

Quick Start Guide

Digital High Speed

MEMRECAM

HXLink

SP-642



nac
IMAGE TECHNOLOGY

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MEMRECAM HXLink

SP-642 Quick Start Guide

Oct 2016

A description of HXLink version 1.92a is written in this document.

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DANGER

If the indications are ignored, dangerous conditions could result in death or serious injury.

WARNING

If the indications are ignored, potentially dangerous conditions could result in death or serious injury.

CAUTION

If the indications are ignored, potentially dangerous conditions could result in slight or moderate injury. Additionally, this caution sign is a warning of unsafe operation and indicates the potential of damage to this device or peripheral devices.

Handling Precautions

Safety alert symbol



This is an industry “safety alert symbol”. This symbol alerts you or others to the danger and/or items or operating concerns relating to the use of this device.

This mark is also used when there is important information relating to operation. Read the message by this symbol carefully and follow the instructions for safe and appropriate use of this device.

Grounding terminal symbol



This symbol indicates the site of a protective grounding terminal. If not grounded, electrical shock could be received from the metallic and other parts of this device. Due to this danger, please make sure it is grounded. When connecting to an electrical outlet using a 3P-2P convertible plug, connect with the outside grounding terminal of the convertible plug grounding wire.

Warning



Turn off the power switch before connecting or disconnecting the cable. If the cables are connected or disconnected with the power switch ON, electrical shock or damage to the equipment may occur.

High voltage warning symbol



Unplug the power cable from the outlet when replacing fuses. Do not open the cover.

Depending on the device, there may be parts that generate high voltage internally so leaving the cover open could result in electrical shock.

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1

Overview

The following can be performed with the HXLink.

- Control of the MEMREACM Q, HX, GX, and fx series cameras (preview, recording, playback, download)
- Playback of downloaded images (MCFF, AVI), image quality adjustment, format conversion (AVI, TIFF, BMP, JPEG)
- Playback of image files (AVI, TIFF, BMP, JPEG)
- Coordinate measurement (camera preview images, downloaded images, image files)

Zooms and scrolls images for display.

Synchronized display is possible to synchronize display of images of multiple specified items (camera or file).

For video playback, the playback range, playback direction and playback rate can be specified.

2

Installation

2.1 Operating Environment

The PC conditions to operate HXLink are as follows.

Computer	IBM PC compatible (DOS/V)
CPU	Core2 Duo 2GHz or equivalent (the compression and display processing speed depends on the CPU properties.)
Memory	2GB or greater
Display	Full color, screen size of 1024×768 or greater, screen DPI setting of 96dpi (Recommend 1600×1200 or greater for color image sizes of 1280×1024)
OS	Windows XP Professional + SP2 (32bit) Windows Vista Ultimate/Business + SP1 (32/64bit) Windows 7 Ultimate/Professional (32/64bit) Windows 8/8.1 Pro (32/64bit) Windows 10 Pro (32/64bit) Internet Explorer 5.0 service pack 2 or higher DirectX 8.0 or higher With Q camera, Windows 7 or higher
Disc drive	600MB for program or log 60GB or greater for data (recommend 200GB or more) (depends on the number of cameras and the number of frames saved)
Network	With HX, GX, Q and fx cameras (Gbit connection): Ethernet (IEEE802.3ab 1000BASE-T Half Duplex) With fx cameras (TCP/IP Fast Ethernet): Ethernet (IEEE802.3u 100BASE-TX Half Duplex) With fx cameras (FC-AL connection): FC-AL With ULTRA Cam: Ethernet (IEEE802.3u 100BASE-TX Half Duplex)
CD drive	1 (for installation)
Mouse	1
Keyboard	1

The compression and display processing speed depends on the CPU properties. Enough disc data free space is required for the size required by the application.

In addition to the requirements listed above, depending on the computer configuration and version, this product may not function properly.

(Please contact our company for recommended models.)

2.2 PC Settings

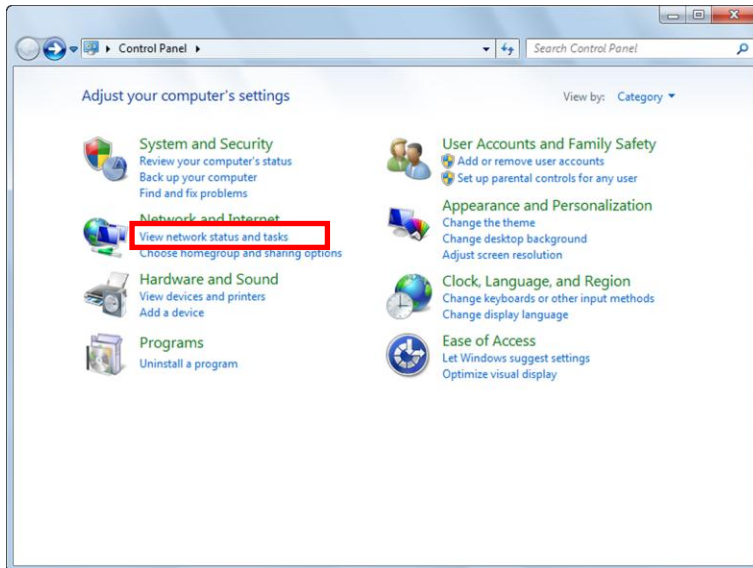
Have the user with Windows Administrators authorization log in.

Connect the powered up HUB or camera to the LAN port used for camera control.

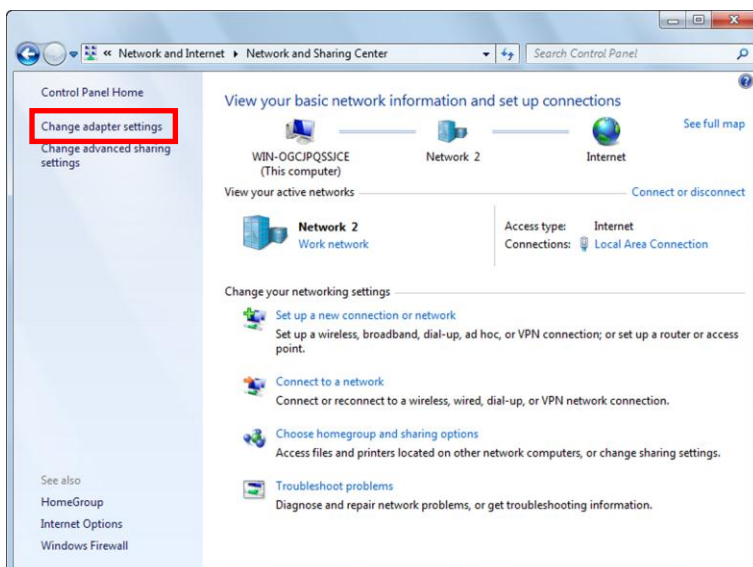
This manual describes the setting method for Windows7.

■ PC IP Address Settings

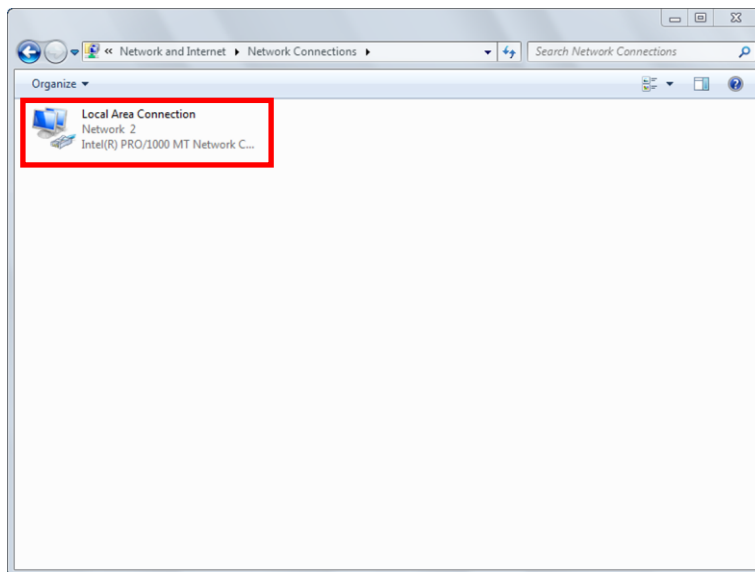
Open the control panel from the Windows start button.



Click to open “View network status and tasks”.



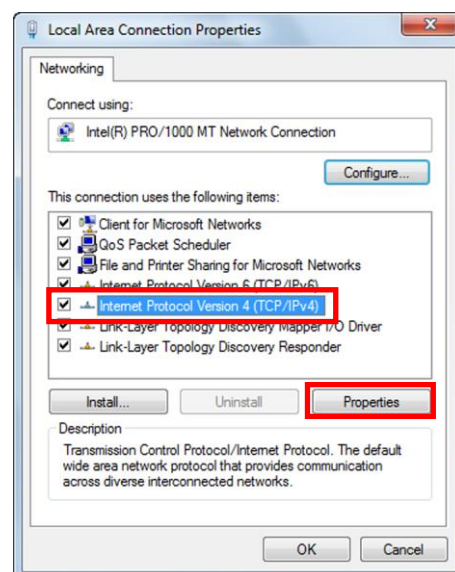
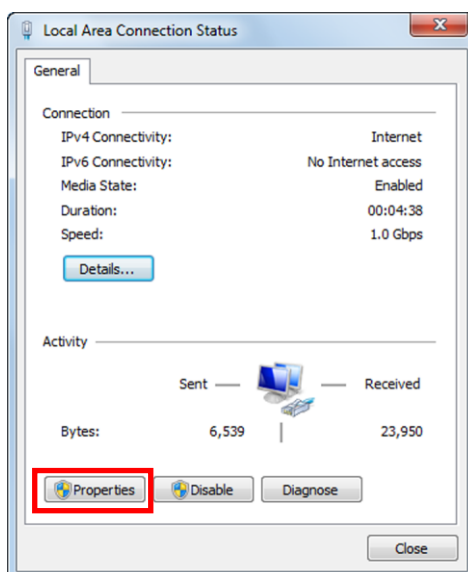
Click to open “Change adapter settings”.



Double click to open the LAN port connection used for HX camera control.

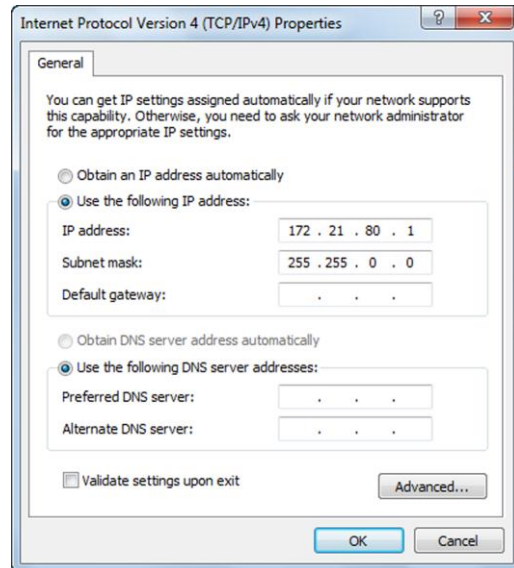
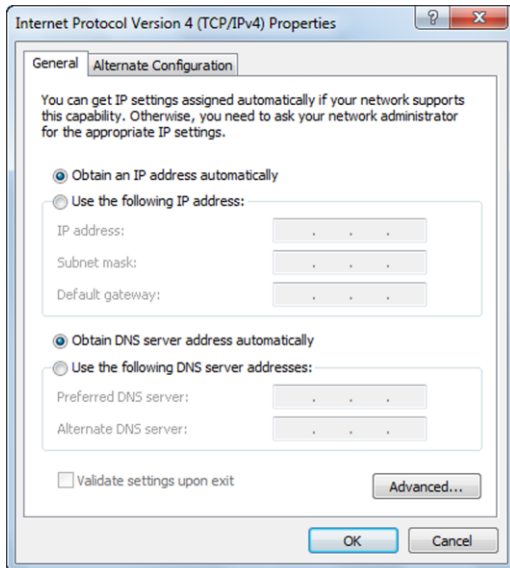
Normally, select “Local Area Connection”. This manual describes an example where “Local Area Connection” was selected.

If extending the LAN adapter for camera control, select the name of the connection for “Local Area Connection 2”.



Click “Properties” in the “Local Area Connection Status” window to open the “Local Area Connection Properties” window.

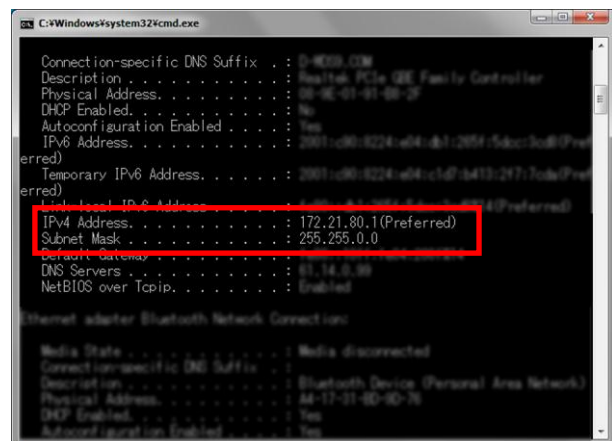
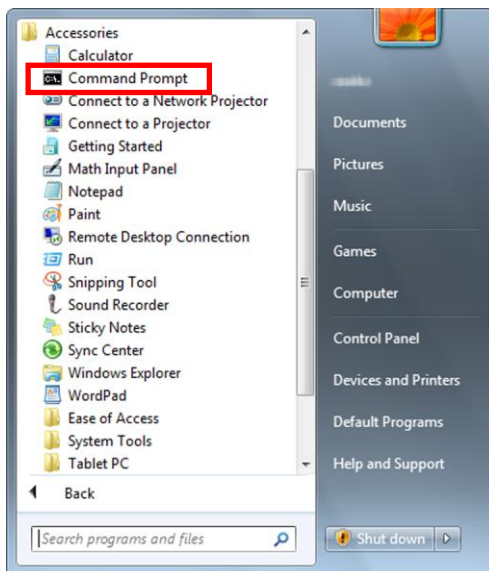
Select “Internet Protocol Version 4 (TCP/IPv4)” in the items under the “This connection uses the following items” in “Local Area Connection Properties”, and then click on “Properties” immediately under that to open the window for “Internet Protocol Version 4 (TCP/IPv4) Properties”.



As shown in the figure on the right, the PC IP address is set to 172.21.80.1 and the subnet mask is set to 255.255.0.0.

Click OK for “Internet Protocol Version 4 (TCP/IPv4)”, and then click OK for the “Local Area Connection Properties” to confirm the settings. Close the “Local Area Connection Status” window.

Confirm the IP address set for the PC by performing the ipconfig command with the command prompt. Open accessories from the Windows start button and click “Command Prompt” to open.



Type in ipconfig and press Enter to display the PC IP address.

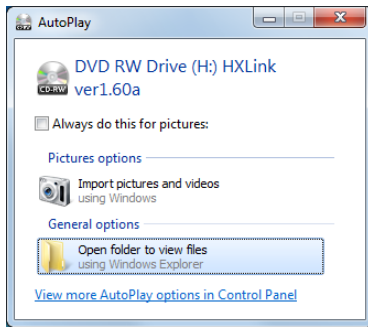
* If the PC IP address is set up other than 172.21.80.1, the PC IP address must be different from the camera IP address. At this point, communication is not possible if the PC and the camera not set the same Network segment and the Subnet mask on the same Network, and in this case, the Network segment is 172.21.*.* and the Subnet Mask is 255.255.0.0. For example, the subnet mask both of the PC and the camera is 255.255.0.0, and the PC IP address is 172.21.100.50, the camera IP address is 172.21.100.80.

If the camera IP address is changed, refer to the camera user’s manual or the HXLink user’s manual.

2.3 HXLink Installation

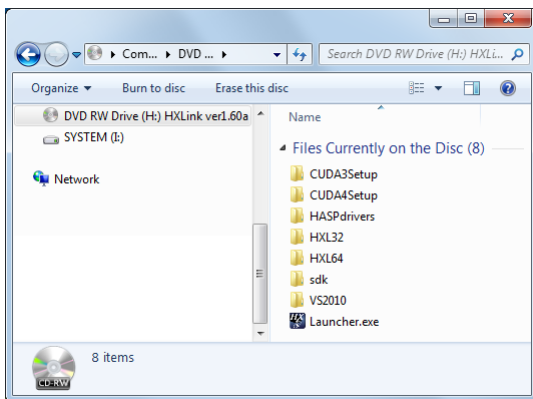
For using Q camera, Please refers to HXLink User's Manual.

After completing all of the PC applications, insert the camera CD into the CD drive to display the “Auto Play” window.



Once all of the PC applications have been completed, the “Automatic Playback” window is displayed when the HXLink CD is inserted into the PC CD drive.

Click “Open folder to view files” to start the installer and installation.



The HXLink CD is displayed in Explorer so double click on “Launcher.exe” in the “HXLink” folder.

The “CUDA3Setup”, “CUDA4Setup” and “HASPdrivers” folders on the CD are the various types of program folders for options sold separately.

■Microsoft Visual C++ 2010 Install

In VS2010 folder, there is a 32bit program installer for vc_redist_x86.exe and 64bit program installer vc_redist_x64.exe.

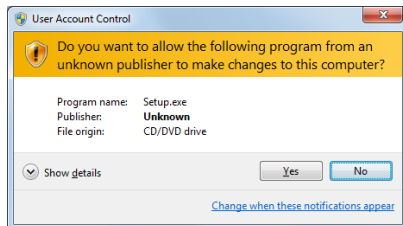
Please run vc_redist_x86.exe only if you want to install the HXLink 32bit version, both of vc_redist_x86.exe and vc_redist_x64.exe If you are installing the HXLink 64bit version.

■Install HXLink Application

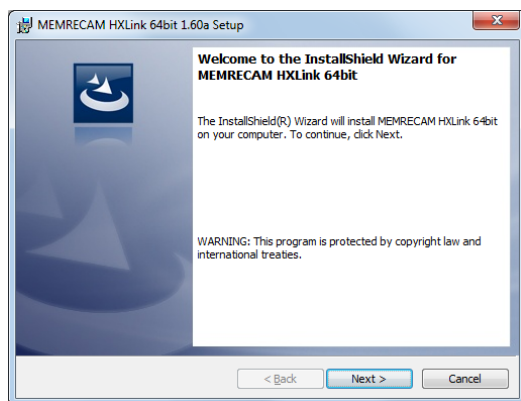


Displays the launcher by double-clicking the Launcher.exe of HXLink installer.

Click the button of HXLink 32bit version / 64bit version to install.

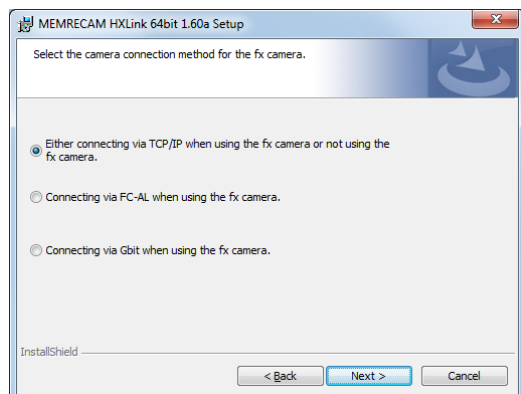


Click "Yes", and then continue with the installation.



Upon starting the installation, "Welcome to the MEMRECAM HXLink Setup" appears.

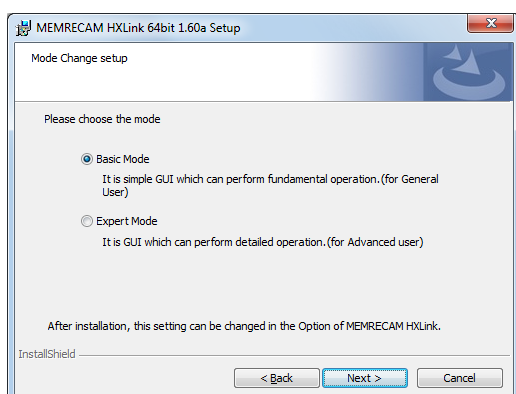
Click "Next" to start the installation.



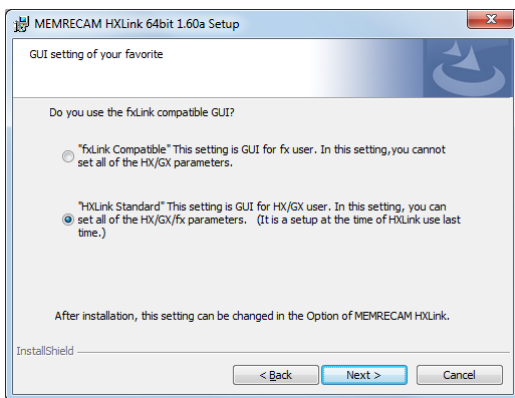
Set the fx camera connection method. If not using an fx camera, or if using a TCP/IP connection, simply click "Next".

If using an fx camera with an FC—AL connection, select "Use fx Camera with an FC-AL Connection" and click "Next".

If using an fx camera with a Gbit connection, select "Use fx Camera with Gbit Connection" and click "Next".



Select Basic Mode and click "Next".



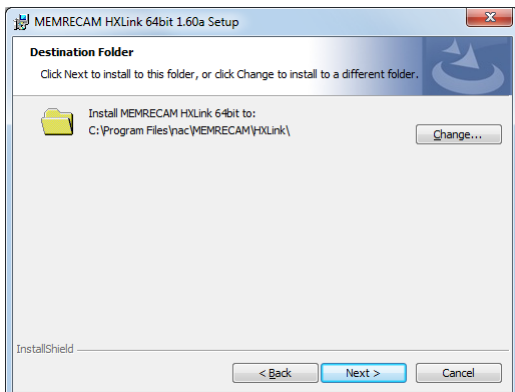
Select an fxLink compatible GUI.

Compatible fxLink

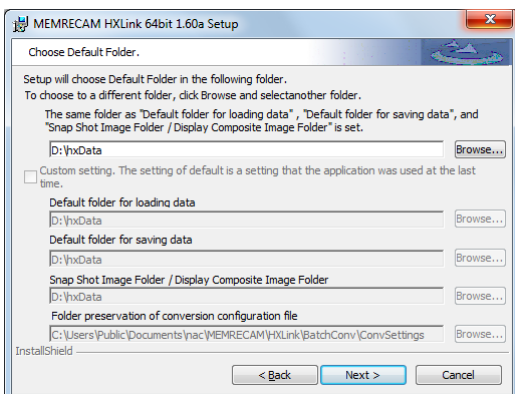
GUI corresponding to the fx camera. All of the GX camera functions cannot be used.

Standard HXLink

All of the GX camera functions can be used.



If changing the drive or folder for installing the program, click "Browse" and set the folder for installing the program. After designating the folder, click "Next".



Select the previously set folder.

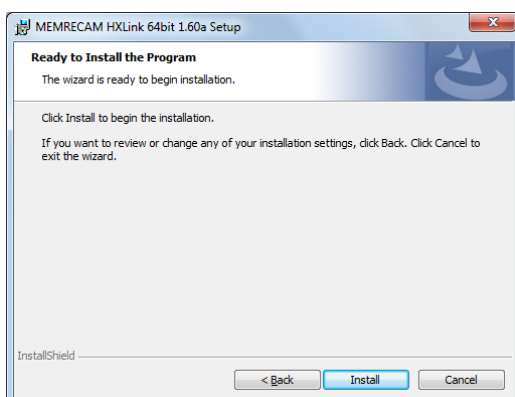
If changing the default settings, click “Browse” and select the folder. After designating the folder, click “Next”.

When first installing HXLink, settings for the previously set input folder, save folder, snapshot/cross fade display folder are set in the same folders.

If updating HXLink versions, the previous settings for each folder can be set individually.

Selection of the previously set folders can be changed when executing HXLink.

The installation will start when you click the “Install”.

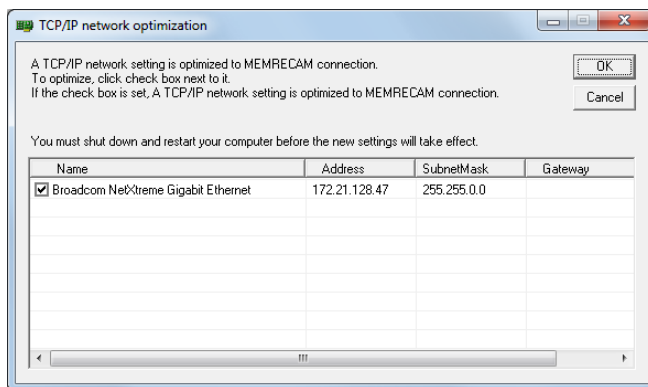


This performs “TCP/IP Network Optimization”.

Perform the following operations after connecting the PC to the LAN HUB or MEMRECAM.

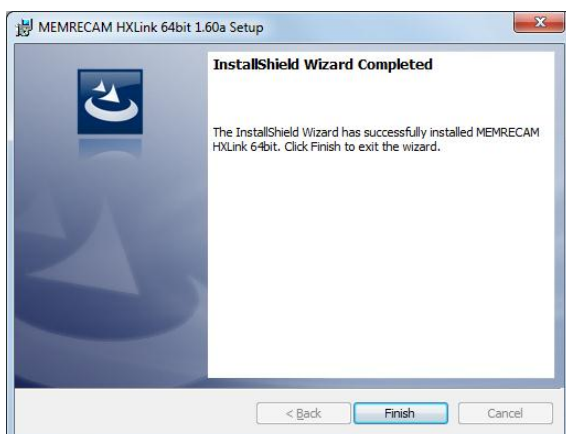
If the following operations are conducted when the PC is not connected to the LAN or MEMRECAM, there will be message indicating "TCP/IP Network Optimization" required when the MEMRECAM is connected.

At that point, end HXLink and perform "TCP/IP Network Optimization" in “Start Menu” → “MEMRECAM HXLink” and restart the PC.



■ If using an HX, GX or an fx camera connection, check the network and click OK.

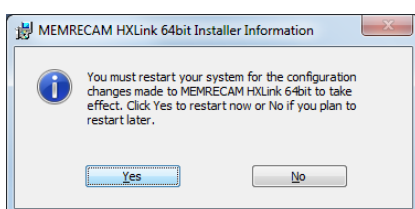
If using only the fx camera FC-AL, click Cancel.



Click "Finish" when the dialog for setup complete is displayed.

Reboot the computer before using the program.

This completes the installation of the HXLink application.



(Blank page)

3

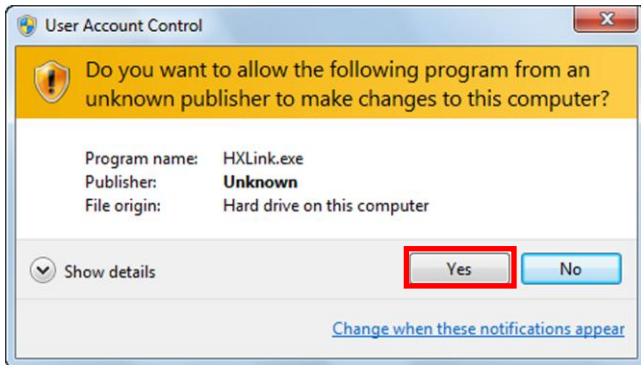
Basic Functions

3.1 HXLink Startup

Double click on the HXLink icon on the desktop to start the HXLink application.

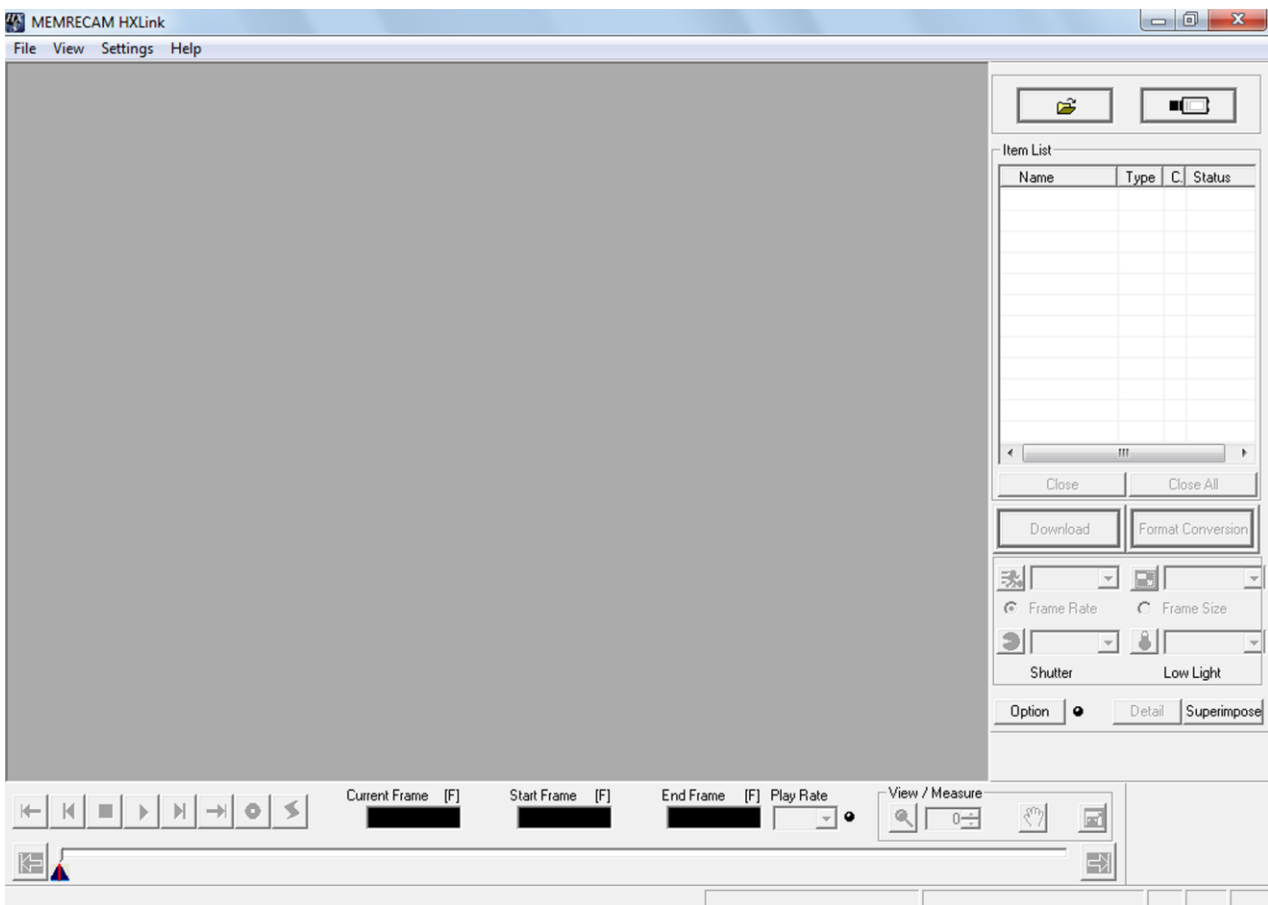


Click “Yes” when the “User Account Control” dialogue is displayed.



The following screen appears when HXLink starts up.

(The descriptions in this manual assume the HXLink GUI setting is in “Basic Mode”).



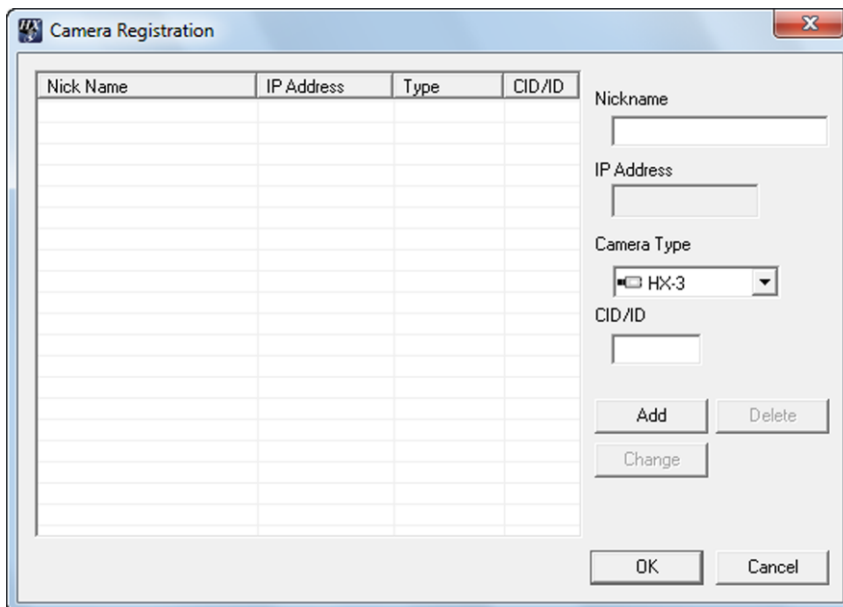
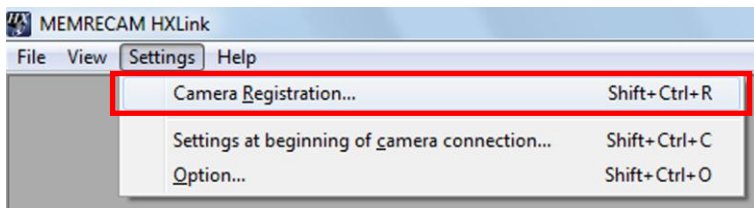
[Startup Screen : Basic Mode]

3.2 Camera Registration

You can assign a “Nickname” of your own choice to the camera registered in HX Link.

If the camera is not registered, the camera name will be the symbol and CID (camera identification number) indicating the model.

To set the camera nickname, select “Camera Registration” from “Settings” to display the camera registration dialogue.

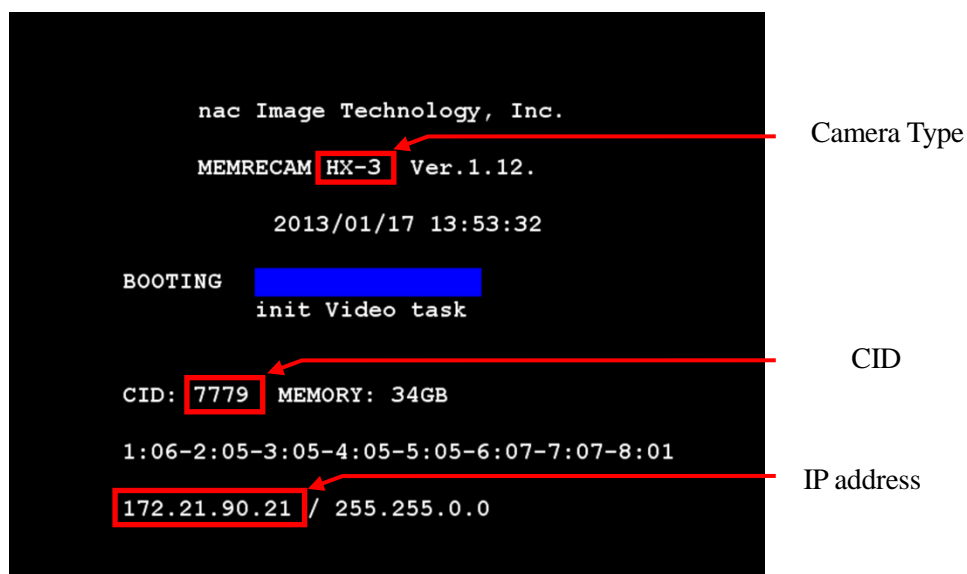


Input the Nickname, Camera Type and CID in the camera registration screen and click “Add”.

The input Nickname will be displayed in the list on the camera registration screen. Click “OK” to finish registration.

- * The CID is the number identifying the individual MEMRECAM camera.
- * The camera IP address is set at factory shipment.

* The Camera Type, CID, and IP address are displayed at camera startup.




Startup Screen: MEMRECAM HX-3

Confirm the Camera Type, CID and IP address, even with the HXLink camera search function described next.

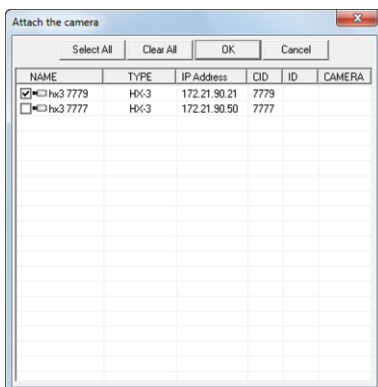
Confirmation can also be made with TOP MENU> SYS MENU> INFO with the optional J-PAD3 remote control.

3.3 Camera Connections

Click “Connect Camera”  in the “Item Toolbar” to start connections with the camera.

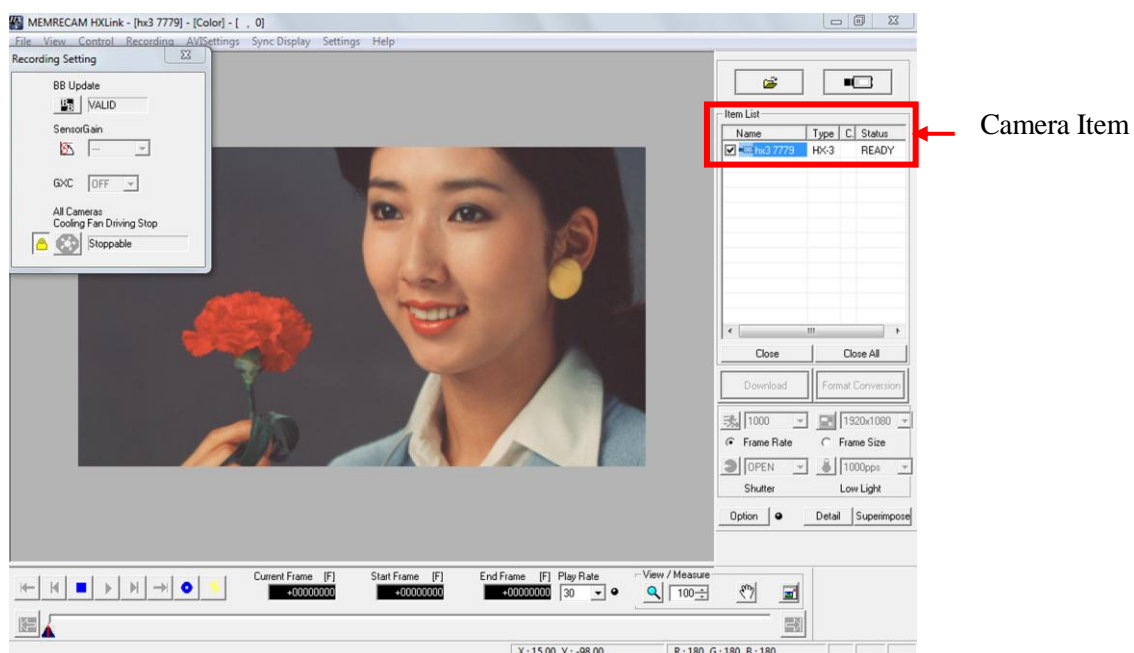
HXLink searches for cameras on the network when “Connect Camera” is pressed and displays them in the camera connection window. The cameras found are displayed in this window, and cameras connected from other PC are marked with a red **X** indicating connection is not possible. Check the box to the left of the cameras that can be connected and click OK to connect all of the cameras checked.

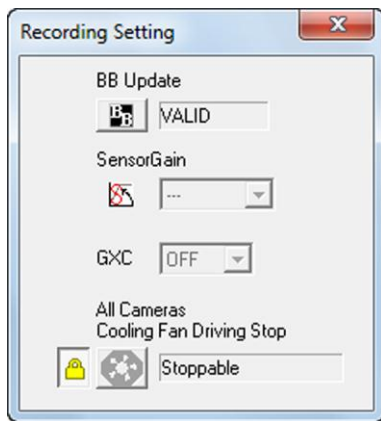
If only one camera is to be used, register that camera and that camera is connected without being displayed in the camera connection window.



Start “Connect Camera” and the cameras designated in the item list are added as camera items, and the Nickname, Camera Type and camera status for the camera is displayed. The camera item status display is updated each time the camera status changes, and the camera status is then displayed.

When the camera connection is done, a live camera image is shown in the image display area.





The “Recording Settings” window appears when HX series cameras are connected.

“BB Update”



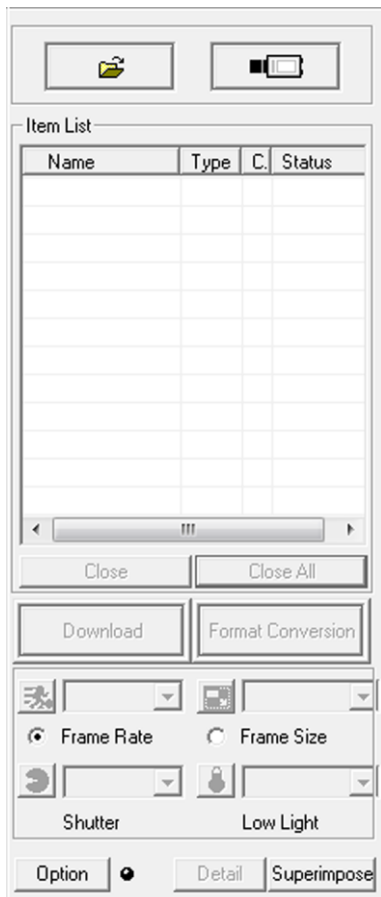
Conduct black balance after changing the shutter or frame size by correcting the black level for each pixel.

The HX camera is set at factory shipment to automatically update the black balance upon camera startup, when starting VIEW, ARM or when ending recording.

Check the “HX Link User’s Manual” for “Sensor Gain”, “GXC” and “All Cameras Cooling Fan Driving Stop”.

3.4 Toolbars

■ Item Toolbar (Basic Mode)



Add Item

Open Image File



Opens the image file and adds it to the item list as a file item.

Connect Camera



Connects the camera and adds it to the item list as a camera item.

Item List

Displays the items (cameras connected, image file opened).



Synchronous display selection check boxes



Item mark

Camera Item

Name

Camera nickname

Type

Camera Type or memory segment. Memory segments are shown as “MEM”.

CAMERA

Camera port number (with multiple camera head DRP)

Status

Camera status or memory segment number



File Item

Name

Image file name

Type

Image file type (mcf, avi, tif, bmp, jpg)

Close

Closes the item in the image display and deletes it from the list.
For cameras, ends the camera connection.

Close All

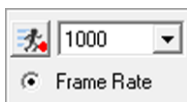
Closes all of the items and deletes them from the list.
For cameras, ends all of the camera connections.

Download

Downloads image data from a camera to the PC
Downloads the image data recorded on a camera to the PC as MCFF or AVI format files.


Format Conversion

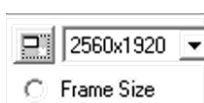
Converts the image data (MCFF) format
Converts MCFF files to the AVI/BMP/TIFF/JPEG format and saves.
When specifying conversion to MCFF, it is cut off at the time axis and saved.



Frame Rate Settings


Sets the camera Frame Rate in the VIEW mode.

The selectable Frame Rate are shown in the pull down menu. Click  to set the Frame Rate in greater detail.



Frame Size Settings


Sets the camera frame size in the VIEW mode.

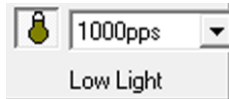
The selectable frame sizes are shown in the pull down menu. Click  to set the frame sizes in greater detail.




Shutter Speed Settings

Select the shutter speed from the pull down menu to set.

Click the custom shutter  to set the shutter speed in greater detail.



Low Light Settings

When in the VIEW mode, click the low light mode button  to verify the subject at an exposure corresponding to the Frame Rate specified in the pull down menu. The subject can be verified with general illumination conditions even without using photographic lighting, and image angle and focus adjustment is possible.

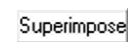


Click the option button and the window for the HX Link settings is displayed.



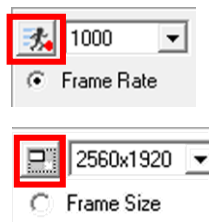
Detailed Settings

Displays the window for the detailed settings for the connected camera.

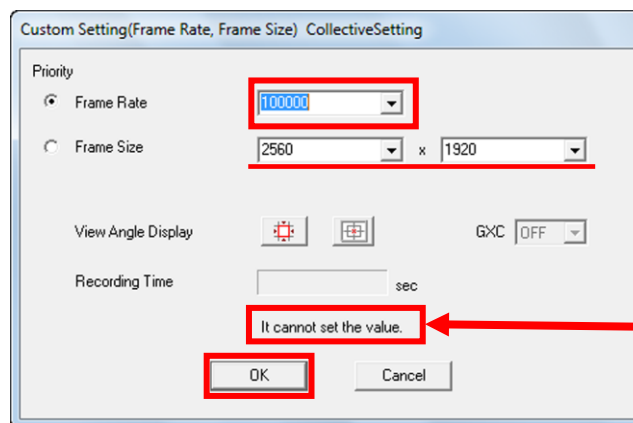


Click the superimpose button to display the camera photographic information on the downloaded image.

Custom Settings for Frame Rate and Frame Size

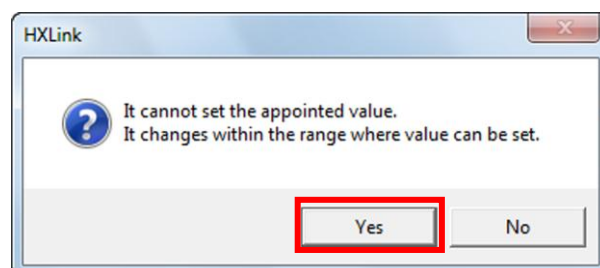


Click the left button on the pull down menu for “Frame Rate” and “Frame Size” to display the following dialogue and set the desired frame rate and frame size. However, there are limitations to the values that can be set for frame rate and frame size.

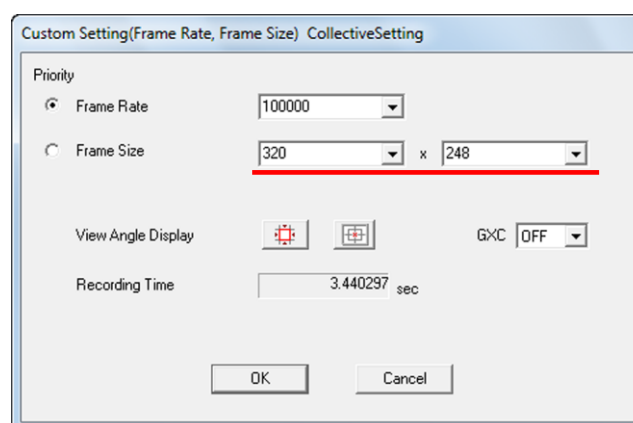


Coordinate the Frame Rate and Frame Size, and a message will be displayed for values that cannot be set.

Click “OK”.



Click “Yes” to change to the set value.

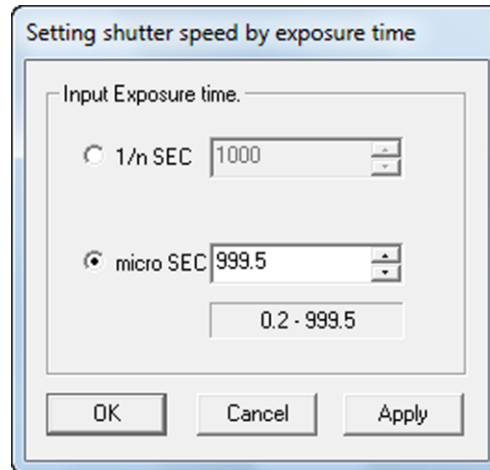


The “Frame Size” is changed to the value set.



Custom Shutter Settings

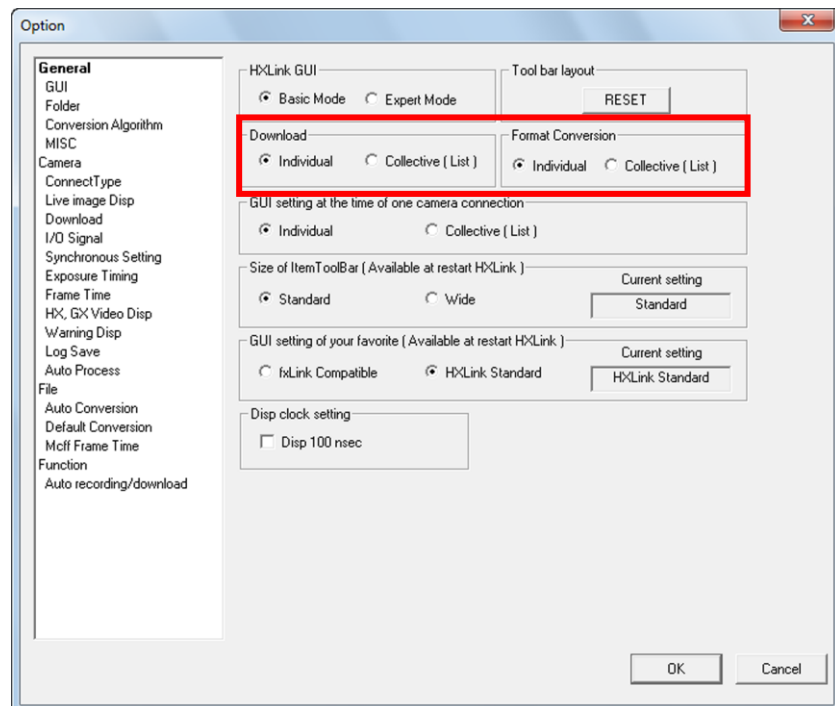
Detailed shutter speeds can be set.



HXLink Detailed Settings



“Download” and “Format Conversion” settings can be performed either “individual” or “Collective (List)”.



Refer to the “HX Link User’s Manual” for details for each item.

Detailed Settings

Detail

Click the detailed settings button to display the window for each of the settings for the connected camera.

A “Detail settings” window is shown for a single camera connection, while a “The list of camera setup” window is shown for two or more camera connections.

The 'Detail settings' window is divided into several sections for configuring camera settings:

- Recording parameters:** Includes fields for ID, Scene No., Frame Rate (1000), Frame Size (2560x1920), Rec Trigger Mode (1), Trigger Timing (CENTER), Shutter (OPEN), AE (OFF), Pixel Bit Depth (10bit), Exposure phase (0), Low Light (1000pps), and a Comment field. It also features dropdowns for Knee (ON), Gain (NORMAL), Gamma (NORMAL), White Balance (AUTO), Enhance (NORMAL), Chroma (100%), Black Balance (ON), ADI (FULL), DRES Mode (OFF), and Rec Sync Signal (Internal Sync).
- General parameters:** Includes Camera Time, Internal Sync Time, BATT.STATUS (LARGE), Save Range Mode (PLAY), Black Balance Update (VALID), and a Video section with Zoom (FIT1), X Position (0), Y Position (0), and a Centering button.
- Playback Parameters:** Includes Segment No. (SEG 1), Scene No. (0), Frame Rate (1000), Frame Size (1920x1080), Trigger Mode (1), Trigger Timing (CENTER), Shutter (OPEN), AE (OFF), Pixel Bit Depth (10bit), Exposure phase (0), and a Comment field. It also features dropdowns for Knee (ON), Gain (NORMAL), Gamma (NORMAL), White Balance (AUTO), Enhance (NORMAL), Chroma (100%), Black Balance (ON), ADI (FULL), DRES Mode (OFF), and Rec Sync Signal (Internal Sync).
- Block/Frame settings:** A table for defining block and frame ranges for current, start, end, top, and bottom frames.
- Trigger Time:** Displays the current trigger time as 13/03/27 16:36:20.000000.
- Buttons:** 'Apply' and 'Close' buttons are located at the bottom right.

	Block	Frame		Block	Frame
Current	1	0	Top	1	-6588
Start	1	-20	Bottom	1	6587
End	1	20			

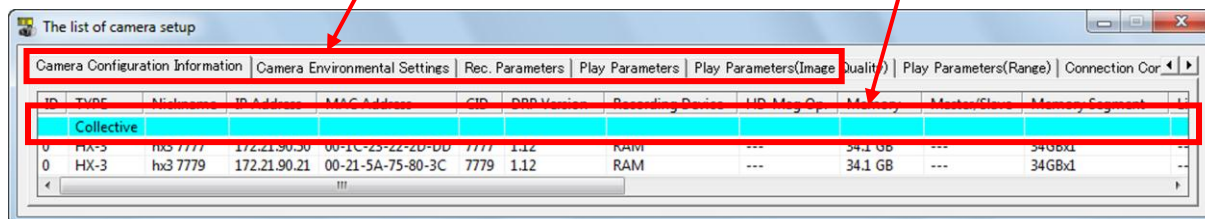
“Detail settings” Window

Detail

Double click on a cell for each of the parameters in the “Collective” row to display the settings dialogue. Settings for the parameters for all of the connected cameras can be made. Parameters for the connected cameras can be set in the cells for the selected cameras.

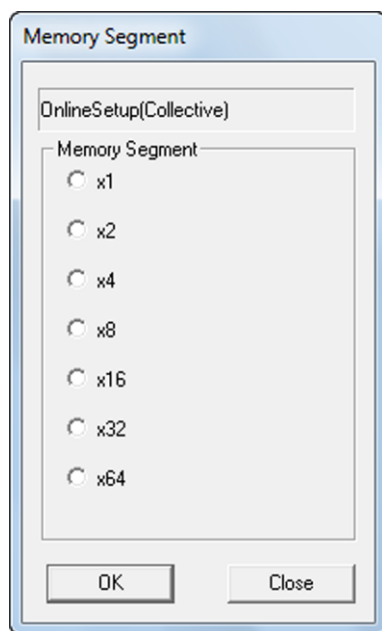
Switch the tabs to change the setting item

“Collective” row

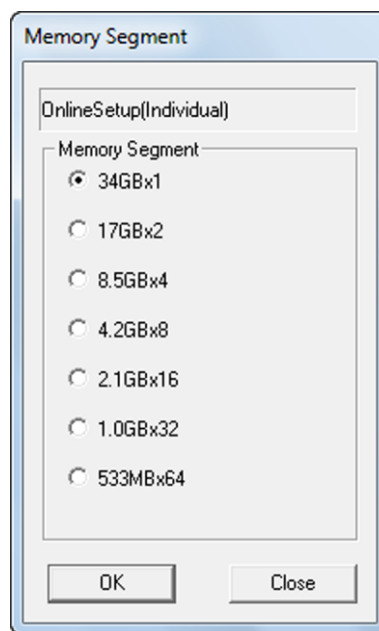


“The List of camera setup” Window

For example, if setting segmentation, the following occurs for cameras selected as “Collective” or “Individual”.

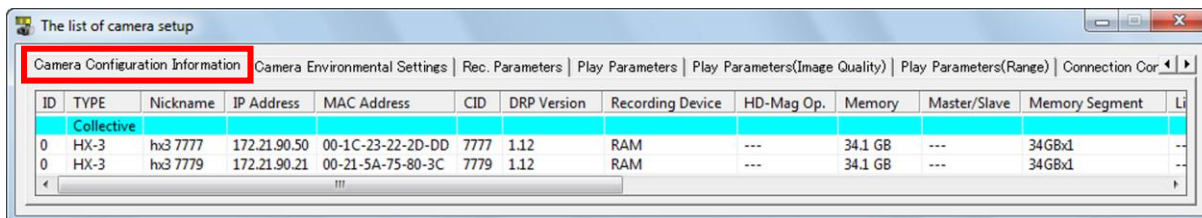


Collective



Individual

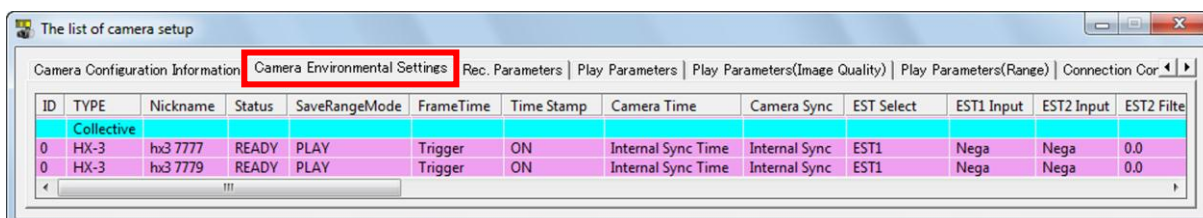
The list of camera setup (Partial)



The screenshot shows the 'The list of camera setup' window with the 'Camera Configuration Information' tab selected. The table displays the following data:

ID	TYPE	Nickname	IP Address	MAC Address	CID	DRP Version	Recording Device	HD-Mag Op.	Memory	Master/Slave	Memory Segment	Li
Collective												
0	HX-3	hx3 7777	172.21.90.50	00-1C-23-22-2D-DD	7777	1.12	RAM	---	34.1 GB	---	34GBx1	--
0	HX-3	hx3 7779	172.21.90.21	00-21-5A-75-80-3C	7779	1.12	RAM	---	34.1 GB	---	34GBx1	--

Camera Configuration Information : Displays information such as the IP address for connected cameras

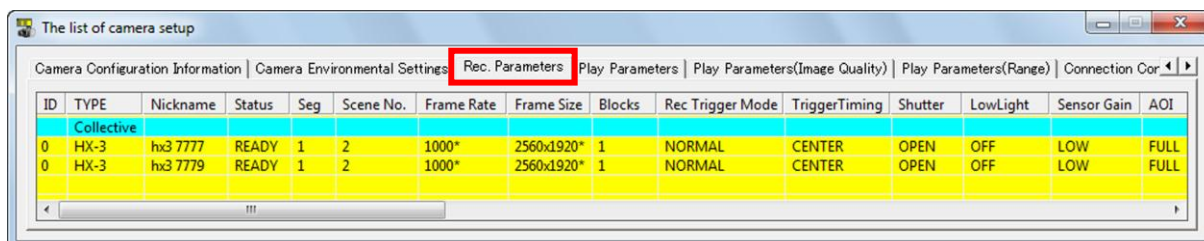


The screenshot shows the 'The list of camera setup' window with the 'Camera Environmental Settings' tab selected. The table displays the following data:

ID	TYPE	Nickname	Status	SaveRangeMode	FrameTime	Time Stamp	Camera Time	Camera Sync	EST Select	EST1 Input	EST2 Input	EST2 Filter
Collective												
0	HX-3	hx3 7777	READY	PLAY	Trigger	ON	Internal Sync Time	Internal Sync	EST1	Nega	Nega	0.0
0	HX-3	hx3 7779	READY	PLAY	Trigger	ON	Internal Sync Time	Internal Sync	EST1	Nega	Nega	0.0

Camera Environmental Settings :

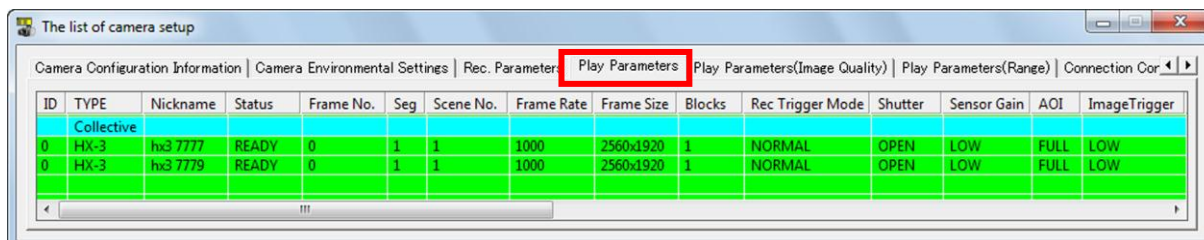
Displays information such as the synchronization settings for connected cameras



The screenshot shows the 'The list of camera setup' window with the 'Rec. Parameters' tab selected. The table displays the following data:

ID	TYPE	Nickname	Status	Seg	Scene No.	Frame Rate	Frame Size	Blocks	Rec Trigger Mode	TriggerTiming	Shutter	LowLight	Sensor Gain	AOI
Collective														
0	HX-3	hx3 7777	READY	1	2	1000*	2560x1920*	1	NORMAL	CENTER	OPEN	OFF	LOW	FULL
0	HX-3	hx3 7779	READY	1	2	1000*	2560x1920*	1	NORMAL	CENTER	OPEN	OFF	LOW	FULL

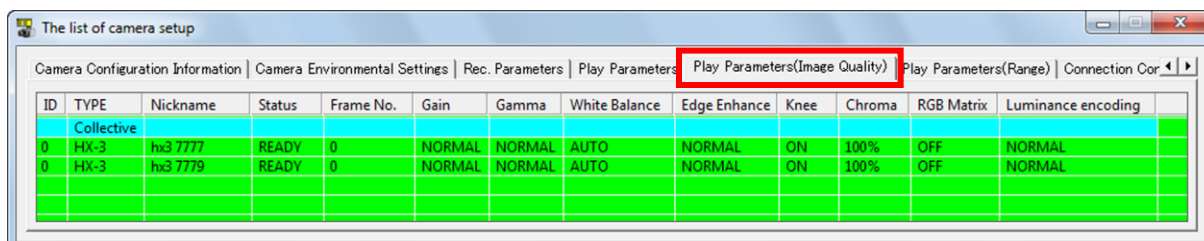
Rec. Parameters : Displays recorded image data settings



The screenshot shows the 'The list of camera setup' window with the 'Play Parameters' tab selected. The table displays the following data:

ID	TYPE	Nickname	Status	Frame No.	Seg	Scene No.	Frame Rate	Frame Size	Blocks	Rec Trigger Mode	Shutter	Sensor Gain	AOI	ImageTrigger
Collective														
0	HX-3	hx3 7777	READY	0	1	1	1000	2560x1920	1	NORMAL	OPEN	LOW	FULL	LOW
0	HX-3	hx3 7779	READY	0	1	1	1000	2560x1920	1	NORMAL	OPEN	LOW	FULL	LOW

Play Parameters : Displays the recorded image data playback settings



The screenshot shows the 'The list of camera setup' window with the 'Play Parameters(Image Quality)' tab selected. The table displays the following data:

ID	TYPE	Nickname	Status	Frame No.	Gain	Gamma	White Balance	Edge Enhance	Knee	Chroma	RGB Matrix	Luminance encoding
Collective												
0	HX-3	hx3 7777	READY	0	NORMAL	NORMAL	AUTO	NORMAL	ON	100%	OFF	NORMAL
0	HX-3	hx3 7779	READY	0	NORMAL	NORMAL	AUTO	NORMAL	ON	100%	OFF	NORMAL

Play Parameters (Image Quality) :

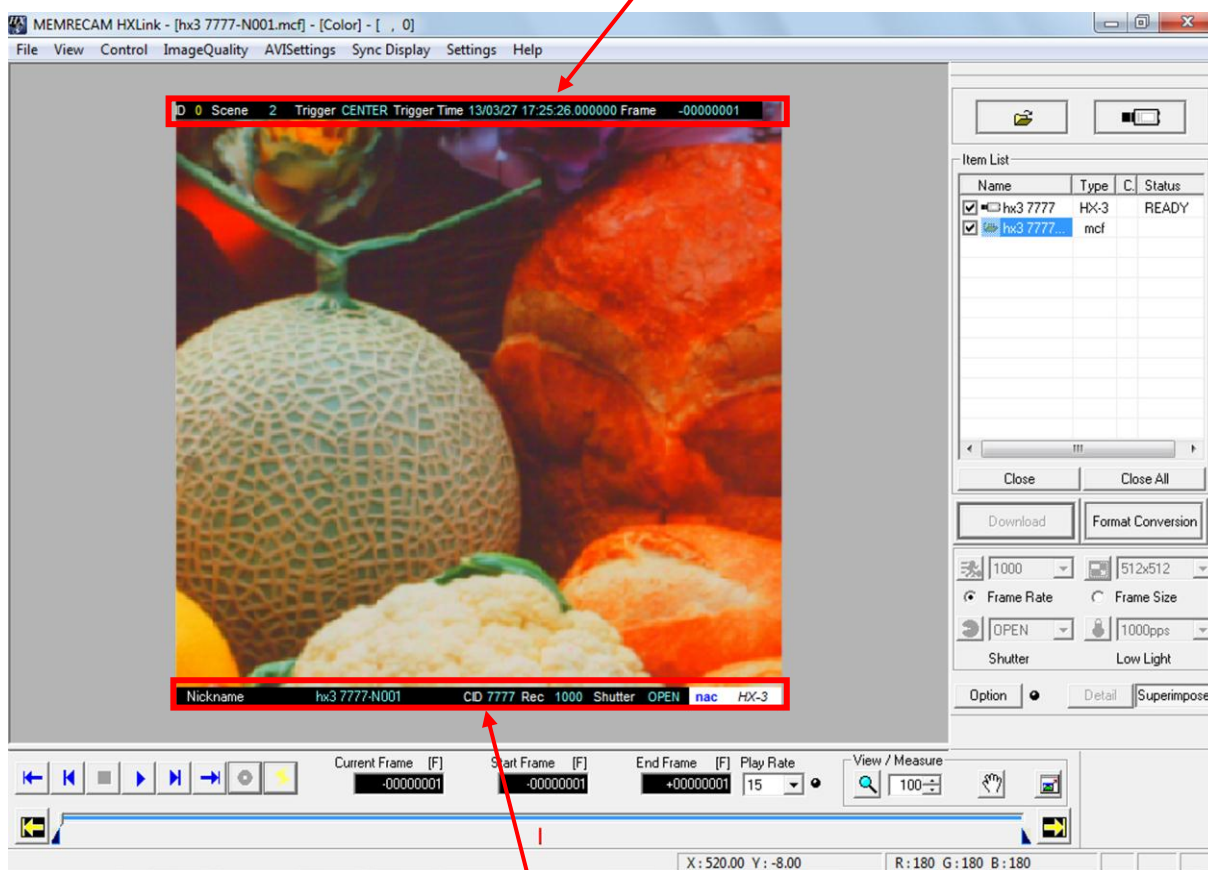
Displays the image quality settings during recorded image data playback

Superimpose

Superimposed Information

Click the superimpose information button to display information during camera photography on the downloaded image (MCFF). Change the format to superimpose information on the converted file image in the same manner.

「ID」, 「Scene」, 「Trigger」, 「Trigger Time」, 「Frame」



「Nickname」, 「CID」, 「Rec(Rec Rate)」, 「Shutter」, 「CameraType」

■Main Toolbar

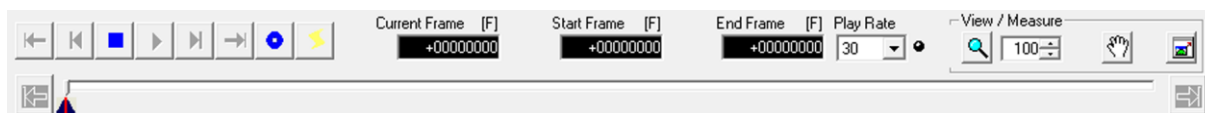
Toolbar for recording of the camera selected on the item list and camera/file playback.

Includes image zoom/scroll function/display entire image.



Main Toolbar: Basic Mode

Either establish connection between the PC and the camera or open a file to enable the main toolbar.



Names of the Types of Display Buttons and Their Functions

Names of the types of display buttons and their functions are given below.

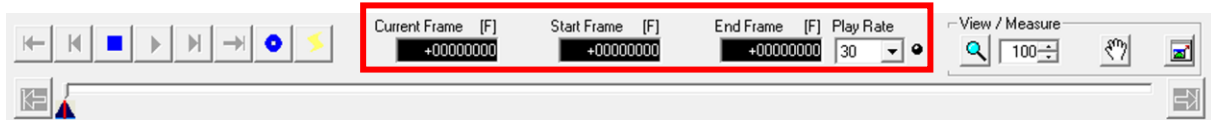
Click the display button with the mouse to start the camera control operation.

	GO TO START	Display starting frame for playback range
	REV STEP	1 frame reverse
	STOP	Stops the playback, VIEW, and ARM modes, and switches to READY mode
	PLAY	Forward playback/forward loop playback
	FWD STEP	1 frame forward
	GO TO END	Displays the end frame of the playback range
	VIEW	Switch from READY mode to VIEW mode
	ARM	Switch from VIEW mode to ARM mode
	TRIG	Manual trigger during ARM mode, Trigger frame display during READY mode
		Set the current frame to the start frame of the playback range
		Set the current frame to the end frame of the playback range

Click “PLAY” during forward playback to switch to forward loop playback.

Click “REV STEP” or “FWD STEP” during playback to change the playback rate.

Frame Display and Playback Rate



Current Frame	Displays the current frame
Start Frame	Displays the playback start frame
End Frame	Displays the playback end frame
Playback Rate	Displays the current playback rate



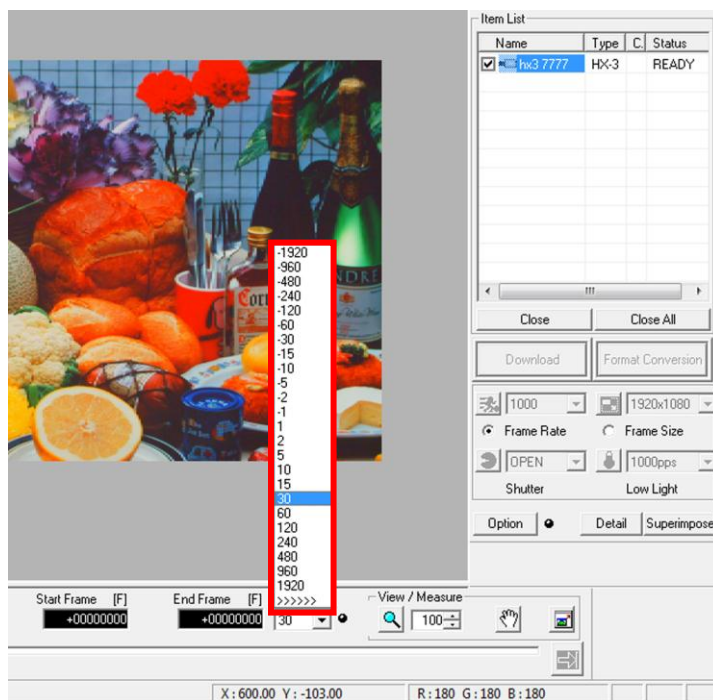
Drop frame verification light

Select the playback rate with the pull down menu.

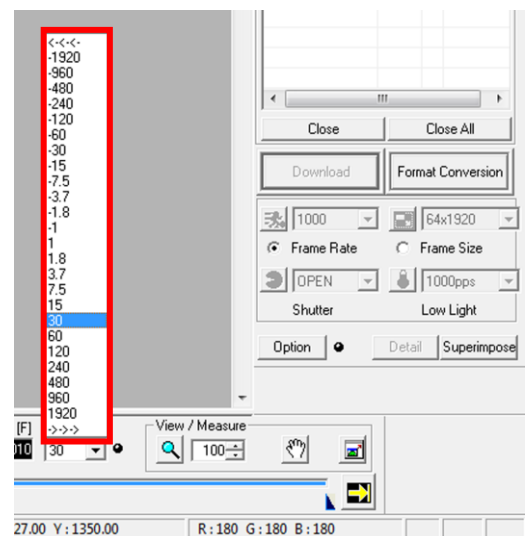
Verify dropped frames with the drop frame verification light.

Green	:No dropped frames
Yellow	:Frames dropped
Black	:Disabled

The playback rate can vary during camera operation and during file image operation with the pull down menu.



Camera Operation



File Image Operation

>>>>>>, <<-<-<-, ->->-> in the “Playback Rate” pull down menu refers to

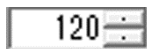
- >>>>>> Actual playback rate. Plays at the same rate as the frame rate during recording.
- <<-<-<- Plays in the reverse direction at the fastest playback rate without dropping frames.
- >->-> Plays in the forward direction at the fastest playback rate without dropping frames.

Names of Button Relating to Display and Their Functions



Zoom Tool

Switch to zoom mode



Zoom Rate

Set the value for the zoom rate



Hand Tool

Switch to the mode to scroll the image

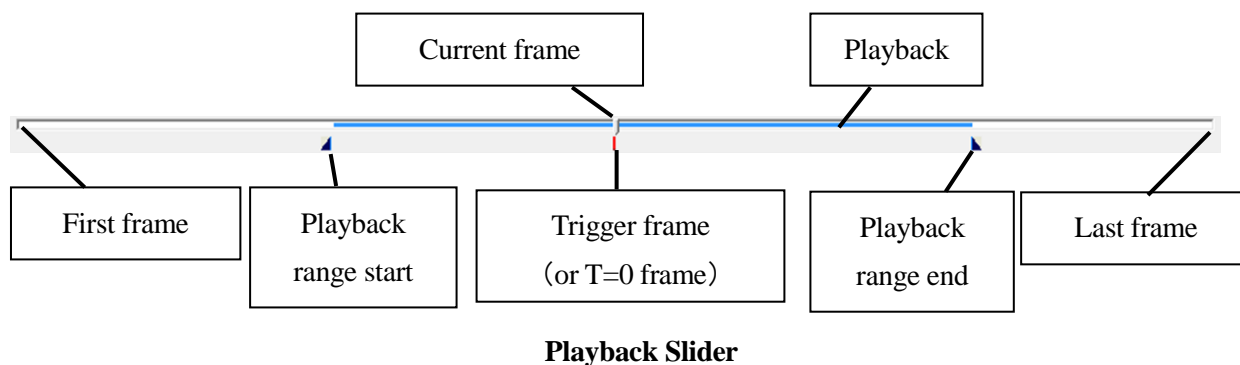


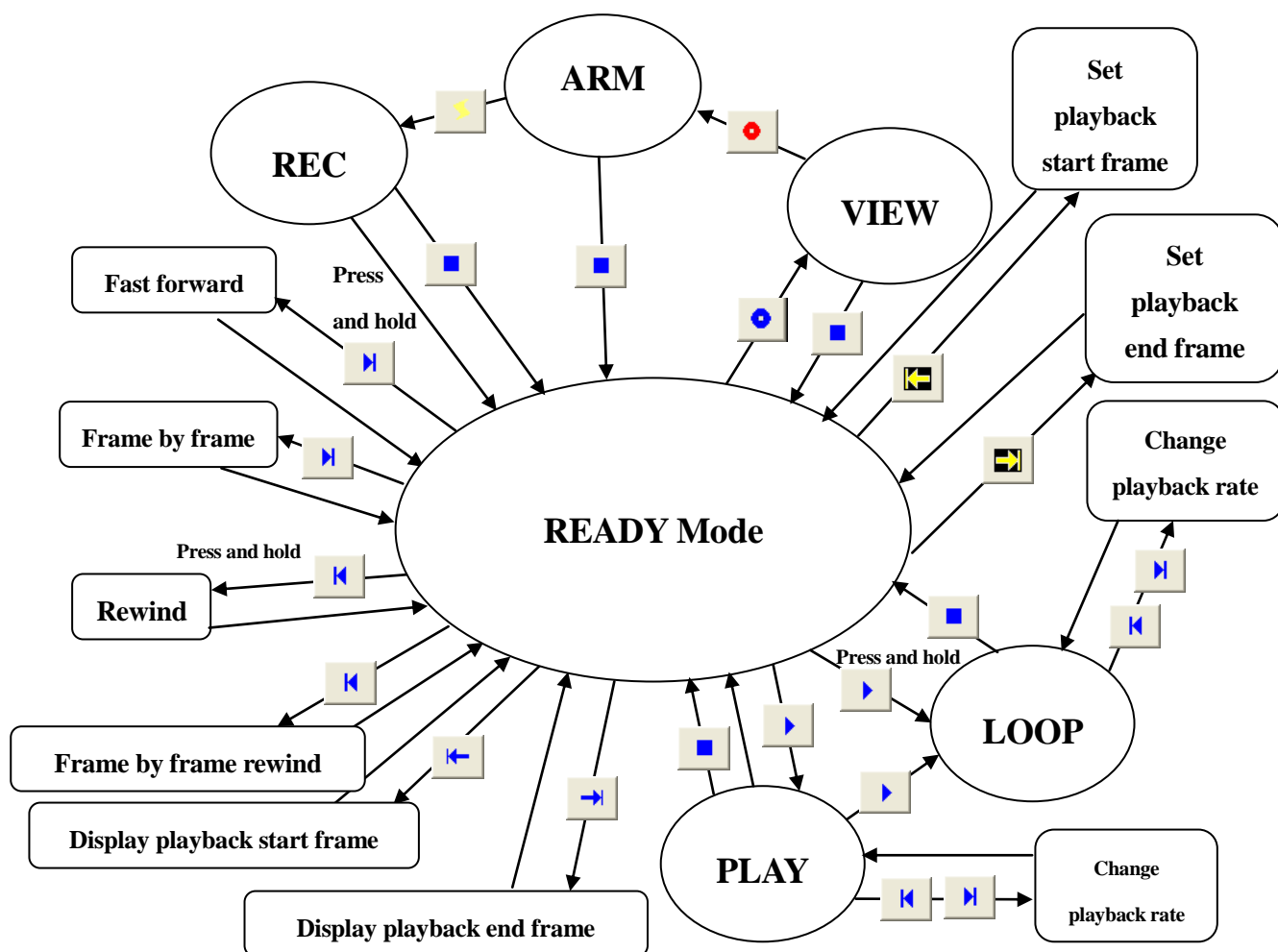
Display Entire Image

Automatically sets the rate of magnification to match the window size, and displays

Playback Slider

Used to specify the playback frame and set the playback range.





* For the READY mode, STOP is displayed in the HX/GX camera monitor output (Status)

Camera Operation Status Figure

(Blank page)

4

Basic Operation

4.1 Basic Operating Procedures

The basic operating procedures are divided into single camera connection and multiple camera connections for description.

Subsequent descriptions are for the “Basic Mode”.

4.2 Single Camera Connection

4.2.1 Connect Camera

4.2.2 VIEW

4.2.3. Change Settings (Example : Change the Frame Rate)

4.2.4 ARM

4.2.5 Trigger Input

4.2.6 Playback

4.2.7 AVI Downloads

4.3 Multiple Camera Connections

4.3.1 Connect Cameras

4.3.2 VIEW

4.3.3 Change Settings (Example : Change trigger location)

4.3.4 ARM

4.3.5 Trigger Input

4.3.6 Playback

4.3.7 Download

4.3.8 Convert Format

4.2 Single Camera Connection

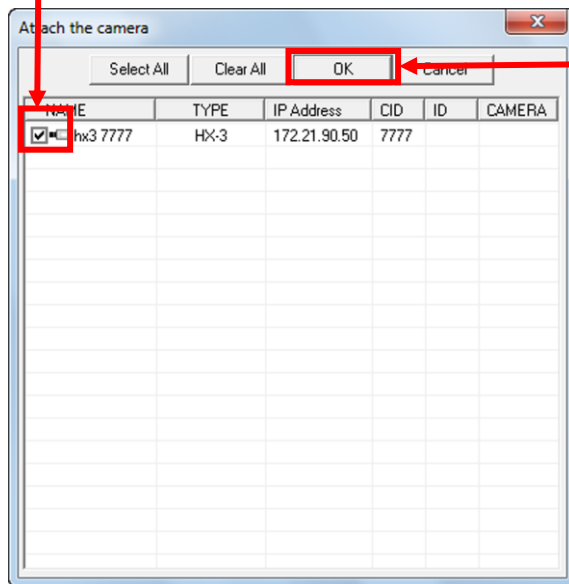
4.2.1 Connect Camera

Click “Connect Camera”

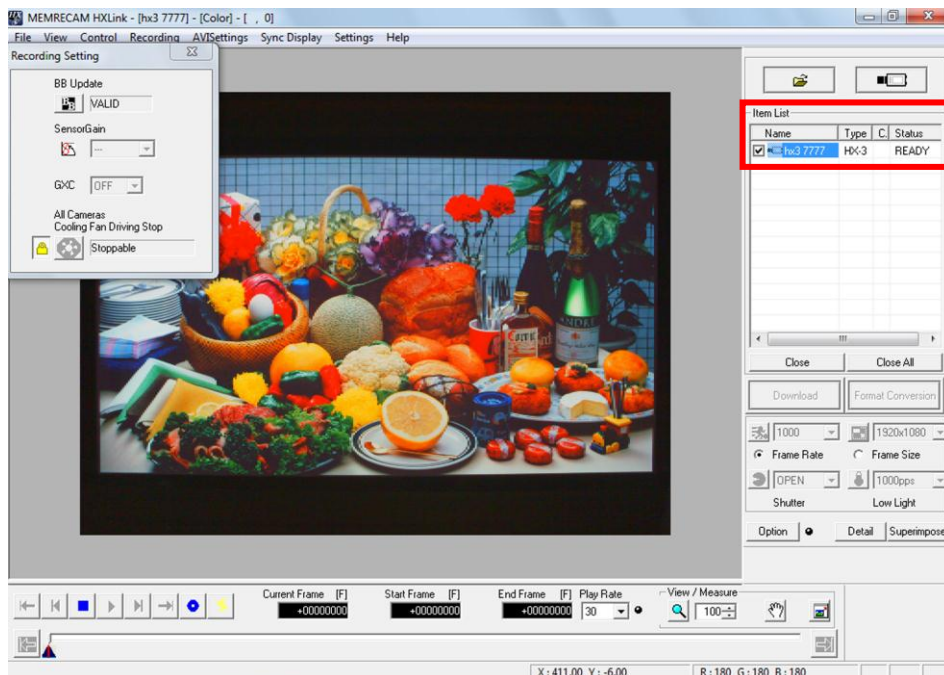


on the “Item Toolbar” to start the camera connection.

Check the box for the camera to be connected.



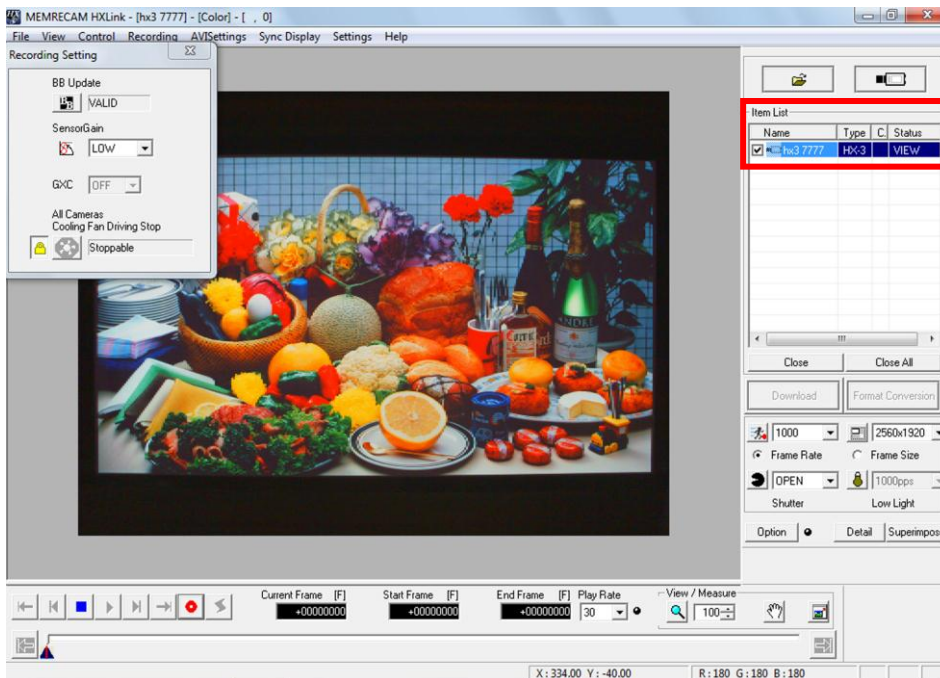
Click “OK” to start the camera connection.



Once the connection is done, the camera is added to the item list. The live image for the selected camera is displayed on the monitor.

4.2.2 VIEW

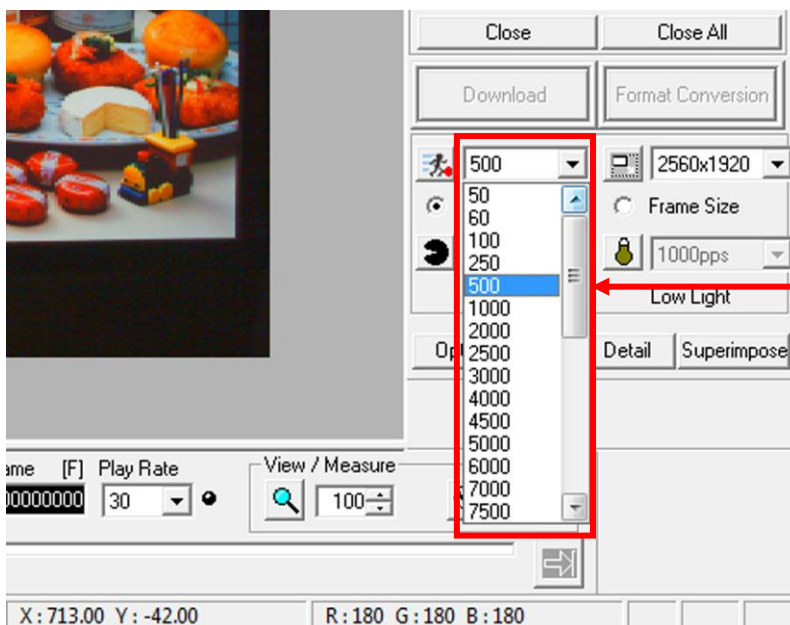
When the camera is READY, click “VIEW/ARM”  on the main toolbar.



When the camera is in the VIEW mode, the “STATUS” on “Item list” switches from WAIT→VIEW.

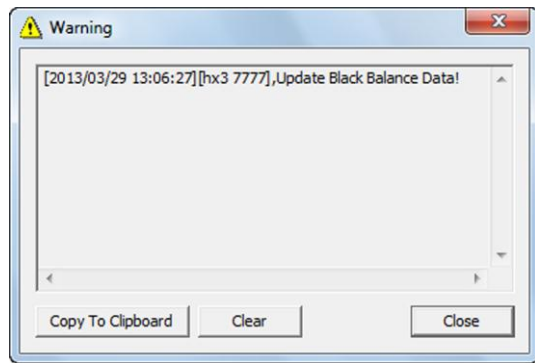
4.2.3 Change Settings (Example : Change Recording Rate)

1) When changing the camera settings, click each pull down menu on the item toolbar and make the settings.

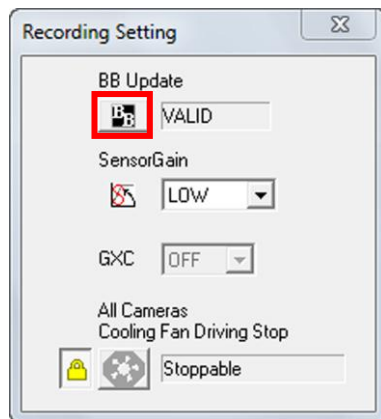



When setting the Frame Rate to 500pps, click “Frame Rate” on the pull down menu and then click 500.

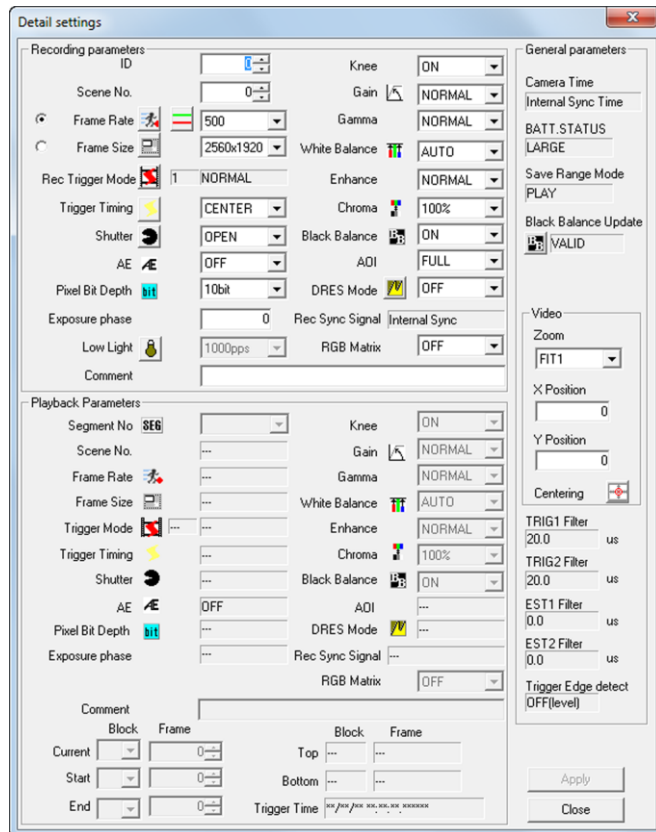
2) Click and a message to update the black balance appears.



3) Press the BB Update button  in "Recording Settings" to update.

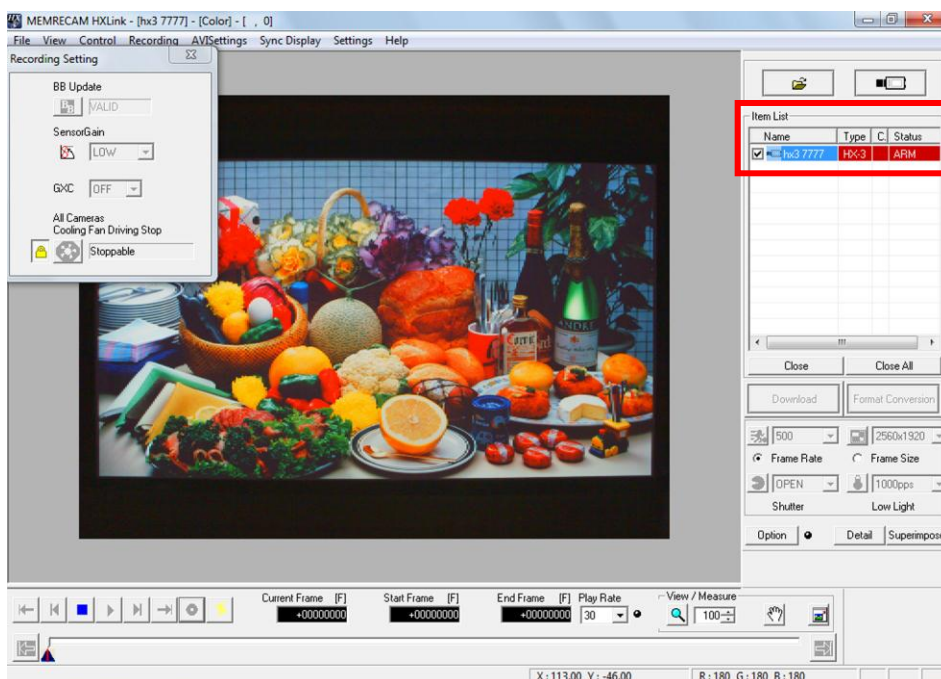


- 4) For more detailed settings, press “Detail Settings”  and set in the “Detail settings” dialogue.




4.2.4 ARM

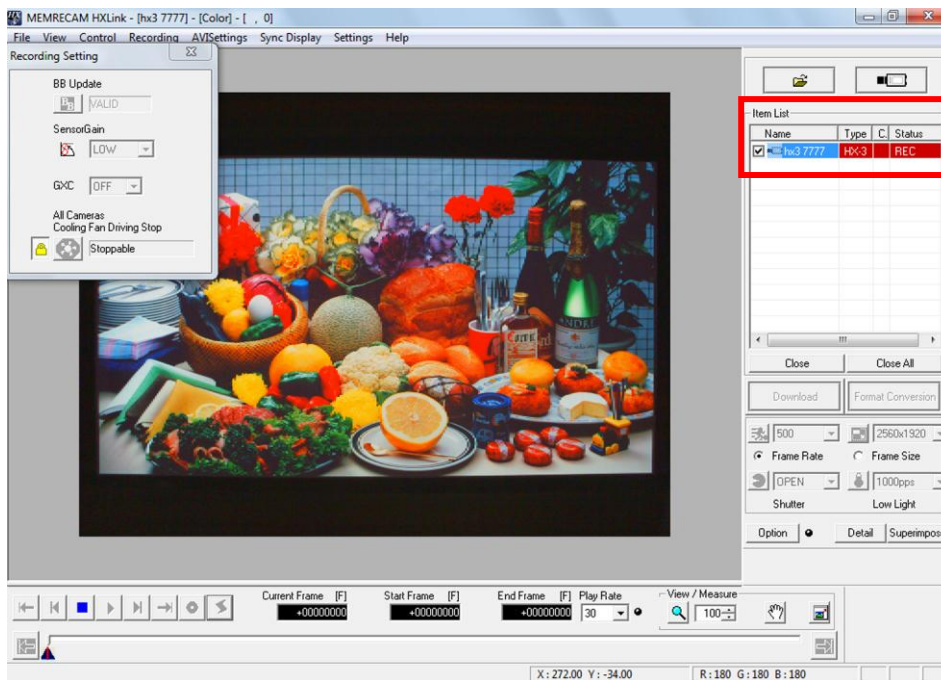
When the camera is in VIEW, click “VIEW/ARM”  on the main toolbar.



When the camera is in the ARM mode, the “STATUS” on the item list switches from WAIT→ARM.

4.2.5 Trigger Input

When the camera is in ARM, click “TRIG”  on the main toolbar.

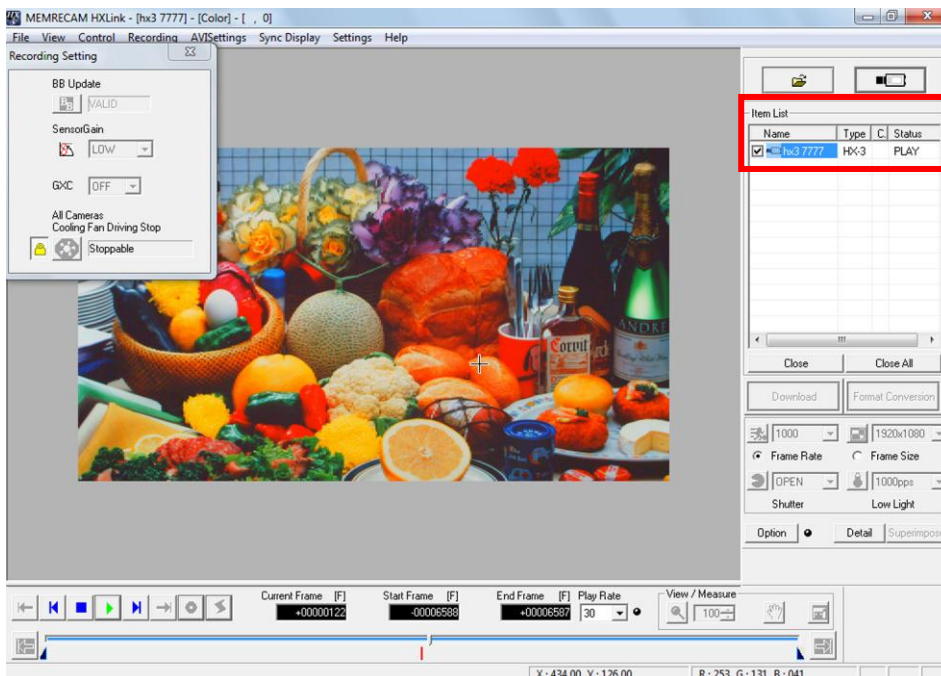


When a trigger is input to the camera, the camera switches to the REC mode and the “STATUS” on the item list switches from REC→WAIT→READY.


4.2.6 Playback

Once recording is complete, the image can be played back.

1) Click “PLAY”  on the main toolbar.



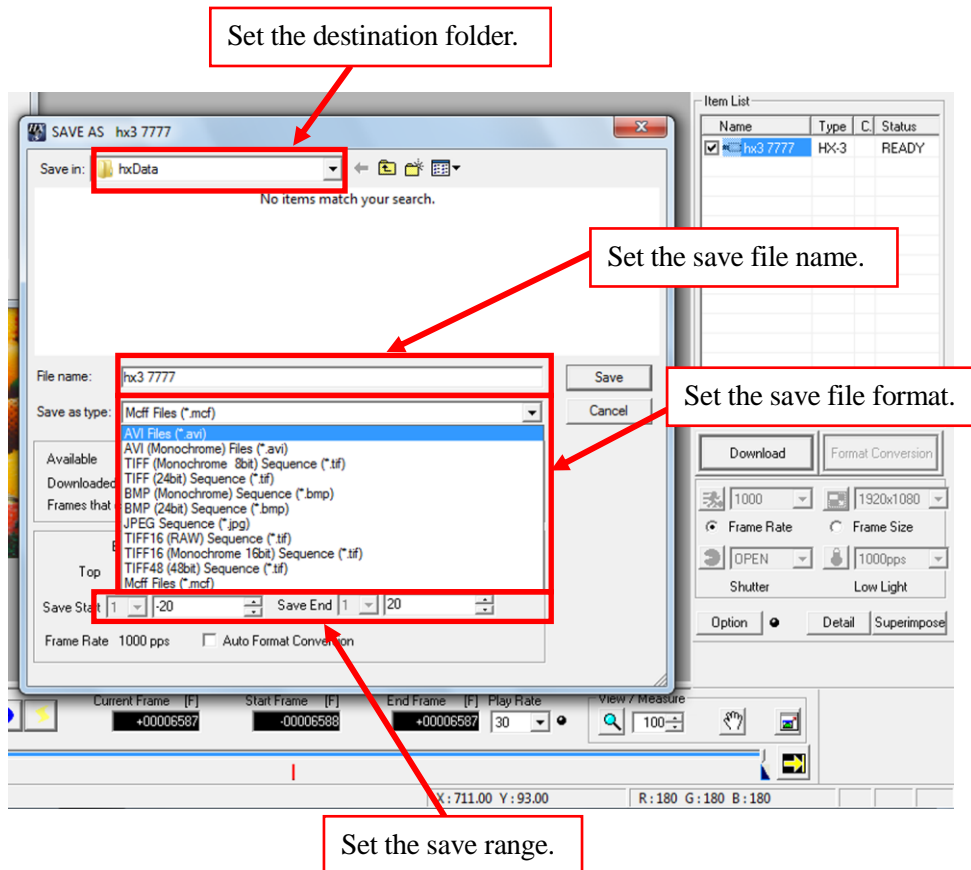
The camera “STATUS” switches to PLAY.

2) Click “STOP”  on the main toolbar to end recording.

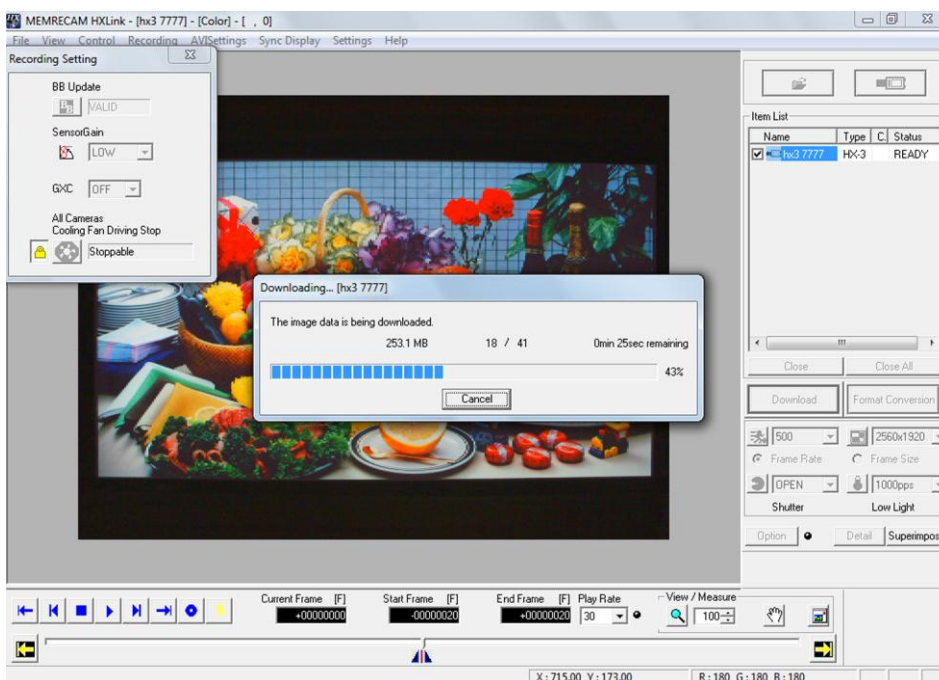
4.2.7 AVI Downloads

- 1) When the camera is READY, download the recorded scene. Click “Download” on the item toolbar.

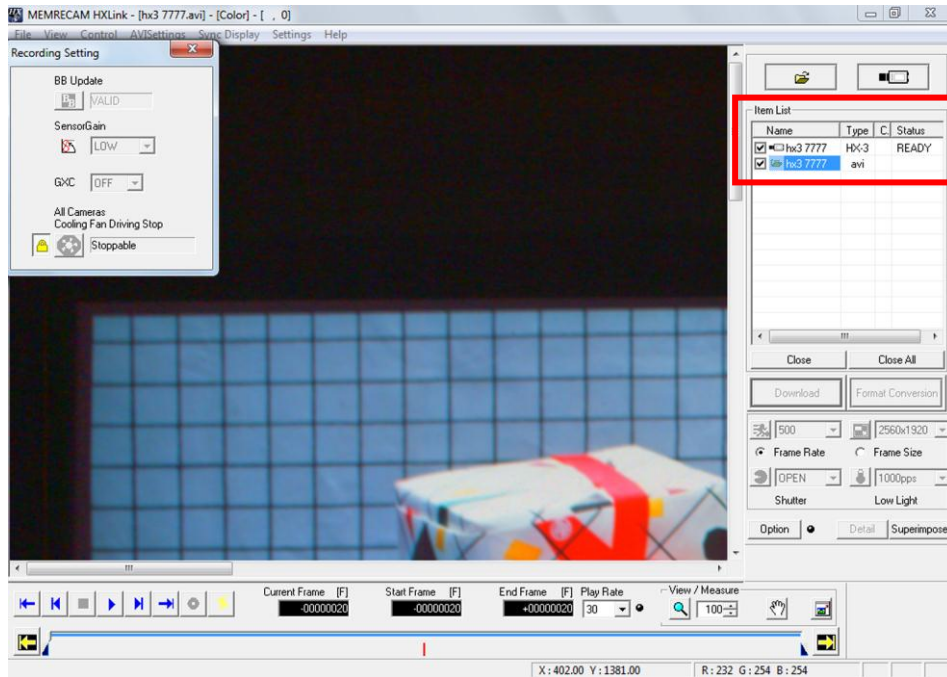
Specify “AVI Files (*.avi)” in the file type.



- 2) Click “Save” in the “Download” dialogue to start the download.



3) Once the “Download” is done, the AVI file is added to the item list.



The downloaded AVI is added to the item list.

4.3 Multiple Camera Connections

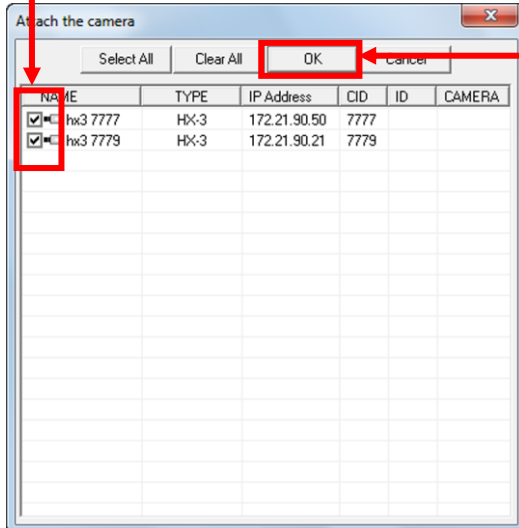
4.3.1 Connect Camera

Click “Connect Camera”

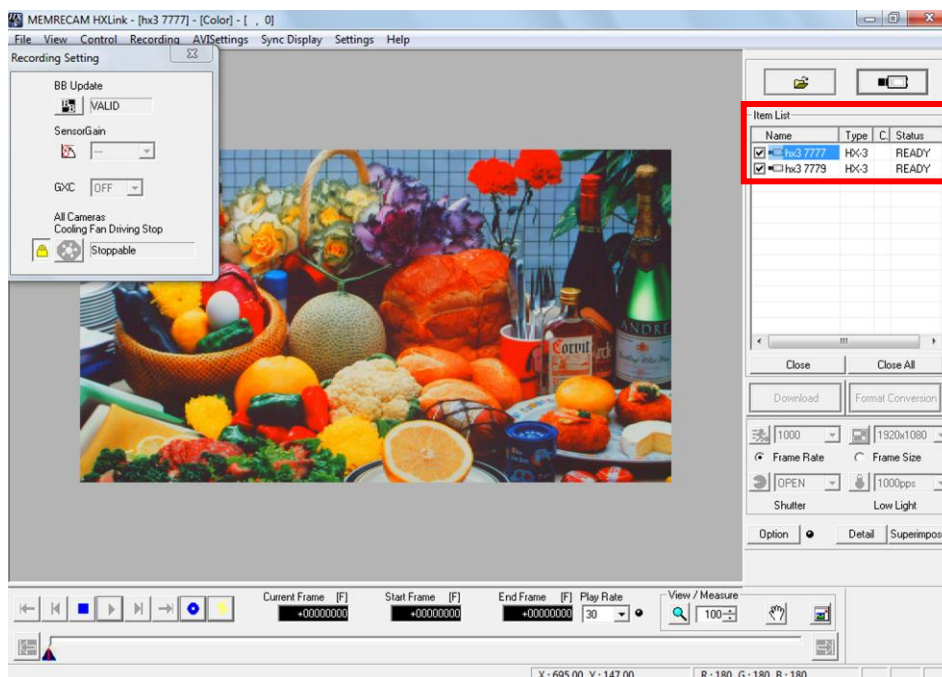


on the “Item Toolbar” to start the camera connection.

Check the box for the camera to be connected.



Click “OK” to start the camera connection.

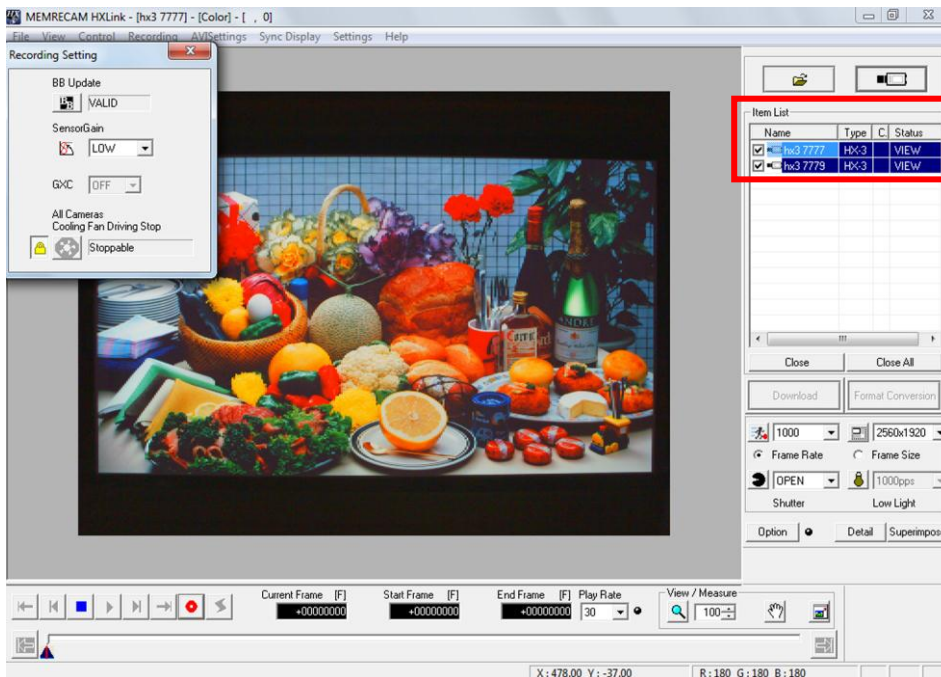


Once the connection is done, the camera is added to the item list.

The live image for the selected camera is displayed on the monitor.

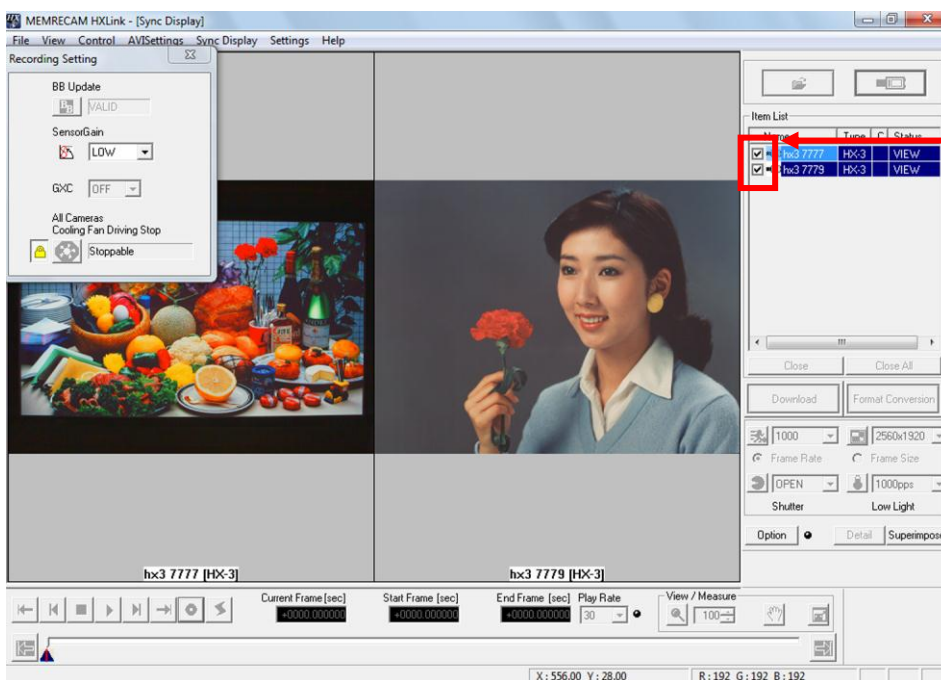
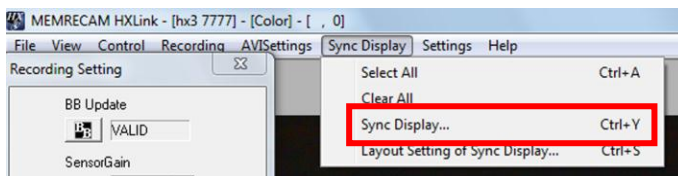
4.3.2 VIEW

When the camera is READY, click “VIEW/ARM”  on the main toolbar.



When the camera is in the VIEW mode, the “STATUS” on the item list switches from WAIT→VIEW.

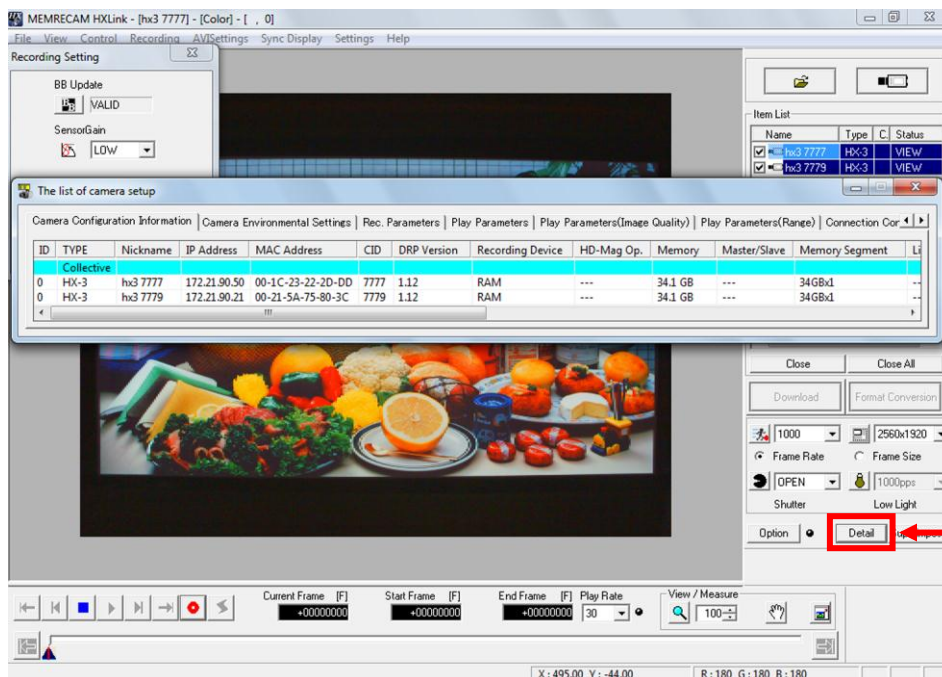
Also, all of the camera images from the menu can be arranged in order for display.



Checked cameras are arranged in order for display.

4.3.3 Change Settings (Example: Change Trigger Settings)

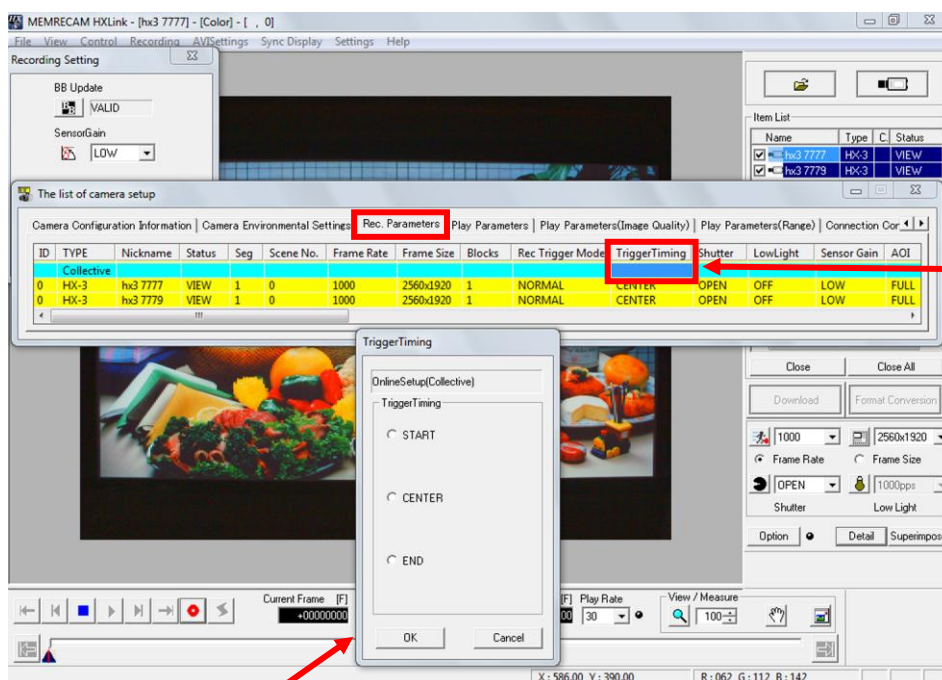
- 1) Click “Detailed Settings” **Detail** on the item toolbar to display “The list of camera setup”.



Click to display
“List of Camera
Settings”.

“Collective” in the “The list of camera setup” sets parameters for all of the cameras.

Select the “Rec. Parameters” tab to change the “Trigger Timing” settings.



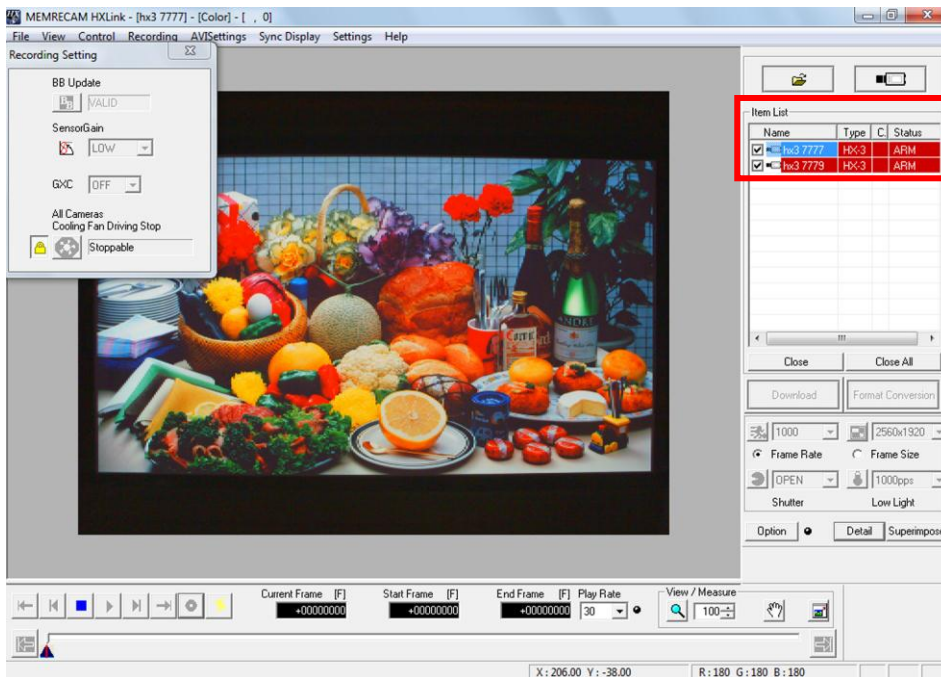
Double click on a
cell in the
“Collective” row
of the “Trigger
Timing” to display
the “Trigger”
settings dialogue.

- 2) Set the value selected in the “Trigger Timing” setting dialogue for all of the cameras.

For example, to change the “Trigger Timing” from “START” to “CENTER”, click “CENTER” on the radio button. Then click OK and the settings will be reflected for the camera.

4.3.4 ARM

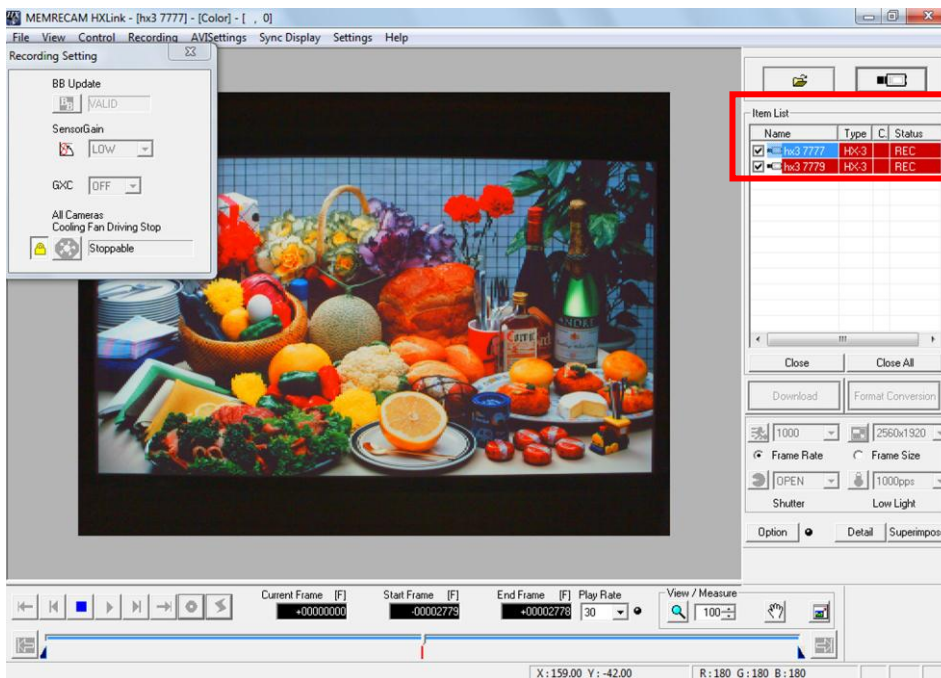
When the camera is in VIEW, click “VIEW/ARM”  on the main toolbar.



When the camera is in the ARM mode, the “STATUS” on the item list switches from WAIT→ARM.

4.3.5 Trigger Input

When the camera is in ARM, click “TRIG”  on the main toolbar.

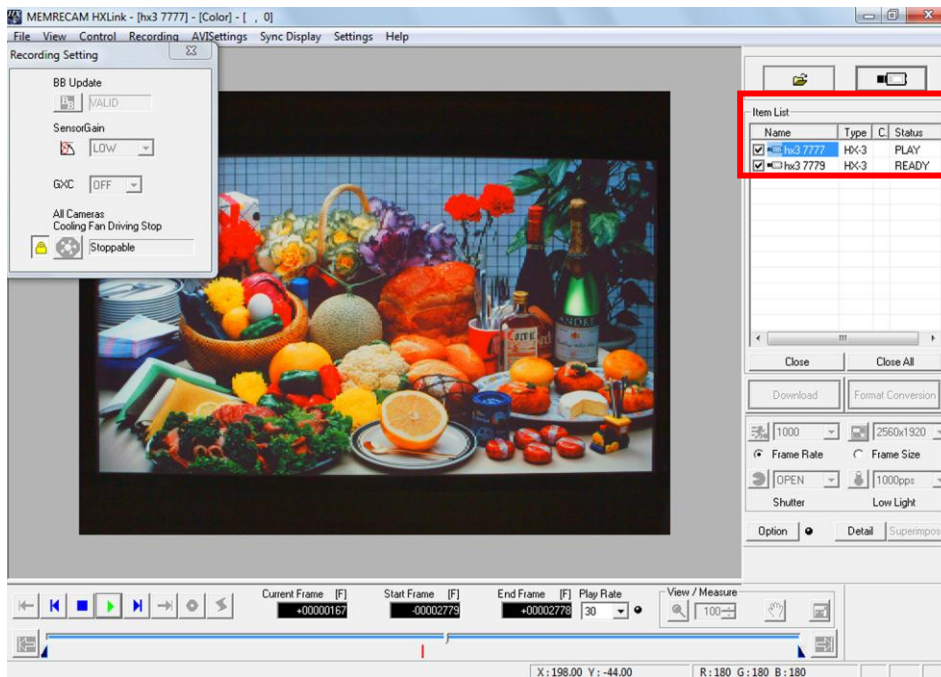


When a trigger is input to the camera, the camera switches to the REC mode and the “STATUS” on the item list switches from REC→WAIT→READY.


4.3.6 Playback

Once recording is complete, the image can be played back.

- 1) Click “PLAY”  on the main toolbar.

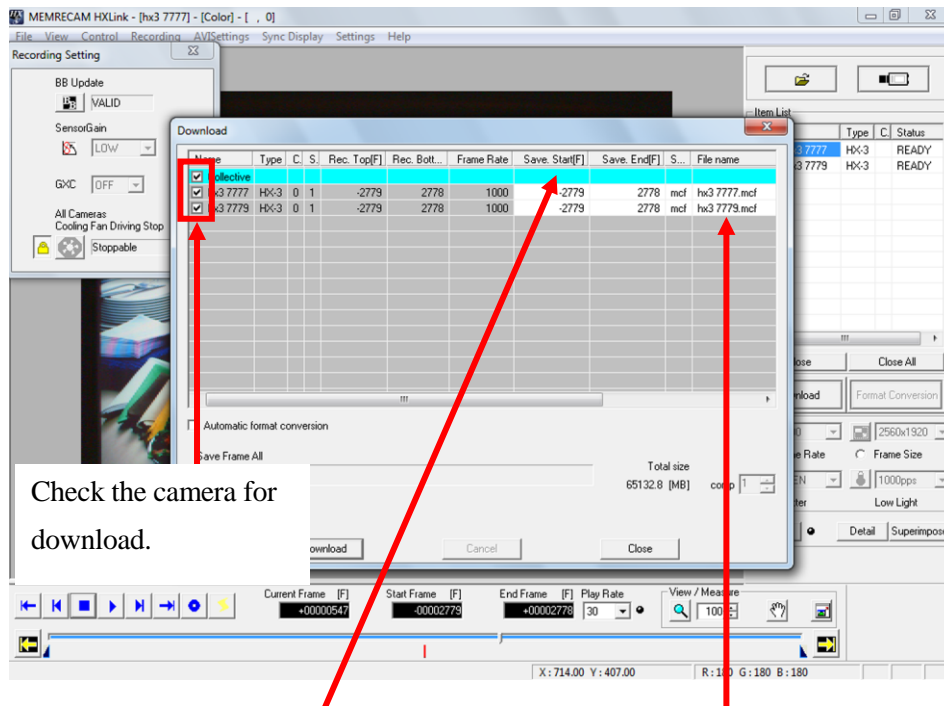


The selected camera
“STATUS”
switches to PLAY.

- 2) Click “STOP”  on the main toolbar to end recording.

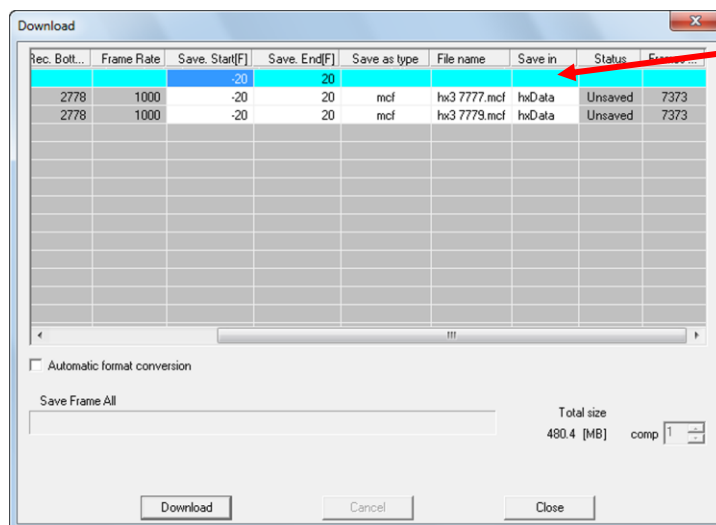
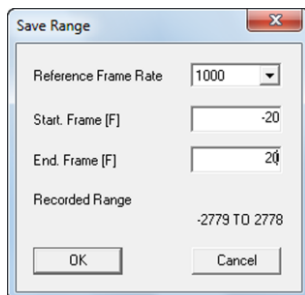
4.3.7 Downloads

- 1) When the camera is READY, download the recorded scene. Click “Download” on the item toolbar. Select “Collective (List)” in “Option”.

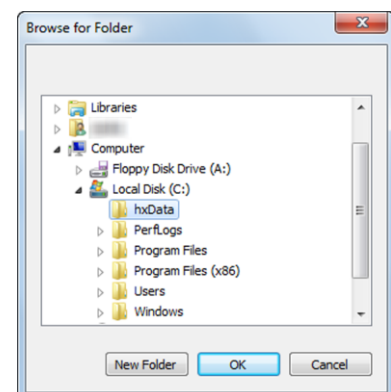


Double click the cell for “Save. Start[F]” and “Save. End[F]” to set “ Save range”.


Click the cell for the save file name to edit the file name.

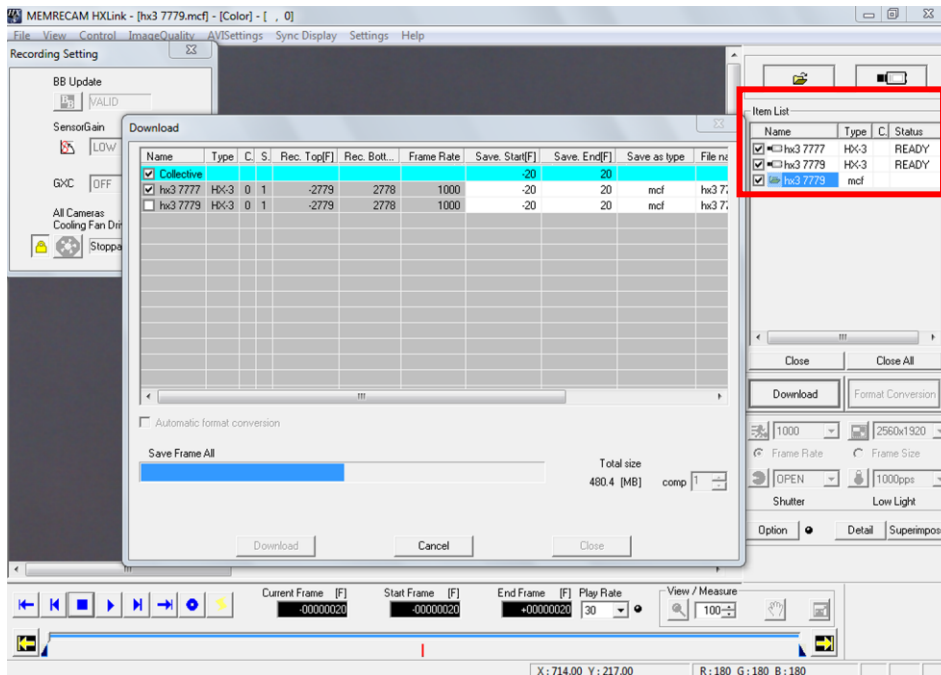


Double click on the cell for the folder and set the destination folder.

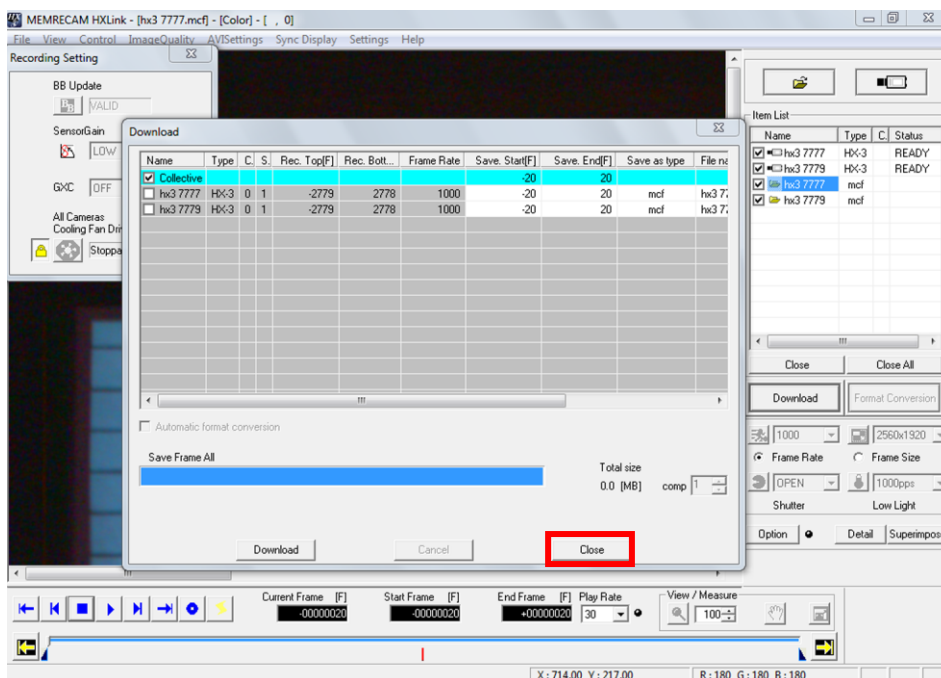


Set each cell as a “Batch”, to set all of the cameras checked.

Click “Start Download”  in the “Download” dialogue to start the download.




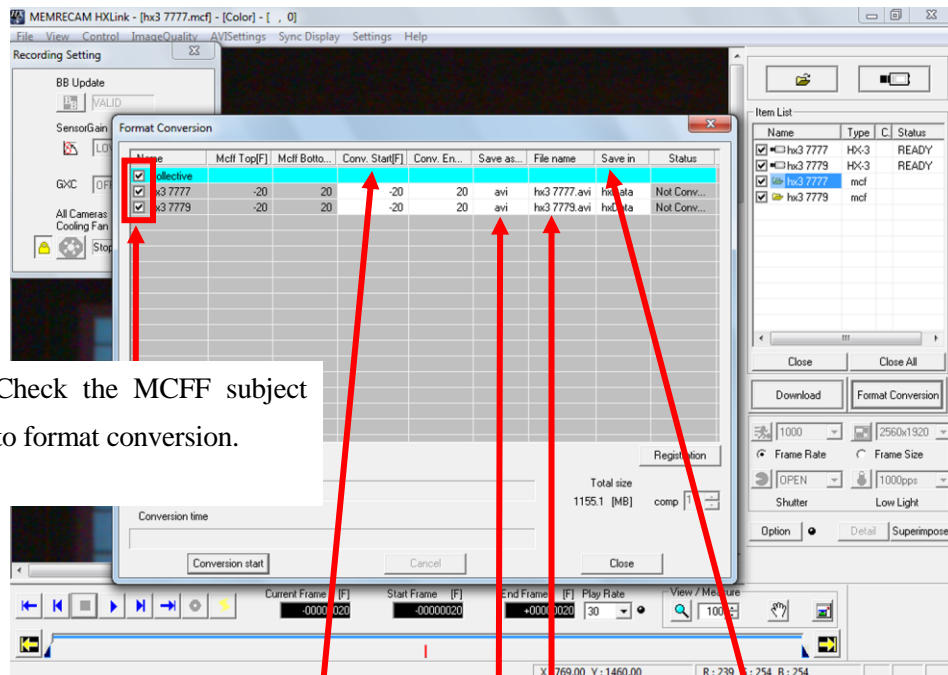
Once all of the image downloads are finished, click “Close”  to close the “Download” dialogue.



4.3.8 Convert Format

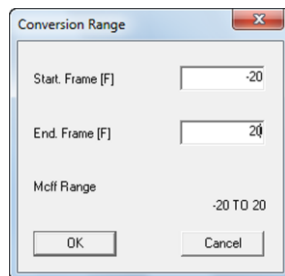
- 1) Converts the format of the image file (MCFF) added to the item list.

Click “Format Conversion”  the item toolbar. Select “Collective (List)” in “Option”.

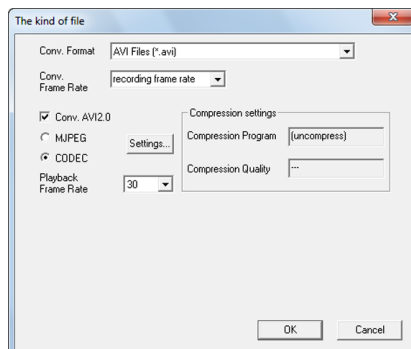


Check the MCFF subject to format conversion.

Double click the cell for “Conv.Start[F]” and “Conv.End[F]” to set “Conversion range”.

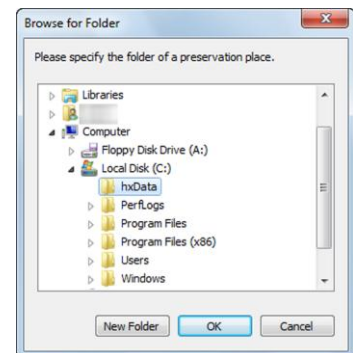


Double click on the cell for the file type to set the type, compression program and playback rate of the file subject to format conversion.



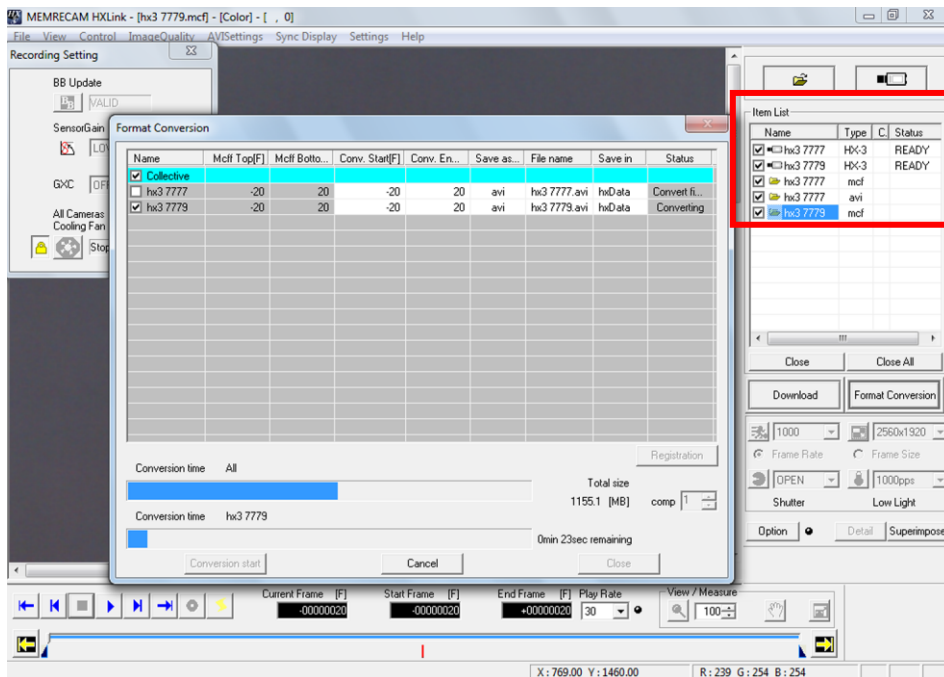
Set each cell as a “Collective” row , to set all of the MCFF checked.

Double click on the cell for the folder to set the destination folder.



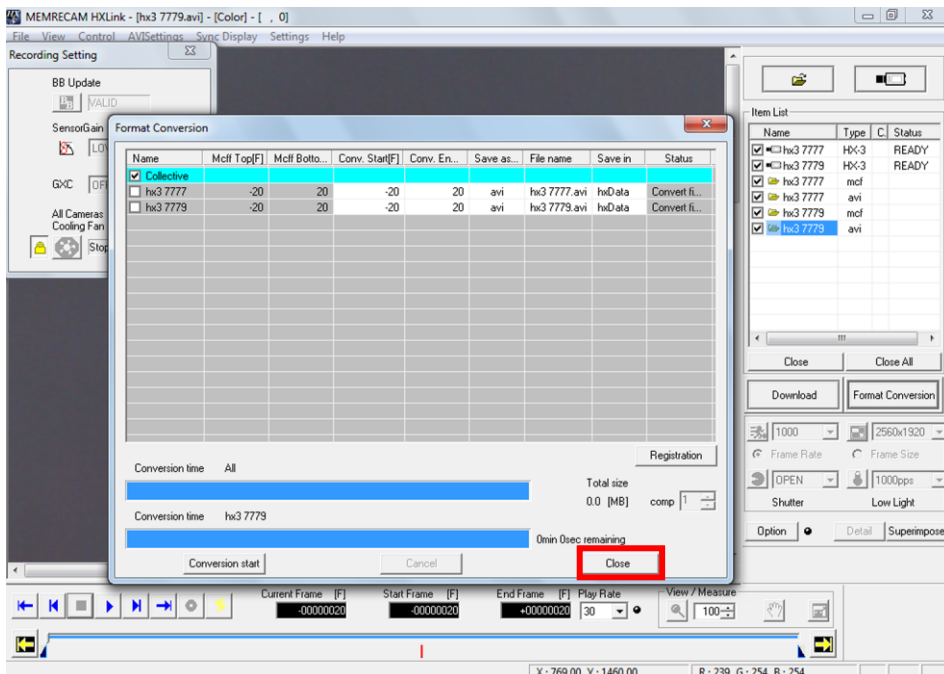
Click the cell for the save file name to edit the file name.

2) Click “Conversion start” **Conversion start** in the “Format Conversion” dialogue to start the format conversion.



The format converted file is added to the item list.

Once all of the image format conversions are finished, click “Close” **Close** to close the “Format Conversion” dialogue.



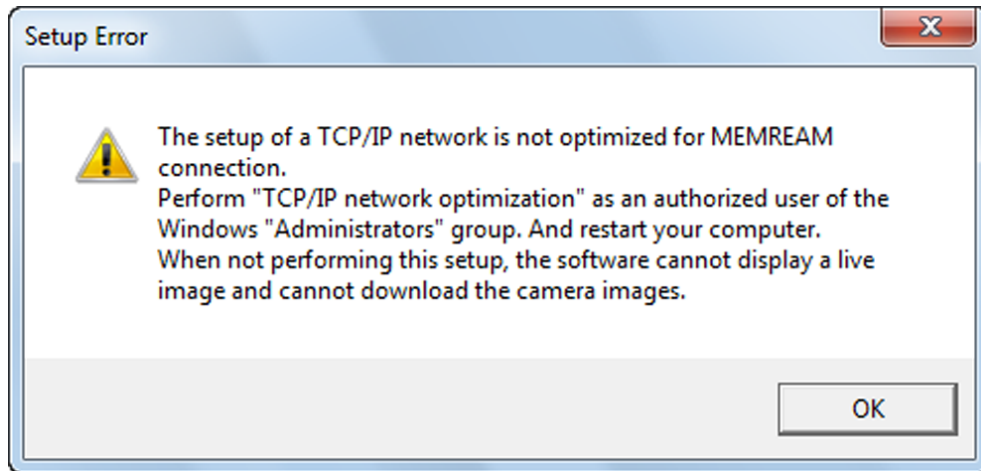
5

Troubleshooting

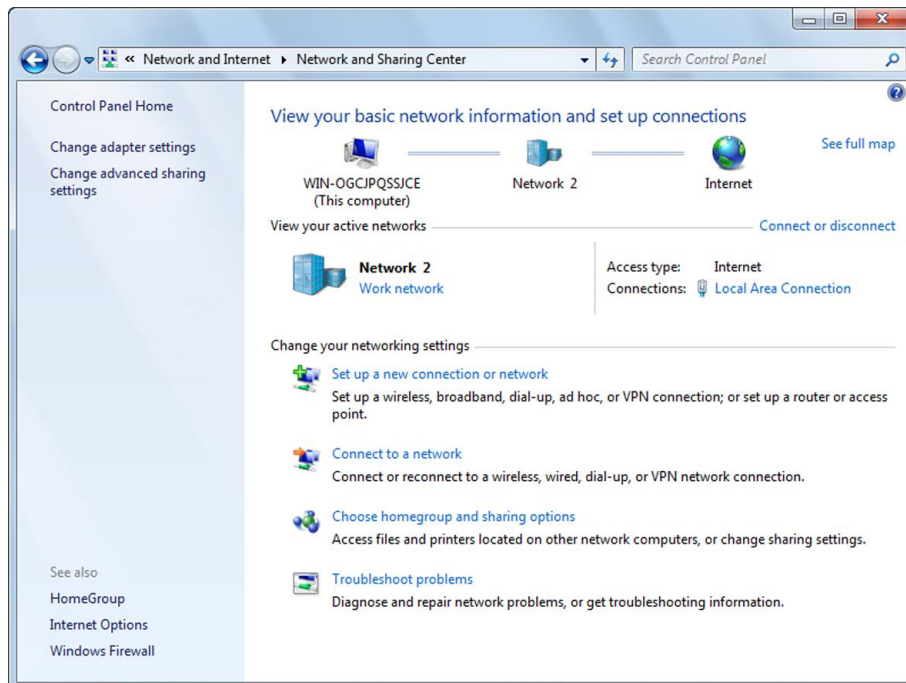
5.1 Troubleshooting

This describes the issues and solutions for various problems that may arise during HXLink use.
(Jointly used items are also used with GXLink images)

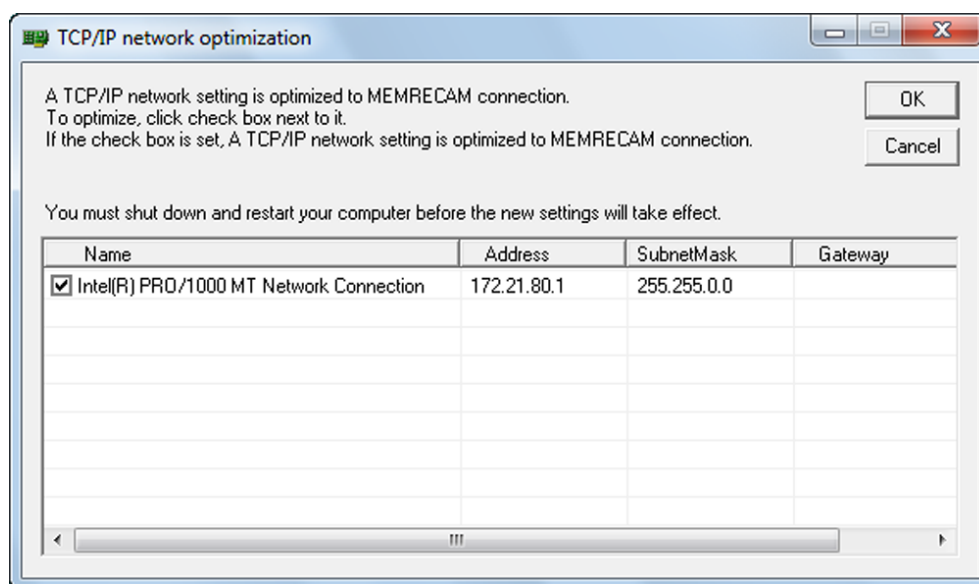
- “Error Settings” message appears when the camera connection button is pressed
(during TCP/IP connection)



If this message is displayed, open “Network Connections” in the control panel and confirm that the network in use is valid (the status is “Connected”).



Next, click “TCP IP Network Optimization” in the Windows Start Menu → Programs → MEMRECAM HXLink.

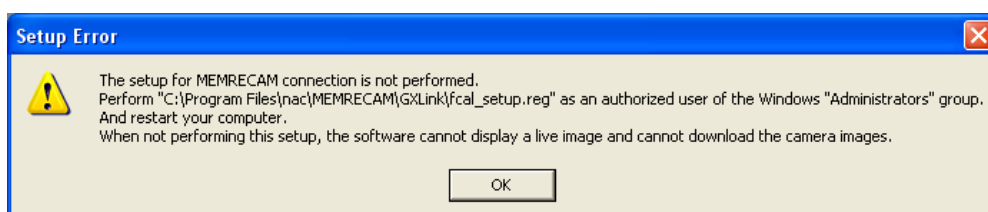


Check only the network in use and then click “OK”. Then, reboot the computer. This operation sets the optimal value for the network settings.

If the error still remains after rebooting, remove the setting file "NicConfig.ini"(*1), re-try "TCP IP Network Optimization", and reboot the computer.

- (*1) "NicConfig.ini" is in "C:\Program Files\nac\MEMRECAM\Tools" folder, if nothing is specified at HXLink installation.
- In condition of Windows 64bit edition and HXLink operated under 32bit edition, "NicConfig.ini" is in "C:\Program Files (x86)\nac\MEMRECAM\Tools" folder.

■ “Error Settings” message appears when the camera connection button is pressed (during FC-AL connection)



If this message is displayed, execute the <fcsl_setup.reg> file created in the folder where the HXLink programs are installed (different from the OS) and then reboot the computer. This operation sets the optimal value for the FC-AL host adapter settings.

■ Cannot connect camera

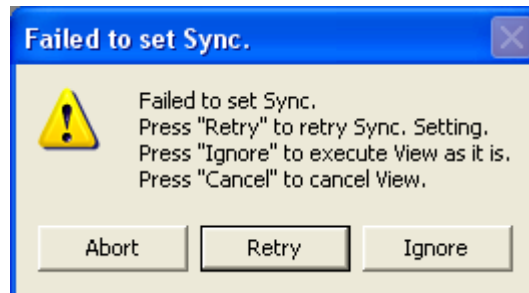
When the camera connection button is pressed and the camera connection dialogue appears, the icon for the camera that should be connected may have an “X” mark (or with HX or GX cameras, an icon is not displayed on the list).

Check the following items.

- Are the camera and the PC properly connected?
- Is the camera already connected to another PC?
- With fx cameras, was the correct CID, IP address and model registered during camera registration?
- With fx cameras, was the “Connection Format” tab (TCP/IP connection, FC-AL connection, Gbit connection) in the “Options” dialogue set properly?

■ “Sync Setting Failure” appears during fx camera connection

Under the “Sync Settings” tab of the “Options” dialogue or “Camera Connections Settings” dialogue, if the “fx Camera Time” setting is “IRIG Time”, the following message may be displayed during camera connection or when “Sync Settings” in the control menu is clicked.



If using IRIG signals, check the following items.

- If using the IRIG BOX, are the IRIG-B signals properly connected to the IRIG BOX IRIG IN connector?
- If using the M-HUB, are the IRIG-B signals properly connected to the M-HUB IRIG.IN connector?
- Is the external trigger input?

■ Camera unable to VIEW

With a multi camera head DRP such as the RX-5, if camera heads not connected to DRP have HXLink camera connections, the following message is displayed during VIEW.



If the aforementioned is displayed, camera heads are not connected to the MEMRECAM fx RX-5 PM Unit port 2 so VIEW is not possible. End camera control one time with HXLink and either connect the camera head to port 2 or connect the camera with the port 2 configuration.

If using GX cameras, VIEW may not be possible when a video warning is displayed.

If a video warning is displayed, confirm that the camera is not in use (in particular, not saving on the USB) and if not in use, click “Stop” to delete the warning shown on the video. Since there are multiple warnings displayed, click “Stop” until the warnings are no longer displayed.

■ The video display or the PC live image does not work on the GX camera during VIEW/ARM or there is noise

If the camera sync setting is “EST”, the image is not updated during VIEW if there are no EST signals.

If not using EST, set “Sync HX, GX Camera” to “Internal Sync” in the “Options” dialogue or under the “Sync Settings” tab in the “Camera Connections Settings” dialogue.

If using EST, check the following.

- Are the EST signals properly input into the connector specified in “Input/Output Settings” in the options dialogue?
- Is the shutter speed for the recording parameters (frame rate if OPEN) set slower than the EST signal frequency?

■ The recording date for the HX, GX camera is January 1 or December 31

Under the “Sync Settings” tab of the “Options” dialogue or the “Camera Connections Settings” dialogue, if the “HX, GX Camera Time” setting is “IRIG•M-HUB Time”, any of the following may be generated.

- The IRIG signals are not connected to the GX-HUB.
- With combined HX, GX, fx use (using the M-Hub), the HXLink does not control the “fx Camera for M-HUB Control”.

■ The recording time does not match the time of the IRIG signals


For HX and GX cameras, check the following.

- Under the “Sync Settings” tab of the “Options” dialogue or the “Camera Connections Settings” dialogue, is the “HX, GX Camera Time” setting the “IRIG•M-HUB Time”?
- If directly inputting IRIG signals into the camera, are the IRIG-B signals properly connected to the IRIG-B IN connector of the camera?
- If using GX-HUB, are the IRIG-B signals properly connected to the IRIG IN connector of the GX-HUB?
- If using GX-HUB and M-HUB, are the IRIG-B signals properly connected to the IRIG IN connector of the M-HUB?

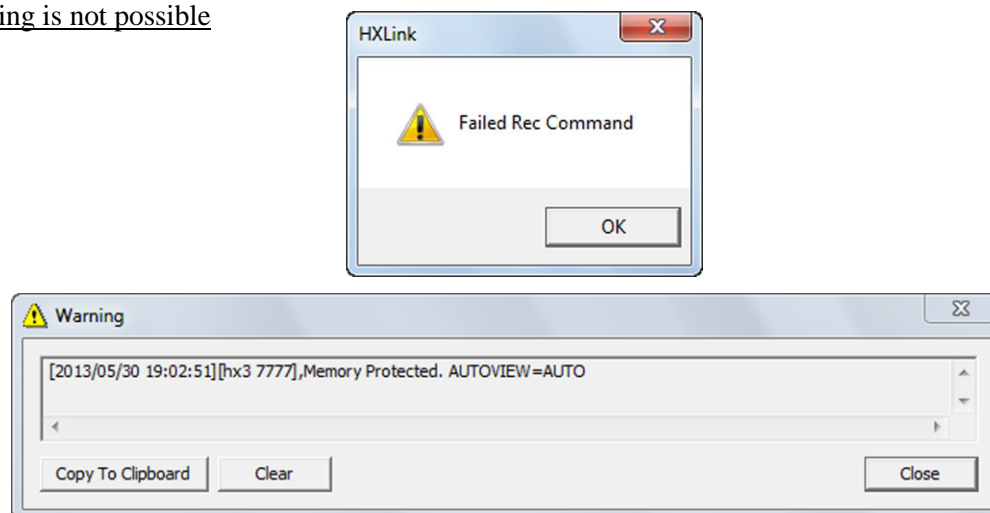
For fx cameras, check the following.

- Under the “Sync Settings” tab of the “Options” dialogue or “Camera Connections Settings” dialogue, is the “fx Camera Time” setting the “IRIG Time”?
- If using IRIG BOX, are the IRIG-B signals properly connected to the IRIG-B IN connector of the IRIG BOX?
- If using M-HUB, are the IRIG-B signals properly connected to the IRIG-B IN connector of the M-HUB?

■ IRIG locked when using M-HUB

The IRIG signals are not locked even if IRIG-B signals are used with M-HUB. Therefore, the “IRIG Lock Status” in “Display IRIG Lock, Event2” always shows in red ().

■ “Recording Command Failed”, “Memory Protected” displayed when starting ARM and recording is not possible



Check to see if “Auto Processing” under “Options”, “AUTO” isn’t selected in the “All Camera Auto View” or that the recording trigger mode isn’t “AUTO” (example: NORMAL(A), EVENT(A)).

If these settings are enabled, the segment is protected until recording is finished, and overwriting data by recording (ARM) is not permitted.

If it doesn’t matter if data is overwritten, set “All Camera Auto View” to something other than AUTO and set the recording trigger mode to something other than AUTO (NORMAL etc.).

■ Video and PC live image display not updated during ARM and recording is not possible

If the recording trigger mode is “BURST”, image recording does not occur unless burst signals are input during ARM. If burst recording with GX cameras, the image is updated only when burst signals are input during ARM.

If not conducting burst recording, set the “Trigger Recording Mode” to “NORMAL” in the “Detailed Settings” dialogue.

If conducting burst recording, check to make sure the burst signals are correctly input to the connector selected in “Select Trigger Input” under the “Input/Output Signals” in the “Options” dialogue or the “Camera Connection Settings” dialogue.

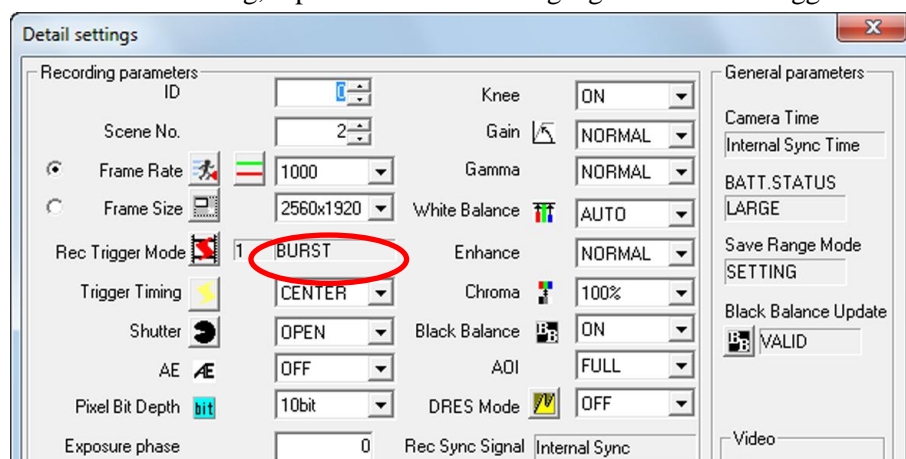
■ The trigger button doesn’t work in ARM

When the camera status is in ARM, the trigger button is grayed out and can’t be clicked.

In this case, check that you are not in any of the following situations.

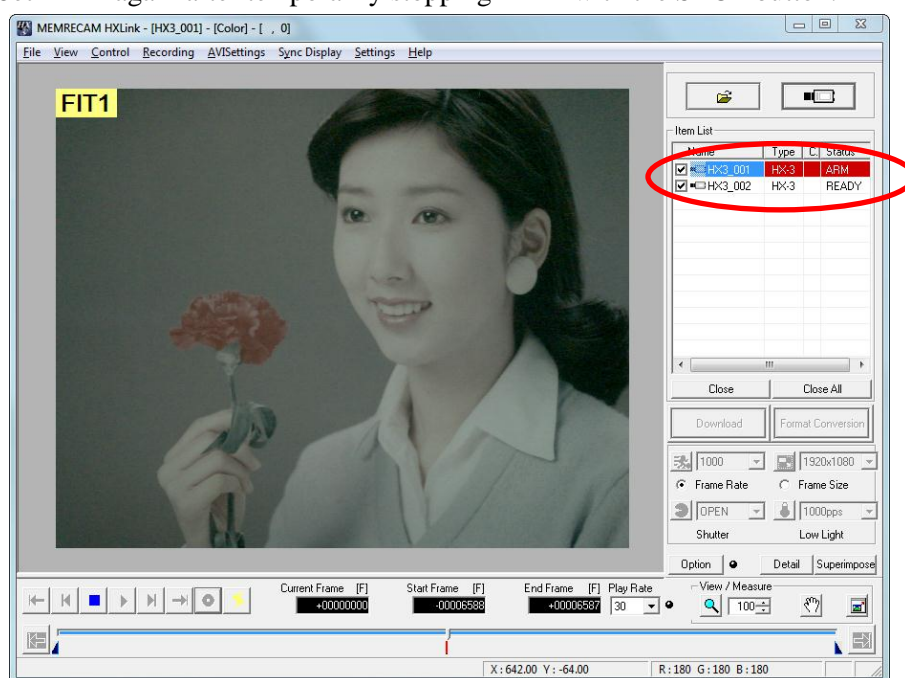
- 1) The recording trigger mode is BURST.

In BURST recording, input the burst recording signals from the trigger connector.



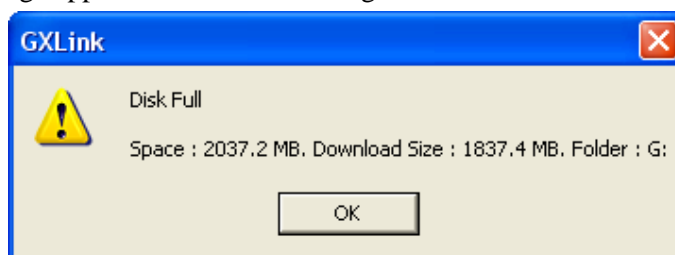
- 2) “ARM All Cameras” connected to HXLink is not selected.

Set ARM again after temporarily stopping ARM with the STOP button.



■ Failure downloading camera image data

The following message appears when downloading.



Displayed when there is not enough free space in the disc drive and the camera image data for the specified range cannot be downloaded. Either change the destination drive for the camera image data or delete unnecessary files in the destination drive and make the download range smaller.

■ The free space shown in the USB is less than the actual

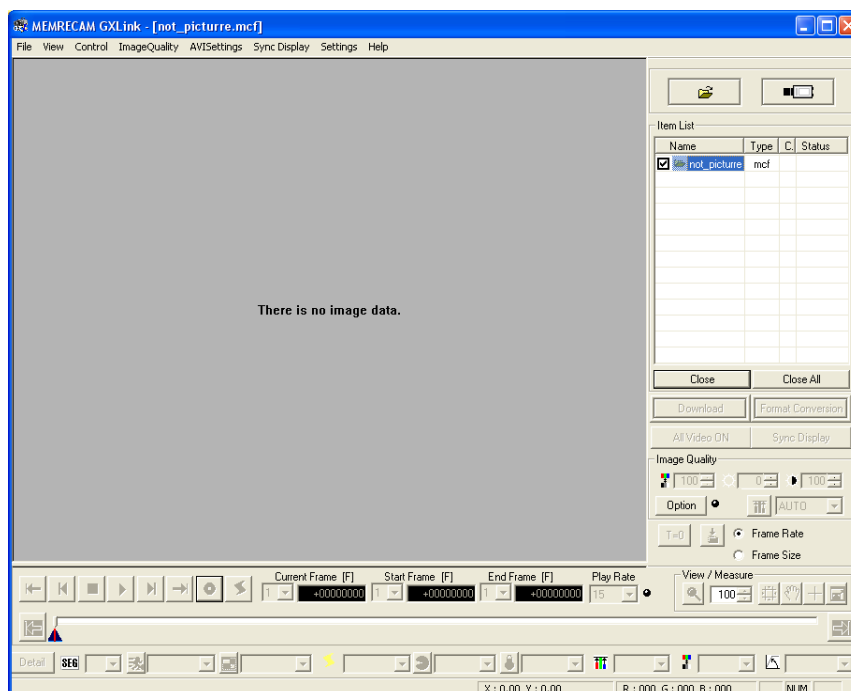
If the USB media format is wrong, it will be treated as if the free space is less than the actual. If the camera power was turned off when writing to the USB media, the USB cable was removed or the media was impacted or shaken during writing, the USB media format may be wrong. In this case, check the options for "Check for Errors" in the disc properties corresponding to the Windows PC and perform the necessary repairs.

■ Unable to download images larger than 4GB

Check the file system format of the PC used. If the format is FAT32, files larger than 4GB cannot be downloaded. Change the file system format to NTFS to download files larger than 4GB.

■ "There is no image data" is displayed on the monitor

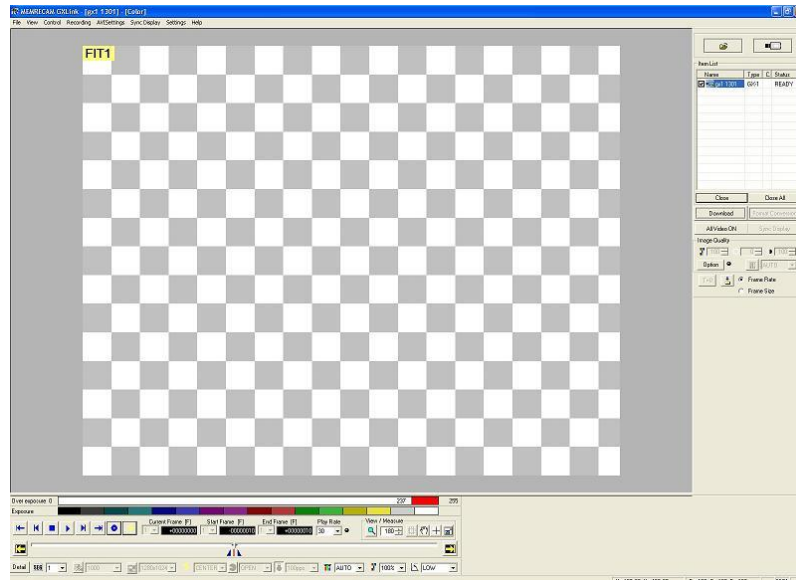
If this is displayed, for some reason, the camera image download has failed and the camera image data is not in the MCFF file.



■ A checkerboard pattern is displayed on the monitor

Consider the following causes.

- For some reason, the camera image download has failed and the camera image data is not in the MCFF file.
 - During sync display, the current frame time is outside the range for the image data.
 - The live image was set to “Do Not Display” under the “Camera Live Display • Download” tab in the options menu or the camera connection settings when connecting the camera.



■ The image does not change the image quality of the MCFF is adjusted

1) Gain and knee are not reflected

If recording MCFF images in the DRES mode, the gain and knee settings are disabled.

If the MCFF image properties in the DRES mode are LOW/MID/HIGH, record in the DRES mode.

2) Gain, gamma and knee are not reflected

If the luminance in the image quality adjustment menu is LINEAR or CUSTOM, the gain, gamma and knee settings are disabled.

If the luminance in the image quality adjustment menu is NORMAL, the gain, gamma and knee settings are enabled.

■ AVI conversion with compression program (CODEC)

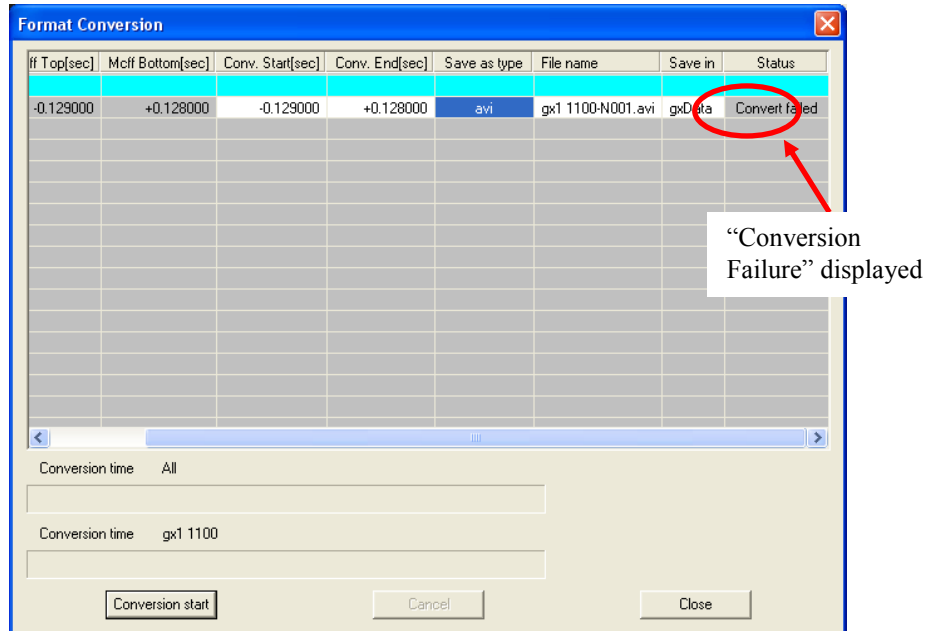
There are limits to the image size that can be converted with the compression program (CODEC).

For example, Indeo 3.2 CODEC generates a conversion error with sizes other than 640x480.

Contact your CODEC supplier for CODEC questions.

The HXLink Motion JPEG conversion can handle conversion of most image sizes.

The following format conversion dialogue will be displayed if there is an AVI conversion failure.



Nothing is displayed in the “Save As” dialogue if there is an AVI conversion failure.

■ AVI conversion of large images

HXLink format conversion can handle “AVI 1.0” and “AVI 2.0” AVI conversion.

The AVI 1.0 format is limited to a file size of 2GB. There are no limits to the AVI 2.0 format.

If converting into the AVI 2.0 format, check “Convert with AVI2.0” under the “Previous Conversion Settings” in the “Options” dialogue.

■ Previous versions of HXLink

If reverting to a previous version of HXLink due to some problem, uninstall HXLink but before installing a previous version of HXLink, first delete <HXLink.ini> from the folder where the HXLink program was installed and then proceed with the installation.

■ If the “User Account Restrictions” dialogue appears when HXLink is started

If the Windows Vista/7/8/8.1/10 function UAC is enabled, the “User Account Restrictions” dialogue appears when the HXLink is started.

Click “Allow” in the “User Account Restrictions” dialogue.

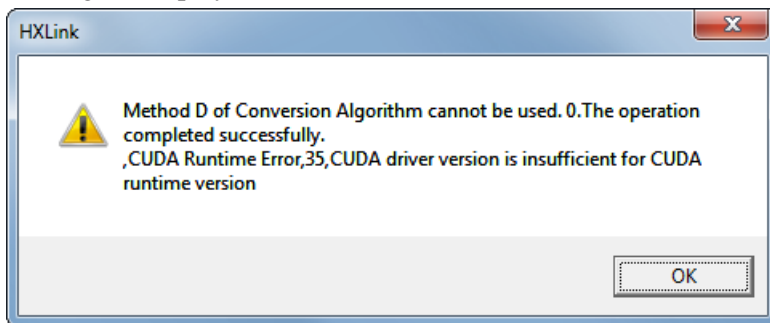
To use the drivers necessary for camera connections (FC-AL connection, Gbit connection), HXLink must be executed as an administrator.

■ I can't open the image file even when dragging and dropping the image file from Explorer to HXLink

There are restrictions when the Windows Vista/7/8/8.1/10 function UAC is enabled.
Use the following process to drag and drop image files into HXLink.

- 1) Start Explorer. If a menu does not appear in Explorer, press the ALT key to display the menu in Explorer.
- 2) Click "Folder Options" in the "Tools" menu and the "Folder Options" dialogue appears.
- 3) Select the "Display" tab and check the 2nd item from the top, "Open Folder Window with a Different Process".
- 4) Log off and then log on again to enable the settings in 3).
- 5) Execute Explorer as an administrator and drag and drop the image file to HXLink.
Conduct the following to execute Explorer as an administrator.
 - 5.1) Click "All Programs" from the "Start" menu.
 - 5.2) Click "Accessories" and right click on "Explorer".
 - 5.3) Click "Execute as Administrator" when the right click menu appears.
 - 5.4) Click "Continue" when the "User Account Restrictions" dialogue appears.

■ After importing the MCFF high speed conversion software and updating the HXLink version, a message is displayed when HXLink is started



This message indicates the MCFF high speed conversion software, installed with HXLink, is not compatible with the driver for the graphics board installed on the PC.

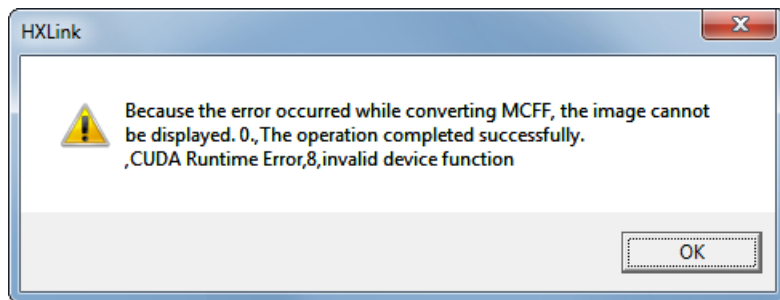
To remedy, update the NVIDIA driver to a version 314 or higher.
Depending on the type of PC, a driver supplied by the PC manufacturer may be required.

When using the previous version 1.53a HXLink, the conversion algorithm D can be used also with the NVIDIA driver before version 314
by performing setup.exe of the CUDA3Setup folder of installer CD.

If there is no driver with a version 314 or higher, follow the procedures below to change the HXLink environment to one
that is compatible with the old NVIDIA driver.

Update the NVIDIA driver to a version 256 or higher.
Execute the setup.exe in the CUDA3Setup folder on the installer CD.
Then, use the HXLink to select the conversion algorithm D.

- Select conversion algorithm D to open MCFF but a message is displayed and the MCFF is not



This message is displayed when the HXLink environment is compatible with a 195 or less driver with a graphics board driver that is a version 256 or higher.

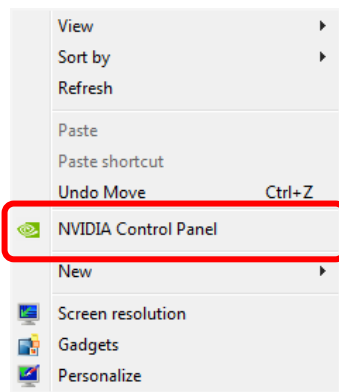
To remedy, re-install HXLink.

If other applications using MCFF are installed (MOVIAS Neo, CARS etc.), uninstall all of these applications and then re-install.

- Confirm that the NVIDIA driver version can be used with the conversion algorithm D

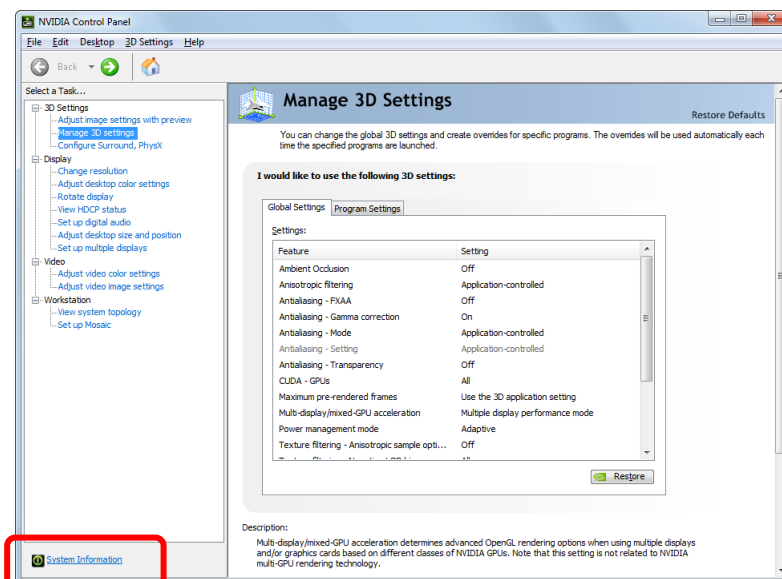
Confirm the NVIDIA driver version with the following process.

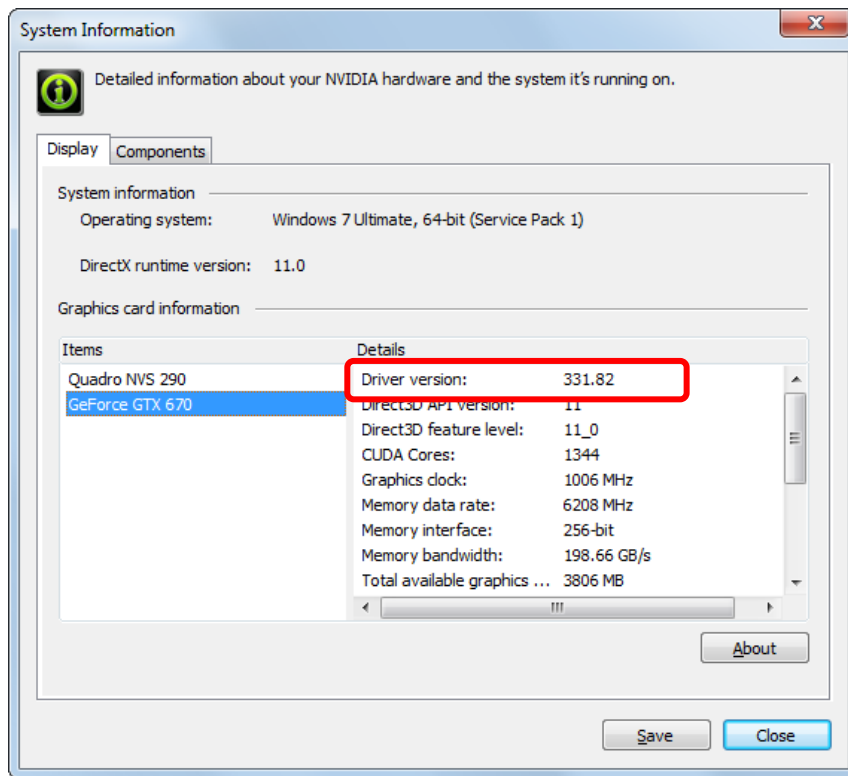
- 1) Right click on the PC screen and select “NVIDIA Control Panel” from the menu displayed.



- 2) Click “System Information” in the bottom left of the “NVIDIA Control Panel” displayed.

- 3) Confirm “Driver Version” shown in “Graphics Card Information” under the “Display” tab of the system information.





The compatible NVIDIA driver versions in HXLink are as follows.

Compatible Application and Version	NVIDIA Driver Version
HXLink 1.30 or higher	256 or higher
HXLink 1.60 or higher	314 or higher

If the NVIDIA driver version is less than 256, we recommend updating the NVIDIA driver to the latest version. Depending on the type of PC, a driver supplied by the PC manufacturer may be required.

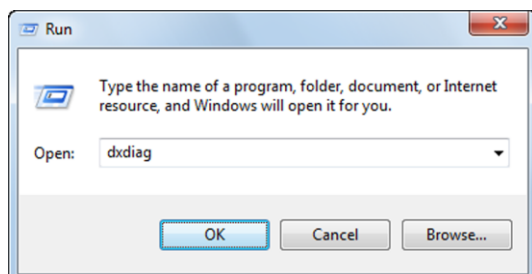
If using a NVIDIA driver with a version less than 195 with the conversion algorithm D and using HXLink Ver 3.55 or higher, the HXLink environment can be changed to operate with a NVIDIA driver version less than 195.

Execute the setup.exe in the CUDA2Setup folder on the HXLink installation CD.

■ An application error is generated when opening an AVI file with AVI2.0 format

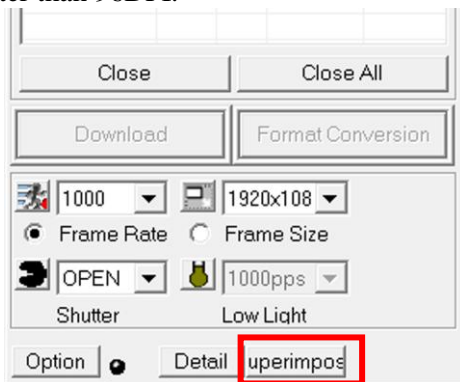
When opening an AVI file with AVI2.0 format using HXLink, DirectX 8.0 or higher must be installed.

To confirm the version of DirectX, execute “dxdiag” from “Specify the File Name” in Windows.



■ Part of the character string is missing on the screen

Not all of the character string will be displayed on the screen if the character size of the display is greater than 96DPI.

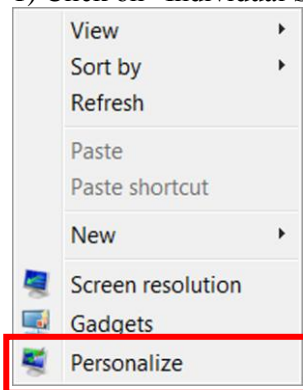


Example: The character string “Superimpose” is only partially displayed.

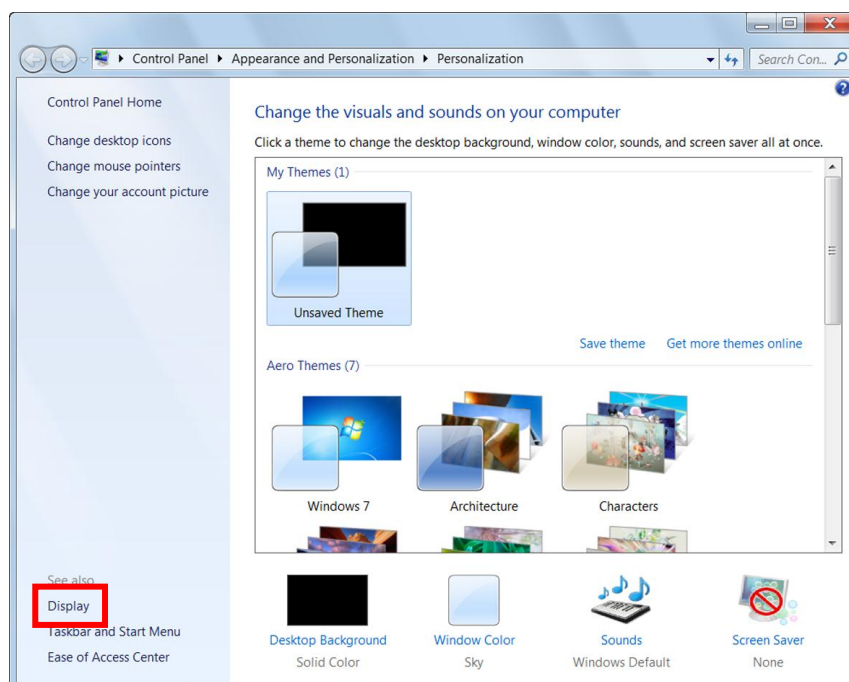
Set the character size of the display to 96DPI.

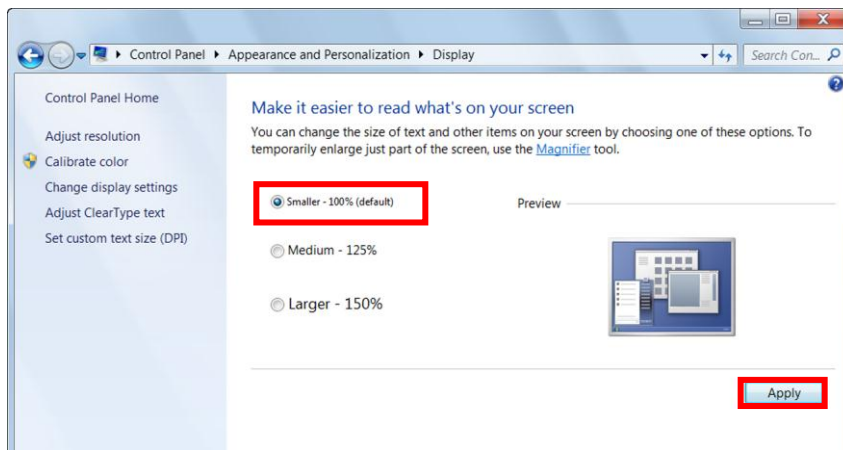
Windows 7

1) Click on “Individual Settings” in the right mouse menu on the desktop.



2) Click “Display” at the lower left and select “Small (S) – 100%” so the screen is “Easily Read Characters on the Screen”.





3) The settings are enabled at the next log on.

■ Select conversion algorithm D to open MCFF but the message “ErrorNo:224” is displayed and the MCFF is not open.

The graphic board memory is in low.

Please start "CudaSelect" and check which graphic board is used on HXLink.

a "Start Menu" → to "MEMRECAM HXLink" "CudaSelect".

The graphics board to be recommended will depend on usage

■ When connected to HX camera, segment is set to "download reservation" and cannot be recorded..

Connection with the camera and would have been cut,

the state of the segment will be reserved even after reconnecting.

To cancel Segment Reservations, open push "download" button and open "download" dialog again.

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