JVC

IP Camera

VN-V25U/26U

API GUIDE

This document provides a description of protocols and API of VN-V25/26.
Refer Readme file in the CD-ROM for updated information.

2008.1.19. JVC

Updates

Version	Date	Updates
1.00	2007/11/1	First release.
1.01	2007/11/27	Model Name in JPEG is corrected from VN-V25 to VN-V25U. Description about disconnect of 11th alarm client is corrected.
1.02	2008/1/19	"boudary" in JPEG stream is deleted. Sample value of gamma is corrected. "type=VN-V25" in MPEG-4 is corrected as "type=VN-V25U". APIs of VN-V26U are added.

Custom Application Software Development Guide

VN-V25/26 can be used from a custom application software by utilizing the API and protocols for VN-V25/26. The following operations are possible.

● Getting JPEG from VN-V25/26.

● Getting MPEG-4 from VN-V25/26.

● Getting Alarm from VN-V25/26.

● Getting or changing VN-V25/26 settings.

● Sending Multicast from VN-V25/26.

● Getting Audio from VN-V26.

● Sending Audio to VN-V26.

● Customization of VN-V25/26's built-in viewer.

● Customization of VN-V26's built-in audio client.

Content

This document describes APIs of VN-V25/26. Differences of VN-V25 and VN-V26 are as below.

Function	VN-V25	VN-V26
Low Lux	Easy Day&Night	B&W Mode (True Day&Night)
Audio Server	none	Mic is embedded
Audio Output	none	Audio Output Terminal

1. Getting JPEG from VN-V25/26 via HTTP

1.1. Basic Procedures

1) The client establishes a TCP connection to port number 80.

2) The client sends out API.

Example

```
GET /api/video?encode=jpeg&framerate=30 HTTP/1.1<CRLF>

Host: 192.168.0.2<CRLF><CRLF>
```

Note <CRLF> denotes the line feed code (0x0D, 0x0A).

3) VN-V25/26 returns HTTP response.

Example of VN-V26

```
HTTP/1.1 200 OK<CRLF>

Connection: close<CRLF>

Content-Length: 27616<CRLF>

Content-type: image/jpeg<CRLF>

Date: Tue, 02 Oct 2007 07:33:12 GMT<CRLF>

Server: JVC VN-V26 Network Camera<CRLF>

x-vnv26_response: encode=jpeg&framerate=30&framesize=vga<CRLF><CRLF>
```

4) VN-V25/26 sends out JPEG data after returning HTTP response.

JPEG files will be sent out continuously after HTTP response. HTTP Response and JPEG data sent out by VN-V25/26 are as follows.

5

HTTP Response
JPEG (No. 1)
JPEG (No. 2)
,,,

Details of JPEG file format is explained later.

5) When the client wants to stop current JPEG transmission, the client disconnects TCP80.

VN-V25/26 does not accept further API via current TCP that is used for JPEG transmission. To change parameter,

disconnect current TCP to stop the JPEG transmission, connect new TCP, and send API with new parameter.

1.2. API Format
Structure

GET	space	API	space	HTTP/1.1	0x0D 0x0A
Host:	space	IP Address of VN-V25	0x0D 0x0A 0x0D 0x0A		

Unlike APIs for getting/setting parameters, Accept line is not required. Basic authentication is also not necessary.

Example

```
GET /api/video?encode=jpeg&framerate=30 HTTP/1.1<CRLF>

Host: 192.168.0.2<CRLF><CRLF>
```

Parameter value is indicated using =. Do not insert space before and after =.

Example   framerate=1

Parameters are segmented using &. Do not insert space before and after &.

Example encode=jpeg&framerate=30

There is no need to specify all parameters. Default values will be used for parameters that are not specified.

6

Parameter Description

encode For specifying compression format. For example, specify as encode=jpeg to get JPEG.

framerate For specifying the frame rate. For example, specify as framerate=5 to get at 5 fps. Specify as framerate=-5 to get at 1/5 fps, or in other words, 1 frame in 5 seconds. Selection range is as follows.

30, 25, 15, 10, 7.5, 6, 5, 3, 2, 1, 0, -2, -3, -5, -10, -15, -20, -30, -60

When the parameter is specified as framerate=0, VN-V25/26 sends 1 frame of JPEG data, and disconnect the TCP connection.

1.3. Response
When API is successfully received

VN-V25/26 will return 200 OK. Content-length indicates file size of first JPEG in bytes. The x-vnv25_response line indicates actual parameter.

Example of VN-V26

```
HTTP/1.1 200 OK<CRLF>
Connection: close<CRLF>
Content-Length: 27616<CRLF>
Content-type: image/jpeg<CRLF>
Date: Tue, 02 Oct 2007 07:33:12 GMT<CRLF>
Server: JVC VN-V26 Network Camera<CRLF>
x-vnv26_response: encode=jpeg&framerate=30&framesize=vga<CRLF><CRLF>
```

1.4. Restrictions

Access restriction

VN-V25/26 has access restriction feature that enables to deny access from a specific IP address. If JPEG is requested from the IP address of access restriction, VN-V25/26 disconnects the TCP connection after API is sent.

Restriction by maximum bitrate of VN-V25/26

The maximum bitrate of VN-V25/26 is about 20 Mbps.

Number of clients

The maximum number of clients that can get JPEG stream depends on encode settings and requests from client. Refer the instruction manual for detailed information.

1.5. JPEG File Format Sent Out by VN-V25/26

JPEG file from VN-V25/26 is JFIF compliant and consist of the following.

FFD8	Start Code
FFE0	Application Segment
FFFE	Comment Segment 1
FFFE	Comment Segment 2 (reserved)
FFC4	DHT Huffman Table
FFDB	DQT Quantization Table
FFDD	DRI Restart Interval
FFC0	SOF Frame Information
FFDA	Data Start Segment
FFD9	End Code

The following information is stored in the comment segment 1. Each item has a fixed length.

Item	Size	Example	Note
Version Information	9	JVC V1.0	Indicates the version of information stored in the comment segment.
File Size	18	size = 123456	Indicates JPEG size in bytes.
Width	13	width = 640	Width of JPEG.
Height	14	height = 480	Height of JPEG.
Model Name	18	type = VN−V25U	Name of model that created the JPEG.
(reserved)	12	reverse = 0	(reserved)
Time Stamp	70	timestamp = 20071014130509123 UTC	Indicates the time when the JPEG is created. This is made up of the year/month/day, hour/minute/second, millisecond and timezone code.
(reserved)	13	alarm = 00000000	(reserved)
Camera ID	50	camera = input01	Stores camera information set at VN-V25/26.
Motion Detect Setting	11	motion = 1	Specified as 1 when the motion detect is ON.
Motion Detect Result	7	md = 1	Specified as 1 if motion is detected at the time when JPEG is created.
Number of Bytes of Following Motion Detect Items	18	motion_size = 10	Indicates size of ″motion_bit″ and ″md_bit″ items in bytes.
Mask Settings for Motion Detect	24	motion_bit = 00000000000000000000	Indicates Mask settings for 80 blocks in binary data. (Not ASCII code.) If the bit is 0, the block is masked. If the bit is 1, the block is not masked.
Motion Detect Result of Each Block	20	md_bit = 00000000000000000000	Indicates motion detect results for 80 blocks in binary data. (Not ASCII code.) If the bit is 0, the block detected motion. If the bit is 1, the block did not detect motion.

8

Item names and values, excluding the version information that does not include =, are stored in the following format.

name	space	=	space	value	(stuffed with 0x00)

fixed length for each item

Example: When width=640, the 13-byte area will be written as follows.

w	i	d	t	h		=		6	4	0	0x00	0x00

2. Getting MPEG-4 from VN-V25/26 via HTTP

2.1. Basic Procedures

1) The client establishes a TCP connection to port number 80.

2) The client sends out API.

Example

GET /api/video?encode=mpeg4 HTTP/1.1<CRLF>

Host: 192.168.0.2<CRLF><CRLF>

Note <CRLF> denotes the line feed code (0x0D, 0x0A).

3) VN-V25/26 returns HTTP response.

Example of VN-V25

HTTP/1.1 200 OK<CRLF>

Connection: close<CRLF>

Content-Type: video/mp4v-es<CRLF>

Date: Tue, 02 Oct 2007 07:33:12 GMT<CRLF>

Server: JVC VN-V25 Network Camera<CRLF>

x-vnv25_response: encode=mpeg4&framerate=15&framesize=vga<CRLF><CRLF>

4) VN-V25/26 sends out MPEG-4 data after returning HTTP response.

HTTP Response and MPEG-4 stream sent out by VN-V25/26 are as follows.

HTTP Response
VOP of MPEG-4 (No. 1)
VOP of MPEG-4 (No. 2)

9

```
"""
```

Details of MPEG-4 stream is explained later.

5) When the client wants to stop current MPEG-4 transmission, the client disconnects TCP80.
VN-V25/26 does not accept further API via current TCP that is used for JPEG transmission. To change parameter,
disconnect current TCP to stop the MPEG-4 transmission, connect new TCP, and send API with new parameter.

2.2. API Format
Structure

GET	space	API	space	HTTP/1.1	0x0D 0x0A
Host:	space	IP Address of VN-V25	0x0D 0x0A 0x0D 0x0A		

Unlike APIs for getting/setting parameters, Accept line is not required. Basic authentication is also not necessary.

Example

GET /api/video?encode=mpeg4 HTTP/1.1<CRLF>

Host: 192.168.0.2<CRLF><CRLF>

Parameter value is indicated using =. Do not insert space before and after =.

Example encode=mpeg4

Parameter Description

encode For specifying compression format. For example, specify as encode=mpeg4 to get MPEG-4.

2.3. Response
When API is successfully received

VN-V25/26 will return 200 OK. The x-vnv25_response line indicates actual parameter.

Example of VN-V25

HTTP/1.1 200 OK<CRLF>

Connection: close<CRLF>

10

```
Content-Type: video/mp4v-es<CRLF>

Date: Tue, 02 Oct 2007 07:33:12 GMT<CRLF>

Server: JVC VN-V25 Network Camera<CRLF>

x-vnv25_response: encode=mpeg4&framerate=30&framesize=vga<CRLF><CRLF>
```

2.4. Restrictions

Access restriction

VN-V25/26 has access restriction feature that enables to deny access from a specific IP address. If MPEG-4 is requested from the IP address of access restriction, VN-V25/26 disconnects the TCP connection after API is sent.

Restriction by maximum bitrate of VN-V25/26

The maximum bitrate of VN-V25/26 is about 20 Mbps.

Number of clients

The maximum number of clients that can get MPEG-4 stream depends on encode settings and JPEG clients. Refer the instruction manual for detailed information.

2.   MPEG-4 Stream Format Sent Out by VN-V25/26

MPEG-4 stream from VN-V25/26 is MPEG-4 Part 2(ISO/IEC 14496-2) compliant, level 3 of simple profile. It is a sequence of I-VOPs, or I-VOPs and P-VOPs.

   I-VOP: Intra frame compressed data

   P-VOP: Inter frame compressed data with previous frame

Ratio of I-VOP and P-VOP depends on I-Frame interval setting. Encode page of Web has the setting.

First VOP can be I-VOP or P-VOP. If client want to decode from I-VOP, please skip P-VOP and wait first I-VOP.

   Example of MPEG-4 stream

HTTP Response
P-VOP
P-VOP
P-VOP
VOL
I-VOP

```
P-VOP


```

There are VOL, Userdata1, GOV and Userdata2 before each I-VOP.

Data Structure before I-VOP

Item	Note
VOL	VOL of MPEG−4 Video
Userdata1	Reserved
GOV	GOV of MPEG−4 Video
Userdata2	Userdata

Data Structure of Userdata2

Item	Example	Note
Start Code	0x000001B2	Start code of userdata in MPEG−4 Video
Product Name	type = VN−V25U	Product Name
Timestamp	timestamp = 20070319161455123UTC	Year, Month, Day, Hour, Minute, Second, Millisedond, and Time zone
Camera ID	camera = Camera01	Camera ID that user can define

3. API to Search VN-V25/26

VN-V25/26 in LAN can be searched by broadcast packet that includes this API.

Search VN-V25/26 in LAN

Protocol   Send udp packet with following text in UDP payload to destination port number 80. Source port number

can be any value.

system.id<CRLF>

Response   VN-V25/26 that received this packet sends udp packet to the source port number of the search packet.

UDP payload of response packet has model name, IP address, and subnet mask. VN-V25/26 waits 0-0.7 second

before sending response to avoid too many responses are sent in short period from many VN-V25/26s.

Response Example   **system.id=VN-V25U(192.168.0.2/24)&200 OK<CRLF>**

4. Getting Alarm from VN-V25/26
4.1. Procedure

1) The client establishes a TCP connection to port number 32040.

12

2) When motion is detected from the video image of VN-V25/26, or when there are changes to the alarm input (make or break), VN-V25/26 will send out alarm information in the following format. The first 2 lines indicate the current alarm input status (make or break). The following 1 line indicates whether motion has been detected.

peripheral.input_pin.pin(1).status=break<CRLF>
peripheral.input_pin.pin(2).status=break<CRLF>
video.input(1).detection(motion).status=on<CRLF>

3) The client can disconnect TCP32040 to end the alarm acquisition.

4.2. Restrictions

Maximum number of clients

The maximum number of clients that may acquire alarm is 10. When a 11th client establishes TCP connection to port number 32040, VN-V25/26 disconnects the TCP connection.

Additionally, VN-V25/26 will also check whether the TCP connection is maintained at regular intervals. VN-V25/26 will disconnect the TCP connection if syn exchange is not performed in 10 minutes.

Note: API for getting alarm is not restricted by the access restriction function.

5. Using API that Requires Basic Authentication

Basic authentication is required for APIs which are explained in Section 6. This section provides general explanation of those APIs.

5.1. Procedure

1) The client establishes a TCP connection to port number 80.

2) The client sends API.

API has following structure.

GET	space	API Characters	space	HTTP/1.1	0x0D 0x0A	
Accept:	space	text/plain (or text/html)		0x0D 0x0A		
Host:	space	IP Address of VN-V25	0x0D 0x0A			
Authorization: Basic		space	Encoded User Name and Password	0x0D 0x0A 0x0D 0x0A		

The following is an example of API for Getting subnet mask of VN-V25/26.

13

Example

```
GET /api/param?network.interface.subnetmask HTTP/1.1<CRLF>
Accept: text/plain<CRLF>
Host: 192.168.0.2<CRLF>
Authorization: Basic YWRtaW46dm4tdjJ4<CRLF><CRLF>
```

Specify the response format by Accept line. Plain text response is returned when this is specified as text/plain. HTML response is returned when text/html is specified. HTML response is returned when Accept is not specified.

These APIs for getting/setting parameters are protected by basic authentication. Authorization line needs to include encoded username and password. There are 3 types of usernames, namely admin, operator and user. Available APIs are different for each username. Join the user name and the password using a colon, Base64 encode this character string and enter this in the Authorization line.

For example, when

   User name   admin

   Password   vn-v2x

then the character string joining the user name and the password with a colon is:

   admin:vn-v2x

Base64 encoding of this string yields YWRtaW46dm4tdjJ4. Enter this in the Authorization line. Default password for each username is vn-v2x.

3) VN-V25/26 returns a response to the client. In the following example, current subnet mask is 255.0.0.0. In addition, 255.0.0.0 is followed by & and 200 OK, indicating that getting parameter is successful.

Example of VN-V25

```
HTTP/1.1 200 OK<CRLF>
Connection: close<CRLF>
Content-Length: 80<CRLF>
Content-type: text/plain<CRLF>
Date: Fri, 13 MAY 2005 07:33:12 GMT<CRLF>
Server: JVC VN-V25 API Server<CRLF>
network.interface.subnetmask=255.0.0.0&200 OK<CRLF>
```

4) The client disconnects TCP80 to end the use of API.

Note: APIs for getting/setting parameters are not restricted by the access restriction function.

14

6. API for Getting/Changing Parameters of VN-V25/26

This section provides description of APIs for getting/changing parameters of VN-V25/26. Make use of the API explained in this section in the way as mentioned in Section 5

.

6.1. General

 (1) Getting parameter

● Specify API in GET line according to the format below when getting a parameter from VN-V25/26.

`/api/param?ParamA.ParamB.ParamC`

It is possible to get multiple parameters at a time. Connect parameters with &. Do not insert space before and after &.

`/api/param?ParamA.ParamB.ParamC&ParamA.ParamD.ParamE`

The upper limit of this character string is 1024 bytes. The maximum number of parameters that can be acquired at a time is 15. Status settings, i.e. network.interface.status, network.dns.status, network.ntp.status, etc., can not be acquired at a time.

● When acquisition is successfully completed, values will be shown in the body of HTTP response, followed by "&200 OK" message.

Example:

`ParamA.ParamB.ParamC=Data&200 OK`

When an error occurs, an error code will be returned instead of indicating a value in the body of HTTP response.

Example:

`ParamA.ParamB.ParamC&401 Unauthorized`

When multiple gettings are performed at one time, a response will be returned for each setting.

`ParamA.ParamB.ParamC&200 OK<CRLF>`

`ParamA.ParamB.ParamD&200 OK<CRLF>`

(2) Setting parameter

● Specify API in GET line according to the format below when setting a parameter for VN-V25/26.

`/api/param?ParamA.ParamB.ParamC=Data`

Parameter values are indicated using =. Do not insert space before and after =.

It is possible to perform multiple settings at a time. Connect parameters with &. Do not insert space before and after &.

15

```
/api/param?ParamA.ParamB.ParamC=Data&ParamA.ParamB.ParamD=Data
```

The upper limit of this character string is 1024 bytes. The maximum number of parameters that can be set at a time is 15. Status settings, i.e. network.interface.status, network.dns.status, network.ntp.status, etc., can not be acquired at a time.

● Response will be in the following format.

```
ParamA.ParamB.ParamC&200 OK
```

An error code will be returned when setting is not properly performed. Example:

```
ParamA.ParamB.ParamC&401 Unauthorized
```

When multiple settings are performed at one time, a response will be returned for each setting.

```
ParamA.ParamB.ParamC&200 OK<CRLF>
```
```
ParamA.ParamB.ParamD&200 OK<CRLF>
```

6.2. Camera

These APIs are related to camera settings. Same functions are shown on the Camera page of the WEB setting page. Refer to the instruction manual for details on the Camera page.

Saving Changes of Camera Settings

Format `/api/param?canera.status=data`

Example `/api/param?canera.status=save`

Example of response `canera.status&200 OK`

Interpretation Save or cancel changes to camera settings. Specify save or restore. By status=save, changes to camera settings are saved. If not saved, the changes are restored by power off of VN-V25/26. By status=restore, changes to camera settings are restored.

Allowed users admin, operator

Getting Camera ID stored in JPEG from VN-V25/26

Format `/api/param?camera.id`

Example of response `camera.id=VN-V25&200 OK`

Response example when setting field is left blank `camera.id=&200 OK`

Interpretation Acquire Camera ID comment. This comment is stored in comment segment of JPEG. The Camera ID is used as sender's display name of alarm mail. If you want to set sender's mail address, see "Setting Sender Mail Address for VN-V25/26".

16

Example of response `camera.id=Camera01&200 OK`

Sender　　　`Camera01<somename@somecompany.com>`

Allowed users admin, operator, user

Setting Camera ID in JPEG from VN-V25/26

Format `/api/param?camera.id=data`

Example `/api/param?camera.id=Camera01`

Example when setting as blank `/api/param?camera.id=%00`

Example of response `camera.id&202 Accepted(camera.status=save)`

Interpretation Change the camera ID stored in comment segment of JPEG. Maximum size is 40 bytes.

To set as blank, specify as %00(0x25, 0x30, 0x30).

To use space, specify as %20(0x25, 0x32, 0x30). If you want to set "Comment In JPEG" for example, specify

as follows. `/api/param?camera.id=Comment%20In%20JPEG`

The Camera ID is used as sender's display name of alarm mail. If you want to set sender's mail address, see

"Setting Sender Mail Address for VN-V25/26".

Example of setting `/api/param?camera.id=Camera01`

Sender　　　`Camera01<somename@somecompany.com>`

The change is saved by the API, camera.status=save. If the change is not saved, the setting is restored by reboot.

Allowed users admin, operator

Getting Monitor Type from VN-V25/26

Format `/api/param?camera.image.monitortype`

Example of response `camera.image.monitortype=lcd1&200 OK`

Interpretation Acquire the monitor type setting. Value is custome, lcd1, lcd2 or crt. When lcd1, lcd2 or crt is set,

enhance band setting and gamma setting are ignored.

Allowed users admin, operator, user

Setting Monitor Type for VN-V25/26

Format `/api/param?camera.image.monitortype=data`

Example of setting a value `/api/param?image.monitortype=crt`

Example of response `camera.image.monitortype&202 Accepted(camera.status=save)`

Interpretation Change the monitor type setting. Specify custome, lcd1, lcd2 or crt. Selecting lcd1 or lcd2 can

improve image on LCD display. Selecting crt can improve image on CRT monitor. When lcd1, lcd2 or crt is set,

enhance band setting and gamma setting are ignored. The change is saved by the API, camera.status=save. If the

change is not saved, the setting is restored by reboot.

Allowed users admin, operator

17

Getting Black level from VN-V25/26

Format `/api/param?camera.image.pedestal`

Example of response `camera.image.pedestal=50&200 OK`

Interpretation Acquire black level setting. Range of pedestal is between 0 to 100, and it is mapped to 3 internal levels. The larger the value, the brighter will be the black.

Allowed users admin, operator, user

Setting Black level for VN-V25/26

Format `/api/param?camera.image.pedestal=data`

Example of setting a value `/api/param?camera.image.pedestal=50`

Example of 1 step change `/api/param?camera.image.pedestal=+`

Example of response `camera.image.pedestal&202 Accepted(camera.status=save)`

Interpretation Change pedestal setting. Specify 0 to 100, "+" or "-". The value is mapped to 3 internal levels. It becomes brighter 1 step by specifying "+", darker 1 step by specifying "-". The change is saved by the API, camera.status=save. If the change is not saved, the setting is restored by reboot.

Allowed users admin, operator

Getting Gamma from VN-V25/26

Format `/api/param?camera.image.gamma`

Example of response `camera.image.gamma=0.45&200 OK`

Interpretation Acquire gamma setting. Value of gamma is 1, 0.6, 0.55, 0.5, 0.45, 0.4, 0.35, or 0.3. Default value is 0.45.

When lcd1, lcd2 or crt is set to monitor type, gamma setting is ignored.

Allowed users admin, operator, user

Setting Gamma for VN-V25/26

Format `/api/param?camera.image.gamma=data`

Example of setting a value `/api/param?camera.image.gamma=0.45`

Example of 1 step change `/api/param?camera.image.gamma=+`

Example of response `camera.image.gamma&202 Accepted(camera.status=save)`

Interpretation Change gamma setting. Specify 1, 0.6, 0.55, 0.5, 0.45, 0.4, 0.35, 0.3, "+" or "-". It becomes darker 1 step by specifying "+", brighter 1 step by specifying "-". The change is saved by the API, camera.status=save. If the change is not saved, the setting is restored by reboot.

When lcd1, lcd2 or crt is set to monitor type, gamma setting is ignored.

Allowed users admin, operator

18

Getting Enhance Band from VN-V25/26

Format `/api/param?camera.image.enhance.band`

Example of response `camera.image.enhance.band=high&200 OK`

Interpretation Acquire enhance band setting. Value of enhance band is high or low.

When lcd1, lcd2 or crt is set to monitor type, enhance band setting is ignored.

Allowed users admin, operator, user

Setting Enhance Band for VN-V25/26

Format `/api/param?camera.image.enhance.band=data`

Example of setting a value `/api/param?camera.image.enhance.band=low`

Example of response `camera.image.enhance.band&202 Accepted(camera.status=save)`

Interpretation Change enhance band setting. Specify high or low. The change is saved by the API,

camera.status=save. If the change is not saved, the setting is restored by reboot.

When lcd1, lcd2 or crt is set to monitor type, enhance band setting is ignored.

Allowed users admin, operator

Getting Enhance from VN-V25/26

Format `/api/param?camera.image.enhance`

Example of response `camera.image.enhance=50&200 OK`

Interpretation Acquire enhance setting. Range of enhance is between 0 to 100, and it is mapped to 11 internal

levels. The larger the value, the sharper will be the image.

Allowed users admin, operator, user

Setting Enhance for VN-V25/26

Format `/api/param?camera.image.enhance=data`

Example of setting a value `/api/param?camera.image.enhance=50`

Example of 1 step change `/api/param?camera.image.enhance=+`

Example of response `camera.image.enhance&202 Accepted(camera.status=save)`

Interpretation Change enhance setting. Specify 0 to 100, "+" or "-". The value is mapped to 11 internal levels. It

becomes sharper 1 step by specifying "+", softer 1 step by specifying "-". The change is saved by the API,

camera.status=save. If the change is not saved, the setting is restored by reboot.

Allowed users admin, operator

Getting Color Level from VN-V25/26

Format `/api/param?camera.image.color`

19

Example of response `camera.image.color=50&200 OK`

Interpretation Acquire color level value. Range of color level is between 0 to 100. The value is mapped to 11 internal levels. The larger the value, the stronger will be the color.

Allowed users admin, operator, user

Setting Color Level for VN-V25/26

Format `/api/param?camera.image.color=data`

Example of setting a value `/api/param?camera.image.color=50`

Example of 1 step change `/api/param?camera.image.color=+`

Example of response

　`camera.image.color&202 Accepted(camera.status=save)`

Interpretation Change color level value. Specify 0 to 100, "+" or "-". The value is mapped to 11 internal levels. The larger the value, the stronger will be the color. It becomes stronger 1 step by specifying "+", softer 1 step by specifying "-". The change is saved by the API, camera.status=save. If the change is not saved, the setting is restored by reboot.

Allowed users admin, operator

Getting AGC from VN-V25/26

Format `/api/param?camera.image.brightness`

Example of response `camera.image.brightnesss=autoL&200 OK`

Interpretation Acquire AGC setting. "manual", "autoL", "autoM" or "autoH" is returned.

Allowed users admin, operator, user

Setting AGC for VN-V25/26

Format `/api/param?camera.image.brightness=data`

Example `/api/param?camera.image.brightness=auto`

Example of response `camera.image.brightness&202 Accepted(camera.status=save)`

Interpretation Change AGC setting. Specify "manual", "autoL", "autoM" or "autoH". The change is saved by the API, camera.status=save. If the change is not saved, the setting is restored by reboot.

Allowed users admin, operator

Getting Limit of Sense Up from VN-V25/26

Format `/api/param?camera.image.senseup_limit`

Example of response `camera.image.senseup_limit=0&200 OK`

Interpretation Acquire limit of sense up. 0, 2, 4, 8, 16, 32 or 62 is returned. 0 means sense up is disabled. Other numbers mean frame number of sense up.

20

Allowed users admin, operator, user

Setting Limit of Sense Up for VN-V25/26

Format `/api/param?camera.image.senseup_limit=data`

Example `/api/param?camera.image.senseup_limit=4`

Example of response `camera.image.senseup_limit&202 Accepted(camera.status=save)`

Interpretation Change limit of sense up. Specify 0, 2, 4, 8, 16, 32, 62, "+" or "-". It becomes bigger 1 step by specifying "+", smaller 1 step by specifying "-". The change is saved by the API, camera.status=save. If the change is not saved, the setting is restored by reboot.

Allowed users admin, operator

Getting ALC priority from VN-V25/26

Format `/api/param?camera.auto_exposure.priority`

Example of response `camera.auto_exposure.priority=motion&200 OK`

Interpretation Acquire ALC priority. ALC priority decides what is used first for auto exposure. "motion" or "quality" is returned. In case of "motion", AGC is used before using sense up. In case of "quality", sense up is used before using AGC.

Allowed users admin, operator, user

Setting ALC priority for VN-V25/26

Format `/api/param?camera.auto_exposure.priority=data`

Example `/api/param?camera.auto_exposure.priority=quality`

Example of response `camera.auto_exposure.priority&202`

`Accepted(camera.status=save)`

Interpretation Change ALC priority. ALC priority decides what is used first for auto exposure. Specify "motion" or "quality". In case of "motion", AGC is used before using sense up. In case of "quality", sense up is used before using AGC. The change is saved by the API, camera.status=save. If the change is not saved, the setting is restored by reboot.

Allowed users admin, operator

Getting Shutter Speed from VN-V25/26

Format `/api/param?camera.shutter`

Example of response `camera.shutter=60&200 OK`

Interpretation Acquire shutter speed setting. "auto", 30, 50, 60, 100, 250, 500, 1000, 2000, 4000, 10000 or "flickerless" is returned. For example, 60 means shutter speed 1/60. In case of "flickerless", the shutter speed that avoids flicker is selected automatically.

21

Allowed users admin, operator, user

Setting Shutter Speed for VN-V25/26

Format `/api/param?camera.shutter=data`

Example of setting a value `/api/param?camera.shutter=60`

Example of 1 step change `/api/param?camera.shutter=+`

Example of response `camera.shutter&202 Accepted(camera.status=save)`

Interpretation Change shutter speed setting. Specify "auto", 30, 50, 60, 100, 250, 500, 1000, 2000, 4000, 10000 or "flickerless", "+" or "-". To set 1/60 for example, specify 60. It becomes shorter 1 step by specifying "+", longer 1 step by specifying "-". The change is saved by the API, camera.status=save. If the change is not saved, the setting is restored by reboot.

Allowed users admin, operator

Getting Easy Day and Night from VN-V25   (VN-V25 Only)

Format `/api/param?camera.image.brightness.highgain`

Example of response `camera.image.brightness.highgain=off&200 OK`

Interpretation Acquire Easy Day and Night setting. "on" or "off" is returned.

Allowed users admin, operator, user

Setting Easy Day and Night for VN-V25   (VN-V25 Only)

Format `/api/param?camera.image.brightness.highgain=data`

Example `/api/param?camera.image.brightness.highgain=on`

Example of response

　`camera.image.brightness.highgain&202 Accepted(camera.status=save)`

Interpretation Change Easy Day and Night setting. Specify "on" or "off". The change is saved by the API, camera.status=save. If the change is not saved, the setting is restored by reboot.

Allowed users admin, operator

Getting B&W Mode (True Day&Night) from VN-V26   (VN-V26 Only)

Format `/api/param?camera.image.true_daynight`

Example of response `camera.image.true_daynight=color&200 OK`

Interpretation Acquire B&W mode setting. "color", "bw", "autoH", "autoM" or "autoL" is returned. "color" enables IR filter and image becomes color. "bw" disables IR filter and image becomes black and white. When the setting is "autoH", "autoM" or "autoL", IR filter is enabled or disabled according to image brightness. To use "autoH", "autoM" or "autoL", set AGC to "autoH".

Allowed users admin, operator, user

22

Setting B&W Mode (True Day&Night) for VN-V26   (VN-V26 Only)

Format `/api/param?camera.image.true_daynight=data`

Example `/api/param?camera.image.true_daynight=bw`

Example of response

`camera.image.true_daynight&202 Accepted(camera.status=save)`

Interpretation Change B&W mode setting. Specify "color", "bw", "autoH", "autoM" or "autoL". "color" enables IR filter and image becomes color. "bw" disables IR filter and image becomes black and white. When the setting is "autoH", "autoM" or "autoL", IR filter is enabled or disabled according to image brightness. To use "autoH", "autoM" or "autoL", set AGC to "autoH". The change is saved by the API, camera.status=save. If the change is not saved, the setting is restored by reboot.

Allowed users admin, operator

Getting Auto Exposure Reference from VN-V25/26

Format `/api/param?camera.auto_exposure.reference`

Example of response `camera.auto_exposure.reference=0&200 OK`

Interpretation Acquire auto exposure reference. A number from -9 to 6 is returned. When the number is bigger, image becomes brighter.

Allowed users admin, operator, user

Setting Auto Exposure Reference for VN-V25/26

Format `/api/param?camera.auto_exposure.reference=data`

Example `/api/param?camera.auto_exposure.reference=0`

Example of response `camera.auto_exposure.reference&202`

`Accepted(camera.status=save)`

Interpretation Change auto exposure reference. Specify a number from -9 to 6, or "+", "-". When the number is bigger, image becomes brighter. The change is saved by the API, camera.status=save. If the change is not saved, the setting is restored by reboot.

Allowed users admin, operator

Getting White Balance from VN-V25/26

Format `/api/param?camera.image.white_balance`

Example of response `camera.image.white_balance=auto&200 OK`

Interpretation Acquire white balance setting. "auto" or "manual" is returned.

Allowed users admin, operator, user

23

Setting White Balance for VN-V25/26

Format `/api/param?camera.image.white_balance=data`

Example `/api/param?camera.image.white_balance=auto`

Example of response `camera.image.white_balance&202 Accepted(camera.status=save)`

Interpretation Change white balance setting. Specify "auto" or "manual". If "op_auto" is specified, one push auto white balance control is done, and setting becomes "manual". The change is saved by the API, camera.status=save. If the change is not saved, the setting is restored by reboot.

Allowed users admin, operator

Getting R-Gain of White Balance from VN-V25/26

Format `/api/param?camera.image.white_balance.r`

Example of response `camera.image.white_balance.r=s85&200 OK`

Interpretation Acquire R-gain of white balance setting. s0 to s255 is returned. The s before number means "step". Default value is s85.

Allowed users admin, operator, user

Setting R-Gain of White Balance for VN-V25/26

Format `/api/param?camera.image.white_balance.r=data`

Example of response

  `camera.image.white_balance.r&202 Accepted(camera.status=save)`

Interpretation Change R-gain white balance setting. Specify s0 to s255. The s before number means "step". Default value is s85.The change is saved by the API, camera.status=save. If the change is not saved, the setting is restored by reboot.

Allowed users admin, operator

Getting B-Gain of White Balance from VN-V25/26

Format `/api/param?camera.image.white_balance.b`

Example of response `camera.image.white_balance.b=s219&200 OK`

Interpretation Acquire B-gain of white balance setting. s0 to s255is returned. The s before number means "step". Default value is s219.

Allowed users admin, operator, user

Setting B-Gain of White Balance for VN-V25/26

Format `/api/param?camera.image.white_balance.b=data`

Example of response

  `camera.image.white_balance.b&202 Accepted(camera.status=save)`

24

Interpretation Change B-gain white balance setting. Specify s0 to s255. The s before number means "step". D efault value is s219.The change is saved by the API, camera.status=save. If the change is not saved, the setting is restored by reboot.

Allowed users admin, operator

Getting Back Light Compensation from VN-V25/26

Format `/api/param?camera.image.blc`

Example of response `camera.image.blc=off&200 OK`

Interpretation Acquire Back Light Compensation setting. "off", "a", "b", "c" or "d" is returned. Refer the instruction manual for detailed information of "a", "b", "c" and "d".

Allowed users admin, operator, user

Setting Back Light Compensation for VN-V25/26

Format `/api/param?camera.image.blc=data`

Format of setting ON `/api/param?camera.image.blc=a`

Example of response `camera.image.blc&202 Accepted(camera.status=save)`

Interpretation Change Back Light Compensation setting. Specify "off", "a", "b", "c" or "d". Refer the instruction manual for detailed information of "a", "b", "c" and "d". The change is saved by the API, camera.status=save. If the change is not saved, the setting is restored by reboot.

Allowed users admin, operator

6.3. Encoding

These APIs are related to JPEG or MPEG-4 encoding. These are equivalent to the features on the Encoding page of the WEB setting page. Refer to the instruction manual for details on the Encoding page.

Saving Changes of Encode Settings for VN-V25/26

Format `/api/param?encode(1).status=save`

   or   `/api/param?encode(2).status=save`

Example of response `encode(1).status&200 OK`

Interpretation Save changes to encode settings. All JPEG and MPEG-4 settings are saved. If not saved, the changes are restored by power off of VN-V25/26.

Allowed users admin, operator

Getting JPEG Frame Size from VN-V25/26

Format `/api/param?encode(1).framesize`

25

Example of response `encode(1).framesize=vga&200 OK`

Interpretation Acquire JPEG frame size setting. "vga" or "qvga" is returned.

Allowed users admin, operator, user

Setting JPEG Frame Size for VN-V25/26

Format `/api/param?encode(1).framesize=data`

Example `/api/param?encode(1).framesize=qvga`

Example of response `encode(1).framesize&202 Accepted(encode(1).status=save)`

Interpretation Change JPEG frame size. Specify "vga" or "qvga". File size setting is changed automatically when frame size is changed. If frame size is changed from vga to qvga, file size is changed to third part of original size. If frame size is changed from qvga to vga, file size is changed to three times size.

When frame size of JPEG and MPEG-4 are same, privacy masking is available for both compression. When they are not same, compression on QVGA can have privacy masking.

The change is saved by the API, encode(1).status=save. If the change is not saved, the setting is restored by reboot.

Allowed users admin, operator

Getting JPEG Rate Control Setting from VN-V25/26

Format `/api/param?encode(1).cbr_mode`

Example of response `encode(1).cbr_mode=afs&200 OK`

Interpretation Acquire the rate control setting of JPEG. Quantization table is fixed in the case of vfs (VariableFileSize). In the case of afs (AverageFileSize), bit rates are controlled such that the average size of multiple files remains constant.

Allowed users admin, operator, user

Setting JPEG Rate Control for VN-V25/26

Format `/api/param?encode(1).cbr_mode=data`

Example `/api/param?encode(1).cbr_mode=vfs`

Example of response `encode(1).cbr_mode&202 Accepted(encode(1).status=save)`

Interpretation Change rate control of JPEG. Rate control can be set to vfs or afs. In vfs (VariableFileSize), quantization table is fixed. In afs (AverageFileSize), average file size of multiple JPEGs is controlled to be constant.

The change is saved by the API, encode(1).status=save. If the change is not saved, the setting is restored by reboot.

Allowed users admin, operator

Getting JPEG File Size Setting from VN-V25/26

Format `/api/param?encode(1).quality`

Example of response `encode(1).quality=40k&200 OK`

Interpretation Acquire the file size setting of JPEG. If the response is 40k for example, the setting is 40KB.

Allowed users admin, operator, user

Setting JPEG File Size Setting for VN-V25/26

Format `/api/param?encode(1).quality=Data`

Example `/api/param?encode(1).quality=30k`

Example of response `encode(1).quality&202 Accepted(encode(1).status=save)`

Interpretation Change the file size setting of JPEG. The unit of set values is in KB. VN-V25/26 will perform rate control with this file size as the target.

When frame size is VGA, setting between the range of 10k to 100k is possible. When frame size is QVGA, setting between the range of 3k to 33k is possible.

When VFS (VariableFileSize) is specified for rate control at the WEB setting page, 7 levels will be available for selection. Each of these choices corresponds to the file sizes as follows.

Level	File Size Setting for VGA	File Size Setting for QVGA
1	80k	27k
2	60k	20k
3	40k	13k
4	30k	10k
5	25k	8k
6	20k	7k
7	15k	5k

When rate control is set to vfs and a file size that is not stated above is specified, the closest choice will be displayed on the WEB setting page. The change is saved by the API, encode(1).status=save. If the change is not saved, the setting is restored by reboot.

Allowed users admin, operator

Getting MPEG-4 Frame Size from VN-V25/26

Format `/api/param?encode(2).framesize`

Example of response `encode(2).framesize=vga&200 OK`

Interpretation Acquire MPEG-4 frame size setting. "vga" or "qvga" is returned.

Allowed users admin, operator, user

Setting MPEG-4 Frame Size for VN-V25/26

Format `/api/param?encode(2).framesize=data`

Example `/api/param?encode(2).framesize=qvga`

Example of response `encode(2).framesize&202 Accepted(encode(1).status=save)`

Interpretation Change MPEG-4 frame size. Specify "vga" or "qvga".

When frame size of JPEG and MPEG-4 are same, privacy masking is available for both compression. When they are not same, compression on QVGA can have privacy masking.

The change is saved by the API, encode(2).status=save. If the change is not saved, the setting is restored by reboot.

Allowed users admin, operator

Getting MPEG-4 bitrate Setting from VN-V25/26

Format `/api/param?encode(2).bitrate`

Example of response `encode(2).bitrate=8000000&200 OK`

Interpretation Acquire the bitrate setting of MPEG-4. If the response is 8000000 for example, the setting is 8Mbps.

Allowed users admin, operator, user

Setting MPEG-4 bitrate Setting for VN-V25/26

Format `/api/param?encode(2).bitrate=Data`

Example `/api/param?encode(2).bitrate=2000000`

Example of response `encode(2).bitrate&202 Accepted(encode(2).status=save)`

Interpretation Change the bitrate setting of MPEG-4. Specify from 64000 to 8000000.

The change is saved by the API, encode(2).status=save. If the change is not saved, the setting is restored by reboot.

Allowed users admin, operator

Getting MPEG-4 Rate Control Setting from VN-V25/26

Format `/api/param?encode(2).cbr_mode`

Example of response `encode(2).cbr_mode=cbr&200 OK`

Interpretation Acquire the rate control setting of MPEG-4. "cbr" or "vbr" is returned. Bitrate is controlled to be constant in the case of cbr (Constant Bitrate). In the case of vbr (Variable Bitrate), bitrate can be larger by input image.

Allowed users admin, operator, user

Setting MPEG-4 Rate Control for VN-V25/26

Format `/api/param?encode(2).cbr_mode=data`

Example `/api/param?encode(2).cbr_mode=vbr`

Example of response `encode(2).cbr_mode&202 Accepted(encode(2).status=save)`

Interpretation Change rate control of MPEG-4. Rate control can be set to cbr or vbr. Bitrate is controlled to be constant in the case of cbr (Constant Bitrate). In the case of vbr (Variable Bitrate), bitrate can be larger by input image. If vbr is set, frame rate of MPEG-4 becomes 30fps.

28

The change is saved by the API, encode(2).status=save. If the change is not saved, the setting is restored by reboot.

Allowed users admin, operator

Getting MPEG-4 Frame Rate Setting from VN-V25/26

Format `/api/param?encode(2).framerate`

Example of response `encode(2).framerate=15&200 OK`

Interpretation Acquire frame rate of MPEG-4 encoding.

Allowed users admin, operator, user

Setting MPEG-4 Frame Rate Setting for VN-V25/26

Format `/api/param?encode(2).framerate=data`

Example `/api/param?encode(2).framerate=30`

Example of response `encode(2).framerate&202 Accepted(encode(2).status=save)`

Interpretation Change frame rate of MPEG-4. Specify 30, 25, 15, 10, 7.5, or 1. If vbr is set to MPEG-4 rate control, frame rate of MPEG-4 becomes 30fps. If I-Frame interval is not 30, 60, 120, 150, 180, 210 or 240, real frame rate becomes larger than the setting. Refer I-Frame interval API for details.

The change is saved by the API, encode(2).status=save. If the change is not saved, the setting is restored by reboot.

Allowed users admin, operator

Getting MPEG-4 I-Frame Interval Setting from VN-V25/26

Format `/api/param?encode(2).iframeinterval`

Example of response `encode(2).iframeinterval=30&200 OK`

Interpretation Acquire I-Frame interval of MPEG-4 encoding.

Allowed users admin, operator, user

Setting MPEG-4 I-Frame Interval Setting for VN-V25/26

Format `/api/param?encode(2).iframeinterval=data`

Example `/api/param?encode(2).iframeinterval=30`

Example of response `encode(2).iframeinterval&202 Accepted(encode(2).status=save)`

Interpretation Change I-Frame interval of MPEG-4. Specify 1 to 255. If I-Frame interval is 30, 60, 120, 150, 180, 210 or 240, real frame rate is as frame rate setting. If I-Frame interval is not 30, 60, 120, 150, 180, 210 or 240, real frame rate becomes larger than the setting because I-Frame can not be skipped. If I-Frame setting is 1, all frames become I-Frame and frame rate becomes 30fps.

The change is saved by the API, encode(2).status=save. If the change is not saved, the setting is restored by reboot.

Allowed users admin, operator

29

Getting MPEG-4 Priority Setting from VN-V25/26

Format `/api/param?encode(2).priority`

Example of response `encode(2).priority=motion&200 OK`

Interpretation Acquire priority of MPEG-4 encoding. "motion" or "quality" is returned.

Allowed users admin, operator, user

Setting MPEG-4 Priority Setting for VN-V25/26

Format `/api/param?encode(2).priority=data`

Example `/api/param?encode(2).priority=motion`

Example of response `encode(2).priority&202 Accepted(encode(2).status=save)`

Interpretation Change priority of MPEG-4. Specify "motion" or "quality". To keep frame rate, select "motion". To keep image quality, select "quality".

The change is saved by the API, encode(2).status=save. If the change is not saved, the setting is restored by reboot.

Allowed users admin, operator

6.4. Audio Setting   (VN-V26 Only)

The APIs below are related to audio setting. These are equivalent to the features on the Audio page of the WEB setting page. Refer to the instruction manual for details on the Audio page.

Getting Audio Duplex Mode from VN-V26

Format `/api/param?audio.input(1).halfduplex`

Example of response `audio.input(1).halfduplex=on&200 OK`

Interpretation Acquire audio duplex mode. "on" or "off" is returned. When the setting is "on", audio from VN-V26 is muted during a client is sending audio to VN-V26. By setting "on", howling/echo can be suppressed.

Allowed users admin, operator, user

Setting Audio Duplex Mode for VN-V26

Format `/api/param?audio.input(1).halfduplex=data`

Example `/api/param?audio.input(1).halfduplex=on`

Example of response `audio.input(1).halfduplex&200 OK`

Interpretation Change audio duplex mode. Specify "on" or "off". When the setting is "on", audio from VN-V26 is muted during a client is sending audio to VN-V26. By setting "on", howling/echo can be suppressed.

Allowed users admin, operator

Getting Mic Gain from VN-V26

30

Format `/api/param?audio.input(1).gain`

Example of response `audio.input(1).gain=32&200 OK`

Interpretation Acquire mic gain. "0", "20", "26" or "32" is returned. "32" measn 32 dB.

Allowed users admin, operator, user

Setting Mic Gain for VN-V26

Format `/api/param?audio.input(1).gain=data`

Example `/api/param?audio.input(1).gain=32`

Example of response `audio.input(1).gain&200 OK`

Interpretation Change mic gain. Specify "0", "20", "26" or "32". "32" measn 32 dB.

Allowed users admin, operator

6.5. Alarm Setting

The APIs below are related to alarm setting. These are equivalent to the features on the Alarm page of the WEB setting page. Refer to the instruction manual for details on the Alarm page.

Getting On/Off of Alarm Action from VN-V25/26

Format `/api/param?application.event(Number).status`

Example When Getting the on/off status of alarm action No. 1

  `/api/param?application.event(1).status`

Example of response `application.event(1).status=on&200 OK`

Interpretation Acquire the on/off status of the alarm action for the specified alarm action number. 5 alarm actions and 1 periodic FTP assigned to No.6 are available, so alarm action number can be 1 to 6. Note that alarm numbers are different from the alarm input pin numbers. Either on or off is returned.

Allowed users admin, operator

Setting On/Off of Alarm Action, or Enabling Changes to Alarm Action for VN-V25/26

Format `/api/param?application.event(Number).status=data`

Example When setting alarm action No. 1 to off

  `/api/param?application.event(1).status=off`

Example of response `application.event(1).status&200 OK`

Interpretation Set the alarm action of the specified alarm action number to on/off, or enable changes to the alarm action. 5 alarm actions and 1 periodic FTP assigned to No.6 are available, so alarm action number can be 1 to 6. Note that alarm numbers are different from the alarm input pin numbers. Either on or off will be returned.

31

Specify "on", "off" or "restart". By "restart", changes to alarm action and alarm trigger are enabled. By "on" after "restart", the alarm action starts working with the changed settings. If "restart" is not set after changes to alarm action and alarm trigger, APIs to get settings of alarm action and alarm trigger return previous values.

Allowed users admin, operator

Getting Alarm Action from VN-V25/26

Format `/api/param?application.event(Number).action`

Example When Getting action of alarm action No. 1

`/api/param?application.event(1).action`

Example of Response

`application.event(1).action=mailto/somebody@somecompany.com/none/Message&200 OK`

Interpretation Acquire the alarm action of the specified alarm action number. 5 alarm actions and 1 periodic FTP assigned to No.6 are available, so alarm action number can be 1 to 6. Note that alarm numbers are different from the alarm input pin numbers. A separate API (/api/param?application.event(Number).status) is used to acquire the on/off status of the alarm action.

When no action is specified, response below is returned.

Example of Response `application.event(1).action=&200 OK`

When sending mail is specified, mailto, mail address, JPEG attaching and the character string to be sent will be returned. When spaces are included in the character string, the character string with spaces will be returned. Segments are indicated by /. If JPEG attaching is on, "object01" is returned, and if JPEG attaching is off, "none" is returned.

Example of Response

`application.event(1).action=mailto/somebody@somecompany.com/object01/Message&200 OK`

When "PrePostRecording + FTP" is specified, recftp, FTP number, and the attached object number will be returned. Segments are indicated by /. The FTP number is fixed as ftp01 at all times. The object number is fixed as object01. Parameters of FTP can be gotten by other APIs, application.ftp and application.object.

Example of Response `application.event(1).action=recftp/ftp01/object01&200 OK`

When sending via TCP is specified, tcpto, IP address, port number and the character string to be sent will be returned. Segments are indicated by /.

Example of Response

`application.event(1).action=tcpto/10.0.0.100/20000/Message&200 OK`

32

When sending via UDP is specified, udpto, IP address, port number and the character string to be sent will be returned. Segments are indicated by /.

Example of Response

```
application.event(1).action=udpto/10.0.0.100/20000/Message&200 OK
```

When alarm output is specified, pinout, distinction between make/break (m1 or b1) and output time (millisecond) will be returned. Segments are indicated by /.

Example of Response `application.event(1).action=pinout/m1/1500&200 OK`

B&W mode is available for VN-V26. When B&W mode is specified, true_daynight/bw, true_daynight/color, true_daynight/autoH, true_daynight/autoM or true_daynight/autoL will be returned.

Example of Response when B&W mode is bw

```
application.event(1).action=camera.image.true_daynight/bw&200 OK
```

Alarm action of event number 6 is periodic FTP. Response to the API has ftpto, FTP number, and the attached object number. Segments are indicated by /. The FTP number is fixed as ftp01 at all times. The object number is fixed as object01. Parameters of FTP can be gotten by another API, application.ftp.

Example of Response `application.event(6).action=ftpto/ftp01/object01&200 OK`

Allowed users admin, operator

Setting Alarm Action for VN-V25/26

Format `/api/param?application.event(Number).action=Data`

Example When setting action of Alarm No. 1

```
/api/param?application.event(1).action=mailto/somebody@somecompany.com/none/Me
ssage
```

Example of Response

```
  application.event(1).action&202 Accepted(application.event(1).status=restart)
```

Interpretation Set the alarm action of the specified alarm number. Up to 5 alarm actions can be specified, and therefore the number of alarm(number) can also be set between the range of 1 to 5. Note that alarm numbers are different from the alarm input pin numbers. A separate API (/api/param?application.event(Number).status=off) is used to set the alarm action to off.

The action will be activated by setting the alarm trigger. The API for setting the alarm trigger is /api/param?application.event(Number).trigger.

The changes to settings of alarm action become valid by /api/param?application.event(Number).status=restart.

33

Specify mailto, mail address, JPEG attach and the character string to be sent when sending via mail. Segments are indicated by /. The maximum number of characters for the mail address is 95. To attach JPEG, specify object01. If none is specified instead of object01, JPEG is not attached to the mail. Number of the character string is from 1 to 127 bytes. To use following characters, specify by hexadecimal number after %.

   space & / 〈 〉 # % ″ { } | ¥ ^ [ ] `

For example, specify 3 characters %20 when inserting a space in the character string. For example, to send the character string "This is alarm.", specify as "This%20is%20alarm.". %09 and %0D are not available.

Setting Example

`/api/param?application.event(1).action=mailto/somebody@somecompany.com/object01/Alarm%20ON`

The character string "Alarm from VN-V25/26" will be stored in the title field of the mail.

Specify recftp, FTP number and the object for PrePostRecording+FTP. The FTP number is fixed as ftp01 at all times. The object is fixed as object01. Parameters of FTP can be set by other APIs, application.ftp and application.object. Ensure to set the FTP server (/api/param?application.ftp.host, /api/param?application.object.framerate etc.) before setting PrePostRecording+FTP.

Setting Example `/api/param?application.event(1).action=ftpto/ftp01/object01`

Specify tcpto, IP address, port number and the character string to be sent when sending via TCP. Segments are indicated by /. The number of character string is from 1 to 127 bytes. To use following characters, specify by hexadecimal number after %.

   space & / 〈 〉 # % ″ { } | ¥ ^ [ ] `

For example, specify 3 characters %20 when inserting a space in the character string. For example, to send the character string "This is alarm.", specify as "This%20is%20alarm.". %09 and %0D are not available.

Setting Example

`/api/param?application.event(1).action=tcpto/10.0.0.100/20000/Message`

Specify udpto, IP address, port number and the character string to be sent when sending via UDP. Segments are indicated by /. The number of character string is from 1 to 127 bytes. To use following characters, specify by hexadecimal number after %.

   space & / 〈 〉 # % ″ { } | ¥ ^ [ ] `

For example, specify 3 characters %20 when inserting a space in the character string. For example, to send the character string "This is alarm.", specify as "This%20is%20alarm.". %09 and %0D are not available.

Setting Example

`/api/param?application.event(1).action=udpto/10.0.0.100/20000/Message`

Specify pinout, distinction between make/break (m1 or b1) and the time (millisecond) when alarm output is specified. Segments are indicated by /. The time is 0 or from 100 to 5000. When the time is 0, alarm output does not come back to previous state.

Setting Example `/api/param?application.event(1).action=pinout/m1/1500`

B&W mode is available for VN-V26. Specify true_daynight/bw, true_daynight/color, true_daynight/autoH, true_daynight/autoM or true_daynight/autoL when B&W mode is specified.

Setting Example

`/api/param?application.event(1).action=camera.image.true_daynight/bw`

Alarm action of event number 6 is periodic FTP. Event 1 to 5 can not be set to periodic FTP. Parameters of FTP can be set by another API, application.ftp.

Allowed users admin, operator

Getting Alarm Filter Setting from VN-V25/26

Format `/api/param?application.event(Number).filter(WeekOfDay).status`

Example When Getting Setting of Sunday filter of Alarm No. 1

`/api/param?application.event(1).filter(sunday).status`

Example of Response `application.event(1).filter(sunday).status=off&200 OK`

Interpretation Acquire filter setting of the alarm action for the specified alarm number. Up to 5 alarm actions can be specified, and periodic FTP is assigned to event No.6, therefore the number of alarm(number) can be set between the range of 1 to 6. Note that alarm numbers are different from the alarm input pin numbers.

Specify sunday, monday, tuesday, wednesday, thursday, friday or saturday for WeekOfDay. When the filter is enabled, on will be returned. When the filter is disabled, off will be returned.

Allowed users admin, operator

Setting Alarm Filter for VN-V25/26

Format `/api/param?application.event(Number).filter(WeekOfDay).status=data`

Example When setting Sunday filter of Alarm No. 1

`/api/param?application.event(1).filter(sunday).status=on`

Example of Response

`application.event(1).filter(sunday).status&202`

`Accepted(application.event(1).status=restart)`

Interpretation Set filter setting of the alarm action for the specified alarm number. Up to 5 alarm actions can be specified, and periodic FTP is assigned to event No.6, therefore the number of alarm(number) can be set between the

35

range of 1 to 6. Note that alarm numbers are different from the alarm input pin numbers.

Specify sunday, monday, tuesday, wednesday, thursday, friday or saturday for WeekOfDay.

Specify on to enable the filter, off to disable the filter.

The changes to filter of alarm action is saved by /api/param?application.event(Number).status=restart.

Allowed users admin, operator

Getting Alarm Filter Time from VN-V25/26

Format `/api/param?application.event(Number).filter(WeekOfDay).time`

Example When Getting Time of Sunday filter of Alarm No. 1

   `/api/param?application.event(1).filter(sunday).time`

Example of Response `application.event(1).filter(sunday).time=000000-240000&200 OK`

Interpretation Acquire filter time of the alarm action for the specified alarm number. Up to 5 alarm actions can be specified, and periodic FTP is assigned to event No.6, therefore the number of alarm(number) can be set between the range of 1 to 6. Note that alarm numbers are different from the alarm input pin numbers.

Specify sunday, monday, tuesday, wednesday, thursday, friday or saturday for WeekOfDay. Start time and end time is returned in the format like hhmmss-hhmmss. Start time can be from 000000 to 235959. End time can be from 000001 to 240000.

Allowed users admin, operator

Setting Alarm Filter Time for VN-V25/26

Format `/api/param?application.event(Number).filter(WeekOfDay).time=data`

Example When setting Sunday filter time of Alarm No. 1

  `/api/param?application.event(1).filter(sunday).time=010200-040500`

Example of Response

 `application.event(1).filter(sunday).time&202`

`Accepted(application.event(1).status=restart)`

Interpretation Set filter time of the alarm action for the specified alarm number. Up to 5 alarm actions can be specified, and periodic FTP is assigned to event No.6, therefore the number of alarm(number) can be set between the range of 1 to 6. Note that alarm numbers are different from the alarm input pin numbers.

Specify sunday, monday, tuesday, wednesday, thursday, friday or saturday for WeekOfDay.

Specify start time and end time in the format like hhmmss-hhmmss. Start time can be from 000000 to 235959. End time can be from 000001 to 240000. Start time must be earlier than end time.

The changes to filter of alarm action is saved by /api/param?application.event(Number).status=restart.

Allowed users admin, operator

Getting Alarm Filter Type from VN-V25/26

36

Format `/api/param?application.event(Number).filter(WeekOfDay).type`

Example When Getting Type of Sunday filter of Alarm No. 1

   `/api/param?application.event(1).filter(sunday).type`

Example of Response `application.event(1).filter(sunday).type=mask&200 OK`

Interpretation Acquire filter type of the alarm action for the specified alarm number. Up to 5 alarm actions can be specified, and periodic FTP is assigned to event No.6, therefore the number of alarm(number) can be set between the range of 1 to 6. Note that alarm numbers are different from the alarm input pin numbers.

Specify sunday, monday, tuesday, wednesday, thursday, friday or saturday for WeekOfDay. "mask" or "unmask" is returned. When the setting is mask, alarm action is disabled during the filter time. When the setting is unmask, alarm action is enabled during the filter time.

Allowed users admin, operator

Setting Alarm Filter Type for VN-V25/26

Format `/api/param?application.event(Number).filter(WeekOfDay).type=data`

Example When setting Sunday filter type of Alarm No. 1 to be unmask

  `/api/param?application.event(1).filter(sunday).type=unmask`

Example of Response

 `application.event(1).filter(sunday).type&202`

`Accepted(application.event(1).status=restart)`

Interpretation Set filter type of the alarm action for the specified alarm number. Up to 5 alarm actions can be specified, and periodic FTP is assigned to event No.6, therefore the number of alarm(number) can be set between the range of 1 to 6. Note that alarm numbers are different from the alarm input pin numbers.

Specify sunday, monday, tuesday, wednesday, thursday, friday or saturday for WeekOfDay.

Specify mask or unmask. When the setting is mask, alarm action is disabled during the filter time. When the setting is unmask, alarm action is enabled during the filter time.

The changes to filter of alarm action is saved by /api/param?application.event(Number).status=restart.

Allowed users admin, operator

Getting Alarm Trigger from VN-V25/26

Format `/api/param?application.event(Number).trigger`

Example When Getting Trigger of Alarm No. 1

  `/api/param?application.event(1).trigger`

Example of Response `application.event(1).trigger=m1&200 OK`

Interpretation Acquire Trigger of the alarm action for the specified alarm number. Up to 5 alarm actions can be specified, and periodic FTP is assigned to event No.6, therefore the number of alarm(number) can be set between the

range of 1 to 6. Note that alarm numbers are different from the alarm input pin numbers.

When only 1 Trigger is set:

   m1 will be returned in the case of make for alarm input 1.

   b1 will be returned in the case of break for alarm input 1.

   m2 will be returned in the case of make for alarm input 2.

   b2 will be returned in the case of break for alarm input 2.

   v1 will be returned for motion detection of video.

   ncbws will be returned for IR filter OFF.   (VN-V26 Only)

   ncbwe will be returned for IR filter ON.   (VN-V26 Only)

Example of Response `application.event(1).trigger=v1&200 OK`

When a combination of 2 Triggers are set, responses such as m1(10)b2 will be returned. The example indicates that trigger will be activated when break is invoked at alarm input 2 within 10 seconds after make is invoked at alarm input 1.

Example of Response `application.event(1).trigger=m1(100)b2&200 OK`

Allowed users admin, operator

Setting Alarm Trigger for VN-V25/26

Format `/api/param?application.event(Number).trigger=data`

Example When setting Trigger of Alarm No. 1

  `/api/param?application.event(1).trigger=m1`

Example of Response

 `application.event(1).trigger&202`

`Accepted(application.event(1).status=restart)`

Interpretation Set Trigger of the alarm action for the specified alarm number. Up to 5 alarm actions can be specified, and periodic FTP is assigned to event No.6, therefore the number of alarm(number) can be set between the range of 1 to 6. Note that alarm numbers are different from the alarm input pin numbers.

The changes to settings of alarm action become valid by /api/param?application.event(Number).status=restart.

When setting only 1 Trigger:

   specify m1 in the case of Make for alarm input 1.

   specify b1 in the case of Break for alarm input 1.

   specify m2 in the case of Make for alarm input 2.

   specify b2 in the case of Break for alarm input 2.

   specify v1 for motion detection of video.

   specify ncbws for IR Filter OFF.   (VN-V26 Only)

   specify ncbwe for IR Filter ON.   (VN-V26 Only)

Setting Example `/api/param?application.event(1).trigger=v1`

Interval can be set to periodic ftp assigned to event(6). Set "i1500" for interval 1500 seconds.

Setting Example `/api/param?application.event(6).trigger=i1500`

When setting Trigger upon combining 2 alarm inputs, specify as m1(50)b2. The example above indicates that trigger will be activated when break is invoked at alarm input 2 within 50 seconds after make is invoked at alarm input 1. Additionally, combination is only allowed for alarm inputs and not motion detect nor IR Filter. And same alarm can not be combined. For example, m1(50)m1 is not available.

Setting Example `/api/param?application.event(1).trigger=m1(100)b2`

Allowed users admin, operator

6.6. Alarm Environment Setting

The APIs below are related to alarm environment setting. These are equivalent to the features on the Alarm Environment page of the WEB setting page. Refer to the instruction manual for details on the Alarm Environment page.

Getting SMTP Server Address Setting from VN-V25/26

Format `/api/param?application.smtp.host`

Example of Response `application.smtp.host=192.168.0.200&200 OK`

Response example when setting field is left blank `application.smtp.host=&200 OK`

Interpretation Acquire the address setting of the SMTP server.

Allowed users admin, operator, user

Setting SMTP Server Address for VN-V25/26

Format `/api/param?application.smtp.host=data`

Example `/api/param?application.smtp.host=192.168.0.200`

Example of Response `application.smtp.host&200 OK`

Interpretation Change the address setting of the SMTP server. Specify the IP address or FQDN. The maximum FQDN size is 63 bytes. Specify as 0.0.0.0 when the SMTP server is not set. It is also possible to leave the setting field blank as follows. `/api/param?application.smtp.host=%00`

Allowed users admin, operator

Getting SMTP Server Port Number Setting from VN-V25/26

Format `/api/param?application.smtp.port`

Example of Response `application.smtp.port=25&200 OK`

Interpretation Acquire the port number setting of the SMTP server.

39

Allowed users admin, operator, user

Setting SMTP Server Port Number for VN-V25/26

Format `/api/param?application.smtp.port=data`

Example `/api/param?application.smtp.port=25`

Example of Response `application.smtp.port&200 OK`

Interpretation Change the port number setting of the SMTP server.

Allowed users admin, operator

Getting Sender Mail Address Setting from VN-V25/26

Format `/api/param?application.smtp.mailfrom`

Example of Response `application.smtp.mailfrom=somebody@somecompany.com&200 OK`

Interpretation Acquire sender mail address setting. POP user name is used as local part of sender mail address when sender mail address setting is blank. When POP user name is also blank, the local-part is set to "vn_v25@hostname". When the hostname is also blank, SMTP server decide sender mail address.

Allowed users admin, operator, user

Setting Sender Mail Address for VN-V25/26

Format `/api/param?application.smtp.mailfrom=data`

Example `/api/param?application.smtp.mailfrom=somebody@somecompany.com`

Example of Response `application.smtp.mailfrom&200 OK`

Interpretation Change sender mail address setting. Maximum text number of sender mail address is 96.

Alphanumeric and followings are available.

! # $ % & ' * + − / = ? ^ _ ` { } | ~

POP user name is used as local part of sender mail address when sender mail address setting is blank. When POP user name is also blank, the local-part is set to "vn_v25@hostname". When the hostname is also blank, SMTP server decide sender mail address.

Allowed users admin, operator

Getting "POP before SMTP" Setting from VN-V25/26

Format `/api/param?application.smtp.type`

Example of Response `application.smtp.type=pbs&200 OK`

Interpretation Acquire the "POP before SMTP" setting. "simple" is returned when this is set to off. "pbs" is returned when this is set to on.

Allowed users admin, operator, user

40

Setting "POP before SMTP" for VN-V25/26

Format `/api/param?application.smtp.type=data`

Example `/api/param?application.smtp.type=pbs`

Example of Response `application.event.smtp.type&200 OK`

Interpretation Change the "POP before SMTP" setting. Specify as "simple" when setting to off and "pbs" when setting to on.

Allowed users admin, operator

Getting POP Server Address Setting from VN-V25/26

Format `/api/param?application.pop.host`

Example of Response `application.pop.host=192.168.0.200&200 OK`

Response example when setting field is left blank `application.pop.host=&200 OK`

Interpretation Acquire the address setting of the POP server.

Allowed users admin, operator, user

Setting POP Server Address for VN-V25/26

Format `/api/param?application.pop.host=data`

Example `/api/param?application.pop.host=192.168.0.200`

Example of Response `application.pop.host&200 OK`

Interpretation Change the address setting of the POP server. Specify the IP address or FQDN. The maximum FQDN size is 63 bytes. Specify as 0.0.0.0 when the POP server is not set. It is also possible to leave the setting field blank as follows. `/api/param?application.pop.host=%00`

Allowed users admin, operator

Getting POP Server Port Number Setting from VN-V25/26

Format `/api/param?application.pop.port`

Example of Response `application.pop.port=110&200 OK`

Interpretation Acquire the port number setting of the POP server.

Allowed users admin, operator, user

Setting POP Server Port Number for VN-V25/26

Format `/api/param?application.pop.port=data`

Example `/api/param?application.pop.port=110`

Example of Response `application.pop.port&200 OK`

Interpretation Change the port number setting of the POP server.

Allowed users admin, operator

41

Getting POP Server User Name Setting from VN-V25/26

Format `/api/param?application.pop.user`

Example of Response `application.pop.user=somename&200 OK`

Response example when setting field is left blank `application.pop.user=&200 OK`

Interpretation Acquire the user name setting of the POP server. The user name is used as local part of sender mail address when sender mail address setting is blank. When the user name is blank, the local-part is set to "vn_c20".

Example of Response `application.pop.user=somename&200 OK`

Example of Mail Address somename@somecompany.com

Allowed users admin, operator, user

Setting POP Server User Name for VN-V25/26

Format `/api/param?application.pop.user=data`

Example `/api/param?application.pop.user=somename`

Example of Response `application.pop.user&200 OK`

Interpretation Change the user name setting of the POP server. The maximum user name size is 64 bytes. Set as follows when this is to be left blank.

   `/api/param?application.pop.user=%00`

The user name is used as local part of sender mail address when sender mail address setting is blank. When the user name is blank, the local-part is set to "vn_c20". When POP before SMTP is disabled, it is not necessary to set POP server settings other than POP user name setting.

Example of setting   `/api/param?application.pop.user=somename`

Example of Mail Address   `somename@somecompany.com`

Following characters must not be used in user name.

                    space ( ) ＜ ＞ [ ] : ; ￥ ,(comma)

Allowed users admin, operator

Setting POP Server Password for VN-V25/26

Format `/api/param?application.pop.password=data`

Example `/api/param?application.pop.password=someword`

Example of Response `application.pop.password&200 OK`

Interpretation Change the password setting of the POP server. The maximum password size is 32 bytes. Set as follows when this is to be left blank. `/api/param?application.pop.password=%00`

Allowed users admin, operator

(Note: There is no API for reading passwords.)

Getting FTP Server Address Setting from VN-V25/26

Format `/api/param?application.ftp.host`

Example of Response `application.ftp.host=192.168.0.200&200 OK`

Response example when setting field is left blank `application.ftp.host=&200 OK`

Interpretation Acquire the FTP server address setting used for FTP transmission via alarm.

Allowed users admin, operator, user

Setting FTP Server Address for VN-V25/26

Format `/api/param?application.ftp.host=data`

Example `/api/param?application.ftp.host=10.0.0.200`

Example of Response `application.ftp.host&200 OK`

Interpretation Change the FTP server address setting used for FTP transmission via alarm. Specify the IP address or FQDN. The maximum FQDN size is 63 bytes. Specify as 0.0.0.0 when the FTP server is not set. It is also possible to leave the setting field blank as follows. `/api/param?application.ftp.path=%00`

Allowed users admin, operator

Getting FTP Server Path Setting from VN-V25/26

Format `/api/param?application.ftp.path`

Example of Response `application.ftp.path=subdir1&200 OK`

Response example when setting field is left blank `application.ftp.path=&200 OK`

Interpretation Acquire the FTP server directory setting used for FTP transmission via alarm.

Allowed users admin, operator, user

Setting FTP Server Path for VN-V25/26

Format `/api/param?application.ftp.path=data`

Example `/api/param?application.ftp.path=subdir1`

Example of Response `application.ftp.path&200 OK`

Interpretation Change the FTP server directory setting used for FTP transmission. It is possible to set FTP transmission to a directory under the FTP server home directory by specifying that directory name. Use %2F to segment the directory. ("2F" is ASCII code of "/".) The maximum directory name size is 63 bytes.

Example `/api/param?application.ftp.path=subdir1%2Fsubdir2`

By leaving the setting blank as follows, FTP transmission will be set to the FTP server home directory.

`/api/param?application.ftp.path=%00`

Allowed users admin, operator

Getting FTP Server User Name Setting from VN-V25/26

43

Format `/api/param?application.ftp.user`

Example of Response `application.ftp.user=somename&200 OK`

Response example when setting field is left blank `application.ftp.user=&200 OK`

Interpretation Acquire the FTP server user name setting used for FTP transmission via alarm.

Allowed users admin, operator

Setting FTP Server User Name for VN-V25/26

Format `/api/param?application.ftp.user=data`

Example `/api/param?application.ftp.user=somename`

Example of Response `application.ftp.user&200 OK`

Interpretation Change the FTP server user name setting used for FTP transmission via alarm. The maximum user name size is 32 bytes. Set as follows when this setting is to be left blank.

`/api/param?application.ftp.user=%00`

Allowed users admin, operator

Setting FTP Server Password for VN-V25/26

Format `/api/param?application.ftp.password=data`

Example `/api/param?application.ftp.password=someword`

Example of Response `application.ftp.password&200 OK`

Interpretation Change the FTP server password setting used for FTP transmission via alarm. The maximum password size is 32 bytes. Set as follows when this setting is to be left blank.

`/api/param?application.ftp.password=%00`

Allowed users admin, operator

(There is no API for Getting passwords.)

Getting File Naming of Periodic FTP from VN-V25/26

Format `/api/param?application.ftp.naming`

Example of Response `application.ftp.naming=default&200 OK`

Interpretation Acquire file naming of periodic FTP. "default", "type1" or "type2" is returned. When default is set, the file name is as YYYYMMDDHHMMSS-NNN-2.jpg.

Example 20060207201315-001-2.jpg

When type1 is set, the file name is as ***YYYMMDDHHMMSSNNN.jpg. "***" can be gotten by another API, /api/param?application.ftp.naming_option.

File Name Example Camera_20060207201315001.jpg

When type2 is set, the file name is as ***.jpg. "***" can be gotten by another API, /api/param?application.ftp.naming_option.

44

File Name Example Camera.jpg

Allowed users admin, operator

Setting File Naming of Periodic FTP for VN-V25/26

Format `/api/param?application.ftp.naming=data`

Example `/api/param?application.ftp.naming=type1`

Example of Response `application.ftp.naming&200 OK`

Interpretation Change file naming of periodic FTP. Specify "default", "type1" or "type2". When default is set, the file name is as YYYYMMDDHHMMSS-NNN-2.jpg.

Example 20060207201315-001-2.jpg

When type1 is set, the file name is as ***YYYYMMDDHHMMSSNNN.jpg. "***" can be set by another API,

/api/param?application.ftp.naming_option.

File Name Example Camera_20060207201315001.jpg

When type2 is set, the file name is as ***.jpg. "***" can be set by another API,

/api/param?application.ftp.naming_option.

File Name Example Camera.jpg

Allowed users admin, operator

Getting User Define Name of File Naming from VN-V25/26

Format `/api/param?application.ftp.naming_option`

Example of Response `application.ftp.naming_option=abc&200 OK`

Interpretation Acquire user define name for file naming of periodic FTP. The maximum size is 16 bytes. When /api/param?application.ftp.naming_option is set to "type1", the file name is as ***YYYMMDDHHMMSSNNN.jpg, and "***" can be gotten by this API.

File Name Example Camera_20060207201315001.jpg

When /api/param?application.ftp.naming_option is set to "type2", the file name is as ***.jpg and "***" can be gotten by this API.

File Name Example Camera.jpg

Allowed users admin, operator

Setting User Define Name of File Naming for VN-V25/26

Format `/api/param?application.ftp.naming_option=data`

Example of Response `application.ftp.naming_option&200 OK`

Interpretation Change user define name for file naming of periodic FTP. The maximum size is 16 bytes. When /api/param?application.ftp.naming_option is set to "type1", the file name is as ***YYYMMDDHHMMSSNNN.jpg, and "***" can be set by this API.

File Name Example Camera_20060207201315001.jpg

When /api/param?application.ftp.naming_option is set to "type2", the file name is as ***.jpg and "***" can be set by this API.

File Name Example Camera.jpg

Allowed users admin, operator

Getting Parameters of Pre/Post Recording from VN-V25/26

Format

  To get Frame Rate `/api/param?application.object.framerate`

  To get Pre Duration `/api/param?application.object.prerec`

  To get Post Duration `/api/param?application.object.postrec`

Example of Response

  For Frame Rate   `application.object.framerate=10&200 OK`

  For Pre Duration `/api/param?application.object.prerec=2&200 OK`

  For Post Duration `/api/param?application.object.postrec=2&200 OK`

Interpretation Acquire parameters for PrePost + ftp. These parameters are used when recftp is set as an alarm action.

Allowed users admin, operator, user

Setting Parameters of Pre/Post Recording for VN-V25/26

Format

  To set Frame Rate `/api/param?application.object.framerate=5`

  To set Pre Duration `/api/param?application.object.prerec=3`

  To set Post Duration `/api/param?application.object.postrec=3`

Example of Response

  For Frame Rate   `application.object.framerate&200 OK`

  For Pre Duration `/api/param?application.object.prerec&200 OK`

  For Post Duration `/api/param?application.object.postrec&200 OK`

Interpretation Change parameters for PrePost + ftp. These parameters are used when recftp is set as an alarm action. Specify 30, 15, 10, 7.5, 6, 5, 3, 2, or 1 for frame rate. Maximum Pre/Post duration is 60 seconds. Setting zero to Pre and Post duration is invalid.

Allowed users admin, operator

Getting Alarm Output Time Setting from VN-V25/26

Format `/api/param?peripheral.output_pin.pin(Number).duration`

Example   `/api/param?peripheral.output_pin.pin(1).duration`

46

Example of Response `peripheral.output_pin.pin(1).duration=500&200 OK`

Interpretation Acquire the current alarm output duration in millisecond. Specify 1 or 2 to Number. When returned value is 0, it means infinite output.

Allowed users admin, operator, user

Setting Alarm Output Time for VN-V25/26

Format `/api/param?peripheral.input_pin.pin(Number).duration=data`

Example `/api/param?peripheral.input_pin.pin(1).duration=50`

Example of response `peripheral.input_pin.pin(1).duration&200 OK`

Interpretation Change the alarm output duration in millisecond. Specify 1 or 2 to Number. Specify 0, or 100 to 5000 for the duration. When 0 is set, output duration becomes infinite.

Allowed users admin, operator

Getting Alarm Output Status from VN-V25/26

Format `/api/param?peripheral.output_pin.pin(Number).status`

Example of Response `peripheral.output_pin.pin(1).status=make&200 OK`

Interpretation Acquire the current alarm output status. Specify 1 or 2 to Number. Either make or break will be returned.

Allowed users admin, operator, user

Changing Alarm Output of VN-V25/26

Format `/api/param?peripheral.output_pin.pin(Number).status=data`

Example `/api/param?peripheral.output_pin.pin(1).status=break`

Example of Response `peripheral.output_pin.pin(1).status&200 OK`

Interpretation Change the alarm output. Specify 1 or 2 to Number. Specify "make" or "break" to data.

When the alarm output time is zero, alarm output is changed as this API specifies. When the alarm output time is not zero, alarm output is changed as this API specifies, then alarm output is changed again after the alarm output time.

Allowed users admin, operator

6.7. Privacy Masking

The APIs below are related to privacy masking. These are equivalent to the features on the Privacy Masking page of the WEB setting page. Refer to the instruction manual for details on the Privacy Masking page.

Getting Privacy Masking On/Off Status from VN-V25/26

Format `/api/param?camera.private_mask.status`

47

Example of response `camera.private_mask.status=on&200 OK`

Interpretation Acquire the on/off status of privacy masking.

Allowed users admin, operator, user

Setting Privacy Masking to On/Off for VN-V25/26

Format `/api/param?camera.private_mask.status=data`

Example of Response `camera.private_mask.status&202 Accepted(camera.status=save)`

Interpretation Change the on/off status of privacy masking. The change is saved by the API, camera.status=save.

If the change is not saved, the setting is restored by reboot.

Allowed users admin, operator

Getting Privacy Masking Color from VN-V25/26

Format `/api/param?camera.private_mask.color`

Example of response `camera.private_mask.color=ffffff&200 OK`

Interpretation Acquire the color of privacy masking. RGB values are returned as hexadecimal number. For

exmaple, ffffff is white, ff0000 is red, 00ff00 is green, and 0000ff is blue.

Allowed users admin, operator, user

Setting Privacy Masking Color for VN-V25/26

Format `/api/param?camera.private_mask.color=data`

Example of Response `camera.private_mask.color&202 Accepted(camera.status=save)`

Interpretation Change the color of privacy masking. Specify RGB values by hexadecimal number. For exmaple,

ffffff for white, ff0000 for red, 00ff00 for green, and 0000ff for blue.The change is saved by the API,

camera.status=save. If the change is not saved, the setting is restored by reboot.

Allowed users admin, operator

6.8. Motion Detect

The APIs below are related to motion detection. These are equivalent to the features on the Motion Detection page of

the WEB setting page. Refer to the instruction manual for details on the Motion Detection page.

Getting Motion Detect On/Off Status from VN-V25/26

Format `/api/param?camera.detection.status`

Example of response `camera.detection.status=on&200 OK`

Interpretation Acquire the on/off status of motion detect.

Allowed users admin, operator, user

48

Setting Motion Detect to On/Off for VN-V25/26

Format `/api/param?camera.detection.status=data`

Example of Response `camera.detection.status&202 Accepted(camera.status=save)`

Interpretation Change the on/off status of motion detect. The change is saved by the API, camera.status=save. If the change is not saved, the setting is restored by reboot.

Allowed users admin, operator

Getting Motion Detect Sensitivity from VN-V25/26

Format `/api/param?camera.detection.level`

Example of response `camera.detection.level=20&200 OK`

Interpretation Acquire the motion detect sensitivity. A value between 0 to 100 will be returned. The larger the value, the higher will be the sensitivity.

Allowed users admin, operator, user

Setting Motion Detect Sensitivity for VN-V25/26

Format `/api/param?camera.detection.level=data`

Example of response `camera.detection.level&202 Accepted(camera.status=save)`

Interpretation Change the motion detect sensitivity. Specify a value between 0 to 100. The larger the value, the higher will be the sensitivity. The change is saved by the API, camera.status=save. If the change is not saved, the setting is restored by reboot.

Allowed users admin, operator

Getting Motion Detect Mask from VN-V25/26

Format `/api/param?camera.detection.area`

Example of response `camera.detection.area=00010203040506070809&200 OK`

Interpretation Acquire the mask of motion detect. 20 ASCII characters will be returned.

The screen of VN-V25/26 is made up of 10 x 8 = 80 blocks, and mask can be set to on/off for each block. This information can be represented in 80 bits = 10-byte hexadecimal. (Response is returned in ASCII character strings. Therefore, 20 characters will be returned.) The bit string will appear as follows when mask is set to off for the top left block only.

10000000 00000000 00000000 ,,,

Storage in bytes will begin from the LSB and represented in a hexadecimal value as shown below.

01 00 00 00 00 00 00 00 00 00

The hexadecimal value denotes the 20 ASCII characters acquired via this API that are expressed in ASCII codes. For example, the following character string will be returned when only the top left and bottom right blocks are masked.

49

camera.detection.area=01000000000000000080

Allowed users admin, operator, user

Setting Motion Detect Mask for VN-V25/26

Format `/api/param?camera.detection.area=data`

Example `/api/param?camera.detection.area=00010203040506070809`

Example of response `camera.detection.area&202 Accepted(camera.status=save)`

Interpretation Change the motion detect mask. Specify using a 20 ASCII character string. Refer to the item on "Getting Motion Mask from VN-V25/26" on the interpretation of this character string. To mask all blocks, specify all zeros in the ASCII character string. The change is saved by the API, camera.status=save. If the change is not saved, the setting is restored by reboot.

Allowed users admin, operator

6.9. Network Basics

The APIs below are related to the basics of networks. These are equivalent to the features on the Basic page of the WEB setting page. Refer to the instruction manual for details on the Basic page.

Enabling Network Setting Changes

Format `/api/param?network.interface.status=restart`

Example of Response `network.interface.status&200 OK`

Interpretation Changes of following network parameters become valid by this API.

   DHCP, IP Address, Subnet Mask, TTL, MTU, TOS, Negotiation

Changes are not reflected in the actions until this API is used. APIs to get settings of those parameters return previous values until this API is used. When this API is issued, VN-V25/26 reboots in about 1 minute.

Allowed user admin

Getting DHCP Setting from VN-V25/26

Format `/api/param?network.interface.dhcp.status`

Example of Response `network.interface.dhcp.status=off&200 OK`

Interpretation Acquire the current DHCP setting.

Allowed users admin, operator, user

Setting DHCP for VN-V25/26

Format `/api/param?network.interface.dhcp.status=data`

Example `/api/param?network.interface.dhcp.status=on`

50

Example of Response

`network.interface.dhcp.status&202 Accepted(network.interface.status=restart)`

Interpretation Change the DHCP setting. Specify "on" or "off". To validate the change, use "network.interface.status=restart" API that reboots VN-V25/26 in about 1 minute.

Allowed user admin

Getting IP Address from VN-V25/26

Format `/api/param?network.interface.ip`

Example of Response `network.interface.ip=192.168.0.2&200 OK`

Interpretation Acquire the current IP address.

Allowed users admin, operator, user

Setting IP Address for VN-V25/26

Format `/api/param?network.interface.ip=data`

Example `/api/param?network.interface.ip=192.168.0.2`

Example of Response

`network.interface.ip&202 Accepted(network.interface.status=restart)`

Interpretation Change the IP address. To validate the change, use "network.interface.status=restart" API that reboots VN-V25/26 in about 1 minute. Set appropriate combination of IP address, subnet mask and default gateway before "network.interface.status=restart".

Allowed user admin

Getting Subnet Mask from VN-V25/26

Format `/api/param?network.interface.subnetmask`

Example of Response `network.interface.subnetmask=255.255.255.0&200 OK`

Interpretation Acquire the current subnet mask.

Allowed users admin, operator, user

Setting Subnet Mask for VN-V25/26

Format `/api/param?network.interface.subnetmask=data`

Example `/api/param?network.interface.subnetmask=255.0.0.0`

Example of Response

`network.interface.subnetmask&202 Accepted(network.interface.status=restart)`

Interpretation Change the subnet mask. To validate the change, use "network.interface.status=restart" API that reboots VN-V25/26 in about 1 minute. Set appropriate combination of IP address, subnet mask and default gateway before "network.interface.status=restart".

Allowed user admin

Getting Default Gateway from VN-V25/26

Format `/api/param?network.gateway`

Example of Response `network.gateway=192.168.0.254&200 OK`

Interpretation Acquire the current default gateway.

Allowed users admin, operator, user

Setting Default Gateway for VN-V25/26

Format `/api/param?network.gateway=data`

Example `/api/param?network.gateway=192.168.0.254`

Example of Response `network.gateway&200 OK`

Interpretation Change the default gateway. To set static default gateway, disable DHCP. Default gateway can not

be changed when DHCP is enabled. Specify IP address in same segment with VN-V25/26's IP address. Specify

0.0.0.0 to delete default gateway setting.

Allowed user admin

Getting Host Name from VN-V25/26

Format `/api/param?network.hostname`

Example of Response `network.hostname=localhost&200 OK`

Interpretation Acquire the current host name.

Allowed users admin, operator, user

Setting Host Name for VN-V25/26

Format `/api/param?network.hostname=data`

Example `/api/param?network.hostname=somename`

Example of Response `network.hostname&200 OK`

Interpretation Change the host name. Characters that may be used for the host name are alphanumerics,

hyphens (-) and period. Maximum size is 63 bytes.

Specify as %00 when the host name setting is to be left blank.

Example when leaving field blank `/api/param?network.hostname=%00`

Allowed user admin

Getting DNS Server On/Off Status from VN-V25/26

Format `/api/param?network.dns.status`

Example of Response `network.dns.status=off&200 OK`

Interpretation Acquire the on/off status of the DNS server. Either on or off will be returned.

Allowed users admin, operator, user

Setting DNS Server Status to On/Off, or Validate Changes for VN-V25/26

Format `/api/param?network.dns.status=data`

Example `/api/param?network.dns.status=on`

Example of Response `network.dns.status&200 OK`

Interpretation Change status of DNS server setting, or validate changes to DNS server settings. Specify "on", "off"

or "restart". Changes of DNS server settings become valid by "restart".

Allowed users admin, operator

Getting DNS Server IP Address from VN-V25/26

Format `/api/param?network.dns.ip`

Example of Response `network.dns.ip=10.0.0.150&200 OK`

Interpretation Acquire IP address of DNS server.

Allowed users admin, operator, user

Setting DNS Server IP Address for VN-V25/26

Format `/api/param?network.dns.ip=data`

Example `/api/param?network.dns.ip=10.0.0.150`

Example of Response

 `network.dns.ip&202 Accepted(network.dns.status=restart)`

Interpretation Change IP address of DNS server. To validate the change, use "network.dns.status=restart" API.

Allowed users admin, operator

Getting MAC Address from VN-V25/26

Format `/api/param?network.interface.mac`

Example of Response `network.interface.mac=008088001AEF&200 OK`

Interpretation Acquire the MAC address. A 12-byte ASCII character string will be returned. There is no API for

setting MAC address.

Allowed users admin, operator, user

6.10. Network Details

The APIs below are related to network details. These are equivalent to the features on the Details page of the WEB

setting page. Refer to the instruction manual for details on the Details page.

53

Getting TOS Value of JPEG from VN-V25/26

Format `/api/param?network.interface.dscp.video.jpeg`

Example of Response `network.interface.dscp.video.jpeg=56&200 OK`

Interpretation Acquire TOS that includes DHCP field for JPEG.

Allowed users admin, operator, user

Setting TOS Value of JPEG for VN-V25/26

Format `/api/param?network.interface.dscp.video.jpeg=data`

Example `/api/param?network.interface.dscp.video.jpeg=56`

Example of Response

`network.interface.dscp.video.jpeg&202`

`Accepted(network.interface.status=restart)`

Interpretation Change TOS that includes DHCP field for JPEG. The range of set value is between 0 to 255 though

MSB 6 bits in the value is valid. To validate the change, use "network.interface.status=restart" API.

Allowed user admin

Getting TOS Value of MPEG-4 from VN-V25/26

Format `/api/param?network.interface.dscp.video.mpeg`

Example of Response `network.interface.dscp.video.mpeg=56&200 OK`

Interpretation Acquire TOS that includes DHCP field for MPEG-4.

Allowed users admin, operator, user

Setting TOS Value of MPEG-4 for VN-V25/26

Format `/api/param?network.interface.dscp.video.mpeg=data`

Example `/api/param?network.interface.dscp.video.mpeg=56`

Example of Response

`network.interface.dscp.video.mpeg&202`

`Accepted(network.interface.status=restart)`

Interpretation Change TOS that includes DHCP field for MPEG-4. The range of set value is between 0 to 255

though MSB 6 bits in the value is valid. To validate the change, use "network.interface.status=restart" API.

Allowed user admin

Getting TOS Value of Audio from VN-V26   (VN-V26 Only)

Format `/api/param?network.interface.dscp.audio`

Example of Response `network.interface.dscp.audio=56&200 OK`

Interpretation Acquire TOS that includes DHCP field for Audio.

Allowed users admin, operator, user

Setting TOS Value of Audio for VN-V26   (VN-V26 Only)

Format `/api/param?network.interface.dscp.audio=data`

Example `/api/param?network.interface.dscp.audio=56`

Example of Response

`network.interface.dscp.audio&202 Accepted(network.interface.status=restart)`

Interpretation Change TOS that includes DHCP field for Audio. The range of set value is between 0 to 255 though MSB 6 bits in the value is valid. To validate the change, use "network.interface.status=restart" API.

Allowed user admin

Getting Unicast TTL Value from VN-V25/26

Format `/api/param?network.interface.ttl.unicast`

Example of Response `network.interface.ttl.unicast=16&200 OK`

Interpretation Acquire TTL of unicast. 1-255 is returned.

Allowed users admin, operator, user

Setting Unicast TTL for VN-V25/26

Format `/api/param?network.interface.ttl.unicast=data`

Example `/api/param?network.interface.ttl.unicast=56`

Example of Response

`network.interface.ttl.unicast&202 Accepted(network.interface.status=restart)`

Interpretation Change TTL of unicast. The range of set value is between 1 to 255. To validate the change, use "network.interface.status=restart" API.

Allowed user admin

Getting Multicast TTL Value from VN-V25/26

Format `/api/param?network.interface.ttl.multicast`

Example of Response `network.interface.ttl.multicast=16&200 OK`

Interpretation Acquire TTL of multicast. 1-255 is returned.

Allowed users admin, operator, user

Setting Multicast TTL for VN-V25/26

Format `/api/param?network.interface.ttl.multicast=data`

Example `/api/param?network.interface.ttl.multicast=56`

Example of Response

`network.interface.ttl.multicast&202`

`Accepted(network.interface.status=restart)`

Interpretation Change TTL of multicast. The range of set value is between 1 to 255. To validate the change, use "network.interface.status=restart" API.

Allowed user admin

Getting MTU Value VN-V25/26

Format `/api/param?network.interface.mtu`

Example of Response `network.interface.mtu=1420&200 OK`

Interpretation Acquire the MTU value.

Allowed users admin, operator, user

Setting MTU Value for VN-V25/26

Format `/api/param?network.interface.mtu=data`

Example `/api/param?network.interface.mtu=1500`

Example of Response

`network.interface.mtu&202 Accepted(network.interface.status=restart)`

Interpretation Change the MTU value. The range of set value is between 1280 to 1500. To validate the change, use "network.interface.status=restart" API.

Allowed user admin

Getting Network Negotiation Setting from VN-V25/26

Format `/api/param?network.interface.negotiation`

Example of Response `network.interface.negotiation=auto&200 OK`

Interpretation Acquire the network Negotiation setting. Either auto, 100full, 100half, 10full or 10half will be returned.

Allowed users admin, operator, user

Setting Network Negotiation for VN-V25/26

Format `/api/param?network.interface.negotiation=data`

Example `/api/param?network.interface.negotiation=auto`

Example of Response

`network.interface.negotiation&202 Accepted(network.interface.status=restart)`

Interpretation Change the network Negotiation setting. Specify auto, 100full, 100half, 10full or 10half. To validate the change, use "network.interface.status=restart" API.

56

Allowed user admin

6.11. Protocol

The APIs below are related to protocol. These are equivalent to the features on the Protocol page of the WEB setting

page. Refer to the instruction manual for details on the Protocol page.

Getting Port Number of HTTP from VN-V25/26

Format `/api/param?network.http.port`

Example of Response `network.http.port=80&200 OK`

Interpretation Acquire port number of HTTP server in VN-V25/26.

Allowed users admin, operator

Setting Port Number of HTTP for VN-V25/26

Format `/api/param?network.http.port=data`

Example `/api/param?network.http.port=start`

Example of Response `network.http.port&202`

`Accepted(network.http(configuration).status=restart)`

Interpretation Change port number of HTTP server in VN-V25/26. Default value is 80. To validate the change,

use "network.http(configuration).status=restart" or "network.http.status=restart" API.

Allowed users admin, operator

6.12. Multicast Streaming

The APIs below are related to manual streaming. These are equivalent to the features on the Streaming page of the

WEB setting page. Refer to the instruction manual for details on the Streaming page.

Getting Status of JPEG Multicast Streaming from VN-V25/26

Format `/api/param?network.destination(1).status`

Example of Response `network.destination(1).status=off&200 OK`

Interpretation Acquire status of JPEG multicast streaming. Either on or off will be returned.

Allowed users admin, operator

Setting Status of JPEG Multicast Streaming, or Save Changes for VN-V25/26

Format `/api/param?network.destination(1).status=data`

57

Example `/api/param?network.destination(1).status=start`

Example of Response `network.destination(1).status&200 OK`

Interpretation Start/stop JPEG multicast streaming, or save changes to multicast streaming settings. Specify "start", "stop" or "save". Changes of multicast streaming settings become valid by "save".

Multicast stream is RTP compliant.

If power becomes off during multicast streaming, the streaming starts automatically after power on.

Allowed users admin, operator

Getting JPEG Multicast Address from VN-V25/26

Format `/api/param?network.destination(1).host`

Example of Response `network.destination(1).host=225.0.1.1&200 OK`

Interpretation Acquire JPEG multicast address.

Allowed users admin, operator

Setting JPEG Multicast Address for VN-V25/26

Format `/api/param?network.destination(1).host=data`

Example `/api/param?network.destination(1).host=225.0.1.1`

Example of Response

`network.destination(1).host&202 Accepted(network.destination(1).host=save)`

Interpretation Change JPEG multicast address. Specify from 224.0.0.0 to 239.255.255.255. To validate the change, use "network.destination(1).host=save" API. After the save, start streaming by "network.destination(1).host=start" API.

Allowed user admin

Getting JPEG Multicast Port Number from VN-V25/26

Format `/api/param?network.destination(1).port`

Example of Response `network.destination(1).port=49152&200 OK`

Interpretation Acquire JPEG multicast port number.

Allowed users admin, operator

Setting JPEG Multicast Port Number for VN-V25/26

Format `/api/param?network.destination(1).port=data`

Example `/api/param?network.destination(1).port=49152`

Example of Response

`network.destination(1).port&202 Accepted(network.destination(1).host=save)`

Interpretation Change JPEG multicast port number. Specify from 2 to 65534. To validate the change, use

58

"network.destination(1).host=save" API. After the save, start streaming by "network.destination(1).host=start" API.

Allowed user admin

Getting Frame Rate of JPEG Multicast from VN-V25/26

Format `/api/param?network.destination(1).framerate`

Example of Response `network.destination(1).framerate=10&200 OK`

Interpretation Acquire JPEG multicast frame rate.

Allowed users admin, operator

Setting Frame Rate of JPEG Multicast for VN-V25/26

Format `/api/param?network.destination(1).framerate=data`

Example `/api/param?network.destination(1).framerate=30`

Example of Response

`network.destination(1).framerate&202`

`Accepted(network.destination(1).host=save)`

Interpretation Change JPEG multicast frame rate. Specify 30, 25, 15, 10, 7.5, 6, 5, 3, 2, 1, -2, -3, -5, -10, -15, -20, or -30. -5 means 1/5fps for example. To validate the change, use "network.destination(1).host=save" API. After the save, start streaming by "network.destination(1).host=start" API.

Allowed user admin

Getting Status of MPEG-4 Multicast Streaming from VN-V25/26

Format `/api/param?network.destination(2).status`

Example of Response `network.destination(2).status=off&200 OK`

Interpretation Acquire status of MPEG-4 multicast streaming. Either on or off will be returned.

Allowed users admin, operator

Setting Status of MPEG-4 Multicast Streaming, or Save Changes for VN-V25/26

Format `/api/param?network.destination(2).status=data`

Example `/api/param?network.destination(2).status=start`

Example of Response `network.destination(2).status&200 OK`

Interpretation Start/stop MPEG-4 multicast streaming, or save changes to multicast streaming settings. Specify "start", "stop" or "save". Changes of multicast streaming settings become valid by "save".

Multicast stream is RTP compliant. Marker bit of RTP header is 1 when the RTP packet has last data of VOP.

If power becomes off during multicast streaming, the streaming starts automatically after power on.

Allowed users admin, operator

59

Getting MPEG-4 Multicast Address from VN-V25/26

Format `/api/param?network.destination(2).host`

Example of Response `network.destination(2).host=225.0.1.2&200 OK`

Interpretation Acquire MPEG-4 multicast address.

Allowed users admin, operator

Setting MPEG-4 Multicast Address for VN-V25/26

Format `/api/param?network.destination(2).host=data`

Example `/api/param?network.destination(2).host=225.0.1.2`

Example of Response

`network.destination(2).host&202 Accepted(network.destination(2).host=save)`

Interpretation Change MPEG-4 multicast address. Specify from 224.0.0.0 to 239.255.255.255. To validate the change, use "network.destination(2).host=save" API. After the save, start streaming by "network.destination(2).host=start" API.

Allowed user admin

Getting MPEG-4 Multicast Port Number from VN-V25/26

Format `/api/param?network.destination(2).port`

Example of Response `network.destination(2).port=59152&200 OK`

Interpretation Acquire MPEG-4 multicast port number.

Allowed users admin, operator

Setting MPEG-4 Multicast Port Number for VN-V25/26

Format `/api/param?network.destination(2).port=data`

Example `/api/param?network.destination(2).port=59152`

Example of Response

`network.destination(2).port&202 Accepted(network.destination(2).host=save)`

Interpretation Change MPEG-4 multicast port number. Specify from 2 to 65534. To validate the change, use "network.destination(2).host=save" API. After the save, start streaming by "network.destination(2).host=start" API.

Allowed user admin

Getting Status of Audio Multicast Streaming from VN-V26   (VN-V26 Only)

Format `/api/param?network.destination(3).status`

Example of Response `network.destination(3).status=off&200 OK`

Interpretation Acquire status of audio multicast streaming. Either on or off will be returned.

60

Allowed users admin, operator

Setting Status of Audio Multicast Streaming, or Save Changes for VN-V26 (VN-V26 Only)

Format `/api/param?network.destination(3).status=data`

Example `/api/param?network.destination(3).status=start`

Example of Response `network.destination(3).status&200 OK`

Interpretation Start/stop audio multicast streaming, or save changes to multicast streaming settings. Specify

"start", "stop" or "save". Changes of multicast streaming settings become valid by "save".

Multicast stream is RTP compliant. If power becomes off during multicast streaming, the streaming starts

automatically after power on.

Allowed users admin, operator

Getting Audio Multicast Address from VN-V26 (VN-V26 Only)

Format `/api/param?network.destination(3).host`

Example of Response `network.destination(3).host=225.0.1.3&200 OK`

Interpretation Acquire audio multicast address.

Allowed users admin, operator

Setting Audio Multicast Address for VN-V26 (VN-V26 Only)

Format `/api/param?network.destination(3).host=data`

Example `/api/param?network.destination(3).host=225.0.1.2`

Example of Response

`network.destination(3).host&202 Accepted(network.destination(3).host=save)`

Interpretation Change audio multicast address. Specify from 224.0.0.0 to 239.255.255.255. To validate the

change, use "network.destination(3).host=save" API. After the save, start streaming by

"network.destination(3).host=start" API.

Allowed user admin

Getting Audio Multicast Port Number from VN-V26 (VN-V26 Only)

Format `/api/param?network.destination(3).port`

Example of Response `network.destination(3).port=59152&200 OK`

Interpretation Acquire audio multicast port number.

Allowed users admin, operator

Setting Audio Multicast Port Number for VN-V26 (VN-V26 Only)

61

Format `/api/param?network.destination(3).port=data`

Example `/api/param?network.destination(3).port=59152`

Example of Response

`network.destination(3).port&202 Accepted(network.destination(31).host=save)`

Interpretation Change audio multicast port number. Specify from 2 to 65534. To validate the change, use "network.destination(3).host=save" API. After the save, start streaming by "network.destination(3).host=start" API.

Allowed user admin

6.13. Access Restrictions

The APIs below are related to access restrictions. These are equivalent to the features on the Access Restrictions page of the WEB setting page. Refer to the instruction manual for details on the Access Restrictions page.

Getting Deny/Allow Setting of Client Restrictions from VN-V25/26

Format `/api/param?network.access_control(stream_out).logic`

Example of Response `network.access_control(stream_out).logic=deny&200 OK`

Interpretation Acquire the deny/allow setting of client restrictions. Either deny or allow will be returned. These restrictions are applied to getting JPEG.

Allowed users admin, operator

Setting Client Restriction to Deny/Allow for VN-V25/26

Format `/api/param?network.access_control(stream_out).logic=data`

Example `/api/param?network.access_control(stream_out).logic=deny`

Example of Response `network.access_control(stream_out).logic&200 OK`

Interpretation Change the deny/allow setting of client restrictions. Specify as deny or allow. These restrictions are applied to getting JPEG.

Allowed user admin

Getting IP Address Setting of Restricted Client from VN-V25/26

Format `/api/param?network.access_control(stream_out).host(Number)`

Example When Getting the first IP address

`/api/param?network.access_control(stream_out).host(1)`

Example of Response `network.access_control(stream_out).host(1)=10.0.0.100&200 OK`

Interpretation Acquire the IP address setting of the restricted client. Setting is possible up to 10 items. Specify a value between 1 to 10 for the number. The following will be returned if subnet mask was specified.

Example of Response 2

62

```
  network.access_control(stream_out).host(1)=10.0.0.0/24&200 OK
```

The above example indicates that the range is between 10.0.0.0 to 10.0.0.255. There are also cases when FQDN

instead of IP address is set.

Example of Response 3

`network.access_control(stream_out).host(1)=somedivision.somecompany.com&200 OK`

Allowed users admin, operator

Setting IP Address of Restricted Client for VN-V25/26

Format `/api/param?network.access_control(stream_out).host(Number)=data`

Example When setting the first IP address

 `/api/param?network.access_control(stream_out).host(1)=10.0.0.100`

Example of Response `network.access_control(stream_out).host(1)&200 OK`

Interpretation Change the IP address setting of client restriction. Setting is possible up to 10 items. Specify a value

between 1 to 10 for the number. A range of IP address may be specified if the subnet mask is also specified. For

example, set as follows to specify a range between 10.0.0.0 to 10.0.0.255.

Example `/api/param?network.access_control(stream_out).host(1)=10.0.0.0/24`

It is also possible to set using FQDN instead of IP address. Set as follows if the setting is to be left blank.

Example `/api/param?network.access_control(stream_out).host(1)=%00`

Allowed user admin

6.14. Time

The APIs below are related to time. These are equivalent to the features on the Time page of the WEB setting page.

Refer to the instruction manual for details on the Time page.

Getting On/Off of SNTP Client from VN-V25/26

Format `/api/param?network.ntp.status`

Example of Response `network.ntp.status=off&200 OK`

Interpretation Acquire the on/off status of SNTP client. Either on or off will be returned.

Allowed users admin, operator, user

Setting On/Off of SNTP Client, or Validate Changes for VN-V25/26

Format `/api/param?network.ntp.status=data`

Example `/api/param?network.ntp.status=on`

Example of Response `network.ntp.status&200 OK`

Interpretation Change the on/off status of SNTP client, or validate changes to settings. Specify "on", "off" or

63

"restart". as on or off. IP address of NTP server and access interval are validated by "restart".

Allowed users admin, operator

Getting NTP Server Address from VN-V25/26

Format `/api/param?network.ntp.host`

Example of Response `network.ntp.host=10.0.0.100&200 OK`

Interpretation Acquire IP address of NTP server. Either the IP address or FQDN will be returned.

Allowed users admin, operator, user

Setting NTP Server Address for VN-V25/26

Format `/api/param?network.ntp.host=data`

Example `/api/param?network.ntp.host=10.0.0.100`

Example of Response `network.ntp.host&202 Accepted(network.ntp.status=restart)`

Interpretation Change IP address of NTP server. Specify IP address or FQDN. To validate the change, use

"network.ntp.status=restart " API.

Allowed users admin, operator

Getting Access Interval to NTP Server from VN-V25/26

Format `/api/param?network.ntp.interval`

Example of Response `network.ntp.interval=10&200 OK`

Interpretation Acquire the interval for accessing the NTP server. Unit can be gotten by "network.ntp.unit" API.

Allowed users admin, operator, user

Setting Access Interval to NTP Server for VN-V25/26

Format `/api/param?network.ntp.interval=data`

Example `/api/param?network.ntp.interval=60`

Example of Response

`network.ntp.interval&202 Accepted(network.ntp.status=restart)`

Interpretation Change the interval for accessing the NTP server. Unit can be set by "network.ntp.unit" API.

Specify 1-60 when the unit is min/hour, 1-31 when the unit is day. To validate the change, use

"network.ntp.status=restart" API.

Allowed users admin, operator

Getting Access Interval Unit of NTP from VN-V25/26

Format `/api/param?network.ntp.unit`

Example of Response `network.ntp.unit=hour&200 OK`

64

Interpretation Acquire the unit of interval for accessing the NTP server. "min", "hour" or "day" is returned.

Allowed users admin, operator, user

Setting Access Interval Unit of SNTP for VN-V25/26

Format `/api/param?network.ntp.unit=data`

Example `/api/param?network.ntp.unit=day`

Example of Response

` network.ntp.unit&202 Accepted(network.ntp.status=restart)`

Interpretation Change the unit of interval for accessing the NTP server. Specify "min", "hour" or "day". To validate the change, use "network.ntp.status=restart" API.

Allowed users admin, operator

Getting Time from VN-V25/26

Format `/api/param?system.date`

Example of Response `system.date=20050614171537&200 OK`

Interpretation Acquire the time from the built-in clock of VN-V25/26. Time is arranged in the order of year, month, day, hour, minute and second. Year is denoted in a 4-digit decimal number, and month, day, hour, minute and second are denoted in 2-digit decimal numbers.

Allowed users admin, operator, user

Setting Time for VN-V25/26

Format `/api/param?system.date=data`

Example `/api/param?system.date=20050614171537`

Example of Response `system.date&200 OK`

Interpretation Change the time of the built-in clock in VN-V25/26. Specify in the order of year, month, day, hour, minute and second. Specify year in a 4-digit decimal number, and month, day, hour, minute and second in 2-digit decimal numbers.

Allowed user admin

Getting Timezone from VN-V25/26

Format `/api/param?system.timezone`

Example of Response `system.timezone=Pacific&200 OK`

Interpretation Acquire the timezone from VN-V25/26. Character strings in the following table will be returned.

Timezone Character String	Description
GMT−12	Timezone that is 12 hours earlier than the Greenwich Mean Time.

65

GMT−11	Timezone that is 11 hours earlier than the Greenwich Mean Time.
GMT−10	Timezone that is 10 hours earlier than the Greenwich Mean Time.
Hawaii	Same timezone as GMT-10
GMT−9:30	Timezone that is 9 hours and 30 minutes earlier than the Greenwich Mean Time.
GMT−9	Timezone that is 9 hours earlier than the Greenwich Mean Time.
Alaska	Same timezone as GMT-9
GMT−8	Timezone that is 8 hours earlier than the Greenwich Mean Time.
Pacific	(GMT-8:00) US/Pacific Time
GMT−7	Timezone that is 7 hours earlier than the Greenwich Mean Time.
Arizona	Same timezone as GMT-7
Mountain	Same timezone as GMT-7
GMT−6	Timezone that is 6 hour earlier than the Greenwich Mean Time.
Central	Same timezone as GMT-6
GMT−5	Timezone that is 5 hour earlier than the Greenwich Mean Time.
East−Indiana	Same timezone as GMT-5.
Eastern	Same timezone as GMT-5.
GMT−4	Timezone that is 4 hour earlier than the Greenwich Mean Time.
Atlantic	Same timezone as GMT-4.
GMT−3:30	Timezone that is 3 hours and 30 minutes earlier than the Greenwich Mean Time.
GMT−3	Timezone that is 3 hour earlier than the Greenwich Mean Time.
GMT−2	Timezone that is 2 hour earlier than the Greenwich Mean Time.
GMT−1	Timezone that is 1 hour earlier than the Greenwich Mean Time.
UTC	Greenwich Mean Time
London	Same timezone as UTC.
GMT+1	Timezone that is 1 hour later than the Greenwich Mean Time.
Berlin	Same timezone as GMT+1.
Rome	Same timezone as GMT+1.
Madrid	Same timezone as GMT+1.
Paris	Same timezone as GMT+1.
CET	Same timezone as GMT+1.
GMT+2	Timezone that is 2 hours later than the Greenwich Mean Time.
EET	Same timezone as GMT+2
GMT+3	Timezone that is 3 hours later than the Greenwich Mean Time.
GMT+3:30	Timezone that is 3 hours and 30 minutes later than the Greenwich Mean Time.
GMT+4	Timezone that is 4 hours later than the Greenwich Mean Time.
GMT+4:30	Timezone that is 4 hours and 30 minutes later than the Greenwich Mean Time.
GMT+5	Timezone that is 5 hours later than the Greenwich Mean Time.
GMT+5:30	Timezone that is 5 hours and 30 minutes later than the Greenwich Mean Time.
India	Same timezone as GMT+5:30
GMT+5:45	Timezone that is 5 hours and 45 minutes later than the Greenwich Mean Time.
GMT+6	Timezone that is 6 hours later than the Greenwich Mean Time.
GMT+6:30	Timezone that is 6 hours and 30 minutes later than the Greenwich Mean Time.
GMT+7	Timezone that is 7 hours later than the Greenwich Mean Time.
GMT+8	Timezone that is 8 hours later than the Greenwich Mean Time.
GMT+8:45	Timezone that is 8 hours and 45 minutes later than the Greenwich Mean Time.
GMT+9	Timezone that is 9 hours later than the Greenwich Mean Time.
GMT+9:30	Timezone that is 9 hours and 30 minutes later than the Greenwich Mean Time.

Japan	Same timezone as GMT+9.
GMT+10	Timezone that is 10 hours later than the Greenwich Mean Time.
GMT+10:30	Timezone that is 10 hours and 30 minutes later than the Greenwich Mean Time.
GMT+11	Timezone that is 11 hours later than the Greenwich Mean Time.
GMT+11:30	Timezone that is 11 hours and 30 minutes later than the Greenwich Mean Time.
GMT+12	Timezone that is 12 hours later than the Greenwich Mean Time.
GMT+12:45	Timezone that is 12 hours and 45 minutes later than the Greenwich Mean Time.

Allowed users admin, operator, user

Setting Timezone for VN-V25/26

Format `/api/param?system.timezone=data`

Example `/api/param?system.timezone=Pacific`

Example of Response `system.timezone&202 Accepted(system.status=restart)`

Interpretation Change the timezone of VN-V25/26. Refer to "Getting Timezone from VN-V25/26" on the character string to specify. To validate the change, use "system.status=restart" API.

Allowed user admin

6.15. Password

The APIs below are related to passwords. These are equivalent to the features on the Password page of the WEB setting page. Refer to the instruction manual for details on the Password page.

Setting Password for VN-V25/26

Format `/api/param?system.password.data1=data2`

Example /api/param?system.password.admin=someword

Example of Response system.password.admin&200 OK

Interpretation Change the VN-V25/26 password. Different passwords may be set for the 3 user name types, namely admin, operator and user. Set a password between 4 to 16 characters.

Example when setting admin password: `/api/param?system.password.admin=word1`

Example when setting operator password: `/api/param?system.password.operator=word2`

Example when setting user password: `/api/param?system.password.user=word3`

There is no API for Getting passwords.

Allowed user admin

6.16. Maintenance

The APIs below are related to maintenance. These are equivalent to the features on the Maintenance page of the

WEB setting page. Refer to the instruction manual for details on the Maintenance page.

Initialization

Format `/api/param?system.status=initialize`

Example of Response `system.status&200 OK`

Interpretation Restore all VN-V25/26 settings to factory defaults. Upon doing so, all transmission services that are in progress will be terminated. Initializing takes a few minutes. Response is returned after initializing. Do not power off during initializing.

Allowed user admin

Firmware Update

Version upgrading is not possible using API. To do so, use the Version Upgrade feature on the Maintenance page of the WEB setting page.

6.17. LED Setting

The APIs below are related to LED. These are equivalent to the features on the LED page of the WEB setting page. Refer to the instruction manual for details on the LED page.

Getting LED mode from VN-V25/26

Format `/api/param?camera.stealth`

Example of Response `camera.stealth=off&200 OK`

Interpretation Acquire LED setting. "on" or "off" is returned. If thie is "on", LED becomes off after restarting.

Allowed users admin, operator, user

Setting LED mode for VN-V25/26

Format `/api/param?camera.stealth=data`

Example `/api/param?camera.stealth=on`

Example of Response

`camera.stealth&202 Accepted(camera.status=save)`

Interpretation Change LED setting. Specify "on" or "off". If "on" is set, LED becomes off after restarting. To validate the change, use "camera.status=save" API.

Allowed users admin, operator

Getting LED blinking mode from VN-V25/26

Format `/api/param?camera.identify`

Example of Response `camera.identify=off&200 OK`

Interpretation Acquire LED blinking setting. "on" or "off" is returned. If thie is "on", LED is blinking.

Allowed users admin, operator, user

Setting LED blinking mode for VN-V25/26

Format `/api/param?camera.identify=data`

Example `/api/param?camera.identify=on`

Example of Response

` camera.identify&202 Accepted(camera.status=save)`

Interpretation Change LED blinking setting. Specify "on" or "off". If "on" is set, LED starts blinking. To validate the change, use "camera.status=save" API.

Allowed users admin, operator

6.18. Getting Status

The APIs below are related to status acquisition. These are equivalent to the features on the Operation page of the WEB setting page. Refer to the instruction manual for details on the Operation page.

Getting Sending Status

Format `/api/param?system.session`

Response Return the total transmission bit rate, and status of each sending operation. Transmission is not carried out in the following examples.

`system.session=&200 OK`

`system.session.total_bitrate=0k&200 OK`

`system.session.sending_count=0&200 OK`

`system.session.sending_max=20&200 OK`

In the examples below, 1 JPEG stream of TCP is being sent.

`system.session=&200 OK`

`system.session.total_bitrate=388k&200 OK`

`system.session.sending_count=2&200 OK`

`system.session.sending_max=5&200 OK`

`system.session.sending(01).bitrate=326k&200 OK`

`system.session.sending(01).to.ip=10.0.0.100&200 OK`

`system.session.sending(01).to.port=1536&200 OK`

`system.session.sending(01).to.protocol=tcp_passive&200 OK`

69

```
system.session.sending(01).to.session=http&200 OK

system.session.sending(01).from.encode=jpeg&200 OK

system.session.sending(01).from.framerate=1&200 OK

system.session.sending(01).from.framesize=vga&200 OK
```

In case of MPEG-4, system.session.sending(01).from.encode=mpeg4 is returned. In case of multicast,

system.session.sending(01).to.ip becomes multicast IP address.

Interpretation Acquire the sending status of VN-V25/26. Starting and stopping stream can be occurred in random

order, so it can happen that sending(01) is vacant though sending(02) has information.

Allowed users admin, operator, user

Getting Log

Format `/api/param?system.log`

Response Return the following information. These information will be initialized upon turning off the power of

VN-V25/26.

> Number of seconds after startup, Alarm input, Motion detect, Error

Response examples

```
system.log=&200 OK
```

`system alive time: 2142sec` <----- No. of seconds after startup

Dec 19 14:35:32 vn-v25 user.info evman: Motion Detect   <----- **Motion detect**

Dec 19 14:36:03 vn-v25 user.info evman: Alarm Detect (m1)   <----- **Alarm input 1ch (make)**

Dec 19 14:36:04 vn-v25 user.info evman: Alarm Detect (b2)   <----- **Alarm input 2ch (break)**

Dec 19 14:35:18 vn-v25 user.info evman: Motion Detect   <----- **Motion detect**

Interpretation Acquire the VN-V25 log. Maximum size is 10KB.

Allowed user admin

6.19. Getting Settings

The APIs below are related to the acquisition of settings. These are equivalent to the features on the Settings page of

the WEB setting page. Refer to the instruction manual for details on the Settings page.

Getting Model Name

Format `/api/param?system.model`

Example of Response `system.model=VN-V25U&200 OK`

Interpretation Acquire the model name.

Allowed users admin, operator, user

Getting Firmware Revisions

Format `/api/param?system.software.revision`

Example of Response `system.software.revision=1.00&200 OK`

Interpretation Acquire revisions of the firmware.

Allowed users admin, operator, user

6.20. Others

These are APIs of features not found on the WEB setting page.

Restart VN-V25/26

Format `/api/param?system.status=restart`

Example of Response `system.status&200 OK`

Interpretation Restarts VN-V25/26.

Allowed users admin

Getting Alarm Input Status from VN-V25/26

Format `/api/param?peripheral.input_pin.pin(Number).status`

Example of Response `peripheral.input_pin.pin(1).status=make&200 OK`

Interpretation Acquire the current alarm input status. Specify 1 or 2 to Number. Either make or break will be returned.

Allowed users admin, operator, user

Getting Mode of FTP Server from VN-V25/26

Format `/api/param?application.ftp.mode`

Example of Response `application.ftp.mode=active&200 OK`

Interpretation Acquire the mode of FTP server that is used by alarm action. Either active or passive is returned.

active mode: Standard mode of FTP server. Also called PORT mode. TCP connection for data is established from 20 port of FTP server to 10020 port of VN-V25/26.

passive mode: TCP connection for data is established from VN-V25/26 to FTP server. Port number depends on FTP server.

Allowed users admin, operator, user

Setting Mode of FTP Server for VN-V25/26

Format `/api/param?application.ftp.mode=data`

71

Example /api/param?application.ftp.mode=active

Example of Response application.ftp.mode&200 OK

Interpretation Change the mode of FTP server that is used by alarm action. Set active or passive. Default is active.

  active mode: Standard mode of FTP server. Also called PORT mode. TCP connection for data is established from 20 port of FTP server to 10020 port of VN-V25/26.

  passive mode: TCP connection for data is established from VN-V25/26 to FTP server. Port number depends on FTP server.

Allowed user admin, operator

Getting Control Port Number of FTP Server from VN-V25/26

Format `/api/param?application.ftp.port`

Example of Response `application.ftp.port=21&200 OK`

Interpretation Acquire port number for control of FTP server that is used by alarm action. Port number for data plus one is the port number for control.

Allowed users admin, operator, user

Setting Control Port Number of FTP Server for VN-V25/26

Format `/api/param?application.ftp.port=data`

Example `/api/param?application.ftp.port=21`

Example of Response application.ftp.port&200 OK

Interpretation Change port number for control of FTP server that is used by alarm action. Default is 21. Port number for data plus one is the port number for control.

Allowed user admin, operator

7. Getting Audio from VN-V26 via HTTP

7.1. Basic Procedures

1) The client establishes a TCP connection to port number 80.

2) The client sends out API.

Example

`GET /api/audio?lowdelay=1 HTTP/1.1<CRLF>`

`Host: 192.168.0.2<CRLF><CRLF>`

Note <CRLF> denotes the line feed code ($0x0D$, $0x0A$).

72

3) VN-V26 returns HTTP response.

Example

HTTP/1.1 200 OK<CRLF>

Connection: close<CRLF>

Content-type: audio/ulaw<CRLF>

Date: Tue, 02 Oct 2007 07:33:12 GMT<CRLF>

Server: JVC VN-V26 Network Camera<CRLF>

x-vnv26_response: encode=ulaw&lowdelay=1&assured=1<CRLF><CRLF>

4) VN-V26 sends out audio data after returning HTTP response.

Audio data with 12 bytes header will be sent out continuously after HTTP response. HTTP Response and audio data sent out by VN-V26 are as follows.

HTTP Response
header (12 bytes)
u-Law data (512 bytes)
header (12 bytes)
u-Law data (512 bytes)
,,,

Structure of 12 bytes header is as below. First 4 bytes is payload type for u-Law.

0x00000080
Volume of payload (512 for u-Law)
Time stamp in 8kHz

5) When the client wants to stop current audio transmission, the client disconnects TCP80.

VN-V26 does not accept further API via current TCP that is used for audio transmission. To change parameter, disconnect current TCP to stop the audio transmission, connect new TCP, and send API with new parameter.

7.2. API Format
Structure

GET	space	API		space	HTTP/1.1	0x0D 0x0A
Host:	space	IP Address of VN-V26	0x0D 0x0A 0x0D 0x0A			

Unlike APIs for getting/setting parameters, Accept line is not required. Basic authentication is also not necessary.

Example

```
GET /api/audio?assured=1&lowdelay=1 HTTP/1.1<CRLF>

Host: 192.168.0.2<CRLF><CRLF>
```

Parameter value is indicated using =. Do not insert space before and after =.

Example   assured=1

Parameters are segmented using &. Do not insert space before and after &.

Example assured=1&lowdelay=0

There is no need to specify all parameters. Default values will be used for parameters that are not specified.

Parameter Description

assured   Recent audio data is stored in internal buffer of the camera. Specify as assured=0 to request for the newest data in the buffer and assured=1 to request for the oldest data in the buffer. Specify as assured=0 to shorten the audio delay time. To enable stable playback in a network where jitter occurs, it is recommended that this be specified as assured=1. Default value is 1.

lowdelay   Specifying as lowdelay=1 disables the Nagle algorithm of TCP, and audio delay time will be shortened. When lowdelay=0 is specified, the Nagle algorithm is enabled and audio delay time will be prolonged. However, transmission overhead will be enhanced. Default value is 1.

7.3. Response
When API is successfully received

VN-V26 will return 200 OK. There is no Content-length field in the HTTP response. The x-vnv26_response line indicates actual parameter.

Example

```
HTTP/1.1 200 OK<CRLF>

Connection: close<CRLF>

Content-type: audio/ulaw<CRLF>
```

74

```
Date: Tue, 02 Oct 2007 07:33:12 GMT<CRLF>

Server: JVC VN-V26 Network Camera<CRLF>

x-vnv26_response: encode=ulaw&lowdelay=1&assured=1<CRLF><CRLF>
```

7.4. Restrictions

Access restriction

VN-V26 has access restriction feature that enables to deny access from a specific IP address. If audio is requested from the IP address of access restriction, VN-V26 disconnects the TCP connection after API is sent.

Restriction by maximum bitrate of VN-V26

The maximum bitrate of VN-V26 is about 20 Mbps.

Number of clients

The maximum number of audio stream is 2, 2 TCP streams or 1 TCP stream and 1 multicast stream. When 2 streams are sent from VN-V26, new request for audio is disconnected.

8. Sending Audio to VN-V26

This section describes APIs for audio sending from a client to VN-V26. Make use of the APIs explained in this section in the way as mentioned in Section 5.

8.1. Procedures

1) The client establishes a TCP connection to port number 80.

2) The client sends out API.

API has following structure.

GET	space	API Characters	space	HTTP/1.1	0x0D 0x0A	
Accept:	space	text/plain (or text/html)	0x0D 0x0A			
Host:	space	IP Address of VN–V26	0x0D 0x0A			
Authorization: Basic	space	Encoded User Name and Password	0x0D 0x0A 0x0D 0x0A			

Refer to Section 5 on details of the Accept and Authorization lines.

The API characters are as follows.

/api/receive?from=network&from.ip=data1&from.protocol=tcp_passive&from.ip_translate=on&to=audio

Example

 /api/receive?from=network&from.ip=10.0.0.100&from.protocol=tcp_passive&from.ip_translate=on&to=audio

Specify the client IP address for from.ip=. When from.ip_translate is set to off, VN-V26 will standby to receive audio data from the IP address specified at from.ip. When from.ip_translate is set to on, VN-V26 will ignore from.ip and standby to receive audio data from the source IP address of this API.

2) VN-V26 returns a response.

HTTP/1.1 200 OK<CRLF>

Connection: Keep-Alive<CRLF>

Content-type: text/plain<CRLF>

Date: Fri, 13 MAY 2005 07:33:12 GMT<CRLF>

Server: VN-V26 Network Camera/1.0.0<CRLF>

x-vnv26_response:

from=network&from.ip=10.0.0.100&from.protocol=tcp_passive&from.ip_translate=on&to=audio<CRLF><CRLF>

200 OK<CRLF>

The client may disconnect the TCP80 at this point of time.

3) The client establishes a TCP connection to port number 49298.

4) The client continues to send 512 bytes of u-Law data with a 12-byte header.

0x00000080
Volume of payload (512 for u-Law)
Time stamp in 8kHz
u-Law data (512 bytes)

5) To end, disconnect TCP49298.

8.2. Restrictions

Restrictions on Number of Clients

Only 1 client is allowed to send audio data to VN-V26. VN-V26 will return an error for this API and TCP will be disconnected when this function is currently in use by another client.

76

Timing of Data Sending

512 bytes, or in other words, 64 msec of audio data may be sent during each transmission. Send audio data at intervals as evenly as possible. A part of the data may be lost if audio data exceeding 2 seconds are sent to VN-V26 at one time.

9. List of Protocols and Port Numbers Used with VN-V25/26

VN-V25/26 uses the following protocols and port numbers.

Protocol / Port Number	Use
TCP 20, 21	FTP
TCP 25	SMTP (Mail by Alarm Action)
TCP 80	WEB setting page, API for Getting status and changing settings, acquisition of JPEG/MPEG-4 from VN-V25/26 by client, acquisition audio from VN-V26 by client
UDP 80	Search for VN-V25/26
TCP 110	POP (Mail by Alarm Action)
UDP 123	SNTP
TCP 10020, 10021, 10023	reserved for internal use
TCP 32040	Alarm server
TCP 49298	Audio sending from a client to VN-V26
TCP User Setting	Alarm on TCP
UDP User Setting	Alarm on UDP
UDP User Setting	Multicast Streaming

10. Customizing VN-V25/26's Built-in Viewer

The built-in JPEG/MPEG-4 viewer of VN-V25/26 consists of an ActiveX control. The ActiveX is available for customized viewer.

10.1. Properties of ActiveX

 - RcvMode   0 for TCP, 1 for multicast

 - IP   IP Address of VN-V25/26 in case of TCP

 - HttpPort   Port Number of VN-V25/26 in case of TCP

 - MultiIP   IP Address of multicast

 - MultiPort   Port Number of multicast

 - DispWidth   Width of Display

 - DispHeight   Height of Display

 - FrameRate Frame Rate of JPEG (MPEG-4 viewer does not have this property.)

77

Specify 30, 25, 15, 10, 7.5, 6, 5, 3, 2, 1, -2, -3, -5, -10, -15, -20, or -30.

To specify a frame rate lower than 1fps, use "-". For exmaple, specify -5 for 1/5fps.

- DispTitle   Set 1 to display Camera ID

 - DispTimeCode   Set 1 to display Time

 - TimeFormat   Set from 0 to 6 to select time format

0: YYYY/MM/DD HH:MM:SS.mm

1: YYYY/MM/DD HH:MM:SS

2: DD/MM/YYYY HH:MM:SS

3: MM/DD/YYYY HH:MM:SS

4: MM/DD HH:MM:SS

5: HH:MM:SS

6: HH:MM

 - DispMotion   Set 1 to display motion detect (MPEG-4 viewer does not have this property.)

 - FolderName   Folder name to save JPEG. The folder is created under MyDocuments. (MPEG-4 viewer does not have this property.)

10.2. Methods of ActiveX

 - Play   Start playback

 - Stop   Stop playback

 - Capture   Save JPEG   (MPEG-4 viewer does not have this method.)

 - SetStill   Pause playback

10.3. HTML Example for JPEG viewer
(1) Getting 15fps JPEG at display size QVGA

For VN-V25, execute Play method after setting properties below.

```
<OBJECT ID="JPEGViewer"
    WIDTH = 320
    HEIGHT= 240
    CLASSID="CLSID:0BEAE403-432A-4A99-998A-8C5B30F0A101"
    CODEBASE="./v25j.cab#version=1,0,1,0">
    <PARAM NAME="IP"        VALUE="192.168.0.2">
    <PARAM NAME="HttpPort"      VALUE="80">
    <PARAM NAME="DispWidth"   VALUE="320">
    <PARAM NAME="DispHeight"  VALUE="240">
    <PARAM NAME="FrameRate"   VALUE="15">
```

78

```
        </OBJECT>
```

For VN-V26, modify CLASSID and CODEBASE lines as below.

```
        CLASSID="CLSID:00706F54-DA22-419F-B20A-BBE4E1C4E017"
        CODEBASE="./v26j.cab#version=1,0,1,0">
```

(2) Getting Multicast

For VN-V25, execute Play method after setting properties below.

```
        <OBJECT ID="JPEGViewer"
            WIDTH = 640
            HEIGHT= 480
            CLASSID="CLSID:0BEAE403-432A-4A99-998A-8C5B30F0A101"
            CODEBASE="./v25j.cab#version=1,0,1,0">
            <PARAM NAME="MultiIP"        VALUE="225.0.1.1">
            <PARAM NAME="MultiPort"      VALUE="49152">
            <PARAM NAME="DispWidth"      VALUE="640">
            <PARAM NAME="DispHeight"     VALUE="480">
            <PARAM NAME="RcvMode"   VALUE="1">
        </OBJECT>
```

For VN-V26, modify CLASSID and CODEBASE lines as below.

```
        CLASSID="CLSID:00706F54-DA22-419F-B20A-BBE4E1C4E017"
        CODEBASE="./v26j.cab#version=1,0,1,0">
```

(3) HTML Sample

For VN-V25:

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML4.0 Transitional//EN">
<HTML><HEAD>
<META http-equiv="Content-Type" content="text/html;charset=ISO-8859-1">
<TITLE></TITLE>
</HEAD>
<SCRIPT LANGUAGE=JAVASCRIPT>
function stop_click() {
    JPEGViewer.Stop();
```

79

```
}
function play_click() {
    JPEGViewer.Play();
}
function still_click(obj)
{
    if(obj.value==" Play "){
        obj.value="Pause";
        JPEGViewer.SetStill(0);
    }else{
        obj.value=" Play ";
        JPEGViewer.SetStill(1);
    }
}
</SCRIPT>
<BODY STYLE="font-family:sans-serif;" onBeforeUnload="stop_click()" onload="play_click()">
<font size="6"> SAMPLE TEXT </font><br>
<OBJECT ID="JPEGViewer"
    WIDTH = 641
    HEIGHT= 481
    CLASSID="CLSID:0BEAE403-432A-4A99-998A-8C5B30F0A101"
    STYLE="border-style:solid;border:1px;border-color:#ffffff;">
    <PARAM NAME="IP"    VALUE="192.168.0.2">
    <PARAM NAME="HttpPort"   VALUE="80">
     <PARAM NAME="DispWidth"  VALUE="640">
     <PARAM NAME="DispHeight"  VALUE="480">
</OBJECT>
<form name="myForm">
<table><tr><td>
<INPUT TYPE="BUTTON" NAME="still_btn" VALUE="Pause"  onclick="still_click(this)"></td><td>
</tr></table>
</form></BODY></HTML>
```

For VN-V26, modify CLASSID and CODEBASE lines as below.

```
        CLASSID="CLSID:00706F54-DA22-419F-B20A-BBE4E1C4E017"
        CODEBASE="./v26j.cab#version=1,0,1,0">
```

80

(4) Seamless Switching

Sample code of VisualBasic for switching to 192.168.0.200. Sleep over one frame is required between methods.

> **VNviewcnt1.Stop**
>
> **Sleep 100**
>
> **VNviewcnt1.IP = "192.168.0.200"**
>
> **Sleep 100**
>
> **VNviewcnt1.Play**

10.4. HTML Example for MPEG-4 viewer
(1) Getting MPEG-4 at display size QVGA

For VN-V25, execute Play method after setting properties below.

```
<OBJECT ID="MPEG4Viewer"
    WIDTH = 320
    HEIGHT= 240
    CLASSID="CLSID:B5F92E48-2ABA-48AB-91A9-7B126691FE2F"
    CODEBASE="./v25m.cab#version=1,0,1,0">
    <PARAM NAME="IP"        VALUE="192.168.0.2">
    <PARAM NAME="HttpPort"       VALUE="80">
    <PARAM NAME="DispWidth"   VALUE="320">
    <PARAM NAME="DispHeight"  VALUE="240">
    <PARAM NAME="FrameRate"   VALUE="15">
</OBJECT>
```

For VN-V26, modify CLASSID and CODEBASE lines as below.

```
CLASSID="CLSID:44AAD243-8BCF-44E8-9EC5-2C3C746CFCAF"
CODEBASE="./v26m.cab#version=1,0,1,0">
```

(2) Getting Multicast

For VN-V25, execute Play method after setting properties below.

```
<OBJECT ID="JPEGViewer"
    WIDTH = 640
```

81

```
            HEIGHT= 480
            CLASSID="CLSID:B5F92E48-2ABA-48AB-91A9-7B126691FE2F"
            CODEBASE="./v25m.cab#version=1,0,1,0">
            <PARAM NAME="MultiIP"        VALUE="225.0.2.1">
            <PARAM NAME="MultiPort"       VALUE="59152">
            <PARAM NAME="DispWidth"      VALUE="640">
            <PARAM NAME="DispHeight"     VALUE="480">
            <PARAM NAME="RcvMode"   VALUE="1">
        </OBJECT>
```

For VN-V26, modify CLASSID and CODEBASE lines as below.

```
            CLASSID="CLSID:44AAD243-8BCF-44E8-9EC5-2C3C746CFCAF"
            CODEBASE="./v26m.cab#version=1,0,1,0">
```

(3) HTML Sample

For VN-V25

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML4.0 Transitional//EN">
<HTML><HEAD>
<META http-equiv="Content-Type" content="text/html;charset=ISO-8859-1">
<TITLE></TITLE>
</HEAD>
<SCRIPT LANGUAGE=JAVASCRIPT>
function stop_click() {
    MPEG4Viewer.Stop();
}
function play_click() {
    MPEG4Viewer.Play();
}
function still_click(obj)
{
    if(obj.value==" Play "){
        obj.value="Pause";
        MPEG4Viewer.SetStill(0);
    }else{
        obj.value=" Play ";
```

82

```
            MPEG4Viewer.SetStill(1);

        }

}

</SCRIPT>

<BODY STYLE="font-family:sans-serif;" onBeforeUnload="stop_click()" onload="play_click()">

<font size="6"> SAMPLE TEXT </font><br>

<OBJECT ID= MPEG4Viewer"

    WIDTH = 641

    HEIGHT= 481

    CLASSID="CLSID:B5F92E48-2ABA-48AB-91A9-7B126691FE2F"

    STYLE="border-style:solid;border:1px;border-color:#ffffff;">

    <PARAM NAME="IP"     VALUE="192.168.0.2">

    <PARAM NAME="HttpPort"   VALUE="80">

     <PARAM NAME="DispWidth"  VALUE="640">

     <PARAM NAME="DispHeight"  VALUE="480">

</OBJECT>

<form name="myForm">

<table><tr><td>

<INPUT TYPE="BUTTON" NAME="still_btn" VALUE="Pause" onclick="still_click(this)"></td><td>

</tr></table>

</form></BODY></HTML>
```

For VN-V26, modify CLASSID and CODEBASE lines as below.

```
        CLASSID="CLSID:44AAD243-8BCF-44E8-9EC5-2C3C746CFCAF"

        CODEBASE="./v26m.cab#version=1,0,1,0">
```

10.5. Notes

- Enable the JPEG/MPEG-4 frame size that you want in Encoding page of VN-V25/26.

- Start Multicast stream on VN-V25/26 Web page to use Multicast. The ActiveX does not send request to VN-V25/26 for starting Multicast stream.

- Set unique Multicast address and port to each Multicast stream if multiple multicast streams are required.

- Reload of ActiveX is required to change Multicast property.

11. Customizing VN-V26's Built-in Audio Client

83

The built-in audio client of VN-V25/26 consists of ActiveX control. The ActiveX is available for customized audio client.

11.1. Audio Monitor

(1) Properties of ActiveX

- StreamType   Set 0 for HTTP, set 1 for multicast

- IP   IP address of VN-V26 in case of HTTP

                     Multicast address in case of multicast

- Port   HTTP Port Number of VN-V26 in case of HTTP

                     Multicast port number in case of multicast

- Volume   Set a value from 0 to 100. 100 is maximum volume.

- Password   Set the password of operator.

(2) Methods of ActiveX

- Play   Start playback

- Stop   Stop playback

(3) HTML Example for audio monitor

```
<HTML>
<HEAD>
<META HTTP-EQUIV="Content-Type" CONTENT="text/html; charset=euc-jp">
<TITLE>V26-AUDIO Monitor Sample</TITLE>
    <SCRIPT LANGUAGE="JavaScript">
    var monitor_volume=10;

    // Control to start
    function moni_play_click() {
       Monitor.Play();
       document.myForm.moni_start_btn.disabled=true;
    }

    // Control to stopt
    function moni_stop_click() {
       Monitor.Stop();
       document.myForm.moni_start_btn.disabled=false;
```

```
        }


        // Control for volume
        function moni_muteOff_click() {
            Monitor.Volume = monitor_volume*10;
        }
        function moni_muteOn_click() {
            Monitor.Volume = 0;
        }
        function moni_up_click() {
            if(monitor_volume<10) monitor_volume++;
            Monitor.Volume = monitor_volume*10;
        }
        function moni_down_click() {
            if(monitor_volume >0) monitor_volume--;
            Monitor.Volume = monitor_volume*10;
        }


        // Initialize the screen to hide it
        function init_page(){
                document.getElementById("Monitor").style.display = "none";
        }


        </SCRIPT>
</HEAD>
<BODY onload="init_page();">


<!-- Audio Monitor ActiveX -->
<OBJECT ID="Monitor"
        CLASSID="CLSID:417E1541-4DD0-456B-9BBB-C8C438E67078"
        CODEBASE="../v26ra.cab#version=1,0,0,3"
        STYLE="border-style:solid;border:1px;border-
color:#000000;top:11px;left:670px;position:absolute;">
        <PARAM NAME="IP"        VALUE="192.168.0.2"> <!-- IP addres -->
        <PARAM NAME="Port"        VALUE="80">        <!-- Port numer -->
        <PARAM NAME="StreamType"  VALUE="0">          <!-- HTTP -->
```

85

```
</OBJECT>


<FORM name="myForm"><DIV STYLE=" position:absolute; top:50px; left:10px;">


<br>
SOUND MONITOR <!-- Controls -->
<INPUT  TYPE="BUTTON"  VALUE="  Start  "                 onClick="moni_play_click();
"NAME="moni_start_btn">
<INPUT  TYPE="BUTTON"  VALUE="  Stop  "                 onClick="moni_stop_click();
"NAME="moni_stop_btn">
<INPUT TYPE="BUTTON" VALUE=" Muting On "   onClick="moni_muteOn_click();">
<INPUT TYPE="BUTTON" VALUE=" Muting Off "  onClick="moni_muteOff_click();">
<INPUT TYPE="BUTTON" VALUE=" Volume Up "   onClick="moni_up_click();">
<INPUT TYPE="BUTTON" VALUE=" Volume Down " onClick="moni_down_click();">
<br>


</FORM>
</DIV>
</BODY>
</HTML>
```

11.2. Audio Sender from PC to VN-V26

(1) Properties of ActiveX

- IP   IP address of VN-V26

 - ApiPort   HTTP Port Number of VN-V26

 - SoundPort   Port Number of audio receiver in VN-V26. Default value is 49298.

 - Password   Set the password of operator.

 - DispLang   Select language for messages. Set 1 for English, set 0 for Japanese.

 - Result   Shows result of reserving audio sending. After executing Play method, 0 or 1 is stored.

                  0 means that audio sending is not available because another client is sending audio.

                  1 means that audio sending is ready.

(2) Methods of ActiveX

 - Play   Start playback

 - Stop   Stop playback

 - Destroy   Terminate the ActiveX. Execute this method when close an application that uses this ActiveX.

(3) HTML Example for audio monitor

```
<HTML>
<HEAD>
<META HTTP-EQUIV="Content-Type" CONTENT="text/html; charset=euc-jp">
<TITLE>V26 Send AUDIO Sample</TITLE>
    <SCRIPT LANGUAGE="JavaScript">


    // Start audio sending
    function play_click() {
       Sound.Play();
    }


    // Stop audio sending
    function stop_click() {
       Sound.Stop();
    }


    // Terminate the ActiveX when this HTML is closed
    function SoundDestroy(){
       Sound.Destroy();
    }
    </SCRIPT>
</HEAD>
<BODY onunload="SoundDestroy();">


<!-- Audio sending ActiveX -->
<OBJECT ID="Sound"
        CLASSID="CLSID:794B24AD-7CD8-4C9F-91DD-0312BC365D3F"
        CODEBASE="../v26sa.cab#version=1,0,0,3"
        STYLE="border-style:solid;border:1px;border-
color:#000000;top:10px;left:660px;position:absolute;">
    <PARAM NAME="IP"        VALUE="192.168.0.2">  <!-- IP address -->
    <PARAM NAME="ApiPort"    VALUE="80">         <!-- Port number of API (HTTP) -->
    <PARAM NAME="SoundPort"  VALUE="49298">       <!-- Port number of audio -->
```

87

```
    <PARAM NAME="Password"  VALUE="vn-v2x">       <!-- Password of operator -->
</OBJECT>


<FORM name="myForm"><DIV STYLE=" position:absolute; top:50px; left:10px;">


<br>
SOUND SEND    <!-- Controls -->
<INPUT TYPE="BUTTON" VALUE=" Start "  onClick="play_click();">
<INPUT TYPE="BUTTON" VALUE=" Stop "  onClick="stop_click();">
<br>


</FORM>
</DIV>
</BODY>
</HTML>
```

12. FAQ

(1) Low Frame rate due to long delay of network

- Causes of Low Frame Rate

During transmission via TCP, VN-V25/26 sends out the following data by receiving the Ack of TCP. When network delay is long, reception of Ack will be delayed and sending rate will drop. This therefore leads to a drop in the frame rate.

- Countermeasure

This problem can be avoided by receiving via multicast. Multicast uses UDP and Ack does not exist. As such, the sender will be able to continue sending without being affected by network delays.

88

Free Manuals Download Website

http://myh66.com

http://usermanuals.us

http://www.somanuals.com

http://www.4manuals.cc

http://www.manual-lib.com

http://www.404manual.com

http://www.luxmanual.com

http://aubethermostatmanual.com

Golf course search by state

http://golfingnear.com

Email search by domain

http://emailbydomain.com

Auto manuals search

http://auto.somanuals.com

TV manuals search

http://tv.somanuals.com