



# Service Technician Training



**PROTECTION THROUGH DETECTION**

[www.raesystems.com](http://www.raesystems.com)

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## **General Information**

### **Certified Service Technician Training**

RAE Systems offers intensive, hands-on service technician training to distributors and end-users. Attendees learn to set up, configure and test RAE Systems equipment, run diagnostics, calibrate and repair or replace pumps, sensors, lamps and other components.

### **Who Should Attend**

RAE Systems distributors operating a Factory Authorized Service Center or a RAE Authorized Warranty Repair Center and offering service for RAE Systems instruments must employ at least one RAE Systems Certified Service Technician. To become certified, technicians must attend at least attend the RAE Systems Classic Certified Service Technician Training course. We recommend that technicians also attend the RAE Systems Basic and Advanced Certified Service Technician Training courses. To maintain certification, technicians must repeat their training at least once every two years. They may be waived from repeating the Classic course if they regularly repair and service RAE instruments.

End users with large deployments of RAE Systems equipment, such as the military and refinery operators, may find that having their own trained service technicians reduces costs and increases equipment readiness.

### **Our Approach**

RAE Systems, Inc., service technician training courses are highly participative workshops. Attendees learn to set up, configure and test RAE Systems equipment, run diagnostics, calibrate and repair or replace pumps, sensors, lamps and other components. Please click on an individual course to see a detailed agenda.

### **What You Will Receive**

- ProRAE Suite software and accessories, including USB-to-Serial Adapter
- RAE Systems, Inc., "Application & Technical Notes Guide," 3rd edition, Revised 2010"
- Binder with hard-copy of all course PowerPoint slides
- CD-ROM with course materials
- Tools and spare parts (PID cleaning kits, pumps and/or pump rebuild kits, dummy sensors), as needed

### **Equipment**

RAE Systems provides all monitors, calibration and sampling gases and regulators, projection equipment and PCs, as needed.



## Courses

Five courses are offered:

- Classic Certified Service Technician Training
- Basic Certified Service Technician Training
- Advanced Certified Service Technician Training
- Advanced Certified AreaRAE Wireless Service Technician Training
  
- Advanced Certified MeshGuard Wireless Service Technician Training

## Class Size

Because our courses are very hands-on and very interactive, class size is generally limited to 12 attendees.

## Location Options

We offer three location options for most of our Service Technician Training courses:

### **RAE Systems, Inc., headquarters in San Jose, California**

RAE Systems offers state-of-the-art training facilities at our headquarters in San Jose, California. In addition to the training, attendees receive a tour of our factory and have the opportunity to meet our Technical Support Team and Service Team.



## On-site

If you need training for more than two or three people, On-site training can save you money on travel and tuition expenses by having our instructor come to you. On-site training gives you more flexibility regarding dates and times, and allows for customization of the material to fit your organization.

For On-site training, we require a classroom-style facility with ample table-top space, wall-projection space, and a 120-volt AC power source. Our trainer brings all necessary PC and projection equipment, training materials, literature, equipment and accessories.

## Regional

We offer regional training classes in the US and Canada. Please visit our website at [www.raesystems.com/training](http://www.raesystems.com/training) for cities and dates.

## Time

For all classes, instruction begins at 8:30 a.m.; class ends at 5:00 pm.

## Dress

Casual.

## **Certification**

Our customers increasingly find they must have "proof of competence" documentation on file. Successful completion of the exam at the end of each course entitles the attendee to a "Certificate of Completion," which is valid for two years. In most cases, this satisfies the requirement. RAE Systems also keeps a record on file if third-party verification is needed. **Note:** If payment has not been made in full, or is pending, the Certificate of Completion will not be released until all payment is received.

## **How to Purchase Training**

Go to [www.raesystems.com/training](http://www.raesystems.com/training) to review class descriptions and register for scheduled classes.

## **Payment**

Payment in full is due 14 days prior to the start of class. We accept Visa, MasterCard, and American Express. Purchase Orders from authorized companies are accepted.

## **Cancellation Policy**

Due to program demand and the amount of preparation required, cancellations within 2 weeks of the class date are subject to a fee of one-half of the total course fee.

## Classic Certified Service Technician Training

Course Number: ST30A

Duration: Two days, 8:30 a.m. – 5:00 p.m.

Certification: Dated Certificate of Completion, valid for 2 years

### Overview

This course is designed for new technicians with little or no previous gas detection or RAE Systems experience or those that would like a refresher course covering our legacy products. This two-day course covers the basics of servicing gas detection instruments and covers RAE Systems' established products: MultiRAE Plus, MiniRAE 2000 and ppbRAE Plus, QRAE and QRAE Plus and VRAE. Attendees who complete this class and pass the examination at the end will be able to:

- Service and maintain the MultiRAE Plus, MiniRAE 2000 and ppbRAE Plus, QRAE and QRAE Plus and VRAE, including
  - Configure, program and test the monitor
  - Download datalogged data, upload configurations and firmware
  - Field verify and calibrate the monitor
  - Conduct standard field diagnostic tests
  - Troubleshoot pump and sensor problems
  - Maintain PID lamps and sensors
  - Replace sensors, lamps and pumps

### Agenda Day One

<b>8:30 a.m. – 11:30 a.m.</b>	<b>Servicing the MultiRAE Plus</b> An overview of Diagnostic Mode and practice of standard field tests. Replacement of sensor, lamp and pump. Maintenance.
<b>11:30 a.m. – 12:30 p.m.</b>	<b>Lunch</b>
<b>12:30 p.m. – 4:00 p.m.</b>	<b>Servicing the MultiRAE Plus, cont'd</b> An overview of Diagnostic Mode and practice of standard field tests. Replacement of sensor, lamp and pump. Maintenance.
<b>4:00 p.m. – 5:00 p.m.</b>	<b>Servicing the QRAE Plus</b> An overview of Diagnostic Mode and practice of standard field tests. Replacement of sensor, lamp and pump. Maintenance.

## Classic Certified Service Technician Training cont'd

### Agenda Day Two

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<b>8:30 a.m. – 10:00 a.m.</b>	<b>Inside the EntryRAE</b> An overview of Diagnostic Mode and replacement of sensors. Maintenance.
<b>10:00 a.m. – 11:30 a.m.</b>	<b>Servicing the VRAE</b> An overview of Diagnostic Mode and practice of standard field tests. Replacement of sensors and pump. Maintenance.
<b>11:30 p.m. – 12:30 p.m.</b>	<b>Lunch</b>
<b>12:30 p.m. – 3:00 p.m.</b>	<b>Servicing the MiniRAE 2000/ppbRAE Plus</b> An overview of Diagnostic Mode and practice of standard field tests. Replacement of sensor, lamp and pump. Maintenance.
<b>3:00 p.m. – 4:30 p.m.</b>	<b>Servicing the UltraRAE</b> An overview of Diagnostic Mode and practice of standard field tests. Replacement of sensor, lamp and pump. Maintenance.
<b>4:30 p.m. – 5:00 p.m.</b>	<b>Quiz</b>

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## Basic Certified Service Technician Training

Course Number: ST30B

Duration: One day, 8:30 a.m. – 5:00 p.m.

Certification: Dated Certificate of Completion, valid for 2 years

### Overview

This course is designed for new technicians with little or no previous gas detection or RAE Systems experience or those that would like a course covering our new products. This one-day course covers the basics of servicing gas detection instruments and covers User and Service Training on RAE Systems' newer products: DoseRAE II, ToxiRAE 3, ToxiRAE Pro and QRAE II, EchoView and ProRAE Studio II. Attendees who complete this class and pass the examination at the end will be able to:

- Service and maintain the DoseRAE II, ToxiRAE 3, ToxiRAE Pro and QRAE II, including
  - Configure, program and test the monitor
  - Download datalogged data, upload configurations and firmware
  - Field verify and calibrate the monitor
  - Conduct standard field diagnostic tests
  - Troubleshoot pump and sensor problems
  - Maintain sensors
  - Replace sensors, and pumps

### Agenda

8:30 a.m. – 10:00 a.m.	<b>Using the DoseRAE 2</b> Daily Use and an overview of Programming Mode.
10:00 a.m. – 11:30 p.m.	<b>Using the ToxiRAE 3</b> Daily Use and an overview of Programming Mode. Calibration and replacement battery replacement
11:30 p.m. – 12:30 p.m.	<b>Lunch</b>
12:30 p.m. – 2:00 p.m.	<b>Using the ToxiRAE Pro</b> Daily Use and an overview of Programming Mode. Calibration and Bump Testing
2:00 p.m. – 3:00 p.m.	<b>Servicing the ToxiRAE Pro</b> An overview of Diagnostic Mode and practice of standard field tests. Replacement of sensor. Maintenance.
3:00 p.m. – 4:30 p.m.	<b>Servicing the QRAE II</b> An overview of Diagnostic Mode and practice of standard field tests. Replacement of sensors and pump. Maintenance.
4:30 p.m. – 5:00 p.m.	<b>Test</b>



## Advanced Certified Service Technician Training

Course Number: ST30C

Duration: Two days, 8:30 a.m. – 5:00 p.m.

Certification: Dated Certificate of Completion, valid for 2 years

### Overview

This two-day program is an extension of the Basic Certified Service Technician Training and covers newer RAE Systems products that have recently been introduced or that are not covered by the Basic program. In Advanced Certified Service Technician Training students will learn about MiniRAE 3000, ppbRAE 3000, UltraRAE 3000 and MiniRAE Lite, MultiRAE, MultiRAE Pro, MultiRAE Lite and new products that will be announced in the future. Attendees who complete this class and pass the examination at the end will be able to:

- Service and maintain the MiniRAE 3000, ppbRAE 3000, UltraRAE 3000 and MiniRAE Lite, MultiRAE, MultiRAE Pro, MultiRAE Lite, including
  - Configure, program and test the monitor or auto-calibration device
  - Download datalogged data, upload configurations and firmware
  - Field verify and calibrate the monitor
  - Conduct standard field diagnostic tests
  - Troubleshoot pump and sensor problems
  - Maintain PID lamps and sensors
  - Replace sensors, lamps and pumps

### Agenda Day One

<b>8:30 a.m. – 11:30 a.m.</b>	<b>Servicing the MultiRAE Plus</b> An overview of Diagnostic Mode and practice of standard field tests. Replacement of sensor, lamp and pump. Maintenance.
<b>11:30 a.m. – 12:30 p.m.</b>	<b>Lunch</b>
<b>12:30 p.m. – 2:00 p.m.</b>	<b>Servicing the MultiRAE Plus cont'd</b>
<b>2:00 p.m. – 4:00 p.m.</b>	<b>Servicing the MiniRAE 3000, ppbRAE 3000 and MiniRAE Lite</b> Hands-on practice of standard field diagnostic tests and replacement of sensor, sensor assembly, lamp, and pump

## Advanced Certified Service Technician Training cont'd

### Agenda Day Two

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<b>8:30 a.m. – 10:00 a.m.</b>	<b>Servicing the UltraRAE 3000</b> Hands-on practice of standard Programming Mode and calibration
<b>10:00 a.m. – 11:30 a.m.</b>	<b>ProRAE Guardian/RAELink 3</b> An overview of Communication with between Bluetooth and RAELink 3. ProRAE Guardian Software overview.
<b>11:30 p.m. – 12:30 p.m.</b>	<b>Lunch</b>
<b>12:30 p.m. – 2:00 p.m.</b>	<b>Using the MultiRAE/MultiRAE Pro/MultiRAE Lite</b> Daily Use and an overview of Programming Mode. Calibration and Bump Testing
<b>2:00 p.m. – 4:30 p.m.</b>	<b>Servicing the MultiRAE/MultiRAE Pro/MultiRAE Lite</b> Hands-on practice of standard field diagnostic tests and replacement of sensors, lamp, and battery
<b>4:30 p.m. – 5:00 p.m.</b>	<b>Quiz</b>

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## Advanced Certified AreaRAE Service Technician Training

Course Number: AR103

Duration: One day, 8:30 a.m. – 5:00 p.m.

Certification: Dated Certificate of Completion, valid for 2 years

### Overview

This course is designed for Service Technicians who need more in-depth knowledge of the AreaRAE and ProRAE Remote. Successful completion of the exam at the end of each course will entitle the attendee to a "Service Technician" Certificate, valid for two years, which will satisfy this requirement.

This course is also suitable for end-users who have at least one year's experience using, maintaining and setting up the AreaRAE and who are need to enhance their knowledge in service, maintenance and earn a certificate of completion.

Attendees who complete this class and pass the examination at the end will be able to:

- Diagnose sensor and lamp issues
- Repair pump
- Replace wireless and GPS antennas
- Set up, configure and test an AreaRAE
- Download datalogged data and upload configurations and firmware upgrades
- Calibrate the monitor
- Troubleshoot ProRAE Remote and Host computer

### Agenda

<b>8:30 a.m. – 11:30 a.m.</b>	<b>Service and maintain the AreaRAE</b> Calibrate the monitor Conduct standard field diagnostic tests Maintain PID lamps and sensors Replace sensors and lamps
<b>11:30 a.m. – 12:30 p.m.</b>	<b>Lunch</b>
<b>12:30 p.m. – 3:30 p.m.</b>	<b>Advance Service for the AreaRAE</b> Installation of wireless and GPS antenna Replacement of membrane panel/keypad Programming Network IDs
<b>3:30 p.m. – 5:00 p.m.</b>	<b>ProRAE Suite and ProRAE Remote</b> Troubleshooting problems Upgrading firmware Troubleshooting common problems Adding portable detectors to the network Using repeaters Programming repeaters

## Advanced Certified MeshGuard Service Technician Training

Course Number: MG103

Duration: One day, 8:30 a.m. – 5:00 p.m.

Certification: Dated Certificate of Completion, valid for 2 years

### Overview

This course is designed for Service Technicians who need more in-depth knowledge of the MeshGuard, Controller, and ProRAE Guardian. Successful completion of the exam at the end of each course will entitle the attendee to a "Service Technician" Certificate, valid for two years, which will satisfy this requirement.

This course is also suitable for end-users who have at least one year's experience using, maintaining and setting up the MeshGuard and who are need to enhance their knowledge in service, maintenance and earn a certificate of completion.

Attendees who complete this class and pass the examination at the end will be able to:

- Diagnose FMC-2000 and sensor issues
- Replace wireless antennas
- Replace membrane panel/keypad
- Set up, configure and test an MeshGuard
- Download datalogged data and upload configurations
- Calibrate the sensor heads
- Troubleshoot ProRAE Guardian and Host computer or FMC-2000

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<b>8:30 a.m. – 11:30 a.m.</b>	<b>Introduction to MeshGuard</b> MeshGuard Network FMC-2000 Basic User EchoView Basic User PowerPak Basic User
<b>11:30 a.m. – 12:30 p.m.</b>	<b>Lunch</b>
<b>12:30 p.m. – 3:30 p.m.</b>	<b>MeshGuard Service &amp; Troubleshooting</b> FMC-2000 MeshGuard Interface MeshGuard Router MeshGuard System Set-up
<b>3:30 p.m. – 5:00 p.m.</b>	<b>Hands-On Set-up &amp; Troubleshooting Practice</b> Troubleshooting problems Troubleshooting common problems Using repeaters

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