

Brief Description and Recommended Use of the **BAADER HYPERION EYEPIECES**



Every Hyperion eyepiece will be shipped with
a soft leather bag and winged rubber eye shield



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The Multiple Focal Length Hyperion Eyepiece Series

The term "Multiple Focal Length (MFL)" in this brief description is put in quotation marks, because the modular design and the use of distance rings (finetuning rings) enables the user to vary focal length.



The Hyperion eyepieces with multiple focal lengths are multifunctional. The following are the most important features:

- 1¼" **AND** 2" barrels both have a self-locking safety groove.
- Unscrewing the 1¼" barrel (which contains the first group of lenses) allows changing focal length by adding our finetuning rings.
- The M48 thread located between the 1¼" and 2" barrels allows inserting a 2" filter.
- All eyepieces are suitable for afocal and classical eyepiece projection.

Focal Length Extension and Insertion of 2" Filters

Hyperion eyepieces must only be opened at the M48 filter thread at the upper end of the 1¼" barrel; disassembling the eyepiece elsewhere will void the warranty! As usual, 1¼" filters can be screwed onto the 1¼" barrel.



All other construction joints are secured with locktite and can only be opened by brute force, which should not be used!

The first group of lenses is located inside the 1¼" nose piece. If this part of the eyepiece is removed, the rest of it can be used as a 2" eyepiece with a changed focal length. Similarly, if a 2" filter is inserted between the 2" and 1¼" barrels (as shown in the illustration above), another, different focal length results. The following table details the resulting focal lengths:

Effective focal length in mm	Ø Field-stop mm	with 14 mm FTR		with 28 mm FTR		with 14 + 28 mm FTR		with 2" Baader Filter*		without first group of lenses	
Hyperion**	24.0 28.0	--	--	--	--	--	--	--	--	--	--
Hyperion	21.0 22.5	17.6	19.9	15.5	17.5	14.0	15.8	18.5	20.6	32.2	35.0
Hyperion	17.0 20.9	13.1	17.1	10.8	14.1	9.2	12.1	14.6	18.7	21.8	30.0
Hyperion	13.0 17.7	10.8	14.6	9.2	12.5	8.1	11.0	11.7	14.2	22.9	30.0
Hyperion	10.0 15.0	8.4	11.6	7.1	9.8	6.1	8.7	9.1	12.0	22.4	30.0
Hyperion	8.0 10.7	6.0	8.6	5.0	7.1	4.3	6.1	6.9	9.3	21.8	30.0
Hyperion	5.0 6.5	4.0	5.4	3.2	4.5	2.6	3.9	4.3	5.8	22.5	30.0

Inside the blocks in the table marked with rectangles, the middle column of the first block states the original focal length of each eyepiece. The column of the second block is the focal length of the eyepiece with a 2" eyepiece filter mounted between the front part of the eyepiece and the main body. The third column of the second block gives the focal length of the individual eyepieces with the first group

of lenses completely removed. Example: the 17.0mm Hyperion eyepiece changes to a 14.6mm focal length with a 2" filter, and to a 21.8mm focal length without the 1¼" first group of lenses.



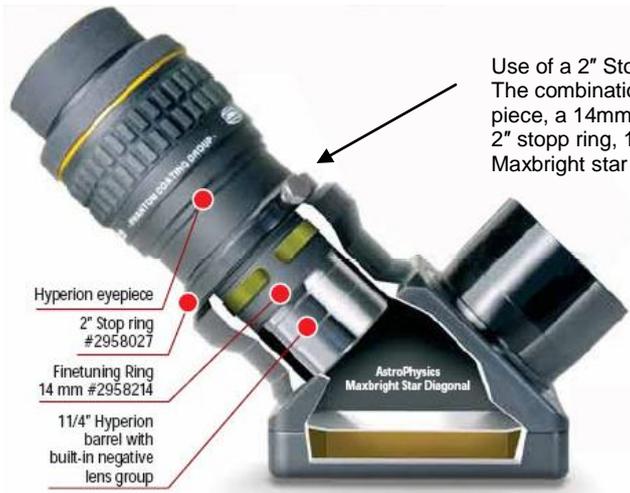
Additionally, the focal length may be modified with the 14- and 28mm length Baader finetuning rings (FTR). The focal lengths achieved this way are in middle part of the table above.

Example: the Hyperion 17.0mm eyepiece changes to 13.1mm focal length with the 14mm FTR, to 10.8mm focal length with the 28mm FTR, and to 9.2mm focal length with both FTR's used together.

A very useful accessory for our Hyperion eyepieces is the 2" stop ring (#2958027). Intended for use while observing with a 2" mirror or prism star diagonal, it prevents the 1¼" eyepiece barrel damaging the diagonal's mirror or prism when finetuning rings lengthen the original eyepiece body.



Item-No.: 2958027



Use of a 2" Stopping:
 The combination of a Hyperion eye-
 piece, a 14mm finetuning ring,
 2" stop ring, 1/4" barrel and AP 2"
 Maxbright star diagonal is shown

Using Multiple Focal Length Hyperion eyepieces as Projection Eyepieces

The Hyperion mechanical design incorporates two system threads at the upper end. To expose them, please remove the rubber eyecap and/or the large thread-protecting ring (made of silicone). The threads are: (1) M43 male thread and (2) SP54 male thread:



1 System thread M43



2 System thread SP54

The M43 thread serves for attachment of T2 accessories for classic eyepiece projection. A stepper ring from M43 onto T2 thread (Hyperion M43/T2 #2958080) is to be used in this case.



The illustration on the left side demonstrates a possible combination for classic eyepiece projection for webcams. Beginning at the bottom, the parts used a system thread M43 are:

- Hyperion eyepiece.
- Hyperion M43/T2 ring (#2958080).
- Recommended T2 extension tube, length 7.5 mm (#1508155).
- Optional T2 extension tube, length 40 mm (#1508153) for further increasing the projection magnification.

Any T2 camera-ring with a SLR camera or DSLR-camera may be attached here.

- Baader Click-Lock 1/4" eyepiece clamp (#2458100) or alternatively the simpler and lower priced standard eyepiece clamp 1/4"/T2 (#2458120).

The SP54 system is to attach a digital camera or video camera where the objective cannot be removed (so-called afocal projection). The SP-thread is a "Special"-non-metric thread proprietary for this purpose.



The illustration at left shows the necessary parts to attach a video-camera with a M28 thread at the front of the lens.

From the bottom up:

- Hyperion eyepiece.
- Hyperion 11mm extension ring (#2958090), required to adapt DT-rings SP54/M28 and M37.
- Hyperion DT-Ring SP54/M28 (#2958028).
- Video-camera with M28 filter thread at the front of the lens.

Using Hyperion Multiple Focal Length Eyepieces with the Zeiss Diascope Fluorite Spotting Scope



The 24, 21, 17, 13, and 8mm Hyperion eyepieces may be used with any Zeiss Diascope Spotting Scopes. A Baader Diascope bayonet eyepiece adapter 1¼" (#2454500) is required to attach 1¼" eyepieces to Zeiss Diascope Spotting Scopes. It is pushed onto the 1¼" barrel of the Hyperion eyepiece, and held in this position by three small locking screws locked against a bronze clamp ring that does not mark the eyepiece.



Item-No.: 2454500



For further information please download the Hyperion 6-page instruction manual:

https://www.baader-planetarium.com/en/downloads/dl/file/id/134/product/1206/hyperion_eyepieces_application_examples.pdf

if the SilicaGel no longer works, you can find more here:

[https://www.baader-planetarium.com/en/accessories/optical-accessories/collimation-tools-cleaning-and-maintenance-products/silica-gel-with-coloured-indicator-reuseable-125ccm-\(orange\).html](https://www.baader-planetarium.com/en/accessories/optical-accessories/collimation-tools-cleaning-and-maintenance-products/silica-gel-with-coloured-indicator-reuseable-125ccm-(orange).html)



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