

A composite image of Earth and the Moon in space. The Earth is on the right, showing a curved horizon with blue oceans and green landmasses. The Moon is on the left, appearing as a smaller, cratered sphere. The background is a dark, starry space.

SV25 Telescope
Instructions

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The top of the slide features a dark space background with a thin, glowing arc of a celestial body, likely the moon, curving across the top. On the left side, the brand name "SYBONY" is written in a bold, italicized, white sans-serif font.

SYBONY

SV25 Refractor Telescope

- ◆ Open up the wonders of the Universe to aspiring astronomers of all ages with the SV25 refractor telescope. The refractor telescope is designed to give the first-time telescope user the perfect combination of quality, value, features and power.
- ◆ SV25 refractor telescope perfects for kids;teens or beginners;entry level amateur astronomers as a great way to open up the wonders of the universe to the aspiring astronomer; perfect for observation of celestial bodies; moon; planets; stars in the night sky.

- ◆ Aperture:60mm Focal Length:420mm
- ◆ Optical Type:Achromatic Refractor
- ◆ Viewfinder:5x20
- ◆ 90 Degrees mirror-Adapter
- ◆ Magnification 1(9mm Eyepiece)= $420/9=47x$
- ◆ Magnification 2(20mm Eyepiece)= $420/20=21x$

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Schematic



- ◆ Two correct eyepieces:
 - ◆ 9mm;20mm viewing a wide range of objects;moon;planets;or land

- ◆ 1.25" 90 degree zenith mirror:
 - ◆ Looking with comfortable angle;diagonal correct upside down and left right reversed image

- ◆ 5x20 finder scope:
 - ◆ Locate objects in the main telescope;it provide 5x20 magnification helps find the objects soon

- ◆ Silver aluminum tripod:
 - ◆ Preassembled aluminum full size photographic tripod ensures a stable platform quick to release dovetail attachment for clear view of moon;planet

- ◆ Viewfinder mounted on the telescope, the installation of the telescope to the tripod, the installation of the Enhanced Diagonal to the telescope.
- ◆ Place the 20 mm eyepiece to the Enhance Diagonal, to distant objects on the ground as the target, adjust the 3 screws of the viewfinder, so that the viewfinder and telescope eyepiece observed the same goal
- ◆ Remove the eyepiece from the zenithoscope and attach it to the eyepiece interface of the photo holder
- ◆ The eyepiece attached to the photo frame holder, the installation of the eyepiece to the Enhanced Diagonal, rotating the focus knob, in the eyepiece to see distant objects clearly.
- ◆ In the photo frame bracket sucker set up mobile phones, mobile phone screen through the observation, so that the lens at the middle of the eyepiece.
- ◆ Adjust the tripod, aiming at the sky target (For example: the moon, the planet), mobile phone camera in the app to enlarge the target shooting.
- ◆ Replace the 9 mm eyepiece and Barlow lens (optional), to achieve different magnification

- ◆ Blindness Danger!
- ◆ Don't use the product to watch the sun or the sun directly around the place. This will have the risk of blindness.

- ◆ Choking hazard!
- ◆ The child must use the product under the care of an adult. So that the packaging materials, such as plastic bags and rubber lines away from children. This will have the risk of suffocation.

- ◆ Fire hazard!
- ◆ Don't place the product, especially the lens directly in the sun. This will present a fire hazard.

- ◆ Note!
- ◆ Don't disassemble the product. If a defect, please contact the dealer. The dealer will contact the service center and repair it if necessary.

- ◆ Privacy protection!
- ◆ This product is for personal use only. Please take care to protect the privacy of others. For example: don't use the product to observe the apartment

- ◆ There is a whole universe of objects to be seen in the night sky so where does one start? Well lets examine the most visible objects first
- ◆ The Moon
- ◆ The moon is the easiest target to find in the night. When it is in the full position, when the entire face is lit, then it bathes the night with a silvery light washing out the rest of the sky from all but the brightest objects. The best time to view the moon is actually not when it is full but rather anytime up to the first quarter, this is when the face appears to be half lit up. The terminator on the moon, the dividing line between dark and light, shows the best features such as craters and mountains

◆ The Planets

- ◆ The planets are our solar system companions. These range in size from moon size rocky bodies to giant gas balls which could hold 1000 Earths. To find the planets requires some information as to when they are visible. An astronomy magazine such as SkyNews or Sky and Telescope, will give you the locations of the planets from month to month. Most people who have looked up at night have probably seen some planets but did not realize it. A planet, when it is well clear of the horizon will not twinkle as do the stars. They are resolved by the eye as tiny balls as opposed to the stars which are infinitely small points of light. The easiest planets to view, when they are visible, are Venus, Mars, Jupiter and Saturn, Uranus and Neptune. Mercury is an object to look for but it is usually below the horizon and often is a challenge to find. Pluto is too small for most telescopes below 10" so do not worry about finding it at this time.

- ◆ Each of the planets has its own interesting views. Venus is covered with clouds so all we see is an extremely bright light, the brightest next to the moon, however it like our moon goes through phases. In other words the planet surface will, as it travels around the sun, appear to have different amounts of it lit up. This gives the planet varying crescent shapes, as if a bite were taken out of it. Mars is the red planet. It is very noticeably red when rising above the horizon and stands out like a beacon in the night sky. The apparent brightness of Mars varies as the planet orbits around the sun so throughout its time being visible to us it will brighten and dim depending on how our two planets are aligned relative to each other.
- ◆ Jupiter is the largest planet in our solar system. It is the second brightest planet next to Venus. Jupiter also has moons of which 4 are easily visible through a telescope. In fact as you watch them throughout the evening you will see that they change their positions relative to each other and to Jupiter. It is possible with careful planning to actually see one of the moons disappear either in front of, or behind Jupiter as they travel around their planet. Another great feature of Jupiter is the cloud belt pattern. Jupiter is alive with weather activity and the planet's clouds have formed in time into belts which are visible to telescopes, when our skies allow it.

- ◆ Saturn, the second largest planet, is not as bright as Jupiter and its moons are not as visible through small telescopes. However it has very large rings that encircle the planet which are spectacular. The planet appears as a pale yellow, as do the rings but one can spend hours looking at these. The major division in the rings, the Cassini division, is possible to see in a small telescope if the viewing is steady.
- ◆ Uranus and Neptune are the last of the solar system gas giants. They do not yield up spectacular sights like Jupiter or Saturn, however they are part of our family and are rewarding to see as they can be a challenge to find.
- ◆ Beyond our solar system there lies a multitude of objects to be found. Galaxies, nebulae and star clusters abound.

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Package Includes



- ◆ Warning: Improper cleaning of optical components may void the warranty
- ◆ Optical components of a telescope will over time get dirty. The amount of dirt and or dust collected onto a lens or mirror should only be removed with the utmost care and this is at times best left to people with experience in this procedure. A considerable amount of dirt or dust must be present on the optical surface before one will notice the effect visually
 1. Keeping the dust caps on during storage of the telescope will reduce the amount of dust collected
 2. After using the telescope there might be dew condensation, on the optical surfaces. When the telescope is brought inside remove the dust caps and allow the moisture to evaporate naturally. Point the telescope downwards so as to minimize the collection of airborne dust
 3. Once the moisture is gone then replace the dust caps

4. If you wish to remove dust from the lenses or mirrors you first should try using a can of filtered compressed air. Remove the dust cap and the dew shield in the case of the refractor style of telescope, or take the mirror cell out of the reflecting type. Once you are able to freely blow across the surface of the optics then begin by first pointing the can away from the piece and gently expel some air. This will remove any condensate in the air can lines and clear off dust that may have accumulated on the discharge tube. Next using short quick bursts of air carefully remove the dust particles. Don't hold the trigger of the compressed air for too long as condensate might be belown out across the optical surface. If particles still remain after several attempts at removal than the telescope should probably be taken back to the dealer for cleaning.
- ◆ The optics of your telescope should last a long time before they generally require major cleaning. By keeping the dust caps on and avoiding the temptation to handle the lenses or mirrors you will find that very little is needed in the way of optical maintenance



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- ◆ このたびは、SVBONY望遠鏡をお買い上げいただきありがとうございます。この望遠鏡は倍率調整が可能で、地上観測用とともに天体観測用として開発した屈折式望遠鏡です。目的に応じ、旅行・スポーツ・ホビー等の楽しみを倍増いたしますが、月のクレーターや土星の環、木星などの惑星の観測にも役立ちます。本説明書をご精読の上、組み立て方、操作、取り扱いの注意点を正しく理解して、地上/天体観測をお楽しみください。

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各部の名称



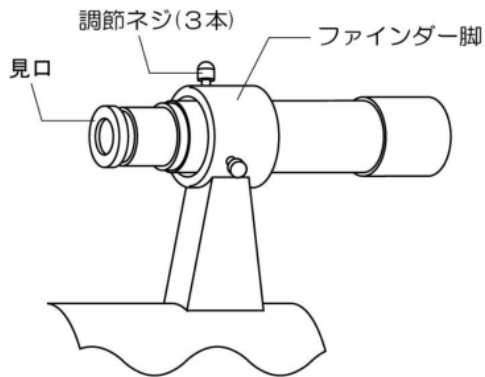
- ◆ 望遠鏡を太陽の方向に向けないようにご注意ください。レンズを通った太陽の光はとても強力で、目の被害となり、失明してしまう危険があります。
- ◆ お子様を使用する場合は、観測中の安全を保護者の方が確認してください。

鏡筒を三脚の架台に取付けます。

- ◆ アルミ三脚のステイが地面と平行になるまで三つの脚を外側に開いて立てます。
- ◆ 鏡筒方向調節ハンドルを引き出して架台を地面と水平するようにします。
- ◆ 架台の筒受けネジを鏡筒の下側にあるネジ穴に位置を合わせて差し込みます。
三脚から鏡筒が浮き上がっていないよう注意してください。
- ◆ 確認後、鏡筒取付ネジを架台の下側にあるハンドルで回して、ゆっくりとまたし
っかりと締め付けてください。
- ◆ 三脚の長さは、観測場所の条件や観測する人の背の高さなどに合わせて使いやす
い高さに調節してください。

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ファインダーの取付と使い方



鏡筒にファインダーを取付けます。

- ◆ 望遠鏡鏡筒の後部にファインダー脚を取付けてください
- ◆ ファインダーは3本の調節ネジで軽く仮止めしておきます。
- ◆ ファインダーをのぞき、本体で見た景色がファインダーの十字線の重ねて見えていればいいのですが、一致していない場合はファインダーの向きを動かして調節します。
- ◆ ファインダーの向きは、支えている3本の調節ネジを動かすと変えられます。
- ◆ ファインダーの向きが決まったら、本体で同じ景色が見えることを確認します。ズれている場合には合わせ直してください。

- ◆ 天頂ミラーを鏡筒の末端に差し込み、ネジで固定します。
- ◆ アイピースを天頂ミラーに差し込み、ネジで固定します。
- ◆ はじめはH20mmアイピースを使ってください。
- ◆ 対物レンズの防塵カバーを外して遠くの景色に望遠鏡を向けます。日中は危険なために、望遠鏡を太陽に向けないようご注意ください。
- ◆ ピントハンドルを回すと鏡筒のドロークューブを前後に動かすことができます。
- ◆ アイピースをのぞきながらピントハンドルを回して、視界の像がはっきり見えるようにピントを合わせます。

- ◆ 窓ガラス越しに望遠鏡を窓外の景色に向けないでください。窓ガラスの反射光は解像度に影響を与えるので視界の像が歪む可能性があります。
- ◆ 温度も解像度にかかわる大切な要素です。望遠鏡のレンズや反射鏡が外気温に馴染んでいないと、その膨張や熱気流によって大気の揺らぎ、シンチレーションと同じように光学系内で揺らぎが起こってしまいます。屋外あるいは室内で窓を開けたまま観測するなら、望遠鏡が外気温に馴染むまでお待ちください。（場合によって5分～30分かかります）

天体観察をするのに向く条件としては、周囲が暗く、視野が広い場所とされます。これは周囲の光が障害となってしまうという理由と星によっては地平線ぎりぎりではしか見えないものがあるためです。そのためできる限り暗く、障害物が少ない、視野が広い場所を選ぶと良いでしょう。自宅で観測する場合は庭やベランダなど外のできる限り広い場所で行うことをお勧めします。

- ◆ 普通の場合は、天体望遠鏡で見える視界の像は上下左右が逆の倒立像です。天頂ミラーを使えば、鏡像として見えます。
- ◆ はじめはH20mmアイピースを使ってください。
- ◆ 調節したファインダーで見ながら、望遠鏡を月へ向け、十字線の中心に像が見えるようにします。
- ◆ 望遠鏡のピントを合わせて観測を始めます。
- ◆ アイピースを付け替えることで倍率を上げることができます。更に詳しく観測したいなら、高倍率のアイピースに替えてください。

※惑星や恒星・星団なども以上のようにして観測します。

- ◆ 天頂ミラーを使わないでください。
 - ◆ 接眼アダプターに地上接眼鏡（Erecting Eyepiece）を差し込み・小ネジで固定します。
 - ◆ 地上接眼鏡にH20mmアイピースを差し込み、小ネジで固定します。
 - ◆ 望遠鏡のピントを合わせて観測を始めます
 - ◆ 更に詳しく観測したいなら、高倍率のアイピースに替えてください。
- ※バローレンズはアイピースと併用で、倍率を高めることができます。ただし、解像度が悪い原因につながります。

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パッケージの内容



- ◆ ご使用後は、すぐにしまわず本体や三脚の汚れを乾いた布で拭いてください。汚れを放置するとカビの原因になります。
- ◆ 夜露でレンズが濡れた場合は、よく乾かしてからしまってください。急ぐ場合にはドライヤーの冷風を使用してください。熱風は部品を痛める恐れがあります。
- ◆ 長時間使用しない場合は、なるべく乾燥した風通しの良い場所で保管してください、レンズやアイピースにカビができて見えなくなることがあります。市販の乾燥剤を添えておくことも有効です。
- ◆ 各回転軸部にゴミや汚れが付かないように、まわりを清潔に保ってください。

A composite image of Earth and the Moon in space. The Earth is on the right, showing a curved horizon and a bright, sunlit edge. The Moon is in the center, appearing as a smaller sphere. The background is a dark, starry space. The text "Thanks!" is overlaid in white, sans-serif font on the right side of the image.

Thanks !

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