

# 1X TELESCOPE FINDERS

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The Telrad 1X telescope Finder was first conceived in the 70's by Steve Kufeld of Huntington Beach, California. The Telrad sight concept involves projecting a sight pattern (reticule) onto a transparent window.

It has two components: 1) Sight, and 2) Base. The Sight houses the power supply (two "AA" batteries), an on-off rotary switch, which can also vary the brightness of the display, a red LED lamp, the Telrad reticule, a mirror to divert the light up towards the 45-degree display window and a lens to bring the image of the reticule to focus on the window.



Figure 1 – Telrad 1x Finder.

The Telrad optical arrangement is very simple. It provides a distinct pattern, adjustable in brightness, that is projected by a red-Light Emitting Diode onto the display window. When the window is viewed by the observer the pattern will appear to float, apparently suspended in front of the stars or other objects in the sky background (Figure 1 and 2).



Figure 2 – Telrad 1x Finder.

## TELRAD SPECS

Window dimension	41.3 x 35 mm
Magnification:	1x (zero power)
Housing:	Black finish, ABS plastic construction
Retaining thumbscrews	6-32, ½ inch long
Length overall length:	21.3 cm
Height overall (on Base):	12.7 cm
Weight with Base and batteries:	308 g
Batteries required:	Two "AA" 1.5 Volt, in series

To locate an object, move the telescope so that a bright star or other object near the desired object comes into the display of the Telrad's window. If the object is bright enough to be seen in the Telrad sight, centre the object in the red circle. If the object is fainter than what can be seen with the naked eye, then use the Telrad to navigate onto the target by "star hopping". There are three control knobs at the rear for adjustment of the reticule on the display window.

Other Red Dot 1X finders project a single red dot and can be used for finding objects with different telescopes (Figure 3 to 6).



Figure 3- Celestron Star Pointer



Figure 4- Sky-Watcher Red Dot Finder.



Figure 5- Explore Scientific Red Dot Finder.



Figure 6 – TeleVue Starbeam finder.