



User Manual

Revision 21019



PariRange Contact Tracing Tag

EmbedTek Part Number 009-215

PariRange Contact Tracing Reader

EmbedTek Part Number 009-269

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Product Information

General

The PariRange Contact Tracing Tag is intended to be worn by users to collect and communicate data in a peer-to-peer fashion between each Tag. The PariRange Contact Tracing Tag does not require Wi-Fi or cellular infrastructure.

The PariRange Contact Tracing Tag is an ID badge-sized device, with an attachment loop for a lanyard or other fastener. It is made up of hard sealed plastic, is resistant to water and dust, and is cleanable.

The PariRange Contact Tracing Reader is intended to be used by management and human resource professionals to download contact data from PariRange Contact Tracing Tags that are within range of the Reader. The Reader works via a USB interface.

PariRange Terms of Sale and License

Use of the PariRange Contact Tracing Tag, the PariRange Contact Tracing Reader, the PariRange Access Point application, and PariRange User Interface application is subject to the PariRange Terms of Sale and License.

Accessories



A commercially available Qi-certified charger is required to charge the PariRange Contact Tracing Tag.

Product and System Operation

The PariRange Contact Tracing Tag functions in a peer-to-peer communication scheme to allow Tags to be dynamically added and removed. The Tag generates an alert (vibrates and changes the Tag's LED to red) when the Tag has been within 6 feet of another active Tag. The Tag will enter an Alert state until the other active Tag has moved out of the alert range. Each Tag

records the cumulative time that the Tag and was within 6 feet of another active Tag along with that Tag's ID.

The PariRange Access Point and PariRange User Interface applications are used in conjunction with the PariRange Contact Tracing Reader to collect data from the PariRange Contact Tracing Tags. The software applications can be downloaded from <https://tekweb.embedtek.net/>. The software applications are only compatible with Windows 10.

New Features and Updates

New versions of firmware, software, and documentation may be issued periodically. Go to <https://tekweb.embedtek.net/> to find the most recent downloads.

Safety Information

The term Device in this section refers to both the PariRange Contact Tracing Tag and PariRange Contact Tracing Reader.

Please read this important safety information before you use either Device. Follow the warning and caution information to prevent injury to yourself or others and to prevent damage to your Device.

The Device is not intended to diagnose or prevent any transmittable diseases. Follow all United States CDC guidelines and company policies when using this Device. The Device does not reduce the need for or replace any other Personal Protective Equipment (PPE).

Warning

Failure to comply with safety warnings and regulations can cause serious injury or death.

Do not use damaged power cords or plugs, or loose electrical sockets. Unsecured connections can cause electric shock or fire.

Use commercially available chargers and accessories. Never use a damaged charger.

Do not bend or damage the Device cord. Doing so may cause electric shock or fire.

Do not use the Device while it is charging. Doing so may cause electric shock.

Do not use the Device outdoors during a thunderstorm. Doing so may result in electric shock or Device malfunction.

Never dispose of the Device in a fire. Never place the Device on or in heating appliances, such as microwave ovens, stoves, or radiators. The Device may explode when overheated. Follow all local regulations when disposing of a Device.

Do not drop or cause an impact to the Device. Never crush or puncture the Device. Avoid exposing the Device to high external pressure, which can lead to an internal short circuit and overheating.

Do not expose your Device to temperatures outside of the specified temperature range. Extreme temperatures can damage the Device and/or reduce the charging capacity and life of your Device.

Do not store the Device in high-pressure containers. The battery may leak, or the Device may overheat and cause a fire.

Do not store the Device in areas with high concentrations of dust or airborne materials. Dust or foreign materials can cause the Device to malfunction and may result in fire or electric shock.

Do not place the Device in your mouth. Doing so may damage the Device or result in an explosion or fire. Children and animals can choke on small parts. If children use the Device, they must be supervised and use the Device properly.

Do not use the Device if it shows a distortion of shape as this could indicate a damaged battery. Do not handle a damaged or leaking lithium-ion battery. Do not attempt to replace the rechargeable lithium-ion battery if it is not charging.

Handle and dispose of the Device with care.

Caution

Do not expose the Device to heavy smoke or fumes. Doing so may damage the outside of the Device or cause it to malfunction.

If you notice strange smells or sounds coming from the Device, or if you see smoke or liquids leaking from the Device, stop using the Device immediately.

Do not use the Device if it is cracked or broken. Broken plastic could cause injury.

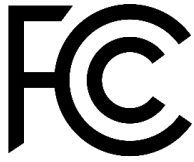
Do not drop or cause impacts to the Device. The Device may be damaged or may malfunction. If bent or deformed, the Device may become damaged, or components may malfunction.

Do not disassemble, modify, or repair the Device. Any changes or modifications to the Device can void the warranty.

Do not use the Device for anything other than its intended use.

Certification References

The term Device in this section refers to both the PariRange Contact Tracing Tag and PariRange Contact Tracing Reader.



EmbedTek PariRange Contact Tracing Tag (P9215)
EmbedTek PariRange Contact Tracing Reader (P9269)

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.

Changes or modifications not expressly approved by EmbedTek, LLC could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This is an UWB device and must not be used on an aircraft, on a ship, or a satellite.

Supplier's Declaration of Conformity

PariRange Workforce Contact Tracing System P9215 & P9269

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.

Embedtek LLC
N7W23700 Bluemound Rd, Waukesha, WI 53188
(262) 367-3900

The device may be used in an indoor or outdoor environment.

The operating frequency range & maximum output power for channels 1 & 4 of the system are listed below:

Technology	Channel Number	Center Frequency	Maximum Power
UWB	1	3494.4 MHz	-41.3 dBm
	4	3993.6 MHz	-41.3 dBm

This Device complies with, and is marked with the following:

IP54: This Device is protected against limited dust ingress and water splashed from all directions.



CE: This Device conforms with the health, safety, and environmental protection standards for products sold within the European Economic Area.



RoHS: This Device does not contain any hazardous materials and conforms with the Restriction of Hazardous Substances.



WEEE: This Device must not be disposed of with normal household waste.

Hardware Specifications

Product Dimensions, Weight, and Operating/Storage Conditions

PariRange Contact Tracing Tag

Dimensions: 4.0in x 2.2in x 0.4in

Weight: 2 ounces

Operating Temperature and Humidity: -20 to 50°C, 5-95%

Storage Temperature and Humidity: -20 to 60°C, 5-95%

PariRange Contact Tracing Reader

Dimensions: 2.2in x 2.8in x 0.45in, Cable Length: 66in

Weight: 3.5 ounces

Product Attributes

The PariRange Contact Tracing Tag is made of hard sealed plastic and includes two LED indicators (one green and one red), a vibration mechanism, a rechargeable lithium-ion polymer battery, and an inductive charging coil.

The PariRange Contact Tracing Reader is made of hard sealed plastic and includes a USB cable.

Charging and Battery Life

The PariRange Contact Tracing Tag is charged wirelessly via a Qi-certified charger. The Tag indicates a successful connection to the charger by vibrating and then displaying a pulsing green LED. The Tag indicates a full charge by displaying solid green LED. The Tag will operate for 12 hours under typical use. The red LED will begin blinking when the battery is low. All LEDs will stop blinking when the Tag battery is fully discharged. The Tag will take up to seven hours to fully charge from a fully discharged state. Note that the Tag may take up to fifteen minutes to indicate a successful connection to the charger if the battery is fully discharged. A partial charge can be achieved in 1-3 hours, if necessary.

Expected Life

Both the PariRange Contact Tracing Tag and PariRange Contact Tracing Reader have a long-life expectancy. However, the rechargeable lithium-ion battery within the Tag is expected to perform like new for approximately 500 charging cycles, after which a significant change in battery life may be observed over time.

Packaging

Both the PariRange Contact Tracing Tag and PariRange Contact Tracing Reader are shipped in bulk packaging and are individually wrapped in protective plastic. Packaging materials can be disposed of and/or recycled based on your local municipality's guidelines.

Storage

Both the PariRange Contact Tracing Tag and PariRange Contact Tracing Reader must be stored in an environment free of extreme wind and dust and within both temperature and humidity specifications. When assigned to a user, a Tag should be stored on a charger. When unassigned to a user, a Tag should first be fully charged and then stored off of a charger in the low power state Sleep Mode.

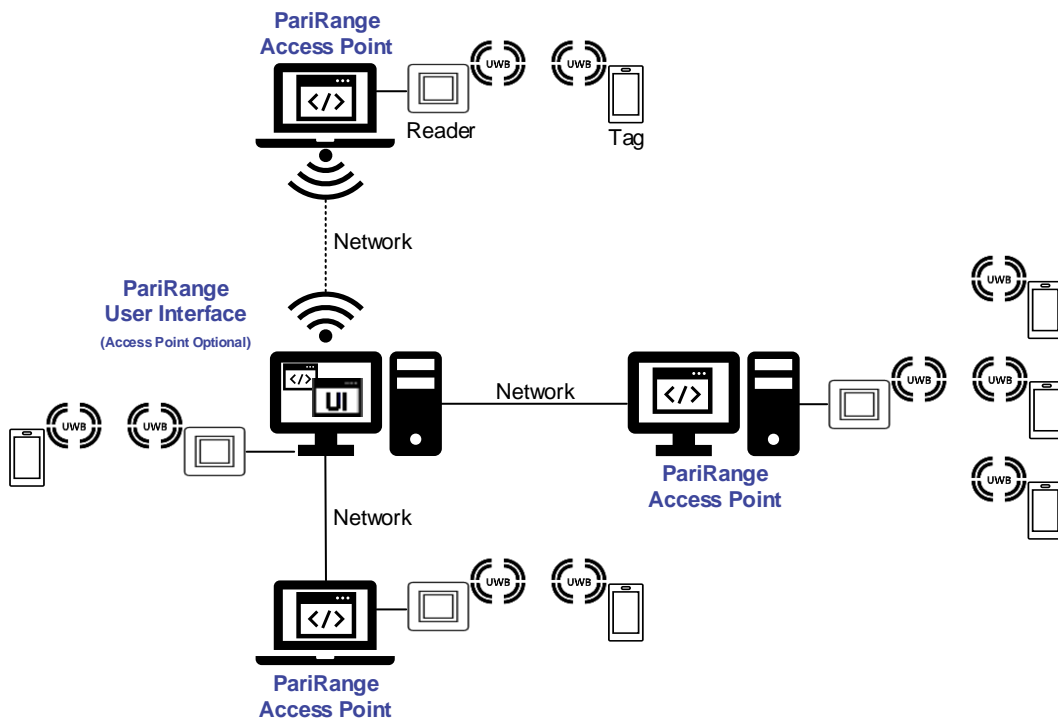
Safe Disposal

Safe disposal of the PariRange Contact Tracing Tag and PariRange Contact Tracing Reader should follow the guidelines of the United States Environmental Protection Agency's (EPA). Ensure all user data has been downloaded and cleared from the Tag prior to disposal. To find a nearby recycling facility near you, visit the EPA's Electronics Donation and Recycling website. For assistance with the disposal of products sold within the European Economic Area that have reached the end of their useful life, contact parirangesupport@embedtek.net to ensure proper recycling.

PariRange Setup

PariRange Setup Overview

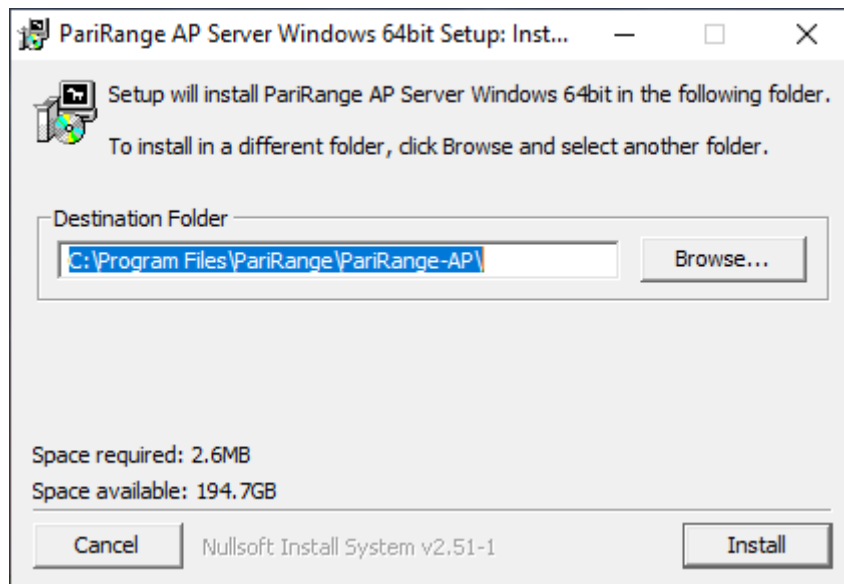
A PariRange deployment consists of Tags, Readers, and the Access Point and User Interface applications running on networked Windows 10 computers. The User Interface application is installed on one computer and is used to manage tags and view and access contact data. The Access Point application collects contact data from Tags and runs on each Windows 10 computer that has a Reader connected to it. While it is not required, this could include the same computer running the User Interface application. Readers download contact data from the Tags and the Access Point application sends the data to the User Interface application over a network connection.



PariRange Access Point Setup

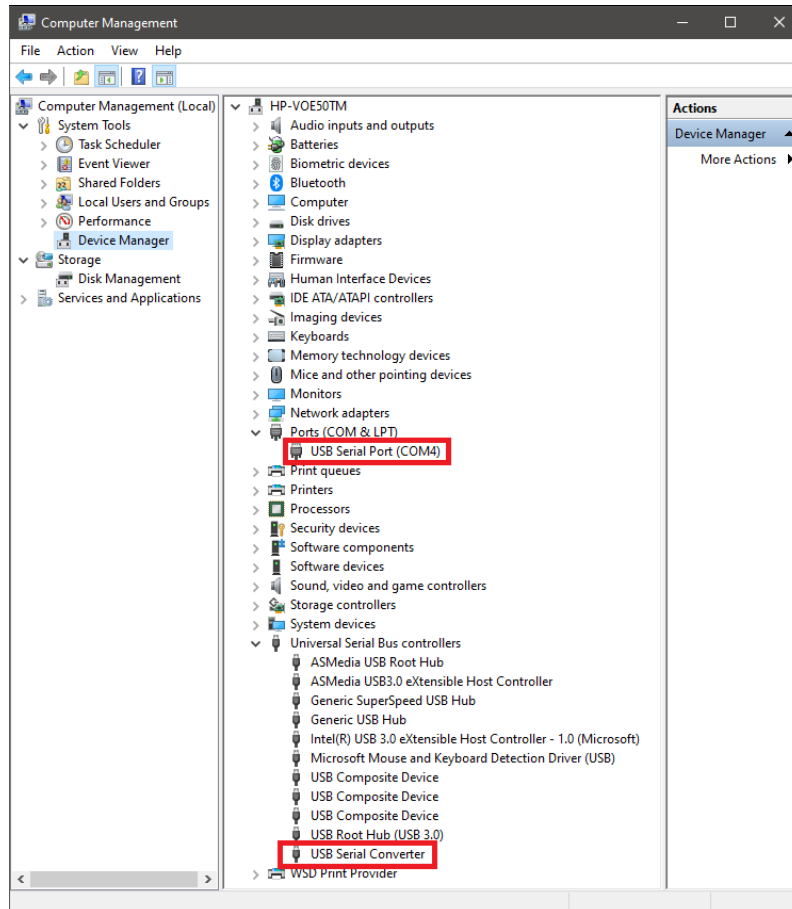
Follow the steps in this section to install the PariRange Access Point application on each computer that will have a Reader connected to it. The service is only compatible with Windows 10.

- 1) Run the PariRange-AP installer from local storage. Administrator permissions will be required to install the application.
- 2) Accept any antivirus and/or Windows notifications related to installing this application.
- 3) Choose where you would like the application installed and click Install. It is recommended that you use the default location.

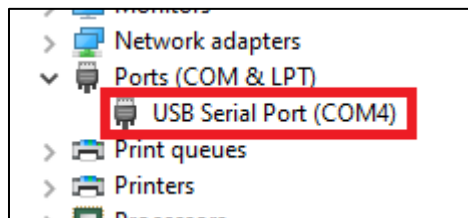


- 4) Click Close when the installation is complete.
- 5) Connect one Reader to a USB port on the computer.

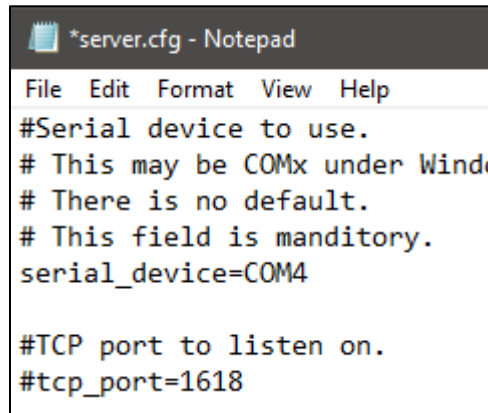
- 6) Confirm in Device Manager that the USB Serial Port and USB Serial Converter drivers load successfully. If not, allow Windows Update to search online for the appropriate drivers.



- 7) Before closing Device Manager, note the COM port number assigned to the Reader. In this example, the port is COM4.



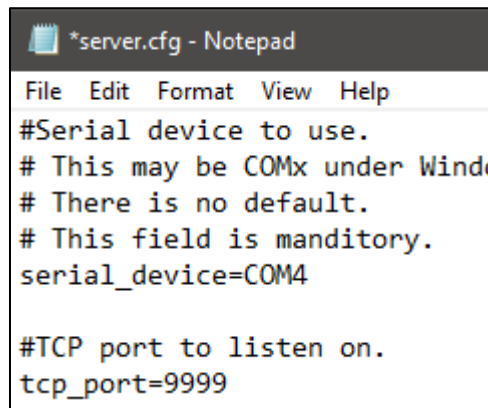
- 8) Edit the application's configuration file (C:\ProgramData\PariRange\server.cfg) using Notepad or a similar text editor.
- a. Line 5 – Remove the # symbol from in front of “serial_device=” and then add the COM port noted in Device Manager after the = symbol.
 - i. Example using serial port COM4:



```
*server.cfg - Notepad
File Edit Format View Help
#Serial device to use.
# This may be COMx under Windo
# There is no default.
# This field is mandatory.
serial_device=COM4

#TCP port to listen on.
#tcp_port=1618
```

- b. Line 8 – Only change this line if you are using a network port other than the default port of 1618. If you are using a different port, remove the # symbol from in front of “tcp_port=1618” and change 1618 to the network port you want to use.
 - i. Example using serial port COM4 and network port 9999:

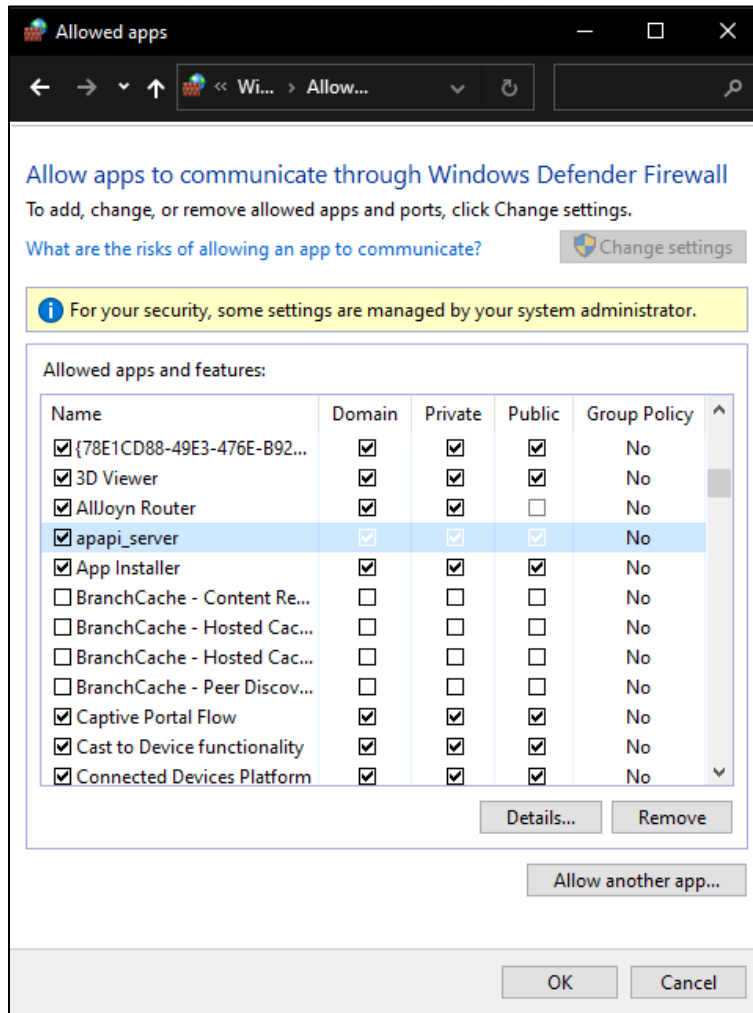


```
*server.cfg - Notepad
File Edit Format View Help
#Serial device to use.
# This may be COMx under Windo
# There is no default.
# This field is mandatory.
serial_device=COM4

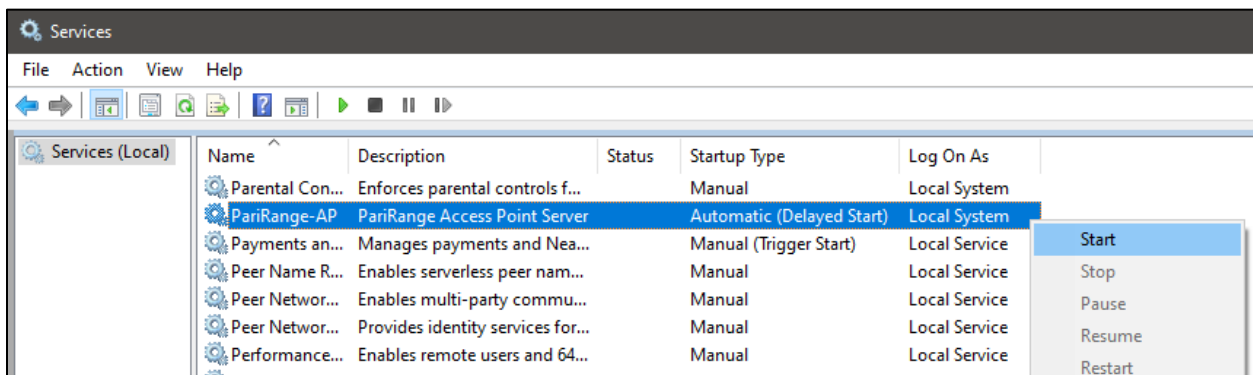
#TCP port to listen on.
tcp_port=9999
```

- ii. NOTE: The default network port should only be changed by network administrators. If changed, the new network port will need to be known when configuring the User Interface application.
- c. Save and close the file.

- 9) Open Windows Defender Firewall and allow the PariRange Access Point application (C:\Program Files\PariRange\PariRange-AP\apapi_server.exe) through the firewall.

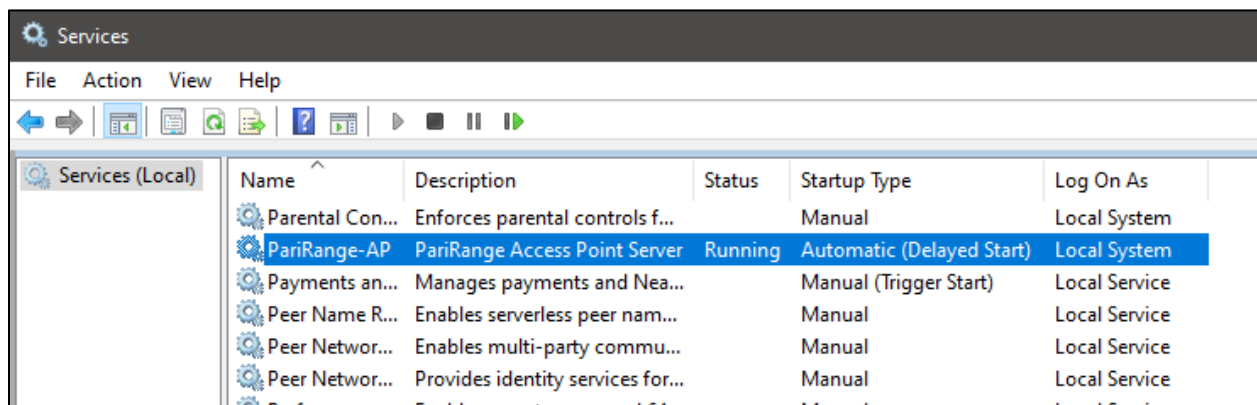


- 10) Open Windows Services. Right-click on the PariRange-AP service and click Start.



11) Note the computer name and network IP address of the computer. One of these will be used to configure network communication when setting up the PariRange User Interface application.

Installation and setup of the PariRange Access Point application is now complete. The application creates a Windows service called PariRange-AP. This service starts automatically when Windows starts and is not affected by active users of the computer or their respective permission levels. Again, you must repeat this process on each computer that will have a Reader connected to it.



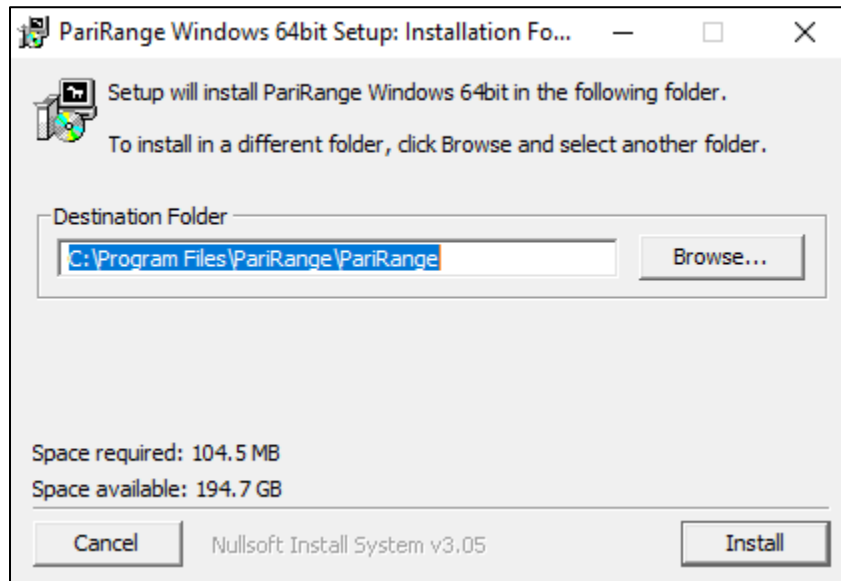
The PariRange Access Point application creates the following relevant directories:

- C:\Program Files\PariRange\PariRange-AP
 - This directory contains the application and uninstaller.
- C:\ProgramData\PariRange
 - This directory contains application configuration and log files as well as contact data files collected from PariRange Tags.

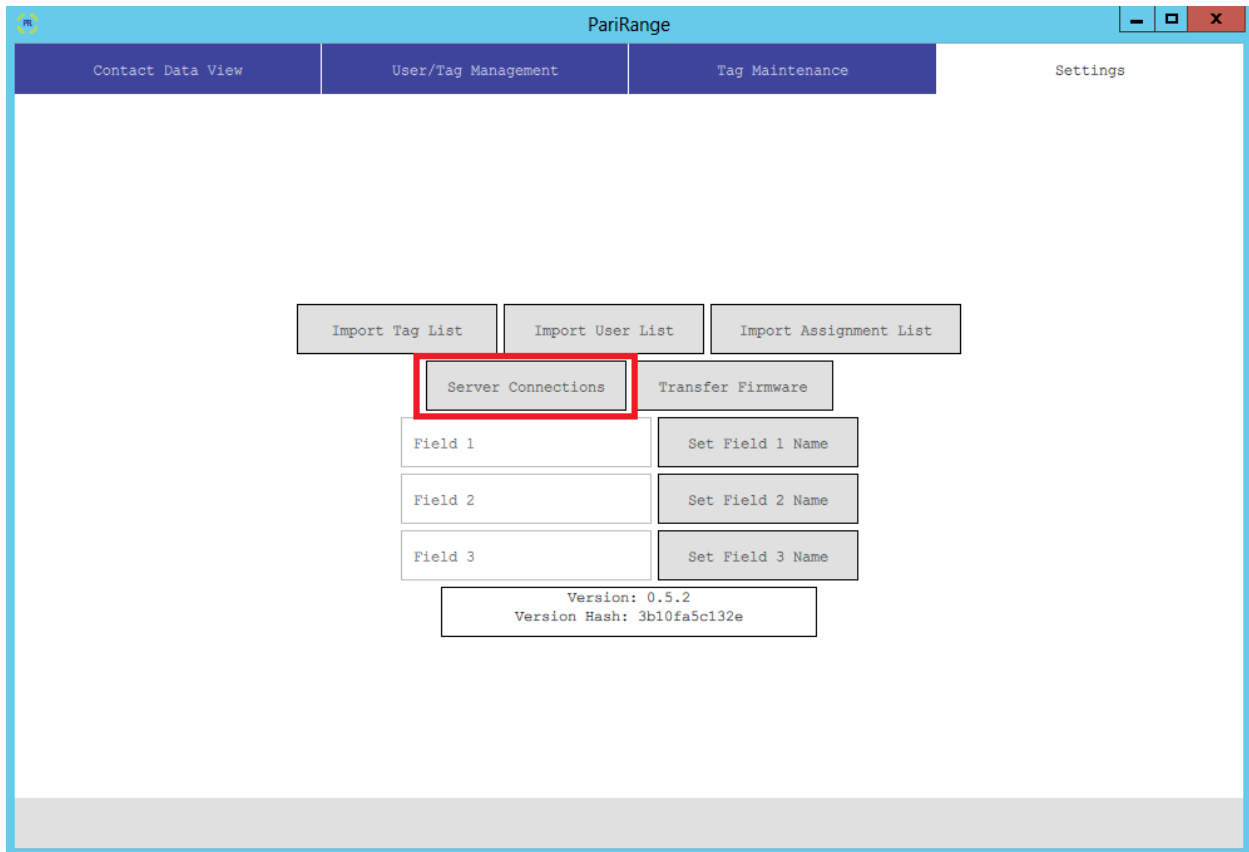
PariRange User Interface Setup

Follow the steps in this section to install the PariRange User Interface application. The application can only be installed on one computer and is only compatible with Windows 10.

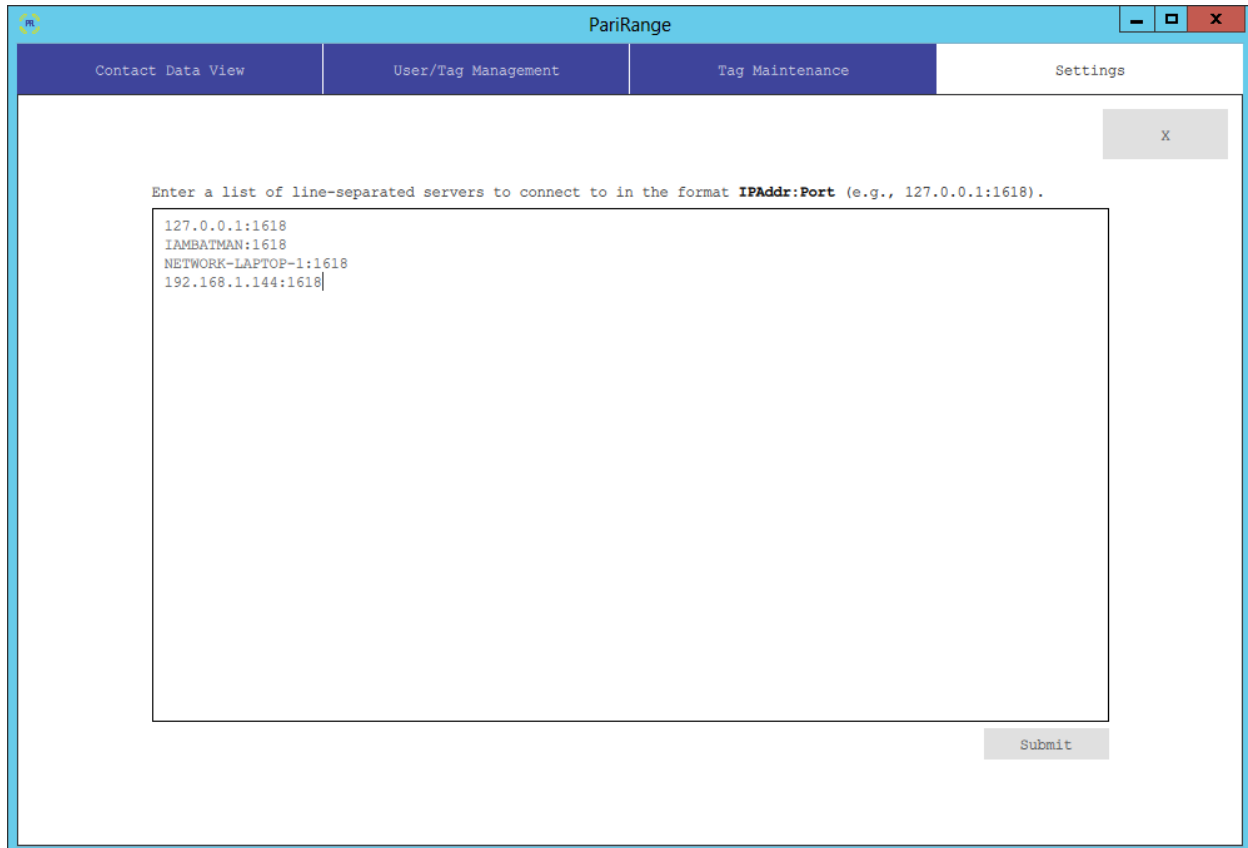
- 1) Run the PariRange installer from local storage. Administrator permissions will be required to install the application.
- 2) Accept any Windows notifications related to installing this application.
- 3) Choose where you would like the application installed and click Install. It is recommended that you use the default location.



- 4) Click Close when the installation is complete.
- 5) Run the PariRange User Interface application.
- 6) On the Settings tab, click the Server Connections button.



- 7) Enter the computer name or IP address and the network port for each Access Point. When multiple Access Points are used, each must be entered on its own line. The required format is shown below.



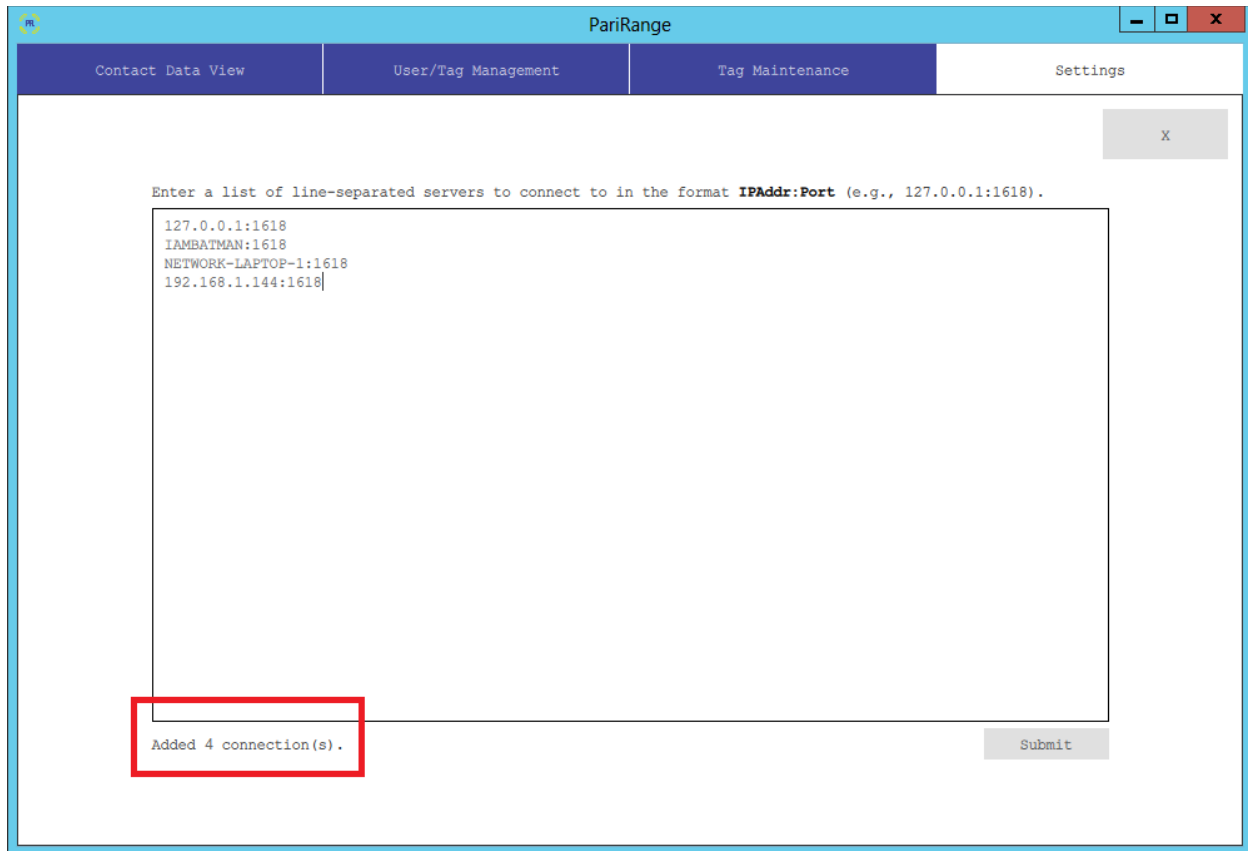
The screenshot shows a web browser window titled "PariRange". The navigation bar includes "Contact Data View", "User/Tag Management", "Tag Maintenance", and "Settings". The "Settings" page contains a text input field with the instruction: "Enter a list of line-separated servers to connect to in the format **IPAddr:Port** (e.g., 127.0.0.1:1618)". The input field contains the following text:

```
127.0.0.1:1618  
IAMBATMAN:1618  
NETWORK-LAPTOP-1:1618  
192.168.1.144:1618
```

Buttons for "X" and "Submit" are visible.

NOTE: It is recommended that computer names be used when supported by the network configuration to avoid connection issues or the need to update connections when IP addresses change.

8) Click the Submit button and verify that the number of intended connections were added.



NOTE: A connection will only be added if a network connection can be established. If the number of connections added is less than the number of entries, first confirm the accuracy of the entries and then confirm that the computers running the User Interface and Access Point applications can communicate with each other by attempting a ping and assessing the firewall status on the Access Point computers.

9) Close the Server Connections window by clicking the X button.

Installation and setup of the PariRange User Interface application is now complete. The application creates the following relevant directories:

- C:\Program Files\PariRange\PariRange
 - This directory contains the application and uninstaller.
- C:\ProgramData\PariRange
 - This directory contains application configuration and data files as well as contact data export files used for reporting.

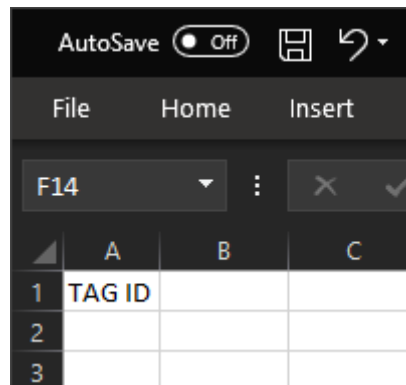
Assigning PariRange Contact Tracing Tags to Users

Users and Tag IDs must be added to the PariRange User Interface application in order to identify who contacts are attributed to. Tags must be assigned to Users before being distributed.

Adding Tags

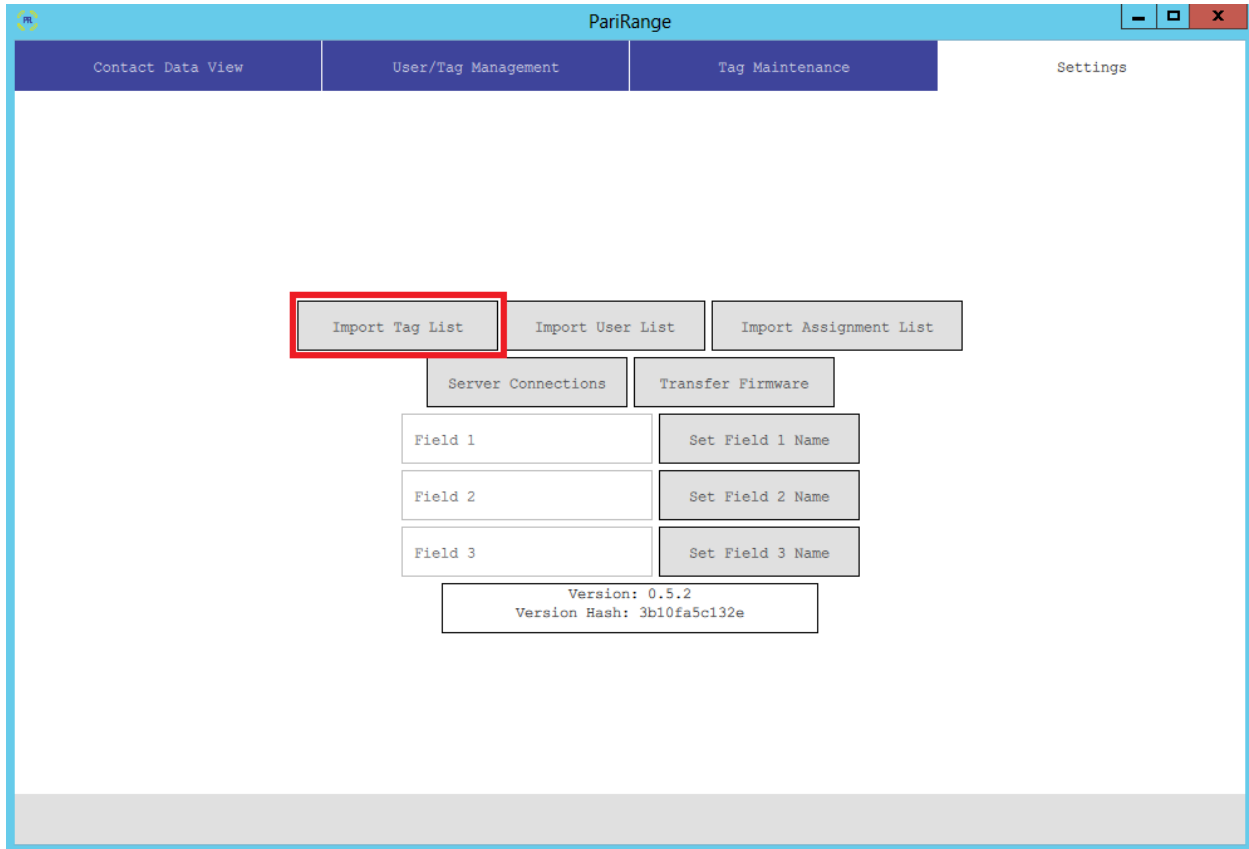
You must enter Tag IDs into the application by importing a .CSV file.

- 1) Create a .CSV file. Label the first column as shown below.



- 2) Fill in the Tag IDs and save the file.
 - a) Note that importing a Tag ID that already exists in the Tag List will not have any effect on the Tag List.

3) On the Settings tab, click the Import Tag List button and select the applicable .CSV file.

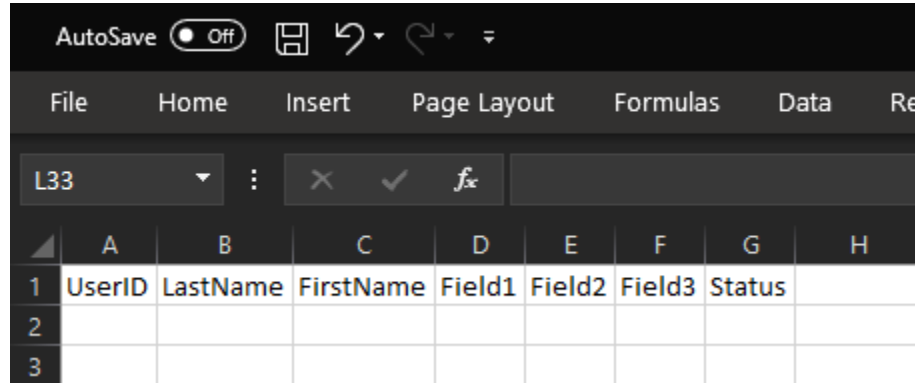


Adding Users

You must enter User information into the application by importing a .CSV file (best for mass entry) or by entering the User information manually.

- File Import

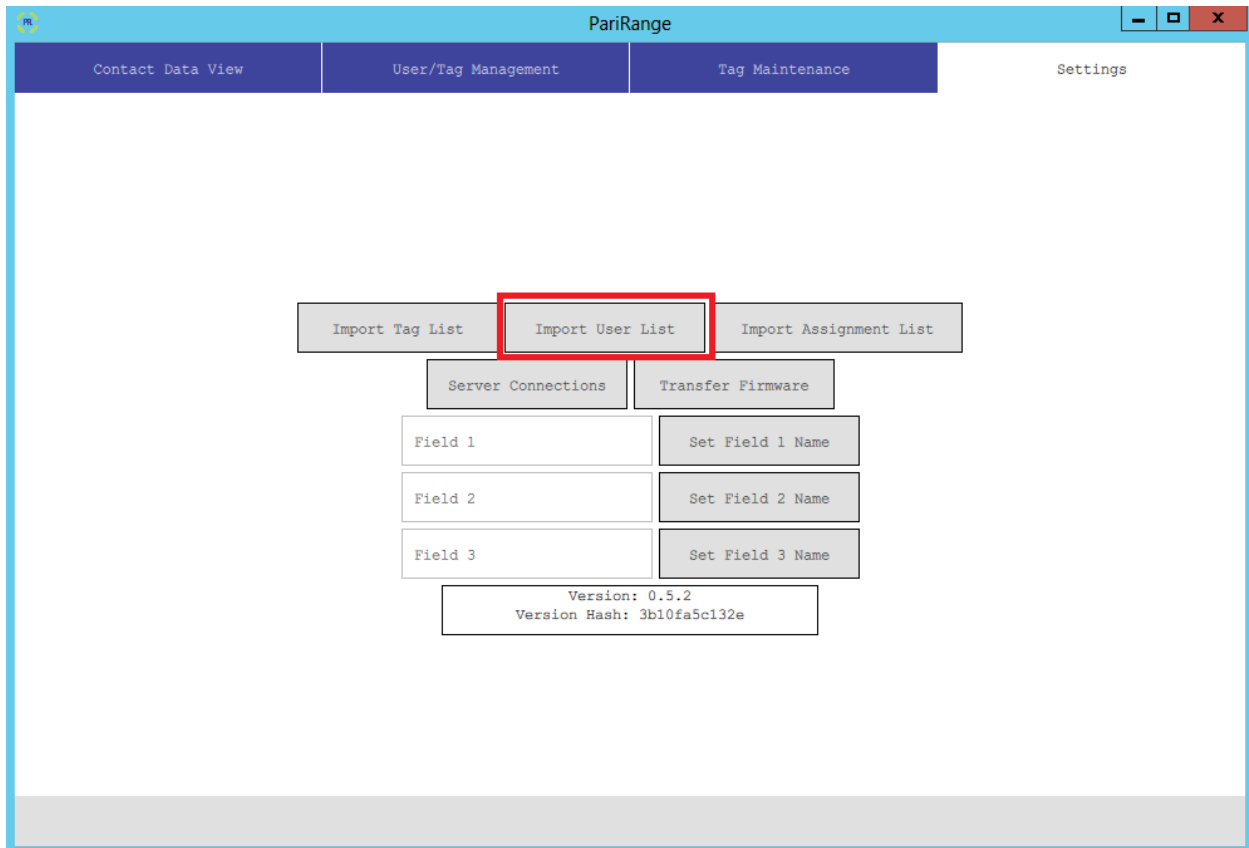
1) Create a .CSV file. Label the first seven columns as shown below.



2) Fill in the User information and save the file. Note the following:

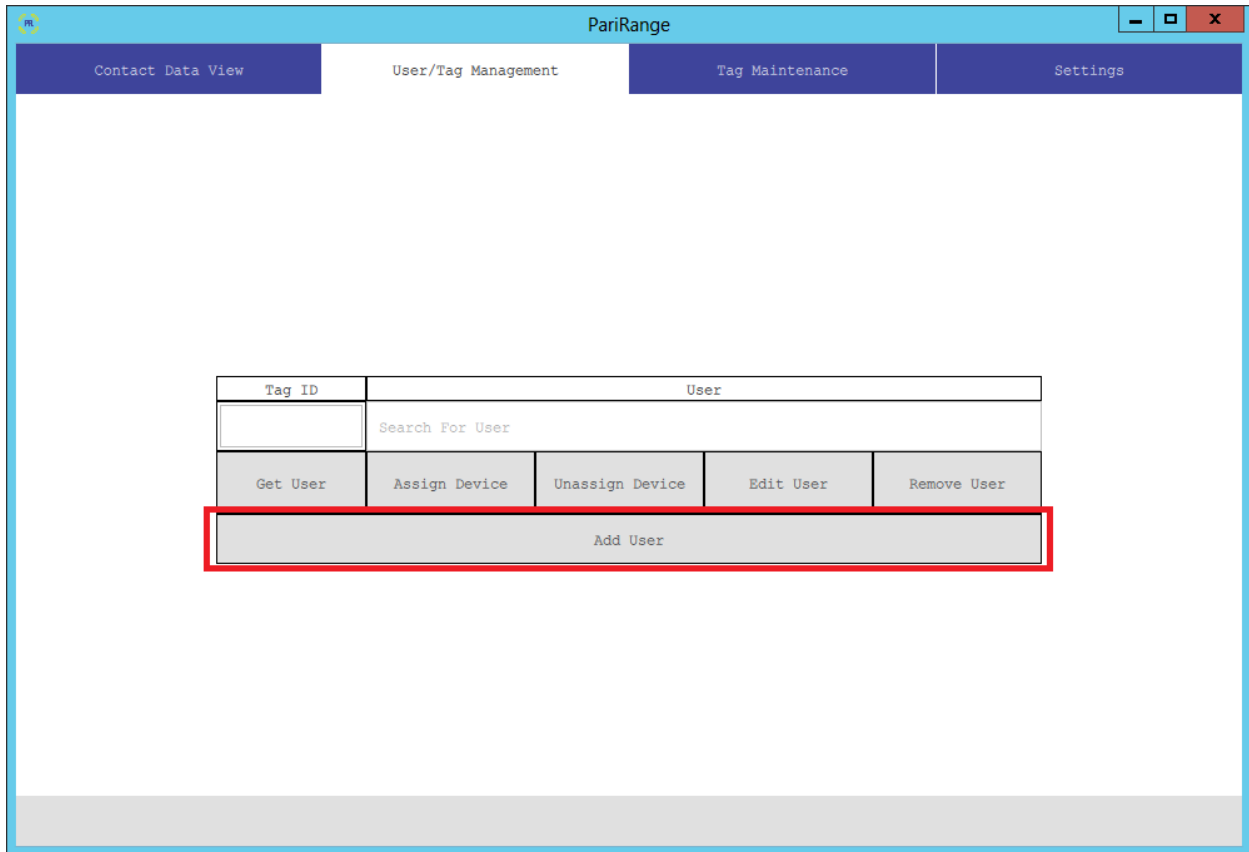
- The UserID field is the only required field and it must be unique.
- Field 1, Field 2, and Field 3 are available for your custom use and can be named on the Settings tab of the application.
- Importing a User ID that already exists in the User List will overwrite the information associated with that User ID.

3) On the Settings tab, click the Import User List button and select the .CSV file.



- Manual Entry

1) On the User/Tag Management tab, click the Add User button.



2) Enter the User information. Note the following:

- The User ID field is the only required field and it must be unique.
- The Status field is pre-named, but available for your custom use. This is typically used to identify current and past users.
- Field 1, Field 2, and Field 3 are available for your custom use and can be named on the Settings tab of the application.

The screenshot shows the PariRange application window with the 'User/Tag Management' tab selected. The form is structured as follows:

Tag ID	User			
	Search For User			
Get User	Assign Device	Unassign Device	Edit User	Remove User
User ID		Status		
User ID		Status		
First Name		Last Name		
First Name		Last Name		
Field 1		Field 2		
Field 1		Field 2		
Field 3				
Field 3				
Submit		Cancel		

3) Click the Submit button.

4) Repeat these steps for each user to be added.

Editing Users

You can manually edit User information or re-import a .CSV file. Note that all User IDs included in the .CSV file will have their information overwritten by the content of the .CSV file.

- 1) On the User/Tag Management tab, type either the User ID or User Name in the User field and select the User to be edited.
- 2) Click the Edit User button.
- 3) After editing the User information, click the Submit button.

Removing Users

You can remove Users ONLY IF they have never been assigned to a Tag.

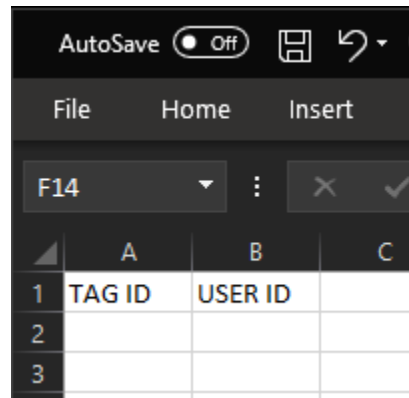
- 1) On the User/Tag Management tab, type either the User ID or User Name in the User field and select the User to be removed.
- 2) Click the Remove User button. Note that you will receive an error if the User is not allowed to be removed.

Assigning Tags to Users

You must assign Tags to Users within the application by importing a .CSV file (best for mass assignment) or by entering the assignment manually.

- File Import

- 1) Create a .CSV file. Label the first two columns as shown below.



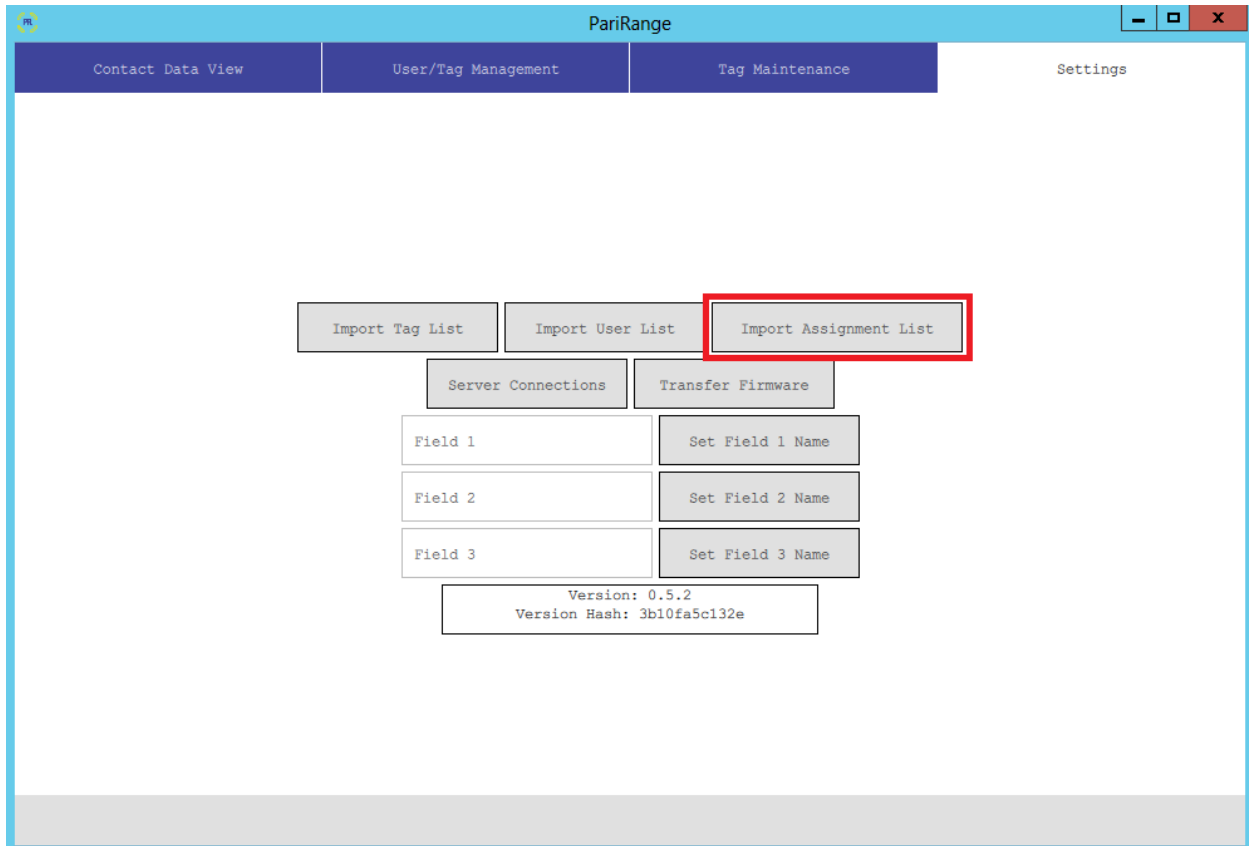
The image shows a screenshot of a spreadsheet application interface. At the top, there is a dark header bar with 'AutoSave' set to 'Off' and icons for save and undo. Below this is a ribbon with 'File', 'Home', and 'Insert' tabs. A formula bar shows 'F14' and a dropdown menu. The main area is a grid with columns labeled 'A', 'B', and 'C' and rows labeled '1', '2', and '3'. The first row (row 1) has 'TAG ID' in column A and 'USER ID' in column B. The other cells in the grid are empty.

	A	B	C
1	TAG ID	USER ID	
2			
3			

- 2) Fill in the Tag IDs and User IDs and save the file.

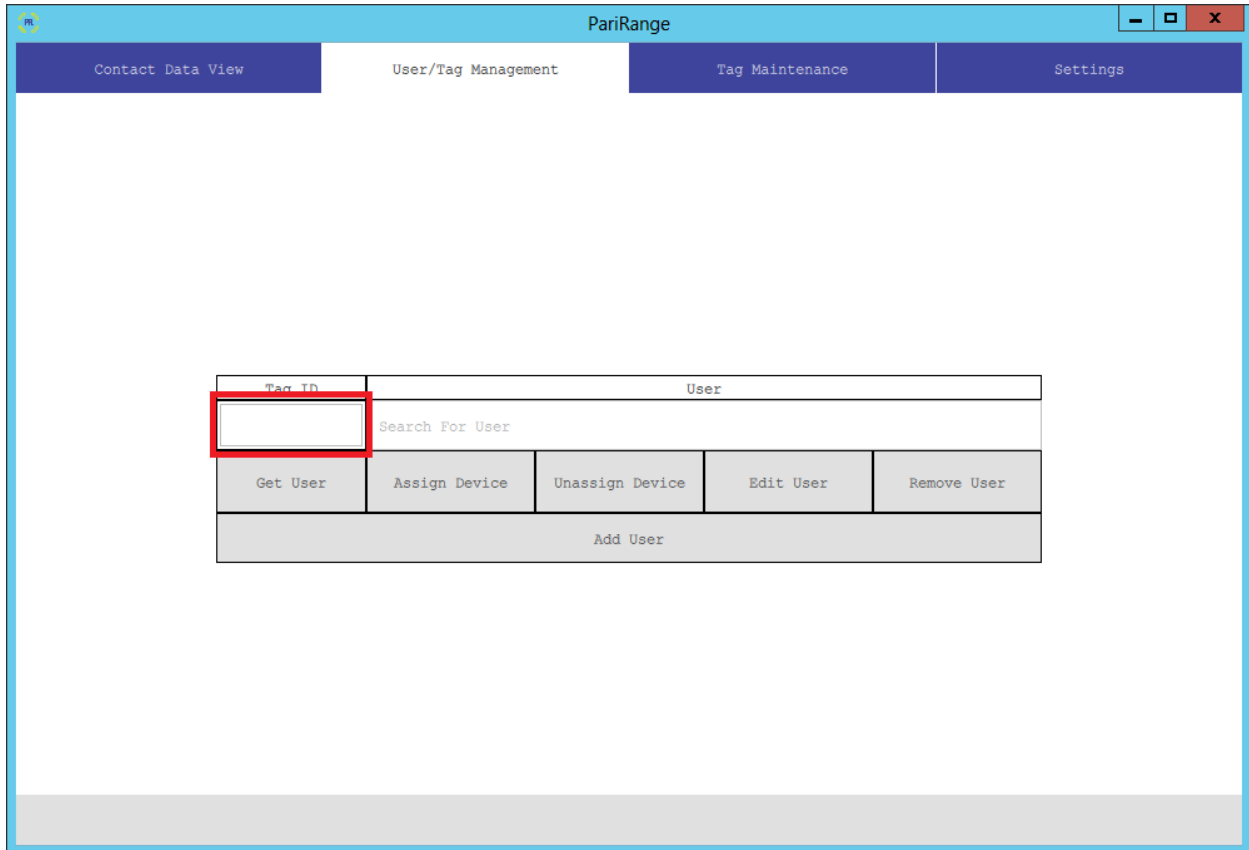
- a) Note that importing an assignment for a Tag that is currently assigned will re-assign the Tag to the new User.

- 3) On the Settings tab, click the Import Assignment List button and select the applicable .CSV file.

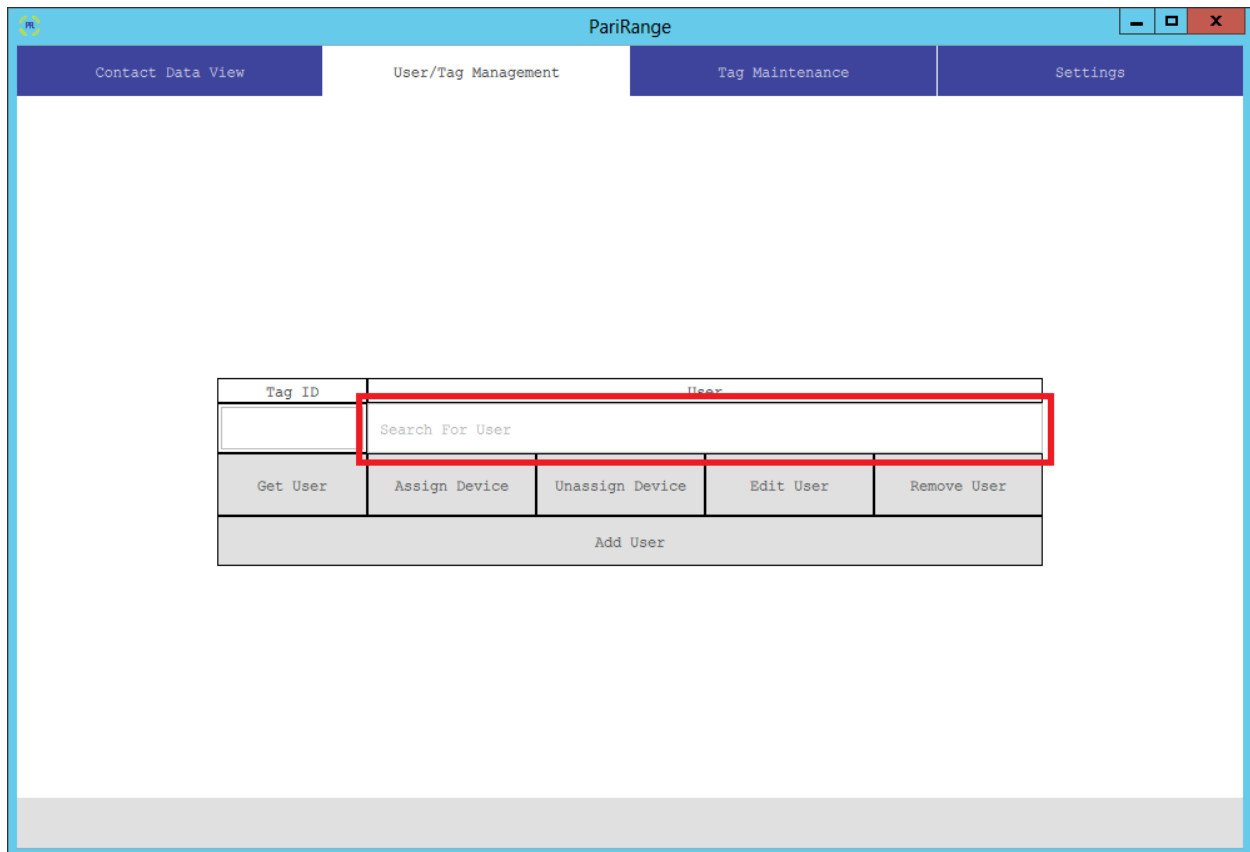


- Manual Entry

- 1) On the User/Tag Management tab, enter the Tag ID to be assigned. It is recommended that you use a 2D barcode scanner to scan the 2D barcode on the back of the tag.



- 2) Begin typing either the User ID or User Name in the User search field and select the User to be assigned to the Tag.



- 3) Click on the Assign Device button.
- 4) Repeat this process to assign additional Tags.

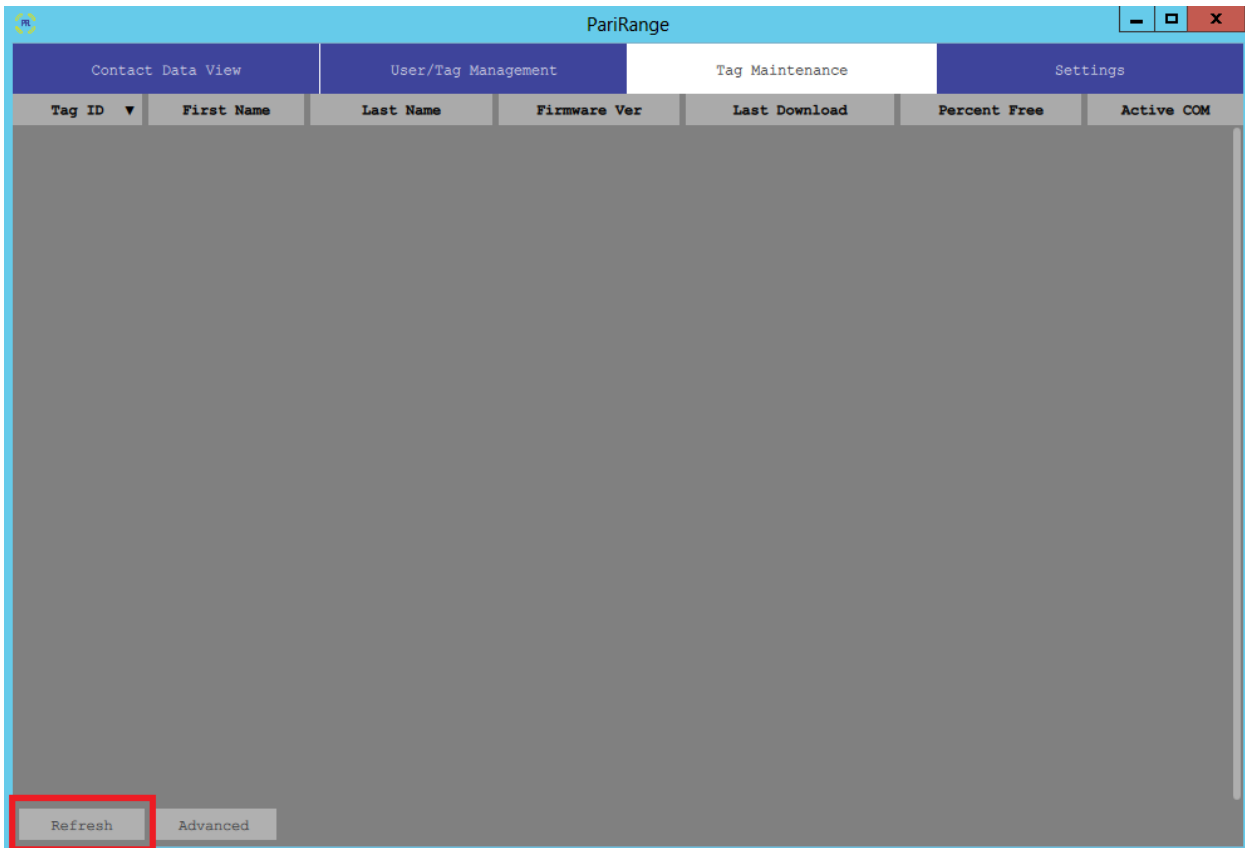
Unassigning Tags

- 1) On the User/Tag Management tab, enter the Tag ID and click the Get User button. The User assigned to the Tag will be displayed in the User field.
- 2) Click the Unassign Device button.

Storing Unassigned Tags

Unassigned Tags should first be fully charged and then placed into the low power state Sleep Mode to ensure they are ready for their next use.

- 1) Fully charge the Tag.
- 2) Place the Tag in range of an Access Point.
- 3) On the Tag Maintenance tab, click the Refresh button.



- 4) Confirm that the Tag you want to put into Sleep Mode is within range using the Active COM column.

PariRange						
Contact Data View		User/Tag Management		Tag Maintenance		Settings
Tag ID	First Name	Last Name	Firmware Ver	Last Download	Percent Free	Active COM
004223c2						
00b573e5			a4dbaa73	2020/11/16 08:54:58		
01129553			5d3f3a35	2020/11/23 09:54:26		
0244740f			e14667b4	2020/10/09 01:00:00		
028dbc1d			7b66d171	2021/01/19 16:29:52		
03a13f5c			d37f918c	2021/01/19 16:29:52		
0514fbbc			7b66d171	2020/12/10 09:46:11		
05b0967a			7b66d171	2021/01/19 16:29:53		
05b656c6			7b66d171	2021/01/19 16:29:52		
0672fe5d			e14667b4	2020/09/28 01:00:00		
07033c75			a4dbaa73	2020/10/23 01:00:00		
079e61e7			7b66d171	2021/01/19 16:30:02	100	✓
09aaf462			a4dbaa73	2021/01/19 16:30:01	100	✓
0b82c343			5b2f0763	2020/09/02 01:00:00		
0bbd33ab			7b66d171	2021/01/19 16:29:53		
0caf11fd			7b66d171	2021/01/18 10:15:20		
0eca9f6c			7b66d171	2021/01/19 16:30:00	100	✓
12d1fd3e			7b66d171	2021/01/13 03:56:54		

Refresh Advanced

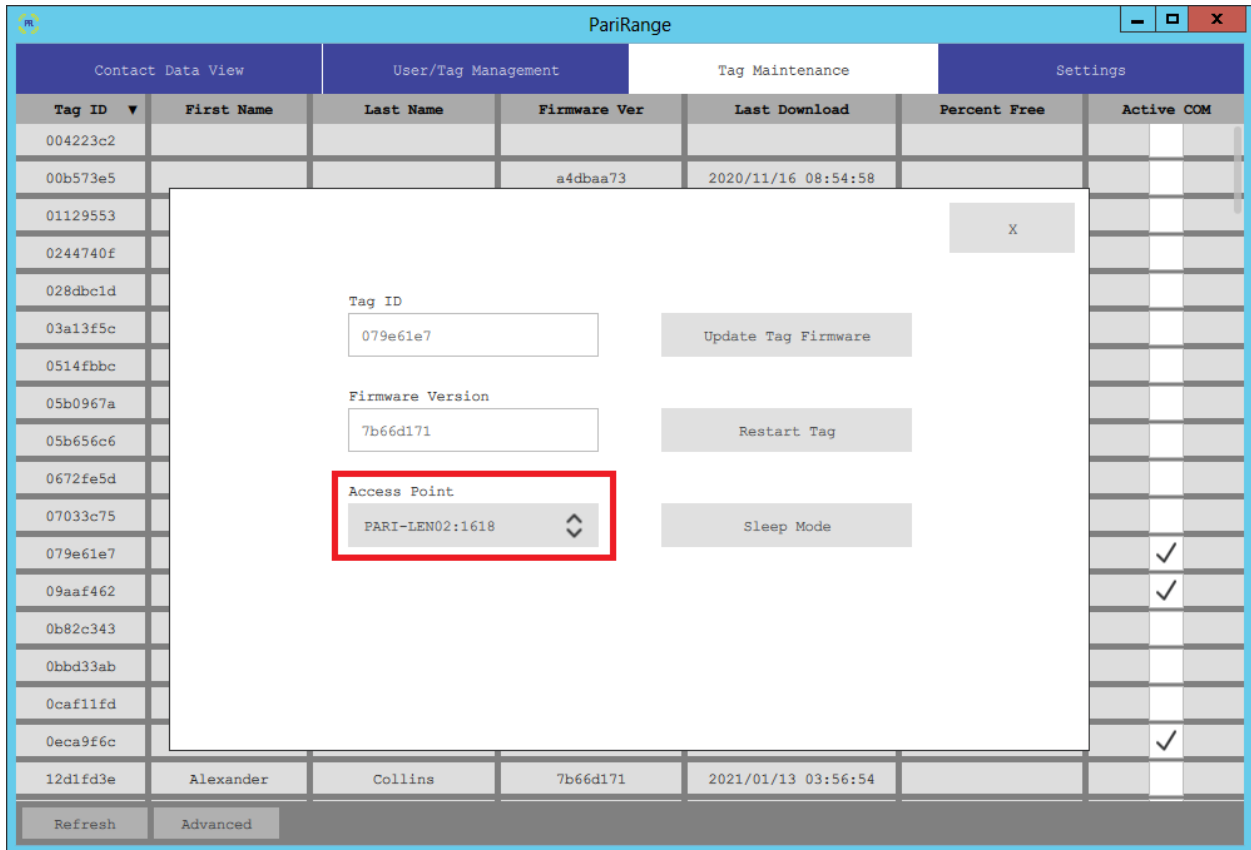
5) Click on the Tag you want to put into Sleep Mode.

The screenshot shows the PariRange software interface with a table of tags. The table has columns for Tag ID, First Name, Last Name, Firmware Ver, Last Download, Percent Free, and Active COM. The row for Tag ID 079e61e7 is highlighted with a red border. Below the table are buttons for Refresh and Advanced.

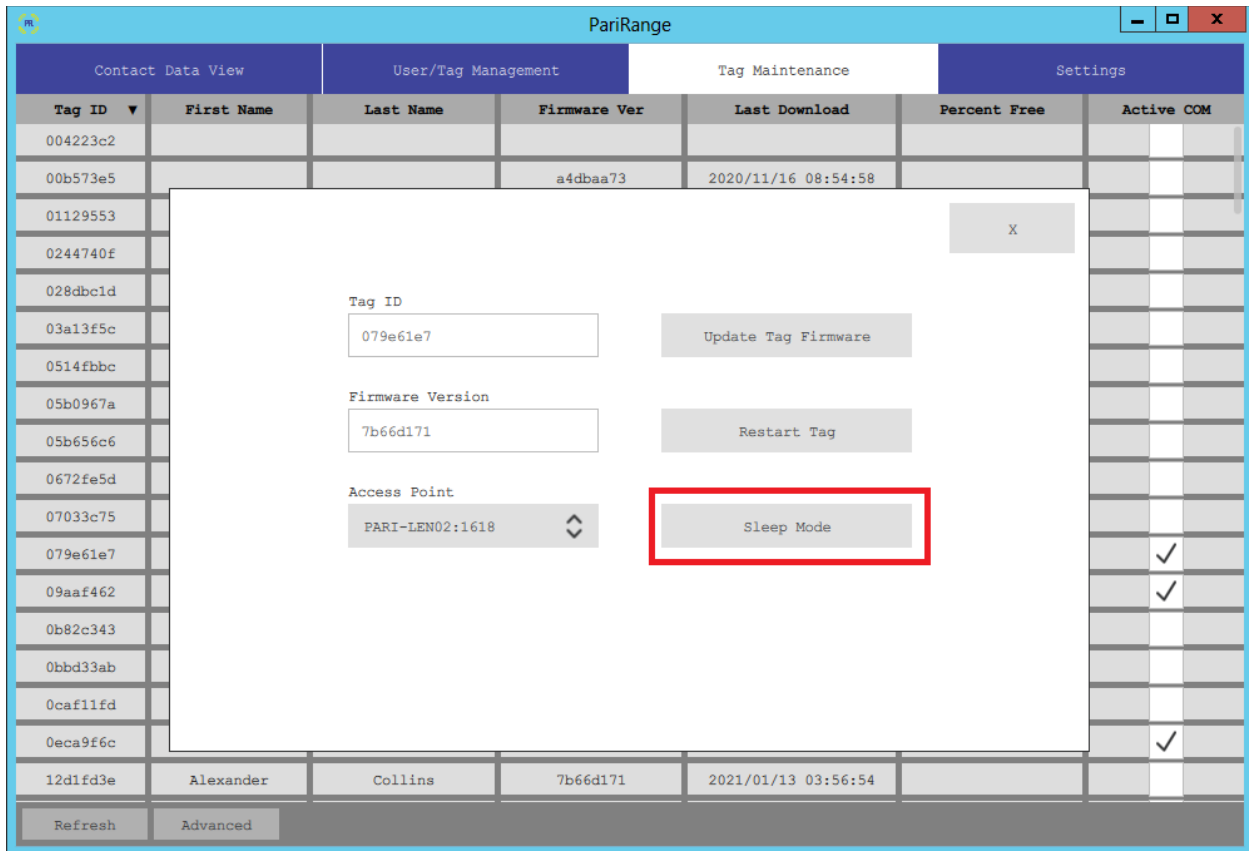
Tag ID	First Name	Last Name	Firmware Ver	Last Download	Percent Free	Active COM
004223c2						
00b573e5			a4dbaa73	2020/11/16 08:54:58		
01129553			5d3f3a35	2020/11/23 09:54:26		
0244740f			e14667b4	2020/10/09 01:00:00		
028dbc1d			7b66d171	2021/01/19 16:29:52		
03a13f5c			d37f918c	2021/01/19 16:29:52		
0514fbbc			7b66d171	2020/12/10 09:46:11		
05b0967a			7b66d171	2021/01/19 16:29:53		
05b656c6			7b66d171	2021/01/19 16:29:52		
0672fe5d			e14667b4	2020/09/28 01:00:00		
07033c75			a4dbaa73	2020/10/23 01:00:00		
079e61e7			7b66d171	2021/01/19 16:30:02	100	✓
09aaf462			a4dbaa73	2021/01/19 16:30:01	100	✓
0b82c343			5b2f0763	2020/09/02 01:00:00		
0bbd33ab			7b66d171	2021/01/19 16:29:53		
0caf11fd			7b66d171	2021/01/18 10:15:20		
0eca9f6c			7b66d171	2021/01/19 16:30:00	100	✓
12d1fd3e			7b66d171	2021/01/13 03:56:54		

Refresh Advanced

- 6) The Advanced window displays the selected Tag ID.
- 7) Confirm that the Access Point nearest to the Tag is selected.



8) Click on the Sleep Mode button.



NOTE: The Tag will remain in this low power state until it is placed on a charger. The Tag will not communicate with other Tags or Access Points in this state.

9) When complete, close the Advanced window by clicking the X button.

Tag Activation and Distribution

Once a Tag has been assigned to a User in the PariRange User Interface application, the Tag is ready to be activated, charged, and distributed to that user. Tags are shipped from EmbedTek in Sleep Mode. Activate a Tag by placing it on a charger. Once fully charged, distribute the Tag to the User that it is assigned.

PariRange Contact Tracing Tag Operation

Tag Status Indicators

The PariRange Contact Tracing Tag uses the following signals to communicate its status:

The **GREEN** LED:

- Active - The green LED will flash every five seconds when actively seeking other Tags and no other Tags are detected.
- Charging - The green LED will slowly pulse to indicate that the Tag has been successfully placed on a charger and is charging.
- Fully Charged - The green LED will remain on when the Tag is fully charged.

The **RED** LED:

- Alert - The red LED will remain on when another Tag is detected within the alert range.
- Low Battery – The red LED will flash every five seconds instead of the green LED when Active and the battery is low.
- Vibration
 - Alert - The Tag will vibrate when another Tag is first detected within the alert range.
 - Charging – The Tag will vibrate when the Tag is successfully placed on a charger and begins charging.
- The green and red LEDs will turn on simultaneously when the Tag is communicating with an Access Point.

Contact Recording

A Tag enters Alert status when another active Tag is detected within the alert range. Each Tag in Alert status records other Tag ID(s) within the alert range and the cumulative time that they were within alert range of each other. Tags will repeatedly search for signals from other Tags at intervals that may vary based on the number of Tags present.

PariRange Access Point Operation

Downloading Tag Contact Tracing Data

The PariRange Contact Tracing Reader along with the PariRange Access Point application are used together to download contact data from the PariRange Contact Tracing Tags.

Contact data remains on the Tag until the Access Point receives and confirms the integrity of the contact data. The contact data is then deleted from the Tag.

WARNING: Contact data is retained on the Tag until it is downloaded. While there is enough storage on the Tag to hold a minimum of 14 days of contact data, it is recommended that contact data on the Tag be downloaded daily.

The following conditions must be true for the Access Point to download a Tag's contact data:

- The Access Point is set up properly and running.
- The Tag is in Active, Alert, or Charging status.
 - Note that contact data associated with an ongoing Alert will not be available for download until the Alert ends. All other contact data on the Tag is available for download.
- The Tag is within range of the Access Point.

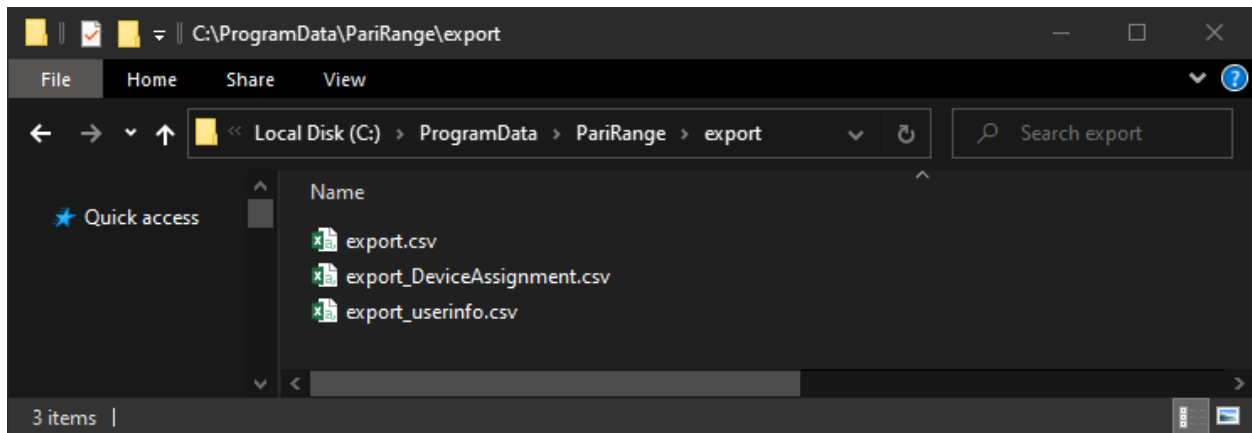
Downloaded contact data that is stored on the Access Point computer is only imported into the PariRange User Interface application when the PariRange User Interface application is open. Backup files of the contact data remain on the Access Point computer after the contact data is imported into the PariRange User Interface application.

PariRange Contact Tracing Data

PariRange User Interface Contact Tracing Data

Contact data that has been imported by the PariRange User Interface application can be accessed in three different ways. The contact data can be accessed via .CSV files that are automatically exported by the PariRange User Interface application, exported manually as .CSV files, or viewed within the PariRange User Interface application.

- **RECOMMENDED** – Automatic Export of Contact Data by the PariRange User Interface Application
 - 1) The application automatically exports three .CSV files. Each file is updated when data within the file is changed by the PariRange User Interface application.
 - a) These files are stored in the directory C:\Program Data\PariRange\export.



- b) These files can be used to support your existing reporting tools or as input to the PariRange Reporting Tool.

- Manual Export of Contact Data from the PariRange User Interface Application
 - 1) On the Data View tab, click the Export button.
 - a) Three .CSV files will be exported to a directory of your choice. These files will only include contact data up to the point in time the export took place. These files will NOT be updated by the PariRange User Interface application automatically after they are created.
 - Tag Activity: <filename>.csv
 - Tag Assignments: <filename>_DeviceAssignment.csv
 - Tag User List: <filename>_userinfo.csv

- Contact Data View Tab in the PariRange User Interface Application
 - 2) On the Data View tab, select the Tag ID that you would like to view from the dropdown list. All contact data from this Tag ID is displayed.
 - a) Note that the contact data displayed is specifically associated with the selected Tag ID and not necessarily the User currently assigned to that Tag. If a Tag had been re-assigned one or more times, the data shown when selecting that Tag ID will include all contact data from all Users previously assigned to that Tag.

Tag ID	User ID	First Name	Last Name	Contact Date	Contact Duration
142f40d2	10029	Vicki	Thompson	2020/09/22	1m 39s
2534b5df	10040	Mike	Vang	2020/09/22	26s
3618c978	51	Alex	Hartmann	2020/09/22	50s
3d7238b7	10162	David	Brenner	2020/09/22	17s
91d7560a	T1234	Kent	Johnson	2020/09/22	34s
a6d21e74	19213	Kim	Jones	2020/09/22	3s
af8ca2a3	10172	Steven	Erickson	2020/09/22	2s
ecf20514	10037	Calvin	Stone	2020/09/22	21s
f2387cc8	A1234	Dan	Michaels	2020/09/22	4m 45s
af8ca2a3	10172	Steven	Tims	2020/09/23	2s
05b656c6	10097	Mondo	Kong	2020/09/25	33s
3618c978	51	Jeff	Davis	2020/09/25	12m 3s
4c20ac65	10159	Shaina	Jefferson	2020/09/25	2s
4e5c0ec4	10071	Shawn	Krueger	2020/09/25	12s
4fd41080	11283	Daisy	Rider	2020/09/25	4s
fb213bf3	10155	Jacky	Arndt	2020/09/25	2s

3) Columns can be sorted and filters can be applied to this view.

The screenshot shows the PariRange application window with a 'Contact Data View' tab selected. The window title is 'PariRange'. Below the navigation tabs, there is a search bar containing '028dbc1d - 10002 (Bob Johnson)'. The main area displays a table with the following columns: Tag ID, User ID, First Name, Last Name, Contact Date, and Contact Duration. A filter overlay is visible over the table, containing the following options:

- Minimum Contact Time Filter (Minutes): 0
- Set Date Filter Range
- Clear Date Filter Range

The table data is as follows:

Tag ID	User ID	First Name	Last Name	Contact Date	Contact Duration
142f40d2	10029	Vicki	Thompson	2020/09/22	1m 39s
2534b5df	10040	Mike	Vang	2020/09/22	26s
3618c978	51	Alex	Hartmann	2020/09/22	50s
3d7238b7	10162	David	Brenner	2020/09/22	17s
91d7560a	T1234	Kent	Johnson	2020/09/22	34s
a6d21e74	19213	Kim	Jones	2020/09/22	3s
af8ca2a3	10172	Steven	Erickson	2020/09/22	2s
ecf20514	10037	Calvin	Stone	2020/09/22	21s
f2387cc8	A1234	Dan	Michaels	2020/09/22	4m 45s
af8ca2a3	10172	Steven	Tims	2020/09/23	2s
05b656c6	10097	Mondo	Kong	2020/09/25	33s
3618c978	51	Jeff	Davis	2020/09/25	12m 3s
4c20ac65	10159	Shaina	Jefferson	2020/09/25	2s
4e5c0ec4			ueger	2020/09/25	12s
4fd41080			der	2020/09/25	4s
fb213bf3			ndt	2020/09/25	2s

PariRange Reporting Tool

The PariRange Reporting Tool is a Microsoft Excel spreadsheet that allows you to view and analyze contact data exported from the PariRange User Interface application.

Initial Setup

Download a copy of the PariRange Reporting Tool to local storage and ensure that the three exported .CSV files from the PariRange User Interface application are also accessible from a local storage location.

NOTE: Do not use the PariRange Reporting Tool or import the exported .CSV files when they are in a shared network or cloud location. They must be stored on the local PC.

After opening the PariRange Reporting Tool, note that both the Tool Instructions and Setup tabs contain general instructions and information to be used as guidance when using the tool.

On the Setup tab, you can choose to filter out contacts that were less than the specified duration. The default value is 0 minutes. You must re-import/refresh the report data for changes to this value to take effect.

Filter Out Contacts Less than:	0	Minutes
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On the Setup tab, you can define User Field 1, User Field 2, and User Field 3 if desired. These represent the three fields in the PariRange User Interface application that are available for your custom use. Note that they are defined as Field 1, Field 2, and Field 3 by default. If you change these definitions, the applicable fields will need to be pulled back into each of the pivot tables from the field lists.

User Field 1:	Field 1
User Field 2:	Field 2
User Field 3:	Field 3

Importing Data

On the Setup tab, click each button to select the three .CSV files that you want to import.

- Device Assignment File: This file must contain Tag assignment information.
- User Information File: This file must contain User information.
- Contact Data File: This file must contain Tag contact data.

Click the Import/Refresh button. The length of time that this process takes to complete will depend on the amount of data being imported. It is not uncommon for a large data set to take several minutes to import/refresh. A pop-up window will indicate when this is complete.

Data Analysis and Reports

The reporting tool has three data analysis and reporting tabs. Each has a pre-configured pivot table with a specific purpose.

- Detail of User Contact: This tab facilitates contact tracing. You can select a User of interest and quickly identify which Users they have been in contact with.
- Number of Contacts: This tab analyzes the number of contacts that have occurred.
- Duration of Contact: This tab analyzes the duration of contacts that have occurred.

PariRange Maintenance

Tag Firmware Update

To ensure your PariRange Contact Tracing Tags have the most current firmware version, periodically check <https://tekweb.embedtek.net/> for firmware updates and apply them when available.

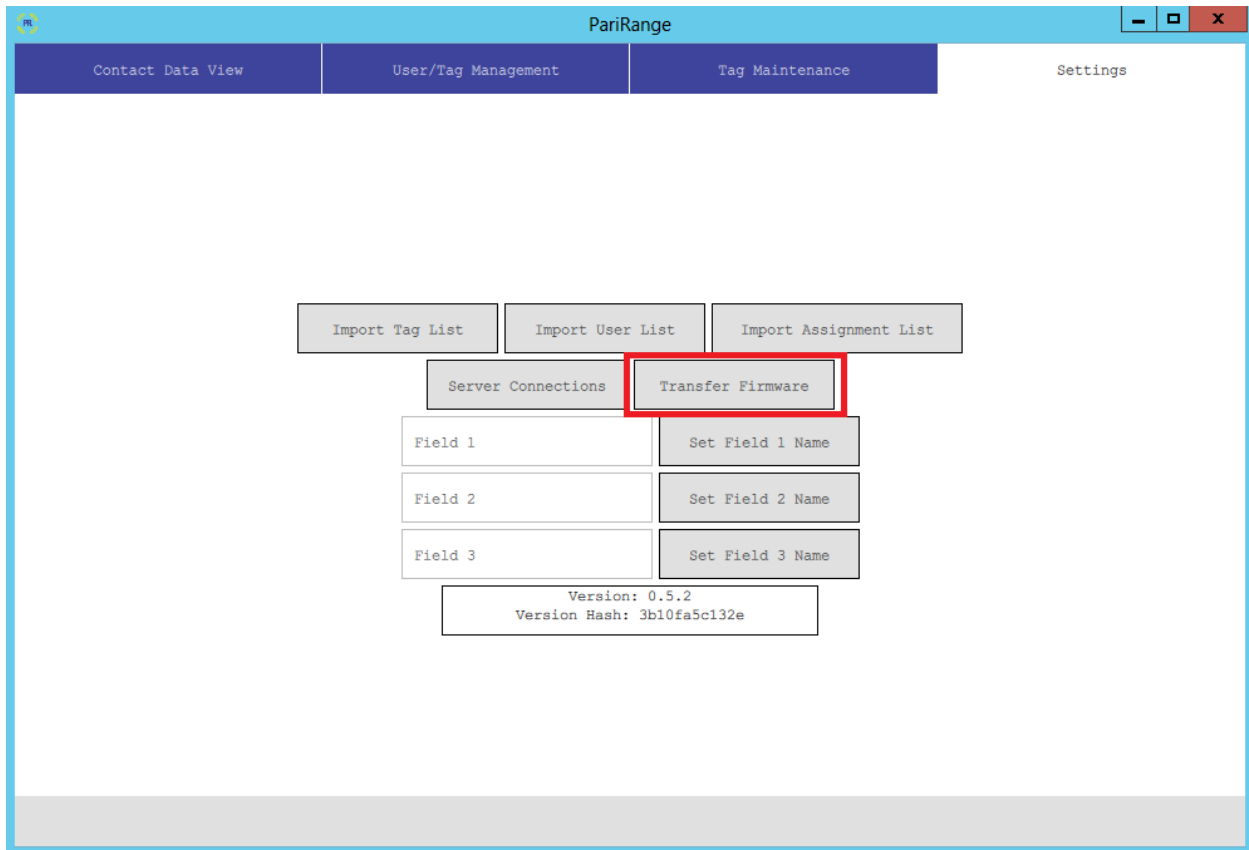
There are two parts to the Tag firmware. The first is referred to as the Bootloader and the second is referred to as the Firmware. While Bootloader updates are rare, they must be applied to the Tag before the Firmware is updated. Contact parirangesupport@embedtek.net if you are not sure if an available PariRange Tag Bootloader Update has already been applied to your Tags.

Before attempting to update a Tag's firmware, confirm that the Tag battery is fully charged or that the Tag is on a charger and that the PariRange Access Point you plan to use has been successfully connected to the PariRange User Interface application. Tags must be and remain within range of an Access Point during the update.

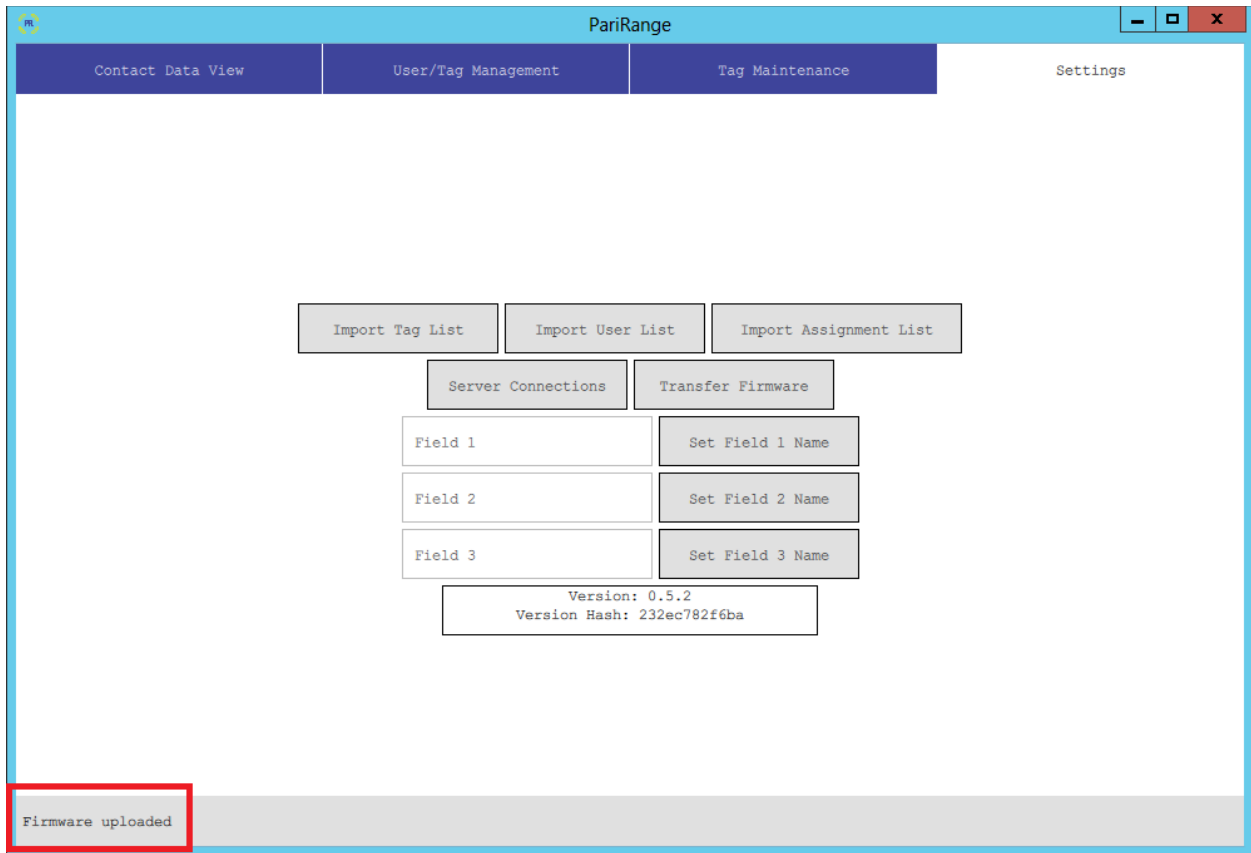
1) Open the PariRange User Interface application.

NOTE: If a Tag Bootloader update does not apply, skip to step 9.

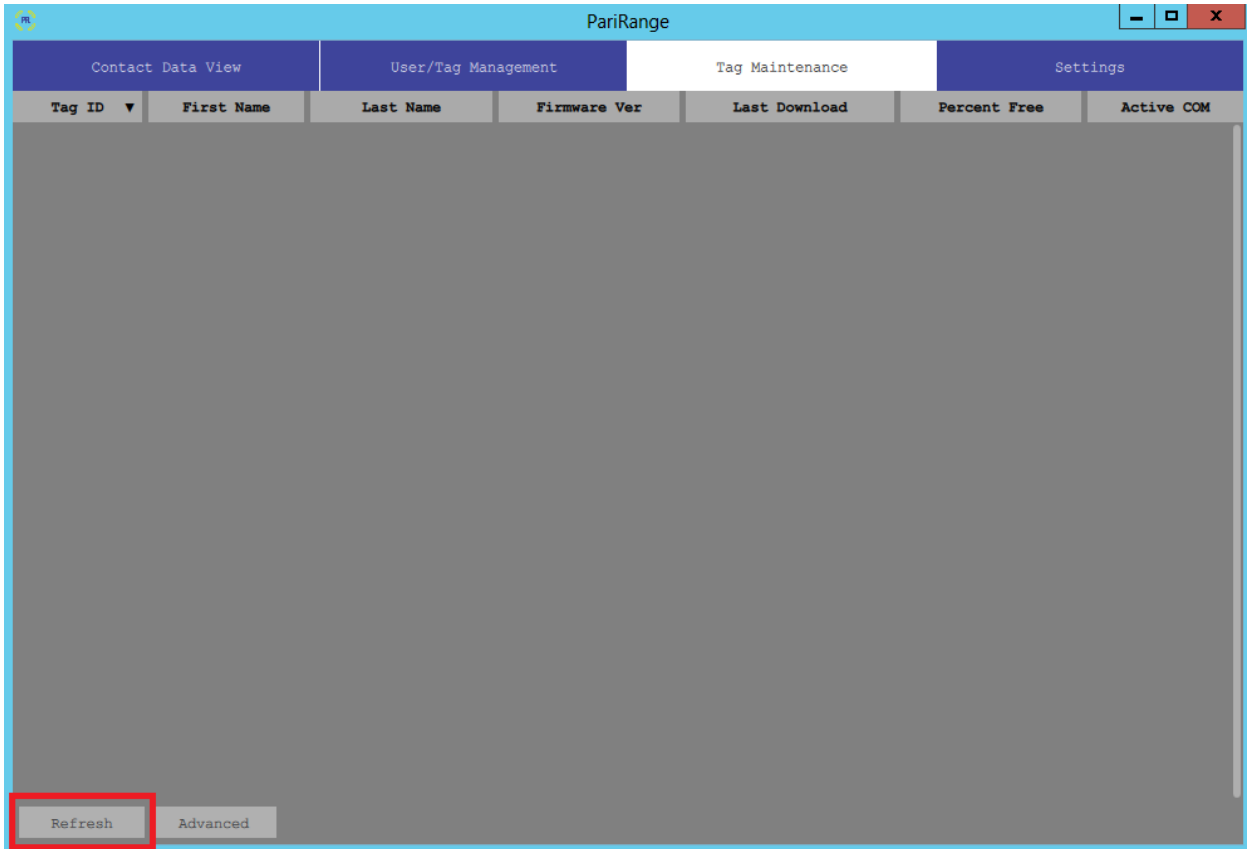
2) Deploy the Tag Bootloader Update file to the PariRange Access Points. On the Settings tab, click the Transfer Firmware button. Select the Tag Bootloader Update file that was downloaded.



3) Verify that the transfer was successful.



4) On the Tag Maintenance tab, click the Refresh button.



5) Confirm that the Tag you want to update is within range using the Active COM column.

The screenshot shows the PariRange application window with a table of tag data. The table has columns for Tag ID, First Name, Last Name, Firmware Ver, Last Download, Percent Free, and Active COM. The 'Active COM' column for the tag with ID 079e61e7 is highlighted with a red box and contains a checkmark, indicating it is within range.

Tag ID	First Name	Last Name	Firmware Ver	Last Download	Percent Free	Active COM
004223c2						
00b573e5			a4dbaa73	2020/11/16 08:54:58		
01129553			5d3f3a35	2020/11/23 09:54:26		
0244740f			e14667b4	2020/10/09 01:00:00		
028dbc1d			7b66d171	2021/01/19 16:29:52		
03a13f5c			d37f918c	2021/01/19 16:29:52		
0514fbbc			7b66d171	2020/12/10 09:46:11		
05b0967a			7b66d171	2021/01/19 16:29:53		
05b656c6			7b66d171	2021/01/19 16:29:52		
0672fe5d			e14667b4	2020/09/28 01:00:00		
07033c75			a4dbaa73	2020/10/23 01:00:00		
079e61e7			7b66d171	2021/01/19 16:30:02	100	✓
09aaf462			a4dbaa73	2021/01/19 16:30:01	100	✓
0b82c343			5b2f0763	2020/09/02 01:00:00		
0bbd33ab			7b66d171	2021/01/19 16:29:53		
0caf11fd			7b66d171	2021/01/18 10:15:20		
0eca9f6c			7b66d171	2021/01/19 16:30:00	100	✓
12d1fd3e			7b66d171	2021/01/13 03:56:54		

At the bottom of the table, there are two buttons: 'Refresh' and 'Advanced'.

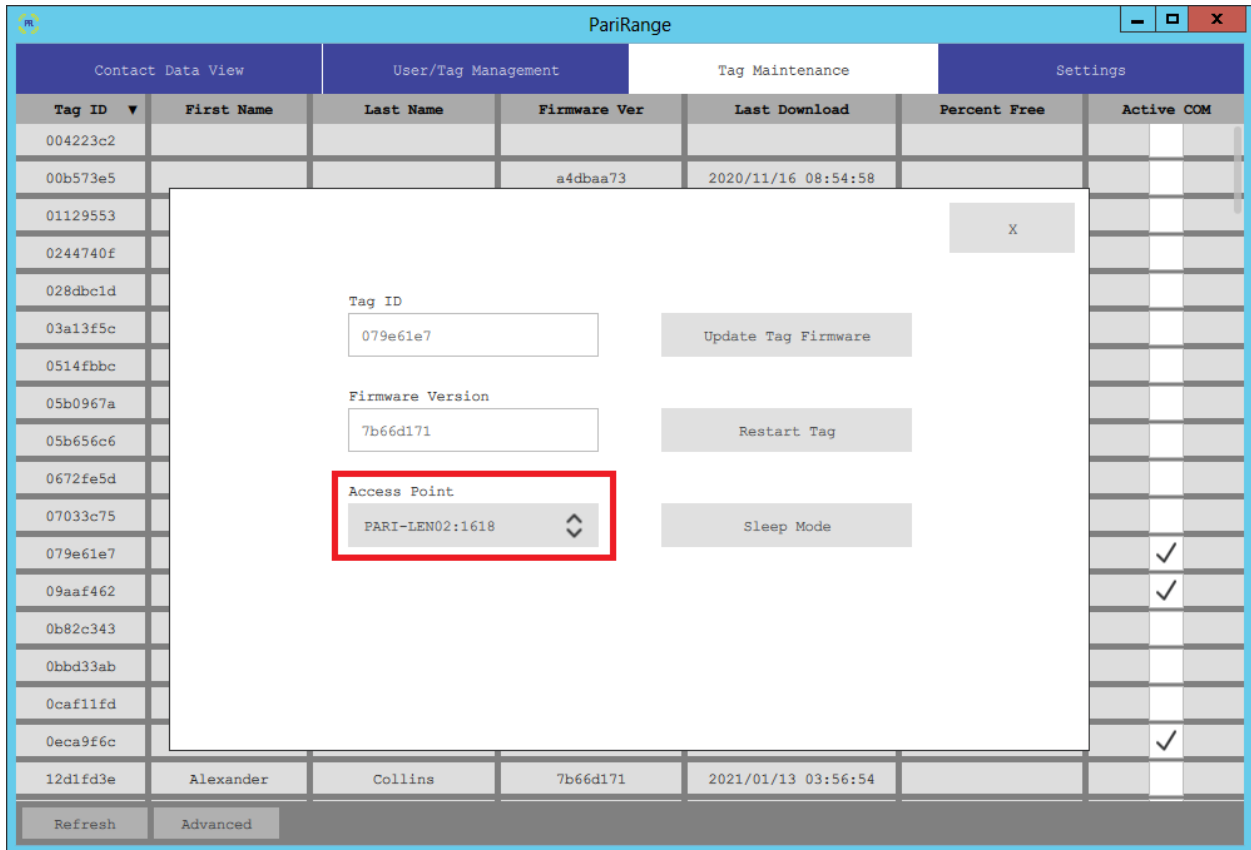
6) Click on the Tag you want to update.

The screenshot shows the PariRange application window with a table of tag data. The table is divided into four sections: Contact Data View, User/Tag Management, Tag Maintenance, and Settings. The table has the following columns: Tag ID, First Name, Last Name, Firmware Ver, Last Download, Percent Free, and Active COM. The row with Tag ID 079e61e7 is highlighted with a red border.

Tag ID	First Name	Last Name	Firmware Ver	Last Download	Percent Free	Active COM
004223c2						
00b573e5			a4dbaa73	2020/11/16 08:54:58		
01129553			5d3f3a35	2020/11/23 09:54:26		
0244740f			e14667b4	2020/10/09 01:00:00		
028dbc1d			7b66d171	2021/01/19 16:29:52		
03a13f5c			d37f918c	2021/01/19 16:29:52		
0514fbbc			7b66d171	2020/12/10 09:46:11		
05b0967a			7b66d171	2021/01/19 16:29:53		
05b656c6			7b66d171	2021/01/19 16:29:52		
0672fe5d			e14667b4	2020/09/28 01:00:00		
07033c75			a4dbaa73	2020/10/23 01:00:00		
079e61e7			7b66d171	2021/01/19 16:30:02	100	✓
09aaf462			a4dbaa73	2021/01/19 16:30:01	100	✓
0b82c343			5b2f0763	2020/09/02 01:00:00		
0bbd33ab			7b66d171	2021/01/19 16:29:53		
0caf11fd			7b66d171	2021/01/18 10:15:20		
0eca9f6c			7b66d171	2021/01/19 16:30:00	100	✓
12d1fd3e			7b66d171	2021/01/13 03:56:54		

At the bottom of the table, there are two buttons: "Refresh" and "Advanced".

- 7) The Advanced window displays the selected Tag ID. Confirm that the correct Access Point is selected.



- 8) Click on the Update Tag Firmware button. The update should only take about ten seconds. The result ("Success" or "Failure") will be displayed on the button. If the result is "Success", the Tag's red and green LEDs will both be on. If the result is "Failure", move the Tag closer to the Access Point and try again.

PariRange

Contact Data View		User/Tag Management		Tag Maintenance		Settings	
Tag ID	First Name	Last Name	Firmware Ver	Last Download	Percent Free	Active	COM
004223c2							
00b573e5			a4dbaa73	2020/11/16 08:54:58			
01129553							
0244740f							
028dbc1d							
03a13f5c							
0514fbbc							
05b0967a							
05b656c6							
0672fe5d							
07033c75							
079e61e7							✓
09aaf462							✓
0b82c343							
0bbd33ab							
0caf11fd							
0eca9f6c							✓
12d1fd3e	Alexander	Collins	7b66d171	2021/01/13 03:56:54			
Refresh	Advanced						

Tag ID: 079e61e7 X

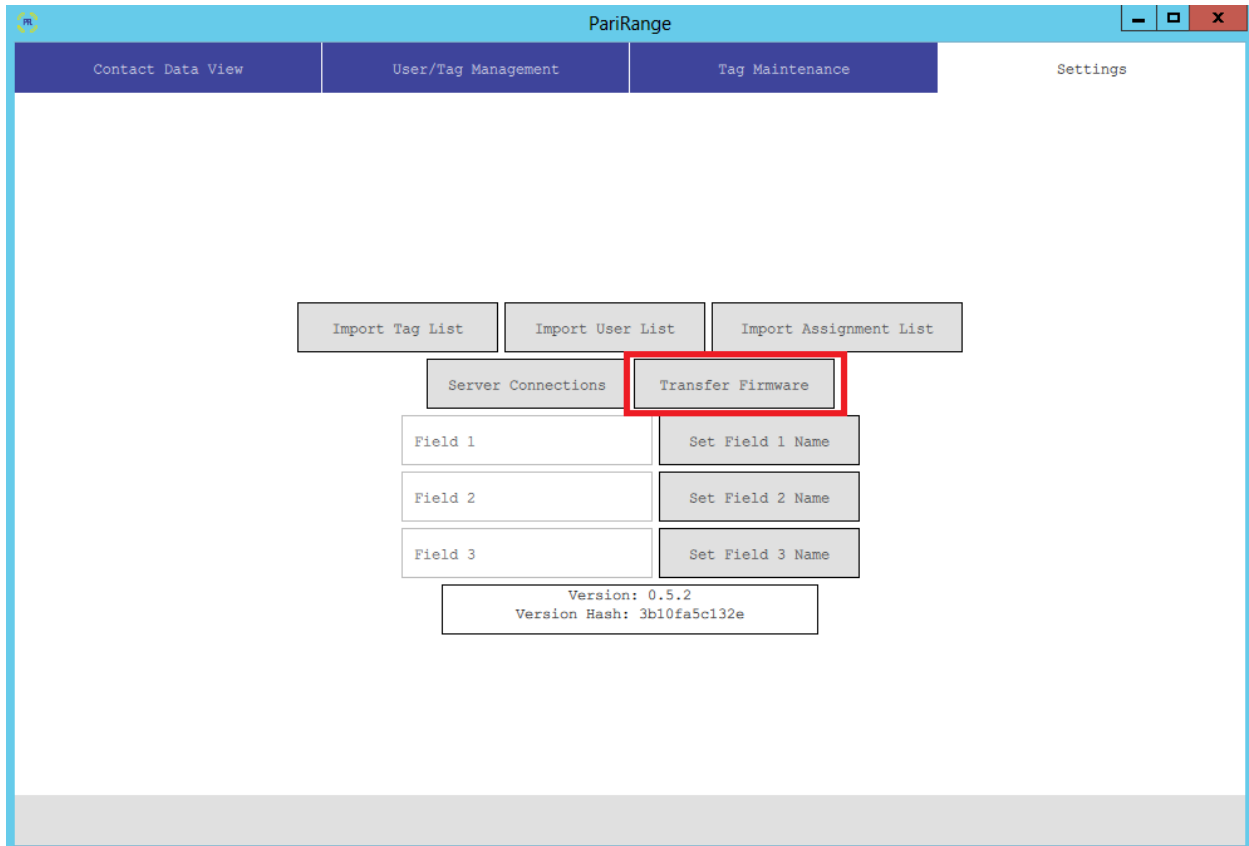
Firmware Version: 7b66d171 Update Tag Firmware

Access Point: PARI-LEN02:1618 Restart Tag

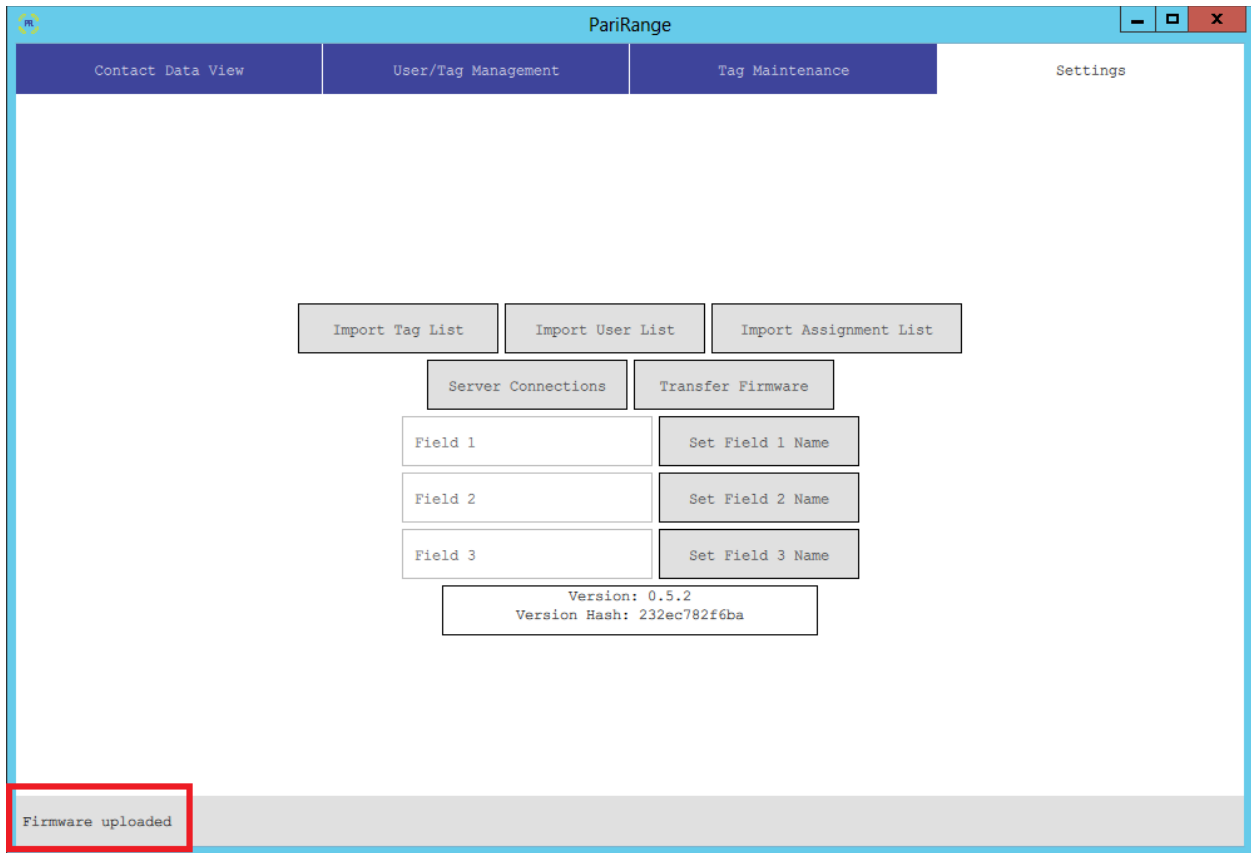
Sleep Mode

9) Close the Advanced window by clicking the X button.

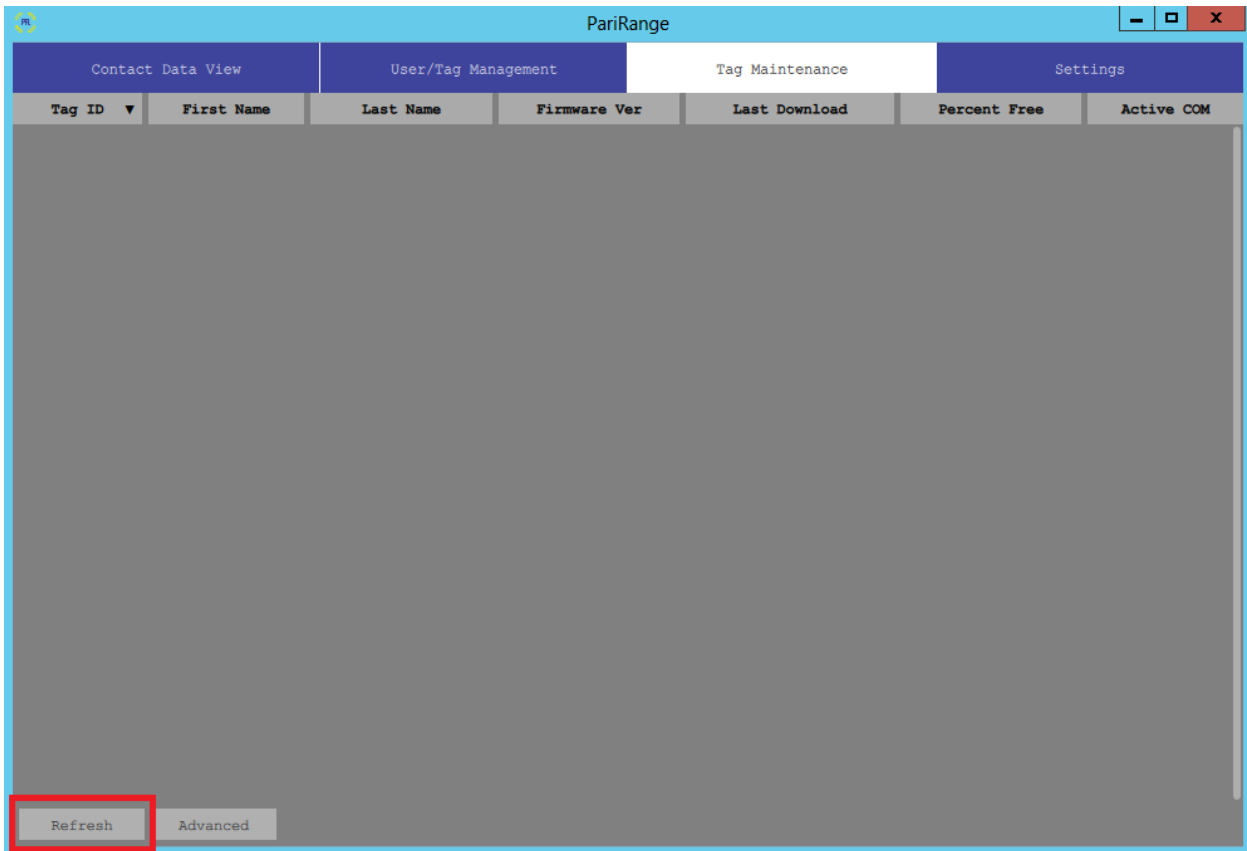
10) Deploy the Tag Firmware file to the PariRange Access Points. On the Settings tab, click the Transfer Firmware button. Select the Tag Firmware file that was downloaded.



11) Verify that the transfer was successful.



12) On the Tag Maintenance tab, click the Refresh button.



13) Confirm that the Tag you want to update is within range using the Active COM column.

The screenshot shows the PariRange software interface with a table of tag data. The table has columns for Tag ID, First Name, Last Name, Firmware Ver, Last Download, Percent Free, and Active COM. The 'Active COM' column for tag 079e61e7 is highlighted with a red box and a checkmark.

Tag ID	First Name	Last Name	Firmware Ver	Last Download	Percent Free	Active COM
004223c2						
00b573e5			a4dbaa73	2020/11/16 08:54:58		
01129553			5d3f3a35	2020/11/23 09:54:26		
0244740f			e14667b4	2020/10/09 01:00:00		
028dbc1d			7b66d171	2021/01/19 16:29:52		
03a13f5c			d37f918c	2021/01/19 16:29:52		
0514fbbc			7b66d171	2020/12/10 09:46:11		
05b0967a			7b66d171	2021/01/19 16:29:53		
05b656c6			7b66d171	2021/01/19 16:29:52		
0672fe5d			e14667b4	2020/09/28 01:00:00		
07033c75			a4dbaa73	2020/10/23 01:00:00		
079e61e7			7b66d171	2021/01/19 16:30:02	100	✓
09aaf462			a4dbaa73	2021/01/19 16:30:01	100	✓
0b82c343			5b2f0763	2020/09/02 01:00:00		
0bbd33ab			7b66d171	2021/01/19 16:29:53		
0caf11fd			7b66d171	2021/01/18 10:15:20		
0eca9f6c			7b66d171	2021/01/19 16:30:00	100	✓
12d1fd3e			7b66d171	2021/01/13 03:56:54		

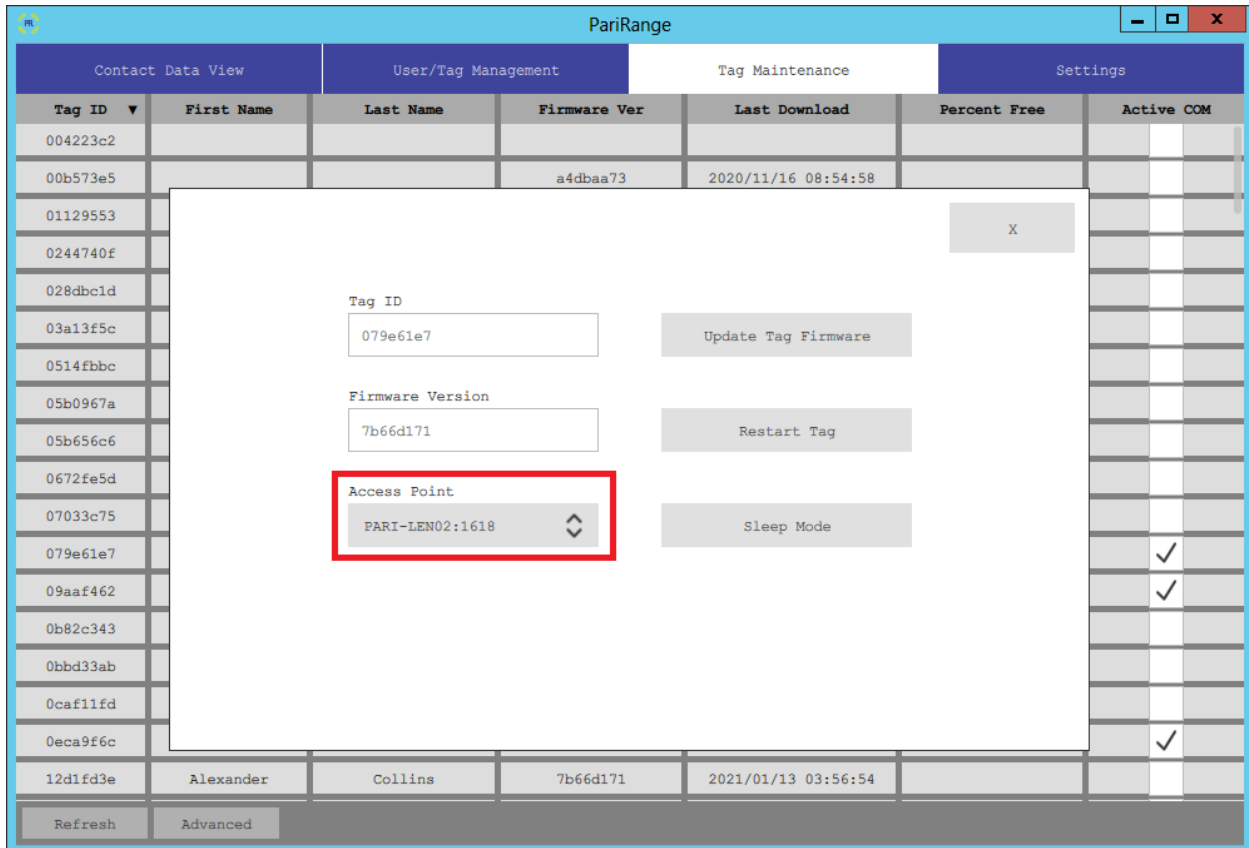
Refresh Advanced

14) Click on the Tag you want to update.

The screenshot shows the PariRange application window with a table of tag data. The table has the following columns: Tag ID, First Name, Last Name, Firmware Ver, Last Download, Percent Free, and Active COM. The row with Tag ID 079e61e7 is highlighted with a red border. Below the table are buttons for 'Refresh' and 'Advanced'.

Tag ID	First Name	Last Name	Firmware Ver	Last Download	Percent Free	Active COM
004223c2						
00b573e5			a4dbaa73	2020/11/16 08:54:58		
01129553			5d3f3a35	2020/11/23 09:54:26		
0244740f			e14667b4	2020/10/09 01:00:00		
028dbc1d			7b66d171	2021/01/19 16:29:52		
03a13f5c			d37f918c	2021/01/19 16:29:52		
0514fbbc			7b66d171	2020/12/10 09:46:11		
05b0967a			7b66d171	2021/01/19 16:29:53		
05b656c6			7b66d171	2021/01/19 16:29:52		
0672fe5d			e14667b4	2020/09/28 01:00:00		
07033c75			a4dbaa73	2020/10/23 01:00:00		
079e61e7			7b66d171	2021/01/19 16:30:02	100	✓
09aaf462			a4dbaa73	2021/01/19 16:30:01	100	✓
0b82c343			5b2f0763	2020/09/02 01:00:00		
0bbd33ab			7b66d171	2021/01/19 16:29:53		
0caf11fd			7b66d171	2021/01/18 10:15:20		
0eca9f6c			7b66d171	2021/01/19 16:30:00	100	✓
12d1fd3e			7b66d171	2021/01/13 03:56:54		

15) The Advanced window displays the selected Tag ID. Confirm that the correct Access Point is selected.



16) Click on the Update Tag Firmware button. The Tag Firmware update should only take about ten seconds. The result ("Success" or "Failure") will be displayed on the button. If the result is "Success", the Tag's green LED will flash ever five seconds indicating that the Tag is in Active state. If the result is "Failure", move the Tag closer to the Access Point and try again.

PariRange

Contact Data View		User/Tag Management		Tag Maintenance		Settings	
Tag ID	First Name	Last Name	Firmware Ver	Last Download	Percent Free	Active	COM
004223c2							
00b573e5			a4dbaa73	2020/11/16 08:54:58			
01129553							
0244740f							
028dbc1d							
03a13f5c							
0514fbbc							
05b0967a							
05b656c6							
0672fe5d							
07033c75							
079e61e7							✓
09aaf462							✓
0b82c343							
0bbd33ab							
0caf11fd							
0eca9f6c							✓
12d1fd3e	Alexander	Collins	7b66d171	2021/01/13 03:56:54			
Refresh	Advanced						

Tag ID: 079e61e7 X

Firmware Version: 7b66d171 Update Tag Firmware

Access Point: PARI-LEN02:1618 Restart Tag

Sleep Mode

- 17) Close the Advanced window by clicking the X button.
- 18) Repeat this section for all Tags that require a firmware update.

Troubleshooting Tips

Do not attempt to open the PariRange Contact Tracing Tag to view or repair any internal hardware. This is unsafe and will void the warranty.

My PariRange Contact Tracing Tag is not charging.

Confirm that the charger is plugged in and that the Tag is properly positioned on the charger. The charging icon on the back of the tag must be in the center of the Qi charger. The Tag may take up to fifteen minutes to indicate a successful connection to the charger if fully discharged. Many chargers have their own status LEDs that will indicate if the Tag is properly positioned on the charger. If after fifteen minutes the Tag does not indicate a successful connection to the charger, remove the Tag from the charger for 24 hours and re-attempt charging.



My PariRange Contact Tracing Tag does not appear to be communicating with the PariRange Access Point.

With the Tag within range of an Access Point, confirm that a checkmark is visible in the Active COM column of the PariRange User Interface application. Confirm that the Reader is properly connected to the Access Point computer, that the PariRange Access Point application is running with the correct COM port saved, and that the PariRange Access Point application is allowed through the firewall. Confirm that the Tag is in Active, Alert, or Charging state.

My PariRange Contact Tracing Tag has been sitting on the charger for over 7 hours, but the green light is still pulsing.

The Tag will show a solid green LED when fully charged. Charging will stop once the battery reaches a full charge and the green LED will remain solid. The battery will deplete to approximately 90% and then charging will begin again. Once the Tag begins to charge, the green LED will pulse until the Tag is fully charged. This cycle will repeat until the Tag is removed from the charger.

Warranty Information

The PariRange Contact Tracing Tag and PariRange Contact Tracing Reader both come with a 90-day warranty as outlined in the PariRange Terms of Sale and License.

Documentation and Software

PariRange documentation and both the PariRange Access Point and PariRange User Interface software applications can be downloaded from <https://tekweb.embedtek.net/>. On first login, you must read and accept the PariRange Software Terms of Sale and License.

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Glossary of Terms

Active Alert:

Used to describe the status of an active PariRange Contact Tracing Tag when it is within 6 feet of another active Tag.

Bootloader:

A program that loads an operating system when a computer is turned on.

Contact Tracing:

Used by health departments to prevent the spread of infectious disease. This is done by identifying those who have an infectious disease and identifying their contacts to interrupt the disease transmission.

EEA:

European Economic Area. European Union states that are member states of the European Free Trade Association.

FCC:

Federal Communications Commission. An independent federal regulatory agency that reports to Congress and regulates matters related to interstate and international communications by radio, television, wire, satellite, and cable.

Firmware:

A permanent software program or set of instructions programmed on a hardware device to provide necessary instructions for how the device communicates.

LED:

Light-emitting diode. A semiconductor diode that emits light when a current conducts through it.

Peer-to-Peer Communication:

A communication in which both sides have equal responsibility for initiating, maintaining, and terminating the session.

Qi Charger:

A charger that complies with the Qi open interface standard. The standard defines the wireless power transfer for inductive charging.

Rechargeable Lithium-Ion (Li-ion) Battery:

A rechargeable battery that uses lithium ions as the primary component of its electrolyte.