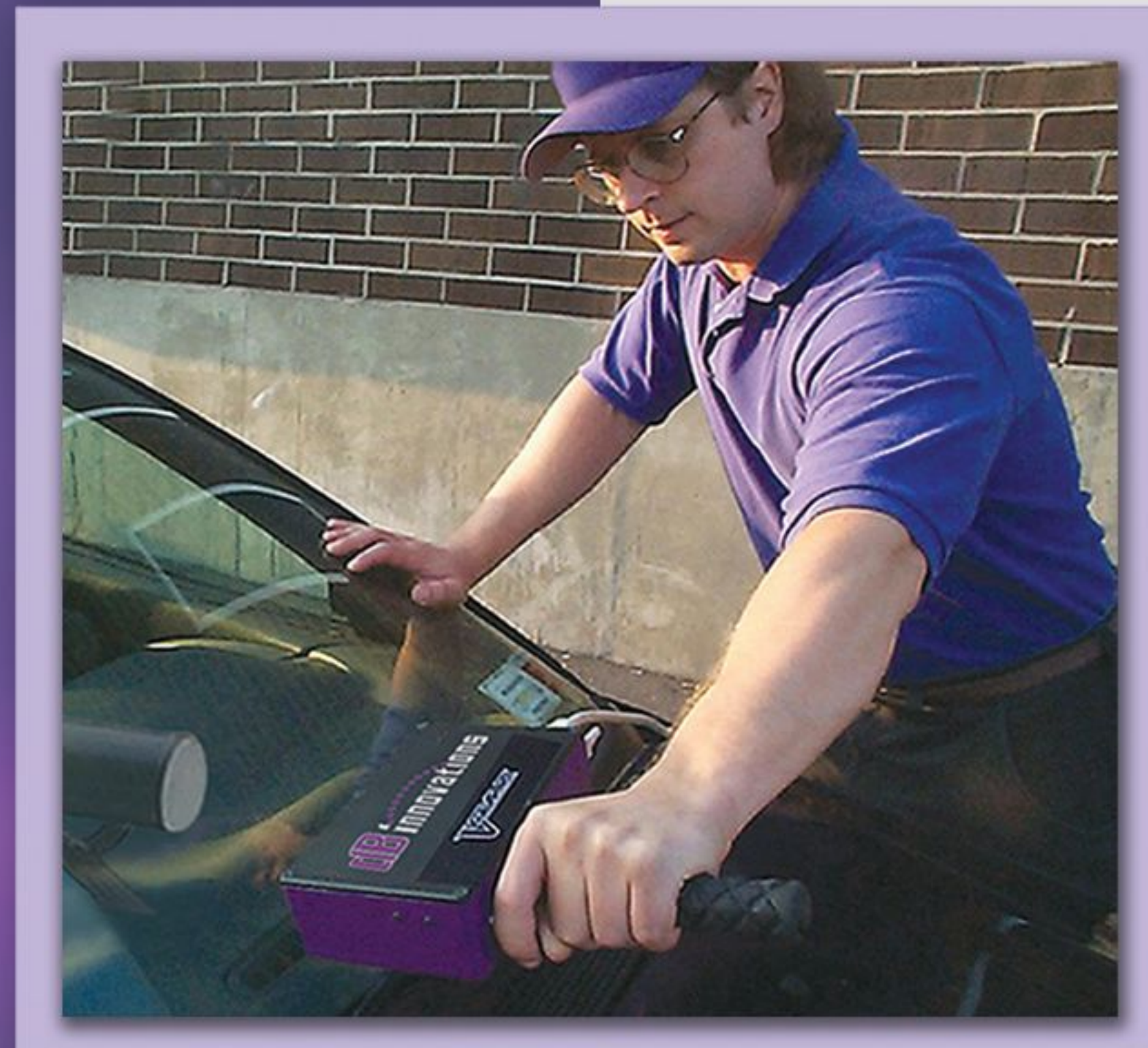


# Police Radar Certification Equipment Specialists

**dB innovations**  
www.vocar.com

**PRO-TECT™**  
Computerized Radar Certification Equipment



**VOCAR HFX**  
Expandable Radar Certification Equipment



Sales Phone: 800-371-3758

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# PRO-TECT™

## Police Radar Certification Equipment

With nearly all police departments using traffic radar in need of periodic accuracy certification to be court accepted, dB Innovations offers easy to use equipment solutions for both do-it-yourself police departments and radar service providers. Plus, with our comprehensive PRO-TECT system and expandable VOCAR HR unit you have the ability to purchase equipment tailored for your local testing requirements.

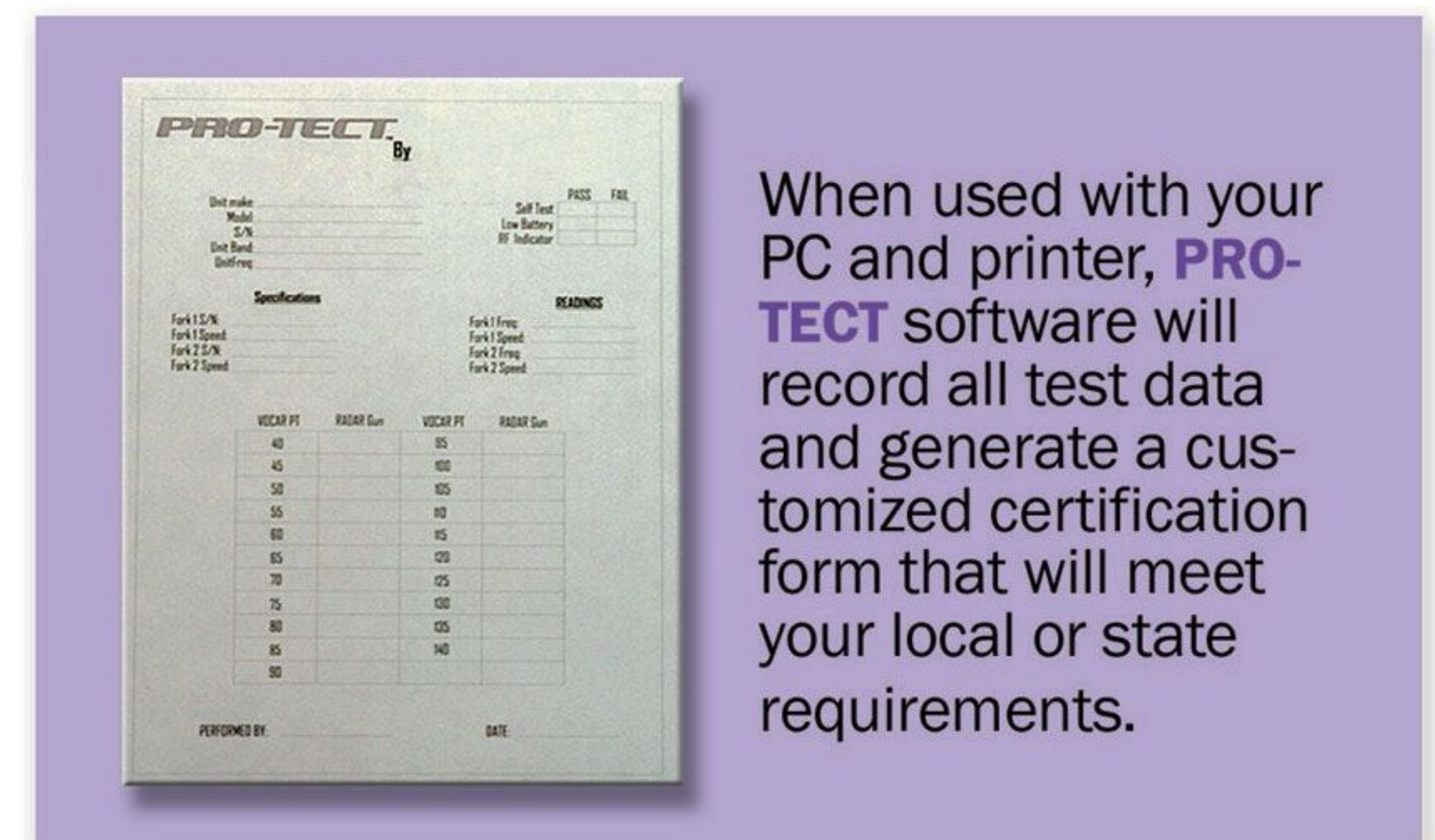
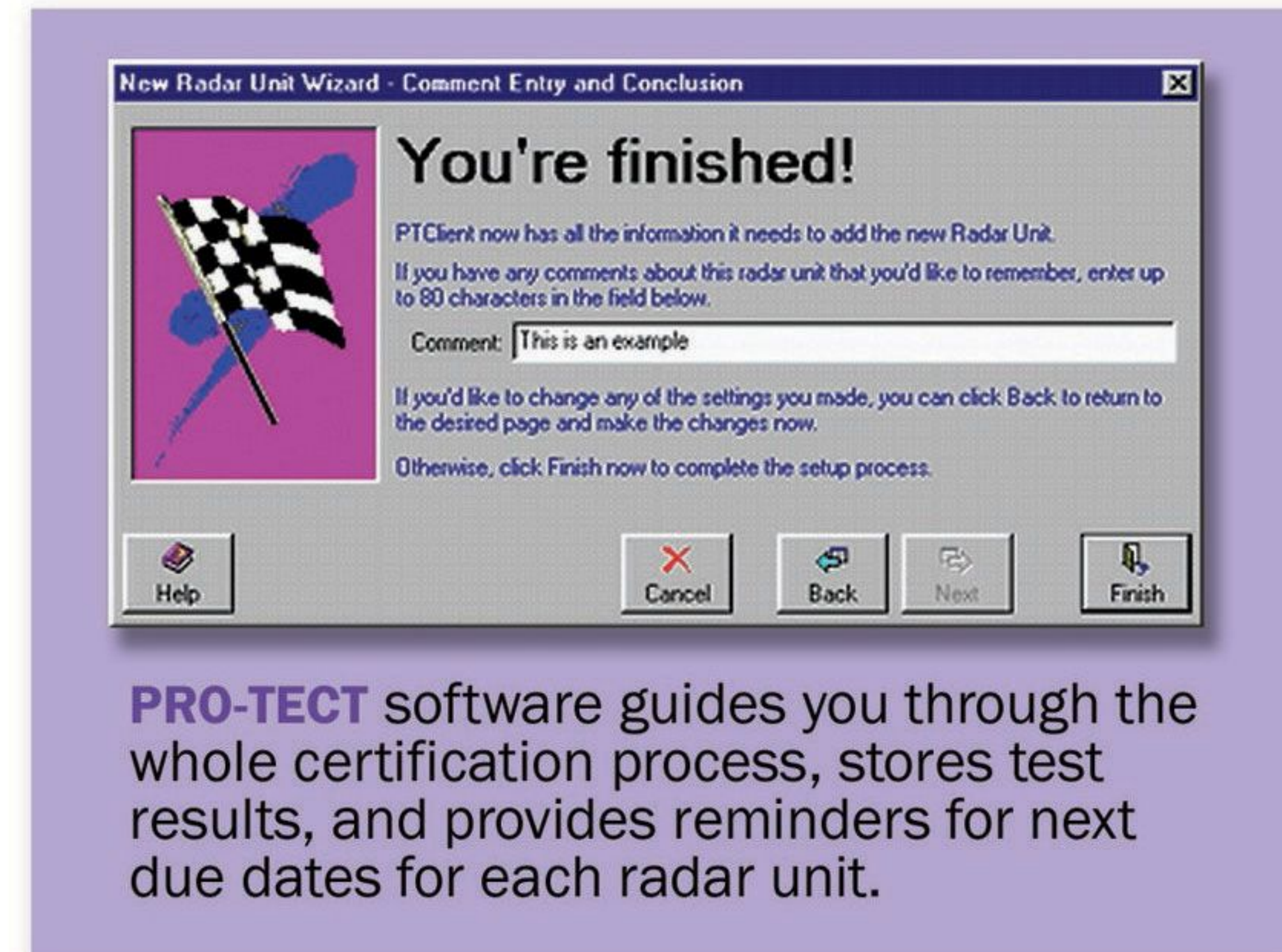
## For Comprehensive Police Radar Certifications

Our patented PRO-TECT system offers unmatched comprehensive computerized testing for radar certifications. Comprised of our VOCAR PT hardware and Windows-based PC software, the PRO-TECT system guides you through the testing process while seamlessly transferring all test data into your PC and generating a professional customized form upon passing certification.



## PRO-TECT Testing Highlights

- ✓ Certifies radar and tuning forks accuracy in 10 minutes.
- ✓ Handles all X, K and Ka band radar and tuning forks.
- ✓ Portable equipment. (Use in field, squad car or work bench.)
- ✓ Performs audio tone speed simulation test for X, K and Ka-bands.
- ✓ Measures radar transmitter center frequency for X, K and KA bands.
- ✓ Measures power density. (With separately purchased Narda #EF5091 probe.)
- ✓ Guided test software stores data & generates certification forms.
- ✓ PC or laptop and printer needed to use PRO-TECT and included software.
- ✓ Tamper-proof software ensures unmatched certification integrity. (Test results cannot be altered.)



**PRO-TECT** equipment can be used in the office, field, service garage or work bench.



With included microwave wand, **PRO-TECT** works with no radar antenna removal needed from squad car.

# VOCAR HRX

## Expandable Police Radar Certification Equipment



Microwave Wand

The VOCAR HRX radar certification equipment is designed for non-computerized testing with push button controls and the flexibility to purchase tests that meet your area requirements. Working from our "Base" unit, customers can easily convert this same unit into a comprehensive testing device with the relevant upgrades listed below for our "Enhanced" and "Enhanced Plus" versions.



### "Base" Unit Tests:

- ☑ Certifies radar & tuning forks accuracy in 10 minutes.
- ☑ Handles all X, K and KA band radar and tuning forks.
- ☑ Performs audio tone speed simulation test for X, K and Ka-bands.
- ☑ Portable equipment. (For use in field, squad car or work bench.)
- ☑ No personal computer required to use.

### "Enhanced" Version - Includes all base unit tests and adds:

- ☑ Measure radar transmitter center frequency for X, K and Ka bands with microwave wand upgrade.

### "Enhanced Plus" Version – Includes all base and enhanced version tests plus:

- ☑ Measure power density (radiation) with power density meter cable upgrade. (Must also be used with separately purchased Narda #EF5091 probe. The Narda probe is not made by dB Innovations.)



VOCAR HRX Base Unit

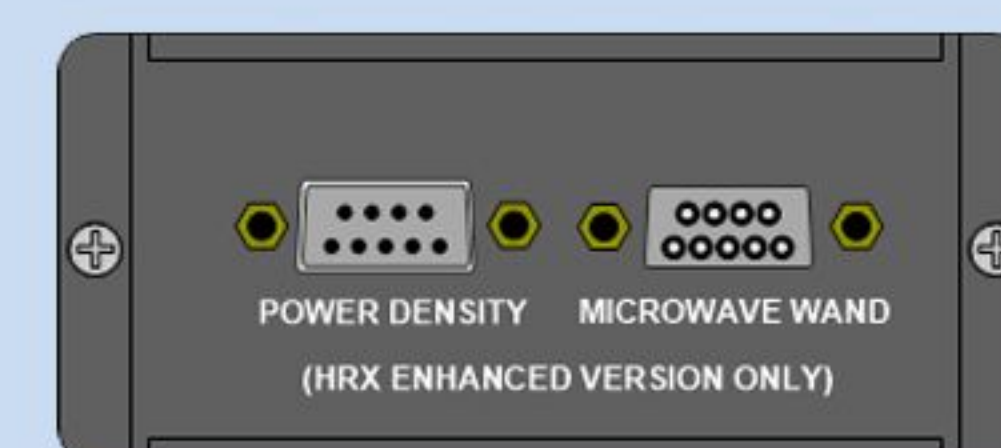
Push Button Controls – No PC Needed



Power Density Meter Cable

Expandable to handle center frequency and power density testing.

Portable Hand Held Equipment Side View



# Police Radar Certification Equipment Comparison Chart

MODEL	VOCAR HR-BV "Base" Unit	VOCAR HR-EV "Enhanced" Unit	VOCAR HR-EVP "Enhanced Plus" Unit	PRO-TECT System
Tuning Forks: Measures X, K and KA-bands	Yes	Yes	Yes	Yes
Audio Tone Speed Simulation: Handles X, K, KA-bands in moving & stationary modes	Yes	Yes	Yes	Yes
Center Frequency Test: For X, K & KA-bands	No	Yes	Yes	Yes
Power Density Test <i>(Used with separately purchased Narda #EF5091 probe.)</i>	No	No	Yes	Yes
Verification of radar unit's self-test feature	No	No	No	Yes
Radio frequency interference (RFI) test	No	No	No	Yes
Low voltage test	No	No	No	Yes
Guided test software which computerizes results	No	No	No	Yes
Software to print certification forms (when using your PC & printer)	No	No	No	Yes
Included Accessories	Pelican case, AC adapter, cigar plug adapter, audio speaker	Pelican case, AC adapter, cigar plug adapter, audio speaker, microwave wand	Pelican case, AC adapter, cigar plug adapter, power density cable, speaker, microwave wand	Pelican case, AC adapter, cigar plug adapter, audio speaker, microwave wand, software CD.
Warranty	1 year parts & labor	1 year parts & labor	1 year parts & labor	1 year parts & labor

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Technical Specs	PRO-TECT	VOCAR HRX
<b>Dimensions</b> Unit (Width x Height x Length) Wand (Width x Height x Length)	10" x 12" x 5" @ 8 lbs 7" x 4" x 1.5" (+ 5" Handle) @ 3 lbs	3.3" x 1.5" x 6.2" 7" x 4" x 1.5" (+ 5" Handle) @ 3 lbs
<b>Shipping Dimensions</b> Carrying Case	18" x 24" x 8" @ 25 lbs	Base unit: 16.5x 14"x7.5 @ 12 lbs Enhanced unit: 20.5" x 18.5"x 8" @ 18 lbs
<b>Power Requirements</b> Voltage Current	120VAC or 10 – 14 VDC 4 Amps	120VAC or 10 – 14 VDC 1 Amp
<b>Temperature</b> Storage Operating Range (after 10-minute warm-up)	-20°C - 70°C 0°C - 50°C	-20°C - 70°C 0°C - 50°C
<b>Timing</b> Frequency (CFT) Stability: temp 0°C - 50°C Stability: ageing  Frequency (TFG & DRC) Stability: temp 0 C - 50 C Stability: ageing	10.000000 MHz ± .2ppm ( ± .1 ppm typical) ± 2 x 10 <sup>9</sup> ppm max/day  10.000000 MHz ± .2ppm ( ± .1 ppm typical) ± 2 x 10 <sup>9</sup> ppm max/day	10.000000 MHz ± .2ppm ( ± .1 ppm typical) ± 2 x 10 <sup>9</sup> ppm max/day  8.000000 MHz ± 2.5ppm ± 1 ppm max/year
<b>TFG</b> Frequency Range Frequency Accuracy Resolution Speed Range Reading Displayed in	200 Hz – 15,000 Hz ± 2 Hz 1 Hz 15 – 140 MPH Hz & MPH	200 Hz – 15,000 Hz ± 2 Hz 1 Hz 15 – 140 MPH Hz & MPH
<b>DRC</b> Frequency Range Frequency Accuracy Resolution Speed Range Reading Displayed in Output Power (into 8 ohms)	200 Hz – 15,000 Hz ± 2 Hz 1 Hz 15 – 140 MPH MPH 1.5 Watts	200 Hz – 15,000 Hz ± 2 Hz 1 Hz 15 – 140 MPH MPH 1.5 Watts
<b>Microwave Freq. Counter</b> Range  Accuracy Resolution Reading Displayed in	10.525 GHz ± 25 MHz 24.150 GHz ± 100 MHz 33.400 GHz – 36.000GHz ± 100 MHz @CF 5 MHz 1 MHz GHz	10.525 GHz ± 25 MHz 24.150 GHz ± 100 MHz 33.400 GHz – 36.000GHz ± 100 MHz @CF 5 MHz 1 MHz GHz
<b>Power Density</b> Range Accuracy Resolution Reading Displayed in	0 – 20 mW/cm <sup>2</sup> 5% .01 mW/cm <sup>2</sup> mW/cm <sup>2</sup>	0 – 20 mW/cm <sup>2</sup> 5% .01 mW/cm <sup>2</sup> mW/cm <sup>2</sup>
<b>Variable Power Supply</b> Range Accuracy Resolution Reading Displayed in	7VDC – 16VDC @ 4 amps .2 Volts .1 Volts Volts	- - - -
<b>Current Measurement</b> Range Accuracy Resolution Reading Displayed in	0 – 4 amps .1 amps .1 amps Amps	- - - -
<b>Sensitivity</b> Range Accuracy Resolution Reading Displayed in	0 – 50 dB .5 dB .1dB dB	- - - -

## PRO-TECT Software Minimum Personal Computer (PC) Specifications:

- ▶ Processor Speed: 1.5 GHz
- ▶ RAM: 1 GB
- ▶ HD Space: 1 GB
- ▶ (1) CD-ROM Drive
- ▶ (1) USB Port
- ▶ Video Display: 1024 x 768 pixels
- ▶ Operating System: Windows XP, Windows 7 or Windows 10.



● **PRO-TECT** system requires customers to supply their own PC/laptop and printer to use system and to print certification forms.

● Each **PRO-TECT** system is shipped NIST certified for 1-year. After the first year it is recommended customers send the **PRO-TECT** system back to dB Innovations for annual NIST service to ensure your system is operating according to national testing standards. For pricing and lead time on NIST service please call.

● All **VOCAR HRX** units are shipped NIST certified for 1-year. It is highly recommended that equipment be sent back to dB Innovations for NIST service annually to ensure equipment is working in accordance to national testing standards.