

Advanced Data Formatting (ADF)

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PROGRAMMER GUIDE



ADVANCED DATA FORMATTING PROGRAMMER GUIDE

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For the complete Zebra hardware product warranty statement, go to:

http://www.zebra.com/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.
-04 Rev. A	4/2015	Add Han Xin, OCR, GS1 DataMatrix and GS1 QR type bar codes; add Bar Code Encoding Scheme (Code Page) action bar codes; Zebra rebranding.
-05 Rev. A	12/2015	Add Multicode parameter; add Code Length Compare criteria; add String Criteria; add Send Custom Key action.
-06 Rev. A	7/2016	Remove Send Custom Key action; remove Sending GUI Characters; remove Send Alt-F; remove Send CTRL-W.

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ABOUT THIS GUIDE

Introduction

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

Chapter Descriptions

- Chapter 1, Chapter Title (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 occur.

Related Documents

The Quick Reference Guide and Product Reference Guide for Zebra 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 Zebra guides, go to: http://www.zebra.com/support.

Service Information

If you have a problem using the equipment, contact your facility's technical or systems support. If there is a problem with the equipment, they will contact the Zebra Technologies Global Customer Support Center at: http://www.zebra.com/support.

When contacting Zebra Technologies support, please have the following information available:

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

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

If your problem cannot be solved by Zebra Technologies support, you may need to return your equipment for servicing and will be given specific directions. Zebra 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 Zebra Technologies business partner, contact that business partner for support.

CHAPTER 1 CHAPTER TITLE

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 2-68*.
- 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:

MMMMMPPPPDD

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	2-71	High High
4	Send <ctrl m=""></ctrl>	2-139	High High
5	Send next 5 characters	2-71	High High
6	Send <ctrl p=""></ctrl>	2-141	High High
7	Send next 2 characters	2-69	High High
8	Send <ctrl d=""></ctrl>	2-135	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	2-68	High High
4	Send <ctrl m=""></ctrl>	2-139	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)

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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 Sequence	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	2-39
Code Length Compare	2-54
Specific String at Start	2-57
Specific String, Any Location	2-58
Specific String Search (not supported by all devices)	2-58
Specific Criteria	2-58
Any Message OK	2-59
Numeric Keypad	2-60
Rule Belongs To Set	2-66

 Table 2-1
 ADF Bar Codes (Continued)

Parameter	Page Number
Actions	2-68
Send Data	2-68
Send Data Up To Character	2-68
Send All Data That Remains	2-68
Send Next Character	2-69
Setup Field(s)	2-79
Move Cursor	2-80
Send Pause	2-84
Skip Ahead	2-85
Skip Back	2-90
Send Preset Value	2-95
Modify Data	2-96
Remove All Spaces	2-96
Crunch All Spaces	2-96
Stop Space Removal	2-97
Remove Leading Zeros	2-97
Stop Zero Removal	2-98
Pad Data with Spaces	2-99
Pad Data with Zeros	2-115
Beeps	2-131
Send Keystroke (Control Characters and Keyboard Characters)	2-133
Keyboard Characters	2-149
Send ALT Characters	2-197
Send Keypad Characters	2-213
Send Function Key	2-231
Send Right Control Key	2-258
Turn On/Off Rule Sets	2-284
Bar Code Encoding Scheme Specification (Code Pages)	2-259
Alphanumeric Keyboard	2-288
End of Message	2-321

Special Commands

Pause Duration

This parameter, along with *Send Pause on page 2-84*, 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 2-60*. To correct an error or change a selection, scan *Cancel on page 2-65*.



Pause Duration

Begin New Rule

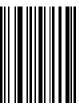
Scan the bar code below to start entering a new rule.



Begin New Rule

Save Rule

Scan the bar code below to save the rule.



Save Rule

Erase

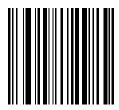
Use these bar codes to erase criteria, actions, or rules.



Erase Criteria And Start Again

Erase (continued)

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



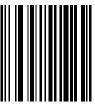
Erase Actions And Start Again



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.



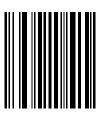
Quit Entering Rules

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

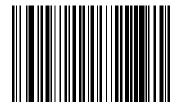
Select all code types to be affected by the rule. Scan all selected codes in succession, before selecting other criteria. *To select all code types, do not scan any code type*.



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

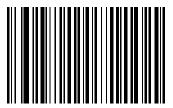


UPC-E1

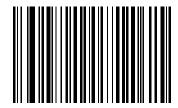
Select all code types to be affected by the rule. Scan all selected codes in succession, before selecting other criteria. *To select all code types, do not scan any code type*.



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

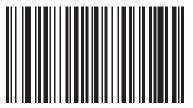


Code 32

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

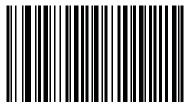


Coupon Code

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

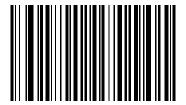
Select all code types to be affected by the rule. Scan all selected codes in succession, before selecting other criteria. *To select all code types, do not scan any code type*.



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.



Aztec Rune



Han Xin

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.

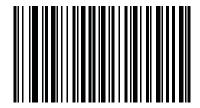
When selecting composite bar codes, enable AIM IDs if parsing UPC or EAN composite data, or data from an application that uses symbol separators.



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.



OCR

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

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 QR



GS1 Datamatrix

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.



Multicode

Code Lengths



1 Character



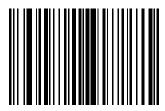
2 Characters



3 Characters



4 Characters



5 Characters



6 Characters



7 Characters



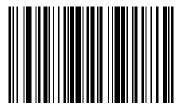
8 Characters



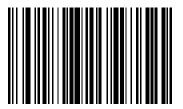
9 Characters



10 Characters



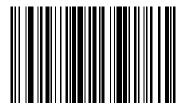
11 Characters



12 Characters



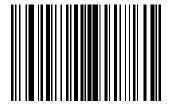
13 Characters



14 Characters



15 Characters



16 Characters



17 Characters



18 Characters



19 Characters



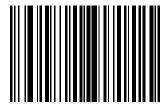
20 Characters



21 Characters



22 Characters



23 Characters



24 Characters



25 Characters



26 Characters



27 Characters



28 Characters



29 Characters



30 Characters

Code Length Compare

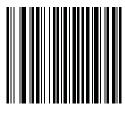
Use this feature to specify a code length of:

- ≠
- <
- >
- range
- or
- 1. Scan one of the following bar codes to define the number of characters with which to compare the selected code type.
- 2. Using the numeric keypad bar codes beginning on 2-60, enter the bar code length value by scanning 1, 2, or 3 two-digit numbers representing the length(s). If necessary, use a leading zero. Valid length value is $01 \sim 99$.

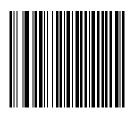


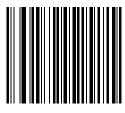
==





<





>=and<=



NOTE

For example, 0409 for length range >=4 and <=9



Up to 3 "=="



NOTE

For example, 080900 for length 8 or 9; 00 stands for empty value. Input valid value from left to right.

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 2-288*.
- 3. Scan End of Message on page 2-321.



Specific String At Start

Specific String, Any Location

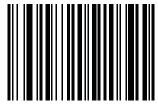
- 1. Scan the following bar code.
- 2. Enter a location by scanning a two-digit number representing the *position* (use a leading "zero" if necessary) using the *Numeric Keypad on page 2-60*.
- 3. Scan the bar codes representing the desired character or characters (up to a total of 8) using the *Alphanumeric Keyboard on page 2-288*.
- 4. Scan End of Message bar code on page 2-321.



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 2-288*.
- 3. Scan End of Message bar code on page 2-321.

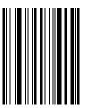


Specific String Search

Specific Criteria

- 1. Select one of the following criteria: Specific String at Start on page 2-57, Specific String, Any Location on page 2-58, or Specific String Search (not supported by all devices) on page 2-58.
- 2. Scan the bar codes representing the desired character or characters using the *Alphanumeric Keyboard on page 2-288*
- 3. Scan **String Delimiter** below, and repeat Step 2 above to input up to three strings.
 - $\sqrt{}$

NOTE Input multiple string values, separated by String Delimiter.



String Delimiter

4. At the end of the string(s) input, scan the End of Message bar code on page 2-321.

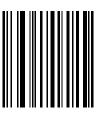
Any Message OK

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

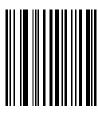
Numeric Keypad

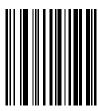
Do not confuse bar codes on this page with those on the alphanumeric keyboard.



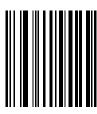


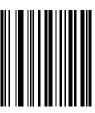
Do not confuse bar codes on this page with those on the alphanumeric keyboard.



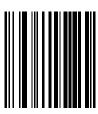


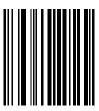
Do not confuse bar codes on this page with those on the alphanumeric keyboard.



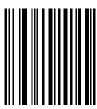


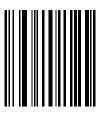
Do not confuse bar codes on this page with those on the alphanumeric keyboard.





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





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



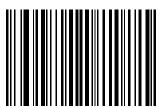
Cancel

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



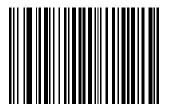
Rule Belongs To Set 2

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

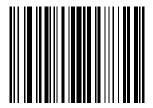
Select how to format the data for transmission.



NOTE If specifying a bar code encoding scheme in the ADF rule, ensure the encoding scheme is the first action in order to ensure the UTF-8 bar code is converted before the rules apply. See <u>Bar Code Encoding Scheme Specification (Code Pages) on page 2-259</u>.

Send Data

Send all data that follows, send all data up to a specific character selected from the *Alphanumeric Keyboard on page 2-288*, 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



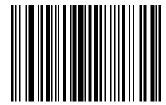
Send All Data That Remains



Send Next Character



Send Next 2 Characters



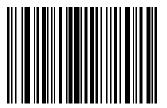
Send Next 3 Characters



Send Next 4 Characters



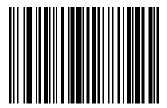
Send Next 5 Characters



Send Next 6 Characters



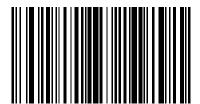
Send Next 7 Characters



Send Next 8 Characters



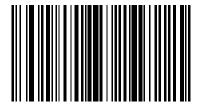
Send Next 9 Characters



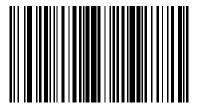
Send Next 10 Characters



Send Next 11 Characters



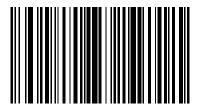
Send Next 12 Characters



Send Next 13 Characters



Send Next 14 Characters



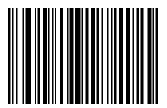
Send Next 15 Characters



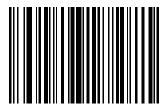
Send Next 16 Characters



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 2-288. 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.	2-80
Move Cursor to Start of Data	Scan this bar code to move cursor to the beginning of the data.	2-81
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).	2-81
Move Cursor Past a Specific String*	This action moves the cursor past the first occurrence of a selected string. Scan Move Cursor Past Specific String (not supported by all devices), then select the character(s) (up to 10) using the Alphanumeric Keyboard. Scan the End of Message bar code on page 2-321.	2-82
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 2-321. Enter another alphanumeric string representing the character(s) (up to 10) to insert using the Alphanumeric Keyboard. Scan End of Message.	2-82
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 2-321. Enter another alphanumeric string representing the character(s) (up to 10) to insert using the Alphanumeric Keyboard. Scan End of Message.	2-83
Skip to End*	Scan Skip to End (not supported by all devices) to move cursor to the end of the data.	2-83

 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.	2-85
Skip Back "N" Characters	Scan one of these bar codes to select the number of positions back to move the cursor.	2-90
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	2-90

*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 2-288*.

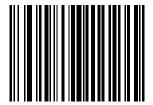


NOTE If there is no match and the rule fails, the next rule is checked.



Move Cursor To Character

Setup Field(s) (continued)

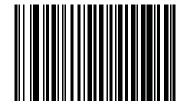


Move Cursor To Start

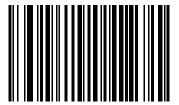


Move Cursor Past Character

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)

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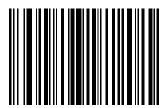
Send Pause

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



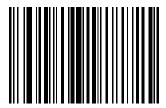
Skip Ahead 1 Character



Skip Ahead 2 Characters



Skip Ahead 3 Characters



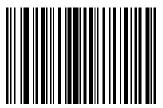
Skip Ahead 4 Characters



Skip Ahead 5 Characters



Skip Ahead 6 Characters



Skip Ahead 7 Characters



Skip Ahead 8 Characters

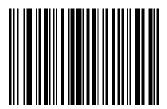


Skip Ahead 9 Characters

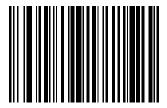


Skip Ahead 10 Characters

Skip Back



Skip Back 1 Character

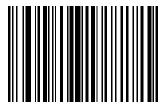


Skip Back 2 Characters

Skip Back (continued)



Skip Back 3 Characters

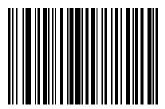


Skip Back 4 Characters

Skip Back (continued)



Skip Back 5 Characters



Skip Back 6 Characters

Skip Back (continued)

Use the following bar codes to skip back characters.



Skip Back 7 Characters



Skip Back 8 Characters

Skip Back (continued)

Use the following bar codes to skip back characters.



Skip Back 9 Characters



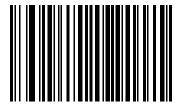
Skip Back 10 Characters

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 2-95.



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

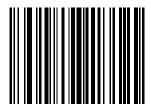
To remove all spaces in the send commands that follow, scan the bar code below.



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



Pad Spaces To Length 1



Pad Spaces To Length 2

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Pad Data with Spaces (continued)

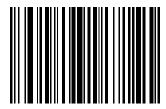


Pad Spaces To Length 3



Pad Spaces To Length 4

Pad Data with Spaces (continued)



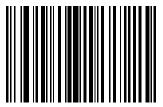
Pad Spaces To Length 5



Pad Spaces To Length 6

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Pad Data with Spaces (continued)



Pad Spaces To Length 7

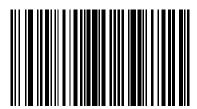


Pad Spaces To Length 8

Pad Data with Spaces (continued)



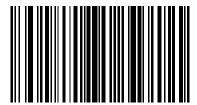
Pad Spaces To Length 9



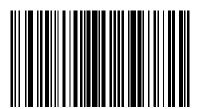
Pad Spaces To Length 10

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Pad Data with Spaces (continued)

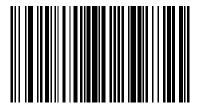


Pad Spaces To Length 11



Pad Spaces To Length 12

Pad Data with Spaces (continued)



Pad Spaces To Length 13



Pad Spaces To Length 14

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Pad Data with Spaces (continued)

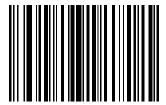


Pad Spaces To Length 15



Pad Spaces To Length 16

Pad Data with Spaces (continued)



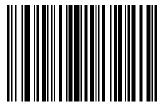
Pad Spaces To Length 17



Pad Spaces To Length 18

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Pad Data with Spaces (continued)



Pad Spaces To Length 19



Pad Spaces To Length 20

Pad Data with Spaces (continued)



Pad Spaces To Length 21



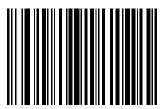
Pad Spaces To Length 22

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Pad Data with Spaces (continued)



Pad Spaces To Length 23



Pad Spaces To Length 24

Pad Data with Spaces (continued)



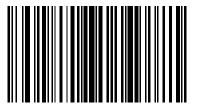
Pad Spaces To Length 25



Pad Spaces To Length 26

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Pad Data with Spaces (continued)



Pad Spaces To Length 27

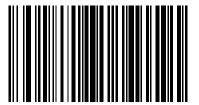


Pad Spaces To Length 28

Pad Data with Spaces (continued)



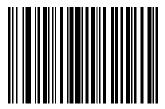
Pad Spaces To Length 29



Pad Spaces To Length 30

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Pad Data with Spaces (continued)

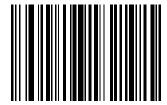


Stop Pad Spaces

Pad Data with Zeros



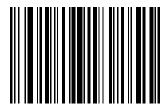
Pad Zeros To Length 1



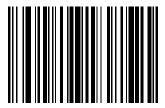
Pad Zeros To Length 2

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Pad Data with Zeros (continued)



Pad Zeros To Length 3



Pad Zeros To Length 4

Pad Data with Zeros (continued)



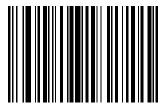
Pad Zeros To Length 5



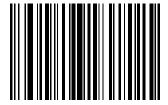
Pad Zeros To Length 6

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Pad Data with Zeros (continued)

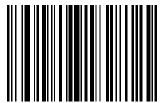


Pad Zeros To Length 7



Pad Zeros To Length 8

Pad Data with Zeros (continued)



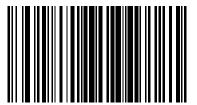
Pad Zeros To Length 9



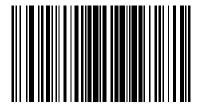
Pad Zeros To Length 10

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Pad Data with Zeros (continued)

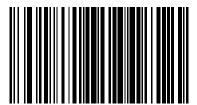


Pad Zeros To Length 11

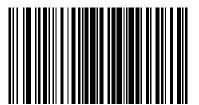


Pad Zeros To Length 12

Pad Data with Zeros (continued)



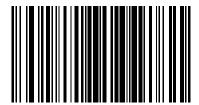
Pad Zeros To Length 13



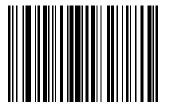
Pad Zeros To Length 14

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Pad Data with Zeros (continued)



Pad Zeros To Length 15

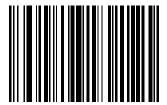


Pad Zeros To Length 16

Pad Data with Zeros (continued)



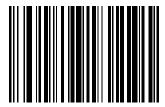
Pad Zeros To Length 17



Pad Zeros To Length 18

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Pad Data with Zeros (continued)



Pad Zeros To Length 19



Pad Zeros To Length 20

Pad Data with Zeros (continued)



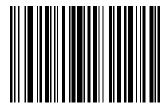
Pad Zeros To Length 21



Pad Zeros To Length 22

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Pad Data with Zeros (continued)

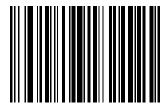


Pad Zeros To Length 23



Pad Zeros To Length 24

Pad Data with Zeros (continued)



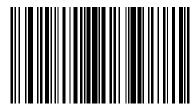
Pad Zeros To Length 25



Pad Zeros To Length 26

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Pad Data with Zeros (continued)



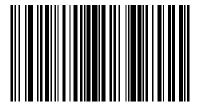
Pad Zeros To Length 27



Pad Zeros To Length 28

Pad Data with Zeros (continued)

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



Pad Zeros To Length 29

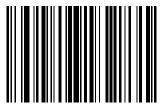


Pad Zeros To Length 30

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Pad Data with Zeros (continued)

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



Stop Pad Zeros

Beeps

Select a beep sequence for each ADF rule.



Beep Once



Beep Twice

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Beeps (continued)

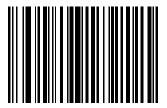
Select a beep sequence for each ADF rule.



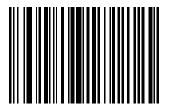
Beep Three Times

Send Keystroke (Control Characters and Keyboard Characters)

Control Characters



Send Control 2



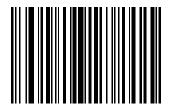
Send Control A

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Control Characters (continued)



Send Control B



Send Control C

Control Characters (continued)



Send Control D



Send Control E

2 - 136 Advanced Data Formatting Programmer Guide

Control Characters (continued)



Send Control F

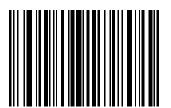


Send Control G

Control Characters (continued)



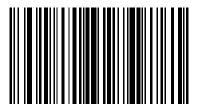
Send Control H



Send Control I

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Control Characters (continued)



Send Control J



Send Control K

Control Characters (continued)



Send Control L



Send Control M

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Control Characters (continued)



Send Control N

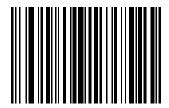


Send Control O

Control Characters (continued)



Send Control P



Send Control Q

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Control Characters (continued)



Send Control R



Send Control S

Control Characters (continued)



Send Control T



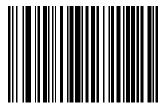
Send Control U

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Control Characters (continued)



Send Control V



Send Control X

Control Characters (continued)



Send Control Y



Send Control Z

2 - 146 Advanced Data Formatting Programmer Guide

Control Characters (continued)



Send Control [



Send Control \

Control Characters (continued)



Send Control]



Send Control 6

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Control Characters (continued)



Send Control -

Keyboard Characters



Send Space



Send!

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Keyboard Characters (continued)



Send "

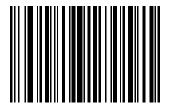


Send #

Keyboard Characters (continued)



Send \$



Send %

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Keyboard Characters (continued)



Send &



Send '

Keyboard Characters (continued)



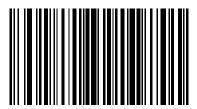
Send (



Send)

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Keyboard Characters (continued)



Send *



Send +

Keyboard Characters (continued)



Send,



Send -

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Keyboard Characters (continued)



Send .



Send /

Keyboard Characters (continued)



Send 0



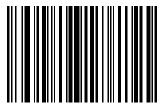
Send 1

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Keyboard Characters (continued)



Send 2



Send 3

Keyboard Characters (continued)



Send 4



Send 5

2 - 160 Advanced Data Formatting Programmer Guide

Keyboard Characters (continued)



Send 6



Send 7

Keyboard Characters (continued)



Send 8



Send 9

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Keyboard Characters (continued)



Send:

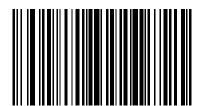


Send;

Keyboard Characters (continued)



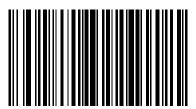
Send <



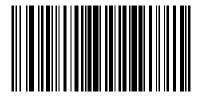
Send =

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Keyboard Characters (continued)



Send >



Send?



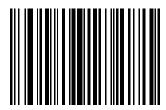
Send @



Send A

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Keyboard Characters (continued)



Send B



Send C



Send D



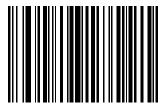
Send E

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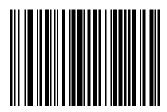
Keyboard Characters (continued)



Send F



Send G



Send H



Send I

2 - 170 Advanced Data Formatting Programmer Guide

Keyboard Characters (continued)



Send J



Send K



Send L



Send M

2 - 172 Advanced Data Formatting Programmer Guide

Keyboard Characters (continued)



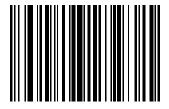
Send N



Send O



Send P



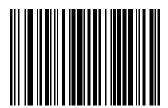
Send Q

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Keyboard Characters (continued)



Send R



Send S



Send T



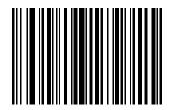
Send U

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Keyboard Characters (continued)



Send V



Send W



Send X



Send Y

2 - 178 Advanced Data Formatting Programmer Guide

Keyboard Characters (continued)



Send Z



Send [



Send \



Send]

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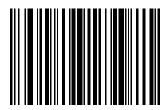
Keyboard Characters (continued)



Send ^



Send _



Send `



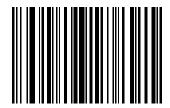
Send a

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Keyboard Characters (continued)



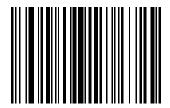
Send b



Send c



Send d



Send e

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Keyboard Characters (continued)



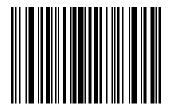
Send f



Send g



Send h



Send i

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Keyboard Characters (continued)



Send j



Send k



Send I



Send m

2 - 188 Advanced Data Formatting Programmer Guide

Keyboard Characters (continued)



Send n



Send o



Send p



Send q

2 - 190 Advanced Data Formatting Programmer Guide

Keyboard Characters (continued)



Send r



Send s



Send t



Send u

2 - 192 Advanced Data Formatting Programmer Guide

Keyboard Characters (continued)



Send v



Send w



Send x



Send y

2 - 194 Advanced Data Formatting Programmer Guide

Keyboard Characters (continued)



Send z



Send {



Send |



Send }

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Keyboard Characters (continued)



Send ~

Send ALT Characters



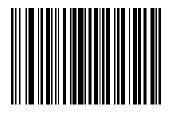
Send Alt 2



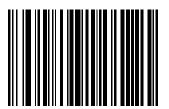
Send Alt A

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Send ALT Characters (continued)



Send Alt B



Send Alt C

Send ALT Characters (continued)



Send Alt D



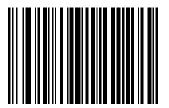
Send Alt E

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Send ALT Characters (continued)



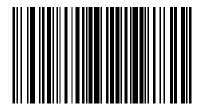
Send Alt G



Send Alt H

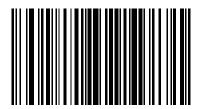


Send Alt I



Send Alt J

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Send Alt K



Send Alt L



Send Alt M



Send Alt N

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Send Alt O



Send Alt P

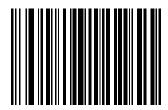


Send Alt Q

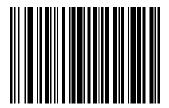


Send Alt R

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Send Alt S



Send Alt T



Send Alt U



Send Alt V

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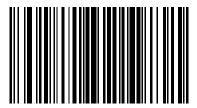
Send Alt W



Send Alt X



Send Alt Y

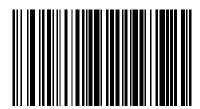


Send Alt Z

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Send Alt [



Send Alt \

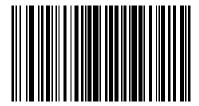


Send Alt]



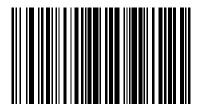
Send Alt @

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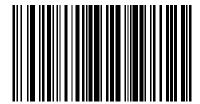


Send Alt -

Send Keypad Characters

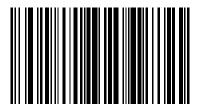


Send Keypad *



Send Keypad +

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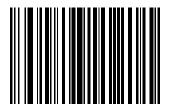
Send Keypad -



Send Keypad.

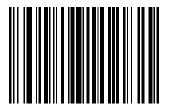


Send Keypad /



Send Keypad 0

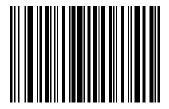
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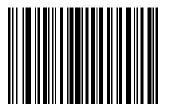
Send Keypad 1



Send Keypad 2

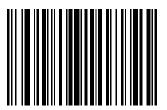


Send Keypad 3

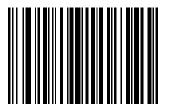


Send Keypad 4

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Send Keypad 5



Send Keypad 6



Send Keypad 7

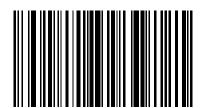


Send Keypad 8

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Send Keypad 9



Send Keypad Enter

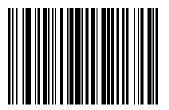


Send Keypad Numlock



Send Break Key

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Send Delete Key



Send Page Up Key



Send End Key

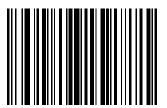


Send Page Down Key

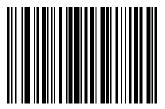
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Send Pause Key



Send Scroll Lock Key



Send Backspace Key



Send Tab Key

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Send Print Screen Key



Send Insert Key

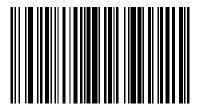


Send Home Key



Send Enter Key

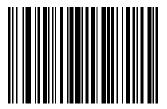
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Send Escape Key



Send Up Arrow Key



Send Down Arrow Key



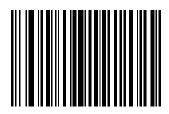
Send Left Arrow Key

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Send Right Arrow Key

Send Function Key



Send F1 Key



Send F2 Key

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Send F3 Key



Send F4 Key



Send F5 Key



Send F6 Key

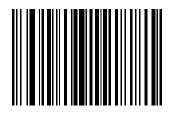
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Send F7 Key



Send F8 Key



Send F9 Key



Send F10 Key

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Send F11 Key



Send F12 Key



Send F13 Key

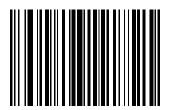


Send F14 Key

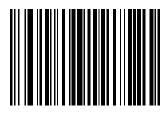
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Send F15 Key



Send F16 Key



Send F17 Key

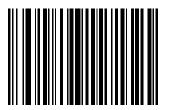


Send F18 Key

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Send F19 Key



Send F20 Key



Send F21 Key



Send F22 Key

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Send F23 Key



Send F24 Key



Send PF1 Key



Send PF2 Key

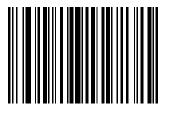
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Send PF3 Key



Send PF4 Key



Send PF5 Key



Send PF6 Key

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Send PF7 Key



Send PF8 Key



Send PF9 Key



Send PF10 Key

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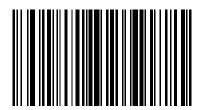
Send PF11 Key



Send PF12 Key



Send PF13 Key



Send PF14 Key

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Send PF15 Key



Send PF16 Key



Send PF17 Key



Send PF18 Key

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Send PF19 Key



Send PF20 Key



Send PF21 Key



Send PF22 Key

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Send PF23 Key



Send PF24 Key



Send PF25 Key



Send PF26 Key

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Send PF27 Key



Send PF28 Key



Send PF29 Key



Send PF30 Key

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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

Bar Code Encoding Scheme Specification (Code Pages)

The following actions specify the decoded bar code character encoding scheme (code page) and output the appropriate characters to the host.



NOTE If specifying an encoding scheme, ensure it is the first action in the ADF rule to ensure the UTF-8 bar code is converted before the rules apply.



Windows 1250 Latin 2, Central Europe



Windows 1251 Cyrillic, Slavic



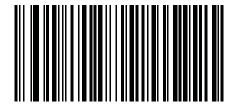
Windows 1252 Latin 1, Western European



Windows 1253 Greek



Windows 1254 Latin 5, Turkish



Windows 1255 Hebrew



Windows 1256 Arabic



Windows 1257 Baltic



Windows 1258 Vietnamese



Windows 874 Thai



Windows 20866 Cyrillic KOI8-R



Windows 932 Japanese Shift-JIS



Windows 936 Simplified Chinese GBK



Windows 54936 Simplified Chinese GB18030



Windows 949 Korean Hangul



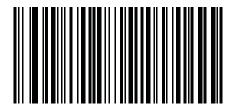
Windows 950 Traditional Chinese Big5



Mac CP10000 Mac Roman



MS-DOS 437 Latin US



MS-DOS 737 Greek



MS-DOS 775 Baltic



MS-DOS 850 Latin 1



MS-DOS 852 Latin 2



MS-DOS 855 Cyrillic



MS-DOS 857 Turkish



MS-DOS 860 Portuguese



MS-DOS 861 Icelandic



MS-DOS 862 Hebrew



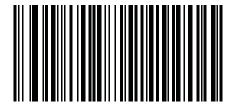
MS-DOS 863 French Canada



MS-DOS 865 Nordic



MS-DOS 866 Cyrillic



MS-DOS 869 Greek 2



ISO 8859-1 Latin 1, Western European



ISO 8859-2 Latin 2, Central European



ISO 8859-3 Latin 3, South European



ISO 8859-4 Latin 4, North European



ISO 8859-5 Cyrillic



ISO 8859-6 Arabic



ISO 8859-7 Greek



ISO 8859-8 Hebrew



ISO 8859-9 Latin 5, Turkish



ISO 8859-10 Latin 6, Nordic



ISO 8859-11 Thai



ISO 8859-13 Latin 7, Baltic



ISO 8859-14 Latin 8, Celtic



ISO 8859-15 Latin 9



ISO 8859-16 Latin 10, South-Eastern European



UTF-8

Note: Not valid for specifying CJK bar code.



UTF-16_LE UTF-16 Little Endian

Note: Not valid for specifying CJK bar code.

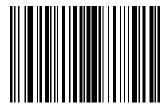


UTF-16_BE UTF-16 Big Endian

Note: Not valid for specifying CJK bar code.

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Turn On/Off Rule Sets

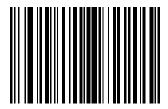


Turn On Rule Set 1



Turn On Rule Set 2

Turn On/Off Rule Sets (continued)



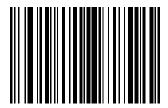
Turn On Rule Set 3



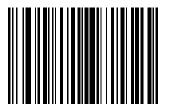
Turn On Rule Set 4

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Turn On/Off Rule Sets (continued)



Turn Off Rule Set 1

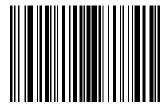


Turn Off Rule Set 2

Turn On/Off Rule Sets (continued)



Turn Off Rule Set 3



Turn Off Rule Set 4

Alphanumeric Keyboard

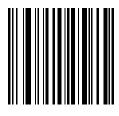


Space





\$



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Alphanumeric Keyboard (continued)



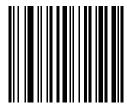
*



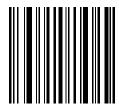


-(Dash)





, (Comma)





!

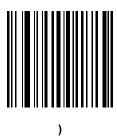






(Single Close Quote)





2 - 296 Advanced Data Formatting Programmer Guide

Alphanumeric Keyboard (continued)



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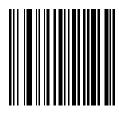




(Underscore)

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Alphanumeric Keyboard (continued)



(Single Open Quote)



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



0





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



2





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



4





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



6





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

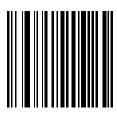


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Alphanumeric Keyboard (continued)



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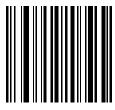


0





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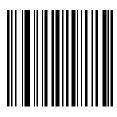


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Cancel

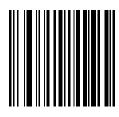


End of Message



а





С



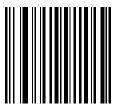


е



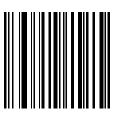


y



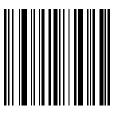


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Alphanumeric Keyboard (continued)



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