Blackjack®Ai™

Powered by DW Spectrum and DW Ai Server

State of the art hyper-optimized video management platform designed for ease, speed and efficiency.
Blackjack Ai HDX slim desktop servers — Up to 480Mbps

DW-BJAiHDX51xxT	DW-BJAiHDX71xxT

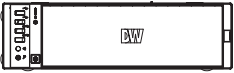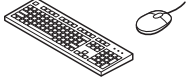| Default Login Information for DW Spectrum®	
Username: **admin**	Password: **admin12345**

Default login information for the server's OS	
Username: **dwuser**	Password: **Dw5pectrum**

WHAT'S IN THE BOX					
Blackjack Ai HDX™ server		1	Keyboard and mouse		1 set
Quick start guide		1	Power cable		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 setup.
See the DW Spectrum® full manual for more information on features and functionality.

Blackjack Ai™

HARDWARE OVERVIEW
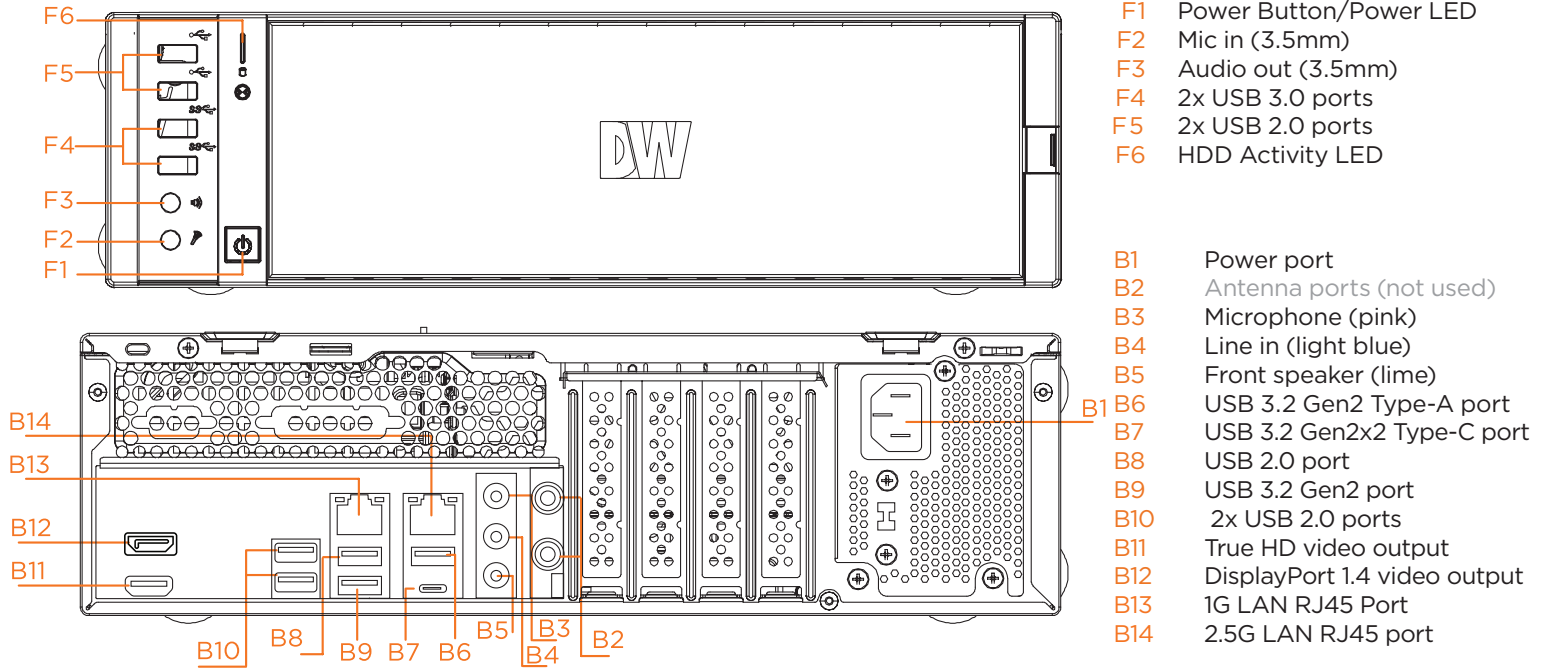
F1	Power Button/Power LED
F2	Mic in (3.5mm)
F3	Audio out (3.5mm)
F4	2x USB 3.0 ports
F5	2x USB 2.0 ports
F6	HDD Activity LED

B1	Power port
B2	Antenna ports (not used)
B3	Microphone (pink)
B4	Line in (light blue)
B5	Front speaker (lime)
B6	USB 3.2 Gen2 Type-A port
B7	USB 3.2 Gen2x2 Type-C port
B8	USB 2.0 port
B9	USB 3.2 Gen2 port
B10	2x USB 2.0 ports
B11	True HD video output
B12	DisplayPort 1.4 video output
B13	1G LAN RJ45 Port
B14	2.5G LAN RJ45 port

Default login information for DW Spectrum

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

Default Login Information for the server's OS

Username: **dwuser**	Password: **Dw5pectrum**

SPECIFICATIONS

PART NUMBER		DW-BJAiHDX7	DW-BJAiHDX5
Included DW Spectrum IP licenses		4 (DW-SPECTRUMLSC004)	4 (DW-SPECTRUMLSC004)
Included DW Ai Server Licenses		4 channel (DW-DWAiSLSC004)	4 channel (DW-DWAiSLSC004)
Form Factor		Slim Desktop	Slim Desktop
Operating System		Windows 11 IoT Enterprise LTSC	Windows 11 IoT Enterprise LTSC
OS on SSD		480GB SSD	480GB SSD
CPU		12th Gen Intel Core i7 processor	12th Gen Intel Core i5 processor
Memory		16GB	16GB
Ethernet Port		1 x 1Gb Ethernet, 1x 2.5Gb Ethernet	1 x 1Gb Ethernet, 1x 2.5Gb Ethernet
System	Max video storage rate (Mbps)	480Mbps	320Mbps
	Max # of analytic streams (secondary)	Up to 10	Up to 10
	Maximum HDD	2 x SATA HDD	2 x SATA HDD
	Storage Options	8TB, 12TB, 16TB, 20TB, 24TB, 32TB, 40TB	8TB, 12TB, 16TB, 20TB, 24TB, 32TB, 40TB
	USB interface	Yes	Yes
Video-out	Outputs	1x true HD, 1x DP for system configuration. Maximum 1 display output at a time	1x true HD, 1x DP for system configuration. Maximum 1 display output at a time
	Graphics Card	On board Intel Xe Graphics	On board Intel Xe Graphics
	AI Processor	Hailo 8	Hailo 8
Preloaded VMS software		DW Spectrum	DW Spectrum
DW Spectrum Client supported OS		Cross-platform - Windows, Linux Ubuntu and Mac	Cross-platform - Windows, Linux Ubuntu and Mac
Preloaded Analytic software		DW Ai Server	DW Ai Server
Ai Configuration Tool supported OS		Cross-platform - Windows and Linux Ubuntu	Cross-platform - Windows and Linux Ubuntu
Mobile apps		iOS and Android	iOS and Android
Keyboard and mouse		Included	Included
Power supply		300W**	300W**
Operating temperature (room)		41°F-104°F (5°C-40°C)	41°F-104°F (5°C-40°C)
Operating humidity		20-90% RH	20-90% RH
Dimension (WxDxH)		Standing: 13.1" x 3.88" x 15.8" (334 x 98.5 x 402 mm), Desktop: 3.88" x 13.1" x 15.8" (98.5 x 334 x 402 mm)	Standing: 13.1" x 3.88" x 15.8" (334 x 98.5 x 402 mm), Desktop: 3.88" x 13.1" x 15.8" (98.5 x 334 x 402 mm)
Other certification		NDAA, TAA	NDAA, TAA
Warranty		5 year limited	5 year limited

** UPS recommended

Specifications and components mentioned are subject to change without notice.

SETTING UP THE SERVER

STEP 1:   **Connect external devices, power and network.**

1. Connect a monitor, USB keyboard, mouse, and network cable to Ethernet port B13 (1G LAN) on the rear panel diagram. Configure the camera network first, then the server's local network.
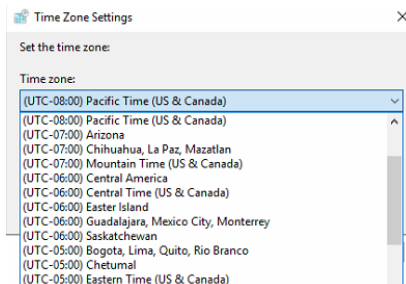
NOTE See page 2 for detailed back panel breakdown for each model.

2. Connect the server to an appropriate power source. A UPS system (600VA or higher) is recommended.
3. Connecting the power cable to a live power source should turn on the server automatically. If not, press the power button on the front panel (F1 on the front panel diagram).

PoE switch for cameras
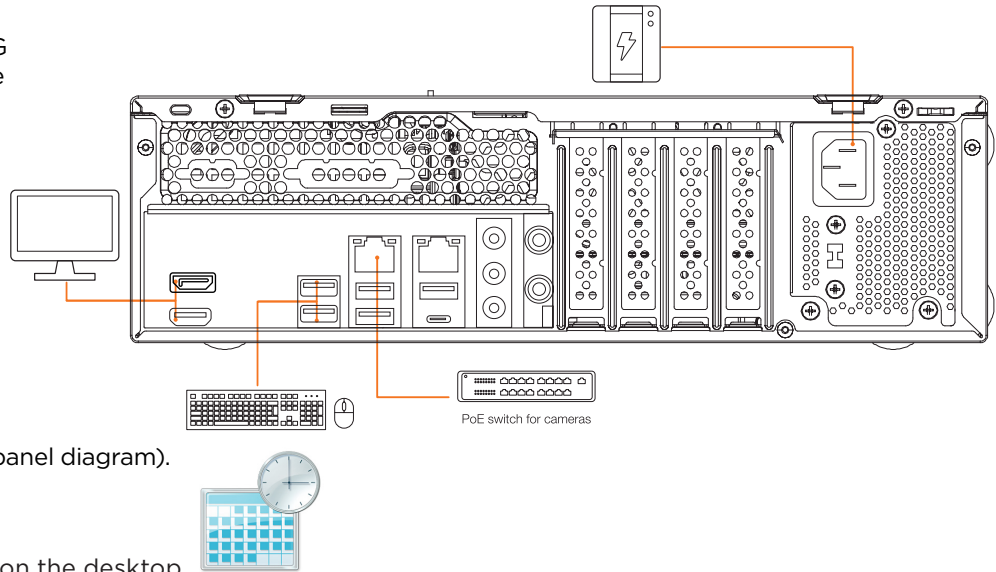
STEP 2:   **Configure date and time**

1. Double-click on the **Date and Time** icon on the desktop.
2. The default time zone is UTC-08:00 Pacific Time. Click **Change time zone...** to change to the correct time zone.

Time Zone Settings

Set the time zone:

Time zone:

(UTC-08:00) Pacific Time (US & Canada)

(UTC-08:00) Pacific Time (US & Canada)
(UTC-07:00) Arizona
(UTC-07:00) Chihuahua, La Paz, Mazatlan
(UTC-07:00) Mountain Time (US & Canada)
(UTC-06:00) Central America
(UTC-06:00) Central Time (US & Canada)
(UTC-06:00) Easter Island
(UTC-06:00) Guadalajara, Mexico City, Monterrey
(UTC-06:00) Saskatchewan
(UTC-05:00) Bogota, Lima, Quito, Rio Branco
(UTC-05:00) Chetumal
(UTC-05:00) Eastern Time (US & Canada)

3. Click **OK** after selecting the correct time zone.
4. Click **Change date and time...** to update the date and time if they are incorrect.
   NOTE: Verify the time zone before updating the date and time. Time may show 2 or 3 hours off due to an incorrect time zone.

Change date and time...

Set the date and time:

Date:

May 2018

Su Mo Tu We Th Fr Sa
29 30 1 2 3 4 5
6 7 8 9 10 11 12
13 14 15 16 17 18 19
20 21 22 23 24 25 26
27 28 29 30 31 1 2
3 4 5 6 7 8 9

Time:

11:16:32 AM

Change calendar settings

OK   Cancel
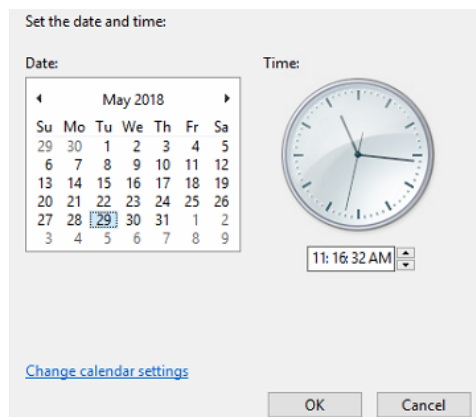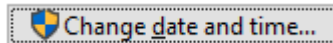
5. Press **OK** after adjusting to the correct date and/or time. Press **OK** to close the date and time when done.

BlackjackAi™

Configure network

Please have the following information ready before starting the network configuration.

|	Camera network	Local network (LAN)
IP address		
Subnet mask / Netmask		
Default gateway / Gateway	N/A	
DNS servers	N/A	

* Camera network and local network cannot be on the same network.

> **NOTE** The Blackjack server's network settings are set to DHCP by default.

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

1. Double-click on **Network Connections** on the desktop.
2. Right-click **Ethernet** (connected) and click **Properties**.
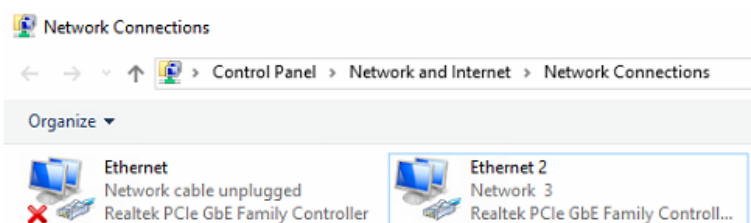
3. Select **Internet Protocol Version 4 (TCP/IPv4)** and click **Properties**.
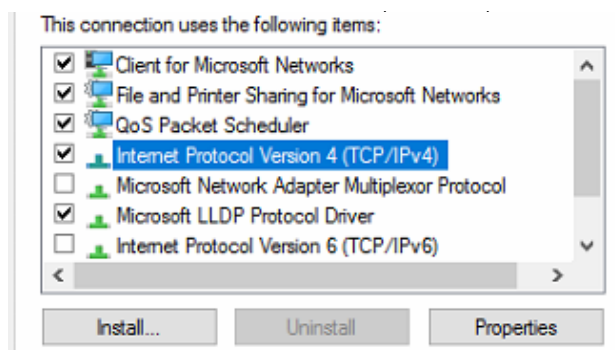
4. Click the **Use the following IP address:** radio button – **Use the following DNS server addresses:** will be selected automatically.
5. Enter the IP address, subnet mask, and preferred and alternate DNS server addresses for the local network.
6. Click **OK** to close the window, and again for the properties window.

> **NOTE** It must be the same network as the cameras and must not be the same network as the local network. Contact your network administrator for more information.

Local Network

7. Right-click on the **Ethernet** (Network cable unplugged) and click **Properties**.

8. Select **Internet Protocol Version 4 (TCP/IPv4)** and click **Properties**.

9. Click the **Use the following IP address:** radio button – **Use the following DNS server addresses:** will be selected automatically.

10. Enter the IP address and subnet mask of the camera network. Leave the default gateway and preferred and alternate DNS server fields blank.

11. Click **OK** to close the window, and again for the properties window.

12. Connect a network cable to Ethernet port B14 (2.5G LAN) on the rear panel diagram to activate the local network connection.

13. Close the network connections window.
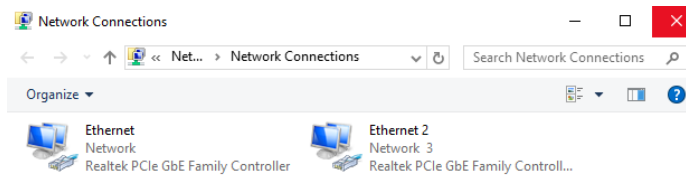
NOTE If you are not connecting to the Blackjack® from the same network, you may be required to perform port forwarding on your router to access the server. Contact your Network Administrator or Installer for additional information

CONFIGURE CAMERAS USING DW IP FINDER
Refer to the camera's QSG to configure any DW IP camera's IP address using DW IP finder.

SETTING UP THE DW SPECTRUM MEDIA SERVER

Login: **admin**
Password: **admin12345**

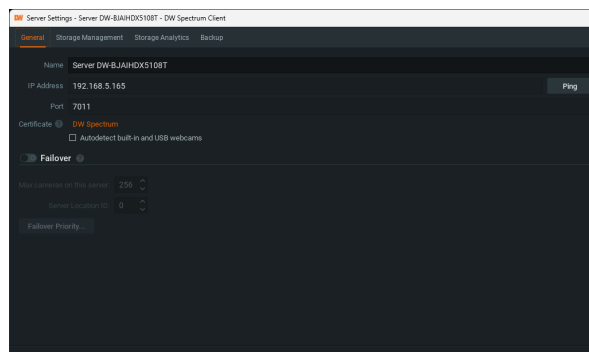**STEP 1:** **Login from the Blackjack® server**

1. Open the DW Spectrum client.
2. Click on the pre-configured server.
3. If it does not log in automatically, enter the default password and click **Connect**.
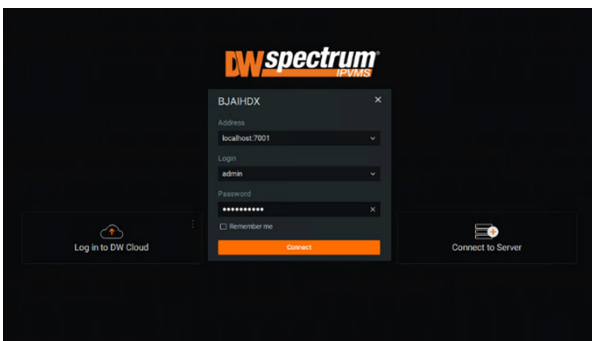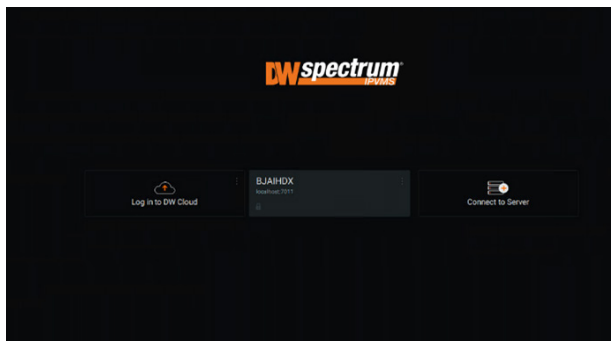
STEP 2: **To rename the server**

1. Right-click on the server name in the resource list on the left side and click **Server Settings...**
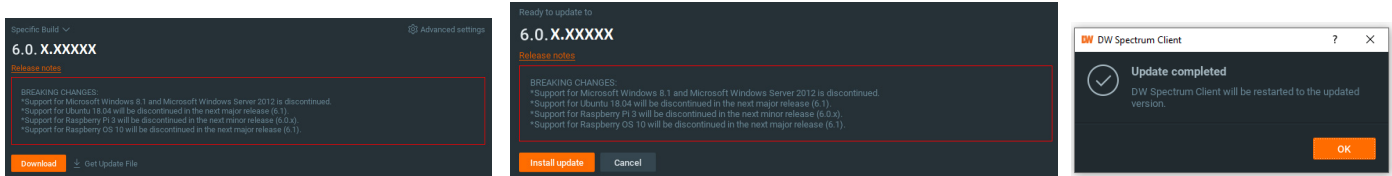2. Enter the new server name in the name field and click **OK**.

STEP 3: **To check for updates**

1. Click the **main menu icon** in the upper-left corner of the DW Spectrum window, and click **System Administration...**
2. Click the **Updates** tab. If the system needs to be updated, click on the **Update** button.
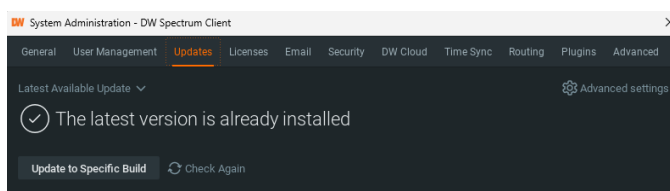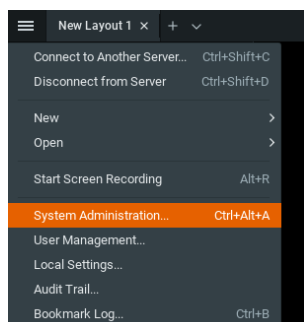
* If the latest version is already installed, the message "The latest version is already installed" will be visible at the top.
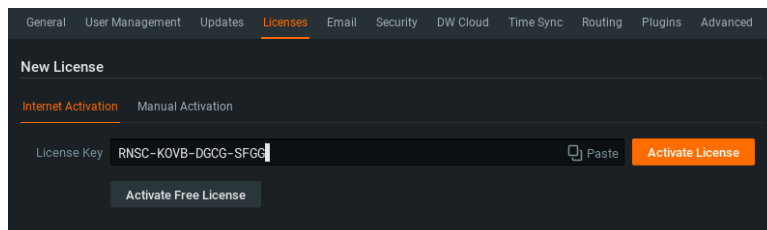
3.   Click **OK** when the update is complete.

STEP 4:   Activate licenses

NOTE: An active Internet connection is required.

1.   Click the **main menu icon** in the upper-left corner of the DW Spectrum window, and click **System Administration...**
2.   Click the **Licenses** tab. Enter the license key and click **Activate License**.
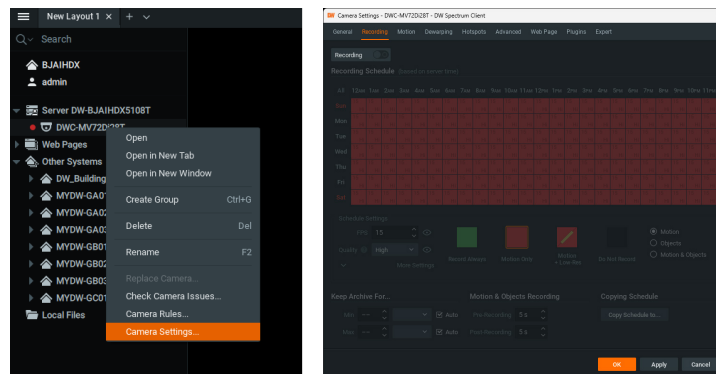

* Click **Activate Free License** to use a free, four-channel license for 30 days.

3.   Click **OK** when all necessary license keys are activated.

## STEP 5:   Configure recording

1.   Right-click a camera in the resource list on the left side and click **Camera Settings...**
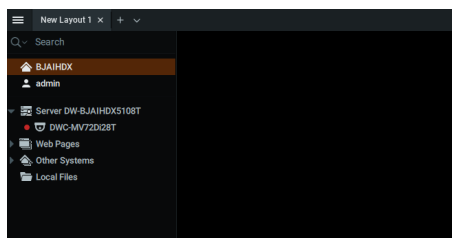2.   Click the **Recording** tab.

3.   Click the **Recording** toggle to activate recording for that camera.
4.   Set quality, FPS, and recording type.
5.   Click and drag over the recording schedule to apply the settings to any number of days and times.
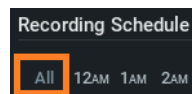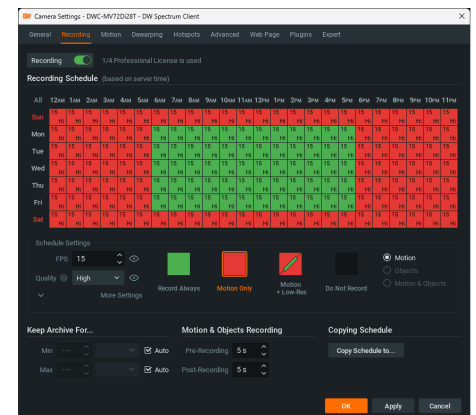
* Click **All** to apply the recording settings to the entire schedule.
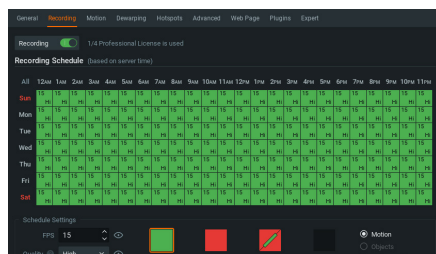
6. Click **OK** when the necessary recording schedule is set. A red circle will appear next to the camera in the resource list.


> **NOTE:** A Recording License is required to allow a camera to record to the archive.

STEP 6: Backup database

1. Click the **main menu icon** in the upper-left corner of the DW Spectrum window, and click **System Administration...**
2. Click the **Advanced** tab. Click **Create Backup...**
3. Select the location to save the database, and enter a name for the backup file. Click **Save**.

* Creating a database backup to external storage before and after every update is strongly recommended.
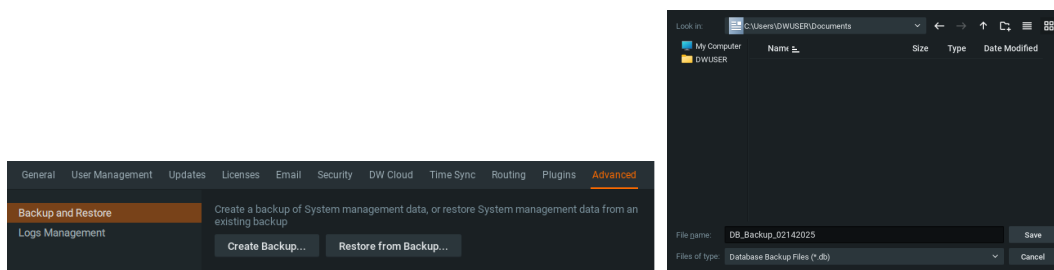
> **NOTE:** More information and instructions are available in the DW Spectrum user manual.

SETTING UP THE DW AI SERVER CONFIGURATION TOOL

While some camera settings can be configured through the DW Spectrum Client, the DW Ai Server Configuration Tool can be used to provide a complete analytic user experience during the configuration process of the DW Ai Server.

STEP 1: Logging in with the DW Ai Server Configuration Tool

To begin setting up the DW Ai Server Configuration Tool

1. Launch the DW Ai Server Configuration Tool. There is an application shortcut on the desktop. Select the DW Ai Server you want to connect with and log in with the local 'admin' user profile.
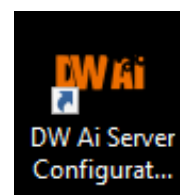
> **NOTE:** If connecting the DW Ai Server Configuration Tool to the DW Spectrum Server is hindered by the message "Unauthorized. Please check the access credentials and try again," after changing the user password, enable the Digest Authentication setting of the user profile in the DW Spectrum Client.
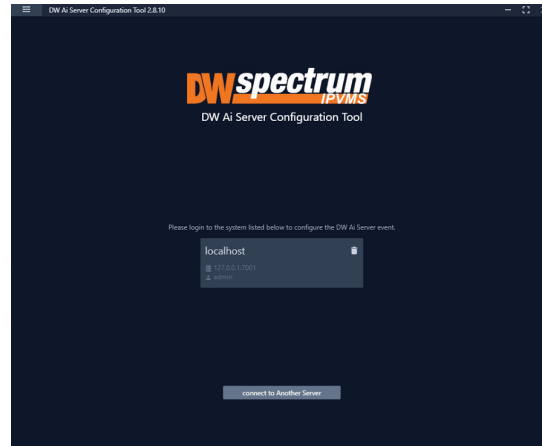
2. Once logged in and connected to the DW Ai Server through the DW Ai Server Configuration Tool, a list will show all added cameras in the left-side panel.

To view all cameras, including the cameras without DW Ai server plugin enabled, click "Ai" to view all cameras.
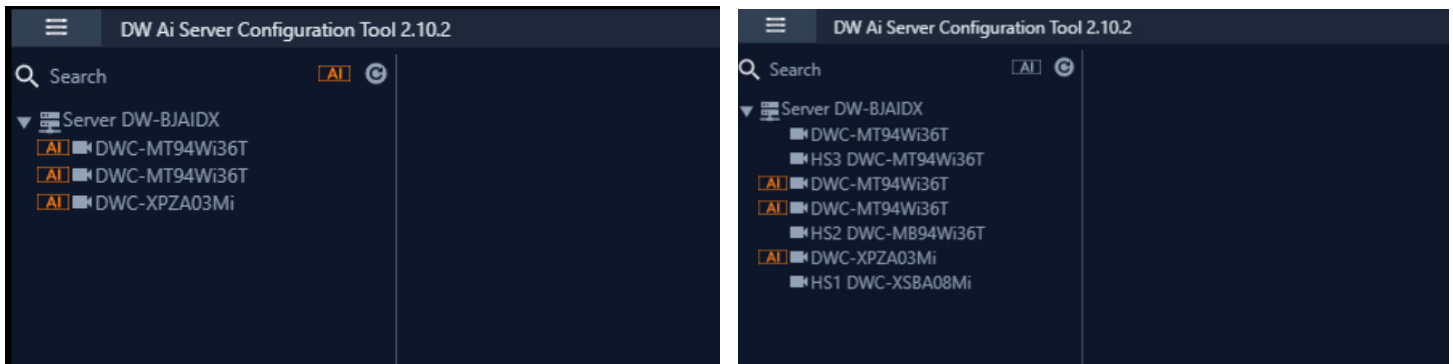
•   Search: This search box can be used to filter the camera list based on the entered device name.

•   Ai (toggle): The Ai button toggles the camera list between showing all cameras on the DW Spectrum System or just the cameras that have the plug-in enabled. This toggle appears at the top of the camera list beside the search bar. While enabled, the toggle will appear in orange.

•   Refresh: This button refreshes the list of cameras from DW Spectrum when it is clicked.

•   Device List: A list of DW MEGApix Ai and standard IP devices are listed in the Resource Tree organized by server. While the DWAi toggle is active, only Ai devices will be listed.

Select the Main Menu to display the menu options:

•   Disconnect Server: Disconnects the current session with your DW Spectrum Server.

•   DW Ai Server List: Displays a list of the DW Ai Server(s) that your DW Spectrum system is configured to use.

•   Licenses: Displays a list of the licenses available from the DW Ai Servers.

•   Preference: Displays a list of the DW Ai Server Configuration Tool's advanced options.

A license is required to use the analytic features of a DW Ai Server. Licenses can be managed through the DW Ai Server Configuration Tool program.

Select "Licenses" from the Main Menu in the DW Ai Server Configuration Tool to view the licenses.

Active Licenses

The Active Licenses list shows all licenses of the DW Ai Server and how the licenses are currently allocated.

New Licenses

In the New Licenses area of the menu, server tabs (Server #) are created for each DW Ai Server. Select a server tab to view the license activation interface.

• **Type** Specifies the activation method that will be used for your license activation request.

    o **Internet Activation:** Select to enter the license activation key to add additional DW Ai licenses.

        • **License Key:** Enter the alphanumeric DW Ai license key, then click "Activate" to add a license. An Internet connection is needed for the DW Ai Server to use this feature.


    o **Manual Activation:** Select to copy the server's HW GUID and manually add a DW Ai license. This option is intended for use if the DW Ai Server does not have access to the Internet.

        • **HWGUID:** This is the system's unique code. Copy the HWGUID and submit a request for a manual activation code to licenses@digital-watchdog.com. The email should include the server's HWGUID and the license key that you are trying to activate.

        • **Copy to clipboard:** Copies the HWGUID to the clipboard.

        • **License Key:** Type or paste the activation code into the space provided, then click "Activate."

STEP 3: **Enable Tab – DW Ai Server Plugin**

To set up analytics on the DW Ai Server, select a camera from the left-side panel. The Enable tab shows the status of the plug-in for the selected camera. From here, you can check your license status and select the preferred deep-learning feature.

- **DW Ai Server Plugin:** Toggle to enable/disable the plug-in for the selected camera.

- **Tracker Engine:** Defines the tracking engine that will be used for analytics. The tracker engine will need to 'learn the scene' to determine the background from moving foreground objects. While initially learning the scene, a message will be displayed in the live view, and no objects will be tracked during this time.

    o **DL Object Tracker:** When selected, the analytic engine will use the GPU to detect, categorize and track objects as they move through the camera's detection areas.

- When set to use Object Tracker, the objects can be classified using either deep learning models or by using properties extracted from an object in a calibrated scene. If the Deep Learning Filter is not used, camera calibration is required to detect the object class.

    o **DL People Tracker:** When selected, the tracker uses the GPU to detect and track people as they move through the camera's detection areas.

- **Apply:** Apply changes to the selected camera.
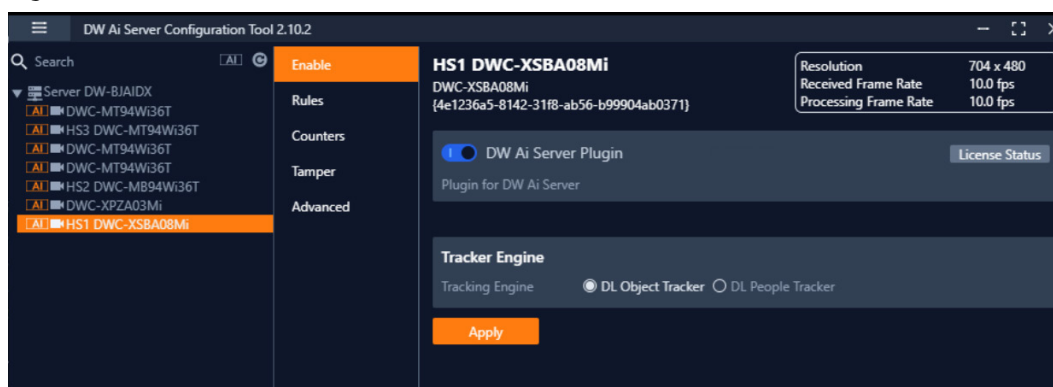
NOTE: This products is covered by one or more claims of the HEVC Patents listed at patentlist.accessadvance.com.

TROUBLESHOOTING TIPS

Problem	Possible solutions
A camera or other device is not automatically discovered.	1. The device must be on the same local network as the media server. 2. The device must be compatible with DW Spectrum. Refer to the full list of supported cameras on digital-watchdog.com 3. Update the device with the latest firmware. 4. Ensure ONVIF is enabled on the device. 5. Add the camera manually. 6. Reboot the server after installation. Allow up to 2 minutes for the server to detect all supported devices.
Slow video	1. The same camera(s) could be accessed by multiple clients simultaneously. 2. Check network speed.
Device appears disconnected	1. Ensure the username and password are correct in device settings. 2. Click the ping button in device settings to ensure the camera is connected to the network. 3. Reboot or restore the device to the factory default if its web page is available. 4. Update the device with the latest firmware. 5. The device must be on the same local network as the media server. 6. Ensure ONVIF is enabled on the device. 7. The user may not have the necessary permissions to view that device.
Cannot view archived video	1. Ensure there is an active network connection between the client and server. 2. The user may not have the necessary permissions to view archive from that device. 3. The camera may be set to a recording mode that did not record video for the selected time and environment. 4. Check the log on the media server to ensure the device did not unexpectedly disconnect.
"Unauthorized" message on device	1. Ensure the username and password are correct in the device's settings. 2. Reboot the camera.

DW SPECTRUM SYSTEM REQUIREMENTS

Recommended specs for the full client

	Minimum	Recommended
Processor	Intel i5 8th gen processor (or higher)	Intel Core i7 8th gen processor (or higher)
System RAM	8GB RAM	16GB RAM
Video card	Integrated Intel graphics	GeForce GTX 1650 or better
Network interface	2 x 1 Gbps	2 x 1 Gbps
OS Drive	256GB HDD	Dedicated 256GB SSD or larger
OS supported	**Microsoft Windows OS** (supported by both DW Spectrum® Server and Client). •Windows 10 •Windows 11 •Windows Server 2016 •Windows Server 2019 •Windows Server 2022 **NOTE: DW Spectrum for Windows can be installed as a software bundle, or the Server and Client software can be installed separately. **Ubuntu (Debian-based Linux) OS** (supported by both DW Spectrum Server and Client). •Ubuntu 18.04 LTS "Bionic Beaver" •Ubuntu 20.04 LTS: "Focal Fossa" •Ubuntu 22.04 LTS: "Jammy Jellyfish" **NOTE: DW Spectrum for Ubuntu is only available for separate installations (not bundled). **Macintosh OS** (supported only by the DW Spectrum Client. DW Spectrum Server is not available for macOS). •macOS 11.0, 11.1, 11.2 "Big Sur" •macOS 12 "Monterey" •macOS 12 "Monterey" •macOS 12 "Monterey" **NOTE: DW Spectrum for macOS is only supported by the DW Spectrum Client.	

* Except Storage Server version

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

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