EVIRNET™
Base Station Owners Manual

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Introduction:

The Zonar® Systems EVIRNET™ base station radio is a transceiver operating at 902 to 928MHz in the ISM (Industrial Scientific and Monitoring) band of frequencies. The base station radio connects to a PC via serial port, software on the PC communicates with EVIRNET™ radios located in vehicles through this base station. This communication allows for short-range (approximately 1500FT) transfer of Zonar® Systems inspection data.

Compliance Statement (Part 15.19)

WARNING:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference and
(2) This device must accept any interference received, including interference that may cause undesired operation.

WARNING:

To satisfy FCC RF exposure requirements for mobile transmitting devices, use only supplied and approved antenna is with a reverse polarity SMA type connector. Use of unauthorized antenna's or modifications could impair signal quality, void your warranty and/or result in violation of FCC regulations. The end user should also be prevented from being within 20cm of the antenna during normal use.

The preceding statement must be included as a CAUTION statement in manuals for OEM products to alert users on FCC RF Exposure compliance

WARNING:

Any Change or Modification not expressly approved by Zonar® Systems could void the user's authority to operate the equipment.

(IC) Industry Canada Compliance Statements

"This device has been designed to operate with an antenna having a maximum gain of [5] dB. Antenna having a higher gain is strictly prohibited per regulations of Industry Canada. The required antenna impedance is [50] ohms."

"To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (EIRP) is not more than that required for successful communication."

"The installer of this radio equipment must ensure that the antenna is located or pointed such that it does not emit RF field in excess of Health Canada limits for the general population; consult Safety Code 6, obtainable from Health Canada's website, www.hc-sc.gc.ca/rpb"

LIMITED WARRANTY. ZONAR has created a safety inspection reporting System known as the Electronic Vehicle Inspection Report (EVIR(tm)), consisting of proprietary software, hardware and a web based collection and reporting system (collectively, the "System"). ZONAR warrants that the hardware provided to you as part of this transaction with ZONAR is free from material defects in workmanship for a period of sixty (60) days after shipment to you (or for one year for hardware you purchase). ZONAR further warrants that when used according to ZONAR's instructions, the System will perform substantially as provided in the documentation given to you as part of this transaction. This warranty does not cover any hardware or software in the System that has been subjected to damage or abuse, has been installed improperly or has been maintained by any person other than an authorized ZONAR representative and does not cover third party products or services. THIS LIMITED WARRANTY IS MADE TO YOU, AS A SUBSCRIBER ONLY, AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. ZONAR EXPRESSLY DISCLAIMS ANY IMPLIED WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, AND ANY WHICH MAY ARISE FROM COURSE OF PERFORMANCE, COURSE OF DEALING OR USAGE OF TRADE.
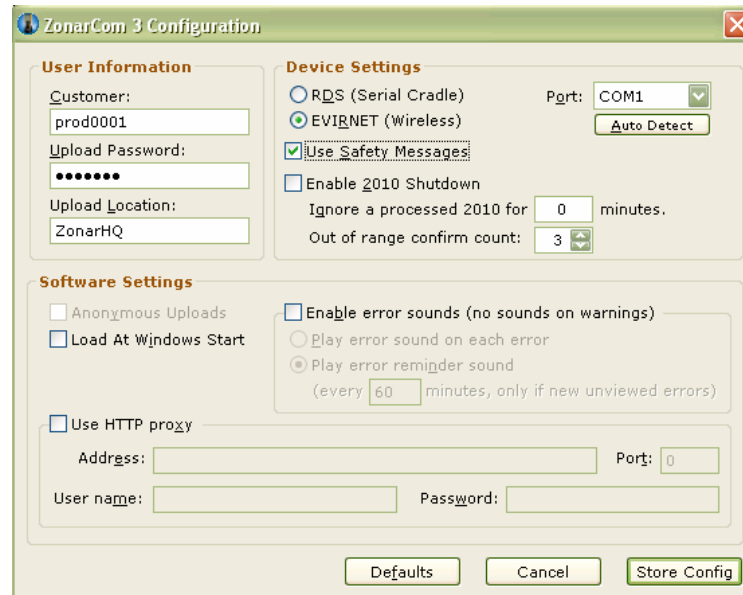
DISCLAIMER. ZONAR does not warrant any inspection or the results thereof in which the System was used. ZONAR does not review inspection reports submitted using the System for accuracy, to verify the card user's authorization to conduct vehicle inspections, to determine whether repairs are required, or to verify that repairs have been performed. Subscriber is solely responsible for controlling access to the System, reviewing inspection reports, and taking appropriate action with respect to vehicles for which inspection reports have been submitted using the System.

REMEDIES. If the System shall fail to operate as warranted through no fault of you, as the Subscriber, or any third party, ZONAR will repair or replace the defective component free of charge. ZONAR will also repair or replace leased System components that become worn due to normal use. This is the sole remedy available to you. ZONAR SHALL NOT BE LIABLE TO YOU OR ANY THIRD PARTY FOR ANY GENERAL, SPECIAL, PUNITIVE, INCIDENTAL, INDIRECT OR CONSEQUENTIAL DAMAGES, OR ANY LOSS OF PROFITS OR BUSINESS, ARISING OUT OF THIS AGREEMENT. IN NO EVENT SHALL ZONAR'S LIABILITY EXCEED THE VALUE OF ONE MONTH'S SUBSCRIPTION FEE PAID BY SUBSCRIBER TO ZONAR UNDER THIS AGREEMENT, NOT TO EXCEED $1,000.

Getting Started:

Connect the base station to a PC with a 9 pin "DB-9" serial cable (supplied), then connect the 12VDC regulated power supply (supplied) to the base station.

On the PC, install the ZonarCom 3.x software if it has not been installed yet. Right click on the ZonarCom 3.x icon and select "Settings → Configuration", this will show a dialog box similar to this:
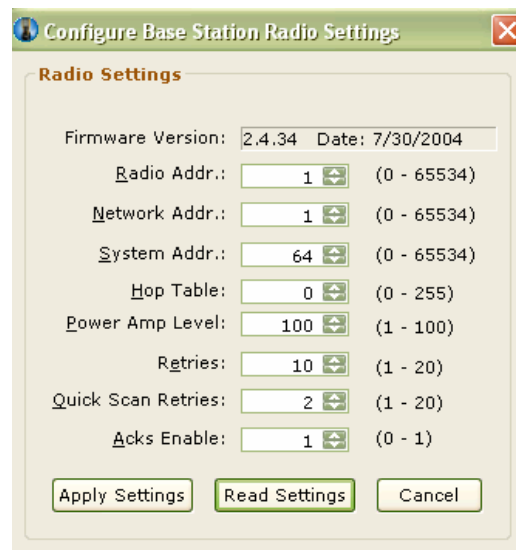

In that dialog box, select "EVIRNET™ (Wireless)", and the appropriate comm port, then click "Store Config".

The next step is to ensure that the base station can communicate with the PC, to do this, right click on the ZonarCom 3.x icon again and select "Settings → Base Station Radio", this will show a dialog box similar to this:

Click on the "Read Settings" box, and notice that the values update:

The updating of data from the "Read Settings" button signifies that the PC is communicating with the base station, if it is not; please contact Zonar® Systems for support.

Radio Addr:	This is ID of the radio
Network Addr:	This typically set to "1"
System Addr:	This is typically the customer code
Hop Table:	This is typically set to "0"
Power Amp Level:	This is typically set to "100", but can be lower
Retry Count:	This is typically set to "10", but can be adjusted
Acks Enable:	This is typically set to "1"
Quick Scan Retries:	This typically set to "2"
Firmware Version:	This is the version of firmware in the radio

Note: Factory Calibration ensures that a "Power Amp Level" setting of "100" = 230mW RF power (Measured output @ 3 meters).

Now that ZonarCom 3.x has been setup, you may close this dialog box, and begin use of the radio. The software on the PC will retrieve the transceiver ID's from the EVIRSOFT™ web application (customer database), and begin to poll each radio ID in sequence.

To see the radio access the remote transceivers located in vehicles, right click on the ZonarCom 3.x icon, then select "Status → Radio", this will show a dialog box similar to:
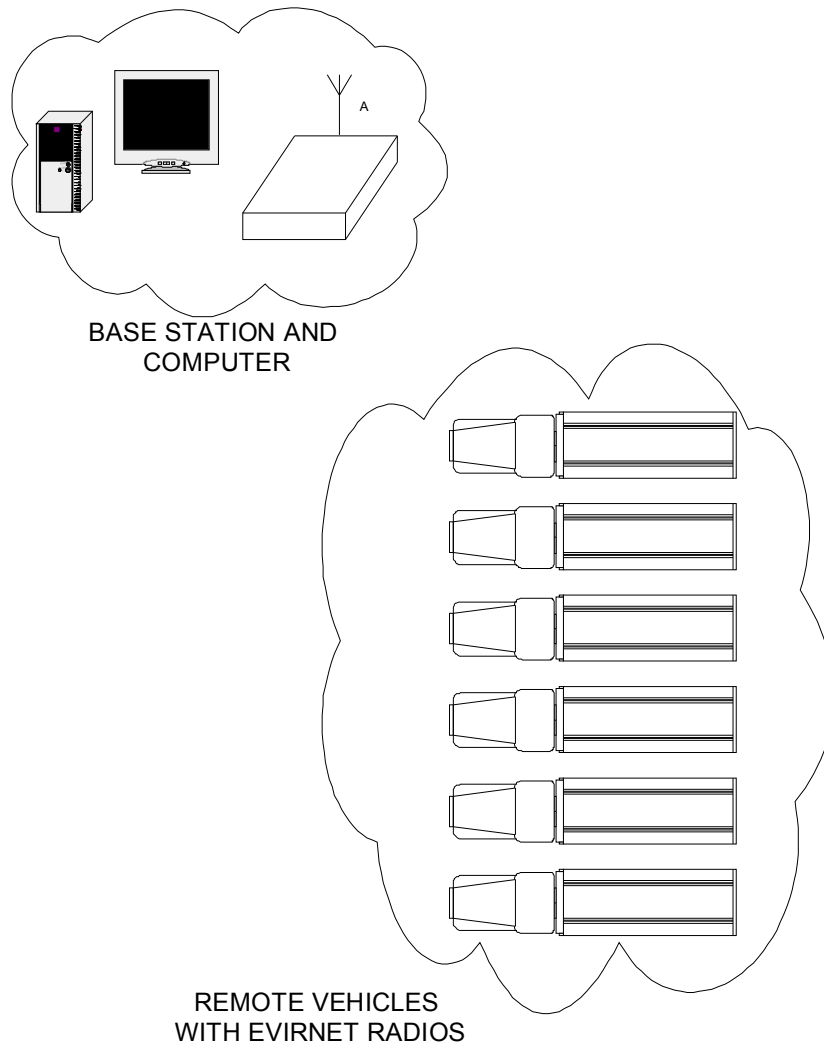
System Components:

1. **12VDC Power Supply**
2. **EVIRNET™ Base Station (shown with 1/2Wave antenna)**
3. **Serial Data Cable.**

System Overview:

The basic system is comprised of a base station connected to a PC, and from one to several hundred remote transceivers located typically in a vehicle.

BASE STATION AND
COMPUTER

REMOTE VEHICLES
WITH EVIRNET RADIOS

System Specifications:

• Frequency Hopping Spread Spectrum Radio
• 902 MHz to 928 MHz
• 230mW transmit power (Radiated output @ 3 meters)
• -103 dBm Sensitivity
• 53 Hopping Channels
• Operating Temp -20C to +70C
• Range 1500FT Obstructed, 4000FT+ Unobstructed

Approved Antennas:

Nearson Model   S467AH-915S (1/2 Wave Whip)
Nearson Model   SG101N-015 (omni directional antenna)