



Juvenile Salmon Acoustic Telemetry System Acoustic Micro Transmitter

The Lotek JSATS AMT – Juvenile Salmon Acoustic Telemetry System Acoustic Micro Transmitter – was developed to satisfy the research and regulatory requirements for monitoring juvenile salmon in the Columbia River Basin. The transmitter's small size and relatively long operational life permits tracking of juveniles and sub-yearlings throughout their natural environment while minimizing impact upon them. JSATS AMT The Lotek JSATS AMT transmitter is compatible with all JSATS receiving systems, including Lotek WHS 4250 utilizing a digital Binary Phase-Shift Keying (BPSK) coding system that allows for over 65,000 unique IDs on a single acoustic frequency. Each transmission consists of an ID and check sum delivered in less than one millisecond thereby minimizing the probability of mis-identification or interference from code collision.

Options

- Coating: Parylene-C or alternate field proven encapsulation
- Also available as JCART combined acoustic/radio transmitter

Features:

Small size and light weight:

0.28g. Suitable for juvenile/small fish, and sub-yearlings

Over 65,000 unique IDs:

On a single acoustic frequency

Sub-millisecond ID message length:

Provides long life and reduced "code collision" rate

Compatible with Lotek UMAP positioning software:

For wireless 2D positioning

Product Applications

Juvenile fish survival studies through hydro-electric projects, juvenile fish behavior in the vicinity of guidance structures, fish behavior in reaction to anthropogenic disturbance.

| Model | Weight (g) | Size (LxWxH) (mm) | Expected life ¹⁾ (days) | | | |
|-------------|------------|----------------------|------------------------------------|-------------|--------------|--------------|
| | | | 2s interval | 5s interval | 10s interval | 20s interval |
| L-AMT-1.416 | 0.28 | 10.7 x 5.4 x 3.1 | 10 | 25 | 48 | 87 |
| L-AMT-1.421 | 0.32 | 11.1 x 5.5 x 3.7 | 15 | 38 | 72 | 131 |
| L-AMT-1.527 | 0.47 | 12 x 6.5 x 3.7 | 27 | 66 | 126 | 229 |
| L-AMT-5.1 B | 0.6 | 13 x 7 x 5 | 39 | 95 | 180 | 327 |
| L-AMT-5.2 | 1.1 | 16 x 7 x 7 | 81 | 189 | 341 | 568 |
| L-AMT-8.2 | 3.5 | 23 x 9 x 9 | 218 | 508 | 914 | 1522 |
| L-AMT-14-12 | 8.0 | 45 x 14 x 14 | 429 | 1009 | 1837 | 3114 |

1. Calculated life represents expected or average life

Stated specifications may vary by +/- 5%

Prior to delivery, 100% of all transmitters are tested for adherence to dimensional and dry weight specifications,

Features and specifications subject to change without notice.

Technical specifications:

Transmitter frequency: 416.7 kHz \pm 0.05%

Transmitter power: +158 dB (re: uPa @ 1 meter)

Pulse Repetition Interval (PRI): Factory configurable

- 1 second minimum / 1 second increment

Transmitter Label: Discernable 4-character code

representing the 16-bit tag ID code (0xFFFF)

ID Message encoding: 31-bits, BPSK, with format as follows:

1. 7-bit Barker code (0x72)

2. 16-bit tag ID code (0x0000 – 0xFFFF)

3. 8-bit cyclic redundancy check (CRC), (0xFF)

ID Message length: 744 microseconds

Number of possible tag ID codes: 65,536

Warranty

JSATS AMT tags are warranted to be free of defects in materials and workmanship under Normal Use for a duration of 80% of Estimated Life to a Maximum of 36 months. For Warranty terms and conditions, please review our [Warranty Statement](#).