

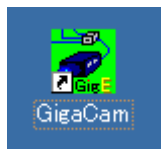
Camera control software

GigaCam

Operation Manual

Version 1.04

1. Starting the software



Please double click "GigaCam" shortcut on screen or
click Windows "Start" button -> "Programs(P)" -> "Hitachi_Kokusai_Electric_Inc" -> "GigaCam".
Following dialog appears.

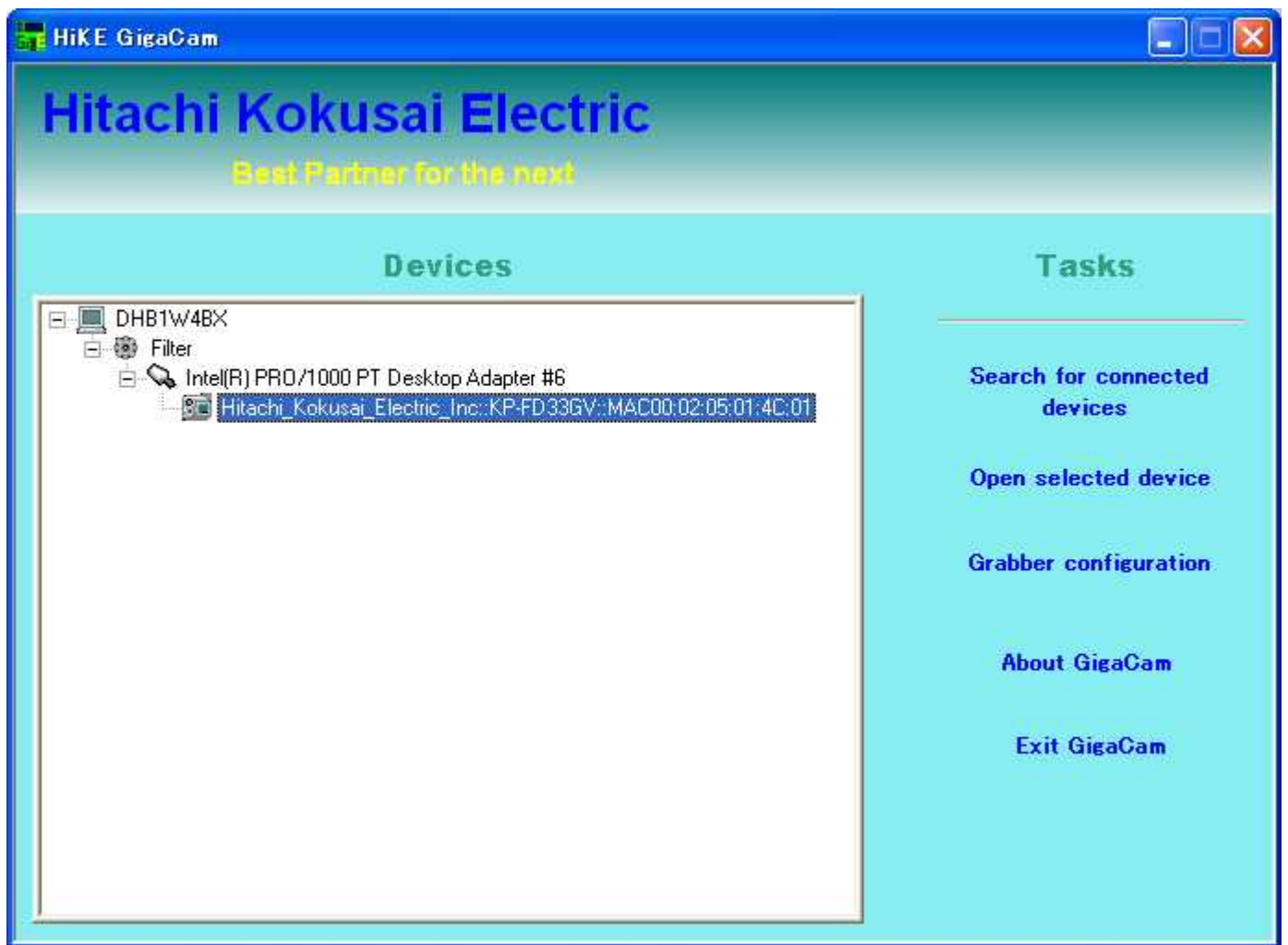


2. Discovery the Camera

Please click the "Search for connected device."

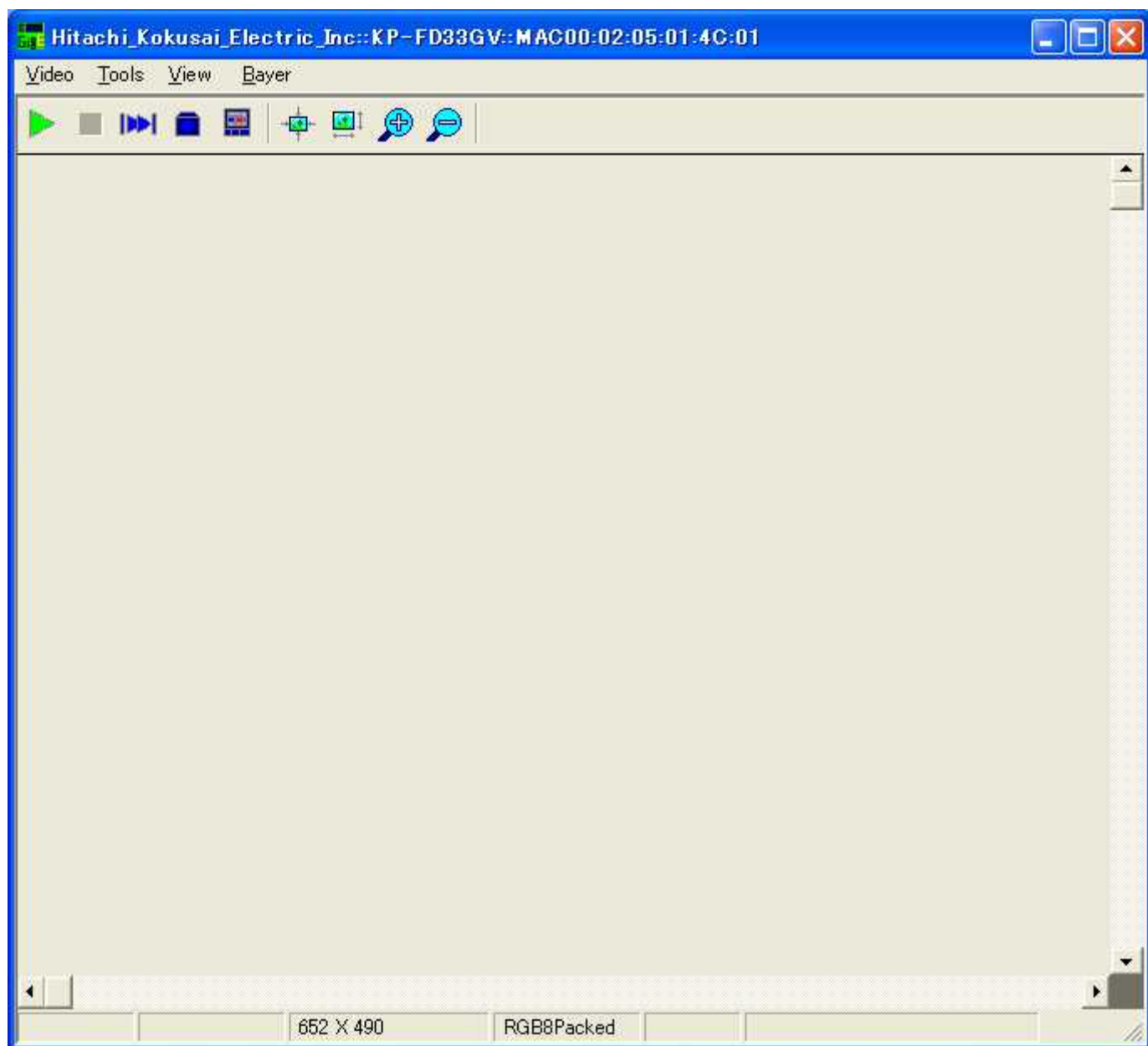
---> If .successful, Vender name and Camera name appear in the "Devices" tree.

---> If failure, the "Devices" tree does not change.



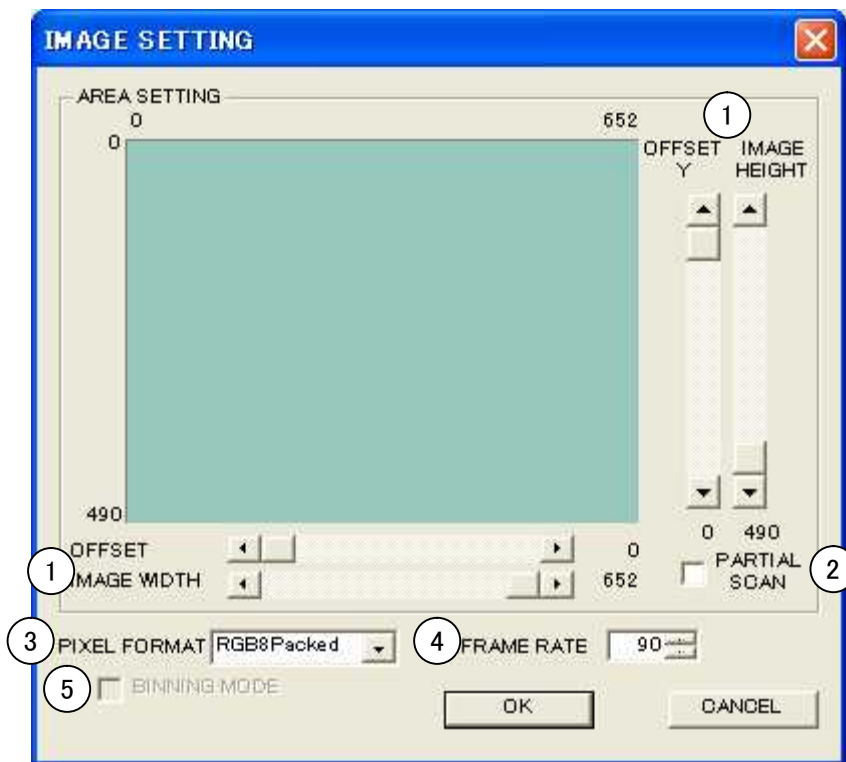
3. Open the Camera

Please select the device you would like to open in the device tree and click "Open selected device".



4. Image setting

When the "Image setting" of menu "Tools" is clicked, the image setting dialog appears.





[Explanation of each part]


- | | |
|--|--|
| ① OFFSET X / OFFSET Y | : Setting of grabbing starting position |
| IMAGE WIDTH / IMAGE HEIGHT | : Setting of grabbing size |
| ② PARTIAL SCAN | : If checked, frame rate is increased according to IMAGE HEIGHT |
| ③ PIXEL FORMAT | : Setting of pixel format (ex. Mono8, RGB8Packed) |
| ④ FRAME RATE | : Setting of frame rate from 7 (maximum is different in each camera) |
| ⑤ BINNING MODE (only for Black & White camera) | : If checked, 2 acceleration output by vertical two pixel addition |

When "OK" is clicked, dialog is closed and image setting is.

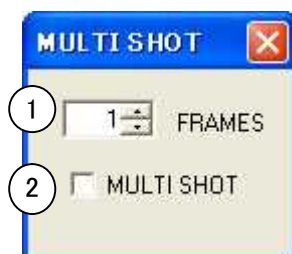
5. Acquisition start / stop

When the icon  of toolbar or "play" of menu "Video" is clicked, live is start.

When the icon  of toolbar or "stop" of menu "Video" is clicked, live is stop.

When the icon  of toolbar or "One shot" of menu "Video" is clicked, grab one shot.


When the icon  of toolbar or "Multi shot" of menu "Video" is clicked,



[Explanation of each part]

① FAMES : The number of frames to be acquired is set in the range from 1 to 255.

② MULTI SHOT : The number of frames specified by ① is captured when this is checked.

When the icon  of toolbar or "Fit to Window" of menu "View" is clicked, the image size is changed according to window size. This function can be toggled on/off.

When the icon  of toolbar or "Actual size" of menu "View" is clicked, the image size is changed to actual size.

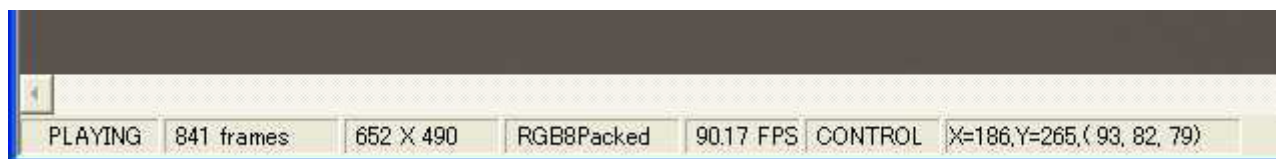
When the icon  of toolbar or "Zoom In" of menu "View" is clicked, the image is zoomed to maximum 400%.

When the icon  of toolbar or "Zoom Out" of menu "View" is clicked, the image size is reduced to minimum 10%.

When pixel format is Bayer8RG/Bayer10RG/Bayer12RG:

if select "Bayer" -> "Raw" of menu then RAW data is displayed


if select "Bayer" -> "Color" of menu then RAW data is converted to color image and color image is displayed.

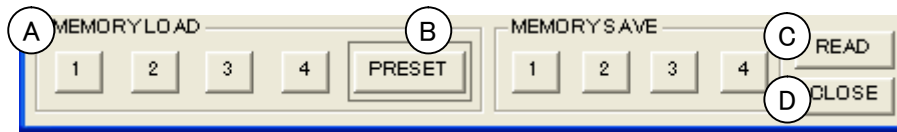


"PLAYING" and number of grabbing frame are displayed while image is grabbing.

Moreover, present grabbing frame number, image size (display magnification), pixel format, frame rate and pixel information pointed by mouse are displayed.

6. Camera control

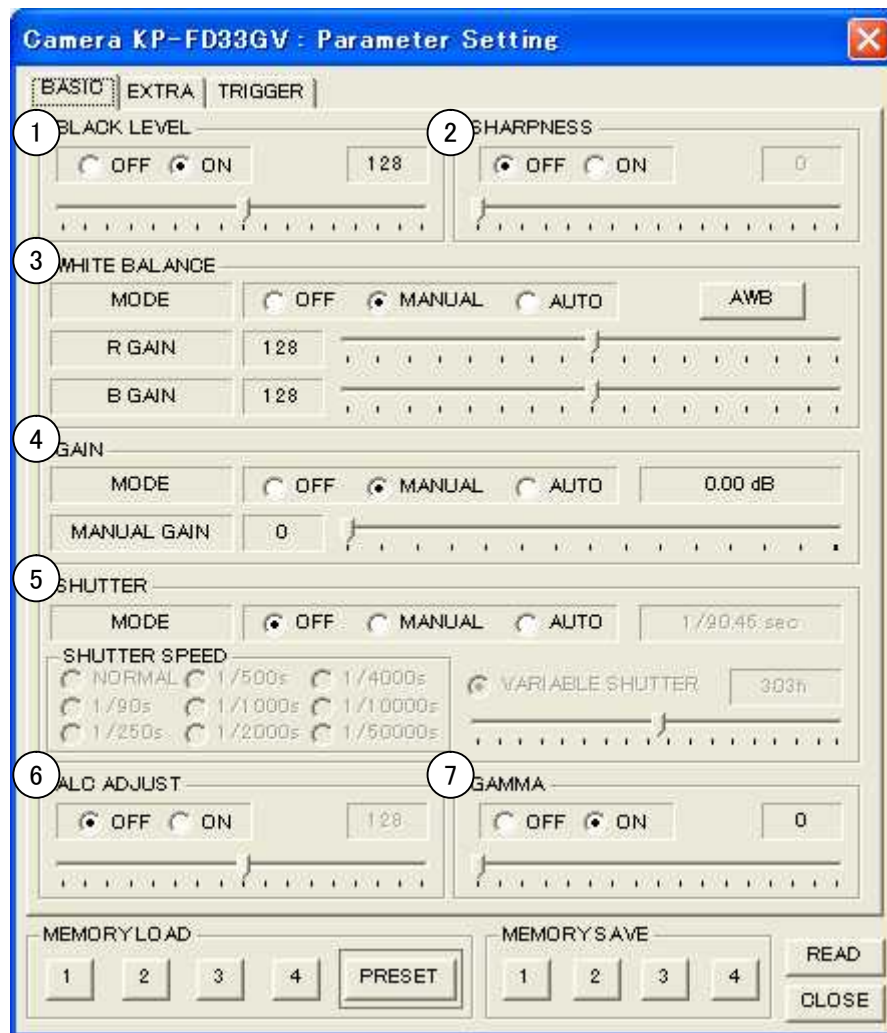
When the icon  of toolbar or the "KP-FD33GV controls" (this item name is changed by the connected camera) of menu "Tools" is clicked, the camera control dialog appears.



[Explanation of each part]

- Ⓐ MEMORY LOAD : All setting can be loaded from 4 memory channel of the camera.
When "PRESET" is pressed, all setting is returned to factory setting.
- Ⓑ MEMORY SAVE : All setting can be stored to 1 to 4 memory channel of the camera.
- Ⓒ READ : Displayed settings are read from the camera.
- Ⓓ CLOSE : Camera control dialog is closed.

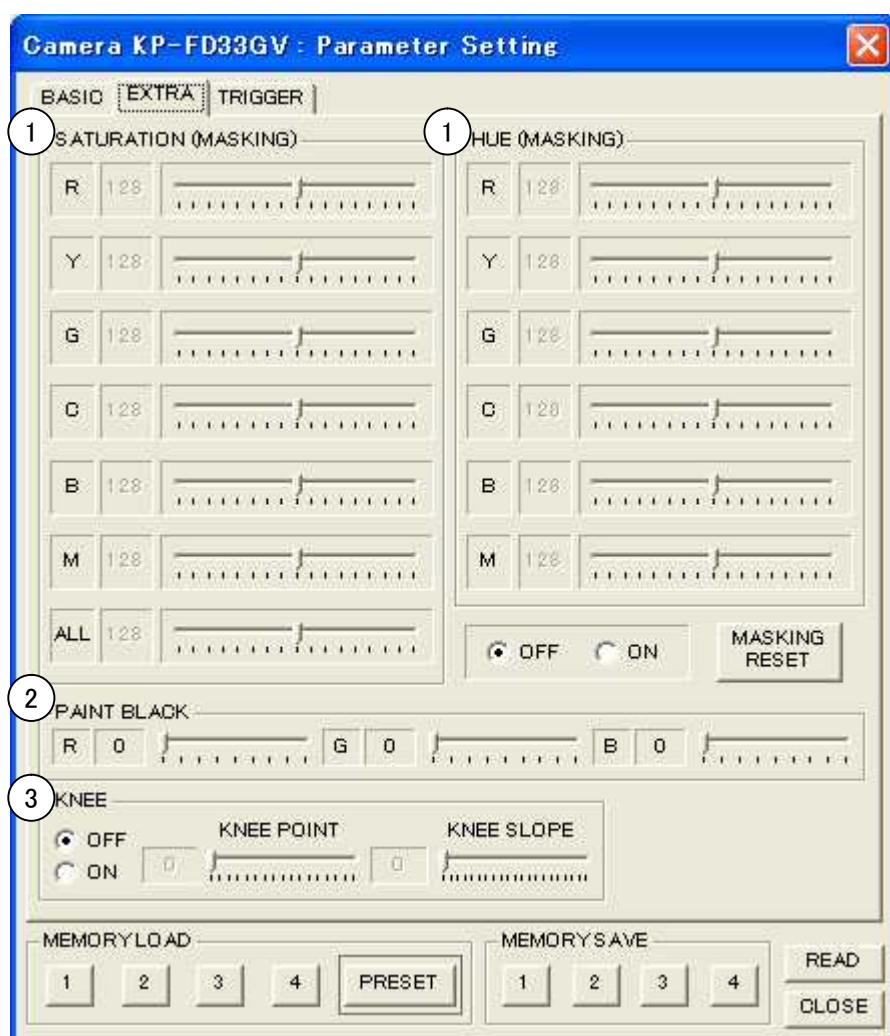
6-2. BASIC



[Explanation of each part]

- ①BLACKLEVEL : Setting of master black
- ②SHARPNESS : Setting of sharpness (object contour correction)
- ③WHITE BALANCE (only for Color camera) : Setting of white balance
- ④GAIN : Setting of electric sensitivity from 0 to 18dB manually or automatically.
- ⑤SHUTTER : Setting of electric shutter
 - MODE OFF : Normal shutter
 - MANUAL: PRESET or VARIABLE shutter
 - AUTO : AES
- ⑥ACL ADJUST : Setting of video level for AUTO GAIN and AUTO SHUTTER
- ⑦GAMMA : Setting of gamma correction

6-3. EXTRA



[Explanation of each part]

① MASKING (only for Color camera)

: Setting of 6 color independent masking (saturation and hue)

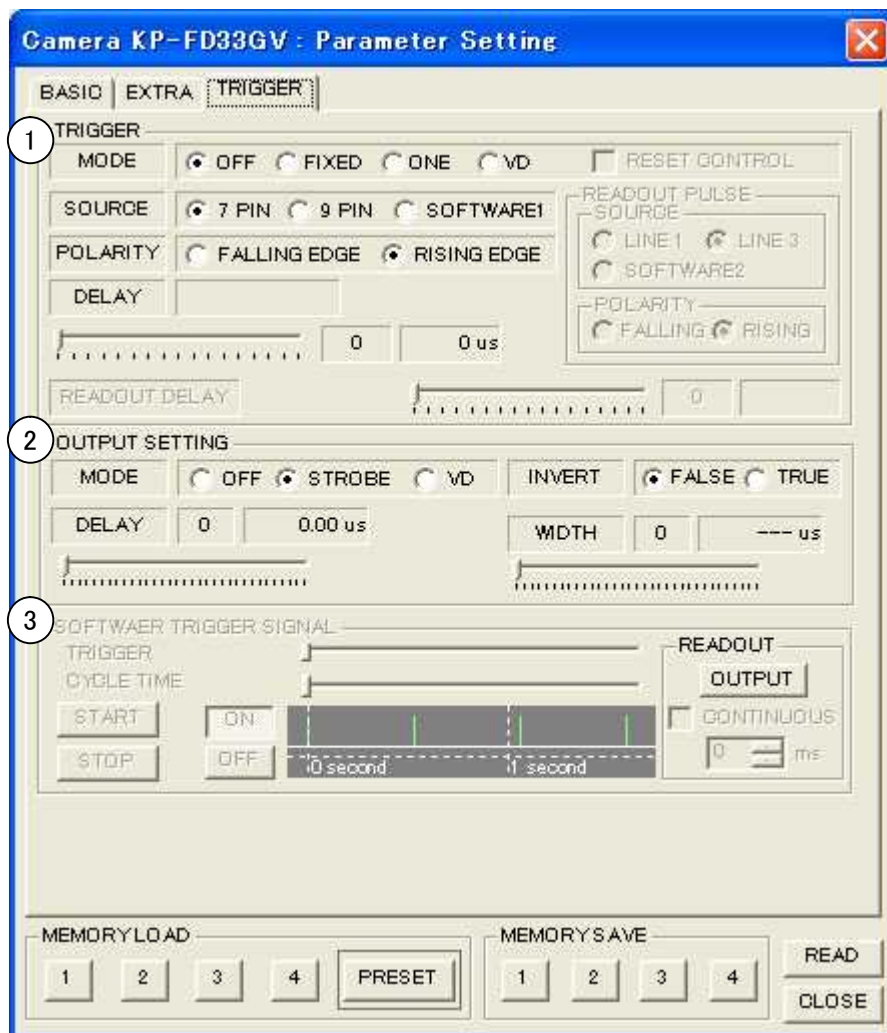
② PAINT BLACK (only for Color camera)

: Setting of paint black

③ KNEE

: Setting of knee point and knee slope

6-4. TRIGGER



[Explanation of each part]

- ① TRIGGER : Setting of external trigger functions
- MODE OFF : It is not used external trigger
 FIXED : It is Fixed shutter mode
 ONE : It is One trigger mode
 VD : It is VD reset mode
- SOURCE 7 PIN : Trigger signal is inputted from No.7 pin of DCIN/SYNC connector.
 9 PIN : Trigger signal is inputted from No.9 pin of DCIN/SYNC connector.
 SOFTWARE : Software trigger.
- POLARITY : Select FALLING EDGE or RISING EDGE
- DELAY : Setting of trigger delay
- RESET CONTROL : Setting of Reset control mode (available when MODE is FIXED or ONE)
- ② OUTPUT SETTING : Setting of output signal from No. 10 pin of DCIN/SYNC connector
- MODE OFF : Nothing is output
 STROBE : Strobe signal (flash pulse) is output
 VD : Camera VD is output
- INVERT : Select TRUE then output signal is inverted
- DELAY : Setting of strobe delay
- WIDTH : Setting of strobe width
- ③ SOFTWARE TRIGGER SIGNAL : Setting of software trigger signal

7. Register access

When "Manual command" of menu "Tool" is clicked, following dialog appears.

It is possible to access the register of the camera directory.

Both of ADDRESS and DATA must be input by hexadecimal number.

The screenshot shows a 'Manual Command' dialog box with a blue title bar and a close button. The dialog contains several input fields and buttons. Callouts 1 through 9 point to specific elements: 1 points to the 'ADDRESS (HEX)' input field; 2 points to the 'READ' button; 3 points to the 'WRITE' button; 4 points to the 'DATA (FLOAT)' input field; 5 points to the 'WRITE(FLOAT)' button; 6 points to the 'BYTE' dropdown menu; 7 points to the 'WRITE (HEX)' button; 8 points to the 'WRITE(ASCII)' button; and 9 points to the 'EXTRA' section at the bottom, which includes a table of address and data pairs with 'READ' and 'WRITE' buttons for each pair.

[Explanation of part]

①ADDRESS / DATA (HEX)

: Input the hexadecimal number in 4 byte

②READ

: When this button is pressed, read from camera and return value is displayed at edit box of DATA.

③WRITE

: When this button is pressed, the value of DATA (HEX) is written to the camera.

④DATA (FLOAT)

: When the value received from camera is FLOAT type, it is displayed by the real number.

⑤WRITE (FLOAT)

: When this button is pressed, the value of DATA (FLOAT) is written to the camera.

⑥BYTE

: The read number of byte is decided.

⑦WRITE (HEX)

: Numeric data of 4 byte or more is written to camera.

⑧WRITE (ASCII)

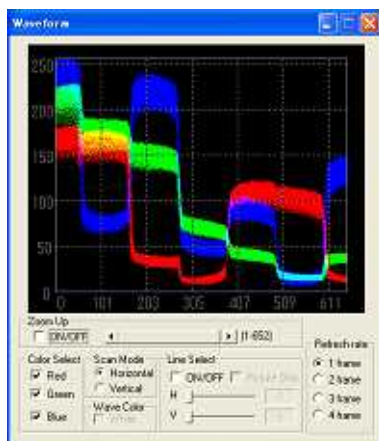
: ASCII data of 4 byte or more is written to camera.

⑨EXTRA

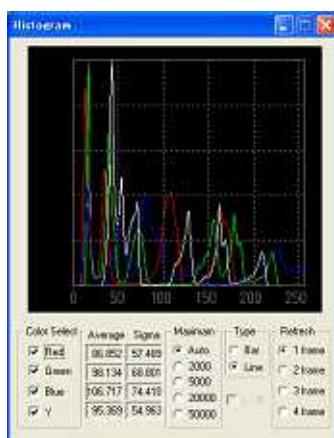
: 5 pairs of address and data can be memorized.

8. Other tools

When "Waveform" of menu "Tool" is clicked, waveform dialog appears.



When "Histogram" of menu "Tool" is clicked, histogram dialog appears.



When "Vector scope" of menu "Tool" is clicked, vector scope dialog appears (only for color camera).



When "Save snapshot" of menu "Tools" is clicked, the still image is saved at BMP file.

Hitachi Kokusai Electric

18th December, 2008