

ADVANCED DATA FORMATTING (ADF) PROGRAMMER GUIDE

ADVANCED DATA FORMATTING PROGRAMMER GUIDE

72E-69680-03

Rev. A

April 2011

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Warranty

For the complete Motorola hardware product warranty statement, go to: http://www.motorola.com/enterprisemobility/warranty.

Revision History

Changes to the original manual are listed below:

Change	Date	Description
-01 Rev. A	10/2004	Initial release
-01 Rev. B	5/2006	Correct rule setup instruction
-02 Rev. A	4/2009	Motorola rebranding, add beeper indications, add new imager-supported symbology bar codes, add specific string search and new move cursor options bar codes
-03 Rev. A	4/2011	Add Korean 3 of 5, RFID, and Parsed Driver's License code type criteria bar codes

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ABOUT THIS GUIDE

Introduction

The Advanced Data Formatting Guide provides bar codes that allow advanced programming of a Motorola scanner, and instructions for using them.

Chapter Descriptions

- Chapter 1, Advanced Data Formatting (ADF) describes how to customize scanned data before transmitting to the host.
- Chapter 2, ADF Bar Codes contains the bar codes for advanced data formatting.

Notational Conventions

The following conventions are used in this document:

- Bullets (•) indicate:
 - · action items
 - · lists of alternatives
 - · lists of required steps that are not necessarily sequential.
- Sequential lists (e.g., those that describe step-by-step procedures) appear as numbered lists.



NOTE This symbol indicates something of special interest or importance to the reader. Failure to read the note will not result in physical harm to the reader, equipment or data.



CAUTION This symbol indicates that if this information is ignored, the possibility of data or material damage may

Related Documents

The Quick Reference Guide and Product Reference Guide for Motorola scanners provide general information to help get started and use the scanner. They include basic set up, connection, and operation instructions.

For the latest version of this guide and all Motorola guides, go to: http://supportcentral.motorola.com.

Service Information

If you have a problem with your equipment, contact Motorola Solutions support for your region. Contact information is available at: http://supportcentral.motorola.com.

When contacting Motorola Solutions support, please have the following information available:

- · Serial number of the unit
- Model number or product name
- Software type and version number

Motorola responds to calls by e-mail, telephone or fax within the time limits set forth in service agreements.

If your problem cannot be solved by Motorola Solutions support, you may need to return your equipment for servicing and will be given specific directions. Motorola is not responsible for any damages incurred during shipment if the approved shipping container is not used. Shipping the units improperly can possibly void the warranty.

If you purchased your business product from a Motorola business partner, please contact that business partner for support.

CHAPTER 1 ADVANCED DATA FORMATTING

Introduction

Advanced Data Formatting (ADF) is a means of customizing data before transmission to the host device. Use ADF to edit scan data to suit requirements.

Implement ADF by scanning a related series of bar codes in *Chapter 2, ADF Bar Codes*, or by installing the 123Scan utility (see the scanner's *Product Reference Guide*) which allows programming the device with ADF rules.

Avoid using ADF formatting with bar codes containing more than 60 characters. To add a prefix or suffix value for such bar codes, use the **Add Prefix/Suffix** setting from the scanner's *Product Reference Guide*. Using ADF with longer bar codes transmits the bar code in segments of length 252 or less (depending on the host selected), and applies the rule to each segment.

Rules: Criteria Linked to Actions

ADF uses **rules** to customize data. These rules perform detailed actions when the data meets certain criteria. One rule may consist of single or multiple criteria applied to single or multiple actions.

For instance, a data formatting rule could be:

Criteria: When scan data is Code 39, length 12, and data at the start position is the string "129",

Actions: pad all sends with zeros to length 8,

send all data up to X,

send a space.

Scanning a Code 39 bar code of 1299X1559828 transmits the following: 00001299<space>. If you scan a Code 39 bar code of 1299X15598, this rule is ignored because the bar code didn't meet the length criteria.

The rule specifies the editing conditions and requirements before data transmission occurs.

Using ADF Bar Codes

When programming a rule, make sure the rule is logically correct. Plan ahead before scanning.

To program each data formatting rule:

- Start the Rule. Scan the Begin New Rule bar code on page 2-3.
- Specify Criteria. Scan the bar codes for all pertinent criteria. Criteria can include code type (e.g., Code 128), code length, or data that contains a specific character string (e.g., the digits "129"). See Criteria on page 2-10.
- Select Actions. Scan all actions related to, or affecting, these criteria. The actions of a rule specify how
 to format the data for transmission. See Actions on page 2-61.
- Save the Rule. Scan the Save Rule bar code on page 2-4. This places the rule in the "top" position in the rule buffer.
- Use special-purpose bar codes to correct errors during this process. Erase criteria, actions, and entire rules by scanning the appropriate bar code starting on page 2-4.

ADF Bar Code Menu Example

This section provides an example of how to enter ADF rules for scan data.

An auto parts distribution center wants to encode manufacturer ID, part number, and destination code into their own Code 128 bar codes. The distribution center also has products that carry UPC bar codes, placed there by the manufacturer. The Code 128 bar codes have the following format:

MMMMMPPPPPDD

Where: M = Manufacturer ID

P = Part Number
D = Destination Code

The distribution center uses a PC with dedicated control characters for manufacturer ID <CTRL M>, part number <CTRL P>, and destination code <CTRL D>. At this center the UPC data is treated as manufacturer ID code.

The following rules must be entered:

When scanning data of code type Code 128, send the next 5 characters, send the manufacturer ID key <CTRL M>, send the next 5 characters, send the part number key <CTRL P>, send the next 2 characters, send the destination code key <CTRL D>.

When scanning data of code type UPC/EAN, send all data, send the manufacturer ID key <CTRL M>.

To enter these rules, use the following steps:

Rule 1: The Code 128 Scanning Rule

Step	Bar Code	On Page	Beep Indication
1	Begin New Rule	2-3	High High
2	Code 128	2-12	High High
3	Send next 5 characters	2-64	High High
4	Send <ctrl m=""></ctrl>	2-132	High High
5	Send next 5 characters	2-64	High High
6	Send <ctrl p=""></ctrl>	2-134	High High
7	Send next 2 characters	2-62	High High
8	Send <ctrl d=""></ctrl>	2-128	High High
9	Save Rule	2-4	High Low High Low

Rule 2: The UPC Scanning Rule

Step	Bar Code	On Page	Beep Indication
1	Begin New Rule	2-3	High High
2	UPC/EAN	2-15	High High
3	Send all remaining data	2-61	High High
4	Send <ctrl m=""></ctrl>	2-132	High High
5	Save Rule	2-4	High Low High Low

To correct any errors made while entering this rule, scan the *Quit Entering Rules bar code on page 2-6*. If you already saved the rule, scan the *Erase Previously Saved Rule bar code on page 2-5*.

Alternate Rule Sets

Group ADF rules into one of four alternate sets which you can turn on and off when needed. This is useful to format the same message in different ways. For example, a Code 128 bar code contains the following information:

Class (2 digits), Stock Number (8) digits, Price (5 digits)

The bar code might look like this:

245671243701500

where:

Class = 24

Stock Number = 56712437

Price = 01500

Ordinarily, data transmits as follows:

24 (class key)

56712437 (stock key)

01500 (enter key)

But, when there is a sale, send only the following:

24 (class key)

56712437 (stock key)

and the cashier keys the price manually.

To implement this, first enter an ADF rule that applies to the normal situation, such as:

Scan Rule Belongs to Set 1. When scanning a bar code of length 15, send the next 2 characters, send the class key, send the next 8 characters, send the stock key, send the data that remains, send the Enter key.

The "sale" rule may look like this:

Scan Rule Belongs to Set 2. When scanning a bar code of length 15, send the next 2 characters, send the class key, send the next 8 characters, send the stock key.

To switch between the two sets of rules, program a "switching rule" that specifies the type of bar code to be scanned to switch between the rule sets. For example, in the case of the "sale" rule above, the rule programmer wants the cashier to scan the bar code "M" before a sale. To do this, enter the following rule:

When scanning a bar code of length 1 that begins with "M", select rule set number 1.

Program another rule to switch back.

When scanning a bar code of length 1 that begins with "N", turn off rule set number 1.

Or include the switching back rules in the "sale" rule:

When scanning a bar code of length 15, send the next 2 characters, send the class key, send the next 8 characters, send the stock key, turn off rule set 1.

For optimal results, scan the *Disable All Rule Sets bar code on page 2-9* after programming a rule belonging to an alternate rule set.

In addition to enabling and disabling rule sets within the rules, enable or disable them by scanning the appropriate bar codes on *page 2-7*.

Rules Hierarchy (in Bar Codes)

The order of programming individual rules is important. Program the most general rule first.

All programmed rules are stored in a buffer. As they are programmed, they are stored at the "top" of a rules list. If you create three rules, the list is configured as follows:

Third Rule

Second Rule

First Rule

When you scan data, the rules list is checked from top to bottom to determine if the criteria matches (and therefore, if the actions occur). Input is modified into the data format specified by the first matching set of criteria it finds. Be sure to program the most general rule first.

For example, if the THIRD rule states:

When scanning a bar code of any length, send all data, then send the ENTER key.

and the SECOND rule states:

When scanning a Code 128 bar code of length 12, send the first four characters, then send the ENTER key, then send all remaining data.

and you scan a Code 128 bar code of length 12, the THIRD rule applies and the SECOND rule appears to not function.

Note that using the standard data editing functions also creates ADF rules. Scan options are entered as ADF rules, and the previous hierarchy also applies to them. For the device, this applies to prefix/suffix programming in the **Scan Data Transmission Format** parameter in the scanner *Product Reference Guide*.

These rules reside in the same "rule list" as ADF rules, so the order of their creation is also important.

Default Rules

Every unit has a default rule to send all scan data. Units with custom software can have one or more default rules burned in. The rules hierarchy checks user programmable rules first, then the default rules. Disable default rules by entering the following general rule in the user programmable buffer:

When receiving scan data, send all data.

Since this rule always applies, ADF never enters the default rules.

Beeper Indications

The decoding device emits the beeps indicated in *Table 1-1* during ADF programming. Indications may vary depending on the device.

Table 1-1 ADF Programming Beeper Indications

Beeper Sequenc	Indication
High/low beeps	Enter another digit. Add leading zeros to the front if necessary.
Low/low beeps	Enter another alphabetic character or scan the End of Message bar code.
High/high beeps	Enter another criterion or action, or scan the Save Rule bar code.
High/low/high/low beeps	Rule saved. Rule entry mode exited.
High/low/low beeps	All criteria or actions cleared for current rule, continue entering rule.
Low beep	Delete last saved rule. The current rule is left intact.
Low/high/high beeps	All rules are deleted.
Low/high/low/high beeps	Out of rule memory. Erase some existing rules, then try to save rule again.
Low/high/low beeps	Cancel rule entry. Rule entry mode exited because of an error or the user asked to exit rule entry.
Low/high beeps	Entry error, wrong bar code scanned, or criteria/action list is too long for a rule. Re-enter criterion or action.



CHAPTER 2 ADF BAR CODES

ADF Bar Code Reference Table

Table 2-1 lists the bar codes available through ADF.

Table 2-1 ADF Bar Codes

Parameter	Page Number
Special Commands	2-3
Pause Duration	2-3
Begin New Rule	2-3
Save Rule	2-4
Erase	2-4
Quit Entering Rules	2-6
Disable Rule Set	2-7
Criteria	2-10
Code Types	2-10
Code Lengths	2-36
Specific String at Start	2-51
Specific String, Any Location	2-52
Specific String Search (not supported by all devices)	2-52
Any Message OK	2-52
Numeric Keypad	2-53
Rule Belongs To Set	2-59

 Table 2-1
 ADF Bar Codes (Continued)

Parameter	Page Number
Actions	2-61
Send Data	2-61
Send Data Up To Character	2-61
Send All Data That Remains	2-61
Send Next Character	2-62
Setup Field(s)	2-72
Move Cursor	2-73
Send Pause	2-77
Skip Ahead	2-78
Skip Back	2-83
Send Preset Value	2-88
Modify Data	2-89
Remove All Spaces	2-89
Crunch All Spaces	2-89
Stop Space Removal	2-90
Remove Leading Zeros	2-90
Stop Zero Removal	2-91
Pad Data with Spaces	2-92
Pad Data with Zeros	2-108
Beeps	2-124
Send Keystroke (Control Characters and Keyboard Characters)	2-126
Keyboard Characters	2-142
Send ALT Characters	2-190
Send Keypad Characters	2-206
Send Function Key	2-224
Send Right Control Key	2-251
Send Graphic User Interface (GUI) Characters	2-252
Turn On/Off Rule Sets	2-270
Alphanumeric Keyboard	2-274
End of Message	2-307

Special Commands

Pause Duration

This parameter, along with *Send Pause on page 2-77*, inserts a pause in the data transmission. Set the pause by scanning a two-digit number (i.e., two bar codes) representing a 0.1 second interval in the range of 0.1 to 9.9. For example, scan bar codes **0** and **1** to insert a 0.1 second pause; **0** and **5** to insert a 0.5 second delay. The default is 1 second. See *Numeric Keypad on page 2-53*. To correct an error or change a selection, scan *Cancel on page 2-58*.



Pause Duration

Begin New Rule

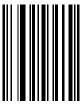
Scan the bar code below to start entering a new rule.



Begin New Rule

Save Rule

Scan the bar code below to save the rule.



Save Rule

Erase

Use these bar codes to erase criteria, actions, or rules.



Erase Criteria And Start Again

Erase (continued)

Use these bar codes to erase criteria, actions, or rules.



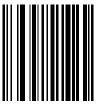
Erase Actions And Start Again



Erase Previously Saved Rule

Erase (continued)

Use these bar codes to erase criteria, actions, or rules.



Erase All Rules

Quit Entering Rules

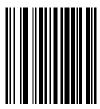
Scan the bar code below to quit entering rules.



Quit Entering Rules

Disable Rule Set

Use these bar codes to disable rule sets.



Disable Rule Set 1



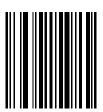
Disable Rule Set 2

Disable Rule Set (continued)

Use these bar codes to disable rule sets.



Disable Rule Set 3



Disable Rule Set 4

Disable Rule Set (continued)

Use these bar codes to disable rule sets.



Disable All Rule Sets

Criteria

Code Types

Select all code types to be affected by the rule. Scan all selected codes in succession, before selecting other criteria. *To select all code types, do not scan any code type*.



NOTE Not all code types are supported by every product.



Code 39

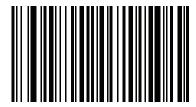


Codabar

Select all code types to be affected by the rule. Scan all selected codes in succession, before selecting other criteria. *To select all code types, do not scan any code type*.



NOTE Not all code types are supported by every product.



GS1 DataBar-14



GS1 DataBar Limited

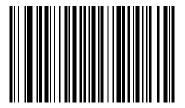
Select all code types to be affected by the rule. Scan all selected codes in succession, before selecting other criteria. *To select all code types, do not scan any code type*.



NOTE Not all code types are supported by every product.



GS1 DataBar Expanded



Code 128

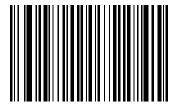
Select all code types to be affected by the rule. Scan all selected codes in succession, before selecting other criteria. *To select all code types, do not scan any code type*.



NOTE Not all code types are supported by every product.



Discrete 2 OF 5

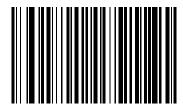


IATA 2 of 5

Select all code types to be affected by the rule. Scan all selected codes in succession, before selecting other criteria. *To select all code types, do not scan any code type*.



NOTE Not all code types are supported by every product.



Interleaved 2 of 5



Code 93

Select all code types to be affected by the rule. Scan all selected codes in succession, before selecting other criteria. *To select all code types, do not scan any code type*.



NOTE Not all code types are supported by every product.



UPC-A



UPC-E

Select all code types to be affected by the rule. Scan all selected codes in succession, before selecting other criteria. *To select all code types, do not scan any code type*.



NOTE Not all code types are supported by every product.



EAN-8



EAN-13

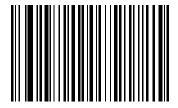
Select all code types to be affected by the rule. Scan all selected codes in succession, before selecting other criteria. *To select all code types, do not scan any code type*.



NOTE Not all code types are supported by every product.



ISSN



MSI

Select all code types to be affected by the rule. Scan all selected codes in succession, before selecting other criteria. *To select all code types, do not scan any code type*.



NOTE Not all code types are supported by every product.



GS1-128



UPC-E1

Select all code types to be affected by the rule. Scan all selected codes in succession, before selecting other criteria. *To select all code types, do not scan any code type*.



NOTE Not all code types are supported by every product.



Bookland EAN



Trioptic Code 39

Select all code types to be affected by the rule. Scan all selected codes in succession, before selecting other criteria. *To select all code types, do not scan any code type*.



NOTE Not all code types are supported by every product.



Code 11



Code 32

Select all code types to be affected by the rule. Scan all selected codes in succession, before selecting other criteria. *To select all code types, do not scan any code type*.



NOTE Not all code types are supported by every product.



ISBT 128



Coupon Code

Select all code types to be affected by the rule. Scan all selected codes in succession, before selecting other criteria. *To select all code types, do not scan any code type*.



NOTE Not all code types are supported by every product.



Chinese 2 of 5



Matrix 2 of 5

Select all code types to be affected by the rule. Scan all selected codes in succession, before selecting other criteria. *To select all code types, do not scan any code type*.



NOTE Not all code types are supported by every product.



Korean 3 of 5

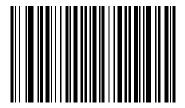
Select all code types to be affected by the rule. Scan all selected codes in succession, before selecting other criteria. *To select all code types, do not scan any code type*.



NOTE Not all code types are supported by every product.



US Postnet



US Planet

Select all code types to be affected by the rule. Scan all selected codes in succession, before selecting other criteria. *To select all code types, do not scan any code type*.



NOTE Not all code types are supported by every product.



UK Postal



Japan Postal

Select all code types to be affected by the rule. Scan all selected codes in succession, before selecting other criteria. *To select all code types, do not scan any code type*.



NOTE Not all code types are supported by every product.



Australian Postal



Netherlands KIX Code

Select all code types to be affected by the rule. Scan all selected codes in succession, before selecting other criteria. *To select all code types, do not scan any code type*.



NOTE Not all code types are supported by every product.



USPS 4CB/One Code/Intelligent Mail



UPU FICS Postal

Select all code types to be affected by the rule. Scan all selected codes in succession, before selecting other criteria. *To select all code types, do not scan any code type*.



NOTE Not all code types are supported by every product.



PDF417



MicroPDF

Select all code types to be affected by the rule. Scan all selected codes in succession, before selecting other criteria. *To select all code types, do not scan any code type*.



NOTE Not all code types are supported by every product.



Macro PDF



Macro MicroPDF

Select all code types to be affected by the rule. Scan all selected codes in succession, before selecting other criteria. *To select all code types, do not scan any code type*.



NOTE Not all code types are supported by every product.



MaxiCode



Data Matrix

Select all code types to be affected by the rule. Scan all selected codes in succession, before selecting other criteria. *To select all code types, do not scan any code type*.



NOTE Not all code types are supported by every product.



QR Code



MicroQR

Select all code types to be affected by the rule. Scan all selected codes in succession, before selecting other criteria. *To select all code types, do not scan any code type*.



NOTE Not all code types are supported by every product.



TLC 39



UPC/EAN Composites

Select all code types to be affected by the rule. Scan all selected codes in succession, before selecting other criteria. *To select all code types, do not scan any code type*.



NOTE Not all code types are supported by every product.



GS1 DataBar and EAN128 Composites



Aztec

Select all code types to be affected by the rule. Scan all selected codes in succession, before selecting other criteria. *To select all code types, do not scan any code type*.



NOTE Not all code types are supported by every product.

When selecting composite bar codes, enable AIM IDs if parsing UPC or EAN composite data, or data from an application that uses symbol separators.



Aztec Rune



Parsed Driver's License



NOTE Only use this bar code to create rules on parsed driver's license data when configured for Embedded Driver's License Parsing.

Select all code types to be affected by the rule. Scan all selected codes in succession, before selecting other criteria. *To select all code types, do not scan any code type*.



NOTE Not all code types are supported by every product.



RFID Raw



RFID URI

Code Lengths



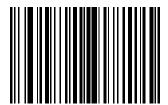
1 Character



2 Characters



3 Characters



4 Characters



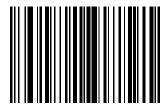
5 Characters



6 Characters



7 Characters



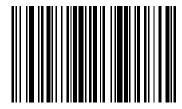
8 Characters



9 Characters



10 Characters



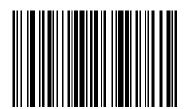
11 Characters



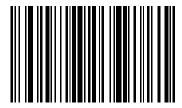
12 Characters



13 Characters



14 Characters



15 Characters



16 Characters



17 Characters



18 Characters



19 Characters



20 Characters



21 Characters



22 Characters



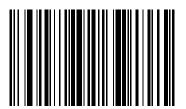
23 Characters



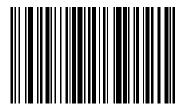
24 Characters



25 Characters



26 Characters



27 Characters



28 Characters



29 Characters



30 Characters

Message Containing A Specific Data String

Use this feature to select whether the formatting affects data that begins with a specific character or data string, or contains a specific character or data string.

There are five features:

- Specific String at Start
- Specific String, Any Location
- Specific String Search (not supported by all devices)
- Any Message OK
- Rule Belongs to Set

Specific String at Start

- 1. Scan the following bar code.
- 2. Scan the bar codes representing the desired character or characters (up to a total of 8) using the *Alphanumeric Keyboard on page 2-274*.
- 3. Scan End of Message on page 2-307.



Specific String At Start

Specific String, Any Location

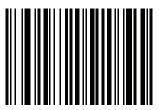
- 1. Scan the following bar code.
- Enter a location by scanning a two-digit number representing the position (use a leading "zero" if necessary) using the Numeric Keypad on page 2-53.
- 3. Scan the bar codes representing the desired character or characters (up to a total of 8) using the *Alphanumeric Keyboard on page 2-274*.
- 4. Scan End of Message bar code on page 2-307.



Specific String Any Location

Specific String Search (not supported by all devices)

- 1. Scan the following bar code.
- 2. Scan the bar codes representing the desired character or characters (up to a total of 10) using the *Alphanumeric Keyboard on page 2-274*.
- 3. Scan End of Message bar code on page 2-307.



Specific String Search

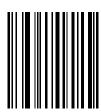
Any Message OK

Do not scan a bar code to format all selected code types, regardless of information contained.

Numeric Keypad

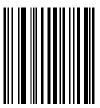
Do not confuse bar codes on this page with those on the alphanumeric keyboard.

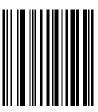




Numeric Keypad (continued)

Do not confuse bar codes on this page with those on the alphanumeric keyboard.

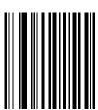




Numeric Keypad (continued)

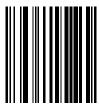
Do not confuse bar codes on this page with those on the alphanumeric keyboard.

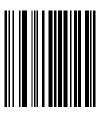




Numeric Keypad (continued)

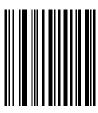
Do not confuse bar codes on this page with those on the alphanumeric keyboard.





Numeric Keypad (continued)

Do not confuse bar codes on this page with those on the alphanumeric keyboard.



8



Numeric Keypad (continued)

Do not confuse bar codes on this page with those on the alphanumeric keyboard.



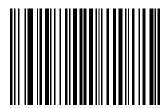
Cancel

Rule Belongs To Set

Select the set to which a rule belongs. There are four possible rule sets. See *Alternate Rule Sets on page 1-3* for more information about rule sets.



Rule Belongs To Set 1



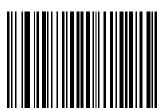
Rule Belongs To Set 2

Rule Belongs To Set (continued)

Select the set to which a rule belongs. There are four possible rule sets. See *Alternate Rule Sets on page 1-3* for more information about rule sets.



Rule Belongs To Set 3



Rule Belongs To Set 4

Actions

Select how to format the data for transmission.

Send Data

Send all data that follows, send all data up to a specific character selected from the *Alphanumeric Keyboard on page 2-274*, or send the next *X* characters. Note that only bar codes for **Send Next 1** to **20** appear here, and can be scanned multiple times to send values greater then 20. For instance, to send the next 28 characters, scan **Send Next 20 Characters**, then **Send Next 8 Characters**.



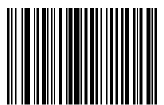
Send Data Up To Character



Send All Data That Remains



Send Next Character



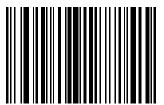
Send Next 2 Characters



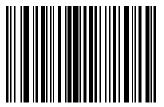
Send Next 3 Characters



Send Next 4 Characters



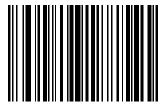
Send Next 5 Characters



Send Next 6 Characters



Send Next 7 Characters



Send Next 8 Characters



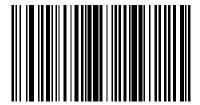
Send Next 9 Characters



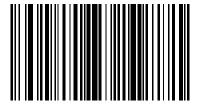
Send Next 10 Characters



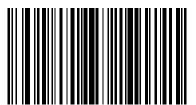
Send Next 11 Characters



Send Next 12 Characters



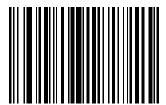
Send Next 13 Characters



Send Next 14 Characters



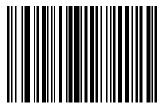
Send Next 15 Characters



Send Next 16 Characters



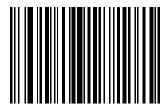
Send Next 17 Characters



Send Next 18 Characters



Send Next 19 Characters



Send Next 20 Characters

Setup Field(s)

 Table 2-2
 Setup Field(s) Definitions

Parameter	Description	Page
Move Cursor		
Move Cursor To a Character	Scan Move Cursor To Character, then any printable ASCII character from the Alphanumeric Keyboard on page 2-274. This moves the cursor to the position after the matching character. If the character is not there, the rule fails and ADF tries the next rule.	2-73
Move Cursor to Start of Data	Scan this bar code to move cursor to the beginning of the data.	2-74
Move Cursor Past a Character	This action moves the cursor past all sequential occurrences of a selected character. For example, if the selected character is 'A', then the cursor moves past 'A', 'AA', 'AAA', etc. Scan <i>Move Cursor Past Character</i> , then select a character from the <i>Alphanumeric Keyboard</i> . If the character is not there, the cursor does not move (i.e., has no effect).	2-74
Move Cursor Past a Specific String*	This action moves the cursor past the first occurrence of a selected string. Scan <i>Move Cursor Past Specific String (not supported by all devices)</i> , then select the character(s) (up to 10) using the <i>Alphanumeric Keyboard</i> . Scan the <i>End of Message bar code on page 2-307</i> .	2-75
Move Cursor to Specific String and Replace*	This action moves the cursor to the first occurrence of a selected string and replaces the string with another user-defined string. Scan Move Cursor to Specific String and Replace (not supported by all devices), then enter an alphanumeric string representing the character(s) (up to 10) to match and delete using the Alphanumeric Keyboard. Scan the End of Message bar code on page 2-307. Enter another alphanumeric string representing the character(s) (up to 10) to insert using the Alphanumeric Keyboard. Scan End of Message.	2-75
Move Cursor to Last Occurrence of String and Replace All*	This action replaces all occurrences of a selected string with another user-defined string, and moves the cursor to the beginning of the last occurrence. Scan Move Cursor to Last Occurrence of String and Replace All (not supported by all devices), then enter an alphanumeric string representing the character(s) (up to 10) to match and delete using the Alphanumeric Keyboard. Scan the End of Message bar code on page 2-307. Enter another alphanumeric string representing the character(s) (up to 10) to insert using the Alphanumeric Keyboard. Scan End of Message.	2-76
Skip to End*	Scan Skip to End (not supported by all devices) to move cursor to the end of the data.	2-76

 Table 2-2
 Setup Field(s) Definitions (Continued)

Parameter	Description	Page
Skip Ahead "N" Characters	Scan one of these bar codes to select the number of positions ahead to move the cursor.	2-78
Skip Back "N" Characters	Scan one of these bar codes to select the number of positions back to move the cursor.	2-83
Send Preset Value	Send Values 1 through 6 by scanning the appropriate bar code. Set these values using the prefix/suffix values in the scanner's Product Reference Guide. Value 1 = Scan Suffix Value 2 = Scan Prefix Values 3-6 are not applicable	2-83

^{*}Not supported by all devices.

Move Cursor

Scan one of the following bar codes to move the cursor in relation to a specified character. Then enter a character by scanning a bar code from the *Alphanumeric Keyboard on page 2-274*.

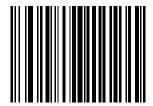


NOTE If there is no match and the rule fails, the next rule is checked.



Move Cursor To Character

Setup Field(s) (continued)

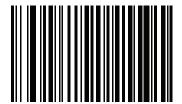


Move Cursor To Start



Move Cursor Past Character

Setup Field(s) (continued)

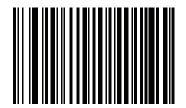


Move Cursor Past Specific String (not supported by all devices)



Move Cursor to Specific String and Replace (not supported by all devices)

Setup Field(s) (continued)



Move Cursor to Last Occurrence of String and Replace All (not supported by all devices)



Skip to End (not supported by all devices)

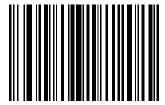
Send Pause

Scan the bar code below to insert a pause in the transmission of data. *Pause Duration on page 2-3* controls the length of this pause.

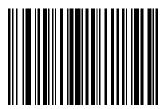


Send Pause

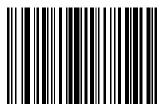
Skip Ahead



Skip Ahead 1 Character



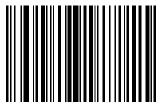
Skip Ahead 2 Characters



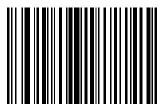
Skip Ahead 3 Characters



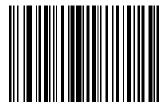
Skip Ahead 4 Characters



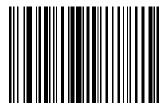
Skip Ahead 5 Characters



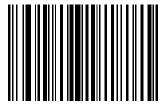
Skip Ahead 6 Characters



Skip Ahead 7 Characters



Skip Ahead 8 Characters



Skip Ahead 9 Characters

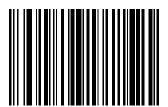


Skip Ahead 10 Characters

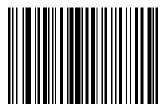
Skip Back



Skip Back 1 Character



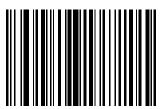
Skip Back 2 Characters



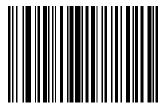
Skip Back 3 Characters



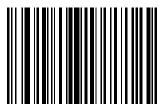
Skip Back 4 Characters



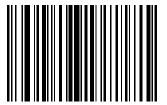
Skip Back 5 Characters



Skip Back 6 Characters



Skip Back 7 Characters



Skip Back 8 Characters



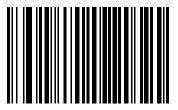
Skip Back 9 Characters



Skip Back 10 Characters

Send Preset Value

Use these bar codes to send preset values. Set these values using the Scan Prefix and Scan Suffix bar codes on *page 2-88*.



Send Prefix



Send Suffix

Modify Data

Modify data as described below. The following actions work for all send commands that follow it within a rule. Programming *pad zeros to length 6, send next 3 characters, stop padding, send next 5 characters* adds three zeros to the first send, and the next send is unaffected by the padding. These options do not apply to the **Send Keystroke** or **Send Preset Value** options.

Remove All Spaces

To remove all spaces in the send commands that follow, scan the bar code below.



Remove All Spaces

Crunch All Spaces

To leave one space between words, scan the bar code below. This also removes all leading and trailing spaces.



Crunch All Spaces

Stop Space Removal

Scan the bar code below to disable space removal.



Stop Space Removal

Remove Leading Zeros

Scan the bar code below to remove all leading zeros.



Remove Leading Zeros

Stop Zero Removal

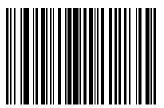
Scan the bar code below to disable the removal of zeros.



Stop Zero Removal

Pad Data with Spaces

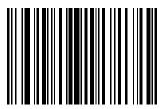
To pad data to the left, scan the bar code containing the desired number of spaces. **Send** commands activate this parameter.



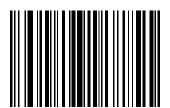
Pad Spaces To Length 1



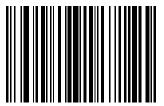
Pad Spaces To Length 2



Pad Spaces To Length 3



Pad Spaces To Length 4



Pad Spaces To Length 5



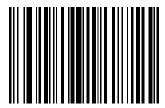
Pad Spaces To Length 6



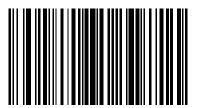
Pad Spaces To Length 7



Pad Spaces To Length 8



Pad Spaces To Length 9



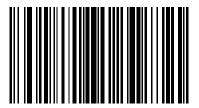
Pad Spaces To Length 10



Pad Spaces To Length 11



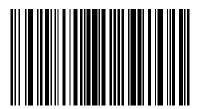
Pad Spaces To Length 12



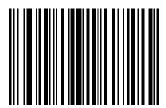
Pad Spaces To Length 13



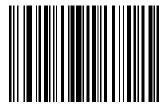
Pad Spaces To Length 14



Pad Spaces To Length 15



Pad Spaces To Length 16



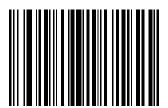
Pad Spaces To Length 17



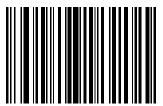
Pad Spaces To Length 18



Pad Spaces To Length 19



Pad Spaces To Length 20



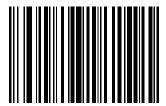
Pad Spaces To Length 21



Pad Spaces To Length 22



Pad Spaces To Length 23



Pad Spaces To Length 24



Pad Spaces To Length 25



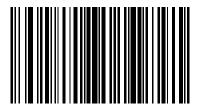
Pad Spaces To Length 26



Pad Spaces To Length 27



Pad Spaces To Length 28



Pad Spaces To Length 29

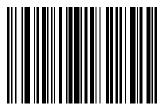


Pad Spaces To Length 30



Stop Pad Spaces

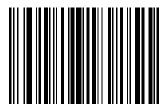
Pad Data with Zeros



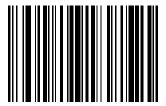
Pad Zeros To Length 1



Pad Zeros To Length 2



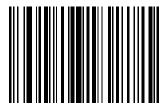
Pad Zeros To Length 3



Pad Zeros To Length 4



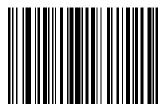
Pad Zeros To Length 5



Pad Zeros To Length 6



Pad Zeros To Length 7



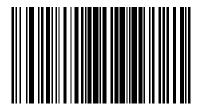
Pad Zeros To Length 8



Pad Zeros To Length 9



Pad Zeros To Length 10



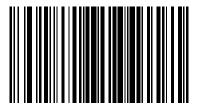
Pad Zeros To Length 11



Pad Zeros To Length 12



Pad Zeros To Length 13



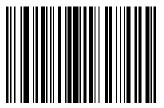
Pad Zeros To Length 14



Pad Zeros To Length 15



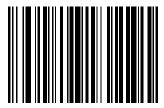
Pad Zeros To Length 16



Pad Zeros To Length 17



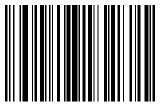
Pad Zeros To Length 18



Pad Zeros To Length 19



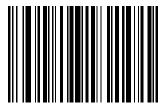
Pad Zeros To Length 20



Pad Zeros To Length 21



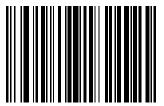
Pad Zeros To Length 22



Pad Zeros To Length 23



Pad Zeros To Length 24



Pad Zeros To Length 25



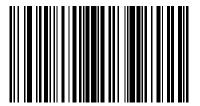
Pad Zeros To Length 26



Pad Zeros To Length 27



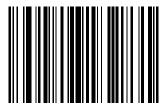
Pad Zeros To Length 28



Pad Zeros To Length 29



Pad Zeros To Length 30



Stop Pad Zeros

Beeps

Select a beep sequence for each ADF rule.



Beep Once



Beep Twice

Beeps (continued)

Select a beep sequence for each ADF rule.

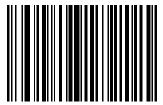


Beep Three Times

Send Keystroke (Control Characters and Keyboard Characters)

Control Characters

Scan a **Send** bar code for the keystroke to send.



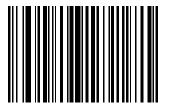
Send Control 2



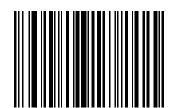
Send Control A

Control Characters (continued)

Scan a **Send** bar code for the keystroke to send.



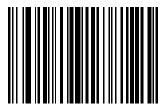
Send Control B



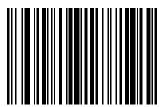
Send Control C

Control Characters (continued)

Scan a **Send** bar code for the keystroke to send.



Send Control D



Send Control E



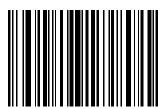
Send Control F



Send Control G



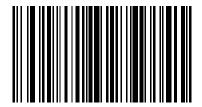
Send Control H



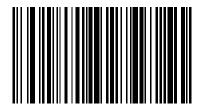
Send Control I



Send Control J



Send Control K



Send Control L



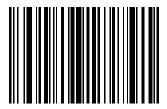
Send Control M



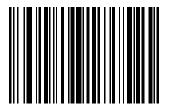
Send Control N



Send Control O



Send Control P



Send Control Q



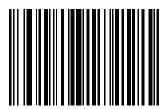
Send Control R



Send Control S



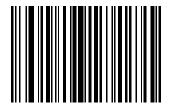
Send Control T



Send Control U



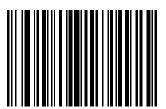
Send Control V



Send Control W



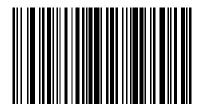
Send Control X



Send Control Y



Send Control Z



Send Control [



Send Control \



Send Control]

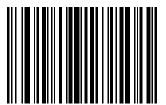


Send Control 6



Send Control -

Keyboard Characters



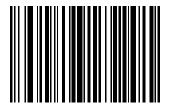
Send Space



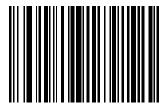
Send!



Send "



Send #



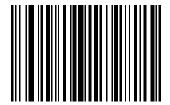
Send \$



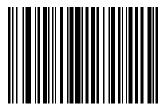
Send %



Send &



Send '



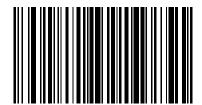
Send (



Send)



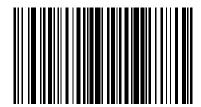
Send *



Send +



Send,



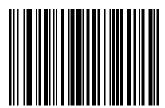
Send -



Send.



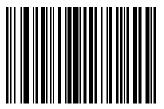
Send /



Send 0



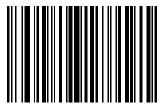
Send 1



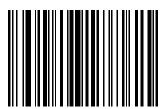
Send 2



Send 3



Send 4



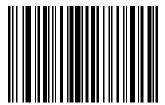
Send 5



Send 6



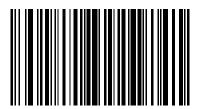
Send 7



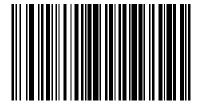
Send 8



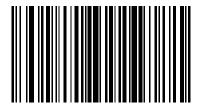
Send 9



Send:



Send;



Send <



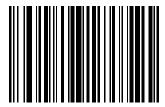
Send =



Send >



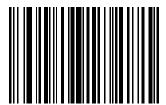
Send?



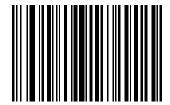
Send @



Send A



Send B



Send C



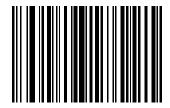
Send D



Send E



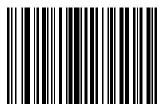
Send F



Send G



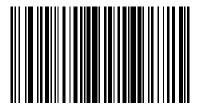
Send H



Send I



Send J



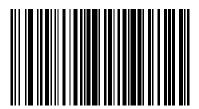
Send K



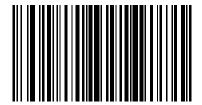
Send L



Send M



Send N



Send O



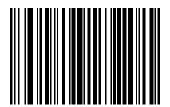
Send P



Send Q



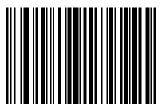
Send R



Send S



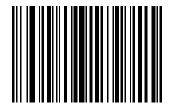
Send T



Send U



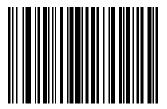
Send V



Send W



Send X



Send Y



Send Z



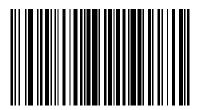
Send [



Send \



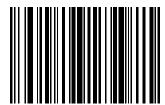
Send]



Send ^



Send _



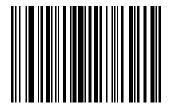
Send `



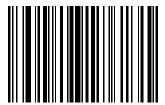
Send a



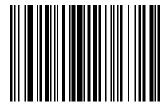
Send b



Send c



Send d



Send e



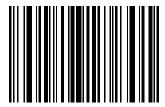
Send f



Send g



Send h



Send i



Send j



Send k



Send I



Send m



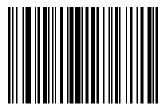
Send n



Send o



Send p



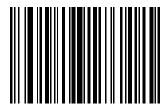
Send q



Send r



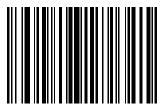
Send s



Send t



Send u



Send v



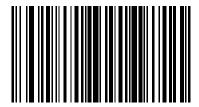
Send w



Send x



Send y



Send z



Send {



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Send }



Send ~

Send ALT Characters



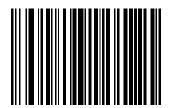
Send Alt 2



Send Alt A



Send Alt B



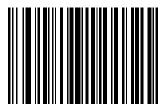
Send Alt C



Send Alt D



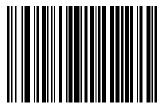
Send Alt E



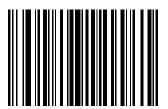
Send Alt F



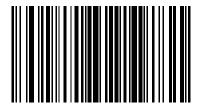
Send Alt G



Send Alt H



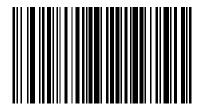
Send Alt I



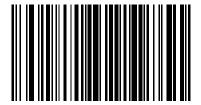
Send Alt J



Send Alt K



Send Alt L



Send Alt M



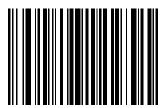
Send Alt N



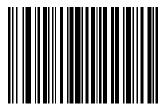
Send Alt O



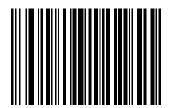
Send Alt P



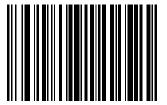
Send Alt Q



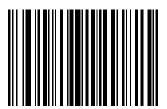
Send Alt R



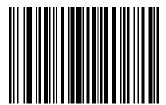
Send Alt S



Send Alt T



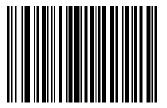
Send Alt U



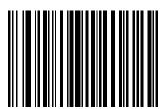
Send Alt V



Send Alt W



Send Alt X



Send Alt Y



Send Alt Z



Send Alt [



Send Alt \

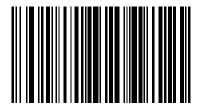


Send Alt]

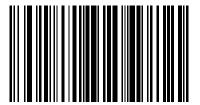


Send Alt @

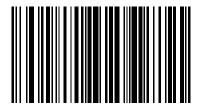
Send Keypad Characters



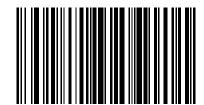
Send Keypad *



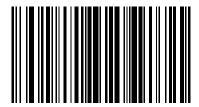
Send Keypad +



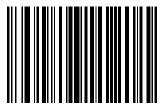
Send Keypad -



Send Keypad .



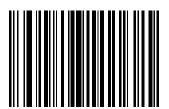
Send Keypad /



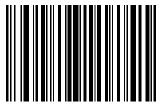
Send Keypad 0



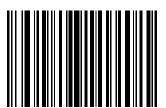
Send Keypad 1



Send Keypad 2



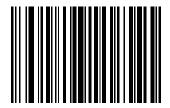
Send Keypad 3



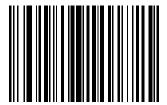
Send Keypad 4



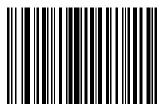
Send Keypad 5



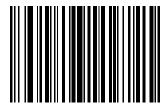
Send Keypad 6



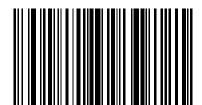
Send Keypad 7



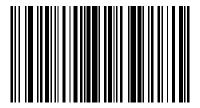
Send Keypad 8



Send Keypad 9



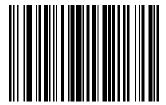
Send Keypad Enter



Send Keypad Numlock



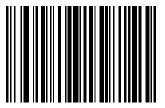
Send Break Key



Send Delete Key



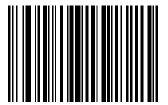
Send Page Up Key



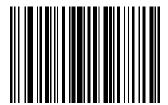
Send End Key



Send Page Down Key



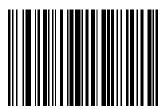
Send Pause Key



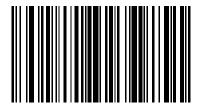
Send Scroll Lock Key



Send Backspace Key



Send Tab Key



Send Print Screen Key



Send Insert Key



Send Home Key



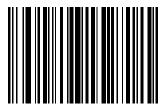
Send Enter Key



Send Escape Key



Send Up Arrow Key



Send Down Arrow Key

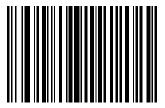


Send Left Arrow Key

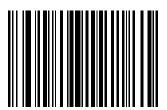


Send Right Arrow Key

Send Function Key



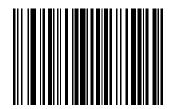
Send F1 Key



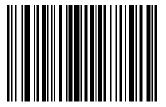
Send F2 Key



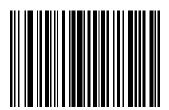
Send F3 Key



Send F4 Key



Send F5 Key



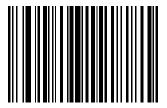
Send F6 Key



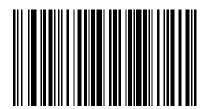
Send F7 Key



Send F8 Key



Send F9 Key



Send F10 Key



Send F11 Key



Send F12 Key



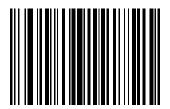
Send F13 Key



Send F14 Key



Send F15 Key



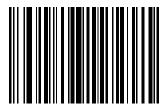
Send F16 Key



Send F17 Key



Send F18 Key



Send F19 Key



Send F20 Key



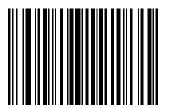
Send F21 Key



Send F22 Key



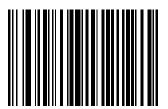
Send F23 Key



Send F24 Key



Send PF1 Key



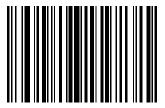
Send PF2 Key



Send PF3 Key



Send PF4 Key



Send PF5 Key



Send PF6 Key



Send PF7 Key



Send PF8 Key



Send PF9 Key



Send PF10 Key



Send PF11 Key



Send PF12 Key



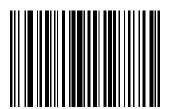
Send PF13 Key



Send PF14 Key



Send PF15 Key



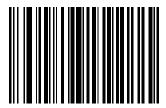
Send PF16 Key



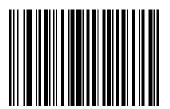
Send PF17 Key



Send PF18 Key



Send PF19 Key



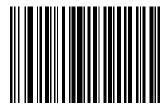
Send PF20 Key



Send PF21 Key



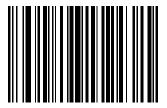
Send PF22 Key



Send PF23 Key



Send PF24 Key



Send PF25 Key



Send PF26 Key



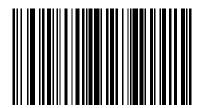
Send PF27 Key



Send PF28 Key



Send PF29 Key



Send PF30 Key

Send Right Control Key

The Send Right Control Key action sends a tap (press and release) of the right Control key.



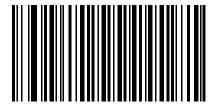
Send Right Control Key

Send Graphic User Interface (GUI) Characters

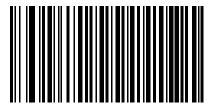
The **Send Graphic User Interface** character actions tap the specified key while holding the system-dependent Graphic User Interface (GUI) key. The definition of the Graphic User Interface key depends on the attached system.



Send GUI 0



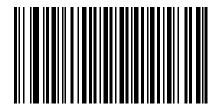
Send GUI 1



Send GUI 2



Send GUI 3



Send GUI 4



Send GUI 5



Send GUI 6



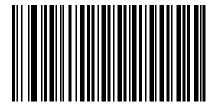
Send GUI 7



Send GUI 8



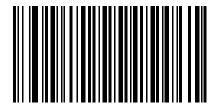
Send GUI 9



Send GUI A



Send GUI B



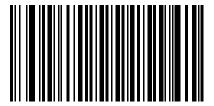
Send GUI C



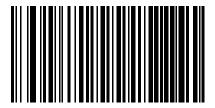
Send GUI D



Send GUI E



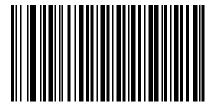
Send GUI F



Send GUI G



Send GUI H



Send GUI I



Send GUI J



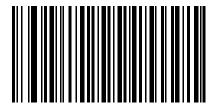
Send GUI K



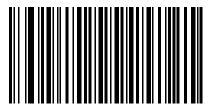
Send GUI L



Send GUI M



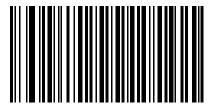
Send GUI N



Send GUI O



Send GUI P



Send GUI Q



Send GUI R



Send GUI S



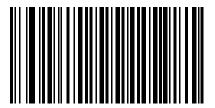
Send GUI T



Send GUI U



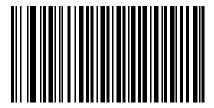
Send GUI V



Send GUI W



Send GUI X



Send GUI Y



Send GUI Z

Turn On/Off Rule Sets

Use these bar codes to turn rule sets on and off.



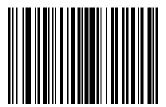
Turn On Rule Set 1



Turn On Rule Set 2

Turn On/Off Rule Sets (continued)

Use these bar codes to turn rule sets on and off.



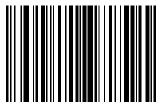
Turn On Rule Set 3



Turn On Rule Set 4

Turn On/Off Rule Sets (continued)

Use these bar codes to turn rule sets on and off.



Turn Off Rule Set 1



Turn Off Rule Set 2

Turn On/Off Rule Sets (continued)

Use these bar codes to turn rule sets on and off.

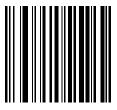


Turn Off Rule Set 3

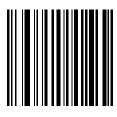


Turn Off Rule Set 4

Alphanumeric Keyboard



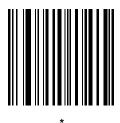
Space





\$









-(Dash)



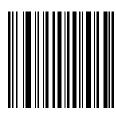


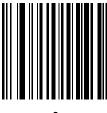
, (Comma)





!





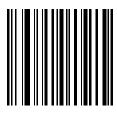
8



(Single Close Quote)







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(Underscore)



(Single Open Quote)



NOTE Do not confuse the numeric bar codes in this section with those on the numeric keypad.







NOTE Do not confuse the numeric bar codes in this section with those on the numeric keypad.







NOTE Do not confuse the numeric bar codes in this section with those on the numeric keypad.







NOTE Do not confuse the numeric bar codes in this section with those on the numeric keypad.







NOTE Do not confuse the numeric bar codes in this section with those on the numeric keypad.







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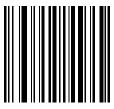






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Cancel



End of Message

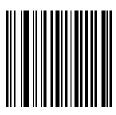


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72E-69680-03 Revision A - April 2011

