



SpotBox4K

32 ONVIF Camera Decoder & Multi viewer

User Manual
Firmware 1.0.6 dated
15th June 2017

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SpotBox- Whats in the Box

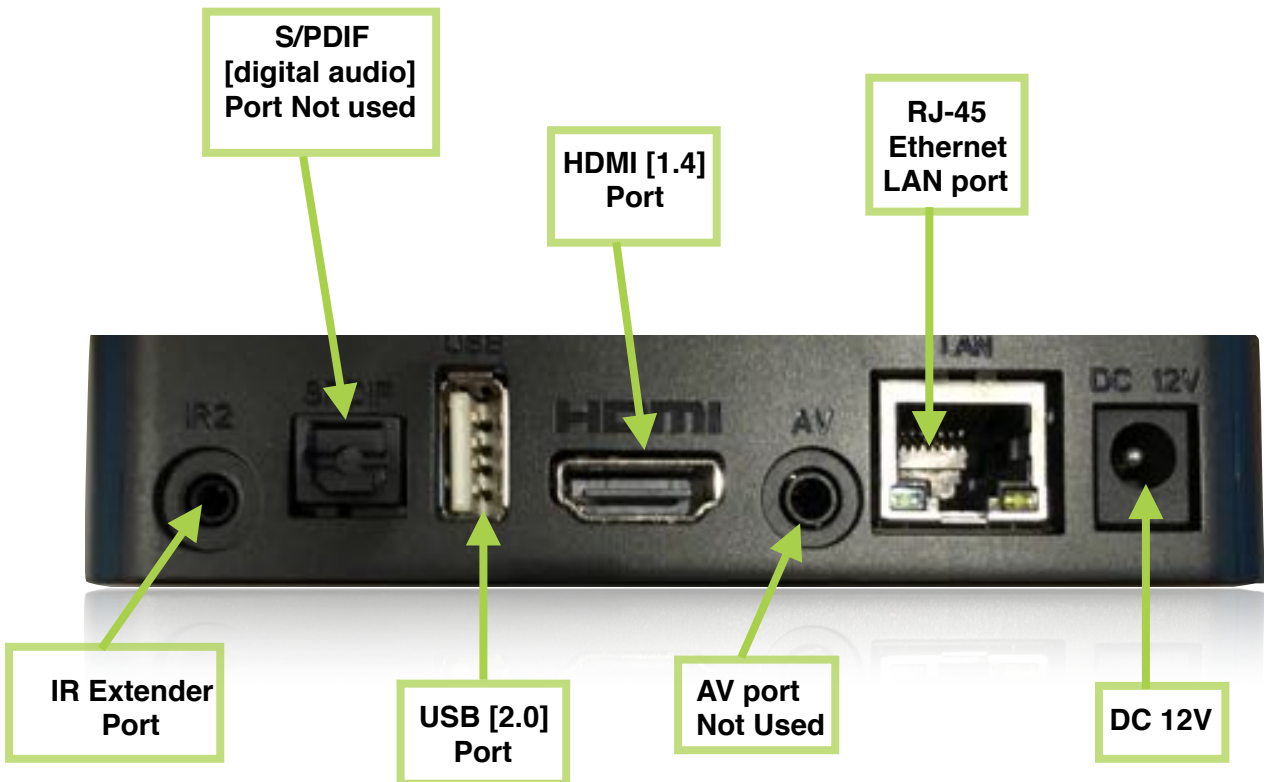


- A. HDMI Cable 1m- Connect to Monitor
- B. Spotbox4K
- C. Remote Control
- D. AAA Batteries for Remote
- E. 12v Power Converter 110-240 AC

- F. UK Plug adapter
- G. Euro Plug adapter
- H. China Australia Plug adapter
- I. USA plug adapter
- J. IR extender cable for Remote

NOT IN BOX: Ethernet cable

SpotBox Port Interface



SpotBox- System Connections

4K or 1080P Monitor
Not supplied



12v Power Adapter
Supplied



HDMI Cable supplied



IR Extender Cable
supplied



Lan Cable
Not supplied



Network



Reserved for future use

Logging into the SpotBox user interface

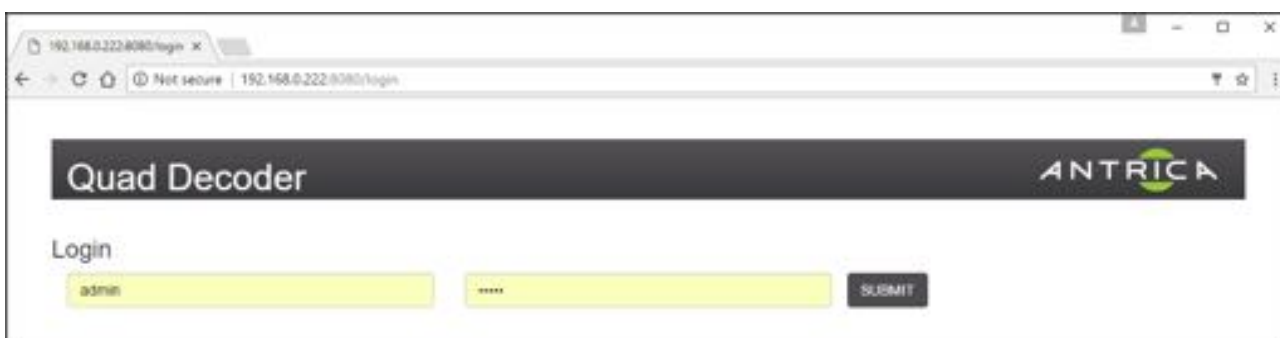
Using a web browser (Google Chrome recommended) browse to the SpotBox (ANT-37000)

Default address <http://192.168.0.222> (NOTE: Port 80 is now used instead of 8080)

(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

Home Page

The **HOME** page displays all the currently registered stream URL's (RTSP and ONVIF) for each of the display options. Selecting the pull down menu shows which cameras are registered for the 4 view options: 2x2 3x3 4x4 and Full screen mode .

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.

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

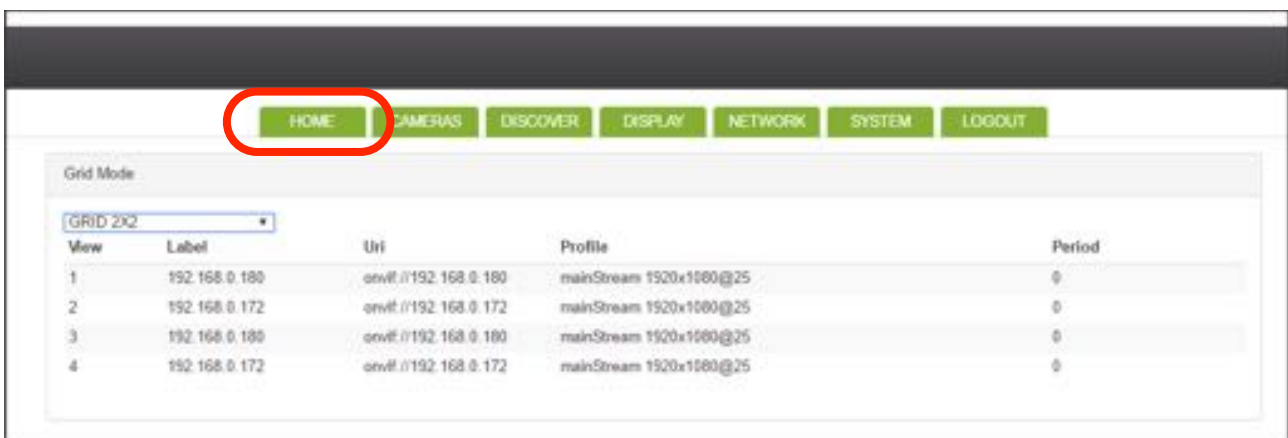
PROFILE

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

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



The screenshot shows the Home Page interface. At the top, there is a navigation menu with buttons for HOME, CAMERAS, DISCOVER, DISPLAY, NETWORK, SYSTEM, and LOGOUT. The HOME button is highlighted with a red circle. Below the navigation menu, there is a section titled "Grid Mode" with a dropdown menu set to "GRID 2x2". Below this, there is a table with the following columns: View, Label, Uri, Profile, and Period.

View	Label	Uri	Profile	Period
1	192.168.0.180	onvif://192.168.0.180	mainStream 1920x1080@25	0
2	192.168.0.172	onvif://192.168.0.172	mainStream 1920x1080@25	0
3	192.168.0.180	onvif://192.168.0.180	mainStream 1920x1080@25	0
4	192.168.0.172	onvif://192.168.0.172	mainStream 1920x1080@25	0

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

	LABEL	URL	T(s)	LATENCY	TIMEOUT	RESTART	GRID 2x2	GRID 3x3	GRID 4x4	POSITION
C1	192.168.0.180	rtsp://192.168.0.180:554	0	200	0	0	- *	- *	1 *	1 *
C2	192.168.0.229	onvif://192.168.0.229	0	200	0	0	- *	- *	2 *	1 *
C3	192.168.0.182	onvif://192.168.0.182	0	200	0	0	- *	- *	3 *	1 *
C4	192.168.0.184	rtsp://192.168.0.184:554	0	200	0	60	4 *	4 *	- *	1 *
C5	192.168.0.189	rtsp://user:1234@192.168.0.189:554/vic	0	200	0	60	3 *	3 *	4 *	1 *
C6	192.168.0.229	rtsp://192.168.0.180:554	0	120K	0	60	2 *	2 *	- *	1 *
C7	183	rtsp://192.168.0.183:554	0	200	0	0	- *	- *	- *	1 *
C8	Ads	rtsp://root:1234@192.168.0.92:554/axis	0	500K	0	60	1 *	1 *	- *	1 *
C9	USA	rtsp://74.106.249.39:554/rtsp_tunnel	0	110K	0	0	- *	- *	- *	1 *
C10	LR001	URL	0	300	0	0	- *	- *	- *	1 *

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

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

RESTART: Number of minutes the decoder waits before restarting a stream automatically.

GRID 2x2 ,3x3,4x4 : Grid number this camera will be displayed in.

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 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 3 positions 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.

The screenshot shows a web interface with a top navigation bar containing buttons for HOME, CAMERAS, DISCOVER, DISPLAY (circled in red), NETWORK, SYSTEM, and LOGOUT. Below the navigation bar, there are two main sections: 'FONT SIZE' and 'Display Mode'. The 'FONT SIZE' section contains four dropdown menus for FULLSCREEN, GRID_2X2, GRID_3X3, and GRID_4X4, all set to 'S'. An 'APPLY' button is located below these dropdowns. The 'Display Mode' section lists several resolutions with radio buttons: 720x576-50, 720x480-60, 1280x720-50, 1280x720-60, 1920x1080-30, 1920x1080-50 (selected), 1920x1080-60, 3840x2160-25, and 3840x2160-30. An 'APPLY' button is at the bottom of this section.

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)

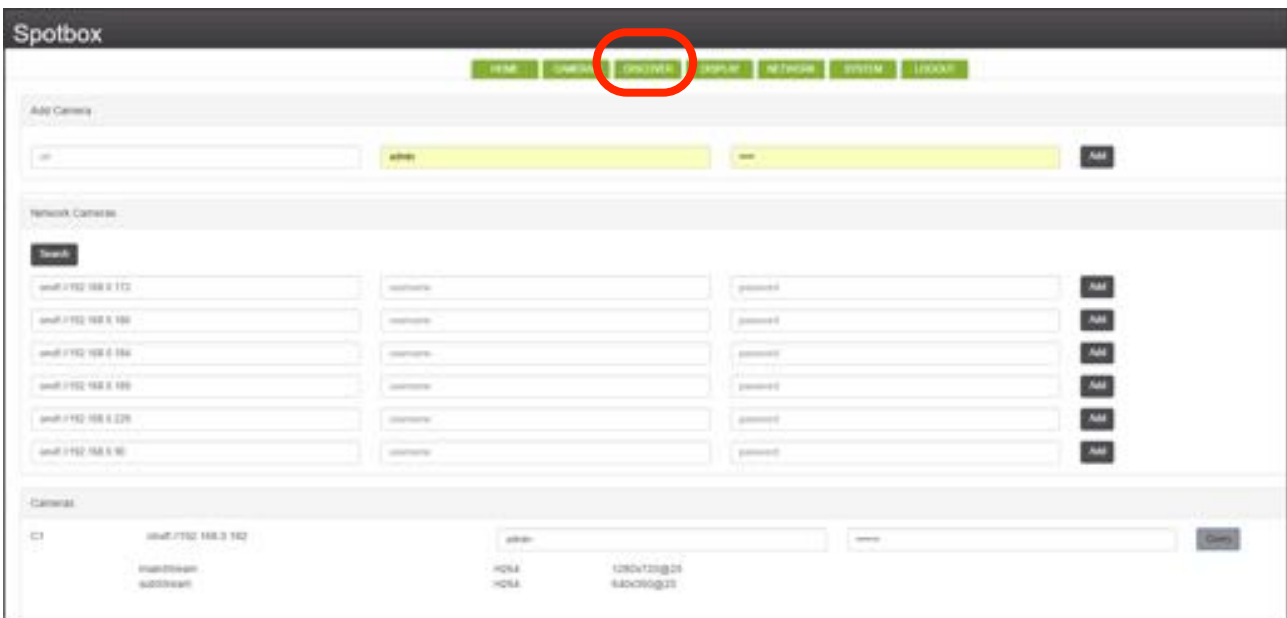
URL: Enter the Full RTSP URL here excluding the user name and password (If Authenticated)

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



ONVIF URL	Username	Password	Action
onvif://192.168.0.172	admin	password	Add
onvif://192.168.0.180	admin	password	Add
onvif://192.168.0.182	admin	password	Add
onvif://192.168.0.184	admin	password	Add
onvif://192.168.0.188	admin	password	Add
onvif://192.168.0.229	admin	password	Add
onvif://192.168.0.36	admin	password	Add

Selecting an ONVIF camera

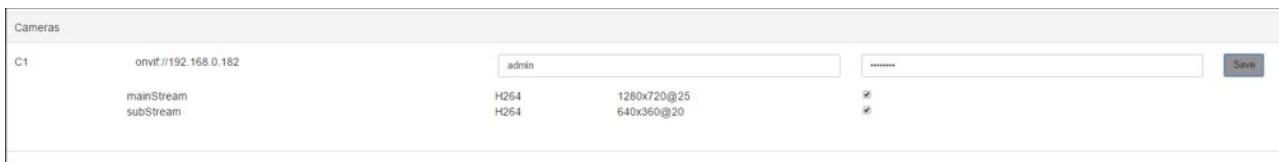
Choose a camera to add and enter username and password and click **ADD**



Camera	ONVIF URL	Username	Password	Action
C1	onvif://192.168.0.182	admin	*****	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



Camera	ONVIF URL	Username	Password	mainStream	subStream	Action
C1	onvif://192.168.0.182	admin	*****	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Save

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 1, 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 Profile 1= 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

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.

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 quad display on screen.

If No screen display appears deposed spot box.

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 **1.0.6** you will be able to save all settings using the save config file. To restore a box to these settings Load a config file.

Restart: restarts all streams and clears down and refreshes display . EXIT on remote will do the same

Reboot - Recycles the quad decoder keeping previous settings the same, complete Reboot .

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

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

The screenshot shows the Antrica System configuration web interface. At the top, there is a navigation menu with buttons for HOME, CAMERAS, DISCOVER, DISPLAY, NETWORK, SYSTEM, and LOGOUT. The 'SYSTEM' button is circled in red. Below the menu, there are several sections:

- Update password:** A form with fields for 'User' (pre-filled with 'admin'), 'Password', and 'Password (repeat)', and an 'UPDATE' button.
- System update:** A form with a file selection field and a 'Browse...' button, and a 'LOAD UPDATE' button.
- System config:** A form with a file selection field and a 'Browse...' button, and 'LOAD CONFIG' and 'SAVE CONFIG' buttons.
- System restart:** A form with 'REBOOT' and 'FACTORY RESET' buttons.
- System version:** A form displaying the current system version: 'spotbox 1.0.6 - nano2 1.0 - Thu Jan 15 11:45:54 UTC 2017'. This section is circled in red.

Remote Control Functions

Turn **ON/OFF** the box
Press and Hold for 2
seconds to power OFF.

To turn ON Press and
hold for 3-4 seconds
then release...wait 10
seconds for the
Antrica screen to
appear.

MENU button displays
ethernet IP address
and Firmware Version

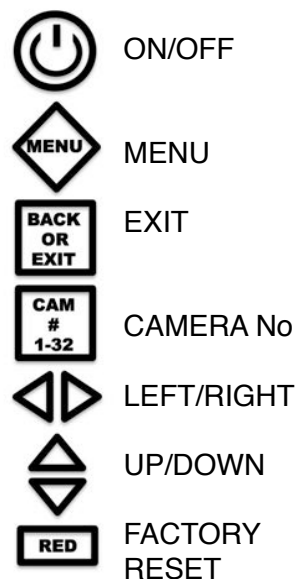
Up Down buttons
change views from
2x2,3x3 to 4x4 and
back

EXIT: Press to refresh
the screen and restart
all the streams . Use if
a camera is not
displaying correctly

LEFT RIGHT buttons
in **FULL SCREEN**
mode allow you to
switch from camera to
camera

VIEW CAMERA NUMBER:
Select the camera number
1-32. eg for 12= 1 then 2

Factory Default: Press
and hold this button
whilst powering up
the Spotbox4k until
you see the screen
Factory Default.
Reboot



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 15th June 2017 release version of 1.0.6

SUPPORT

Contact support@antrica.com
or visit
www.spotbox4k.com / www.antrica.com

UK +44 1628 626098 Option 3

HTTP API Document Available on Request