



NLS-HR100 Series

Hand-held 1D Barcode Scanner

Quick Start

Revisions

Version	Description	Date
Version 1.0	Initial release, only 6 pages	08-07-2009
Version 2.0	Support as from HR100 firmware Version 1.21.21 and higher.	29-01-2010



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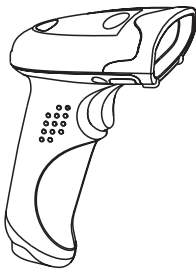
Getting to Start

Unpacking

Unpack and check the main unit and accessories. In case there is any problem, please contact with your dealer.

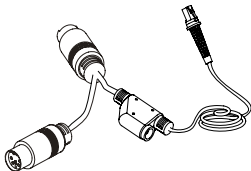
Main Unit

- » HR100



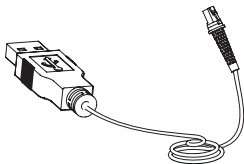
Accessories

- » PS/2 Cable

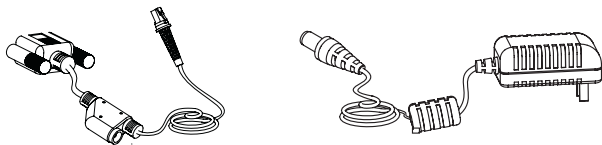




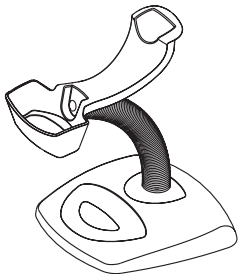
» USB Cable

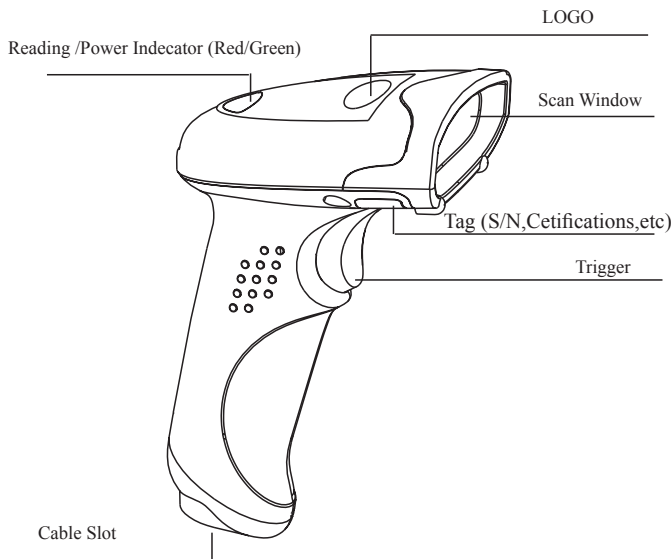


» RS232 Cable + Power Adapter



» Stand





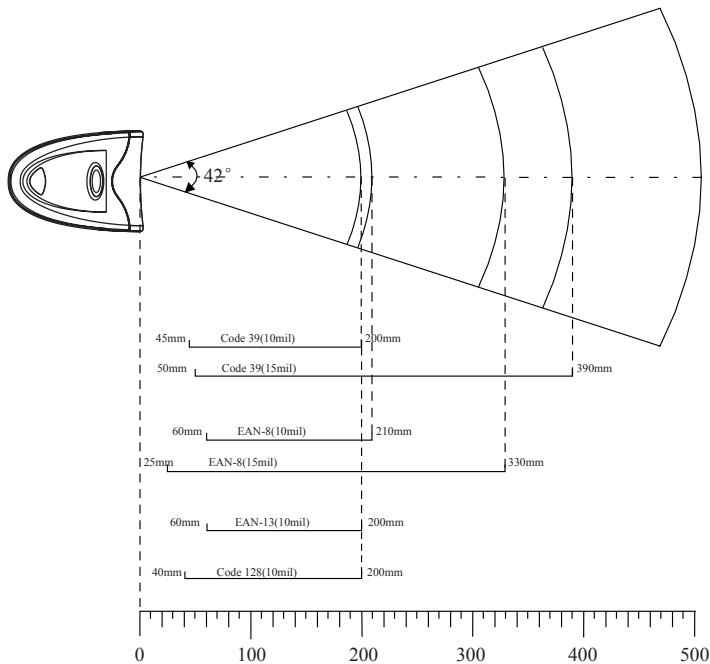


Performance		
Image Sensor	Linear CCD	
Interface	USB-HID, True RS232, TTL level RS232, Keyboard Wedge	
Resolving	2500	
Decoded Speed	200/s	
Symbologies	Code128, EAN-13, EAN-8, Code39,UPC-A, UPC-E, Codabar, GS1 Databar, Interleaved 2 of 5, ISBN/, Code 93, etc.	
Precision	≥ 5mil	
Light Source	LED 630 nm ± 10 nm	
Print Contrast Signal	≥ 30%	
Depth of Field	Code 39 (10mil) :25-280; Code 39 (15mil) :20-390; ENA-13 (10mil) :45-230; ENA-13 (15mil) :30-375; Code128 (10mil) :30-300; Code128 (15mil) :25-380;	
Sensitivity **	Pitch	±60° @ 0° Roll and 0° Skew
	Roll	±30° @ 0° Pitch and 0° Skew
	Skew	±75° @ 0° Roll and 0° Pitch
Illumination	0 ~ 100,000 LUX	
Mechanical/ Electrical		
Power Consumption	0.7W (Max)	
Voltage	DC 5.0V	
Current	Peak	150mA
	Operat.	120mA
	Idle	45mA
Weight	105g	
Environment		
Operate Temperature	-0°C~ +50°C	
Storage Temperature	-40°C~ +60°C	
Humidity	5% ~ 95% (无凝结)	
Certifications	FCC Part 15 Class B, CE EMC Class B	

**Test Condition:

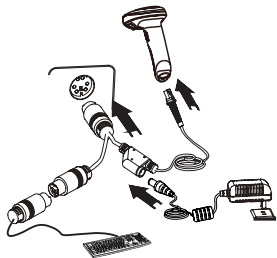
Code39: 3 Bytes ; Resolution = 10mil; W:N = 2.5:1 ; PCS = 0.8 ;

Barcode Height = 11mm; Distance = 120mm; T=23° C; Illumination= 200 LUX



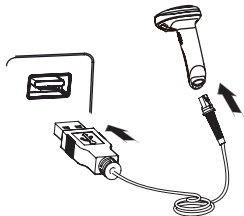


Connecting with PS/2 Cable



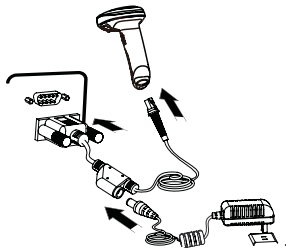
- 1、 Insert PS/2 cable (RJ 45 male DIN) into HR100 cable slot;
- 2、 Insert PS/2 cable (PS/2 male DIN) into Host PS/2 female slot;
- 3、 If necessary, connect PS/2 cable and the mains with power adapter;
- 4、 If necessary, keyboard can connect to female slot on the PS/2 cable;

Connecting with USB Cable

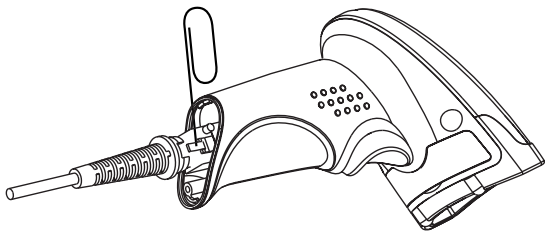


- 1、 Insert USB Cable (RJ45 male head) into HR100 cable slot;
- 2、 Insert USB Cable (USB male head) into Host' s (female) USB connector;

Connecting with RS232 Cable



- 1、 Insert RS232 cable (RJ45 male head) into HR100 cable slot;
- 2、 Insert RS232 cable (RS232 male head) into Host' s (female) RS232 connector;
- 3、 Connect RS232 cable and the mains with power adapter;



A Pin that fit the HR100 “Dismount hole” is needed. A paper clip could be ideal. Stretch one end of the paper clip to fit the “Dismount Hole” . Follow the steps:

- 1、 For RS232 and PS/2 connections, unplug the power adaptor.
- 2、 Insert the Pin into “Dismount Hole” and keep some pressure.
- 3、 Pull out the cable gently.
- 4、 Pull out the Pin after the cable is removed.
- 5、 Unplug the connector from the Host.



» Power On

Connect HR100 and Host. One click the "Trigger". HR100 powers on and in "Idle" (ready to use) state (factory default).

» Power Off

There are 4 ways to "Power OFF" :

- 1、 Remove Cable Off HR100;
- 2、 Remove Power Adapter Off RS232 Cable;
- 3、 Remove USB Cable Off the Host;
- 4、 Remove PS/2 cable off the Host or power adaptor off.

» IDLE

When reader is NOT reading, it is in "IDLE mode".

No reading attempt within a timeout, the Imager switch to IDLE mode automatically.

» RESTART

If HR100 halted and does not respond to operations, please "Restart" by "Power OFF", and then "Power ON".



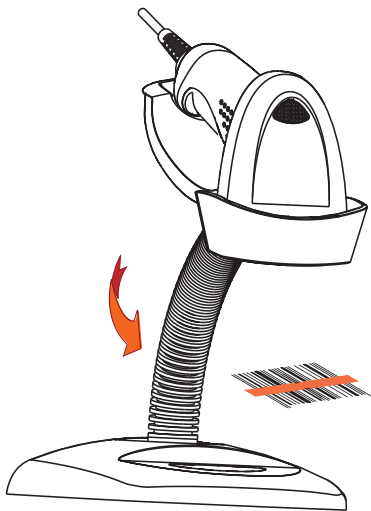
Reading

Hand-held Mode

- 1、 Ensure HR100, cables, and the Host are connected, then turn the unit Power ON
- 2、 Press & hold Trigger. Illumination LED cast an Illumination Pattern (red light line) ;
- 3、 Keep Illumination Pattern in the center of a bar code. Zoom in and zoom out to allocate the Optimum Reading Stance.
- 4、 On a successful reading, there' ll be a beep sound, illumination die out. The HR100 then transmits barcode message to the Host.

NOTE: Experiences tell a certain range of distances has higher successful reading rate. This range is the Optimum Reading Stance.





- 1、 Select reading mode “sensor mode” or “continuous mode” when working in hands-free mode.
- 2、 Adjust the stand height for the optimum reading stance.



Programming Code

Query

After reading interrelated programming barcodes, the engine will feed information needed back to the Host to achieve the purpose of query.

Code Programming ON



Code Programming OFF



Query Product Information



Query Manufacturing Date



Query Hardware Version



Query Product Model



Query Product ID



Code Programming ON



Code Programming OFF



Load All Factory Default

Part of Factory Default

Subject	Factory Default		
Interface	USB-HID, Keyboard Wedge		
	True RS232 TTL level RS232	Baud Rate	9600bit/s
		Parity Check	No Check
		Data / Stop Bit	8 bits/1 bit
Beep	On		
Scan Mode	Hand-held Mode		
1D Symbols (Enable)	Code128, EAN-13, EAN-8, Code39, UPC-A, UPC-E, Codabar, GS1 Databar, Interleaved 2 of 5, ISBN/ISSN, Code 93, etc.		



1、Hand-held Mode: Factory Default, scan engine will begin to scan when triggered. And when it scans successfully or the trigger is released, the engine will stop scanning.

2、Sensor Mode: After programming, the engine will start to sense the environment without trigger. After a scan, it will stop and keep sensing to wait another illumination changing. In sensor mode, a trigger also can start a scan. The sensitivity level could be chosen.

3、Auto Mode: First program the engine, then trigger it, the engine will start to scan. After a scan, the engine will not stop but start a new one automatically until another trigger. By default, the engine will not repeat reading a same barcode.

Code Programming ON



Code Programming OFF



Hand-held Mode
(Factory Default)



Sensor Mode



Auto Mode



Baud Rate

Under RS232 connection, the engine and the Host should set communication baud rate to the same to keep normal communication.

Baud rate is the bits transmitted per second (8 bits per bytes). The engine and the Host must communicate at the same baud rate.

The reader supports baud rate as the following:



9600
(Factory Default)



2400



14400



38400



115200

Code Programming ON



Code Programming OFF



1200



4800



19200



57600



Check

Code Programming ON



Code Programming OFF



No Check
(Factory Default)



Even Check



Odd Check

Stop Bit



0.5 Stop Bit



1.5 Stop Bit



1 Stop Bit
(Factory Default)



2 Stop Bit



Data Bit



8 Data Bit
(Factory Default)

Code Programming ON



Code Programming OFF



7 Data Bit

Flow Control



No Flow Control
(Factory Default)



CTS Flow Control



RTS Flow Control



RTS_CTS Flow Control



USB HID-KBW

Code Programming ON



Code Programming OFF



USB HID-KBW

USB COM Port Emulation



USB COM Port Emulation



Keyboard Layout

Scan the appropriate country code below to program the keyboard for your country.



No. 0 Chinese (Factory Default)



No. 1 American



No. 2 Belgian



No. 3 Danish



No. 4 Finnish



No. 4 French



No. 6 Autrichien, German

Code Programming ON



Code Programming OFF



No. 7 Italian



No. 8 Norwegian



No. 9 Spanish



No. 10 Swiss



No. 11 English



Character Delay

Character delay time is 0 to 150ms.



Chracter Delay

Code Programming ON



Code Programming OFF



Character Conversion



Constant



All Small



All Capital



Reverse





Function Key

Code Programming ON



Code Programming OFF



Caps Lock



Caps Unlock



Nums Lock



Nums Unlock



Scroll Lock



Scroll Unlock



No Beeper Output



High Frequency & Loud Volume



High Frequency & Medium Volume



High Frequency & Low Volume



Medium Frequency & Loud Volume



Medium Frequency & Medium Volume



Medium Frequency & Low Volume

Code Programming ON



Code Programming OFF



Low Frequency & Loud Volume



Low Frequency & Medium Volume



Low Frequency & Low Volume



150ms Sound Length



100ms Sound Length



50ms Sound Length



Need to program stop suffix and enable it supports line feed and carriage return.

Code Programming ON



Program Stop Suffix

Code Programming OFF



Program Stop Suffix



Set Stop Suffix as 0x0D,0x0A
and Enable Sending



Set Stop Suffix as 0x0D and Enable Sending

Stop Suffix Enable and Disable



Disable Stop Suffix
(Factory Default)



Enable Stop Suffix



Code 128

Code Programming ON



Code Programming OFF



Enable Code 128
(Factory Default)



Disable Code 128



Min Message Length(default:1)



Max Message Length(default:255)

EAN-8



Enable EAN-8
(Factory Default)



Disable EAN-8



Symbols

Interleaved 2 of 5



Enable Interleaved 2 of 5
(Factory Default)



Min Message Length (default:6)

Code Programming ON



Code Programming OFF



Disable Interleaved 2 of 5



Max Message Length (default:255)

EAN-13



Enable EAN-13
(Factory Default)



Disable EAN-13

UPC-A



Enable UPC-A
(Factory Default)



Disable UPC-A





UPC-E

Code Programming ON



Code Programming OFF



Enable UPC-E
(Factory Default)



Disable UPC-E

Code 39



Enable Code 39
(Factory Default)



Disable Code 39



Min Message Length(default:4)



Max Message Length(default:255)

GS1 Databar



Enable GS1 Databar
(Factory Default)



Disable GS1 Databar



Appendix

A. Testing Codes

EAN-8 10mil 8bytes



EAN-8 15mil 8bytes



Code 39 10mil 3bytes



Code 39 15mil 3bytes



Code 128 10mil 5bytes



EAN-13 10mil 13bytes





B. Digit Code and Save

It is must to read save after reading digit code.



0



6



B



1



7



C



2



8



D



3



9



E



4



A



F



5



Save



Problem	Possible Cause	Possible Solution
Scanner does not turn on	With RS232 communication, adapter not inserted	Insert the adapter
	With RS232 communication, communication interface fails.	Connect communication port in right way
	With USB or PS/2 communication, communication interface fails.	Connect communication port in right way
Scanner does not send data to host computer	Scanner is not connected to the host.	Check all cable to host computer.
Receive garbled with RS232	Scanner and the host baud rate settings are inconsistent	Check scanner and PC-side communication port baud rate settings are the same
Scanner does not read barcodes	Did not enable the barcode	Please enable it
	Scanner can not read the barcode by it's firmware.	Please contact the dealer or us

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