

# NAGLER TYPE 4 EYEPIECE INSTRUCTIONS

**WARNING:** Be alert that the weight of the Nagler Type 4 is enough to extend the eyeguard if you pick up your eyepiece by the black barrel. The eyepiece cannot fall out of the Instadjust housing so do not be alarmed!

Thank you for purchasing a Tele Vue Nagler Type 4 eyepiece. Each features long eye relief along with an 82 degree apparent field. By using new glass technology, we were able to improve eye-relief, contrast and ghost suppression, and linearity (freedom from pincushion distortion) for any speed (f/#) telescope, while keeping size and weight down.

Our unique new "Instadjust" eyeguard housing allows maximum eye relief for eyeglass wearers in the down position. Pulling the housing up will permit click-stop setting of the eyeguard height allowing for an ideal match between your eye and telescope pupils. With this much eye relief available, it is important to learn your own optimum "click stop" position.

If you don't wear eyeglasses, start with the eyeguard housing pulled out all the way. You can fold the soft rubber eyeguard up or down, whichever is most comfortable for you. You may not see the full field with the eyeguard housing fully extended; just keep "clicking down" until you find the most comfortable position where you still see the entire field (this is much easier to do than to explain how, thank goodness). You will also find that this system minimizes extraneous outside light, giving you the highest contrast for those "faint fuzzies". The generous eye-relief also minimizes eye lens fogging due to eye moisture in cold weather. See other side for description of pupil guide operation.

Following is a table of all Nagler Type 4 focal lengths and their corresponding effective field stop diameters. To determine the true field in degrees for an eyepiece on any given telescope, simply divide the field stop diameter of the eyepiece by the focal length of the telescope (in mm) and multiply the result by 57.3 degrees (a radian).

Warning: to avoid getting dust and dirt into the eyepiece, do not unscrew the chrome barrel. Also, do not unscrew the identifying ring; this ring prevents removal of the "instadjust" housing. Re-assembly requires a special tool, so don't try it no matter how curious you are. The eyepiece might have to be returned to us, with a service charge required.

The 12mm Nagler Type 4 eyepiece can be used with 1 1/4" AND 2" holders or focusers. Since it is designed as a 1 1/4" eyepiece, there is NO optical benefit from using a 2" holder. The 2" barrel is included just for convenience, but is also threaded to accept the EBX-2120 extension tube which allows use of 48mm filters.

## For 1 1/4" Holders:

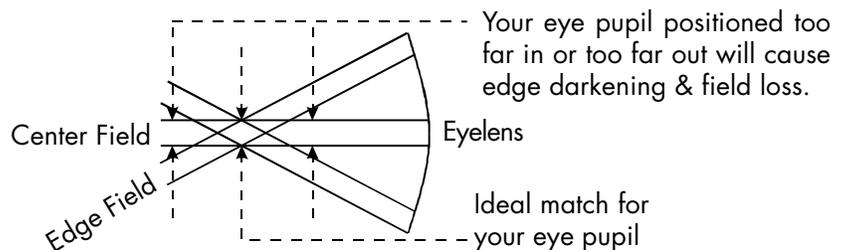
- 1) Back off lock screw in the 2" barrel section of the eyepiece so it can be fully inserted into the holder.
- 2) If the holder has a lock screw, rotate the eyepiece so that the screw slips into the slot in the 2" section of the eyepiece barrel. Your holder lock screw clamps to the 1 1/4" barrel of the eyepiece, while the eyepiece lock screw clamps to the outside of your holder for maximum safety.
- 3) If your holder doesn't have a lock screw, be sure to clamp the eyepiece lock screw onto the outside of the holder. This eyepiece is heavy, and can fall out of holders with slip fits, unless the lock screw is used!

## For 2" Holders:

- 1) Remove the eyepiece lock screw. (Don't lose it.)
- 2) Use the lock screw on your 2" holder, being careful not to let it slip into the slot in the 2" barrel of the eyepiece.
- 3) The eyepiece will not "bottom" on Tele Vue 2" diagonals. Be careful if using other diagonals.

We wish you years of exciting viewing with these eyepieces, and welcome comments on your experiences with them.

## Proper Eyeguard Positioning



Nagler Type 4 F.L.	Field Stop Dia.	Eye Relief	Elements	Barrel Size	Weight (lbs.)
22mm	31.1mm	19mm	7	2"	1.5
17mm	24.3mm	17mm	7	2"	1.6
12mm	17.1mm	17mm	6	1 1/4"/2"	1.1

# PUPIL GUIDE INSTRUCTIONS

## Introduction

(Note: Pupil Guide is for people who do not wear eyeglasses)

The new Tele Vue Radian and Nagler Type-4 eyepieces have tremendous eye relief and field sizes. That's why the Instadjust™ eyeguard system is built-in. Experienced observers will find the ability to match their ideal pupil position a big advantage. But we have noticed that a few inexperienced observers have had some difficulties. The enormous eye lens aperture and eye relief of these eyepieces made it difficult for them to locate the exit pupil when viewing with a dark sky background.

Enter Pupil Guide™ - a thin plastic disc (to fit Radian and Nagler Type-4 eyepieces) with a centering hole that intuitively guides the inexperienced eye to exactly the right place.

## Installation

- 1) to avoid touching the eye lens, fully extend the Instadjust barrel
- 2) remove the rubber eyeguard
- 3) place the Pupil Guide disc on the Instadjust barrel, with the "Radian" logo (for Radian eyepieces) or the "Nagler-4" logo (for Nagler Type-4 eyepieces) facing up
- 4) snap the rubber eyeguard back on
- 5) move the Instadjust barrel up and down to a position where the full field is seen without wearing eyeglasses (eyeglass wearers should remove Pupil Guide and readjust the Instadjust barrel for the most comfortable full field viewing)

Voilà, a perfectly placed pupil!

And surprise! ...experienced observers not needing glasses may find that Pupil Guide has other benefits, too:

- 1) it masks stray light coming into the eyepiece, yielding darker backgrounds and higher contrast images
- 2) it helps keep those grubby fingers and oily eyelashes off that beautiful eye lens surface
- 3) it inhibits dewing and condensation from eye moisture

Enjoy!

