

Constructing a Star Book Comet Data File

The format of the data file for uploading ten (10) comets at a time to the Star Book is a plain text file (ANSI text). The name of the file does not matter, for example you could name a data file "Spring Comets 2009" or "My comets". Each line of the file has ten fields which describe one comet. Each field must be separated by a comma, but no spaces. There is no punctuation at the end of each line.

The first line of the data file must be "STARBOOKCOMETFILE", in uppercase letters.

These are the necessary fields for all other lines in the comet data file:

Numbering (the line number of the comet in the Star Book, from 1 to 20)

Code name (comet number, ie:14P or C/2007/N3)

English name (ie: Temple or Linear)

Time of pericentre passage YYYY,M,D.DDDD (peri-date, ie: 2009,2,27.2056)

Argument of pericentre (Small omega, Peri, ie: 158.9747)

Minimum distance from pericentre (q, in AU's, ie: 2.724147)

Inclination (i, incl) (ie: 27.9413)

Longitude of the Ascending node (Big omega, Node, ie: 202.1223)

Eccentricity (e, ie: 0.358104)

Local name (This may be the same as the English name or its name in another language.)

Note: Do not set anything to terminate a line of data. Just start a new line.

Example of a data file that uploads three comets to the Star Book:

STARBOOKCOMETFILE

1,14P,Wolf,2009,2,27.2056,158.9747,2.724147,27.9413,202.1223,0.358104,Wolf

2,CQ2,Machholz,2005,1,24.91408,19.50473,1.2050585,38.58913,93.62523,0.999463,Machholz

3,C/2007/N3,Lulin,2009,1,10.6414,136.861305,1.212289,178.3730,338.5353,0.99987,Lulin

The upload may take up to two minutes to complete. If you input wrong data into the Star Book, the star chart may not appear, or the Star Book may lock up during the upload. If this happens, restart the Star Book then delete the wrong data by using the "Delete All Comet Data" command in the initial settings menu before re-trying with a corrected data file.

You can create a data file that replaces just a single comet, or several. First make note of which line number the comet you want to replace occupies within the Star Book. This can be accomplished by either counting down the list of comets in the Star Book, under the Objects menu, or by accessing the list of comets in the Star Book with your web browser, as described in the Vixen manual. You can then create a comet data file to replace the desired comet line number with a different comet. You can also create a file that puts comets in slots 11 through 20 of the StarBook, by numbering the lines in the comet data file from 11 to 20.

The raw data for creating a comet data file is available at the following web address:

<http://www.cfa.harvard.edu/iau/Ephemerides/Comets/>

This same web site also contains a format which closely, but not exactly, resembles the format used in the Star Book. The "Dance of the Planets (ARC)" planetarium program format contains the information needed, but the fields must be rearranged. The order, after the mandatory line number, is: Comet,name,peridate,wØ,peri(au),iØ,êØ,e,name Note that the peridate entry must be broken up to fit the Star Book format.