

## **Wireless Tire Pressure Monitoring System Echo Repeater**

The purpose of this product is to aid in extending signal range by acting as an intermediary device that receives and re-transmits TPM signals so that they may reach the tire pressure monitor in the cab of the vehicle.

The device receives encoded data from existing Pressure Pro tire pressure transmitters, decodes this data (verifying it belongs to the associated Pressure Pro transmitters) and then re-transmits the tire pressure information.

Any packets (nominally a dual-redundant packet-pair) received from nearby sensors (even if they are on other vehicles) will be repeated on burst-time intervals. FCC 15.231e limits periodic transmission intervals to 10 seconds or more. Bursts of packets will be sent by the echo repeater at most every 10 seconds, with a total transmission duration consistent with the 3.33% duty cycle limit. Each output packet will be a dual-redundant transmission, similar to the sensor packet output pairs. Internal buffer size will define a limit to total acceptable packet activity without loss at the repeater. To prevent multiple repeaters in an area from 'syncing up', the 10-second minimum spacing will be randomly varied between 10 at 12.5 seconds.

The FCC allows closer transmits during safety conditions under Part 15.231a4. The Repeater firmware will immediately forward any received 'pressure loss' packet transmissions (safety situation).