



Blade Reader (BR10) User Manual

Publication date: April.16.2012



1 Contents

2	Safety instruction and Warnings	1
3	Device Application.....	1
4	Technical Data	1
5	Physical characteristics.....	1
6	Charging the unit.....	2
7	On the screen indicators	2
8	Read range	2
9	Communication and command set	3
10	Approvals.....	4
10.1	Approval for United States of America, FCC.....	4
10.2	Approval for Industry Canada, IC.....	4
10.3	Labeling.....	4

2 Safety instruction and Warnings

Use this documentation to familiarize yourself with all necessary steps and considerations that must be considered before using this device. This device must strictly be used in accordance with the guidelines explain in this documentation and any changes or use of parts and additional devices which is not recommended by the manufacturer may cause harmful injuries and the manufacturer is not liable for such cases.

Users must consult with the most recent documentation available at the time of purchase. The manufacturer is not responsible for the use of outdated or unsuitable documentation that may lead to incorrect use of the device.

Any modification and/or repairs must be conducted by the manufacturer or its qualified representative.

3 Device Application

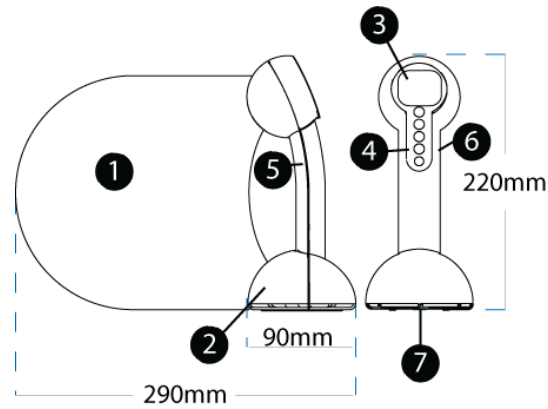
Blade Reader is a RFID Bluetooth reader designed for the purpose of reading passive RFID-tags. Blade Reader operates at 13.56 MHz and is suitable for applications that require RFID read in a short to medium range. Blade reader is equipped with a flexible antenna, a display, buzzer and 4 user buttons. Blade Reader thin and flexible antenna allows the device to be used for reading RFID tags attached to books without a need to move the books off the shelf.

4 Technical Data

Model Number	BR10
Frequency	13.56MHz
Baud Rate	115200bps
User interface	4 switches, buzzer and a 102x64 LCD with back light
RF Power	1/4W
Battery Pack	17Wh, 7.2V Lithium Ion, 8 hours of full scanning operation
Charger adaptor	9 Volt 1Amp DC adaptor (2.1mm center positive Jack)
Weight	0.345 KG
Color	Gray and Purple or Black and Gray
Tag support	ISO 15693, ISO 14443A/B, HF EPC, Tag-it™, FeliCa™
Dimensions	9cmx22cmx29cm (WxHxD)
Bluetooth	Bluetooth 2.1/2.0/1.2/1.1 compliant, read range up to 10 meters
Compliance	FCC, ICS, CE and RoHS
Operating Temperature	0 up to +40 centigrade
Storage Temperature	-15 up to +50 Centigrade
Enclosure	ABS

5 Physical characteristics

Following figure 1 shows the Blade Reader physical dimensions and location of important parts.



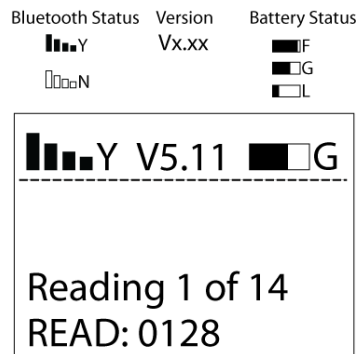
- | | |
|--------------------------|--|
| 1- Loop antenna | 4- Keypad |
| 2- Battery pack location | 5- Buzzer & Bluetooth antenna location |
| 3- LCD display | 6- Charger input |
| | 7- Location of made in label |

6 Charging the unit

Blade reader is equipped with a rechargeable battery pack. To re-charge your unit you must use the adaptor shipped with the device. A blue led indicator located on keypad turns on while the unit is charging and turns off when the unit is fully charged. Please note the unit must be charged before using for the first time. Charging process for a discharged unit to become fully charged takes about 4 to 6 hours.

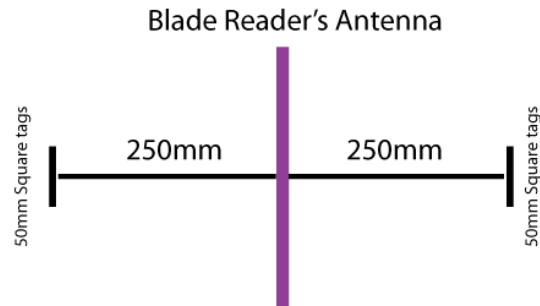
7 On the screen indicators

Following figure shows the indicators for Bluetooth status (connected and not connected), battery status (full, good, low) and firmware version loaded. This information is visible to user at all time. The rest of display shows messages depending to controller application software being used.



8 Read range

The RFID tag read range depends on type of tags being used. Following figure show the nominal read range when 50mm square tags are being used.



9 Communication

Blade Reader accepts commands over air (i.e. Bluetooth SPP connection). As soon as Blade Reader receives a command from inquiring device it executes the command and sends back a full or partial response. It is up to inquiring device to recognize the end of response based on command/reply protocol. A Bluetooth device needs to turn the RF on and set the protocol before issuing any RFID command.

Issuing an inventory command returns all unique identifiers of tags (UID) in the proximity of the Blade Reader. Bluetooth device further can issue read command using the UIDs received from inventory command to read data block of each tag. Bluetooth device also can issue commands to send visual and audible feedback to user (Display command or Beep command). For further information on command protocol please refer to programming manual. Following commands are allowed:

Command Code	Sub Command	Description
10		Set RFID protocol, turn RF on or off
F0		Set AGC
F1		Set receive mode (AM/PM)
14		Inventory command
18	20	Read RFID single block
18	23	Read RFID multiple blocks
18	27	Write AFI
18	2B	Get system info
18	A3	SET security on RFID tag (EAS) off
18	A2	SET security on RFID tag (EAS) on
18	A5	Check security alarm
21	2, 3,4...7	Write a line of characters on LCD display
21	0	Update battery status
21	1	Clear display
22		Read last button status
23		Beep

10 Approvals

10.1 Approval for United States of America, FCC

FCC ID: X7X-BR10

This device complies with Part 15 of the FCC 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.

NOTICE:

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

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.

10.2 Approval for Industry Canada, IC

IC: 8859A-BR10

This device complies with Industry Canada emission requirement and bears the ID on the made in label to indicate the compliance.

10.3 Labeling

Each device bears a made in sticker showing the device model, a unique serial number and **FCC** and **IC** numbers. See following Figure for a sample of made in sticker.

