



CERTIFICATION CONCERNING DESIGN AND CONSTRUCTION OF ELECTRONIC SPEED MEASURING DEVICES

Dupont

APR 10 2015

MUNICIPAL COURT

WLG

I, Jorge Marciano, do certify under penalty of perjury, under the laws of the State of Washington, in the County of Pierce, that the following is true and correct:

I am employed with Pierce County as a Communications Systems Technician, Speed Measuring Device (SMD) Specialist, and assigned as the custodian of the SMD records. I have been employed in this capacity since Sep 10, 2007. Part of my duties include the maintenance and repair of all types of electronic radar speed measuring devices (SMD's) used by the Dupont Police Department.

The Dupont Police Department currently uses the following SMD's:

SMD TYPE:	MODEL:	MANUFACTURE:
Radar	Genesis I	Decatur Electronics
Radar	Genesis II Select	Decatur Electronics
Radar	Genesis II Directional	Decatur Electronics
Radar	Genesis VP	Decatur Electronics
Radar	Genesis VPD	Decatur Electronics
Radar	Genesis GHD	Decatur Electronics
Radar	Speed Trak Elite	Decatur Electronics
Radar	Falcon HR	Kustom Signals
Radar	Golden Eagle II	Kustom Signals
Radar	Directional Golden Eagle II	Kustom Signals
Radar	HR-12	Kustom Signals
Radar	Python	MPH Industries
Laser	Compact Speed Lidar	Dragoneye Technology

I have the following qualifications with respect to the above stated SMD's:

I have seven years military experience as a communications specialist in the maintenance and repair of electronics equipment and seven years with Pierce County repairing, maintaining, and certifying SMD's for cities and counties throughout the state. I received training from the following manufacturers as well as from the Pierce County Engineer. On Dec 13, 2007, I successfully completed the Decatur Electronics course in repair and service of Doppler traffic radar and on Mar 13, 2008, I successfully completed the MPH Industries course in repair and service of Doppler traffic radar. Further, on Jan 14, 2009, I successfully completed the requirements for Kustom Signals certification in operation and maintenance of Doppler traffic radar and traffic laser and on Sep 3, 2009, I successfully completed the requirements for Applied Concepts certification in operation and maintenance of Doppler traffic radar and traffic laser.

The Pierce County Radio Communications Division maintains manuals for all of the above listed SMD's. I am personally familiar with those manuals and know how each of the SMD's are designed and operated. From Feb 20, 2008 to Apr 6, 2015, I performed all of the SMD testing. The units are evaluated and certified to meet or exceed existing performance standards.

The Pierce County Radio Communications Division maintains a testing and certification program. This program entails:



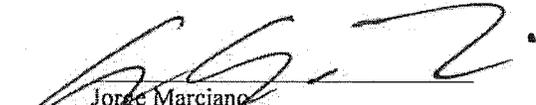
Radar SMD's utilize the Doppler effect to measure speed. Testing consists of using a precision signal generator to inject a signal into the SMD to simulate speeds of 35mph and 65mph for the stationary/moving radars. It also includes injection of a signal to simulate 35mph for stationary radar only. The signal must cause the SMD to display the exact speed, ± 1 mile per hour, in order to be certified for accuracy. I then measure the frequency of the tuning fork(s) assigned to each SMD to insure that they are within ± 5 Hz tolerance. I issue a certificate of accuracy for both the SMD and the tuning fork(s). The original certificates are issued to the Dupont Police Department who in turn issues a copy to the court. I also retain a copy for my records along with the maintenance and service records for each SMD serviced.

Laser SMD's measure speed based on the velocity of light and a precision time base reference. Testing consists of three accuracy certification checks (1) Internal Self Test (2) Pulse Check to include; pulse width, power output, pulse repetition rate, and double pulse (3) and a Distance Check to include; sight alignment, vertical, and horizontal beam width ≥ 200 feet. The checks insure that the SMD is within tolerance and functioning properly. I then issue a certificate of accuracy for each SMD. The original certificates are issued to the Dupont Police Department who in turn issues a copy to the Court. I also retain a copy for my records along with the maintenance and service records for each SMD serviced.

All radar SMD's operated by the Dupont Police Department directly measure by digital message from the Doppler signal. They do not reconstitute the Doppler signal in any way, including the use of devices such as a phase lock loop (PLL), before the speed is measured.

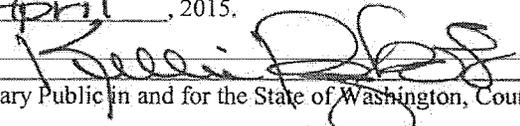
Based upon my education, training and experience, and my knowledge of the SMD's listed above, it is my opinion that each of these electronic pieces of equipment is so designed and constructed as to accurately employ the Doppler effect in such a manner that it will give accurate measurements of the speed of motor vehicles when properly calibrated and operated by a trained operator.

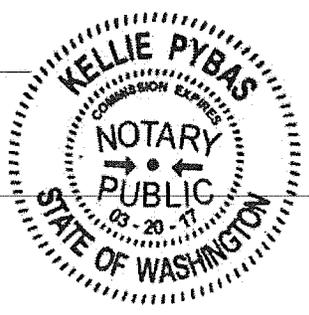
I certify under the penalty of perjury, under the laws of the State of Washington, that the foregoing is true and correct.


 Jorge Marciano
 Communications Systems Technician/
 Speed Measuring Device Specialist

Signed and dated at Tacoma, Washington Apr 6, 2015

SUBSCRIBED AND SWORN TO BEFORE ME THIS 6th DAY OF April, 2015.


 Notary Public in and for the State of Washington, County of Pierce.
 Commission expires 03.20.17





Pierce County Radio Communications

1422 112th Street East
Tacoma, Washington 98445
(253) 798-7147

CERTIFICATE OF CALIBRATION & ACCURACY

I, Jorge Marciano, do certify under the penalty of perjury, under the laws of the State of Washington, in the County of Pierce, that all applicable tests and measurements were made on the following Doppler Traffic Radar equipment:

Manufacturer: Decatur Electronics, Date Certified: 04/03/2015, Model: Genesis VPD, Agency: Dupont PD, Serial Number: 03814, Operating Frequency Band: K

The aforesaid radar meets and exceeds all manufacturer's specifications.

TUNING FORK

I, Jorge Marciano, do certify under the penalty of perjury, under the laws of the State of Washington, in the County of Pierce, that all applicable tests and measurements were made on the following Doppler Radar Tuning Forks:

Tuning Fork Serial No.: 145620, Date Certified: 04/03/2015, Oscillation (Cycles per Second): 2391, Agency: Dupont PD, Operating Frequency Band: K, MPH: 33

When operated between the temperature of -22F to +140F no correction is required.

TUNING FORK

I, Jorge Marciano, do certify under the penalty of perjury, under the laws of the State of Washington, in the County of Pierce, that all applicable tests and measurements were made on the following Doppler Radar Tuning Forks:

Tuning Fork Serial No.: 145427, Date Certified: 04/03/2015, Oscillation (Cycles per Second): 5589, Agency: Dupont PD, Operating Frequency Band: K, MPH: 77

When operated between the temperature of -22F to +140F no correction is required.

I certify under penalty of perjury, under the laws of the State of Washington, that the above statements are true and correct.

Dated and Signed at Tacoma, Washington

4/3/15 DATED

SIGNED (Signature)



Pierce County Radio Communications

1422 112th Street East
Tacoma, Washington 98445
(253) 798-7147

CERTIFICATE OF CALIBRATION & ACCURACY

I, Jorge Marciano, do certify under the penalty of perjury, under the laws of the State of Washington, in the County of Pierce, that all applicable tests and measurements were made on the following Doppler Traffic Radar equipment:

Manufacturer: Decatur Electronics, Date Certified: 04/03/2015, Model: Genesis VP, Agency: Dupont PD, Serial Number: 04339, Operating Frequency Band: K

The aforesaid radar meets and exceeds all manufacturer's specifications.

TUNING FORK

I, Jorge Marciano, do certify under the penalty of perjury, under the laws of the State of Washington, in the County of Pierce, that all applicable tests and measurements were made on the following Doppler Radar Tuning Forks:

Tuning Fork Serial No.: 152548, Date Certified: 04/03/2015, Oscillation (Cycles per Second): 2391, Agency: Dupont PD, Operating Frequency Band: K, MPH: 33

When operated between the temperature of -22F to +140F no correction is required.

TUNING FORK

I, Jorge Marciano, do certify under the penalty of perjury, under the laws of the State of Washington, in the County of Pierce, that all applicable tests and measurements were made on the following Doppler Radar Tuning Forks:

Tuning Fork Serial No.: 125346, Date Certified: 04/03/2015, Oscillation (Cycles per Second): 5589, Agency: Dupont PD, Operating Frequency Band: K, MPH: 77

When operated between the temperature of -22F to +140F no correction is required.

I certify under penalty of perjury, under the laws of the State of Washington, that the above statements are true and correct.

Dated and Signed at Tacoma, Washington

4/3/15 DATED

SIGNED (Handwritten signature)



Pierce County Radio Communications

1422 112th Street East Tacoma, Washington 98445 (253) 798-7147

CERTIFICATE OF CALIBRATION & ACCURACY

I, Jorge Marciano, do certify under the penalty of perjury, under the laws of the State of Washington, in the County of Pierce, that all applicable tests and measurements were made on the following Doppler Traffic Radar equipment:

Manufacturer: Kustom Signals, INC Date Certified: 04/03/2015
Model: Kustom HR-12 Agency: Dupont PD
Serial Number: AA12020
Operating Frequency Band: K

The aforesaid radar meets and exceeds all manufacturer's specifications.

TUNING FORK

I, Jorge Marciano, do certify under the penalty of perjury, under the laws of the State of Washington, in the County of Pierce, that all applicable tests and measurements were made on the following Doppler Radar Tuning Forks:

Tuning Fork Serial No.: 27430 Date Certified: 04/03/2015
Oscillation (Cycles per Second): 2534 Agency: Dupont PD
Operating Frequency Band: K
MPH: 35

When operated between the temperature of -22F to +140F no correction is required.

TUNING FORK

I, Jorge Marciano, do certify under the penalty of perjury, under the laws of the State of Washington, in the County of Pierce, that all applicable tests and measurements were made on the following Doppler Radar Tuning Forks:

Tuning Fork Serial No.: 26374 Date Certified: 04/03/2015
Oscillation (Cycles per Second): 4692 Agency: Dupont PD
Operating Frequency Band: K
MPH: 65

When operated between the temperature of -22F to +140F no correction is required.

I certify under penalty of perjury, under the laws of the State of Washington, that the above statements are true and correct.

Dated and Signed at Tacoma, Washington 4/3/15 DATED SIGNED



Pierce County Radio Communications

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CERTIFICATE OF CALIBRATION & ACCURACY

I, Jorge Marciano, do certify under the penalty of perjury, under the laws of the State of Washington, in the County of Pierce, that all applicable tests and measurements were made on the following Doppler Traffic Radar equipment:

Manufacturer: Kustom Signals, INC Date Certified: 04/03/2015
Model: Kustom Falcon HR Agency: Dupont PD
Serial Number: FH06757
Operating Frequency Band: K

The aforesaid radar meets and exceeds all manufacturer's specifications.

TUNING FORK

I, Jorge Marciano, do certify under the penalty of perjury, under the laws of the State of Washington, in the County of Pierce, that all applicable tests and measurements were made on the following Doppler Radar Tuning Forks:

Tuning Fork Serial No.: 55822 Date Certified: 04/03/2015
Oscillation (Cycles per Second): 2549 Agency: Dupont PD
Operating Frequency Band: K
MPH: 35

When operated between the temperature of -22F to +140F no correction is required.

TUNING FORK

I, Jorge Marciano, do certify under the penalty of perjury, under the laws of the State of Washington, in the County of Pierce, that all applicable tests and measurements were made on the following Doppler Radar Tuning Forks:

Tuning Fork Serial No.: 51461 Date Certified: 04/03/2015
Oscillation (Cycles per Second): 4733 Agency: Dupont PD
Operating Frequency Band:: K
MPH: 65

When operated between the temperature of -22F to +140F no correction is required.

I certify under penalty of perjury, under the laws of the State of Washington, that the above statements are true and correct.

Dated and Signed at Tacoma, Washington

4/3/15 DATED

[Signature] SIGNED



Pierce County Radio Communications

1422 112th Street East Tacoma, Washington 98445 (253) 798-7147

CERTIFICATE OF CALIBRATION & ACCURACY

I, Jorge Marciano, do certify under the penalty of perjury, under the laws of the State of Washington, in the County of Pierce, that all applicable tests and measurements were made on the following Doppler Traffic Radar equipment:

Manufacturer: Decatur Electronics, Date Certified: 04/03/2015, Model: Genesis GHD, Agency: Dupont PD, Serial Number: GHD-12709, Operating Frequency Band: K

The aforesaid radar meets and exceeds all manufacturer's specifications.

TUNING FORK

I, Jorge Marciano, do certify under the penalty of perjury, under the laws of the State of Washington, in the County of Pierce, that all applicable tests and measurements were made on the following Doppler Radar Tuning Forks:

Tuning Fork Serial No.: 229220, Date Certified: 04/03/2015, Oscillation (Cycles per Second): 2391, Agency: Dupont PD, Operating Frequency Band: K, MPH: 33

When operated between the temperature of -22F to +140F no correction is required.

TUNING FORK

I, Jorge Marciano, do certify under the penalty of perjury, under the laws of the State of Washington, in the County of Pierce, that all applicable tests and measurements were made on the following Doppler Radar Tuning Forks:

Tuning Fork Serial No.: 229132, Date Certified: 04/03/2015, Oscillation (Cycles per Second): 5589, Agency: Dupont PD, Operating Frequency Band: K, MPH: 77

When operated between the temperature of -22F to +140F no correction is required.

I certify under penalty of perjury, under the laws of the State of Washington, that the above statements are true and correct.

Dated and Signed at Tacoma, Washington 4/3/15 DATED SIGNED



Pierce County Radio Communications

1422 112th Street East Tacoma, Washington 98445 (253) 798-7147

CERTIFICATE OF CALIBRATION & ACCURACY

I, Jorge Marciano, do certify under the penalty of perjury, under the laws of the State of Washington, in the County of Pierce, that all applicable tests and measurements were made on the following Doppler Traffic Radar equipment:

Manufacturer: Decatur Electronics Date Certified: 04/03/2015
Model: Genesis I Agency: Dupont PD
Serial Number: G-21743
Operating Frequency Band: K

The aforesaid radar meets and exceeds all manufacturer's specifications.

TUNING FORK

I, Jorge Marciano, do certify under the penalty of perjury, under the laws of the State of Washington, in the County of Pierce, that all applicable tests and measurements were made on the following Doppler Radar Tuning Forks:

Tuning Fork Serial No.: 46852 Date Certified: 04/03/2015
Oscillation (Cycles per Second): 2544 Agency: Dupont PD
Operating Frequency Band: K
MPH: 35

When operated between the temperature of -22F to +140F no correction is required.

TUNING FORK

I, Jorge Marciano, do certify under the penalty of perjury, under the laws of the State of Washington, in the County of Pierce, that all applicable tests and measurements were made on the following Doppler Radar Tuning Forks:

Tuning Fork Serial No.: 31850 Date Certified: 04/03/2015
Oscillation (Cycles per Second): 4737 Agency: Dupont PD
Operating Frequency Band: K
MPH: 65

When operated between the temperature of -22F to +140F no correction is required.

I certify under penalty of perjury, under the laws of the State of Washington, that the above statements are true and correct.

Dated and Signed at Tacoma, Washington

4/3/15 DATED

SIGNED



Pierce County Radio Communications

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CERTIFICATE OF CALIBRATION & ACCURACY

I, Jorge Marciano, do certify under the penalty of perjury, under the laws of the State of Washington, in the County of Pierce, that all applicable tests and measurements were made on the following Doppler Traffic Radar equipment:

Manufacturer: Decatur Electronics Date Certified: 04/03/2015
Model: Genesis II Select Agency: Dupont PD
Serial Number: G2S-28843
Operating Frequency Band: Ka

The aforesaid radar meets and exceeds all manufacturer's specifications.

TUNING FORK

I, Jorge Marciano, do certify under the penalty of perjury, under the laws of the State of Washington, in the County of Pierce, that all applicable tests and measurements were made on the following Doppler Radar Tuning Forks:

Tuning Fork Serial No.: 209836 Date Certified: 04/03/2015
Oscillation (Cycles per Second): 3728 Agency: Dupont PD
Operating Frequency Band: Ka
MPH: 35

When operated between the temperature of -22F to +140F no correction is required.

TUNING FORK

I, Jorge Marciano, do certify under the penalty of perjury, under the laws of the State of Washington, in the County of Pierce, that all applicable tests and measurements were made on the following Doppler Radar Tuning Forks:

Tuning Fork Serial No.: 209924 Date Certified: 04/03/2015
Oscillation (Cycles per Second): 5359 Agency: Dupont PD
Operating Frequency Band: Ka
MPH: 50

When operated between the temperature of -22F to +140F no correction is required.

I certify under penalty of perjury, under the laws of the State of Washington, that the above statements are true and correct.

Dated and Signed at Tacoma, Washington 4/3/15 DATED SIGNED



Pierce County Radio Communications

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CERTIFICATE OF CALIBRATION & ACCURACY

I, Jorge Marciano, do certify under the penalty of perjury, under the laws of the State of Washington, in the County of Pierce, that all applicable tests and measurements were made on the following Doppler Traffic Radar equipment:

Manufacturer: Decatur Electronics Date Certified: 04/03/2015
Model: Genesis II Select Agency: Dupont PD
Serial Number: G2S-29400
Operating Frequency Band: Ka

The aforesaid radar meets and exceeds all manufacturer's specifications.

TUNING FORK

I, Jorge Marciano, do certify under the penalty of perjury, under the laws of the State of Washington, in the County of Pierce, that all applicable tests and measurements were made on the following Doppler Radar Tuning Forks:

Tuning Fork Serial No.: 49953 Date Certified: 04/03/2015
Oscillation (Cycles per Second): 3205 Agency: Dupont PD
Operating Frequency Band: Ka
MPH: 30

When operated between the temperature of -22F to +140F no correction is required.

TUNING FORK

I, Jorge Marciano, do certify under the penalty of perjury, under the laws of the State of Washington, in the County of Pierce, that all applicable tests and measurements were made on the following Doppler Radar Tuning Forks:

Tuning Fork Serial No.: 49594 Date Certified: 04/03/2015
Oscillation (Cycles per Second): 5890 Agency: Dupont PD
Operating Frequency Band: Ka
MPH: 55

When operated between the temperature of -22F to +140F no correction is required.

I certify under penalty of perjury, under the laws of the State of Washington, that the above statements are true and correct.

Dated and Signed at Tacoma, Washington 4/3/15 DATED SIGNED



Pierce County Radio Communications

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CERTIFICATE OF CALIBRATION & ACCURACY

I, Jorge Marciano, do certify under the penalty of perjury, under the laws of the State of Washington, in the County of Pierce, that all applicable tests and measurements were made on the following Doppler Traffic Radar equipment:

Manufacturer: Decatur Electronics Date Certified: 04/03/2015
Model: Speed Trak Elite Agency: Dupont PD
Serial Number: STK-03204
Operating Frequency Band: Ka

The aforesaid radar meets and exceeds all manufacturer's specifications.

TUNING FORK

I, Jorge Marciano, do certify under the penalty of perjury, under the laws of the State of Washington, in the County of Pierce, that all applicable tests and measurements were made on the following Doppler Radar Tuning Forks:

Tuning Fork Serial No.: 181500 Date Certified: 04/03/2015
Oscillation (Cycles per Second): 3728 Agency: Dupont PD
Operating Frequency Band: Ka
MPH: 35

When operated between the temperature of -22F to +140F no correction is required.

TUNING FORK

I, Jorge Marciano, do certify under the penalty of perjury, under the laws of the State of Washington, in the County of Pierce, that all applicable tests and measurements were made on the following Doppler Radar Tuning Forks:

Tuning Fork Serial No.: 181576 Date Certified: 04/03/2015
Oscillation (Cycles per Second): 5359 Agency: Dupont PD
Operating Frequency Band: Ka
MPH: 50

When operated between the temperature of -22F to +140F no correction is required.

I certify under penalty of perjury, under the laws of the State of Washington, that the above statements are true and correct.

Dated and Signed at Tacoma, Washington

4/3/15 DATED

[Signature] SIGNED



Pierce County Radio Communications

1422 112th Street East
Tacoma, Washington 98445
(253) 798-7147

CERTIFICATE OF CALIBRATION & ACCURACY

I, Jorge Marciano, do certify under the penalty of perjury, under the laws of the State of Washington, in the County of Pierce, that all applicable tests and measurements were made on the following Doppler Traffic Radar equipment:

Manufacturer: Kustom Signals, INC; Date Certified: 04/03/2015; Model: Kustom Golden Eagle II; Agency: Dupont PD; Serial Number: XE25861; Operating Frequency Band: Ka

The aforesaid radar meets and exceeds all manufacturer's specifications.

TUNING FORK

I, Jorge Marciano, do certify under the penalty of perjury, under the laws of the State of Washington, in the County of Pierce, that all applicable tests and measurements were made on the following Doppler Radar Tuning Forks:

Tuning Fork Serial No.: 56268; Date Certified: 04/03/2015; Oscillation (Cycles per Second): 3213; Agency: Dupont PD; Operating Frequency Band: Ka; MPH: 30

When operated between the temperature of -22F to +140F no correction is required.

TUNING FORK

I, Jorge Marciano, do certify under the penalty of perjury, under the laws of the State of Washington, in the County of Pierce, that all applicable tests and measurements were made on the following Doppler Radar Tuning Forks:

Tuning Fork Serial No.: 56501; Date Certified: 04/03/2015; Oscillation (Cycles per Second): 5899; Agency: Dupont PD; Operating Frequency Band: Ka; MPH: 55

When operated between the temperature of -22F to +140F no correction is required.

I certify under penalty of perjury, under the laws of the State of Washington, that the above statements are true and correct.

Dated and Signed at Tacoma, Washington

4/3/15 DATED

[Signature] SIGNED



Pierce County Radio Communications

1422 112th Street East Tacoma, Washington 98445 (253) 798-7147

CERTIFICATE OF CALIBRATION & ACCURACY

I, Jorge Marciano, do certify under the penalty of perjury, under the laws of the State of Washington, in the County of Pierce, that all applicable tests and measurements were made on the following Doppler Traffic Radar equipment:

Manufacturer: Kustom Signals, INC Date Certified: 04/03/2015
Model: Kustom Golden Eagle II Agency: Dupont PD
Serial Number: XE25862
Operating Frequency Band: Ka

The aforesaid radar meets and exceeds all manufacturer's specifications.

TUNING FORK

I, Jorge Marciano, do certify under the penalty of perjury, under the laws of the State of Washington, in the County of Pierce, that all applicable tests and measurements were made on the following Doppler Radar Tuning Forks:

Tuning Fork Serial No.: 56265 Date Certified: 04/03/2015
Oscillation (Cycles per Second): 3213 Agency: Dupont PD
Operating Frequency Band: Ka
MPH: 30

When operated between the temperature of -22F to +140F no correction is required.

TUNING FORK

I, Jorge Marciano, do certify under the penalty of perjury, under the laws of the State of Washington, in the County of Pierce, that all applicable tests and measurements were made on the following Doppler Radar Tuning Forks:

Tuning Fork Serial No.: 56223 Date Certified: 04/03/2015
Oscillation (Cycles per Second): 5894 Agency: Dupont PD
Operating Frequency Band:: Ka
MPH: 55

When operated between the temperature of -22F to +140F no correction is required.

I certify under penalty of perjury, under the laws of the State of Washington, that the above statements are true and correct.

Dated and Signed at Tacoma, Washington

4/3/15 [Signature]
DATED SIGNED



Pierce County Radio Communications

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Tacoma, Washington 98445
(253) 798-7147

CERTIFICATE OF CALIBRATION & ACCURACY

I, Jorge Marciano, do certify under the penalty of perjury, under the laws of the State of Washington, in the County of Pierce, that all applicable tests and measurements were made on the following Doppler Traffic Radar equipment:

Manufacturer: Kustom Signals, INC; Date Certified: 04/03/2015; Model: Kustom Golden Eagle II; Agency: Dupont PD; Serial Number: XE25865; Operating Frequency Band: Ka

The aforesaid radar meets and exceeds all manufacturer's specifications.

TUNING FORK

I, Jorge Marciano, do certify under the penalty of perjury, under the laws of the State of Washington, in the County of Pierce, that all applicable tests and measurements were made on the following Doppler Radar Tuning Forks:

Tuning Fork Serial No.: 56269; Date Certified: 04/03/2015; Oscillation (Cycles per Second): 3211; Agency: Dupont PD; Operating Frequency Band: Ka; MPH: 30

When operated between the temperature of -22F to +140F no correction is required.

TUNING FORK

I, Jorge Marciano, do certify under the penalty of perjury, under the laws of the State of Washington, in the County of Pierce, that all applicable tests and measurements were made on the following Doppler Radar Tuning Forks:

Tuning Fork Serial No.: 56221; Date Certified: 04/03/2015; Oscillation (Cycles per Second): 5898; Agency: Dupont PD; Operating Frequency Band: Ka; MPH: 55

When operated between the temperature of -22F to +140F no correction is required.

I certify under penalty of perjury, under the laws of the State of Washington, that the above statements are true and correct.

Dated and Signed at Tacoma, Washington

4/3/15 DATED

[Signature] SIGNED



Pierce County Radio Communications

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CERTIFICATE OF CALIBRATION & ACCURACY

I, Jorge Marciano, do certify under the penalty of perjury, under the laws of the State of Washington, in the County of Pierce, that all applicable tests and measurements were made on the following Doppler Traffic Radar equipment:

Manufacturer: MPH Industries Date Certified: 04/06/2015
Model: MPH Python Agency: Dupont PD
Serial Number: PYT380000580
Operating Frequency Band: K

The aforesaid radar meets and exceeds all manufacturer's specifications.

TUNING FORK

I, Jorge Marciano, do certify under the penalty of perjury, under the laws of the State of Washington, in the County of Pierce, that all applicable tests and measurements were made on the following Doppler Radar Tuning Forks:

Tuning Fork Serial No.: 742735 Date Certified: 04/06/2015
Oscillation (Cycles per Second): 2525 Agency: Dupont PD
Operating Frequency Band: K
MPH: 35

When operated between the temperature of -22F to +140F no correction is required.

TUNING FORK

I, Jorge Marciano, do certify under the penalty of perjury, under the laws of the State of Washington, in the County of Pierce, that all applicable tests and measurements were made on the following Doppler Radar Tuning Forks:

Tuning Fork Serial No.: 261853 Date Certified: 04/06/2015
Oscillation (Cycles per Second): 4690 Agency: Dupont PD
Operating Frequency Band:: K
MPH: 65

When operated between the temperature of -22F to +140F no correction is required.

I certify under penalty of perjury, under the laws of the State of Washington, that the above statements are true and correct.

Dated and Signed at Tacoma, Washington

4/6/15 DATED SIGNED



DUPONT

MUNICIPAL COURT

MAR 19 2015

CERTIFICATION CONCERNING DESIGN AND CONSTRUCTION OF ELECTRONIC SPEED MEASURING DEVICES

FILED

I, Jorge Marciano, do certify under penalty of perjury, under the laws of the State of Washington, in the County of Pierce, that the following is true and correct:

I am employed with Pierce County as a Communications Systems Technician, Speed Measuring Device (SMD) Specialist, and assigned as the custodian of the SMD records. I have been employed in this capacity since Sep 10, 2007. Part of my duties include the maintenance and repair of all types of electronic radar speed measuring devices (SMD's) used by the Dupont Police Department.

The Dupont Police Department currently uses the following SMD's:

SMD TYPE:	MODEL:	MANUFACTURE:
Radar	Genesis I	Decatur Electronics
Radar	Genesis II Select	Decatur Electronics
Radar	Genesis II Directional	Decatur Electronics
Radar	Genesis VP	Decatur Electronics
Radar	Genesis VPD	Decatur Electronics
Radar	Genesis GHD	Decatur Electronics
Radar	Speed Trak Elite	Decatur Electronics
Radar	Falcon HR	Kustom Signals
Radar	Golden Eagle II	Kustom Signals
Radar	Directional Golden Eagle II	Kustom Signals
Radar	HR-12	Kustom Signals
Radar	Python	MPH Industries
Laser	Compact Speed Lidar	Dragoneye Technology

I have the following qualifications with respect to the above stated SMD's:

I have seven years military experience as a communications specialist in the maintenance and repair of electronics equipment and seven years with Pierce County repairing, maintaining, and certifying SMD's for cities and counties throughout the state. I received training from the following manufacturers as well as from the Pierce County Engineer. On Dec 13, 2007, I successfully completed the Decatur Electronics course in repair and service of Doppler traffic radar and on Mar 13, 2008, I successfully completed the MPH Industries course in repair and service of Doppler traffic radar. Further, on Jan 14, 2009, I successfully completed the requirements for Kustom Signals certification in operation and maintenance of Doppler traffic radar and traffic laser and on Sep 3, 2009, I successfully completed the requirements for Applied Concepts certification in operation and maintenance of Doppler traffic radar and traffic laser.

The Pierce County Radio Communications Division maintains manuals for all of the above listed SMD's. I am personally familiar with those manuals and know how each of the SMD's are designed and operated. From Feb 20, 2008 to Oct 16, 2014, I performed all of the SMD testing. The units are evaluated and certified to meet or exceed existing performance standards.

The Pierce County Radio Communications Division maintains a testing and certification program. This program entails:



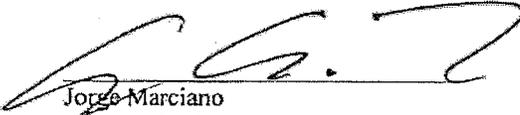
Radar SMD's utilize the Doppler effect to measure speed. Testing consists of using a precision signal generator to inject a signal into the SMD to simulate speeds of 35mph and 65mph for the stationary/moving radars. It also includes injection of a signal to simulate 35mph for stationary radar only. The signal must cause the SMD to display the exact speed, ± 1 mile per hour, in order to be certified for accuracy. I then measure the frequency of the tuning fork(s) assigned to each SMD to insure that they are within ± 5 Hz tolerance. I issue a certificate of accuracy for both the SMD and the tuning fork(s). The original certificates are issued to the Dupont Police Department who in turn issues a copy to the court. I also retain a copy for my records along with the maintenance and service records for each SMD serviced.

Laser SMD's measure speed based on the velocity of light and a precision time base reference. Testing consists of three accuracy certification checks (1) Internal Self Test (2) Pulse Check to include; pulse width, power output, pulse repetition rate, and double pulse (3) and a Distance Check to include; sight alignment, vertical, and horizontal beam width ≥ 200 feet. The checks insure that the SMD is within tolerance and functioning properly. I then issue a certificate of accuracy for each SMD. The original certificates are issued to the Dupont Police Department who in turn issues a copy to the Court. I also retain a copy for my records along with the maintenance and service records for each SMD serviced.

All radar SMD's operated by the Dupont Police Department directly measure by digital message from the Doppler signal. They do not reconstitute the Doppler signal in any way, including the use of devices such as a phase lock loop (PLL), before the speed is measured.

Based upon my education, training and experience, and my knowledge of the SMD's listed above, it is my opinion that each of these electronic pieces of equipment is so designed and constructed as to accurately employ the Doppler effect in such a manner that it will give accurate measurements of the speed of motor vehicles when properly calibrated and operated by a trained operator.

I certify under the penalty of perjury, under the laws of the State of Washington, that the foregoing is true and correct.

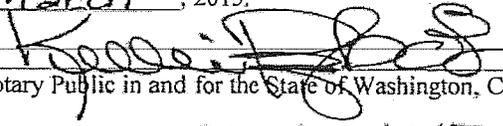


Jorge Marciano
Communications Systems Technician/
Speed Measuring Device Specialist

Signed and dated at Tacoma, Washington

Mar 18, 2015

SUBSCRIBED AND SWORN TO BEFORE ME THIS 18th DAY OF March, 2015.


Notary Public in and for the State of Washington, County of Pierce.

Commission expires 03-20-2017.





**Pierce County
Radio Communications**

1422 112th Street East
Tacoma, Washington 98445

(253) 798-7147

CERTIFICATE OF ACCURACY

I, Jorge Marciano, do certify under the penalty of perjury, under the laws of the State of Washington, in the County of Pierce, that all applicable tests and measurements were made on the laser Speed Measuring Device (SMD) listed below. The SMD was found to meet or exceed all manufacturer's specifications.

Laser SMD Information and Certification Summary

Manufacturer: <u>DragonEye Technology, LLC.</u>	Date Certified: <u>18-Mar-15</u>
Model: <u>Compact Speed Lidar</u>	Agency: <u>Dupont Police Department</u>
Serial Number: <u>12898</u>	

Distance Tests

Long Range	Expected: 205.0 ft	Tested: 204.9 ft	<input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Pass	<input type="checkbox"/> Fail
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Operational Tests

Controls Operational	<input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Pass	<input type="checkbox"/> Fail
RFI Indicator	<input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Pass	<input type="checkbox"/> Fail

Pulse Characteristics Tests

Pulse Frequency (Rep Rate)	Expected: <=390 Hz	Tested: 146.93 Hz	<input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Pass	<input type="checkbox"/> Fail
Pulse Width	Expected: 10 to 40 nS	Tested: 25.31 nS	<input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Pass	<input type="checkbox"/> Fail
Double Pulse			<input checked="" type="checkbox"/> N/A	<input type="checkbox"/> Pass	<input type="checkbox"/> Fail

Beam Characteristics Tests

Optical Power	Expected: <=200 mW	Tested: 169.93 uW	<input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Pass	<input type="checkbox"/> Fail
Wavelength	Expected: NA	Tested: ND	<input checked="" type="checkbox"/> N/A	<input type="checkbox"/> Pass	<input type="checkbox"/> Fail
Horizontal Beam Width			<input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Pass	<input type="checkbox"/> Fail
Vertical Beam Width			<input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Pass	<input type="checkbox"/> Fail
Sight Alignment			<input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Pass	<input type="checkbox"/> Fail

I certify under penalty of perjury, under the laws of the State of Washington, that the foregoing is true and correct.

Dated and Signed at Tacoma, Washington 3/18/15 [Signature]
DATE SIGNED