Huddle Hub One / Huddle Hub One+

Installation Guide

Product version 2.0 - Manual version 2

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1 Introduction

1.1 Huddle Hub

Huddle Hub™ product family is the answer to the needs of modern teamwork, which is increasingly based on content presentation and video-conference. Thanks to Huddle Hub, these activities can be performed everywhere in your organization, in traditional meeting or huddle rooms, but also in offices, open-space areas, or even lounges. Every place in your company / organization - whether AV equipped or not - can be used as a huddle room:

- Taking advantage of existing large displays and webcams, but also using only individual devices. Or combining the two.
- With no cables for the TV, and no cables for the webcam.
- Running up to four concurrent sessions on a single Huddle Hub unit.
- Experiencing a smooth integration between Huddle Hub and your favorite video-conference software.

The Huddle Hub solution is made of two components:

- The Huddle Hub unit, currently available in two versions: Huddle Hub One (**HHO**) and Huddle Hub One+ (**HHO+**);
- The Huddle Hub App (**HHApp** or simply **App**), a companion software available for Windows, MacOS, iOS and Android devices. Though HHApp is the best way to unleash all the power of the Huddle Hub solution, presentations can also be received on any web browser without the need of installing any app.

The two models HHO and HHO+ are identical except for network connectivity: both models allow **wired connection**, but Huddle Hub One+ also embeds a **wireless network adapter** for Wi-Fi connectivity, thus supporting a **dual-network configuration**.

Given that HHO+ includes all the functionality of HHO, when this guide refers to HHO it means HHO or HHO+. HHO+ specific features will be highlighted with the "HHO+ only" marker.

1.2 Documentation

HRT provides a thorough and exhaustive documentation, consisting of the following manuals:

- **Quick Start Guide**: a very short guide that contains the essential steps to start using HHO and HHApp. Available in the box of the product and in the support section of HRT website (www.hrt.website).
- **Specification, Safety and Conformity**: describes all the technical specifications, the safety precautions and the conformity of HHO to national/internationals rules and certification requirements. Available in the box of the product and in the support section of HRT website (www.hrt.website).
- **User Guide**: shows the user how to use and get the most from Huddle Hub App. Available in the

support section of HRT website (www.hrt.website).

- Installation Guide: from unpacking to deployment, a short guide to install your HHO unit and choose among different network configurations. Available in the support section of HRT website (www.hrt.website).
- Configuration Guide: directed to IT Managers or IT staff members, it explains how to configure HHO to better suit the company needs. Available in the support section of HRT website (www.hrt.website).
- Network Security Guide: contains recommendations for the IT Manager or Network Security Manager, aimed at designing and implementing a secure deployment of HHO units in the organization's infrastructure. Available in the support section of HRT website (www.hrt.website).
- FAQ: the support section of HRT website (www.hrt.website) contains also a dynamically updated knowledge base with the answer to the Frequently Asked Questions.

Before consulting our documentation, please check that the product version printed on the cover page of your manual matches your HHO and HHApp versions, and that the manual version is the latest one. Manual numbering follows the following scheme:

```
<Manual name> <Product version> - <Manual version> . pdf
```

For example, "User Guide 2.0-3.pdf" means that this version of the User Guide covers all product versions staring with "2.0" (e.g. 2.0.1, 2.0.5 etc) and it's version 3 of the manual itself.

HRT supports only the latest release of its software, which is always available free of charge. Users and IT Managers are invited to keep their HHApp and HHO units up to date, and to download the most recent version the manuals from the support section of HRT website.

2 Understanding Huddle Hub

2.1 Rooms, Sessions and Roles

Rooms and Sessions

For our purposes, a session is the sitting together of a group of people, with the intent of either making or assisting to a presentation, or to perform a video-conference.

A session happens in a room, which usually corresponds to a physical place where the participants meet. However, HHO extends the concept of room to the group of participants that join the same session, wherever they are.

HHO supports up to 4 rooms per unit, each one able to host one fully independent session. Each room is identified by a name, that can be set to match a specific place (e.g. "Main meeting room", "1st floor huddle room" etc.) or a group of users it's reserved for (e.g. "Marketing dept.", "IT Demo", etc.) or any other criteria that meets your needs.

A session starts when the first participant connects to a room, and ends when the last participant closes his connection.

The following example portraits the situation of a company that has two HHO units, each one with four enabled rooms:

- HHO Ground Floor
  - Lobby
  - Huddle room 1
  - Huddle room 2
  - Admin & Finance
- HHO First Floor
  - Board room
  - CEO's virtual huddle room
  - Sales department
  - Production department

Each room can host up to 64 participants per session.

Hub room and Virtual rooms

The place where the HHO unit is physically present and installed is called hub room, while the other three rooms are called virtual rooms.The existence of the hub room is optional, because you can decide to install HHO in your company data center and not to connect to any device except the company LAN. In this case all the four rooms will be "virtual".

Passcode

Sessions can be protected with a passcode, which ensures the privacy of your meeting. The passcode is a 4 digits random number, generated when the session starts, that is visible on the TV screen or in the toolbar of the participant that started the session or in the one of the participants that already joined it. Passcode protection can be disabled.

Roles

During a session, we identify the following roles:

- Participant: anyone who is connected to the session.
- Presenter: any participant who is currently sharing his/her screen with the other participants.
- Viewer: any participant who is receiving the presenters' screen.
- Host: the case where a presenter starts a video-conference using the Huddle Hub Virtual Driver as camera, thus sharing the VC software screen with the other participants.
- Active Speaker: during a video-conference based on the Multicam Feed, and with Multicam layout set to *Active speaker*, the participants whose camera stream is in the main frame of the layout.

2.2 TV, Webcam and Multicam Feed

TV Sets and Projectors

In a typical scenario, your HHO unit will be installed in a meeting room, huddle room or another shared space, and will be connected to a large TV set with an HDMI cable. We've defined this room as hub room, while the remaining HHO rooms are called virtual rooms. What happens in those virtual rooms? How do the participants see the presentation?

There are a few possible options:

- Individual devices: any participant can receive the presentation on his/her own device, either a PC, a tablet or a smartphone.
- TV set: Smart TVs can receive the presentation through a web browser. Android TVs can receive the presentation like any other Android device can. They just need to have the Huddle Hub Android TV app installed. Other TVs need and Android dongle attached to on of their HDMI ports.
- Mixed mode: some participants look at the presentation on their individual device, and the others on the TV. This is always possible in the hub room

Welcome screen

In case your HHO unit is connected to a display through its TV port, when no session is in progress it will show a *Welcome Screen*, which contains instructions about downloading the Huddle Hub App and

about accessing the session. This Welcome Screen can be customized.

Webcam

HHO can also connect to a USB Webcam. This is possible only in the hub room, because it has to be plugged to the unit.The HHO unit will make this webcam available to the HHApp clients connected to the hub room, through a virtual camera driver, with no need of any cable.

Multicam Feed (experimental feature)

Warning: Multicam Feed is a beta and experimental feature. It is not yet matured and can still be unstable, but can be very useful and we decided to offer it to you to try.

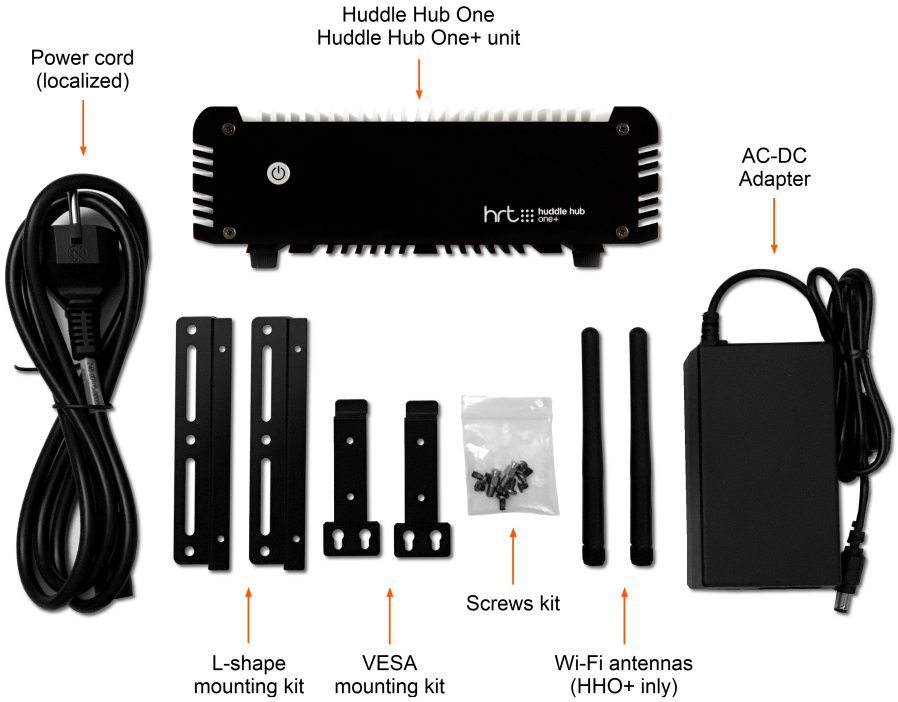
During video-conferences, the feature called Multicam Feed allows the participants of the hub room session to add the camera streams of up to 6 devices, thus realizing a true multi-camera video-conference system.

3 Installing Huddle Hub One

3.1 Content of the box

The Huddle Hub One or Huddle Hub One+ box contains the following items:

- Huddle Hub unit, model One or One+ according to what you bought.
- AC-DC adapter.
- Power cord.
- L-shape mounting kit.
- VESA mounting kit.
- Screws kit.
- Wi-Fi antennas (Huddle Hub One+ only).
- Quick Start Guide.
- Specifications, Safety and Conformity sheet. Please read and save this sheet for future reference.



3.2 Installation guidelines

When installing HHO, **please follow these important guidelines**:

- The product should not be located in a place where it will be exposed to moisture or excessive heat.
- Place your HHO unit in a well-ventilated place, far from any heater or heating vent.
- Avoid direct irradiation of any strong light (such as sunlight) and keep at least 5 cm (2 inches) of clear space around your device.
- Place HHO horizontally for optimal heat dissipation. HHO can be installed vertically with front panel up. **Vertical installations with front panel facing left or right don't allow correct heat dissipation and must not be used.**
- Do not place this equipment on an unstable cart, stand, or table. The product may fall, causing serious damage to it.
- Place HHO in a location where it can be connected to a power source, and to TV and webcam (if required).
- Make sure the cables and power cord are safely placed out of the way, so they do not create a tripping hazard.
- Keep the product away from devices with strong electromagnetic reference, such as cordless phones and microwaves. To access your HHO through its Ethernet interface, the unit must be connected to the company LAN using an Ethernet cable.

Power Cord and AC-DC Adapter

The power cord is country specific, to be compatible with your country AC sockets.

The supplied AC-DC adapter input voltage range is 90 – 264 VAC and the output is 12V – 5A - 60W.

Warning: You are required to use the supplied AC-DC adapter only.

L-shape and VESA mounting kit, screws kit

The L-shape mounting kit can be used to secure the unit on walls, tables, rack cabinets, etc.

The VESA mounting kit allows to install HHO+ on TV screens or any other device which follows the VESA mounting standard.

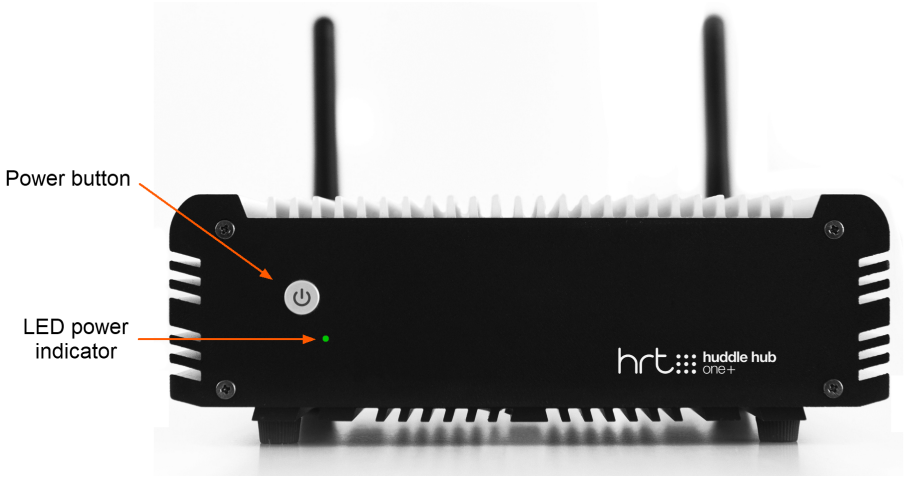
The screws kit contains screws for both the mounting kits.

Wi-Fi antennas (HHO+ only)

The two supplied antennas work for both 2.4 and 5GHz Wi-Fi bands. The gain is 2.0db and the impedance is 50ohm.

Warning: *You are required to use the supplied antennas only.*

3.3 Front Panel



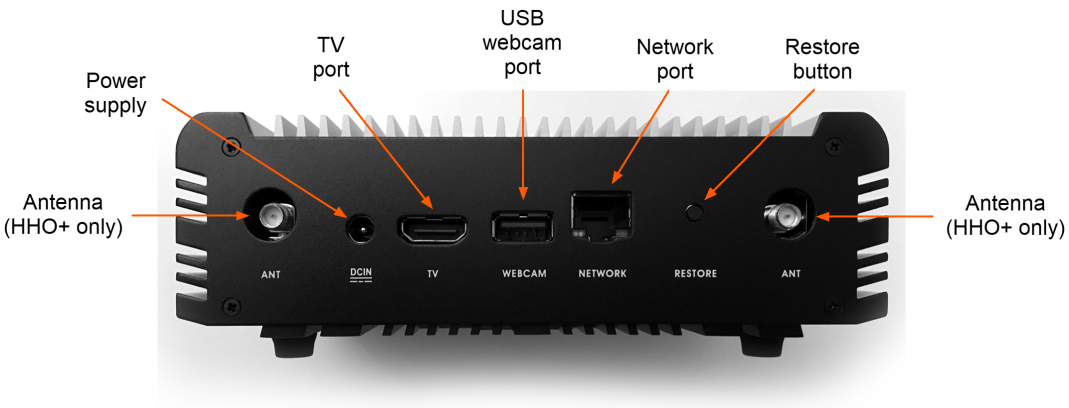
HHO powers on automatically when connected to the wall socket. The LED power indicator on the front panels turns from red to green.

To **switch HHO off**, keep the power button pressed for more than 5 seconds: the LED on the front panel will turn from green to red.

To **switch HHO on** again, simply press the power button.

Warning: *at the very first power-on, HHO starts the automatic firmware installation procedure. This operation takes few minutes. After the first installation, and at every power-on or reboot, HHO connects to the HRT software repository to check for firmware updates and automatically installs its own latest release. For this reason, HHO may appear unresponsive for few minutes after power-on or reboot. The effective time required for the update depends on the speed of the Internet connection. Please see the Configuration Guide if you want to disable the auto-update feature.*

3.4 Rear Panel



Power supply

Plug the power cord to the AC-DC power supply and connect the power supply to the DCIN connector. Connect the power supply to the wall socket.

Verify that the green LED on the front panel is on and solid to confirm that the hardware is connected correctly.

Network port

The network connector is a standard RJ45 and the network interface is a Gigabit Ethernet standard. Connect HHO to the company LAN using an Ethernet cable (not supplied).

Warning: Use shielded cat 6 SSTP Ethernet cable to connect HHO to the company LAN.

Tip: HHO must be connected to Internet to allow it to download the latest release of its software.

Restore button

This button has two functions:

Reset procedure: resets the configuration to the default parameters, discarding all current settings. The internal software is not reinstalled and the firmware version does not change.

Restore procedure: wipes the current firmware and does a full firmware re-installation. The firmware version changes to the one originally installed on the unit (and it's then updated if connected to the internet).

Please see the Configuration Guide for details about the Reset and Restore procedures.

USB webcam port

The USB webcam port can be connected to any standard UVC webcam (USB Video Device Class). The USB port is a standard USB 3.0 Type-A.

TV port

The TV port output can be connected to a TV screen using a standard HDMI cable (not supplied).

Antennas (HHO+ only)

Gently hand-tight the supplied Wi-Fi antennas on the two ANT connectors. After having placed your HHO unit in its location, gently rotate and bend the antennas at their hinge to make them stand vertically.

4 Deployment

4.1 Usage Scenarios

As explained in the Introduction, the Huddle Hub product family gives you access to new and unprecedented collaboration models.

You can make your presentations and share your documents from the screen of your computer or mobile device to a TV, but also to the screen of other devices, with no need for a specifically equipped place.

In chapter Rooms, Sessions and Roles 4, we defined **hub room** the place where your HHO is actually located, while we called **virtual rooms** the other three rooms that each HHO unit makes available for other presentation sessions. In this chapter, we are more interested in the kind of place the meeting happens.

Traditional Huddle Rooms / Meeting Rooms

A traditional huddle room (or meeting room) is an A/V equipped rooms, that features a large display (TV set or projector).

If you place your HHO unit in such a room, you can connect your display to the HDMI port of HHO, and configure it as the hub room. If a webcam is also available, you can plug it to the USB port of HHO and benefit of the **wireless webcam** feature.

In case you want to make presentations using the TV screen of other rooms, you cannot plug them to the HHO unit, but you have to exploit HHO ability to send presentation on the screen of other devices, considering those TV sets as devices (provided that they can be reached through your company LAN):

- **Smart TVs** with a compatible web browser can receive the presentation through the **web viewer**.
- **Android TVs** - or TVs equipped with an Android dongle - can receive the presentation through the **Android client**.

Therefore, up to four independent presentations can take place in four traditional A/V equipped rooms, but only the hub room can benefit of the wireless webcam feature.

Virtual Huddle Rooms

A virtual huddle room is any place in your company where you want to take advantage of HHO collaboration facilities, for an impromptu or ad hoc meeting. You do not need to be close to the HHO unit, but you must be able to reach it through your company LAN.

Provided that the connectivity condition is respected, the actual location of your HHO unit is not relevant. It can be placed anywhere in the company: in a traditional huddle room, but also a data center, server room or any other place under IT Manager's control.

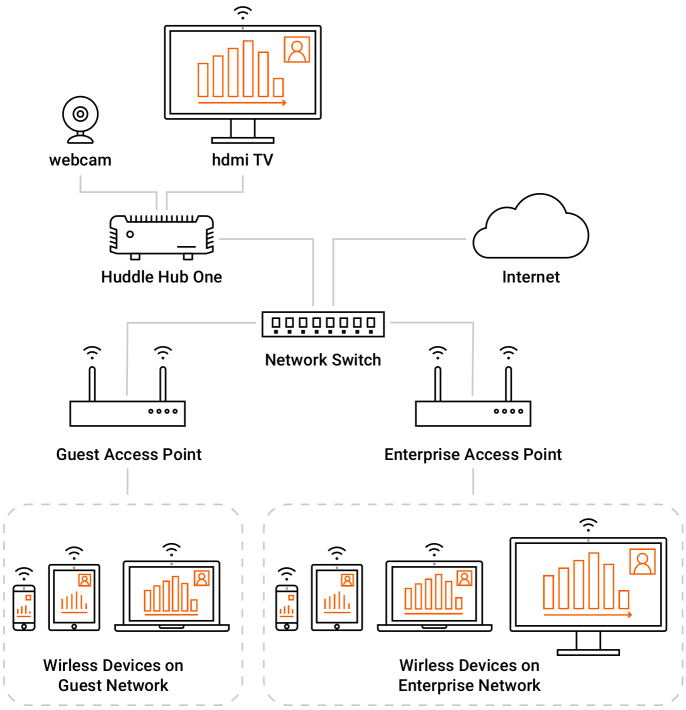
4.2 Network Topology

In the following chapters we will discuss the possible network configuration options. In all cases we will highlight the possibility to have participants with full access to the company LAN, and others restricted to the role of guests, able to receive the presentation on their devices and also to present, but with no access to other resources.

Please see the **Configuration Guide** for details about settings your HHO unit for a specific configuration, and the **Network Security Guide** for recommendations on how to make a secure deployment of a HHO unit in your network.

4.2.1 Company Lan

This is the only network configuration allowed by Huddle Hub One, which has a single, wired network adapter.

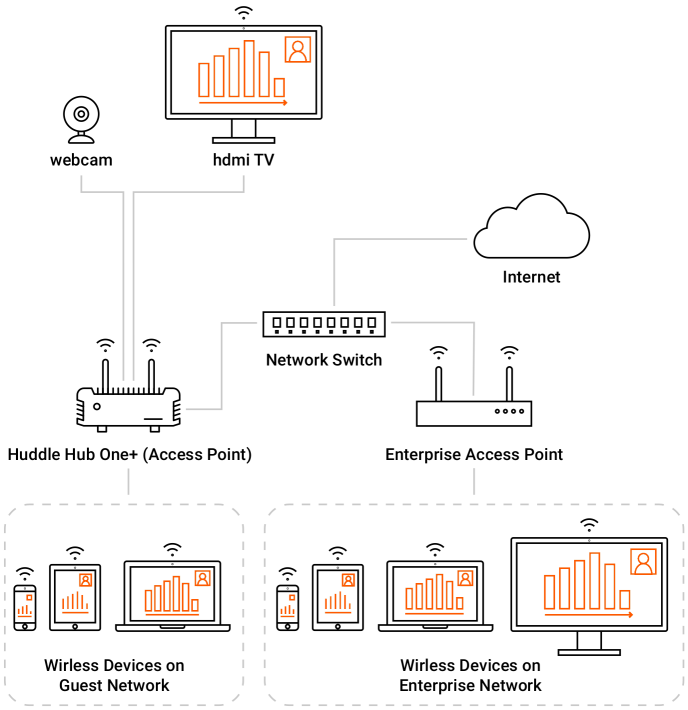


In this configuration, HHO is connected to the company LAN through an Ethernet cable. The Wi-Fi devices reach HHO through a company access point. The creation of a guest network with restricted access is a Network Manager's responsibility.

To be used by the devices, HHO doesn't need any Internet access. However, Internet access is necessary to allow HHO to download its updates.

4.2.2 Dual Network (HHO+ only)

Huddle Hub One+ features an on-board access point, which the Wi-Fi devices can connect to:



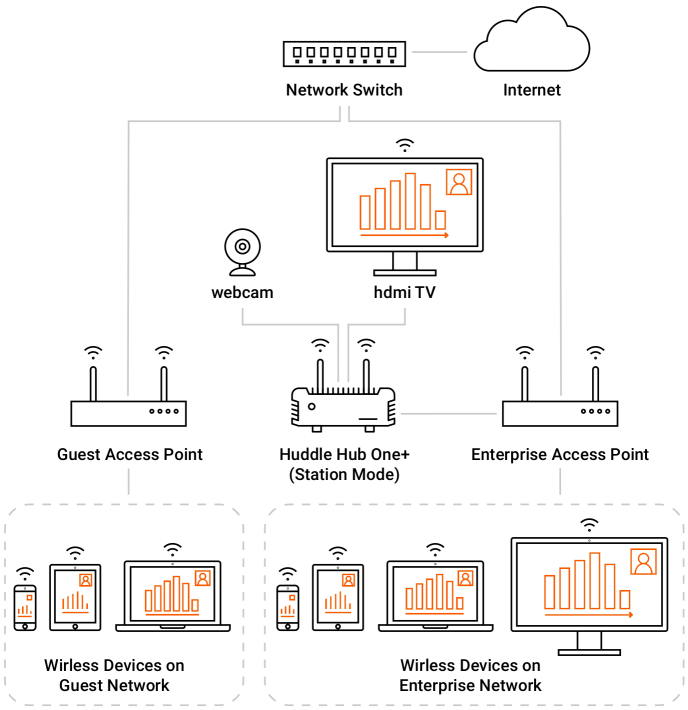
Typically this is used to create a dual network configuration, where the HHO+ own wireless network is used to grant access to guests, keeping them completely isolated from the company network.

In this configuration, participants belonging to the company reach HHO+ through the company LAN, while other users connect directly to HHO+.

To provide Internet access to the connected devices, HHO+ must have Internet access itself. Internet access is also necessary to allow HHO+ to download its updates.

4.2.3 Station Mode (HHO+ only)

Station mode is useful when you have no way to connect HHO+ to the company LAN with an Ethernet cable.



In this configuration, HHO+ is connected to the company LAN via its Wi-Fi module, through an access point, as the other company devices do.

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