

- Repeat section "Software configuration for a single site" on page 1 for multiple sites.

III. Automate Process

Use cron as the scheduling tool to automate the download process. (See attached man pages for cron details). Two options for automating the process are listed below. Option 1., "Download software installed in \$HOME directory" can be used if you have the lapdog software located in your \$HOME directory. Option 2, "Download software not installed in \$HOME directory", can be used when the software is not in the home directory. You can determine your home directory by typing **\$HOME**.

1. Download software installed in \$HOME directory

- For a single site, build a file that looks similar to EXAMPLE.cron (shown below).

```
0 * * * dwnld_trimble SITE | /usr/ucb/Mail -s "From Site" user@unavco.ucar.edu
```

This will download *SITE* at midnight every day and email user the status of the download when finished. An example of building a cron file is shown below.

Set the environment variable EDITOR to vi if not already set (e.g. **setenv EDITOR vi**)

Execute the command **crontab -e** (you will be in the vi editor)

Add the following lines to download the data daily at 00:15

```
15 0 * * * dwnld_trimble SITE | /usr/ucb/Mail -s "From SITE" username@machine
```

- For a multiple sites, build a file that looks similar to the one shown below.

```
1 * * * dwnld_trimble SITE1 SITE2 | /usr/ucb/Mail -s "From Site"username
```

This will download *SITE1* then *SITE2* starting at 0100 every day and email username the status of the downloads when finished.

2. Download software not installed in \$HOME directory

- Build a script similar to the one below in you \$HOME area. Make sure that the file is executable (**chmod +x script_filename**).

```
#!/bin/sh

# Change into dwnld_trimble directory
cd /export /download/lapdogs
#
# Execute the program and mail a status report to operator
dwnld_trimble SITE | /usr/ucb/Mail -s "From SITE" kfeaux@unavco.ucar.edu
```

Execute your automatic download script using

```
crontab -e
```

```
* * * script_filename
```

Check that cron is running and your crontab is loaded properly with the following commands.

```
ps -A -o pid,args | egrep cron or ps -a | egrep cron for SunOS only  
crontab -l
```

Installation

Make sure you have met the system requirements as described in the "Requirements" section.

I. Software configuration for a single site

1. Copy the tar file into the directory where you want the software to reside. Files will be installed in that directory. (See "Requirements" for location of tar file.)
2. Untar the files (use **tar -xvf name**).
3. Determine the information about the following system dependent variables
 - Locate the R-utility (e.g. rifle) executables and make sure they are properly licensed (e.g. proper uid and permissions). Do this by typing **rfile**. If you see the "rfile" information printed to the screen you are OK.
 - Determine the file name for the serial port that you are using to communicate with the receiver, either directly or through a modem. (Examples include /dev/cua/a and /dev/ttya.) Make sure that you have read and write permission to the serial port file (e.g. **ls -l /dev/ttya**).
 - Determine the dial string of the phone number on the modem or from the call book on the Freewave radio modem if you are using mode 6 (e.g. ATDT123-4567 or ATDT0). See "Tip Help Sheet" for information on accessing the modem under Solaris.
4. Run the program make_site. If you get the response "Command not found", perl is located in a non-standard place and cannot be found. Issue the command **perl make_site** in this case. If you cannot execute perl, make sure perl is in your \$PATH. If not, add the perl directory to your \$PATH environment variable in .cshrc.
 - Answer the questions from make_site. If you have any questions about the variables, consult "The .site File" documentation.
 - You can exit make_site at any time with a CTRL-C. The site file (*SITE.site*) is not generated until the very end. It will overwrite any existing file that has the expected name (*SITE.site*).

You now have a working set-up for downloading a Trimble.

II. Test single site configuration

1. Test the connection and parameters by issuing the command **dwld_trimble SITE'** where *SITE* is the name of the site id you gave to the make_site program. (The site name is the first word in the filename *SITE.site* in the Sites/ directory. There may be more than one .site file if you have run make_site more than once.) This will not confirm that the download was correctly configured or executed, but only that the connection and parameters are correct. To test the entire process you need to use the DEBUG flag.
2. To debug the process, set the DEBUG parameter in the top of the Trimble_RFILE.pm to YES and more information will be sent to the screen (turn this off for automation). If there were problems during the initialization, you will get errors at the command line. If the program reads the .site file, a log file will be created in the Logs/directory. Check this file for errors that may have occurred during execution. It will also indicate if the program ran successfully.