Ultra compact AI accelerator

Hailo-15H Compute Stack Quickstart guide

Each kit includes the following:

- H100 Hailo-15H compute module
- HM10 Hailo-15H memory board
- HC10 interface adapter
- BE323 Ethernet adapter with PoE
- Aluminum heat spreader
- Picoblade cable (10 pin, 1:N)
- 32GB micro SD card (Auvidea Yocto Linux installed on SD card)
- Auvidea u-boot bootloader installed on QSPI Flash

Preconfiguration of the Hailo-15H system (the system is completely prepared, no installation required):

Static IP	192.168.100.136
Netmask	255.255.255.0
User	root
Password	root

Troubleshooting:

- It is highly recommended to make a backup copy of the SD card before editing it
- If the power LED on the bottom of the HC10 is not glowing, there is a problem with the PoE connection
- If the MCU LED is not flashing, but the PoE LED is glowing, there is a defect on the board
- IF both LEDs light up as intended, but you are still having trouble, it is likely that there is something wrong with the network settings or the SD card. In this case use your backup of the SD card.

Backing up the SD card to the host:

```
cd ~
mkdir hailo-images
cd hailo-images
sudo dd if=/dev/sdb of=~/hailo-images/hailo15-trinity-20250127.wic
bs=4M count=625 status=progress
sync
<Eject>
```

Restoring the SD card from the host:

```
sudo dd if=~/hailo-images/hailo15-trinity-20250127.wic of=/dev/sdb
bs=4M status=progress
sync
<Eject>
```

Commissioning a Linux system:

1. Connecting the hardware:
   - Attach the heat spreader to the heatsink or use a 2mm aluminum plate (not included) secured with 2x M3 screws.
   - Connect the RJ45 port to a PoE network switch using a network cable
2. System boot:
   - A green LED on the HM10 module blinks (see side of the ethernet connector)
   - The system boots within 20 seconds
3. Network configuration:
   - Disable DHCP on the host system and set a static IP

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- Set the host system's IP to "192.168.100.135" and the netmask to "255.255.255.0"

4. Accessing the system:
   - Open a Bash terminal on the host system
   - Enter the command: `ssh root@192.168.100.136`
   - When prompted for a password, enter: "root"
   - The Hailo-15H Compute Stack responds with: `root@hailo15:~#`
5. Edit network settings:
   - In Bash, navigate to the network directory: `cd /etc/network/`
   - Open the "interfaces" file with the "vi" editor: `vi interfaces`
6. Editing the network interfaces file with "vi":
   - The "vi" editor is quite versatile. To enter the "insert mode", press "i", allowing you to modify the text
   - Set the desired "address" and "netmask"
   - Press "Esc" to exit the insert mode
   - Save and exit the "vi" editor by typing ":" followed by "w" and "q" and pressing enter
7. Sync and reboot:
   - Ensure data is written to disk: `sync`
   - Reboot the system: `reboot`
   - After 20 seconds close the terminal and reopen it
8. Restoring host network settings:
   - Revert the host system to its standard network settings
   - The Hailo-15H Compute Stack should be accessible via SSH: `ssh root@<address>`
9. Troubleshooting connection issues:
   - If the Hailo-15H Compute Stack is not reachable after three attempts, download the "image-auvidea-h100-20250127.wic" file from the Auvidea website
   - Disassemble the Hailo-15H Compute Stack and insert the SD card into an SD card reader connected to your PC
10. Identifying the SD card:
    - List available devices to identify the SD card: `ls /dev/sd*`

Example:

1. Identifying the correct SD card device:
   - Example output from "`ls /dev/sd*`":
     `/dev/sda /dev/sda1 /dev/sda2 /dev/sdb /dev/sdb1 /dev/sdb2 /dev/sdc /dev/sdd`
   - Explanation of devices:
     - "sdaX" refers to the host's Linux partitions
     - "sdb1" is partition 1 of the SD card
     - "sdb2" is partition 2 of the SD card
     - "sdc" and "sdd" are empty SD card reader slots
   - If unsure which device corresponds to the SD card, eject it and run "`ls /dev/sd*`" again. If only "sdb" appears (without "sdb1" and "sdb2"), "sdb" is your SD card.
2. Write the image to the SD card:
   - Use the "dd" command to write the image:
     `sudo dd if=/home/user/image-auvidea-h100-250127.wic of=/dev/sdb bs=4M status=progress`
   - This command will take approximately one minute to write the image to the SD card
3. Complete the write operation
   - Ensure all data has been written:
     `sync`
4. Eject and re-insert the SD card:
   - Use your file manager to safely eject the SD card
   - Insert the SD card back into the HM10 module and reassemble the Hailo-15H Compute Stack