

## 1. INTRODUCTION

EYE Check terminal alignment aid is a tool used to help adjust the terminal front feed position in an applicator. It consists of a software program, which supports both Microsoft Windows and Apple Mac OS X operating systems, and a camera assembly designed to attach to TE Ocean, HDM, and HDI side-feed applicators, and crimp quality monitor (CQM) II on a bench terminator. The applicators have a space behind the terminal support for the camera.

Reasons for re-issue of this instruction sheet are provided in Section 6, REVISION SUMMARY.

## 2. SYSTEM MINIMUM REQUIREMENTS

### 2.1. Microsoft Operating System

#### A. Software

- Windows XP Service Pack 2 or later, 32 bit
- Windows Vista, 32 bit
- Windows 7, 32 or 64 bit
- Windows 8 is compatible, but not supported

#### B. Hardware

- 512 MB system memory

### 2.2. Apple Operating System

#### A. Software

- Mac OS X 10.6 or newer

#### B. Hardware

- Intel Core 2 Duo or higher data processor
- 512 MB system memory
- at least one available USB 2.0 or 3.0 port

### 2.3. Data Processor

- GHz or faster
- at least one available USB 2.0 or 3.0 port

## 3. INSTALLATION

### 3.1. Software

#### A. Windows Software

Run the Setup-AppCam.exe program from the installation CD. Refer to Figure 1. If a different installation folder is desired, select the folder to install the program to by clicking the Browse button. Click Install.

#### B. Mac OS X Software

1. Open the AppCam.dmg file on the CD.
2. Drag the AppCam.app icon to the Application folder as shown in Figure 1.

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**Windows Software**

**Mac OS X Software**

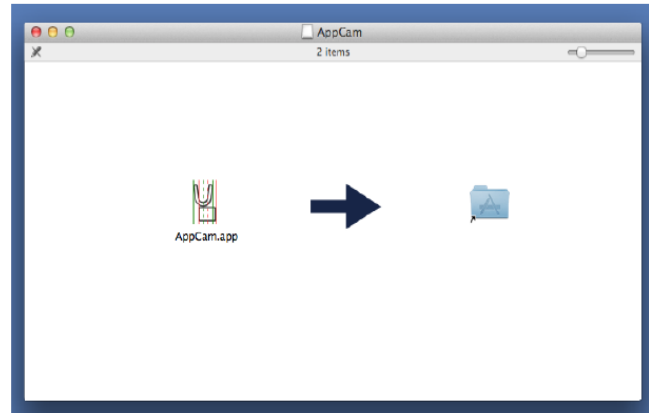
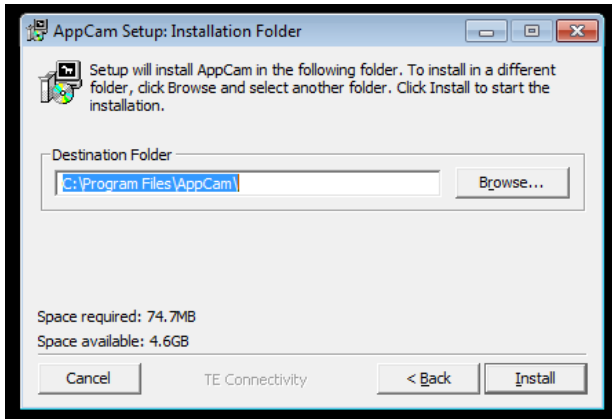


Figure 1

**3.2. Camera Assembly**

When installed, the camera assembly is attached to the applicator housing and base plate behind the anvil or terminal support. It is held in place with magnets.

1. Install the camera so that the lens faces the anvil of the applicator. It should be located so that the front of the camera housing is in line with, and in contact with, the front surface of the applicator housing. The camera housing should be sitting flat on the applicator baseplate as shown in Figure 2.
2. Plug the camera into a USB port on the computer. If it is unplugged from the computer, it will be necessary to exit and restart the operating system software.

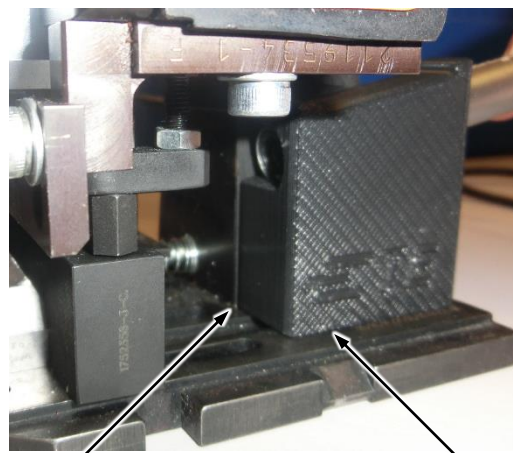


**NOTE**

*The anvil might not be centered in the camera screen. This is a normal condition caused by the tolerance stack-ups and will not affect the function of the EYE Check terminal alignment aid.*

**Camera Assembly**

**Camera Assembly Installed on Applicator**



Camera Housing in Line with, and in Contact with, Applicator Housing

Camera Housing Sitting Flat on Applicator Baseplate



Figure 2

### 3.3. EYE Check Terminal Alignment Aid Software Buttons and Controls

All buttons and controls shown on the EYE Check software screen are shown in Figure 3.

The 6 alignment buttons (in the middle of the toolbar) control the movement and display of red and green alignment lines. The red alignment lines correspond to the anvil (lower tooling) and the green alignment lines correspond to the terminal.

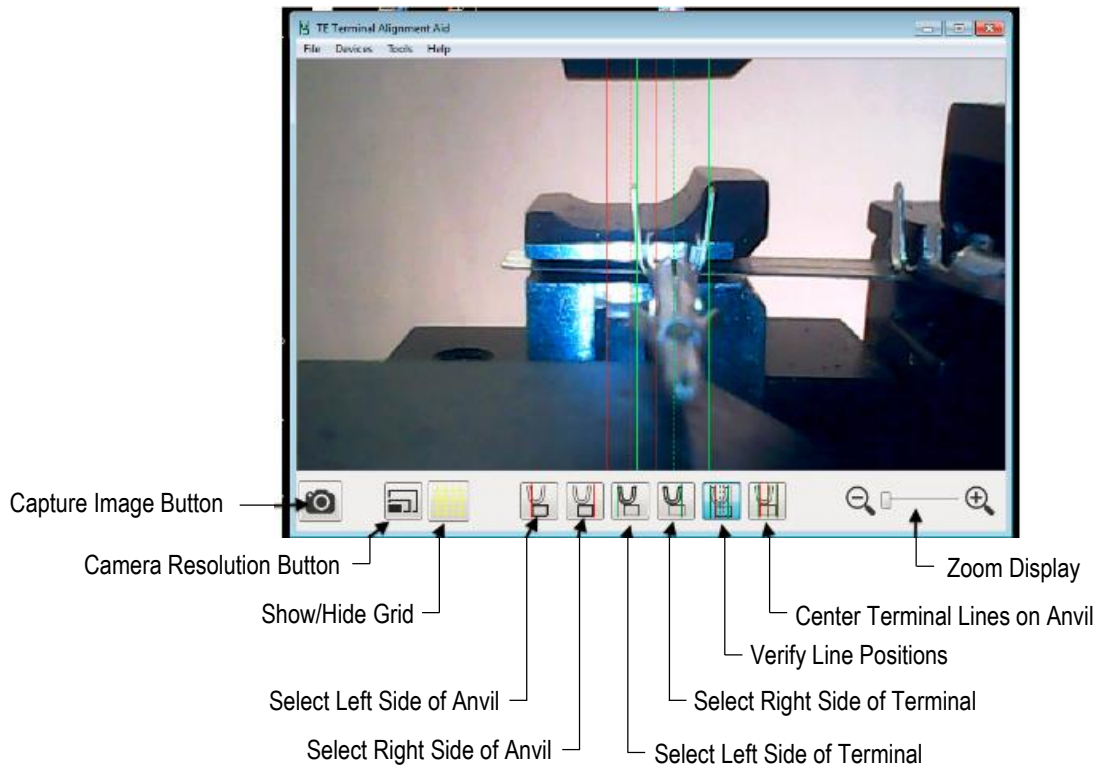


Figure 3

## 4. ADJUSTMENTS

**i** **NOTE**  
*It might be necessary to adjust the camera light in order to see the terminal and tooling best using the thumbwheel located on the small plastic housing of the camera cord or the USB connector.*

### 4.1. Manually Focused Lens

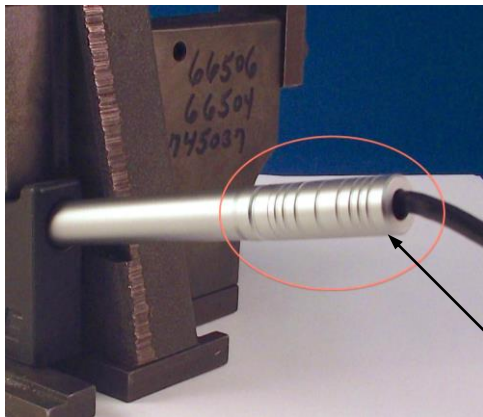
Adjust the focus by turning the focus adjusting barrel on the camera assembly shown in Figure 4.

### 4.2. Camera Alignment/Adjustment

1. If the computer has a built-in webcam or any other camera connected to it, it might be necessary to select the camera using the Camera menu. See Figure 4.
2. If using a very small terminal, use the Zoom Display slider to zoom in on the terminal and tooling, then center the image by dragging it using the mouse.

**i** **NOTE**  
*The camera is in high resolution (1600 by 1200 pixels). Due to the limitations of the USB interface, video update at this resolution is slow and can make adjusting the lighting, focus, and camera position difficult; therefore, lower image resolution (640 by 480 pixels) can be selected, which allows a faster update rate. Click the Camera Resolution button to toggle between these two resolutions.*

**Adjust Focus**



Focus Adjusting Barrel

**Select Camera**

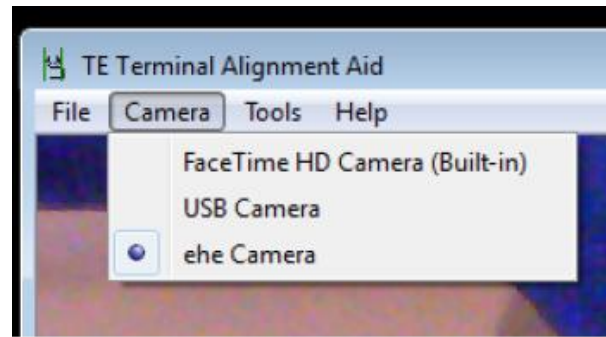


Figure 4

3. Position the terminal so that there is a clear view of the anvil.
4. Position the alignment lines by selecting the line that represents each of the first 4 alignment buttons as follows:

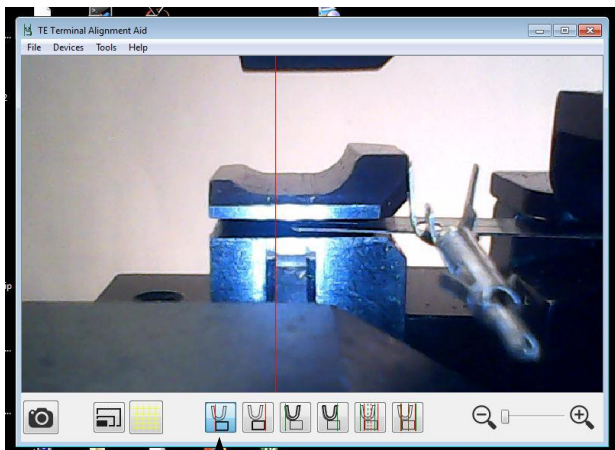


**NOTE**

Alternatively, if it is easier to view, the red alignment lines can be positioned using the upper tooling. Doing this would make it necessary to manually position the terminator in order to lower the upper tooling into view.

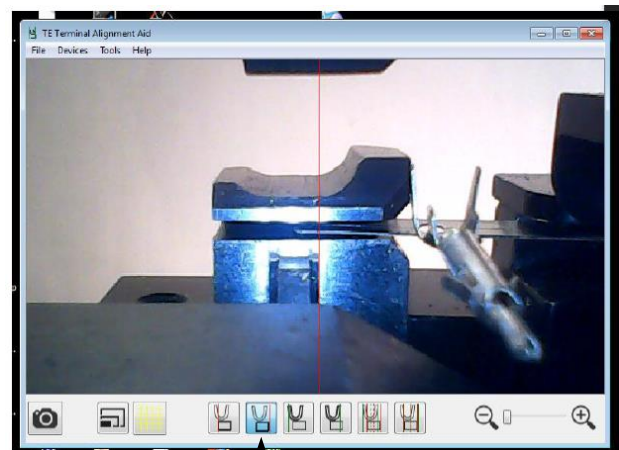
- a. Click the Select Left Side of Anvil button, then click the left edge of the anvil. See Figure 5.
- b. Click the Select Right Side of Anvil button, then click on the right edge of the anvil. See Figure 5.

**Red Alignment Line on Left Edge of Anvil**



Select Left Side of Anvil Button

**Red Alignment Line on Right Edge of Anvil**



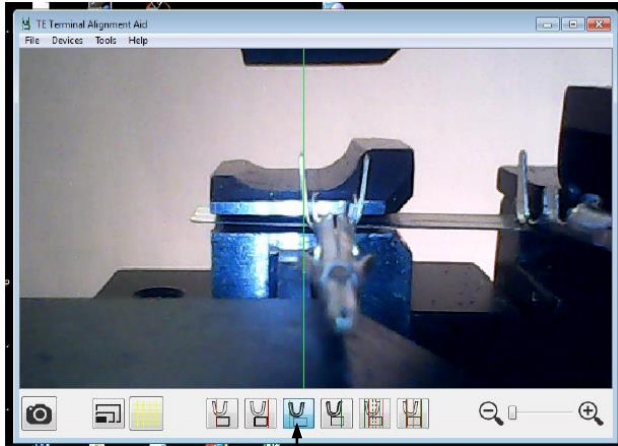
Select Right Side of Anvil Button

Figure 5

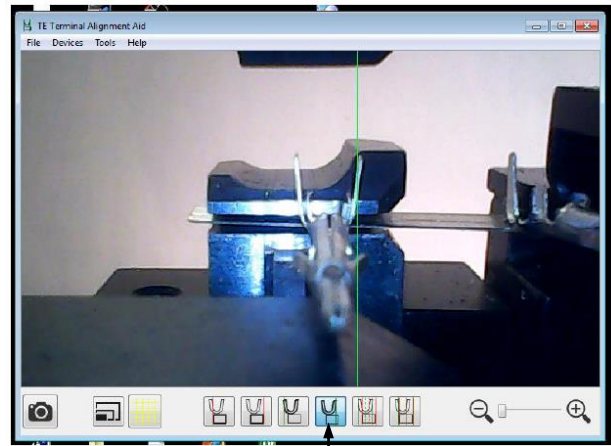
- c. Cycle the terminator.
- d. Click the Select Left Side of Terminal button, and click the left side of the terminal wire barrel or other prominent feature of the terminal. See Figure 6.
- e. Click the Select Right Side of Terminal button, then click the right side of the terminal wire barrel or other prominent feature of the terminal. See Figure 6.

**Green Alignment Line on Left Side of Terminal**

**Green Alignment Line on Right Side of Terminal**



Select Left Side of Terminal Button



Select Right Side of Terminal Button

Figure 6

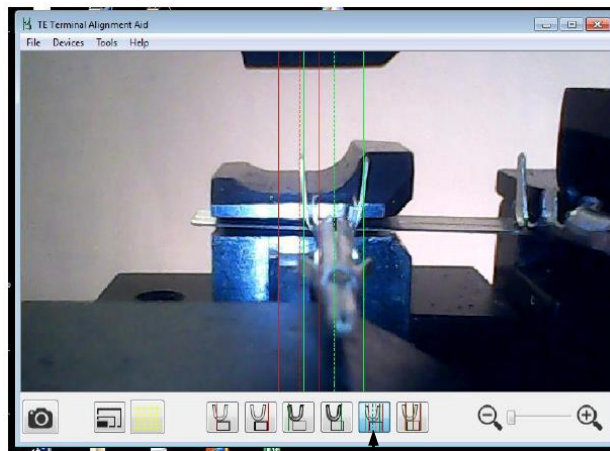
5. Click the Verify Line Positions button. This will display all 4 alignment lines, as well as their respective centerlines. See Figure 7. If any of the 4 alignment lines are not in the correct position, click the appropriate alignment button, then click the correct location to re-position the line.



**NOTE**

The left and right arrow buttons on the keyboard can be used to change between the alignment line selection buttons.

**All 4 Alignment Lines Displayed**

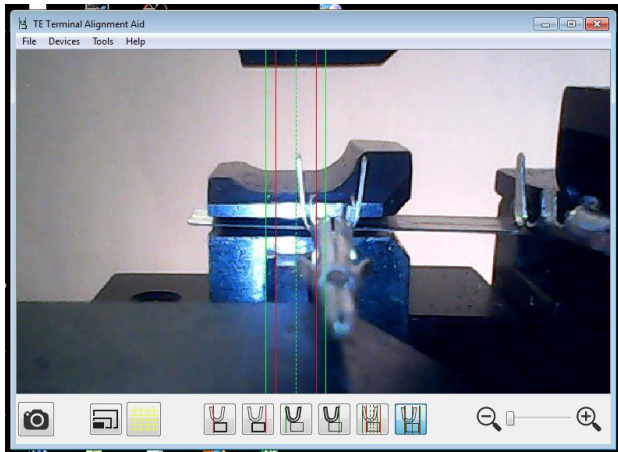


Verify Line Positions Button

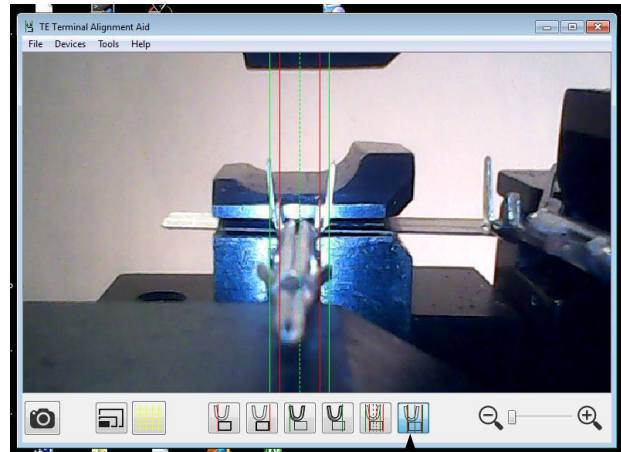
Figure 7

6. When the alignment lines are positioned, click the Center Terminal Lines on Anvil button. This will center the green alignment lines over the red alignment lines. The green alignment lines will show where the terminal should be positioned when the feed is set correctly. See Figure 8.
7. Ensure that the applicator feed mechanism is in the fully advanced position, then adjust the feed until the terminal is located between the green alignment lines. Note that the terminator may need to be cycled to move the feed mechanism to the fully advanced position. If the terminal is not correctly positioned, adjust it from an under-fed position.

**Alignment Lines Positioned**



**Terminal Positioned for Feed**



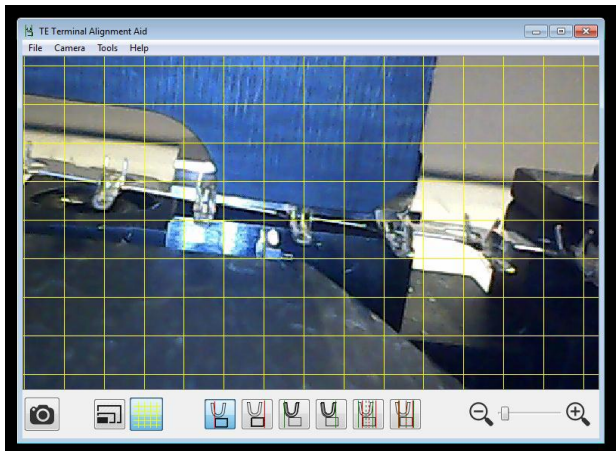
Center Terminal Lines on Anvil Button

Figure 8

### 4.3. Camera Alignment

If the image is tilted, the camera has to be turned in the holder. To make sure that the image is level, click the Show/Hide Grid button. This will show a grid on the screen to assist in aligning the camera. See Figure 9.

**Camera Not Aligned**



**Camera Aligned**

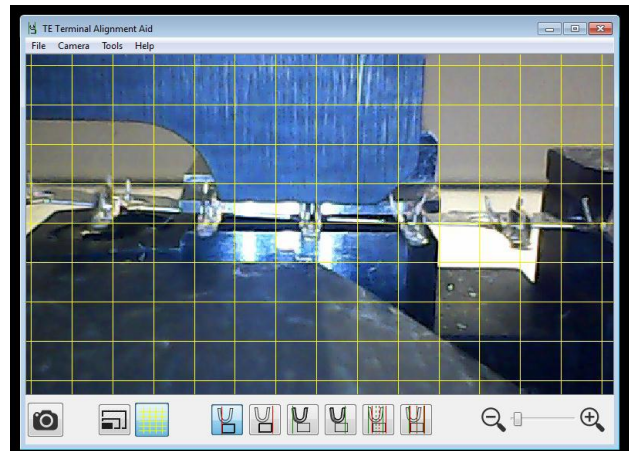


Figure 9

### 4.4. Image Capture

Using the Capture Image button, a snapshot of the screen can be saved on the computer in the Default Pictures folder, usually named "Pictures" or "My Pictures," in the home folder/directory. To select a different location, click "File", then "Select Folder".

## 5. USING THE CAMERA ON CQM II

### 5.1. Setup

To use the camera on the CQM II, the CQM II must have software version 2.03.02 or greater. It is recommended using a USB mouse with the CQM II for clicking the alignment line positions because the touch screen response and accuracy is less exact.

1. Plug the camera into one of the USB ports on the CQM II host module.
2. In the software, select the Control Panel, then choose the EYE Check terminal alignment aid icon.



**NOTE**

*The operation of the software is similar to the operating system software previously described.*

To exit the camera application, touch the back arrow.

### 5.2. Image Capture

Captured images are saved to a USB flash drive if connected; otherwise, to the internal memory. The CQM II has two USB ports: one occupied by the camera and the other by the mouse; therefore, the CQM II software will automatically copy the images stored internally onto a USB flash drive that is later connected. Image files are large; allow time for the images to copy.

After the images are captured, the camera or mouse can be disconnected to free a port for the USB flash drive. If the camera is disconnected, it will be necessary to exit the camera screen using the Return (green) button and then re-enter the camera screen before the camera will work again.

To avoid data loss, eject the flash drive as follows:

1. Touch the (green) Return button to exit the camera screen.
2. Wait until the indicator on the USB flash drive stops flashing, then touch the Eject button. The Eject button is not displayed on the camera screen, but it is displayed on all CQM II screens.
3. If the files are still being copied, a small Wait dialog with the message, "Ejecting flash." will be displayed until the files are copied. See Figure 10. Wait until the message, "It is safe to remove the flash drive." is displayed before removing the flash drive.

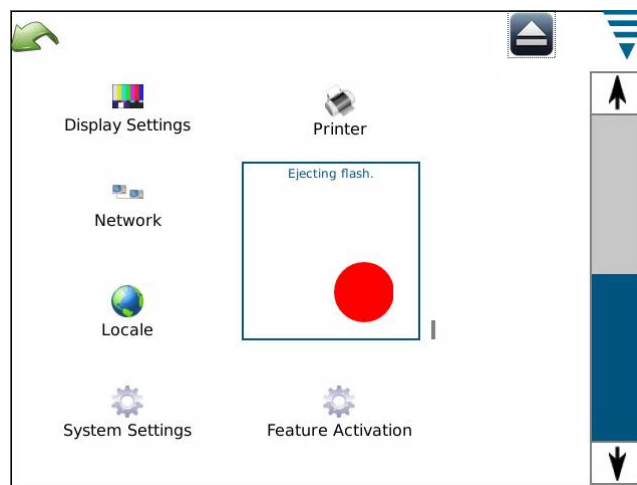


Figure 10

## 6. REVISION SUMMARY

Revisions to this instruction sheet include:

- Modified Step 2 and NOTE of Paragraph 3.2
- Added photo to Figure 2

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