KP-F120USB

Operation Manual

Ver 1.10

2003.8.1

Contents

1) Operating Environment

Personal computer mainframe ： PC/AT compatible machine
CPU ： Pentium 4, 1.4 GHz or higher (Pentium 4, 2.0 GHz or higher recommended)
Video adapter ： 24 or 32 bits, color, 1024 x 768 min.
RAM ： 256 megabytes (512 MB or more recommended)
USB2.0 HOST ： NEC's μPD720100A
Compatible OS ： Microsoft Windows 2000 (SP2 or later)
Microsoft Windows XP (SP1 or later)

2) Installing Method

Installing procedure comprises 3 steps below.
・ Installation of USB interface driver　　　Refer to 2.1.
・ Installation of application　　　　　　Refer to 2.2.
・ Installation of KP-F120USB device driver Refer to 2.3.

※ For installation on Microsoft Windows 2000 or XP, normal installation may not be assured unless you are a member of Administrators.

2.1) How to Install USB Interface Driver

For using Windows 2000, it is necessary to install the driver for USB2.0 by downloading it from Microsoft's website. (This is unnecessary for Service Pack 4 or later.)
For using Windows XP, Service Pack 1 or later must have been installed.

If NEC's μPD720100A (USB2.0 host controller) is not mounted to the PC to be used, the following USB interface should be used.

"USB2connect For Notebooks" made by ADAPTEC
"USB2connect For 2000LP" made by ADAPTEC

※ The CD attached to each USB interface or the USB2.0 drivers that can be downloaded from the websites of other companies must not be used.
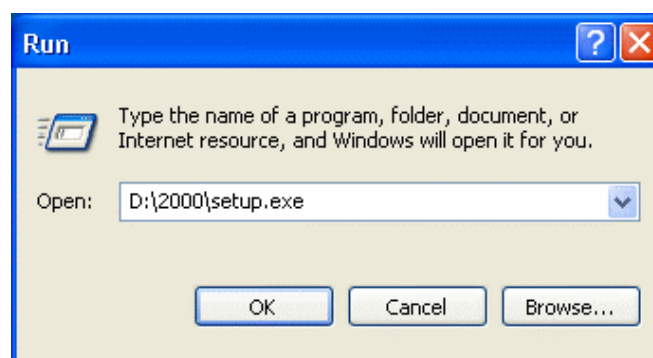Be sure to use Microsoft's driver for USB2.0.

2.2) Installation of Application Software

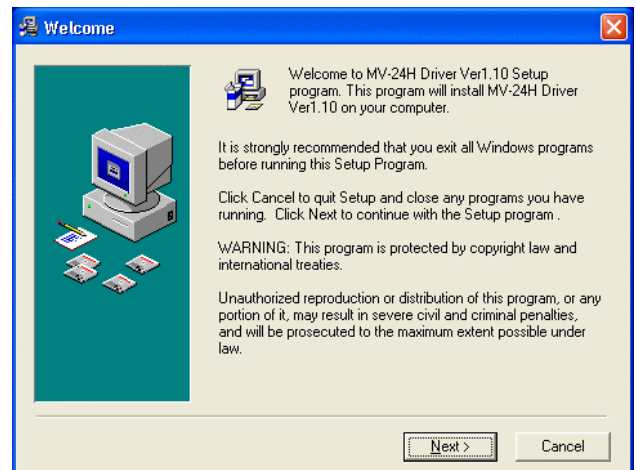Insert CD-ROM into the specified drive.

Click "start" and then "Run."

In case of Windows 2000 or XP, enter [D:¥2000¥setup.exe] for [Open] and click [OK].
(CD-ROM drive is assumed as drive D here.)
The install program starts to carry out installation.

Click ［Next ＞］

For changing the directory where the application is to be installed, click [Browse] and enter the desired directory.
Then, click ［Next ＞］
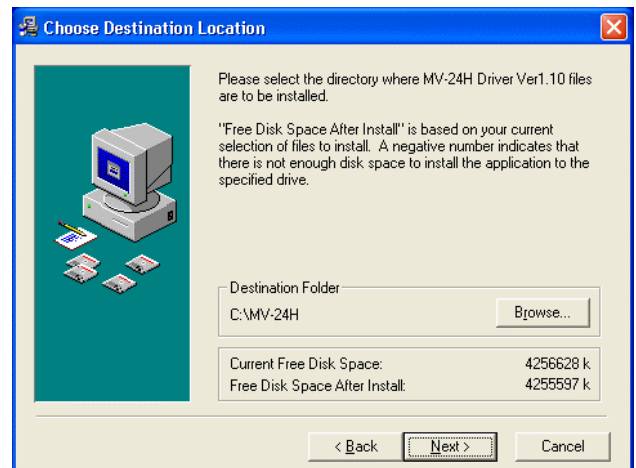
For changing the present group name, change the contents in the edit box.
Then, click ［Next ＞］
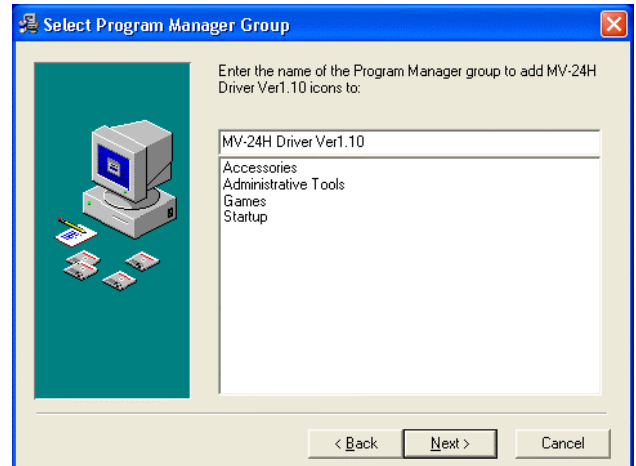
Click [Next ＞].
Installation will start.

- 3 -
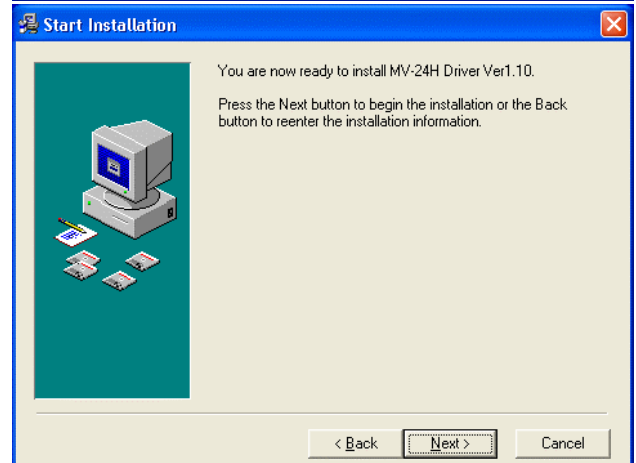
The application is under installation.

Click [Finish >]
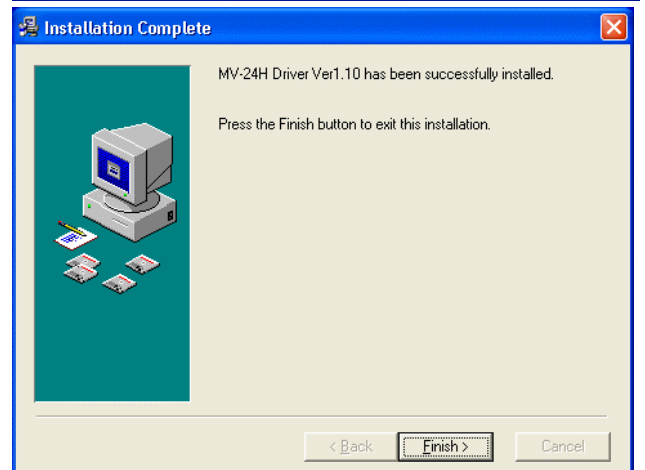
A message box appears for confirming your intention of restarting the PC.
For immediate start of the installed application, click [OK] to restart the PC.
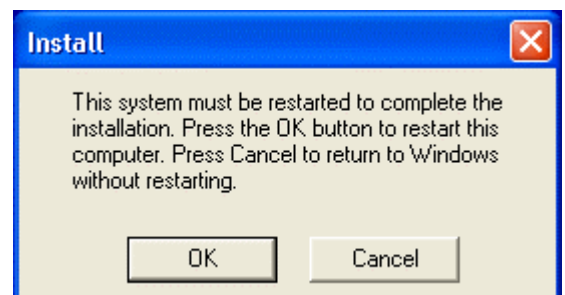
This is the end of installing the application.

2.3) Method of Installing KP-F120USB Device Driver

Connect the KP-F120USB device driver (with camera power turned on) to the personal computer.
The hardware will be automatically recognized and the Found New Hardware Wizard will be displayed.
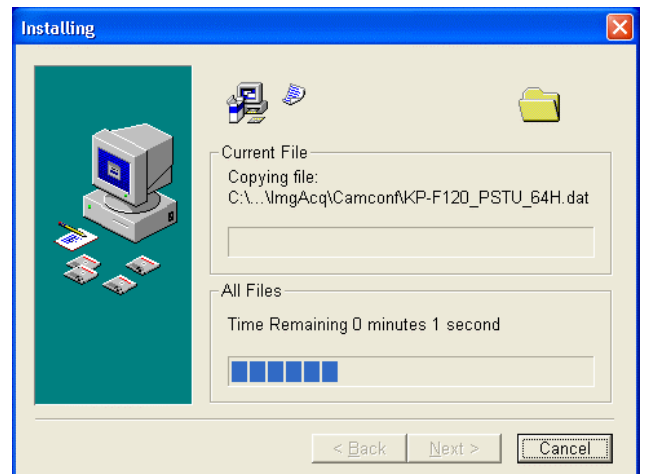
Select [Install from a list or specific location {Advanced}]
and click [Next >]
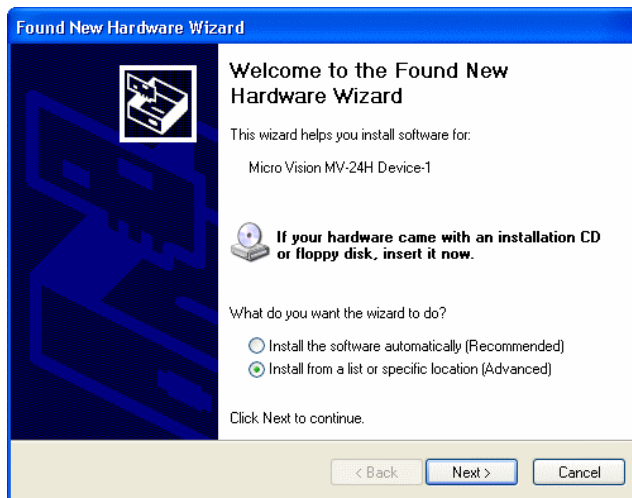
Select [Search for the best driver in these locations.] and
put checkmark before [Include this location in the search:].
Enter [D:¥2000] and click [Next >]
(CD-ROM drive is assumed as drive D here.)
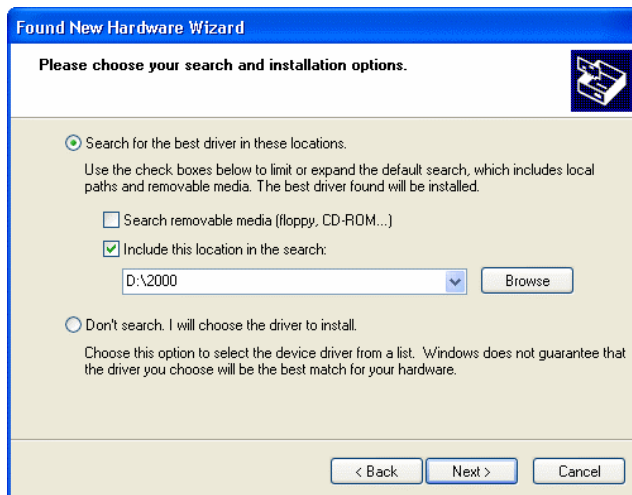
Click [Continue Anyway]

The software is under search.
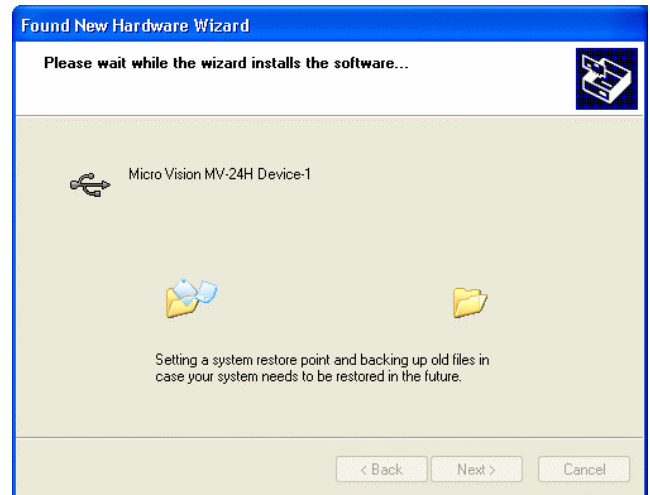
Click [Finish]

The procedure has been completed when [Device Manager] appears and [Micro Vision MV-24H Device-1] is displayed under [Universal Serial Bus controllers].

Installation of the KP-F120USB device driver has now been completed.
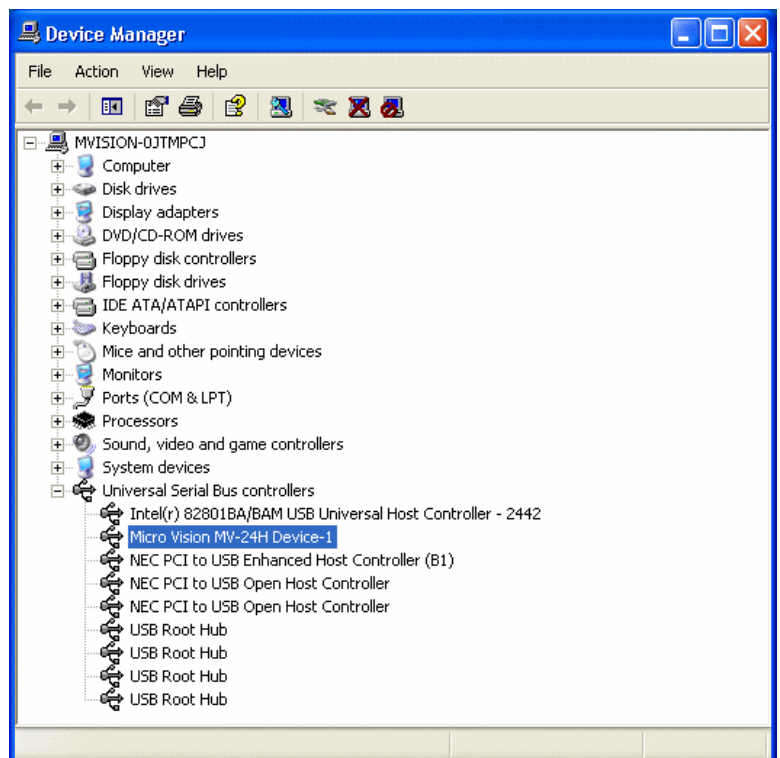
3) Execution of Application

Start the application by double-clicking the icon shown below.

Upon start of the application, a dialog is displayed as described below.
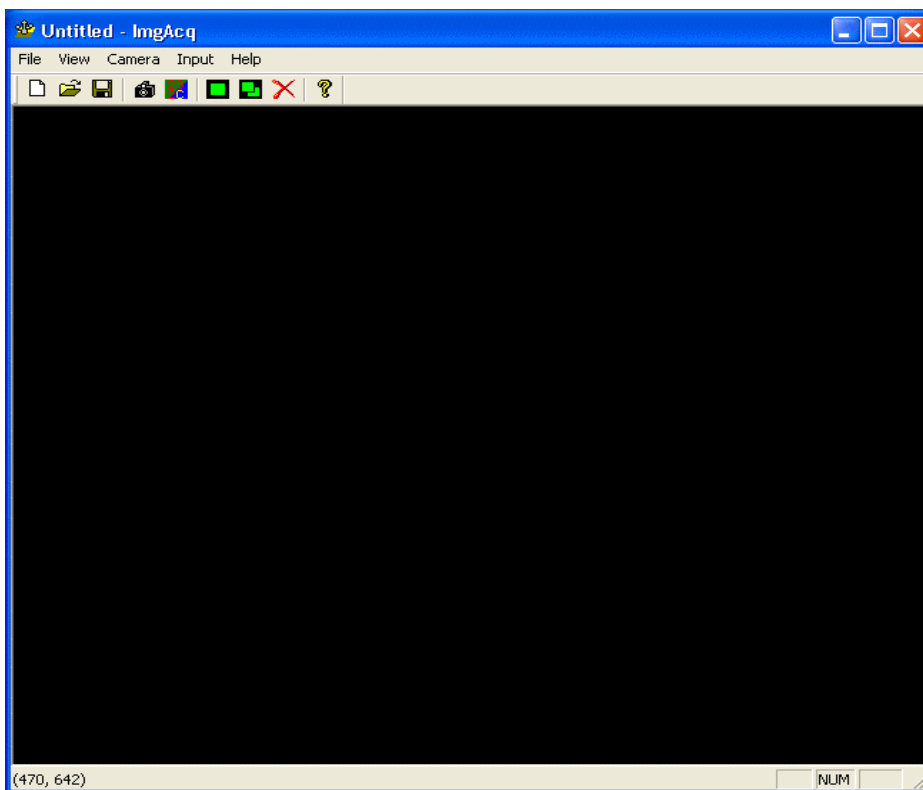
※ Only at the first start, the Found New Hardware Wizard will appear.

Install the application in the same procedure as in "2.3 Method of Installing KP-F120USB Device Driver."

The procedure has been completed when [Device Manager] appears and [Micro Vision MV-24H Device-2] is displayed under [Universal Serial Bus controllers].

After completion of installation, terminate the application once.
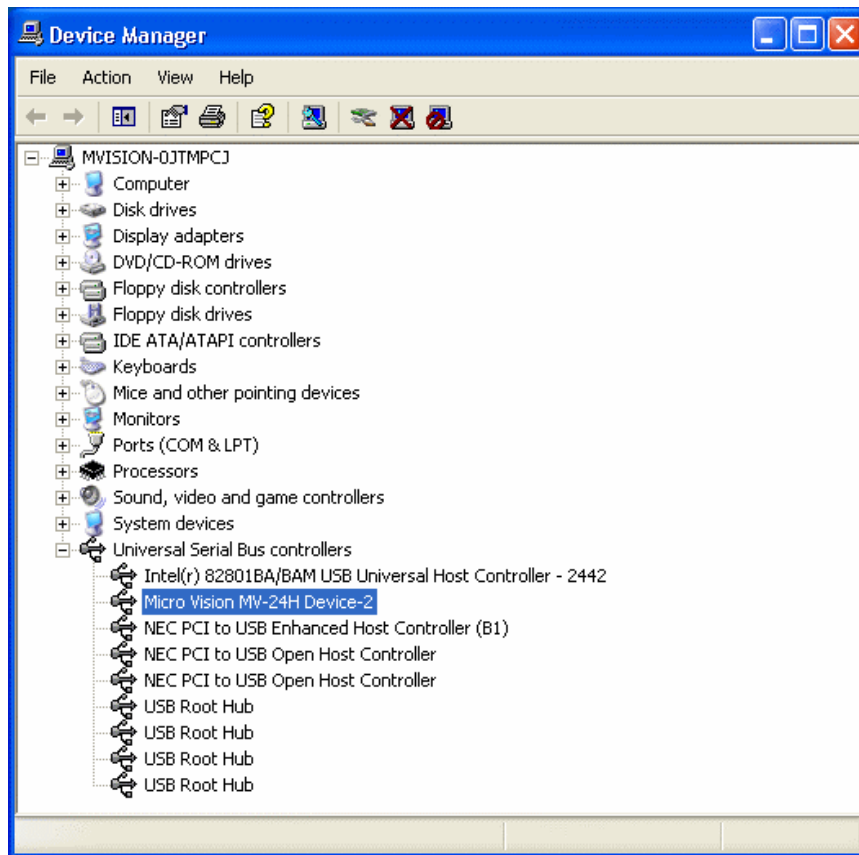
Restart the application. Then, from the menu, select "Camera" – "Configuration Load" to load the camera configuration file. (From the next start onward, the previously loaded camera configuration file will be automatically loaded.)
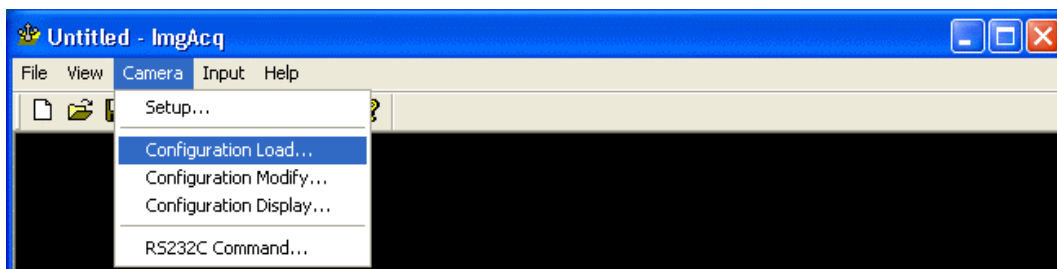
After completion of loading, select "Camera" – "Setup" from the menu for setting the camera.
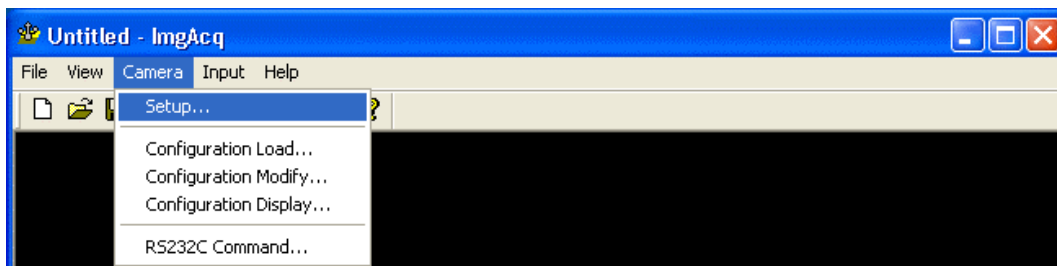
1) Setting for avoiding trigger
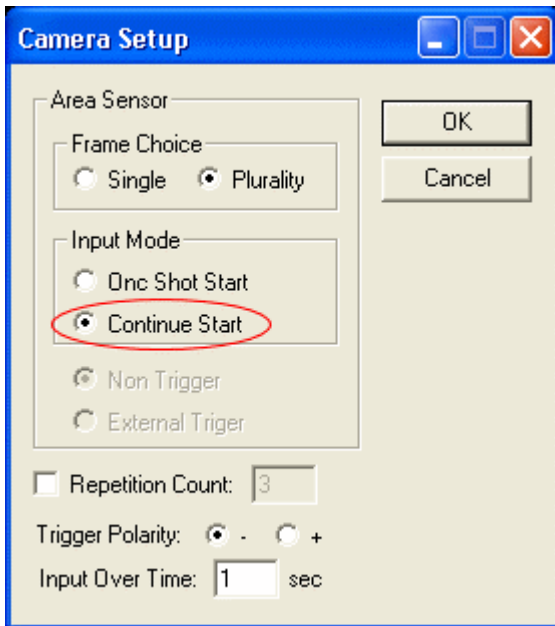
2) Setting for using trigger
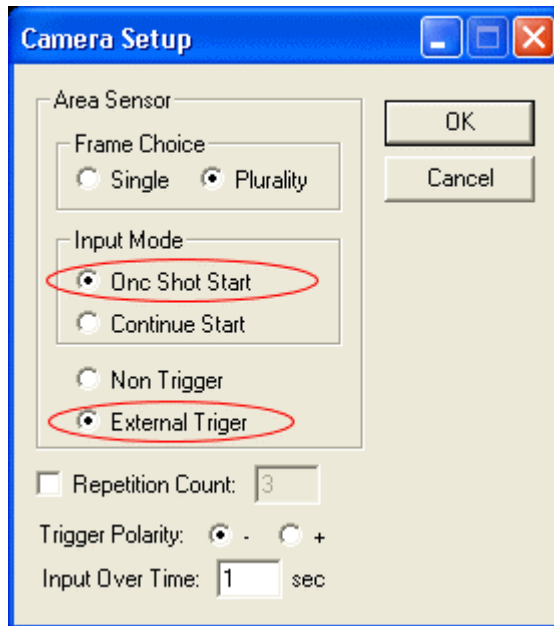
After completion of setting, select "Input" − "One Shot" or "Continue Start" from the menu in order to execute image input.
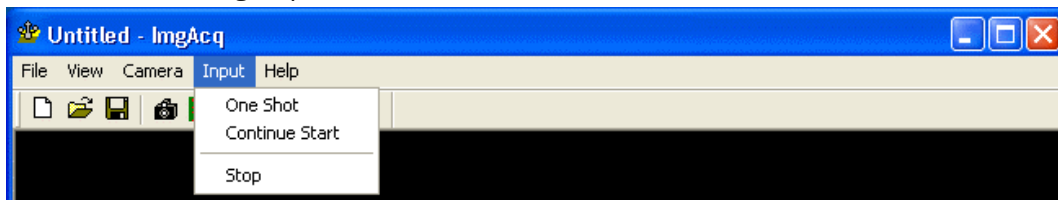
For control of the camera, display the RS-232C communication dialog by selecting "Camera" − "RS 232C Command" from the menu. For details, refer to "RS232C Command" in 4.3.5.
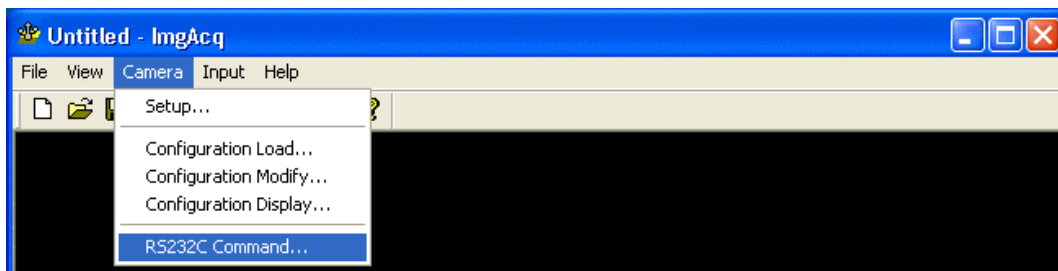
For uninstalling this application, select "start" – "All Programs" – "MV-24H Driver Ver1.10" – "Un install."

※ The application can also be uninstalled via "Control Panel" and "Add or Remove Programs" in Windows.

4) Explanation of Menu

4.1) File

```
New            Ctrl+N
Open...        Ctrl+O
Save           Ctrl+S
Save As...

Hex Download...
Hex Reload

Recent File

Exit
```

4.1.1) New

This menu command invalidates the name of the file open at present.

4.1.2) Open

This menu command opens the "Open" dialog box and displays the specified bit map file on the window.

4.1.3) Save

This menu command overwrites the image displayed on the window into the presently open file.

4.1.4) Save As

According to this menu command, the "Save As" dialog box is displayed and the image displayed on the window can be saved as a bit map file.

4.1.5) Hex Download

This menu command is used to download the USB control software to KP-F120USB. In usual setting, the software will be downloaded at start of the application, so this command need not be issued. However, if the USB cable is disconnected or the camera power supply is turned OFF while the application is active, the power supply of KP-F120USB will turn OFF and the USB will be set in the non-initialized status. In this case, the USB control software must be downloaded by invoking this command. Upon execution of this command, the "Download Firmware" dialog box opens. So specify 'Mv24H.hex' in the box.

4.1.6) Hex Reload

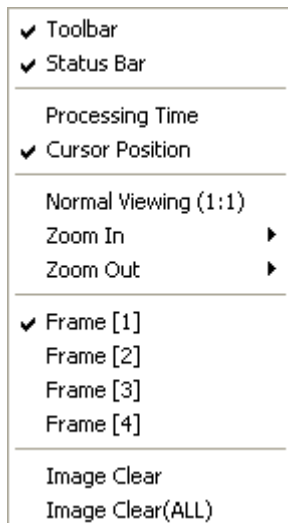This menu command is used for reloading the HEX file (USB control software) previously downloaded. Unlike the Hex Download command in 4.1.5, the "Download Firmware" dialog box does not open. Therefore, the file can be downloaded just by issuing the command.

4.1.7) Exit

This menu command terminates the application.

4.2) View

```
✔ Toolbar
✔ Status Bar
─────────────────
  Processing Time
✔ Cursor Position
─────────────────
  Normal Viewing (1:1)
  Zoom In              ▶
  Zoom Out             ▶
─────────────────
✔ Frame [1]
  Frame [2]
  Frame [3]
  Frame [4]
─────────────────
  Image Clear
  Image Clear(ALL)
```

4.2.1) Toolbar

This menu command selects or avoids display of the toolbar on the application.

4.2.2) Status Bar

This menu command selects or avoids display of the status bar on the application.

4.2.3) Processing Time

This menu command selects or avoids display of the number of image input times and FPS.
Display appears at the top left of screen.

4.2.4) Cursor Position

According to this command, display of the present mouse cursor position is selected or avoided.
The coordinates of that position are indicated in a form of (X coordinate, Y coordinate) on the status bar.

4.2.5) Normal Viewing (1:1)

This menu command is usable for displaying an image in the same size.

4.2.6) Zoom In

This menu command is usable for displaying an image through zooming in.
Zooming-in factor is selectable among 2, 3 and 4.

4.2.7) Zoom Out

This menu command is usable for displaying an image through zooming out.
Zooming-out factor is selectable among 1/2, 1/3 and 1/4.

4.2.8) Frame[1] – [4]

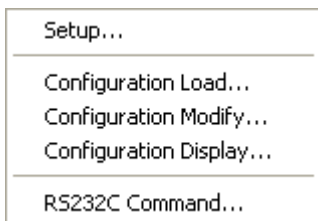This menu command is used to display the image of the selected frame number.

4.2.9) Image Clear

This menu command is used to clear the image of the selected frame number (blank it out).

4.2.10) Image Clear (ALL)

This menu command is used to clear the images of all frame numbers (blank them out).

4.3) Camera

```
Setup...

Configuration Load...
Configuration Modify...
Configuration Display...

RS232C Command...
```

4.3.1) Setup

   This menu command is used to assign parameters for camera input. On execution of this command, the "Camera Setup" dialog box opens.

   Operations in this dialog box are explained below.

   1) Frame Choice

      For continuous image input, the number of image saving memories (frames) can be selected.

      [Single] selects saving in one memory at all times.

      [Plurality] selects a sequential saving in frames 1 to 4. Input images can be viewed, referring to "4.2.8 Frames [1] to [4]."

   2) Input Mode

      [One Shot Start] selects input action (image input -> wait for completion) for each execution of input processing. Selection of this mode validates setting in 3) below.

      [Continue Start] selects input action (image input -> wait for completion) only for the first image input. This allows input of all images without omission. Selection of this mode invalidates settings in 3) below and "4.4.1 One Shot."
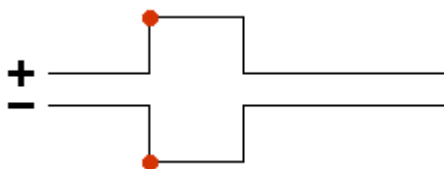
   3) Trigger Set

      [External Trigger] selects image input through reception of a trigger signal.

   4) Repetition Count

      Image input can be repeated by the set number of counts.

   5) Trigger Polarity

      The polarity of trigger signal can be set.

   6) Input Over Time

   An input end wait time limit in image input can be set. This determines the time period (sec) before occurrence of error, during which no response is available, despite input processing, due to incorrect connection of the USB cable, etc.

   7) OK button

   Click this button to take the set contents and close the dialog box.

   8) Cancel button

      Click this button to cancel the set contents and close the dialog box.
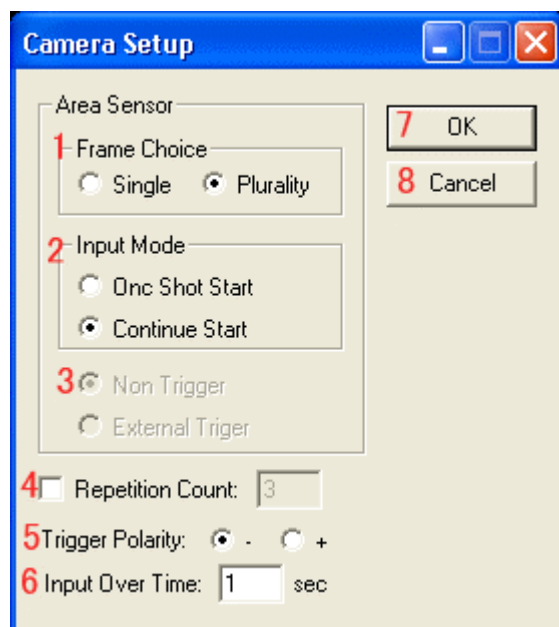
4.3.2) Configuration Load

According to this command, the "Camera Configuration File Open" dialog will start and the specified camera configuration file will be loaded. Camera configuration files have been prepared for normal mode, double speed mode, quadruple speed mode and the number of lines in partial scan mode. So this file should be selected so as to match the camera mode to be used. Details are described in [readme.txt] in the folder where the camera configuration files are saved.
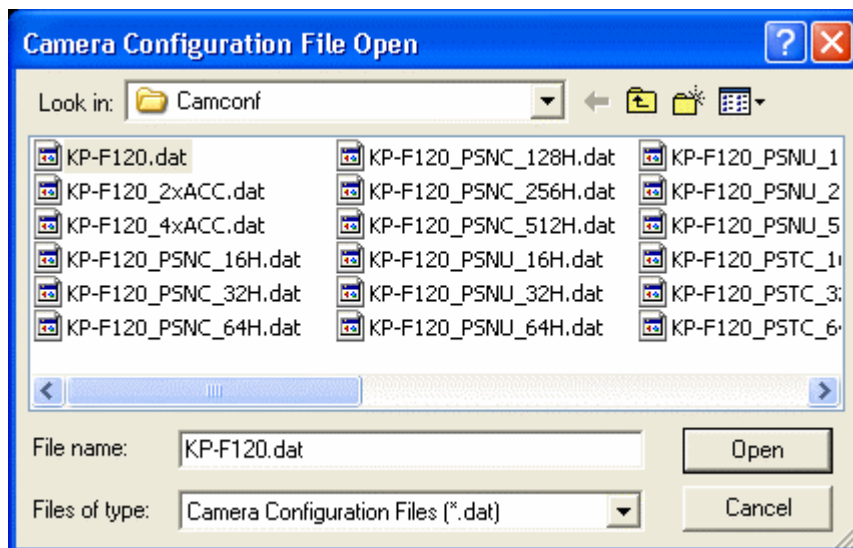
4.3.3) Configuration Modify

This menu command, when issued, displays the "Camera Configuration Modify" dialog box for modifying the presently loaded camera configuration file.

Operations in this dialog box are explained below.

1) File Description

The data in the relevant camera configuration file is listed here.

2) Set button

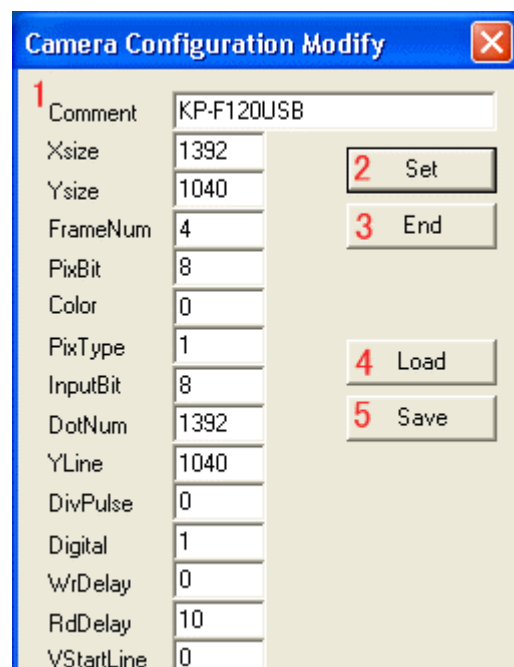Takes the set contents and closes the dialog box.

3) End button

Cancels the set contents and closes the dialog box.

4) Load button

Displays the dialog box for loading the camera configuration file to allow opening the selected file.

5) Save button

Displays the dialog box for saving the camera configuration file to allow writing data in the selected file.

4.3.4) Configuration Display

Selection of this menu command will open the "Camera Configuration Display" dialog box for displaying the presently loaded camera configuration file.

4.3.5) RS232C Command

This menu command is used for RS-232C communication with the camera. When executing this command, the "RS232C Command" dialog box opens.

Operations in this dialog box are explained below.
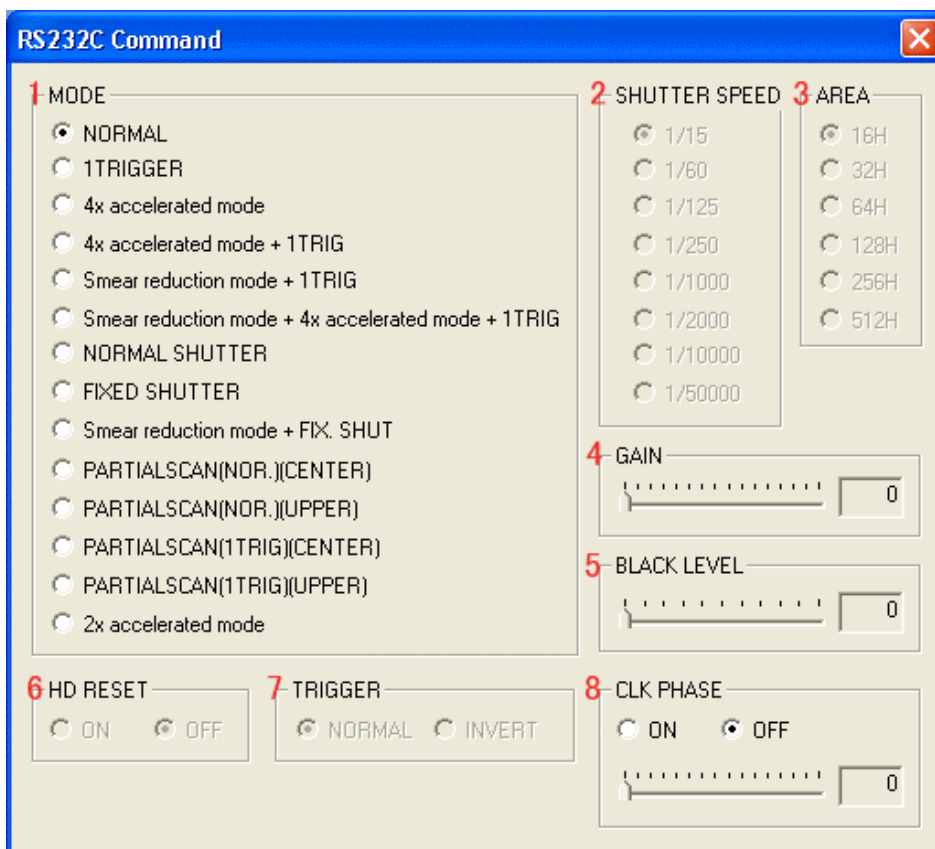
1) MODE

   A desired mode is selectable here. Depending on the selected mode, [SHUTTER SPEED], [AREA], [HD RESET], [TRIGGER] and [CLK PHASE] can or cannot be selected.

2) SHUTTER SPEED

   Any shutter speed is selectable here.

3) AREA

   You can select the number of areas when the partial scan mode is chosen.

4) GAIN

   Camera gain is adjustable here within a range from 0 to 15.

5) BLACK LEVEL

   Black level is adjustable here within a range from 0 to 50.

6) HD RESET

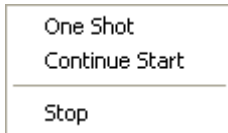   The ON or OFF status of HD RESET can be selected here.

7) TRIGGER

   Trigger polarity can be chosen here. Change [Trigger Polarity] in "4.3.1 Setup" depending on the chosen polarity.

8) CLK PHASE

   The ON or OFF status of HD RESET can be selected here. And level is adjustable within 0 to 15 (when ON is selected).

4.4) Input

4.4.1) One Shot

This menu command is used for executing image input only once. The input image is displayed on the window.

The contents of execution are the same as when clicking the button on the toolbar.

4.4.2) Continue Start

This menu command is used for executing image input continuously. The input images are displayed on the window.

The contents of execution are the same as when clicking the button on the toolbar.

4.4.3) Stop

This menu command is used for stopping a continuous input.

The contents of execution are the same as when clicking the button on the toolbar.

4.5) Help
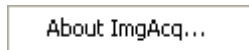
About ImgAcq...

4.5.1) About ImgAcq

When invoking this menu command, the version information dialog box of this application is displayed.

About ImgAcq

ImgAcq for KP-F120USB Version 1.10

Copyright (C) 2003

OK

5) Precautions

When using KP-F120USB, be sure to observe the following precautions.　Otherwise, the OS and software might malfunction.

・ When the version of the installed software is old, it should be uninstalled and then the software of the latest version should be installed.　Because the folder of the old software may be left though the software has been uninstalled, the folder should also be removed.

・ Never attempt to turn OFF the camera power supply nor disconnect/reconnect the USB cable during image input (including trigger wait status).　Otherwise, the OS will freeze.

・ If the camera power supply is turned OFF or the USB cable is disconnected/reconnected during software start (in other than image input), the following measure is required.　Download the USB control software (referring to Hex Download in 4.1.5 or Hex Reload in 4.1.6) and reload the relevant camera configuration file (referring to Configuration Load in 4.3.2).

・ When IntelSpeedStep Technology (power saving technology) is comprised in CPU ("m" mark is put on the seal of Pentium 4), its function must be invalidated.　Otherwise, the clock frequency and voltage of the processor will be reduced depending on system load.　Therefore, USB data will not be transmitted normally so that images may be disturbed.　The invalidating method varies with the brand of personal computer. (BIOS menu, power setting, etc. may be involved.)

・ Display 'System' of 'Control Panel' and 'Disable' network adapter using the device manager.　If communication starts via LAN during image input, the image may be disturbed.

・ Display 'Power Options' in 'Control Panel' and set each time for 'Turn off hard disks', 'System standby' and others to 'Never.'

・ It is recommended to 'invalidate' or 'uninstall' the software which is resident on Windows and always uses the CPU.　Otherwise, images may be disturbed due to fluctuations in CPU activity ratio.

(Example)
　　Vaccine　software (such as AntiVirus and VirusBuster)
　　RealPlayer (will reside once started)