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Certification Exhibit

FCC ID: P2SNTGR900IV3
IC: 4171B-R900IV3

FCC Rule Part: 15.247, 15.249
IC Radio Standards Specification: RSS-210

ACS Project Number: 11-0359

Manufacturer: Neptune Technology Group, Inc.
Model: R900i SP

Manual

ARB UTILITY MANAGEMENT SYSTEMS WATER | ELECTRIC | GAS

R900i SP INSTALLATION AND MAINTENANCE GUIDE (DRAFT)
R900i SP Installation and Maintenance Guide

R900i SP Installation and Maintenance Guide
ARB UTILITY MANAGEMENT SYSTEMS WATER | ELECTRIC | GAS

Trademarks used in this manual

E-Coder is a trademark of Neptune Technology Group Inc. R900 is a trademark of Neptune Technology Group Inc. Other
brands or product names are the trademarks or registered trademarks of their respective holders.

FCC Notice

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.

NOTE: This equipment 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.

RF Exposure Information

This equipment complies with the FCC RF radiation requirements for uncontrolled environments. To maintain compliance
with these requirements, the antenna and any radiating elements should be installed to ensure that a minimum separation distance of 20cm is maintained from the general population.

Professional Installation

In accordance with section 15.203 of the FCC rules and regulations, the MIU must be professionally installed by trained utility meter installers. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Industry Canada

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This radio transmitter (identify the device by certification number, or model number if Category II) has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Le présent émetteur radio (identifier le dispositif par son numéro de certification ou son numéro de modèle s'il fait partie du matériel de catégorie I) a été approuvé par Industrie Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal et l'impédance requise pour chaque type d'antenne. Les types d'antenne non inclus dans cette liste, ou dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l'exploitation de l'émetteur.+

Manufacture	Model Number	Maximum Gain	Impedance
Neptune Technology Group	12527-xxx	0dBi	75 ohm

R900i SP Installation and Maintenance Guide

Literature No. IM R900i SP 02.06
Part No. 12560-002

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1 Product Description
This section provides a general description of the R900i SP register (subsequently referred to R900i SP). The R900i SP by Neptune is an integrated register that contains both the E-Coder and R900 technologies in one register that collects meter reading data. It then transmits the data for collection by

the meter reader. A walk-by handheld, mobile unit, or fixed network receives the data and stores it to be downloaded into the utility billing system for processing. The R900i SP is easily installed and operates within an RF band which does not require an operating license. The R900i SP meets FCC regulations part 15.247 allowing higher output power and greater range. The R900i SP uses frequency-hopping spread spectrum technology to avoid RF interference and enhance security. The transmitted data is updated at 15-minute intervals and is transmitted every 14 seconds. A unique 10-digit MIU ID is included in the transmission of data. This allows the meter to be read by a walk-by handheld, mobile, or fixed network data collection units. The R900i SP is designed to offer advantages to utility organizations of all sizes:

- Increases meter reading accuracy
- Eliminates "hard to read" meters
- Protects utility liability by increasing meter reader safety
- Requires no external wiring or programming
- Provides enhanced 8-digit AMR meter reading
- Provides proactive customer service benefits (leak, tamper and backflow detection)

Figure 1 R900i SP Inside and Pit Versions

R900i SP Programming

The R900i SP is NOT field-programmable. At the factory, each of the following items is programmed into the MIU:

- Serial number - Each MIU is given a unique 10-digit serial number/identification number.
- Time between MIU transmissions - The time between MIU transmissions is set for approximately 14 seconds. Custom time is not available.
- Meter size and change gear information.

RF Protocol Error Detection

The RF protocol is comprised of a header, data packet, and an error detection mechanism that reduces the erroneous data.

RF Frequency Control Algorithm

The MIU's frequency-hopping spread-spectrum has a sequence of at least 50 different channels for transmitting data. Associated with the 50 channels are 50 frequencies that can be pre-selected in a pseudo-random manner. These 50 frequencies are coded into the software.

RF Transmission Period and Randomness

The random period generation uses the same random seed created for the channel definition to generate the transmission randomness. The randomness algorithm is defined so that no two consecutive transmissions from two MIUs will interfere with one another.

2 Specifications

This section provides you with the specifications for the R900i SP.

Electrical Specifications

Transmitter Specifications
Environmental Conditions
Functional Specifications
Dimensions and Weight
Power Lithium battery
Transmit Period Every 14 seconds
Transmitter Channels 50
Channel Frequency 910-920 MHz
Output Power Meets FCC Part 15.247
FCC Verification Part 15.247
Operating Temperature -22° to 149°F (-30° to 63°C)
Storage Temperature -40° to 158°F (-40° to 70°C)
Operating Humidity 0 to 95% Condensing
Register Reading 8 digits (AMR)
9 digits (Visual)
MIU ID 10 digits
Dimensions Refer to Figure 2 and Figure 3
Weight Inside - 1.08 lbs. (490 grams)
Pit - 1.38 lbs. (625 grams)
Specifications
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Figure 2 R900i SP Pit Dimensions
Figure 3 R900i SP Inside Dimensions
R900i SP Inside and Pit Installation and Maintenance Guide 5
3 General Installation Guidelines
This section describes tools, materials, and general installation information for the R900i SP.
Tools and Materials
Table 1 shows the recommended tools you may need to successfully install the ECoder) R900*i* or to replace the MIU's internal battery.
Safety and Preliminary Checks
Observe the following safety and preliminary checks before and during each installation:
• Verify that you are at the location specified on the Site Work Order.
• Verify that the site is safe for you and your equipment.
• Notify the customer of your presence, and tell the customer that you will need access to the water meter.
• If the Site Work Order does not have an MIU ID number on it, write in the ID number(s) of the MIU you are about to install. If the Site Work Order already has an MIU ID number on it, verify that it matches the ID numbers on the MIU you are about to install.
Some items may not apply to your specific installation, or the list may not contain all required tools or materials.
Table 1 Recommended Tools
Item Description/ Recommendation Use
Tool Kit Contains standard tools including:
• Screwdrivers

• Hammer
• Pliers
Various installation procedures performed by the utility
Flashlight Activating the MIU
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4 Activating and Reading the R900i SP

How to Activate LCD Using the Light Sensor

The light sensor is recessed under the small round hole near the center of the dial face. The hole is marked with a flashlight graphic (see figure). The light sensor activates the LCD display for several minutes when the unit is exposed to a light source. For example, a unit mounted in an inside location would turn on the LCD for several minutes after the room light is turned on. A unit mounted in an outside pit would turn on the LCD for several minutes after the pit lid is opened exposing the unit to daylight. If the LCD is currently off, the LCD may be reactivated by covering the dial plate with your hand for about two seconds. In bright sunlight, it may be necessary to close the cover or the pit lid momentarily. If the LCD does not reactivate as expected, try shining a flashlight on the light sensor.

Figure 4 Activating the LCD

light sensor
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How to Read

It is important to become familiar with the information available from the meter. To identify this information the following icons and displays are helpful.

Table 2 Icons and Displays

Light Sensor, recessed under the small hole near the center of the faceplate of the R900i SP, supplies the power for the LCD panel (light activated).
Flow/Leak Indicator shows the direction of flow through the meter:
ON Water in use
OFF Water not in use.
Flashing Water is running slowly/low flow indication.
Leak indicator displays a possible leak:
OFF No leak indicated.
Flashing Intermittent leak indicated. Water used during at least 1/2 of the 15-minute intervals in the last 24 hours (96 15-minute intervals in a 24-hour period).
Continuous ON
Continuous leak indicated. Water used during all 15-minute intervals in the last 24 hours.
Nine-digit LCD displays the meter reading in billing units of gallons or cubic feet.

Last **three** digits Testing units used for meter testing.
Fifth & Sixth
reading
digits
Reading units.
First **four** digits Typical billing digits.
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Common Causes of Leaks
If the leak indicator is flashing or continuously on, the R900i SP is indicating that a possible leak may exist. Leaks can result from various circumstances. To better help you identify a possible leak, the following table contains some common causes of leak problems that can occur.
Table 3 Possible Leaks
Possible Cause of Leak Intermittent Leak
Continuous Leak
Outside faucet, garden or sprinkler system leaking
Toilet valve not sealed properly
Toilet running
Faucet in kitchen or bathrooms leaking
Ice maker leaking
Soaker hose in use
Leak between the water meter and the house
Washing machine leaking
Dishwasher leaking
Hot water heater leaking
Watering yard for more than eight hours
Continuous pet feeder
Water-cooled air conditioner or heat pump
Filling a swimming pool
Any continuous use of water for 24 hours
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How to tell if water is in use
To determine if water is in use, complete the following steps:
1 Check the flow indicator by closely watching it for two minutes.
2 Determine the following conditions:
• If the arrow is Flashing, then water is running very slowly.
• If the arrow is continuously ON, water is running.
• If the arrow does not flash, water is not running.
What to do if there is a leak
The following checklist can be helpful if the R900i SP leak indicator shows a possible leak.

If continuous leak is repaired

If a continuous leak is found and repaired, complete the following steps:

1 Use no water for at least 15 minutes.

2 Check the leak icon.

3 If the leak is OFF, then a leak is no longer indicated.

If intermittent leak is repaired

If an intermittent leak is found and repaired, complete the following steps:

1 Check the leak icon after at least 24 hours.

2 If the leak has been correctly repaired, the leak icon changes from **Continuous ON** to **Flashing**.

Software

A software update is required for EZRoute or RouteMAPS to interpret the advanced feature data communicated from the Neptune R900i SP.

Table 4 Checklist for Leaks

Check all faucets for possible leaks.

Check all toilets and toilet valves.

Check the ice maker and water dispenser.

Check the yard and surrounding grounds for a wet spot or indication of a leaking pipe.

5 Installing the Inside Version

This section describes storage and unpacking instructions, preliminary tests, tools, materials, site selection, and inside installation of theR900i SP version MIU.

Prior to Installation

Storage

Upon receipt, inspect shipping containers for damage, and inspect the contents of any damaged cartons prior to storage.

Once the inspection is complete, store the cartons in a clean, dry environment. The unit should be in sleep mode until it is exposed to light.

Unpacking

As with all precision electronic instruments, the R900i SP MIU should be handled carefully; however, no additional special handling is required. When shipped, the assembly is lying on its side. You should lift the assembly out of the box by the meter main case. Refrain from lifiting using the battery assembly.

After unpacking the MIU, inspect it for damage. If the MIU appears to be damaged or proves to be defective upon installation, notify your Neptune Sales Representative. If one or more items requires reshipment, use the original cardboard box and packing material.

Figure 5 R900i SP Inside Installation

Installing the Inside Version

Tools Needed

Table 1 on page -5 shows the recommended tools you need to successfully install

the R900i SP or replace the MIU's internal battery.

Site Selection

Installation and operation in moderate temperatures increase reliability and product life. See "Environmental Conditions" on page 3.

Follow these guidelines when selecting a location to install the R900i SP:

• The R900i SP must be installed in a vertical and upright position.

• The selected location should be clear of all obstructions.

• Some items may not apply to your specific installation, or the list may not contain all required tools or materials.

Installing the R900i SP Inside Version MIU

The following are steps for installation of the R900i SP inside version MIU.

New Meter Installation

1 The service line must be flushed prior to meter installation in order to remove debris in the line.

2 Place an electrical grounding strap on the service line, connecting the inlet and outlet service lines on either side of the meter setting.

3 Before installing the R900i SP meter, remove the thread protectors and spud caps. Be sure that no debris enters the meter during installation.

Some items may not apply to your specific installation or the list may not contain all required tools or materials.

Always follow your company's safety practices and installation guidelines when installing an R900i SP. Never perform an installation during a lightning storm or under excessively wet conditions.

Suitable inlet and outlet meter valves and couplings/setters must be installed if they are not already present. Appropriate space must be allowed in the line for the R900i SP meter laying length and two couple gaskets.

The pipe ends must be sufficiently aligned so that the coupling and ECoder) R900*i* meter threads can engage without binding or cross-threading.

Installing the Inside Version

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4 Place the coupling gaskets inside the coupling nuts and set the R900i SP meter in the line. The R900i SP meter should be in the horizontal position with the register dial facing upward. The direction of flow marked on the meter must agree with the direction of water flow.

5 Start the coupling nuts by hand then use a wrench and tighten sufficiently to prevent leakage. Be careful not to cross-thread the connections.

6 Open the R900i SP meter outlet valve slowly. Open a down stream faucet and run enough water to dissipate entrained air and flush the line. While the faucet is open, check to see if the R900i SP meter is operating correctly.

7 Turn off the faucet and check the R900i SP meter installation

for leaks.
8 To activate the LCD and begin the MIU transmissions, use a small flashlight to activate the light sensor. The light sensor is recessed under a small hole near the center of the faceplate.
9 Test the installation as described in “Testing the ECoder) R900i Inside Installation” on page 13.

Retrofit Meter Installation:

10 Use a punch/screwdriver and hammer to punch out the tamper proof seal pin on the existing register head.
11 Remove the existing register by twisting counter-clockwise
12 Install the new R900i SP register head onto the meter body in the desired orientation by twisting clockwise.
13 Test the installation as described in “Testing the ECoder) R900i Inside Installation” on page 13.
14 Snap the new tamper-proof seal pin to secure the register to the meter body.
The small hole is denoted on the faceplate by a flashlight symbol.
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Testing the R900i SP Inside Installation

After the MIU has been installed, follow these steps to verify that the MIU is working properly.
1 Power up the handheld unit (HHU) test device to start the testing program provided.
2 When the R900i SP is installed correctly, its MIU ID# and a meter-reading appear on the HHU’s display within one minute. Verify that this is the correct meter reading by comparing it to the meter’s dial.
3 If a meter reading does not appear on the HHU’s display, or the meter reading in the HHU’s display is not the same as the reading on the meter’s dial, do the following:

- Reactivate the MIU by using a flashlight to activate the photo sensor light.
- Verify the battery is connected.
- Test the installation again (repeat steps 1 and 2).

Completing the R900i SP Inside Installation

1 Read the MIU once more before leaving the site to ensure MIU is transmitting.
2 Make sure the appropriate ID# on the MIU has been assigned to the meter setting.

To avoid RF signal saturation of the HHU, position the receiver at least 2 to 3 feet from the MIU. In a densely saturated area, removing the antenna from the handheld can assist with readings.

A register reading of 8 digits will be returned.
The light sensor is located under a small recess near the center of the dial plate. This recess is denoted by a flashlight symbol on the dial plate.

All tags are provided to aid in the elimination of transcription errors.
Installing the Inside Version
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Checklist
Before leaving the installation site, be sure to:
Table 5 Checklist Before Leaving Site
Record MIU ID for each register.
Verify that you have followed all requirements of this
Quick Install Guide.
Verify that you have recorded all required information.
Clean up any installation debris.
Verify that the requirements of the site work order
have been completed.
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6 Installing the Pit Version
This section describes storage and unpacking instructions, preliminary tests, tools, materials, site selection, and pit installation of theR900i SP version MIU.
Prior to Installation
Storage
Upon receipt, inspect shipping containers for damage and inspect the contents of any damaged cartons prior to storage.
The unit should be in sleep mode until it is exposed to light. The unit should not be transmitting until the box is opened and the unit is exposed to a light source.
Unpacking
As with all precision electronic instruments, the R900i SP MIU should be handled carefully; however, no additional special handling is required.
After unpacking the MIU, inspect it for damage. If the MIU appears to be damaged or proves to be defective upon installation, notify your Neptune Sales Representative. If one or more items requires reshipment, use the original cardboard box and packing material.
Figure 6 R900i SP Pit Installation
Installing the Pit Version
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Tools Needed
Table 1 on page -5 shows the recommended tools you need to successfully install the R900i SP or replace the MIU's internal battery.
Site Selection
Installation and operation in moderate temperatures increase reliability and product life. See "Environmental Conditions" on page 3.
Follow these guidelines when selecting a location to install the R900i SP:
• The R900i SP must be installed in a vertical and upright position.
• The selected location should be clear of all obstructions.
• Some items may not apply to your specific installation or the list may not contain all required tools or materials.
Installing the R900i SP Pit Version MIU
The following are steps for installation of the R900i SP pit

version MIU.

New Meter Installation

1 The service line must be flushed prior to meter installation in order to remove debris in the line.

2 Place an electrical grounding strap on the service line connecting the inlet and outlet service lines on either side of the meter setting.

3 Before installing the R900i SP meter, remove the thread protectors and spud caps. Be sure that no debris enters the meter during installation.

Some items may not apply to your specific installation or the list may not contain all required tools or materials.

Always follow your company's safety practices and installation guidelines when installing an R900i SP. Never perform an installation during a lightning storm or under excessively wet conditions.

Suitable inlet and outlet meter valves and couplings/setters must be installed if they are not already present. Appropriate space must be allowed in the line for the R900i SP meter laying length and two couple gaskets.

The pipe ends must be sufficiently aligned so that the coupling and ECoder) R900*i* meter threads can engage without binding or cross-threading.

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4 Place the coupling gaskets inside the coupling nuts and set the R900i SP meter in the line. The R900i SP meter should be in the horizontal position with the register dial facing upward. The direction of flow marked on the meter must agree with the direction of water flow.

5 Start the coupling nuts by hand then use a wrench and tighten sufficiently to prevent leakage. Be careful not to cross-thread the connections.

6 Slowly open the R900i SP meter outlet valve slowly.

Open a down stream faucet and run enough water to dissipate entrained air and flush the line. While the faucet is open, check to see if the R900i SP meter is operating correctly.

7 Turn off the faucet and check the R900i SP meter installation for leaks.

8 To activate the LCD and begin the MIU transmissions, use a small flashlight to activate the light sensor. The light sensor is recessed under a small hole near the center of the faceplate.

9 Test the installation as described in “Testing the ECoder) R900i Inside Installation” on page 13.

Retrofit Meter Installation:

10 Use a punch/screwdriver and hammer to punch out the tamper proof seal pin on the existing register head.

11 Remove the existing register by twisting counter-clockwise

12 Install the new R900i SP register head onto the meter

body in the desired orientation by twisting clockwise.
13 Test the installation as described in “Testing the ECoder)
R900i Inside Installation” on page 13.
14 Snap the new tamper-proof seal pin to secure the register to
the meter body.
The small hole is denoted on the faceplate by a flashlight symbol.
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Testing the R900i SP Pit Installation
After the MIU has been installed, follow these steps to verify that
the MIU is working properly.
1 Power up the handheld unit (HHU) test device to start the
testing program provided.
2 When the R900i SP is installed correctly, its MIU ID#
and a meter-reading appears on the HHU’s display within one
minute. Verify that this is the correct meter reading by comparing
it to the meter’s dial.
3 If a meter reading does not appear on the HHU’s display or the
meter reading in the HHU’s display is not the same as the reading
on the meter’s dial:
• Reactivate the MIU by using a flashlight to activate the
photo sensor light.
• Verify the battery is connected.
• Test the installation again (repeat steps 1 and 2).
Completing the R900i SP Pit Installation
1 Read the MIU one more time before leaving the site to ensure
MIU is transmitting.
2 Make sure the appropriate ID# on the MIU has been assigned
to the meter setting.
**To avoid RF signal saturation of the HHU, position the receiver at least 2
to 3 feet from the MIU. In a densely saturated area, removing the antenna
from the handheld can assist with readings.**
A register reading of 8 digits will be returned.
The light sensor is located under a small recess near the center of the dial
plate. This recess is denoted by a flashlight symbol on the dial plate.
All tags are provided to aid in the elimination of transcription errors.
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7 Maintenance and Troubleshooting
This section takes you through maintenance and troubleshooting procedures for
the R900i SP. The first topic will guide you through the steps necessary to
replace the battery that is in the main housing.
In addition, this section will guide you through some troubleshooting procedures
for both a six-wheel and a four-wheel encoder.
Replacing the MIU Battery (R900i SP Inside Version)
Removing the Battery Assembly:
1 Remove the tamper nail by using a small flat-blade

screwdriver and hammer. The blade of the screwdriver needs to be 1/8” to 3/16” wide.

2 Place the end of the screwdriver in the center of the tamper nail as shown in Figure 7.

Figure 7 Screwdriver in Tamper Nail

3 Use the hammer to drive the screwdriver through the head of the tamper nail. The head of the tamper nail will shear off and the body of the tamper nail will fall out underneath the battery.

4 Pull up on the battery housing to unsnap the battery

5 Slide the battery pack up over the antenna shaft.

6 Snap in the new battery by sliding it down over the antenna (see Figure 8). Press down on the battery housing until you hear the snaps engage.

Figure 8 Sliding Battery over Antenna

7 Push in a new tamper nail (see Figure 9) until it snaps in place. Use of a hammer or other device may be necessary to force the tamper nail into position.

8 Reactivate the R900i SP as described in Step 3 on page 13. For help on how to position and activate the MIU, refer to Step 8 on page 12.

Figure 9 Pushing in New Tamper Nail

Replacing the MIU Battery (R900i SP Pit Version)

Removing the Battery Assembly:

1 Remove the tamper seal pin by using a hammer and a screwdriver or a spring loaded punch to drive out the seal pin located in the tab at the bottom of the battery pack and register.

2 Place the end of the screwdriver or punch in the center of the seal pin as shown in figure Figure 10.

Figure 10 Screwdriver in Seal Pin

3 Use the hammer or punch to drive out the seal pin. The head of the seal pin will shear off, and the body of the seal pin will be underneath the register.

4 Pull up on the battery housing to remove the battery from hinges located on the register as shown in Figure 11.

Figure 11 Removing Battery from Hinges

5 Cut the battery wires one at a time, as close to the battery housing as possible. See Figure 12.

Figure 12 Cutting the Battery Wires

6 Use Scotchlok to splice the wires from the new battery casing to the wires that were connected to the old battery casing. See

Figure 13.

Figure 13 Using Scotchlok to Splice Wires

7 Place the Scotchloks in the small compartments on each side of the register hinges.

8 Attach new battery pack to hinges and swing down into position. Be careful not to pinch any wires during this procedure.

9 Push in new register seal pin until it snaps.

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Upgrading the R900i SP Antenna

1 Remove the pit lid from the pit box.

2 Unscrew the connector nut from the top of the connector housing on the existing whip antenna.

3 Remove the connector housing by turning it counter-clockwise ¼ turn to remove.

4 Remove the flat black rubber washer from the base of "F" connector.

5 Unscrew the whip antenna from the "F" connector.

6 Remove the through the lid antenna components from the plastic bag.

7 Feed the antenna cable and housing through the 1 ¾" hole in the meter pit lid. Slip the large plastic nut over the antenna cable and thread it onto the antenna assembly to secure it to the pit lid. (See Figure 14.)

8 Make sure the smooth side at top of threads on nut is facing upward.

Figure 14 Feeding Antenna Cable

9 Place the flat black rubber washer on the MIU around the male coax connection (See Figure 15.)

Figure 15 Placing Washer on MIU

10 Apply a coating of Novaguard around the base of the "F" connector and on the flat black rubber washer.

The existing pit lid will require a 1 ¾" diameter hole to be drilled or cut into the lid or the pit lid will have to be replaced w/ a lid that contains a hole.

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11 Connect the coaxial cable connector to the "F" connector on the MIU/register housing. This connection should be handtight. (See Figure 16.)

Figure 16 Connecting the Coaxial Cable

12 Make sure the washer is properly seated. Connect the plastic connector housing to the 3-lobed black plastic latch plate (See Figure 17).

Figure 17 Connecting the Plastic Connector

13 Slide the black conical-shaped gasket down the cable until it engages the connector housing. (See Figure 17.)

14 Tighten the connector nut onto the threaded portion of the

connector housing. This connection should be hand-tight. Do not use pliers. (See Figure 16.)

Contact Information

Within the United States, Neptune support is available Monday through Friday, 8:00 AM to 7:00 PM Eastern Standard Time, by telephone or fax.

To contact Technical Support by phone, call 1-800-647-4832. If all support technicians are helping other customers, your call is routed to the Neptune Support voice mail system. Please leave your name, the name of your company, your company's Personal Identification Number (PIN), and your telephone number. Calls are returned within normal business hours in the order they are received.

To contact Technical Support by fax, send a description of your problem to 1-334-283-7497. Please include on the fax cover sheet the best time of day for a support technician to contact you.

To contact Technical Support by email, send your letter to the following address:

hhsupp@neptunetg.com

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Glossary

antenna (whip) The RF antenna that can be removed to upgrade to a through-the-lid antenna.

antenna (pit) The MIU antenna used for pit installations.

conical-shaped gasket The cone-shaped rubber gasket on antenna cable used to seal cable at top of connector housing.

connector housing The black plastic 1/4-turn connector used to waterproof antenna cable connection to pit MIU.

connector nut The black plastic nut used to depress conical-shaped gasket and seal antenna cable at the top of connector housing.

flat washer The washer used to seal cable connector housing to pit MIU.

light sensor The component located under the recess that is used to activate the LCD. (See Liquid Crystal Display.)

Liquid Crystal Display (LCD) The component where the meter reading and value-added icons are displayed.

MIU Meter Interface Unit.

register read time The default time is once an hour for ProRead and 15 minute interval for E-Coder (ARB VII). Custom time is not available.

serial number A unique identification number given to each MIU at the factory. The default value is the last programmed plus one. Custom serial numbers are not available.

tamper nail The small black plastic nail used to secure the battery pack to the Inside enclosure.

transmission time The time between MIU transmissions. The default is approximately fourteen (14) seconds. Custom time is not available.

Glossary

Notes:

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