



**American Dynamics**

*A Tyco International Company*

# **Installation & Operation Guide**

**Version 1.1**

**illustra 400 IP Camera**

Part Number: 8200-2745-01 A0



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## WARNING

At close range, infrared light can seriously damage a person's vision. Install this illuminator with a minimum safety zone of 1.22m ( 4 ft. ) between the illuminator and the closest possible human contact.

***Note: 1.22M ( 4 FT. ) IS THE ACTUAL MEASUREMENT OF THE STRENGTH OF THE IR ILLUMINATORS THAT ARE BEING USED.***

***Note: CAMERA STARTS UP IN BLACK & WHITE BECAUSE THE IR ILLUMINATOR IS DISCONNECTED.***

For safety reasons, the IR Illuminator is disconnected at the factory. If the IR Illuminator were to accidentally trigger during install, it may pose a hazard to those within 4 feet. Once the camera is installed, reconnect the power lead (see manual). Ensure that you do not cover the photo cell (see manual) after power is reconnected as that may trigger the IR illuminator.

## SERVICE WARNING

DO NOT LOOK DIRECTLY INTO AN OPERATONAL IR ILLUMINATOR.

Since IR light is invisible to the human eye, the only method of verifying a malfunctioning IR illuminator is to observe the picture at the video output location.

## SAFETY PRECAUTIONS

All the following safety and operational instructions to prevent harm or injury to the operator(s) or other persons should be read carefully before the unit is activated.

### WARNING

- To prevent fire or shock hazard, avoid exposing this unit to rain or moisture.
- Do not block ventilation openings.
- Do not place anything on top of the unit that might spill or fall into it.
- Do not attempt to service this unit yourself, as opening or removing covers may expose you to dangerous voltage or other hazards. Please refer all servicing to your distributor / retailer.
- Do not use liquid cleaners or aerosols for cleaning.
- To prevent fire or electric shock, do not overload wall outlets or extension cord.
- PoE warning: If the PoE injector is used instead of the supplied power adaptor, all of the wiring to and from the injector must be routed/ installed inside a building/ plant and never routed/ installed outside of the building/ plant.
- Please only select a power adapter or power certified by UL and marked at 24Vac / 60 Hz, minimum 1A, class 2 or LPS.

### CAUTION

- RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE.  
DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.

# 1. PRODUCT FEATURES

## 1.1 Product Instructions

### The WDR IP Camera

This **ADCi400 series** is a high performance Network Camera which is equipped with a high resolutions CMOS sensor and a resolution of up to 896x720 (D2). This powerful new series enables you to see fresh images in fine detail aided by a spectrum of high resolutions plus WDR technology that combats problems like capturing images against backgrounds of bright light. In addition the series is equipped with the dynamic H. 264 video compression format, the compression codec which ensures top image quality at a low bit rate. The 3GPP installed mobile phone helps you see live scenes via the Internet as well.

Following are the special powers featured in this series.

### D2 / 896x720 pixels

The **ADCi400 series** lets you view the video feed with a large field of high resolutions at D2 / 896x720 pixels that provide you with clear images in great detail.

### WDR (Wide Dynamic Range)

Besides, the **ADCi400 series** provides WDR technology which is aimed at coping with problems like poor quality images shot against a strong backlight. WDR uses two shutter speeds in alternative video fields, high and normal, and combines these two fields into one frame. It allows every detail to be captured accurately, even if one portion is bright while other portions are dark. As a result, combined fields yield a frame of high quality images.

### H.264 compression

Currently, the H.264 is the most common and dynamic video compression format and a powerful compression codec which delivers superior image quality at a low bit rate.

### 3GPP

Users can view a live scene via the Internet with a 3GPP installed mobile phone.

**(Note:** The 3G network bandwidth is limited; you can't use too large video size on your cell phone.)

Video Settings:

- Video Profile 1
- Maximum frame rate: 3 fps
- Intra Frame Period: 1 S
- Constant bit rate: 64 Kbps

In short, the **ADCi400 series** provides quality images and professional surveillance functions for comprehensive security applications.

## 1.2 Product Features

- Adopts TI TMS320DM365 digital media processor.
- Sony CMOS sensor.
- Simultaneous H.264 and MJPEG video compression.
- Three multi-profile applications: Selectable resolutions, frame rates, qualities, and image chopping.
- Supports WDR.
- Built-in IR-cut filter provides high quality images in low light conditions.
- Min. illumination: 0.2 Lux at F1.4.
- Two-way audio.
- 3GPP mobile surveillance.
- Advanced motion detection (512 zones. Sensitivity: 0 -100 %).
- Built-in SD / SDHC card for schedule and alarm recording.
- Supports ONVIF.
- Full range of power options: DC12V / AC24V / PoE (IEEE 802.3af).

## 1.3 Technical Specifications

<b>Camera:</b>	<b>Illustra 400 IP BOX</b>
	<b>CAMERA</b>
Image sensor	1/3" Sony IMX035 CMOS sensor
Minimum Illumination	Color: 0.2 Lux @F1.4
	B/W: 0.01 Lux
Lens	computer 2.9–8.2mm Vari-focal auto iris DC drive, CS-mount lens
Shutter time	1/60 ~ 1/2,000 sec (NTSC)
	1/50~1/2,000sec (PAL)
Auto iris type	DC drive
Exposure	AES/Auto-IRIS
Day & Night	Mechanical IR filter
Day & Night mode	Auto/Day/Night/Schedule
Light Sensor	Yes
WDR	100dB, 9 levels (adjustable level settings)
2D Noise Filter	Yes
<b>Video Signal</b>	
Video output type	BNC
Video output level	1.0 Vpp +/-10% 75Ω, composite, Negative (RCA unbalanced)
Synchronization	Internal
<b>Video Codec</b>	
Video compression	H.264、 MJPEG
Resolutions	NTSC: 896x720 (D2), 720x480 (D1), 352x240(CIF), 176x120(QCIF)
	PAL: 896x720 (D2), 720x576 (D1), 352x288(CIF), 176x144(QCIF)
	Simultaneous multi-profile video stream
Video streaming	Simultaneous multi-profile video stream
Profiles	3
<b>Video Codec – H.264</b>	
H.264 Frame rate	Up to 30 fps at 720x480 (D1)
H.264 frame rate control	Yes
H.264 bit rate control	Yes
H.264 quality level	5
IP Ratio Changeable	Yes
Variable bit rate	CBR/VBR
<b>Video Codec – MJPEG</b>	
MJPEG frame rate	Up to 30 fps at 720x480 (D1)
MJPEG frame rate control	Yes
MJPEG quality level	5
<b>Image</b>	
AWB	Auto/Indoor/Outdoor/Fluorescent
Mirror	Yes
Flip	Yes
Exposure Time	Auto/Manual
	1/2000, 1/1500, 1/1000, 1/750, 1/500, 1/250, 1/120, 1/60, 1/30, 1/15, 1/7.5, 1/4, 1/2
AGC	8X/ 16X/ 32X/ 64X
Saturation	Adjustable
Sharpness	Adjustable
Contrast	Adjustable
Brightness	Adjustable
Privacy Area	Programmable 3 independent

	zones
Motion Detection	Programmable 512 independent zones
Motion Detection Sensitivity	0~100%
Motion Detection Percentage	0~100%
OSD	IP Address/Date/Time/ICON
Day/Night Control	Auto/Day/Night/Schedule
Timestamp	Title/Date/Time
SMART Codec	Yes (HIGH PROFILE OF H.264)
<b>Software Platform</b>	
Operation System	Linux 2.6 kernel
<b>System Integration</b>	
System Requirement	Microsoft Windows XP
	Microsoft Windows 7
Compatible Browser	Mozilla FireFox, IE 6.x or above, Chrome
Cell phone	3GPP streaming viewer
Network API/SDK	API / ONVIF
<b>Alarm</b>	
Alarm triggers	Motion Detection
	Schedule
	Alarm input
	Ethernet loss
	Network/Remote digital alarm input
Tamper proof	Yes
Alarm video buffers	48MB pre-alarm and post alarm
<b>Hardware</b>	
FTP file format	JPG Snapshot/AVI Clip
SMTTP file format	JPG Snapshot/AVI Clip
SAMBA file format	JPG Snapshot/AVI Clip
Schedule file format	JPG Snapshot/AVI Clip
Schedule counts	7
<b>Hardware</b>	
Processors	Texas Instruments DaVinci 365
	High performance 32-bit RISC CPU
DDRII memory	DDRII 256MBytes
Flash memory	32MBytes
Real-time clock	Built-in
Real-time clock battery	Built-in
Watchdog	Built-in
Firmware upgrade	Yes, SD Card/ HTTP
<b>Approvals</b>	
FCC	Yes
CE	Yes
RoHS	Yes
<b>Power</b>	
DC 12V	Yes
AC 24V	Yes
PoE	Yes (IEEE 802.3af)
<b>Physical Property</b>	
Height	56.5mm
Width	68mm
Length	114.5mm
Weight	360 g
MTBF	1350000Hours
Operating Temperature	0°C to 50°C (32°F to 122°F)
Operations Humidity	30% to 80 %
Storage temperature	-20°C to 60°C (-4°F to 140°F)

## Installation and Operation Guide

### Audio Signal

Number of tracks	Mono 1 channel
Audio Codec	G.711u G.726
Audio sample rate	8kHz
Audio bit rate	G.711u 64kbps G.726 32kbps
Audio output	1K ohms
Audio input	Built-in Microphone or LINE in10k ohms 1.0Vpp
2-Way Audio	Yes

### USB

Type	2.0 * 1 (A-Type)
Network settings configurable	Yes (Window XP compatible)

### Network

Ethernet	Ethernet (10/100 Base-T), RJ-45 connector
MDIX	Yes

Security	3-Level password protection IP address filtering User access log HTTPS
----------	---

Protocol	IPv4, HTTPS, HTTP, TCP, UDP, RTP/RTCP/RTSP, DHCP, NTP, FTP, SMTP, UPnP, ICMP, ARP, DDNS, PPPoE, SAMBA
----------	---

Management console	Full function
Throughput	16M bit/second

Bandwidth control	Yes
-------------------	-----

Simultaneous users	10
--------------------	----

DDNS	<a href="#">Dyndns</a>
------	------------------------

IE recording support	Yes
----------------------	-----

### HTTPS

Public-key cryptography	RSA
-------------------------	-----

Private key length	1024 bit
--------------------	----------

Self-signed certificate	Manually and automatically
-------------------------	----------------------------

Create certificate request	Yes
----------------------------	-----

Install signed certificate	Yes
----------------------------	-----

Simultaneously HTTP and HTTPS	Yes
-------------------------------	-----

### Storage

SD Card Support	MMC/SD/SDHC 2.0 32MB~32GB
-----------------	---------------------------

Pre-alarm	Yes
-----------	-----

File system	FAT/ FAT32
-------------	------------

Recording format	JPG/AVI
------------------	---------

Network play-back	Yes
-------------------	-----

SD card brand verified	A-Data PQI Toshiba
------------------------	--------------------------

Transcend

APacer

Photo Fast

### Multi-lingual User Interface

Languages	English Traditional Chinese Simplified Chinese Czech Dutch Finland French German Italian Polish Portuguese Spain Swedish Hungarian Rumanian Turkish
-----------	--

### Device Indicator

Ethernet Link	Yes
---------------	-----

Ethernet Active	Yes
-----------------	-----

System Operation	Yes
------------------	-----

### Configuration Maintenance

Backup Configuration	Yes (Browser)
----------------------	---------------

Restore Configuration	Yes (Browser)
-----------------------	---------------

Factory Default	Yes
-----------------	-----

System Log	Yes
------------	-----

### Accessories

Accessories	USB cable CD-Rom Power Adapter Quick installation guide
-------------	--

### PTZ Support

Digital PTZ	Yes
-------------	-----

### I/O Ports

USB	2.0 x1
-----	--------

Factory Reset	Yes
---------------	-----

Alarm input	2 ( +/ - )
-------------	------------

Alarm output	1 ( +/ - )
--------------	------------

Audio I/O	1 / 1
-----------	-------

Ground	1
--------	---

DC-OUT	1
--------	---

### Mount / Bracket

Pendant Bracket	Yes
-----------------	-----

Ceiling Mount	Yes
---------------	-----

Gooseneck	Yes
-----------	-----

<b>Camera:</b>	<b>Illustra 400 Fixed IP Indoor Mini-Dome</b>
Image sensor	1/3" Sony IMX035 CMOS sensor
Minimum Illumination	Color: 0.2 Lux @ F1.4 B/W: 0.01 Lux
Shutter time	1/60~1/2,000 sec (NTSC) 1/50~1/2,000sec (PAL)
Exposure	AES/Auto-IRIS
Day & Night	Mechanical IR filter
Day & Night mode	Auto/Day/Night/Schedule
Light Sensor	Yes
WDR	100dB, 9 levels (adjustable level settings)
IR illuminators	Effective up to 15 meters
2D Noise Filter	Yes
<b>Video Signal</b>	
Video output type	RCA
Video output level	1.0 Vpp +/-10% 75Ω, composite, Negative (RCA unbalanced)
Synchronization	Internal
<b>Video Codec</b>	
Video compression	H.264、 MJPEG
Resolutions	NTSC: 896x720 (D2), 720x480 (D1), 352x240(CIF), 176x120(QCIF) PAL: 896x720 (D2), 720x576 (D1), 352x288(CIF), 176x144(QCIF)
Video streaming	Simultaneous multi-profile video stream
Profiles	3
<b>Video Codec – H.264</b>	
H.264 Frame rate	Up to 30 fps at 720x480 (D1)
H.264 frame rate control	Yes
H.264 bit rate control	Yes
H.264 quality level	5
IP Ratio Changeable	Yes
Variable bit rate	CBR/VBR
<b>Video Codec – MJPEG</b>	
MJPEG frame rate	Up to 30 fps at 720x480 (D1)
MJPEG frame rate control	Yes
MJPEG quality level	5
<b>Image</b>	
AWB	Auto/Indoor/Outdoor/Fluorescent
Mirror	Yes
Flip	Yes
Exposure Time	Auto/Manual 1/2000, 1/1500, 1/1000, 1/750, 1/500, 1/250, 1/120, 1/60, 1/30, 1/15, 1/7.5, 1/4, 1/2
AGC	8X/ 16X/ 32X/ 64X
Saturation	Adjustable
Sharpness	Adjustable
Contrast	Adjustable
Brightness	Adjustable
Privacy Area	Programmable 3 independent zones
Motion Detection	Programmable 512 independent zones

Motion Detection Sensitivity	0~100%
Motion Detection Percentage	0~100%
OSD	IP Address/Date/Time/ICON
Day/Night Control	Auto/Day/Night/Schedule
Timestamp	Title/Date/Time
SMART Codec	Yes (HIGH PROFILE OF H.264)
<b>Software Platform</b>	
Operation System	Linux 2.6 kernel
<b>System Integration</b>	
System Requirement	Microsoft Windows XP Microsoft Windows 7
Compatible Browser	Mozilla FireFox, IE 6.x or above, Chrome
Cell phone	3GPP streaming viewer
Network API/SDK	API / ONVIF
<b>Alarm</b>	
Alarm triggers	Motion Detection Schedule Alarm input Ethernet loss Network/Remote digital alarm input
Tamper proof	Yes
Alarm video buffers	48MB pre-alarm and post alarm
<b>Smart Event Management</b>	
FTP file format	JPG Snapshot/AVI Clip
SMTPT file format	JPG Snapshot/AVI Clip
SAMBA file format	JPG Snapshot/AVI Clip
Schedule file format	JPG Snapshot/AVI Clip
Schedule counts	7
<b>Hardware</b>	
Processors	Texas Instruments DaVinci 365 High performance 32-bit RISC CPU
DDRII memory	DDRII 256MBytes
Flash memory	32MBytes
Real-time clock	Built-in
Real-time clock battery	Built-in
Watchdog	Built-in
Firmware upgrade	Yes, SD Card/ HTTP
<b>Approvals</b>	
FCC	Yes
CE	Yes
RoHS	Yes
<b>Power</b>	
DC 12V	Yes
AC 24V	Yes
PoE	Yes (IEEE 802.3af)
<b>Physical Property</b>	
Height	123 mm
Width	150 mm
Weight	950 g
MTBF	1350000Hours
Operating Temperature	0°C to 50°C (32°F to 122°F)
Operations Humidity	30% to 80 %
Storage temperature	-20°C to 60°C (-4°F to 140°F)
<b>Audio Signal</b>	
Number of tracks	Mono 1 channel
Audio Codec	G.711u G.726

## Installation and Operation Guide

Audio sample rate	8kHz
Audio bit rate	G.711u 64kbps G.726 32kbps
Audio output	1K ohms
Audio input	Built-in Microphone or LINE in10k ohms 1.0Vpp
2-Way Audio	Yes
<b>USB</b>	
Type	2.0 * 1 (B-Type)
Network settings configurable	Yes (Window XP compatible)
<b>Network</b>	
Ethernet	Ethernet (10/100 Base-T), RJ-45 connector
MDIX	Yes
Security	3-Level password protection
	IP address filtering
	User access log HTTPS
Protocol	IPv4, HTTPS, HTTP, TCP, UDP, RTP/RTCP/RTSP, DHCP, NTP, FTP, SMTP, UPnP, ICMP, ARP, DDNS, PPPoE, SAMBA
Management console	Full function
Throughput	16M bit/second
Bandwidth control	Yes
Simultaneous users	10
DDNS Company	<a href="#">Dyndns</a>
IE recording support	Yes
<b>HTTPS</b>	
Public-key cryptography	RSA
Private key length	1024 bit
Self-signed certificate	Manually and automatically
Create certificate request	Yes
Install signed certificate	Yes
Simultaneously HTTP and HTTPS	Yes
<b>Storage</b>	
SD Card Support	MMC/SD/SDHC 2.0 Up to 32GB
Pre-alarm	Yes
File system	FAT16/ FAT32
Recording format	JPG/AVI
Network play-back	Yes
SD card brand verified	A-Data
	PQI
	Toshiba
	Transcend
	APacer Photo Fast
<b>Multi-lingual User Interface</b>	

Languages	English
	Traditional Chinese
	Simplified Chinese
	Czech
	Dutch
	Finland
	French
	German
	Italian
	Polish
	Portuguese
	Spain
	Swedish
	Hungarian
	Rumanian
	Turkish
<b>Device Indicator</b>	
Ethernet Link	Yes
Ethernet Active	Yes
System Operation	Yes
<b>Configuration Maintenance</b>	
Backup Configuration	Yes (Browser)
Restore Configuration	Yes (Browser)
Factory Default	Yes
System Log	Yes
<b>Accessories</b>	
Accessories	USB cable
	CD-Rom
	Power Adapter
	Quick installation guide
<b>PTZ Support</b>	
Digital PTZ	Yes
<b>I/O Ports</b>	
USB	2.0 x1
Factory Reset	Yes
Alarm input	2 ( +/ - )
Alarm output	1 ( +/ - )
Audio I/O	1 / 1
Ground	1
DC-OUT	1
<b>Mount / Bracket</b>	
Pendant Bracket	Yes
Ceiling Mount	Yes
Gooseneck	Yes

<b>Camera:</b>	<b>Illustra 400 Fixed IP Outdoor Mini-Dome</b>
Image sensor	1/3" Sony IMX035 CMOS sensor
Minimum Illumination	Color: 0.2 Lux @F1.4 B/W: 0.01 Lux
Shutter time	1/60 ~ 1/2,000 sec (NTSC) 1/50~1/2,000sec (PAL)
Exposure	AES/Auto-IRIS
Day & Night	Mechanical IR filter
Day & Night mode	Auto/Day/Night/Schedule
Light Sensor	Yes
WDR	100dB, 9 levels (adjustable level settings)
IR illuminators	Effective up to 15 meters, Remote on/off switching
2D Noise Filter	Yes
<b>Video Signal</b>	
Video output type	RCA
Video output level	1.0 Vpp +/-10% 75Ω, composite, Negative (RCA unbalanced)
Synchronization	Internal
<b>Video Codec</b>	
Video compression	H.264、MJPEG
Resolutions	NTSC: 896x720 (D2), 720x480 (D1), 352x240(CIF), 176x120(QCIF)
	PAL: 896x720 (D2), 720x576 (D1), 352x288(CIF), 176x144(QCIF)
Video streaming	Simultaneous multi-profile video stream
Profiles	3
<b>Video Codec – H.264</b>	
H.264 Frame rate	Up to 30 fps at 720x480 (D2)
H.264 frame rate control	Yes
H.264 bit rate control	Yes
H.264 quality level	5
IP Ratio Changeable	Yes
Variable bit rate	CBR/VBR
<b>Video Codec – MJPEG</b>	
MJPEG frame rate	Up to 30 fps at 720x480 (D2)
MJPEG frame rate control	Yes
MJPEG quality level	5
<b>Image</b>	
AWB	Auto/Indoor/Outdoor/Fluorescent
Mirror	Yes
Flip	Yes
Exposure Time	Auto/Manual 1/2000, 1/1500, 1/1000, 1/750, 1/500, 1/250, 1/120, 1/60, 1/30, 1/15, 1/7.5, 1/4, 1/2
AGC	8X/16X/32X/64X
Saturation	Adjustable
Sharpness	Adjustable
Contrast	Adjustable
Brightness	Adjustable
Privacy Area	Programmable 3 independent zones
Motion Detection	Programmable 512 independent

	zones
Motion Detection Sensitivity	0~100%
Motion Detection Percentage	0~100%
OSD	IP Address/Date/Time/ICON
Day/Night Control	Auto/Day/Night/Schedule
Timestamp	Title/Date/Time
SMART Codec	Yes (HIGH PROFILE OF H.264)
<b>Software Platform</b>	
Operation System	Linux 2.6 kernel
<b>System Integration</b>	
System Requirement	Microsoft Windows XP Microsoft Windows 7
Compatible Browser	Mozilla FireFox, IE 6.x or above, Chrome
Cell phone	3GPP streaming viewer
Network API/SDK	API / ONVIF
<b>Alarm</b>	
Alarm triggers	Motion Detection
	Schedule
	Alarm input
	Ethernet loss
	Network/Remote digital alarm input
Tamper proof	Yes
Alarm video buffers	48MB pre-alarm and post alarm
<b>Smart Event Management</b>	
FTP file format	JPG Snapshot/AVI Clip
SMTP file format	JPG Snapshot/AVI Clip
SAMBA file format	JPG Snapshot/AVI Clip
Schedule file format	JPG Snapshot/AVI Clip
Schedule counts	7
<b>Hardware</b>	
Processors	Texas Instruments DaVinci 365 High performance 32-bit RISC CPU
DDRII memory	DDRII 256MBytes
Flash memory	32MBytes
Real-time clock	Built-in
Real-time clock battery	Built-in
Watchdog	Built-in
Firmware upgrade	Yes, SD Card/ HTTP
<b>Approvals</b>	
FCC	Yes
CE	Yes
RoHS	Yes
IP-66	Yes
<b>Power</b>	
DC 12V	Yes
AC 24V	Yes
PoE	Yes (IEEE 802.3af)
<b>Physical Property</b>	
Height	123 mm
Width	150 mm
Weight	1200 g
MTBF	135000Hours
Operating Temperature	-40°C to 50°C (-40°F to 122°F)
Operations Humidity	30% to 80 %
Storage temperature	-40°C to 60°C(-40°F to 140°F)
<b>Audio Signal</b>	
Number of tracks	Mono 1 channel
Audio Codec	G.711u

## Installation and Operation Guide

	G.726
Audio sample rate	8kHz
Audio bit rate	G.711u 64kbps G.726 32kbps
Audio output	1K ohms
Audio input	Built-in Microphone or LINE in10k ohms 1.0Vpp
2-Way Audio	Yes
<b>USB</b>	
Type	2.0 * 1 (B-Type)
Network settings configurable	Yes (Window XP compatible)
<b>Network</b>	
Ethernet	Ethernet (10/100 Base-T), RJ-45 connector
MDIX	Yes
Security	3-Level password protection IP address filtering User access log HTTPS
Protocol	IPv4, HTTPS, HTTP, TCP, UDP, RTP/RTCP/RTSP, DHCP, NTP, FTP, SMTP, UPnP, ICMP, ARP, DDNS, PPPoE, SAMBA
Management console	Full function
Throughput	16M bit/second
Bandwidth control	Yes
Simultaneous users	10
DDNS Company	<a href="#">Dyndns</a>
Access Restrictions	Yes
IE recording support	Yes
<b>HTTPS</b>	
Public-key cryptography	RSA
Private key length	1024 bit
Self-signed certificate	Manually and automatically
Create certificate request	Yes
Install signed certificate	Yes
Simultaneously HTTP and HTTPS	Yes
<b>Storage</b>	
SD Card Support	MMC/SD/SDHC 2.0 Up to 32GB
Pre-alarm	Yes
File system	FAT16/ FAT32
Recording format	JPG/AVI
SD Circular Recording	Yes
SD Remote Management	Yes (Browser)
Network play-back	Yes
SD card brand verified	A-Data PQI Toshiba Transcend

	APacer Photo Fast
<b>Multi-lingual User Interface</b>	
	English Traditional Chinese Simplified Chinese Czech Dutch Finland French German Italian Polish Portuguese Spain Swedish Hungarian Rumanian Turkish
Languages	
<b>Device Indicator</b>	
Ethernet Link	Yes
Ethernet Active	Yes
System Operation	Yes
System Warning	Yes
<b>Configuration Maintenance</b>	
Backup Configuration	Yes (Browser)
Restore Configuration	Yes (Browser)
Factory Default	Yes
System Log	Yes
<b>Accessories</b>	
	USB cable CD-Rom Power Adapter Quick installation guide
Accessories	
<b>PTZ Support</b>	
Digital PTZ	Yes
<b>I/O Ports</b>	
USB	2.0 x1
Factory Reset	Yes
Alarm input	2 ( +/ - )
Alarm output	1 ( +/ - )
Audio I/O	2
Ground	1 / 1
DC-OUT	1
<b>Mount / Bracket</b>	
Pendant Bracket	Yes
Ceiling Mount	Yes
Gooseneck	Yes

<b>Illustra 400 Bullet IP Camera</b>	
<b>Camera:</b>	<b>Indoor/outdoor</b>
Image sensor	1/3" Sony IMX035 CMOS sensor
Minimum Illumination	Color: 0.2 Lux @F1.4 B/W: 0.01 Lux
Shutter time	1/60 ~ 1/2,000 sec (NTSC) 1/50~1/2,000sec (PAL)
Exposure	AES/Auto-IRIS
Day & Night	Mechanical IR filter
Day & Night mode	Auto/Day/Night/Schedule
Light Sensor	Yes
WDR	100dB, 9 levels (adjustable level settings)
IR sensitivity	Effective up to 15 meters, Remote on/off switching
2D Noise Filter	Yes
IR Light	IR LED x 18 , 20M , Remote on/off switching
<b>Video Signal</b>	
Video output type	RCA
Video output level	1.0 Vpp +/-10% 75Ω, composite, Negative (RCA unbalanced)
Synchronization	Internal
<b>Video Codec</b>	
Video compression	H.264、 MJPEG
Resolutions	NTSC: 896x720 (D2), 720x480 (D1), 352x240(CIF), 176x120(QCIF)
	PAL: 896x720 (D2), 720x576 (D1), 352x288(CIF), 176x144(QCIF)
Video streaming	Simultaneous multi-profile video stream
Profiles	3
<b>Video Codec – H.264</b>	
H.264 Frame rate	Up to 30 fps at 720x480 (D1)
H.264 frame rate control	Yes
H.264 bit rate control	Yes
H.264 quality level	5
IP Ratio Changeable	Yes
Variable bit rate	CBR/VBR
<b>Video Codec – MJPEG</b>	
MJPEG frame rate	Up to 30 fps at 720x480 (D1))
MJPEG frame rate control	Yes
MJPEG quality level	5
<b>Image</b>	
AWB	Auto/Indoor/Outdoor/Fluorescent
Mirror	Yes
Flip	Yes
Exposure Time	Auto/Manual
	1/2000, 1/1500, 1/1000, 1/750, 1/500, 1/250, 1/120, 1/60, 1/30, 1/15, 1/7.5, 1/4, 1/2
AGC	8X/16X/32X/64X
Saturation	Adjustable
Sharpness	Adjustable
Contrast	Adjustable
Brightness	Adjustable

Privacy Area	Programmable 3 independent zones
Motion Detection	Programmable 512 independent zones
Motion Detection Sensitivity	0~100%
Motion Detection Percentage	0~100%
OSD	IP Address/Date/Time/ICON
Timestamp	Title/Date/Time
SMART Codec	Yes (HIGH PROFILE OF H.264)
<b>Software Platform</b>	
Operation System	Linux 2.6 kernel
<b>System Integration</b>	
System Requirement	Microsoft Windows XP
	Microsoft Windows 7
Compatible Browser	Mozilla FireFox, IE 6.x or above, Chrome
Cell phone	3GPP streaming viewer
Network API/SDK	API / ONVIF
<b>Alarm</b>	
Alarm triggers	Motion Detection
	Schedule
	Alarm input
	Ethernet loss
	Network/Remote digital alarm input
Tamper proof	Yes
Alarm video buffers	48MB pre-alarm and post alarm
<b>Smart Event Management</b>	
FTP file format	JPG Snapshot/AVI Clip
SMTP file format	JPG Snapshot/AVI Clip
SAMBA file format	JPG Snapshot/AVI Clip
Schedule file format	JPG Snapshot/AVI Clip
Schedule counts	7
<b>Hardware</b>	
Processors	Texas Instruments DaVinci 365
	High performance 32-bit RISC CPU
DDRII memory	DDRII 256MBytes
Flash memory	32MBytes
Real-time clock	Built-in
Real-time clock battery	Built-in
Watchdog	Built-in
Firmware upgrade	Yes, SD Card/ HTTP
<b>Approvals</b>	
FCC	Yes
CE	Yes
RoHS	Yes
IP-66	Yes
<b>Power</b>	
DC 12V	Yes
AC 24V	Yes
PoE	Yes (IEEE 802.3af)
<b>Physical Property</b>	
Height	84 mm
Width	81.35 mm
Length	145 mm
Weight	1100 g
MTBF	1350000Hours
Operating Temperature	-40°C to 50°C (-40°F to 122°F)
Operations Humidity	30% to 80 %
Storage temperature	-40°C to 60°C(-40°F to 140°F)

## Installation and Operation Guide

### Audio Signal

Number of tracks	Mono 1 channel
Audio Codec	G.711u G.726
Audio sample rate	8kHz
Audio bit rate	G.711u 64kbps G.726 32kbps
Audio output	1K ohms
Audio input	Built-in Microphone or LINE in10k ohms 1.0Vpp
2-Way Audio	Yes

### USB

Type	2.0 * 1 (B-Type)
Network settings configurable	Yes (Window XP compatible)

### Network

Ethernet	Ethernet (10/100 Base-T), RJ-45 connector
MDIX	Yes

Security	3-Level password protection IP address filtering User access log HTTPS
----------	---

Protocol	IPv4, HTTPS, HTTP, TCP, UDP, RTP/RTCP/RTSP, DHCP, NTP, FTP, SMTP, UPnP, ICMP, ARP, DDNS, PPPoE, SAMBA
----------	---

Management console	Full function
Throughput	16M bit/second

Bandwidth control	Yes
Simultaneous users	10

DDNS	<a href="#">Dyndns</a>
------	------------------------

IE recording support	Yes
----------------------	-----

### HTTPS

Public-key cryptography	RSA
Private key length	1024 bit

Self-signed certificate	Manually and automatically
-------------------------	----------------------------

Create certificate request	Yes
----------------------------	-----

Install signed certificate	Yes
----------------------------	-----

Simultaneously HTTP and HTTPS	Yes
-------------------------------	-----

### Storage

SD Card Support	MMC/SD/SDHC 2.0 Up to 32GB
Pre-alarm	Yes

File system	FAT16/ FAT32
-------------	--------------

Recording format	JPG/AVI
------------------	---------

SD Circular Recording	Yes
-----------------------	-----

SD Remote Management	Yes (Browser)
----------------------	---------------

Network play-back	Yes
-------------------	-----

SD card brand verified	A-Data
------------------------	--------

PQI  
Toshiba  
Transcend  
APacer  
Photo Fast

### Multi-lingual User Interface

Languages	English Traditional Chinese Simplified Chinese Czech Dutch Finland French German Italian Polish Portuguese Spain Swedish Hungarian Rumanian Turkish
-----------	--

### Device Indicator

Ethernet Link	Yes
---------------	-----

Ethernet Active	Yes
-----------------	-----

System Operation	Yes
------------------	-----

System Warning	Yes
----------------	-----

### Configuration Maintenance

Backup Configuration	Yes (Browser)
----------------------	---------------

Restore Configuration	Yes (Browser)
-----------------------	---------------

Factory Default	Yes
-----------------	-----

System Log	Yes
------------	-----

### Accessories

Accessories	USB cable CD-Rom Power Adapter Quick installation guide
-------------	--

### PTZ Support

Digital PTZ	Yes
-------------	-----

### I/O Ports

USB	2.0 x1
-----	--------

Factory Reset	Yes
---------------	-----

Alarm input	2 ( +/ - )
-------------	------------

Alarm output	1 ( +/ - )
--------------	------------

Audio I/O	2
-----------	---

Ground	1
--------	---

DC-OUT	1
--------	---

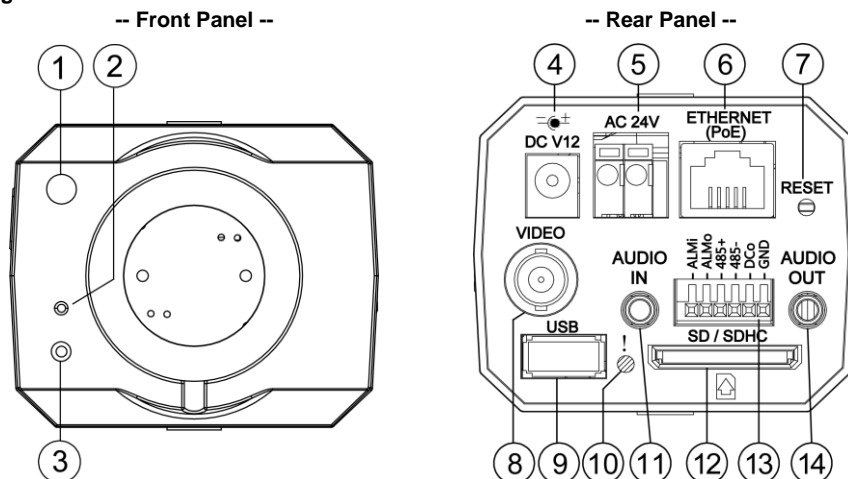
### Mount / Bracket

Camera Bracket	Yes
----------------	-----

## 2. DESCRIPTION OF THE SURFACE

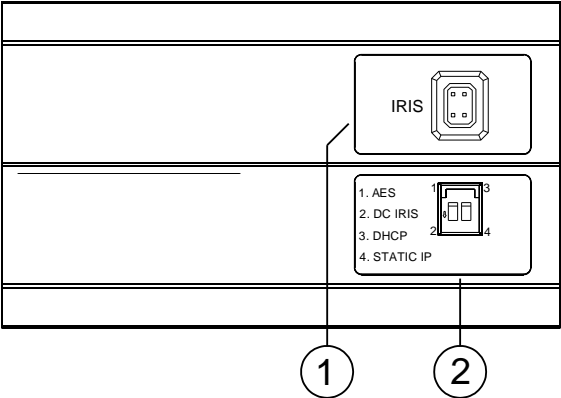
### 2.1 The Illustra 400 IP BOX CAMERA (PoE)

Figure 2.1 Front Panel and Rear Panel



1. **Light Sensor:** Registers the quality of light in the camera's environment, and controls the iris shuttle to provide better information concerning the light.
2. **MICROPHONE:** The IP Camera has an additional audio function. The device has a microphone built into its front panel which records sound.
3. **POWER indicator:** Indicates the power status of the unit.
4. **Plug Inlet:** A DC 12V inlet that connects to an external power supply.
5. **Plug Inlet:** An AC 24V inlet that connects to an external power supply.
6. **ETHERNET 10/100 Connector:** This is a standard RJ-45 connector for 10/100 Mbps Ethernet networks. PoE (Power over Ethernet) function: Provides power to the device via the same cable as used for the network connection.
7. **RESET:** Recover to factory default. (Refer to section 2.5 The Reset Button.)
8. **VIDEO OUT Connector:** The connector provides the unit's composite video signals to a monitor. (This connector adjusts and improves the images.)
9. **USB port:** The user can use a USB device cable to connect the IP camera to the USB port on the PC.
10. **LED indicator:** The green light indicates the unit is activating and the SD card cannot be removed.
11. **AUDIO IN:** The connector is used to connect the audio output from other devices to the camera.
12. **SD / SDHC CARD slot:** This is used for updating system software and archiving / accessing critical images.
13. **GPIO:** This is a 6-PIN connector including the **ALARM IN/OUT, RS-485, DC OUTPUT** and **GROUND** items for connecting with external devices.
14. **AUDIO OUT:** Provides the camera's audio signal to a speaker or stereo.

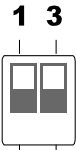
Figure 2.2 Flank Panel:



1. **IRIS:** Auto iris connector.

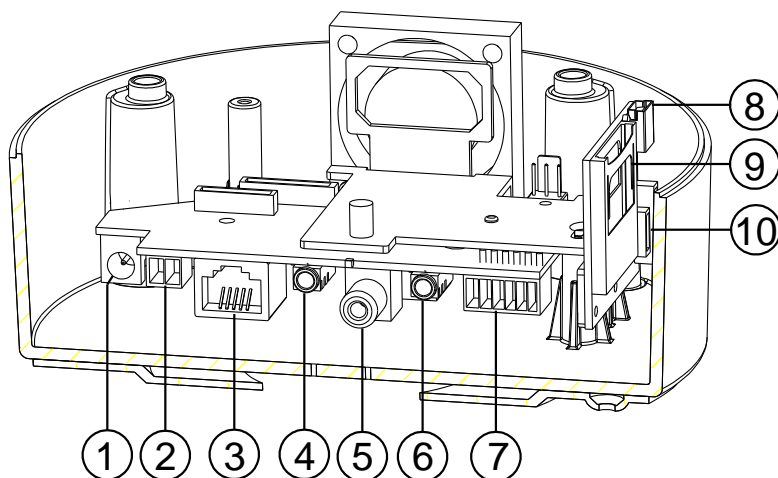
This camera works with a DC drive auto iris lens. Please refer to the pin assignment marked on the camera when connecting the auto iris lens

2. **DIP Switch:**

	<b>1. AES:</b> Auto electric shutter.
	<b>2. DC IRIS:</b> Use an auto iris (DC drive)
	<b>3. DHCP:</b> Turn On / Turn Off to use the DHCP protocol. If the switch points upwards, the device can change the setup of network function (enable/disable) via the network.
	<b>4. STATIC IP:</b> If the switch points down, the device can't obtain an IP address from the DHCP server. This option is needed to configure the network communication settings. (*In the default factory configuration, this DIP Switch is in the Down position.)

## 2.2 The Illustra 400 Fixed IP Indoor Mini-Dome (PoE)

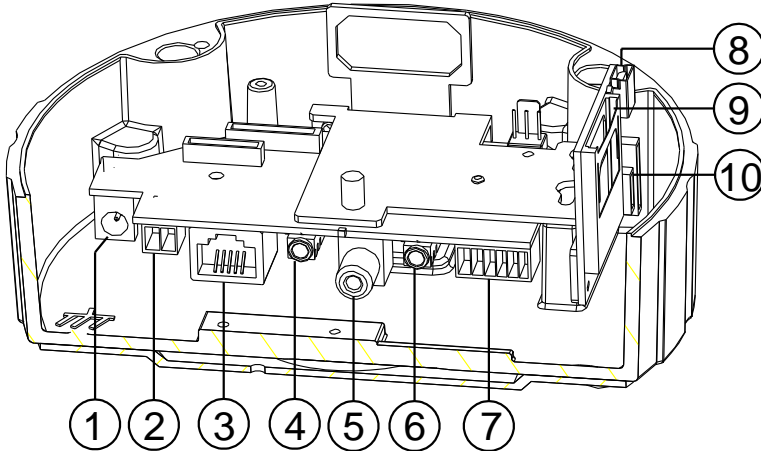
Figure 2.3 Fixed IP indoor mini-dome



1. **Plug Inlet:** A DC 12V inlet that connects to an external power supply.
2. **Plug Inlet:** An AC 24V inlet that connects to an external power supply.
3. **ETHERNET 10/100 Connector:** This is a standard RJ-45 connector for 10/100 Mbps Ethernet networks. PoE (Power over Ethernet) function: Provides power to the device via the same cable as used for the network connection.
4. **AUDIO IN:** The connector is used to connect the audio output from other devices to the camera.
5. **VIDEO OUT Connector:** The connector provides the unit's composite video signals to a monitor. (This connector adjusts and improves the images.)
6. **AUDIO OUT:** Provides the camera's audio signal to a speaker or stereo.
7. **GPIO:** This is a 6-PIN connector including the **ALARM IN/OUT**, **RS-485**, **DC OUTPUT** and **GROUND** items for connecting with external devices.
8. **USB port:** The user can use a USB device cable to connect the IP camera to the USB port on the PC.
9. **SD/ SDHC CARD slot:** This is used for updating system software and archiving / accessing critical images.
10. **RESET:** Recover to factory default. (Refer to section 2.5 The Reset Button.)

## 2.3 The Illustra 400 Fixed IP Outdoor Mini-Dome (PoE)

Figure 2.3 The IP Out-door mini-dome

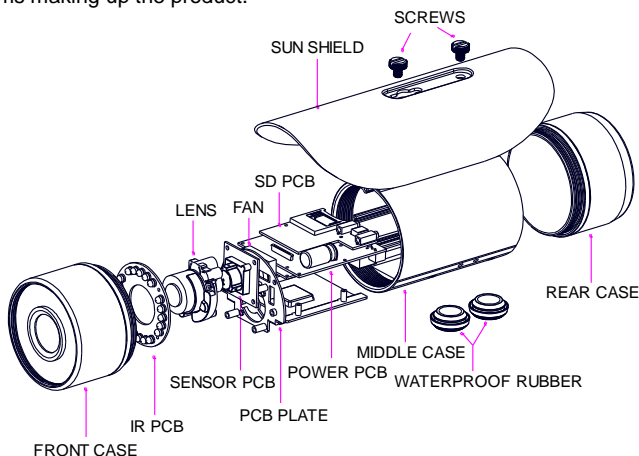


1. **Plug Inlet:** A DC 12V inlet that connects to an external power supply.
2. **Plug Inlet:** An AC 24V inlet that connects to an external power supply.
3. **ETHERNET 10/100 Connector:** This is a standard RJ-45 connector for 10/100 Mbps Ethernet networks. PoE (Power over Ethernet) function: Provides power to the device via the same cable as used for the network connection.
4. **AUDIO IN:** The connector is used to connect the audio output from other devices to the camera.
5. **VIDEO OUT Connector:** The connector provides the unit's composite video signals to a monitor. (This connector adjusts and improves the images.)
6. **AUDIO OUT:** Provides the camera's audio signal to a speaker or stereo.
7. **GPIO:** This is a 6-PIN connector including the **Digital output/input**, **DC output** and **GROUND** items for connecting with external devices.
8. **USB port:** The user can use a USB device cable to connect the IP camera to the USB port on the PC.
9. **SD/SDHC CARD slot:** This is used for updating system software and archiving / accessing critical images.
10. **RESET:** Recover to factory default. (Refer to section 2.5 The Reset Button.)

## 2.4 The Illustra 400 Bullet IP Camera Indoor/outdoor (PoE)

### The component parts (the internal view).

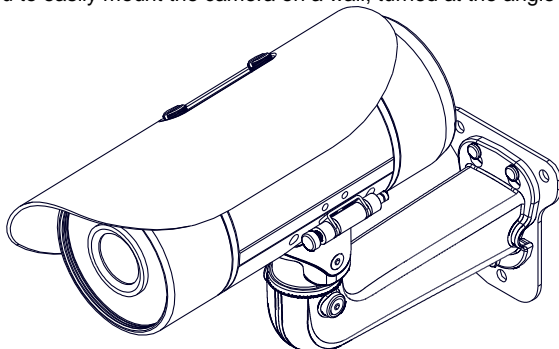
Dismantle the bullet IP camera to see its different parts. The picture here shows you the internal component items making up the product.



**Figure 2.5 The internal view of Bullet Camera**

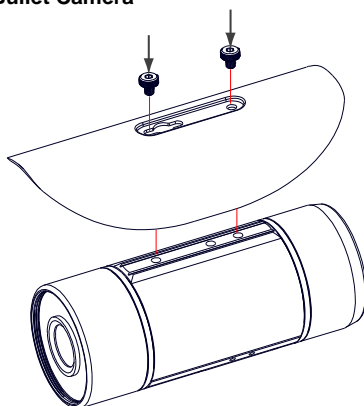
### Camera with bracket (the external view).

The picture here shows the camera's exterior, with the bracket screwed in and fixed to it. The bracket enables you to easily mount the camera on a wall, turned at the angle you want.

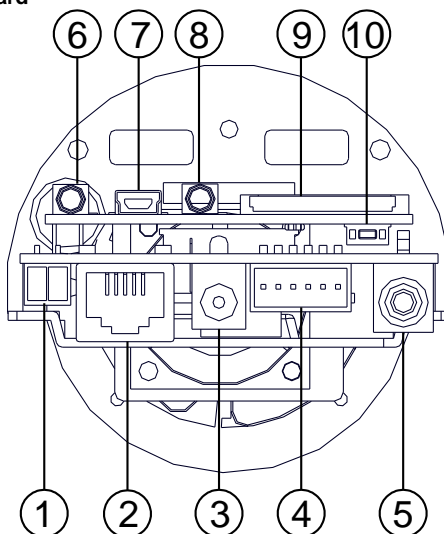


**Figure 2.6 The external view of Bullet Camera**

**NOTE:** Use the 2 screws to screw the sun shield (above) into the 2 extreme holes indicated in the bullet camera (below) to get an unobstructed viewing angle. Please don't use the middle hole in the camera, as that will block the view.



**Figure 2.7 The PCB board**



1. **Plug Inlet:** An AC 24V inlet that connects to an external power supply.
2. **ETHERNET 10/100 Connector:** This is a standard RJ-45 connector for 10/100 Mbps Ethernet networks. PoE (Power over Ethernet) function: Provides power to the device via the same cable as used for the network connection.
3. **Plug Inlet:** A DC 12V inlet that connects to an external power supply.
4. **GPIO:** This is a 6-PIN connector including the **Digital output/input, DC output** and **GROUND** items for connecting with external devices.
5. **VIDEO OUT Connector:** The connector provides the unit's composite video signals to a monitor. (This connector adjusts and improves the images.)
6. **AUDIO IN:** The connector is used to connect the audio output from other devices to the camera.
7. **USB port:** The user can use a USB device cable to connect the IP camera to the USB port on the PC.
8. **AUDIO OUT:** Provides the camera's audio signal to a speaker or stereo.
9. **SD/SDHC CARD slot:** This is used for updating system software and archiving / accessing critical images.
10. **RESET:** Recover to factory default. (Refer to section 2.5 The Reset Button.)

## 2.5 The Reset Button

You can use the **Reset** button to reset the camera operations back to default. Press the **Reset Button** for about 10 seconds. Blue screens are displayed, and a text saying “RESETTING...” will appear. The device auto reboots. All settings have now reverted back to default. The following items return back to default.

### [SETUP]

#### Network Setup

- a. LAN Settings (You can manually reset this function by yourself.)
- b. PPPOE Settings (You can manually reset this function by yourself.)

#### Dynamic DNS

- a. DYNAMIC DNS SETTING (You can manually reset this function by yourself.)

#### IMAGE SETUP

- a. Privacy Mask Setting
- b. IMAGE SETTINGS

#### AUDIO AND VIDEO

- a. VIDEO PROFILE 1
- b. VIDEO PROFILE 2
- c. VIDEO PROFILE 3
- d. AUDIO SETTINGS

#### MOTION DECTION

- a. Video Motion setting

#### TIME AND DATE

- a. TIME CONFIGURATION
- b. AUTOMATIC TIME CONFIGURATION
- c. SET DATE AND TIME MANUALLY

#### Event Setup

- a. Server
- b. Media
- c. Event
- d. Recording

### [ADVANCED]

#### DI and DO

- a. DI and DO
- b. LED
- c. VIDEO OUTPUT

#### RS-485 (for the IP Box Camera only)

- a. RS-485

#### ICR

- a. ICR

#### HTTPS

- a. HTTPS

#### Access List

- a. Allow List
- b. Deny List

2.6 The Alarm wiring diagrams

Figure 2.8 Illustra 400 IP BOX CAMERA (PoE)

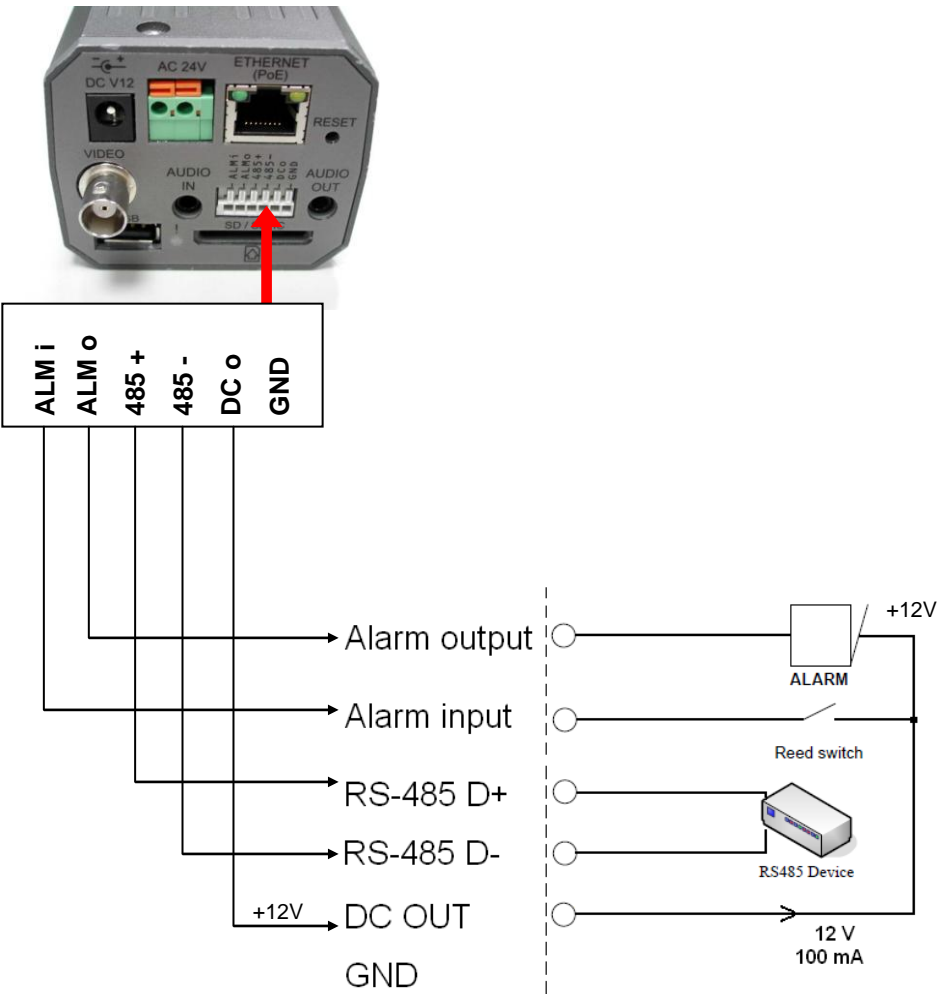


Figure 2.9 Illustra 400 Fixed IP Indoor/ Outdoor Mini-Dome (PoE)

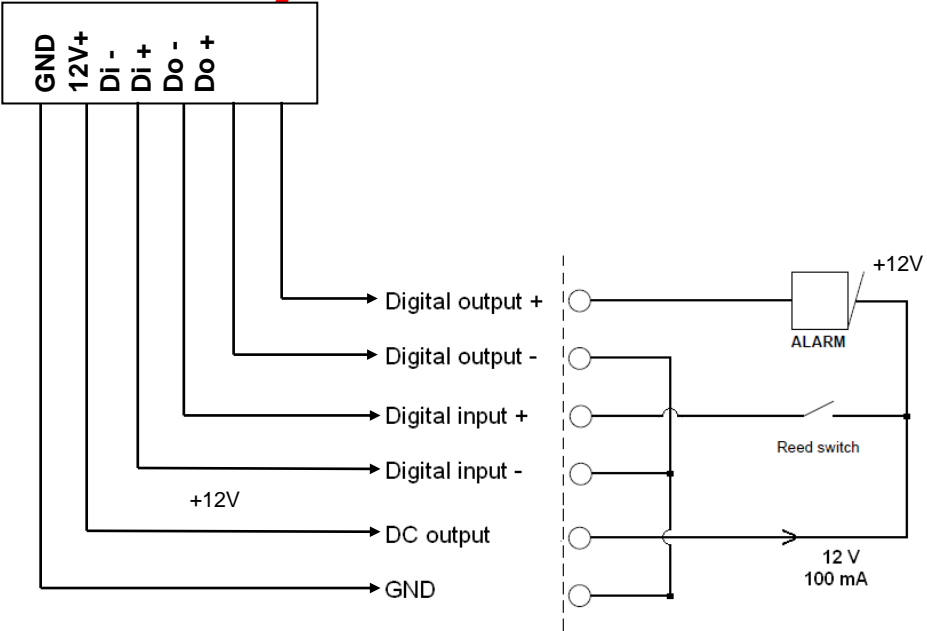
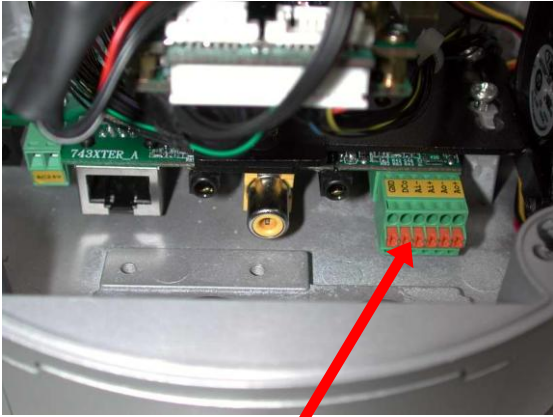
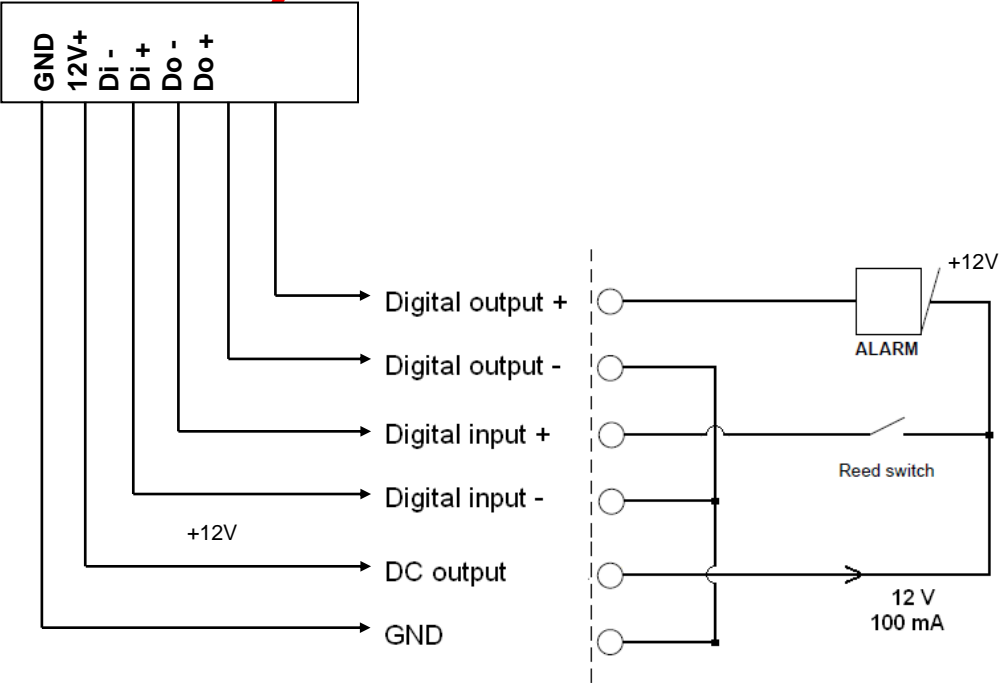
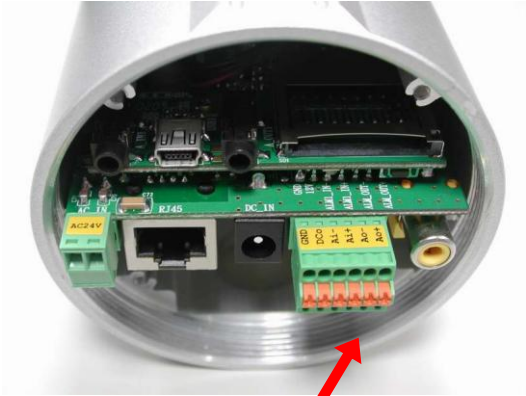


Figure 2.10 Illustra 400 Bullet IP Camera Indoor/outdoor (PoE)



## 2.7 The USB function

By connecting the IP camera with a PC via the USB connector, the IP camera can provide two different functions.

### 1. Insert an SD card: As a card reader.

Insert an SD card into the IP camera, and then connect to the PC. You can transfer files between the SD card and the PC. Once you've connected your IP camera to your computer, the Windows system will detect the connection and ask you what you want to do with your SD card.

In other words, if you connect the IP camera with an SD card and the PC via the USB connector, the IP camera can be used as a normal card reader.

### 2. Remove an SD card: As a configuring tool.

Before using the USB configuration setting page, please remember to remove the SD card or your PC will read the SD card and won't show this window.

## DHCP ON

The screenshot shows the 'USB Configuration v1.03' window. The 'Title' field contains 'ipcam(0a:ca:ca:ca:ca:0b)'. The 'DHCP' dropdown menu is set to 'ON'. The 'IP Address' field is set to 192.168.0.83, 'Gateway' is 0.0.0.0, and 'HTTP Port' is 80. The 'Netmask' field is set to 255.255.252.0, and the 'DNS Server' field is set to 192.168.1.11. There are 'Apply(A)' and 'Exit(E)' buttons at the bottom right.

## DHCP OFF

(default)

The screenshot shows the 'USB Configuration v1.03' window with 'DHCP' set to 'OFF'. The 'IP Address' field is set to 192.168.0.83, 'Gateway' is 0.0.0.0, and 'HTTP Port' is 80. The 'Netmask' field is set to 255.255.252.0, and the 'DNS Server' field is set to 192.168.1.11. There are 'Apply(A)' and 'Exit(E)' buttons at the bottom right. A red rectangle highlights the IP Address, Gateway, and HTTP Port fields, with a red arrow pointing from the text 'Network Setting' to the rectangle.

Network  
Setting

Figure 2.11 The USB function

**NOTE:** After changing the settings, please click the “Apply” button. All of the options will be effective after removing the USB connector.

**NOTE:** After the IP address has been changed and/ or reset, please unplug the network cable, and then plug it in once again to make sure the network connection is in normal mode.

### 3. INSTALLATION

Please follow the instructions and the diagram below to set up the system.

**NOTE:** The IP camera is linked by its Video Out connection via a BNC connector to a monitor's Video In connection. If this connection is there, you can see some information on the monitor screen, such as the IP camera factory default Static IP address (192.168.1.168). But the IP camera Static IP address can only appear if there is a connection between the IP camera and another device. If there is no such connection, the IP camera factory default Static IP address will not appear on the monitor screen.

#### 3.1 Hardware Installation

1. Plug in the power connection to the IP camera.
2. Plug in the IP camera cable.
3. Confirm the correct network connection status (PC/HUB/ IP camera).
4. In the PC IE Browser, key in the camera's IP online to link up to the live first page.

**NOTE:** The red light power indicator on the IP Box Camera flashes when the power supply is on.

Two-color network indicator:

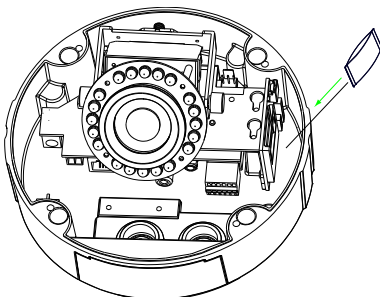
1. It is off when the network is disconnected.
2. The green light goes on when the network is connected; the orange light flashes indicate the network connection status.

#### 3.2 Placing a Desiccant Pack Inside the Camera

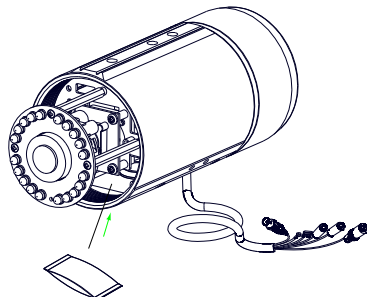
The outdoor mini-dome/ bullet camera comes with a desiccant pack which is placed inside the camera using a two-sided adhesive tape. The desiccant pack is for reducing the moisture and humidity content inside the camera and prevents moisture from condensing on the lens or its cover. If the user decides to remove the camera cover after more than a few months of camera use, remove the used desiccant pack as well and place the replacement pack inside the camera.

1. Stick the piece of desiccant pack to the inner side of the camera.
2. Then use a two-sided adhesive tape to fix the desiccant pack.
3. Reattach the cover of the camera.

The Outdoor Mini-dome Camera:



The Bullet Camera:



### 3.3 Updating System Software

If the system software of the IP Camera needs to be upgraded, please take the following steps to safely process it.

**Important:** Before carrying out the following procedures, please ensure the SD card is working and the file of the system firmware is intact.

1. Create a directory named **UPGRADE** (upper-case or lower-case letters are no difference) in the SD card if it does not exist.
2. Copy the file UPDATE.BIN to the **UPGRADE** directory.
3. If the IP Camera is running, please power it off first.
4. Insert the SD CARD into the IP Camera.
5. Remove the Ethernet cable from the RJ-45 port and then power on the IP Camera.
6. In 5 to 10 seconds, a message reading "UPDATE PROCESSING" will show up on the screen on a blue background; if not, please check out steps 1 to 6 carefully or else inform your technical support while ignoring the following steps.
7. DO NOT power off the IP Camera while this update process is running until the message "UPDATE OK RESET PLEASE" appears on the screen; it might take 15 to 30 seconds to appear.
8. If the message "UPDATE NG RESET PLEASE" appears rather than "UPDATE OK RESET PLEASE", please write down the error messages shown on the screen and inform your technical support, while ignoring the following steps.
9. Power off the IP Camera when this update process is finished, then remove the SD card from the IP Camera.
10. Reconnect the Ethernet cable to the RJ-45 port if necessary.
11. Power ON the IP Camera and it will work normally if the entire update procedure goes correctly.
12. Verify the version of the system software.

#### **WARNING:**

- You must perform Steps 1 to 2 on a PC.
- Ensure you are using the correct UPDATE.BIN file in Step 2, otherwise the IP Camera will not work properly.
- If the power of the IP Camera is suddenly lost in step 7, please remove the SD card first and turn on the IP Camera next to test its operation. If the IP Camera remains working normally, please go back to step 3; otherwise, please inform your technical support.
- In step 9, if the SD card is not removed and the IP Camera does not get online as well, the updating process must be repeated again after rebooting the IP Camera.
- Make sure that the SD card is inserted in a correct position in step 4, or the IP Camera will suffer permanent physical damage.
- If the message "CSUM ERROR" appears in step 7, it implies a problem in the UPDATE.BIN file.
- Do not interrupt the process when the unit is updating or it will crash.

## 4. Network Configuration

### 4.1 Cable Connections

Please follow the instructions below to connect your IP camera to a computer or a network and to choose a proper RJ-45 cable configuration for connections.

**Figure 4.1 Physical specifications of the RJ-45 cable for Ethernet**

Wire Type	Cat. 5
Connector Type	RJ-45
Max. Cable Length	100 m
Hub Wiring Configuration	Straight Through
PC Wiring Configuration	Straight

#### 4.1.1 Connect to a computer

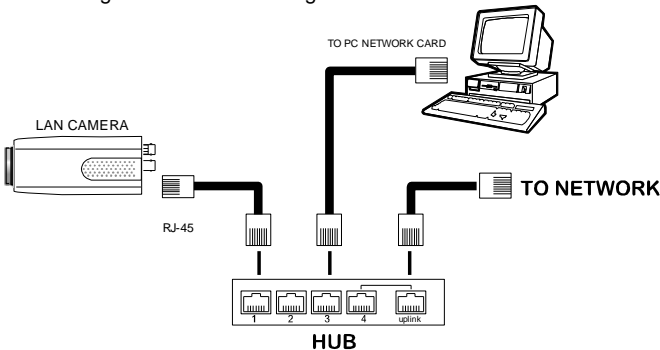
Use a straight LAN cable to connect directly to a computer.



**Figure 4.2 Connect to a computer**

#### 4.1.2 Connect to a LAN Hub (INTRANET)

The RJ-45 PIN configuration for connecting with a LAN Hub is shown below.



**Figure 4.3 Connect to a LAN Hub**

## 4.2 Configure Your IP Camera Network Settings

Upon connecting with the network hardware, you need to activate the network function and configure the proper network settings of the IP camera.

### 4.2.1 Enable DHCP Function

**Note:** The IP Camera default setting is DHCP OFF. Users can build the IP Camera working environment with a static IP address. The default static IP is **192.168.1.168**.

#### IP box camera:

This function can only work if the LAN, which the unit is connected to, has a DHCP server. If the DHCP server is working, please move the dip switch points up to **3** on the flank panel; now the IP camera will obtain an IP address automatically from the DHCP server. In this instance, please skip section 4.2.2 (Set IP address) and follow section 4.3 (TCP/IP Communication Software).

#### IP indoor / outdoor mini-dome & IP bullet camera:

This function can only work if the LAN, which the unit is connected to, has a DHCP server. If the DHCP server is working in the LAN, please plug the USB connector into your PC's USB socket and the other end of the connector in the camera. A window pops up asking if you want to "Run the program", "Open folder to view files", or "Take no action". Choose "Run the program" and click "**OK**", and the "USB configuration" window will pop up. Set the Network setting and turn on the DHCP setting to use the DHCP protocol. The IP Camera will obtain an IP address automatically from the DHCP server.

### 4.2.2 Set IP Address

You need to set an IP address for the unit if the LAN unit isn't connected to a DHCP server. Otherwise, please follow the instructions given below:

Set the **IP**, **MASK** and **GATEWAY**. The following is a sample setting.

IP:	192.168.1.X
MASK:	255.255.255.0
GATEWAY:	0.0.0.0

**NOTE:** When only one unit of the IP camera is connected to a computer or LAN, you can freely assign an IP address for the IP camera. For example, there is a range of IP camera IP addresses from 192.168.1.1 to 192.168.1.255. You can pick one for use from the range of the IP. It's not necessary to set MASK and GATEWAY; leave the settings as default.

When an IP camera is connected to a WAN, you must acquire a unique, permanent IP address and correctly configure the MASK and GATEWAY settings according to your network architecture. If you have any questions regarding those settings, please consult a qualified MIS professional or your ISP.

**NOTE:** When connecting to a network, each connected IP camera must be assigned a unique IP, which must be in the same class type as your network address. IP addresses are written as four sets of numbers separated by periods; for example, 192.168.1.1. Therefore, if the connected network is identified as Class C, for example, the first three sets of numbers of the IP camera IP address must be the same as the network address. If the connected network is identified as Class B, the first two sets of numbers of the IP camera IP address must be the same as the network address. If you have any questions regarding these settings, please consult a qualified MIS professional or your ISP.

#### 4.3 TCP/IP Communication Software

Follow the procedure below to install the TCP/IP communication program.

1. Click **Start**, and then click **Control Panel**.



Figure 4.4 TCP/IP Communication Software

2. Double click the **Network Connections** icon to enter the windows.

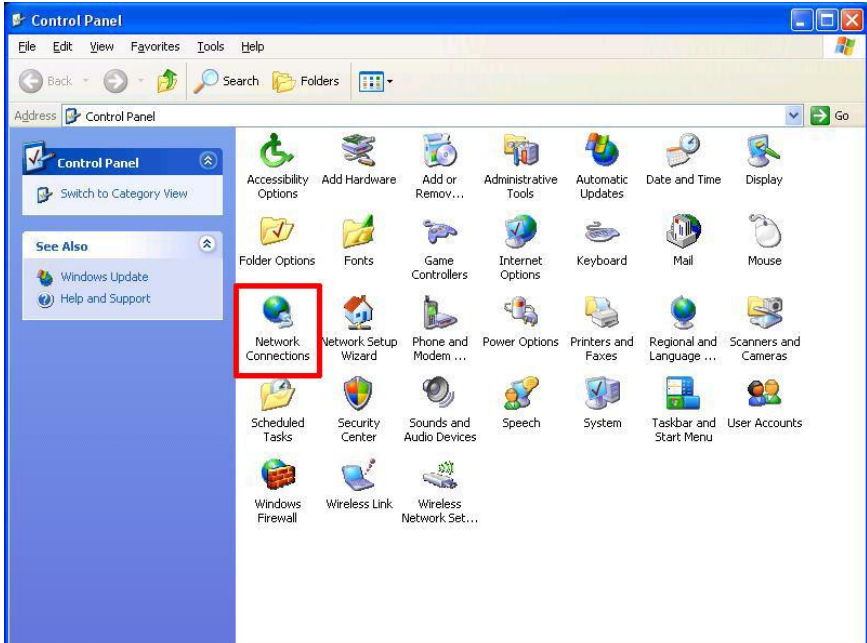
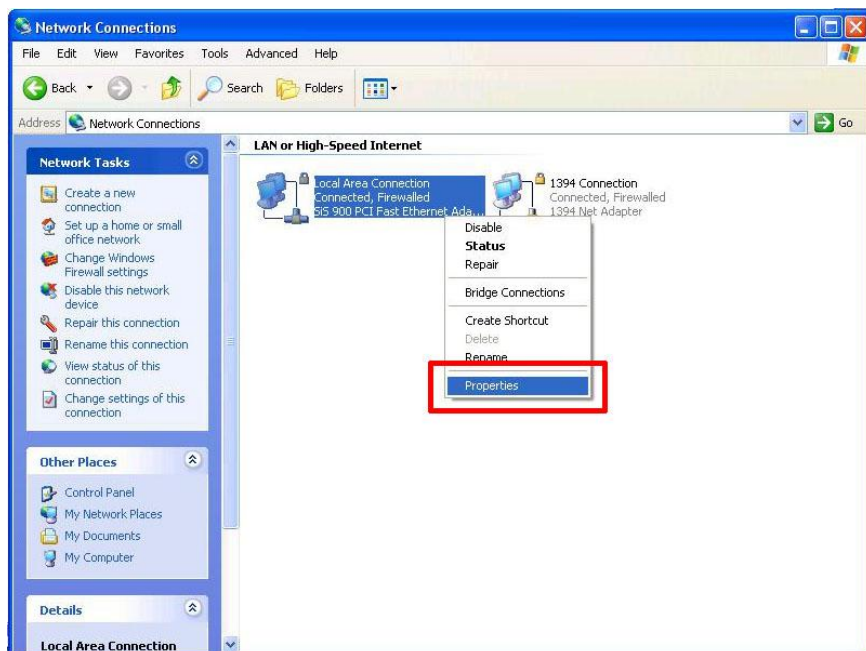


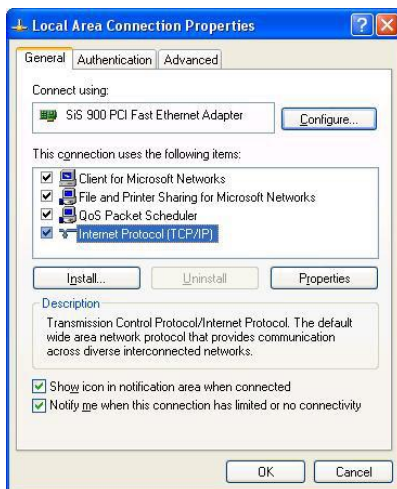
Figure 4.5 Network Connections

3. Right-click your network connection and then click **Properties**.



**Figure 4.6 Properties**

4. On the **General** tab, check if the Internet Protocol (TCP/IP) is included in the list. If the TCP/IP is included, please proceed to section 4.5. If it is not included, please follow section 4.4 to install the TCP/IP.



**Figure 4.7 Select Internet Protocol**

## 4.4 TCP/IP Installation

On the **General** tab of the Connection Properties, under “This connection uses the following items”, click **Internet Protocol (TCP/IP)**, then click **Install**. Select **Protocol** from the network component type then click **Add**. Select **Microsoft TCP/IP** from the network protocol then click **OK**. Click **Close** to return to the **Network Connections** window.

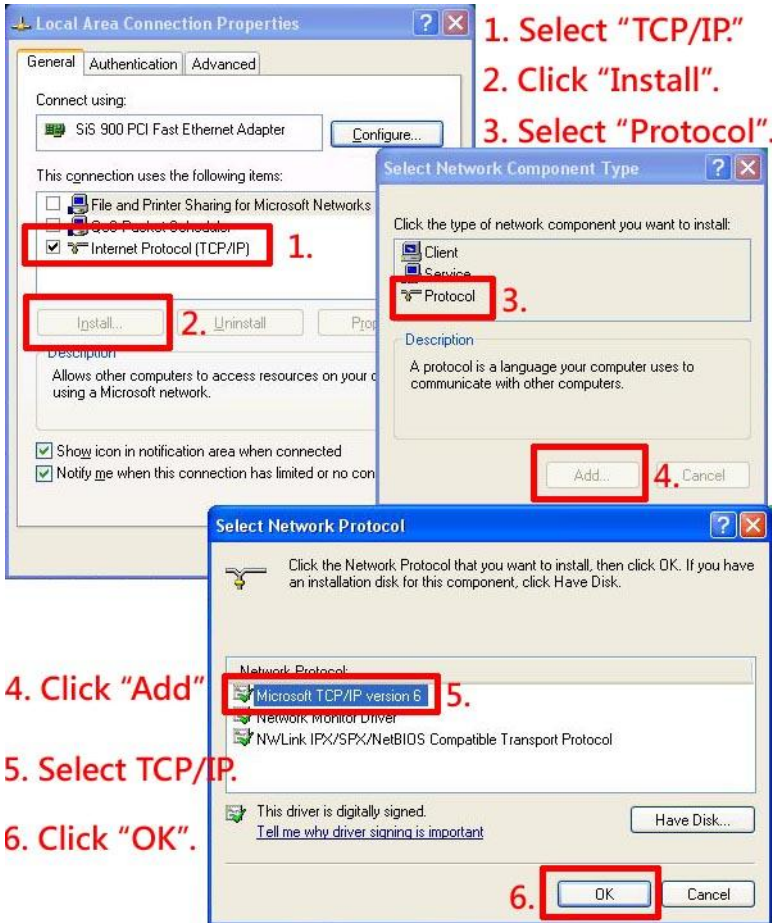


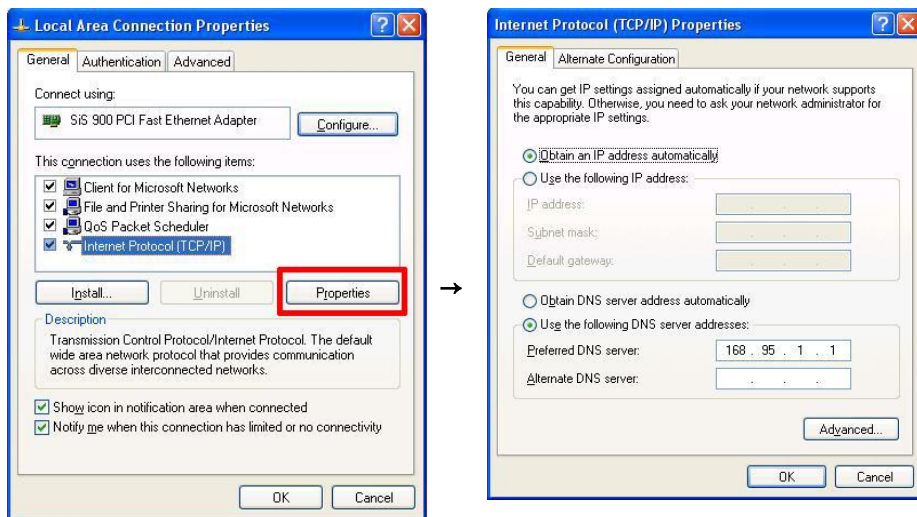
Figure 4.8 TCP/IP Installation

#### 4.5 TCP/IP configuration setting

Click **Start > Control Panel > Network Connections**.

Select **Internet Protocol (TCP/IP)**, and then click **Properties**.

Before processing the IP camera installation in a WAN, please make sure the Internet connection works properly. If not, please contact your ISP provider.



**Figure 4.9 TCP/IP configuration setting**

If you are using a DHCP server, please select **Obtain an IP address automatically**. Any assigned IP address for the connected IP cameras must be in the same class type as the server. If there is no DHCP server, please select **specify an IP address** enter the IP address, subnet mask and default gateway of your choosing of your PC. This IP address must be different from other network IP devices but in the same class type.

**NOTE:** The IP address of an IP camera in a network must be unique to itself as opposed to those of the other chosen PCs, but in the same class type.

## 4.6 Connection Testing

With the previous settings, follow the instructions below to ensure whether you have established the connection successfully.

1. Click **Start > All Programs > Command Prompt**.

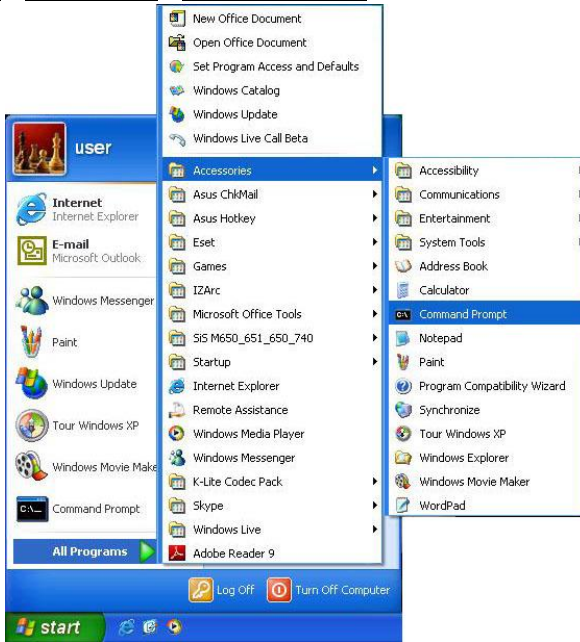


Figure 4.10 Select Command Prompt

2. Enter **ping XXX.XXX.XXX.XXX** (the camera's IP address), then enter. (See the sample screen below).

**\*\* This is the IP address for an IP camera that is assigned for the connected IP camera.**

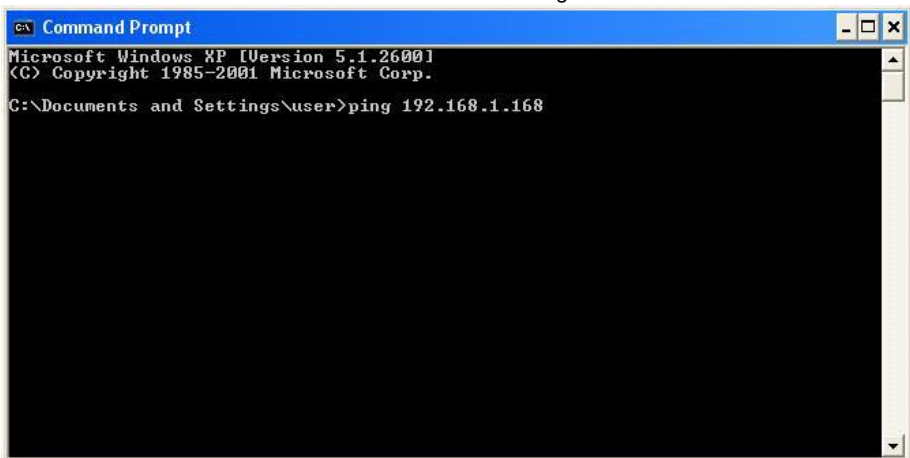


Figure 4.11 Command Prompt

If you receive a response as in the sample screen below, the connection hasn't been successfully established. Please re-check all the hardware and software installations by repeating sections 4.4 and 4.5. If you still can't establish the connection after rechecking, please contact your dealer.

```
C:\ Command Prompt
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\Documents and Settings\user>ping 192.168.1.168
Pinging 192.168.1.167 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 192.168.1.168:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\Documents and Settings\user>
```

Figure 4.12 The Connection is wrong

If you receive a response as in the sample screen below, you have successfully made the connection.

```
C:\ Command Prompt
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\Documents and Settings\user>ping 192.168.1.168
Pinging 192.168.1.168 with 32 bytes of data:

Reply from 192.168.1.168: bytes=32 time=1ms TTL=100
Reply from 192.168.1.168: bytes=32 time<1ms TTL=100
Reply from 192.168.1.168: bytes=32 time=1ms TTL=100
Reply from 192.168.1.168: bytes=32 time<1ms TTL=100

Ping statistics for 192.168.1.168:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\Documents and Settings\user>
```

Figure 4.13 The connection is successful

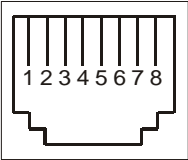
## 5. Operation Instructions for the Network

The Microsoft Internet Explorer in a PC provides the functions of monitoring remote zones or watching recorded data through the TCP/IP protocol. The details are listed as follows.

### RJ-45 PIN configuration for Ethernet

PIN NO.	PIN Assignment
1.	TX +
2.	TX -
3.	RX +
4.	Not Connected
5.	Not Connected
6.	RX -
7.	Not Connected
8.	Not Connected

RJ-45 socket



### Physical specification for Ethernet

Wire type	Cat. 5
Connector type	RJ-45
Max. cable length	100 m
Hub wiring configuration	Straight Through or Cross Over
PC wiring configuration	Straight Through or Cross Over

Figure 5.1 Pin Configuration and Specification for Ethernet

## 5.1 Microsoft Internet Explorer

### 5.1.1 Connecting the IP camera

1. Start up Microsoft Internet Explorer, and then follow the steps below to connect the IP camera.
2. Click on the URL block at the top of the window.
3. Enter the URL address of the IP camera into the URL block and press the “**Enter**” button to enter the home page.
4. Enter the "User Name" and "Password" in the appropriate spaces.
5. Click on the “**OK**” button to set your entries, and automatically exit the page.

**NOTE:** The default "User Name" and "Password" are admin and 9999 respectively.

**NOTE:** The page headlined "Enter Network Password" is shown below. Please enter the user name and password of the IP camera when you see it. If either the user name or the password is incorrect, please check the input data and rectify it as necessary.

**NOTE:** Once authorized successfully, it will not appear again until you close the window and reconnect it.

**NOTE:** The initial sequence of proceeding is to type in your IP address and click the "Enter" button to access the home page. If and when you revise or change data in the "SYSTEM USERS" page, the sequence will alter to initially show the "Enter Network Password" page.

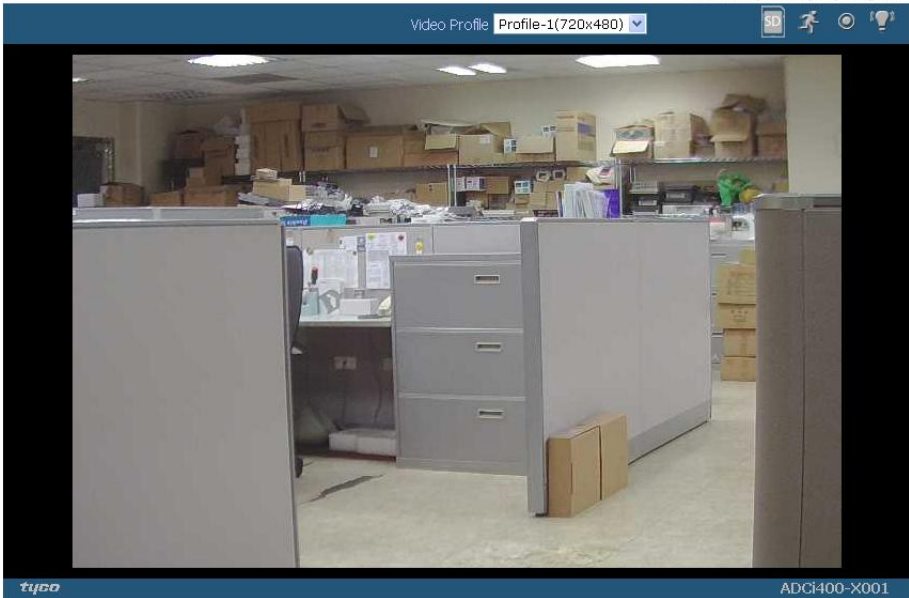


**Figure 5.2 Login**












### 5.1.2 Live Video

The Live Video from the IP camera is displayed on the home page when your PC is online with the IP camera. There are also additional settings provided on the home page. The ActiveX (default) and AJAX the viewer types display different display formats on their home page.

**The AJAX viewer type: Non-IE browsers support (for the JPEG mode only).**

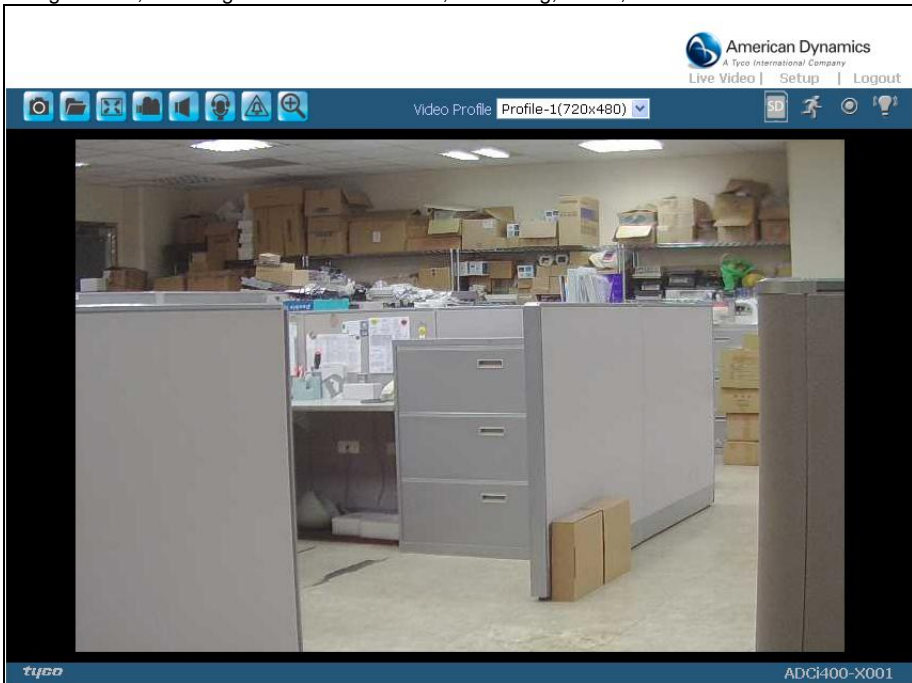


**Figure 5.3 Live Video- AJAX**














- Click  to change the pairs of resolution and quality which you already arranged in the “Audio and Video” setting page.
-  SD card icon: Check if the SD card is inserted or not. When a SD card is inserted, the icon becomes red .
-  Motion-on icon: When there is a detection of motion, the icon will appear in the right upper corner to warn the user. When the motion detection is triggered, the icon will blink red .
-  Status Recording on icon: The icon will appear on the upper right corner. When the recording is triggered, the icon will become red  and record the images into the inserted SD card.
-  Alarm on-icon: When there is a detection of external devices such as a sensor, The icon will appear on the upper right corner warn the user. When an alarm is triggered, the icon will blink red .
-  Alarm on-icon: When there is a detection of external devices such as a sensor, the icon will appear on the upper right corner warn the user. When an alarm is triggered, the icon will blink red .

### The ActiveX viewer type:



You can select from the available thumbnails for your option of taking a Snapshot, setting the Storage Folder, selecting the Full Screen mode, Recording, Listen, Talk and Zoom.

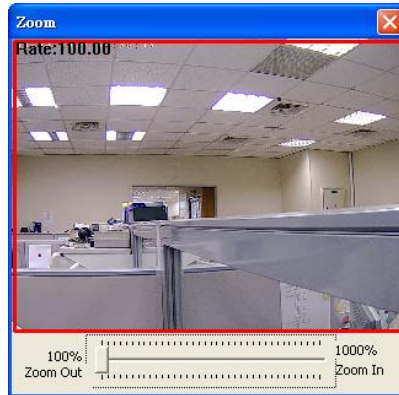


**Figure 5.4 Live View- ActiveX**

- Snapshot: Click on the  button to take a snapshot. The icon will change to a blue color  while working effectively.
- Set Storage Path: Click on the  button to set a storage folder for saving the snapshot and the video clips.
- Full Screen: Click on the  button to enter the full screen mode. The icon will change to a blue color  while working effectively.
- Record switch: Click on the  button to record a video clip. The icon will change to a blue color  while working effectively.
- Audio switch: Click on the  button to start/stop the audio-in function (listen/stop listening). The icon will change to a blue color  while working effectively.
- Talk switch: Click on the  button to start/stop audio out function (talk/stop talking). The icon will change to a blue color  while working effectively.
- Digital output: Click on the  button to start/stop digital output. The icon will change to a blue color  while working effectively.

## Installation and Operation Guide

- Zoom: Click on the  button to bring a popup “Zoom” window. The icon will change to a blue color  while working effectively. Move the scrollbar “square” right or left to zoom in or zoom out the Live View, and the red “Active Frame” will be narrowed down or enlarged. You can drag the “Active Frame” to the desired position to see the detail of the live image.



**Figure 5.5 Zoom function**

- Live Video: Click to go back to the device's homepage.
- Setup: Click to proceed to the advanced settings.
- Logout: Click to close the window.

### 5.1.3 Setup

Click on the **Setup** button on the home page to proceed to the advanced settings.

#### 5.1.3.1 Wizard

To quickly configure your IP Camera, click **Wizard** on the top of the Setup pages.

This wizard will guide you through a step-by-step process to configure your new camera and connect the camera to the Internet.

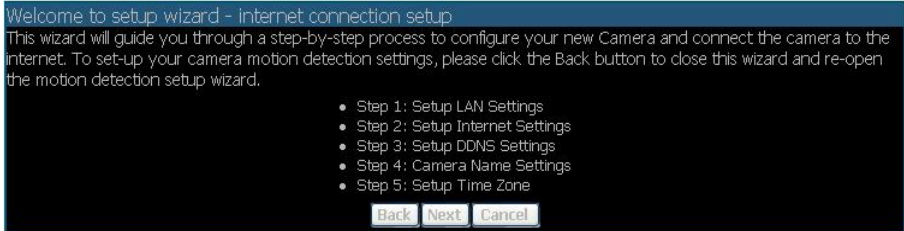


Figure 5.6 Setup Wizard

Click **Next** to continue.

#### Step 1:

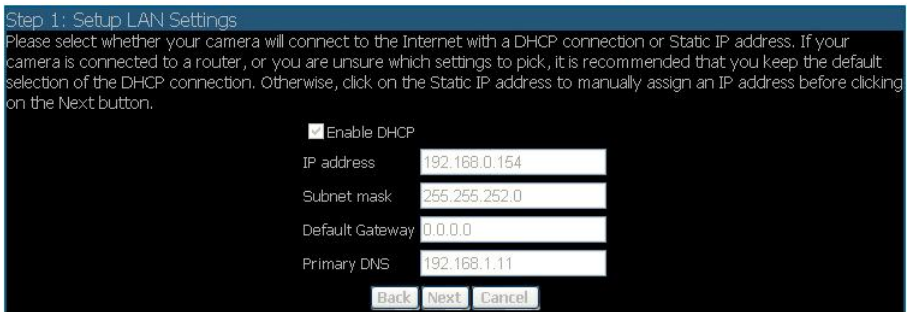


Figure 5.7 Setup LAN Settings

The IP Box Camera default setting is DHCP OFF. Users can build the IP Box Camera working environment with a static IP address. The default static IP is 192.168.1.168. You can set an IP address for the IP Box Camera if the LAN unit isn't connected to a DHCP server. Or turn on the DHCP setting to use the DHCP protocol if the DHCP server is working in the LAN. The IP Box Camera will obtain an IP address automatically from the DHCP server.

If your Internet Service Provider has provided you with connection settings, or you wish to set a static address within your home network, enter the accurate information for your static IP setting. Click **Next** to continue.

**Step 2:**



**Step 2: Setup Internet Settings**  
Please enter your ISP Username and Password in the case that your ISP is using PPPoE and then click on the Next button. Please contact your ISP if you do not know your Username and Password.

☐ Enable PPPoE

User Name   
(e.g. 654321@hinet.net)

Password

**Figure 5.8 Setup Internet Settings**

If you are using PPPoE, select Enable and enter your user name and password, otherwise select Disable and click **Next** to continue.

**Step 3:**



**Step 3: Setup DDNS Settings**  
If you have a Dynamic DNS account and would like the camera to update your IP address automatically, enable DDNS and enter in your host information below. Please click on the Next button to continue.

☐ Enable DDNS

Server Address  <<

Host Name

User Name

Password

Verify Password

Timeout  (hours)

**Figure 5.9 Setup DDNS Settings**

If you have a Dynamic DNS account and would like the camera to update your IP address automatically, Select **Enable** and enter your host information. Click **Next** to continue.

**Step 4:**



**Step 4: Camera Name Settings**  
It is recommended that you rename your camera for easy accessibility. You can then identify and connect to your camera via this name. Please assign a name of your choice before clicking on the Next button.

IP Camera Name

**Figure 5.10 Camera Settings**

Enter a name for your camera and click **Next** to continue.

**Step5:**



Step 5: Setup Time Zone

Please configure the correct time to ensure that all events are triggered, captured and scheduled at the correct time and day and then click on the Next button.

Time Zone

Enable Daylight Saving ☐

**Figure 5.11 – Setup Time Zone**

Configure the correct time to ensure that all events will be triggered, captured and scheduled at the right time. Click **Next** to continue.

**Step 6:**



Step 6: Setup complete

Below is a summary of your camera settings. Click on the Back button to review or modify settings or click on the Apply button if all settings are correct. It is recommended you note down these settings in order to access your camera on the network or via your web browser.

IP Address	DHCP
IP Camera Name	ADCIPHBN
Time Zone	(GMT+08:00) Taipei
DDNS	Disable
PPPoE	Disable

**Figure 5.12 – Setup Complete**


If you have selected **DHCP**, you will see a summary of your camera's settings. Please note down all this information as you will need it for accessing your camera within the network. Click **Apply** to save your settings.

### 5.1.3.2 Change the Image Settings

Please follow the steps below to change the video setting through the network as necessary. A preview of the image will be shown in the window of Live Video. Click **Submit** to activate and save your changes.

- The Image Setup page

1. Click on the **Image** button to enter the image-setting page.

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[Live Video](#) | [Setup](#) | [Wizard](#) | [Logout](#)

Image
Network
System
Application
Storage
Status

Image

Audio and Video


Privacy Mask

IMAGE SETUP

VIEWER TYPE

Viewer Type  
☐ AJAX  
☒ ActiveX

IMAGE SETTINGS



AGC ☒ 32x ☐ Auto  
 Exposure Time ☒ Auto ☐ [ ]  
 Mirror ☐ On ☒ Off  
 Flip ☐ On ☒ Off  
 White Balance Auto [ ] Save  
 Brightness 128 [ ]  
 Contrast 128 [ ]  
 Saturation 128 [ ]  
 Sharpness 128 [ ]  
 WDR Level 1 [ ]  

Reset Default

DEVICE SETTING

Camera Name ADCI400-X001 maximum 30 characters  
☐ Enable OSD  
 Timestamp Label ADCI400-X001 maximum 30 characters  
 Timestamp Location UPPER LEFT [ ]

Submit

tyco
ADCI400-X001

**Figure 5.13 – Image Setup**

2. Click to choose the viewer type: "AJAX" or "ActiveX" mode.
3. Adjust the "Image Settings", including "AGC", "Exposure Time", "Mirror", "Flip", "White Balance", "Brightness", "Contrast", "Saturation", "Sharpness" and "WDR Level" as necessary.

**NOTE: The default settings of the “Mirror” and “Flip” function for the IP indoor/ outdoor mini-dome are “On”.**

4. Adjust the "Device Settings" including "Camera Name" and "Timestamp".
  - Click "Enable OSD" to checkmark the box and activate the function.
  - Enter the "Timestamp Color" you have chosen.
  - Enter the "Timestamp Location" you have chosen.
  - Enter the "Timestamp Format" you have chosen.
5. Click on the **Submit** button to submit the new image setting.

#### **Description of function keys:**

<b>AGC</b>	Automatic gain control is abbreviated AGC. Automatic gain control is a feature where the amount of increase is adjusted automatically based upon the strength of the incoming signal. Weaker signals receive more gain; stronger signals receive less gain or none at all.
<b>Exposure Time</b>	Exposure time is controlled in a camera by shutter speed and the illumination level by the lens aperture. This option allows the user to choose the exposure time of the camera between "Auto", "1/2000", "1/1500", "1/1000", "1/750", "1/500", "1/250", "1/120", "1/60", "1/30", "1/15", "1/7.5", "1/4" and "1/2".
<b>Mirror:</b>	The mirror stores the images reflected by it so it can be used for surveillance or to simply take your own picture.
<b>Flip:</b>	To flip the camera's lens 180 degrees.
<b>White Balance</b>	White balance is the process of removing unnatural shades of color, so that objects which appear white in reality are rendered white in the images. Select your options from "Auto", "Outdoor", "Indoor" and "Fluorescent".
<b>Brightness:</b>	An adjustable setting to compensate for backlit scenes.
<b>Contrast:</b>	The measurement for color intensity/strength.
<b>Saturation:</b>	This setting controls the strength of colors from black and white to bold colors.
<b>Sharpness</b>	An adjustable setting to set the clarity of detail in the images.
<b>WDR Level</b>	The <b>Wide Dynamic Range</b> (WDR) function of a camera is intended to provide clear images even under back light circumstances. WDR enables the capture and display of both bright areas and dark areas in the same frame, in a way that there are details in both areas, i.e. bright areas are not saturated, and dark areas are not too dark. Select your options of the level between 0 and 8. 0 is the lowest level and 8 is the highest one.
<b>Timestamp Location:</b>	Click to open the list of four location modes to choose from: "UPPER LEFT", "UPPER RIGHT", "BOTTOM LEFT", and "BOTTOM RIGHT".

<b>Timestamp Format:</b>	Click to open the list of six format modes to choose from: “YYYY/MM/DD”, “MM/DD/YYYY”, “DD/MM/YYYY”, “YYYY/MM/DD TITLE”, “MM/DD/YYYY TITLE”, “DD/MM/YY TITLE”, “TITLE YYYY/MM/DD”, “TITLE MM/DD/YYYY” and “TITLE DD/MM/YY”.
<b>Submit:</b>	Click to set.

● *The Audio and Video setting page*

1. Click on the **Audio and Video** button to enter the Audio and video page to set the details of the device. You may configure video profiles with different settings for your camera. Hence, you may setup different profiles for your computer and mobile displays. In addition, you may also configure your audio setup for your camera. Click **Submit** to activate and save your changes.


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Image	Network	System	Application	Storage	Status
-------	---------	--------	-------------	---------	--------

**Image**

**Audio and Video**

Privacy Mask

### AUDIO AND VIDEO

VIDEO PROFILE 1

Mode: H.264

Frame size: 720x480

Intra Frame Period: 16

Maximum frame rate: 30

Video quality:

☒ Constant bit rate: 2M
☐ Fixed quality: High

VIDEO PROFILE 2

Mode: JPEG

Frame size: 720x480

Maximum frame rate: 30

Video quality: High

VIDEO PROFILE 3

Mode: JPEG

Frame size: 720x480

Maximum frame rate: 30

Video quality: High

AUDIO SETTINGS

Encoding: G.711

☐ Audio Mechanism Setting

☒ audio mlogain: 20dB
☐ Line IN: 0dB

☐ Enable audio out

Audio out volume level: 10

Submit

**tyco**
ADCH400-X001

**Figure 5.14 – Audio and Video**

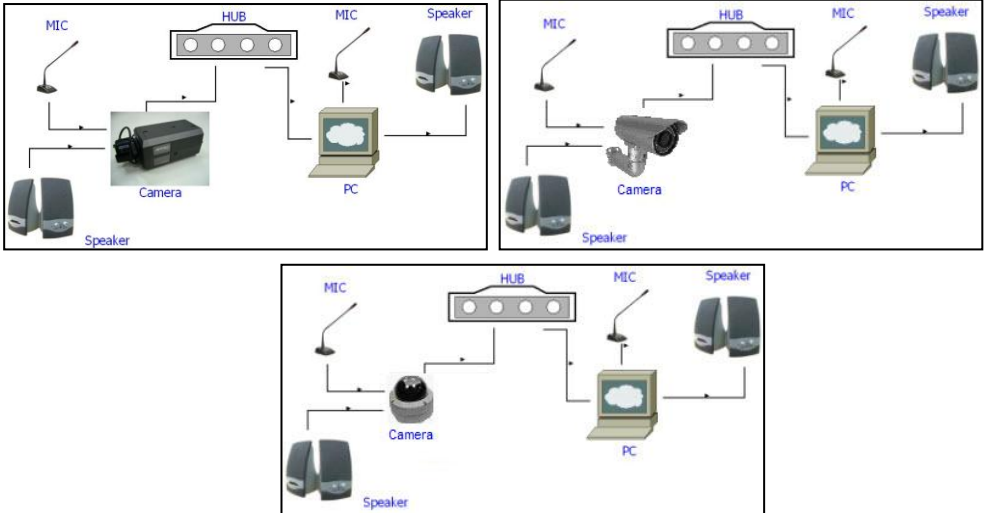
2. Set the “Mode”, “Frame size”, “Maximum frame rate” and “Video quality” of the Video Profile as necessary.
3. Set the details of the audio functions. The default Audio Setting of the IP Box Camera is off (disabled)
4. Click on the **Submit** button to submit the new setting.

### Description of function keys:

<b>Mode:</b>	Choose the video format from “H.264” or “JPEG”. It can be JPEG or H.264. In JPEG mode, the video frames are independent. However, H.264 consumes much less network bandwidth than JPEG.
<b>Frame size:</b>	This option allows the user to choose the video resolution of the camera between “896x720”, “720x480”, “352x240” and “176x120”.
<b>Maximum frame rate:</b>	Click on the drop-down list to choose the frame rates of “30FPS” (PAL: “25FPS”), “15FPS”, “7FPS”, “4FPS” and “1FPS”.
<b>Video quality:</b>	Selects the image quality level of JPEG images captured from “Highest”, “High”, “Medium”, “Low” and “Lowest”. Selects the image quality level of H.264 images captured from “Constant bit” (4M, 2M, 1M, 512K, 256K, 200K, 128K and 64K) or “Fixed Quality” (Highest, High, Medium, Low and Lowest).
<b>Intra Frame Period:</b>	In the H.264 mode, if there is little motion and most of the video content does not change from frame to frame, the H.264 encoding can compress the video by intra-frame way to keep the quality from loss. You can set the desired time period to use intra-frame compression.
<b>Audio Settings:</b>	You can use the option to switch the external microphone on/off or adjust the volume. <b>NOTE: The default Audio Setting of the IP Box Camera is off (disabled).</b>
<b>Encoding:</b>	Click on the drop-down list to choose the audio encoding of “G.711” and “G.726”. G.726 offers quality nearly identical to G.711, but it uses only half the bandwidth.
<b>Audio Mechanism Setting:</b>	Check to activate this function. Then select MIC or Line In. <b>NOTE: The option of 26dB is for long-distance audio receiving, especially longer than 3 meters.</b>
<b>Enable audio out:</b>	Check to activate this function. Then set the Audio out volume level.

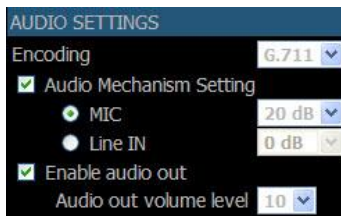
**NOTE:**

**Figure 5.15 Audio In/Out**



In order to use the Audio In/Out signal function, please follow the steps given below.

1. Connect to the camera webpage over the PC IE Browser.
2. Ensure “Audio Mechanism Setting” & “Enable audio out” are both selected. Click Submit.

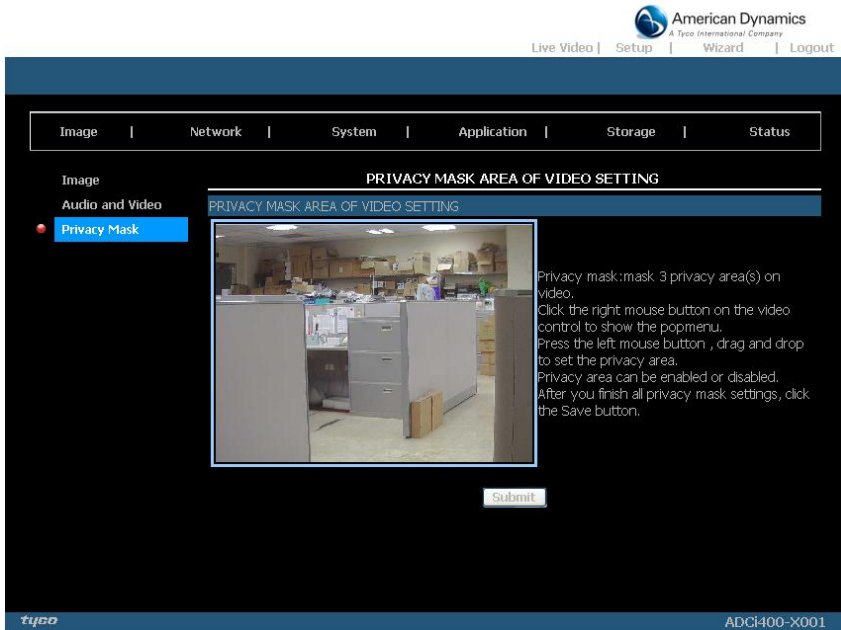


**Figure 5.16**

3. Connect the Mic to the PC, and connect the camera Audio out to the speaker.
4. Select “Talk” → ; speak to the PC-connected microphone.
5. Confirm the sounds made in the camera-connected speaker.
6. Connect the Mic to the camera--Audio in; connect the speaker to the PC--AUDIO Out.
7. Click “Listen” in the webpage → ; the Mic sends audio signals to the camera.
8. Confirm the sounds from the PC speaker.

- The Privacy Mask setting page

Click on the **Privacy Mask** button to enter the Privacy Mask Area setting page. Mask 3 privacy area(s) on video to specify up to the area(s) on the camera's image to be blocked/excluded from recordings and snapshots.



**Figure 5.17 Privacy Mask Area of Video Setting**

1. Click the right mouse button on the video control to show the pop-menu.
2. Press the left mouse button, drag and drop to set the privacy area.
3. Privacy area can be enabled or disabled.
4. After you finish all privacy mask settings, click the Submit button.

5.1.3.3 Change the Network Settings

Please follow the steps below to change the network setting through the network as necessary.

- Set the network options and IP address.
- 1. Click on the **Network** button in the home page to enter the Network Setup page.

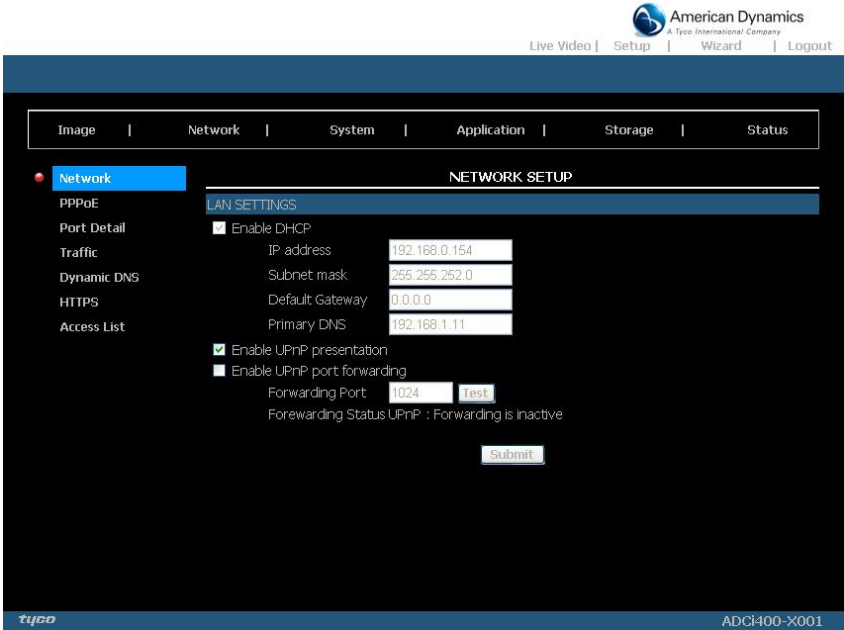


Figure 5.18 Network Setup

The accessible networks here are the “PPPoE”, “Port Detail”, “Traffic”, “Dynamic DNS”, “HTTPS” and “Access List”.

- 2. Set the details of the “LAN Settings” for your local area network as necessary.
- 3. Click on the **Submit** button to submit the new network setting.

Description of function keys:

DHCP:	If you have a DHCP server running on your network and would like a dynamic IP address to be updated to your camera automatically.
DNS	(The Domain Name System) is an Internet service that translates domain names into IP addresses (e.g., 192.168.0.20). The address can be obtained from your ISP or network gateway.
Enable UPnP Presentation:	Enable this setting to allow your camera to be configured as an UPnP device in your network.
Enable UPnP port forwarding:	Enable this setting to allow the camera to add port forwarding entries into the router automatically on a UPnP capable network.

● Change the Network Setting — PPPoE.

The “Network” page has, on its upper left, the “PPPoE” icon. Please follow the steps below to change the PPPoE setting through the network as necessary.

1. Click on the **PPPoE** button on the upper left menu to enter the “PPPoE Settings” page.

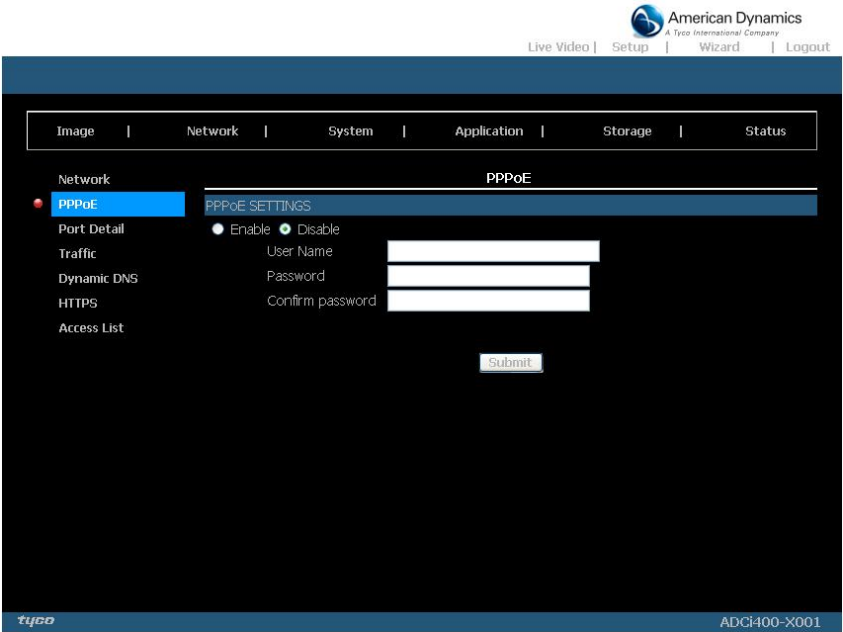


Figure 5.19 PPPoE Settings

2. Click on the Enable or Disable button to set the PPPoE Settings status.  
3. Enter the PPPoE “Username” and the PPPoE “Password”, then confirm the password again.  
4. Click on the **Submit** button to submit the new setting.

**NOTE:** Please refer to section 5.1.3.8 (PPPoE & DDNS) for more details.

**Description of function keys:**

PPPoE Setting	If you use the camera to connect directly to the Internet, you will need to enter the username and password, which were given to you when you set up your account with your Internet Service Provider. If the camera is behind a router or a gateway, you do not need to configure this setting.
Username:	Enter it in the given space.
Password:	Enter it in the required space.

● Change the Network Setting — Port Detail.

The “Network” page has, on its upper left, the “Port Detail” icon. It allows you to specify and reserve the ports for both the HTTP and RSTP streaming. Please follow the steps below to change the Port Detail setting through the network as necessary.

1. Click on the Port Detail button on the upper left menu to enter the “Port Detail” page.

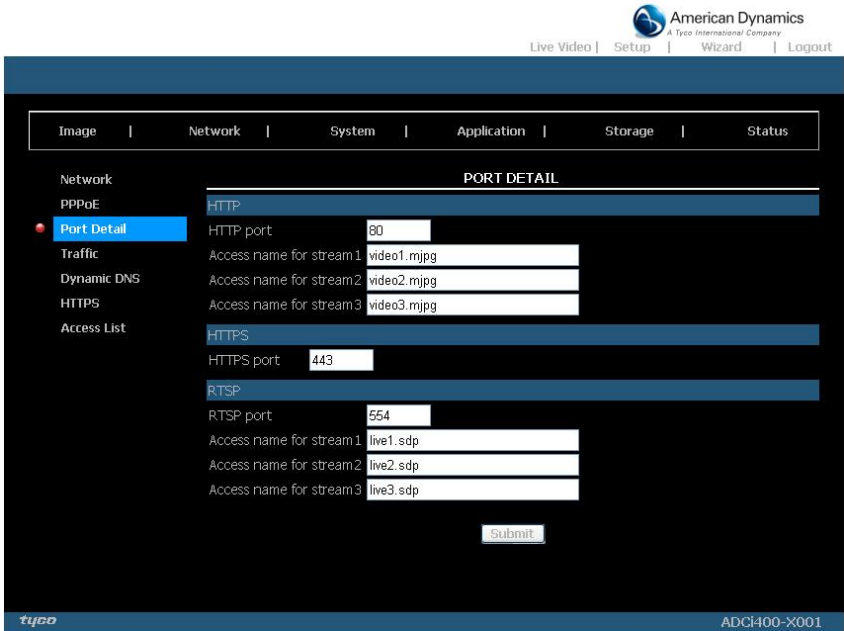


Figure 5.20 Port Detail

2. Enter the “HTTP port” and the “Access name for stream” for the MJPEG streams of the HTTP.  
3. Enter the “HTTP port”. The default value is 443.  
4. Enter the “RTSP port” and the “Access name for stream” for the MJPEG or JPEG streams of the RTSP.  
5. Click on the Submit button to submit the new setting.

**NOTE: If you want to use an RTSP player to access the IP camera, you have to use the following RTSP URL command to request transmission of the streaming data.**

**Description of function keys:**

<b>HTTP Port</b>	HTTP ports allow you to connect to the camera via a standard web browser. This port can be set to a number other than the default HTTP port 80. A corresponding port must be opened on the router. For example, if the port is changed to 8080, users must type in the web browser 'http://192.168.0.100:8080' instead of 'http://192.168.0.100'.
<b>HTTPS Port</b>	HTTPS Port in a camera connects it with a PC via a secure web browser.
<b>RTSP Port</b>	The port number that you use for RTSP streaming to mobile devices, such as mobile phones or PDAs. You may specify the address of a particular stream. For instance, live1.sdp can be accessed at rtsp://x.x.x.x/video1.sdp where the x.x.x.x represents the IP address of your camera.

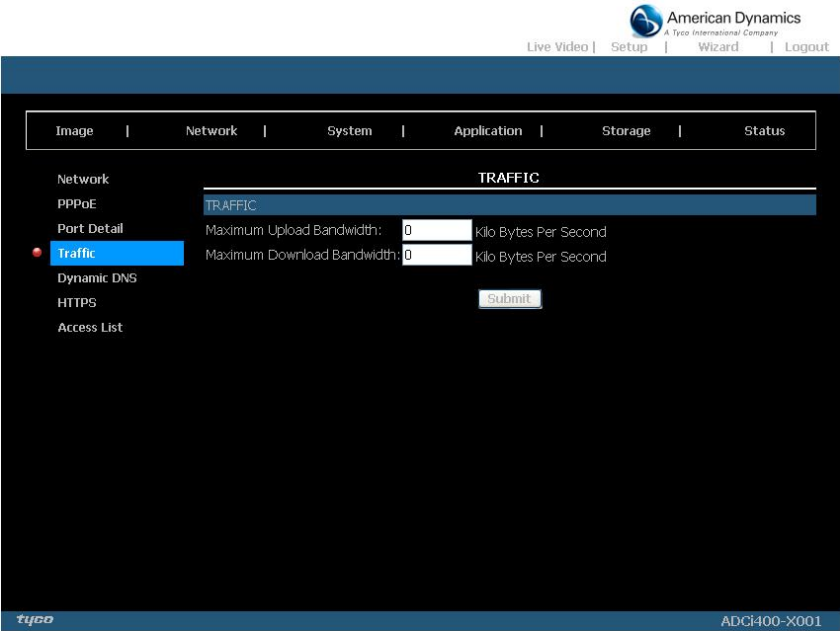
**NOTE: Using a RSTP player to view the video streams**

- (1) Launch the RTSP player.
- (2) Choose "File", and an "Open URL" dialog box will pop up.
- (3) Enter an Internet URL to open. The address format is rtsp://<ip address>:<rtsp port>/<RTSP streaming access name for stream1, stream2 or stream3>
- (4) The live video will be displayed in your player.

● Change the Network Setting —Network Traffic.

The “Network” page has, on its upper left, the “Traffic” icon. Specifying the maximum download/upload bandwidth for each socket is useful when connecting your device to a busy or heavily loaded network. Please follow the steps below to change the setting through the network as necessary.

1. Click on the **Traffic** button on the upper left menu to enter the “Traffic” page.



**Figure 5.21 Traffic**

2. Enter the “Maximum Upload Bandwidth” and the “Maximum Download Bandwidth”.
3. Click on the **Submit** button to submit the new setting.

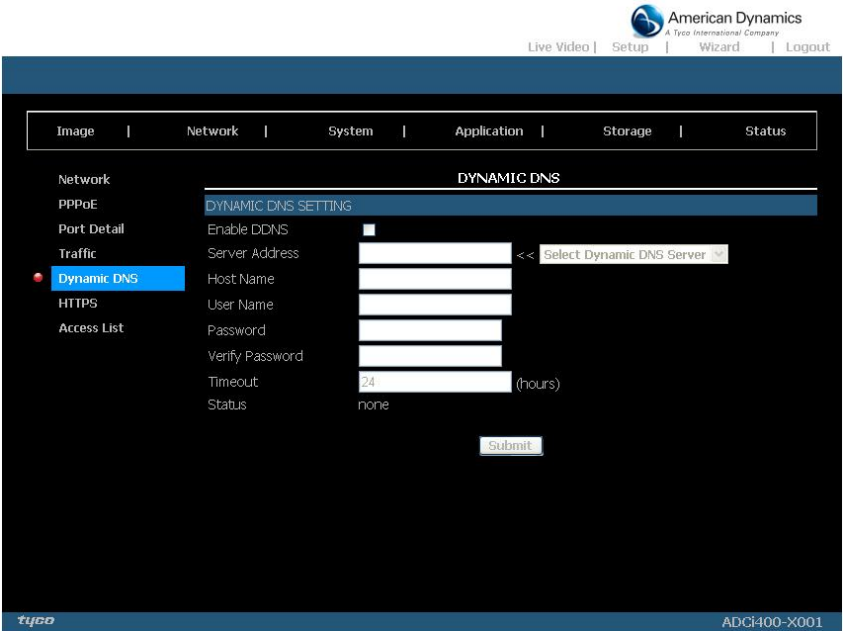
**Description of function keys:**

<b>Maximum Upload Bandwidth:</b>	Enter it in the given space from a range of 0 to 102400.
<b>Maximum Download Bandwidth:</b>	Enter it in the required space from a range of 0 to 102400.
<b>Submit:</b>	Click to set.

● *Change the Network Setting — DDNS.*

The DDNS (Dynamic Domain Name Server) will hold a DNS host name and synchronize the public IP address of the modem when it has been modified. The user name and password are required when using the DDNS service. The “Network” page has, on its upper left, the “DDNS” icon. Please follow the steps below to change the DDNS setting through the network as necessary.

1. Click on the **Dynamic DNS** button on the upper left menu to enter the “Dynamic DNS” page.



**Figure 5.22 Dynamic DNS**

2. Click “Enable DDNS” to checkmark the box and activate the function.  
3. Fill in your dynamic “Server Address”, “Host Name”, “User Name”, “Password”, “Verify Password”, “Timeout”, “IP Address” and “Email Address”.  
4. Click on the **Submit** button to submit the new setting.

**NOTE: Please refer to section 5.1.3.8 (PPPoE & DDNS) for more details.**

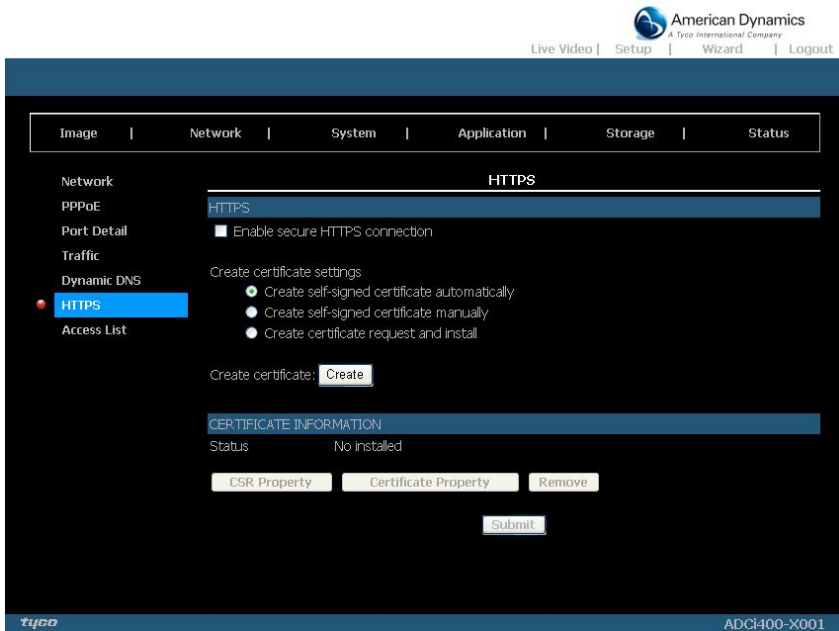
**Description of function keys:**

<b>Enable DDNS Function:</b>	Checkmark to activate the function.
<b>DNS</b>	(The Domain Name System) is an Internet service that translates domain names into IP addresses (i.e. 192.168.0.20). The address can be obtained from your ISP or network gateway.
<b>Server Address:</b>	Select your Dynamic DNS provider from the pull down menu or enter the server address manually.
<b>Host Name:</b>	Enter the host name of the DDNS server.
<b>User name:</b>	Enter your user name or e-mail used to connect to the DDNS
<b>Password:</b>	Enter your password used to connect to the DDNS server.
<b>Verify Password</b>	Enter your password again to connect to the DDNS server.
<b>Timeout:</b>	Enter the DNS Timeout values for registering the IP address.
<b>Status:</b>	Indicate the connection status, automatically determined by the system.

● Change the Network Setting — HTTPS.

The “Network” page has, on its upper left, the “HTTPS” icon. Please follow the steps below to change the HTTPS setting through the network as necessary.

1. Click on the **HTTPS** button on the upper left menu to enter the “HTTPS Setting” page.



**Figure 5.23 HTTPS**

2. Mark the “Enable HTTPS secure connection” to activate the function.
3. Click to select the “Create certificate method” from “Create self-signed certificate automatically”, “Create self-signed certificate manually” and “Create certificate request and install”.
4. Click “Create” to save the create certificate settings.
5. The Certification Information will show below.
6. Click “CSR Property” to see the Certificate Signing Request information.
7. Click “Certificate Property” to see the Certificate information.
8. Click “Remove” to remove the created certificate.
9. Click on the **Submit** button to submit the new setting.

**NOTE:** The certificate cannot be removed while the HTTPS is still enabled. To remove the certificate you must first uncheck Enable HTTPS secure connection.

**Methods of creating and installing the certificate:**

**1. Create self-signed certificate automatically**

Before using HTTPS for communication with the IP camera, a “Create self-signed certificate automatically” option is available:

- (1) Enable HTTPS secure connection.
- (2) Select the “Create self-signed certificate automatically” option.
- (3) Click the Create button.
- (4) The new Certification Information will show in the third column on the HTTPS setting page.
- (5) Click Home to return to the main page. Change the address from “http://” to “https://” in the address bar and press Enter on your keyboard. Some Security Alert dialogs will pop up. Click OK or Yes to enable HTTPS.

## **2. Create self-signed certificate manually**

- (1) Enable HTTPS secure connection.
- (2) Click "Create self-signed certificate manually" to open the Create certificate column.
- (3) Click the Create button.
- (4) The new Certification Information will show in the third column on the HTTPS setting page.

## **3. Create certificate request and install**

- (1) Enable HTTPS secure connection.
- (2) Click "Create self-signed certificate automatically" to open the Create certificate column.
- (3) Click the Create button.
- (4) If you see an Information bar, click OK and click on the Information bar at the top of the page to allow pop-ups.
- (5) The pop-up windows will show a certificate request.
- (6) Look for a trusted certificate authority that issues digital certificates. Enroll the IP camera. Wait for the certificate authority to issue a SSL certificate; click "Browse..." to search for the issued certificate, then click "Upload" on the Create certificate column.
- (7) The new Certification Information will show in the third column on the HTTPS setting page.

● Change the Network Setting —Access List.

The “Network” page has, on its upper left, the “Access List” icon. Please follow the steps below to change the Access List setting through the network as necessary.

1. Click on the **Access List** button on the upper left menu to enter the “Access List” page.

American Dynamics  
A Tyco International Company

Live Video | Setup | Wizard | Logout

Image | Network | System | Application | Storage | Status

Network

PPPoE

Port Detail

Traffic

Dynamic DNS

HTTPS

**Access List**

**ACCESS LIST**

**ALLOW LIST**

Start IP address

End IP address

Delete allow list

Add

Delete

**DENY LIST**

Start IP address

End IP address

Delete deny list

Add

Delete

tyco

ADCH00-X001

**Figure 5.24 Access List**

2. Fill in the “Start IP address”, “End IP address” and “Delete allow list” details of the “Allow List”. Press the “Add” button to add or press “Delete” to erase it.
3. Fill in the “Start IP address”, “End IP address” and “Delete deny list” details of the “Deny List”. Press the “Add” button to add or press “Delete” to erase it.
4. Click on the **Submit** button to submit the new setting.

**Description of function keys:**

<b>Allow List:</b>	
<b>Start IP Address</b>	The starting IP Address of the devices (such as a computer) which have permission to access the video of the camera.
<b>End IP Address</b>	The ending IP Address of the devices (such as a computer) which have permission to access the video of the camera.
<b>Delete Allow List</b>	Remove the customized setting from the Permission List.
<b>Deny List:</b>	
<b>Start IP Address</b>	The starting IP Address of the devices (such as a computer) which don't have permission to access the video of the camera.
<b>End IP Address</b>	The ending IP Address of the devices (such as a computer) which don't have permission to access the video of the camera.
<b>Delete Deny List</b>	Remove the customized setting from the Permission List.

**NOTE:** If there are any conflicts between the range of the Allow List and the range of the Deny List, the Access List within the range of the Deny List has the higher priority over the range of the Allow List.  
For example, the range of the Allow List is set from 1.1.1.0 to 192.255.255.255 and the range of the Deny List is set from 1.1.1.0 to 170.255.255.255. Only users with IPs located between 171.0.0.0 and 192.255.255.255 can access the IP camera.

5.1.3.4 Change the System Settings

Please follow the steps below to change the date and time of the system setting through the network as necessary.

- Set the Time and Date of the system
1. Click on the **System** button to enter the “Time And Date” page (default). From this section, you may automatically or manually configure, update and maintain the internal system clock for your camera.

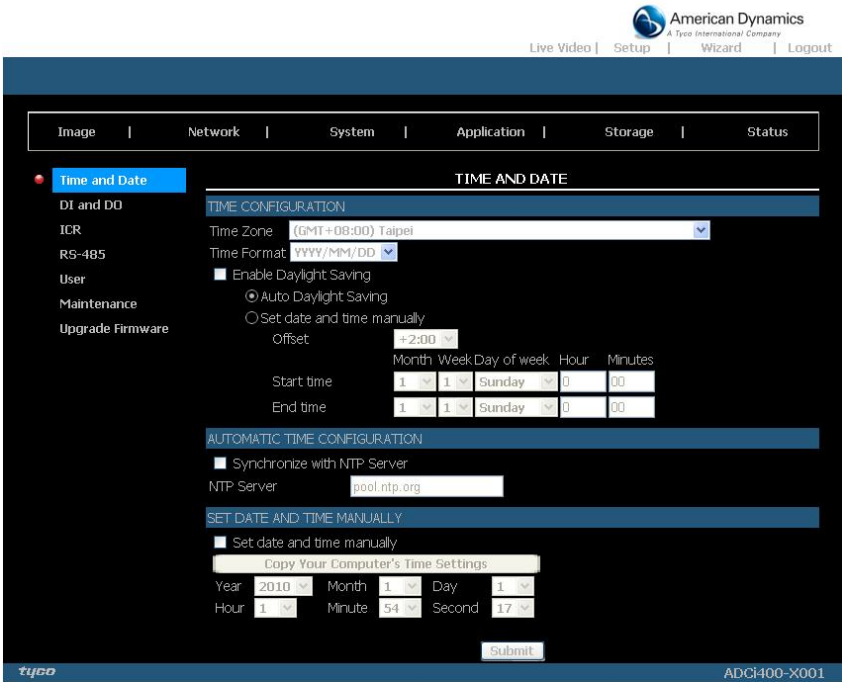


Figure 5.25 Time and Date

2. To set the Time Configuration, please select your time zone from the drop-down menu. Select this to enable the daylight saving time. Then Select "Auto Daylight Saving" or "Set date and time manually".
3. To set the Automatic Time Configuration, please checkmark "Synchronize with NTP Server" and enter the address of the NTP Server.
4. To set the Date and Time Manually, please checkmark "Set date and time manually". Press "Copy Your Computer's Time Settings" as necessary to synchronize the time information from your PC or just manually set the date and time from the drop-down lists.
5. Click on the **Submit** button to submit the new Date and Time settings.

Description of function keys:

<b>Time Zone:</b>	Select your time zone from the drop-down menu.
<b>Enable Daylight Saving:</b>	Select this to enable the daylight saving time.

<b>Auto Daylight Saving:</b>	Select this option so that your camera will configure the Daylight Saving setting automatically.
<b>Set date and time manually:</b>	Select this option so that you may configure the Daylight Saving date and time manually.
<b>Offset:</b>	Sets the amount of time to be added or removed when Daylight Saving is enabled.
<b>Synchronize with NTP server:</b>	Enable this feature to obtain time configuration automatically from the NTP server.
<b>NTP Server:</b>	The Network Time Protocol (NTP) synchronizes the device with an Internet time server. Choose the one that is closest to your location.
<b>Set the date and time manually:</b>	This option allows you to set the time and date manually.
<b>Copy Your Computer's Time Settings:</b>	This will synchronize the time information from your PC.

● Change the System Setting — Digital Input & Output.

You may enable the **Digital Input** (D/I) and **Digital Output** (D/O) feature and configure the source of events for your camera.

1. Click on the **DI and DO** button on the left side of the “System” page to enter the “DI and DO” page.

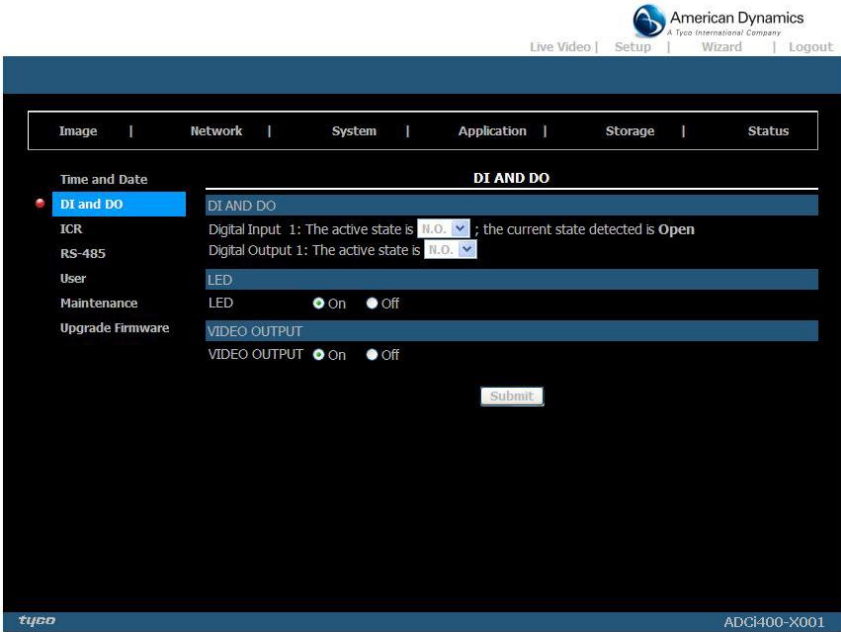


Figure 5.26 DI and DO

2. Select the active state of the Digital Input from the drop-down list.
3. Select the active state of the Digital Output from the drop-down list.
4. Click to set the LED “On” or “Off”.
5. Click to set the VIDEO OUTPUT “On” or “Off”.
6. Click on the **Submit** button to submit the new user’s setting.

**Description of function keys:**

<b>Digital Input:</b>	Select “N.O.” or “N.C.” as the active state of the Digital Input, in order to use the GPIO connector function.
<b>Digital Output:</b>	Select “N.O.” or “N.C.” as the active state of the Digital Output, in order to use the GPIO connector function.
<b>LED</b>	Select “ON” or “OFF” to use the item, which indicates a camera’s status.
<b>VIDEO OUTPUT</b>	Select “ON” or “OFF” to use the video out connecting port, to send out analog signals.

● Change the System Setting — ICR.

Please follow the steps below to change the IR cut function through the network as necessary.

1. Click on the **ICR** button on the left side of the “System” page to enter the “ICR” page.

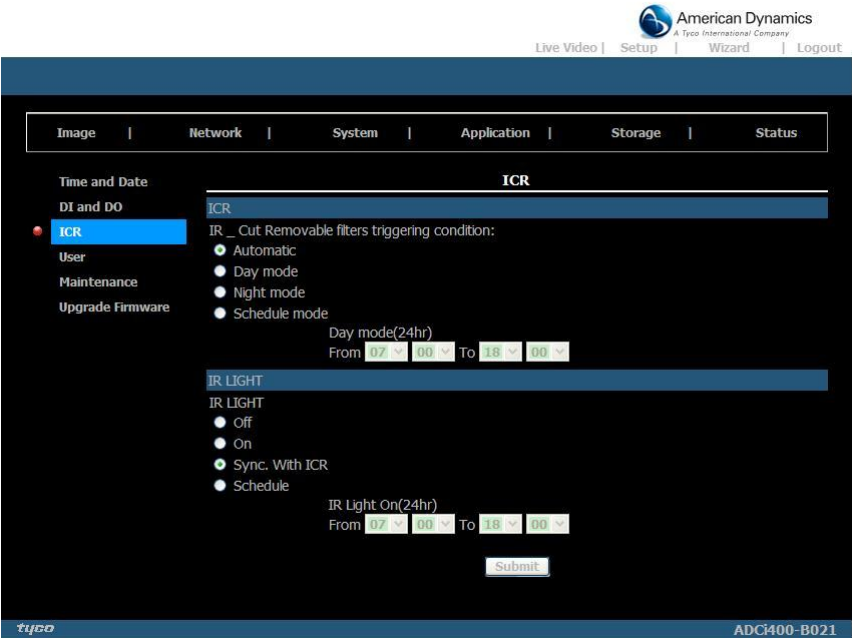


Figure 5.27 ICR

2. For the “IR-Cut Removable filter trigger condition”, mark your options from “Automatic”, “Day Mode”, “Night Mode” or “Schedule”. Click your choices to enable.
3. Mark the IR light power from “Off”, “On”, “Sync, with ICR” or “Schedule”. Click your choices to enable (for the IP indoor/ outdoor mini-dome & the bullet only).
4. Click on the **Submit** button to submit the new user’s setting.

**Description of function keys:**

<b>Automatic</b>	The Day/Night mode is set automatically. It is normally set in the Day mode and changes to the Night mode in a dark place.
<b>Day mode</b>	The Day mode disables the IR Cut Filter.
<b>Night mode</b>	The Night mode enables the IR Cut Filter.
<b>Schedule mode</b>	Set the Day/Night mode using the schedule. Fill in the time so the Day/Night mode is normally set to Day mode and it enters the Day mode at the start time and returns to the Night mode at the end time.

● Change the System Setting — RS485 Setting. ( for the IP Box Camera only)

You may configure the **RS-485** settings or communication specifications (baud rate, data bit, stop bit, and parity bit) for your camera. The RS-485 is a serial communication method for computers and devices. For your camera, the RS-485 is used to control a PAN/TILT device, such as an external camera enclosure, to perform the PAN and TILT movement. Click on the **RS485 Setting** button on the left side of the “System” page to enter the “RS485 Setting” page.

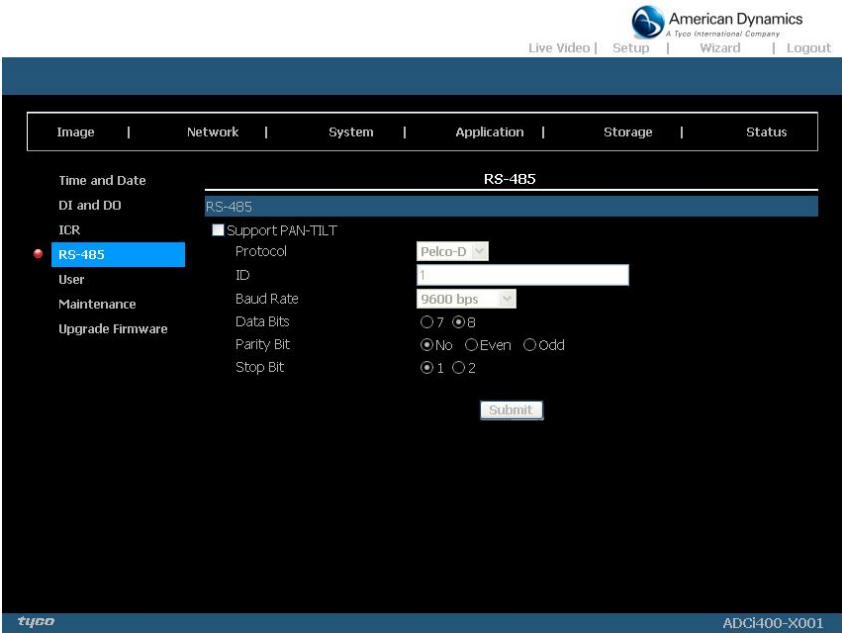


Figure 5.28 RS-485

**NOTE:** The RS-485 setting page is for the IP Box Camera only.

**NOTE:** Checkmark “Support PAN-TILT” and a RS-485 control panel will appear on the left side of the Live View page.

**Description of function keys:**

<b>Support PAN-TILT:</b>	When enabling Support PAN-TILT, a control panel will be displayed on the Live Video page allowing control for an external camera enclosure through the RS-485.
<b>Protocol:</b>	Select one protocol type from the pull-down menu.
<b>ID:</b>	Choose an ID between <b>1</b> and <b>255</b> . This ID is the identifier for each RS-485 device.
<b>Baud Rate:</b>	Choose between <b>2400</b> and <b>115200</b> bps. This is a speed measurement for communication between a transmitter and receiver, indicating the number of bit transfers per second. A higher baud rate will reduce the distance of the two devices (transmitter and receiver).
<b>Data Bits:</b>	Either <b>7</b> or <b>8</b> . It is a measurement of the actual data bits in a transmission. By default, the value is <b>8</b> .
<b>Parity Bit:</b>	Choose from <b>No</b> , <b>Even</b> , and <b>Odd</b> . This is a simple form of error checking

	<p>used in serial communication and you may use no parity. For even and odd parities, the serial port sets the parity bit (the last bit after the data bits) to a value to ensure that the transmission has an even or odd number of logic-high bits.</p> <p>For example, if the data is 011, for even parity, the parity bit is 0 to keep the number of logic-high bits even. If the parity is odd, the parity bit is 1, resulting in 3 logic-high bits.</p>
<b>Stop Bit:</b>	<p>Either <b>1</b> or <b>2</b>. It is used to signal the end of communication for a single packet. The more bits used for stop bits, the greater the lenience in synchronizing the different clocks but the slower the data transmission rate. In default mode, the value is <b>1</b>.</p>

● Change the System Setting — User.

You may modify the name and administrator's password of your camera, as well as add and manage the user accounts for accessing the camera. You may also use this section to create the unique name and configure the OSD setting for your camera. Please follow the steps below to change/add the users' authority through the network as necessary.

1. Click on the **Users** button on the left side of the "System" page to enter the "Users" page.

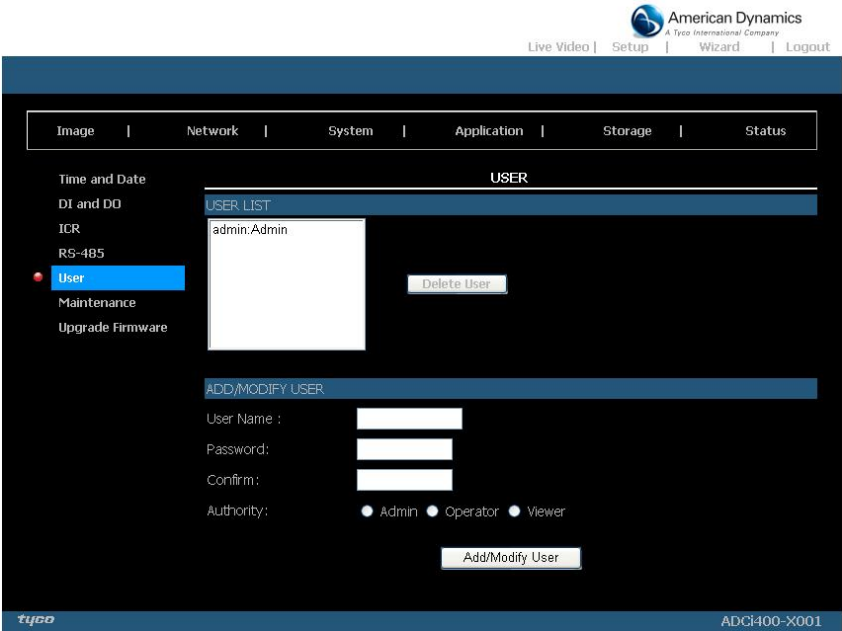


Figure 5.29 User

2. Add, modify or delete any user's data if necessary.
3. Click the **Add/ Modify User** button to submit the new user's settings.
4. Click the **Home** button to return to the home page.

**Description of function keys:**

<b>User List:</b>	The list shows the registered user(s) and the corresponding authority.
<b>Delete:</b>	Deletes a selected user.
<b>Name:</b>	Enter the user's name, which will be added or modified.
<b>Password:</b>	Enter the new password of the user's name above.
<b>Confirm:</b>	Type in the password again for verification.
<b>Authority:</b>	Choose an authority option of the user's name from: Admin, Operator, and Viewer.
<b>Add/ Modify User:</b>	Click to submit the new setting to the IP camera.

● Change the System Setting — Maintenance.

Please follow the steps below to change the system setting through the network as necessary. Click on the **Maintenance** button on the left side of the “Date and Time” page to enter the “Maintenance” page.

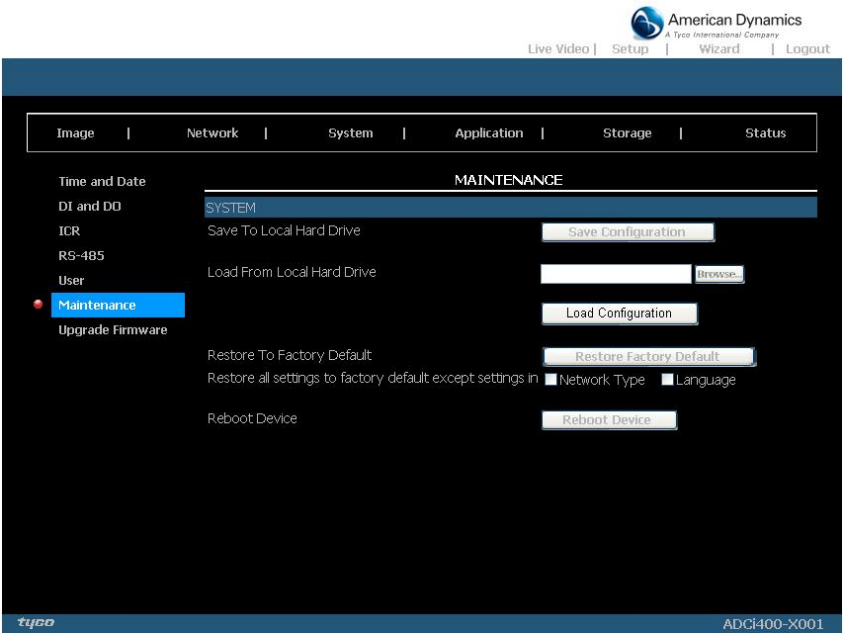


Figure 5.30 Maintenance

Description of function keys:

Save Configuration:	Click on “Save Configuration” to save the configuration files to the local hard drive.
Load Configuration:	Browse and click on the “Load Configuration” to load the configuration files to the local hard drive.
Restore Factory Defaults:	Click on “Restore Factory Defaults” to restore the factory defaults. You may browse and load the configuration file. This option will restore the pre-configured or saved settings. The user can select to restore the Network Type or the Language.
Reboot Device:	Click on “Reboot Device” to reboot the device. This option will restart the camera.

● Change the System Setting — Update Firmware.

Please follow the steps below to update the firmware through the network as necessary.

1. Click on the **Firmware Upgrade** button on the left side of the “Date and Time” page to enter the “Firmware Upgrade” page.

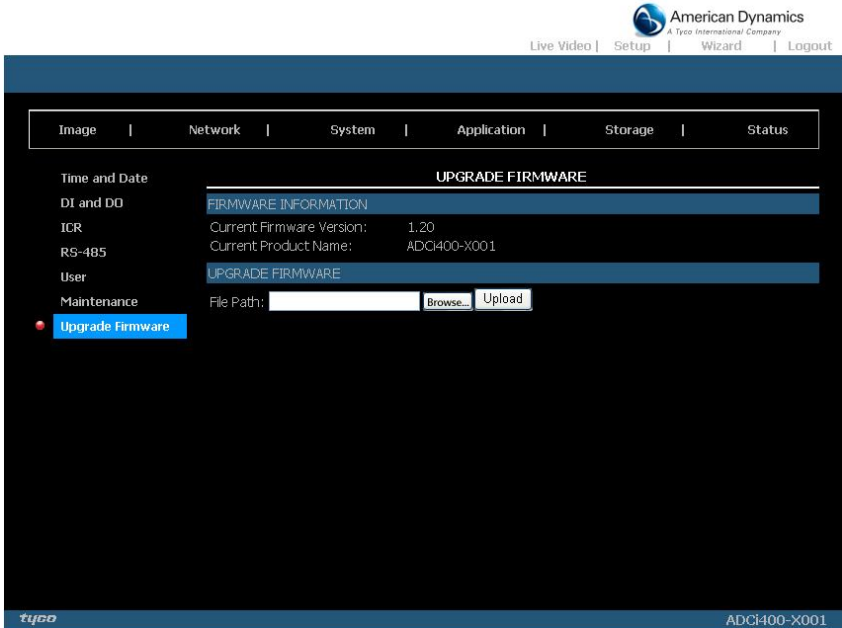


Figure 5.31 Upgrade Firmware

2. Click on the “Browse...” button to select the UPDATE.BIN file which was copied into your computer.
3. Click on the “Upload” button.

**NOTE: DO NOT power off the IP camera while updating firmware.**

**NOTE: Don't interrupt the process while the unit is updating itself.**

**NOTE: Please make sure that the UPDATE.BIN file is appropriate to the model of the unit. Updating with the wrong UPDATE.BIN file may cause physical damage to the device.**

**NOTE: The Temporary Internet Files (or cache) folder contains Web page content that is stored in your hard disk for quick viewing. We suggest deleting the Temporary Internet Files immediately after updating the firmware. To delete the files in the Temporary Internet Files folder, follow these steps:**

1. Quit Internet Explorer and quit any instances of Windows Explorer.
2. Click **Start**, click **Control Panel**, and then double-click **Internet Options**.
3. On the **General** tab, click **Delete Files** under **Temporary Internet Files**.
4. Select the **Delete all offline content** check box in the **Delete Files** dialog box, and then click **OK**.
5. Click **OK**.

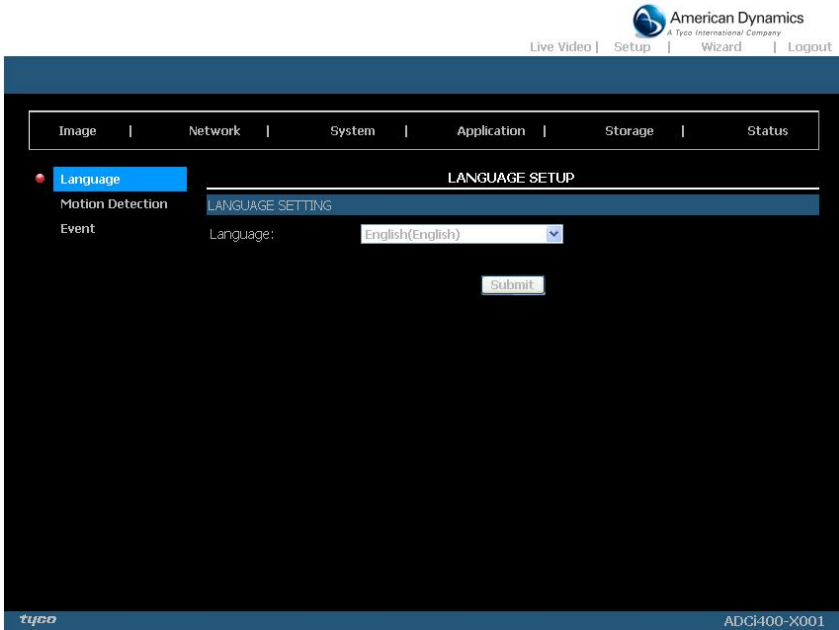
### 5.1.3.5 Change the Application Settings

Please follow the steps below to change the application setting through the network as necessary.

- Change the Application Setting—Language Setting.

Please follow the steps below to change the Language setting via the network as necessary.

1. Click on the **Language** button on the left side to enter the "Language Setting" page.



**Figure 5.32 Language Setup**

You have an option as to which language to use.

2. Choose your selected language and click "Submit" to set it.

● Change the Application Setting —Motion Detection.

Please follow the steps below to enable changes in the motion detection function of the alarm through the network as necessary.

Set the motion detection:

1. Click on the **Motion Detection** button on the left side of the Alarm to enter the “Motion Detection” page.

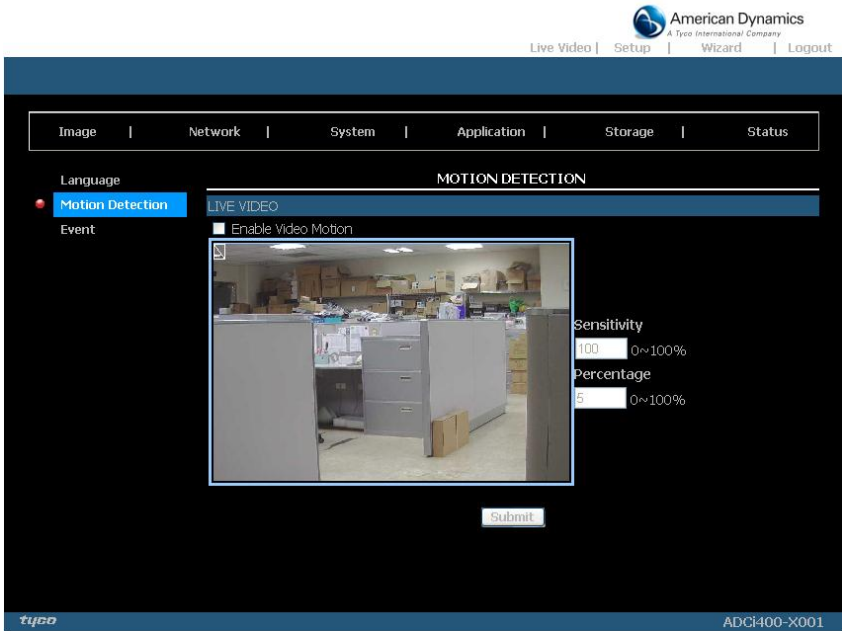


Figure 5.33 Motion Detection

2. Click and drag the mouse across a targeted zone to draw a red rectangle on the image (coordinates provided below).

**NOTE: You can set more than one targeted zone depending on your requirement.**

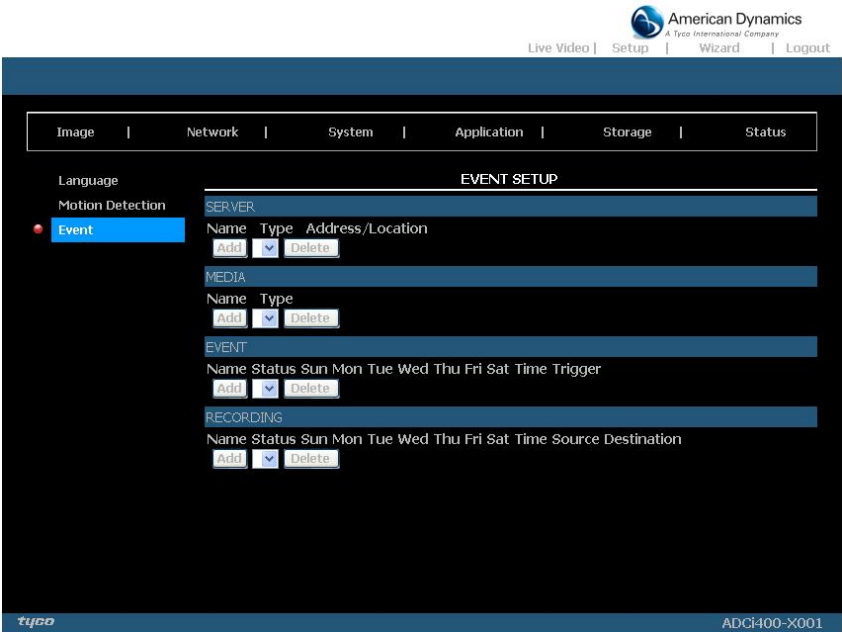
3. Enables / disables the motion detection function.
4. Set up the signal level.
5. Click on the **Submit** button to submit the new setting of the recording.

**Description of function keys:**

<b>Sensitivity:</b>	The sensitivity bar allows you to specify how much movement is required to trigger the motion detection.
<b>Percentage:</b>	Adjusting the percentage allows you to set a requirement on how much of the motion window must be filled by movement. Example: If you set this to 50%, then the selected window must be half filled by a moving object before it triggers motion detection.

● Change the Application Setting —Event.

In this section, you can configure and schedule the recording setting for your IP camera. Click on “Add” to enter the setting pages of the Server, Media, Event and Recording to make the advanced settings. Or click on “Delete” to erase the settings.



**Figure 5.34 Event Setup**

The Event Setup page includes 4 different sections: Server, Media, Event and Recording.

1. To add a new item - "event, server or media," click Add.
2. To delete the selected item from the pull-down menu of event, server or media, click Delete.
3. Click on the item name to enter the window for modifying.

**NOTE:** You can add up to five servers, five media fields, three event schedules, and two recording schedules.

## Server:

Click on the **Add** button in the Server column to enter the “Server” setting page.

**Figure 5.35 Server**

1. Enter the Server name, the unique name for a server. There are four kinds of servers supported. They are email server, FTP server, HTTP server and network storage.
2. Set the details of the Email. **"Sender email address"**: The email address of the sender. **"Recipient email address"**: The email address of the recipient.
3. Set the details of the FTP. **"Remote folder name"**: An authorized folder on the external FTP server. The string must conform to that of the external FTP server. Some FTP servers cannot accept a preceding slash symbol before the path without virtual path mapping. Refer to the instructions for the external FTP server for details. The folder privilege must be open for uploading. **"Passive Mode"**: Check it to enable the passive mode in transmission.
4. Set the details of the Network storage. Only one network storage is supported. **"Network storage location"**: The path to upload the media. **"Workgroup"**: The workgroup for network storage.
5. Click on the SD card to activate the function. Use the SD card for recording media.
6. Click on "Submit" to save or click on "Don't Submit" to go back to the Event main page.

### **Server settings:**

- (1) Click **Add** under the Sever column on Event Settings page to open the Server setting page. On this page, you can specify where the notification has been sent when a trigger is activated. A total of 5 server settings can be configured.

**NOTE: The maximum server settings amount is five, however, you can set the Network storage or the SD card for only one.**

- (2) Enter the Server Name for the server setting.
- (3) Select the Server Type. There are four choices of server types available: Email, FTP, Network storage and SD card. Select one of the server types.
  - **Email:** Select to send the media files via the email when a trigger is activated.
    - (a) Sender email address: Enter the email address of the sender.
    - (b) Recipient email address: Enter the email address of the recipient.
    - (c) Server address: Enter the domain or IP address of the email server.
    - (d) User name: Enter the user name of the email account if necessary.
    - (e) Password: Enter the password of the email account if necessary.
    - (f) Port: The default email server port is 25. You can also manually set another port.
    - (g) To verify if the email setting is correctly configured, click the Test button. The result will be shown in above this setting page (TEST OK or TEST ERROR). If successful, you will receive an email indicating the result.
    - (h) Click Submit to activate the setting.
  - **FTP:** Select to send the media files to an FTP server when a trigger is activated.
    - (a) Server address: Enter the domain or IP address of the FTP server.
    - (b) Port: The default FTP server port is 21. It can also be assigned to another port number.
    - (c) User name: Enter the login name of the FTP account.
    - (d) Password: Enter the password of the FTP account.
    - (e) Remote folder name: Enter the folder where the media file will be placed. If the folder name does not exist, the IP camera will create one on the FTP server.
    - (f) Passive mode: Most firewalls do not accept new connections initiated from external requests. If the FTP server supports passive mode, select this option to enable passive mode FTP and allow data transmission to pass through the firewall.
    - (g) To verify if the FTP setting is correctly configured, click the Test button. The result will be shown in above this setting page (TEST OK or TEST ERROR).
    - (h) Click Submit to activate the setting.
  - **Network storage:** Select to send the media files to a network storage location when a trigger is activated. Please fill in the information for your server.
    - (a) Network storage location: Enter the network storage path (\\ server name or IP

address\ folder name).

- (b) Workgroup: Enter the workgroup name for the network storage server.
- (c) User name: Enter the user name for the server.
- (d) Password: Enter the password for the server.
- (e) Primary WINS server:
- (f) To verify if the storage setting is correctly configured, click the Test button. The result will be shown in above this setting page (TEST OK or TEST ERROR).
- (g) Click Submit to activate the setting.

- **SD card:** Select to send the media files to an SD card when a trigger is activated.

- (a) Insert your SD card first.
  - (b) To verify if the storage setting is correctly configured, click the Test button. The result will be shown in above this setting page (TEST OK or TEST ERROR).
  - (c) Click Submit to activate the setting.
- (4) When completed, click Submit to enable the settings to exit this page. The new server settings will appear on the Event Settings page.

**NOTE: To remove a server setting from the list (Application> Event>), select a server name from the drop-down list and click Delete.**

**Note that only when the server setting is not being applied to an event setting (Application> Event> Event> The “Action” option) can it be deleted or the camera won’t take any action when a trigger is activated.**

## Media:

Click on the **Add** button in the Media column to enter the “Media” setting page.

Figure 5.36 Media

1. Enter the Media name, the unique name for media. There are three kinds of media: snapshot, video clip and system log.
2. Set the details of the Snapshot.  
"Source": Select the video source.  
"Send Pre-event images": The number of pre-event images.  
"Send Post-event images": The number of post-event images.  
"File name prefix": The prefix name will be added on the file name of the snapshot images.  
"Add date and time suffix to file name": Check it to add timing information as file name suffix.
3. Set the details of the Video Clip.  
"Source": Select the video source.  
"Pre-event recording": The interval of pre-event recording in seconds. There are two limitations for video clip file.  
"Maximum duration": The maximum recording file duration in seconds.  
"Maximum file size": The maximum file size would be generated.
4. Click on the System log to activate the function.
5. Click on "Submit" to save, or click on "Don't Submit" to go back to the Event main page.

### Media settings:

- (1) Click **Add** under the Media column on Event Settings page to open the Media setting page. On this page, you can specify the type of media that will be sent when a trigger is activated. A total of 5 media settings can be configured.
- (2) Enter the Media Name for the media setting.
- (3) Select the Media Type. There are three choices of media types available: Snapshot, Video

Clip and System log. Select one of the media types.

- Snapshot:** Select to send snapshots when a trigger is activated.
- (a) Source: Select to take snapshots from the video profile.
  - (b) Send pre-event image(s) [0~4]: The IP camera has a buffer area; it temporarily holds data up to a certain limit. Enter a number to decide how many images to capture before a trigger is activated. Up to 4 images can be generated.
  - (c) Send post-event image(s) [0~7]: Enter a number to decide how many images to capture after a trigger is activated. Up to 7 images can be generated.
- NOTE: For example, if both the Send pre-event images and Send post-event images are set to 4, a total of 8 images are generated after a trigger is activated.**
- (d) File Name Prefix: Enter the text that will be appended to the front of the file name.

For example, the file name will be in this form:

Snap\_20090101\_122030

### The prefix file name

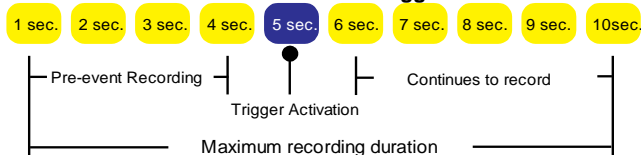
### Date and time suffix

**The format is: YYYYMMDD\_HHMMSS**

- (e) Add date and time suffix to file name: Select the option to add the date/ time suffix to the file name.
- (f) Click Submit to activate the setting.

- **Video Clip:** Select to send video clips when a trigger is activated.
  - (a) Source: Select to record video clips from the video profile.
  - (b) Pre-event recording: The IP camera has a buffer area; it temporarily holds data up to a certain limit. Enter a number to decide the duration of recording before a trigger is activated. Up to 4 seconds can be set.
  - (c) Maximum duration: Specify the maximum recording duration in seconds. Up to 100 seconds can be set.

**NOTE:** For example, if pre-event recording is set to 4 seconds and the maximum duration is set to 10 seconds, the IP camera continues to record for another 5 seconds after a trigger is activated.



- (d) Maximum file size: Specify the maximum file size allowed.
- (e) File Name Prefix: Enter the text that will be appended to the front of the file name.
- (f) Click Submit to activate the setting.

- **System log:** Select to send a system log when a trigger is activated. Click Submit to activate the setting.

- (4) When completed, click Submit to enable the settings to exit this page. The new media settings will appear on the Event Settings page.

**NOTE:** To remove a media setting from the list (Application> Event>), select a media name from the drop-down list and click Delete.

Note that only when the media setting is not being applied to an event setting (Application> Event> Event> The “Attached media” item) can it be deleted or you can’t get the images/ logs when a trigger is activated.

**Event:**

Click on the **Add** button in the Event column to enter the “Event” setting page.

**Figure 5.37 Event**

1. Enter the Event name. Checkmark the “Enable this event” box and activate the function. Then set the Priority and the Source from the drop-down list.  
**“Priority”**: The event with higher priority will be executed first.
2. Select the event trigger mode.  
**“Video motion detection”**: Select the windows which need to be monitored.  
**“Periodic”**: The event is triggered in specified intervals. The unit of trigger interval is a minute.  
**“Digital input”**: The event is triggered when the DI status is changed by an external device.  
**“System boot”**: The event is triggered when the system boots up.
3. Set the recording schedule time.
4. Set the Trigger D/O of activating the action. Check it to trigger digital output for specific seconds when an event is triggered.
5. Click on “Submit” to save or click on “Don’t Submit” to go back to the Event main page.

**Event settings:**

- (1) Click Add under the Event column on Event Settings page to open the Event setting page. On this page, you can arrange three parts –Trigger, Event Schedule, and Action to set an event. A total of 3 event settings can be configured.
- (2) Enter the Event Name for the event setting.
- (3) Select “Enable this event” option to enable the event setting.
- (4) Set the event priority from: “normal”, “high” and “highest”. Events with a higher priority will be executed first.
- (5) Enter the duration in seconds to pause motion detection after a motion is detected (for the trigger types - motion detection and digital input – use only).

- (6) An event is an action initiated by a user-defined trigger source; it is the causal arrangement of the following three parts: Trigger, Event Schedule, and Action. Set the event details of each part.

- **Trigger:** This option defines when to trigger the IP camera. The trigger source can be configured to use the IP camera's built-in motion detection mechanism, periodic, external digital input devices or system boot. There are several choices of trigger sources as shown below.

- (a) Video motion detection: This option makes use of the built-in motion detection mechanism as a trigger source. To enable this function, you need to configure a motion detection windows first.

**NOTE: For example, when the event status is on, once an event is triggered by motion detection, the IP Camera will automatically send snapshots, video clips or System log via the server type as your settings.**

- (b) Periodic: This option allows the IP camera to trigger periodically for every other defined minute(s). UP to 99999 minutes.
  - (c) Digital input: This option allows the IP camera to use an external digital input device or sensor as a trigger source. Depending on your application, there are many choices of digital input devices on the market which helps to detect changes in temperature, vibration, sound, and light, etc.
  - (d) System boot: This option triggers the IP camera when the power to the IP camera is disconnected.

- **Event Schedule:** Specify the period for the event.

- (a) Select the days of the week.
  - (b) Set the recording schedule in the 24-hour time format.

- **Action:** Define the actions to be performed by the IP camera when a trigger is activated.

- (a) Trigger D/O for ~ seconds: Select this option to turn on the external digital output device when a trigger is activated. Specify the length of the trigger interval in the text box.
  - (b) If you want to set an event with recorded video or snapshots, it is necessary to configure the server and media settings first so that the IP camera will know what action to take (such as which server to send the media files to) when a trigger is activated.  
Checkmark the one of the Server Names which you have set already, then select the Attached media (the media name) from the drop-down list.

- (7) When completed, click Submit to enable the settings to exit this page. The new event settings will appear on the Event Settings page.

**NOTE: The new event settings / server settings / media settings will appear in the event drop-down list on the "Application> Event>" page.**

### Recording:

Click on the **Add** button in the Recording column to enter the “Recording” setting page.

Figure 5.38 shows the "Recording" configuration page in the American Dynamics Recorder software. The interface includes a top navigation bar with links for "Live Video", "Setup", "Wizard", and "Logout". Below this is a secondary navigation bar with tabs for "Image", "Network", "System", "Application", "Storage", and "Status". The left sidebar contains "Language", "Motion Detection", and "Event" (which is selected). The main content area is titled "RECORDING" and is divided into two main sections: "RECORDING SCHEDULE" and "RECORDING SETTINGS".

The "RECORDING SCHEDULE" section includes a checkbox to "Enable this recording", a "Priority" dropdown menu (set to "normal"), and a "Source" dropdown menu (set to "Profile 1"). Below these are checkboxes for each day of the week (Sun, Mon, Tue, Wed, Thu, Fri, Sat), all of which are checked. Under "Time", there are two radio button options: "Always" (selected) and "From" (with a time range of 00:00 to 23:59).

The "RECORDING SETTINGS" section includes a "Destination" dropdown menu (set to "None"), a "Total cycling recording size" field (set to 1000 kbytes), a "Size of each file for recording" field (set to 200 kbytes), and a "File Name Prefix" field. At the bottom of the form are "Submit" and "Don't Submit" buttons.

**Figure 5.38 Recording**

1. Enter the Recording entry name. Checkmark the “Enable this recording” box and activate the function. Enable this option if you want to upload the recording to a shared folder in the network. Then set the Priority and the Source from the drop-down list.
2. Set the recording schedule time. Select the day(s) according to when you want the camera to make a video clip.
3. Set the details of the recorded file.  
"Always": This enables the camera to make video clips continuously.  
"From": The time range specified for the video clip.
4. Click on “Submit” to save or click on “Don’t Submit” to go back to the Event main page.

### Record settings:

- (1) Click **Add** under the Record column on Event Settings page to open the Record setting page. In this page, you can define the recording source, recording schedule and recording capacity. A total of 2 recording settings can be configured.
- (2) Enter the Record entry name for the event setting.
- (3) Select “Enable this recording” option to enable the recording setting.
- (4) Select the recording priority from: “normal”, “high” and “highest”. Recording with a higher priority will be executed first.
- (5) Select the recording source from the drop-down list (profiles).
- (6) Specify the recording schedule and the recording settings.
  - **Recording Schedule:**
    - (a) Select the days of the week.
    - (b) Set the recording schedule in the 24-hour time format.

• **Recording Settings:**

- (a) Destination: You can select the SD card or SAMBA (Network storage) that was set up for the recorded video files.
  - (b) Total cycling recording size: When the maximum capacity is reached the value you set, the oldest file will be overwritten by the latest one. The reserved amount is reserved for cyclic recording to prevent malfunction. The limited value is 1000~2000000000 Kbytes.
  - (c) Size of each file for recording: Set the maximum file size of each recording video files.
  - (d) File Name Prefix: Enter the text that will be appended to the front of the file name.
- (7) When completed, click Submit to enable the settings to exit this page. The new media settings will appear on the Event Settings page.

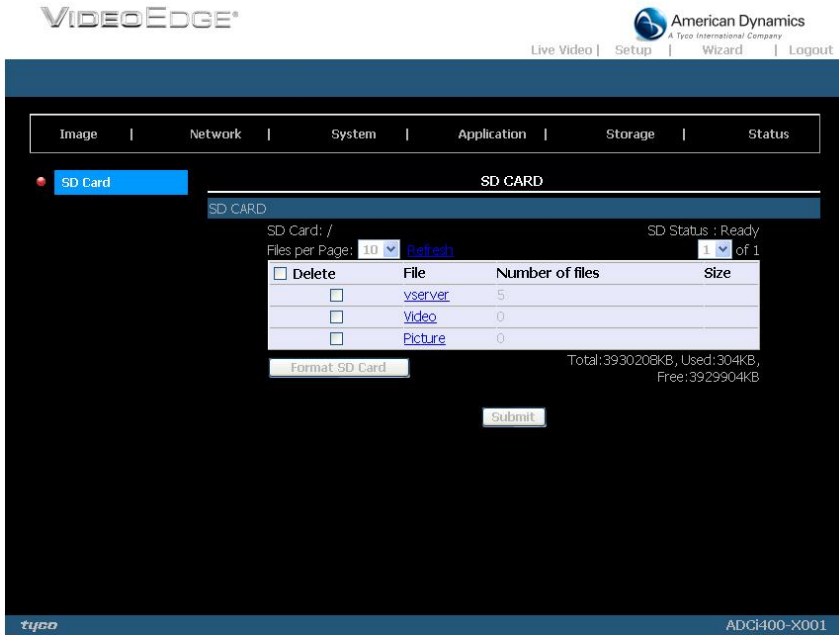
### 5.1.3.6 Change the SD card Setting

Please follow the steps below to change the SD card setting through the network as necessary.

- Change the SD card Setting.

Please follow the steps below to change the setting via the network as necessary.

1. Click on the “storage” button at the top of the Setup page to enter the “SD Card” screen.



**Figure 5.39 SD Card**

2. The SD Card page contains two image modes, the Video and the Picture.
3. Click “Video” or “Picture” to enter its sub year-month folder.
4. Click to enter its sub date folder.
5. Click the desired file to display the images therein.
6. Each file can be deleted by checking and pressing the OK button.

● The device information.

This page displays all the information about your device and network connection. Click on the “Device info” button of the Status page to enter the “Device info” screen.

American Dynamics

A Tyco International Company

Live Video | Setup | Wizard | Logout

Image | Network | System | Application | Storage | Status

Device Info

Log

DEVICE INFO

INFORMATION

Model Name

ADCH400-X001

Camera Name

ADCH400-X001

Time & Date

Mon Aug 9 11:05:07 2010

Firmware Version

1.20

HTML Version

3.0.28

Activex Version

2,0,0,30

MAC Address

00:CA:CA:06:02:1C

IP Address

192.168.0.25

IP Subnet Mask

255.255.252.0

Default Gateway

0.0.0.0

Primary DNS

192.168.1.11

PPPoE

Disable

DDNS

Disable

AES

Disable

TV Output Mode

NTSC

tyco

ADCH400-X001

Figure 5.40 Device Info

- The device information.  
This page displays the log information of your camera.

American Dynamics  
A Tyco International Company

Live Video | Setup | Wizard | Logout

Image
Network
System
Application
Storage
Status

Device Info

Log

**SYSTEM LOG**

**CURRENT LOG**

1. 2010-07-07 15:17:58 admin LOGIN OK FROM 192.168.0.117
2. 2010-07-07 15:17:46 admin LOGIN OK FROM 192.168.0.246
3. 2010-07-07 15:17:43 ACQUIRE DHCP IP 192.168.0.154
4. 2010-07-07 15:17:40 SYSTEM SET DN STATUS DAY
5. 2010-07-07 15:17:37 SYSTEM BOOTING
6. 2010-07-07 15:17:08 admin FROM 192.168.0.246 SET FACTORY DEFAULT
7. 2010-07-07 15:16:02 admin LOGIN OK FROM 192.168.0.246
8. 2010-07-07 15:06:07 admin LOGIN OK FROM 192.168.2.167
9. 2010-07-07 14:55:43 ACQUIRE DHCP IP 192.168.0.154
10. 2010-07-07 14:55:43 ACQUIRE DHCP IP 192.168.0.154
11. 2010-07-07 14:55:39 SYSTEM SET DN STATUS DAY
12. 2010-07-07 14:55:36 SYSTEM BOOTING
13. 2010-07-07 14:54:50 NETWORK\_LOST
14. 2010-07-07 14:54:49 ACQUIRE DHCP IP 192.168.0.154
15. 2010-07-07 14:54:48 NETWORK\_RECONNECT
16. 2010-07-07 14:54:42 NETWORK\_LOST
17. 2010-07-07 14:54:34 ACQUIRE DHCP IP 10.0.0.155
18. 2010-07-07 14:54:30 SYSTEM SET DN STATUS DAY
19. 2010-07-07 14:54:27 SYSTEM BOOTING
20. 2010-07-07 14:52:45 admin LOGIN OK FROM 10.0.0.101

First Page
Previous 20
Next 20

Clear
Download

**Figure 5.41 System Log**

1. Click on the “Device info” button of the Status page to enter the “Device info” screen.
2. Click on the “Clear” to erase all of the logs. You may also download the information by clicking “Download”.

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Installation and Operation Guide

### 5.1.3.8 PPPoE & DDNS

#### Using the PPPoE

1. Install the XDSL software (obtained from your ISP dealer) in your PC.
2. Search your IP camera's IP address: you can connect the IP camera and the Video monitor. The monitor screen will show the IP address on its right side.
3. Turn off the DHCP function (of the IP camera) if it is "ON".  
NOTE: Turn up the "DIP SWITCH" from "3" to "4", and change the relative network settings, the IP Address, NetMask and Gateway on the image web page (for the **ADCi400-X001** or **ADCi400-X002** only).
4. Installing an IP address in your PC or notebook.  
Desktop → Move the mouse focus to the Network neighborhood and click the right key of the mouse → Choose the properties → Choose your local connection → Choose the properties and select the configuration → Select the TCP / IP → Choose the properties → Enter the IP address in a four-part formula, for example "192. 168. 1.101" (the first three parts must be identical to the above numbers, only the last part can be changed to your own number, which must never exceed 255) → Click on the mask and the mask input, namely "255. 255. 255. 0" (a fixed formula) → Click "OK" → Click "OK".
5. Desktop → Choose IE browser → Enter the IP camera IP address in the URL (check step # 2 above) → Enter → IP camera images will appear.

#### PPPoE Settings

1. Enter the IP camera home page → Choose the network → Enter "User Name: admin" and "Password: 9999" → Click "OK".
2. Choose PPPoE → PPPoE mode: Select "ON" → Enter "Account" → Enter "Password" → Submit → Unplug the power connection.
3. Plug in the IP camera and it will receive an IP address from the ISP dealer (this IP address is dynamic --- every time you unplug and plug in again you'll get a new IP address).

#### Test: Go to the Internet.

1. Set your PC to enter the Internet.
2. Desktop → IE browser → Enter the IP camera IP address (the same address as in the PPPoE settings and step 3 above) → You can see the IP camera images.

#### DDNS settings

- (8) Check your IP camera's IP address (monitor) → open your IE browser → Use the address to connect to the IP camera or view the images → Choose the network → Enter "User name : admin" and "Password : 9999" → Click "OK".
- (9) Choose the "DDNS" → Click "Enable DDNS" → Enter the "DDNS host name", for example "abc123.homeip.net" → Enter "DDNS Account", for example "abc123" → Enter the "DNS Password", for example "7777" → Submit → The settings are now complete → Close the IE browser.
- (10) Open the IE browser again → Enter the Website address you just applied for, such as "abc123.homeip.net" → You can look at your IP camera images right away. The procedure is complete.

**NOTE: These settings are only for your ADSL Dynamic IP configuration. If your configuration is fixed (true IP), you don't need to proceed with the PPPoE and DDNS settings. The DDNS is just for your convenience.**

# 6. ADVANCED OPERATION

## Question 1:

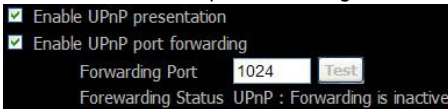
How can I view the live images of the IP camera via Microsoft Internet Explorer on the Desktop PCs, or the laptop computers, in a situation where there are no monitors or television?

- ◇ To get the IP address of the IP camera without a monitor, use one of the following two methods to get the IP address: UPnP and USB function.  
UPnP: Please refer to **APPENDIX A**.  
IP function: Please refer to **2.7 The USB function**.

## Question 2:

How to activate UPnP?

1. Follow the default settings to set up the related settings, and connect the hardware.
2. Activate the Web browser and key in the camera URL.
3. SETUP→Network button.
4. Select “Enable UPnP presentation”.
5. Select “Enable UPnP port forwarding”; make the “Forwarding Port” setting.



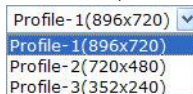
### NOTE:

1. Perform the step 4 above; turn on the PC's "My Web Neighbors" and confirm if the camera can be found, and click to go online to the camera's first page.
2. Perform the step 5 above; make the Route UPnP port forwarding setting.
3. The PC-online-to-Router IP can go online to the camera webpage via the Router.

## Question 3:

How to change the Video Profiles 1, 2, 3?

1. Plug the power cable into the IP camera power connector.
2. Plug the network cable into the IP camera Ethernet terminal.
3. Confirm the web-connection status; the connection between the PC & HUB and between the IP camera & HUB is now activated.
4. Confirm that the IP addresses of the PC and the IP camera are in the same sub-net.
5. Activate the Web browser and key in the IP camera's URL.
6. Switch to the front-page of Live; click Profiles 1, 2 & 3.

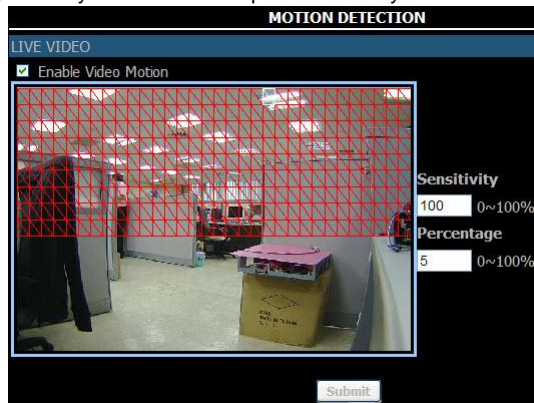


#### Question 4:

##### How do I set up the motion detection area and its sensitivity?

###### ♦ Set up the motion detection

1. Activate the Web browser and key in the camera IP Address.
2. SETUP→ Application button →Motion Detection button.
3. Select “Enable Video Motion”.
4. Set up the target zone you want and setup the Sensitivity and Percentage.



4. Click the **Submit** button to submit the setting.
5. When any person or object moves within the target zone under a setting, the Motion Detection will display the response signal in the Live Video and Video Out.

#### Question 5:

##### How do I use the DynDNS to connect the IP camera by using its Sub Hostname via the intranet?

###### ♦ Set the DDNS function

1. Click the **Network** button in the Setup page.
2. Click the **Dynamic DNS** button on the left side of the page to enter the “Dynamic DNS” setting page.
3. Check on the “Enable DDNS” Function to activate it.
4. Enter the DDNS Host Name, DDNS Account and DDNS Password which you created in the [www.dyndns.com](http://www.dyndns.com) website.
5. Click on the **Submit** button to submit the setting.

**NOTE: Please refer to the APPENDIX B for more details.**

###### ♦ Set the PPPoE function

1. Click the **Network** button in the Setup page.
2. Click the **PPPoE** button on the left side of the page to enter the “PPPoE” setting page.

3. Check on the “Enable” Function to activate it.
4. Enter the User Name and the Password which are provided from your ISP.
5. Click the **Submit** button to submit the setting.

**NOTE: Please refer to section 5.1.8 for more details.**

♦ **Use the Sub Hostname to view the IP camera**

1. Click the URL block at the top of the PC screen.
2. Enter the DDNS Host Name of the IP camera into the URL block and press the “**Enter**” button to enter the login page.
3. Enter the user name and fill in the password.
4. Click the “**OK**” button and enter the home page of the IP camera.

### Question 6:

#### How to add or modify the users and their authorities of using the IP camera?

♦ **Entering the setting page**

1. Click the **System** button in the Setup page.
2. Click the **User** button on the left side of the page to enter the “USER” page.

♦ **Add a new user**

1. Please enter the user name, the password, the confirmed password and choose the authority.

There are three different levels of authorities, namely Admin, Operator and Viewer.

**Admin:** The user who accesses with the admin name and password has the full rights to change the settings of the IP camera.

**Operator:** The suggested choice for normal use.

**Viewer:** The user who accesses with just the viewer name and password has only limited rights to view.

2. Click the **Add/Modify User** button to submit the new user’s setting.

♦ **Modify the user**

1. Click the user name you want to modify on the **USER LIST**.
2. Enter the password, the confirmed password and choose the authority.
3. Click the **Add/Modify User** button to submit the new setting.

♦ **Delete a user**

1. Click the user name you want to delete on the **USER LIST**.
2. Click the **Delete User** button.

### Question 7:

#### How to create the self-signed certificate manually?

1. Accurately connect all the devices.
2. Activate the Web browser and key in the device’s IP Address.

3. Setup→Network button →HTTPS button
4. Select “Enable secure HTTPS connection”.
5. Create certificate settings→ Create self-signed certificate manually→Create.

6. Fill in the relevant data in the text boxes of the items titled Country, State or province, Locality, Organization, Organization Unit, Common Name & Validity; click “Create”.

### Question 8:

#### How to download the log list?

1. Click Set up→ Status →Log.
2. The normal display will show the log list page.

3. Click First Page, Previous 20 or Next 20 to examine the recording list.
4. Click Download; select the storing path; and download the recording list.

## 7. SPECIFICATIONS

<b>ADCi400-X001</b>	Illustra 400 box 2/3MP w-out lens TDN WDR PoE NTSC
<b>ADCi400-X002</b>	Illustra 400 box 2/3MP w-out lens TDN WDR PoE PAL
<b>ADCi400-D011</b>	Illustra 400 fixed dome 2/3MP 3.3-12mm TDN WDR PoE Indoor white clear IR illuminator NTSC
<b>ADCi400-D012</b>	Illustra 400 fixed dome 2/3MP 3.3-12mm TDN WDR PoE Indoor white clear IR illuminator PAL
<b>ADCi400-D013</b>	Illustra 400 fixed dome 2/3MP 3.3-12mm TDN WDR PoE Indoor white smoke IR illuminator NTSC
<b>ADCi400-D014</b>	Illustra 400 fixed dome 2/3MP 3.3-12mm TDN WDR PoE Indoor white smoke IR illuminator PAL
<b>ADCi400-D031</b>	Illustra 400 fixed dome 2/3MP 3.3-12mm TDN WDR PoE Indoor black clear IR illuminator NTSC
<b>ADCi400-D032</b>	Illustra 400 fixed dome 2/3MP 3.3-12mm TDN WDR PoE Indoor black clear IR illuminator PAL
<b>ADCi400-D033</b>	Illustra 400 fixed dome 2/3MP 3.3-12mm TDN WDR PoE Indoor black smoke IR illuminator NTSC
<b>ADCi400-D034</b>	Illustra 400 fixed dome 2/3MP 3.3-12mm TDN WDR PoE Indoor black smoke IR illuminator PAL
<b>ADCi400-D051</b>	Illustra 400 fixed dome 2/3MP 3.3-12mm TDN WDR PoE Indoor silver smoke IR illuminator NTSC
<b>ADCi400-D052</b>	Illustra 400 fixed dome 2/3MP 3.3-12mm TDN WDR PoE Indoor silver smoke IR illuminator PAL
<b>ADCi400-D053</b>	Illustra 400 fixed dome 2/3MP 3.3-12mm TDN WDR PoE Indoor silver smoke IR illuminator NTSC
<b>ADCi400-D054</b>	Illustra 400 fixed dome 2/3MP 3.3-12mm TDN WDR PoE Indoor silver smoke IR illuminator PAL
<b>ADCi400-D211</b>	Illustra 400 fixed dome 2/3MP 2.5-6mm TDN WDR PoE Indoor white clear IR illuminator NTSC
<b>ADCi400-D212</b>	Illustra 400 fixed dome 2/3MP 2.5-6mm TDN WDR PoE Indoor white clear IR illuminator PAL
<b>ADCi400-D213</b>	Illustra 400 fixed dome 2/3MP 2.5-6mm TDN WDR PoE Indoor white smoke IR illuminator NTSC
<b>ADCi400-D214</b>	Illustra 400 fixed dome 2/3MP 2.5-6mm TDN WDR PoE Indoor white smoke IR illuminator PAL
<b>ADCi400-D231</b>	Illustra 400 fixed dome 2/3MP 2.5-6mm TDN WDR PoE Indoor black clear IR illuminator NTSC
<b>ADCi400-D232</b>	Illustra 400 fixed dome 2/3MP 2.5-6mm TDN WDR PoE Indoor black clear IR illuminator PAL
<b>ADCi400-D233</b>	Illustra 400 fixed dome 2/3MP 2.5-6mm TDN WDR PoE Indoor black smoke IR illuminator NTSC
<b>ADCi400-D234</b>	Illustra 400 fixed dome 2/3MP 2.5-6mm TDN WDR PoE Indoor black smoke IR illuminator PAL
<b>ADCi400-D251</b>	Illustra 400 fixed dome 2/3MP 2.5-6mm TDN WDR PoE Indoor silver clear IR illuminator NTSC
<b>ADCi400-D252</b>	Illustra 400 fixed dome 2/3MP 2.5-6mm TDN WDR PoE Indoor silver clear IR illuminator PAL
<b>ADCi400-D253</b>	Illustra 400 fixed dome 2/3MP 2.5-6mm TDN WDR PoE Indoor silver smoke IR illuminator NTSC
<b>ADCi400-D254</b>	Illustra 400 fixed dome 2/3MP 2.5-6mm TDN WDR PoE Indoor silver smoke IR illuminator PAL
<b>ADCi400-D021</b>	Illustra 400 fixed dome 2/3MP 3.3-12mm TDN WDR PoE outdoor white clear IR illuminator NTSC
<b>ADCi400-D022</b>	Illustra 400 fixed dome 2/3MP 3.3-12mm TDN WDR PoE outdoor white clear IR illuminator PAL
<b>ADCi400-D023</b>	Illustra 400 fixed dome 2/3MP 3.3-12mm TDN WDR PoE outdoor white smoke IR illuminator NTSC
<b>ADCi400-D024</b>	Illustra 400 fixed dome 2/3MP 3.3-12mm TDN WDR PoE outdoor white smoke IR illuminator PAL
<b>ADCi400-D041</b>	Illustra 400 fixed dome 2/3MP 3.3-12mm TDN WDR PoE outdoor black clear IR illuminator NTSC
<b>ADCi400-D042</b>	Illustra 400 fixed dome 2/3MP 3.3-12mm TDN WDR PoE outdoor black clear IR illuminator PAL
<b>ADCi400-D043</b>	Illustra 400 fixed dome 2/3MP 3.3-12mm TDN WDR PoE outdoor black smoke IR illuminator NTSC
<b>ADCi400-D044</b>	Illustra 400 fixed dome 2/3MP 3.3-12mm TDN WDR PoE outdoor black smoke IR illuminator PAL
<b>ADCi400-D061</b>	Illustra 400 fixed dome 2/3MP 3.3-12mm TDN WDR PoE outdoor silver clear IR illuminator NTSC
<b>ADCi400-D062</b>	Illustra 400 fixed dome 2/3MP 3.3-12mm TDN WDR PoE outdoor silver clear IR illuminator PAL
<b>ADCi400-D063</b>	Illustra 400 fixed dome 2/3MP 3.3-12mm TDN WDR PoE outdoor silver smoke IR illuminator NTSC
<b>ADCi400-D064</b>	Illustra 400 fixed dome 2/3MP 3.3-12mm TDN WDR PoE outdoor silver smoke IR illuminator PAL
<b>ADCi400-B021</b>	Illustra 400 Bullet 2/3MP 3.3-12mm TDN WDR PoE indoor/outdoor white IR illuminator NTSC
<b>ADCi400-B022</b>	Illustra 400 Bullet 2/3MP 3.3-12mm TDN WDR PoE indoor/outdoor white IR illuminator PAL
<b>ADCi400-B041</b>	Illustra 400 Bullet 2/3MP 3.3-12mm TDN WDR PoE indoor/outdoor black IR illuminator NTSC
<b>ADCi400-B042</b>	Illustra 400 Bullet 2/3MP 3.3-12mm TDN WDR PoE indoor/outdoor black IR illuminator PAL
<b>ADCi400-B061</b>	Illustra 400 Bullet 2/3MP 3.3-12mm TDN WDR PoE indoor/outdoor silver IR illuminator NTSC
<b>ADCi400-B062</b>	Illustra 400 Bullet 2/3MP 3.3-12mm TDN WDR PoE indoor/outdoor silver IR illuminator PAL

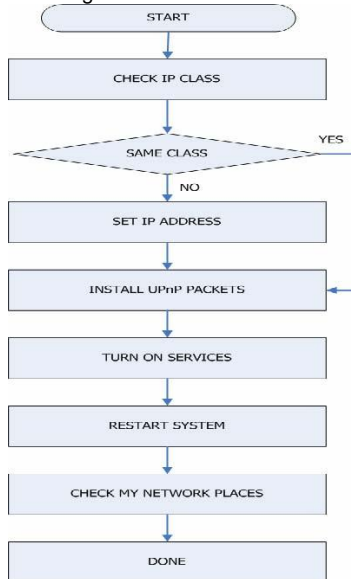
<b>Camera</b>	Image sensor	1/3" Sony IMX035 CMOS sensor
	Minimum illumination	Color: 0.2 Lux @ F1.4
	IR cut filter	Yes
	Day & Night	Auto / Day / Night / Schedule.
	WDR	Yes
<b>Image</b>	Video Compression	H.264 / MJPEG.
	Resolution	<b>NTSC:</b> 896x720 (D2), 720x480 (D1), 352x240(CIF), 176x120(QCIF) <b>PAL:</b> 896x720 (D2), 720x576 (D1), 352x288(CIF), 176x144(QCIF)
	Video streaming	- Simultaneous H.264, MJPEG. - Multi-profile: resolution / compression / frame rate / video quality.
	Profiles	3
	Image settings	- Adjustable image size, quality, and bit rate. - Day / Night mode. - Flip & Mirror. - AGC, AWB, AES. - Time stamp and text caption overlay. - Privacy masks.
	Video management software	SDK, including HTTP-API / ActiveX / ONVIF.
<b>Audio</b>	Audio streaming	Two-way.
	Compression	G.711u / G.726.
	Audio bit rate	G.711u 64kbps / G.726 32kbps.
	Inputs / outputs:	1 x input / 1 x output (3.5mm earphone jack).
<b>Network</b>	Security	Multi-level password protections, IP address filtering, HTTPS encryption, User access log.
	Protocols	IPv4, HTTPS, HTTP, TCP, UDP, RTP/RTCP/RTSP, DHCP, NTP, FTP, SMTP, UPnP, ICMP, ARP, DDNS, PPPoE, SAMBA
	Users	Access by 10 simultaneous users.
	Firmware update	SD card / HTTP.
<b>Alarm</b>	Recording	SD card
	Pre-alarm recording	Yes.
	Advanced motion	512 zones. Sensitivity: 0 - 100 %.
	Trigger	Motion Detection Schedule Alarm input Ethernet loss Network/Remote digital alarm input
	Notification	SD card recording, SMTP, FTP, HTTP, alarm output.
	RJ-45	10 BASE - T / 100 BASE -TX.
<b>Connectors</b>	Digital I / O	<b>IP box camera:</b> Push-in: 1 x Alarm input / 1 x Alarm output / 1 X DC output ( 12V DC ) / 1 x Ground / 2 x RS-485 <b>IP indoor / outdoor mini-dome &amp; IP bullet camera:</b> Push-in: 2 x digital input / 2 x digital output / 1 X DC output ( 12V DC ) / 1 x ground
	Earphone jack	1 x 3.5 mm ( 1 x Audio in [ mic. in / line in ], 1 x Audio out [ line output ] ).

			DIP Switch		1. AES / 2. DC iris / 3. DHCP / 4.Static IP. <b>(This DIP Switch for IP box camera only.)</b>	
			Iris		DC IRIS.	
			Reset		Reset for factory default.	
			Local storage device		SD / SDHC card slot.	
General			LED indicators		Power / Network / SD card.	
			Power	Box camera	DC 12V	Approx. 4.8 W
					AC 24V	Approx. 6 W
					PoE	Approx. 6 W, IEEE 802.3af compliant class 2
				Indoor mini-dome	DC 12V	Approx. 5.76 W
					AC 24V	Approx. 7.25 W
					PoE	Approx. 7.25 W, IEEE 802.3af compliant class 3
				Outdoor mini-dome	DC 12V	Approx. 8.4 W
					AC 24V	Approx. 10.5 W
					PoE	Approx. 10.5 W, IEEE 802.3af compliant class 3
				Bullet camera	DC 12V	Approx. 8.4 W
					AC 24V	Approx. 10.5 W
					PoE	Approx. 10.5 W, IEEE 802.3af compliant class 3
			Processors		TMS320DM365.	
			OS		Linux 2.6 kernel.	
			Operating conditions		Box camera: 0°C to 50°C (32°F to 122°F). Indoor camera: 0°C to 50°C (32°F to 122°F). Outdoor camera: -40°C to 50°C (-40°F to 122°F).	
			Approval		CE, FCC, RoHS.	
			Dimensions		<b>IP box camera:</b> 56.5 x 68 x 114.5 mm. ( H x W x L ) <b>IP indoor mini-dome:</b> 123 x 150 mm. ( H x W ) <b>IP outdoor mini-dome:</b> 123 x 150 mm. ( H x W ) <b>IP bullet camera:</b> 84 x 81.3 x 145 mm. ( H x W x L )	
			Accessories included		- Installation Guide. - CD x 1 ( includes User's Manual ). - Power adapter: (Input: 100-240 VAC, 50 / 60 Hz, Output: 12VDC, 1A ). - USB cable x 1	

\* Design and specifications are subject to change without notice.

## APPENDIX A. –IP camera UPnP How To

The most troublesome issue when you setup an IP camera is that you have no idea what the IP address of this device is. Now IP camera supports the UPnP (Universal Plug and Play) protocol which makes it easier for you to examine it; however, Microsoft Windows XP® doesn't start this service by default. Therefore, the following procedures will help you to turn it on and discover your IP camera step by step as shown in Figure1 below.

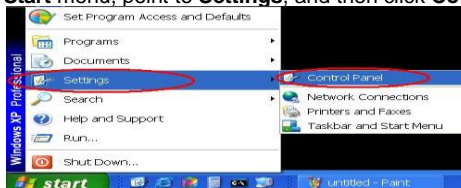


**Figure A-1 UPnP Setup Flow Chart**

### 1. Check the IP class of your PC®

In most cases Microsoft Windows XP® will assign an IP address, 169.254.\*.\*, automatically with a subnet mask, 255.255.0.0, if the DHCP server is absent, while the default IP address of a IP camera is 192.168.1.168 with a subnet mask of 255.255.255.0. There won't be any communication due to different IP class domains, and you have to modify the relative settings or the UPnP protocol won't work; however, checking your own IP address is necessary. Here are the procedures to check and modify them.

**Step 1:** From the **Start** menu, point to **Settings**, and then click **Control Panel**. See Figure A-2.



**Figure A-2**

**Step 2:** When **Control Panel** appears, double-click the **Network Connections** icon. The **Network Connections** dialog box appears. See Figure A-3.

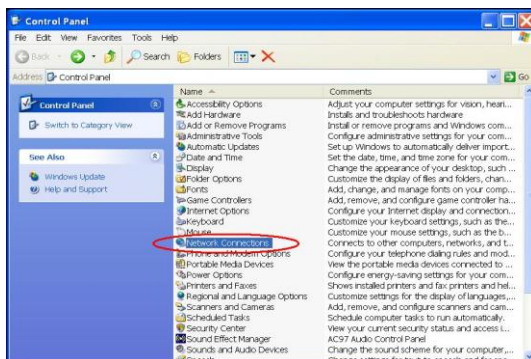


Figure A-3

**Step 3:** Click the **Protocols** tab in the **Network Connections** dialog box. See Figure A-4.

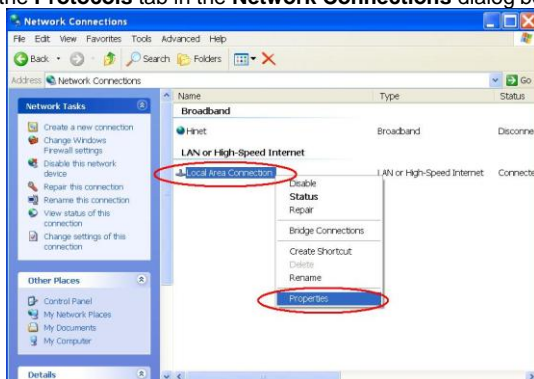


Figure A-4

**Step 4:** When the **Local Area Connection Properties** dialog box shows up, choose **Internet Protocol (TCP/IP)** and click **Properties**. See Figure A-5.

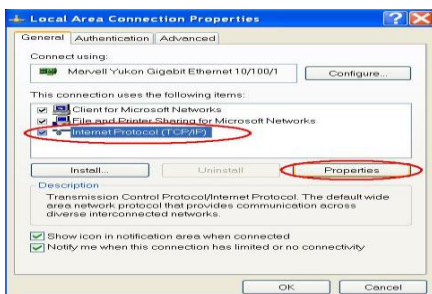


Figure A-5

**Step 5:** In the **Internet Protocol(TCP/IP) Properties** dialog box, choose **Use the following IP Address** to indicate that you do not wish to use DHCP, and assign IP Address 192.168.1.200 with Subnet mask 255.255.255.0. Click **OK** when you finish it. See Figure A-6.

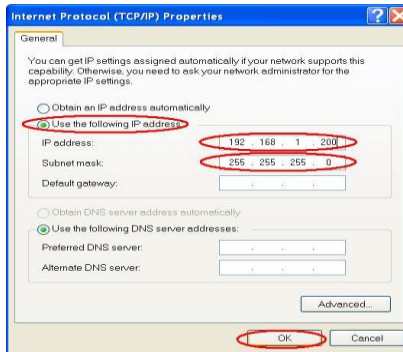


Figure A-6

**Step 6:** Choose Close to finish the modification. See Figure A-7.

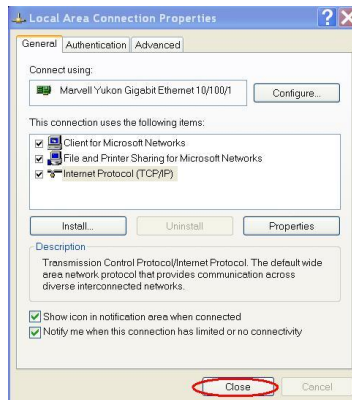


Figure A-7

## 2. Install UPnP Packets

As described before, Microsoft Windows XP<sup>®</sup> doesn't start the UPnP service by default; however, we have to install some packets before we initialize it. The following steps will help you to install them.

**Step1:** From the **Start** menu, point to **Set Program Access and Defaults**, and then click it. See Figure A-8.



Figure A-8

**Step 2:** When the **Add or Remove Programs** dialog box appears, click the **Add/Remove Windows Components** button. See Figure A-9.

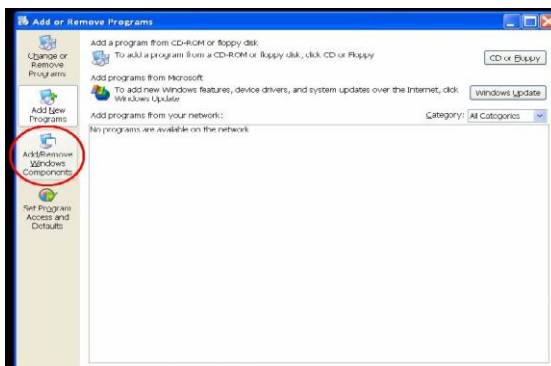


Figure A-9

**Step 3:** Check the **Network Services** in the **Windows Component Wizard** dialog box, and then click **Details....** See Figure A-10.

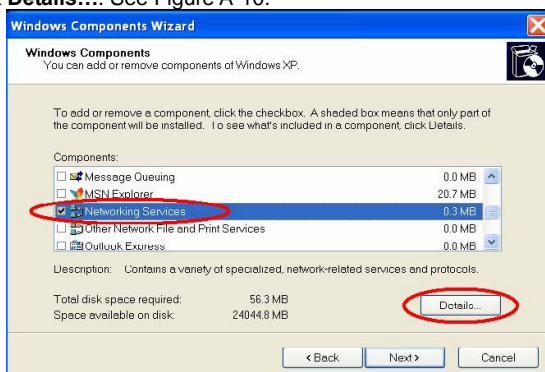


Figure A-10

**Step 4:** Check **UPnP User Interface**, and choose **OK**. See Figure A-11.

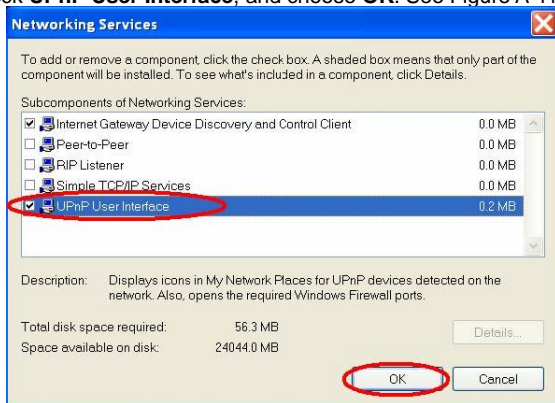


Figure A-11

**Step 5:** When the original **Network Component Wizard** dialog box returns, click **Next**. See Figure A-12.

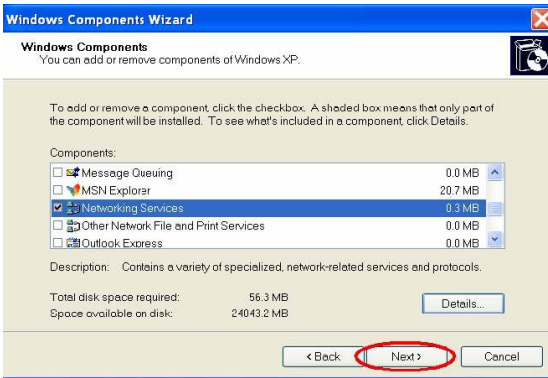


Figure A-12

**Step 6:** After about one minute the UPnP installation will be done, and choose **Finish** to close it. See Figure A-13.



Figure A-13

### 3. Turn on Services

After installation, you must turn on the relative services to start the UPnP protocol. The following procedures demonstrate this.

**Step 1:** From the **Start** menu, point to **Settings**, and then click **Control Panel**. See Figure A-14.

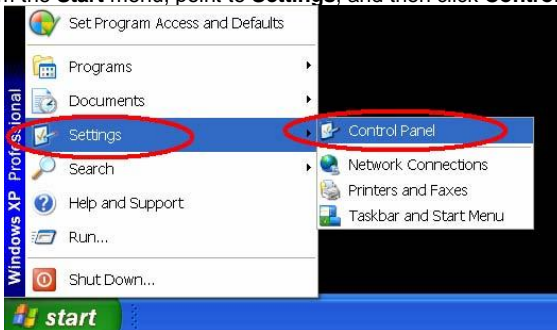


Figure A-14

**Step 2:** When **Control Panel** appears, double-click the **Administrative Tools** icon. The **Administrative Tools** dialog box appears. See Figure A-15.

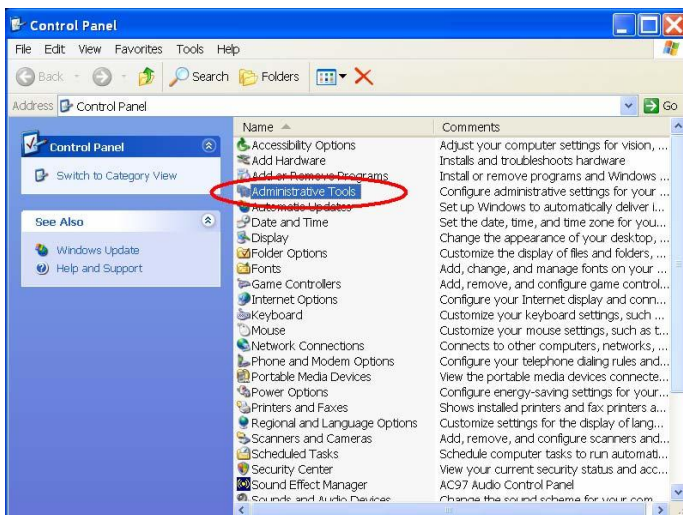


Figure A-15

**Step 3:** Click on the **Services** icon in the **Administrative Tools** dialog box. See Figure A-16.

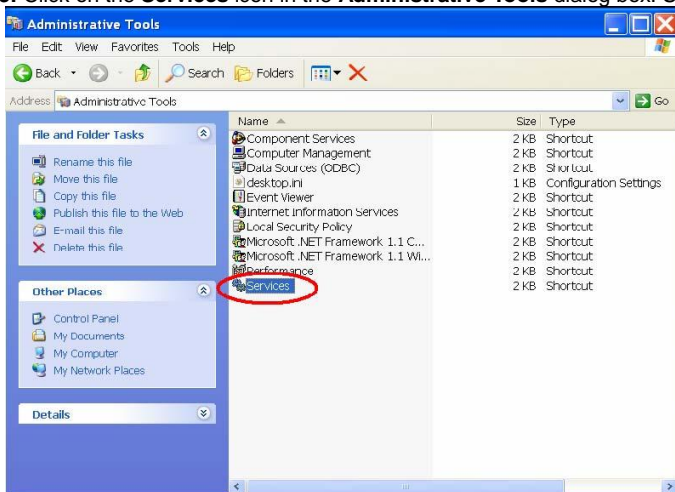


Figure A-16

**Step 4:** When the **Services** dialog box shows up, double click the **SSDP Discovery Service** icon. See Figure A-17.

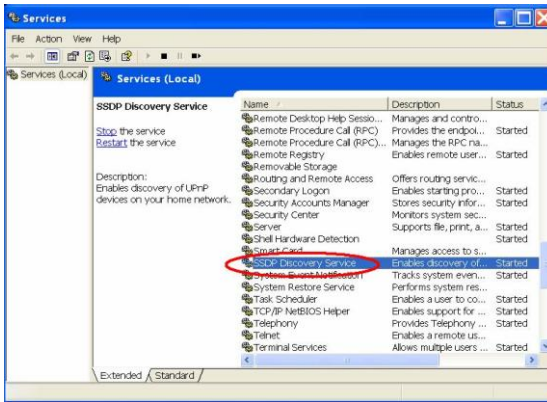


Figure A-17

**Step 5:** Choose **Automatic** in the **Startup type**, and click **OK** to start it. See Figure A-18.

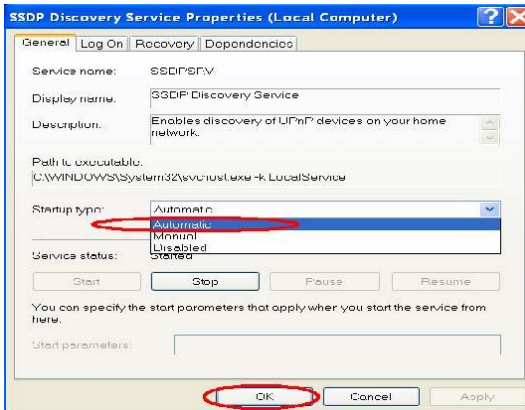


Figure A-18

**Step 6:** When the **Services** dialog box appears again, double click the **Universal Plug and Play Device Host** icon. See Figure A-19.

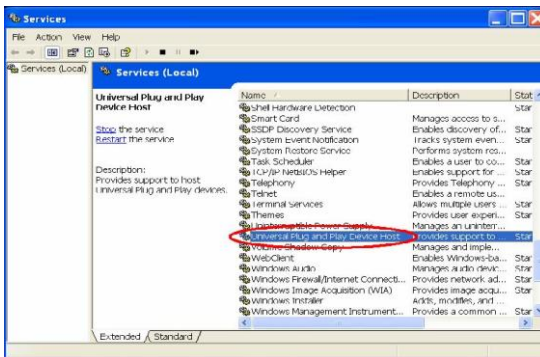


Figure A-19

**Step 7:** Choose **Automatic** in the **Startup type**, press the **Start** button, and click **OK** to start it. See Figure A-20

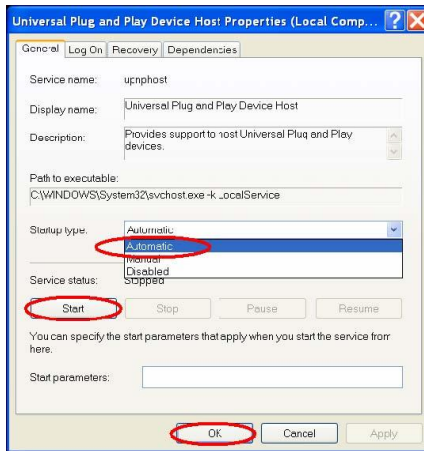


Figure A-20

**Step 8:** Restart your system.

#### 4. Scan IP cameras through My Network Place

After your installation and starting services, the UPnP protocol will take effect. You can scan all IP cameras in My Network Place like Figure A-21 below.

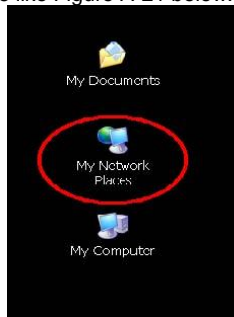


Figure A-21

Just double click the **UPnP IP camera** the video live stream will pop up automatically without assigning any IP address in Microsoft Internet Explorer.

## APPENDIX B. –Register as a DDNS member

The DDNS ( dynamic domain name system ) is a function which is provided by an American company. Please refer to [www.dyndns.com](http://www.dyndns.com). This chapter provides the user with the basic instructions on how to register a free DDNS service.

### Registering for a DDNS

Enter the URL [www.dyndns.com](http://www.dyndns.com). In the upper right-hand corner of the main page, where there is an item, "Create Account", as shown in Figure B-1.

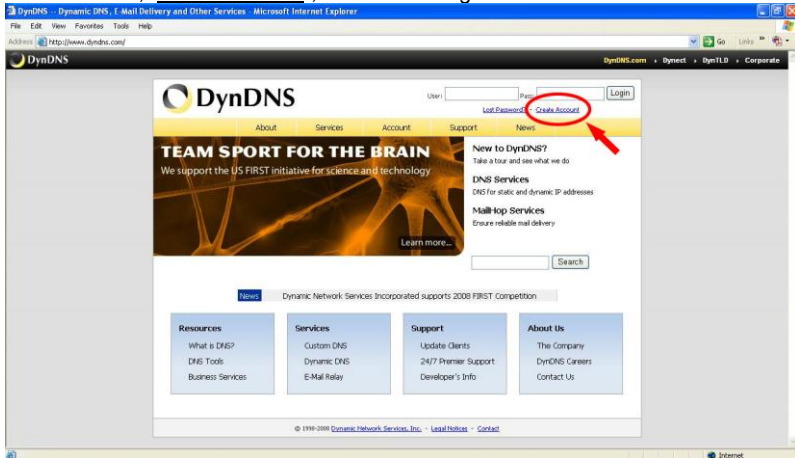


Figure B-1

### Create an account

After clicking "Create Account", you will enter the Create Account page. Please complete the form at the bottom of the page to create your account. You will receive an e-mail containing instructions to activate your account. If you do not follow the directions within 48 hours, you will need to recreate your account.

### Set up the DDNS

After creating the account successfully, please enter your user name and password in the upper right-hand corner of the main page to login, as shown in Figure B-3.

After you login successfully, a text will appear saying "My Services", as shown in Figure B-3.

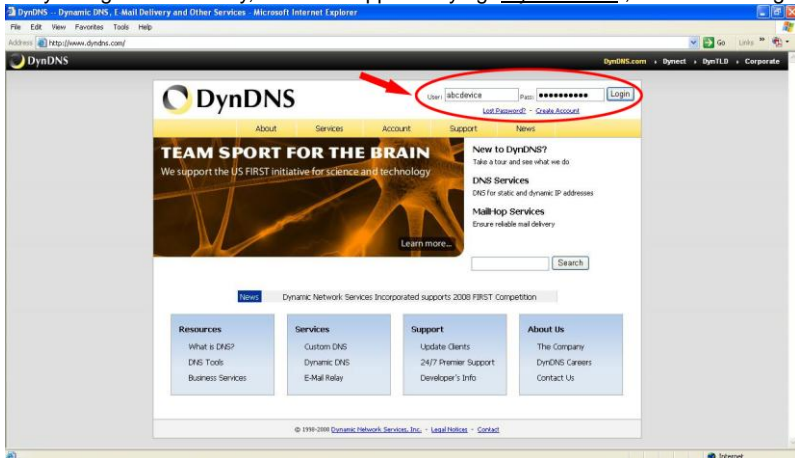
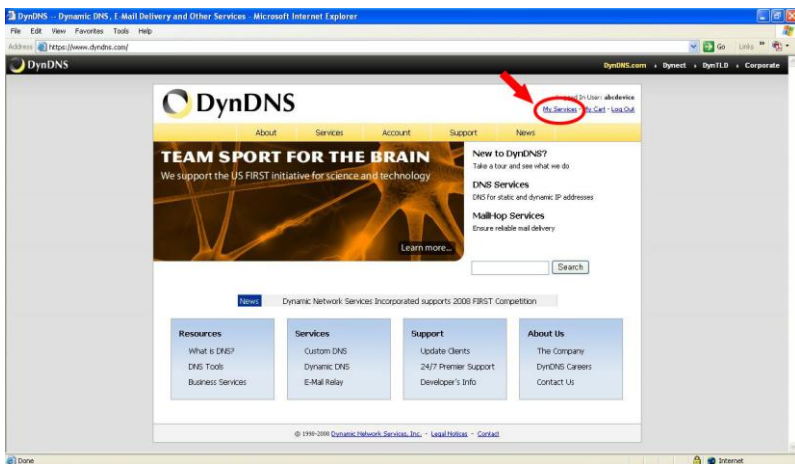


Figure B-2

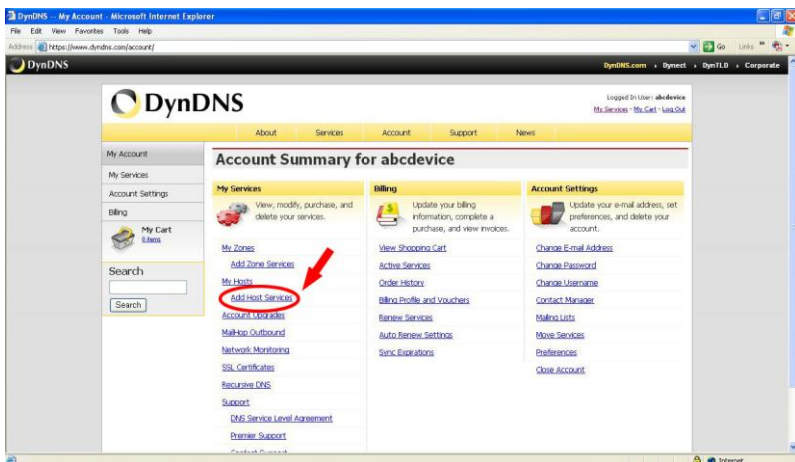


**Figure B-3**

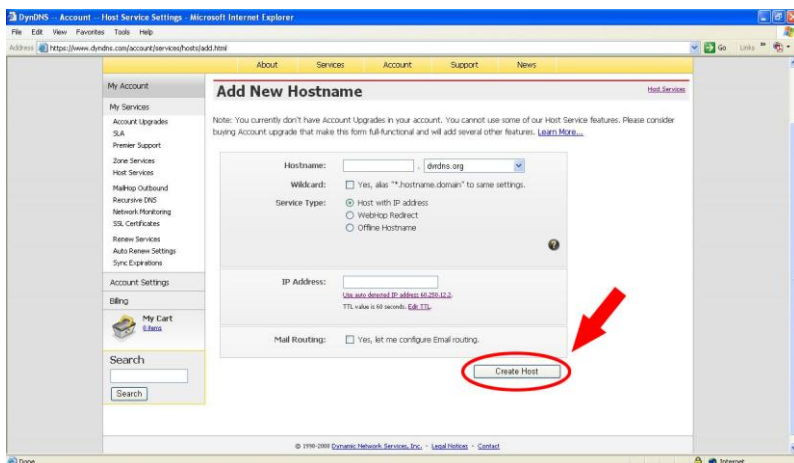
Click “My Services” to enter the service page. Please click the “Add Host Service” item which is below the “My Hosts” item, as shown in Figure B-4.

Click “Add Host Service”, and its service items will appear. The Add Dynamic DNS Host item helps to add a new DDNS. Each member may have only one free account, and one free account can have only five DDNS.

Click Add Dynamic DNS Host to enter the DDNS setting page as shown in Figure B-5.



**Figure B-4**

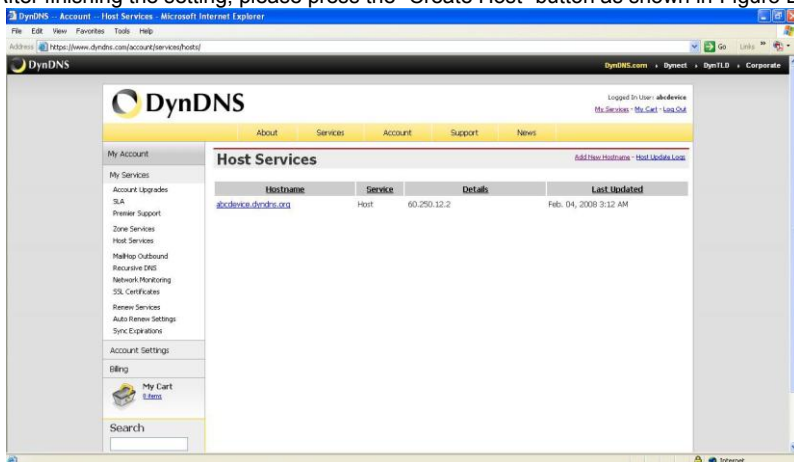


**Figure B-5**

All we have to set in this page is the “Hostname” item. The user can choose a Sub Hostname as s/he likes from the right-hand side of the Hostname’s drop-down list.

**NOTE: You don’t have to set the “IP Address” in the same format as the camera’s IP Address. It will renew the IP Address automatically.**














After finishing the setting, please press the “Create Host” button as shown in Figure B-5.



**Figure B-6**

## APPENDIX C. –The Icons in the Analog Video OSD

This chapter lists all icons displayed in the OSD and explains what their meanings are when they are shown.

	This icon means the IP address of the device is retrieved by a <u>DHCP</u> server instead of a static address.
	This icon indicates that the network is activated by an <u>HTTP</u> or <u>FTP</u> connection.
	This icon shows that the network connection is lost.
	This icon means that the device has received a configuration setup, but the data has not been flushed into the memory.
	This icon means that the device is flushing all configurations into the memory.
	This icon shows that the device is in the alarm duration mode.
	This icon shows there is a motion alarm triggered by the motion detection mode.
	This icon indicates that an SD-Card inserted into the device is working properly.
	This icon means that an <u>SMTP</u> session is activating.
	This icon means that an <u>FTP</u> session is activating.
	This icon means that an <u>FTP</u> session is activating.
	This icon means that a <u>PPPoE</u> session is active or the data associated with the RS-485 is active.
	This icon means there is luminance detection.