Configuration and Quick Start Guide
MicroHAWK ID-20, ID-30, ID-40

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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	MicroHAWK ID-20, MicroHAWK ID-30, or MicroHAWK ID-40	7ABX-YZZZ-LPPP
2	Micro-USB Type B Plug to USB Type A Plug, 6 ft. (High Speed USB 2.0)	61-9000034-01
3	Ferrite Core Snap-On Kit for USB Cable (for Class B Emissions; not shown)	98-9000035-01
4	Power Supply, 100-240VAC, +24VDC, M12 12-pin Socket	97-000012-01
5	Host Ethernet Cordset, M12 8-pin Plug (Screw-On) to RJ45, 1 m	61-000160-02

Step 2 — Connect the System

Step 3 — Mount and Position the Reader

Important: See the **Grounding and Isolation** section of **Appendix B** in the *MicroHAWK ID-20, ID-30, ID-40 User Manual* for proper grounding and isolation techniques.

- Position the reader several inches from the symbol. You may need to reposition the reader a few times to find the ideal distance.
- Tip the reader relative to the symbol to avoid the glare of direct (specular) reflection.
- Symbols can be rotated (tilted) at any angle; however, for best results symbols should be aligned with the field of view. In the case of linear symbols, aligning the bars in the direction of their movement (ladder orientation) will minimize the chances of blurring and will result in more consistent decodes.
  Important: Avoid excessive skew or pitch. Maximum skew is **±30°**; maximum pitch is **±30°**. The illustration below shows approximate skew axis, pitch axis, and tilt axis.

Step 4 — Install WebLink Drivers (ID-20 and ID-30)

1. Plug the reader into a USB port and wait for the **AutoPlay** dialog to appear.
2. Click **Open folder to view files** and double-click the **Double-Click Here.bat** batch file.
3. At the command prompt, select **option 1** and then type **Enter**. **VCOM** and **USBLAN** drivers are installed.
4. At the command prompt, select **option 3** to install the WebLink and FTP drive shortcuts. WebLink and MicroHAWK FTP drive shortcut icons will appear on the desktop.
5. When installation of the drivers and shortcuts is complete, unplug the reader from the USB port.
6. Re-plug the reader into the USB port and wait for the reader to reboot and enter read mode (LEDs **ON**).
7. Double-click the WebLink desktop shortcut. WebLink will load and start (see **Step 5**).
8. Double-click the FTP drive shortcut and log in with username: **target** and password: **password**.
9. The FTP drive is opened so you can access additional resources and installers in the **Tools and Documentation** folder.
   You are now ready to use the MicroHAWK ID-20 or ID-30 with WebLink.

Step 1

Step 3

Step 5 — Connect to WebLink (ID-20 and ID-30)

When you double-click the WebLink desktop shortcut or enter the reader's IP address directly in the address bar of your web browser, WebLink will load and start.

Type **http://192.168.188.2** (the default IP address) in the web browser's address bar. The WebLink session will begin shortly after you enter the reader's IP address.

Note: WebLink is the preferred user interface for MicroHAWK ID Readers, but Microscan's **ESP Software** can also be used for configuration and testing. Use ESP in the following circumstances:

- Device discovery to find the reader IP address;
- If you only have an RS-232 (serial) connection;
- Updating MicroHAWK ID firmware;
- Using the Configuration Database;
- Creating barcodes for reader configuration;
- Generating Symbol Quality reports.

Step 6 — Connect to WebLink (ID-40)

A slightly different method is required to connect to the MicroHAWK ID-40:

1. Configure reader hardware as required and open the web browser of your choice.
2. Type **http://192.168.188.2** (the default IP address) in the web browser's address bar.
3. Navigate to **Control Panel > Network and Sharing Center** on your PC.
4. Click **Local Area Connection 4**. In the **Local Area Connection 4 Status** dialog, click **Properties**.
5. In the **Local Area Connection Properties** dialog, select **Internet Protocol Version 4 (TCP/IPv4)** and click **Properties** again. Set your PC to a **192.168.188.x** address (192.168.188.5, for example).
6. Open **ESP Software**, connect to the MicroHAWK ID-40 via Ethernet TCP/IP, and click **Search** to find the reader. When the reader appears in the field below the Search and Send buttons, select it.
7. Set the ID-40's IP address to match that of the host PC.
8. Click **Send**. The camera will reboot and ESP will search for the reader again. When the ID-40 is found, you can use it with WebLink.

Step 5

Steps 6 – 8

To create an FTP drive shortcut: right-click on your desktop and select **New > Shortcut**; enter **%windir%\explorer.exe ftp://192.168.188.2** as the target path; name your FTP drive; click **Finish**. Double-click the FTP drive shortcut on the desktop. Log in with the **target** / **password** credentials to navigate the reader's file system.

Step 7 — Explore the Start View

The **Start View** is the initial view you will see when the session begins. The connected reader is shown, along with its **user-defined name**, **IP address**, **Reader Model**, **Serial Number**, **MAC ID**, **Firmware Version**, **Sensor**, **Optics**, **Decoder**, and **Speed**. This view allows you to choose **Assisted Setup**, to **Create a New Setup**, or to **Load a Setup**.

Click the gear icon to show **Save**, **New**, **Load**, **Advanced**, **Language**, **Terminal**, **Beeper**, **Guided Tour**, **Restore Default Settings**, **Manage Login**, **Enable USB Drive Mode**, and **About WebLink**.

Refer to *WebLink Help* for information about **Advanced Settings** and **Terminal** functionality.

Step 8 — Create a New Setup or Load an Existing Setup

Assisted Setup
When you click the **Assisted Setup** button in the Start View, a dialog will appear asking you a series of application-based questions. Based on your answers, WebLink generates your initial setup automatically. Once the setup is created, you can fine-tune its parameters in the **Setup View**.

New Setup
The Start View also allows you to create a **New Setup** without using Assisted Setup. When you click the New Setup button, WebLink searches for any differences from default in the reader parameters. If no differences from default are found, you will see the **Setup View**. If differences from default are found, an alert will appear asking if you want to restore the reader to factory defaults.

Load Setup
Select **Load Setup** to load an existing **.json** WebLink setup file.

Step 9 — Explore the Setup View

The **Setup View** allows you to configure all aspects of a setup. The left pane of the UI gives you the ability to configure **Cycle** type, **Acquire**, **Decode**, **Match String**, **Format Output**, and **Outputs 1**, **2**, and **3** parameters.
Clicking the **Save** icon in the upper right of the interface saves current settings to the reader's flash memory so the settings will be available when the reader is rebooted.
The **question mark** icon in the upper right of the interface opens **WebLink Help**.
The **gear** icon in the upper right of the interface brings up **Application Settings**.

Step 10 — Configure Read Cycle Settings

The **Cycle** section of the **Setup View** allows you to modify the trigger, determine the number of symbols for the reader to expect, and set Read Cycle Timeout. A dropdown menu of various Cycle types provides a variety of options, each with configurable parameters.

Presentation
This mode, commonly referred to as "hand presentation mode", uses **Continuous Trigger** along with **Continuous Capture Mode** and a **Timeout at End of Read Cycle**. **Green Flash Mode** is set to **Static Presentation** and the **Green Flash Duration** is set to **1 second**.

Continuous
This mode allows you to set the **Read Cycle Timeout** and the expected number of symbols.

Triggered
This mode sets the Read Cycle to **Serial Data and Edge**, **End of Read Cycle** is set to **Timeout or New Trigger**, and **Capture Mode** is set to **Rapid Capture** with **1 capture**. You can adjust the **Serial Trigger**, **Trigger Delay**, **Timeout**, and **Number of Symbols**.

Start / Stop
This mode uses **External Level** with a **Read Cycle Timeout** and **Continuous Capture**, allowing you to set **Leading Edge** and **Trailing Edge** as well as the **Serial Trigger** and the **Start and Stop Characters**.

Custom
This mode allows you a wider variety of read cycle scenarios. Use this mode to select **Trigger** mode and to set **Serial Trigger Character** and **Trigger Delay**; to select **Capture Mode** and to set **Number of Captures**, **Rapid Capture Mode**, and **Delay between Images**; and to select the **End Cycle On** setting as well as **Timeout** and **Number of Symbols**.

Step 11 — Configure Acquire Settings

Acquire settings allow you to set **Exposure** (signified by the sun icon) and **Gain** (signified by the dial and right-pointing arrow icon) in real time. Clicking any of these settings will cause a control to appear, allowing you to modify that setting. Settings take effect immediately.

Standard

When **Auto Photometry** is enabled instead of **Standard**, Exposure and Gain are read-only. The **A** shown on the sun and dial icons signifies that **Auto Photometry** is enabled. Auto Photometry constantly determines the best Exposure and Gain settings during each read cycle.

Auto Photometry

Step 12 — Configure Symbology Settings

Clicking the gear icon at the bottom of the **Decode** dialog brings up **Symbology Settings**. This allows you to configure every parameter for every available code type.

Data Matrix error correction parameters are shown in this example, but you can configure any parameter for any of the code types supported by WebLink. All parameter changes for all code types take effect immediately.

Step 13 — Format Output and Match String

Format Output, when enabled in the **Setup View**, allows you to determine the many ways in which barcode data can be formatted and parsed before it is output as a data string. You can also set **Preamble** and **Postamble** in this dialog.
Match Options and **Match String Database**, accessible by clicking the **Match String** section in the **Setup View**, allow you to set the match code mode, text output, new master, and match string database.

Step 14 — Run the Application

In the **Run** view, you can observe the progress of the setup as it follows the parameters you have defined. The right panel of the UI shows **Counts** for **Cycles**, **Reads**, **No Reads**, and **Mismatches**, as well as **Rate** information for **Capture**, **Decode**, **Overhead**, **Total Read**, and **Trigger Rate**, as well as **Output Data**. A **"filmstrip"** below the image area shows each image capture with a **green check mark** for good reads and a **red x** for no reads.

Power Requirements and Pin Assignments

MicroHAWK ID-20: 5VDC ± 5%; 350mA at 5VDC (typ.)
MicroHAWK ID-30: 5V ± 5%; 600mA at 5VDC (typ.)
MicroHAWK ID-40: 4.75V – 30V; 150mA at 24VDC (typ.)

ID-20 Micro-USB Type B Socket Connector

Pin	Function
1	Vbus (5V)
2	D–
3	D+
4	N/C
5	Ground

ID-30 15-Pin High-Density Dsub USB/Serial Socket Connector

Note: Accessory cable required between 15-pin socket and host USB port.

Pin	Function
1	+5VDC
2	TX232
3	RX232
4	GND
5	D+
6	N/C
7	Output 1+
8	Default+
9	Trigger+
10	D–
11	Output 3+
12	New Master+
13	Chassis
14	Output 2+
15	Vbus

ID-40 M12 Connectors

M12 12-pin Plug

M12 8-pin Socket (Ethernet)

MicroHAWK ID Accessories

Mounting Options		
Adapter Plate Kit	98-9000034-01	MicroHAWK to MINI Adapter Plate Kit
Software and Documentation		
Microscan Tools Drive	37-000010-01	Software, documentation, links to Microscan website

Note: Additional accessories are available in the Microscan Product Pricing Catalog.

MicroHAWK ID Part Numbers

MicroHAWK ID part numbers follow the format **7ABX-YZZZ-LPPP**.
7 = MicroHAWK.

(A) Model
1: Engine, No Case, USB
2: ID-20, IP40 Case, USB
3: ID-30, IP54 Case, 5V, USB
4: ID-40, IP65 Case, 24V, Ethernet

(B) Software
1: Auto ID

(X) Sensor
1: WVGA, 0.3 Megapixel, Mono
2: SXGA, 1.2 Megapixel, Mono
3: QSXGA, 5 Megapixel, Color

(Y) Optics
0: Custom
1: Standard Density
2: High Density

(ZZZ) Focus Distance
050: 50 mm = 1.96 in.
064: 64 mm = 2.51 in.
081: 81 mm = 3.18 in.
102: 102 mm = 4.02 in.
133: 133 mm = 5.23 in.
190: 190 mm = 7.48 in.
300: 300 mm = 11.81 in.

(L) Outer LED Color
0: N/A (Engine and ID-20)
1: Red
2: White

(PPP) Speed and Decoder
000: Standard Speed
001: High-Speed
002: 1D/2D Decoder
003: X-Mode Decoder
004: High-Speed 1D/2D Decoder
005: High-Speed X-Mode Decoder

Example Part Number:
7312-2102-1005
MicroHAWK ID-30, Auto ID, SXGA 1.2 Megapixel, Mono, High Density, 102 mm Focus Distance, Red Outer LEDs, High Speed X-Mode Decoder.

Sensor Table

	Pixels (H x V)	Shutter	Frames per Second (Standard / High)
WVGA	752 x 480, 0.3 MP, Mono	Global	10 fps / 60 fps
SXGA	1280 x 960, 1.2 MP, Mono	Global	10 fps / 42 fps
QSXGA	2592 x 1944, 5 MP, Color	Rolling	5 fps