



KONGSBERG

Seaglider Ubuntu Basestation Installation User Guide

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Document history

Rev	Changes
A	First draft
B	Added installation instructions for 'raw' mode feature.
C	Updated for installing with .tar files
D	Fixed a few missing instructions
E	Update for 2.09 release and added install instructions for python-scipy 0.13.3
F	Added support for Ubuntu 14

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INTRODUCTION

These instructions are for the first-time installation of the Seaglider Basestation software on a computer running the Ubuntu 14.04 (Server) Linux operating system.

Note *Do not use these instructions to update already-installed Basestation software. Use the Basestation Upgrade Procedure (document #4900053) for that purpose.*

REQUIREMENTS

The following requirements must be met before installing the Seaglider Basestation software.

1. The Basestation.2.09.RX.tar.gz file and the BasestationThirdParty.2.09.RX.tar file must be available. The 'X' in 'RX' indicates the release number.
2. The computer operating system must be Ubuntu 14.04 (Server) with at least 1GB RAM and 40GB of disk space.
3. The installer must have an account on the computer with 'sudo' (root) privileges and running the "bash" shell.
4. The computer on which the Basestation is being installed must be able to download files from the Internet.

INSTALLATION PROCEDURE

Setup

1. Login to the computer and copy the Basestation.2.09.RX.tar.gz and the BasestationThirdParty.2.09.RX.tar files to the installer's home directory.
2. Extract the contents of the BasestationThirdParty.2.09.RX.tar file with:
`tar -xvf BasestationThirdParty.2.09.RX.tar`
3. Verify that the following files are now present in the installer's home directory:
 - lrzsz-0.12.20.tar.gz
 - rawxfer-0.tar.gz
 - rudicsd-0.tar.gz
 - scipy-0.13.3.tar.gz
 - seawater-1.1.tar.gz

4. Set the file's permissions with:

```
chmod 644 *.gz
```

5. Type the following commands:

```
sudo apt-get update
```

```
sudo apt-get install -y python-numpy tcsh python-matplotlib
```

```
sudo apt-get install -y mgetty csh make xinetd iptables pwgen
```

```
sudo apt-get install -y libatlas-base-dev gfortran
```

Install scipy

1. cd to the installer's home directory and type the following command:

```
tar -xvzf scipy-0.13.3.tar.gz
```

2. cd to the scipy-0.13.3 directory

3. Type the following command:

```
sudo apt-get build-dep -y python-scipy
```

4. Type the following command (may take more than 1/2 hour to complete) :

```
sudo python setup.py install
```

Install Seawater tools

1. cd to the installer's home directory and type the following command:

```
tar -xvzf seawater-1.1.tar.gz
```

2. cd to the seawater-1.1 directory

3. Type the following command:

```
sudo python setup.py install
```

Install lrzsz tools

1. cd to the installer's home directory and type the following command:

```
tar -xvzf lrzsz-0.12.20.tar.gz
```

2. cd to the lrzsz-0.12.20 directory and type the following commands:

```
chmod +x configure
```

```
./configure  
sudo make install
```

3. Verify that files named lrb, lrx, lrz, lsb, lsx, and lsz now exist in /usr/local/bin.

4. Prevent Ubuntu updates from replacing these files by typing this command:
sudo apt-mark hold lrzsz

Install RUDICS

1. cd to the installer's home directory and type the following command:
tar -xvzf rudicsd-0.tar.gz

3. cd to the rudicsd-0 directory and type the following commands:
make
sudo cp rudicsd /usr/local/bin
chmod +x rudicsd_configure.sh
sudo ./rudicsd_configure.sh (accept all of the defaults)

4. The script may fail to restart xinetd. If so, do it manually with these commands:
sudo stop xinetd
sudo start xinetd

5. If your gliders will be connecting to the Basestation with the Iridium RUDICS protocol, then open a hole in your firewall for the RUDICS port number 11114.

Install rawxfer

1. cd to the installer's home directory and type the following command:
tar -xvzf rawxfer-0.tar.gz

3. cd to the rawxfer-0 directory and type the following commands:
make
sudo cp rawrcv rawsend /usr/local/bin

Install Basestation

1. cd to the installer's home directory and type the following commands:
sudo tar -xvzf Basestation.2.09.RX.tar.gz
sudo cp -R basestation /usr/local/basestation

```
cd /usr/local/basestation
```

2. The files in /usr/local/basestation should all be owned by root , belong to the root group, and have "rwxr-xr-x" permissions. If this is not the case, set the correct file permissions with the commands:

```
sudo chown root *  
sudo chgrp root *  
sudo chmod 755 *.py
```

You may also have to repeat the chown & chgrp commands in the basestation_support, Validate-66.12, and Sensors subdirectories.

7. While still in the /usr/local/basestation directory, type the following commands:

```
sudo chmod +x *.sh  
sudo ./setup_users.sh  
sudo ./copy_sg000.sh
```

8. cd to the /usr/local/basestation/Validate-66.12 directory and type the following commands:

```
sudo chmod +x *.sh  
sudo ./install.sh (you can ignore any compiler warnings)
```

9. Verify that the files cmdedit, targedit, sciedit, and validate exist in /usr/local/bin. Also verify that the directory /home/sg000 exists.

Validate installation

1. Validate the installation by performing the following steps.

2. cd to the installer's home directory and type the following command to setup a test account:

```
sudo python /usr/local/basestation/Commission.py --glider_password=135791 1
```

3. Type the following command:

```
sudo touch /home/sg001/testfile
```

4. cd to the rudicsd-0/test directory and type the following commands to start the validation test:

```
chmod +x *.sh  
./valBSinstall.sh
```

The test will take about 30 seconds to start and about a minute to finish. A successful test will print: "Basestation install succeeded." A failed test will print: "Basestation install failed! Contact Kongsberg support!" You can contact Kongsberg support by emailing to km.support.seaglider.kongsberg.com.

5. Remove the sg001 account by typing:

```
sudo userdel -r sg001
```

POST-INSTALLATION

1. If your Basestation will be sending email messages when gliders log in, you will need to edit the `/usr/local/Basestation/glider_logout` file (make a backup first) and add "`--domain_name=YourBasestation'sFullyQualifiedDomainName`" to the line that starts with "`python /usr/local/Basestation/Base.py`". We usually add it after the "`--daemon`" text. An example of a Fully Qualified Domain Name (FQDN) is "`basestation1.sgbase1.com`".

You will also need to set up a mail server.

2. You may also want to disable root login over ssh.