ELPDC20
Document Camera
User's Guide
**Top/Side/Rear**

<table>
<thead>
<tr>
<th>Name</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Camera head</td>
<td>&quot;Camera Head&quot; <a href="#">p.11</a></td>
</tr>
<tr>
<td>Remote receiver</td>
<td>Receives signals from the remote control.</td>
</tr>
<tr>
<td>Control panel</td>
<td>&quot;Control Panel&quot; <a href="#">p.11</a></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Security slot</td>
<td>The security slot is compatible with the Microsaver security system manufactured by Kensington. <a href="#">p.17</a></td>
</tr>
<tr>
<td>Interface</td>
<td>&quot;Interface&quot; <a href="#">p.12</a></td>
</tr>
<tr>
<td>Security bar</td>
<td>Lets you attach a commercially available security cable to lock the document camera in place. <a href="#">p.17</a></td>
</tr>
<tr>
<td>SD card slot</td>
<td>Lets you save and display images on an SD card. <a href="#">p.37</a></td>
</tr>
</tbody>
</table>

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**Document Camera Parts**
### Document Camera Parts

#### Camera Head

<table>
<thead>
<tr>
<th>Name</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Microphone Captures sound when you record a video.</td>
</tr>
<tr>
<td>2</td>
<td>Lamp switch Changes the LED lamp status in three steps: bright, dim, and off.</td>
</tr>
<tr>
<td>3</td>
<td>LED lamp Turn on this lamp when there is not enough light on your document.</td>
</tr>
<tr>
<td>4</td>
<td>Camera lens Captures the image.</td>
</tr>
</tbody>
</table>

#### Control Panel

<table>
<thead>
<tr>
<th>Name</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 [ ] button</td>
<td>Turns the document camera power on or off.</td>
</tr>
<tr>
<td>2 [Source] button</td>
<td>Projects images from the document camera.</td>
</tr>
<tr>
<td>3 [Menu] button</td>
<td>Opens and closes the menu.</td>
</tr>
</tbody>
</table>

**Attention**

Do not rub the lens with harsh materials or subject it to shock, as it can be easily damaged. Use a soft cloth to gently wipe the lens.
### Document Camera Parts

**Name** | **Function**
---|---
1. [▲][▼][◄][►][▶] button | When the menu screen is displayed, pressing these buttons selects menu items and setting values.
2. [++] button | Adjusts the image Brightness.
3. [Enter] button | When the menu is displayed, pressing this button confirms the current item.
4. [Esc] button | Stops the current function. When the menu is displayed, pressing this button moves to the previous menu level.
5. [Zoom] button | Enlarges or reduces the image without changing the projection size. [p.26]
6. [Focus] button | Press the [Focus] button to automatically focus the image. The unit cannot focus on objects that are approximately 10 cm (4 inches) or less from the surface of the camera lens.
7. [Microphone] button | If you press and release the button, the image is frozen. If you press and hold the button, the still image is saved. [p.38]
8. [Video] button | Starts and stops video recording.

### Interface

**Name** | **Function**
---|---
1. Composite port | Outputs composite video signals to a projector or external monitor.
2. Power (AC adapter) port | Connects the supplied power cord and adapter.
3. Computer In port | Inputs image signals from a computer.
4. Display Out port | Outputs image signals to a projector.
5. HDMI port | Outputs image signals to a video device or computer that is compatible with HDMI signal.
6. USB-A (TypeA) port | Lets you annotate live images by connecting a commercially available USB mouse. [p.32] Lets you save and display images on a USB drive.
7. USB-B (TypeB) port | Connects the document camera to a computer via the supplied USB cable when using the included software.
8. Mic In port | Connects a commercially available microphone when recording audio and video.
### Remote Control

![Remote Control Diagram]

#### Remote Control Buttons

<table>
<thead>
<tr>
<th>Number</th>
<th>Button</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>[Power] button</td>
<td>When used with an Epson projector, turns the projector on or off.* You cannot operate the document camera with this button.</td>
</tr>
<tr>
<td>2</td>
<td>[A/V Mute] button</td>
<td>Turns the video and audio of an Epson projector on or off.*</td>
</tr>
<tr>
<td>3</td>
<td>[Source Search] button</td>
<td>Changes the input source connected to an Epson projector.*</td>
</tr>
<tr>
<td>4</td>
<td>[Power] button</td>
<td>Turns the document camera on or off. You cannot operate a projector with this button.</td>
</tr>
<tr>
<td>5</td>
<td>[Auto Focus] button</td>
<td>Press the [Auto Focus] button to automatically focus the image. The unit cannot focus on objects that are approximately 10 cm (4 inches) or less from the surface of the camera lens.</td>
</tr>
<tr>
<td>6</td>
<td>[Freeze] button</td>
<td>Freezes the current image; press the button again to continue.</td>
</tr>
<tr>
<td>7</td>
<td>[Menu] button</td>
<td>Displays and closes the menu.</td>
</tr>
<tr>
<td>8</td>
<td>[ ] [ ] [ ] [ ] buttons</td>
<td>When the menu or Help screen is displayed, pressing these buttons selects menu items and setting values.</td>
</tr>
<tr>
<td>9</td>
<td>[Enter] button</td>
<td>When the menu is displayed, pressing this button confirms the current item.</td>
</tr>
</tbody>
</table>

* This is not supported by some projectors. For more details, contact your local dealer or the nearest service center provided in this guide.

"Where to Get Help" p.67

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#### Projector operations

<table>
<thead>
<tr>
<th>Name</th>
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</tr>
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<tbody>
<tr>
<td>1 [Power] button</td>
<td>When used with an Epson projector, turns the projector on or off.* You cannot operate the document camera with this button.</td>
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#### Document camera operation

<table>
<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td>1 [Power] button</td>
<td>Turns the document camera on or off. You cannot operate a projector with this button.</td>
</tr>
<tr>
<td>2 [Auto Focus] button</td>
<td>Press the [Auto Focus] button to automatically focus the image. The unit cannot focus on objects that are approximately 10 cm (4 inches) or less from the surface of the camera lens.</td>
</tr>
<tr>
<td>3 [Freeze] button</td>
<td>Freezes the current image; press the button again to continue.</td>
</tr>
<tr>
<td>4 [Menu] button</td>
<td>Displays and closes the menu.</td>
</tr>
<tr>
<td>5 [ ] [ ] [ ] [ ] buttons</td>
<td>When the menu or Help screen is displayed, pressing these buttons selects menu items and setting values.</td>
</tr>
<tr>
<td>6 [Enter] button</td>
<td>When the menu is displayed, pressing this button confirms the current item.</td>
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</table>
## Remote Control Buttons

<table>
<thead>
<tr>
<th>Name</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>[Esc] button</td>
<td>Stops the current function. When the menu is displayed, pressing this button moves to the previous menu level.</td>
</tr>
<tr>
<td>[Snapshot] button</td>
<td>Captures still images.</td>
</tr>
<tr>
<td>[Record] button</td>
<td>Starts and stops video recording.</td>
</tr>
<tr>
<td>[Zoom] button</td>
<td>Enlarges or reduces the image without changing the projection size. <a href="#">p.26</a></td>
</tr>
<tr>
<td>[Brightness] button</td>
<td>Adjusts the image brightness.</td>
</tr>
<tr>
<td>[Source] button</td>
<td>Projects images from a computer. Projects images from the document camera.</td>
</tr>
<tr>
<td>Remote control light emitting area</td>
<td>Outputs remote control signals.</td>
</tr>
</tbody>
</table>
When you're not using the document camera, simply fold its arm down as shown.

⚠️ **Caution**

Do not try to press the arm flat or fold it backwards, or it may get damaged.
Positioning the Document Camera

1. Raise the camera arm while holding the body with your other hand.

2. Rotate the camera arm as shown below.

3. Position the camera head above the display area.

Displaying a Document or Other Materials
Attention
Do not try to press the arm flat or fold it backwards, or it may get damaged.
The camera arm can only rotate within the range shown below.

Projecting

1. Place your document on the table under the camera head. Align the center of your document with the △ mark on the side of the document camera.

   - You can quickly align letter- or A4-size paper with the guides on the side of the document camera.
   - The maximum paper size that can be projected is A3 landscape.

2. Slide the lamp switch to illuminate the document.

   If necessary, you can adjust the brightness of the image using the [ ] or [ ] on the document camera or remote control.
Displaying a Document or Other Materials

2 [Focus] button

3 Press the [Focus] button on the document camera or the [Auto Focus] button on the remote control. Your document is automatically focused.

To sharpen hard-to-focus objects, press the [Menu] button and select Image > Focus. Use the [◄] and [►] arrow buttons to adjust the focus.

4 To zoom in on part of the image, press the [Zoom] - [⑧] button on the document camera or remote control. Press the [Zoom] - [⑧] button to zoom out.

- To enable the digital zoom, press the [Menu] button and set Image > Digital Zoom to On.
- You can zoom up to 14x optically and 10x digitally. When the optical zoom rate reaches the maximum value, it switches to the digital zoom.

When using the optical zoom:

When using the digital zoom:

- When using the digital zoom, you can scroll the enlarged image by pressing the [▲], [▼], [◄], and [►] arrow buttons.
- Image quality may deteriorate with the digital zoom.

Freezing an Image

Press and release the [●] button to freeze the image. (If you press and hold the button, it saves the image. 📊 p.38)

After freezing the image, you can remove your document while leaving its image displayed on the screen. Place your next document under the camera lens and press the button again; your presentation continues without interruption.
Displaying Small Objects Up Close

To display a small object, lower the camera arm. You can place the lens within approximately 10 cm (4 inches) of the object.

To further enlarge an object, press the [Zoom] - [+] button on the document camera or remote control. Press the [Zoom] - [-] button to zoom out.
You can use the document camera to display a lecture or presentation at the front of a room, or to capture images of a whiteboard or chalkboard.

Press the [Menu] button and select **Image > Image Rotation** to **180 degrees** to display the image upside-down.

1. Raise and rotate the camera head to face the front of the room.

2. Press the [Focus] button on the document camera or the [Auto Focus] button on the remote control. The image is automatically focused.

You can make an audio/video recording of the live presentation in the document camera’s 1GB internal memory, on an inserted SD card, or with a connected USB drive or computer.

* p.39, p.59
To display objects as seen through a microscope, use the included microscope adapter.

- Adjust the focus and zoom of a microscope before attaching to the document camera.
- Images may not be displayed correctly depending on the optical properties of your microscope.

1. Press the [Menu] button and select Image > Microscope > On. This optimizes the brightness, contrast, and other image settings for use with a microscope.

   After setting Microscope to On in step 1, if you then adjust the brightness and zoom manually, the Microscope setting changes to Off.

2. Attach the microscope adapter to an eye piece of a microscope.

3. Tighten three screws on the microscope adapter to be fixed, so that the eye piece of the microscope comes to the center of the microscope adapter.

4. Adjust the height of the camera arm and the angle of the camera head, then attach the camera head with the microscope adapter.
Adding Annotations

When a USB mouse is connected to the document camera, the annotation tools are displayed on the live camera image and you can add handwritten or graphic annotations with the USB mouse.

- When the computer is connected with the USB-B port, you cannot use the annotation tools described in this chapter. Use the annotation tools in the included software. p.56
- USB mouse devices that require installation of a driver cannot be used. Also, some USB mouse models may not be compatible.

1. Connect a USB mouse to the document camera.

2. The annotation tool bar is displayed on left side of the screen.

3. Select a tool. Click the icon with the left mouse button on the annotation tool bar.
   For example, when you draw a square:
Use the left mouse button to draw lines or graphics or erase with an eraser.

4 Disconnect the USB mouse to end the annotation.

- You cannot use the on-screen menu while annotating.
- Images with your annotations cannot be saved.
If you've connected a computer (p.21), you can show PowerPoint slides or images from any other application on your computer. You can easily switch back-and-forth between your computer application and the live camera image.

- If you've connected your computer with a USB cable (p.21), you can use the document camera software to display captured images and videos, or use another application of your choice. To display the live camera image, make sure you've selected Capture mode in the document camera software. p.55

  When you connect with USB cable, you cannot switch to computer image if you press the [ ] button.

- If you've connected your computer with a VGA cable (p.22), use the document camera's [Source] buttons to switch between your computer and the live camera image:
  To display your computer image (such as a PowerPoint presentation), press the [Source] - [ ] button on the document camera or remote control.
  To switch back to the live camera image, press the [Source] - [ ] button.
Displaying a Split Screen

If you have images saved in the document camera's internal memory or on an SD card or USB drive (p.37), you can display two images at the same time.

When connecting to a computer with a USB cable, you cannot use this function.

Press the [Menu] button and select Memory > Split Screen.

You see this setup screen, with the left image highlighted:

1. Use the [▲] and [▼] arrow buttons to select the source for the highlighted image. You can select from these sources:
   - Live Display to display the camera image
   - Internal Memory to display an image stored in internal memory
   - SD Card to display an image stored on an SD card, if one is inserted
   - USB Flash Drive to display an image stored on a USB drive, if one is connected

   • Images on the SD card or USB drive must be stored in the proper format to be readable. p.65
   • When USB Flash Drive is not displayed, even if one is connected, set USB Mode to Application.

2. Press the [Enter] button to confirm the selection.
Displaying a Split Screen

4. If you select **Internal Memory, SD Card, or USB Flash Drive** as the source, you see a screen that lets you select which image to use:

Use the [▲] [▼] [◄] [►] arrow buttons to highlight the image you want to display, and press [Enter] to select it. Select **Return** to finish setting up the split screen.

5. Repeat steps 2 through 4 to select the source for the right side.

You cannot display the live camera image or video on both sides of the screen.

6. Once you’re done setting up both sides of the screen, press [►] then press [Enter]. The selected images appear side-by-side on the screen.

When connecting to a projector with an HDMI cable, the movie’s audio is also played.

7. To exit split screen mode, press [Menu] or [Esc].
Captured still images are stored in the internal memory, an SD card, or a USB drive. If there is more than one save destination, the priority is as follows: USB drive > SD card > the internal memory. If the save destination only has a small capacity remaining, the image is saved in the next destination.

Images are saved in JPEG format.

1. Insert an SD card face-up or connect a USB drive, if needed.

When you store images on a USB drive, make sure you set Function > USB Mode to Application.

2. Display the live camera image you want to save. Adjust any settings, as needed.

3. Press the [REC] button to capture the image. Press and release when you use the remote control, press and hold when you use the control panel.

You see the [REC] displayed in the upper right of the screen, and the image is saved.

Using the control panel, if you press and release the button without holding it, the image is frozen on the screen instead of being saved in memory.

4. Repeat steps 2 and 3 for any additional images you want to save.

If all of the save destinations only have a small capacity remaining, "The memory is full." is displayed and the image is not saved.
The document camera’s live image is recorded in the internal memory, an SD card, or a USB drive. If there is more than one save destination, the priority is as follows: USB drive > SD card > the internal memory. If the save destination only has a small capacity remaining, the image is saved in the next destination.

- Movies are saved in AVI format.
- Media formatted to FAT32 can be recorded to up to 4 GB for each file. Media formatted to FAT16 can be recorded to up to 2 GB for each file.

1. Insert an SD card face-up or connect a USB drive, if needed.

2. Display the live camera image you want to save. Adjust any settings, as needed.

3. Press the [ ] button to start recording.

4. To stop recording, press the [ ] button again.

- If all of the save destinations only have a small capacity remaining, “The memory is full.” is displayed and the image is not saved.
- If the memory becomes full during recording, the image recorded up to that point is saved and recording stops.
- Do not disconnect the SD card or USB drive while recording.

Connect the external microphone to the document camera’s stereo mini-jack. The audio from the microphone is also recorded along with a movie.

Connecting an External Microphone

If you connect an external microphone to the document camera, the audio from the microphone is also recorded along with a movie.
Press the [Menu] button and select **Function > Ext. Mic. Volume** to adjust the recording volume of the external microphone.

- When an external microphone is connected, the internal microphone is disabled.
- Plug-in power is not supported.
- Live audio from a microphone cannot be output.
The stored images in the internal memory can be exported to an SD card or USB drive. Also, the stored images on an SD card or USB drive can be imported to the internal memory. The steps below explain how to export images in the internal memory.

1. Insert an SD card face-up or connect a USB drive, if needed.

2. Press the [Menu] button and select Memory > Internal Memory.

3. Use the [▲] [▼] [◄] [►] arrow buttons to highlight each image you want to export, and press [Enter] to select it. (Press [Enter] again to deselect it.) A checkmark is added to each selected image.

4. Select Export(SD) or Export(USB) and press [Enter].

5. Do one of the following:
   - Disconnect the SD card or USB drive
   - If you want to leave the SD card or USB drive in the document camera, press [Menu] or [Esc] to close the screen.
- If you want to remove the SD card, press in on the card and then pull it straight out of the slot. The SD Card screen automatically closes.
- When USB Flash Drive is not displayed even if one is connected, set USB Mode to Application.
You can use your computer with a USB cable to access files stored in the camera's internal memory. Before using the document camera like this, you have to change the function of its USB port as described below.

1. Connect the document camera to your projector with a VGA cable, composite video cable, or HDMI cable. p.19

2. Turn on the document camera and projector.

3. Press the [Menu] button and select Function > USB Mode.
   Change the setting to Mass Storage.

4. Disconnect the projector from the document camera.

5. Now connect the document camera to your computer with a USB cable.

   ![USB cable](image)

   USB cable

   The document camera’s internal memory appears as an external drive on your computer.

6. Use your computer to view the files, or to copy, move, or delete them.

   If you copy images from your computer to the document camera, they must be in the proper format to be readable. p.65

7. When you're done, disconnect the computer.

   **Caution**

   Before disconnecting the USB cable, make sure your files have finished copying. Otherwise, they may be damaged.

8. Reconnect the projector.

   Change the setting back to Application.

   If you don't change the setting back, you won't be able to see a live camera image when you use the document camera software. If you don't plan to use the software, you don't need to change the setting back.

   • The document camera does not have a built-in clock. Therefore, when you view files from your computer, they won't show the actual time they were created.
   
   • Connect the document camera to a USB 2.0 port of a computer. If you connect it to a USB 3.0 port, it may not function normally.
Once you have stored images in the document camera’s internal memory or on an SD card or USB drive, you can display a slideshow.

**In addition to images captured with the document camera, you can display images stored in the inserted SD card or connected USB drive. You can also display images copied to the document camera from your computer (p.43), but they must be in the proper format.**

1. Press the [Menu] button and select **Memory**.
2. Select **Internal Memory** (to view images in internal memory), **SD Card** (to view images on your SD card, if inserted), or **USB Flash Drive** (to view images on your USB drive, if connected).
   
   You see a screen like this:

3. To rotate an image, use the [▲] [▼] [◄] [►] arrow buttons to highlight it and press [Enter] to select it. (Press [Enter] again to deselect it.) A checkmark is added to the image. In the same way, select any additional images you want to rotate. Select **Rotate**. All checkmarked images are rotated 90 degrees clockwise.

   **Image quality may decrease slightly after rotating an image. Also, if your photo is time-stamped, the date will be changed to a default value.**

4. Use the [▲] [▼] [◄] [►] arrow buttons to highlight each image to be displayed in the slideshow, and press [Enter] to select it. (Press [Enter] again to deselect it.) A checkmark is added to the selected images.

   **To add checkmarks to all images, choose **Select All**. To remove all checkmarks, choose **Select All** again.**

5. Select **Play/Slideshow** to display the first image in the slideshow.
   To start or stop the movie, press [Enter].

   **When connecting to a projector with an HDMI cable, the movie’s audio is also played.**

6. Press [►] to advance to the next image.
   Press [◄] to return to the previous image.

7. End the slideshow by pressing [►] while the last image is displayed. Or press [Menu] or [Esc] to end the slideshow at any time.
Using the On-screen Menu

Press the [Menu] button on the document camera or remote control to view the on-screen menu. For details of each item in the screen menu, see p.48.

You see this screen:

```
use the [ ] [ ] [ ] [ ] arrow buttons to navigate the menu and adjust the settings. press [enter] to select a setting. when you're done adjusting the settings, press the [menu] or [esc] button to close the menu and save your settings.
```
Basic image adjustments such as focus, zoom, and brightness are discussed in "Displaying a Document or Other Materials" p.25. You can make these further adjustments by pressing the [Menu] button to open the Image menu.

When projecting a live image, you can adjust the Image menu settings.

### Image Menu

- **White Balance**
  Adjusts the image color based on the lighting in the room where you're presenting. Select from Auto (to adjust the image automatically), Cloudy, Daylight, Fluorescent (to lessen blue tones), or Incandescent (to lessen yellow tones).

- **Focus**
  Lets you manually adjust the focus if auto-focus doesn't produce a sharp enough image.

- **Focus Lock**
  When On is selected, auto-focus is disabled while zooming.

- **Image Mode**
  You can select from the following settings to adjust for the image type you are displaying from the camera:
  - Normal: default setting
  - Text: for projecting black-and-white text
  - Display: for directly projecting the display of a tablet device etc.

- **Digital Zoom**
  When On is selected, the digital zoom is enabled after the optical zoom.

- **Color/B&W/Negative**
  Displays the image in color or black-and-white. To show a photographic negative in true color, select Negative.

- **Image Rotation**
  Lets you rotate an upside-down image.

- **Microscope**
  Optimizes the brightness, contrast, and other settings for use with a microscope. p.30

- **Noise Reduction**
  When On is selected, noise in the live image is removed. If the delay in projected images bothers you, select Off.

- **Advanced**
  For conducting advanced settings of the live image. Use the [◄] and [►] arrow buttons to adjust the parameters.
  - **Exposure**
    If the projected image is too dark or too bright to reproduce the original colors, you can adjust the light volume. Set Exposure to a positive value if the overall image is dark and to a negative value if it is bright.
  - **Contrast**
    Adjusts the difference between bright and dark areas of images. Set it to a positive value to project vivid images and to a negative value to project monotone images.
  - **Color Adjustment**
    Adjusts the reddish and bluish colors of the whole image.
  - **Edge Enhancement**
    Emphasizes the contours of the image. Set it to a positive value for sharp images and to a negative value for soft images.
  - **Gamma**
    Adjusts the coloring that occurs while displaying the image. When a smaller value is selected, the dark areas of images become brighter, but the lighter areas may become over-saturated. When a larger value is selected, you can reduce the overall brightness of the image to make the image sharper.

- **Reset**
  Lets you return the image settings to their standard (default) values.
## Image Menu

<table>
<thead>
<tr>
<th>Setup Item</th>
<th>Explanation/Select</th>
</tr>
</thead>
</table>
| **White Balance** | Adjusts the image color based on the lighting in the room where you’re presenting.  
  **Auto**: Automatically adjusts the image color according to the display environment.  
  **Cloudy**: Suitable for use in cloudy weather.  
  **Daylight**: Suitable for use in fair weather.  
  **Fluorescent**: Suitable for use in a room with fluorescent lighting.  
  **Incandescent**: Suitable for use in a room with incandescent lamps. |
| **Focus**       | Lets you manually adjust the focus if auto-focus doesn’t produce a sharp enough image.  
  **Near**: Adjusts the focus in.  
  **Far**: Adjusts the focus out. |
| **Focus Lock**  | Sets the auto-focus lock while zooming.  
  **On**: Disables auto-focus while using the optical zoom.  
  **Off**: Enables auto-focus while using the optical zoom. |
| **Image Mode**  | Selects the setting to adjust for the image type you are displaying from the camera.  
  **Normal**: Default setting.  
  **Text**: Suitable for projecting black-and-white text.  
  **Display**: Suitable for directly projecting the display of a tablet PC etc. |
| **Digital Zoom**| Adjusts digital zoom settings.  
  **On**: Enables digital zoom operation after the optical zoom.  
  **Off**: Disables digital zoom operation after the optical zoom. |
| **Color/B&W/Negative** | Displays the image in color or black-and-white.  
  **Color**: Displays the image in color.  
  **Black&White**: Displays the image in black-and-white.  
  **Negative**: Displays a photographic negative in true color. |
| **Image Rotation** | Lets you rotate an upside-down image.  
  **Normal**: Displays the image as it actually is.  
  **180 degrees**: Displays the image upside-down. |
| **Microscope**  | Optimizes the image settings if using with a microscope.  
  **On**: Sets the optimal image settings for use with a microscope.  
  **Off**: Returns to the normal settings. |
### Setting Item Explanation/Select

<table>
<thead>
<tr>
<th>Setup Item</th>
<th>Explanation/Select</th>
</tr>
</thead>
</table>
| **Noise Reduction** | Settings related to Noise Reduction.     
| **On**: Activates Noise Reduction. Use this setting if noise occurs.      
| **Off**: Deactivates Noise Reduction.                                      |
| **Advanced**     | Makes advanced settings of live image.  
| **Exposure**: Adjusts the light volume of projected images.            
| **Contrast**: Adjusts the difference between bright and dark areas of images.  
| **Color Adjustment**: Adjusts the reddish and bluish colors of the whole image.  
| **Edge Enhancement**: Adjusts the emphasis on the contours of the image.  
| **Gamma**: Adjusts the coloring that occurs while displaying the image.   |
| **Reset**        | Resets the Image menu settings to the default value.                        |

### Function Menu

<table>
<thead>
<tr>
<th>Setup Item</th>
<th>Explanation/Select</th>
</tr>
</thead>
</table>
| **USB Mode**     | Changes how the document camera functions when connected with a USB cable.     
| **Application**: Enables use of a USB drive and the included software. This is the default setting when turned on.  
| **Mass Storage**: Lets you use a computer to view images stored in the internal memory.                     |
| **Ext. Mic. Volume** | Adjusts the recording volume from an external microphone.                     |
| **HDMI Output**  | Sets the output resolution when connecting with an HDMI cable.                  
| **Auto**: Automatically set according to the resolution of the output device.                                
| **SDTV (480p)**  |                                                                                   |
| **HDTV (720p)**  |                                                                                   |
| **HDTV (1080p)** |                                                                                   |
| **Output Resolution** | Sets the output resolution when connecting with a VGA cable.                 
| **Auto**: Automatically set according to the resolution of the output device.                                
| **XGA 1024x768** |                                                                                   |
| **WXGA 1280x800** |                                                                                   |
| **WXGA 1360x768** |                                                                                   |
| **SXGA 1280x1024** |                                                                                   |
| **Full HD 1920x1080** |                                                                  |
### Adjusting Other Settings (On-screen Menu List)

<table>
<thead>
<tr>
<th>Setup Item</th>
<th>Explanation/Select</th>
</tr>
</thead>
<tbody>
<tr>
<td>Video Format</td>
<td>Selects the video output signal.</td>
</tr>
<tr>
<td></td>
<td>NTSC</td>
</tr>
<tr>
<td></td>
<td>PAL</td>
</tr>
<tr>
<td>Flickerless</td>
<td>Eliminates flicker when giving presentations in regions with different electrical systems.</td>
</tr>
<tr>
<td></td>
<td>50Hz</td>
</tr>
<tr>
<td></td>
<td>60Hz</td>
</tr>
<tr>
<td>Language</td>
<td>Changes the on-screen menu language.</td>
</tr>
<tr>
<td>Sleep Mode</td>
<td>Operation settings when the document camera is inactive.</td>
</tr>
<tr>
<td></td>
<td><strong>On</strong>: The power automatically turns off if the document camera is inactive for a certain amount of time.</td>
</tr>
<tr>
<td></td>
<td><strong>Off</strong>: The power remains on even if the document camera is not being used.</td>
</tr>
<tr>
<td>Sleep Mode Timer</td>
<td>Sets the time from when the document camera is last operated until when the power automatically turns off.</td>
</tr>
<tr>
<td></td>
<td>1 to 6 hour(s)</td>
</tr>
</tbody>
</table>
## Memory Menu

<table>
<thead>
<tr>
<th>Setup Item</th>
<th>Explanation/Select</th>
</tr>
</thead>
</table>
| **Split Screen** | Simultaneously displays two images from the internal memory, an SD card, a USB drive, or the live image.  
**Left Source**: Selects the image to be projected on the left side.  
**Right Source**: Selects the image to be projected on the right side. |
| **Internal Memory** | Operations related to the internal memory.  
**Export(SD)**: Exports the selected images to an SD card.  
**Export(USB)**: Exports the selected images to a USB drive.  
**Play/Slideshow**: Displays the selected images in a slideshow.  
**Select All**: Selects all images in the internal memory.  
**Delete**: Deletes selected images.  
**Rotate**: Rotates selected images 90 degrees clockwise and saves them. |
| **SD Card**      | Operations related to an SD card.  
**Import**: Imports selected images to the document camera’s internal memory.  
**Play/Slideshow**: Displays the selected images in a slideshow.  
**Select All**: Selects all images on an SD card.  
**Delete**: Deletes selected images.  
**Rotate**: Rotates selected images 90 degrees clockwise and saves them. |
| **USB Flash Drive** | Operations related to a USB drive.  
**Import**: Imports selected images to the document camera’s internal memory.  
**Play/Slideshow**: Displays the selected images in a slideshow.  
**Select All**: Selects all images on a USB drive.  
**Delete**: Deletes selected images.  
**Rotate**: Rotates selected images 90 degrees clockwise and saves them. |
### Info Menu

<table>
<thead>
<tr>
<th>Setup Item</th>
<th>Explanation</th>
</tr>
</thead>
</table>
| Memory Capacity| **Free Space**: Displays the remaining capacity of the document camera’s internal memory.  
                | **Total Size**: Displays the total capacity of the document camera’s internal memory. |
| Number of Files| Displays the number of files saved in the document camera’s internal memory. |
| Version        | Displays the firmware version of the document camera.                        |
1 Connect the document camera to a computer with a USB cable.  
   p.21

2 Start the software:
   • Windows: From Programs or All Programs, select ArcSoft Application Software for Epson Document Camera. If the software does not start, install the Windows Media Player.  
   • Mac OS X: Open the Applications folder, then double-click ArcSoft Application Software for Epson Document Camera. You see the screen shown below.

If you see a message that the document camera is not found, make sure it is connected and turned on. Then click the Connect button in the upper-right corner of the screen.

1 Main modes (capture, edit, and file management)
2 Capture album (previously captured images)
3 Capture buttons (still image, burst, time-lapse, and video)
4 Live Annotation button
5 Preview area (live camera image)
6 Connect button
Annotating Images

You can annotate live images from the document camera with text and graphics while giving a presentation. When you capture an image, your annotations will be included with the image; if you record your presentation as a video, the recording will show your annotations as they're being added.

You can also annotate still images after they've been captured using the Edit screen.  

1. If necessary, click the Capture button to enter Capture mode. Your live camera image appears in the preview area.

2. Click the Live Annotation button.

3. Select a drawing tool, such as Pen, Line, or Text.

4. Change the properties of the selected tool.

5. Use the selected tool to add text and graphics.

6. To clear an annotation, use the Eraser tool or click the Undo button to clear the last change you made. To clear all annotations, select the Eraser tool and then click the Clear all button that appears above the preview area.

To save an annotated image, click the Take Picture button at the bottom of the screen.  p.57
To record a video that shows annotations as they're being made, see p.59.
You can capture a still image or a quick series of images (called a burst).

1. If necessary, select the settings you want to use. Click the Settings button and select the Image tab.
   - Select the default image format, quality level, and other properties.
   - Choose the number of photos, up to 10, that will be captured with each burst (5 is the default).

2. To capture a still image, click the Take Picture button.

3. To capture a quick series of images, click the Burst button.

Your captured image(s) appear in the Capture album on the left side of the screen. To display a captured image through your projector, double-click the image or right-click it and select Preview.
You can record a time-lapse movie to show gradual changes that occur over several hours.

1. Click the Settings button and select the Time Lapse tab.
   - Set the time interval between each frame (5 seconds minimum).
   - Set the total capture duration (up to 72 hours).
   Click OK to close the Settings screen.

2. Click the Start Time Lapse button to begin capturing images.

When the process is done, the time-lapse movie or image appears as an icon in the Capture album on the left side of the screen. To display the movie through your projector, double-click the icon or right-click it and select Preview.
You can make an audio/video recording of your presentation. Set the resolution under Full HD (1920×1080).

1. If necessary, select the settings you want to use. Click the Settings button and select the Video tab.
   - Select the default video format, quality level, and other properties.
   - Set the maximum duration of each video (up to 8 hours) and see how much hard disk space it will use.

2. To capture sound, click the Settings button, select the Audio tab, and select ELPDC20 from Audio Device.

3. Click the Record Video button to start recording. Click Record Video again to stop.
   You can also use the [usahaan] button on the control panel to start and stop recording.

Your movie appears as an icon in the Capture album on the left side of the screen. To display the movie through your projector, double-click the icon or right-click it and select Preview.
When you connect with the computer, you cannot use two document cameras at the same time.

### Compatible File Format

<table>
<thead>
<tr>
<th>Type</th>
<th>Extension</th>
</tr>
</thead>
<tbody>
<tr>
<td>Still images</td>
<td>.jpg/.bmp</td>
</tr>
<tr>
<td>Videos</td>
<td>Windows: .wmv/.avi/.mpg</td>
</tr>
<tr>
<td></td>
<td>Mac OS X: .mov</td>
</tr>
</tbody>
</table>
You can use the Edit screen to improve the quality (such as brightness and contrast) of captured pictures and videos. With still images, you can zoom in on part of the image, rotate the image, or flip it to create a mirror image. You can also annotate still images. While viewing a video, you can pause it and capture a still image from the current frame.

1. Click the Edit button to enter Edit mode.

2. For detailed help when using the software, do one of the following:
   Windows: Press F1 or select Application Help from the Extras menu.
   Mac OS X: Select Help from the menu bar.
You can use the File Management screen to sort and locate captured images and videos. By rating them and applying “tags” or descriptive text, you can make it easier to find them later on.

1. Click the 📁 File Management button to enter File Management mode.

2. For detailed help when using the software, do one of the following:
   - Windows: Press F1 or select Application Help from the Extras menu.
   - Macintosh: Select Help from the menu bar.
You can easily upload your videos to popular video-sharing websites, such as YouTube and SchoolTube.

This feature is not available for Apple Macintosh systems.

1. Click the Edit button.

2. Select a video.

3. Select a website.

4. Follow the instructions on the screen to log in, provide a title for your video and other descriptive information, and upload the file.
**Operation Problems**

No image appears on the screen

- After you press the \[\text{Power} \] button, wait a few moments for the image to appear. It takes about 20 seconds for the document camera to output an image.
- Make sure your projector is connected.  p.19
  - If you're connecting it through a computer, see p.21.
- If you've connected a laptop, see "Problems Connecting a Laptop" p.65.
- The document camera may be set to display an image from your computer. Press the \[\text{Source} \rightarrow \text{Camera} \] button on the document camera or remote control to display the live camera image.
- Select the correct source on your projector. The source refers to the port on the projector to which you've connected the video cable. If you're using a VGA cable, the source may be called something like "Computer" or "PC".
- Make sure your projector is turned on and not in sleep mode. Make sure its picture has not been "muted" or turned off.
- If you made a USB connection, the document camera's USB Mode setting may be set to Mass Storage. You need to change this setting to Application. First disconnect the USB cable, then reconnect to the projector using a VGA cable, composite video cable, or HDMI cable. Press the [Menu] button and select Function > USB Mode, then change the setting to Application. Now you can use the USB cable to display the image.

**Image Quality Problems**

The image is fuzzy or out of focus

- The document camera needs hard edges or sharp lines in the image to be able to focus properly. If the image has only soft edges, try placing a different document under the camera lens while adjusting the focus. Or focus the image manually with the Focus adjustment in the Image menu.  p.47
- Make sure the lens is at least 10 cm (4 inches) away from the object you're viewing.
- If you're using a projector to display the image, check its focus.

The image brightness or color isn't correct

- To illuminate your document, slide the lamp switch on the side of the camera head.
- Press the \[\text{Lamp} \] or \[\text{Dim} \] button to increase or decrease image brightness.
- Set the White Balance setting to Auto to adjust the color automatically.  p.47
  - If the color is still not correct, choose the setting for the type of lighting you're presenting under (Cloudy, Daylight, Fluorescent, or Incandescent).
- If the document camera was used with a microscope, be sure to turn the Microscope setting off when you return to displaying ordinary documents.  p.47

Other image problems

- If the image is stretched or has black bars, you may need to change the Output Resolution in the Function menu.

If you think some settings may have been changed, you can use the Reset option to return all the image settings back to their standard values except the Output Resolution setting.  p.47
Problems Using an SD Card

Certain images don't appear

If you use your computer to copy images to the document camera's internal memory or an SD card, you need to make sure their format is correct:

- Images must be DCF-compliant JPEG files to be displayed, such as from a digital camera. Avoid editing your images, as this may change their format and prevent them from being displayed.
- Images must be named using the format ABCD1234.JPG, where ABCD is any combination of upper- or lowercase letters and 1234 is any combination of numbers. For example: Pict0001, Pict0002, etc.
- Images must be placed in a folder named DCIM\123ABCDE, where 123 is any combination of numbers and ABCDE is any combination of upper- or lowercase letters. If this folder structure doesn't exist, first create a folder named DCIM, then create a folder within it with the desired name (for example, 100EPSON).

Image files don't have the correct time stamp

The document camera does not have a built-in clock. Therefore, when you view captured image files from your computer, they won't show the actual time they were created.

Problems Using a USB Drive

Images stored on a USB drive are not displayed

The document camera's USB Mode setting may be set to Mass Storage. Press the [Menu] button and select Function > USB Mode, then change the setting to Application.

There are no images stored on the USB drive

The document camera's USB Mode setting may be set to Mass Storage. Press the [Menu] button and select Function > USB Mode, then change the setting to Application.

Image files don't have the correct time stamp

The document camera does not have a built-in clock. Therefore, when you view captured image files from your computer, they won't show the actual time they were created.

Problems Connecting a Laptop

If you've connected a laptop computer (p.21) but the image doesn't appear on the screen, check the following:

- **Windows:**
  Hold down the Fn key and press the function key (such as or CRT/LCD) that lets you display on an external monitor. On most systems, the or CRT/LCD key lets you toggle between the LCD screen and the projector, or display on both at the same time.
  Check your monitor settings to make sure both the LCD screen and the external monitor port are enabled. From the Control Panel, open the Display utility. Click the Settings tab, then click Advanced. The method for adjusting the settings varies by brand; you may need to click a Monitor tab, then make sure the external monitor port is set as your primary display and/or enabled. See your computer's documentation or online help for details.
- **Mac OS X:**
  From the Apple menu, select System Preferences, then click Display or Arrangement, and make sure Mirror Displays is checked.

Problems Using the Document Camera Software

The buttons on the document camera don't work with the software

When you installed the software, the Button Manager and TWAIN Driver for Epson Document camera (Windows only) weren't installed. Reinstall all