



Merop User's manual

www.astrimage.org/merop

Merop User's manual

Version 1.2

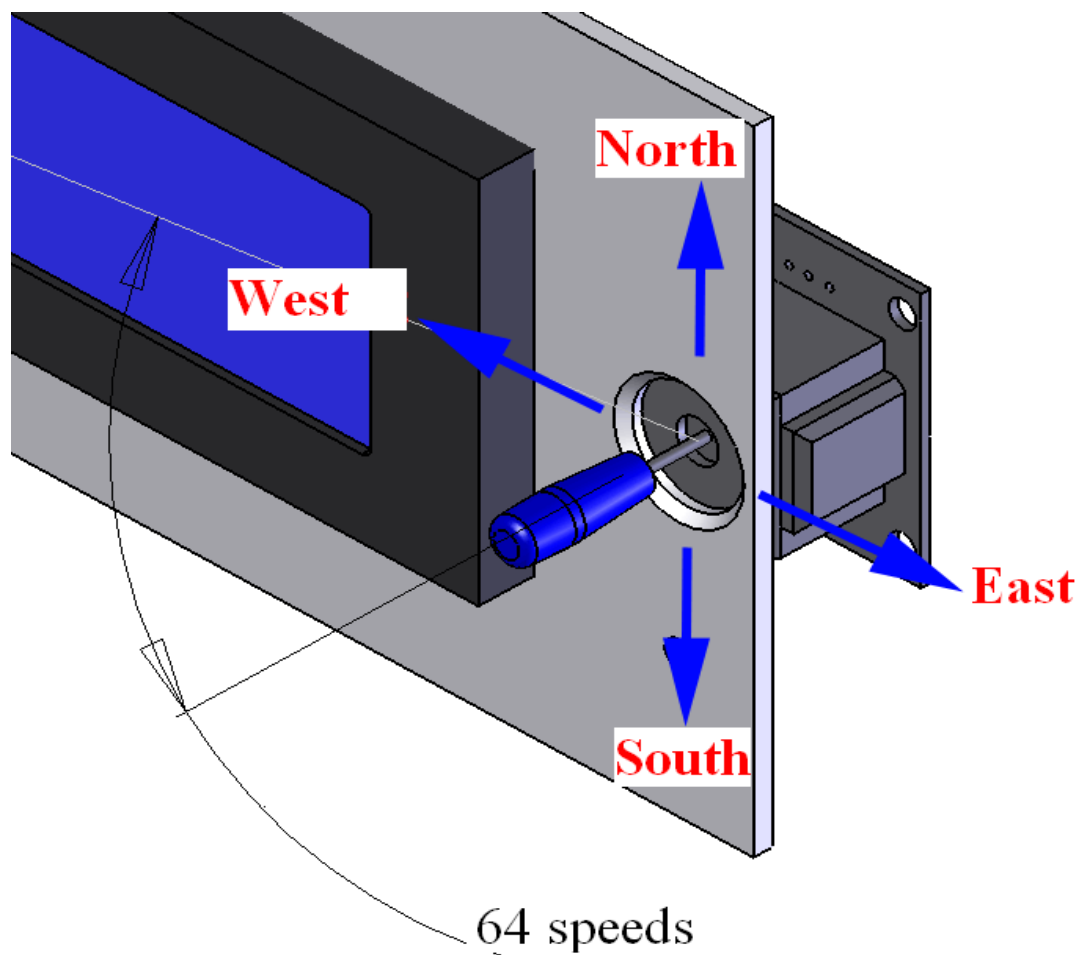
Summary

| | |
|---|--------------------|
| 1 Principles of use..... | 3 |
| 2 Getting Started..... | 4 |
| 3 Focus..... | 5 |
| 4 GOTO..... | 7 |
| 5 Guiding speed..... | 9 |
| 6 Reversing declination..... | 9 |
| 7 Configuration..... | 10 |
| 7.1 Communication Mode..... | 10 |
| 7.2 Ext. Pic-Astro..... | 11 |
| 7.3 Deadline navigation period..... | 12 |
| 7.4 Brightness..... | 12 |
| 7.5 About..... | 13 |
| 8 Guiding mode..... | 14 |
| 9 Update..... | 15 |
| 10 Big Ben..... | 16 |

To facilitate the discovery of your Merops, we advise you to do your first test daytime.

1 Principles of use

Joystick



Lorsque Merop est en veille (en dehors de tout menu), le joystick permet de commander des déplacements à la monture, suivant différents modes (voir § Modes de guidage). Le mode proportionnel, le plus performant, permet de faire varier la vitesse des moteurs sur 64 niveaux dans chaque direction, en fonction de l'angle donné au joystick. When Merops is in standby (not in any menu), the joystick enables to move the mount, according to different modes (see § guiding modes). The proportional mode, the more efficient, allows to vary the motors speed of 64 levels in each direction, depending on the angle of joystick.

In the menus, use the joystick to do :




- Right : validation
- Left : back
- High/Low : scroll

Button

Merop button, and a pressure on the joystick have the same effect :

- Access to menus when Merops is in standby
- Validation in some menus

2 Getting Started

| | |
|---|---|
|  | <p>When switching on MEROP the firmware version is displayed</p> |
|  | <p>Then the menu showing the voltage of the battery appears.</p> <p>The coordinates of where the telescope is pointing is shown (it is of course necessary to set up and synchronize Merop on a reference star, see next chapter)</p> |
|  | <p>By pressing the joystick open this menu screen.</p> <p>To change the item, lower or lift the joystick, to select push the joystick to the right.</p> |

3 Focus



```
*Mise au point
Goto
Vit. de suivi
Inversion DEC
```



```
↑
Motofocus:
Stop
↓
```

The joystick lets you select the speed of your focus motor and make movements (Joystick up / down).
To return to the previous menu press the joystick.



```
↑
Motofocus:
Lent extra
↓
```



```
↑
Motofocus:
Rapide extra
↓
```

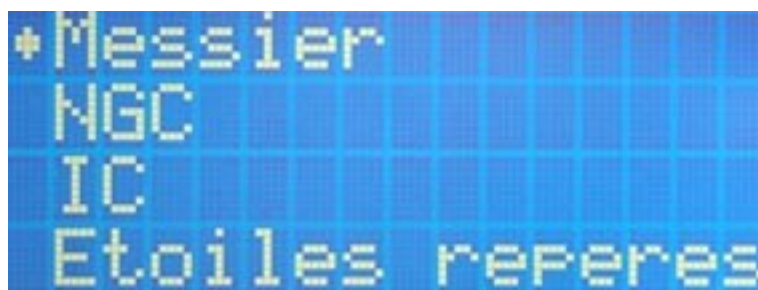
↑
Motofocus:
Lent intra
↓

↑
Motofocus:
Rapide intra
↓

4 GOTO



Mise au Point
*Goto
Vit. de suivi
Inversion DEC



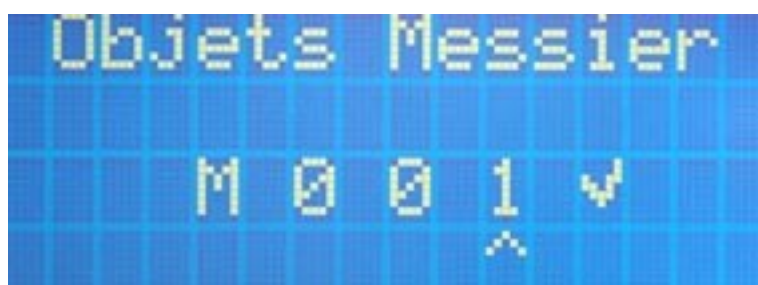
*Messier
NGC
IC
Etoiles referes

In the Goto menu, these four possibilities are displayed. We will take the case of a Messier object, but the principle is the same for other items in this menu. Go right with the joystick


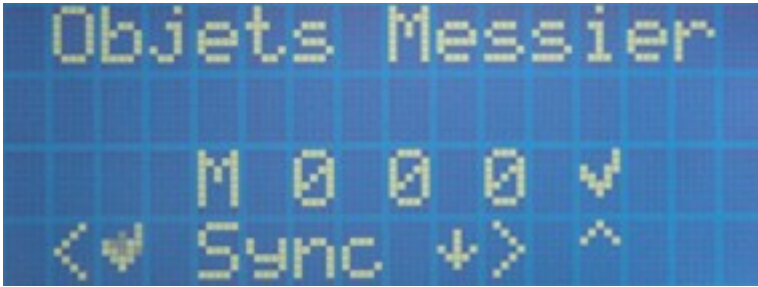

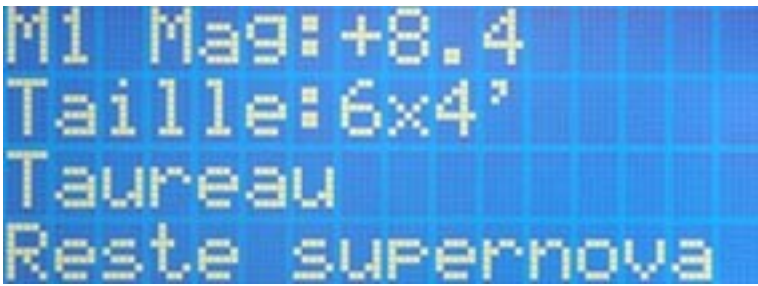



Objets Messier
M 0 0 0 v
^



Move to the right or left to select the column you want, and go up or down with the joystick to scroll through the numbers



Objets Messier
M 0 0 1 v
^

| | |
|---|--|
|  | <p>Positioning to the right of the number and go up and down with the joystick to select the goto, synchronization or to exit the menu</p> |
|  | <p>To synchronize the object after selecting "Sync" go right with joystick</p> |
|  | <p>To exit the menu after « sync » select "Quit", and go right with joystick</p> |
|  | <p>In the case of a goto or a synchronization, a right movement of the joystick provides guidance indications on the selected object.</p> |
|  | <p>Then, another movement to the right makes the desired maneuver (or synchronization goto)</p> |

5 Guiding speed




| | |
|---|--|
|  | |
|  | <p>Select guiding speed and go right with joystick to validate it.</p> |

6 Reversing declination


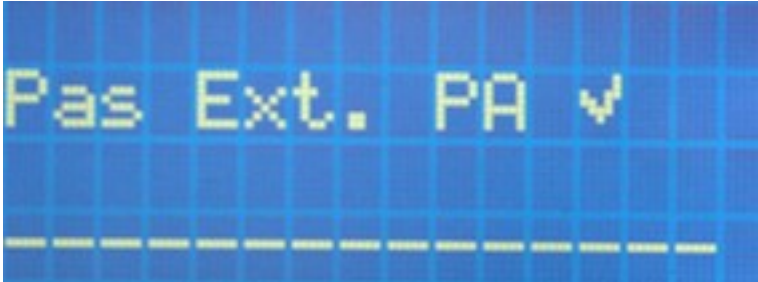

| | |
|---|---|
|  | |
|  | <p>A right movement with the joystick reverse declination</p> |

7 Configuration


7.1 Communication Mode

| | |
|---|---|
|  <pre>Goto Vit. de suivi Inversion DEC *Configuration</pre> | <p>Do a right movement with joystick to enter the menu</p> |
|  <pre>*Mode Comm. Ext. Pic-Astro Delai Navigat. Lum Actif</pre> | <p>Select the mode of communication.</p> <p>For PIC ASTRO mode is "DIRECT LX 200"</p> |
|  <pre>*Waves Protocol Direct LX200 Mode Actuel</pre> | <p>Choose one of two modes, by going right with joystick.</p> <p>To remind you of the communication mode, position yourself on current mode, go right with the joystick and the screen will displayed your current mode</p> |

7.2 Ext. Pic-Astro

| | |
|--|--|
|  <pre>Mode Comm. *Ext. Pic-Astro Delai Navigat. Lum Actif</pre> | <p>Activation of PIC ASTRO extensions : speed proportional to joystick, maximum travel speed of the mount etc. ...</p> |
|  <pre>Pas Ext. PA v -----</pre> | <p>If Pic-Astro extensions were active, they are disabled</p> |
|  <pre>Mode Comm. Ext. PA activ. v Delai Navigat. -----</pre> | <p>If they were not, they become.</p> |

7.3 Deadline navigation period



Mode Comm.
Ext. Pic-Astro
*Delai Navigat.
Lum Actif

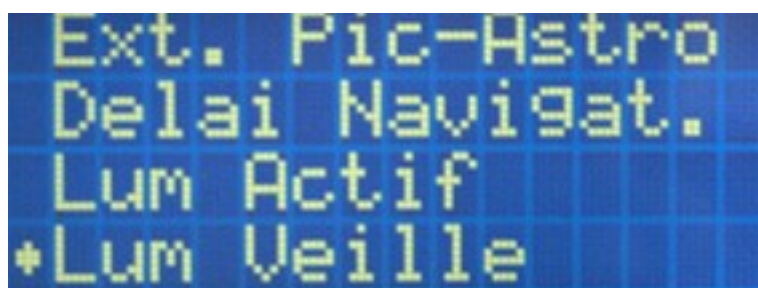


↑
Amplitude:
100 ms
↓

The deadline navigation period is the time to standby before repeating a joystick operation, for example when the joystick maintains upward to scroll through the menus.

100 ms is sufficient time, but in conditions of cold and numbness, it may be necessary to increase this period

7.4 Brightness



Ext. Pic-Astro
Delai Navigat.
Lum Actif
*Lum Veille

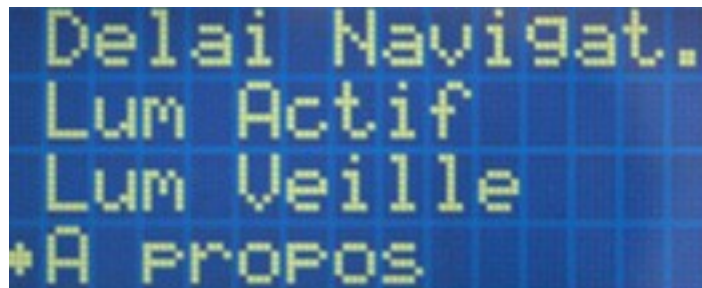
Choice of lighting in use or in standby



Regler avec
le joystick, et
valider avec
le bouton

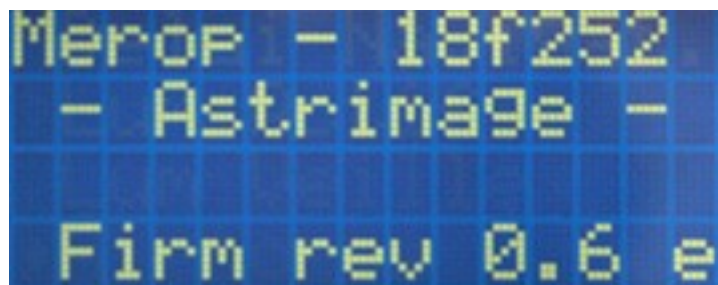
Move the joystick up and down to adjust brightness and when it's ok press button.

7.5 About







Delai Navigat.
Lum Actif
Lum Veille
*A PROPOS

This menu lets you know the version of the PIC in Merop and the firmware version.




Merop - 18f252
- Astrimage -
Firm rev 0.6 e

8 Guiding mode

| | |
|---|--|
|  | <p>The menu guiding mode offers you the opportunity to choose between five types of movement with the joystick</p> |
|  | <p>Proportional: the speed of the mount is proportional to the displacement of the joystick.</p> |
|  | <p>After selecting "Amplitude prop." A movement to the right with the joystick will reduce the maximum speed on the stroke of the joystick in order to be more specific and less sensitive when traveling.</p> |
|  | <p>Four modes of travel fixed, like a hand controller: The speed can then be Guiding, Centering, Research and Travel.</p> |

9 Update



```
Inversion DEC
Configuration
Mode de guidage
*Mise a jour
```

Allows you to enter the mode for updating the firmware of Merop

Refer to the documentation of the Merop update software



```
Attente PC
-----
```

After entering the update mode, Merop awaits commands from the PC

10 Big Ben

| | | |
|---|--|---|
| <pre>Configuration Mode de guidage MAJ Bootloader +Big Ben</pre> | | Choose the menu Big Ben |
| <pre>+Go! Type Reflex Voir Parametres Releve miroir</pre> | | we can navigate into his menu with the joystick |
| <pre>Releve miroir T relev. miroir T Initial +T Enregist.</pre> | <pre>T Enreg. ms 6 0 0 0 v <+ OK +> ^</pre> | We will start with the end of this menu with the recording time |
| | | On the memory card of your digital camera, as usual move with the joystick and confirm the choice |
| <pre>Voir Parametres Releve miroir T relev. miroir +T Initial</pre> | <pre>T Initial ms 3 0 0 0 v ^</pre> | Initial time before the first exposure |
| <pre>Type Reflex Voir Parametres Releve miroir +T relev. miroir</pre> | <pre>T Rel miroir ms 1 0 0 0 v ^</pre> | Time to lift the mirror, if the option is checked in your customized functions of your DSLR. |
| <pre>Go! Type Reflex Voir Parametres +Releve miroir</pre> | <pre>Rel miroir ACT -----</pre> | Activate the mirror lift in merop |
| <pre>Go! Type Reflex +Voir Parametres Releve miroir</pre> | <pre>Type: 350D Mirr Lock Cap: Y Mirr Lock ACT: N LockUp T: 1000ms</pre> | Reminder settings |

| | | |
|---|---|--|
| | <pre>Record. T: 6000m Exposure T: 10s Num of exp: 2 Init T: 3000 ms</pre> | Press the button to scroll between the different parameters |
| <pre>Go! *Type Reflex Voir Parametres Releve miroir</pre> | <pre>*350D, 20D D70</pre> | Choose the type of camera with the joystick |
| <pre>*Go! Type Reflex Voir Parametres Releve miroir</pre> | <pre>Nombre d'images 0 0 2 ✓ ^</pre> | Back to the top menu in the "GO" function |
| | <pre>Nombre d'images 0 0 2 ✓ <+ OK +> ^</pre> | Choose the number of images |
| | <pre>Temps de pose 0 0:1 0 ✓ ^</pre> | The exposure time |
| | <pre>Attente</pre> | |
| | <pre>Exposition Pose #1 9 s</pre> | Viewing the detailed installation and ongoing |
| | <pre>Enregistrement.. Pose #1 1 s</pre> | Recording image NOTE : in "zoombrowser" of canon image is refreshed automatically with merop |
| | <pre>Exposition Pose #2 10 s</pre> | Pursuit of other exposures |

| | | |
|--|---|--|
| |  | |
| |  | <p>The sequence is completed, a beep sounds.</p> |

Maximum pause time: 99 minutes 59 Seconds

Maximum number of hauls: 254

Maximum initial time: 9900 ms

Deadline noted mirror maximum: 9900 ms

Deadline for registration maximum: 9900 ms

Interruption of the sequence being paused when Merop displays "Exhibition", press the button for at least 2s and release. Merop end logging current installation and displays sequence interrupted! "