This KM explains how to calibrate a Zebra printer.

End User Solution

The ICBS Zebra Z4M+ and ZM400+ label printers are supposed to automatically calibrate themselves when labels are changed. When the calibration settings are not setup properly this may not take place.

The settings for Media Power up and HEAD CLOSE should say "Calibration". When they say "NO MOTION" or something else, this prevents the automatic calibration process and may result in labels not fully printing.

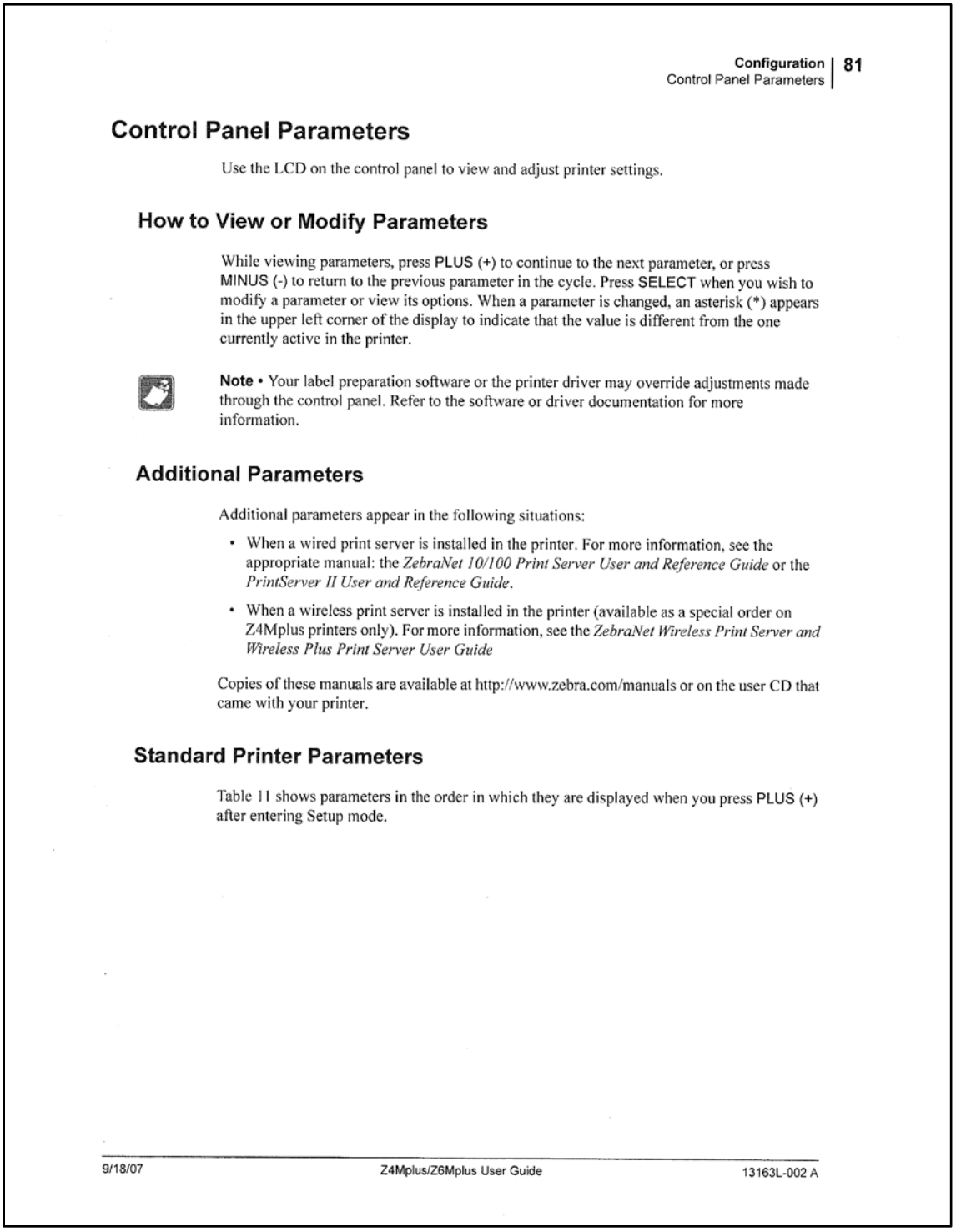
There are two label printer models currently in use in the caches: Zebra Z4M+ and ZM400+. There are some slight differences in the configuration settings and menus for these two printers. When each printer was installed at a cache, the ICBS-R Implementation Team should have printed out a copy of the desired configuration and asked the cache to keep it near the printer for reference.

Configuring the Zebra ZM4+ Label Printer

These configuration settings for the ZM4+ Zebra printer are taken from the Zebra Z4M+ users' manual. The user's manual is found in the ICBSR QUICKR Team Room, under "Printers and Labels." The URL for the ICBSR Team Room is: https://fsplaces.fs.fed.us/LotusQuickr/firepm/PageLibrary85256F02007B99BF.nsf/$defaultview/F35DCFC1741E98B5852573DF006F24FD/$File/79695L-001rA_EN%5B1%5D%20Zebra%20ZM400%20User%20Guide.pdf?OpenElement.

Figure 1 (page 81) of the manual describes how to view and modify parameters and Figure 2 (page 82) is an example of how to set/adjust the darkness level of the printer. The set/adjust description is basically the same process for each parameter.

Figure 1: Viewing and Modifying Parameters - ZM4+ Zebra printer



Control Panel Parameters

Use the LCD on the control panel to view and adjust printer settings.

How to View or Modify Parameters

While viewing parameters, press PLUS (+) to continue to the next parameter, or press MINUS (-) to return to the previous parameter in the cycle. Press SELECT when you wish to modify a parameter or view its options. When a parameter is changed, an asterisk (*) appears in the upper left corner of the display to indicate that the value is different from the one currently active in the printer.

Note • Your label preparation software or the printer driver may override adjustments made through the control panel. Refer to the software or driver documentation for more information.

Additional Parameters

Additional parameters appear in the following situations:

- When a wired print server is installed in the printer. For more information, see the appropriate manual: the *ZebraNet 10/100 Print Server User and Reference Guide* or the *PrintServer II User and Reference Guide*.
- When a wireless print server is installed in the printer (available as a special order on Z4Mplus printers only). For more information, see the *ZebraNet Wireless Print Server and Wireless Plus Print Server User Guide*

Copies of these manuals are available at http://www.zebra.com/manuals or on the user CD that came with your printer.

Standard Printer Parameters

Table 11 shows parameters in the order in which they are displayed when you press PLUS (+) after entering Setup mode.

Figure 2: Set/adjust the Darkness Level of the Printer - ZM4+ Zebra Printer

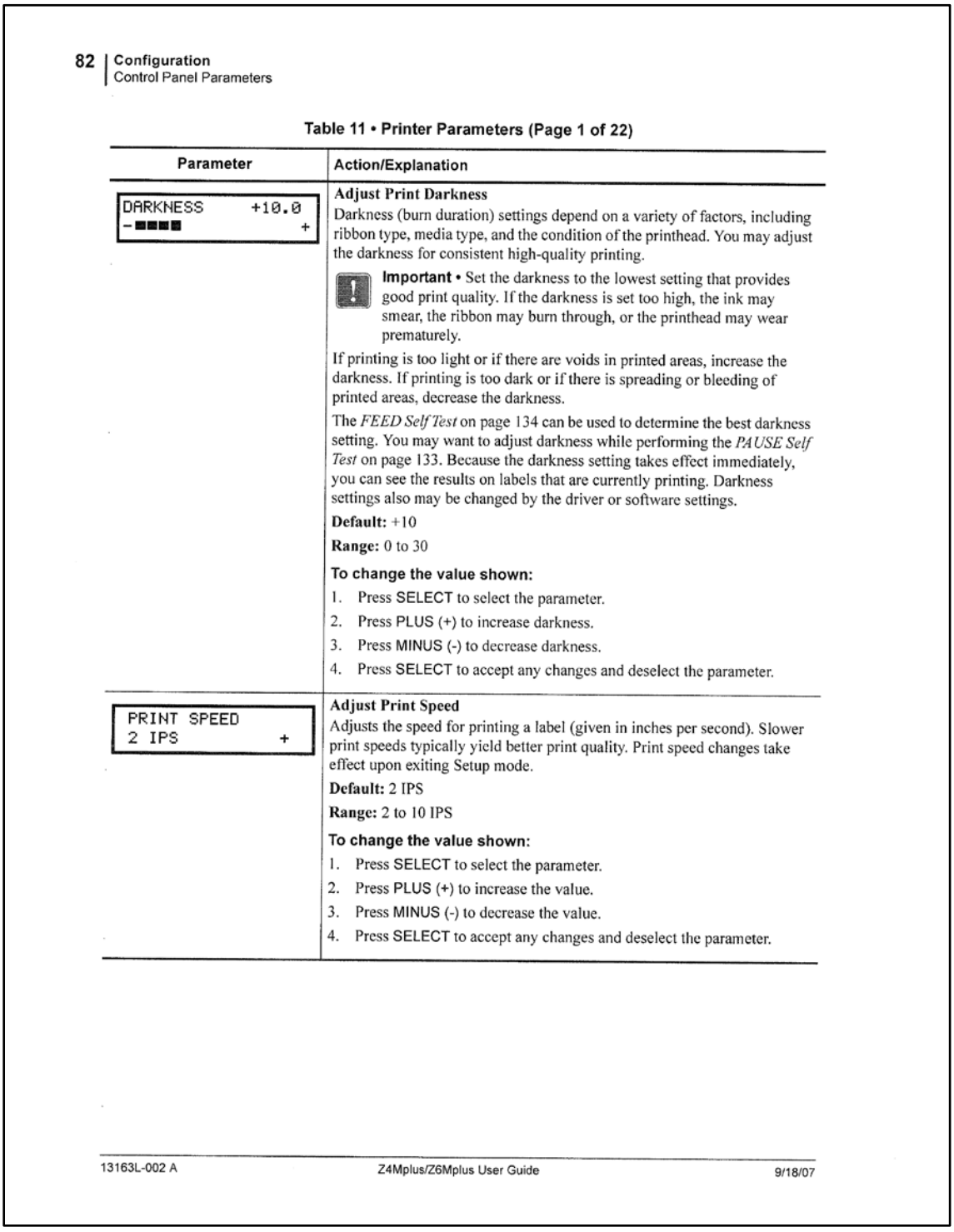


Table 11 • Printer Parameters (Page 1 of 22)

Parameter	Action/Explanation
DARKNESS +10.0 - ■■■■ +	**Adjust Print Darkness** Darkness (burn duration) settings depend on a variety of factors, including ribbon type, media type, and the condition of the printhead. You may adjust the darkness for consistent high-quality printing. **Important** • Set the darkness to the lowest setting that provides good print quality. If the darkness is set too high, the ink may smear, the ribbon may burn through, or the printhead may wear prematurely. If printing is too light or if there are voids in printed areas, increase the darkness. If printing is too dark or if there is spreading or bleeding of printed areas, decrease the darkness. The *FEED Self Test* on page 134 can be used to determine the best darkness setting. You may want to adjust darkness while performing the *PAUSE Self Test* on page 133. Because the darkness setting takes effect immediately, you can see the results on labels that are currently printing. Darkness settings also may be changed by the driver or software settings. **Default:** +10 **Range:** 0 to 30 **To change the value shown:** 1. Press SELECT to select the parameter. 2. Press PLUS (+) to increase darkness. 3. Press MINUS (-) to decrease darkness. 4. Press SELECT to accept any changes and deselect the parameter.
PRINT SPEED 2 IPS +	**Adjust Print Speed** Adjusts the speed for printing a label (given in inches per second). Slower print speeds typically yield better print quality. Print speed changes take effect upon exiting Setup mode. **Default:** 2 IPS **Range:** 2 to 10 IPS **To change the value shown:** 1. Press SELECT to select the parameter. 2. Press PLUS (+) to increase the value. 3. Press MINUS (-) to decrease the value. 4. Press SELECT to accept any changes and deselect the parameter.

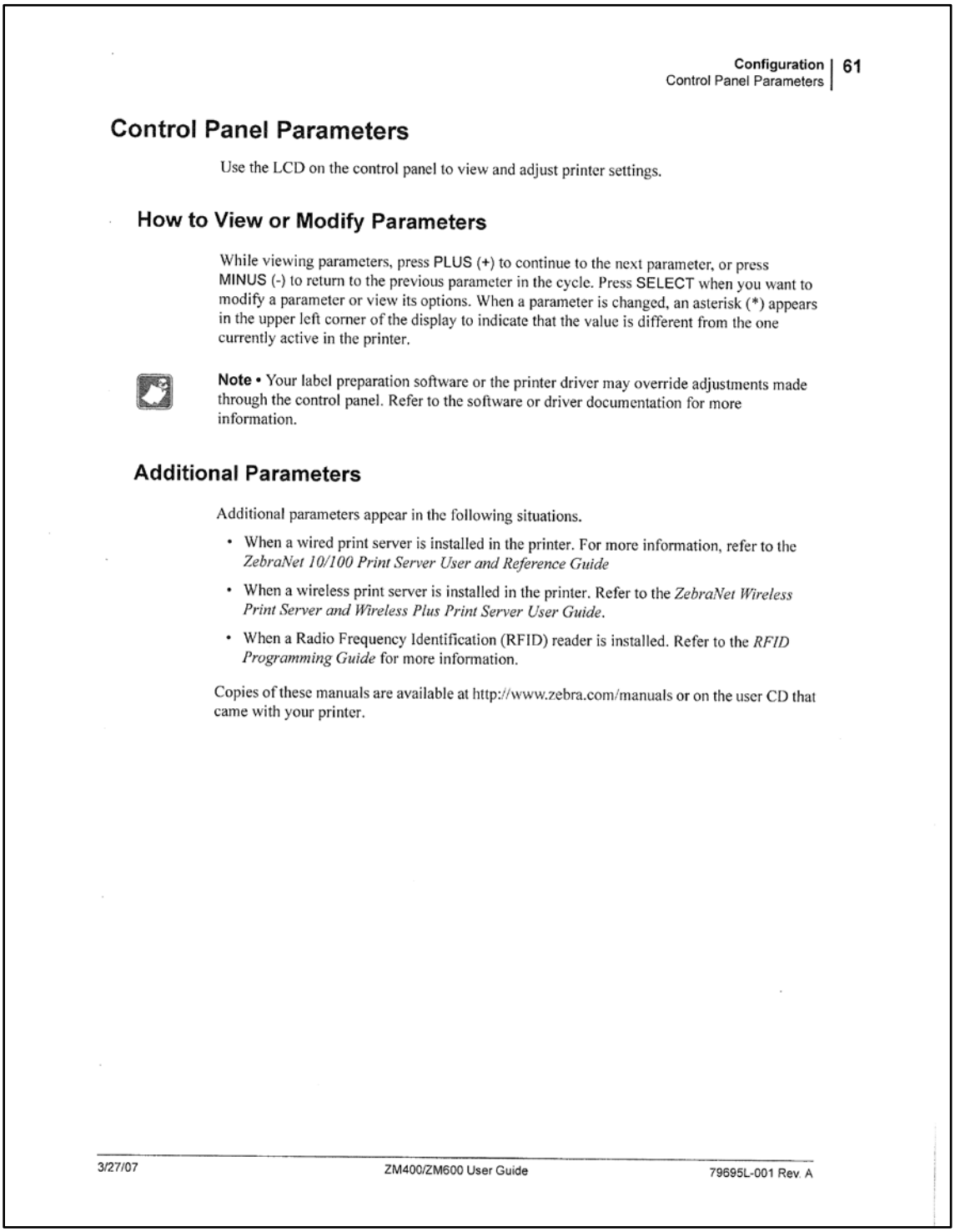
Configuring the Zebra ZM400 label Printer

The description for the configuration settings is for the ZM400 Zebra printer and is taken from the Zebra ZM400 users' manual.

Figure 3 (page 65) of the manual describes how to view and modify parameters, and Figure 4 (page 66) is an example of how to set/adjust the darkness level of the printer. The set/adjust description is basically the same process for each parameter.

If you cannot get the printer to successfully produce labels, contact the Interagency Helpdesk at 866.224.7677 for further assistance.

Figure 3: View and Modify Parameters - ZM400 Zebra printer



Control Panel Parameters

Use the LCD on the control panel to view and adjust printer settings.

How to View or Modify Parameters

While viewing parameters, press PLUS (+) to continue to the next parameter, or press MINUS (-) to return to the previous parameter in the cycle. Press SELECT when you want to modify a parameter or view its options. When a parameter is changed, an asterisk (*) appears in the upper left corner of the display to indicate that the value is different from the one currently active in the printer.

Note • Your label preparation software or the printer driver may override adjustments made through the control panel. Refer to the software or driver documentation for more information.

Additional Parameters

Additional parameters appear in the following situations.

- When a wired print server is installed in the printer. For more information, refer to the *ZebraNet 10/100 Print Server User and Reference Guide*
- When a wireless print server is installed in the printer. Refer to the *ZebraNet Wireless Print Server and Wireless Plus Print Server User Guide*.
- When a Radio Frequency Identification (RFID) reader is installed. Refer to the *RFID Programming Guide* for more information.

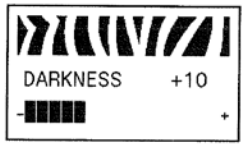
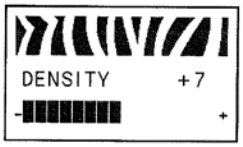
Copies of these manuals are available at http://www.zebra.com/manuals or on the user CD that came with your printer.

Figure 4: Set/adjust the Darkness Level of the Printer - ZM400 Zebra printer

Standard Printer Parameters

Table 12 shows parameters in the order in which they are displayed when you press PLUS (+) after entering Setup mode.

Table 12 • Printer Parameters (Page 1 of 24)

Parameter	Action/Explanation
ZPL and XML  **EPL** 	**Adjust Print Darkness** Darkness (burn duration) settings depend on a variety of factors, including ribbon type, media type, and the condition of the printhead. You may adjust the darkness for consistent high-quality printing. **Important** • Set the darkness to the lowest setting that provides good print quality. If the darkness is set too high, the ink may smear, the ribbon may burn through, or the printhead may wear prematurely. If printing is too light or if there are voids in printed areas, increase the darkness. If printing is too dark or if there is spreading or bleeding of printed areas, decrease the darkness. The *FEED Self Test* on page 116 can be used to determine the best darkness setting. You may want to adjust darkness while performing the *PAUSE Self Test* on page 115. Because the darkness setting takes effect immediately, you can see the results on labels that are currently printing. Darkness settings also may be changed by the driver or software settings. *Default Value (ZPL, XML):* +10 *Range (ZPL, XML):* 00 to +30 *Default Value (EPL):* +7 *Range (EPL):* 00 to +15 **To change the value shown:** 1. Press SELECT to select the parameter. 2. Press PLUS (+) to increase darkness. 3. Press MINUS (-) to decrease darkness. 4. Press SELECT to accept any changes and deselect the parameter.

Helpdesk Solution

The Zebra Z4M+ user's manual can be found in the ICBSR QUICKR Team Room under "Printers and Labels". Please see KM 32800 for information on how to access the Team Room.

If a user is unable to get the printer to successfully produce labels, the ticket Zebra label printing issues are typically referred to SMEs Cameron Hughes or Sean Phelan, and then escalated to a member of the ICBS-R O&M Team.

Reviewed/updated 12/18/2013 Andy Gray