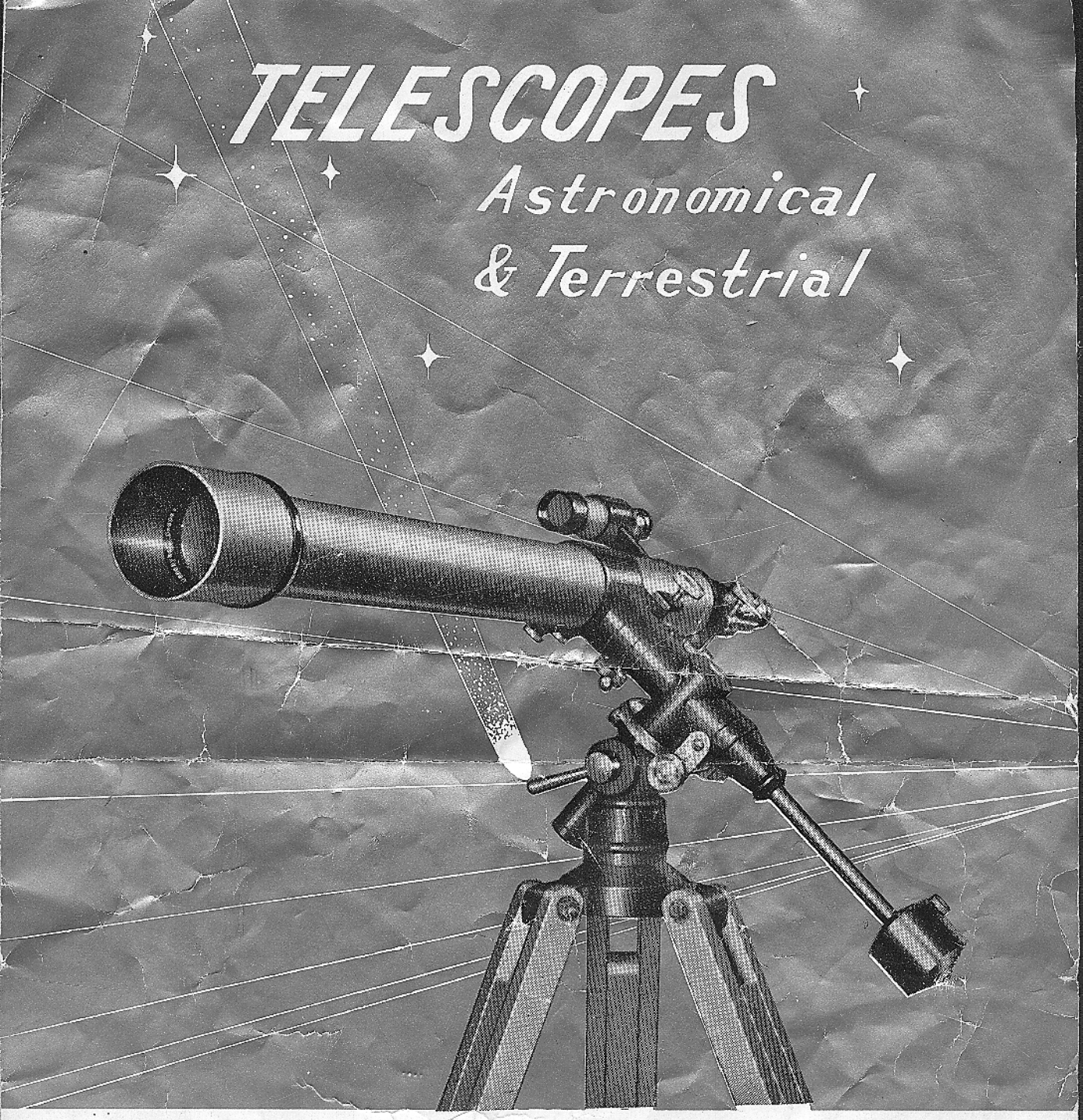
TELESCOPES

Astronomical & Terrestrial



ASTRONOMICAL AND TERRESTRIAL TELESCOPE

Get ready for the tpace era!

Here is a superb new precision instrument backed by many years of optical engineering research.

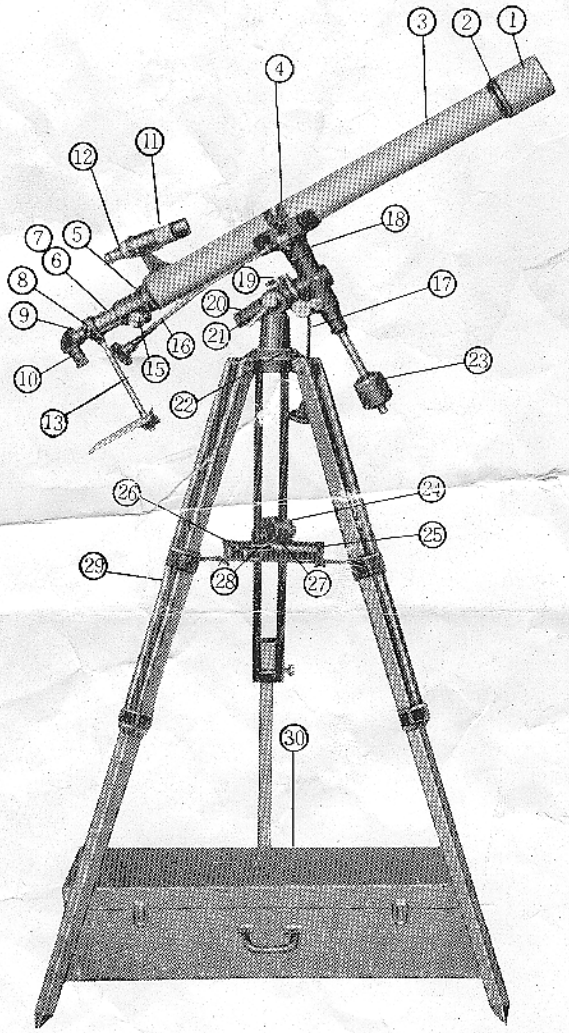
It is unique and versatile with altazimuth-equatorial mount epuipped with slow-motion adjustment.

It moves on three azes, the horizontal, polar and declination, and can be used for both celestial and terrestrial observation.

It is easy to use because the telescope, finder and tripod are built in a unit, and not separa ely.

The strong and sturdy tripod adds distinction to this telescope.

MONOLUX® ASTRONOMICAL TELESCOPE



Nomenclature

1. Dew Cap
2. Objective cell
3. Main tube
4. Main tube trunnion sleeve
5. Eye-end
6. Draw tube
7. Adapfer tube
8. Eyepiece adapter
9. Diagonal prism
10. Eyepiece
11. Finder
12. Finder eyepiece
13. Bar
14. Sun projection screen
15. Focusing knob
16. Flexible slow-motion control(altazimuth)
17. Flexible slow-motion control(equatorial)
18. Clamp lever for fixing the telescope to the declination axis
19. Right ascension clamp lever
20. Polar axis
21. Horizontal axis clamp lever
22. Tripod head
23. Balance weight
24. Erecting prism
25. Barlow lens
26. Eyepieces
27. Sun glass
28. Accessory tray
29. Two-section tripod
30. Wooden carrying case

Instructions For Use

1. Take out the tripod and the telescope from the wooden case.
   Loosen the clamp lever (21) and right the mount base at about 80 degrees.
2. Loosen the screw (4) and slide the main tube to the middle; and place the finder (11) in a suitable position for observation.
3. Attach the tripod legs (29) to the tripod head (22) with three bolts, and spread the legs apart.
4. The tripod bracket in the middle of each leg is attached underneath the accessory tray (28) through a hole at the vertex of the tray. Put eyepieces and others on the tray.
5. Take out the balance weight (23) and screw it in to the tip of the declination axis. Then tighten up the small weight which is attached to the balance weight below.
6. The two flexible slow-motion controls can be screwed into each axis.
7. See that the various parts of the telescope are well balanced for operation, and make a necessary adjustment.

ACCESSORIES

Astronomical Eyepieces :

1, The astronomical eyepiece is inserted into the adapter by simply pushing it in.
2. The abbreviation "HM" engraved on the eyepiece cap stands for "Huygenian Mittonzwey"; "K" for "Kellner" and "AH" for "Achromatic Huyghenian." The number engraved shows the focal length of the eyepiece.

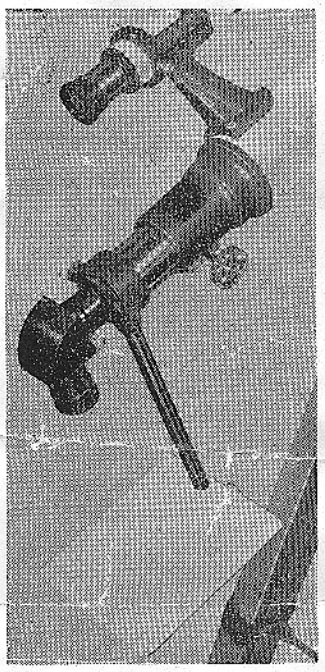


Figure 2

3. The magnifying power of the telescope can be obtained by dividing the focal length of the objective lens by the focal length of the eyepiece.
4. The tube of the astronomical eyepiece has the international standard diameter of 24.5mm. The diameter of the thread of the eyepiece cap is 25.4mm with 48 threeads per inch.

Diagonal Prism :

When using the diagonal prism, remove the adapter tube from the draw tube, as shown in the figure 3. Then push the draw tube in by approximately 60mm to fit for the additional length of the diagonal prism, and refocus. The diagonal prism makes it possible for you to make an observation in an easy Posture. If the sun projection screen is attached, as illustrated in the figure 2, a group of persons can observe a magnified image of the sun or of the moon projected on the screen.

Sun Glass (Moon Glass) :

1. The sun glass (the moon glass) intercepts the heat and glare of the sun's (the moon's) rays for safe solar observation.
2. It is screwed into the inside threaded edge of eyepiece tube.

Finder :

1. The finder is a small guide teles ope. You will find it easy to sight your telescope on the object with this finder.
2. The findr eyepiece has a crosshair. When the object, viewed through the finder, is centered at the juncture of the crosshair, it should be in the center of the field of vision on the telescope.
3. If the object appears in the finder and does not in the telescope, sight with your telescope on some clear objects provisionally such as a smokestack or a telephone pole at least 500 meters away. Whenthis object is centered in the field of vision on the telescope, look through the finder till the object appears at the juncture of the crosshair
4. The eyepiece attached to the finder will serve as an astronomical eyepiece of the telescope when inserted to the adapter.

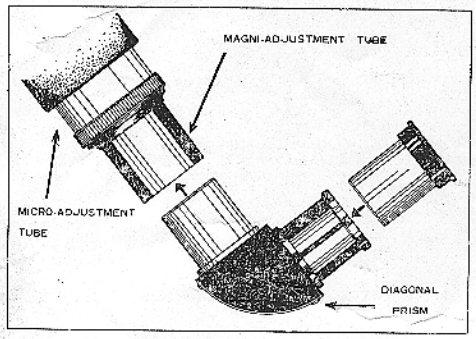


Figure 3

Illustration of how to use the diagonal prism.

Sun Projection Screen :

1. The sun projection screen, as its name implies, is used for the projection of an image of the sun, as observed through the telescope, on the screen for observation.
2. The diagonal prism may be used to project an upright image on the screen.
3. Best results can be obtained by fastening a sheet of Pure white paper on the reflecting side of the screen with a paper clip.

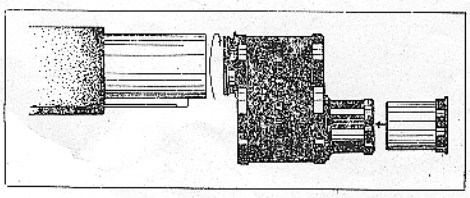


Figure 4

Erecting Prism :

1. The erecting prism is designed to turn the upside-down image of the astronomical telescope to an erect position for terrestrial observation.
2. Before using the erecting prism, remove the adapter from the draw tube. Then refocus the draw tube by approximately 100mm so that the erecting prism can de screwed into it. When fixing the erecting prism, turn the screw to the right, as shown in figure 4. The diagonal prism should not be used together with the erecting rtism.

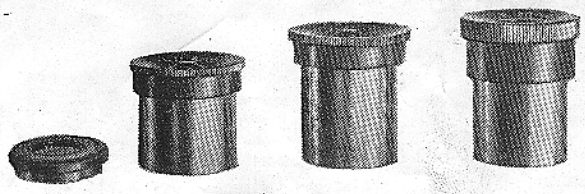


Figure 5. Sun filter / Moon filter } Screw in here.

Left to right: Sun filter, Eyepieces HM 6, HM 12.5, R 20

Barlow Lens:

Insert the barlow lens into the eyepiece adapter (8), and you can double the power of any eyepiece with which it is used. For instance, you can increase the power from 45 to 90 in the case of a 20mm eyepiece,
It is undesirable, however, to use a high-power eyepiece with this barlow lens.

Terrestrial Observation

1. With this telescope you can see human shapes at distances from 20 miles (32kilometers) to 25 miles (40 kilometers) under good observing conditions. At 5 miles (8 kilometers) you can make distinction of the sex and outward look of a person observed. At distances of 2 miles (3 kilometers) and less, you can make individual identification.
2. Remember that tue haze or fog will prevent you from seeing any more clearly than with the unaided eye.
3. In observing in the direction toward the sun, the glare is an obstacle to good observation.
4. If you are observing through windows of buidings on which the sun is shining directly or from rooftops, or observing points on which the sun is shining directly, the rising air current under these conditions is inclined to distort the view. This is also true when observing over rooftops. Under such condition, it is advisable to use as low a magnification as possible.

Equatorial Telescope

1. The equatorial telescope, one function of this versatile telescope, is a special instrument for astromical observation designed to observe and track the movements of heavenly bodies.
2. Generally speaking, the daily and nightly movements of heavenly bodies through the sky are regular and unvarying. This is because the celestial sphere revolves with the north (south) pole of the heavens as its center, a motion identical with the rotation of the earth on its axis. It follows that the movements of the heavenly bodies can be followed on an axis of observation which parallels the earth's axis. This parallel axis is called the polar axis.
3. The polar axis points to true north, the angle of declination being equal to the degree of latitude at the point of observatiou on the earth's surface.
4. The equatorial mount of the telescope is built to that the polar axis of the teletcope will point to the north pole of the heavens. For practical purposes, it is sufficient to point the polar axis of the telescope at the North Star. Once this is done, the polar axis is secured in place and unless the telescope is moved, it is properly oriented.

ASTRONOMICAL AND TERRESTRIAL TELESCOPE WITH EQUATORIAL MOUNT

	Model No. 4384	Model No. 4382	Model No. 4380
OBJECTIVE LENS Achromat. hard Coated			
Clear aperture:	80mm	80mm	60mm
Focal length:	1600mm	1200mm	910mm
Condsnsing power:	167×	118×	73×
Resolving power:	1.1″	1.6″	2.0″
Limitation magnitude:	11 7m	11.2m	10.6m
FOUR EYEPIECES:			
20 mm (with barlow lens)	80× (160×)	60× (120×)	45× (90×)
12.5mm (〃 〃 〃)	128× (256×)	96× (192×)	73× (146×)
6 mm (〃 〃 〃)	267× (534×)	200× (400×)	152× (304×)
4 mm (〃 〃 〃)	400× (800×)	300× (600×)	225× (450×)

ACCESSORIES: Star diagonal prism. Erecting prism. Sun glass. Moon glass. Finder with cross-hairs. Sun projection screen. 2× barlow lens. Wooden carrying case.