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

[1]

SETTING UP THE
BLADE

STEP 1:

When setting up the Blackjack Blade for the first time, make sure the following is included in the box:
- Blade Server
- Server Stand + assembly screw
- Accessory CD (Including Manual)
- Power Supply
- QSG

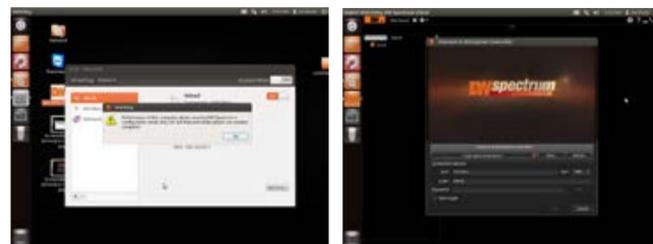*NOTE: Monitor, keyboard & mouse not included.*

STEP 2:

1. Assemble the Blade server and server stand. Use the included screw (stored at the base of the Blade's stand) to secure the stand.
2. Connect a monitor, USB mouse, and network cable (not included).
NOTE: HDMI Output must be connected to a proper monitor BEFORE Blade boot-up.
3. Connect the Blade to an appropriate power supply.
4. In the Blade login screen, enter username and password.

STEP 3: Desktop View

The Blade's Network Setup Window and DW Spectrum client will launch automatically when the Blade boots up. To relaunch, double click on each of the desktop Icons.
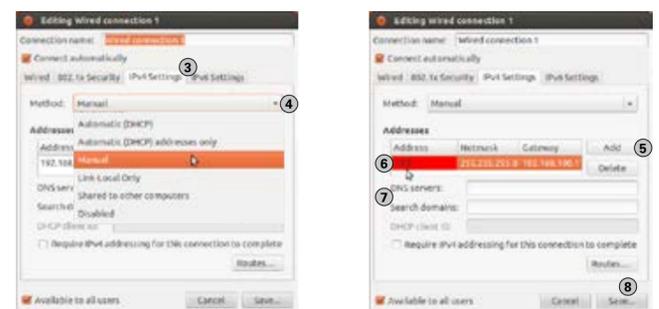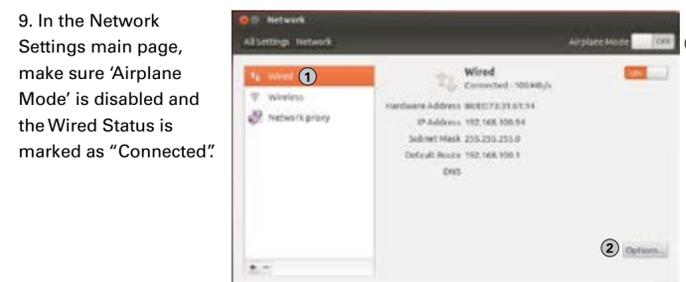
[3]

STEP 5: Network Configuration

The Blade's Network Setup window will open automatically upon bootup.
NOTE: The Blackjack Blade's network settings are set by default to DHCP.
To change the server's network settings to Static IP, follow the instructions below.
1. Go to Network Settings from the desktop button.
2. Select 'Wired' from the list and click 'Options' at the bottom of the window.
3. Click on the 'IPv4 Settings' tab.
4. From the drop-down menu, select connection type: DHCP or Manual (static).
5. If 'Manual' is selected, click 'Add' next to Addresses.
6. Enter IP Address, Netmask, and Gateway according to network requirements. Contact your network administrator more information.
7. Add a DNS server address.
8. Click 'Save' to save the settings or 'Cancel' to return to the Network setup page.

NOTE: Contact your Network Administrator and ISP for proper setup.

9. In the Network Settings main page, make sure 'Airplane Mode' is disabled and the Wired Status is marked as "Connected".

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UPGRADING
SOFTWARE

When installing or upgrading the DW Spectrum software, each component of the software must be installed separately.
To download the software, go to www.digital-watchdog.com, and search for 'DW Spectrum' to access the product page, docuemtnation and software downloads.
To install the software:
NOTE: Internet connection is necessary to complete the software installation perperly.
1. Right-click the installation file and select "Run using Ubuntu Software Center".
2. Enter the admin password (default admin).
3. When installation the EC (Enterprise Controller) or MS (Media Server), enter the following information as requested:
- EC Address: Enter 'localhost' to use the current Blade's EC, or the IP address of another Blade that is the main EC in the network (See 'Multi-Server Setup for more information).
- Username & Password: Username and password for main EC. Default: admin/ admin.
- Port: Main port associated with the main EC. Default port: 7001.
4. Repeat for all other software components.
The components of the DW Spectrum software for Linux are:
1. DW Spectrum Media Sever
(For recording local video using the PC)
2. DW Spectrum Enterprise Controller
(For managing database)
3. DW Spectrum LITE Clinet
(For cameras and server management and initial setup)

NOTE: When the upgrade process is complete, it is recommended to restart the Blade. [7]

* Enterprise Controller should not be installed more than once in any existing network

MULTI-SERVER
SETUP

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

DEFAULT PORTS: 7001

[8]

BLACKJACK BLADE
HARDWARE

F1 Power Button
F2 Power Status LED
F3 HDD Status LED
F4 SD Card Reader
F5 Second HDD
F6 USB 2.0 Port
F7 Vertical Stand

B1 Microphone Jack
B2 Headphone / Line-out Jack
B3 LAN Port
B4 Kensington Lock
B5 HDMI Port*
B6 USB 2.0 Ports
B7 D-Sub (VGA) Port
B8 Power Jack (DC-in)

NOTE: HDMI Output must be connected to a proper monitor BEFORE Blade boot-up.

SPECIFICATION	
Max. Number of Cameras Supported (Recording)	Up to 16
Recording Performance	80Mbps*
Network	Gigabit(1x)
Video Compression	H. 264
Megapixel Recording	Up to 20 Megapixel
Multi-Camera Monitor	Single-Channel View only
Advanced Motion Detection	Yes
Video Port	VGA / HDMI
Local View	Yes
OS	Linux
Storage Capacity	2 TB(2x1TB HDD)
Hard Drive Interface	2.5" SATA
USB Ports	5xUSB 2.0
Warranty	3 years
Dimension	10"(L) x 1.6"(W) x 6.4"(H)
Net Weight	4.53 lbs

LINUX SETTINGS & SETUP LOGIN
USER : dw-blade
PW : admin

DW SPECTRUM SOFTWARE LOGIN
USER : admin
PW : admin

Linux OS

WARNING: For an optimal system configuration, it is recommended that a UPS (Uninterruptable Power Supply) be used to power the setup. [2]

▶ **LITE CLIENT PERFORMANCE**

The Blade comes with DW Spectrum Client LITE for local setup of the server, cameras, and recording parameters. DW Spectrum LITE may have features and performance limitations. When launching the LITE Client, the system will notify that you are running the software in LITE mode. Press OK.

NOTE: For complete features and performance, install the DW Spectrum Software suite on a computer that meets minimum requirements and run the full DW Spectrum client.

Warning
Performance of this computer allows running DW Spectrum in configuration mode only. For full-featured mode please use another computer.
OK

STEP 4: Logging to Server

The DW Spectrum LITE Client will automatically load the local server's EC credentials in the host information. Enter the server's username and password. By default, the server's credentials are:

Server IP : 127.0.0.1
USER : admin
PW : admin

After logging in, all supported cameras on the network will automatically populate in the LITE client's Display Tree.

▶ **LITE CLIENT SOFTWARE MANUAL LAUNCH**

To launch the DW Spectrum LITE Client:

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

OR

OPTION 2: Go to the dashboard at the top left side of the screen. Search 'DW'. Click on the DW icon.

[4]

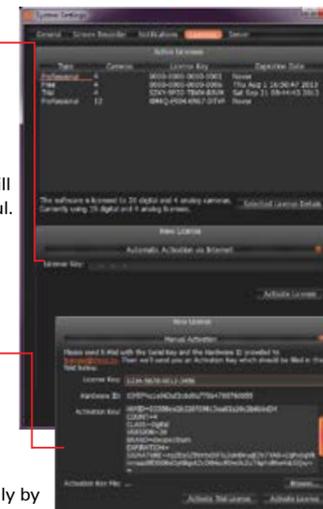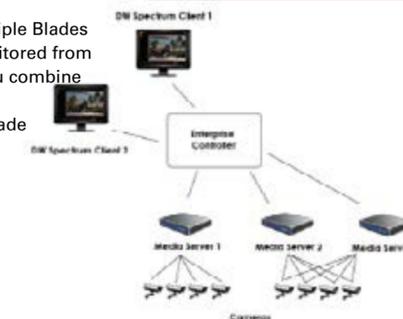
ADVANCED BLADE SETUP OPTIONS

LICENSE
REGISTRATION

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

Option 1:
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.
5. If your licenses have been registered successfully, they will appear under the Active Licenses table.

Option 2:
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*'.

[6]

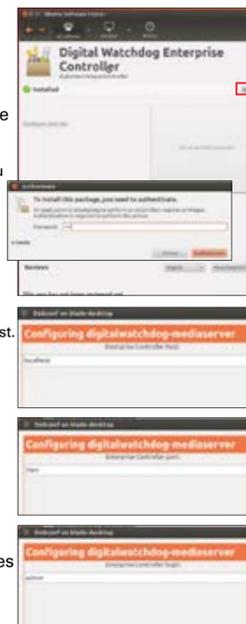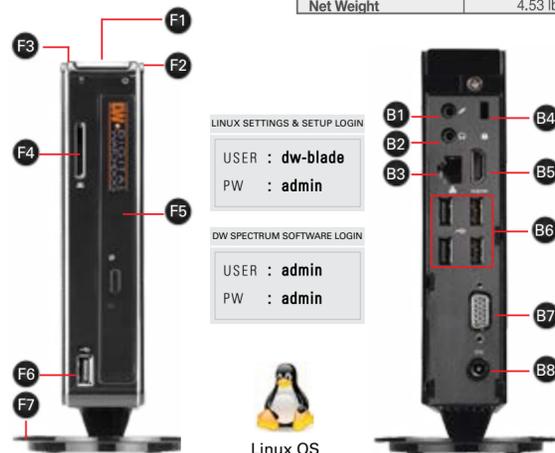▶ **Multi-Site VMS - Combining Servers Into 1 Enterprise Contoller**

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 (the server you want to assign to the PRIMARY EC)
2. Save the Media Server installation file in an accessible folder
3. Right-click on the Media Server installation file and select 'Open with UBUNTU Software Center'
4. Press 'reinstall' and enter user credentials (default admin)
5. When asked to forward EC address, enter the PRIMARY Server's IP Address instead of Local Host.
6. Enter PRIMARY EC's port, user and password information.

④ Repeat for other passive Media Servers.

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

⑥ If licenses have been activated on any of the PASSIVE Media Servers, those licenses will have to be reactivcated.

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.

[8]

USER INTERFACE OVERVIEW

Help Menu
Login to Server
Layout Management
Main Menu Button

Camera Popup Preview
Live / Playback
Camera Options
Playback Controls
Thumbnail Toggle Button
Audio Controls
Time Navigation Bar Zoom
Server / Camera Display Tree
Calendar Search [9]

MANUALLY ADDING CAMERAS

① Right-click on the server icon and choose 'Add camera(s)'.

② Enter the camera's IP address, URL, or RTSP information

③ Check to select a range

⑥ Cameras will populate the list automatically

⑦ Click to add all selected cameras

④ Enter log-in information

⑤ Click on the Scan button

[10]

USER ACCOUNTS

After setting up a user account, be sure to save at least one layout with designated cameras. Users that do not have Administrative rights, will not be able to access any cameras except those assigned to them by a layout.

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

[11]

RECORDING SCHEDULE

To setup a recording schedule for a camera:

1. Go to Camera Settings > Recording
2. Check the box next to 'Enable Recording'. Make sure you have the proper licenses available for recording. The system will indicate how many licenses you have, and how many are still available.
3. Select the recording mode from the available options: Record Always (Continuous), Motion Only, or Motion + Low-Resolution always Recording.
4. Set the FPS for the recording mode. Range of FPS may vary based on camera's capabilities. Select also the recording quality from Low, Medium, High, or Best.
5. Click-and-drag to highlight the times to apply the recording schedule on the calendar table. You can setup multiple recording schedules for the same camera depending on day of the week and time of the day.
6. If Motion recording or Motion + Low-Resolution are selected, edit the Pre/ Post recording.
7. You can copy the recording settings from one camera to multiple other cameras by pressing the 'Copy Schedule' button and selecting the relevant cameras.

MULTI-LEVEL MOTION MASKING

1. Go to Camera Settings > Motion
2. Enable Software Motion Detection by selecting Software.
3. Select the sensitivity level. The higher the number, the more sensitive the motion detection level will be. Please note that high sensitivity may cause false motion detection readings due to light change or dust.
4. Click-and-drag to mark the areas in the camera's FoV that would have the selected motion sensitivity level.
5. Select a different motion level and repeat step 4 to create unlimited number of motion sensitivity masks* according to the camera's FoV.
* Depending on camera model.

0 to 9 Sensitivity Settings (8 is default)

Select camera area by clicking & dragging to apply sensitivity settings

[11]

ALARMS & EVENTS RULES

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.

[12]

SERVER HEALTH MONITORING

Use the Server Health Monitoring to keep track of your Blade's performance. Track HDD, Network, and CPU to make sure the Blade is functioning properly. You may customize the Health Monitoring window by selecting which information to show and which to disable. To do so, click the check box next to the information you want to show, or uncheck the box next to information you want to hide.

If any issues are detected, or the server appears offline, you can utilize the Diagnostics tool as an initial tool to detect any issues with the server or the cameras.
To start a Server Diagnostics, right-click on the server's name in the display tree and select "Server Diagnostics". See section below for more information. [13]

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. [14]

INTERACTIVE HELP MENU

For any questions or additional information on settings, capabilities, and performance, the DW Spectrum software offers an interactive Help Button.
To use:
1. press the [?] button at the top right-hand corner of the screen.
2. Press anywhere on the screen you want to read more information about.
3. The software's complete manual will appear in a new window automatically displaying the relevant section you clicked on.

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 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 30 seconds for the server to map your network and detect all supported devices.
Videos are slow	The Blade's LITE Client is limited in performance. Video may appear slow, and or in low resolution. For the full performance capabilities of the DW Spectrum client, install the software on a PC that complies with the minimum specifications below.
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.
	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 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	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:

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

Accessing DW Spectrum Log Files

From the DW Specturm Client Software:

- Right-click on the Server's name
- Choose Server Logs. The Media Server's Log will open in a web browser page.
- You can adjust the number of entries in the log by modifying the URL. To do so, change the value at the end of the URL stating 'lines=1000'. For exmample, 'lines=1' will reduce the log reoprt to a single line of data. 'lines=400' will display 400 lines of data.

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