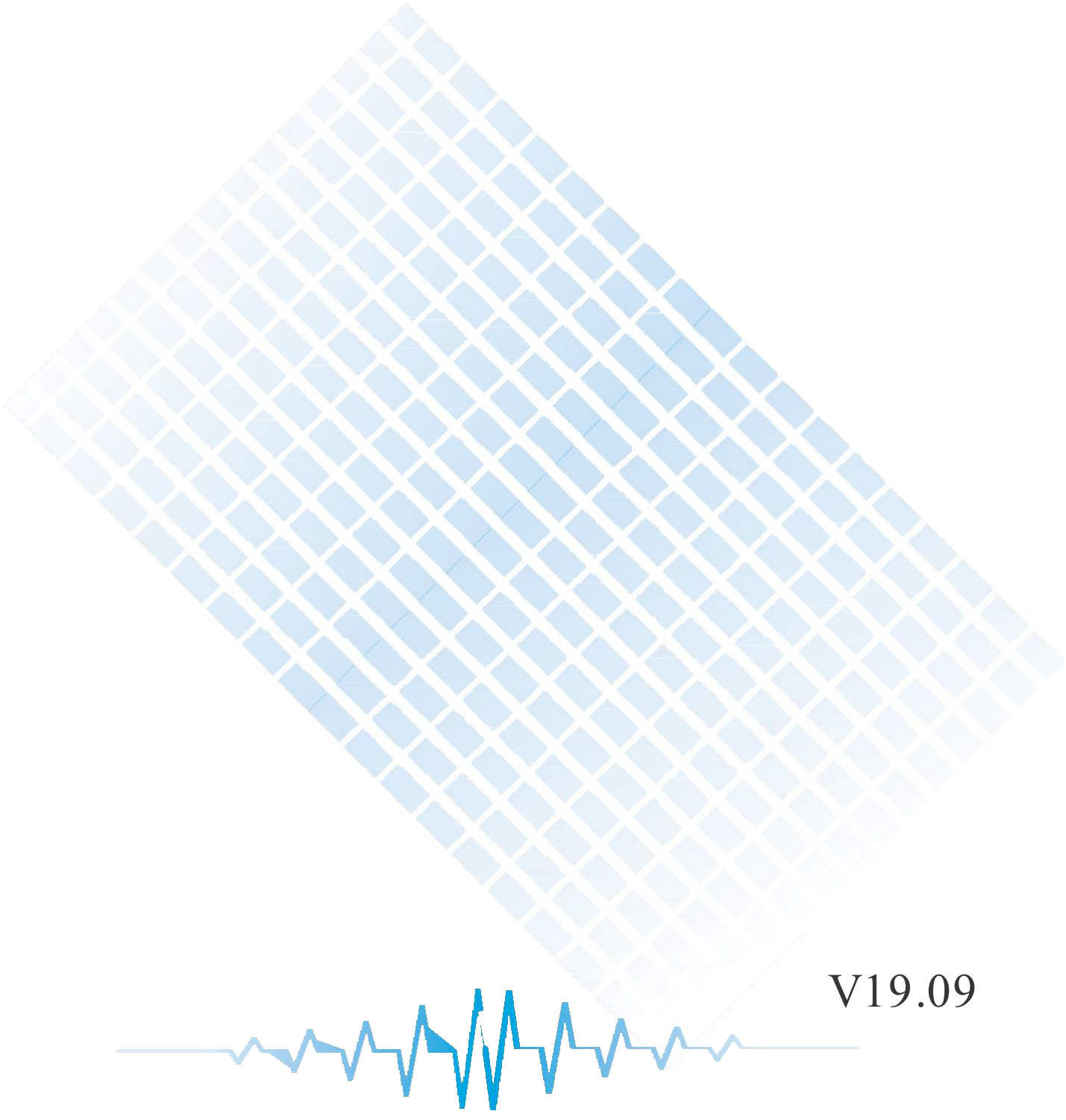
2D Module Command Manual



V19.09

Chapter1 Summarize

The instructions in this manual are applicable to the series of 2D barcode recognition engines produced by **EVAWGIB**. The purpose is to enable users to quickly master the use of barcode identification engine, so that the engine can be controlled by the corresponding command. This document is intended for application software development engineers and users who want to learn more about the device.

This document lists the main functions of the module, including barcode reading, barcode support, command settings, advanced functions, etc.

Chapter2 Using structures

Interface parameters

RS232 serial interface

USB virtual serial port

(Virtual serial port may require additional driver installation)

(Virtual serial port control equivalent)

(Virtual serial port is not affected by baud rate)

Command interface: Serial port (TTL)

Serial port Baud rate: default 9600 (can be changed by setting bar code)

Data bit: 8bit

Stop bit: 1bit

Check bit: NONE

Control command

Command prefix	Instrucion 1	Separator	...	Instrucion n	Separator
R	xxxxx	;	···	xxxxx	;

Description:

*A single control command is: Command prefix + Instruction + Separator.

E.g., set to manual read mode command -------- RDC000;

*Multiple instructions are sent in batches, and each instruction node must end with a delimiter.

E.g., set to manual read mode and baud rate set to 9600 ------- RDC000;RBA030;

Command response

Each command will have the corresponding reply frame data, the reply format is as follows:

Correct Respond 0x06 ACK

Error Respond 0x15 NAK

Chapter3 Parameter command list

E.g., set the prefix to ----- "ST"

Enable the prefix command before setting the custom prefix ------- plus "=" and data "ST"

Command step -------- RDF010 RDA000 ="ST"

Send instruction ---------- RDF010;RDA000;= "ST"

E.g., Set the suffix to ------- "ED"

Enable the suffix command before setting the custom suffix ------- plus "=" and data "ED"

Command step:

Enable suffix command ------ RDG010;

user-defined suffix ------ RDBO00;

equal sign ------ =

suffix data ------- "ED"

Send the instruction -------- RDG010;RDB000;= "ED"

Returns the result ------- 0x06

There are two types of commands, one of which is to directly set the value of register variables, such as setting baud rate and setting keyboard language. The other type is the command that requires parameters, such as setting the prefix, setting the suffix, setting the shortest read length, etc, and parameters are set in decimal numerical form.

Read command	0x1b 0x51
Stop read command	0x1b 0x50

Set the command parameter list

Serial number	Item	Function	Default	Command
1	Quick Menu	Default Settings		RAB000
2		Activate all bar codes		RAB020
3		Prohibit all bar codes		RAB010
4		Activate all 1d bar codes		RAB040
5		Prohibit all 1d bar codes		RAB030
6		Activate all 2d bar codes		RAB060
7		Prohibit all 2d bar codes		RAB050
8		Version information display		RAD001
9	Interface Selection	RS-232		RJA000
10		USB-KBW	*	RJA020
11		USB-VCP		RJA060

12	Scanning Mode	Manual Trigger	*	RDC000
13		Automatic induction trigger		RDC010
14		Uninterrupted continuous scanning		RDC020
15		Single continuous automatic scan		RDC030
16	Sensitivity	Low		RDM000
17		General	*	RDM010
18		High		RDM020
19	Language	American English	*	RJD200
20		Japanese		RJD201
21		Mexican		RJD202
22		Czech		RJD203
23		Danish		RJD204
24		Swedish		RJD205
25		French		RJD206
26		Italian		RJD207
27		Norwegian		RJD208
28		Spanish		RJD209
29		Slovak		RJD210
30		Turkish		RJD211
31		British English		RJD212
32		British English		RJD213
33		Greek		RJD214
34		Hungarian		RJD215
35	caps lock	caps lock ON	*	RJD010
36		caps lock OFF		RJD020
37	number lock	number lock ON		RJD110
38		number lock OFF	*	RJD120
39	Unknown Character Prompt	Turn on		RJD030
40		Turn off	*	RJD031
41	Characters of the delay	Turn off	*	RJD050
42		20ms		RJD051
43		40ms		RJD052
44	ALT keyboard	Turn off	*	RJD060
45		Turn on		RJD061
46	Shift Function	shift lock OFF	*	RJD070
47		shift lock turn ON		RJD080

48	Baud Rate	1200		RBA000
49		2400		RBA010
50		4800		RBA020
51		9600	*	RBA030
52		19200		RBA040
53		38400		RBA050
54		57600		RBA060
55		115200		RBA070
56	Check Code	NONE	*	RBB000
57		Even parity check		RBB010
58		Odd Parity Check		RBB020
59	Stop bit	1 bit	*	RBC000
60		2 bit		RBC010
61	Data bit	7 bit		RBD020
62		8 bit	*	RBD030
63	Control Flow	cts/rts OFF	*	RBE000
64		cts/rts ON		RBE010
65	Prefix	Prefix prohibited	*	RDF00
66		Prefix Enabled		RDF010
67		Prefix Setting		RDA000
68	Suffix	Suffix prohibited		RDJ000
69		Suffix Enabled	*	RDG010
70		Suffix Setting		RDB000
71		Set Suffix to 0d	*	RDK010
72		Set Suffix to 0d 0a		RDK020
73		Set Suffix to TAB		RDK030
74		Set Suffix to HOME		RDK040
75	Change Case	NO Transform	*	RJD040
76		Uppercase		RJD041
77		Lowercase		RJD042
78	AIM	AIM OFF	*	RDI000
79		AIM ON		RDI030
80	Boot sound	OFF		RCE000
81		ON	*	RCE001
82	Decoding prompt sound	OFF		RCD000
83		ON	*	RCD010
84		High sound	*	RCD030
85		Moderate sound		RCD031
86		Low sound		RCD032
87	Decode prompt tone type	Type 1	*	RCD020
88		Type 2		RCD021
89		Type 3		RCD022

90	Floodlight	Normally ON		RCA000
91		Flashing	*	RCA010
92		No Lighting		RCA020
93	Focusing Light	Flashing	*	RCB000
94		Normally ON		RCB010
95		No Focus		RCB020
96	Indicator Light	Green light flashes once		RCF000
97		Red light flashes for 2 seconds at 4HZ		RCF001
98	Scan Delay	One read delay		RDN000
99		Same bar code delay		RDN010
100		Cancel the delay	*	RDN020
101	Same Decoding Delay	Same bar code delay OFF	*	RDN040
102		Same bar code delay ON		RDN050
103		Delay parameter setting		RDN060
104	Reverse color bar code read	Black bar codes ONLY	*	RAB260
105		White bar codes ONLY		RAB261
106		Both Black an White		RAB262
107	code 128	EAN 128 OFF		REM010
108		EAN 128 ON	*	REM020
109		code 128 OFF		REA010
110		code 128 ON	*	REA020
111		code 128 minimum length setting	1	REA030
112		code 128 maximum length setting	80	REA040
113	EAN 8	OFF		REB010
114		ON	*	REB020
115		No transfer check bits		REB030
116		Transfer check bits	*	REB040
117		Extend to EAN13		REB090
118		NO extend to EAN13	*	REB100
119		adden2 OFF	*	REB050
120		adden2 ON		REB060
121		adden5 OFF	*	REB070
122		adden5 ON		REB080

123	EAN 13	ISBN ON	*	REQ010
124		ISBN OFF		REQ020
125		ISBN 13 DIGTAL	*	REQ030
126		ISBN 10 DIGTAL		REQ040
127		EAN 13 OFF		REC010
128		EAN 13 ON	*	REC020
129		EAN 13 NO transmit check bits		REC030
130		EAN 13 transmit check bits	*	REC040
131		EAN 13 ADDEN2 OFF	*	REC050
132		EAN 13 ADDEN2 ON		REC060
133		EAN 13 ADDEN5 OFF	*	REC070
134		EAN13 ADDEN5 ON		REC080
135	UPC-E	OFF		RED010
136		ON	*	RED020
137		NO transmit check bits		RED030
138		Transmit check bits	*	RED040
139		No transmit leading code	*	RED090
140		Transmit leading code		RED100
141		No convert to UPC-A	*	RED110
142		Convert to UPC-A		RED120
143		UPC-E ADDEN2 OFF	*	RED050
144		UPC-E ADDEN2 ON		RDE060
145		UPC-E ADDEN5 OFF	*	RED070
146		UPC-E ADDEN5 ON		RDE080
147	UPC-A	OFF		REE010
148		ON	*	REE020
149		NO transmit check bits		REE030
150		Transmit check bits	*	REE040
151		NO transmit leading character 0	*	REE090
152		Transmit leading characters and country codes		REE100
153		NO transmit leading characters and country codes		REE180
154		UPC-A ADDEN2 OFF	*	REE050
155		UPC-A ADDEN2 ON		REE060
156		UPC-A ADDEN5 OFF	*	REE070
157		UPC-A ADDEN5 ON		REE080

158	interleave 25	OFF	*	REF010
159		ON		REF020
160		Minimum allowable length	4	REF030
161		Maximum allowable length	80	REF040
162		NO Check	*	REF050
163		Check, NO transfer check bit		REF060
164		Check, transfer check bit		REF070
165	MATRIX 25	OFF	*	REG010
166		ON		REG020
167		Minimum allowable length	4	REG030
168		Maximum allowable length	80	REG040
169		NO Check	*	REG050
170		Check, NO transfer check bit		REG060
171		Check, transfer check bit		REG070
172	CODE 39	OFF		REI010
173		ON	*	REI020
174		Minimum allowable length	1	REI030
175		Maximum allowable length	48	REI040
176		NO Check	*	REI050
177		Check, NO transfer check bit		REI060
178		Check, transfer check bit		REI070
179		NO transfer start-stop	*	REI080
180		Transfer start-stop		REI090
181		standar code 39		REI100
182		full ASCII code 39		REI110
183	CODE 32	Enable code32		REI120
184		NO code 32	*	REI130
185		Enable leading code		REI140
186		NO leading codes	*	REI150

187	CODABAR	Ban		REJ010
188		Enable	*	REJ020
189		Minimum allowed bar code	2	REJ030
190		Maximum allowed bar code	60	REJ040
191		NO Check	*	REJ050
192		Check, NO transfer check bit		REJ060
193		Check, transfer check bit		REJ070
194		NO transfer start-stop		REJ080
195		Transfer start-stop	*	REJ090
196		Start-stop operator ABCD	*	REJ100
197		Start-stop operator ABCD/TN*E		REJ110
198		Start-stop operator ~ uppercase characters	*	REJ120
199		Start-end operator ~ lowercase characters		REJ130
200	CODE 93	OFF		REK010
201		ON	*	REK020
202		Minimum allowed bar code	1	REK030
203		Maximum allowed bar code	48	REK040
204		NO Check		REK050
205		Check, NO transfer check bit	*	REK060
206		Check, transfer check bit		REK070
207	RSS	OFF		REN010
208		ON	*	REN020
209		NO send AI characters		REN050
210		Send AI characters	*	REN060
211	industry 25	OFF	*	RER010
212		ON		RER020
213		Minimum allowed bar code	6	RER030
214		Maximum allowed bar code	48	RER040
215		NO Check	*	RER050
216		Check, NO transfer check bit		RER060
217		Check, transfer check bit		RER070
218	standard 25	OFF	*	RES010
219		ON		RES020
220		Minimum allowed bar code	6	RES030
221		Maximum allowed bar code	48	RES040
222		NO Check	*	RES050
223		Check, NO transfer check bit		RES060
224		Check, transfer check bit		RES070

225	plessey	OFF	*	RET010
226		ON		RET020
227		Minimum allowed bar code	4	RET030
228		Maximum allowed bar code	48	RET040
229		NO Check	*	RET050
230		Check, NO transfer check bit		RET060
231		Check, transfer check bit		RET070
232	MSI	OFF		REU010
233		ON	*	REU020
234		Minimum allowed bar code	4	REU030
235		Maximum allowed bar code	48	REU040
236		NO Check		REU050
237		MOD10 Check	*	REU060
238		MOD10/10 Check		REU070
239		MODE10/11 Check		REU080
240		Check, NO transfer check bit		REU090
241		Check, transfer check bit	*	REU100
242	QR	OFF		RFC010
243		ON	*	RFC020
244		Minimum read length	1	RFC030
245		Maximum read length	MAX	RFC040
246		Read single QR	*	RFC070
247		ONLY read two QR		RFC080
248	PDF417	OFF		RFB010
249		ON	*	RFB020
250		Minimum read length	1	RFB030
251		Maximum read length	MAX	RFB040
252		Read single PDF417	*	RFB070
253		ONLY read two PDF417		RFB080
254	data matrix	OFF		RFE010
255		ON	*	RFE020
256		Minimum read length	1	RFE030
257		Maximum read length	MAX	RFE040
258		Read singl DM	*	RFE070
259		ONLY read two DM		RFE080

260	barcode data	0		RAA000
261		1		RAA010
262		2		RAA020
263		3		RAA030
264		4		RAA040
265		5		RAA050
266		6		RAA060
267		7		RAA070
268		8		RAA080
269		9		RAA090
270		A		RAA100
271		B		RAA110
272		C		RAA120
273		D		RAA130
274		E		RAA140
275		F		RAA150
276		Save		RAA160

Appendix1 AIM Sheet

When AIM function is enabled by setting parameters, AIM code will be added to the corresponding barcode data. The specific AIM ID is as follows:

Bar code type	AIM ID	Instructions
Code 128	]C0	Plain Code 128
UCC/EAN 128 (GS1-128)	]C1	FNC1 is in the code word position 1
AIM 128	]C2	FNC1 is in the code word position 2
EAN-8	]E4	Plain EAN-8 data
	]E4….]E1…	Ean-8 data plus 2 bits plus code
	]E4….]E2…	Ean-8 data plus 5 bits plus code
EAN-13	]E0	Plain EAN-13 data
	]E3	Ean-13 data plus 2/5 bits plus code
ISSN	]X5	
ISBN	]X4	
UPC-E	]E0	Plain UPC-E data
	]E3	UPC-E data plus 2/5 bits plus code
UPC-A	]E0	Plain UPC-A data
	]E3	UPC-A data plus 2/5 bits plus code

Interleaved 2 of 5	]I0	NO Validate
	]I1	Validate, send validation characters
	]I3	Validate, NO send validation characters
ITF-6	]I1	send validation characters
	]I3	NO send validation characters
ITF-14	]I1	send validation characters
	]I3	NO send validation characters
Matrix 2 of 5	]X0	Manufacturer customization
	]X1	NO Validate
	]X2	Validate, send validation characters
	]X3	Validate, NO send validation characters
Industrial 25	]S0	NO specific designation at the moment
Standard 25	]R0	NO Validate
	]R8	MOD 7 validates, NO send validation characters
	]R9	MOD 7 validates, send validation characters
Code 39	]A0	NO validates, NO Full ASCIi extensions
	]A1	MOD 43 validates, send validation characters
	]A3	MOD 43 validates, NO send validation characters
	]A4	Full ASCII extended, NO validates
	]A5	Extended, MOD 43 validates, send validation characters
	]A7	Extended, MOD 43 validates, NO send validation characters
Codabar	]F0	Standard packets, NO special handling
	]F1	
	]F2	Validate, send validation characters
	]F4	Validate, NO send validation characters
Code 93	]G0	NO specific designation at the moment

Code 11	]H0	MOD11 single character validation, send validation characters
	]H1	MOD11/MOD11 double-character validation, send validation characters
	]H3	Validate, NO send validation characters
	]H9	NO Validate
Plessey	]P0	
MSI Plessey	]M0	

Reference data:

ISO/EC 15424-2008 Information Technology - Automatic Identification and Data Acquisition Technology - Data Carrier Identifiers (including symbolic identifiers)

Appendix2 CID Sheet

When the CODE ID function is enabled by setting parameters, the corresponding bar code data will be preceded by CID code, which is as follows:

Code type	CID
UPCA	A
UPCE	B
EAN8	C
EAN13	D
ISSN	E
ISBN	F
CODE 128	G
GS1 128	H
ISBT128	J
CODE 39	K
CODE 93	L
CODE 11	M
ITF 25	N
ITF 6	O
ITF 14	P
MATRIX 25	S
IN 25	U
STANDARD 25	V
CODABAR	W
UK	X
MSI	Y
GS1	Z

Appendix3 ASCII Sheet

BIN	DEC	HEX	COM
0000 0000	0	0	NUL
0000 0001	1	1	SOH
0000 0010	2	2	STX
0000 0011	3	3	ETX
0000 0100	4	4	EOT
0000 0101	5	5	ENQ
0000 0110	6	6	ACK
0000 0111	7	7	BEL
0000 1000	8	8	BS

0000 1001	9	9	HT
0000 1010	10	0A	LF
0000 1011	11	0B	VT
0000 1100	12	0C	FF
0000 1101	13	0D	CR
0000 1110	14	0E	SO
0000 1111	15	0F	SI
0001 0000	16	10	DLE
0001 0001	17	11	DC1
0001 0010	18	12	DC2
0001 0011	19	13	DC3
0001 0100	20	14	DC4
0001 0101	21	15	NAK
0001 0110	22	16	SYN
0001 0111	23	17	ETB
0001 1000	24	18	CAN
0001 1001	25	19	EM
0001 1010	26	1A	SUB
0001 1011	27	1B	ESC
0001 1100	28	1C	FS
0001 1101	29	1D	GS
0001 1110	30	1E	RS
0001 1111	31	1F	US
0010 0000	32	20	(Space)
0010 0001	33	21	!
0010 0010	34	22	"
0010 0011	35	23	#
0010 0100	36	24	$
0010 0101	37	25	%
0010 0110	38	26	&
0010 0111	39	27	'
0010 1000	40	28	(

0010 1001	41	29	)
0010 1010	42	2A	*
0010 1011	43	2B	+
0010 1100	44	2C	,
0010 1101	45	2D	−
0010 1110	46	2E	.
0010 1111	47	2F	/
0011 0000	48	30	0
0011 0001	49	31	1
0011 0010	50	32	2
0011 0011	51	33	3
0011 0100	52	34	4
0011 0101	53	35	5
0011 0110	54	36	6
0011 0111	55	37	7
0011 1000	56	38	8
0011 1001	57	39	9
0011 1010	58	3A	:
0011 1011	59	3B	;
0011 1100	60	3C	<
0011 1101	61	3D	=
0011 1110	62	3E	>
0011 1111	63	3F	?
0100 0000	64	40	@
0100 0001	65	41	A
0100 0010	66	42	B
0100 0011	67	43	C
0100 0100	68	44	D
0100 0101	69	45	E
0100 0110	70	46	F
0100 0111	71	47	G
0100 1000	72	48	H
0100 1001	73	49	I
0100 1010	74	4A	J
0100 1011	75	4B	K
0100 1100	76	4C	L
0100 1101	77	4D	M
0100 1110	78	4E	N
0100 1111	79	4F	O
0101 0000	80	50	P
0101 0001	81	51	Q

0101 0010	82	52	R
0101 0011	83	53	S
0101 0100	84	54	T
0101 0101	85	55	U
0101 0110	86	56	V
0101 0111	87	57	W
0101 1000	88	58	X
0101 1001	89	59	Y
0101 1010	90	5A	Z
0101 1011	91	5B	[
0101 1100	92	5C	₩
0101 1101	93	5D	]
0101 1110	94	5E	^
0101 1111	95	5F	_
0110 0000	96	60	`
0110 0001	97	61	a
0110 0010	98	62	b
0110 0011	99	63	c
0110 0100	100	64	d
0110 0101	101	65	e
0110 0110	102	66	f
0110 0111	103	67	g
0110 1000	104	68	h
0110 1001	105	69	i
0110 1010	106	6A	j
0110 1011	107	6B	k
0110 1100	108	6C	l
0110 1101	109	6D	m
0110 1110	110	6E	n
0110 1111	111	6F	o
0111 0000	112	70	p
0111 0001	113	71	q
0111 0010	114	72	r
0111 0011	115	73	s
0111 0100	116	74	t
0111 0101	117	75	u
0111 0110	118	76	v
0111 0111	119	77	w
0111 1000	120	78	x
0111 1001	121	79	y
0111 1010	122	7A	z

0111 1011	123	7B	{
0111 1100	124	7C	|
0111 1101	125	7D	}
0111 1110	126	7E	~
0111 1111	127	7F	DEL