

## PRORAE REMOTE HOST CONTROLLER: CONNECTING NOTEBOOK COMPUTER WITH SERIAL OR USB PORT TO RAELINK COMMUNICATION KIT

### Introduction

This technical note offers instructions in setting up and configuring the ProRAE Remote Host Controller on a notebook computer using the RAELink Communication Kit. Instructions are given both for notebook computers with a serial port and for those with a USB Port.

### I. Minimum Parts for Standard Data Communication System (Serial Port PC)

1. RAELink, WDT-5001 (P/N: 029-7001-000), the host transceiver. It includes Computer Interface Cable (P/N: 029-3003-000), Battery Charger (P/N: 500-0066-000) and Antenna Assembly (Magnetic Mount, P/N: 029-7006-000, and Antenna, P/N: 029-7100-000).
2. A personal computer with ProRAE-Remote software (P/N: 000-5003-000) installed and running. The personal computer can be either a laptop supplied in the ProRAE Remote Host Controller turn-key package, or a computer that is furnished separately by the end user.
3. A ProRAE Remote Software (P/N: 000-5003-000) CD-ROM, if the computer is furnished separately by the user.
4. An AreaRAE Multi-gas Detector with radio frequency function, for example, P/N: 029-0902-000.

### Set up the RAELink and PC

1. Connect the Computer Interface Cable to the RS232 Ports on the Personal Computer and the RAELink modem (Figure 1, Cable A).
2. Connect the Magnetic Mount antenna cable to the serial port of the RAELink modem. (Figure 1 Cable B)
3. Connect the RAELink modem to the power by the Battery Charger. The charger light on the modem should be on if it is connected properly. A red light means that the battery is charging, and a green light means that the battery is fully charged. Turn ON the RAELink by sliding the power switch up. Note, the charger will charge the battery whether the power switch is ON or OFF.
4. Connect the Antenna to the Magnetic Mount.

### Set up the ProRAE Remote Software on the PC

1. Place the ProRAE Remote software CD-ROM in the CD-ROM drive. The setup program should start automatically when the CD is inserted.
2. Select "Install ProRAE Remote," this will install the main program. If the setup program does not start automatically, go to the "Start" menu, choose the "Run" menu, then enter path "E:\Install.exe" (assuming E: is the

CD-ROM drive). Once the path has been entered, click "Enter" to start the setup program.



Figure 1. Serial port connection of ProRAE Remote Host Controller to modem (A) and modem to antenna (B).

### Prepare AreaRAE to Transmit and Receive Data

1. Turn on the AreaRAE, and allow it to display the gas concentration. Press the [RADIO] button to toggle on the radio LED. Make sure the antenna is installed. Note: An AreaRAE will only communicate through the antenna when it displays gas concentration and the radio LED is ON. In this mode, the RS-232 serial communication port is disabled, and cannot communicate directly with a PC.

### Run the Communications Software on the PC

1. Check in the "Set Up" menu of the ProRAE-Remote, that the communication port chosen is the one to which the RAELink is connected. Press "OK".
2. Click on the "begin" button to activate the communication. Within one minute, if the AreaRAE is successfully communicating with the PC, the corresponding unit indicator will turn green, and an antenna symbol will show up on the AreaRAE display.
3. To display the AreaRAE readings, click on the corresponding unit box next to the green light button.
4. To send a message to the AreaRAE, open it's unit box, type the message in the send box and click on the "send" button.



## II. Setting up a PC with a USB Port

Connect the parts as described on the previous page, but with the addition of a USB to serial port adapter (see Figure 2).

### USB to Serial Adapter

We have tested several brands, and recommend the IOGEAR USB PDA/Serial Adapter (Model GUC232A). This adapter is compatible with most Windows Operating Systems (including Win 98 SE, Win 2000, Win ME, Win XP Professional).

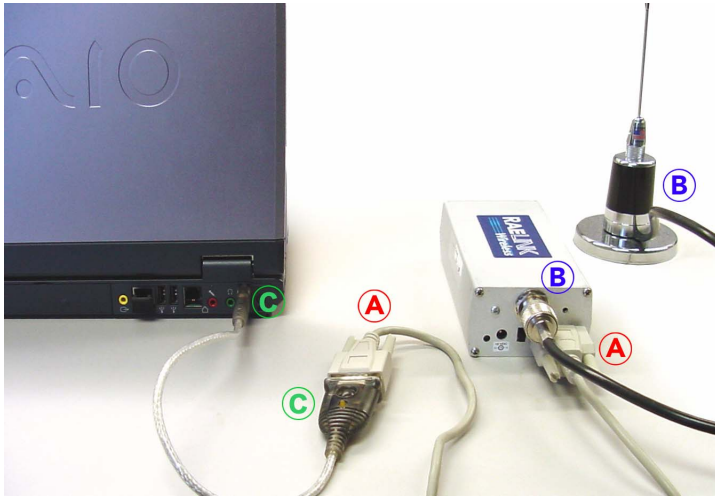


Figure 2. USB port connection of ProRAE Remote Host Controller to modem (C) & (A) and modem to antenna (B).

### Install the Driver

1. After receiving the adapter, remove the CD-ROM inside the package and put it into the CD-ROM drive. Turn on the computer.
2. After the computer is ready, plug the USB to Serial Adapter into one of the USB slots on the back of the computer. Please note that if there are more than one USB slots; choose one that you plan to use this adapter in the future. Try to use the same USB slot every time so that the COM port # remains the same and you do not need to install the driver again.
3. The computer should find the new hardware and start the new hardware installation wizard. If the computer does not find the new hardware, go to Section IV to verify the Port Configuration.
4. Following the instructions, select automatic installation. You will see a list of drivers from the CD-ROM. Select "ATEN USB to Serial Adapter" under \GUC232\win 2000. Note: ignore the following messages "This driver is not digitally signed", "This driver has not passed Window logo testing to verify its compatibility with Window XP" Click "continue anyway" to finish the installation.

### Verify the Port Configuration

1. After successful installation of the driver, click the following screens:

My Computer > >View system information >Hardware >Device manager >Ports(COM & LPT), you should see

Communication Port (COM1)

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Communication Port (COM2)  
ECP Printer Port (LPT1)  
ATEN USB to Serial Cable (COM5)

2. Note: on older Windows systems, the Port configuration is under the following screens:

My Computer > Control Panel >System >Device manager >Ports (COM & LPT)

3. If the ATEN USB to serial cable entry is not visible, the driver is not installed correctly and it needs to be re-installed.
4. If the computer does not find a new hardware when you plug in the USB to serial adapter or the driver is not installed correctly, you may need to install new hardware from the following screens:

My Computer > >View system information >Hardware >AA Hardware Wizard

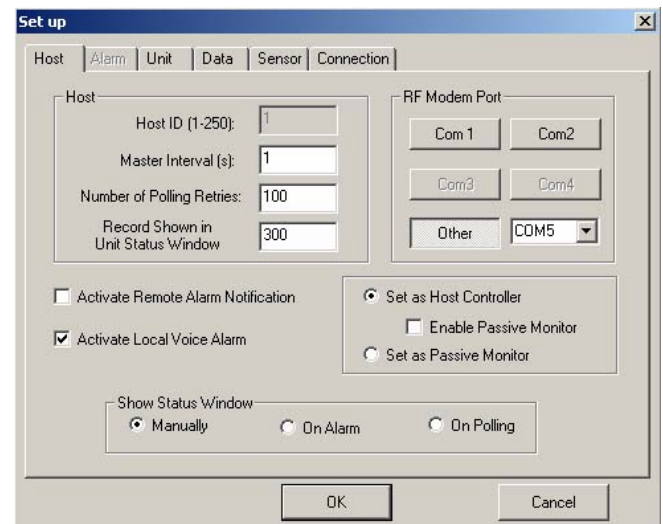
Or on older Windows:

My Computer > Control Panel >Add New Hardware

Follow the instructions; provide the path to the driver on the CD-ROM.

### Select COM Port on ProRAE Remote V1.4 and above

COM Port 5 or higher is needed for a USB connection. A COM Port number beyond 4 can be selected by clicking the "Other" button and selecting one COM Port from the drop list box on the setup menu. Earlier ProRAERemote versions (before 1.40) do not support COM Port above 4 and therefore the ProRAERemote.ini first needs to be modified manually (See below).



### Modify the ProRAE-Remote program if V1.3 or less

1. After successful installation of the driver and verification of the COM port number, the ProRAE-Remote program must be modified if using version 1.30 or lower. This is because the V1.30 ProRAE-Remote software only supports up to 4 COM ports.
2. Open the following screens:

My Computer > Local Disk C: > Program Files > ProRAE Remote

Double click on the "ProRAERemote.INI" file. The following text should be displayed in the Notepad program:

[Host Setup]

### ***Data Modem Port=1***

Host ID=1  
Sample Interval=100  
Master Interval=2000  
Polling Retry=30  
Record Number In Monitor Status=300  
PC Audio On Alarm=1  
Warn On Alarm=0  
System Type=0  
Enable Passive Monitor=1  
CHANNEL\_NUM=16

Change the Data Modem Port to 5 (or the COM port number shown with the ATEN USB to Serial cable). Save and exit the Notepad program. Make other items in the file are changed.

### **Running the ProRAE-Remote program**

The ProRAE-Remote program is now ready to run. Plug the USB to serial adapter into the selected USB slot. Connect the other end of the adapter to the RAELink modem. Turn on the power to the computer and RAELink modem. Click the ProRAE-Remote icon to start the program. The panel view should display a green light for each remote AreaRAE unit.

### **Special Considerations**

1. Although it is allowed to plug in or unplug the USB connector while the computer is on, this should be avoided to reduce the possibility of causing the computer to crash. Always plug in the USB to serial adapter before you turn on the computer and first turned off the computer power if it becomes necessary to unplug the USB to serial adapter.
2. On the back of the Sony VAIO Notebook computer, there are 3 USB slots. To use all 3 USB slots alternately, it is necessary to install the driver 3 times, one for each USB slot. The first slot will be assigned to COM5, next one will be COM6 and the third one will be assigned COM7 automatically. After the driver is installed once, it is not necessary to install it again next time the slot is connected. To simplify the matter, we recommend always using the same USB slot for the USB to Serial adapter.
3. So far, we have verified that the IOGEAR USB to serial adapter will work with the following Windows systems:
  - Win 98 SE
  - Win 2000
  - Win XP Professional edition
  - Win ME ( need to down load a newer driver from IOGEAR's web site)

### **Disclaimer**

Actual setup and configuration may vary with computer manufacturers, models, operating systems, system hardware configurations, system software configurations, and application software. Please refer to your computer hardware and software manuals for details.

### **Updates:**

Watch for updates of this technical note on the Internet at <http://www.raesystems.com>

