time with angles.

**Aperture**
Selects the aperture (F number). When the aperture is small, the area around the object will be blurred. When the aperture is large, the area around the object will be focused clearly.

**ISO Sensitivity**
Sets the ISO Sensitivity. (ISO AUTO/ISO 100 - ISO 409600)

**Exposure Compensation**
Compensates the brightness of the whole image. (-2.0EV to +2.0EV)

**Zoom**
Using zoom features other than optical zoom allows better zooming than with zoom lens magnification. When you are using a lens equipped with power zoom capabilities, you can operate the power zoom feature. This displays the current zoom position guide. The Wide side is on the left, and Tele side is on the right.
- ❯ Zooms out when pressed down.
- ± Press to zoom out slightly.
- ⊲ Press to zoom in slightly.
- ≫ Zooms in when pressed down.

**Focus Mode**
- **Continuous AF**
  Always keeps focusing on.
  * Focus lock is not available.

- **Manual Focus**
  When Automatic focus doesn't work effectively, you may want to focus manually. Same settings will be applied for still image and movie shooting.

**Focus Position**
Indicates the guide of the focus position when manual focus is enabled. Near side is on the left, Far side is on the right.
- ≪ When pressed down, moves focus to the Near side.
- ≫ Press to move focus to the Far side slightly.
- ≫ Press to move focus to the Far side.

**Power Off**
Turns off the power of the camera.

**Live View**
Displays Live View.

**Movie Rec Status**
Indicates the status of movie recording. During recording video, red circle and shooting time will be displayed. If you start this program while recording, the shooting time restarts at zero.

**View Mode**
Minimizes Settings tab area to expand the display area.

**Adjusts to the window size**
You can change the display of LiveView.
Settings tab

Still tab

Still Save Media
Chooses the media to save still images.
- Memory Card
  Stores the shot still images on the memory card in the camera.
- PC
  Stores the shot still images on PC.

Still Save Folder
Select folder to save shot still images in with Select Folder button.
The following folders are accessible under the current user folder.

Image Size
Chooses the image size from L, M, or S.

Aspect Ratio
Chooses the aspect ratio between 3:2 (normal aspect ratio) and 16:9 (high vision television ratio).

Quality
- Standard/Fine/Extra fine
  File format: JPEG
  Images will be recorded in JPEG format and compressed. Compressibility ratio will be higher and the data amount will be lower in Extra fine, Fine, Standard order. The number you can record in a single memory card will grow, though the quality will be poor.
- RAW
  File format: RAW
  File format without digital processing. Select this when you will process images on a PC in accordance with your professional objectives. Image size is always fixed with the maximum size and the image size will not be displayed on the screen.
- RAW+JPEG
  File format: RAW+JPEG
  RAW images described above and JPEG images will be recorded at the same time. This mode is helpful when you want to save both image types; JPEG to view and RAW to process. JPEG quality is Fine.

High ISO NR
Sets the noise reduction process when shooting with an ISO sensitivity set to high. (Normal / Low / Off)

Long Exposure NR
To reduce granularity noise which stands out when exposing for a long time, processes noise reduction when the shutter speed is set to 1 second or slower. (On / Off)

Front Curtain Shutter
Sets whether to use the front curtain shutter function. (On / Off)

Silent Shooting
Shoots without shutter sound. (On / Off)

AF-C Priority Setup
Sets the timing to release the shutter when Focus Mode is Continuous AF. (AF / Release / Balanced Emphasis)

AF-S Priority Setup
Sets the timing to release the shutter when Focus Mode is Single AF. (AF / Release / Balanced Emphasis)

Steady Shot
Sets the Steady Shot level when shooting. (On/Off)
Movie tab

File Format
Specifies the format to record movie. (XAVC S 4K/ XAVC S HD)

This unit supports “XAVC S”.

What is XAVC S?
Format to record high resolution images including 4K with high-compressing using MPEG-4 AVC/H.264 in MP4 file format. This enables recording in high resolution while maintaining the data amount at a certain level.

XAVC S recording format and its feature

<table>
<thead>
<tr>
<th>Recording format</th>
<th>Bit rate</th>
<th>Feature</th>
</tr>
</thead>
<tbody>
<tr>
<td>XAVC S 4K</td>
<td>Approx. 100 Mbps or 60 Mbps</td>
<td>Records with 4K resolution (3840 × 2160)</td>
</tr>
<tr>
<td>XAVC S HD</td>
<td>Approx. 100 Mbps, Approx. 60 Mbps, Approx. 50 Mbps, Approx. 16 Mbps, Approx. 12 Mbps</td>
<td>Records with HD resolution (1920 × 1080).</td>
</tr>
</tbody>
</table>

Bit rate indicates the recording data amount for certain time.

Auto Slow Shut (On/Off)
Turning On the Auto Slow Shut enables shooting with lower noise in the dark. When you turn it to Off, the image will be darker than when On. However, the objects can be shot in a stable, smooth way.

Steady Shot
Sets the Steady Shot level when shooting. (On/Off)

TC Format
Selects the recording format of the time code.
• DF
  Records time code with the drop frame* method.
• NDF
  Records the time code with the non drop frame method.
* The time code will be processed at 30 frames in 1 second. However, the actual NTSC image signal's frame frequency is approx. 29.97 frame/sec, so a gap will be generated between the actual time and time code in long time recording. Drop frame corrects the gap to make the time code and actual time equal. In drop frame, the first 2 frames will be dropped each minute except every 10th minute. Processing without this correction is called non-drop frame.

Notes
When you record in 24p, it is fixed as NDF.

TC Make
Selects the method to record the time code on recording media.
• Preset
  Records the newly set time code to recording media.
• Regenerate
  Reads the last recorded time code on the recording media and records following that read value. The time code will run in Rec Run mode regardless of the TC Run settings.

TC Preset
Sets the time code.

TC Run
Selects the running way of the time code.
• Rec Run
  The time code will run only during recording.
  Records following the time code on the last recorded image.

• Free Run
  The time code will run continuously.

**TC/UB Disp. Setting**
Sets the contents to display on the monitor when HDMI information display is **On**.
(Counter/TC/U-Bit)

**UB Preset**
Sets the user bit.

**UB Time Rec**
Selects whether to record the time as a user bit code.
(On / Off)
White balance
Adjusts the color. It is possible to adjust the color to fit the light source and adjust it slightly by combining color temperature and color filter.
• Auto
• Daylight
• Shade
• Cloudy
• Incandescent
• Fluor.: Warm White
• Fluor.: Cool White
• Fluor.: Day White
• Fluor.: Daylight
• Color Temperature
• Underwater Auto

Color temperature
Sets the color temperature.

Color Filter B-A
Adjusts the color filter. Moving toward right makes the image in favor of amber. Moving toward left makes the image in favor of blue.

Color Filter M-G
Adjusts the color filter. Moving toward right makes the image in favor of green. Moving toward left makes the image in favor of magenta.

White balance initialize
Initialize color temperature and color filter values.

DRO/Auto HDR
Corrects brightness and contrast automatically.
(Off/D range optimizer 1 to 5/Auto HDR1 to 6)

ISO Auto Maximum
Sets the desired value.

ISO Auto Minimum
Sets the desired value.
Picture Profile 1 tab

Picture Profile
Changes the settings of color and gradation. By using the preset value or adjusting the value of Gamma or Details, you can adjust the quality as you like.

| PP1 | Example setting using Movie gamma |
| PP2 | Example setting using Still gamma |
| PP3 | Example setting of natural color tone using the ITU709 gamma |
| PP4 | Example setting of a color tone faithful to the ITU709 standard |
| PP5 | Example setting using Cine1 gamma |
| PP6 | Example setting using Cine2 gamma |
| PP7 | Example setting using S-Log2 gamma |
| PP8 | Example setting using the S-Log3 gamma and the S-Gamut3.Cine under Color Mode |
| PP9 | Example setting using the S-Log3 gamma and the S-Gamut3 under Color Mode |

Reset
Reverts the selected picture profile settings to the initial state. Contents in Picture Profile 2 tab will be reverted to the initial state.

Black Level
Sets the black level (–15 to +15).

Gamma
Selects the Gamma curve.
- Movie
  Standard Gamma curve for movie
- Still
  Standard Gamma curve for still image
- Cine1
  Make the contrast of dark parts smooth and the gradation of bright parts clear to make the image calm (HG4609G33 equivalent).
- Cine2
  Almost same effect as Cine1 is achievable. Select this when you want to treat the video signal under 100% when editing (HG4600G30 equivalent).
- Cine3
  Makes the contrast between bright and dark parts stronger than Cine1 and Cine2, and makes gradation change on the black side clearer.
- Cine4
  More clear contrast in dark parts than in Cine3. Less clear contrast in dark parts and clearer contrast in bright parts than Movie.
- ITU709
  Gamma curve equivalent to ITU709.
- ITU709(800%)
  Gamma curve for scene check shots with S-Log2 or S-Log3 in mind.
- S-Log2
  Gamma curve for S-Log2. Setting with post-shooting image processing in mind.
- S-Log3
  Gamma curve for S-Log3. Setting with post-shooting image processing in mind. The characteristic is more close to film.

Black Gamma
Corrects decreased intensity gamma.
- Range
  Selects the range to correct (Wide/Middle/Narrow)
- Level
  Selects the strength of correction (–7 (max. black compress) to +7 (max. black stretch))

Knee
Sets points or slopes to compress video signals in order to set the high-intensity part signal of objects in the dynamic range of camera and avoid white out. When you select Movie, Still, Cine1, Cine2, Cine3, Cine4, ITU709, ITU709 (800%), S-Log2, S-Log3 for Gamma and Auto Set for Mode, Knee will be Off. If you set Mode to Manual Set, functions of Knee will be available.
- Mode
  – Auto Set
  – Manual Set
• Auto Set
  – Max Point
    Sets the max value of Knee point. (90% to 100%)
  – Sensitivity
    Sets the sensitivity. (High/Mid/Low)
• Manual Set
  – Point
    Sets the Knee point. (75% to 105%)
  – Slope
    Sets the tilt of Knee slope. (−5 (less tilt) to +5 (more tilt))

**Color Mode**

• Movie
  Color which fits when **Gamma** is **Movie**.
• Still
  Color which fits when **Gamma** is **Still**.
• Cinema
  Color which fits when **Gamma** is **Cine1**.
• Pro
  Color which is closest to the standard quality of Sony professional use cameras (when combined with ITU709 gamma).
• ITU709 Matrix
  Color which is faithful to ITU709 standard (when combined with ITU709 gamma).
• Black & White
  Sets intensity to 0 to shoot with B/W.
• S-Gamut
  Setting with post-shot image processing in mind to use when **Gamma** is **S-Log2**.
• S-Gamut3.Cine
  Setting with post-shot image processing in mind to use when **Gamma** is **S-Log3**. Shooting in color range which is easy to adjust for digital cinema color range is possible.
• S-Gamut3
  Setting with post-shot image processing in mind to use when **Gamma** is **S-Log3**. Shooting in a wide color range is possible.

**Color Phase**

Sets the color phase. (−7 to +7)

**Saturation**

Sets the saturation of color. (−32 to +32)
Picture Profile

Reset
Reverts the selected picture profile settings to the initial state. Contents in Picture Profile 1 tab will be reverted to the initial state.

Color Depth
Changes the brightness for each color phase. More effective for highly colored objects while there are no effects on no color objects. Switching to the + side makes the color darker and deeper. Switching to the + side makes the color lighter and lower. I is effective when Color Mode is set to Black & White.

- R (Red): −7 to +7
- G (Green): −7 to +7
- B (Blue): −7 to +7
- C (Cyan): −7 to +7
- M (Magenta): −7 to +7
- Y (Yellow): −7 to +7

Detail
- Level
  Sets the strength of Detail (−7 to +7).
- Adjust
  Selects the value manually.
  - Mode
    Selects the setting between Auto/Manual
  - V/H Balance
    Sets the balance of vertical (V) DETAIL/horizontal (H) DETAIL. (−2 (V is stronger) to +2 (H is stronger))
  - B/W Balance
    Selects the balance of bottom (B) DETAIL/upper (W) DETAIL. (Type1 (B is stronger) to Type 5 (W is stronger))
  - Limit
    Sets the limit level. (0 (limit level is low (easy to set limit)) to 7 (limit level is high (difficult to limit)))
  - Crispning
    Sets the level of crispning. (0 (light crispning level) to 7 (deep crispning level))
  - Hi-Light Detail
    Sets the Detail level of the high-lighted part. (0 to 4)
**System1 tab**

![System1 tab interface](image)

**4K Output Sel.**
- Memory Card+HDMI
- HDMI only (30p/25p)
- HDMI only (24p)

**HDMI Resolution**
- Auto
- 2160p/1080p
- 1080p
- 1080i

**24p/60p Output Switch**
- 60p
- 24p

**HDMI Info. Display**
(On/Off)

**TC Output**
(On/Off)

**REC Control**
(On/Off)

**Format**
Formats the media inserted to the camera.
System2 tab

**Configuration**
Pressing the Configuration button enables the settings below. Camera image output stops. Press again to go back to shooting.
Environment Settings button is disabled during recording movie.

**Camera Firmware Update**
Perform this update when this unit's firmware update is released.

**Lens Firmware Update**
Perform this update when the control firmware update of lens on the camera is released.

**Camera settings reset**
Reverts the main shooting settings on this unit to the factory settings. Refer to table 1 for details.

**Initialization**
Reverts the main settings on this unit to the factory settings. Refer to table 1 for details.

**NTSC/PAL Selector**
(NTSC/PAL)

**Other information displayed**

**Model Name**
Displays the model name of camera.

**Camera Version**
Displays the version of the camera.

**Camera Serial Number**
Displays the serial number of the camera.

**Lens Name**
Displays the model name of the lens on the camera.

**Lens Version**
Displays the version of the lens.

**Application Version**
Displays the version of this software.

**Notes**
If the settings above are performed, the camera will restart automatically.
## Initialize, Camera Setting Reset

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<th>Function name</th>
<th>Camera Setting Reset</th>
<th>Initialize</th>
</tr>
</thead>
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<td>Drive Mode</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Shoot Mode</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Shutter Display</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shutter Speed</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Shutter Angle</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Aperture</td>
<td></td>
<td>●</td>
</tr>
<tr>
<td>ISO Sensitivity</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Exposure Compensation</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Focus Mode</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Still Save Media</td>
<td></td>
<td>●</td>
</tr>
<tr>
<td>Image Size</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Aspect Ratio</td>
<td>●</td>
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<tr>
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<td>Initialize</td>
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<td>Function name</td>
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<td>Time Code Output to HDMI</td>
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<td>REC Control</td>
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</tr>
<tr>
<td>NTSC/PAL Selector</td>
<td></td>
<td>●</td>
</tr>
</tbody>
</table>

●: Resets to the factory setting
## Message

Pop-up messages are listed below. Pop-up message will appear depending on the situation. Refer to this table when you want to know the contents and remedy of each message.

<table>
<thead>
<tr>
<th>Message</th>
<th>Contents</th>
<th>Display condition</th>
<th>Remedies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connect the camera with PC, and click [Connect].</td>
<td>At application launch</td>
<td>Waiting for connection between camera and application</td>
<td>Confirm that the camera's power is on, then connect the camera and PC with a USB cable and press <strong>Connect</strong> button.</td>
</tr>
<tr>
<td>Cannot find the supported camera. Please confirm the connection between camera and PC. If camera has been already connected, disconnect and connect again.</td>
<td>Device is not connected.</td>
<td>Connect without connecting device</td>
<td>Confirm that the camera's power is on, then connect the camera and PC with a USB cable and press <strong>Connect</strong> button.</td>
</tr>
<tr>
<td>The camera is disconnected. The application will be closed.</td>
<td>Device is disconnected</td>
<td>Connecting cable disconnected</td>
<td>Reconnect the cable to the camera, restart the application, and press the <strong>Connect</strong> button.</td>
</tr>
<tr>
<td>Some problems occur on the camera.</td>
<td>Critical error</td>
<td>Unspecified error</td>
<td>Turn off the camera and turn it on again.</td>
</tr>
<tr>
<td>Unable to save the image since the hard disk is full.</td>
<td>During still image shooting</td>
<td>During shooting with the hard disk full</td>
<td>Images cannot be saved as the hard disk is full. Increase the capacity or change the location to be saved to the memory card.</td>
</tr>
<tr>
<td>Do you want to switch to NTSC? After switching, the camera will reboot. Please connect again after the camera reboots.</td>
<td>NTSC Switching Execution confirmation</td>
<td>NTSC/PAL Selector</td>
<td>Displays when the video signal format is switched. Press <strong>OK</strong> if you confirm to execute.</td>
</tr>
<tr>
<td>Do you want to switch to PAL? After switching, the camera will reboot. Please connect again after the camera reboots.</td>
<td>PAL Switching Execution confirmation</td>
<td>NTSC/PAL Selector</td>
<td>Displays when the video signal format is switched. Press <strong>OK</strong> if you confirm to execute.</td>
</tr>
<tr>
<td>Do you want to initialize the main shooting settings to the default settings?</td>
<td>This asks for confirmation before resetting the camera settings</td>
<td>When you try to reset the camera settings</td>
<td>Displays when you format the camera setting. Press <strong>OK</strong> if you confirm to execute.</td>
</tr>
<tr>
<td>Do you want to initialize all the settings to the default settings? After initializing is completed, the camera will reboot. Please connect again after the camera reboots.</td>
<td>System formatting Execution confirmation</td>
<td>When you try to initialize the system</td>
<td>Displays when you format all the settings of the camera. Press <strong>OK</strong> if you confirm to execute.</td>
</tr>
<tr>
<td>Do you want to initialize the memory card in the camera?</td>
<td>Media format Execution confirmation</td>
<td>When you try to format the media</td>
<td>Formats the memory card inserted to the camera. Press <strong>OK</strong> if you confirm to execute.</td>
</tr>
<tr>
<td>Message</td>
<td>Contents</td>
<td>Display condition</td>
<td>Remedies</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
<td>---------------------------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Do you want to initialize PP(number) settings to the default settings? * PP(number) contains the value of picture profile selected (PP1 to PP9).</td>
<td>This asks for confirmation before resetting the picture profile</td>
<td>When you try to reset the picture profile</td>
<td>Reverts the selected value of Picture Profile settings to the factory settings. Press <strong>OK</strong> if you confirm to execute.</td>
</tr>
<tr>
<td>Do you want to turn off the camera?</td>
<td>Power off confirmation</td>
<td>Power Off</td>
<td>Turns the camera's power off. Press <strong>OK</strong> if you confirm to execute.</td>
</tr>
<tr>
<td>Do you want to update the camera software? Please select the update file.</td>
<td>File selection (main body)</td>
<td>Software update of camera or lens</td>
<td>Select the camera update file.</td>
</tr>
<tr>
<td>Do you want to update the lens software? Please select the update file.</td>
<td>File selection (lens)</td>
<td></td>
<td>Select the lens update file.</td>
</tr>
<tr>
<td>Do you want to start updating? While updating, do not disconnect or turn off the camera.</td>
<td>Update execution confirmation</td>
<td></td>
<td>If you confirm to start update, press <strong>Next</strong>.</td>
</tr>
<tr>
<td>Transferring the update data... While transferring, do not disconnect or turn off the camera.</td>
<td>Transferring update files</td>
<td></td>
<td>Transferring update files to the camera. Do not disconnect USB cable; do not turn off the camera during the transfer.</td>
</tr>
<tr>
<td>Updating... This process takes several minutes. While updating, do not disconnect or turn off the camera.</td>
<td>Executing update</td>
<td></td>
<td>Executing update. Do not disconnect the USB cable or turn off the camera during update.</td>
</tr>
<tr>
<td>Update has been completed.</td>
<td>Update completed</td>
<td></td>
<td>Update completed. Pressing the <strong>Finish</strong> button restarts the application then connect it again.</td>
</tr>
<tr>
<td>Update has been failed.</td>
<td>Update failed</td>
<td></td>
<td>Failed to update. Turn off the camera and turn it on again then check the version.</td>
</tr>
</tbody>
</table>
# Getting help

Refer to the table below when you encounter trouble during use of the PC application. For other situations, refer to the operating instructions of your PC.

## Installing the software

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Cause</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>I cannot install.</td>
<td>Your OS is not supported.</td>
<td>Check the computer environment (refer to the required system configurations on this document).</td>
</tr>
<tr>
<td></td>
<td>All Windows programs are not finished.</td>
<td>If you install while other programs are launched, a malfunction may occur. Make sure to shut down all Windows programs.</td>
</tr>
<tr>
<td></td>
<td>Hard disk is full.</td>
<td>Increase the hard disk capacity.</td>
</tr>
</tbody>
</table>

## Connecting the camera to PC

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Cause</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>The camera unit is not recognized.</td>
<td>USB cable is not connected.</td>
<td>Check if the USB cable is firmly connected. Disconnect and connect the USB cable. If the symptom remains, remove the USB cable, restart PC, then re-connect the cable.</td>
</tr>
<tr>
<td>Power is off.</td>
<td>Check if the camera's power is on.</td>
<td></td>
</tr>
<tr>
<td>USB hub is used.</td>
<td>This behavior is not supported. Connect the USB cable directly to the USB terminal on the PC.</td>
<td></td>
</tr>
<tr>
<td>Something is wrong with the USB port.</td>
<td>If there is another USB port, connect the cable to the port.</td>
<td></td>
</tr>
<tr>
<td>The camera unit is recognized, but is not launching properly.</td>
<td>USB hub is used.</td>
<td>This behavior is not supported. Connect the USB cable directly to the USB terminal on the PC.</td>
</tr>
<tr>
<td>Camera settings cannot be changed.</td>
<td>Lens settings have priority.</td>
<td>Change the lens settings.</td>
</tr>
<tr>
<td>Date and time stamps on the pictures and videos are not correct.</td>
<td>Date and Time information of you PC was changed after the application had been connected to the camera.</td>
<td>When you modify the date and time information on your PC, restart the application.</td>
</tr>
<tr>
<td>The application does not work properly.</td>
<td>Another program may be trying to operate the camera.</td>
<td>If another program tries to operate the camera while the application is controlling it, the application may be disconnected or stop working properly. Close another program which is trying to control the camera when you use the application to operate it.</td>
</tr>
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