



M01/M02

Development Guide

2009-08-17

Beijing Bright Technology Development Co.,Ltd

REVISION SHEET

Revision	Date	Draft and Amend	Description
V01	2009-7-29		Enactment
	2009-10-19		Add commands

Table of Contents

REVISION SHEET	i
Table of Contents	ii
Features.....	1
Features.....	1
Specifications.....	1
IrDA.....	2
Bluetooth	2
WIFI	2
232.....	2
USB	3
Control Commands Details	3
Basic control command.....	3
【Initialize Printer】	3
【Carriage return】	3
【Print and line feed】	3
【n Dot Line Feed】	3
Select Character Commands.....	4
【select character】	4
【select Chinese character】	4
【exit Chinese character】	4
Character Setting Commands.....	4
【set the gray degree】	4
【Enlarge Width】	5
【Enlarge Height】	5
【Enlarge Width and Height】	5
【Select/cancel Underline Print】	5
【Select/cancel Up-line Print】	5
【Turn emphasized mode on / off】	6
【Select/cancel Reverse Print】	6
【Set Character Rotational Print】	6
format setting command	6
【Set n Dot-line Spacing】	6
【set the space between characters】	7
【Select justification】	7
【Set Vertical Tab Value】	7
【Carry out Vertical Tab Value】	7
【Set Horizontal Tab Value】	8
【Carry out Horizontal Tab Value】	8
【Set Right Margin】	8
【Set Left Margin】	9
bit-map graphics command.....	9
【Print bit-map graphics】	9
one dimation barcode command.....	9
【Print bar code】	10
【Set the height of the bar code】	11

【Set the landscape orientation size of the bar code】	11
PDF417 barcode	11
【print PDF417barcode】	12
appendix	13
1. international escape character set	13
the barcode rule	13
3. the length of barcode set	13
4. character format setting command	14
5. connect us	15

Features

Features

- Stylish, delicate and elegant appearance ; Ergonomic structure , convenient hand-held.
- Rich interface, strong expansion, Support 232/USB、Bluetooth/WI-FI、Infrared interface.
- Low-power design , Bulk battery support long time to print.
- Any dot matrix font download, equipment automatic identification.
- One dimensional and two dimensional bar code.
- compatible with ESC / POS command set , more Character Style Set command.

Specifications

Item		M01	M02
	Printing method	Direct thermal line printing	
	Printing speed	60mm/s	
	Resolution ration	203 DPI	
	Paper loading way	Easy paper loading	
	Character size	Depend on user	
	Characters per line	Depend on user	
Printing	Character sets	ASCII、GB2312	
	Barcode	1 dimension: UPC A 、 UPC E 、 CODE 39 、 CODE 93 、 Code 128 、 EAN 8 、 EAN 13 、 INTERLEAVED 25 (ITF)、Codabar. 2 dimension: PDF417	
	Emulation	No	
	Driver	Windows	
	SDK	Windows	
	Sensor	No paper sensor	
	Paper cutter	Tear-Bar	
	Language	Support user language	
Paper	Type	Thermal paper	
	Width	58 ± 0.5mm	80 ± 0.5mm
	Diameter	Max 40mm (1.57in)	
	Thickness	0.067 ± 0.004 mm (0.003 ± 0.0001")	
	THP	50km	
	Battery	Rechargeable up to 500 times	
Communication	Interface	Serial/USB、Bluetooth/WIFI、IrDA	
Battery	Input	100 ~ 240VAC 1.0A (max 110VA)	

charger	Output	8.4 VDC 1.2A	
Battery	Type	Lithium battery	
	Output	7.4 VDC (8.4 ~ 6.8VDC) capacity: 1800mAh	
	Charging time	2.5hours	
Using	Temperature	Printer: -10~50°C (14~122°F) battery: 0~40°C (32~104°F)	
	Humidity	Printer : 10~90% RH (non-condensing) battery : 20~70% RH (non-condensing)	
size	Outline dimension	111 X 85 X 47 (mm)	111 X 107 X 47 (mm)
Weight	Printer	0.175kg	0.215kg
	Battery	0.100kg	0.100kg
	Paper	0.030kg	

General description of communication protocol

Infrared

There is a RF transceiver in line with IrDA specification, Compatible with IrDA Ver1.2,

Maximum communication baud rate is 115200kbps。

Communication distance: ≤30cm Communication perspective: ≤30°

Bluetooth

Printer provide SPP service to other Bluetooth equipment.; receive the data through the SPP Agreement. For the equipment under windows、windows mobile、symbian, distribute a virtual Bluetooth serial port number before established connection. According to different equipment, allocate automatically by operation system or user does manual operation.

More information about Bluetooth and SPP, Pay a visit to Bluetooth Official Website:
<http://www.bluetooth.org>

232

- 1、equipment communicates with the printer though serial port or USB.
- 2、The setting of serial port: default baud rate:115200, 8 bits data, 1 bit stop bit, 1 bit odd parity.

USB

Full compliance with USB2.0 specification (full speed) .

Control Commands Details

Basic control command

【Initialize Printer】

Format: ASCII: ESC @
Dec: 27 64
Hex: 1B 40

Explanation:

This command is used to initialize the printer. There are two ways we can initialize the printer :

- (1) use the command ESC @
- (2) re-power the printer

【Carriage return】

Format: ASCII: CR
Dec: 13
Hex: 0D

Explanation:

If a "CR" command is sent to printer the total data in the print buffer will be printed out and paper will be fed for one line forwards.

【Print and line feed】

Format: ASCII: LF
Dec: 10
Hex: 0A

Explanation:

Content in the buffer will be carried out after this command. The paper feeds in for a new line. The length is the high of one character and the distance rows between.

【n Dot Line Feed】

Format: ASCII: ESC J n
Dec: 27 74 n
Hex: 1B 4A n

Explanation:

The printer feeds paper n dot lines. N=0~255. This command sends carriage return and feed line. It won't influence the latter feed line command.

【Print and Feed Page to the BM position】

Format: ASCII: FF
Dec: 12

Hex: 0c

Explanation:

Print the data of buffer, and feed paper to the position of main black mark.

Notice: The command is used to fix the black mark position, when the printing paper is pre-printed with a black mark, and the setting position will be the printer starting position. If the paper is pre-printed with a black mark, the printer will print the data of buffer, then feed paper to the black mark position. If the black mark is not detected, the printer will feed 4cm.

Select Character Commands

【select character】

Format: ASCII: ESC 8 n
 Dec: 27 56 n
 Hex: 1B 38 n

Explanation:

After the command, it will print out the download Chinese characters set “n”(from zero begin to count). The printer can download any dot matrix character set and Graphical user-defined font. The first address of user-defined font is 0x20. User can find the download character set in self-test.

【select Chinese character】

Format: ASCII: FS &
 Dec: 28 38
 Hex: 1C 26

Explanation:

After the command, it will print out the first download Chinese characters set

(GB2312 or GB18030) .Printer accept standard internal code, and base on the code if find the characters, the printer print, otherwise not print. When printer power on, the default printing type is Chinese character.

【exit the Chinese character】

Format: ASCII: FS & .
 Dec: 28 46
 Hex: 1C 2E

Explanation:

After the command, it will exit the Chinese character, and it will select the first ASCII set in ASCII sets. If user want to select other character, use the command

【select character】 ..

。

Character Setting Commands

【set the gray degree】

Format: ASCII: ESC m n

Dec: 27 109 n
Hex: 1B 6D n

Explanation:

N ranges from 1 to 12 the larger of the n value, the darker the dot it is . The initial n=0. It is used to modify the final expression of different thermal paper roll.

【Enlarge Width】

Format: ASCII: ESC U n
Dec: 27 85 n
Hex: 1B 55 n

Explanation:

The characters and graphics following this command are printed at n times of normal width, n=1~4, default n=,that means normal width, no width enlarging.

【Enlarge Height】

Format: ASCII: ESC V n
Dec: 27 86 n
Hex: 1B 56 n

Explanation:

The characters and graphics following this command are printed at n times of normal height, n= 1~4, default n=1.

【Enlarge Width and Height】

Format: ASCII: ESC W n
Dec: 27 87 n
Hex: 1B 57 n

Explanation:

The characters and graphics following this command are printed at n times of normal width and height, n=1~4, default n=1.

【Select/cancel Underline Print】

Format: ASCII: ESC - n
Dec: 27 45 n
Hex: 1B 2D n

Explanation:

When n=1, select underline print; when n=0, cancel underline print.

All characters including spaces will be printed out with underline after selecting underline print command. Default n=0.

【Select/cancel Up-line Print】

Format: ASCII: ESC + n
Dec: 27 43 n
Hex: 1B 2B n

Explanation:

When n=1, select up-line print ; when n=0, cancel up-line after selecting up-line print command, unless cancel the up-line print command. Default n=0.

【Turn emphasized mode on / off】

Format: ASCII: ESC I n
 Dec: 27 105 n
 Hex: 1B 69 n

Explanation:

- When the LSB of n is 0, emphasized mode is turned off.
- When the LSB of n is 1, emphasized mode is turned on.

【Select/cancel Reverse Print】

Format: ASCII: ESC c n
 Dec: 27 99 n
 Hex: 1B 63 n

Explanation:

When n=0, select reverse print, printing from right to left. When n=1, cancel reverse print, printing from left to right.

When the printer is assembled vertically, it is convenient to read the word reversely so its initial value is 1.

【Set Character Rotational Print】

Format: ASCII: FS I n
 Dec: 28 73 n
 Hex: 1C 49 n

Explanation:

This command is to rotate characters, the values of n are as following:

n	Characters rotated widdershins
0	0°
1	90°
2	180°
3	270°

Parameter setting Command for print typeset

【Set n Dot-line Spacing】

Format: ASCII: ESC 1 n
 Dec: 27 49 n
 Hex: 1B 31 n

Explanation:

The space between lines are n dots after this command (The dot

number is unconditional and can't be affected by enlarging command.) $1 \leq n \leq 255$. The original setting: $n=3$.

【set the space between characters】

Format: ASCII: ESC p n
 Dec: 27 112 n
 Hex: 1B 70 n

Explanation:

This command sets the space between characters n dots (The dot number is unconditional and can't be affected by enlarging command.) $1 \leq n \leq 255$. The original setting: $n=0$.

1.1.1.1 【Select justification】

Format: ASCII: ESC a n
 Dec: 27 97 n
 Hex: 1B 61 n

$0 \leq n \leq 2$, $48 \leq n \leq 50$
 $n=0$

Aligns all the data in one line to the specified position.:

n		Justification
0	48	Left justification
1	49	Centering
2	50	Right justification

【Set Vertical Tab Value】

Format: ASCII: ESC B n1 n2...NUL
 Dec: 27 66 n1 n2...0
 Hex: 1B 42 n1 n2...00

Explanation:

The vertical tab positions are entered as n1, n2 and so on, The total number of position is 8, all of these should be within the page length set by ESC C command.

For example, when $n1 = 3$, $n2=6$, the printer executes "VT" command and paper will feed in to the 3rd and print ,then the printer executes "VT" command again and paper will feed in to the 6th. The height of unit line is the sun of 8 dots add dots characters between, and is unconditional. Command NUL added at the end indicates the command is over.

All vertical tab positions that input can be deleted by using this command in ESC B NUL format. VT command is to carry out vertical tab, the paper fed to the next vertical position.

【Carry out Vertical Tab Value】

Format: ASCII: VT
 Dec: 11

Hex: 0B

Explanation:

Feed paper to the next vertical tab position which is set by ESC B command.

Notice: if there is no vertical tab value setting, or the current position equals or is beyond the last vertical tab position, VT command is to feed paper one line only(same to LF command).

【Set Horizontal Tab Value】

Format: ASCII: ESC D n1 n2...NUL

Dec: 27 68 n1 n2...0

Hex: 1B 44 n1 n2...00

Explanation:

The tab positions are entered as n1,n2 and so on, the total number of position is 8, and all of these should be within the line width of this model printer.

For example, when n1 = 3, the printer executes “HT” command paper will feed in to the 3rd unit length (unit length:0.25mm) then print. The width of each step is the sum of width of character matrix and dots characters between horizontal. Command NUL added at the end indicates the command is over.

All horizontal tab positions that set can be deleted by using this command in ESC D NUL format.

【Carry out Horizontal Tab Value】

Format: ASCII: HT

Dec: 9

Hex: 09

Explanation:

The print position is advanced to the next horizontal tab position which is set by ESC D command.

If there is no horizontal tab value setting, or the current position equals or is beyond the last horizontal tab position, HT command won't be carried out.

【Set Right Margin】

Format: ASCII: ESC Q n

Dec: 27 81 n

Hex: 1B 51 n

Explanation:

N value means n-characters blank space on the right side will be left. Each character space is the sum of width of the character matrix and the horizontal space between. The value of n should be in the range from 0 to the line width of this model printer.

Default n = 0, that means no right margin.

【Set Left Margin】

Format: ASCII: ESC 1 n

Dec: 27 108 n
Hex: 1B 6C n

Explanation:

N value means n-characters blank space on the left side will be left. Each character space is the sum of width of the character matrix and the horizontal space between. The command is relative to the enlarging command.

Default n = 0, that means no left margin.

Graphic/image printing command

【Print bit-map graphics】

Format: ASCII: ESC K ml mh n1 n2...ni...
Dec: 27 75 ml mh n1 n2...ni...
Hex: 1B 4B ml mh n1 n2...ni...

Explanation:

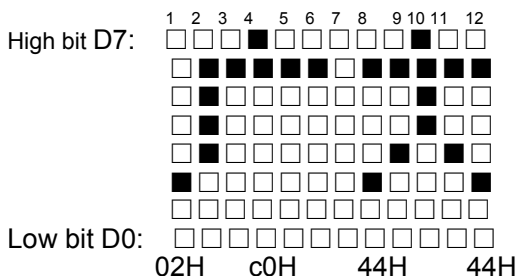
mi mh stand for a 16 bits binary datum . ml is the low 8 bits and mh is the high 8 bits. The number of graph data is $mh \times 256 + ml$. The size of graph depends on the enlarging command.

The command will print a $i \times 8$ dots graph unit for the 16X16 dots type printer. Its width is i dots and height is 8 dots. A 8-bit binary datum express row structure and the high bit is on the top.

The command will print a $(i/3) \times 24$ dots graph unit for the 24X24 dots type printer.

Its width is $i/3$ dots and height is 24 dots. A 8-bit binary datum express a 8-dot row structure, so three 8-bit binary data is need to express the whole row, the 24-dot row. The high bit is on the top. The order of the data is first from the top to the bottom and then from left to right.

If your graph is larger than one graph unit, you can divide the graph to different unit, set and print them separately. For example more than 8-dot height for a 16X16 dots type printer, you can divide the graph to different 8-dot unit and print them respectively.



【dot line print】

Format: ASCII: FS K n1 n2 data.1~data.n2
 Dec: 28 75 n1 n2 data.1~data.n2
 Hex: 1C 4B n1 n2 data.1~data.n2

n1:

when n1.0=1, print graph twice in height

n1.0=0时, print graph in original height

n1.1=1时, print graph twice in width

n1.1=0时, print graph in original width

n2: the large number of the byte of one line. The max is 48(one line is 384 in dot, one byte is 8 dot 8*48), when print in twice width is 24.

Data.1~data.n2: n2 graph data

The command is used to print one line graph data

6.3 print curving 1

Format: ASCII: ESC ' ml mh l1 h1. l2 h2. li hi ...CR
 Dec: 27 39 ml mh l1 h1. l2 h2. li hi ...13
 Hex: 1B 27 ml mh l1 h1. l2 h2. li hi ...0D

Note: Both the number and the position of the dots are expressed by double byte data. ml and l1 are the low byte and mh hi are the high byte.

The command is used to set and print the curving graph along the paper-feeding orientation. The value of ml mh indicates the number of dots you need in this current line. It should be not bigger than 384.

The value of li hi sets the position of the dot i .It should be not bigger than 384
 imax = ml mh .

0D is to execute this command.

One dimension barcode

【Print bar code】

Format: ASCII: GS k n m [d]
 Dec: 29 107 n m [d]
 Hex: 1D 6B n m [d]

Explanation:

n is used to choose the bar code system.

n	Bar Code System
65	UPC_A
66	UPC_E
67	EAN-8
68	EAN-13
69	CODE_39
70	INTERLEAVED 25(ITF)
71	CODABAR
72	Code93
73	CODE128

[d] =the data of barcode.
 M: the length of the barcode data
 Print barcode

【NOTICE】

- Notice the numbers of each barcode .EAN-13、 EAN_128、 CODE_39、 Code93、
 UPC_A and EAN-8 barcode can generate parity bit automatically, user doesn" t need to transmit that data.
- The received data must be in the standard bar code set, if exceeding the set ,the command is in vain.。
- CODE39 and CODE93 do not include extend code (EXTERN CODE 39、 EXTERN CODE 93) 。
- The head of CODE128 barcode data link must be CODE A, CODE B, or CODE C, inside of barcode, also user can switch to another coding. combination „{“ and one character to define a new function. And transfer two „{“ to define ASCII „{“ . as following:

ASCII	HEX	Function
{A	7B, 41	Select coding A
{B	7B, 42	Select coding B
{C	7B, 43	Select coding C
{S	7B, 53	SHIFT }
{1	7B, 31	FNC1
{2	7B, 32	FNC2
{3	7B, 33	FNC3
{4	7B, 34	FNC4

If the length of INTERLEAVED 25(ITF) barcode data is even number, then the “n” is even number, if it is odd number, then add 0 on the left of data to make the barcode data is even number. (such as :123 change to 0123)

【Permit /forbid printing HRI character】

Format: ASCII: GS H n
 Dec: 29 72 n
 Hex: 1D 48 n

Explanation:

When n=0,HRI character will not be printed out and it is the initial value. When n=1,HRI character will be printed out under the bar code.

When print HRI character is affected by command of character setting command

【Set the height of the bar code】

Format: ASCII: GS h n
 Dec: 29 104 n
 Hex: 1D 68 n

Explanation:

n=0~255,when n=0,the height is 256 dot.
 Default : n=60.

【Set the landscape orientation size of the bar code】

Format: ASCII: GS w n
 Dec: 29 119 n
 Hex: 1D 77 n

Explanation:

n=1~4, the size of the bar code be different when the n is different. Default: n=3.

n	narrow bar	wide bar
1	1	3
2	2	5
3	3	7
4	4	9

n=1~4, the size of the bar code be different when the n is different. Default: n=3.

Pinter PDF417

【print PDF417 bar code】

Format: ASCII: GS (k R C r [L 1 H1].....[L n Hn]
 Dec: 29 40 107 R C r [L 1 H1].....[L n Hn]
 Hex: 1D 28 6b R C r [L 1 H1].....[L n Hn]

Explanation:

R=PDF417 the rows of barcode data matrix

C= PDF417 the columns of barcode data matrix

R=PDF417 the check grade of barcode (0≤R≤8)

[L n Hn]: the low byte and high byte of PDF417barcode data matrix n= R*C

【NOTICE】

- The command of **【Set the height of the bar code】** effect the PDF417 barcode printing. The width of PDF417 barcode is the same with the strip width of one dimension barcode. The height of PDF417 barcode is four times in strip width of one dimension barcode.

- This command doesn't calculate data coding and validation on the user's input text, but our company's Windows dynamic library will do.

Appendix

1. International escape character set

The character after 0x80 code in this set can print only after using the command[exit Chinese character], About Chinese characters ,user can refer to GB-2312 and CP936.

	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
00	<u>NUL</u> 0000	<u>STX</u> 0001	<u>SOT</u> 0002	<u>ETX</u> 0003	<u>EOT</u> 0004	<u>ENQ</u> 0005	<u>ACK</u> 0006	<u>BEL</u> 0007	<u>BS</u> 0008	<u>HT</u> 0009	<u>LF</u> 000A	<u>VT</u> 000B	<u>FF</u> 000C	<u>CR</u> 000D	<u>SO</u> 000E	<u>SI</u> 000F
10	<u>DLE</u> 0010	<u>DC1</u> 0011	<u>DC2</u> 0012	<u>DC3</u> 0013	<u>DC4</u> 0014	<u>NAK</u> 0015	<u>SYN</u> 0016	<u>ETB</u> 0017	<u>CAN</u> 0018	<u>EM</u> 0019	<u>SUB</u> 001A	<u>ESC</u> 001B	<u>FS</u> 001C	<u>GS</u> 001D	<u>RS</u> 001E	<u>US</u> 001F
20	<u>SP</u> 0020	!	"	#	\$	%	&	'	()	*	+	,	-	.	/
30	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
40	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
50	P	Q	R	S	T	U	V	W	X	Y	Z	[\]	^	_
60	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
70	p	q	r	s	t	u	v	w	x	y	z	{		}	~	<u>DEL</u> 007F
80	€ 20AC	⋯	/	f	"	…	†	‡	ˆ	%	š	<	œ	⋯	ž	⋯
90	⋯	\	/	"	"	•	—	—	˜	™	š	>	œ	⋯	ž	ÿ
A0	<u>NBSP</u> 00A0	¡	¢	£	¤	¥	¦	§	¨	@	ª	«	¬	®	¯	°
B0	°	±	²	³	´	µ	¶	·	¸	¹	º	»	¼	½	¾	¿
C0	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë	Ì	Í	Î	Ï
D0	Ð	Ñ	Ò	Ó	Ô	Õ	Ö	×	Ø	Ù	Ú	Û	Ü	Ý	Þ	ß
E0	à	á	â	ã	ä	å	æ	ç	è	é	ê	ë	ì	í	î	ï
F0	ø	ñ	ò	ó	ô	õ	ö	÷	ø	ù	ú	û	ü	ý	þ	ÿ

2. The barcode rule

- UPC-A: UPC-A coding must accord with the standard of UCC organization (<http://www.ucnet.org>).
- UPC-E: UPC-E coding must accord with the standard of UCC organization (<http://www.ucnet.org>).
- EAN8: EAN8 coding must accord with the standard of EAN organization (<http://www.ean-int.org>).
- EAN13: EAN13 coding must accord with the standard of EAN organization (<http://www.ean-int.org>).
- CODE39: the beginning bit and the stop bit must be '*' , among that must not contain '*' , amount the data can contain check code or not. The check code has its regular arithmetic. With our printer, user do not need input '*' and check code .
- ITF: (INTERLEAVED) 25, INTERLEAVED 2 of 5, The length of data must be eleven number, The data will be include check code or not . The printer will check computation automatically.
- CODABAR: Start bit and end bit must be A, B, C, D four characters in a , Starting a character that without the same character space, can contain data can also check code includes the check code, check code by coding people custom.

3. The length of barcode set

Barcode type	length	character(ASCII)
UPC-A	12	0~9
UPC-E	8	0~9
EAN8	8	0~9
EAN13	13	0~9
CODE 39	No limit	0~9 A~Z - . SP \$ / + % *
INTERLEAVED 25	Even number	0~9
CODABAR	No limit	0~9 - : / % . A~D
CODE 93	No limit	0~9 A~Z - . SP \$ / + % *

4. Character format setting command

Character format setting is

1. [【select character】](#)
2. [【select Chinese character】](#)
3. [【exit Chinese character】](#)
4. [【 Enlarge Width】](#)
5. [【 Enlarge Height】](#)
6. [【 Enlarge Width and Height】](#)
7. [【 Select/cancel Underline Print】](#)
8. [【 Select/cancel Up-line Print】](#)
9. [【 Select/cancel Reverse Print】](#)
10. [【 Set Character Rotational Print】](#)
11. [【 Set n Dot-line Spacing】](#)

This device complies with Part 15 of the FCC and RSS 210 Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

RF Exposure Statement

To maintain compliance with FCC and IC Rule RF Exposure guidelines, This equipment should be installed and operated with minimum distance between 20cm the radiator your body: Use only the supplied antenna.

5. Contact us

Company : Beijing Bright Technology Development Co., Ltd

Address: 20th floor, No.5 building, Huihuang International building, the 10th street
Shangdi District, Beijing, China

ZIP : 100085

Tel : 0086-10 51655555

Fax : 0086-10 62101720

Website : <http://www.whkj.com.cn>