

Payload Recovery Device-TI (PRD-TI) User Guide

This user guide will give you all the essential information needed for interacting with and deploying a Wildlife Computers Payload Recovery Device-TI.

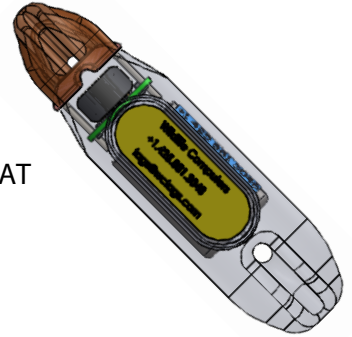
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About the Payload Recovery Device-TI (PRD-TI)

The PRD-TI (Payload Recovery Device-Timed Ichthys) is a one-time-use payload recovery device that allows you to recover small, tethered assets such as cameras, float packages, and archival tags. With a static load rating of 100 lbs., the PRD-TI can be added to a tether or a line and programmed to release on a specific date and time—the release date can be up to two years in the future. MiniPAT tags have built-in support for the PRD-TI preventing the MiniPAT release pin from corroding while otherwise operating normally.



Overview

Prior to attachment to the asset, the Programmable Release Device (PRD-TI-347) is programmed by the end-user to burn its release pin and release an attached asset on an absolute date and time.

On the programmed date and time, the tag initiates active corrosion of the pin. The pin will actively corrode in seawater and release the asset over the next 6-10 hours. The release time depends on water temperature and salinity. When the pin is corroded, the nose cone will separate from the tether and the attached asset is released.

It's important to note that the release pin is on the orange end of the device, therefore the **orange end must be tethered to the asset you want to recover**, otherwise the payload will be weighed down by what remains of the PRD-TI after release.

Anatomy of a Tag

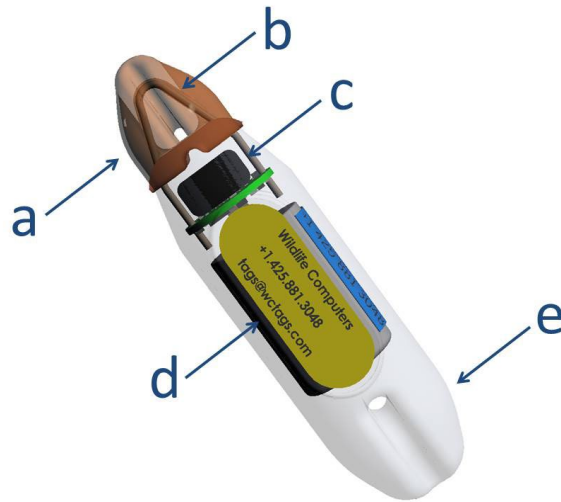


Figure 1—PRD-TI tag showing: (a) payload anchor point and nose, (b) release pin, (c) communications port and LED indicator light, (d) custom label, and (e) discarded anchor point.

Releasable Nose

When the release pin corrodes, the nose is released from the PRD-TI separating the device into two parts.

Communications Port

The communications port is where the Wildlife Computers Communications Cable connects to the PRD-TI. Prior to deployment, this port should be sealed with the plug provided. Smear a small amount of the silicone grease provided onto the sides and bottom of the plug. Align the plug and pins and carefully push the plug into the port. If it does not align easily with the pins, rotate it 180° and try again. The plug prevents corrosion of the pins during deployment; however, the plug is not required for the device to function normally.

LED Indicator Light

The LED indicator light displays what mode the device is in.

Custom Label

Custom labels can be applied on request. Contact your technical sales consultant for details at tags@wildlifecomputers.com.

Anchor Points

A tether or line is attached at the anchor points. The payload is typically attached to the orange nose to minimize the floatation required for payload recovery. To minimize animal impacts or discarded debris, you may choose to recover the electronics, if your float can handle the extra weight. The PRD-TI is rated for 100 lb. static loads.

Before you Begin

The list below shows what is required to configure and deploy the PRD-TI:

- A Wildlife Computers Data Portal account
- A Windows computer with Tag Agent Software and USB driver installed
- A Wildlife Computers Communications Cable
- A magnet

Visit wildlifecomputers.com to download the required software (Tag Agent and the USB Communications Cable driver) and setup an account. At the end of this document, there is a list of key terms and concepts for reference. We recommend new users review this list.

Creating a Portal Account

This section will step you through creating a new Wildlife Computers Data Portal account. To fully understand the functionality of the Portal, please read the [Portal and Tag Agent User Guide](#).

1. Navigate to wildlifecomputers.com, mouse-over the Portal tab, and select either My Tags or My Data from the dropdown list.
2. Click Create Account and complete the form. Passwords must contain at least one nonalphanumeric character.
3. Shortly after hitting the Create button, you should receive a message on screen stating your account has been created.
4. Log in using your email address and password used above.

Upon shipment, the PRD-TI(s) assigned to your order will also be assigned to your Tag Portal account. Once assigned, you become the Tag Administrator of the device and have all permissions to make modifications and propose changes.

- Wildlife Computers can pre-load an absolute date and time for release onto your PRD-TI devices prior to shipping at your request.
- The Tag Administrator can make changes upon receipt.

Interacting with the PRD-TI

You can use the Wildlife Computers Data Portal or Tag Agent to communicate with the PRD-TI. Tag Agent and the USB Communication Cable driver can be downloaded from our website: wildlifecomputers.com. Once installed, Tag Agent can be used to:

- Configure the tag's release date
- Start and stop the PRD-TI

To communicate with the PRD-TI, open Tag Agent Software (Figure 2).





Figure 2—Tag Agent screen prior to tag connection.

Use the USB Communications Cable to plug the PRD-TI into your PC. Take care to ensure that the pins are aligned. Once plugged in, swipe a magnet near the communication port to establish connection. The LED near the communications port will turn orange, and the Tag Agent home screen will appear with device information on the left and battery voltage on the right (Figure 3).

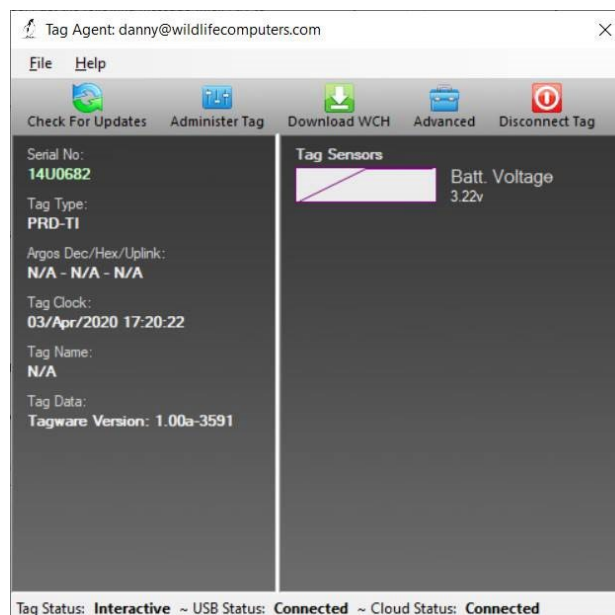


Figure 3—Tag Agent home screen.

If the PRD-TI is new or previously programmed by another user, a pop-up box will appear asking if you wish to take ownership of the device. Becoming the administrator gives you the authority to select and save new settings.

Configuring Deployment Duration

To set the release date via Tag Agent, select the Administer Tag button in the upper menu.



Figure 4—Tag Agent menu bar. Select Administer Tag to edit tag settings.

1. A new window will open revealing two sections: Tag Information and Tag Release Sequence.
2. Information about the PRD-TI can be found under the Tag Information tab. The Tag Name field is an optional, user-defined label.

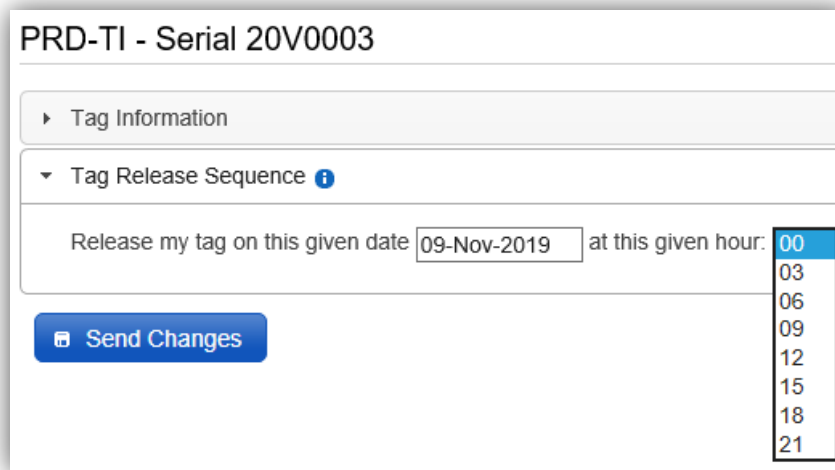


Figure 5—Programming options in Tag Agent for the PRD-TI

3. Under the Tag Release Sequence section, you can specify the absolute date and time you want the PRD-TI to initiate release.
4. When you are done selecting the date and time to initiate release, click Propose Changes.
5. Go back to the home screen by clicking the Home icon button in the top right corner.
6. Click Disconnect and select Start or Stop.
 - a. Start mode activates the device. In Start, the PRD-TI is running and waiting for the specified release date and hour.
 - b. Stop mode puts the device into a deep shutdown for storage

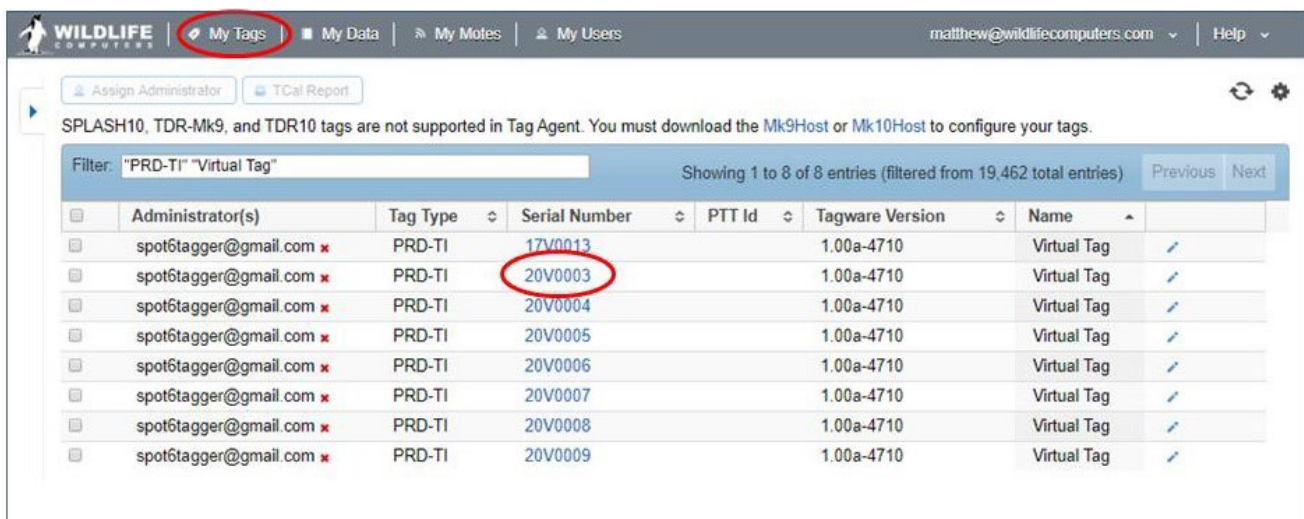
LED Blink Patterns

Passing a magnet near the communications port will cause the indicator light to blink. The blink pattern reveals what mode the tag is in:

- Ten rapid blinks=Start mode.
- No blinks=Stop mode.

Wildlife Computers Tag Portal

Wildlife Computers Tag Portal is a cloud-based service offered by Wildlife Computers for remotely selecting tag settings. When logged into your account, a list of tags for which you have administrator power can be viewed under the My Tags tab. To select settings, click on the serial number of the device or tag you wish to configure or use the pencil icon.



Administrator(s)	Tag Type	Serial Number	PTT Id	Tagware Version	Name
spot6tagger@gmail.com ✖	PRD-TI	17V0013		1.00a-4710	Virtual Tag
spot6tagger@gmail.com ✖	PRD-TI	20V0003		1.00a-4710	Virtual Tag
spot6tagger@gmail.com ✖	PRD-TI	20V0004		1.00a-4710	Virtual Tag
spot6tagger@gmail.com ✖	PRD-TI	20V0005		1.00a-4710	Virtual Tag
spot6tagger@gmail.com ✖	PRD-TI	20V0006		1.00a-4710	Virtual Tag
spot6tagger@gmail.com ✖	PRD-TI	20V0007		1.00a-4710	Virtual Tag
spot6tagger@gmail.com ✖	PRD-TI	20V0008		1.00a-4710	Virtual Tag
spot6tagger@gmail.com ✖	PRD-TI	20V0009		1.00a-4710	Virtual Tag

Figure 8—List of devices and tags within Tag Portal. To program select the serial number or pencil icon.

This will open a new window with setting selections. The same programming options are available whether settings are configured via Tag Portal or from Tag Agent.

Once settings have been selected, click the blue Propose Changes button. This will save the settings in the cloud. The next time that the tag communicates with Tag Agent (no matter who plugs the tag in), a dialog box will appear notifying that new settings are waiting to upload.

Multiple setups can be published resulting in a queue of configurations. In this case, a dialog box will reveal a list of the configurations published, when they were selected, and which administrator chose the settings.

Tag Portal maintains a historic record of all settings proposed to a tag or device. The record is instantly updated (as long as an Internet connection is available).

Tag Release Sequence

The PRD-TI will initiate release at the specified date and hour. Once the release is initiated, the release link will begin to degrade. After six to ten hours, the nose cone will separate from the body of the tag.

Device States: Start and Stop Modes

The PRD-TI has two states: Start and Stop.

7. Start mode activates the device. In Start, the PRD-TI is running and waiting for the specified release date and hour.
8. Stop mode puts the device into a deep shutdown for storage.

Offline Mode



Before programming can be done offline, Tag Agent must be downloaded and opened with valid credentials while connected to the Internet.

As long as Tag Agent has been opened once and credentials have been entered, a PRD-TI can be programmed offline. To program the release date or mission duration, select Administer Tag from the top navigation bar, choose your settings, and click Send Changes. A dialog box will confirm settings have been loaded into the tag.

The next time an Internet connection is established and Tag Agent is opened, the historical record will be updated in Tag Portal.

Online templates are not accessible when working offline. To program a group of devices with the same settings, when working without an Internet connection, you can create a template. A file of the selected settings will be saved onto your local machine. Local templates can be created and applied in the Template Manager. Open the Template manager with the ☰ icon in the upper right corner of the screen.

The Internet connection status is displayed on the bottom of the Tag Agent home screen.

Tag Storage and Battery Maintenance

Proper tag storage is important to minimize passivation and keep the batteries charged. When stored correctly, the amount of battery life lost per year is only 1-2 percent.

PRD-TI Storage—Less Than One Month

Not much needs to be done as you will be deploying them soon. Wildlife Computers recommends storing tags in a cool, dry environment—ideally around +5° C.

PRD-TI Storage—Longer Than One Month

If you will be storing PRD-TI tags longer than one month, you will need to place your tag in “Stop” mode using Tag Agent.

Connect to each tag and login to Tag Agent. In the menu at the top, you will see the “Disconnect Tag” tab. Scroll down to “Stop.” The tags can now be stored. Wildlife Computers recommends storing tags in a cool, dry environment—ideally around +5° C.

The battery voltage level displayed on the main sensor screen should be around 3.5v.

Technical Specifications

Dimensions	70 mm (length) X 18 mm (diameter)
Weight in Air	22 g
Pressure Rating	2000 m
Operating Life	Up to two years
Storage Temperature	5° C is optimal
Communication	Via USB port using Wildlife Computers Communications Cable

Additional Information

Glossary of Terms

- Administrator—someone who has authority to publish and change tag settings
- Deployment—the period when a device or tag is deployed
- Start/Stop—device states. When started, will initiate a scheduled release. Stop causes the tag to do nothing until reconnected to Tag Agent
- Tag Agent Software—the program used to program Wildlife Computers devices and tags
- Tagware—the software running on a tag or device
- Wildlife Computers Communications Cable—the cable required by Tag Agent
- Tag Portal—the cloud-based service offered by Wildlife Computers for data viewing and remote tag setup

Contacting Wildlife Computers

U.S. and International

Members of the Wildlife Computers technical sales and support team are located in Redmond, WA, USA, and Havelock North, New Zealand, allowing us to cover promptly a wide range of time zones.

Mailing and Shipping

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Technical Support: support@wildlifecomputers.com

Phone

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Website

WildlifeComputers.com

For Asian Clients

While we welcome your direct correspondence, we recommend that you contact our colleague, Yong Huang, for assistance. Mr. Huang understands the special purchase processes for your countries and will provide you with the best service for the best price. He also is fluent in Japanese, Chinese, and English.

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