UNIVERSAL WORLDSCAN™ READER PLUS

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

USER MANUAL
1. **Description**

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. **Case and Components**

**Figure 1** – Packing

**Figure 2** - Reader features and user interface.

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

<table>
<thead>
<tr>
<th>Table 2 - Reader features and description of use</th>
<th>Item</th>
<th>Features</th>
<th>Description of use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antenna</td>
<td>1</td>
<td></td>
<td>Emits activation signal and receives RFID microchip signal.</td>
</tr>
<tr>
<td>Large graphical readout with backlight</td>
<td>2</td>
<td></td>
<td>Displays information about current reader status.</td>
</tr>
<tr>
<td>“SCAN” button</td>
<td>3</td>
<td></td>
<td>Applies power and causes activation signal to be emitted for reading microchips.</td>
</tr>
<tr>
<td>Eyelet</td>
<td>4</td>
<td></td>
<td>Eyelet to place the lanyard.</td>
</tr>
<tr>
<td>USB port cover</td>
<td>5</td>
<td></td>
<td>Protector for electrical interface for attaching USB cable.</td>
</tr>
<tr>
<td>Handle grip</td>
<td>6</td>
<td></td>
<td>Anti-slip gripping surface.</td>
</tr>
<tr>
<td>Battery cover</td>
<td>7</td>
<td></td>
<td>Cover to access battery.</td>
</tr>
<tr>
<td>Battery cover screw</td>
<td>8</td>
<td></td>
<td>Screw on battery cover.</td>
</tr>
</tbody>
</table>
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 Alkaline¹ 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 port cover 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 may take 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 32º F and 104ºF.
- Risk of explosion if batteries are 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.

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](V0.86.00)

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

The UWSR+ can now be tested with the test microchip provided with key chain. While holding down scan button microchip number should appear on the display.

¹ We recommend Duracell® or Energizer® alkaline batteries
3.4 Reading an implanted microchip

3.4.1 Scanning and LOCATING AN IMPLANTED MICROCHIP
When searching for implanted microchips, press and hold scan button while placing reader so it touches the animal as shown in diagrams below.

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:

While pressing the scan button, the reader will display “SEARCHING” until a microchip is found or the scan button released.

If a microchip is not detected, the reader will display “NO ID FOUND”. In that case, we recommend re-scanning the test chip to ensure reader is operating properly. The animal, then should be re-scanned, moving slower and in varying angle according to the patterns described above.

The following picture shows the result of a successful reading session:
3.4.2 Read range performances

The figure below (Figure 3) illustrates the reading zone of the reader, within which microchips can be successfully read. Optimum read distance occurs depending upon the orientation of the microchip. Microchips are best detected 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 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. Installing Software

The UWSR+ is supplied with the Microchip Management Software. MM Software provides the following capabilities:

- Change reader settings.
- Configure a Bluetooth® connection with a remote device.
- Download reader memory and export animal ID’s to Excel.
- Use your reader as a virtual keyboard.
- Update your reader firmware.

4.1 System requirements

- Personal computer with:
  - 512 MB of RAM minimum.
  - 40 MB free hard disk space.
- MM Software requires .NET Framework 3.5 which is usually installed with Windows operating system. If it is not installed on your computer, the installation program will prompt you to install it (Refer to Appendix to see how to install .NET framework).
Follow the steps below to complete the installation process:

1. Double-click on the setup package to start the installation and choose the appropriate language.
2. Then, follow the steps according to screens below:
The USB drivers will then be installed. Then, check “Always trust software...” and click on Install button. Click on Finish at the end of the process to close the installation.

5. Connecting to a PC

5.1 Using USB interface

1. Open the MM Software and connect the reader to a PC with the USB cable by removing the USB port cover and attaching the cable to the UWSR+ connector (after use, 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+.

2. Plug the other extremity of the USB cable into a USB port on your computer. When reader is connected, Windows will automatically find the driver and install the reader properly.

3. A message is displayed on screen, which ensures a valid connection with the PC.

Note 2: 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 with other functions fully active.

Note 3: If a microchip was detected 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.
5.2 Using wireless Bluetooth® connection

5.2.1 BLUETOOTH® management

The UWSR+ is equipped with a Class 2 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”

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 4:** Understanding the Bluetooth® icon:

<table>
<thead>
<tr>
<th>Disabled</th>
<th>Connectable mode</th>
<th>Host mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>No icon</td>
<td>Blinking Fixed</td>
<td>Blinking Fixed</td>
</tr>
<tr>
<td></td>
<td>Not connected</td>
<td>Connected</td>
</tr>
</tbody>
</table>

**Note 5:** 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 6:** If you are using a Smartphone or a PDA, an application is required (not supplied).

5.2.2 Pairing from MM Software

MM Software is able to search for Bluetooth devices in the vicinity and pair to one of them. The target here is to find your reader and to connect it to your computer by Bluetooth.

**NOTE:** Before continuing, make sure the Bluetooth is enabled on your reader.

1. Click on “Connect” menu and select “Connect Bluetooth Reader...”

2. Power-on your reader and click on “Search for devices”:

Operating distance of communication is around 15 m (49 ft).
3. Your reader should appear in the list. Click on “Pair device” to start the pairing with the reader. Make sure your reader is still on.

4. By default, the pairing code is 1234. Click OK to continue the pairing. At this moment, Windows will install the driver to create a virtual COM port.

5. Once Windows installed the driver, the COM port number appears in the Port column. You can now click on “Connect Reader” button to connect your reader using Bluetooth.

**NOTE:** If the reader name is not displayed, as shown in the following picture, devices can be searched again and should now display the name.
5.2.3 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 Window’ 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.

5. Type the PIN code and click Next.
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:

7. Your reader is now ready to connect.

**5.2.4 Connect by Bluetooth® when the reader is already paired**

When your reader has already been paired to your computer, go to “Connect menu”, select “Bluetooth link” and click on the appropriate COM port:
6. Memory

6.1 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. By default, the memory storage is DISABLED. To enable the memory storage follow the steps below:

1. To enable/disable memory feature, go into the reader settings panel by clicking on the “Reader settings” button or using the top menu as following:

2. In the reader setting panel, locate “Memory” and choose “Enabled or Disabled” option:

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:

6.2 Download Memory

1. When memory feature is enabled, the animal identification codes can be downloaded from reader.
2. Click on “Read Memory” button to download the memory from the reader.
3. Export the ID code list to Excel by clicking on “Export to Excel” button.
4. Once finished, you can click on “Clear memory” to erase animal identification codes stored in the reader.

6.3 Temperature measurement

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

The 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”.

3 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”.
For advanced and technical application development, the UWSR+ was designed with the capability to connect to iPhone, iPad and Android through wireless Bluetooth® connection. The current UWSR+ package does not include software or application for this feature.

7. Connecting the reader to an Application on smart phone or on Mobile Device

7.1 Pairing with iPhone®/iPad® devices

Make sure your reader is on and tap on UWSR+

Type 1234

Paired

7.2 Pairing with Android™ devices

Make sure your reader is on and tap on UWSR+

Type 1234

Paired

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

8.1 .NET Framework 3.5 installation

MM Software requires .NET Framework 3.5 to be installed on the machine.

If the following message is displayed while running the setup package, click “Yes” and follow the .NET Framework 3.5 installation instructions. This message may vary depending on your Operating System.

![Setup](image)

**NOTE:** The .NET Framework installation requires an internet connection.

1. After clicking on “Yes”, your internet browser will be opened with the following page. Click on “Download” button to continue.

![Download](image)

2. Uncheck unnecessary downloads (Download summary should only contain Microsoft .NET Framework 3.5) and click on “No thanks and continue”:

![Download Summary](image)
3. Click Save on the bottom of the page to start .NET Framework installation.

4. Click Run on the bottom of the page to start .NET Framework installation.

5. Then, click on “Download and install this feature”.

6. At this step, the .NET Framework 3.5 installation program will download the required files from internet and then install the framework. This message will appear. It is now safe to close browser.
9. 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:**
  - 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.
10. Specifications

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<th>General</th>
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<tr>
<td><strong>Norms</strong></td>
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<tr>
<td><strong>Special feature:</strong></td>
</tr>
<tr>
<td><strong>User interface</strong></td>
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<td></td>
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<td></td>
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<td><strong>Bluetooth® interface</strong></td>
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<tr>
<td><strong>Memory</strong></td>
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<tr>
<td><strong>Batteries</strong></td>
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11. 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.

12. 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.
13. Regulatory Information

13.1 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.

13.2 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.

13.3 Miscellaneous information
Snapshots are according to the latest version at the moment this document was printed.
Changes may occur without notice.

13.4 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.

13.5 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.

14. 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