

# *Hi Performace Embedded Linux Stand Alone DVR*

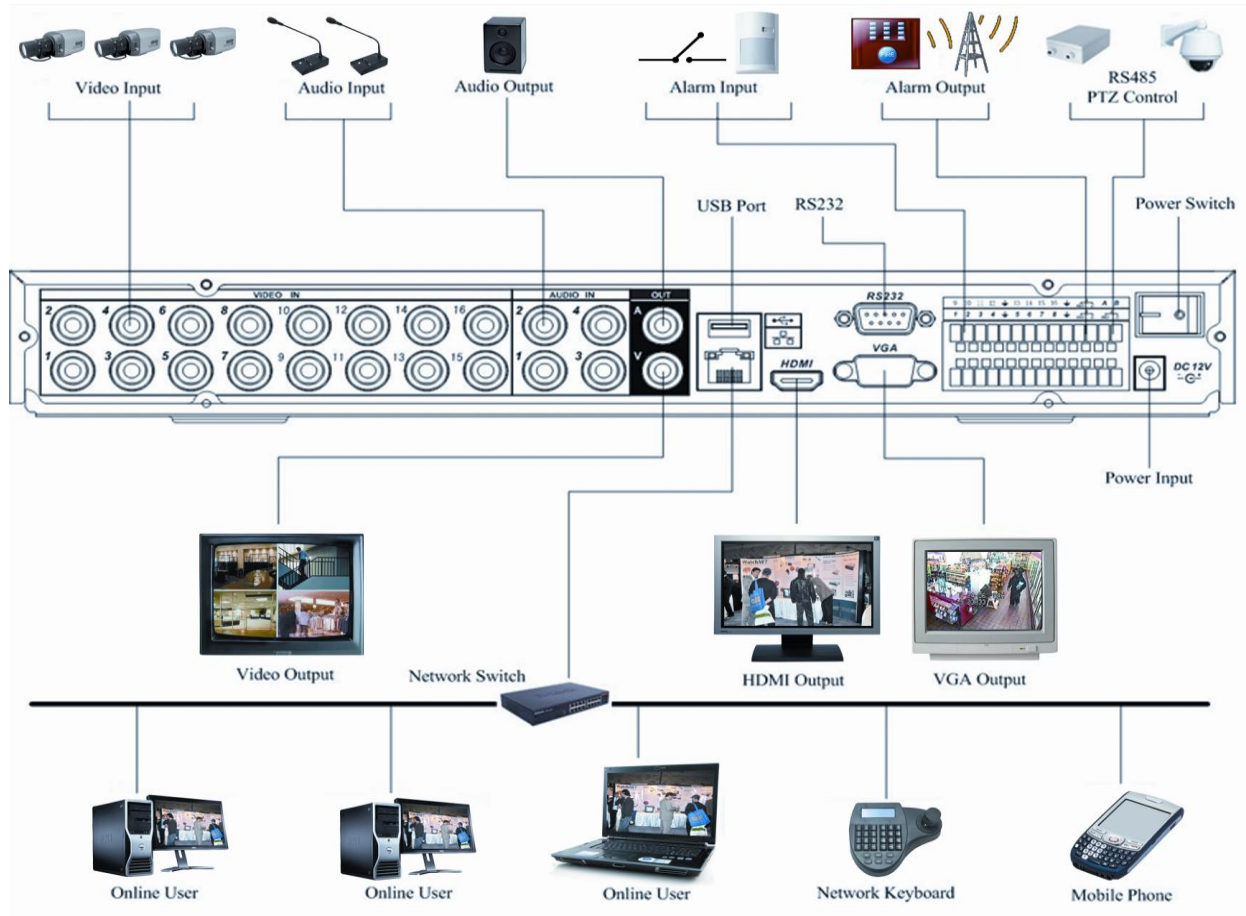


ES-series

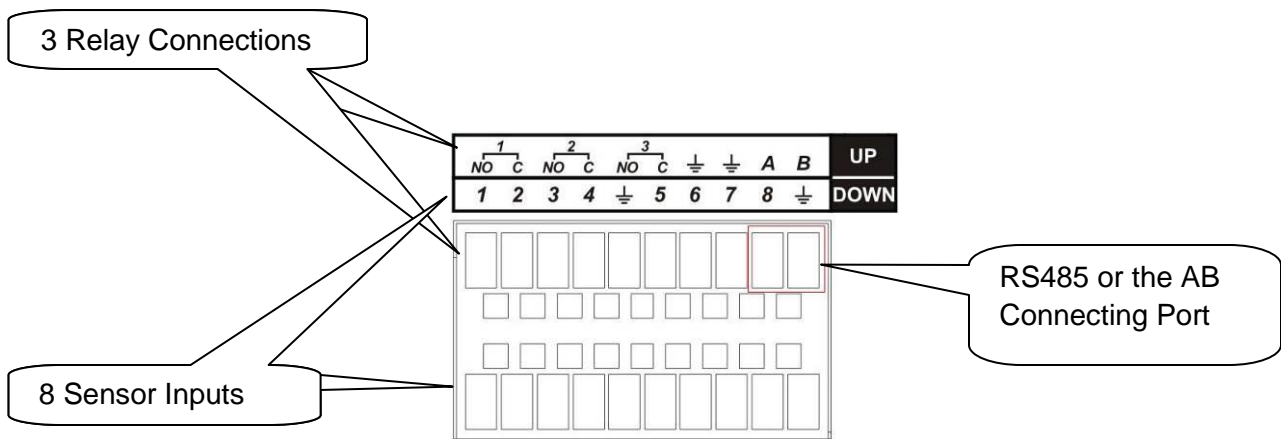
## I. CONNECTING THE DEVICE.

Before powering up the system make sure to connect the video inputs/outputs, network cable and USB mouse. Refer below for basic connection.

### 1. ES series connection diagram.



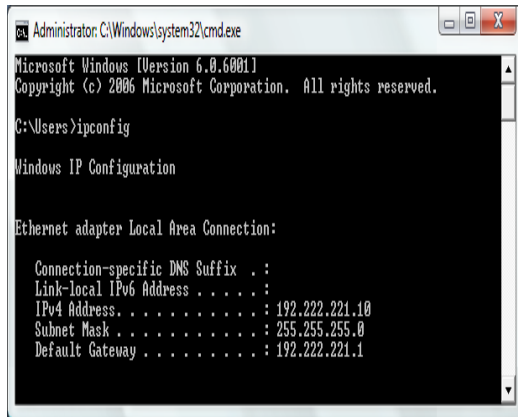
### 2. PTZ, sensors and relays connection diagram for ES series.



## II. HOW TO CONNECT THE DVR TO THE NETWORK AND INTERNET.

### 1. Assigning Network IP Address.

DVR must be assigned an IP address, subnet mask and gateway. To know what network settings to use, open Windows command prompt on a pc connected to the same network as the DVR and type ipconfig to get the network status of your existing computer.



```
Administrator: C:\Windows\system32\cmd.exe
Microsoft Windows [Version 6.0.6001]
Copyright (c) 2006 Microsoft Corporation. All rights reserved.

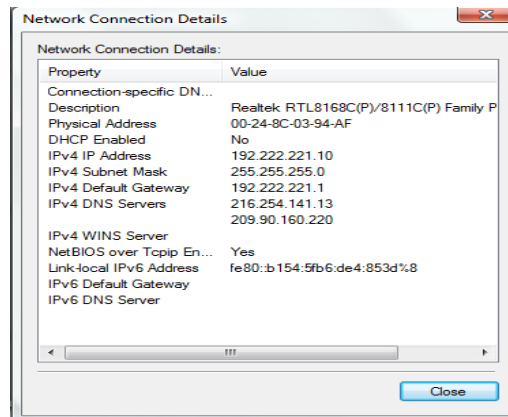
C:\Users>ipconfig

Windows IP Configuration

Ethernet adapter Local Area Connection:

    Connection-specific DNS Suffix . :
    Link-local IPv6 Address . . . . . :
    IPv4 Address. . . . . : 192.222.221.10
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 192.222.221.1
```

ipconfig result



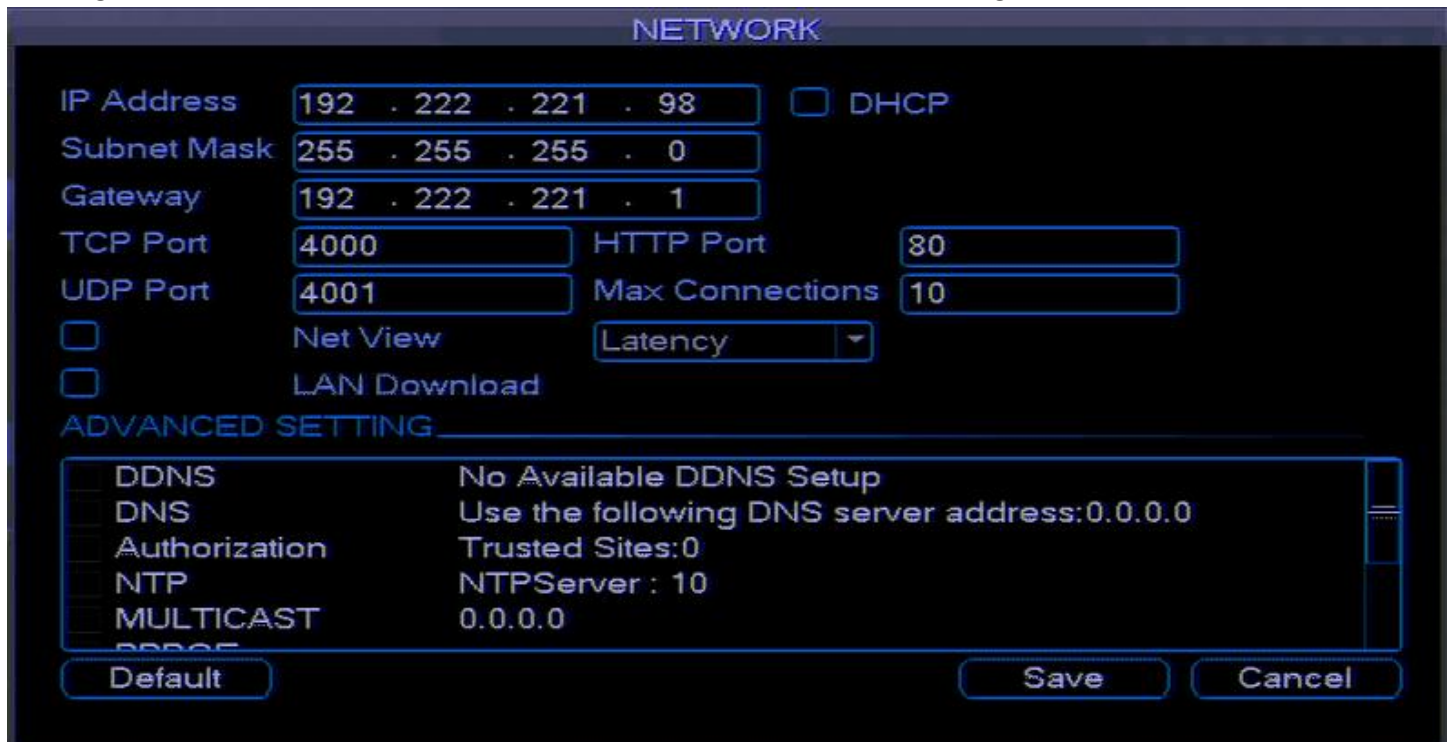
Property	Value
Connection-specific DN...	
Description	Realtek RTL8168C(P)/8111C(P) Family P
Physical Address	00-24-8C-03-94-AF
DHCP Enabled	No
IPv4 IP Address	192.222.221.10
IPv4 Subnet Mask	255.255.255.0
IPv4 Default Gateway	192.222.221.1
IPv4 DNS Servers	216.254.141.13 209.90.160.220
IPv4 WINS Server	
NetBIOS over Tcpip En...	Yes
Link-local IPv6 Address	fe80:b154:5fb6:de4:853d%8
IPv6 Default Gateway	
IPv6 DNS Server	

network status

The Subnet Mask and Default Gateway will remain the same on the DVR but the IP address would be different mainly the last octet or number. Each device on the network must have its own unique IP address. On the ipconfig example above the IP address is 192.222.221.10, 10 being the last number. So assign to the DVR any last number between 2-9 and 11-254.



To assign the IP address click on  then  then , network setting interface as shown



**NETWORK**

IP Address: 192 . 222 . 221 . 98  DHCP

Subnet Mask: 255 . 255 . 255 . 0

Gateway: 192 . 222 . 221 . 1

TCP Port: 4000 HTTP Port: 80

UDP Port: 4001 Max Connections: 10

Net View  LAN Download

Latency:

**ADVANCED SETTING**

DDNS	No Available DDNS Setup
DNS	Use the following DNS server address:0.0.0.0
Authorization	Trusted Sites:0
NTP	NTPServer : 10
MULTICAST	0.0.0.0

Default Save Cancel

After assigning the IP address save the settings by clicking Save button, then do a menu restart.

**Note:** If router has DHCP enabled, make sure to stay away from the DHCP IP address range to prevent network conflicts.

## 2. Port forwarding.

To access the DVR over the Internet, user must forward the HTTP port and TCP port. Each router has a unique way of port forwarding some routers call it pin holes or virtual server but all of them will always have a common requirement.

If you do not know how to Port Forward on your model of router please **contact the router manufacturer's technical support number** or refer to <http://www.portforward.com> to look up examples of port forwarding for your model of router.

Below is an example of how to port forward on a Linksys router

1. Name - User can use any name - ex. DVR 80 and DVR 4000
2. Device IP address - the embedded DVR IP address - ex. 192.222.221.98
3. Ports to forward - 80 HTTP port and TCP 4000 - ex. 80 and 4000
  - External/public port - 80 and 4000
  - Internal/private port - 80 and 4000
  - Port range - 80 to 80 and 4000 to 4000
4. Source IP address - if user knows the IP address that will connect to the DVR or use the default, which would be any

The screenshot shows the 'Applications & Gaming' configuration page on a Linksys WRT310N router. The 'Single Port Forwarding' section is active, displaying a table of forwarding rules. Two rules are highlighted with a red box: 'DVR 80' and 'DVR 4000'. The 'DVR 80' rule is configured with External Port 80, Internal Port 80, Protocol TCP, and To IP Address 192.222.221.98. The 'DVR 4000' rule is configured with External Port 4000, Internal Port 4000, Protocol Both, and To IP Address 192.222.221.98. Both rules have their 'Enabled' checkboxes checked.

Application Name	External Port	Internal Port	Protocol	To IP Address	Enabled
None	0	0	BOTH	192.222.221.0	<input type="checkbox"/>
None	0	0	BOTH	192.222.221.0	<input type="checkbox"/>
None	0	0	BOTH	192.222.221.0	<input type="checkbox"/>
None	0	0	BOTH	192.222.221.0	<input type="checkbox"/>
None	0	0	BOTH	192.222.221.0	<input type="checkbox"/>
DVR 80	80	80	TCP	192.222.221.98	<input checked="" type="checkbox"/>
DVR 4000	4000	4000	Both	192.222.221.98	<input checked="" type="checkbox"/>
	0	0	Both	192.222.221.0	<input type="checkbox"/>
	0	0	Both	192.222.221.0	<input type="checkbox"/>
	0	0	Both	192.222.221.0	<input type="checkbox"/>
	0	0	Both	192.222.221.0	<input type="checkbox"/>
	0	0	Both	192.222.221.0	<input type="checkbox"/>
	0	0	Both	192.222.221.0	<input type="checkbox"/>
	0	0	Both	192.222.221.0	<input type="checkbox"/>
	0	0	Both	192.222.221.0	<input type="checkbox"/>

On the status page of the router make sure it contains the public IP address. If the Internet/WAN IP address starts with 192 or 172 or 10, it means the ISP's modem is routing not bridging. Please contact the Internet Service Provider support for help to bridge the modem.

Note: Please don't use DMZ.

The screenshot shows the 'Status' page of the Linksys WRT310N router. The 'Router Information' section displays the following details: Firmware Version: v1.0.07 build 014-L5-HND Dec 1, 2008; MD5 Value: 767da22bfe8ca0063bec3d9b9d9d92; Current Time: Sun, 19 Apr 2009 23:41:40; Internet MAC Address: 00:23:89:34FD:0E; Host Name: ; Domain Name: . The 'Internet Connection' section shows: Connection Type: PPPoE; Login Status: Connected; Internet IP Address: 64.56.252.83; Subnet Mask: 255.255.255.255; Default Gateway: 216.254.132.30; DNS1: 216.254.141.13; DNS2: 209.90.160.220; DNS3: ; MTU: 1492. The Internet IP Address is highlighted with a red box.

### 3. DDNS

If the public IP address is dynamic meaning it changes from time to time, users would need a dynamic dns service provider, so that the DVR will still be accessible even when the external IP address of the DVR's network changes.

A. Register with [www.viewdvr.com](http://www.viewdvr.com) and remember the site name, which is needed on the Embedded system.

Please note register a site name maximum 10 characters in length and no spaces should in the site name.

The site name is also case sensitive.

B. Input these settings on the DVR system DDNS found under DVR SETUP-NETWORK-ADVANCED SETTING

DDNS type-Videon DDNS

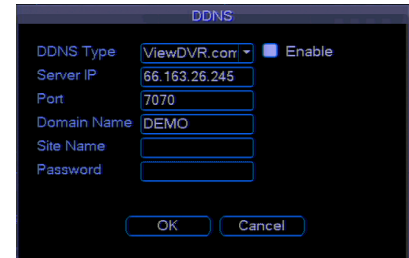
Server IP - 66.163.26.245

Port - 7070

Site Name - the site name that was registered in [www.viewdvr.com](http://www.viewdvr.com)

Username - leave blank if using Videon DDNS

Password - leave blank if using Videon DDNS

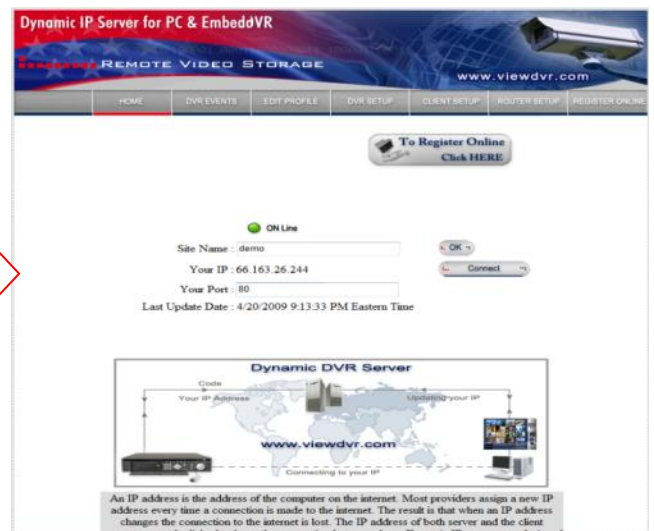


**Note:** Always register a new Site Name when installing a new system.

### 4. Remote Connection

There are two ways to connect to the Embedded DVR.

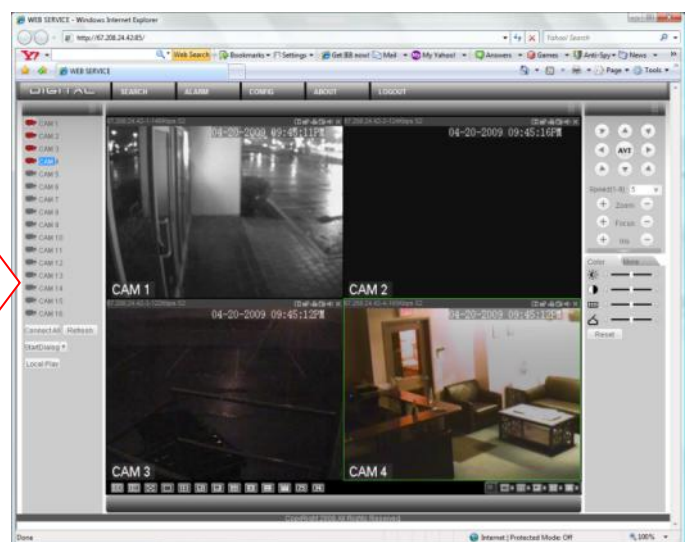
4.1 Using Internet Explorer, go to [www.viewdvr.com](http://www.viewdvr.com) type in the site name and click ok



Click Connect to open the Web View. Input user name and password and click login

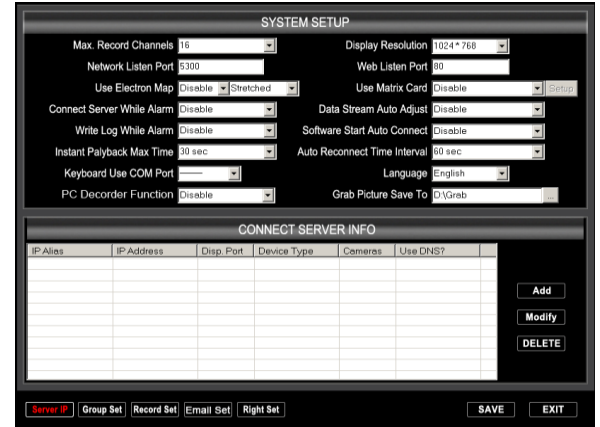
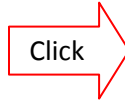
default username: admin

default password: 1234

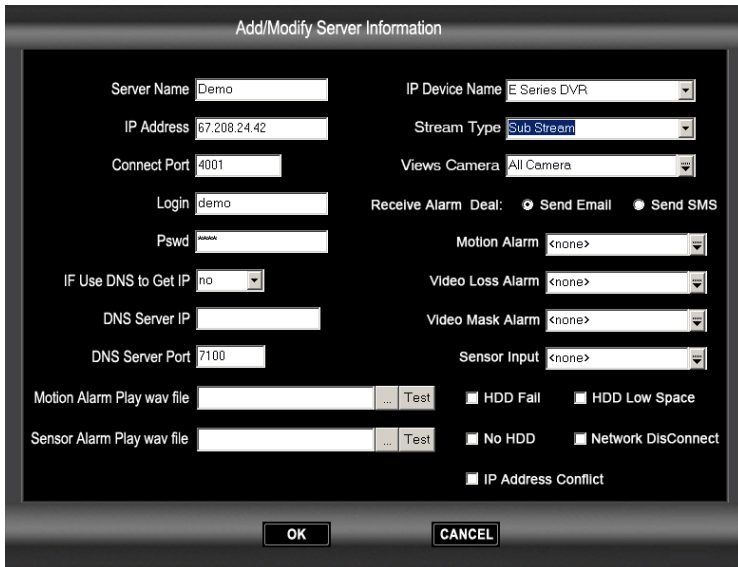


## 4.2 64 Channel NVR Client

Install the NVR Client Software and add the sites



### Example 1: By Direct IP address



Server Name: Any Name

IP Address: the direct IP address of the system

Port: Service/TCP Port or default on system would be 4000

User Name: Use to login on DVR

Password: Use to login on DVR

Total Channel: number of cameras

IP Device Name: use E series DVR

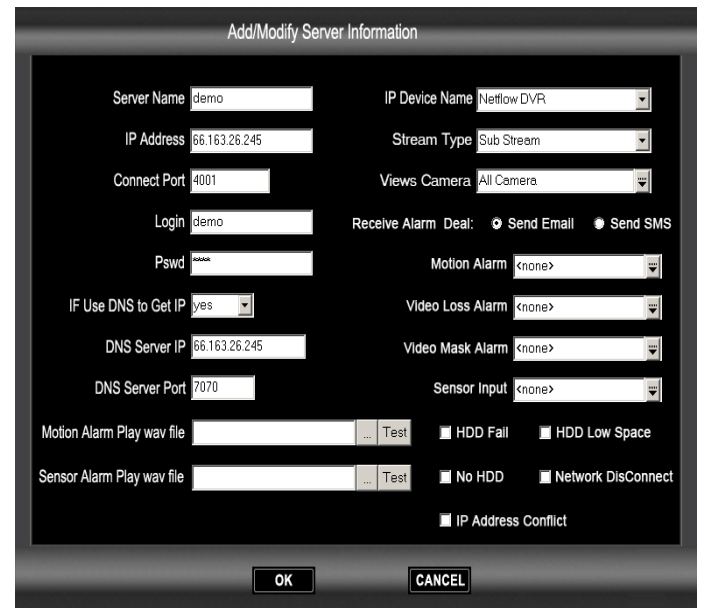
Stream Type: Main Stream – for best image quality

but uses a lot of bandwidth

Sub Stream - for better frequency view

Leave the other settings as default, if not needed.

### Example 2. By DDNS



Server Name: Any Name

IP Address: 66.163.26.245

Port: Service/TCP Port or default on system would be 4000

User Name: Use to login on DVR

Password: Use to login on DVR

Total Channel: number of cameras

IP Device Name: use E series DVR

Stream Type: Main Stream – for best image quality

but uses a lot of bandwidth

Sub Stream - for better frequency view

Leave the other settings as default, if not needed.

Click Ok then, click Save to save the sites.

After adding the Site Click on ALL button to view the cameras.

The screenshot displays a security camera management interface. It features four video feeds arranged in a 2x2 grid:

- CAM 1:** Shows an outdoor area with a paved walkway, a building entrance, and a snow-covered parking lot with several cars. The timestamp is 02-27-2010 01:38:10 AM.
- CAM 2:** Shows an indoor office reception area with a desk, a black sofa, and a coffee table. The timestamp is 02-27-2010 01:38:10 AM.
- CAM 3:** Shows an outdoor area with a large metal frame structure in the foreground and a car in the background. The timestamp is 02-27-2010 01:38:10 AM.
- CAM 4:** This panel is currently blacked out. A red speech bubble with the text "Click here to connect all cameras" points to the "ALL" button in the control panel.

The interface includes a control panel at the bottom with the following elements:

- A row of icons for camera layout selection (1, 2, 3, 4, 6, 8, 9, 16 cameras).
- Buttons for "Search", "Settings", "Menu", and "Login".
- Buttons for "ALL" (checked) and "ALL" (unchecked).
- Buttons for "Relay", "Color", "PTZ", and "Group".
- A "WatchNET" logo and "Videon Digital" text at the bottom right.

On the right side, there is a sidebar with the following information:

- System status: Fri, Feb 26, 2010 PM12:35:19, 1: Demo CAM 1.
- A tree view showing a "Demo" group containing "CAM 1", "CAM 2", "CAM 3", "CAM 4", and "demo".
- A search box containing "CAM 1".

### III. Setting the DVR Schedule

#### 1. Manual Record.

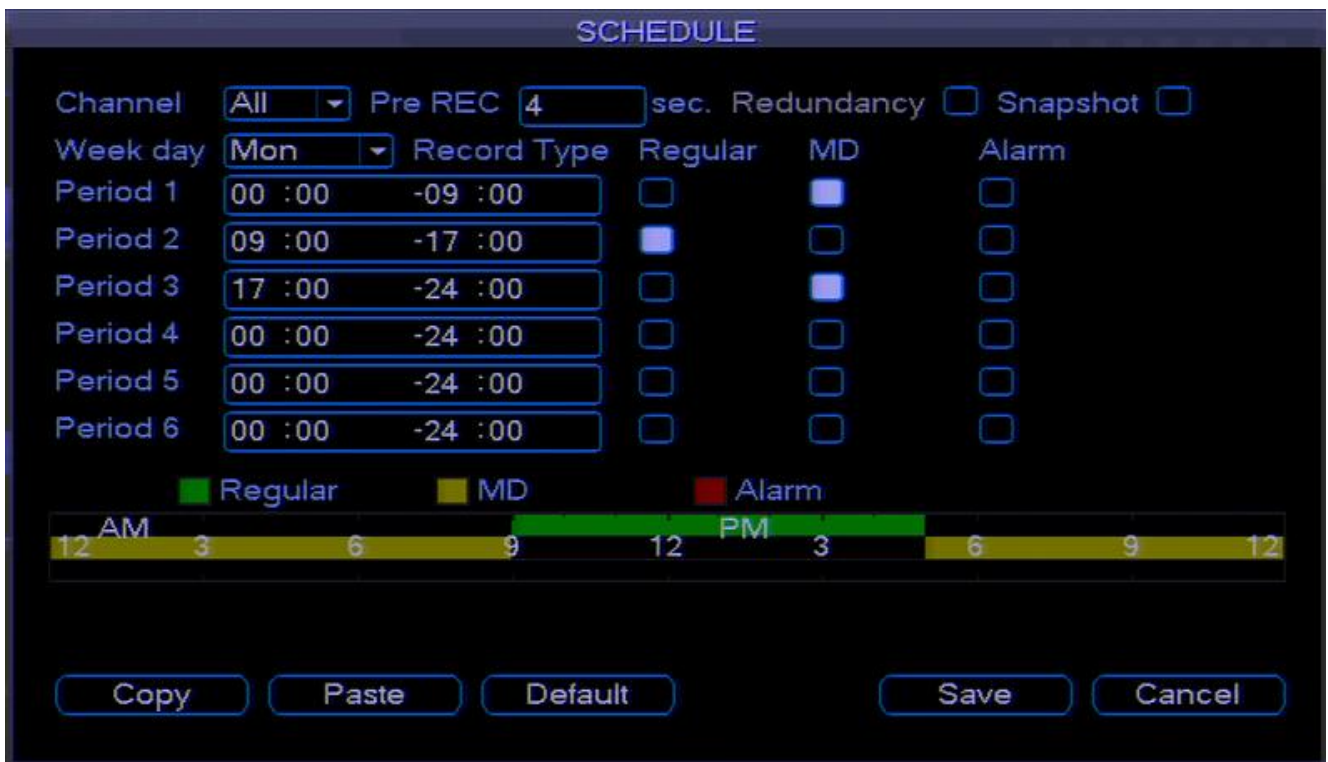
To open the Manual Record menu and enable Scheduled Recording, on the Main Menu select Advance Setup and then click on Manual Record or on the front panel of the DVR press the REC button. On the Manual Record window Highlight "All" on Schedule. Click OK



#### 2. Setting the Schedule:

Example 1. Schedule the DVR for weekday Regular recording (always record) from 9:00am to 5:00 and motion recording for the rest of the day. And for weekends Motion Recording for 24hrs.

- Open the Recording Schedule Menu
- Set the Schedule for Monday and for all cameras.
- For Period 1 set the time from 00:00 to 09:00 then highlight MD for Motion Detection.
- For Period 2 set the time from 09:00 to 17:00 then highlight Regular
- For Period 3 set the time from 17:00 to 24:00 then highlight MD for Motion Detection.



- Press Copy button.
- Select the next day Tue (Tuesday) for Weekday, and then press the Paste button. The schedule for Tue will now look like the schedule for Mon. Repeat the process until all the weekdays are set to the schedule.
- To set Motion only for the weekends, select Sat on the Weekday field and all for channel field. Then for Period 1 highlight only MD.



- Then Copy and Paste to the Sunday field
- Click save and right click the mouse to go back to the main screen

#### IV. DVR Search & Backup Procedures

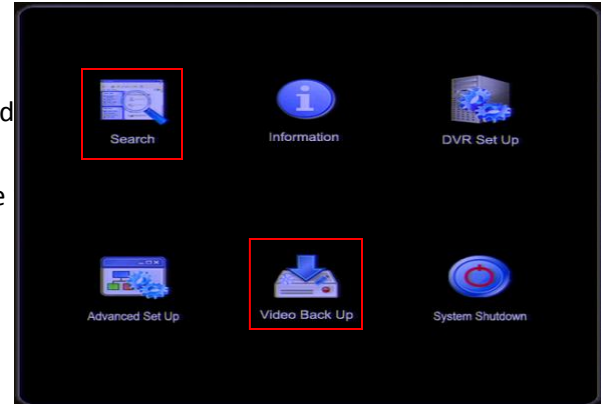
Before beginning any backup procedures, make sure to use blank media or a USB drive that is supported by the DVR. The DVR's drive tray will show what type of media it supports, if it shows only CD it mean will only support CD's but if it shows DVD and CD it can support both media. Make sure to insert the CD, DVD or USB drive before starting the backup procedure, inserting it while in the backup window may cause it not to be detected. For USB drives make sure that the drives are in FAT32 format.

There are two ways to start a backup, highlighted below, they are:

- Searching for the video you wish to backup in the "Search" window
- Searching by time and date in the Video Backup menu

The following steps will guide you through backing up the files from the

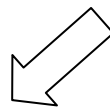
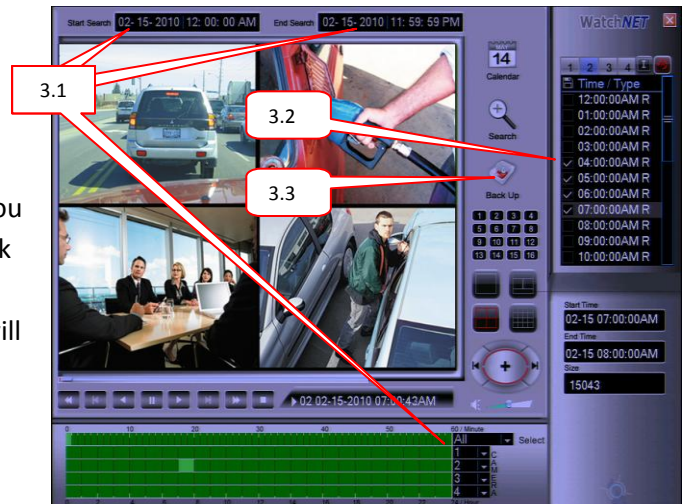
1. Login to the DVR. Pressing the login button
2. Enter the Username/Password. (Default: admin / 1234)
3. Select "Search" this will open the Search Window



3.1 Enter the time/date at the top-left corner and the channel numbers you want to view on the top-right.

3.2 Double click on the file to start playing the video. To make a backup, place a check mark next to the videos you want to save using the file list on the right or double click on the file to start playing.

3.3 Select the "Back Up" button on the top right; this will open the backup window as seen below



Select here for USB Drive or CDRW/DVDRW

Click to start backup

# WARNING:

- To Prevent Data corrupt and video data loss it is recommended to install the DVR system on UPS (battery backup). Failing to install the system on a battery backup may VOID Warranty
- Never unplug the AC power from DVR while it's on and operating. To properly restart or power off the DVR please login as admin and click on Setup, select System Shutdown and on the drop menu select either shutdown or restart. Failing to properly restart or shutdown the system may VOID warranty
- Please avoid excessive humidity and dusty/dirty area.
- Allow adequate ventilation for system cooling and avoid blocking the fan for proper air circulation.