Kirk-Rudy, Inc.

Instruction and Parts Manual The QC System

Manufactured by Kirk-Rudy, Inc.

Before using this machine, all operators must study this manual to understand and follow the Safety Warnings and Instructions. Keep these instructions with the machine for future reference. If you have any questions, contact your local Kirk-Rudy, Inc. Distributor.

Manual

Table of Contents

1 Important Safety Instructions

Intended Use Statement: The KRQC Barcode Checker is a quality control checking tool for analyzing barcode quality and suggesting improvements. Usage for other purposes may lead to an unsafe condition.

SAVE THESE INSTRUCTIONS. Read all instructions before using this product.

WARNING

* NEVER OPERATE THE MACHINE WITHOUT ALL GUARDS OR SAFETY DEVICES IN PLACE.

2 Introduction

WARNING

Read and follow all Safety Instructions, Page 4 before proceeding.

2.1 Physical Specifications

Height: 15-3/8”

Width: 10-1/2”

Length: 36”

2.2 Electrical Power Requirements

120VAC, 1A, 60HZ

3 System Components

WARNING

Read and follow all Safety Instructions, Page 4 before proceeding.

3.1

546690-05 ASSY, COGNEX CAMERA SYSTEM

546694-01 ASSY, CONTROL BOX LIGHT

4 Installation

WARNING

Read and follow all Safety Instructions, Page 4 before proceeding.

4.1 Hardware Installation

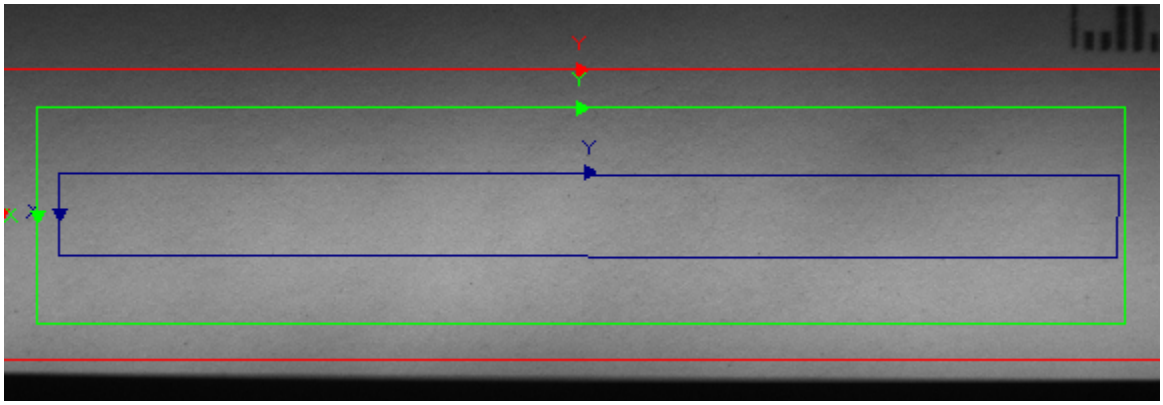
4.1.1 Light Adjustment

In the case where the LED light has moved or needs to be installed, the LED light must be adjusted so that it is at the best angle for most reliable results.

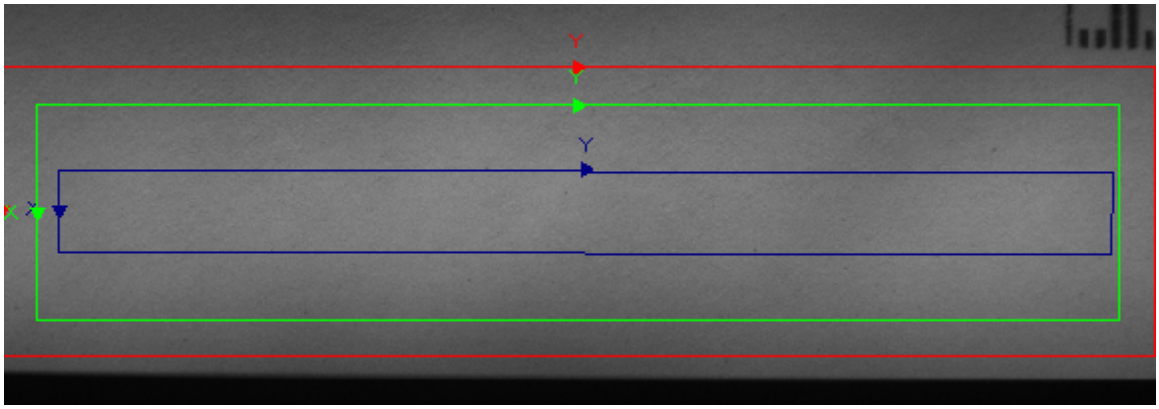
To adjust the LED light:

1. Gently loosen the screws on the side of the light.
2. Start the QC software, load/start a job.
3. Switch to Normal Mode.
4. Make sure the software is in the Setup step and auto refresh is selected.
5. Place a blank product until the camera sensor.
6. Adjust the angle of the light until the brightest spot is at the center of the image.
7. Examples are on the next page.

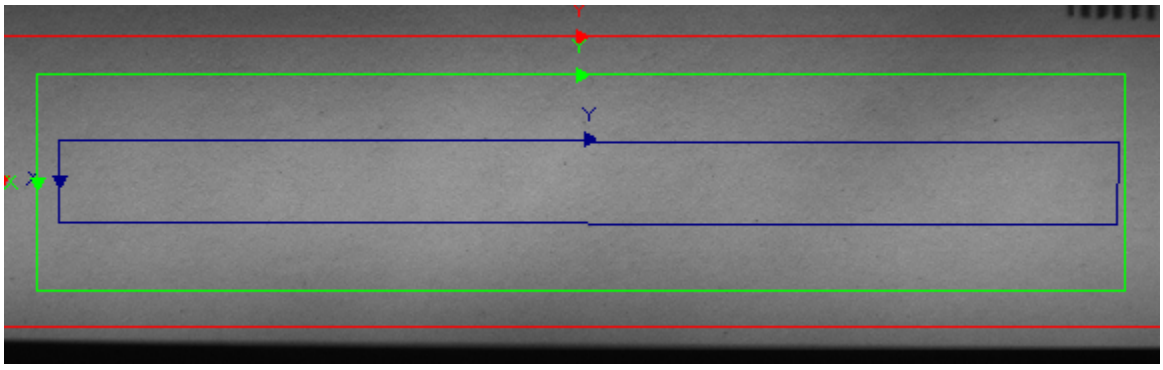
To Low



Too High



Perfect

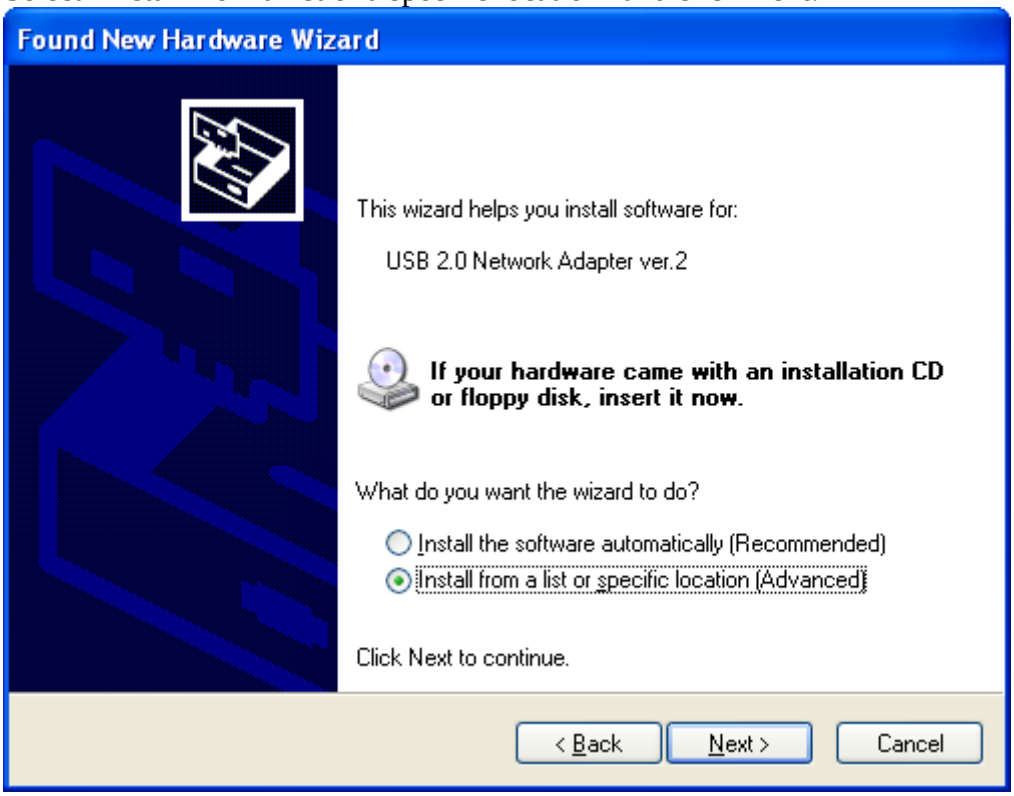


4.1.2 Installing USB Ethernet Adapter

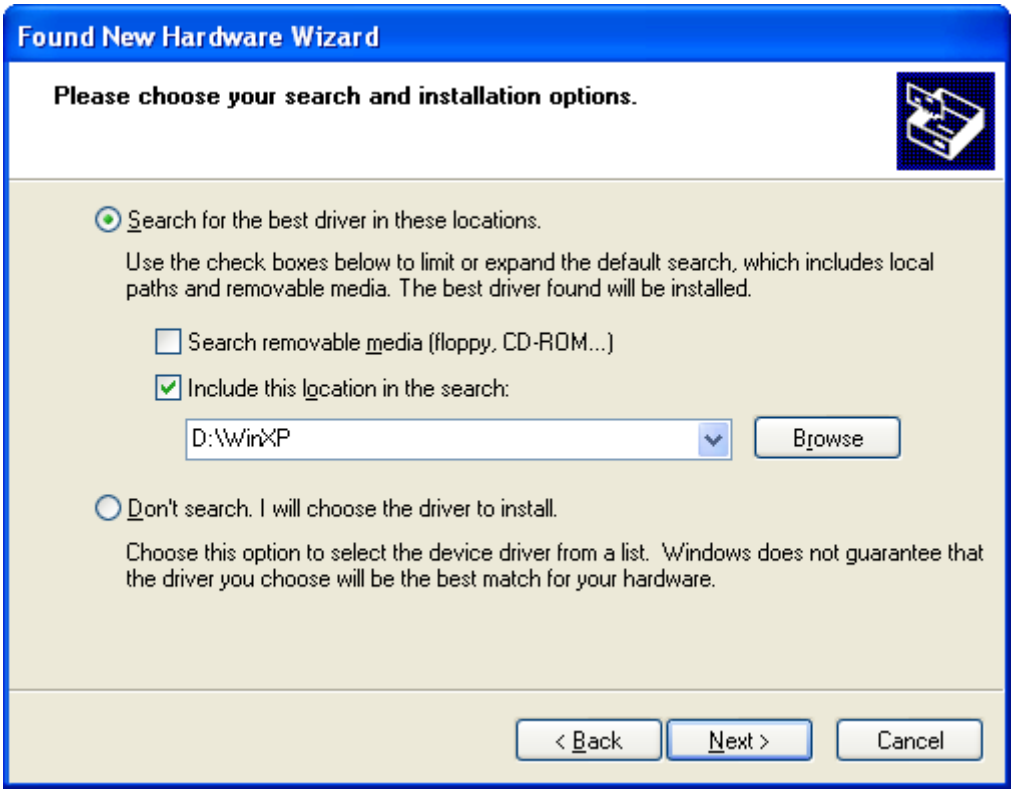
Windows XP

1. Plug the small USB to Ethernet converter into a free USB 2.0 slot.
2. If you see the following screen, select "**No, not at this time**" and click **Next**. Otherwise, skip to step 3.

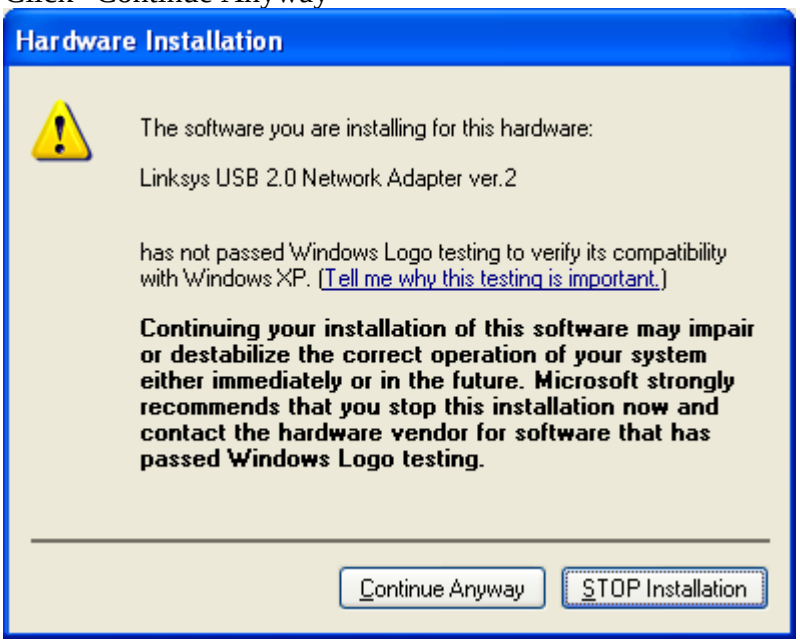
3. Select “Install from a list or a specific location” and click **Next**.



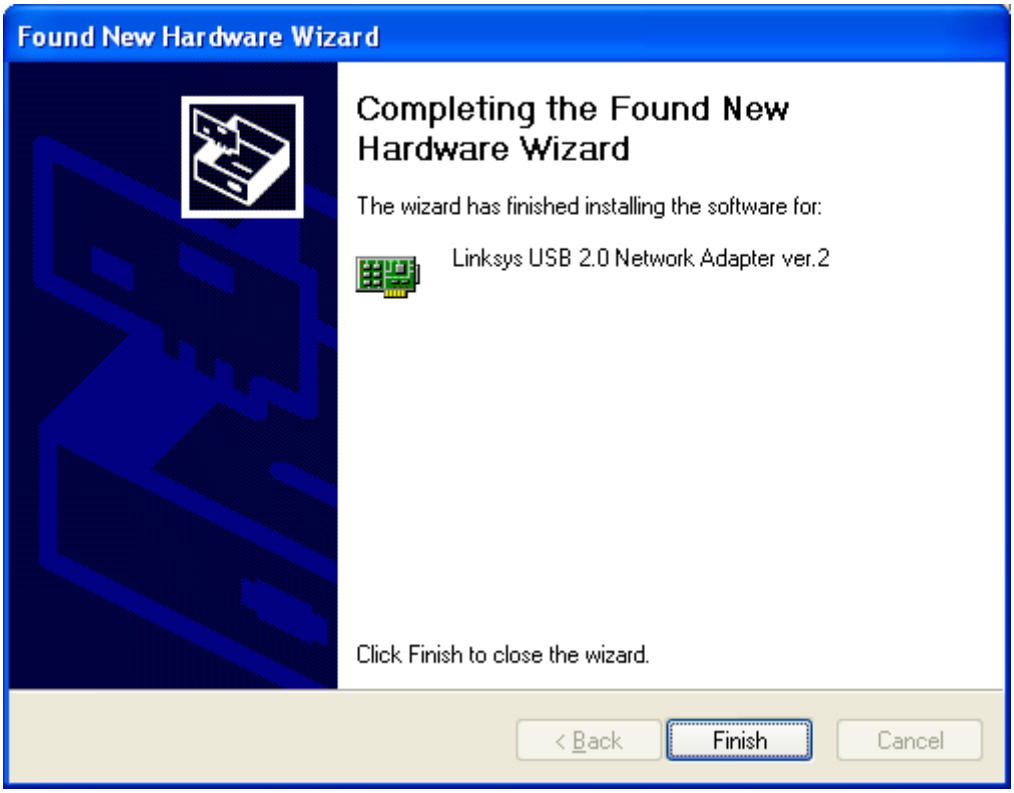
4. In the following screen select “**Search for the best driver in these locations**” and only select “**Include this location in the search.**” Enter **D:\winxp** in the field, or if the CDROM drive is another letter, replace D with the CDROM’s drive letter. Click **Next**.



5. Click “Continue Anyway”



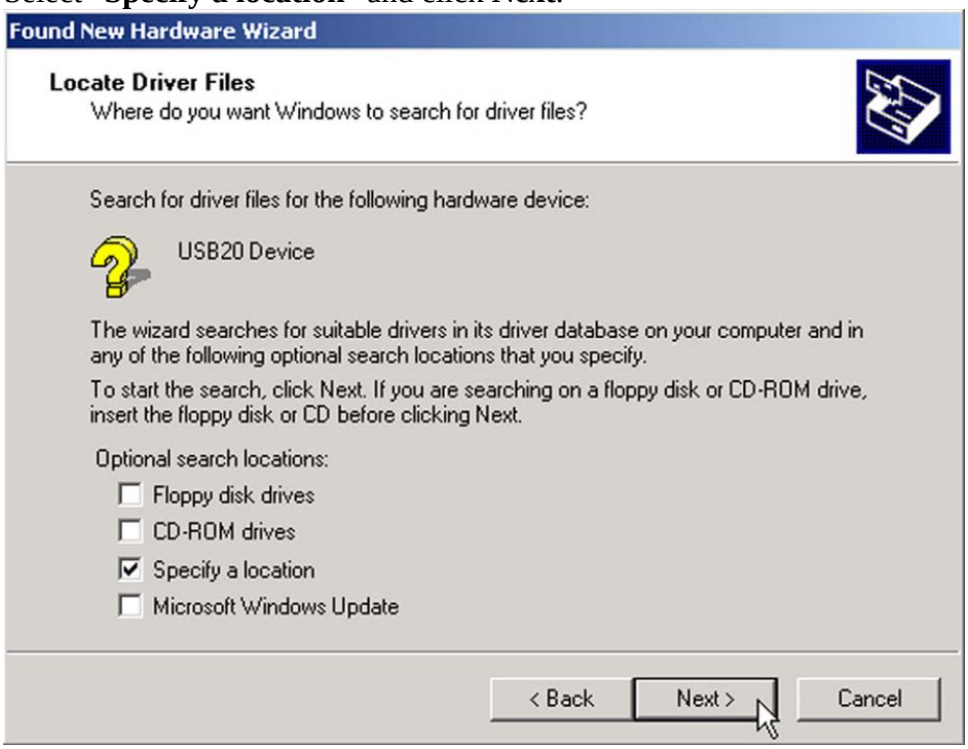
6. Installation is complete. Click “**Finish**.”



Windows 2000

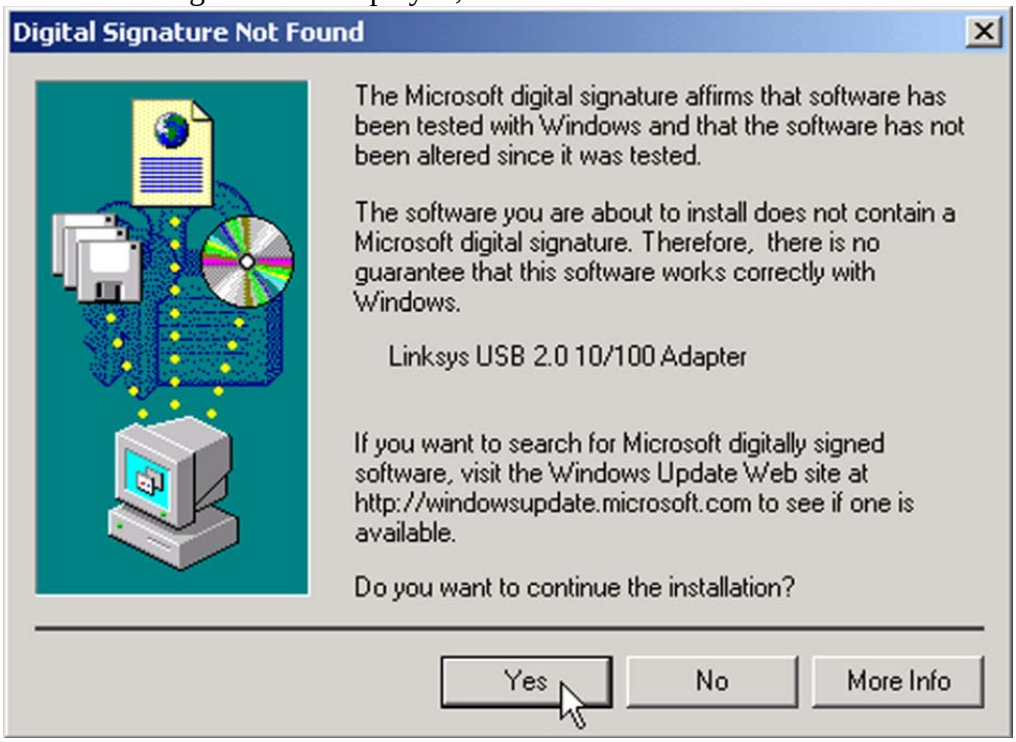
1. Plug the small USB to Ethernet converter into a free USB 2.0 slot.
2. When the following screen is displayed, select "**Search for a suitable driver for my device**" and click **Next**.

3. Select "**Specify a location**" and click **Next**.



4. In the *Copy manufacturer's files from:* field enter **D:\win2000** then click OK. If the CD-ROM drive is not D, replace D with the CD-ROM's drive letter.
5. The following *Driver Files Search Results* screen will appear. Click "Next"

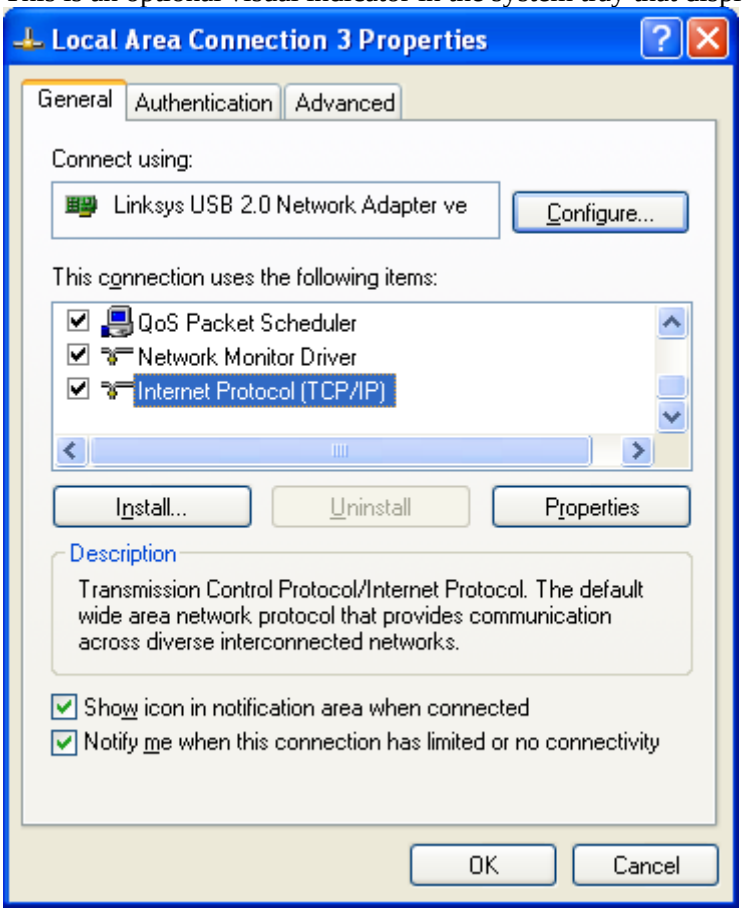
6. If the following screen is displayed, click **Yes**.



7. Click **Finish** then remove the driver CD from the CD-ROM drive.

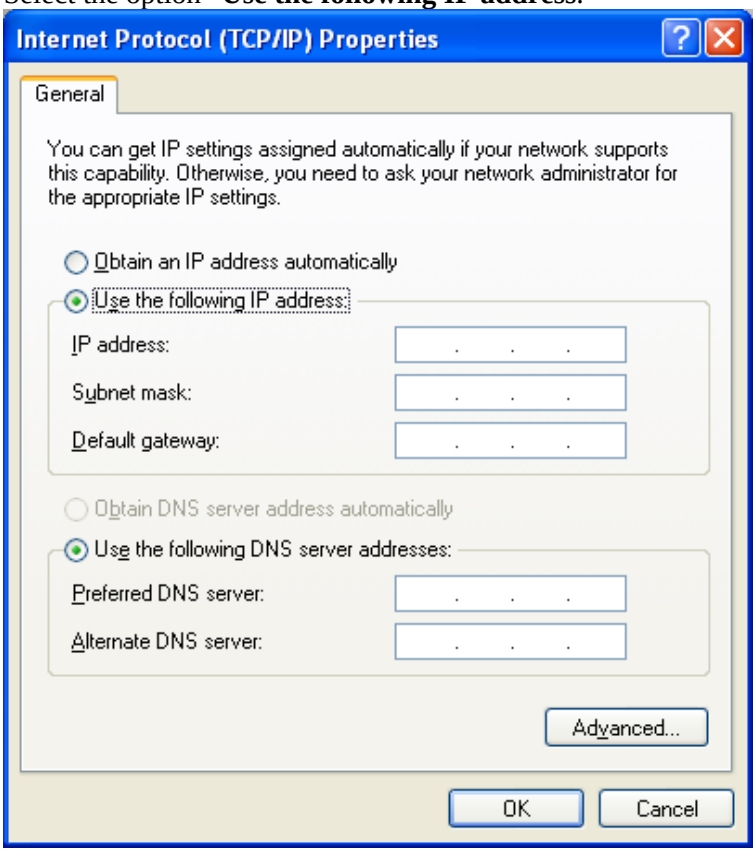
4.1.3 Configuring USB Ethernet Adapter

1. Open Network Connections
   a. **Windows XP**: Click Start – All Programs – Accessories – Communications – Network Connections
   b. **Windows 2000**: Click Start – Programs – Accessories – Communications – Network and Dial-Up Connections.
2. Find the interface that uses the **Linksys USB 2.0 Network Adapter ver.2**
3. Right click on the interface icon, click rename, type in 'QC' then click enter.
4. Right click on the interface icon and click **Properties**.
5. Put a check in the box near the bottom next to "**Show icon in notification area when connected**." This is an optional visual indicator in the system tray that displays the camera's connection to the PC.

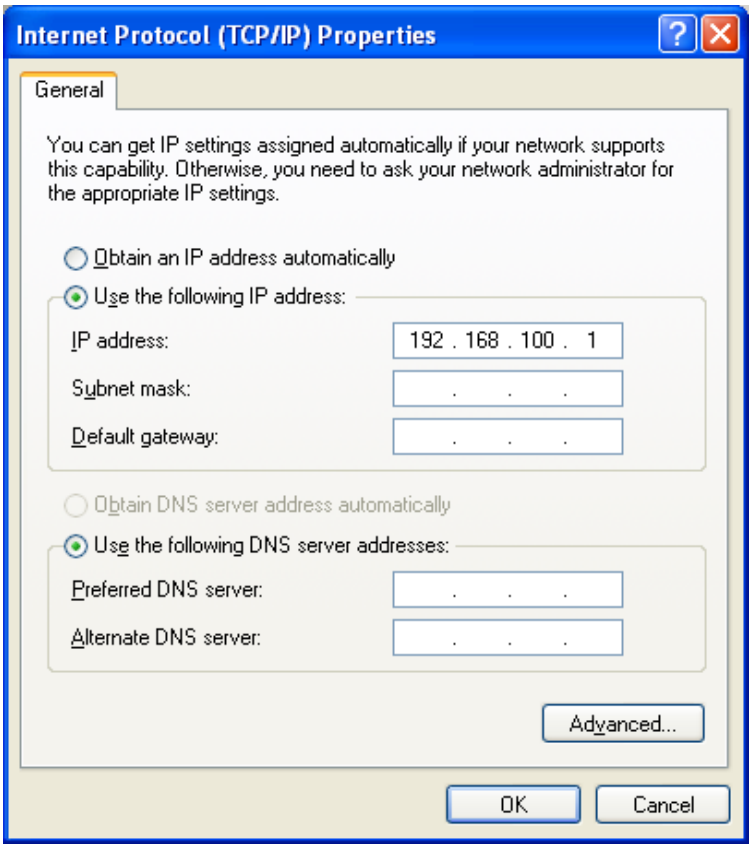


6. Scroll down the list of items under the section "**This connection uses the following items.**" Click once on **Internet Protocol (TCP/IP)** and then click **Properties**.

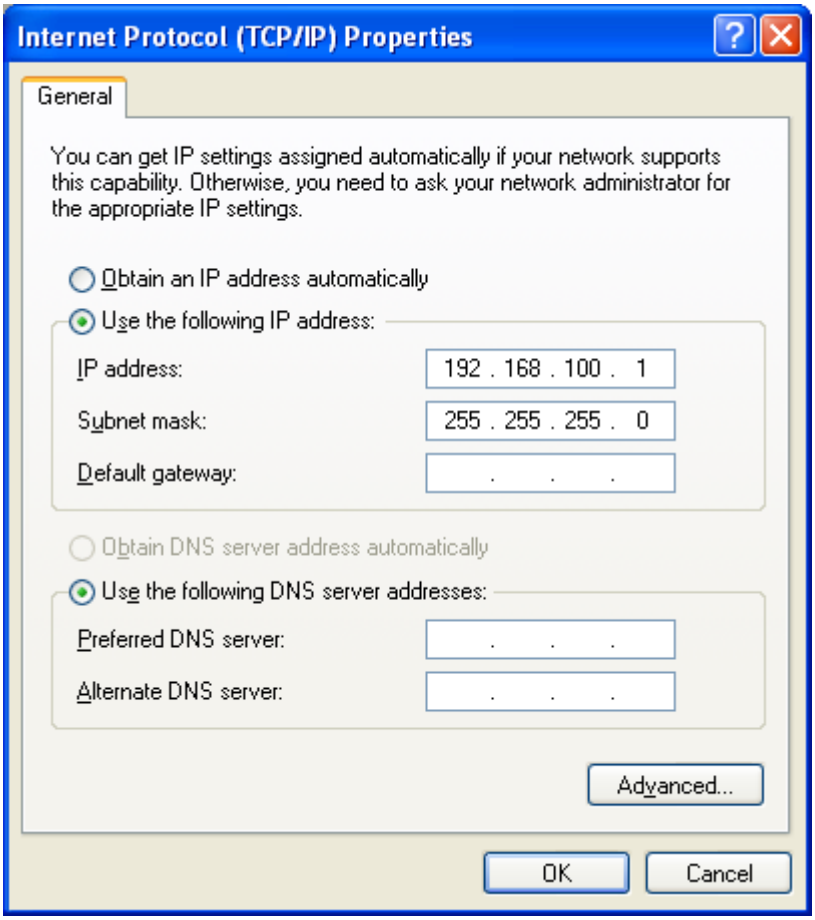
7. Select the option "**Use the following IP address**."



8. Enter the IP address 192.168.100.1 in the field **IP address**



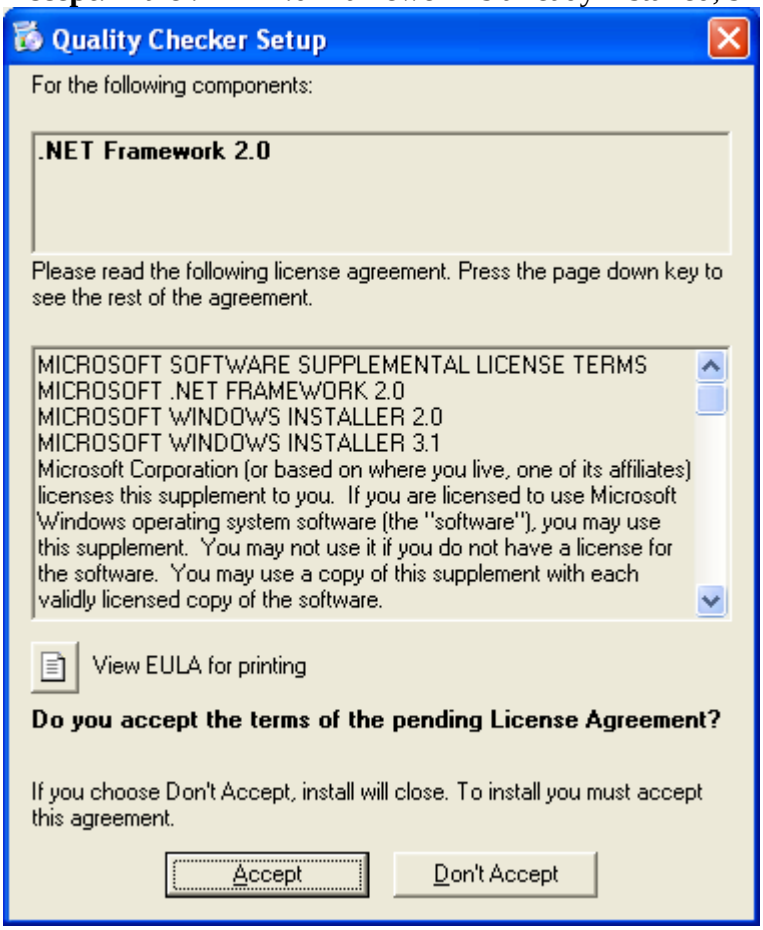
9. Click in the field **Subnet mask** so that it is filled automatically with 255.255.255.0.



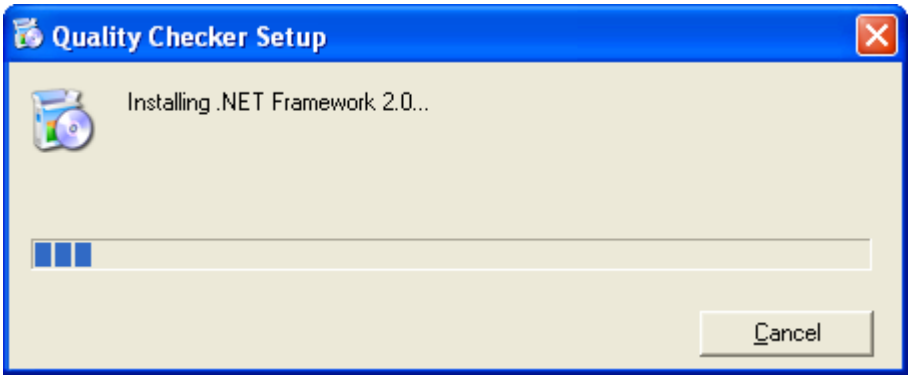
10. Click **OK.**
11. Click **Close.**
12. The USB Ethernet interface is now configured and ready to communicate with the camera sensor.

4.2 Software Installation

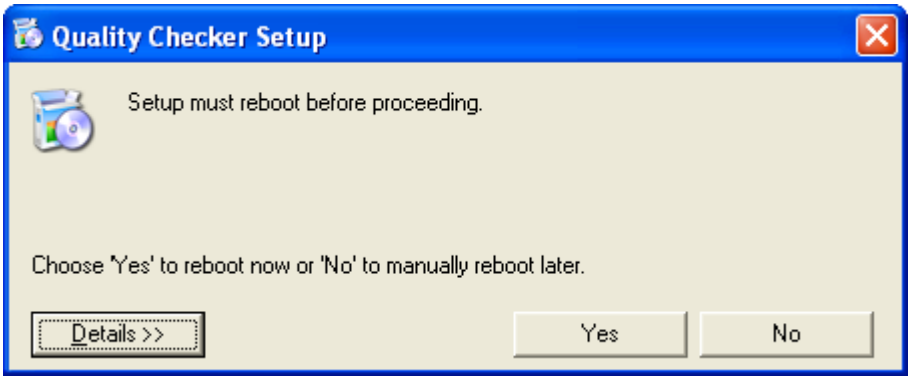
1. Insert the QC System Installation CD into the CD-ROM drive.
2. Run Setup from the CD.
3. If the .NET 2.0 Framework is not installed, the following message will be displayed. Click **Accept**. If the .NET 2.0 Framework is already installed, skip to step 6.



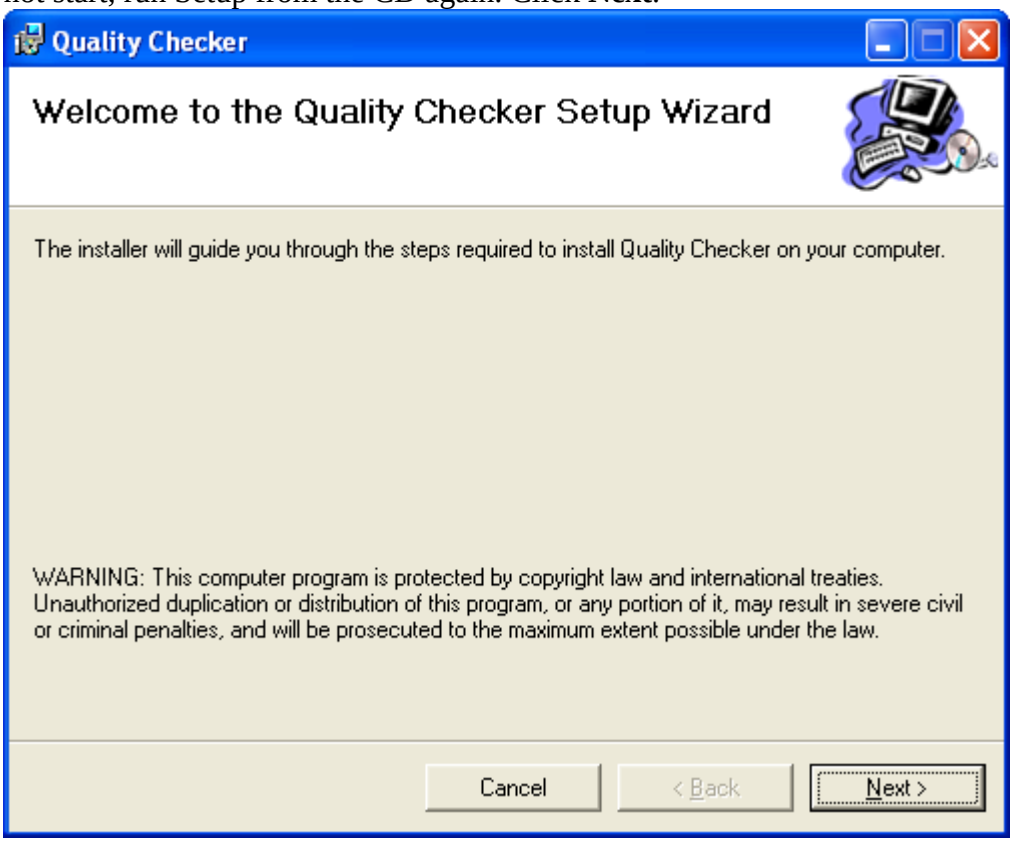
4. Allow several minutes for the .NET Framework 2.0 to install.



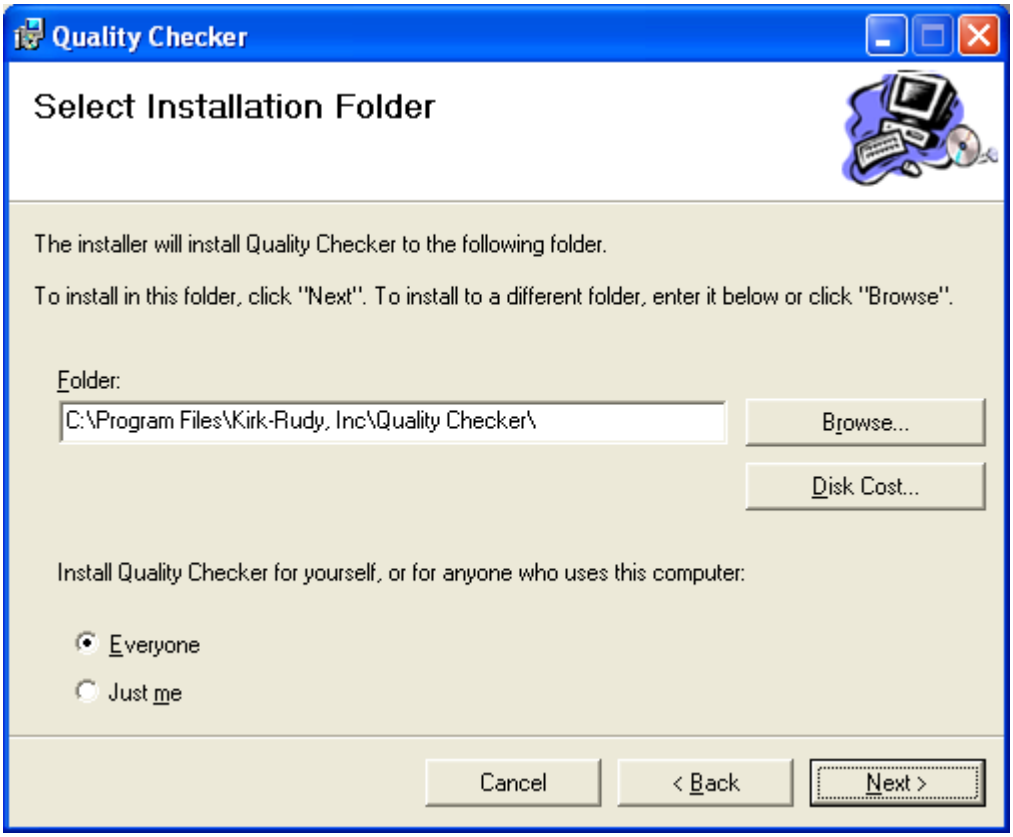
5. Click "**Yes**" to reboot the system.



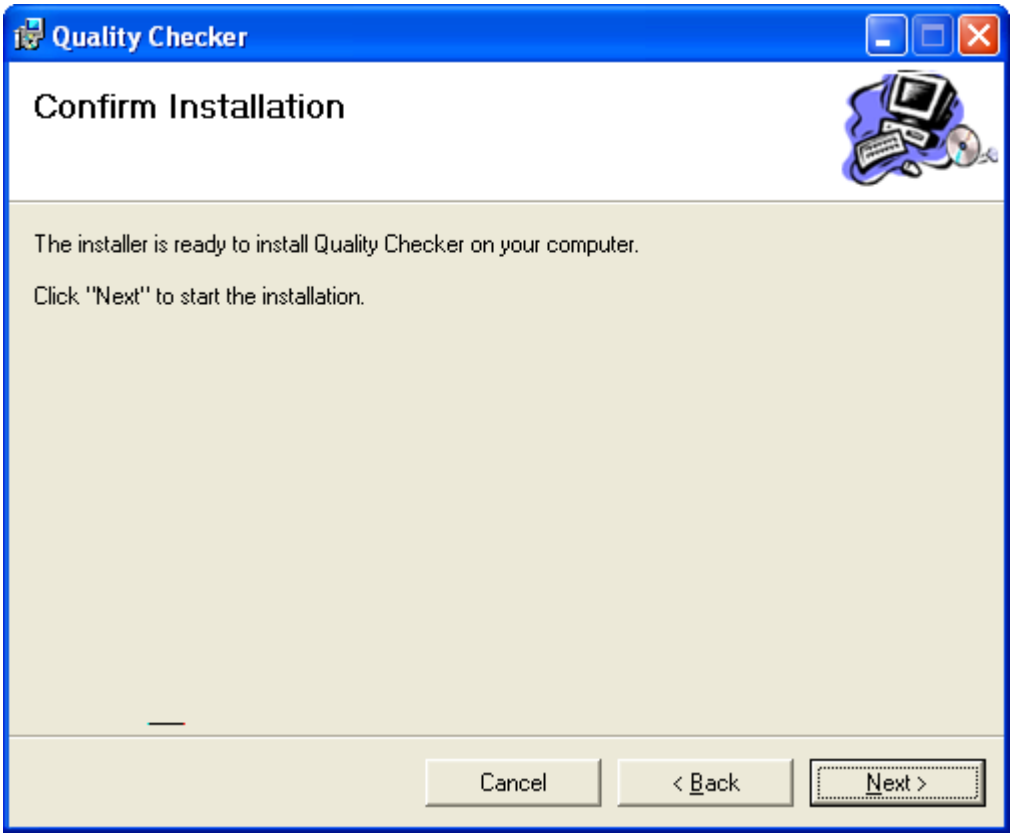
6. After the PC reboots the QC System installer should automatically start. If the installer does not start, run Setup from the CD again. Click **Next**.



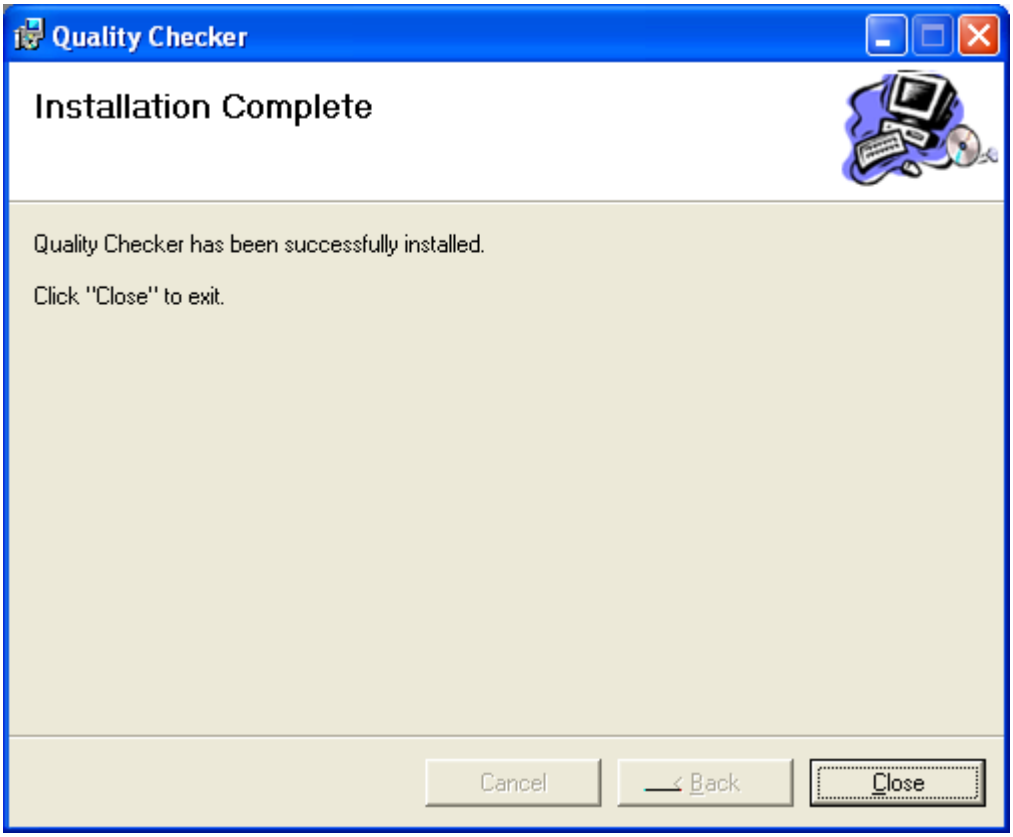
7. Click **Next**.


Quality Checker
Select Installation Folder
The installer will install Quality Checker to the following folder.
To install in this folder, click "Next". To install to a different folder, enter it below or click "Browse".
Folder:
C:\Program Files\Kirk-Rudy, Inc\Quality Checker\
Browse...
Disk Cost...
Install Quality Checker for yourself, or for anyone who uses this computer:
Everyone
Just me
Cancel
< Back
Next >

8. Click **Next**.



9. Installation is complete. Click **Close**.



10. A link has been created on the desktop and a program group has been created.

5 Software Operation

5.1 Introduction

The QC System is designed to be a tool for reporting barcode quality in such a way that an operator can quickly identify quality problems for a barcode and fix them before starting a job. Detailed barcode quality metrics allow an operator to tweak a printer's output so that the printer prints barcodes at the highest quality level possible. The QC system uses both DMM and MERLIN specifications for determining thresholds, and its graphical display makes it easy to make sure barcode measurements are in the middle of allowed limits.

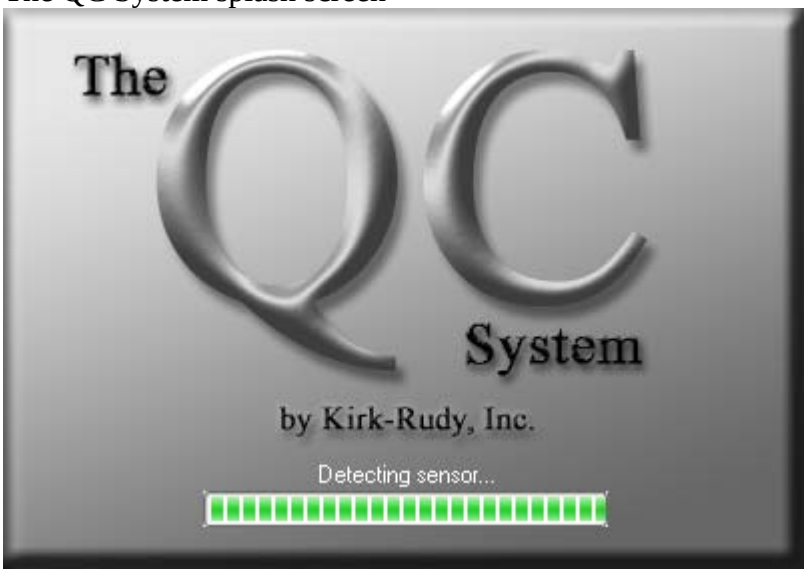
The QC System provides

- Detailed barcode quality metrics
- Audible alarm for failure condition
- Report generation

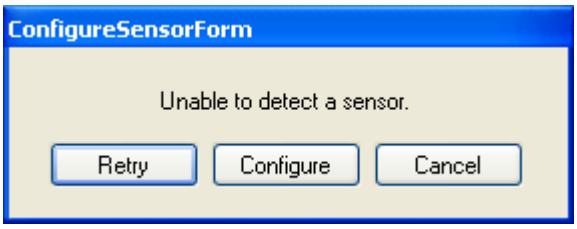
5.2 Startup Procedure

1. Power on the PC if it is turned off.
2. Power on the camera sensor.
3. Wait 30 seconds.
4. Start The Quality Checker System software.

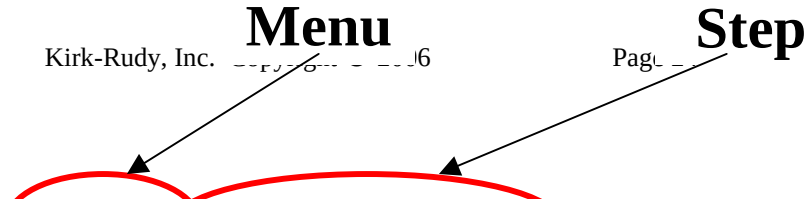
   The QC System splash screen

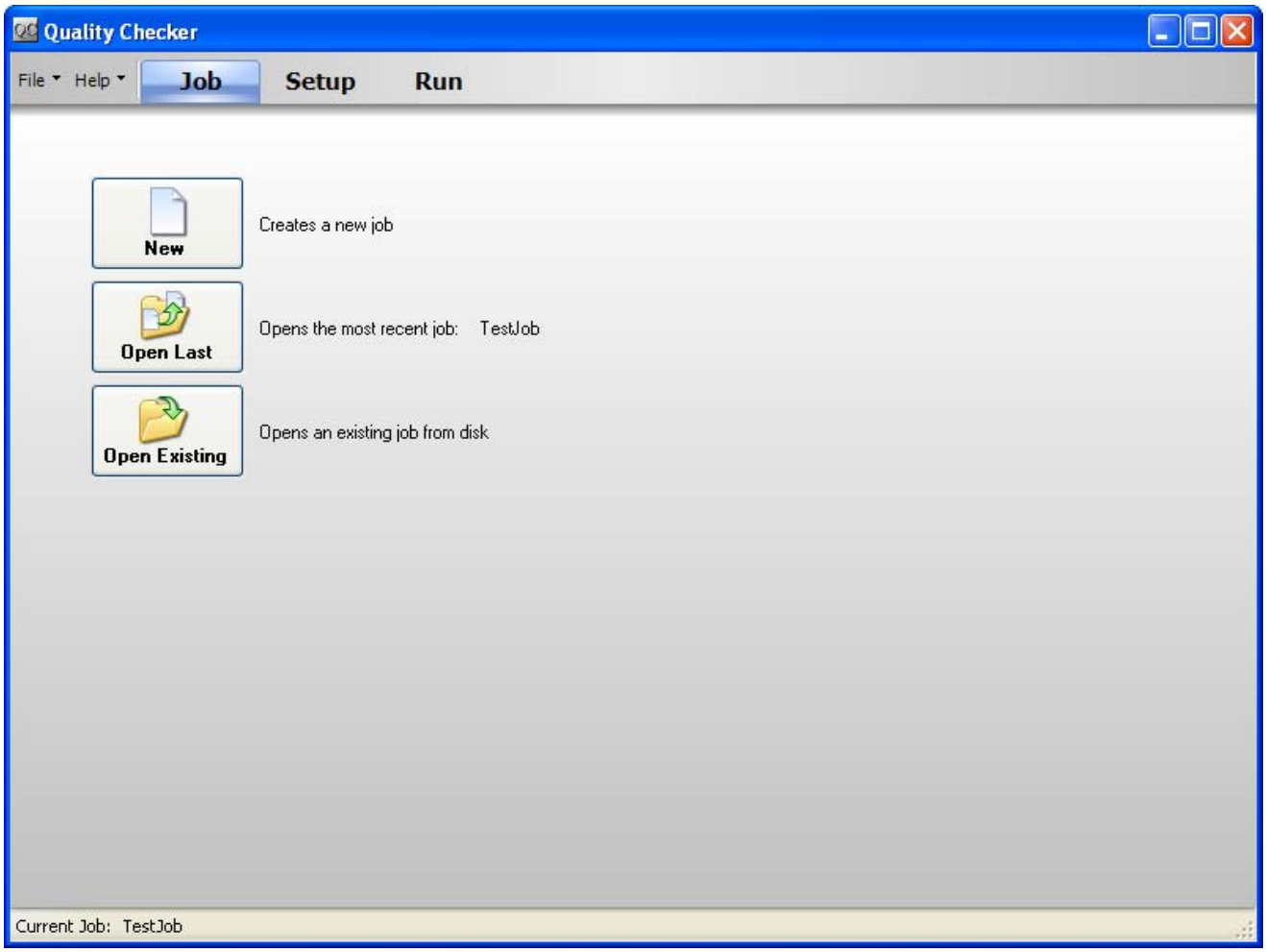


5. If the sensor is not detected, click "**Retry**". Either the software was started before the camera was fully initialized, or the USB Ethernet interface is not configured correctly.



5.3 User Interface

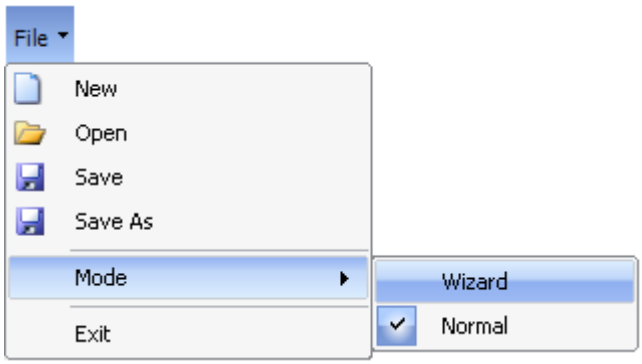




Menu

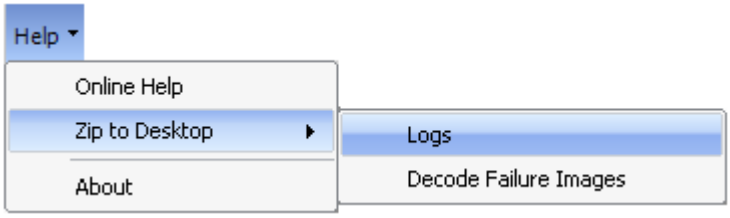
The menu has two dropdown items, **File** and **Help**.

Menu -File



Command	Description
New	Creates a new job.
Open	Opens an existing job from disk.
Save	Saves the current job to disk using the current job name.
Save As	Allows saving the current job to a different file on disk.
Mode	• Wizard – Switches software to wizard mode. • Normal – Switches software to normal mode.
Exit	Closes the application.

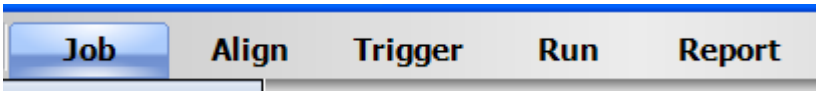
Menu -Help

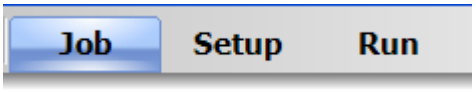


Command	Description
Online Help	Displays this manual in a browser
Zip to Desktop	• Logs – Zips all software logs and saves them to the desktop in a zip file. • Decode Failure Images – Zips all images, where the barcode was unable to be decoded, to the desktop. For diagnostic and reporting purposes only.
About	Displays The QC System software information

Step

The **Step** bar allows switching between different steps in the software. The ideal progression is left to right. However, steps can be skipped if the user wishes to do so.

Wizard Mode: 

Normal Mode: 

5.4 Job Files

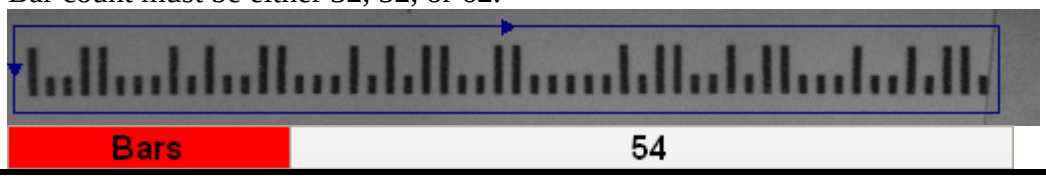
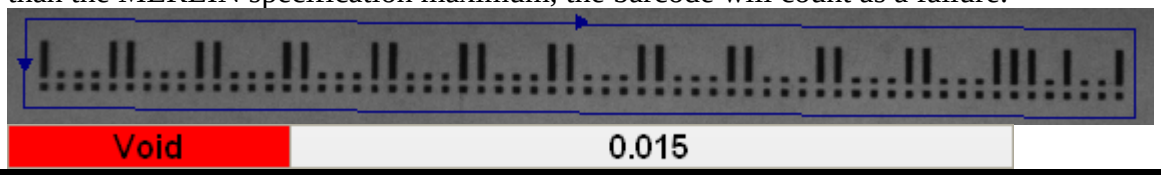
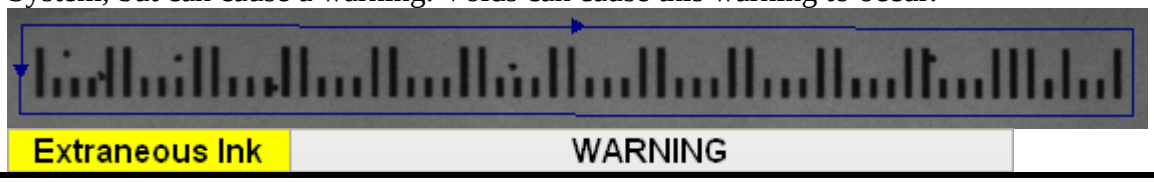
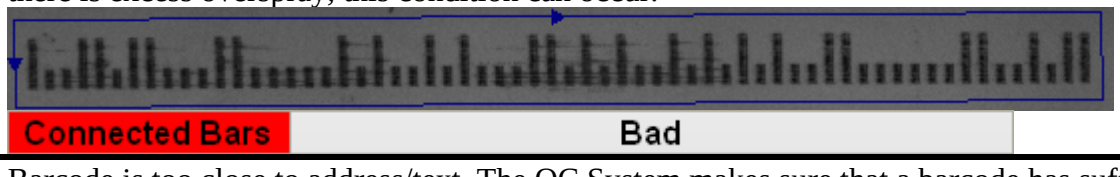
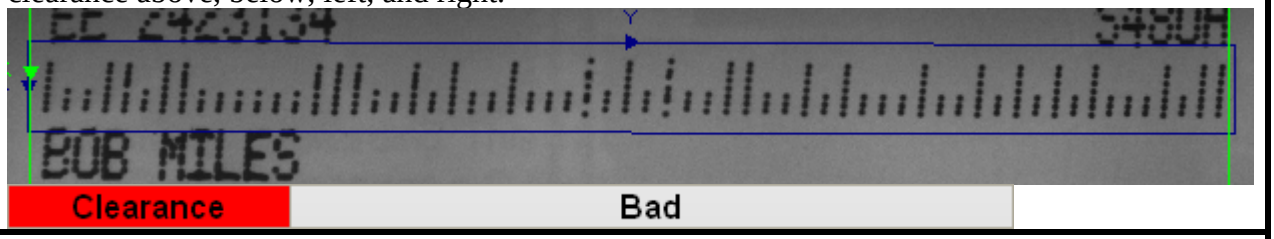
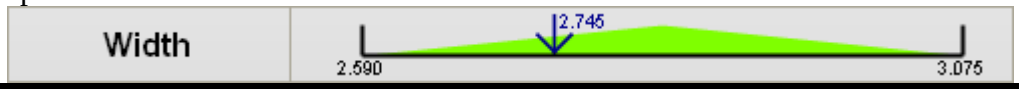
Job files provide a way to save settings for a particular job as well as result stats. Due to portability and size constraints, job files do not save all result data for each product. Result data for each product is lost when the application closes. Jobs are automatically saved when the software closes. The following information is stored in a job file:

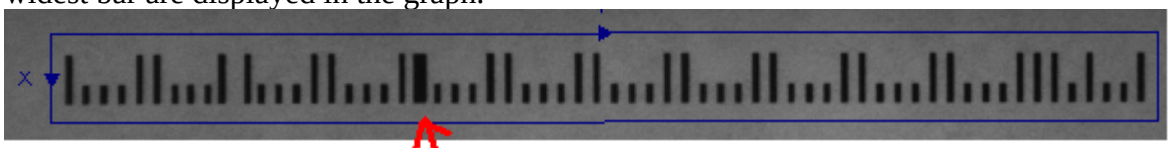
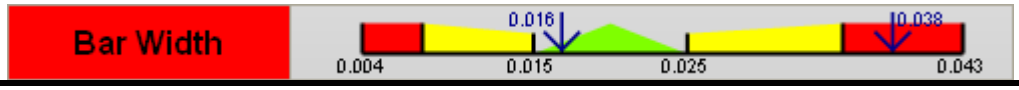
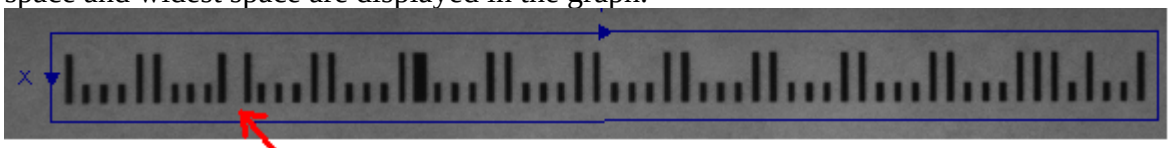
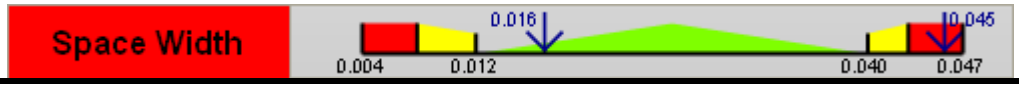
Item	Description
Invert	Whether or not the image is inverted.
Scan Type	Barcode position (below, above, between text)
Stop Percentage	The percentage at which an alarm condition will be raised.
Stop Count	The number of recent products for determining the failure percentage for the alarm condition.
Passed	Number of products that passed analysis.
Failed	Number of products that failed analysis.

5.5 Barcode Quality

To reduce the probability of failing MERLIN, printers should produce barcodes that are in the middle of allowed specifications. The QC System analyzes many aspects of a barcode's quality, some of which are displayed graphically. The graphical display makes it easy to identify when a barcode is of high quality or when it will risk failure. The following table provides an overview of the different quality checks The QC System performs when analyzing a barcode. All measurements are in inches.

Quality Metrics	
Item	**Description**

Code	Barcode must decode. 
Checksum	Check digit verification 
Bars	Bar count must be either 32, 52, or 62. 
Void	Voids due to missing jets. A small amount of void will result in a warning, but if a void is more than the MERLIN specification maximum, the barcode will count as a failure. 
Extraneous Ink	Extra ink in and around barcode. This condition will not cause a failure of a barcode in The QC System, but can cause a warning. Voids can cause this warning to occur. 
Connected Bars	Two or more bars are connected. If bars are too wide, there is smearing from the print head, or there is excess overspray, this condition can occur. 
Clearance	Barcode is too close to address/text. The QC System makes sure that a barcode has sufficient clearance above, below, left, and right. 
Width	Full barcode width; maximum and minimum. Depending on the postnet type, the overall width of the barcode must be within a certain range for it to meet the DMM and MERLIN pitch specifications. 
Height	Full barcode height, maximum and minimum. The overall height of the barcode must be within DMM and MERLIN specifications.

	
Bar Width	Widest individual bar and skinniest individual bar. The QC System checks each individual bar to make sure it is not too wide and not too narrow. The measurement for the narrowest bar and widest bar are displayed in the graph.  Wide 
Space Width	Widest individual space and skinniest individual space. The QC System checks each individual space to make sure it is not too wide and not too narrow. The measurement for the narrowest space and widest space are displayed in the graph.  Wide 

5.6 Analyzing Barcodes

The QC System provides real-time reporting of barcode quality. The **Run** step is where barcodes are analyzed and results and statistics displayed. There are two modes for analyzing barcodes: **Preview** and **Job**.

Mode Overview	
Preview	**Job**
Results are not saved	Result stats saved with job
Displays all barcodes	Displays failed barcodes
100 results before warning	Exportable results
	Unlimited # of results
	Ability to raise alarm condition

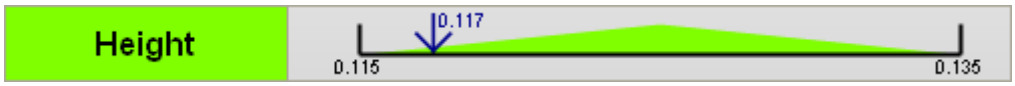
5.6.1 Preview

The purpose of **Preview** mode is to allow an operator to see each barcode that is being analyzed and the corresponding quality measurements. In **Preview** mode the analysis results are not saved or counted towards a job. This mode is a means for improving barcode quality until the quality is

sufficient to run a job. For all quality measurements that are displayed using a colored gauge, the ideal quality measurement is in the center of the high and low limits, as shown in the following image:

Good:

Bad:



Even if The QC System reports a barcode as passing, if the quality results are near a failure condition the probability of failing MERLIN increases. **Preview** mode allows the operator to make any printing changes necessary to get quality results in the center of the limits so as to *reduce the probability* of MERLIN or QC System failure.

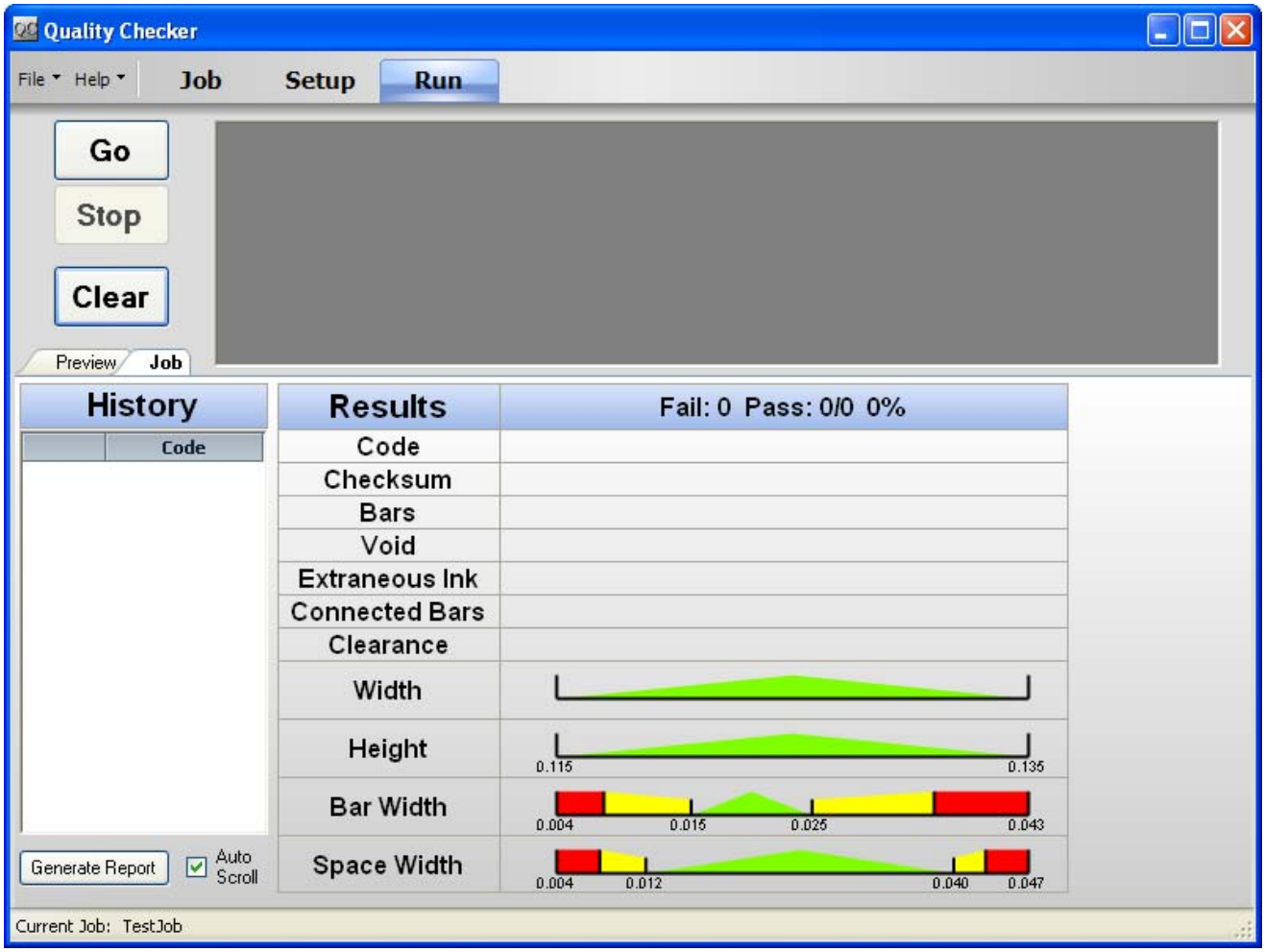
5.6.2 Job

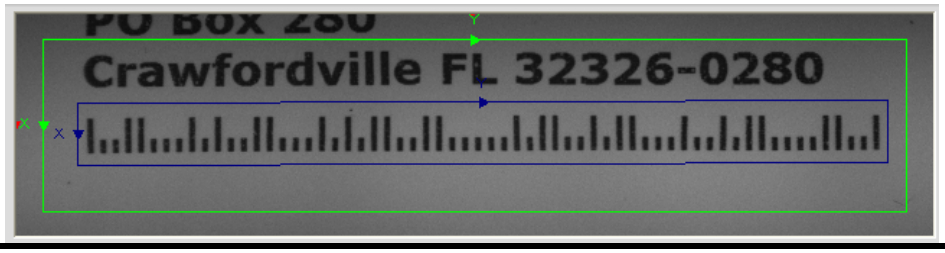
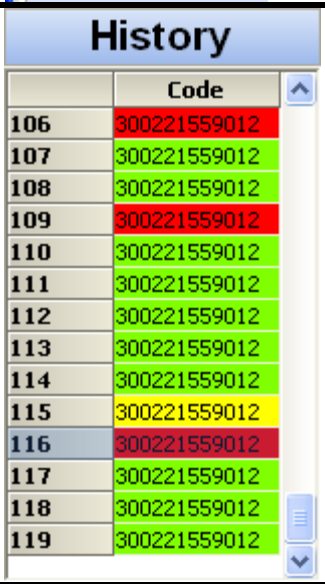
The purpose of **Job** mode is to keep track of barcode quality for the duration of a print job. The results for each barcode are stored in memory until either the 'clear' button is clicked or the software closes. However, the total number of pass/fails for a job is stored in the job file. This allows a job to be resumed another day. Images of barcodes that pass the QC System quality checking are not displayed on the screen. Only images of warning or failed barcodes are displayed. This means that during the run of a job, the image displayed will always be the most recent bad quality barcode.

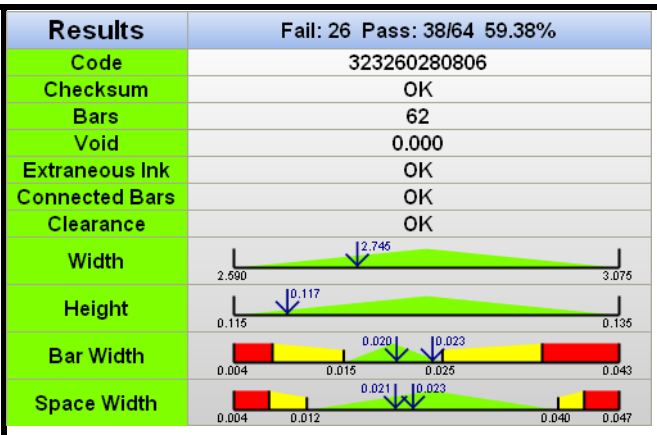
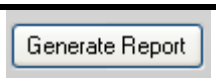
5.6.3 User Interface

The **Run** step is nearly identical in both the wizard mode and normal mode. The only difference is that **Preview** mode does not keep track of total stats and reports cannot be generated. The Run step has several user interface items:

1. Go/Stop/Clear
2. Barcode image display
3. Preview/Job mode selection (tabs)
4. Barcode quality history
5. Results display
6. Report generation (**Job** mode only)


Quality Checker
File
Help
Job
Setup
Run
Go
Stop
Clear
Preview
Job
History
Code
Generate Report
Auto Scroll
Results
Fail: 0 Pass: 0/0 0%
Code
Checksum
Bars
Void
Extraneous Ink
Connected Bars
Clearance
Width
Height
0.115
0.135
Bar Width
0.004
0.015
0.025
0.043
Space Width
0.004
0.012
0.040
0.047
Current Job: TestJob

Item	Description
Go/Stop/Clear	 • **Go** – Puts the camera in online mode, ready to analyze barcodes. • **Stop** – Stops the camera from analyzing barcodes • **Clear** – Clears all results for the current mode (Preview or Job)
Barcode Display	Displays the most recent image of a product passing under the camera sensor. In Preview mode, all images are displayed. In Job mode, only the most recent failure or warning barcode is displayed. • Red Box – The red box is displayed during setup, and it is the actual field of view for analyzing barcodes. This Barcode Display is the same area and same field of view as the red box during setup. • Green Box – The green box is the ideal field of view for barcodes. **If a barcode is outside the green box, analysis of a barcode may result in error or failure condition.** • Blue Box – The blue box is the QC's way of displaying where it has identified a barcode. 
Run Mode	Allows switching between **Preview** and **Job** mode. 
Barcode Quality History	 Allows a user to select any analysis result that is still in memory. The results for the selection are automatically displayed in the Results Display. In **Job** mode, if the result is a failure or a warning, there will be a corresponding image that will also be displayed for that result. In **Preview** mode, all results have a corresponding image. **Note**: The image history is limited to 100 images. Older images are automatically deleted as newer ones are created.

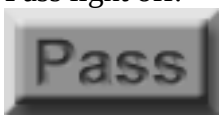
Results Display	 Displays the quality measurements. If the barcode passes, all items are green. If the barcode fails or is a warning, the corresponding item(s) will be yellow for warning or red for failure. In **Job** mode, run stats are displayed at the top.
Report Generation	 Allows the failed items in the result history to be exported to PDF. (Only available in **Job** mode)
Auto Scroll	 When enabled, the History and Result Display will automatically scroll and update as new barcodes are analyzed. When disabled, the user is able to browse the history and select a result to see the corresponding detailed results.

5.7 Wizard Mode

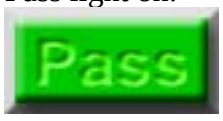
5.7.1 Introduction

The user interface wizard is designed to walk users through the process of setting up and running a job. Each step has a pass light that indicates if the current step was completed correctly. A 5 second delay is displayed using a progress bar before the wizard automatically moves to the next step.

Pass light off:



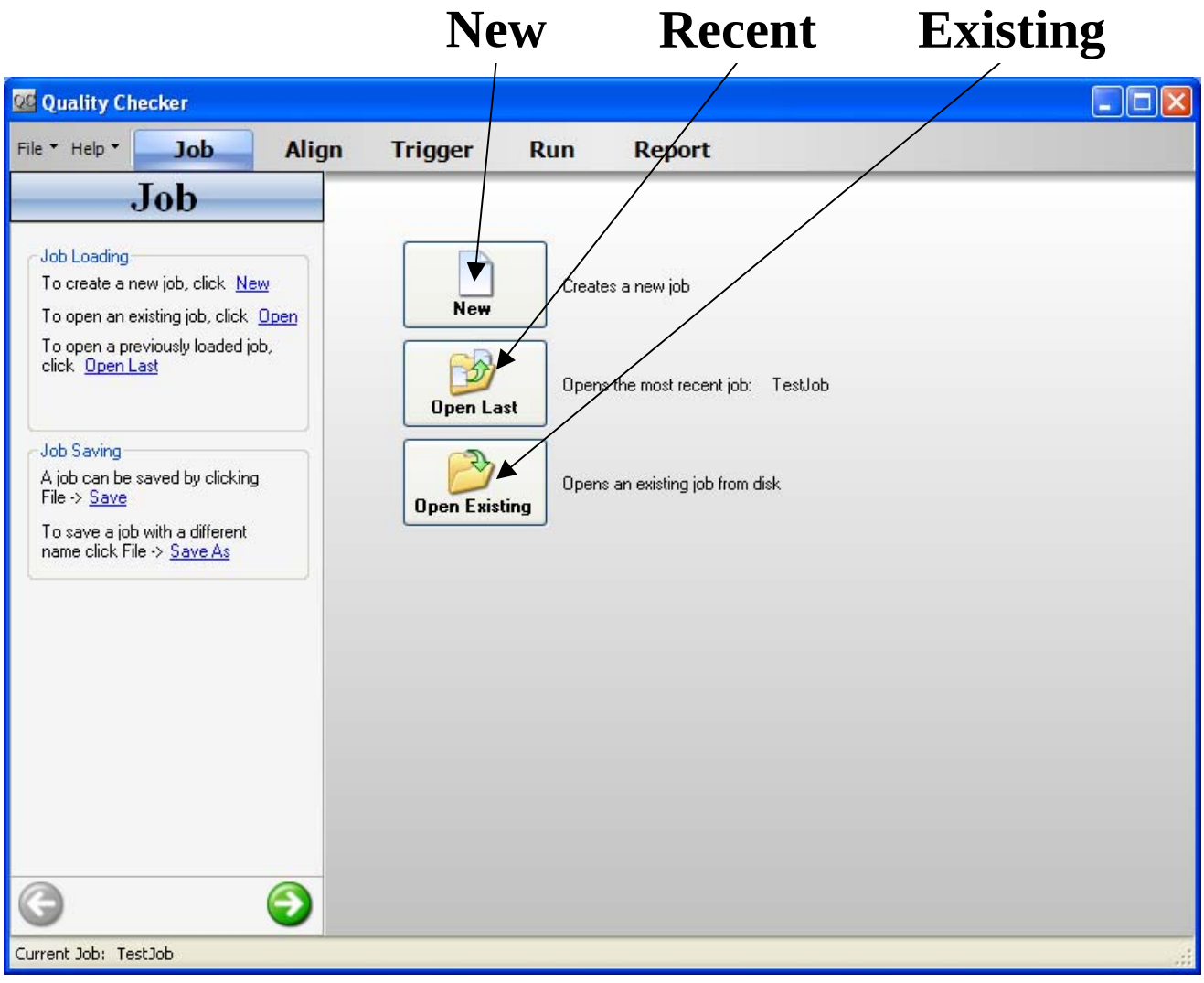
Pass light on:



5.7.2 Job

When the QC software is first started, no job is loaded. All features in the software are disabled until a job is created or opened. There are 3 ways to start a job:

1. Create a **new** job.
2. Open the most **recent** job that was loaded.
3. Open an **existing** job from disk.



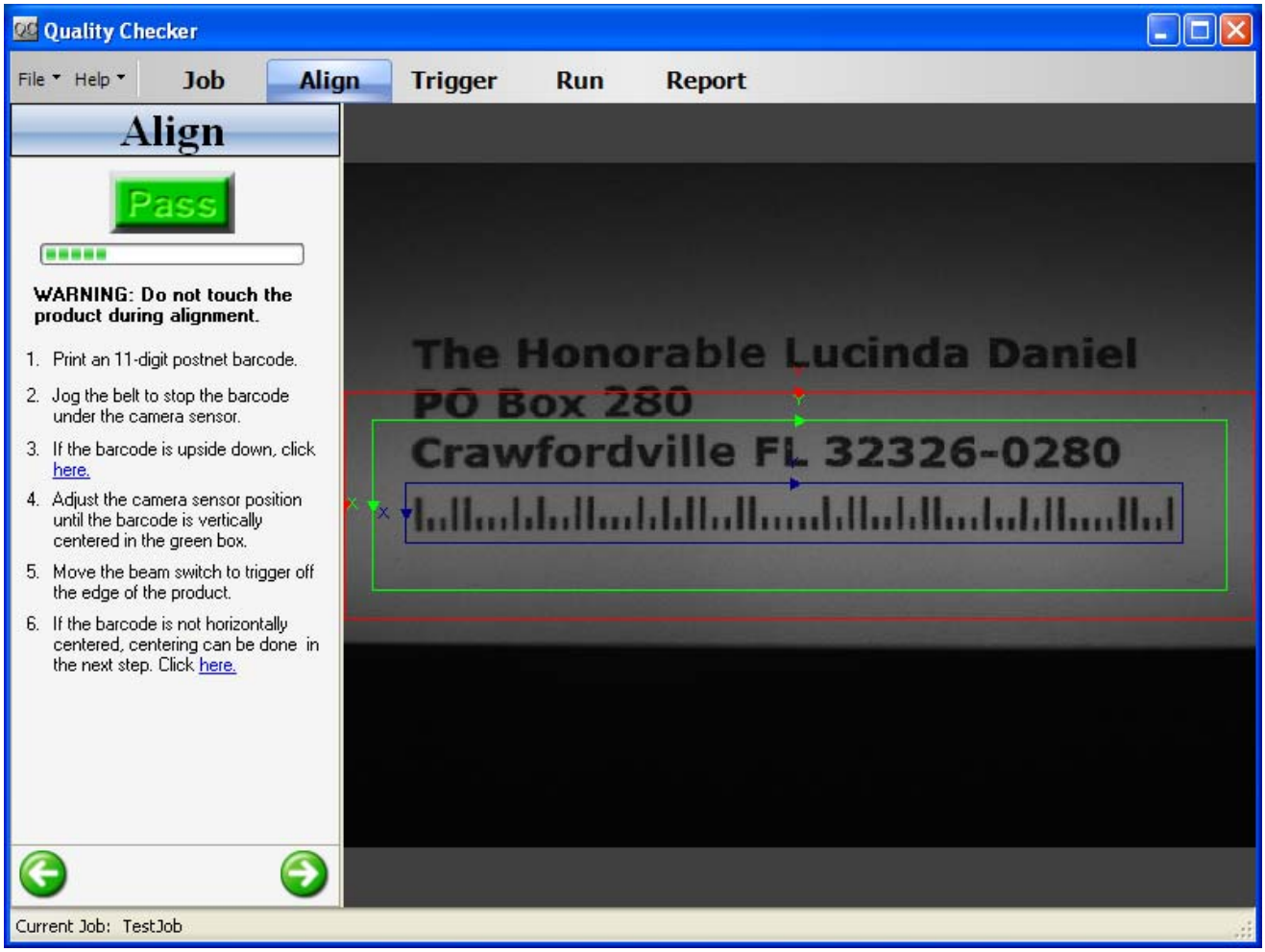
Once a job is loaded, the wizard will automatically move to the next step, which is **Alignment**.

5.7.3 Align

The purpose of the alignment step is to make sure the barcode is vertically centered on the screen as the product moves under the camera. The camera sensor has the ability to physically slide forward or backward. Moving the camera forward (away from the operator) will make a barcode move down on the screen. Moving the camera back will make a barcode move up on the screen.

The steps to vertically align the barcode on the screen are as follows:

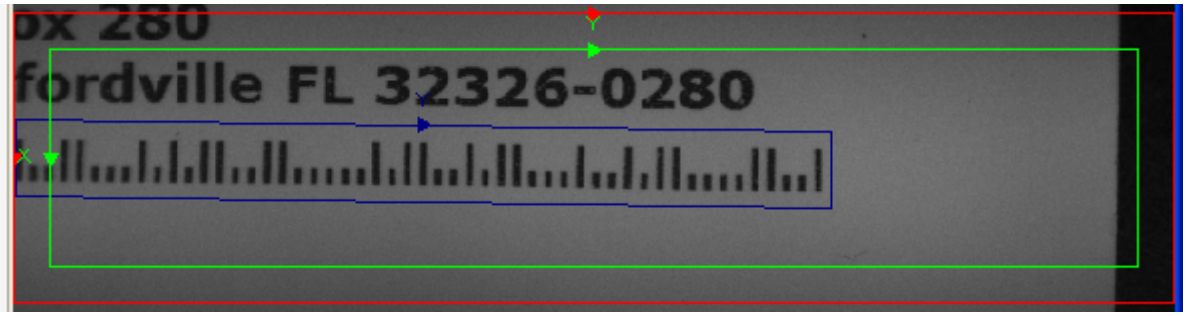
1. Print an 11 digit postnet barcode
2. Allow the product to travel slowly down the table using a slow belt speed and/or jogging until the barcode is horizontally centered under the camera sensor. If the barcode is not horizontally centered on the screen (it traveled too far or not far enough), it can be horizontally aligned in the next wizard step.
3. If the barcode is upside down, click the blue label '**here**' in step 3 in the wizard. The image will be rotated 180 degrees.
4. Slide the camera sensor forward or back until the barcode is vertically centered in the green box.
5. If the barcode is a floating barcode and will not remain in one position, move the camera sensor accordingly such that all positions of the barcode will be in the green box.
6. Move the beam switch to a position such that it is as close to the leading/trailing edge of the product as possible while still getting a reflection. This makes the next wizard step easier.
7. If the barcode is vertically centered, but not horizontally centered, the **Pass** light will not turn on. As long as the barcode is vertically centered on the screen, proceed to the next step (**Trigger**). The **Trigger** step will align the barcode horizontally.



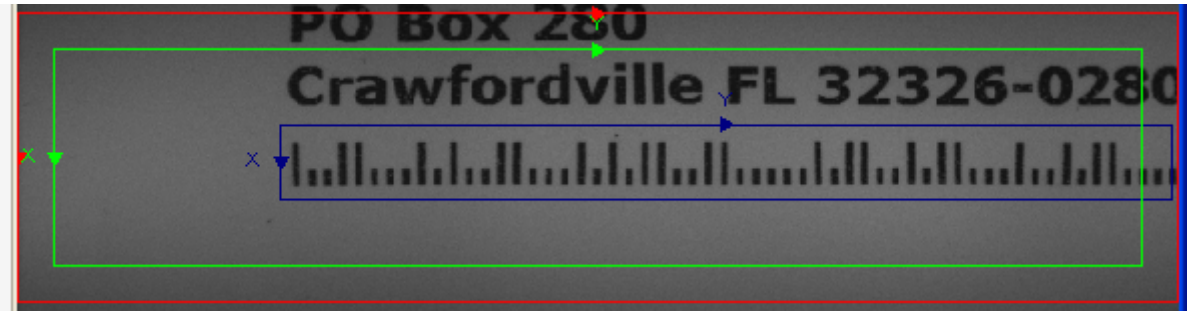
5.7.4 Trigger

The trigger step is for adjustment of the location of the beam switch so that when a product triggers the camera sensor, the barcode is horizontally aligned on the screen. The steps to horizontally align the barcode on the screen are as follows:

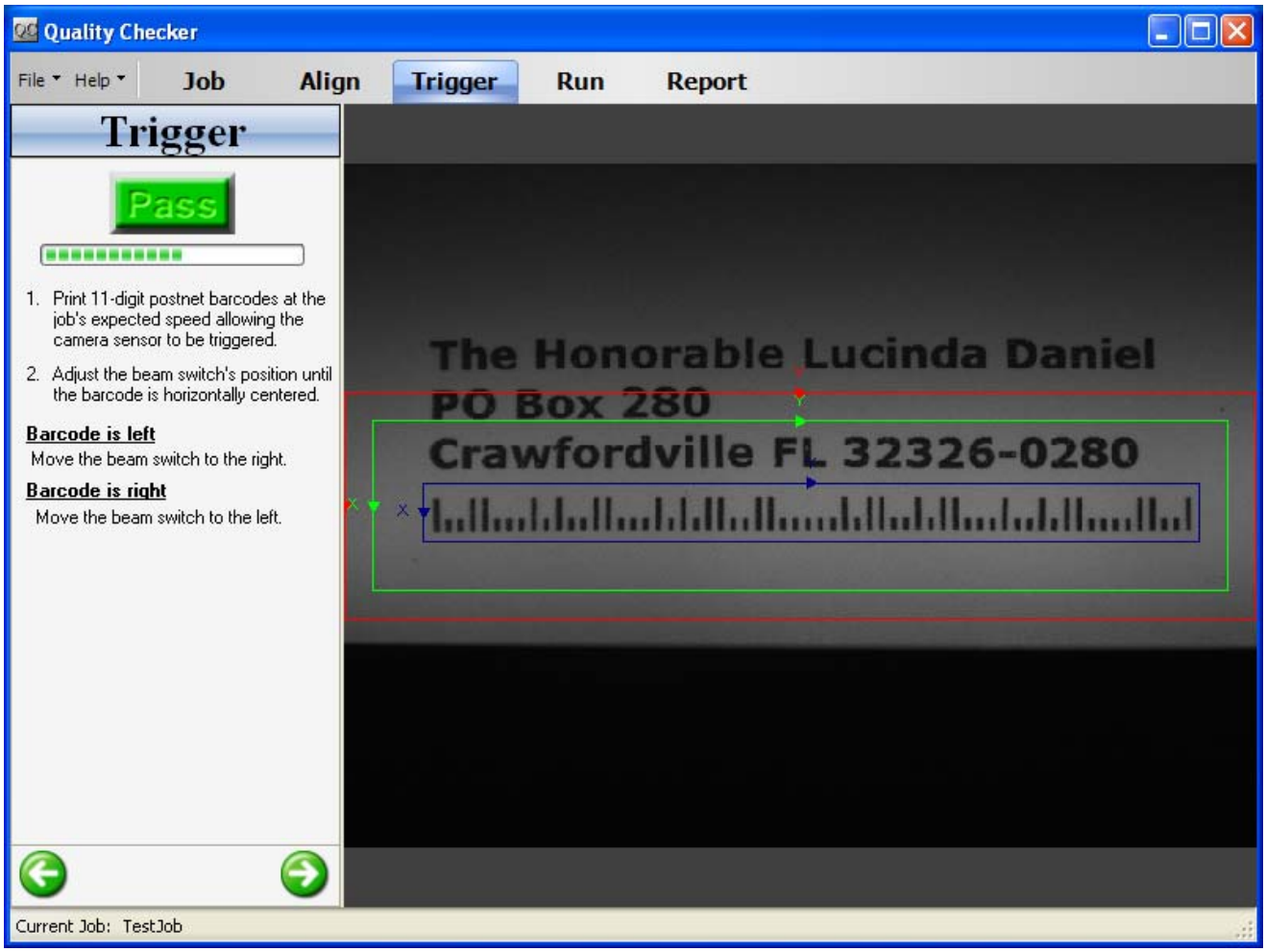
1. Print 11 digit postnet barcodes as the print job's expected belt speed (Or use existing printed items from the job).
2. As the product moves down the belt, the leading or trailing edge of the product (depending on the beam switch mode) will trigger the camera and the screen will be updated.
3. If the barcode is horizontally and vertically centered on the screen, the Pass light will light up and the software will automatically move to the next step **Run.**
4. If the barcode is too far left, demonstrated in the following image, then the beam switch must be moved to the right.



5. If the barcode is too far right, demonstrated in the following image, then the beam switch must be moved to the left.



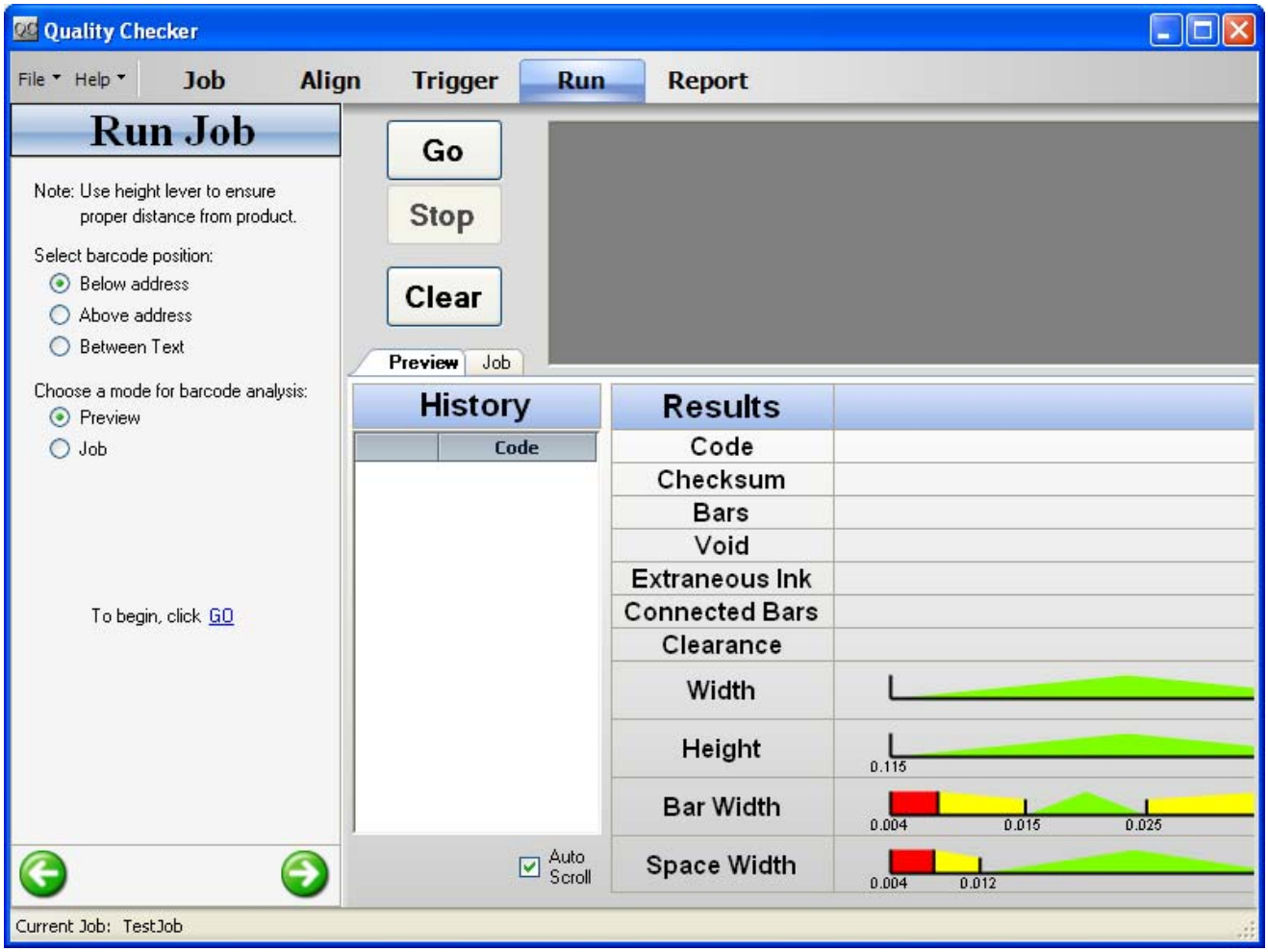
6. A barcode that is both horizontally and vertically aligned on the screen looks like the following:


Quality Checker
File
Help
Job
Align
Trigger
Run
Report
Trigger
Pass
1. Print 11-digit postnet barcodes at the job's expected speed allowing the camera sensor to be triggered.
2. Adjust the beam switch's position until the barcode is horizontally centered.
Barcode is left
Move the beam switch to the right.
Barcode is right
Move the beam switch to the left.
The Honorable Lucinda Daniel
PO Box 280
Crawfordville FL 32326-0280
Current Job: TestJob

5.7.5 Run

Step 1: Use the height lever to make sure the camera sensor is the proper distance above the product. The lever should be able to touch the product and still be able to perform a full swing over the product. **Failure to set the proper camera sensor height will result in incorrect measurements.**

Step 2: Choose the barcode position for the current job. This option is for determining which type of scan the camera will make to find the barcode. If the incorrect option is selected, the barcode may not be able to be identified. **Below address** offers the best performance, but **Between text** should find the barcode in any position.



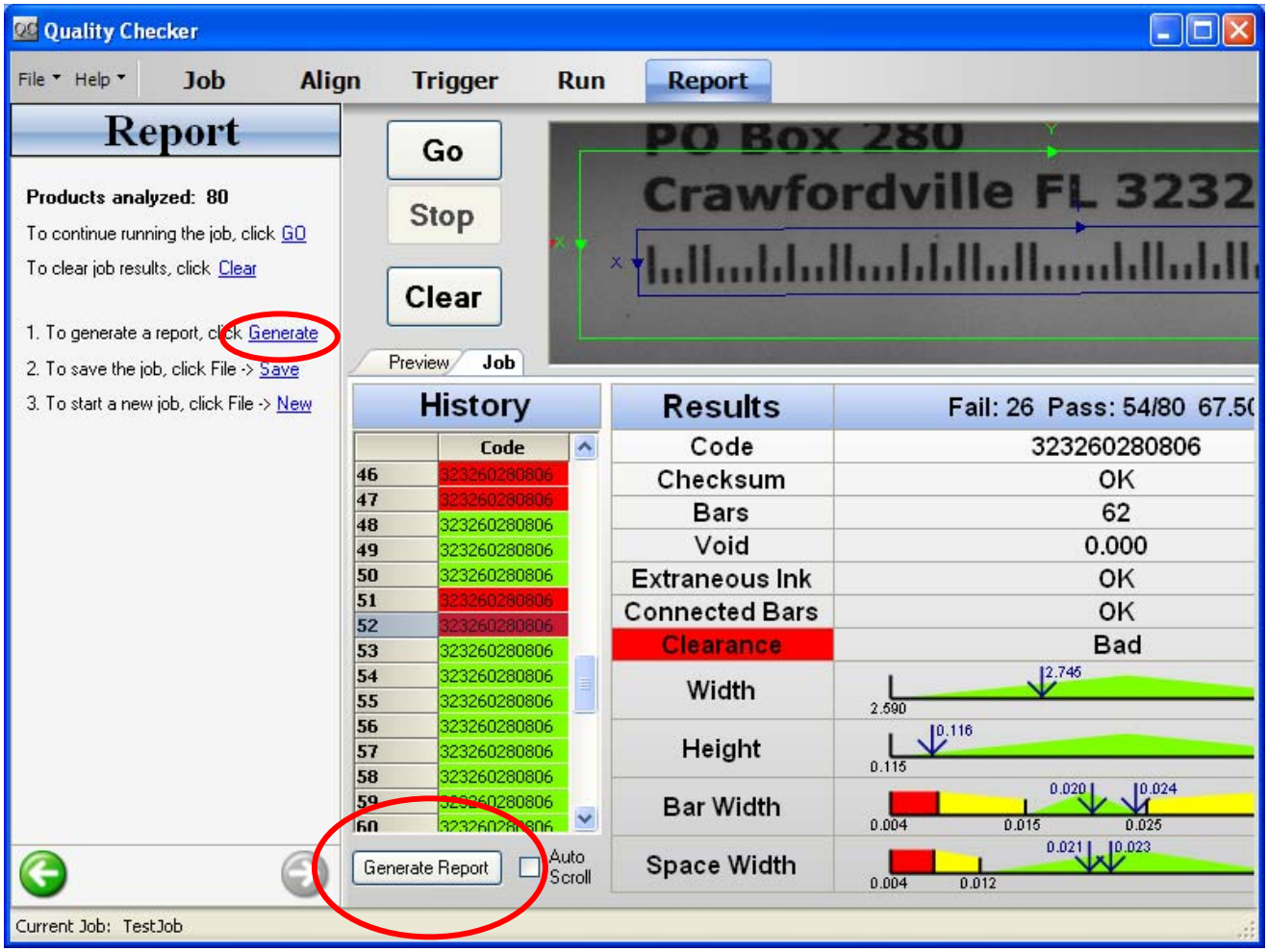
Step 3: Choose **Preview** mode and analyze a job's product to make sure the printer is printing high quality barcodes. Once the printer is producing high quality barcodes the system is ready to analyze them in **Job** mode which will keep track of pass/fail stats and allow a report to be generated.

Step 4: Choose **Job** mode and select the alarm condition percentage and product count. The software is now ready to run a job and keep track of stats.

Using the results that are displayed on the screen, if necessary the operator should adjust the barcode parameters in their ink-jet software until their printed barcodes are in the center of the DMM specifications. This 'centering' will produce the highest quality barcode and reduce the probability of printing barcodes that fail MERLIN due to low quality.

5.7.6 Report

The Report step allows a user to generate a PDF report. Reports contain only failed items due to size constraints.



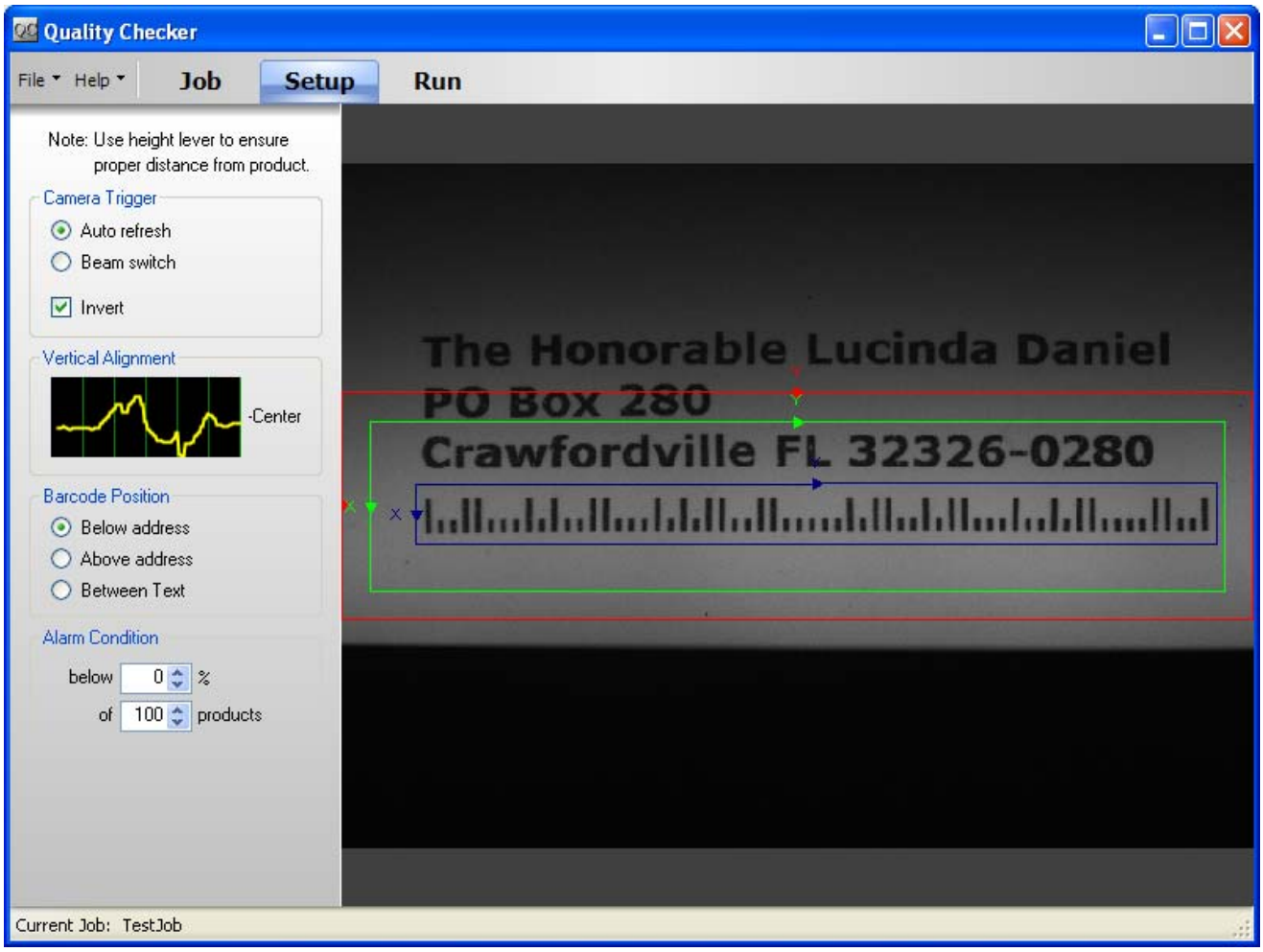
5.8 Normal Mode

5.8.1 Job

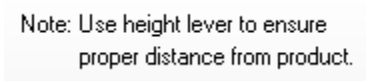
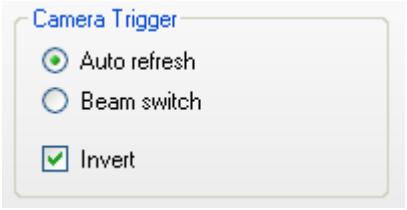
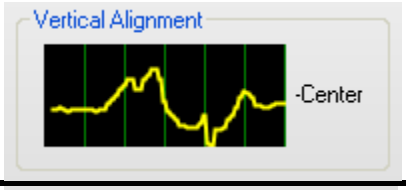
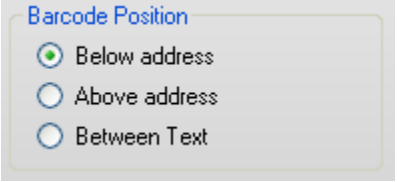
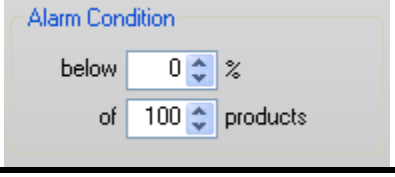
Other than the wizard panel, the Job step is identical in Normal Mode as the Job step in Wizard mode.

5.8.2 Setup

The **Setup** step allows the system to be configured and set up from one screen.



Item	Description

Height Adjustment	 Use the height lever to make sure the camera sensor is the proper distance above the product. The lever should be able to touch the product and still be able to perform a full swing over the product. **Failure to set the proper camera sensor height will result in incorrect measurements.**
Camera Trigger	 • **Auto refresh** – This option puts the camera in a state where it automatically takes pictures at regular intervals. This allows the barcode to be vertically aligned. • **Beam Switch** – This option puts the camera in a state where it takes a picture only when the beam switch is triggered. This allows the barcode to be horizontally centered by moving the beam switch left or right. • **Invert** – If a barcode is upside down, this option allows it to be flipped to be right side up.
Vertical Alignment	 A graph that displays a barcode's vertical position. This is used to center the barcode vertically when in **Auto refresh** mode.
Barcode Position	 Choose the barcode position for the current job. This option is for determining which type of scan the camera will make to find the barcode. If the incorrect option is selected, the barcode may not be able to be identified. **Below address** offers the best performance, but **Between text** should find the barcode in any position.
Alarm Condition	 Specifies the condition at which the system will raise an alarm. The pass percentage is calculated using the number of most recent results specified.

5.8.3 Run

Other than the wizard panel, the Run step is identical in Normal Mode as the Run step in Wizard mode

5.9 Reports

Quality analysis results can be exported to a PDF file. Due to size constraints, reports contain only failed items. A report displays all of the same measurements as the **Result Display** except in the report numbers are used instead of graphs. Failure items are indicated in red, and warnings are indicated in yellow.

Sample PDF Report:

Kirk-Rudy, Inc. QC Report

Tuesday, March 21, 2006 10:16:04 AM Fail: 26 Pass:54/80 Readability: 67.00%

Product	Code	Check Digit	Bars	Voids (0.0156)	Extraneous Ink	Connected Bars	Clearance	Width	Height	Max Bar (0.025)	Min Bar (0.015)	Max Space(0.040)	Min Space(0.012)
13	323260280806	OK	62	0.000	WARNING	OK	Bad	2.745	0.116	0.023	0.020	0.023	0.021
14	323260280806	OK	62	0.000	WARNING	OK	Bad	2.745	0.116	0.024	0.020	0.023	0.021
24	323260280806	OK	62	0.000	OK	OK	Bad	2.745	0.116	0.024	0.020	0.023	0.021
25	323260280806	OK	62	0.000	OK	OK	Bad	2.745	0.116	0.023	0.020	0.023	0.021
26	323260280806	OK	62	0.000	OK	OK	Bad	2.745	0.116	0.024	0.020	0.023	0.021
29	323260280806	OK	62	0.000	OK	OK	Bad	2.745	0.117	0.024	0.020	0.023	0.021
30	323260280806	OK	62	0.000	WARNING	OK	Bad	2.744	0.116	0.024	0.020	0.023	0.021
31	323260280806	OK	62	0.000	WARNING	OK	Bad	2.744	0.117	0.024	0.020	0.023	0.021
32	323260280806	OK	62	0.000	WARNING	OK	Bad	2.744	0.117	0.024	0.020	0.023	0.021
33			61	0.000			Bad	2.744	0.117	0.044	0.019	0.023	0.020
34	323260280806	OK	60	0.000			Bad	2.744	0.117	0.023	0.019	0.023	0.021
35	323260280806	OK	61	0.000			Bad	2.745	0.116	0.024	0.020	0.023	0.021
36			62	0.000	WARNING	OK	Bad	2.744	0.117	0.024	0.018	0.029	0.020
37	323260280806	OK	62	0.000	WARNING	OK	Bad	2.744	0.117	0.024	0.020	0.023	0.021
38	323260280806	OK	62	0.000	WARNING	OK	Bad	2.745	0.117	0.024	0.020	0.023	0.021
39	323260280806	OK	62	0.000	OK	OK	Bad	2.745	0.116	0.024	0.020	0.023	0.021
40			62	0.000	WARNING	OK	Bad	2.744	0.117	0.024	0.020	0.023	0.021
41			62	0.000	WARNING	OK	Bad	2.744	0.117	0.024	0.020	0.024	0.021
42	323260280806	OK	62	0.000	WARNING	OK	Bad	2.744	0.117	0.024	0.020	0.023	0.021
43	323260280806	OK	62	0.000	WARNING	OK	Bad	2.745	0.117	0.024	0.019	0.026	0.020
44	323260280806	OK	62	0.000	WARNING	OK	Bad	2.745	0.117	0.024	0.020	0.023	0.021
45	323260280806	OK	62	0.000	WARNING	OK	Bad	2.745	0.116	0.024	0.020	0.023	0.021
46	323260280806	OK	62	0.000	WARNING	OK	Bad	2.745	0.116	0.024	0.020	0.023	0.021
47	323260280806	OK	62	0.000	WARNING	OK	Bad	2.745	0.116	0.024	0.020	0.023	0.021
51	323260280806	OK	62	0.000	OK	OK	Bad	2.745	0.116	0.024	0.020	0.023	0.021
52	323260280806	OK	62	0.000	OK	OK	Bad	2.745	0.116	0.024	0.020	0.023	0.021

6 Appendix

6.1 Appendix A Troubleshooting

Problem: Unable to detect sensor

1. Power off the sensor.
2. Power on the sensor.
3. Wait 30 seconds.
4. Restart the QC system software to try to reconnect.
5. If no connection is established, repeat 1-4 up to 5 times.

Problem: Barcode is unable to be decoded

1. Ensure the barcode is centered
2. Make sure the barcode is not too close to the edge of the screen.
3. Try to print a higher quality barcode.

Problem: Barcode metrics are not being read correctly

1. Ensure the barcode is centered
2. Make sure the barcode is not slanted too much.
3. Make sure camera height is correct by using the Height lever.

7 Index

8 Notes

9 Software License Agreement

KIRK-RUDY INC. SOFTWARE FOR BARCODE QUALITY CHECKING PAGE 1 OF 2

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