

16 Channel 5-in-1 High Definition 1080p DVR with 1HDD Bay and Alarms

WAHD2161A



Quick Start Guide

Please read these instructions carefully before operating the unit and keep for further reference.

genie

Please read this instruction carefully before operating the product and keep it for further reference. All examples and pictures used here are for reference only. The contents of this manual are subject to change without notice.

CAUTION:

- Please check the device and the accessories after getting the device. If there are any damages, shortages or defects, please contact your dealer immediately.

1.0 Introduction.....	4
1.1 Product Features.....	4
1.2 Product Dimensions	4
1.3 Specification.....	5
2.0 HDD Installation	6
3.0 Rear Panel Instruction.....	7
4.0 Start Up and Shut Down.....	8
5.0 Login	9
6.0 Configurations and Connections	10
6.1 Ananlogue Camera Connection.....	10
6.2 Network Configuration & Adding IP Camera.....	10
7.0 UPnP	12
8.0 NAT.....	13
9.0 Manual Recording and Playback	14
9.1 Manual Recording.....	14
9.2 Playback.....	14

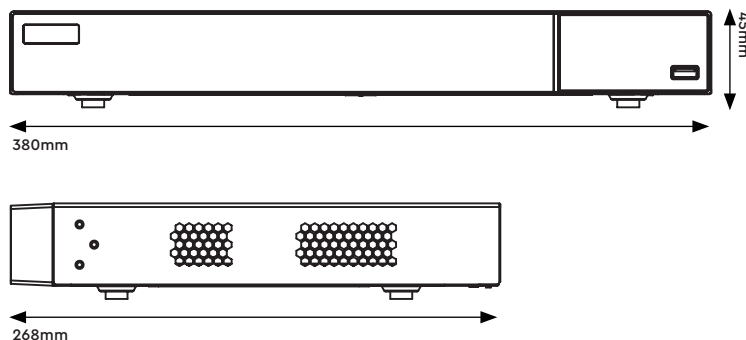
1.0 Introduction

The Genie WAHD2161A is a 5-in-1 DVR compatible with AHD, TVI, CVI, CVBS and IP cameras available in 4 and 8 channel formats. The DVR has the ability to connect to analogue and IP cameras simultaneously and encode the video streams using the H.265 high profile compression format which gives longer recording times compared to H.264 encoding. Real time recording is achievable up to 1080p video supporting resolution up to 5MP in AHD, TVI and IP. Both The WAHD2161A is a highly versatile cost effective solution suitable for many CCTV applications.

1.1 Product Features

- Supports 16 CH TVI/AHD/TVI 5MP/4MP 1080p/720p/WD1 video input
- Supports 8 CH 5MP/4MP/3MP/1080p/960p/ 720p IP video input by default
- Standard H.265 high profile compression format to get high-quality video at much lower bit rate
- Intuitive and user-friendly Graphics User Interface (GUI), Window style operation by mouse
- Multi-mode recording: Manual/Timer/Motion
- Playback : 16 CH simultaneous playback
- Multi-user online simultaneously
- Search: Time Slice, Time, Event (Manual, Motion), Tag Search
- Express and flexible backup via USB, Network and so on
- Pentaplex: Preview, Record, Playback, Backup and Remote Access
- DHCP, DDNS, PPPoE Network Protocol
- Remote control via Web Client or CMS: Preview, Playback, Backup, PTZ and Configuration
- Support PTZ preset and auto cruise, up to 255 presets and 8 cruises
- P2P ready for hassle free remote access
- Dual stream technology for local storage with high definition, remote network transmission and remote surveillance with mobile device
- Authorisation management, log review and device status review
- 1080p output, true high resolution display
- Support NAT function and QR code scanning by mobile phones
- Powerful mobile surveillance by smart phones with iOS and Android OS

1.2 Product Dimensions



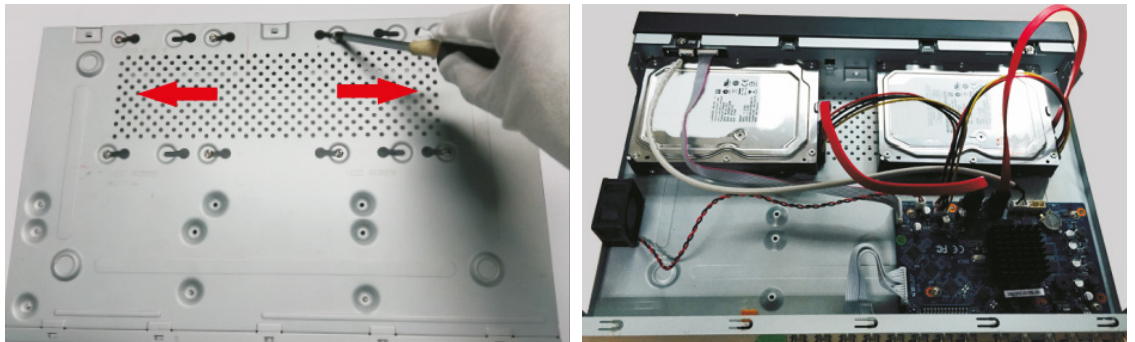
1.3 Specification

Model		WAHD2161A
System	OS	Embedded Linux
Video	Analogue Video Input	BNC x16 BNC interface (1.0Vp-p, 75Ω) TVI / AHD / CVI : 5MP / 4MP / 1080p / 720p / WD1 (Live)
	IP Video Output	8CH (Up to 16CH) Up to 5MP @ 30fps
	Total Input	24CH
	Output	HDMI x1 : 1920×1080 / 1280×1024 / 1024×768 VGA x1 : 1920×1080 / 1280×1024 / 1024×768 BNC x1 : CVBS (Used as the main or spot output)
	Compression	H.264 / H.265
	Audio	Input
Output		RCA x1 (Linear, 600Ω)
Two-Way Audio		Take up channel one audio input
Compression		G.711(U/A)
Record	Resolution	5MP Lite / 4MP Lite / 1080p / 1080p Lite / 720p / WD1 / D1
	Frame Rate	Analogue Channel: 5MP Lite @ 10fps (PAL / NTSC) 4MP Lite / 1080p @ 12fps (PAL) / 15fps (NTSC) 1080p Lite / 720p / WD1 / D1 @ 25fps (PAL) / 30fps (NTSC) IP Channel: 25fps (PAL) / 30fps (NTSC)
	Bit Rate	32Kbps ~ 4Mbps
	Mode	Manual, Timer, Motion, Smart Event
Mobile Device	OS	iOS, Android
Storage	HDD	SATA x2, Up to 8TB per HDD, E-SATA x1
Playback	Playback	16CH
	Search	Time Slice / Time / Event / Tag Search
	Smart Search	Highlight colours to display the camera record in a certain period of time, different colours refer to different record events
	Function	Play, Pause, FF, FB, Digital Zoom, etc.
Alarm	Mode	Manual, Motion, Exception, Smart Event
	Input	16CH
	Output	4CH
Network	Interface	RJ45 1000Mbps x 1
	Protocol	TCP / IP, PPPoE, DHCP, DNS, DDNS, UPnP, HTTP, HTTPS, NTP, SMTP
	Incoming Bandwidth	32Mbps (Max. 64Mbps)
	Outgoing Bandwidth	96Mbps
Remote Monitoring	Immix	Compatible with Immix via RTSP only (2-way audio not supported)
	Sentinel	Yes, Firmware 1.1.0 or later
Backup	Local Backup	USB stick, USB mobile HDD
	Network Backup	Yes
Port	RS485	Yes (Half-duplex), Connect to PTZ or Keyboard
	USB	USB 2.0 x 2
	Remote Controller	Optional
Others	Power Supply	DC12V / 4A
	Consumption	≤15W (Without HDD)
	Working Environment	-10~50°C, 10%~90% (Humidity)
	Dimensions	300 × 268 × 45 mm

2.0 HDD Installation

This series of the product supports 2 SATA hard drives. Please make sure that the device is powered off before the installation. The pictures of the installation are only for reference.

1. Loosen the screws to open the cover.
2. Screw the screws into the holes of the HDD but don't tighten them.
3. Put the HDD's onto the bottom of the machine.
4. Turn over the machine and secure the HDD's with the screws.
5. Connect the power and data cables.

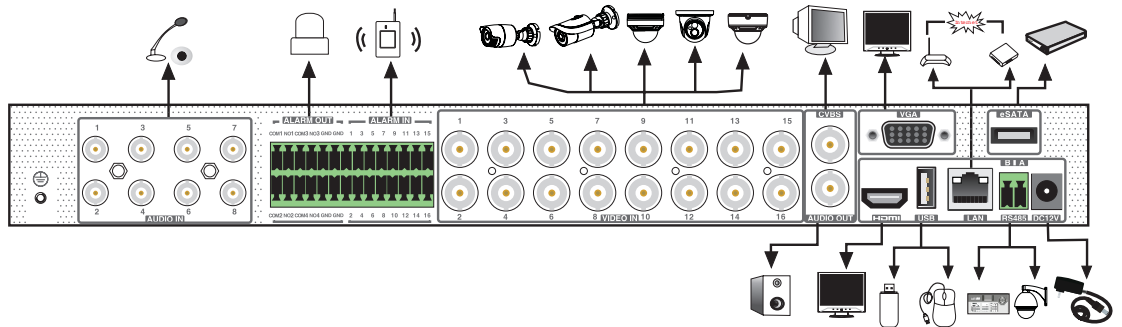


6. Install back the cover and secure it with the screws.

Note: Please check the inside structure of the device and make sure that the cables are connected well before installing the cover back. Please format the HDD before using.

3.0 Rear Panel Instruction

The interfaces of the rear panel are for reference only.



Name	Description
ALARM OUT	Relay output, connect to external alarm
ALARM IN	Alarm input for connecting sensor
GND	Ground
VIDEO IN	Video input
CVBS	CVBS output
AUDIO OUT	Audio output
AUDIO IN	Audio input
HDMI	Connect to high definition display device
VGA	Connect to monitor
LAN	Network port
USB	Connect to USB storage devices or USB mouse
e-SATA	Connect to HDD with e-SATA interface
RS485	Connect to keyboard or speed dome. A is TX+,B is TX
DC12V	Power input

4.0 Start Up and Shut Down

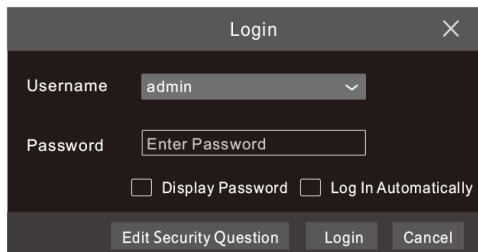
Startup

1. Connect the monitor and the power.
2. The device will boot and the power indicator will display blue.
3. A wizard window will pop up.

Shutdown

Click "Start" and then select "Shutdown" icon. This will bring up a shutdown window. The device will shut down by clicking "OK" button. Then disconnect the power.

5.0 Login



Username: admin

Password: Enter Password

Display Password Log In Automatically

Edit Security Question Login Cancel

The default username is admin and the default password is 123456. You must configure the wizard if you start the DVR for the first time and you may change the password when you configure the wizard for the first time. You can skip the settings wizard next time. Click "Start" and select "Login". This will take you to see a login box. Enter the default username and password you set. Then you will see the live image.

6.1 Analogue Camera Connection

First connect the camera to the DVR.

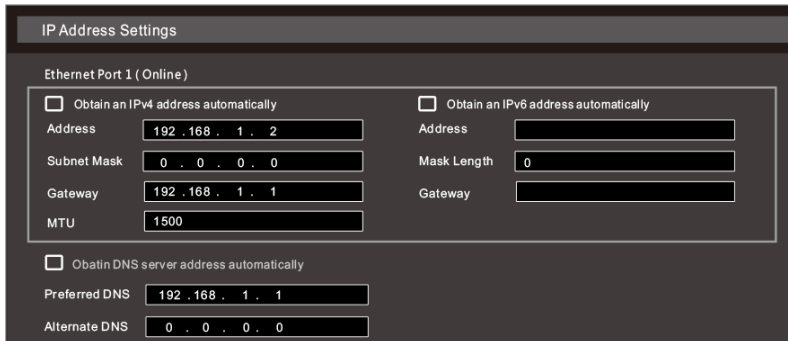
Then go to Start → Settings → Camera → Manage Camera → Camera Signal to checkmark the video mode. The actual signals input shall correspond to the video mode. Please refer to the User Manual for details.

6.2 Network Configuration & Adding IP Camera

After you finish adding IP cameras, you can see the live images through the monitor of the DVR. The following will mainly introduce how to add the IP cameras via LAN/WAN.


LAN

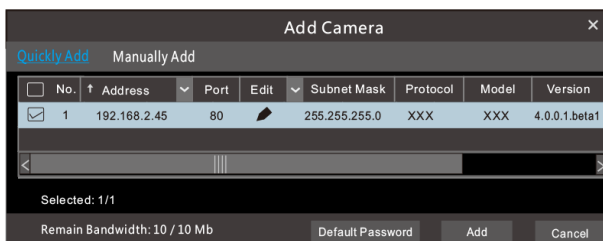
1. Set the network of the DVR. Go to Start → Settings → Network → TCP/IP. Enter IP address, subnet mask, gateway, etc. If using DHCP, please enable DHCP in both the DVR and the router.
2. Go to Start → Settings → Network → Port. Enter HTTP port (the default value is 80), server port (the default port is 6036).
3. Click "Apply" to save the settings.




The screenshot shows the 'IP Address Settings' window for 'Ethernet Port 1 (Online)'. It contains several input fields and checkboxes:

- Obtain an IPv4 address automatically
- Obtain an IPv6 address automatically
- Address: 192.168.1.2
- Subnet Mask: 0.0.0.0
- Gateway: 192.168.1.1
- MTU: 1500
- Mask Length: 0
- Gateway: [empty]
- Obtain DNS server address automatically
- Preferred DNS: 192.168.1.1
- Alternate DNS: 0.0.0.0

4. Go to Start → Settings → Camera → Add Camera. The DVR will automatically refresh the cameras searched. The IPC which supports the Onvif protocol may be added manually. If the IPC searched is not in the same local network as the DVR, you should select the device and click  to modify the IP address.



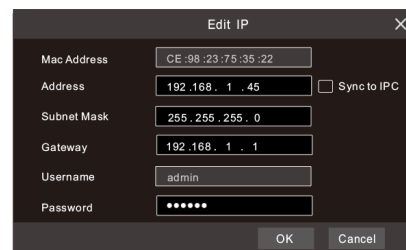
The screenshot shows the 'Add Camera' window with a table of discovered cameras:

No.	Address	Port	Edit	Subnet Mask	Protocol	Model	Version
1	192.168.2.45	80		255.255.255.0	XXX	XXX	4.0.0.1.beta1

Selected: 1/1

Remain Bandwidth: 10 / 10 Mb


Buttons: Default Password, Add, Cancel

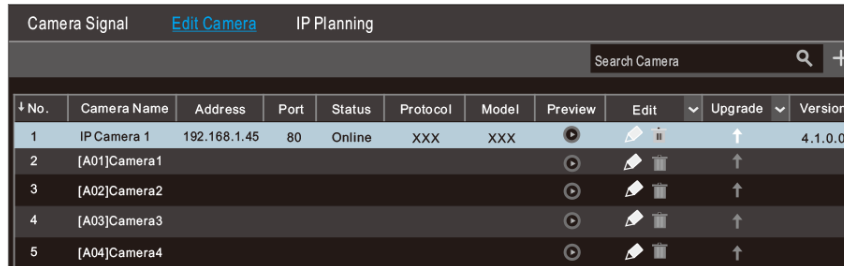


The screenshot shows the 'Edit IP' window with the following fields:

- Mac Address: CE:98:23:75:35:22
- Address: 192.168.1.45 Sync to IPC
- Subnet Mask: 255.255.255.0
- Gateway: 192.168.1.1
- Username: admin
- Password: [masked]





















Buttons: OK, Cancel

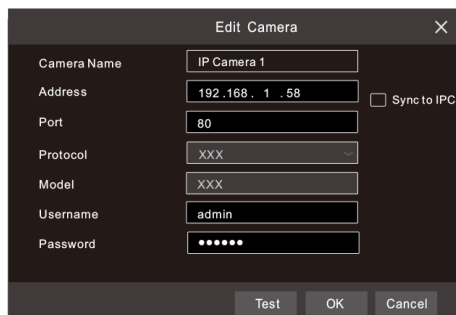
5. Checkmark the device you want to add and then click "Add" button. The DVR will automatically refresh the cameras and return to "Edit Camera" interface. "Online" status means connecting the device successfully and you will see the live image. You may select the added device and click  button to modify channel, IP address, etc.



Camera Signal [Edit Camera](#) IP Planning

Search Camera

↓ No.	Camera Name	Address	Port	Status	Protocol	Model	Preview	Edit	Upgrade	Version
1	IP Camera 1	192.168.1.45	80	Online	XXX	XXX		 		4.1.0.0
2	[A01]Camera1							 		
3	[A02]Camera2							 		
4	[A03]Camera3							 		
5	[A04]Camera4							 		



Edit Camera

Camera Name

Address Sync to IPC

Port


Protocol

Model

Username


Password

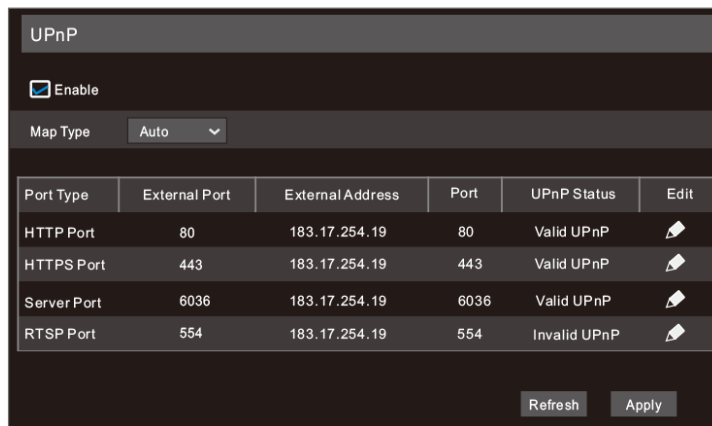
WAN

1. Set the network of the DVR. Go to Start → Settings → Network → PPPoE. Enter static IP address or enable PPPoE and then enter the user name and password received from your ISP.
2. Go to Start → Settings → Camera. Click "Add Camera" or  behind the column of the search camera and select "Manually Add" to add the IP cameras. Enter IP address, server port, username and password of the IP camera. The IP camera must be connected over WAN. And here the IP address of the IP camera must be a WAN IP address.

7.0 UPnP

You can use the UPnP function to enable the fast connection of the device to WAN via a router without port mapping.





1. Go to Start → Settings → Network → UPnP, and enable UPnP and then click "Apply" button to save.
2. Enable the UPnP function in the router.
3. Click "Refresh" button to refresh the UPnP status. If the UPnP status were still "Invalid UPnP" after refreshing it for several times, the port would be wrong. Please change the mapping type to "Manual" and then click  to modify the port until the UPnP status turns to "valid UPnP".



UPnP

Enable

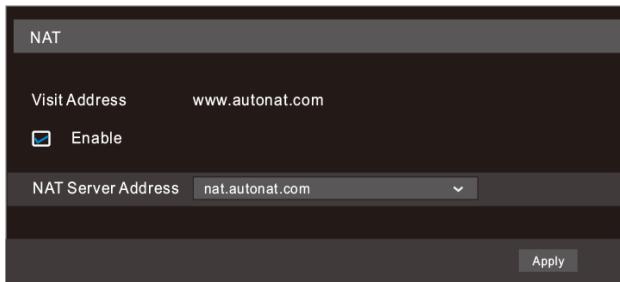
Map Type: Auto

Port Type	External Port	External Address	Port	UPnP Status	Edit
HTTP Port	80	183.17.254.19	80	Valid UPnP	
HTTPS Port	443	183.17.254.19	443	Valid UPnP	
Server Port	6036	183.17.254.19	6036	Valid UPnP	
RTSP Port	554	183.17.254.19	554	Invalid UPnP	

Refresh Apply

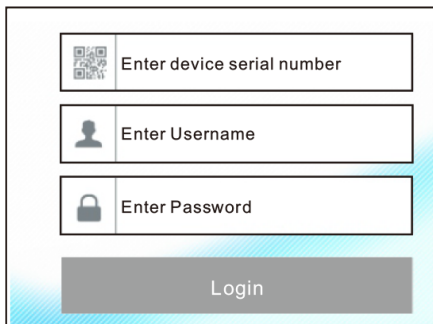
NAT Settings

1. The DVR shall be powered on and connected to the network.
2. Go to Start → Settings → Network → TCP/IP. You can obtain the IP address, subnet mask and gateway automatically. You can also manually enter them according to the actual network situation. Please make sure the network segment is the same as that of the network which is used.
3. Set the preferred or alternative DNS Server. Click "Apply" to save the parameters.
4. Go to Start → Settings → Network → NAT tab. Enable NAT and select the NAT Server Address (The default NAT Server Address is nat.autonat.com). Click "Apply" to save the parameters.




NAT Access

After finishing the NAT settings, you can enter www.autonat.com in the address bar of your browser and then press enter to go to the following interface. If you are the first time to access the NAT, you shall download and install the plug-in according to the tips. After installing the plug-in successfully, it will pop up the login box.



Device Serial Number:

Click  on the menu bar at the bottom of the live interface to check the serial number or go to Start → Settings → Network → Network Status to check the serial number of the DVR).



Username:

The username of the DVR. The default username is admin.

Password:

The password of the DVR. The password is set by yourself when you configure the wizard for the first time.

9.1 Manual Recording

Before recording, please install and format a HDD. In the live interface you can see the menu toolbar. Click  button to start recording. Click it again to stop recording. You can also click  to check the status of the recording.





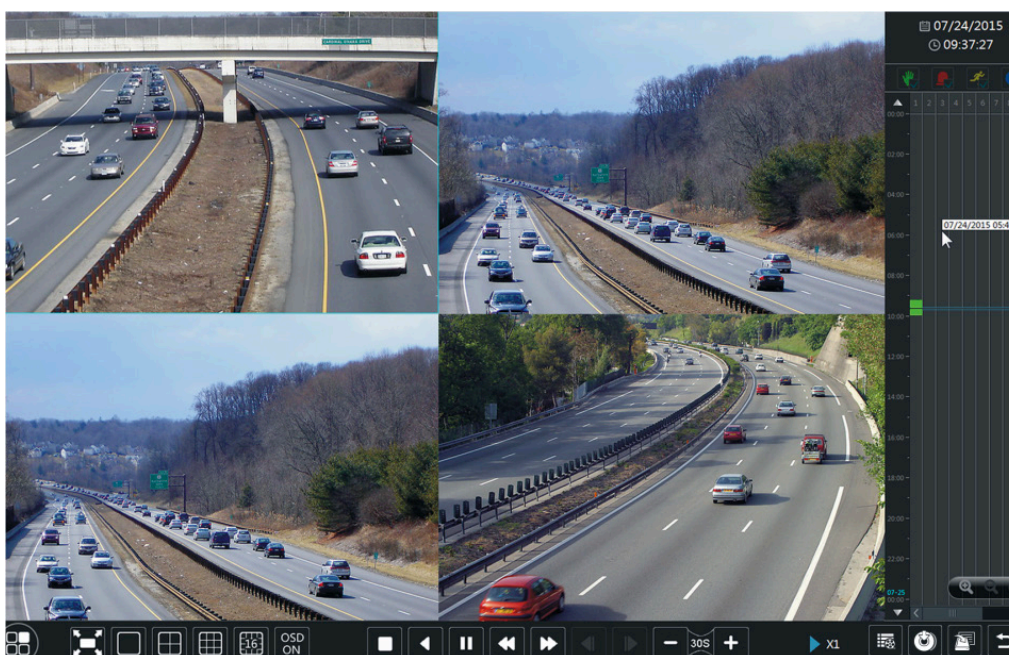
9.2 Playback

Instant Playback

Click "Instant Playback" in the right-click menu of the camera's preview window to select or drag the playback progress bar to change the playback time to play back the record.

General Playback

Click  on the tool bar at the bottom of the live preview interface or click Start → Playback to go to the playback interface as shown below. You can also add the playback cameras manually. Click  in the playback window to pop up the "Add Camera" window. Check the cameras in the window and then click "Add" to add playback camera. The record files of the added playback camera will be played in the playback interface.



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