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# Wide Scan Type III Eyepieces: An Affordable 84 deg

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<b>Sponsor Product Spotlight</b>	
<b>Available from</b>	<a href="#">Helix</a>
<b>Price</b>	30mm - \$225, 20mm - \$185, 13mm - \$185 (Introductory Pricing)



*The Japanese Manufactured Wide Scan Type III  
17mm plossl shown for scale*

### Wide Scan Type III Pros

- Fairly inexpensive
- Good performance on slower scopes
- Lightweight
- Great throughput
- High contrast

### Wide Scan Type III Cons

Performance suffers on faster scopes

I don't know about you, but I'm always looking for a bargain. Scopes, computers, eyepieces, if I think I might have a use for it down the road, or if I think it will save me money the ears perk up and the wallet comes out. Although I've been flirting with monocentrics and orthos lately, my heart still belongs to those wonderful wide immersive views you can get through those super, ultra, mega, colossal, oversize, huge, massive, or just plain extremely large apparent field of view eyepieces. For immersion, that wonderful "you are there" feeling, I've found that fifty is nifty, sixty-eight is great, but eighty plus? Woo wee! Where did the scope go? For viewing DSO's, nothing, but nothing beats an 80+ degree apparent field of view.

There are only a few eyepiece lines that offer those super duper deluxe extra spectacular 80+ degree apparent fields of view, and unfortunately, most of those cost an arm and a leg – particularly when you get into the longer focal lengths. I've put many a penny into eyepieces from that firm in New York, but cheap son of a gun that I am I often wonder if I can something nearly as good but save some cash for those less important things – like food. Most of us can tell you those pieces of artwork from the east coast are beautiful but pricy. Very pricy, especially for those long focal length glass behemoths. Additionally, I found out last year when you become addicted to those extra wide fields of view, and then decide to pony up to the binoviewer bar, acquiring doubles of those beloved eyepieces can become a fiscally painful process, so the idea of a (shall we say) – more fiscally reasonable super wide field of view eyepiece becomes very attractive.



*The BW Optik Ultrawide and Wide Scan  
Type III 30mm*

So when Tim from Helix Observing Accessories contacted CloudyNights.com and asked if we'd be interested in doing a sponsored review of the KK/Magellan Wide Scan line, I jumped at the chance. I've seen the 30mm Wide Scan before, in both its II and III iterations, and I own one of the cheap Chinese knockoff's of the Wide Scan II. So the line wasn't completely unfamiliar to me. I knew they had recently come out with a 20mm and 13mm, but had never seen one in action. This, it seemed, was the chance.

A big box of optical goodies arrived a week or so later, and the weather gods sensing the arrival of new equipment in the thumb of Michigan promptly convened a war council. The decision? As expected they elected to lay siege to my realm, and I began the watch. One eye on the Clear Sky Clock, one on the weather reports. The third eye was reserved for whatever other matters I had to attend to: work, family, etc...

For what seemed like weeks, I could only stare at these good-looking Japanese manufactured eyepieces that lay on my desktop. The fit and finish were excellent, and I could see the coatings flash a beautiful purple/green as I held them under the desk lamp. The 30mm was a small grenade – a comforting weight that rests handily in your palm –not nearly as heavy as the 35 panoptic, and certainly nowhere close to the mass of the 31mm terminagler. The 20 and the 13 are deceptively lightweight as well. All are threaded for filters, and all feature a safety undercut. The eyepieces all feature 5 elements in three groups, and vary from 550 grams on the 30mm to 180 grams on the 20mm and 120 grams on the 13mm t6.



*The respective lenses on the 30mm BW and  
Wide Scan Type III*

Finally, the siege lifted.

For testing purposes, I used a 102mm f8.6 APO, a 101mm f5.4 APO, an 80mm f7.5 APO and a 381mm f5 truss reflector. Observations were made over several nights in all of the scopes, and both with and without the use of a Paracorr in the reflector. I directly compared the 13mm Wide Scan III to the 13mm t6 Nagler, the 20mm Wide Scan III to the 24mm panoptics, and the 30mm Wide Scan III to the 30mm BW optic – a Chinese clone of the Wide Scan II. Although it's theoretically useless to compare a 20mm eyepiece to a 24mm eyepiece, you will see that many people do. Why? Because given many observing styles, those eyepieces may fill the same role in an amateurs tool kit. However as magnification increases (and focal length shrinks) comparing eyepieces of different focal lengths becomes less and less valid. I can also comment a bit about how the 30mm Wide Scan III compares to the 35 Panoptic and the 31mm Nagler.

The first scope they saw light in was the 80mm f7.5, and I was fairly impressed. Wide fields, high throughput and great contrast. The 30mm was suitably sharp on axis, but began to show some field curvature and astigmatism off axis. I judged the field to be useable for deep sky observations out to about 80+ % of the TFOV in the f7.5 scope.



*20 MM Wide Scan Type III and the 24 Panoptic*

At f5.4, the 30mm showed some off axis astigmatism, a slight amount of pincushion and it's lack of a flat field. The astigmatism and the flat field issues meant that I was unable to get a sharp focus in the outer 50



(+ or -) % of the fov. You might see more or less depending on the degree of accommodation your individual eye can give. During daytime use, I caught some off axis color and a little kidney bean effect, but this wasn't an issue at night. The performance was very similar to the BW Optik 30mm, except the 30mm Wide Scan showed a slightly larger TFOV. Eye relief, at 18+mm was not an issue.

The field size is larger than the 35 pano, but the pano will perform better on faster scopes – as it's designed to do. The 31 nagler is a beautiful eyepiece that is a natural to compare to the 30mm Wide Scan. If you need perfection in a fast scope at 30ish mm and 80+ deg afov, the Nagler is the way to go. The nagler is also \$620. If you have a longer focal length scope the 30mm would be a fine performer, and you could sink the money you save into other accessories.



*The respective lenses on the 20mm Wide Scan Type III and the 24 Panoptic*

The 20mm and 13mm were much the same, but the level and degree of aberration decreased as you went down in eyepiece focal length. Side by side comparison with the naglers and panoptics showed the televues to hold up better with shallower light cones, but the longer the focal length of the scope being tested, the better the performance of the Wide Scans.

In particular, when using the 20mm I found it to behave slightly better than the 30mm did in regards to off axis aberrations. During daylight there was a very slight amount of lateral color and no kidney beaning was observed. Interestingly enough, the TFOV was actually larger than that in the 24 panoptic. The 24 was unquestionably better corrected off axis, but I noticed the even with the 24 pan, the field did not appear to be perfectly flat – it was close though, extremely close. At f5.4 (in the 20mm), I found performance to be acceptable in the inner 50 – 60 % of the TFOV. At f7.5, I judged it to be closer to 80+

%. Eye relief is listed at 12mm, and I found that to be about right.



**The 13mm Wide Scan Type III and the 13mm T6 Nagler**

Moving on to the 13mm, I quickly found this eyepiece to be the best of the bunch, and it held up surprisingly well to the more expensive 13mm t6 Nagler. The 13mm Wide Scan suffers from similar aberrations as the 20 and 13, but they are a step better than the 20, which I thought was a step better than the 30. Both eyepieces showed a similar level of pincushion, and the Nagler showed more kidney bean in daylight (this was not an issue at night). The 13mm Wide Scan did beat out the 13mm t6 Nagler for TFOV, but while the inner 60-70% of the field was acceptable at f5.4 for the Wide Scan, the Nagler showed pinpoint stars across the field. As expected, when we moved to f7.5, the Wide Scan's performance noticeably improved yielding a 80+ % acceptable FOV. Again, eye relief is listed at 12mm, but I had the distinct impression that it was a little tighter than that – more likely around 10mm – still comfortable as long as you aren't an eyeglass wearer.

I had a limited amount of time to use these with my 15" f5 dob, but it was enough to note that the parcorr didn't really help much (as I half expected), and performance was similar to that of my f5.4 Apo. Likewise, performance was similar, but slightly better at f8.6 than f7.5. None of these eyepieces caused any balance problems with my 15" dob.



*The respective lenses on the 13mm Wide Scan Type III and the 13mm t6 Nagler*

These eyepieces require a fair amount of in travel, and for the 20mm and 13mm I had to move to a low profile 1.25" to 2" adapter to get them to come to focus with a 2" diagonal in some of my scopes.

Ok, enough of the discussion of aberrations – what where they like to use?

In short - quite nice. They were all sharp on axis, and provided immersive wide fields of view granting that jaw drop "You are there" feeling so well known to us AFOV junkies. How useable the field is will depend largely on the focal ratio of your scope, as well as the amount of accommodation your eyes can provide. Younger amateurs will probably find the useable field a little larger than older ones. I found the 30mm to give a fairly dark sky background with nice high levels of contrast. It served well as an extremely wide field eyepiece on the faster scopes, and provided some jaw dropping views on the slower scopes. I had a blast viewing a host of fall and winter favorites through all of these eyepieces. While studying M31 (in the 80mm f7.5), the great throughput and high contrast of the 30mm helped M110 and M32 to easily stand out, and M15 was spectacular cluster of diamonds in all the scopes through both the 20 and 13. I particularly liked the 13mm, and would recommend it as a viable substitute for the 13mm t6 as long as you have a long focal length scope. No, the latest iteration of the Wide Scan's aren't Naglers or Panoptics, but they are a fraction of the cost. SCT (f10) users should certainly investigate these – especially if you are thinking about binoviewing. In short, I'd highly recommend the entire line in scopes f10 and longer, and would give a qualified recommendation in scopes between f6 and 10. Under f6 I'd recommend you try before you buy.

A final note: as this article went to electrons Tim Hagan from [Helix](#) dropped me a line to let me know he's heard a rumor that KK is planning on introducing three more pieces to the Wide Scan III line: a 2"



40mm, and two 1.25" eyepieces - a 16mm and a 10mm.

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*Although seduced by Monocentric and Orthos, Tom's still most fond of eyepieces that require compound eyes to fully appreciate.*