Linx 5900 & 7900

How To Change the System Setup

LINX

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Contents

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1 Introduction

This document describes the Line setup options and the Installation setup options for the 5900 and 7900 printers.

The following options are described:

Options in the Line Setup menu

- Trigger setup
- Line speed
- Alarm setup

Options in the Setup menu

- Installation options
- Security options

You need a User Level C password to change some parameters.

For information about the serial communications interface and the Parallel IO interface, refer to the *Linx Remote Communications Interface Reference Manual* and *How To Use the Parallel I/O Option*.

1.1 Health and Safety

Make sure that you read and understand the Health and Safety information in the 'Safety' section of the *Linx 5900 & 7900 Quick Start Guide*.

2 Line setup

This section describes how to use the **Line Setup** page to configure the following:

- Trigger setup
- Line Speed setup
- Alarm setup

2.1 Trigger

Use this option to set up the following parameters:

- Print Trigger type
- Trigger to Printhead Distance
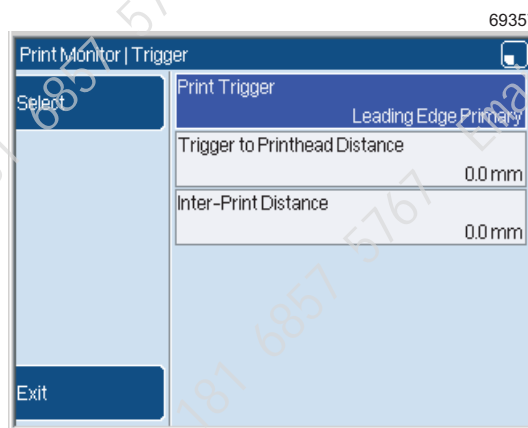- Inter-Print Distance

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Figure 1. Trigger page

2.1.1 Print Trigger

A trigger is a signal that tells the printer to print or update a message. Select the **Print Trigger** option to display a list of the trigger types that are available.
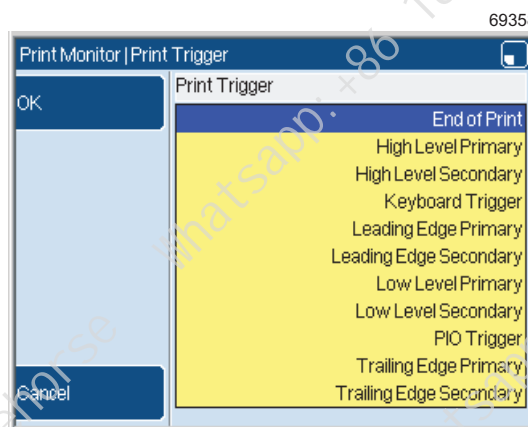
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Figure 2. Print Trigger page

The following trigger types are available:

End of Print

The trigger for the next printed message is generated after the last raster of the previous message.

High Level Primary Trigger or High Level Secondary Trigger

The printer continuously prints or updates the message while the product sensor detects the presence of a product (the signal is active).

Keyboard Trigger

The printer prints or updates the message when you press the [alt] and [T] keys together.

Leading Edge Primary Trigger or Leading Edge Secondary Trigger

The printer prints or updates the message when the product sensor detects the leading edge of a product.

Low Level Primary Trigger or Low Level Secondary Trigger

The printer continuously prints or updates the message while the product sensor does *not* detect the presence of a product (the signal is not active).

PIO Trigger

A signal from the Parallel I/O connection generates the trigger.

Trailing Edge Primary Trigger or Trailing Edge Secondary Trigger

The printer prints or updates the message when the product sensor detects the trailing edge of the product.

Continuous

This mode does not use an external trigger signal for printing and the printer prints the message continuously. The **Inter-Print Distance** option controls the rate of printing.

Every Second

The printer automatically generates a trigger every second.

Edge triggers and Level triggers

The following trigger types are Edge triggers:

- Leading Edge Primary Trigger
- Trailing Edge Primary Trigger
- Leading Edge Secondary Trigger
- Trailing Edge Secondary Trigger

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The following trigger types are Level triggers:

- High Level Primary Trigger

- Low Level Primary Trigger

- High Level Secondary Trigger

- Low Level Secondary Trigger

The Edge trigger types generate a single trigger when the sensor signal changes. The Level trigger types define a continuous trigger *condition* (active or not active) that depends on the state of the sensor signal.

To change the trigger option, make sure that the printer is not in the 'PRINTING' state.

2.1.2 Trigger to Printhead Distance

Use this option to set the distance between the trigger and the printhead. The default value is 0 mm. Figure 3 helps you understand the difference between the **Trigger to Printhead Distance** and the **Print Delay**. The large arrow shows the direction of the movement of the product.
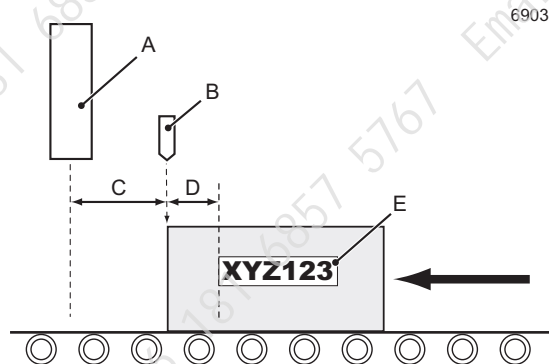

Figure 3. Trigger to Print Head Distance

In this example, there is a fixed distance (C) between the printhead (A) and the sensor (B) that detects the edge of the product. This distance is the '*Trigger to Printhead Distance*'. If the printhead and the sensor do not move, the Trigger to Printhead Distance is the same for all products and all messages. The distance is zero if the printhead and the sensor are in the same position. The installation engineer enters this measurement into the printer during the installation, but you can change the value if the sensor position is changed.

In Figure 3, the trigger signal from the sensor occurs at the edge of the product, but the message area (E) is not at the edge of the product. The distance between the sensor position and the print position (E) is the **Print Delay** (D). This distance depends on the product. The **Print Delay** parameter is described in the *Linx 5900 & 7900 Quick Start Guide*.

2.1.3 Inter-Print Distance

The Inter-Print Distance is the distance between the end of one message and the end of the next message—the dimension 'A' in Figure 4.

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Figure 4. Inter-Print Distance

The **Inter-Print Distance** is used only for continuous printing. (For continuous printing, set the **Print Trigger** option to 'Continuous' or use one of the Level trigger types.)

2.2 Speed

Use this option to configure the speed measurement for the production line. The **Speed** page options depend on the **Speed Selection** option. The options shown in Figure 5 are for the Fixed Speed setting.
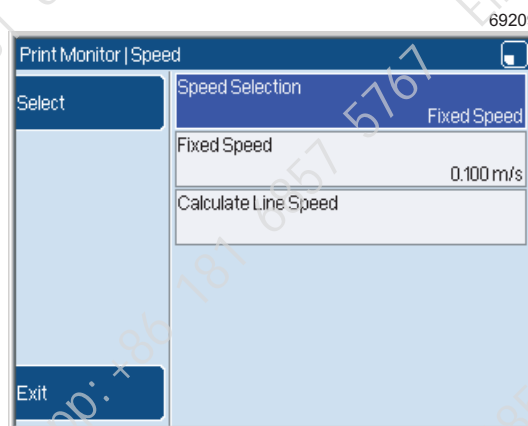
69209

Figure 5. Speed page: Fixed Speed

2.2.1 Speed Selection

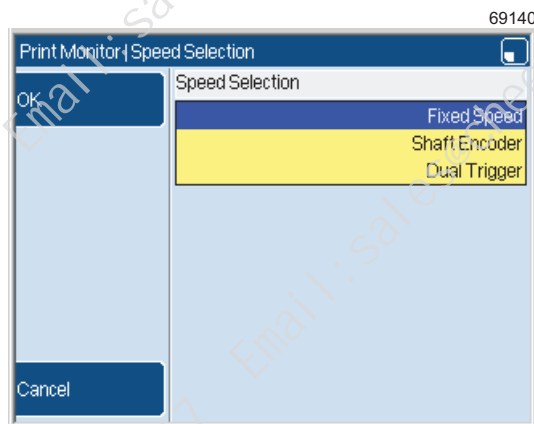Use the **Speed Selection** page to select the measurement method.

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Figure 6. Speed Selection page

You can use any of the following settings:

Fixed Speed

You tell the printer the line speed, and the printer prints at the correct rate.

Shaft Encoder

Use a shaft encoder to make sure that the print speed matches the line speed.

Dual Trigger

Use the time difference between two trigger devices to continuously measure the line speed.

2.2.2 Fixed Speed

This option is not displayed unless you set the **Speed Selection** option to 'Fixed Speed'. Use this option to enter the value for the line speed. If you do not know the line speed, see 'Calculate Line Speed' below.

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2.2.3 Calculate Line Speed

This option is not displayed unless you set the **Speed Selection** option to 'Fixed Speed'.

If you do not know the line speed, you can use this option to calculate the line speed. To calculate the line speed, the printer measures the time that is needed for the test item to pass the product sensor as shown below:
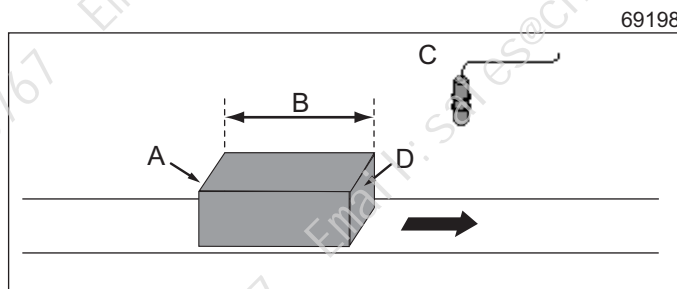

Figure 7. Line Speed Calibration

Put a test item on the conveyor, as shown. The large arrow in Figure 7 shows the direction of the movement of the test item. The test item has a known length (B). This length is the **Inter-Trigger Distance** (see Figure 8). The product sensor (C) measures the time difference between the leading edge (D) of the test item and the trailing edge (A). The printer uses the **Inter-Trigger Distance** and the time difference to calculate the line speed.

Calibration

To calibrate the line speed, select the **Calculate Line Speed** option to display the **Calculate Line Speed** page.
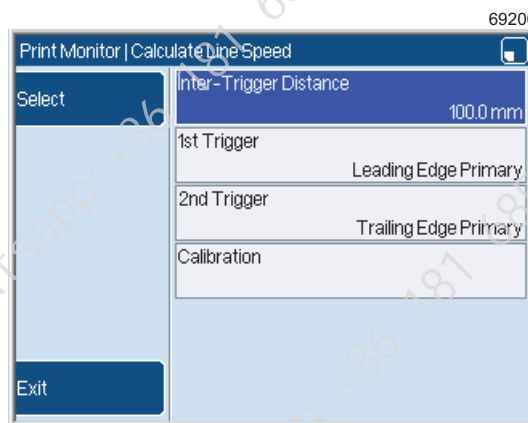

Figure 8. Calculate Line Speed page

The options on this page are as follows:

Inter-Trigger Distance

Set this value to the distance between the sensor devices. The Inter-Trigger Distance in Figure 7 is the length of the test item (B).

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1st Trigger

Use this option to define the trigger signal for the leading edge of the test item.

2nd Trigger

Use this option to define the trigger signal for the trailing edge of the test item. You can use the same sensor device for the 1st Trigger and the 2nd Trigger, as shown in Figure 7 and Figure 8.

Calibration

To measure the line speed, select the **Calibration** option and follow the instructions that the printer displays.
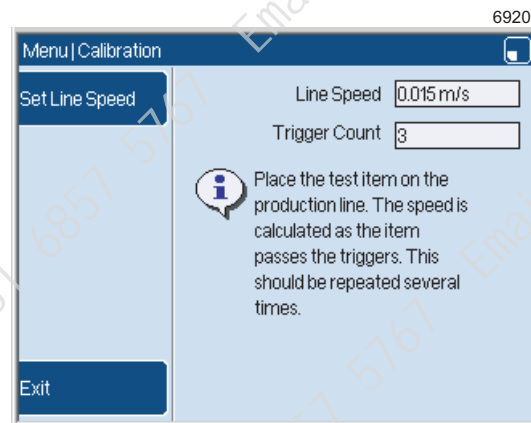
69201

Figure 9. Calibration page

When the test item passes the sensors, the printer measures the line speed and calculates a new average for each occurrence. The **Calibration** page displays the average value and counts the number of passes as shown in Figure 9. The test item must pass the sensor a minimum of ten times for a good result. When the Line Speed reaches a value that does not change, press the **Set Line Speed** key to store the value.

2.2.4 Encoder Speed

This option is not displayed unless you set the **Speed Selection** option to 'Shaft Encoder' as shown below.
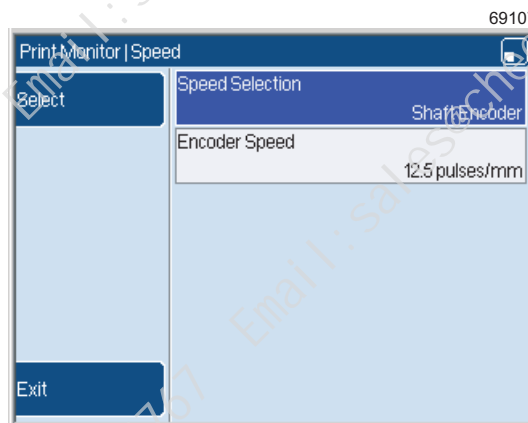

Figure 10. Speed page: Shaft Encoder

Set the **Encoder Speed** option to match the encoder that you use. The value required is the number of pulses per millimetre of movement of the product.

To configure the printer correctly for a shaft encoder and an encoder wheel, refer to *How to Install and Set Up the 5900 & 7900 Printer.*

2.2.5 Dual Trigger

Use this setting if the printer uses two trigger devices. The printer uses the information from the two triggers to calculate the line speed.
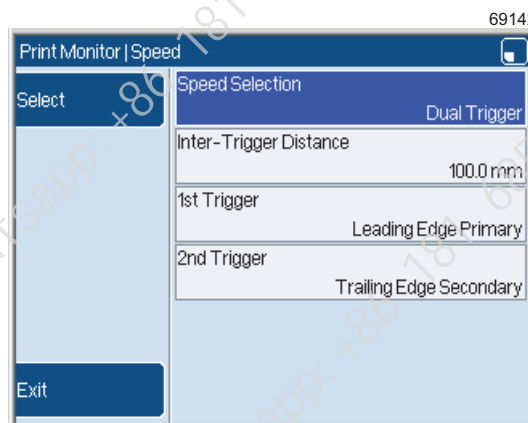

Figure 11. Speed page: Dual Trigger

The Dual Trigger mode is like the **Calculate Line Speed** function and the trigger options on this page are the same (see 'Calculate Line Speed' on page 8). The difference is as follows:

- The **Calculate Line Speed** option helps you measure the line speed value that you need for the Fixed Speed mode.

- In the Dual Trigger mode, the printer does not tell you the line speed, but continuously monitors the line speed to control the printing speed.

2.3 Alarm and dual alarm

The printer has an alarm that controls internal alarm tones and alarm output signals. The alarm output signals go to either one or two connectors on the rear panel of the printer — a default 24 V connector and an optional Volt Free Contact (VFC) connector. You can use the alarm output signals to control one or two external alarm beacons. The 24 V connector controls the default Alarm and the VFC connector controls the optional Alarm2.

NOTE: You must enter a configuration code to use the Alarm2 option on the 5900 and 7900 printer.

The alarms can indicate a range of system events, for example failures and warnings. The alarms operate in one of the following modes:

- **Pulsed**—the alarm pulses twice if an alarm condition occurs.
- **Pulsed - Constant**—the alarm pulses continuously until the alarm condition is cleared.
- **Constant**—the alarm is turned on and remains on until the alarm condition is cleared.

You can use any of the alarm indication modes to indicate any alarm condition.

To set the alarms

At the **Print Monitor** page, select **Line Setup** > **Alarm** to display the **Alarm** page.
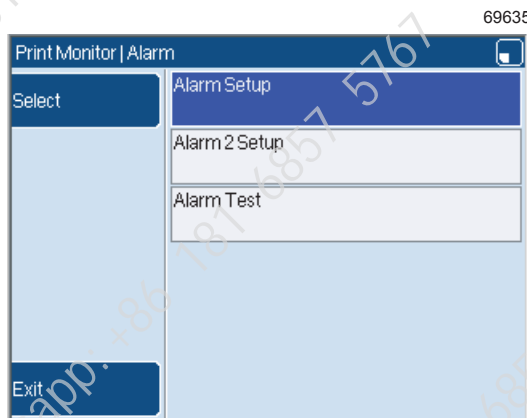

Figure 12. Alarm page

Select the **Alarm Setup** or **Alarm 2 Setup** option to display the **Alarm Setup** or **Alarm 2 Setup** page.
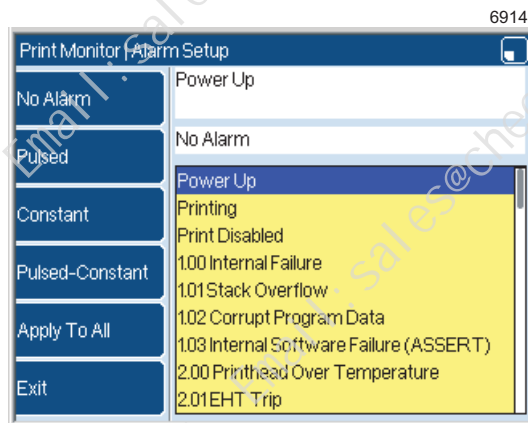
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Figure 13. Alarm Setup page

These pages both display a list of all the conditions and events that can generate an alarm.

To configure the alarms, use the Up arrow and Down arrow keys to highlight an item in the list, then press one of the following keys:

No Alarm	The event does not generate any alarm
Pulsed	The event generates a pulsed alarm
Constant	The event generates a constant alarm
Pulsed-Constant	The event generates a continuous pulsing alarm
Apply To All	Apply the current alarm setting to all the events in the list

NOTE: If the event message has the prefix "4" (for example, "4.02 Normal Start") you can use only the 'Pulsed' setting or the 'No Alarm' setting. The **Apply To All** key does not change the setting for these event types.

To return to the **Print Monitor** page, press the **Exit** key three times.

To test the alarm, select the **Alarm Test** option in the **Alarm** page (see Figure 12 on page 11). The alarm pulses twice.

Alarm priority

For Alarm and Alarm2, each alarm type has a different priority—a Constant alarm has the highest priority, followed by a Pulsed-Constant alarm, then a Pulsed alarm. If an alarm is active, and an event occurs with a higher-priority alarm type, the higher-priority alarm becomes active. For example, if a Constant alarm and a Pulsed-Constant alarm are both active, the printer generates a Constant alarm.

3 Setup parameters

This section describes how to change the general Setup parameters for the printer. These settings include the time, the printhead height, and the system locale.

To access the Setup parameters from the Print Monitor page, select **Menu** > **Setup**. The printer displays the **Setup** page.

Figure 14. Setup page

The Setup parameters are arranged in the following categories:

- Installation
- Security
- Communications
- Editor Defaults
- Parallel I/O
- Prompted Fields

Only the **Installation** and **Security** pages are described in this guide. For information about the **Communications** page, refer to *How To Use the Communications Options*. For information about the **Editor Defaults** page, refer to *How To Configure the Message Editor and Logo Editor Options*. For information about the **Parallel I/O** page, refer to *How To Use the Parallel I/O Option*. For information about the **Prompted Fields** page, refer to *How To Use Prompted Fields*.

3.1 Installation settings

You can use the **Installation** option to change the following parameters:

- **Date and Time**
- **Printhead Height**
- **USB Printer Name**
- **Locale**

3.1.1 Date and Time

To change the system time, first make sure that the printer is not in the 'PRINTING' state.

At the **Print Monitor** page, select **Menu** > **Setup** > **Installation** > **Date & Time** > **Current Time**.

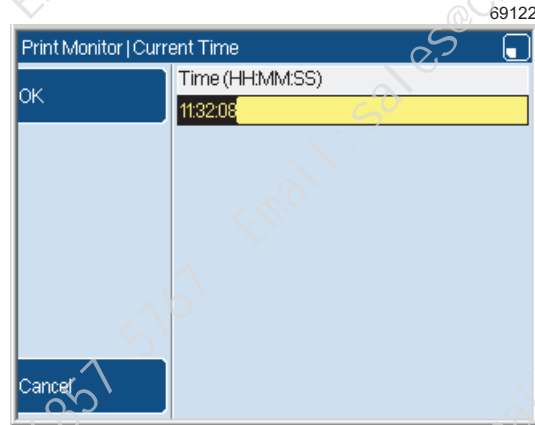The printer displays the current time in a text box.

Figure 15. Current Time page

Enter the correct time then press the **OK** key to return to the **Date & Time** page. The **OK** key is not available if you enter a time format that is invalid.

You can use the same method with the **Current Date** option to set the current date.

3.1.2 Printhead height

The printhead height is the height *difference* between the printhead and the cabinet. The difference is measured from the base of the printer to the end of the printhead, as shown below.
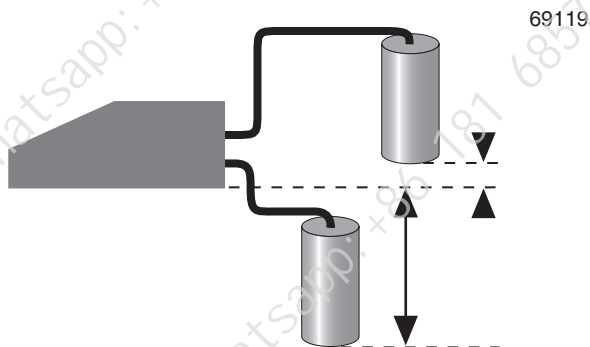

Figure 16. Printhead height measurement

Enter a negative height if the printhead is lower than the base of the printer. The range for the height difference is –2 metres to +2 metres. It is not necessary to enter the '+' sign for positive numbers.

Always make sure that the **Printhead Height** setting is correct because the printer uses it to calculate the correct internal pressures.

To set the printhead height, first make sure that the printer is in the 'IDLE' state.

At the **Print Monitor** page, select **Menu** > **Setup** > **Installation** > **Printhead** > **Printhead Height** to display the **Printhead Height** page.
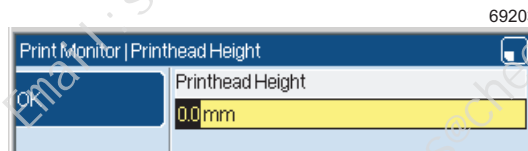

Figure 17. Printhead Height page

Enter the correct value, then press the **OK** key. Press the **Exit** key four times to return to the **Print Monitor** page.
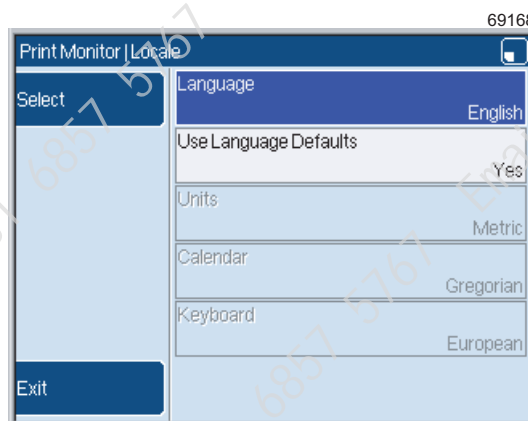
3.1.3 Locale

Figure 18. Locale page

Use the **Locale** page to set the following parameters:

- **Language**
- **Use Language Defaults**
- **Units**
- **Calendar**
- **Keyboard**

These options are described below.

Language

This option sets the language that the printer uses in all of the pages that are displayed.

To set the printer language, first make sure that the printer is not in the 'PRINTING' state.

At the **Print Monitor** page, select **Menu** > **Setup** > **Installation** > **Locale** > **Language** to display the list of available languages. Select the required language from the list then press the **OK** key.

Press the **Exit** key four times to return to the **Print Monitor** page.

Use Language Defaults

The **Use Language Defaults option** changes the method that you use to set the following three options (which are described below):

- **Units**
- **Calendar**
- **Keyboard**

If you set the **Use Language Defaults option** to Yes, the printer automatically uses default settings for these three options. The three options are not available, as shown in Figure 18 on page 15. You cannot change the default settings, which depend on the setting of the **Language** option (see above). For example, if you set the language to French, the printer uses metric units.

If you set the **Use Language Defaults option** to 'No', you can set the three options as required.

Units

Select this option to change the units of measurement that the printer uses. You can select any of the following measurement units:

- **Metric**
- **Engineering**
- **Imperial**

The Engineering units are useful for the service engineer. If you select these units, the printer uses numbers in the range 0 to 255 to display some internal parameters.

Calendar

These Calendar types are available:

- Gregorian
- Gregorian (USA)
- Hijri

The Hijri calendar is used in some Islamic countries, other countries use one of the Gregorian calendar options.

The **Gregorian (USA)** option uses the American system of numbers for the days in a leap year. This option also changes the format of some date formats that you can create for the 7900 printer. (Refer to *How To Create Date and Time Formats* for more information.)

Keyboard

This option tells the printer the type of keyboard that is fitted. The keyboard that is fitted at the factory depends on the country where the printer is used. Normally, the installation engineer sets the **Keyboard** option as required and it is not necessary to change this option.

If you change the setting and press a key, the printer can generate a character that does not match the key. For example, if your keyboard is European but the **Keyboard** option is set to Russian, the keyboard generates Russian characters.

If you select the **Keyboard** option the printer displays a list of keyboard types (countries).
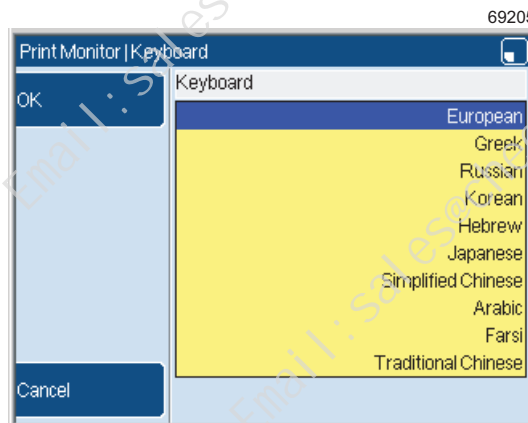
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Figure 19. Keyboard page

To change the setting, highlight an item in the list then press the **OK** key to return to the **Locale** page.

Press the **Exit** key four times to return to the **Print Monitor** page.

Secondary Keyboard

This option allows you to select a secondary keyboard layout that is different from the primary keyboard. For example, you can change between European and Japanese keyboards, which allows you to use a European keyboard to generate Japanese characters. Refer to *How To Use a Different Keyboard* for more information.

3.2 Security settings

This option enables you to change the following Security parameters:

- **Keylock** (On or Off)
- **Keylock Timeout** period
- **Change Password**

3.2.1 Keylock

If you set this option to On and you do not use the keyboard for some time (see 'Keylock Timeout' below), the printer locks the keyboard. A password prompt page is displayed. To unlock the printer, enter a password. You must use the password that was in use before the lock was activated, or a higher level password.

3.2.2 Keylock Timeout

The Keylock Timeout period is the time that passes before the printer locks the keyboard if the keyboard is not used. Use the **Keylock Timeout** option to increase or decrease the period. The allowed range is from 1 to 60 minutes.

3.2.3 Change Password

You can use this option to change your password or the password for any User Level that is lower than your level. For example at User Level C you can change the Level A, Level B and Level C passwords.

To change the password, select the **Change Password** option to display the **Change Password** page.
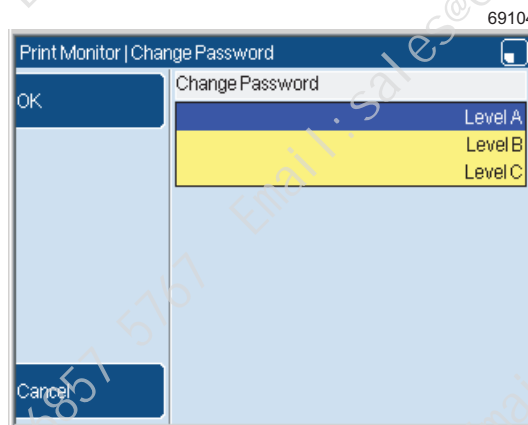

Figure 20. Change Password page

Select the User Level as required then press the **OK** key.

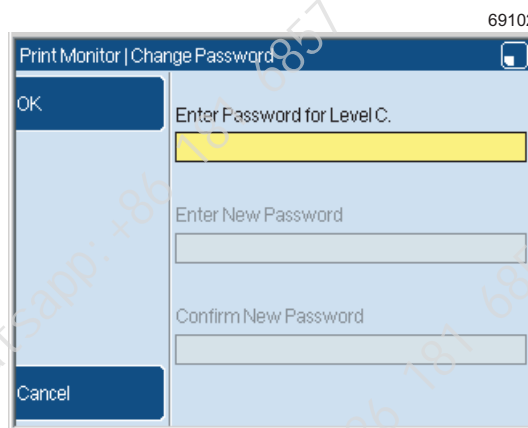The printer displays the following prompt screen.

Figure 21. Change Password page

Note that the **Enter New Password** and **Confirm New Password** text boxes are not active. You must enter your current password *and* the new password, as follows:

1   Enter the *current* password in the active box and press the **OK** key. The **Enter New Password** text box is activated.

2   Enter the *new* password in the active box and press the **OK** key. The **Confirm New Password** text box is activated.

3   Enter the *new* password in the active box and press the **OK** key to confirm the new password.

The **Security** page is displayed.

Press the **Exit** key four times to return to the **Print Monitor** page.

3.2.4 Allow Print Delay Access

5900 only. This option allows you to control access to the **Print Delay** option on the **Print Settings** page for User Level A users who do not normally have access to this option.

The default is No. If set to Yes, the **Print Settings** soft key on the **Print Monitor** page is available for User Level A users. Press the **Print Settings** soft key to open the **Print Settings** page. Only the **Print Delay** option is available at this lowest User Level. Refer to the *Linx 5900 & 7900 Quick Start Guide* for information about how to change the Print Delay.