ERNITEC EVA Series
Webpage User's Manual

IMPORTANT!
All of ERNITEC EVA series are using same webpage interfaces but some pages are designed only for a specific model. The explanation and captured images at this manual are mainly on the basis of EVA SERIES1000, 1ch network video encoder. If you are using the EVA SERIES or models other than EVA SERIES1000, please do not miss the additional notes at the *Section '**6. REFERENCE TO MODELS**'* of this manual.

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WHAT'S NEW

K00.99.03
[View] : Check box of OSD is removed
[Date&Time] : Additional comment(NTP default setting) is added
[Video Out] : Removed
[RTSP/RTP] : 'Include meta stream' is added
[AVI File Recorder] : Secondary stream recoding(MJPEG) is added
[LED] : LED configuration is added for the event subscribing
[System Log] : The system log configuration is added

K00.99.05
[System Log] : The configuration page is modified (No more options for number of file)
[User] : User Authentication is modified

K00.99.08
[VCA] : Configuration page deleted
[Codec] : Q value for VBR mode is added
[View page] : Description of OSD and burnt-in text added

K00.99.14
[VCA] : Configuration page inserted (Enabled only with license)
[NAT] : NAT page for port mapping is added
[DDNS] : Dynamic DNS is added
[UART] : Serial Over IP setting is added
[LED] : The number of LED has reduced from 4 to 2.
[AVI File Recorder] : Storage recycling option added
[AVI File Recorder] : Recording segmentation option added
[Webpage] : VIEW option for Video Contents Analysis stream is added

K1.00.04
[Video-in] : Options for software deinterlace added

K1.00.07
[UART] : UART setting page updated per model
[RTSP/RTP] : NAL unit option is added
[RTSP/RTP] : Authentication option is added
[LED] : LED option for Heart beat is added
[TCP/IP] : Domain name for DNS configuration is not supported

1. INTRODUCTION

1.1. Welcome

This manual explains how to interface with the ERNITEC EVA series using a standard Web browser (for example Microsoft Internet Explorer).The Web Page of the ERNITEC EVA is implemented with protocols below.

- HTTP API – Parameter configuration commands
- RTP/RTSP – Video, Audio, and Metadata Streaming
- Active X program – Image display on client PC

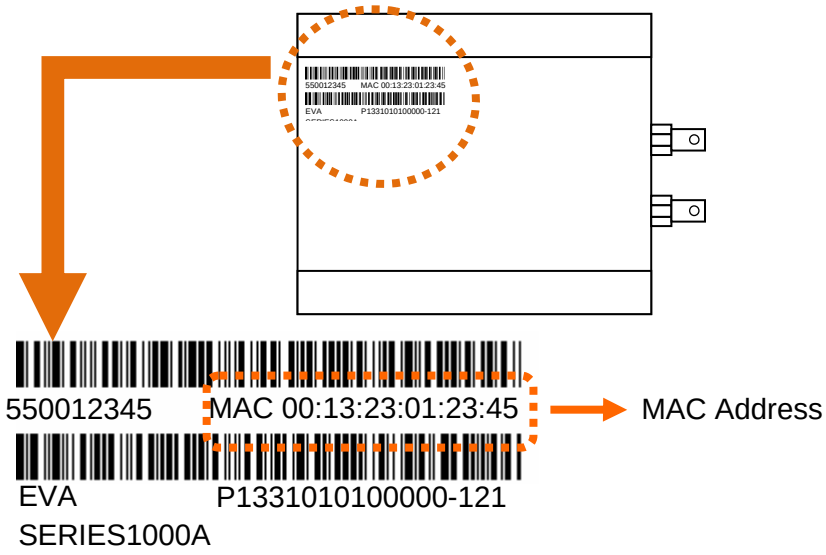
NOTE:
This manual is generated based on EVA SERIES1000, 1ch network video encoder. For all of EVA SERIES and EVA series, most of the user interfaces of web page can be applied equally. But, inevitably some parts have been designed otherwise than EVA SERIES1000 according to the characteristics of each model. For this reason, you should also refer to the section 6. REFERENCE TO MODELS if you're using multi channel solution or network camera type.

1.2. Getting Started

You will need to install your ERNITEC EVA series before using this manual. Refer to the EVA SERIES Hardware Manual supplied with the SDK. Once installed, apply power to the system and refer to the 'Installation Guide' or 'Hardware manual' for each model for more detail installation guide.

1.3. IP address setting

How to find the IP Address of your device:
You can figure out the default IP address of your product from MAC address. If you have succeeded in converting the IP address like the picture below, just type the address on the address bar of the Internet Explorer.

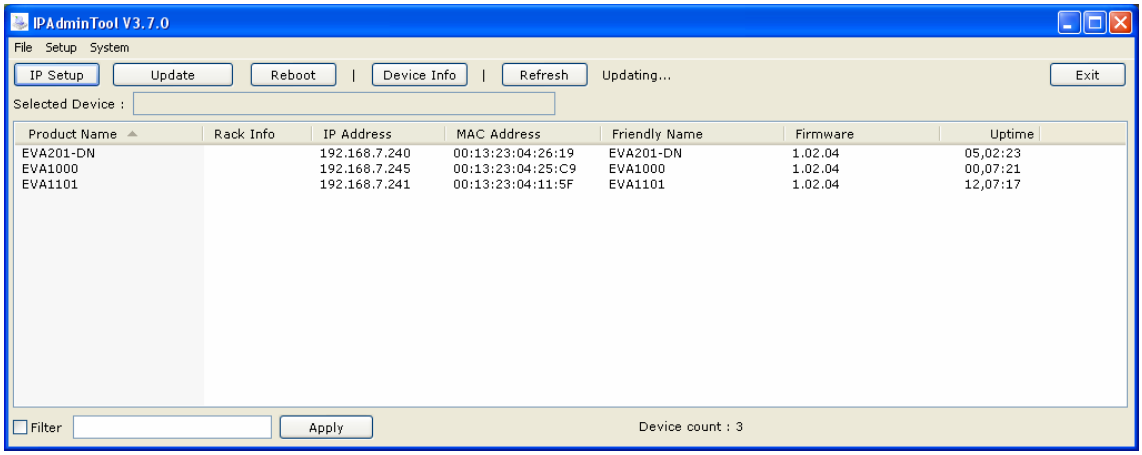


MAC address = 00-13-23-01-23-45 → IP address = 192.168.35.69

Convert the Hexadecimal number to Decimal number

How to change the default IP address:

You can use *IPAdminTool* software. It enables you to search and change the IP address of the device. Below is the example picture of IPAdminTool. Multiple ERNITEC EVA models are searched by the IPAdminTool.



What is IPAdminTool?
IPAdminTool helps you to search all of ERNITEC EVA series on the network automatically and shows the product name, IP address, MAC address and firmware information etc. It also enables you to change the IP address or update the firmware. Please be fully understood about other functions and the features of *IPAdminTool* because the utility is essential for you to administrate the ERNITEC EVA series easily. You can find the '*EVA SERIES Tools user's manual.pdf*' in the SDK (\DOC).

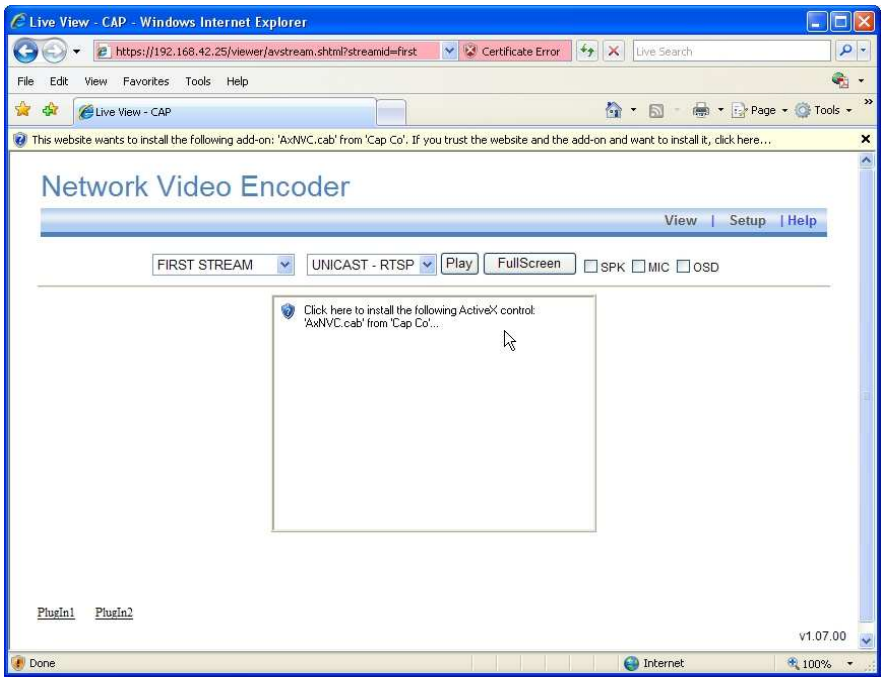
Location of IPAdminToo.exe : \BIN\TOOLS\AdminTool
Location of the manual of IPAdminTool : \DOC\

2. USING A WEB BROWSER

Once the Ethernet connection has been established, you have the following possibilities to see the first image of the camera. But if it is the first time for you to access the webpage of ERNITEC EVA series, you may face the ActiveX installation message.

2.1. ActiveX Installation (AxEVA SERIES.cab)

Click “pop-up blocked” and install the Active X control as below. You need to install ActiveX for displaying the images.



Note

If you have failed to install ActiveX, please follow the next step.

Delete “AxEVA SERIES” in “C:\WINDOWS\Downloaded Program Files” and connect again to Web Page with IPAdminTool or direct typing so that Active X installer can be downloaded again.
Or you can upload ActiveX (UMC.cab) manually with IPAdminTool, the IP management utility of UDP. Refer to EVA SERIES Tools user’s manual.

2.2. Recommended PC specification

The following is the minimum and recommended PC system requirement to use a Web browser with the ERNITEC EVA series.

	Minimal	Recommended
Mainboard/Chipset	Intel 865	Intel 945P
CPU	P4 3.0GHz	Intel Core2Duo E4300
RAM	512MB	1GB
VGA	D3D support	D3D support
	Nvidia, ATI, Intel built-in graphic	ATI Radeon Series, Nvidia Geforce Series
	Memory : 64 MB	Memory : 128 MB
OS	Win 98, ME, 2000, XP, Vista	Windows XP SP2 or higher
Direct X	9.0	9.0

3. MAIN PAGE CONFIGURATION

3.1. View page

If you have succeeded in accessing the webpage and installed the Active X without any problem, you can find the view page of camera.

If you are asked to type the ID and Password, you can enter the default Administrator account (case-sensitive)

ID : ***root***
Password : ***pass***

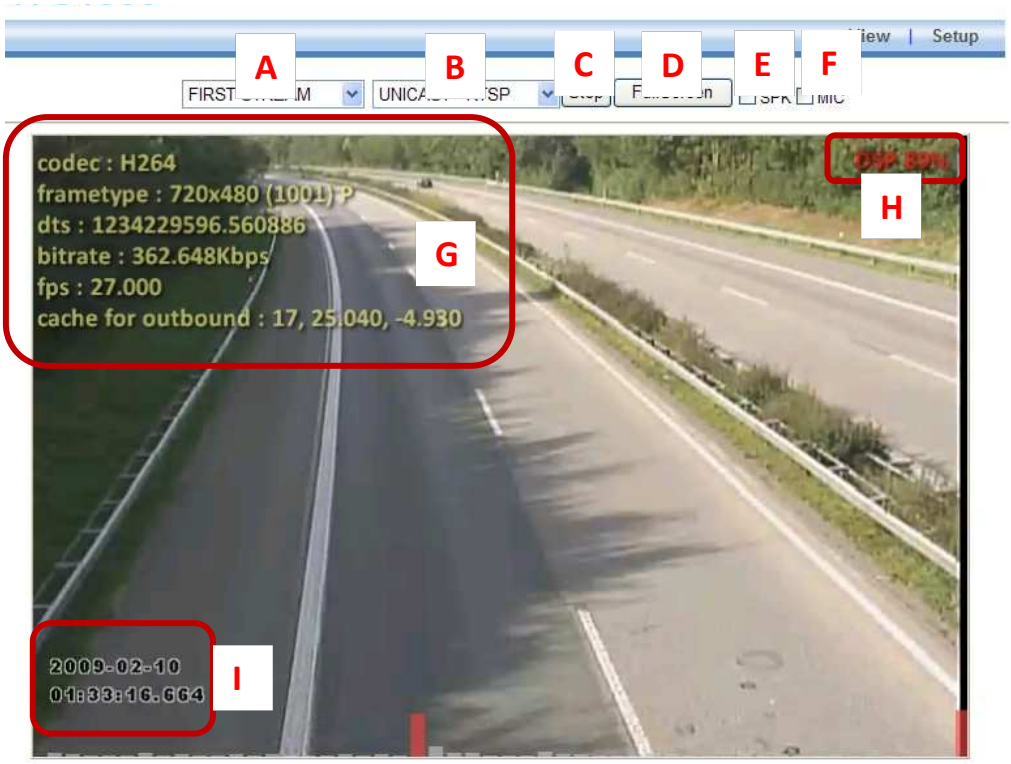
NOTE :
If the image view is not shown,
1. Check out if the camera is powered on and connected properly.
2. Delete “AxEVA SERIES” in “C:\WINDOWS\Downloaded Program Files” and try to connect again to Web Page with IPAdminTool or direct URL typing so that Active X installer can be downloaded again.

Display of debugging message on the VIEW page

1. Right-click on the image. Then, you can see the Property and About menu.
2. Select the Property tab.

3. Go to [Video] – [OSD] menu.
4. Select the OSD text you want to display by checking the boxes.

Meaning of each OSD and menu buttons



A : FIRST STREAM / SECOND STREAM : You can choose the stream to display on this view page. ERNITEC EVA series support dual stream with 1 camera video input. It enables you to use each of
streams independently for different purpose. The factory default for the first stream is configures as MPEG with 30 FPS. The second stream is configured as MJPEG with 5 FPS as a factory default. Go to the [Setup – Video&Audio – Codec] menu for the configuration of each stream.

B : UNICAST-RTSP / MULTICAST - RTSP : You can choose the type of data transmission. You can get the RTSP stream with unicast or multicast. You can set the configuration of RTSP at the [Setup – System Options – RTSP/RTP].

C : Play / Stop : Play or stop the display by clicking this button.

D: FullScreen : Allows the image to be extended into a full image. If you want to be back to the normal view, press the ESC key.

E : SPK : If you tick this option, you can listen to the audio data captured in the camera installed site. To enable this function, you need to connect the audio out of camera and the audio input port of ERNITEC EVA series physically. You can configure the detailed speaker feature at the menu of [Setup – Video&Audio – Audio].

F : MIC : If you tick this option, you can send out your voice through the microphone on your PC. To enable this function, you need to connect the microphone with your audio input port of your PC. You can configure the detailed microphone feature at the menu of [Setup – Video&Audio – Audio].

G : OSD (On Screen Display) information
It shows current status of codec. To adjust the setting, go to [Setup] – [Video & Audio] – [Codec].
Codec : H.264 - Selected codec type for the image
frametype : 720 X 480 - Resolution of the image
1001 - Data size for 1 frame which is calculated by YUY2 format
I or P - Frame type shown alternatively of the moment.
dts : 1234229596.560886 - The stamp showing when the image is encoded on the server. DTS is short for Device Time Stamp. The start of the time is 00:00:00, Jan 01, 1970.
bitrate :562.648 bytes - Bitrate of the image
fps : 27.000 - Frame per second.
Cache for bound : 17, 25.040, -4.930

17 : 17 frames are waiting to be decoded on the screen
25.040 : It shows the current speed of decoding. The normal speed should be 30 ms /fps if the fps configuration is fixed as 30 fps. But as shown in this example, Since 17 frames and 27 frames (currently sensed fps) are waiting to be decoded; the decoding is being processed at 25.040 ms/fps.
-4.930 : The speed to be improved for faster decoding (25.07 = 30ms - 4.930ms)

NOTE : dts and Cache for bound are not adjustable manually.

H : DSP : As the ERNITEC EVA series is DSP chip based products, the DSP load can be essential information for users. If the load goes over 80%, it turns red. Too high of DSP load could affect the performance of the encoder. For example, you should check out if any factor such as too high bitrate for both of 1st stream and 2nd stream are configured or not.

NOTE : Approximate DSP usage is provided. Those of figures are estimated under the condition of D1 of resolution, 1.5 Mbps of bitrate, only 1 channel is being occupied.

MJPEG 20~25%

MPGE4	around 60~65%
H.264	around 75% ~ 80%
MD	3%
VCA	20% ~ 25%

e.g. Configuring MPEG for 1st channel and H.264 for 2nd channel at the same time is not allowed.

I : Date and time (Burnt-in Text)

The time and date information are shown on the image by burnt-in process in the ERNITEC EVA server. These data are created before the compression of the image and transmitted to the client PC to prevent time data from being modified.

4. SETUP CONFIGURATION

In Setup page you can configure the setting values of EVA SERIES series, click Setup on the main page and you can see the menu tab on the left side of the Setup as below. A Viewer is not allowed to enter the setup page. You will need the Operator or Administrator account for this.

4.1. LOG IN

To access the Set up configuration do the following:

1. Enter “root” and “pass” (case sensitive) in the User ID and Password (root is the default setting for these fields)
2. Click OK

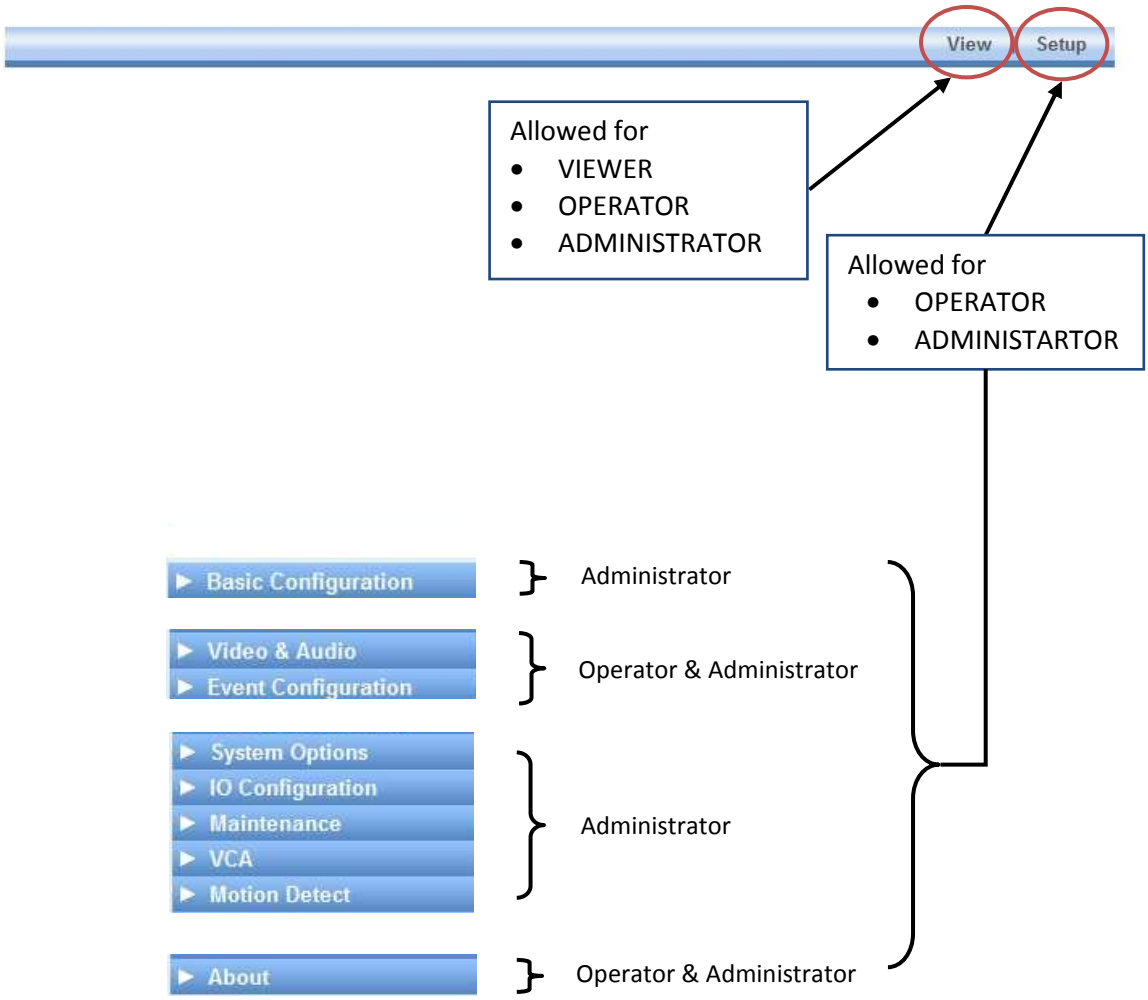
Apply and Reset

At the bottom of the every page of Setup, you can see two buttons, Apply and Reset.

Apply – Send the request to EVA SERIES server and get the expected result.
Reset – Remove the typed values or settings of current page and go back to the original setting values.

4.2. BASIC CONFIGURATION

4.2.1. User management

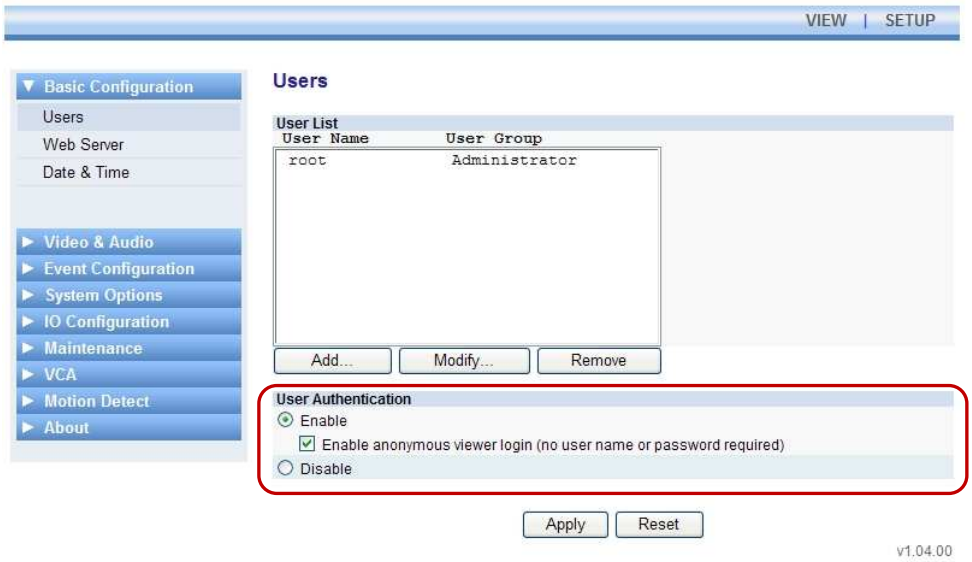


Users are managed into 3 groups, viewer, operator and administrator.

Root user (ID : root, PW : pass) is authorized to control all of parts in ERNITEC EVA management and this default user is not removable.

Limitation on user name
A user name can have from 1 up to 14 characters with alphabet and numbers.
The character range: alphabet is from a to z, A to Z and number is from 0 to 9.
Maximum of 32 accounts are available per privilege.

Limitation on password
A password can have from 1 up to 8 characters with alphabet and numbers
The character range: alphabet is from a to z, A to Z and number is from 0 to 9.



User Authentication

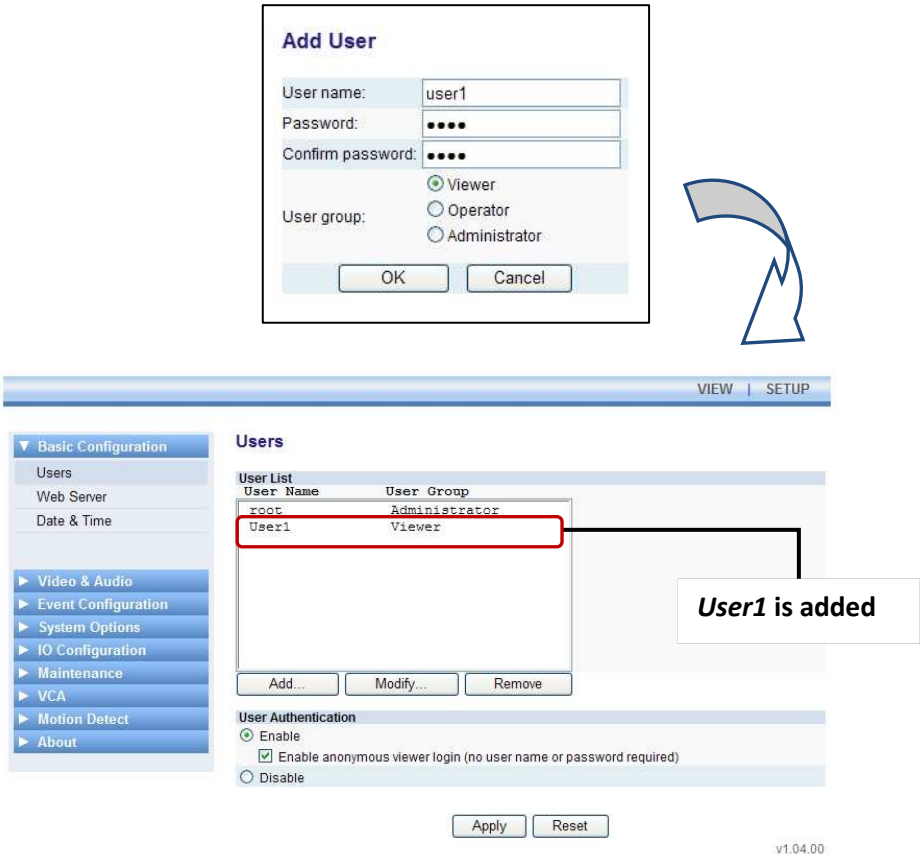
Enable – Enable the authentication step (Log-in required for all configuration).
Option: If you enable the 'Enable anonymous viewer login' box, it allows the anonymous user access e view page only. You can remove the check if you want to request a Viewer to enter ID and password.

Disable – Disable the authentication step (Log-in NOT required for all configuration).
Any authentication step is not required for both of image view and setup access.

NOTE : 'Disable of authentication' is not recommended for the security reason.

How to add a user

Click the Add button and then you can see the pop-up window as below. Type the user name and password and select the group you want. Now you can see that the user1 is added as the example.



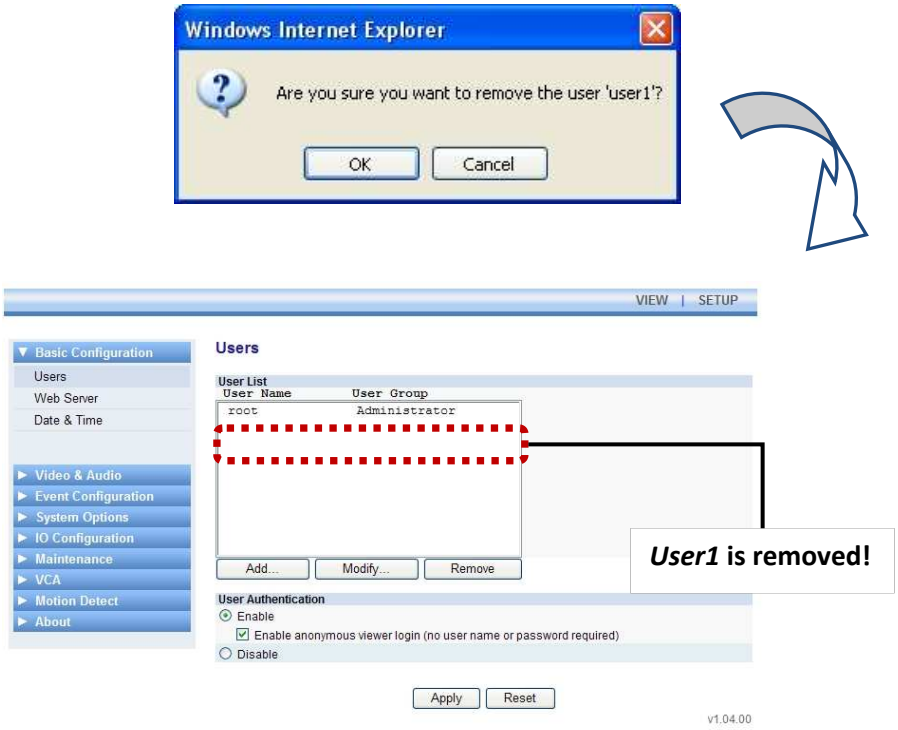
How to modify a user

You can modify the password and the privilege of the user. If you have forgotten the password, you can change the password to the new one. Type the new password you want in the Password (This password change procedure doesn't require the old password).

Note : The user name is not changeable. If you want to modify the current user's name, just remove it and add a new user.

How to remove a user

After selecting the user name on the User List, click the Remove button and you can see the dialog box below. Click OK button and you can see that the removed user is not shown on the User List anymore.



4.2.2. Configuration of HTTP and HTTPS

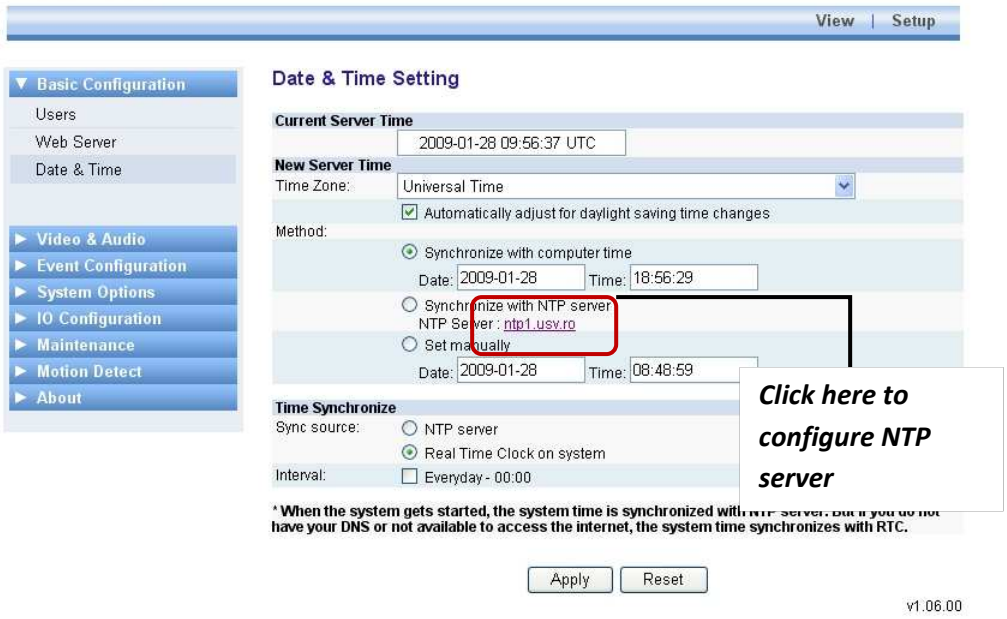
This page enables you to set the protocol to communicate with web server of ERNITEC EVA . Basically, the data transmitted by HTTPS is encrypted by SSL. ERNITEC EVA series is applied with OpenSSL. HTTPS is highly recommended method compared to HTTP for the security reason but if you want to use HTTP, you can check 'Enable HTTP'.

What is SSL?
It's the abbreviation of Secure Socket Layer. SSL protects web server and makes it easy for users to trust the contents. When you use HTTPS for communication with server, the SSL certificate is required for the web server and the certificate enables encryption of video and audio data during online transactions. OpenSSL is one of the data security protocols for Linux system, which is used for the ERNITEC EVA series.

Setting the port number of web server
To communicate with server by HTTP or HTTPS with TCP, the port number can be fixed between 1 and 65535. The factory default is set as 443.

Redirecting HTTP to HTTPS:
Even if a user tries to access server with http, you can enable the server to redirect to HTTPS. In this case, do not set '80' for port number because it can cause a conflict with HTTP port.

4.2.3. Setting date and time of system



Time setting is very significant for all parts of ERNITEC EVA server because it affects the log of streaming and burnt-in text of video and you should be careful when you set the time in this page. Every time you change the setting, the web server program of ERNITEC EVA will be restarted internally.(It does not reboot the whole system.)

Display of current server time
It shows the current server time with real time update.

Selecting time zone
You can choose your own time zone from the drop-down box. If you check the 'Automatically adjust for daylight saving time changes,' it allows the daylight saving time to be applied according to your zone setting.

Setting current time of server
Select one of 3 options.

- Synchronize the server with your PC time
- Synchronize the server with NTP server
- Set the server time manually by user

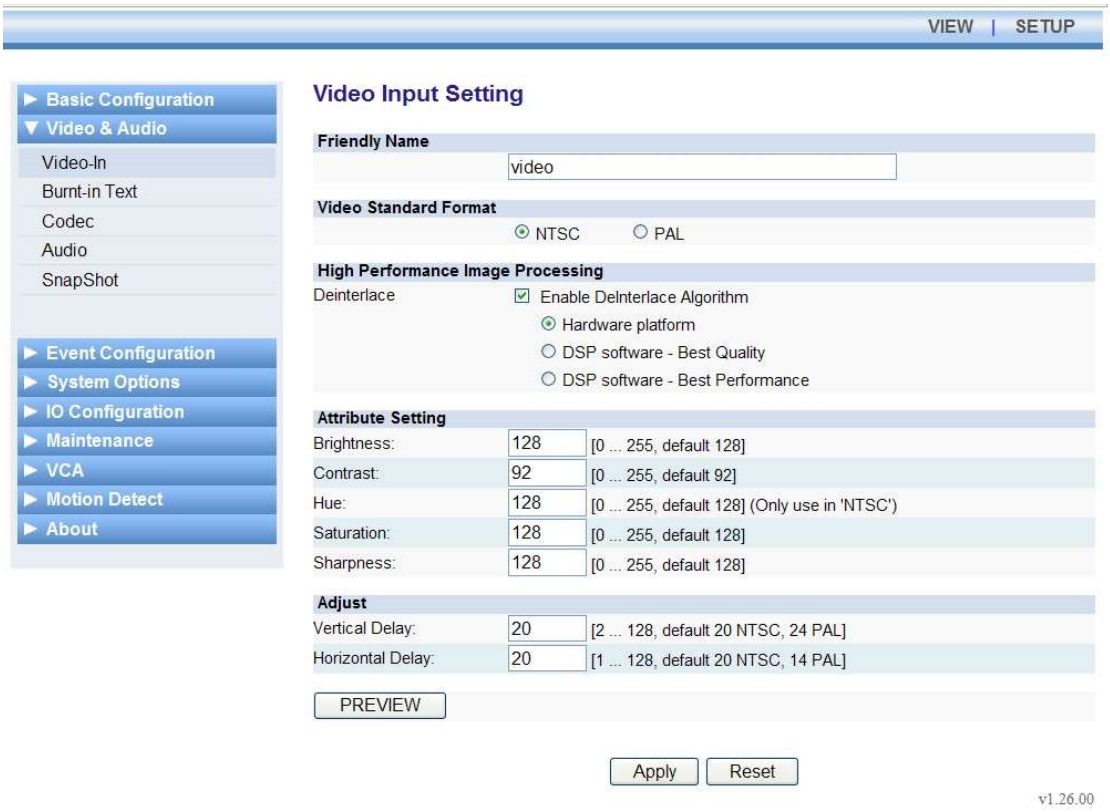
Periodical time synchronization
NTP server – Server time is synchronized with NTP server. You can configure available NTP servers at the menu [Setup – System Options – NTP]. Totally 4 of NTP servers can be added and the first one is set as a default server (ntp1.usv.ro).

Real Time Clock on system – Server time is synchronized with Real-time clock in the server. The clock is attached inside of the ERNITEC EVA board and the clock is recharged automatically when the server is started.

Interval of synchronization
Everyday 00:00 - Synchronized at every midnight
Disabled – Synchronized only when the EVA SERIES is booted newly (factory default)

4.3. VIDEO & AUDIO

4.3.1. Video input (channel naming/video format/ color control)



Naming of channel for camera
You can type any friendly name for the channel in case you have multiple channels with ERNITEC EVA series. It helps you distinguish the location of cameras. Like an example above, if you want to name the first camera as Video, just type the friendly name as Video

NTSC or PAL
You can choose one of the video standards according to your region.

High Performance image processing
'Enable Deinterlace Algorithm' enables high performance of image by merging the even fields and odd fields at the encoder side. If you don't want to use this function, just uncheck the box.

- *Hardware platform* : Processed by the hardware chip of ERNITEC EVA board (0% of DSP is used up)
- *DSP software* - best quality : Processed by the software of DSP (approx. 15% of DSP is used up)
- DSP software- best performance : Processed by the software of SDP (approx. 5% of DSP is used up)

What is deinterlace?
When an analogue image is transferred to the ERNITEC EVA encoding system, it comes with even fields and odd fields alternately. If you enable this option, two fields are merged into one frame at encoder side. It helps the client application reduces the resources of deintelacing.

NOTE :
As the ERNITEC EVA series is DSP chip based products, the DSP load can be essential information for users. If the load goes over 80%, it turns red. Too high of DSP load could affect the performance of the encoder. For example, you should check out if any factor such as too high bitrate for both of 1st stream and 2nd stream are configured or not.

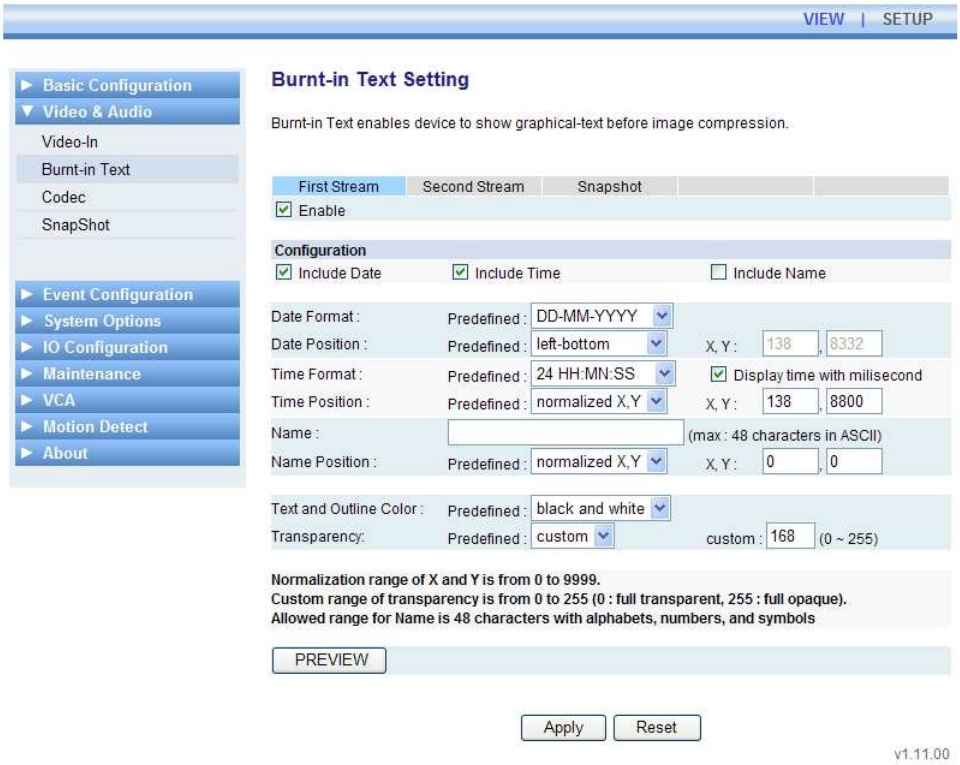
Refer to the section '*3. Main page configuration*' of this manual for more information of DSP usage.

Setting of image attribute
Brightness, contrast, hue, saturation and sharpness are adjusted.
Brightness: The range is from 0 to 255, the default is 128.
Contrast: The range is from 0 to 255, the default is 92.
Hue: The range is from 0 to 255, the default is 128.
Saturation: The range is from 0 to 255, the default is 128.
Sharpness: The range is from 0 to 255, the default is 128.

Adjusting the location of image
When the image does not fit into the screen view, you can move the image vertically or horizontally so that the images fit into the screen perfectly. The range is from 1 to 128 and the default is 20 for NTSC and 25 for PAL

Using PREVIEW button
After the settings above, you can check out the display with this preview button before applying with Apply button.

4.3.2. Inserting Burnt-in Text on the image



You can set the Burnt-in Text for the first stream, the second stream and snapshot separately. If you enable 'Display graphical text before image compression,' it allows the text to be burnt in the image before compression. If you don't want this function, just uncheck the box.

What is Burnt-in Text?

When you want to display date or time on the image view, normally they are displayed on PC monitor without the combining process with image from cameras. On the other hand, Burnt-in Text let the texts be burnt in the image before compression. This feature may guarantee the accuracy of the material and allows them to be applied to reliable evidence as it's not available to manipulate the date and time data.

Configuration

Check or uncheck the data you want to display.

Note

When you set the position of date, time and text, it's recommended to use Normalized X,Y instead of left-top, left-bottom, right-top, right-bottom. Because the left-top etc are just for example and if you let them fixed with example position option, it may cause the overlap of text according to your image resolution or the position of each text. To preview the position you set, you can use the PREVIEW button.

Date format

Choose the format of the year, month and day for display.

YYYY-MM-DD / DD-MM-YYYY

Date position
Fix the position to display the date.
Normalized X,Y / left-top / left-bottom / right-top / right-bottom

Time format
Choose the format of the time for display.
24 HH:MN:SS / 12 HH:MN:SS

Time position
Fix the position to display the time.
Normalized X,Y / left-top / left-bottom / right-top / right-bottom

Name
Type the text you want burn. Allowed range for Name is 48 characters with alphabets, numbers, and symbol.

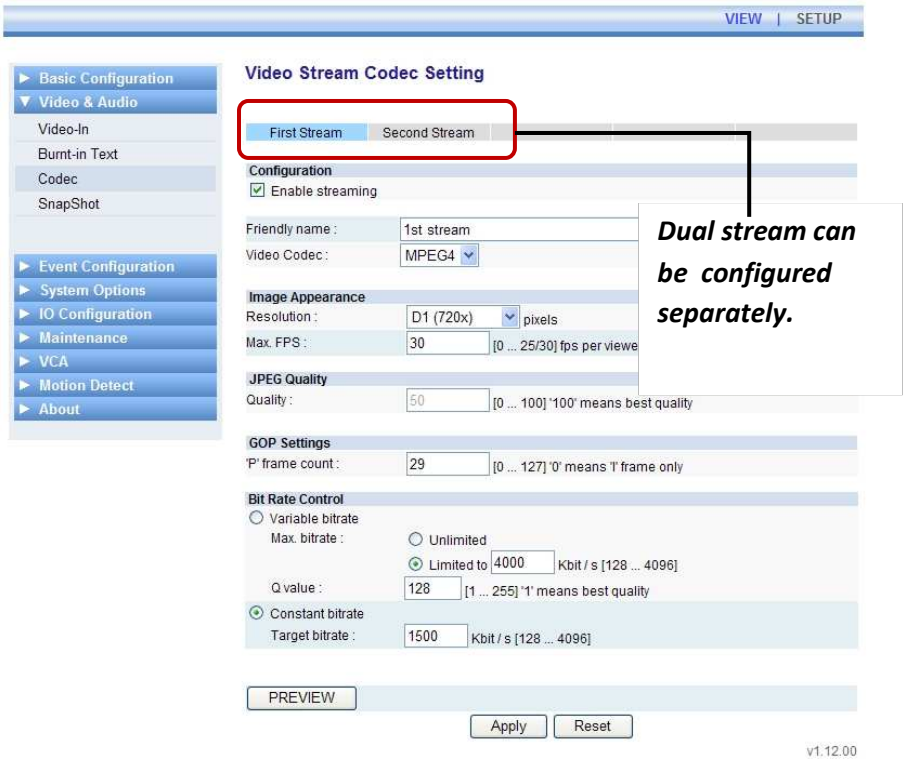
Name position
Fix the position to display the name.
Normalized X,Y / left-top / left-bottom / right-top / right-bottom

Text and Outline Color
Choose the color of the text.
white and black / black and white

Transparency
Choose the transparency from 0 to 75%.
ALPHA, 0%, 25%, 50%, 75%

PREVIEW
If you click this button, it shows the image preview with the current setting.

4.3.3. Codec (video codec, resolution, FPS, Bit rate control)



Enable codec streaming
If you uncheck this box and click Apply button, you are not able to get the video stream anymore from EVA SERIES or server.

Naming of each stream
Type any friendly name to use for the stream. If you have multiple channels and streams, this friendly name helps users distinguish each stream.

Video codec
MJPEG / MPEG4 / H.264

Image Appearance

Supported resolution

	NTSC	PAL
D1	720x480	720x576
VGA	640x480	640x480
QVGA	320x240	320x240
4CIF	704x480	704x576
CIF	352x240	352x288
QCIF	176x112	176x144

Max. FPS

Type the FPS you want.
25 fps is a maximum for PAL, 30 fps for NTSC.

JPEG Quality

This quality value can be set only when the codec is MJPEG. The range is from 0 to 100 and 100 represents the best quality of MJPEG.

GOP Settings

'P' Frame count
GOP is an abbreviation of "Group of Pictures" and one GOP has only 1 I frame with other P frames. Set the number of P frames here and it decides the GOP size. For example, if you have set the P frame count as 59, then it means that GOP is 60.

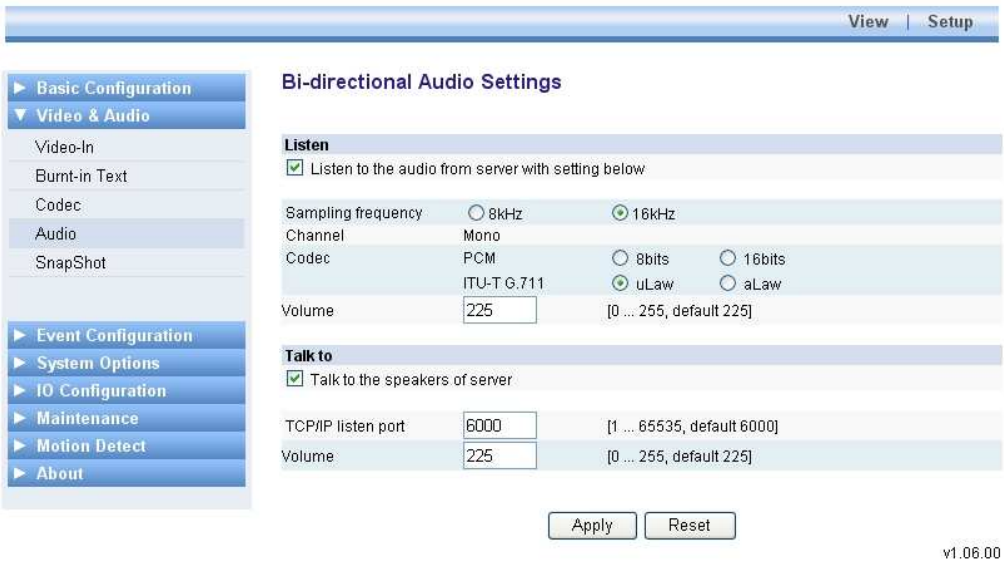
Bit Rate Control

VBR (Variable bit rate)
Limited - It is called HVBR as well. If you set the limit of bitrate, it enables the bitrate not go over the limited value.
Unlimited – When you set the bitrate as unlimited, it has no limitation on bitrate. It is used when your devices have enough storage and high quality of image is required.

Q value – You can set the Q value, quantization value for the image quality when the bitrate is set as variable bit rates.

CBR (Constant bit rate)
You can set the target bitrate from 128 to 8000 and it is used when your device has limited storage.

4.3.4. Audio (listening, speaking)



Listening to the audio

This page helps you to set the values for capturing the analogue audio generated at the camera installed site. After the configuration of 'Listen', you can listen to the sound with the speakers of your PC. To listen to the captured sound, go to the View page and check the SPK box. If you uncheck the box of 'Enable capture and compression audio,' it will disable the server to capture the sound.

Sampling frequency
You can choose the sampling frequency.

Channel
Only mono type is provided.

Codec
You can choose the proper codec from PCM and G.711.

Volume control
The volume is adjusted from 1 and 255. The default is 128.

Talking to the speakers

You can set the values for talking to the speakers directly connected to the ERNITEC EVA server. To enable this feature you need to connect the microphone with the audio port of your PC. If you uncheck the box of 'Enable audio to receiving and playback', it disables the 'Talk to' feature.

NOTE : The configuration of codec and frequency of audio output is applied by the identical setting of audio input.

TCP/IP listen port
Set the port for listening to the audio received from the remote. The default is 60000 and the range is from 1 to 65535

Volume control
The default is 128 and the range is from 1 and 255.

4.3.5. Snapshot

The codec format for Snapshot has no relation with the codec setting of the first stream or the second stream because the snapshot is created on a separate stream regardless of the first and the second one. Be notified that only JPEG is fixed for a default codec in snapshot setting.

Using PREVIEW button
The button enables you to see the captured image

How to save the snapshot image?
Click the Preview button and right-click on the captured image and select 'Save picture as…' to save that image on your local PC

Name
Type any friendly names for multiple channels if required.

Format
Only JPEG is supported for the snapshot image.

Resolution
You can choose the resolution you want.

	NTSC	PAL
D1	720x480	720x576
VGA	640x480	640x480
QVGA	320x240	320x240
4CIF	704x480	704x576
CIF	352x240	352x288
QCIF	176x112	176x144

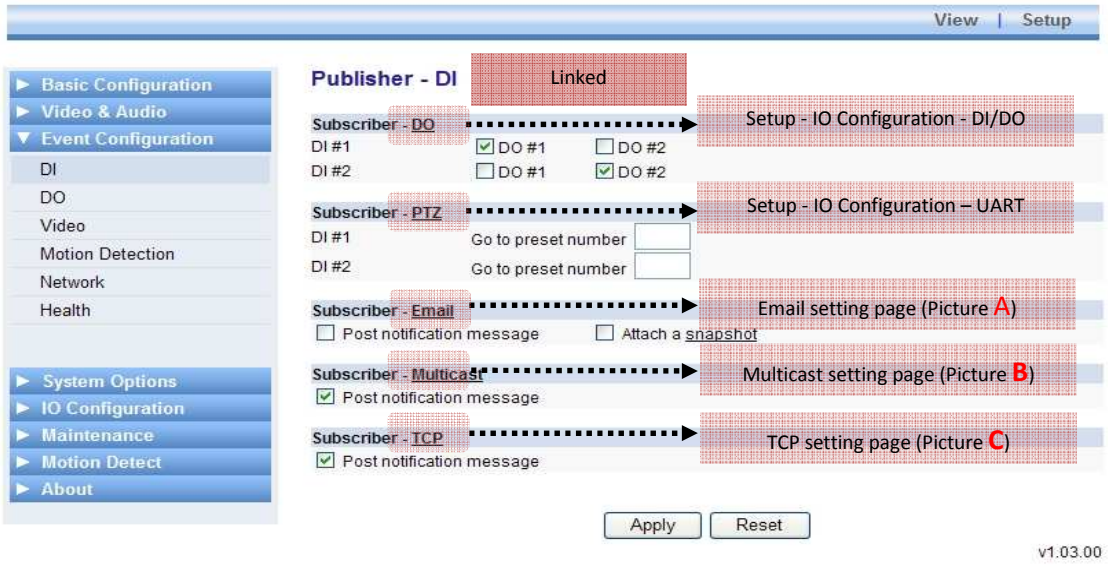
Quality
You can set the quality of snapshot. The range is from 0 to 100 and the default is 70.

4.4. EVENT CONFIGURATION

ERNITEC EVA series is equipped with the event server program internally and it enables you to configure the event publishers and subscribers. For instance, DI, DO, Video loss, Motion Detection, VCA (video contents analysis), Network loss, IP change, and health of network server can publishes the event message when any event is generated. And client PC got those of event message can analysis the contents and utilize for user's purpose.

How to move to each subscriber setting page

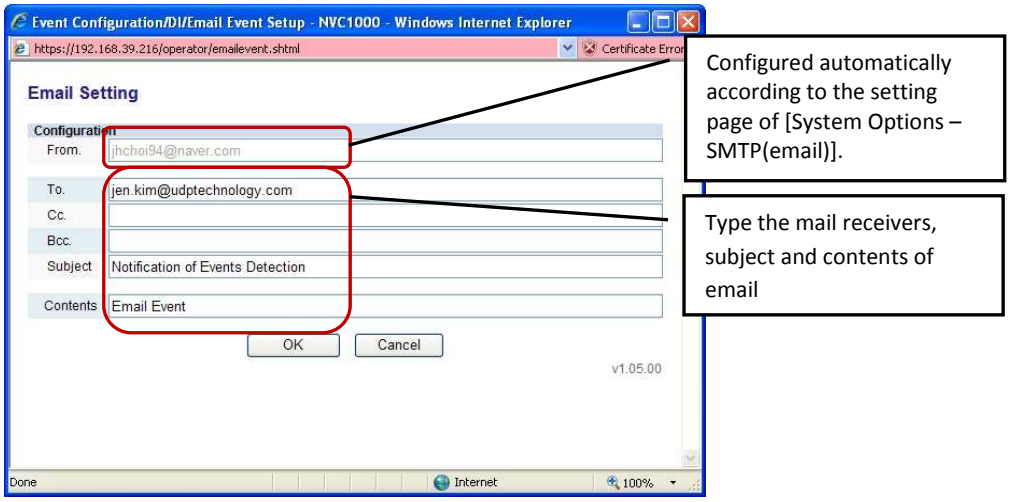
Below is an example page of DI. Click each subscriber name such as DO and you can find that they are linked to the related setting pages. Refer to the figures of below for more specific information.



For setting the page of Email(A), Multicast(B) and TCP(C), refer to the example picture of below.

Picture **A**

E-Mail setting



Below is an example of received email contents when there was a video loss.

Notification of Events Detection

jhchoi94@naver.com

Sent: 1970-01-01 (목) 오후 4:08

To: jen.kim@udptechnology.com

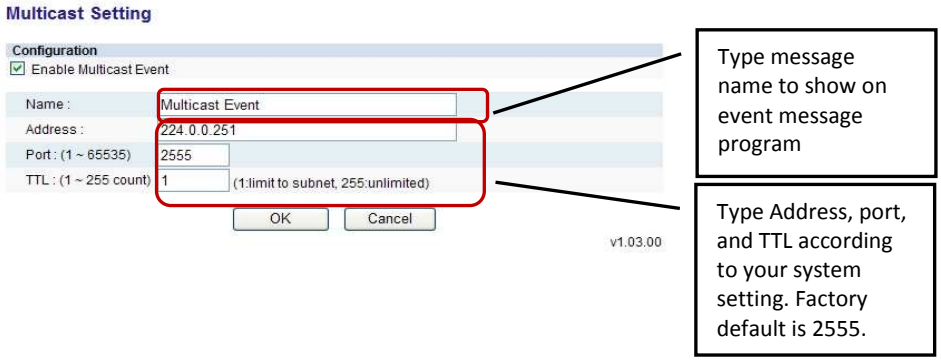
Email Event

This is an auto-generated message to inform you following events are detected. More details are as follows.

Unit IP : **192.168.39.216**
Unit Name : **JEN ENC**
Event Type : **vsignal count=1 (vsignal loss)**
Date and time : **Thu Jan 1 07:08:19 1970**

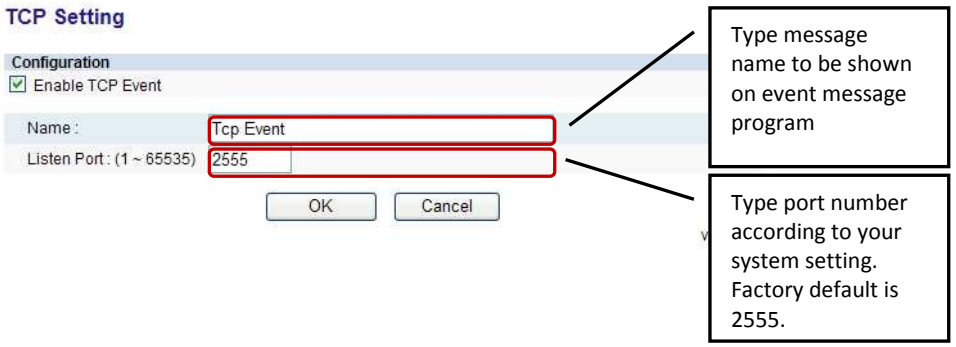
Picture **B**

Multicast setting



Picture **C**

TCP setting



4.4.1. Assigning rule to DI

When you set DI as a publisher, DO, PTZ, E-mail, Multicast, and TCP can be the subscriber in the event configuration. The detailed setting for DI is implemented on IO Configuration tab of the left menu.

Subscriber – DO
Check the DO box you want to trigger. For example, If you check off the DO #1 of DI #2 => When DI#1 is detected, DO#2 will be triggered.

Subscriber – PTZ
Set the preset number you want to trigger.
For example, if you set the preset number1 on DI #1 => When DI #1 is detected, the PTZ camera will go to the preset number1.

Subscriber – Email
If you check 'Post notification message,' the server will send the notification message by e-mail to the client when DI detection is occurred.

NOTE: You can set the SMTP in the menu of System Options – SMTP (email) in advance.

If you check 'Attach a snapshot,' the server will send the snapshot by e-mail to the client when DI detection is occurred.

Subscriber – Multicast
If you check the 'Post notification message,' it will send the message through multicast to the client.

Subscriber - TCP
If you check the 'Post notification message,' it will send the message through TCP to the client.

4.4.2. Assigning rule to DO

When you set DO as a publisher, E-mail, Multicast, and TCP can be the subscriber in the event configuration. The detailed setting for DO is implemented on IO Configuration tab.

NOTE : Refer to the ‘ How to move to each subscriber page for a publisher’ part for subscriber setting page at the beginning of section 4.4.

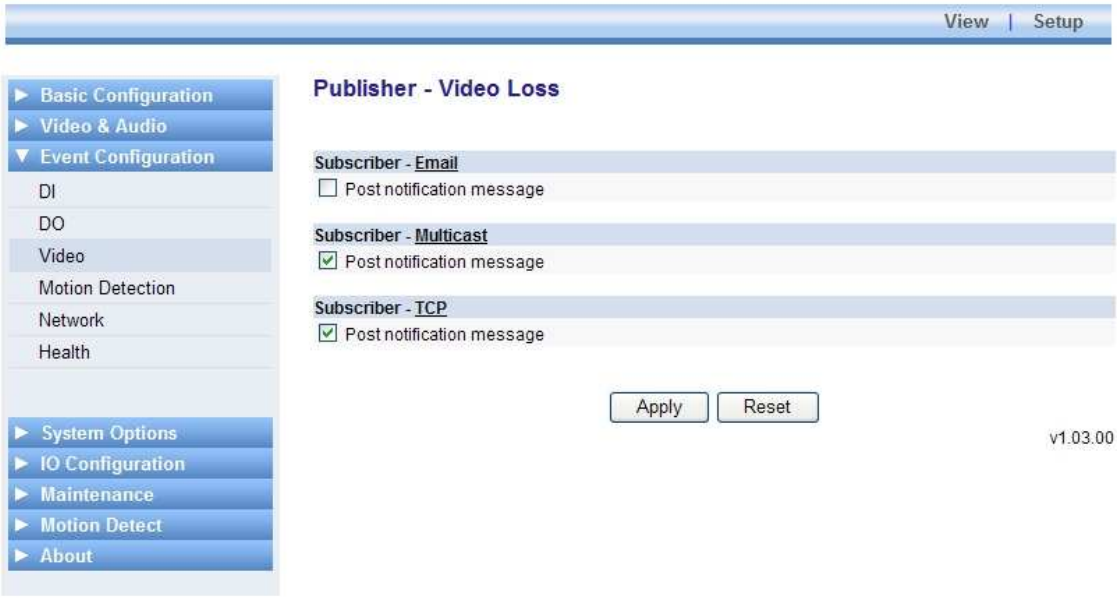
Subscriber – Email
If you check ‘Post notification message,’ the server will send the notification message by e-mail to the client when DI detection is occurred.
If you check ‘Attach a snapshot,’ the server will send the snapshot by e-mail to the client when DI detection is occurred.

NOTE: You can set the SMTP in the menu of System Options – SMTP (email) in advance.

Subscriber – Multicast
If you check the ‘Post notification message,’ it will send the message through multicast to the client.

Subscriber - TCP
If you check the ‘Post notification message,’ it will send the message through TCP to the client.

4.4.3. Assigning rule to Video Loss



When the physical video loss such as cut off of video is detected, you can get the event message by E-mail, Multicast and TCP.

NOTE : Refer to the 'How to move to each subscriber page for a publisher' part for subscriber setting page at the beginning of section 4.4.

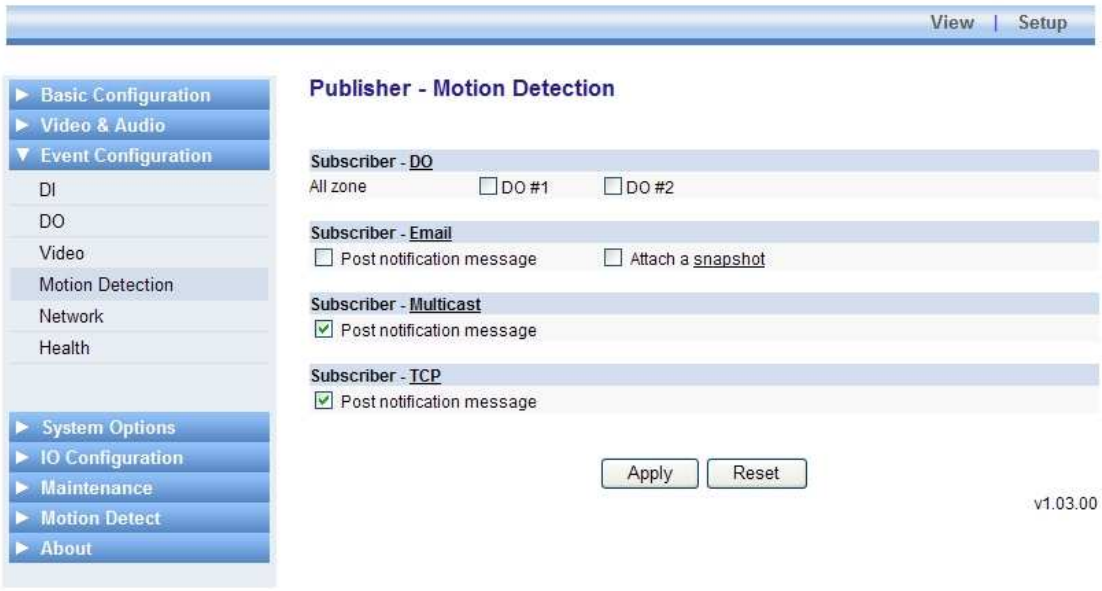
Subscriber – Email
If you check 'Post notification message,' the server will send the notification message by e-mail to the client when DI detection is occurred.
If you check 'Attach a snapshot,' the server will send the snapshot by e-mail to the client when DI detection is occurred.

NOTE: You can set the SMTP in the menu of System Options – SMTP (email) in advance.

Subscriber – Multicast
If you check the 'Post notification message,' it will send the message through multicast to the client.

Subscriber - TCP
If you check the 'Post notification message,' it will send the message through TCP to the client.

4.4.4. Assigning rule to Motion Detection



If you want to use the motion detection as a publisher, you need to set the motion detection configuration first on the MD setting part. Go to [Motion Detect] menu and configure the object size and sensitivity of each zone.

NOTE : Refer to the 'How to move to each subscriber page for a publisher' part for subscriber setting page at the beginning of section 4.4.

Subscriber – DO
Check the DO box you want to trigger. For example, If you check off the DO #1 of DI #2 => When DI#1 is detected, DO#2 will be triggered.

Subscriber – Email
If you check 'Post notification message,' the server will send the notification message by e-mail to the client when DI detection is occurred.
If you check 'Attach a snapshot,' the server will send the snapshot by e-mail to the client when DI detection is occurred.

NOTE: You can set the SMTP in the menu of System Options – SMTP (email) in advance.

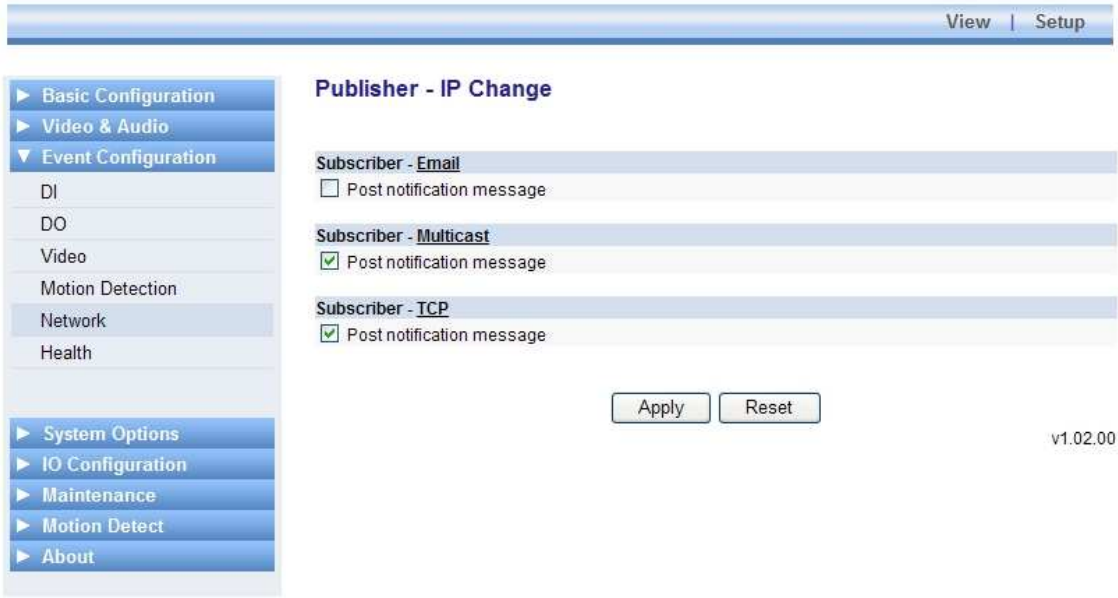
Subscriber – Multicast
If you check the 'Post notification message,' it will send the message through multicast to the client.

Subscriber - TCP
If you check the 'Post notification message,' it will send the message through TCP to the client.

4.4.5. Assigning rule to VCA

If you want to use the VCA as a publisher, you need to go to [Setup] – [VCA] and configure the detecting condition information first. Refer to the extra VCA manual in the SDK for more specific configuration.

4.4.6. Assigning rule to Network loss



When physical video loss is detected, E-mail, Multicast and TCP can be a subscriber. The log

Triggered messages are saved in the memory of ERNITEC EVA during the loss time and they will be sent out to the client right after the network is recovered.

NOTE : Refer to the 'How to move to each subscriber page for a publisher' part for subscriber setting page at the beginning of section 4.4.

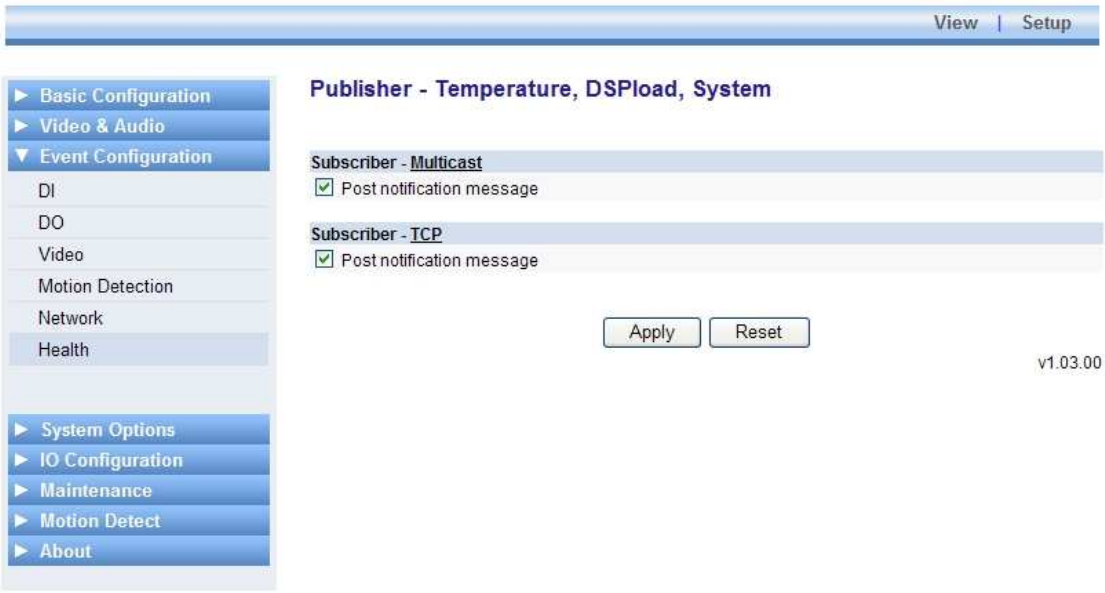
Subscriber – Email
If you check 'Post notification message,' the server will send the notification message by e-mail to the client when DI detection is occurred.
If you check 'Attach a snapshot,' the server will send the snapshot by e-mail to the client when DI detection is occurred.

NOTE: You can set the SMTP in the menu of System Options – SMTP (email) in advance.

Subscriber – Multicast
If you check the 'Post notification message,' it will send the message through multicast to the client.

Subscriber - TCP
If you check the 'Post notification message,' it will send the message through TCP to the client.

4.4.7. Assigning rule to System Health



The abnormal temperature, DSP load and system status can be a publisher. The more detailed specification or limitation on the health publisher will be provided with document additionally.

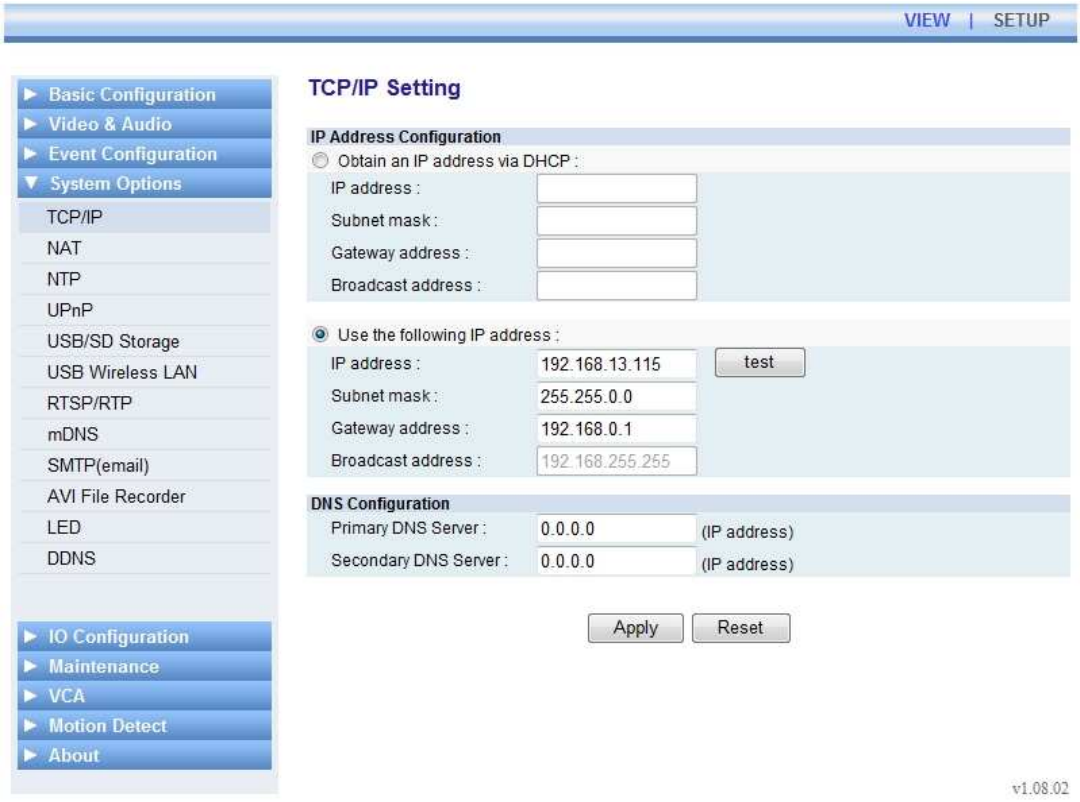
NOTE : Refer to the 'How to move to each subscriber page for a publisher' part for subscriber setting page at the beginning of section 4.4.

Subscriber – Multicast
If you check the 'Post notification message,' it will send the message through multicast to the client.

Subscriber - TCP
If you check the 'Post notification message,' it will send the message through TCP to the client.

4.5. SYSTEM OPTION

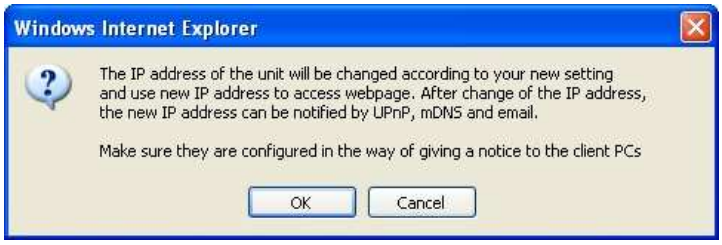
4.5.1. Setting TCP/IP (DHCP, Static IP, DNS setting)



IP Address Configuration

Obtain IP address via DHCP

If you want to get your IP from DHCP server automatically, check this option and click the Apply button. You may find the message box of below is popped up. It explains that the DHCP server in your router device may cause a problem and fail to lease new IP address. In that case, the latest static IP address will be applied instead. Click OK button to accept the notification.



Use the static IP address
If you want to use your ERNITEC EVA series with the static IP, enable the 'Use the following IP addresses' and click the Apply button.

IP address: The IP address of your device
Subnet mask: The address of subnet mask of your device.
Gateway address: The gateway address of your device.
Broadcast address: It is automatically fixed by the subnet mask and IP address of your own. For example, if you use B class (255.255.0.0) of mask, the broadcast address will be 192.168.255.255.

The test button shows if the typed IP address is occupied or not. You may find the popup windows as below according to the availability of typed IP address.

Occupied IP

Available IP

DNS Configuration

Type the IP address of DNS server you use.

4.5.2. NAT setting (Port mapping)

If you use the NAT router for the ERNITEC EVA network connection, you may need to set the real IP address or domain name and port number.

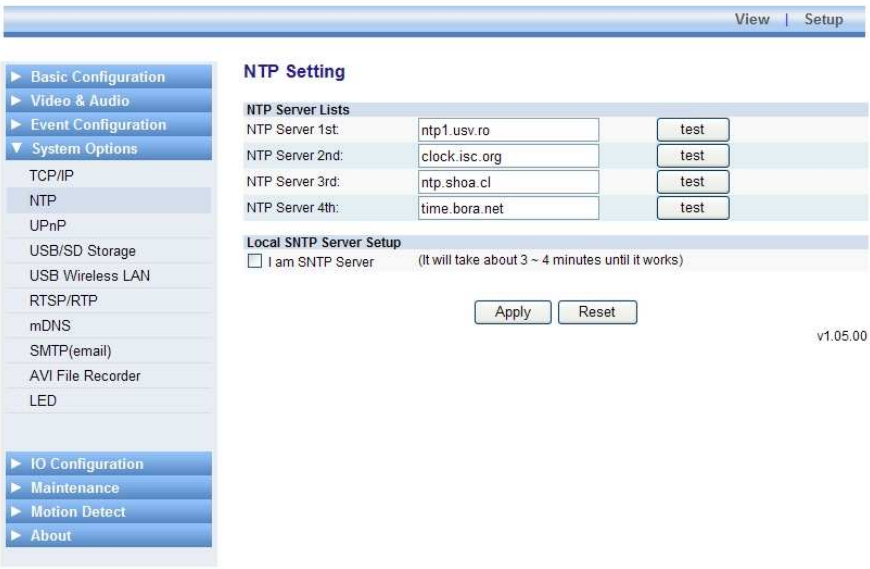
1. Check the box of 'Enable network connection via public IP address and port'.
2. Type the IP address and port number that your router uses.
3. Click Apply button (if you want to go back to previous setting, click Reset button).

When you use domain name, you should check out if the DNS or DDNS is enabled.

Go to [System Option – TCP/IP] for DNS setting.
Go to [System Option – DDNS] for DDNS setting.

NOTE: The IP address of NAT router should be designated manually.

4.5.3. Setting NTP server



NTP Server Lists

You can set up to 4 NTP servers as you can see at the example of above. To enable the NTP servers, DNS server setting should be done in advance in the menu of TCP/IP page and please check out if the DNS configuration is accurate.

I am SNTP Server

it's also called 'Squid server.' When you have multiple EVA SERIES servers, it helps to reduce the network load because only the one with 'I am SNTP Server' checked will get the time information from the NTP servers and other EVA SERIES servers are synchronized with this Squid server.

How to use:

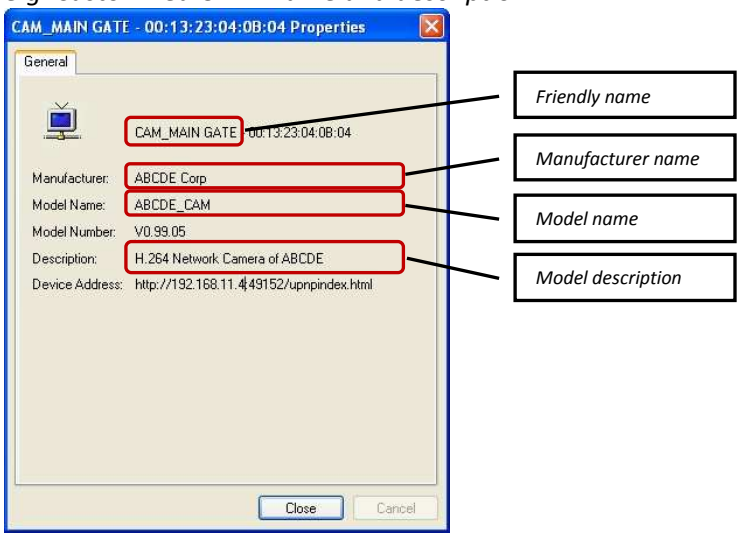
1. Enable 'I am SNTP server' of squid server and click Apply.
2. Access the webpage of the ERNITEC EVA which is supposed to be the client device of the squid server. Go to [System Options – NTP] and type the IP address of squid server on the 'NTP Server 1s't. (Format example : 192.168.11.4)
3. Click 'Test' button to find out if it works fine.
   NOTE: It will take about 3~4 minutes until the squid server response.
4. Go to [Setup – Basic Configuration – Date & Time] and choose the 'Synchronize with NTP server' for the method of New Server Time menu. Make sure if the 'NTP Server' displays the designated squid server's IP correctly with red characters.
5. Click 'Apply' button and it will be restarted.

4.5.4. Setting property for UPnP

UPnP allows IP devices to connect seamlessly, and to simplify the implementation of networks in remote PC environments.

Refer to the example of UPnP of Windows XP so that you can check out how the customized settings are being applied. Find this information on your PC [Start - My network places]. Find your device, right-click the mouse and go to [property].

e.g. Customized UPnP name and description



Configuration

If you want to enable UPnP to search your device, check the box of 'Enable UPnP'.
Friendly Name: Type any friendly name to be shown by the UPnP program. You can test it easily with Windows as well (Start - My network Places displays the devices by UPnP)

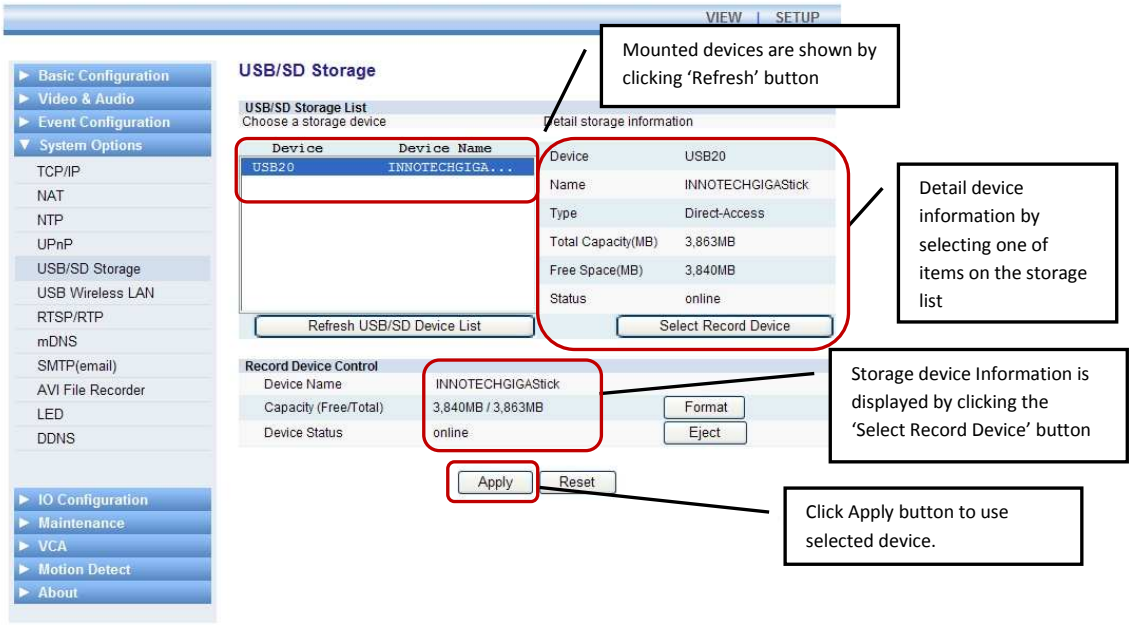
Customize Manufacturer Description

If you want to have your own manufacturer’s name for ERNITEC EVA series to be shown on the UPnP program, type name and URL. Then, The UPnP program will show the modified name and URL.

Customize Model Description

If you want to have your own model name for ERNITEC EVA series to be shown on the UPnP program, type name, description and URL of them. Then, The UPnP program will show the modified name, description and URL.

4.5.5. USB/SD Storage



This page is provided to search mounted USB/SD storages device and select one of them for data recording. Please follow the steps described at the below. After setting this page, move to the menu of [System Options - AVI File Recorder] page and start the recording.

How to set the recording device

1. Insert a USB or SD memory card.
2. Click the 'Refresh USB/SD Device List' and you can find that the devices are listed on the window. If the storage device is not listed right after mounting, wait for a few seconds and click the Refresh button again as it might take some time until the device is recognized.
3. Select and the device on the list and then the device information such as name, type, total capacity, free space and status are shown on the right side of the list.
4. Click the 'Select Record Device' button and the chosen device information is listed on the Record Device Control.
5. Click Apply button to use the selected device for recording.
6. If you have completed the steps above, go to the [System Options – AVI File Recorder] menu and you can start the recording.

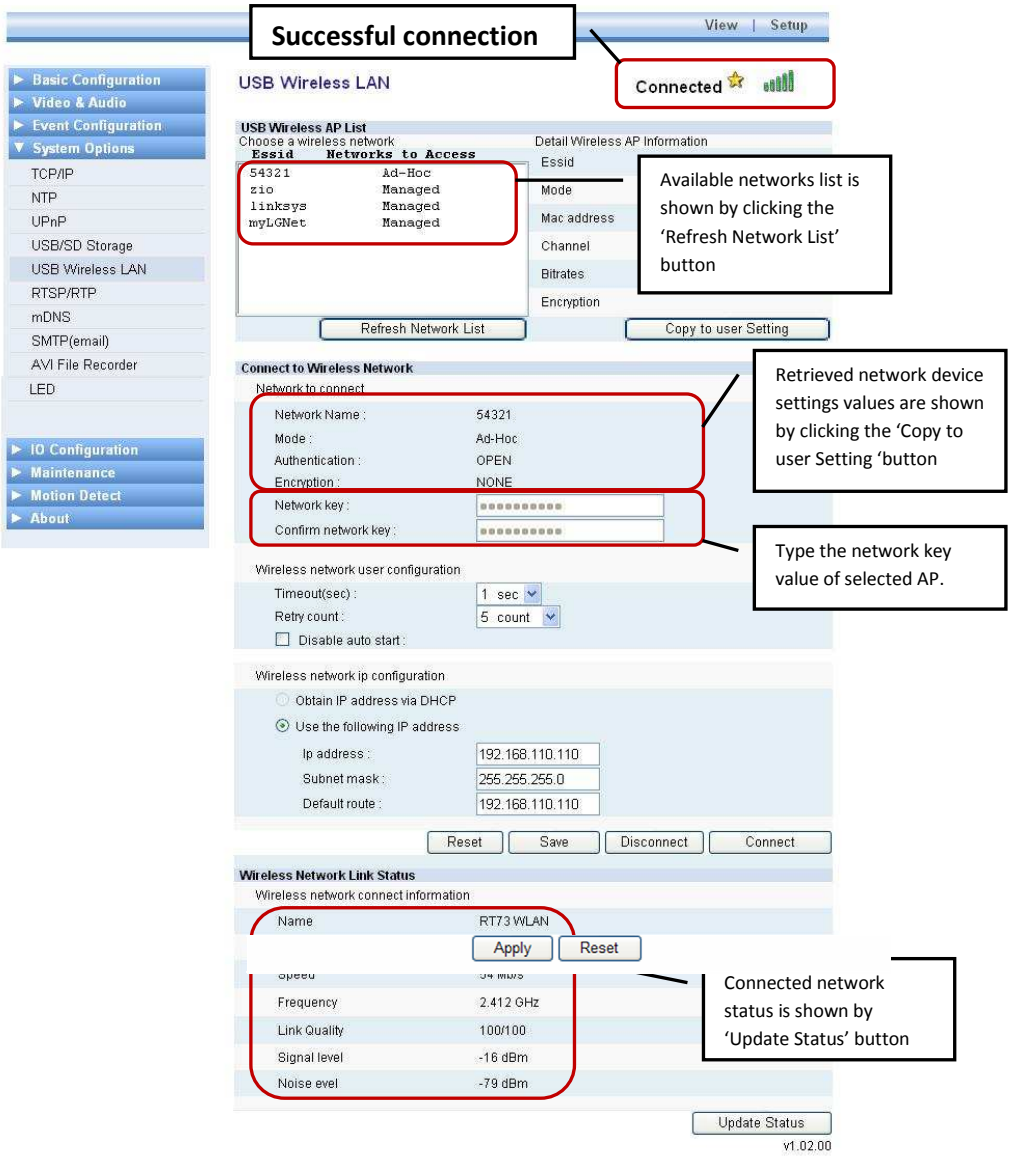
NOTE : If the total capacity and free space are not shown, refresh the device list in a few seconds. Because it takes some time to bring the file system information to the web page. If the space information is not shown still, your storage device is not formatted properly. Format your storage device and try to refresh again.

Formatting the disk
It enables the storage device to formatting. Click the 'Format' button and 'Apply' after selecting the storage device.

Ejecting the disk

When you want to remove the storage device safely, click the 'Eject' button. If the ejecting process is done, now you can remove the memory stick from your ERNITEC EVA device.

4.5.6. USB Wireless LAN



If you are ready with the USB wireless LAN device, follow the steps below.

Step 1. Recognizing the USB wireless LAN device

1. Insert the USB wireless LAN device into the EVA SERIES or .
2. After a few seconds, click the '*Refresh Network List*' and you can see that the device is listed on the window.

3. Click the device you want on the list. Then, the device information such as essid, mode, mac address, channel, and encryption are shown on the right side of the list window.
4. Click the 'Copy to user setting' button and the chosen device information is copied on '*Networks to connect*' section of below.

Step2. Connecting wireless network

If you have completed the recognition of the USB device for wireless LAN at the step1, you can find that the '*Network name, Mode, Authentication, and Encryption*' are filled automatically according to the wireless LAN device information.

1. Type the '*Network key'* and confirm it. The network key should be equal to the AP or client PC you will communicate.
2. Set the *Time out*, *Retry count*, and *Disable auto start* referring to the explanation of below.

   Time out - When there's no answer from the server for time out seconds, it means it failed connecting to the server and you need to try to connect again.
   Retry count – The number of retrial connections when there's no answer from the server.
   Disable auto start – When you do not want to get started the wireless network automatically, you can check this box.

NOTE : The current time out or retry count is not renewed automatically. Try to renew the page manually to see if the network is connected properly.

3. Set the wireless network IP configuration. If your mode is Ad-Hoc, only static IP setting is allowed.

   Obtain IP address via DHCP - Get the IP address from DHCP automatically.
   Use the following IP address – Get the IP address with the manual setting. If your mode is infrastructure (AP) networks, you should check out the range of IP address.

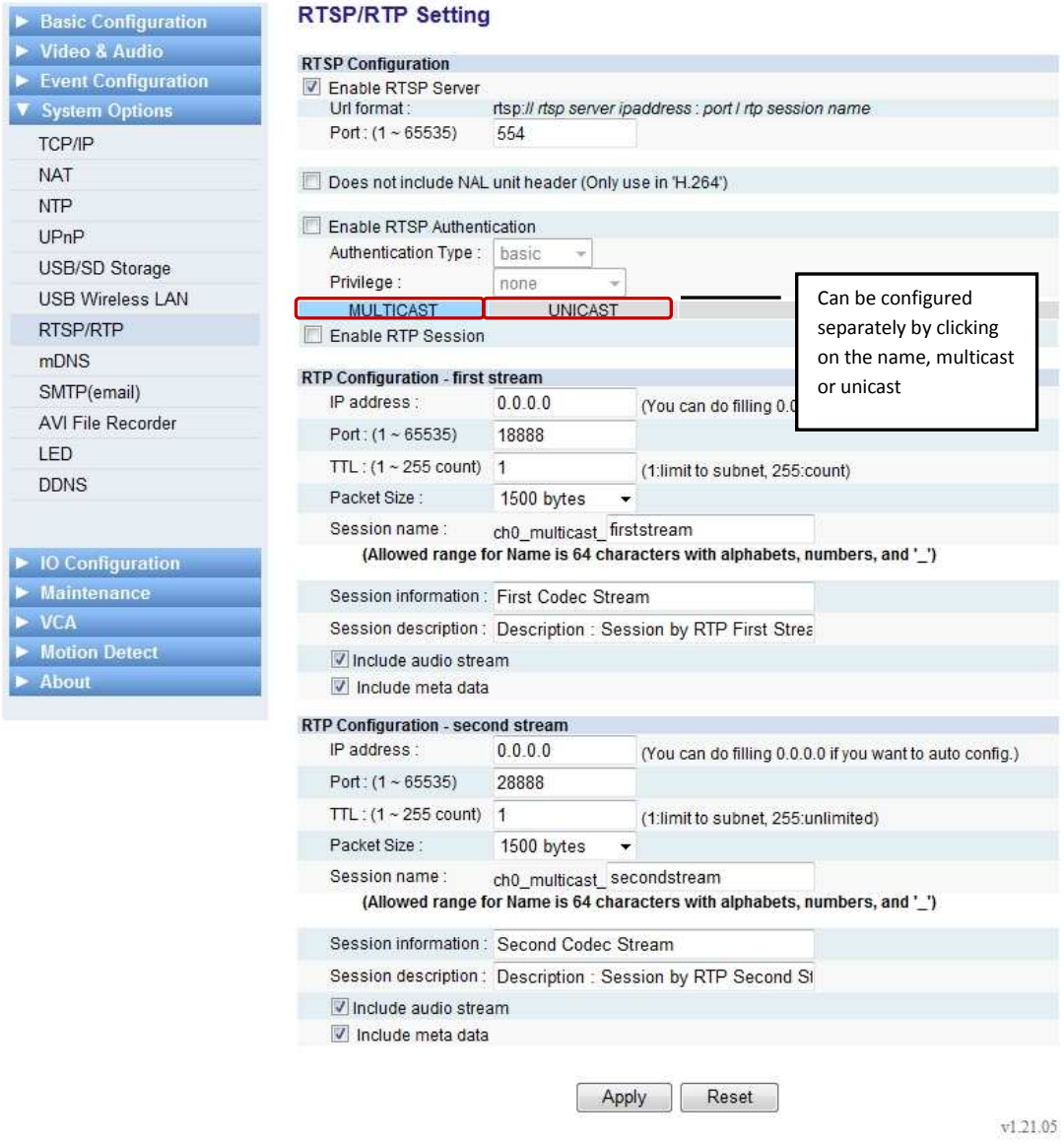
4. If you have completed the configuration of above, you can save or try to connect the wireless LAN with button of *Apply* and *Reset*.

   Apply – Save the current setting and apply them.
   Reset – It does not save the setting of the current page and go back to the prior setting.

5. Disconnect the Ethernet cable from the device. Unplugging the Ethernet cable switch the device to wireless mode automatically.

6. Wait about 30seconds to switch the wireless mode.

4.5.7. RTSP/RTP (multicast or unicast)



EVA SERIES and support the multicast and unicast streaming for both of 1st stream and 2nd stream. Click the tab of MULTICAST and UNICAST as the picture above shows and configure the RTP session as required by your network system.

RTSP Configuration

To start the data streaming such as video, audio or metadata from the EVA SERIES or server, tick the box of *Enable RTSP Server*. If you remove the check in the box, the streaming stops from server and the real time view is not seen on the web page.

Below is the requesting format of URL and Port for RTSP streaming. Each of IP address, port, and session name are open to be typed by user.

rtsp:// rtsp server ipaddress : port / rtp session name
port : 554

e.g. rtsp://192.168.111.32:554/ch0_unicast_firststream

NAL unit option

The option of "*Does not include NAL unit header (Only use in 'H.264')*" is required only when the codec is H.264. ERNITEC EVA supports also the non-standard H.264 stream as an option. The non-standard means the video stream packet that does not include the NAL unit but only Video Coded Layer included. The factory default is standard format and you don't need to check this option if you want to follow the standard H.264.

You can refer to the 'ERNITEC EVA media data manual' in the SDK for more information about the video format of ERNITEC EVA series.

RTSP Authentication

If you want to use the authentication process for getting the RTSP streaming from ERNITEC EVA , you can choose one of the options.

Authentication type
Basic : It uses simple way of encryption of ID and PW with clear text
Digest : It uses more enhanced way of encryption.

Please refer to the http://www.faqs.org/rfcs/rfc2617.html for more information about the authentication of clients using basic and digest.

Privilege
You can use one of the user groups for RTSP Authentication.

RTSP configuration for MULTICAST

NOTE : If you have decided the communication way between multicast and unicast, the option is applied to both of first stream and second stream on the web page. BUT, each of the 1st stream and 2nd stream can be configured with different way by HTTP API. Refer to the EVA SERIES HTTP API manual.pdf in the SDK.

IP Address
In order to get the streaming data from ERNITEC EVA , you should set the IP address of group which is used for PC to join. '0,0,0,0' is configured as a factory default and it enables router program to generate the available IP for ERNITEC EVA automatically. If you want to use any specific address, type the address in the blank.

NOTE : UDP/RTP multicast is not allowed for streaming even if the address and the port information is known.

How auto configuration of IP address works?

As the session name for each RTP session is defined already on the server, your PC can get the stream by the 'rtsp:// rtsp server ipaddress : port / rtp session name' without the manual decision of IP address on the webpage.

Port
Set the port number used for router to receive the streaming data from ERNITEC EVA (No need for unicast). '18888' is set for video data of 1st stream and '28888' is for video data of 2nd stream. Refer to the 'Ports list for ERNITEC EVA connection' at the end of this section4.5.6.

TTL
Set the TTL value. If you set 1 for TTL, it means the packet will pass only in a subnet (No need for unicast).

What is TTL?
It's the abbreviation of Time to live. If data is sent out from EVA SERIES via network and all of the packets are alive permanently on the network, it will cause the big network load. TTL helps to reduce the network load by controlling the time of staying on network. For example, if you set the TTL as 50, the data will be deleted after passing by 50 routers.

Packet Size
Select the packet size you want. You should consider the proper packet size according to your network bandwidth. If your network allows you enough bandwidth for IPC connection, you can set higher size. The factory default is 1500 bytes.

Session name
Type the session name. The allowed range for the session name is 64 characters with alphabets, Arabic numbers, and under bar(_).

Session information
Type the session information you want to display.

Session Description
Type the session description for more detailed information.

Include audio stream
Check this box if you want to include the audio stream as well as video stream. For your information, video stream is the fundamental stream whenever you request the RTSP stream as a factory default.

Include meta data
Meta data contains the motion detection and VCA (video contents analysis) data. Check this box if you want to include the meat stream as well as video stream. For your information, video stream is the fundamental stream whenever you request the RTSP stream as a factory default.

NOTE : Refer to the 'EVA SERIES Media Data manual.pdf' for analyzing the stream of video, audio or meta data.

RTSP Configuration for UNICAST

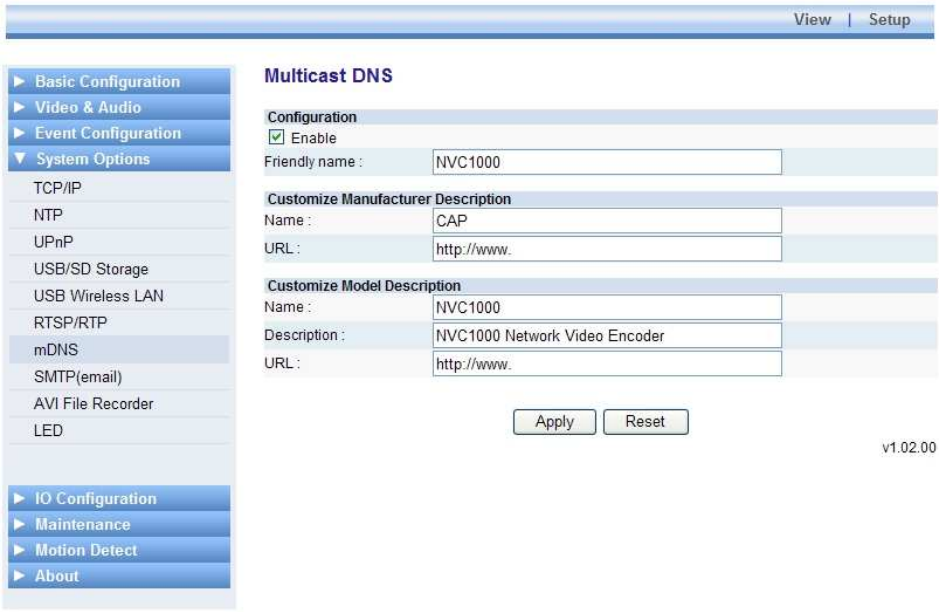
It is same as the configuration of multicast stream except for the items below.

Only for multicast system: IP Address, Port, and TTL

Ports list for ERNITEC EVA connection

Refer to the document ***TE0301 Ports list for protocol.pdf*** for detailed information about port number. It is found in the SDK (\DOC)

4.5.8. Setting property for mDNS (Multicast DNS)



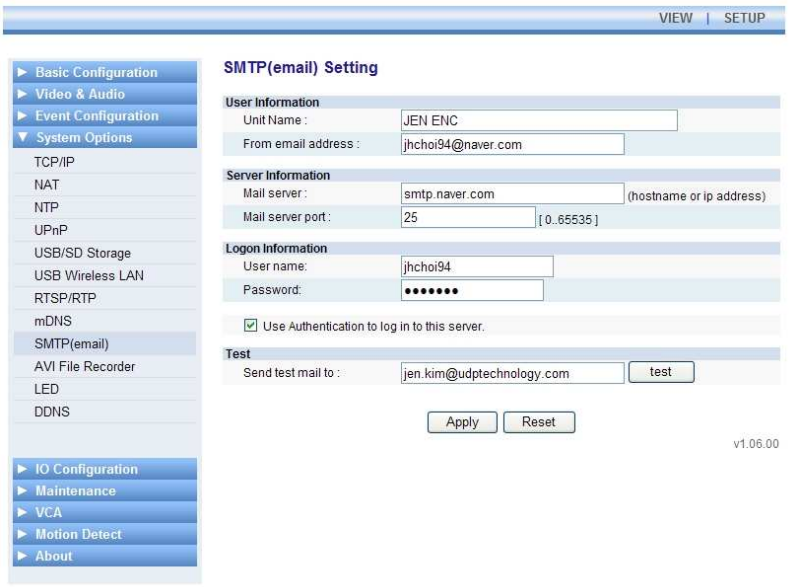
If you have your own program or device which is required to use the mDNS, this page helps you to customize the name of model and manufacturer instead of factory default.

Configuration
If you check the box of 'Enable,' mDNS is activated. You can type the Friendly Name to be shown on the application program.

Customize Manufacturer Description
You can type the manufacturer's name and home URL of your EVA SERIES. 'UDP' is typed as a default for the name but it is adjustable as you want.

Customize Model Description
You can type the model name, description of the model and URL of your EVA SERIES. 'ENC is typed as a default for the name but it is adjustable as you want.

4.5.9. Setting SMTP



You can set the user's mail account and server to apply this SMTP for event or any other SMTP required purpose.

Configuring user information

Unit Name
Type the friendly EVA SERIES server name to show on e-mail and it helps you to distinguish the devices from other devices when you use multiple network video servers.
Input range: 40 characters limit

From email address
Type the e-mail address of a sender.
Input range: 128 characters limit

Configuring server information

Mail server
In order to send the e-mail message, EVA SERIES needs the information of user's mail server. Type the Mail server with the host name or IP Address. If you use the host name, it requires the DNS registration in advance. Check the DNS setting on System Options – TCP/IP tab.
Input range: 128 characters limit

Mail server port
Type the mail server's port number with the range from 0 to 65535.
Logon Information
To log in to your mail account, type the user name and password of sender's e-mail account. If your mail server requires the authentication, check the 'Use Authentication to log in to this server'.

Logon Information

User name
Input range: 128 characters limit

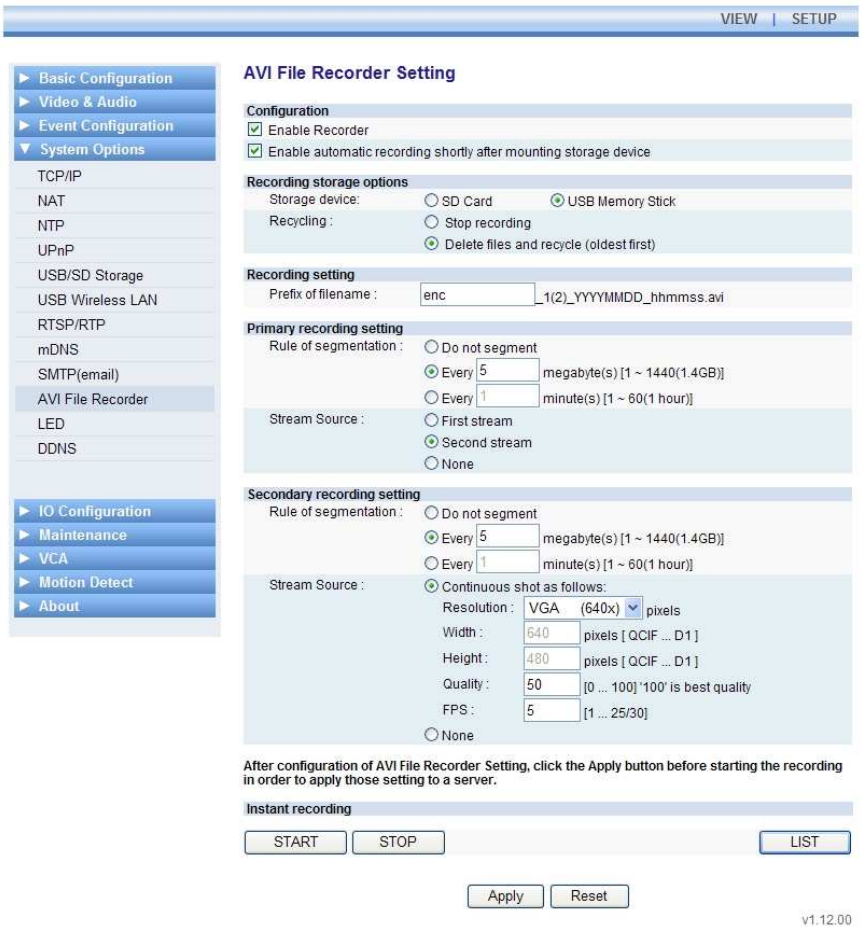
Password
Input range: 32 characters limit

Test with current configuration

You can check out in advance if the e-mail account is available or not with the 'test' button. Type the e-mail address and click the test button. If you have seen the message below, you should set the DNS first at [System Option] – [TCP/IP] menu.

If you have seen the message below, the entered mail account is valid.

4.5.10. Recording & Playback with USB/SD storage



Configuration before starting recording

1. Enable recording

If you want to record the data, the box of *Enable Recorder* must be checked. If not, the data is not recorded even if you click the START button.

Enable automatic recording shortly after mounting storage device?
It allows the recording get started automatically as soon as storage device is mounted. If you remove the tick, the recording will be started only when you command of recording manually.

2. Selecting the recording storage

You can choose one of the recording storage devices, SD card or USB Memory.

3. Recycling options
You can choose one of the options when the storage is full of data

- Stop recording: Stops recording and keep the recoded data.
- Delete files and recycle (oldest first) : Replace old files with newly created files.

4. Decision of filename

Type the file name that ends with _YYYYMMDD_hhmmss.avi. For easier recognition of multiply created files, the end of every recording file name includes the date and time information as a default.

5. Segmentation of files

- Check the 'Do not segment' if you want to create the recording data as one file.
- Segmentation by file size: Type the size of file. The range of the file size is from 1 to 1440 Megabyte(s).
- Segmentation by time base: Type the minutes to segment. The range of the file size is from 1 to 60 minute(s).

6. Selecting stream source for primary option

You can choose primary recording source from either 1st stream or 2nd stream. It's not allowed to record both of them at the same time. If you check 'None', the ERNITEC EVA does not record neither of 1st stream nor 2nd stream.

7. Stream source for secondary option

Why secondary recording is required?
As you have found on the ERNITEC EVA specification, ERNITEC EVA supports the multiple streams. For each of camera input source, the ERNITEC EVA is able to generate 1st stream, 2nd stream, and Snapshot stream, which is called triple stream. The secondary recording setting is prepared for the snapshot stream. Regardless of the MJPEG stream of either 1st or 2nd stream, the snapshot stream can be generated and recorded separately.

Do not want to record the snapshot stream?
Select None at the end of stream source options.

Selecting the stream source for recording
Secondary recording is prepared for the users who want to record the stream of snapshot. This is operated separately from the primary recording and you can get the continuous shot with JPEG format. Set the resolution, quality and fps of the recoding image.

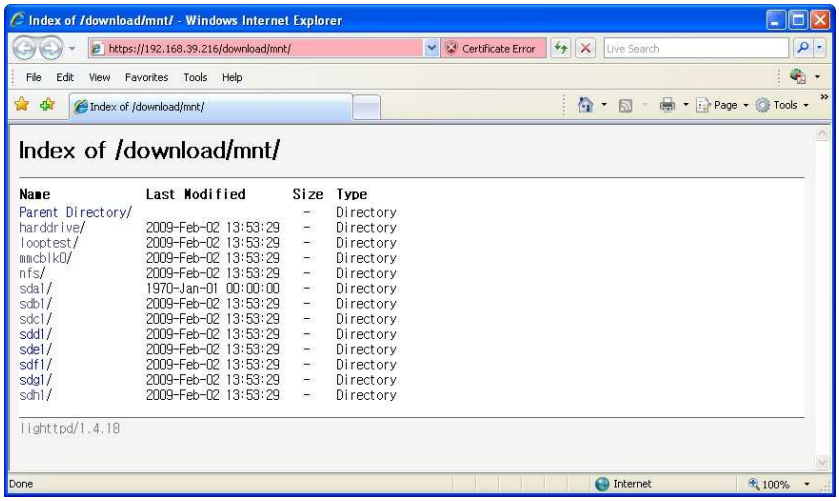
Customizing the resolution
If you choose CUSTOM as the value of the resolution, you're able to set the image size as you want regardless of the fixed standard size. Type the pixels in the fields of width and height.

8. If you have finished the setting above, click the Apply button to save and apply the setting.
9. Now, click *START* button to start the recording.

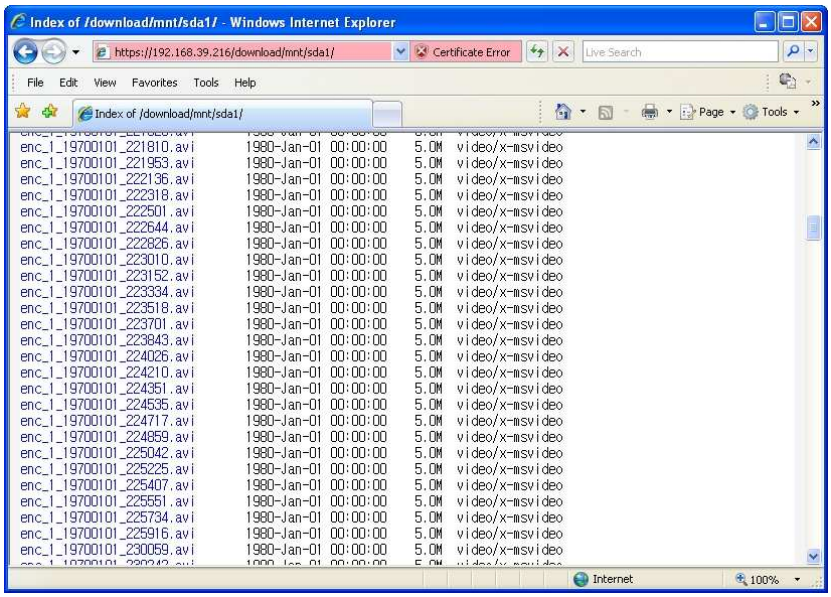
How to play back the recoding file on the webpage

1. Click the LIST button at the bottom of the page.

2. Then, you can see the new window is opened as below. The created directories are listed on the web page.

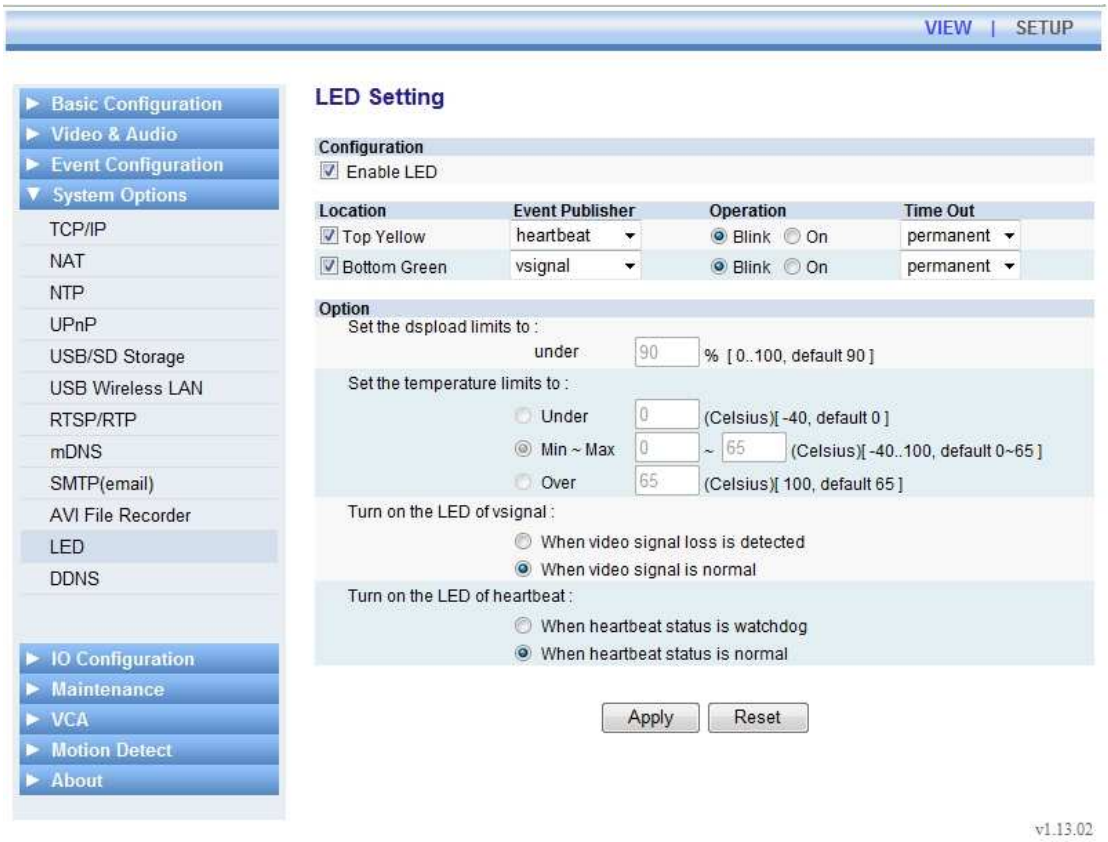


3. Click one of the directories you want. Then, you can see the recording files are listed.



4. Click the file you want to open. Then, the download window appears as below. You can open or save the file on your local disk.

4.5.11. LED Setting



You can customize the LED operation according to your system requirement. Please refer to the example scenario first.

Example of configuration

Scenario :
"When the video signal loss is detected, let top LED blink for every 5 seconds"

Setting :
Top Yellow - Ticked

Event Publisher - vsignal
Operation - Blink
Time Out – 5
Option – Turn on the LED of vsignal : Select 'When video signal loss is detected'.

Basic configuration

1. Check the 'Enable LED' box to enables the LED function.
2. Select the 'Event Publisher' you want to apply for the TOP yellow / Bottom green LED.
3. Select the 'Operation Type' of each LED, Blink or On mode.
4. Select the 'Time Out', among 1 ~ 5 sec or permanent alarming.

Location of LED
In case of EVA SERIES1000, you can find that there are 2 LEDs on the left side of the video input port. Each of ERNITEC EVA series has different position of LEDs and you should refer to the 'Hardware Installation guide' of your model (Refer to the \DOC of your SDK)

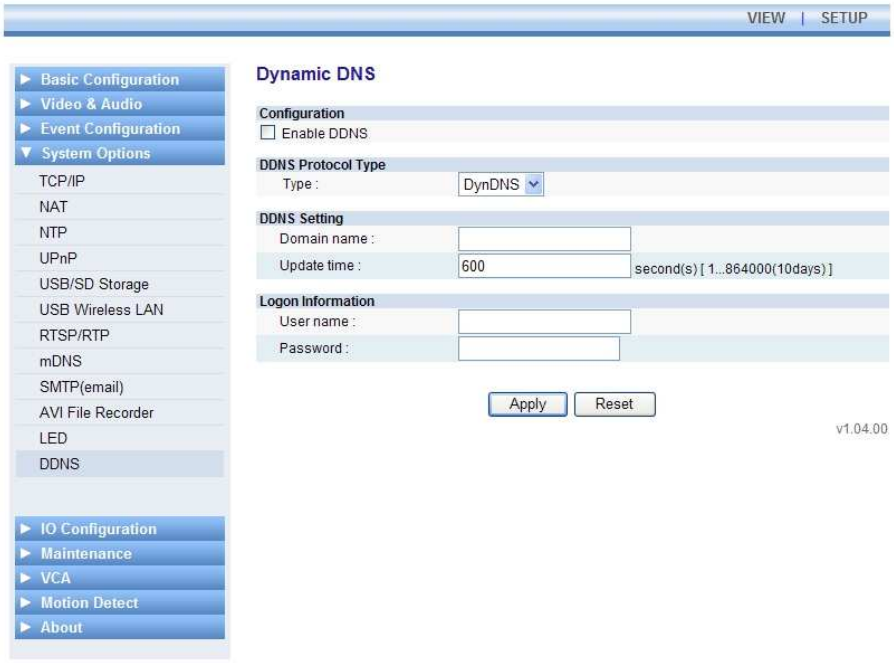
If you are configuring DSP load, temperate, and video signal loss?

The option page provides the configuration of DSP load, temperature change, and video loss.

(1) Set the dspload limits to
E.g. Setting the value as 90% - While the DSP load keeps lower than 90%, the LED will operate as you configured at Location tab.
(2) Set the temperature limits to
E.g. Setting the min 0 and max 65 - While the temperature is between 0 and 65, the LED will operate as you configured at Location tab.
(3) Turn on the LED of Vsignal
Select one of the options between 'When video signal loss is detected' and 'When video signal is normal'. Then, the selected LED will operate when the selected condition is satisfied.
(4) Turn on the LED of Heartbeat
Select one of the options between 'When heartbeat status is watchdog' and 'When heartbeat status is normal'. Then, the selected LED will operate when the selected condition is satisfied.

NOTE :
For more details about the publisher's triggers condition, refer to the 'EVA SERIES Event System Manual.pdf' in the SDK. It describes the threshold for event triggering, event message format, and triggering condition etc.

4.5.12. DDNS (Dynamic DNS)



1. Check the 'Enable DDNS' box.
2. Select the protocol type you want.

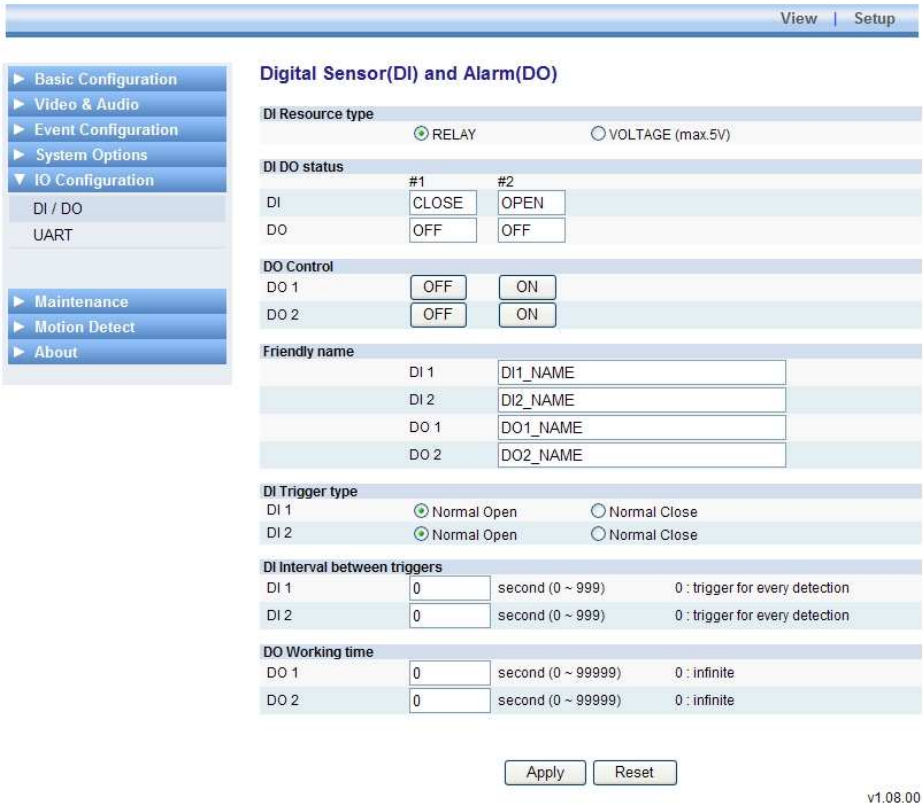
NOTE : Only DynDNS is installed. Ask UDP support team for adding more servers.

3. Type the domain name you want to use for the ERNITEC EVA .
4. Type the update time. The factory default is 600 seconds and it enables the ERNITEC EVA notify the DDNS of the current domain name.
5. Type the user name and password of your DDNS account.
6. Click Apply button.

4.6. IO CONFIGURATION

4.6.1. DI/DO control

If you should install the additional device such as alarm system or sensor system, you can configure the DI (Digital Input) and DO(Digital Out) in this page.



DI Resource Type

You can choose the DI resource type, RELAY or VOLTAGE (The maximum is 5V).

DI & DO Status

It reflects the current states of actual DI and DO. In case of EVA SERIES1000, 2 of DI and DO are supported for each. Refer to your ERNITEC EVA model specification for supported number of DI and DO.

Scenario Example

When it's assumed that DI#1 and DO#1 are coupled by event system. The DI#1 trigger type is Normal Open. Suddenly DI#1 is triggered by any kind of event.
Expected Response – The status of DO#1 will be changed from OFF to ON, if the default setting is OFF. The status of DI#1 will be changed from OPEN to CLOSE.

DO Control

If you want to test DO operation manually on the webpage, click the soft buttons of OFF and ON. Then, you can see that how DO works. These commands also affects the 'DO status' because the 'DO status' shows the current status of DO.

Friendly Name

You can type any friendly name for DI and DO. This setting helps you to identify which DI or DO is activated especially when you have multiple EVA SERIES servers on your application program.

DI Trigger Type

You can select the trigger type between normal open (NO) and normal close (NC).

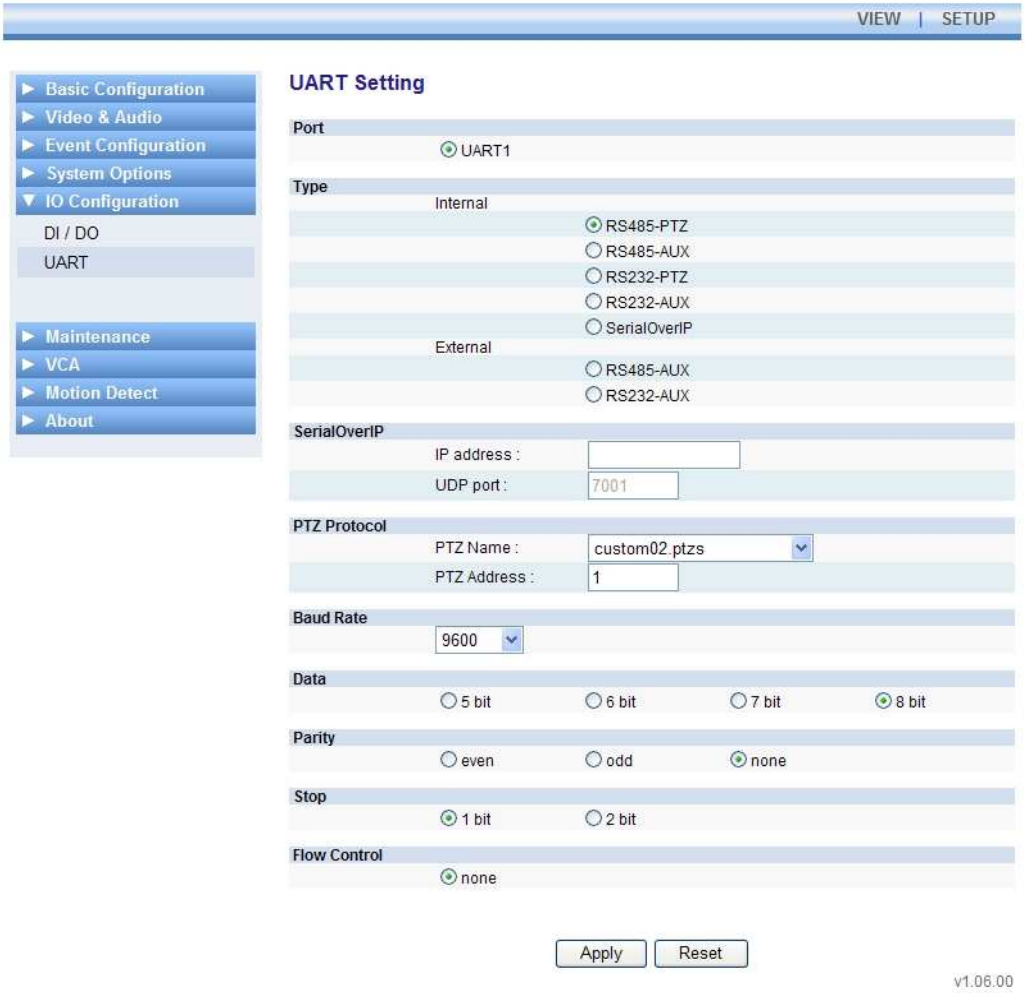
DI Interval between triggers

It is the detection time interval for event publishers. For example, if '0' is typed, it generates events every time for DI detection. But if '10' is typed, that means even if multiple DIs are detected for 10 seconds, they will trigger only 1 event for that 10 seconds.

DO Working Time

It is about the working time of the DO.
For example, if '0' is typed, DO device keep working until a user turns it off manually. If '10' is typed, DO device will work for 10 seconds and will finish the operation.

4.6.2. UART setting for serial device

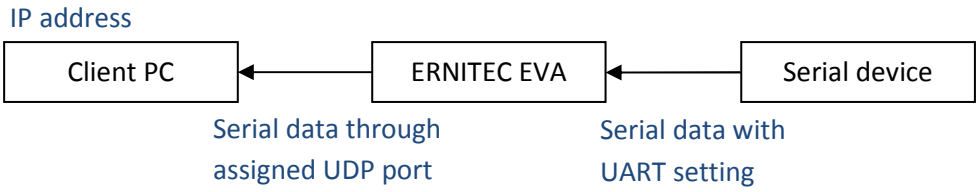


Port
Only one of UART connection is provided for serial device communication.

Type
You can choose one of the UART types according to your purpose of serial communication.

- 'External' is opened port for a 3rd party program. The data communication setting is not fixed between external device and ERNITEC EVA .
- 'Internal' is opened for PTZ or auxiliary device.

SerialOverIP
What is Serial Over IP?



IP address : The IP address of client PC
UDP port : The port used for the data communication between ERNITEC EVA and client PC

PTZ Protocol
PTZ Name : You need to set the UART type as RS485-PTZ before selecting the PTZ protocol. If you click the drop down box of PTZ name, the available protocols are listed. Choose the required protocol to communicate with your camera.

PTZ Address : Type the PTZ address as you have set on your PTZ camera. You may find the dip switch at the bottom of the PTZ camera which enables the cameras to have their own address. Refer to your PTZ camera hardware manual for the PTZ address setting.

Baud Rate, Data, Parity, Stop, Flow Control
These settings are necessary when you want your serial device to communicate with the ERNITEC EVA series. The default values of web page are set for the RS485 PTZ device but you can set the values according to your own device requirement.

4.7. MAINTENANCE

4.7.1. Firmware Update port setting

Firmware update is allowed only by the IPAdminTool.exe, which is provided in the SDK (\BIN\TOOLS\AdminTool vX.X.X.X). Refer to the '*EVA SERIES Tools User's Manual.pdf*' to find out how to update the firmware on your ERNITEC EVA .

Before you upload the firmware with IPAdminTool.exe, check the 'Enable Firmware Update' box and set the port number. If you remove the check this box, updating the firmware is not allowed.

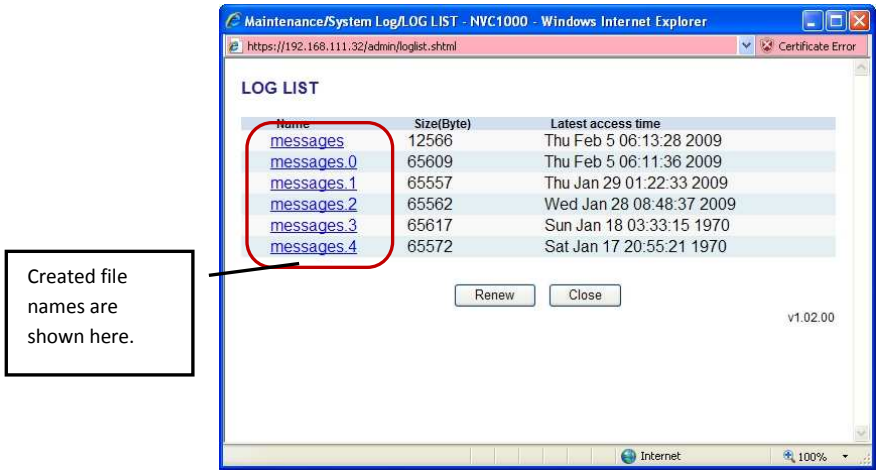
4.7.2. Getting system Log

In order to get the system log of ERNITEC EVA series, please follow the steps of below.

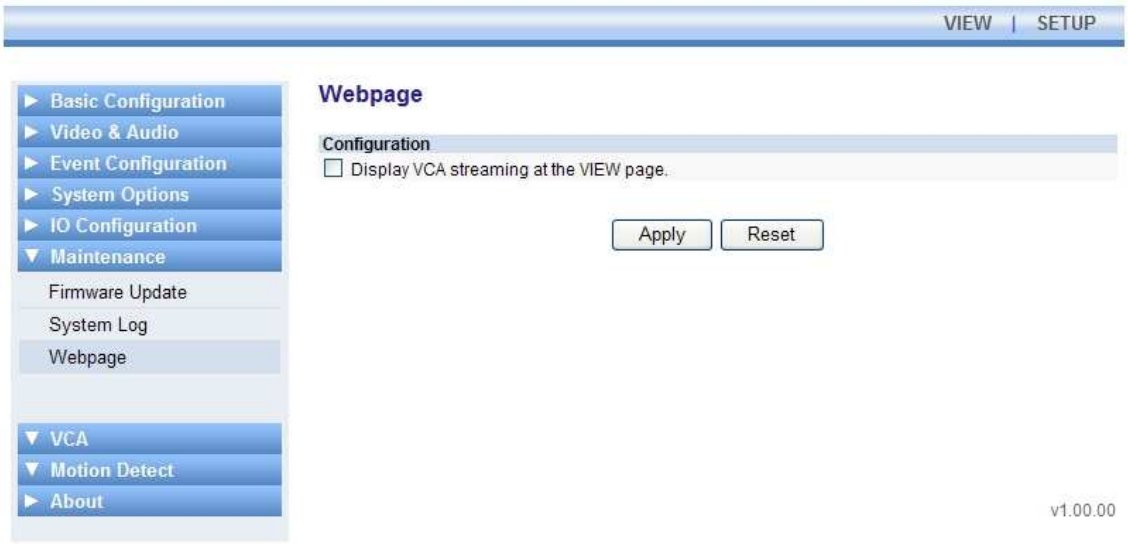
1. Check the 'Enable System Log' box
2. Type max size of file between 32KB and 200KB. Then, the log files will be created according to the fixed size (Up to 5 files are created and the oldest file will be replaced by the latest file).
3. Click Apply button and then the log file will be created.

If you want to see the log list, click the LOG LIST button.

Name : The log files are named automatically. It's not allowed for user to name it manually.
Size : Log file size is updated in real time.
Latest access time : Latest time when ERNITEC EVA accessed the internal system to get the log.



4.7.3. Webpage option for VCA

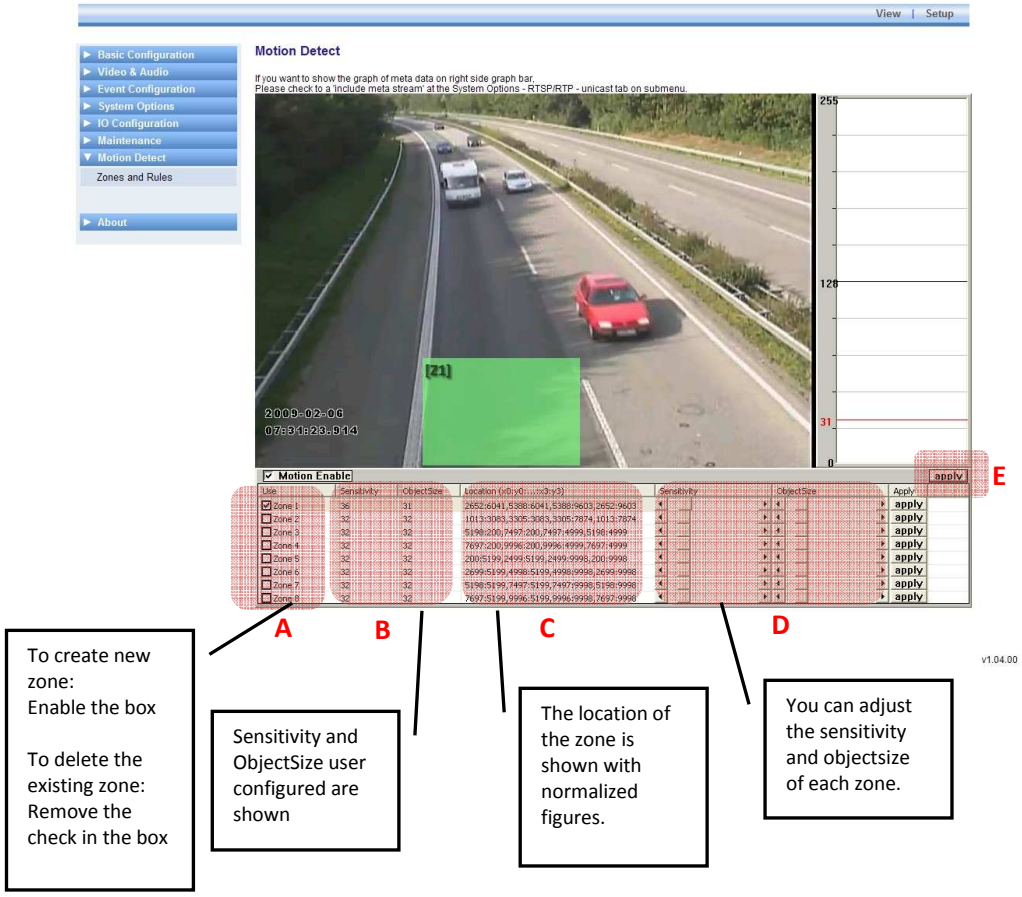


If you check the 'Display VCA streaming at the VIEW page', it enables you to get the Video Contents Analysis stream at the view page.

4.8. VCA

Refer to the separate documents, *VCAsys.chm* in the SDK (path : \DOC).

4.9. MOTION DETECTION



The picture above is the example of zone setting on the highway image.

How to configure the motion detection zones:

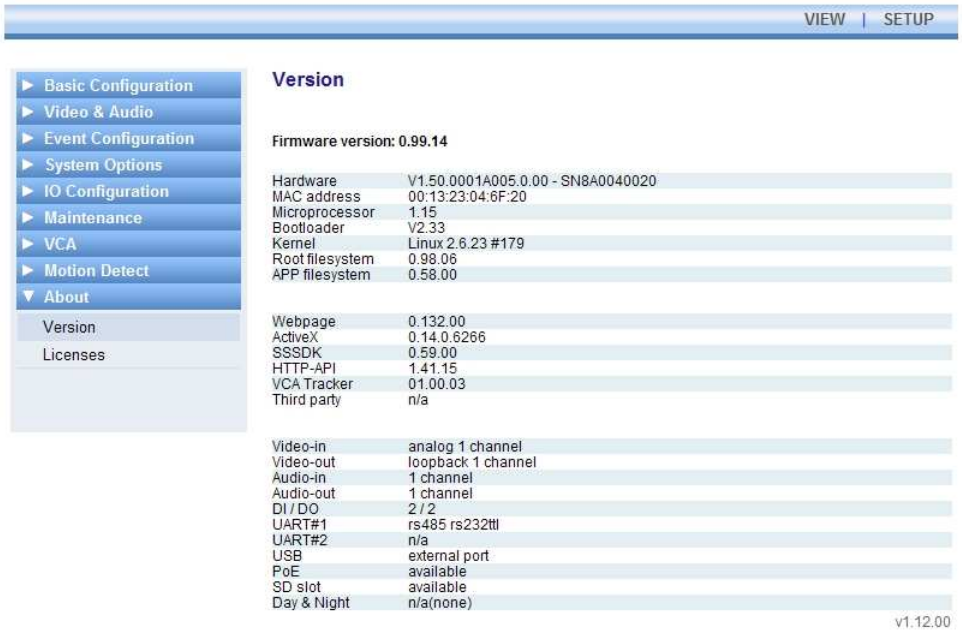
1. Check the box of section A to create new zone for motion detection (It supports up to 8 zones). If you want to remove the existing zone, remove the check of the box.
2. Adjust the sensitivity and objectsize of selected zone in the section D.
3. Click apply button for each zones on the right side.
4. If you have completed the configuration of zones with the step 1~3, check the Motion Enable box to enable the motion detection and click the apply button E.
5. Now, get out of the [Setup] page and go to the [View] page to see the activation of the zone configuration. When any motion is detected in the configured zone, the zone will flicker every time.

What is Sensitivity?
Every motion detection zone is divided into multiple squares, which is called 'Macro blocks.' And each of macro blocks consists of 16 x 16 pixels. The value of sensitivity means the sensitivity of each macro block. If you want to configure the zone less sensitive than the factory default, set the figure higher by dragging the bar of section D. Likewise, if you want to configure the zone more sensitive than the factory default, set the figure lower.

What is Objectsize?
The objectsize value means the proportion of the macro blocks which has exceeded the configured sensitivity. If you want to configure the zone less sensitive than the factory default, set the figure higher by dragging the bar of section D. Likewise, if you want to configure the zone more sensitive than the factory default, set the figure lower.

4.10. ABOUT

4.10.1. Version



You can find the information about the current firmware version on the top of the page. Hardware and software version information etc are found in this page as well.

4.10.2. Licenses

Third Party Software License
When you have added the third party software on EVA SERIES, you can use this page to check out the licenses.

5. SAFETY MODE

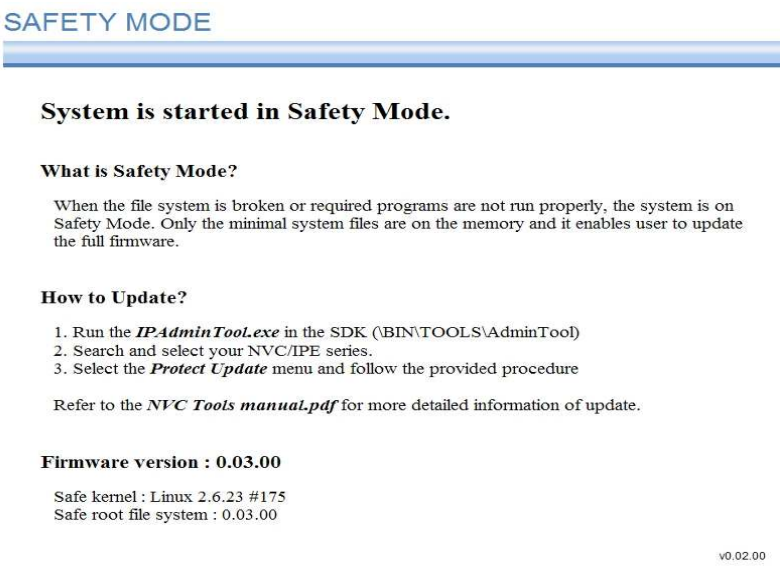
5.1. What is Safety Mode?

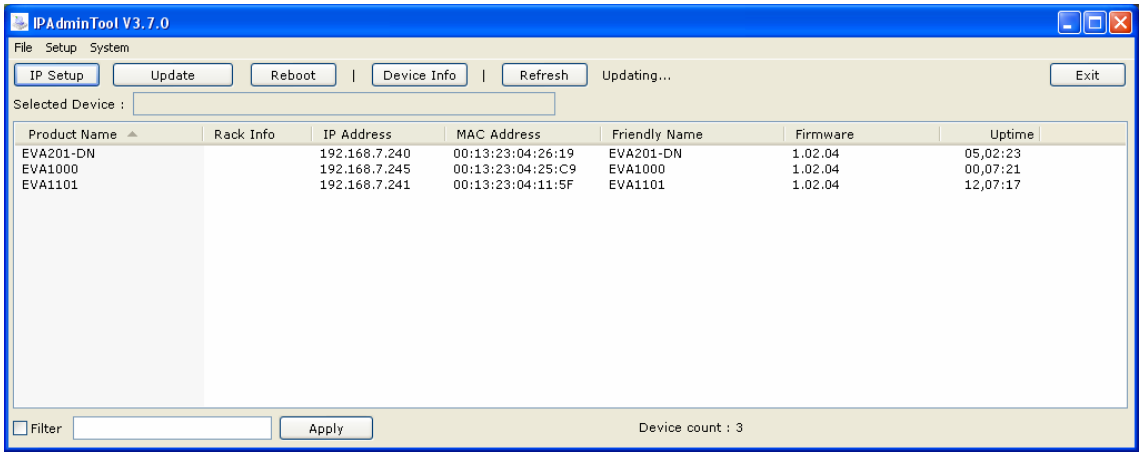
Your EVA SERIES or system could encounter an unexpected occasion such as broken firmware file or uncompleted loading of firmware file during system booting. To restore the system after the emergency cases, EVA SERIES and system provides the emergency firmware as a factory default. Your system will get restarted with Safety Mode when there is any error on your booting system files.

5.2. Why your EVA SERIES or system boots in Safety Mode?

Normally, the cause of 'safety mode' is classified into 3 types.
* When the power supply is unplugged in the middle of system booting.
* When the firmware files required for system booting are damaged.
* When a user has not completed the booting files system and try to boot the system (Applied only for the case of Server Side SDK user)

5.3. How to recover your system from Safety Mode?





If you see the screen below, that means your system has rebooted at 'Safety Mode' and you should follow the steps.

1. Click the 'Reboot' button on the webpage
2. Wait for about 1 minute until the system gets restarted at normal condition.
3. Try to access the webpage again and check out if it displays the webpage in normal.

If your system still keeps rebooting at Safety Mode even with the steps of above?
It means some parts of your firmware files on the system are damaged and not available any more. Please try the steps of below to recover the firmware file.

1. Run the IPAdminTool.exe program in the SDK (\BIN\TOOLS\AdminTooL). Then, you may find that your EVA SERIES or is with 'Safety Mode' on the IPAdminTool as below.
2. Right-click at the device name and select the 'Update' menu.

NOTE : Please find the detailed instruction at the 'EVA SERIES Tools User's Manual.pdf' to know how to update firmware, which is located at SDK (\DOC). The section '2.6. How to update firmware remotely by IPAdminTool' will guide you to understand the updating procedure.

If you have completed the firmware update, you can access the webpage and check out if your system boots in a normal booting mode.

5.4. Limited functions under Safety Mode

Though it varies by operating system, typically safe mode loads as few executable modules as possible and usually disables normal working of device.

Available functions

IP change by IPAdminTool
Scanning by IPAdminTool
Searched by UPnP program

Limited functions

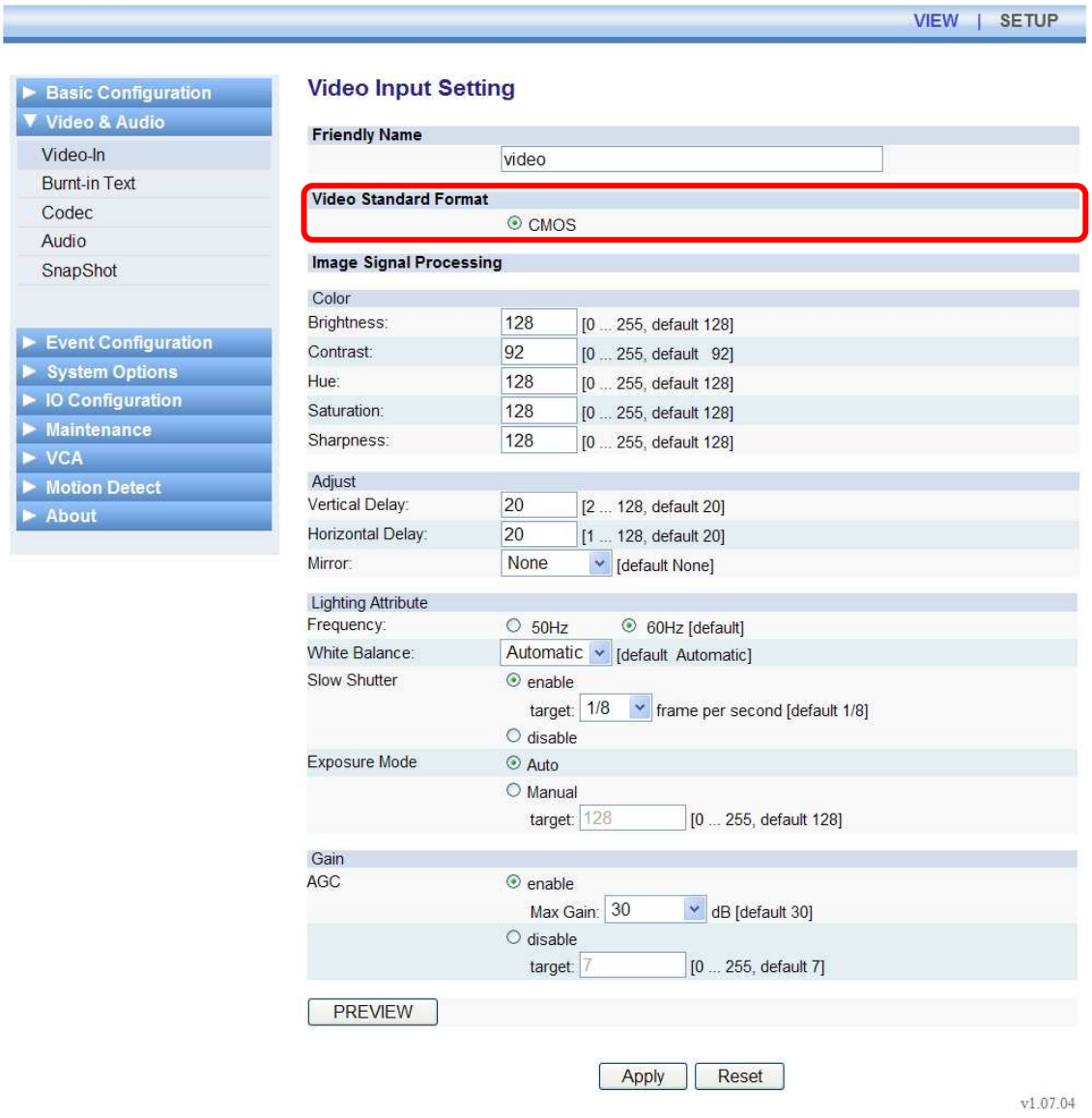
RTSP or HTTP streaming
Event messages or alarming
Recognition of HTTP API commands

6. REFERENCE TO MODELS

6.5. EVA 1001

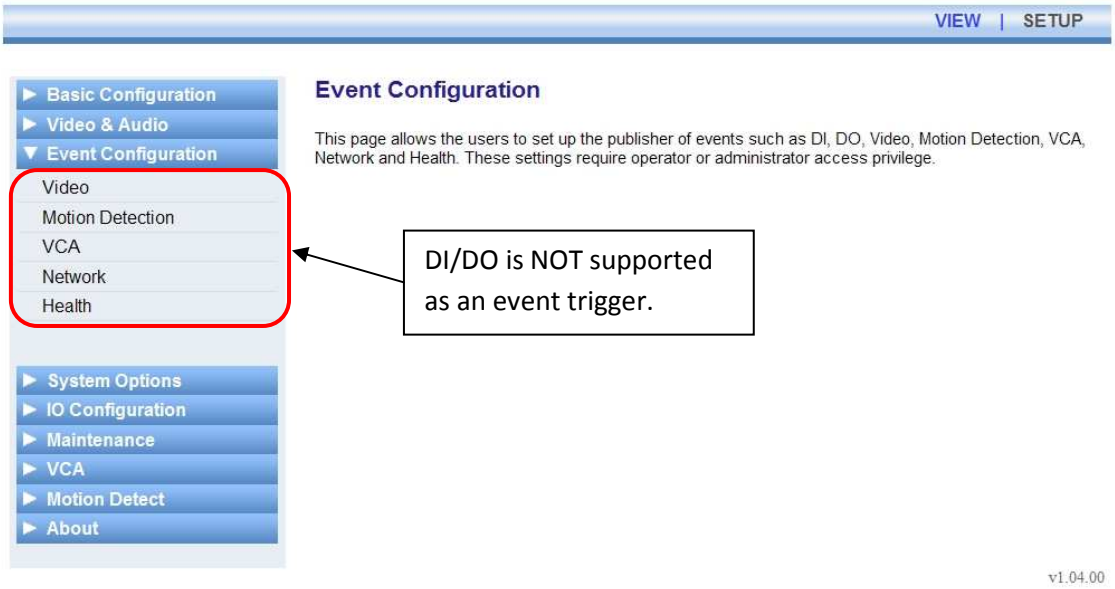
Video Input

The Video Standard Format of video input depends on the lens type of your EVA 1001. If your camera has the type of CMOS lens, the video standard format will show you CMOS selected configuration on the webpage.



Event Configuration

Only Video, Motion Detection, VCA, Network, and Health are supported for the event publisher (DI/DO are not supported). Refer to section 4.4. Event Configuration for the explanation of the setting.



USB/SD Storage

USB/SD ports are NOT supported.

USB Wireless LAN

USB port for Wireless LAN is NOT supported.

DI/DO Control

DI/DO is NOT supported.

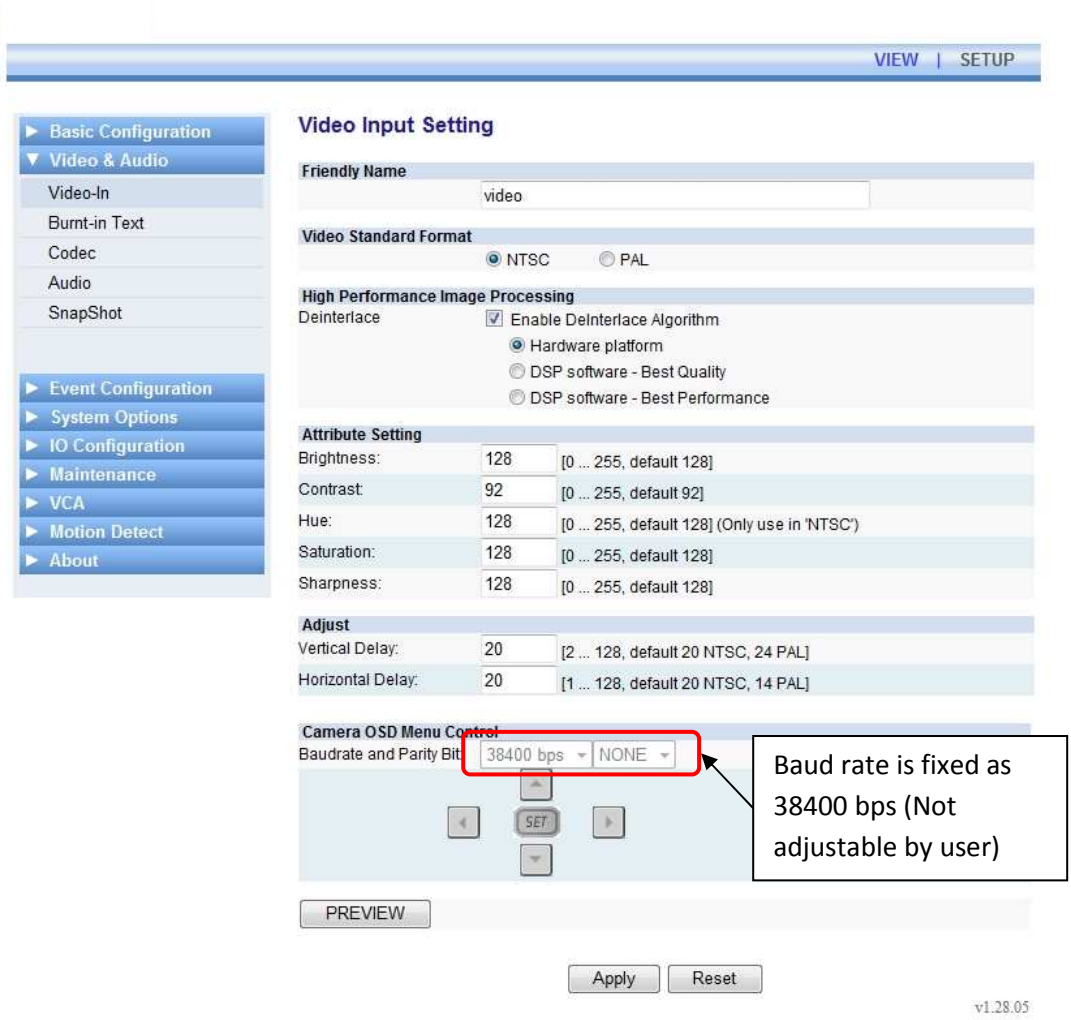
UART Setting for serial device

Serial communication available for users is NOT supported.

6.6. EVA 101

Video Input

Camera OSD Menu Control
For OSD menu operation, refer to the 'EVA 101 OSD Menu Control Manual' in the SDK.



Refer to the section 4.3. VIDEO & AUDIO for more information about settings other than Camera OS menu Control.

Event Configuration

Refer to the section 4.4. EVENT CONFIGURATION for the explanation of the setting.

USB/SD Storage

Refer to the section 4.5. SYSTEM OPTION for the explanation of the setting.

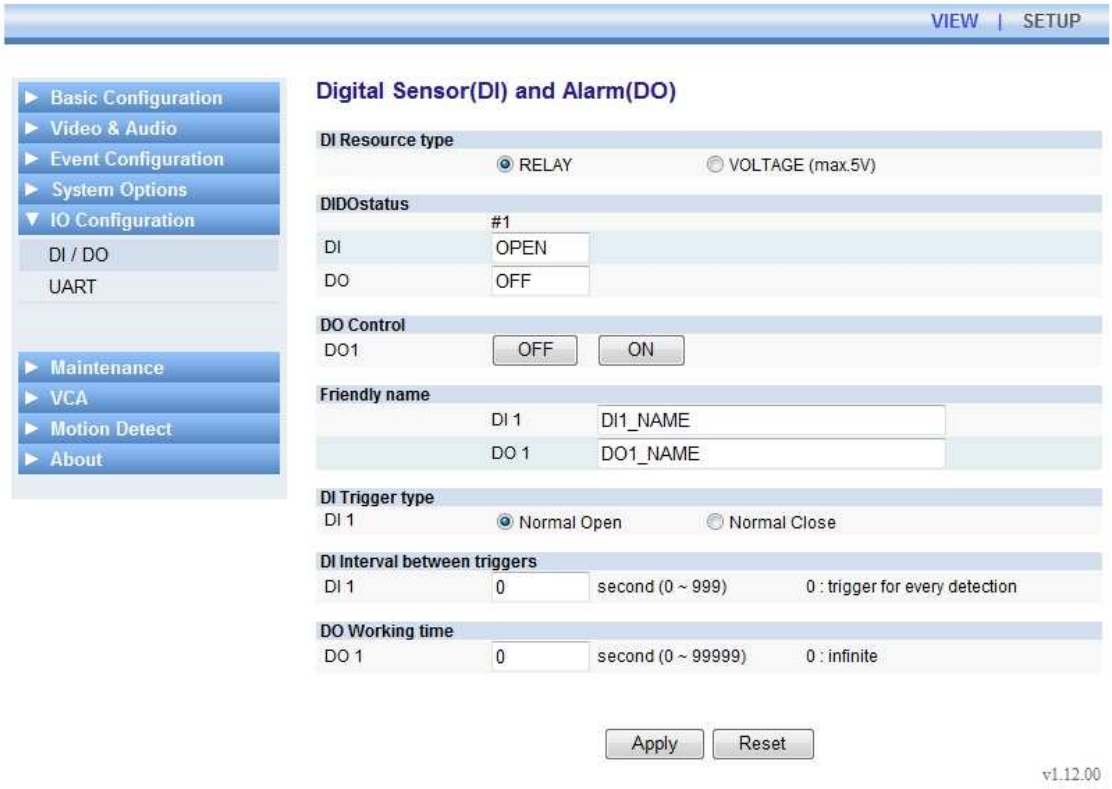
USB Wireless LAN

Refer to the section 4.5. SYSTEM OPTION for the explanation of the setting.

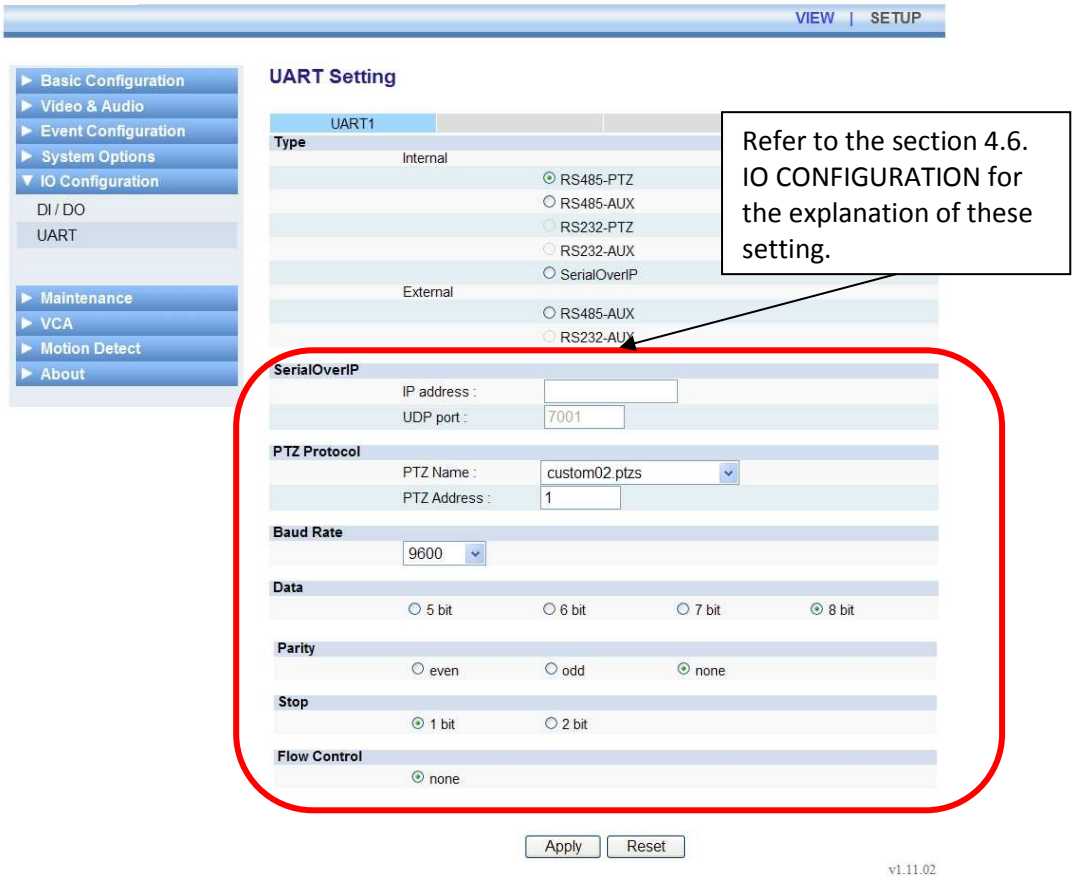
DI/DO Control of EVA 101

The number of supported DI and DO
DI : #1
DO : #1

Refer to the section 4.6. IO CONFIGURATION for more explanation of the setting.



UART Setting for serial device of EVA 101



UART0 : Reserved for the internal debugging purpose with RS232C.
UART1 : RS485 port
UART2 : Reserved for the communication of camera OSD control

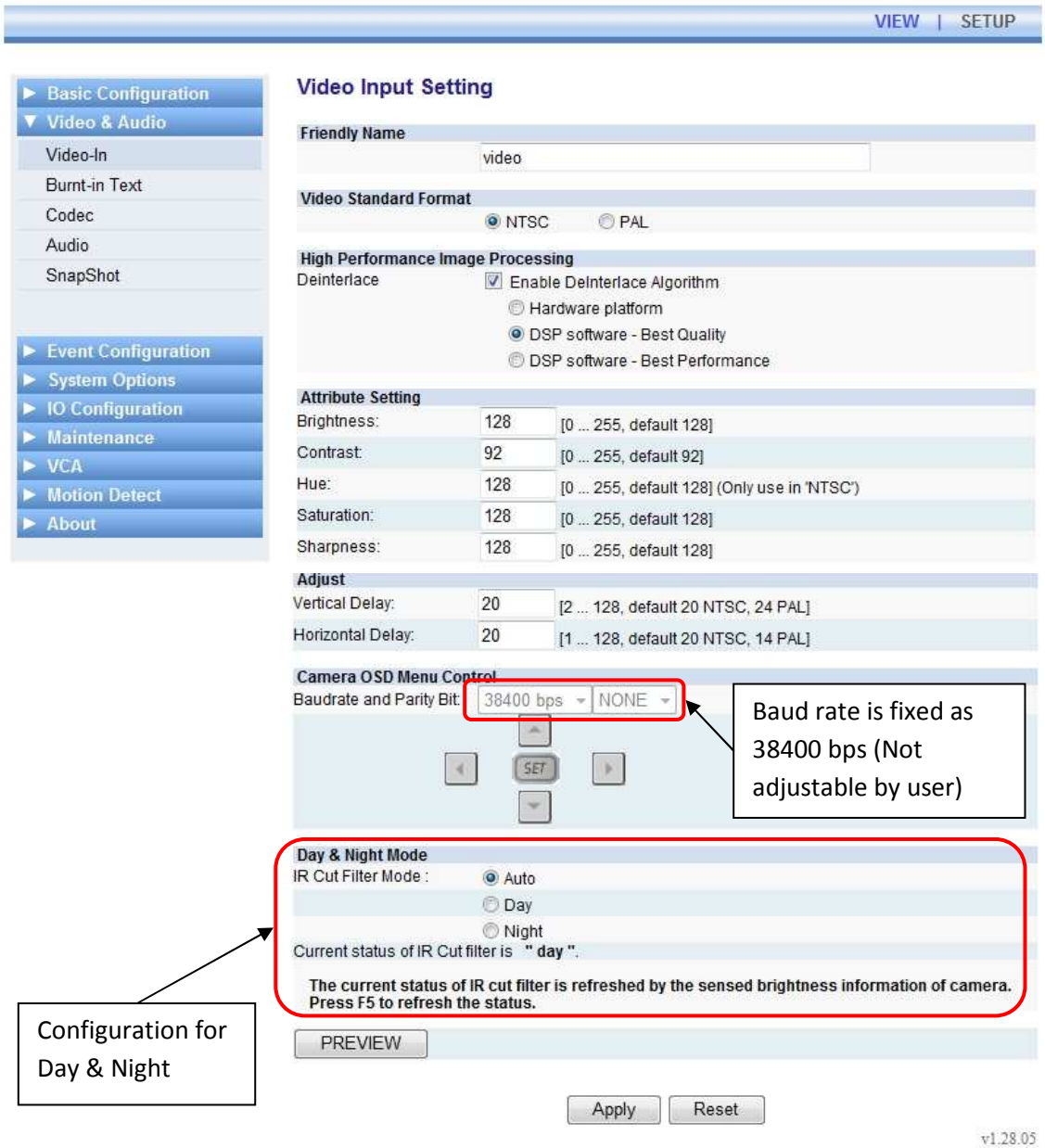
IMPORTANT : Only UART1 is available for users but UART0 and UART2 are reserved for internal communication purpose which are not opened to users.

NOTE : The UART setting depends on the hardware version and firmware version of your device. The setting configuration of above is based on the *hw v1.3 / firmware v1.00.06*. You can check out the version information at [Setup] – [About] – [Version] tab of the webpage.

NOTE : If you want the RS232C, please use the 485-232 converter.

6.7. EVA 1101

Video Input



Camera OSD Menu Control

For OSD menu operation, independent manual is provided.
Refer to the 'EVA 1101 OSD Menu Control Manual' in the SDK.

Day & Night Mode Configuration

You can set the day or night mode of your camera at this section.

IR Cut filter mode :
Auto - It enables the camera to install or remove the IR Cut filter automatically according to the circumstance of the camera.
Day - IR Cut Filter is installed and it enables the camera turns into the Day mode.
Night - IR Cut Filter is removed and it enables the camera turns into the Night mode

Current status of IR Cut filter is :
The value of the '*Current status of IR Cut filter is'* shows the current status of Day/Night mode.
Tip : If you have set the 'IR Cut filter mode' as 'Auto', this value helps you to find out the current mode.

Event Configuration

Refer to the section 4.4. EVENT CONFIGURATION for the explanation of the setting.

USB/SD Storage

Only SD supported.

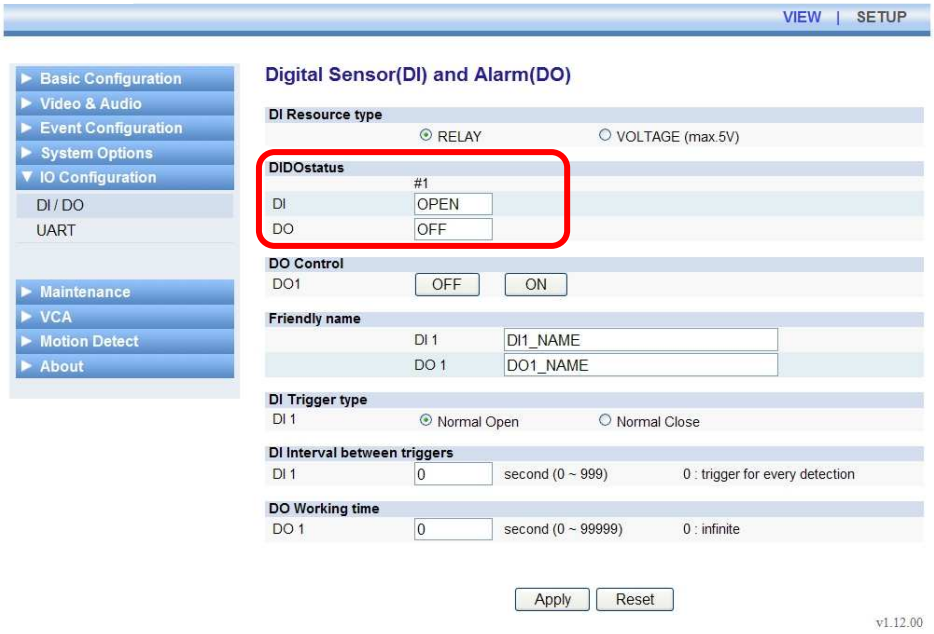
USB Wireless LAN

USB port for Wireless LAN is NOT supported.

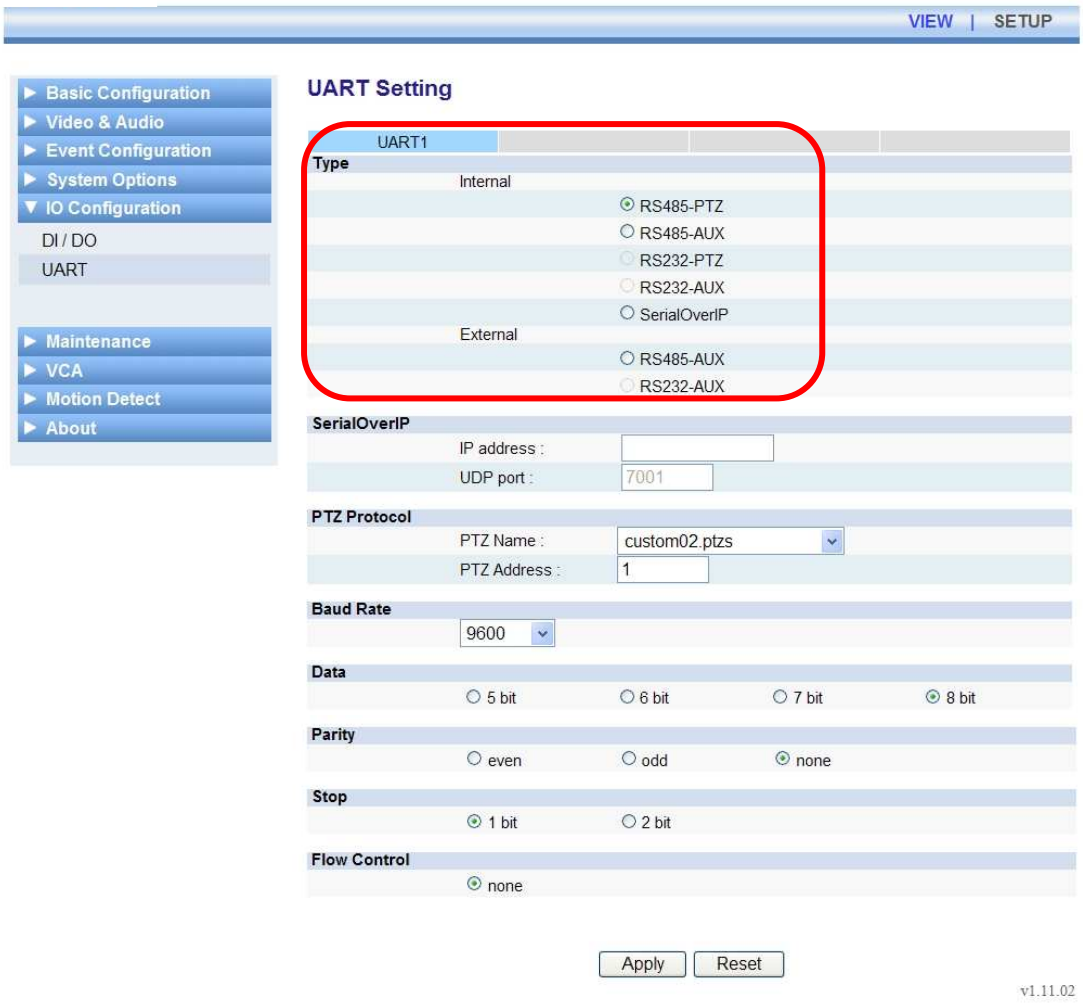
DI/DO Control of EVA 1101

The number of supported DI and DO
DI : #1
DO : #1

Refer to the section 4.6. IO CONFIGURATION for the explanation about the setting.



UART Setting for serial device



UART0 : Reserved for the internal debugging purpose with RS232C.
UART1 : RS485 port
UART2 : Reserved for the communication of camera OSD control

IMPORTANT : Only UART1 is available for users but UART0 and UART2 are reserved for internal communication purpose which are not opened to users.

NOTE : The UART setting depends on the hardware version and firmware version of your device. The setting configuration of above is based on the *hw v1.3 / firmware v1.00.06*. You can check out the version information at [Setup] – [About] – [Version] tab of the webpage.

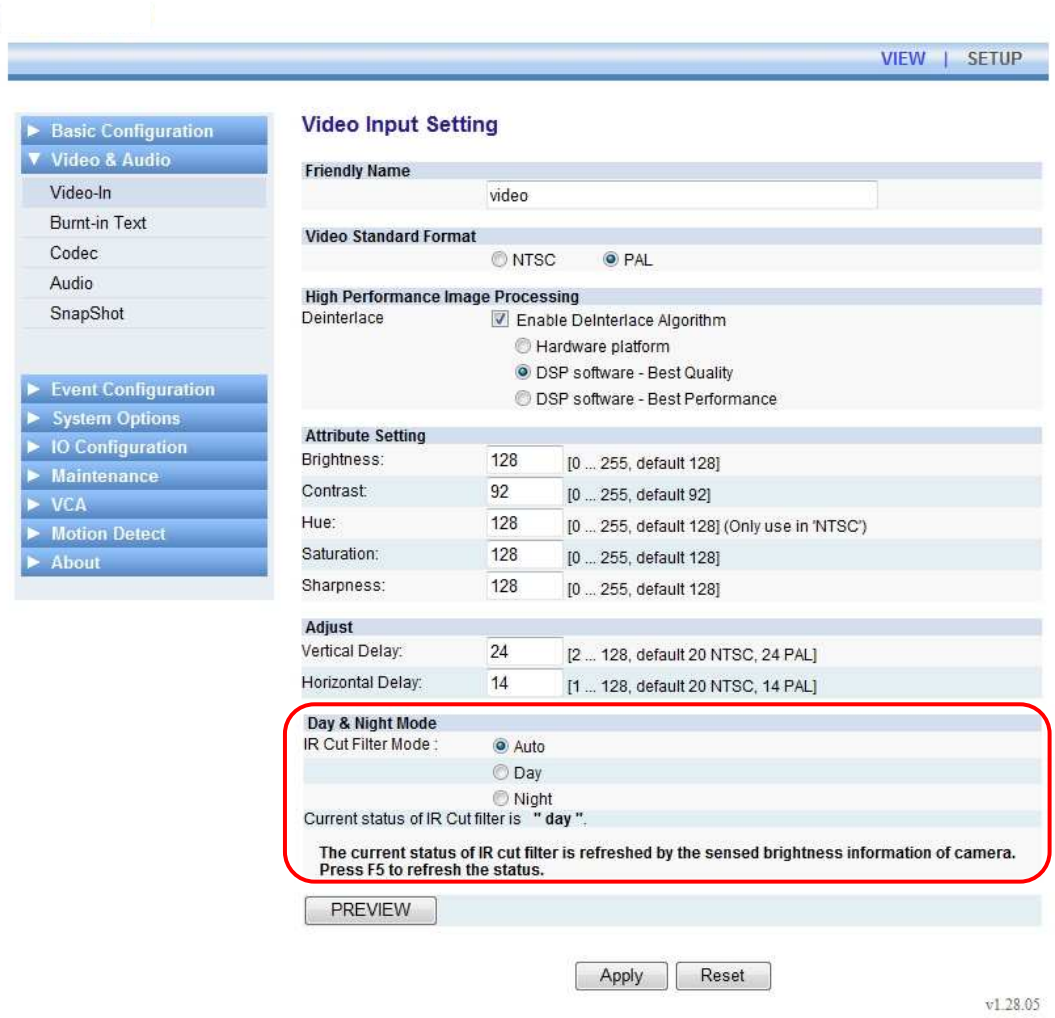
NOTE : If you want the RS232C, please use the 485-232 converter.

6.8. EVA 4101

Day & Night Mode Configuration

IR Cut filter mode :
Auto - It enables the camera to install or remove the IR Cut filter automatically according to the circumstance of the camera.
Day - IR Cut Filter is installed and it enables the camera turns into the Day mode.
Night - IR Cut Filter is removed and it enables the camera turns into the Night mode

Current status of IR Cut filter is :
The value of the '*Current status of IR Cut filter is'* shows the current status of Day/Night mode.
Tip : If you have set the 'IR Cut filter mode' as 'Auto', this value helps you to find out the current mode.



Camera OSD Menu Control

For OSD menu operation, refer to the 'EVA 4101 OSD Menu Control Manual' in the SDK.

Event Configuration

Refer to the section 4.4. EVENT CONFIGURATION for the explanation about the setting.

USB/SD Storage

USB/SD ports are NOT supported.

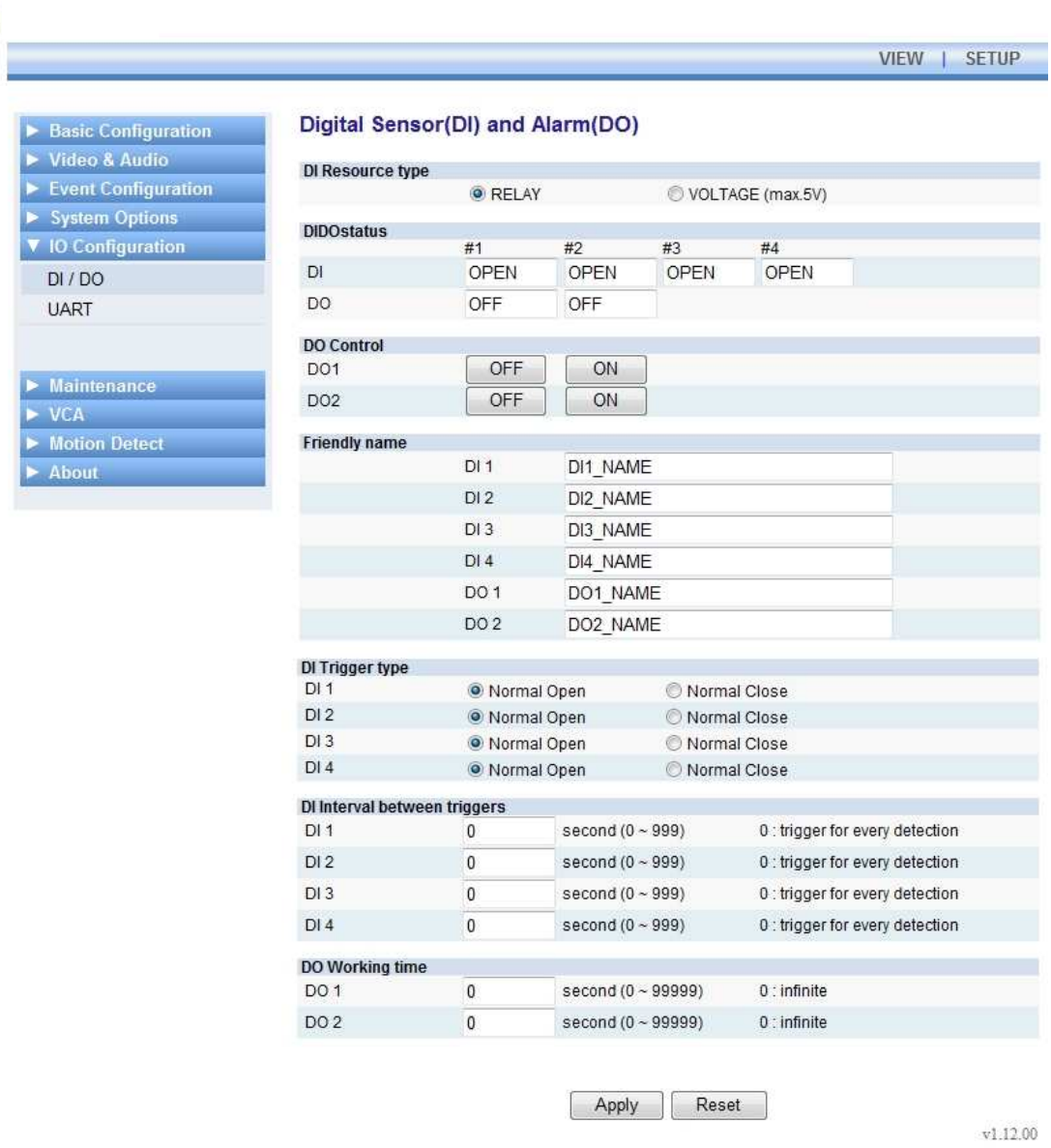
USB Wireless LAN

USB port for Wireless LAN is NOT supported.

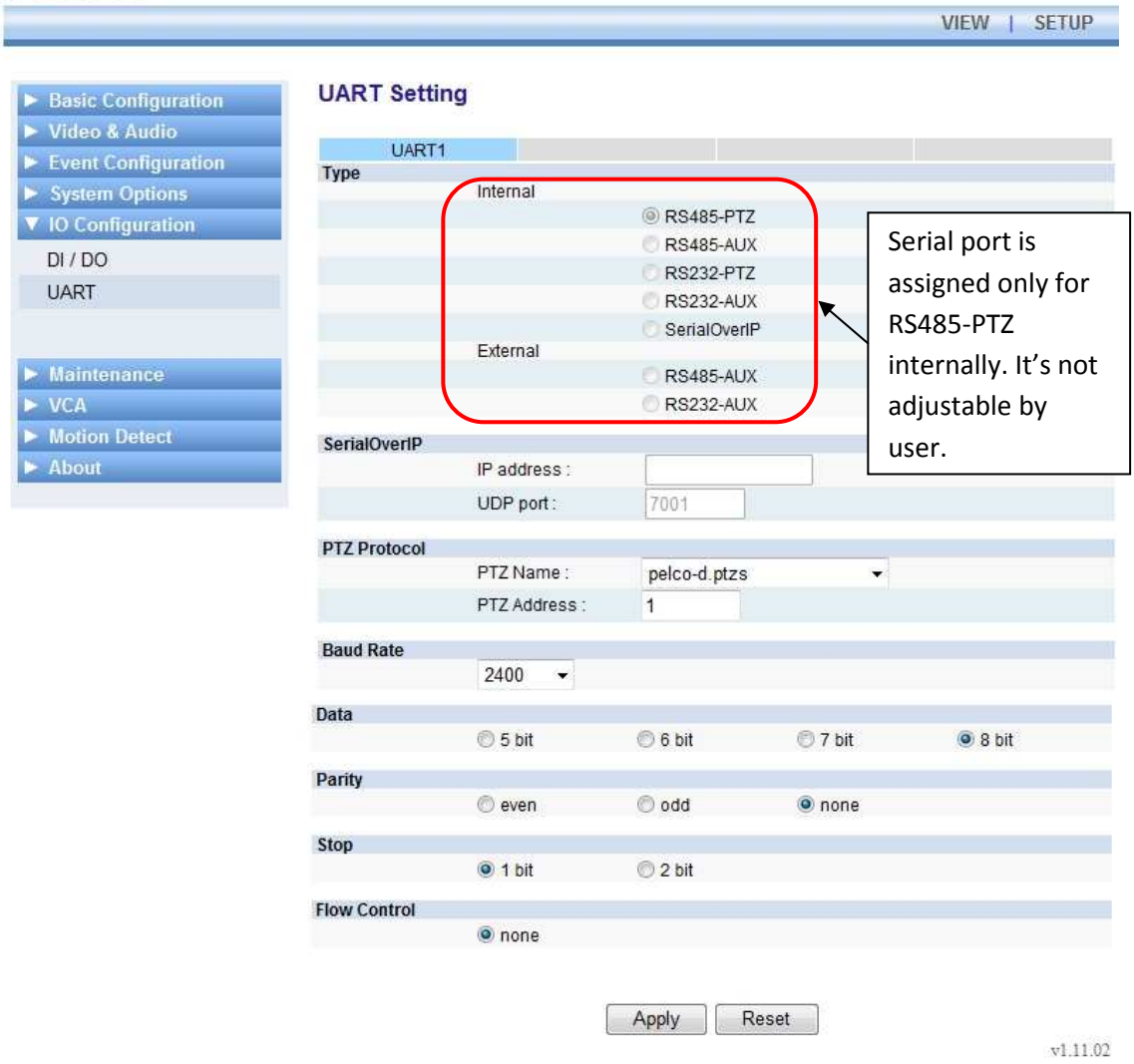
DI/DO Control of EVA 4101

The number of supported DI and DO
DI : #1, #2, #3, #4
DO : #1, #2,

Refer to the section 4.6. IO CONFIGURATION for the explanation of the setting.



UART Setting for serial device of EVA 4101



UART0 : Reserved for the internal debugging purpose with RS232C.
UART1: Reserved for the communication of PTZ control

IMPORTANT : No UART is available for users external device purpose.

NOTE : The UART setting depends on the hardware version and firmware version of your device. The setting page of above is based on the *hw v1.0 / firmware v1.00.06*. You can check out the version information at [Setup] – [About] – [Version] tab of the webpage.

6.9. EVA 3101

Video Input

Refer to the section 4.3. VIDEO & AUDIO for the explanation about the video input setting.

Camera OSD Menu Control

For OSD menu operation, refer to the 'EVA 3101 OSD Menu Control Manual' in the SDK.

Event Configuration

Refer to the section 4.4. EVENT CONFIGURATION for the explanation of the setting.

USB/SD Storage

Only SD supported.

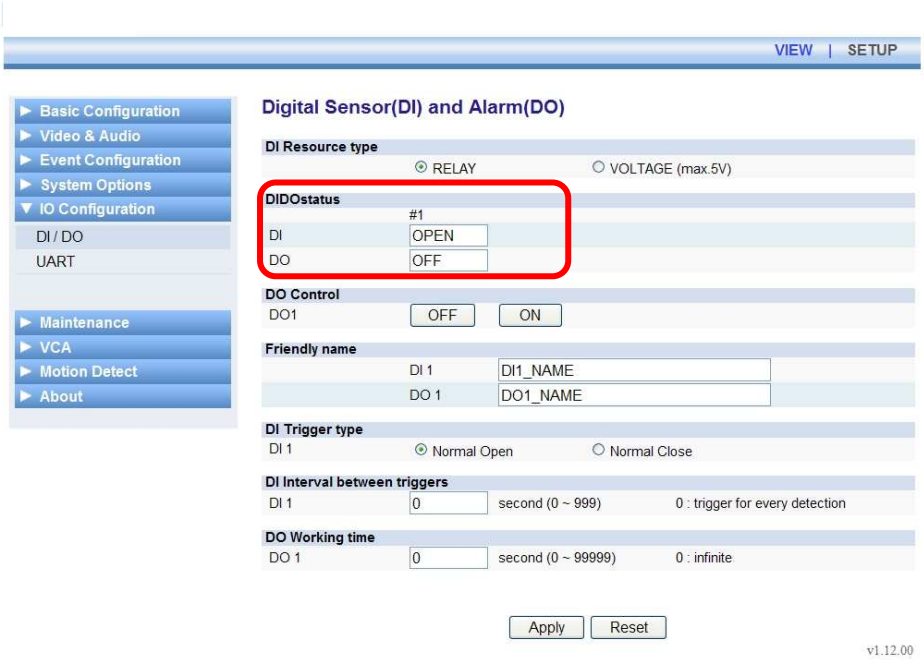
USB Wireless LAN

USB port for Wireless LAN is NOT supported.

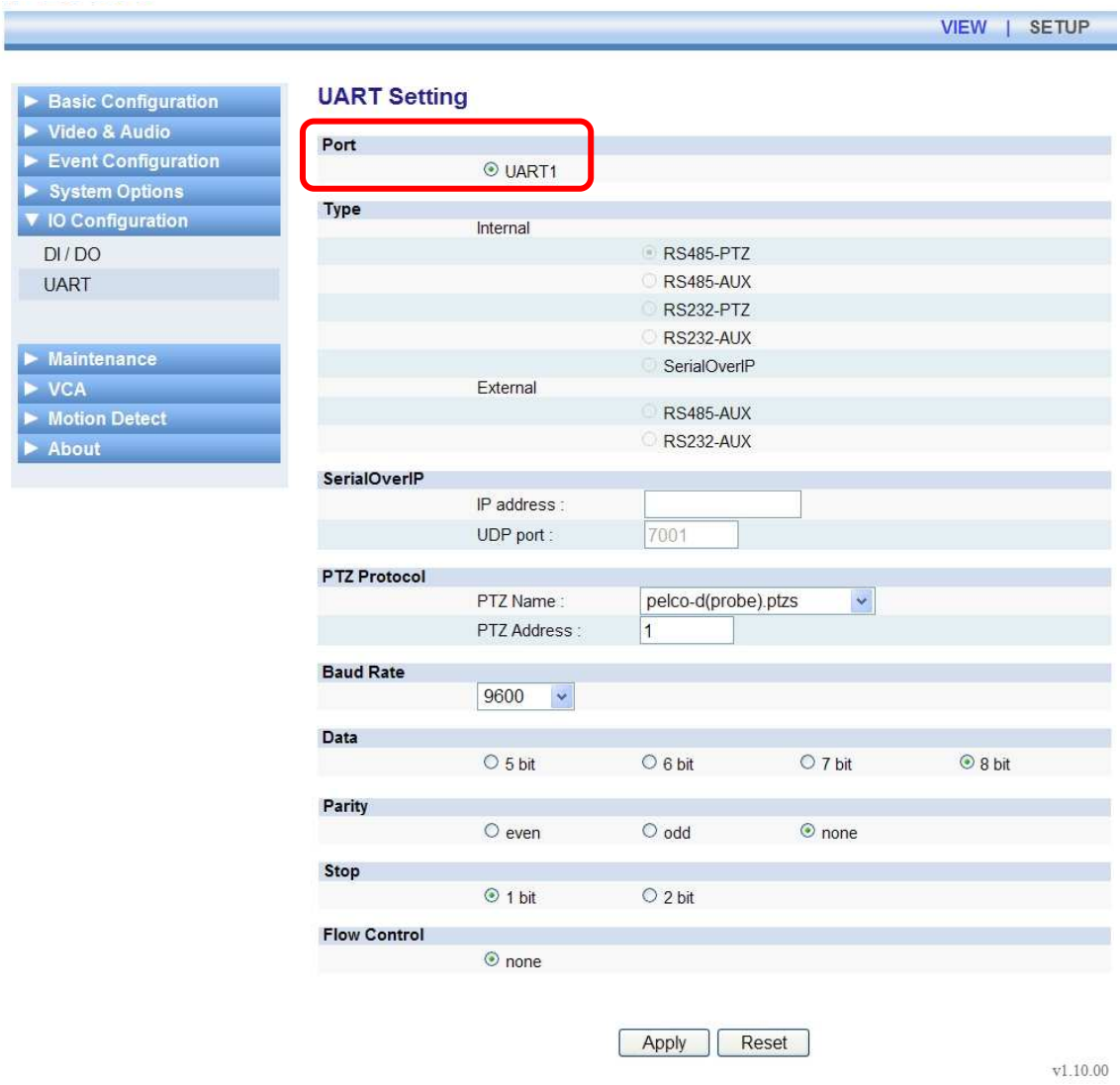
DI/DO Control of EVA 3101

Supported DI : #1
Supported DO : #1

Refer to the default section 4.6. IO CONFIGURATION for the explanation of the setting.



UART Setting for serial device of EVA 3101



UART0 : Reserved for the internal debugging purpose with RS232C.
UART1: Reserved for the communication of PTZ control

IMPORTANT : No UART is available for users external device purpose.

NOTE : The UART setting depends on the hardware version and firmware version of your device. The setting page of above is based on the *hw v1.4 / firmware v1.00.06*. You can check out the version information at [Setup] – [About] – [Version] tab of the webpage.

REVISION HISTORY

MANUAL#	DATE (M/D/Y)	COMMENTS
D1A.00	11/17/08	Created
D1B.00	12/16/08	FW v99.03 Updated
D1C.00	12/29/08	FW v99.05 Updated
D1D.00	02/09/09	FW v99.08 Updated
D1D.01	02/11/09	Added codec configuration of 'audio output'
D1E.00	02/23/09	*Section 5. SAFETY MODE is added *Section 6. REFERENCE TO MODELS added
D1F.00	04/13/09	FW v99.14 Updated
01F.00	06/22/09	FW v1.00.07 Updated *Section 6. REFERENCE TO MODELS is corrected * RTSP Authentication is added * H.264 standard format (NAL unit) is added * Deinterlace algorithm is added (hw and sw option) * LED option for Heart beat is added * Domain name for DNS configuration is not supported anymore
02A.00	07/24/09	FW v1.00.07 official release version

** Refer to **WHAT'S NEW** page (p.5) for more detailed update contents.