Superior MegaHub (without casing) user manual

Updated March 24, 2026

Superior MegaHub (without casing) is a hybrid control panel for an Ajax system, designed as a board that can be installed into an Ajax casing and is compatible with both wired and wireless Ajax devices. It controls connected device operation and interacts with both users and the monitoring company. The control panel is also available in a standard casing. This version is called **Superior MegaHub**.

The hub requires internet access to connect to the Ajax Cloud server. Available communication channels are Ethernet, Wi-Fi, and two SIM cards. For cellular connection, Superior MegaHub (without casing) is equipped with a 2G/4G (LTE) modem.

Superior MegaHub (without casing) features a connector for attaching a tamper board when the hub is installed into a compatible Ajax casing. The tamper board protects the hub from dismantling. The device is powered by a 100–240 V~ mains and can also be powered by a 12 V⎓ backup battery. The hub has external antenna connectors for cellular, Jeweller, and Wings communication channels.

Superior MegaHub (without casing) is a device of the **Superior product line**. Only accredited Ajax Systems partners can sell, install, and maintain Superior products.

☞ **Buy Superior MegaHub (without casing)**

☞ **Buy Case D (430)**

☞ **Buy Case E (395)** (coming soon)

☞ **Buy ExternalAntenna**

Functional elements

Board elements

1. Connector for attaching the **tamper board** to the hub. The tamper board is included in the Ajax Case complete set, which is sold separately.
2. LED indicator for displaying the states of the hub and connected communication channels.
3. Power button.
4. External antenna connector for the Wings communication channel (SMA female connector).
5. Slot for micro SIM 1.
6. Slot for micro SIM 2.
7. QR code and ID (serial number) of the device.
8. External antenna connector for the cellular communication channel (SMA female connector).
9. External antenna connector for the Jeweller communication

channel (SMA female connector).

10. Connector for attaching the external LED to the hub. The external LED is included in the Superior MegaHub (without casing) complete set.
11. Power cable terminals.
12. Connector for connecting a 12 V backup battery.
13. Fibra line terminals for connecting wired devices.
14. Ethernet cable connector.
15. Mounting holes for installing the Superior MegaHub (without casing) board into Ajax Case using three **Module Holder (type A)** holders.

Fibra line terminals

Superior MegaHub (without casing) has eight Fibra lines. Numbers 1 to 8 are indicated on the control panel board. Each Fibra line has its own LED indicator that shows its current state.

Fibra line terminals:

1. **+24 V** — 24 V⎓ power supply terminal.
2. **A** — first signal terminal.
3. **B** — second signal terminal.
4. **GND** — power ground terminal.

When installing Fibra devices, observe the polarity and wire connection order.

Operating principle

Superior MegaHub (without casing) is a hybrid control panel of an Ajax system. It controls the connected device operation. The hub is added to a **space**, a virtual entity where various autonomous devices are gathered on the same physical object.

How to create a space

You can add up to 999 wired and wireless Ajax devices to Superior MegaHub (without casing). Connected devices protect against intrusion, fire, and flooding. They also allow you to control electrical appliances according to scenarios or manually — in a mobile app, by pressing the panic button, by actuating **LightSwitch**, or via the **keypad with touchscreen**.

The hub supports both devices with the new firmware version (i.e., with the “999 ready” label) and devices with the legacy firmware version. However, no more than 250 devices with the legacy firmware can be added to the hub. The remaining devices within the 999 limit must have the new firmware version.

Superior MegaHub running OS Malevich 2.37 **supports up to 250 Jeweller devices**, including those with upgraded and legacy firmware. This is a temporary limitation that will be lifted in future updates.

To monitor the operation of all system devices, the hub uses **encrypted protocols** to communicate with them:

1. **Superior Jeweller** is a radio protocol for transmitting events and alarms from wireless Ajax devices. The communication range is up to 2,500 m in open space.

☞ **Learn more about Superior Jeweller**

2. **Wings** is a radio protocol for transmitting large data packets. The communication range is up to 2,500 m in open space.

☞ **Learn more about Wings**

3. **Fibra** is a wired protocol for transmitting events and alarms from wired Ajax devices. The communication range is up to 2,000 m when the device is connected via U/UTP cat.5 twisted pair.

☞ **Learn more about Fibra**

4. **VoRF** is a proprietary full-duplex audio communication protocol that ensures seamless and secure voice exchange. This protocol is used by **Ajax voice modules**. The communication range is up to 1,700 m in open space.

If a device is triggered, the system raises an alarm in less than a second, regardless of the communication protocol. In case of an alarm, the hub activates the sirens, launches scenarios, and notifies the monitoring company and all users.

OS Malevich

Superior MegaHub (without casing) runs on the OS Malevich real-time operating system, which is protected against viruses and cyberattacks.

OS Malevich provides an Ajax system with new features and functionality via over-the-air (OTA) updates. The update does not require the involvement of an installer or user.

When the system is disarmed and an external power supply and a backup battery are connected, the OTA update takes up to 2 minutes.

 How OS Malevich is updated

Sabotage protection

Superior MegaHub (without casing) features four communication channels for connecting to the Ajax Cloud server: Ethernet, Wi-Fi, and two SIM cards. This allows you to connect the device to four different communication providers simultaneously. If one of the communication channels is unavailable, the hub will automatically switch to another one and notify the monitoring company and system users.

The connection between the hub and the devices added to it is protected by an **advanced encryption** scheme that ensures data confidentiality and integrity. This means that

all sensitive data in a message is encrypted, and each message includes a unique authentication tag allowing the system to verify that the data has not been modified during transmission. The system can reliably detect tampering and reject forged or altered messages, providing robust protection against both passive and active attacks. This ensures secure communication between the device and the hub, as well as reliable system and data protection.

Learn more about advanced encrypted communication

Superior MegaHub (without casing) uses **frequency hopping** for radio communication. With this method, the hub and devices added to it change their operating frequency according to a predefined pattern. The hopping sequence covers a defined set of channels within the operating bands, and the devices switch frequencies synchronously with the hub. Even if some channels are affected by jamming, messages can be transmitted successfully via other channels. Frequency hopping improves system reliability and performance, ensuring its resistance to intentional interference and jamming attempts.

Frequency hopping does not cause delays or pauses in radio communication and does not reduce data transfer speeds. If **range extenders** are added to the system, frequency hopping is used for “device ↔ range extender” and “range extender ↔ hub” radio communication.

The system uses frequency hopping for radio communication only if all wireless devices support this method.

If at least one device added to the system does not support frequency hopping, the hub and all devices switch to the operating frequencies of that device and do not use frequency hopping for radio communication.

Learn more about frequency hopping

Learn more about jamming

The hub regularly checks the quality of communication with all connected devices. If any device loses connection with the control panel, all system users (depending on the settings) and the monitoring company will receive a notification of the incident after the time specified by an admin has elapsed.

Learn more

The hub cannot be turned off unnoticed, even when the facility is disarmed. If an intruder attempts to open Ajax Case with the hub board installed, the tamper button will be triggered immediately. An alarm notification will be sent to

the monitoring company and system users.

 **What is a tamper button**

 **What is a tamper board**

The hub regularly checks the connection to Ajax Cloud. The polling interval is specified in the hub settings. If the minimum polling interval is set, the server will notify users and the monitoring company within 60 seconds after the connection is lost.

 **Learn more**

A backup battery can be connected to the hub to provide backup power for the hub and wired devices and ensure system operability for a specific period.

You can use batteries of different capacities that fit the Ajax Case size and feature a full charging time of no more than 24 hours. The maximum battery charging current from Superior MegaHub (without casing) is 0.9 A.

 **Learn more**

Video surveillance

Superior MegaHub (without casing) is compatible with **Ajax cameras and NVRs**, as well as third-party cameras that support the RTSP protocol or SDK integration.

 **How to connect cameras to an Ajax system**

You can calculate the number of cameras and NVRs that can be added to an Ajax space using **Video device calculator**.

Scenarios

Superior MegaHub (without casing) allows creating 100 scenarios and minimizing the human factor impact on security. The scenarios may include:

- managing the security of the entire facility or a separate group according to a schedule;
- activating a smoke machine if intruders have entered the premises;
- de-energizing the premises and turning on emergency lighting in case of fire;
- shutting off the water in the event of a leak;
- controlling lighting devices, electric locks, roller shutters, and garage doors when a security mode is changed after an Ajax

smart button is pressed or a detector alarm is activated.

The scenarios can be used to reduce the number of routine actions and increase productivity. Ajax automation devices respond to changes in temperature and air quality. For example, configure the heating to turn on at low temperatures or control the air supply system, humidifier, and air conditioner to maintain a comfortable microclimate.

How to create and configure a scenario

Photo verification

Superior MegaHub (without casing) supports **motion detectors** with photo verification. When triggered, the detectors take a series of photos you can use to keep track of the situation at the facility. This relieves users of unnecessary anxiety and prevents monitoring companies from sending unnecessary patrol dispatches.

When the detector is armed and detects motion, it activates the camera. Only users with access to the event feed can view visual data. If the system is connected to the monitoring station, authorized employees of the monitoring company can also view visual data for alarm verification.

If the **Photo on demand** feature is activated, the detectors can take a photo at the command of a system user or a PRO user with the appropriate rights. Photo capture events are always recorded in the hub's event feed.

The images are protected by encryption at every stage of transmission. They are stored on the Ajax Cloud server and are not processed or analyzed.

 **Learn more**

Ajax account

To set up the system, install the **Ajax PRO app** and log in to your PRO account, or create a new one if you do not have one yet. Do not create a new account for each space, as one account can manage multiple systems. Where necessary, you can configure separate access rights for each space.

 **How to register a PRO account**

User settings, systems, and parameters of connected devices are stored in a space. Changing the space admin or adding or removing users does not reset the settings of the devices added to the space.

Superior MegaHub (without casing) can only be added and configured in Ajax PRO apps.

Selecting an installation site

Superior MegaHub (without casing) must be installed into **Case E (395)** (coming soon) or **Case D (430)**, which are sold separately. Case E (395) is designed for indoor and outdoor use, while Case D (430) is intended for indoor use only. It is recommended to choose an installation site where the hub will be hidden from prying eyes — for example, in a storage room. This will help to reduce the risk of sabotage or system jamming.

Install Ajax Case with the hub on a vertical surface. This will ensure a proper tamper button response if someone attempts to detach the casing. Before installation, refer to the battery documentation — some batteries can be mounted only vertically (with terminals facing upward). Any other installation position may result in rapid battery degradation.

Choose a location where the hub can use all possible communication channels: Ethernet, Wi-Fi, and two SIM cards. Ensure that the cellular signal at the installation site is stable and reaches 2–3 bars. In areas with poor signal reception, it is recommended to install Ajax **ExternalAntenna**. If the cellular signal is weak, correct device operation cannot be guaranteed.

When choosing an installation site, take into account the distance between the hub and wireless devices. You should also consider the presence of obstacles that may interfere with the radio signal: walls, intermediate floors, or large objects located in the room.

To roughly calculate a signal strength at the installation site of wireless devices, use our **Radio communication range calculator**. Use **Fibra power supply calculator** to calculate the wired connection range.

Run the Jeweller, Wings, and Fibra signal strength tests. A stable signal strength of 2–3 bars for all connected devices should be provided at the chosen installation site. With a signal strength of 1 or 0 bars, stable system operation cannot be guaranteed.

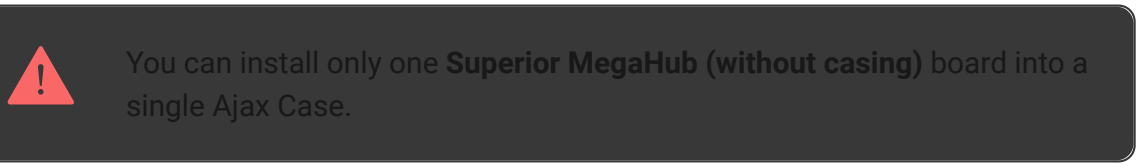
If the system has devices with a signal strength of 1 or 0 bars, consider relocating the hub or device. If this is not possible or the device still has a low or unstable signal strength after being moved, use **range extenders** or **Fibra modules** that extend the line.

Follow these recommendations when designing a system project for a facility. Only professionals should design and install an Ajax system. A list of authorized Ajax partners is **available here**.

Installing into Ajax Case

The hub must be installed into **Case E (395)** (coming soon) or **Case D (430)**, which are sold separately.

The hub board can be placed alongside other devices in Ajax Case. Use **Case configurator** to determine the optimal arrangement of your Fibra devices within the casing.



The casing features mounts for the modules, cable channels, and a tamper board that is connected to the hub's connector. Three Module Holder (type A) holders are required to install the hub board into Ajax Case. The figure below shows the options for placing the hub board into Case D (430).

How not to install the hub

1. Without Case D (430) or Case E (395) (coming soon).
2. Outdoors without Case E (395) (coming soon). This may cause the control panel to malfunction.
3. Near metal objects and mirrors. They can cause attenuation or shielding of the radio signal. This may result in a connection loss between the hub and wireless Ajax devices. If it is necessary to install the hub in such conditions, use ExternalAntenna to overcome signal interference.
4. In places with high levels of radio interference. This may result in a connection loss between the hub and wireless Ajax devices or false notifications of **system jamming**. If necessary, use ExternalAntenna to move the reception spot.
5. With another hub board in Ajax Case.
6. Closer than 1 m to a router and power cables. This may result in connection loss between the hub and wireless devices.
7. Closer than 1 m to Jeweller devices. This may result in connection loss between the hub and these devices.
8. In places where the hub will have a signal strength of 1 or 0 bars for connected devices. This may result in connection loss

between the hub and these devices. Use ExternalAntenna if necessary.

9. In places with temperature and humidity beyond the permissible limits. This may damage the control panel.
10. In places with no cellular signal or one-bar signal strength. In areas with poor signal reception, it is recommended to install Ajax **ExternalAntenna**. If a cellular signal strength is low, correct device operation cannot be guaranteed.

Designing

To ensure correct device installation and configuration, it is crucial to design the system properly. During the design stage, it is necessary to consider factors such as the number and types of devices at the facility, their exact location and installation height, the length and type of Fibra lines, and other relevant details. For tips on designing the Fibra system, refer to **the article**.

Topologies

Fibra is a data transfer protocol for wired Ajax devices. At the physical level, Fibra resembles a bus connection: the detectors are connected to the control panel with a four-core cable. Ajax systems support three topologies — **Beam (Radial wiring)**, **Ring**, and **Tree**. Learn more about the topologies in **this article**.

Cable length and type

If the **Beam (Radial wiring)** topology is used, the maximum range of a wired connection is 2,000 m, while the **Ring** topology allows for up

to 500 m.

Recommended cable types:

- U/UTP cat.5, 4×2×0.51 mm (24 AWG) cable, copper conductor.
- 4×0.22 mm² signal cable, copper conductor.

The wired connection range may vary if you use a different cable type. No other cable types have been tested.

Verification with the calculator (coming soon)

Use **Fibra power supply calculator** to ensure that the design is correct and the system will work in practice. This tool helps check the communication quality and cable length for wired Fibra devices during the system design stage.

Preparing for installation

Cable arrangement

When preparing to lay cables, check the electrical and fire safety regulations in your region. Strictly follow these standards and regulations. Tips for laying cables are available in **the article**.

Cable routing

We recommend that you carefully read the Selecting the installation site section before installation. Do not deviate from the system

design. Violation of the basic Superior MegaHub (without casing) installation rules and the recommendations of this manual may result in incorrect operation and connection loss with the device.

Signal cables for Fibra devices must be laid at a distance of at least 50 cm from the power cables when routed in parallel. If signal cables intersect, the angle must be 90°. Observe the permissible cable bending radius, which is specified by the manufacturer in the cable specifications. Otherwise, there is a risk of damaging or breaking the conductor. Tips for cable routing are available in **this article**.

Preparing cables for connection

Remove the insulation layer and strip the cable with a special insulation stripper. The wire ends inserted into the device terminals must be tinned or crimped with a sleeve. This ensures a reliable connection and protects the conductor from oxidation. Tips for preparing the cables are available in **the article**.

Installation

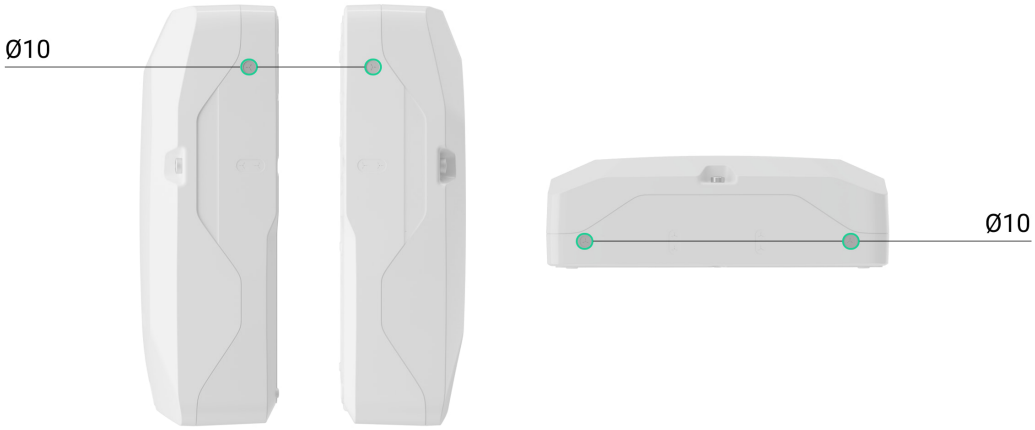
Before installing Superior MegaHub (without casing), ensure that the optimal device location has been chosen and that it meets the requirements of this manual. To reduce the likelihood of sabotage, conceal the cables from view and route them in a place that is inaccessible to intruders. It is best to route them inside walls, floors, or ceilings. Before final installation, run the **Fibra signal strength test**

When connecting to the device terminals, do not twist the wires

together, but solder them. The ends of the wires that will be inserted into the terminals must be tinned or crimped with a special sleeve. This will ensure a reliable connection. **Follow the safety procedures and electrical installation rules when connecting the control panel and wired devices**.

Installing into Case D (430) Installing into Case E (395)

1. De-energize the cables you will connect to Superior MegaHub (without casing).
2. Unscrew the casing's front lid and remove it.
3. Prepare holes for routing the cables into Case D (430) in advance. Refer to the **Case user manual**.
4. Drill a Ø10 mm hole for a light guide in the bottom or side of the casing, near the place where the LED board will be installed.



5. Install the light guide and the LED board included in the Superior MegaHub (without casing) complete set.

6. Run the power and Ethernet cables into Case D (430) through the prepared holes. Run the ExternalAntena cables if the antennas are used.

7. Using all fixing points, secure Case D (430) to a **vertical surface** at the selected installation site with the bundled screws. One fixing point is located in the perforated part above the tamper button: if someone attempts to detach the casing, the tamper button will be triggered.

8. Secure three **Module Holder (type A)** holders using the Case rails.

9. Install the Superior MegaHub (without casing) board on the

holders.

10. Install and connect the Case D (430) tamper board to the appropriate hub terminal.
11. Connect the LED board to the appropriate hub terminal.
12. If necessary, connect Ajax **ExternalAntenna** devices to the appropriate hub connectors.

> Use only Ajax ExternalAntenna. If a third-party external antenna is used, correct device operation cannot be guaranteed. Before installation, read the ExternalAntenna user manual.

13. Install the battery in the designated holders provided in Case D (430). Secure the battery with the hook and loop fastener stripe.

> Refer to the battery documentation — some batteries can be mounted only vertically (with terminals facing upward). Any other installation position may result in rapid battery degradation.

14. Connect the backup battery to the appropriate hub connector using the bundled cable. Observe the correct polarity and wire connection order.

    Note: Superior MegaHub (without casing) cannot be connected to third-party power supply units.

Use 12 V⎓ batteries with a capacity of 18 Ah. You can also use a similar battery of a different capacity if it fits in size and its charging time does not exceed 24 hours.

15. Connect the Ethernet cable to the appropriate hub connector.
16. Connect the power cable to the appropriate hub terminals.
17. Secure the cables with cable ties.
18. Insert SIM cards into the corresponding slots.
19. **Add the hub to the system**.
20. Attach the lid to the casing and secure it with the bundled screws.
21. Check the state of the hub casing in the **Ajax PRO app**. If a tamper alarm is indicated, ensure that Case D (430) is closed tightly.

If the Ethernet connection fails

If the Ethernet connection is not established, disable proxy and MAC address filtering and activate DHCP in the router settings. The hub will automatically receive an IP address. After that, you can assign a static IP address to the hub in an Ajax app.

If the SIM connection fails

To connect to the cellular network, you need to install a micro SIM card with a PIN code request disabled and sufficient funds on your account to pay for services according to the tariff plan. To disable

the PIN code request, insert the SIM card into your phone.

If the hub fails to connect to the cellular network, use Ethernet to configure the network parameters, such as roaming, APN access point, username, and password. To obtain these parameters, contact the support service of your mobile operator.

How to set or change APN settings in the hub

Adding to the system

Use the latest versions of Ajax apps to access all available features and ensure proper system operation.

Superior MegaHub (without casing) can only be added and configured in Ajax PRO apps. Only accredited Ajax Systems partners can sell, install, and maintain Superior products.

Types of accounts and their rights

You can add the hub to an existing space or create a new one. If you need to transfer the system from one hub to another, refer to **this article**.

Before adding the hub

1. Install the **Ajax PRO app**.
2. Log in to your **PRO account** or create a new one.
3. Ensure an external power supply, backup battery, Ethernet cable,

and/or SIM cards are connected to the hub.

4. Ensure the hub is turned on. If not, turn on the hub by holding the power button for 3 seconds. Once the hub is turned on, the LED indicator on the hub board will light up.

Adding the hub with space creation

1. Open the **Ajax PRO app**.
2. Go to the menu with all spaces and tap + in the upper right corner to create a space.
3. Assign a name to the space and add an image if necessary.
4. Scan the QR code or enter the hub ID manually. You can find the QR code with the ID on the hub board. Also, it is duplicated on the hub packaging.
5. Tap **Add** to create the space with the hub.

Adding the hub to an existing space

1. Open the **Ajax PRO app**. Select a **space** to which you want to add the hub.
2. Go to the **Devices** tab and tap **Add device**.
3. Scan the QR code or enter the hub ID manually. You can find the QR code with the ID on the hub board. Also, it is duplicated on the hub packaging.
4. Assign a name to the hub.
5. Select a virtual room or create one if no rooms have been

created yet.

6. Tap **Add**, and the countdown will begin.

Once the hub is added to your account, you become the hub admin. Admins can invite other users to the system and determine their rights. You can add up to 1,000 users to Superior MegaHub (without casing).

Each PRO account added to the hub, as well as the monitoring company profile, is considered a system user.

Changing or removing the admin from the list of hub users does not reset the system settings or connected devices.

If there are already users on the hub, the hub admin, PRO with the rights to configure the system, or the installation company maintaining the selected hub can add your account. You will be notified that the hub has already been added to another account. Contact our technical support to determine who has admin rights on the hub.

User account types and rights

Adding devices to the hub

Create the necessary **virtual rooms** before adding devices to the system. The rooms are needed to group devices and increase the information content of notifications. Device and room names are displayed in the text of Ajax system events and alarms.

For more information on how to add and configure a device, refer to its user manual, which can be found on the Ajax Support page.

Adding Jeweller devices

To add a wireless device to the hub, in the Ajax PRO app:

1. Go to the **Devices** tab and tap **Add device**.
2. Scan the QR code or enter the device ID manually. You can find the QR code with the ID on the device enclosure. Also, it is duplicated on the device packaging.
3. Assign a name to the device.
4. Select a **virtual room** and a security group (if the **group mode** is enabled).
5. Tap **Add**, and the countdown will begin.
6. Follow the instructions in the app to add the device.
7. Repeat steps 1–6 if you need to add more devices.

The device can be added to the hub if it is located within the hub's radio communication range, on the same secure premises.

Once added to the hub, the device will appear in the list of hub devices in an Ajax app. The interval for updating device states in the list depends on the Jeweller/Fibra settings and is 36 seconds by default.

Connecting Fibra devices

Fibra wired communication technology allows creating segments up to 2,000 m long. Superior MegaHub (without casing) features eight lines compatible with all Fibra devices, regardless of their type. Security detectors, keypads, and sirens are connected to the same line and protect a specific facility area. Up to 200 devices can be connected to one beam or ring of the Fibra lines.

Before installing the devices, ensure that you have chosen the optimal location and that it meets the conditions specified in the device user manual. To reduce the likelihood of sabotage, hide the cables from view and route them in a place that is inaccessible to intruders. It is best to route them inside walls, floors, or ceilings. Before final installation, run the Fibra signal strength test.

To connect a wired device to the hub:

1. De-energize and turn off the hub. Disconnect the backup battery.
2. Run four-wire cables into the casing. Connect the cables to Superior MegaHub (without casing) line terminals:
3. Connect the other end of the four-wire cable to the terminals of the first device in the line, observing the polarity and wire connection order. Securely fasten the cable to the device terminals.
4. If other devices are connected to the segment, prepare and connect the cables for the next device to the terminals.
5. Connect other devices to the line if necessary.
6. Install a 120 Ω **terminating resistor** for the last device in the line using the **Beam (Radial wiring) topology**. The terminating resistor is installed between terminals A and B of the last device

in the line.

With the **Ring topology**, a terminating resistor is not needed. In this case, connect the last device in the line to the next hub's Fibra line.

> The nominal value of terminating resistors is 120 Ω. Terminating resistors are included in the complete set of Superior MegaHub (without casing).

Learn more about connection methods

7. Connect the power supply to the hub and turn it on.
8. Add devices to the system manually or via line scanning.
9. Run the **Fibra signal strength test** for each connected device. The recommended signal strength is two or three bars. Otherwise, check the cable connection and integrity or move the system devices.

Adding Fibra devices

In the **Ajax PRO app**, there are two ways to add devices: **manually** and **automatically**. You can add a few devices manually, for example, when replacing a faulty detector with a new one. Automatic line scanning is useful when you add numerous devices.

Manually Automatically

To add a device manually, in the Ajax PRO app:

1. Go to the **Devices** tab and tap **Add device**.
2. Scan the QR code or enter the device ID manually. You can find the QR code with the ID on the device enclosure. Also, it is duplicated on the device packaging.
3. Assign a name to the device.
4. Select a virtual room and a security group (if the **group mode** is enabled).
5. Tap **Add**.

The device connected to the hub will appear in the list of hub devices in an Ajax app.

The device state update interval depends on the Fibra settings and is 36 seconds by default.

To help an installer name the device correctly or assign it to a room and group, we have provided two methods to identify the device: by LED indication and by triggering a device.

By LED indication **By triggering**

Once line scanning is finished, the Ajax PRO app will display a list of wired devices connected to the hub.

Select any device from this list. The device's LED indicator will start flashing. After the device has been identified, add it to the hub.

To add a device to the hub:

1. Select the device from the list.
2. Assign a name to the device.
3. Specify a room and group if the **group mode** is enabled.
4. Tap **Save**.
5. The added device will be removed from the list of devices available to add.

If the maximum number of devices has already been added to the hub, an error notification will appear when you attempt to add another device. A total of 999 devices can be added to Superior MegaHub (without casing), including 200 wired devices on one Fibra line beam or ring.

Connected Ajax devices work with only one hub. Once added to a new hub, these devices are not removed from the device list of the old hub. This must be done via the Ajax PRO app.

Icons

Icons display some of the Superior MegaHub (without casing) states. The icons are displayed in the **Devices** tab in an Ajax app.

Icon	Meaning

	The extra services are activated according to the subscription plan. **Learn more**
	The hub operates in the 2G network.
	The hub operates in the 4G (LTE) network.
	No SIM cards. Insert at least one SIM card.
	A SIM card is faulty or has PIN verification enabled. Check the SIM card in your phone and disable the PIN code request.
	Hub battery charge level. Specified as a percentage in 1% increments.
	The backup battery is not connected.
	The hub is directly connected to the monitoring station. The icon is not displayed if a direct connection is neither available nor configured. **Learn more**
	The hub is not directly connected to the monitoring station. The icon is not displayed if a direct connection is neither available nor configured. **Learn more**
Saving mode	The hub operates in **Saving mode**.
Offline	The hub has lost connection with the Ajax Cloud server.

States

The states include information about the hub and its operating parameters. The Superior MegaHub (without casing) states can be viewed in Ajax apps:

1. Go to the **Devices** tab.
2. Select **Superior MegaHub (without casing)** from the list.

Parameter	Meaning
Malfunction	Tap ⓘ to open a list of Superior MegaHub (without casing) malfunctions. The field is displayed only if a malfunction is detected.
Cellular signal strength	Signal strength of the active SIM mobile network. Install the hub in places where a cellular signal strength is 2–3 bars. In places with poor signal reception, it is recommended to install Ajax ExternalAntenna. If the hub is installed in a place with a weak or unstable signal strength, the hub will not be able to call or send an SMS about an event or alarm.
	External antenna connection state: • **Connected** — an antenna is connected to the cellular port. • **Not connected** — an antenna is not

External antenna for cellular	connected to the cellular port. • **Damaged** — an antenna is damaged. External antenna damage can be detected only when Ajax ExternalAntenna is connected and the hub casing is closed properly.
Wi-Fi signal strength	Wi-Fi signal strength via the Wi-Fi communication channel. The recommended value is 2–3 bars.
External antenna for Jeweller	External antenna connection state: • **Connected** — an antenna is connected to the Jeweller port. • **Not connected** — an antenna is not connected to the Jeweller port. • **Damaged** — an antenna is damaged. External antenna damage can be detected only when Ajax ExternalAntenna is connected and the hub casing is closed properly.
	External antenna connection state:

External antenna for Wings	• **Connected** — an antenna is connected to the Wings port. • **Not connected** — an antenna is not connected to the Wings port. • **Damaged** — an antenna is damaged. External antenna damage can be detected only when Ajax ExternalAntenna is connected and the hub casing is closed properly.
Connection	Connection state between the hub and Ajax Cloud: • **Online** — the hub is connected to Ajax Cloud. • **Offline** — the hub is not connected to Ajax Cloud. Check the hub's internet connection. If Superior MegaHub (without casing) is not connected to the Ajax Cloud server, the hub and all connected device icons become semi-transparent in the device list.
Battery charge	The charge level of the connected battery. Specified as a percentage in 1% increments. If charge level is 20% or below, the hub

	will notify users of a low battery charge. Learn more
Lid	State of the tamper button that is triggered when Ajax Case is dismantled or opened: • **Closed** — the Ajax Case lid is closed. Normal state. • **Open** — the Ajax Case lid is open, or its integrity has been compromised. Check the Ajax Case state. • **Not connected** — the tamper board is not connected to the hub. Learn more
Lines power supply	Power supply state of the hub's Fibra lines: • **On** — power is supplied to all Fibra lines. • **On for line №** — power is supplied to the specified Fibra lines. • **Overloaded** — power is overloaded on all Fibra lines. • **Off** — power is not supplied to all Fibra lines.
	State of a single line or ring in case of a malfunction:

Line [number] / Ring [number]	• **Shorted out** — a short circuit is detected on the line/ring. • **Overvoltage** — an overvoltage is detected on the line/ring. • **Low voltage** — a low voltage is detected on the line. • **Disconnected** — the ring is disconnected. Information about each line or ring is displayed in a separate row.
External power	External power supply connection state: • **Connected** — the hub is connected to an external power supply. • **Disconnected** — there is no external power supply. Check the hub's connection to the external power supply.
Cellular data	State of the hub's mobile internet connection: • **Connected** — the hub is connected to Ajax Cloud via mobile internet. • **Not connected** — the hub is not connected to Ajax Cloud via mobile internet. Check the hub's connection to the internet via the mobile network. • **Disabled** — the option is disabled in the hub settings.

	If a cellular signal strength is 1–3 bars and the hub has enough funds and/or bonus SMS/calls, it will be able to call and send SMS messages even if the **Not connected** state is displayed.
Wi-Fi	State of the hub's internet connection via Wi-Fi: • **Connected** — the hub is connected to Ajax Cloud via Wi-Fi. Normal state. • **Not connected** — the hub is not connected to Ajax Cloud via Wi-Fi. Check the hub's internet connection via Wi-Fi. • **Disabled** — the option is disabled in the hub settings.
Ethernet	State of the hub's internet connection via Ethernet: • **Connected** — the hub is connected to Ajax Cloud via Ethernet. Normal state. • **Not connected** — the hub is not connected to Ajax Cloud via Ethernet. Check the hub's internet connection via Ethernet. • **Disabled** — the option is disabled in the hub settings.
	Number of the SIM card installed in the first slot.

SIM 1	To copy the number, tap it. If the phone number is displayed as **Unknown number**, the mobile operator has not saved it to the SIM card memory.
SIM 2	Number of the SIM card installed in the second slot. To copy the number, tap it. If the phone number is displayed as **Unknown number**, the mobile operator has not saved it to the SIM card memory.
Average noise (dBm)	Average noise level in the radio channel. Measured at the hub installation site. The first two values show the noise level at Jeweller frequencies, while the third indicates the level at Wings frequencies. An acceptable value is –80 dBm or lower. For example, –95 dBm is considered acceptable, while –70 dBm is invalid. Learn more
Frequency hopping	State of the frequency hopping feature.
	State of the hub's direct connection to the monitoring station: • **Connected** — the hub is directly connected to the monitoring station. • **Not connected** — the hub is not

Monitoring station	directly connected to the monitoring station. If this field is displayed, the monitoring company uses a direct connection to receive system alarms and events. **Learn more**
Telephony	State of the telephony feature. Learn more
Scheduled wake-up	State of the scheduled wake-up feature. The feature allows setting the date and time when the hub wakes up from the battery saving mode on demand and becomes active for configuration and management. The available states are: • **Not set** — scheduled wake-up is not set. • **Date, time** — the next wake-up on demand is scheduled for the specified date and time. Tap ⟳ to open the feature settings. The settings are available only in **Ajax PRO apps**.
Hub model	Hub model name. **Learn more**

Hardware	Superior MegaHub (without casing) hardware version. Not updatable.
Firmware	Superior MegaHub (without casing) firmware version. Remotely updatable. **Learn more**
Device ID	Superior MegaHub (without casing) identifier (first eight digits of the serial number). The identifier is shown on the device packaging and on the board under the QR code.
IMEI	A unique 15-digit serial number for identifying the hub's modem in the GSM network. It is displayed only when a SIM card is installed in the hub.

Settings

To change Superior MegaHub (without casing) settings, in an Ajax app:

1. Go to the **Devices** tab.
2. Select **Superior MegaHub (without casing)** from the list.
3. Go to **Settings**.
4. Set the required parameters.
5. Tap **Back** to save the new settings.

Name

Room

Select casing

Ethernet

Cellular

Wi-Fi

Keypad access codes

Code length restrictions

Detection zone test

Walk test

Jeweller/Fibra

Lines

Telephony settings

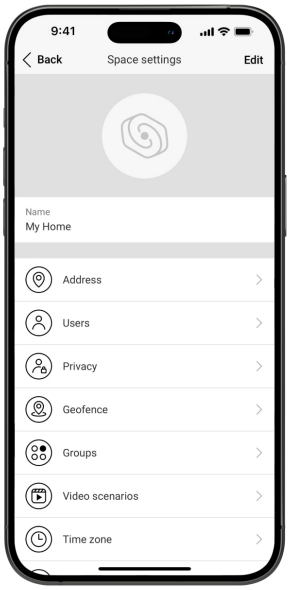
Service

User manual

Transfer settings to another hub

Remove hub

Space settings



In the space settings, you can configure the following:

- **Image and name**

- **Address**
- **Users**
- **Privacy**
- **Geofence**
- **Groups**
- **Video scenarios**
- **Time zone**
- **Security companies**
- **Installers/Companies**

You can change space settings in an **Ajax app**:

1. Select a space if you have several or if you are using the Ajax PRO app.
2. Go to the **Control** tab.
3. Go to **Settings** by tapping the gear icon at the bottom of the tab.
4. Set the required parameters.
5. Tap **Back** to save the new settings.

How to configure a space

Indication

Superior MegaHub (without casing) has two LED indication modes:

- **Hub – server connection.**
- **British disco.**

Hub – server connection

Hub–server connection mode is enabled by default. The hub's LED lights up in different colors depending on the system state or event, such as red, white, purple, yellow, blue, or green.

Superior MegaHub (without casing) states can also be monitored in Ajax apps.

Event	Indication	Note
At least two communication channels are connected: Ethernet, Wi-Fi, or cellular.	Lights up white.	When the hub operates on a backup battery only, the LED indicator flashes every 10 seconds.
One communication channel is connected: Ethernet, Wi-Fi, or cellular. Learn more	Lights up green.	When the hub operates on a backup battery only, the LED indicator flashes every 10 seconds.
The hub has no connection to the internet or the Ajax Cloud server.	Lights up red.	When the hub operates on a backup battery only, the LED indicator will flash every 10 seconds.
External power supply is	Lights up continuously	The indication color depends on the number

disconnected (if a backup battery is connected).	for 3 minutes, then flashes every 10 seconds.	of connected communication channels.

If the system event indication differs from that specified in this user manual, contact Ajax support.

British disco

You can enable this feature in the hub settings in the Ajax PRO app (Hub → Settings → Services → LED indication).

Event	Indication	Note
Hub state changes		
Two-stage arming or **Exit delay**.	Flashes white once per second.	One of the devices is performing **Two-stage arming** or **Exit delay**.
Entry delay.	Flashes green once per second.	One of the devices is performing **Entry delay**.
Arming is complete.	Lights up white for 2 seconds.	The hub (or one of the groups) changes its state from **Disarmed** to **Armed**.
Disarming is complete.	Lights up green for 2 seconds.	The hub (or one of the groups) changes its state from **Armed** to **Disarmed**.
Alerts and malfunctions		
		There is an unrestored state after a confirmed

Confirmed hold-up alarm.	Flashes red and purple sequentially for 5 seconds.	hold-up alarm. The indication is displayed only if the restoration after **Confirmed hold-up alarm** is enabled in the settings.
Single hold-up alarm.	Lights up red for 5 seconds.	There is an unrestored state after a hold-up alarm. The indication is not displayed if there is a confirmed hold-up alarm state.

		The indication is displayed only if the restoration after **Single hold-up alarm** is enabled in the settings.
The number of flashes corresponds to the number of the hold-up device that first activated a hold-up alarm.	Flashes red.	There is an unrestored state after the confirmed or unconfirmed hold-up alarm.
Confirmed intrusion alarm.	Flashes yellow and purple sequentially for 5 seconds.	There is an unrestored state after the confirmed intrusion alarm.

		The indication is displayed only if the restoration after **Confirmed intrusion alarm** is enabled in the settings.
Single intrusion alarm.	Lights up yellow for 5 seconds.	There is an unrestored state after the intrusion alarm. The indication is not displayed if there is a confirmed intrusion alarm condition.

		The indication is displayed only if the restoration after **Single intrusion alarm** is enabled in the settings.
The number of flashes corresponds to the number of the device that first activated an intrusion alarm.	Flashes yellow.	There is an unrestored state after the confirmed or unconfirmed intrusion alarm.
Lid opening.	Flashes red and blue sequentially for 5 seconds.	The hub or any device added to it has the unrestored tamper button state or the open lid. The indication is displayed only if the restoration after **Lid opening** is enabled in the settings.

Other malfunctions.	Flashes yellow and blue sequentially for 5 seconds.	There is an unrestored fault state, or the hub or any device has a malfunction. The indication is displayed only if the restoration after **Other malfunctions** is enabled in the settings.
Temporary deactivation.	Lights up dark blue for 5 seconds.	One of the devices is temporarily deactivated, or the lid state notifications are disabled.
Automatic deactivation.	Lights up blue for 5 seconds.	One of the devices is automatically deactivated by an opening timer or the number of detections.
Alarm timer expiration. **Learn more about the Alarm confirmation feature**	Flashes green, then blue in sequence.	The indication is displayed after the alarm timer has expired (to confirm an alarm).

When there are no events in the system, the LED indicator displays two hub states:

- Armed / partially armed, or **Night mode** enabled — the LED lights up white.
- Disarmed — the LED lights up green.

When the British disco indication is displayed

Superior MegaHub (without casing) users can see the **British disco** indication after they:

- arm/disarm the system using the Ajax keypad;
- enter the correct user ID or personal code on the keypad and perform an action that has already been performed (for example, the system is disarmed, and the disarm button is pressed on the keypad);
- press the key fob button to arm/disarm the system or activate **Night mode**;
- arm/disarm the system in Ajax apps.

All users can see the indication related to hub state changes.

Alert indication

If the system is disarmed and any indication from the table is present, the LED indicator flashes yellow once per second.

If there are multiple events in the system, the indications are displayed sequentially, in the same order as shown in the table.

Malfunctions

If a hub malfunction is detected (e.g., no external power supply is available), a malfunction counter is displayed on the device icon in an Ajax app.

All malfunctions can be viewed in the hub states. Fields with malfunctions will be highlighted in red.

Resetting to factory defaults

To reset the hub to factory defaults:

1. Turn on the hub if it is off.
2. Remove all users and installers from the hub.
3. Hold the power button for 30 seconds, and the LED indicator on the hub board will start flashing red.
4. Remove the hub from your account.

Maintenance

Regularly check the operation of Superior MegaHub (without casing) and connected devices. The optimal frequency of checks is once every three months. Clean the hub casing of dust, cobwebs, and other contaminants as they appear. Use a soft, dry cloth suitable for equipment care.

Do not use substances containing alcohol, acetone, petrol, or other active solvents to clean the device.

Technical specifications

☞ All technical specifications

☞ Compliance with standards

☞ INCERT installation compliance

☞ Setup in accordance with EN requirements

Warranty

Warranty for the Limited Liability Company “Ajax Systems Manufacturing” products is valid for 2 years after the purchase.

If the device does not operate properly, we recommend contacting Ajax technical support first. In most cases, technical issues can be resolved remotely.

☞ Warranty obligations

☞ User Agreement

Contact technical support:

- email