

Blackjack® X-RACK

Servers Powered by DW Spectrum® IPVMS

State of the art hyper-optimized video management platform designed for ease, speed and efficiency.

Blackjack® X-Rack™ — Up to 200 2.1MP/1080p IP cameras (true HD resolution)

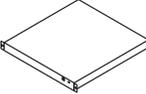
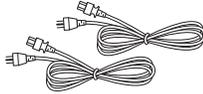
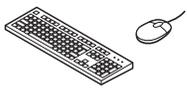
DW-BJX2U



Default login information for DW Spectrum® IPVMS

Username: **admin** Password: **admin12345**

WHAT'S IN THE BOX

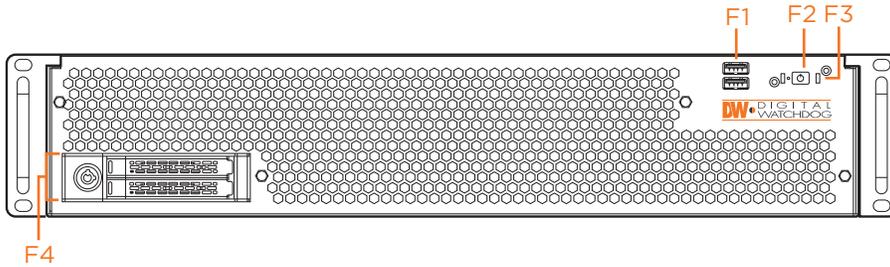
X-Rack™ server		1	Power cable		2 sets	Keyboard and mouse		1 set
Quick start guide		1						

NOTE: Download all your support materials and tools in one place.

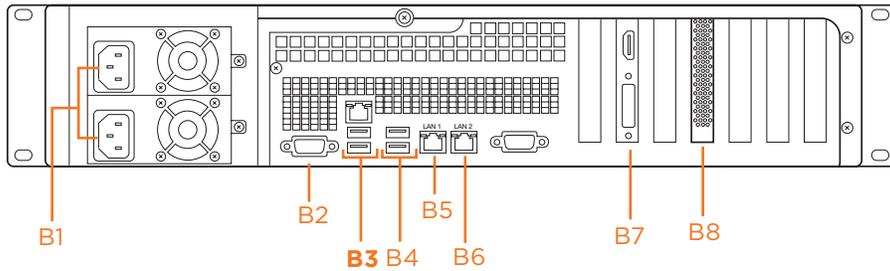
1. Go to: <http://www.digital-watchdog.com/support-download/>.
2. Search your product by entering the part number in the 'Search by Product' search bar. Results for applicable part numbers will populate automatically based on the part number you enter.
3. Click 'Search'. All supported materials, including manuals, Quick start guides (QSG), software and firmware will appear in the results.

Attention: This document is intended to serve as a quick reference for initial set up. See the DW Spectrum® full manual for more information on features and functionality.

BLACKJACK® X-RACK™ HARDWARE



- F1 2x USB 2.0 ports
- F2 Power button
- F3 HDD status LED
- F4 Removable SSDs



- B1 Power input
- B2 Serial port
- B3 2 x USB 2.0 ports
- B4 2 x USB 3.0 ports
- B5 10Gbps Ethernet port (LAN1)
- B6 10Gbps Ethernet port (LAN2)
- B7 HDMI port, DVI port*
- B8 RAID controller

NOTE The local video outputs should be used for configuring the DW Spectrum® and cameras, not for viewing cameras running on a DW Spectrum® client.

Default login information for pre-installed DW Spectrum® IPVMS

Username: admin	Password: admin12345
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SPECIFICATIONS

PART NUMBER		DW-BJX2U
Maximum IP cameras		200 (2.1MP/1080p @30fps, with high recording quality)
Included IP licenses		8
Form factor		2U rack mount
Operating system		Windows Server 2016*
	OS on SSD	2x SSD (RAID1 mirrored), hot-swappable bays with lock
CPU		Intel Xeon® processor with 8 cores
Memory		32GB DDR4 ECC Option: DW-MEM32GX - 32GB(2x 16GB) memory upgrade kit*
Ethernet port		2 x 10 gigabit Ethernet (RJ45)** Option: DW-R10NIC - secondary 10Gbps RJ45 port*
System	Max video storage rate (Mbps)	1200Mbps**
Storage	Max. DW-BJNAS RACK Connection	4 (up to 560TB)
Video-out	Outputs	True HD and DVI output***
	Resolution	HD 1080p
Pre-loaded VMS software		DW Spectrum® IPVMS Server
Remote clients		Cross platform - Windows®, Linux Ubuntu® and Mac®
Mobile apps		iOS® and Android®
Keyboard and mouse		Included
Rail-kit		Included (4 post static)
Power supply		Dual 380W redundant****
Operating temperature (ambient room temperature)		50°F-80°F (10°C-27°C)
Operating humidity		20-60% RH
Dimension (WxDxH)		17.29" x 21.93" x 3.46" (439.3 x 557.1 x 88 mm)
Warranty		5 year

* Available at initial order only.

** Require 10Gb network switch.

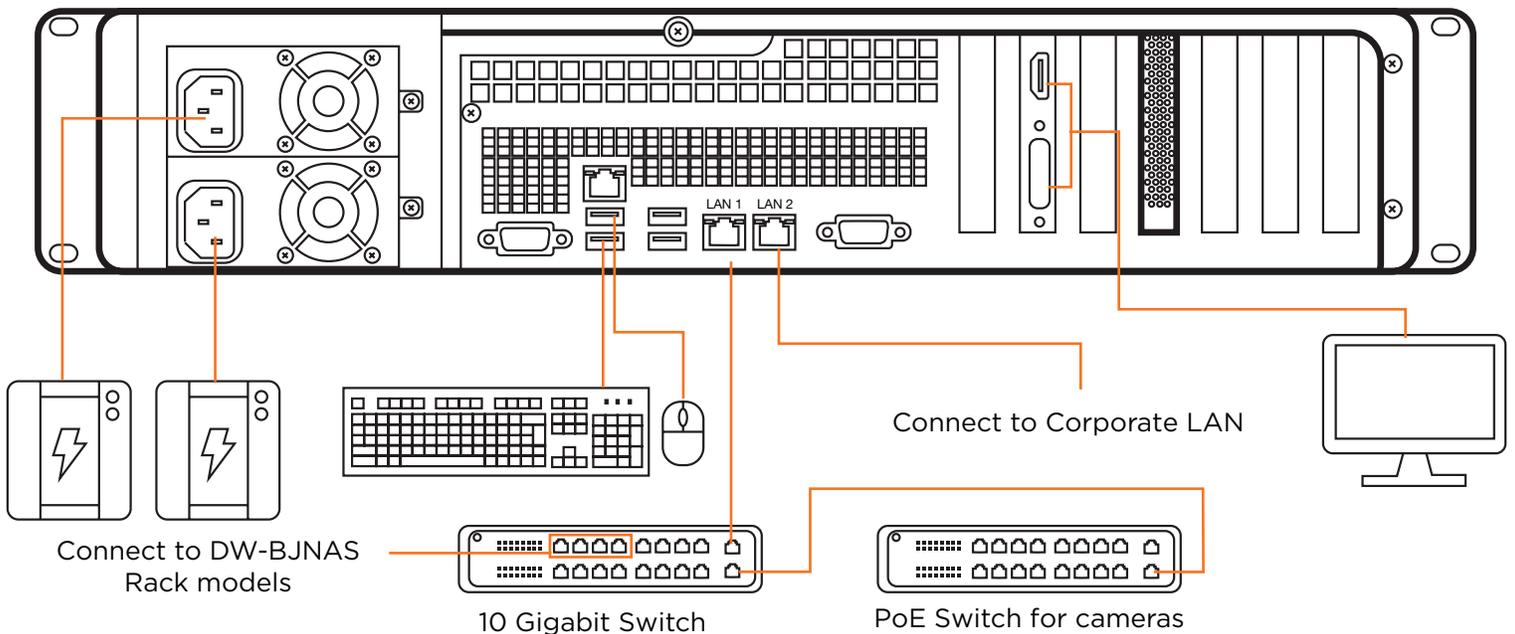
*** Should be used for initial configuration and server management.

**** A separate UPS for each power supply is recommended.

SETTING UP THE SERVER

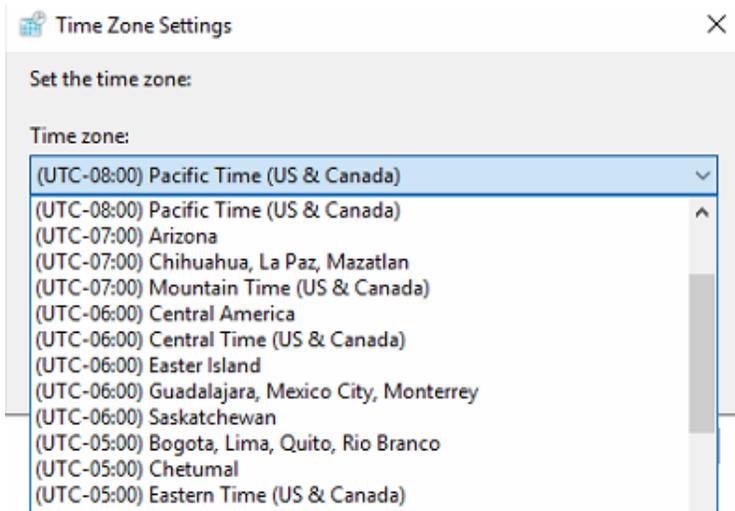
STEP 1: Connect external devices, power and network.

1. Connect a monitor, USB keyboard, USB mouse and network cables as illustrated in the diagram below. Connect LAN1(B6) first to configure the NAS devices and cameras. Configure the local network later.
 - * LAN1 should be connected to a 10Gigabit switch port.
2. Connect the server to an appropriate power source.
 - * It is recommended to use an uninterruptible power supply (UPS) system of 1500VA or higher.
3. Turn on the server if the server does not turn on automatically.
(Press the power button on the front of the server. F2 on the diagram).
 - * Connecting the power cable to the live power source may turn on the server automatically



STEP 2: Configure Date and Time Windows®

1. Double-click "Date and Time" on the desktop.
2. Change time zone if it is incorrect  (Default is UTC-08:00 Pacific Time).

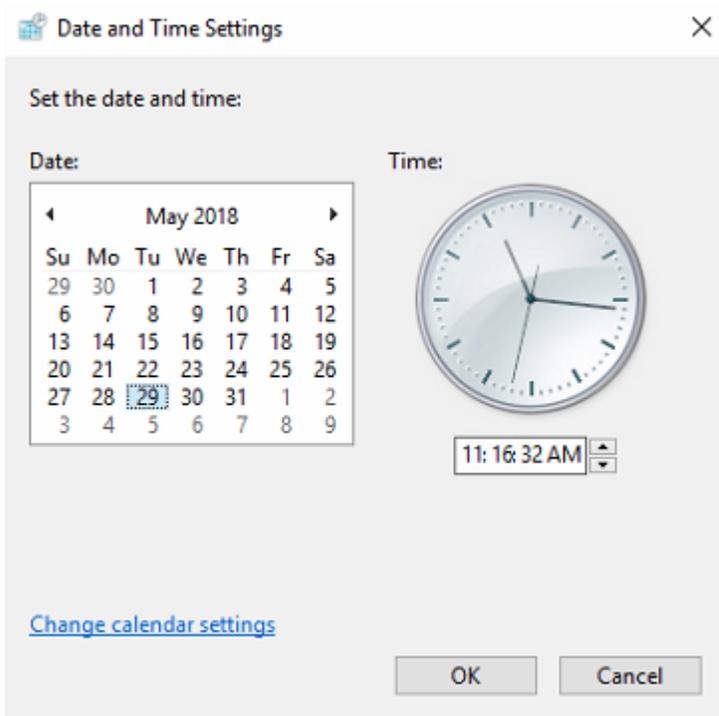


Press OK after selecting the correct time zone.

Click “Change date and time...” to update the date and time if they are not correct.



* Verify the time zone before updating the date and time. Time may show 2 or 3 hours off due to incorrect time zone.



Press OK after adjusting to the correct date and/or time.

4. Press OK to close the date and time window when done.

STEP 3: Configure Network

Have the following information ready before starting the network configuration.

	NAS and Camera Network	Local Network (LAN)
IP Address		
Subnet Mask / Netmask		
Default Gateway / Gateway	Not Applicable	
DNS Servers	Not Applicable	

* NAS and camera network and local network cannot be on the same network.

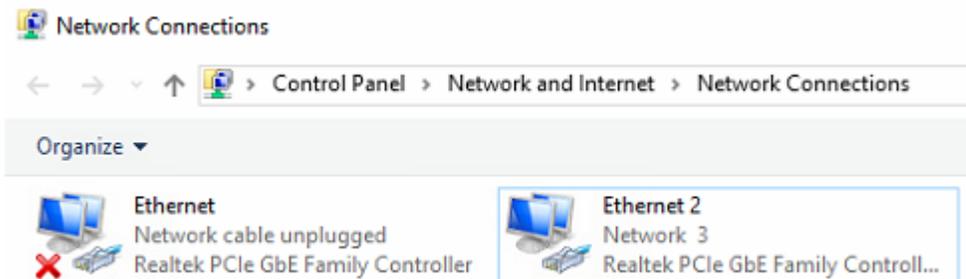
NOTE The server's network settings are set to DHCP as default.

NOTE If you are not sure what information to enter, contact your Network Administrator or Internet Service Provider for the information.

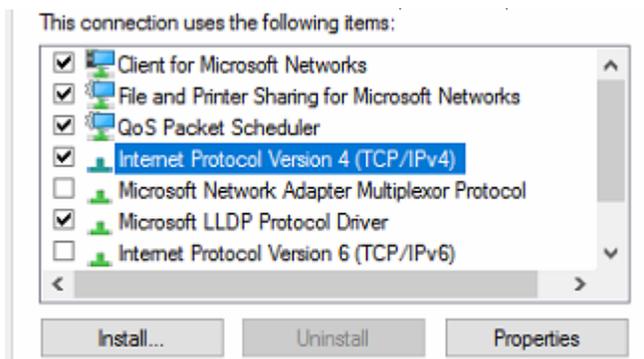
Windows®

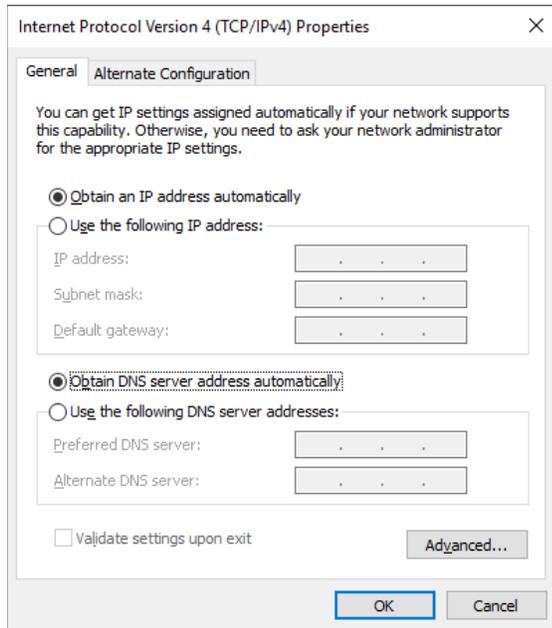


1. Double-click "Network Connections" on the desktop.
2. Right-click on the Ethernet with cable connected and click "Properties".



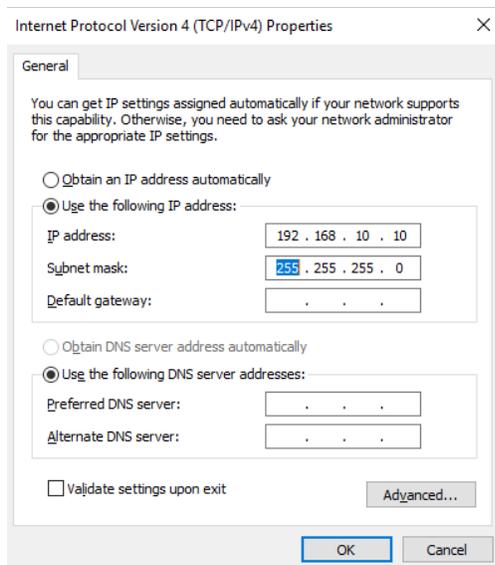
3. Select "Internet Protocol Version 4 (TCP/IPv4)" and click "Properties".





4. Select “Use the following IP address” (Use the following DNS server addresses will be selected automatically).
5. Enter IP address and Subnet mask of the NAS and camera network. (Do not enter anything for the Default gateway, Preferred DNS server and Alternate DNS server).

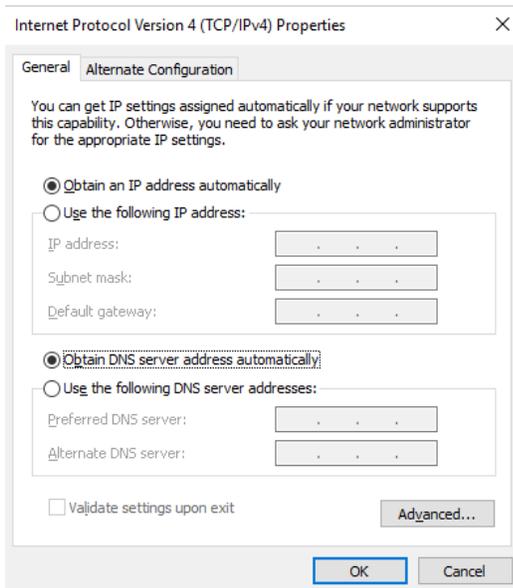
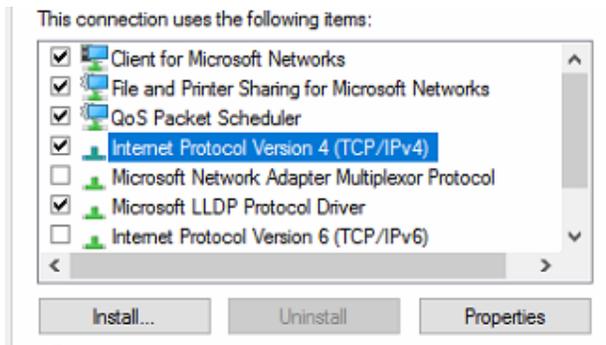
NOTE The server should be installed on the same network (LAN1) as the security cameras and NOT placed on the corporate LAN (LAN2).



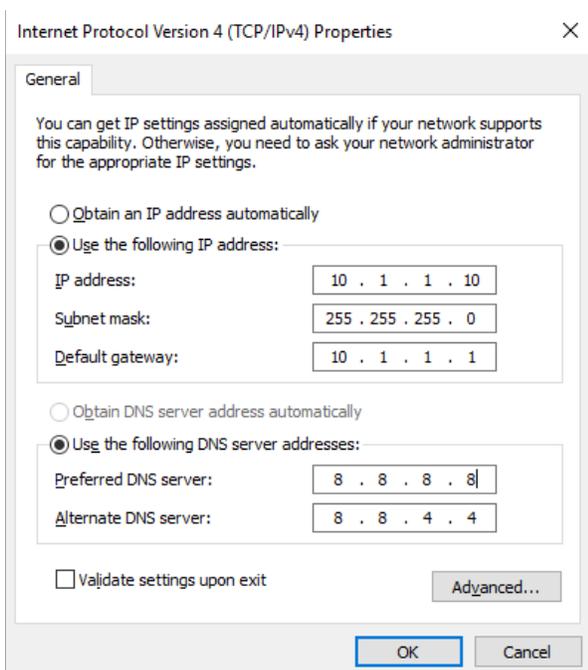
6. Click OK to close then click close to go back to network connections.

Configuring Local Network(LAN2)

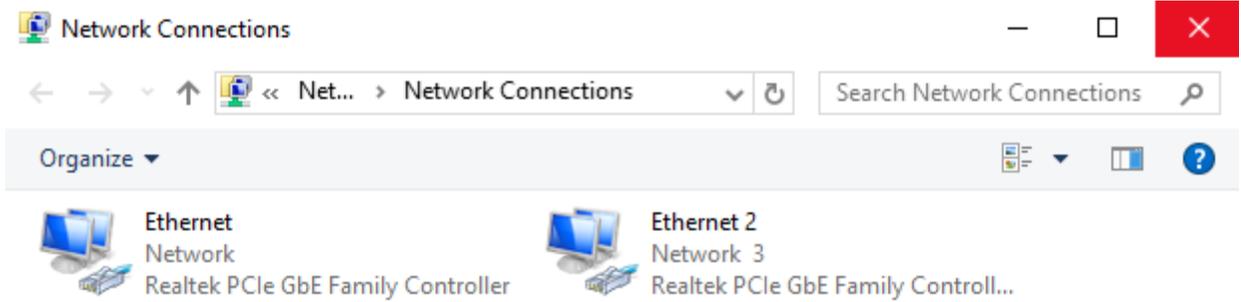
7. Right click on the other Ethernet, the one with network cable unplugged, and click “Properties”.
8. Select “Internet Protocol Version 4 (TCP/IPv4)” and click “Properties”.



9. Select Use the following IP address (Use the following DNS server addresses will be selected automatically)
 10. Enter IP address and Subnet mask of the camera network.
- * Consult with your IT department if you do not know what IP address to use.



11. Click OK to close then click close to go back to network connections.
12. Connect a network cable to the Ethernet port B6 on the diagram (page 2) to the switch on the local network.
13. Close the network connections dialog.



CONNECT BLACKJACK® NAS™ STORAGE USING DW® IP FINDER™

Follow the QSG accompanied with the Blackjack® NAS™ rack-mount models to properly connect to the network.

The screenshot shows the DW IP Finder Ver 4.4.0 software interface. On the left, there are several control panels with annotations:

- Select which network to scan:** A dropdown menu showing "IP CAM [192.168.150.100]".
- Filter search by device type:** A dropdown menu showing "All".
- Show/Hide thumbnail:** A checked checkbox and a "Refresh Thumbnail" button.
- Assign IP address in bulk:** A "Bulk IP Assignment" button.
- Upgrade firmware:** A "FW Upgrade" button.

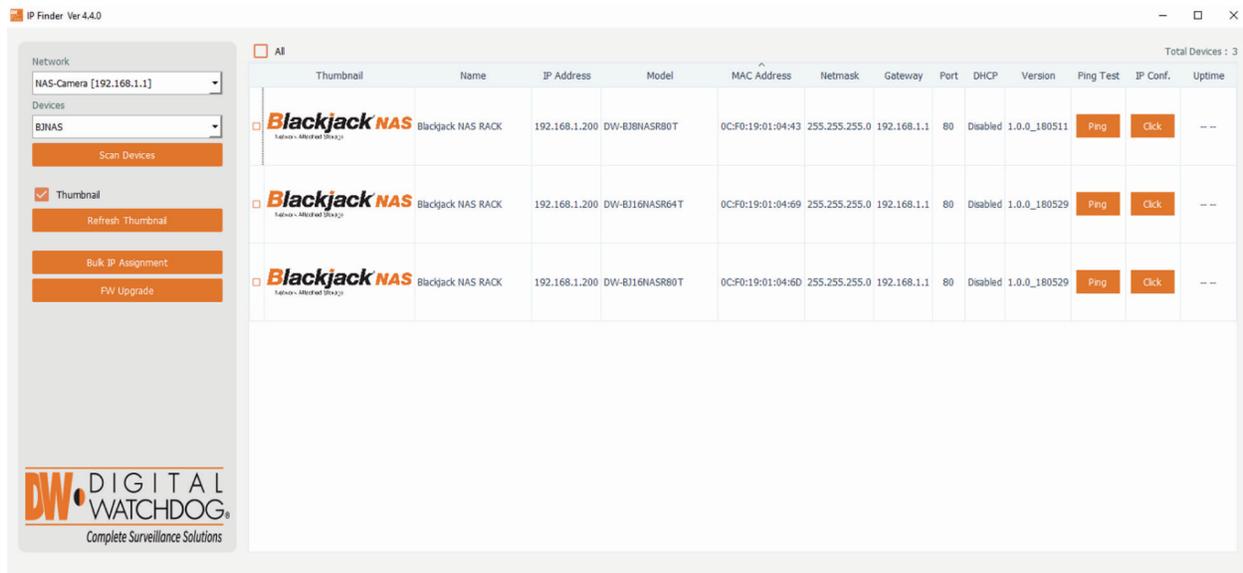
The main area displays a table of discovered devices. Annotations point to specific parts of the table:

- Device information:** Points to the header row of the table.
- Send ping to the device:** Points to the "Ping Test" column.
- Open Device Setting:** Points to the "IP Conf." column.

Name	IP Address	Model	MAC Address	Netmask	Gateway	Port	DHCP	Version	Ping Test	IP Conf.	IpTime
DWC-PZ21M69T	192.168.150.41	DWC-PZ21M69T	00:00:F1:21:29:21	255.255.255.0	192.168.150.1	80	Disabled	A5.01.03_20180403	Ping	Click	1...
DWC-MV44WIA	192.168.150.132	DWC-MV44WIA	00:00:F1:21:53:66	255.255.255.0	192.168.150.1	80	Disabled	A2.01.02_20180619	Ping	Click	Sday 2...
DWC-MV44WIA	192.168.150.170	DWC-MV44WIA	00:00:F1:21:53:67	255.255.255.0	192.168.150.1	80	Disabled	A2.01.02_20180619	Ping	Click	Sday 2...
DWC-MV44WIA	192.168.150.131	DWC-MV44WIA	00:00:F1:21:53:81	255.255.255.0	192.168.150.1	80	Disabled	A2.01.02_20180619	Ping	Click	Sday 2...
DWC-MV44WIA	192.168.150.40	DWC-MV44WIA	00:00:F1:21:53:8F	255.255.255.0	192.168.150.1	80	Disabled	A2.01.02_20180619	Ping	Click	Sday 2...
DWC-MV84WIA	192.168.150.171	DWC-MV84WIA	00:00:F1:21:53:94	255.255.255.0	192.168.150.1	80	Disabled	A2.01.02_20180619	Ping	Click	Sday 2...
DWC-PVX16W4	192.168.150.42	DWC-PVX16W4	00:00:F1:21:5C:AD	255.255.255.0	192.168.150.1	80	Disabled	S2.01.03_20180309	Ping	Click	3...

(DW IP Finder version 4.4.0 shown)

1. From the Windows-based Blackjack® server, client or any Windows® PC, open DW IP Finder™ by double-clicking on the DW IP Finder™ icon on the desktop  or click on DW IP Finder™ from the Start Menu > All Programs > DW IP Finder™.
2. If the DW IP Finder™ is not installed or not the latest version, download and install from the following URL: <https://digital-watchdog.com/productdetail/DW-IP-Finder/>.
 - Under the software tab, download the latest software file.
 - Install the DW IP Finder™ by following the installation wizard.* Requires DW IP Finder™ 4.3.17 or later version.
3. When DW® IP Finder™ is launched, change the device to BJNAS and click  to scan for the Blackjack® NAS™ models on the network.
4. If any of the Blackjack® NAS™ are not listed, change the Network by clicking the drop down and select another network if exist. Then click  to scan the network for the Blackjack® NAS™.
5. Find the Blackjack® NAS™ from the list, then either double click on the Blackjack® NAS™ logo or click on the  under the IP Conf. column.



6. From the “Device Settings” window, enter IP address, netmask and gateway. Click “Apply” to save changes.

The screenshot shows a 'DW Dialog' window with the following fields and options:

- Device Name: DW-BJ8NASR80T
- MAC Address: 0C:F0:19:01:04:43
- Adjust Spectrum Reserve Space for NAS section:
 - Spectrum ID: admin
 - Spectrum PW: (empty)
 - Adjust button
- IP Configuration section:
 - Radio buttons for DHCP (unselected) and Static IP (selected)
 - IP Address: 192.168.1 .200
 - Netmask: 255.255.255.0
 - Gateway: 192.168.1 .1
- Username: admin
- Password: (masked with dots)
- Buttons: Add NAS to the Windows, Website, Apply, Cancel

NOTE The Blackjack[®] NAS[™] should be configured using a static IP address. If the IP address will be obtained using a DHCP service, confirm the address has been reserved and will not expire.

7. From the main DW[®] IP Finder[™], click **Scan Devices** to update the list with new IP address.
8. Find the Blackjack[®] NAS[™] from the list, then either double-click on the Blackjack[®] NAS[™] logo or click on the button under the IP Conf column.
9. Click **Add NAS to the Windows** to add to the server. Script will run and add volumes to the server.

When completed, “Success” will be displayed for Disk 1 and Disk 2. Click any key on the keyboard to close the CMD window.

```
C:\Windows\SYSTEM32\cmd.exe
Success to run script file for diskpart disk 2 ...
Finished the batch file...

----- Ver: 1.0.0 / Date: 2018.05.11 -----
----- RESULT (0) -----

iSCSI Initiator Service : Success
IP Address : 192.168.1.203
Connection Success
[iSCSI Target]
Counts : 1 found
iqn.2015-10.com.DW:BJ8NASR80T:180927T113528 > Login Success

[Disk Format]
Disk 1 : Success
Disk 2 : Success

Press any keys to exit
```

If you have another Blackjack NAS Rack, repeat steps 5 ~ 9.

- 10. Close DW® IP Finder™ if no other devices to configure.
- 11. Reboot the server.

DW Spectrum® IPVMS Client (only use for initial configuration and maintenance)



Windows

WINDOWS-BASED SOFTWARE MANUAL LAUNCH

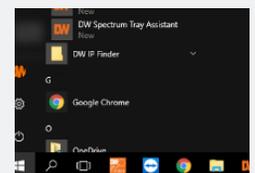
To launch the DW Spectrum® software on the Windows-based system:

OPTION 1: Double-click the DW Spectrum® desktop icon.



OR

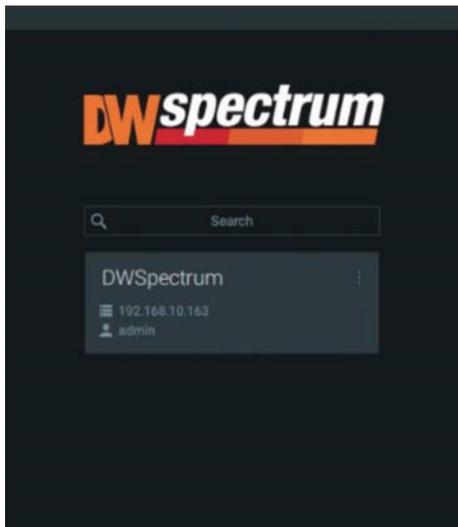
OPTION 2: Go to 'Start' on the bottom left and select DW Spectrum® in the Digital Watchdog folder



SETTING UP THE DW SPECTRUM[®] MEDIA SERVER

STEP 1: Initial run from the DW Spectrum[®] client.

1. Open DW Spectrum[®] client by double click on the DW Spectrum[®] icon
2. Click on the pre-configured Blackjack[®] MINI[™].

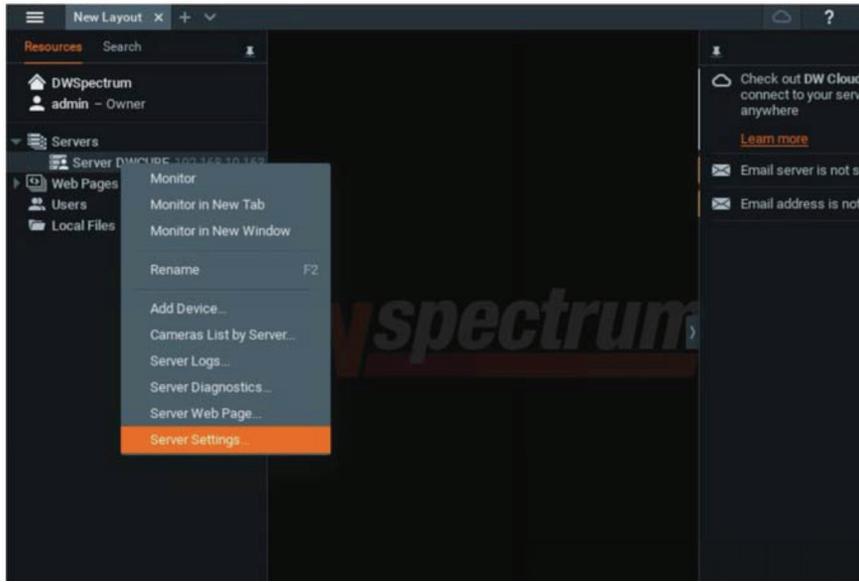


3. Enter the server's password and click connect.
* Default password: admin12345 (case sensitive).

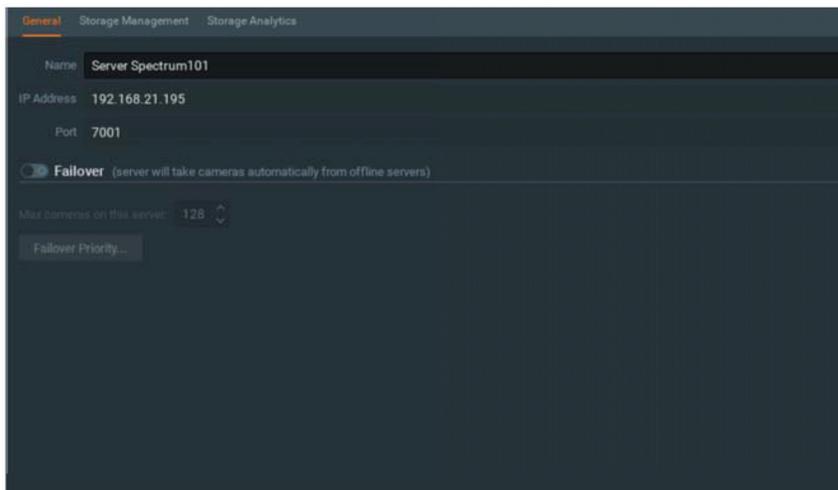


STEP 2: To rename the server

1. Right click on the server name listed on the resources then click server settings.

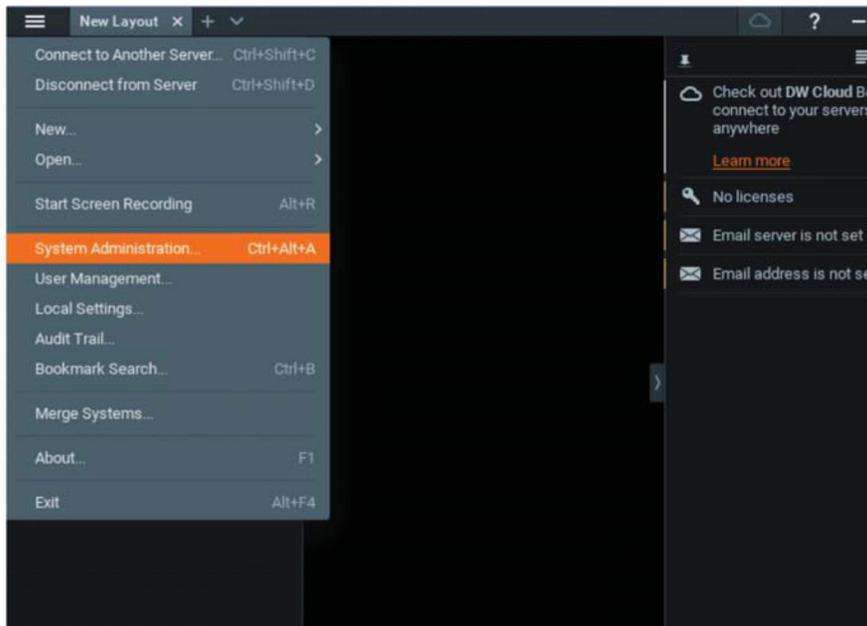


2. Go to general tab, type in the new server name in the name field and click OK.

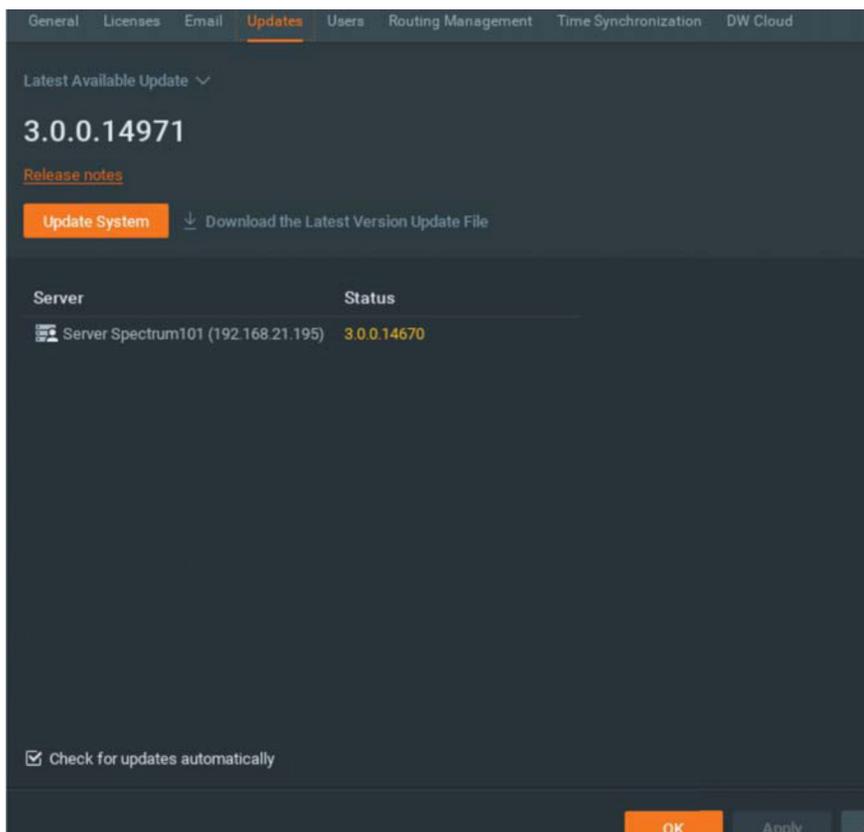


STEP 3: To check for update

1. Go to the menu on the top left  and click system administration from the drop down list.



2. Go to the updates tab.



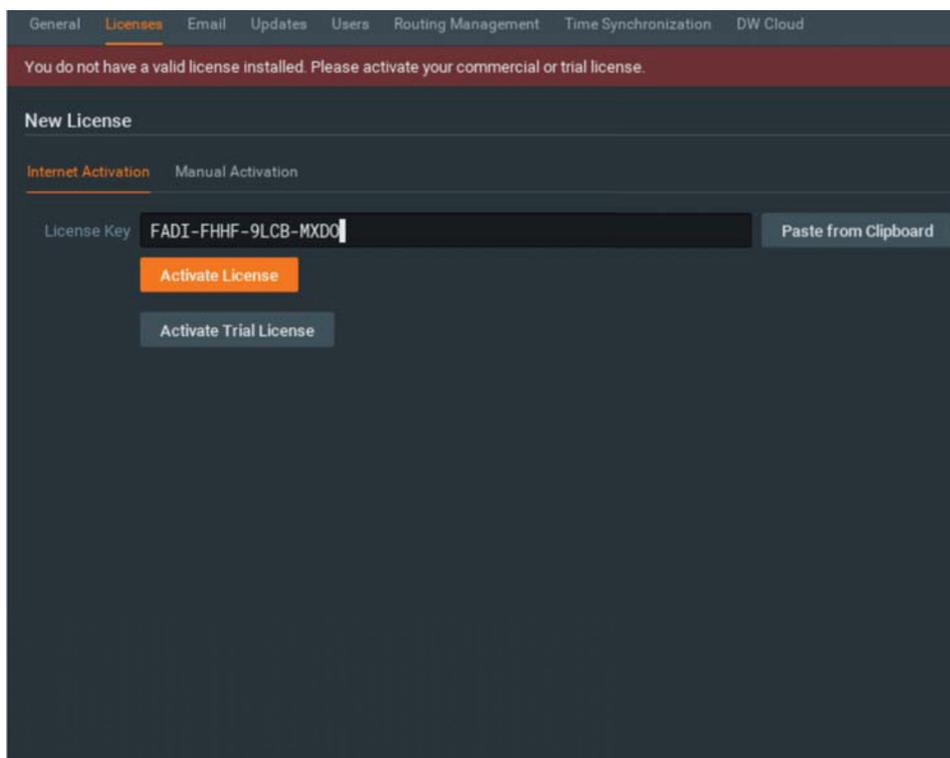
* If you are on the latest version, the dialog will say “You have the latest version installed” and the update system button will be disabled.

STEP 4: Enter and activate licenses

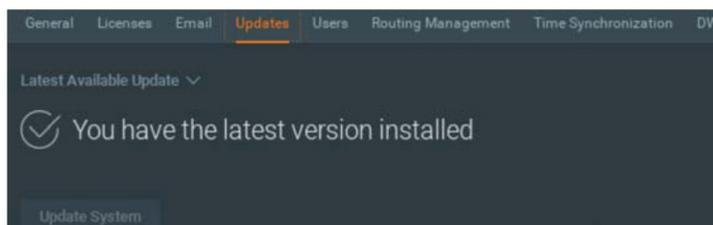
1. Go to the system administration dialog from the top menu's drop-down options and click on the license tab.

2. Enter the license key and click “Activate License”. (Internet connection is required)

* Click on “Activate Trial License” if you have not purchased a valid license key.



3. Click OK once the license key is activated.



STEP 5: Configure recording

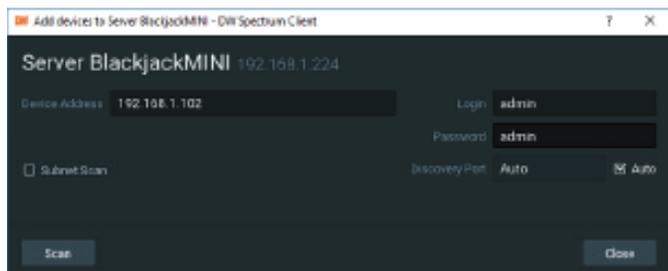
* Supported cameras and devices on the same network as the server will be added automatically under the server's resource tree. The cameras and other network devices must have the same network settings as the server. If the cameras are not listed, follow the steps below to add the cameras manually. Skip to 1 if all cameras have been discovered automatically.

a. Right-click on the server and select "Add Device" from the context menu.



b. Enter the IP address of the camera in the device address field. Enter the camera's username and password. Leave the Discovery Port to Auto.

* The IP address of the cameras can be obtained via the DW IP Finder™.

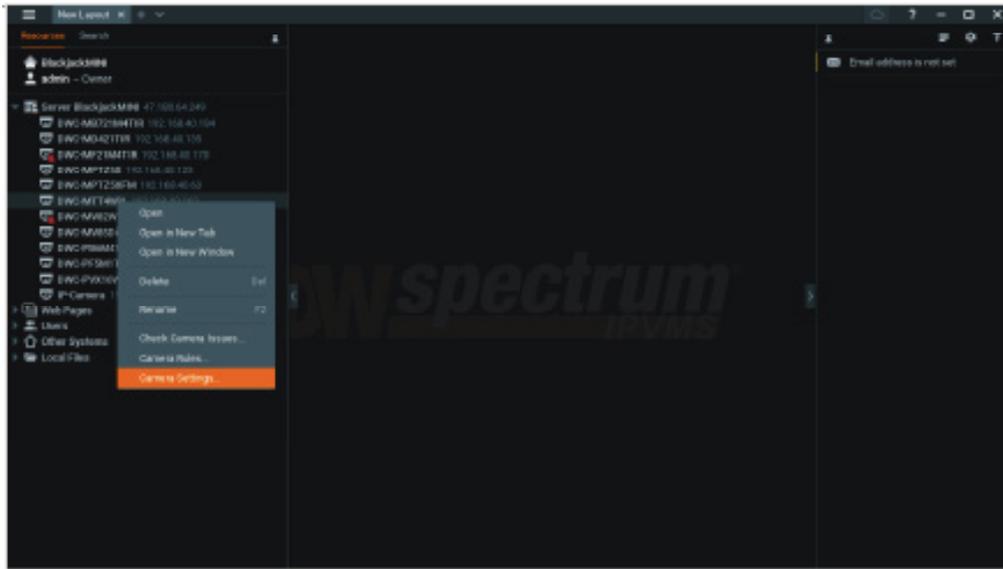


c. Once the camera is discovered, check the box next to it from the results and click "Add Selected".

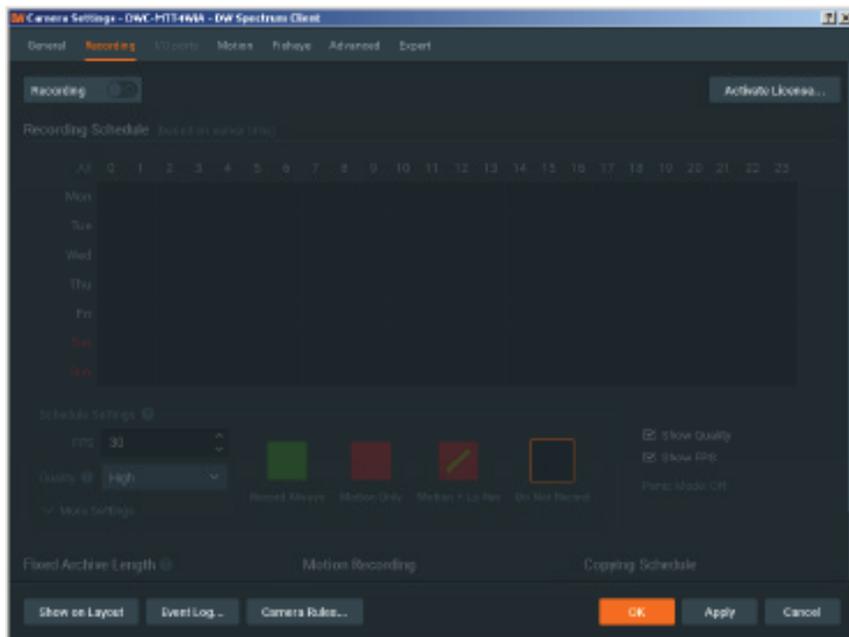


d. Repeat until all the cameras are added.

1. Right-click on the camera to set up recording. Click on "Camera Settings" from the context menu.



2. Go to the recordings tab.



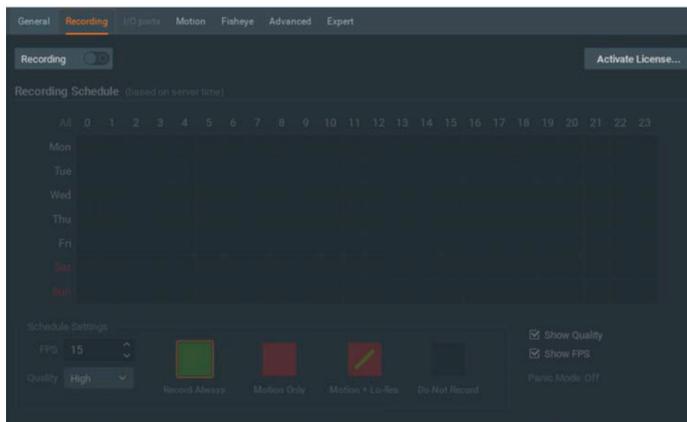
3. Click  to turn on recording. (Recording enabled )

4. Configure the schedule settings for quality, FPS and recording type.

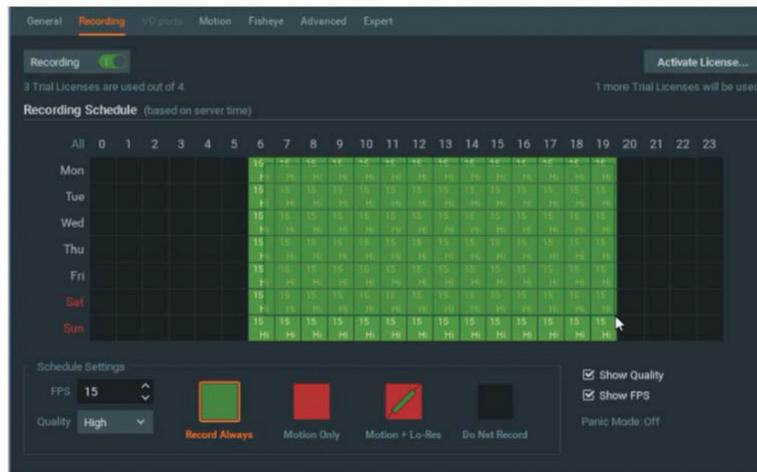
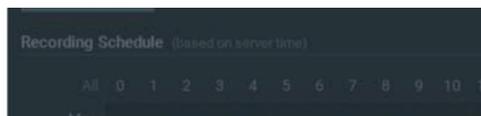
5. Click and drag the mouse over the recording schedule to apply the recording setting to multiple days and hours.

Blackjack® X-RACK

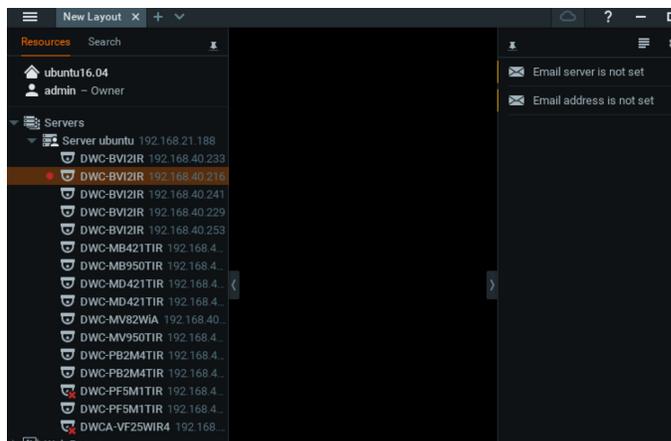
Servers Powered by DW Spectrum® IPVMS



* Click on "All" to apply to the entire schedules.

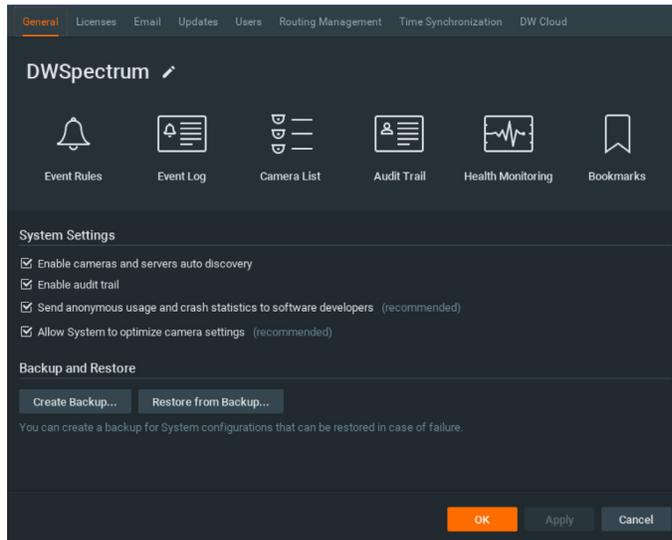


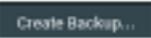
6. A red dot will appear next to the camera in the resource tree once recording is started.

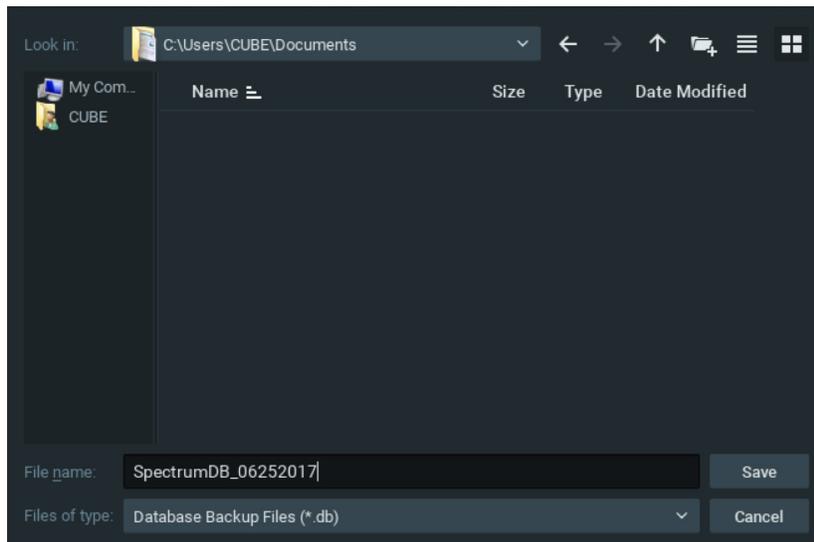


STEP 6: Backup database

1. Click on the menu  on the top left of the screen and click on “System Administration” from the drop-down list.



2. Click on 
3. Navigate to the folder where you want to save and enter the name of the backup file. Click Save.



* It is strongly recommended to backup your data to an external storage media.

NOTE More information and instructions are available in the DW Spectrum® IPVMS user manual.

TROUBLESHOOTING TIPS

Problem	Possible solutions
My camera does not auto-discover	<ol style="list-style-type: none"> 1. Is the camera in the same LAN network as the media server? 2. Is your camera compatible with DW Spectrum®? (Refer to our website for full list of supported cameras.) 3. Is the camera updated to its latest firmware? 4. If your camera is integrated with DW Spectrum® via ONVIF, make sure ONVIF is enabled on your camera. 5. Try adding the camera manually. 6. Try rebooting the server after installation. Allow up to 2 minutes for the server to map your network and detect all supported devices.
Videos are slow	<ol style="list-style-type: none"> 1. Are you accessing the same cameras from multiple clients? (LAN and WAN) 2. Do you have a Gigabit network? Check your network speed.
My camera appears disconnected	<ol style="list-style-type: none"> 1. Under camera settings, make sure the user name and password are correct. 2. Under the camera settings, use the 'Ping' button to make sure the camera is connected to the network properly. 3. If you can connect to the camera's web viewer, try rebooting the camera and/or restore it to factory default. 4. Make sure your camera is using the latest firmware available. 5. Make sure that the camera is connected to the same network as the server. 6. If you are connecting to a camera that is integrated with DW Spectrum® via the ONVIF protocol (see list), make sure ONVIF is enabled. 7. Make sure your user has permissions to view that specific camera.
I cannot get playback video from my camera	<ol style="list-style-type: none"> 1. Do you have network connection between client and server (in case server and client are not on the same machine)? 2. Make sure your user has playback viewing permissions for the selected channel. 3. Make sure the camera is set to a recording mode that would provide recorded video for the selected time and environment. 4. On the server side, check the media server log to make sure the camera you are trying to watch has not been unexpectedly disconnected.
I get an 'unauthorized' message on my camera	<ol style="list-style-type: none"> 1. Make sure the camera's user name and password are properly entered in the camera's general information under the camera settings menu. 2. If necessary, try rebooting the camera to apply the camera's user name and password.

SYSTEM REQUIREMENTS

Recommended specs for the full client

Processor	Intel® Core® i5 or greater.	
Video card	Intel® HD Graphics 2500 (or higher) with 1GB dedicated memory. Recommend NVIDIA or AMD graphics card with 2GB or more memory.	
Resolution	1920 x 1080	
RAM	16GB	
NIC	1Gbps	
OS supported - media server	Tested operating systems	<ul style="list-style-type: none"> • Windows®: 7, 8, 8.1, 10/Enterprise. • Windows Server®: 2008 R2, 2012, 2012 R2, 2016 v1607. • Ubuntu® LTS: 16.04, 18.04.
	Operating system no longer supported	<ul style="list-style-type: none"> • 32 Bit operating system (both Windows® and Ubuntu® Linux®). • Ubuntu® 14.04 is no longer supported. • Windows Server® 2008 no longer supported. (Only 2008 R2 is supported).
OS supported - client	Tested operating systems	<ul style="list-style-type: none"> • Windows®: 7 Home, 7 Standard, 7 Pro, 7 Ultimate, 8/8.1 Standard, 8/8.1 Pro, 8.1 Enterprise, 10 Home/Pro/Enterprise¹. • Windows Server®: 2008 R2, 2012, 2012 R2, 2016 v1607. • Ubuntu® LTS: 16.04, 18.04. • OS X 10.13: "High Sierra", 10.14: "Mojave", 10.15 "Catalina". ¹ For Windows 10, i5/i7 processors with 16GB RAM and video card with 2GB or higher RAM is recommended.
	Operating system no longer supported	<ul style="list-style-type: none"> • 32 Bit operating system (both Windows and Ubuntu Linux) • Ubuntu 14.04 is no longer supported. • Windows Server 2008 no longer supported (Only 2008 R2 is supported)

* Except Storage Server version

Important: OS not listed will not be supported by DW® Tech Support

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