# COMMANDERSCOPE™

## User Manual

## Professional and Waterproof Monocular 8x42

## With Built-in Compass


## Warning

**Never observe the sun directly with the COMMANDERSCOPE it may result in permanent and irreversible eye damage.**

Please thread the free wrist strap through fixtures before using.

While in storage or in application, do not use the COMMANDESCOPETM with compass in the magnetic area, otherwise the compass works out of order or fails to function.

**Compass Zone**

The compass works reliably and accurately in the 5 world areas (A area, B area, C area, D area and E area), which are defined in accordance with the international standard. Please choose your due compass accordingly with the defined area before you order.

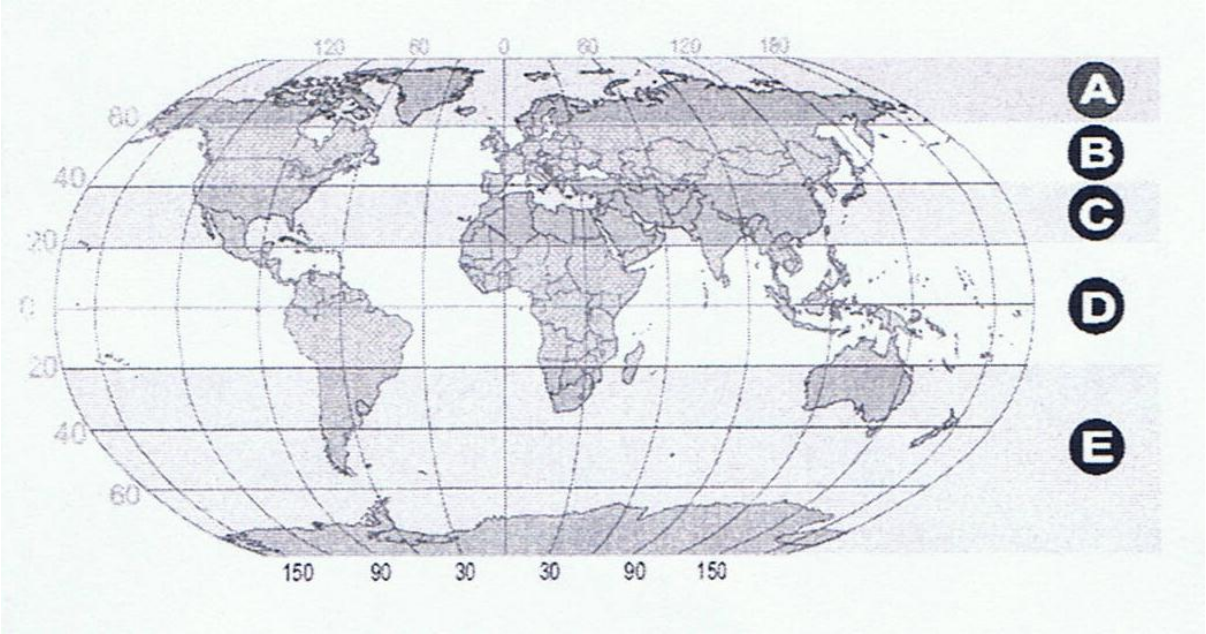


Fig.1

A area: countries and areas in 60 degrees north latitude higher, including the whole Canada.
B area: countries and areas between 40 degrees north latitude and 60 degrees north latitude.
C area: countries and areas between 20 degrees north latitude and 40 degrees north latitude.
D area: countries and areas in 20 degrees north latitude lower to 20 degrees south latitude.
E area: countries in south latitude in Africa lower from Angola and Zambia and Oceania.

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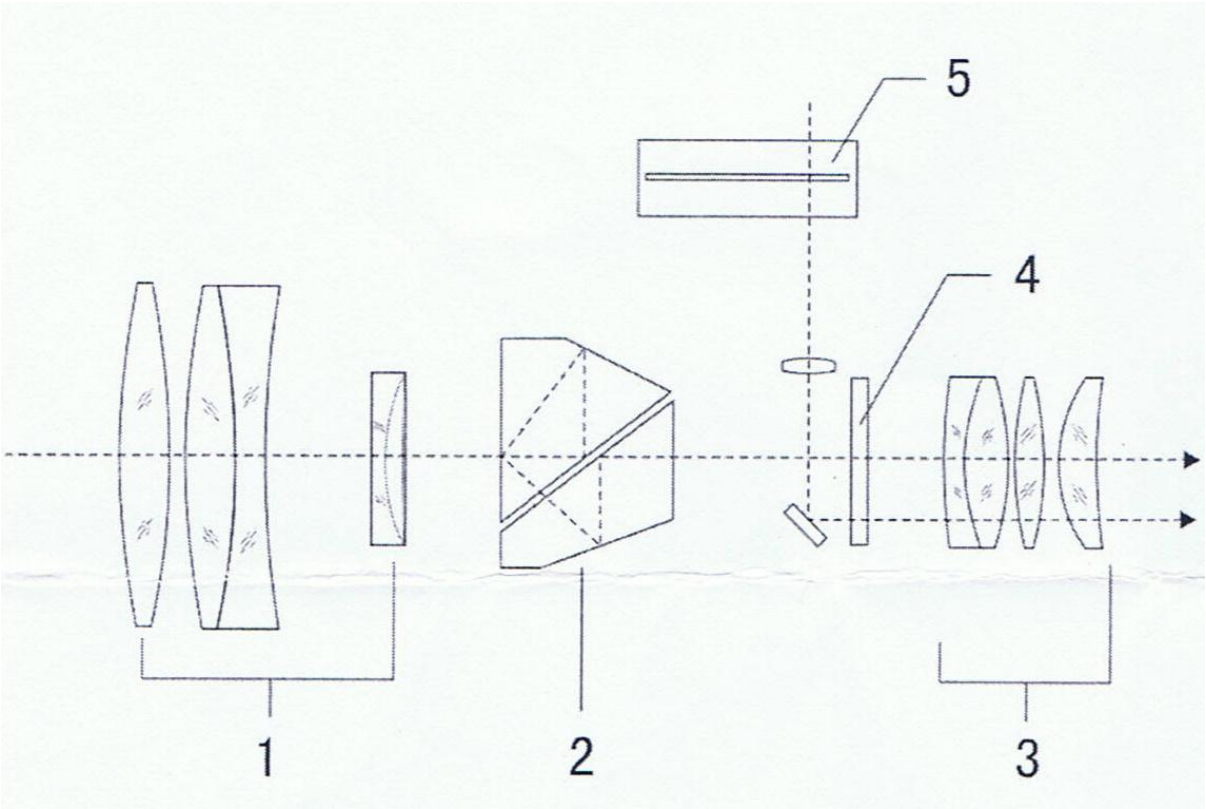
**General Overview**

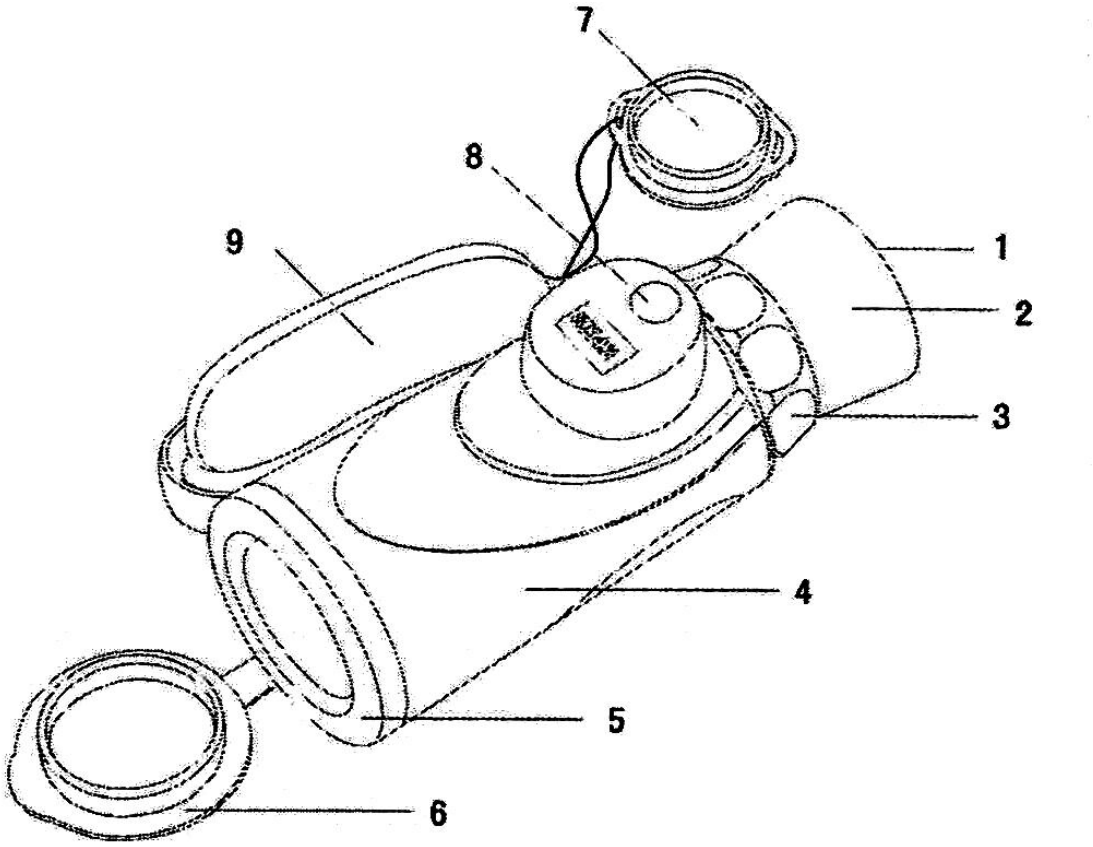
The COMMANDESCOPETM is designed for outdoor applications, consisting of optical system and body assembly and with the features of the internal compass and the rangefinder reticule.

1.1 Exploded View of Optical System




1 Objective Lenses
2 The Prisms
3 The Eyepiece
4 Reticule
5 Compass Projective System

1.2 Exploded View of Body Assembly




1 The Eyepiece
2 Rubber Eyecups
3 Dioptre Adjustment Ring
4 Main body housing
5 Objective Lens
6 Objective Cap
7 Eyepiece Cover
8 The Compass Illuminated Window
9 Wrist Strap

2 Technical Specifications

| | | | |
|---|---|---|---|
| Item | 8 x 42 | Size | 61 x 65 x 143mm |
| Magnific | 8x | Objective Diameter | 42mm |
| Field of | 7’ | Exit Pupil Diameter | 5.3mm |
| Eye Relief | 18mm | Weight | 370g |

3 Usage of Reticule

3.1 Measure Azimuth with Reticule

The azimuth means the angle is measured horizontally to the COMMANDESCOPE from the two objects or from the two further opposite side of one object (Referred to "Object").

**a**. When the azimuth of "Object" measured is lower than the reticule range (±80 mils), measure the azimuth by fitting "Object" with reticules.

For an example shown in Fig. 4, the azimuth of "Sail boat" as "Object" is measured to be 40 mils (20-20 mils).

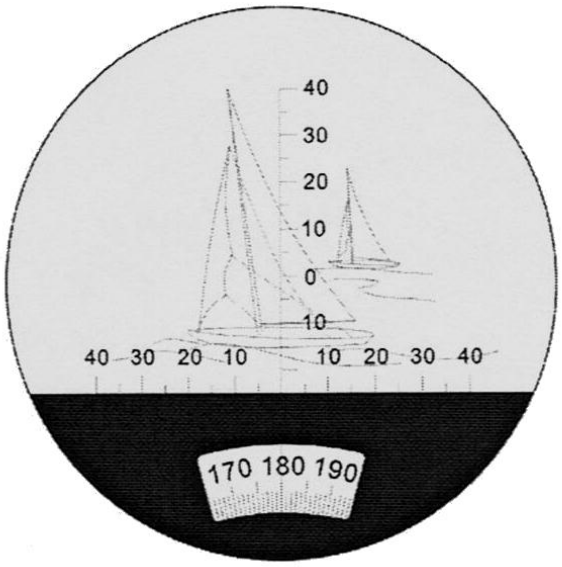



Fig 4

**b**. When the azimuth of "Object" measured is larger than the reticule range (±80 mils), measure the azimuth by fitting vertically "Object" with reticule and summing the measurements of reticules. For an example shown in Fig. 5, the azimuth of "Small island" as "Object" is measured to be 90 mils (80 mils + 10 mils = 90 mils).

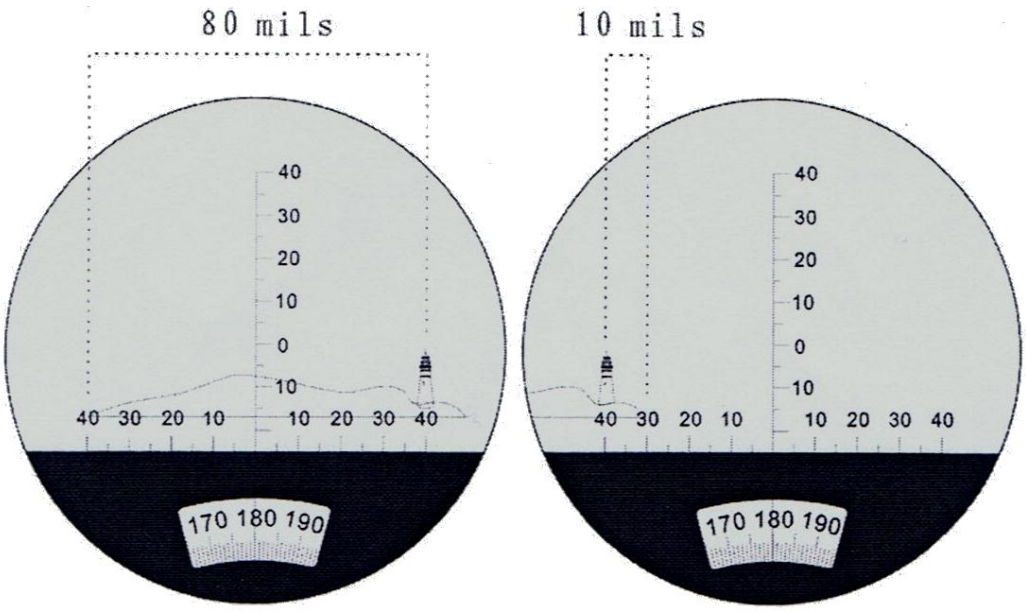



Fig 5

3.2 Measure Elevation with Reticule

The elevation means the angle is measured vertically to the COMMANDESCOPE from "Object".

a. The measurement of the elevation is mostly the same as that of the azimuth. When the elevation of "Object" measured is too lower, measure the elevation by fitting the lower part of "Object" with "0" reticule. For an example as shown in Fig. 6, the elevation of "Object" is measured to be 60 mils (00-60 mils).

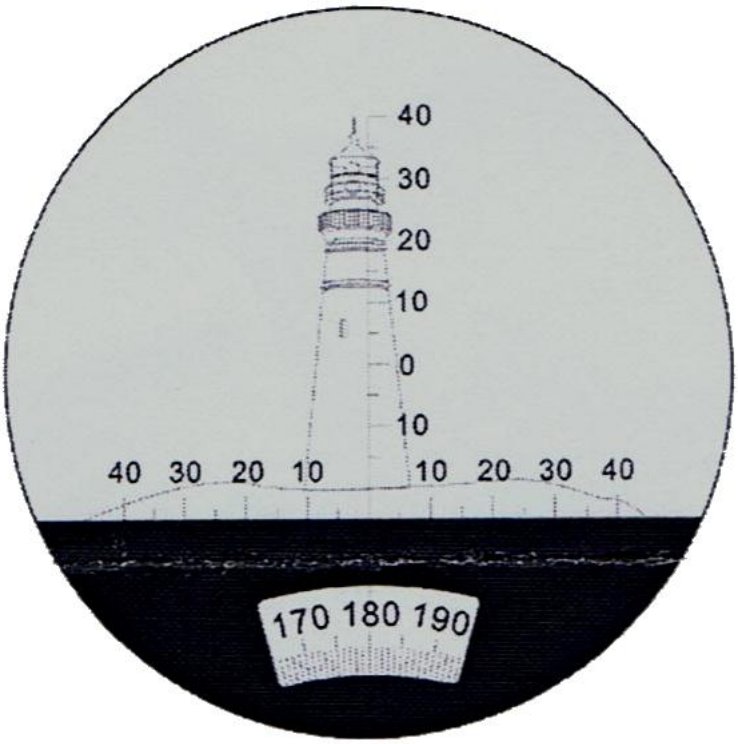



Fig 6

b. When the elevation measured is larger than the reticule arrange, the elevation is measured by summing the measurements of the reticules (same as that of the azimuth).

3.3 Measure Distance with Reticule

The distance is measured with reticule in mil, as shown in Fig. 7.

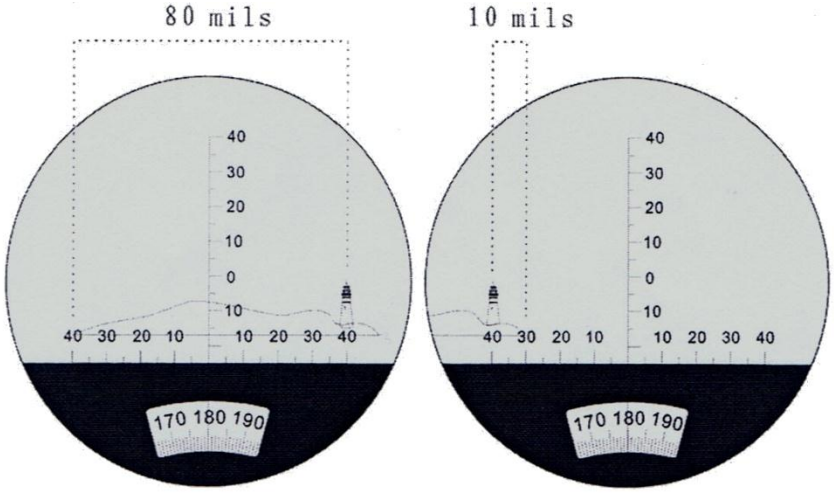
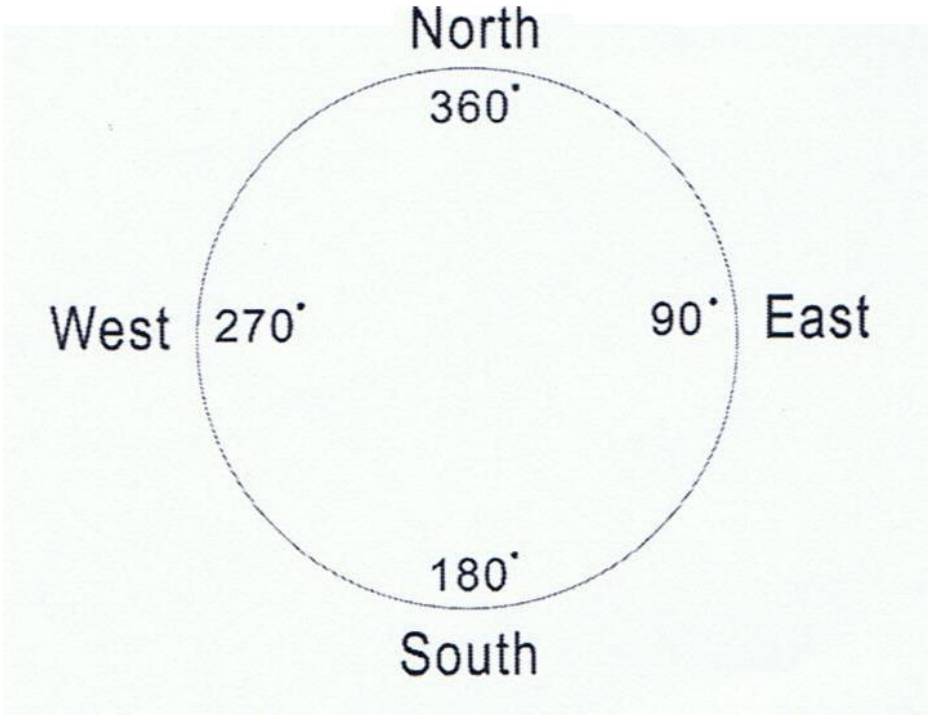



Fig 7

The formula of distance measurement: H — The height of "Object" (m) .
L (km) =H(m)/K.
In which:
L — The distance between the observer and "Object" (km).

K — The elevation or azimuth of "Object" measured with reticule (mil).
Estimate the height or width of "Object" while measuring the distance and then measure the elevation or azimuth of "Object". Calculate the distance from the
observer to "Object "by the above formula=— For example 1:
There is a light tower, whose height is 25 m.
The elevation measured reads 00-60 mils.
Say: L=H/K = 250 = 0.4166 km = 416.6 m.
So the distance from the observer to the light tower
is 416.6 m.

4 Usage of Compass
While in observation, the azimuth of "Object" can read easily through the right ocular. One graduation of compass is one degree of angle. When "Object" under observation is right in the north of your position, the compass reads 360°. Clockwise, when the compass reads 90°, "Object" is in the east of your position; when the compass reads 180°, "Object" is in the south of your position; when the compass reads 270°, "Object" is in the west of your position.



While in location of "Object" by compass, less use the COMMANDESCOPE in the magnetic area, otherwise in which the sensitivity of compass is negatively affected and measurement is inaccurate. For the better observation and accurate measurement, keep the COMMANDESCOPE in a vertical plane and within a range of ±15°(In which the magnetic line is vertical to the compass needle ), centre "Object" with reticule.

**Care and Maintenance**

Do not touch the lens surface with your fingers or any rough substance.
When in no use of the COMMANDESCOPE, turn dioptre knob down to the lowest situation and cover it with objective caps and eyepiece cover. Then put it into the carrying bag.
If the outside lenses have dust or something dirty, lightly wipe them with lens cleaning cloth from centre of the lens to edge by clockwise or anticlockwise way. Never clean lenses by fingers, oilcloth and hard paper to avoid damage lens. Keep lens cleaning cloth cleanly and put it into the carrying bag for spare use. Lightly clean them by soft cloth or silk dip a little industrial Alcohol.

**Caution**

Place the COMMANDESCOPE with compass away from the magnetic area, otherwise in which the COMMANDESCOPE works improperly and the sensitivity of compass is negatively affected.
Hard turning of dioptre knob is not recommended and gently handles the COMMANDESCOPE while in use.

**Storage**

For lengthy storage, place the monocular in a dry, dust-free place and away from the magnetic area.

**Service**

Never attempt to disassemble the COMMANDESCOPE for repairing yourself when the COMMANDESCOPE works out of order. Take it to an authorized or professional service centre.