



Radial Suite Release 21 Prerequisites and Frequently Asked Questions(FAQ)




This document will guide current SeaSonde users on how to prepare their SeaSonde computers for upgrading to Radial Suite Release 21 and also covers other Frequently Asked Questions (FAQ) related to Release 21 upgrade/software installation. Please review this guide in full before proceeding to install Release 21.

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1. Prerequisites for Radial Suite Release 21 Upgrade

1.1. Computer Specifications for Radial Suite Release 21 Compatibility

Initial step is to confirm that the computer meets the minimum requirements for Release 21(R21) software operation. *You can find your computer specs by selecting “About This Mac” under the  menu located on the top-left of the desktop screen.*

Computer Specifications for Radial Suite Release 21 Compatibility

Minimum Computer Specifications	Mac Mini with Intel or Apple M1 Processor 8 GB RAM (not recommended if using other add-on software suites) ^{1,4} 256 GB boot volume OS X 10.13.6 ^{2,3}
Recommended Computer Specifications	Mac Mini with Apple M1 or Intel Processor 16 GB RAM or higher 512 GB or higher boot volume macOS 11.6.2 (BigSur) or newer. ²

1. Operating other SeaSonde add-on suites like AIS Patterner Suite, etc along with Radial Suite is not recommended for computers with 8GB RAM. Our testing shows current generation AIS suite R3 version may work along with Radial Suite Release 21 but 8GB RAM may be close to the limit with other third-party apps like TeamViewer, LogMeIn, etc or any other non-CODAR software operating on the same computer. Memory usage also varies based on the OS version on the computer.
2. For macOS version prior to OS 12, you must be on the latest OS version applicable for that OS. For example: OS 10.13.6 or 10.14.6 or 10.15.7 or 11.6.5. May not be compatible with other 10.13.x/10.14.x/10.15.x/11.6.x updates.
3. **CAUTION for OS 10.13 and 10.14:** Refer to the installation FAQ topics for special instructions when installing Release 21 on computers with OS 10.13 or 10.14 with existing Release 8 installation. Also, If your computer is on OS 10.14, you must disable Apple’s System Integrity Protection (SIP) before upgrading to Radial Suite Release 21. Please refer to the Release 21 installation FAQ topics below for instructions on how to disable SIP on OS 10.14.
4. **CAUTION:** Currently, Radial Suite Release 21 compatible versions of SeaSonde software add-on suites like Elliptical suite, Tsunami suite are not available. Only the existing AIS Patterner Suite R3 version is compatible with Radial Suite Release 21.(with few exceptions related to mac OS compatibility). Please refer to the Release 21 compatibility matrix and Release 21 FAQ for more details.

Note: *You should configure the computer as per CODAR recommended configuration settings found in CODAR’s computer setup guide. Refer to FAQ section for instructions.*

*Refer to the handy checklist provided below to help with preparing for Release 21 upgrade and we **highly recommend** that you review the installation FAQ topics and R21 installation guide(available on support website) before proceeding to install Release 21.*

1.2. Compatibility Matrix for SeaSonde Software Suites

The table below summarizes the compatibility of various SeaSonde software suites with different macOS versions and also inter-compatibility of the various software suites with Radial Suite versions.

Latest SeaSonde Software Suites - macOS Compatibility Matrix

	macOS (10.10- 10.12)	macOS High Sierra (10.13.6)	macOS Mojave (10.14.6)	macOS Catalina (10.15.6)	macOS Big Sur (11.6.7)	macOS Monterey (12.x)	Compatible with Radial Suite Release 8	Compatible with Radial Suite Release 21
Radial Suite Release 21		✓	✓	✓	✓	✓	NA	NA
AIS Patterner Suite Release 3 update 2	✓	✓	✓				✓	✓
Elliptical Suite Release 3 update 1	✓	✓	✓	✓			✓	
Tsunami Suite Release 4 update 2	✓	✓	✓				✓	
Radial Suite Release 8	✓	✓	✓				NA	NA
Combine Suite Release 8 update 2	✓	✓	✓				✓	✓

1.3. Retrieving Existing Software License Information

You will need new Release 21 license file from CODAR to operate Release 21 software.

SeaSonde USB license key is no longer used in Release 21. *The license file is tied to the specific computer where it's being installed.*

If you are upgrading from existing Radial Suite Release 8, 7 or 6 versions, you will need to send us information on current software license(s), if any, in use at the radial site or your processing computer to request Release 21 license file. Follow below steps depending on which software version is currently present on your computer.

1.3.1. Radial Suite Release 8 update 5 Users

- Open the Release 8 SeaSondeKey app and gather the ComputerID of the computer and existing software license numbers for all software suites in use at the site.
- **CAUTION:** Only the SeaSondeKey app v3.0.3 on Radial Suite Release 8 update 5(R8u5) or later displays the ComputerID. If you are already not using R8u5, then see [Get ComputerID](#) section to get the ComputerID.
- Email this information and corresponding 4 letter site code & site name to licensing@codar.com to request a new R21 license file with email subject: "R21 license request".
We will then send a new license file applicable for R21 specific for that computer.

1.3.2. Radial Suite Release 7 Users

The steps to install the R21 license file are more involved if you are upgrading from Radial Suite Release 7 and it will require you to first install Radial Suite R21 before installing R21 license file. At your request, CODAR Technical Support can carry out this step for you(at no additional cost). We highly recommend this option to avoid extended downtime and smooth upgrade experience.

However, should you decide to do this yourself, carefully follow the steps below:

- First verify that the computer has the required specifications for Radial Suite R21 compatibility.
- Please provide us information on current USB license key being used at the radial site or your offline processing computer.
 - This can be done by generating a report file on the computer. Run the "SeaSondeReportsMedium" script from /Codar/SeaSonde/Apps/Scripts by double clicking on it.
 - This will generate a zipped Report file in /Codar/SeaSonde/Logs folder with format RPT_XXXX_YYYYMMDD_HHMMSS_md. (where XXXX is the 4 letter site code). Unzip this report and locate the *Licenses.txt* under Info folder.
 - Rename this text file to include corresponding 4 letter site code (i.e. *Licenses_XXXX.txt*)
 - Repeat this step for all your sites that you want to upgrade to Release 21.
 - Get ComputerID for each computer where you want to install Release 21. See [Get ComputerID](#) section for instructions.
 - Now, email following to licensing@codar.com with email subject: "R21 license request" :
 - Licenses_XXXX.txt files from each site
 - ComputerID for each computer.
 - Purchase Order(PO) number for the purchase.

Based on the above information, CODAR will then send the new Release 21 license file applicable for that particular site computer.

1.3.3. Radial Suite Release 6 or 5 Users

Release 6 radial and combine suite versions did not require a hardware USB license key for operation. Email following information to licensing@codar.com with email subject: "R21 license request" to receive a suitable license certificate file for Release 21:

- Applicable Purchase Order(PO) number.
- Site information such as site name and 4 letter site code.
- SeaSonde Receiver S/N # at the site. (The key is not tied to the Receiver, but we need the S/N info to assign the key to a record here)
- ComputerID of the computer where Release 21 will be installed. See [Get ComputerID](#) section below for instructions.

1.3.4. Radial Suite Release 21 Users

If you had already upgraded to Release 21 and need the license file again for a remote site due to various reasons like: replacing computer at the site or replaced hard-drive on the computer, then follow the steps below:

- First verify that the replacement computer has the required specifications for R21 compatibility.
- Get ComputerID for the new computer. See [Get ComputerID](#) section for instructions.
- If you have access to existing computer with R21, retrieve existing license information through SeaSondeKey app v 4.0.7 or above.
- If you don't have access to existing computer with R21(due to corrupt hard-disk or dead computer), you can retrieve the license information either from your existing records or from the meta data from radial files.(R21 now saves license information in the meta data in radial files)
- Email above retrieved ComputerID, 4 letter side code & site name and existing license information to licensing@codar.com with email subject: "R21 license request" and CODAR will send you the suitable license certificate file.

1.3.5. Get ComputerID (for existing Release 8u4, 7, 6, 5 or 21 users)

Follow below steps if you are upgrading from Release 6, 7 or 5 or if your computer was already on R21 and you are installing R21 on a replacement computer/hard-drive or if you are currently using R8u4 or previous R8 version and not R8u5. If you are already using R8u5, follow the steps in [previous Release 8 section](#).

- You will need to install Radial Suite Release 21. Download the installer and installation guide from the support website at support.codar.com
- Follow the steps in the installation guide and the below FAQ topics to install Release 21.
- Next, open the SeaSondeKey App from the dock and on the bottom section of the window, you will see ComputerID as shown the below image. Click the Clip button to copy it to your clipboard and paste it into your email or click the Save button which will save a .txt file that begins with ComputerID_ words. That file has both ComputerID and existing license information which you can send us.

ComputerID : C07S5249G1HW-1srAxdEEIRFVLWaz7Hm+N3VZrFE

Clip

Save...

2. Basic Checklist for Release 21 upgrade

Below is a basic checklist for your reference to confirm you have completed all recommended preparations before proceeding to upgrade to Release 21(R21):

- Have downloaded and reviewed the Release 21 Prerequisites and FAQ guide.
- Verified that the computer meets the specifications for R21 compatibility.
- If upgrading on an existing computer, make a backup copy of existing “Codar” folder on the computer or at-least a backup of the following files before R21 upgrade:
 - Configs folder(/Codar/SeaSonde/Configs)
 - Logs folder(/Codar/SeaSonde/Logs)
- macOS update version is the latest version applicable for the OS (10.13.6/10.14.6/10.5.7/11.6.5/12.x). Upgrade OS version, if needed. Refer to CODAR’s [Best Practices Guide](#) for OS updates.
- Computer is configured as per CODAR computer setup guide. ([Refer to FAQ](#) for download links.)
- If using third-party apps like TeamViewer or LogMeIn for remote login, they are installed and configured on the computer.
- Have the Release 21 license certificate file from CODAR.

If you are going to perform the R21 upgrade yourself, then follow additional steps as below, else if you prefer CODAR to perform the R21 upgrade(highly recommended), then skip the below steps and send us login information to your site’s computer where you want to install R21.

Optional: (Only if you are performing the R21 upgrade yourself instead of CODAR Tech. support)

- Have downloaded the Radial Suite Release 21 installer .dmg file and corresponding Install guide from support.codar.com
- Have downloaded the Gebco database Installer .dmg file from support.codar.com if you had already not previously installed it on your site computer with Release 8. ([Refer to FAQ](#) on how to verify if Gebco database is already installed)

3. Frequently Asked Questions (FAQ) on Radial Suite Release 21 Upgrade/Install

3.1. Release 21 Installation

- **Will it be okay if I choose computer with minimum required specifications?**

Yes, ONLY if you are planning to only use Radial Suite itself for now and no other add-on software suites. If you plan to use any add-on software suites in future, we highly recommend to use computer with higher specifications. Also, any future updates or releases after initial Radial Suite Release 21 may not be compatible with current minimum computer configuration. So, we recommend choosing computer with minimum configuration only as a temporary solution until you can procure a computer with recommended or higher specifications

- **What are your recommended settings for computer configuration?**

You should configure the computer as per CODAR recommended configuration settings found in CODAR's computer setup guide. Download links below:

[Computer Setup Guide for OS 10.14\(Mojave\)](#). — also applicable for OS 10.13 with some UI variation.

[Computer Setup Guide for OS 12\(Monterey\)](#). — also applicable for OS 11,10.15 with some UI variation.

Alternatively, a new, fully pre-configured MacMini computer with recommended specs and configured as per our recommended settings can also be purchased from CODAR. Contact us to request a quote.

- **What are special instructions for installing Release 21 on computers with macOS 10.13 or 10.14?**

CAUTION: If using macOS 10.14, then first disable Apple System Integrity Protection(SIP) before proceeding. See the next FAQ topic for instructions on disabling SIP.

Next, follow the steps below for installing Release 21 on computers with macOS 10.13 or 10.14.

Note: These steps are only needed if you are upgrading from an existing Release 8 installation to Release 21 on macOS 10.13 or 10.14. If you are installing on a new computer or after OS re-install with no prior Release 8 installation, then you don't need to do the below steps and can directly run the R21 installer.

- Download the Radial Suite Release 21 installer dmg file from support.codar.com.
- Move it to the Desktop. *Do not mount(open) the dmg file yet.*
- Open a new Terminal window on mac from icon on the dock or from /Applications folder.
- Type the following command or copy and paste from here:(assuming you have the Release 21 installer file on the desktop of your computer. If it is in the Downloads folder then change Desktop to Downloads)

xattr -d com.apple.quarantine ~/Desktop/SeaSonde-Radial-Suite-R21.dmg

Terminal example below:

```
SeaSondeSite-TVTT:~ codar$ xattr -d com.apple.quarantine ~/Desktop/SeaSonde-Radial-Suite-R21.dmg
```

The above command is to remove a flag on the installer file that is set by macOS when a file is downloaded from the internet.

Note: If you carried out the above steps on your office computer and then transferred the file over ssh/TeamViewer/LogMeIn to site computer, then you will not have to repeat the steps at your site computer.

- After the above command is sent, now mount(open) the dmg file by double clicking on it and continue with the installation. If the above command was not successfully executed, you may not be able to mount the dmg.

Contact CODAR Technical support if you have problems installing Release 21 on your OS 10.13 or 10.14 computers. We can help with the installation.

- **How to disable System Integrity Protection(SIP) on computers with macOS 10.14?**

If your computer is on OS 10.14, you must disable Apple’s System Integrity Protection (SIP) before upgrading to Radial Suite Release 21. ***This requires you to be physically present in front of the computer. It can’t be done remotely.***

CAUTION: You will need to use a wired keyboard.

Follow below steps to disable SIP:

- Restart computer with command(⌘) R keys held on your keyboard to boot into recovery mode.
- After computer completes reboot, launch Terminal app through the Utilities menu at the top.
- Type(or copy and paste) the following command in the Terminal:

csrutil disable

- Restart computer.

After it reboots normally, SIP should be disabled now. Verify status as below:

- Launch Terminal from the Dock on mac or from /Applications folder and type command:

csrutil status

It should now show a message “System Integrity Protection status: disabled”. If it still shows enabled, then something went wrong and you must repeat the above steps. If successfully disabled, you can proceed to install R21.

Refer to the previous FAQ for special instructions for OS 10.14 and 10.13.

- **Are there any special instructions for installing Release 21 on computers with macOS 10.15,11 or 12?**

Just follow the instructions in the R21 installation guide(available on support website) and reboot the computer as instructed in the R21 installation guide.

- **What is different about the “Codar” folder on new mac OS versions 10.15,11 and 12?**

/Codar folder is now an alias which points to Codar folder in the new data partition created by macOS. The installer creates the /Codar alias and requires a reboot before it shows. This alias points to /System/Volumes/Data/Codar folder and CODAR software tools are installed at this location and all SeaSonde data is also logged there.

CAUTION: If try to keep older versions of the folder by renaming the Codar folder in the data volume as you may have done in older OS versions, this will not work in these new OS versions as /Codar will still point to the renamed folder. All the SeaSonde applications are still using the /Codar paths as these still work because of the alias.

Third-Party File Transfer: Also, third party file transfer apps like TeamViewer and LogMeIn deal with this /Codar folder alias differently. For example: In TeamViewer file transfer window and LogMeIn FileManager window, /Codar alias will not show anything. You have to navigate to /System/Volumes/Data/Codar folder to view the contents of /Codar folder.

- **Does Radial Suite R21 installation delete existing configs or data during upgrade from Release 8?**

R21 installer will update some of the existing config files as per the R21 format, and will add some additional plists. It will add or update following additional plists:

- Will add Archivalist_Waves.plist
- Will add SpectraAverager_Radials.plist, SpectraAverager_Waves.plist. The old SpectraAverager.plist still remains in the folder but is not used by R21 processing.
- Will update Header.txt, AnalysisOptions.txt, SeaSondeAcquisition.plist and SeaSondeController.plist.

Hence, we highly recommend backing up your entire Configs folder before R21 installation .

- **What steps should we follow to update the RadialConfigs when upgrading from Release 8 or 7 to Release 21 or a fresh install of Release 21?**

When installing Release 21 on existing Release 8 install on computer with macOS 10.13 or 10.14:

- Assuming RadialConfigs folder is already existing: Launch SeaSondeRadialSetup and select the correct frequency band of your system and it should update or install the previously mentioned config files to match the format required for Release 21.

When installing Release 21 on a computer with macOS 10.15 and above:

- *If this is a fresh install on a new site with no prior configs used,* then Launch SeaSondeRadialSetup and select the correct frequency band of your system and it will install the default configuration files in /Codar/SeaSonde/RadialConfigs folder appropriate for that band.
 - *If this is an existing site where you are changing computer or upgraded OS,* then first transfer the backup of RadialConfigs folder from your R8 installation onto the new computer's desktop.
 - Then go ahead and install Release 21. When SeaSondeRadialSetup launches automatically, don't select a band, but quit it.
 - Next, copy the R8 RadialConfigs folder from the desktop and paste it into the /System/Volumes/Data/Codar/SeaSonde/Configs folder.
 - Now, launch SeaSonde RadialSetup and select the correct frequency band of your system and it should update or install the above mentioned config files to match the format required for Release 21.
- **I am currently processing wave data at my remote site. Are there any new changes that I should be aware of, before upgrading to R21?**

With Release 21, spectra processing for waves is now split into its own separate stream - separate from radial processing stream.

- With R21, a separate set of spectra are now logged by default under /Codar/SeaSonde/Data/Waves folder which are then processed separately into waves data. So, after R21 upgrade, you should verify if Archivalist is set to properly archive these additional spectra files.
- Wave files are still created in the same folder /Codar/SeaSonde/Data/Waves.

- **Does file transfer between Radial sites and Combine sites need to be modified after R21 upgrade?**

No change will be needed if you are upgrading from Release 8 or Release 7 to Release 21. If you are upgrading from Release 6 to Release 21, the /Data/Radials folder now has separate folders for ideal and measured radials. So, any existing file transfer scripts between combine station and radial site will need to be modified accordingly.

- **Do I need to download and install the Gebco database installer if I am upgrading from existing R8 installation to R21?**

No. You only need to download and install the Gebco database if you are installing R21 on a computer with no existing Release 8 installation and don't have existing Gebco database file. You can verify this: If there is already a 1.87GB gebco_08.nc file located under /Codar/SeaSonde/Apps/Support/Bathymetry folder, then you don't need to install it again, else you should download the Gebco installer from the support website and install it if you intend to use the Bathymetry features of SeaDisplay.

- **Why do the R21 applications icons in the mac dock still look like old icons after installing Release 21?**

Sometimes on some computers(not all) after installing R21, the dock icons are not updated to match the new R21 style icons. Even a computer reboot may not fix it. But, once you click on the icons on the dock, they will update to R21 style. If they don't update, then please inform us by submitting an inquiry to support.codar.com.

3.2. Release 21 Software Installation Support

- **What is included or not included with CODAR's installation service for R21 upgrade?**

Each existing license upgrade to Release 21 includes limited courtesy CODAR technical support at no additional cost for assistance related to the software installation process, which includes help in software installation. Does not include any other support involving any software tutorials, computer initial configuration/setup, data analysis or site configuration/remote support or re-configuring file transfers between radial sites and combine sites, etc. Any such non-included service may be chargeable under your existing Technical Support contract.

- At your request, CODAR Technical Support can install latest Radial Suite R21 software version remotely on your existing computer or new computer pre-configured by you. Please provide login information for your site(s) to complete the upgrade process. (**Note:** If CODAR determines the site connection to be too slow to perform the upgrade reliably over such slow connection, we will recommend to perform the update during your next site visit).
- If you decide to perform the R21 installation yourself and run into any issues, we will need to setup a support contract (if you already don't have one setup with CODAR) before continuing to troubleshoot user installation issues. We will not charge for any software bugs or installation issues not related to user error.
- **Can CODAR install Radial Suite R21 on my new computer if it is in my office and not at the radial site?**

Yes. The computer may be located in your office or at the site. You will just need to provide remote login information to us. Computer also does not need to be connected to the SeaSonde Receiver for the upgrade, but it's better if it's connected(if available), then we can test if installation was completely successful.

3.3. Add-On SeaSonde Suites Compatibility and Notes

- **What should we consider before upgrading to Release 21, if we are also running other add-on software suites like AIS Patterner, Elliptical, Tsunami, etc on our existing R8 or R7 sites?**

Currently, except AIS Patterner Suite, Radial Suite Release 21 compatible versions of other SeaSonde software add-on suites like Elliptical suite, Tsunami suite, etc are not available. See below guideline for the add-on suites:

AIS Patterner Suite: If your computer is currently running AIS Patterner Release 3 suite and assuming computer specs meet the specifications as outlined in previous section, you can continue using it after upgrading Radial Suite to Release 21. The latest version is Release 3 update 2.

Note: You will have to re-run the AIS Patterner suite installer after installing Radial R21. Also, please manually rename the Sentinel_AISPattern.plist to Sentinel_Task_AISPattern.plist else Sentinel will not launch AIS Recorder automatically.

CAUTION: Currently released AIS Software Suite Release 3 version is only compatible with macOS 10.13.6 and 10.14.6. It is not compatible with macOS 10.15 and above. New AIS Software Suite version that will also be compatible with macOS 10.15 and above is currently under development and testing.

Elliptical Suite, Tsunami Suite, Vessel Detection Suite: Existing software suite versions are not compatible with Radial Suite Release 21 on any OS version and are also not compatible with macOS 10.15 and above. So, either you will need to hold off on upgrading to Radial Suite Release 21 until the new version of these suites are available or if you update to Radial Suite Release 21, you will have to pause using these add-on suites until the new version is available.

Also, refer to the [SeaSonde Software Suites Compatibility Matrix](#) which summarizes the above different compatibility notes.

- **I am upgrading to R21 on an existing site with R8 and AIS Patterner Release 3 Suite installation on OS 10.13 or 10.14 computer. Are any steps related to AIS software/settings required after R21 installation?**

After upgrading to R21 on OS 10.13 or 10.14 computer where you were already using AIS Patterner Release 3 suite, rename /Codar/SeaSonde/Configs/RadialConfigs/Sentinel_AISPattern.plist to Sentinel_Task_AISPattern.plist. This will make the this plist file compatible with R21 format and Sentinel will continue launching AISRecorder automatically at reboot. Without renaming, Sentinel will not launch AISRecorder automatically and AIS data will stop logging after a computer reboot.

3.4. Software License

- **What has changed in terms of software licensing method for Release 21?**

You may be aware that from Radial Suite Release 8 update 5, a license certificate file was required for computers with macOS 10.13 and 10.14 and usb license key was required for OS 10.12 and earlier.

Starting from Release 21, usb license key will no longer be compatible and ONLY license certificate file will be required for all Release 21 compatible macOS versions.

Note: The license certificate file in both Release 21 and Release 8 is matched to the specific computer for which it was issued. It will not work on any other computer. See other FAQ below on this topic.

CAUTION: Even if your computer had Release 8 license certificate file, it will not be compatible with Release 21 and vice versa. So, you will still need a new license certificate file specific for Release 21 and will need to use the SeaSonde Key app included in R21 to install this R21 license file. Refer to the Retrieving Existing License File section for instructions to request new license certificate file for Release 21.

- **I have USB license key plugged into remote site computer. Since R21 no longer uses USB license key, will it conflict with the new license file and do I need to visit the remote site to remove it before R21 upgrade?**

No, you do not need to visit the remote site to remove the USB license key before R21 upgrade. Once installed, R21 license file will get higher priority by the SeaSonde license service on the computer and USB license key will be ignored. We recommend that you remove the USB license key during your next site visit to free up the USB port on the site computer.

- **My computer was using license certificate file and the computer has died. What should I do? (applicable for both Release 8 and Release 21)**

Since each license certificate file is tied to specific ComputerID applicable for that specific computer, it will not work with any other computer. If your existing computer dies and you need to replace computer or you replaced hard-drive on your computer, you will need to request the license certificate file again. Refer to the Retrieving Existing License File section for instructions.

- **What should I do if I cannot access the SeaSondeKeyApp on my existing computer to retrieve the existing license information?**

- If you have no records of what license was in use at your site/computer, then see if you have a backup copy of a SeaSondeReport log folder from your site's computer. That log folder includes a Licenses.txt file which has the license information which you can send us to request new R21 license file.



- If you don't have access to the SeaSondeReport log folder, then check if you have the usb key that was used in the past at the site and send us a snapshot of the usb key to request new R21 license file.
- If you don't have access to any of the above, then contact CODAR Technical support.

3.5. Miscellaneous

- **Are the steps to enable Callsign in R21 any different than in R8?**

The main steps are same. You should enable and configure Callsign settings through SeaSondeRadialSetup in R21 just like R8. However, after configuring settings, you should quit SeaSondeController and relaunch it for the Callsign settings to be updated. If you don't quit SeaSondeController after configuring settings in SeaSondeRadialSetup, Callsign may not be transmitted.

- **What has changed in the CSS files that are logged by default in R21?**

The CSS files logged by default in R21 are in the reduced cross spectra file format(CSS_*.csr files) which are reduced by almost 2:1 factor. They are still read and processed as normal and open with SpectraPlotterMap.

This will lead to significant savings in the disk space usage due to the smaller size of the CSS files and will allow storage of more number of files on the same disk space and also helps in faster data transfer of these CSS files when needed and hence also reduced data usage for your internet data plan.

Example: A single CSS file at a 42MHz site in SanFrancisco Bay, California with 512 doppler bins and 64 range cells was ~1.3MB with R8 and after R21 upgrade, the reduced spectra file size was ~745kB.

Please contact CODAR Technical Support at support@codar.com for any questions or for help with Release 21 upgrade.