

IMPLANTABLE TRANSMITTERS

WMI

Transmitter Number	Type	Battery	Dimensions LxWxH (cm)	Mounted Weight (grams)	Pulse Width (ms)	Pulse Rate (ppm)	Peak Current (ma)	Antenna Length 218 MHz* (cm)	Power Output (dBm)	Battery Life (days)	Typical Species
LPI-31100	3 Stage	3.6 v 13.5 ah Li	6.6x3.5x3.6	102-110	25	50	15	tuned loop	-18 to -26	1541	manatee, catfish, snake
LPI-3140	3 Stage	3.6 v 5.2 ah Li	5.4x2.6x2.7	60-70	25	50	11	tuned loop	-20 to -28	812	otter, beaver, salmon
LPI-3124	3 Stage	3.6 v 2.6 ah Li	4.4x3.8x1.8	36-42	25	50	11	tuned loop	-20 to -28	380	otter, beaver, salmon
LPI-3150	3 Stage	3.6 v 1.3 ah Li	4.4x1.8x1.9	28-33	25	40	11	tuned loop	-28 to -36	235	fox, piglet, raccoon
LPI-3800	3 Stage	3.6 v 850 mah Li	3.4x1.8x1.9	11-20	20	30	10	tuned loop	-28 to -36	268	snowshoe hare, marten
LPI-3160	3 Stage	3.5v 1600 mah Li	5x2x.8x1.5	34-40	20	50	11	Tuned loop	-28 to -36	235	snowshoe hare, marten raccoon, beaver
LPI-3370	3 Stage	3.6 v 370 mah Li	2.4x2.4x1.2	15-21	20	30	8	tuned loop	-30 to -38	140	raccoon, beaver
LPI-3700	3 Stage	3 v 750 mah Li	3.5x2x.9	9.5-14	20	30	7	tuned loop	-36 to -46	330	mongoose, medium fish
LPI-3350	3 Stage	3.6 v 350 mah Li	2.3x2x.9	7-9	20	30	7	tuned loop	-36 to -46	152	small and medium fish
LPI-2320	Multivibrator 2 Stage	3.0 v 160 mah Li	4.1x1.4x1.4	14-18	19	35	4	tuned loop	-15 to -20	102	fish, snake
SOPI-2380	Multivibrator 2 Stage	1.5 v 350 mah silver oxide	3.7x1.8x1.7	7-14	20	45	2.5	tuned loop	-45 to -46	309	squirrel, king snake
SOPI-2190	Multivibrator 2 Stage	1.5 v 175 mah silver oxide	2.6x1.3x.7	4-6	20	35	2	tuned loop	-48 to -58	237	squirrel, mole
SOPI-2070	Multivibrator 2 Stage	1.5 v 70 mah silver oxide	2.2x.8x.6	2-3	20	30	1.5	tuned loop	-50 to -60	139	mouse, gopher, flying squirrel
SOPI-2038	Multivibrator 2 Stage	1.5 v 43 mah silver oxide	2.2x.8x.6	1.8-2.2	20	30	1.5	tuned loop	-50 to -60	86	mouse, gopher, other small animals
SOPI-2028	Multivibrator 2 Stage	1.5 v 28 mah silver oxide	2.2x.8x.6	1.5-1.7	20	30	1.5	tuned loop	-50 to -60	56	Indigo snake
SOPI-2018	Multivibrator 2 Stage	1.5 v 19 mah silver oxide	2.1x.8x.6	1.4-1.6	20	30	1.5	tuned loop	-53 to -63	37	Indigo snake
SOPI-2012	Multivibrator 2 Stage	1.5 v 11.5 mah silver oxide	2.0x.8x.6	1.3-1.5	20	30	1.5	tuned loop	-55 to -65	23	tiny mammals
SOPI-2011 HW	Hand-wired 2 Stage	1.5 v 11.5 mah silver oxide	1.8x.8x.6	1.2-1.4	20	30	1.5	tuned loop	-60 to -70	23	tiny mammals
SOPI-2007 HWSC	Hand-wired 2 Stage	1.5 v 7 mah silver oxide	.9x.5x.4	0.55-0.6	19	32	1.5	tuned loop	-38 to -43	14	Tiny mammals

*Available also with a small-diameter flexible stainless steel whip antenna for better range

**Call for information on Mortality option.



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The implantable transmitters shown in this table are meant only as examples of typical applications for multivibrator two stage circuitry. The table in no way exhausts the many combinations of transmitter type, weight, peak current, pulse width, pulse rate, battery, and mountings available. Wildlife Materials will custom-build according to the researcher's specifications.

The efficient multivibrator-pulsed circuits used in Wildlife Materials' transmitters offer a clear, chirp-free signal that is easy to tune and hear in receiver noise. Multivibrator-pulsed transmitters permit greater flexibility in customizing for optimum output and duty cycle. Because pulse rate and pulse width remain virtually constant throughout the life of the battery, transmitter performance is more predictable than that of older designs.

Surface mounting techniques enhance miniaturization by allowing more chip components to be placed on a smaller, flatter circuit board. The low-profile, rugged components also greatly improve reliability in punishing environments.

To minimize weight and provide packaging strength, transmitters are waterproofed with a tough epoxy resin conformal coating. The epoxy is a neutral substance which will not harm the animal after implanting.

Implantable transmitters are effective for any species with a body shape that precludes a collar or backpack, such as an otter, snake, or fish. When implanting a radio device in the species' peritoneum, researchers should take precautions to prevent infection.

These transmitters use a tuned loop antenna, which is coiled around the transmitter. However, a small-diameter flexible whip antenna may be used. This enhances the signal range and is not injurious to the animal if implanted correctly. Especially in snakes, the antenna is implanted between skin and muscle. Many researchers use a technique described in **Copeia** (1982 (3): pp. 702-705) for inserting the antenna under the skin.

Exact output of the listed transmitters may vary, depending on the transmitter's antenna length and the frequency range used. Available crystal frequencies include, but are not limited to, 40-50 MHz, 148-155 MHz, 160-165 MHz, and 216-222 MHz.

Each transmitter's signal range will be influenced by tracking conditions. Signal range can be diminished by rugged terrain, natural obstacles such as mountains and timber, dense vegetation, swamps and fog, along with large concrete structures. Best signal range occurs in flat, open country, in line-of-sight conditions. Air-to-ground radio monitoring also enhances the received signal.

Clients should contact our facility by telephone, mail, fax or e-mail. Detailed written specifications and drawings allow us to recommend the best possible combinations of options for a particular study.

Contact us for warranty information. If refurbishing is required so that a transmitter can be used in a different study, we will provide a conversion estimate after inspecting the transmitter.