Quick Start Guide
MicroHAWK ID-20 / ID-30 / ID-40 / ID-45

OMRON
MICROSCAN

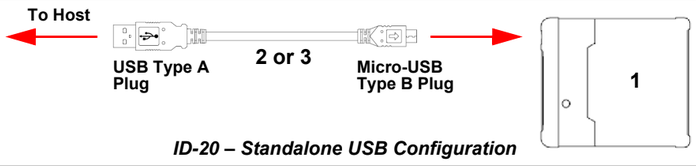
P/N 83-9137234-02 Rev E

Step 1 — Check Hardware

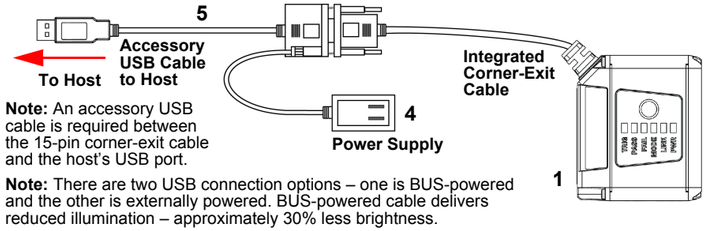
Note: Full configuration diagrams are available in the *MicroHAWK ID-20 / ID-30 / ID-40 / ID-45 Configuration Guide*.

Item	*Description*	*Part Number*
1	MicroHAWK ID-20, MicroHAWK ID-30, MicroHAWK ID-40, or MicroHAWK ID-45	7AXY-YZZZ-LPPP
2	Cable, USB A to Micro B, 6 ft., ID-20	61-9000034-01
3	Cable, USB A to Micro B, 3 ft., ID-20	61-9000045-01
4	Power Supply, 5V	97-9000006-01
5	Cable, DB15 to Ext. Power/USB, ID-30	61-9000038-01
6	Power Supply, 100-240VAC, +24VDC, M12 12-Pin Socket	97-000012-01
7	Cordset, Host, Ethernet, M12 8-Pin Plug (Screw-On) to RJ45, 1 m.	61-000160-03

Step 2 — Connect the System



ID-20 – Standalone USB Configuration

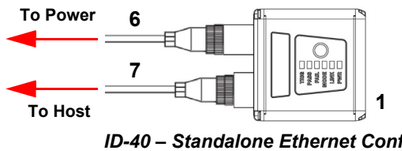


Note: An accessory USB cable is required between the 15-pin corner-exit cable and the host's USB port.

Note: There are two USB connection options – one is BUS-powered and the other is externally powered. BUS-powered cable delivers reduced illumination – approximately 30% less brightness.

ID-30 – Standalone USB Configuration

Note: The ID-40 can be configured as an RS-232 reader with the QX-1 Interface Device. See the *MicroHAWK ID-20 / ID-30 / ID-40 / ID-45 Configuration Guide* for more detail.

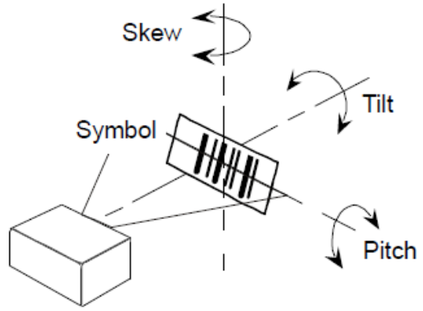


ID-40 – Standalone Ethernet Configuration

Important: Cabling and hardware configuration for the **MicroHAWK ID-45** is similar to the MicroHAWK ID-40. See the *MicroHAWK ID Configuration Guide*, *MicroHAWK ID-40 Specification Sheet*, and *MicroHAWK ID-45 Specification Sheet* for more information.

Step 3 — Mount and Position the Reader

- 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 2** 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 to enter read mode (LEDs **ON**).
7. Double-click the WebLink desktop shortcut. WebLink will load and start (See **Step 5 – Connect to WebLink**.)
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.

Minimum System Requirements

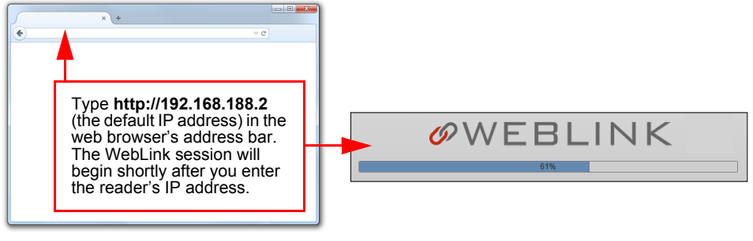
- Intel® Core™2 Duo Processor
- Microsoft Windows 7 (32-bit)
- Internet Explorer 11 or higher, Microsoft Edge, Mozilla Firefox, Opera, Safari (Mac)
- 1GB/128MB Video RAM
- 750MB hard drive space
- 16-bit color display
- 3.0 Windows Experience Index
- Web sockets
- HTML5 Canvas and HTML5 Audio

Recommended System Requirements

- Intel® Core™i3 Duo Processor
- Microsoft Windows 10 (64-bit) or Microsoft Windows 7 (64-bit)
- Google Chrome, current version
- 2GB RAM/128MB Video RAM
- 1GB hard drive space
- 32-bit color display
- 4.0 Windows Experience Index
- Web sockets
- HTML5 Canvas and HTML5 Audio

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.



Step 6 — Connect to WebLink (ID-40 and ID-45)

MicroHAWK ID-40 and ID-45 (Static Connection)

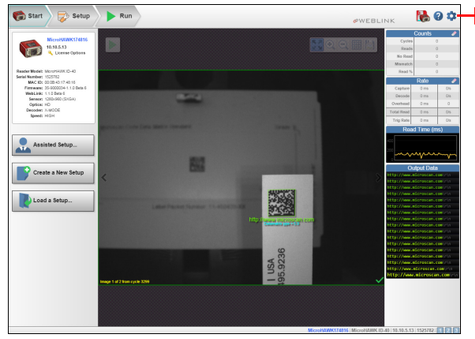
1. Navigate to **Control Panel > Network and Sharing Center** on your PC.
2. Click **Local Area Connection 4**. In the **Status** dialog, click **Properties**.
3. In the **Local Area Connection Properties** dialog, select **Internet Protocol Version 4 (TCP/IPv4)** and click **Properties** again. Set your PC to a **192.168.188.X** IP address (**192.168.188.5**, for example).
4. Click **OK**.
5. Open a web browser and type the reader's default IP address (**http://192.168.188.2**) in the web browser's address bar.
   The reader will connect to WebLink.

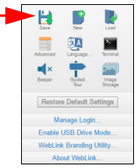
MicroHAWK ID-40 and ID-45 (DHCP Network Connection)

1. Plug your reader into the your network adapter.
2. Open **ESP Software** and connect to the reader via **Ethernet TCP/IP**.
3. Click **Search** to find the reader. When the reader appears in the field below the **Search** and **Send** buttons, select it.
4. Change the reader from **Static** to **DHCP** and click **Send and Save**. The camera will reboot and ESP will search for the reader again.
5. When the reader is found, note the new IP address that is generated.
6. Open a browser and type the new IP address.
   WebLink will load.

Step 7 — Explore the Start View

The **Start** view is the initial view you will see when the WebLink session begins. The connected reader is shown, along with its **user-defined name** (must be **19** characters or fewer), **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**, **Image Storage**, **Restore Default Settings**, **Manage Login**, **Enable USB Drive Mode** (when using an ID-20 or ID-30), **WebLink Branding Utility**, 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

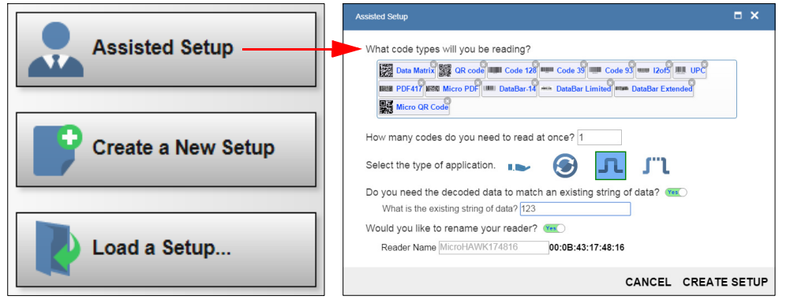
When you click the **Assisted Setup** button in the **Start** view, a dialog will appear asking you a series of application-based questions. Based on your answers, WebLink generates your initial setup automatically. Once the setup is created, you can fine-tune its parameters in the **Setup** view.

Create a New Setup

The Start view also allows you to create a **New Setup** without using Assisted Setup. When you click the **Create a 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 default settings.

Load a Setup

Select **Load Setup** to load an existing **.json** WebLink setup file. You can also load an **.esp** or **.txt** file from Omron Microscan's **ESP Software**.



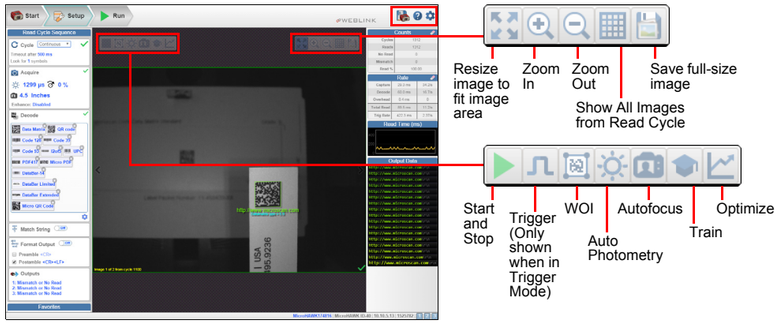
Step 9 — Explore the Setup View

The **Setup** view allows you to configure all aspects of a setup. Multiple discrete sections of the interface give you the ability to set **Cycle**, **Acquire**, **Decode**, **Match String**, **Format Output**, **Output** parameters, and **Favorites**.

Clicking the **Save** icon at the upper right saves current settings to the reader's flash memory so the settings will be available when the reader is rebooted.

The **question mark** icon at the upper right opens **WebLink Help**.

The **gear** icon at the upper right brings up the **Application Settings** menu.



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 uses **Continuous Read Auto** 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** from **1** to **100**.

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**. When **Serial Trigger** is set to **Off**, the start and stop characters are set to **NULL**, meaning that the trigger is disabled. When **Serial Trigger** is set to **On**, the start and stop characters are set to **S** and **E**. When the trigger button is clicked, it will use the current start and stop non-delimited triggers.

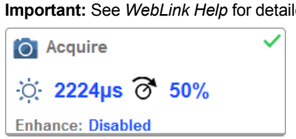
Custom

This mode allows you a wider variety of read cycle scenarios, including **Continuous Read Auto**. 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). Clicking any of these settings will cause a control to appear, allowing you to modify that setting. Settings take effect immediately.

Important: See *WebLink Help* for detailed information about **Autofocus** and **Spot Focus** functionality.

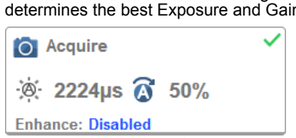


Standard

Important: There are 4 levels of Gain in SXGA MicroHAWK ID readers. Each level corresponds to 25 percentage points, or one quarter turn of the Gain dial shown at left.

- Level **1** = 0% to 24%
- Level **2** = 25% to 49%
- Level **3** = 50% to 74%
- Level **4** = 75% to 100%

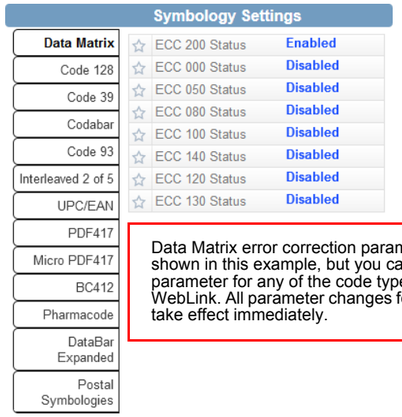
When **Auto Photometry** is enabled instead of **Standard**, Exposure and Gain are read-only. The **A** shown on the sun and dial icons signifies that **Auto Photometry** is enabled. Auto Photometry constantly determines the best Exposure and Gain settings during each read cycle.



Auto Photometry

Step 12 — Configure Symbology Settings

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

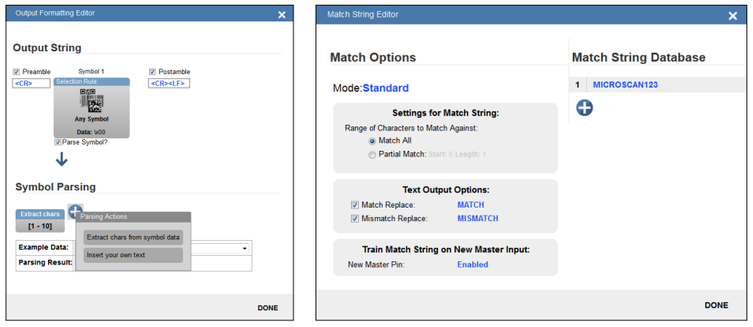


Data Matrix error correction parameters are shown in this example, but you can configure any parameter for any of the code types supported by WebLink. All parameter changes for all code types take effect immediately.

Step 13 — Format Output and Configure 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.

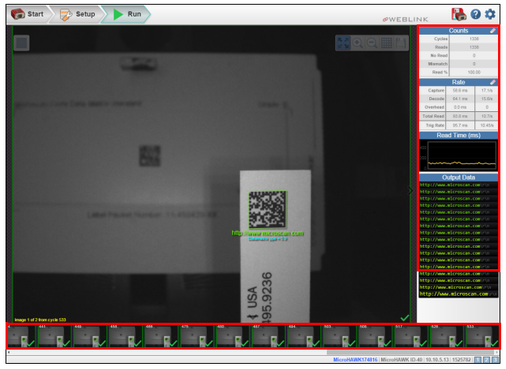
Match Options and **Match String Database**, accessible by clicking the **Match String** section in the **Setup View**, allow you to set the match code mode, text output, new master, and match string database.



Note: See *WebLink Help* for information about how to configure output settings.

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 pane of the UI shows **Counts** for **Inspected**, **Passed**, **No-Read**, and **Mismatch**, as well as **Read Rate**, **Reads per Second**, **Read Time** (shown numerically and visually), and **Output Data**. A **"filmstrip"** in the bottom pane shows each image capture with a **green check mark** for good reads and a **red x** for No-Reads.

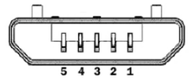


Power Requirements and Pin Assignments

MicroHAWK ID-20: 5 VDC ± 5%, 350 mA @ 5 VDC (typ.)
MicroHAWK ID-30: 5 VDC ± 5%, 600 mA @ 5 VDC (typ.)
MicroHAWK ID-40: 4.75-30VDC, 200mV p-p max ripple, 150mA @ 24VDC (typ.)
MicroHAWK ID-45: 10-30VDC, 200mV p-p max ripple, 150mA @ 24VDC (typ.)

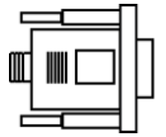
Important: *See the MicroHAWK ID-20 / ID-30 / ID-40 / ID-45 User Manual* for information about Omron Microscan's **Isolation Mounting Kit (P/N 98-9000064-01)** to eliminate ground loops or other external electrical noise through your MicroHAWK ID-30, ID-40, or ID-45 reader.

MicroHAWK ID-20 Micro-USB Type B Socket



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

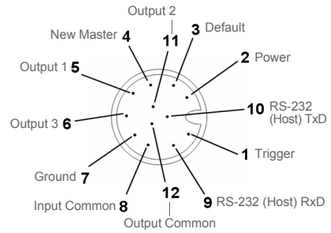
MicroHAWK ID-30 High-Density 15-Pin Dsub USB/Serial Socket



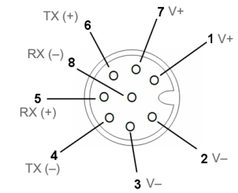
Note: An accessory cable is required between the ID-30's 15-pin corner-exit cable and the host's USB port.

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

MicroHAWK ID-40 and ID-45 Connectors



M12 12-pin Plug



M12 8-pin Socket (Ethernet)

MicroHAWK ID Part Number Structure

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

7 = MicroHAWK

Example Part Number: 7432-2000-1005

Description: MicroHAWK ID-45, IP65/67 Case, 24V Ethernet, SXGA 1.2 Megapixel, Mono, High-Density, Autofocus, Red Outer LEDs, High-Speed, X-Mode Decoder

(A) Model
1: Engine, No Case, USB
2: ID-20, IP40 Case, USB
3: ID-30, IP54 Case, 5V, USB
4: ID-40, IP65/67 Case, 24V, Ethernet

(B) Software
1: Auto ID
3: ID-45; same IP rating, power, and comm. as ID-40

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

WVGA	752 x 480, 0.3 MP, Mono	Global	Standard: 10 FPS / High: 60 FPS
SXGA	1280 x 960, 1.2 MP, Mono	Global	Standard: 10 FPS / High: 42 FPS
QSXGA	2592 x 1944, 5 MP, Color	Rolling	5 FPS

(Y) Optics
0: Custom
1: Standard-Density
2: High-Density
3: Ultra-High-Density
4: Long-Range (Autofocus Long Range available for SXGA sensor only.)
5: Ultra-High-Density with Polarizer

(ZZZ) Focus Distance
000: Autofocus
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.
400: 400 mm = 15.75 in. – UHD FF

(L) Outer LED Color
0: N/A (Engine and ID-20)
1: Red (Not available with QSXGA sensor.)
2: White
3: Blue
4: IR

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

Notes:
- **(A) Model:** The MicroHAWK Engine is available for OEM-certified partners only.
- **(L) Outer LED Color:** Outer LEDs provide extra illumination. Base level illumination included with all readers.
- **(PPP) Speed and Decoder:** 1D omnidirectional decoding functionality is included with all readers. The 1D/2D Decoder option is useful for printed labels. X-Mode is the full decoder package for 1D, 2D, DPM, and damaged symbols.
- **Field Upgrades:** Not available for optics or illumination due to factory settings for optical alignment, LED balancing, and sealing for IP enclosure rating. However, the reader's speed and decoder version are field-upgradeable via licenses.