Since 1992

IR LAB

SURVEILLANCE TECH

Producing high quality video surveillance products for 25 years.

IP & HDCVI Recording
Quick Install Guide

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Contents

IP Recording

HDCVI Recording

IP RANGE

Our IP range offers improved image quality and features such as dual streaming and PoE support. Whether a first time installer or advanced user, our IP cameras always provide the right solution.

Pages 4-17 of this guide are for the installation of both the **VR-JA0401TP** & **VR-JA1602VP IP Recorders.**

Installation for HDCVI recorders can be found on page 18.

Default Settings

Listed below are the default settings for some of the options within the system.

HDMI/VGA Resolution	1280x720
Language	English
Account Name	admin
Account Password	123456
HDD Overwrite	On
Auto Logout	Off
IP Address	192.168.1.88
HTTP Port	80
TCP Port	8000
POE Switch Address (16 Channel Only)	192.168.2.88
Record Schedule	Continuous Record (24/7)

Average record times

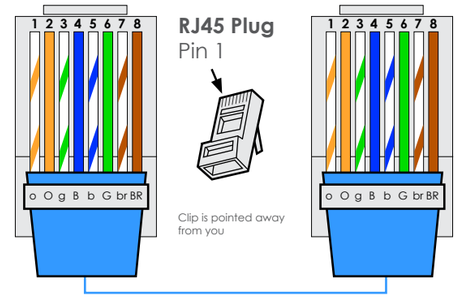
Resolution Per camera	**FPS** Per camera	**Quality** Per camera	**No. of Cameras**	**HDD Size**	**No. of Days Recording**
1080P	25	High	4	2TB	5
1080P	25	Medium	4	2TB	11
1080P	12	High	4	2TB	11
1080P	12	Medium	4	2TB	22

Resolution Per camera	**FPS** Per camera	**Quality** Per camera	**No. of Cameras**	**HDD Size**	**No. of Days Recording**
720P	25	High	4	2TB	11
720P	25	Medium	4	2TB	22
720P	12	High	4	2TB	22
720P	12	Medium	4	2TB	44

CAT-5 Wiring

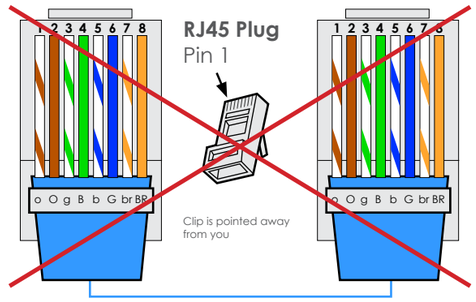
T-568 Wiring Standard

It is extremely important to follow the T-568 wiring standard when terminating RJ45 connectors. Failure to follow the T-568 standard will result in connection and reliability issues.



T-568 wiring example

Using custom colour arrangements WILL result in reliability issues.



The maximum transmission distance for Ethernet and POE is 100m.

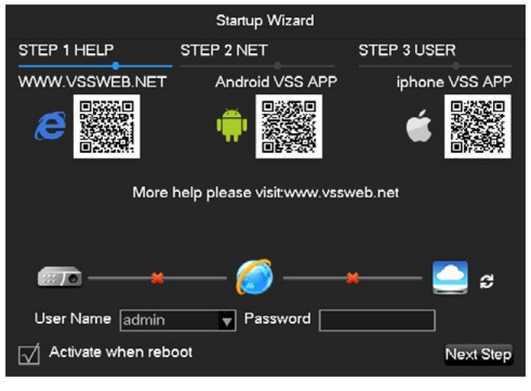
Initial Setup

Startup Wizard

On first boot up the system will display the startup wizard, this covers basic settings such as Network & User Accounts.

The menu displayed below will be shown at the beginning of the Start Up Wizard.

General

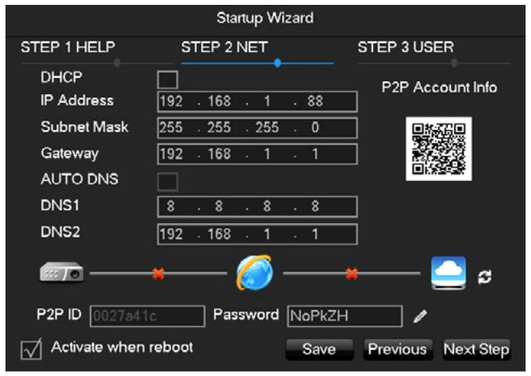


Using a QR Reader app on a mobile device, the relevant QR codes on screen can be scanned to download the mobile application for your device.

Enter the default Username & Password **(123456 for admin)** to continue through the Setup Wizard process.

Untick **Activate when reboot** to prevent the Startup Wizard from appearing in future.

Net

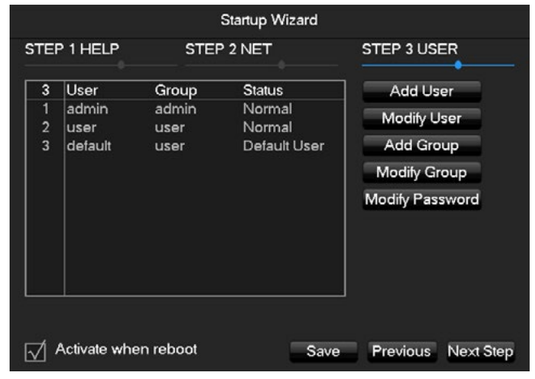


For simple network setup, enable the DHCP option. Click **Save** and then the icon.

If setup was successful, the network indicator lines should change from a to a solid green line.

It should now be possible to connect to the NVR via the VSS app using the P2P Account Info QR code and P2P ID & Password. Remote access is covered further on page 16.

User



By default there are two accounts preset in the system, an admin account and a user account.

Both these accounts have a default password of **123456.**

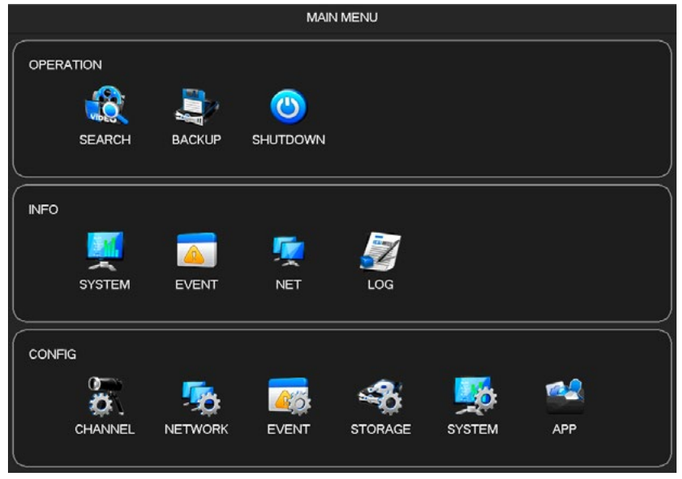
Each users password can be changed by clicking the **Modify Password** button.

New users can be added to the system using the **Add User** button.

Note: It is highly recommended that the default passwords are changed for security purposes.

NVR/DVR Main Menu

The main menu is split into three different categories



Operation	These are functional options such as Playback
Info	Provides information such as PoE load, system version etc.
Setting	These items contain the settings for the system, split into six categories

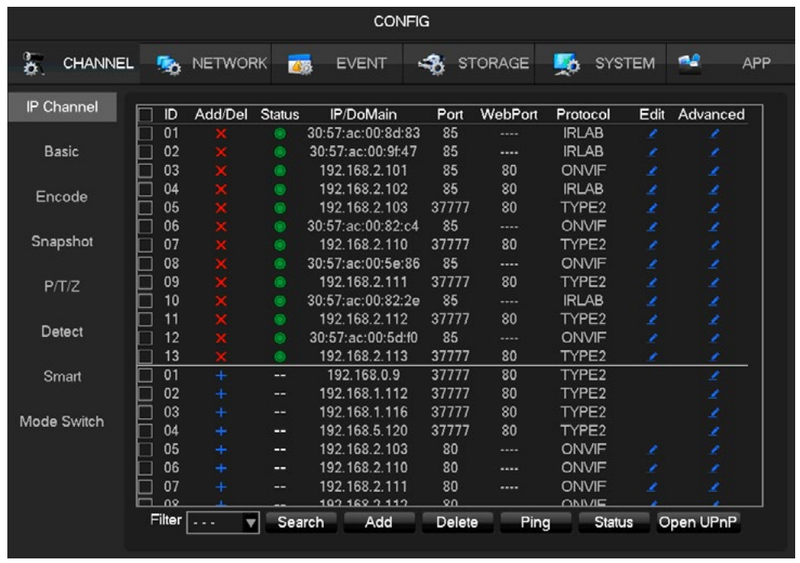
IRLAB CAMERA SETUP

4 Channel VR-JA0401TP

IRLAB cameras support Plug and Play, this means that usually only minimal configuration is required.

To automatically add the IRLAB cameras to the system using the Plug and Play feature, go to Main Menu > Channel > IP Channel and select the **Open UPnP** button.

Any IRLAB cameras detected should now be automatically added to the system.



The VR-JA0401TP PoE ports share the same IP address range as the NVR LAN adapter, this means that any cameras connected to a PoE port will be visisble across the LAN network.

By default all IRLAB cameras are set to an IP address of 192.168.0.66, this should not affect the operation of the Plug and Play feature, however it is recommended to change each cameras IP address to be unique (192.168.0.101, 192.168.0.102, 192.168.0.103, 192.168.0.104 as an example).

This can be done by going to Menu > Channel > IP Channel and clicking under the advanced column.

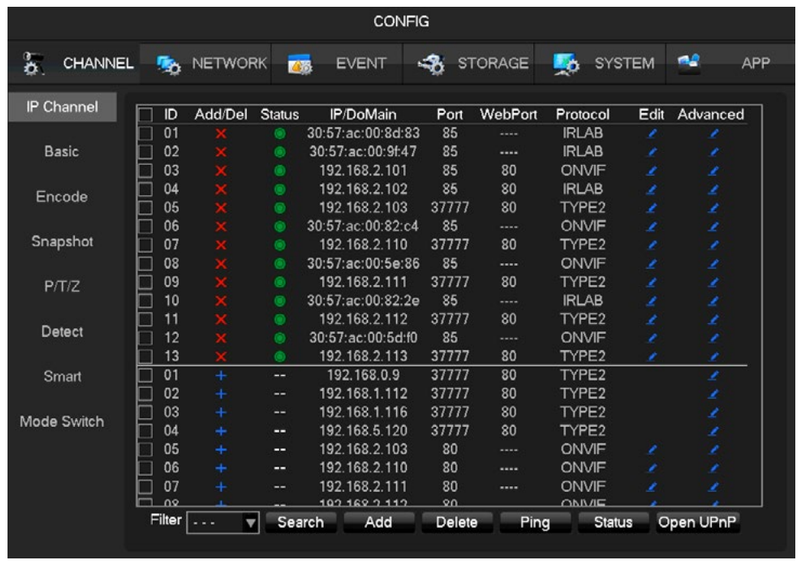
From here select **Front Set > Network**, the IP address settings of the camera can now be modified.

IRLAB IP Camera Quick Setup

16 Channel VR-JA1602VP

IRLAB cameras support Plug and Play, this means that usually only minimal configuration is required.

When a IRLAB camera is connected to the system, it should automatically appear on the system.



The VR-JA1602VP PoE ports are isolated from the NVR LAN adapter, this means that any cameras connected to a PoE port will **not** be visisble across the LAN network.

By default all IR LAB cameras are set to an IP address of 192.168.0.66, this should not affect the operation of the Plug and Play feature. An optional step is to manually configure each cameras IP address to a unique address (192.168.0.101, 192.168.0.102, 192.168.0.103, 192.168.0.104 as an example).

This can be done by going to Menu > Channel > IP Channel and clicking under the advanced column.

From here select **Front Set > Network**, the IP address settings of the camera can now be modified.

Third Party Camera Quick Setup

VR-JA0401TP Example

Onvif Protocol

The following example is based on adding a Dahua camera to the system using Onvif protocol, other manufacturers are usually added in a similar manner.

1. Connect camera to POE Port of NVR or Switch.

2. Connect PC/Laptop to NVR or Switch POE port.

3. Run the **Config Tool** Software on the PC/Laptop (This can be found on the CD supplied with the camera, or be downloaded from the website).

4. Change each cameras IP address to the same range as the NVR POE Switch (VR-JA1602VP) or for the VR-JA0401TP NVRs the same range as the LAN network.

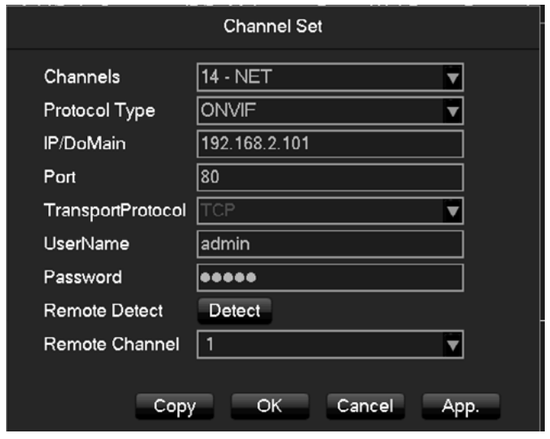
The default IP address for Dahua IP cameras is **192.168.1.108**

16 Channel NVR PoE Address Range
192.168.2.88

5. Enter the NVR menu and go to Channel > IP Channel.

6. Select the option **Add** and input the following details:

Channel: Channel number to assign camera
Manufacturer: ONVIF
IP Address: The IP Address of the camera
RTSP Port: 554 HTTP Port: 80
Username: admin
Password: admin



7. Click **App** to apply the setting. Cameras can take up to 30 seconds to appear on the NVR live display.

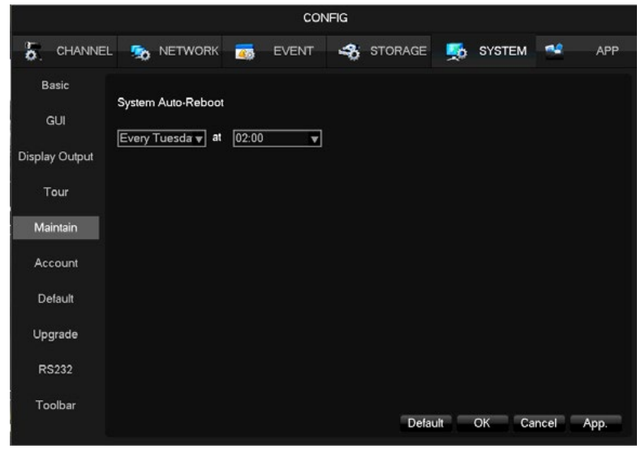
Auto Maintain Feature

Menu > System > Auto Maintain

Auto maintain is a feature designed to automatically reboot the system at a scheduled date and time. By default auto maintain is set to reboot the system every Tuesday at 2:00am.

To adjust the auto maintain settings follow the steps below:

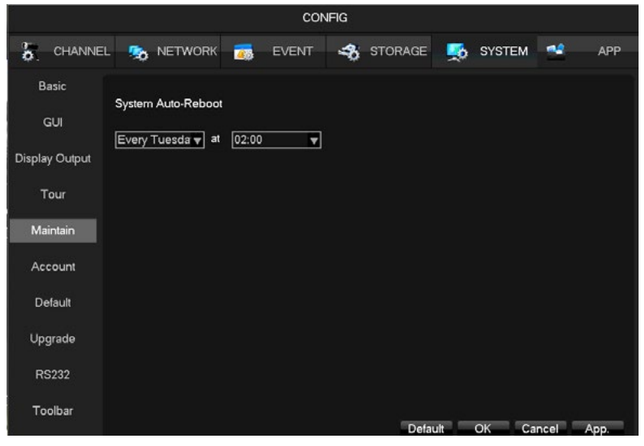
1. Go to Menu > System > Auto Maintain.



2. Adjust the preferred day and time by selecting a specified day from the dropdown box and inputting the preferred hour into the time field. There is also the option for **"Never"** in the day dropdown box, this will disable the auto maintain feature.

3. Click **Apply** to apply the setting and **OK** to save it.

   The auto maintain feature can also be configured via the NVR web browser.



Record and Quality Settings

Menu > Channel > Encode

Camera record settings are located in the encode menu. For IP systems the settings are stored on the camera and settings relate to the encoding quality of the video stream being transmitted by the camera.

Main Stream This is the left hand column and is set to record by default. This is usually the HD Stream.

Extra Stream This is a secondary stream which is not set to record by default. The extra stream is usually a much lower quality stream, it is often used for remote viewing when internet bandwidth is an issue.

Channel Select the specific channel to view or modify.

Stream Type The type of record, options are Regular, Motion Detection and Alarm.

Compression The type of compression used for the recording such as H.265, H.264 and MJPEG.

Resolution This is the total image size in pixels. The higher the resolution the clearer the image.

Frame Rate (FPS) How many images (frames) are recorded each second. 25 is real time recording.

Bitrate Control **CBR** - Constant Bit Rate keeps the bit rate (the size of the video) at a constant level regardless of how many changes are taking place in the image.

VBR - Variable Bit Rate adjusts depending on the amount of changes occurring in the image. High amounts of changes (movement, light changes etc) increase the bit rate. Low amounts of changes keep the bit rate at a lower level.

Bit Rate (Kb/s) This is the target bit rate given in Kbps. The bit rate determines the file size of the video stream. The bit rate should be adjusted based on Resolution and FPS. A high Resolution and FPS will require a higher bit rate, a lower Resolution and FPS will require a lower bit rate.

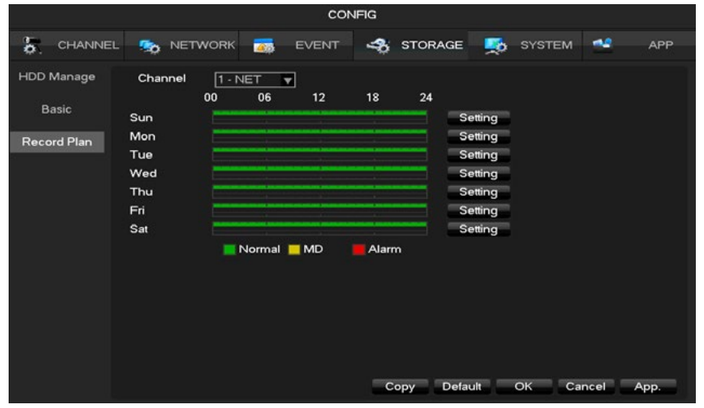
Click **OK** to save any changes.

Record Schedule Settings

Menu > Storage > Record Plan

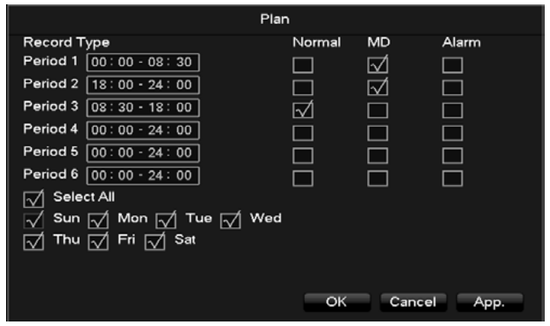
The Record plan controls when the unit stores video to the HDD's, it also determines the recording type, i.e. Normal, Motion Detection and Alarm recording

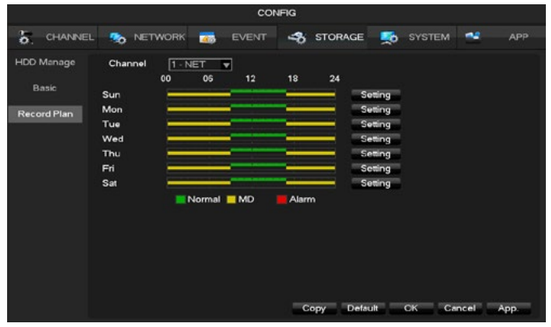
By default the NVRs are set to record 24/7 normal (continuous) record, motion and alarm recording are disabled.



To edit the schedule click on the **Setting** button to display the schedule edit page. Once editing is complete, click **OK** to apply the settings.

The images below show an example of the record schedule set to record continuously between the hours of 08:30 and 18:00, with motion recording between the hours of 18:00 and 08:30 seven days a week.





Click **Copy** to apply the schedule settings to specific, or all camera channels.
Click **OK** to save the setting.

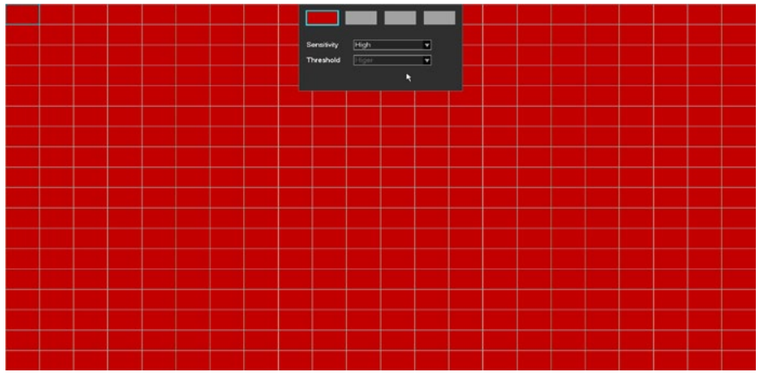
Motion Detection Settings

Menu > Channel > Detect

Motion Detection can be configured to detect movement on specific camera channels. This can then create an event record file and perform various functions including sending an email or sounding the buzzer.

Due to enviromental factors it is advisable to pay particular attention to the region and senstivity settings for external cameras.

To enable motion detection select the **Enable** box.
To customise the detection area and senstivity click **Setting** next to Set Area.



Use the left mouse button to add and remove areas of the grid.

Motion Detection sensitivity is controlled by the amount of movement required to register that movement is being detected. Select the sensitivity level from the dropdown box.

Once the region has been configured click the right mouse button to return to the motion detection setup page.

There are many options and actions that can be configured to work with motion detection, see the list below for an overview of each option.

Process	Set the times and days of the week that motion detection is active. Default setting is 24/7.
Anti-Dither	Set the delay time in seconds that must pass after movement has stopped to end the event.
Show Message	Show an on screen message when motion events occur.
Upload Cloud	Upload snapshots to cloud service such as Dropbox.
Send Email	Send an email notification when a motion event occurs. Email must be configured correctly in Menu > APP > Email.
Linkage Record	Select which channels record when motion detection is triggered.
PTZ Linkage	Move PTZ camera to a preset when a motion event occurs.
Tour	Display the camera channel fullscreen when a motion event occurs.
Snapshot	Take a snapshot when a motion event occurs.
FTP	Upload snapshots to an FTP server.
Buzzer	Sound the NVR/DVR internal buzzer when a motion event occurs.

Smartphone Setup via P2P

All IRLAB NVRs can be viewed remotely using the P2P function.

NVR Setup

1. Connect NVR to network via Ethernet cable.

2. Go to > Network > Basic.

3. Enable DHCP and apply.

4. Enter menu > APP > P2P.

5. Enable P2P option and **Apply.**

6. The Status box should now report Online.

App Setup

Currently P2P is only supported for iOS and Android devices.
Download the mobile application to your mobile device by scanning the QR codes below or by searching for the app in your relative app store.

iPhone

VSS Mobile

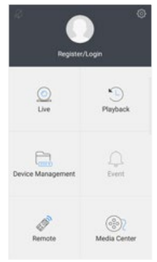
Android Phone

VSS Mobile

Connect using the app

1. Open VSS Mobile app

2. Select Device Management



3. Click + symbol

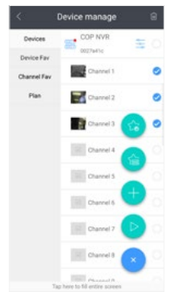
4. Select + Symbol again

5. Input a name (This is for your reference only)
Press Scan icon (Blue symbol)

6. Scan screen

7. Click save icon

8. Select device followed by the cameras to view
Click + symbol and then the play symbol.



9. View cameras

HDCVI RANGE

HDCVI offers HD-Over-Coax long distance transmission. With no new cabling or IP knowledge required, HDCVI is one option for upgrading systems from standard definition to high definition.

Pages 18-29 of this guide are for the installation of both the **VR-HA0401G** & **VR-HA1602G HDCVI recorders**.

Installation for IP recorders can be found on page 3.

Contents

HDCVI Recording

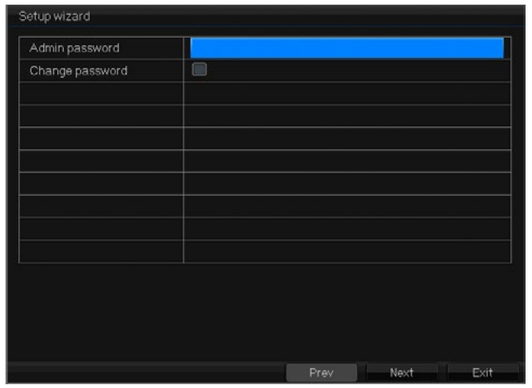
Initial Setup

Startup Wizard

On first boot up the system will display the startup wizard, this covers basic settings such as Network & User Accounts.

The menu displayed below will be shown at the beginning of the Start Up Wizard.

Password



By default there is no password set on the system.

It is **highly** recommended that a password is set to improve security. This can be done by selecting the **Change Password** tick box and inputting a new password.

P2P

Using a QR Reader app on a mobile device, the relevant **"Scan To Download APP"** QR code on screen can be scanned to download the mobile application for your device.

The **"Scan to get UID"** QR code can be used within the mobile application to connect to the DVR. P2P setup is covered in more detail on page 28.

Basic Settings

The basic settings page includes options such as Language, Date/Time and Date/Time format.

To prevent the Startup Wizard from appearing each time the DVR is turned on or rebooted, uncheck the **Setup Wizard** tick box.

NVR/DVR Main Menu

The main menu is split into six different categories

System	System settings such as Date/Time, Network & Monitor Resolution.
Camera	Settings such as Image Parameters, Motion Detection.
Record	Record quality settings, Record schedule etc.
HDD	HDD Information, Format & Overwrite settings.
Image View	View Snapshots.
Information	System Information & Maintenance tools such as; Default, Auto Reboot etc.

CAMERA TYPE SETUP

IRLAB DVRs support HD-CVI, HD-TVI, AHD, CVBS & IP cameras. Within the System > Digital menu channels can be changed from coaxial/BNC to IP.

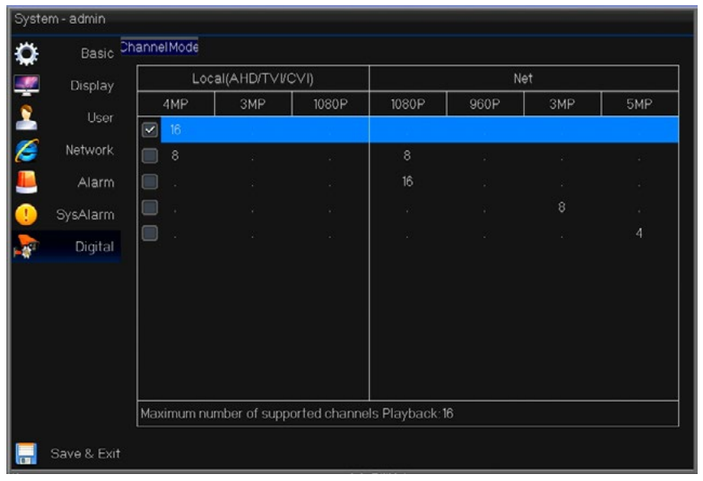
The amount of IP channels supported and resulting channel configuration depends on the DVR model. Please see below for more detailed information:

VR-HA0401G

4x CVI/TVI/AHD/CVBS Channels up to 1080P
1x 1080P IP Channel plus 3x CVI/TVI/AHD Channels up to 1080P
8x IP Channels up to 1080P
16x IP Channels up to 960H

VR-HA1602G

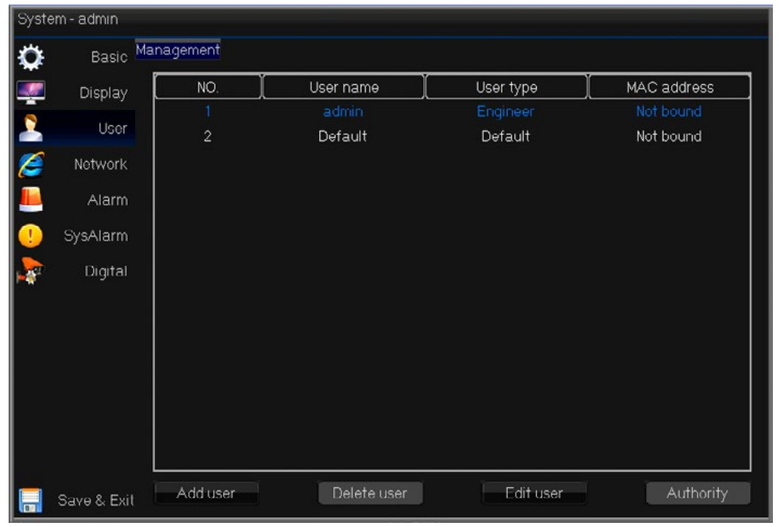
16x CVI/TVI/AHD/CVBS Channels up to 1080P
8x IP Channels up to 1080P 8x CVI/TVI/AHD/CVBS up to 1080P
16x 1080P IPC



Modifying & Adding Users

Additonal users can be added to the system to allow full or limited access to multiple people. Existing user account passwords can also be modified where required.

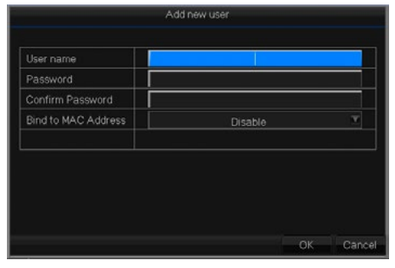
To access the user menu, go to Menu > System > User



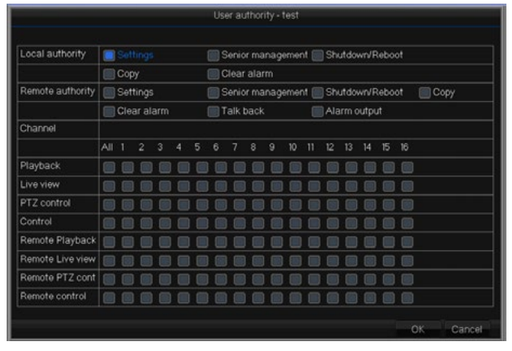
To modify a user password, select the desired username from the list and click the **Edit User** button.

To add a user, select the **Add User** button.

Add User



Authority



Input a Username & Password and click **OK** to save the user. Bind IP to MAC is used to limit this users remote access to a single computer or mobile device.

Once the user has been added, the access rights for the user can be selected by selecting clicking the **Authority** button.

Record and Quality Settings

Menu > Record > Setup

Camera record settings are located in the record setup menu.

Main Stream This is the left hand column and is set to record by default. This is usually the HD Stream.

Extra Stream This is a secondary stream which is not set to record by default. The extra stream is usually a much lower quality stream, it is often used for remote viewing when internet bandwidth is an issue.

CH Select the specific channel to view or modify.

Record Type Choose whether to record video & audio or video only.

Resolution This is the total image size in pixels. The higher the resolution the clearer the image.

Frame Rate (FPS) How many images (frames) are recorded each second. 25 is real time recording.

Bitrate type **CBR** - Constant Bit Rate keeps the bit rate (the size of the video) at a constant level regardless of how many changes are taking place in the image.

VBR - Variable Bit Rate adjusts depending on the amount of changes occurring in the image. High amounts of changes (movement, light changes etc) increase the bit rate. Low amounts of changes keep the bit rate at a lower level.

Bit Rate (Kb/s) This is the target bit rate given in Kbps. The bit rate determines the file size of the video stream. The bit rate should be adjusted based on Resolution and FPS. A high Resolution and FPS will require a higher bit rate, a lower Resolution and FPS will require a lower bit rate.

Click **Save & Exit** to save any changes.

Record Schedule Settings

Menu > Record > Schedule

The schedule controls when the unit stores video to the HDD's, it also determines the recording type, i.e. Common, Motion Detection and Alarm recording.

By default the NVRs are set to record 24/7 Common (Continuous) + Motion & Alarm.

To edit the schedule click on the colour icon representing the desired type of recording. Add this type of recording to the schedule by left click and dragging the mouse across the schedule.

Additional schedule settings include the following two items;

Event Pre-Record Time Set the amount of seconds saved before an event activation.

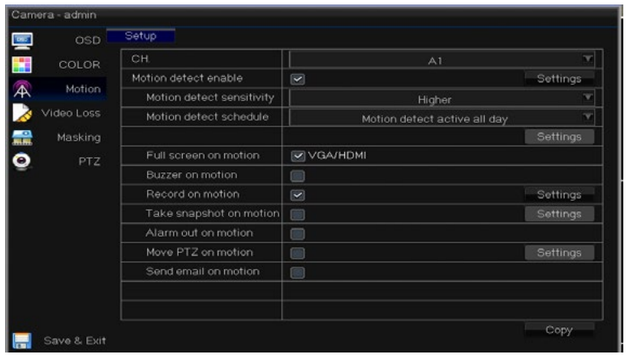
Event Delay Time This is the amount of time each event records for.

Motion Detection Settings

Menu > Camera > Motion

Motion Detection can be configured to detect movement on specific camera channels. This can then create an event record file and perform various functions including sending an email or sounding the buzzer.

Due to enviromental factors it is advisable to pay particular attention to the region and senstivity settings for external cameras.



To enable motion detection select the **Enable** box.
To customise the detection area and senstivity click **Setting** in the top right.

Use the left mouse button to add and remove areas of the grid.

The green squares represent the active area where motion will be detected. Clear squares represent areas of the screen where motion will be ignored.

Once the region has been configured click the right mouse button to return to the motion detection setup page.

There are many options and actions that can be configured to work with motion detection, see the list below for an overview of each option.

Schedule	Set the times and days of the week that motion detection is active. Default setting is 24/7.
Fullscreen on Motion	Display the camera channel fullscreen when a motion event occurs.
Buzzer	Sound the NVR/DVR internal buzzer when a motion event occurs.
Record on Motion	Select which channels record when motion detection is triggered.
Email	Send an email notification when a motion event occurs. Email must be configured correctly in Menu > APP > Email.
Alarm Out	Trigger relay output when motion is detected.
Move PTZ on motion	Move PTZ camera to preset when a motion event occurs.
Tour	Display the camera channel fullscreen when a motion event occurs.

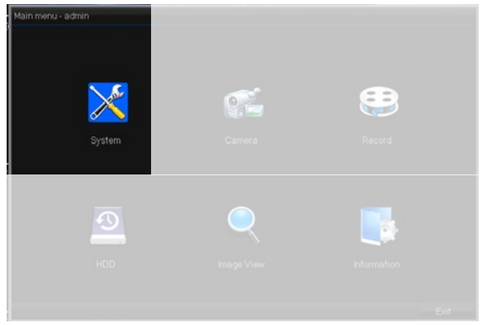
Smartphone Setup via P2P

All IRLAB NVRs can be viewed remotely using the P2P function.

NVR Setup

1. Connect NVR to network via Ethernet cable.

2. Go to > System > Network.



3. Enable DHCP and click **Update.**

4. Enter menu > Network > P2P.

5. Enable P2P option and **Apply**.

6. The Status box should now report Network Ready.

App Setup

Currently P2P is only supported for iOS and Android devices.
Download the mobile application to your mobile device by scanning the QR code below or by searching for the app in your relative app store.

iPhone & Android

P2PViewCam

Connect using the app

1. Open P2PViewCam app

2. Click + symbol

3. Select Scan

4. Scan screen

5. Input a name (this is for your reference only) click the save icon

6. Select DVR from List

7. View Camera