



BUYING A TELESCOPE (VISUAL OBSERVATION)

Download, print off a copy and tick-off each step to understand what items you need to use your telescope

Starting astronomy doesn't have to mean buying a long list of equipment. Many telescopes are supplied as complete packages, while others are sold as individual components.

The purpose of this guide is therefore NOT to tell you to buy everything on a list. Instead, it will help you work out what you already have, what is included with your telescope and what you might still need to complete your setup.

Always check the manufacturer's specification and package contents before purchasing additional accessories. The exact contents of telescope packages vary between models.

STEP 1 | CHOOSE YOUR TELESCOPE

Your telescope is the heart of the setup. The type and aperture you choose will determine what you can see and how easy the telescope is to use. If you're not sure what sort of telescope you need, please read Buying Guides #1 and #2.

A. Which telescope / optical tube do you plan to buy?

Brand: _____

Model: _____

Aperture: _____

B. Is your chosen telescope a Dobsonian?

- ☐ No. Go to STEP 2.
- ☐ Yes. Go to STEP 3

C. Does your telescope include a mount?

- ☐ No. Go to STEP 2
- ☐ Yes. Go to STEP 3



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STEP 2 | CHECK THE MOUNT

The mount supports the telescope and allows it to be moved smoothly across the sky. A stable mount is essential for comfortable observing and becomes increasingly important at higher magnifications.

A. Is a mount included?

- ☐ No. A mount needs to be purchased (read Buying Guides #3 & #4)
- ☐ Yes. However, it doesn't match with my requirements - A new mount is required
- ☐ Yes. It's sufficient for my needs. Go To STEP 3.

B. Which mount do you plan to buy?

Brand: _____

Model: _____

A. Is the mount motorised? How will you control the mount?

- ☐ Hand controller. Double-check that one is included as standard.
- ☐ PC / Tablet / Smartphone with web-enabled app

STEP 3 | CHECK THE TRIPOD

All mounts require a tripod, stand or pier. Many telescope packages include a suitable tripod. Frequently, mounts that are sold separately do not come with a tripod. If you're planning to buy a separate mount for your telescope, check whether you also need a tripod.

A. Is a tripod included?

- ☐ No. A separate tripod is required for the mount.
- ☐ Yes. However, it doesn't match with my requirements - A new tripod is required
- ☐ Yes. It's sufficient for my needs. Go To STEP 4.

B. Which tripod do you plan to buy?

Brand: _____

Model: _____



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STEP 4 | CHECK THE OPTICAL ACCESSORIES

Now check whether any optical accessories are included with the telescope.

A. Are any of the following accessories included?

- ☐ Diagonal
- ☐ Eyepiece(s)
- ☐ Optical / Red-Dot Finder

If a diagonal and/or eyepiece are not included, they will need to be purchased separately. If you're not sure what sort of eyepiece you need and which focal lengths, please read Buying Guide #5.

B. Which eyepiece(s) do you plan to buy, and what focal lengths?

Brand: _____

Model: _____

Focal Lengths: _____

STEP 5 | POLAR ALIGNMENT

B. Does the mount you'll be using need to be polar aligned?

- ☐ No. Go To STEP 6
- ☐ Yes.

C. Does it include a polar alignment scope or has a computer-aided alignment program?

- ☐ No. A system suitable for polar aligning your mount is required.
- ☐ Yes. Go To STEP 6

D. What alignment system do you plan to buy?

Brand: _____

Model: _____



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STEP 6 | ADDITIONAL ACCESSORIES

Some accessories are essential, for example, in the absence of mains power supply, a battery or portable power station will be required for a motorized mount. Others could be described as 'recommended' and 'optional'. Below is a list of accessories in each three categories for your consideration. We suggest you tick those items you want so that you have a 'shopping list' to refer to when buying your visual astronomy rig.

ESSENTIAL

- ☐ Battery or Power Station

If your mount is motorized and you do not have access to mains electrical supply

RECOMMENDED

- ☐ Moon Filter

Reduces the brightness of the Moon when viewed through the telescope. Makes lunar observing more comfortable, particularly when using larger telescopes or higher magnifications.

- ☐ Star Atlas or Astronomy App

Helps identify constellations and locate astronomical objects. Makes learning the night sky easier and provides a useful alternative to relying entirely on GoTo technology.

- ☐ Red Torch

Provides low-level illumination while helping preserve your dark adaptation. Makes it easier to read charts, change eyepieces and handle equipment without using a bright white light.

- ☐ Carrying Case or Bag

Protects the telescope and accessories during transportation and storage. Makes equipment easier to transport while reducing the risk of accidental damage.



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Optional

☐ Nebula Filters

Filters specific wavelengths of light produced by many emission nebulae. Improves contrast and make certain nebulae easier to see, particularly from locations affected by light pollution.

☐ Barlow Lens

Multiplies the magnification of an eyepiece. Provides additional magnification options without requiring a larger collection of eyepieces.

☐ Dew Shield

Helps prevent moisture from forming on the front optical surface and reduces stray light entering the telescope. Allows observing to continue for longer in humid conditions and can improve contrast.

☐ Dew Heater Band(s) & Controller

Gently warms an optical surface to prevent condensation. Particularly useful during long observing sessions in damp or humid conditions. For telescopes with using a corrector plate such as MCTs, SCTs and Maksukov Newtonians, both a dew shield and heater bands are highly recommended.

☐ Collimation Tool

Helps align the optical elements of a telescope such as a Newtonian reflector. Correct collimation ensures the telescope delivers the sharpest images it is capable of producing. Not every telescope requires regular collimation, so check the requirements of your particular optical design before purchasing one.

☐ Cleaning Kit

Provides suitable tools for removing dust and occasional marks from optical surfaces. Helps maintain the performance of your telescope while reducing the risk of damage caused by unsuitable cleaning materials. Optics generally require cleaning less frequently than newcomers expect. Avoid cleaning simply because you can see a little dust.



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Before you buy anything else, ask yourself three questions:

Do I already have it? It may have been supplied with the telescope or mount.

Do I really need it? Some accessories solve a particular problem rather than being essential to observing.

Will it improve the type of observing I hope to enjoy? A planetary observer may benefit from a different collection of accessories than someone primarily interested in wide-field nebulae or double stars.

REMEMBER ... The best visual astronomy rig is the one you'll use most frequently. You do not need everything from a long accessory list. Start with a complete, well-matched system, learn to use it and then add equipment as your interests develop.