

Programming Guide

Advanced 2D Image Scanner

This Programming Guide is intended for:

- 2D Image Handheld Scanner: Z-3502

Revision History

Changes to the original manual are listed below:

Version	Date	Description of Version
1.0	2025/05/20	Initial release
1.1	2026/05/27	Corrected the set barcode

Important Notice

No warranty of any kind is made in regard to this material, including, but not limited to, implied warranties of merchantability or fitness for any particular purpose. We are not liable for any errors contained herein nor for incidental or consequential damages in connection with furnishing, performance or use of this material. We shall be under no liability in respect of any defect arising from fair wear and tear, willful damage, negligence, abnormal working conditions, failure to follow the instructions and warnings, or misuse or alteration or repair of the products without written approval. No part of this document may be reproduced, transmitted, stored in a retrieval system, transcribed, or translated into any human or computer or other language in any form or by any means electronic, mechanical, magnetic, optical, chemical, biological, manual or otherwise, except for brief passages which may be quoted for purposes of scholastic or literary review, without express written consent and authorization. We reserve the right to make changes in product design without reservation and without notification. The material in this guide is for information only and is subject to change without notice. All trademarks mentioned herein, registered or otherwise, are the properties of their various, ill, assorted owners.

General Handling Precautions

Do not dispose the scanner in fire.
Do not put the scanner directly in the sun or by any heat source.
Do not use or store the scanner in a very humid place.
Do not drop the scanner or allow it to collide violently with other objects.
Do not take the scanner apart without authorization

Guidance for Printing

This manual is in A5 size. Please double check your printer setting before printing it out. When the barcodes are to be printed out for programming, the use of a high-resolution laser printer is strongly suggested for the best scan result.

Firmware Notice

To use all functions in this guide please update to the latest firmware.

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Settings and Programming

Scan the selected barcodes in this manual to configure and program your handheld imaging barcode scanner.

You can customize decoding options and interface protocols to suit your specific application.

All setup parameters are stored in the scanner's non-volatile memory, ensuring they are retained even when the device is powered off. These settings will remain unchanged unless you manually reset them. When scanning, you may need to cover nearby barcodes with your hand to avoid interference.

Program Set Up Flow

Scan "Set" to set up --> Scan selected barcode --> Scan "End" to confirm the setup.

System Settings

Restore Default Settings

Restores all scanner settings to factory defaults.



Set



Restore Default Settings



End

Customized Settings

Save Custom Settings: Save frequently used scanner settings for future use.

Load Custom Settings: Apply previously saved custom settings.



Set



Save Custom Settings



Load Custom Settings



End

Decoding Area

Full Area Decoding: Uses the entire image area for barcode decoding.

Scanning Area Decoding: The barcode must be within the designated scanning area to be successfully read.



Set



Full Area Decoding (default)



Scanning Area Decoding



End

Auxiliary Light Options



Set



Light Source Cycles Automatically(default)



White Light



Red Light



Blue Light



End

Aiming Light Options



Set



Always On



On During Scanning (default)



Off



End

Beep Frequency for Decoding Prompt

Set



Minimum - 800 Hz



Low - 1600 Hz



Medium - 2730 Hz (default)



High - 4200 Hz



End

Output Options

USB keyboard port



Set



USB Keyboard Output (default)



End

USB Virtual COM Port Output



Set



USB VCOM



End

Serial Port



Set



Serial Port Output



End

Serial Port Baud Rate



Set



9600 (default)



19200



38400



57600



115200



30400



End

Serial Data Bits Transmission



Set



7 Data Bits



8 Data Bits (default)



End

Serial Port Parity Bit



Set



No verification (default)



Odd parity



Even parity



End

Serial Port Stop Bit



Set



One stop bit (default)



Two stop bits



End

CB2312 Character Encoding



Set



Simplified Chinese (GB2312) – Unicode / Excel ; Notepad (default)



Simplified Chinese (GB2312) – Code Page / Word



End

Symbology Settings

Supported Symbologies

UPC A	Enabled by default
UPC E	Enabled by default
EAN 8	Enabled by default
EAN 13	Enabled by default
Code 128 / GS1-128	Enabled by default
Code 39	Enabled by default
Code 93	Disabled by default
Codabar	Disabled by default
Plessey	Disabled by default
MSI Plessey	Disabled by default
Interleaved 2 of 5	Enabled by default
Pharmacode	Disabled by default
Data Matrix	Enabled by default
QR	Enabled by default
Micro QR	Disabled by default

Enable All Symbolologies



Set



Enable All Symbolologies



End

Enable Only 1D Barcodes

Set



Enable Only 1D Barcodes



End

Enable Only 1D Barcodes



Set



Enable Only 2D Barcodes



End

Disable All Symbolologies



Set



Disable All Symbolologies



End

Disable Only 1D Barcodes



Set



Disable Only 1D Barcodes



End

Disable Only 2D Barcodes

Set



Disable Only 2D Barcodes



End

UPC-A

Set



Enable UPC-A (default)



Disable UPC-A



End

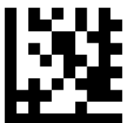
Transmit Leading Digit



Set



Transmit Leading Digit (default)



Do Not Transmit Leading Digit



End

Check Digit



Set



Enable Check Digit (default)



Disable Check Digit



End

Convert to EAN-13

Set



Enable EAN-13 Conversion



Disable EAN-13 Conversion (default)



End

Enable/Disable UPC-A 2/5-Digit Add-On



Set



Enable UPC-A 2/5-Digit Add-On



Disable UPC-A 2/5-Digit Add-On (default)



End

Restrict Reading to UPC-A 2/5-Digit Add-On Only

Set



Read UPC-A 2/5-Digit Add-On Only



Read UPC-A and UPC-A with 2/5-Digit Add-On (default)



End

UPC-E

Set



Enable UPC-E (default)



Disable UPC-E



End

Transmit Leading Digit



Set



Transmit Leading Digit (default)



Do Not Transmit Leading Digit



End

Check Digit



Set



Enable Check Digit (default)



Disable Check Digit



End

Convert to UPC-A

Set



Enable UPC-A Conversion (default)



Disable UPC-A Conversion



End

Enable/Disable UPC-E 2/5-Digit Add-On



Set



Enable UPC-E 2/5-Digit Add-On



Disable UPC-E 2/5-Digit Add-On (default)



End

Restrict Reading to UPC-E 2/5-Digit Add-On Only

Set



Read UPC-E 2/5-Digit Add-On Only



Read UPC-E and UPC-A with 2/5-Digit Add-On (default)



End

EAN-8

Set



Enable EAN-8 (default)



Disable EAN-8



End

Transmit Check Digit



Set



Transmit Check Digit (default)



Do Not Transmit Check Digit



End

Convert to EAN-13



Set



Enable EAN-13 Conversion (default)



Disable EAN-13 Conversion



End

Enable/Disable EAN-8 2/5-Digit Add-On



Set



Enable EAN-8 2/5-Digit Add-On



Disable EAN-8 2/5-Digit Add-On (default)



End

Restrict Reading to EAN-8 2/5-Digit Add-On Only

Set



Read EAN-8 2/5-Digit Add-On Only



Read UPC-E and EAN-8 with 2/5-Digit Add-On (default)



End

EAN-13

Set



Enable EAN-13 (default)



Disable EAN-13



End

Transmit Check Digit



Set



Transmit Check Digit (default)



Do Not Transmit Check Digit



End

ISBN Conversion



Set



Enable ISBN Conversion



Disable ISBN Conversion (default)



End

ISSN Conversion



Set



Enable ISSN Conversion



Disable ISSN Conversion (default)



End

Enable/Disable EAN-13 2/5-Digit Add-On

Set



Enable EAN-13 2/5-Digit Add-On



Disable EAN-13 2/5-Digit Add-On (default)



End

Restrict Reading to EAN-13 2/5-Digit Add-On Only

Set



Read EAN-13 2/5-Digit Add-On Only



Read UPC-E and EAN-13 with 2/5-Digit Add-On (default)



End

Code 128 / GS1 -128

Set



Enable Code 128 / GS1-128



Disable Code 128 / GS1-128



End

Code 128 Decoding Length Settings



Set



Restrict to Single Length



Restrict to Two Different Lengths



Restrict Length Range



No Length Restriction (default)



End

Example:

Restrict Code 128 barcode length to between 5 and 18 characters.

Scan Set

Scan the Restrict Length Range code:

- Scan ASCII code for digit **0**
- Scan ASCII code for digit **5**
- Scan ASCII code for digit **1**
- Scan ASCII code for digit **8**

Scan End

No Length Restriction**Scan Set**

Scan the No Length Restriction code.

Scan End

Code 39

Set



Enable Code 39



Disable Code 39



End

Full ASCII



Set



Enable Code 39 Full ASCII Function



Disable Code 39 Full ASCII Function (default)



End

Start/Stop Characters



Set



Transmit Start/Stop Characters



Do Not Transmit Start/Stop Characters (default)



End

Check Digit



Set



No verification (default)



Validate and Transmit



Validate but Do Not Transmit



End

Code 39 Decoding Length Settings



Set



Restrict to Single Length



Restrict to Two Different Lengths



Restrict Length Range



No Length Restriction (default)



End

Example:

Restrict Code 39 barcode length to between 5 and 18 characters.

Scan Set

Scan the Restrict Length Range code:

- Scan ASCII code for digit **0**
- Scan ASCII code for digit **5**
- Scan ASCII code for digit **1**
- Scan ASCII code for digit **8**

Scan End

No Length Restriction**Scan Set**

Scan the No Length Restriction code.

Scan End

Code 93

Set



Enable Code 93



Disable Code 93



End

Code 93 Decoding Length Settings



Set



Restrict to Single Length



Restrict to Two Different Lengths



Restrict Length Range



No Length Restriction (default)



End

Example:

Restrict Code 93 barcode length to between 5 and 18 characters.

Scan Set

Scan the Restrict Length Range code:

- Scan ASCII code for digit **0**
- Scan ASCII code for digit **5**
- Scan ASCII code for digit **1**
- Scan ASCII code for digit **8**

Scan End

No Length Restriction**Scan Set**

Scan the No Length Restriction code.

Scan End

Codabar

Set



Enable Codabar



Disable Codabar (default)



End

Check Digit



Set



No Verification (default)



Validate and Transmit



Validate but Do Not Transmit



End

Start/Stop Characters



Set



Transmit Start/Stop Characters



Do Not Transmit Start/Stop Characters (default)



End

Codabar Decoding Length Settings



Set



Restrict to Single Length



Restrict to Two Different Lengths



Restrict Length Range



No Length Restriction (default)



End

Example:

Restrict Codabar barcode length to between 5 and 18 characters.

Scan Set

Scan the Restrict Length Range code:

- Scan ASCII code for digit **0**
- Scan ASCII code for digit **5**
- Scan ASCII code for digit **1**
- Scan ASCII code for digit **8**

Scan End

No Length Restriction**Scan Set**

Scan the No Length Restriction code.

Scan End

Plessey



Set



Enable Plessey



Disable Plessey (default)



End

Plessey Decoding Length Settings



Set



Restrict to Single Length



Restrict to Two Different Lengths



Restrict Length Range



No Length Restriction (default)



End

Example:

Restrict Plessey barcode length to between 5 and 18 characters.

Scan Set

Scan the Restrict Length Range code:

- Scan ASCII code for digit **0**
- Scan ASCII code for digit **5**
- Scan ASCII code for digit **1**
- Scan ASCII code for digit **8**

Scan End

No Length Restriction**Scan Set**

Scan the No Length Restriction code.

Scan End

MSI Plessey

Set



Enable MSI Plessey



Disable MSI Plessey (default)



End

Check Digit



Set



No Verification



Mod 10 Check Digit (Default)



Mod 10/10 Check Digit



Mod 11/10 Check Digit



End

Transmit Check Digit



Set



Transmit Check Digit (default)



Do Not Transmit Check Digit



End

MSI Plessey Decoding Length Settings



Set



Restrict to Single Length



Restrict to Two Different Lengths



Restrict Length Range



No Length Restriction (default)



End

Example:

Restrict MSI Plessey barcode length to between 5 and 18 characters.

Scan Set

Scan the Restrict Length Range code:

- Scan ASCII code for digit **0**
- Scan ASCII code for digit **5**
- Scan ASCII code for digit **1**
- Scan ASCII code for digit **8**

Scan End

No Length Restriction**Scan Set**

Scan the No Length Restriction code.

Scan End

Interleaved 2 of 5



Set



Enable Interleaved 2 of 5 (default)



Disable Interleaved 2 of 5



End

Check Digit



Set



No Verification (default)



Validate and Transmit



End

Interleaved 2 of 5 Decoding Length Settings



Set



Restrict to Single Length



Restrict to Two Different Lengths



Restrict Length Range



No Length Restriction (default)



End

Example:

Restrict Interleaved 2 of 5 barcode length to between 5 and 18 characters.

Scan Set

Scan the Restrict Length Range code:

- Scan ASCII code for digit **0**
- Scan ASCII code for digit **5**
- Scan ASCII code for digit **1**
- Scan ASCII code for digit **8**

Scan End

No Length Restriction**Scan Set**

Scan the No Length Restriction code.

Scan End

Data Matrix



Set



Enable Data Matrix (default)



Disable Data Matrix



End

Rectangular Data Matrix



Set



Enable Rectangular Data Matrix (default)



Disable Rectangular Data Matrix



End

Mirror Decoding



Set



Enable Mirror Decoding (default)



Disable Mirror Decoding



End

QR Code



Set



Enable QR Code (default)



Disable QR Code



End

Mirror Decoding



Set



Enable Mirror Decoding (default)



Disable Mirror Decoding



End

Micro QR

Set



Enable Micro QR (default)



Disable Micro QR



End

Data Editing

Output Format

The following is the output format for barcode data:

Barcode Type (4 bytes)	Prefix (4 bytes)	AIM ID	Barcode Data	Suffix (4 bytes)	Terminator (1 byte)
---------------------------	---------------------	--------	--------------	---------------------	------------------------

Barcode Output Notes:

1. Barcode type will not be output if not enabled.
2. When combining output formats, prefix and suffix are output before and after barcode data respectively.
3. Only valid under USB keyboard mode.

Format Definition:

Start Code (1 byte)	Barcode Type Length (1 byte)	Barcode Length (2 bytes)
0x03	Hexadecimal Format	0x0001 – 0xFFFF

Barcode Types:

Code	2D Barcode Type	Code	1D Barcode Type	Code	1D Barcode Type
0x41	PDF417	0x61	UPC-A	0x71	Pharmacode
0x42	Micro PDF417	0x62	UPC-E	0x73	GS1 DataBar-14
0x43	Data Matrix	0x63	EAN-8	0x74	GS1 DataBar Expanded
0x44	QR Code	0x64	EAN-13	0x75	GS1 DataBar Limited
0x45	Micro QR	0x65	Code 128	0x76	Composite Code-A
0x46	Aztec	0x66	Code 39	0x77	Composite Code-B
0x47	MaxiCode	0x67	Code 93	0x78	Composite Code-C
		0x68	Codabar		
		0x69	Plessey		
		0x6A	MSI Plessey		
		0x6B	Interleaved 2 of 5		
		0x6C	IATA 2 of 5		
		0x6D	Matrix 2 of 5		
		0x6F	Straight 2 of 5		

Barcode Data

Set



Off (default)



On



End

Barcode Symbology ID



Set



Disable Barcode Symbology ID (default)



Enable AIM ID



End

Barcode Symbology List	
Symbology	AIM
UPC-A	E
UPC-E	E
EAN-8	E
EAN-13	E
Code 128	C
Code 39	A
Code 93	G
Code 32	A
Code 11	H
Codabar	F
Plessey	P
MSI / Plessey	M
Interleaved 2 of 5	I
IATA 2 of 5	R
Matrix 2 of 5	X
Straight 2 of 5	S
Pharmacode	X
GS1 DataBar 14	e
GS1 DataBar Expanded	e
GS1 DataBar Limited	e
Composite CC-A	e
Composite CC-B	e
Composite CC-C	e
PDF417	L
Micro PDF417	L
Data Matrix	d
QR	Q
Micro QR	Q
Aztec	Z
MaxiCode	U

Prefix Settings

Add up to 4 characters before barcode data output.



Set



Clear Global Prefix (default)



Set Global Prefix



Set Barcode Prefix



Clear Barcode Prefix



End

Example: Add an 'a' character before all barcode data

1. Scan "Set"
 2. Scan "Set Global Prefix"
 3. Scan ASCII Code Table (Appendix 3) — scan the 'a' barcode
 4. Scan "End"
-

Remove Global Prefix

1. Scan "Set"
 2. Scan "Clear Global Prefix"
 3. Scan "End"
-

Example: Add "&1" before EAN-13 barcode data only

1. Scan "Set"
 2. Scan "Set Barcode Prefix"
 3. Scan Barcode Type Code from Appendix 2 — scan "EAN-13"
 4. Scan ASCII Code Table (Appendix 3) — scan the '&' barcode
 5. Scan ASCII Code Table (Appendix 3) — scan the '1' barcode
 6. Scan "End"
-

Example: Remove EAN-13 Prefix

1. Scan "Set"
2. Scan "Set Barcode Prefix"
3. Scan Barcode Type Code from Appendix 2 — scan "EAN-13"
4. Scan "End"

Suffix Settings

Add up to 4 characters after barcode data output.



Set



Clear Global Suffix (default)



Set Global Suffix



Set Barcode Suffix



Clear Barcode Suffix



End

Example: Add an 'S' character after all barcode data

1. Scan "Set"
 2. Scan "Set Global Suffix"
 3. Scan ASCII Code Table (Appendix 3) — scan the 'S' barcode
 4. Scan "End"
-

Remove Global Suffix

1. Scan "Set"
 2. Scan "Clear Global Suffix"
 3. Scan "End"
-

Example: Add "+2" after Code 128 barcode data only

1. Scan "Set"
 2. Scan "Set Barcode Suffix"
 3. Scan Barcode Type Code from Appendix 2 — scan "Code 128"
 4. Scan ASCII Code Table (Appendix 3) — scan the '+' barcode
 5. Scan ASCII Code Table (Appendix 3) — scan the '2' barcode
 6. Scan "End"
-

Example: Remove Code 128 Suffix

1. Scan "Set"
2. Scan "Set Barcode Suffix"
3. Scan Barcode Type Code from Appendix 2 — scan "Code 128"
4. Scan "End"

Remove Leading Characters

Removes characters from the beginning of barcode data. Up to 20 characters can be removed.



Set



Remove Global Leading Characters



Remove Leading Characters from Barcode



End

Example: Remove the first 3 characters from all barcodes

1. Scan "Set"
 2. Scan "Remove Global Leading Characters"
 3. Scan Decimal Table (Appendix 1) — scan the '3' barcode
 4. Scan "End"
-

Example: Keep all leading characters from all barcodes

1. Scan "Set"
 2. Scan "Remove Global Leading Characters"
 3. Scan Decimal Table (Appendix 1) — scan the '0' barcode
 4. Scan "End"
-

Example: Remove the first 2 characters from QR barcode data only

1. Scan "Set"
 2. Scan "Remove Leading Characters by Barcode"
 3. Scan Barcode Type Code from Appendix 2 — scan "QR"
 4. Scan Decimal Table (Appendix 1) — scan the '2' barcode
 5. Scan "End"
-

Example: Remove QR Leading Character Removal

1. Scan "Set"
2. Scan "Remove Leading Characters by Barcode"
3. Scan Barcode Type Code from Appendix 2 — scan "QR"
4. Scan Decimal Table (Appendix 1) — scan the '0' barcode
5. Scan "End"

Remove Terminal Characters

Removes characters from the end of barcode data. Up to 20 characters can be removed.



Set



Remove Global Terminal Characters



Remove Terminal Characters from Barcode



End

Example: Remove the last 5 terminal characters from all barcodes

1. Scan "Set"
 2. Scan "Remove Global Terminal Characters"
 3. From the Decimal Table (Appendix 1), scan the barcode for '5'
 4. Scan "End"
-

Example: Keep all terminal characters for all barcodes

1. Scan "Set"
 2. Scan "Remove Global Terminal Characters"
 3. From the Decimal Table (Appendix 1), scan the barcode for '0'
 4. Scan "End"
-

Example: Remove the last 2 terminal characters from Code 39 barcodes only

1. Scan "Set"
 2. Scan "Remove Terminal Characters by Barcode"
 3. From the Barcode Type Table (Appendix 2), scan "Code 39"
 4. From the Decimal Table (Appendix 1), scan the barcode for '2'
 5. Scan "End"
-

Example: Disable terminal character removal for Code 39

1. Scan "Set"
2. Scan "Remove Terminal Characters by Barcode"
3. From the Barcode Type Table (Appendix 2), scan "Code 39"
4. From the Decimal Table (Appendix 1), scan the barcode for '0'
5. Scan "End"

Terminator Character



Set



None



Carriage Return / CR (Default)



CR / LF



TAB



End

Caps Lock



Set



Disable Caps Lock (default)



Enable Caps Lock



End

GS Character Conversion

Convert the GS character to other ASCII codes in keyboard mode.



Set



Disable GS Character Conversion (default)



Convert GS Character



End

To set the GS character to output as ‘#’:

1. Scan “Set”
 2. Scan “Convert GS Character”
 3. Scan the ASCII code for ‘#’ from the ASCII Code Table
 4. Scan “End”
-

To set the GS character to output as Carriage Return (Enter):

1. Scan “Set”
 2. Scan “Convert GS Character”
 3. Scan the ASCII code for Carriage Return (CR) from the ASCII Code Table
 4. Scan “End”
-

To restore the GS character to its default value:

1. Scan “Set”
2. Scan “Disable GS Character Conversion”
3. Scan “End”

Function Key Mapping



Set



Off



On (default)



Ctrl Char Mode (default)



Alt + Unicode Mode



End

Appendix 1 Decimal Numbers



0



5



1



6



2



7



3



8



4



9

Appendix 2 Barcode Types



UPC A



UPC E



EAN 8



EAN 13



Code 128



Code 39



Code 93



Code 32



Code 11



Codabar



Plessey



MSI Plessey



Interleaved 2 of 5



IATA 2 of 5



Matrix 2 of 5



Straight 2 of 5



Pharmacode



GS1 DataBar 14



GS1 DataBar Expanded



GS1 DataBar Limited



GS1 DataBar 14 Stacked



GS1 DataBar Expanded Stacked



Composite Code-A



Composite Code-B



Composite Code-C



PDF417



Micro PDF417



Data Matrix



QR



Micro QR



Aztec



MaxiCode

Appendix 3 ASCII Code Table

HEX	Decimal	ASCII	Function Key Mapping		
			Disable	Control-Key	Alt+Unicode
00 (NUL)	0	 NUL	Null	Ctrl+@	Alt + 000
01 (SOH)	1	 SOH	Home	Ctrl+A	Alt + 001
02 (STX)	2	 STX	Alt	Ctrl+B	Alt + 002

HEX	Decimal	ASCII	Function Key Mapping		
			Disable	Control-Key	Alt+Unicode
03 (ETX)	3	 ETX	Up Arrow	Ctrl+C	Alt + 003
04 (EOT)	4	 EOT	Null	Ctrl+D	Alt + 004
05 (ENQ)	5	 ENQ	Ctrl	Ctrl+E	Alt + 005

HEX	Decimal	ASCII	Function Key Mapping		
			Disable	Control-Key	Alt+Unicode
06 (ACK)	6	 ACK	Right Arrow	Ctrl+F	Alt + 006
07 (BEL)	7	 BEL	Null	Ctrl+G	Alt + 007
	8	 BS	Left Arrow	Ctrl+H	Alt + 008

HEX	Decimal	ASCII	Function Key Mapping		
			Disable	Control-Key	Alt+Unicode
09	9	 TAB	TAB	Ctrl+I	Alt + 009
0A (LF)	10	 LF	Down Arrow	Ctrl+J	Alt + 010
0B (VT)	11	 VT	Null	Ctrl+K	Alt + 011

HEX	Decimal	ASCII	Function Key Mapping		
			Disable	Control-Key	Alt+Unicode
0C (FF)	12	 FF	Null	Ctrl+L	Alt + 012
0D (CR)	13	 CR	Enter	Enter	Enter
0E (SO)	14	 SO	Page Up	Ctrl+N	Alt + 014

HEX	Decimal	ASCII	Function Key Mapping		
			Disable	Control-Key	Alt+Unicode
0F (SI)	15	 SI	Page Down	Ctrl+O	Alt + 015
10 (DLE)	16	 DLE	F11	Ctrl+P	Alt + 016
11 (DC1)	17	 DC1	Null	Ctrl+Q	Alt + 017

HEX	Decimal	ASCII	Function Key Mapping		
			Disable	Control-Key	Alt+Unicode
12 (DC2)	18	 DC2	Null	Ctrl+R	Alt + 018
13 (DC3)	19	 DC3	Null	Ctrl+S	Alt + 019
14 (DC4)	20	 DC4	Null	Ctrl+T	Alt + 020

HEX	Decimal	ASCII	Function Key Mapping		
			Disable	Control-Key	Alt+Unicode
15 (NAK)	21	 NAK	F12	Ctrl+U	Alt + 021
16 (SYN)	22	 SYN	F1	Ctrl+V	Alt + 022
17 (ETB)	23	 ETB	F2	Ctrl+W	Alt + 023

HEX	Decimal	ASCII	Function Key Mapping		
			Disable	Control-Key	Alt+Unicode
18 (CAN)	24	 CAN	F3	Ctrl+X	Alt + 024
19 (CAN)	25	 EM	F4	Ctrl+Y	Alt + 025
1A (SUB)	26	 SUB	F5	Ctrl+Z	Alt + 026

HEX	Decimal	ASCII	Function Key Mapping		
			Disable	Control-Key	Alt+Unicode
1B (ESC)	27	 ESC	F6	Ctrl+[	Alt + 027
1C (FS)	28	 FS	F7	Ctrl+\	Alt + 028
1D (GS)	29	 GS	F8	Ctrl+]	Alt + 029

HEX	Decimal	ASCII	Function Key Mapping		
			Disable	Control-Key	Alt+Unicode
1E (US)	30	 RS	F9	Ctrl+6	Alt + 030
1F (US)	31	 US	F10	Ctrl+-	Alt + 031

HEX	Decimal	ASCII	
20	32	SPACE	
21	33	!	
22	34	"	
23	35	#	

HEX	Decimal	ASCII	
24	36	\$	
25	37	%	
26	38	&	
27	39	'	

HEX	Decimal	ASCII	
28	40	(	
29	41	)	
2A	42	*	
2B	43	+	

HEX	Decimal	ASCII	
2C	44	,	
2D	45	-	
2E	46	.	
2F	47	/	

HEX	Decimal	ASCII	
30	48	0	
31	49	1	
32	50	2	
33	51	3	

HEX	Decimal	ASCII	
34	52	4	
35	53	5	
36	54	6	
37	55	7	

HEX	Decimal	ASCII	
38	56	8	
39	57	9	
3A	58	:	
3B	59	;	

HEX	Decimal	ASCII	
3C	60	<	
3D	61	=	
3E	62	>	
3F	63	?	

HEX	Decimal	ASCII	
40	64	@	
41	65	A	
42	66	B	
43	67	C	

HEX	Decimal	ASCII	
44	68	D	
45	69	E	
46	70	F	
47	71	G	

HEX	Decimal	ASCII	
48	72	H	
49	73	I	
4A	74	J	
4B	75	K	

HEX	Decimal	ASCII	
4C	76	L	
4D	77	M	
4E	78	N	
4F	79	O	

HEX	Decimal	ASCII	
50	80	P	
51	81	Q	
52	82	R	
53	83	S	

HEX	Decimal	ASCII	
54	84	T	
55	85	U	
56	86	V	
57	87	W	

HEX	Decimal	ASCII	
58	88	x	
59	89	y	
5A	90	z	
5B	91	[	

HEX	Decimal	ASCII	
5C	92	\	
5D	93	]	
5E	94	^	
5F	95	_	

HEX	Decimal	ASCII	
60	96	`	
62	97	a	
62	98	b	
63	99	c	

HEX	Decimal	ASCII	
64	100	d	
65	101	e	
66	102	f	
67	103	g	

HEX	Decimal	ASCII	
68	104	h	
69	105	i	
6A	106	j	
6B	107	k	

HEX	Decimal	ASCII	
6C	108	l	
6D	109	m	
6E	110	n	
6F	111	o	

HEX	Decimal	ASCII	
70	112	p	
71	113	q	
72	114	r	
73	115	s	

HEX	Decimal	ASCII	
74	116	t	
75	117	u	
76	118	v	
77	119	w	

HEX	Decimal	ASCII	
78	120	x	
79	121	y	
7A	122	z	
7B	123	{	

HEX	Decimal	ASCII	
7C	124		
7D	125	}	
7E	126	~	
7F	127	Delete	

Appendix 4 - Function Keys



Insert



Delete



Home



End



Up Arrow



Down Arrow



Left Arrow



Right Arrow



Shift



ESC



Ctrl



Alt



Page Up



Page Down



F1



F2



F3



F4



F5



F6



F7



F8



F9



F10



F11



F12