

XtendLan



IP Camera

XL-ICA100U

User's Guide

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CAUTION: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

Important Notice

The XL-ICA100U is for indoor use. Note that the CMOS sensor inside the product can be damaged permanently if the camera lens is exposed to direct sunlight. If your application demands prolonged exposure to sunlight, you should consider equipping it with a sun visor.

The XL-ICA100U is not weatherproof. You should consider the environmental specifications that are included in this manual. If you want to use your camera outdoors, you should equip the camera with a weatherproof case to protect it from water, moisture, or extreme temperatures (higher or lower than the specification). For XL-ICA100U cleaning, gently wipe the outside with a clean dry cloth.

Be sure to use the DC power adapter that is provided with the camera. Connecting a XL-ICA100U to other power source will cause damage to the camera.

Be gentle in handling the XL-ICA100U. The glass lens may be defocused or even scratched if the camera is dropped or mishandled.

The XL-ICA100U is equipped with metal wall mount (Beware sharp edge may cut your fingers). When installing the camera, be sure it is attached firmly to obtain best quality images. Better to locate the camera where children cannot reach it.

If the XL-ICA100U does not operate properly, please contact local distributors for service. Do not disassemble the product or the warranty may be voided.

Camera surveillance laws differ for each country. Please contact local authorities first to avoid any surveillance law violations and to apply for authorized purposes, if necessary.

The manufacture or the seller of this device(s) cannot be held liable under any circumstances if the device(s) is used for illegal purposes, offenders are subject to severe legal punishments by government law enforcement agencies.

1. Description:

The XL-ICA100U IP CAMERA is a stand-alone device which allows users to view live images from anywhere on mobile devices (cell phone/ PDA) or on PC ; through computer network and Internet; by web-browser on PCs (either Windows based or Apple/ Linux). It uses the industry-standard JPEG compression format and features digital output for local monitoring and recording. In addition, its built-in PPPoE auto-dial capability can connect ADSL broadband automatically and be accessed through unique homepage provides by DDNS service. The XL-ICA100U IP Camera makes remote monitoring easy and affordable.

1.1 Specification:

DISPLAY & GRAPHICS

- SENSOR: 1/4" HV7131R
- VIDEO RESOLUTION: VGA: 640 X 480@4 fps (max.), QVGA:320X240@15fps (max.)
- COMPRESSION FORMAT: JPEG, baseline compliant (YCbCr422). Compression rate approx. 1/5 to 1/60 (3 steps). The compression rate is based on an image of 24 bits/ picture element (8 bits for each R, G and B).
- BRIGHTNESS MODES: Manual, 3 Levels
- ILLUMINATION: 2~3 Lux
- COLOR: True color

OPTICS:

- LENS TYPE: C/CS mount, Glasses, fixed IRIS, fixed-Focal
- APERTURE: F/1.2
- SHUTTER SPEED: 1/50 or 1/60 to 1/100,000 Sec.
- FOCUS DISTANCE: 6mm to Infinite (with standard lens)
- EXPOSURE CONTROL: Auto Electronic Exposure

NETWORK & COMMUNICATION:

- CONNECTIVITY TECHNOLOGY: Ethernet, IEEE 802.3, 100Base-TX
- PROTOCOLS: TCP/IP; ARP; ICMP; HTTP; SMTP; DDNS; PPPoE, DHCP

MISC:

- INTERNAL MEMORY: 4 Mega bits
- INTERFACES/ PORTS: 1 X RJ-45; 1 X USB

POWER

- POWER INPUT VOLTAGE: 5V DC

- POWER CONSUMPTION: 1.5W (max.)

ENVIRONMENTAL CONDITIONS

- TEMPERATURE: Operating: 5°C to 50°C ; Storage: 0°C to 60°C
- HUMIDITY: Operating: 10 to 80% Non-Condensing; Storage: 20 to 95% Non-Condensing

PHYSICAL CHARACTERISTICS

- DIMENSIONS: 46 mm Height X 46 mm Width X 106mm Length including lens
- SHIPPING DIMENSIONS: 65 mm Height X 140 mm Width X 190 mm Length (Box)
- WEIGHT: 250g including lens (net) / 700g (gross)
- SHIPPING WEIGHT: 0.7Kg

SYSTEM REQUIREMENT:

- Web browser Internet Explorer Ver. 5.5 or 6.0 (Available OS: Windows 98/98SE/ Me/ NT4.0/ 2000/ XP)
- Netscape Navigator Ver. 6.2x (Available OS: Windows 98/98SE/ Me/ NT4.0/ 2000/ XP)
- Safari (APPLE)
- Firefox (Linux)
- CrEme client Viewer for Pocket PC (Available OS: Pocket PC 2002/2003 or later)
- JAVA Viewers on major GPRS/3G mobilphones (support MIDP 1.0) available

1.2 Recommended hardware environments

Windows

- CPU: Pentium III 500 MHz or higher (Pentium IV, 2 GHz or higher recommended)
- RAM: 256 MB or more
- Display size: 800 × 600, True Color or more

Pocket PC

- CPU: Strong ARM 206 MHz or higher, or compatible CPUs
- RAM: 64 MB or more

GPRS/3G mobilphones

- Nokia, Motorola, Sony Ericsson with 176 x 220 (or above) display recommended
- PLATFORM SUPPORT PC, PDA, GPRS/3G mobilphones

1.3 Overview – Features

High-quality monitoring via the network

You can monitor a high-quality live image from the camera using the Web browser on the computer connected to the 10/100 BASE-T network. The maximum frame rate of XL-ICA100U is 15 fps but it will also depend on network bandwidth. You can also manage the monitored image through the Web browser to select the compression ratio/ image quality, size and brightness of the image that you want to view. Single user access guaranteed best intrusion protection from undesired visitors, two level access password control unauthorized access of your privacy. .

Available Web browsers

- Microsoft Internet Explorer Ver. 5.5 or 6.0 (Available OS: Windows 98/ 98SE/ Me/NT4.0/ 2000/ XP)
- Netscape Navigator Ver. 6.2x (Available OS: Windows 98/ 98SE/ Me/NT4.0/ 2000/ XP)
- Safari (Available OS: Apple OS 10)
- Firefox (Available OS: Linux)
- Netfront v.3.3 (Available OS: Pocket PC OS, Windows CE 2003)

Note:

Java viewers programs available for major GPRS/3G mobile phones that support MIDP1.0

Image recording motion detect DVR

You can use delivered or 3rd party DSS software to monitor/ record multiple cameras simultaneously with motion detection and alarm notification. You can even broadcast multiple channels camera images in streaming video format to public, the number of cameras is limited only by the bandwidth of your internet connection. 3rd DSS software support both Java and ActiveX, users can view max. 25 channels images using the Web browser on the computer.

All recorded video can playback on DSS screen or export to standard AVI format video that can be viewed without DSS software.

Image transmission using Email

You can send a still image from the camera as an attachment of an E-mail sequentially for a determined period, or send them periodically. Also by press “Send e-mail” button on browser screen or on top of the camera.

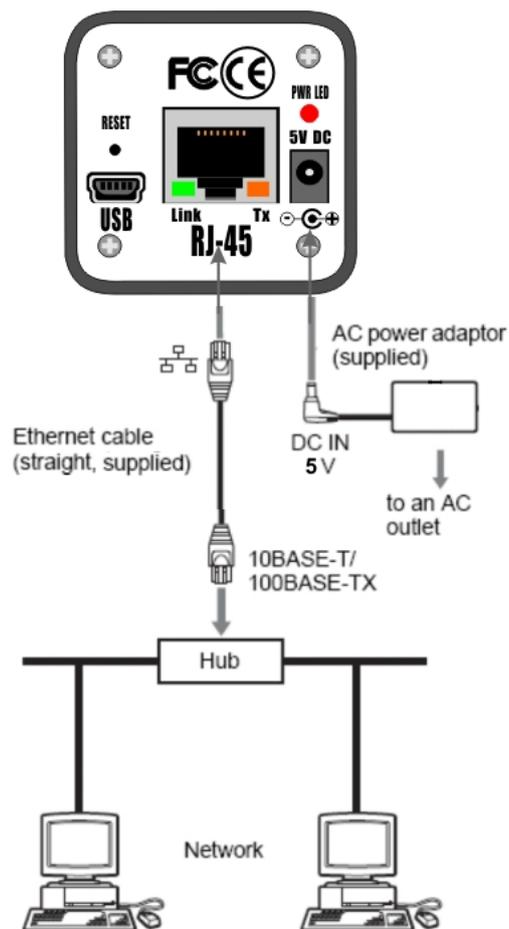
Alarm to MMS on your mobilphones

You can send MMS to multiple cellular phones triggered by cameras alarm e-mails; through your local service providers, please ask your vendors for details.

2. Installation

2.1 Connecting your Camera to Local Network

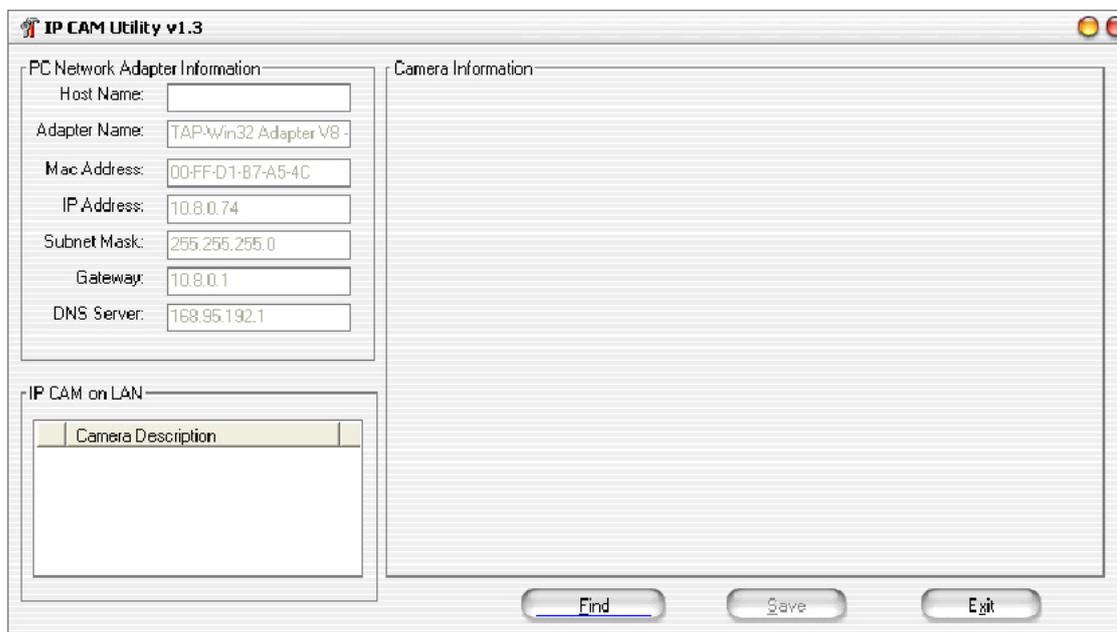
XL-ICA100U (Rear):



Using the Ethernet cable (straight) connect the RJ-45 port to a hub or switch in the network. Connect the 5V DC connector of your camera to an AC outlet by connecting the AC power adaptor supplied with the camera.

2.2 Assigning the IP Address Using the Utility Program

Press “IP Camera Utility” button to run “IP CAM Utility” program from CD,



Press “**Find**” button to search XL-ICA100U cameras in your network. All XL-ICA100U cameras in your network will list in lower left window,

Select the camera you want to setup, press “Network Config” Tab to go to Network Configuration page.

The default IP address of XL-ICA100U is “**192.168.0.114**”, please change to proper IP settings that match your subnet and network environment. Remember to press “Save” button after you have done all necessary settings.

Press “Exit” button to exit IP CAM Utility program

1. Start the IPCAM Utility v1.5 Program.
2. Press “Find” button will detect all XL-ICA100U cameras connected on the local network and list them on the lower left window.
3. Click on the camera you want to assign internet parameters in the list. Press the “Network Config” tab;
4. The network settings for the selected camera are displayed.
5. To specify the IP address manually if you are using NAT router: Select “fixed IP” in “Network type” field, and type the IP address, Subnet mask, Default Gateway (NAT router IP) and DNS Server in each box. (please reference the upper left windows for correct settings) (Note).

6. Press the "E-mail Config." tab; and fill in all necessary account information.
7. Type the Administrator and User password. The default passwords are "admin" and "1234"
8. Confirm that all fields are correctly set, then click "Save".

2.3 Use browser to view camera image

Type in the IP address of your camera you just set in browser address field, example:
<http://192.168.0.114> .

Login as "Administrator" Default password is "1234"

After password confirmed, for a short period of time (depend on the computer hardware) camera image will be shown on browser page.

If the image won't start after 10 secs, please try to install Java J2SE Runtime Environment from the following links:

JAVA plug-in :

For Microsoft Windows (XP SP1 or later)

SUN official download pages:

<http://www.java.com/>

Microsoft official download pages was closed (Sep. 30, 2004):

Please reference the following link for Microsoft Java Virtual Machine Support Policy:

<http://www.microsoft.com/mscorp/java/>

Adjust the lens focus for best picture quality.

Press "Administrator" button the camera image to access management screen of camera.

Login as user: In user mode, you can only view camera image, press "Send Image" button will capture present image and send to assigned e-mail box (the e-mail address you set in administrator management screen).

2.4 Connecting your Camera to Internet

Please note, the NAT routers or IP Sharing devices are firewall in nature that will block all accesses from Internet, your XL-ICA100U will not be accessible from Internet with firewall blocking, please consult professional staff or read user's manual of your NAT router or IP Sharing device for "Virtual Server" or "Port Forwarding" function that will open a tunnel through firewall

blocking to allow accesses from Internet to your XL-ICA100U.

1. Be sure of your internet access type, and ask your ISP if they provide you the public IP address. (some ISP provide user with reserved/ Internal IP address that will not be able to visit from internet)
2. If your internet access type is ADSL or lease line (fixed IP) with public IP address, please use the Ethernet cable (straight) supplied with the camera, connect the cameras to a hub/NAT router or directly to ADSL modem. **(Note)**
3. If your internet access type is Cable/DHCP with public IP address, please use the Ethernet cable (straight) supplied with camera, connect the cameras to a NAT router. **(Note)**
4. Reference the cable connections in previous page.

Note:

1. If you have more than one cameras, Make sure your ISP provides you with equivalent number of public IP addresses, If not please use NAT router instead of HUB.
2. If you are not familiar with networking and NAT routers, please don't use DHCP. Please use IP CAM Utility to find the IP address that DHCP server assign to XL-ICA100U, if you choose to use DHCP to get IP address instead of using fixed IP.
3. If you must connect the XL-ICA100U behind a router or IP Sharing device, you should ask your router provider or MIS department to configure the router with "Virtual Server" or "Port Forwarding" function activated for XL-ICA100U and set the "Default Gateway" of the XL-ICA100U to the router's IP Address.
4. Please use port 80 or port greater than 1024
5. If you may have router setting questions please ask professional staff or seek for help from router or IP Sharing device provider/ Vendor.

3. Operational parameters

Login as "Administrator" to the camera image to access management screen of camera.

3.1 Image Parameter

Resolution

Choose QVGA for VCD quality 320 x 240 images; please use this resolution when you view from internet for better frame rate.

Choose VGA for DVD quality 640 x 480 images; please use this resolution when you want to adjust lens focal for best clarity. If you choose this resolution when you view from internet, the image may look like still for period of seconds; depend on internet bandwidth; image will update

periodically, the refresh rate without bandwidth limitation is 2~4 frame/sec.

Anti-flickers

According to electricity provided in different country/district, please choose same frequency as your AC power source to avoid interference.

Quality

Choose “High” for lower compression rate, you will get best image quality.

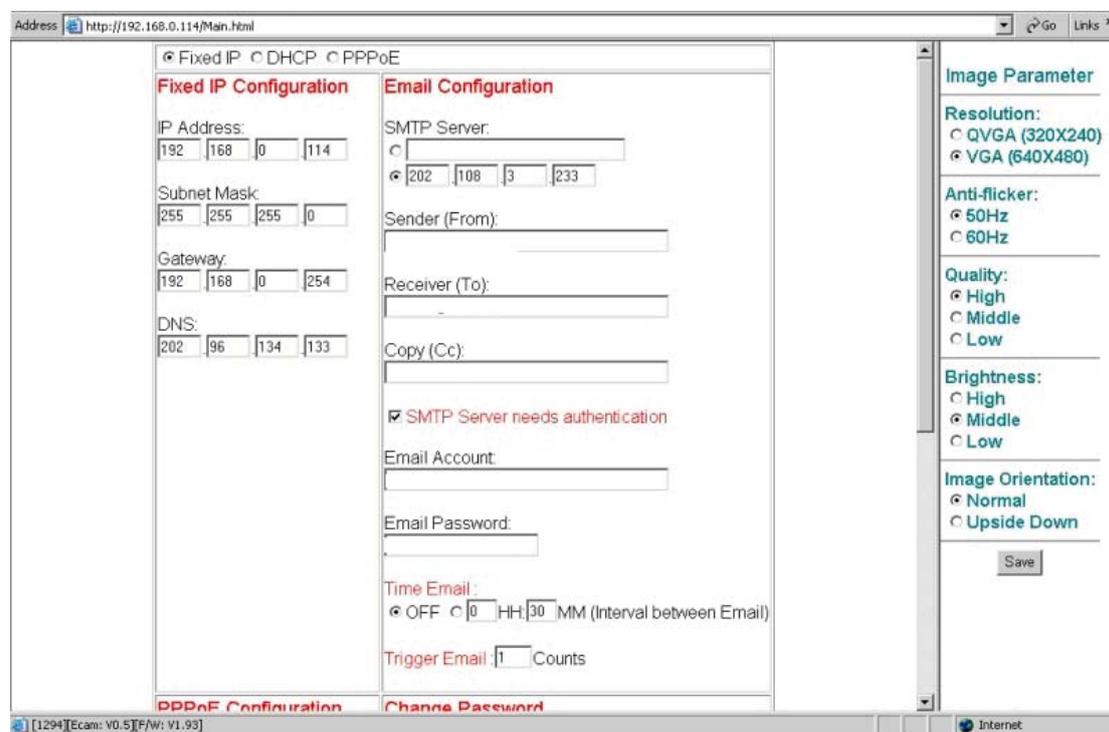
Choose “Low” for higher compression rate, you will get best frame rate.

Brightness

Manual exposure control, factory default is “Middle”, please choose “High” in dark environment and “Low” in bright daylight for best image quality.

Image Orientation

Factory default is “Normal”, if you install the camera upside down you may need to choose “Upside down” to view camera image normally.



Address <http://192.168.0.114/Main.html> Go Links

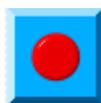
<p>Email Password: [password field]</p> <p>Time Email: <input checked="" type="radio"/> OFF <input type="radio"/> 0 HH:30 MM (Interval between Email)</p> <p>Trigger Email: <input type="text"/> Counts</p>	<p>PPPoE Configuration</p> <p>ADSL User Name: [text field]</p> <p>ADSL Password: [password field]</p> <p>DDNS Configuration</p> <p>DDNS User Name: [text field]</p> <p>DDNS Password: [password field]</p> <p>DDNS Host Name: www.ipcamera.com.tw</p>	<p>Change Password</p> <p>Administrator Password</p> <p>Old Password: [password field]</p> <p>New Password: [password field]</p> <p>User Password</p> <p>Old Password: [password field]</p> <p>New Password: [password field]</p> <p>User Password: <input checked="" type="radio"/> ON <input type="radio"/> OFF</p> <p>Motion Image: <input checked="" type="radio"/> ON <input type="radio"/> OFF</p>	<p>Image Parameter</p> <p>Resolution:</p> <p><input type="radio"/> QVGA (320X240) <input checked="" type="radio"/> VGA (640X480)</p> <p>Anti-flicker:</p> <p><input checked="" type="radio"/> 50Hz <input type="radio"/> 60Hz</p> <p>Quality:</p> <p><input checked="" type="radio"/> High <input type="radio"/> Middle <input type="radio"/> Low</p> <p>Brightness:</p> <p><input type="radio"/> High <input checked="" type="radio"/> Middle <input type="radio"/> Low</p> <p>Image Orientation:</p> <p><input checked="" type="radio"/> Normal <input type="radio"/> Upside Down</p> <p>Save</p>
<p>Camera Description : [text field] (Up to 40 English alphabets and Arabic numerals can be entered in this field.)</p> <p>Save</p>			

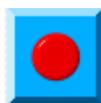
[1294][Ecam: V0.5][F/W: V1.93] Internet

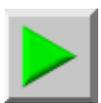
4. Software utilities

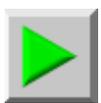
4.1 AVI Recorder

Click on “AVI Recorder” to start IP CAM AVI Recorder software. Please try to copy “ipcam_recorder.exe” and “ipcam_recorder.INI” from CD to your PC local hard disk, in order to save settings properly.



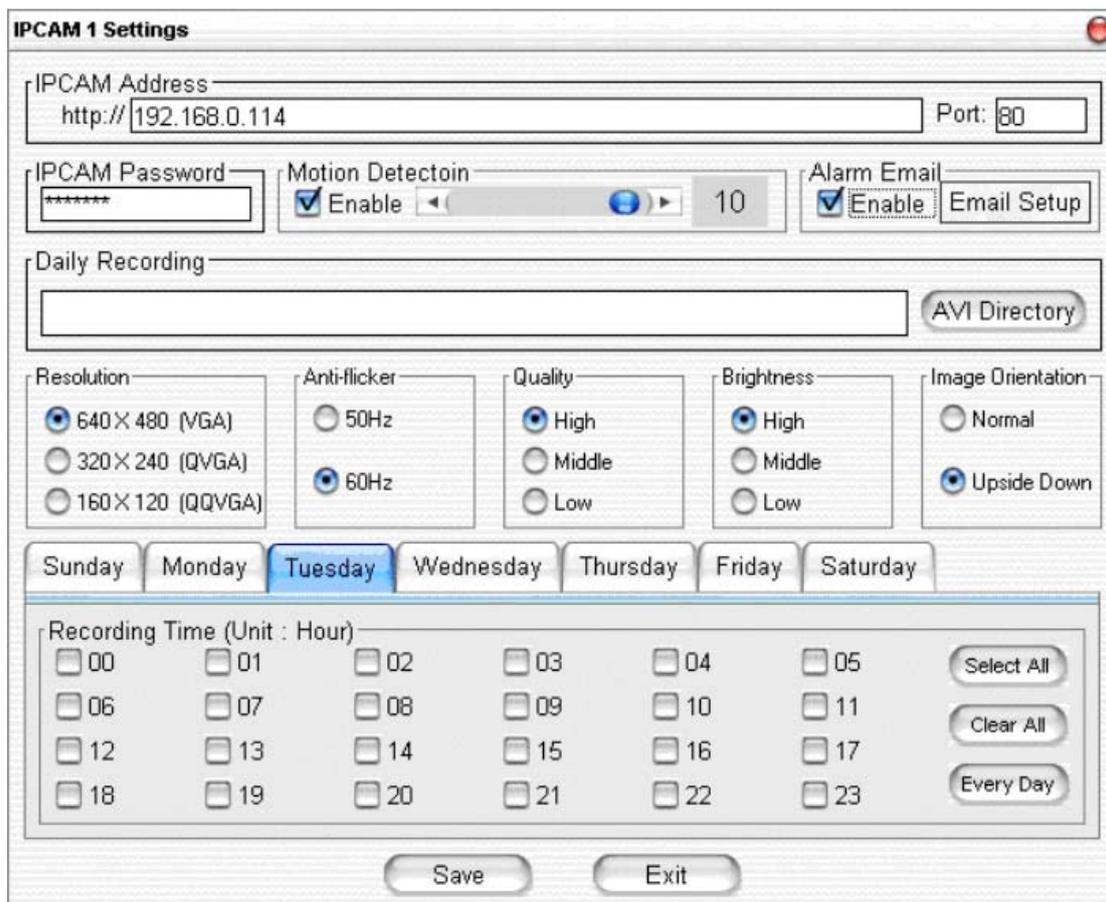
Click  icon to record manually.



Click  icon to bring up “AVI Playback” window.



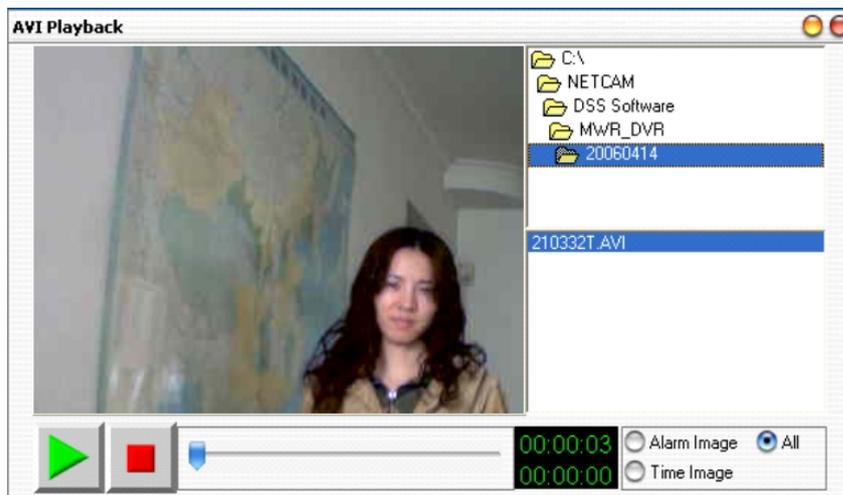
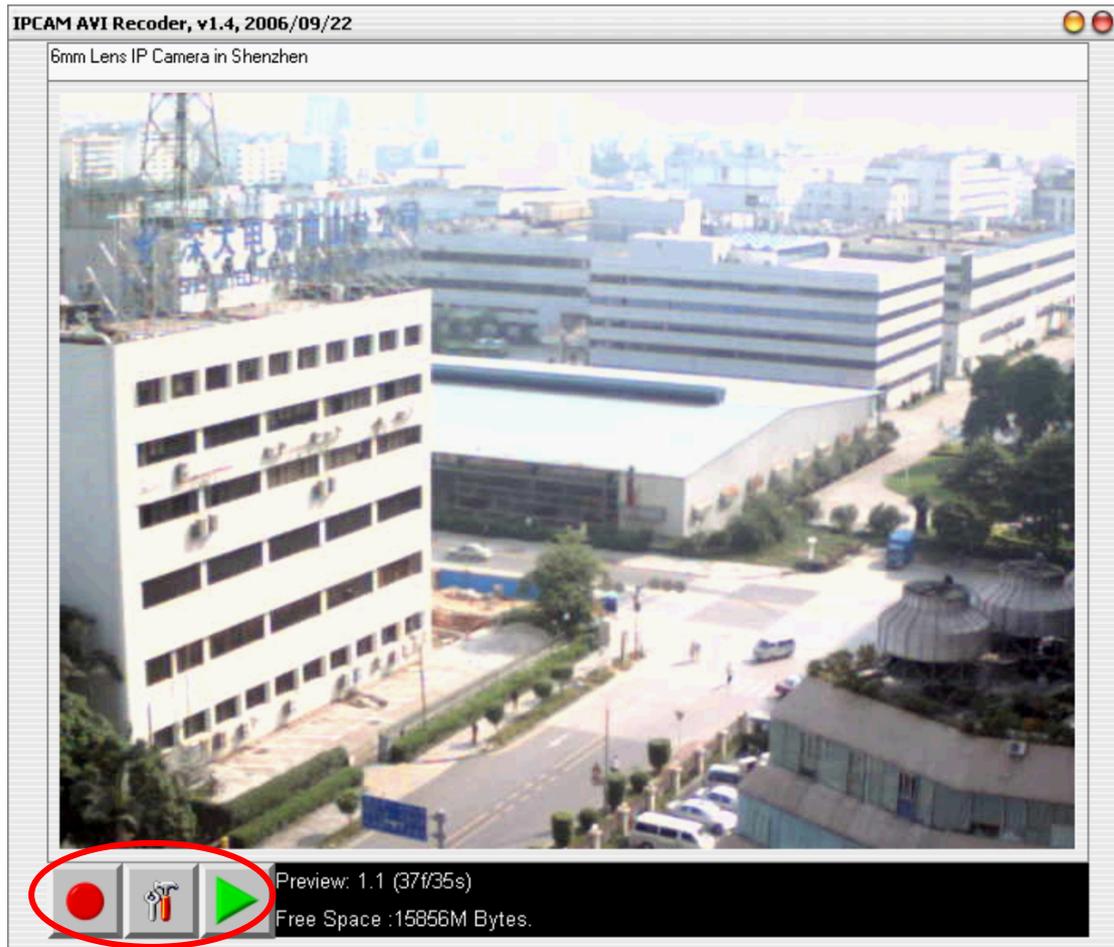
Click  icon to bring up “Setting” window.



1. Type in proper port number when you are accessing camera image from Internet. The default port shall be 80
2. Must enable “Motion Detection” before enable “Alarm Email”.
3. Motion Detection Sensitivity is adjustable by pulling the bar.
4. Input IPCAM Address and Administrator password as IPCAM Password, choose the appropriate resolution and quality settings
5. If Motion Detection or schedule recording is enabled, please specify the AVI Directory first, to store recorded AVI files.
6. Input necessary Email settings in “Email Setup” page.
7. Default SMTP Server port is 25 (note)
8. Remember to enable “SMTP Server needs Authentication”

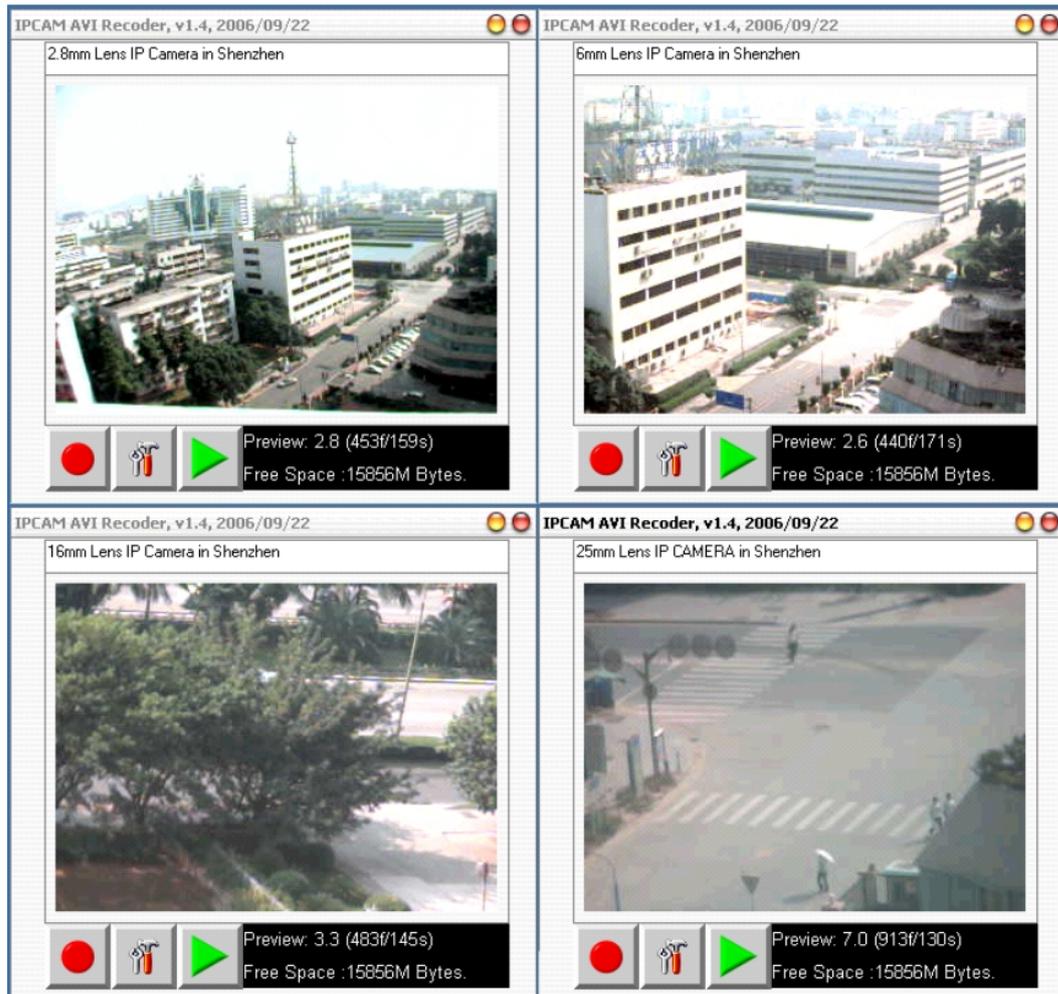
NOTE:

You may get continuous error messages if you typed the wrong port. Try to stop the “IPCAM AVI Recorder” by “Task manager” and edit the “ipcam_recorder.INI” by “Notepad”



Tips:

You can create multiple file folders and copy “ipcam_recorder.exe” and “ipcam_recorder.INI” from CD to each folder, use shortcut links from desktop to execute “ipcam_recorder.exe” in every folder to monitor multiple XL-ICA100U on same screen (PC) as shown below.



4.2 Recommend software:

XL-ICA100U IP Camera is compatible with famous Digital Surveillance Software list below,

Netcam Watcher Professional : <http://www.netcam-watcher.com/>

Go1984 : <http://go1984.com/>

Please input the below string into URI or URL fields of above software

Webcam.jpg?Pass=admin_password

For example in Go1984 simply input this string into Uri field of camera Video Property.

Ex.: 192.168.0.114/Webcam.jpg?Pass=admin

Default admin_password is admin; default IP is 192.168.0.114

Note:

It is case sensitive; please notice the “W” and “P” characters must in uppercase

4.3 USB Driver and Utility

XL-ICA100U is not only an IP Camera, it can also be a web camera, simply use the USB cable equipped to connect XL-ICA100U to your computer USB port, it supports all major messenger software.

Be sure to install USB drivers first before you connect XL-ICA100U to your computer USB port or you may not use it as a web camera normally.

Note:

- If you want to use XL-ICA100U only as an IP Camera, you can ignore this section.
- You can use USB cable as an alternative power source without installing USB driver programs.

1. Click on “USB PCCAM Driver” to begin XL-ICA100U USB driver installation.
2. Follow the on screen instructions to finish the driver installation.
3. After installation you will find “Dual-mode Camera” folders created in your program folder and desktop.



4. Run PC Camera Utility by clicking  icon in “Dual-mode Camera” folder.
5. You can capture video and audio into AVI format using this utility.

5. Reset to Factory Default Settings

Press and hold the Reset button (located on the rear panel of the XL-ICA100U). Keep the button pressed until you hear beep sounds (this may take up to 5 seconds), then release the button. The IP and passwords (admin & user) will reset to factory default:

IP: 192.168.0.114

Admin password: admin

User password: 1234

Note:

You will hear 4 beep sounds (two long beeps then two short beeps), green led will flash once at two long beep and flash twice at two short beeps, yellow led flash once at two short beeps.

Appendix A

DynDNS (<http://www.dyndns.com/>)

Dynamic Network Services, Inc. (DynDNS) provides superior [domain name system](#) (DNS) services with the highest levels of redundancy, service, and support in the industry.

The free Dynamic DNS service provided by DynDNS allows us to alias a dynamic IP address to a static hostname in any of the [many domains](#) they offer, allowing our XL-ICA100U IP Camera to be more easily accessed from various locations on the Internet. DynDNS provides free DDNS service, for up to five (5) hostnames, free to the Internet community.

The Dynamic DNS service is supported by XL-ICA100U IP Camera, so you can access XL-ICA100U IP Camera images by unique hostname. Using one of the [update clients](#) built-in XL-ICA100U IP Camera you can keep your hostname always pointing to XL-ICA100U IP Camera IP address, no matter how often your ISP changes it (should not change too frequently). No more fumbling to find that piece of paper where you wrote down your IP address, or e-mailing all your friends every time it changes. Just tell them to visit your camera hostname instead!

Please reference [Dynamic DNSSM](#) [How-To](#) (<http://www.dyndns.com/services/dns/dyndns/howto.html>) for detail steps from create account, create the host, to edit/ modify existing host.

More details may be found on [Frequently Asked Questions](#) webpages (<http://www.dyndns.com/services/dns/dyndns/faq.html>).

There are dozens of (68) free domain names you may choose from, Dynamic Network Services, Inc. has 5 DNS servers in 4 redundant tier-1 datacenters around the globe to guarantee their service quality.

While Dynamic DNS is provided as a free service, if you are using their service in a commercial environment or serious applications, we strongly recommend that you consider purchasing an [Account Upgrade](#) (<http://www.dyndns.com/services/upgrades/>) for more services, less limitations and better technical support.

Appendix: Accessing IP Camera over the Internet through gateway router

Once installed, your XL-ICA100U is accessible within your local network (LAN). To be able to access your XL-ICA100U from the Internet, you must configure your broadband router to allow incoming data traffic. For security reasons this is usually done on a specific port. Please refer to the user documentation of your broadband router for instructions on how to do this.

If your home or office LAN is connected to the Internet through a high speed (broadband) Internet connection, with at least 33.6 kbps upload bandwidth, you can access your cameras via the web browser from anywhere through the Internet. To do this you will need to:

1. Know your WAN (Internet) IP address. This is the IP address that your ISP (Internet Service Provider) provides you to access the Internet. It may be static (always the same) or dynamic (can change from time to time).
2. Make sure the port used by the camera (80 or any port > 1024) are forwarded by your router or gateway to the camera.
3. Make sure your XL-ICA100U IP Camera default gateway is set to the LAN (local) IP address of your router/gateway.
4. Make sure your XL-ICA100U IP Camera DNS is set to the DNS IP address provided by your ISP.

WAN IP Address

The WAN IP address that your ISP (Internet Service Provider) provides you is very different from the LAN or local IP address. The WAN or Internet IP address is visible to the outside world (Internet) whereas the local addresses is not. To find your home or office network from the Internet you must know your WAN IP address.

Your WAN IP address is stored by your gateway router, router uses the WAN IP to connect to the Internet. All the devices on your network connect to the Internet via the gateway router. You can find your current WAN IP address by checking your router status page. There are also various websites such as <http://www.whatismyip.nl/> or <http://www.whatismyip.us/> , which will tell you the WAN IP address that you are currently using to access the Internet.

Note:

Gateway: The term gateway is used generically to define a device that connects a local network to the Internet. A gateway may be a router, a PC running software which allows it to act as a gateway such as a proxy server, or some other devices. Most home networks use a NAT (Network Address Translation) router as a gateway. The term gateway router refers to such a device.

Static versus Dynamic IP address

The IP address (or addresses) that your ISP provided you will either be static, which means it never changes, or dynamic, meaning it will change periodically. Dynamic addresses present an additional challenge when trying to locate your network from the Internet since your address may have changed since the last time you checked it. How often your dynamic address changes vary from one service provider to another. Also, any time you reboot your cable or DSL modem, you are likely to get a new address when reconnecting.

The solution to the ever-changing IP address is known as DDNS or dynamic domain name service. A DDNS will allow you to find your network by a domain name, such as DynDNS, ZONEDIT, no-ip.com, rather than needing to know the IP address.

Network Address Translation (NAT)

Most home routers and business firewalls today perform something called NAT or Network Address Translation. NAT translates your external or WAN IP address into an internal address inside your gateway router. What it means is, you can think of your router as being divided into two halves, the LAN side (inside) and the WAN side (outside or Internet side). When a connection request arrives at your router from the Internet, it will not get any farther than the WAN side unless you have specifically instructed your router to pass this type of request to a specific device on your LAN. This process is known as port forwarding or port redirecting.

Port Forwarding

All the TCP/IP (Internet) networking uses software ports. Ports can be thought of as channels on your television. By default, all webpage traffic is on channel (port) 80.

By default, the XL-ICA100U IP Camera uses port 80 to deliver its web page to your browser. Therefore, channel (port) 80 must be open (is not blocked by your outer/firewall) to incoming traffic in order to connect XL-ICA100U IP Camera from the Internet.

Note: port 80

If there is server in your LAN already used port 80, you must open another port for your XL-ICA100U IP Camera.

XL-ICA100U IP Camera will answer commands from any port > 1024, what it means is, a port > 1024 (ex.: 8080) must be open to incoming traffic in order to connect XL-ICA100U IP Camera from the Internet.

If you have installed multiple XL-ICA100U IP Cameras in your LAN, multiple ports (unique port for each camera, all greater than 1024, not used by other devices) must be open to incoming traffic in order to connect those XL-ICA100U IP Cameras from the Internet. Also, port must be forwarded or redirected to the camera's LAN IP address by your gateway router. Your router's setup software should provide a utility for port forwarding or redirecting. Router configuration contains setup help for some popular home networking gateway routers currently on the market.

Note:

Forwarding ports to your XL-ICA100U IP Cameras does not pose any additional security risk to your LAN. Before setting up port forwarding, it is best to configure your XL-ICA100U IP Cameras to use a static LAN IP since your port forwarding setup will need to be updated if the

camera's LAN IP address changed.

Default Gateway

Devices (PCs, IP cameras/Servers, etc.) on your network connect to the Internet via gateway. For most home networks, a NAT type router serves as the gateway. For office LANs, the gateway may be a PC running gateway software. To access any devices on your network from Internet, it must know the LAN IP address of your gateway. If your XL-ICA100U IP Camera is set up to use DHCP, then it will retrieve this information automatically from your router.

However, if you have configured your camera to use a static IP address, you must be sure that you have set the correct gateway IP address in order to connect your XL-ICA100U IP Camera to the Internet.

If your XL-ICA100U IP Camera is now live on the Internet, browsing your XL-ICA100U IP Camera from the Internet is the same as browsing on your LAN except that you must enter your WAN IP address instead of the LAN IP address.

Network Utilities

Microsoft Windows includes various network information utilities to determine network configurations. To determine your IP address and network settings, follow the steps below, it's depending on your operating system.

1. Determining your IP Address and Network Settings

Windows 98/Me:

1. Click on Start => Run and type "command" and then press ENTER
2. In the MS- DOS window, type "winipcfg" and then press ENTER
3. This will display your network card's Adapter Address, IP Address, Subnet Mask, and Default Gateway.

More information regarding WINIPCFG can be obtained by typing "winipcfg /?" at the MS -DOS prompt.

Note:

WINIPCFG is located in the C:\Windows folder.

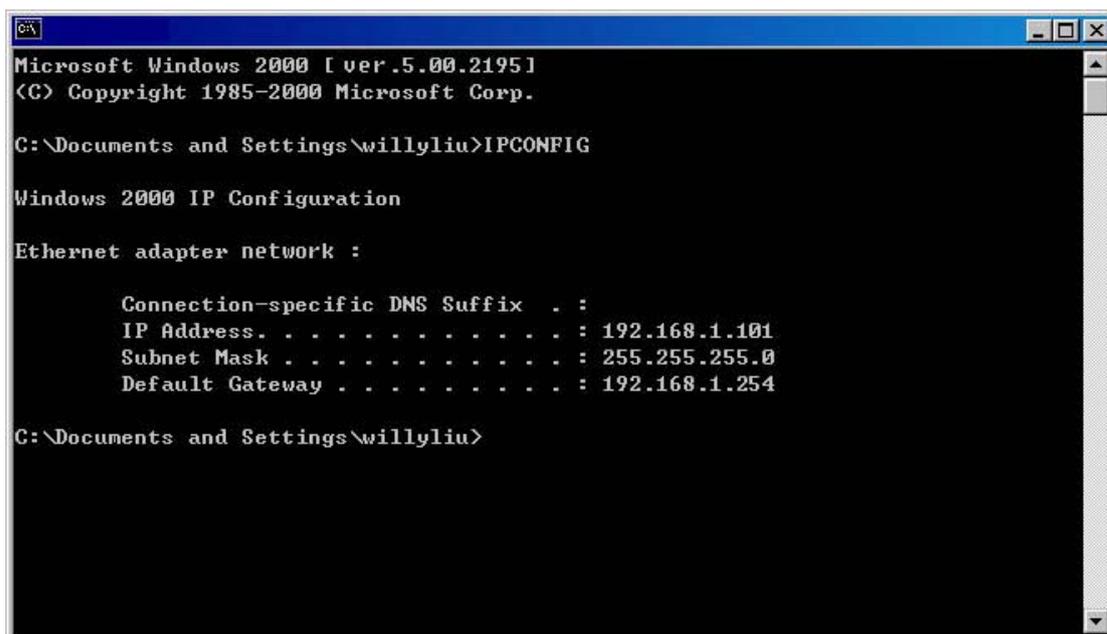
Windows 2000/XP:

1. Click on Start => Run and type "command" and then press ENTER
2. In the MS- DOS window, type "ipconfig" and then press ENTER
3. This will display your network card's IP Address, Subnet Mask, and Default Gateway.

More information regarding IPCONFIG can be obtained by typing "ipconfig /?" at the MS - DOS prompt.

Note:

IPCONFIG is located in the C:\Windows\System32 folder.



2. Using PING

PING is a very useful utility for checking to see if a XL-ICA100U IP Camera is responding or checking to see if an IP address is available. In Windows 98/Me, PING is located in C:\Windows. In Windows 2000/XP, PING is located in C:\Windows\System32.

Windows 98/Me/2000/XP:

1. Click on Start =>Run and type "command" and then press ENTER
2. In the MS- DOS window, type "ping XXX.XXX.XXX.XXX" and then press ENTER

(Where XXX.XXX.XXX.XXX is your XL-ICA100U IP Camera IP address) For example, if your XL-ICA100U IP Camera uses the IP address of 192.168.0.114, you would type in: ping 192.168.0.114

3. If there is a XL-ICA100U IP Camera, PC or other network devices online using this address you will see:

```
Pinging 192.168.0.114 with 32 bytes of data:  
Reply from 192.168.0.114: bytes=32 time<1ms TTL=128  
Ping statistics for 192.168.0.114:  
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),  
Approximate round trip times in milli-seconds:  
Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

If there is NO response on this address you'll see

Pinging 192.168.0.114 with 32 bytes of data:

Request timed out.

Request timed out.

Request timed out.

Request timed out.

Ping statistics for 192.168.0.114:

Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

This indicates that the address is available for use. However, there could still be a device which is currently offline which is configured to use the address.

In order to be certain, make sure all your network devices are on and connected to network when checking for address availability.

Appendix: Network Protocol

Set of controlling commands of XL-ICA100U

1. Get Parameter command

1.1. Get_Parameter command:

```
GET /query/AP?state
```

1.2. Parameter_Response:

```
HTTP/1.0 200 OK \r\n
```

```
\r\n
```

```
M=(MAC
```

```
number)&V=(Resolution)&F=(Anti-flicker)&Q=(Quality)&B=(Brightness)&U=(Orientation)\r\n
```

```
\r\n
```

1.3. Explanation of Parameters:

M => MAC number (ASCII)

V => Image Resolution: 0=QQVGA, 1=QVGA, 2=VGA

F => Anti-flicker: 1=50Hz, 2=60Hz

Q => Image Quality: 1=High, 2=Middle, 3=Low

B => Image Brightness: 1=High, 2=Middle, 3=Low

U => Image Orientation: 0=Normal, 1=Upside Down

2. Get motion image form IP CAM

2.1. Get_Motion_Image command:

```
GET
```

```
/Webcam.jpg?Pass=(Administrator_Password)&V=(Resolution)&F=(Anti-flicker)&Q=(Quality)&
```

```
B=(Brig
```

```
htness)&U=(Orientation)\r\n
```

2.2. Invaild_Password response:

```
HTTP/1.1 401 Password not correct\r\n
```

```
Server: Jeilin http\r\n
```

```
Connection: close\r\n
```

```
\r\n
```

2.3. Motion image response:

First Packet:

HTTP/1.0 200 OK\r\n

Connection: Close\r\n

Server: Ecam\r\n

Content-Type: multipart/x-mixed-replace; boundary=EOB\r\n

\r\n

EOB\r\n

Image Stream:

0xFF,0xD8,{Image Data are here},0xFF,0xD9,\r\n\r\nEOB\r\n

0xFF,0xD8,{Image Data are here},0xFF,0xD9,\r\n\r\nEOB\r\n

2.4. Explanation:

Pass => Administrator Password ranges from 4 digits to 10 digits.

V => Resolution: 0=QQVGA, 1=QVGA, 2=VGA

F => Anti-flicker: 1=50Hz, 2=60Hz

Q => Image Quality: 1=High, 2=Middle, 3=Low

B => Image Brightness: 1=High, 2=Middle, 3=Low

U => Image Orientation: 0=Normal, 1=Upside Down

3. Get still image from IP CAM

3.1. Get_Still_Image command:

GET

/Webcam.jpg?MobilePass=(Administrator_Password)&V=(Resolution)&F=(Anti-flicker)&Q=(Quality)&

B=(Brightness)&U=(Orientation)\r\n

3.2. Invaill_Password response:

HTTP/1.1 401 Password not correct\r\n

Server: Jeilin http\r\n

Connection: close\r\n

\r\n

3.3. Still image response:

0xFF,0xD8,{Image Data are here},0xFF,0xD9

3.4. Explanation:

MobilePass =>Administrator Password ranges from 4 digits to 10 digits.

V =>Resolution: 0=QQVGA, 1=QVGA, 2=VGA

F =>Anti-flicker: 1=50Hz, 2=60Hz

Q =>Image Quality: 1=High, 2=Middle, 3=Low

B => Image Brightness: 1=High, 2=Middle, 3=Low

U =>Image Orientation: 0=Normal, 1=Upside Down

4. Change Image parameter

4.1 Change_Image:

POST

/Parameter/Image?V=(Resolution)&F=(Anti-flicker)&Q=(Quality)&B=(Brightness)&U=(Orientation)&S=Save

ve

4.2 Explanation:

V =>Resolution: 0=QQVGA, 1=QVGA, 2=VGA

F =>Anti-flicker: 1=50Hz, 2=60Hz

Q => Image Quality: 1=High, 2=Middle, 3=Low

B => Image Brightness: 1=High, 2=Middle, 3=Low

U => Image Orientation: 0=Normal, 1=Upside Down

5. Change administrator parameter

5.1. Change_Admin command:

POST /Parameter/AdminPass=(Administrator_Password)?AL=(Network Type)&I3=(IP Address 3)&I2=(IP Address 2)&I1=(IP Address 1)&I0=(IP Address 0)&G3=(Gateway 3)&G2=(Gateway 2)&G1=(Gateway 1)&G0=(Gateway 0)&S3=(Subnet Mask 3)&S2=(Subnet Mask 2)&S1=(Subnet Mask

1)&S0=(Subnet Mask 0)&D3=(DNS 3)&D2=(DNS 2)&D1=(DNS 1)&D0=(DNS 0)&ESS=(SMTP

Type)&ES=(SMTP Domain name)&E3=(SMTP IP Address 3)&E2=(SMTP IP Address 2)&E1=(SMTP

IP Address 1)&E0=(SMTP IP Address 0)&EN=(Email Sender)&ET=(Email Receiver)&EC=(Email

Copy)&AUE=(Authentication Enable)&AUI=(Authentication ID)&AUP=(Authentication

Password)&AS=(Time E-mail ON/OFF)&ASH=(Time Email Hour)&ASM=(Time Email

Minute)&TE=(Trigger Email Count)&AI=(ADSL User Name)&AP=(ADSL Password)&DD=(DDNS User

Name)&DP=(DDNS Password)&HN=(DDNS Domain Name)&OAP=(Old Administrator

Password)&NAP=(New Administrator Password)&OUP=(Old User Password)&NUP=(New User

Password)&UPE=(User Password ON/OFF)&ITE=(Motion Image ON/OFF)&CD=(Camera

Description)&save=Save

5.2. Explanation:

AdminPass =>Administrator Password ranges from 4 digits to 10 digits.

AL => Network Type: 1=Fixed IP, 2=ADSL PPPoE, 3=DHCP

I3, I2, I1, I0 =>IP Address: (Max. 4 Byte) for example, 192.68.0.104

G3, G2, G1, G0 =>Gateway: (Max. 4 Byte) for example, 192.168.0.1

S3, S2, S1, S0 =>Subnet Mask: (Max. 4 Byte) for example, 255.255.255.0

D3, D2, D1, D0 =>DNS: (Max. 4 Byte) for example, 168.95.1.1

ESS =>SMTP Type: 0=SMTP Domain Name, 1=SMTP IP Address

ES => SMTP Domain name: (Max. 30 Byte)

E3, E2, E1, E0 =>SMTP IP Address: (Max. 4 Byte)

EN =>E-mail Sender (From): (Max. 40 Byte)

ET => E-mail Receiver (To): (Max. 40 Byte)

EC =>E-mail Copy (Cc): (Max. 40 Byte)

AUE =>SMTP Authentication Enable: 0=Disable, 1=Enable

AUI => SMTP Authentication ID: (Max. 40 Byte)

AUP => SMTP Authentication Password: (Max. 20 Byte)

AS =>Time E-mail ON/OFF: 0=OFF, 1=ON

ASH =>Time Email Hour: (0 ~ 23 hours)

ASM => Time Email Minute: 0 ~ 59 minutes)

TE =>Trigger Email Count: (0 ~ 99 counts)

AI =>ADSL User Name: (Max. 30 Byte)

AP =>ADSL Password: (Max. 20 Byte)

DD => DDNS User Name : (Max. 30 Byte)

DP =>DDNS Password: (Max. 21 Byte)

HN => DDNS Domain Name: (Max. 81 Byte)

OAP =>Old Administrator Password: (Min. 0 Byte Max. 10 Byte)

NAP =>New Administrator Password: (Min. 0 Byte Max. 10 Byte)

OUP => Old User Password: (Min. 0 Byte Max. 10 Byte)

NUP => New User Password: (Min. 0 Byte Max. 10 Byte)

UPE => User Password ON/OFF: 1=ON, 2=OFF

ITE =>Motion Image ON/OFF: 1=ON, 2=OFF

CD =>Camera Description: (Max. 40 Byte)