

Opei Mod Towing Monitor System

Portable Car Monitoring System





Table of Contents

FCC Information	3
Introduction	5
Installation:	6
Transmitter	6
Receiver	7
Operation Instructions	8
"Park" Monitor	10
Trouble Shooting Guide	
Warranty:	

FCC Information

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Caution: Any changes or modifications not expressly approved by Tattle-Trail LLC could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- 1. Reorient or relocate the receiving antenna.
- 2. Increase the separation between the equipment and receiver.
- 3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- 4. Consult the dealer or an experienced radio/TV technician for help.

Medical: Consult the manufacture of any personal medical devices, such as pacemakers or hearing aids, to determine if they are adequately shielded from external RF (radio frequency) energy, (The product

operates in the frequency range of 2.405 GHz to 2.480 GHz, and the power output is 200mW (max.).)

Tattle-Trail Monitoring System*

Introduction

The Tattle-Trail monitoring system is designed to sense the amount of vibration on vehicles towed behind a truck, RV or toterhome. When monitored parameters on the towed unit exceed what the operator sets as normal, both audible and visual alarms are generated. Once notified, the operator can take action to prevent further property damage.

Depending on the sensitivity setting selected and the type of towed unit, Tattle-Trail may be able to detect abnormal vibration levels. Some failures that *may* cause increased vibration are: tire tread separation, flat tire, loose lug nuts, broken suspension components, malfunction of hitch assembly and runaway of the towed unit. Additionally, if the "Sensitivity" knob is placed in the "Park" mode and the Tattle-Trail units are within communication range, theft detection may be sensed.

The portable TTK 550 Tattle-Trail system is not designed to be exposed to the elements. <u>Always</u> ensure that this unit is installed inside both vehicles and not exposed to the weather. If a water resistant transmitter enclosure is required, Tattle-Trail LLC offers a weather hardened enclosure (Model TTK 700) designed for permanent mounting to a towed unit. Check <u>www.Tattle-Trail.com</u> for more details.

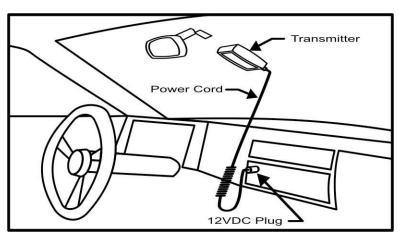
Installation:

Transmitter

Tattle-Trail Model TTK 550 is a "plug and play" system that is highly portable and requires no user calibration.

To use, simply follow these instructions:

Remove the unit marked "Transmitter" from the carrying case and locate a mounting area high and in the center of the towed unit's windshield (up near the mirror *but not obstructing driver's vision*). With the power cord facing down and forward, moisten the suction cups and firmly press the unit to the windshield (see Figure 1). Then plug the male 12VDC power plug into the closest powered 12VDC receptacle. A flashing green "Link" light will illuminate indicating that the "Transmitter" has power and is self calibrating. The "Link" light will quickly turn solid green indicating that the unit has calibrated and is transmitting data.



^{*} Tattle-Trail is a trademark of Tattle-Trail LLC

Towed Vehicle Figure 1



Note: During the flashing green calibration mode, minimize any motion in the towed unit.



Warning: Both Tattle-Trail units are internally fused, but it is important to protect the wiring going to the unit by utilizing a fused power source.

Warning: Do not ever submerge either the transmitter or receiver in fluid.

Once the transmitter has calibrated, it tries to "Link" with the receiver. After 3 minutes, if the receiver is not turned "On", the transmitter will go into "Sleep" mode to conserve power. Every 5 seconds, the transmitter wakes up to look for a signal from the receiver. If no "Link" is established, then the transmitter returns to "Sleep" mode.

Receiver

Remove the unit marked "Receiver" from the carrying case. Rotate the "Sensitivity" knob to the full counterclockwise (CCW) "OFF" position. Now, with the towing vehicle parked, plug in the male 12VDC power connector into a powered receptacle of the towing vehicle. With the towed unit's "Transmitter" powered up and calibrated, turn on the "Receiver" and set the sensitivity knob at about 2 o-clock. Both the green "Link" light and the green "Alarm" light should be illuminated. Since dash configurations vary from vehicle to vehicle, hold the "Receiver" unit up to the dash in a mounting location that is convenient for the operator to reach. If the green "Link" light remains illuminated, then attach the "Receiver" (with the Velcro supplied) to the selected location convenient for operation. If however, the red "Link" light comes on, then relocate the "Receiver"

higher up on the dash and closer to a window, until a more favored position is achieved to receive the radio signal from the "Transmitter". Mount the "Receiver" in this location with the Velcro provided. (See Figure 2).

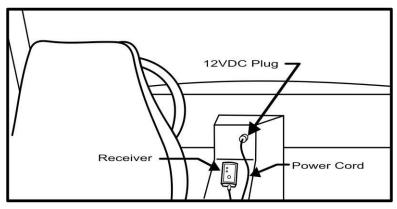


Figure 2

Operation Instructions

With the "Transmitter" power up and calibrated in the towed vehicle, bring the towing vehicle up to normal operating speed. Once at speed, turn the "Sensitivity" knob clockwise (CW) until the knob just clicks "ON". The "Receiver" will alarm briefly to indicate power has been applied. Once communication has been established between the "Transmitter" and "Receiver" (indicated by a green "Link" light on the "Receiver"), the red "Alarm" light will illuminate and a pulsing audible alarm will sound at a progressively faster and louder rate. To silence the audible alarm and establish a baseline alarm threshold for the Tattle-Trail system, slowly rotate the "Sensitivity" knob further (CW) until the audible alarm and its associated red "Alarm" light, *just turn off*. At this setting, you have established a new baseline for monitoring the

towed unit. Any change in the towed unit's vibration level that exceeds this operator selected baseline will result in an audible beep and a flashing red "Alarm" light. If the out of tolerance condition persists, the intensity and frequency of the audible alarm will increase. If the alarm elevates to the rapid frequency mode, the driver should immediately stop the vehicle in a safe area and inspect the towed unit to determine what has caused the alarm condition. During normal driving, single beeps may sound indicating that the towed unit has experienced a rapid change in movement, often as a result of hitting a pothole or other variations in the road surface. These are normal. but do give an indication of the abuse that the towed unit's tires and suspension may be receiving. If however, a beeping alarm sounds repeatedly on acceleration, deceleration or cornering with no apparent road variations, pull to a stop in a safe area and check the integrity of the hitch assembly. Beeping alarms occurring only during deceleration may be the result of the towed unit's brakes being applied. The alarm set point for Tattle-Trail can be adjusted while driving to accommodate for variable road conditions. Simply rotate the sensitivity knob (CCW) until the rapid audible alarm sounds, then rotate the knob (CW) till the audible alarm and its associated red "Alarm" light just turn off. A new alarm threshold has now been established. Further rotation of the sensitivity knob (CW) will raise the baseline alarm threshold limit and minimize the sensitivity of Tattle-Trail to abnormal conditions. Conversely, (CCW) rotation will lower the baseline alarm threshold and make the system more sensitive to abnormal vibrational input.



Note: Tattle-Trail is designed to be used only on paved surfaces.

After using Tattle-Trail for a brief period, the operator will gain a feel for the appropriate level of sensitivity required for various road conditions and type of towed unit.

Note: Tattle-Trail does not replace the need for following all safe trailing procedures such as: checking all tires pressures, hitch and ball assembly, safety chains, etc. Additionally, Tattle-Trail should not be used as the sole indicator of the status of a towed unit, but rather should be used as a supplemental device in combination with all other safety checks and indicators to monitor for changes in normal operating conditions of your towed unit. It is always the obligation of the operator to set a baseline alarm vibration threshold that the operator deems appropriate for the current

Warning: Due to the fact that the operator can select within a broad range of alarm sensitivity thresholds and it is possible that not all trailed vehicle failures will result in an increase in vibration, <u>do not assume</u> that no Tattle-Trail alarm always equals no problems with the towed unit, but <u>do assume</u> that if Tattle-Trail reaches an elevated state of alarm, the towed unit may have a problem that needs immediate attention.

"Park" Monitor

road conditions and towed unit.

The "Park" monitoring function can be enabled when both vehicles are parked and stationary. With the towed unit's "Transmitter" powered and the "Receiver" turned "On" in the towing vehicle, turn the "Sensitivity" knob full (CW) to the "Park" setting. The audible alarm will sound a single beep and then the "Alarm" light will rapidly flash yellow while the unit determines the current angles of the parked unit. Once the angles are determined Tattle-Tail will store them in memory and a slow flashing green "Alarm" light will confirm that the towed unit is being monitored for movement.

If angular motion (unit moved) beyond the internally set alarm threshold is detected in the towed unit, both a red "Alarm" light will illuminate and a pulsing audible alarm will sound for 1 minute on the "Receiver". To clear the "Park" alarm, rotate the knob (CCW) until the audible and visual alarms clear. Additionally, if the "Transmitter" is moved out of communication range (towed unit stolen), the "Receiver" audible alarm will sound continuously for a period of 30 seconds. As long as the "Transmitter" remains out of range, both the red "Link" and yellow "Alarm" lights will stay illuminated.

Receiver Alarm Codes:

Receiver Display		play		Rev. 10
LED 1 (Link)	LED2 (Alarm)	Audible	State / Condition	Corrective Action
NONE	NONE	NONE	No power to Receiver	Receiver needs to be plugged into 12VDC.
R	Y	1/2 sec. Chirp at start-up / Solid audible for 30 sec.	No communication Link to Receiver from Transmitter 1. Transmitter not plugged into 12VDC. 2. Transmitter out of range. 3. Transmitter plugged in but not operational.	Plug Transmitter into 12VDC Relocate Transmitter closer to the Receiver. Return <i>both units</i> for service.
G	G Flashing	NONE	Receiver and Transmitter are both powered and communicating, but Transmitter is in the process of calibrating.	No action required, but during calibration do not move or create any motion in the Transmitting towed unit.
G	R	Solid Audible	Receiver and Transmitter are both powered and communication Link established, but the Transmitter can not calibrate.	Make sure that Transmitter is stationary. Remove transmitter from 12DVC source and then reconnect to 12VDC. If Transmitter still does not calibrate, return <i>both units</i> for service.
G	R Flashing	Rapid Audible	Receiver and Transmitter are both powered and communication Link established, but the alarm threshold controlled by the sensitivity knob is set below the alarm threshold.	For initial setting with vehicle moving at normal speed, slowly rotate the sensitivity adjust knob (CW) until the audible and visual alarms are just turn off. At this setting, the system is actively monitoring the towed unit and occasional short alarm beeps should only occur. 1. If moving and system goes into alarm safely stop vehicle and inspect towed unit for cause of alarm. 2. If road conditions have changed and you are sure that nothing is wrong with the towed unit, then with vehicle moving at normal speed, readjust the sensitivity knob CW until the alarm just turns off.
G	G	NONE	Receiver and Transmitter are both powered and communication Link established. Additionally, the sensitivity knob is set above the alarm threshold.	No action required. System is actively monitoring at the selected sensitivity.
G	Y Rapid Flashing	NONE	Park mode in calibration	No action required, but during calibration do not move or create any motion in the Transmitting towed unit.
G	G Slow Flashing	NONE	Park mode with no alarm	No action required. System is actively monitoring tilt angle in the Park mode.
G	R Rapid Flashing	Rapid Audible for 1 min.	Park mode in alarm	Park mode alarm. Take necessary precautions to protect your trailed unit.
Y	Y	Solid Audible	Transmitter fallen off windshield	Remove power Reinstall on windshield Plug in unit

-12-

Trouble Shooting Guide

Transmitter

Green "Link" light not illuminated Check power

Green "Link" light flashing more than 10 seconds...

...Calibrating, but transmitter movement detected. *Stop movement*.

Red "Link" light......Can not calibrate.

Movement detected for over 2

minutes.

Receiver

"Link" light not illuminated Check power

"Link" light solid redCheck transmitter power, or transmitter out of range

"Alarm" light solid red.....The transmitter can not calibrate due to movement.

"Alarm" light flashing.....The receiver alarm threshold has either not been set *or* has been exceeded.

"Alarm" light solid yellow....Check to see if the transmitter has fallen off the towed vehicle's windshield.

If during the operation of the Tattle-Trail unit, the device does not perform as indicated in this manual, call the service center (open 9am to 5pm EST) at 727- 230-9438. The service personnel will help diagnose your problem and suggest a corrective action.

Warranty:

One Year Limited Warranty:

Subject to limitations and exclusions set forth in this Limited Warranty, the Tattle-Trail device is warranted by the manufacture against defects in material or workmanship that results in product failure during the one-year period following the date of purchase. This Limited Warranty applies to original purchaser, only if the attached Warranty Card has been completely filled out, signed and mailed within 30 days of original purchase. Always retain a copy of the original bill of sale to be submitted with any warranty claims. This warranty cannot be assigned, transferred or conveyed to any subsequent users.

Exclusions from coverage:

This Warranty does not apply to any claims arising from misuse, abuse, unauthorized repair or alteration, circumstances where the Tattle-Trail device is improperly installed or improperly wired contrary to Tattle-Trail product instructions, damage or defect attributable to weather exposure, fire, or other casualty, including, without limitation, acts of God or exposure to abrasive or corrosive materials, or liquids, or attributed to collision or other accidents involving vehicles upon which Tattle-Trail is installed. Additionally, this product warranty is automatically void if its serial number is defaced or if the transmitter or receiver cases have been opened or fasteners tampered with.

Limitations:

The manufacture expressly limits the applicability of the implied warranty of merchantability, the implied warranty of fitness for a particular purpose and warranty of noninfringement of intellectual property to the one-year warranty period as provided in this limited warranty. To the extent permitted by state law, the remedy of repair or replacement is the sole remedy available to the end user under this Limited Warranty. In no event shall Tattle-Trail LLC be liable for any indirect, incidental, special, exemplary, punitive or consequential damages of any nature whatsoever, including, without limitation, any such damages for loss of time, profits, earnings, commercial loss, loss of economic opportunity, loss of equipment use or other intangible or tangible damages. Although the Tattle-Trail system may be a deterrent to possible theft, Tattle-Trail LLC is not offering a guarantee or insurance against vandalism damage or theft of any vehicle, its parts or contents and hereby expressly disclaims any liability whatsoever, including without limitation, liability for theft, damage and /or vandalism. Tattle-Trail LLC does not and has not authorized any person or entity to create for it any other promise, duty, liability or obligation in connection with this product. Under all circumstances, Tattle-Trail LLC's liability for the Tattle-Trail device will not exceed the purchase price paid for the product.

Notice:

Some states do not allow limitations on how long an implied warranty will last or the exclusion or limitation of incidental or consequential damages. This warranty

gives you specific legal rights, and you may also have other rights, which vary from state to state.

Exclusive Agreement:

To the extent permitted by state law, this one-year Limited Warranty is a complete and exclusive statement of the warranties, which apply to the Tattle-Trail device; there are no expressed or implied warranties beyond those expressly stated above. No employee, agent, dealer or other person is authorized to give any warranties on behalf of the Seller, except as authorized in writing by Tattle-Trail LLC.

Statute of limitations:

To the extent permitted by state law, in purchasing the Tattle-Trail device the consumer agrees that any action for breach of contract or warranty must be commenced within one year after the cause of the action has occurred and the consumer agrees and consents that all disputes between the consumer and Tattle-Trail LLC shall be resolved in Pinellas County, Florida. Florida state laws and applicable Federal laws shall apply and govern the dispute.

Return procedure:

Within the limits of this Warranty, inoperative units should be returned to address listed below, transportation prepaid, to be repaired or replace at Seller's option, with no charge to sender as long as the sender had filled out and return mailed the attached Warranty card within 30 days of original purchase. Sender is responsible for all costs incurred in the removal or reinstallation and shipping of the unit returned for repair or replacement. A

copy of the sales slip must accompany units returned to the manufacture. Before returning unit, call Tattle-Trail Inc. at **727-230-9438** for a return authorization number. Additionally, for tracking purposes please include the return authorization number on the address label.

<u>Use this address</u> if sending by **US Mail**:

Send to: Tattle-Trail LLC
7887 Bryan Dairy Road
Suite 220
Largo, FL. 33777

Returned goods authorization # _____

<u>Use this address</u> if sending by **UPS** or **Fed Ex**:

Send to: Tattle-Trail LLC
7887 Bryan Dairy Road
Building 200, Suite 100
Largo, FL. 33777

Returned goods authorization # _____