SeaSonde Radial Site Release 6
Archivalist Application Guide

Archivalist is a utility application for maintaining folders that build up with lots of files. Archivalist will create archived copies of the files while maintaining a limited number of source and archived folders/files (meaning it will delete them as configured.) The SeaSonde Radials Site produces several different types of output files time stamped at various intervals. Archivalist organizes these data folders from filling up with too many files and prevents the hard disk from filling up.

What Archivalist is NOT:

1. Not intended to archive a single file into multiple file archives. It is not meant to archive a fixed filename into one or more recoverable backups.
2. Does not backup the hard disk. While Archivalist will also duplicate the archives to an external volume, it does not synchronize the archives with an external volume. Archivalist is only a maintenance/organization utility. A separate backup utility or periodic copy is required if you want to keep a backup of the data. *It up to the SeaSonde USER to periodically copy their important data and configuration files to a more permanent storage.*

Archivalist runs up to 26 separate archive tasks. Each Archive task has its own name and typically a different source folder to archive. Two or more task can have the same source folder as long as they have different file filters. The tasks are editable from a Archive control window and stored into plist file called Archivalist.plist.

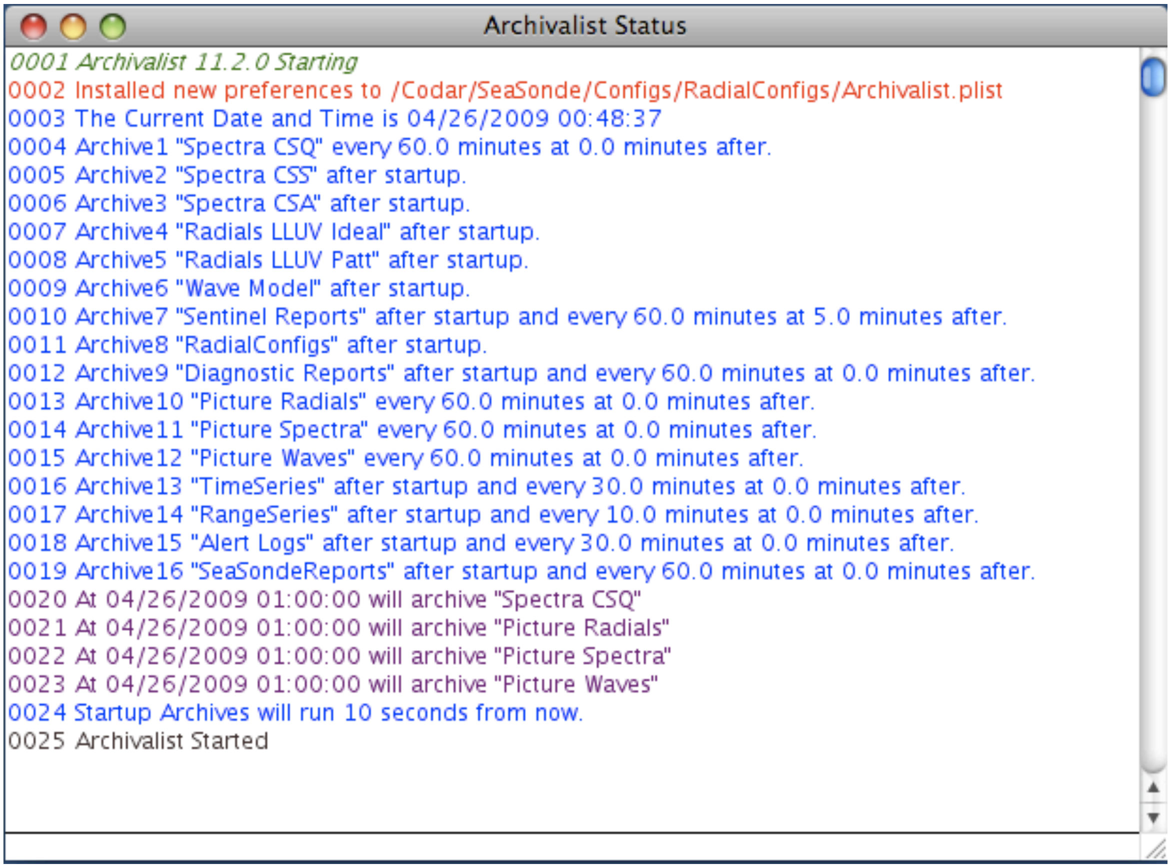
Archivalist Release 6 differs from previous versions in that it will install a default plist for a Radial Site, Combine Site, or RiverSonde Site. The kind of plist Archivalist installs is based on the folder location where Archivalist is running from.

The default settings are meant for use with the new RadialWebServer, changing their destination location may limit what files RadialWebServer can plot.

What you should look into customizing is the destination file or folder limits. You need to be careful here that you don't try to store more than the hard disk can hold. This is a function of the data file size and output rate.

Start up

When Archivalist starts, it opens a status window which shows where the Archivalist.plist was found or the plist that it decided to install, what the archive tasks are and when they are next scheduled to run.



```
0001 Archivalist 11.2.0 Starting
0002 Installed new preferences to /Codar/SeaSonde/Configs/RadialConfigs/Archivalist.plist
0003 The Current Date and Time is 04/26/2009 00:48:37
0004 Archive1 "Spectra CSQ" every 60.0 minutes at 0.0 minutes after.
0005 Archive2 "Spectra CSS" after startup.
0006 Archive3 "Spectra CSA" after startup.
0007 Archive4 "Radials LLUV Ideal" after startup.
0008 Archive5 "Radials LLUV Patt" after startup.
0009 Archive6 "Wave Model" after startup.
0010 Archive7 "Sentinel Reports" after startup and every 60.0 minutes at 5.0 minutes after.
0011 Archive8 "RadialConfigs" after startup.
0012 Archive9 "Diagnostic Reports" after startup and every 60.0 minutes at 0.0 minutes after.
0013 Archive10 "Picture Radials" every 60.0 minutes at 0.0 minutes after.
0014 Archive11 "Picture Spectra" every 60.0 minutes at 0.0 minutes after.
0015 Archive12 "Picture Waves" every 60.0 minutes at 0.0 minutes after.
0016 Archive13 "TimeSeries" after startup and every 30.0 minutes at 0.0 minutes after.
0017 Archive14 "RangeSeries" after startup and every 10.0 minutes at 0.0 minutes after.
0018 Archive15 "Alert Logs" after startup and every 30.0 minutes at 0.0 minutes after.
0019 Archive16 "SeaSondeReports" after startup and every 60.0 minutes at 0.0 minutes after.
0020 At 04/26/2009 01:00:00 will archive "Spectra CSQ"
0021 At 04/26/2009 01:00:00 will archive "Picture Radials"
0022 At 04/26/2009 01:00:00 will archive "Picture Spectra"
0023 At 04/26/2009 01:00:00 will archive "Picture Waves"
0024 Startup Archives will run 10 seconds from now.
0025 Archivalist Started
```

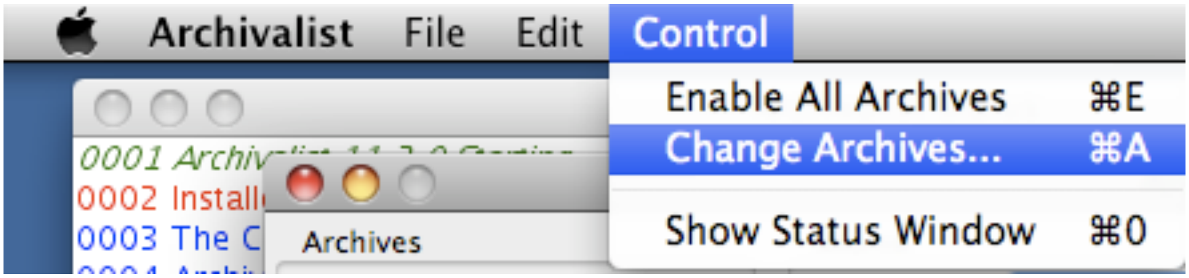
After the Archivalist.plist is found, it is used to configure the archive tasks.

Each enabled archive task that is set to run when Archivalist first runs is enabled with a ten second delay. This gives you a short time to disable the archiving or quit Archivalist before it start archiving (possibly moving and deleting files). You might want to do this because you did not mean to run Archivalist or you want to disable them before examining or modify them.

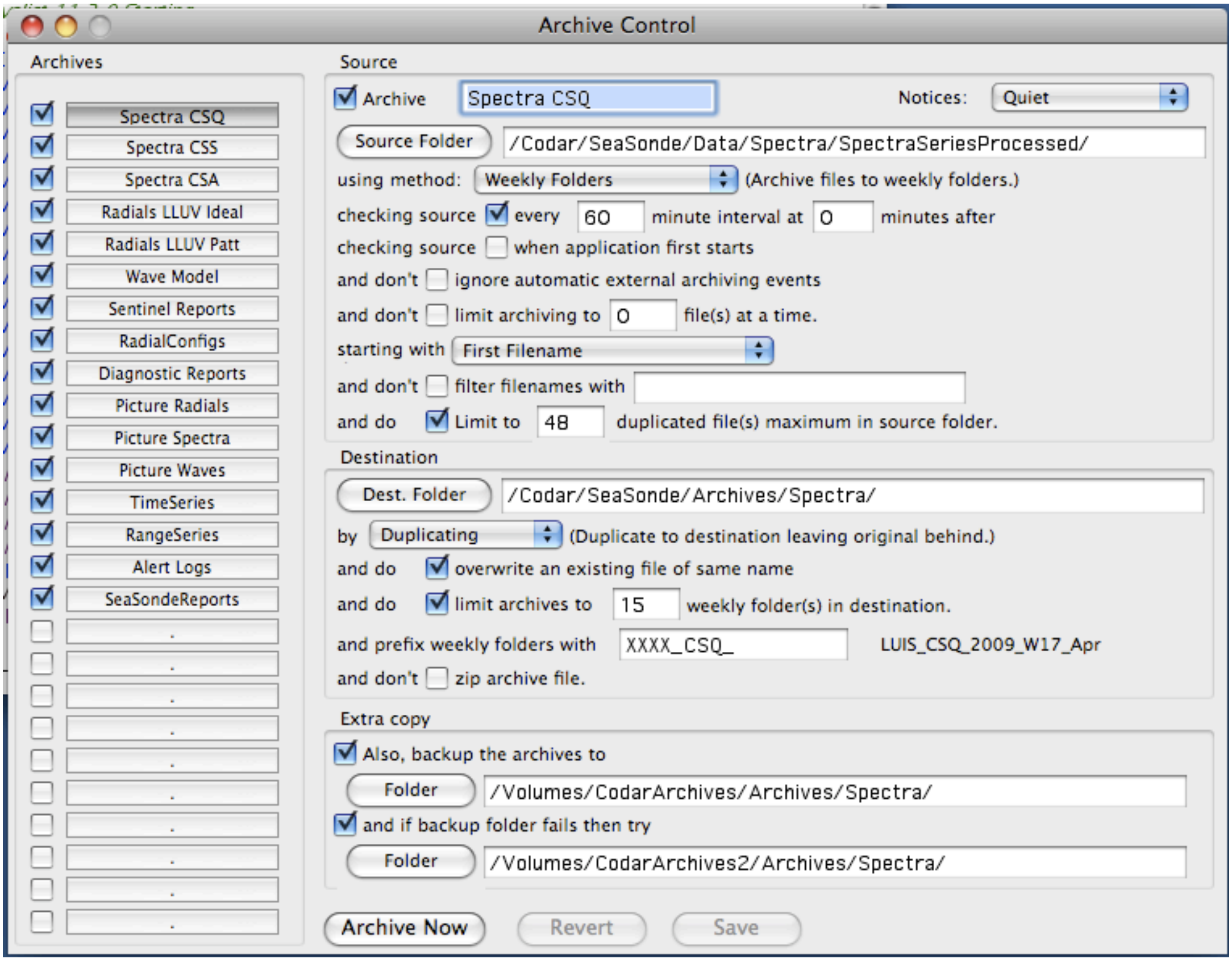
If you wish to immediately disable all the archives temporarily (individual enabled archives are re-enabled when Archivalist is started again) then either type command-E or select menu Control and select ‘Enable All Archives’ item. When menu item ‘Enable All Archives’ is check marked the individually enabled archive tasks are scheduled to run.

Command-E or the menu Control -> ‘Enable All Archives’ will toggle between enabling and disabling all archives. The Status window will show when the archives are disabled and enabled.

Archive Control



The archive tasks are configured through the menu Control -> ‘Change Archives…’. This will open the Archive Control window.



Archives:

☑ Spectra CSQ
☑ Spectra CSS
☑ Spectra CSA
☑ Radials LLUV Ideal
☑ Radials LLUV Patt
☑ Wave Model
☑ Sentinel Reports
☑ RadialConfigs
☑ Diagnostic Reports
☑ Picture Radials
☑ Picture Spectra
☑ Picture Waves
☑ TimeSeries
☑ RangeSeries
☑ Alert Logs
☑ SeaSondeReports
□ .
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Source

☑ Archive Spectra CSQ Notices: Quiet

Source Folder /Codar/SeaSonde/Data/Spectra/SpectraSeriesProcessed/

using method: Weekly Folders (Archive files to weekly folders.)

checking source ☑ every 60 minute interval at 0 minutes after

checking source □ when application first starts

and don't □ ignore automatic external archiving events

and don't □ limit archiving to 0 file(s) at a time.

starting with First Filename

and don't □ filter filenames with

and do ☑ Limit to 48 duplicated file(s) maximum in source folder.

Destination

Dest. Folder /Codar/SeaSonde/Archives/Spectra/

by Duplicating (Duplicate to destination leaving original behind.)

and do ☑ overwrite an existing file of same name

and do ☑ limit archives to 15 weekly folder(s) in destination.

and prefix weekly folders with XXXX_CSQ_ LUIS_CSQ_2009_W17_Apr

and don't □ zip archive file.

Extra copy

☑ Also, backup the archives to

Folder /Volumes/CodarArchives/Archives/Spectra/

☑ and if backup folder fails then try

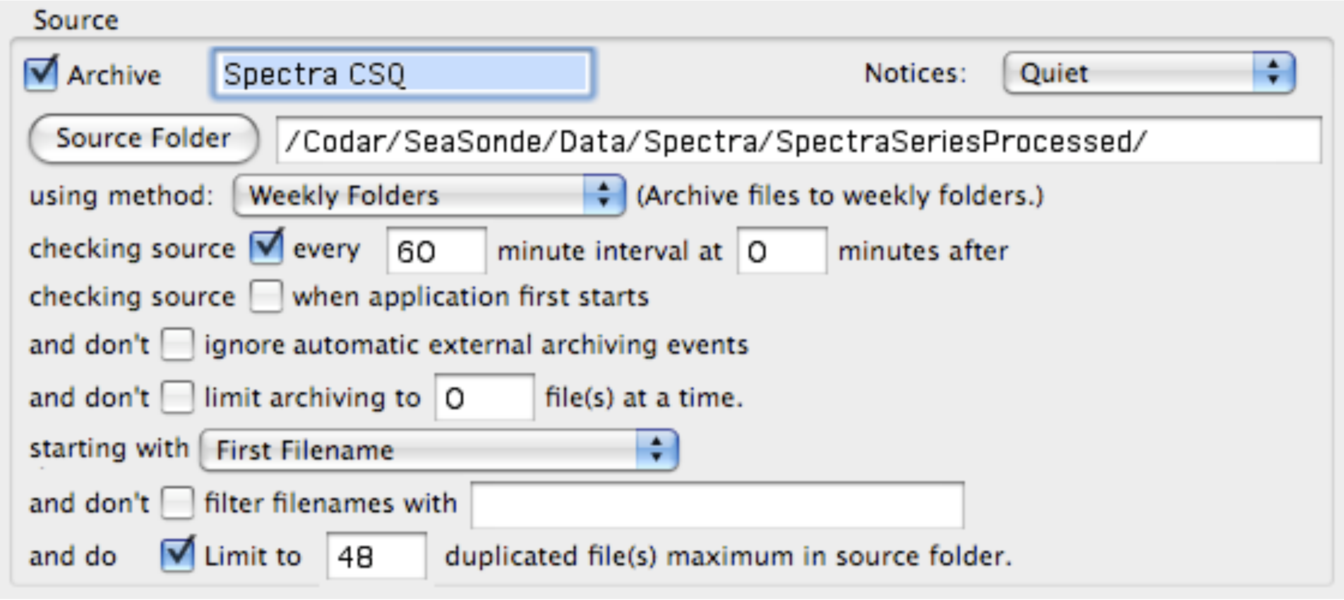
Folder /Volumes/CodarArchives2/Archives/Spectra/

The 26 possible archive tasks are shown on the left. Each one has a check box, which indicates that the task is enabled to run. Clicking on the check box will change the task’s enabled state, which is also saved immediately into the Archivalist.plist file. Clicking on the task name will show its settings to the right of the task names. Only one task setting is shown or edited at a time. The selected task name is hilited (slightly darker background). Once you change a task’s settings, you cannot select a new task until you first save the change or revert to the previous setting.

An archive's settings shown to the right of the archive list is segmented into three sections: **Source**, **Destination**, and **Extra copy**. The sections are arranged to indicate what the task does by reading left to right and top to bottom.

Source section

The **Source** section sets the archive enable, name, source location and controls.
Candidate files to archive must be in the **Source Folder**, match the **filter filenames**, and be within any file number **limits** in the **starting with** order. The archive can be triggered to run on an interval, once when app starts, or by an external applescript event.



Source

☑ Archive Spectra CSQ Notices: Quiet

Source Folder /Codar/SeaSonde/Data/Spectra/SpectraSeriesProcessed/

using method: Weekly Folders (Archive files to weekly folders.)

checking source ☑ every 60 minute interval at 0 minutes after

checking source □ when application first starts

and don't □ ignore automatic external archiving events

and don't □ limit archiving to 0 file(s) at a time.

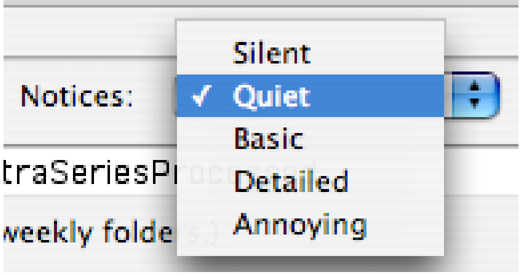
starting with First Filename

and don't □ filter filenames with

and do ☑ Limit to 48 duplicated file(s) maximum in source folder.

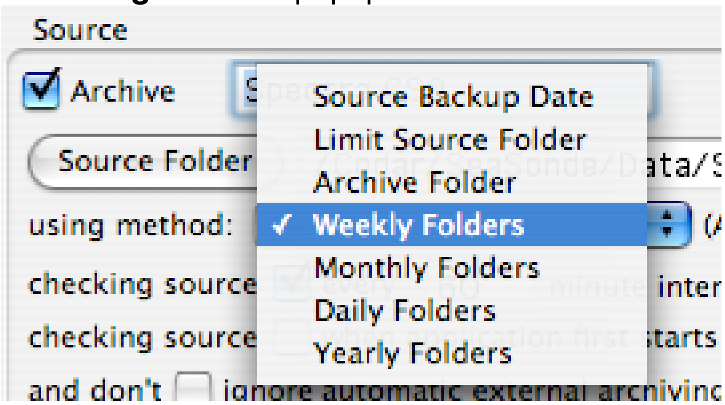
The **Archive** Check box enables and disables the archive.
Just right of the **Archive** checkbox is where you can edit the archive name. The name is show in the Archive task list and in the Status window when the archive runs or schedule changes.

The **Notices** popup control how verbose the Status window messages are when the archive runs. Silent will means no messages will be shown. Quiet will show just a few lines of information. Basic will show a few more lines of information and so on. Annoying setting is useful if trying to debug what an archive is doing, but not recommended for everyday use as the status log will be quite large.



The **Source Folder** button and edit box is the location of the source folder to archive from. The button pops up a dialog to allow you to navigate to any existing folder. The edit box shows the folder's POSIX style location and can be edited to any location. Archivalist will NOT create this folder if it is missing. If the folder is missing, Archivalist will post a warning message in the Status window when the archive is run or changes schedule.

The **using method:** popup controls how to archive the source files.



Source Backup Date will only set the archive file's backup date stamp. This is not very useful, unless you have some other utility or script, which looks for this. The Destination section will empty, since there is no archive destination; the files will remain in the source folder.

Limit Source Folder will just limit the number of files in the source folder; there is no destination archive. The candidate files past the settable file limit (limit entry near bottom of source section) will be deleted.

Archive Folder will archive source candidate files to the destination folder. The archive is done one of two ways, by Moving, which copies candidates files over the file limit file to the destination folder and then deletes the source file or by Duplicating, which copies all candidate files and only deletes source files past the file limit. The Duplicate method causes the files under the file limit to exist in both the source folder and destination folder; this way the destination folder is always up-to-date with the latest file.

Weekly Folders will archive files just like Archive Folder except that the candidate files will be archived into weekly sub folders in the destination. The sub folder name format is **prefix_yyyy_Www_nnn** where *prefix* is the Destination prefix entry, yyyy is the year, ww is the week 01 to 52, nnn is the 3character month or possibly characters for the two months the week crosses. Example 'SITE_CSQ_2006_W35_AugSep'

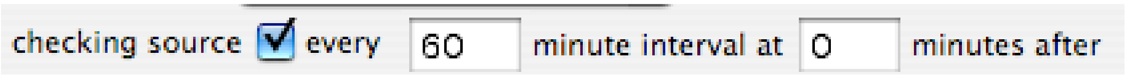
Monthy Folders will archive files just like Archive Folder except that the candidate files will be archived into monthly sub folders in the destination. The sub folder name format is **prefix_yyyy_mm_nnn** where *prefix* is the Destination prefix entry, yyyy is the year, mm is the month 01 to 12, nnn is the 3character month. . Example 'SITE_CSQ_2006_09_Sep'

Daily Folders will archive files just like Archive Folder except that the candidate files will be archived into daily sub folders in the destination. The sub folder name format is **prefix_yyyy_mm_dd** where *prefix* is the Destination prefix entry, yyyy is the year, mm is the month 01 to 12, and dd is the day of month 01 to 31. Example 'SITE_CSQ_2006_09_06'

Yearly Folders will archive files just like Archive Folder except that the candidate files will be archived into yearly sub folders in the destination. The sub folder name format is prefix_yyyy where *prefix* is the Destination prefix entry, yyyy is the year. Example 'SITE_CSQ_2006'

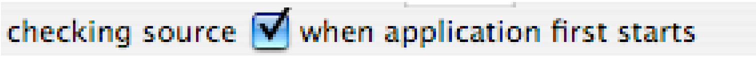
Archive Trigger

The next three Source lines control when the archive task runs.



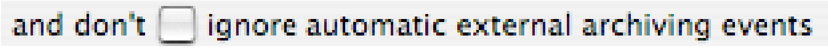
checking source ☑ every 60 minute interval at 0 minutes after

If checked, sets the how often in minutes to run the archive. The interval is modulo with minute of day so that 60 minutes interval runs on the hour, 120 minutes on even hours and so on. The 'at 0 minutes after' sets how many minutes after the interval time when the task should run. A 120 minute intervals with 60 minutes after would be every odd hour of the day. A 60 minute interval with 30 minutes after would be on every half hour (1:30 2:30…).



checking source ☑ when application first starts

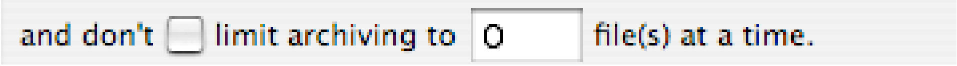
If checked, tells Archivalist to run the task ten seconds (short pause to allow user to abort), after Archivalist starts up. If the other two task run methods are disabled, then the task will only run once. In a normal SeaSonde setup, where the computer restarts once a day, then the task will run once a day.



and don't □ ignore automatic external archiving events

The next to last method of setting the Archive task to run is by posting an AppleScript event to Archivalist telling it to open a file. (The last trigger method is the Archive Now button.) The file's folder is matched against the archive source folder as well as the filename filter to determine which archive to run. If you do not want this archive to trigger by such an event, the check the ignore box. SeaSonde Radial Processing uses this method to tell Archivalist about new Radial, Wave, and Spectra Files.

Only check this next line if you want Archivalist to limit the amount of time it spends on an archive task.

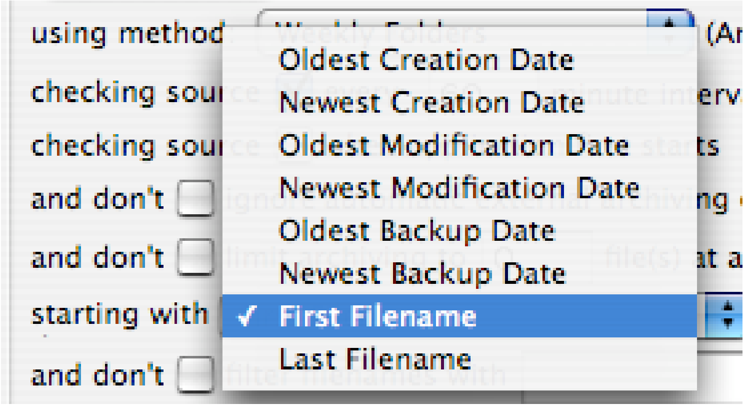


and don't □ limit archiving to 0 file(s) at a time.

This limits the maximum number of candidate files it will archive each time the archive is run. If you enable this and the limit is smaller than number of new candidate files created before the archive task runs again, the archive might never get up-to-date, causing the hard disk to eventually fill up.

Source Filter

The '**start with**' popup sets the archive candidate search order as well as what date stamp is used for archive sub folders (daily,weekly,monthly,yearly) methods.



Oldest Creation Date uses the file’s creation date and will archive the oldest file first. When using the Moving method, this will delete the oldest created file over the file limit first. Any archive sub folder will use the file’s creation date.

(Note, SeaSonde makes radials, spectra, wave files so that the file creation date matches the data timestamp and the file modification date is when the file was created. This allow Archivalist to put the file into datestamp archive folders without having to know about the file’s naming or contents.)

Newest Creation Date uses the file’s creation date and will archive the newest/latest file first. When using the Moving method, this will delete the latest created file over the file limit first. Any archive sub folder will use the file’s creation date.

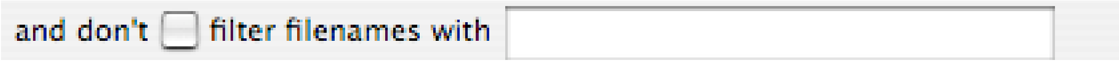
Oldest Modification Date uses the file’s modification date and will archive the oldest file first. When using the Moving method, this will delete the oldest modified file over the file limit first. Any archive sub folder will use the file’s modification date.

Newest Modification Date uses the file’s modification date and will archive the newest/latest file first. When using the Moving method, this will delete the latest modified file over the file limit first. Any archive sub folder will use the file’s modification date.

Oldest Backup Date uses the file’s backup date and will archive the oldest file first. When using the Moving method, this will delete the oldest backup date file over the file limit first. Any archive sub folder will use the file’s backup date.

Newest Backup Date uses the file’s backup date and will archive the newest/latest file first. When using the Moving method, this will delete the latest backup date file over the file limit first. Any archive sub folder will use the file’s backup date.
First Filename uses the first candidate file base on filenames sorted a to z, ignoring case and diacritical marks. When using the Moving method, this will delete the first filename file over the file limit first. Any archive sub folder will use the file’s creation date.

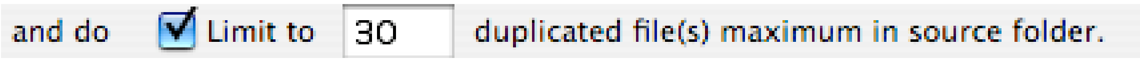
Last Filename uses the last candidate file base on filenames sorted z to a, ignoring case and diacritical. When using the Moving method, this will delete the last filename file over the file limit first. Any archive sub folder will use the file’s creation date.



and don't ☐ filter filenames with

If checked, **filter filenames** will only filter filename matching the entered string. ‘*’ asterix will be used as word wild card and ‘?’ question marks will be used as character wildcards. An entry of ‘Rad*’ will match all filenames staring with ‘Rad’ (case insensitive). With no wild cards, the entry is assumed to match if the filename starts with the entry; hence ‘Rad’ will also match all files starting with ‘Rad’. If unchecked, all files will be archive candidates except for ‘.DS_Store’ which is always filtered out.

The last line in the Source section is



and do ☑ Limit to 30 duplicated file(s) maximum in source folder.

The text on this line will change to reflect the ‘using method:’ and the ‘by Moving/Duplicating’ selections. The meaning of this limit also changes depending on the method. This was covered above, but again

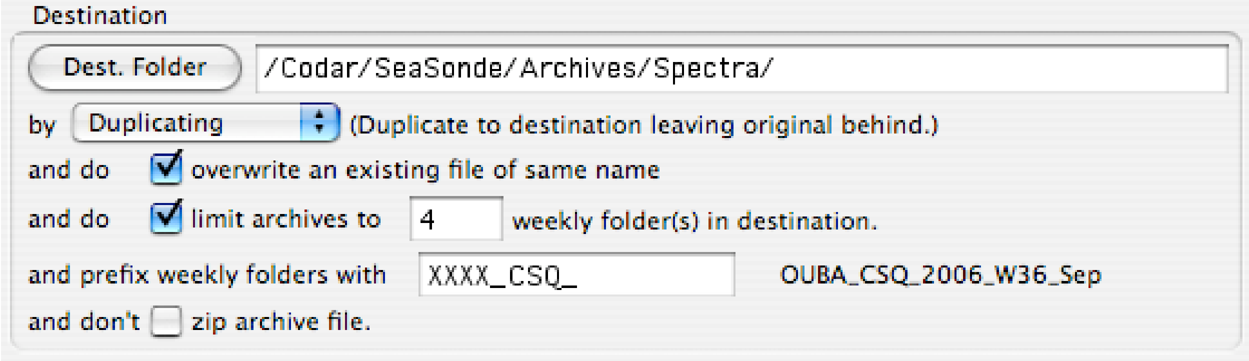
Source Backup Date will leave untouched the candidate files under and equal to this limit. It will set the backup date to the current time of files over this limit.

Limit Source Folder will leave untouched the candidate files under and equal to this limit. It will delete any files over this limit.

Archive Folder, Daily Folders, Weekly Folders, Monthly Folders, Yearly Folders will leave untouched the candidate files under and equal to this limit. It will archive and delete any files over this limit.

Destination section

The Destination section controls where the archiving files are located, named, and limited.



Destination

Dest. Folder /Codar/SeaSonde/Archives/Spectra/

by Duplicating (Duplicate to destination leaving original behind.)

and do ☑ overwrite an existing file of same name

and do ☑ limit archives to 4 weekly folder(s) in destination.

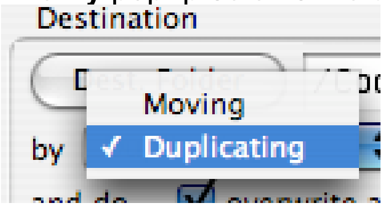
and prefix weekly folders with XXXX_CSQ_ OUBA_CSQ_2006_W36_Sep

and don't □ zip archive file.

Depending on the source method chosen, some or all of these control might be hidden, because they are not used by the method.

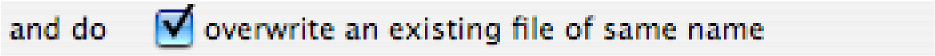
The **Dest. Folder** button and entry sets the archive destination location. This is where archive files will be copied to. The button pops up a dialog to allow you to navigate to any existing folder. The edit box shows the folder’s POSIX style location and can be edited to any location. If the folder is missing when the archive runs, it will be created. It is not recommended to specify a removable external volume. This is not a backup utility; if the volume is disconnected the file will not be archived. (See the Extra Copy section for backing up to a external volume.)

The **by** popup selects the archive copy method to use.



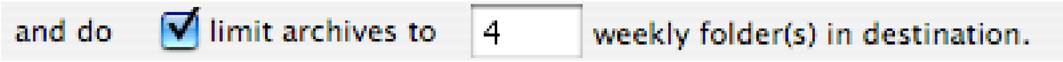
The ***Moving*** method copies all candidate source files past the source file limit to the archive folder and, if successful, deletes the original source file.

The ***Duplicating*** method copies ALL candidate source files. Source files past the file limit are deleted only if the file was successfully duplicated first. This is useful so that the destination is also up-to-date with the latest source files.



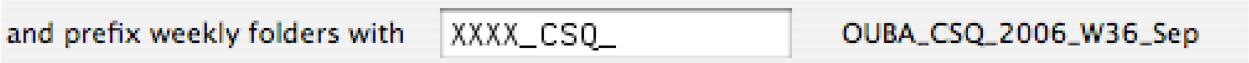
and do ☑ overwrite an existing file of same name

If checked, *overwrite* will replace a previous archived file if the source changed or a new source file appears. The Duplicate method will check the modification and creation dates as well as file size if not zipping.



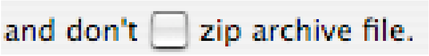
and do ☑ limit archives to 4 weekly folder(s) in destination.

If checked, this *limit archives* files or sub folders depending on ‘using method’
Be careful to set this limit so that the hard disk does not completely fill up.



and prefix weekly folders with XXXX_CSQ_ OUBA_CSQ_2006_W36_Sep

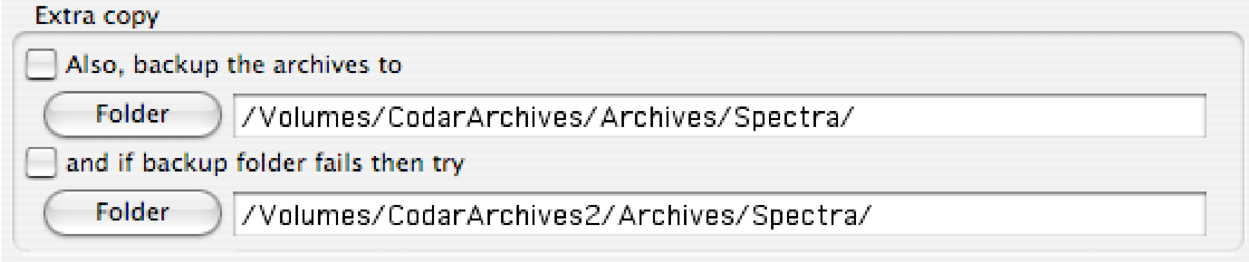
This entry sets the sub folder name prefix. If the prefix contains ‘_XXXX’ or ‘XXXX_’, archivalist will search for the SeaSonde site name and replace it. The text to the right shows the example sub folder name using the current date.
Archivalist looks for the site name by:
1. Looks for CombineSite.opt file where Archivalist is. (can be an alias). It will use the first line first parameter for site code to replace the XXXX in the prefix.
2. Looks in SeaSonde Combine site /Codar/SeaSonde/Configs/CombineConfigs/CombineSite.opt. It will use the first line first parameter for site code to replace the XXXX in the prefix.
3. Looks in SeaSonde Radial site /Codar/SeaSonde/Congifgs/RadialConfigs/Header.txt. It will use the second parameter in the first line for site code to replace the XXXX in the prefix.
4. If none of the above is found the XXXX will remain in the sub folder name.



and don't □ zip archive file.

Extra copy section

The **Extra copy** section provides a backup option to an external drive.



Extra copy

□ Also, backup the archives to

Folder /Volumes/CodarArchives/Archives/Spectra/

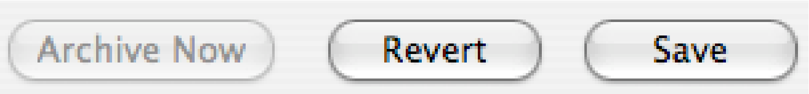
□ and if backup folder fails then try

Folder /Volumes/CodarArchives2/Archives/Spectra/

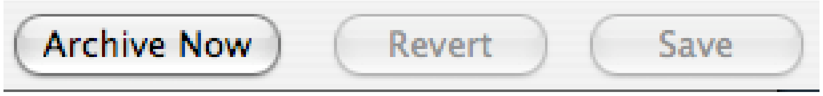
When checked, candidate archive files are also copied to the specified folder. This copies obeys the overwrite check box and subfolder settings, but does not limit the folders. It will keep going until the volume fills up. If the second checkbox is checked, then it will automatically try to use the second location. This allows for two possible external drives to be used so that you can ping pong between them; taking one to backup somewhere else and return to be reused again at the site.

Archive, Revert, Save buttons

Any change to the archives settings will result in enabling the Save and Revert buttons, while disabling the Archive Now button. You also, cannot select a different until you click Save or Revert. The Save button makes the changes permanent and updates the Archivalist.plist file. The Revert button will the changes to the previous saved values.



A Save or Revert will disable the buttons and enable the Archive Now button.
Select an archive and click Archive Now to immediately run the archive task.



Finished changing archives.

Click on the window’s close button to close the Archives dialog.

Configuration file

Archivalist.plist
Archivalist.plist is an Apple styled property list with an XML base. This file contains all the archive task settings.
Once a minute, Archivalist will check Archivalist.plist. If it changes or is replaced, then the new Archive settings will be automatically loaded and scheduled if enabled.

Under the file menu, the Archivalist.plist can be exported to a new file, which you can use as a backup later on. Or you can import a backup or even import a preset stationary settings. Warning, the imported settings will replace your existing settings.

AppleScripting

Archivalist can be trigger to run an archive task by sending it an AppleScript open file event. Archivalist will match the file’s folder to archives and the filename to the file filter and run the archive if found.

```
tell application "Archivalist"
 open POSIX file "/Codar/SeaSonde/Data/Radials/RadTest"
end tell
```

From Unix command line:

```
/usr/bin/osascript —e ‘tell application \"Archivalist\" to open POSIX
file \"/Codar/SeaSonde/Data/Radials/RadTest\"’
```