

Enabling Group Housing *and* Extending Transmission Ranges

DSI has designed the Multi-frequency Telemetry Repeater especially for researchers who need to conduct studies in a group housed environment and/or need to have telemetry transmitted over longer ranges.

The Multi-frequency Telemetry Repeater (Repeater) makes it possible to house up to 8* animals in a common area with minimal or no interference. Since each Repeater is transmitting at a unique frequency, there is no interference between Repeaters. Note that since the implanted transmitters still transmit at identical frequencies, there is still an opportunity for interference between animals housed in the same cage. This potential necessitates placement of the Repeater very close to the implant site.

The Repeater is also ideal for toxicology studies. Reduce surgical risk in dogs, primates and other species by using our small animal transmitters in conjunction with the Repeater. When used together, you'll achieve chronic high quality blood

pressure and ECG signals with a minimally invasive procedure.

Researchers with dog runs or primate enclosures will also benefit from the ability to transmit data over longer distances. The ability to significantly extend transmission ranges also makes the Repeater ideal for use with animals in zoos or agricultural settings and other long-range applications.

*8 frequencies are available for use in the U.S. and Canada.
4 frequencies are available for use in the European Union.

Contact DSI for availability of use in other countries.

How the Multi-frequency Telemetry Repeater Works

The Repeater is a device that functions as a signal relay between a DSI PhysioTel® transmitter and a Repeater Receiver for large animal telemetry applications. Because the Repeater Receiver is small and can be placed remotely, it offers greater flexibility and capabilities in cage design, housing, and data acquisition than the standard transmitter-receiver option.

There are several models of the Repeater available with varying size and shape. The electronic components of each of these models are the same, but the size and shape differences facilitate their use with various large animal species. Along with the

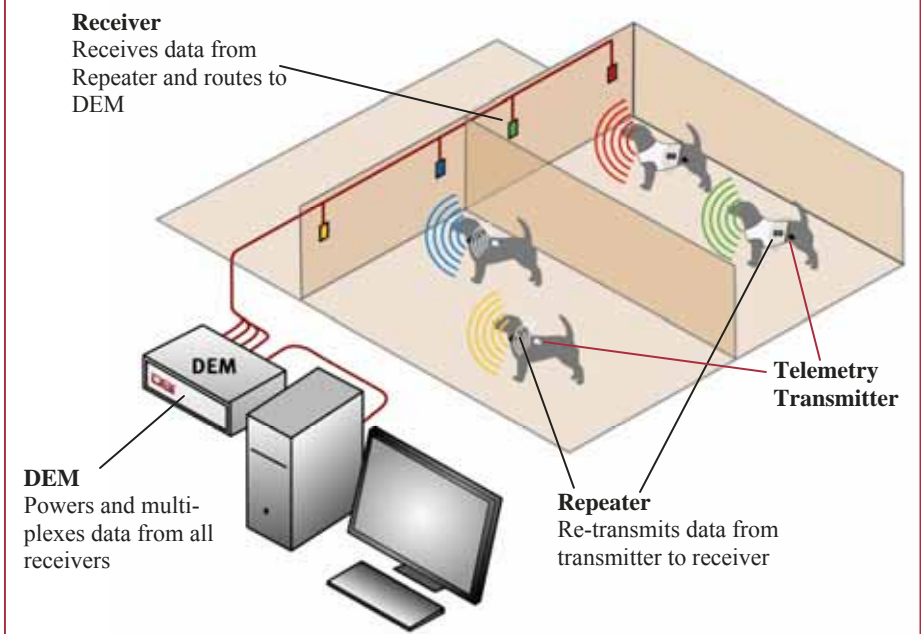
externally worn Repeater, each animal is implanted with a PhysioTel® transmitter. Each animal has a separate Repeater Receiver associated with it.

The PhysioTel® transmitter transmits a localized signal that is detected by the animal's Repeater. The signal is then re-transmitted by the Repeater and detected by the appropriate Repeater Receiver, which introduces the

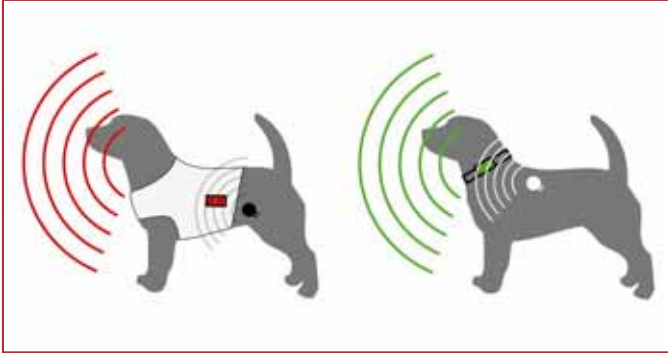
signal into the data acquisition system. There is no time delay introduced into the data acquisition process due to the Repeater involvement in the signal transmission.

Each Repeater has two modes of operation: short-range (~3m) and long-range (~8m), maximizing Repeater effectiveness based on cage environment.

Multi-frequency Repeater in Group Housing Enclosures



Configure It to Meet Your Research Needs



Available in Two Hardware Models

- Large Animal Telemetry Repeater – Attaches to specially designed collars, jackets or harnesses. For use with dogs and many other species such as cows, swine, horses, sheep, etc.
- Primate Telemetry Repeater Collar – Available in two sizes:
 - 7.62 cm inside diameter
 - 8.89 cm inside diameter
- Designed to be compatible with existing handling equipment (such as Primate Products)

Primate Telemetry Repeater Collar



Large Animal Telemetry Repeater



Repeater Specifications:

Number of Frequencies Available	8 for U.S. 4 for European Union
Transmission Range	
Short Range Setting	~ 3 meters
Long Range Setting	~ 8 meters
Housing Options	3 inch diameter Custom Primate Collar 3.5 inch diameter Custom Primate Collar Large Animal Telemetry Repeater (can be fitted with custom jackets or dog collars)
Battery Life	Primate Version - 10 days Large Animal Version - 6 days Replaceable by the user
Repeater Receiver Dimensions	19.5 cm x 8 cm x 6.35 cm

Repeater Receiver (front and reverse side)

