

**32BIT
WIRELESS
BAR CODE
SCANNER**

User's Guide



Warranty

Dear customer;

Thank you for purchasing our products. Please keep this card and present when applying for warranty work.

User name:	Tel:	Filled/ sealed by the Seller	Seller name :
Model:	Series NO.:		Tel:
Purchase Date:			Add:

Warranty Terms:

- This product is warranted against manufacturing defects in materials for a period of 1 year and workmanship for a period of 2 years from date of Manufacture, under normal use.
- We will repair or replace this unit, at our option and at no charge to the user, with new or reconditioned parts or products if found to be defective during the first year of the warranty period. During the 2nd year of the warranty, there shall be no charge for the workmanship and we will charge for the parts to repair the unit, should a valid warranty claim arise. After the warranty, we will charge the prevailing shop rate to repair the unit.
- All items, within warranty period, shipped to us must be freight prepaid. We will pay the return freight via a service of our technologies choice. Customer is responsible for payment of any shipping upgrades.
- Our retailer and we will not assume liability for incidental, consequential, punitive or other similar damages associated with the operation or malfunction of this product.

This warranty covers all defects in material and workmanship with the following specified exceptions:

- (1) Damage caused by accident, unreasonable use or neglect (including the lack of reasonable and necessary maintenance);
- (2) Damage occurring during shipment (claims must be presented to the carrier);
- (3) Damage to, or deterioration of, any accessory or decorative surface;
- (4) Damage resulting from failure to follow instructions contained in your owners manual;
- (5) Damage resulting from the performance of repairs or alterations by someone other than an authorized service center;
- (6) The product has been subjected to abnormal physical or electrical stress, including lightning strike, misuse, negligence, or accident;
- (7) Applications and uses that this product was not intended.

Introduction

This Wireless Bar Code Scanner is an ingenious device with unique trigger design and excellent performance. It is produced under advanced techniques, with finest chipsets and fully conforms with ergonomics requirements. It is fast and accurate in all 1D codes reading and programmed to better read incomplete or fuzzy codes. It can be widely used in domains including commercial POS system, supermarkets, warehousing and logistics, libraries, banks, transportation, postal service, industrial and manufacturing process management.

It represents an optical combination of proven high property scanning technology and state-of-the-art ergonomics, featuring

- Long-distant and fast transmission,
- Data storage,
- Scan number display,
- Network construction, and
- Application of Anti-jamming Frequency Hopping Technology.

This product brings convenience, comfort, high-speed and stability into your bar code scanning.

Features and Advantages

1. It could be used as a collector, memory 4M can be extended to 8M
2. Never lose data, clear warning.
3. Intelligent uploading; can choose to upload data of last scans and resume uploading from breakpoints.
4. No-messy-code programmed, data counting, repeated code and out of the base range warning, ID display.
5. Beeper and light indicates if the scanner is out of the base range and scanning will automatically switch to storage mode.
6. Support one to one, one to many, many to one operation; and each base can respond to up to 254 scanners.
7. The terminal communicates with the base at long distance of 150 meters indoor or 300 meters outdoor.
8. 1200MA replaceable lithium battery enables 6-10 hours continuous use after full charge and avoids trouble of returning to factory for replacing battery. Base supports data transmission and battery charging.
9. Germany imported quartz scanning window; effective light penetration, scratch-proof.
10. Supports USB, PS2, RS232 and other designated interface.

Unpacking the scanner

Your scanner was thoroughly tested and inspected before it was shipped from the factory. The shipping box contains:

Wireless Barcode Scanner	1 piece
Base	1 piece
USB cable	1 piece
Manual	1 piece

If any of these items are missing or damaged, please contact your local representative. Retain the shipping box in case you need to ship the scanner.



Further operating the scanner (continued)

	<p>7) scan the number code 6 on page 11 and end with # . (The number should be the same as setting transmitter channel.) The base will emit beeps.</p> <p>8) unplug the base for a few seconds then plug back. The flashing light and sounding beeper will stop. If they do not stop, the above setting is not successful. Scan the code restore all original scanner settings then the code start wireless scanning and repeat the above 8 steps until successful.</p> <p>9) scan the code save & exit on page 9 to finish receiver channel setting.</p> <p>Scan an item code to test data uploading.</p>
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Maintaining the Scanner

Water or grime on the window of the scanner will distort the scan beam and impair performance. Moving from one temperature extreme to another causes condensation to form on the optical surfaces that affects scanner performance.

- Clean the window with a cotton cloth moistened with an ammonia or watersolution Dry withasoft cottoncloth orallow to air dry
- Do not use a dry tissue to wipe the window. This causes small scratches on the window that will gradually affect performance.
- Do not immerse the scanner in water.
- Operate and store the scanner and battery pack in an environment with 5% to 85% relative humidity.
- Operate the battery pack in temperatures within -20°C to 45°C (-4°F to 113°F) and store the battery pack in temperatures within -20°C to 45°C (-4°F to 113°F).

Further operating the scanner

Aim	Operation
To display the total scan number, to clear stored data, to upload data.	Scan the related bar codes in bar code settings earlier in this guide.
To identify codes by displaying the related reader IDs in a situation that a base communicates with many readers simultaneously.	<p>To construct a many to one network.</p> <p>1) scan the code enter setting on the top of page 9. 2) scan the code display transmitter ID on page 9, the reader will emit beeps. 3) put the reader close to the base and unplug the base for a few seconds and then plug back. The flashing light and the beeper will stop. 4) scan the last code on page 9 save & exit . There will be an ID number of this reader 10 displayed before this reader's every scanned code. (Defaulted: 10)</p> <p>To change the ID to other number, like 200 (range: 1-254) 1) scan the code enter setting on the top of page 8. 2) scan the code set transmitter ID on page 8. 3) scan the numbers codes on page 11, 2 , 0 , 0 and end with # . 4) scan the code on page 8 save & exit .</p>
To configure different working channels for scanner sets to communicate simultaneously in a network and avoid data interference on hosts. E.g.: channel =6. (Defaulted= 10)	<p>Make sure that the base is connected to the host with antenna.</p> <p>Set transmitter channel. 1) scan the code enter setting on page 8. 2) scan the code set transmitter channel on page 8. 3) scan the number code 6 on page 11 and end with # . 4) scan the code save & exit on page 8 to finish transmitter channel setting.</p> <p>Set receiver channel. 5) scan the code enter setting on page 9. 6) scan the code set receiver channel on page 9.</p>

Installing the scanner

Connecting the base with USB cable to a computer

1. Connect the base with the cable into the computer's connector.
2. Windows will automatically install the driver. (If not, you need to install the driver by manual on the host to communicate with the scanner.)
3. When connection is finished, windows will indicate The hardware has been installed and can be used and the scanner light will be on.
4. If connection fails, unplug the base and repeat the above steps.

Starting wireless scanning

Scan the code start wireless scanning on the association cards or page 11 of the guide book.

Understanding the features

Audio and visual indications during data transmission:

Successful communication	Sound (beeper)	Blue light
Yes	One beep	Flash 1 time
No	Three beeps	Flash 3 times (changed into Storage Mode)

Storage function:

When communication fails (out of base range or signal interference), the reader will store the scanned barcode information automatically. You can also select storage mode by manual. 4M inner memory, can store 40-100 thousand barcodes information.

Low power alarm:

In case of instant auto-shutdown after startup, please charge the battery as the power is low.

Charging:

Please fully charge the battery for first time use. Shut down the scanner before charging. When the reader/terminal is on charge, both the blue and the red lights on the base will be on. When charging is finished, only the red one will be on.

Performance Parameters

Title	Parameter
Operating Channel	433MHz|SM
Communication Distance	150 meters indoor; 300 meters outdoor
Type of illuminant	650nm laser
Operation way	Hand-held or bracket-held
Bit Error Rate(BER)	1/ 800 million
Safety Performance	Meet the Grade I National Criteria for Laser Safety
Symbologies	EAN-8, EAN-13, UPC-A, UPC-E, Code 39, Code 93, Code 128, EAN128, Coda bar, Industrial 2 of 5, Interleave 2 of 5, Matrix 2 of 5, MSI, China Zip Code Gs1 DataBar etc.
Supported Interface	RS232, PS2 Keyboard, USB
Scanning Method	Automatic/ Manual
Transmission Rate	RS232 Baudrate:2400-38400
Resolution	3mil (0.1mm)
Depth of Field	15-800mm(pos0.9)
Decode Speed	200times/second
Reading Angle (pitch)	60
Reading Angle (skew)	45
Operating Temperature	-20℃ -45℃
Storage Temperature	-20℃ -45℃
Operating Humidity	5%-85%
Storage Humidity	5%-85%
Power Voltage	5V
Working Current	68mA
Static Current	48mA
Light Intensity	Daylight, 4000lux max
Electromagnetic Interference	Comply with en50081,part1 criteria
External Electromagnetic Interference Resistance	Comply with en50082,part1 criteria
Materials	ABS+PC
Exterior Dimension	Length*Width*Height: Reader: 183mm*75mm*105mm; Base(withoutantenna): 205mm*100mm*40mm;
Weight	Reader: 210g; Base (with antenna): 180g

Troubleshooting the scanner (continued)

The reader does not emit a beam and read bar codes.	The reader is not receiving power.	Make sure the battery pack is fully charged. Replace the battery pack if damaged.
Scanner does not read bar codes quickly and sometimes requires multiple scans.	The battery pack power is lower than 5V.	Charge it. Full charging needs 3-5 hours until the light turns into red.
	The scanning window is dirty	Clean the window with a cotton cloth moistened with an ammonia and water solution. Dry with a soft cotton cloth or allow to air dry.
	The bar code is dirty.	Make sure the bar code is free of dirt and grime. Then scan at a slight angle or pitch to the bar code (see "Operating the Scanner" earlier in this guide)
	You didn't scan in appropriate distance.	Try adjusting the scanning distance.
Scanner cannot read certain bar codes.	The scanner was not set up to read this type of barcode symbology, or the bar code is damaged, covered up, or of poor quality.	Scan another bar code on a similar item. If it scans, clean the bar code giving you trouble. If you are still unable to scan, restore the scanner to original settings. If you still fail, try using other scanner.
	The scanner does not recognize the programming bar code scanned.	Make sure you are scanning the correct programming bar code and try again.
Scanner does not read shiny bar codes.	Reflected light distorts the scan beam.	Scan at a slight angle or pitch to the bar code (see Operating the Scanner earlier in this guide).

Operating the scanner

Before you start scanning, make sure:

- The terminal has adequate power .
- The scanner, cable and the Host are connected.
- All cable connections from the base station are secure.

To scan bar codes

1. Aim the scanner at a slight angle or pitch to the bar code and press the trigger.
2. If you did not get a good read, adjust the scanner distance from the bar code and the position of the scan beam to make sure you scan every bar and space. The optimum reading stance between scanner and barcode is 15-20 cm.
3. On a successful read, there will a beep sound,beam dies out. The scanner then transmits barcode message to the Host.
4. To instantly upload data, please make sure that the terminal is in range and associated to the base, or program will automatically turn into storage mode. The terminal communicates with the base at long distance of 150 meters indoor or 300 meters outdoor.




Troubleshooting the scanner

This table lists potential problems and their solutions.


Symptom	Cause	Solution
The base does not upload data.	When the reader is out of range and not associated to the base, storage mode will be automatically activated to replace normal instant upload mode.	To restore normal mode, scan the normal mode code on the white association cards or 6 th page of this book. On the other hand, when instant uploading is not needed, scan the storage mode code below it to store scans.
	Wireless scanning function is not activated.	Scan the code start wireless scanning on the association cards or page 11 of the guide book.
	System is jammed.	Scan the code restore all original scanner settings at the right bottom on page 11 and then scan the code start wireless scanning below it.
The reader emits a beam but does not read bar codes.	The reader could not associate with the base.	1) scan the first code on page 8 enter setting ; 2) scan the last second code on page 8 restore all original transmitter settings ; 3) scan the last code on page 8 save & exit ; 4) scan the first code on page 9 enter setting ; 5) scan the last second code on page 9 restore all original receiver settings (the reader will emit beeps); 6) put the reader close to the base; remove the base cable and plug it back after a few seconds; the flashing light and beeper will stop; setting is successful; (if the beeper does not stop after you remove the base cable, repeat the above steps.) 7) scan the last code on page 9 save & exit .

Appendix 10 Parameters Barcode


0




1




2




3




4




5




6




7




8




9




A




B




C




D




E



F




End parameter input

Configuring the scanner

Play around in the settings menu to configure the device to your exact specifications.






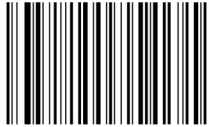




Setting Code	Description	Note
 Normal Mode (instant upload mode)	Scan this code to enter normal scanning mode. Under this mode, data will be transmitted to the base upon scan. (defaulted)	The scanner emits 1 beep and the blue light flashes once when the base successfully receives signals. The scanner emits 3 beep and the blue indicator flashes 3 times when the base is not successfully associated with scanner. The scan result will be automatically stored in the scanner. Storage mode will be activated to replace normal mode when the base fails 3 times in a row receiving a signal.
 Storage Mode	Scan this code to enter Storage mode. Under this mode, scans will be stored in the scanner.	Under this mode, the red light is on. The blue light will flash when a code is successfully read and stored.
 Upload data	Scan this code to uploading stored data. All data in the scanner will be uploaded to the corresponding base. (Note: if the data of previous operations are not cleared but still stored in the scanner, they will also be uploaded.)	You can scan this code to re-upload all stored data when uploading is stopped due to improper base association.
 Upload data of last operation.	Scanner this code to upload data of the last operation (from the last startup) to the base.	(During uploading, the scanner responds as under normal mode)
 Start Wireless Scanning		

Table 4 ordinary characters

H	2	3	4	5	6	7
L						
0	SP	0	@	P	`	p
1	!	1	A	Q	a	q
2	“	2	B	R	b	r
3	#	3	C	S	c	s
4	\$	4	D	T	d	t
5	%	5	E	U	e	u
6	&	6	F	V	f	v
7	‘	7	G	W	g	w
8	(	8	H	X	h	x
9	)	9	I	Y	I	y
A	*	:	J	Z	j	z
B	+	;	K	[	k	{
C	,	<	L	\	l	|
D	-	=	M	]	m	}
E		>	N	^	n	~
F	/	?	O	-	o	DEL

Example: ASCII “ ! ” = “21” 。






Configuring the scanner (continued)

 Resume broken upload	Scan this code to resume uploading data from the breakpoint.	You can scan this code to resume uploading from the breakpoint when uploading is broken down (when the base is disconnected or powered off). e.g.: if uploading is broken down at the 6th code of total 10 stored codes. Scan this code, the uploading will continue from the 6th code to the last. During uploading, the beeper indicates the same as under normal mode. (please, see normal mode)
 Show total number of scans	Scan this code to show total number of stored scans.	This counts by the number of carriage return.
 Show number of last scans	Scan this code to show number of last stored scans. Note: this counter shows new scan number after "uploading data of last operation".	
 Clear storage (use with caution)	Scan this code to clear scanner storage (To scan this code, please turn the scanner by 90°)	On a successful clearing, the blue light flashes once (Available under both normal mode and storage mode)
 Restore All Original Scanner Settings		

Scanner Transmitter Setting



Enter setting

Setting Code	Description	Note
 Set transmitter channel	Set working channel: e.g.: NT 111=10#, set working channel 10. Range: 00-15, end with #.	0# 1# 15#
 Set transmitter ID	Set transmitter ID: e.g.: NT 121=100#, set transmitter ID 100. Range: 1-254, end with #.	1#, 2#... ... 100#, 254#
 Set corresponding receiver ID	Set transmitter reporting to a named receiver. e.g.: NT 122=200#, set corresponding receiver ID 200. Range: 1-254, end with #.	1#, 2#... ... 100#, 254#
 Set beeper	Activate or deactivate beeper function to indicate whether or not the signals are received during uploading data. Signals received: 1 beep Signals not received: 3 consecutive beeps Note: this function will affect scanning speed. Scanning speed is 1 code per second when it is activated and 3 codes per second when not. Range: 2#, 3#.	2# 3#
 Restore all original transmitter settings	Restore this module to original settings.	



Appendix 6 ASCII table

Table 3 special function keys

H	PS2/USB		RS-232	
L	0	1	0	1
0	Null		NUL	DLE
1	Up	F1	SOH	DC1
2	Down	F2	STX	DC2
3	Left	F3	ETX	DC3
4	Right	F4	EOT	DC4
5	PgUp	F5	ENQ	NAK
6	PgDn	F6	ACK	SYN
7		F7	BEL	ETB
8	Bs	F8	BS	CAN
9	Tab	F9	HT	EM
A		F10	LF	SUB
B	Home	Esc	VT	ESC
C	End	F11	FF	FS
D	Enter	F12	CR	GS
E	Insert	Ctrl+	S0	RS
F	Delete	Alt+	SI	US

Industrial 2 of 5



Matrix 2 of 5



Code 11



MSI/Plessey



UK/Plessey



ISBN/ISSN



China Post

Gs1 Databar (GS1
Databar Truncated)



GS1 Databar Limited











GS1 Databar Expanded



Scanner receiver setting



Enter setting



Setting Code	Description	Note
 Set receiver channel	Set receiver channel: e.g.: NT 211 = 10#, set working channel 10. Range: 00-15, end with #.	0# 1# 15#
 Set receiver ID	Set receiver ID: e.g.: NT 221=100#, set transmitter ID 200. Range: 1-254, end with #.	1# 2# 100# 254#
 Enable scanner ID report	Display scanner ID at the receiving end.	
 Disable scanner ID report	Do not display scanner ID at the receiving end.	
 Set Tab between ID and barcode	Set the delimiter between ID and barcode a Tab when ID report is enabled. (Default setting)	e.g.: scanner ID=10, barcode= 12345; display: 10 12345
 Set White Space between ID and barcode	Set the delimiter between ID and barcode white space when ID report is enabled.	e.g.: scanner ID=10, barcode= 12345; display: 10 12345
 Set-between ID and barcode	Set the delimiter between ID and barcode a - when ID report is enabled.	e.g.: scanner ID=10, barcode= 12345; display: 10- 12345
 Restore all original receiver settings	Restore this module to original settings.	



Save & Exit

Note: After a programming operation, the reader will emit beeps and the light will flash to indicate association to the base. Put the reader close to the base. Unplug the base for a few seconds then plug it back. The light and the beeper will stop on a successful setting. Then the reader will perform on the new setting.




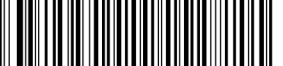


Repeated code detection setting

Setting code	Function	Description
 Enable repeated code detection	Enable repeated code detection. Note: this setting will be automatically saved and remain effective after power failure.	When this function is activated, the scanner will give an error alarm with 5 beeps and automatically cancel the last repeated code if a repeated code is scanned.
 Disable repeated code detection	Disable repeated code detection. Note: this setting will be automatically saved and remain effective after power failure.	

The above detecting time can be adjusted by scanning the following codes: (default: 6 seconds)



Enter setting

Set detecting time 6 seconds 	Set detecting time 5 seconds 
Set detecting time 4 seconds 	Set detecting time 3 seconds 
Set detecting time 2 seconds 	Set detecting time 1 seconds 



Save & Exit

UPC-E



Code 128



UCC/EAN128



Code39



Code93



Codabar



Interleaved 2 of 5



Scanning Mode Setting

Select Good-read off
scanning Mode



Select Auto-detection scan



Press Scanning Mode



Volume of beeper

High



Low



Appendix 5 Test Pattern

EAN-8



EAN-13



UPC-A



Click Scanning Mode



Select Continuous Scanning mode



Auto Continue mode



Middle



Mute



Quick operation of restoring factory settings

(Please scan the bar code from top to bottom)



Start Wireless Scanning



Enter setting



Set transmitter channel



Save & Exit



Enter setting



Restore all original receiver
settings

Note: After a programming operation, the reader will emit beeps and the light will flash to indicate association to the base. Put the reader close to the base. Unplug the base for a few seconds then plug it back. The light and the beeper will stop on a successful setting. Then the reader will perform on the new setting.



Save & Exit

Barcode Settings

Quick Setup

Suffix character - 'Enter'



Suffix character - 'skip'



Suffix character - 'Enter + skip'



Cancel suffix characters



Open prefix characters



Close prefix characters



Begin setting prefix characters



Prefix Setting Example: Increase the prefix character "ABC", follow these steps:

1. Scan start setting Prefix characters setting barcode; Begin setting prefix characters (0 to 8 characters, 2 / character; 00 ~ FF; 0 *)



2. Read the manual appendix know "ABC" corresponding ASCII value is "414243";

3. Step by step to scan 4, 2, 4, 2, 4, 3 barcode scan code parameter;

4



1



4



2



4



3



End parameter input



4. Scan "End Parameter Input" setting the bar code. If you hear the "beep beep" the configuration is successful.

5. Scan "Open prefix" Setting the Bar Code. Add Prefix setting is completed

Suffix setting method, please refer to set prefix.

Suffix characters default to Enter. .

Open suffix



Close suffix



Begin Setting Suffix



Bar code system name transfer

Open code system name transfer



Close code system name transfer

