

Configuration and Quick Start Guide Vision HAWK Smart Camera



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P/N 83-126800 Rev B

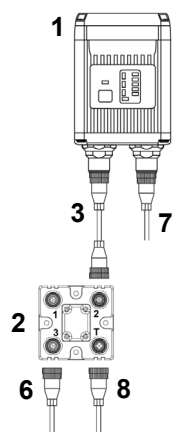
Step 1 — Check Hardware

The list of hardware below can be used in a variety of applications and configurations. Consult with Microscan for further information about which items are most appropriate for your application.

Item	Description	Part Number
1	Vision HAWK Smart Camera	GMV-6800-XXXXG
2	QX-1 Interface Device	98-000103-02
3	Cordset, Common, M12 12-pin Plug to M12 12-pin Socket, 1 m	61-000162-01
4	Cordset, Host, Serial, M12 12-pin Plug to DB9, 1 m	61-000152-01
5	Cordset, Host, Serial, M12 12-pin Socket to DB9, 1 m	61-000153-01
6	Power Supply, M12 12-pin Socket, 1.3 m	97-000003-01
7	Cordset, Host, Ethernet, M12 8-pin Plug to RJ45, 1 m	61-000160-01
8	Trigger, M12 4-pin Plug, NPN, Dark On, 2 m	99-000020-02

Note: Additional cordsets available in the Microscan Product Pricing Catalog.

Step 2 — Connect the System



Ethernet Configuration

1. Mount the camera (1) as required by the application.
2. Connect the Ethernet Cordset (7) from "B" on the camera (1) to the network.
3. Connect the power supply (6) to "3" on the QX-1 (2).
4. Connect the trigger (8) to "T" on the QX-1 (2).
5. Connect the "Common" Cordset (3) to "2" on the QX-1 and "A" on the camera.
6. Plug in the power supply (6).

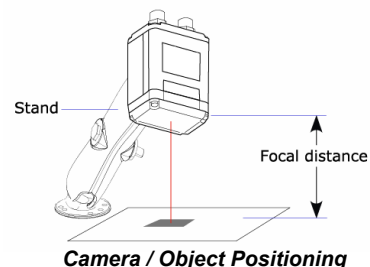
Step 3 — Mount and Position the Camera

1. Position the camera at a focal distance of one inch or more from a test object.
2. Tip the camera relative to the object to avoid the glare of direct (specular) reflection. The case parting line should be perpendicular to the plane of the symbol by either pitching the symbol or the camera as shown. Avoid excessive skew or pitch. Maximum skew is $\pm 30^\circ$; maximum pitch is $\pm 30^\circ$. Proper lighting is critical to the success of a machine vision application. The Vision HAWK features integrated high-output lighting (.564mW, 617nm). Depending on the requirements of your application, you may also need to add external lighting from Microscan's NERLITE family of machine vision lighting products.

Consider the following:

- Is the surface of the object flat, slightly bumpy, or very bumpy?
- Is the surface matte or shiny?
- Is the object curved or flat?
- What is the color of the object or area being inspected?
- Is the object moving or stationary?

Machine vision lighting should maximize contrast of the areas or features being inspected while minimizing the contrast of everything else.



Step 4 — Install AutoVISION

AutoVISION can be found on the Microscan Tools Drive that is packaged with the camera.



1. Follow the prompts to install AutoVISION from the Tools Drive.
2. Click on the AutoVISION icon to run the program.

Note: AutoVISION can also be installed from the **Download Center** at www.microscan.com.

Minimum System Requirements

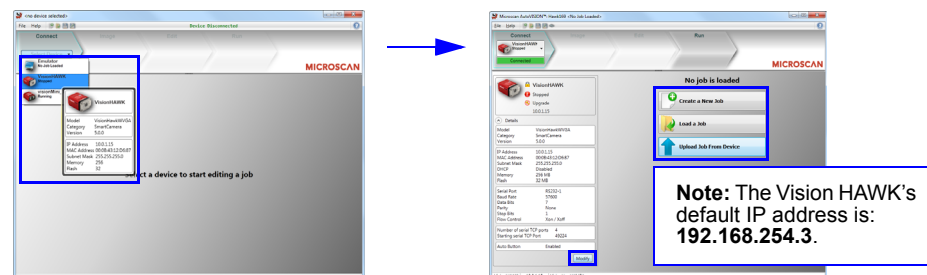
- Core2Duo processor
- Windows 7 32-bit or XP operating system
- Internet Explorer 7 or higher
- 2GB RAM/128MB Video RAM (Windows 7); 1GB/128MB Video RAM (XP)
- 750MB to 1GB hard drive space
- 16-bit color display
- 3.0 Windows Experience Index (4.0 preferred)

Step 5 — Connect to the Camera

After you launch AutoVISION, you will see the **Select a device to start editing a job** view.

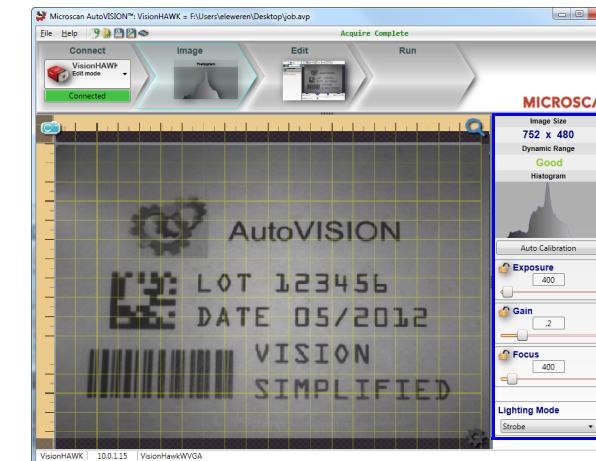
Note: If there is a default job on the camera, AutoVISION will automatically skip the **Connect** step and you will see the **Image** view.

1. Select your camera from the **Select Device** dropdown menu.
 2. Click the **Modify** button beneath the camera settings details to change camera settings.
- Important:** You will need to enter the camera's default username: **Microscan** and password: **vision**.
3. Choose whether you want to create a new job, load a job (.avp) from your PC, or upload a job from the camera.



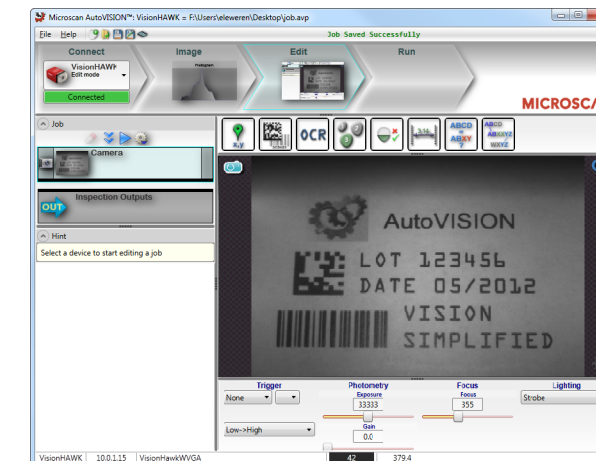
Step 6 — Evaluate a Captured Image and Auto Calibrate

You will see the **Image** view after selecting your device. This view allows you to evaluate your first image capture, providing information such as image size and a histogram. Click the **Auto Calibration** button to set optimal camera parameters automatically. You can also adjust **Exposure**, **Gain**, and **Focus** as needed, and set the desired **Lighting Mode**.



Step 7 — Create Your First Job with AutoVISION

After you have evaluated a captured image and Auto Calibrated the camera in the **Image** view, you will move to the **Create** view. This interface allows you to set camera parameters, add machine vision tools to captured images, set tool parameters, and configure I/O inspection outputs.



Step 8 — Explore the Interface

The **Create** view features a large image area with tool icons above and tool parameters below. When a tool is selected, its parameters appear below the image area.

Tools that have been added are shown in the job list to the left of the image area, below the **Camera** box. Image settings can be controlled using the icons in the corners of the image area.

