

POCKET
RADAR

TRAFFIC ADVISOR™

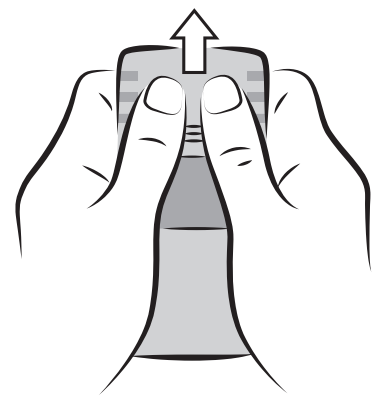
STATIONARY
DOPPLER RADAR

USER'S MANUAL



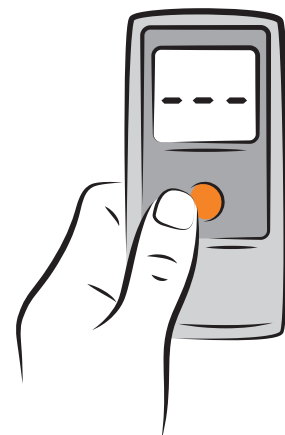
CONGRATULATIONS!
YOU NOW OWN THE
WORLD'S SMALLEST
CERTIFIED ACCURATE
SPEED RADAR

1. BATTERY INSERTION AND GETTING STARTED



INITIAL SETUP

- Remove the battery cover from the back of the Traffic Advisor™. Insert the batteries in the direction indicated by the polarity marks inside the battery compartment and replace the cover.
- Remove the clear plastic sticker that covers the orange button and display on the front of the unit and the yellow sticker from the back of the unit.



INSTANT ON

- The Traffic Advisor™ will turn itself on and begin the measurement sequence as soon as you "tap" (quickly press and release) the ORANGE button.
- When the Traffic Advisor™ senses a moving object it will display the speed. If it does not find anything it will display "--"
- There is no need to clear the display before making a new measurement. If you tap the button again the display will be updated with the new reading.



RECALL READINGS

- To recall up to the last 10 measurements, simply TAP the black RECALL button. Each time the button is tapped, it will display the previously recorded speed, most recent first. A single dash "-" indicates that you have reached the end of the list.

AUTOMATIC SHUT-OFF

- The Traffic Advisor™ continues to display the last speed until the button is tapped again or it will automatically turn itself off after 30 seconds of inactivity.

2. IMPORTANT REMINDER

The Traffic Advisor™ radar is designed for accurate traffic survey work in traffic engineering, safety and calming programs. It is certified accurate by the International Association of Chiefs of Police (IACP) designated radar test lab. However, it does not have all the features recommended for Law Enforcement use. The Traffic Advisor™ radar is NOT intended for Judicial Speed Enforcement applications.

FCC CLASS B PRODUCT LABEL STATEMENT

- 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.

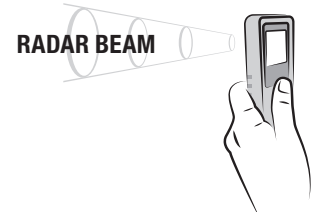
FCC CLASS B USER MANUAL STATEMENT

- NOTE: 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:
 - Reorient or relocate the receiving antenna.
 - Increase the separation between the equipment and receiver.
 - Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
 - Consult the dealer or an experienced radio/TV technician for help.
- Changes or modifications not expressly approved by the party responsible for compliance may void the user's authority to operate the equipment.

3. OPERATIONAL BASICS

The Traffic Advisor™ Measures From the Back, Like a Camera Phone

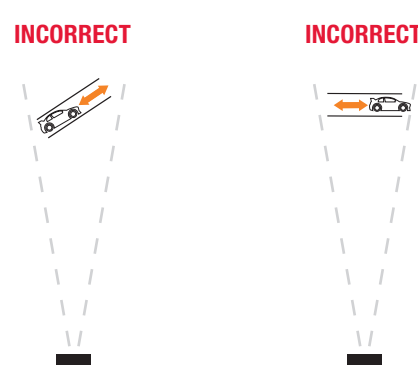
SIDE VIEW



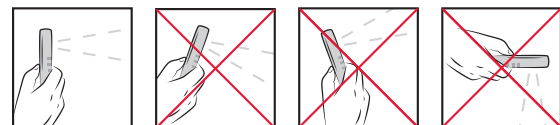
VERTICAL IS CRITICAL

- The Traffic Advisor™ makes a measurement by sending out very low power radio waves and looking for them to bounce off a moving object. These radio waves are focused in a small cone shaped like a flashlight beam which comes out of the raised square on the back of the Traffic Advisor™ (the radar lens).
- Hold the Traffic Advisor™ straight up and down vertically like a camera phone with the radar beam pointing in-line with the path of the moving object.
- If you tilt the Traffic Advisor™ down, the beam may end up pointing into the ground and missing the moving object.
- Do not block the radar lens.

TOP VIEW

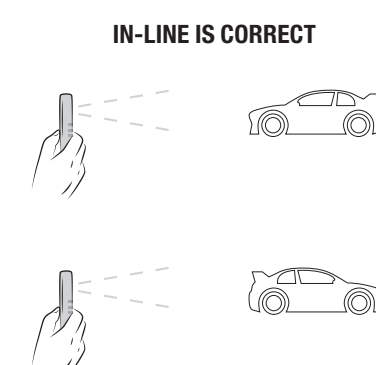


WATCH YOUR ANGLES



Important to keep unit straight up-and-down. Do not tilt.

SIDE VIEW



The Traffic Advisor™ simultaneously measures traffic in either direction, moving towards and away



Keep the radar lens clear of any objects.

4. KNOW YOUR TRAFFIC ADVISOR™ RADAR

Displays Speed of a Moving Object.

Displays Remaining Battery Life.

Recall Button Displays the Last 10 Measurements From the Unit's Memory.

Indicates When the Radar Beam is Active.

Displays Units of Measurement.

Tapping the Orange Button Makes a Quick Speed Reading. Holding the Orange Button Makes Continuous Speed Readings. (Acceleration/Deceleration)

Very Low Power Radio Waves are Emitted From This Radar Lens in a Narrow Cone About the Shape of a Focused Flashlight Beam.

Battery Compartment For 2 AAA Alkaline Batteries or Rechargeable NiMH Batteries



FRONT



BACK

5. OPERATIONAL DETAILS

Handheld Stationary Mode Radar

RADAR MEASUREMENT USING TRAFFIC ADVISOR™

- The Traffic Advisor™ is a stationary mode radar and is not intended to be used in a moving vehicle.
- The Traffic Advisor™ radar tracks the strongest signal. It displays the speed of the vehicle with the strongest radar return, which is typically the closest vehicle.
- The Traffic Advisor™ measures vehicles that are approaching and receding from the stationary radar position. It does not discriminate the direction of the moving vehicle.



BUTTON OPERATION

- Quickly TAP (press and release) the ORANGE button to take a single measurement snapshot of a vehicle speed. The displayed speed will remain visible for 30 seconds.
- Press and HOLD the ORANGE button to continuously measure the changing speed of a vehicle as it accelerates or decelerates. The Traffic Advisor™ radar will update the displayed speed approximately every 3/4 of a second as long as you continue to HOLD the ORANGE button down.
- TAP the small black RECALL button to review the tracking history of the previous 10 recorded speeds.



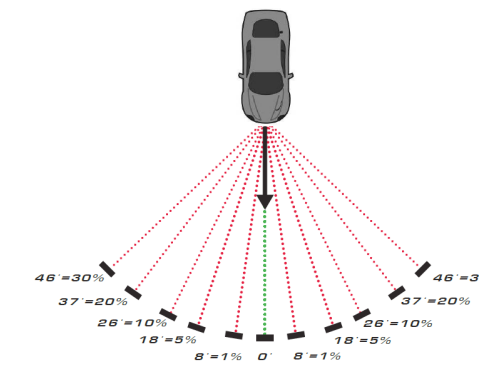
6. ANGULAR INTERFERENCE

How to Avoid the COSINE Error

Due to the nature of how Doppler speed radar works, all speed radars will only measure the relative speed of a target in the direction that it approaches or moves away from the speed radar. The Traffic Advisor™ will measure speed most accurately when the path of the moving target runs directly in-line with the beam of the radar. (Note: Always be safe. Never put yourself in a position where you could be struck by a moving object.) If you point the beam of the Traffic Advisor™ at an angle different than the path of the moving object, you will measure a slower speed than the object actually travels along its path. You may also find it more difficult to capture a small object within the narrow beam of the radar when you measure off angle. (Think of the beam like a focused flashlight beam, not like a floodlight).

TABLE OF EXAMPLES
For more details, visit: www.PocketRadar.com

ANGLE DEGREES (+/-)	0°	8°	18°	26°	37°	46°
TRUE SPEED (MPH)	MEASURED SPEED (MPH)					
25	25	25	24	23	20	18
35	35	35	33	32	28	25
45	45	45	43	41	36	32
50	50	50	48	45	40	35
60	60	59	57	54	48	42
70	70	69	67	63	56	49
80	80	80	80	81	72	63
100	100	99	95	90	80	70
% ERROR DUE TO ANGLE	0%	1%	5%	10%	20%	30%



Each degree from center will cause your speed to read the noted % lower.

This off angle speed measurement error is referred to as the COSINE error, named after the mathematical function that allows you to calculate the exact speed versus angle. The measured speed will always read lower than the actual speed as you move off the centerline of the path of the moving object. For small angles, this error will be very small. The chart above right shows the percentage error for a given angle between the radar beam and the moving object.

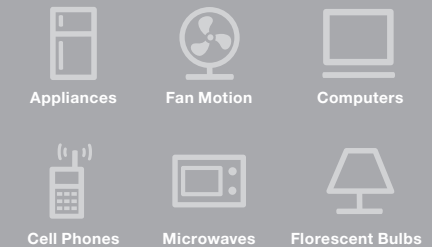
7. SOURCES OF INTERFERENCE

Mechanical and Electrical

Before taking radar speed measurements, always start by making a visual tracking history of the vehicle. All Doppler radar speed measurements need to be considered in the context of the total operating environment. This can include both mechanical and electrical sources of interference. Sometimes this interference can create unintentional readings, or so-called "ghost" readings. With a visual tracking history, these are readily identifiable as such in the presence of a valid target. These unintentional readings will disappear and be replaced by the target reading when the target vehicle gets close enough and will not affect the accuracy of the actual target reading.

MECHANICAL

Any objects that rotate, move or vibrate can create a reading on a Doppler speed radar. Large amounts of vibration, such as very loud noises, can also result in readings. Things like motors, fans, or other motion can be detected by the speed radar. Aiming the radar beam away from the motion will eliminate the interference. In some cases, if you are measuring the speed of a vehicle at a very close distance, you may pick up the engine, the radiator fan, the heater or A/C fan inside the car, moving wheels or hubcaps, etc. In this case, try to make the measurement from a further distance away. You may also experience this type of interference when you are trying to measure speeds from inside a car with the engine running, as you may measure the speed of the internal fans and not the external moving objects.



ELECTRICAL

Cell phones, wireless devices, radio and TV transmitters, computers, fluorescent lights, televisions, walkie-talkies, etc., can also possibly create unintentional readings.

11. SPECIFICATIONS

- 7 to 325 miles per hour (MPH) (+/- 1 MPH)
- 11 to 523 kilometers per hour (KPH) (+/- 2 KPH)
- 10 to 477 feet per second (FPS) (+/- 2 FPS)
- 3 to 145 meters per second (MPS) (+/- 1 MPS)
- Frequency: K-band (24.125 GHz +/- 50 MHz)
- Operating Temperature Range: 20° F to 120° F
- Size: 4.7 x 2.3 x 0.8 Inches
- Weight: 4.5 Ounces with Batteries
- Memory Recall Function: Previous 10 Readings
- Battery Life: Over 10,000 Readings with 2 AAA Alkaline Batteries



PocketRadar.com

Make sure to visit PocketRadar.com for more details, tips, videos, support, FAQs, and more. If you ever have any questions please contact us at Support@PocketRadar.com or call toll-free in the U.S. at 888-381-2672.

8. CHANGE UNITS

Measurement Units:
MPH = Miles per Hour
MPS = Meters per Second
FPS = Feet per Second
KPH = Kilometers per Hour

STEP ONE

To change the units of measurement, press both buttons at the same time, and then let go. The currently selected units indicator will blink.

STEP TWO

Press the ORANGE button repeatedly until you have selected the desired units.

STEP THREE

Press the RECALL button to save the selected units and return to normal operation.



9. RANGE

CAR
FROM 1/2 MILE (0.8 KILOMETERS)



MOTORCYCLE
FROM 1/4 MILE (0.4 KILOMETERS)



Radar technology works by sending a signal out to an object, and then measuring the reflected signal that bounces back. The larger the object, the greater the reflected signal and therefore the longer the range.

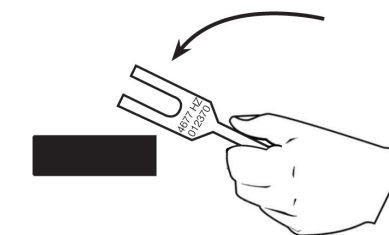
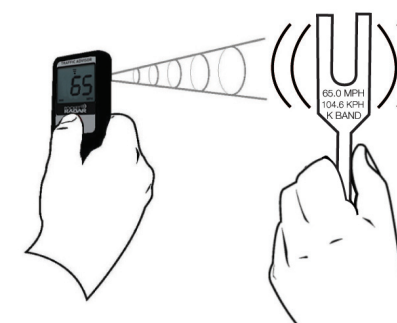
The Traffic Advisor™ will accurately measure the speed of a car from 1/2 mile (0.8 kilometers) away, and a motorcycle from 1/4 mile (0.4 kilometers) away.

10. VERIFYING THE RADAR ACCURACY

Tuning Fork Test

The tuning fork is calibrated to vibrate at a specific frequency that is picked up by the radar as a precise speed reading. Tap the tines gently on a solid, non-metallic surface. Then hold the vibrating tuning fork with the narrow side facing the back of the radar, a few inches away. Tap the button to read the speed. Be sure not to move the tuning fork or radar during the measurement. If the speed reading is within ±1 MPH or ±2 KPH of the speed stamped on the fork, the radar gun is working properly.

NOTE: Tapping the tines against very hard surfaces like concrete or metal can possibly damage the tines. Be sure to only tap the tuning fork against materials that are softer than metal, such as wood or hard plastic.



Tap tuning fork against solid surface

Position vibrating tuning fork behind radar as shown here and tap the button to read the speed

SUPPORT

We are happy to help. If you have any questions, concerns, or need any assistance, please contact us at:

Support@PocketRadar.com
PocketRadar.com/TrafficAdvisor
888.381.2672



POCKET RADAR™

CAUTION:
ALWAYS REMEMBER TO STAY SAFE WHEN MEASURING. NEVER PUT YOURSELF IN A PLACE WHERE YOU COULD BE STRUCK BY A MOVING OBJECT. WHEN POSSIBLE, MEASURE OBJECTS MOVING AWAY FROM YOU, RATHER THAN TOWARDS YOU.