

**Advanced Telemetry Systems, Inc.**  
**Precise Event Transmitter – 3SRPET001**  
**(for use with Trap Transmitter)**

Overview: The Precise Event Transmitter (PET) option is programmed to convey the amount of elapsed time since trap activity was detected. The transmitter is programmed to ignore any movement during the initial 15 minutes after the magnet is removed to allow the transmitter to be attached to the chain.

Transmitter Operation Modes:

1. Normal Operation – The transmitter will pulse at a constant 55 ppm rate, functioning like a standard transmitter.
2. Time of Trap Activity Operation – Once the transmitter tilt switch detects any activity, the transmitter will enter the PET transmission mode. In this mode, the 110 ppm activity pulse rate will be interrupted once per minute to transmit a sequence of pulses. Encoded in this sequence is a value that indicates the amount of time that has elapsed since activity was detected by the transmitter's micro-controller. The format of this encoded byte is described on the *Precise Event Transmitter Encoding* section below. A byte is capable of representing values up to 255. This allows a maximum time since activity was detected of up to 127.5 hours (5.3 days) for *one-half hour time increments*.
3. Start-up Operation – The transmitter will start up after the magnet is removed and transmit a quick series of 16 beeps. The pulse rate will be 55 ppm regardless of any motion for 15 minutes. Once the 15 minutes has passed, any new motion will trigger the transmitter into the 'Time of Trap Activity Operation'.

Precise Event Transmitter Encoding: Preceding the time of trap activity pulses will be 5-seconds of silence (no pulses). This signals that data transmission is about to begin. A set of two beeps (each 30 ms wide), known as packet beeps, will then be transmitted. One and a half seconds after the completion of the packet beeps there will be 8 data bits transmitted at a rate of one bit per second. Each bit will be either a single beep, denoting a 'Zero' bit, or a double beep, denoting a 'One' bit. All pulses representing bits will be 20 ms wide with the double beeps being separated from each other by 100 ms. Eight bits together represent a byte with the first bit being the most significant and the last one the least significant. One and a half seconds after the last bit will be another set of packet beeps signaling the end of data transmission. The transmitter will then go back to transmitting the 110 ppm activity pulse rate until the next minute at which time it will repeat the *Time of Trap Activity* code sequence.