



SpotBox4K Ultra

Multiple ONVIF Camera Decoder & Multi viewer

ANT-37500

User Manual

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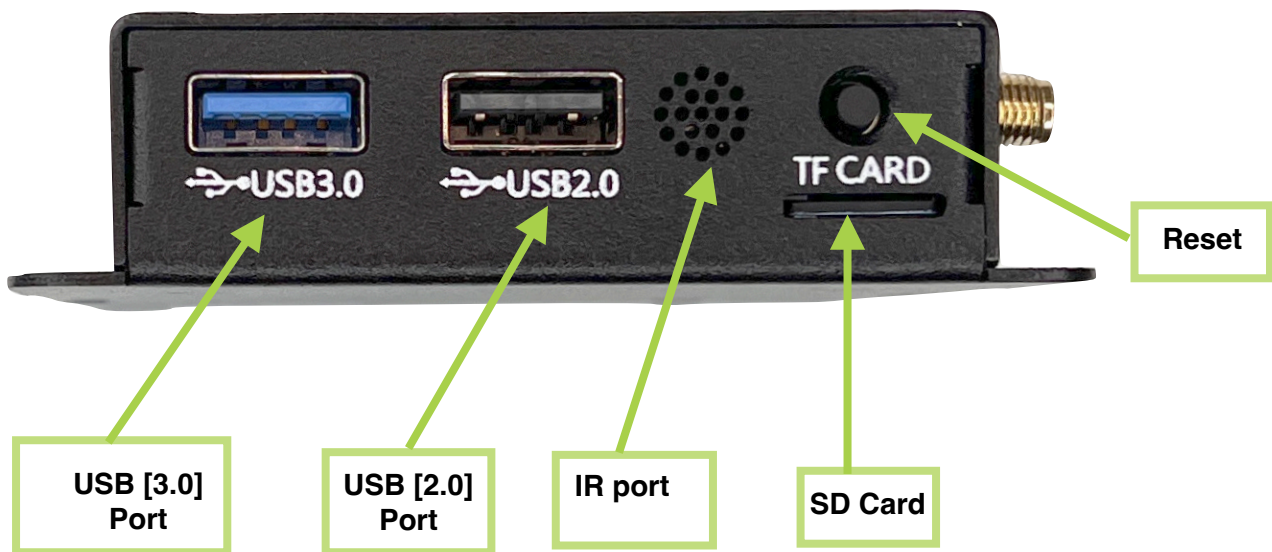
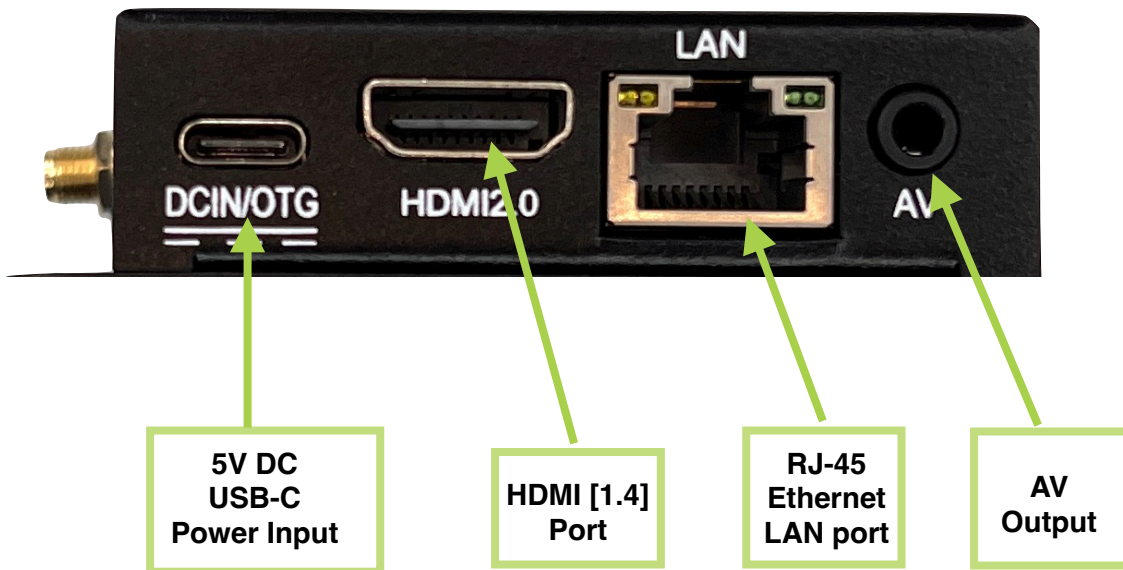
SpotBox- Whats in the Box



- A. USB-A to USB-C cable
- B. Spotbox4K
- C. WiFi Antenna (ANT-37500W only)
- D. 110-240v AC to USB-A 5v DC PSU
- E. UK plug adapter

- F. USA Plug adapter
- G. China Australia Plug adapter.
- H. EU adapter
- I. IR Remote Control

NOT IN BOX: Ethernet cable/ HDMI



WiFi Antenna (ANT-375000W Only) ANT-37500 Disabled



SpotBox- System Connections

4K or 1080P Monitor
Not supplied



HDMI Cable Not supplied



IR Remote
Control
Supplied



12v Power
Adapter plus USB
cable
Supplied



Lan Cable
Not supplied



Network

Logging into the SpotBox user interface

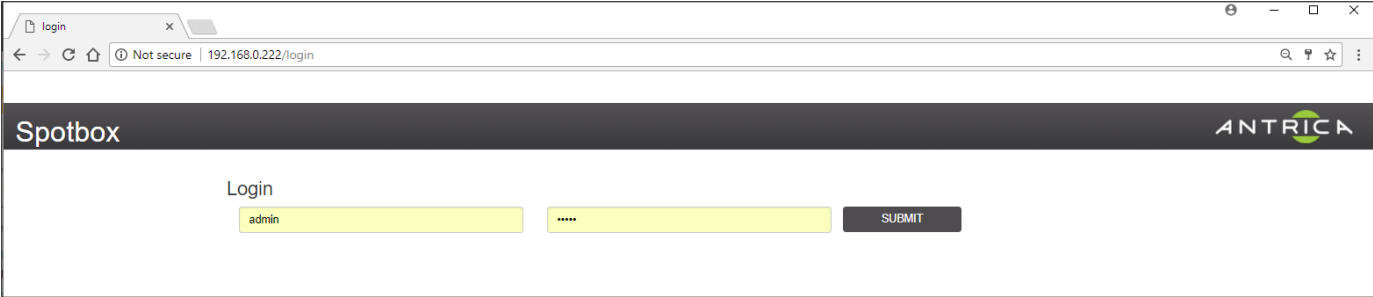
Using a web browser (Google Chrome recommended) browse to the SpotBox (ANT-37500)

Default address <http://192.168.0.222> (NOTE: Port 80 is used)

(The Spotbox will display its current ip address for 10 seconds on boot up. Alternatively disconnecting and re-connecting the ethernet cable will also display the IP address for upto 10 seconds).

Also you can press **MENU** on IR Remote to see the IP address and firmware version also

NOTE: Please delete browser history and clear browser cache in case of issues where you cannot see buttons or difficulty saving changes.



The default login credential for the Spotbox4k :

username - admin password - admin

IMPORTANT: PLEASE ENSURE HDMI IS PLUGGED IN AND CONNECTED TO A MONITOR BEFORE BOOTING. HDMI AUTO DETECTION MAY NOT CORRECTLY DETECT THE MONITOR IN SOME CASES IF NOT PLUGGED IN DURING BOOT UP. FUTURE FIRMWARE UPDATES WILL AIM TO RESOLVE THIS.

Home Page

The **HOME** page displays all the currently registered stream URL's (RTSP and ONVIF) for each of the display options.

GRID MODE

Selecting the pull down menu shows which cameras are registered for the 4 view options: 1x1 2x2 3x3 4x4.

Selecting the options from the pull down will cause the display to change and show the respective option.

VIEW

In Quad mode: View 1 is Top Left, View 2 Top Right View 3 bottom left and so on. In other view modes the View 1 starts top left and moves to top right, then line 2 left to right and so on. In 1 x 1 mode each camera will cycle in full screen mode.

LABEL

This is the name entered into the CAMERAS settings page or DISCOVER and is displayed on screen in 4 selectable positions Top left, top right, bottom left, bottom right. See CAMERAS for setting the label position

URL

Shows if RTSP/HTTP or ONVIF is selected with respective URL info

PROFILE

If ONVIF is used this shows which profile the Spotbox4K has selected (automatically) to display in the chosen mode (1x1 2x2 3x3 4x4)

PERIOD

Shows the time in seconds the camera is displayed for, if multiple cameras are selected for the same position (Camera switching Mode).

Camera Switching Mode allows up to 32 cameras (depending on their resolution) to be displayed sequentially.

DEFAULT GRID MODE

Here you can select which display mode the screen defaults to when it is re-booted / goes into 'boot mode'.

The screenshot shows the Spotbox web interface. At the top, there is a navigation bar with the Spotbox logo on the left and the ANTRICA logo on the right. Below the navigation bar, there is a menu with several options: HOME, CAMERAS, DISCOVER, DISPLAY, NETWORK, SYSTEM, and LOGOUT. The HOME option is highlighted with a red circle. Below the menu, there is a section titled "Grid Mode". This section contains a dropdown menu currently set to "GRID 1x1". Below the dropdown is a table with the following columns: View, Label, Url, Profile, and Period. The table contains four rows of data:

View	Label	Url	Profile	Period
1		onvif://192.168.0.182	mainStream 1920x1080@25	5
1		onvif://192.168.0.183	mainStream 1920x1080@25	5
1		onvif://192.168.0.172	mainStream 1920x1080@25	5
1		onvif://192.168.0.180	mainStream 1920x1080@25	5

Below the table, there is a section titled "Default Grid Mode" with a dropdown menu currently set to "GRID 3x3" and an "APPLY" button below it.

Network

The NETWORK settings page allow for custom IP configurations from DHCP (dynamic host configuration protocol) to setting a static IP address, subnet mask & gateway.

dhcp/static: Select if you wish to use DHCP server allocated IP address or a fixed IP address

Netmask: This determines the range of IP addresses the Spotbox has access to

Address: The fixed IP address of the spot box either via DHCP or manually entered here

Gateway: the router Gateway IP address

DNS: Domain Name Server IP address if used.

NTP: If using an NTP time server this is its IP address. This will help to sync cameras assuming they use NTP as well

Interface: eth0

dhcp: static:

Netmask	255.255.0.0
Address	192.168.0.222
Gateway	192.168.0.1
DNS	192.168.0.1
NTP	192.168.0.1

APPLY

Camera Settings 2

Spotbox

HOME **CAMERAS** DISCOVER DISPLAY NETWORK SYSTEM LOGOUT

Camera configuration

LABEL	URL	T(S)	RESTART	GRID 1x1	GRID 2x2	GRID 3x3	GRID 4x4	POSN	SCALE	LATENCY	TIMEOUT	PROTOCOL	AUDIO
C1 Label	rtsp://192.168.1.209:8554/profile0	0	0	-	2	-	-	1	ZOOM	0	0	default	disable
C2 Label	rtsp://192.168.1.209:8554/profile0	0	0	-	1	-	-	1	ZOOM	0	0	default	disable
C3 Label	rtsp://192.168.1.209:8554/profile0	0	0	-	3	-	-	1	ZOOM	0	0	default	disable
C4 Label	rtsp://192.168.1.209:8554/profile0	0	0	-	4	-	-	1	ZOOM	0	0	default	disable
C5 Label	Uri	0	0	-	-	-	-	1	ZOOM	0	0	default	disable

APPLY

A detailed description of these settings is shown on the next page

SUMMARY

C1; Camera position 1 (1 to 32 positions or camera settings)

LABEL: The name that is displayed on screen (OSD) for each camera/ feed.

URL: The RTSP url to be decoded or ONVIF IP address discovered in the Discovery page

T(s): Time that cameras are displayed in a given position before switching to next camera

RESTART: A time in minutes after which the unit will automatically reconnect to the camera streams

GRID 1x1, 2x2 ,3x3,4x4 : Grid number this camera will be displayed in. In 1 x 1 by selecting '1' you are selecting the camera to cycle through in full screen mode, along with any other cameras selected in this way.

POSITION: This is the Label position (OSD) where 1 is top left 2 is top right 3 bottom left and 4 is bottom right

SCALE: ZOOM SCALE or CROP, options for how a non standard aspect ratio or resolution is displayed.

LATENCY: Internal Buffer setting used with poor quality streams to reorganise RTP packets in correct sequence.

TIMEOUT: Number of seconds the decoder waits before trying a reconnect if a stream temporarily drops out

PROTOCOL: Default or select UDP or TCP for streaming

AUDIO: Enable or Disable (default) Only one audio channel will be heard for each grid view and this will be the camera in the top left of the screen

Camera Settings 1

The Cameras page allows for viewing camera information and choosing display option settings in 1,4,9 and 16 view mode.

All cameras discovered using the DISCOVER feature or manually entered in the DISCOVER page (later in this manual) will be displayed here.

Label this will be displayed as an overlay on the decoded Video on the monitor display. Enter or Edit the name of the camera you wish to display on screen. Cameras discovered using ONVIF will have their IP address added here automatically.

URL: Here you can see the full RTSP or basic ONVIF URL. See examples on next page. Other information like PORT and user name & password are entered in the DISCOVER section but not shown here (ONVIF). You may also edit the URL here.

T(S) (Seconds): This is the switching time if more than one camera occupies a position in one of the grid modes. The camera will display for this time in seconds then switch to the next.

Latency (mSeconds): Adjusts a buffer in mS used by the Decoder to re arrange RTP packets .**When packets arrive in the correct sequence this buffer is not needed so there is no impact on Video Latency.** However if the Decoder see's packets out of sequence (time stamps) it will use this available buffer to store packets of data until it can re-arrange them with correct time stamps. During this packet buffering period latency is increased temporarily until packets start arriving in correct sequence again. Traffic over the Internet can result in this phenomenon of packets arriving out of sequence . We suggest keeping this buffer at default unless you see a camera not being decoded smoothly or dropping out of video. In this case try increasing this buffer (Latency) size.

Timeout: Number of seconds the decoder waits if a stream drops out , before trying to reconnect.

Restart (Mins): In some situations streams may appear to lose frames or freeze for various reasons over time. Usually this is due to differences in clock timing. To overcome this a periodic regular Restart of the stream will solve the issue. Restarting the stream results in a momentary black screen and then the camera is back after 1-2 seconds typically. Pressing the exit button has the same effect as restart, except EXIT restarts all streams. Set a time e.g 60 mins, every 60 mins the stream is restarted automatically

GRID 1x1 : By selecting '1' (and not -), it selects the chosen camera to be displayed in full screen mode and cycles through all cameras selected in this way (up to 4K max resolution).

GRID 2x2 : The position in a 2x2 grid the camera will occupy (maximum 1080P30 streams)
Position 1 is top left Position2 top right etc

GRID 3x3 : The position a camera will occupy in a 3x3 Grid (maximum 720P30) Position 1= top left, position two= top middle, position 3= top right etc

GRID 4x4 :The position a camera will occupy in a 3x3 Grid (maximum 480P30) Position 1= top right , position 2= top 2nd , Position 3= top 3rd , position 4= Top right etc

POSITION: This is the position that the label will occupy on screen 1=Top Left , 2=Top Right 3= Bottom left 4= bottom right. If the camera has burnt in OSD information you may choose an alternative position for the Spotbox OSD.(Label)

NOTE: ONVIF urls that are discovered are only shown as single URLs even if multiple profiles were selected. So for example if you saved two profiles like 1080p30 and 720P30 these are saved internally but shown as a single ONVIF URL.

You can allocate this ONVIF URL to all 4 positions 1x1 2x2 3x3 4x4 . However the Spotbox will allocate the highest resolution profile automatically to the 3 grid modes. In this example 1080P will be in 2x2, 720P in 3x3 but when you view 4x4 it will say on screen NO PROFILE. This is because there were no profiles with low enough resolution selected to be shown in 4x4 mode. (480P max)

Display Settings

DISPLAY settings allow the change of supported screen resolutions and Font sizes for the various display modes (Label). (UHD resolutions will only show when a UHD display is connected in full screen mode).

Font Size:

Select a Font size for the various Grid modes that you wish the LABEL to be displayed. Click Apply when completed. Small Medium or Large. The position of the LABEL is entered in the CAMERAS section

Display Mode:

To select a different LCD resolution manually select the desired resolution and click Apply. (APPLY-bottom of page-not shown here). Resolutions displayed are supported by the connected LCD . 4K resolutions only show when a 4K monitor is used.

Note: changing resolution may cause the Spotbox to reboot.

Spotbox ANTRICA

HOME CAMERAS DISCOVER **DISPLAY** NETWORK SYSTEM LOGOUT

FONT SIZE

FULLSCREEN S ▾

GRID 1x1 S ▾

GRID 2x2 S ▾

GRID 3x3 S ▾

GRID 4x4 S ▾

APPLY

Display Mode

640x480-60

720x576-50

720x480-60

1280x720-50

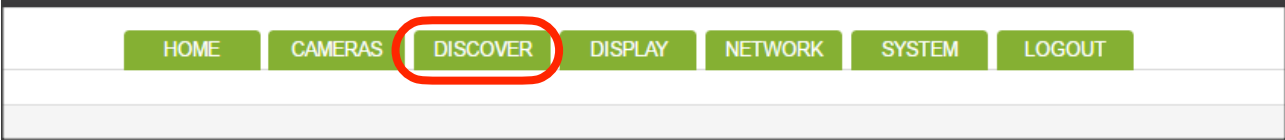
1280x720-60

1920x1080-50

1920x1080-60

APPLY

Discover page 1



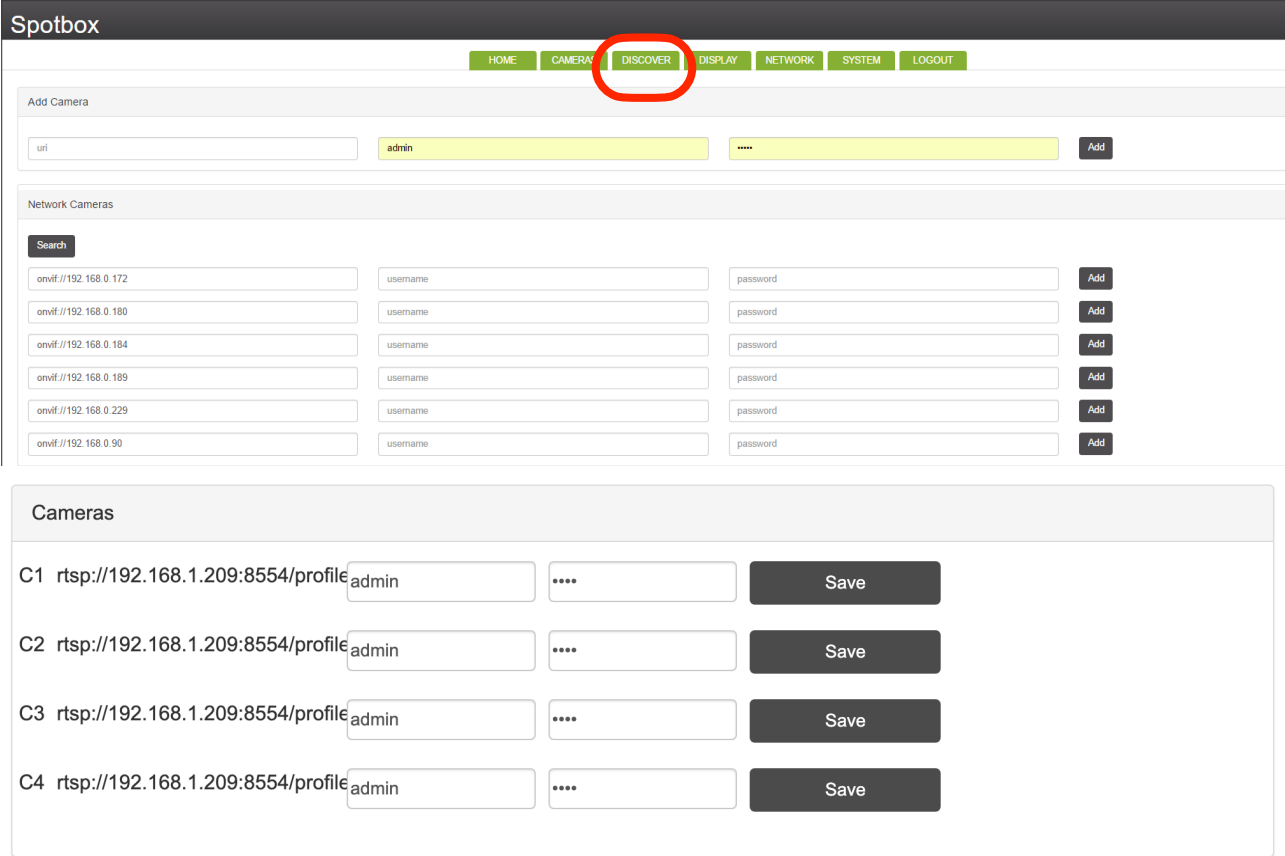
DISCOVER

This section allows you to :

- A: Enter a camera manually such as RTSP HTTP .
- B: Search for cameras using ONVIF Discover
- C: Enter ONVIF information manually

ADD CAMERAS (Manually entering RTSP URLs or ONVIF IP/user/password)
URL: Enter the Full RTSP URL here excluding the user name and password (If Authenticated)
Username: If authenticated add user name here
Password: If authenticated add password here.

NETWORK CAMERAS - SEARCH (FOR ONVIF CAMERAS)
Click the Search button and ONVIF cameras which are discoverable will be displayed as shown here



Discover page 2

Searching and selecting ONVIF cameras

Click on the **SEARCH** button and Spotbox will discover all discoverable ONVIF cameras

Network Cameras

<input type="text" value="onvif://192.168.0.172"/>	<input type="text" value="username"/>	<input type="text" value="password"/>	<input type="button" value="Add"/>
<input type="text" value="onvif://192.168.0.180"/>	<input type="text" value="username"/>	<input type="text" value="password"/>	<input type="button" value="Add"/>
<input type="text" value="onvif://192.168.0.182"/>	<input type="text" value="username"/>	<input type="text" value="password"/>	<input type="button" value="Add"/>
<input type="text" value="onvif://192.168.0.184"/>	<input type="text" value="username"/>	<input type="text" value="password"/>	<input type="button" value="Add"/>
<input type="text" value="onvif://192.168.0.189"/>	<input type="text" value="username"/>	<input type="text" value="password"/>	<input type="button" value="Add"/>
<input type="text" value="onvif://192.168.0.229"/>	<input type="text" value="username"/>	<input type="text" value="password"/>	<input type="button" value="Add"/>
<input type="text" value="onvif://192.168.0.90"/>	<input type="text" value="username"/>	<input type="text" value="password"/>	<input type="button" value="Add"/>

Selecting an ONVIF camera

Choose a camera to add and enter username and password and click **ADD**

Network Cameras

<input type="text" value="onvif://192.168.0.172"/>	<input type="text" value="username"/>	<input type="text" value="password"/>	<input type="button" value="Add"/>
<input type="text" value="onvif://192.168.0.180"/>	<input type="text" value="username"/>	<input type="text" value="password"/>	<input type="button" value="Add"/>
<input type="text" value="onvif://192.168.0.184"/>	<input type="text" value="username"/>	<input type="text" value="password"/>	<input type="button" value="Add"/>
<input type="text" value="onvif://192.168.0.189"/>	<input type="text" value="username"/>	<input type="text" value="password"/>	<input type="button" value="Add"/>
<input type="text" value="onvif://192.168.0.229"/>	<input type="text" value="username"/>	<input type="text" value="password"/>	<input type="button" value="Add"/>
<input type="text" value="onvif://192.168.0.90"/>	<input type="text" value="username"/>	<input type="text" value="password"/>	<input type="button" value="Add"/>

Cameras

C1	onvif://192.168.0.182	<input type="text" value="admin"/>	<input type="text" value="*****"/>	<input type="button" value="Query"/>
----	-----------------------	------------------------------------	------------------------------------	--------------------------------------

Cameras

At the bottom of the page the camera is shown in this example with position C1Click Query to find the ONVIF profiles for this camera

Cameras

C1	onvif://192.168.0.182	<input type="text" value="admin"/>	<input type="text" value="*****"/>	<input type="button" value="Save"/>
	mainStream	H264	1280x720@25	<input checked="" type="checkbox"/>
	subStream	H264	640x360@20	<input checked="" type="checkbox"/>

SAVE

The camera profiles are ticked by default . If you click save this camera is saved in Position C1 and BOTH profiles are saved internally in Spotbox.

Discover page 3

ONVIF PROFILES : How SpotBox4K deals with saving and using ONVIF profiles (Streams)

Spotbox4K saves different profiles and displays them in 1x1, 2x2 3x3 4x4 mode depending on the resolution of the profile.

Spotbox has these maximum display settings:

Full Screen: 3840x2160 at 30fps

2x2 : 1920x180 at 30fps

3x3: 1280 x720 at 30fps

4x4: 640 x480 at 30fps

Example1: Camera C1 with Profile1= 3840 x2160 and Profile 2=1080P

In this example you will only see profile 1 in Full screen mode and Profile 2 in 2x2 mode. In 3x3 and 4x4 mode Spotbox will display NO PROFILE in these view modes as the resolution of these two profiles is too high

Example2: Camera C2 with Profile 1=1080P and Profile 2= 480P


In this example Profile 1 will show in 2x2 and full screen mode and profile 2 will be used in both 3x3 and 4x4 mode

n.b if you wish to view multiple cameras in full 4K max resolution you select them using the 1x1 grid mode and they will cycle through in full screen mode at full resolution.

System

System: Changing login password - Type a new Password then repeat and click UPDATE. This will set a new password for admin. For the time being user name is always admin and cannot be changed.

Spotbox



[HOME](#) [CAMERAS](#) [DISCOVER](#) [DISPLAY](#) [NETWORK](#) [SYSTEM](#) [LOGOUT](#)

Update password

User
admin

Password

Password (repeat)

UPDATE

System update

No file chosen

LOAD UPDATE

System config

No file chosen

LOAD CONFIG **SAVE CONFIG**

System restart

REBOOT **FACTORY RESET**

HTTP

Enable https

UPDATE

SSL

ssl key
 No file chosen

ssl certificate
 No file chosen

LOAD SSL **RESET SSL**

System version

spotbox 3.0.5 - spotbox rk3566-pc - Tue 15 Feb 11:02:09 GMT 2022 - Fri Feb 25 11:09:03 2022

System Update: Upgrading/downgrading firmware - Select choose file and browse to the update file (e.g spotbox-update_nano2_release.swu) confirm selection of the file and select LOAD UPDATE.

Do not remove power, restart or reboot until the firmware upgrade process has fully completed. Doing so may corrupt the firmware. You will see an Antrica logo page with the words UPDATE COMPLETE-REBOOT SYSTEM.

If this splash screen does not appear do the following:

Wait 5 minutes and reboot system Splash screen with Logo should appear ,followed by a default (quad) display

If No screen display appears reboot the box using front panel button or unplug USB.

Press and HOLD the RED rectangular button on remote....keep pressing and reboot ...keep pressing.

You will see a factory reset screen...follow instructions or wait to see the quad screen.

SystemConfig: Once you load **3.0.X** you will be able to save all settings using the save config file. To restore a box to these settings Load a config file.

System Restart: restarts all streams and clears down and refreshes display . The Return symbol on remote will do the same

Reboot - Restarts the quad decoder keeping previous settings the same, complete Reboot - see 'Default Grid Mode' under display tab to set which view you wish it to display upon reboot.

Factory Reset - Defaults the quad decoder to factory default settings.

Enable HTTPS: Allows Https browsing.

SSL: Allows SSL Certificate and Key to be loaded and reset

System Version: This is the current Firmware and build date. Please note there may be various versions with same FW Version but build dates may vary . **15th June 2017** is a RELEASE version, previous 1.0.6 are beta versions

Remote Control Functions

Turn **ON/OFF** the box. Press this quickly and box will go into standby mode and switches off the display HDMI output. Press again quickly to restart the box.

A **LONG** press will switch the box completely **OFF**. To restart the box press the button on the box itself

MENU button displays ethernet IP address and Firmware Version

Left Right Up Down: After pressing **MENU** use these buttons to manoeuvre the on screen display.

SELECT/ OK: Press **OK** to select an item on the On Screen Display

RESTART: This button reconnects the box to the camera streams. This may be useful in case of a frozen camera display.

HOME When viewing the On Screen Display pressing home will return the cursor to the top of the screen



FAQ and Common Issues

Web Browser Not Responding

Refresh the browser and empty Cache, this will normally overcome problems especially after doing a firmware upgrade. The browser remembers old pages which may not work with new Firmware.

Some browsers may not respond as intended especially older browsers.

We suggest Google Chrome as a default browser

Camera seems not to be connecting

Especially on first boot up some cameras may not respond in time to be displayed. Pressing the **EXIT** key on the remote will cause the Spotbox to request all streams again and this usually fixes the issue.

Splash screen shows FAILURE TO BOOT

On rare occasions you may see this splash screen , a physical reboot will fix this and allow Spotbox to boot normally.

Forgot my IP address

Rebooting will cause the Spotbox to display its Firmware revision and IP address for about 20 seconds. Alternatively press **MENU** and this will cause Spotbox to display the same information

Factory Reset

There are two ways to factory reset: First is via the SYSTEM page in the browser. If for some reason you cannot connect to the unit you may use the IR remote control. Unplug power from Spotbox, press the rectangular RED button and hold this whilst powering up Spotbox. Do not release the red button until you see the splash screen saying **FACTORY RESET** .

<http://192.168.0.222> will be the Factory IP address

Firmware Versions

Firmware has a basic version like 1.0.5 or 1.0.6

However there may be various Beta releases of this firmware which are identified by a release date e.g **FW1.0.6 release 15th June 2017**

Please always check with support@antrica.com which is the latest release

This manual is written for a 18th October 2017 release version of 1.0.8

Please also refer to www.spotbox4k.com where we will post relevant updates / FAQ's and tuition videos.

RTSP EXAMPLES

Axis Cameras:

<rtsp://192.168.0.100:554/axis-media/media.amp> (non authenticated primary stream)

<rtsp://root:1234@192.168.0.100:554/axis-media/media.amp> (authenticated admin 1234)

<rtsp://192.168.0.100:554/axis-media/media.amp?videocodec=h264&resolution=640x480> (e.g 640x480 stream)

Hikvision Cameras

<rtsp://192.168.0.100:554> (non authenticated primary stream)

<rtsp://admin:1234@192.168.0.100:554> (authenticated primary stream)

<rtsp://192.168.0.100:554/Streaming/Channels/2> (alternative for non authenticated secondary stream replace 2 with 3 or 4 for third or fourth stream iv set up or available.)

Bosch Cameras

<rtsp://192.168.0.100:554> (non authenticated)

<rtsp://service:1234@192.168.0.100:554> (authenticated)

<rtsp://192.168.0.100:554/video?inst=2> (non authenticated secondary stream)

Dahua Cameras

<rtsp://192.168.0.100:554/cam/realmonitor?channel=1&subtype=1> (where channel 1 is usually 1 and then stream is 1,2 or 3 etc for primary secondary etc)

<rtsp://admin:1234@192.168.0.100:554/cam/realmonitor?channel=1&subtype=1> (authenticated)

Other popular camera URLs can be found here:

https://www.soleratec.com/support/rtsp/rtsp_listing

PLEASE NOTE: If the stream URL will not display correctly in Spotbox4k but in VLC player it works please check the VLC codec statistics . If the resolution is higher than those below it will not display correctly in Spotbox4k

full screen : 3840 x2160 P30

2x2 screen : 1920 x 1080 P30

3x3 screen : 1280 x720 P30

4x4 screen : 640 x480 P30

Contact support@antrica.com

or visit

www.spotbox4k.com / www.antrica.com

UK +44 1628 626098 Option 3

HTTP API Document Available on Request