DVR / IP CAMERA NETWORK SETTING

1. What is the PHYSICAL & VIRTUAL IP address?

Under networking environment, several sets of numbers are used to identify each single networking device (PC/DVR/IPCAMERA/ROUTE & etc). These number sets are not only for single network identification purpose but also acting as an interchange or a crossway on the road. This is why we hear terms like IP address, mask, gateway, DNS and so on.

Since the number of IP addresses is limited, there are two different kinds of IP: Virtual IP and Physical IP:

PHYSICAL IP: Means we could access to this device directly on the internet.

VIRTUAL IP: Means this IP using behind the ROTUE (ACCESS POINT), most user using. And we could found the IP address header as 10.x.x.x or 172.16.x.x or 192.168.x.x will be virtual IP address, in most situations using 192.168.x.x.

IANA (Internet Assigned Number Authority) suggest virtue/private IP address

| IP	MASK	IP ADDRESS RANGE
10.0.0.0	255.0.0.0	10.0.0.1 ----- 10.255.255.254
172.16.0.0	255.240.0.0	172.16.0.1 ----- 172.31.255.254
169.168.0.0	255.255.255.0	192.168.0.1 ----- 192.168.255.254

Under private network if went network device connect to each other, at least IP Address & MASK & GATEWATY must be set. The last IP address number must differ from each other, but Subnet mask & Default gateway will be same.

2. How to set my own PC / DVR / IP CAMERA network setting?

PC (WIN XP)-> START -> Control Panel -> Network and Internet Connections -> Network Connections -> Double click on Local Area Connection # -> Properties -> Key in following address -> OK
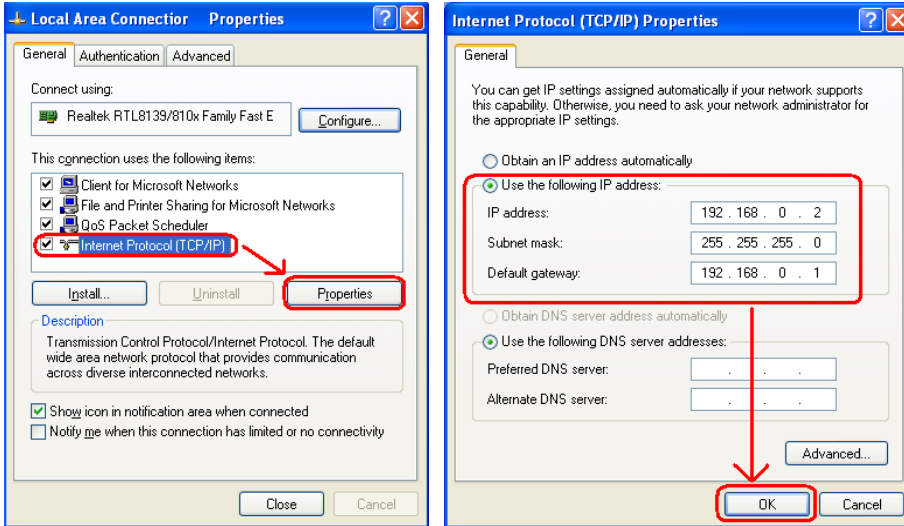
DVR / IP CAM -> IPINSTALLER -> Search Device -> Searched device will list on "Device lists" -> Click on the device to modify / set up -> Submit -> Device Rebooting -> After 30 sec device as set.
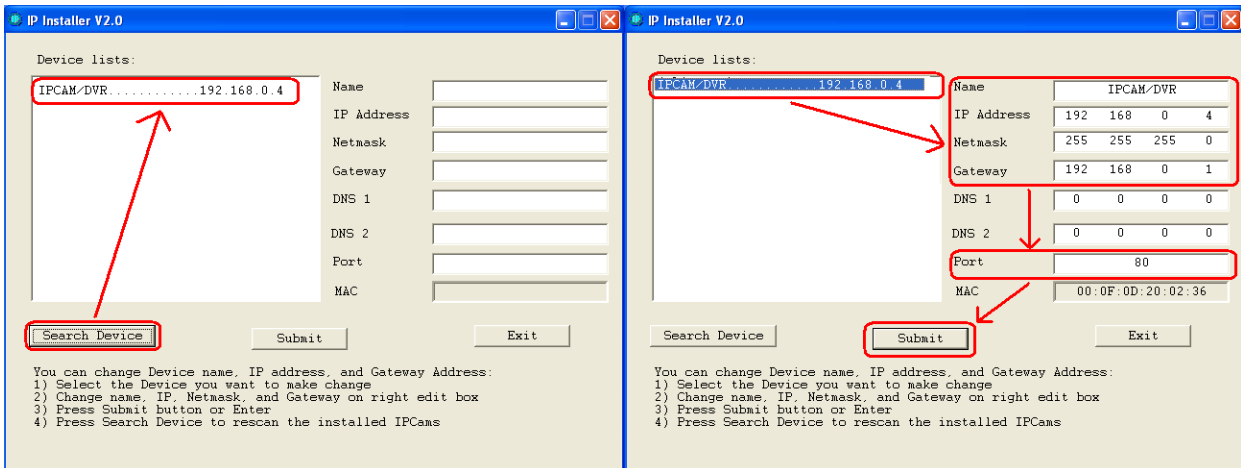
3. **If dial up to internet via ADSL/HUB, who to connect to each other?**

    DVR / IP CAMERA can be saved private & physical (PPPoE dial up) IP in the same time, thus we could access to DVR / IP CAMERA from private & physical IP both.

    VIRTUE/PRIVATE IP PART (Please refer to above setting parts):
    The last IP address number must differ from each other, but Subnet mask & Default gateway will be:

IP address:	192.168.0.2
Subnet mask:	255.255.255.0
Default gateway:	192.168.0.1

IP address:	192.168.0.3
Subnet mask:	255.255.255.0
Default gateway:	192.168.0.1
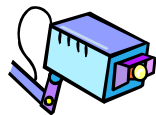
IP address:	192.168.0.4
Subnet mask:	255.255.255.0
Default gateway:	192.168.0.1

Dial Up Part:

PC (WIN XP)-> START -> Control Panel -> Network and Internet Connections -> Network Connections -> Double click on "Create a new connection" from Network Task item at left side -> Click "Next" on New Connection Wizard -> Connect to the Internet -> Set up my connection manually -> Connect using a broadband connection that requires a user name and password -> Key in ADSL ISP dial up name -> Fill in Username & Password -> a dial up icon created on Network Connections -> press Connect link to internet.

DVR / IP CAMERA
Open http://192.168.0.4/ on an Internet Explorer address bar, and login into DVR /IP CAMERA:

Configuration -> Network -> scroll down to PPPoE -> fill in ADSL dial up Username & Password -> press Save & Dial Now

If dial up successfully, related physical IP address setting shown from very bottom.

DDNS setup

Note: DDNS service must be able connect DVR /IP CAMERA from internet directly.

Open http://192.168.0.4/ on an Internet Explorer address bar, and login into DVR /IP CAMERA:

Configuration -> DDNS -> Enable -> Name a UserName for DDNS -> Submit.

Dynamic DNS http://192.168.0.4

- ● Enable ○ Disable
- UserName: IPCAM-DVR
- Schedule Update: 5

State

Submit

Schedule Update: Feature of DDNS schedule update is designed
for IP products which installed behind the ICS or NAT devices.
Update range from every 5 (minutes) to 5000 (minutes) and 0 remain to off.

Status will show "Updating".

Dynamic DNS http://192.168.0.4

- ● Enable ○ Disable
- UserName: IPCAM-DVR
- Schedule Update: 5

State

Updating

Submit

Schedule Update: Feature of DDNS schedule update is designed
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Update range from every 5 (minutes) to 5000 (minutes) and 0 remain to off.

Registered to **http://IPCAM-DVR.ddns.camddns.com**

Dynamic DNS http://192.168.0.4

- ● Enable ○ Disable
- UserName: IPCAM-DVR
- Schedule Update: 5

**State**

Register DNS Entry : http://IPCAM-
DVR.ddns.camddns.com

Submit

Schedule Update: Feature of DDNS schedule update is designed
for IP products which installed behind the ICS or NAT devices.
Update range from every 5 (minutes) to 5000 (minutes) and 0 remain to off.

4. **If we using 169.168.x.x as the PRIVATE / VITURE IP address to connect 3 network devices, these setting at least will be:**

The <u>last IP address number</u> must differ from each other, but <u>Subnet mask</u> & <u>Default gateway</u> will be same.

IP address: 192.168.0.2
Subnet mask: 255.255.255.0
Default gateway: 192.168.0.1

IP address: 192.168.0.3
Subnet mask: 255.255.255.0
Default gateway: 192.168.0.1
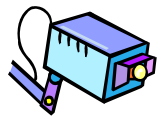
IP address: 192.168.0.4
Subnet mask: 255.255.255.0
Default gateway: 192.168.0.1

5. **If we using 169.168.x.x as the PRIVATE / VITURE IP address to connect 3 network devices, and a broadband route (D-LINK DI-704P) access to internet by PHYSICAL IP, these PRIVATE / VITURE IP setting at least will be:**

The <u>last IP address number</u> must differ from each other, but <u>Subnet mask</u> & <u>Default gateway</u> will be same. (The physical IP address setting by ISP differs thus please refer to your Internet Service Provider.)

PRIVATE / VITURE IP address parts:

IP address: 192.168.0.1
Subnet mask: 255.255.255.0
Default gateway: 192.168.0.1
<u>(Route default setting)</u>

IP address: 192.168.0.2
Subnet mask: 255.255.255.0
Default gateway: 192.168.0.1

IP address: 192.168.0.3
Subnet mask: 255.255.255.0
Default gateway: 192.168.0.1
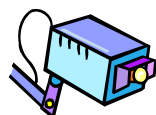
IP address: 192.168.0.4
Subnet mask: 255.255.255.0
Default gateway: 192.168.0.1

6. How to view the IP CAM /DVR image from internet, if via broadband route (D-LINK DI-704P) and a dynamic PHYSICAL IP access to internet?

If **DVR / IP CAMERA setting as below:**
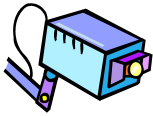
IP address: 192.168.0.4
Subnet mask: 255.255.255.0
Default gateway: 192.168.0.1
Port: 80 (Preset)

ROUTE SIDE:

Open http://192.168.0.1/ on an Internet Explorer address bar, and login into broadband route:

Advanced -> Virtual Server -> Virtual Server HTTP -> Click on edit icon to edit the virtual service -> Enabled -> Key in DVR / IP CAMERA IP address -> Apply (Now we can viewing via dynamic physical IP, for DDNS service please refer following DVR / IP CAMERA side).

DVR / IP CAMERA SIDE

Open http://192.168.0.4/ on an Internet Explorer address bar, and login into DVR /IP CAMERA:

Configuration -> DDNS -> Enable -> Name a UserName for DDNS -> Submit.

Status will show "Updating".

Registered to **http://IPCAM-DVR.ddns.camddns.com**

7. **How to view the various IP CAM /DVR image from internet, if via broadband route (D-LINK DI-704P) and a dynamic PHYSICAL IP access to internet?**

   We must separate IP CAM / DVR's port number first, thus we modify IP CAM & DVR port number from 80 to 8888 & 9999, modify ports please refer to "How to set my own PC / DVR / IP CAMERA network setting" DVR / IP CAM parts.
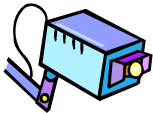
IP address:	192.168.0.4
Subnet mask:	255.255.255.0
Default gateway:	192.168.0.1
Port:	8888
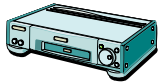
IP address:	192.168.0.5
Subnet mask:	255.255.255.0
Default gateway:	192.168.0.1
Port:	9999

ROUTE SIDE:

Open http://192.168.0.1/ on an Internet Explorer address bar, and login into broadband route:

As IP Camera:

Advanced -> Virtual Server -> Enabled (from very upper) -> Name a name for memory (IPCAM) -> key in private IP address (192.168.0.4) -> Private & Public Port (8888) -> Schedule (always) -> Apply

As DVR:

Advanced -> Virtual Server -> Enabled (from very upper) -> Name a name for memory (DVR) -> key in private IP address (192.168.0.5) -> Private & Public Port (9999) -> Schedule (always) -> Apply

The Server List will be added:

If route get the physical IP as 219.86.41.41, thus the IP camera would **http://219.86.41.41:8888** & DVR **http://219.86.41.41:9999** on an Internet Explorer address bar from internet,