

Linx 7900



How To Create a Production Schedule

LINX

THINKING ALONG YOUR LINES



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1 Introduction

This document tells you how you create a production schedule.

You need a User Level C password to perform all the tasks that are described in this document.

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 About production schedules

A production schedule allows you to print a sequence of messages automatically. You can set the number of repeats for each message, or use a trigger signal to change to the next message. You can use an external device or an internal signal (for example the time or date) to provide the trigger signal.

NOTE: A production schedule can use any messages that exist in the message store. Before you delete a message from the store, make sure that the message is not used in a production schedule.



3 Create a production schedule

The following example shows how you create a new production schedule. This example uses the following three messages:

Message name	Text
'Message1'	"AAA"
'Message2'	"BBB"
'Message3'	"CCC"

Before you begin, create and store these three messages in the message store, as shown in the *Linx 5900 & 7900 Quick Start Guide*.

To create the production schedule, do the following:

- 1 At the **Print Monitor** page, press the **Menu** key then select the **Stores** option.
- 2 Scroll down to the **Production Schedule Store** and select this option to display the **Production Schedule Store** page.

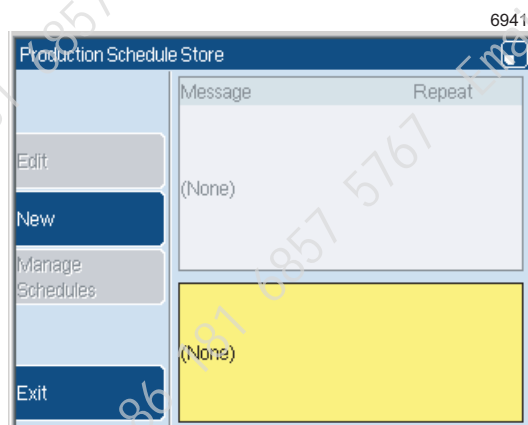


Figure 1. Production Schedule Store page

This page displays a list of the existing production schedules. In Figure 1, the store is empty.



- 3 Press the **New** key to display the following page.

Figure 2. Production Schedule Editor page

- 4 Press the **Insert** key to display the **Insert Item** page.

Figure 3. Insert Item page

- 5 Select the **Message** option to display a list of the messages that are stored in the printer.

Figure 4. List of stored messages



- 6 Highlight the required message then press the **OK** key to return to the **Insert Item** page.

Figure 5. Insert Item page: first item

The **Message** option on the **Insert Item** page shows the name of the selected message. The other options (**Position**, **Repeat**, and **Next Trigger**) are described in 'Edit the production schedule' on page 8.

- 7 Press the **Exit** key to return to the **Production Schedule Editor** page. This page shows that the production schedule contains one message.

Figure 6. Production Schedule Editor page: first item

The options on this page are described in 'Edit the production schedule' on page 8.

- 8 Move the highlight downwards into the empty position.



- 9 Repeat steps 4 to 8 to add the second message, then the third message. The completed production schedule is shown below.

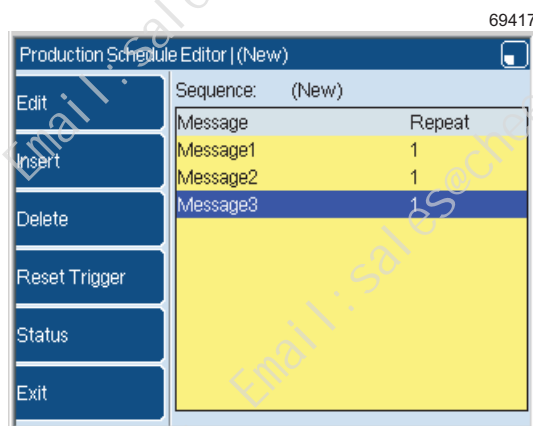


Figure 7. Production Schedule Editor page: complete schedule

- 10 Press the Exit key to display the Save As page.

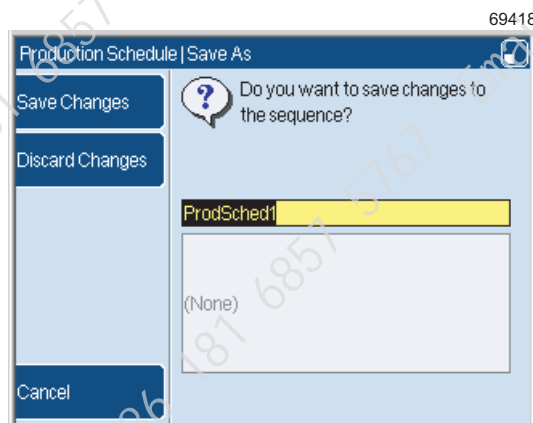


Figure 8. Save As page

Use this page to save or discard the production schedule, or change the default name before you save the schedule.



3.1 Edit the production schedule

At the **Production Schedule Store** page, you can create a new production schedule or edit the highlighted schedule.

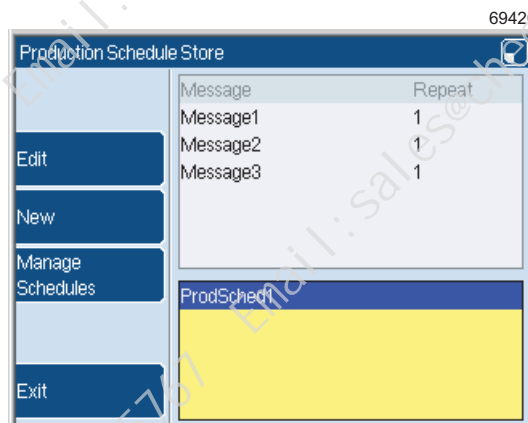


Figure 9. Production Schedule Store page

3.1.1 Production Schedule Store page

The options on this page are as follows.

Edit

Use the **Edit** key to display the **Production Schedule Editor** page (see page 9).

New

Use the **New** key to create a new production schedule.

Manage Schedules

You can use the **Manage Schedules** key to copy a schedule, change a schedule name, or delete a schedule. The **Copy** option, the **Rename** option, and the **Delete** option are not described in this document. These options are like the options in the **Message Store > Manage Messages** page, which is described in the *Linx 5900 & 7900 Quick Start Guide*.



3.1.2 Production Schedule Editor page

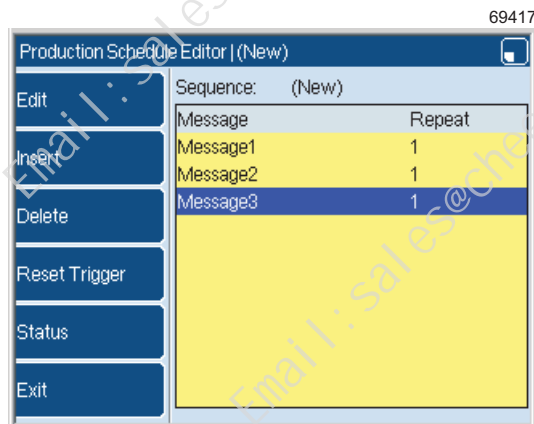


Figure 10. Production Schedule Editor page

This page contains the following options.

Edit

Use this option to display the **Edit Item** page for the highlighted item (see page 10).

Insert

Use this option to insert another item at the position indicated by the cursor.

Delete

Use this option to delete the item at the position indicated by the cursor. A confirmation page is displayed.

Reset Trigger

Use this option to define the external signal or internal condition that you use to reset the schedule to the start. (See 'Reset Trigger' on page 19).

Status

Use this option to display the **Status** page (see page 11).

Exit

Press the **Exit** key to save the completed Production Schedule. The printer displays the **Save As** page.



3.1.3 Edit Item page

The **Insert Item** page and the **Edit Item** page have the same options.

Figure 11. Edit Item page

Orientation

Use this option to define the orientation of this item. (Orientation is described in the *Linx 5900 & 7900 Quick Start Guide*.)

This option is not present unless the **Dictate Orientations** option in the **Status** page is set to Yes (see page 11).

Message

Use this option to change the message that you use for this schedule item.

Position

Use this option to change the position of the item in the schedule. In Figure 10 on page 9 'Message3' is the third item in the schedule.

Repeat

Use this option to change the number of repeats for this item. The printer maintains a counter to count the number of Next Trigger signals for each item in the schedule. For example, if the value is 20, the printer prints the same message 20 times, then prints the next message in the schedule. The default value is 1.

Next Trigger

Use this option to define the signal that tells the printer to update the counter that controls the schedule position. If the Repeat value for the current item is reached, the schedule moves to the next item. The **Next Trigger** settings are described on page 15.



3.1.4 Status page

The **Status** page allows you to inspect and change the current state of the sequence.

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Production Schedule Store Status	
Select	Current Position
	Current Repeat
	Dictate Orientations
	Aux-P/C Switches
	Continuous
	Multiprint
Exit	

Figure 12. Status page

The options on this page are as follows.

Current Position

Use this option to set the schedule to a different position in the sequence of messages (for example, change from item 1 to item 3). The maximum value is equal to the number of items in the sequence.

Current Repeat

Use this option to set the Repeat counter to a different position for the current item. For example if the **Repeat** option is set to 200, you can set the **Current Repeat** option to 170. When you restart the print, the printer prints 30 more copies of the message then moves to the next message.

The maximum value is 1 less than the value of the **Repeat** option for the current item (see 'Repeat' on page 10). For example if the Repeat value is 1, the **Current Repeat** option is fixed at 0 and you cannot change the value.

Dictate Orientations

Set this option to Yes to enable the **Orientation** option in the **Edit Item** page (see page 10).

Aux-P/C Switches

If you set this option to Yes, you can use the secondary trigger device to control the schedule. The messages that are printed depend on the state of the input signal (active or inactive). The printer prints the following messages in the schedule:

Active input: Messages 1, 3, 5, 7...

Inactive input: Messages 2, 4, 6, 8...

You can change the input state during the schedule, so that the printer prints the other set of messages. For example if you change the input while the printer prints message 4, the printer changes to messages 5, 7, 9...



If the schedule contains an odd number of messages, the printer adds another message when you save the schedule. The additional message is a copy of the last message that has an even number, as shown in the following example.

The production schedule shown below contains an odd number of messages.

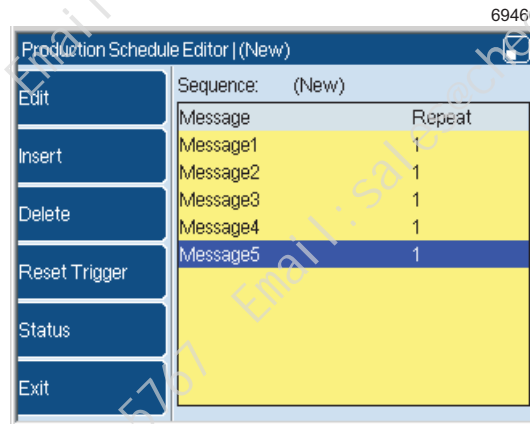


Figure 13. Production Schedule with five messages

The last message that has an even number is Message4. The printer adds Message4 to the end of the list when you save the schedule.

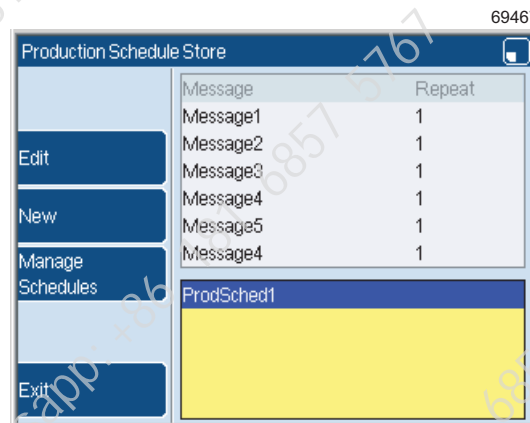


Figure 14. Production Schedule with six messages

Continuous

Set this option to Yes or No. The printer operation is as shown below:

- Yes After the last message is printed, the printer returns to the start of the schedule and repeats the schedule. While the trigger signals are received, this process continues.
- No The printer does not print any messages after the last item in the schedule is printed.

Multiprint

This option allows you to print multiple messages from a single trigger. See 'Multiprint' on page 13 for further details.



3.2 Multiprint

The **Multiprint** option allows you to create an entire production schedule that you can print from a single trigger. To use the **Multiprint** option with a production schedule:

- 1 Create a production schedule or edit an existing schedule, as described in 'Create a production schedule' on page 4 or 'Edit the production schedule' on page 8. An example production schedule is shown in Figure 15.

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Production Schedule Editor ProdSched1									
<div> <div>Edit</div> <div>Insert</div> <div>Delete</div> <div>Reset Trigger</div> <div>Status</div> <div>Exit</div> </div>	<div>Schedule: ProdSched1</div> <table border="1"> <thead> <tr> <th>Message</th> <th>Repeat</th> </tr> </thead> <tbody> <tr> <td>Message1</td> <td>4</td> </tr> <tr> <td>Message2</td> <td>1</td> </tr> <tr> <td>Message3</td> <td>2</td> </tr> </tbody> </table>	Message	Repeat	Message1	4	Message2	1	Message3	2
Message	Repeat								
Message1	4								
Message2	1								
Message3	2								

Figure 15. Example Multiprint production schedule

- 2 At the **Production Schedule Editor** page, press the **Status** key to display the **Status** page (see Figure 12 on page 11). Set the **Multiprint** option to Yes and press the **Exit** key to return to the **Production Schedule Editor** page.

When you use the **Multiprint** option the following items on the **Edit Item** page are changed:

- Repeat—in 'Multiprint' mode a message in a Production Schedule will be printed until the repeat count reaches zero. For example if the Next Trigger is set to 'Keyboard Trigger' and the repeat count to 1, the message is printed continuously until a keyboard trigger event occurs.
- Next Trigger—this defaults to 'Every Print' in 'Multiprint' mode.

- 3 Set the options you require for each message in the schedule on the **Edit Item** page and press the **Exit** key two times to save the completed Production Schedule. The printer displays the **Save As** page as shown in Figure 8 on page 7. The Production Schedule is saved to the **Message Store**.



- 4 To print multiple prints from a single trigger, select the Production Schedule you require from the **Message Store**. The **Inter-Print Distance** page is displayed.

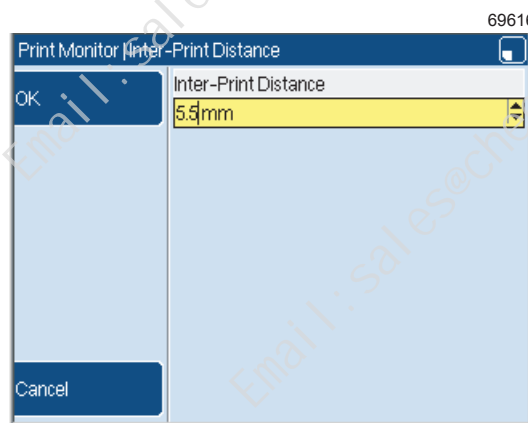


Figure 16. Inter-Print Distance page

You must enter an inter-print distance for the messages in the schedule. This value is the distance between the start of one message and the start of the next message.

- 5 You must then select a trigger for the Production Schedule as shown in 'Trigger setup' on page 15.

NOTE: If you use the High Level or Low Level Primary or Secondary trigger options, the **Multiprint** option is ignored. The Production Schedule returns to the default printing option.

- 6 For the example Production Schedule shown in Figure 15, Message1 is printed four times, followed by one print of Message2 and two prints of Message3 from one trigger.



3.3 Trigger setup

3.3.1 Next Trigger

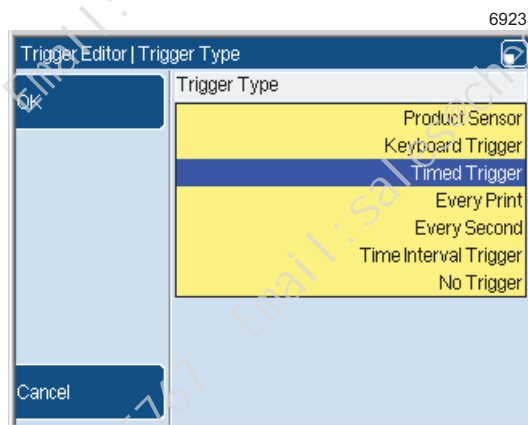


Figure 17. Trigger Type page

This option defines the signal that tells the printer to update the counter that controls the schedule position. The trigger type that you use controls the production schedule as follows:

Product Sensor

If the **Repeat** option is set to 5, the printer prints the message “AAA” until five pulses are received from the product sensor.

For many applications the **Product Sensor** trigger and the **Every Print** trigger give the same result. This is because the product sensor starts a print for each product that it detects.

If you use this type of trigger, the printer displays an additional option.

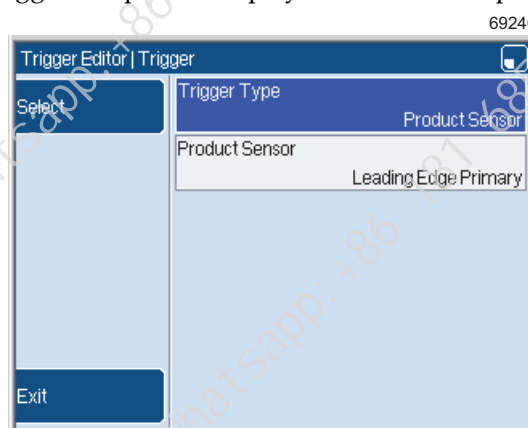


Figure 18. Trigger Editor page: Product Sensor



Product Sensor

Use the **Product Sensor** option to select the product sensor setup that you use.

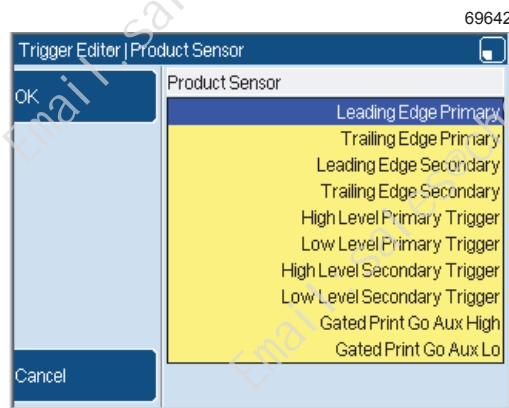


Figure 19. Trigger Editor: Product Sensor page

Leading Edge Primary

The printer updates the production schedule counter when the primary product sensor detects the leading edge of a product.

Trailing Edge Primary

The printer updates the production schedule counter when the primary product sensor detects the trailing edge of the product.

Leading Edge Secondary

The printer updates the production schedule counter when the secondary product sensor detects the leading edge of a product.

Trailing Edge Secondary

The printer updates the production schedule counter when the secondary product sensor detects the trailing edge of the product.

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).

Low Level Primary Trigger or Low Level Secondary Trigger

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

Gated Auxiliary Input Triggers

You can use an auxiliary input (the Secondary Trigger input) to control the operation of a production schedule. The example in Figure 20 on page 17 shows the current state of the production schedule counter: N, N+1, N+2... The 'Print Go' signal is the signal that starts each print.



The printer checks the state of the Secondary Trigger input ('Aux' input) at the start of every message. The printer does not update the production schedule counter unless the Secondary Trigger input is in the correct state.

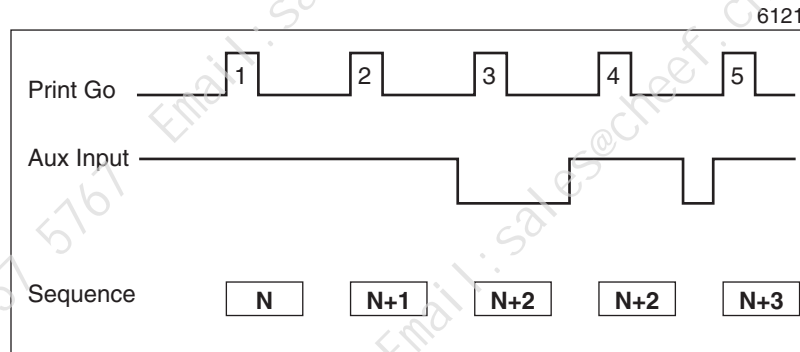


Figure 20. Production schedule counter

Gated Print Go Aux High

The printer updates the production schedule counter if the Secondary Trigger input signal is in the high state.

Figure 20 shows how the printer updates the production schedule counter when you use the Gated Print Go Aux High trigger setting.

- When the Print Go signal number 2 occurs, the Secondary Trigger input is in the high state. The printer updates the production schedule counter to prepare the message for Print Go number 3.
- When the Print Go signal number 3 occurs, the Secondary Trigger input is in the low state. The printer does *not* update the production schedule counter to prepare the message for Print Go number 4.

Gated Print Go Aux Low

The printer updates the sequence for the next message if the Secondary Trigger input is low.

Keyboard Trigger

If the **Repeat** option is set to 10, the printer prints the same message on every product until you generate a keyboard trigger signal 10 times. (To generate a keyboard trigger signal, press the [alt] key and the [T] key together.)

Timed Trigger

You can set this option to Daily, Weekly, Monthly, or Yearly. The printer updates the production schedule counter at the same time every day, every week, every month, or every year. The operation of the schedule is as follows.

- | | |
|--------|---|
| Daily | The schedule changes every day at the same time of day. If the Repeat option is set to 10, the printer prints the same message for 10 days, then changes to the next message. |
| Weekly | The schedule changes on the same day of every week, and at the same time of day. If the Repeat option is set to 5, the printer prints the same message for five weeks, then changes to the next message. |



- Monthly** The sequence changes on the same day of every month, and at the same time of day. If the **Repeat** option is set to 5, the printer prints the same message for five months, then changes to the next message.
- Yearly** The sequence changes on the same day of every year, and at the same time of day. If the **Repeat** option is set to 5, the printer prints the same message for five years, then changes to the next message.

If you use this type of trigger, the printer displays additional options that you must set. These additional options are described below.

Time

If you set the **Timed Trigger** option to "Daily" or "Weekly" or "Monthly", use this option to set the time of day at which the trigger occurs.

Day of Week

If you set the **Timed Trigger** option to "Weekly", use this option to set the day of the week and the time of day for the trigger.

Day of Month

If you set the **Timed Trigger** option to "Monthly" or "Yearly", use this option to set the day of the month for the trigger. The range of values allowed for the day of the month is 1 to 31, or "End Of Month".

NOTE: If a month does not include the day you set for the monthly trigger, the trigger does not occur in that month. For example, if you set **Day of Month** to 31, the trigger does not occur in February, April, June, September, and November.

Month

If you set the **Timed Trigger** option to "Yearly", use this option to set the month of the year for the trigger.

Every Print

The printer updates the production schedule counter at every print.

Every Second

The printer updates the production schedule counter every second. If the **Repeat** option is set to 10, the printer prints the same message on every product that passes the printhead within 10 seconds. (The number of products is not defined.)

Time Interval Trigger

The printer begins the schedule at the Start Time that you set. The Time Interval that you set defines the times at which the printer updates the production schedule counter.



You can set any Start Time between 00:00:00 and 23:59:00. You can set any Time Interval from 00:01:00 until 23:59:00. If you set a Time Interval of 00:00:00, the printer uses 00:01:00 for the Time Interval.

NOTE: If you start the print before or after the Start Time, the printer adjusts the schedule position for the Current Message. This adjustment sets the schedule to the correct position for the current date and time.

No Trigger

The schedule counter is disabled and the printer always prints the first item.

3.3.2 Reset Trigger

You can use a trigger signal to reset the schedule to the start before the schedule is complete. Use the **Reset Trigger** option to define the type of trigger signal that you use to reset the schedule.

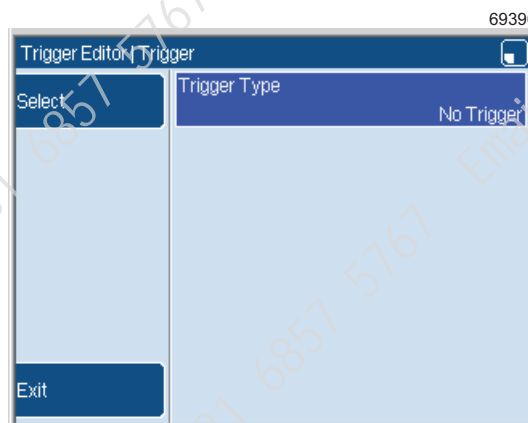


Figure 21. Trigger Editor page: No Trigger

Select the **Trigger Type** option to display a list of the trigger signals that are available.

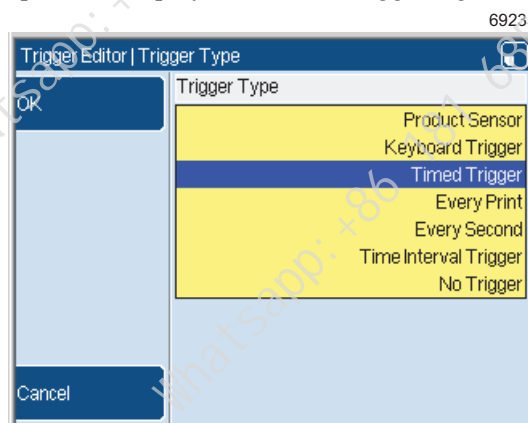


Figure 22. Trigger Type page

You can use any of the following trigger types:



Product Sensor

The printer resets the schedule when a signal is received from the product sensor. If you use this type of trigger, the printer displays an additional option.

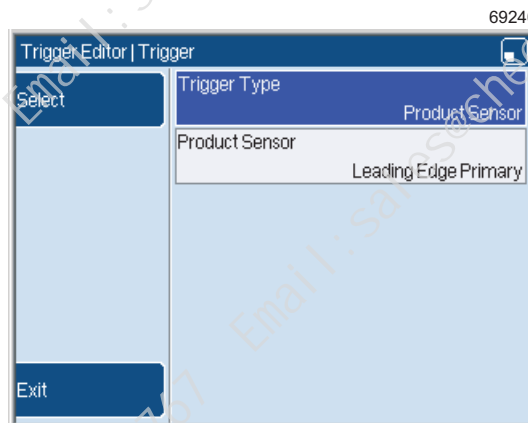


Figure 23. Trigger Editor page: Product Sensor

Product Sensor

Use the **Product Sensor** option to select the product sensor setup that you use.

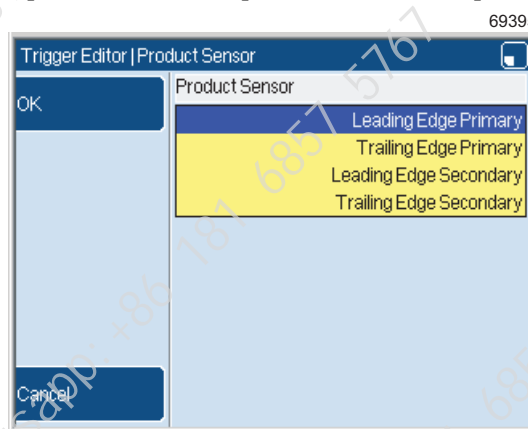


Figure 24. Product Sensor page

Leading Edge Primary

The printer resets the schedule when the primary product sensor detects the leading edge of a product.

Trailing Edge Primary

The printer resets the schedule when the primary product sensor detects the trailing edge of the product.

Leading Edge Secondary

The printer resets the schedule when the secondary product sensor detects the leading edge of a product.



Trailing Edge Secondary

The printer resets the schedule when the secondary product sensor detects the trailing edge of the product.

Keyboard Trigger

The printer resets the schedule when you generate a keyboard trigger. (To generate a keyboard trigger signal, press the [alt] key and the [T] key together.)

Timed Trigger

You can set this option to Daily, Weekly, Monthly, or Yearly. The printer resets the schedule at the same time every day, every week, every month, or every year.

The **Timed Trigger** settings for the **Reset Trigger** option are like the **Timed Trigger** settings for the **Next Trigger** option. Refer to 'Timed Trigger' on page 17 for a description of these settings.

Every Print

The printer resets the schedule at every print. The schedule does not move forward.

Every Second

The printer resets the schedule every second.

Time Interval Trigger

The printer resets the schedule at the Start Time that you set. The Time Interval that you set defines the times at which the printer resets the schedule again.

You can set any Start Time between 00:00:00 and 23:59:00. You can set any Time Interval from 00:01:00 until 23:59:00. If you set a Time Interval of 00:00:00, the printer uses 00:01:00 for the Time Interval.

No Trigger

The schedule is not reset—the printer always prints the whole schedule.



4 Applications

The following example shows how you can use a production schedule with a secondary trigger device to find a solution for a problem. The information in this section is not detailed — refer to the other 'How To...' guides if necessary.

4.1 Application example

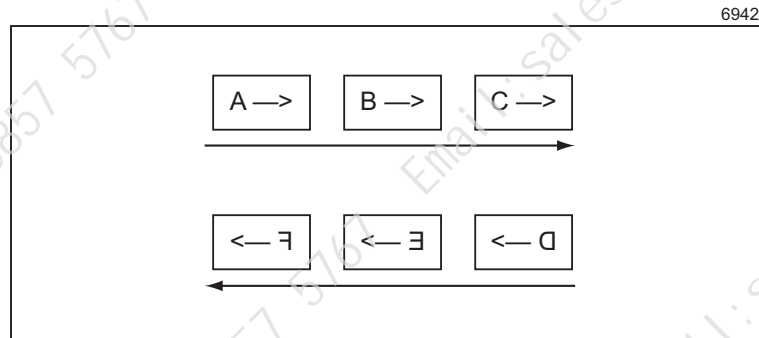


Figure 25. Application example

In this application, the printhead prints the three items A, B, and C. Then the printhead direction reverses and the printer prints the three items D, E, and F with reversed orientation.

The secondary trigger device performs the following functions:

- Select the message that is printed.
- Select the orientation of each message.
- Reset a text sequence within each message.

The state of the input signal for the Secondary Trigger depends on the printhead direction. The input signal is active for the items A, B, and C, and inactive for the items D, E, and F.

4.1.1 Setup

Text sequences

Create two text sequences S1 and S2.

- The sequence S1 contains the three items "A", "B", and "C".

The **Reset Trigger** option is set to Product Sensor and Trailing Edge Secondary.

- The sequence S2 contains the three items "D", "E", and "F".

The **Reset Trigger** option is set to Product Sensor and Leading Edge Secondary.

For each text sequence, set the **Repeat** option to 1 and the **Next Trigger** option to Every Print.



Message setup

Create two messages M1 and M2.

- Message M1 contains the text sequence S1.
- Message M2 contains the text sequence S2.

For both messages, set the options in the **Line Setup** and **Print Settings** pages as required. Make sure that the printer prints the messages correctly.

Production schedule setup

Create a production schedule that contains the messages M1 and M2.

At the **Production Schedule Editor** page:

- Press the **Reset Trigger** key and set the **Trigger Type** option to No Trigger.

At the **Production Schedule Editor** > **Status** page:

- For both messages, set the **Dictate Orientations** option to Yes.
- For both messages, set the **Aux-P/C Switches** option to Yes.

At the **Production Schedule Editor** page, press the **Edit** key to display the **Edit Item** page, and set the following options:

- For schedule position 1 (message M1), set the **Orientation** option to Normal.
- For schedule position 2 (message M2), set the **Orientation** option to Horizontal Flip.
- For both messages, set the **Repeat** option to 3.
- For both messages, set the **Next Trigger** option to Every Print.

Save the completed production schedule. To print the production schedule, select the schedule from the Message Store.

This example can fail if you change any of the settings. For example you cannot change the order of the messages M1 and M2 because the trigger setup is different for each text sequence. The trigger setup for the production schedule depends on these settings.