Restoring Lost IP Address Settings and Configurations to Zebra Printers

This documentation explains how to diagnose and resolve the problem of a cache Zebra label printer losing its IP address setting.

When each cache Zebra printer was first installed on a FS or BLM network, an ICBS-R Team Member, cache employee or agency network specialist configured the printer by entering and saving a number of settings on the printer using the printer keypad.

One crucial setting is the IP address. Each networked printer is assigned a unique IP address, which is how it communicates with the agency network it's connected to. For some reason, Zebra printers will sometimes lose their IP address setting. When this occurs, most people will automatically assume there is a problem with the network. This is a reasonable assumption, but it's not always the case.

To Diagnose Lost IP Address Settings and Configurations to Zebra Label Printers:

When print capability is lost, first check the back of the Zebra printer. If you see a blinking green light, then the network connectivity is fine. If it is blinking any other color, generally red or yellow, there is a problem with the network. If this is the case, the appropriate agency helpdesk or network specialist must be notified for assistance (please see "Agency Helpdesk/Network Specialist Contact Information" at the end of this document).

If the light is blinking green and the printer is not printing, then there is some sort of configuration problem. The most common configuration problem is that the IP address setting has been lost.

To Check Configuration Settings:

The easy fix for this is, if you previously printed out the "List Network" and "List Setup," from the printer and have that available, is to go into the Zebra printer menu and (using the print-outs as your guide) check to see that the settings in the Zebra printer match the print-out settings.

Pay particular attention to the menu options titled:

Figure 1: Menu Options

Setting	Desired Value	Notes
IP Protocol	Permanent	Needs to be set to Permanent to permanently retain the IP address after it's been entered

Setting	Desired Value	Notes
Head Close	Calibration	
Media Power Up	Calibration	
Communications	Normal Mode	
Protocol	None	This is not the IP Protocol
Media Type	Gap/Notch, Tear Off, Continuous, etc.	This depends on the type of label you're using
Print Method	Direct Thermal or Thermal Transfer	This depends on the type of label you're using

If you did **not** print out the printer configurations before the printer quit working, the configuration settings are lost. At this point, determine if your printer is a Zebra ZM4+ or if it is a ZM400. Although the menu options are virtually the same, they are in a sequentially different order. Contact someone at another cache that has the same printer as yours, and either have them fax or email a copy of their printer configurations.

Another option is, via a phone call, have someone that has the printout for your same model printer, read off the settings they have on their printer, as you check each setting on your printer.

To Check Default Gateway, Subnet Mask and IP Address Settings:

We've now checked the settings and have changed those that needed to be restored to their defaults. The next step is to check the "Default Gateway," "Subnet Mask" (sometimes referred to as "Netmask") and "IP Address" Setting. Note that the Default Gateway and the Subnet Mask number strings are *usually* (but not always) the same for all networked printers at a given cache, so it's *usually* only the IP Address that is different for each respective printer. Here are some **sample** values:

- Default Gateway: 199.131.248.1
- Subnet Mask: 255.255.255.0
- IP Address: 199.131.248.10

If the values entered in your Zebra printer no longer match the values assigned by an agency network specialist, the correct settings will need to be reentered

(note: if your printer loses these values, it will usually return to its factory defaults of 000.000.000.000 or 255.255.255.000 for these settings).

Each cache should have a document containing the Default Gateway, Subnet Mask and IP address assigned to each networked printer at their cache. On the Zebra configuration print-outs mentioned earlier, these values are listed on the "List Network" printout.

If you don't have this information at hand, contact the ICBS Helpdesk and they will contact an ICBS-R Team Member who can look up the information for you. They will need to know which printer you're having problems with (e.g. idcdk_zebra_ship_01; LMFCOP2E241ZZ1; etc.). You can also open a help ticket with the FS or BLM (depending on which agency provides your network), and they can provide this information to you.

Once you've obtained the correct Default Gateway, Subnet Mask and IP Address for your nonfunctioning printer, reenter the correct string of numbers for each; pressing the Set-up/Exit button on the printer to save the changes for each. If you are unsure of how to enter/change the Default Gateway, Subnet Mask and IP address please contact the ICBS Helpdesk, which can direct you to an ICBS-R SME for assistance.

Finally, go back through the menu to ensure that all the changes you have made to the settings have been saved and are correct. If all corrections have been entered properly and saved each time, your printer should now be back on line.

To Make a Print-Out With the Correct Settings:

After restoring all the default values and restoring your printer to service, remember to print a copy of the **"LIST NETWORK"** and **"LIST SETUP,"** and keep it near the printer for future reference.

Zebra Printer Users Guides:

For additional information on ZM400 Zebra printer configuration, setup and producing configuration print-outs, a user can go to the Zebra.com corporate website and view the:

- [Z/ZR Series Printer Quick Reference Guide](#)

- [User Guide](#)

Agency Helpdesk/Network Specialist Contact Information:

Forest Service Customer Help Desk (CHD) at: 1-866-945-1354

BLM Customer Help Desk at: 1-800-BLM-HELP (1-800-256-4357)

Two sources for **local** BLM network and printer trouble-shooting:

a. For GBK: BLM NIFC Local Helpdesk: 208-387-5734; Roger Christopher: 208-387-5501 / c: 208-789-1691

b. For AKK: AFS IT Trouble Line: 907-356-5588

Additional Notes for GBK trouble-shooting: GBK's Local (BLM NIFC) Helpdesk will handle tickets for GBK printer problems locally. If the ICBS Helpdesk determines that a GBK printer issue is likely due to a network or printer configuration problem, the user should be advised to contact the Local Helpdesk for assistance. Likewise, if the Local Helpdesk determines that the issue is a system problem and not a problem with the network or printer, they will refer the user to the ICBS Helpdesk.

Additional Notes for AKK trouble-shooting: The local (BLM Alaska Fire Service) IT Trouble Line staff will handle tickets for AKK printer problems locally. If the ICBS Helpdesk determines that an AKK printer issue is likely due to a network or printer configuration problem, the user should be advised to contact the IT Trouble Line for assistance. Likewise, if the IT Trouble Line staff determines that the issue is a system problem and not a problem with the network or printer, they will refer the user to the ICBS Helpdesk.

IIA ("ICBS") Helpdesk contact Information:

1-866-224-7677

http://www.interagencyhelpdesk.com/

helpdesk@dms.nwcg.gov

Printing a Configuration Label and Network Configuration Label Directions on a Zebra Z4M+ Printer

The Zebra label printer parameters shown below are taken from the user's manual. These settings are the factory default settings, and will vary somewhat from the settings for each particular machine. For example, on the parameter "TEAR OFF" the optimum setting for a particular machine may be (+) or (-) 3 or 4, print width should be set at "1248," and the parameter for label length should be set at "1220-1225."

With each change out of labels, the user needs to ensure the printer is set up for Thermal Transfer labels (ribbon) or Direct Thermal labels (no ribbon). The remainder of the settings for both the Z4M+ and ZM400 look to be on the correct settings in the examples given.

Reviewed/updated 12/18/2013 Andy Gray

Figure 2: Printing a Configuration Label for the Zebra Z4M+ Printer

Print a Configuration Label

A configuration label lists the printer settings that are stored in configuration memory. After you load the media and ribbon (if necessary), print a configuration label as a record of your printer's current settings. Keep the label to use when troubleshooting printing problems.

To print a configuration label, complete these steps:

1. On the control panel, press SETUP/EXIT.

2. Press NEXT or PREVIOUS to scroll through the parameters until you reach LIST SETUP.

3. Press the right oval to confirm printing.

   A configuration label prints (Figure 24).

Figure 24 • Configuration Label

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        PRINTER CONFIGURATION

Zebra Technologies
ZTC Z4MPlus-200 dpi

+19................ DARKNESS
2 IPS.............. PRINT SPEED
+000............... TEAR OFF
TEAR OFF........... PRINT MODE
NON-CONTINUOUS..... MEDIA TYPE
WEB................ SENSOR TYPE
AUTO SELECT........ SENSOR SELECT
THERMAL-TRANS...... PRINT METHOD
062 4/8 MM......... PRINT WIDTH
1220............... LABEL LENGTH
39.0IN   988MM..... MAXIMUM LENGTH
BIDIRECTIONAL...... PARALLEL COMM.
RS232.............. SERIAL COMM.
9600............... BAUD
8 BITS............. DATA BITS
NONE............... PARITY
XON/XOFF........... HOST HANDSHAKE
NONE............... PROTOCOL
000................ NETWORK ID
NORMAL MODE........ COMMUNICATIONS
<~>  7EH........... CONTROL PREFIX
<^>  5EH........... FORMAT PREFIX
<,>  2CH........... DELIMITER CHAR
ZPL II............. ZPL MODE
CALIBRATION........ MEDIA POWER UP
CALIBRATION........ HEAD CLOSE
DEFAULT............ BACKFEED
+000............... LABEL TOP
+0000.............. LEFT POSITION
020................ WEB S.
068................ MEDIA S.
072................ RIBBON S.
100................ TAKE LABEL
035................ MEDIA LED
119................ RIBBON LED
+10................ LCD ADJUST
DPSWFXM............ MODES ENABLED
................... MODES DISABLED
832 8/MM FULL...... RESOLUTION
V60.13.0.9 <-...... FIRMWARE
V30 79087 57....... HARDWARE ID
CUSTOMIZED......... CONFIGURATION
NONE.............A: COMPACT FLASH
3584k............R: RAM
NONE.............B: MEMORY CARD
2048k............E: ONBOARD FLASH
NONE............... FORMAT CONVERT
*** UNKNOWN........ P30 INTERFACE
NONE............... OPTION
FW VERSION......... IDLE DISPLAY
12/14/04........... RTC DATE
16:18.............. RTC TIME
SELECTED ITEMS..... PASSWORD LEVEL
GL 45591.04MS050212.79000.04.VH2....

FIRMWARE IN THIS PRINTER IS COPYRIGHTED
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Printing Configuration Label and Network Configuration Label Directions
on a Zebra ZM400 Printer

Figure 3: Print a Configuration Label for the Zebra ZM400 Printer

Print a Configuration Label

A configuration label lists the printer settings that are stored in configuration memory. After you load the media, print a configuration label as a record of your printer's current settings. Keep the label to use when troubleshooting printing problems.

To print a configuration label, complete these steps:

1. On the control panel, press SETUP/EXIT.

2. Press or to scroll through the parameters until you reach LIST SETUP.

3. Press SELECT to select the parameter.

4. Press PLUS (+) to confirm printing.

   A configuration label prints (Figure 11).

Figure 11 • Configuration Label

Figure 4: Print a Network Configuration Label

Print a Network Configuration Label

If you are using a print server, you can print a network configuration label after the printer is connected to the network.

To print a network configuration label, complete these steps:

1. On the control panel, press SETUP/EXIT.

2. Press PLUS (+) or MINUS (-) to scroll through the parameters until you reach LIST NETWORK.

3. Press SELECT to select the parameter.

4. Press PLUS (+) to confirm printing.

   A network configuration label prints (Figure 12). An asterisk designates whether the wired or wireless print server is active. If no wireless print server is installed, the wireless portion of the label does not print.

Figure 12 • Network Configuration Label (With a Wireless Print Server Installed)

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          Network Configuration

 Zebra Technologies
 ZTC ZM400-200dpi
 ZBR2034792

 0.0.0 *........... OPTION FIRMWARE
 Wired............. PRIMARY NETWORK
 NO................ LOAD FROM EXT?
 Internal Wired.... ACTIVE PRINTSRVR

 External Wired
 ALL............... IP PROTOCOL
 000.000.000.000... IP ADDRESS
 255.255.255.000... SUBNET MASK
 000.000.000.000... DEFAULT GATEWAY
 000.000.000.000... WINS SERVER IP
 YES............... TIMEOUT CHECKING
 300............... TIMEOUT VALUE
 000............... ARP INTERVAL
 9100.............. BASE RAW PORT

 Internal Wired*
 ALL............... IP PROTOCOL
 010.003.004.116... IP ADDRESS
 255.255.255.000... SUBNET MASK
 010.003.004.001... DEFAULT GATEWAY
 010.003.001.098... WINS SERVER IP
 YES............... TIMEOUT CHECKING
 300............... TIMEOUT VALUE
 000............... ARP INTERVAL
 9100.............. BASE RAW PORT

 Wireless
 ALL............... IP PROTOCOL
 000.000.000.000... IP ADDRESS
 255.255.255.000... SUBNET MASK
 000.000.000.000... DEFAULT GATEWAY
 000.000.000.000... WINS SERVER IP
 YES............... TIMEOUT CHECKING
 300............... TIMEOUT VALUE
 000............... ARP INTERVAL
 9100.............. BASE RAW PORT
 NO................ CARD INSERTED
 0000H............. CARD MFG ID
 0000H............. CARD PRODUCT ID
 000000000000...... MAC ADDRESS
 YES............... DRIVER INSTALLED
 INFRASTRUCTURE.... OPERATING MODE
 125............... ESSID
 100............... TX POWER
 ON................ 1 Mb/s
 ON................ 2 Mb/s
 ON................ 5.5 Mb/s
 ON................ 11 Mb/s
 11 Mb/s........... CURRENT TX RATE
 DIVERSITY......... RECEIVE ANTENNA
 DIVERSITY......... XMIT ANTENNA
 OPEN.............. WEP TYPE
 NONE.............. WLAN SECURITY
 1................. WEP INDEX
 020............... POOR SIGNAL
 LONG.............. PREAMBLE
 NO................ ASSOCIATED
 ON................ PULSE ENABLED
 15................ PULSE RATE
 OFF............... INTL MODE
 07FFH............. CHANNEL MASK

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