

JVC®

V.NETWORKS

VN-C30U

ADDITIONS TO INSTRUCTIONS

– Control from Web Browser –

INSTRUCTIONS

This instruction manual is printed on recycled paper.

Thank you for purchasing the JVC VN-C30U.
To gain maximum benefit from this product, read this instruction manual carefully before use and retain it for future reference.

The serial number is very important for maintaining quality of your product. At the time of purchase, check to see that the serial number is correctly printed on the top of the unit and that the serial numbers on the unit and warranty match.

For Customer Use:

Enter below the Serial No. which is located on the body. Retain this information for future reference.

Model No. **VN-C30U**

Serial No. _____

With VN-C30U Version 2, it has become possible to view images and to perform various controls and settings of operations configurations via the web browser.

This manual has been compiled in order to describe this new facility, which is the "Control via Web Browser". However, note that MPEG1 moving images cannot be viewed and the image up-down inversion function is unavailable via the web browser.



OPERATING ENVIRONMENT

The environment described below is necessary for operation of the VN-C30U through a web browser.

A personal computer running the following web browser:

- Web browser that has compatibility with Java Script and Frame:
Netscape Ver. 4.01 or higher or Internet Explorer Ver. 4.0 or higher is required.
- For the CPU performance and memory capacity requirements, refer to the values recommended for the web browser in use.
To obtain smooth moving image displays on a large screen, a web browser capacity above the recommended value is required.
Camera supplied images will not be displayed correctly in the 256-color mode.
- When Internet Explorer is used, an electronic environment that enables the correct execution of Java (Microsoft VM) is required.

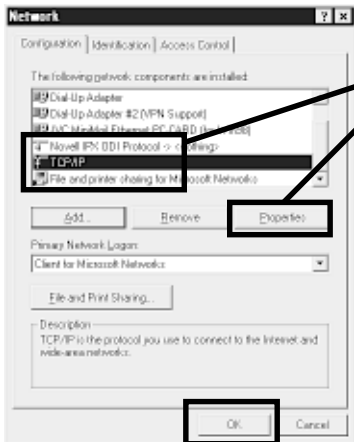
LAN Environment

- The VN-C30U unit functions as a web server based on HTTP protocol.
Access linkage using a host name is possible if the environment allows the DNS (Domain Name System) to be used.
- It is possible to connect a VN-C30U unit and a PC in a direct 1:1 connection by using a cross cable. (Certain LAN boards do not allow the use of a cross cable, though this is a very rare case. Be sure to check your LAN board.)

1. Setting the IP Address of the VN-C30U

1-1 Changing the IP Address of the PC

Select the [Start] button then select [Settings] – [Control Panel] – [Network] to display the [Network] settings panel.

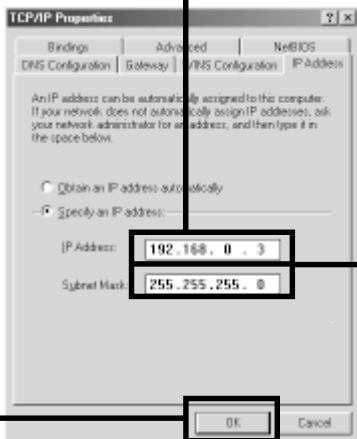


① Select item “TCP/IP” then click on <Properties>.

② Before making a change, always make a note of the original IP address. Change the IP address to: 192.168.0.3

Set [Subnet Mask] to a value suitable for the setting operation. If a suitable value is unknown, check with the network administrator.

③ Click on <OK> and then restart the PC.



Web Page Illustrations Used in This Manual

Hereafter, the figures entitled **VN-C30U Page** show a display of the web page data of the VN-C30U (including images captured by the cameras) by the web page display function of the web browser.

Due to this mechanism, the format and character font of the displayed web pages may be variable depending on the types and settings of the web browser in use. Should the operation be hindered due to a lack of any of the screen display items that should be displayed, adopt measures for displaying all items by resizing the window, etc.

The figures in this manual are based on Netscape web page displays.

When the browser in use is Netscape

- When a moving image of the VN-C30U is displayed, the web page display cannot be updated by changing the Netscape window size. In this case, click on the <Update> button on the Netscape window to update the web page display.

When the browser in use is Internet Explorer

- After the password has been changed, the password entry confirmation window may ask for the password twice. In this case, enter the same password twice.
- When the VN-C30U is connected through a proxy server, the correct pan/tilt positions may sometimes not be enabled to be displayed. In this case, click "Pan/Tilt" a few times until the correct display is obtained.

1-2 Changing the internal settings

Start the web browser.

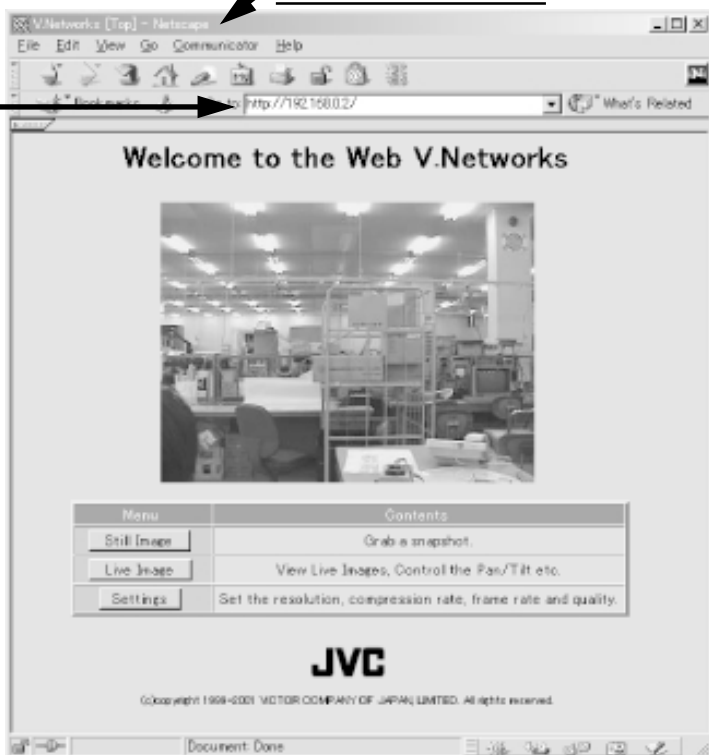
In the web browser, specify the factory-set web page address of the VN-C30U. (Direct specification of the factory-set web page address enables the web browser to display the VN-C30U Top Page.)

http://192.168.0.2/

Caution

If a proxy server is set for accessing the Internet, a direct specification may not be permitted. In this case, change the proxy setting to permit direct address specification.

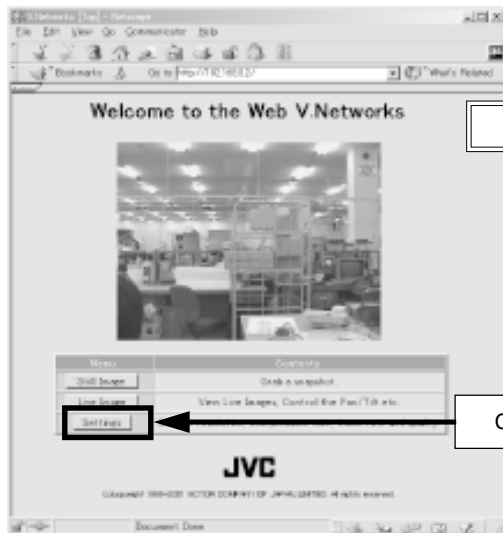
Display with Netscape



The VN-C30U Top page appears.

CAUTION

The background changes to blue when the image mode of the VN-C30U is set to the MPEG mode.



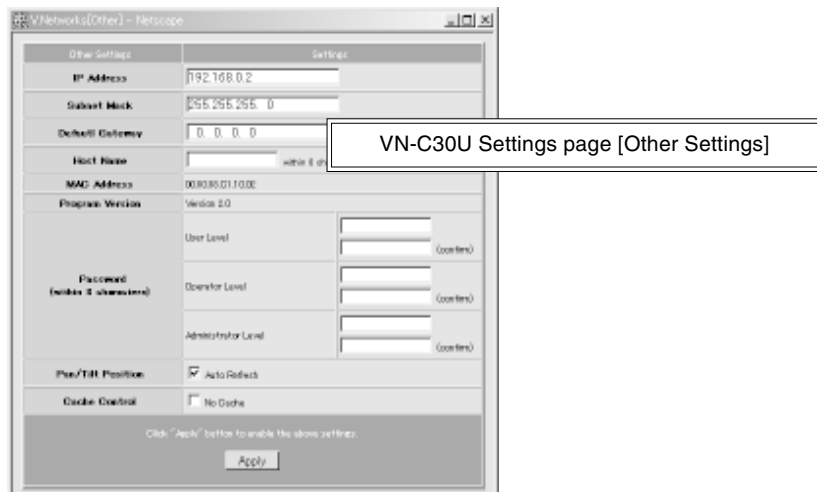
VN-C30U Top page

Click on <Settings>.



VN-C30U Settings page

The setup consists of changing the contents of [Other Settings]. (The same setup is also available using the Setting tool provided with the standard controller.)



Items in [Other Settings]

- [IP Address]** To change to the IP address assigned to or approved for the network administrator
- [Subnet Mask]** Similarly to the IP address, to set the value assigned to or approved for the network administrator
- [Default Gateway]** To set the IP address of the default gateway
If this is not used, set "0.0.0.0".
- [Host Name]** To specify the host name using up to 8 alphanumeric characters
This should be set when access linkage using a host name is required in an environment allowing the use of the DNS (Domain Name System). The host name is displayed in the title bars of sub-windows including the control windows.
Do not specify anything when the host name is not used or unknown.
- [MAC Address]** A physical address proper to each product.
* This cannot be changed.

-
- [Program Version]** Program version of the firmware in the VN-C30U unit.
* This cannot be changed.
- [Password]** To set the password using up to 8 alphanumeric characters.
The same password should be entered twice at each level for confirmation.
- [Pan/Tilt Position]** To select whether the current pan/tilt positions are to be displayed in the control and configuration windows. (This is ineffective with the VN-C30U Ver. 2.)
- [Cache Control]** With a very small number of proxy servers that caches cgi, the pan/tilt control may not function correctly. In this case, inhibit the Cache operation by checking the cache box.

Password protection

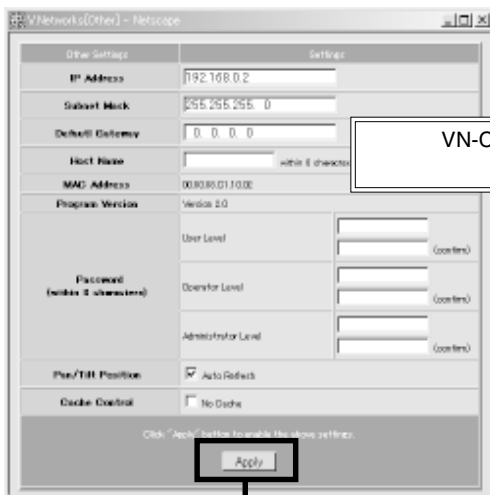
Access protection using a password is provided with the VN-C30U to restrict other connecting browsers (users). The access protection function provides three security levels, each of which is allowed to access the kinds of pages as shown in the following table.

(For the configuration of the VN-C30U web pages, see page 12.)

Level	Access Permission
User	Image pages only.
Operator	Web pages other than the configuration pages.
Administrator	All web pages

CAUTION

- Never forget the current password for it cannot be canceled or changed unless it matches the password set at the administrator level.
- Even when the user or operator level password is set, the password will not be asked for unless the administrator level password is set.



VN-C30U Configuration page
[Other Settings]

Click on <Apply> to update the settings.



Confirm the changed IP address again. Click on <OK>
if the entry is correct.

CAUTION

The confirmation window above is displayed after [IP Address], [Subnet Mask] and/or [Host Name] have been changed.

When <OK> in this window is clicked, the VN-C30U unit is reset internally to update the IP address, etc. As this renders the IP address before change (factory-set value) ineffective, the connection to the VN-C30U is disconnected. The screen indicates that a connection cannot be established after the web browser has not been used for a while. This is a result of the change in the IP address.

1-3 Restoring the IP address of the PC

In the same way as section 1-1, select [Start] – [Settings] – [Control Panel] – [Network] to display the [Network] settings panel and change [TCP/IP Properties] to the original IP address that has been noted previously.

After the change, restart the PC by following the displayed instruction message.

2. VN-C30U Access Test

This test confirms that the VN-C30U web pages may be browsed and displayed via the web browser using the set IP address or DNS host name.

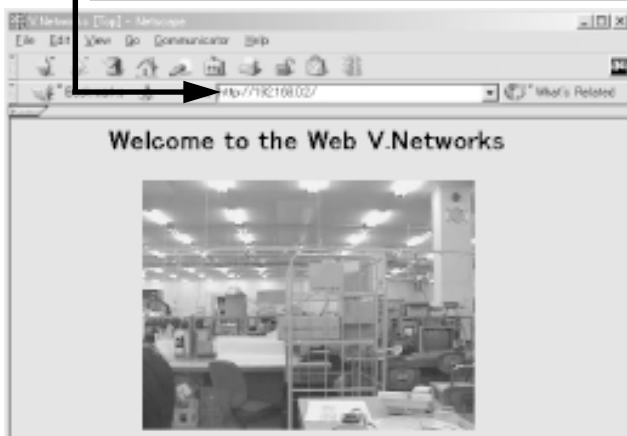
(For the configuration of the VN-C30U web pages, see page 12.)

CAUTION

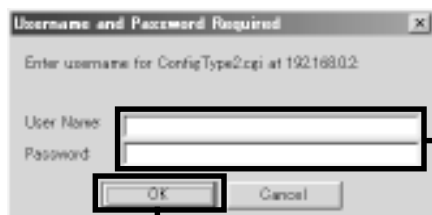
If a proxy server is set for accessing the Internet, web pages may not be directly specified. In this case, change the proxy setting to permit direct address specification.

Also, when the DNS is used, contact the network administrator to update the information related to the DNS address setting, etc.

Enter:



The [User Name and Password Entry] request window appears (for access authorization).



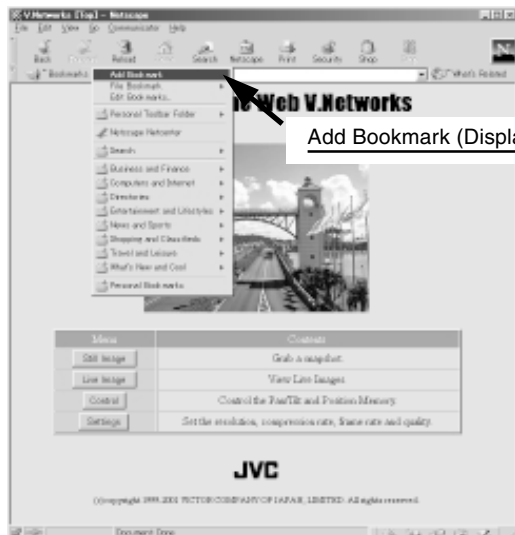
The user name is not used.
For the password, enter the one of the three passwords that have been set.

Click on <OK>.

It is recommended to register the browsing information connection location (URL: Uniform Resource Locator).

To speed up the display of VN-C30U web pages from your web browser, it is recommended to register the URL information during the access test using the set IP address or DNS host name.

The registration uses “Bookmark” of Netscape or Internet Explorer. While a VN-C30U web page is displayed, perform the operation using the web browser’s menu to add the page to the “Bookmark”.



Add Bookmark (Display with Netscape)



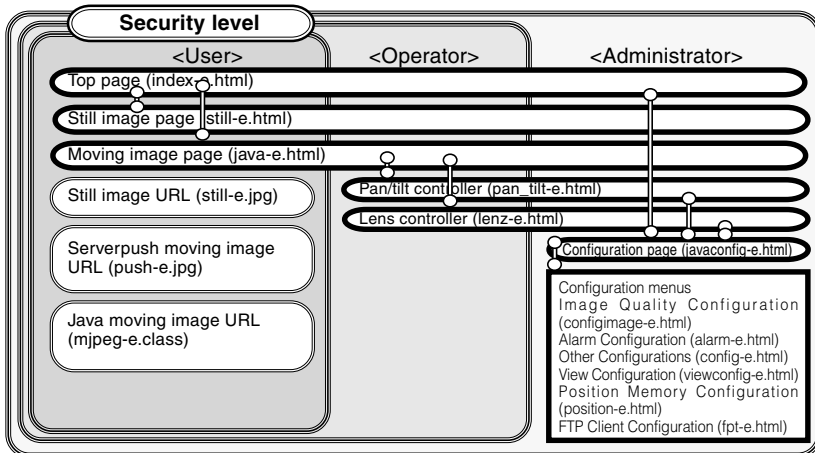
VN-C30U WEB PAGES

– Display Items and Operation Description –

The configuration of URLs inside the VN-C30U is as shown below.

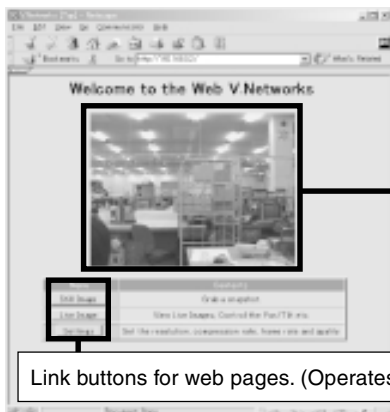
CAUTION

Authorization of access (Security) right is required in the access of any URL.



Top page: http://*****/index-e.html (*****: URL indicating the VN-C30U)

This page is intended to provide links to other VN-C30U web pages.



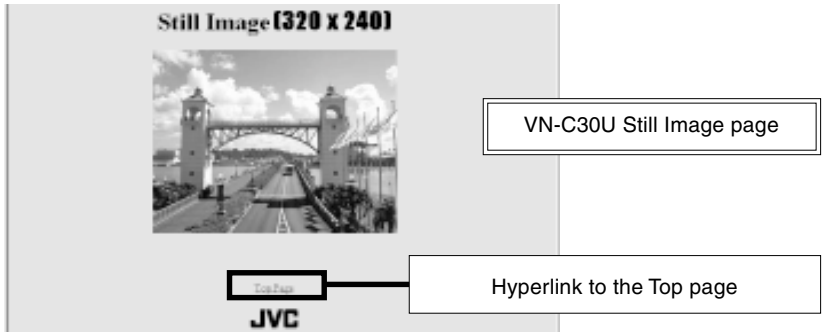
VN-C30U Top page

VN-C30U still image
The camera image at the moment browsing starts is displayed.

Link buttons for web pages. (Operates with single clicks.)

Still Image Page: http://*****/still-e.html (*****: URL indicating the VN-C30U)

This page displays only still images. The initial image is the camera image at the moment browsing starts. To update the image, perform the “Reload” or “Update” operation on the web browser. To save the image being displayed, perform the “Save As” operation on the web browser.

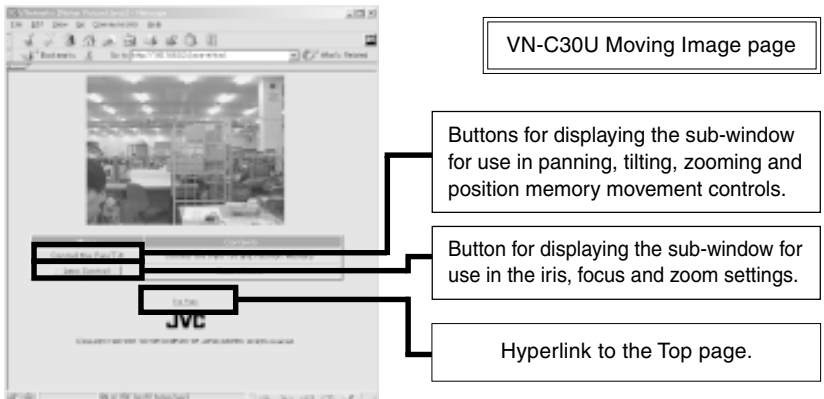


Moving Image Page: http://*****/java-e.html (*****: URL indicating the VN-C30U)

This page displays only moving images. The displayed image is the camera image that is being updated automatically.

CAUTION

Do not attempt to save images in this page for it has not been compiled assuming the use of the “Save Image As” function of the web browser. Also do not attempt to save the entire web page for it has neither been compiled assuming the use of the “Save As” function.



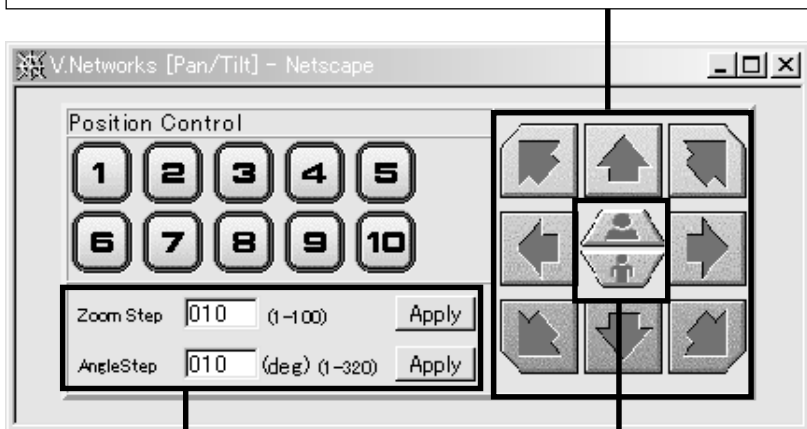
Control windows

[Pan/Tilt/Zoom] control window

The sub-window shown below can be used for the control of panning, tilting, zooming and position movement.

The VN-C30U unit incorporates a position memory storing up to 10 pan/tilt positions used in image capturing. Clicking one of the 10 (No.) buttons enables the camera to start the pan/tilt operation to the corresponding position stored in the memory.

The pan/tilt position can be changed using these 8 pan/tilt control buttons. The amount of movement per press of a pan/tilt button is the "Angle Step".



The current [Zoom Step] and [Angle Step] settings for the pan/tilt operation are displayed.

Either setting can be changed by entering the desired angle value (integer) and clicking on the <Apply> button.

The lens zooming can be changed using these two buttons. The amount of lens movement per press of the button is the "Zoom Step".

CAUTION

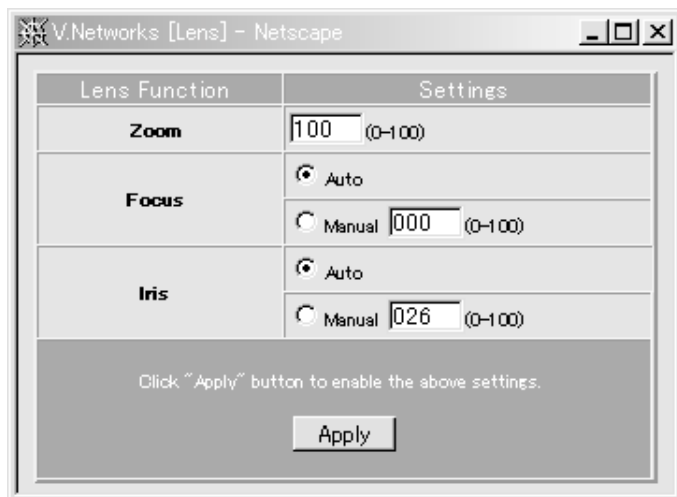
Do not execute the pan/tilt operation until the web browser has completed loading the images of all the buttons.

[Lens] control window

[Zoom] This setting controls zooming.
Change the value and click on the <Apply> button to enable the lens to zoom in or out.

[Focus] This setting controls focusing.
When it is set to [Auto], the focusing is adjusted automatically. (Autofocusing)
When it is set to [Manual], the focusing position can be specified as required. (Change the value on the right and click on the <Apply> button to set the lens to the specified focusing position.)

[Iris] When it is set to [Auto], the iris is adjusted automatically according to the brightness of the object.
When it is set to [Manual], the iris can be set as required, regardless of the brightness of the object. (Change the value on the right and click on the <Apply> button.)



Configuration Page: http://*****/javaconfig-e.html (*****: URL indicating the VN-C30U)

This page is used for settings related to images and connections (setup).
(A camera image updates automatically to be displayed as a moving image.)

The screenshot shows a Netscape browser window displaying the configuration page. The address bar shows the URL <http://192.168.0.2/javaconfig-e.html>. The main content area is divided into two columns: 'Menu' and 'Contents'. The 'Menu' column contains buttons for 'Control', 'Lens Control', 'Position Memory', 'Image settings', 'View settings', 'Alarm settings', 'FTP settings', and 'Other settings'. The 'Contents' column lists the corresponding functions for each menu item. A live camera feed is displayed in the upper left quadrant of the page. The JVC logo and copyright information are visible at the bottom.

Menu	Contents
Control	Control the Pan/Tilt.
Lens Control	Control Lens.
Position Memory	Control Position Memory.
Image settings	Set the compression rate and quality.
View settings	Set the resolution and frame rate.
Alarm settings	Set the Alarm input/output.
FTP settings	Set FTP parameters.
Other settings	Set the ip address and password.

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Moving image

VN-C30U Settings page

Click on the desired setting button to display a sub-window for the setting item.

[Control] and [Lens] control windows

See the descriptions in “Control windows”.

[Position Memory Configuration] window

Positions currently set in the position memory.

No.	Current Setting	Apply
No.1	+00.0 deg/V / +00.0 deg/V / 100	Apply
No.2	+01.0 deg/V / -01.0 deg/V / 090	Apply
No.3	+02.0 deg/V / -02.0 deg/V / 080	Apply
No.4	+03.0 deg/V / -01.0 deg/V / 070	Apply
No.5	+04.0 deg/V / +00.0 deg/V / 060	Apply
No.6	+05.0 deg/V / +00.0 deg/V / 050	Apply
No.7	-02.0 deg/V / +00.0 deg/V / 040	Apply
No.8	-03.0 deg/V / +00.0 deg/V / 030	Apply
No.9	-04.0 deg/V / -01.0 deg/V / 020	Apply
No.10	-05.0 deg/V / +00.0 deg/V / 010	Apply

VN-C30U Control page [Position Memory]

Click on <Apply> to set the current pan/tilt position as a position stored in the position memory.

[Image Quality Configuration] window

Click on <Default> to reset all of the settings in the image quality-related menu to the factory-set values.

Image quality-related setting items.
After setting the desired items, click on <Apply> to make the settings valid. See the following table for a description of each item.

Item	Effect
Compression Rate	The compression rate is inversely proportional to the image quality. When the compression rate is small, the image quality can be improved but the data quantity increases.
Saturation	This adjusts the development of colors. Increasing this value increases color saturation.
White Balance	When [AWB] is checked, the auto white balance circuit controls the white balance automatically. When [AWB] is not checked, the R Gain and B Gain settings are activated.
Brightness	<ul style="list-style-type: none"> When [AGC] is checked, the gain of the internal amplifier is adjusted automatically according to the surrounding brightness. When [BLC] is checked, the back light compensation function is activated. One of the five photo-metering areas from the pull-down menu can be selected. The brightness will be adjusted automatically based on the selected photo-metering area. CAUTION : The BLC function does not work effectively unless [AGC] is checked.
Shutter Speed	Select [1/60] for normal image capturing. To reduce flickering under fluorescent lighting, etc., select [1/100] if the local power voltage is 50 Hz or [1/60] if it is 60 Hz.

[View Configuration] window



Item	Effect
Resolution	Select the image size from "640 x 480", "320 x 240" and "160 x 120". When [Compensate aspect ratio when 160 x 120 selected.] is checked, the image size of the "160 x 120" display becomes actually 160 x 112.
JPEG Frame Rate	Select the maximum number of frames transmitted from the VN-C30U per second.

CAUTION

- The actual number of frames transmitted or displayed per second is dependent on the performance of the PC, type of web browser and LAN environment. In case communication faults involving the processing of other users are expected (particularly when the network environment is usually subjected to a relatively heavy load), it is recommended to set the frame rate to a lower value.
- When a large image size (640 x 480) is used, the upper limit of the frame rate is limited at 3 fps regardless of the setting made in [JPEG Frame Rate].
- Be sure to adjust [JPEG Frame Rate] in consideration of the number of simultaneous accesses to the unit. If its processing capability is exceeded, it will be impossible to perform correct operations including the web page display, movement and button operations.

[Alarm Configuration] window

This window sets the action to be performed when an alarm signal is input.

Alarm Type	On/Off	Settings
Alarm 1	<input checked="" type="radio"/> On <input type="radio"/> Off	Go to a Preset Position: Position 1 Alarm Out: Yes FTP: 00 Monitor effective
Alarm 2	<input checked="" type="radio"/> On <input type="radio"/> Off	Go to a Preset Position: Position 3 Alarm Out: Yes FTP: 01 Monitor effective
Release Alarm	<input checked="" type="radio"/> On <input type="radio"/> Off	Alarm 2: [dropdown] Interced prior to another alarm: <input type="checkbox"/> min: 00 sec: 00 Go to a Preset Position: Position 5 Alarm Out: Yes
Alarm Out	<input checked="" type="radio"/> On <input type="radio"/> Off	Motion/Ans: 0100 msec 0-6000 Wires: <input checked="" type="radio"/> High <input type="radio"/> Low Power on lift: No

Click "Apply" button to enable the above settings.

Apply

Alarm 1 or 2

[On/Off] Check [On] when using the corresponding alarm input (1 or 2) and check [Off] when not using it.

[Settings] An alarm input enables the camera movement to one of the positions stored in the position memory and an alarm signal output.

- **[Go to a Preset Position]**
Select one of the positions 1 to 10, which have been set in the VN-C30U [Position Memory Configuration] window. When an alarm is input, the camera will move to the specified position.
- **[Alarm Out]**
When "Yes" is selected, the alarm output outputs the signal set in [Alarm Out] below in the case of an alarm input.
- **[FTP]**
When "1" or a larger value is selected, the FTP client function will be enabled for a certain period according to the current FTP settings, even if the function is disabled by a setting. (To make this possible, the FTP settings should be set to enable FTP in advance.)

Relay Alarm

When alarm signals are input one after another with an interval of a few seconds, an interlocked alarm input can be identified and enable another operation.

Alarm Out

[Enable/Disable] Check [Enable] to use the alarm output and [Disable] to not use it.

[Configuration Items] These items are used to set the signal output from the alarm output terminal.

- **[Momentum]**
Set the time period for which the alarm output is to be continued.
- **[Value]**
Select whether the [High] or [Low] level signal is output as the alarm output.
- **[Power on Init]**
Select whether or not the alarm signal is output from the alarm output of VN-C30U at the moment it is turned ON.

* Set the alarm output according to the output destination device.

* After completing alarm configurations, be sure to confirm that the alarm operations are performed as intended.

[FTP Client Configuration] window

● FTP client function

This function uploads the VN-C30U images (still images) periodically to an existing FTP server.

This makes possible an image distribution service from a server and greatly increases the number of clients to whom images may be distributed.

FTP	Settings
FTP function:	<input type="radio"/> Available <input checked="" type="radio"/> Not available
Username:	anonymous (0-16 characters)
Password:	(0-32 characters)
Host IP Address:
FTP Port:	21 (usually Port 21)
FTP Folder:	(0-64 characters)
Upload Interval:	1000 sec (0-85400 sec) <input type="checkbox"/> disconnect every time
Error Recovery:	On connect error: <input checked="" type="radio"/> Retry Server <input type="radio"/> Retry in every 10 min (0-600 min) On transfer error: <input type="checkbox"/> Stop Uploading
Filename:	<input checked="" type="radio"/> vnetworks (0-32 characters) <input type="radio"/> Timestamp (xx2001-05-05-17-34-12-853.jpg) NTP Server IP Address: Camera Timezone GMT: 10 (-12 ~ +12) Alert in every 10 day 10 hour

Click "Apply" button to enable the above settings.

Apply

- [FTP function]**
- [Not available]: Check to enable the FTP function.
 - [Available]: Check to disable the FTP function.

[Username] Enter the user name to be used in authentication with the FTP server.

[Password]	Enter the password to be used in authentication with the FTP server. (The entered characters are displayed as “*”).
[Host IP Address]	Enter the IP address of the upload destination FTP server.
[FTP Port]	Enter the upload destination FTP port number.
[FTP Folder]	Enter the upload destination folder name in the FTP server. If this is not entered, the images will be uploaded in the default folder.
[Upload Interval]	<p>Enter the interval for image uploading to the FTP server.</p> <ul style="list-style-type: none">● [Disconnect every time] Check this box to disconnect the connection after every image uploading. <u>* This makes it necessary to establish a connection before the next time an image is uploaded.</u>
[Error Recovery]	<ul style="list-style-type: none">● [On connect error] Select the operation to be performed in case of an error related to the TOP connection or FTP authentication.<ul style="list-style-type: none">• [Retry forever]: The connection will be retried until the VN-C30U is turned OFF.• [Retry in every * min]: The connection will be retried for the specified period.● [On transfer error] Select the operation to be performed in case of a file transfer error while images are uploading.<ul style="list-style-type: none">• If [FTP function : Not available] is checked: The FTP function of the VN-C30U is disabled automatically in case of a transfer error. <u>* To resume the FTP operation, check [Available] in [FTP function].</u>

-
- If [FTP function : Not available] is not checked:
The FTP function of the VN-C30U is not disabled in case of a transfer error. In this case, upload will be retried at every uploading interval.

[Filename]

- [* .jpg]
Enter the file name to be assigned to the uploaded image. (The latest image will overwrite this file.)
* As the images are uploaded in the same file names, the FTP server retains only one image file.
- [Timestamp]
When this is selected, the images will be uploaded by acquiring the current time from the NTP server (see below) and by naming the image file according to the current time data, in the format of "YYYY-MM-DD-HH-MM-SS-mmm".
* As the images are uploaded in different file names, the FTP server will retain the same number of image files as the number of uploaded images.
- [NTP Server IP Address]:
Enter the IP address of the NTP (Network Time Protocol) server.
- [Camera Timezone GMT]:
Enter the difference of the local time with respect to the Greenwich Mean Time.
- [Adjust in every * day * hour]: Specify the interval period for acquiring the correct time data from the NTP server for use in correcting the time error.

<Apply> button

When the FTP operation is enabled, clicking this button starts the FTP operation with the settings made in this window.

When the FTP operation is disabled, clicking this button does not save the settings made in this window.



LINK OF VN-C30U IMAGES

– Pasting VN-C30U output images on separately created web pages

Images (still and moving images) captured using the VN-C30U can be incorporated and displayed on web pages created by the user.

CAUTION

Images cannot be displayed when the VN-C30U unit is in the MPEG mode.

Displaying a Still Image :

Create a web page including the following description to display the still image in the web page.

```
<IMG SRC="http:// ***** /still-e.jpg">  
(****: URL indicating the VN-C30U)
```

Displaying a Moving Image :

A moving image can either be a Serverpush image or a Java image. The image type should be selected according to the compatibility conditions of the web browser (or by adjusting the web page.)

Display by Serverpush image

Create a web page including the following description to display the moving image in the web page of a Serverpush-compatible web browser (i.e. Netscape).

```
<IMG SRC="http:// ***** /push-e.jpg">  
(****: URL indicating the VN-C30U)
```

Display of a Java applet image

Create a web page including the following description to display a moving image in the web page of a Java-compatible web browser (i.e. Internet Explorer, etc.).

```
<APPLET CODE="mjpeg-e.class"WIDTH=640 HEIGHT=480  
CodeBase="http:// ***** /"> </APPLET>  
(****: URL indicating the VN-C30U)
```

CAUTION

- Both the displayed still images and moving images are displayed in the image sizes and compression rates set in the configuration. If the web browser is set to disable Java execution, images may not be displayed correctly.
- If passwords are set, Java moving images cannot be displayed unless it has previously been authenticated. (Restriction with Internet Explorer)
- The values of "WIDTH" and "HEIGHT" should be identical to those set in the image size setting of the VN-C30U. However, both "160 x 112" and "160 x 120" are valid.

CAUTION

- If the browser in use is Netscape Ver. 4.06 or older, it is required to update the Java Plug-in to Ver. 1.1 or higher in order to browse and display moving images.
Java Plug-in is available in web sites such as <http://java.sun.com/getjava/>, etc.
- Under certain environments, image reloading may be repeated when the [Pan/Tilt/Zoom] control window is displayed. This is not a malfunction, however.
- When the [Time Stamp Format] file name is selected in the [FTP Client Configuration] window, a time stamp name for 1900's (years) is used unless the correct time has been acquired from an NTP server.





Printed in Japan
LWT0031-001A

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