

# USER MANUAL

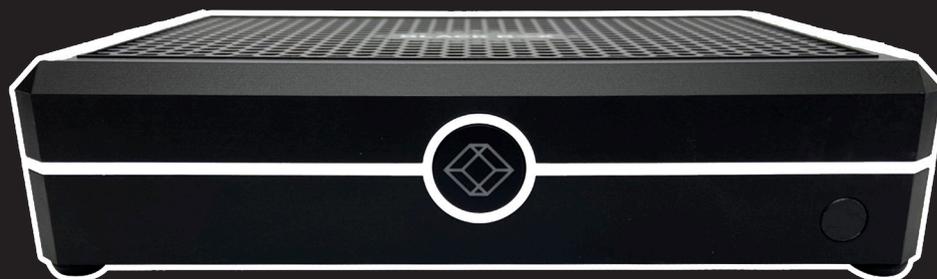
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EMD5004-R

# EMERALD<sup>®</sup> DESKVUE KVM RECEIVER

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## SETTING UP AND USING DESKVUE

In order to begin using the Emerald® DESKVUE, several steps need to be completed:

1. Physically connect the monitor(s), keyboard and mouse, and power supply.
2. Turn on the unit and let it boot up.
3. When prompted for a login, enter the default credentials of “admin” (without the quotes) for both the username and password. These credentials can be changed later.
4. Configure the Emerald DESKVUE. Reference the table below:

**NOTE:** If using Boxilla, these settings will be available through the Boxilla administrative web interface.

5. You can now make connection(s) through the Workspace tab by clicking on them.

**NOTE:** Refer to the corresponding sections of this user manual for detailed instructions for each of the above steps

# QUICK START GUIDE

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## 1.1 INTRODUCTION

KVM users today need to view, monitor, and interact with multiple computer targets and video streams that can reside on various networks, such as post-production editing, IPTV, live feeds, Command and Control, and rendering jobs.

In a completely new concept in KVM over IP, Emerald® DESKVUE enables these users to arrange their individual workspace for optimal simultaneous interaction with up to 16 different systems. It supports connections to physical systems via Emerald transmitters, Virtual Machines using RDP, PCoIP, PCoIP Ultra, standard H.264/265 sources, and Virtual Network Computing (VNC).

**NOTE:** VNC and H.264 / H.265 will be supported in a future firmware release.

The Emerald DESKVUE receiver—as part of the Emerald KVM family and Boxilla KVM Manager—uniquely allows users to tailor their own workspace by connecting a single keyboard, mouse, USB 3/2 devices, audio, and up to four 4k monitors. Each system can be positioned across the screens with pre-defined layouts or freely movable windows. Interacting with each system is as simple as moving the mouse over a window. In this way, each operator has complete situational awareness and full control within easy reach.

### **Interact with up to 16 systems simultaneously**

Connect to physical systems via Emerald transmitters and Virtual Machines using RDP, PCoIP, PCoIP Ultra, H.264/5, and VNC.

### **Tailor your individual workspace**

Freely place and size your systems across up to four monitors; view and interact with them in the most efficient way.

### **Up to 4k/5k video resolutions**

Attach up to four screens at once, with HDMI resolutions supporting up to 3840 x 2160 and USB-C (DisplayPort™) resolutions supporting up to 5120 x 2880.

**NOTE:** There is a maximum limit of 16,384 pixels across all four monitors in either the horizontal or vertical dimension. Therefore, the maximum “pixel-space” for an individual DESKVUE is 16,384 x 16,384. For example, when a 5K monitor with a 5120 x 2880 resolution is connected to a DESKVUE, only 2 UHD monitors can be supported since you need to stay less than 16,384 pixels in the horizontal dimension.

### **Highly Secure KVM over IP**

Fully integrates with Emerald Unified KVM and the Boxilla KVM manager for device configuration, monitoring, and authentication.

### **Design follows User Needs**

An extremely small footprint and various mounting options provide a welcoming workspace.

## CHAPTER 1: INTRODUCTION

### 1.2 FEATURES

- ◆ Future Proof KVM, Universal Access System: Access both physical and virtual machines including Emerald® Transmitters, PCoIP, RDP, and H.264/H.265 targets
- ◆ Up to 16 connections over 4 Video Heads
- ◆ Up to 4 UHD Screens, optionally 1 can be 5K (USB-C DisplayPort™ Alt Mode)
- ◆ Option for 'Dual-Head" 4K deployments
- ◆ Excellent Video up to 5K Resolutions
- ◆ Highly scalable through IP Networking / Low Bandwidth
- ◆ Built for 24/7 Operation with no single point of failure: Redundant managers / Redundant Links with Local database in Receiver in case manager is offline
- ◆ Remote access to KVM systems to allow operation across IP Network through Software Application
- ◆ Compatible with Boxilla Managers (for management)
- ◆ Connects to physical Emerald Transmitters
- ◆ Connects to Virtual Machines (RDP and PCoIP)
- ◆ Connects to H.264/H.265 Devices, such as IP Cameras

### 1.3 WHAT'S INCLUDED

- ◆ (1) Emerald DESKVUE KVM Receiver
- ◆ (1) 19 VDC, 3A, Desktop Power Supply
- ◆ (1) VESA Mount Kit
- ◆ (1) Country-specific power cord
- ◆ Screws and jumper

If anything is missing or damaged, contact Black Box Technical Support at 877-877-2269 or [info@blackbox.com](mailto:info@blackbox.com).



## 1.4 PRODUCT IMAGES



FIGURE 1-1: FRONT VIEW

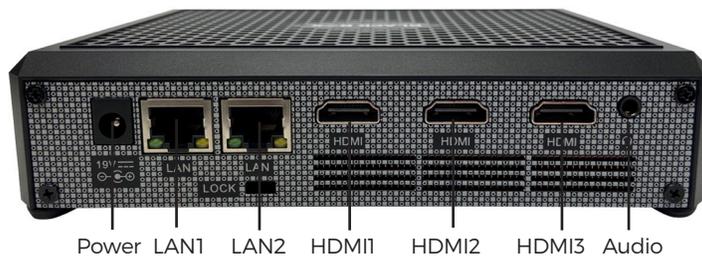


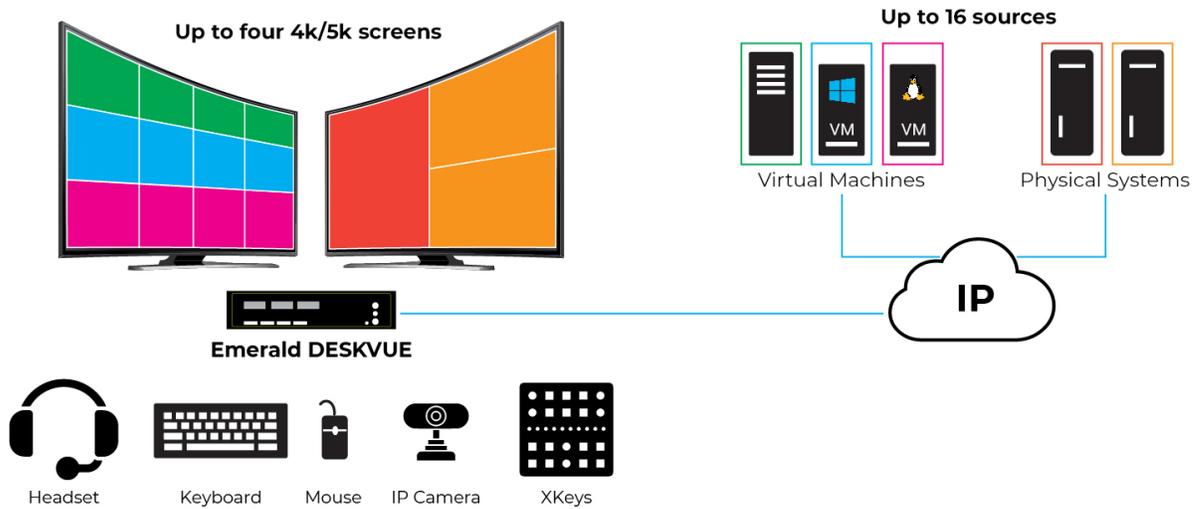
FIGURE 1-2: BACK VIEW



FIGURE 1-3: SIDE VIEW

# CHAPTER 2: APPLICATION DIAGRAM AND SPECIFICATIONS

## 2.1 APPLICATION DIAGRAM



## CHAPTER 2: APPLICATION DIAGRAM AND SPECIFICATIONS

TABLE 2-1. PRODUCT SPECIFICATIONS

SPECIFICATION	DESCRIPTION
Dimensions	Unit: 1.47" H x 6.61" W x 4.52" D, (37.4 x 168 x 115 mm)
Weight	Product: 1.21 lb. (0.55 kg); Power Supply: 0.56 lb. (0.25 kg); Product and Packaging: 3.10 lb (1.4 kg)
Connectors	(3) HDMI Female; (1) USB C (USB4) for DP output; (1) 3.5mm Audio; (4) USB Type A Female; (1) Micro SD port; (1) 1G RJ-45 Network Connection; (1) 2.5G RJ-45 Network Connection; (1) 19VDC Barrel for power
Maximum Distance from Network	328 feet (100 m), network limits, extend with network switches
User Interface	Emerald® On Screen Display
Mounting Kits	VESA Mount included / Kensington Lock Support
Power	External desktop power supply
Input Voltage/Volts	100-240VAC, 50/60Hz
Input Current/Amps	1.5 Amps
Output Voltage/Volts	19 VDC
Output Current/Amps	3 Amps
Power Consumption/Watts	57 Watts MAX (Power consumption can vary depending upon the configuration and devices that are being used.)
Heat Dissipation/BTU/h	194.37 BTU/h MAX (Voltage x Nominal Current) * 3.41 = BTU/h
Power Supply Cord Length	4.5 feet (1.37 meters)
Operating Temperature	32 to 104°F (0 to 40°C)
Storage Temperature	-22 to +176°F (-30 to +80°C)
Operating Humidity	10% to 90% non-condensing
Maximum Altitude/Feet	<6,561 feet (2,000 meters)
Compatibility	Boxilla Managers, Emerald Transmitters, and Virtual machines (RDP, PCoIP, H.264/H.265)

## 3.1 LOGIN SCREEN

Upon startup, the DESKVUE unit displays three screens in sequence: the boot screen, the product name screen, and the login screen, as shown in Figure 3-1, Figure 3-2, and Figure 3-3 starting below:



FIGURE 3-1: BOOT SCREEN



FIGURE 3-2: PRODUCT NAME SCREEN

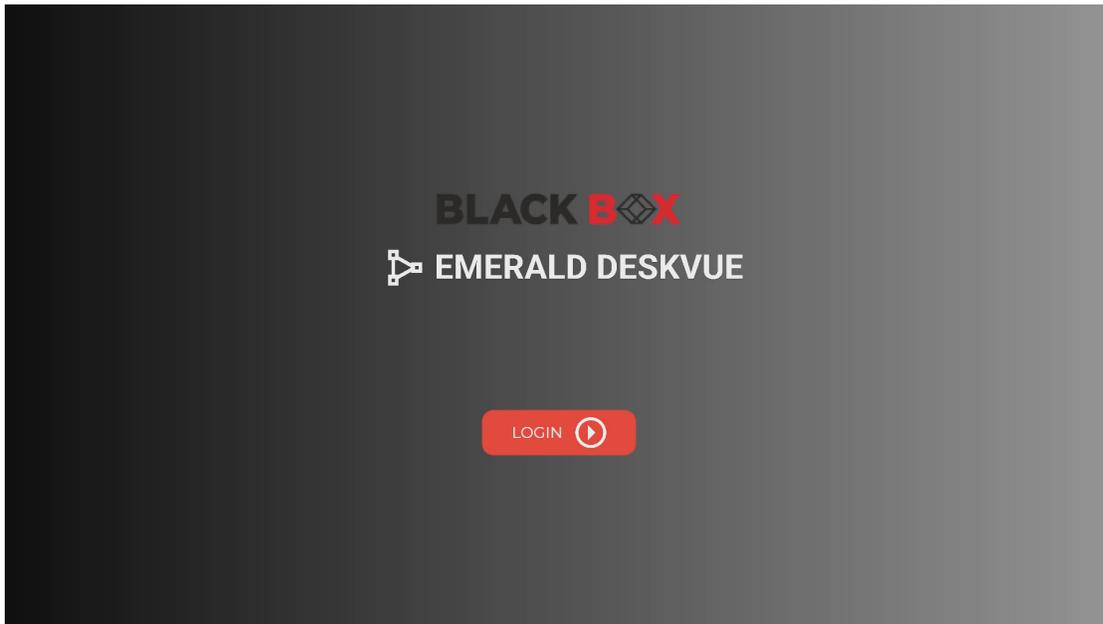


FIGURE 3-3: LOGIN SCREEN

To log into DESKVUE, click on the “Login” button, as shown in Figure 3-3 above.

After you click on the “Login” button, the system displays the Username and Password screen, as shown in Figure 3-4 below:

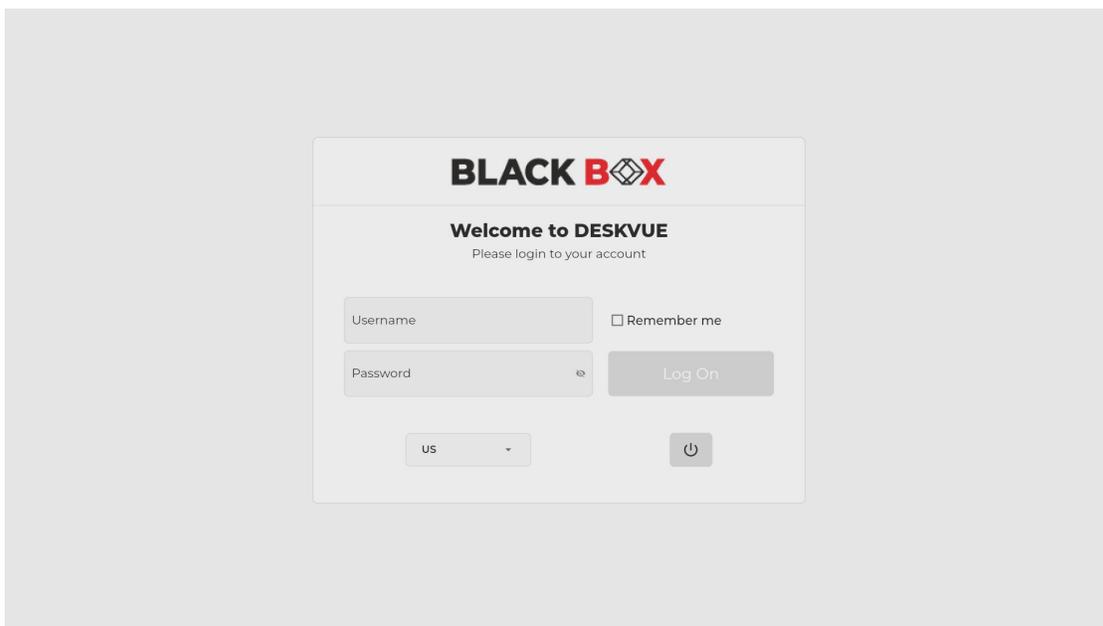


FIGURE 3-4: USERNAME AND PASSWORD SCREEN

Table 3-1 explains the options on the Username and Password screen.

**TABLE 3-1. USERNAME AND PASSWORD SCREEN**

FIELD/ITEM	DESCRIPTION
Username	Enter the username. By default, the username is "admin" (without the quotes). You can change the username. This is a unique name that uses 1–32 characters. The username can be any valid username for a Microsoft® operating system. This means the username cannot contain " / \ [ ] ;   = + * ? < > `
Password	Enter the password. By default, the password is "admin" (without the quotes). You can view the password that you entered by clicking on the View symbol that is located to the right of the password entry area, as shown in Figure 3-5 below:  FIGURE 3-5: VIEW ICON You can change the password. This field can be a minimum of 0 characters (blank) and a maximum of 32 characters. The password can be any valid password for a Microsoft operating system. The user password MAY contain the following special characters , ~ : ! @ # \$ % ^ & ' { } which means the password cannot contain " / \ [ ] : ;   = , + * ? < > `
Remember me checkbox	Click in the check box if you want the system to remember the last username that you entered. A check mark will appear in the checkbox to indicate that the credentials will be remembered. If you don't want the system to remember the last username and password that you entered, leave the check box empty. If a check mark appears in the box, click on the check box again to remove the check mark.
Keyboard type drop-down list box	Click on the drop-down menu symbol in the keyboard selection box and then select the appropriate keyboard type. The drop-down menu displays available options, as shown in Figure 3-6 below:  FIGURE 3-6: KEYBOARD SELECTION BOX
Log On button	After you enter the username and password, and (optionally) click in the "Remember me" check box, click on the "Login" button to log into the system.
Power button	Click on this button to turn off the system.

## 3.2 ON SCREEN DISPLAY (OSD)

After you log in, the system displays the OSD (On Screen Display), as shown in Figure 3-7 below:

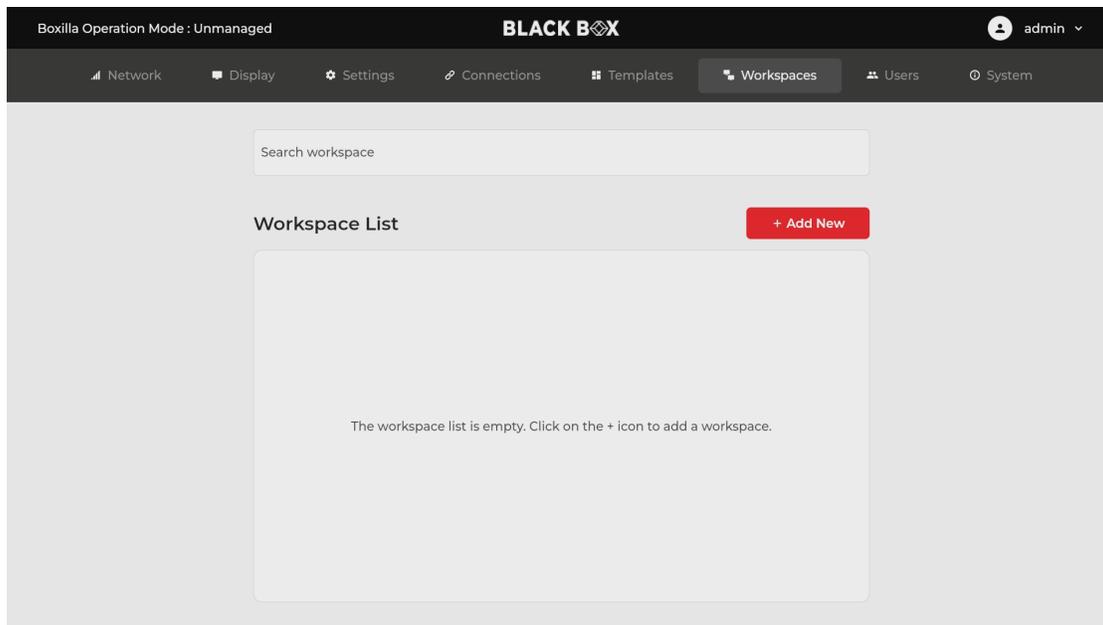


FIGURE 3-7: ON SCREEN DISPLAY

Table 3-2 explains the information and options on the OSD screen.

**TABLE 3-2. OSD**

ITEM	DESCRIPTION
Boxilla Operation Mode	<p>In the top left corner of the screen, the system will display “Unmanaged” when the device is not managed by a Boxilla unit. It will display “Managed” when the device is managed by a Boxilla unit. An unmanaged unit can only connect to unmanaged transmitters and both RDP and PCoIP virtual machines. When the Boxilla Operation Mode is “Managed,” you can hover your mouse over the “Boxilla Operation Mode” text to see the device’s IP address, which is shown in Figure 3-8 below:</p>

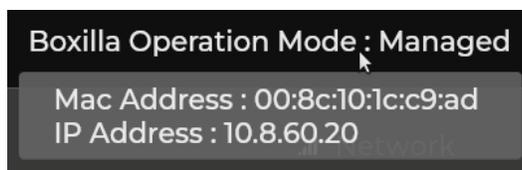


FIGURE 3-8: BOXILLA OPERATION MODE WITH IP ADDRESS

**NOTE:** To connect to managed transmitters that are part of a KVM domain, your device must be managed by the same Boxilla that manages the other parts of the KVM domain.

The current version of Boxilla will download a security token so that your device can communicate with other managed transmitters. You need to add the connections, workspaces, and users via the Emerald® DESKVUE unit.

In the top right corner of the screen, the system will show the user that is logged into the DESKVUE unit. It will also show that user’s access level.

The “admin” user can also log out, shut down, or restart the system by clicking on the drop-down menu symbol to the right of “admin” and then clicking on the corresponding option from the drop-down menu. The options are shown in Figure 3-9 below:

User

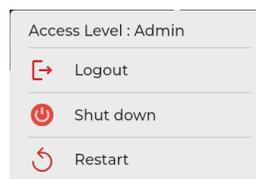


FIGURE 3-9: ADDITIONAL ADMIN OPTIONS

**TABLE 3-2. OSD (CONTINUED)**

ITEM	DESCRIPTION
Tabs	<b>Network:</b> This tab allows you to enter network settings.
	<b>Display:</b> This tab shows you what monitors are connected to the device.
	<b>Settings:</b> This tab allows you to customize settings.
	<b>Connections:</b> This tab allows you to set up device connections.
	<b>Templates:</b> This tab allows you to choose your screen's layout.
	<b>Workspaces:</b> This tab allows you to configure the templates.
	<b>Users:</b> This tab allows you to create admin users, power users, and regular users.
	<b>System:</b> This tab allows you to set system parameters.
<b>NOTE:</b> Standard users and Power users will not have access to any options that conflict with the rights granted to that group of users.	

## 3.3 NETWORK TAB

When the “Network” tab is selected, the system displays the “Network Settings” screen, as shown in Figure 3-10 below:

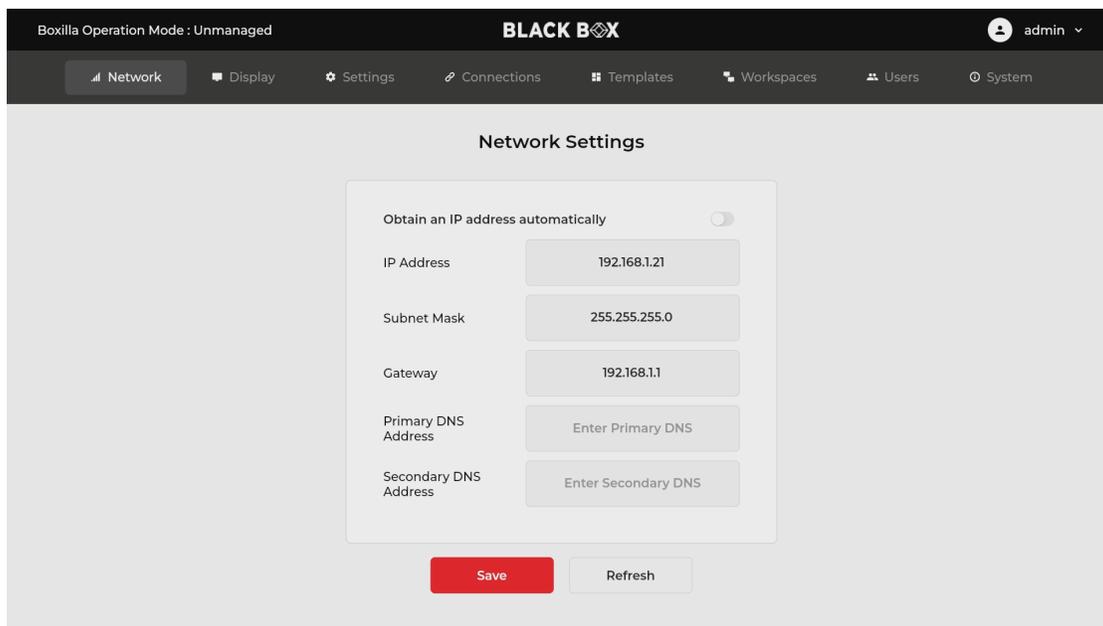


FIGURE 3-10: NETWORK SETTINGS SCREEN

Table 3-3 explains the options on the Network Settings screen.

**TABLE 3-3. NETWORK SETTINGS**

ITEM	DESCRIPTION
Obtain an IP address automatically (DHCP Slider Bar)	<p>When you set this DHCP Slider Bar to the "ON" position by dragging it to the right and then click on the "Save" button, the system tries to obtain an IP address automatically. If successful, it displays a message stating that the IP address was saved successfully, as shown in Figure 3-11 below:</p> <div data-bbox="721 632 1365 955" data-label="Image"> </div> <p style="text-align: center;">FIGURE 3-11: SUCCESSFUL IP SAVE MESSAGE</p>
	<p>Click on the message's "Close" button to exit the message screen.</p>
IP Address	<p>By default, the IP address is set to 192.168.1.21. You can keep this IP address, edit it, or use the DHCP Slider Bar to obtain an IP address automatically.</p>
Subnet Mask	<p>You can keep or edit the subnet mask displayed on the screen.</p>
Gateway	<p>By default, the Gateway address is 192.168.1.1. You can keep this address or edit it.</p>
Primary DNS Address	<p>(optional) You can enter the Primary DNS address in this field.</p>
Secondary DNS Address	<p>(optional) You can enter the Secondary IP address in this field.</p>

Click on the "Save" button to save information that you entered. Click on the "Cancel" button to discard information that you entered. The "Save" and "Cancel" buttons are shown in Figure 3-12 below:

Save/Cancel buttons



FIGURE 3-12: SAVE AND CANCEL BUTTONS

After you click on the "Save" button, the system shows the message shown in Figure 3-11 after it successfully saves the IP address.

## 3.4 DISPLAY TAB

When the “Display” tab is selected, the system displays the “Display Settings” screen, as shown in Figure 3-13A and Figure 3-13B below:

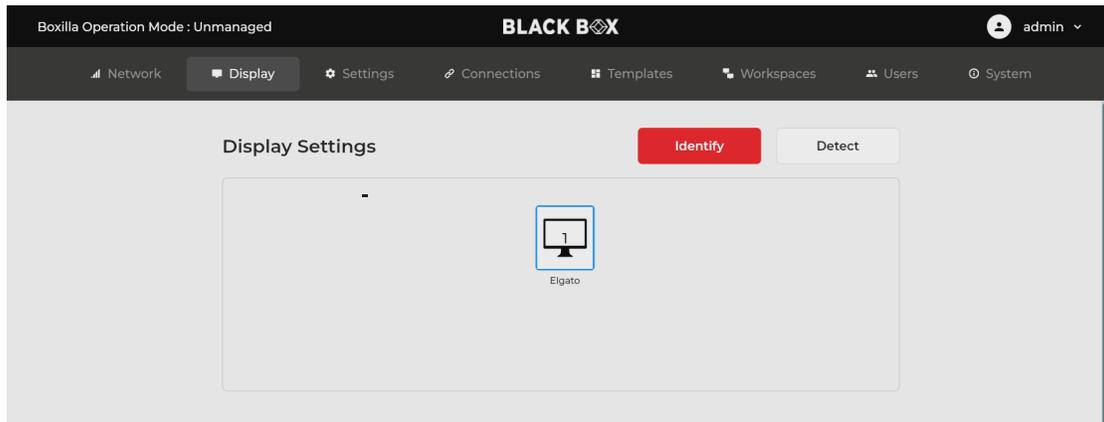


FIGURE 3-13A: TOP SECTION OF DISPLAY SETTINGS SCREEN

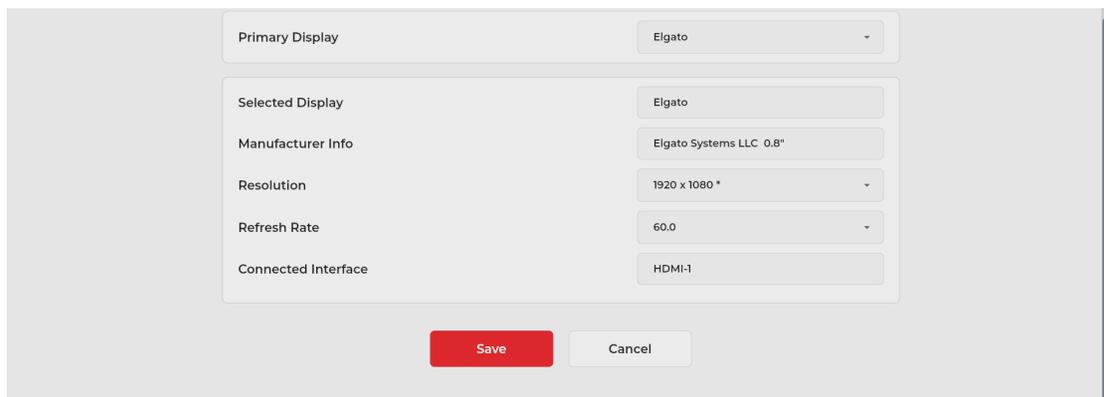


FIGURE 3-13B: BOTTOM SECTION OF DISPLAY SETTINGS SCREEN

This screen shows the monitor(s) that are connected to the DESKVUE unit along with the settings for the selected monitor.

**NOTE:** The system displays a number on each monitor icon to identify it within the DESKVUE system.

Table 3-4 explains the options on the “Display Settings” screen.

**TABLE 3-4. DISPLAY SETTINGS**

ITEM	DESCRIPTION
Identify	<p>The “Identify” function places numerical numbers on each connected display to show the orientation/order that the system is using. An example is shown in Figure 3-14 below:</p> <div data-bbox="943 583 1146 726" data-label="Image"> </div>
<p>FIGURE 3-14: SCREEN NUMBER FROM IDENTIFY FUNCTION</p>	
Detect	<p>Use the “Detect” button to determine what displays are connected to the DESKVUE unit. This function is best used when new displays were added or switched around after the unit has been powered on. There will not be a confirmation message, but the system will update within approximately one second.</p>
Primary Display	<p>Choose the primary display from the option(s) in the drop-down list box.</p>
Selected Display	<p>The system automatically displays the currently selected display, so this information cannot be edited.</p>
Manufacturer Info	<p>This is the name of attached display provided by its EDID table.</p>
Resolution	<p>Choose the desired screen resolution for the selected display from the drop-down list box. Resolutions that are displayed in the list are provided by the display’s EDID table and can vary depending on the type of display used. The display’s preferred resolution includes an asterisk to the right of the resolution name.</p>
Refresh Rate	<p>Choose the desired refresh rate for the selected display from the drop-down list box. Refresh Rates are defined by the type of monitor that is used, and the information is derived from the attached display’s EDID table.</p>
Connected Interface	<p>This is the label that DESKVUE applies to the display’s physical interface. Figure 1-2 identifies the interfaces.</p>
Save/Cancel buttons	<p>Click on the “Save” button to save information that you entered. Click on the “Cancel” button to discard information that you entered. The “Save” and “Cancel” buttons are shown in Figure 3-15 below:</p> <div data-bbox="786 1549 1304 1640" data-label="Image"> </div>
<p>FIGURE 3-15: SAVE AND CANCEL BUTTONS</p>	

## 3.5 SETTINGS TAB

When the “Settings” tab is selected, the system displays the “Global Settings” screen, as shown in Figure 3-16 below:

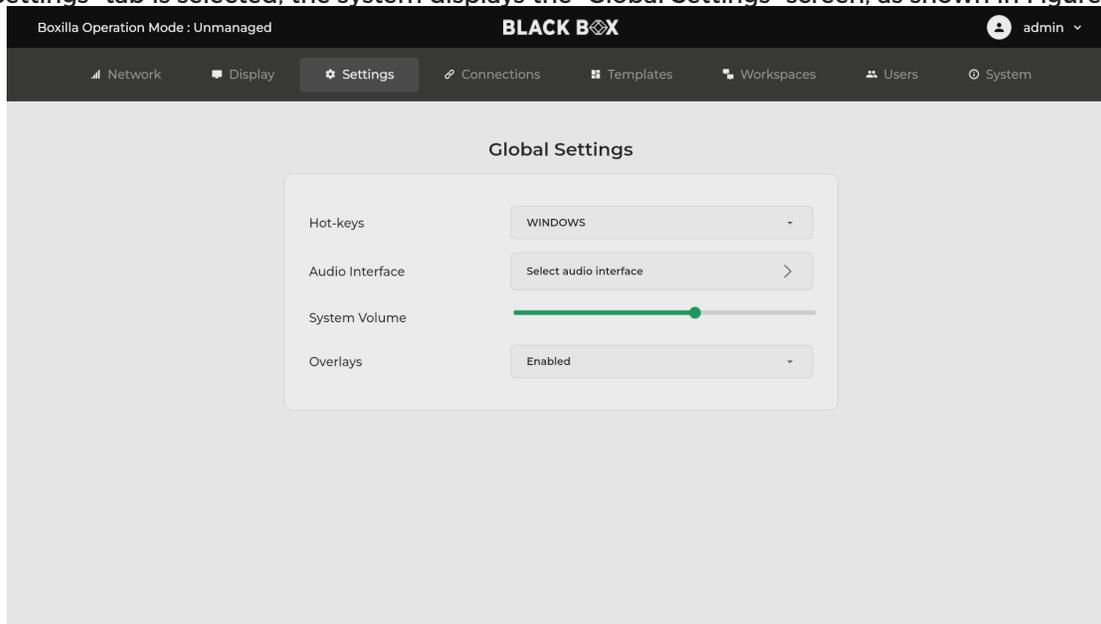


FIGURE 3-16: GLOBAL SETTINGS PAGE

Table 3-5 explains the options on the “Global Settings” page.

TABLE 3-5. GLOBAL SETTINGS

ITEM	DESCRIPTION
Hot keys	Select the desired hot key from the drop-down list box. NOTE: In the initial release, the only available hot key is assigned to the Windows key on the keyboard.
Audio Interface	Choose the desired audio output from the drop-down list box options. An example of the drop-down menu and submenu appears in Figure 3-17 below: <div data-bbox="766 1350 1315 1535" data-label="Image"> </div>
System Volume	Use this slider bar, as shown in Figure 3-18 below, to adjust the system volume. Move the bar to the left to decrease the volume, and move it to the right to increase the volume. <div data-bbox="766 1709 1315 1774" data-label="Image"> </div>

TABLE 3-5. GLOBAL SETTINGS (CONTINUED)

ITEM	DESCRIPTION
Overlays	<p>Use this option to configure if the DESKVUE unit shows overlays by either enabling or disabling overlays via the drop-down menu. These options are shown in Figure 3-19 below:</p> 

FIGURE 3-19: GLOBAL SETTINGS PAGE

## 3.6 CONNECTIONS TAB

When the “Connections” tab is selected, the system displays the “Connections List” screen, as shown in Figure 3-20 below:

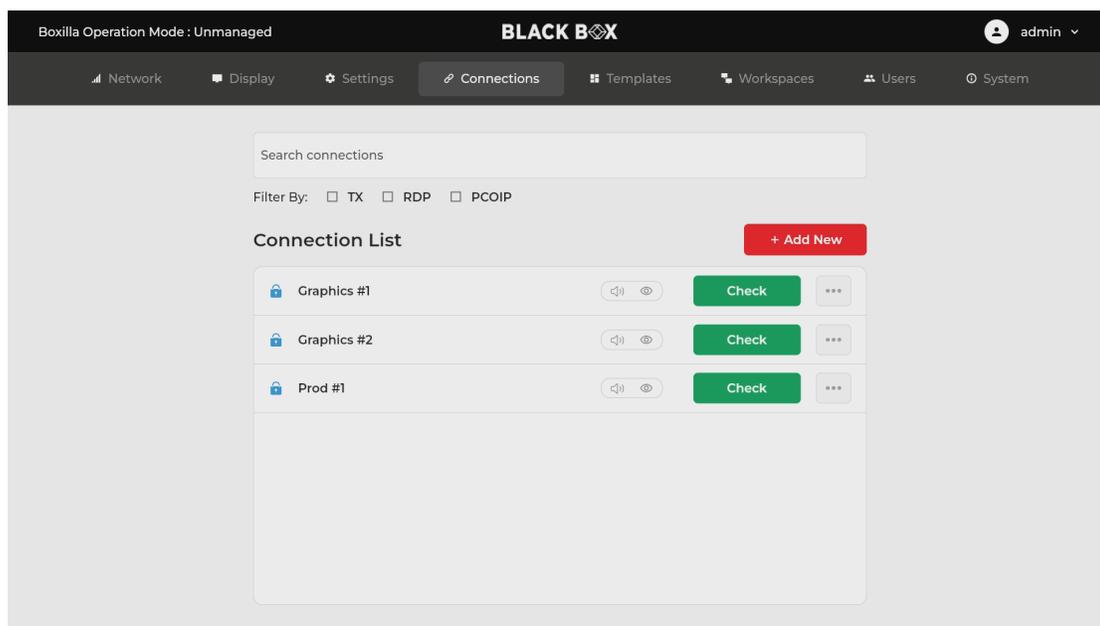


FIGURE 3-20: CONNECTIONS LIST SCREEN

**NOTE:** The items shown in the Connection List are provided for example only; the list shown on your screen is dependent upon connections made with your DESKVUE unit or connections configured in Boxilla if the DESKVUE unit is managed.

Table 3-6 explains the options on the Connections List screen.

**TABLE 3-6. CONNECTION LIST OPTIONS**

ITEM	DESCRIPTION
Search connections box	Type in this search box to customize the items shown in the Connection List. When you type in this box, all connections containing that search term will be displayed, as shown in the example in Figure 3-21 below:

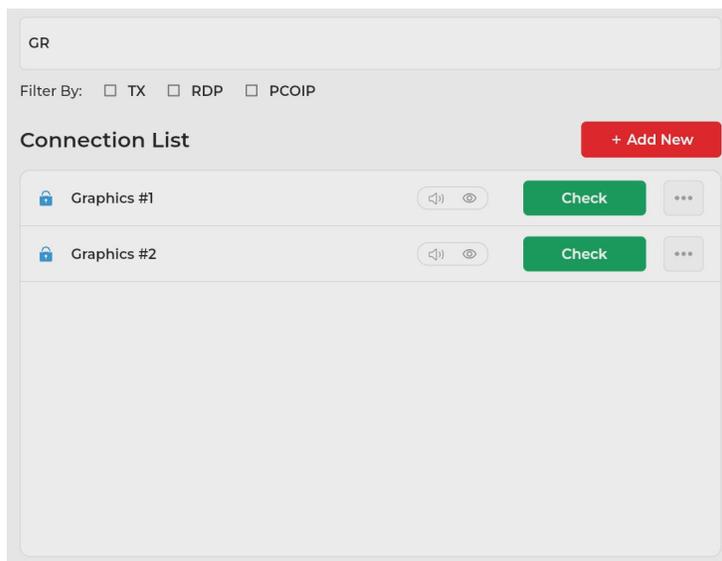


FIGURE 3-21: CONNECTION SEARCH BOX RESULTS

Filter By	Click in the appropriate check box(es) if you want to filter your results by a specific connection type: Transmitter, RDP, or PCoIP.
Add New	Click on this button to manually add a new transmitter, RDP, PCoIP, or H.264 / H.265 Stream Connection connection.
Check Button	Click on the "Check" button to test the connection. When you click on this button, the system attempts to reach the connection and displays a connection status message, as shown in Figure 3-22 below:

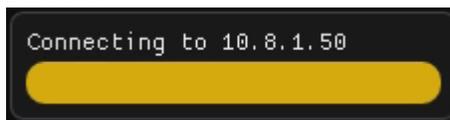


FIGURE 3-22: CONNECTION STATUS SCREEN.

## 3.6.1 ADD NEW CONNECTION

After you click on the “Add New” button, the system displays a configuration screen. The configuration screen shown will depend upon the connection type selected, as shown in Figure 3-23, Figure 3-24A and Figure 3-24B, and Figure 3-25A and Figure 3-25B starting below:

The screenshot displays the 'New Connection' configuration screen within the BLACK BOX application. The interface includes a top navigation bar with 'Boxilla Operation Mode: Unmanaged' and 'BLACK BOX' branding, along with a user profile 'admin'. The main navigation menu contains 'Network', 'Display', 'Settings', 'Connections', 'Templates', 'Workspaces', 'Users', and 'System'. The 'Connections' section is active, showing a form with the following fields and controls:

- Connection Name: Text input field with placeholder 'Enter name'
- IP Address: Text input field with placeholder 'Enter ip', followed by a green 'Check' button
- Connection Type: Dropdown menu set to 'TX'
- Connection Mode: Dropdown menu set to 'Private'
- Audio Source: Dropdown menu set to 'Off'
- View Only: Toggle switch set to 'OFF'

At the bottom of the form are two buttons: a red 'Save' button and a white 'Cancel' button.

FIGURE 3-23: NEW CONNECTION SCREEN FOR TX CONNECTION TYPE

The screenshot shows the 'New Connection' form in the BLACK BOX application. The top navigation bar includes 'Boxilla Operation Mode : Unmanaged', the 'BLACK BOX' logo, and a user profile 'admin'. The main navigation menu contains 'Network', 'Display', 'Settings', 'Connections', 'Templates', 'Workspaces', 'Users', and 'System'. The 'Connections' menu item is active. The form is titled 'New Connection' and contains the following fields and controls:

- Connection Name:
- IP Address:
- Check:
- Connection Type:
- Port:
- User Name:
- Password:

FIGURE 3-24A: TOP SECTION OF NEW CONNECTION SCREEN FOR RDP CONNECTION TYPE

The screenshot shows the bottom section of the 'New Connection' form. It contains the following fields and controls:

- Domain:
- Audio Source:
- View Only:
- Save:
- Cancel:

FIGURE 3-24B: BOTTOM SECTION OF NEW CONNECTION SCREEN FOR RDP CONNECTION TYPE

Boxilla Operation Mode : Unmanaged **BLACK BOX** admin

Network Display Settings **Connections** Templates Workspaces Users System

### New Connection

Connection Name

IP Address

FIGURE 3-25A: TOP SECTION OF NEW CONNECTION SCREEN FOR PCOIP CONNECTION TYPE

Connection Type

User Name

Password

Domain

Audio Source

View Only  OFF

FIGURE 3-25B: BOTTOM SECTION OF NEW CONNECTION SCREEN FOR PCOIP CONNECTION TYPE

Table 3-7 explains the options on the “New Connection” screen.

**TABLE 3-7. NEW CONNECTION OPTIONS**

ITEM	DESCRIPTION
Connection Name	Enter a name for the connection. The Emerald® DESKVUE unit will use this connection name on all screens that show the connection.
IP Address	Enter the IP address for the connection. You can click on the “Check” button to verify that the IP address entered is valid. After DESKVUE uses this check to verify the validity of the connection, it displays the message shown in Figure 3-26 when the IP address is able to be reached or the message shown in Figure 3-27 when the IP address is not able to be reached.

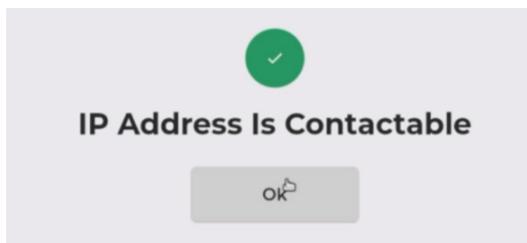


FIGURE 3-26: IP ADDRESS VERIFICATION MESSAGE WHEN CONTACTABLE



FIGURE 3-27: IP ADDRESS VERIFICATION MESSAGE WHEN NOT CONTACTABLE

Choose the connection type from the drop-down list box. You can choose TX (for transmitter), RDP, or PCOIP, as shown in Figure 3-28 below:



FIGURE 3-28: CONNECTION TYPE OPTIONS

Choose the connection type from the drop-down list box. You can choose “private” or “shared,” as shown in Figure 3-29 below.

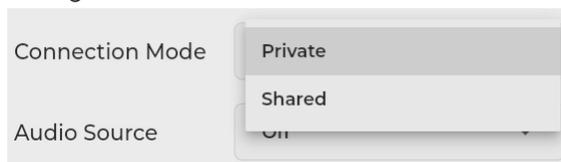
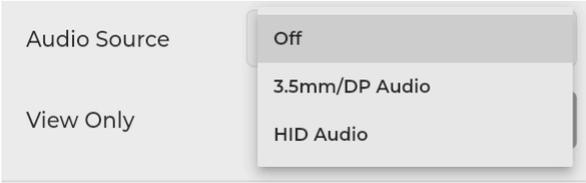
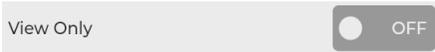
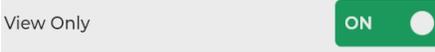


FIGURE 3-29: CONNECTION MODE OPTIONS

If set to “private,” only one person can be connected to the transmitter. If set to “shared,” multiple people can connect to the same transmitter.

**TABLE 3-7. NEW CONNECTION OPTIONS (CONTINUED)**

ITEM	DESCRIPTION
Audio Source	<p>Use this drop-down list box to select the audio source. You can choose “OFF,” or “3.5mm/DP Audio,” or “HID Audio” from the list, as shown in Figure 3-30 below. “OFF” disables audio for the device. “3.5MM/DP audio” enables audio. HID Audio is model dependent. When supported, it enables audio to be sent over the USB channel to a USB speaker.</p> 
<p>FIGURE 3-30: IP ADDRESS CONTACTABLE VERIFICATION MESSAGE</p>	
Port (RDP option)	Enter the port for the RDP target device. 3389 is the standard RDP protocol.
User Name (RDP and PCoIP options)	Enter the user name for the RDP Connection User using the device.
Password (RDP and PCoIP options)	Enter the password for the desired RDP user that was entered in the previous section. If you leave the password field blank, the Emerald® DESKVUE unit will not be able to automatically log in and will display the login screen.
Domain (RDP and PCoIP options)	Enter the device’s domain, if applicable.
View Only	<p>When the slider bar is in the “ON” position, the connection will be in View mode only, meaning that keyboard and mouse activity will not be passed to the target device. The end user can only see the video and hear the audio (when audio is enabled). When it is in the “OFF” position, the connection will connect the keyboard and mouse, and the end user can control the remote target. Click on the right side of the slider bar to turn it “ON” and click on the left side of the slider bar to turn it off. The slider is shown below in the “OFF” position in Figure 3-31 and in the “ON” position in Figure 3-32:</p>  <p style="text-align: center;">FIGURE 3-31: ON/OFF SLIDER WITH OPTION OFF</p>  <p style="text-align: center;">FIGURE 3-32: ON/OFF SLIDER WITH OPTION ON</p>
Save/Cancel buttons	<p>Click on the “Save” button to save information that you entered. Click on the “Cancel” button to discard information that you entered. The “Save” and “Cancel” buttons are shown in Figure 3-33 below:</p>  <p style="text-align: center;">FIGURE 3-33: SAVE AND CANCEL BUTTONS</p> <p>After you click on the “Save” button to save the new connection, the connection appears in the connection list.</p>

Once you add a connection, you can click on the “Check” button to verify the connection by attempting to connect to it.

## 3.7 TEMPLATES TAB

When the “Templates” tab is selected, the system displays the “Templates List” screen, as shown in Figure 3-34 below:

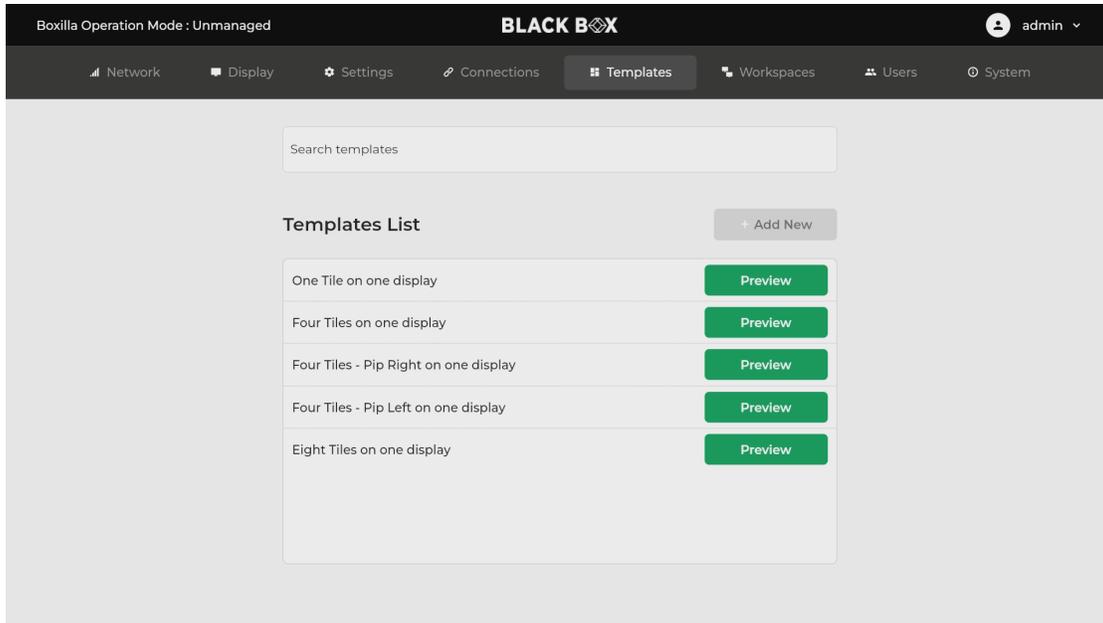


FIGURE 3-34: TEMPLATES LIST SCREEN

This screen displays five predefined layout templates. The ability to create new templates is currently under development.

## 3.7.1 ONE TILE ON ONE DISPLAY

The “One Tile on one display” template contains one tile, which represents one connection, on one display unit. That connection uses the entire screen. When you click on the “Preview” button for this option, the system displays an example of the template, as shown in Figure 3-35 below:

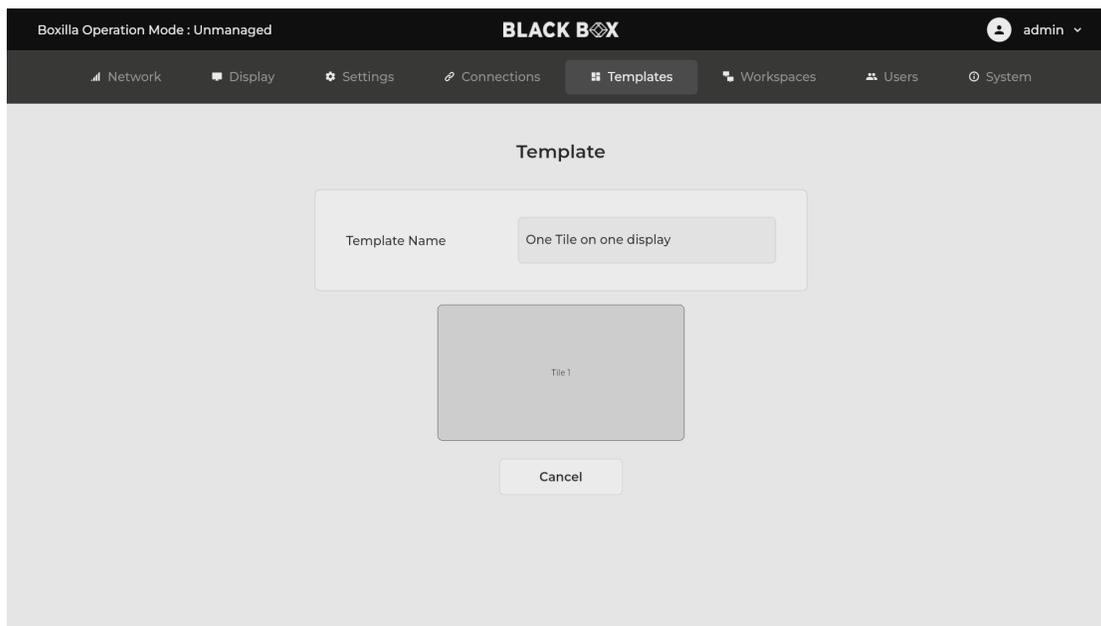


FIGURE 3-35: ONE TILE ON ONE DISPLAY TEMPLATE

**NOTE:** If you have a multi-head device, you can map the assignment of the tile to a specific head.

## 3.7.2 FOUR TILES ON ONE DISPLAY

The “Four Tiles on one display” template contains four tiles, which each represent one connection, on one display unit. Each tile fills 1/4 of the screen.

**NOTE:** The tile numbers shown in the template are important, since you map a connection to a specific tile location when you create a workspace.

When you click on the “Preview” button for this option, the system displays an example of the template, as shown in Figure 3-36 below:

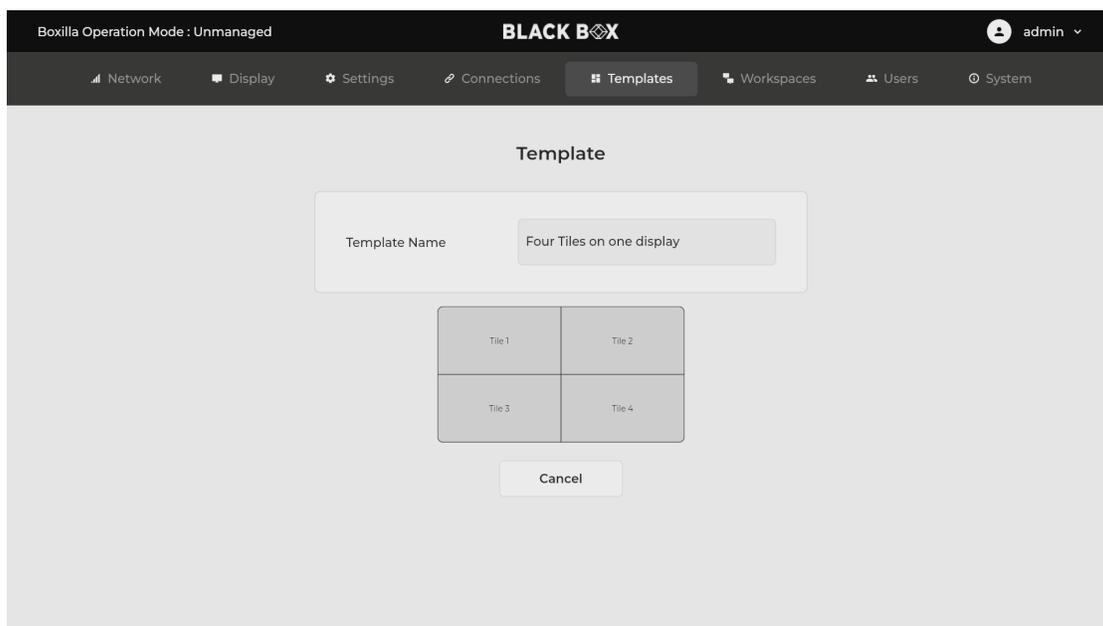


FIGURE 3-36: FOUR TILES ON ONE DISPLAY TEMPLATE

## 3.7.3 FOUR TILES - PIP RIGHT ON ONE DISPLAY

The “four Tiles - Pip Right on one display” template contains four tiles, which each represent one connection, on one display unit. There is one large tile, which occupies 2/3 of the screen distance, and three smaller Picture-in-Picture (PiP) tiles to the right of that tile, each of which occupies 1/3 of the remaining screen area.

**NOTE:** The tile numbers shown in the template are important, since you map a connection to a specific tile location when you create a workspace.

When you click on the “Preview” button for this option, the system displays an example of the template, as shown in Figure 3-37 below:

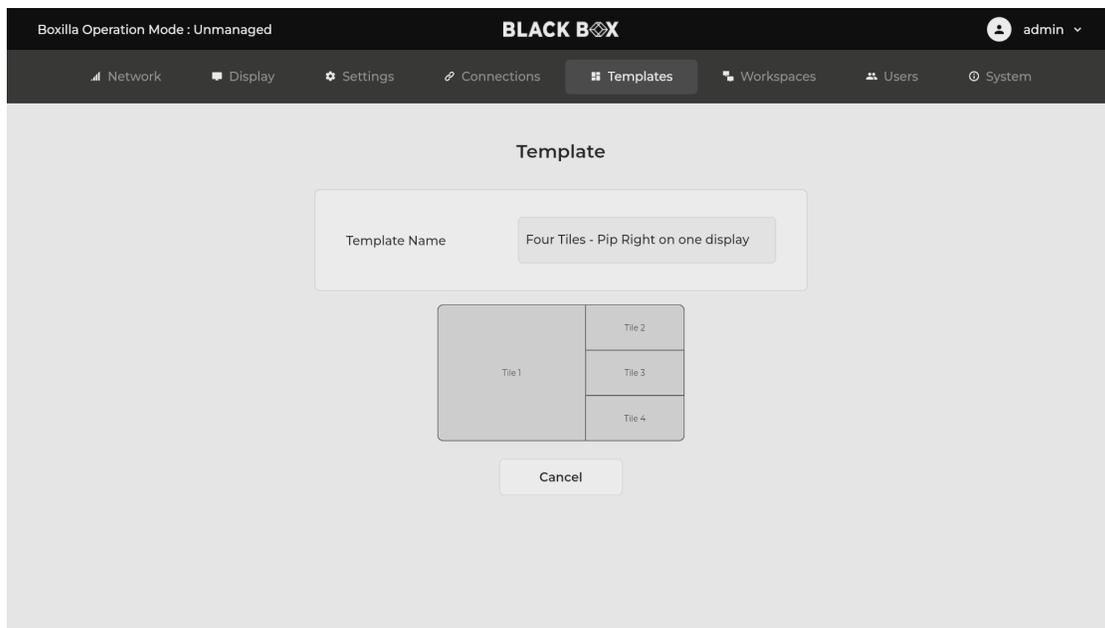


FIGURE 3-37: FOUR TILES - PIP RIGHT ON ONE DISPLAY TEMPLATE

## 3.7.4 FOUR TILES - PIP LEFT ON ONE DISPLAY

The “Four Tiles - Pip Left on one display” template contains four tiles, which each represent one connection, on one display unit. There is one large tile, which occupies 2/3 of the screen distance, and three smaller Picture-in-Picture (PiP) tiles to the left of that tile, each of which occupies 1/3 of the remaining screen area.

**NOTE:** The tile numbers shown in the template are important, since you map a connection to a specific tile location when you create a workspace.

When you click on the “Preview” button for this option, the system displays an example of the template, as shown in Figure 3-38 below:

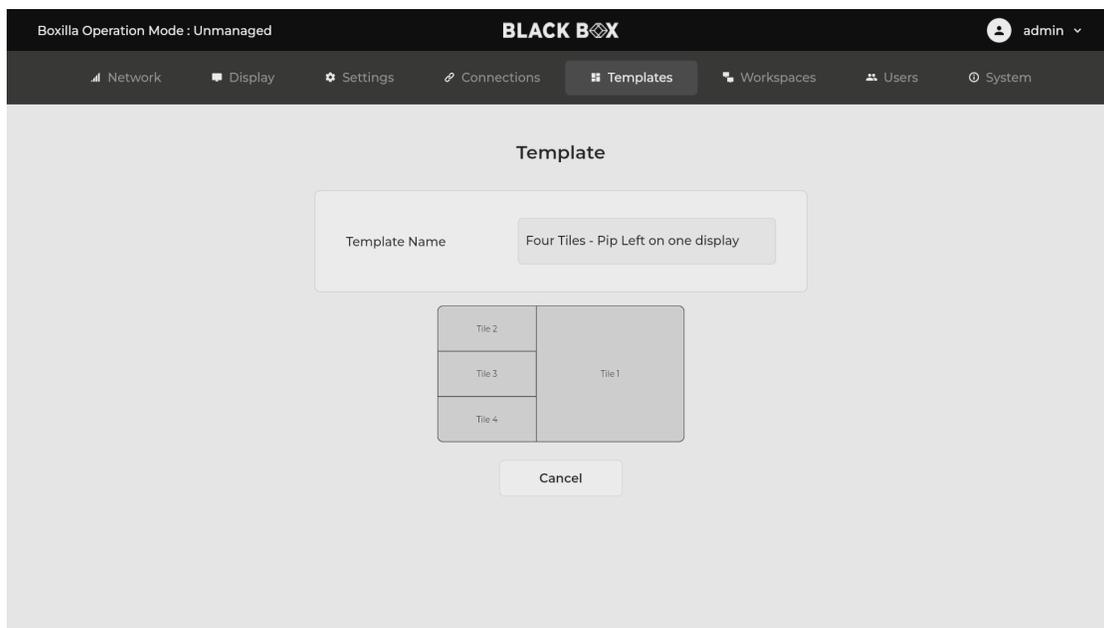


FIGURE 3-38: FOUR TILES - PiP LEFT ON ONE DISPLAY TEMPLATE

## 3.7.5 EIGHT TILES ON ONE DISPLAY

The “Eight Tiles on one display” template contains eight tiles, which each represent one connection, on one display unit. Each tile fills 1/8 of the screen.

**NOTE:** The tile numbers shown in the template are important, since you map a connection to a specific tile location when you create a workspace.

When you click on the “Preview” button for this option, the system displays an example of the template, as shown in Figure 3-39 below:

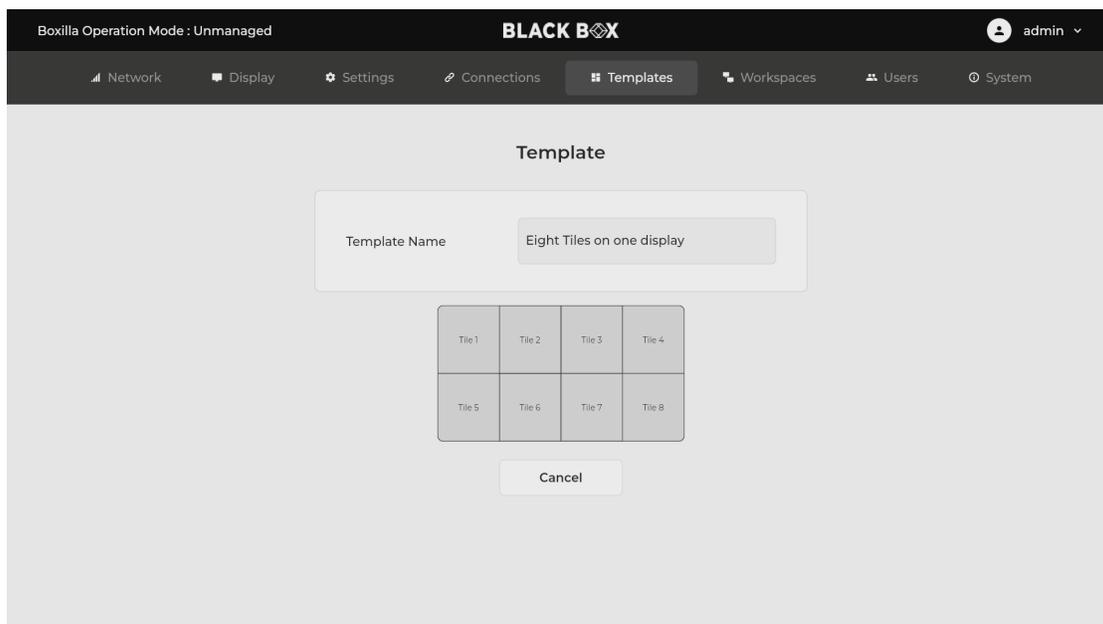


FIGURE 3-39: EIGHT TILES ON ONE DISPLAY TEMPLATE

## 3.8 WORKSPACES TAB

When the “Workspaces” tab is selected, the system displays the “Workspace List” screen, as shown in Figure 3-40 below:

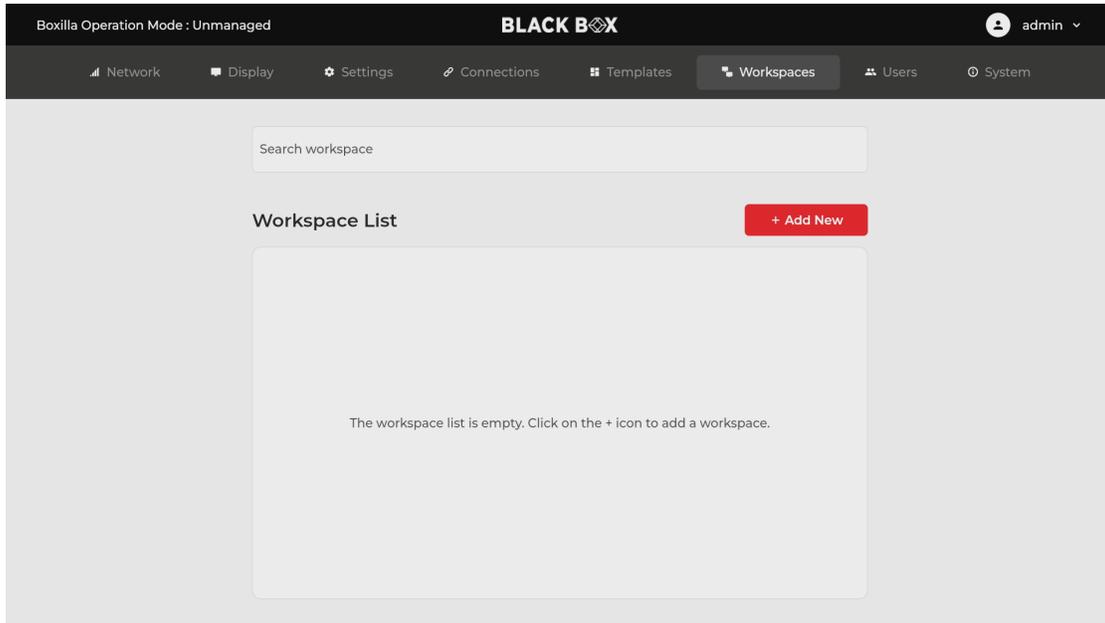


FIGURE 3-40: WORKSPACES TAB

Table 3-8 explains the initial options on the “Workspaces” tab.

**TABLE 3-8. WORKSPACES TAB OPTIONS**

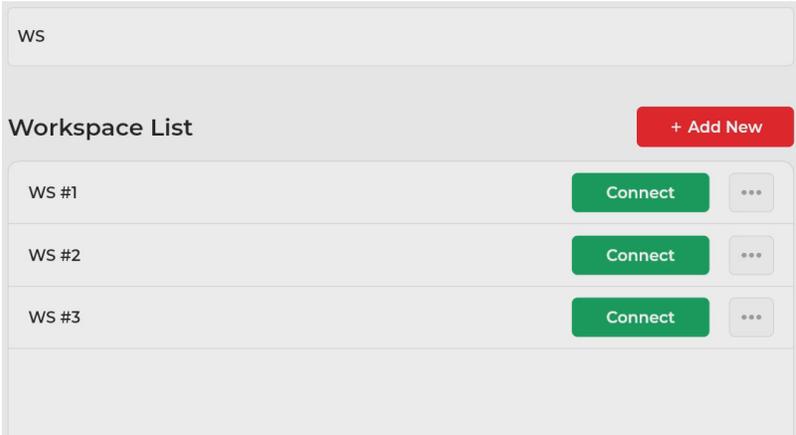
ITEM	DESCRIPTION
Search workspace box	<p>Type in this search box to customize the items shown in the Workspace List. When you type in this box, all workspaces containing that search term will be displayed. In the example in Figure 3-41 below, “ws” was typed in the search box, so the only workspaces that appear in the Workspace List contain those series of letters.</p> 
Add New button	Click on this button to define and configure a new workspace.

FIGURE 3-41: WORKSPACESEARCH BOX RESULTS

## 3.8.1 ADD NEW WORKSPACE

After you click on the “Add New” button, the system displays a configuration screen, as shown in Figure 3-42A and Figure 3-42B below:

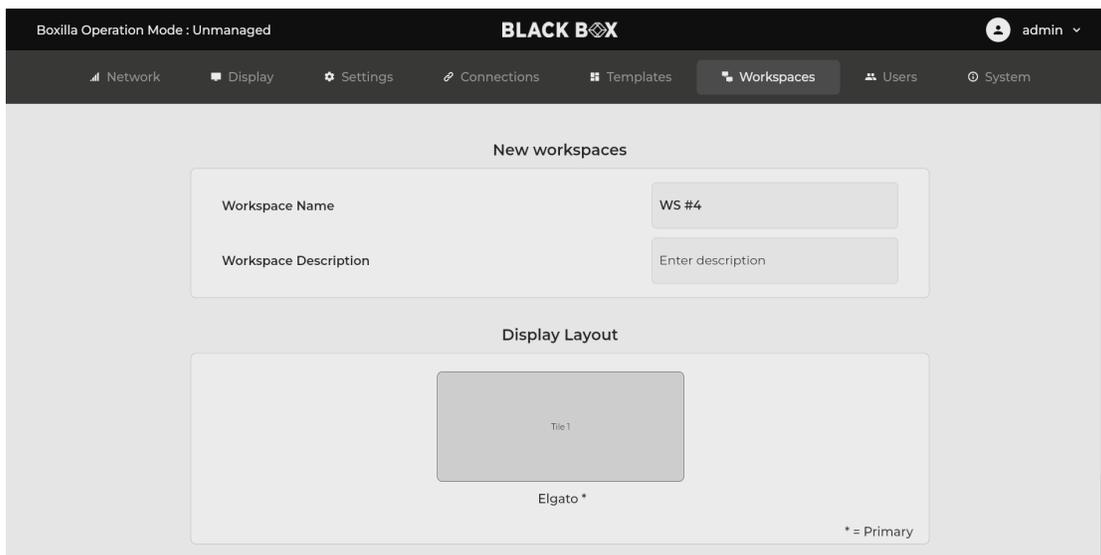


FIGURE 3-42A: TOP SECTION OF ADD NEW WORKSPACE SCREEN

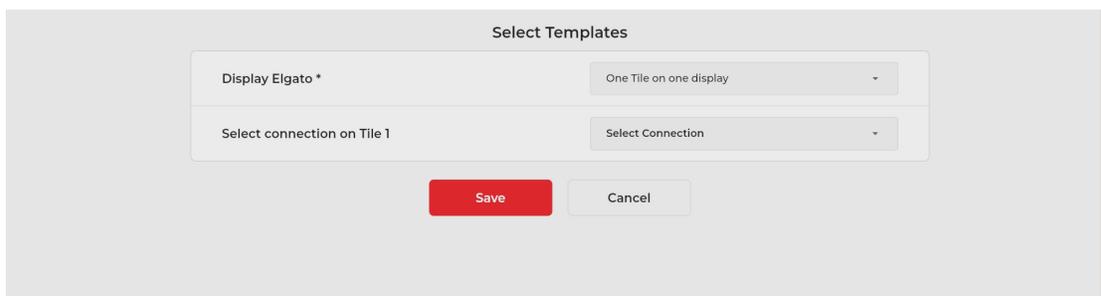


FIGURE 3-42B: BOTTOM SECTION OF ADD NEW WORKSPACE SCREEN

Table 3-9 explains the options on the “New workspace” screen.

**TABLE 3-9. NEW WORKSPACE OPTIONS**

ITEM	DESCRIPTION
Workspace Name	Enter a name for the workspace. The Emerald® DESKVUE unit will use this name to identify the workspace.
Workspace Description	Enter a description for the workspace.
Display Layout	This area shows the detected displays.

Select the templates for the display(s) and connection(s) using the drop-down list boxes provided. Use the drop-down list box selections to map the desired connection to the tile(s). You can map the same connection to multiple tiles, if desired, assuming that the connection is set to “shared” mode.

**NOTE:** Templates created on the Templates tab appear in the drop-down list box. An example appears in Figure 3-43 below:

Select templates



FIGURE 3-43: EXAMPLE OF A TEMPLATE SELECTION DROP-DOWN LIST BOX

**NOTE:** Since virtual machines don't have a set display resolution, you can choose any of the options from the drop-down list box..

Click on the “Save” button to save information that you entered. Click on the “Cancel” button to discard information that you entered. The “Save” and “Cancel” buttons are shown in Figure 3-44 below:

Save/Cancel buttons



FIGURE 3-44: SAVE AND CANCEL BUTTON

After you click on the “Save” button, the newly added workspace appears in the Workspace List. Figure 3-45 shows an example where there was only one created workspace. In this example, the workspace was named #1 - 1 Tile, as shown in Figure 3-45 below:

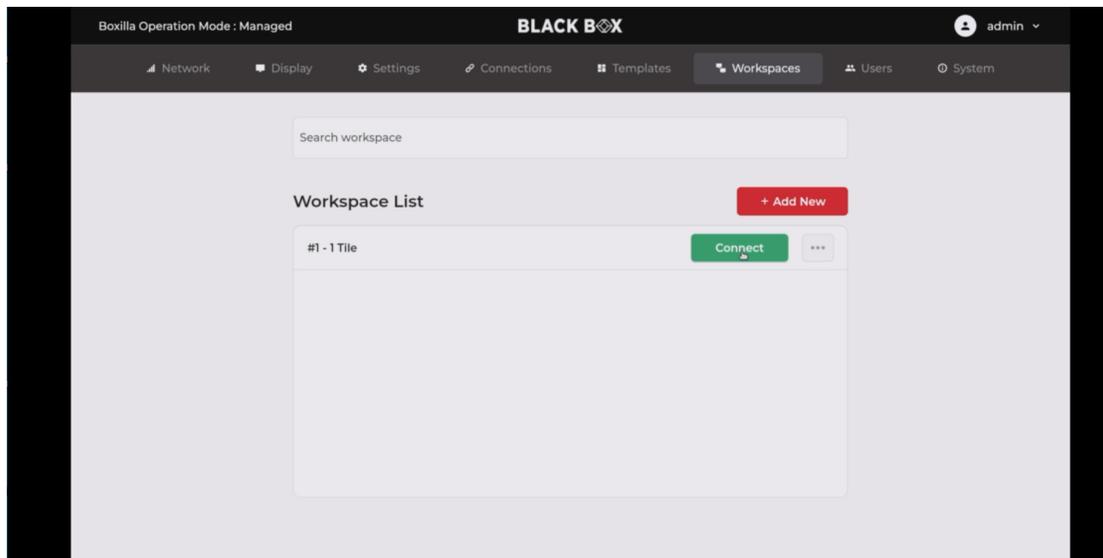


FIGURE 3-45: SAMPLE UPDATED WORKSPACE LIST SCREEN

Table 3-10 explains options for items in the Workspace List.

TABLE 3-10. NEW WORKSPACE OPTIONS

ITEM	DESCRIPTION
Add New button	Click on this button to define and configure a new workspace. This button was explained in “3.8.1: Add New Workspace.”
	Click on the “Connect” button to connect to the workspace. The “Connect” button changes to a “Terminate” button after the connection is established. Click on the “Terminate” button to end the established connection.

Figure 3-46 below shows the “Terminate” button for WS#1, since that workspace is currently connected. The other workspaces in the example are not connected, so the Emerald® DESKVUE system displays a “Connect” button instead of a “Terminate” button for the other workspaces.

Connect/Terminate button



FIGURE 3-46: SAMPLE UPDATED WORKSPACE LIST SCREEN

**NOTE:** After you connect to the workspace, when you hover over a tile, a thin green border appears around the tile to show that the tile is active.

You can also click in the top right corner of a tile to obtain access to additional options, shown in Figure 3-47 below:

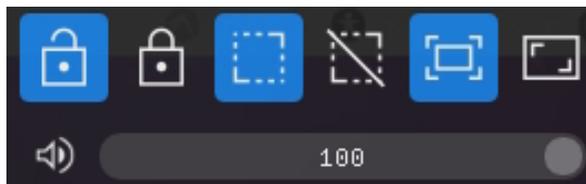


FIGURE 3-47: ADDITIONAL TILE OPTIONS

**NOTE:** Active options are shaded in blue. If an option is not active, click on the button to make it active.

Table 3-11 explains these additional options:

TABLE 3-11. TILE OPTIONS

ITEM	DESCRIPTION
Unlock button	When this option is active, the tile is unlocked and a user can change it by using a keyboard and/or mouse.
Lock button	When this option is active, the tile is locked from user input. Therefore, the user's keyboard and mouse cannot be used to change the tile. This is useful to prevent accidental changes to a tile.
Resize button	When this option is active, the tile can be moved and resized.
Resizing restricted button	When this option is active, the tile cannot be moved or resized.
Snap Video Aspect button	When this option is active, the Emerald® DESKVUE unit adjusts a modified screen to the appropriate aspect ratio so the video doesn't appear to be modified in the horizontal/vertical directions.
Make full screen button	This option makes the connection fill the entire screen.
Audio button	You can click on the audio button to mute or unmute sound for the tile. A diagonal line appears across the audio icon when the audio is muted.
Audio slider bar	You can drag the slider to the desired audio volume.

**TIPS:**

- ♦ To make a tile full screen, double click on the label on the top of the tile. To return it to its previous size, double click on the label again.
- ♦ Use hot keys to increase your workspace efficiency. For more information about hotkeys, see the "Hot Key Actions" under the user's setting options.

## 3.9 USERS TAB

When the “Users” tab is selected, the system displays the “User List” screen, as shown in Figure 3-48 below:

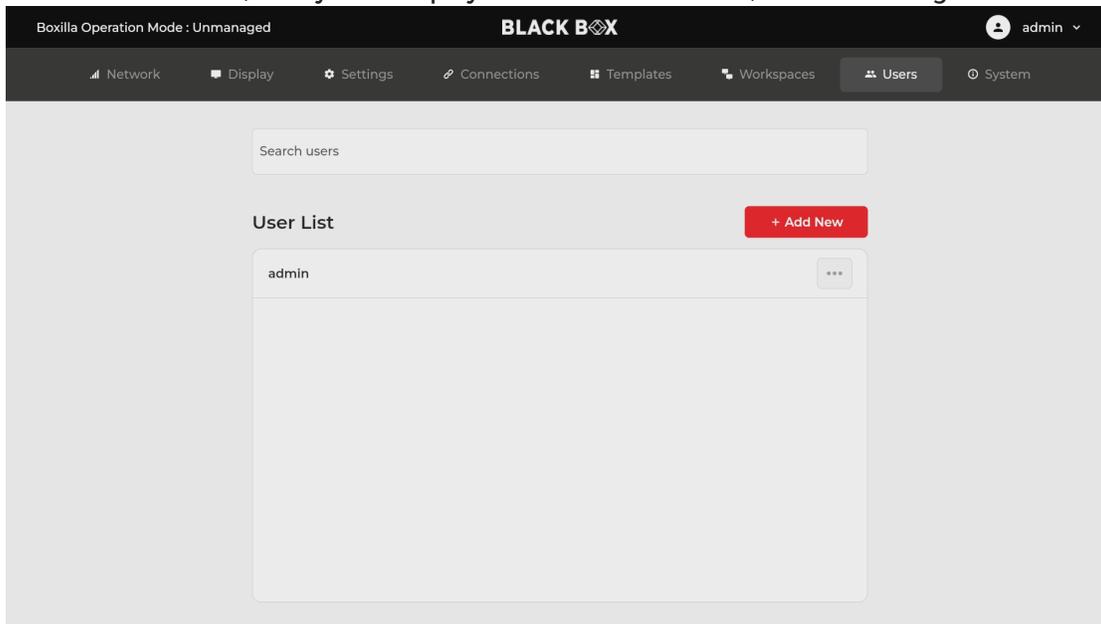


FIGURE 3-48: USERS TAB

**NOTE:** If the DESKVUE unit is managed by Boxilla, the “Add New” button is not displayed, as shown in Figure 3-49 below. In this case, any new user must be configured within Boxilla.

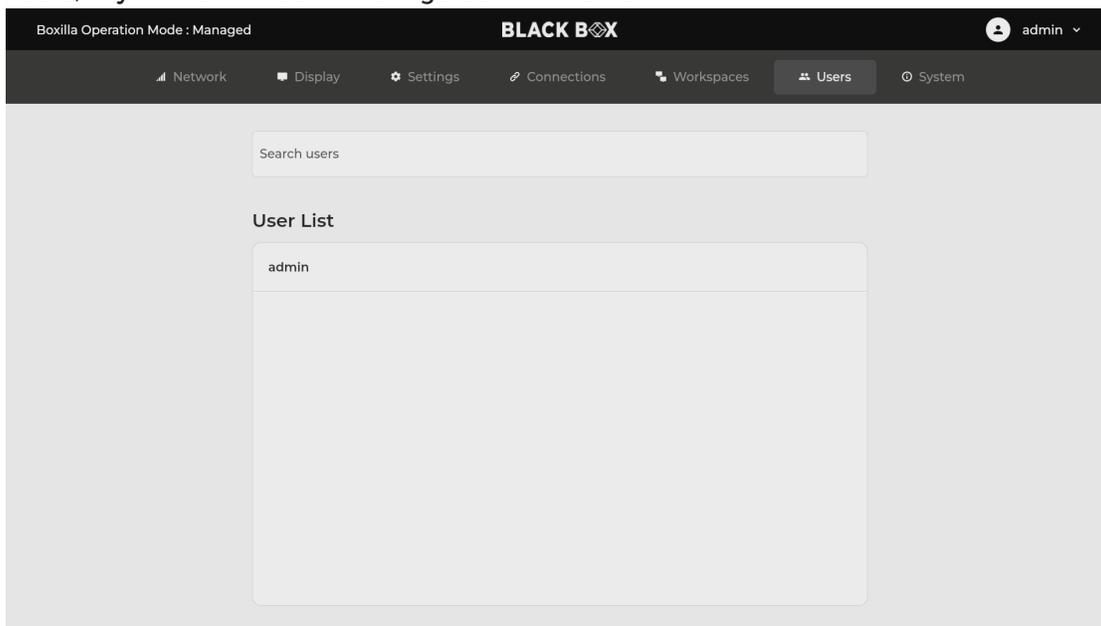


FIGURE 3-49: USERS TAB

## 3.9.1 ADD NEW USER

When you click on the “Add New” button, the system displays the “New User” screen, as shown in Figure 3-50 below:

The screenshot displays the 'New User' screen within the BLACK BOX application. The top navigation bar includes 'Boxilla Operation Mode : Unmanaged', the 'BLACK BOX' logo, and a user profile 'admin'. Below the navigation bar, a menu contains 'Network', 'Display', 'Settings', 'Connections', 'Templates', 'Workspaces', 'Users', and 'System'. The main content area is titled 'New User' and contains a form with the following fields:

- User Name: Enter user name
- Description: Enter description
- Password: Enter password (with a toggle for visibility)
- User Type: User (dropdown menu)

At the bottom of the form are two buttons: a red 'Save' button and a white 'Cancel' button.

FIGURE 3-50: NEW USER SCREEN

Table 3-12 explains the options on the “New User” screen.

**TABLE 3-12. NEW USER OPTIONS**

ITEM	DESCRIPTION
User Name	Enter the name for the user. It should be between 1 and 32 characters and can be any valid username for a Microsoft O/S. This means the username MAY NOT contain “/ \ [ ] : ;   = , + * ? < > `”.
Description	Enter a description for the user.
Password	Enter a password for the user, up to 32 characters. It can be any valid password for a Microsoft O/S. The password MAY contain , ~ : ! @ # \$ % ^ & ' { } but MAY NOT contain “/ \ [ ] : ;   = , + * ? < > `”

Select the user type from the drop-down list. You can choose “User,” “Admin,” or “Power,” as shown in Figure 3-51 below:

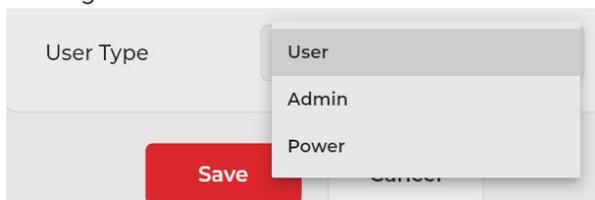


FIGURE 3-51: USER TYPE OPTIONS

User Type

**User:** Users of this class can only select from a list of pre-defined connections to access and view system information. They cannot change any configuration settings. They can change their password. A standard user can only view the network address for the Emerald® DESKVUE unit being used, the workspace(s) allocated to the user by the admin, and the system firmware version.

**Admin:** Admins of this class have full rights to configure the system. They can create/modify/delete new users and connections, change network settings, adjust system settings, and much more.

**Power:** Power Users of this class can modify resolution for connections and change their password.

Click on the “Save” button to save information that you entered. Click on the “Cancel” button to discard information that you entered. The “Save” and “Cancel” buttons are shown in Figure 3-52 below:

Save/Cancel buttons



FIGURE 3-52: SAVE AND CANCEL BUTTONS

**NOTE:** The Admin needs to assign available connection(s) and workspace(s) for users and power users. This can be accomplished through the Users tab by clicking on the three dots to the right of the user name and then selecting the “Edit” option. See “3.9.2.1 Edit Options” for more information. These tasks must be completed before the user can define hot keys.

## 3.9.2 USER MENU OPTIONS

When you click on the three dots to the right of a user name, another menu appears, as shown in Figure 3-53 below:

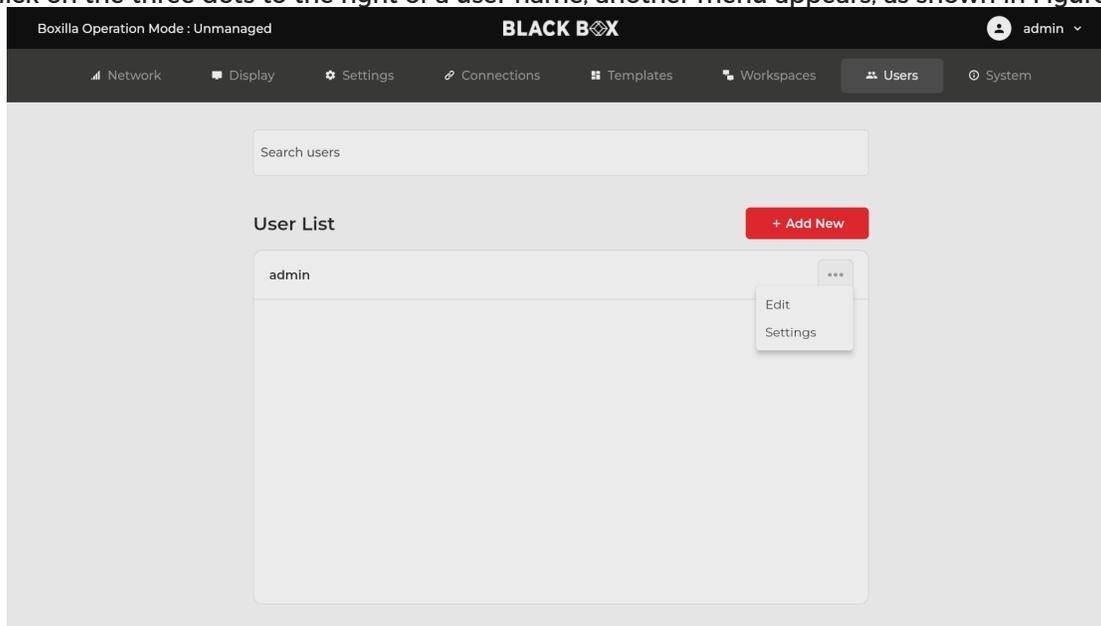


FIGURE 3-53: USER LIST ADMIN MENU OPTIONS

**NOTE:** When there is only one user with admin access, the system will not allow you to delete that user. The system requires at least one admin user.

## 3.9.2.1 EDIT OPTIONS

When you choose the “Edit” option for a user, the system displays the “Edit User” screen, as shown in Figure 3-54 below. This screen enables you to edit information associated with the user, including changing the user’s password and changing a description for the user.

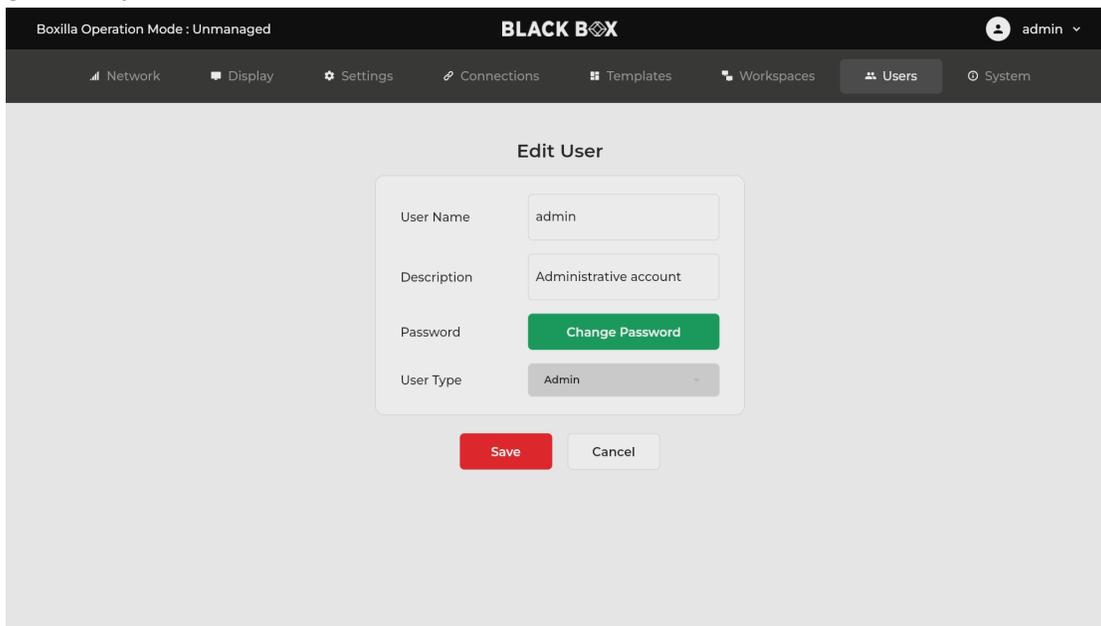


FIGURE 3-54: EDIT USER OPTIONS

Table 3-13 explains the options on the “Edit User” screen.

**TABLE 3-13. EDIT USER OPTIONS**

ITEM	DESCRIPTION
<p>Change Password button</p>	<p>Click on the "Change Password" button to change the user's password. The system will then display the change password screen, as shown in Figure 3-55 below:</p> <div data-bbox="786 453 1256 785" data-label="Image"> </div> <p>FIGURE 3-55: CHANGE PASSWORD SCREEN</p> <p>On this screen, enter the old password and the new password in the corresponding fields. The new password needs to be entered twice to confirm it. Then click on the "Authenticate" button to change the password or the "Cancel" button to discard information that you entered.</p>
<p>User Type</p>	<p>The user type cannot be edited. It must be set when a new user is created.</p>
<p>Save/Cancel buttons</p>	<p>Click on the "Save" button to save information that you entered. Click on the "Cancel" button to discard information that you entered. The "Save" and "Cancel" buttons are shown in Figure 3-56 below:</p> <div data-bbox="763 1152 1279 1241" data-label="Image"> </div> <p>FIGURE 3-56: SAVE AND CANCEL BUTTONS</p>

After you save your changes, the system displays the screen shown in Figure 3-57A and Figure 3-57B below, where you can assign a workspace and hot key(s) to the user.

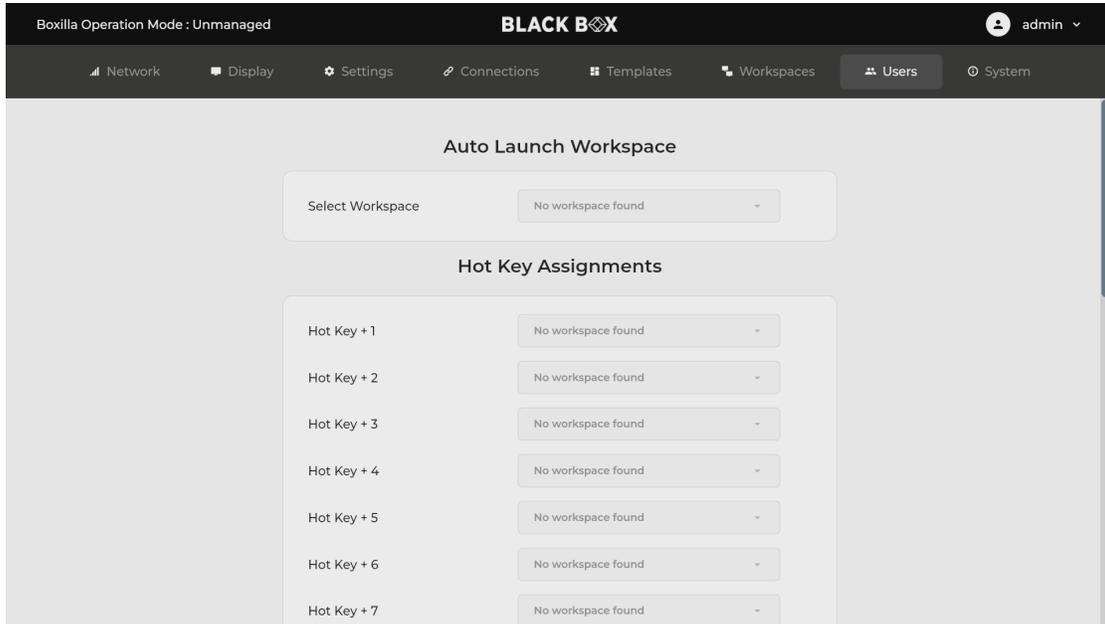


FIGURE 3-57A: TOP SECTION OF USER WORKSPACE AND HOT KEY SELECTION SCREEN

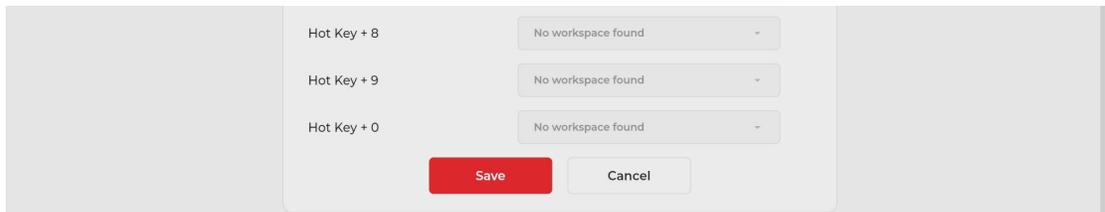


FIGURE 3-57B: BOTTOM SECTION OF USER WORKSPACE AND HOT KEY SELECTION SCREEN

Use the drop-down list boxes to assign Hot Keys to tiles.

There are also predefined hot keys built into the Emerald® DESKVUE system, as shown in Figure 3-58A and Figure 3-58B.

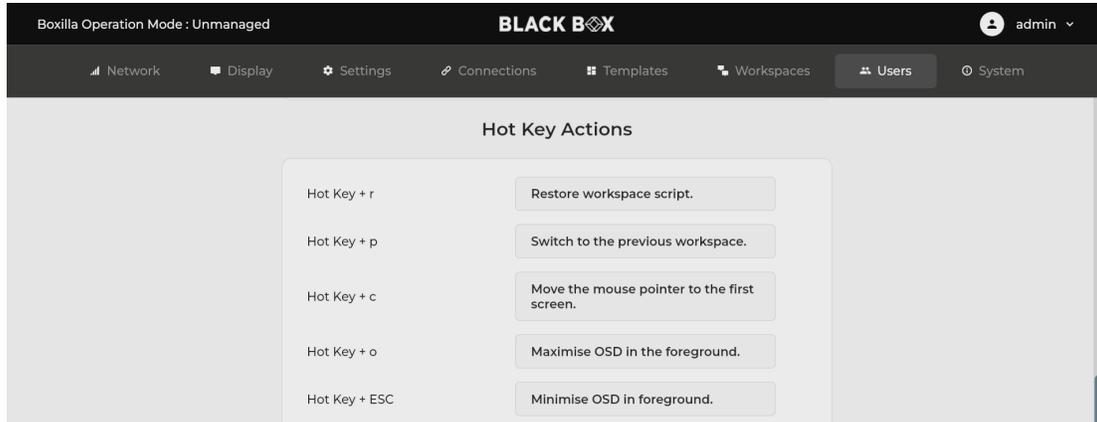


FIGURE 3-58A: TOP SECTION OF PREDEFINED HOT KEY SCREEN

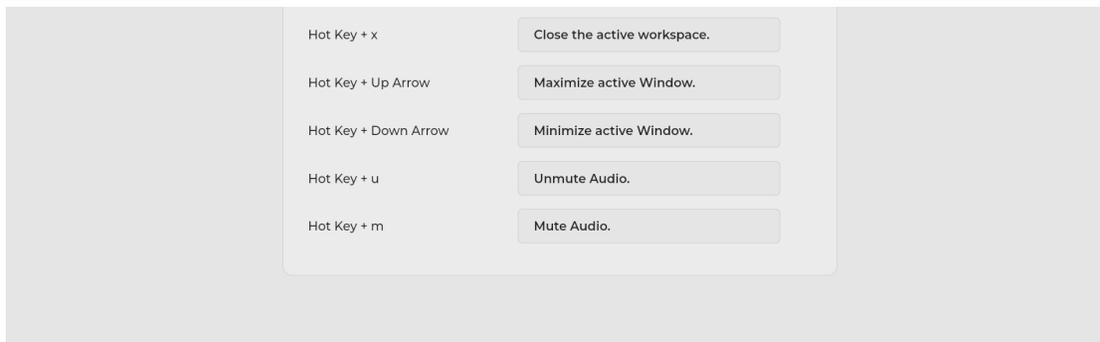


FIGURE 3-58B: BOTTOM SECTION OF PREDEFINED HOT KEY SCREEN

## 3.10 SYSTEM TAB

When the “System” tab is selected by a user classified as admin, the system displays the “System Settings” screen, as shown in Figures 3-59A and 3-59B below:

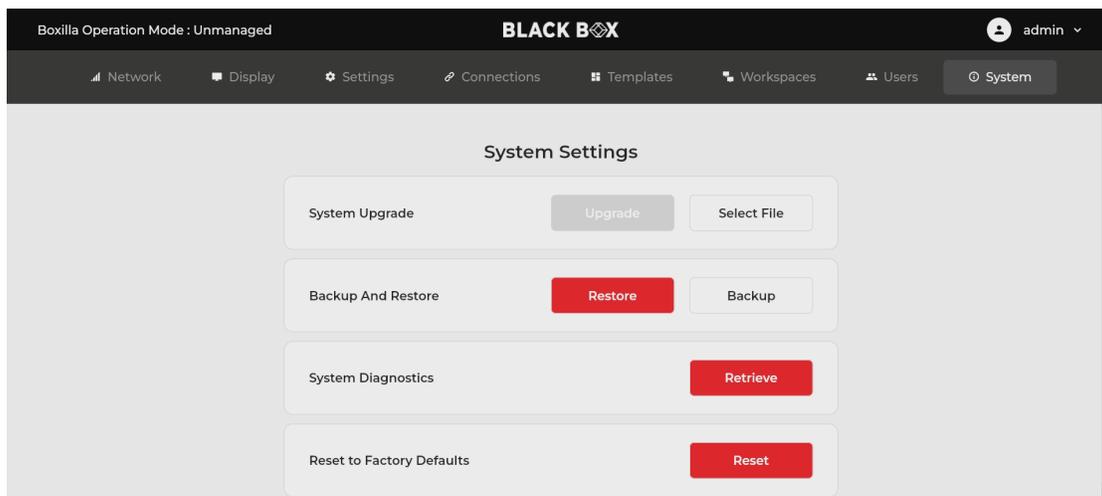


FIGURE 3-59A: TOP SECTION OF SYSTEM SETTINGS SCREEN

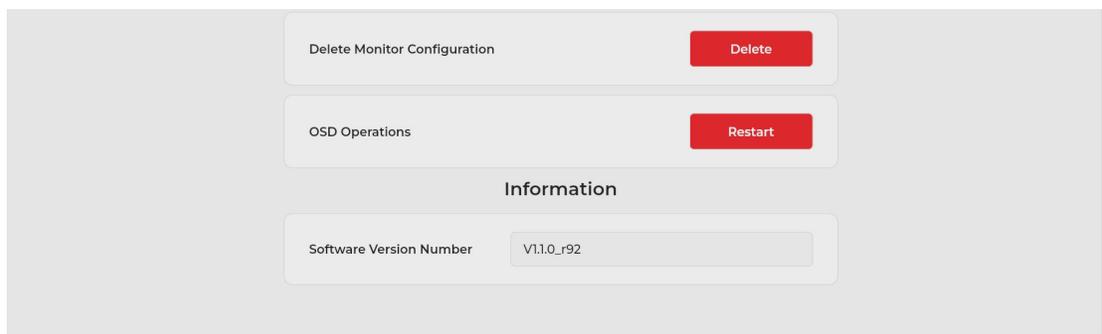
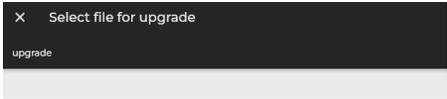
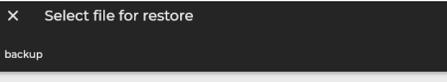


FIGURE 3-59B: BOTTOM SECTION OF SYSTEM SETTINGS SCREEN

**NOTE:** Standard users and Power users only see the software version number when accessing this screen. Table 3-14 explains the options on the “System Settings” screen.

**TABLE 3-14. SYSTEM SETTING OPTIONS**

ITEM	DESCRIPTION
System Upgrade	<p>When a system update is available, click on the “Select File” button and follow the on-screen directions to complete the update using a file stored on a removable USB drive using a FAT/FAT32 format. Available upgrade files will appear in a pop-up window, as shown in Figure 3-60 below:</p>  <p style="text-align: center;">FIGURE 3-60: UPGRADE FILE SELECTION SCREEN</p>
Backup and Restore	<p><b>NOTE:</b> The upgrade file must be located in the root directory of the flash drive; it cannot be located in a sub folder.</p> <p><b>Backup:</b> Click on this button to back up system settings to a removable drive, such as a USB flash drive. When you choose this option, the system will display a screen showing the backup name and offering you the option to save the file by clicking on the “Save” button or cancelling the backup by clicking on the “Cancel” button.</p> <p>The backup confirmation screen is shown in Figure 3-61 below:</p>  <p style="text-align: center;">FIGURE 3-61: BACKUP CONFIRMATION SCREEN</p> <p><b>Restore:</b> click on this button to restore system settings from the backup that you previously saved to a removable USB drive. The saved settings can be used to restore multiple DESKVUE units.</p> <p>When you click on this option, you will be prompted to choose the file to use for the restore, as shown in Figure 3-62 below:</p>  <p style="text-align: center;">FIGURE 3-62: FILE RESTORE SELECTION SCREEN</p>
System Diagnostics	<p>Click on this button to perform system diagnostics to help troubleshoot a system problem. You typically use this option when working with a technical support team member to resolve an issue. It will export log files to an attached USB drive.</p> <p>When you choose this option, the system will display a screen showing the filename for the system diagnostics log file and offering you the option to save the file by clicking on the “Save” button or cancelling the file save by clicking on the “Cancel” button.</p> <p>The diagnostic log confirmation screen is shown in Figure 3-63 below:</p>  <p style="text-align: center;">FIGURE 3-63: FILE RESTORE SELECTION SCREEN</p>

**TABLE 3-14. SYSTEM SETTING OPTIONS (CONTINUED)**

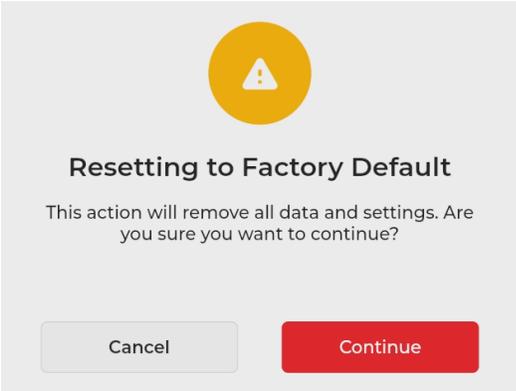
ITEM	DESCRIPTION
Reset to factory defaults	<p>Click on the “Reset” button to reset the system to the settings that shipped with the product. When you click on this button, the system will display a confirmation message as shown in Figure 3-64 below:</p> 
Delete Monitor Configuration	Use this option to remove any preconfigured monitor layouts.
OSD Operations	When clicked, this option will restart the GUI, log out the user, and display the login screen.
Information	The Emerald® DESKVUE unit displays its software version in this area.

FIGURE 3-64: FACTORY DEFAULT RESET CONFIRMATION MESSAGE

To reset to factory defaults, click on the “Continue” button. This removes the unit configuration, and makes it an unmanaged unit. All settings are restored to the settings supplied with the shipped DESKVUE unit. To cancel the action, click on the “Cancel” button.

TABLE 4-1. TROUBLESHOOTING

ERROR MESSAGE	RESOLUTION
The network cable is attached to a non-supported interface port. Please switch connections.	To resolve this issue: <ol style="list-style-type: none"><li>1. Remove the network cable and attach it to a different network switch.</li><li>2. Refresh the page to remove the error message.</li><li>3. Hot plug the network cable back to the original switch.</li><li>4. Update your network settings.</li><li>5. Apply.</li></ol>
Unable to connect to <network address> Please confirm connection details and target is powered up and connected to the network.	Using a different system, use the PING function to verify that the network address is responding. If the target is responding to PING requests, check the connection parameters and firmware.

# APPENDIX A: BOXILLA DISCOVERY

## A.1 BOXILLA DISCOVERY

The Emerald® DESKVUE unit can be discovered and managed by the Boxilla® manager as long as it is using the DESKVUE firmware version 1.1.0.r94 or later **and** the Boxilla unit is using firmware version 4.7.0 or later. Older firmware versions do not support integrating DESKVUE and Boxilla.

**NOTE:** If the DESKVUE unit is managed by another Boxilla Manager, it will need to be factory reset prior to performing the Boxilla Discovery process.

### A.1.1 DISCOVERING AND MANAGING THE DESKVUE UNIT

To discover and manage the DESKVUE unit through the Boxilla Manager:

1. Verify that the DESKVUE unit is turned on.
2. Verify that the the DESKVUE unit is connected to the network so that Boxilla can detect it.
3. Verify that the IP Address (192.168.1.1) is not in use. Otherwise, the Boxilla discovery process will not work.
4. In the Boxilla administrative interface, go to Discovery and press the “Discovery” button. The DESKVUE unit should then be discovered and show as Unmanaged, as shown in Figure A-1 below:

The screenshot shows the Boxilla Manager interface with the 'Discovery' tab selected. A table displays the results of an automatic discovery process. The table has columns for MAC Address, IP Address, Netmask, Gateway, Model, and State. One row is highlighted in red, indicating an unmanaged unit.

MAC Address	IP Address	Netmask	Gateway	Model	State
00:8C:10:20:FD:14	10.8.60.25	255.255.0.0	10.8.1.1	EMD2002PE-R	Managed
00:8C:10:20:FF:86	10.8.60.24	255.255.0.0	10.8.1.1	EMD2000PE-T-P	Managed
00:8C:10:21:8A:77	10.8.60.27	255.255.0.0	10.8.1.1	EMD2002PE-OP-T	Managed
00:CE:39:D2:5D:FD	10.8.60.23	255.255.0.0	10.8.1.1	EMD5004-R	UnManaged

FIGURE A-1: DETECTED DESKVUE UNIT SHOWING AS UNMANAGED

5. Change the Emerald® DESKVUE network settings, if necessary, through the Boxilla® web interface by selecting “Edit” from the drop-down menu shown in Figure A-2 below:

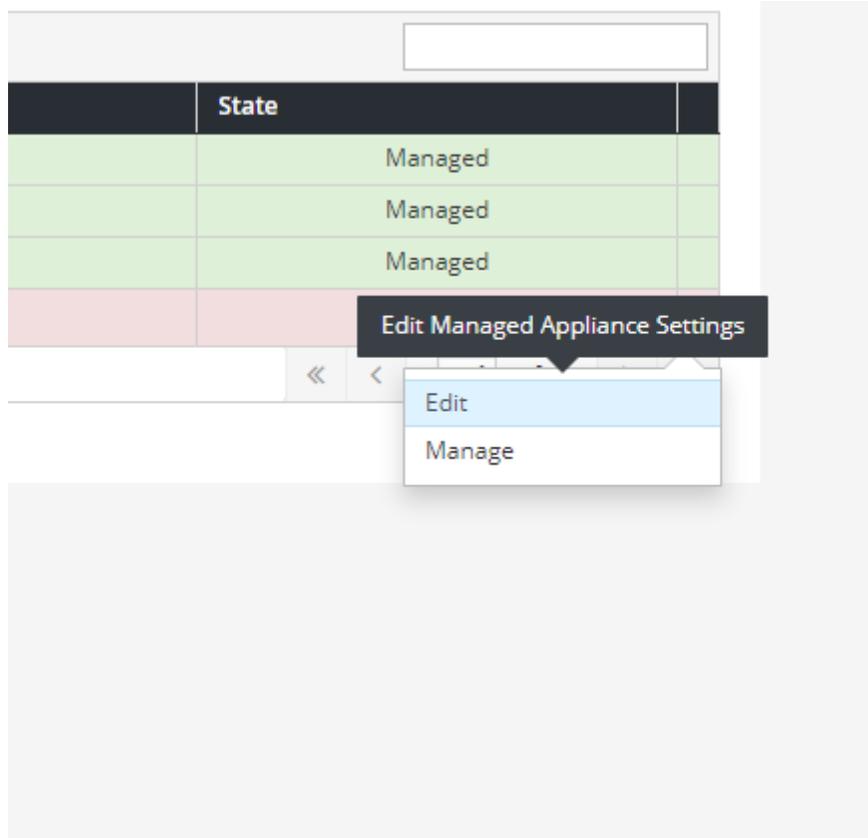
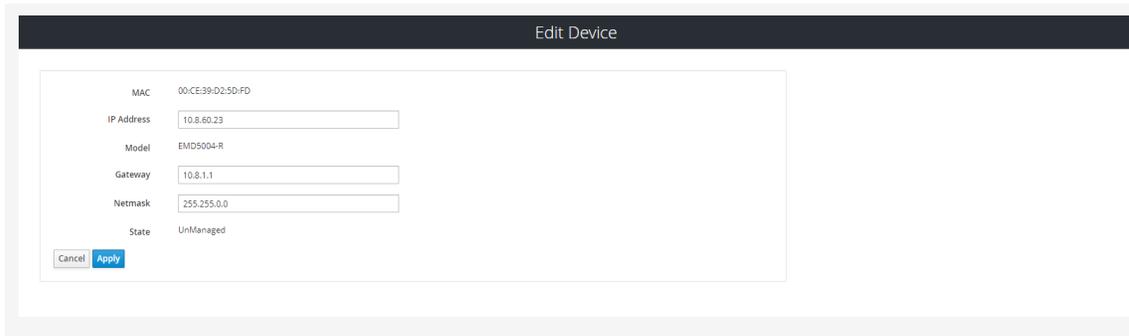


FIGURE A-2: EDIT OPTION

6. Configure the network settings for the Emerald® DESKVUE unit using the “Edit Device” screen, shown in Figure A-3 below:



The screenshot shows the 'Edit Device' interface. It features a dark header with the title 'Edit Device'. Below the header is a white form area containing the following fields and values:

MAC	00:CE39:02:5D:FD
IP Address	10.8.60.23
Model	EMD5004-R
Gateway	10.8.1.1
Netmask	255.255.0.0
State	UnManaged

At the bottom left of the form area, there are two buttons: 'Cancel' and 'Apply'.

FIGURE A-3: EDIT DEVICE SCREEN

**NOTE:** Use network settings that allow the DESKVUE unit and Boxilla® Manager to be on the same subnet/network.

7. Click on the “Apply” button to accept your changes, as shown in Figure A-4 below:



The screenshot shows the 'Manage Device' interface. It features a dark header with the title 'Manage Device'. Below the header is a white form area containing the following fields and values:

MAC	00:CE39:02:5D:FD
IP Address	10.8.60.23
Model	EMD5004-R
Zone	[Dropdown menu]
Managed Name	DeskVue

At the bottom left of the form area, there are two buttons: 'Cancel' and 'Apply'. The 'Apply' button is highlighted with a blue border and a blue background.

FIGURE A-4: APPLY BUTTON

# APPENDIX A: BOXILLA DISCOVERY

8. After the system returns to the Discovery page in the Boxilla® Manager, manage the Emerald® DESKVUE unit by using the “Manage” option in the drop-down menu, as shown in Figure A-5 below:

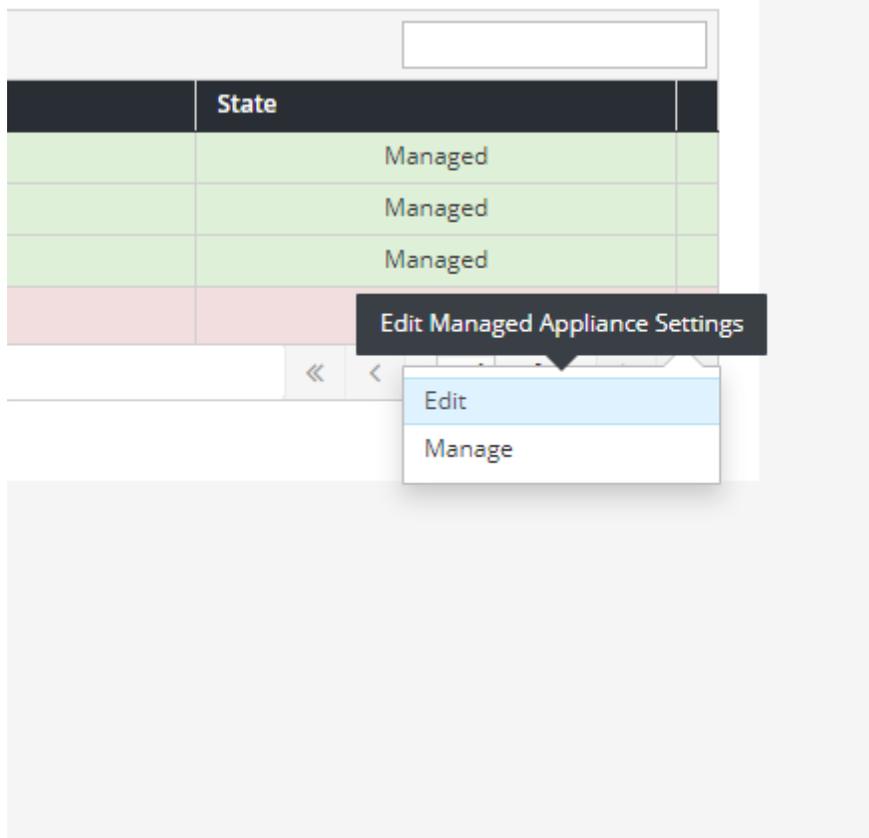


FIGURE A-5: MANAGE OPTION ON DROP-DOWN MENU

After you select the “Manage” option on the drop-down menu, the system displays a confirmation message, as shown in Figure A-6 below:

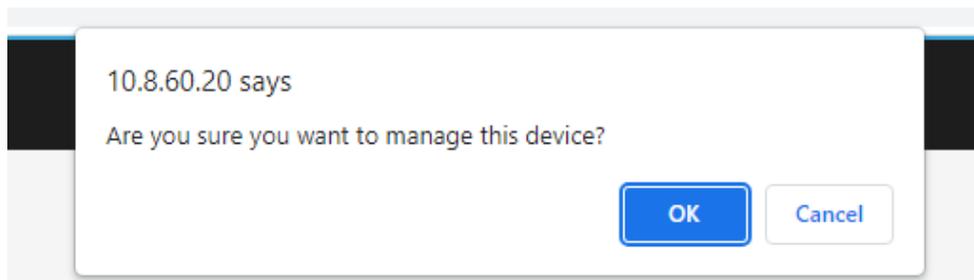


FIGURE A-6: DEVICE MANAGEMENT CONFIRMATION MESSAGE

9. Click on the “OK” button shown in Figure A-6 above to enable Boxilla® to manage the Emerald® DESKVUE unit. The system should display a confirmation message stating that the operation was successful, as shown in Figure A-7 below:



FIGURE A-7: OPERATION SUCCESSFUL CONFIRMATION MESSAGE

**NOTE:** When the DESKVUE unit is on the same network/subnet as the Boxilla Manager, the operation should be successful. If the operation fails, verify that the DESKVUE unit and the Boxilla Manager are on the same network/subnet and that supported firmware is being used, per information specified in “A1: Boxilla Discovery.”

# APPENDIX A: BOXILLA DISCOVERY

The Emerald® DESKVUE unit will initially show up in the device list as “Offline” with a “Waiting” status, as shown in Figure A-8 below:

Device Name	Zone	Configuration	Public IP Address	Private IP Address	Static NAT	Connections	Model	State	Status	Bonded Group	Video Quality	Video Source Opt	EDID Settings DWI 1	Cloned Receiver	EDID Settings DWI 2	Cloned Receiver	Options
TX3 - EMD2002PE-DP-T	-	Unique	10.8.60.27	10.8.60.27	-	TX3: EMD2002PE-DP-T	EMD2002PE-DP-T	OnLine	Configured	-	Default	-	1920x1080	-	1920x1080	-	
TX1 - EMD2000PE-T-P	-	Unique	10.8.60.24	10.8.60.24	-	TX1: EMD2000PE-T-P	EMD2000PE-T-P	OnLine	Configured	-	Best Quality	Off	1920x1080	-	-	-	
RX2 - EMD4000R	-	System	10.8.60.26	10.8.60.26	-	-	EMD4000R	OffLine	Retrieving	-	-	-	-	-	-	-	
RX1 - EMD2002PE-R	-	Unique	10.8.60.25	10.8.60.25	-	-	EMD2002PE-R	OnLine	Configured	-	-	-	-	-	-	-	
DeskVue	-	Unique	10.8.60.23	10.8.60.23	-	-	EMD5004-R	OffLine	Waiting	-	-	-	-	-	-	-	

FIGURE A-8: DESKVUE UNIT SHOWN AS OFFLINE WITH WAITING STATUS

The operation will finish in a few minutes, and the system will update the status to “Online” as shown in Figure A-9 below:

Device Name	Zone	Configuration	Public IP Address	Private IP Address	Static NAT	Connections	Model	State	Status	Bonded Group	Video Quality	Video Source Opt	EDID Settings DWI 1	Cloned Receiver	EDID Settings DWI 2	Cloned Receiver	Options
TX3 - EMD2002PE-DP-T	-	Unique	10.8.60.27	10.8.60.27	-	TX3: EMD2002PE-DP-T	EMD2002PE-DP-T	OnLine	Configured	-	Default	-	1920x1080	-	1920x1080	-	
TX1 - EMD2000PE-T-P	-	Unique	10.8.60.24	10.8.60.24	-	TX1: EMD2000PE-T-P	EMD2000PE-T-P	OnLine	Configured	-	Best Quality	Off	1920x1080	-	-	-	
RX2 - EMD4000R	-	System	10.8.60.26	10.8.60.26	-	-	EMD4000R	OffLine	Retrieving	-	-	-	-	-	-	-	
RX1 - EMD2002PE-R	-	Unique	10.8.60.25	10.8.60.25	-	-	EMD2002PE-R	OnLine	Configured	-	-	-	-	-	-	-	
DeskVue	-	Unique	10.8.60.23	10.8.60.23	-	-	EMD5004-R	OnLine	Waiting	-	-	-	-	-	-	-	

FIGURE A-9: STATUS CHANGED TO ONLINE

# APPENDIX A: BOXILLA DISCOVERY

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Although the status is updated to online, the system is still updating. Once the operation is complete, the unit's status will be updated to "Online" and "Configured," as shown in Figure A-10 below:

The screenshot shows the 'Devices Settings' page with a navigation bar at the top containing 'Bulk Update', 'System Properties', 'Template', 'Edit Template', and '+ Add Template'. Below the navigation bar, there are three summary cards: '4 On-Line Devices', '0 Active Connections', and '0 Device Alerts'. The main content area is divided into 'Video Settings', 'Misc Settings', and 'LACP Info'. A table titled 'Showing 1 to 5 Results out of 5' displays the following data:

Device Name	Zone	Configuration	Public IP Address	Private IP Address	Static NAT	Connections	Model	State	Status	Bonded Group	Video Quality	Video Source Opt	EDID Settings DVI 1	Cloned Receiver	EDID Settings DVI 2	Cloned Receiver	Options
TX3 - EMD2002PE-DP-T	-	Unique	10.8.60.27	10.8.60.27	-	TX3 - EMD2002PE-DP-T	EMD2002PE-DP-T	OnLine	Configured	-	Default	-	1920x1080	-	1920x1080	-	
TX1 - EMD2000PE-T-P	-	Unique	10.8.60.24	10.8.60.24	-	TX1 - EMD2000PE-T-P	EMD2000PE-T-P	OnLine	Configured	-	Best Quality	Off	1920x1080	-	-	-	
RK2 - EMD400R	-	System	10.8.60.26	10.8.60.26	-	-	EMD400R	OffLine	Retrieving	-	-	-	-	-	-	-	
RX1 - EMD2002PE-R	-	Unique	10.8.60.25	10.8.60.25	-	-	EMD2002PE-R	OnLine	Configured	-	-	-	-	-	-	-	
DeskVue	-	Unique	10.8.60.23	10.8.60.23	-	-	EMD5004-R	OnLine	Configured	-	-	-	-	-	-	-	

FIGURE A-10: STATUS UPDATED TO ONLINE AND CONFIGURED



## APPENDIX B: WORKSPACE CONFIGURATION

### B.1 WORKSPACE CREATION/ASSIGNMENT

When the Emerald® DESKVUE unit is managed by a Boxilla® Manager, a workspace can be created and assigned to one user or to multiple users.

#### B.1.1 CREATING A WORKSPACE

To create a workspace:

1. In the Boxilla web interface, navigate to Users --> Workspaces. The workspace screen is shown in Figure B-1 below:

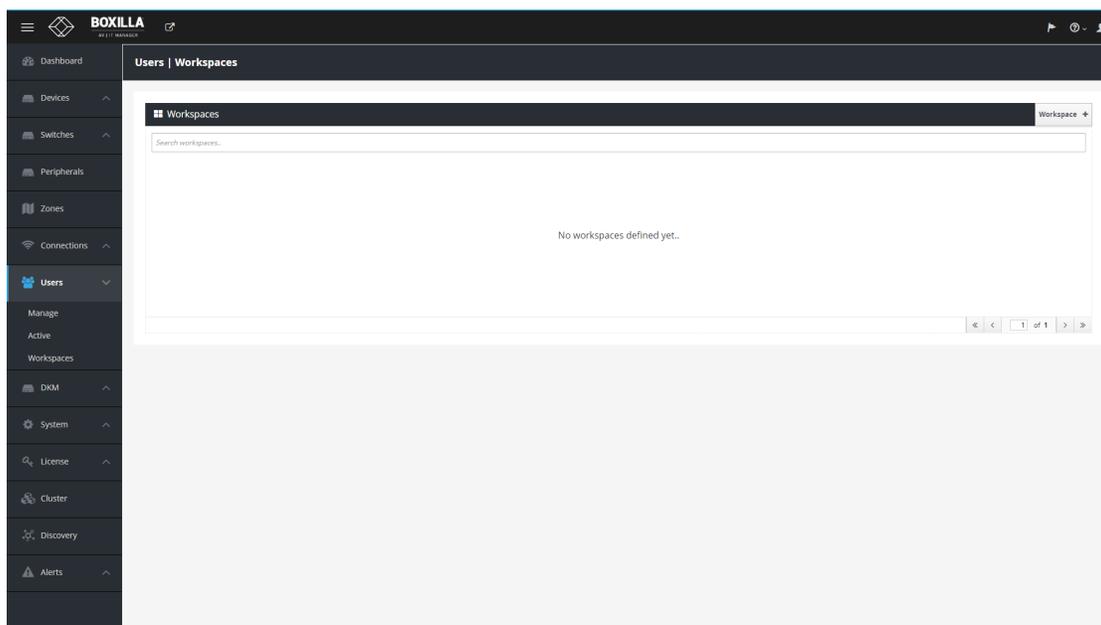


FIGURE B-1: WORKSPACE SCREEN

2. Click on the “Add Workspace” button and enter both a name and description for the workspace in the appropriate fields shown in Figure B-2 below:

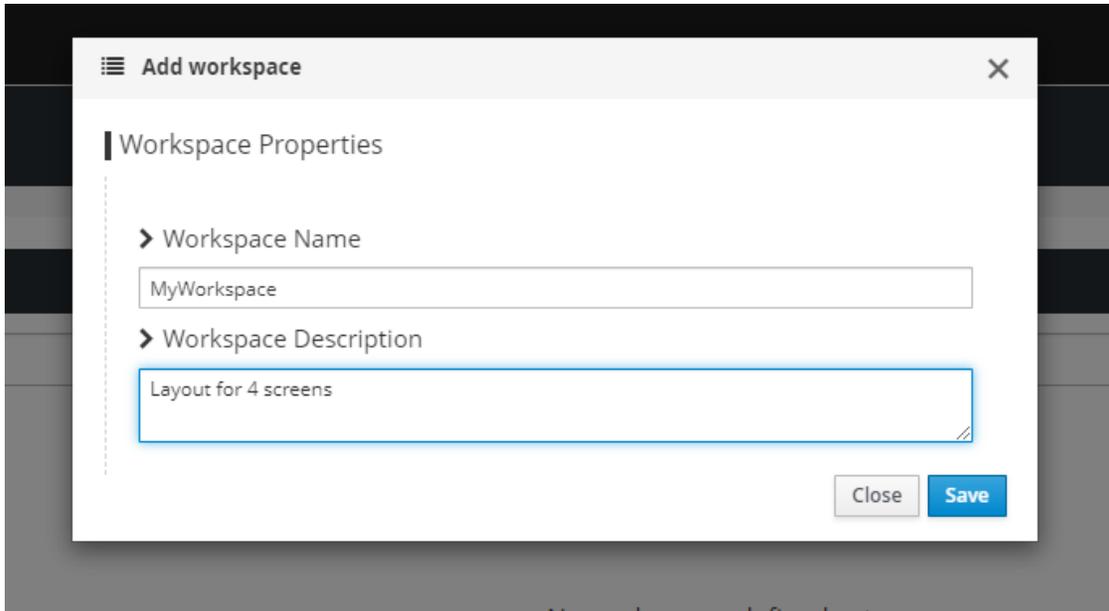


FIGURE B-2: ADD WORKSPACE SCREEN

3. Click on the “Save” button shown in Figure B-2 above.

# APPENDIX B: WORKSPACE CONFIGURATION

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If the workspace was configured properly, the system will display a success notification in the top right corner of the screen, as shown in Figure B-3 below:

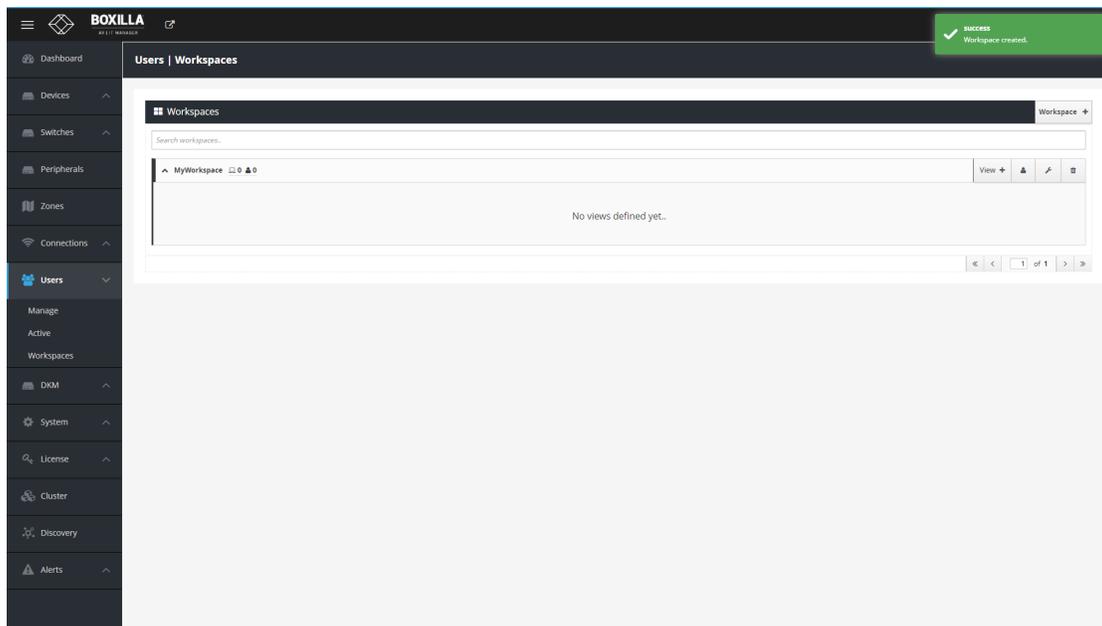


FIGURE B-3: SUCCESS MESSAGE

**NOTE:** If an error occurs, review the error message for information about the problem.

4. Add a View by clicking on the “View +” button. The “Add View” screen will appear, as shown in Figure B-4 below:

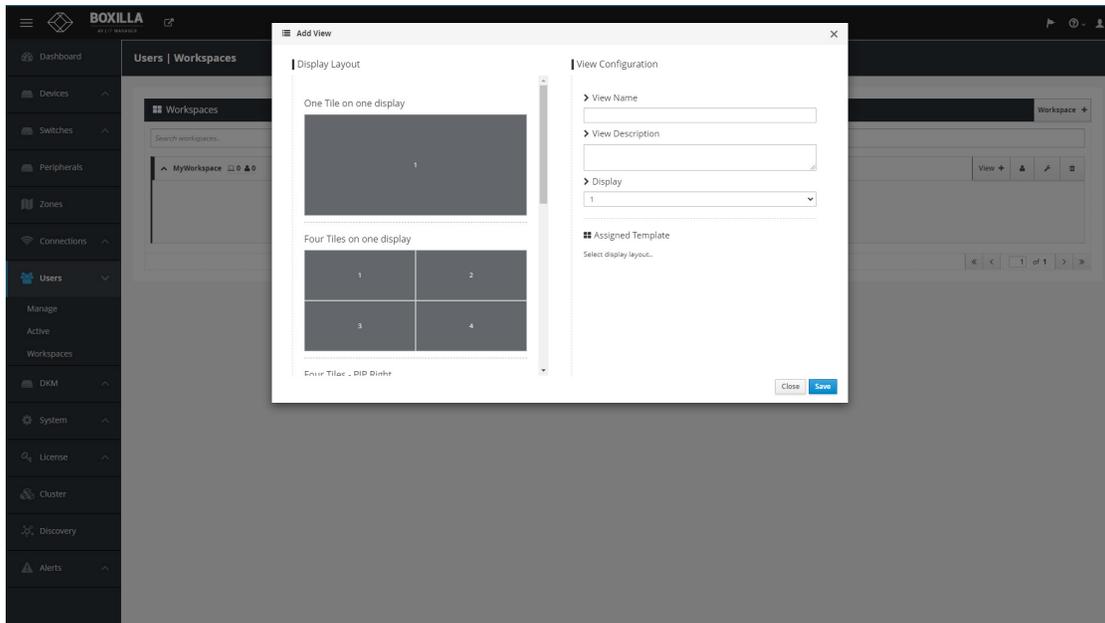


FIGURE B-4: ADD VIEW SCREEN

5. Select a Display Layout Format.

Figure B-5 below shows an extended Display Layout option.

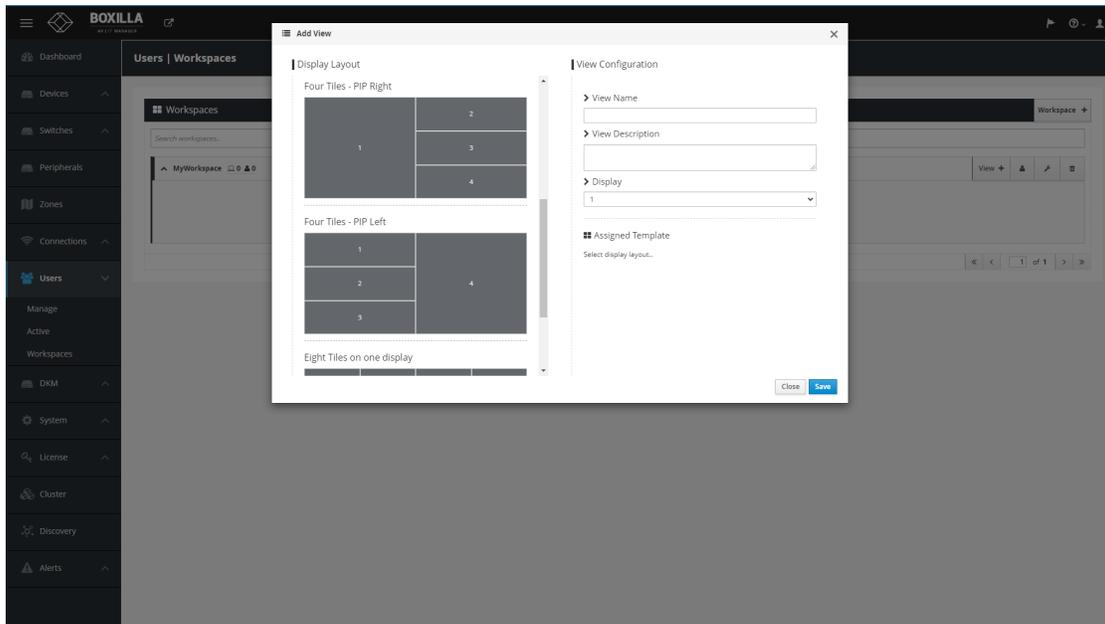


FIGURE B-5: AN EXTENDED DISPLAY LAYOUT OPTION

Figure B-6 below shows another extended Display Layout option.

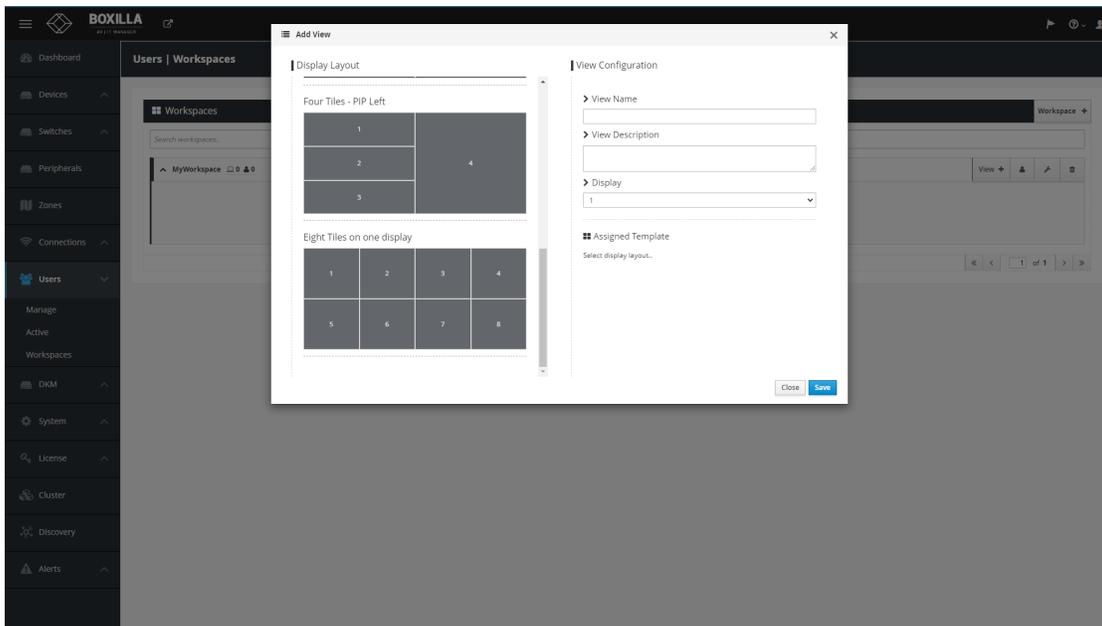


FIGURE B-6: ANOTHER EXTENDED DISPLAY LAYOUT OPTION

Figure B-7 below shows an additional extended Display Layout option. It also shows an example of a “Four Tiles on one display” and how to link a target to a specific tile.

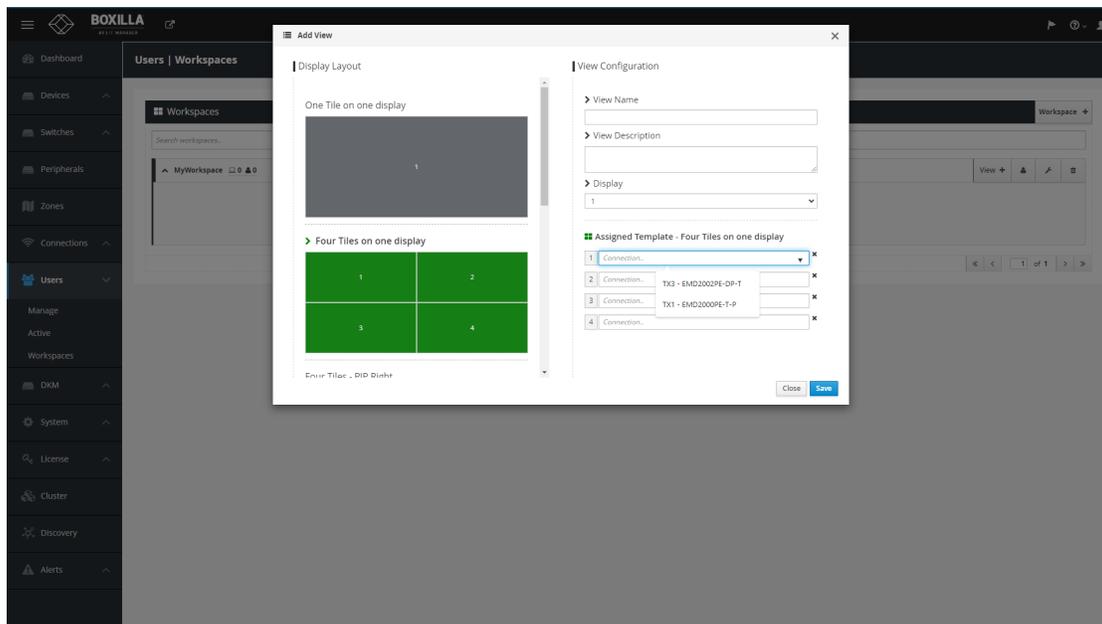


FIGURE B-7: EXAMPLE OF ANOTHER EXTENDED DISPLAY LAYOUT OPTION WITH ADDITIONAL SELECTIONS

## APPENDIX B: WORKSPACE CONFIGURATION

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6. Enter a Name for the View in the appropriate field.
7. Enter a Description for the View in the appropriate field.
8. Select which display should be used.

An example using “Four Tiles on One Display” with completed fields appears in Figure B-8 below:

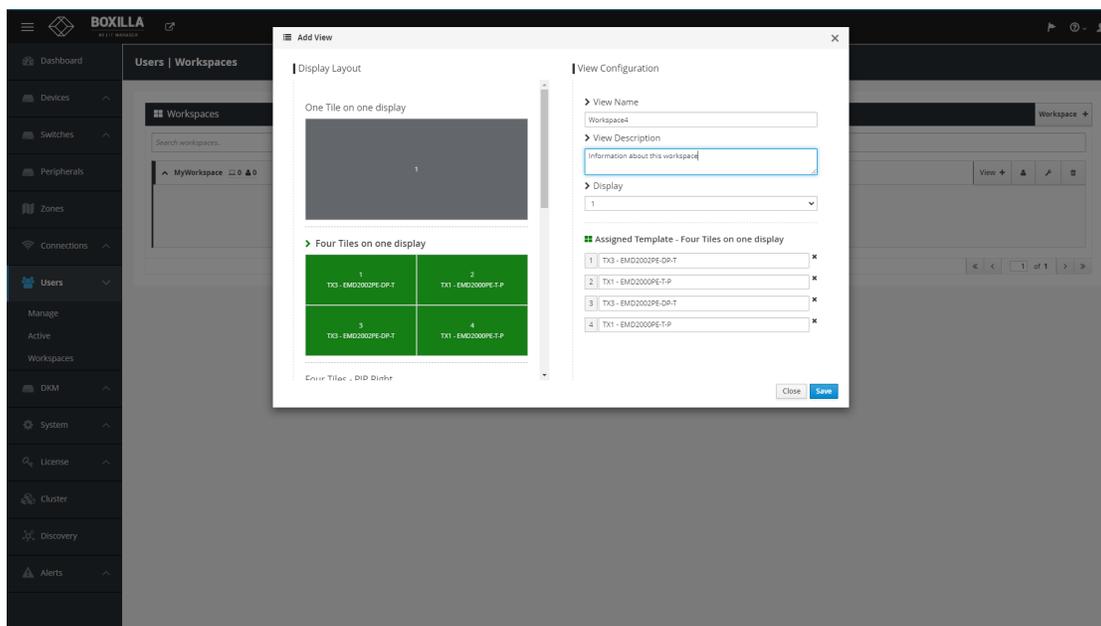


FIGURE B-8: EXAMPLE WITH DISPLAY SELECTED AND COMPLETED FIELDS

9. Click on the “Save” button.



# APPENDIX B: WORKSPACE CONFIGURATION

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If the workspace and view were configured properly without any errors, the system will display a success notification in the top right corner of the screen, as shown in Figure B-9 below:

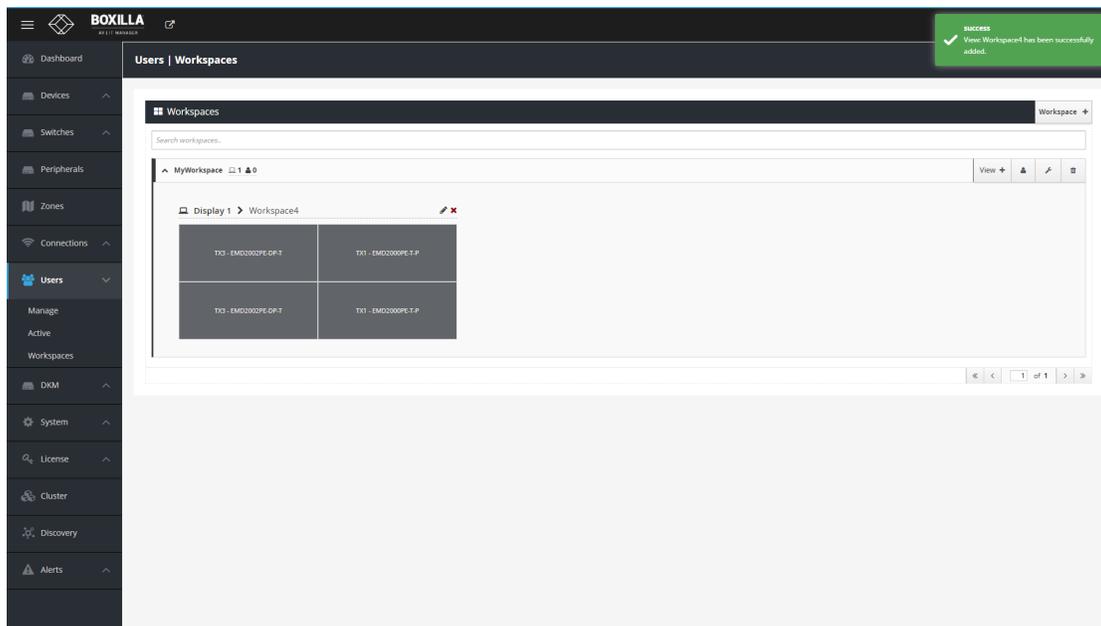


FIGURE B-9: SUCCESS MESSAGE

**NOTE:** If there was an error, such as a missing view name, it will be displayed in the top right corner of the screen.

## B.1.2 ASSIGNING A USER TO A WORKSPACE

After the workspace and views are configured, a user must be assigned so that the user can access the workspace and views when logging into the Emerald® DESKVUE unit.

To assign users to a workspace:

1. Click on the user icon.
2. Assign which users have access to the workspace using the “Manage Workspace Users” screen, as shown in Figure B-10 below:

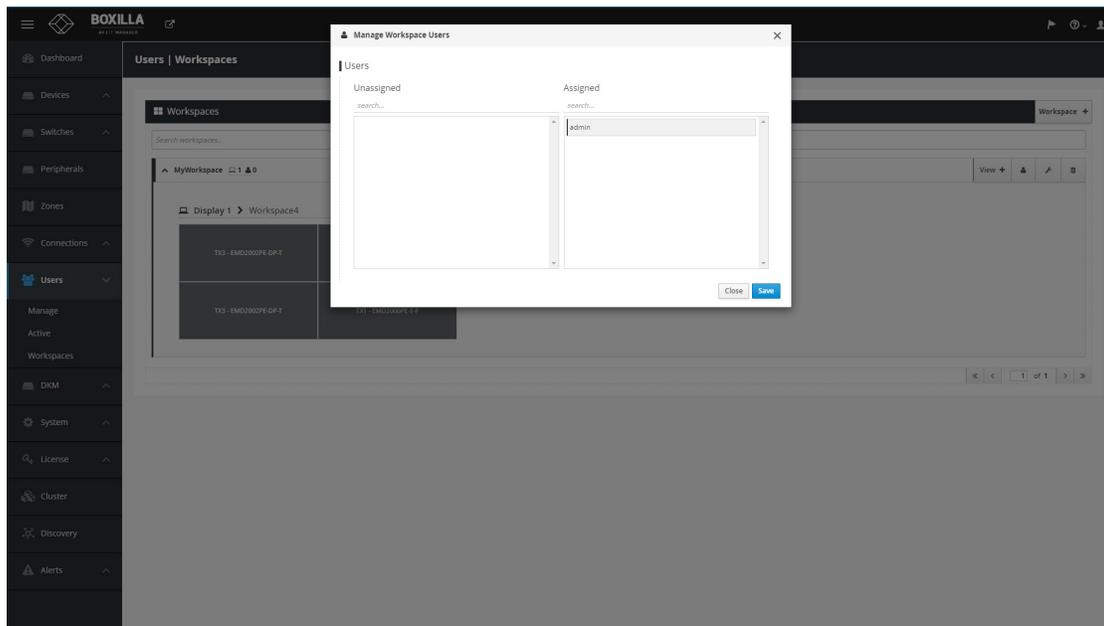


FIGURE B-10: MANAGE WORKSPACE USERS SCREEN

3. Click on the “Save” button to save the assignments.

## APPENDIX B: WORKSPACE CONFIGURATION

### B.1.3 EDITING A WORKSPACE

Once the workspace is created, the Boxilla® administrator can edit it at any time by using the edit (wrench) icon. The “Edit Workspace” screen is shown in Figure B-11 below:

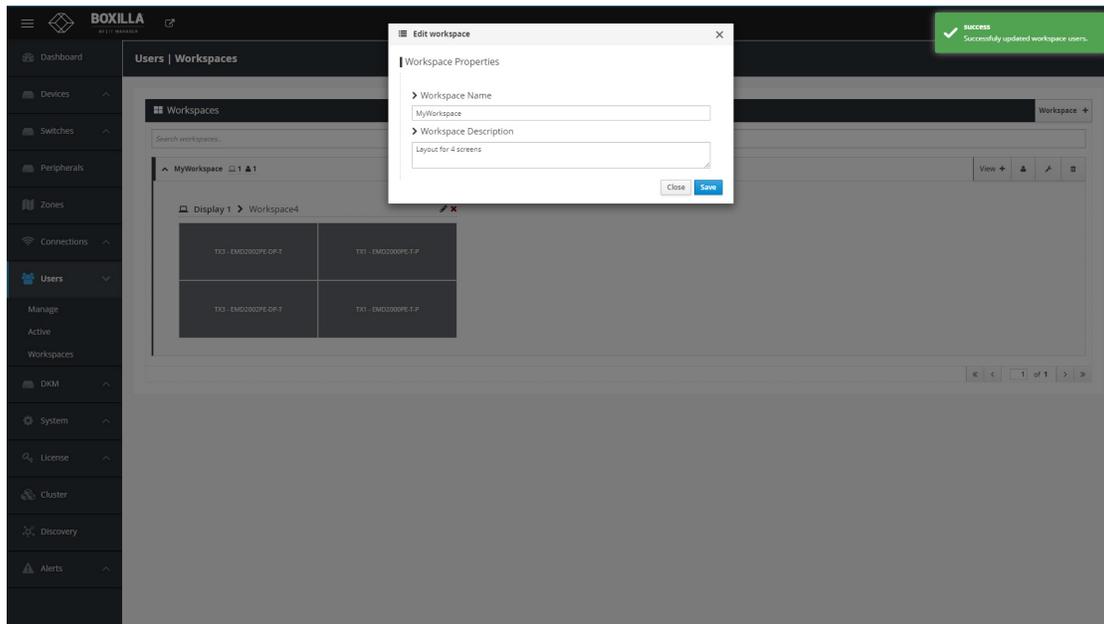


FIGURE B-11: EDIT WORKSPACE SCREEN

## B.1.4 DELETING A WORKSPACE

To delete a workspace, click on the delete workspace icon (trash can), as shown in Figure B-12 below:

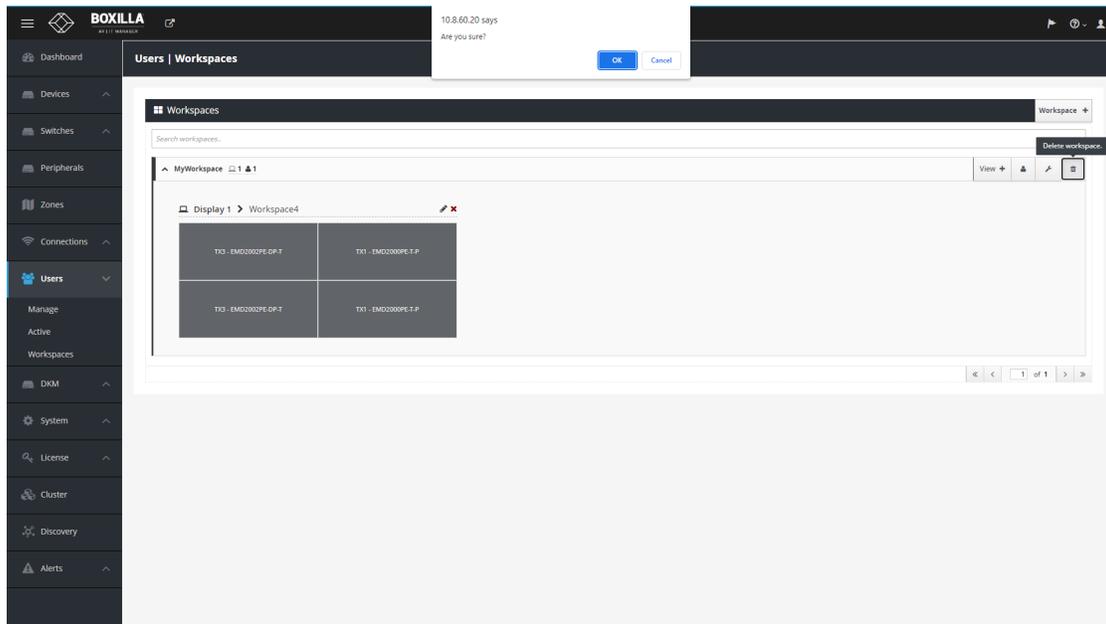


FIGURE B-12: WORKSPACE SHOWING DELETE WORKSPACE

## B.1.5 ADDITIONAL CONFIGURATION OPTIONS

Within the Boxilla® web interface in the “Users” section, additional parameters can be configured for each user. “Manage Workspace Favorites” and “Manage Workspaces” are available through the ellipsis icon next to a user name, and these options can be used to adjust user configurations. Configuration options can be accessed through the resulting drop-down menu shown in Figure B-13 below:

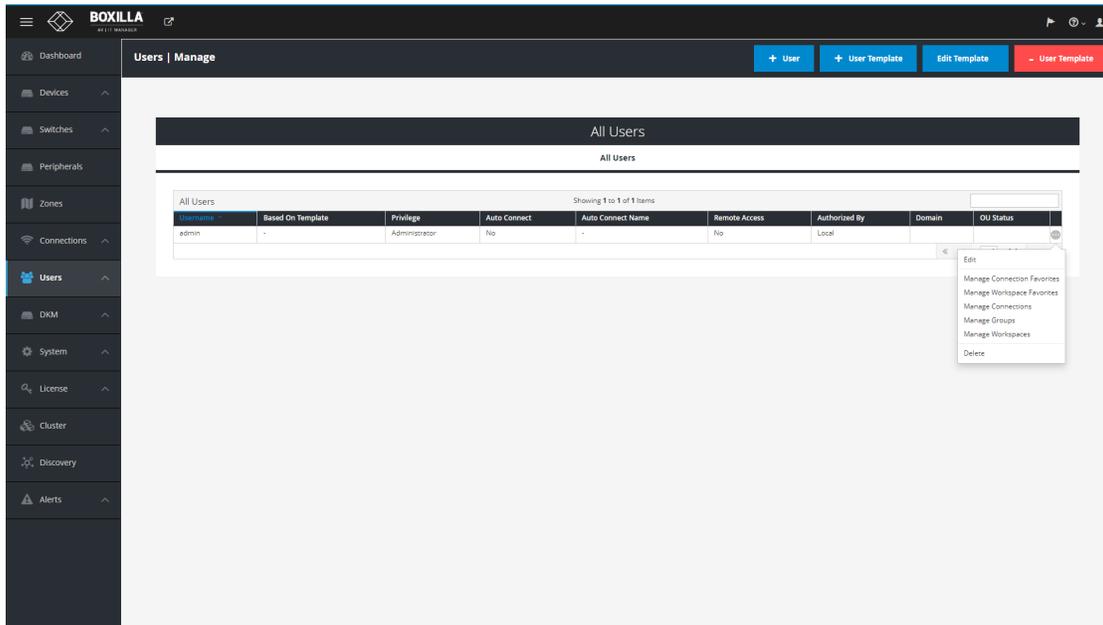


FIGURE B-13: DROP-DOWN MENU LIST

# APPENDIX B: WORKSPACE CONFIGURATION

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To change Workspace favorites, click in the empty text box for a hotkey that needs to be configured and link the workspace to the corresponding hotkey using the screen shown in Figure B-14 below:

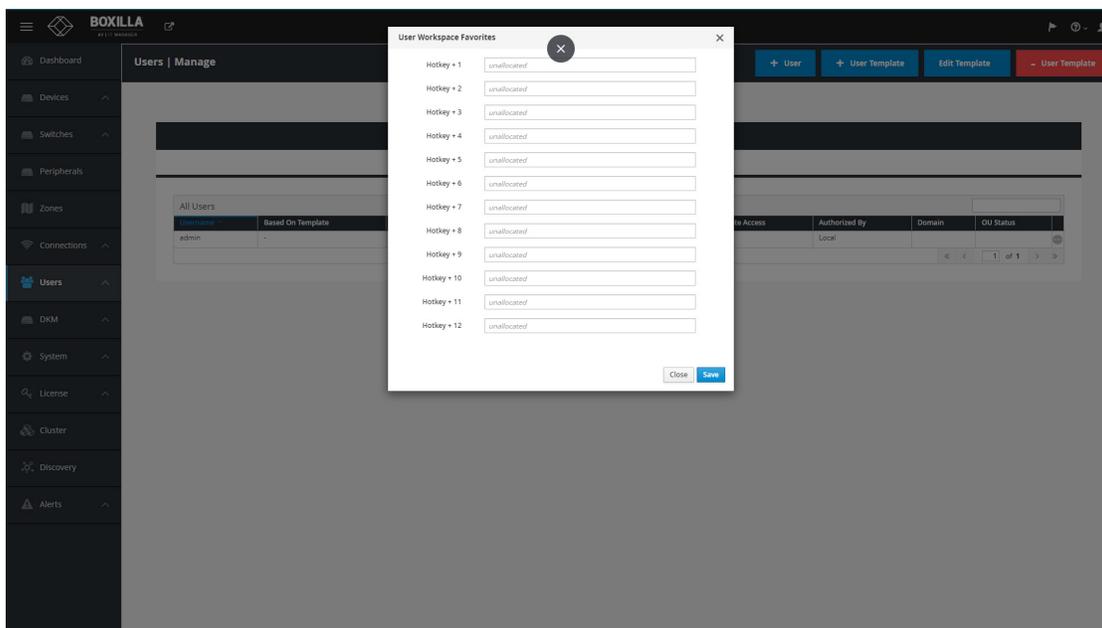


FIGURE B-14: HOTKEY CONFIGURATION SCREEN

Click on the “Save” button when finished.

An example of assigning the first hotkey to a workspace appears in Figure B-15 below:

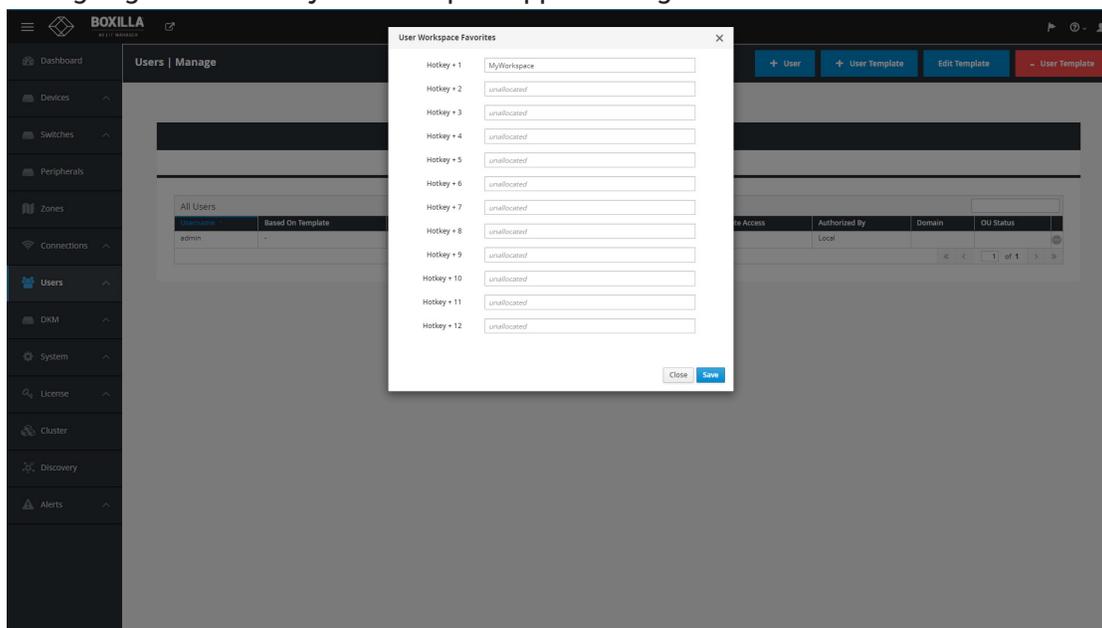


FIGURE B-15: EXAMPLE OF HOTKEY ASSIGNMENT



## APPENDIX B: WORKSPACE CONFIGURATION

### B.1.6. CONFIGURATING USER ACCESS THROUGH BOXILLA

User access to a Workspace can also be configured under the Boxilla® Users Management page by selecting “Manage Workspaces” from the drop-down list. The Boxilla “Manage Workspaces” screen appears in Figure B-16 below:

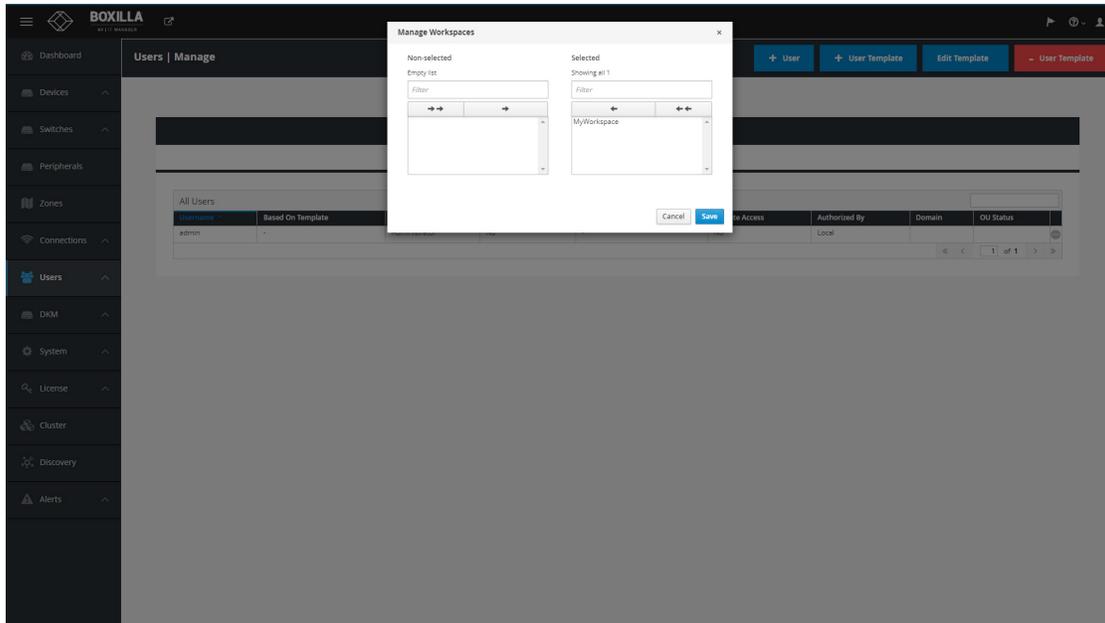


FIGURE B-16: BOXILLA MANAGE WORKSPACES SCREEN

## APPENDIX C: REGULATORY INFORMATION

### C.1 FCC STATEMENT

This equipment has been tested and found to comply with the regulations for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with this Quick Installation Guide, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case, the user will be required to correct the interference at his/her own expense.

### C.2 CE STATEMENT

This is a Class B product in a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

### C.3 TSCA STATEMENT

This product is in compliance with the TSCA Toxic Substances Control Act.

### C.4 ROHS

This product is RoHS compliant.

### C.5 REACH

This product is in compliance with the Reach / SCIP Regulations.

## APPENDIX C: REGULATORY INFORMATION

### C.6 NOM STATEMENT

1. Todas las instrucciones de seguridad y operación deberán ser leídas antes de que el aparato eléctrico sea operado.
2. Las instrucciones de seguridad y operación deberán ser guardadas para referencia futura.
3. Todas las advertencias en el aparato eléctrico y en sus instrucciones de operación deben ser respetadas.
4. Todas las instrucciones de operación y uso deben ser seguidas.
5. El aparato eléctrico no deberá ser usado cerca del agua—por ejemplo, cerca de la tina de baño, lavabo, sótano mojado o cerca de una alberca, etc.
6. El aparato eléctrico debe ser usado únicamente con carritos o pedestales que sean recomendados por el fabricante.
7. El aparato eléctrico debe ser montado a la pared o al techo sólo como sea recomendado por el fabricante.
8. Servicio—El usuario no debe intentar dar servicio al equipo eléctrico más allá a lo descrito en las instrucciones de operación. Todo otro servicio deberá ser referido a personal de servicio calificado.
9. El aparato eléctrico debe ser situado de tal manera que su posición no interfiera su uso. La colocación del aparato eléctrico sobre una cama, sofá, alfombra o superficie similar puede bloquea la ventilación, no se debe colocar en libreros o gabinetes que impidan el flujo de aire por los orificios de ventilación.
10. El equipo eléctrico deber ser situado fuera del alcance de fuentes de calor como radiadores, registros de calor, estufas u otros aparatos (incluyendo amplificadores) que producen calor.
11. El aparato eléctrico deberá ser conectado a una fuente de poder sólo del tipo descrito en el instructivo de operación, o como se indique en el aparato.
12. Precaución debe ser tomada de tal manera que la tierra física y la polarización del equipo no sea eliminada.
13. Los cables de la fuente de poder deben ser guiados de tal manera que no sean pisados ni pellizcados por objetos colocados sobre o contra ellos, poniendo particular atención a los contactos y receptáculos donde salen del aparato.
14. El equipo eléctrico debe ser limpiado únicamente de acuerdo a las recomendaciones del fabricante.
15. En caso de existir, una antena externa deberá ser localizada lejos de las líneas de energía.
16. El cable de corriente deberá ser desconectado del cuando el equipo no sea usado por un largo periodo de tiempo.
17. Cuidado debe ser tomado de tal manera que objetos líquidos no sean derramados sobre la cubierta u orificios de ventilación.
18. Servicio por personal calificado deberá ser provisto cuando:
  - A: El cable de poder o el contacto ha sido dañado; u
  - B: Objetos han caído o líquido ha sido derramado dentro del aparato; o
  - C: El aparato ha sido expuesto a la lluvia; o
  - D: El aparato parece no operar normalmente o muestra un cambio en su desempeño; o
  - E: El aparato ha sido tirado o su cubierta ha sido dañada.

## APPENDIX D: DISCLAIMER/TRADEMARKS

### D.1 DISCLAIMERS

Black Box Corporation shall not be liable for damages of any kind, including, but not limited to, punitive, consequential or cost of cover damages, resulting from any errors in the product information or specifications set forth in this document and Black Box Corporation may revise this document at any time without notice.

Images contained in this document are included solely to illustrate how to use the product. Since the product can be customized and/or undergo periodic updates, images in this manual will be representative of, although not necessary identical to, the ones displayed on your screen.

### D.2 TRADEMARKS USED IN THIS MANUAL

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