IMAGO TECHNOLOGIES

Getting Started

Vision AI Xcelerix

Version 0.5 – 9/2026

Contents

1 Introduction

Thank you very much for your interest in our Vision AI Xcelerix. To get the most out of your purchase, please take some time to read all the information given here thoroughly.

The Vision AI Xcelerix is an industrial-grade external GPU expansion system designed to add scalable GPU performance to industrial computers via USB4. Engineered for cabinet installation and powered by a 24 V supply, it integrates NVIDIA® GPUs to deliver high-performance acceleration for demanding image processing and AI applications. Unlike consumer eGPU solutions, the Xcelerix is built for long-term availability, industrial environments, and continuous operation. Its modular GPU architecture allows performance upgrades without replacing the host system, making it ideal for evolving processing requirements in machine vision and automation.

Vision AI Xcelerix connects to a Host Computer via USB4 or Thunderbolt3 or higher.

2 BIOS Settings

Before using the Vision AI Xcelerix, you need to change a setting in the BIOS of the AGE-X6:

- Open the BIOS configuration by pressing the Delete key on the keyboard when turning on the computer.
- Go to the tab Chipset.
- Select System Agent (SA) Configuration.
- Select Graphics Configuration.
- Change Primary Display to IGFX.
- Press F10 to save the configuration and reset the system.

Now the internal Display Port is always used even if the Vision AI Xcelerix is connected.

3 Windows

4 Linux

When using Linux, the Vision AI Xcelerix does not currently support hot-plugging.

To configure the system, login to the AGE-X6 and open a terminal window.
Username: `root`
Password: `vision`

4.1 Configure Bootloader

Use the command

```
nano /etc/default/grub
```

to edit the bootloader configuration.

Edit the following line

```
GRUB_CMDLINE_LINUX_DEFAULT="quiet pci=realloc=off thunderbolt.host_reset=0"
```

Press `Ctrl-S` to save the file and then `Ctrl-X` to leave the editor.

Now use the commands

```
update-grub
reboot
```

to update the bootloader settings and reboot the computer.

4.2 Install Nvidia Drivers

After rebooting, log in again and open a terminal.
You can remove all previously installed drivers from Nvidia to be on the save side.

```
apt remove --purge '^nvidia-.*'
```

A connection to the Internet is necessary to install the graphic card drivers.
The following commands add the Nvidia repository and install a specific version of the drivers:

```
wget https://developer.download.nvidia.com/compute/nvidia-driver/
     580.178.04/local_installers/nvidia-driver-local-repo-debian12-
     580.178.04_1.0-1_amd64.deb

dpkg -i nvidia-driver-local-repo-debian12-580.178.04_1.0-1_amd64.deb

cp /var/nvidia-driver-local-repo-debian12-580.178.04/
     nvidia-driver-*-keyring.gpg /usr/share/keyrings/

apt-get update

apt-get install -y nvidia-open-580
```

Now restart the computer again.

```
reboot
```

For more information about installing Nvidia drivers, check the following link:
https://docs.nvidia.com/datacenter/tesla/driver-installation-guide/latest/index.html

4.3 Installation of HALCON

HALCON needs an additional library that has to be installed previously.

```
apt install libxtst6
```

Now you can install the HALCON packages.

Don’t forget to set the environment variables for HALCON.

```
HALCONARCH=x64-linux
HALCONROOT=<path>
```

5 History

Revision	Date	Changes	Initials
0.5	08.2026	First version	GS