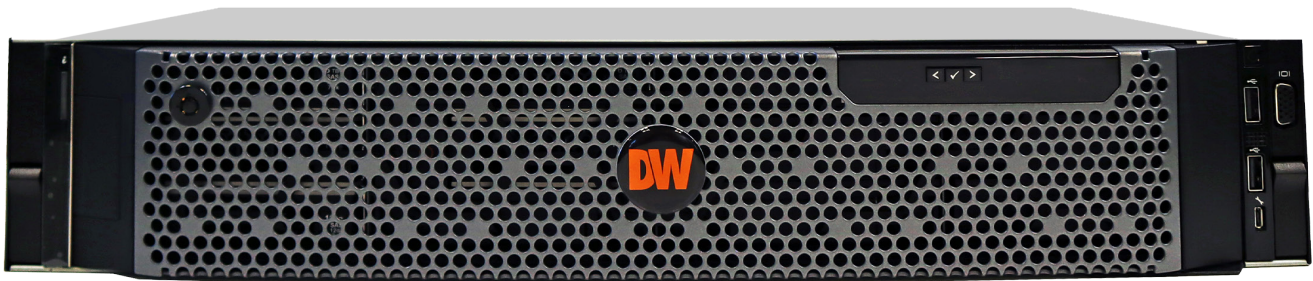


Blackjack[®]Ai[™]

Powered by DW Ai Appliance

Model	Description
DW-BJAiARA2	2U rack mount workstation analytics appliance with dual sensor and NVIDIA RTX A2000 12GB card
DW-BJAiAR2PA2	2U rack mount workstation analytics appliance with dual sensor and dual NVIDIA RTX A2000 12GB cards

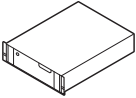
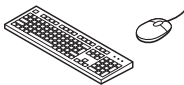
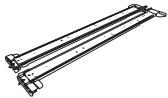
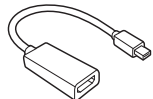


Default login information for the server's OS

Username: **dwuser**

Password: **Dw5pectrum**

WHAT'S IN THE BOX

Rack [™] Server		1	Keyboard and Mouse		1 set	Rail Kit		1 set
Quick Start Guide		1	Power Cable		2	Mini-DP to True HD Adapter		1

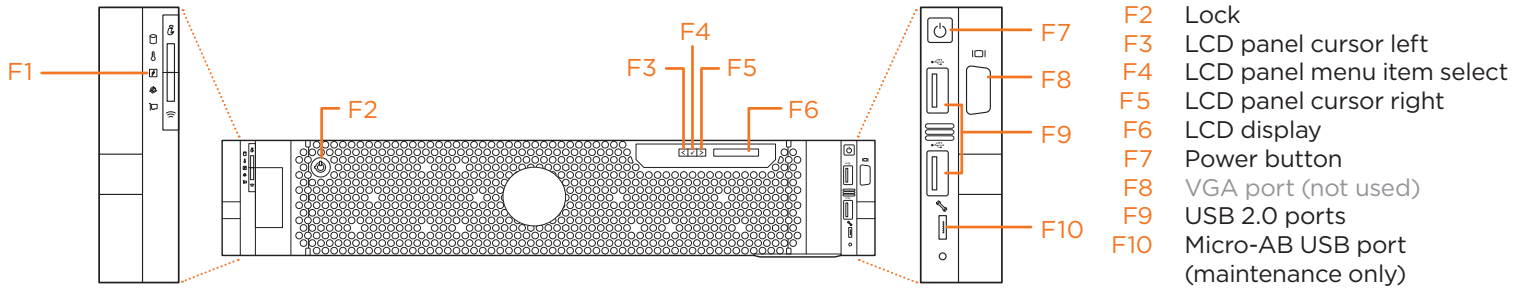
NOTE: Download all your support materials and tools in one place.

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.

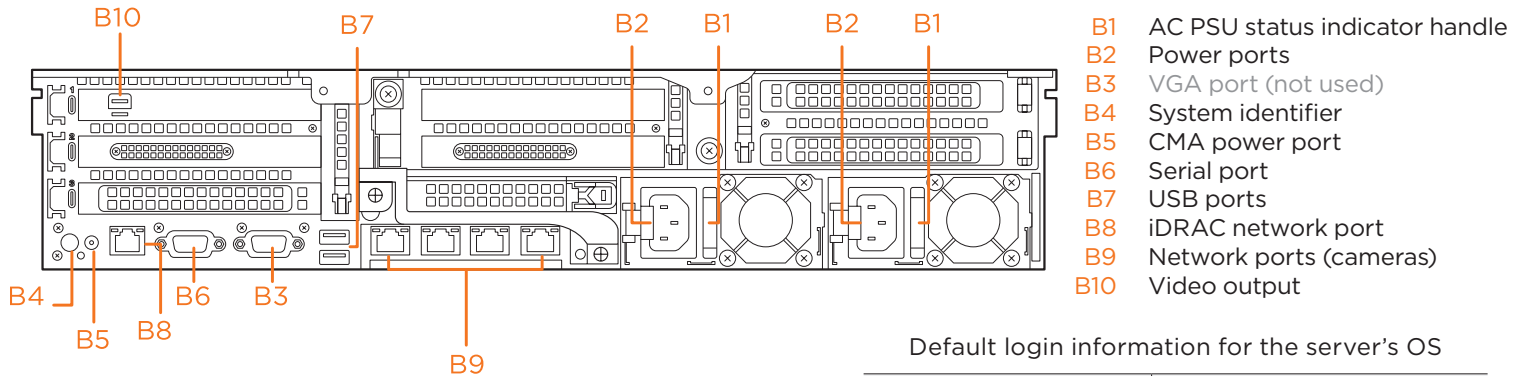
Attention: This document is intended to serve as a quick reference for initial setup.
See the DW Spectrum[®] full manual for more information on features and functionality.

HARDWARE OVERVIEW

FRONT



BACK



Default login information for the server's OS

Username: **dwuser**

Password: **Dw5pectrum**

SPECIFICATIONS

PART NUMBER		DW-BJAiARA2	DW-BJAiAR2PA2
Included DW Ai Server Licenses		4 channel(DW-DWaiSLSC004)	
Form Factor		2U Rack mount	
Operating System	Windows® 10	Windows 11 IoT LTSC	
	OS on SSD	2x 512GB M.2 (RAID1)	
CPU		Intel XEON Silver 4215R	2 x Intel XEON Silver 4215R
Memory		32GB	64GB
Ethernet Port		4 x 1Gb Ethernet ports	
System	Max # of analytic streams(secondary)	Up to 24	Up to 48
	USB interface	Yes	Yes
Video-out	Outputs	1x mini Display Port, for system configuration	
	Graphics Card	NVIDIA RTX A2000 12GB	2 x NVIDIA RTX A2000 12GB
Preloaded Analytic software		DW Ai Server	
Ai Configuration Tool Supported OS		Cross-platform - Windows® and Linux Ubuntu®	
Keyboard and mouse		Included	
Rail kit		Included	
Power supply		1100W Redundant**	
Operating temperature (room)		41°F-104°F (5°C-40°C)	
Operating humidity		20-90% RH	5-85% RH
Dimension (WxDxH)		3.41" x 17.0" x 28.37" (29.78" with bezel); 86.8mm x 482mm x 715.5mm (751.3mm with bezel)	
Other certification		NDAA, TAA, UL, FCC and CE	
Warranty		5 year HW warranty with next day on-site repair after remote diagnosis	

* UPS recommended

** After remote diagnosis

Specifications and components mentioned are subject to change without notice.

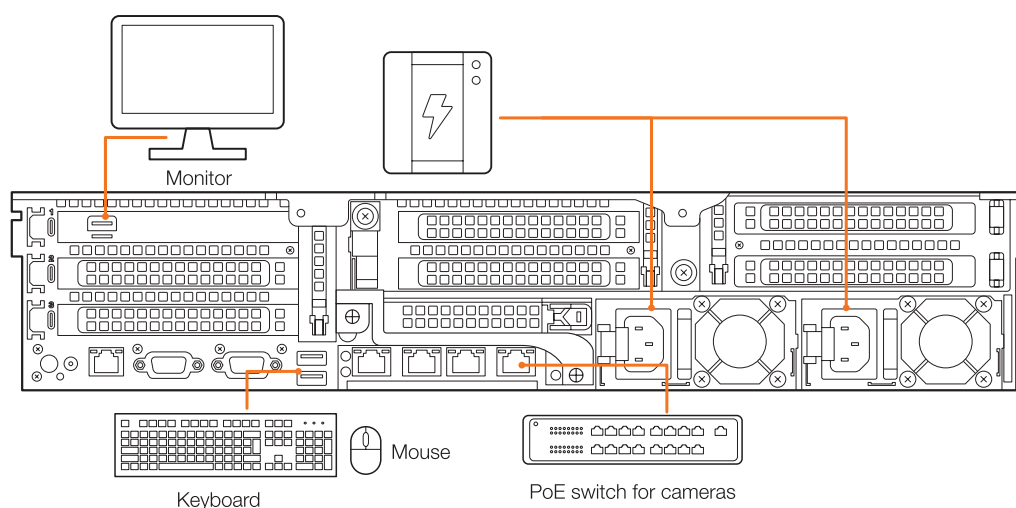
SETTING UP THE SERVER

STEP 1: Connect external devices, power and network.

1. Connect a monitor, USB keyboard, USB mouse and network cable to one of the Ethernet ports (B9 on the diagram). Configure the camera's network first, then configure the server's local network.

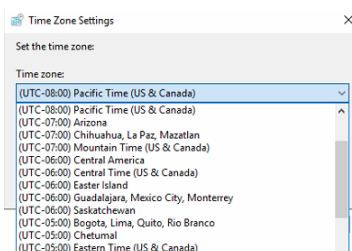
NOTE See page 2 for detailed back panel breakdown for each model.

2. Connect the server to an appropriate power source. A UPS system rated for 1500VA or higher per PSU is recommended.
3. Connecting the power cable to a live power source may turn on the server automatically. If the server does not turn on automatically, press the power button on the front of the server (F7 on the diagram).

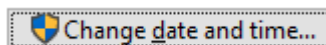


STEP 2: Configure date and time

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.



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



STEP 3: 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	

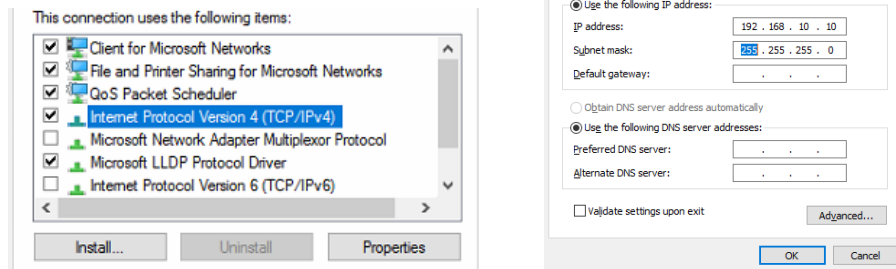
* Camera network and local network cannot be on the same network.

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

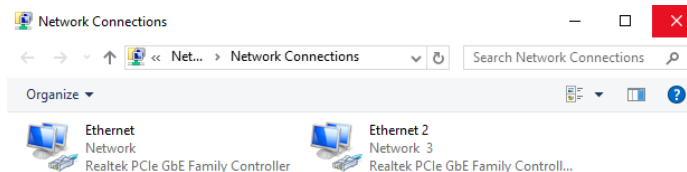
NOTE If you are not sure what information to enter, contact your Network Administrator or Internet Service Provider.

Camera Network

1. Right-click on the **Ethernet** (Network cable unplugged) and click **Properties**.
2. Select **Internet Protocol Version 4 (TCP/IPv4)** and click **Properties**.



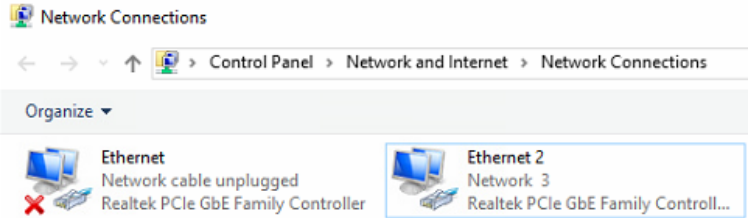
3. Click the **Use the following IP address:** radio button (**Use the following DNS server addresses:** will be selected automatically).
4. Enter the IP address and subnet mask of the camera network. Leave the default gateway and preferred and alternate DNS server fields blank.
5. Click **OK** to close the window, and again for the properties window.
6. Connect a network cable to Ethernet port B10 (1G LAN) on the rear panel diagram to activate the local network connection.
7. Close the network connections window.



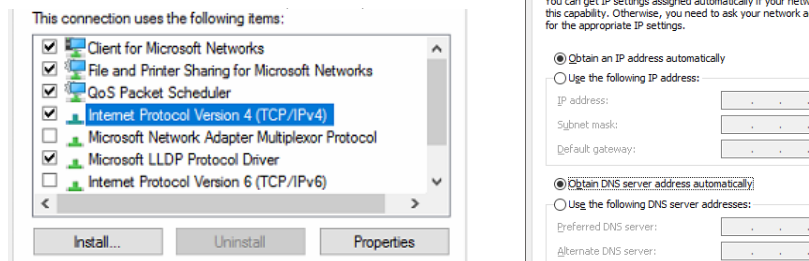
NOTE It must be the same network as the cameras and must not be the same network as the local network. Contact your network administrator for more information.

Local Network

8. Double-click on **Network Connections** on the desktop.
9. Right-click **Ethernet** (connected) and click **Properties**.



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



11. Click the **Use the following IP address:** radio button (**Use the following DNS server addresses:** will be selected automatically).
12. Enter the IP address, subnet mask, and preferred and alternate DNS server addresses for the local network.
13. Click **OK** to close the window, and again for the properties 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

CONNECTING TO DW AI SERVER FROM DW SPECTRUM

STEP 1: Download and copy plugin file to DW Spectrum's plugin folder.

Windows: Download and copy dw_ai_server_plugin.dll to "C:\Program Files\Digital Watchdog\DW Spectrum\MediaServer\plugins".

Linux: Download and copy libdw_ai_server_plugin.so to "/opt/digitalwatchdog/mediaserver/bin/plugin/".

1. Reboot the DW Spectrum Mediaserver
2. Go to Plugin tab from System Administrator then select DW Ai Server Plugin from the Plugin list on the left pane.
3. Enter the IP address of the Blackjack Ai Appliance.
4. Click OK or Apply to save the setting.

STEP 2: Enable DW Ai Plugin on cameras.

1. Open Camera Settings of the camera that the analytics will be processed by DW Ai server
2. Enable DW Ai Server Plugin (*must keep the Camera stream, License and DL Filter Type as default as shown)
3. Click Apply to save the configuration.
4. Create analytic rules.

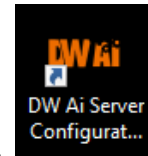
SETTING UP THE DW AI SERVER CONFIGURATION TOOL

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

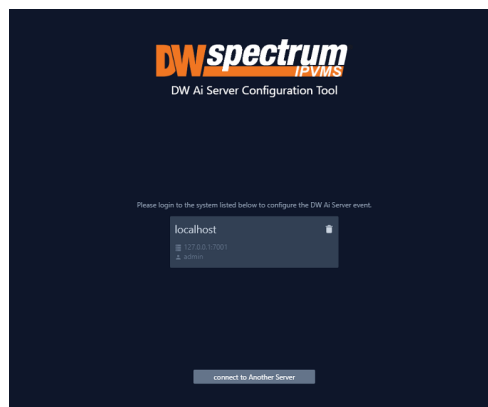
To begin setting up the DW Ai Server Configuration Tool

1. Launch the DW Ai Server Configuration Tool. There is an application shortcut on the desktop.



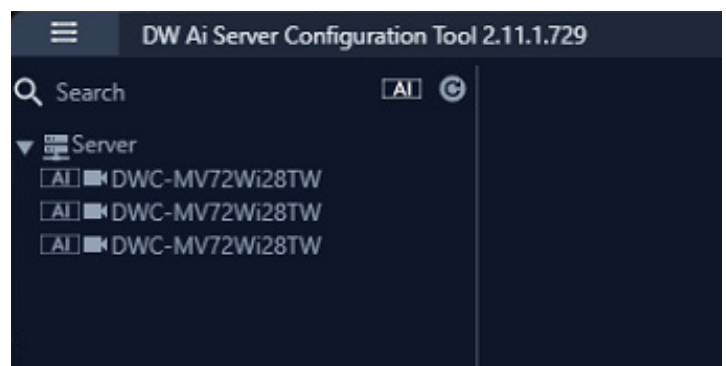
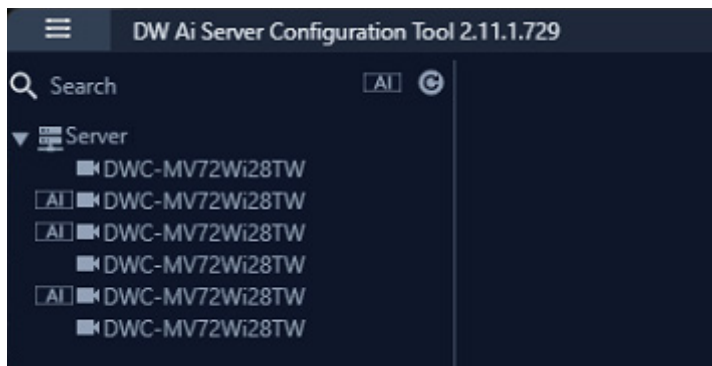
Select the DW Ai Server you want to connect with and log in with the local 'admin' user profile.

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 white.
- 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 DW Ai 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.

STEP 2: DW Ai Server Licenses

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.

Active Licenses				
Server	Name	Used Channels	Total Channels	License Key
Server #1	DW AI Server	3	20	0G09-5409-06PX

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.

New Licenses

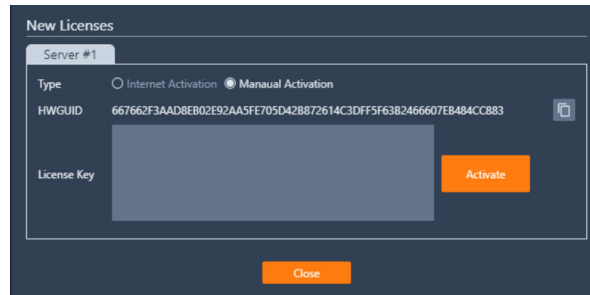
Server #1

Type ☒ Internet Activation ☐ Manual Activation

License Key

- 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.

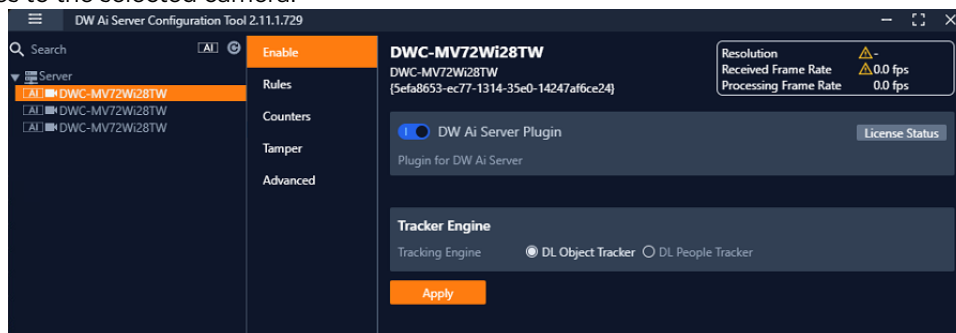
- **HWGUID:** This is the system's unique code. Copy the HWGUID and submit a request for a manual activation code to licenses@digital-watchdog.com. The email should include the server's HWGUID and the license key that you are trying to activate.
- **Copy to clipboard:** Copies the HWGUID to the clipboard.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



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