Configuration and Quick Start Guide
C5KC and C5PC
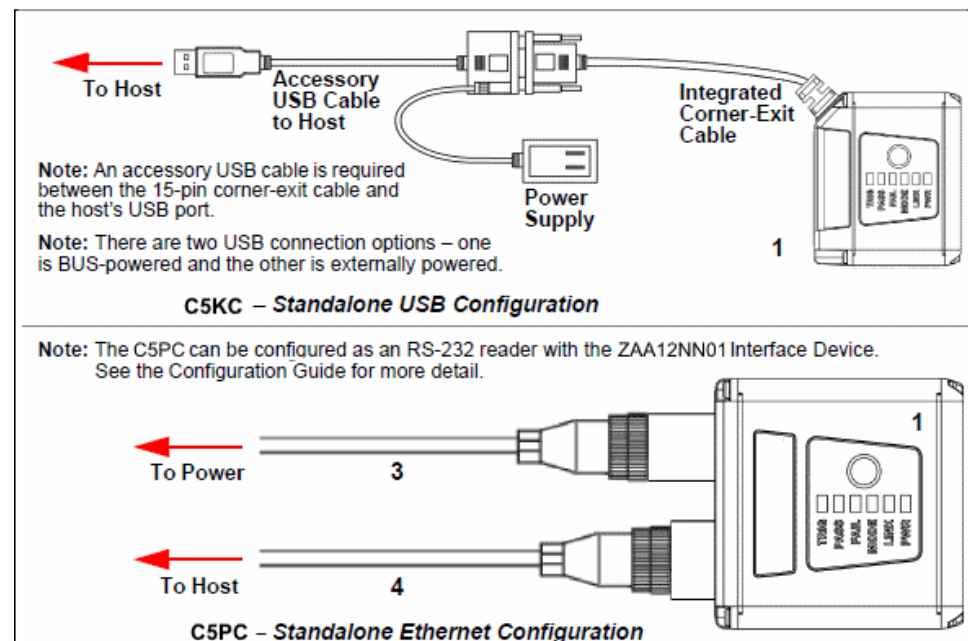

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Step 1 — Check Hardware

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

Item	Description	Part Number
1	1D-/2D-Codescanner C5KC or C5PC	C5xCxxx
2	Power Supply, 5V	ZNNN001
3	Cable, DB15 to Ext. Power/USB, C5KC	ZDNV007
4	Power Supply, 100-240VAC, +24VDC, M12 12-Pin Socket	ZDCLxxx
5	Cordset, Host, Ethernet, M12 8-Pin Plug (Screw-On) to RJ45, 1 m.	ZCYVxxx

Step 2 — Connect the System

To Host
Accessory USB Cable to Host
Integrated Corner-Exit Cable
Power Supply

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.

C5KC – Standalone USB Configuration

Note: The C5PC can be configured as an RS-232 reader with the ZAA12NN01 Interface Device. See the Configuration Guide for more detail.

To Power
To Host

C5PC – Standalone Ethernet Configuration

## 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.


Skew
Tilt
Symbol
Pitch
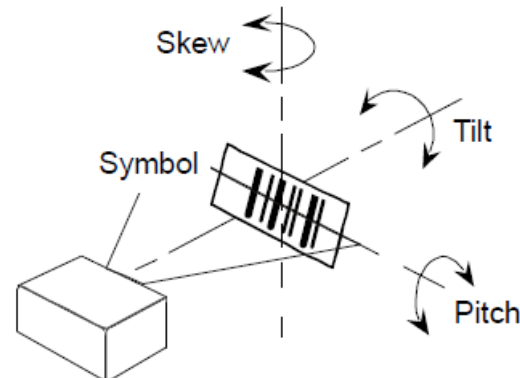
Step 4 — Install WebLink Drivers (C5KC)

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 wenglor 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.
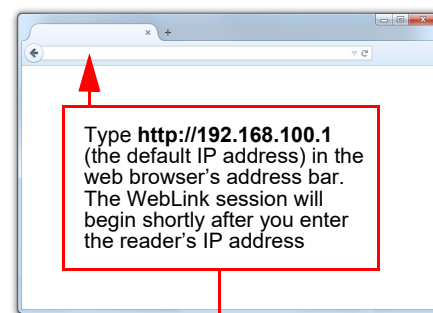   You are now ready to use the wenglor C5KC with WebLink.

Step 1
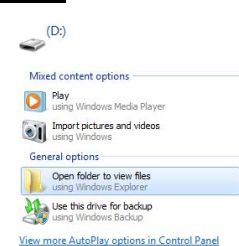
Step 3
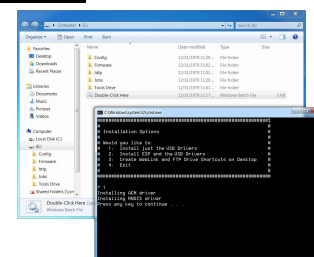
Step 5 — Connect to WebLink (C5KC)

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://192.168.100.1** (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 wenglor Readers, but wenglor'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 Scanner firmware;
- Using the Configuration Database;
- Creating barcodes for reader configuration;
- Generating Symbol Quality reports.

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WEBLINK

## Step 6 — Connect to WebLink (C5PC)

A slightly different method is required to connect to the wenglor C5PC:
1. Configure reader hardware as required and open the web browser of your choice.
2. Type **http://192.168.100.1** (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**. In the **Local Area Connection Status** dialog, click **Properties**.
5. In the **Local Area Connection Properties** dialog, select **Internet Protocol Version (TCP/IPv4)** and click **Properties** again. Set your PC to a **192.168.100.x** address (192.168.100.5, for example).
6. Open **ESP Software**, connect to the wenglor C5PC 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 C5PC'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 C5PC is found, you can use it with WebLink.

Step 5
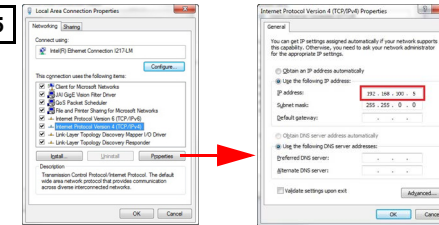
Steps 6 – 8
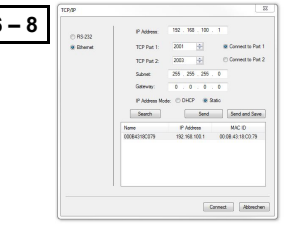
To create an FTP drive shortcut: right-click on your desktop and select **New > Shortcut**; enter **%windir%\explorer.exe ftp://192.168.100.1** as the target path; name your FTP drive; click **Finish**. Double-click the FTP drive shortcut on the desktop. Log in with the **target** / **password** credentials 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**.
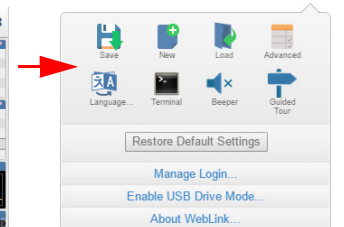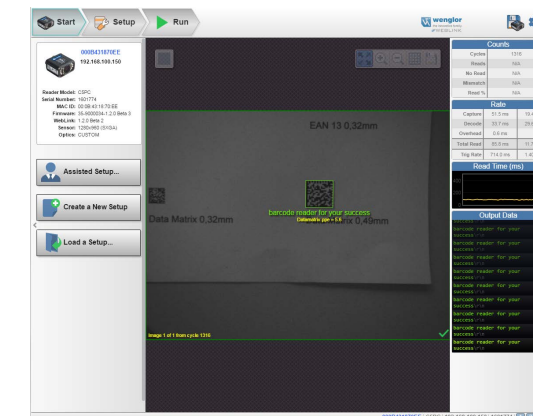
Click the gear icon to show **Save**, **New**, **Load**, **Advanced**, **Language**, **Terminal**, **Beeper**, **Guided Tour**, **Restore Default Settings**, **Manage Login**, **Enable USB Drive Mode**, and **About WebLink**.

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
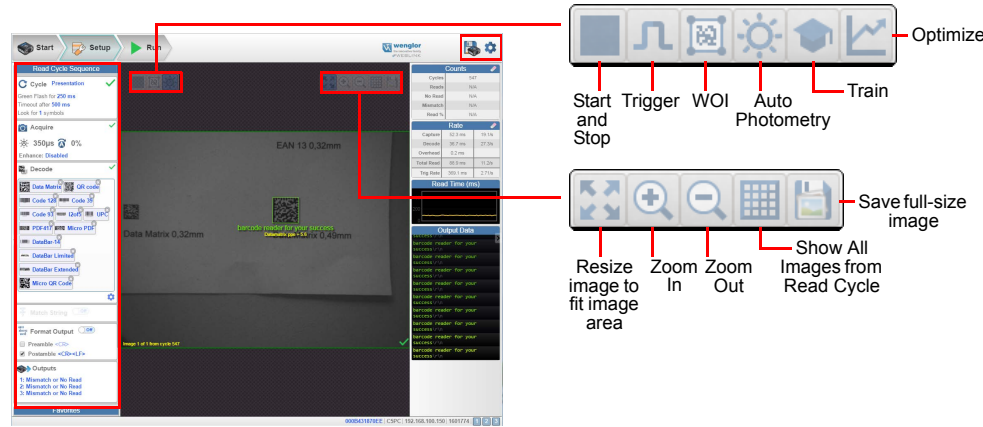Select **Load Setup** to load an existing **.json** WebLink setup file.
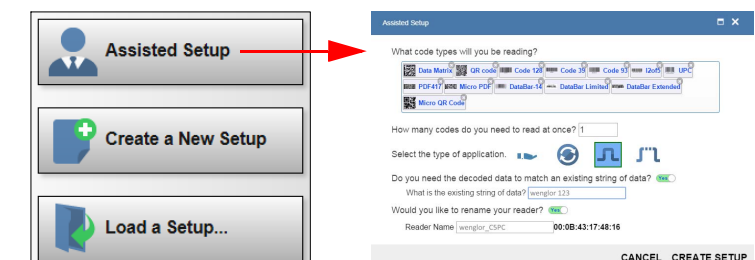
Step 9 — Explore the Setup View

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**.

- Optimize
- Start and Stop
- Trigger
- WOI
- Auto Photometry
- Train
- Resize image to fit image area
- Zoom In
- Zoom Out
- Show All Images from Read Cycle
- Save full-size image

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.
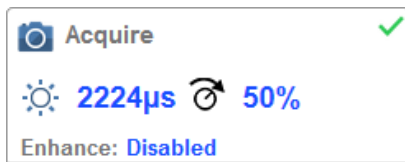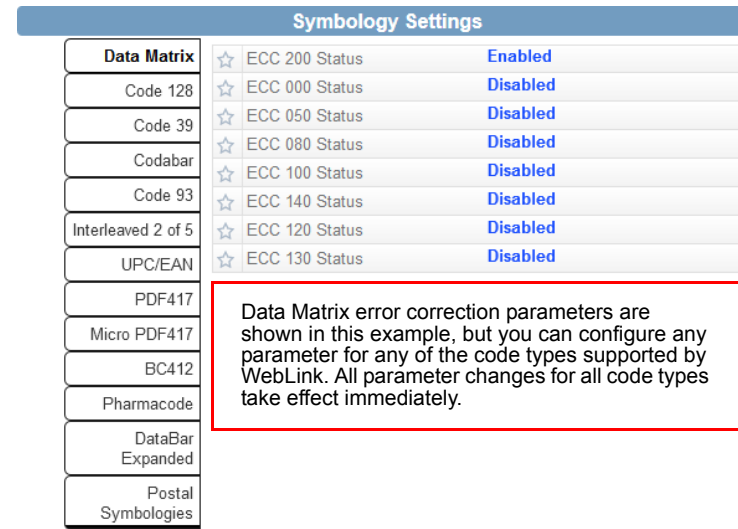

Standard

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
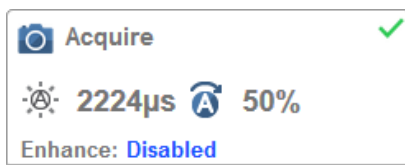
## Step 12 — Configure Symbology Settings

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 string, text output, new master, and match string database.
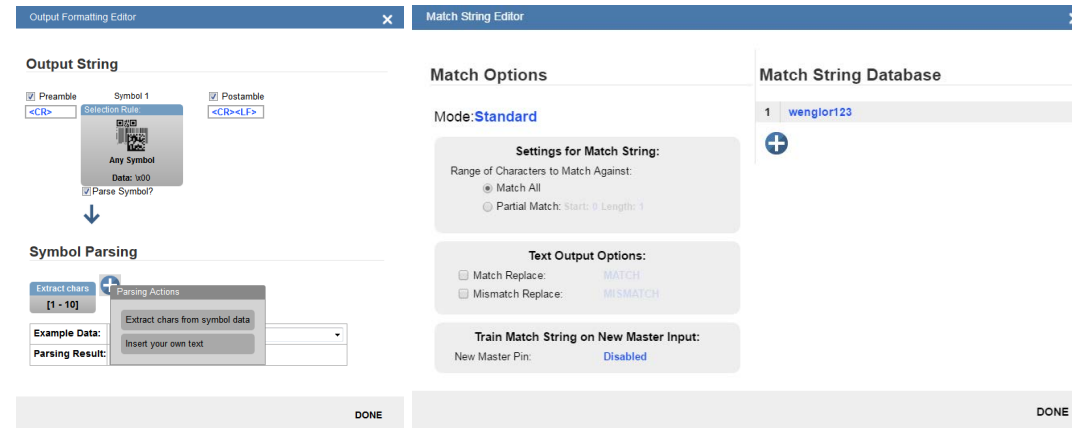
Step 14 — Run the Application

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.
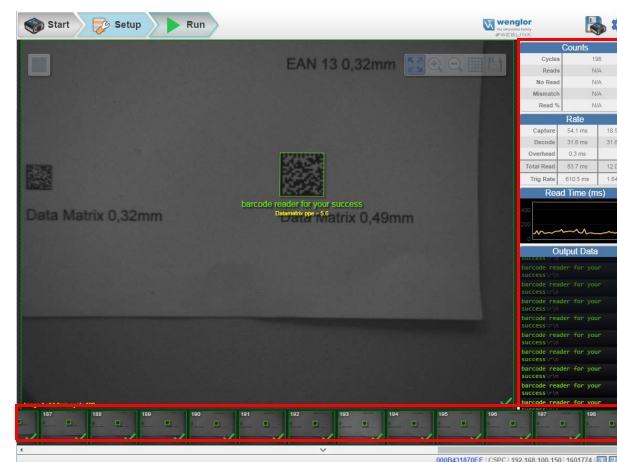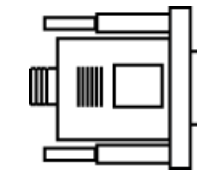

Power Requirements and Pin Assignments

C5KC: 5V ± 5%; 600mA at 5VDC (typ.)
C5PC: 4.75V – 30V; 150mA at 24VDC (typ.)

C5KC 15-Pin High-Density Dsub USB/Serial Socket Connector

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

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

C5PC M12 Connectors

M12 12-pin Plug

M12 8-pin Socket (Ethernet)