

# Scanning Devices

## Label Counting Table – Operations Manual

This document describes the functions performed by counting table components and suggests procedures for setting up and operating the counting table.

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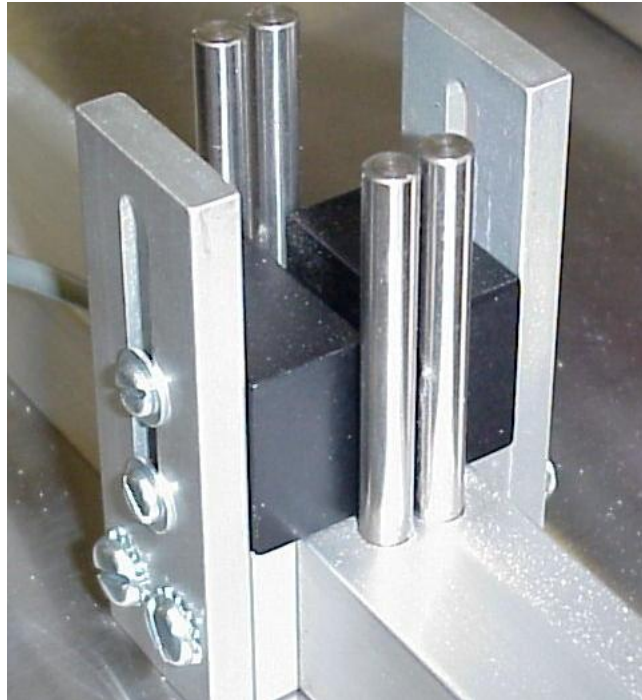
## **Components**

### Counting Station

Consists of a photo-sensor emitter/detector pair that establishes a light beam for sensing. The label web passes through the light beam as it moves through the counting station. The light intensity is adjustable and set so that the light beam is “made” when the label backing (web or matrix) alone is present and “broken” when the backing and label are present. This allows the sensor to distinguish between a label and a space between labels.

The effective light beam is small, one-quarter inch in diameter, and the two components are mounted close together to focus on the label web. Alignment is important and is correct if the top and side surfaces of the components are in the same plane.

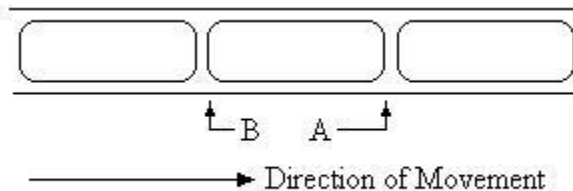
The sensor’s vertical position is adjustable. The emitter/detector components should be positioned so that the label moves through the light beam and will be broken by the label at one point for each label. A small screwdriver is required to loosen the components for movement and retighten when positioned.



The counting station also provides a web guide mechanism, delivering labels consistently and providing smooth movement to the take-up roll.

## Counter

Responds to photo-sensor to register counts on the light-to-dark transition (beam break) and display label counts. The counter shows the number of times the light beam has been broken since the last counter reset.



A count is registered when point “A” in the diagram above passes through the light beam in the counting station. If a barcode reader is installed and enabled, the counter triggers the barcode scanner (issues a “read-me-now” command) to scan for label barcode at point “A”. The scanner attempts to read a barcode and reports the result to the counter.

The counter ends the scanner’s trigger cycle when a code is read successfully or the light beam is restored (“made”) at point “B”, the trailing end of the label. This cycle is repeated for each label.

The counter uses the sensor to measure the web speed passing through the counting station and adjusts the motor speed to keep web speed constant.

The counter includes a “watchdog timer” to detect the end of roll and stops the motor. If no labels are detected in 3 label periods (the time it would take for three labels to move through the counting station), the counter declares that the end of the roll has arrived and stops the motor.

The counter’s setup mode allows sensor adjustment for best optical contrast and sensing between label on web and space between labels. For information on setup, see the procedure section below.

## Counter Reset

When in run mode, the reset switch is enabled when the motor is not running (motor speed switch turned counter-clockwise to OFF). When the motor is running or the speed switch is ON, the reset switch is disabled.

## RS232 Interface

The counter has an optional RS232 interface to PC for uploading label count and resetting the counter remotely. The RS232 link is enabled when the motor is not running.

## Keypad and Display

The keypad and display mounted above the count controller provide an easy to use interface for barcode reader and splice detector setup and results reporting. When a barcode reader is installed and powered ON, the count/controller constructs and displays a menu of actions used to setup the barcode reader. The display consists of two lines. The keypad has sixteen keys as shown below.

1	2	3	→
4	5	6	AC
7	8	9	CE/C
+	0	-	Ent

The keypad and display are also used for entering quantities for dispensing (optional), displaying operator prompt messages and for display of error messages. Operator and error messages are described in detail in the section on messages.

## Setup Menu

The setup menu is displayed when the barcode read is active and provides six action choices. When menu choices are displayed, two keys on the keypad are active. The **Ent** key advances to the next menu item. The → key performs the menu item action.

### Menu Items

1. **Count Up/Down** – exits the menu with the current setup to start counting
2. **Learn Code Type** – attempts to read the barcode in view and determine its symbology (UPC, Code 39, etc).
3. **Learn Target** – attempts to read the barcode in view and register it as the code to match for inspection.
4. **Barcode Setup** – sends setup commands to the barcode reader, necessary on installation of a new barcode reader.
5. **Read Barcode** – reads and displays the barcode in view. Used to confirm setup is correct.
6. **Adjust Count** – increment or decrement the displayed count to compensation for operator action, if necessary.
7. **Connect to PC** – (optional) with the barcode reader off, connects the count/controller to a Windows PC to upload counts and reset the counter.

## **Barcode Inspection**

The Barcode Inspection system is designed to read barcodes on labels as they move through the counting station to insure that barcodes are readable and correct. The counting sensor triggers the barcode scanner on the leading edge of the label. The barcode scanner attempts to read the label's code, compare it to the Target Barcode (the expected or "correct" code) and report the result. Three outcomes are possible for each label:

1. Match – the code is readable and is the same as the Target Code
2. Mis-match – the code is readable but is not the same as the Target Code
3. No Read – no code could be read. This may occur because the code is printed poorly, missing from the label or in some way obstructed.

The barcode reader is capable of reading five different code types: UPC/EAN, Code 39, Code 128, International 2 of 5 Code, and Codabar. For best results, only one code type may be activated at a time.

Detection and inspection are done by loading a "Target Barcode" into scanner memory on setup. When triggered by the counter, the barcode reader attempts to read a barcode printed on the label and compares any barcode read with the Target Barcode. It reports the result of the read operation as soon as it is known. For each trigger, it generates one of three outputs: match (the code read was exactly the same as the Target Code), no-code (the scanner did not read a code during the trigger period) or mis-match (a bar code was read but it was not the same as the Target Code).

Setup options allow the code type and the target barcode to be entered automatically. The system learns the code type by attempting to read the label's barcode and reporting its result. The target barcode is also learned automatically by reading a barcode. The barcode is displayed and loaded into the scanner. It remains in scanner memory until a different barcode is loaded.

## **Barcode Scanner Position**

The barcode reader is based on Microscan Corporation's MS9 High Speed laser scanner. It uses a rotating mirror to construct a series of red scan lines. The scanner is mounted on a three-dimensional adjustable bracket, allowing the scanner to read codes with either horizontal or vertical positioning.

To read codes:

- (1) The red scan line must enter the printed bar code on the left side square to the bars (not the top or bottom) and leave on the right side (not the top or bottom) to insure that it sees all the barcode lines.

- (2) The face of the scanner should be positioned 3” – 4” from the surface of the label.
- (3) The scanner should be positioned so that the bar code on a label is in view (the red line passes through it) when a label is in the counting station block the light beam. The bar code reader is triggered (commanded to read) when a label blocks the light beam. When the light beam is re-established at the end of the label, the bar code reader trigger is ended. If a barcode is not visible during the trigger period, a “No-Read” error will be declared.

Note: for bi-directional scanning, the bar code read may require re-positioning when changing from forward to reverse movement.

## **Splice Detector**

Splices are detected by a registration mark scanner mounted to detect surface changes and imperfections in the reverse side of the web matrix generally attributable to splices. Label manufacturers have a practice of indicating splices with a contrasting mark or tape. The mark scanner is set to detect this indication and generate a “splice detected” signal.

The splice detector is mounted and adjusted to be in the “Light” state, detecting reflection from the reverse (bottom) side of the label web, with its output OFF. When a splice mark is detected, it switches to the “Dark” state with its output ON.

When a splice is detected, the count/controller stops the label web and displays an error message.

## **Missing Label Detector**

The missing label detector operates by measuring the time taken by labels passing through the sensor. It uses the first five labels on a roll to establish a pattern. The counter then times each label as it is sensed and counted and establishes an expected time and tolerance for the next label to be sensed. If a label is not sensed within the expected time and tolerance, the counter declares the expected label “missing”.

When a label is declared missing, the count/controller stops the label web and displays an error message.

## **Control Panel**

The control panel is equipped to support features included in the counting table configuration. The photograph below is a representative control panel. The panel on any specific table may differ depending on how the counting table is equipped.

The panel hangs below the surface of the table and provides six controls to power the table as well as to initiate and terminate a label run. (Center switch in photo below labeled “Missing Label” is labeled for specific table options and may differ on tables without missing label detection.)



From Left to Right in the picture above:

(1) Motor speed control with integrated ON/OFF switch: starts and sets the motor speed. At the end of the roll or when the label web is stopped, the switch must be turned OFF before the next roll can begin.

(2) Automatic Speed Control: When in the “Constant” position, the counter controls motor speed, adjusting the motor to maintain constant web speed.

(3) Accessory Inspection Equipment: When in the On (up) position, the system powers its accessory inspection equipment (splices, barcode inspection) and reports the results in the LCD display.

The missing label detector scans the web for missing labels as they pass through the counting station and reports the number of missing labels detected and the position of the first missing label in the roll.

The splice detector scans for unexpected contrast (splicing tape) in the label web, counts the occurrences and reports the results on the LCD Display.

The barcode reader attempts to read barcodes on each label and reports the error results on the LCD display.

If any errors are detected by the accessory inspector, the label web is stopped and an identifying error message is displayed.

When the switch is off, the accessory inspection equipment is disabled.

(4) Forward/Off/Reverse Switch determines which direction to move the label web. This switch is interrogated when the motor speed switch is turned on to start web movement.

Be sure to set the switch before starting. Changes in the switch position while the web is moving are ignored.

(5) Lighted Power Switch: controls all power to the table.

(6) Circuit breaker (mounted on the side of the control panel, not shown in the picture)

(7) E-Stop switches – four RED push buttons are located on the four sides of the table. All switches must be ON (not pushed) to allow motors to run. When all switches are on, the GREEN Light on the console is ON and motors are enabled. If any switch is pushed, the RED light on the console is on and motors are disabled.

### **E-Stop Indicator (Red)**

The e-stop indicator light is mounted on the keypad/LCD display console to the left of the display. When illuminated, this light indicates that an E-Stop switch has been pushed. Motors are disabled.

### **Ready Indicator (Green)**

The Ready indicator light is mounted on the keypad/LCD display console to the left of the display. When illuminated, this light indicates that all E-Stop switches are on (not pushed). Motors are enabled.

## **Operating Procedures**

### **Setup - Settings**

#### Photosensor

A. Alignment – the sensor consists of an emitter/detector pair aligned to project light through the label web toward the counter. The sensor is the component closest to the counter. The light beam is small and the two components are mounted close together to focus on the label web. Alignment is important and is correct if the top and side surfaces of the components are in the same plane.

B. Position - the sensor component should be positioned so that the label moves through the light beam and will be broken by the label at one point for each label. The system allows for vertical adjustment of the sensor light beam. A small screwdriver is required to loosen the components for movement and retighten when positioned.

Once set, it is unlikely that the photosensor position will require re-setting.

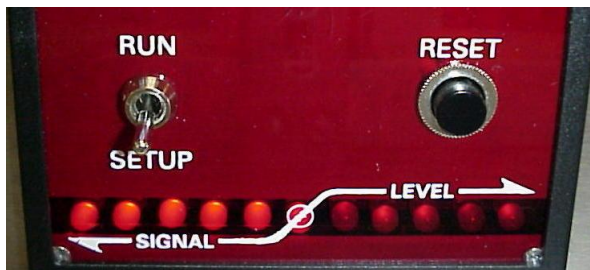
C. Sensitivity – is adjusted with two dials, course/fine on the side of the count enclosure and aided with an optical setup indicator. Put the counter's front panel Run/Setup switch in the SETUP position (down). This will illuminate a row of lights on the lower edge of the counter. The setup objective is to move the lights from one side of center to the other when the label plus backing moves into the sensor's light beam.

First, move the web so that backing only, (space between labels), is in the sensor's light beam.



1. Setup Lights - when backing only is in the path of the sensor beam.

For best counting, the lights to the **right** of center, as shown in the photograph above should be on when the space between labels is positioned in the light beam (light projects through the label backing). Adjust the sensitivity with the dials on the side of the counter so that all five lights are on when the backing only is in the sensor.



2. Setup Light - when label is in the path of the sensor light beam.

Next, move the web so that label and backing are in the sensor's light beam.

The lights to the **left** of center should be on when the label is positioned in the light beam, (light beam is broken by the label material plus backing). Adjust the course and fine dials so that at least three lights are illuminated when the label and backing are in the sensor's light beam.

When these adjustments have been made, return the Run/Setup switch to the RUN position.

## **Counting Station**

Draw the label leader through the web guide and the counting station from the supply roll to an empty core on the take-up spindle. Move the first label to the counting station and adjust the sensors vertical height if necessary (small hand tools required). Adjust the sensitivity for excursion of the light to both right and left of center.

## **Motor Speed**

The motor speed adjustment dial controls the speed of the drive motors on the counting table and the speed at which labels are processed/counted. If the label counting station is shut off (end of roll condition, missing label detection, bar code error) the motor speed adjustment dial must be turned fully counter-clockwise to the OFF position and then back clockwise to the ON position before the motors will re-start. From the fully counter-clockwise position, turn the motor On by rotating clockwise until the desired motor speed is reached.

## **Select Constant Switch**

If on, the counter waits 5 seconds for the operator to set the web speed, then measures the speed and adjusts the motor to maintain constant web speed. The counter also detects the end of roll if no labels are detected for 10 seconds and shuts off the motor.

If the Select Constant switch is off, the motor speed adjustment is the only control for the motor. Once set, the motor runs at a constant speed; the label web speed increases as the diameter of the take up roll increases. The counter also detects the end of roll if no labels are detected for 10 seconds and shuts off the motor.

The Select Constant Switch may be left ON from one roll to the next. If it is on when the motor starts, the counter will wait 5 seconds before measuring the speed to allow the user to make initial adjustments.

If the motor is stopped during a roll, the motor speed switch must be turned fully counter-clockwise to restart the motor. The Select Constant switch will assure a constant label counting speed at the end of roll just as it did at the beginning of the roll.

## **Barcode/Splice Inspection Enable**

This switch (or switches) controls the power to these components.

Use this switch to turn off the barcode reader or splice detector when a label web is not in place to prevent laser transmission beyond the counting table. The barcode laser is a powerful optical device and may cause eye irritation if a person looks directly into the laser.

## **Barcode Scanner Position**

The barcode reader should view one and only one barcode at a time. Reading begins when a label breaks the photo-sensor light beam. Watch the counter as a label is moved into the counting station. When the counter registers a count and changes its display, it immediately triggers the barcode reader. The barcode reader attempts to read a code until it reads or until the label passes completely through the counting station and the light beam is restored through the gap following the label. Setup the barcode reader so a label's barcode is readable at the trigger point. The code is readable when the scanner's red scan line enters the code on the left side (not top or bottom) and emerges on the right side (not top or bottom) so that the scan line travels through all the code's bars.

Depending on the position of the barcode within the label, the barcode may not be visible while being counted. If this is the case, position the barcode reader to read the label ahead (downstream) of the label currently being counted. The first label on the roll will need special handling. When the first label is counted, the barcode reader will see only the blank web backing and if allowed to proceed, will record a "No Code" result. To overcome this situation, either use the master label as a first code or manually advance the web to generate the first count while reading the barcode.

The barcode reader generates one of three outputs each time it is triggered by the counter: match (the code read was exactly the same as the Target Code), no-code (the scanner did not read a code during the trigger period) or mismatch (a bar code was read but it was not the same as the Target Code).

## **Splice Detector**

The splice detector is a model CX6A dark-operated registration mark sensor.

Label manufacturers customarily mark splices with a contrasting mark or tape. The splice detector should be setup so that its lens is approximately 3/8" from the back surface of the web as the web comes off the web guide roll at the entry to the counting station. At this range, the visible green detecting spot forms a small focused oval on the web and detects its reflection. Adjust the sensitivity to compensate for variations in web reflectivity from product to product so that the function light at the back of the scanner is ON when the web is in position, OFF when a splice mark is introduced or the web is removed.

If a contrasting splice mark passes through the detecting oval, the scanner will switch to dark mode and turn its output off to signal the count/controller that a splice has been detected. An error message will be displayed.

Note: label print may be interpreted as splice tape if the registration mark sensor sensitivity is set too high. Check sensitivity to be sure that the sensor reports the constant "Light" state when a label passes through the splice detector station.

## **Starting a Counting/Inspection Operation**

### **Switch Positions**

Start with switches in the following positions:

Motor Speed – Off, fully counter clockwise.

Accessory Inspection – Off

Motor Direction – Forward

Power- On

### **Mount Labels**

Mount a roll of labels to be counted/inspected on the supply spindle of the table (left hand side of table).

Mount an empty core on the take-up spindle (right side of table).

Draw the leader through the counting station using the web guides.

### **Counter Setup**

When the first label reaches the sensor, put the counter in Setup mode with the front panel switch and observe the setup lights. Adjust the sensitivity if necessary with the course and fine adjustments at the side of the count enclosure so that the light/dark indicators advance equally to the right and left of the center position. When satisfied, back the label out of the counting station and put the counter in Run mode. Push the reset button on the counter to return the display to “0” (if necessary).

If some labels have been moved through the counting station to the take up reel, adjust the count using the keypad display, setup #6, to compensate. The adjusted quantity will be displayed on the counter screen as the initial count.

Note: to accumulate totals from consecutive rolls, by-pass the reset step. Counting will start from the displayed total rather than zero.

## **Barcode Setup**

Turn on the barcode reader switch. Position the barcode reader so the scanner's red scan line enters the code on the left side square to the bars (not top or bottom) and emerges on the right side (not top or bottom) for horizontally oriented codes so that the scan line travels through all the code's bars. Position the face of the scanner 3" – 4" from the surface of the label. Place the target barcode in view. This may be a label on the web being counted or a master control label, depending on facility procedures.

Learn Code Type – if the code type has changed since the last label roll or if the code type is not known, use the Learn Code Menu action.

Learn Target Code – if the target code has changed since the last label roll or if the target code is not known, use the Learn Target Menu action.

On the keypad display, advance the menu using the **Enter** key until Learn Code Type is displayed. Initiate this action with the → key and follow display directions.

Advance the menu using the **Enter** key until Learn Target is displayed. Initiate this action with the → key and follow display directions.

## **Splice Detector Setup**

Turn on the Splice Detector switch. The green light on the scanner should come on. The scanner should be set to "dark" operate. With a label in place the scanner panel light should display the light or dark state. Move a label through the splice detection station to be sure that the scanner remains in the light state. If it does not, increase the sensitivity until it does.

## **Start Motor**

Draw the leader to the take-up reel and wind it around in the counter clockwise direction (forward) or clockwise direction (reverse) by turning the motor on to a very slow speed. Guide and manually assist following layers to cover and secure leading layers until the leader will follow the rotation of the take-up core.

## **Set Speed**

Adjust the motor speed to the desired level by rotating the motor speed switch.

## **End of Roll**

The counter declares end-of-roll if no labels have been detected by the sensors for 3 label periods or if the motor speed switch has been turned off.

## **Interpreting Results**

The counter display shows the number of labels detected since the last reset.

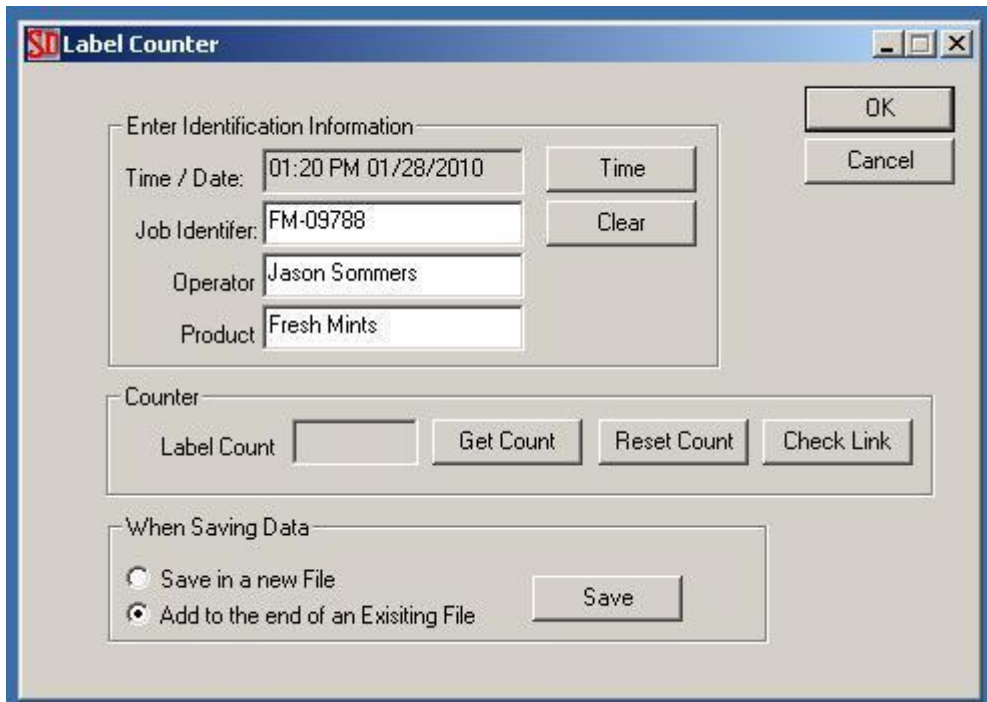
If the motor is stopped before the end of the roll, the label in the counting station, if any, has been counted if it has advanced far enough to break the light beam.

If the motor is stopped with a label in the counting station, the status of the barcode inspection depends on the success or failure of the reading of the code that is within the scanner's scan line.

## **Uploading to PC (optional RS232 Interface)**

The Counter is equipped with an RS232 interface to a PC or equivalent computer. Scanning Devices provides a Windows PC program "LabelCounter" to upload count data to PC, save data in a Microsoft Excel accessible file and reset the counter.

Start the program using a desktop shortcut or by navigating to the folder where it was saved and double clicking on it.



The screenshot shows the 'Label Counter' application window. It features a title bar with a red 'SD' icon and the text 'Label Counter'. The main interface is divided into three sections: 'Enter Identification Information', 'Counter', and 'When Saving Data'. The 'Enter Identification Information' section contains four text input fields: 'Time / Date' (01:20 PM 01/28/2010), 'Job Identifier' (FM-09788), 'Operator' (Jason Sommers), and 'Product' (Fresh Mints). There are 'Time' and 'Clear' buttons next to the first two fields. The 'Counter' section has a 'Label Count' field (currently empty) and three buttons: 'Get Count', 'Reset Count', and 'Check Link'. The 'When Saving Data' section has two radio buttons: 'Save in a new File' (unselected) and 'Add to the end of an Existing File' (selected), with a 'Save' button to the right. 'OK' and 'Cancel' buttons are located in the top right corner.

Select the ComPort through which the label table is connected by clicking on the red SD icon in the top left corner of the screen and click the Select Com Port menu item.

The program time stamps activity with date and time from the PC's clock. It allows the user to enter three elements of identifying information: job or run information, product information and operator identification. It has three buttons for communicating with the counting table:

**Test Link** – sends a command to the counting table to test the communications link. If the table motor is not running and the cable connection is operating, the program will receive a response and report success. If no response is received, an error message will be displayed.

**Get Count** – sends a command to the counting table to upload the current count as shown in the display. The data will be displayed on the PC screen.

**Reset Counter** – sends a command to the counting table to reset the count to zero. The user will be asked a confirming question before the count is reset.

The user may save data on the screen to a file in “Comma separated variable (.csv)” format. Files in this format may be opened by Microsoft Excel for analysis or distribution. Users can add the data as a line to the end of an existing file or make a new file with the screen data. Pushing the Save button will open a “Save As” dialog box familiar to Microsoft Windows users. The box references the user's current directory, letting the user choose an existing directory or file or make a new file for saving.

## Messages

### Operating Messages

<b>Operator Messages</b>	<b>Type and Content</b>
Scanning Devices Powering Up	Information Message: On power-up, the system displays this message while power stabilizes and runs diagnostics to ensure that memory and logic are operating properly. The message will be changed when the power up sequence completes. No action is required. The system powers up in setup mode. See Setup Messages.
Ready to Start Counting	Information Message: The setup is complete, the motors are off and waiting turn on. Reset is active. Push the reset button to set the count to zero. To start counting, turn on the motor speed potentiometer and set the speed.
Counting	Information Message: When the motor speed potentiometer is turned on, this message is displayed and remains displayed until an event occurs which stops the counting. The count is displayed on the face of the count/controller.
Missing Label ENT to Continue	Action Required Message: A missing label has been detected and the label web has been stopped. Detection is based on time between labels. If the time between labels is more than 1.5 times the previous label time, the system declares a missing label and brings the label web to a stop. The specific action to be taken at this time depends on your installation protocol: recording the missing label, marking the label roll, rejecting the roll, etc. Press the Enter key on the keypad to allow the system to continue. Continuation is with the “Turn Off Motor” or “Ready to Start Counting” message.
Turn Off Motor	Action Required Message: If the motor speed switch is on, turn it off now. If the motor speed switch is off, this message is by-passed.
End of Roll ENT to Continue	Action Required Message: The end of the label roll has been found as three label positions have passed without a label being detected. Examine the label web to verify that the end of the roll has been encountered. Press the Enter key on the keypad. The system will display the number of labels counted.
ENT to Continue Counted: nnnn	Action Required Message: This message displays the final count at the end of the roll. Record the count in the manner specified in your installation protocol. The count is also displayed on the face of the count/controller and should be the same number. If it is not, there is a problem with the counting sensing or logic. Press the Enter key on the keypad to allow the system to continue.

Mismatch Label ENT to Backup	Action Required Message: The Barcode reader has read a barcode that does not match the target barcode. The label web has been stopped. The mismatch label is downstream of the bar code reader. The motor switch is on. Pressing Enter on the keypad will reverse the label web to bring the mismatch label back to the barcode reader. When the barcode reader detects the missing label in the reverse direction, the label web will stop. Alternately, turn off the motor switch before pressing enter to bypass the backup action. The resolution of the mismatch depends on your installation protocol: record the error, remove the foreign label, reject the roll, etc.
Backing Up Motor off to End	Action Required Message: The web is moved in the opposite direction. Turn the motor off to stop the motion.
Mismatch Label ENT to Continue	Action Required Message: The mismatch label sequence is complete. Press Enter on the keypad to continue.
Reading Errors Splice Detected	Information Message: The splice sensor has detected a “dark” condition on the web and interpreted it as a splice. The label web is being stopped. This message will be displayed until the web is stopped. When it is stopped, the message below will be displayed automatically.
Splice Detected ENT to Continue	Action Required Message: The splice sensor has detected a “dark” condition and interpreted it as a splice. The label web has been stopped. The specific action depends on your installation protocol: record the error, mark the splice, reject the roll, etc. Press the Enter key on the keypad to allow the system to continue.
No Read Label ENT to Backup	Action Required Message: The Barcode reader did not read a barcode when it was expected. The label web has been stopped. The unread label is downstream of the bar code reader. The motor switch is on. Pressing Enter on the keypad will reverse the label web to bring the unread label back to the barcode reader. When the barcode reader detects the unread label in the reverse direction, the label web will stop. Alternately, turn off the motor switch before pressing enter to bypass the backup action. The resolution of the unread bar code depends on your installation protocol: record the error, remove the foreign label, reject the roll, etc.
Backing Up Motor off to End	Action Required Message: The web is moved in the opposite direction. Turn the motor off to stop the motion.
Unread Label ENT to Continue	Action Required Message: The unread label sequence is complete. Press Enter on the keypad to continue.
Turn Motor OFF	Action Required Message: When the system has taken action to stop the motor in response to the end of the roll or an error, the motor switch remains in the on position. To prevent re-start at high speed and potentially breaking the label web, the Motor Speed switch must be turned counterclockwise to the off position before continuing. The system waits until the switch is turned off and then advances to the next message. If the switch is turned off, this message is by-passed.

## Setup Messages

	Setup Messages	Type and Content
		<p>There are six setup selections:</p> <ol style="list-style-type: none"> <li><b>1. Start Counting</b> – The system powers up in setup with this message displayed. Press the -&gt; (Right Arrow) key to exit setup.</li> <li><b>2. Learn Barcode Type</b> - The barcode scanner is set to read one and only one barcode type at a time. Five barcode types are supported: UPC, Code39, Code 128, International 2 of 5 Code or Codabar. If a label's code type is not the type saved in the controller/scanner memory, the barcode will not be readable and an attempt to read the code will fail. Once learned, the code type will be saved and used until the sequence is repeated.</li> <li><b>3. Learn Target BC</b> - After learning the barcode type, the system can learn and save the target barcode. The system used the Target Barcode as the comparison code when reading barcodes on labels.</li> <li><b>4. Read Barcode Setup</b>– Loads the barcode reader with the proper program to work with the label inspection table</li> <li><b>5. Read Barcode</b>– A handy utility to read and display the barcode presented. Often used to verify that the barcode is read as expected.</li> <li><b>6. Adjust Count</b> – A means of changing the count when necessary, such as when leaderless rolls are loaded requiring labels to be moved passed the counting station to be secured to the take-up reel prior to beginning the count.</li> </ol>
1	ENT Next -> Go Start Counting	<p>Action Required Message: Select Start Counting action. Press the → (Right Arrow) key to exit the setup procedure to start counting. Press the Enter key to advance to the next setup selection.</p>
2	ENT Next -> Go Learn Code Type	<p>Action Required Message: Select Learn Code Type action. Press the → (Right Arrow) key to start the sequence which reads barcode to learn the code type. The code type is displayed when it is determined. Press the Enter key to advance to the next setup selection</p>
2A	Checking Bar Code Types	<p>Information Message: The system is attempting to read the code type of the barcode presented.</p>
2B	Read xxxx ENT to Continue	<p>Action Required Message: The system reports which code type has been read. Press the Enter key on the keypad to allow the system to continue.</p>
2C	Wait For Beep Then Enter	<p>Action Required Message: The system has saved the code type that will be used for barcode inspection. Listen for the beep and then press the Enter key on the keypad to allow the system to continue.</p>



3	ENT Next -> Go Learn Target BC	Action Required Message: Select Learn Target BC action. Press the → (Right Arrow) key to start the sequence which reads the barcode and sets it as the “target barcode”. The barcode is displayed when read. Press the Enter key to advance to the next setup selection
3A	Scanning	Information Message: The system is attempting to read the barcode presented as the new target barcode. This message is displayed until a barcode is read or until a timeout occurs.
3B	Unable to Read ENT to Continue	Action Required Message: The system did not read a barcode within the timeout period. Be sure a barcode is in view and the code type is the current learned “target barcode” code type. Press the Enter key to advance to the next setup selection.
3C	nnnnnn ENT to Continue	Action Required Message: The system displays the barcode. Press the Enter key to advance to the next setup selection.
3D	Wait For Beep Then Enter	Action Required Message: The system has saved the target barcode that will be used for barcode inspection. Listen for the beep and then press the Enter key on the keypad to allow the system to continue.
4	ENT Next -> Go Barcode Setup	Action Required Message: Select Barcode Setup action. Press the → (Right Arrow) key to start the sequence which loads and saves a program in the barcode reader. The program allows the barcode reader to work with the label inspection table. Press the Enter key to advance to the next setup selection
4A	Wait For Beep Then Enter	Action Required Message: The program has been transmitted to the barcode reader and saved. Listen for the beep and then press the Enter key on the keypad to allow the system to continue.
5	ENT Next -> Go Read Barcode	Action Required Message: Select Read Barcode action. Press the → (Right Arrow) key to start the sequence which reads and displays a barcode. The barcode is displayed when read. Press the Enter key to advance to the next setup selection
5A	Scanning	Information Message: The system is attempting to read and display the barcode presented. This message is displayed until a barcode is read or until a timeout occurs (1 second).
5B	nnnnnn ENT to Continue	Action Required Message: The system displays the barcode. Press the Enter key to advance to the next setup selection
5C	Unable to Read ENT to Continue	Action Required Message: The system did not read a barcode within the one second timeout period. Be sure a barcode is in view and the code type is the current learned “target barcode” code type. Press the Enter key to advance to the next setup selection.

6	ENT Next -> Go Adjust Count + -	Action Required Message: Select Adjust Count action. Press the → (Right Arrow) key to start the sequence which reads barcode to learn the target barcode. The barcode is displayed when read. Press the Enter key to advance to the next setup selection
6A	Adjust Count + - ENT to Continue	Action Required Message: Press “+” on the keypad to increment the count by 1 unit. Press “-“on the keypad to decrement the count by 1 unit. Decrement is limited to zero. The display on the face of the count/controller should change with each press. Press any other key to advance to the next setup selection.

## **Trouble Shooting**

From time to time, the user may make unanticipated or unexpected combinations of switch settings or button pushes that prevent the counting table from operating. Turning power off resets the counting table to a known state and allows it to restart on power on.

The Course and Fine photo sensor sensitivity adjustments are important to success in counting. Use the setup switch to display the light beam “break” and “make” levels for the labels being counted and adjust if necessary to achieve four lights on either side of center.

The barcode setup procedure requires that the barcode type is detected and saved in the controller/scanner memory. The barcode scanner is set to read one and only one barcode type at a time. The supported barcode types are: UPC, Code39, Code 128, International 2 of 5 Code or Codabar.

If a label’s code type is not the type saved in the controller/scanner memory, the barcode will not be readable and an attempt to read the code will fail. Use the setup menu to learn the barcode type. Then attempt to read the label’s barcode.

When the network interface is installed, PC access to the counting table counter is enabled only when the motor is off. With motor on, the counter is focused on counting and ignores the PC. If the PC is unable to communicate with the counter, make sure the motor is off. Next check the cable. The program reports comport conflicts on the PC screen.

Clicking the “SD” icon on the top left corner of the PC Application screen drops down a menu that allows selection of the PC the comport to be used for communications to the counting table. Check to make sure that the counting table cable is connected to the selected comport.

Remember that data entered or uploaded is displayed on the PC screen but not saved until the save button is pushed.

## **Contacting Scanning Devices**

Contact Scanning Devices for application help, trouble reporting, functional extensions or other products related to pharmaceutical manufacturing or regulator compliance.

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