

# **NT-2018 Wireless Barcode Scanner**

## **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 is 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.

NT-2018 brings convenience, comfort, high-speed and stability into your bar code scanning.

## **Features and Advantages**

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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 indoors or 300 meters outdoors
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

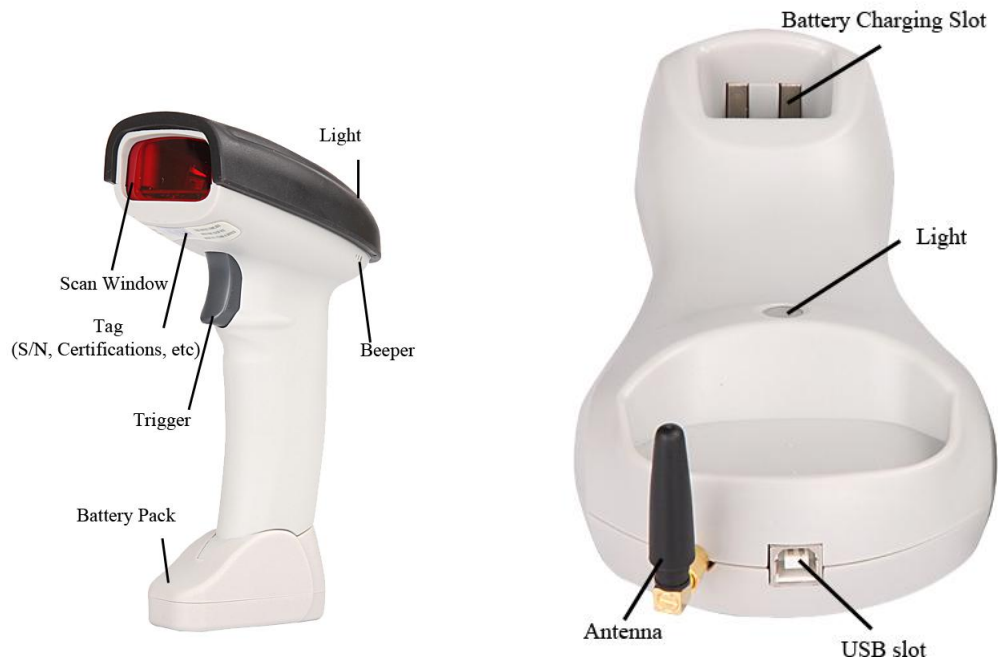
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Your scanner was thoroughly tested and inspected before it was shipped from the factory. The shipping box contains:

Wireless Barcode Scanner	1 piece
Base	1 piece
Battery Pack	1 piece
USB cable	1 piece
Antenna	1 piece
Association card	2 pieces
User's guide	1 copy

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.

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## Installing the scanner

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### 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.

### Installing the antenna

1. Connect the antenna vertically to the antenna interface on the base.
2. Hold the antenna and tighten it by rotating the nut head clockwise until secure.

Notes: To remove the antenna, please operate by inverse steps.

### Starting wireless scanning

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

## Understanding the features

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### 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

### 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	300M(outdoor)
Type of illuminant	650nm laser
Operation way	Hand-held or bracket-held installation
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 etc.
Supported Interface	RS232、PS2 Keyboard、USB、etc.
Scanning Method	Automatic/ Manual
Transmission Rate	RS232 Baudrate:2400-38400
Resolution	3mil
Depth of Field	15-800mm(pos0.9)
Decoding Speed	200 times/second
Reading Angle (pitch)	60 °
Reading Angle (skew)	45
Operating Temperature	-20°C-45°C
Storage Temperature	-20°C-45°C
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 (without antenna): 205mm*100mm*40mm;
Weight	Reader: 195g; Base (with antenna): 230g

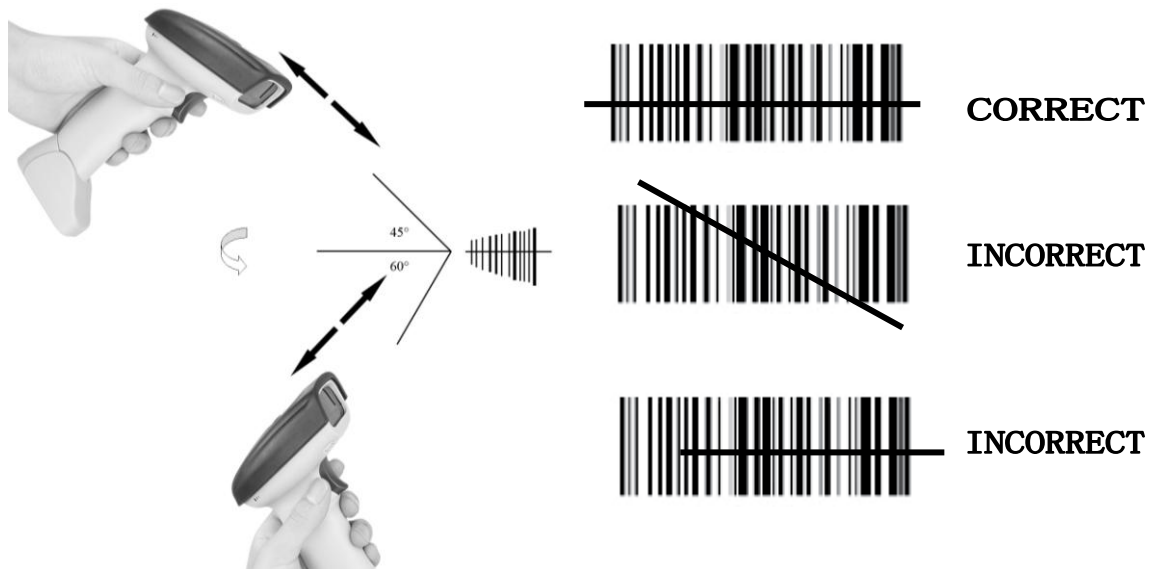
## Operating the scanner

### Before you start scanning, make sure:

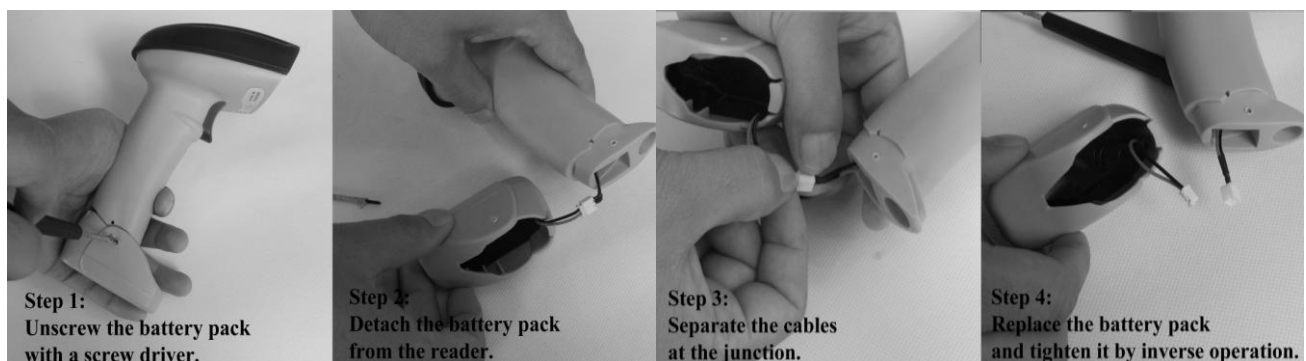
- The terminal has adequate power .
- The scanner, cable and the Host are connected.
- All cable connections from the base station are secure.

### 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'll be 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.







### Replace the battery pack as below:






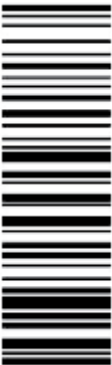
## Configuring the scanner

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

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






## Configuring the scanner (continued)

 <p>Resume broken upload</p>	<p>Scan this code to resume uploading data from the breakpoint.</p>	<p>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)</p>
 <p>Show total number of scans</p>	<p>Scan this code to show total number of stored scans.</p>	
 <p>Show number of last scans</p>	<p>Scan this code to show number of last stored scans.</p> <p>Note: this counter shows new scan number after “uploading data of last operation”.</p>	<p>This counts by the number of carriage return.</p>
<p>Clear storage (use with caution)</p> 	<p>Scan this code to clear scanner storage.</p> <p>(To scan this code, please turn the scanner by 90 °)</p>	<p>On a successful clearing, the blue light flashes once . (Available under both normal mode and storage mode)</p>

## 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.	











### Save & Exit



## 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
 <p>Enable repeated code detection</p>	<p>Enable repeated code detection.</p> <p>Note: this setting will be automatically saved and remain effective after power failure.</p>	<p>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.</p>
 <p>Disable repeated code detection</p>	<p>Disable repeated code detection.</p> <p>Note: this setting will be automatically saved and remain effective after power failure.</p>	

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



**Enter setting**

<p>Set detecting time 6 seconds</p> 	<p>Set detecting time 5 seconds</p> 
<p>Set detecting time 4 seconds</p> 	<p>Set detecting time 3 seconds</p> 
<p>Set detecting time 2 seconds</p> 	<p>Set detecting time 1 seconds</p> 



**Save & Exit**

**Appendix – 1**

**0 – 9, #, TEST 1234567890**



**0**



**1**



**2**



**3**



**4**



**5**



**6**



**7**



**8**



**9**



**#**



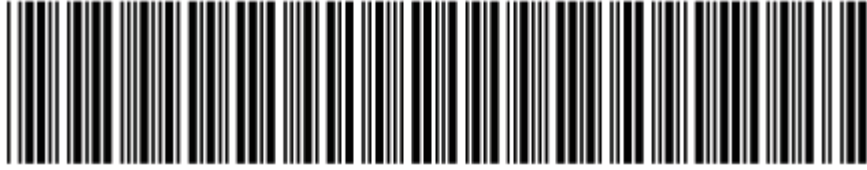
**TEST 1234567890**



**Restore All Original Scanner Settings**



**Start Wireless Scanning**



**Display version information**

**Troubleshooting the scanner**

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This table lists potential problems and their solutions.

<b>Symptom</b>	<b>Cause</b>	<b>Solution</b>
<b>The base does not upload data.</b>	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 <sup>th</sup> page of this book. On the other hand, when instant uploading is not needed, scan the storage mode code below it to store scans.
<b>The reader emits a beam but does not read bar codes.</b>	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 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”.
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## Troubleshooting the scanner (continued)

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<b>The reader does not emit a beam and read bar codes.</b>	The reader is not receiving power.	Make sure the battery pack is fully charged. Replace the battery pack if damaged.
<b>Scanner does not read bar codes quickly and sometimes requires multiple scans.</b>	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.
<b>Scanner cannot read certain bar codes.</b>	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	Make sure you are scanning the correct programming bar code and try again.

	scanned.	
<b>Scanner does not read “shiny” bar codes.</b>	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).

## Further operating the scanner

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<b>Aim</b>	<b>Operation</b>
To display the total scan number, to clear stored data, to upload data.	Scan the related bar codes in “bar code settings” earlier inn 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> <ol style="list-style-type: none"> <li>1) scan the code “enter setting” on the top of page 9.</li> <li>2) scan the code “display transmitter ID” on page 9, the reader will emit beeps.</li> <li>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.</li> <li>4) scan the last code on page 9 “save &amp; exit”. There will be an ID number of this reader “10” displayed before this reader’s every scanned code. (Defaulted: 10)</li> </ol> <p>To change the ID to other number, like “200” (range: 1-254)</p> <ol style="list-style-type: none"> <li>1) scan the code “enter setting” on the top of page 8.</li> <li>2) scan the code “set transmitter ID” on page 8.</li> <li>3) scan the numbers codes on page 11, “2”, “0”, “0” and end with “#”.</li> <li>4) scan the code on page 8 “save &amp; exit”.</li> </ol>
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.</p> <ol style="list-style-type: none"> <li>1) scan the code “enter setting” on page 8.</li> <li>2) scan the code “set transmitter channel” on page 8.</li> <li>3) scan the number code “6” on page 11 and end with “#”.</li> </ol>

	<p>4) scan the code “save &amp; exit” on page 8 to finish transmitter channel setting. Set receiver channel.</p> <p>5) scan the code “enter setting” on page 9.</p> <p>6) scan the code “set receiver channel” on page 9.</p>
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### Further operating the scanner (continued)

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	<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 &amp; 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

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Charge the battery at the end of each use and unplug it right when it reaches full charge; overcharging will shorten the battery's lifespan.

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 water solution. Dry with a soft cotton cloth or allow 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).

## 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 2<sup>nd</sup> 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 owner's 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.