



SVHT - Install a Silent Cube System H1000 Pro

Written By: Thomas Kunath



Step 1 — General Information



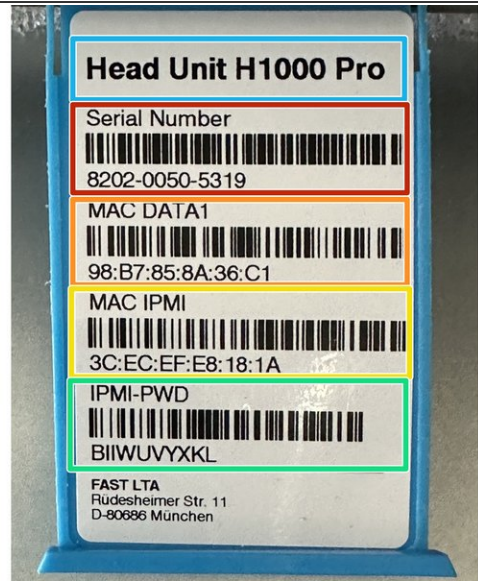
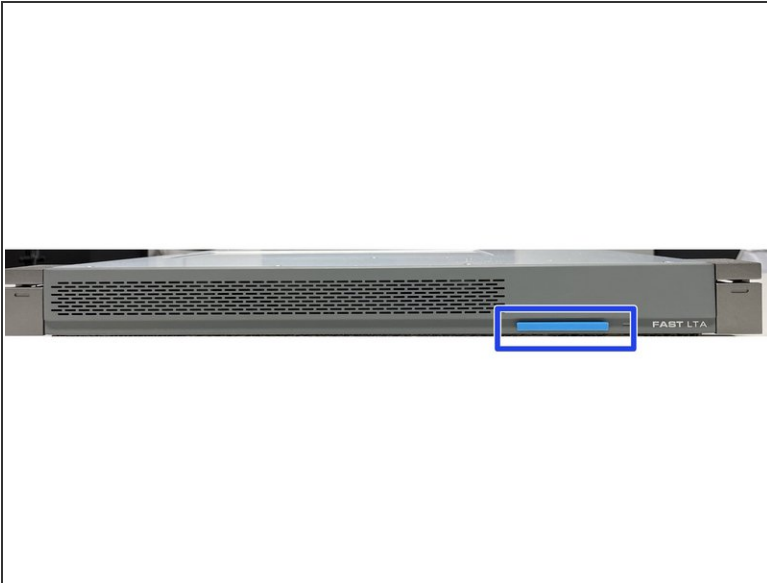
- ❗ A Silent Cube System always consists of a Head Unit and a Silent Cube.
- The Head Unit is the bridge between the Silent Cube storage units and your network.
 - The FAST LTA operating system runs on the head unit and is used to administer and manage the system. The head units are always delivered pre-installed.
 - The Head Unit caches the data that is written to or read from the Silent Cube.
 - The Silent Cube is the revision-proof storage unit. The administration of the connected Silent Cubes is done via the Head Unit.
 - Up to 128 Silent Cubes, of different sizes can be connected to a Head Unit.
 - The systems can be operated in a replication network to improve reliability. A head unit and the same number of cubes are required on both sides.

Step 2 — Hardware Preparation Rackspace



- **1 HE** rackspace for the H1000 Pro Head Unit
- **1 HE** rackspace for each Silent Cube DS or DS Pro. Silent Cube DS systems are installed directly with Rack rails and do not require a rack base.
- **6 HE** rackspace for a Silent Cube Classic. Silent Cube Classic require a floor on which they can be placed. Up to 4 Silent Cube Classic fit on one rack floor.

Step 3 — Head Unit Information



- All H1000 Head Units have a pull-out card on the front panel that contains the following information.
- Head Unit Type
- Serial number of the system - e.g. for support cases
- MAC address of the data bond
- MAC address of the installed IPMI / ILO board
- Default password for the configuration of the IPMI board via the system BIOS of the machine

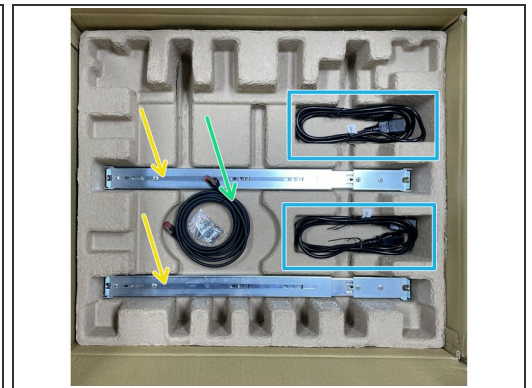
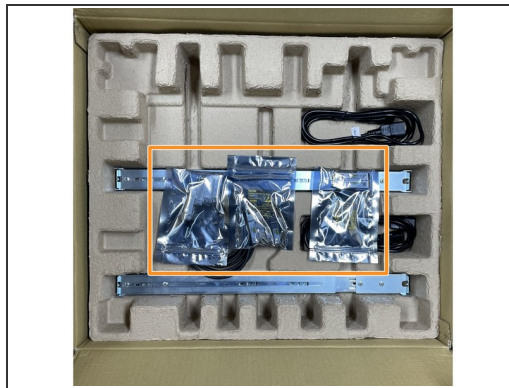
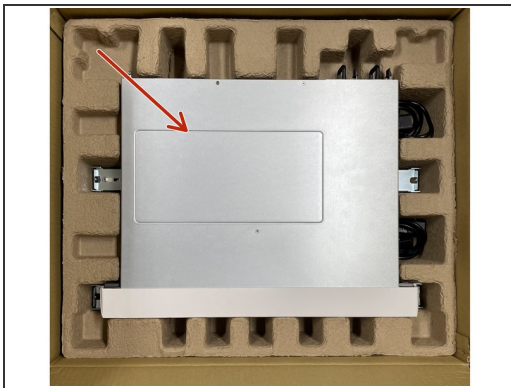
Step 4 — Mounting the devices



- Please assemble the units as described in the Quick Start guides provided.
- If you require further documentation for the installation, we will be happy to send it to you.

⚠ Attached you will find the mounting instructions for the rail set - [Mount Rail Set.pdf](#)

Step 5 — H1000 Pro - What is in the box



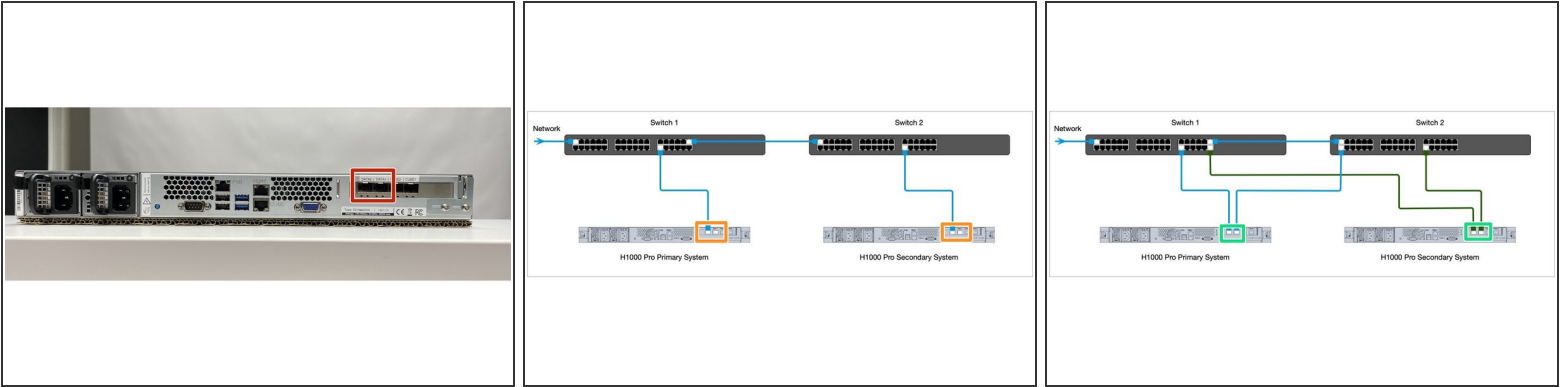
- H1000 Pro - preinstalled
- **3 different GIBIC sets for connecting the cubes and the network**
- Rail set
- RJ45 LAN cable
- 2 power cords

Step 6 — What is in the box - GIBIC Sets



- 4x 10 Gbit SFP+ Gibics
- 4x 10 Gbit RJ45 Gibics for Copper Ethernet
- 2x 1 Gbit RJ45 Gibics for Copper Ethernet

Step 7 — LAN Interfaces - Connection to LAN



- The head unit has 2 DATA interfaces for connection to your LAN.
- It is not necessary to wire both LAN ports. If no redundancy is required, only 1 port can be wired.
- If you want a redundant connection to your network, then connect both DATA ports
- ① Both interfaces are configured in **active / backup mode**. Only one interface is active. The other interface takes over, with the same IP address and MAC address, if the first interface fails.
- ① If you have a **1Gbit network**, the two 1Gbit Ethernet modules must be plugged into the LAN ports.
- ① For a **10 Gbit connection**, either the two 10 Gbit **Ethernet or the SFP+** modules can be used.
- ⚠ **The 10 Gbit modules are not backward compatible to 1Gbit.**

Step 8 — LAN Interfaces - Connection to Cubes

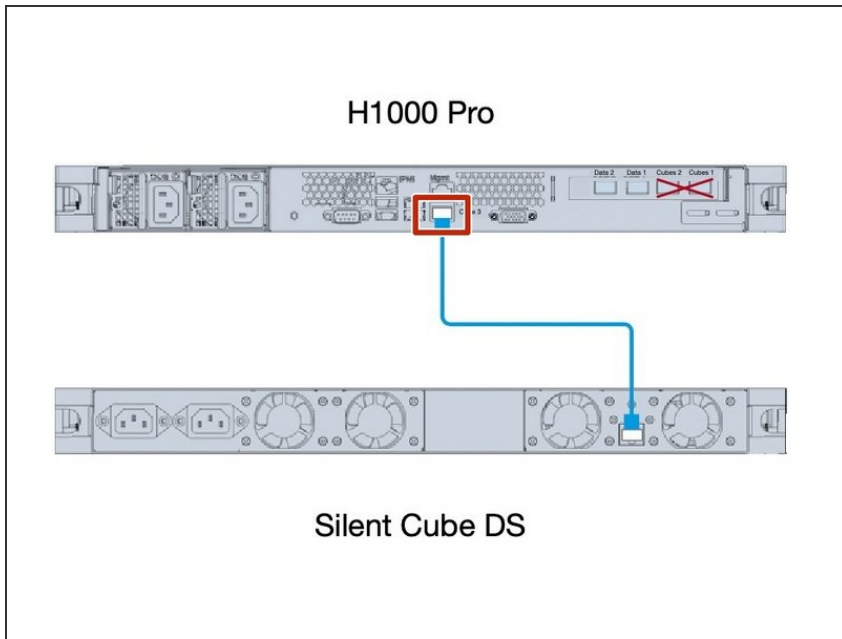


❗ The H1000 Pro Head Unit has 3 Cube network interfaces with different features.

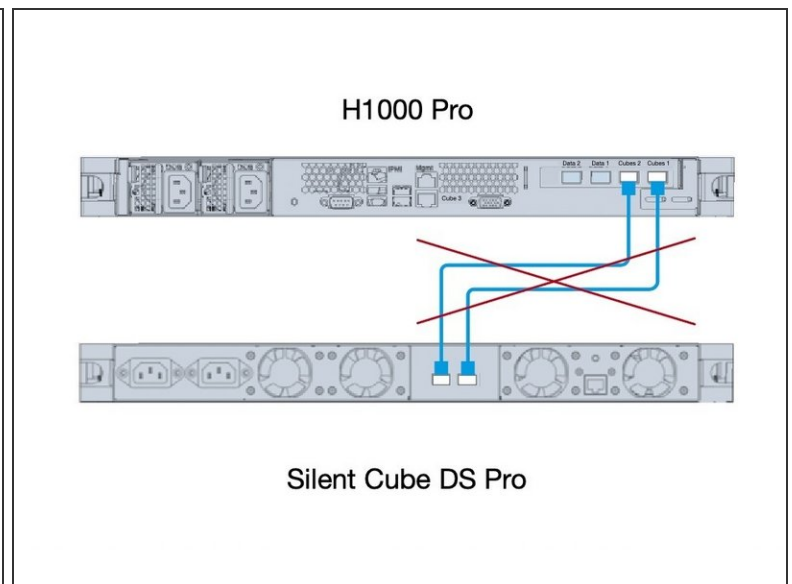
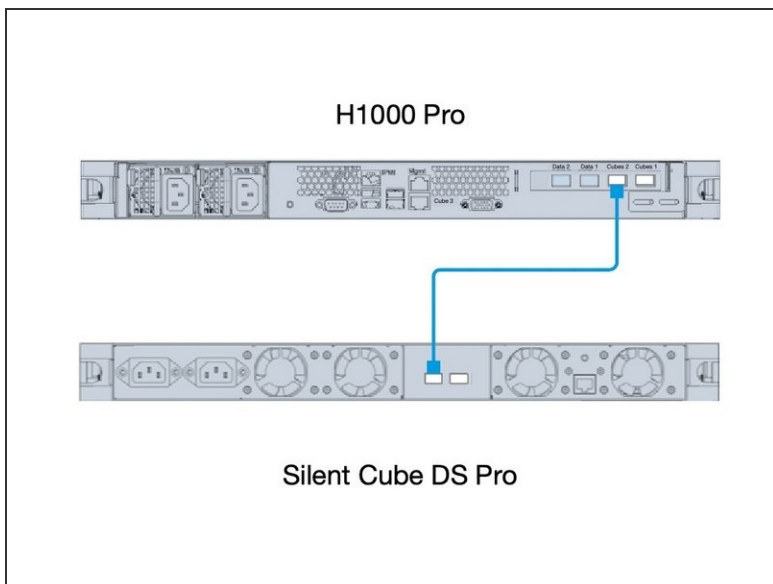
- Cube 1 Gbit Interface
- Cube 10 Gbit Interfaces

⚠ **Only 1 interface is active.**

⚠ **If you want to connect Silent Cube Classic and Silent Cube DS Pro in one network, you need a switch that supports both 1 GBit and 10 Gbit.**

Step 9 — Direct 1 GBit Connection for Silent Cube DS or Silent Cube Classic

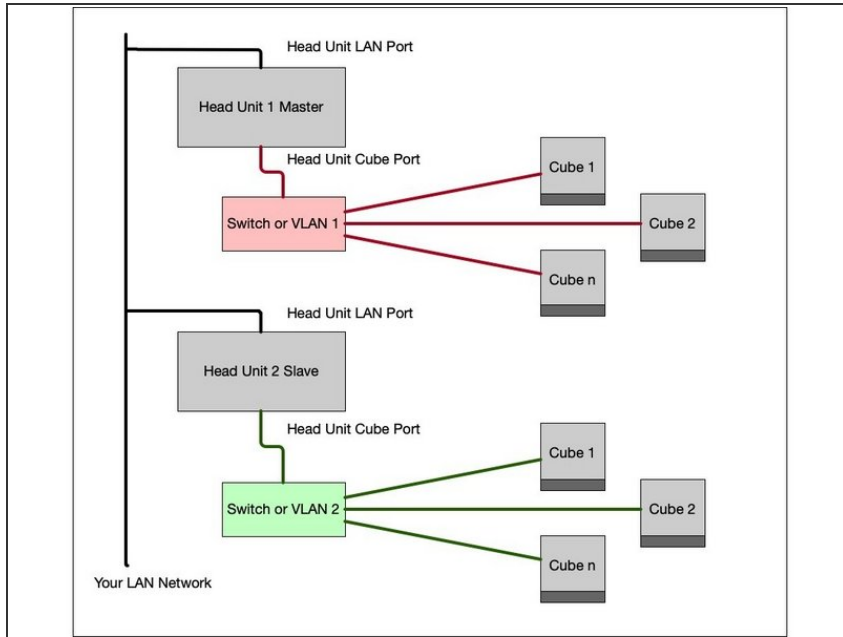
- Use the 1Gbit LAN Connector to connect to Silent Cube DS or Silent Cube Classic Systems

Step 10 — Direct 10 Gbit Connection for Silent CubeDS Pro

- Use 10 Gbit Cube Interface on both machines

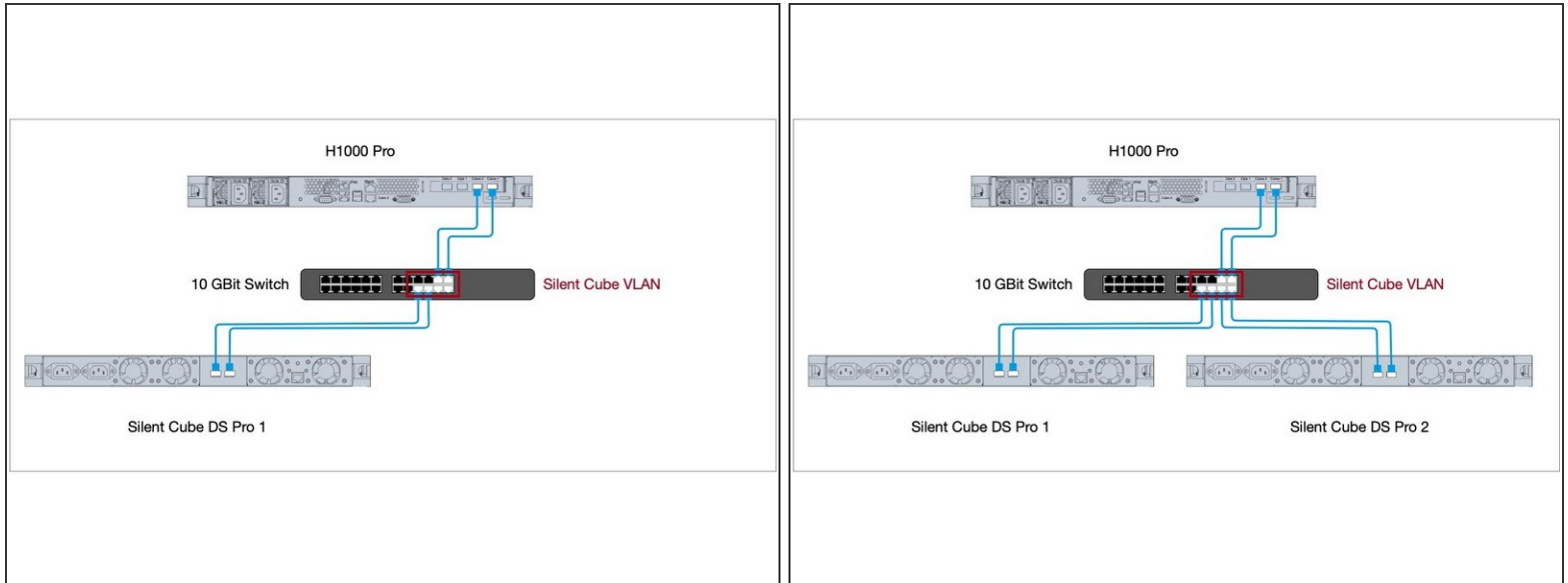
⚠ Direct cabling of both 10 Gbit ports is not allowed

Step 11 — Connect Multiple Silent Cube Systems



- ❗ If you want to connect several Silent Cube or Cube DS to one Head Unit, you need either a dedicated switch between the head unit and the connected cubes, or a dedicated VLAN per head unit.
- ❗ In this VLAN, only the cube port of the Head Unit and the Cubes of this system may be connected. The VLAN must not have any connection to the customer network.
- ❗ In the case of a replicated system, 2 VLANS are required, which must also have no connection to each other.

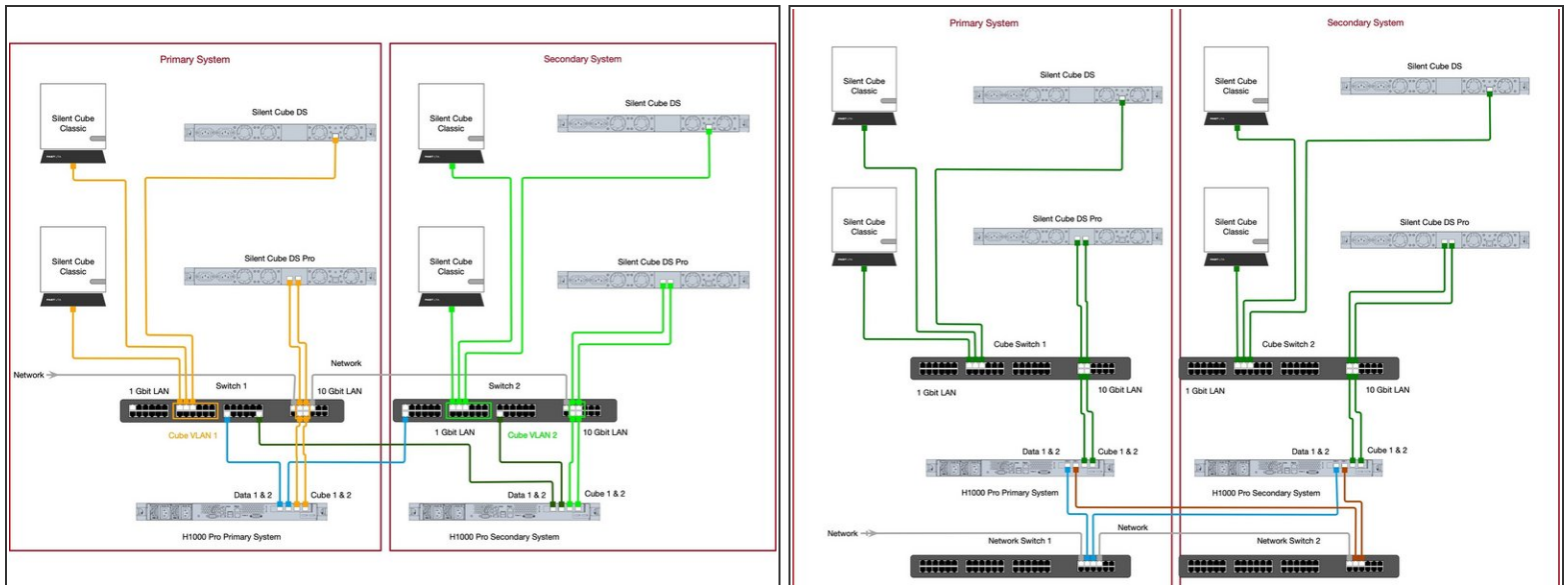
Step 12 — Redundant 10 Gbit Cabling



⚠ A 10 Gbit switch is mandatory here. The ports of the head unit are designed as active / passive. Only one port is active during operation

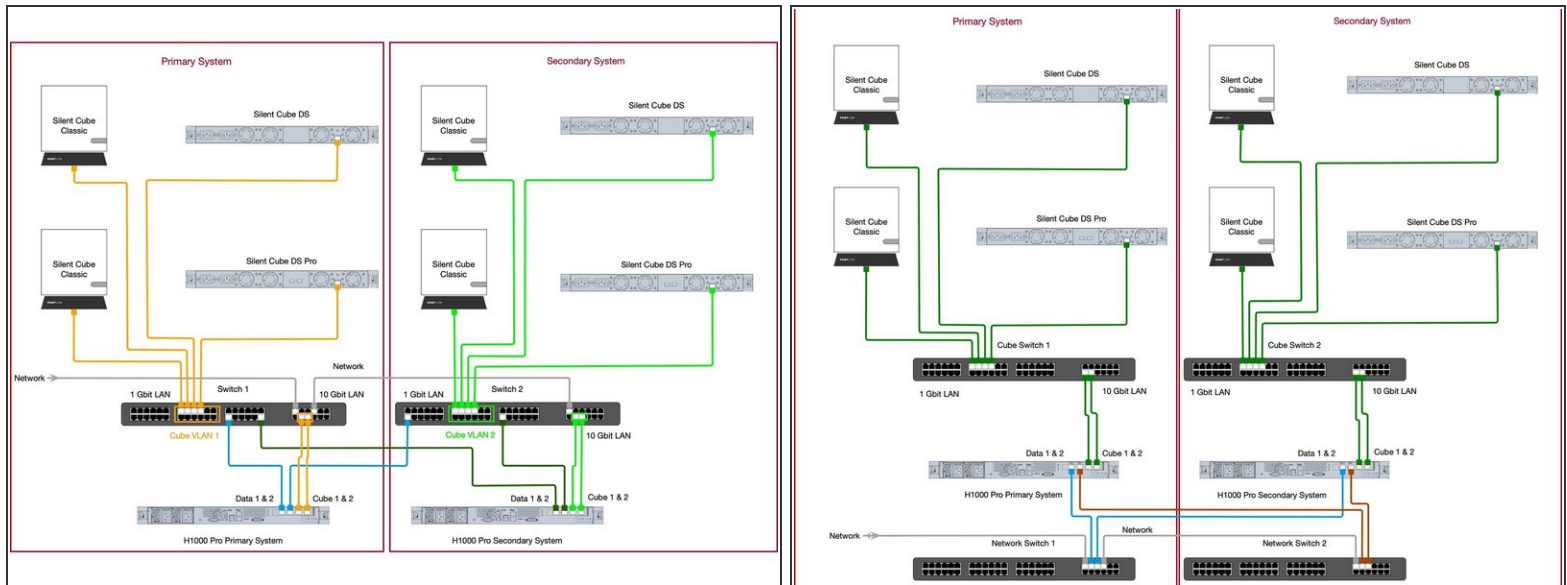
i Depending on the switch ports, please use the two 10 Gbit Ethernet Gibics or the two 10 Gbit SFP+ Gibics in the two cube ports of the head unit.

Step 13 — Cabling between Head Unit and Cubes mixed 10GBit



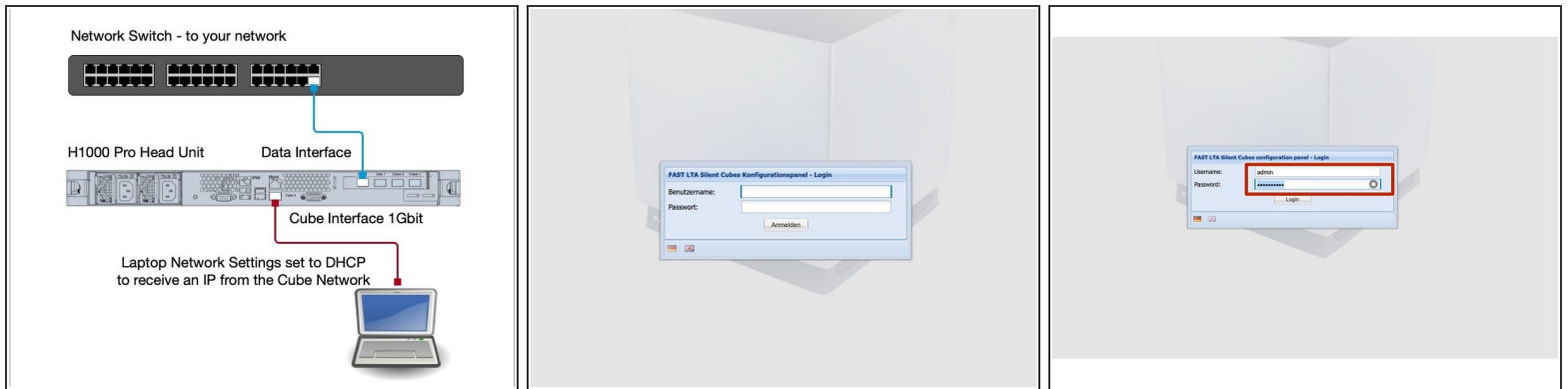
- ❗ Here is an example with redundant cabling between multiple Cubes and Head Unit and different cube types and 10 Gbit connection.
- ❗ In the first example, the network switches are used with VLANs.
 - ⚠ Here, each Silent Cube system has its own VLAN which is separate from the rest of the network.
- ❗ In the second picture you can see a classic setup with separate switches for the cube network and LAN. Here you don't need VLANs, because the switches are independent.

Step 14 — Cabling between Head Unit and Cubes mixed 1 GBit



- ❗ Here is an example with redundant cabling between multiple Cubes and Head Unit and different cube types and 1 Gbit connection to all Cubes
- ❗ This configuration makes sense if, for example, you want to move old cubes to a Silent Cube DS Pro. In this case, you simply create an additional port in the VLAN and connect the DS Pro to it.
- ❗ As in the previous example, once with a VLAN solution and once with two separate switches for the Silent Cube network

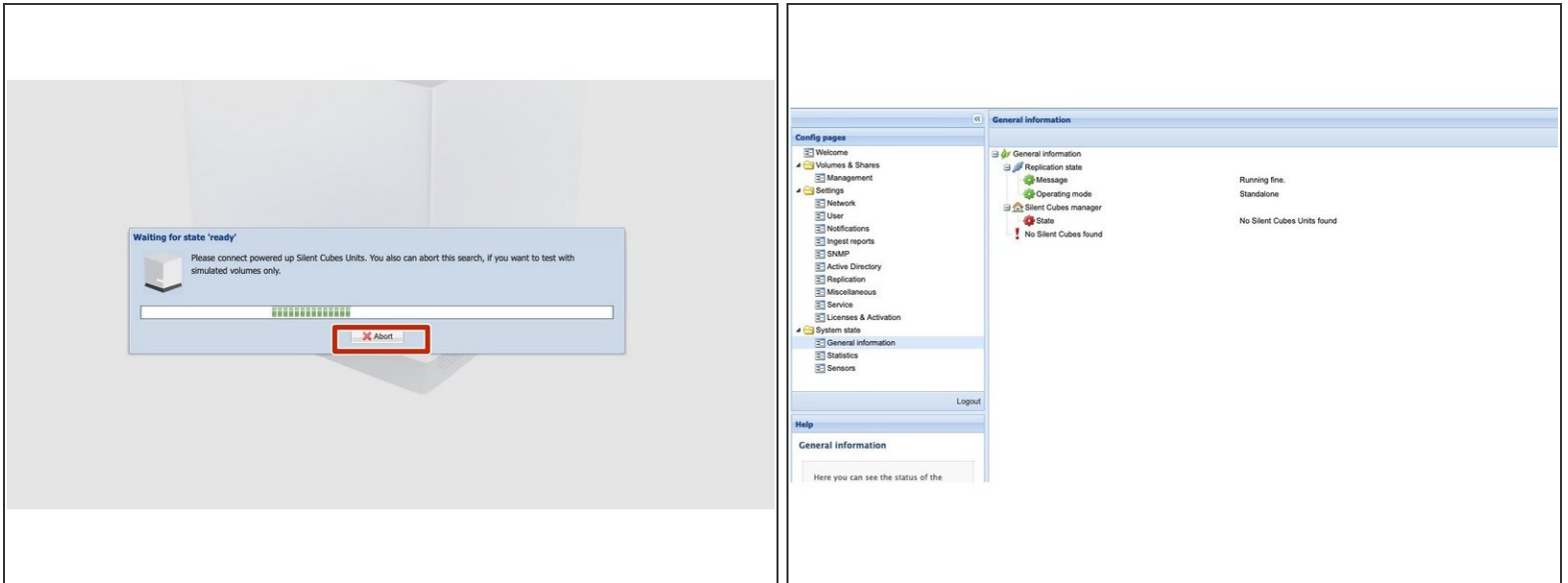
Step 15 — Setup And Configuration



⚠ **Connect the Data ports to your network. Do not connect a cube to the system yet.**

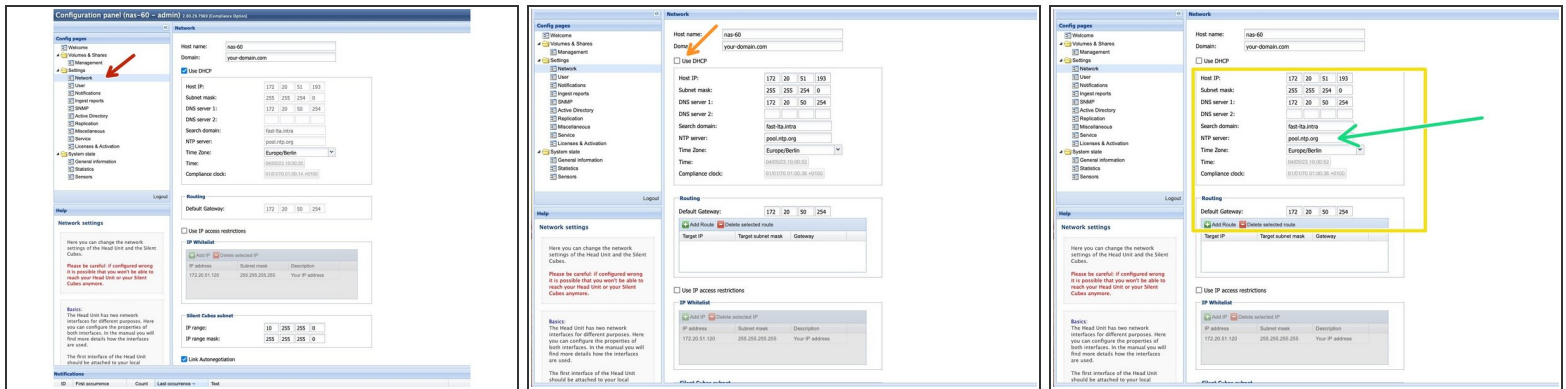
- ① Now connect both power supplies to a power outlet. The machine will now boot automatically. Depending on the type of head unit, this takes about 2 minutes.
- ① The network card of your laptop must be configured so that it receives an IP address via DHCP. This is the default setting in most cases.
- Connect your laptop to the 1Gbit cube port of the head unit
- You should now receive an IP address from the cube network of the head unit. (10.255.255.x)
- Now use your browser and go to the address <https://10.255.255.254> and the login page of the system should appear.
- Now log in with the default account. **Account: admin, Password: adminadmin**

Step 16 — Setup And Configuration



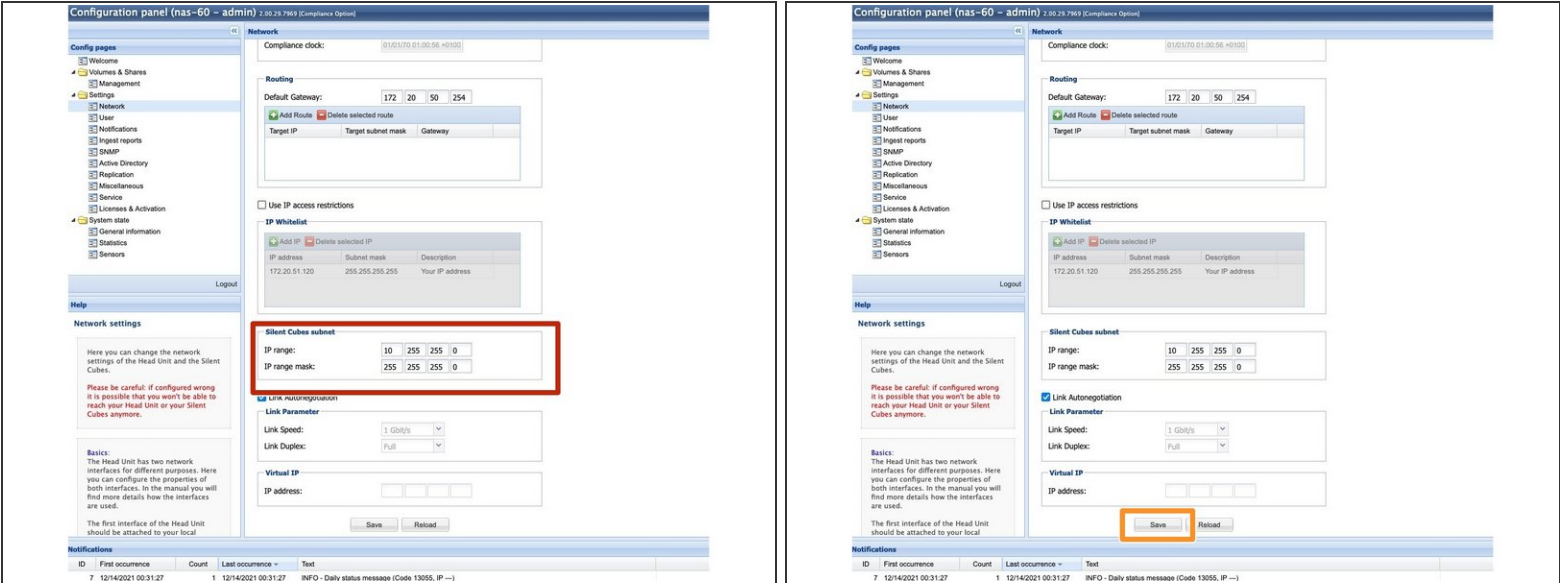
- As the head unit does not currently have a cube connected, it is looking for a cube. End the cube search with Abort
- ① You should now see the overview page of the system. There you will see an error message that no cube is connected - this can currently be ignored.

Step 17 — Setup Network



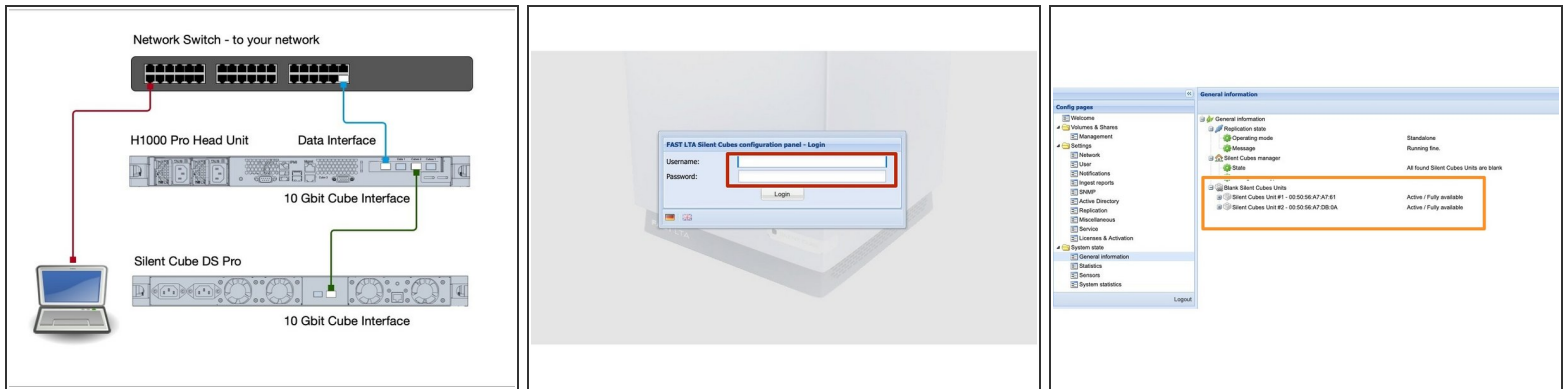
- Go to Network to configure the IP settings for the system
- ⚠ We recommend giving the system a fixed IP address. This is absolutely necessary for a replicated system!
- To do this, uncheck the "Use DHCP" box.
- Now set the required data such as IP address, network mask and gateway.
- Please note that a proper time server (NTP) is set. Since archiving data requires expiration times, a time server is essential.
 - The time server can be an NTP server in your network, or e.g. the DNS server or AD controller.

Step 18 — Setup Network



- If possible, the network segment for the silent cubes should not be changed. This is only necessary if it overlaps with the network segment in which the cube system is operated.
- Save the settings with "Save"

Step 19 — Checking The System



- Now connect the Cube to the Cube LAN interface of the Head Unit.
- Now plug in the two power connections of the Silent Cube.
- The Silent Cube will now boot. It takes about 2 minutes.
- Now you should be able to reach the system via <https://<Your IP address>> using the browser.
- Login to the system with admin / adminadmin
- You should now see a grey cube under General Information. (Grey = unused)

Step 20 — Additional Work For A Replicated System

- If you have a second system, you must also complete these steps for the second Head Unit.

⚠ To include the system in the replication network, no configuration other than the network and mail settings may be set up on the Secondary Head Unit. Otherwise, replication can no longer be set up!