



OMNI Recorders Network & DDNS Setup Instructions

1. Set up the recorder Network Menu according to the instructions detailed in the Networking chapter of the recorder's manual.
 - a. If using DHCP, all settings should be detected automatically. While DHCP is a useful tool for determining the network settings, if you set up your recorder in this manner its IP address may change at different times for different reasons, particularly after a power failure. Despite the UPnP capabilities of OMNI recorders, if the IP address of the recorder changes, you may have difficulties accessing your recorder locally and/or remotely. **It is strongly recommended that you assign a fixed (static) IP address to your recorder**, and that in order to avoid address conflicts the IP address assigned should be outside of the DHCP range of addresses your router issues to DHCP clients. **Please do not set the DHCP address issued to the recorder by the router as its static IP address** unless you take specific steps to program your router to prevent such address conflicts.
 - b. If using a Fixed IP (**STRONGLY recommended**), you will need to input the information manually. In order for DDNS to work, you must enter valid data, compatible with your network, for **all four** of the network setting fields: IP address, subnet mask, default gateway and the **DNS Address** (depending on your network hardware and configuration this may be the IP address of your router/gateway, or it may be the actual IP address of the local DNS server).

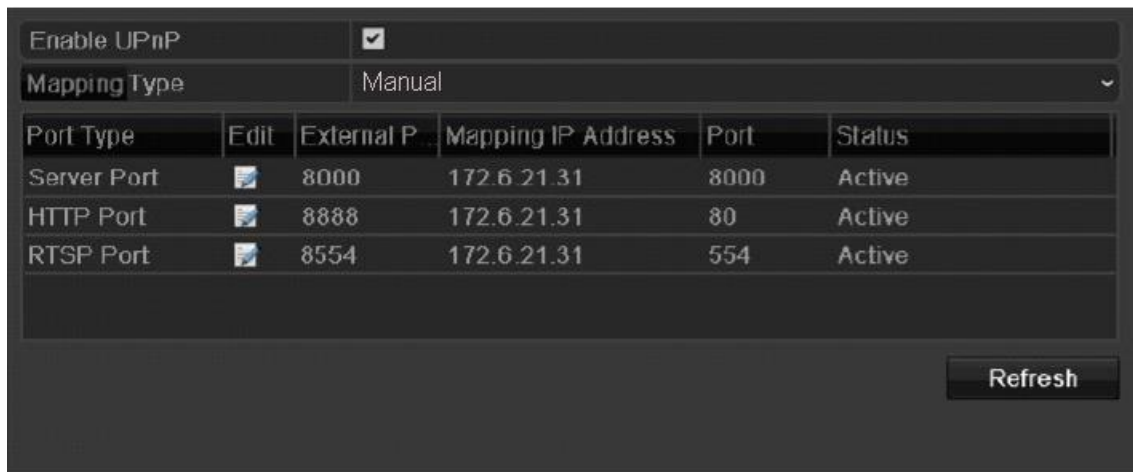
General	PPPOE	DDNS	NTP	Email	SNMP	UPnP	More Settings
NIC Type	10M/100M Self-adaptive						
Enable DHCP	<input type="checkbox"/>						
IPv4 Address	172 . 6 . 21 . 64						[1]
IPv4 Subnet Mask	255 . 255 . 255 . 0						[2]
IPv4 Default Gateway	172 . 6 . 21 . 1						[3]
IPv6 Address 1	fe80 : 240.48ff.1e90 cf13/64						
IPv6 Address 2							
IPv6 Default Gateway							
MAC Address	00:40:48:90:cf:13						
MTU(Byte)	1500						
Preferred DNS Server	172 . 6 . 21 . 1						[4]
Alternate DNS Server							

The DNS server IP is required because your DNS server provides critical information necessary for the recorder to communicate with the DDNS server; DNS is also essential if you plan to use email notification.

There are typically two options for the DNS address: Use the LAN IP address of your router as the DNS address (usually works), or enter the actual public IP address of the DNS server (recommended). You can obtain the actual DNS IP from your Internet Service Provider (ISP); or, from a PC located on the same LAN as the recorder; or, go to <http://www.dnsserverlist.org/> to obtain a list of the IP addresses of their recommendation of the best servers to use for your location.

2. If you are connecting through a router, make sure that you have set up your router to handle the required network port(s) in the *port forwarding* section of your router's setup options, or that your router supports UPnP and you have set up your port forwarding selections in the recorder's UPnP tab. That is, you have directed the router to send any incoming traffic using those IP ports to the LAN IP address of the recorder. Useful information about router port forwarding can be found at www.portforward.com

This is an example of router port forwarding setup using UPnP in the recorder to configure the router:



The default web port on **OMNI** recorders is port 80.

Note: Port 80 is the default port used for HTTP web browsing. Because of this, in order to prevent the average user from hosting a web server, *most ISPs BLOCK traffic using port 80* from reaching the average site. If you only plan to view your recorder on a LAN, you can use port 80 for local access, and don't have to concern yourself with DDNS or routers. However, if you desire remote access to your recorder, perhaps using DDNS (optional), you **MUST** select functional ports and set up the port forwarding in your router. Other ports, such as 8080 and 8000 are sometimes blocked by ISPs as well. In the example above, external port 8888 is used to access the recorder's port 80 on the internal LAN. The Server port is needed for CMS and smartphone access.

What port(s) should you use? There are 65,535 valid IP ports to choose from. These are broken down into three groups:

- Well Known Ports 0 thru 1023
- Registered Ports 1024 thru 49151
- Dynamic and/or Private Ports 49152 thru 65535

So, rather than encounter a port conflict by choosing a port commonly used for another purpose (like port 25 for SMTP mail or port 448 for secure sockets), choose an 'unusual' port number. For example, add 50,000 to your house number: 50,123 is unlikely to lead to a port conflict. For a list of the known and registered ports, see <http://www.iana.org/assignments/port-numbers>

SIMPLEDDNS for OMNI Recorders

There are many DDNS services; customers may use any service they choose and know how to operate/support.

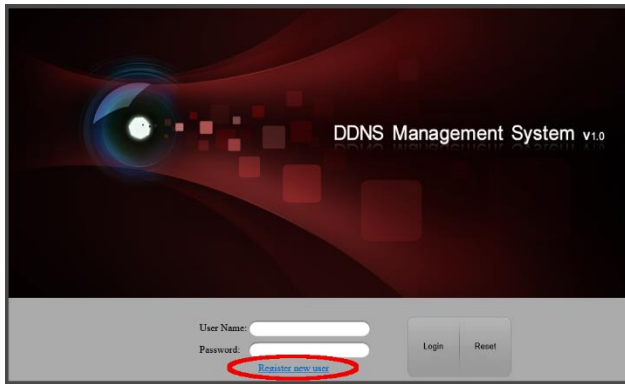
Our recorders have built in support for five services: IPSEVER, DynDNS, PeanutHull, NO-IP and SIMPLEDDNS.

DynDNS and IPSEVER charge an annual fee. NO-IP is free at this time. PeanutHull is a service of Oray.net, and English language instructions are not available at this time.

One basic difference between NO-IP and SIMPLEDDNS is 'port tracking'. That is, if you use NO-IP the end user will type <http://hostname.no-ip.com:port> such as <http://ktncomnidvr.no-ip.com:8000>

For SIMPLEDDNS the end user types: <http://simpleddns.com/hostname> . The SIMPLEDDNS server keeps track of the port. To use SIMPLEDDNS, the dealer/installer has to do some basic preparation.

ONE TIME FOR ANY/ALL OMNI RECORDERS: Set up an account: The dealer/installer goes to SIMPLEDDNS.COM clicks the 'Register New User' link at the bottom, and sets up an account.



Once you receive the account setup confirmation, when you are ready to install a recorder and configure its DDNS name, log into SIMPLED DNS.



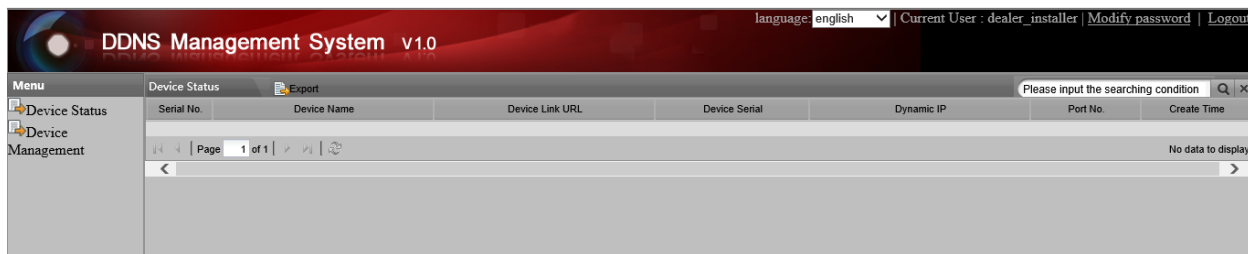
REGISTERING INDIVIDUAL RECORDERS

RECORDERS SHOULD BE CONNECTED TO THE INTERNET WITH PROPERLY CONFIGURED NETWORK SETTINGS BEFORE ATTEMPTING TO REGISTER A DDNS NAME.

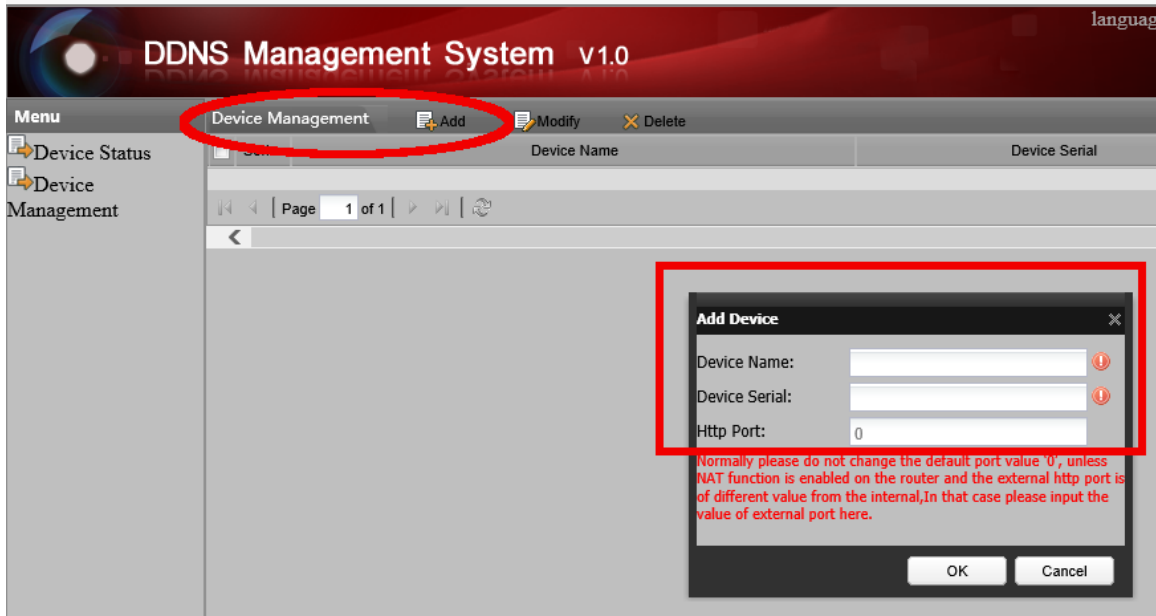


When you enable DDNS and choose SIMPLED DNS, the recorder will communicate with SIMPLED DNS.COM and register its serial number with the site. Once a recorder is registered, **each dealer/installer company can control their own DDNS names.** Only the Device Domain Name (DDNS name) field is required at the recorder. (User Name and Password are for use with other services.) Enter the desired DDNS name and click “APPLY”.

For each recorder installed, one logs into SIMPLED DNS.COM and sets up an initial entry in the DEVICE MANAGEMENT screen.



The Device Name (or hostname) is the name that will be used for that recorder. It need NOT be the FINAL name that will be used. For example, one can register hostnames of stockdvr1 and stocknvr2 while the recorders are connected to the Internet in the shop, and enter the serial numbers that are printed on the outside of the cartons before the recorders ever leave the shop. IF one knows that a particular recorder will be installed in a particular customer site (e.g. a multiple site customer in their store #369, the device name can be “chain369”). Or, one can install “stocknvr1” and change the name to “chain369” AT THE NVR during the installation and setup on site. The initial registration requires a PC; changing the name while onsite is done at the recorder, within the OSD menu system.



The DDNS name you choose must be unique; that is, it must not already be in use. If you try to register a DDNS name which is already taken, whether at the recorder or in the SIMPLED DNS.COM website, you will receive an error message warning that the “name has been used”. If this happens, please choose a different name.

PLEASE NOTE THESE NAMING RULES:

1. Use **only lower case letters, numbers and hyphen/dash [-]** to create the name
2. The name must **start with a lower case letter**
3. The name must **end with a lower case letter or number** (not a hyphen)

SERIAL NUMBERS:

The serial number which appears on the carton and product labels has **9 digits**; in the System Info screen on the recorder the Serial Number field contains the model name plus 27 additional characters. The 9 digit serial number appears between two groups of letters, for example:

KNR-p16Px8999999999XXXX123456789XXXX

Enter only the 9 digit serial number into the “Device Serial” field.

HTTP Port:

In the majority of remote access situations, and in all situations where there are multiple recorders in a single site, the ‘external’ HTTP port used will have a value other than ‘80’. Enter the external HTTP port number here (in the example above, the external HTTP port is ‘8888’). See below for more info.

In the recorder’s Network Menu, go to DDNS. Choose “SIMPLED DNS” for the Service, put in your chosen host name/DDNS name in the Device Domain Name field, and click APPLY.

You should now be able to connect by typing the host name you created into your browser.

Example: <http://simpleddns.com/hostname>

If your recorder is using port 80, since that is the default for HTTP web browsing, it is not necessary to deal with external HTTP port values. If, however, the external HTTP port number is other than ‘80’, one would need some way to input that port information to the web browser. For other DDNS services, that would take the form of <http://hostname.otherddns.com:port> or <http://ktncomnidvr.no-ip.com:8888>

When using SIMPLED DNS, you have already entered that information into the “Add Device” setup screen. Since the SIMPLED DNS server knows the HTTP port number, it is not necessary to append the HTTP port number to the DDNS name. The SIMPLED DNS server not only keeps track of your recorder’s IP address, **it keeps track of the ports too!**