

Addendum - Black Mark / Q-mark Specifications

Q-mark Specifications

About this document

This document describes Q-mark Specifications for both Front & Back Mark Sensing.

Introduction

Exttech Andes printers have provided both front & back mark sensors. Each has its own independent command control process. A user may send a command to detect Front or back black mark.

Legacy Command Structure [Front Sensor Only]

The printer paper out sensor is used to sense the Front Black Mark position. The legacy commands apply only to the Front Sensor.

Below are the legacy Front Q-Mark detection commands:

Black Mark Command	Command String	Description
Reverse Dot Feed	<ESC> <'Q'> <'J'> <n>	Perform <n> reverse dot line feeds, 0.125mm each.
Out of Paper Sensitivity	<ESC> <'Q'> <'Q'> <n>	On paper detect fail, postpone the paper out error response for <n> 0.125mm dot lines before flagging a paper out error.
Forward Black Mark Seek	<ESC> <'Q'> <'F'> <m>	Seek black mark using forward feed until <m> dot line feeds have been processed, each dot line feed 0.250mm.
Reverse Black Mark Seek	<ESC> <'Q'> <'B'> <m>	Seek black mark using backward feed until <m> dot line feeds have been processed, each dot line feed 0.250mm.
Printer Black Mark Response: Paper Found	<ESC> <'Q'> <0x3F> <0x3F> <n1> <n2>	<i>n1</i> and <i>n2</i> are the high and the low nibble, respectively, describing how many (0.25mm) dot lines were required to find black mark.
Printer Black Mark Response: Paper Not Found	<ESC> <'Q'> <0x30> <0x30> <n1> <n2>	<i>n1</i> and <i>n2</i> are the high and the low nibble, respectively, describing how many (0.25mm) dot lines were processed before reporting black mark status.
Notes: <n> Total number of 0.125mm dot lines, 0x00 through 0xFF. <m> Total number of 0.250mm dot lines, 0x00 through 0xFF. <i>n1</i> and <i>n2</i> The total number of 0.125mm dot lines processed, while seeking the black mark. <i>n1</i> holds the high four bits (0x30 + 4 high bits). <i>n2</i> holds the low four bits (0x30 + 4 low bits). <i>n1</i> and <i>n2</i> can have values 0x30 through 0x3f.		

Table 1.0 – Legacy Front Black Mark Printer Commands

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Front/Back Q-Mark Command Structure [Extended Command]

The **Front/Back** Q-Mark command structure can be used to detect both the Front & Back Q-Mark.

The **Front/Back** Q-Mark commands will work in TWO modes:

- Command Mode
- Automatic Mode

➤ **Command Mode**

It is not possible to enable both back & front sensors to detect a Q-mark. The user may enable only one sensor at a time, and may disable both sensors as well.

NOTES:

- The BACK sensor Q-mark parking is enabled by default on power up.
 - Whenever a sensor is selected, the default sensitivity will be set to a value of 40.
 - Table (1) commands are used for command mode Q-mark detection for both back/front sensors.
- **Command Mode Control**
- To enable the FRONT Q-mark park, the user needs to send the command:
<ESC><'Q'><'1'><'e'><CR>
NOTE: the command above automatically disables the BACK sensor
 - To enable the BACK Q-mark park, the user needs to send the command:
<ESC><'Q'><'2'><'e'><CR>
NOTE: the command above automatically disables the FRONT sensor
 - To disable the FRONT Q-mark park, the user needs to send the command:
<ESC><'Q'><'1'><'d'><CR>
 - To disable the BACK Q-mark park, the user needs to send the command:
<ESC><'Q'><'2'><'d'><CR>

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➤ Auto Back Mark Detect Mode

In this mode, the printer will wait for the user to press the FEED button or receiving Form Feed control character (^L). The printer will feed the paper (X) inches searching for the back Q-Mark. When the Q-mark is found, the printer will park on it waiting for user data. If the Q-mark is not found after certain amount of paper length specified by a user command, the printer motor stops, waiting for another FEED button press or data to be printed.

NOTES:

- The printer will default to Auto Back Mark Detect mode on power up.
- The user can set the Front/Back sensor sensitivity while in Auto Mode.
- The user can use Command Mode commands at any time.

➤ Auto Mode Control

The same commands for enabling & disabling Command Mode, are applied to Auto Mode. See below:

- To enable the FRONT Q-mark park, the user needs to send the command:
<ESC><'Q'><'1'><'e'><CR>

NOTE: the command above automatically disables the BACK sensor

- To enable the BACK Q-mark park, the user needs to send the command:
<ESC><'Q'><'2'><'e'><CR>

NOTE: the command above automatically disables the FRONT sensor

- To disable the FRONT Q-mark park, the user needs to send the command:
<ESC><'Q'><'1'><'d'><CR>

- To disable the BACK Q-mark park, the user needs to send the command:
<ESC><'Q'><'2'><'d'><CR>

➤ Form Feed Setup

<ESC> <'Q'> <'L'> <Length>

<Length>: How many "inches" to feed paper looking for Q-mark.

Dots are not allowed in this command.

This parameter ranges from (0x00 to 0xFF)

Example: <Length> = 0x0A means 10 inches

Minimum Value = 0x03 [3 inches]

Maximum Value = 0x12 [12 inches]

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➤ Label Delta Adjust Setup

<ESC> <'Q'> <'D'> <Direction> <Length>

<Direction>: either '+' for Forward Feed or '-' for Reverse Feed.

<Length> : how many inches or dots to feed paper after finding Q-mark.

Note:

- Maximum of 4060 dots can be selected for adjusting the label after finding the Q-mark.

Command	Function
<ESC> <'Q'> <'L'> <'+'> <"600">	Forward feed paper 600 dots
<ESC> <'Q'> <'L'> <'-'> <"600">	Reverse feed paper 600 dots

➤ Status Commands

- Toggle Reporting Q-mark mark location. (enabled by default)
<ESC> <'Q'> <'R'>

➤ Operation Commands

- Printing Contrast Control Command
<ESC> <'P'> <n>
 <n> : '0' (high contrast) to '9' (low contrast)
- Form Feed Command or FEED Button
This command searches for a Q-Mark with (X) dots or inches.
<CTRL><'L'>

➤ Front/Back Sensor Test

- To test the successful operation of the Front/Back Sensors on the printer, the user needs to send the command:
<ESC> <'Q'> <'T'> <CR>

Then, the following LEDS will be used to indicate the operation of the sensors:

D13 [GREEN LED] = OFF Back Sensor OFF

D13 [GREEN LED] = ON Back Sensor ON

D10 [RED LED] = OFF Front Sensor OFF

D10 [RED LED] = ON Front Sensor ON

- To Disable Sensor Testing, the user can send the same command used to enable the Test.
<ESC> <'Q'> <'T'> <CR>