IP Fast Dome Camera

PIH - 7000/7600/7625 IP Series

Installation / Operation Manual

December 18, 2003

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Chapter 1. WARNINGS & CAUTIONS

Please read the manual before attempting installation or operation

1. Please be aware to the warnings and cautions notice.
2. Don't use any chemical detergent to clean the machine surface, use a damp cotton cloth only. Regularly clean the dome cover to assure proper focus ability.
3. Please install the Fast Dome in a dry area, water and high humidity may cause damage on internal parts. External housing should be used for outdoor installation.
4. Please use parts supplied by the manufacturer only, any unqualified part using in the equipment may violate the warranty.
5. Avoid installing the equipment in an unstable area. Make sure the area is firm and stable. Falling equipment may injure personnel and damage the equipment.
6. Do not install the equipment near any flammable gas. Violation may cause fire or injury.
7. Avoid running video cable and signal cable through or passing interference sources such as video waves, broadcast station, power generator, elevator motor or high voltage area ..... etc. Violation may cause interference.
8. Make sure the power cable is properly fixed. Un-suitably fixed cable may cause serious short circuit or fire.
9. Correct cable connection is important. Do not place any object on the connection cable and change the cable if there is damage on cable. Violation may cause short circuit, fire and injury.
10. Make sure ground is well connected to avoid damage caused by lightning.
11. Do not put any foreign objects inside the equipment and do not spray any liquid on equipment. This will avoid short circuit damage.
12. Do not touch power connection with wet hands to avoid short circuit or electricity shock.
13. Do not apply smash-force on the equipment. Violation may cause damage.
14. Do not install the equipment in a location that may expose the equipment directly to sunlight. Violation may cause colour fading or damage.
15. Do not install the equipment in high temperature or low temperature environment to avoid damage. The normal operational temperature is between -5°C ~ +50°C.
16. Fast Dome contains high sensitive electric parts inside. Do not try to repair them without qualified personnel.
17. Turn off the power immediately and contact the technician when the following occurs:
    A. Damage on power cable or plug.
    B. Water leak into the equipment.
    C. Fast Dome can not be operated normally.
    D. Equipment falling on ground or damage on external case.
    E. Unusual occurrence.
18. Warning: Do not try to repair the equipment. Only a qualified technician may disassemble and repair the equipment. Shut off the power before disassemble the equipment and don't put power on unless the case is completely assembled.

Chapter 2. INTRODUCTION

Chapter 2-1. What is Merit Li Lin IP Fast Dome?

Merit Li Lin's IP Fast Dome is an integrated Internet-Based fast dome device with a built-in Web server running TCP/IP to distribute the compressed live video into Intranet/Internet through the Ethernet connection.

Merit Li Lin PIH-7000/7600/7625 series IP Fast Dome :

- You can easily manipulate and configure the fast dome with the Web-base control over the Internet via the standard browser such as Explorer™ and Netscape™.
- The IP Fast Dome contains an image compression chipset, capable of delivering standard JPEG, MJPEG, and real-time video, to distribute monitored images into the limited network bandwidth.
- Measure only 145mm (5.6") in diameter and is capable of making 360 degrees continuous rotation with a speed range of 0.18 to 360 degrees per second, ensures direct and accurate target positioning. When required the dome can be quickly spun through 180 degrees, an important feature when something passes directly under the camera.
- Up to 128 preset positions can be programmed and recalled with an accuracy of 0.25 degrees. First 16 presets can be divided into 4 groups for auto touring with individual setting for speed and dwell time.
- Each IP Fast Dome has 6 alarm inputs (expandable to 64) can drive the dome to any position in under second. A local alarm output can be configured as NO or NC and two types of alarm response mode provide flexible alarm management.

Chapter 2-2. Features

- 17X Auto Focus Lens (PIH-7000 IP)
  Build-in 17X optical zoom lens with focal length 3.9 ~ 66.3mm
- 22X Auto Focus Lens (PIH-7600 IP)
  Build-in 22X optical zoom lens with focal length 3.9 ~ 85.4mm
- 25X Auto Focus Lens (PIH-7625 IP)
  Build-in 25X optical zoom lens with focal length 3.8 ~ 95.0mm
- Automatic / Manual Iris Control
- 360° continuous rotation
- Up to 128 programmable preset positions
- Preset positions auto scanning
- Highspeed rotation and tilt, speed range varies from 0.18°/sec ~ 360°/sec
- 180° Horizontal Instant Flip
- 6 alarm inputs, 1 alarm output can be set as NO (normally open) or NC (normally close) for each Fast Dome
- Two types of alarm response mode: Lock Mode, Release Mode
- Build in 1/4" CCD high resolution DSP colour camera:
  - ☛ 17X & 22X optical lens models:
    1. 480 TV Lines high resolution
    2. 0.8 Lux high sensitivity
    3. White Balance Control
       (Auto White Balance and Manual White Balance(Indoor/Outdoor))
    4. Back Light Compensation (ON/OFF)
    5. Auto Gain Control (ON/OFF)
  - ☛ 25X optical lens model:
    1. Color / Mono Switch (IR Cut Filter)
       ON → Color
       OFF → Mono
       AUTO → Switch from color to mono when light drops below 3 lux.
    2. 480 TV Lines (Color) ; 570 TV Lines (Mono)
    3. 0.1Lux (Color) ; 0.01Lux (Mono)
    4. On-Screen Setup Menu , 21 high sens setting items.
    5. White Balance Control : Auto Correction , Auto Tracking , Fix (Indoor/Outdoor)
    6. Back Light Compensation (On/Off)

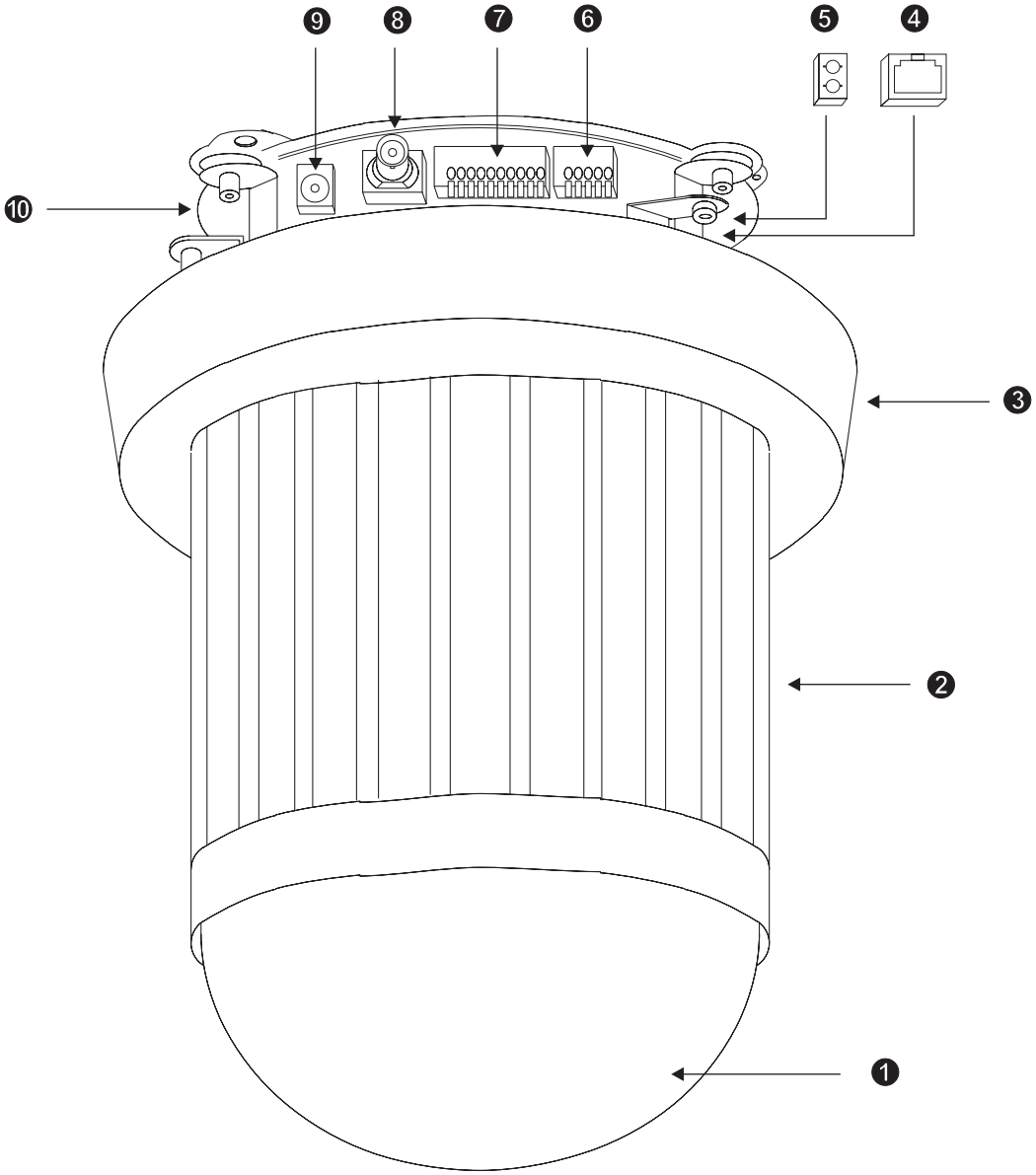
7. Back Light Compensation Zone (Top , Bottom , Left , Right)
8. Auto Gam Control : 8dB (low) , 22dB (medium) , 36dB (hgih)
9. 8 levels Brightness Adjustment
10. 16 levels Content Adjustment
11. Aperture Correction Adjustment
12. Flickerless : On/Off
13. Sensitivity Enhancement : On/Off

- RS-485 control interface
- Up to 64 Fast Dome configuration
- Compatible with PC control (protocol required)
- 12Vdc voltage input (power supply options: 90 ~ 260Vac or 24Vac)
- Flexible Mounting: Indoor - embedded and attached types, Outdoor - with weather resistant housing

Integrated fast dome with web enable providing Internet capability.

- IP assignment via ARP/Web Page/IP Installer easy to install for users.
- JAVA-based web page providing maximum platform compatibility.
- Active-X control for Internet Explorer™ providing maximum performance.
- Motion Detection / Date / Time / GPIO Input for event trigger.
- Email / FTP / Internal Buffer Storage / Relay Out / PPP Dialing Out for event action.
- Programmable event script for various application.
- LILIN DDNS support for dynamic IP application.
- 3 - layer User Security Control.
- Remote upgradeable firm ware and user content pages via FTP.
- Server operating control through CGI base script easy to integrate the application for users.
- Green power, fan needless, and hardware watchdog providing robustness system in critical environment.
- Standard BNC connectors, automatic video standard (NTSC/PAL) detection.

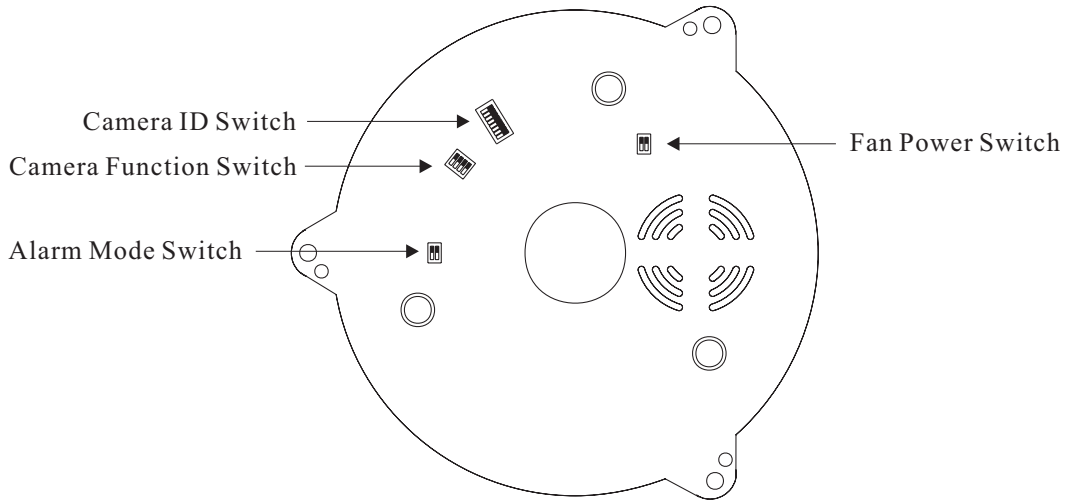
Chapter 3. STRUCTURAL ELEMENT



❶ Dome Cover
❷ Camera Case
❸ Decoration Ring
❹ RJ-45 Jack
❺ Power/Network LED
❻ RS-485 In / Out Jack
❼ Alarm In / Out Jack
❽ Video In / Out Jack
❾ Power In Jack
❿ Camera Base

Chapter 4. FAST DOME CAMERA SETUP

Chapter 4-1. DIP Switch Setting



Chapter 4-1-1. Fan Power Switch

Turn the number 2 switch to ON position to activate the internal fan. This will maintain the temperature inside and make the electric parts longer life.

Chapter 4-1-2. Alarm Mode Switch

Alarm Mode can be set as Lock or Release mode. Turn number 1 switch to ON position to choose Release mode. Turn number 1 switch to OFF position to choose Lock mode.
Fast Dome has 6 alarm inputs and 1 output, which can be set either NC (normally close) or NO (normally open) mode. Turn number 2 switch to ON position to choose NC mode.
Turn number 2 switch to OFF position to choose NO mode.

Chapter 4-1-3. Camera Function Switch

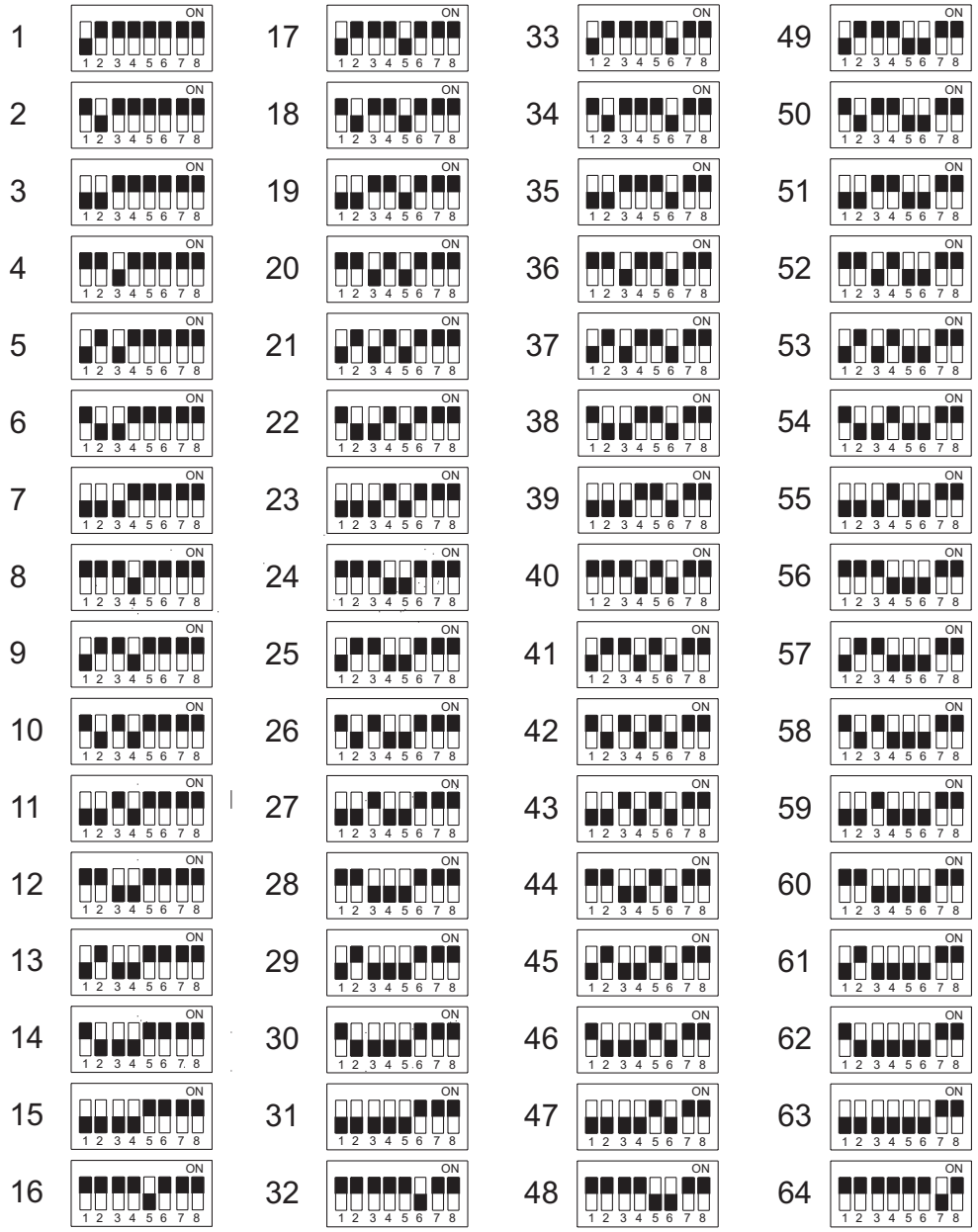
17X & 22X optical lens models:
Turn number 1 switch to ON position for AGC function
Turn number 2 switch to ON position for BLC function
Turn number 3 switch to ON position for AWB function
Turn number 3 switch to OFF position for Manual White Balance (MWB)
When fast dome is set to MWB, turn number 4 switch to ON for Outdoor (color temp. 3200K) or to OFF for Indoor (color temp. 6300K)

Chapter 4-2. Fast Dome ID Address Setting Refer Chart

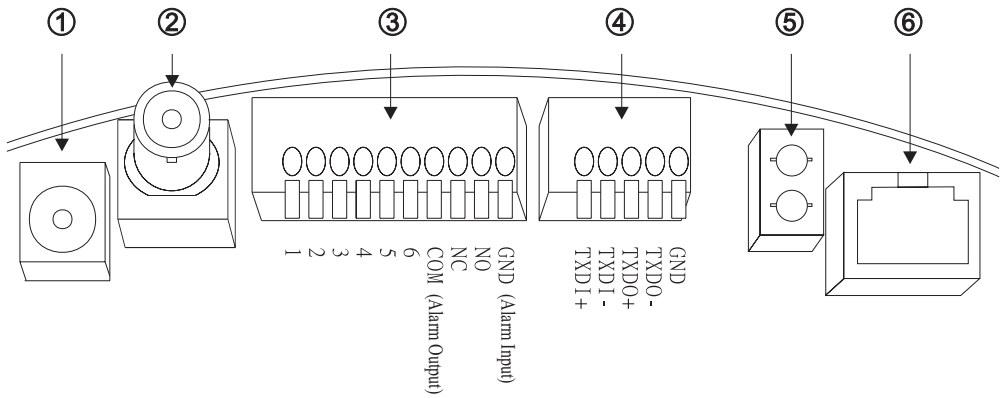
Up to 64 Fast Dome Camera can be serial linked in one system.

Therefore each dome is addressing by ID switch located at the base of the Fast Dome.

Below is the address setting for camera 1~64:



Chapter 4-3. Fast Dome Connection Jack and Cable Requirement



1. Power In Jack

DC12V Input Voltage, Power Consumption 1.2Adc, Center Pin 2.0mm.

Require Cable : 18 AWG x 2C

2. Video out BNC Jack

Video Signal Output CVBS 1.0Vpp 75Ω BNC.

Recommend Data Cable : 5C2V

3. Alarm In / Out Jack

Each fast dome contains 6 alarm inputs and 1 alarm output.

Alarm Input Voltage 5.6Vmax, Output 0.5A 120Vac / 1A 24Vac.

Recommend Data Cable : UL 26 AWG 80℃ 300V

UL 24 AWG 80℃ 300V

4. RS-485 In / Out Jack

RS-485 Input (TXDI+, TXDI-) to receiver signal from keyboard, matrix, DVR or multiplexer through twisted pair cable.

RS-485 Output (TXDO+ , TXDO-) sending out signal to next fast dome through twisted pair cable.

Recommend Data Cable : 2547 VW-ISC UL 24 AWG x 2C

Transmission Distance : Max. 1 Kilometer

＊ When 24VAC PSU is used, the recommend cables are :

UL SPT-1 VW-1 18AWG x 2C

UL SPT-2 105 VW-1 18AWG x 3C

The distance between 24Vac PSU and fast dome can not exceed 200meters.

5. Power / Network LED

● Power / Status LED

Power on : constant red.

Emergency factory default (refer to Appendix C Emergency Factory Default) : Blinking orange (i.e. Red mixed with green).

● Network LED

Network Link (connected) : Constant red.

Network have activities : Blink red.

Data sent out from server : Blink green.

Network disconnected : Constant slow blinking green.

Upgrading software (refer to Appendix A Upgrading the software) : Constant slow to fast blinking of orange.

6. Ethernet Jack

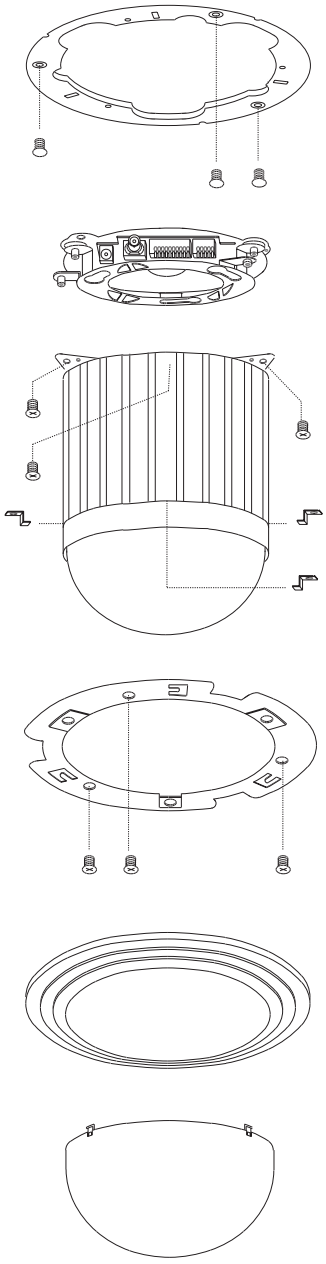
Ethernet cable (twisted pair CAT5 terminated cable with a standard RJ-45 connector) to IP Fast Dome and attach it to the network.

Standard IEEE802.3 10 Base T port.

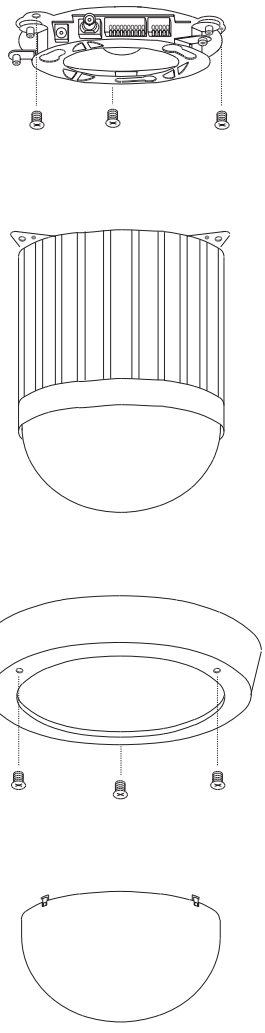
Chapter 5. HARDWARE INSTALLATION

Chapter 5-1. Indoor Installation Structural Drawing

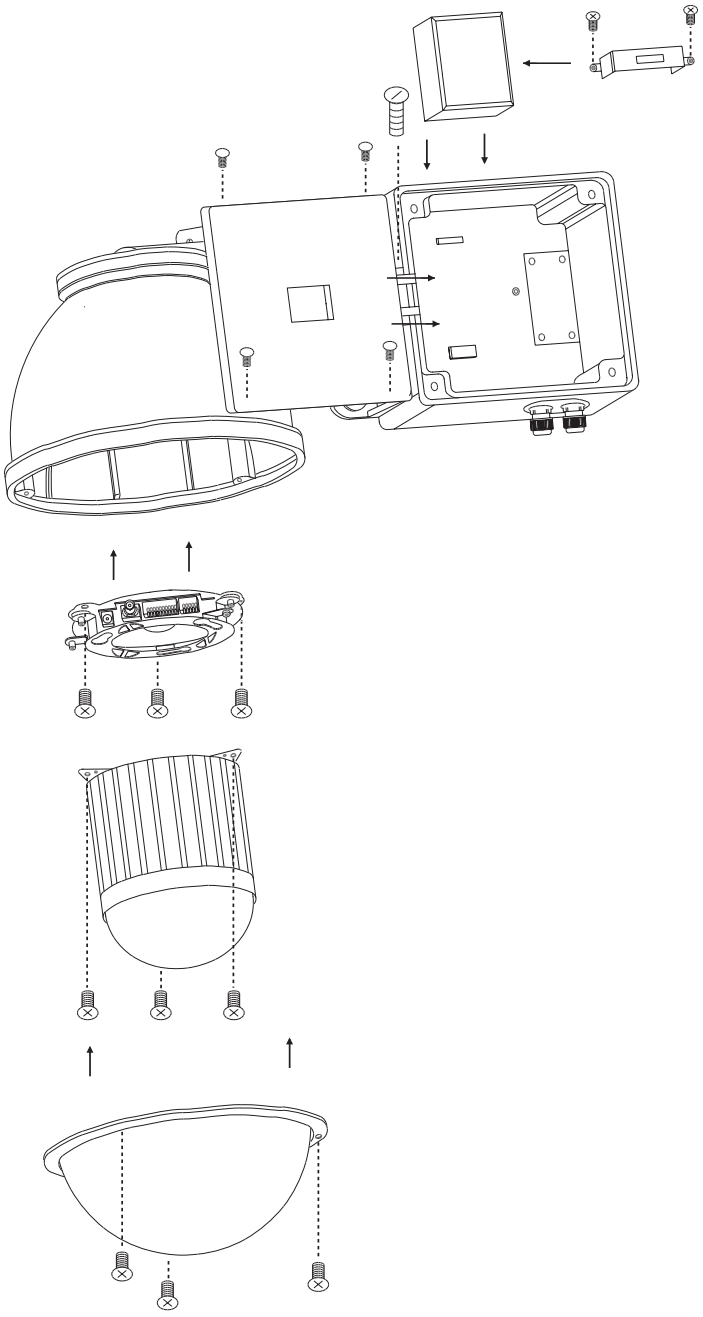
Embedded Mounting



Attached Mounting

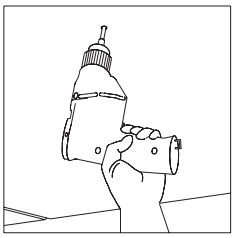
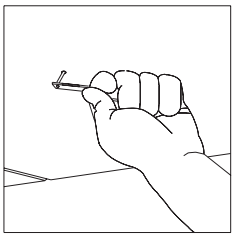


Chapter 5-2. Outdoor Installation Structural Drawing (Pendant Mounting)

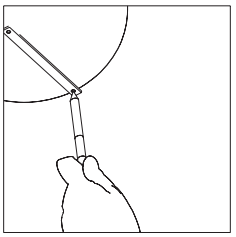
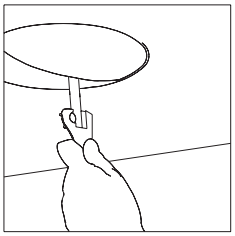


Chapter 5-3. Embedded Mounting (False Ceiling)

Step 1 Ceiling Preparation

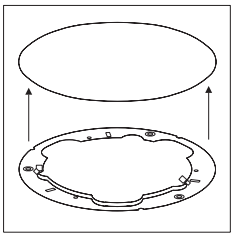



● Drill a 3/32" (2.4mm) hole at the center of the chosen area.

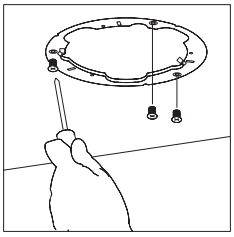



● Use a pencil and a compasses to mark a circle 6.7" (170mm) in diameter and cut the circle.

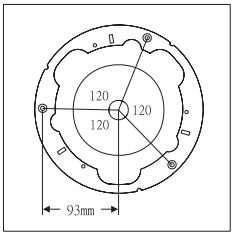
Step 2 The Ceiling Ring



● Attach the ring to ceiling

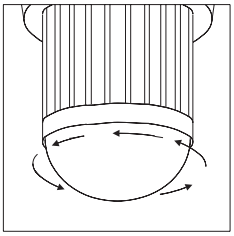


● Tighten the three tapping screws into the ceiling or three machine screws with three screw nuts

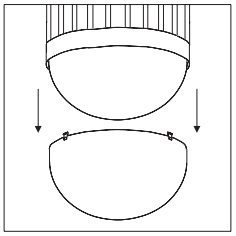


● Ring size and screw location

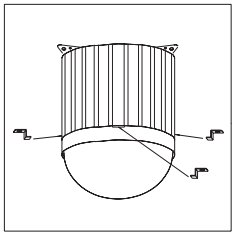
Step 3 The Fix Ring



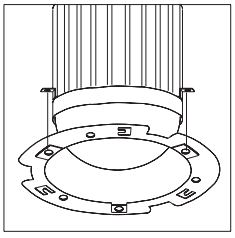
● Turn the dome cover anti-clockwise



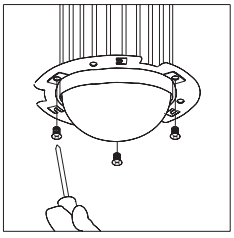
● Separate the dome cover from camera



● Put on the three L shape screw nuts

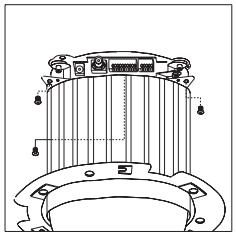


● Attach fix ring with screw nuts

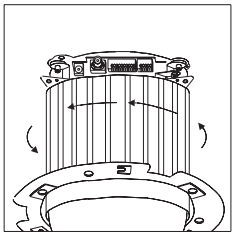


● Tighten the three black screws into the screw nuts

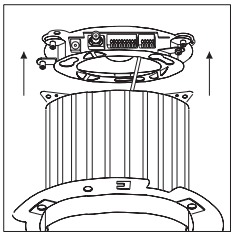
Step 4 Camera Setting



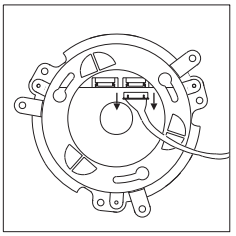
● Untighten the three screws from the base



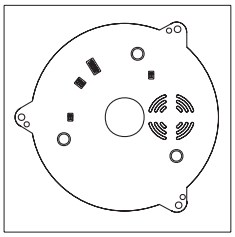
● Turn the camera body anti-clockwise



● Separate the camera body and base



● Unplug the connection cable



Setting Fast Dome ID

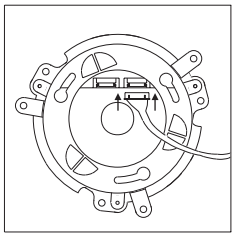
Setting Alarm Mode

Setting Camera Function (17X & 22X optical lens models only)

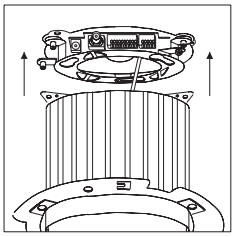
Setting Fan Power

Refer to page 6,7 for the setting

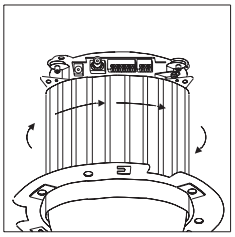
Step 5 Attach the Camera Body and Base



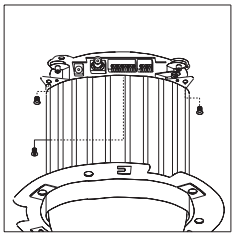
● Reconnect the connection cable



● Attach camera body to base

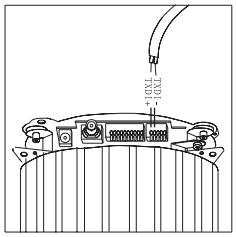


● Turn camera body clockwise to tight position

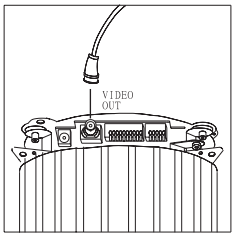


● Tighten the three screws to fix the camera body

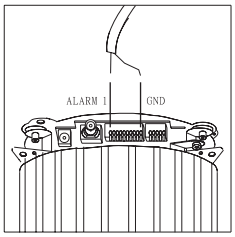
Step 6 Connection



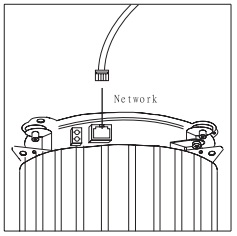
● Connect RS-485 cable



● Connect video signal cable

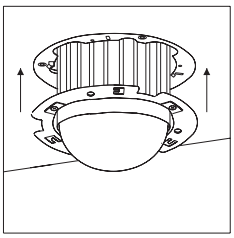


● Connect alarm output cable

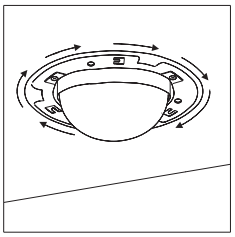


● Connect Ethernet cable

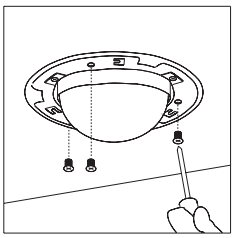
Step 7 Install Camera Body and Decoration Ring



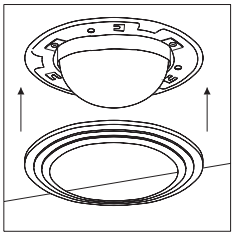
● Put camera body and the fix ring into the hole



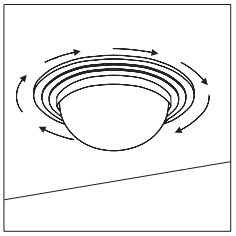
● Turn the camera body clockwise to tight position



● Tighten three black screws

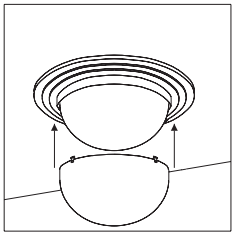


● Put on decoration ring

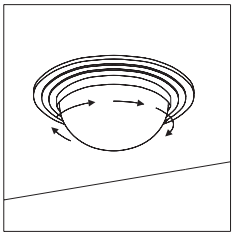


● Turn the ring clockwise to tight position

Step 8 Install The Dome Cover



● Attach dome cover to camera body

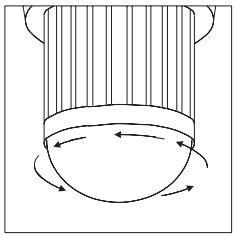


● Turn the dome cover clockwise to tight position

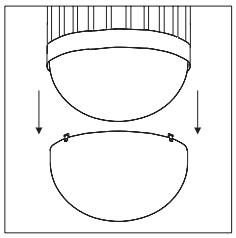
Note : After dome cover is attached, use glass-cleaning cloth to clean dome cover. Unclean dome cover may affect camera performance.

Chapter 5-4. Attached Mounting (False Ceiling)

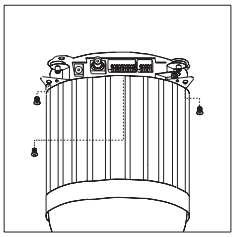
Step 1 Fix The Base



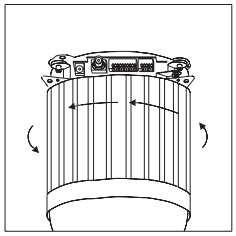
● Turn the dome cover anti-clockwise



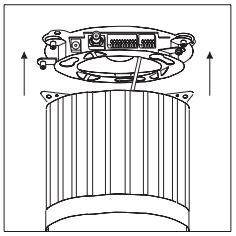
● Separate the dome cover from camera



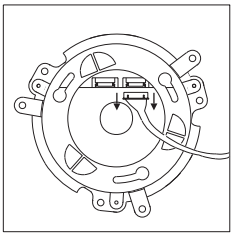
● Untighten the three screws from base



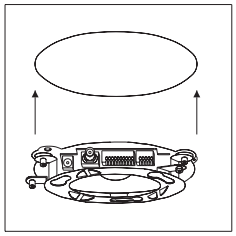
● Turn the camera cover anti-clockwise



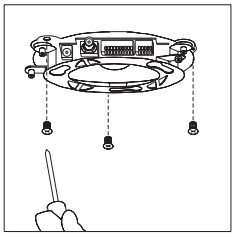
● Separate the camera body to the base



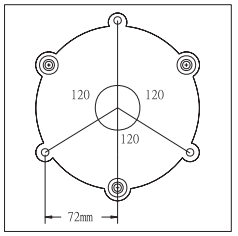
● Unplug the connection cable



● Attach base to ceiling

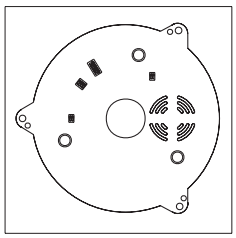


● Tighten the three tapping screws into the ceiling



● Base size and screw location

Step 2 Camera Setting



Setting Fast Dome ID

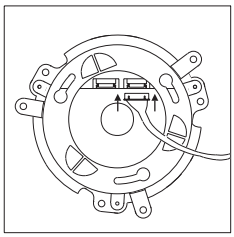
Setting Alarm Mode

Setting Camera Function (17X & 22X optical lens models only)

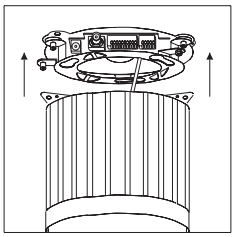
Setting Fan Power

Refer to page 6,7 for the setting

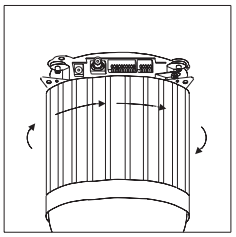
Step 3 Attach Camera Body and Base



● Reconnect the connection cable

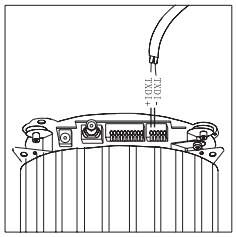


● Attach camera body to base

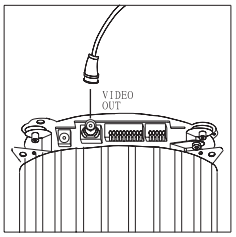


● Turn camera body clockwise to tight position

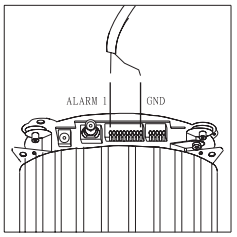
Step 4 Connection



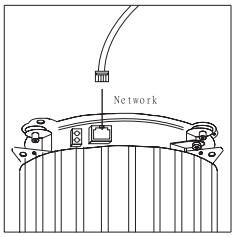
● Connect RS-485 cable



● Connect video signal cable

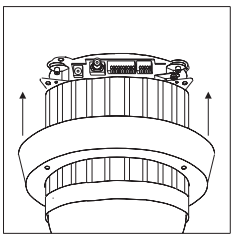


● Connect alarm output cable

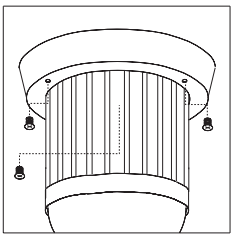


● Connect Ethernet cable

Step 5 Install Decoration Ring

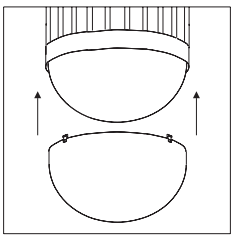


● Put on decoration ring to base

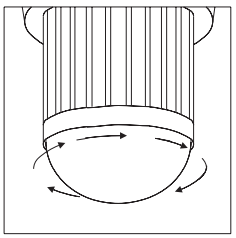


● Tighten the three screws

Step 6 Install Dome Cover



● Put on dome cover to camera body

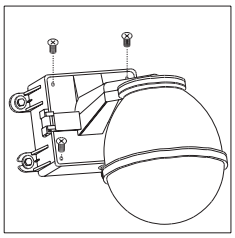


● Turn dome cover clockwise to tight position

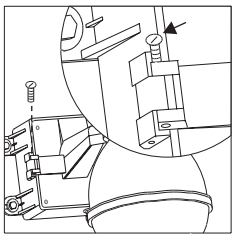
Note : After dome cover is attached, use glass-cleaning cloth to clean dome cover. Unclean dome cover may affect camera performance.

Chapter 5-5. Pendant Mounting (External Housing)

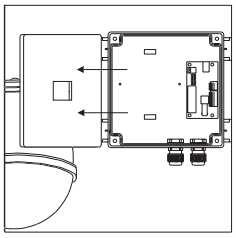
Step 1 Separate PSU and Bracket



● Untighten the screws from PSU box



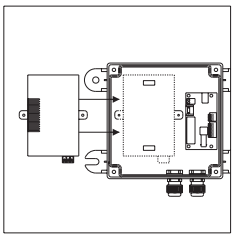
● Untighten and pull out the bolt from the hinge



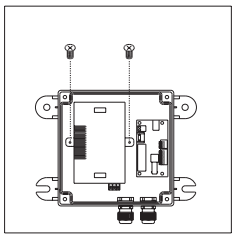
● Separate the housing and PSU box

Step 2 Install Power Supply Unit

1.1 When use 24Vac power source:

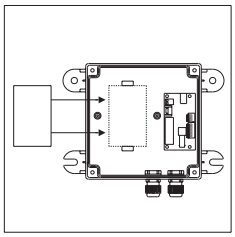


● Put the PSU into the box

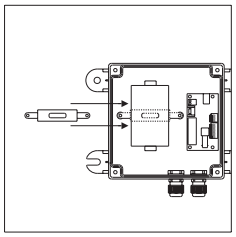


● Tighten 2 screws to fix the PSU

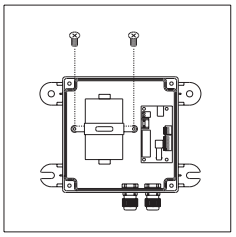
1.2 When use 90 ~ 260Vac power source:



● Put PSU into the box

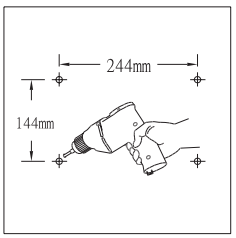


● Put the clamp on PSU

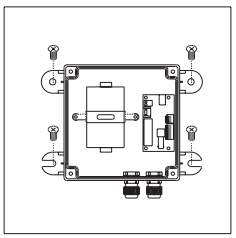


● Tighten 2 screws to fix the PSU

Step 3 Install the Power Box

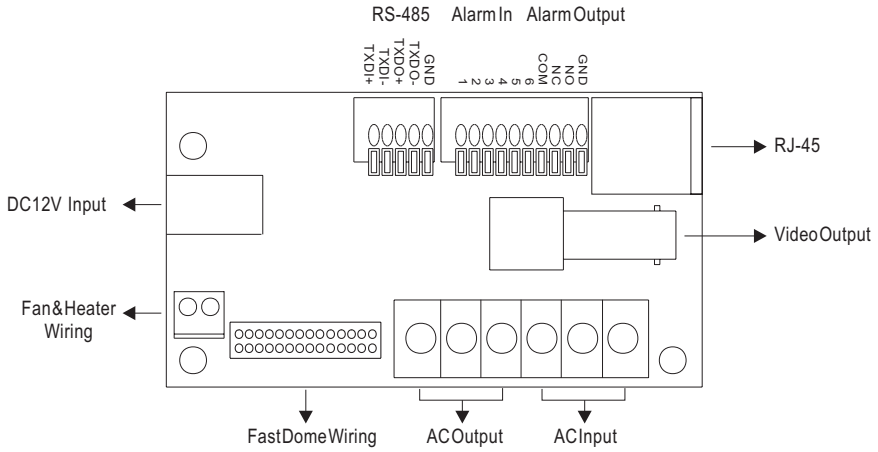


● Drill 4 holes on desired locations

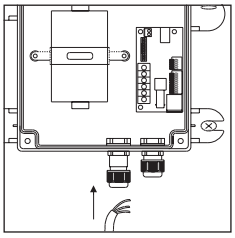


● Tighten 4 screws to fix the power box. (These four screws are not supplied. User must prepare their own screws.)

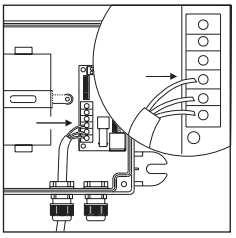
Step 4 Connection



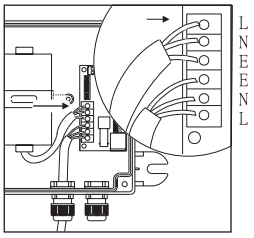
4.1 Connect AC / DC cables:



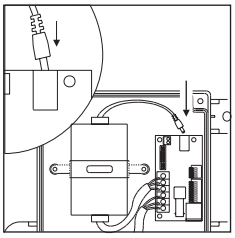
Untighten the left knob, put the AC power cable through the hole and tighten the knob



Connect the AC power cable to AC Input jack

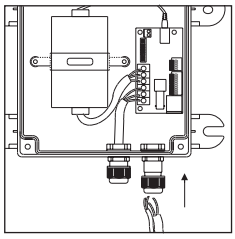


Connect the AC power cable(below) to AC Output jack

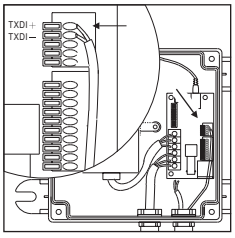


Connect the DC power cable(above) to DC Input jack

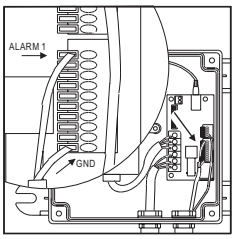
4.2 Connect Alarm, telemetry control (RS-485) and Video cables:



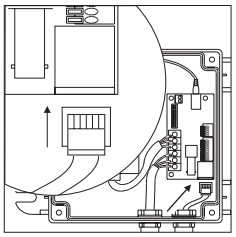
Untighten the right knob, put the Alarm, RS-485, RJ-45 and video cables through the hole and tighten the knob



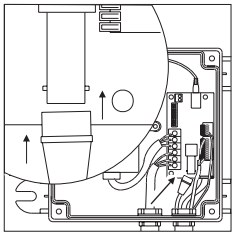
Connect the telemetry control (RS-485) to RS-485 Input (TXDI+,TXDI-)



Connect the Alarm input cable to Alarm Input.
(Alarm 1 & GND)

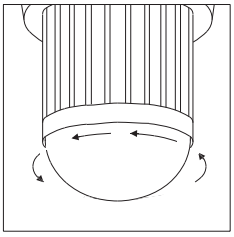


Connect the network cable to RJ-45 jack

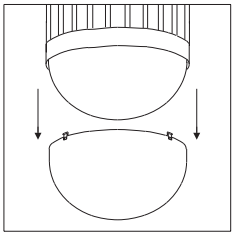


Connect the video cable to output jack

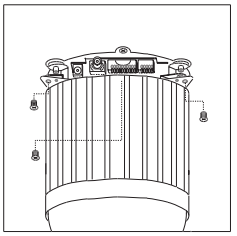
Step 5 Attach the base to housing



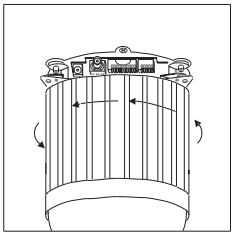
● Turn the dome cover anti-clockwise



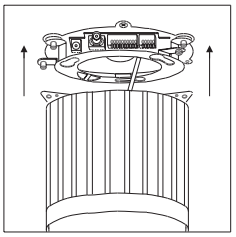
● Separate the dome cover from camera



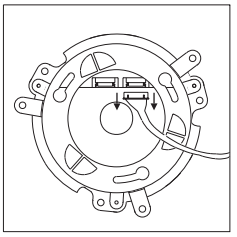
● Untighten the 3 screws from base



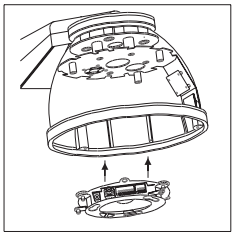
● Turn the camera body anti-clockwise



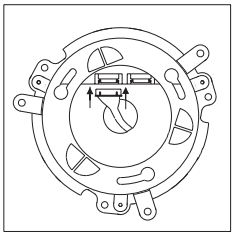
● Separate the camera body and base



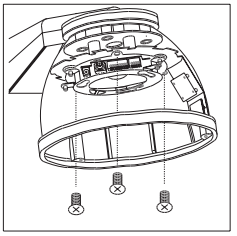
● Unplug the connection cable



● Attach the base to housing

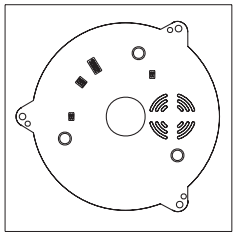


● Connect the housing cable



● Tighten 3 screws to fix base

Step 6 Camera Setting



Setting Fast Dome ID

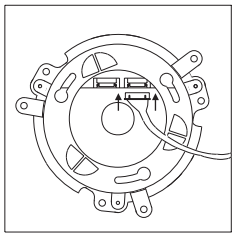
Setting Alarm Mode

Setting Camera Function (17X & 22X optical lens models only)

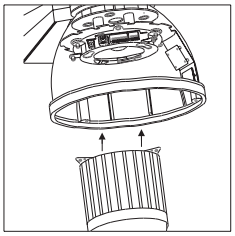
Setting Fan Power

Refer to page 6,7 for the setting

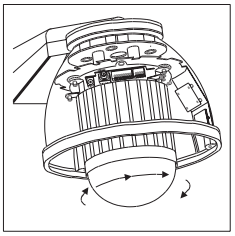
Step 7 Attach Camera Body and Base



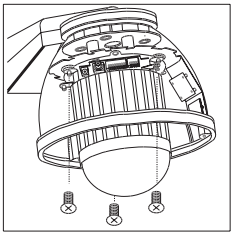
● Reconnect the connection cable



● Attach camera body to base

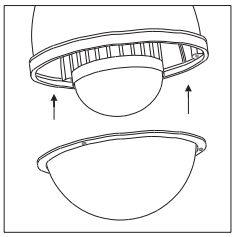


● Turn camera body clockwise to high position

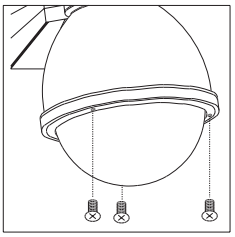


● Tighten the three screws to fix the camera body

Step 8 Install The Dome Cover and Housing Cover



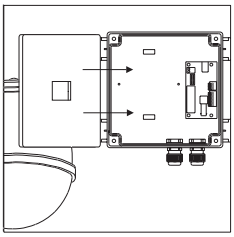
● Attach the cover to housing



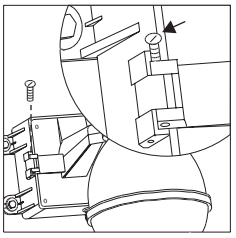
● Tighten the 3 screws to fix the cover

Note : When Fast Dome is installed inside outdoor housing, please don't attach dome cover. Violation may affect camera performance.

Step 9 Attach PSU and Bracket

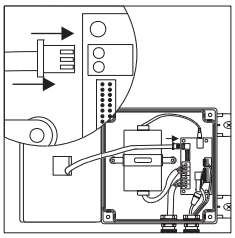


● Attach the housing back to PSU box

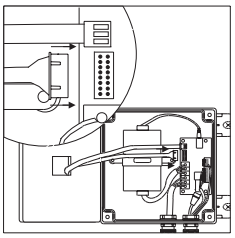


● Insert the bolt into the hinge and tighten

Step 10 Connection



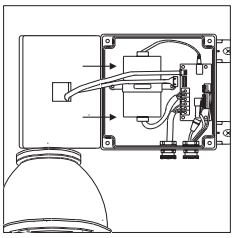
● Connect the fan & heater cable to pin jack



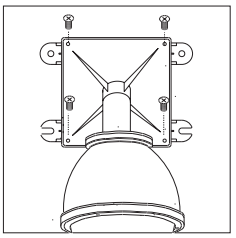
● Connect the Fast Dome cable to connection jack

Step 11 Install The Power Box, Bracket and Housing

Pendant

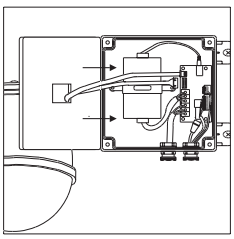


● Attach the bracket and housing to the box

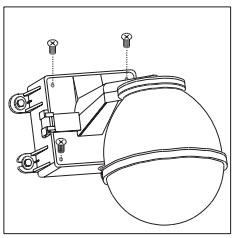


● Tighten the 4 screws to fix the bracket

Wall Mounting



● Attach the bracket and housing to the box



● Tighten the 4 screws to fix the bracket

Chapter 6. SOFTWARE INSTALLATION

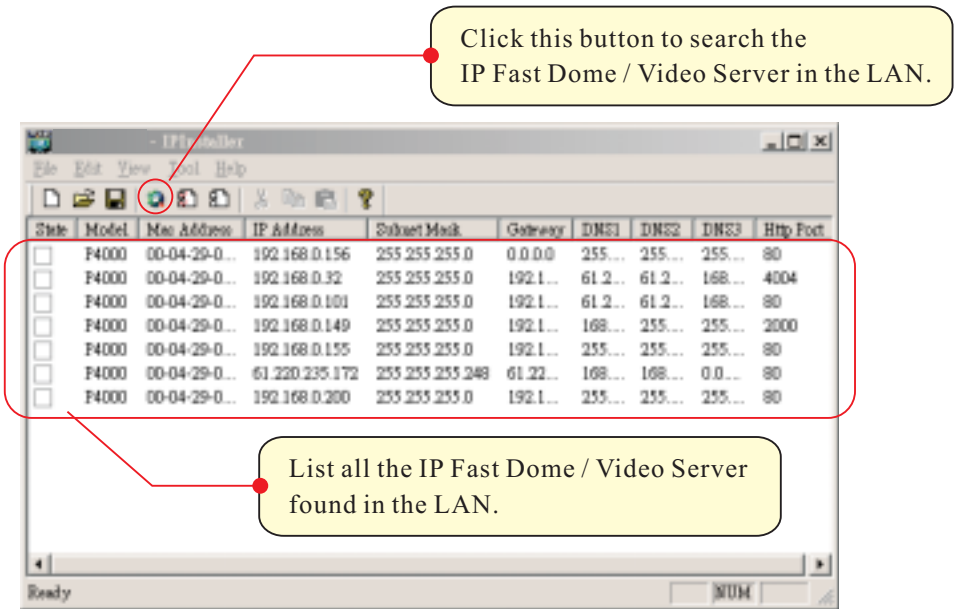
Chapter 6-1. Assign IP by IP Installer

Merit Li Lin IP Installer is a Windows 98/ME/NT/2000 program. It is the software providing an easier way for the setting of IP address and network configurations of Merit Li Lin's IP Fast Dome. Using this tool, you can easily set multiple IP Fast Domes at the same time with the batch setting function. By utilizing IP Installer, the setting process is largely simplified and the setting time is effectively shortened. Moreover, IP installer can not only save all the configurations of IP Fast Dome as backup, but also restore the previous configurations of IP Fast Dome.

☛ Execute IP Installer

Double click the mouse left button on the IP Installer icon.

The Merit Li Lin IP Installer form is displayed on the screen.



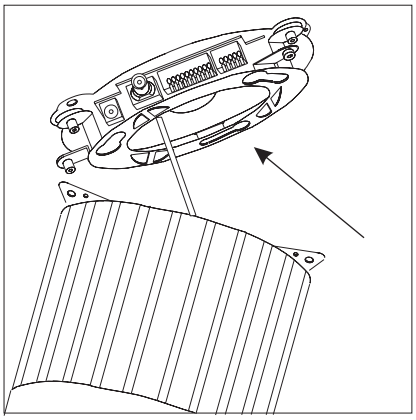
☛ Preparation before IP Assignment

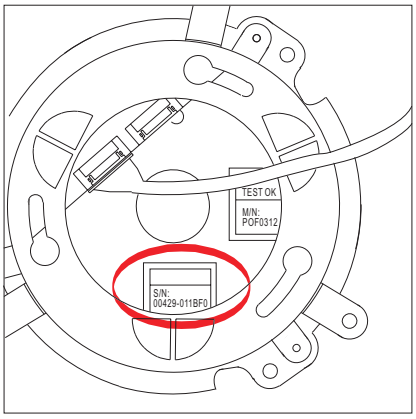
Always consult your network administrator before assigning the IP address to your IP Fast Dome / Video Server.

Make sure that the IP Fast Dome is powered on and correctly connected to the network.

Obtain the IP address not used yet from your network administrator.

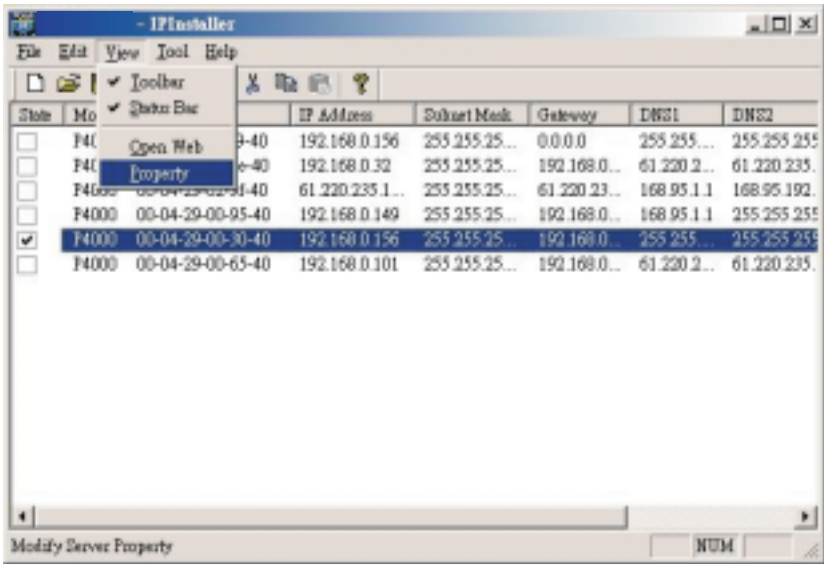
MAC address : Each IP Fast Dome has a unique Ethernet address (MAC address) shown on the top of the IP Fast Dome base as the serial number (S/N), 12 digits, e.g. 000429-XXXXXX.



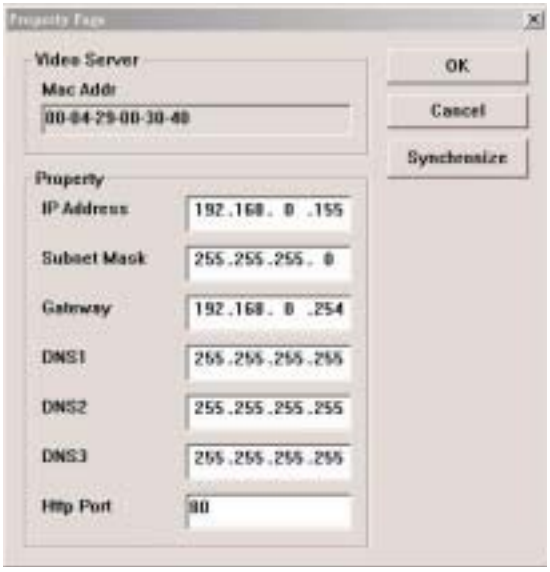


Note : You have to separate base from body to see the MAC address. For instruction, please refer to Chapter 5-3 step 4 to separate the base.

☛ Assign the IP Address to IP Fast Dome

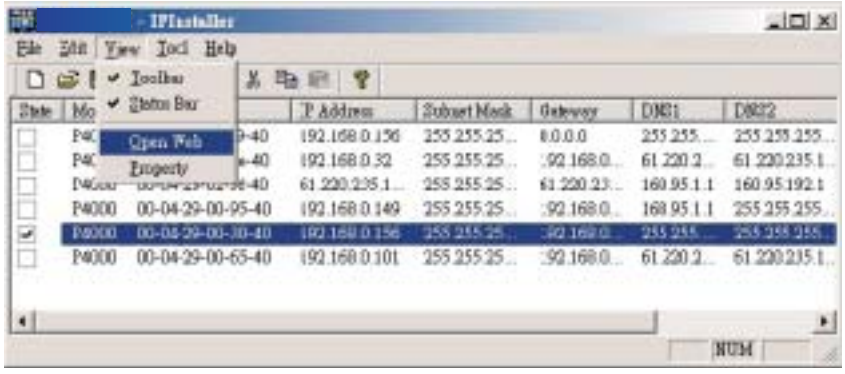


Select the MAC address of your IP Fast Dome in the list. The MAC address is identical to the unit's S/N. Click the menu bar View/Property to open the Property Page for the selected item. After filling in the properties, chick the OK button to submit the settings for the unit and the settings are activated immediately.



➧ **Verify the IP Address and Open the Home Page**

To access the Home Page of the selected unit, run the View/Open Web on the menu bar. If your browser is opened and automatically connected to the IP Fast Dome Home Page, it menas you have assigned an IP Address to the unit successfully. Now you can close the IP Installer and start to use your IP Fast Dome.



Chapter 6-2. Assign IP Address by ARP

Before using IP Fast Dome, users must set the IP address in advance. There are two different ways to set IP address into IP Fast Dome.

Note before IP assignment

》Make sure the IP Fast Dome is powered on and connected to the network correctly.
》Obtain a unique IP address from your network administrator.
》Each IP Fast Dome has a unique Ethernet address (MAC address), which is recorded as 12 digits serial number labeled at the bottom side of IP Fast Dome / Video Server / Network Camera, e.g. 000429XXXXXX.
》The following example uses the PC with the IP address 192.168.0.1 and is going to setup IP Fast Dome with the IP address 192.168.0.200 whose MAC address is 000429000150. **Do not use** those addresses featured as examples in this document, always consult your network administrator before assigning an IP address.
》The IP address assigned to the IP Fast Dome shall be the same IP domain (presented as same subnet mask) as the PC IP address. In our case, a PC IP address is 192.168.0.1 and the IP Fast Dome is 192.168.0.200, so the subnet mask shall be 255.255.255.0. If a PC subnet mask is 255.255.255.128 or higher, then the domain can't cover 192.168.0.200, so the setting won't take effective.
》For speedily installing and easily setting the IP Address, there are provides an IP Installer Wizard for you. Please install the application and see the user's manual for detailed description and usage.

Step 1 → In Windows, open DOS window.

● Enter DOS by <Start → Program → MS-DOS Prompt>

Step 2 → Ensure the IP address assigned to IP Fast Dome doesn't occupy by other Host.

● In DOS window, entering <ping 192.168.0.200> shall get time out message.

```
C:\> ping 192.168.0.200
Pinging 192.168.0.200 with 32 bytes of data:

Request time out.
Request time out.
Request time out.
Request time out.

Ping statistics for 192.168.0.200:
    Packets : Sent = 4, Received = 0, Lost = 4 (100% loss)
Approximate round trip times in milliseconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>
```

Step 3 → Enter command <arp-s [IP Fast Dome IP Address] [IP Fast Dome MAC Address]>.

● In DOS, enter arp-s 192.168.0.200 00-04-29-00-01-50.

Step 4 → Enter command <ping-t [IP Fast Dome IP Address]> shall get constant reply after 3~4 timeouts, then prress CTRL-C to exit pinging.

● In DOS, enter ping-t 192.168.0.200

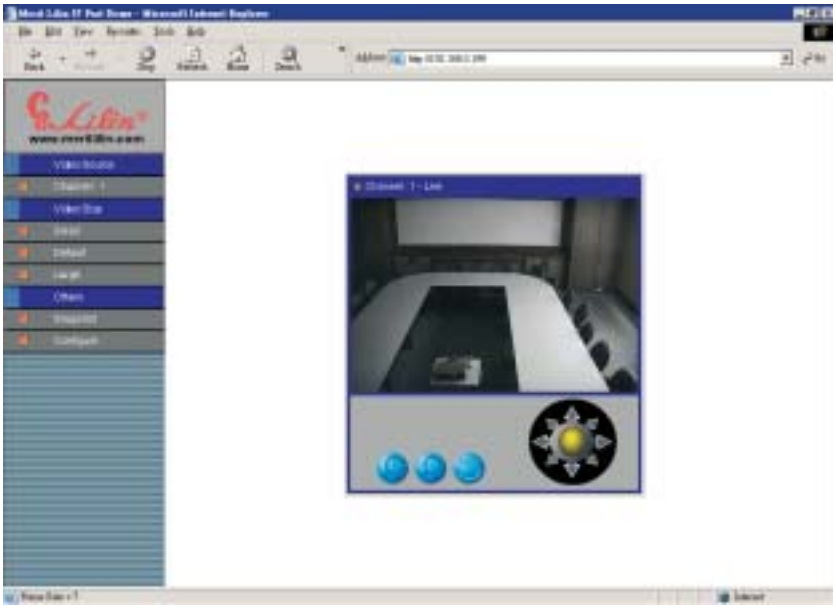
```
C:\> arp-s 192.168.0.200 00-04-29-00-01-50

C:\> ping-t 192.168.0.200

Pinging 192.168.0.200 with 32 bytes of data:

Request time out.
Request time out.
Request time out.
Reply from 192.168.0.200: bytes = 32 time = 5ms TTL = 255
Reply from 192.168.0.200: bytes = 32 time = 4ms TTL = 255
Reply from 192.168.0.200: bytes = 32 time = 4ms TTL = 255
Reply from 192.168.0.200: bytes = 32 time = 4ms TTL = 255

Ping statistics for 192.168.0.200:
    Packets: Sent = 7, Received = 4, Lost = 3 (42% loss),
Approximate round trip times in milliseconds:
    Minimum = 4ms, Maximum = 5ms, Average = 2ms
Control-C

C:\>
```

Step 5 → Complete setting and verify the installation. Then, open your web browser (e.g. Internet Explore) and enter the IP address in the Location/Address field. Consequently, the IP Fast Dome CS video home page will be opened.

● Enter http://192.168.0.200 in Location/Address field of Internet Explore, then the Internet live video can be opened.

Chapter 6-3. Verify and Complete the Installation from Your Browser

Start your browser and enter the IP Address of your IP Fast Dome in the location/address field.



The IP Fast Dome Camera can support Microsoft Internet Explorer and Netscape. But the voice feature (Video Server / Network Camera only) can only be run under Microsoft Internet Explorer.

When browsing the Home Page at the first time with the Microsoft Internet Explorer, you must temporarily lower your security settings to perform a one-time-only installation of ActiveX component into your workstation, as described below.

- From the Tools menu, select Internet Options.
- Click the Security tab and make note of your current security settings.
- Set the security level to Low and click OK.
- Type the Internet Address or Host Name for your IP Fast Dome into the Address field.
- A dialog asking if you want to install wcp10.cab will appear. Click yes to start the installation.
- Once the ActiveX installation is complete, return the security settings to their original value, as noted above.

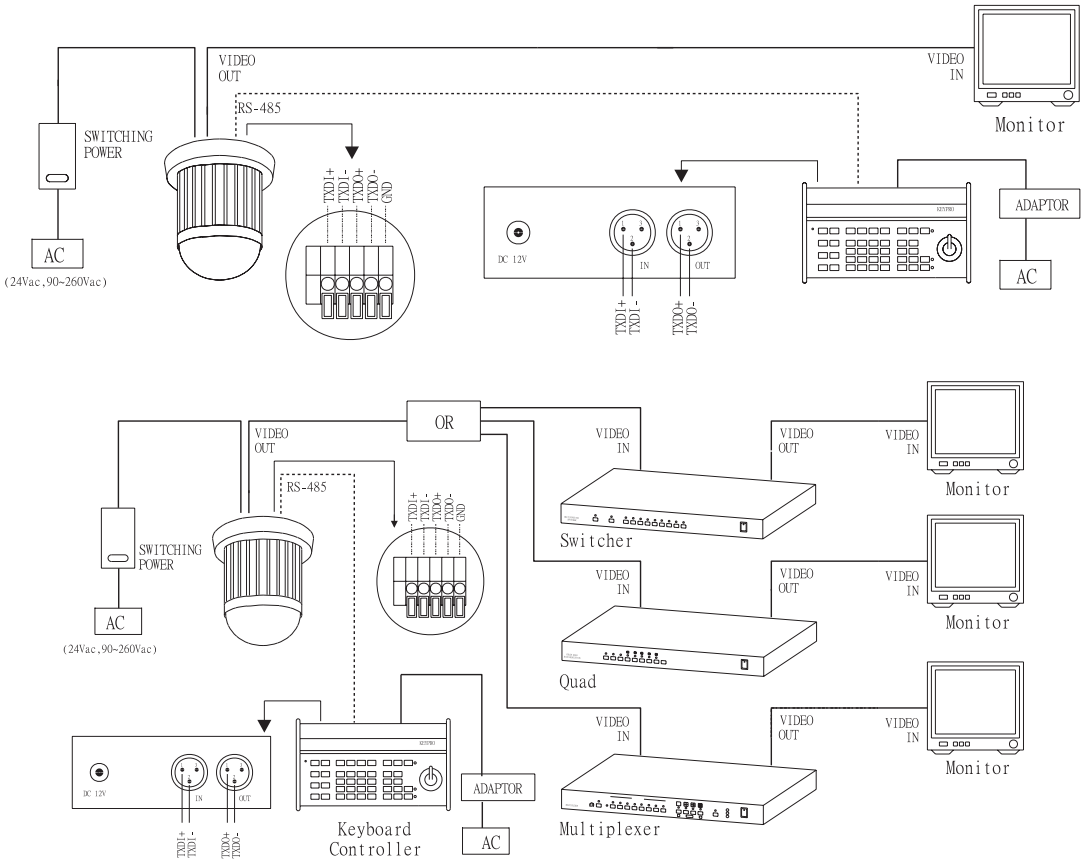
To continue the configuration of your own application, click the configure button in the top left corner of this window.

Chapter 7. SYSTEM CONFIGURATION

Merit Li Lin's integrated Fast Dome Surveillance System is suitable for a wide range of surveillance applications. The system cam be as single fast dome with one keyboard or encompassing as 64 domes with comprehensive matrix switching, PC control and even Digital Video Recording. Such flexibility means future expansion is easily facilitated.

Chapter 7-1. Fast Dome and Keyboard

Single dome configuration: One Fast Dome Camera connects to one PIH-800II or PIH-801.
Telemetry control is sent via twisted pair between Dome and Keyboard.
Video signal from the dome is sent to monitor or multiplexer or quad or switcher.

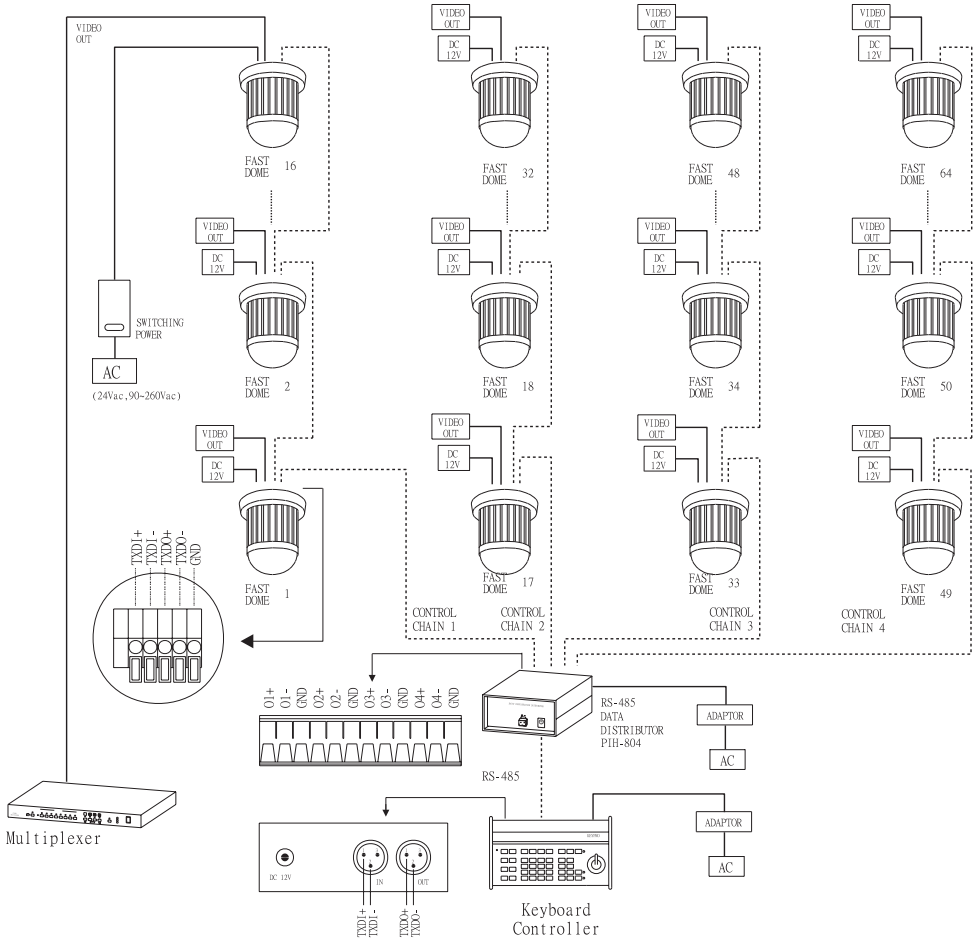


RS-485 Connection

1st pin TXDI+ of RS-485 jack at back of the keyboard connects to TXDI+ of RS-485 jack on fast dome.

2nd pin TXDI- of RS-485 jack at back of the keyboard connects to TXDI- of RS-485 jack on fast dome.

Multiple Domes means that more than one fast dome is linked in the system. Each dome connects to next dome forming a serial linking. Each dome has an individual ID dip switch, which allows the keyboard to identify each fast dome and make command. Sometimes it is more convenient to wire a telemetry system in star configuration rather than daisy chain. To do this a PIH-804 data distributor is necessary. It takes an output from a keyboard or a matrix and splits the single data line into 4 separate data lines. One keyboard can control up to 64 camera.



RS-485 Connection Between PIH-804 Data Distributor and Fast Dome

1st output TXDI1+ of PIH-804 connects to TXDI+ of 1st fast dome and TXDI1- of PIH-804 to TXDI-of fast dome.

Linking 2nd Fast Dome

TXDO+ of 1st fast dome connects to TXDI+ of 2nd dome and TXDO- of 1st dome to TXDI- of 2nd dome.

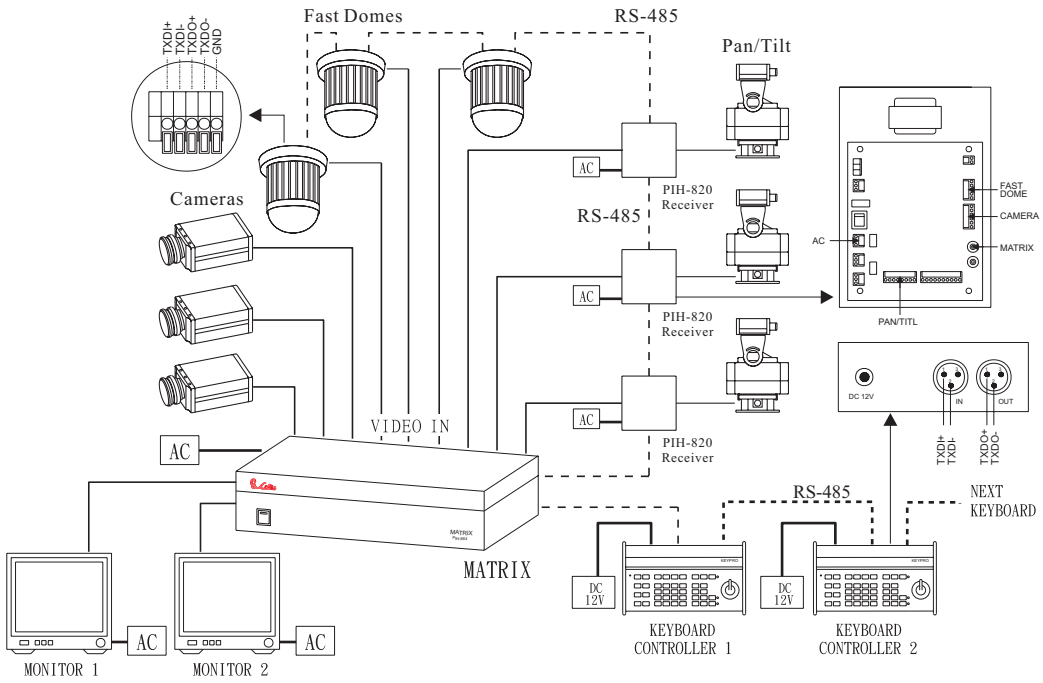
RS-485 Connection Between PIH-804 Data Distributor and Keyboard

1st pin TXDI+ on RS-485 IN jack of keyboard connects to TXDO+ on RS-485 OUT jack of PIH-804

2nd pin TXDI- on RS-485 IN jack of keyboard connects to TXDO- on RS-485 OUT jack of PIH-804

Chapter 7-2. Fast Dome, Matrix and Keyboard

Matrix System is designed to process multiple video systems and video switching.
Its central process unit (CPU) can manage multiple video signals simultaneously and control other linking system, such as PIH-7000/7600/7625 fast dome or PIH-820 telemetry receiver.
All telemetry remote control and signal transmissions are through twisted pair. One matrix can manage up to 64 fast domes.
Multiple keyboards can be used for matrix control. 1st keyboard is the master and rests are slaves. Up to 8 keyboards can be used in one system. Each keyboard has a Dip Switch for ID setting. (Please refer to keyboard's manual for detail)



RS-485 Connection Between Matrix and Fast Dome

TXD+ of receiver jack on matrix connects to TXDI+ of 1st fast dome and TXD- of matrix to TXDI- of fast dome.

Linking 2nd Fast Dome

TXDO+ of 1st dome connects to TXDI+ of 2nd dome and TXDO- of 1st dome to TXDI- of 2nd dome. 64 fast dome can be linked through the connection as shown.

RS-485 Connection Between Keyboards

TXDO+ of 1st keyboard RS-485 OUT connects to TXDI+ of 2nd keyboard RS-485 IN.

TXDO- of 1st keyboard RS-485 OUT connects to TXDI- of 2nd keyboard RS-485 IN.

RS-485 Connection Between Keyboard and Matrix

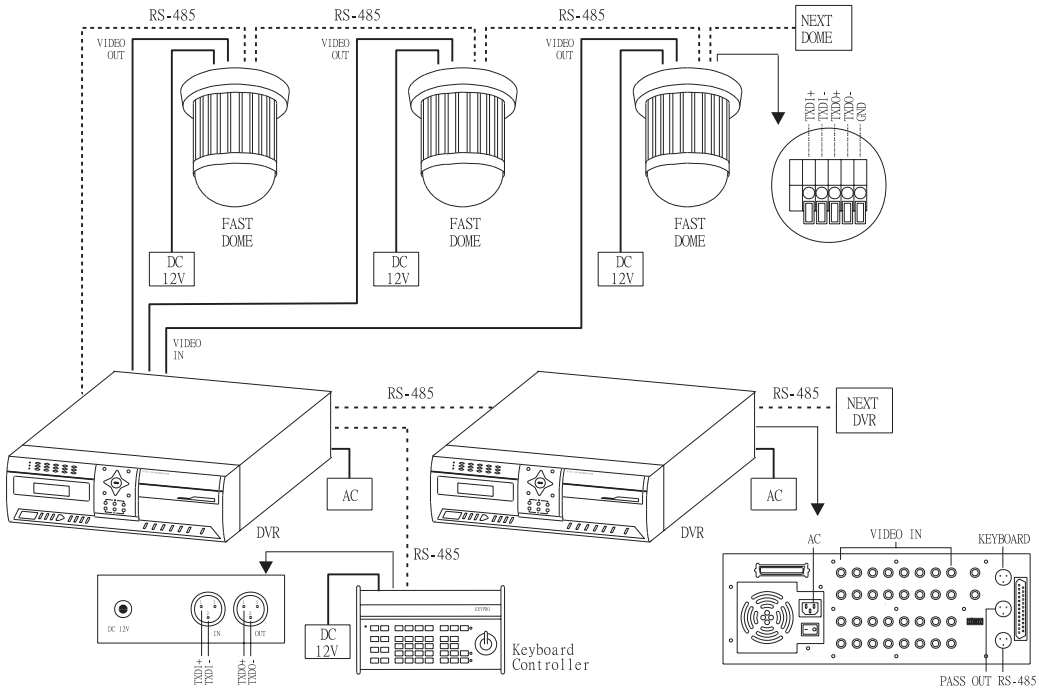
TXDI+ of 1st keyboard RS-485 IN connects to 1st pin TXD+ of matrix's keyboard jack.

TXDI- of 1st keyboard RS-485 IN connects to 2nd pin TXD- of matrix's keyboard jack.

Chapter 7-3. Fast Dome, DVR Multiplexer Video Managerment System and Keyboard

The DVR System is an advanced digital recording product, with long recording time and easy searching features. Telemetry remote control is twisted pair for data transmission to the fast dome. Fast Dome can be controlled directly from the control panel of the DVR, or from keyboard.

Each DVR video management system can manage 16 video signals (fast domes). Through RS-485 connection, 16LILIN stand along DVRs can be linked in one system.



RS-485 Connection Between Fast Dome and DVR

TXD+ of DVR RS-485 jack connects to TXDI+ of 1st fast dome and TXD- of DVR to TXDI- of fast dome.

Linking 2nd FastDome

TXDO+ of 1st dome RS-485 jack connects to TXDI+ of 2nd dome to TXDO- of 1st dome to TXDI- of 2nd dome.

RS-485 Connection Between DVRs

TXD+ of 1st DVR pass out RS-485 jack connects to TXD+ of 2nd DVR's keyboard jack.

TXD- of 1st DVR pass out RS-485 jack connects to TXD- of 2nd DVR's keyboard jack.

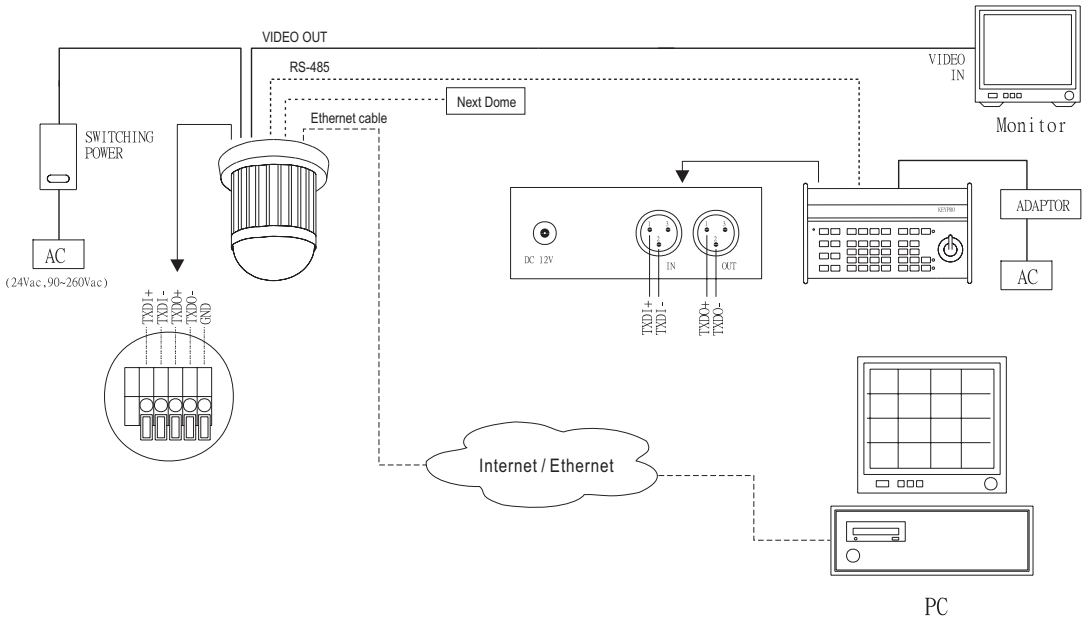
RS-485 Connection Between DVR and Keyboard

TXD+ of 1st DVR's keyboard jack connects to TXDI+ of keyboard RS-485 IN jack.

TXD- of 1st DVR's keyboard jack connects to TXDI- of keyboard RS-485 IN jack.

Chapter 7-4. Network Installation Procedure

The IP Fast Dome can be connected via RJ-45 cable that provides both Internet and/or Intranet access. Multiple IP Fast Domes can be connected with in a Hub or multiple Hubs. Please consult your network administrator for network architecture and software settings.



RS-485 Connection

1st pin TXDI+ of RS-485 jack at back of the keyboard connects to TXDI+ of RS-485 jack on fast dome.

2nd pin TXDI- of RS-485 jack at back of the keyboard connects to TXDI- of RS-485 jack on fast dome.

RJ-45 Connection

Ethernet cable to IP Fast Dome and attach it to the network.

Chapter 8. OPERATION

Chapter 8-1. Initial Power Up Inspection

After the power is first applied to a dome it will perform a self-test procedure. This calibrates and checks the basic functions of the dome, control is not possible during this self-test period. Once the camera has stopped moving, it will then be ready to control. If preset positions and tours have been programmed into a dome and the power is turned off, the dome will enter the Auto Scan mode once the power is turned on again (after self-test period). The dome will remain in Auto Scan until an operator cancels it.

Chapter 8-2. Manual Operation (Pan / Tilt Control)

To control the pan and tilt movement of the dome simply use the joystick on the keyboard; to pan the camera left push the joystick to the left, to tilt down pull the joystick down (towards you). To move the dome faster push the joystick further in the that direction, the joystick is proportional to the speed of the dome; a small movement will move the dome slower.

❶ UP
Push the joystick forward, the camera tilt up.

❷ DOWN
Push the joystick down (towards you), the camera tilt down.

❸ LEFT
Push the joystick left, the camera pan left.

❹ RIGHT
Push the joystick right, the camera pan right.

❺ DIAGONAL
Push the joystick diagonally, the camera moves to that direction (direction ⑤ on figure 1)

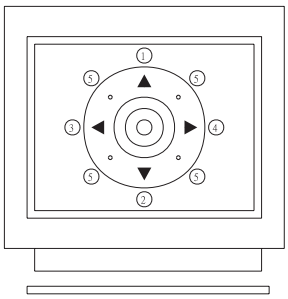


Figure 1
Relationship Between Joystick and Direction

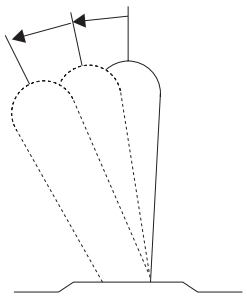


Figure 2
Relationship Between Joystick and Rotation Speed

Chapter 8-2-1. Fast Dome Selection

To call out a dome controlling or setting

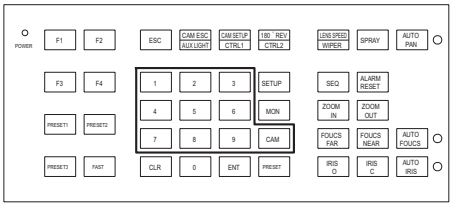
☛ To select 1st Fast Dome

Push key [1] followed by [CAM] key.

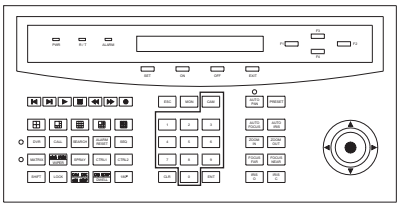
☛ To select 64th Fast Dome

Push key [6] then [4] followed by [CAM] key.

＊ When matrix system is used, select monitor before camera selection. Please refer to matrix system user manual.



PIH-800II



PIH-801

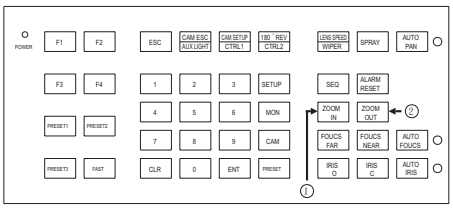
Chapter 8-2-2. Zoom Lens Control

☛ To Zoom In

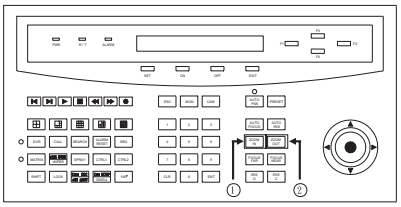
Push [ZOOM IN] key. The viewing angle becomes narrower and target will become enlarged on the screen. Zooming will stop when the key is released.

☛ To Zoom Out

Push [ZOOM OUT] key. The viewing angle becomes wider and target will become smaller on the screen. Zooming will stop when the key is released.



PIH-800II



PIH-801

Chapter 8-2-3. Focus Control

The focus function on Fast Dome can be set as Auto Focus or Manual Focus.

☛ Manual focus far

Push [FOCUS FAR] key.

The target will become farther. Focusing will stop when the key is released.

(PIH-801 keyboard LCD displays "F=M")

☛ Manual focus near

Push [FOCUS NEAR] key.

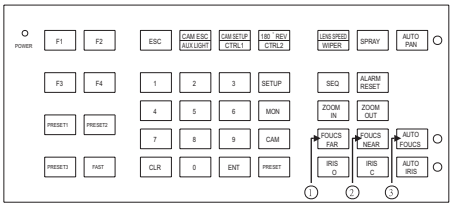
The target will become nearer. Focusing will stop when the key is released.

(PIH-801 keyboard LCD displays "F=M")

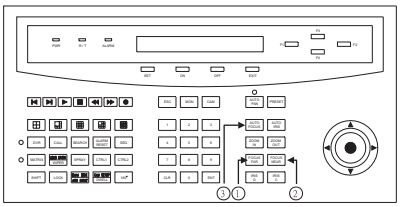
☛ Auto Focus

Push AUTO FOCUS key. The lens will automatically adjust itself for optimum focus.

(PIH-801 keyboard LCD displays "F=A")



PIH-800II



PIH-801

Chapter 8-2-4. Iris Control

The purpose of iris control is to adjust brightness on target. It can be set as Auto Iris or Manual Iris.

☛ Iris Open

Push IRIS O key, to open the iris and brighten the picture.

Iris will stop when the key is released. (PIH-801 keyboard LCD displays I=M)

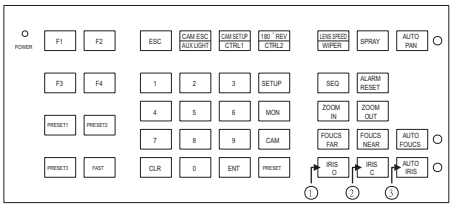
☛ Iris Close

Push IRIS C key, to open the iris and reduce glare.

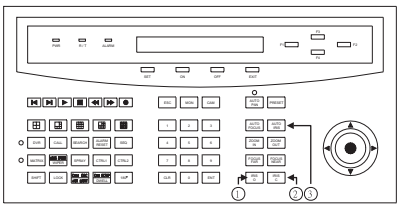
Iris will stop when the key is released. (PIH-801 keyboard LCD displays I=M)

☛ Auto Iris

Push AUTO IRIS key, to select the Auto Iris mode. (PIH-801 keyboard LCD displays I=A)



PIH-800II



PIH-801

Chapter 8-2-5. Horizontal 180° Instant Flip

Some times it is hard to use the joystick to control the camera tracking the target directly under the camera. The instant flip key can rotate the camera 180° instantly. This allows the camera continue to track the target passing directly under the camera.

Two ways to operate 180° instant flip:

❶ Push 180° REV / CTRL 2 key on keyboard to flip the camera 180° horizontally.

❷ Push joystick down to bring the camera down to the end, release the joystick and quickly push joystick down twice to flip the camera 180° horizontally.

Chapter 8-3. Preset Positions Setting

Each dome can have 128 individual preset positions. Each preset stores the exact position of the camera and automatic pan, tilt ,zoom, focus and iris setting. Once the data is set, the preset can be recalled for viewing, or the presets can be set for auto pan.

＊ Only the first 16 preset positions of fast dome can be set to auto pan mode and first 6 preset positions are corresponding with the 6 alarm inputs.

❶ Selecting Fast Dome

Push key [1] followed by [CAM] key, confirming that first camera is selected.

Ex. To select 1st fast dome : [1] [CAM] keys

To select 64th fast dome : [6] [4] [CAM] keys

❷ Selecting Preset Position

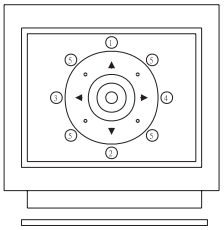
Push key [1] followed by [CAM] key, confirming that first preset position selected.

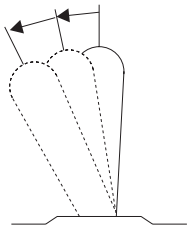
Ex. To select the 1st preset position : [1] [PRESET] keys

To select the 128th preset position : [1] [2] [8] [PRESET] keys

❸ Joystick Control

Move the Joystick to bring the camera to the desired view position.

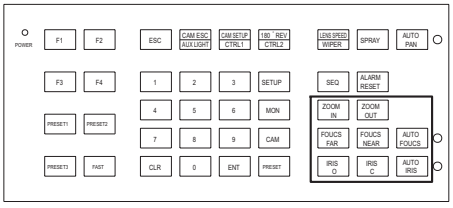




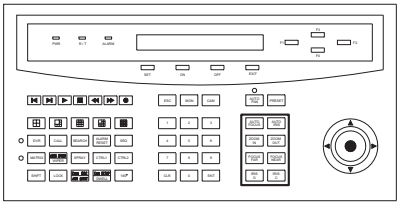
❹ Adjusting Lens

ZOOM IN / OUT, FOCUS NEAR / FAR / AUTO and IRIS O / C / AUTO keys.

When set up preset point, using manual focus will provide both clarity and stability of image.



PIH-800II



PIH-801

❺ Setting Preset Speed

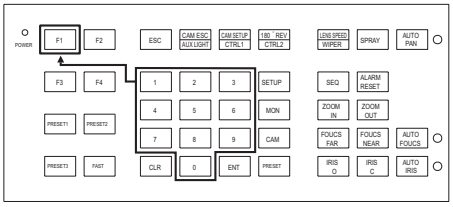
The speed the dome travels to that preset position can be adjusted between 1° to 255° per second (the factory default is 0°/sec).

☛ PIH-800II :

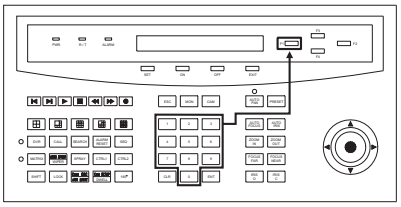
To set speed as 10°/sec: Push key 1 0 followed by F1 key, two beeps will be heard confirming that speed is set.

☛ PIH-801 :

To set speed as 10°/sec: Push key 1 0 followed by F3 key.



PIH-800II



PIH-801

Note: When PIH-800II keyboard is used, push F1 key to confirm speed entered.
When PIH-801 keyboard is used, push F3 key to confirm speed entered.

❻ Setting Preset Dwell Time

The dwell time means the time user wants to view on certain preset position under Auto Pan. The Preset Dwell Time can be set between 0 ~ 255 seconds. (The factory default is 0 second)

＊ If the dwell is set to 0 second then that position will be omitted from the Auto Scan Tour.

To set dwell to 5 seconds: Push key 5 followed by F2 key.

Ex. To set dwell to 5 second : 5 F2 keys
To set dwell to 10 second : 1 0 F2 keys

❼ Storing Preset Data

Once the above steps have been completed, the information must be stored or it will not be memorized by the system.

☛ PIH-800II :

Push key 1 followed by F3 key, two beeps will be heard confirming that data is stored.

☛ PIH-801 :

When PIH-801 is used, there is no need to perform data saving step for 1st ~ 16th preset.
For 17th ~ 128th presets F3 key should be pushed to store data.

Note : For the first 16 presets on each dome, the above steps must be repeated. For presets 17 ~ 128 there is a default speed and dwell setting so steps 5 and 6 are not required.

Chapter 8-4. Recalling Preset Positions

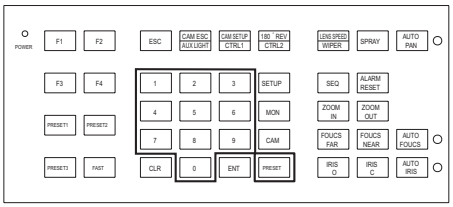
Once the required preset positions have been stored in a dome, they may be quickly recalled, returning the dome to exact position.

☛ To recall 1st Preset Position: Push key [1] followed by [PRESET] key.

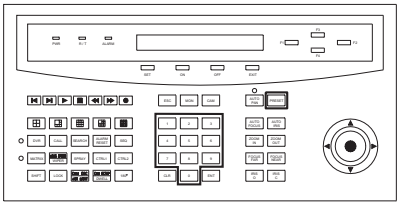
The dome will move to that position in speed of 360°/sec.

Ex. To recall 1st preset position : [1] [PRESET] keys

To recall 128th preset position : [1] [2] [8] [PRESET] keys



PIH-800II



PIH-801

Chapter 8-5. Setting Preset Group

The purpose of setting preset group allows the management of the 16 preset positions before Auto Scanning. The first 16 preset positions of each dome are separated into 4 groups. Preset group must be set for the auto pan reference.

Group 1 includes: 1st 2nd 3rd and 4th preset positions.

Group 2 includes: 5th 6th 7th and 8th preset positions.

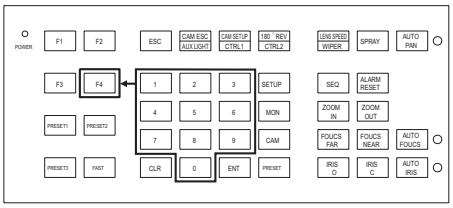
Group 3 includes: 9th 10th 11th and 12th preset positions.

Group 4 includes: 13th 14th 15th and 16th preset positions.

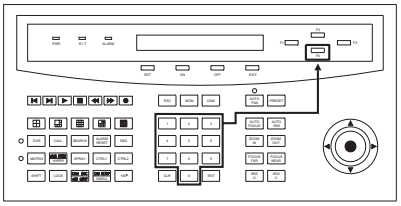
☛ To set up group 1: Push key [1] followed by [F4] key.

Ex.

	PIH-800II	PIH-801
To set Group 1	[1] [F4]	[1] [F4]
To set Group 2,3	[1] [2] [F4]	[2] [3] [F4]
To set Group 3,4	[3] [4] [F4]	[3] [4] [F4]
To set Group 1,2,3	[1] [2] [3] [F4]	[1] [2] [3] [F4]
To set Group 2,3,4	[2] [3] [4] [F4]	[2] [3] [4] [F4]
To set Group 1,2,3,4	[1] [2] [3] [4] [F4]	[9] [9] [9] [F4]



PIH-800II



PIH-801

Chapter 8-6. Changing Preset Data

In order to change any preset position from the one stored, the dome must first be sent to that preset position.

To change the 4th preset position of the Dome number 3, perform the following steps:

❶ Push 3 CAM to select Dome 3

❷ Push 4 PRESET to go to 4th preset position

❸ Move joystick to bring camera to the desired view position.

❹ Adjusting lens

❺ Setting preset speed

❻ Setting dwell time

❼ Store Data

(Please refer to page 40-41 for step ③ ~ ⑦)

Chapter 8-7. Activating Auto Pan

When the Auto Pan function is activated, the fast dome will auto touring the preset groups entered.

☛ To activate Auto Pan:

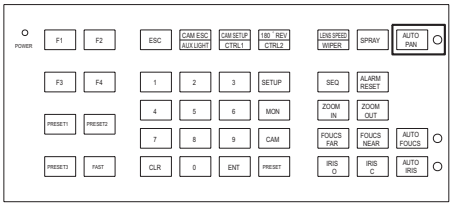
Push AUTO PAN key, confirming the activation of autopan.

(When use PIH-800II, Auto Pan Led will be lit. When use PIH-801, LCD will display F=A)

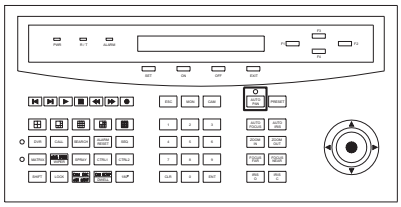
☛ To stop Auto Pan:

Push AUTO PAN key again, confirming the stop of autopan.

(When use PIH-800II, Auto Pan Led will be Off. When use PIH-801, LCD will display F=M)



PIH-800II



PIH-801

∗ If the AUTO PAN is activated, no other commands can be sent to that dome, but other dome can still be selected and operated manually.

☛ **To select (call out) another dome while it is under Auto Pan mode:**

Simply push the numeric key followed by the CAM key.

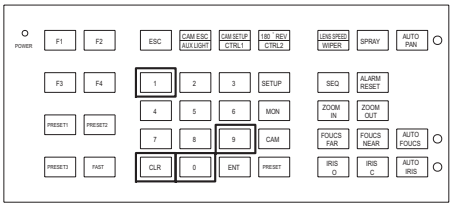
Push key 2 followed by CAM key, confirming the 2nd camera is selected.

Chapter 8-8. Deleting Preset Data

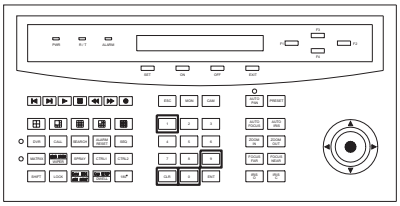
Sometimes it is necessary to delete the stored data. All the data can be cleared from a dome by pressing key 9 0 1 1 , followed by the CLR key.

＊ All 128 preset data will be erased.

☛ Push 9 0 1 1 , followed by CLR key.



PIH-800II



PIH-801

Chapter 8-9. Alarm Management

The 6 alarm inputs of each fast dome are corresponding with the first 6 preset positions. When an alarm signal is triggered, the dome will go to the relevant position at 360°/sec. Make sure the first 6 preset positions are set to desired alarm areas.

Alarm input can be set to NC (normally close) or NO (normally open) depends on alarm detector. Please refer to page 7 for alarm switch setting.

☛ Relationship Between Alarm Inputs and First 6 Presets

- ● Alarm Input 1 will send the dome to Preset Position 1
- ● Alarm Input 2 will send the dome to Preset Position 2
- ● Alarm Input 3 will send the dome to Preset Position 3
- ● Alarm Input 4 will send the dome to Preset Position 4
- ● Alarm Input 5 will send the dome to Preset Position 5
- ● Alarm Input 6 will send the dome to Preset Position 6

Chapter 8-9-1. Alarm Response Mode

The fast dome alarm response can be set to Lock or Release mode.

Lock : dome remains at last alarmed preset point

Release : dome moves between alarmed points then reverts to prior status, such as autopan.

❶ Lock Mode

When an alarm is triggered, the dome will go to the relevant position at 360°/sec and the keyboard will audio alert the user until it is canceled manually.

To manually cancel the alarm trigger: Push ALARM RESET key.

If more than one alarm is triggered, the fast dome will lock on the last alarm triggered position.

❷ Release Mode

- Under Auto Pan Condition
  When an alarm is triggered under Auto Pan, fast dome will go to the relevant position at 360°/sec. After 60 seconds the alarm will be canceled automatically and back to Auto Pan mode. If more than one alarm is triggered, the fast dome will moves between alarmed points every 5 seconds and back to Auto Pan mode after 60 seconds.
- Not Under Auto Pan Condition
  When an alarm is triggered not under Auto Pan, the fast dome will go to the relevant position at 360°/sec. After 60 seconds the alarm will be canceled automatically, and dome will be back to first preset position. If more than one alarm is triggered, the fast dome will move between alarmed points every 5 seconds and back to first preset position after 60 seconds.
- The audio alert for alarm trigger will remain on until it is manually canceled by push the ALARM RESET key.

Chapter 8-9-2. Alarm Output

Each fast dome has 1 alarm output, with three contacts: Common, NC (normally close) and NO (normally open) to activate linking devices.

- When alarm response mode is set to LOCK Mode:
  When the alarm is triggered, NC contact to Common will be open and NO contact to common will be close. Alarm output will be back to the condition before alarm, 10 seconds after the last alarm is triggered.

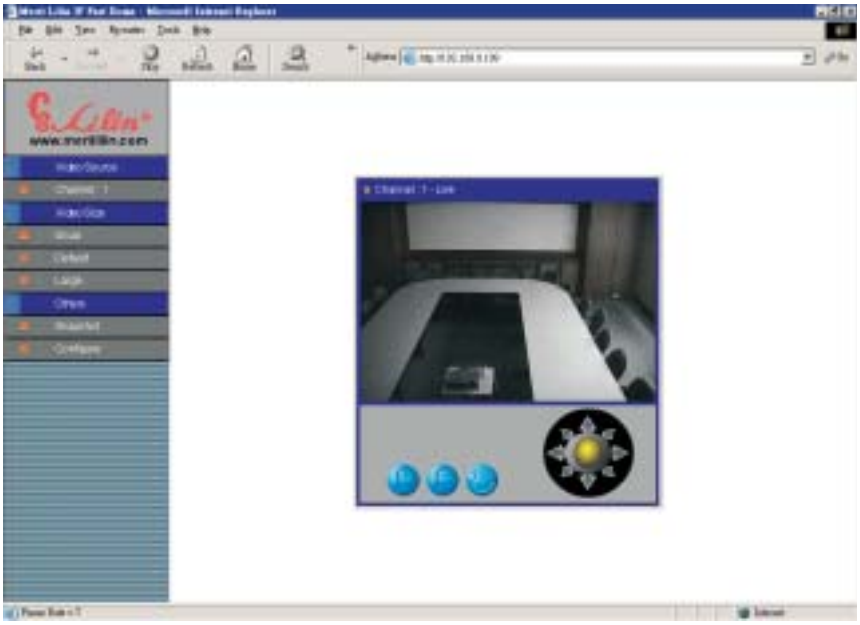
- When alarm response mode is set to RELEASE mode:
  When the alarm is triggered, NC contact to Common will be open and NO contact to common will be close. Alarm output will be back to the condition before alarm, 60 seconds after the last alarm is triggered.

Chapter 9. HOW TO USE IP FAST DOME HOME PAGE

Chapter 9-1. Browsing Video Home Page

Start your Web browser and enter the URL (e.g. Http://211.21.33.44) in the Address field.

The Home page of the IP Fast Dome is now displayed:



☛ Video Size

You can adjust the video size and the appearance on the screen with the following sizes.

Video Size	NTSC Video	PAL Video
Small (QCIF)	176 x 112	176 x 144
Default (CIF)	352 x 240	352 x 288
Large (FULL)	704 x 480	704 x 576

Note : NTSC (60Hz) is the common standard in the USA, where as PAL (50Hz) dominates in Europe.

☛ Snapshot

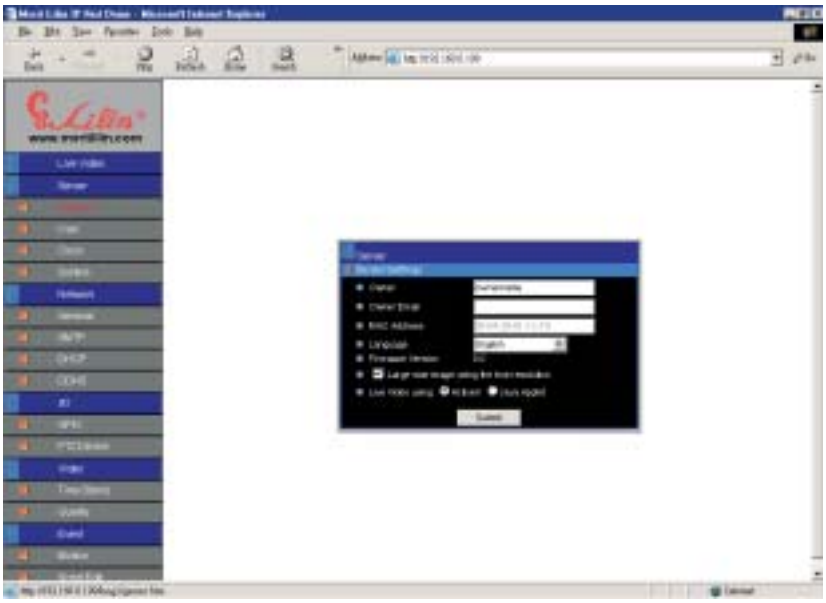
Take a picture from the viewing video.

☛ Configure

Click to Configuration pages of IP Fast Dome.

Chapter 9-2. IP Fast Dome Configuration Page

The Configurations of the IP Fast Dome are now presented as links in the margin of the Configuration Page. Simply click the relevant link for the settings you want to configure.



● Server Configurations

Functions	Description
General	Set various information about the server name and the language, etc.
User	Create and delete users and passwords.
Clock	Set the product Date and Time.
System	Provide commands for resetting to the factory default settings, restarting the system, and saving configurations to flash memory for permanently stock.

● Network Configurations

Functions	Description
General	Assign and IP Address and configure the relevant network parameters to the server.
DHCP	DHCP (Dynamic Host Configuration Protocol) is a protocol that lets network administrators centrally manage and automate the assignment of Internet Protocol (IP) addresses in an organization's network.
DDNS	The DDNS (Dynamic Domain Name Service) is used to access IP Fast Dome with an easy memorized name such as http://demo.ddns.meritlilin.com instead of http://211.21.33.44

● I/O Configurations

Functions	Description
Serial	Select the operational modes for COM1 and COM2.
GPIO	General Purpose Input/Output. These are for event triggers and actions.
PTZ Device	Select the driver that corresponds to your PTZ device and control the PTZ device.

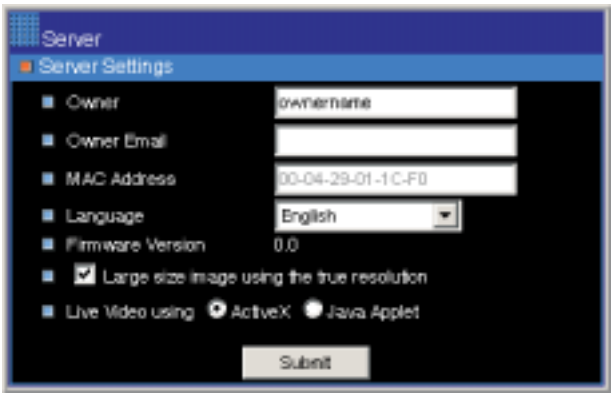
● Video Configurations

Functions	Description
Time Stamp	Show time and text on the video.
Quality	Adjust the video quality and compression level.

● Event Configurations

Functions	Description
Motion	Create and enable in-picture motion detection windows. These are used to trigger alarms whenever significant movement occurs in the detection windows.
Script Edit	The Script Editor offers advanced administrators and developers with an even greater level of flexibility for customizing the application specifically to meet their user needs. Using the on-line help as a reference, advanced users follow the instructions below to quickly develop programming scripts for time and / or alarm-triggered events.

Chapter 9-3. Server Configurations



☛ **Name :** Specify server name.
This name setting is also used by Merit Li Lin DDNS service to recongize each server (see below DDNS Settings), e.g. If configure name as company.user to DDNS address ddns.lilin.com, then this IP Fast Dome can be accessed by URL http://company.user.meritlilin.com after register to DDNS server.

☛ **Owner :** Specify server owner.

☛ **Owner Email :**
If Return mail address when using SMTP mail delivery is not specified correctly, some security SMTP server may reject the delivery of this mail.

☛ **MAC Address :**
Display MAC address information for this Network Camera. It's read only.

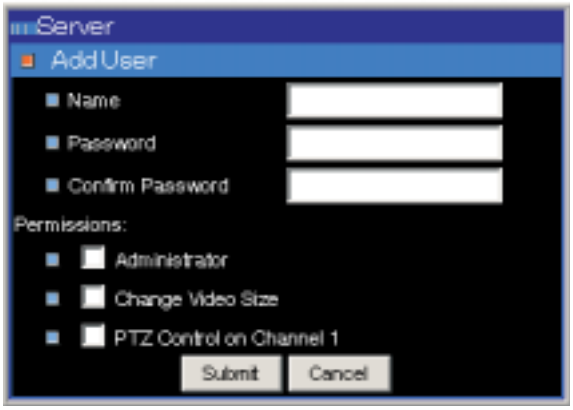
☛ **Firmware Version :** Display firmware version information.

☛ **Language :** Alternative language option.
User may change the language of web contents for different application.

☛ **Large size image using the true resolution :**
You can set the Large image to use an interlaced image, or not.

☛ **Live video using :**
You can select the ActiveX for better performance in MS Internet Explorer, or select the Java Applet for more browsers comparability.

Chapter 9-4. User Settings



IP Fast Dome provides 3-layer user security control as below:

☛ Open for All is a factory default when no user enters in User Configuration, it allows any user over Internet to monitor and configure the Network Camera.

☛ "Restricted User" is the user in User Configuration without administration permission. The user can be configured to have limited permission to see video, for example, capable of changing video size, etc.

☛ "Administrator User" is the user in User Configuration with administration permission. The user has all permission to operate the Network Camera, such as managing, configuring, and upgrading the software.

Append New User

☛ Name : New user name to login.

☛ Password : Password for above user.

☛ Confirm Password : Type again to confirm password.

☛ Permission to : Indicate above user has any permission to:

☛ Administration : If no, then user can not enter administration page.

Note : That the first user shall set and get administration privilege; otherwise, he can not get into administration page any more. If this happened, he must use emergency factory default to clean all users.

☛ Change Video Size : If no, only CIF size is allowed.

☛ Submit to add above new user into list.

☛ Cancel to abort above operation.

When entering "submit" at first time, Network Camera will ask for a new administrator to login in.

Once getting users in list, then you could choose users in list to make modification (update), or remove specified user.

Click "Save Changes" bottom if needed for existing data changed in Network Camera when power off.

Chapter 9-5. Clock Settings

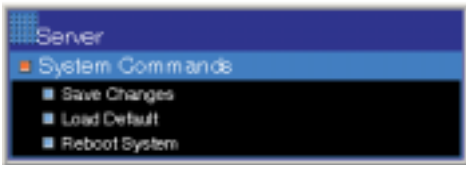
The built-in real-time clock of IP Fast Dome provides accurate date/time of system even when power off.

For different time zone or long period operation, you may need to adjust the clock --- just enter Time and Date information then click Submit.

Click "Set as PC clock" bottom to set the date/time of the IP Fast Dome as your PC's.

Click "Save Changes" bottom if needed for existing data changed in Network Camera when power off.

Chapter 9-6. System Commands



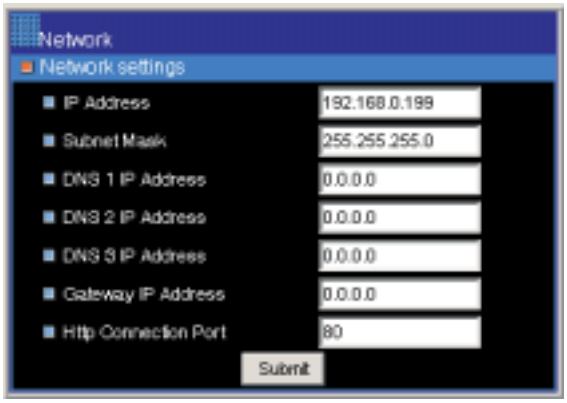
☛ Load Default : The Load Default retrieves all except network setting.

Note : The factory default just recovers the working setting but it isn't saved to permanent memory (will back to previous setting after boot). To change the boot settings, you must set "Save Changes".

☛ Save Changes : Save the working setting to permanent memory that will retrieve after reboot.

☛ Reboot System : Force IP Fast Dome to restart.

Chapter 9-7. Network



☛ IP Address : IP Fast Dome IP address.

☛ Subnet Mask : Subnet mask of you LAN. Note that the IP Address above and Gateway IP Address below should be in the same subnet.

☛ DNS IP Address : Domain name server information is to allow IP Fast Dome to contact external server with mnemonic domain name (e.g. ftp.MERITLILIN.com) instead of numeric IP address (e.g. 168.95.1.1).

☛ Gateway IP Address : IP Fast Dome traffic to Internet should go through Gateway, if not setting this, only Intranet (LAN) can be accessed.

☛ HTTP Connection Port : Specify the HTTP web server listen port for client (browser) connection. Default uses port 80 (HTTP standard port), valid range from 0~65535.

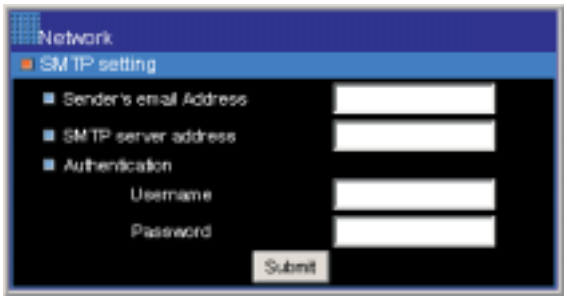
Note : Before changing the listen port, user must add a port directive ":" in browser URL in order to get correct connection.
(i.e. http://<IP>:<Port> , e.g. http://192.168.0.200:80000 to access IP Fast Dome with IP 192.168.0.200 and port with 8000).

These features enable user to use IP Fast Dome behind NAT or IP Sharing devices which could access up to 65536 IP Fast Dome with one IP Address.

The factory default won't change the IP Address and Port setting. Once forgetting the specified port of your IP Fast Dome, you must use ARP & Ping setting (see Assign IP Address by ARP) to restore the port setting back to 80.

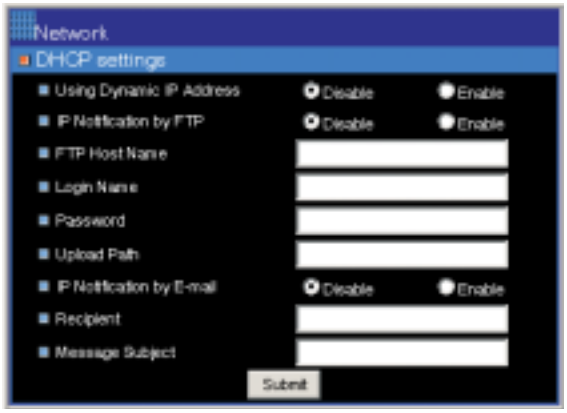
Click "**Submit**" bottom if needed, then IP Fast Dome will automatically store the setting and reboot system (within 5 seconds to complete boot sequence) to take the setting effective.

Chapter 9-8. SMTP Settings



- Sender s Email Address: Your E-mail address.
- SMTP Server Address: SMTP server IP address.
- Authentication: If the SMTP Server has enabled authentication function. You have to fill up the User Name and Password to pass through the authentication.IP Address : IP Fast Dome IP address.

Chapter 9-9. DHCP Settings



- DHCP Settings : If there is a DHCP server installed on your LAN, you can enable DHCP to automatically obtain network settings such as IP address subnet mask, default gateway, and DNS servers. Because the assigned IP address can be dynamically changed every time it obtains from the DHCP server, we provide a method called IP Notification to notify users that which IP address is acquired.
- IP Notification by FTP : If a FTP server is installed on your network, you can enable this option to obtain the newly assigned IP address of your IP Fast Dome. A HTML file named **NewIP_xxxxxx.htm** will appear under the upload path for you to link to IP Fast Dome, where **xxxxxx** is the last six digits of the serial number.
- Login Name : Name of your FTP account.
- Password : Password used to login your FTP account.

☛ Upload Path : Path to put the file.

☛ IP Notification by E-mail : With this option enabled, your IP Fast Dome will send E-mail to you as soon as it obtains the IP address from DHCP.

☛ Recipient : Your E-mail address.

☛ Message subject : Subject of this E-mail.

Chapter 9-10. DDNS Settings

The DDNS (Dynamic Domain Name Service) is used when users want to access IP Fast Dome with an easy memorized name such as http://demo.ddns.meritlilin.com instead of http://61.220.235.172.

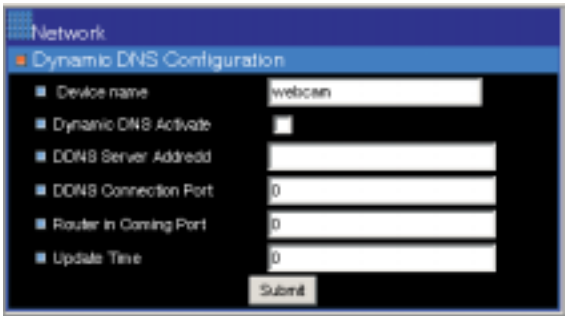
This service could be useful when IP Fast Dome is located behind Dial-up ADSL or IP sharing devices, which does not have fix IP address, then it's impossible to reach IP Fast Dome from Internet.

The mechanism of DDNS service is described as below :

1. When IP Fast Dome enables the DDNS service, it will "register" to DDNS server with its information, such as server name to access, router virtual port number and updated frequency, etc.
2. Then IP Fast Dome automatically "update" to DDNS server by a fix frequency, so even IP is changed by ISP, the DDNS server still could get and update internal database.

Then, once users access from Internet with its register name, e.g. If registering with server name "demo" to DDNS server "ddns.meritlilin.com", IP Fast Dome could be accessed by http:// demo.ddns.meritlilin.com.

Note : The DDNS service is proprietary, which only works with DDNS server and LILIN brands products.



☛ Dynamic DNS Activate : Click on to activate DDNS service.

☛ Dynamic DNS Address : Specify address of DDNS server, and the default is "ddns.meritlilin.com"

☛ Dynamic DNS Port : Specify DDNS server listen port, and the default is 80.

☛ Router Incoming Port : Specify your router listen port for DDNS server to redirect. The router may configure the different port for incoming (Internet request) and outgoing (Intranet request), e.g. it may configure to redirect Internet HTTP (port 80) request to Intranet port 8000, then, in this case, we must configure the "Router Incoming Port" to 80, and inside the IP Fast Dome Network settings should set HTTP port with 8000.

☛ Update Time : Specify the IP Fast Dome updated frequency in seconds, and the default is 600 (10 minutes), this is interval that IP Fast Dome will automatically send an updated packet to DDNS server.

☛ DDNS message : Return message from remote DDNS server, and some hints may help to diagnostic the reason if register fails.

- ddnsaddr CGI fail : It means that IP Fast Dome can't communicate with Internet world. Make sure your Network Configuration has correct subnet mask and default gateway, and DNS1 setting is correct and reachable.
- Already registered : Another user had registered this name; please change your register name by changing "server name" in chapter Server General Settings.

Example : To setup a IP Fast Dome (IP address 192.168.0.200) behind a dialup ADSL router, and wish to access by name http://demo.ddns.meritlilin.com.

And the procedure is as below :

》Configure the ADSL router with PPPoE enable; Lan IP, 192.168.0.254; and subnet mask, 255.255.255.0.

》Assign the ADSL router's virtual server with service port 80 to server IP 192.168.0.200.

》Configure network configuration with IP address 192.168.0.200; subnet 255.255.255.0; DNS1 with valid DNS address such as 168.95.192.1 or 168.95.1.1; gateway IP address with 192.168.0.254 (router's IP); HTTP port with port 80.

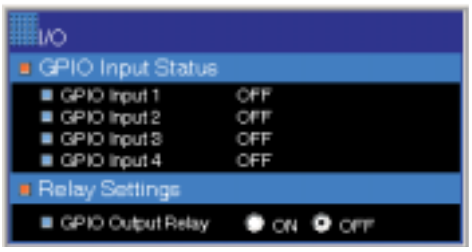
》Configure server name in chapter Server General Settings with demo.

》Configure DDNS with Activate; Address "ddns.meritlilin.com"; DDNS with port 80; Router Incoming port 80; and update time with 600 (10 minutes). Finally, click submit.

》If DDNS message success, then enter URL http://demo.ddns.meritlilin.com on browser. Consequentially, it will show IP Fast Dome's home page.

Click "**Save Changes**" bottom if needed for existing data changed in IP Fast Dome when power off.

Chapter 9-11. GPIO Status



Display the GPIO (General Purpose Input / Output) status. The GPIO Terminal Block / MINI DIN provides control signal input and output, which includes four GPIO inputs, one GPIO output as Relay junction. See Appendix E I/O & COM port for the detailed description.

☛ Set the relay : click the radio button to set the relay to ON or OFF.

Chapter 9-12. PTZ Adjustment

☛ Cam[n] Type : To select the PTZ devices. Contact your distributor / dealer to get supporting model in formation of PTZ camera.

☛ Speed : To select the PTZ speed grade from 1 (slowest) to 10 (fastest).

☛ Preset Position/Name : There are 20 records of each individual sources, user could put their favorite position with catchy name.

☛ PTZ Panel : Control the PTZ devices Zoom in/out, Pan left/right, and Tilt up/down.

Chapter 9-13. Video Setup

Time Stamp

Display Time Stamp & Text over the video just click on the these check boxes.

☛ Display Time check box : Display the Time Stamp.

☛ Display Text check box : Display text block. Full in the text string to display.

The valid characters are "a~z", "A~Z", "0~9", "!", "@", "#", "$", "%", "&", "*", "(", and ")"

To change the location of Time/Text, just full in the **X** and **Y** coordinate.

Note : The maximum display block area (Time + Text) are 12x4 characters.

String length more than 12 will feed to next line, and totally 4 lines available. More than 4 lines will strip off.

Chapter 9-14. Video Adjustment

The IP Fast Dome is capable of detecting NTSC/PAL automatically, video signal active/lose, fully automatic (plug & see) and don't need any user configuration.

☛ Quality Adjustments :

To adjust video contrast, brightness, hue, color saturation, and quality. Note that the quality level affects compression ratio and file size of video.

NTSC			PAL		
Resolution	File Size (kb)	Max fps	Resolution	File Size (kb)	Max fps
4CIF (704x480)	7 - 160	3	4CIF (704x576)	9 - 200	3
CIF (352x240)	2 - 50	30	CIF (352x288)	2 - 60	25

(The Maximum performance is given in signler user and only one video source in use.)

☛ Frame Delay : To set the delay time between frames.

The unit of delay time is 10 microseconds. You can limit the output bandwidth via setting the frame delay to do the flow control of the video stream. When the value is set to 0, it means no limitation on the video stream.

Click "**Save Changes**" bottom if needed for existing data changed in Network Camera when power off.

Chapter 9-15. Event Management

Motion Area Selection

☛ Motion Detection Region Selection :

Move the mouse to the regions in video window with white blocks to determine the motion trigger areas.

After setting with clicking the left button of the mouse, the selected areas will be burned to red blocks.

Chapter 9-16. Event Edit

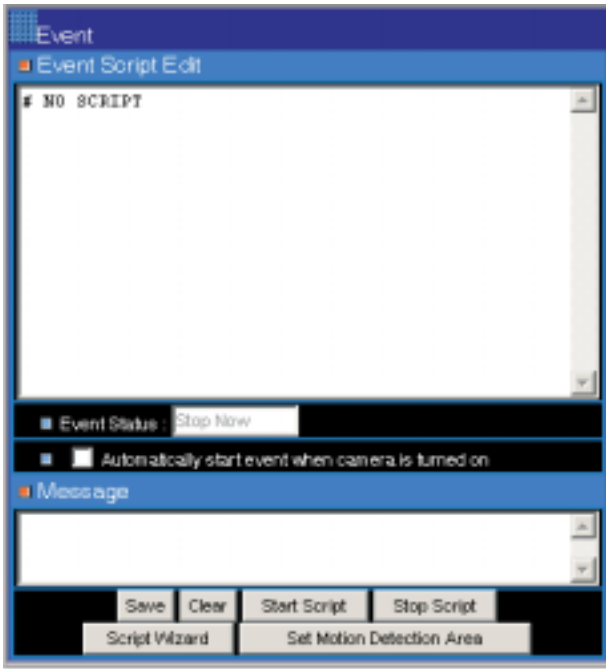
Application developers wish to have different levels of customization within their own applications. The may build through event manager, the event system provides several trigger sources and action types which allow administrators to record the emergency images, such as Motion detection, IO control, FTP or EMAIL to outside world.

It's easy to process --- just fill and submit a simple form.

The IP Fast Dome's event manager provides event control through programmable Event Scripts which are the combination of several events.

Each event works simultaneously. If one of the trigger conditions in event script is satisfied, then corresponding action will start to execute accordingly. A comprehensive set of "trigger conditions" and "action commands" allowed to fit in varies of applications without limitation.

Note : The programmable event script has been supported since firmware version 2.0. Please check out your currently firmware version in chapter Server General Settings.



To start the event manager, simply click **Event** icon, the event frame will pop up as below : Upper edit window, middle status box, lower message window, and bottom control icons mainly separate the event frame.

There are two ways to enter the event script. One is to use "**Script Wizard**" which just follows the procedure to fill up some items. And, it will generate and append new script code to edit window. The other one is to edit the form manually, which is for experienced users that want to deeply control the functionalities of event operation.
Please refer to "**Event Script Programmers Guide**" which could download from http://www.meritlilin.com for detail syntax and options description.

- ☛ Event Script Edit : Text window to enter event script manually.
- ☛ Event Status : Indicate the event status, "Stop Now" or "Start Now".
- ☛ Message : A window to show the results when below command icon pressed --- normally will show "OK", "Parsing", "Fail", Or "Err String" which indicates the syntax error of parsing, and starts from the error position in the script.
- ☛ Save Script : Command to save and parse current scripts in the "Event Script Edit" window. If any syntax errors are detected, the error message, indicating the starting position of syntax error, will be shown in the "Message" window.
- ☛ Event Auto Start when Power On :
  The flag is to set the event script auto start-up when the system is powered on.
  Note : Any change in "Event Script Edit" window must "Save Script" before "Start Script", otherwise, the new changes will be lost and won't take effective.
  Also the changes won't be saved into permanent memory unless you click the "Save Changes" button in main Administration panel.
- ☛ Clear : Command to clean up "Event Script Edit" window.
- ☛ Start Script : Command to start the script execution.
- ☛ Stop Script : Command to stop the script execution.
- ☛ Script Wizard : Command to start the script wizard.
  It helps user to make simple script automatically by wizard, but the wizard supports only partial trigger and action commands.
  To fully leverage the complete functionalities of event script, please refer to "Event Script Programmers" Guide.
- ☛ Set Motion Detection Area : In order to activate the motion detection, you must choose the detection area and start the motion detection script manually or by wizard.
- ☛ Help : Script Help lists all the syntax of trigger and action commands.

Chapter 10. SPECIFICATION

Operational

Manual Pan / Tilt Speed	0.18° ~ 180°/sec (8 stages)
Preset Position Pan / Tilt Speed	1° ~ 255°/sec
Preset Position Dwell Time	1 ~ 255 secretary
Recall Preset Position Pan / Tilt Speed	360°/sec
180° Instant Flip Rotation Speed	360°/sec
Pan Rotation	360° Continuous
Tilt Rotation	-5° ~ +95°
Pan / Tilt Accuracy	± 0.25
Preset Position	128 preset positions (memory)
Preset Group	4 Group (Corresponding with first 16 presets)
Address Setting	1 ~ 64 ID setting

Camera

Image Device	1/4 Inch Interline Transfer CCD
Horizontal & Vertical Pixel	NTSC (811x508) PAL (795x596) NTSC (768x494) PAL (752x582)
Scanning System	2:1 Interlace
Horizontal Resolution	17X/22X : 480 TV Lines 25X : 570 TV Lines (Monochrome) 480 TV Lines (Color)
Minimum Illumination	17X : 0.3Lux at F1.4 22X : 0.3Lux at F1.6 25X : 0.01Lux at F1.6 (Monochrome) 0.1Lux at F1.6 (Color)
S / N Ratio	>50dB (AGC OFF)
Synchronization	Internal
Horizontal & Vertical Synchronization	NTSC (15.734KHz/60Hz) PAL (15.625KHz/50Hz)
Auto Gain Control	17X/22X : ON (20dB) / OFF (8dB) 25X : Low(8dB) / Medium(22dB) / High(36dB)
Back Light Compensation	ON (Background Adjustable) / OFF
Back Light Compensation Zone	17X/22X : Fix 25X : Top / Bottom / Left / Right / Center
Sensitivity Up	25X : On / Off / Auto
White Balance	17X/22X : Auto / Outdoor / Indoor 25X : 2 Auto mode / Outdoor / Indoor
Video Output	CVBS 1.0Vpp 75Ω

Network

CPU	32Bits RISC Processor
ROM	2M Bytes Flash ROM
RAM	16M Bytes SDRAM
Watch Dog	Chip to monitor out tolerance system voltage and abnormal program execution.
LED	Two LEDs to indicate network and power/system status GPIO with fully photo-isolated four alarm inputs and one relay output.
Image Compression	JPGE ; Motion JPEG
Video Adjustment	Brightness, Contrast, Hue, Saturation, Quality Level adjust for individual video channel.
Protocols	TCP/UDP/IP, ARP, ICMP, HTTP, FTP, Telnet, SMTP, DHCP, PPP
Max. Resolution	Single : NTSC (704 x 480) PAL (704 x 576) Quad : NTSC (352 x 240) PAL (352 x 288)
Performance	Video through put : Up to 30 frames/second. Network through put : Max. Up to 800K Bytes/second.
Event Trigger & Action	Programmable Event Script with Wizard supported. Triggered by : Time (Frequency) / GPIO Input / Motion Detection / Video / Network Connection / CGI etc. Action : Store image to internal buffer; FTP image to remote site; E-mail image to specify account; HTTP server push to remote site; relay output to control external devices; etc.
Installation	Assign IP address : using ARP or Via Admin Web Page or IP Installer.
Software Upgrade	Local or Remote software up-gradable using FTP Custom web contents updated via FTP & Telnet.
System Requirement	Standard browser such as Microsoft IE4.x or 5.x or above, and Netscape Navigator 4.x running on Win95/98/NT, Linux, etc.
Security	Three-layer Password Protection

Optical Lens

17X Lens Focal Length	f = 3.9 ~ 66.3mm
17X Lens Aperture Max	F1.4 (wide) ~ F3.6 (telephoto)
17X Horizontal View Angle	50.9° (wide) / 4.2° (telephoto)
22X Lens Focal Length	f = 3.9 ~ 86mm
22X Lens Aperture Max	F1.6 (wide) ~ F3.6 (telephoto)
22X Horizontal View Angle	50.9° (wide) / 2.4° (telephoto)
25X Lens Focal Length	f = 3.8 ~ 95.0mm
25X Lens Aperture Max	F1.6 (wide) ~ F3.7 (telephoto)
25X Horizontal View Angle	51.9° (wide) / 2.2° (telephoto)
Focus Control	17X/22X : Auto / Manual
	25X : Auto / One Shot / Manual (3 selections)
Iris Control	17X/22X : Auto / Manual
	25X : Auto / Manual (2 selections)
Zoom In / Out	Manual Control
Zoom In / Out Accuracy	± 5%

Electrical

Power Supply	24Vac or 90Vac ~ 260Vac (Option)
Input Voltage	12Vdc
Power Consumption	13W
Network Interface	1 RJ-45 for Ethernet (10 Base-T)
Control Interface	RS-485 (1 Input / 1 Output)
RS-485 Voltage	5.6V
Alarm Input	6 Inputs (Pull up)
Alarm Input Voltage	5.6V
Alarm Output	1 Output (NC or NO mode)
Alarm Output Voltage	0.5A 120Vac / 1A 24Vdc
Alarm Response Mode	Lock or Release Mode

Environmental

Operation Temperature	-5°C ~ +50°C
Operation Humidity	0% ~ 90%

Mechanical

Height	208mm (8.3")
Diameter	145mm (5.6")
Weight (Fast Dome Alone)	2.5Kg
Weight (With External Housing)	5Kg

External Housing

Electrical

Power Supply	24Vac or 90Vac ~ 260Vac (Option)
Input Voltage	12Vdc
Power Consumption	7.5W
Control Interface	RS-485 (1 Input / 1 Output)
RS-485 Voltage	5.6V
Alarm Input	6 Inputs (Pull up)
Alarm Input Voltage	5.6V
Alarm Output	1 Output (NC or NO mode setting)
Alarm Output Voltage	0.5A 120Vac / 1A 24Vdc

Environmental

Operation Temperature	-20˚C ~ +50˚C
Operation Humidity	0% ~ 90%

Mechanical

Height	340mm (13.4")
Diameter	250mm (9.8")
Weight (Housing Alone)	2.5Kg
Weight (With Fast Dome)	5Kg

Appendix A. Upgrading the Software

IP Fast Dome software is contained in Flash Memory, a silicon chip allowed to be erased and re-written. It provides an easy way to update the software without change any parts; just simply load the newest software from network.

The following procedures are to update the software :

☛ Check software version

Enter URL "http://<IP Fast Dome IP address>/ver" in your web browser, which will show you the software version.

Example :

Enter "http://192.168.0.200/ver" in Microsoft IE5 URL location, you will see the software version -- "Software Version = 1.11 Revision 0905.1641", which indicates the currently software version is 1.11.

Note : You can also get the software version in configurations page in chapter Server General Settings.

☛ Obtain the software (flash.bin)

The latest version of the IP Fast Dome software is free of charge from LILIN Corporation or your local distributor. Also you can obtain this software over the Internet.

URL : http://www.meritlilin.com.

☛ Upgrade procedure via FTP

- Download the newest software and unzip it into your local Driver, for example "C:\temp". Then, confirm the "flash.bin" file exists in this directory.
- Remove all event setting and Reset the IP Fast Dome :

  You have two ways to remove the event scripts. One is to choose "Clear" and to use "Save" icon on "Event Script Edit" page to set the event script to empty.

  The other is to click the "Load Default" icon in "Server / System" page to reset all settings, however, it will not only delete events, but also all other settings.

  Then click the "Reboot System" to restart the Network Camera or enter CGI command URL "http://<IP Fast Dome IP address>/control?reboot=1" in your web browser.

  Caution : You must remove all events and reboot the network camera before doing the following procedure; otherwise, some occasional internal conflicts may endanger the Flash devices.

☛ Start the FTP session and log in to the IP Fast Dome

For example, in our case for Windows98 :

- Enter DOS by "start → Program → MS-DOS Prompt".
- Change to directory where the latest flash.bin exist.
- Start ftp session by enter "ftp <IP Fast Dome IP Address>".
- Enter "root" as USERNAME, "pass" as PASSWORD if no user in User List record. In case any user list exists, you will have to use your administrator's USERNAME and PASSWORD to login.

☛ Set FTP to binary mode using the command "bin".
- ● In FTP session window, Enter "bin".

☛ Upload the software into IP Fast Dome by FTP "put" command.
- ● In FTP session window, enter "put flash.bin".
- ● In FTP session window, enter "bye" to quit FTP session.

☛ FTP session may freeze for around 1 minute to transfer and automatically upgrade the software. During that time, ping the IP Fast Dome until get constant reply, which means system had complete upgrading and rebooting, then open browser to verify the software version been updated.

Note : If FTP session quits immediately after issued by command, you should continue pining IP Fast Dome instantly. If IP Fast Dome replies to the ping command right after pinging, it means IP Fast Dome may not enter the self-programming stage to verify the software version. If not updated, then you should reboot IP Fast Dome and back to step 3 try again.

```
C:\temp> ftp 192.168.0.200
Connected to 192.168.0.200
220 192.168.0.200  MERIT LILIN FTP server (ARM BEV 3.0.H)
ready.

User (192.168.0.200 : (none)) root
331 Password required for root.
Password:                  <=enter pass as default
230 User root logged in.

ftp>bin
200 Type set to I.

ftp>put flash.bin
200 PORT command successful
150 Opening BINARY mode data connection for flash.bin
226 Transfer complete.

ftp: 2097152 bytes sent in 10.11 Seconds 207.43Kbytes/sec.
ftp: bye
221 Goodbye.       <=Quit ftp session immediately
                   <= if the window is frozen, please open another
                      dos session
```

C:\temp> **ping-t 192.168.0.200**

Pinging 19.2168.0.200 with 32 bytes of data:

Request time out.
Request time out.
Request time out.
Request time out.
Request time out.
Request time out.
Request time out.
Request time out.
Reply from 192.168.0.200 : bytes = 32 time = 2ms TTL = 255
Reply from 192.168.0.200 : bytes = 32 time = 1ms TTL = 255
Reply from 192.168.0.200 : bytes = 32 time = 10ms TTL = 255
Reply from 192.168.0.200 : bytes = 32 time = 10ms TTL = 255
Reply from 192.168.0.200 : bytes = 32 time = 10ms TTL = 255

Ping statistics for 192.168.0.200 :
  Packets : Sent = 13, Received = 5 Lost = 8 (61% loss),
Approximate round trip times in milliseconds :
  Minimum = 0mx, Maximum = 2ms, Average = 0ms

Control-C

C:\temp>
C:\>

Note : Flash products can become damaged if the updating operation is not performed correctly. So please follow up above procedures carefully.

Appendix B. Update custom web pages

IP Fast Dome has a built-in web server, so the web contents are contained in Flash Memory, the same as software parts, allowed to erase and re-written. It provides an easy way to update the web pages --- just simply load and issue command from network (FTP and Telnet).

Caution : The update of content page is very sensitive to system operation; there fore, incorrect operation may cause system fail to response by any request. The following operations provided here are only for experienced system integrator. Remember that always consult to your distributor or dealer in advance to update the content.

The following procedures are to update the web page :

1. Clean up system
   Before updating the pages, make the IP Fast Dome back to factory default stage --- click "Load Default" button, click "Save Changes" button, and then click "Reboot System" button in configuration page. Keep the IP Fast Dome in an idle state, which stops all video requests from other station.

2. Download complete web pages
   For backup purpose, we should download the complete built-in contents before updating. The pages layout is described as below.
   - 3.0.0/WWW : Main video pages including static HTML pages and JAVA applets.
   - 3.0.0/WWW/images : All graphical files.
   - 3.0.0/WWW/lang1 : All HTML pages for user defined language 1.
   - 3.0.0/WWW/lang2 : All HTML pages for user defined language 2.
   - 3.0.0/Sys : Video bitmap font file (Time Stamp and Text Bitmap)
   - 3.0.0/public : Internal message files.

   Note : When you login the system, the default root directory is 3.0.0/. Do not change any in 3.0.0/Sys, and 3.0.0/public, because these files are only used internally.

   For convenience, some FTP utilities (e.g. CuteFTP, WSFTP) may be useful to download the complete pages.

3. Upload custom web pages
   You can use FTP utilities to upload the updated/added contents to their original directory. For example, if you wish to replace the LILIN banner logo (logo.jpg) with your custom made image. First, prepare your own image, and then upload to 3.0.0/WWW/images.

   Note : Any file upload to IP Fast Dome should be set to "binary" mode in FTP utility, otherwise, the file may be corrupted in IP Fast Dome.

4. Verify updated contents
   After uploading the custom pages, open browser to verify the correctness of contents. If not correct, modify the pages and return to previous step to upload again.

5. Save the changes to flash
   Telnet to the IP Fast Dome. And run command "Up-w" to write the complete web pages into flash. The detailed procedures are list as below.
   - Open DOS window.
   - Enter "telnet <IP Address of IP Fast Dome>".
   - Enter "root" and "pass" as username and password.
   - Enter "Up-w" to start the web content update program. The command is case sensitive. Don't enter the wrong case or you'll get the command not find error message. After processing about 30 seconds, the IP Fast Dome will restart automatically and complete the web content updating. Now you can open the browser to see the new web content.

Note : The limitation of overall size of content pages is around 700K Bytes. Any file added/updated plus original downloaded file (~550K Bytes) should not exceed this size; otherwise, some files will be truncated or corrupted. If the corruption of any page happens, you will have to reload the original binary (see Appendix A Upgrading the software) in order to recover the corruption.

For example, the IP Fast Dome IP address is 192.168.0.200, then

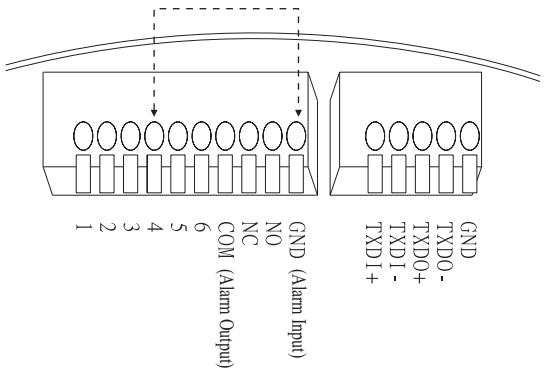
```
C:\temp> telnet 192.168.0.200

C:\temp>

Telnet session              <= Open Telnet session

Login : root
Password :                  <= Enter "pass" as default

Welcome to VidSvr on Telnet...

IVS> Up-w

Upgrade WWW pages...        <= Frozen here, close and open
                               browser. After 30 seconds to
                               verify the changes.
```

Appendix C. Emergency Factory Default

In certain circumstance, to restore the server to initial factory default state may be necessary, normally processed through web page (Miscellaneous Operation). If the user can't get into web page (e.g. Missing of Username and Password information), then he could use Emergency Factory Default to restore the factory default.

Procedures as below :

1. Turn the power off.
2. Connect GPIO Input 4 to GND, with small wire or switch.



3. Turn the power on. When the Status LED starts to blink (orange) twice, and then open the wire or switch that set GPIO Input 4 back to open immediately.
4. Server will restore the factory default and restart.

Note : When status LED starts to blink during power up, if not to set GPIO Input 4 back to open within **3 seconds**, server will continue the boot sequence and doesn't retrieve the factory default.

Appendix D. Trouble Shooting

1. No Power

1-1. Check power input connection
1-2. Check fuse on the PCB
1-3. Check connection between camera body and base

2. No Video

2-1. Check camera video output on camera
2-2. Check cable (damaged cable)
2-3. Check video input connection on monitor
2-4. Check 20PIN connection between camera body and base

3. No Telemetry

3-1. Check camera ID switch setting
3-2. Check RS-485 cable IN / OUT connection on camera
3-3. Check RS-485 cable IN / OUT connection on keyboard
3-4. Check if the fast dome is under Auto Pan mode Please deactivate the Auto Pan
3-5. Check if alarm is triggered, Cancel triggered alarm

4. Poor Focusing

4-1. Dusts on dome cover or housing cover. Clean the cover with cotton cloth

5. The IP Fast Dome can not be accessed from a Web browser.

5-1. The IP address is already used by another device.
5-1-1. Disconnect your IP Fast from the network.
5-1-2. Run the PING utility (as described in PING Your IP Address, in Chapter Assign IP Address by ARP) and follow the appropriate recommendations.

Note : The assigned IP number can be assumed valid if the PING utility returns "request timed out" in which case you should set the IP address again, power on the IP Fast Dome and then try accessing the unit again.

5-2. The IP address is located within a different subnet.

Run the PING utility (as described in PING Your IP Address, in Chapter Assign IP Address by ARP). If the utility returns "no response" or similar, the diagnosis is probably correct. Then, you should proceed as follows:

In Windows 95/98 or Windows NT, check that the IP address for your IP Fast Dome is within the same subnet as your workstation :

5-2-1. Click "Start", "Settings", "Control Panel" and "Network".

5-2-2. Specify the TCP/IP adapter and click on Properties. Then, click "IP Address" in Properties.

5-2-3. Check that the first 3 numbers within the IP address of your IP Fast Dome matches the first 3 ones your workstation.

If not, your IP Fast Dome may be on a different subnet and the IP address cannot be set from this workstation. You must set the IP address for IP Fast Dome from a workstation on the same subnet.

Installation Kit

Item	Unit	Type
Power Supply	1	Embedded / Attached
Power Cable	1	Embedded / Attached
M4 x 25 Tapping Screw-flat head	3	Embedded
M4 x 30 Machine Screw-flat head	3	Embedded
M4 x 6 Machine Screw-black	6	Embedded
Screw Nut	3	Embedded
Ceiling Ring	1	Embedded
L Shape Screw Nut	3	Embedded
Fix Ring	1	Embedded
Decoration Ring	1	Embedded
M4 x 25 Tapping Screw-round head	3	Attached
Plastic Screw Nut	3	Attached
Decoration Ring	1	Attached

DISTRIBUTOR: