# NVE HTTP API
# Manual

**UDP**
**Technology**

# Table of Contents

# 1. Overview

This manual contains the information for the external HTTP-based API of an IPC camera and NVE series. The HTTP-based video interface supports the functionality for getting and setting internal values with a specific parameter and controls the PTZ of an IPC camera. The image is requested and transmitted via CGI in an IPC camera or NVE series.

# 2. Definition

This section explains the information for general terms and CGI URL convention in this document.

## 2.1. Abbreviation

**CGI**   Common Gateway Interface.
**API**   Application Programming Interface.
**TBD**   To Be Determined

## 2.2. General CGI URL convention

**Request**

http://<servername>/enc-cgi/<subdir>[/subdir>...]/<cgi>.<ext>
[?<parameter>=<value>[&<parameter>=<value>…]]

As above, CGI URL and CGI parameter must be in lowercase. In addition, CGI parameter has to be written as one word without any blank space.

**Response**

HTTP/1.0 200 OK\r\n

The syntax above describes returned data. All data returned as HTTP-formatted. For the detailed information about standard HTTP status code, please refer to W3C.
(http://www.w3.org/Protocols/rfc2616/rfc2616-sec10.html)

# 3. NVE HTTP API Specification

## 3.1. System Configuration

### 3.1.1. Get or Set System Information

**Syntax**

http://<servername>/enc-cgi/admin/param.cgi?<parameter>=<value>[&<parameter>=<valu e>]

With the following parameter and values

| <parameter>=<value> | Values | Description |
|---|---|---|
| action=<string> | add | Add the parameters to NVE |
| | update | Set the parameters in NVE. |
| | list | Get the parameters from NVE. |
| | remove | Delete the parameters from NVE |

List parameter
**Syntax**

http://<servername>/enc-cgi/admin/param.cgi?action=list[&<parameter>=<value>...]

| <parameter>=<value> | Values | Description |
|---|---|---|
| group=<string> [,<string>…] | <group[.name]> [,<group[.name] >…] | Wildcard (*) can be used when listing parameters. See the example (Ex 1) below. |
| response format | rfc | Response format: HTTP/1.0 200 OK\r\n Content-Type: text/plain\r\n \r\n <parameter pair> |

Ex 1) action=list&group=Network
        action=list&group=Event.*.Name

### 3.1.2. Adding, deleting and modifying users

This CGI request is for adding a new user with a password and an access level, modifying the user's information and deleting a user. Default users are as follow;

| ID | Password | Access level |
|---|---|---|
| root | pass | 6 |
| guest | guest | 1 |

**Syntax**

http://<servername>/enc-cgi/admin/pwdgrp.cgi?action=<value>[&<parameter>=<value>...]

With following parameters and values

| <parameter>=<value> | Values | Description |
|---|---|---|
| action=<string> | add, get, update, | add : create a new user account. |

| | remove | update : change the specified information of user. remove : delete an existing account. get : get a list of the users |
|---|---|---|
| user=<string> | <string> | The name of user account. Valid characters are from a to z, from A to Z and from 0 to 9. Maximum number of character is 32 and the first character must be a alphabet. |
| pwd=<string> | <string> | The password of user account. Valid characters are from a to z, from A to Z and from 0 to 9. the number of character is from 3 to 8. |
| access=<int> | 1,4,6 | Specify 6 for administration level (can change system configuration) Specify 4 for user level (can change media configuration) Specify 1 for guest level (cannot change system or media configuration) |

**Response**

HTTP/1.0 200 OK\r\n
Content-Type: text/plain\r\n
\r\n
OK

**Example**
Create a new user with the access level 1

http://<servername>/enc-cgi/admin/pwdgrp.cgi?action=add&user=edward&pwd=abcd
&access=1


Change the password and the access level

http://<servername>/enc-cgi/admin/pwdgrp.cgi?action=update&user=edward&pwd=1234
&access=2


Remove the user.

http://<servername>/enc-cgi/admin/pwdgrp.cgi?action=remove&user=edward


List the users

http://<servername>/enc-cgi/admin/pwdgrp.cgi?action=get


## 3.1.3. Restart NVE System

This CGI requests is for rebooting NVE system.

**Syntax**

http://<servername>/enc-cgi/admin/restart.cgi

### 3.1.4. Get Server Report

This CGI request is for getting the information of NVE includes product information, parameter settings and system log.

**Syntax**

http://<servername>/enc-cgi/admin/serverreport.cgi

### 3.1.5. Factory Default

This CGI request is for restoring the configuration to the factory default.

**Syntax**

http://<servername>/enc-cgi/admin/factorydefault.cgi

**Response**

HTTP/1.0 200 OK\r\n
Content-Type: text/plain\r\n
\r\n
OK

### 3.1.6. Get or Set System date and time

**Syntax**

http://<servername>/enc-cgi/admin/date.cgi?<parameter>=<value>

with the following parameter and values

| <parameter>=<value> | Values | Description |
|---|---|---|
| action=<string> | get | get the current date and time. |
| | set | set the current date and/or time. |

**Get system date and time from NVE.**

**Syntax**

http://<servername>/enc-cgi/admin/date.cgi?action=get

**Response**

HTTP/1.0 200 OK\r\n
Content-Type: text/plain\r\n
\r\n
<month> <day>, <year> <hour>:<minute>:<second>

Ex) Apr 03, 2006 12:13:07

**Set system date and time in NVE.**
**Syntax**

http://<servername>/enc-cgi/admin/date.cgi?action=set[&<parameter>=<value>...]

with the following parameters and values

| <parameter>=<value> | Values | Description |
|---|---|---|

| year=<int> | 2000-3000 | Current year |
|---|---|---|
| month=<int> | 1-12 | Current month |
| day=<int> | 1-31 | Current day |
| hour=<int> | 0-23 | Current hour |
| minute=<int> | 0-59 | Current minute |
| second=<int> | 0-59 | Current second |

**Example**
**Set the date**

http://<servername>/enc-cgi/admin/date.cgi?action=set&year=2007&month=4&day=10

Response when success

HTTP/1.0 200 OK\r\n
Content-Type: text/plain\r\n
\r\n
OK

Response when failed or the syntax is incorrect.

HTTP/1.0 200 OK\r\n
Content-Type: text/plain\r\n
\r\n
Request failed: <error message>

## 3.1.7. Video status

Check the status of one or more video sources.

**Syntax**

http://<servername>/enc-cgi/view/videostatus.cgi?<parameter>=<value>

With the following parameter and values

| <parameter>=<value> | Values | Description |
|---|---|---|
| status=<int>[[,<int>],…] | 1…4[*1] | Return the status of one or more inputs. |

*1 : The number of video inputs may differ between different cameras and video servers.

**Example**
The following example shows successful response after requesting video status from input 1 to 4.

http://<servername>/enc-cgi/view/videostatus.cgi?status=1,2,3,4

Response when success

HTTP/1.0 200 OK\r\n
Content-Type: text/plain\r\n
\r\n
Video 1 = video\n
Video 2 = video\n
Video 3 = no video\n
Video 4 = no video\n

## 3.2. JPEG

### 3.2.1. JPEG Image Snapshot

Get the snap shot of specific channel from NVE/IPC system with the JPEG format

For this, codec should be set as JPEG.

**Syntax:**

http://<servername>/jpg/image.cgi[?<parameter>=<value>

with the following parameter and values

| <parameter>=<value> | Values | Description |
|---|---|---|
| camera=<string> | 1,2,3,4 | Selects source camera. |

**Example**

http://<servername>/jpg/image.cgi?camera=1

## 3.3. MJPEG

### 3.3.1. Video CGI Request

Request a Multipart-JPEG image stream with the following specified properties.

**Syntax:**

http://<servername>/enc-cgi/mjpg/video.cgi[?<parameter>=<value>

with the following parameter and values

| <parameter>=<value> | Values | Description |
|---|---|---|
| camera=<string> | 1,2,3,4 | Selects source camera. |
| fps=<int> | 1-30 | NTSC (30, 15, 7.5, 3, 1) |
| | | PAL (25, 12.5, 6, 3, 1) |
| resolution=<string> | D1, qvga, vga, qcif, 4cif, 2cif, cif | Image resolutions |
| compression=<int> | 1-100 | The level of image compression |

**Example**

http://<servername>/enc-cgi/
/mjpg/video.cgi?cameara=1&fps=25&resolution=4cif&compression=70

### 3.3.2. MJPEG Video Response

When MJPG video is requested, a continuous flow of JPEG files is returned by server. The content type is "multipart/x-mixed-replace" and each image ends with a boundary string

\<boundary\>. The returned image and HTTP data is equal to the request for a single MJPEG image.

**Return**:

```
HTTP/1.0 200 OK\r\n
Content-Type: multipart/x-mixed-replace;boundary=<boundary>\r\n
\r\n
--myboundary\r\n
Content-Type: image/jpeg\r\n
Content-Length: <image size>\r\n
\r\n
<JPEG image data>\r\n
--myboundary\r\n
Content-Type: image/jpeg\r\n
Content-Length: <image size>\r\n
\r\n
<JPEG image data>\r\n
```

## 3.4. MPEG

It is available to request MPEG-4 stream through RTSP and UDA5 API. Please refer to RTSP Reference Manual.pdf and UDA5 NVE SDK Manual-Eng.pdf.

## 3.5. Camera Control

TBD

## 3.6. Audio

TBD

## 3.7. Motion Detection

### 3.7.1. Add a motion detection window

It is available to add up to 3 motion detection area per each channel.

**Syntax**

```
http://<servername>/enc-cgi/operator/param.cgi?action=add
&group=Motion<parameter>=<value>[&<parameter>=<value>...]
```

with the following parameters and values

| \<parameter\>=\<value\> | Value | Description |
|---|---|---|
| Name | \<string\> | The name of motion detection area to identify |
| Top | 0~ | y-coordinate of the upper-left corner of the motion detection rectangle. |
| Bottom | 0~ | y-coordinate of the lower-right corner of the |

| | | motion detection rectangle. |
|---|---|---|
| Left | 0~ | x-coordinate of the upper-left corner of the motion detection rectangle. |
| Right | 0~ | x-coordinate of the lower-right corner of the motion detection rectangle. |
| Sensitivity | 0~255 | This tunes the "object difference from the background"-sensitivity, i.e. difference in terms of color and/or structure. A high value detects even very small changes and can e.g. trigger on image noise if set too high. A very low value requires on the other hand a very dramatic change with e.g. a dark object appearing in an almost white scene (or vice versa). |
| Objectsize | 0~255 | Defines the size in percent of the object to result in detection. For a small value, even very small changes trigger the detection while a very large value requires a very large object to trigger the detection. |
| Imagesource | 0~Max Chanel | Channel number |

**Change N**

The range of sensitivity and object size is 0 ~ 100 in the earlier than KernelX16K572.

**Example**

http://server/enc-cgi/operator/param.cgi?action=add&group=Motion
&Motion.M.Name=VMD0&Motion.M.Top=1&Motion.M.Bottom=4000&Motion.M.Left=1&
Motion.M.Right=4000&Motion.M.Sensitivity=50&Motion.M.ImageSource=0

## 3.7.2. Remove a Motion Detection window

Remove the Motion.M1 parameters.
**Example**

http://<servername>/enc-cgi/operator/param.cgi?action=remove&group=Motion.M1

## 3.7.3. Update the Motion Detection parameters

Update the parameters for an existing Motion Detection window.
**Example**

http://<servername>/enc-cgi/operator/param.cgi?action=update&Motion.M1.Top=100&Motion.M1.Bottom=200

## 3.7.4. List the Motion Detection Parameters

List the Motion.M1 parameters.

**Example**

**Error! Hyperlink reference not valid.**http://<servername>/enc-cgi/operator/param.cgi?action=list&group=Motion.M1

*Note:* Setting up parameters for motion detection in HTTP API will affect the setting for RTSP API and vice versa. But only the first area window (#Area00) can be correctly reflected in the HTTP API due to the limitation of HTTP API.

## 3.7.5. Get the Motion Detection level

Show the specified motion group level and a specified activity value. Motion detection Level represents the number of macroblocks against the group in percent. To get the data, motion info type for a given channel should be set to 'continuous'.

**Syntax**

http://<servername>/enc-cgi/motion/motiondata.cgi[?<parameter>=value>...]

with the following parameters and values

| <parameter>=<value> | Value (default) | Description |
|---|---|---|
| Image=<int> | 0,1,… | Image is a channel number. It can be 0 to Maximum channel the system has. |
| MdInfoType | continuous, flag (flag) | MdInfoType can be one of followings: continuous and flag. Default value is flag. To continue getting the data, set to continuous. |
| group=<int>[,<int>,…] | 1,2,… | Select a group from which data will be sent among specified motion area. If not specified, all group data will be sent. |

**Response**

HTTP/1.0 200 OK\r\n
Content-Type: multipart/x-mixed-replace;boundary=<boundary>\r\n
\r\n
--<boundary>\r\n
<motion levels>

Where the proposed boundary <boundary> is encmotiondata
and the <motion levels> part is
Content-Type: text/plain\r\n
\r\n
<motion level for window with lowest group number>
--<boundary>\r\n
and <motion level for window with group number n>" is
group=<group number n>;level=<motion level for n>;threshold=
<threshold level for n>;\r\n[ <motion level for window n+1> ]
The range of threshold is from 0 to 255.
**Return**:

```
HTTP/1.0 200 OK\r\n
Content-Type: multipart/x-mixed-replace; boundary=encmotiondata\r\n
\r\n
--encmotiondata\r\n
Content-Type: text/plain\r\n\r\n
group=0;level=29;activity=50;
group=1;level=4;activity=50;
group=2;level=21;activity=50;\r\n
--encmotiondata\r\n
Content-Type: text/plain\r\n\r\n
group=0;level=29;activity=50;
group=1;level=4;activity=50;
group=2;level=21;activity=50;\r\n
```

**Exmaple**
List the setting for Motion info type

```
http://<servername>/enc-cgi/motion/motiondata.cgi?action=list&Image=0
```

Set up Motion info type to continuous

```
http://<servername>/enc-
cgi/motion/motiondata.cgi?action=update&Image=0&MdInfoType=continuous
```

Getting the motion detection level

```
http://<servername>/enc-cgi/motion/motiondata.cgi?gruop=0,1
```

Response

```
HTTP/1.0 200 OK\r\n
Content-Type: multipart/x-mixed-replace; boundary=encmotiondata\r\n
\r\n
--encmotiondata\r\n
Content-Type: text/plain\r\n\r\n
group=0;level=29;threashold=50;
group=1;level=4;threashold=50;
--encmotiondata\r\n
Content-Type: text/plain\r\n\r\n
group=0;level=29;threashold=50;
group=1;level=4;threashold=50;
```

**Note : There are two differences between UDP's motiondata cgi and other widely used motiondata cgi.**

Firstly, NVE/IPC returns the motion detection level only when the motion event occurs which is a default. So in order to get the motion detection level all the time, the flag for this must be setting the flag once before getting motion detection level as follow.

```
http://<servername>/enc-
cgi/motion/motiondata.cgi?action=update&Image=0&MdInfoType=continuous
```

If you finished getting motion detection level, it is recommended to change MdInfoType from continuous to flag to save the network bandwidth.

Secondly, NVE does not support the specific window that is supported in other IP camera.

# 3.8. DI/DO

The requests described in the I/O section are supported by the products which have digital input and digital output connectors.

## 3.8.1. DI

**Syntax**

http://<servername>/enc-cgi/io/input.cgi?<parameter>=<value>[&<parameter>=<value>...]

with the following parameters and values

| <parameter>=<value> | Value | Description |
|---|---|---|
| check=<int>[,<int>,…] | <id1>[,<id2>,…] | Returns the status (1 or 0) of one or more Inputs numbered id1, id2… |
| checkactive=<int> [,<int>,…] | <id1>[,<id2>,…] | Returns the status (active or inactive) of one or more Inputs numbered id1, id2, … |
| monitor==<int> [,<int>,…] | <id1>[,<id2>,…] | Returns a multipart stream of "check" inputs (see return description below). |

**Example**

http://<servername>/enc-cgi/io/input.cgi?check=1,2,3,4

## 3.8.2. DO

**Syntax**

http://<servername>/enc-cgi/io/output.cgi?<parameter>=<value>[&<parameter>=<value>]

with the following parameters and values

| <parameter>=<value> | Values | Description |
|---|---|---|
| check=<int>[,<int>,…] | <id1>[,<id2>,…] | Returns the status (1 or 0) of one or more Inputs numbered id1, id2, … |
| checkactive=<int> [,<int>,…] | <id1>[,<id2>,…] | Returns the status (active or inactive) of one or more Inputs numbered id1, id2, … |
| monitor==<int> [,<int>,…] | <id1>[,<id2>,…] | Returns a multipart stream of "check" outputs (see return description below). |
| action=<string> | [<id1>]:<a> [<wait><a>…] | Sets the output relay <id> active or inactive and waits <wait> milliseconds. Make sure that only one output relay can be activated/deactivated per request. <id> = Output number. If omitted, output 1 is selected. <a> = Action character: /or\ / = active, \ = inactive. <wait> = Delay in milliseconds. |

**Example**

Set output 1 active

http://server/enc-cgi/output.cgi?action=1:/

Set two 300 ms pulses with 500 ms delay between the pulses on output 1.

http://server/enc-cgi/output.cgi?action=1:/300\500/300\

Wait 1 second before setting output 1 active.

http://server/enc-cgi/output.cgi?action=1:1000/

# 3.9. Serial communication

**Syntax**

http://<servername>/enc-cgi/com/serial.cgi?<parameter>=<value>[&<parameter>=<value>]

with the following parameters and values
There are three method for writing the data to the serial port.

| <parameter>=<value> | Values | Description |
|---|---|---|
| port=<int> | 1, 2 | Select COM port. Default 2<br>1 : RS-232C<br>2 : RS-485 |
| write=<string> | <bytestring> | <bytestring>: hex coded bytes with values of {0,1,2,3,4,5,6,7,8,9,A,B,C,D,E,F,a,b,c,d,e,f} Writes the specified data string to the selected serial port. |
| writestring=<string> | <url encoded string> | Writes the URL-encoded string to the selected serial port |
| Base64=<string> | <bytestring> | Writes the base64 encoded string to the selected serial port |
| read=<int> | 1, … | Reads n bytes from the selected serial port, The returned data will be hexadecimal coded and placed between #s (e.g. #3A#) |
| wait=<int> | 1 - 9 | Specified in seconds. Used together with the "read" parameter. A read is terminated when the specified number of bytes is read or when the wait period has ended. |
| timeout=<int> | 1 - 9000 | Specified in milliseconds. Used together with the "read" parameter. A read is terminated when the specified number of bytes is read or the timeout has expired. |

**Example**

Write byte string for COM2

http://server/enc-cgi/com/serial.cgi?write=01FFAA

Read the 16 bytes for 1 second max after sending data to COM2

http://server/enc-cgi/com/serial.cgi?write= 7e0120001041707e&read=16&wait=1

For detailed information regarding configuration of Serial COM, please refer to "5.11. Serial Port".

# 4. Parameters

This chapter specifies the parameters for configuring and getting information of NVE.

## 4.1. Brand

Contains information about the brand, name and type of the product.

| Parameter | values | Operation | Description |
|---|---|---|---|
| Brand | A string | Get | The brand of the product |
| ProdFullName | A string | Get | The full name of the product |
| ProdNbr | A string | Get | The product number |
| ProdShortName | int | Get | The short name of the product |
| ProdType | A string | Get | The product type |
| WebURL | A string | Get | The URL to visit for support |
| Authenkey | A string | Get | Criteria for the device which is encrypted with the customer's own company key |

**Example**
Get Brand

http://server/enc-cgi/admin/param.cgi?action=list&Brand.Brand

## 4.2. Image

Get and set of the image information.

| parameter | values | Operation | Description |
|---|---|---|---|
| DateTimeFormat | YYMMDD:hhmmss,<br><br>MM/DD/YYYY hh:mm:ss,<br><br>DD/MM/YYYY hh:mm:ss,<br><br>YYYY/MM/DD hh:mm:ss,<br><br>MMM DD YYYY hh:mm:ss,<br><br>DD MMM YYYY hh:mm:ss | Get/Set | |

**Example**
Set the date and time format as DD/MM/YYYY hh:mm:ss

http://192.168.20.106/enc-cgi/admin/param.cgi?action=update&Image.DateTimeFormat=
DD/MM/YYYY hh:mm:ss

### 4.2.1. Image.I#

Get and set of the image information.(# means image number)

| parameter | values | Operation | Description |
|---|---|---|---|

| Name | A string | Get/Set | name of the image |
| --- | --- | --- | --- |
| Source | int | Get | video input status |
| Codec | MPEG4/MJPEG | Get/Set | CODEC type |
| SnapShot | yes/no | Get/Set | To use the image with CGI, set to 'yes'<br>(image.cgi, video.cgi, ftp upload, usb recording) |

**Example**
Set a name

http://server/enc-cgi/admin/param.cgi?action=update&Image.I0.Name=AAA

Get a name

http://server/enc-cgi/admin/param.cgi?action=list&Image.I0.Name

## 4.2.2. Image.I#.Appearance

Image appearance information such as resolution, compression and so on.

| Parameter | values | Operation | Description |
| --- | --- | --- | --- |
| Resolution | d1, qvga, vga, qcif, 4cif, 2cif, cif | Get/Set | The image resolution |
| Compression | 32~10000 | Get/Set | The level of image compression. High compression reduces the file size.<br>Unit : kbps |

**Example**
Set a resolution to 4CIF

http://server/enc-cgi/admin/param.cgi? action=update&Image.I0.Appearance.Resolution=4cif

Get a resolution

http://server/enc-cgi/admin/param.cgi?action=list&Image.I0. Appearance.Resolution

## 4.2.3. Image.I#.MPEG

MPEG parameter

| Parameter | values | Operation | Description |
| --- | --- | --- | --- |
| ProfileLevel | SP@L0, SP@L1, SP@L2, SP@L3, CP@L1, CP@L2, MP@L2, MP@L3, MP@L4, ASP@L0, ASP@L1, ASP@L2, ASP@L3, ASP@L3B, ASP@L4, ASP@L5 | Get/Set | The MPEG-4 Profile and Level to use. |
| VideoObjectType | advanced_simple, simple, core, main | Get/Set | The video object type(VOT) to used for MPEG-4 stream. |

| PCount | 1~127 | Get/Set | The number of P frames per I frame. |
|--------|-------|---------|-------------------------------------|

**Example**

Set the number of P frame to 10

http://server/enc-cgi/admin/param.cgi?action=update&Image.I0.MPEG.PCount =10

Get the number of P frame

http://server/enc-cgi/admin/param.cgi?action=list&Image.I0.MPEG.PCount

## 4.2.4.Image.I#.RateControl

RateControl parameter

| Parameter | value | Operation | Description |
|-----------|-------|-----------|-------------|
| Mode | cbr, vbr, hvbr | Get/Set | Specifies bit rate mode. When you set your mode as hvbr, you can manage the stream with *Maxbitrate* and *Maxcompression* |
| TargetBitrate | 32-10000 | Get/Set | [for CBR mode] The target bit rate by kbps |
| MaxFPS | 1~30 | Get/Set | The rate controller will not produce streams with a frame rate higher than this value. |
| MaxBitrate | 10000 | Get/Set | [For HVRB mode] Allowed maximum bit rate for the stream by kbps. |
| MaxCompression | 0~255 | Get/Set | [For HVRB mode] The quant for the stream by kbps. |

**Example**

Set the bitrate mode to CBR

http://server/enc-cgi/admin/param.cgi?action=update&Image.I0.RateControl.Mode =cbr

Get the bitrate mode

http://server/enc-cgi/admin/param.cgi?action=list&Image.I0.RateControl. Mode

## 4.2.5.Image.I#.Stream

Stream parameter

| parameter | value | Operation | Description |
|-----------|-------|-----------|-------------|
| FPS | 1~30 | Get/Set | Limits the frame rate available to each viewer. 0 = unlimited frame rate. |

**Example**

Set FPS to 25 frame

http://server/enc-cgi/admin/param.cgi?action=update&Image.I0.Stream.FPS =25

Get FPS

http://server/enc-cgi/admin/param.cgi?action=list&Image.I0.Stream.FPS

## 4.2.6. Image.I#.Text

NOTE : The date, time, and text are burnt in the image with image compression process.
NOTE : The 'DateTimeEnabled' and 'DateTimePosition' are available only for channel0. If your models are NVE 2000, NVE 4000 or any multi channel encoding models, OSD time setting is available only on the 1st channel and the other channels do not support the Time OSD setting for the systematical reason of multi channel models of NVE.

| parameter | value | Operation | Description |
|---|---|---|---|
| DateTimeEnabled | yes/no | Get/Set | [For date/time] Shows the date and time on the image. |
| DateTimePosition | 0~29 | Get/Set | [For date/time] Position of date and time |
| TextEnabled | yes/no | Get/Set | [For text] Shows the string on the image. |
| Color | 0~255 | Get/Set | [For text] Color adjustment |
| String | A string | Get/Set | [For text] Text |
| Position | 0~29 | Get/Set | [For text] Position of text |

**Example**
Set the name of the image to AAA

http://server/enc-cgi/admin/param.cgi?action=update&Image.I0.Text.String=AAA

Get the name of the image

http://server/enc-cgi/admin/param.cgi?action=list&Image.I0.Text.String

## 4.3. ImageSource

The number of image sources

| Parameter | value | Operation | Description |
|---|---|---|---|
| NbrOfSources | int | Get | Number of image inputs |

**Example**
Get the number of the channel

http://server/enc-cgi/admin/param.cgi?action=list&group=ImageSource.NbrOfSources

## 4.3.1. ImageSource.I#.Sensor

Sensor parameter

| parameter | Value | Operation | Description |
|---|---|---|---|
| Sharpness | 0~255 | Get/Set | The image sharpness |
| NoiseReduction | 0~255 | Get/Set | The level of noise reduction in image. |
| Brightness | 0~255 | Get/Set | The image brightness. |
| ColorLevel | 0~255 | Get/Set | The image color level. |
| Contrast | 0~255 | Get/Set | The image contrast. |
| Hue | 0~255 | Get/Set | The image Hue |

**Example**
Get the sharpness of the first channel

http://server/enc-cgi/admin/param.cgi?action=list&group=ImageSource.I0.Sensor.Sharpness

*Caution!*
If your item is one of the IPC series or NVE100 with PAL video format, Hue value adjustment doesn't work at all. This is because of the characteristic of the decoder chip built in IPC series and NVE100. If your video format is NTSC, it has no problem in hue value adjustment.

### 4.3.2. ImageSource.I#.Video

Parameters for each video image source.

| parameter | value | Operation | Description |
|---|---|---|---|
| Mode | auto, ntsc, pal | Get/Set | The input video format. |
| DetectedType | ntsc, pal | Get | The type of video source that is connected. |
| DeinterlaceMode | Enable/disable | Get/Set | Enable/disable deinterlacing on video |

**Example**
Get the detected video format of the first channel

http://server/enc-cgi/admin/param.cgi?action=list&group=ImageSource.I0.Video.DetectedType

## 4.4. Input

DI

| parameter | value | Operation | Description |
|---|---|---|---|
| Name | A string | Get/Set | The name of D/I |
| Trig | open, close | Get | The D/I status |

**Example**
Get then name of the first DI

http://server /enc-cgi/admin/param.cgi?action=list&group=Input.I0.Name

## 4.5. Network

Network interface settings

| Parameter | value | Operation | Description |
|---|---|---|---|
| IPAddress | IPv4 | Get/Set | IP address. |
| SubnetMask | IPv4 | Get/Set | Subnet mask |
| DefaultRouter | IPv4 | Get/Set | Default router/gateway used for connecting devices attached to different networks and network segments. |
| HostName | A string | Get/Set | The name of the NVE device on the network. |
| DNSServer1 | IPv4 | Get/Set | Primary Domain Name System server |
| DNSServer2 | IPv4 | Get/Set | Secondary Domain Name System server |
| BootProto | Yes, no | Get/Set | Enable/disable dynamic IP address assignments. |
| Media | auto, 100baseTX-FD | Get/Set | Media type on the network. Caution! auto is default value. Do not change this setting to other. It will make the system unstable. |
| DNSServer | IPv4 | Get/Set | |

**Example**
Get the IP address

http://server /enc-cgi/admin/param.cgi?action=list&group=Network.IPAddress

## 4.5.1. Network.eth0

Network settings of the first Ethernet interface. Use these parameters to retrieve the network settings actually in use by the operating system.

| parameter | value | Operation | Description |
|---|---|---|---|
| MACAddress | | Get | MAC address. The unique identity of the NVE device. |
| IPAddress | IPv4 | Get/Set | IP Address. |
| SubnetMask | IPv4 | Get/Set | Subnet mask |

**Example**
Get MAC address of the 0th Ethernet device

http://server /enc-cgi/admin/param.cgi?action=list&group=Network.eth0.MACAddress

## 4.5.2. Network.Routing

Routing table actually in use by the operating system.

| parameter | value | Operation | Description |
|---|---|---|---|
| DefaultRouter | IPv4 | Get/Set | Default router/gateway used for connecting devices attached to different networks and network segments |

**Example**
Get the value of default router

http://server /enc-cgi/admin/param.cgi?action=list&group=Network.Routing.DefaultRouter

## 4.5.3. Network.RTSP

Parameters needed by the RTSP daemon.

| parameter | Value | Operation | Description |
|---|---|---|---|
| Enabled | yes, no | Get | Enable/disable RTSP support. Only "yes" is supported. |
| Port | int | Get/Set | The port number for the RTSP daemon. The default port number is 554. |
| Timeout | 0~ | Get/Set | The keep-alive timeout for the RTSP session specified in seconds. 0 = Disable the keep-alive timeout. |

**Example**
Set the port number of RTSP

http://server /enc-cgi/admin/param.cgi?action=update&Network.RTSP.Port=554

## 4.5.4. Network.RTP.R#

| parameter | value | operation | Description |
|---|---|---|---|
| AlwaysMulticast | yes, no | Get/Set | Enable/disable multicast. It applies both video and audio. |
| VideoAddress | IPv4 | Get/Set | The IP address to which the multicast RTP video stream is transmitted. |
| VideoPort | int | Get/Set | The port number for the RTP video stream. 0 indicates that the port number is dynamically assigned. |
| AudioAddress | IPv4 | Get/Set | The IP address to which the multicast RTP audio stream is transmitted. |
| AudioPort | int | Get/Set | The port number for the RTP audio stream. 0 indicates that the port number is dynamically assigned. |

| | | | |
|---|---|---|---|
| TTL | int | Get/Set | The Time To Live for each UDP packet. |

**Example**
Get the port number of the video

http://server /enc-cgi/admin/param.cgi?action=list&group=Network.RTP.R0.VideoPort=0

## 4.5.5. Network.DNSUpdate

| parameter | value | Operation | Description |
|---|---|---|---|
| Enabled | yes/no | Get/Set | yes : enable<br>no : disable |
| DNSName | A string | Get/Set | DNS server name |
| TTL | int | Get/Set | Time To Live |
| Address | A string | Get | Get the actual IP address of DNS configured currently. |

**Example**
Get TTL of DNS

http://server//enc-cgi/admin/param.cgi?action=list&group=Network.DNSUpdate.TTL

How to see the video with RTSP multicast via VLC media player
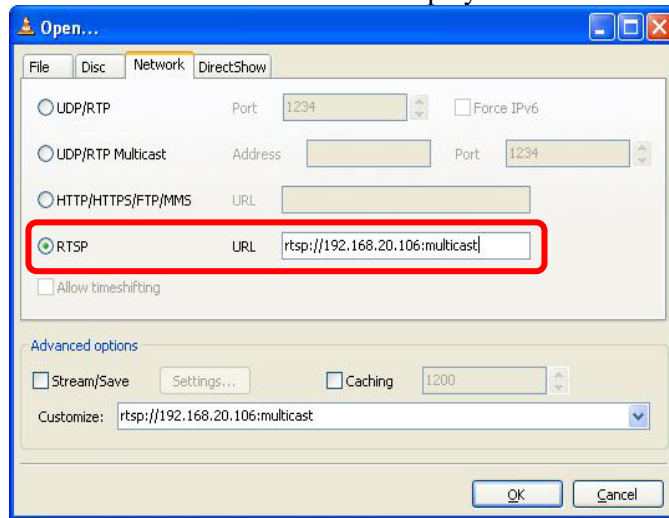
We support only RTSP multicast (UDP/RTP Multicast is not supported in NVE)

- Enable the Multicast configuration on the NVE Webpage.
- Open the VLC media player and go to File -> Open Network stream then you can see the above window.
- Tick on RTSP tab, set the URL of NVE address as above example.
- You can see the view with RTSP multicast

If you want to view channel 2, 3 or 4, enter rtsp://[NVE_IP]:[port number]/multicast. The default port number of RTSP is 554 and it doesn't matter to skip the default port number(554) to view 1st stream. But for other channels, add the port number at the end of address like below examples.
To view 2st stream - rtsp://192.168.29.23:555/multicast
To view 3rd stream - rtsp://192.168.29.23:556/multicast
To view 4th stream - rtsp://192.168.29.23:557/multicast

## 4.5.6. Network.NWLinkCheck

| parameter | value | operation | Description |
|---|---|---|---|
| NWLinkCheck | yes, no | Get/Set | Yes: Keep checking the network status without limit. No: Check the network status for 30 seconds at the beginning.<br><br>The factory default is set as 'no'. |

**Example**
Get the NWLinkCheck Value

http://server /enc-cgi/admin/param.cgi?action=list&group=Network.NWLinkCheck

## 4.6. Input

Parameters for D/I

| Parameter | value | Operation | Description |
|-----------|-------|-----------|-------------|
| Name | A string | Get/Set | The name of the input |
| Trig | Open, close | Get | Determines when to trigger |

## 4.7. Properties

Contains information about the firmware and system of the products.

| parameter | Value | Operation | Description |
|-----------|-------|-----------|-------------|
| Firmware.Version | A string | Get | The firmware version |
| Image.Resolution | d1, vga, qvga, 4cif, 2cif, cif, qcif | Get | The image resolution that is supported. |
| Image.Format | mjpeg,mpeg4 | Get | The codec type that is supported. |
| System.HardwareID | A string | Get | The hardware ID for the product. (Model ID).(SUB ID).(Model Rev.).(FPGA Rev.) |
| Firmware.VersionEx | A string | Get | The expansion firmware version (641.13290) |

**Example**
Get the firmware version

http://server /enc-cgi/admin/param.cgi?action=list&group=Properties.Firmware.Version

## 4.8. System

Parameters for HTTP access

| parameter | value | Operation | Description |
|-----------|-------|-----------|-------------|
| BoaPort | 80 | Get/Set | The port number of Web server. |
| BoaPortViewer | password/anonymous | Get/Set | Password : A password is required to access the view pages. Anonymous: anybody on the network can access the product's view pages (but not the admintools) in a browser, and without having to log in |
| SecurityMode | open/login_only/login_access | Get/Set | RTSP Login mode |

Example
Set the port number of the web server.

http://server /enc-cgi/admin/param.cgi?action=update&System.BoaPort=80

# 4.9. System Status

| parameter | value | Operation | Description |
|-----------|-------|-----------|-------------|
| State | initialize/normal/abnormal/ firmwareupdate | Get | Return the system status |

# 4.10. Time

Common time information which tell the time zone.

| parameter | value | Operation | Description |
|-----------|-------|-----------|-------------|
| ServerTime | 00:00:00 | Get/Set | The time(hh:mm:ss) of NVE |
| ServerDate | 00-00-00 | Get/Set | The date(yyyy-mm-dd) of NVE |
| TimeZone | GMT-12 ~ GMT12 | Get/Set | Time zone |
| SyncSource | NTP, None | Get/Set | The source to synchronize the time. |

**Example**
Get the time zone of NVE

http://server /enc-cgi/admin/param.cgi?action=list&group=Time.TimeZone

## 4.10.1. NTP

Contain parameters required when setting time and date with the NTP protocol.

| parameter | value | Operation | Description |
|-----------|-------|-----------|-------------|
| Server | IPv4 | Get/Set | The NTP server to connect to when synchronizing the time. |
| Update | int | Get/Set | Time interval to update the time In seconds. |

**Example**
**Set NTP server**

http://server /enc-cgi/admin/param.cgi?action=update&Server= pool.ntp.org

# 4.11. Audio

## 4.11.1. Audio.A#

Audio configuration

| parameter | value | Operation | Description |
|-----------|-------|-----------|-------------|

| Enabled | yes, no | Get | Enable/disable audio. |
|---------|---------|-----|-----------------------|

**Example**

Enable the audio of the first channel

http://server /enc-cgi/admin/param.cgi?action=list&group=Audio.A0.Enabled=yes

## 4.11.2. AudioSource

The number of audio sources

| Parameter | Value | Operation | Description |
|-----------|-------|-----------|-------------|
| NbrOfSources | int | Get | The number of audio source. |

**Example**

Get the total audio channel supported.

http://server /enc-cgi/admin/param.cgi?action=list&group=AudioSource.NbrOfSources

## 4.11.3. AudioSource.A#

Parameters for each audio source

| parameter | Value | Operation | Description |
|-----------|-------|-----------|-------------|
| InputGain | mute, -60, -57, -54 ... -3, 0, 3, 6 ... 21, 24, 27, 30 | Get | The gain for sound received from client. |
| OutputGain | mute, -60, -57, -54 ... -3, 0, 3, 6 ... 21, 24, 27, 30 | Get | The gain for sound transmitted to client(s). |

**Example**

Get the gain of input audio #0

http://server /enc-cgi/admin/param.cgi?action=list&group=AudioSource.A0.InputGain

# 4.12. Serial Port

## 4.12.1. The number of serial port

| Parameter | Value | Operation | Description |
|-----------|-------|-----------|-------------|
| NbrOfPorts | int | Get | Number of serial ports<br>Hardware specific<br>1 : RS-232C<br>2 : RS-485 |

**Example**

Get the number of serial ports supported

http://server/enc-cgi/admin/param.cgi?action=list&group=Serial.NbrOfPorts

## 4.12.2. Serial.Ser#

Note: The # is replaced with a number of serial ports. 0 is for RS-232C and 1 is for RS-485.

| Parameter | Value | Operation | Description |
|---|---|---|---|
| PortMode | A string RS232 RS485 | Get | Hardware specific |
| BaudRate | 1200 2400 4800 9600 192000 384000 115200 | Get/Set | The baud rate in the serial communication. For RS-232C (Ser0), it is not possible to change the baud rate when the serial mode is set to "Silent=no", You need to change this setting using the information below. |
| DataBits | 5, 6, 7, 8 | Get/Set | The number of data bits |
| StopBits | 1, 2 | Get/Set | The number of stop bits. 1.5 is not supported. |
| Parity | None, Even, Odd | Get/Set | The parity |
| Silent | no/all | Get/Set | no : Port 0 is used for console control of NVE/IPC<br>all : Port 0 is used for general RS-232 connection<br><br>*Reboot required after the Silent parameter is changed.<br>* Silent parameter is hidden so you cannot retrieve its value just by entering the upper level.( param.cgi?action=list&Serial.Ser0) You should enter the full parameter to get the specified value. |

**Example**
**Set the baud rate to 9600**

http://server /enc-cgi/admin/param.cgi?action=update&Serial.Ser1.BaudRate=9600

Set the baud rate to 9600 when the RS232C is used as console.

Check the current status of RS232
http:// server /enc-cgi/admin/param.cgi?action=list&Serial.Ser0.Silent

*If the Silent is set to no, you need to change it to 'all' and if the Silent is set to no skip this step and go to the last step*
http:// server /enc-cgi/admin/param.cgi?action=update&Serial.Ser0.Silent=all

*Reboot the NVE (You can use the IPAdminTool or establish telnet connection and execute*

*'reboot' etc.)*                                                                                                                                 32

Change the baud rate to 9600
http:// server /enc-cgi/admin/param.cgi?action=update&Serial.Ser0.BaudRate=9600

# 5. Event

## 5.1. Dynamic parameters

Dynamic parameters are parameters that can be created in run-time using the param.cgi?action = add/param_cgi?action = update/param_cig?action = remove according to NVE HTTP API.

**Syntax**

- Adding group

http://<servername>/enc-cgi/admin/param.cgi?action=add&group=<parent group>
& [<parameter>=<value>[&<parameter>=<value>...]]

- Updating group

http://<servername>/enc-cgi/admin/param.cgi?action=update&group=<parent group>
& [<parameter>=<value>[&<parameter>=<value>...]]

- Removing group

http://<servername>/enc-cgi/admin/param.cgi?action=remove&group=<parent group>
& [<parameter>=<value>[&<parameter>=<value>...]]

| Parameter | Value |
|---|---|
| group=<parent group> | Specifies the parent group. The parent group defines where in the parameter structure the new group will be created. For example, if adding an event (template=event) and specify group=Event the new group will be available as Event.E<number>. Where <number> is the unique number for the group. The character before <number> is generated from the last section of the group name. |
| <parameter>=<value> | Set a parameter in the newly created group. As the group number is not known before the group is created, the id-number is simply left out, see the examples below. The new group number is created dynamically and can be any number. This is why all parameters are specified to set without any group number, The base path to the parameter is specified as <group>.<uppercase first letter of group>.<parameter name>. |

## 5.2. Management of the event server

*Event Server* is the configuration for the server concerned to *Event*'s *Action*. *Event Server* is available up to 10 (0 ~ 9) per *Event Server* type.

The event servers supported are as follow
    - TCP Server
      EventServers.TCP parameter group.

- FTP Server
    EventServers.FTP parameter group

- HTTP Server
    EventServer.HTTP parameter group

- SMTP Server
    SMTP parameter group

- Record Server
    USB Record

- DO server

**Example**

```
http://<servername>/enc-cgi/admin/param.cgi?action=add
&group=EventServers.TCP
&EventServers.TCP.T.Name=MyTCPServer
&EventServers.TCP.T.Address=192.168.254.20
&EventServers.TCP.T.Port=7272
```

This request will add a parameter group like this:

```
EventServers.TCP.T#.Name=MyTCPServer
EventServers.TCP.T#.Address=192.168.254.20
EventServers.TCP.T#.Port=7272
```

The # indicates a number of TCP *Event Server*. It is increased automatically when adding *Event Server*.

## 5.2.1. TCP Server

When '\r' or '\n' are sent via TCP event message, its format is 0x0D, 0x0A.

| Parameter | Value | Operation | Description |
|-----------|-------|-----------|-------------|
| Name | A string | Get/Set | Name of TCP server |
| Address | IPv4 | Get/Set | IP address of TCP server |
| Port | 0, …, 65535 | Get/Set | Port number of TCP server |

**Example**

```
http://<servername>/enc-cgi/admin/param.cgi?action=add
&group=EventServers.TCP
&EventServers.TCP.T.Name=MyTCPServer
&EventServers.TCP.T.Address=192.168.254.20
&EventServers.TCP.T.Port=7272
```

In this example, we arbitrarily chose TCP port, 7272. Any TCP port can be specified only if the port is available to use at a client.

## 5.2.2. FTP Server

| Parameter | Value | Operation | Description |
|-----------|-------|-----------|-------------|

| Name | A string | Get/Set | Name of FTP server |
|------|----------|---------|--------------------|
| Address | IPv4 | Get/Set | IP address or domain name of FTP server.<br>NOTE :<br>Domain name is supported at firmware K641.13410 or higher. |
| Port | 0, …, 65535 | Get/Set | Port number of FTP server |
| Login | A string | Get/Set | FTP Server login ID |
| Password | A string | Get/Set | FTP Server login Password |
| UploadPath | A string | Get/Set | Path name on the FTP server where uploaded files will be placed |
| Timeout | Int (100000) | Get/Set | Timeout value for FTP connection and data transfer (Unit:µs) Default value is 0.1sec (100000) |

)

**Example**

```
http://<servername>/enc-cgi/admin/param.cgi?action=add
&EventServers.FTP
&EventServers.FTP.F.Name=MyFTPServer
&EventServers.FTP.F.Address=192.168.2.191
&EventServers.FTP.F.Port=21
&EventServer.FTP.F.Login=rickie
&EventServer.FTP.F.Password=1111
&EventServer.FTP.F.UploadPath=/home/rickie/tmp
```

## 5.2.3. HTTP Server

(It is not implemented yet.)

## 5.2.4. SMTP Server

There is only one SMTP server. Therefore adding and removing SMTP server is not available.

| parameter | Value | Operation | Description |
|-----------|-------|-----------|-------------|
| FromEmail | A string | Get/Set | E-mail address of sender |
| MailServer1 | IPv4 | Get/Set | SMTP Server IP/Domain |
| MailServerPort1 | 100~ | Get/Set | Port number of SMTP server1 |
| MailServerID1 | A string | Get/Set | sender's e-mail ID |
| MailServerPassword1 | A string | Get/Set | sender's e-mail password |

**Example**

http://<servername>/enc-
cgi/admin/param.cgi?action=update&SMTP.FromEmail=edward@udptech.co.kr&SMTP.MailS
erver1=mail.udptech.co.kr&SMTP.MailServerPort=25

### 5.2.5. RECORD Server

When you want to store data in USB memory with Event trigger, you can use this server for
data recording. Refer to the section of **5.4. Management of the action** to use this server.

### 5.2.6. DO Server

When you want to send out the output to DO according to an Event trigger, you can use this
server. To define and specify the action of DO, refer to the section of **3.8.2 DO**. And **5.4.
Management of the action** will show you how to add DO server as an event server.

## 5.3. Managements of the event

*Event* specifies the event signaled from system such as D/I, MD, Video Loss, Boot. *Event* is
available up to 100 (0 ~ 99).

Events are supported up to 10 (0 ~ 9) in the earlier than KernelX16K572.

**Change N**

| paramter | value | operation | description |
|---|---|---|---|
| Name | A string | Get/Set | Name of *Event* |
| Enabled | yes/no | Get/Set | Specifies whether using event |
| SWInput | BOOT | Get/Set | Event signaled when the system is rebooted. |
| | M<channel number> | | Event signaled when the motion is detected. |
| | V<channel number> | | Event signaled when the video signal is disconnected or connected. |
| HWInput | nnnn where n = {x, 1, 0} | Get/Set | Event signaled when the Digital Input are activated. Default setting is 'no' and it returns '0'<br><br>x = do not trigger even if DI is detected.<br>1 = trigger on activation when DI turned to 'nc' from 'no'<br>0 = trigger on activation when DI turned to 'no' from 'nc'<br><br>Example 1: "1xxx" means trigger when digital input 1 is activated.<br>Example 2: "1xx1" means trigger |

| | | | when digital input 1 and 4 are activated.<br>Example 3: "xxxx" means don't trigger on digital inputs. |
|---|---|---|---|
| Image | 0 | Get/Set | Image number which will be connected with an event. |
| MinimumTriggerInterval | hh:mm:ss (00:00:00) | Get/Set | Minimum Trigger Interval |

**Example**

Create an event triggered when the video input #0 is lost.

```
http://<servername>/enc-cgi/admin/param.cgi?action=add
&group=Event
&Event.E.Name=VideoLossEvent
&Event.E.SWInput=V0
```

**Example**

Create an event triggered when detecting the DI#0.

```
http://<servername>/enc-cgi/admin/param.cgi?action=add
&group=Event
&Event.E.Name=DigitalInput
&Event.E.HWInputs=1xxx
```

# 5.4. Management of the action

*Action* defines operation when event is signaled. Each *Event* can have one or more *Action*(s). Also *Action* can be connected to one or more Event server. But in case of recording server, only one is available.

**TCP, FTP and SMTP server** : If an *Event* has multiple *Actions*, The action is executed from index number 0 and the next action can be executed after one action is finished. The *Action* parameters are created as a subgroup to an *Event*.

e.g. Event.E1.Actions.A0. *Action* is available up to 5 (0 ~ 4) per each *Event*.

**Record Server** : Instead of numbering like other event servers, just *RE* is used for parameter.
**DO Server** : In order to set DO action according to DI or event, set *DO* for parameter.

| parameter | value | operation | Description |
|---|---|---|---|
| Server | First character of event server + number<br>e.g. T0, F0, S0, RE, DO | Get/Set | Registered event server :<br>TCP, FTP, SMTP, Recording server and DO server |
| Message | A string | Get/Set | Message to send when event is signaled. |
| EmailTo | A String | Get/Set | E-mail address of receiver |
| Subject | A String | Get/Set | Subject of E-mail |

| ImagesPerMail | 0/1 | Get/Set | If ImagePerMail is 1 and the event is signaled, E-mail is sent with an image. |
|---|---|---|---|

**Example**
- Add an *Action* of the type TCP notification to the Event E0.
- Connect this *Action* to the Event server T0.
- Send a message "Video_Lost_from_server_1_channel_0"

```
http://<servername>/enc-cgi/admin/param.cgi?action=add
&group=Event.E0.Actions
&Event.E0.Actions.A.Server=T0
&Event.E0.Actions.A.Message= Video_Lost_ from_server_1_channel_0
```

## 5.5. Example

TCP server notification when the video channel 0 is lost. The notification is delivered to a client that has IP address, 192.168.254.20. The client is listening to TCP port, 7272.

1.Add an TCP event server

```
http://<servername>/enc-cgi/admin/param.cgi?action=add
&group=EventServers.TCP
&EventServers.TCP.T.Name=MyTCPServer
&EventServers.TCP.T.Address=192.168.254.20
&EventServers.TCP.T.Port=7272
```

2. Add an event

```
http://<servername>/enc-cgi/admin/param.cgi?action=add
&group=Event
&Event.E.Name=VideoLossEvent
&Event.E.SWInput=V0
```

3. Get the server list and the event list to find out a server number and an event number.

```
http://<servername>/enc-cgi/admin/param.cgi?action=list&group=EventServers
http://<servername>/enc-cgi/admin/param.cgi?action=list&group=Event
```

We assume that we get the server list and event list as follows:

```
root.EventServers.TCP.T0.Name=MyTCPServer
root.EventServers.TCP.T0.Address=192.168.254.20
root.EventServers.TCP.T0.Port=7272
```

```
root.Event.E0.Name=VideoLossEvent
root.Event.E0.Enabled=yes
root.Event.E0.SWInput=V0
```

The TCP event number is 0 and the event number is 0.

4. Configure an action

http://<servername>/enc-cgi/admin/param.cgi?action=add
&group=Event.E0.Actions
&Event.E0.Actions.A.Server=T0
&Event.E0.Actions.A.Message= Video_Lost_ from_server_1_channel_0

When the video channel 0 of a device is lost, the client will get the message
"Video_Lost_ from_server_1_channel_0".

# 6. PTZ Control

## 6.1. PTZ Protocol

UDP provides 3 kinds of PTZ CGI to control PTZ cameras.

- PTZ.cgi –Recommended only for K633 or lower
- PTZ2.cgi – Recommended for K641 or higher
- Serial2.cgi – Recommended for K641 or higher

If your NVE firmware version is K641 or higher, we strongly recommend you to use **PTZ2** or **Serial2**, which are more enhanced in scalability and 5 times advanced speed supported. If you want to know more information about commands group supported by each manufacturer's protocol, please refer to the TN0302E PTZ commands list by camera protocols.pdf

### 6.1.1. PTZ.cgi

**Basic Type**

**Syntax**

http://<servername>/enc-cgi/ptz/ptz.cgi?<parameter>=<value>[&<parameter>=<value>]

|  |  |
|---|---|
| **Change N** | Following CGI is also available in KernelX16K576 or later version. <br> http://<servername>/enc-cgi/**com**/ptz.cgi?<parameter>=<value> |

Pan/Tilt controls require the speed parameter value. In a **turbo** mode, a camera move faster than a camera in normal mode at its highest level. Both turbo mode and normal mode have the same speed levels for increasing and decreasing speed ranges.

| <parameter>=<value> | Values | Description |
|---|---|---|
| action=<string> | write, ctrl | PTZ Operation mode <br> write : normal mode <br> ctrl : turbo mode |
| cmd=<string> | <cmd string> | PTZ Control Commands <br> See the Table PTZ command below |
| speed=<int> | 1~6 | Camera movement speed |

**Example**

Tilt the camera down with a medium speed

http://server/enc-cgi/ptz/ptz.cgi?action=write&cmd=down&speed=3

\<Ptz command Table\>

| Command | Description |
|---------|-------------|
| left | Pan the camera left. |
| right | Pan the camera right. |
| up | Tilt the camera up |
| down | Tilt the camera down. |
| leftup | Move the camera left up |
| rightup | Move the camera right up |
| leftdown | Move the camera left down |
| rightdown | Move the camera right down |
| stop | Stop to move |

| | |
|---------|-------------|
| irisopen | Open the Iris |
| irisclose | Close the Iris. |
| focusfar | Focus far |
| focusnear | Focus near |
| focusstop | Stop focusing |
| zoomwide | Zoom Wide (Zoom out) |
| zoomtele | Zoom tele (Zoom in) |

| | |
|---------|-------------|
| setpresetXY | Set the present position as preset XY. |
| gotopresetXY | Go to the preset XY. (XY value should bigger than 0) |
| clearpresetXY | Delete the preset XY. |
| patternstartXY | Start defining pattern XY |
| patternstop | Stop defining current pattern |
| patternXY | Run the pattern XY. |
| scanXY | Run the scan XY. |
| tourXY | Run the tour XY. |

| | |
|---------|-------------|
| presetmenu | Call the preset menu. |
| tourmenu | Call the tour menu. |
| patternmenu | Call the pattern menu. |
| scanmenu | Call the scan menu. |
| menuon | Call the menu |
| menuoff | Hide the menu. |
| menu | Toggle the menu status (If menu is already shown, it will be hidden and if hidden, it will be shown.) |

| | |
|---------|-------------|
| clear | Clear the menu screen. Selection on the OSD will be cancelled. |
| enter | Selection key on the OSD menu |
| home | Move to the home position |

## Extension type

### Syntax

http://\<servername\>/enc-cgi/ptz/ptz.cgi?\<parameter\>=\<value\>[&\<parameter\>=\<value\>]

With the following parameters and values

| <parameter>=<value> | Values | Description |
|---|---|---|
| ptz_id=<int> | 1,2… | Select the ptz camera when same protocols are used to multi cameras. |
| whoami | <any value> | Return the PTZ Protocol type currently configured |
| setprotocol=<string> | <any value> | Set the PTZ protocol |
| camera* | 1,2… (int > 0) | Specify the camera for operation. If omitted, defaultcamera is used. |
| setdefaultcamera | 1,2… (int > 0) | Specify the default camera ID. The default value is 1. |
| defaultcamera | | Returns the current camera ID. |
| continuouspantiltmove= <int>,<int> | -100 ~ 100 | Pan and tilt the camera continuously. Specify the movement speed of pan and tilt. If both valued are specified as 0, camera will stop pan and tilt. |
| continuouszoommove | -100 ~ 100 | Zoom the camera continuously. Positive values represent zoom in and negative values represent zoom out. If specified as 0, camera will stop zooming. |
| continuousirismove | -100 ~ 100 | Move the iris continuously. Positive values represent iris open and negative values represent iris close. If specified as 0, camera will stop moving iris.<br><br>*Note*: Currently, IPC4100 and 4500 cameras do not support this parameter. |
| continuousfocusmove | -100 ~ 100 | Move the focus continuously. Positive values represent focus near and negative values represent focus far. If specified as 0, camera will stop moving focus. |
| setserverpresetno | 1,2,… (int>0) | Saves the current position as a preset position |
| gotoserverpresetno | 1,2,… (int>0) | Move to the position as specified in the preset number. |
| riris | -9999~9999 | Move iris N steps from the current position. Positive values represent iris open and negative values represents iris close.<br><br>*Note*: Currently, it will move iris one step. |
| rfocus | -9999~9999 | Moves focus N steps from the current position. Positive values represent focus near and negative values represent focus far.<br><br>*Note*: Currently, IPC4100 and 4500 cameras do not support this parameter. |
| pan=<float>*1 | -180~180 | Specify absolute coordinate of PAN. |
| tilt=<float>*1 | -180~180 | Specify absolute coordinate of TILT. |
| zoom=<int>*1 | 1~9999 | Specify the ZOOM level. |
| query=<string> | position | Returns current coordinate. |

| | | |
|---|---|---|
| | | ex><br>pan=180<br>tilt=45<br>zoom=3000 |
| | dome_version | Returns the hardware, software and protocol version of IPC series.<br>ex><br>  stat=0<br>  hw=100<br>  sw=176<br>  prot=15 |
| auxiliary | presetmenu<br>tourmenu<br>patternmenu<br>scanmenu | |
| | reset | Reboot the camera module of IPC series. |

**Example**
Set the PTZ protocol to Custom02

http://server/enc-cgi/ptz/ptz.cgi?setprotocol=custom02

## 6.1.2. PTZ2.cgi

**i**

**Note**

**PTZ2.CGI is supported in K641 or higher version.**

And all of below commands are listed according to the function not to the protocol. Please check out in advance that the command you want to use is supported in your camera protocol. We also provide the additional Technote for PTZ command list by protocol and you can ask UDP support team.

### Basic setting of PTZ

**IMPORTANT : These commands are available for all of PTZ cameras regardless of camera protocol type you use.**

### Valid settings
- Set the PTZ ID
- Select PTZ protocol of your camera
- Enable or disable the camera
- Set PTZ address / port
- Set default PTZ ID

### Example Syntax
e.g. Setting the PTZ address as '1'

http://<web serverURL >/enc-cgi/ptz/ptz2.cgi?ptzid=1**&ptzaddr=1**

### Commands table

| parameter | Value (n) | Description |
|-----------|-----------|-------------|
| ptzid=n | 1 ~ 16 | Select the PTZ ID. If it is not designated, the default value is set as the *defaultptzid*. |
| protocol=n | Protocol name (Select one of them from the list) | Set PTZ protocol you want to use.<br><br>Available PTZ protocol list (It's subject to change):<br>*custom02.ptzs*<br>*pelco-d.ptzs*<br>*american_dynamics.ptzs*<br>*bosch[ltc856x].ptzs*<br>*panasonic[cs850].ptzs*<br>*pelco-p.ptzs*<br>*pelco-d[probe].ptzs*<br>*samsung.ptzs* |
| enable=n | 0 ~ 1 | Enable(1) or disable(0) PTZ |
| ptzaddr=n | 1 ~ 255 | Set PTZ device address |
| ptzport=n | 0 ~ 255 | Set PTZ communication port |
| defaultptzid=n | 1 ~ 16 | The value of 'defaultptzid' decides the |

| | | default of 'ptzid'. (default : 1) |
|---|---|---|

## Getting current value (query commands)

**IMPORTANT** : **These commands are available for all of PTZ cameras regardless of camera protocol type you use.**

### Valid queries

- Get default PTZ ID
- Get all info of PTZ ID, enable, protocol, PTZ address, PTZ port at the same time
- Get current protocol
- Get availability
- Get PTZ address
- Get PTZ port
- Get current speed of pan, tilt, and zoom
- Get current speed of pan
- Get current speed of tilt
- Get current speed of zoom
- Get the list of available commands for current protocol
- Get the list of all available protocols UDP provides
- Get all of configured information of current PTZ
- Get library version of current PTZ camera
- Get PTZ daemon version of current PTZ camera

### Example Syntax

e.g. Getting the PTZ address :

http://<web serverURL >/enc-cgi/ptz/ptz2.cgi?**ptzid=1&query=ptzaddr**

### Commands table

| parameter | Values (n) | Description |
|---|---|---|
| query=n | defaultptzid | Get current *defaultptzid* info. |
| | ptzinfo | Get current value of *ptzid*, *enable, protocol, ptzaddr* and ptz*port.* |
| | protocol | Get current protocol. |
| | enable | Get availability (enabled or disabled). |
| | ptzaddr | Get current PTZ device address. |
| | ptzport | Get current PTZ communication port. |
| | allspeed | If you have set the *allspeed* value already, this command gets current *allspeed* value. Unless, it just gets *panspeed* only. |
| | panspeed | Get current speed of pan. |
| | tiltspeed | Get current speed of tilt. |
| | zoomspeed | Get current speed of zoom. |
| | portinfo | Get current communication port info. |
| | commandlist | Get the list of PTZ action commands |

| | | |
|---|---|---|
| | | which are available for currently selected PTZ protocol. |
| | protocollist | Get the protocol list which is available for currently selected PTZ device. |
| | allinfo | Get all of information of current PTZ setting. |
| | ptzlibversion | Get the version of PTZ library. It depends on the firmware version of your IPE series. |
| | ptzdversion | Get the version of PTZ program (daemon). It depends on the firmware version of your IPE series. |

## Moving pan, tilt, and zoom

IMPORTANT : The availability of these commands depends on the protocol type your PTZ camera uses. Refer to the document [TN0302E PTZ commands list by camera protocols.pdf] to figure out if these commands are available or not for your camera.

### Example Syntax

e.g. Keep moving pan, tilt, and zoom with 10,10,10 speed for each pan, tilt, and zoom.

http://<web serverURL >/enc-cgi/ptz/ptz2.cgi?**ptzid=1&cpantiltzoommove=10,10,10**

### Commands table

| parameter | Value (n) | Description |
|---|---|---|
| cpantiltzoommove=n1,n2, n3 | n1(P): -100 ~ 100<br>n2(T): -100 ~ 100<br>n3(Z): -100 ~ 100 | Keep moving pan, tilt and zoom with desired speed. If you set '0' for specific values, it stops the movement.<br><br>+ : move right/up/in<br>- : move left/down/out |
| cpantiltmove=n1,n2 | n1(P): -100 ~ 100<br>n2(T): -100 ~ 100 | Keep moving pan and tilt with desired speed. If you set '0' for specific values, it stops the movement.<br><br>+ : move right/up<br>- : move left/down |
| czoommove=n1 | n1(Z): -100~100 | Keep moving zoom with desired speed. If you set '0' as a speed, it stops the movement.<br><br>+ : move in<br>- : move out |
| cirismove=n1 | n1 : -100~100 | Adjust the iris continuously. If you set '0', it stops the movement.<br><br>According to the protocol, 'n1' works as the speed value. But if your protocol |

| | | |
|---|---|---|
| | | doesn't support the speed of iris movement, then just use 'n1' for iris open (+ random value) and iris close (- random value). |
| cfocusmove=n1 | n1 : -100~100 | Adjust the focus continuously. If you set '0', it stops the movement.<br><br>According to the protocol, 'n1' works as the speed value. But if your protocol doesn't support the speed of focus movement, then just use 'n1' for focusing in (+ random value) and focusing out (- random value). |
| apantiltmove= n1,n2 | n1(P): 0.0 ~ 360.0<br>n2(T): 0.0 ~ 360.0 | Move on absolute point of pan and tilt. |
| apantiltzoommove=n1,n2, n3 | n1(P): 0.0 ~ 360.0<br>n2(T): 0.0 ~ 360.0<br>n3(Z): 0.0 ~ 100.0 | Move on absolute point of pan, tilt and zoom. |
| rpantiltmove= n1,n2 | n1(P):<br>  -360.0 ~ 360.0<br>n2(T):<br>  -360.0 ~ 360.0 | Move on current point of pan and tilt. |
| rpantiltzoommove=n1,n2, n3 | n1(P):<br>  -360.0 ~ 360.0<br>n2(T):<br>  -360.0 ~ 360.0<br>n3(Z):<br>  -100.0 ~ 100.0 | Move on current point of pan, tilt and zoom. |
| center=n1,n2 | n1 : -100.0 ~ 100.0<br>n2 : -100.0 ~ 100.0 | [For ActiveX control]<br>If user clicks on a certain position on the image, the camera moves to the appointed position so that the position to locate at the center of image.<br><br>It works as same as 'getcurposition' + 'apantiltzoommove' do. The 'center' works only when your PTZ device supports the function of 'getcurposition'.<br><br>n1 : The virtual position of abscissa (right : +, left : -)<br>n2 : The virtual position of ordinate (down : +, up : -) |
| getcurposition=n1,n2,n3, | | Get the current position of pan, tilt and zoom. |

## Speed control

**IMPORTANT :** **The availability of these commands depends on the protocol type your PTZ**

**camera uses. Refer to the document [TN0302E PTZ commands list by camera protocols.pdf] to figure out if these commands are available or not for your camera.**

### Example Syntax

e.g. Setting the speed of pan, tilt, and zoom as '50'

http://<web serverURL >/enc-cgi/ptz/ptz2.cgi?ptzid=1**&allspeed=50**

### Commands table

NOTE : These are usable with the commands which do not have speed factor.

| parameter | Value (n) | Description |
|---|---|---|
| allspeed=n | n : 1 ~ 100 | Set the speed of pan, tilt and zoom at once. The value is normalized speed. |
| panspeed=n | n : 1 ~100 | Set the pan speed. The value is normalized speed. |
| tiltspeed=n | n : 1 ~100 | Set the tilt speed. The value is normalized speed. |
| zoomspeed=n | n : 1 ~100 | Set the zoom speed. The value is normalized speed. |

## Preset, Scan, Tour, and Pattern

**IMPORTANT :** **The availability and range of these commands depend on the protocol type your PTZ camera uses. Refer to the document [TN0302E PTZ commands list by camera protocols.pdf] to figure out if these commands are available or not.**

### Example Syntax

e.g. Setting the current position as preset number '5'

http://<web serverURL >/enc-cgi/ptz/ptz2.cgi?ptzid=1**&storedevicepreset=5**

### Commands table

| parameter | Value (n) | Description |
|---|---|---|
| storedevicepreset=n | n : 1 ~ XXX | Set the current position as preset. The max value depends on protocols. |
| removedevicepreset=n | n : 1 ~ XXX | Remove the Preset. The max value depends on protocols. |
| gotodevicepreset=n | n : 1 ~ XXX | Move to the Preset point. The max value depends on protocols. |
| callscan=n | n : 1 ~ XXX | Run the Scan. The max value depends on protocols. |
| calltour=n | n : 1 ~ XXX | Run the Tour. The max value depends on protocols. |
| callpattern=n | n : 1 ~ XXX | Run the pattern. The max value depends on protocols. |
| startpattern=n | n : 1 ~ XXX | To create a pattern, you should call this command first. The max value depends on protocols. |
| stoppattern=n | n : 1 ~ XXX | Save the generated pattern. The max |

| | | value depends on protocols. |
|---|---|---|

## OSD menu control

**IMPORTANT :** The availability of these commands depends on the protocol type your PTZ camera uses. Refer to the document [TN0302E PTZ commands list by camera protocols.pdf] to figure out if these commands are available or not for your camera.

### Example Syntax

e.g. Open the OSD menu

http://<web serverURL >/enc-cgi/ptz/ptz2.cgi?ptzid=1**&menu=open**

### Commands table

| parameter | Value (n) | Description |
|---|---|---|
| menu=n | open | Open the menu |
| | close | Close the menu |
| | toggle | Toggle the menu |
| | up | Up command |
| | down | Down command |
| | left | Left command |
| | right | Right command |
| | enter | Enter the menu setting |
| | cancel | Cancel the menu setting |

## Step movement of PTZ

**IMPORTANT :** The availability of these commands depends on the protocol type your PTZ camera uses. Refer to the document [TN0302E PTZ commands list by camera protocols.pdf] to figure out if these commands are available or not for your camera.

### Example Syntax

e.g. Move the PTZ up side with 1 step

http://<web serverURL >/enc-cgi/ptz/ptz2.cgi?ptzid=1**&stepmove=up**

### Commands table

NOTE : Every movement of commands in this table supports only '1' step.

| parameter | Value (n) | Description |
|---|---|---|
| stepmove=n | up | Move the PTZ down side with 1 step. |
| | down | Move the PTZ down side with 1 step. |
| | left | Move the PTZ left side with1 step. |
| | rigtt | Move the PTZ right side with 1 step. |
| | leftup | Move the PTZ left up side with 1 step. |
| | rightup | Move the PTZ right up side with1 step. |
| | leftdown | Move the PTZ left down side with 1 step. |
| | rightdown | Move the PTZ right down side with 1 |

| | step. | |
|---|---|---|
| | irisopen | Open iris with 1 step. |
| | irisclose | Close iris with 1 step. |
| | focusnear | Get focus nearer with 1 step. |
| | focusfar | Get focus more far with 1 step. |
| | zoomin | Get zoom in with 1 step. |
| | zoomout | Get zoom out with 1 step. |

## Auto focus, Auto iris

**IMPORTANT :** **The availability of these commands depends on the protocol type your PTZ camera uses. Refer to the document [TN0302E PTZ commands list by camera protocols.pdf] to figure out if these commands are available or not for your camera.**

### Example Syntax

e.g. Enable auto focus
http://<web serverURL >/enc-cgi/ptz/ptz2.cgi?ptzid=1**&autofocus=1**

### Commands table

| parameter | Values (n) | Description |
|---|---|---|
| autofocus=n | 0~1 | Enable/disable auto focus |
| autoiris=n | 0~1 | Enable/disable auto iris |

## Auxiliary action command

**IMPORTANT :** **The availability of these commands depends on the protocol type your PTZ camera uses. Refer to the document [TN0302E PTZ commands list by camera protocols.pdf] to figure out if these commands are available or not for your camera.**

### Example Syntax

e.g. Enable turbo on mode
http://<web serverURL >/enc-cgi/ptz/ptz2.cgi?ptzid=1**&aux=turboon**

### Commands table

| parameter | Value (n) | Description |
|---|---|---|
| aux=n | turboon | Turn on 'turbo mode' |
| | turbooff | Turn off 'turbo mode' |
| | presetmenu | Shortcut to preset setting |
| | scanmenu | Shortcut to scan setting |
| | tourmenu | Shortcut to tour setting |
| | patternmenu | Shortcut to pattern setting |
| | home | Shortcut to home menu |

## 6.1.3. Serial2.cgi

*Serial2.cgi* is required to analyze and send (write) the commands from the ptz2.cgi to aux device and get (read) the response from the PTZ or Aux device via port1.

**Example Syntax**

http://<web serverURL >/enc-cgi/ptz/serial.cgi?<parameter>=<value>[&<parameter>=<value>]

**Valid entries**

| <parameter>=<value> | Values | Description |
|---|---|---|
| port | s__ul\|int\|0,1<br>(1) | 0 : Not supported<br>1 : Default. |
| Write | s__ul\| sz \|128<br>(-) | The data is sent with hexadecimal type. *e.g.* if you set write=a08040, that means to output the 0xa0, 0x08, 0x40. The max value is 128bytes. |
| Read=<int1,>,<int2> | Int1 : nBytes<br>Int2 : time out | Fist int1 : The transmission unit is *nBytes*<br>Int2 : This is timeout value. If there is not answer for *int2* millisecond from the PTZ or Aux device, it returns failure.<br><br>These values decided by the user's device specification. |

## 6.2. Supported Protocol Type

Below is the list of PTZ protocol which NVE server supports currently. The protocol list is being updated and if you want to know the latest information you can ask UDP's technical support team via support@udptechnology.com .

| Vender | Protocol |
|---|---|
| UDP | Custom02 |
| Panasonic | CS850 |
| Pelco | Pelco-d |
| Pelco | Pelco-p |
| Samsung Electronics | Samsung |
| American Dynamics | American-Dynamics |

**Syntax**

**Error! Hyperlink reference not valid.**>]

# 7. Record

To record video streams, the recording process should be enabled.

| parameter | Value | Operation | Description |
|-----------|-------|-----------|-------------|
| Enable | yes/no | Get/Set | Default value:no |
| UsbMount | yes/no | Get/Set | auto |

**Example**

Check the operation status of the recorng.

http://server/enc-cgi/record/record.cgi?action=list&Record.Enable

Check the mount status of USB memory

http://server/enc-cgi/record/record.cgi?action=list&group=UsbMount

## 7.1. Record.Storage

This section applies only for USB recording. Recorded data is packed into a DB file under the mnt/usb/data folder. When one DB file become full, next DB will be created.

| parameter | Value | Operation | Description |
|-----------|-------|-----------|-------------|
| DefaultDBSize | 1~32 | Get/Set | Set the original DB size being created. Default size is 16MB |
| Delete | | Set | Delete all stored data |
| Recycle | rotate/none | Get/Set | Recycle the memory with delete of old data. rotate: delete old files and keeps the recording None: recording stops Default value : rotate |

**Example**

Check the default size of DB.

http://server/enc-cgi/record/record.cgi?action=list&group=Record.Storage.DefaultDBSize

## 7.2. Record.R#

To record a video, Snapshot setting of a given image source should be enabled first.(Refer to 5.2.1) Recording will be performed using the configurations of video source. You must set the video format to Mjpeg when you want to use Ftp server for recording.

| Parameter | Value (Default) | Operation | Description |
|-----------|-----------------|-----------|-------------|
| Enable | yes/no (no) | Get/Set | Passive recording start/end |
| RecDevice | usb, ftp (usb) | Get/Set | Select your recording device of choice |

| RecMode | passive/schedule (passive) | Get/Set | Select between passive mode and schedule mode |
|---|---|---|---|
| PrebufferEnable | Yes/no | Get/Set | Enable or disable prebuffer |
| PrebufferSize | 1 ~ 5 | Get/Set | prebuffer size. Mbyte |
| PostTime | 0~ (30) USB/ | Get/Set | USB recording allows the video to be recorded as configured in video setting. FTP recording has a limitation on its FPS. FPS can be 1 to 5 only. |
| FtpServer | F0~F9 | Get/Set | Ftp Server configured in 6.2.2 |
| Weekdays | 1111111(111111) | Get/Set | Record by Day of Week in Schedule mode. 0000000 represents No recording. First 0 means Sunday and last 0 means Saturday. |
| Starttime | 00:00(00:00) | Get/Set | Recording start time in Schedule mode |
| Duration | 24:00(24:00) | Get/Set | Recording end time in Schedule mode. |
| SkipFrame | 0(0) | Get/Set | The number of frames to skip. When FPS is set to 30 and SkipFrame is set to 149, a frame (or frames designated by the RecFrame parameter) will be recorded around every 5 seconds. |
| RecFrame | 0(0) | Get/Set | Frame numbers to record when SkipFrame above is set. 0 means 1 frame and 1means 2 frames. |

**Example**

Set channel 0 video recode mode to continuous record mode (passive mode)

http://server/enc-cgi/record/record.cgi?action=update&group=Record.R0.RecMode=passive

9Mbyte is the maximum set for prebuffer size per NVE/IPC system. 1Mbyte is set as a default size per channel and user can assign the remainder to required channels.

If 10Mbps is set for bitrate, it may causes an overload on NVE/IPC system and can affect the playback error in recording playback mode

When all of the 4 channels are connected to FTP server, the uploading frame rate can be changed according to the uploading speed. Because only one processor handles FTP transfer, if one of the FTP server is slow, it affects other FTP server speed.

## 7.3. Storage

| parameter | Value | Operation | Description |
|---|---|---|---|
| Name | A String | Get | Return the name of USB storage when it is installed. |
| Totalmb | A String | Get | Return the total space of USB storage when it is installed (unit : mbyte). |
| Freemb | A String | Get | Return the free space of USB storage when it is installed (unit : mbyte). |

**Example**

Get a USB storage name

http://server /enc-cgi/admin/param.cgi?action=list&Storage.Name

# 8. CGI for making webpage

This CGI is required when developing the your own web page.

## 8.1. cgitojavascript.cgi

After sending the CGI commands on the web and the return vale can be gotten with Java script.

For this, you need to run the CGI with the logged in ID and Password. If you log in with Guest

and the CGI which requires the authority of Admin and Operator can't be run.

| Parameter | Value | Operation | Description |
|-----------|-------|-----------|-------------|
| CGI | String | Get/Set | Get the CGI commands |

**Example**
Get the list of event

```
http://server /enc-cgi/view/cgitojavascript.cgi?CGI=/enc-
cgi/admin/param.cgi?action=list&Event

<html>
       <HEAD>
               <TITLE>
               </TITLE>
               <script id="GetCGI" language=JavaScript>
               </script>
               <SCRIPT language=JavaScript>
                       function fnTest(){
                               GetCGI.src='http://server/enc-
cgi/view/cgitojavascript.cgi?CGI=/enc-cgi/view/param.cgi?action=list&Event';
                       }

                       function fnResult(iFlag, strRespons){
                               alert(strRespons);
                       }
               </SCRIPT>
       </HEAD>
       <BODY>
               <input type="button" onclick=fnTest()>
       </BODY>
</html>
```

## 8.2. Testcgi.cgi

This CGI is used to check out if the network setting has no problem before configuration of SMTP, FTP, TCP server. The return value is either "OK" or "Error : xxx".

| parameter | Value | Operation | Description |
|---|---|---|---|
| Server | String | Set | Set the SMTP,FTP and TCP server |
| Address | String | Set | Set the address of Server |
| Port | Int | Set | Set the port of Server |
| FromEmail | String | Set | The email address of sender |
| ToEmail | String | Set | The email address of receiver |
| Login | String | Set | Server login ID |
| Password | String | Set | Server login Password |

**Example**

TCP Server test

> http://server /enc-
> cgi/operator/testcgi.cgi?Server=TCP&Address=xxx.xxx.xxx.xxx&Port=xxxx

# 9. Reference

The requirement of the documents listed in <Table 1>, of the latest revision level, form a part of standard to the extent indicated.

| Ref No. | Document | Extent |
|---------|----------|--------|
| 1 | Hypertext Transfer Protocol-HTTP/1.0 | In entirely |
| 2 | NVE API,HPPT | In entirely |
| 3 | NVE Product Specific API Notes | In entirely |

<Table 1>

# Revision history

| Rev. | Date | Description |
|------|------|-------------|
| A | 2006-11-10 | Created. |
| B | 2007-01-16 | Added parameters |
| C | 2007-01-26 | Added user management, multicast, DNS |
| D | 2007-02-02 | Revised for compatibility with other products |
| E | 2007-02-16 | Add event and action. |
| F | 2007-04-03 | Add parameters for Serial Communication and |
| G | 2007-04-05 | Add Motion Detection parameters |
| H | 2007-04-10 | Add the example to each CGI |
| I | 2007-04-19 | Added Parity parameter of serial ports, Changed the security level from 1, 2, 3 to 1, 4, 6. |
| J | 2007-05-17 | Reviewed section 'Event' |
| K | 2007-05-22 | Reviewed section 'Serial Port' and 'Serial Communication' |
| L | 2007-08-29 | Updated to reflect the changes up to Kernel 17X569 |
| M | 2007-09-14 | Some ranges of parameter values changed and more parameters for ptz.cgi added. |
| N | 2007-09-17 | Corrected the PTZ cgi parameter explanation based upon the test result and added the differences between pelco-d and cyberscan II |
| O | 2007-11-21 | Add Record and E-mail Event Action |
| P | 2008-04-03 | PTZ command type corrected<br>RS232C option added<br>System Status information added<br>JPEG snap shot added<br>Recording option added |
| Q | 2008-04-15 | Hue adjustment unavailable for PAL with IPC and NVE100 model only. |
| R | 2008-09-24 | • PTZ2.cgi and Serial2.cgi are added to PTZ CGI.<br>• *Prebuffer* deleted. *PrebufferEnable* and *PrebufferSize* added instead.<br>• *Scanstart and scanstop* commands are deleted.<br>• *ptz_id=<int>* command in the PTZ command table is added.<br>• *Pcount* value range is corrected.<br>• Management of the event: *HWInput* description and value range corrected.<br>• Recording server and DO server are added to Event server list.<br>• Management of the action description is corrected according to the addition of event server<br>• Deinterlace mode added<br>• HVBR mode added<br>• cgitojavascript.cgi added.<br>• Testcgi.cgi added<br>• Added how to see the video with RTSP multicast via VLC player<br>• SMTP authentication is added to SMTP Server1 |

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| | | • SMTP Server 2 parameters are deleted. |
| S | 2008-10-28 | • Revised explanation about the Serial Baud Rate Setting and detailed example codes are added |
| T | 2009-03-23 | • Domain name available for FTP server |
| U | 2009-03-31 | • Ptz2.cgi and serial2.cgi corrected (organization) |
| V | 2009-04-21 | • '4.5.6.Network.NWLinkCheck' is added newly.<br>• '4.5.5.Network.DNSUpdate.Address' is added newly.<br>• '7.3.Storage' is added newly.<br>• Firmware.versionEx is added for parameter of 5.7. Properties group.<br>• The input range of bit rate is limited from 32 ~ 10000 kbps (4.2.2. Image.I#.Appearance)<br>• The FPS for video image is limited to specific figures only (9.2.1. Video CGI Request) |
| W | 2009-04-30 | • The input range of bit rate is limited from 32 ~ 10000 kbps (4.2.4.Image.I#.RateControl) |
| X | 2009-05-15 | • Text.DateTimeEnabled, DateTimePostion, Text.Position is added<br>• Image.DateTimeFormat is added |
| Y | 2009-08-12 | [FW v1.12.666]<br>• When '\r' or '\n' are sent via TCP event message, its format is 0x0D, 0x0A<br>• Serial data bits corrected<br>• Entry, 'Authenkey' is added at group 'brand'. |