



device manual

Firmware version v2017.08.25

We take every effort to provide new features and fix issues reported by our crowdbeamer community.

We strongly suggest therefore that you check regularly for new firmware and update your device to the latest version.

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Visit www.crowdbeamer.tech for the latest technical information
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All crowdbeamer products, product specifications and data are subject to change without notice to further improve function, design quality or otherwise. All crowdbeamer versions are compatible with the free crowdbeamer app.

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1 What's New



Note: The software and firmware versions installed on your crowdbeamer device can be seen in the Status page of the [configuration web pages](#) (page 25).

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Fixes:

- Improved battery status notification when device is turned off.
- New device configuration options are merged properly with existing ones during firmware upgrades.
- Better ESD resistance against occasional OLED freezes and rolling screen effect.
- The automatic detection of the RGB colorspace works correctly.
- The "Bye" message no longer gets stuck on the OLED after powering the device off.

Improvements:

- On the Web Interface:
 - Output resolution options are sorted in numerical order.
 - Mouseover help tooltips.
 - Factory reset button (on the [System configuration page](#) (page 29)) to restore the device to the initial state.
 - Display of the device's current temperature.
 - Display of the built in fan's current speed.
- The device's IP address is shown on the OLED.
- The registered state of the device is retained after a [reset](#) (page 12).
- Preferred input resolution is now 1920x1080p30.
- Automatic frame rate adjustment to ensure smoother playback.
- Use RGB888 on the output whenever possible.
- The fan now stops every time the device enters sleep mode.

New features:

- System can be restored from the [Recovery Mode](#) (page 12) in case of failure.
- Programmable device button
 - When the button's function is set to "Generate new WiFi key" the WPA2 protection is turned on automatically.
 - When the button's function is set to "Generate new WiFi key" the user is warned that reconnection with the newly generated key will be necessary.

Firmware version v2017.06.27

New user operations:

- To [select a "sleep" mode](#) (page 30).
- To set an [Autostart option](#) (page 31) which is useful if the device is not in an easily accessible position.
- To select the operation performed when the [power button on the device is pressed](#) (page 30).
- To [download the EDID](#) (page 30) that can be used by support staff.
- To [fix color space problems](#) (page 27) when using Apple devices through some splitters.

Improvements:

- The current client limit is shown on the OLED display.

Firmware version v2017.05.25

New user operations:

- To [hide the WiFi password](#) (page 30) on the crowdbeamer display.
- To [select the input color space](#) (page 27) to be used.
- To [select the output resolution](#) (page 28).
- To [upload new bypass images](#) (page 28) and choose one of the last five.
- To [select specific WiFi channels](#) (page 29).

Improvements:

- Information on the Status page is updated faster.
- Invalid HDMI resolutions are detected and indicated by UNSUP on the display.
- The device responds faster to input and output changes.
- The device no longer enters or leaves blocked mode randomly during ESD events.
- The Automatic Update button is only enabled when there is an Ethernet connection.
- The maximum output resolution is set to 1920x1080 @ 60 Hz even when using displays with a higher native resolution.
- Changing the WiFi client limit by registering no longer requires a restart.
- No firmware update will take place if the current version is the latest one.

2 How crowdbeamer works

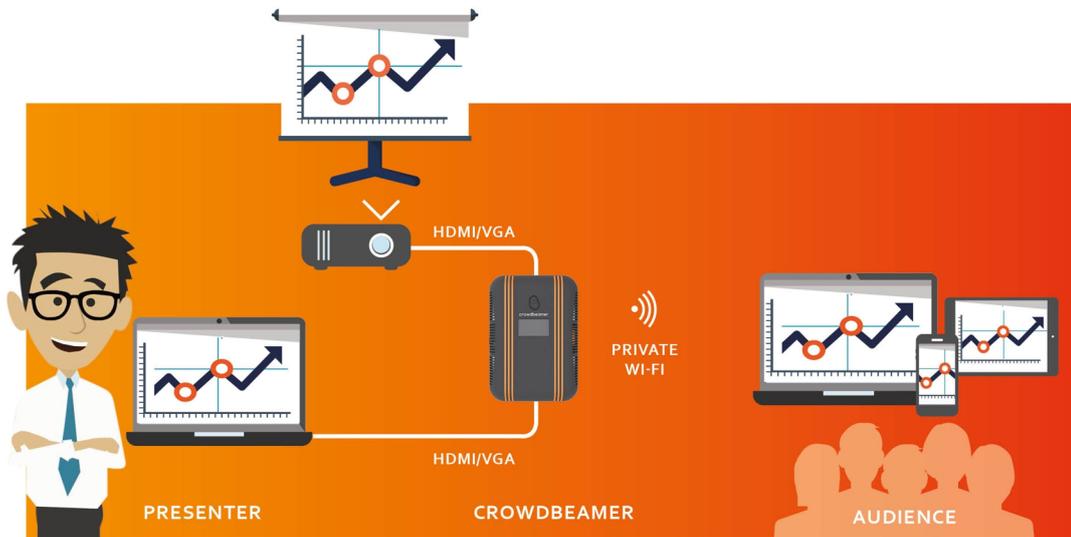


Figure 1: How crowdbeamer works

The crowdbeamer device generates a private WiFi network. Through this network, whatever video signal (for instance from a PC or tablet) is provided to the HDMI or VGA input of crowdbeamer, is transmitted to the audience's devices (laptops, tablets or smart phones).

In addition, crowdbeamer can also be connected to a projector or an external screen for those members of the audience who are not able to connect to the private WiFi.

Presenter

The presenter needs to connect his or her computer to crowdbeamer using either an HDMI or VGA cable. Other video sources with a HDMI (non-HDCP content) or VGA are also supported.

See also:

[The crowdbeamer device](#) (page 8).

[Crowdbeamer for the presenter](#) (page 17).

Once this is done, whatever is shown on the presenter's screen will be transmitted to the personal devices of members of the audience and to the screen. It is however possible to hide the contents of the screen temporarily. For more details see [Using crowdbeamer for a presentation](#) (page 23).

Note: crowdbeamer only shares the screen of the presenter's computer and does not represent a security issue for any of the attached video sources, as these are only connected through either an HDMI or VGA cable.

Audience

Members of the audience need to install the crowdbeamer app onto their device (laptop, tablet or smartphone). Once this is done, they can connect to the private WiFi network and see the screen of the presenter's computer.

Note: The audience sees just what is on the screen. The presentation is not downloaded onto their devices.

During the presentation the audience can:

- capture interesting screen shots,
- annotate them with text,
- draw lines,
- highlight text,
- import pictures from your own computer,
- export the screen shots individually,
- export the complete collection of screen shots as a single pdf file, with or without annotations.



Note: there is also a viewer-only app available, which just mirrors the screen of the presenter, without providing any additional features for the participant.

3 The crowdbeamer device

The crowdbeamer device allows a presenter to share the screen on their device (laptop, tablet or smart phone) with similar devices belonging to an audience.



This section contains:

- [Technical details](#) (page 8) of the crowdbeamer device.
- [The conditions in which you can use it](#) (page 13).

3.1 Technical description

The crowdbeamer device is a free-standing device with dimensions 145 mm x 101 mm x 43 mm and weighing about 500g.

It is supplied with its own Power Supply Unit.

 **Note:** It is important to use the supplied Power Supply Unit. If a unit with less power is used, the device may not run as intended.

 **Note:** Additional power units can be purchased separately.

See [Using crowdbeamer for the first time](#) (page 17).

The figure below shows various aspects of the crowdbeamer device. Each aspect of the physical device is described in more detail below.

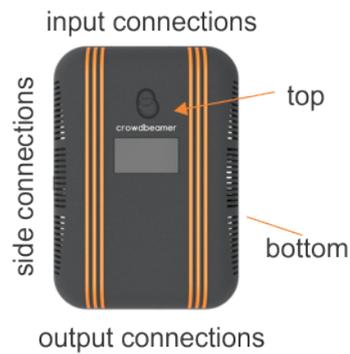


Figure 2: Aspects of the crowdbeamer device

The Top



Figure 3: Top of the crowdbeamer device

Power/Function button

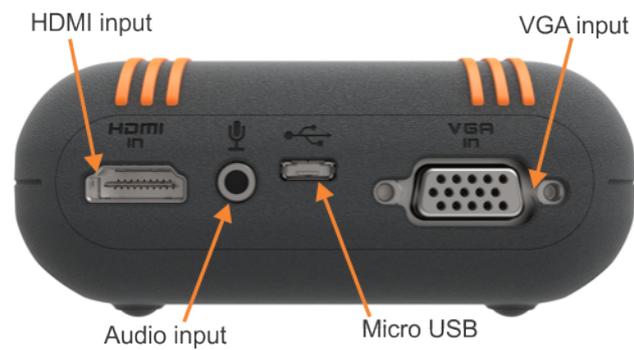
This button is used to:

- Switch the device ON. When the device is powered up, status information is shown in the OLED display. If nothing is displayed, you need to [charge the battery](#) (page 17).
- Perform a specific function when pressed quickly while the device is in use. The function to be executed is set on the [system page](#) (page 30) of the configuration pages. These include:
 - setting a new WiFi password,
 - pause the presentation, (see [Using crowdbeamer for a presentation](#) (page 23).)
 - nothing.
- Switch the device OFF. To switch the device off, press and hold the button for several seconds until you see "Bye" in the OLED display.

OLED display

The displays shows the current status of the device. Information about what is displayed is described throughout this manual.

Input connections



HDMI in

19-pin Type A HDMI female connection.

Signal Types: HDMI, DVI, Dual-Mode DisplayPort.

Video input must be non-HDCP. The resolution and frame rate are auto-detected.

Table 1: Supported HDMI input resolutions

Resolution	Frequencies (Hz)
1920x1080	24, 25, 30
1366x768	24, 25, 30, 50, 60, 72, 75, 85
1360x768	24, 25, 30, 50, 60, 72, 75, 85
1280x1024	24, 25, 30, 50, 60, 72, 75, 85
1280x960	24, 25, 30, 50, 60, 72, 75, 85
1280x800	24, 25, 30, 50, 60, 72, 75, 85
1280x768	24, 25, 30, 50, 60, 72, 75, 85
1280x720	24, 25, 30, 50, 60, 72, 75, 85
1152x864	24, 25, 30, 50, 60, 72, 75, 85
1152x768	24, 25, 30, 50, 60, 72, 75, 85
1024x768	24, 25, 30, 50, 60, 72, 75, 85
1024x600	24, 25, 30, 50, 60, 72, 75, 85
800x600	24, 25, 30, 50, 60, 72, 75, 85
800x480	24, 25, 30, 50, 60, 72, 75, 85
720x576	24, 25, 30, 50, 60, 72, 75, 85
720x480	24, 25, 30, 50, 60, 72, 75, 85
640x480	24, 25, 30, 50, 60, 72, 75, 85

Use this to [connect to the presenter's device](#) (page 18).

VGA in

15-pin DSUB female

Table 2: Supported VGA input resolutions

Resolution	Frequencies (Hz)
1920x1080	30

Resolution	Frequencies (Hz)
1280x1024	60 ⁽¹⁾
1280x720	60
1024x768	60 ⁽¹⁾
800x600	60 ⁽¹⁾
640x480	60 ⁽¹⁾

(1) 75 Hz might also work, but it is not officially supported.

Use this to [connect to the presenter's device](#) (page 18).

Audio in

1/8" 3.5 mm jack, unbalanced stereo line-level audio input.

Mono microphone input.

(This feature is not supported in the current version.)

Micro USB

Micro USB 2,5A 5V DC.

Use this for [charging the battery](#) (page 17).

Output connections

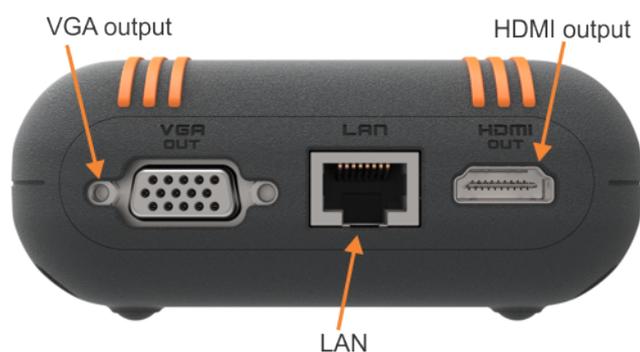


Figure 4: Output connections

HDMI out

19-pin Type A HDMI female connection.

Resolution: most displays up to 1920x1080

Output frequency: up to 60Hz

Use this to connect to [Connect a room display](#) (page 22).

VGA out

15-pin DSUB female

Resolution: -most displays up to 1920x1080

Output frequency 60Hz

Use this to connect to [Connect a room display](#) (page 22).

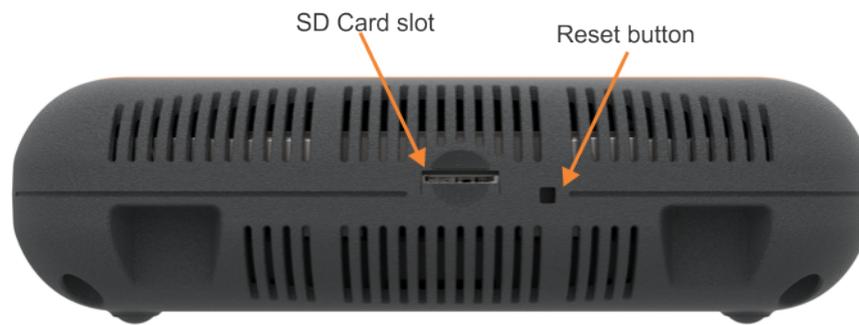
LAN

8-wire RJ45, female; 10Base-T/100Base-TX/1000Base-T Ethernet

UTP 1 x 10/100/1000 Mbps

This connection can be used for [Upgrading the firmware](#) (page 14).

Side connections



SD Card slot

(This feature is not supported in the current version.)

Reset button

The Reset button can be used in two ways.

Reset

If the device stops responding to input, press the reset button with a sharp tool. This will reset all processing units within the device, retaining all configuration parameters.

You can re-start the device normally by pressing the Power button.

Recovery mode

1. Press and hold the reset button and the main power button at the same time.
2. Release the reset button.
3. Wait 2 seconds and release the main power button.
4. Press the main power button once to boot the device into recovery mode.

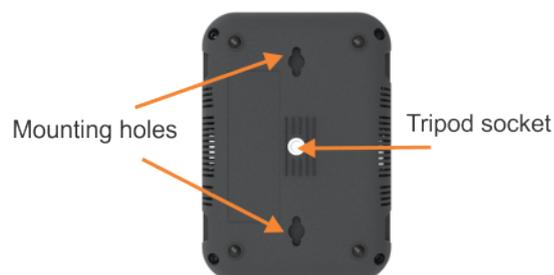
In recovery mode

- the configuration parameters can be reset via the web interface,
- firmware can be updated to recover from a non-working state



Note: you can perform a *factory reset* (page 29) which resets all the configuration parameters to their initial factory setting.

Bottom



The crowdbeamer device is free standing but can be mounted in different ways:

- on a tripod, using a 1/4-20UNC connection,
- on a wall using the 2 mounting holes.

See [Mounting template](#) (page 32). This template can also be found at <http://www.crowdbeamer.tech/manual/wall-mounting-crowdbeamer/>



Note: If the device is mounted in an inaccessible position it may be useful to set the *Automatic power* (page 31) option on the configuration system page.

3.2 Operating conditions

This section provides information about the following:

[Where you can use crowdbeamer](#) (page 13)

[The audience](#) (page 13)

[Communication](#) (page 13)

Where you can use crowdbeamer

Crowdbeamer can be used in a range of situations:

- in a conference or meeting room,
- in small interior (huddle) spaces, equipped with presentation hardware
- on a factory floor or laboratory, (see specific conditions below),
- outside, on site or in the field (see specific conditions below),
- while in transit, in planes, trains and buses.

When using crowdbeamer outside or in a harsh environment you should take into account the following conditions:

- Relative Humidity (10% to 90%) non condensing
- Temperatures 0-40°C

Crowdbeamer has a Lithium polymer rechargeable battery which will last for up to 4 hours (depending on the content being processed), when fully charged.

The audience

The number of concurrent users who can share the presenter's screen is:

- up to 25 (Go edition)
- up to 100 (Enterprise edition)

The size of the audience can be increased by the purchase of additional packs for the Enterprise edition.

The audience can be situated at **distance** of up to 10m.

 **Note:** crowdbeamer is designed to be used within one space. This distance will be diminished if the audience are separated by walls, or other objects.

Communication

Crowdbeamer connects to the presenter's device using an HDMI or VGA cable. When the device is actively communicating (streaming), the OLED will indicate this.

For both HDMI and VGA inputs, the recommended *resolution* (page 10) is read from the attached device.

Crowdbeamer communicates with the audience through its private WiFi network. This uses 2 internal antennas @ 2.4 GHz, and 2 internal antennas @ 5 GHz.

By default, this WiFi network is unprotected, but you can [add a security password](#) (page 25).

3.3 Upgrading the firmware

The firmware of your crowdbeamer device can be upgraded manually or semi-automatically (with the device fetching the latest firmware for you).

The current firmware version can be seen in the [Status page](#) (page 26).

For an overview of the features of the newest firmware version see [What's New](#) (page 4).

Before you can upgrade you need to have [activated your device](#) (page 18).

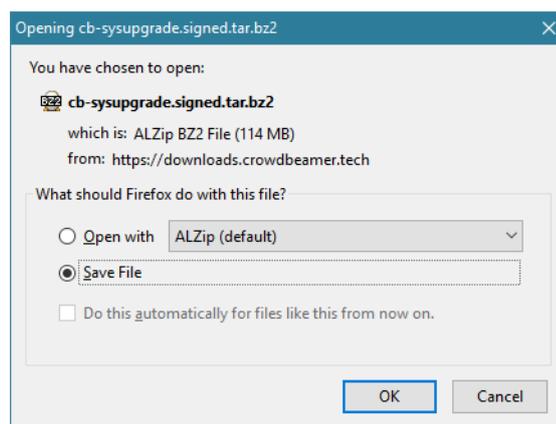
 **Note:** Before you start the firmware upgrade process, make sure the crowdbeamer device is connected to the power grid.

Upgrading the firmware manually

1. Go to www.crowdbeamer.tech.
2. Click on Firmware Upgrade.



3. Save the file.



The firmware upgrade file is a signed file (for security reasons), and must be of the format .tar.bz2, tar.gz or .tar.

4. On the crowdbeamer device, switch the power ON.
5. Connect the device used to download the file to the crowdbeamer private WiFi network.

By default no password is required. If a [password has been set](#) (page 28) this will (by default) be shown in the OLED display.

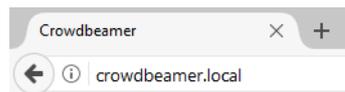


The password can be displayed by [setting an option on the System configuration page](#) (page 30).

6. Open a web browser.
7. In the address field type the local crowdbeamer IP address. By default this is `192.168.0.1`, but it may have been changed.

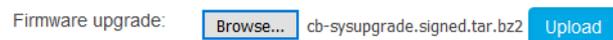
 **Note:** this address is shown in the OLED display.

It is also possible to just enter `crowdbeamer.local` in the address field.



 **Note:** using `crowdbeamer.local` is not currently supported on Android devices.

8. Press <Enter>.
9. Select the "System" page.
10. Click on the [Browse] button next to **Firmware upgrade** and browse to where you have saved the .tar file.
11. Once the file has been selected, its name will appear next to the [Browse] button.



12. Click [Upload].

The firmware upgrade file will be checked.



13. Once the upload is complete, click [Upgrade].



 **Remember:** The firmware upgrade will only be successful if the crowdbeamer is connected to the mains power supply.

 **Note:** Crowdbeamer will reboot at least once, and so any devices connected to the crowdbeamer WiFi will lose their connection.

Upgrading the firmware semi-automatically

1. Connect crowdbeamer to a Local Area Network (LAN) by plugging in an Ethernet cable.
2. Switch the power ON.
3. Check the network connectivity. This will be indicated by a globe icon in the upper right part of the OLED display.
4. Connect a PC or tablet to the crowdbeamer private WiFi network.

3 The crowdbeamer device

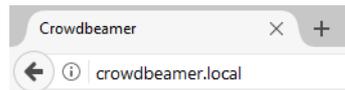
By default no password is required. If a *password has been set* (page 28) this will be shown in the OLED display.



5. Open a web browser.
6. In the address field type the local crowdbeamer IP address. By default this is `192.168.0.1`, but it may have been changed.

 **Note:** this address is shown in the OLED display.

It is also possible to just enter `crowdbeamer.local` in the address field.



 **Note:** using `crowdbeamer.local` is not currently supported on Android devices.

7. Press <Enter>.
8. Select the "System" page.
9. If the latest firmware version is already installed, you will see the message "Already at latest version". No further steps are required.
10. If the message "Newer firmware available" is displayed, click on the [Upgrade] button.
11. Proceed with the next step.

The LAN cable can be disconnected once the process is complete.

 **Note:** Crowdbeamer will reboot at least once, and so any devices connected to the crowdbeamer WiFi will lose their connection.

4 Crowdbeamer for the presenter

This section describes the procedures required to share your screen with an audience.

- [Using crowdbeamer for the first time](#) (page 17)
- [Activate your device](#) (page 18)
- [Connect your presentation device](#) (page 18)
- [Connect a room display](#) (page 22)
- [Configure crowdbeamer](#) (page 25)

4.1 Using crowdbeamer for the first time

Before you can use crowdbeamer you will need to charge the battery.

Crowdbeamer is supplied with its own micro-USB power adaptor.

 **Note:** It is important to use the Power Supply Unit supplied with the crowdbeamer device. If a unit with less power is used, the device may not run as intended.

To charge crowdbeamer

1. Plug the micro-USB connector into the socket on [the \(input side of the\) device](#) (page 10).
2. Plug the adaptor into the mains power supply.

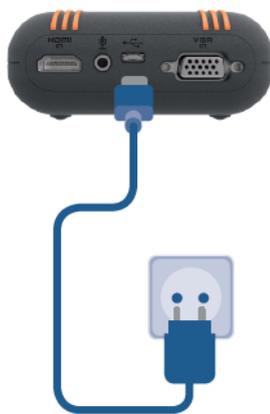


Figure 5: Charging the battery

The display on crowdbeamer will indicate that the device is charging .

The display will show when the device is fully charged.

A fully charged battery will allow you to use crowdbeamer for about 4 hours.

To check the battery level

1. Switch the crowdbeamer device ON by pressing the power button.
2. The battery charge level is shown in the top right corner of the OLED display.

 **Note:** The exact level of battery charge can be seen in the Status page of the device [configuration web pages](#) (page 25).

4 Crowdbeamer for the presenter

You can continue to use crowdbeamer while it is charging, though it can not function if the battery level is very low.

The next stage is to [activate your device](#) (page 18).

4.2 Activate your device

It is important to activate your crowdbeamer device so that you can receive free firmware updates during the period of your warranty, and access the configuration settings. It is also necessary to activate the device to set the number of client devices that can be connected simultaneously to your crowdbeamer.

To activate your device

1. Look at the label on the underside of the device.
2. *Either* scan the QR code using a smart phone or tablet, *or* visit www.crowdbeamer.me and enter the serial number (S/N) and the activation code (CODE) shown on the label.



3. Follow the instructions on the activation page.

At the end of the activation process, you will receive an "Authentication (Activation) code". Make a note of this. You will need this code the first time you try to access the [configuration pages](#) (page 25).

As part of the activation process you will be required to define an administrator password (for the user admin) that is used to access the device configuration pages. Make a note of this password.

The next step is to [connect your presentation device to crowdbeamer](#) (page 18).

4.3 Connect your presentation device

crowdbeamer must be connected to the presenter's device that will be shared with the audience.

[Connecting to a laptop](#) (page 18).

[Connecting to a smartphone or tablet](#) (page 20).

[Connecting to a digital camera](#) (page 21) (or other device).

Connecting to a laptop

To connect a laptop to your crowdbeamer device you need to have:

- an HDMI or VGA socket on the laptop,
- an HDMI-HDMI or VGA-VGA cable.

 **Note:** HDMI offers a better screen resolution and is the recommended option if this is available to you.

1. Ensure that you are looking at the input side of the crowdbeamer device.

input connections



Figure 6: Position of the input connections

2. Plug your cable into the appropriate connection on the crowdbeamer device and your laptop.

 **Note:** The maximum length of the input cable is 10m.

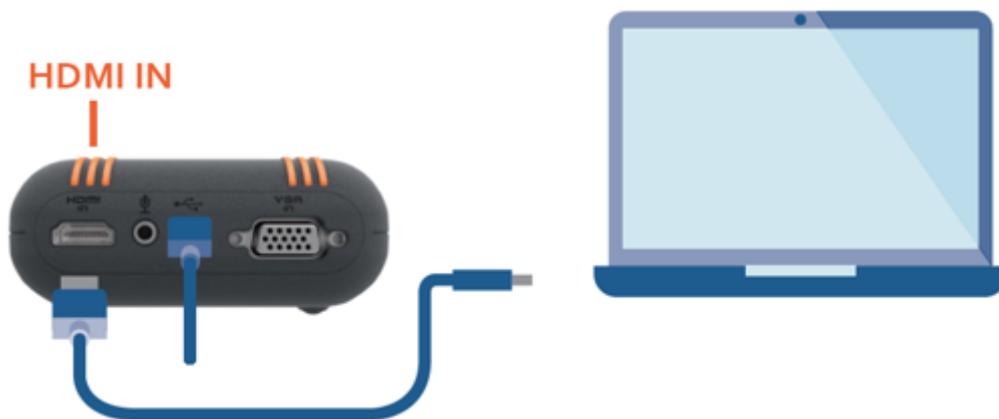


Figure 7: Connecting to a laptop using HDMI

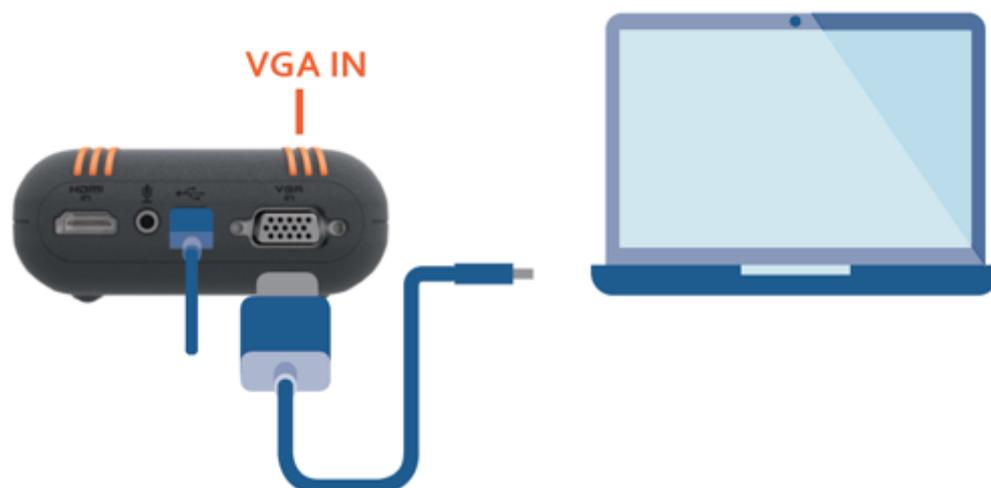


Figure 8: Connecting to a laptop using VGA

3. Switch crowdbeamer ON, using the power button.
4. The display will show that the device is "streaming" and the type of input connection.

4 Crowdbeamer for the presenter



5. You can now:

- Optionally [connect crowdbeamer to a room display](#) (page 22).
- Invite your audience to start sharing your screen.

Connecting to a smartphone or tablet

To connect a smartphone or tablet you can use either an HDMI or a VGA connection. HDMI is recommended since it provides a higher resolution.

To make the connection you need:

- *Either* an HDMI-HDMI cable AND an adaptor cable that will connect to your smartphone or tablet and the HDMI cable,
- *Or* a VGA-VGA cable AND an adaptor cable that will connect to your smartphone or tablet and the VGA cable,

 **Note:** Not all smartphones or tablets provide an output with a video signal. MHL capable devices (see <http://www.mhltech.org/devices.aspx>) can be connected via a MHL-2-HDMI adapter. iPad and iPhone can be connected via an Apple Lightning Digital AV Adapter.

1. Make sure that you are looking at the input side of the crowdbeamer device, see [Figure 6: Position of the input connections](#) (page 19).
2. Connect the cable to the appropriate connection on the crowdbeamer device: HDMI-in or VGA-in.

 **Note:** The maximum length of the input cable is 10m.

3. Connect the adaptor cable between the HDMI/VGA cable and the tablet or smartphone.



Figure 9: Connecting to a smartphone/tablet using HDMI

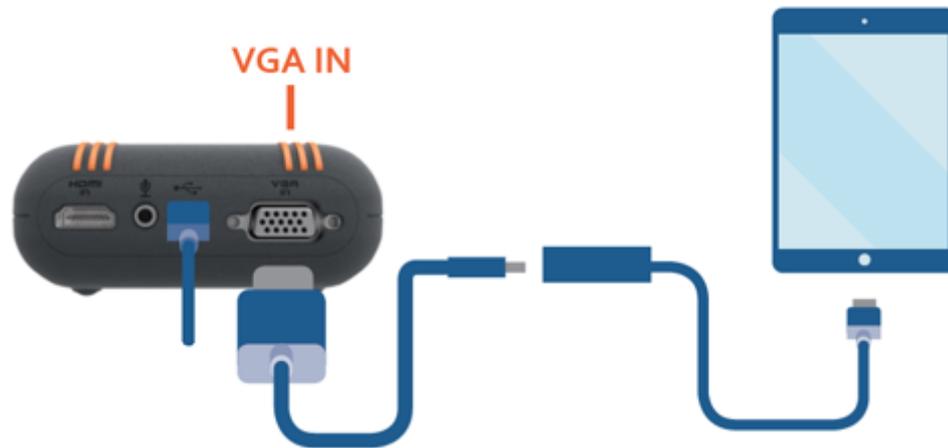


Figure 10: Connecting to a smartphone/tablet using VGA

4. Switch crowdbeamer ON, using the power button.
5. The display will show that the device is "streaming" and the type of input connection.



6. You can now:
 - Optionally [connect crowdbeamer to a room display](#) (page 22).
 - Invite your audience to start sharing your screen.

Connecting to a digital camera

Note: crowdbeamer currently only supports RGB input progressive. Neither YCbCr nor interlaced input are currently supported.

To connect a digital camera you can use either an HDMI or a VGA connection. HDMI is recommended since it provides a higher resolution.

1. Make sure that you are looking at the input side of the crowdbeamer device. (See [Figure 6: Position of the input connections](#) (page 19).)
2. Connect the cable to the appropriate connection on the crowdbeamer device: HDMI-in or VGA-in.
3. Connect the adaptor cable between the HDMI/VGA cable and the camera.

Note: The maximum length of the input cable is 10m.

4 Crowdbeamer for the presenter



Figure 11: Connecting to a digital camera with HDMI

4. Switch crowdbeamer ON, using the power button.
5. The display will show that the device is "streaming" and the type of input connection.



6. You can now:
 - Optionally [connect crowdbeamer to a room display](#) (page 22).
 - Invite your audience to start sharing your screen.

4.4 Connect a room display

You can display your output on a room display; crowdbeamer can be connected to a projector or flat panel display.

Connecting the device to a room display

This procedure requires an HDMI or VGA cable that will connect crowdbeamer to the projector or display panel.

1. [Connect your presentation device](#) (page 18) to the crowdbeamer input side.
2. Connect a cable between the HDMI-out or VGA-out connections on the crowdbeamer device and room display.

 **Note:** The maximum length of the output cable is 2m.



Figure 12: Connect to a room display using HDMI



Figure 13: Connect to a room display using VGA

3. Make sure crowdbeamer is switched ON.
4. The OLED will show the output connection.



4.5 Using crowdbeamer for a presentation

To make a presentation using crowdbeamer

1. Make sure that the battery is charged or that the device is connect to the mains power supply.
2. [Connect your device](#) (page 18) to crowdbeamer. It is recommended to use HDMI.
3. Switch crowdbeamer ON.
4. Check that the type of connection (HDMI or VGA) is displayed under IN.
5. Set up the presentation you wish to share with the audience.
6. Check that the OLED display shows that the device is "streaming". This indicates that the device will be transmitting whatever is on your screen.
7. Ask the audience to install the crowdbeamer app on their devices.
8. Invite the audience to connect to the crowdbeamer private WiFi network.

The network name is CB_{device-name}_5 or CB_{device-name}_24. It is recommended that they use CB_{device-name}_5 since this yields better results.

The device name is shown in the OLED display.



Figure 14: Display of device name and password

9. Give them the network password if this exists. By default, this is also shown in the OLED display. If it is not displayed you need to change a setting on the [System configuration page](#) (page 30).
10. Ask the audience to launch crowdbeamer app so that they can see your screen.
11. If you need to pause the presentation and hide your screen, push on the crowdbeamer power button briefly to show a Bypass image.



Note: This requires that the correct option is set on the [System configuration page](#) (page 30).

4 Crowdbeamer for the presenter

The OLED display will show that the output is blocked. The audience will see a "Bypass" image on their screens. The message in the display will disappear after a short time, but the sharing of the screen will continue until you press the button again. The display will then show "Output unblocked".

12. If there are problems streaming videos - go to the [Video configuration page](#) (page 27).

13. At the end of the presentation hold the power button down until you see "Bye" in the display.

5 Configure crowdbeamer

These configuration pages show how your crowdbeamer device is currently configured and enable you to make modifications.

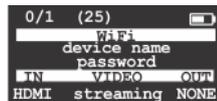
The following operations are possible:

- [To access configuration information](#) (page 25).
- [To set a password to connect to the network](#) (page 28).
- [To set a password to access the configuration settings](#) (page 29).
- [To change the name of the device](#) (page 28).
- [Set a background image](#) (page 28) to be shown when the presentation is paused.
- [Set the function performed by the on/off button](#) (page 30).
- [Set the conditions for when the device sleeps](#) (page 30).

To access configuration information

1. On your crowdbeamer device, switch the power ON.
2. Connect a PC or tablet to the crowdbeamer private WiFi network.

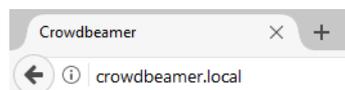
By default no password is required. If a [password has been set](#) (page 28) this will (by default) be shown in the OLED display.



3. Open a web browser.
4. In the address field type the local crowdbeamer IP address. By default this is `192.168.0.1`, but it may have been changed.

 **Note:** this address is shown in the OLED display.

It is also possible to just enter `crowdbeamer.local` in the address field.



 **Note:** using `crowdbeamer.local` is not currently supported on Android devices.

A web page will appear in which you can see the current configuration and modify it if required.

The Status page appears first which contains information that can not be modified.

 **Note:** It may be that you see a message saying you need register your device.

To do this follow the procedure to [Activate your device](#) (page 18).

 **Note:**

The first time you click on one of the Video, Network or System pages, you will be asked for a password.

Username: admin

Password: this is set when the device is activated.

To [change the admin password](#) (page 29).

5.1 The Status page

This page shows the current status of the device. This page is always accessible. To access the other configuration pages you need an admin password. If you need to recover the password click on [Password recovery].

Password recovery

Click on this button if you have forgotten or need to change the administrator's password.

1. Enter the activation key that was assigned to this device. This was provided during the [device activation process](#) (page 18).
2. Enter the new admin password. It is recommended that you use a "strong" password i.e. at least 8 characters which includes upper and lower case letters as well as numbers and other keyboard characters arranged randomly.
3. Confirm the password you have just entered.
4. Click [Save].

Video status

Indicates the current video status. It corresponds to what is shown on the OLED display under VIDEO (though you may need to refresh this page to see the latest status).

Possible values are:

`streaming`: video being transmitted.

`NONE`: the device has no input connected.

`blocked`: the sharing of the presenter's screen had been [paused](#) (page 23).

Input Resolution

The screen resolution of the presenter's device.

Current input

The type of input connection. This is also indicated on the OLED display on the device under IN.

Possible values are:

`HDMI`

`VGA`

Current output

The type of output connection. This is also indicated on the OLED display on the device under OUT.

Possible values are:

`HDMI`

`VGA`

- `NONE`

SW version

The current version of the installed software.

FW version

The current firmware version. See also [Upgrading the firmware](#) (page 14).

Fan speed

The current fan speed as a percentage of the maximum.

Temperature

Current temperature of the device.

Charger connected

Indicates whether crowdbeamer is connected to the mains power supply.

Battery level

The current battery charge level.

Maximum number of clients

The maximum number of clients possible with the [current edition](#) (page 13).

Connected clients

These two numbers show the total number of clients (audience) connected to crowdbeamer private WiFi.

The two numbers show (number connected to the 2.4GHz frequency) / (number connected to the 5GHz frequency).

5.2 The Video page

**Note:**

The first time you click on one of the Video, Network or System pages, you will be asked for a password.

Username: admin

Password: this is set when the device is activated.

To [change the admin password](#) (page 29).

gop size

The Group of Pictures is the number of consecutive frames that make up a unit in video encoding. Every GoP starts with an intra-frame, so no data from previous GoPs is required to decode frames in a particular GoP. All data is needed from a single GoP to successfully decode all frames in it.

Increasing the gop-size means better quality on the same bandwidth. It also means that a lost packet will affect the video for a longer time.



Note: it is not recommended that you change the default value unless you are experienced in these matters.

Bitrate

Allows you to change the Bitrate.

This is the bitrate of the H.264 encoded video stream. On the Web Interface it is measured in kbps (kilobits per second). Thus, this is the approximate size (kilobits) of each second of the video.

Increasing the bitrate increases quality but it does not scale linearly. Higher bitrate also means a higher bandwidth requirement. If a still image gets blocky or blurry, using a higher bitrate can also help.

In a noisy WiFi environment, frames can be dropped in spite of using the FEC. In such a situation, using a lower bitrate can reduce the number of dropped frames.



Note: it is not recommended that you change the default value unless you are experienced in these matters.

Input colorspace

The input device connected to crowdbeamer operates within a specific "colorspace". By default crowdbeamer detects the colorspace and automatically adjusts for it. In some cases however crowdbeamer is unable to determine the colorspace (which may happen when crowdbeamer is

5 Configure crowdbeamer

used together with certain splitters), which results in a poor colour representation. These options enable you to select a colorspace mode and so overcome such problems.

You can check on the various options provided to see if this provides an improvement. The "Apple" option is useful if you are using an Apple device through a splitter.

Output resolution

This refers to the output resolution at the physical output (HDMI or VGA connector) of the crowdbeamer device. By default crowdbeamer automatically chooses an output resolution based on the characteristics of the presenter's device.

These options enable you to force an output resolution. This may be required if no output images are being transmitted.

Save

Saves the current settings.

Bypass image

The Bypass image is the image that is displayed when the presentation should not be streamed. In this section you can define up to 5 Bypass images to be used and select the one to be used.

 **Note:** The use of the function to display a Bypass image must be set on the [System configuration page](#) (page 30).

To choose a Bypass image

1. Click on a [Choose File] button.

If this corresponds to an existing image, this image will be replaced.

2. Select the image file required.

 **Note:** The image selected will be expanded to fill the screen on the audience's devices. To avoid distortion of the image it is recommended that you resize it to match the proportions of the input resolution shown on the Status page.

3. Click [Upload]. The image will be uploaded to the crowdbeamer device and appear on the page.
4. Click [Select].

5.3 The Network page

 **Note:**

The first time you click on one of the Video, Network or System pages, you will be asked for a password.

Username: admin

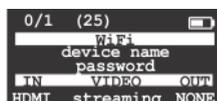
Password: this is set when the device is activated.

To [change the admin password](#) (page 29).

SSID

This forms part of the name of the device. The default name is RORYCO_{number}.

You can enter your own name in this field. This name will be displayed in OLED display.



The device name is included in the name of the private WiFi network, e.g. CB_device name_5.

Channel

Allows you to select a specific channel if required (from a list of those allowed worldwide).

The value of 0 results in auto-selection of the channels upon booting up crowdbeamer.

Wireless IP address of device

This field displays the current IP address of the device. This address is also shown in the OLED display.

You can modify the third group of numbers in the IP address. You can enter a number in the range 0 to 254 that is a multiple of 4.

Encryption

The default setting for the encryption is "Open", which means that no password is required to access the private crowdbeamer WiFi network. [To set a password to access the network](#) (page 29).

WiFi security key

The field in which the network access password is set.

[To set a password to access the network](#) (page 29)

Save

Saves the changes made on this page.

To set a password to access the network

1. Click on [WPA2](#).
2. Enter a password in the [WiFi security key](#) field.

 **Note:** Your password *must include a minimum of 8 characters*. It is recommended that you use a "strong" password i.e. at least 8 characters which includes upper and lower case letters as well as numbers and other keyboard characters arranged randomly.

3. Click [Save].

The password appears in the OLED display on the device (if the required option has been set on the [System configuration page](#) (page 30)).

 **Note:** You can also [generate a new WiFi security key](#) (page 31) by setting an option on the System page.

5.4 The System page

Note:

The first time you click on one of the Video, Network or System pages, you will be asked for a password.

Username: admin

Password: this is set when the device is activated.

To [change the admin password](#) (page 29).

SW version

The current version of the installed software.

FW version

The current firmware version. See also [Upgrading the firmware](#) (page 14).

5 Configure crowdbeamer

HW version

The current version of the installed hardware.

MAC addresses

Provides the MAC addresses.

Crowdbeamer serial

This is the serial number of your device and is used to [activate it](#) (page 18). It is also used when requesting support.

Firmware upgrade

See [Upgrading the firmware](#) (page 14)

EDID for bug report

If there is a problem with the output resolution of the device, you can use this option to download a file which will help the support engineers to solve the problem.

Click on [Download] and save the file.

Go to support.crowdbeamer.tech to submit a ticket and attach this file to it.

Factory reset

Click [Reset] to reset all the configuration parameters to their default (factory) settings.

System settings

Device button function

Defines the action that is taken when the device button is pressed (quickly). Remember that if the button is pressed for a longer time, the device is switched off.

Blocked output

This enables the button to pause the presentation and show the [selected Bypass image](#) (page 28).

Generate new WiFi security key on the device screen

This option enables you to [generate a new password for the WiFi network](#) (page 31).

None

Nothing happens if you push the power button once. Press it for a long time to switch the device OFF.

Show the WiFi security key on the device screen

Determines whether the password to access the WiFi network is displayed on the OLED screen or not.

Go to sleep

Hibernating the device saves power/battery. A number of options are provided to set the conditions as to when the device will hibernate (sleep).

Choose the option and click [Update].

when there is no active input

The device will sleep when there is no input, i.e. there is no connection to the presenters device.

The device will wake up as soon as an input is connected and streaming starts.

when there are no clients connected

The device will sleep when there are no clients (audience) connected to the device WiFi.

It will wake up as soon as a client is connected.

when there is no active input and there are no clients

The device will sleep when there is no active input (connection to a presenter's device) and there are no clients (audience) connected.

never

There are no conditions under which the device will go to sleep.

Sleep timeout

When the sleep conditions have been met, this is the time before the device enters the sleep mode.

Automatic power on

Checking this option is useful if access to the device is not easy (if for example it is fixed to ceiling). In the event of a power outage this ensures that the device will power up without human intervention.

[Update]

Updates the configuration settings.

To generate a new WiFi security key

1. Select the option [Generate new WiFi security key on the device screen](#) for the Device button function.
2. Click [Update].
3. Press the Power/Function button on the device.
4. The device screen will show that the update is taking place and the new security key will be shown.
5. Re-connect to the WiFi network using the new security key (password) shown on the OLED display.

 **Note:** you can also [define your own WiFi security key](#) (page 29) on the network page.

Admin password

To change the admin password

1. Enter the current password in the Old password field. (This password was set as part of the [activation process](#) (page 18).)
2. Enter the new password in the next field.

It is recommended that you use a "strong" password i.e. at least 8 characters which includes upper and lower case letters as well as numbers and other keyboard characters arranged randomly.

3. Confirm the new password.
4. Click [Save password].

You will be asked for this password the next time you want to access the Video or Network pages.

Activation key

Activation key

This key is assigned when the device has been activated.

Update

Updates the configuration settings.

6 Mounting template

Below is a template for the base of the crowdbeamer device. It will help you fix the drilling points for a wall-mounted installation of your device.

 **Note:** When printing, make sure that the option **Actual size** is selected.

Fit
 Actual size
 Shrink oversized pages
 Custom Scale: %

