WESROC® RMS Mini-Base Unit
MT9100-BM Users Manual

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Wesroc® RMS Mini-Base Unit Overview

Wesroc® RMS Mini-Base

The Wesroc® Remote Monitoring System Mini-Base Unit is a reduced cost Base Unit that is used to receive transmissions from a Wesroc® RMS Tank Transmitter. It also uses the Public Switched Telephone Network to then communicate with the Wesroc® RMS Host Computer system. It functions just like the Regular Base Unit with a few exceptions. Just like the regular Base Unit, the Mini-Base will only listen to Tank Transmitters. Additionally it can only be initialized to one Tank Transmitter, unlike the Regular Base Unit which can be initialized to up to six Tank Transmitters. For applications requiring other types of Wesroc® RMS transmitters like Temperature, Switch Closure and Gas Meter Transmitters, the Wesroc® RMS Deluxe Base Unit will be needed.

Installation

Installing the Wesroc® RMS Tank Transmitter

First install the Wesroc® RMS Tank Transmitter on the tank to be monitored. For complete installation instructions for the Tank Transmitter, please refer to the Tank Transmitter manual.

Once the Tank Transmitter has been installed, be sure to remove the programming magnet from the “Off” position and place the magnet on the “Init” position. This will cause the Tank Transmitter to transmit initialization packets once every 15 seconds for one hour. After one hour, the Tank Transmitter will return to normal operation even if the programming magnet is left in the “Init” position.

Installing the Wesroc® Mini-Base Unit

With the Tank Transmitter installed and the programming magnet in the “Init” position, install the Wesroc® Mini-Base unit inside.

Locate a position inside within reach of phone line connection. This location must also be close enough to the Tank Transmitter for the Mini-Base to receive an adequate radio frequency signal from the Tank Transmitter. It is recommended to use a Wesroc® RMS Portable Diagnostic Unit to first find a suitable location for the MiniBase.

Once a proper location has been found for the Mini-Base, connect the Mini-Base to AC power using the attached wall-mounted power supply. Then connect the Mini-Base to a phone line that has access to the Public Switched Telephone Network. It is important to verify that power to the Mini-Base will be constant and reliable. It is an easy mistake to plug the Mini-Base into a switched outlet.

The Mini-Base is capable of being wall-mounted or the Mini-Base can simply sit on a counter top.

Initialization

Initializing the Wesroc® Mini-Base Unit to the Tank Transmitter

A fresh, un-configured, Mini-Base will display two underscores "__". To place the Mini-Base in initialization mode, press and hold all three buttons at the same time. This brings up the Mini-Base Menu. Press either the "Up" button or the "Down" button until the display shows "IN". With the display showing "IN", press the "Mode" button. This places the Mini-Base in initialization mode. While the Mini-Base is in initialization mode, the display will show a dash on the left side and up to three dashes on the right side. The three dashes on the right side sequentially scroll up. This indicates that the Mini-Base is listening for a Tank Transmitter initialization packet.

When the Mini-Base receives an initialization packet from a Tank Transmitter, the left side of the display will change from a dash "-" to an asterisk "*".

It is recommended to always verify the signal strength of the Tank Transmitter transmission! To do this (once an initialization packet has been received, and while the Mini-Base is still in initialization mode), press the Mode button once. The display then shows an antenna on the left side and the signal strength on the right side. The signal strength range is from 0 to 9. More signal strength is always better. The stronger the signal, the less prone the Mini-Base will be to missing transmissions from the Tank Transmitter. We recommend that the signal strength reading be at least 3 for reliable operation.

Once the Mini-Base has been initialized to the Tank Transmitter, the Mini-Base should be removed from initialization mode. To do this, press and hold the Mode button for 3 seconds. This will return the Mini-Base to normal operation. While in normal operation, the Mini-Base will continuously show the tank level as reported by the Tank Transmitter. With no activity, the Mini-Base will return from initialization mode to normal operation in ten minutes.

Configuration

Configuring the Wesroc® Mini-Base Unit to the Host Computer

With the completion of the initialization process, the Mini-Base must then be configured to the Host Computer system to which it will be reporting. In order for the configuration to the Host Computer to be accepted, a record must be entered into the Host Computer for this particular Mini-Base. Additionally, this record must be set properly to allow configurations. Please contact your host administrator for these details and to receive the "Base ID" number. The configuration cannot be completed unless the Host Computer has been properly set up with the record for this Mini-Base.

Again, using the menu in the Mini-Base, select the "CN" function. This is accomplished by pressing all three buttons at the same time then scrolling up or down until "CN" is displayed. Once "CN" is displayed, press the "Mode" button once. The Mini-Base will then display two question marks "??" while it verifies that a proper telephone line is connected. If it cannot verify that a phone line is connected, it will display "NL" for No Line. If the phone line is okay, the display will change to "CF". This indicates that it is okay to proceed with the configuration process. With the Mini-Base showing "CF", go off-hook with a telephone that is connected to the same phone line as the Mini-Base. The Mini-Base will then show "DL" for DiaL. Then dial the phone number for the Host Computer. Continue to listen. The Host Computer will then answer the call and have a brief interaction with the Mini-Base to verify that it is ready for the configuration process. Upon making this verification, the Host Computer will say "Please enter the Base ID now". Following the verbal instruction, enter the Base ID provided by the host administrator for this particular site. The host computer will verify the Base ID and then proceed with the configuration. Wait for the configuration to complete. The host will then announce that the configuration has either passed or failed. Also, the Mini-Base will show "OK" if the configuration passed or "ER" for ERror if the configuration failed. A successful configuration must occur before the system will operate for any particular site.

Since, during the configuration, the connected phone line must remain off-hook, it is important to remember that ambient noise can be picked up by the microphone in the telephone. In a noisy environment, this can interfere with the configuration report with the Host Computer. To minimize this, it is helpful to cover the microphone during the configuration process.

Service Call

Performing a Wesroc® Mini-Base Service Call

While not absolutely necessary, it is important to perform a service call. The configuration process sets up the needed information in the Mini-Base in order for it to perform its function. This includes tank level alarm thresholds, scheduled reporting information, etc… But, importantly, one of the things that the Host Computer sets up is the host phone numbers that the Mini-Base unit uses to call the Host Computer. This is the phone number that is used regardless of the phone number dialed to reach the Host Computer during the configuration process. It is possible for a configuration to pass and a service call to fail due to an improper phone number sent by the Host Computer. A service call verifies that the Host Phone Number as sent by the Host Computer is correct.

Use the Mini-Base menu to get to the service call function. Press all three buttons then press the “Up” or “Down” button until the display shows “SC” for Service Call. Then press the “Mode” button. This will start a service call.

During the service call, the display will show rotating pointers in the left and right side of the display. These show when information is being passed from the Mini-Base to the Host Computer and from the Host Computer to the Mini-Base respectively. When the service call completes successfully, the display will show “OK”. If the service call fails for any reason, the display will blink “ER” for ERror.

Wesroc® RMS Mini-Base Unit Specifications

Mechanical

Mechanical
- Size: 6.1” x 4.6” x 2.1”
- Weight: 8 oz.

Electrical

Electrical
- AC Voltage: 120Vrms
- DC Voltage: 6Vdc
- DC Current: 100mA Maximum, 60mA Typical.

Radio Frequency

Wesroc® RMS ISM RF System
- Frequency: 911.980 MHz to 920.980 MHz VP
- Power: +8dBm (6.3mW)
- FCC ID: RWB-MT9100-BM
- IC: 115A-MT9100-BM

Warranty Information

Independent Technologies, Inc. (ITC) warrants the MT9100-BM WESROC® RMS Mini-Base Unit against defects in materials or workmanship for a period of one year from date of shipment to original purchaser. All units deemed defective under this warranty will be replaced or repaired at ITC's option. No other warranty is expressed or implied, nor will responsibility for operation of this device be assumed by ITC.

Radio Frequency Exposure Warning

To ensure that exposure to hazardous radio frequency radiation is prevented, this equipment must not be installed in a location where humans will be routinely within 20 centimeters of it.

To ensure that FCC requirements are met regarding radio frequency exposure, Wesroc® RMS Mini-Base Units are not to be placed in operation where they will be collocated with other Wesroc® RMS Mini-Base Units. Collocation is considered to be where one operating Wesroc® RMS Mini-Base Unit is within 20 centimeters of another operating Wesroc® RMS Mini-Base Unit.

Radio Interference

This equipment (FCC ID number RWB-MT9100-BM and IC number 115A-MT9100-BM) has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

The Wesroc® RMS Mini-Base Unit contains no user serviceable parts. Any changes or modifications to the Wesroc® RMS Mini-Base Unit that are not expressly approved by ITC could void authorization to use the Wesroc® RMS Mini-Base Unit.

Telecommunication Notice

This equipment complies with Part 68 of the FCC rules. Located on the equipment is a label that contains, among other information, the ACTA registration number and ringer equivalence number (REN.) If requested, this information must be provided to the telephone company.

The REN is used to determine the quantity of devices which may be connected to the telephone line. Excessive REN's on the telephone line may result in the devices not ringing in response to an incoming call. In most, but not all areas, the sum of the REN's should not exceed five (5.0). To be certain of the number of devices that may be connected to the line, as determined by the total REN's contact the telephone company to determine the maximum REN for the calling area.

This equipment cannot be used on the telephone company-provided coin service. Connection to Party Line Service is subject to State Tariffs.

If this equipment causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. If advance notice isn't practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right the file a complaint with the FCC if you believe it is necessary.

The telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the operation of the equipment. If this happens, the telephone company will provide advance notice in order for you to make the necessary modifications in order to maintain uninterrupted service.

If trouble is experienced with this equipment, please contact:
Company Name:
Independent Technologies
26 First Avenue S.E.
New London, MN. 56273
Phone: 320-354-2929
Fax: 320-354-5827

If the trouble is causing harm to the telephone network, the telephone company may request you to remove the equipment from the network until the problem is resolved.

This equipment uses the following USOC jacks: RJ11C

It is recommended that the customer install an AC surge arrester in the AC outlet to which this device is connected. This is to avoid damaging the equipment caused by local lightening strikes and other electrical surges.