

You can connect the STAR BOOK to a PC and register orbital elements for comets. The orbital elements for the comets can be obtained from astronomy magazines and from Internet web sites related to astronomy. After installation of the database, you can slew the telescope to the comets automatically.

It is not designed to track the comets accurately.

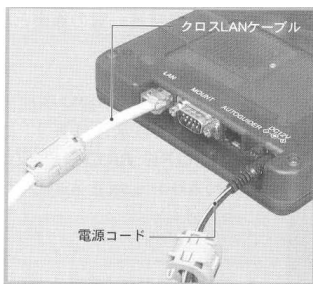
Requirements

- STAR BOOK controller
- Power Supply for the STAR BOOK
- PC (Computer) for data transfer (Ethernet Card on PC)
- LAN crossover cable
- Orbital elements of comets

Procedures for Comet Registrations

Connect the STAR BOOK and the PC with the LAN crossover cable.

*As for a connection of the LAN cable to the PC, please refer to the instructions for the PC.



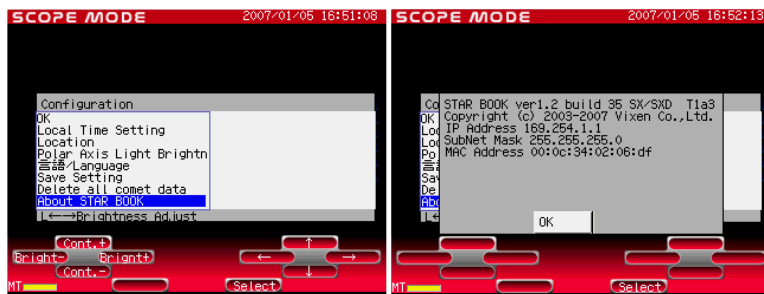
Turn on the STAR BOOK.

Turn on the PC.

Wait for a period of one minute. The STAR BOOK and PC acquire information on networking automatically.

Advance the screen on the STAR BOOK to **CHART MODE** or **SCOPE MODE**.

Press **Menu** to display the System Menu. Move the cursor to **About STARBOOK-S** and press **Select** to enter. Confirm and write down the IP address & Subnet mask numbers.



IP Address: 169.254.ab (a & b are indefinite numbers)

SubNet Mask: 255.255.0.0

*The IP address may differ if the STAR BOOK is connected through networks.

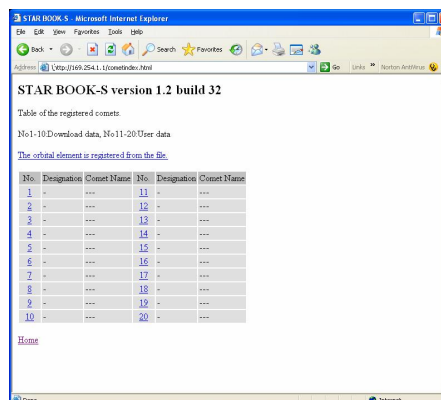
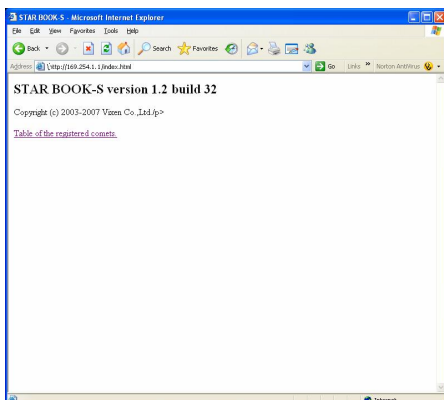
Inputting the Orbital Elements

Inputting the orbital elements of the comet McNaught here as an example.

Code : 2006P1
Name : McNaught
Local Name : (for Japanese word)
Time of pericentre passage (T) : 2007.1.12.7969
Argument of pericentre (Pen.) : 155.9755 °

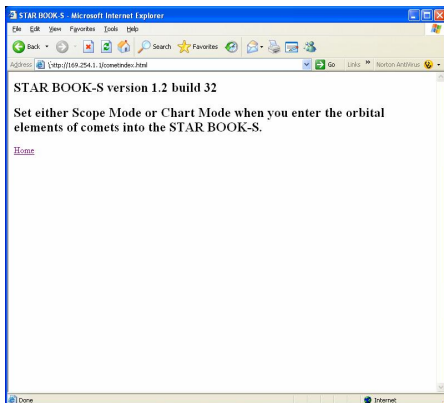
Minimum distance from (Q) : 0.170729 AU
pericentre
Inclination (Inc.) : 77.8349 °
Longitude of the (Node) : 267.4147 °
Ascending node
Eccentricity (e) : 1.000022
Epoch = 2007.1.20.0

Open Internet Explorer. Substitute the Internet Explorer's address bar with the IP address of the STAR BOOK. (e.g. http://254.1.1) Now the screen below is displayed.



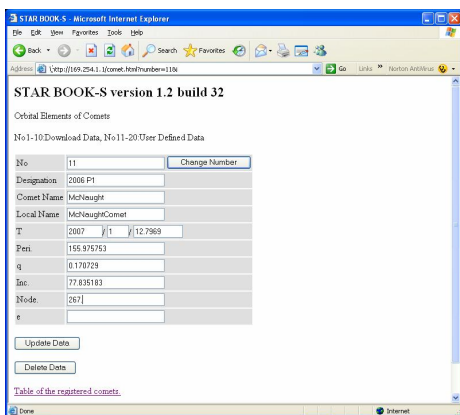
As you click on the “Table of the registered comets”, the screen changes to a registration form for inputting orbital elements.

*If the STARBOOK-S screen is not in **SCOPE MODE** or **CHART MODE**, the message below is displayed. Change to the correct screen and re-enter the IP address.



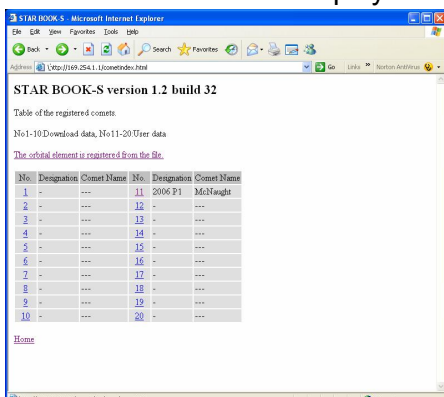
On PC screen

In the registration form for the orbital elements as displayed in (6) of “Procedures to comet registration”, click on the number on or over 11 to go into the orbital elements input screen as shown below.



Input all the parameters of the orbital elements.

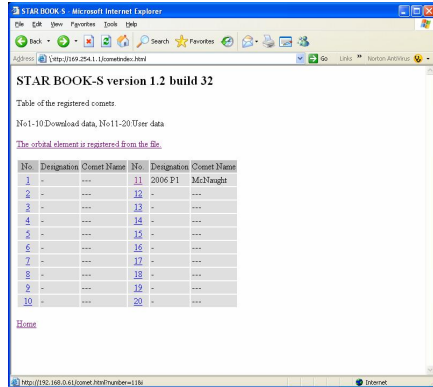
Click on **Update Data** by the left click after you input all the parameters of the orbital elements. Now the comet can be displayed on the screen of the STAR BOOK.



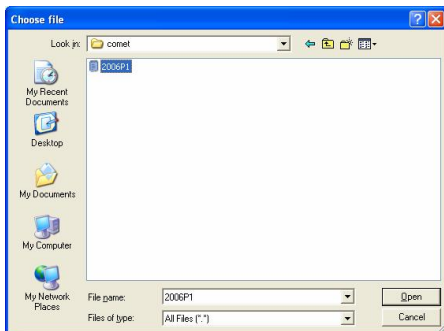
Using a Downloadable File

With the installation of a file for orbital elements which can be obtained from Vixen's web site, you can easily enter the comet orbital elements into the SAR BOOK.

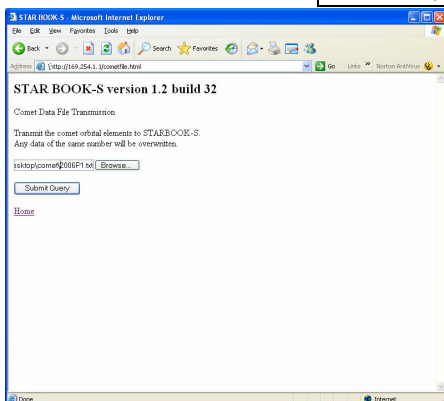
As you click on the "Table of the registered comets" by the left click, the screen changes to a registration form for inputting orbital elements.



Click on the **Browse** button by the left click and designate the file previously downloaded.



In the screen where the file is designated in (8-B) above, clicking on the file will advance to the screen below. Click on **Submit Query** by the left click to transfer.

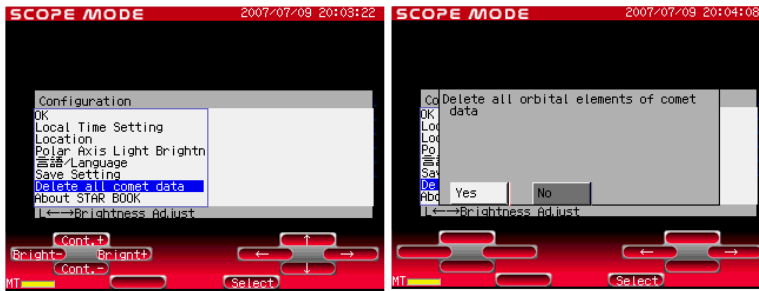


When you delete the input data, choose the number of orbital elements you wish to erase and click on the **OK** button.



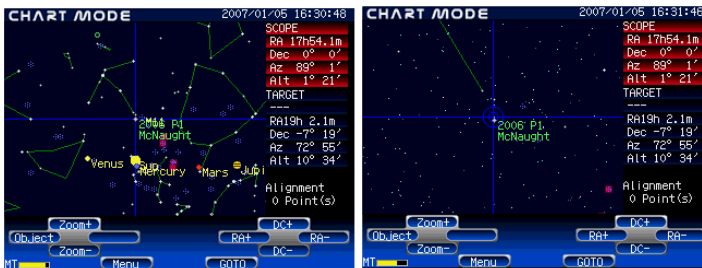
*If your download is unsuccessful, follow the directions on change settings on your PC.

You can delete all data of the orbital element at a time in the initial setting screen just after you turn on the SAR BOOK. Turning on the STAR BOOK and choose **Delete all comet data** with the **↑**·**↓** keys and press **Select** to enter. The dialog box on the right will appear on the screen. Choose **YES** with the **←**·**→** keys and press **Select** to delete.



Automatic Slewing to Comets

With the installation of the comet orbital elements, you can display the comet on the screen of the STAR BOOK and slew to the comet automatically. You can set the comets so as to show or to hide them on the star chart.



Appointing the Comet on the Star Chart

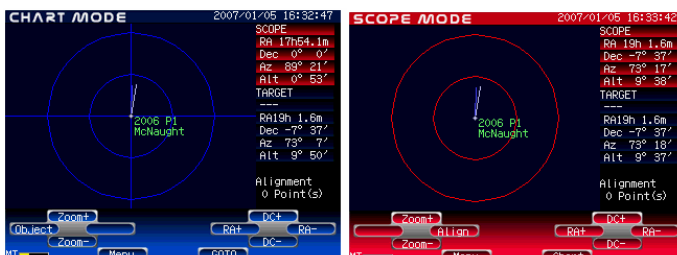
Complete the alignment of the telescope so that automatic slewing is ready to start.

*Please refer to the instruction manuals for SX/SXD mount to complete the alignment.

Focus the telescope on a fixed star with the low magnification eyepiece.

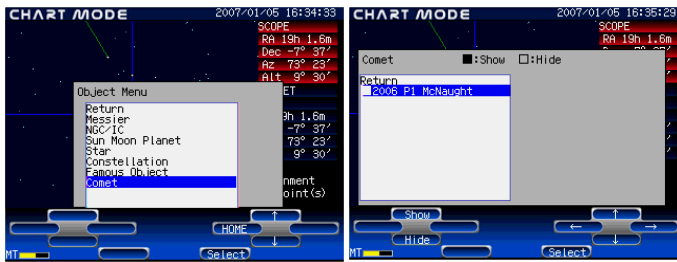
In **CHART MODE**, center the comet on the crosshairs with the **↑**·**↓** **←**·**→** keys.(*)(*2)

As you press the **GOTO** key, the telescope moves to the target comet automatically in order to bring it in the field of view of the telescope.(*)3

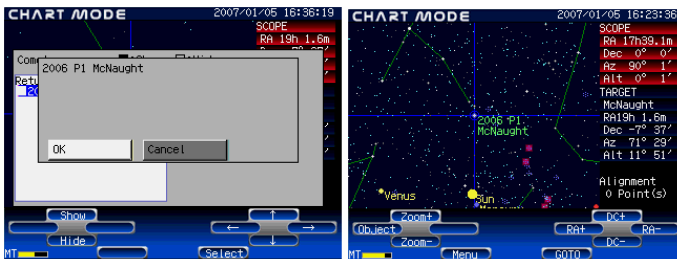


Appointing the Comet using the Object Menu

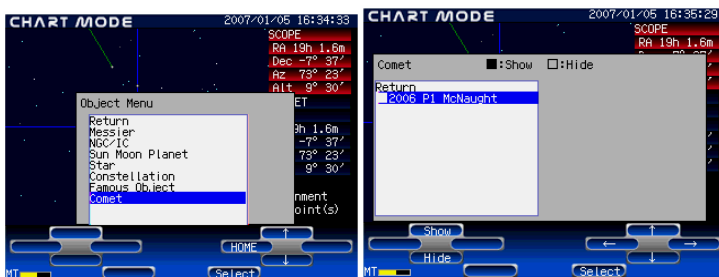
In CHART MODE, press **Object** to display the Object Menu. On scrolling down the list of celestial objects, you will find **Comet** is newly included in the bottom of the list



Choose **Comet** and press **Select** to advance to the Comet Menu screen. Select the comet you wish to observe with the $\uparrow \cdot \downarrow$ $\leftarrow \cdot \rightarrow$ keys. As you press **Select** to enter, the screen below is displayed for the confirmation. Choose **OK** and press **Select** to enter. The target comet is now at the center of the star chart.



In the Comet Menu screen, choose the comets you wish to display on the star chart. Move the cursor to the comets and turn the mark to black with the $\uparrow \cdot \downarrow$ keys to display. Save the setting in order for the current settings to apply the next time the STAR BOOK is used.



(*1) The comet will not appear on the screen if the “Hide” is marked with black in the dialog box of the on the Comet screen.

(*2) The blue line from the comet shows its ion tail and the white line shows its dust tail. The length and direction of the both tails are based on forecasts. It may differ from the actual view of the comet.

(*3) There are uncertainties in the orbital elements of comets and the comets may reveal unexpected motion. It may fail to bring the target comet at the center of the field of view of your telescope.

End.