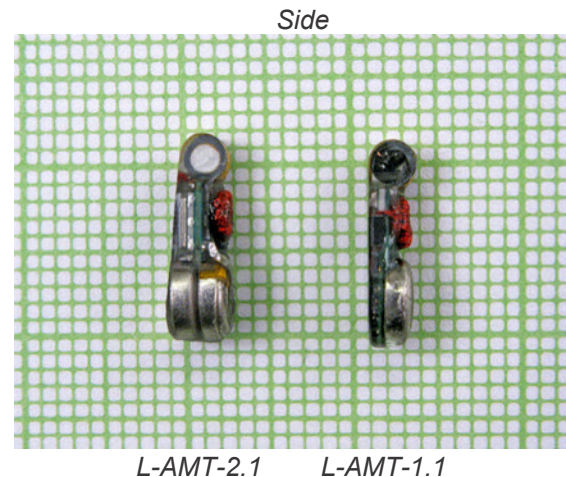
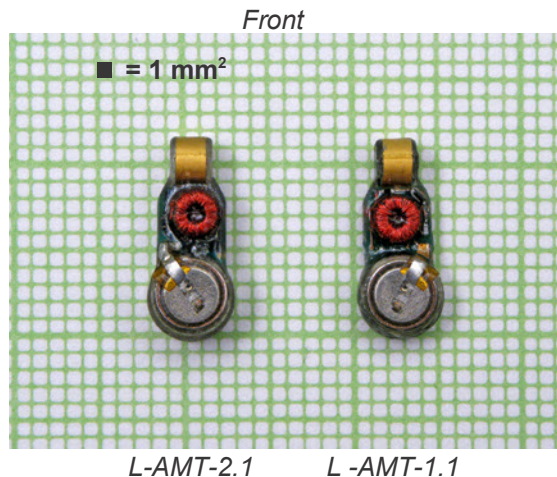


L-AMT Series

JSATS (Juvenile Salmon Acoustic Telemetry System) Acoustic Micro Transmitters



The BioSonics Telemetry L-AMT Series JSATS (Juvenile Salmon Acoustic Telemetry System) acoustic 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 enable tracking of sub-yearlings throughout their natural environment while minimizing impact upon them. The BioSonics Telemetry

JSATS AMT transmitter utilizes a Binary Phase-Shift Keying (BPSK) coding system that allows for tens of thousands of 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. In addition, the delay activation feature conserves battery life while fish recover from implantation.

Key Features

- Small form factor and light-weight, making L-AMT tags suitable for small fish and sub-yearling applications
- BPSK coding with sub-millisecond pulse and check sum for up to 65,536 unique IDs
- Sleep/Delay activation feature maximizes operational life during the tracking period
- JSATS can be used for presence/absence monitoring and wireless positioning applications



L-AMT Series

Specifications

JSATS AMT Juvenile Salmon Acoustic Telemetry System Micro-Transmitter								
Tag Model	Physical Specifications		Calculated Life** (Days)			Calculated Life** (Days)		
	Length x Width x Height (mm)	Weight in Air (g)	2 sec Delay	5 sec Delay	10 sec Delay	2 sec Delay	5 sec Delay	10 sec Delay
L-AMT-1.0	11.0 x 4.8 x 2.5	0.20	Please Call BioSonics Telemetry for the Latest Testing Results			Please Call BioSonics Telemetry for the Latest Testing Results		
L-AMT-1.1	11.2 x 5.1 x 2.9	0.30	11	27	50	9	22	42
L-AMT-2.1	11.8 x 5.1 x 3.8	0.43	16	40	76	13	33	63
* Full Production in Spring 2011, Order Entry Open Now ** Warranty Life is Defined as 70% of Calculated Life			Source Level 150 dB (re: μ Pa @ 1m)			Source Level 154 dB (re: μ Pa @ 1m)		

Surface Roughness:	Smooth and devoid of sharp edges or protrusions
Coating:	Parylene-C (25 microns minimum thickness) or alternate field proven encapsulation
Biocompatibility	Biologically inert coating
Shape	See photographs on prior page
Transmitter Frequency:	416.7 kHz +/- 0.5%
Transmitter Power:	Minimum source level of +150 dB (re: μ Pa @ 1 meter)
Transmitter Beam Pattern:	3dB maximum variability
Message Transmit interval:	Factory configurable: 1 second minimum/1 second increments
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)
Message Length:	744 microseconds
Number of possible ID codes:	65,536
On/off switch:	Non-contact acoustic trigger device, i.e. no exposed wires; tags are fully encapsulated when delivered
Transmitter Label:	Discernable 4-character code representing the 16-bit tag ID code (0xFFFF)

Notes

- Prior to delivery, 100% of all transmitters are tested for adherence to dimensional and dry weight specifications, acoustic source level, code sequence and transmit interval.
- A permanent record is kept of the test results to include the above information as well as the date of the test, and the technician performing the test.
- Transmitters are separated in the shipping box using shock absorbing high density anti-static foam.

