

# LMRT Series

## Radio Tracking Collars for Large Mammals



Lotek Wireless is a world leader in the design and manufacture of tracking systems and sensors for many large mammal tracking applications. All products are manufactured from state-of-the-art components and are thoroughly tested to ensure the highest reliability. Our goal is to provide the very best products and services to wildlife researchers.

Manual tracking systems consist of one or more tracking collars, a directional antenna and any of several available tracking receivers. The elements

that comprise a specific system will depend on factors such as size of study and the degree of sophistication required. Lotek engineers have developed several automatic tracking systems that include automatic direction finding systems (ADF), including an automatic truck mounted system. Please contact us for more information on these more sophisticated systems.

LMRT radio tracking collars can either be purchased on their own or as part of an entire system. They are available in the following models:

TRANSMITTER SPECIFICATIONS							AVAILABLE OPTIONS		
MODEL	DIMENSIONS L x W x H (cm)	WEIGHT INCL. COLLAR (gms)	GUARANTEED OPERATIONAL LIFE (months) (Selected Pulse Rates)				Mortality sensor	Activity sensor	Pulse Repetition Encoding
			40 bpm	50 bpm	60 bpm	80 bpm			
LMRT-1	6.0 x 2.8 x 2.4	160 – 170	22	18	15	11	•	•	•
LMRT-2	6.5 x 3.5 x 2.4	210 – 220	36	31	27	22	•	•	•
LMRT-3	7.0 x 4.3 x 4.4	400 – 425	48	41	35	28	•	•	•
LMRT-4	9.2 x 4.8 x 5.1	550 – 560	60	56	52	48	•	•	•



- Receivers
- Dataloggers
- Radio transmitters

- Acoustic transmitters
- Archival tags
- GPS systems

- Hydrophones
- Wireless hydrophones
- Physiological transmitters

- Depth transmitters
- Accessories
- Consulting

## Specifications

- Operational field life is guaranteed and will vary depending on pulse rate, pulse width, output power, and battery selected.
- All Lotek transmitters, sensors, and batteries are hermetically sealed and/or encapsulated in water-tight electrical resin.
- All units are designed to conform to the contours of the attachment site so as to provide an optimal combination of package weight, volume, durability, and component protection, and to minimize their impact on the animal's behaviour.
- All transmitters are turned on and off with a magnet.
- All collars include belting, braided stainless-steel whip antennas (protruding or enclosed format), and self-locking brass and stainless-steel fasteners required for attachment to animals.
- Antenna wire gauge and length vary with the transmitter package requested.
- All transmitters are waterproof and shockproof.
- Operating temperature range: -40° to +50° C
- Frequency Stability:  $\pm 3$  kHz (-40° to +50° C)
- Operating frequencies: 140 - 180 MHz

## Customer Services

Lotek is committed to providing top quality service to support our top quality equipment. The purchase of Lotek equipment is supported at every stage by dedicated biologists, engineers, technicians and service professionals.

Lotek also offers special design, engineering and field services to:

- determine the feasibility of using wireless technology in specific situations
- determine appropriate system specifications
- design and install systems
- provide on-site user training services

## Special Transmitter Options

### MORTALITY/MOTION SENSOR

(STO-1A) Transmitter pulse rate doubles when no movement occurs during a preset delay time. Resumption of movement resets pulse rate to normal operating levels.

(STO-1B) Pulse rate is reduced after a user-specified period of inactivity. Resumption of movement resets pulse rate to normal operating levels. NOTE: STO-1A and STO-1B offer user-definable delay times.

### ACTIVITY SENSOR

(STO-2A) A small mercury tip-switch is installed to indicate the degree of activity of an animal. Extra pulses are injected as animal activity increases. Transmitters should be calibrated using captive animals to determine the relationship between pulse rate and activity.

(STO-2B) Activity sensing tip-switch transmits one of two different pulse rates depending on orientation of transmitter at any given instant. Transmitter is designed to change pulse rates as it passes through an angle parallel to flat ground (head up - head down).

### PULSE REPETITION ENCODING

(STO-4) Additional pulses are inserted into each "normal pulse" allowing more than one transmitter per frequency. Up to 4 inserted pulses can be detected by ear. Greater than 4 inserted pulses requires a decoding option available within the SRX\_400 receiver.

## Warranty

All transmitters manufactured by Lotek Wireless Inc. are warranted, for the operating life specified, to be free from defects in materials and workmanship and to meet the specifications in effect at the time of shipment. We will repair or replace any Lotek unit found to be defective.

