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Introduction

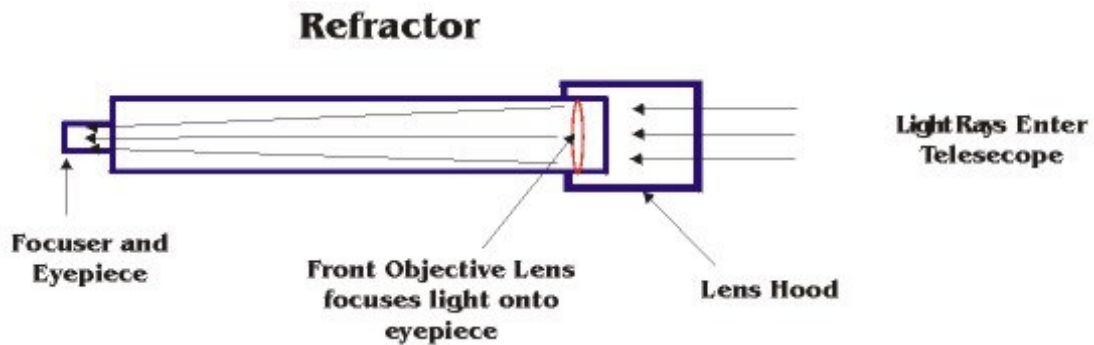
While this publication is titled Introduction to Astronomy, it primarily deals with the practical applications of amateur astronomy. Very little theory is touched upon, the publication is mostly about equipment, the various types of telescopes and accessories and which ones are suitable for you. There is an introduction to sky charts and their nomenclature. Some sky charts are presented indicating the position of popular celestial objects. There is also a section on photography, hopefully, there is enough to get you started in this interesting subject. Finally, there is a list of web links to astronomy sites, manufacturers and dealers of equipment and software.

Telescope Basics

Types of Telescopes

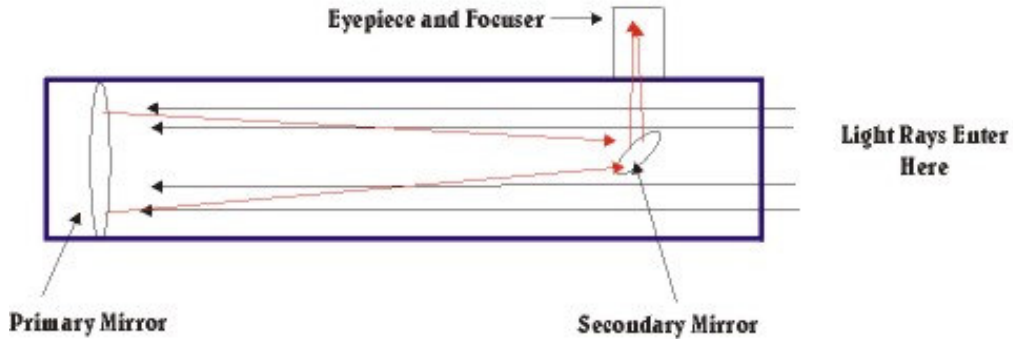
There are basically two types of telescopes, the refractor telescope and the reflector telescope.

The refractor uses a front objective lens to collect light and focus it onto the eyepiece at the other end of the telescope. A second lens behind the main front lens is necessary to correct for false colours that would otherwise show up in the eyepiece.



The Newtonian reflector uses a mirror at the back end to collect and focus light onto a smaller secondary mirror which diverts the light into the eyepiece. The eyepiece is responsible for magnifying the image so it is visible to the human eye. There are several different types of reflector telescopes.

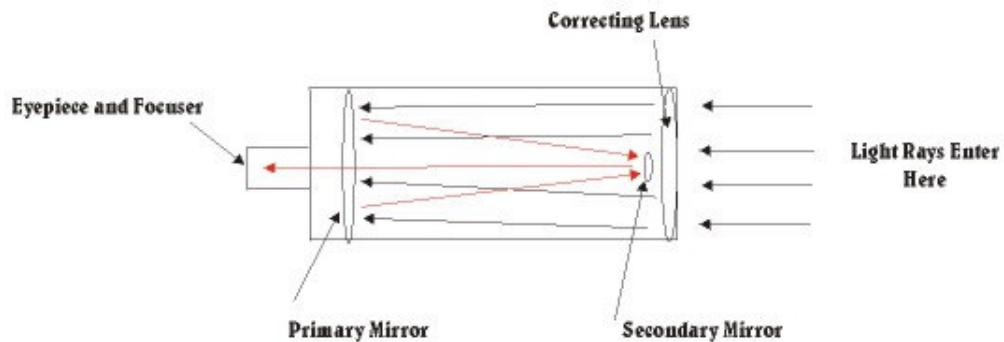
Newtonian Reflector



The Newtonian is described above. The Schmidt-Cassegrain reflector is like a combination of a reflector and refractor. A spherical mirror at the back end collects light and focuses it onto a small secondary at the front which then directs it back through a hole in the main primary mirror and into the eyepiece. The primary mirror in a SCT telescope produces severe aberrations so a corrector lens is placed at the front of the telescope to correct for these.

The Maksutov-Cassegrain is identical to the Schmidt Cassegrain but has a different front lens to again correct for aberrations.

Schmidt- Cassegrain





Telescope Mounts

There are two types of mounts for telescopes:

1. The Alt/Azimuth Mount
2. The Equatorial Mount

The alt/azimuth mount moves the telescope only in altitude (up and down) and azimuth (right and left). It is not possible to accurately track star positions with this type of mount.

Field rotation will occur when tracking for long periods. Most refractors and Schmidt-

Dobsonian Mounted Newt

Cassegrain telescopes are fork mounted, which is a type of alt/azimuth mount. Large Newtonian reflectors are usually Dobsonian mounted, another type of alt/azimuth mount.