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UNIVERSAL WORLDSCAN™ READER *PLUS*

Reads 134.2 kHz, 128 kHz, and 125 kHz Microchips
ISO Compatible

USER MANUAL

Rev.1_10.

Table of contents

1 Description

UWSR+ is a universal portable reader for RFID microchips with the purpose of identifying animals.

The device can read a wide range of technologies: FDX-B ISO, HDX ISO, FDX-A (FECAVA), Trovan and Avid Encrypted. UWSR+ can also read and display the Microchip Temperature™ when reading microchips with temperature sensing implants from Destron Fearing or Allflex.

In addition to its microchip reading functions, the UWSR+ scanner can store up to 3000 IDs, each associated with a time/date stamp in its internal memory and transmit them to a personal computer via an USB cable or wirelessly using Bluetooth®.
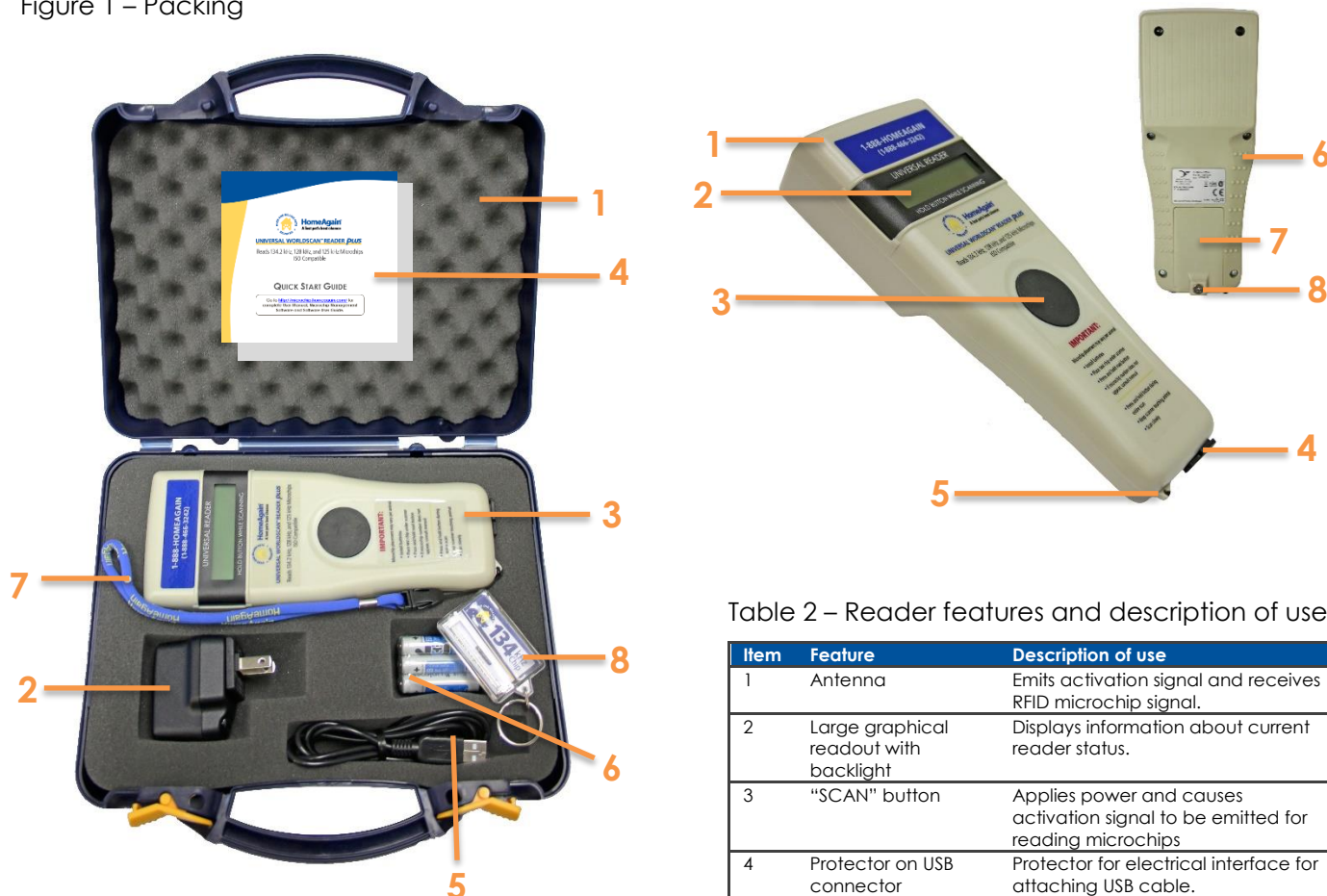
2 Reader and Packing

Figure 1 – Packing

Table 1 – Packing list

Item	Features	Description
1	Plastic case	Use to transport the reader in a robust case
2	Wall adapter	Power Supply – Powers reader and charges batteries.
3	Reader	Universal WorldScan™ Reader Plus
4	Guide	Quick Start Guide
5	USB Cable	Conveys data to and from reader.
6	Rechargeable NiMH battery	Supplies the reader.
7	Lanyard	Helps prevent drops and keeps hands free.
8	Key chain with test microchip	1 microchip to demonstrate and test reading capabilities.

Table 2 – Reader features and description of use

Item	Feature	Description of use
1	Antenna	Emits activation signal and receives RFID microchip signal.
2	Large graphical readout with backlight	Displays information about current reader status.
3	"SCAN" button	Applies power and causes activation signal to be emitted for reading microchips
4	Protector on USB connector	Protector for electrical interface for attaching USB cable.
5	Eyelet	Eyelet to place the lanyard
6	Handle grip	Anti-slip griping surface
7	Batteries cover	Cover to access batteries
8	Batteries cover screw	Screw on batteries cover
9	Bluetooth® (internal)	Wireless interface to communicate data to and from reader (not pictured)
10	Audible beeper (Internal)	Beeper to identify the different reader functionalities

Figure 2 - Reader features and user interface.

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3 Operation and settings

3.1 Getting Started

UWSR+ comes supplied with six AAA **rechargeable NiMH batteries** which must be **fully charged prior to use**, as diagram below (step 1 through 3).

If preferred, six standard non-rechargeable AAA Alkaline[1] batteries can also be used and only step 1 should be followed (step 2 and step 3 do not apply).

1 Remove retention screw located on center of back of UWSR+. Place batteries according to polarity indicators. Replace lid and screw.

2 Remove USB plug and attach cable in the UWSR+.

3 Plug the adaptor into power outlet. The battery level icon will flash while charging and stop flashing when fully charged. A full charge will take approximately 3 hours.

3.2 Battery handling instructions

Please read and follow the handling instructions for the batteries before its use. The batteries should only be charged with the USB cable and wall adapter supplied with the reader. Improper use of batteries may cause its capacity deterioration or cause heat, fire, rupture or damage. For best performance of batteries, unit should be charged at least every three months, if reader is unused.

⚠ Caution

- USE RECHARGEABLE BATTERIES WITH SAME CAPACITY AND DO NOT MIX RECHARGEABLE AND STANDARD BATTERIES.
- DO NOT ATTEMPT TO CHARGE STANDARD ALKALINE BATTERIES.
- BATTERIES MUST BE CHARGED INDOORS ONLY, AT TEMPERATURE BETWEEN 32° F and 104° F.
- RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE.
- DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.

❗ Warning

Do not use the reader near water when connected to the AC/DC adapter.
Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus that produce heat.
Do not charge the battery pack from AC main sources during electrical storms or when unused for long periods of time.

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[1] We recommend Duracell® or Energizer® alkaline batteries

3.3 Power on / off instructions

To turn the UWSR+ on, press and release the "SCAN" button once. During this start up time the reader will display the screen below, beep once, and then display "READY".

Firmware version ——
```
        Welcome
V0.86.00
```

ⓘ   **Note 1** - Once activated, the reader will stay on for 2 minutes by default.

3.4 Reading an implanted microchip

3.4.1   Scanning and LOCATING AN IMPLANTED MICROCHIP

When searching implantable microchips, place the reader so it touches the animal as shown in pictures.
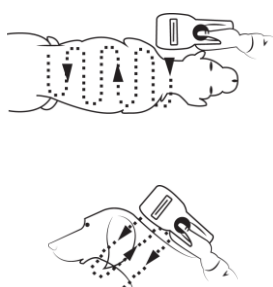

Use the following scanning patterns to locate the microchip. Perform pattern 1 and 2 on Left, Top and Right sides of animal's neck and shoulders, as microchip placement might vary per animal.
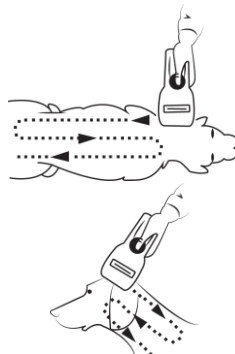
For Pets

Keep scanner touching animal and scan slowly following patterns below:

Pattern 1   Pattern 2

To search for microchips, press and hold down the SCAN button. The reader will display "SEARCHING" until a microchip is found or the scan button released.

```
 ▯ ⁎
SEARCHING...
```

If the microchip was not found (see message below), re-test the Scanner with the test chip and rescan the animal, moving slower and varying angle of scans.

```
 ▯ ⁎
NO ID FOUND
```

The following pictures show the result of a successful reading session:

```
 ▯ ⁎
985005624300245
```

ⓘ   **Note 2** – If a microchip was found and the reader is connected via its USB interface or its Bluetooth® interface to a host computer, it will send the microchip number to the host computer.

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3.4.2   Read range performances

Figure 3 illustrates the reading zone of the reader, within which microchips can be successfully detected and read. Optimum read distance occurs depending upon the orientation of the microchip. Microchips and implants read best when positioned as shown below.

Figure 3 - Optimum Read Distance Microchip Orientation (position 1, 2, 3 and 4)
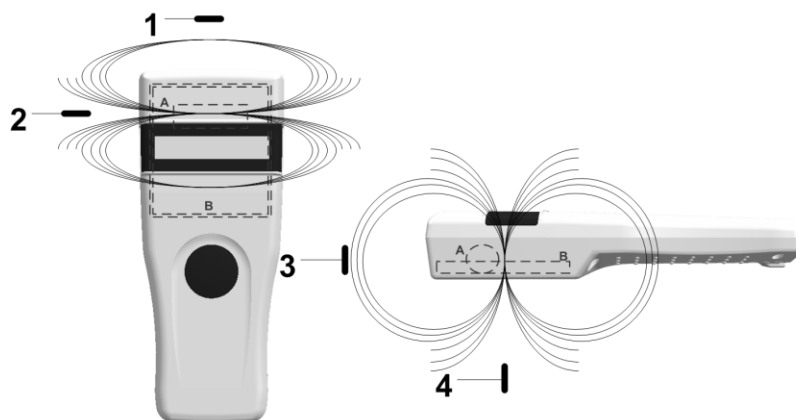
Typical read distances will vary when reading different types of microchips.

3.5 Memory management

The UWSR+ can store up to **3000 IDs**, each associated with a time/date stamp, in its internal memory and transmit them to a personal computer via an USB cable or wirelessly using Bluetooth®.

The tool "Microchip Management Software" allows you to enable/disable the memory storage (refer to the "UWSR+ Microchip Management Software User Guide"). **By default, the memory storage is DISABLED.**

When memory is enabled and a microchip is read, the UWSR+ displays the number of microchips stored in memory, above the microchip number, as shown in picture below:

3.6 Temperature measurement

The UWSR+ can read and display the Microchip Temperature™ when reading microchips with temperature sensing[2] implants from Allflex or Destron Fearing.

The Microchip Temperature™ is displayed above the microchip number as shown in picture below:

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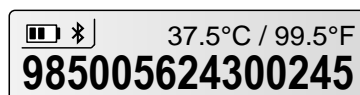
[2] Microchip Temperature™ range is from 33°C (91.4°F) to 43°C (109.4°F). If the temperature is below or above this range, it will display "TEMP BELOW RANGE" OR "TEMP ABOVE RANGE".

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3.7 BLUETOOTH® management

The UWSR+ is equipped with a Class 2[3] Bluetooth® module to communicate. This device is compliant with the Bluetooth® Serial Port Profile (SPP).

Enable the Bluetooth® feature by using the "Microchip Management Software" (refer to section Using Bluetooth® interface to pair, from Windows and the document "Microchip Management Software User Guide"). **By default, the Bluetooth module is DISABLED.**

Bluetooth® works on a premise that one end of the communication will be paired to the other one. A host initiates communications and looks for other devices to connect. Smart phones and computers usually establish the connection with readers which are connectable and discoverable.
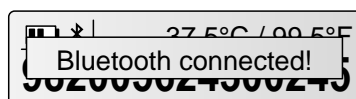
Note 3 – Understanding the Bluetooth® icon:

Disabled	Connectable mode		Host mode	
No icon	Blinking ⚡	Fixed ⚡	Blinking ⚡M	Fixed ⚡M
	Not connected	Connected	Not connected	Connected

Note 4 – A single beep is emitted with a visual message when the Bluetooth® connection is established. Three beeps are emitted with a visual message when the disconnection occurs.

Note 5 – If you are using a Smartphone or a PDA, an application is required (not supplied).

3.8 Tones

The scanner has distinct Beep tones for different functions: after start up, when scan button is pushed or released, when microchip is found, or during low battery condition.

4 Connecting the reader to a PC

The device can connect to a personal computer (PC) in 2 ways: by a wired USB connection or by a wireless Bluetooth® connection.

4.1 Using USB interface

The USB port allows the device to send and receive data via a USB connection.

To establish a USB connection, simply connect the reader to a PC with the USB cable.

1 Install the Microchip Management Software available for download at **http://microchip.homeagain.com/** in order to pre-install USB drivers for the reader. When reader is connected, Windows will automatically find the driver and install the reader properly.


2 Remove the protective cap covering the reader's USB connector (replace protective cap to guard the reader against foreign material contamination once the USB cable is removed).
Install the USB cable by attaching it to UWSR+.

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3 Operating distance of communication is around 15 m (49 ft).

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3 Plug the other extremity of the USB cable into a USB port on your computer.
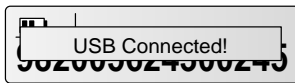
USB Connected!

4 A message is displayed on screen

ⓘ **Note 6** – Once the USB cable is connected, the reader is automatically powered on and it will remain activated until the cable is disconnected. The reader will be able to read a microchip if sufficiently charged batteries are inserted. With depleted batteries, the reader will not be able to read a microchip, but will remain on and can only communicate with computer.

ⓘ **Note 7**: The reader cannot read microchips without batteries inserted. Therefore it is not possible to read a microchip, although the other functions are fully active.

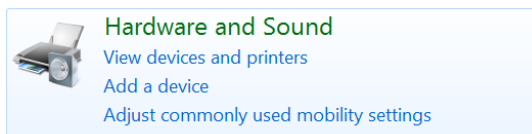## 4.2 Using Bluetooth® interface to pair, from Windows

Alternately, you can pair the reader using Windows Control Panel.

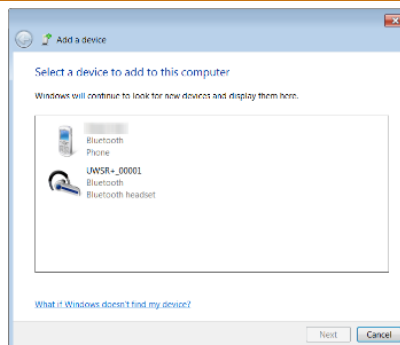Find below the instructions for pairing with Windows 7:

1 Open Windows' Control Panel
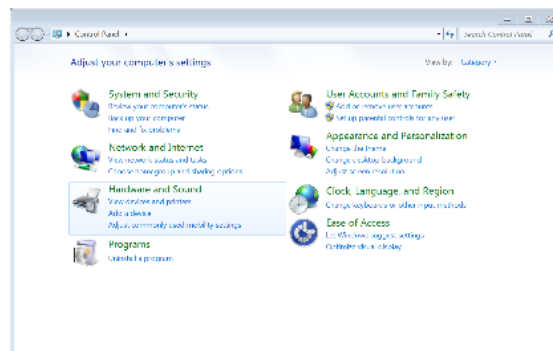
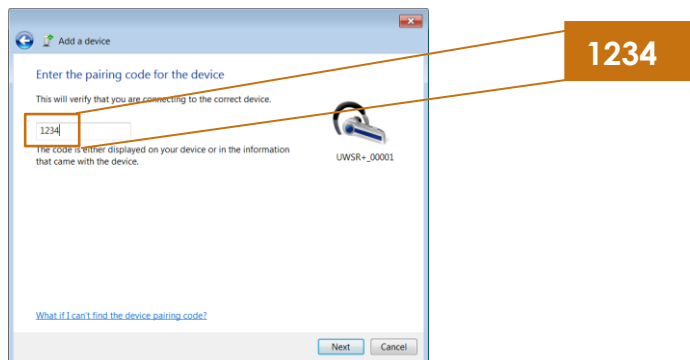**2** In "Hardware and Sound" section, select "Add a device"

**3** Switch-on the reader and wait until the reader appears in the device list as following:

4 Select the appropriate reader and click with right button

NOTE: Your reader may appear as a Bluetooth headset.

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5   Type the PIN code and click Next.

1234

NOTE: If the reader is configured with Bluetooth Authentication option enabled, the pairing process is based on a code generated automatically. In this case, click next to continue (the code will not appear on the reader)
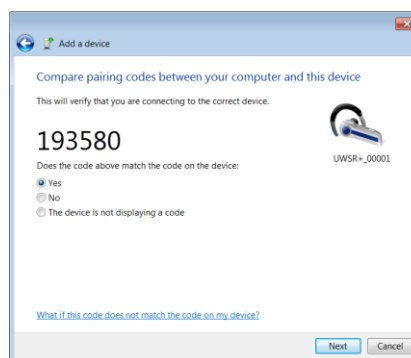
6   Windows will now install the driver needed as following:
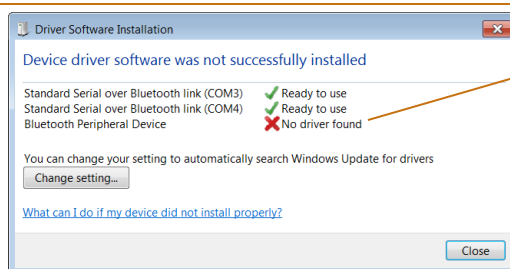
"Bluetooth Peripheral Device" is a service dedicated to Apple's devices and is unknown from Windows' operating system that the reason why the PC mentions "no driver found".

7   Your reader is now ready to connect.

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5 Connecting the reader to an application[4] on smart phone or on mobile device

The device can connect to a smart phone or to a mobile device only through wireless Bluetooth® connection.
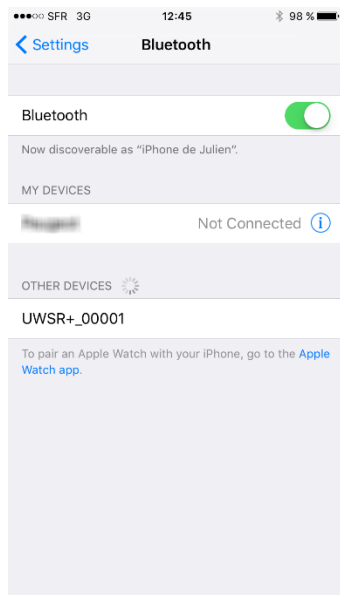
5.1 Pairing with iPhone®/iPad® devices

Make sure your reader is on and tap on UWSR+
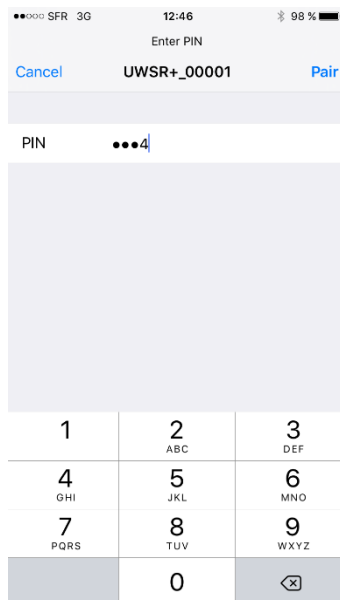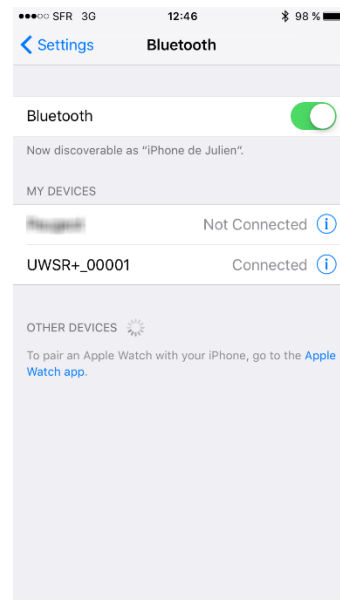
Type **1234**

Paired[5]

5.2 Pairing with Android™ devices

Make sure your reader is on and tap on UWSR+

Type **1234**

Paired

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4 Application not provided.

5 Once paired to the iPhone, your reader will automatically switch into master mode to be able the reconnect to the iPhone automatically the next time.

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6 TROUBLESHOOTING

- **MICROCHIP NOT DETECTED:**
    - ► Verify that UWSR+ is able to read test microchip provided on key chain.
    - ► Confirm that scanning is being performed away from metal objects and computer equipment, including metal collars and metal tags and away from stainless steel table.
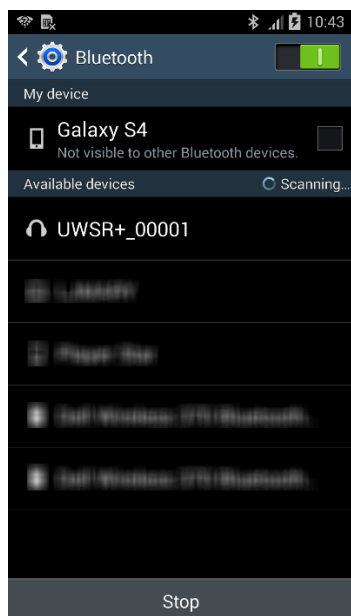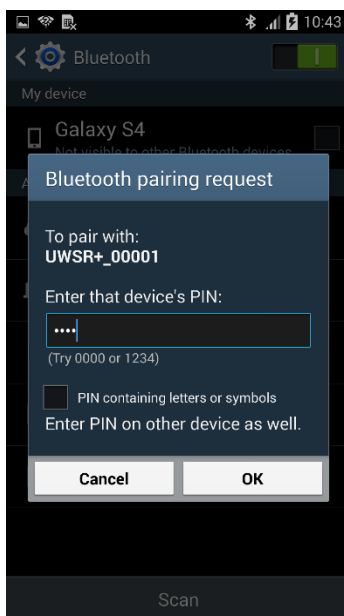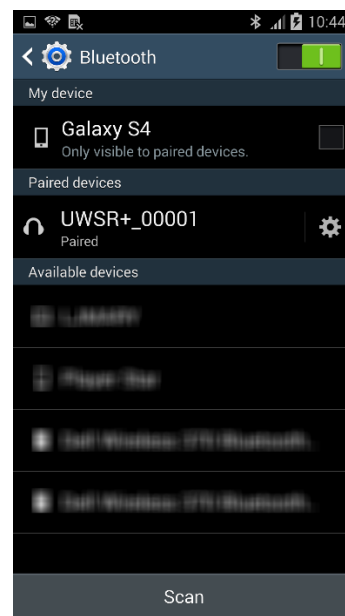   - ► Scan animal following patterns on item 3.4.1, with slow movements and reader touching animal all the time. If the animal moves too quickly, the microchip may not be located in the reading zone long enough for the ID code information to be obtained.
    - ► Replace batteries if power is weak, as it might not be sufficient to activate the field and reading distances can be reduced.
    - ► Some animals might be implanted with two microchips too close to each other. In these cases, there is a risk that reader performance might be affected. Continue to scan as indicated on page 7, with slow movements, trying to identify one microchip at a time.

- **MICROCHIP IS FOUND BUT NOT STORED IN MEMORY:**
    - ► Verify scanner reads test chip.
    - ► Verify Memory is enabled.

- **CANNOT DOWNLOAD MEMORY:**
    - ► Make sure memory is enabled in reader settings (refer to Microchip Management Software User Guide).

- **MICROCHIP IS FOUND BUT DOES NOT DISPLAY TEMPERATURE[6]:**
    - ► Verify Microchip is a temperature sensing implant from ALLFLEX or DESTRON FEARING
    - ► Verify Temperature Scanning is enabled.

- **READER DOES NOT START:**
    - ► Verify batteries have been installed correctly and have full charge.

- **LOW BATTERIES:**
    - ► If reader displays "Low battery" with standard AAA cells: **Replace the batteries.**
    - ► If reader displays "Low battery" with rechargeable cells: **Recharge the batteries.**

- **DEPLETED BATTERIES**
    - ► If reader displays "Battery depleted" with standard AAA cells: **Replace the batteries.**
    - ► If reader displays "Battery depleted" with rechargeable cells: **Recharge the batteries.**

- **BLUETOOTH NOT VISIBLE:**
    - ► Check if Bluetooth icon appears on the reader. If not, enable Bluetooth using Microchip Management Software.

- **BLUETOOTH VISIBLE BUT NOT CONNECTABLE:**
    - ► Make sure your reader is configured to be visible and connectable in Microchip Management Software (refer to Microchip Management Software User Guide available for download at http://microchip.homeagain.com/ for more information).

- **INCORRECT DATE / TIME**
    - ► Connect the reader to Microchip Management Software. This will synchronize the date and time with the computer.

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6 only with microchips dedicated to temperature measurement

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7 Specifications

General	
Norms	ISO 11784 and ISO 11785 for HDX, FDX-B, FDX-A (FECAVA), Trovan and Avid Encrypted microchips and implants
Special feature:	Temperature scanning with TD and BT implants between 33°C and 43°C (between 91.4°F and 109.4°F)
User interface	Graphical display: 122 x 32 dots - visual area: 56 x 12.7 mm 1 button 1 buzzer USB port and Bluetooth® module
USB interface	CDC class (Serial emulation) and HID class
Bluetooth® interface	Class 2(up to 15m) Serial Port Profile (SPP)
Memory	3000 IDs
Batteries	6 "AAA" 1.5V Alkaline or 6 NiMH rechargeable "AAA" 1.2V
Date/Time autonomy	2 months without reader usage @ 20°C
Battery charge duration	Up to 3h30 in fast charge (external power supply) Up to 9h00 in slow charge (computer)
Reading distances	Up to 10 cm (3.9 in) depending on microchip type and microchip orientation.

Mechanical and physicals	
Ingress Protection	IP54 with closed battery door.
Dimensions	202 x 80 x 36.5 mm (7.95 x 3.15 x 1.44 in)
Weight	330 g (including batteries) (11.6 oz)
Operating Temperature	0° to +50°C (+32° to +122°F)
Storage Temperature	-20° to +65°C (-4° to +149°F)
Humidity	10% - 90% Non Condensing

Default settings	
Memory Storage	Disabled
ID code format:	15 digits
Temperature scanning	Enabled
Timestamp	Disabled
Bluetooth®	Disabled
Bluetooth® pin code	1234
Beeper	Enabled

8 Reader physical integrity

The device has been built from rugged and durable materials to withstand use in harsh environments for long periods of time. However, the reader contains electronic components that can be damaged if they are deliberately exposed to extreme abuse. This damage can adversely affect, or stop the reader's operation. The user must avoid deliberately striking other surfaces and objects with the device. Damage that results from such handling is not covered by the warranty described below.

9 Limited Product Warranty

The Universal WorldScan™ Reader Plus is warranted against defects in materials and workmanship, under normal use and service for two (2) years from the day of shipment.

This warranty will not apply if adjustment, repair or parts replacement is required because of accident, neglect, damage during transportation or causes other than ordinary use.

Manufacturer's sole responsibility under this warranty shall be at its option, to either repair or replace any product which fails during the warranty period. In no event shall Manufacturer be liable for any indirect or consequential damages or loss of profit.

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10 Regulatory information

10.1 USA-Federal Communications Commission (FCC)

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

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of 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. If not installed and used in accordance with the instructions, it 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 tuning the equipment off and on, the user is encouraged to try and correct the interference by one or more of the following measures:

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

Notice to consumers:

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

10.2 Canada – Industry Canada (IC)

This device complies with RSS 210 of Industry Canada. Operation is subject to the following two conditions:

(1) This device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of this device."

L'utilisation de ce dispositif est autorisée seulement aux conditions suivantes :

(1) Il ne doit pas produire d'interférence et (2) l'utilisateur du dispositif doit être prêt à accepter toute interférence radioélectrique reçu, même si celle-ci est susceptible de compromettre le fonctionnement du dispositif.

Avis aux consommateurs:

Toutes modifications non expressément approuvées par la partie responsable de la conformité peuvent annuler le droit de l'utilisateur à utiliser cet équipement.

10.3 Miscellaneous information

Snapshots are according to the latest version at the moment this document was printed.

Changes may occur without notice.

10.4 Trademarks

Bluetooth® is a registered trademark of Bluetooth SIG, Inc.

Windows is a trademark or registered trademark of Microsoft Corporation in the United States and/or other countries.

All other trademarks are trademarks of their respective owners.

10.5 Apple - Legal Notice

iPhone, iPad are a trademark of Apple Inc., registered in the U.S. and other countries.

 "Made for iPhone," and "Made for iPad" mean that an electronic accessory has been designed to connect specifically to iPhone, or iPad, respectively, and has been certified by the developer to meet Apple performance standards.

Apple is not responsible for the operation of this device or its compliance with safety and regulatory standards.

Please note that the use of this accessory with iPhone or iPad may affect wireless performance.

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11 Regulatory Compliance

ISO 11784 & 11785

This device complies with the standards set forward by the International Standardization Organization. Specifically with standards:

11784: Radio frequency identification of animals -- Code Structure

11785: Radio frequency identification of animals -- Technical Concept.

FCC WMQ-30005

IC 4284A-30005

CE Marking