USB Microscope
"USB Shot"

Software Manual

English

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Chapter 1 Introduction

1-1   About This Manual

Thank you for purchasing our Scalar USB Microscope.

This manual explains the USB Shot application, which runs on a Windows-based PC when the USB Microscope is connected.

For those wishing to start using your USB Microscope right away, read Section 1.3, "Software Installation" and install the necessary software. After installing the software, read Chapter 2,"Basic Operations," which describes (in a sequential flow of actions) the procedures for taking still images and movies using USB Shot.

Once you are familiar with the procedures for shoot still images and movies, read Chapter 3,"Image Settings," and Chapter 4, "Preferences" Chapter 3 explains how to adjust hue and image quality, as well as other settings related to taking pictures. Chapter 4 explains how to set the resolution, the file format of still images, and other settings.

1-2   Operating Environment

USB Shot and the USB Microscope operate in the following hardware and software environment.

Preinstalled Windows XP SP2 or later

Windows Vista

USB Port : Factory installed USB2.0 or USB1.1 Port

CPU : Pentium 4 or equivalent

(Note)

- When multiple USB devices are connected to one PC, product compatibility is not guaranteed, depending on the types of USB devices being used simultaneously.

- Product compatibility is not guaranteed when using this product through a hub.

- Product compatibility is not guaranteed for all PCs operating in the specified operating environment.

- The operating environment and specifications of this product are subject to change without prior notice.

- The product names used in this manual are the brand names or registered trademarks of their respective companies.

1-3   Software Installation

Insert the CD-ROM supplied with the USB Microscope into the CD-ROM drive, then double-click the [Installer] icon.

After a while, the Installer will start up. Then specify the directory where you want the application installed, name of the program folder, and other information according to instructions appearing on the window.

When installation is completed normally, Restart your computer.

Chapter 2 Basic Operations

2-1   Connecting the USB Microscope

Plug the cable of the USB Microscope into the USB port on the PC main unit. Be sure to make this before starting USB Shot. Plugging or unplugging the USB cable after starting USB Shot will prevent the application from functioning properly.

Also before starting USB Shot, set the resolution of the monitor to 800 pixels (horizontal) by 600 pixels (vertical) or greater and color depth to 24-bit or more True Color.

2-2   Starting USB Shot

Click the [Start] button located at the lower-left corner of the window and select [USB Shot] from [Program] to start up USB Shot. (See Figure 1.)
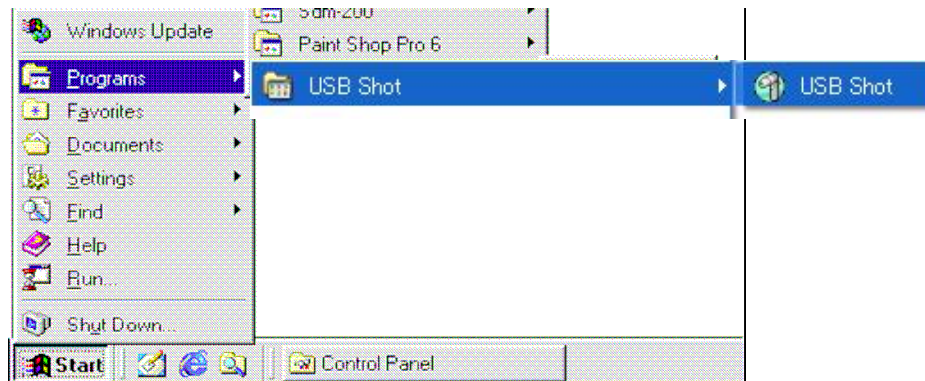
[Figure 1. Start menu]

If a warning dialog box (shown in Figure 2) appears on the window immediately after starting USB Shot, the USB Microscope may not be properly connected to the PC main unit, or the driver may not be installed properly. In this case, USB Shot will be immediately deactivated.

[Figure 2. Warning dialog]

2-3   USB Shot Window

When USB Shot is started, a window (shown in Figure 3) will be displayed.

[Figure 3. USB Shot window]

- Configuration button (3-A)	Shows the configuration dialog to set various settings such as image format.
- Image Setting button (3-B)	Shows the image settings dialog to configure various settings such as white balance.
- Resolution (3-C)	Sows resolution set in configuration.
- Thumbnail/Memo Switch button (3-D)	Switches the display area on the bottom screen between thumbnail and memo for saved images.
- Folder Selection button (3-E)	Displays the folder selection daialog to select a folder for image storage.
- Still Image Mode button (3-F)	Changes the mode to Snap Shot Mode.
- Movie Mode button (3-G)	Changes the mode to Movie shot Mode.
- Mode icon (3-H)	Shows current mode.
- Capture button (3-I)	Captures image.
- Filename (3-J)	Shows file name and time stamp.
- Scroll button (3-K)	Scrolls thumbnail and memo.
- Thumbnail/Memo display area (3-L)	Shows thumbail images in Thumbnail Mode and shows editable memo in Memo Mode.
- Microscope Image Display area (3-M)	This area displays images from the USB Microscope in real time or a saved image. Click this area to display real-time images or

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	click on thumbnail to view a saved images.
	Right click this area to show the real-time images in full screem mode.
- Minimize button (3-N)	Reduces USB Shot window to a button on the taskbar.
- Exit button (3-O)	Exit USB Shot.

2-4   Shooting Still Images

An image displayed in the Microscope Image Display area (3-M) is saved as a still image file. Click the Still Image Mode button on the right side of the window to switch the capture mode to Snap Shot Mode. This will change the mode icon shown on the center-right part of the window Snap Shot icon. (See Figure 4.)

[Figure 4. Snap Shot icon]

Pressing the [Capture] button on the USB Microscope or clicking the Capture button (3-I) button at the right side of the window saves the current image and adds it to a thumbnail at the bottom of the window.

Moreover, the file save format is JPEG (set when shipped from the factory). This format can be changed to BMP format in the Preferences. (See 4-1 for details.)

2-5   Full Screen Mode

Right click the Microscope Image Display area (3-M) to show the real-time images in full screen mode.

2-6   Shooting Movies

Images displayed in the Microscope Image Display area (3-M) saved as a movie file. Click the Movie Mode button (3-F) button on the right side of the window to switch the capture mode to Movie. This will change the mode icon at the center-right part of the window to Movie Shot icon. (See Figure 5.)

[Figure 5. Movie Shot icon]

Pressing the [Capture] button on the USB Microscope or clicking the Capture button (3-I) button on the right side of the window initiates image recording, and displays the image recording progress dialog box. (See Figure 6.)
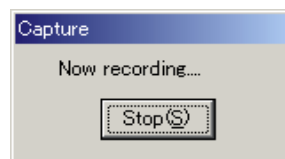
[Figure 6. Image recording progress dialog box]

Image recording ends when you click the [Stop] button in the image recording progress dialog box, or when the preset maximum recording time elapses. The first image is added to a thumbnail at the bottom of the window.

The maximum recording time can be specified in the Configuration. (See 4-2 for details.)

Movies are saved in a size of 320 pixels (horizontal) by 240 pixels (vertical) at 24-bit True Color depth.

The file save format is AVI.

2-7   Displaying Still Images

Clicking an image shown in a thumbnail at the bottom of the window displays a still image of the image clicked.

Photographed still images are saved in JPEG or BMP file format (which can be switched in the Configuration) Images can also be displayed using another application with a function to display JPEG or BMP files.

2-8   Displaying Movies

Clicking an image shown in a thumbnail at the bottom of the window displays the movie of the image clicked.

Use the three buttons that appear under the movie to reproduce, stop the movie.

The buttons (from left to right) activate Reproduce, Pause, Stop operations.

The movies are saved in AVI file format.

This reproduction can also be done using another application with a function to reproduce AVI files, such as Microsoft Media Player.

2-9   Displaying File Name and Shooting Date/Time

Clicking the Filename (3-J) button at the lower-right part of the window displays the file name, shooting date, and time in the lower-right part of the Microscope image display area. Clicking the Filename (3-J) button again closes file name and shooting day/time display.

2-10   Save Location for Still Images and Movies

Photographed still images and movies are saved to the hard disk.

You can specify the save location to the hard disk can be specified in the folder selection dialog box. (See 2-13 for details.)

The product is shipped from the factory with the default save location set to the same directory as the USB Shot application.

Saved files are named in a format consisting of a 4-digit sequence number preceded by prefixes.

The application is shipped from the factory with the settings shown below.

The prefixes (e.g., "Pic," "Mov") can be changed in the Preferences. (See Chapter 4 for details.)

- Still images "Pic" + Sequence Number (e.g., Pic0001)

- Movies "Mov" + Sequence Number (e.g., Mov0001)

2-11   Selecting the Save Destination Folder

The folder for the save destination of photographed still images or movies is specified.

Clicking the Folder Selection button (3-D) at the lower-left part of the window displays the dialog box for selecting a folder. (See Figure7.)

Select a folder and click the [OK] button. The folder for the save destination is then changed.
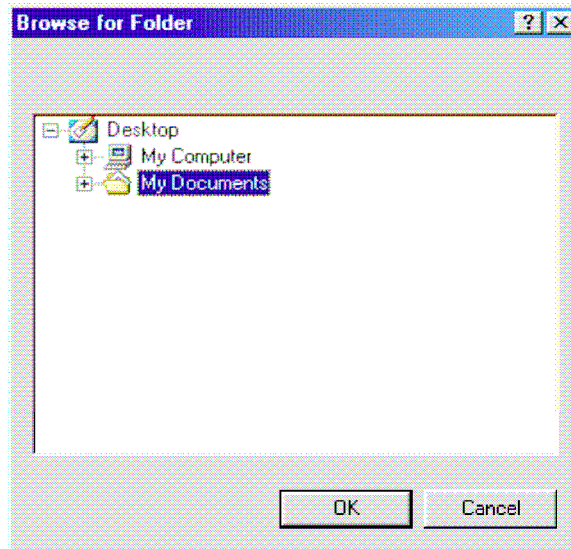
[Figure 7. Folder selection dialog box]

[Caution] DO NOT MOVE A SAVED IMAGE TO OTHER LOCATION.

2-12   Scrolling Thumbnails

The thumbnails at the bottom of the window display eight images at the same time.

Clicking the [Scroll] button located at the lower- right part of the window scrolls through the thumbnails from right to left, thus showing the images hidden beyond the window.

2-13   Deleting an Image from a Thumbnail

Click an image displayed in a thumbnail at the bottom of the window, then click the [Delete] key.

The deletion confirmation dialog box (shown in Figure 8) then appears.

Clicking the [Yes] button there deletes the selected image.
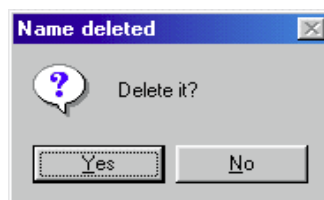
[Figure 8. Deletion confirmation dialog box]

[Caution] YOU MUST DELETE A SAVED IMAGE BY ONLY THIS PROCEDURE.

DELETING A IMAGE BY STANDARD WINDOWS PROCEDURES MAY LAUSE TROUBLE

2-14   Attaching a Memo

A memo (text) can be entered to accompany a photographed still image or movie.

Pressing the [Thumbnail/Memo] selector button at the lower- left part of the window converts the thumbnail part into a memo display/edit area. If the image already has a memo attached, its text will be displayed.

In the memo display/edit area, you can enter or edit text from the keyboard.

For text extending over several lines beyond the edit area, the entire memo can be scrolled up and down by using the [Scroll] button located on the right.

Once you have entered or edited a memo, click the [Thumbnail/Memo] selector button. The memo display/edit area will revert to thumbnails, and the memo entered will be defined.

2-15   Minimizing USB Shot

Clicking the [_] button at the upper-right part of the window moves USB Shot to the task bar .

Clicking the [USB Shot] button on the task bar displays the window again.
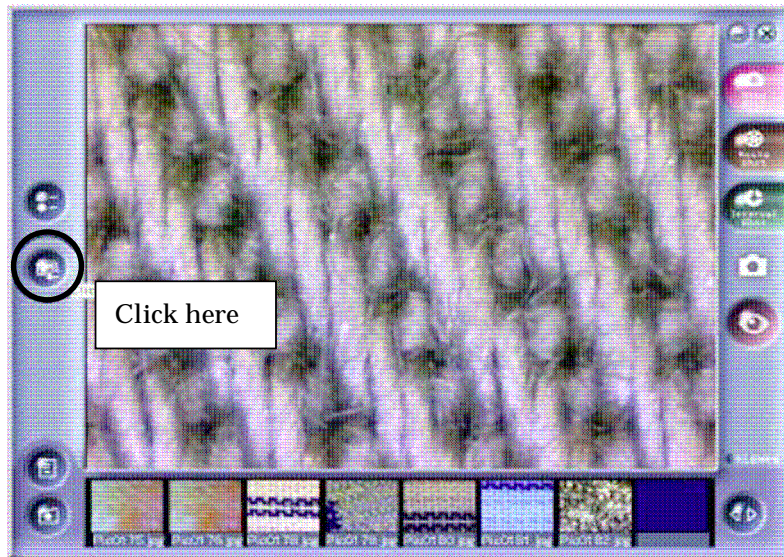
2-16   Quitting USB Shot

Clicking the [X] button at the upper-right part of the window quits USB Shot.

Chapter 3 Image Settings

3-1   Setting dialog

Clicking the [Image setting] button on the left side of the window displays the setup dialog .

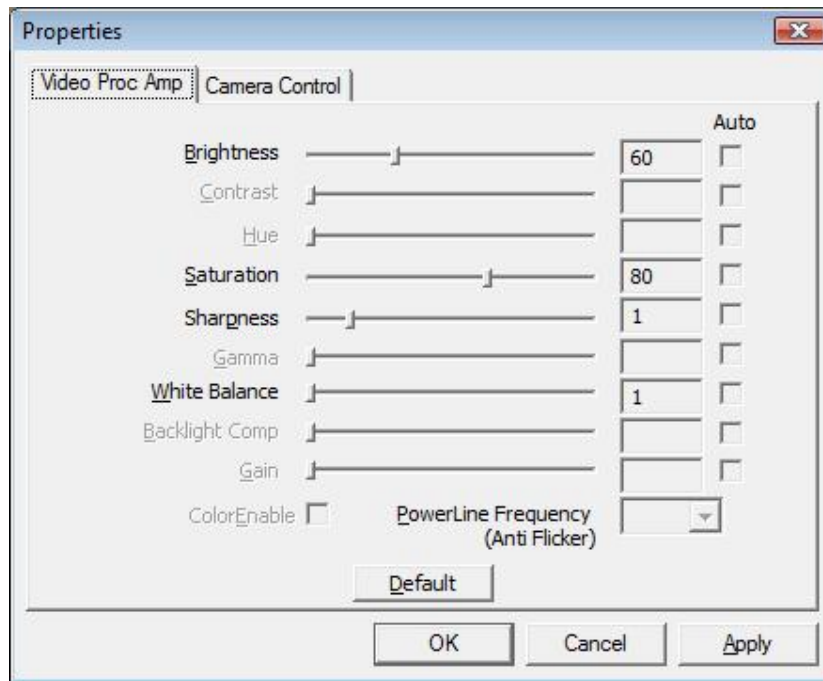The method of the color adjustment to the camera of a USB Microscope is explained.

Please click the button of the above screen.

If your device is M3, refer to page 12 to 14.

If your device is M2, refer to page 15 to 17.

(1) Brightness: The brightness of a picture is adjusted.

If it is made to slide rightward, the picture will become whitish, and will become dark if made to slide leftward. It becomes effective when Auto Exposure is turned on. See 'Camera Control' tab to turn Auto Exposure on.

(2) Contrast: The contrast of a picture is adjusted.

If it is made to slide rightward, a highlight portion and a shadow portion will be emphasized and middle color gradation will decrease. If it is made to slide leftward, a middle tone will increase and it will become a flat screen.

(3) Hue: Not available, grayed out.

(4) Saturation: The purity of a color is adjusted.

If it is made to slide rightward, the purity of a color will become high, and a purity of a color will become low if it is made to slide leftward. It will become gray if purity is too low.

(5) Sharpness: The degree of emphasis of a picture is adjusted.

If it is made to slide rightward, the degree of emphasis will become strong, and the degree of emphasis will become weak if it is made to slide leftward.

(6) Gamma: Not available, grayed out.

(7) White Balance: 5 presets for white level adjustment.

Setting 1: LED, recommended for Scalar white LED lighting

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Setting 2: Incandescent, recommended for indoor lighting

Setting 3: Fluorescent, recommended for office lighting

Setting 4: Daylight, recommended for outdoors

Setting 5: Auto, allows camera to automatically set white level.

(8) Backlight Comp: Not available, grayed out.

(9) Gain: Not available, grayed out.

(10) ColorEnable: Not available, grayed out.

(11) PowerLine Frequency: Optical synchronous frequency is set up.
In order to avoid optical synchronous frequency (flicker), such as with a fluorescent
light, it is recommended to select 50Hz for 220VAC or
60Hz for a 110VAC power source.

(12) Default: If button is pushed, it will return to the state at the time of installation.
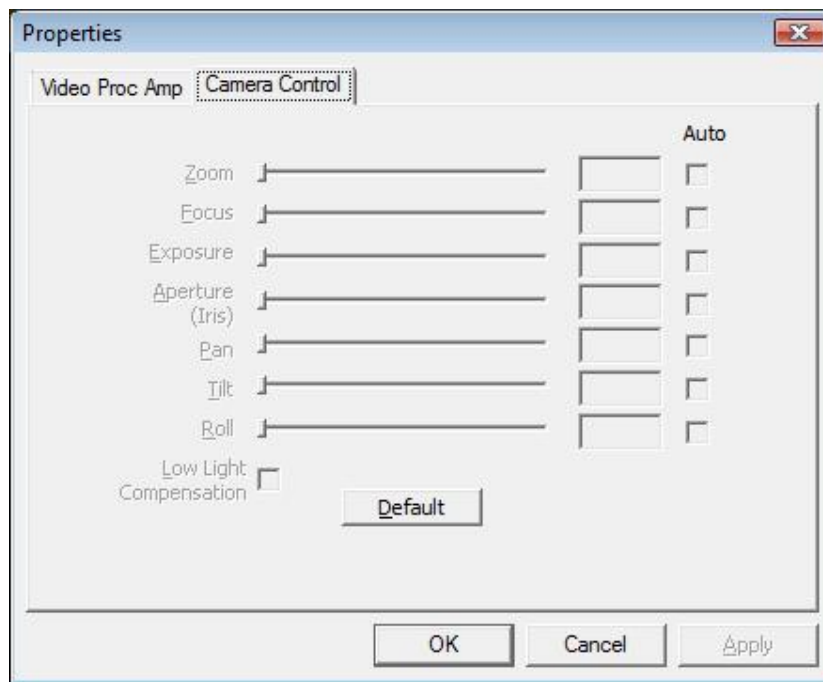
(1) Zoom: Not available, grayed out.

(2) Focus: Not available, grayed out.

(3) Exposure: The degree of luminosity is adjusted.
Automatic luminosity adjustment is performed in the state where the check mark is attached. Remove the check mark for manual luminosity adjustment. Note - the brightness control will become ineffective in manual mode. If it is made to slide rightward, luminosity is increased, and luminosity is decreased if made to slide leftward.

(4) Aperture: Not available, grayed out.

(5) Pan: Not available, grayed out.
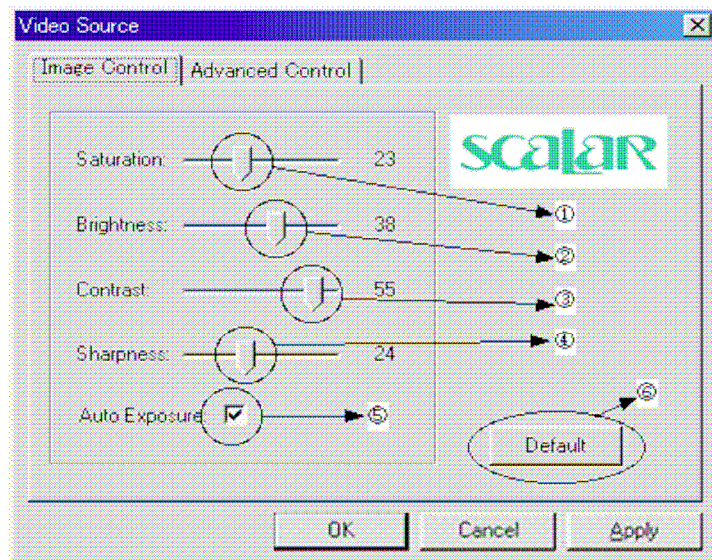
(6) Tilt: Not available, grayed out.

(7) Roll: Not available, grayed out.

(8) Low Light Compensation: Not available, grayed out.

(9) Default: If button is pushed, it will return to the state at the time of installation

[For M2]

The brightness of a camera is adjusted on the following screen.

The above dialog is displayed. Each parameter is explained below.

(1) Saturation

The purity of a color is adjusted.

If it is made to slide rightward, the purity of a color will become high, and the purity of a color will become low if it is made to slide leftward.

It will become gray if purity is too low.

(2) Brightness

The brightness of a picture is adjusted.

If it is made to slide rightward, a screen and the whole picture will become whitish, and the whole will become dark if it is made to slide leftward.

It becomes effective when AutoExposure is turned on.

(3) Contrast

The contrast of a picture is adjusted.

If it is made to slide rightward, a highlight portion and a shadow portion will be emphasized and middle color gradation will decrease. If it is made to slide leftward, a middle tone will increase and it will become a flat screen.

(4) Sharpness

The degree of emphasis of a picture is adjusted.

If it is made to slide rightward, the degree of emphasis will become strong, and the degree of emphasis will become weak if it is made to slide leftward. If it strengthens too much, it will become the touch which spread, and it will become the blurred touch if it weakens too much.

(5) Auto Exposure

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It is specification of automatic luminosity adjustment.
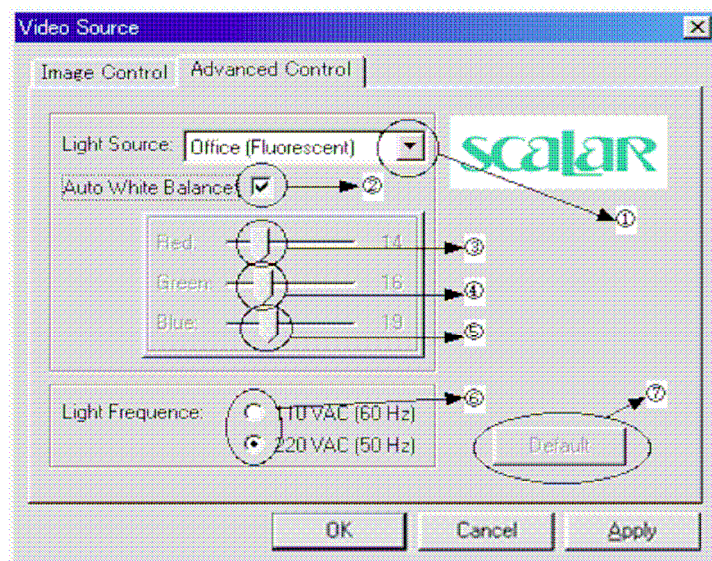
A check mark attaches or disappears by clicking.

Automatic luminosity adjustment is performed in the state where the check mark is attached.

(6) Default

If a button is pushed, it will return to the state at the time of installation.

The tone of a camera etc. is adjusted on the following screens.

(1) Light Source

It chooses according to the environment to be used.

- Office: It chooses, in case it is used indoors.

- Home: It chooses, in case it is used indoors.

- Outdoors: It chooses, in case it is used outdoors.

(2) Auto White Balance

It is specification of automatic white level adjustment.

A check mark attaches or disappears by clicking.

Automatic white level adjustment is performed in the state where the check mark is attached.

(3) Red

A red level is adjusted.

If it is made to slide rightward, a red degree will become strong, and a red degree will become

weak if it is made to slide leftward.

(4) Green

A green level is adjusted.

If it is made to slide rightward, a green degree will become strong, and a green degree will

become weak if it is made to slide leftward.

(5) Blue

A blue level is adjusted.

If it is made to slide rightward, a blue degree will become strong, and a blue degree will become

weak if it is made to slide leftward.

(6) Light Frequence

Optical synchronous frequency is set up.

In order to avoid optical synchronous frequency, such as a fluorescent light, it recommends

checking to 220VAC(50Hz).

If optical synchronous frequency suits, flickering may occur on a picture.

(7) Default

If a button is pushed, it will return to the state at the time of installation.

Chapter 4 Preferences

Clicking the Configuration button on the left side of the window displays the setup dialog box.

Select items from the three tabs in the dialog box to enter or change settings affecting shooting parameters.

4-1   Snap shot

Settings related to the shooting of still images are made here.

Set the prefixes of the saved file and its file format.
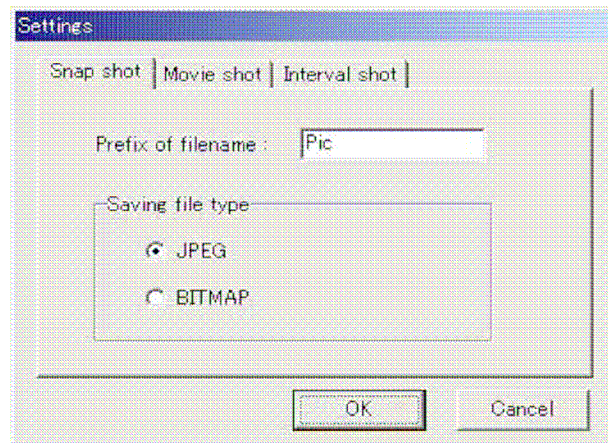
[Figure 12. [Snap shot] Tabs in setting dialog box]

- Prefix of filename

Specify the prefixes of the saved file (set to "pic" when shipped from the factory).

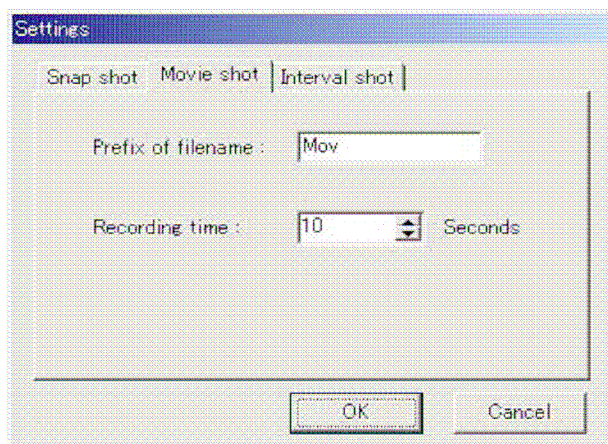Up to eight half-size characters can be entered.

- Saving file type

Specify the format of the saved file (set to JPEG when shipped from the factory).

Select either JPEG or BITMAP.

4-2　　　Movie shot

Settings related to the shooting of movies are made here.

Set the prefixes of the saved file and the recording time.

[Figure 13. [Movie shot] Tabs in setting dialog box]

- Prefix of filename

Specify the prefixes of the saved file (set to "Mov" when shipped from the factory).

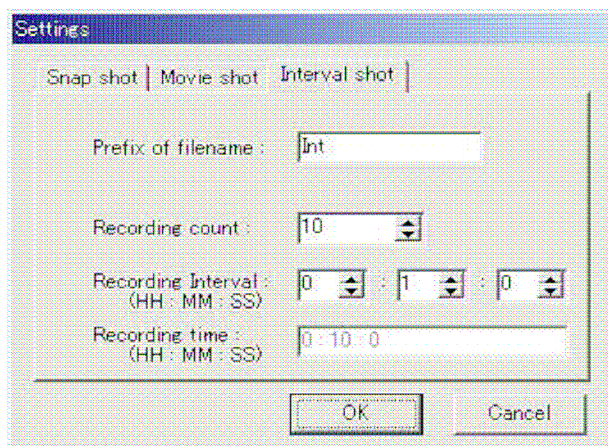Up to eight half-size characters can be entered.

- Recording time

Specify the recording time (set to 10 sec when shipped from the factory).

A time period from one to 999 seconds can be entered.
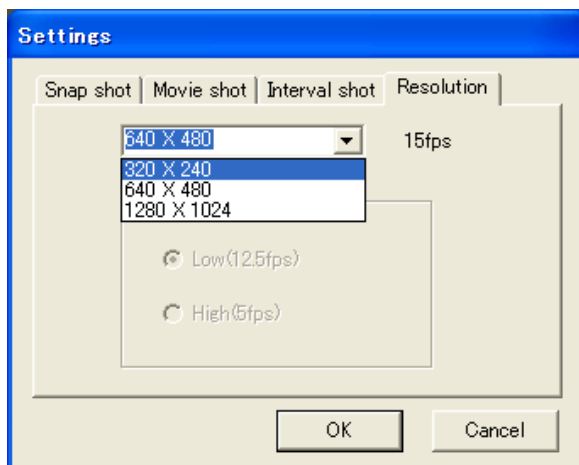

4-3　　　Interval shot

Not available.

[Figure 14. [Interval shot] Tabs in setting dialog box]

4-4   Resolution
[For M3]

The resolution of a still picture image is set up.

Figure 15 [Resolution] Tabs in setting dialog box

USB2.0

320x240 pixels (QVGA) 30fps

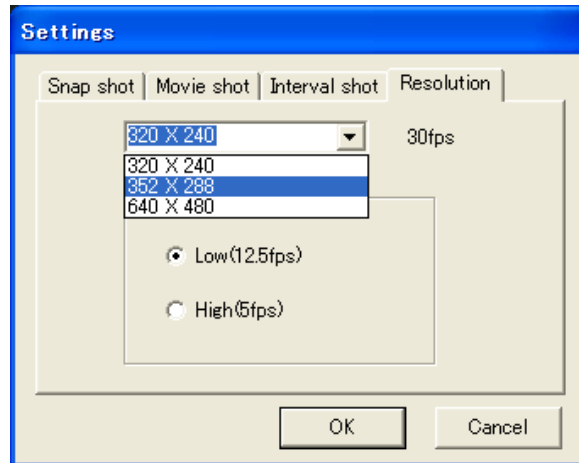640x480 pixels (VGA) 15fps

1280x1024 pixels (SXGA) 3.75fps

USB1.1

320x240 pixels (QVGA)   4fps

640x480 pixels (VGA)   1fps

High resolution mode (SXGA) not available.

[For M2]

Low(12.5fps)

Setup of 12.5frame/second, resolution of a still picture, it is low.

(setting value when shipped from the factory)

High(5fps)

Setup of 5frame/second, resolution of a still picture, it is high.

Then the display of an animation becomes slow.

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