

# Lotek



## Vaginal Implant Transmitter User Guide

USER MANUAL

REVISION 04

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#MVHF09

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# 1. Introduction

Congratulations on your purchase of a new Vaginal Implant Transmitter (VIT) from Lotek. The VIT is designed to indicate when parturition (birthing) has occurred for medium and large ungulates allowing researchers to easily capture and collar the fawn/calf before it becomes mobile.

## 2. Operating Description

- At turn on (see Turning ON and OFF later in this guide) the VIT will pulse at 80 pulses per minute (ppm) until it is implanted in the vaginal canal of study animal.
- The VIT transmits at a pulse rate of 40 pulses per minute (ppm) when implanted into the vaginal canal with the normal adult body temperature being between 34°C and 42°C.

**NOTE:** Allow a minimum of 10 minutes for the VIT to stabilize at the animal's body temperature and change to 40 ppm.

- Once expelled, the VIT will normally cool to below 34°C and after a cumulative total of 240 temperature readings at 1 minute intervals, or 4 hours, it will switch to 80 ppm and latch (not change back to 40ppm until the VIT is turned off) at that pulse rate.

**NOTE:** During the first 24 hours the VIT can change state from 80 ppm (expelled state) to 40 ppm (implanted state). After the initial 24 hour period the only state change is from 40 ppm to 80 ppm to indicate parturition. Turning the unit off and on again with a magnet resets this initial 24 hour period.

- If the VIT is expelled and sits in direct sunlight it may heat to temperatures above 42°C. If it remains in this temperature range for 4 hours it will also change to 80ppm and latch.
- The VIT has a smart feature which ensures the cumulative time spent in the expelled temperature range is not totally lost if the VIT drifts back into the implant temperature range for a period of time. If the VIT is expelled, heats to above 42°C in the sun and subsequently cools passing through the implanted temperature range to below 34°C, the VIT will record the cumulative time in minutes spent outside the implanted temperature range less any time spent passing through the implanted temperature range.
- E.g. The VIT is expelled and spends 60 minutes above 42°C then cools and spends 30 minutes between 34°C and 42°C, before cooling below 34°C. After a further 210 minutes below 34°C the VIT will change to 80 ppm and latch. (i.e. 60 minutes – 30 minutes + 210 minutes = 240 minutes).

**NOTE:** This feature allows for a more consistent transition to the expelled state by not discarding the entire cumulative time in the expelled temperature range if the VIT temperature drifts back into the implanted range for a period of time. It also ensures that any partial exposure events that may occur when a heavily pregnant mother lies down to rest are discarded as the cumulative total will count back to zero when in the implanted state if it has been exposed for less than 4 hours.

## 3. Turning the VIT ON and OFF

### 3.1. Turning the VIT ON

To turn the VIT ON, follow these steps:

- Ensure your VHF receiver is turned on and tuned to the frequency stated on the label.
- Hold a magnet over the silver dot on the VIT. You will hear a long tone followed by pulsing on your receiver. Remove the magnet.
- Your VIT is ready for use.

**IMPORTANT:** You must implant the VIT within 24 hrs otherwise the latching function will prevent it changing to the implanted mode. Turning off the VIT will reset the latching function.

### 3.2. Turning the VIT OFF

To turn the VIT OFF, follow these steps:

- Ensure your VHF receiver is turned on and tuned to the frequency stated on the label. You should hear your VIT clearly on the receiver.
- Hold a magnet over the silver dot on the body of the VIT. You will hear a long tone followed by silence. Remove the magnet.
- Your VIT is turned off.
- If the VIT had latched at 80ppm, this will now be reset.
- A feature of the Sirtrack VIT is that it is not necessary to tape a magnet on for storage as with other manufacturers' transmitters.

**IMPORTANT:** You must store magnets separately from VITs to avoid them being accidentally turned on and draining the battery.

## 4. Testing the VIT

If you wish to test the VIT, follow these steps:

- Turn the VIT on at less than 34°C and the VIT will transmit at a pulse rate of 80 ppm.
- Place it in water (or an accurate temperature chamber) at between 34°C and 42°C. It will take a minute or two for the VIT to heat through and then 5 consecutive readings at a 1 minute interval then the VIT will change to a pulse rate of 40 ppm.
- The VIT can then be allowed to cool below 34°C, or heated to above 42°C (do not heat the VIT above 50°C) and after 4 hours it will change to 80 ppm.
- When you are finished testing do not forget to turn the VIT off before storing. Also, remember that the VIT must be implanted within 24 hours of turning on so that it is able to change to the implanted mode.

## 5. Deployment

Please read the following before deploying your VIT:

- Ensure you have the appropriate permits for the country and region you are working in.
- Sirtrack VITs are NOT supplied sterilised. Please consult relevant publications on the use of VITs, or seek veterinary advice for instruction on an appropriate sterilisation and application procedure. Do NOT sterilise in an autoclave as this will cause permanent damage to the VIT and could cause the cell to explode.
- Sirtrack do not supply VIT applicators.
- Ensure the VIT is implanted within 24 hours of turning on to allow it to change to the implanted mode. After 24 hours the VIT will latch at 80 ppm and not change to 40 ppm unless reset. This is reset by turning the VIT off and then on again.
- Please do not twist the wings around the axis of the main body whilst holding the main body as this produces considerable force through leverage and may cause breakage.