DW DIGITAL WATCHDOG
Everything's Digital

Blackjack NVR SERIES
POWERED BY
DW spectrum IPVMS

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

SIMPLY POWERFUL, POWERFULLY SIMPLE

BLADE — Up to 16 2.1MP Cameras (1080p True HD Resolution)

CUBE — Up to 64 2.1MP Cameras (1080p True HD Resolution)

E-RACK — Up to 128 2.1MP Cameras (1080p True HD Resolution)

ERACK
BLADE
CUBE

Toll Free: 866.446.3595   Fax: 813.888.9262
www.digital-watchdog.com   sales@dwcc.tv

B1 Power - SMPS
B2 SSD Drive Bay for OS
B3 2x USB 2.0 Ports
B4 Keyboard / Mouse Connector
B5 VGA Port (Disabled*)
B6 Serial Port
B7 2x HDMI Ports (Disabled*)
B8 2x Network Ports
B9 2x USB 2.0 Ports
B10 2x USB 3.0 Ports
B11 SPDIF Out
B12 Surround Out
B13 Center / LFE Out
B14 Mic Out
B15 Line Out
B16 Line In
B17 Mini Display Port

BLACKJACK E-RACK
HARDWARE

F1 Power Button
F2 Reset - reboot system
F3 Power LED
F4 HDD LED
F5 Network 1 LED
F6 Network 2 LED
F7 Power Failure LED
F8 Overheat LED

* Please use the Mini Display Ports located on the right side of the E-Rack's back hardware (B17) for monitor connections.
Use the mini DP to DVI and DVI to HDMI convertors included in the E-Rack's accessory box.

ENTERPRISE CONTROLLER LOGIN
USER : admin
PW : admin

Windows 7

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MULTI-SERVER SETUP

For applications where multiple servers are used and are being monitored from a single master location, you combine those servers as secondary Media Servers under one server assigned as the master Enterprise controller.

DW Spectrum Client 1
DW Spectrum Client 2
Enterprise Controller
Media Server 1 Media Server 2 Media Server 3
Cameras
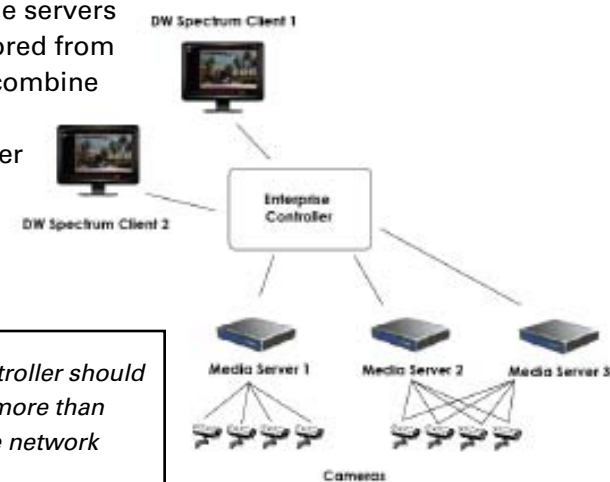
DEFAULT PORTS
7001 : Enterprise Controller
7002 : Media Server
7004 : Proxy

* Enterprise Controller should not be installed more than once in the same network

Multi-Site VMS - Combining Servers Into 1 Enterprise Contoller

① Select Your PRIMARY Enterprise Controller

② Find the IP and Port information

③ Attach the Media Servers to the Enterprise Controller:

1. Go to the PASSIVE Media Server (server you want to assign to the PRIMARY EC).
2. Right-click on the DW Spectrum tool bar at the bottom right-hand corner of the desktop, and select 'Settings'.
3. Enter the PRIMARY EC's Host address, ports, username and password. If the PASSIVE server is on the same network as the PRIMARY server, you can use the *Last Used Connection * drop down option to view all detected ECs in the network.
4. Press 'Test' to make sure the connection is properly setup.
5. Press 'OK'. System will prompt you to reboot the Media Server . Press 'OK' to continue.
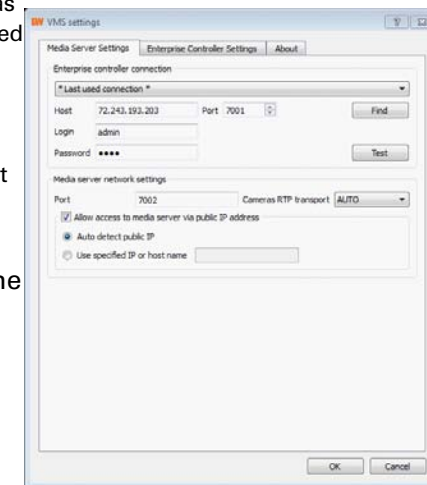
④ Repeat for all other Media Servers in the same network.

⑤ To login, enter the primary EC's IP adress, port*, and login information in your client software.

*NOTE: To view your Security System from a remote network, the PRIMARY EC's ports need to be forwarded in the router. Contact your Network Admin or Internet Service Provider for more information.

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CAMERA & E.C. AUTO-DISCOVERY

The client will auto-detect all Enterprise Controllers in the network

Otherwise, input IP address into the 'Host' box

Use the following default ID & password

USER : admin
PW : admin

After logging, all supported cameras on the network will automatically populate through the auto-discovery feature

Select 'Auto Login' to log to the server automatically every time the client software is launched.

DW spectrum

LICENSE
REGISTRATION

The Blackjack Servers come equipped with complimentary four (4) recording licenses.
In addition, any licenses purchased with the hardware will be found at the bottom of the E-Rack's hardware, as a sixteen- digit code that needs to be activated.

If your server has internet access
1. Go to DW Menu Button > System Settings > Licenses.
2. Select 'Automatic Activation via Internet' from the drop-down options.
3. Input your sixteen-digit license key
4. Press 'Activate License'. The system will notify you if the activation was successful or not.
5. If your licenses have been registered successfully, they will appear under the Active Licenses table.
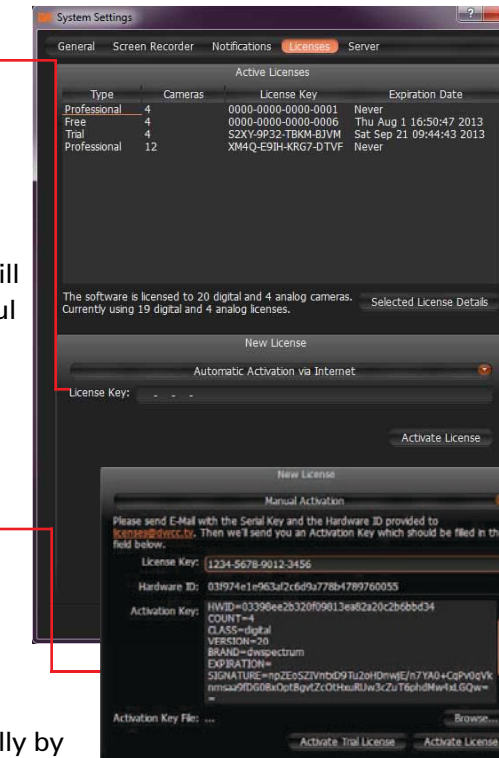
If you do NOT have internet access-
1. Go to DW Menu Button > System Settings > Licenses.
2. Select 'Manual Activation' from the drop-down options.
3. Copy your hardware ID. This information will be filled out automatically by your server.
4. E-mail your Hardware ID and your License Key to licenses@dwcc.tv. Please allow up to 48 hours for Digital Watchdog to reply.
5. Once provided with an Activation Key, Enter this information without altering it in the Activation Key space and press 'Activate Licenses'.

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CLIENT
REQUIREMENTS

* Monitor, keyboard and mouse must be purchased separately

Recommended Specs for Client:

WINDOWS   LINUX

Processor	Intel Core i5 or greater
Video Card	Intel HD Graphics 2500 (or higher) with 1GB Dedicated Memory
Resolution	1920 x 1080
RAM	4GB
NIC	10 / 100 / 1000 Base-T Ethernet
OS	Windows 7, Server 2008, Vista, XP, Ubuntu 12.04 LTS or Newer

Network Requirements:

IEEE 802.3ab 1000BASE-T Gigabit Ethernet
* Cameras and servers in the network must be completely isolated

* NOTE: if you are not connecting to the Blackjack from within 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
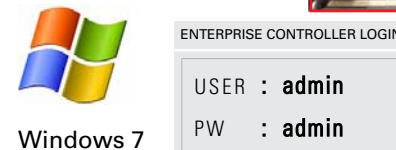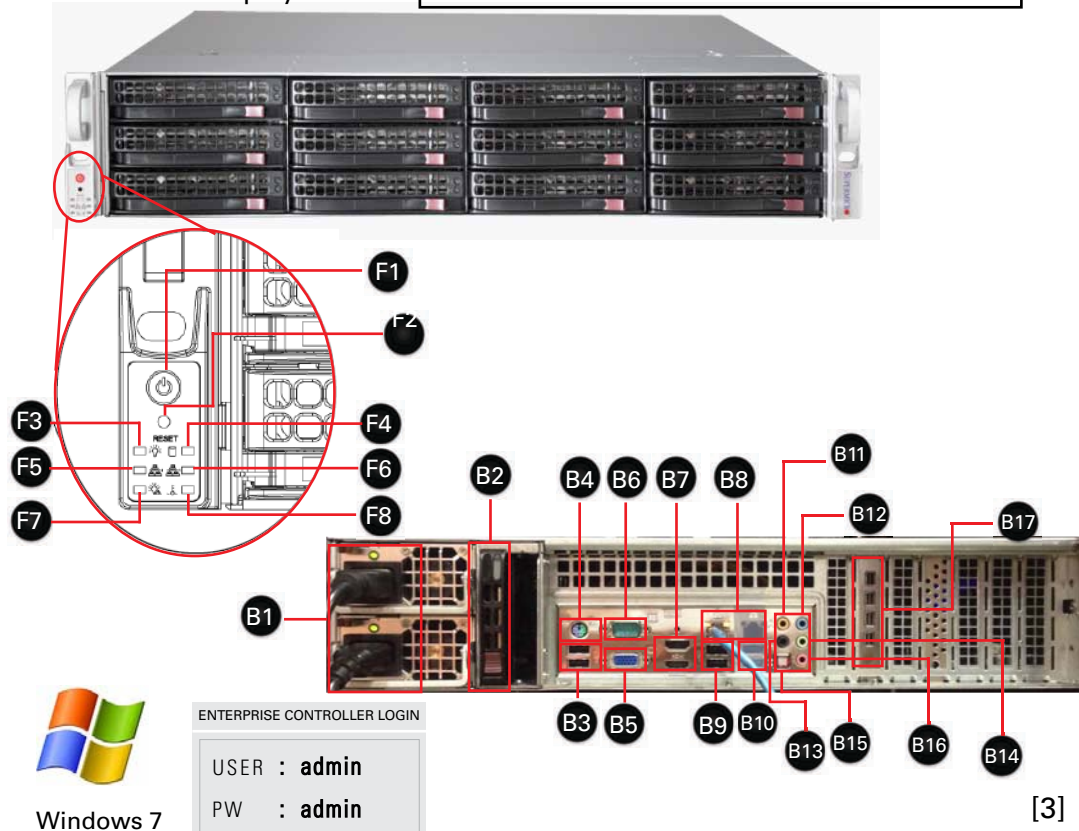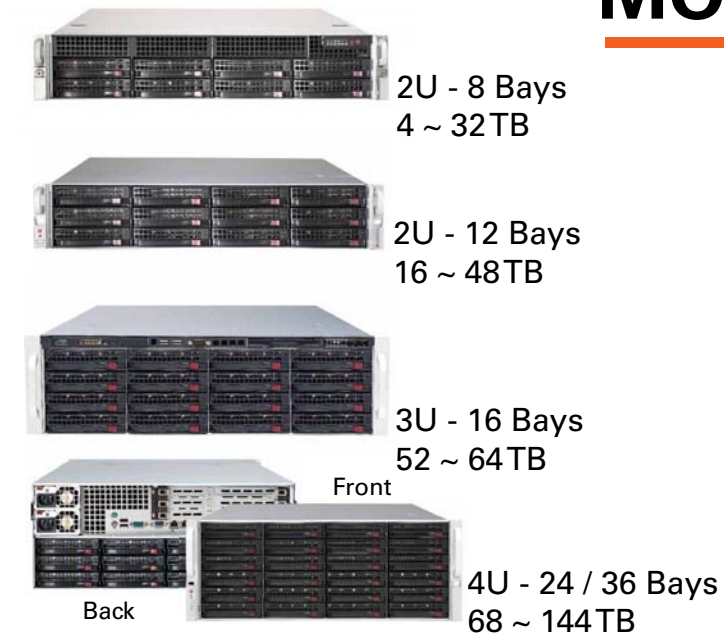
Mobile Access:

Web	Internet Explorer, Firefox, Opera, Chrome
Apps	Android OS, iOS Smart Phones and Tablets

SPECIFICATIONS
E-RACK

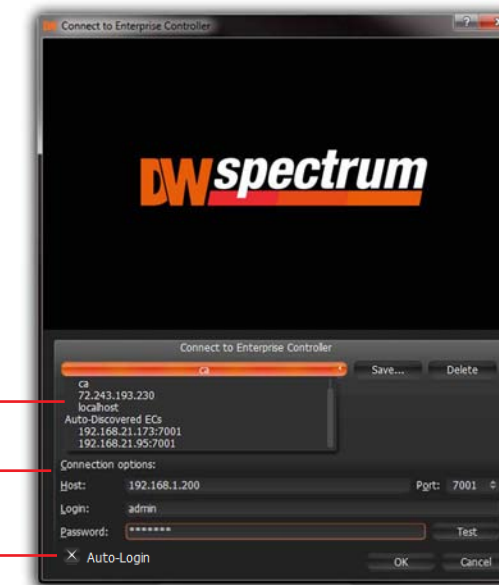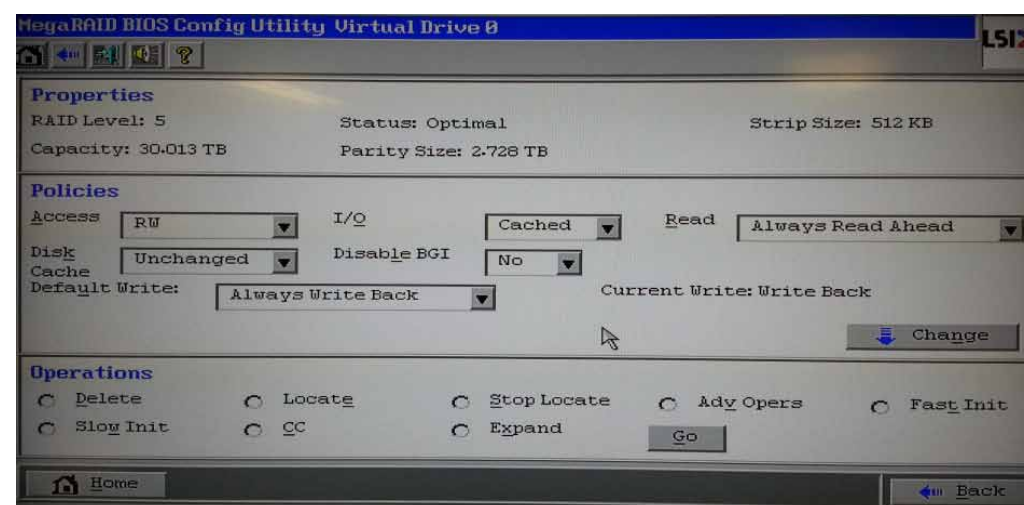|	DW-BJE2 U	DW-BJER2 U	DW-BJER3 U	DW-BJER4 U	DW-BJER4 U
# of Cameras	128				
Recording Performanc e	600 Mbp s				
CPU	I7 (Intel 3rd Generation)				
Memory	8G (8x2 Dual Channel)				
Network	1Gbps x 2				
Video	ATI				
Video Por t	VGA / HDMI x 2 / DP x 4				
OS	Win 7 64 Bit				
Power	600W	Dual Power (1000W)			
Operating Temperatur e	10℃ - 35℃ (50˚F - 95˚F)				
External Ports	1x Keyboard/ Mouse, 4x USB 2.0, 2x USB 3.0,			1x RS-232, HD Audio in & Out	
RAID	None	RAID 5			RAID 5 / 50
HDD*	60G SSD (OS) 4 TB ~ 32 TB	60G SSD (OS) 16 TB ~ 48 T B	60G SSD (OS) 52 TB ~ 64 T B	60G SSD (OS) 68 TB ~ 96 TB	60G SSD (OS) 100 TB ~ 144 TB
Dimensions (in)	25.5 (L) x 17.2 (W) x 3.5 (H)	25.5 (L) x 17.2 (W) x 3.5 (H)	25.5 (L) x 17.2 (W) x 5.2 (H)	26 (L) x 17.2 (W) x 7 (H)	27.5 (L) x 17.2 (W) x 7 (H)
Weight (without HDD)	50 lbs	52 lbs	75 lbs	80 lbs	80 lbs

* The actual size will differ depends on the RAID configuration
[4TB HDD - Actual Recording Size is 3.63TB / Total Recordable Size with RAID 5 = Total Size of Intalled HDD minus 1 HDD Size Parity (3.63TB)]

AVAILABLE
MODELS

2U - 8 Bays
4 ~ 32 TB

2U - 12 Bays
16 ~ 48 TB

3U - 16 Bays
52 ~ 64 TB
Front

Back
4U - 24 / 36 Bays
68 ~ 144 TB

RAID
INFORMATION

All E-Rack models except the DW-BJE2U hardware, come equipped with pre-installed RAID5 option.
To access the E-Rack's RAID configuration:

1. During boot up, press [Ctrl] + [H]/

2. The DW Spectrum Optimized Configuration will appear as seen below.

3. For more information on the RAID Setup on the Blackjack E-Rack models, visit www.lsi.com and check WEBBIOS configuration.

MegaRAID BIOS Config Utility Virtual Drive 0

Properties
RAID Level: 5   Status: Optimal   Strip Size: 512 KB
Capacity: 30.013 TB   Parity Size: 2.728 TB

Policies
Access RW   I/O Cached   Read Always Read Ahead
Disk Cache Unchanged   Disable BGI No
Default Write: Always Write Back   Current Write: Write Back

Operations
○ Delete   ○ Locate   ○ Stop Locate   ○ Adv Opers
○ Slow Init   ○ CC   ○ Expand   ○ Fast Init
Go

Home   Back

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MANUALLY
ADDING CAMERAS

Cameras can also be manually added by right-clicking on the server icon and choosing the 'Add camera(s) option

Monitor
Monitor in a New Tab
Monitor in a New Window
Rename
Add camera(s)...
Server Settings...

① Enter the camera's IP address, URL, or RTSP information

② Check to select a range

③ Enter log-in information

④ Click on the Scan button

⑤ Cameras will populate the list automatically

⑥ Click to add all selected cameras

Add camera(s)
Start IP: 72.243.193.200   Login: admin
End IP: 72.243.193.255   Password: admin   Scan
Subnet scan   Discovery Port: 0 Auto
Discovered Cameras:
Add Manuf. Name   Address
Digital Digital Wat... http://72.243.193.200:8032/onvif/device_service
Digital Digital Wat... http://72.243.193.231:8032/onvif/device_service
Digital Digital Wat... http://72.243.193.255:8032/onvif/device_service
Add selected

[8]

[2]
[6]
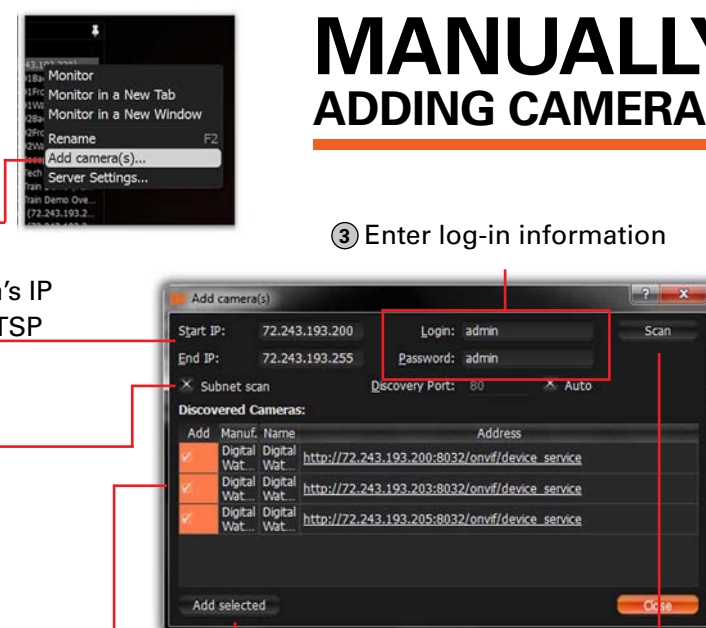
USER INTERFACE OVERVIEW

- Help Menu
- Login to Server
- Screen Recording Controls
- Panic Recording Controls (Record @ 30 fps)
- Layout Management
- Main Menu Button
- Server Health Monitoring
- Pop-up Notifications

- Camera Popup Preview
- Camera Options
- Time Navigation Bar Zoom
- Playback Controls
- Server / Camera Display Tree
- Live / Playback
- Thumbnail Toggle Button
- Audio Controls
- Calendar Search

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ADVANCED CAMERA OPERATIONS

IMPORTANT! Before adjusting the camera's settings, check 'This is a Fisheye Camera' under Camera Settings > General.

Clicking on the De-Warp button will display the camera in three display options: 90° view with digital PTZ, panoramic 180°, and panoramic 360°. To alternate between views, left click on the right side of the display image.

- 90° View with PTZ Control
- 180° View with PTZ Control
- 360° View with PTZ Control

ADVANCED PTZ

Clicking on the PTZ icon on the top-right corner of the window will bring up buttons for control

To zoom the camera: Use the + / - buttons to zoom the camera in or out.
To move the camera: Click and hold the circle in the middle of the PTZ controller and move it to where you want the camera to move to. For precise movement, left click on the are of the display you want the camera to move to.
To move + zoom the camera: Hold Left Mouse Button and draw the rectangle to zoom into.
To zoom out: double click anywhere on the screen.
To save a preset: move the camera to the position, right-click and select PTZ > Save Current Position. DW Spectrum supports 9 Presets.

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ADVANCED OPTIONS & SEARCH

Calendar Search
is enabled by clicking on the [CLND] on the bottom-right corner of the layout screen.
Select a desired date in Calendar. To select multiple dates , use CTRL.
Select a desired hour in the upper part Calendar.

Graphical HDD Health Monitoring
can be performed by dragging the server icon (▤) onto the layout view.

Alarm / Event Rules
allow you to setup unique rules and actions for events detected by the server such as motion detection, network loss, camera input trigger etc.
To configure Rules:
1. Select one of the existing rules or press the 'Add' button to create a new rule.
2. Modify the cameras or servers it applies to, and the action and target you want to take when the event occurs.
3. For advanced settings, press 'Advanced...' at the top right corner. This includes additional e-mail and sound settings as well as rule schedule setup.

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TROUBLESHOOTING TIPS

Problem	Possible Solutions
My camera does not auto-discover	1. Is the camera in the same LAN network as the Media Server?
	2. Is your camera fully 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 enabled on your camera.
	5. Try adding the camera manually.
	6. Try rebooting the server after installation. Please allow up to 30 seconds for the server map your network and detect all supported devices.
Videos are slow	1. Are you accessing the same cameras from multiple clients? (LAN & WAN)
	2. Do you have a Gigabit network? Check your network speed.
My camera appears disconnected	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. (Connectivity & compatibility issues can be resolved in new camera firmware)
	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 can't get playback video from my camera	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 camera.
	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	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.

Keyboard Shortcut Controls

Name	Hot keys	Description
New Layout	CTRL + t	Creates a new layout
Save Layout	CRTL + s	Saves the current layout
Close Layout	CTRL + w	Closes the current layout
Save Layout As	CTRL + ALT + s	Saves the current layout as a different name
Toggle Side Panel	F11	Shows / hides the side panel
Zoom In / Out	+ or -	Zooms in / out of the screen
Cell Spacing	CTRL + Wheel	Increases / decreases the cell spacing
Duplicate Item	CTRL + Drag	Duplicates any selected windows
Rotation	ALT + Drag	Rotates the target window
Coarse Rotation	ALT + Rotate	Rotates the target window at 15° intervals
Panic Recording	CTRL + p	Starts / stops the panic record function
Screen Recording	ALT + r	Starts / stops the screen record function
Timeline Selection	[or]	Defines the start / end point of timeline selection
Toggle Recording Info	ALT + i	Shows / hides the recording information
Navigate Recording	z or x	Moves forward / backward between recorded chunks

CAMERA VIEW WINDOW

Indicates Recording Type
- 🟢 Record Always
- 🔴 Motion Only
- 🟡 Motion + Low-Res Always
- ⚪ Not Recording

- Camera Name
- Resolution
- FPS
- Bit rate
- Codec
- Server Time

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MULTI-LEVEL MOTION MASKING

- 0 to 9 Sensitivity Settings (8 is default)
- Select camera area by clicking & dragging to apply sensitivity settings

ADVANCED MOTION DETECTION

- Selected area for motion detection
- Corresponding video for selected area
- Motion tracing

*Gray - Motion Mask
Areas marked gray will not capture motion*

DIAGNOSTICS LOGS

- Start/ End Dates
- Event Filter
- Camera/ Server Filter

- Action Filter
- Clear All Filters
- Open Evet/ Alarm Rules Setup Page
- Open Video from Event
- Refersh Search Results

The DW Spectrum Events Log allows you to monitor camera events, server errors, and network errors easy and fast. The results are based on the Alarm / Event Rules settings. If no Rules are active, only system issues will be saved.

You can filter the search results by:
1. Start and End Date – only events occurring during the set time are displayed.
2. Event type – displays a specific type of events only.
3. Camera – displays events for a specific camera.
4. Action type – specific events caused by certain types of actions are displayed

To select multiple rows from a table, drag the mouse, use CTRL + Click/Up/Down arrows, or Shift + Click/ Up/ Down arrows. Use CTRL + A to select all records.

To Export the log's data, select the desired rows, right-click and select Export.

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RECORDING SCHEDULE

Select cameras and go to "Camera Settings"

- Enable Cameras to Record
- Recording Menu
- Motion Menu
- Select All
- Click & Drag
- Pre & Post Recording *(3 is recommended)*
- Recording Type
- Copy Recording Settings to multiple cameras

USER ACCOUNTS

	ADMIN	CAMERA SETTINGS	PTZ CONTROLS	VIDEO ARCHIVES	EXPORT VIDEO	VIEW LIVE VIDEO
Administrator	●	●	●	●	●	●
Advanced		●	●	●	●	●
Viewer				●	●	●
Live Viewer						●

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[15]