

Standard Guidelines for Product Review

RADAR SPEED TRAILER;

Section 00225.18

May, 2015

00225.18– Radar Speed Trailer:

Type '1' and Type '2' signs for trailer-mounted applications. Electronic and static signs on Radar Speed Trailers are required to meet all applicable aspects of the current Manual on Uniform Traffic Control Devices (MUTCD). The following list is a summary of our requirements.

The Radar Speed Trailer shall:

- Have a maximum width of 72 inches when deployed.
- Have solar panels that are suitable for operation in the Northwest. Provide a battery power source capable of keeping the sign functioning for at least 21 consecutive days on the batteries alone without requiring charging.
- Have Identification tags must include: Manufacturer name, Address, Phone Number, Model Number, Serial Number and Manufacture date. I.D. tag shall be indelible.
- Be able to support the installation of a rectangular, 30 x 36 inch "SPEED LIMIT XX" (R2-1) or "SPEED XX" (OR2-1) sign below the electronic display.
- Be able to support the installation of a diamond shaped, 36 x 36 inch "ROAD WORK XX MPH" (CW20-1a) sign below the electronic display.

The Radar Speed Trailer Display shall:

- Be fully compliant with the current version of the MUTCD.
- Be housed in a solid, durable, rectangular metal case, and be finished in a non-reflective black color.
- Be legible from distances, as listed on chart below. (Note: This is an actual field test.)
- Include a properly sized electronic display that accommodates required Panel Displays and "YOUR SPEED" placard, as shown below.
- Be capable of 2 displaying Numeric characters in single row. When posted speed is exceeded, the panel shall be capable of displaying 4 Alpha characters in two rows.
- Be capable of being mounted at least 7 feet above the pavement to the bottom of the electronic sign.
- Be capable of displaying radar speed within 5 mph resolution in 1 mph step increments at a minimum 1000 ft range and warning messages in static and flashing modes, as shown on below.
- Provide K-band 24.15 Ghz direct sensing, license free (FCC part 15 compliant) radar.
- Provide electronics enclosure meeting weatherproof NEMA-3R.
- Provide speed and event logging with time stamp. Data memory has 60 days circular buffer capacity.
- Have automatic dimming capability. The Auto-dimming feature (for nighttime use) shall reduce the full rated light element output by 50%.
- Provide programming display features for exceeding, minimum and maximum speed limits.
- Provide variable speed display types: stealth, actual, speed limit, flashing & static numerals.
- Provide amber-colored light elements with a wavelength between 587 nm and 593 nm.
- Have a model number that is unique and only includes manufactured products that meet the requirements listed herein.

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If any requirements listed above are normally available as "options", the manufacture must:

- Identify the Radar Speed Trailer to be qualified specifically for Oregon use by a unique model number.
- Equipment labeled with the said model number shall include the devices required to meet ODOT specifications.
- Only those qualified models with the unique Model Number will be allowed for use on ODOT highway construction projects or Maintenance Operations.

The Radar Speed Display shall be capable of the following:

Operating Mode	Panel Display		Advisory Speed(YY) Operation			
			<[YY-10] MPH	[(YY-10) to YY] MPH	>[YY] MPH	
Radar Speed	NUMERAL (Static & Flashing)		No Display	Display Vehicle Speed "XX"	Alternate Vehicle Speed "XX" (0.5 Seconds) followed by "SLOW DOWN" (1.5 Seconds)	
			Regulatory Speed (ZZ) Operation			
Warning Message	ALPHA/LEGEND (Static & Flashing)		<[ZZ-20] MPH	[(ZZ-20) to ZZ] MPH	[ZZ to (ZZ+20)] MPH	>[YY+20] MPH
			No Display	Display Vehicle Speed "XX"	Alternate Vehicle Speed "XX" (0.5 Seconds) followed by "SLOW DOWN" (1.5 Seconds)	No Display

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Type '1' Radar Speed Signs are appropriate for low to intermediate-speed facilities (40 mph and below) and for maintenance operations.

Type '2' Radar Speed Signs are to be used on high-speed (45 mph and above), high-volume roadways, or freeways.

RADAR SPEED TRAILER - PRODUCT REQUIREMENTS

PANEL TYPE	NUMERIC Min. Character Height (in.)	ALPHA Min. Character Height (in.)	LEGIBILITY Min. Distance (ft)
1	12 inches	8 inches	500
2	18 inches	10 inches	650

The "YOUR SPEED" Type "W1" placard sized proportional to electronic sign using 5 to 8 inch letter height.

SUBMITTAL PROCESS:

- **Submit the following:**
 - [Preliminary Information for Product Evaluation Form.](#)
 - Documentation showing compliance with Specs listed above.
 - 6 copies of the product brochure.
 - 2 copies of the Operational Instruction sheet.
- **Submit to:** Oregon DOT - Materials Lab
Product Evaluation Coordinator
800 Airport Road SE
Salem, OR. 97301-4792

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- **On-Site Demonstration:**
 - After determining the product meets the above requirements, a time may be scheduled to bring the device to Salem for an on-site evaluation for legibility.
 - At the evaluation, the device will be set up and reviewed by a number of Evaluators at a distance of 500 or 650 feet for legibility. Legend and numerals displayed on the device must be legible by the Evaluators.

- **Conclusion:**
 - If the Radar Speed Sign complies with all requirements listed above, the vendor has submitted all required documents; **and**, the evaluation is successful, the recommendation to the QPL Committee will be to qualify the product.
 - If the Radar Speed Sign is not legible by more than one Evaluator, or does not meet the requirements listed above, the recommendation sent to the QPL Committee will be to place the product on the Rejected List.
 - The vendor will be notified after the QPL Committee meets and a final determination has been made.

Notify ODOT QPL coordinator immediately if production of any product we have approved for the QPL has been permanently discontinued.