

Introduction

Bar code technology enables efficient data collection in various businesses including both commercial office and industrial automation . Importantly, bar code technology also ensures the accuracy of captured data . The bar code readers described in this manual have been developed for maximum efficiency, accuracy and ease of use in various process scenarios .

FCC Statement

The federal communications commission(FCC) requires that all CCD readers must be labeled with FCC approval .

This equipment complies with the requirements in part 15 of FCC rules for a class A computing device . These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment . This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interface to radio communications . Operation of this equipment in a residential area may cause unacceptable interference to radio and TV reception requiring the operator to take whatever is necessary to correct the interface .

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Chapter 1. Technical Data

This User's Manual introduces the technical specification of the bar code readers. The product features are described in later chapter e.g. installation, set-up and configuration as well as detailed technical specifications.

Main Technical FEATURES

Bar code width	: 75mm
Depth of reading	: 0 to 40mm
Working current	: Scanning 84mA (with Decoder) Stand-by 14mA
Light	: Red LED array 660nm
Interface	: TTL, RS232C, Keyboard Wedge, WAND, Notebook, USB
Device Selection For	: PC AT/XT, PS/2 25, 30, 50, 60,
Keyboard Interface	: 70, 80, Acer 7300, IBM 5550, Mac, NEC9800
Bar code selections	: Code39, Code32, CIP39 Coda Bar (CLSI) EAN-13, UPC-A, EAN-8, UPC-E (Add on 2 of 5) MSI/Plessey (UK Plessey) Code 128 (EAN128) Code 93 Code 11 Interleaved 2 of 5 Industrial 2 of 5 Matrix 2 of 5 China Postal Code Telepen Laetus Phamacode
Keyboard nationality	: US, French, German, Spanish, Italian, UK, Swiss, Belgium, Netherlands, Sweden, Norway, Denmark, Portugal, Finland, Slovakia, Japan, Hungary, Greece, Yugoslavia Cyrillic, Yugoslavia

Chapter 2. How to install RDG-2048 Code Reader

Installation :

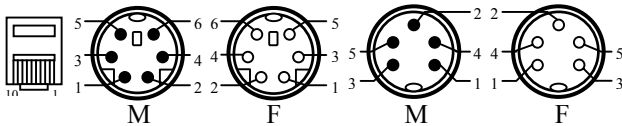
- Step 1. Turn off the power on your terminal device.
- Step 2. Connect the bar code reader to the appropriate outlet on the technical device depending on the model / interface cable that you have, e.g. RS232, PS2,
- Step 3. Turn on the terminal device, you will hear the initial welcome music.
- Step 4. The reader is now in stand-by mode.

Chapter 3. Pin Assignment

This bar code reader is designed to be connected via various cable connections, the pin assignments are listed as below :

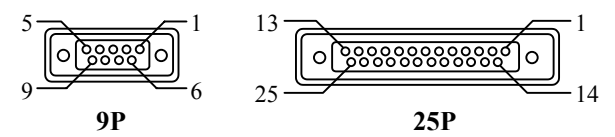
1. Keyboard Wedge :

A. 6 DIN and 5 DIN connector



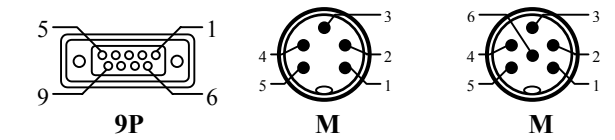
Phone Jack	DIN-6M	DIN-6F	Function	DIN-5M	DIN-5F
1	3	3	GND	4	4
2	4	4	VCC	5	5
3	--	5	K/B CLK	--	1
4	--	1	K/B DATA	--	2
5	1	--	SYS DATA	2	--
6	5	--	SYS CLK	1	--
7	--	--	--	--	--
8	--	--	--	--	--
9	--	--	--	--	--
10	--	--	--	--	--
	3	3	GND shield	4	4

2. RS-232 : 9 PIN and 25 PIN female RS-232 connector



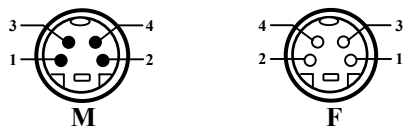
Phone Jack	9 Pin (F)	25 Pin (F)	Function
1	5.1	7.1	GND
2	9	16.25	VCC
3	--	--	K/B DATA
4	--	--	K/B CLK
5	--	--	SYS DATA
6	--	--	SYS CLK
7	7	4	CTS
8	2	3	TXD
9	8	5	RTS
10	3	2	RXD
	5	7	GND Shield

3. WAND Emulation : 9 PIN female and 5 DIN 、 6 DIN male connector



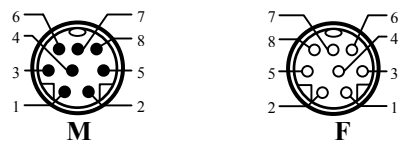
Phone Jack	Remark	Dsub 9P (F)	Dsub 9P (M)	DIN-5M	DIN-6M
1	GND	7.8	1	3	3
2	VCC	9	5	1	1
8	DATA	2	7	2	2
	GND Shield	7	1	3	3

4. Apple MACINTOSH : 4 PIN female and 4 DIN male connector



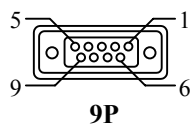
Phone Jack	Function	DIN-4M	DIM-4F
1	GND	4	4
2	VCC	3	3
3	K/B DATA	--	--
4	K/B CLK	--	--
5	SYS DATA	1	1
6	SYS CLK	--	--
7	--	--	--
8	--	--	--
9	--	--	--
10	--	--	--
	GND Shield	4	4

5. NEC 9800 : 8 PIN female and 8 DIN male connector



Phone Jack	Function	DIN-8M	DIM-8F
1	GND	2	2
2	VCC	8	8
3	K/B DATA	--	4
4	K/B CLK	--	3
5	SYS DATA	4	--
6	SYS CLK	3	--
7	--	--	--
8	--	--	--
9	--	--	--
10	--	--	--
	Reset	1	1
	Retry	5	5
	--	6	6
	--	7	7
	GND Shield	2	2

6. TTL (CMOS) : 9 PIN female and 5 DIN · 6DIN male connector



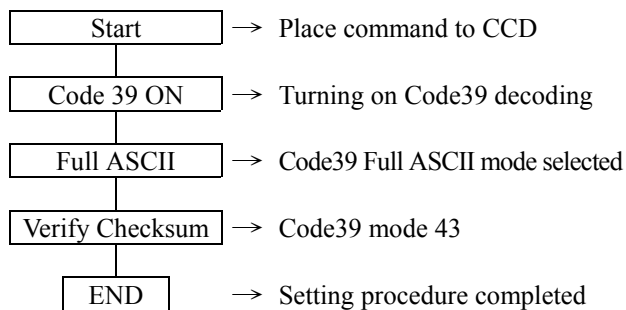
Phone Jack	Function	Dsub 9P (F)
1	GND	7
2	VCC+5V	9
3	DATA	1
4	INDICATOR	2
5	TRIGGER	3
6	ENABLE	4
7	SCAN	5
8	--	--
9	--	--
10	--	--
		GND Shield

Chapter 4. Set Up Configuration

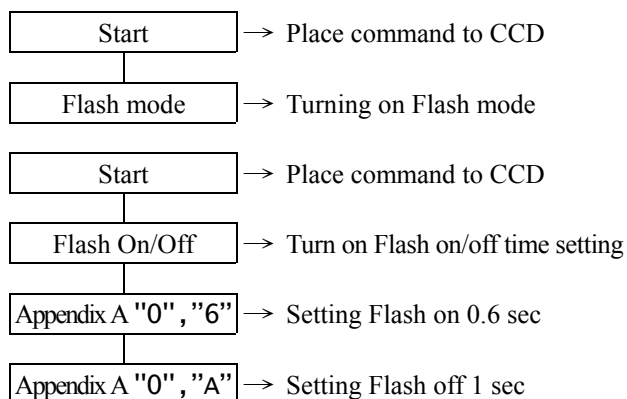
1. Example :

In order to setup the program for the bar code reader, you must be familiar with the setup procedure. Three examples are given below.

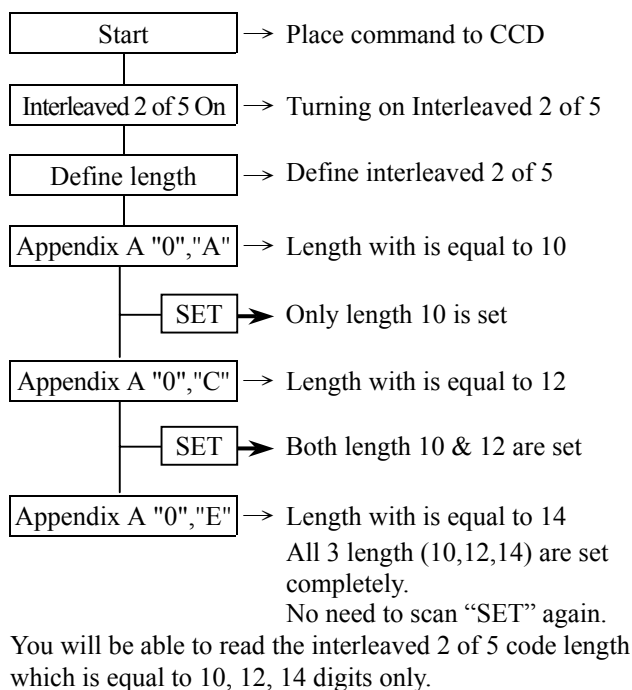
Example 1 : Setup Code 39 refer page 21



Example 2 :



Example 3 :



All Appendix A are no need to scan "END"

1. SET DEFAULT CONFIGURATION



Default

All programmed settings will be returned to the manufacture default setting after the scanning process.

Other available option



Show configuration



Show version



Abort setting



Start up code

If the scanner's light is on, but it can not read. Try to scan the "start up code". The scanner may read again.

2. INTERFACE OPTIONS



Start



*Keyboard



AT Notebook



RS-232



WAND



End

Read the interface selection code for your particular application.

Above interfaces, only one can be enabled, other interfaces will be disabled automatically, ie, scan “Start”→ “RS232”→ “End”.



Mute

If you scan “Mute”, the initial welcome music will be on “Mute” mode when power on the terminal device

3. SYSTEM TYPE



Start



Apple Macintosh ADB



PC XT



NEC 9800



*PC AT, PS/2 50 60 70 80



IBM 5550



PS/2 25 30



ACER 7300



End

Other system types may be available upon request,
please consult your supplier for details.

4. KEYBOARD WEDGE SETTING



Start



*On



Upper

**Upper/Lower
case**



*Lower



*Alphanum

Number Keys



Number lock



*OFF

**Upper Caps
Lock**



ON



*OFF

Alt+Number



ON



End

5. RS-232 SET UP



Start



On



1200

Baud Rate



*9600



2400



19200



4800



38400



7 bit

Data Bits



*8 bit



*Disabled

Parity



Even



Odd



*Disabled

**RS-232 Hand
Shaking**



Xon/Xoff RS232



End



RTS/CTS RS232

6. WAND EMULATION SETTING



Start



On



*High

**Bar
High / Low**



Low

Scan Speed



Highest



*High



Low



Lowest



End

7. SCANNING CONTROL



Start

Type	LED Light	Bar Code
 Trigger pressed	On-with button pressed Off-with button depressed	One bar code
 *Trigger on	On-for 3 seconds Off-any bar code scanned	One bar code
 Trigger on/off	On-with button pressed, light on for 3 seconds Off-with button pressed again	One bar code
 Trigger on 30 sec.	On-for 30 seconds Off-automatically after 30 seconds or button pressed again	One bar code
 Trigger on 120 sec.	On-for 120 seconds Off-automatically after 120 seconds or button pressed again	One bar code
 LED on	On-all the time Off-never off	One bar code



On-all the time
Off-never off or trigger off
Saft time Default value is 1 sec

Same bar code
Continuous
read

Continuous reading



Scan “Start”+ “Safety time”+
Appendix A “0”, “8”
Set value is 0.8 Sec

Safety time 0.8
Sec

Safety time setting



After turn ON or finish
reading Barcode will
continue on 60 sec than Flash

Flash Mode

Default On 0.3sec,Off 0.2sec



Scan “Start”→ “Flash on/off
time” AppendixA→“0”,“A”,
“0”, “6” the flash on 1 sec,
flash off 0.6sec.

Flash on 1 sec
Flash off 0.6
sec.

Flash on/off time

Flash on/off range 0.3~25.5sec



Auto Scan

Scan “Start”+ “Auto Scan”+
Appendix A “0”, “3”,
Set light on is 3 sec (Default).
Auto scan will be light on
range 3sec to 255sec

Light on time 3
Sec

8. TURN ON BAR CODE FORMATS



Start

OFF



Code 39*

ON



*Interleaved 2 of 5



*Industrial 2 of 5



*Matrix 2 of 5



Coda Bar*



EAN-13*



UPC-A*



EAN-8*



UPC-E*



OFF



*EAN/UPC
Add-on 2/5



Code 128*



Code 11*



*MSI/Plessey



*Telepen



*China Postal
Code



*Code 93



*Laetus
Pharmacode



All Barcodes

Turn Off

ON



Turn On
(except Laetus
Pharmacode)



End

9. CODE IDENTIFIER



Start

AIM



*Off



On

USER



Code 39



Interleaved 2 of 5



Industrial 2 of 5



Matrix 2 of 5



Coda Bar



EAN-13



EAN-8



UPC-E



Code 11



MSI



Code 128



Code 93



Plessey



TELEPEN



UPC-A

Please refer the Appendix B-ASCII table for the ID character you need, for example : scan appendix A “5” “3” for S or scan “5” “0” for P.
There is only one code identifier allowed on the specific type bar code.



End

10. CODE 39 CONTROL



Start



Off

Turn On/Off



*On



*Off

**C32 Italian
Pharma Code**



On



*Off

CIP39



On



*Standard

Code Type



Full ASCII



*No

**Gap Range
Check**



Yes



*No

**Transmit
start/stop
character**



Yes



*No

**Verify MOD 43
checksum**



Yes



No

**Transmit check
character**



*Yes



Range (01~23)*

Lengths



3 fixed

You may set up to 3 fixed bar code lengths or bar code min and max data lengths range if necessary.

3 fixed bar code lengths Please refer to page 8.

Range example:

scan "START" "Range" "0" "4" "0" "A"

You will be able to read the code 39 length which is

04~10 data only



End

11. INTERLEAVED 2 OF 5 CONTROL



Start



*Off

Turn On/Off



On



*No

Verify MOD 10
checksum



Yes



No

Transmit check
digit



*Yes



Range (04~46)*

Lengths



3 fixed

You may set up to 3 fixed bar code lengths or bar code min and max data lengths range if necessary.

3 fixed bar code lengths Please refer to page 8.

Range example:

scan "START" "Range" "0" "4" "0" "A"

You will be able to read the interleaved 2 of 5 code length which is 04~10 data only



End

12. INDUSTRIAL 2 OF 5 CONTROL



Start



*Off

Turn On/Off



On



*No

Verify MOD 10
checksum



Yes



No

Transmit check
digit



*Yes



Range (04~23)*

Lengths



3 fixed

You may set up to 3 fixed bar code lengths or bar code min and max data lengths range if necessary.

3 fixed bar code lengths Please refer to page 8.

Range example:

scan "START" "Range" "0" "4" "0" "A"

You will be able to read the industrial 2 of 5 code length which is 04~10 data only



End

13. MATRIX 2 OF 5 CONTROL



Start



*Off

Turn On/Off



On



*No

Verify MOD 10
checksum



Yes



No

Transmit check
digit



*Yes



Range (04~39)*

Lengths



3 fixed

You may set up to 3 fixed bar code lengths or bar code min and max data lengths range if necessary.

3 fixed bar code lengths Please refer to page 8.

Range example:

scan "START" "Range" "0" "4" "0" "A"

You will be able to read the Matrix 2 of 5 code length which is 04~10 data only



End

14. CODA BAR / NW7 CONTROL



Start



Off

Turn On/Off



*On



*No

**Transmit
Start/End**



Yes



ABCD/ABCD

**Start/End
Transmit
type**



ABCD/TN*E



*ABCD/abcd



ABCD/tn*e



*No

**Gap Range
Check**



Yes



*No

**Verify MOD 16
checksum**



Yes



*No

**Transmit check
character**



Yes



*No

MOD 10-CLSI



Yes



Range (01~29)*

Lengths



3 fixed

You may set up to 3 fixed bar code lengths or bar code min and max data lengths range if necessary.

3 fixed bar code lengths Please refer to page 8.

Range example:

scan "START" "Range" "0" "4" "0" "A"

You will be able to read the Coda bar length which is 04~10 data only



End

15. EAN-13 CONTROL



Start



Off

Turn On/Off



*On



*No

**Truncate
leading digit**



Yes



*No

**Truncate
leading 0**



Yes



No

**Transmit check
digit**



*Yes



End

16. UPC-A CONTROL



Start



Off

Turn On/Off



*On



*No

Truncate
leading digit



Yes



No

Transmit check
digit



*Yes



End

17. EAN-8 CONTROL



Start



Off

Turn On/Off



*On



*No

Truncate
leading digit



Yes



No

Transmit check
digit



*Yes



End

18. UPC-E CONTROL



Start



Off

Turn On/Off



*On



*No

Truncate
leading digit



Yes



No

Transmit check
digit



*Yes



End

19. UPC/EAN CONVERSION



Start



*Off

UPC-A To
UPC-E



On



*Off

UPC-E To
UPC-A



On



*Off

UPCA To
EAN13



On



*Off

EAN8 To
EAN13



On



*Off

ISBN



On

20. CODE 11 CONTROL



Off

Turn On/Off



*On



1

Verify
checksum



*2



No

Transmit check
digit



*Yes



End

21. CODE 128 FNC1 GS CONTROL



FNC1 GS character
Default FFhex No output
any character
Please refer to Appendix B

22.MSI CODE CONTROL



Start



No

MOD 10



*Yes



*No

MOD 10/
MOD 10



Yes



*No

MOD 11/
MOD 10



Yes



*1

Transmit check
digit



2



No



*Yes



End

23.TELEPEN MODE



Numeric



Alphanumeric

Note :

To read these commands the telepen family MUST be enabled.

24.LAETUS PHAMACODE CONTROL



Number of BARS

Please refer Appendix B
Define Laetus phamacode
number of bars

25. CHINA POSTAL CODE CONTROL



Start



*Off

Turn On/Off



On



*No

Verify MOD 10
check digit



Yes



No

Transmit check
digit



*Yes



Range (04~39)*

Lengths



3 fixed

You may set up to 3 fixed bar code lengths or bar code min and max data lengths range if necessary.

3 fixed bar code lengths Please refer to page 8.

Range example:

scan "START" "Range" "0" "4" "0" "A"

You will be able to read the China Postal code which is 04~10 data only



End

26. END OF TEXT MESSAGE



Start

None



***CR**



LF
(for RS232 only)



CR/LF
(for RS232 only)



Space



Tab



Esc



Ctrl-C



End

27. PC AT KEYBOARD NATIONALITY



Start



*US



UK



French



Belgium



Sweden



Denmark



Germany



Netherlands



Norway



Spanish



Italian



Portugal



Japan



Hungary



Greece



Swiss



Finland



Slovakia



Yugoslavia



Yugoslavia Cyrillic



End

28. SET PREFIX



Start



Prefix

Please refer to Appendix B regarding the prefix string.
You may add up to 12 characters as prefix.

29. SET SUFFIX



Start



Suffix

Please refer to Appendix B regarding the suffix string.
You may add up to 12 characters as suffix.

30. DATA FORMAT

Code ID number:

EAN13	00	Code 93	09
EAN8	01	Code 11	0A
UPC E	02	MSI	0B
Code 39	03	China Post	0C
Codabar	04	UK Plessy	0D
Matrix 25	05	Telepen	0E
Industry 25	06	UPC A	10
Interleaved 25	07	All	FF
Code 128	08		

Example :

Data	0	0	9	4	7	3	8	2	7	1	9	0
Reserve	01	02		03		01		04				01
Output	0	×	×	4	7	3	×	2	7	1	9	×
Delete	01	02		03		01		04				01
Output	×	0	9	×	×	×	8	×	×	×	×	0



Start



Reserve



Delete

Reserve

Delete

Reserve

Delete

Reserve

Delete

Appendix A "0", "3"
Appendix A "0", "1"
Appendix A "0", "2"
Appendix A "0", "3"
Appendix A "0", "1"
Appendix A "0", "4"
Appendix A "0", "1"

To set Code
39 data format

Delete

Reserve

Delete

Reserve

Delete

Reserve

Scan Please refer to the hexadecimal table in Appendix A

*Finish Reserve or Delete to Scan "SET"

31. OTHER CONTROL



Start



*Highest

**Buzzer tone
frequency**



Medium



Low



Mute



*50msec

Buzzer duration



20msec



*Fastest

**Keystroke /
Character**



Fast



Medium



Slow



Character inter delay time Default to 1msec
Please refer to the hexadecimal table in Appendix A
Hex 00~FF (00~255msec unit 1msec)



End

Appendix A : Hexadecimal / Decimal Table

0		9	
1		A	
2		B	
3		C	
4		D	
5		E	
6		F	
7		SET	
8			

Appendix B : Hex and Numeric table

(To read the desired hex and numeric selections)

DEC	HEX	PC	ASC II	DEC	HEX	PC & ASCII
0	00	(Null)	NULL	37	25	%
1	01	☺	SOH	38	26	&
2	02	☹	STX	39	27	'
3	03	♥	ETX	40	28	(
4	04	♦	EOT	41	29	)
5	05	♣	ENQ	42	2A	*
6	06	♠	ACK	43	2B	+
7	07	•	BEL	44	2C	,
8	08	◼	BS	45	2D	-
9	09	◦	HT	46	2E	.
10	0A	■	LF	47	2F	/
11	0B	♂	VT	48	30	0
12	0C	♀	FF	49	31	1
13	0D	♪	CR	50	32	2
14	0E	♫	SO	51	33	3
15	0F	✱	SI	52	34	4
16	10	▶	DLE	53	35	5
17	11	◀	DC1	54	36	6
18	12	↑	DC2	55	37	7
19	13	!!	DC3	56	38	8
20	14	¶	DC4	57	39	9
21	15	§	NAK	58	3A	:
22	16	-	SYN	59	3B	;
23	17	↓	ETB	60	3C	<
24	18	↑	CAN	61	3D	=
25	19	↓	EM	62	3E	>
26	1A	→	SUB	63	3F	?
27	1B	←	ESC	64	40	@
28	1C	⌞	FS	65	41	A
29	1D	↔	GS	66	42	B
30	1E	▲	RS	67	43	C
31	1F	▼	US	68	44	D
32	20	Space		69	45	E
33	21	!		70	46	F
34	22	"		71	47	G
35	23	#		72	48	H
36	24	\$		73	49	I

DEC	HEX	PC & ASC II	DEC	HEX	PC & ASCII
74	4A	J	113	71	q
75	4B	K	114	72	r
76	4C	L	115	73	s
77	4D	M	116	74	t
78	4E	N	117	75	u
79	4F	O	118	76	v
80	50	P	119	77	w
81	51	Q	120	78	x
82	52	R	121	79	y
83	53	S	122	7A	z
84	54	T	123	7B	{
85	55	U	124	7C	
86	56	V	125	7D	}
87	57	W	126	7E	~
88	58	X	127	7F	Δ
89	59	Y	128	80	Ç
90	5A	Z	129	81	ü
91	5B	[	130	82	é
92	5C	\	131	83	â
93	5D	]	132	84	ä
94	5E	^	133	85	à
95	5F	_	134	86	â
96	60	`	135	87	ç
97	61	a	136	88	ê
98	62	b	137	89	ë
99	63	c	138	8A	è
100	64	d	139	8B	ï
101	65	e	140	8C	î
102	66	f	141	8D	ì
103	67	g	142	8E	Ä
104	68	h	143	8F	Å
105	69	i	144	90	É
106	6A	j	145	91	æ
107	6B	k	146	92	Æ
108	6C	l	147	93	Ö
109	6D	m	148	94	ö
110	6E	n	149	95	Ò
111	6F	o	150	96	û
112	70	p	151	97	ù

DEC	HEX	PC & ASCII	DEC	HEX	PC & ASCII
152	98	ÿ	190	BE	⌋
153	99	Ö	191	BF	⌌
154	9A	Ü	192	C0	⌍
155	9B	ø	193	C1	⌎
156	9C	£	194	C2	⌏
157	9D	¥	195	C3	⌐
158	9E	Pts	196	C4	⌑
159	9F	f	197	C5	⌒
160	A0	á	198	C6	⌓
161	A1	í	199	C7	⌔
162	A2	ó	200	C8	⌕
163	A3	ú	201	C9	⌖
164	A4	ñ	202	CA	⌗
165	A5	Ñ	203	CB	⌘
166	A6	<u>a</u>	204	CC	⌙
167	A7	<u>o</u>	205	CD	=
168	A8	č	206	CE	⌛
169	A9	⌐	207	CF	⌜
170	AA	⌌	208	D0	⌝
171	AB	½	209	D1	⌞
172	AC	¼	210	D2	⌟
173	AD	ı	211	D3	⌠
174	AE	«	212	D4	⌡
175	AF	»	213	D5	⌢
176	B0	▒	214	D6	⌣
177	B1	▒	215	D7	⌤
178	B2	▒	216	D8	⌥
179	B3	⌐	217	D9	⌦
180	B4	⌐	218	DA	⌧
181	B5	⌐	219	DB	▀
182	B6	⌐	220	DC	▀
183	B7	⌐	221	DD	▀
184	B8	⌐	222	DE	▀
185	B9	⌐	223	DF	▀
186	BA	⌐	224	E0	α
187	BB	⌐	225	E1	β
188	BC	⌐	226	E2	Γ
189	BD	⌐	227	E3	π

DEC	HEX	PC & ASCII		
228	E4	Σ		
229	E5	σ		
230	E6	μ		
231	E7	Υ		
232	E8	Φ		
233	E9	θ		
234	EA	Ω		
235	EB	δ		
236	EC	∞		
237	ED	ϕ		
238	EE	ε		
239	EF	$\cap$		
240	F0	$\equiv$		
241	F1	$\pm$		
242	F2	$\geq$		
243	F3	$\leq$		
244	F4	$\int$		
245	F5	$\int$		
246	F6	$\div$		
247	F7	$\approx$		
248	F8	$\circ$		
249	F9	●		
250	FA	•		
251	FB	$\sqrt{\quad}$		
252	FC	η		
253	FD	2		
254	FE	■		
255	FF	(Bland)		

HEX	KEY	AT SCAN CODE
81	Home	E0 6C E0 F0 6C
82	End	E0 69 E0 F0 69
83	Page up	E0 7D E0 F0 7D
84	Page down	E0 7A E0 F0 7A
85	Insert	E0 70 E0 F0 70
86	Delete	E0 71 E0 F0 71
87	Numeric Keypad +	79 F0 79
88	Back Space	66 F0 66
89	Tab	0D F0 0D
8A	Enter	5A F0 5A
8B	←	E0 6B E0 F0 6B
8C	→	E0 74 E0 F0 74
8D	Numeric Keypad Enter	E0 5A E0 F0 5A
8E	↑	E0 75 E0 F0 75
8F	↓	E0 72 E0 F0 72
90	F1	05 F0 05
91	F2	06 F0 06
92	F3	04 F0 04
93	F4	0C F0 0C
94	F5	03 F0 03
95	F6	0B F0 0B
96	F7	83 F0 83
97	F8	0A F0 0A
98	F9	01 F0 01
99	F10	09 F0 09
9A	F11	78 F0 78
9B	Esc	76 F0 76
9C	F12	07 F0 07
9D*	Left Shift+l character	12 “C” F0 “C” F0 12
9E*	Left Ctrl +l character	14 “C” F0 “C” F0 14
9F*	Left Alt +l character	11 “C” F0 “C” F0 11
A0	Numeric Keypad -	7B F0 7B
A1	Numeric Keypad *	7C F0 7C
A2	Numeric Keypad /	E0 4A E0 F0 4A
A3	Caps Lock	58 F0 58
A4	Num Lock	77 F0 77
A5	Left Alt	11 F0 11
A6	Left Ctrl	14 F0 14

HEX	KEY	AT SCAN CODE
A7	Left Shift	12 F0 12
A8	Right Alt	E0 11 E0 F0 11
A9	Right Ctrl	E0 14 E0 F0 14
AA	Right Shift	59 F0 59
AB**	Left Alt Make	11
AC**	Left Alt Break	F0 11
AD**	Left Ctrl Make	14
AE**	Left Ctrl Break	F0 14
AF	Print Screen	E0 12 E0 7C E0 F0 7C E0 F0 12
B0	Shift Tab	12 0D F0 0D F0 12
B1***	Alt +Numeric	11 "C" F0 "C" F0 11
B2	Windows Apple LGUI Make	E0 1F
B3	Windows Apple LGUI Break	E0 F0 1F
B4	Windows Apple RGUI Make	E0 27
B5	Windows Apple RGUI Break	E0 F0 27
B6	Windows Apple App Make	E0 2F
B7	Windows Apple App Break	E0 F0 2F

ASCII "A" make code is 1C

* Example

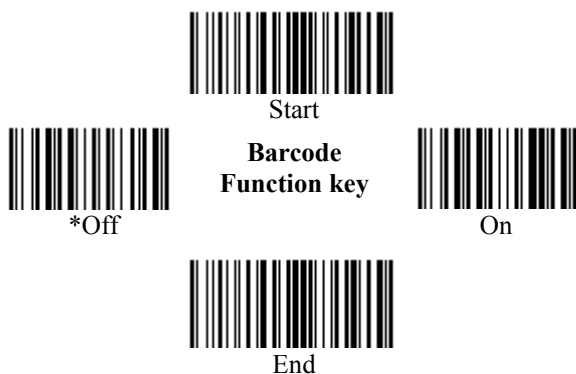
"Start" "Prefix" "9" "E" "4" "1" "SET"
Scanner will transmit 14 <1C F0 1C > F0 14

** Example

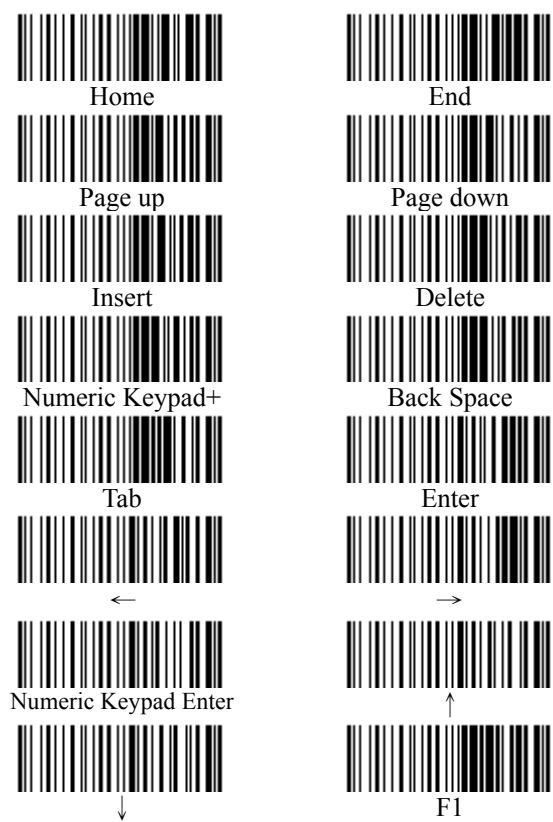
"Start" "Prefix" "A" "B" "4" "1" "A" "C"
"SET"
on "Lower case" Scanner will transmit
11 <12 1C F0 1C F0 12> F0 11
on "Upper case" Scanner will transmit
11 <1C F0 1C> F0 11

*** Show ASCII Example

"Start" "Prefix" "B" "1"
"6" "4" => ASCII "d" DEC "1" "0" "0"
"SET"
Scanner will transmit
11 <69 F0 69> <70 F0 70> <70 F0 70 > F0 11
"1" "0" "0"



To scan a function key barcode with input data, please
refer for function key value table (page 43,44)
refer for function key barcodes (page 45,46)





F2



F4



F6



F8



F10



Esc



Numeric Keypad -



Numeric Keypad /



Num Lock



Shift Tab



F3



F5



F7



F9



F11



F12



Numeric Keypad *



Caps Lock



Print Screen