DOWNLOADING NEW OPERATING SYSTEM TO A CR500, CR10X, OR CR23X

To download an Operating System (OS) to a datalogger, you must use a Campbell direct communication method. Such methods involve using an SC32A, SC929, or two RAD Short Haul Modems (SRM-5A or SRM-6A) with an SC932. Please contact Campbell Scientific if one of these methods is not available.

There are two software programs on the enclosed disk, a CSOS and OSDTECT. Copy all three files to your hard drive before running the program.

If you have any problems, please contact Campbell Scientific, Inc. at (435) 753-2342.

UPDATING A CR23X DATALOGGER

To download a new OS into a CR23X, execute the program *CSOS*. This program is run by 1) creating an ICON / Shortcut on your desktop, or 2) at the Program Manager Window, select File, then Run, and type in the program name *CSOS.EXE* including its path. You do not have to run *OSDTECT*.

UPDATING A CR10X OR CR500 DATALOGGER

To download a new OS into a CR10X or CR500 datalogger, execute the program *OSDTECT*. This program is run by 1) creating an ICON / Shortcut on your desktop, or 2) at the Program Manager Window, select File, then Run, and type in the program name *OSDTECT.EXE* including its path.

This program will check the current OS Version of the datalogger and change the clock coefficients if necessary to match the current format these values are stored in. Once this program is finished, it will automatically run the *CSOS* program. If for some reason you aborted *CSOS* before it finished downloading the new OS to the CR10X or CR500, when you run it again, don't run *OSDTECT* a second time, just run *CSOS* manually.

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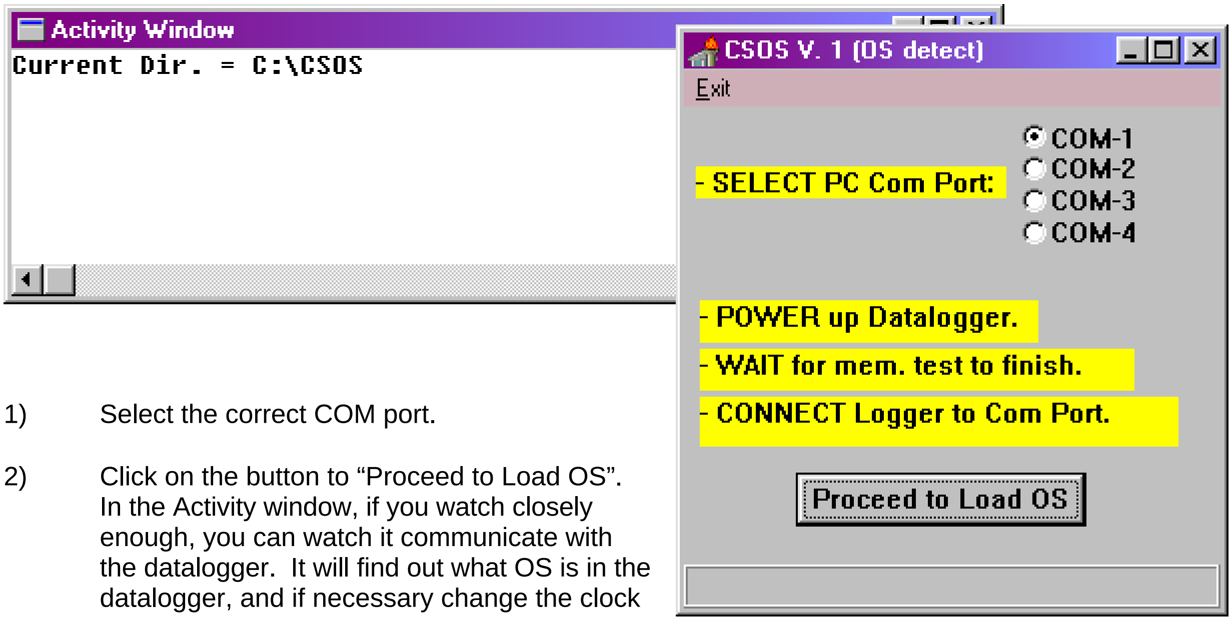
RUNNING OSDTECT

CAUTION: Please make sure that security is **not** enabled in your datalogger before running this program or it will not work properly.

You should see this window when the software is first run.



```
Current Dir. = C:\CSOS
```

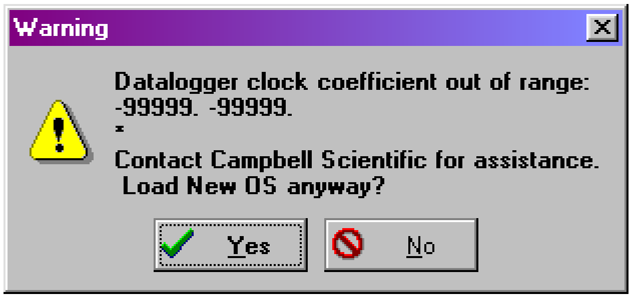
- SELECT PC Com Port:
● COM-1
○ COM-2
○ COM-3
○ COM-4

- POWER up Datalogger.
- WAIT for mem. test to finish.
- CONNECT Logger to Com Port.

1) Select the correct COM port.

2) Click on the button to "Proceed to Load OS". In the Activity window, if you watch closely enough, you can watch it communicate with the datalogger. It will find out what OS is in the datalogger, and if necessary change the clock coefficient values inside the datalogger.

If the datalogger's clock coefficients inside the datalogger are invalid numbers, you will see the following screen. If you see this screen, you should click "Yes" to proceed with downloading the new OS. The clock coefficients are only used with the datalogger Instructions 27 and 28. If you use these instructions and get this warning message, contact Campbell Scientific for assistance.

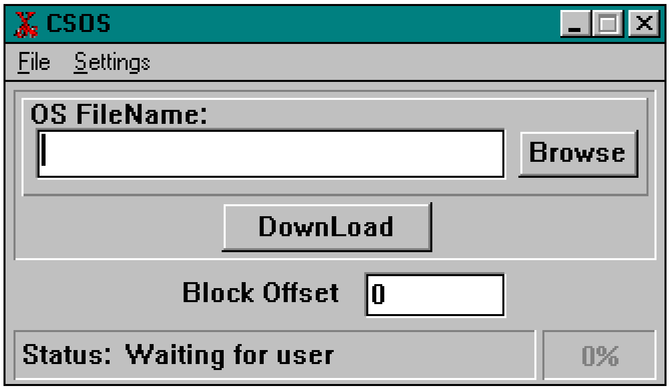


Datalogger clock coefficient out of range:
-99999. -99999.
*
Contact Campbell Scientific for assistance.
Load New OS anyway?

3) It will now close the Activity window and OSDTECT window and run CSOS.

RUNNING CSOS

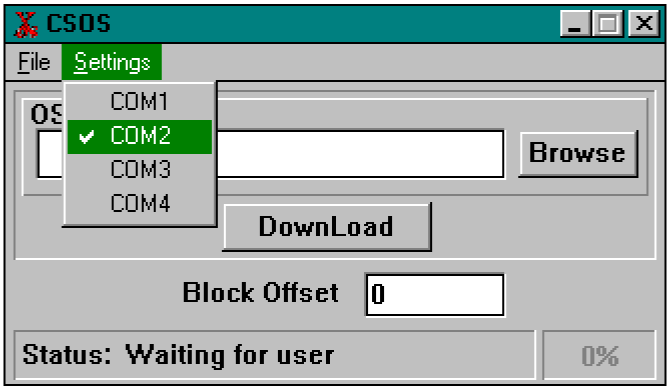
You should see this window when the software is first run.



Block Offset 0

Status: Waiting for user

1) Select the correct COM port. (If CSOS was initiated by OSDTECT, it has already selected the valid COM port for you.)



Block Offset 0

Status: Waiting for user

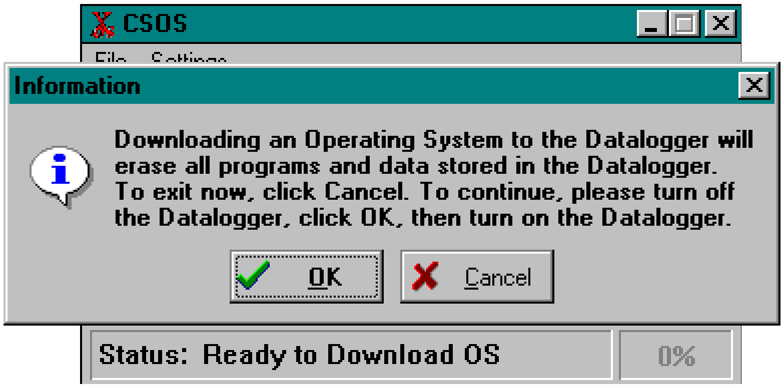
2) Click **Browse** and select the correct filename. This example uses the filename of CR10X1_5.OBJ.

3) Connect the datalogger to the computer via an SC32A, SC929, or RAD Short Haul modems.

4) Make sure the datalogger is off.

5) Click **DownLoad.**

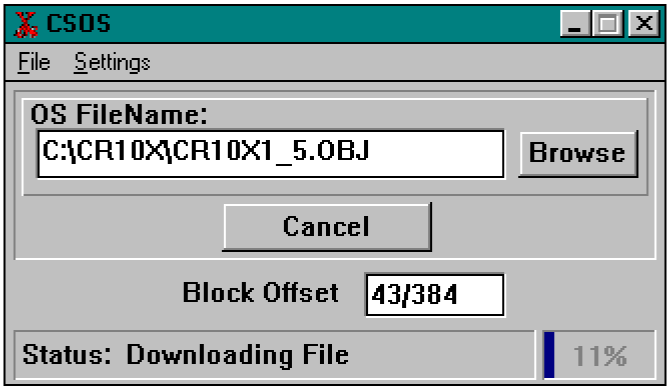
6) The software will prompt you to turn the datalogger off; click o.k. and turn the datalogger on so it can start downloading the new OS.



Downloading an Operating System to the Datalogger will erase all programs and data stored in the Datalogger. To exit now, click Cancel. To continue, please turn off the Datalogger, click OK, then turn on the Datalogger.

Status: Ready to Download OS

7) As the new OS is being downloaded, the screen will display the progress.

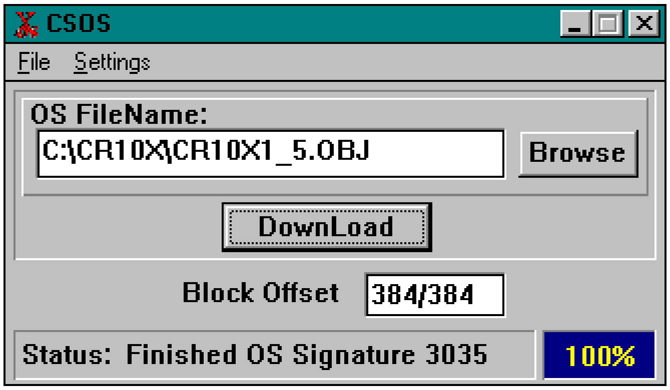


OS FileName: C:\CR10X\CR10X1_5.OBJ

Block Offset 43/384

Status: Downloading File 11%

8) This screen will be displayed when the new OS is completely downloaded. The OS signature displayed is what you should see in the 2nd window of *B. Once you see this screen, you may close this window to exit the OS downloading software.



OS FileName: C:\CR10X\CR10X1_5.OBJ

Block Offset 384/384

Status: Finished OS Signature 3035 100%

AFTER THE OS HAS BEEN DOWNLOADED

Once an OS has been downloaded into the datalogger, the datalogger will automatically perform a full memory reset.

> **CAUTION:** Once the full memory reset has been started, do **NOT** try to establish communications with the datalogger until the time listed below has passed.

Datalogger	**Time to Wait for Memory Reset**
CR10X/CR500	1 minute
CR10X -1M or CR23X	5 minutes
CR10X-2M or CR23X-4M	10 minutes

Communicating with the datalogger through a computer or the keyboard/display will suspend the memory reset. Stopping the memory reset may cause the datalogger to act unpredictably. If the keyboard/display is attached while the datalogger performs the memory reset, the display will show “HELLO” on the left part of the screen. The screen will change to show the amount of available memory when the reset has been completed.

Datalogger		Memory
CR500	=	160
CR10X	=	256
CR10X-1M	=	1280
CR10X-2M	=	2304
CR23X	=	1664
CR23X-4M	=	4704

At this time it is now safe to communicate with the datalogger.