

## Fisheye Lens Adapter on Medium Format Bronica Classic Cameras



Examples of Medium Format photos taken with Fisheye Adapter

### Related Links:

[16mm Fisheye page](#)

[Converting Panoramas to Circular Images and Vice Versa \(w/o computer\)](#) by Jeffrey Charlesc

[Greg Erker's Fisheye Macro Adapter Fun Page](#)

[FIFE CCloud Camera Lens Data Set](#)

[Fisheye .42x adapter review](#) [8/2002]

[Fish Eye Test Page](#) (using 0.42x) [3/2000]

[Fisheye Homebrew Tips](#) (door peep-sight) [11/2002]

[Fisheye Origins](#) (WJM site)

[Fisheye Photo Pages](#) (Anthony Maw) [9/2000]

[Fisheye to Lens Adapter Rings](#) (1" hole to 52mm etc.) [9/2002]

[Fisheyes and their Place in the Universe](#) (projection types etc.) [10/4/99]

[Fisheye-66](#) 180 deg. on 120 by Greg Erker

[Free Panoramic \(fisheye conversion\) software](#) by H. Dersch

[Hemispherical Photography Pages](#) [01/00]

[Kenko Fisheye Lens in HAL9000 Computer](#) (20001 movie) [12/2000]

[Making Environment Maps from Fisheye Photographs](#) by Ken Turkowski (IPIX free)

[Nikon's New Manual 20mm f/8 fisheye](#) URL thanks to Tan Kah Heng! [3/2001]

[Pentax 17mm f/4 Fisheye \(for 35mm\) on 120 Rollfilm Project](#) by Greg Erker [10/1/99]

[Spherical Stitching \(e.g. 16mm Fisheye Mountings..\)](#) [10/4/99]

[Ultrawide Site](#)

[W.J. Markerink's Lens Registration Tables](#)

[W.J. Markerink's List of Fisheye Lenses \(35mm etc.\)](#)

[W.J. Markerink's Medium Format Fisheye Article](#)

[Zuiko 16mm Fisheye on 645 Camera Mount](#) [10/4/99]

### Notes:

[2001 HAL Computer Eye = Kenko Fisheye](#)

[Bird's eye Mirror Homebrew Project](#)

[Fisheye photo effects for under \\$10US cost](#) (note below)

[Kiev 30mm fisheye on Bronica EC Project](#)

[Postings related to Fisheyes, Ultrawides etc.](#)

[Sakar Superwide .42x Mutar adapter](#) (80mm x .42 = 32mm! for circa \$50US)

[True 30mm 6x6 fisheye for Bronica for under \\$250 Project Idea?](#)

[WJM on the Only MF Fisheye \(Kowa\)+ options](#) (posting below)

[WJM's Kowa 19mm Fisheye #1](#) - [Kowa 19mm Fisheye #2](#)

[Kowa fisheye photos courtesy of Dave Mewhinney captvdeo@starnetinc.com

These photos are believed to be W.J. Markerink's Kowa 19mm fisheye lens..]



Hasselblad 24mm f/3.5 CF IHI Super Fisheye (Carl Zeiss No. 6831958)

Photo Courtesy of **Boris Jamchtchik** of [Arsenal Photo](#) (Germany)

Circa 50 of these specialty superfisheye lenses  
were produced for industrial uses (tire inspections..)

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## Fisheye Adapters

Few medium format camera owners could afford an original manufacturer's fisheye lens, especially given the relatively limited number of photographs likely to be taken with such a lens. Most medium format camera systems don't even have a prime fisheye lens option at any price. A true medium format fisheye for the Kowa cameras is the solitary exception. That lens, as you might expect, is a very rare item with probably only a few hundred ever made (see [W.J. Markerink's posting below](#)).

Consequently, we have to turn to an alternative such as a 180-degree fisheye adapter to provide such fisheye effects. Fisheye adapters such as the Kenko featured here are relatively inexpensive. At a recent online photo auction (EBAY, 9/97), a used Kenko fisheye adapter fetched a premium price just over \$100US.

Do you have multiple camera systems in medium format and 35mm? These adapters are very attractive means to achieving fisheye effects on **all of your systems** by simply using various filter adapter rings. As the photos show, there are even adapter rings for bayonet mounts, such as the Hasselblad B50 mount among others.

These fisheye adapters use the screw threads of your normal lens filter ring to mount the adapter on the front of the desired camera lens. The lens is light weight, so this mounting method is quite sturdy. The curved front surface of the fisheye makes it impossible to use standard flat filters in front of the fisheye (use rear mounting instead). A unique curved metal front lens cap protector is provided. A small flat circular metal rear lens cover fits over the lens exit area at the base of the fisheye adapter. Use both front and rear metal lens protectors to prevent scratches to either lens element during storage.

Naturally, you can see and compose your fisheye adapter photos using your regular SLR viewing system. Since the sun tends to get into many of my fisheye adapter photos, my older 35mm TTL camera meters tend to get fooled. A handheld meter can prove handy in such situations. If you want to minimize curving horizons, a level tripod and the ruled lines on your viewing screen will help. If you **like** such optical distortion as I do, feel free to handhold. When handholding, I find it best to cup a hand under the adapter to manipulate its controls and support it and the normal lens.

The fisheye adapter can be set to match light acceptance cones on lenses from 30mm to 200mm, although the best results are for normal lenses in the 50mm (for 35mm cameras) to 80mm (for medium format) range. Corresponding f-stops can be set on the fisheye lens up to f-90 (for 200mm lens setting) to a minimum f-stop of f3.5 (on 30mm lens setting), with a range of f8 to f32 on the 70mm lens setting (or f5.6 to f22 on 50mm setting).

The sample medium format fisheye photos shown above were taken with a normal 75mm lens and Kenko fisheye adapter. The original slides are brighter and more saturated. Sorry, but I haven't figured out how to light these larger slides on the scanner to offset the large dark area around the central image. As you can see, the fisheye adapter provides a true 360 degree image, covering 180 degree field, and a real circular fisheye effect. The image on film is not full-frame, but occupies the central 1-1 1/2 inch of the image (changing focal length on the Kenko changes coverage).

The first image shows how natural objects (a tree) going through the center of the fisheye is only minimally distorted. By contrast, the car is wildly distorted in this fun photo. The next photo shows how huge the depth of field is on these fisheyes, from inches in the grass blades to infinity. The curving walls of the building give away the fisheye is being used. The bowing of the walls in the cupola, and effect of shooting straight up into the circular cupola, are shown on the next two slides. The last photo shows the great curving effect of shooting at the horizon.

In this last photo and the third and fourth photos, you can see that these fisheye adapters have a tendency to flare in strong direct sunlight. Light falloff (as in the car photo and first photo rim) is also larger at the edges than for a prime fisheye. Color saturation and contrast is a lot better in the original slides, but a prime fisheye would probably beat the fisheye adapter here again. On the other hand, where else can you get a fisheye effect on medium format (outside rare Kowa true fisheye?). And the price is right (at \$50US to \$100US used), especially since this fisheye lens is readily shared between different 6x6 and 35mm cameras.

The 180 degree coverage of this fisheye makes a circular image on film, with the greatest apparent fisheye effect (circular distortion) visible near the edges of the image. The images are much better than I expected from a used \$50US adapter. Naturally, you will get sharper and more uniformly lighted images from a thousand dollar original manufacturer's fisheye lens - if one is available. But for most of us, these fisheye adapters offer a way to inject an occasional fisheye photograph into our presentations without breaking the bank.

Enjoy!



### **Sakar .42x Mutar Converts Normal Lens to 30mm Equivalent Semi-Fisheye**

See [Bronica Wide and Tele Adapters Page](#) for related information, from which this section was abstracted:

The Sakar *Super-wide .42x Mutar* shown here provides a very low cost superwide semi-fisheye effect on both 6x6 and 35mm cameras. A [closeup view](#) of the .42x mutar shows its distinctive round inner lens element shape. The surface of the lens is actually relatively flat. For 35mm camera use, a built-in very short lens hood pops up to reveal some filter ring grooves. But this short 3/16ths inch high lens hood only protects about a sixty degree swath of the top and bottom of the lens when put into position. A filter would likely vignette the image severely, let alone a projecting lens hood extending into the long axis of a 35mm camera photo. So about a 120 degree segment is removed from each side of the pop-up lens hood ring to prevent vignetting the long axis of a 35mm camera image. On square 6x6 formats, you would leave the lens hood in the down position to prevent vignetting.

In theory, your 75mm normal lens on 6x6 becomes the equivalent of a 32mm super-wide angle lens on 6x6 format (or 21mm equivalent on 50mm normal lens of 35mm camera).

The mutar mounts in a series VII filter. You will need a series VII to VIII ring to match the Bronica normal lens 67mm (or series VIII) filter mount.

This is *not* a rectilinear wide angle lens, so expect to see considerable fisheye distortion effects. The edges of the 6x6 format are cut off in the corners, but only slightly (circa 3/8ths of an inch). The fisheye barrel-distortion effect is very pronounced at the center. The horizon curves easily if you move out of level alignment either up or down. On the other hand, this is a pretty wide angle lens on the 6x6 format, well beyond the 50mm wide angle usually found.

The fisheye distortion effect is less than when using a [Kenko Fisheye Adapter](#) on your Bronica. The math suggests this adapter should produce wider coverage than a 40mm lens. You should expect less sharpness and contrast and greater tendency towards flare from any adapter. But for circa \$50US for a used .42x Mutar adapter, you can't go too badly wrong. Ability to use the same adapter on many medium format and 35mm cameras, simply by getting series VII to lens filter thread size adapter rings, is an attractive feature.

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#### Ultra Low Cost Fisheye Effects

A tip from our [Bronica homebrew lenses article](#) suggests several very low cost alternatives for taking fisheye style photos. Spherical security mirrors are one way to take a photograph with your regular lens that provides a fisheye effect at low cost. These security mirrors are the kind you see hanging in corners so you can see around the corner into the next corridor. Remember to focus not on the mirror but on the distant objects when you use this trick. You can combine this fisheye effect with deliberate distortion in some background mylar or other reflective metalized plastic film to get some really wild reflection effects.

Another under \$10US fisheye adapter can be made using a fisheye security adapter mounted in a lens cap (metal preferred) in front of your normal lens. You have probably seen these fisheye security adapters mounted in the peepholes of your last hotel room? By mounting them in a metal lens cap, you can use your regular lens to get a wild fisheye effect. The same fisheye wall adapter can be used on your 35mm camera lens with another lens cap. When you get bored with it, you could always put it back into that hole in your hotel door. See **Tom Fuller's** *Return of the Fisheye* article in **Shutterbug Ads** of December 1991 p.100 for more details.

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See [British Journal of Photography](#), November 19, 1997 issue (p. 28) titled *Very Big Fish* by Roger Hicks describes adapting a Kiev (Zodiak) 30mm fisheye lens as a custom 4x5" film back camera. The lens is mounted in a leaf shutter onto a wooden view camera rear (with film holder) which in turn mounts 4x5" film holders. You have circa 81mm lens registration distance on the Kiev-88 mount models, providing some limited space for mounting and shutter clearance. The lens throws a circular fisheye image of about 83mm. The lens has its own focusing mount, a plus compared to simpler barrel lenses. A striped lens might fit into a #3 shutter, possibly even a #1 shutter, with the right hardware and

tools. The result is a pretty unique large format circular fisheye effect covering 83mm, from a lens which can be acquired for less than \$250!

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**Here is a recent article from [rec.photo.medium-format.com](http://rec.photo.medium-format.com) on medium format fisheyes**



Kowa 19mm f4.5 MF Fisheye Lens

Photo Courtesy of Dave Mewhinney [captvdeo@starnetinc.com](mailto:captvdeo@starnetinc.com)

[These photos are believed to be W.J. Markerink's Kowa 19mm fisheye lens..]

[rec.photo.equipment.medium-format](http://rec.photo.equipment.medium-format.com)

From: [w.j.markerink@a1.nl](mailto:w.j.markerink@a1.nl) (Willem-Jan Markerink)

[3] Re: Medium format circular fisheyes

Date: Sat Sep 06 1997

Jose Marma Requena [rgmmedia@arrakis.es](mailto:rgmmedia@arrakis.es) wrote:

>Hello,

>I am looking for information about medium-format lenses equivalent to  
>the wider fisheyes in 35mm (8 and 7.5mm). I'd like to get a circle shot  
>180 degrees at least. Any information would be appreciated. Thanks.

The only one \*ever\* made was the 19mm/f4.5 Kowa, for the Kowa Six, Six MM  
and Super 66. 180 degree all around, 360 degree along the rim.

A monstrous lens, as clumsy as the 6mm/f2.8 Nikon.

A pretty rare one too, I doubt that more than a few hundred were made,  
probably much less. Very few people even know that it exists, and I was  
very lucky to find one for a decent price.

For details on this lens, and other fisheyes for 35mm and medium  
format, check my homepage:

<http://www.a1.nl/phomepag/markerink/mainpage.htm>

An alternative/better solution (definitely price-wise), is either mounting a normal fisheye  
for a 35mm camera on a medium format body (must have focal plane shutter and must be  
shallow), or a normal fisheye for medium format on a large format body (again focal  
plane shutter and shallow construction; there are some fisheyes with lens shutter, but  
there is hardly any way to release that shutter).

I am planning to mount either a Kiev 30mm or Mamiya 37mm on a Speed Graphic body.  
Will require lots of hacking, but you then have an image circle between 85mm  
(Kiev/Hassy) and 95mm (Mamiya/Pentax).

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Bye,

Willem-Jan Markerink

w.j.markerink@a1.nl  
[note: 'a-one' & 'en-el!']

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Date: Thu, 5 Feb 1998  
From: Mark L mlove@webspan.net  
To: Robert Monaghan rmonagha@post.cis.smu.edu  
Subject: Re: WTB: Fisheye lens or attachment for AE1

Hi,

Thanks alot. I'm not the biggest photo buff in the world, I am a comic artist and painter, and I love to use my instructor's fisheye for reference photos. But, school's almost out, and I wanted one for myself. His cost \$800 and that was way outa' range. I knew these attachments existed and have been to every camera shop in the area and they have no idea what I'm talking about (New Jersey...yeesh). I've been looking for one for a year, and within 10 minutes of your info I found one for \$40 online. THANKS ALOT.

So there are a few good ones left in the world,  
mark



Photo courtesy of D. St. Denny

### A True 30mm 6x6 fisheye for Bronica for under \$250 Project Idea?

Can a true 6x6 fisheye 30mm f3.5 lens be adapted for classic Bronicas? The 6x6 circular fisheye lens is a [Zodiak lens for Kiev-88 mounts](#) that costs only \$200US. The image circle is an impressive 81mm! An accessory adapter is available for \$35 to convert to Pentax screw-mount (M42) or Nikon mounts.

Before you say Kiev lenses with a multi-start thread lens mount of 82.10mm lens registration can't mount on a classic Bronica S2a mount of 101.70mm, think again. Remove the helical mount. Observe that you have over an inch from the previous lens-mount height to the start of the mirror box. Recall that the Bronica S-series used a dropping mirror design. Even if the lens extends further into the body, no harm is done. This observation could mean a lot of lenses might be remounted onto a recessed Bronica mount using this same approach, starting with Kiev-88s.

One key issue remain to be determined. Can the Zodiak lens fit into the throat of the Bronica S2 series body with the helical lens mount removed? The hole is just under three inches, but I can't get 30mm lens size information from the US representatives. If the lens can be made to fit, and focusing provided, it might be relatively simple to build a simple mounting plate to fit inside the Bronica S2 series. Only the last inch of lens needs to be recessed into the body, and this looks at least feasible from the [30mm lens photographs](#).

One side effect would be the ability to mount **any** of the Kiev-88 lenses in the classic Bronica body. These lenses have very good quality for the price reputations, and many new lenses for under \$350US are available. Besides the 30mm fisheye, a 45mm f3.5 superwide (\$250US), 65mm f3.5 (\$145US), and 150mm f2.8 (\$310US) and 250mm f5.6 (\$180US) or 250mm f3.5 (\$250US) and even a 500mm macro f5.6 (\$990US) for the well-heeled. Using this same approach, any of the Hasselblad 1000f and 1600f lens might also be mounted, as they share the Kiev88 mount (at 82.10mm).

Note that there are both multi-coated and non-multicoated lens versions available.

Another intriguing project idea would use the PCS Arsat Shift lens for Kiev-88 (82.1mm mount) - a 55mm f4.5 lens with 12 mm of shift on a 360 degree axis! Obviously interesting for architectural work, this lens could use the Bronica 6x6 series focal plane shutter and a special mount. Possibly Dr. Zorkendorfer could supply such a mount on a custom basis?

[Ed. note: glad to have confirmation that our project works!!! ;-) ]

rec.photo.equipment.medium-format

From: ooffy@aol.com (Ooffy)

[1] Re: Adapting Kiev Fisheye to a Pentax 645

Date: Wed Mar 31 1999

I have modified a Kiev 30mm Fisheye to fit my Bronica ECs. It's fairly easy to adapt lenses to the Bronica EC because of the split mirror system (the lower front half of the mirror fold down and the upper rear fold up) allows you to put the rear element far back into the body without hitting the mirror. This, combined with a removable focusing helical makes it real easy to "stuff" lenses into the Bronica body.



I don't know much about the mirror mechanism on a Pentax 645. The starting backfocus dimension on a Kiev is 82.10mm and the Pentax 645 is 70.87mm. I don't know if there is a half inch of "free" space behind the bayonet on the 645 before you'd run into the mirror.

A handy source for dimensions on camera backfocus can be found at <http://www.a1.nl/phomepag/markerink/mounts.htm>

Good Luck,

Ron Bennett

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[Ed. note: a followup posting...]

Date: Fri, 19 May 2000

From: Ooffy@aol.com

To: rmonagha@post.cis.smu.edu

Dear Bob:

Here follows a response to the posting on adapting Kiev lenses to fit the earlier Bronicas. Fell free to post it on your site if you feel it's germane.

I'm not yet ready to show picture of the conversion or offer to do others -- but I may at a future date.

Best wishes,

Ron

*Having actually modified a 30mm Arasat fisheye lens to fit a Bronica, I can say that an adapter is out of the question. The backfocus on the Bronica is almost an inch greater than the two Kiev cameras.*

*To mount the 30mm, you have to remove the Kiev lenses mounting system (it doesn't really matter if you start with a 30mm for the 60 or the 88 since they both are bolt-on "adapters" for the 30mm), engineer a Bronica large-mount bayonet, and mount it to the lens. This is the easy part. The "fun" comes in completely reengineering the aperture ring/stop-down system to clear the lens mount and still be able to set the aperture. Now getting the Bronica's stop-down lever to operate the 30mm's mechanism is a whole other question.*

*The 30mm is worth the effort IF you have a need to a lens that wide. Engineering the other Arasat lenses to fit the Bronica would indeed be a waste of time in light of the superb lenses already available for the Bronica.*

*Ron Bennett*

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From: ooffy@aol.com (Ooffy)  
Newsgroups: rec.photo.equipment.medium-format  
Date: 16 Jan 2001  
Subject: Re: Russian Lens coverage.

I've modified a 30mm Arasat to mount on my Bronica ECs (6x6) and in developing the mounting system, I did check the image circle. It covers 6x6 very well with only the expected sine-Xr falloff. Although I did not write down my measurements (since 6x6 coverage was all I was interested in at that time), I do remember being most favorable impressed with the coverage and feel it should have no problem covering 6x7 but 6x9 would be pushing it. I have no experience with the 65mm.

Ron Benmnett

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From: flexaret2@aol.com (FLEXARET2)  
Newsgroups: rec.photo.equipment.medium-format  
Date: 17 Jan 2001  
Subject: Re: Russian Lens coverage.

Ken Ruth (Photography on Bald Mountain) had modified a 30MM Russian (Ukranian) wideangle for Bronica EC- was this for you, or did you do this yourself?

He told me he even got the stopdown lever to work - from up and down motion in the Bronica to push in pin on the 30MM.

Can you tell more about how you did this modification and my hat is off to you for being able to do it. Why not write to Bob Monaghan at his great Bronica site to tell him about it-

<http://www.smu.edu/~rmonagha/bronica.html>

- Sam Sherman

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Kiev 30mm Fisheye Lens on Hasselblad!  
Photo Courtesy of Yen Hsu (chiaochiao1@yahoo.com) Thanks!

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From Contax Mailing List;

Date: Thu, 13 Apr 2000

From: "Bob Shell" bob@bobshell.com

Subject: Re: Hassy/Pentacon fish eyes WAS:Re: [CONTAX] 350mm/f4 for 645

Glad to hear that Herwig has gotten his adapter ready. I'm sure he will find it a very popular item. If I get a Contax 645 this would be first on my list so I could use my collection of CZJ lenses.

You may just be surprised if you compare the 30mm Zodiak (now sold as Arsat) to the Hasselblad lens. We've compared them at Shutterbug and there is damned little difference other than that the Arsats show typically lax Ukrainian quality control. Get a good one and no one could distinguish the photos from ones taken with the Zeiss.

One point, though. These lenses were both designed for 6 X 6 format, so won't be 180 degree fisheyes on 645 format.

Bob

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rec.photo.equipment.medium-format  
From: kd9fb@xnet.com (Peter Mikalajunas)  
[1] Re: Should I buy a fisheye lens???  
Date: Wed Mar 31 1999

ken@webriter.com (Ken) wrote:

I picked up an Arsat 30mm on eBay for a ridiculously low price, under \$200.

A couple of things. This is an ultra-wide lens. It is not the 180 degree coverage that some may think it is.

The MC Zodiak-8 30mm does give 180 degree of coverage, at least according to Kalimex's web page.

[http://www.dedal.cz/optics/medium\\_format\\_lenses.htm](http://www.dedal.cz/optics/medium_format_lenses.htm)

\_Know which one you are purchasing\_.

I just had the Arsat out today. It is a big, heavy chunk of glass. Not something, I would just toss into a day sack. It also seems to be a very nice lens. You really have to "pick" your subject carefully.

Many years ago, I ran out and got a 20mm for my Canon A1. I used it maybe 3 or 4 times. It just sat collecting dust, till I sold it. Unless you have a real "taste" for these ultra-wide lenses, be careful.

True 180 degree coverage is not something you will be using every day. You may just be better off renting when you need/want one.

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rec.photo.equipment.medium-format  
From: w.j.markerink@a1.nl (Willem-Jan Markerink)  
[1] Re: Should I buy a fisheye lens???  
Date: Thu Apr 01 1999

>\_Know which one you are purchasing\_.

BOTH give 180 degree view....but ONLY diagonally, since it is a full-frame fisheye. For 180 degrees in all directions you end up with a CIRCULAR fisheye. But apart from a very rare Kowa 19mm/f4.5, and a batch of 15 Nikkor 'cloud-cameras', these don't exist for medium format.

An overview of fisheyes, 35mm and medium-format, full-frame & circular, is on my homepage:

<http://www.a1.nl/phomepag/markerink/mainpage.htm>

The only two significant differences between MIR/Arsat/Zodiak is that some later ones are multicoated, early ones are not.

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Bye,  
Willem-Jan Markerink

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Date: Thu, 26 Feb 1998  
From: D. L. Feinberg donf@intercall.net  
Reply to: hasselblad@kelvin.net  
To: hasselblad@kelvin.net  
Subject: Re: Russian lenses

I have one of the 30 mm / 3.5 "Zodiak" (Kiev) lenses. It is a very good lens. I bought it in E. Europe for \$120, new. It sells in the US for more like \$800+.

My unit is smooth as silk. Mechanically, it's probably the best Kiev lens I own (I have 7).

A real problem is that it only comes in two mounts: one for the Kive 88 (like Hasselblad 1600), and one for Kiev 60 (like Pentacon 6). I don't know how one would mount one on a contemporary Hasselblad.

One other problem: Though well made, the lens is not MC. This means, especially for such a wide angle lens, one has to be very aware of sun angles, light sources in the frame, etc.

Don Feinberg  
donf@intercall.net

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Source: soligor .15x fisheye adapter (no adapter) - \$79 at Brooklyn Camera 6/15/98 -  
<http://www.brooklyncam.com/buy.html>

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From: der@fh-furtwangen.de  
Newsgroups: rec.video,rec.photo.equipment.misc  
Subject: Re: Looking for VERY wide angle lens  
Date: Fri, 24 Jul 1998

jpik@nyx.net wrote:

> I'm wondering how wide an angle is possible. I'm wondering  
> if it's possible to have a lense or assembly of lenses that  
> gives 270 degrees. Something that can be placed on an exterior  
> corner and see all the way from one wall to the other. If not,  
> what is the widest angle possible?  
>

Using a convex-mirror assembly easily gives 300 degrees or more, but you have your camera in the middle of the image. You can buy adapters at and

Regards

Helmut Dersch

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From: der@fh-furtwangen.de  
Newsgroups: rec.photo.equipment.35mm  
Subject: Re: Turning fisheye pictures into normal ones  
Date: Wed, 09 Sep 1998

phr@netcom.com (Paul Rubin) wrote:

> It seems to me that knowing the focal length of a fisheye lens,  
> a little bit of image mapping should be able to straighten a  
> region of a fisheye picture so that the lines and angles are  
> normal again. Of course the resolution would be worse around  
> the edges, since the pixels would have to be stretched there.  
> The fisheye attachment for the Coolpix 900 then becomes a cheap  
> way to get a rectilinear ultrawide, instead of a very specialized  
> or novelty gadget. The same could be done with scanned negatives  
> from film cameras with fisheye lenses, of course.  
>  
> Does anyone know if there are already Photoshop or GIMP macros  
> that do this?

You can use my free program "Panorama Tools" to convert fisheye images (or parts of fisheye images in case the field of view is too large) into "normal" (ie rectilinear) images, or panoramic images. It runs on Macs (recommended) or DOS-machines.

Regards  
Helmut Dersch

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Spherical Panoramas, Macro Panoramas,

Free Panorama Software:  
<http://www.fh-furtwangen.de/~dersch>

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rec.photo.equipment.35mm  
From: rpn1@cornell.edu (Neuman-Ruether)  
[1] Re: Need a Fish EYE front lens attachment. Anyone Know of one?  
Date: Tue Oct 06 1998

arrfilms@aol.com (ArrFilms) wrote:

>Does anyone know of a .3x to .4x fish eye front lens adapter with a  
>rear thread  
>size 50mm or larger. Thanks!

I think Adorama offers a .42X for about \$50... (You want one that takes a Series-VII adapter - then get a XXmm-to-Series-VII stepping ring [You may need to get creative with step-down rings to go from a big lens front-thread size to Series-VII {which is about 52mm...} for your purposes]). BTW, I've tried at least 5 optically-different .42X's, and

they performed differently on particular lenses, but the differences were mostly in field curvature (which may not affect your use...).

David Ruether  
ruether@fcinet.com  
rpn1@cornell.edu  
<http://www.fcinet.com/ruether>

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rec.photo.equipment.medium-format  
From: w.j.markerink@a1.nl (Willem-Jan Markerink)  
[1] Re: Fish eye lens wanted  
Date: Thu Dec 03 1998

roma@stalker.gamma.ru (Roman Prokhorov) wrote:

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>GrahamHill@bigpond.com wrote:  
>  
>> Fish eye lens wanted must be full 180 degree circular image on the  
neg any  
>> brand will do, i will get a 2nd hand body to suit the lens mount  
>  
> There is a great Zodiak fisheye lens for Kiev cameras, costs around  
>$300 (very cheap compared to Hassy's for $3000). Sorry, can't recommend  
>any reliable source.
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Note that the Zodiak/Mir/Arsat 30mm is not a *\*circular\** fisheye, but a *\*full-frame\** design, covering the complete 56x56mm of a 6x6 frame. There have only been two (or three, still investigating) circular fisheyes for medium format, the ancient Nikon 'Cloud-Camera' (don't know spec's), and the Kowa 19mm/f4.5. There is also a 24mm Hassy that gives a circular image, but it is still not sure whether that is fisheye or ordinary rectangular (any lens can produce a circular image).

Btw, for those interested, I can supply an Arsat 30mm for US\$250....;-))

More data about fisheyes, both 35mm and medium format, both circular and full frame, can be found on my homepage:

<http://www.a1.nl/phomepag/markerink/mainpage.htm>

--

Bye,  
Willem-Jan Markerink

---

From: helfrich@sonic.net (Gary Helfrich)  
Newsgroups: rec.photo.equipment.large-format  
Subject: LF fisheye?  
Date: 13 Dec 1998

I'm trying to figure out some sort of way to use a fisheye lens on a large (4x5) format camera. I have a bunch of Toyo parts, so I am planning to use the revolving Toyo back

and machine an adaptor for a medium format fisheye lens. No camera body, just mount the lens right to the back. I've done this in the past with Mamiya Universal lenses, and it worked just fine.

The two choices seem to be the RB67 37mm, and the Pentax 67 35mm. I am under the impression that they are both full frame 180 degree fisheyes, so the image circle of the Mamiya lens is a bit bigger than the Pentax, and in fact will almost cover a 100mm circle, which would give a nice round image on a 4x5 sheet.

The Mamiya lens has a built in shutter, which is nice, but it is almost twice the price of the Pentax lens. My idea with the Pentax would be to mount a #3 Copal behind the lens.

Has anyone had any experience with creating fisheye images with a large format camera? Is there an easier or less expensive way to do this? Is there an optical advantage that one of these two lenses might have?

Gary Helfrich

---

From: byen@ix.netcom.com (B Yen)  
Newsgroups: rec.photo.equipment.medium-format  
Subject: Re: Fisheyes: Which is sharpest?  
Date: Wed, 16 Dec 1998

helfrich@sonic.net (Gary Helfrich) wrote:

> I'm building an adaptor to allow me to use a medium format fisheye on  
> my  
> large format camera. I would prefer one designed for 6x7 due to the  
> larger  
> image circle. This pretty much limits me to either the Mamiya 37mm or  
> the  
> Pentax 35mm lenses. In an earlier post to the large format group  
> about this  
> project, both lenses were criticized as being poor performers. Before  
> I go  
> and buy one or the other, I am interested in any real world feedback  
> on  
> these lenses from people who have actually used them to shoot images,  
> not  
> test targets. I am leaning towards the Mamiya lens as I already own  
> lots of  
> Mamiya gear and can use it on existing equipment. The Pentax, on the  
> other  
> hand is so inexpensive that it might be worth getting just for a  
> dedicated  
> setup.  
>  
> The main things that I am concerned with are contrast and flare. High  
> resolution is nice, but I doubt that I will enlarge anything past 4:1.  
>  
> Gary Helfrich



Some hardcore astrophotographers have built such cameras. The Distagon 30mm/3.5 is excellent. (I've seen Europeans do this, German & Slovakian). I've seen astrophotos with the Pentax 35mm/4.5 (on 120), & the stars begin to distort in the outer frame (they get oblong-shaped). However, many Japanese astrophoto rigs use this combination. I've heard someone talk about playing with the Mamiya, but he had your same concerns: unsure about the quality, before plunking down \$\$.

As a matter of fact, over the weekend, I did 6 exposures using a Kiev Zodiak 30mm/4.5 (copy of Distagon 30mm/3.5) on 4x5 (custom built camera), for the Geminid meteor shower. You can see my 35mm results at:

<http://www.comet-track.com>

I used E100S slide film, & I was really surprised! The stars on the outer portions didn't show any gross aberrations: they only got triangular & hints of slight-bloating. For me, I was pretty satisfied (vs laying out \$3000 for a used Distagon. You can get the Zodiak for \$200-\$300). I think the discriminating types wouldn't be satisfied with the Zodiak, however.

Keep in touch with me, Re: your project. I want to do the same project. I was considering the Pentax 35mm/4.5. I am scrounging for a Distagon, but will probably settle on the Zodiak.

BY

---

From: h.nareid@eng.abdn.ac.uk (Helge Nareid)  
Newsgroups: rec.photo.equipment.large-format  
Subject: Re: LF fisheye?  
Date: Mon, 14 Dec 1998

helfrich@sonic.net (Gary Helfrich) wrote:

>The two choices seem to be the RB67 37mm, and the Pentax 67 35mm.  
>I am under the impression that they are both full frame 180 degree  
>fisheyes,  
>so the image circle of the Mamiya lens is a bit bigger than the Pentax,  
>and  
>in fact will almost cover a 100mm circle, which would give a nice round  
>image on a 4x5 sheet.  
>  
>The Mamiya lens has a built in shutter, which is nice, but it is almost  
>twice the price of the Pentax lens. My idea with the Pentax would be  
>to  
>mount a #3 Copal behind the lens.  
>  
>Has anyone had any experience with creating fisheye images with a large  
>format camera? Is there an easier or less expensive way to do this?  
Is  
>there an optical advantage that one of these two lenses might have?

I have done this with a 35mm Pentax67 fisheye. I have a Sinar camera with the Sinar/Copal behind-the-lens shutter, so it was a fairly simple matter of fitting a Pentax bayonet mount (taken from a cannibalized Pentax67 to K-mount adapter) to a plain lensboard. The flange focal distance of the Pentax67 mount is large enough to (barely) allow infinity focus with this adapter.

The 35mm Pentax67 Fisheye provides a nice circular image of slightly more than 90mm diameter. Great care must be taken to avoid tripod legs, monorails or feet in the image.

--

Helge Nareid - Nordmann i utlendighet  
University of Aberdeen, Department of Engineering  
Laser and Optical Engineering Group  
<http://wwwcad.eng.abdn.ac.uk/~eng529/>

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From: w.j.markerink@a1.nl (Willem-Jan Markerink)  
Newsgroups: rec.photo.equipment.large-format  
Subject: Re: LF fisheye?  
Date: Tue, 15 Dec 98

...

I am planning a similar contraption, and completed a Mamiya RB set already....but I am not overly impressed with image quality on the RB so far....definitely not tack sharp. My Kowa 19mm is much sharper, even though it looks as a hellish more complicated design. >From a friend, who is very anal in lens testing, I also heard that the Pentax fisheye is not as good as the Kiev/Mir/Arsat/Zodial 30mm....given the price difference, it isn't hard to know where to start hacking....

(my Mamiya choice was dual, as I also want to shoot Kodak IR in medium format, and that only works with 70mm perforated....add 6x7, and only Mamiya RB is left....and the APO 350mm has enough appeal that I will stick with this system for a while)

(posted & mailed)

--

Bye,

Willem-Jan Markerink

---

From Medium Format Digest:  
From: rolland\_elliott\_rolland\_elliott@yahoo.com  
Subject: 180 degree fisheyes for medium format  
Date: 1999-01-19

For all you wide angle wierdos!

Anyone ever successfully modify a 35mm 16mm full frame fisheye lens to mount it on their medium format camera?

In theory this should give you a circular image on your film and a complete 180 degree circular view of the world. The image would give you a diameter of about 43mm and an area 4 times that of a 35mm circular fish eye image. Unfortunately due to the small registration distances in 35mm cameras the modified lens would probably have to be mounted in the throat of the medium format camera (that had a mirror up function) and focusing would be by guesswork.

Focusing wouldn't be a big issue since this focal length inherently has a lot of depth of field and composition could be accomplished by using one of those peep holes people install in their doors, that give a fisheye view of the world.

If you have modified a lens successfully I'd be very curious to learn which camera and lens combination you used. Also how the lens was mounted to the camera.

thanks Rolland Elliott

---

From Medium Format Digest:

From: kenny chiu amchiu@worldnet.att.net

Subject: Response to 180 degree fisheyes for medium format

Date: 1999-01-19

I do not have specific answer for you. In order to use current camera, it may need a removable back, film plane shutter and ground glass at film plane. So we can use the ground glass for focusing. It needs to have true mirror lock (the mirror will not return after the shutter tripped.)

The 6x6 format may be good for this kind application. Maybe Hasselblad F 1000 can do it. I would like to see some generic camera which can use 120 roll films and most 35 mm and MF lenses. It will have the above descriptions (no mirror, focus plane shutter, removable back and ground glass focusing) and the camera body will be thin like most 35 mm camera with a generic lens mount to build lens adapters for all other brands assuming that the lens has distance and aperture control.

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From Medium Format Digest:

From: Alan Subject: Response to 180 degree fisheyes for medium format Date: 1999-01-20 As with the earlier correspondent, I don't know the answer, but here are a couple of ideas:

Having to have a focal plane shutter does limit the options that are open to you. If you can fit a leaf shutter behind the fisheye then you have a few more possibilities:

Use a Hasselblad Flex body with a custom adaptor.

You don't really need the body of the camera to do very much, so you could use a back attached to a simple spacer (for instance the Mamiya Press system has some rear extension tubes that fit between the back and the body). Again, you could attach the lens to the spacer with a custom made adaptor.

There are a number of firms around who make custom adaptors. One in the UK is called SRB Film Services.

Didn't some of the old 5x4 press cameras have focal plane shutters? Could you dissect one of those to fit the lens?

I'm not a fisheye fan myself, but I love the idea of doing things with cameras that you aren't supposed to (er... if you see what I mean) and I wish you well. If you succeed in your quest, I hope you will let us know how you did it.

Alan

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From Medium Format Digest:

From: Jason Downes [jdownes@ufg.ru](mailto:jdownes@ufg.ru)

Subject: Response to 180 degree fisheyes for medium format

Date: 1999-01-20

You could just jump the Iron Curtain and buy a Kiev 6C/60/88 and the 30mm F3.5 fisheye (180 deg).

I picked one up for \$100 and it's great. Stop it down to F8/11 and the quality is breathtaking when you print to 8x10 or above.

Jase

---

From Medium Format Digest:

From: Tsun Tam [ttam@cybernex.net](mailto:ttam@cybernex.net)

Subject: Response to 180 degree fisheyes for medium format

Date: 1999-01-20

Why bother with this Rube Goldberg exercise. You can easily adapt (using suitable filter adaptors) a fisheye auxiliary lens marketed by Spiratone, Samigon, et al to your 80mm lens and shoot 180 degree round fisheye photos. While these lenses are no longer made, they can be found in the used lens sections of camera stores. I recently picked one up for about \$40.00. The 49mm to Hassy B50 adapter cost me another \$15.00 and I can use it on any of my Hassy B50 lenses.

The images are more than adequate. I have also adapted a 30mm Ukranian lens made for the Kiev 88 to my Hassy 2000 and as Jason said, the results are very very good.

Unfortunately my 30mm cost me about \$200.00. The conversion from Kiev to Hassy mount is about \$400.00. . . still much cheaper than the real Hassy 30mm!!!

If you can't find the auxiliary fisheye lens, keep trying you'll find one. I did, now I have two!

Good Luck!!!

---

rec.photo.equipment.35mm  
From: sormes@aol.com (Sormes)  
[1] Re: Fisheye filter: Spiratone Curvatar  
Date: Sat Feb 13 1999

>>Has anyone out there had experience with this filter/attachment?  
>>Comments on quality? Does it cover 180 degrees?

I bought one at Spiratone's store in New York back in 1968-69 and have been using it ever since. Its coverage depends on what focal length it is attached to. On a normal lens, gives an ultrawide effect. On a 28mm, a round fisheye effect. Like any front-lens attachment, don't expect edge-to-edge sharpness but a Curvatar can be lots of fun. For the past 10 years I have used mine only on video cameras. Nice wide coverage, and you can vary that by zooming through it (g).

---

Date: Mon, 15 Feb 1999  
From: Willem-Jan Markerink w.j.markerink@a1.nl  
To: panorama-1@sci.monash.edu.au  
Subject: Re: Simonturnpike ford

Simon Nathan wrote:

> dear gene-since you already have screw mount pentax 17mm lens, or did  
> they later make it k-mount?, look around for the screw mount 15 well  
> corrected, straight lines  
> 15mm. it came two ways. first version has aspheric construction. then  
> then cheapened it without lowering the price. look at 35mm fish eye  
for  
> pentax 6x7 as a lens you can take a slice from the middle. years ago  
an  
> independent japanese lens mfg made drawings for fisheye to cover full  
> panel 4x5 but felt there was little market.

On the PhotoKina 1996, I saw a huge ISCO fisheye lens....think I posted about that one on the list....relatively long focal length, which implied a strange large format application....don't think it was ment as a cinema/projector lens (although I have seen bizar large projector systems on last years Kina....units that used spools with 10" or taller film, like a giant continuous overhead projector....also requiring a fork-lift to drag it around....8-))

Oh btw, my Mamiya 37mm fisheye and Speed Graphic 4x5" finally met....for the record: image circle is 92mm (at f16, no aperture-variation checks yet....seems most fisheyes increase image circle when stopping down, but some (Sigma 8mm) go the other way....note though that 92mm is only 2mm larger than the theoretical coverage of a 56x70mm frame (original RB)).

Now I only need to take a deep breath and cut off the 4 ears on the lens....8-))

--  
Bye,

Willem-Jan Markerink

---

Date: Tue, 16 Feb 1999  
From: Glenn Barry bonzal@ozemail.com.au  
To: panorama-1@sci.monash.edu.au  
Subject: Re: Simonturnpike ford

I have modified an Arsat 37mm fisheye to shoot full frame on 5x4, it works wonderfully, I had steve grimes fabricate an adaptor that replaces the real lens coupling so that it screws straight into a Copal #3 shutter. Once I verified everything I cut off the built in lens hood and placed the bits in the lens cap so that I could still use it. BTW if you can get a hold of a poor condition RB body you can remove the front panel and adapt it so that you can use RB lenses on 5x4, with or without a 120 back. I have a 127 KL that covers at close distances.

I used a guitar string (metal) and brass tube to improvise a cocking mechanism to use the built in shutters, mirror up. I didn't have a speed graphic handy.

So that I didn't waste the rest of the body I attached it to a panel and use it the back of a 5x4 for quick 120 work with moderate movements, mirror, prism and fast polaroid changes, works a treat.

Just thought that you may be interested.

Glenn

---

Date: Tue, 16 Feb 1999  
From: Steve Morton Steven.Morton@sci.monash.edu.au  
To: panorama-1@sci.monash.edu.au  
Subject: Re: 4x5 Fisheye - was Simonturnpike ford

Hi All,

Glenn Barry wrote:

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> I have modified an Arsat 30mm fisheye to shoot full frame on 5x4, it  
> works wonderfully, I had steve grimes fabricate an adaptor that  
replaces  
> the real lens coupling so that it screws straight into a Copal #3  
> shutter. Once I verified everything I cut off the built in lens hood  
> and placed the bits in the lens cap so that I could still use it.
```

I have done a very similar thing. I have mounted my 30mm Arsat in a Copal #3 and mounted this on my Slivestri S4 4x5. The good thing about the Arsat is that its angle of view is close to 186 degrees. However the bad thing is that it does suffer a bit from flare when bright lights are in its field of view. I sent my Arsat back to the Ukraine to have its glass surfaces multi-coated. This has improved the image quality and reduced the flare a little but the flair can still be a bit of a problem.

I may look around for a Mamiya RB 37mm to try next as Willem has done.

> BTW if you can get a hold of a poor condition RB body you can remove  
> the  
> front panel and adapt it so that you can use RB lenses on 5x4, with  
> or  
> without a 120 back.

You can buy the RB/RZ mounting ring from an extension tube as a spare part. As I recall it is hard to get the mount from the front of an old body and effectively use that.

Cya  
Steve

---

Date: Tue, 16 Feb 1999  
From: Willem-Jan Markerink w.j.markerink@a1.nl  
To: panorama-1@sci.monash.edu.au  
Subject: Re: 4x5 Fisheye - was Simonturnpike ford

Steve Morton wrote:

> I may look around for a Mamiya RB 37mm to try next as Willem has  
> done.

Don't forget to rate them against each other in respect to optical quality too....don't have experience with the Arsat/Mir, but I am not 100% convinced that the RB is optically king of the hill...

> > BTW if you can get a hold of a poor condition RB body you can remove  
> the  
> > front panel and adapt it so that you can use RB lenses on 5x4, with  
> or  
> > without a 120 back.  
>  
> You can buy the RB/RZ mounting ring from an extension tube as a spare  
> part. As I recall it is hard to get the mount from the front of an  
> old body and effectively use that.

That's what I did....ordered a body-mount, assuming/being-told that the one on the tube was identical....they are slightly different though, the tube-version is a full circle on the outside, the body-version has a slight straight part....doesn't affect mounting though. Don't forget to order the screws too, and check screw-thread taps in size M2.5, to tap the matching holes in the lens board (once got a Graphic board along with a camera, with a large diameter opening, almost made for it, only had to drill & tap the screw holes....surprising match).

--  
Bye,

Willem-Jan Markerink

---

rec.photo.equipment.35mm  
From: "bbb" bbb@bbb.ca  
[1] Re: Newbie fisheye question.  
Date: Mon Mar 15 1999

To answer your questions: yes, yes, and use the 50. I have a cheap fisheye adapter that I mount on a Yashica 50 (filter ring size 52mm). There is no name on it, just "Made in Japan," I guess that this is what they referred to as a "cheap Jap adapter" in the movie Mean Streets.

The results are fine when you stop down to f:11 or so. I can't help but think that the \$2000 Zeiss fisheye might give me better sharpness in the corners though.

Bernard

B Whillans wrote

>Can I get a fisheye lens/adapter/whatever for my Yashica FX-3? Do they  
>mount on the end of my lens like a filter? I've got a 50mm lens and a  
>35-70mm zoom, if that helps any.

---

[Ed. Note: source for fisheye adapters (under \$50!)]

Date: Fri, 16 Apr 1999  
From: Gdwnphoto@aol.com  
To: rmonagha@hermes.seas.smu.edu  
Subject: FishEye adapters

Bob, FYI, We have the adapters new for \$42.50 + step ring.

Amy

Goodwin Photo

Goodwin Photo  
New web page! <http://members.aol.com/gdwnphoto>  
3304 Hancock St.  
San Diego, CA 92110  
(619) 291-5190/FAX (619) 291-6052  
10 day return policy on mail order.  
Unless marked as is, 30-90 day warranty.  
Mon-Sat. 10:30 am - 4:30 pm  
gdwnphoto@aol.com

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Date: Sat, 17 Apr 1999  
From: Gdwnphoto@aol.com  
To: rmonagha@post.cis.smu.edu  
Subject: Re: FishEye adapters

rmonagha@post.cis.smu.edu writes:

Hi Bob



We're big fans of them as well. Although our medium format customers are a bit pickier about it. A couple of other things about medium format and adapters, FYI, I had a customer who couldn't afford a 150mm for his 645, so he bought a Canon TV lens teleconverter and put it on his standard lens with step rings. It's not the same quality as a 150mm but pretty darn good he said. We have those as well.

The other thing is we both know that the tele/wide converters for TLR are hard to find and expensive. We put on some autofocus and rangefinder aux lenses on a 124G with some step rings and they worked! A little vignetting on the wide angle, but not a lot to where it's really noticeable. We're very creative out here in San Diego :)

Take care.

Amy

*incidentally, they are even more useful with medium format cameras where there is no equivalent fisheye optic ;-)*

---

From: ELAU632855@AOL.COM  
Newsgroups: rec.photo.equipment.medium-format  
Subject: Re: Adapting Kiev Fisheye to a Pentax 645  
Date: Sat, 24 Apr 1999

The place below sells retro-fitted Kiev 30mm full frame fish eye lens to fix many Japanese and European 120 cameras.

Panorama Camera Center  
124 West 30 Street  
New York, N.Y.  
212-563-1651

Kiev 88 and German cameras repaired  
Sometimes has Kiev 88 lens in stock.

---

From: bandhphoto@aol.com (BandHPhoto)  
Newsgroups: rec.photo.equipment.35mm  
Subject: Re: fish eye filter lens?  
Date: 24 May 1999

*i think it's kind of expensive to actually buy a fish eye lens so i was thinking is there a fish eye filter. Is there is any, pls kindly state the particulars.*

A couple of places sell a fish-eye adapter you can screw onto the front of your 50mm lens to get a fish-eye effect and they're considerably cheaper than a fisheye lens. Try Porter's at <http://www.porters.com/>

=====

regards,  
Henry Posner/B&H Photo-Video  
<http://www.bhphotovideo.com>  
[henryp@bhphotovideo.com](mailto:henryp@bhphotovideo.com)

---

Date: Tue, 25 May 1999  
To: [rmonagha@post.smu.edu](mailto:rmonagha@post.smu.edu)  
Newsgroups: rec.photo.equipment.35mm  
Subject: fisheye adapter page Re: Looking for 180 degree fisheye lens adaptor.

see <http://www.smu.edu/~rmonagha/bronfe.html> Fisheye adapter pages

Adorama had a samigon 0.18x fisheye for sale under \$50, I think Goodwin photo also has these adapters for less than usually seen on ebay (\$75-100+) try Amy and Goodwin at <http://members.aol.com/gdwnphoto/index.htm> and if not there, look around from listed dealers which also have them for sale at:

<http://www.smu.edu/~rmonagha/mf/albro.html>

anyway, the fisheye adapters are relatively inexpensive (\$50 or so up to \$100+) way to try out fisheye 180 degree circular images on your camera for low cost, they mount on front of lens filter threads (with adapter ring) and the results are surprisingly good for the money IMHO.

granted, my prime fisheyes have higher contrast, somewhat less flare (but they all flare a good bit, let's face it, at 180 degree with sun in shots), and a bit less sharp around the edges of the photo. Better results if you stop the adapter down to about f/11 and leave camera lens wide open, use normal lens (f/1.8 better than f/1.4..) etc.

are they as good as primes? Heck, no! But they are about 5-10% of the cost! For many users and purposes, the impact of the fisheye image on the screen and fun nature of the lens far outweighs any minor technical issues.

the fisheye adapters are also handy as they work on lenses from 28mm to 200mm+, meaning you can get some fisheye distortion effects on all those lenses. Since there are no 28 or 35mm fisheye lenses for 35mm SLRs, this is the only way to get that kind of distortion in those focal lengths, so even if you are a pro, these might have a place in your lens kit.

most fisheye users either run out of ideas by the third roll of film, and their expensive fisheyes are rarely used, or they use them a lot to spice up slide shows and prints and all that. IMHO, a fisheye adapter is a cheap way to see if this style of photography is for you or not...

regards bobm

---

[Ed. note: Caveat Emptor!]  
Date: Tue, 15 Jun 1999

From: Leonard Paris lparis@i1.net  
To: "Hasselblad@Kelvin. Net" hasselblad@kelvin.net  
Subject: RE: Fish eye lens

Look on eBay for a userID of "kievcamera" He'll sell you either a new Kiev 88 or Kiev 60 kit for about \$350 and the 30mm fisheye will cost an additional \$130 or so. He may be in Kiev right now but he can be reached by email. If you aren't an eBay member, and you want his email address, I can get it for you. Included in the Kiev 88 kit is a TTL prism that fits the Hasselblad and it uses S76, silver batteries.

Leonard

---

Date: Wed, 16 Jun 1999  
From: MartyF2938@aol.com  
To: hasselblad@kelvin.net  
Subject: Fish eye lens

hasselblad@kelvin.net writes:

*Fish eye lens*

I have an old Spiritone auxiliary fish eye lens which I attach to the front of my 80mm. It works great, and I've using it for years. I don't know if they still make it, but if you can get one, try it.

MartyF

---

Date: Thu, 17 Jun 1999  
From: Glenn Barry glenn@acay.com.au  
To: panorama-l@sci.monash.edu.au  
Subject: Re: Fisheye Lenses & Panorama Tools

Hey all,

If they are only on to US sites, then why not locate your sites on overseas servers.

I believe that will stop their little red wagon.

BTW I have a 30mm Arsat that I have converted to shoot full frame fisheye on 5x4, do they own the patent on that Idea too? the fact that I thought of it notwithstanding.

Glenn

...

---

From Panorama-L panoramic Photography List:  
Date: Fri, 30 Jul 1999

From: Helmut Dersch der@fh-furtwangen.de  
Subject: Coolpix with Fisheye Adapter

I have posted a page on how to create panos using two images made with the Nikon Coolpix950 with Fisheye adapter and Panorama Tools. Example images are provided (sorry, just a parking lot).

LivePicture, Smoothmove and large-vfov-QTVR-panos are covered.

See <http://www.fh-furtwangen.de/~dersch/coolpix/coolpix.html>

Regards

Helmut Dersch

---

[Ed. note: besides noting the existence of these inexpensive prime fisheyes (from Kalimex in the Ukraine, Arsenal..), it is worth noting that while fisheye adapters are considered softer in the edges, so are some of the prime fisheyes! ]

From: "David Brown" dbrow17@Ibm.net

Newsgroups: rec.photo.equipment.35mm

Subject: 8 mm peleng

Date: Fri, 23 Jul 1999

I've been thinking about getting a circular fisheye, and recently I saw an ad for the Peleng 8 mm circular fisheye lens. The ad mentioned the resolution was 65 lp/mm in the center and 15 lp/mm at the side.

Putting aside just how this was measured, or how this measurement applies to every Peleng 8 mm, most lenses I own don't suffer a decrease a factor of 4+ in resolution from center to side. I can think of three reasons for this.

- 1) The projection used in fisheyes, sort of magnifying the center and demagnifying the edge, may result in lower resolution.
- 2) Circular fisheyes, unlike every other lens, shows the end of the image circle. The edge of the image circle is affected the most by diffraction off the aperture and edge of the lens. This may be why every circular fisheye image I've seen appears a bit fuzzy at the edge. But because of this, one would think a lens tester wouldn't go all the way out to the edge.
- 3) The lens is crap.

Does someone with familiarity with circular fisheyes know if any of these are correct? If anyone owns a Peleng 8 mm, information on how this lens performs compared to the Sigma 8 mm (or the Nikkors, which are somewhat out of my price range) would be appreciated.

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From Nikon MF Mailing List:  
Date: Fri, 1 Oct 1999  
From: WdshpBiz@aol.com  
Subject: Re: Digest Number 226

Duri,

A friend once gave me a very inexpensive Star D brand fisheye auxiliary lens. It was the kind of lens that would thread onto the 52mm filter thread of my standard or wide-angle Nikkors to convert them into fisheye lenses. I'm sure it was nowhere up to Nikkor optical standards, but it was a great way to play with the fisheye effect, and I took a number of published photos with it. I'd still probably use it off and on today if it hadn't been stolen along with my Photomic FTN and a bag full of other gear. If you just want to experiment with the fisheye distortion look, you might consider such a lens.

William Sampson

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From: Alexander skorokha@mail.uni-mainz.de  
Newsgroups: rec.photo.equipment.medium-format  
Subject: Re: Q: Kiev Arsat 30mm Fisheye MC/SC?  
Date: Fri, 01 Oct 1999

Hi Kevin,

You are right. It is not coated. I would also suspect that it is single coated. Kalimex&Wiese Fototechnik have multicoated lenses which are coated (at high temperatures in vacuum) by Hartblei company in Kiev (Not Arsenal). The 80mm Arsat, 120mm Vega and 250mm Telear are coated by manufacturer. There is MC Tair 300mm/4 for Kiev88 too and it was produced in Russia. This summer I preferred to buy used 4 lenses which were coated and reassembled by Hartblei. It was even cheaper for my if I would buy non-coated in Kiev.

Regards,

Alexander.

ruscam645@my-deja.com wrote:

> Hi Chung,  
> According to what information I've been able to find the 30mms are not  
> multi coated. Kalimex offers, at a considerable extra cost,  
Multicoated  
> lenses, done apparently by Kiev.  
> I have one of the first 30mm Arsat's produced, and it has no MC on it  
> either, but it performs well, and the 30mms are generally well  
regarded  
> by their owners.  
> So what if the lens isn't MCed- take it out and shoot it- I think  
you'll  
> be in for a pleasant surprise!  
> Regards,

> Kevin

---

From: spam-abuse@worldnet.att.net (Tom)  
Newsgroups: rec.photo.equipment.35mm  
Subject: Re: Mathematics behind Wide Angle/ Fish Eye lens Construction  
Date: Fri, 01 Oct 1999

>I am trying to understand how wide angle lenses, especially  
>Fish-eye lenses work, and am having a tough time finding  
>resources on the net. Some of the questions I am trying to find  
>answers for are:  
>  
>1) What gives a lens a wide angle of view? Is it just the small focal  
> length? I guess when the focal length decreases, the cone of light  
that  
> converges at the focal point is wider? But then, a 14mm lens is  
not  
> 14mm long, or is it?  
>  
>2) What is really happening when you have a view angle of 180 degrees,  
> as in the case for a fish-eye lens? It would seem like the focal  
point  
> is now inside the lens, since the cone is now a half-plane but  
then  
> how is the image formed? What type of projection gives you the  
circular,  
> distorted image formed by fish-eye lenses? It looks similar to the  
image  
> formed  
> by the surrounding environment on a reflective sphere.

...several more questions snipped....

First, I think you are trying to understand focussing of a "real" lens in terms of so-called "thin-lens" formulae as you might see in a high school physics book. Real lenses are more complicated.

The following 3 books will get you started on understanding issues like how focal points can be placed further from the back of a wide angle lens than the focal length would seem to say is possible:

- 1) A History of the Photographic Lens -- Rudolf Kingslake; Hardcover
- 2) Lens Design Fundamentals -- Rudolph Kingslake; Hardcover
- 3) Optics in Photography (Spie, Volume 6) -- R. Kingslake(Editor);

Kingslake also has a 3 volume set on lens design that didn't show up when I searched amazon.com. It may be out of print. These books are quite thorough, at least as of their publication dates, but because they are not the most recent, may not cover ultrawides as thoroughly as you might like. Expect a quite bit of math and geometry, but nothing too esoteric.

I think that your second fundamental interest is to have an understanding of the coordinate transformations of different types of lenses. Here is a short version:

For this second discussion, pretend we are only considering very small aperture (small diameter) lenses, so we can ignore all focussing issues, and the fact that there is a converging cone of rays meeting at each image point. For this discussion, consider the lens as simply a magic pinhole in a plane that transforms angles on the object side of the plane into angles on the film side of the plane.

Perfect, distortion free rectilinear lenses map  $(x,y)$  coordinates in an object plane into  $(x',y')$  coordinates in the image plane by a simple, scalar multiplicative constant, the magnification,  $M$  with

$x' = M*x$  and  $y'=M*y$ . ...easy...end of story.

A fisheye lens takes the two angular spherical coordinates of the direction to an object point relative to the lens and its axis (ie,  $\theta$  = the angle off axis, and  $\phi$  = the angle around the axis), and maps them into an image point direction,  $\theta$ -prime and  $\phi$ -prime.

At minimum, the perfect fisheye will have  $\phi$ -prime =  $\phi$  (or  $\phi+180$  depending on how you define your coordinates). However, I don't believe that the "correct"  $\theta$  transformation of "a perfect fisheye" is universally defined.

For example, for most photographic applications, perfect linear angular demagnification,  $\theta$ -prime =  $M * \theta$  (where  $M < 1$ ) would likely be just as acceptable as any general transformation,  $\theta$ -prime =  $f(\theta)$  as long as it was monotonic and  $\theta$ -prime was always less than  $\theta$  (eg, say it turns a 150 degree conical FOV (ie, almost a half-space) into (say) a 45 degree diverging cone of illumination heading towards the film. The only applications that I can think of that require a tightly controlled  $\theta$  transformation involve measurement problems (eg, astrophysics - fisheyes looking up at the sky to measure the angular distribution of cosmic ray showers).

To answer one more of your questions, the difference between a full frame and circular fish eye is simply that in the full frame, the edges of the cone of illumination on the film side of the lens is outside the film boundaries, whereas in the normal circular fisheye, the edge of the same cone of illumination falls totally within the film boundary and is recorded by the film as a circle.

All in all, this is a non-trivial topic and, if you are interested in pursuing it further, it is more appropriately done by textbook and engineering journal article, not by newsgroup postings. You will find that if you pursue this topic, you will also need to more accurately / quantitatively state some of your other questions.

Hope this helps a bit,

Tom  
Washington, DC

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[Ed. note: an ad, but has some useful info and prices comparisons..]

From: "Boris" bvyatkin@erols.com

Newsgroups: rec.photo.marketplace.medium-format

Subject: Affordable fish-eye lens camera

Date: Thu, 21 Oct 1999

Nobody need fish-eye lens every day. It's seems ridiculous to spend thousands of dollars for lens - you, probably, will use few times per year, or even less. But having this superweapon in your ARSENAL would definitely help you to know when and how to use it.

Bronica 645 fish-eye lens	3,5/30	- \$2900
Bronica 6x6 fish-eye lens	3.5/35	- \$3100
Hasselblad fish-eye lens	3.5/30	- \$5800
Mamiya 645 fish-eye lens	4/24	- \$2100
Mamiya 6x7 fish-eye lens	4.5/37	- \$2700
Pentax 6x7 fish eye lens	4,5/35	-\$1200
Rollei fish-eye lenses	3,5/30	- \$4000-\$4500

The idea is simple - inexpensive single lens reflex rollfilm(120)6x6 camera with fish -eye lens 3.5/30mm and waist- level finder.

Former producer of soviet military optic , Kiev's "ARSENAL" factory, makes it all possible for just \$570 , including shipping & handling in continental USA.

Kit includes :

- 1) brand new Kiev 60 camera body (similar with Pentacon six , Exacta and Pentax67) shutter speeds B,1s- 1/1000s with Kiev mount
- 2) brand new MC Arsat/Zodiak lens 3,5/30mm with Kiev mount, cap
- 3) basic foldable waist- level finder

More expensive options and additions are:

*Kiev 60 body with p-six mount and mirror lock up option	+\$200
*TTL metered prism finder 45deg	+ \$300( also fit all Hasselblad cameras)
*MC Arsat/Volna-3 2.8/80mm lens	+\$100
*Telear 5.6/250mm lens	+\$360
*Jupiter 3.5/250mm lens	+\$480
*PCS Arsat 2.5/55 Shift lens	+\$900
*extension tubes 19-48mm	+\$90
*MC Arsat 1,4X teleconverter	+\$140

Starter medium format kit:

\*Kiev 60, 2.8/80 lens , waist level finder,  
2 filters, lens hood, strap, flash shoe -\$400

\*same , but with p-six mount and mirror  
lock up option

-\$500

More expensive options includes another Kiev made camera - Kiev 88 with



interchangeable backs...(Hasselblad 1000F clone), speeds B,1-1/1000

\*Kiev

More expensive options includes another Kiev made camera - Kiev 88 with interchangeable backs...(Hasselblad 1000F clone), speeds B,1-1/1000

\*Kiev 88 body - \$350(Kiev 88 mount)

\*Kiev 88 body- \$700(p-six mount, mirror lock option)

\*6x6 back - \$150 each

lens and accessories prices - same with both mounts types

P.S. All prices includes shipping & handling in USA

P.P.S New York state residents please add 8 1/4% sales tax

P.P.P.S. Specify country for S&H charges outside USA

Boris Vyatkin

bvyatkin@erols.com

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From: Helmut Dersch der@fh-furtwangen.de

Newsgroups: rec.photo.equipment.medium-format,rec.photo.equipment.35mm

Subject: Re: focal length for fisheye lenses

Date: Thu, 21 Oct 1999

F. Hayashi wrote:

> I want to know what difference the focal length makes on a fisheye lens.

>

> What makes a 8mm 180-degree fisheye different from a 30mm 180-degree fisheye?

The ideal fisheye lens' projection characteristics follows a simple  $f * \theta$  law,  $f$  being the focal length and  $\theta$  the angle (in radian) between optical axis and object. That means a 30mm 180degree lens displays an image circle with

$30\text{mm} * 1.57 = 47\text{mm}$  radius, while the 8mm has

$8\text{mm} * 1.57 = 12.6\text{mm}$  radius.

Real fisheye lenses often deviate from this behaviour.

Quite common is the  $2*f*\sin(\theta/2)$  mapping.

Helmut Dersch

---

From Nikon MF Mailing List

Date: Mon, 1 Nov 1999

From: kenweissblum@mindspring.com  
Subject: Re: Russian fish eye lenses

Hi,

I have the MC PELENG A 2,8/17 fisheye lens and I am very happy with it. It is one of my favorite lenses. They are made at the Belomo factory in Ganst that is well known in Europe for their optical manufacturing.

Ken Weissblum

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From Nikon MF Mailing List:  
Date: Mon, 1 Nov 1999  
From: kenweissblum@mindspring.com  
Subject: Re: Russian fish eye lenses

Hi,

Contact Vladimir Gritsuk at gritsuk@mail.ru, he used to auction off lenses at Ebay but I bought one direct from him for \$300 (including postage). I wired him the money and received the lens in under a week. He seems to be very reliable, I had checked his reference on ebay first. Feel free to use my name. He gets the lens directly from the factory using currency advantage.

Ken Weissblum  
kenweissblum@iname.com

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Date: Fri, 14 Jan 2000  
From: Steven Morton steven.morton@sci.monash.edu.au  
To: panorama-l@sci.monash.edu.au  
Subject: Re: you want coverage? ;- ) Re: Nikkor coverage

Robert Monaghan wrote:

```
> I should alert you to the existence of several medium format
> shift lenses at modest cost, such as the 55mm f/4.5 Arsat shift lens
with
> 12 mm of shift (on top of being a 6x6cm design lens). Similarly, you
can
> remount the 30mm fisheye to give a circular (180 deg diag) view; in
fact,
> Roger Hicks created a 4x5 compact body and standard film holder back
> custom camera (in a Brit Jrnl Photogr. article) to fit the 30mm Kiev
lens.
> A similar roll film holder back with shutter and $180 30mm 6x6 fisheye
is
> an interesting approach to ultrawide panoramics at $1 per degree ;- )
```

I have done something similar. I have mounted a 24mm Mamiya 645 fisheye with a Copal #3 on a 4x5 camera. After cutting off "lens hood" I get an image over 70mm in diameter with an angle of view of 190.

I tried an Multicoated 30mm Kiev but it did suffer from flare a bit when a bright light source was in the field of view

Cya  
Steve

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Date: Sun, 2 Jan 2000  
From: John Papandreou Johnkpap@cobweb.com.au  
To: rmonagha@post.cis.smu.edu  
Subject: 12mm Sigma Fisheye as a 18mm !!!!

Hi Robert,

I like strange lenses and enjoyed your page, I made a strange discovery today I put a T-Mount x2 converter on my 12mm sigma and it turned into a full frame ~16mm fisheye !! the x2 converter in question is a ELCAR 2X Converter T-mount Japan For 300mm - 500mm I paid \$5.00 Aust for it in a junk box at a photo shop, I am now looking for a 1.4X converter to see what that will do.

Regards

John Papandreou  
South Australia

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rec.photo.equipment.medium-format  
From: "David Foy" nomail@thisaddress.please  
[1] Re: Yashica Mat lenses?  
Date: Sat Feb 05 2000

To expand a little on this answer, the Yashica-brand auxiliary lenses are generally thought to be better than aftermarket lenses, but this has not been proven to my knowledge. With the aux. wide-angle lens you can get softness at the edge of the frame unless you shoot at about f8 or smaller. The aux telephoto is sharp at all apertures, however you must understand that both of them reduce sharpness somewhat, but not to any degree I find objectionable. Don't use them for images that you're going to enlarge to the size of a barn door. At up to 11x14 I've never seen any problems when shooting at modest apertures.

The close-up attachments have the same characteristics -- use them at modest apertures and don't try to make extremely big enlargements, and you'll probably find they are useful and the images are acceptable.

....

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From Rollei Mailing List:  
Date: Thu, 17 Feb 2000  
From: Bob Shell bob@bobshell.com  
Subject: Re: [Rollei] OT: 15mm super-wide

There are two new fisheye lenses coming onto the market from the former USSR. One is made in Russia and one comes from the Arsenal factory in Kiev. One is a circular fisheye with an 8mm focal length, the other a full frame fisheye with a 16mm focal length. Both are supplied in M-42 screw mount and Nikon AI mount. I don't recall which is which at the moment, but have samples of both on the way for evaluation. Price will be under \$ 600 new.

The 8mm is probably a copy of the old Nikkor. The 16 looks like a pretty good copy of the F-Distagon 16.

Bob

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From Hasselblad User Group List:  
Date: Wed, 19 Jan 2000  
From: Alastair Firkin firkin@netconnect.com.au  
To: hasselblad@kelvin.net  
Subject: 30 Distagon

There have been a few negative comments about the use of the 30 distagon, and its being a rather "cheap-shot" lens. Well the 30 is the reason I cannot part with my blad system. True, it does not get too much use, but I've taken some images with it that cannot be taken with any other lens ie "unique" images. Like any lens, using it all the time would "spoil" the shock effect of its character, but no more than someone using a 50 to shoot every thing or a single technique. The opposite is also true; using it all the time allows one to learn more about it and produce more "mature" work.

The 30 is a great lens. It is a "full-frame" fisheye and does not produce those circular images ( which do become somewhat obvious) and used sparingly and subtly, it can work wonders. I was "sucked" in by the works I kept seeing in Forum magazine, and I've not regretted it at all. It has special qualities as a portrait lens, for land/cityscapes and for interiors. I have a few images made with this lens at

<http://www.clubhasselblad.ballarat.net.au/>

in the gallery section, and I'm working on a full essay and series on the lens in the near future. Don't knock it till you try it ;-)

Alastair Firkin

<http://users.netconnect.com.au/~firkin/AGFhmpg.html>

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Date: Mon, 27 Dec 1999  
From: "IZUMI Kachie" wmahito@pop16.odn.ne.jp  
Newsgroups: rec.photo.equipment.35mm  
Subject: Re: Zenitar fisheye

Hi Trond!

Russian fisheye lens, ZENITAR 2.8/16mm

This lens has two mount choices: for M42 (Pentax - Praktica) mount, and, for Nikon Ai mount. I am not sure whether there is one for Pentax-K bayonet mount.

I have used one for M42 mount with Old Pentax, Praktica and Russian (Zenit) bodies. The lens gave me satisfactory image result. It has compact size and reasonable price. So, I think it is good candidate for your first fisheye lens. This lens has only auto-aperture system. There is no manual - auto aperture switch on this lens.

If you have body with Yashica/Contax mount such as Yashica FX series, Contax RTS, etc., you can use the M42 mount ZENITAR through Yashica/Contax - M42 mount dapter. The adapter push the aperture pin and the camera can use its exposure meter function as step-down metering.

Hoping this info help you,

I. K.

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Date: Mon, 27 Dec 1999  
From: ruscam645@my-deja.com  
Newsgroups: rec.photo.equipment.35mm  
Subject: Re: Zenitar fisheye

Hi Trond,

The Zenitars are made by KMZ in Krasnogorsk near Moscow, not by Kiev. I currently have on order both the 16mm Zenitar, and the 20mm Mir. These lenses are available in Praktika/Pentax screw mount and Pentax K mount. For double the money, you can get them in Nikon mount. All are Multi Coated- the older lenses may or may not be - I am speaking of brand new lenses here.

Based on considerable experience with other "Russian" lenses, you can expect to get very excellent optics which would rival the major manufacturers. I am looking forward to receiving mine to test.

Best wishes,

Kevin

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Date: Sat, 12 Jun 1999  
From: doswald@xmission.com (Dave Oswald)  
Newsgroups: rec.photo.equipment.35mm  
Subject: Re: Help, Fisheye on a Budget

"Wayne Daigle" waynedaigle@mindspring.com wrote:

>I have been noodling around with photography in an amature way for some  
>time and recently bought a new Nikon N 70 set-up after years using  
Minolta.  
> I have a 50mm lens and a 28mm lens. I really enjoy taking street  
shots  
>and want to get a fisheye effect -- distorted and bent -- without  
sinking  
>\$1500 in a fisheye lens. I was in Time Square and many of the dealers  
>tried to sell me these no name "macro" attachments that screwed onto  
the  
>end of the lens. They seemed to get some of the effect I wanted, but  
the  
>quality of the lens itself was piss poor. It seemed like it would be a  
>shame to put it on my nice Nikkor lenses  
>  
>Does anyone have any ideas? Do the major lens vendors make a product  
that  
>will get me the effect that I want without breaking the bank?  
>  
>Wayne Daigle  
>waynedaigle@mindspring.com

Pick up an inexpensive (used) Pentax body such as a ZX-M, P30T, or even an AF style body. Then buy one of Pentax's SMC-P F 17-28 f/3.5-4.5 Fisheye lenses. It is a fun lens, and provides a fisheye effect throughout the range of 17mm through 28mm. The field of view varies from 180 deg. to a little over 94 deg.

If you shop wisely you could probably get the entire outfit for under \$600; less than half the cost of the \$1500 you mention above, plus you will have opened up the world of the K-mount.

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Date: Sat, 12 Jun 1999  
From: "Chris Eve" someone@somewhere.com  
Newsgroups: rec.photo.equipment.35mm  
Subject: Re: Help, Fisheye on a Budget

"Zenitar" 16mm lenses are available new in the UK for about \$200 equivilant, I believe these are Russian, else there's an 8mm "Peleng" for about \$300 equivilant which is available in M42/PK/NA1 mounts. You should be able to find something similar locally, else the retailer advertising is globalcameras@UKbusiness.com . Please note, I have NOTHING to do with these people and have never dealt with them or heard any report good, bad or indifferent about them. Simply passing on info in their recent advert. Trust this helps.

.....

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Date: Sat, 12 Jun 1999  
From: "Ed" aquariusnj@NOSPAM.rcn.com  
Newsgroups: rec.photo.equipment.35mm  
Subject: Re: Help, Fisheye on a Budget

I have the fisheye that Dave references, the Pentax 17-28 f/3.5-4.5 . It's a nice piece of glass for playing around with creative shots of landscapes and cityscapes. Bridges, especially suspension bridges, look nice. It's also nice to get an image of most of a room which is not possible with standard lenses. The lens is underrated on the web because the lens evaluations are geared to standard lenses which aren't supposed to be distorted and fisheyes, by definition, provide distorted images. It's actually rather sharp wide open and is very well made, like most Pentax lenses. It costs about \$400 and you can buy a new manual ZX-M for \$160, so the investment is \$560 for the two. You may get hooked on Pentax and decide to buy more Pentax lenses and eventually, the ZX-5n body which all of us Pentax cult people rave about so much:)

Ed

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Date: Sat, 19 Jun 1999  
From: Lifetime@keyway.net (Steve Schlesinger)  
Newsgroups: rec.photo.equipment.medium-format  
Subject: Kiev lenses for Mamiya 645 (and Nikon)

It was some obscure message I recieved a year ago on this newsgroup about a year ago that described how to fit Kiev lenses on the Mamiya 645. I saved it for some reason and came back to it.

Here's my situation

I am a wedding photographer in Southern California. Cleints often ask if I use a fish eye lens because some other photographers in my price range offer it.

My feeling on fisheye lenses is that the thousand to fourteen hunded dollars you would spend on a used Mamiya probably would never be recovered.

Mamiya makes a nice one, the new 24mm ULD is perfect, you could use it for advertising thanks to the ULD glass and make beautiful images all day long.. If I charged twice as much and had twice as many clients maybe I could easily justify the price. But as I said before, only used for a few images in a wedding, and cleints want nice, clean looking images.

From what I read about Kiev, the body's were large clunky things that leaked light and reflected light internally causeing wierd looking light leaks on film. There are a few places on the net that give ideas how to fix them.

I read a review about Kiev lenses that basically stated that they were good beyond f/8. Someone told me that the Russians were better at optics than mechanics.

Kiev has a 30mm fish eye lens. They also sell a mount that fits this lens onto a Mamiya 645 body. After a couple of phone calls I got the mount and the lens for \$500 from Kiev USA, (not the \$525 they wanted for the lens alone). The Kiev 60 mount is similar to a certain Hasseblad mount, so with this mount I can also mount some Hasseblad lenses on my Mamiya, what a trip!

The lens showed up a few days ago, it must weigh at least five pounds. It came with a nice case and filters for the back side of the lens. Its beautiful, and built like a brick s--t house. It had no problem mounting to my m645 body, and I must say, though it is somewhat crude, its none-the-less a good solid feeling.

There is a mount for the Nikon Body as well.

The lens has a similar coverage to the 17mm lens for my Nikon (its a Tokina). So I am standing just short of calling it a true fish-eye, but for most people, its close enough.

The big disadvantage to the system is that it doesn't hold open the aperture ring on the lens, if you set it at f/8 you will see it get dark.

OK, I took a test roll of black and white yesterday and printed it today. Took the negs and looked carefully under the enlarger. Here is what I found.

Edge to edge sharpness Very good, I shot most of the pics at 1/500th at f/8. I focused at different ranges and the lens does check out.

Contrast- Looked fair, this will not be one of the lenses strong suits but with a higher contrast film, a lot of this can be eliminated.

Critical sharpness- Its not a Hasseblad, nor a Mamiya, but I must say that I am impressed with what it does. It produces salable prints for not a lot of dollars down. I think my clients will be very happy.

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Date: Sat, 07 Aug 1999

From: "S. Gareth Ingram" sgingram@venus.uwaterloo.ca

Newsgroups: rec.photo.equipment.medium-format

Subject: Re: REALLY cheap MF (semi) fisheye

Even cheaper - use a chrome door knob as a mirror.

GI

Bill Lange wrote:

> Camera - Holga 120

> Lens - built-in Holga PLUS Porter's fisheye adapter

>

> The fisheye adapter fits perfectly onto Holga lens. Results are not too



> bad - considering it's a Holga.  
>  
> There is some vignetting at 6x4.5 - I haven't tried it at 6x6 but it  
> might match the already present vignetting at that size.  
>  
> True, this is not an extreme fisheye - but it does give a fair amount  
of  
> curvy distortion.  
>  
> But hey - that PRICE!!  
>  
> Perhaps I can scan some of the contact prints and post on my web page  
if  
> I get a chance.  
> Bill

---

Date: Thu, 29 Apr 99  
From: w.j.markerink@a1.nl (Willem-Jan Markerink)  
Newsgroups: rec.photo.equipment.medium-format  
Subject: 24mm lenses for MF (was: Fisheye at weddings (was Re: Newbie finally has  
time for a trip, need advice.

John Coz johncoz@erols.com wrote:

>zeitgeist wrote:  
>>> (I pack a 24mm fisheye to  
>> > weddings so I might be weird.)  
>> >  
>> > You pack a WHAT? On medium format? Strange ... I'd love to see  
what kind of pictures you use it for.  
>  
>Good Gracious - Can this be? I have a Japanese 24mm lens in some kind  
>of huge screw mount. I have never been able to find a matching camera.  
>Could this be some kind of MF superwide? Was there ever a screw mount  
>MF system? Any input is much appreciated.

Unless it says 'fisheye' on the barrel, you can exclude it from being a MF lens....there are  
no 24mm rectilinear lenses for MF, only fisheyes (yes, that's plural, I doubt many folks  
will know what the second one is....:-)).

An overview of fisheye lenses, both 35mm and MF, both circular and full-frame, can be  
found on my homepage:

<http://www.a1.nl/phomepag/markerink/mainpage.htm>

(that second 24mm fisheye isn't listed on my homepage btw....too rare, too little known  
about it)

(posted & mailed)

[Btw, one COULD have a rectilinear 24mm lens for medium-format....the only thing  
needed is a Canon EOS panorama body, allowing 24x58mm frames when a TS-E

tilt/shift lens is mounted (24, 45 or 90mm)...it's all within the coverage of these lenses (11mm shift to either side means 36+11+11=58mm)...I am currently poking my Canon contacts to see if Canon Japan has ever thought about this at all....considering the success of the Hassy X-pan and the upcoming Voigtlaender Bessa L/15mm, it would be a blast for Canon to launch a cheap panorama body (non-AF (TS-E is manual focus), perhaps not even SLR but viewfinder (although an SLR construction would make it different than all other pan cameras)....

If anyone is as lyric about such a solution as I am, please send me a confirmative mail!

(just to illustrate the fun: the horizontal view of a 24mm lens with a 24x58mm frame (101 degree) means a similar horizontal view as a 14mm lens, or the diagonal view of a 17mm lens)

--

Bye,

Willem-Jan Markerink

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[Ed. note: not an endorsement, just for your info..]

Date: Thu, 13 Apr 2000

From: "George S. Pearl" alps007@mindspring.com

To: panorama-1@sci.monash.edu.au

Subject: Re: fisheye on roundshot?

Hey Allan,

The Nikon Mounted 16mm fisheye lens made in Russia can be bought at: <http://www.russia2all.com/cameras.htm> web site. They have some other Russian made equipment there for sale, but this fisheye lens drew my attention since it could be mounted to a Nikon camera. The 220VR RoundShot has a Nikon mount so I wonder what that lens would do on it?!!

George Pearl

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From Pentax Mailing List:

From: "Timothy J. Robson" tjobson@telusplanet.net

Subject: RE: fisheye?

Date: Wed, 3 May 2000

Brent was confronted with the prohibitive cost of fisheye lenses....

If expense is a concern, you might consider trying a fisheye adapter. It's a supplementary lens that screws on to the front of a rectilinear lens (presumably a standard lens or conventional wide angle) like a filter and provides the fisheye "effect" at much lower cost (\$30-\$50). Although this sort of rig will not offer the same performance as a true purpose built fisheye, I've seen results from them which were seemed quite serviceable. It would,

at the very least, allow you to experiment with the fisheye perspective and decide whether a true fisheye lens would be a worthwhile investment for your photography.

Regards,

TJR

tjrobson@telusplanet.net

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From Pentax Mailing List:

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> From: MIME :jtainter@mindspring.com[SMTP:MIME
> :jtainter@mindspring.com]
> Sent: Friday, June 09, 2000 1:03 AM
> To: pentax-discuss@discuss.pentax.com
> Subject: Zenitar 16mm./f2.8 Fisheye (long)
>
> Here's a copy of a review I just posted to rec.photo.equipment.35mm. I
> don't want to try Pentax's forbearance by reviewing other lenses
here,
> but several people have been asking about this lens.
>
> "There's been interest in this inexpensive lens in various places.
Mine
> arrived Monday and I went right out to shoot the last ten shots or so
of
> a roll of Agfa RSX 200. Given the interest I thought I'd post my
> impressions.
>
> "The lens is heavy and solid, and appears to be all metal (except, of
> course, for the focusing ring). I have the Pentax k-mount version. (It
> also comes in Pentax screw-mount and Nikon.) The rear end is not
> finished to the cosmetic niceness of Japanese lenses, but appears
sturdy
> and quite serviceable. It slips on and off my PZ-1p nicely.
>
> "The focusing ring is smooth and a little stiff. That's probably heavy
> grease. The aperture ring (f2.8 - 22) could be improved. It is rougher
> than Japanese lenses, and goes slightly beyond f22. There's no click
> beyond f22 and the aperture doesn't close further. The aperture
> diaphragm (six blades) closes smoothly, but the blades seem rather
> short. Between f3.5 and 5.6 the aperture is not a smooth hexagon, but
> rather is jagged. The points of the blades stick out a bit. This does
> not appear to affect image quality or exposure (at least on my
slides).
> I've never had a fisheye before, so perhaps the short aperture blades
> are normal.
>
> "I tested all full stops from 2.8 to 22. Viewing the projected slides,
> the images appeared sharp, with accurate colors and good contrast, at
> all aperture settings. If I were to shuffle the slides, I would not be
> able to tell which f-stop each was taken at.
>
>
> "There's a Russian-language manual, complete with a signed page that I
```

> assume is an inspection certificate. It comes with four rear filters:  
> clear, red, yellow, and green. I'm told that these filters are needed  
> to  
> focus at infinity, so they are integral to the lens. There's a clip-on  
> lens cap, fitted just to this lens, of course. I'm not sure what to do  
> when mine eventually breaks or gets lost.  
>  
> "Verdict: this lens seems very serviceable at a very nice price (\$80  
> in  
> Moscow, \$109 in the mail from Moscow, \$139 - \$219 from dealers here).  
> If  
> I needed a fisheye for serious work I would spend the extra money for  
> a  
> Japanese lens. But I wanted this for inexpensive fun. So far I can  
> recommend it for that. I'm impressed enough to write this review."  
>  
> Joe Tainter  
>  
> P.S. Relax, Pentax. In the past two years I've bought two Pentax  
> cameras  
> and five Pentax lenses.

---

From Hasselblad Mailing List:

Date: Sat, 17 Jun 2000

From: "Martin H. Krieger" krieger@usc.edu

Subject: 30mm Distagon-Fisheye--How Does It Represent Space?

The 30mm Distagon Fisheye has a 112 degree horizontal and vertical angle, and 180 degrees diagonally. If you look at the Zeiss page, they give you the distortion, which is about 10% at 10mm from the center, 20% at 20mm, maybe 35 % at 30mm, and 100% as expected at 39mm (the corner). In other words, the expected height of an image at 10mm is about 90% of what would be the case if there were no fisheye effect. And so forth. (It has to be almost 0% (100%-100%) at 39mm, since the no fisheye height is infinite (ninety degrees, tangent is infinite.) So you can use the distortion plot to get an idea of how the Distagon 30 maps the world onto the film. I would appreciate a formula. (I can always just fit a curve to the plot they give, but I would prefer a derivation etc.) What inspired this was seeing what people are doing with fisheyes and computer reconstruction of the full circle of image around a point (and so you can look in any direction).

This is not unlike a map projection I guess.

Thanks for a lead or for the information.

Martin (krieger@usc.edu)

PS I know there are other fisheye like lenses (I think Nikon made one) that are "ortho" something, more for the scientists. So I assume that "fisheye" is a particular lens's version of half a sphere.

---

[Ed. note: experiencing cutoff with fisheye on 50mm lens?...]

Date: Mon, 14 Aug 2000

From: Edwin Hurwitz edwin@indra.com

To: Robert Monaghan rmonagha@post.cis.smu.edu

Subject: Re: Fisheye help

I thought I would let you know that the 50mm 1.8 has worked perfectly. My theory (which is mine, which is to say that it belongs to me.....oooops, I am not Anne Elk, but I digress) is that it is important for some reason that the end of the adapter be not too far from the film plane. I can set the focal length to the minimum now with the 50mm and still get a perfect circle. My 50mm 1.4 is a much longer lens, and so cuts off the the circle. The 1.8 seems to be a particularly short lens, as I remember the 50mm that I used with the Minolta was. I hope that this information can help someone else if they run into similar difficulty.

I thank you for your time and help!

Edwin

---

From Pentax Mailing List:

From: Roman Bazalevsky rvb@online.ru

Date: Tue, 15 Aug 2000

Subject: RE: "super"-wide lens for Pentax-K\* mount ?

you wrote:

>The Russian made Zenitar is available in Pentax K mount. It's a 16mm f/2.8 >ultra-wide.

This is really beautiful super-wide (fisheye) lens. But KMZ (Krasnogorsk Mechanical Plant) also produce 20mm rectilinear lens - Mir-20M 20/3.5, but only in screw mount.

>The results are very pleasing to me and they are about >\$170(USD)brand new.

Here in Russia it is only \$80-\$90 in screw or K-mount, and \$130-\$140 in Nikon mount. But i am not shure about world wide sales. KMZ sales department can be contacted via E-mail:

Foreign Trade Firm "Zenit"
Manchuk Yury
tel/fax: +7 (095) 562-23-27
E-mail: kmz207@zenit-foto.ru

More information can be obtained here:

<http://www.zenit-foto.ru/eng/ind.htm>

>Strictly manual focus but you don't need to focus a lot >with a lens that wide, anyway. :-)

S.Y. Roman

---

From Panoramic Mailing List;  
Date: Thu, 19 Oct 2000  
From: ralph fuerbringer rof@mac.com  
Subject: Re: 180 Fisheye lenses for 4x5

what size circle does the 30mm ruski make? i am interested if it is close to the circle made by the pentax 67's 35mm fisheye pentax. this has no shade and its entire image circle fits exactly the 4" dimension of 45 film . i have mounted a no of these in ilex 5 shutters, and the effect can be stunning.

ralph

> From: Steven Morton Steven.Morton@sci.monash.edu.au  
> Organization: Monash University  
> Reply-To: panorama-l@sci.monash.edu.au  
> Date: Tue, 03 Oct 2000 18:16:32 +1100  
> To: quicktime-vr@public.lists.apple.com, Panorama-L@sci.monash.edu.au  
> Subject: 180 Fisheye lenses for 4x5  
>  
> Hi All,  
>  
> I am selling a couple of medium format 180 fisheye lenses which are  
> possibly suitable for use on 4x5. One is a 37mm  
> Mamiya fisheye.  
>  
> See:  
> <http://www.physics.monash.edu.au/~smort/Bigfish.html>  
>  
> All the best  
> Steve

---

From Panoramic Mailing List:  
Date: Fri, 20 Oct 2000  
From: Glenn Barry glenn@acay.com.au  
Subject: Re: 180 Fisheye lenses for 4x5

I have the 30mm Arsat mounted in Copal #3 shutter, lens-hood removed and it makes an 83 mm image circle for memory, I don't have a neg to hand to measure.

Suffice to say that it fits easily on 4x5.

Glenn

...

---

From Panoramic Mailing List:  
Date: Fri, 24 Nov 2000  
From: ralph fuerbringer rof@mac.com  
To: panorama-l@sci.monash.edu.au  
Subject: Re: fisheye lens for medium format

steve trumpets the 24 mamiya and michael the 30mm hasselblad lens, claiming respective superiority from comparisons.

no one has mentioned the 35mm pentax lens for the 67. while i have compared both on rollfilm to the pentax which as good as either of these these in their natural habitats. Its advantage on 45 is that the circle is a perfect match for 4" dimension, demonstrably better for blowups because of larger image size and larger circle. also has no shade.

I have inserted at least ten of these in ilex 5 shutters mostly for fine art and landscape photographers, this shutter has much larger opening than copal 3 & also is a self-cocking rimset. about half the 45 fisheyes that i made up were w/graflex xl spacers, all using lens standards matching the photographers system camera .

an elcheapo setup is the revolving cambo universal 45 back itself, no standard necessary. I have ilex 5's available and can supply dimension of front and back openings, depth etc.

```
> From: Steven Morton Steven.Morton@sci.monash.edu.au
> Organization: Monash University
> Date: Sat, 25 Nov 2000
> To: panorama-l@sci.monash.edu.au
> Subject: Re: fisheye lens for medium format
>
> Michael wrote:
>
>> As for the 30mm Zeiss (Hasselblad); I compared it to
>> all the other lenses you people have been talking about, and if you
are
>> serious be aware the 30mm is a vastly better lens.
>
> Really? Have you made a side by side comparison with the Mamiya 24mm
> fisheye?
>
> Cya
> Steve
```

---

From Panoramic Mailing List:  
Date: Sat, 25 Nov 2000  
From: Steven Morton Steven.Morton@sci.monash.edu.au  
Subject: Re: fisheye lens for medium format

ralph wrote:

```
> steve trumpets the 24 mamiya and michael the 30mm hasselblad lens,
claiming
> respective superiority from comparisons
```

I have not tested the 30mm Zeiss, I was curious about a direct comparison with the 24mm Mamiya. I am not claiming the 24mm is better than the Zeiss. The thing that makes the 24mm stand out for me is that its angle of view comes very close to 190 degrees (I measured this carefully). This is of great value for VR imaging if you want to shoot just two images to make up a sphere. The other "180" fisheyes I have tried including the 37mm Mamiya, 30mm Arsat, 16mm Nikkor, 7.5mm Nikkor, 8mm (f2.8) Nikkor, Sigma 8mm, all have little image to offer over 180. It would be interesting to accurately measure the angle of view of the Pentax and Zeiss lenses on 4x5.

Cya  
Steve

---

From Panoramic Mailing List:  
Date: Thu, 23 Nov 2000  
From: Ivo Vleugels info@360-360.com  
To: panorama-1@sci.monash.edu.au  
Subject: fisheye lens for medium format camera

Hi,

We are looking for a fisheye lens for a mediumformat camera (6x6 / 6x7) or a camera wich uses 4'x5' sheet film with an angle of view MORE then 180°.

We heard of a camera: Fowa (japanese camera) with a circular fisheye more then 180°  
Does someone know where we can buy the camera or is there information about it somewhere on the internet.

Ivo

---

From Panoramic Mailing List:  
Date: Fri, 24 Nov 2000  
From: "Mitchell P. Warner" indepth@mpwarner.com  
Subject: Re: fisheye lens for medium format camera

Dredged this up from some time ago. Maybe it will help.

Date: Tue, 03 Oct 2000  
From: Steven Morton Steven.Morton@sci.monash.edu.au  
Subject: 180 Fisheye lenses for 4x5

Hi All,

I am selling a couple of medium format 180 fisheye lenses which are possibly suitable for use on 4x5. One is a 37mm Mamiya fisheye.

See:

<http://www.physics.monash.edu.au/~smort/Bigfish.html>



All the best

Steve

---

From Panoramic Mailing List:

Date: Fri, 24 Nov 2000

From: Steven Morton Steven.Morton@sci.monash.edu.au

Subject: Re: fisheye lens for medium format camera

I have tried a few different medium format fisheyes on 4x5. The 37mm Mamiya and the 30mm Russian Arsat are OK, but only offer a useable image of just over 180. A far better lens for this is the 24mm Mamiya fisheye originally for the 645. This 24mm lens produces an image circle about 74mm in diameter with an angle of view of almost 190 degrees. The one drawback of using the 24mm is that it does not have an internal shutter. It would be possible to mount the lens on an old 4x5 Speed Graphic body to make use of the inbuilt focal plane shutter. I mounted my 24mm on a Copal #3 shutter which was then mounted on a 4x5 camera body.

Cya

Steve

---

From Panoramic Mailing List:

Date: Fri, 24 Nov 2000

From: CiramaVentures@aol.com

Subject: Re: fisheye lens for medium format camera

I have a 5x5 aerial Kodak camera that I set up to except a 30mm Ziess fisheye lens. It is motor driven (3 shots per sec.), has two 50 foot backs which have vacuum plates, and it is set up with a gyro so it can be shot straight down out of a helicopter. I no longer have a lens for it and I would be willing to sell it. Anyone interested.

Michael

---

From Panoramic Mailing List:

Date: Fri, 24 Nov 2000

From: CiramaVentures@aol.com

Subject: Re: fisheye lens for medium format camera / answer to questions

Dear Gene,

I hadn't thought about selling my fisheye camera until I read all the e-mails. I designed and built this camera from a WWII aerial strike camera (K-25). As I remember, it has a large focal plain shutter, with several speeds, plus B. As for the gyro; I have always used low speed (10,000 rpm) 24 vt gyro's with heavy balls because they come up in 30sec. as compared to a Kenyon Gyro which takes 10 min. The camera was designed to shoot down on cities and will produce an image which will enlarge to six foot dia., and show

people at 800 foot alt. (if serious I could show sample images) The vacuum is required because the camera is pointed down and the film will fall down otherwise. (Not to say this camera couldn't be used for other things, like church's.) The camera weights 25 lb. and is suspended by a 8 foot cord.

I also have some amount of frozen film, to be determined if anyone has interest. As for the price I would like to see what interest I can generate, as I see no need to get rid of it unless I can make enough to cover development. Please note there isn't a lens, because (how can I say this) .. .

I dropped it. Oops. As for the 30mm Zeiss (Hasselblad); I compared it to all the other lenses you people have been talking about, and if you are serious be aware the 30mm is a vastly better lens. It will perform better at F3.5 then any of the others at F8. If someone wanted to shoot city fisheyes this would be the camera, I myself have gone in other directions, and if no one wants it I will make it over with a more conventional lens (which you could also do.) As for the 3 frame per sec. shooting seed; when working from a helicopter the motor driven aspect of this camera comes into play because of all the other things that are happening. The camera can also be operated (single shot) by a hand crank.

Michael

---

From Kiev88 Mailing List;  
Date: Tue, 5 Dec 2000  
From: "Kelvin" kelvinlee@pacific.net.sg  
Subject: Re: re: fisheye peepholes

Yes, they're pretty big. The viewing area is about 3" across in diameter, but the end protruding out the door is about 1". Which makes me think that perhaps this may be an interesting way to build an Action finder using a standard Kiev prism by mounting it to the viewing peephole on the prism.

I also acquired an Elgeet lens which turned out a lot smaller than I expected! It's a cine lens. But thinking further, maybe I can use it as a magnifier through the same prism. I'll go home and give it a shot.

...

---

From Panoramic Mailing List:  
Date: Sun, 10 Dec 2000  
From: Willem-Jan Markerink w.j.markerink@a1.nl  
Subject: Re: fisheye lens for medium format camera

Ivo Vleugels wrote:

> Hi ,  
>

> We are looking for a fisheye lens for a mediumformat camera (6x6 /  
6x7) or  
> a camera wich uses 4'x5' sheet film with an angle of view MORE then  
180°.  
>  
> We heard of a camera: Fowa (japanese camera) with a circular fisheye  
more  
> then 180°  
> Does someone know where we can buy the camera or is there information  
about  
> it somewhere on the internet.

With 'Fowa' you most likely mean the Kowa 19mm/f4.5 circular fisheye for the Kowa Six or Super 66 camera....resulting in a 52mm image circle on 120/220 format film.

You can see two pictures of this lens, together with the 8mm/f4.0 Sigma as size reference on:

<http://www.a1.nl/phomepag/markerink/eoskowa.htm>

I believe I once did a field-of-view test with it, and it showed a bit more than 180 degrees (or I am confusing it with the results of my Mamiya 37mm....can you remember Steve?....:)).

Also interesting, for the fisheye-freaks among us, is this page:

<http://www.a1.nl/phomepag/markerink/iscofish.htm>

(yes, there are fisheyes larger and heavier than both the Nikon 6mm/f2.8 and Kowa 19mm/f4.5 together....WAY more heavy!....:))

--

Bye,

Willem-Jan Markerink

---

Date: Tue, 12 Dec 2000  
From: usenet@nareid.demon.co.uk (Helge Nareid)  
Newsgroups: uk.rec.photo.misc  
Subject: Re: Fisheye/Wideangle ?

"Snorre A. Selmer" snorre@statvoks.no wrote

>A wide-angle lens is geometrically correct, a fisheye is not...

That statement is actually mistaken, even though I do understand what you are saying. Consider a spherical object towards the edge of the image. A normal wide-angle lens will image that object as an ellipse, which is not geometrically correct.

In some ways, a fish-eye lens is actually more correct in its imaging than a rectilinear lens (i.e. a "normal" wide-angle lens).

>If you  
>photograph a square with a wide-angle, it will be square...

That is only correct if the square is normal to the optical axis of the lens, if not you are more likely to get a parallelogram.

>With a  
>fisheye, the sides of the square will bend towards the edges of the  
>frame...

The problem for any wide-angle lens is that it is mapping a 3-dimensional space ("reality") into a 2-dimensional image. That is less of a problem with longer focal lengths. For short focal lengths, the human visual system is less able to cope with the perspective distortion caused by the wide field of view.

A conventional wide-angle lens (also called a rectilinear lens) will map the 3-dimensional cartesian coordinates in the object space to a 2-dimensional cartesian space in the image space (i.e. the film). Once you get off-axis, you have a problem in that the line connecting the object to the lens is no longer parallel to the optical axis of the lens. For the mathematically minded, this starts to happen when the paraxial condition " $x = \sin(x) = \tan(x)$ " (with  $x$  in radians) breaks down (which is about 5 degrees from the optical axis). The further you get from the optical axis, the worse things get, and when you go outside approximately 30 degrees, things get really noticeable. A 3-dimensional object at the edge of an extreme wide-angle (rectilinear) lens will certainly be distorted. A rectilinear wide-angle lens will only provide perfect geometrical reproduction for flat objects on a surface normal to the optical axis.

A fish-eye lens, on the other hand, maps from spherical coordinates in the object space to polar coordinates in the object space. Unlike a rectilinear lens, this mapping does not break down with objects at different object distances far from the optical axis. That does not mean that it looks natural, but no image covering 180 degrees of field can possibly look natural, since the viewing angle is way beyond what the human visual system can deal with as a single image. Mathematically, however, the fisheye image is not distorted.

Unfortunately, I know of no good treatment of this subject in any optics or photography textbooks. There is a reasonably good explanation of wide-angle distortion in Ansel Adam's "The Camera", which should be fairly widely available in libraries or bookshops (it is a book which I would strongly recommend for any serious photographer anyway).

>A fisheye also has a VERY wide FoV (Canons' 15mm fisheye has a 180 deg  
>FoV (that's what they claim)), while a wide-angle isn't quite as  
wide...

The widest angle of view for photographic fish-eye lenses that I have seen is 200 degrees for Nikon's 6mm lenses. That is possible for a fish-eye lens, but it is more common to limit the field of view to 180 degrees, which means a 8mm focal length for a circular image on a 35mm frame, or 15-16mm for a full-frame view.

The angle of view for a rectilinear lens can be found from the equation:

$$\theta = 2 * \arctan( d / (2 * f) )$$

where  $\theta$  is the angle of view,  $d$  is the width of the image (approx 43.3mm for the diagonal of a 35mm image), and  $f$  is the focal length of the lens. It can easily(?) be seen that it is impossible to get an angle of view greater than 180 degrees from a rectilinear lens. A 15mm lens on a 35mm camera will have an angle of view of approximately 110 degrees diagonally from corner to corner.

For a "perfect" fish-eye lens, the angle of view in radians can be found from the equation:

$$\theta = 2 * r / f$$

where  $r$  is the distance from the centre of the image.

This gives a resulting focal length for a 180 degrees lens filling the 35mm frame of 13.8mm. Most actual full-frame fish-eye lenses have longer focal lengths than this - typically in the range 15-16mm, which means that their images do not quite follow the "ideal" fish-eye geometry.

There is also a class of fish-eye lenses which will provide a circular image on the film. For 180 degrees field of view on 35mm film, the focal length will normally be in the range 7.5 to 8mm, and there are a few lenses which provide even larger field angles, such as Nikon's 6mm lenses which provide a 200 degrees field of view.

--- Helge Nareid

---

[Ed. note: thanks to Jeff for this neat tip on the Kenko Fisheye and HAL9000 connection ;-)]

Date: Sun, 24 Dec 2000

From: jsg

To: rmonagha@mail.smu.edu

Subject: Kenko fisheye

Thanks for your interesting page.

I have a Kenko fisheye lens adapter and was interested to find that this lens was used to film the "Hal" computer in the Kubrick movie "2001, A Space Odyssey".

It might make an interesting reference to your page.

Here's the URL:

<http://www.underview.com/2001/how.html#lens>

Jeff

---

From Panoramic Mailing List:  
Date: Tue, 09 Jan 2001  
From: "Thomas B. Kunz" tbk@tbk.de  
To: Panoramalist <PANORAMA-L@SCI.MONASH.EDU.AU  
Subject: Panorama with bicycle-lamp

Hello Folks,

since several weeks a interested man asked me via eMail about the mirror-technology like "my Birdeye" or Cyclovision-Mirror. But the Cost for buying this equipment are to high for him, that he decided to build one with an old bicycle-lamp for 8 Marks.

It would be pleasure for me, if you would look at his german Website, to see how he build it. Software is from Helmut Dersch, of course. See the Idea and the genius of improvisation. THE RESULT !

<http://www.crosus.de/panorama/panorama.html>

If someone want to write to Tilo, because he isn't in this List, please: tkunze@fh-lausitz.de

Thank you!

Thomas

TBK - Digital Panorama Technologie

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From Leica Mailing List;  
Date: Thu, 11 Jan 2001  
From: Jem Kime jem.kime@cwcom.net  
Subject: [Leica] Re: Canon Fish-Eye for M- Camera

Roland,

With Canon FD lenses you are almost 'home and dry'. There's an adapter that Canon made called the 'Lens Mount Converter B', this puts Canon (breechlock) lenses onto (Canon)/Leica screw mount bodies at the right distance for correct scale focusing. Add a screw to bayonet adapter and away you go.

As for 'finders, I made one from a security door viewer. they come in dfferent angles of coverage. Check to see if you need 150 or 180 degrees, (etc.) and then mount onto an old / cheap / broken accessory finder. If it's full frame you may wish to paint a black rectangle (ratio 2:3) on the front face, if its a circular image, then just leave it alone.

Ain't life fun!

Jem

---

[Ed. note: thanks to Mr. Meyers for sharing these tips on using a 35mm T mount fisheye on a 6x9cm rig ;-)]

Date: Sat, 27 Jan 2001

From: Edward Meyers aghalide@panix.com

To: Robert Monaghan rmonagha@post.cis.smu.edu

Subject: Re: [Rollei] coke classic glass

I checked out the web site and it's very good. Spiratone had a 12mm f/8 in T mount many moons ago. A few prototypes were made at f/5.6, which is the one I have. I put it in a 6x9 speed graphic and have groundglass focusing and interchangeable rollfilm backs. Removed the bellows and front of the camera, of course. Ed

---

From: edgy01@aol.com (EDGY01)

Newsgroups: rec.photo.equipment.35mm

Date: 30 Jan 2001

Subject: Re: Fisheye Nikkor 6mm - any ideas where to find?

IPIX and a couple other specialty consumers rounded up a lot of the 8mm f/2.8 lenses, and possibly the 6mm f/2.8. One guy converts them to sell at a mark up to the motion picture industry.

There was a brief time around early 1991 when you could have gotten a steal on one or two of the 6mm f/2.8s,--the UK Government (Ministry of Defense) ordered a couple of those along with several 2000mm f/11 lenses to support the Gulf War effort. Unfortunately for them, the war ended quickly and the special orders were cancelled with Nikon,--Nikon dumped them on the open market at heavily discounted prices.

There was a 6mm f/5.6 listed on eBay recently but the reserve was insane,--and the guy who DID bid for it thought he was bidding on the 6mm f/2.8 (BIG difference). This lens sold in Oct 1972 for \$995. The seller had a reserve north of \$5000.

No 6mm f/2.8 has been seen on eBay to my knowledge. (And I'm a collector of Fisheye Nikkors).

Dan Lindsay

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From Rollei Mailing List;

Date: Thu, 22 Feb 2001

From: Bob Shell bob@bobshell.com

Subject: Re: [Rollei] Kingslake on filters

Remember the good ol' days when fisheye lenses and some ultra wides had built-in filters on a wheel? The lens was designed with the filter as part of the optical path so it made no difference. The current Zeiss F-Distagon for Hasselblad and Rollei comes apart in the middle so you can insert a filter. My Kiev fisheyes and my Rubinar mirror lenses take filters on the back, and supply a clear element for when you want no filter.

Bob

---



Spiratone Spiralite Custom Proxivar





Spiratone 12mm Fisheye (note the greek Sigma in S/N!)  
Photos Courtesy of Jeff - [jsg@spacelab.net](mailto:jsg@spacelab.net)

Date: Sat, 13 Jan 2001  
From: jsg jsg@spacelab.net  
To: Robert Monaghan <RMONAGHA@POST.CIS.SMU.EDU  
Subject: Re: books Re: Neat! timely.. ;-) Re: Kenko fisheye

How about a Spiratone Spiralite "Custom Proxivar"? This is a variable magnification "zoom" close-up lens, with a 52mm thread to be put on the front of a normal lens. I found this one in mint condition at a camera show for the princely sum of \$1. It's even got the manual.

The second shot is my Spiratone 12mm fisheye. Note the Sigma logo in front of the serial number. I have no doubt at all that Sigma made this for Fred Spira.

Jeff

---

Date: Sat, 13 Jan 2001  
From: jsg jsg@spacelab.net  
To: Robert Monaghan rmonagha@post.cis.smu.edu  
Subject: Re: books Re: Neat! timely.. ;-) Re: Kenko fisheye

I am expecting a bunch of Kenko/Spiratone fisheyes in the mail soon. Tomorrow I'll pick up one here in NYC.

I'll keep you posted on variations.

As we speak I have been selling off a big bunch of .42x semi-fisheye adapters on ebay. I linked to your site as a reference. This one has he "infra-red" coating and claims to be "AF"!

<http://cgi.ebay.com/aw-cgi/eBayISAPI.dll?ViewItem&item=1205662295>

There are huge differences in coverage and quality. The best of the bunch, in my opinion, is the Zykkor and this is the one I am keeping.

....

---



Kenko Adapter



Kenko Adapter  
Photos Courtesy of Jeff - jsg@spacelab.net

Date: Sat, 13 Jan 2001  
From: jsg@spacelab.net  
To: Robert Monaghan rmonagha@post.cis.smu.edu  
Subject: Re: books Re: Neat! timely.. ;-) Re: Kenko fisheye

Woew, just picked up the Kenko and have it side by side with the Spiratone fisheye. The Kenko came with a Xeroxed copy of the \*accura\* manual. I would say the two are remarkably similar but also very different. Maybe even different manufacturers. Coating, mechanical parts, sizes different. One marked .15x the other .16x and I think this "Kenko fisheye" collection craze I am starting will reveal a lot of ancient forgotten secrets.....

(I apologize for quick, sloppy digital snaps)

[Ed. note: glad to have them!...]

....

Postscript:

Correct, the Kenko has a Samigon manual, not an accura. There is an accura felt lens sleeve with it though....strange

---

[Ed. note: thanks to Sam Sherman for sharing these points on fisheye use ;-)!]  
From Kiev 88 Mailing List;  
Date: Sat, 23 Jun 2001  
From: flexaret@sprynet.com  
Subject: 30MM on Kiev 88CM

Several have said that the 30MM f3.5 fisheye is the best Kiev lens but the least used.

I have had one for 10 years and hardly used it. I guess in a way the curving distortion is unpredictable and one has to learn how to be creative with it.

I had formerly used it on a Kiev 60 at eye level and that is weird to use.

I have found it more comfortable using it with the waist level finder on the Kiev 88CM.

Today I went to a carnival in my town, loaded with colorful booths, a ferris wheel, various rides and a house of horror.

I shot three rolls of 120 Fujichrome there and am confident I got many excellent shots.

Using odd angles and the fisheye effect creatively to fill the square frame, I felt I was doing some of my best photography.

Having used this lens/camera/film combination recently with excellent results, I have high hopes for today's photography.

- Sam Sherman

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From Kiev88 Mailing List;  
Date: Sat, 23 Jun 2001  
From: "olivier" firefly@uio.satnet.net  
Subject: use of 30mm

hi , the 30mm is fantastic for more than the classical use ... i use professionally it for Macro photography ..i shoot roses for Plantation roses in ecuador ... the client like the full shot of his flowers and all the plantation in the background ... Cropping a little bit the full framne we have a good perspective ,, for landscape, if you take the camera leveled you dont have any round distortion (be careful with the trees ...) it is a great lens ... Careful with dust in the front lens or rain mark ... for other cases ..if you have right lines better the 45mm (see attachment) ... taked last week for fashion catalog .

olivier .

---

[Ed. note: see reference to Scientific American fisheye lens making column...]  
From Rangefinder Mailing List:  
Date: Sat, 30 Jun 2001  
From: LRZeitlin@aol.com  
Subject: Re: [RF List] Early wide angles

dante@umich.edu writes:

```
<< On Fri, 29 Jun 2001, Lee Lockwood wrote:  
> In 1955-6 (when I started photographing) a 28mm lens was extremely  
> exotic. There may have been an Angenieux 28. But Leitz, I think,  
> didn't go past 35mm.  
>  
> As to even wider -- they didn't yet have optical correction that could  
> handle it, or a wide enough aperture. I'm going on memory here, but  
> that's my recollection and I'm pretty sure about it.  
> >>
```

Canon sold wide angles for LTM RF cameras of 19, 25, and 28mm in the 50s and 60s. Zeiss made a pre-WW2 28mm Tessar for the Contax and the Hologon wide angle for a variety of cameras. I recall that Spiratone featured a 18mm reverse retrofocus SLR lens in the early 60s. Even Scientific American magazine, in its Amateur Scientist section, printed an article about making your own 35mm wide angle lens with a 180 degree angle of view. The article, published in the early 50s cautioned photographers to hold the camera at arm's length or your feet would be in the picture. Fish eye lenses with more than a 180 degree angle of view were developed in the early 1900s for meterological and cloud photography. The technology for making extreme wide angles has been around for a long time. It's just that there was so little demand for images with such distorted perspective until relatively recently.

LarryZ

---

From Hasselblad Mailing List;  
Date: Thu, 12 Jul 2001  
From: "Gumm, Jim" Jim.Gumm@okdhs.org  
Subject: Being retailiatory

I, for one, want to discuss the 30mm Russian Arsat lens. I have obtained one and my impressions of it as a decent replacement for the F-Distagon are positive. Maybe a little less resolution in the corners, but the central area is similar. The out of focus qualities are nice. At close focus the background has a nice effect, similar to the Zeiss. I would recommend one for any seasoned 'blad user.

Jim Gumm

---

[Ed. note: points on coverage of Kiev 30mm worth noting...]  
Date: Wed, 16 Aug 2000  
From: Chung Wong cywong@romulus.rutgers.edu  
To: rmonagha@post.cis.smu.edu  
Subject: P6 to T-Mount adapter finally!

Hi Bob,

How are you? I had a conversation with you about getting a Pentacon Six to T-Mount adapter earlier in the year. I just want to let you know that I have finally found somebody make and I have just received it last week. It is very well made.

I have gotten a Kiev 88 fisheye for Pentax 67. The lens cannot fully cover the 6x7 frame but it is pretty close. It is much cheaper than the one from Pentax. Unfortunately, my story is not as exciting as Sam Sherman's. I just pay up then wait for the lens in mail.

On separate note, I went to Hong Kong visit my folks for two weeks in July. I ran into a mad scientist/camera technician. My jaw dropped after I have been this guy's work. He does a lot of crazy conversions. He has converted a Voigtlander 15mm into M mount with RF coupling onto his Minolta CLE. He has been mounting a lot of Schneider Super Angulon 47mm onto old Voigtlander 6x9 camera. Some of his client claim the output is better than the Hasselblad SWC. He told me he once converted a Canon 7 into Contax RF mount with RF coupling. I am toying with the idea of getting a Canon FD body for him to convert into Contarex mount.

Let me know if you want any bitmap or info for the T-mount adapter and the Kiev fisheye for Pentax 67 for your web page.

Cheers,  
Chung

---

Date: Wed, 16 Aug 2000  
From: Chung Wong cywong@romulus.rutgers.edu

To: rmonagha@post.cis.smu.edu  
Subject: Re: P6 to T-Mount adapter finally!

Hi Bob,

I have two pictures about the Russian Fisheye online. Here are the links. I am putting one up for sale on ebay soon, maybe I will make a bit of money to help pay for the one I am keeping. I will send you more bitmaps when I have pictures ready for the T-Mount adapter.

<http://home.att.net/~marsian/p67fisheye.jpg> (sample photo with the fisheye)

<http://home.att.net/~marsian/ebay/aug2000/p67fisheye1.jpg> (the fisheye on my Pentax 67II)

You are right. There are endless combinations of lenses and cameras out there. Some of the modifications can be expensive. The guy is asking for \$150 labor and parts to modify a Canon body into Contarex mount. You would have to provide the body also. The choice of body can dictate the final cost.

On a separate note about your adapter page, Pentax made a P67 to M42 adapter similar to the one you have (P67 to PK) on the page. Let me know if you need the bitmap I have the adapter.

Cheers,  
Chung

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From: Minolta Mailing List  
Date: Wed, 5 Sep 2001  
From: Ulrich Olaf <Olaf.Ulrich@nbgm.siemens.de>  
Subject: Re: Fish-eye

Robin M. asked:  
> What defines a lens as a fish-eye?

It is neither the angle of view nor the focal length, but the geometrical way of projection. Typically, fish-eyes have a wider field of view than super-wide-angles but that's not their characteristic difference.

A non-fish-eye's widest theoretical angle of view (due to the cos-4 law) is about 130°. The widest real super-wide-angle lens for 35-mm SLRs that I am aware of is the Nikon 13 mm f/5.6, with a diagonal angle of view of 118°, if memory serves. It costs way over \$10,000 US and is made only upon special order.

Fish-eyes usually have angles of view of 180° and focal lengths between 6 mm and 16 mm (for 35-mm film format) but there are also those with 170° or 220°. With a super-wide-angle's way



of projection, for 180° the focal length must be zero; for more than 180° even negative which of course is impossible.

The fish-eye type of projection creates an image where straight lines in the subject that do not cross the image's center get mapped to curved lines in the image.

Regards,  
Olaf

--

Olaf Ulrich, Erlangen (Germany)  
<olaf.ulrich@onlinehome.de>  
<olaf.ulrich@nbgm.siemens.de>

---

From: David Littlewood david@nospam.demon.co.uk>  
Newsgroups: rec.photo.equipment.35mm  
Subject: Re: Focal length of fisheye lenses  
Date: Thu, 4 Oct 2001

David david@strela.fe.uni-lj.si> writes  
>Hi all,  
>When we are talking about the normal (non fisheye) lenses, I know that the  
>angle of the view is determined by the focal length of the lens.  
Everyone  
>can obtain diagonal angle of view on a 24x36mm film using equation  
> $2 \cdot \text{atan}(21.63/f)$ , where f is focal length in mm. However, it is obvious  
that  
>this is different with fisheye lenses. To make things little simpler,  
let's  
>we discuss about full frame fisheyes lenses only, with declared  
diagonal  
>angle of view 180 degrees. If we would like to have normal (non  
fisheye)  
>lens of this view angle, it should have 0 mm focal length, so it is  
obvious  
>that the view angle of the fisheye lens have something to do with its  
>optical distortion. My question is, what does tell you the focal length  
of  
>these fisheye lenses, since all of them have 180 degrees view angle,  
however  
>they have different focal lengths (Nikon 16 mm, Sigma 15mm, some others  
>trademarks 12mm, etc)? With other words, can someone show me pictures  
of the  
>same subject taken from the same place with several full frame 180  
degrees  
>fisheye lenses of different focal lengths? Thanks in advance.  
>David G.  
>  
The key difference in the design of a fisheye lens is that the need for  
straight lines is abandoned, and instead an equal-area drawing is used.  
The result is that instead of:

angle of view =  $2 \cdot \arctan(21.63/f)$

Where  $f$  = focal length and 21.63 is the length of the image diagonal from the optical axis to the edge,

one has the equation:

angle of view =  $2 \cdot (21.63/f)$ ,

which simplifies to

angle of view =  $43.27/f$

IOW, the tangent has been replaced by the angle itself (in radians, of course).

This equation assumes that the covering power of the lens exceeds the 24x36 film format. To plug in an example, for a 15 mm lens, angle of view would be calculated as  $43.27/15 = 2.88$  radians = approx 164 degrees. The manufacturers' specs for such lenses usually quote 180 deg, but this may be a bit of licence on their part.

A 7-8 mm lens would clearly, on this formula, have an angle of view of about 330 degrees. In practice the image circle is more limited than this, giving a circular image fitting within the 35 mm film frame, but the above equation should hold good if this size (24 mm) is taken into account (i.e. replace 43.27 with 24). Thus, an 8 mm lens with image just fitting the frame should be:

angle of view =  $24/8 = 3.0$  radians = approx 172 degrees,

which seems to fit the case very satisfactorily (and I \*swear\* I didn't work it out until I had typed the equation!)

There is nothing magical about the 180 degrees figure; it is possible to design non-rectilinear lenses with angles of view much less than, or greater than, 180 degrees at the size of the 35 mm film frame. Also, be careful to distinguish between the angle of view at the size of the film frame and the maximum angle of view limited only by the lens covering power (which might be much greater). By convention, the term fisheye usually refers to a lens capable of recording at least 180 degrees entirely within the 35 mm film frame. A lens recording 180 degrees only in the diagonal is referred to as a full-frame fisheye or quasi-fisheye.

Note that a rectilinear lens is normally limited to about 120 degrees angle of view.

--

David Littlewood

---

From: Robert Kirkpatrick bob.kirkpatrick@heapg.com>  
Newsgroups: rec.photo.equipment.35mm  
Subject: Re: Cheap Fish-eye Lens?  
Date: Thu, 08 Nov 2001

Over the years there have been various fish-eye adapters to mount on the front of a 50mm lens. Kenko made a very nice one. These front mount converters are very common for camcorders. I believe B&H is listing some new fisheye camcorder converters but you would need to use them stopped down. Traditional still camera converters show up periodically in used stock or on Ebay. Adorama even had one in their catalog a few years ago. The Russian fisheye was recently reviewed in one of the major magazines, Shutterbug I think. It is slightly longer than a true circular fisheye so the top and bottom of the circle are cut off on the 35mm frame. (It was originally designed for a slightly larger Russian film format.)

As for standard lenses I bought a used Sigma diagonal (full frame) fisheye

from Adorama that I'm very happy with and that wasn't too expensive.

Richard Cochran wrote:

> Ryan Forman wrote:  
> >  
> > Anyone use the zenitar russian fish-eye lens? How is it? Are there  
> > anyother cheap fish-eye lenses out there? Thanks for the info. I  
> > have a Nikon N70.  
>  
> The cheapest fisheye suggestion I've heard is to get one of those  
> security peepholes designed to give you a fisheye view through your  
> front door. Drill a hole in the center of a spare lenscap, and mount  
> the peephole there. Obviously, optical quality may be really lacking,  
> but for the price, it might make for some interesting experiments.  
> I've never tried this myself.  
>  
> --Rich

---

To: hasselblad@kelvin.net  
Date: Wed, 14 Nov 2001  
Subject: Re: [HUG] 30mm Kiev lens (Arsat) conversion to Hassy  
From: Evan J Dong evanjoe685@juno.com>

Bob,

I myself, had not done this conversion yet. However I do plan to convert the 30mm Zodiak / Arsat and a late CZJ 180mm MC Sonnar.

The various converted lenses that I had seen and handled for the 2000 / 200 series, were all professionally converted using either a salvaged rear Hasselblad bayonet mount OR a brand new bayonet ring purchased from Hasselblad. You can also use the lens mount adapter part # 40037.

All the lens will be able to focus from the minimum meter / feet range to the maximum infinity range. Full use of the aperture range is possible, but will have to be performed manually.

In the case of the 30mm , you will not have any ability to use the supplied rear filters. You should ask Stan or whomever you use for this conversion if he will be able to leave enough room in the rear to allow you use gelatin filters without it scratching your mirror.

In regards to all the conversion done, ask to see any of his previous work. The reason I tell you this, is based on what I actually handled and seen on these converted lenses. At the rear where the lens mount will go, just make sure that the converted area is not an open hole with the mount as a dust and dirt cover. If possible, this is where the lens mount adapter # 40037 comes into play. This part has a aluminium plate in front of the bayonet ring. Some machinist will machined this plate to fit as a dust cover as part of the rear mount. In certain incident, you will not have any choice. If your technician / machinist can fabricate a rear dust cover/cap from sheet metal , then you will not have any future problems with dirt or dust getting into the interior of your lens.

The various lenses that I had seen converted are as following:

1. CZJ lenses for the Pentacon Six System : 50mm, 65mm, 120mm, 180mm, 300mm
2. Meyer Optics : 300mm, 500mm
3. Kiev 60 and Kiev 88 lenses : 30mm, 45mm, 45mm & 55m shift, 150mm, 250mm

There are probably other adapted lens that I haven't seen yet, but these are the majority that I had seen and handled. Let me know how this conversion turns out for you. Try to get the latest Arsat lens that is labeled MC. That way you will have no problems with flare.

Evan

On Wed, 14 Nov 2001 Bob Keene/Karen Shehade kabob3@mediaone.net> writes:

> Hi List of Huggies,

>

> Just got a 2000FCW (thanks Austin!) and am moving to expand my

> creative

> possibilities-

>

> I know that the Kiev 88 lenses can be converted for use on

> Hasselblad 200x

> bodies, and I have a name and # (Stan Nycz, Int'l Camera Repair

> Toronto,

> 800/340-5937) but I have some questions from others who may be

> already using

> these...  
>  
> I've acquired an Arsat 30mm lens. I have a extension tube I never  
> use, which  
> I gather I can send to Stan to use as the lens mount. When the  
> conversion is  
> done, what are you missing? I mean I assume the lens will focus and  
> the  
> aperture ring will work like a normal F lens... yes?  
>  
> I am awaiting delivery of the 30, so I don't have it in front of me  
> yet.  
>  
> Love to hear from anyone using this kind of converted (perverted?)  
> lens. :)  
>  
> Thanks  
>  
>  
>  
> Bob Keene  
> Keene Vision Photography  
> "Creating Visions That Last A Lifetime"  
> 781/449-2536  
> www.keenevision.com  
>

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From: Stephe Thayer ms\_stephe@excite.com>  
Newsgroups: rec.photo.equipment.medium-format  
Subject: Is a fisheye really useful?  
Date: Tue, 18 Dec 2001

I asked myself this question many times over the years. While the images I've seen looked interesting (most were close up's making full use of the fisheye effect), I figured it would get old pretty quick and wouldn't be that useful a lens. Given that the most reasonable way to even try a "GOOD" fisheye (as in a really sharp one) was with my OM 35mm stuff (which I hate using 35mm after shooting with med and lrg format) which was over \$600 for the cheapest "bargain" rated zuiko lens I have seen. It wasn't hard to talk myself out of needing this type of lens. given that most MF fisheyes are 5-10 times that much, using a medformat one was out of the question. Well once I got a kiev, a 30mm fisheye was within reason. At \$230 new with filters,caps,case it would be hard not to get one just to have one!

So now that I've had one for a while and played with it, I've found it to be a VERY useful tool for doing landscapes. While it does have the classic

fish-eye distortion, if used with some thought, being very careful  
composing  
and leveling the camera, it makes a great SUPER wide angle lens for all  
sorts of subjects. Also because of its optical design, it doesn't have  
the  
severe light fall off issues a rectilinear lens does. Given most  
landscapes  
don't have straight lines anyway, you can REALLY get some neat shots  
with  
one. I would have never guessed that this kind of lens would be good for  
"normal" looking landscape photography until I experimented with one.  
Below  
is an example of a shot I took last weekend at a local park. I've been  
shooting there for years trying to get a good shot of the lake front.  
This  
lens got the "look" I've been trying to capture for years but never  
could.  
This lens is going to be a take everywhere one!

<http://www.geocities.com/kiev?url/30mm.jpg>

--

Stephe

---

From: edgy01@aol.com (EDGY01)  
Newsgroups: rec.photo.equipment.35mm  
Date: 24 Dec 2001  
Subject: Re: Any good fish-eye pictures?

>>Does anyone have any fish-eye photos they've taken that they're  
especially  
proud of? I'd be really interested to see them. I'm thinking about  
getting  
one, and am curious to see what some of you guys have done with them. >>

Been shooting with fish-eyes for sometime. A few of them are here:

<http://members.aol.com/zemba/DAL.htm>

and here:

<http://members.aol.com/Edgy01/Stonehenge.jpg>

Dan Lindsay  
Santa Barbara

---

From nikon MF mailing list:  
Date: Tue, 6 Nov 2001  
From: Nikon Cameras NikonCameras@asean-mail.com  
Subject: Spriatone auxiliary Fish-Eye

This lens is not just for a 50mm lens. It can be used on "all types of cameras including 8mm Super 8mm and 16mm, as well as 35mm movie cameras, T.V. cameras, subminiature cameras, half size and regular size 35mm rangefinder and single lens reflex cameras, 2 1/4 X 2 1/4", 4X5", 5X7" and

8X10" view and press cameras", to quote the instruction sheet that came with the lens. It is not recommended for use on wideangle lenses because the circular image is too small.

Spiratone also says that it is not recommended "for lenses longer than 200mm (resulting speed too slow), some zoom lenses (both diameter of the circular image and image quality may be unsatisfactory), prime lenses into

which the Fish-Eye can not be screwed or bayoneted (slip on fittings are not suitable), lenses with a greatly recessed front element (may cause vignetting due to increased distance between prime and auxiliary lens)." It doesn't measure up to Nikon's prime, but it is worth it for experimenting with. The maximum aperture varies from f/3.5 (for use with

a 30mm lens) to f/22 (for use with a 200mm lens). I bought the adapter for 52mm lenses and also for the bayonette mount for Yashica's twin lens reflex. Also, Spiratone made a lot of interesting odd-ball lenses. I own

a 100mm Spiratone periscope lens with a Nikon T-adapter.

>BTW, Spiratone made another odd lens. It's a 8mm 180 degrees true fisheye

>attachment for 50mm lenses. Yes, 50mm lens, unlike the super wide/semifish

>eye attachments which has to be mounted on a 28mm lens. I have this lens,

>and it's an oddity indeed, as it has it's own aperture settings, even >though it's an attachment lens.

---

From minolta mailing list:

Date: Mon, 01 Oct 2001

From: Olaf Ulrich Olaf.Ulrich@nbgm.siemens.de

Subject: Fish-eye

A few weeks ago, somebody asked what makes a fish-eye lens a fish-eye as opposed to a super-wide-angle. I answered that it's the kind of projection.

And now I've found some detail information on this topic if anyone is interested

From: "Kent Gittings" kent@ism.com

Generally, for a lens with a given focal length  $f$ , the projection function  $P$  can be written as follows:

$$y' = P(a)$$

Here,  $a$  is the angular distance of an arbitrary point in the subject from the optical axis, and  $y'$  is the linear distance of

the image of that point from the center of the image.

For any conventional lens the projection function simply is:

$$y' = f * \tan(a) \quad \text{'gnomonic projection'}$$

The difference between wide-angle and telephoto lens is in the  $f$  only.

The tangent quickly approaches infinity at large angles which creates the dramatic effect of super-wide-angles. However, this also is the reason why it is not possible to realize angles of view of  $180^\circ$  this way (you'd need a focal length of zero, or an infinite-size film format). So, other projection functions must be used for really large angles of view which leads to fish-eye lenses.

The Minolta 2.8/16 mm Fish-eye has the following function:

$$y' = 2 * f * \sin(a/2) \quad \text{'equisolid-angle projection'}$$

This function basically replaces the tangent with the sine. This projection is more or less equivalent to the gnomonic projection near the center of the image but yields effectively shorter focal lengths near the corners of the image.

The Minolta 4/7.5 mm Fish-eye, which creates a circular image with a diameter of 23 mm, follows still another function:

$$y' = k * a \quad \text{'equidistant projection'}$$

Here,  $k$  is a value depending on  $f$ , typically like this:  
 $k = c/f$ , where  $c$  is approximately equal to one, or less in some cases (depends on the proper design of the optics).

As you can see, the 16 mm Fish-eye is not simply a longer version of the 7.5 mm Fish-eye, with just a larger field of image. Instead, these two are completely different kinds of fish-eyes.

The equidistant projection function of the 7.5 mm Fish-eye is particularly useful for scientific or surveillance applications. A given linear distance between two points no matter where in the image they appear always corresponds to the same angular distance in the original subject.

Sorry for rambling,

Olaf

--

Olaf Ulrich, Erlangen (Germany)

olaf.ulrich@onlinehome.de

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From: "Joseph S. Wisniewski" jwisniew@visteon.com  
Newsgroups: rec.photo.equipment.35mm  
Subject: Re: Fuji has just announced a rather interesting SLR  
Date: Wed, 30 Jan 2002

Lewis Lang wrote:

> Pardon me for making a "dumb observation" but... wouldn't it make  
sense for a  
> digi SLR manufacturer to either make a lens adapter (either add-on or  
> incorporated somehow into the body itself) that would turn the digi  
camera w/  
> less than a full sized sensor into being able to use the lenses at  
equivalent  
> full sized magnification ie. 1x.... Sort of a wide angle/demagnifier  
adapter  
> instead of the tele adapters that are commonly used to adapt manual  
lenses to  
> AF cameras. Just a (1x) thought...

Astronomers call these "Focal Reducers". They're quite common with  
astro-photographers, mostly to gain an extra stop or two (even 3  
sometimes) from  
the scope. They're available in T-mount from most scope manufacturers.

I've always wanted one for my 35mm. Most lenses 35mm lenses are produce  
a nice  
image circle at least 43mm in diameter. A 0.55x focal reducer would let  
me use my  
20mm (94 degree) and 14mm (114 degree) wide angles to do circular wide  
angle  
architectural shots that should be simply breathtaking.

I've also thought about achieving the same effect by taking an old 6x4.5  
body,  
shortening it, and giving it a Nikon mount. I can't see needing an SLR  
viewfinder if I'm doing super wide work. Focusing should be easy, too.

Ciao!

Joe

---

From minolta mailing list:  
Date: Tue, 30 Apr 2002  
From: Samuel Tang samueltang@eisa.net.au  
Subject: Re: filters on fisheyes

Hi Xkaes,

This needs a very Heath-Robinson approach (is "Rube Goldberg" the  
American

equivalence?). Make two or three small lumps of Blu-Tack, and cut the gel to a suitable size. Apply the Blu-Tack lumps to suitable spots at the back of the lens, then attach gel to back of lens. Fit lens to camera.

Messy, but works.

Best,

Sam.

---

[Ed. note: thanks to Ralph for sharing these tips on his fisheye conversions, see related notes on his nifty [Vistashift 612](#) cameras!]

Date: Wed, 21 Mar 2001  
From: ralph fuerbringer rof@mac.com  
To: Robert Monaghan rmonagha@post.cis.smu.edu  
Subject: Re: Question for seller -- Item #1221838865

years ago i examined the 30mm russian fisheye. the stats say it must have a filter attached at all times , uv if the color aren't wanted. at that time i concluded and a couple technicians that the lens wouldn't make infinity on the current hasselblad mt without leaving off the filter. the rear of the mts might be easily removed if they were designed logically as the same lenses are in both imitation 1000f mts and praktisix mts. i put about a dozen 35mm fisheyes on 45 with a ilex 5 shutter but the price of the pentax 67 fisheye is now too high to adapt, though the perfect 4" circle is unbeatable. never the less i'm going to the russian 30 into an ilex five for a somewhat smaller circle at a greatly reduced price. some of the lenses i put into 500c compur shutters were 120 imagons and 150 apo=lanthars but my source for focusing mt and auto shutters has joined the great yellow father in the sky. anyway, happy hacking, ralph

---

Date: Sat, 24 Mar 2001  
From: ralph fuerbringer rof@mac.com  
To: Robert Monaghan rmonagha@post.cis.smu.edu  
Subject: Re: 6x12 on Brooks

Robert: in the post below early i am fuerbringer@mindspring.com. i would

appreciate it if that was changed to rof@mac.com .

putting the 30 russian fisheye on 45 will be cost effective but lacks the impact of the 4" circle of the pentax 67's 35 fisheye puts on 45.

either lens can be put into a #5 ilex shutter. i've done this a number of times, going back ten years. the spacing of course is the same as the parent camera, and the focusing mt works perfectly. ground glass focusing and viewing is a waste of photographic time. possible the 30 mm russian could be used on the 34 polaroid with xl fittings. will report after trial if the circle fits.

regards, ralph

> From: Robert Monaghan rmonagha@post.cis.smu.edu  
> Date: Fri, 23 Mar 2001  
> To: Bert MC-CLURE Bert.Mc-Clure@edf.fr  
> Cc: rof rof@mac.com  
> Subject: Re: 6x12 on Brooks  
>  
> thanks very much, Bert, for your interesting note; I have added it to the  
> veriwide related postings at  
<http://www.smu.edu/~rmonagha/mf/veriwide.html>  
>  
> Sounds like you are exploring a number of the permutations; I have been a  
> bit shocked by the realization that many of the big 6x12cm and bigger 6x17cm  
> cameras take in less subject matter than the 47mm SA; and that's before  
> modifications such as you have made ;-)  
>  
> I am gradually accumulating tips and ideas on various cameras including  
> the veriwides at my medium format site; it hasn't been around for more  
> than 3+ years so far, but over 1 2/3rds million visitors, so worth the effort  
>  
> Roger Hicks in Brit Jrnl of Photogr. described adapting the unique Kiev  
> 30mm fisheye to a 4x5" back holder, with a spacer body and shutter combo;  
> provided a fisheye effect; and there are some various odd-ball ultrawide  
> lens (35-47mm) 4x5cm cameras out there see homebrew camera links at  
> <http://www.smu.edu/~rmonagha/mf/homebrew.html>  
>  
> I think the interest in ultrawide and panoramic camera options is growing,  
> and lots of us are caught up in the wider is better - as the 14mm and now  
> 12mm lenses on 35mm format cameras are showing - ;-)  
>  
> regards bobm

---

From Nikon mailing list:  
Date: Thu, 12 Sep 2002  
From: "Kelvin" kelvinlee@pacific.net.sg  
Subject: Fisheye comparison

hi all

Interesting document, which compares some commercially available fisheye lenses  
by nikkor, peleng and asahi pentax etc.

It takes a lab-based approach to the comparison, and the methodology is purely  
scientific. Only have had a browse so far.

<http://www.coastalopt.com/fisheyep.pdf>

---

From: rpn1@cornell.edu (Neuman - Ruether)  
Newsgroups: rec.photo.equipment.35mm  
Subject: Re: Fishy business  
Date: Tue, 22 Oct 2002

dave-farmer@bigfoot.com (Dave Farmer) wrote:

>onepercentf@aol.com (Onepercentf) wrote:

>>Do you really want a fisheye or would a very wide angle rectilinear lens do? I

>>would recommend the Tamron 17mm, because being an Adaptall lens it will fit

>>many cameras. When you no longer need it, there will be more people to sell it

>>to (apart from just Minolta users).

>I have Sigma's 18-35, so I think an extra mm or two (whilst nice to >have) would be very expensive for the extra range I would get. That's >why I'm interested in a full-frame fisheye - dramatic (if a little >corny, but what the hell!?) and different to anything I can do right >now.

The 16mm fisheye is considerably wider than an 18mm non-fisheye due to the spherical-perspective characteristics, though the central magnification is not much different. It is also easier to hand-hold successfully at a given slow shutter speed, and it is often optically better than a similar-FL non-fisheye. I like fisheyes for landscapes (the foreground-to-background size differences are minimized, and are minimal for a super-wide) and for people-shooting (the spherical perspective type is FAR kinder to rounded objects near the image edges than the rectangular perspective type super-wides are). BTW, the one 16mm Minolta fisheye I tried (same as Leitz, as I recall), required considerable stopping down to get the "corners"

sharp, but it was quite good around f16. The best full-frame fisheye I have seen is the older Nikkor 16mm f3.5 - this lens has very high brilliance, great resistance to flare, and it is sharp to the corners wide-open. It is one of the best lenses I've ever used, and it os often \$250-300US used, a bargain (and worth buying a Nikon body for). More on it is at [www.ferrario.com/ruether/slemn.html](http://www.ferrario.com/ruether/slemn.html)

David Ruether  
rpn1@cornell.edu  
<http://www.ferrario.com/ruether>  
Hey, check out [www.visitithaca.com](http://www.visitithaca.com) too...!

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From: "Daniel Irvin" [dirvin@anywherebuthere.com](mailto:dirvin@anywherebuthere.com)  
Newsgroups: [rec.photo.equipment.medium-format](http://www.ferrario.com/ruether)  
Subject: Re: Self-made fisheye lens?  
Date: Mon, 04 Nov 2002

I have made fisheyes in my early days using peep hole lenses from doors for security. Some of the larger ones produce a pretty big image. I would mount theses onto metal screw in lens caps using epoxy.

--  
Daniel Irvin  
Daniel Irvin Engineering

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From: "zeitgeist" [blkhatwhtdog@yahoo.com](mailto:blkhatwhtdog@yahoo.com)  
Newsgroups: [rec.photo.equipment.medium-format](http://www.ferrario.com/ruether)  
Subject: Re: Self-made fisheye lens?  
Date: Wed, 06 Nov 2002

> Several months back, I saw a lens cap fitted with a door peephole on Ebay.  
> They were asking, I believe, \$19.95 for their "fisheye" lens. I'm sure it  
> was a joke, as the quality would stink, but who knows until you try it?  
>

Back in the 70's a photog named Jeremiah Bragstadt did that with a right angle finder and was quite popular with architects. He could stick the thing practically into the scale models they build to sell the concept, the quality was mediocre but instead of standing over the model and only getting an arial view they could show a pedestrian's point of view.

---

From russian camera mailing list:  
Date: Wed, 20 Nov 2002  
From: "zaxxon4" zaxxon4@yahoo.com  
Subject: Re: : fisheye fed

Some of the Voitlander Heliars aren't coupled either, because of that fact. As far as viewfinders try a peephole for doors, like this:

[http://www.belomo.by/en/7\\_1raz.html](http://www.belomo.by/en/7_1raz.html)

or if you don't mind a 150 degree viewfinder (might make it easier to not see the camera lens below):

<http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=1789262883>

You could get a small I-beam and epoxy it with JB-weld.

Virtually all super-wide rangefinder lenses are fully corrected (even the Zeiss Hologon, as much as it looks like a fisheye lens), but I think Leica and Voitlander each made one (probably listed in those Japanese Leica books).

--- In russiancamera@y..., "Kelvin" kelvinlee@p... wrote:  
> Use an M42 fisheye e.g. Zenitar 16/2.7, with adaptor on your FED.  
> With such deep DOF, you don't really need to focus anyway.  
> But there is the issue of how to view the photo framing.  
>  
> That said... does anyone know of any fisheyes for rangefinder  
> cameras? I've never heard of any.

---

Date: Thu, 30 Jan 2003  
From: ADavidhazy ANDPPH@ritvax.isc.rit.edu  
To: panorama-l@sci.monash.edu.au  
Subject: Re: 220vr + fisheye = results?

Interesting you should mention this as Panoscan apparently is aware of someone who claims to own a patent (or more) related to the use of such a lens on a panning scanning panoramic camera. Supposedly if you do this you are infringing on that patent. I was asked to provide images made with a film camera under such conditions to prove prior art. (previous to 1992). In the mid 70's or so I did just that. You essentially reproduce the north and south poles (points

directly above and below the camera) as lines and thus cause infinite amounts of dimensional distortion at those points.

In an article mentioned here some time ago I mentioned what would be happening beyond those points as well ... essentially seeing "beyond infinity" (in a strange and stilted way of saying things!!!) as an interesting thing to think about.

adios,

andy davidhazy  
[www.rit.edu/~andpph](http://www.rit.edu/~andpph)

> we wonder if there is somebody on the list, using the  
> 220vr with a (full-circle-)fisheye. are there any re-  
> sults on the web to look at?

> greetings.  
> michael.

---

Date: Fri, 31 Jan 2003  
From: Willem-Jan Markerink [w.j.markerink@al.nl](mailto:w.j.markerink@al.nl)  
To: [panorama-l@sci.monash.edu.au](mailto:panorama-l@sci.monash.edu.au)  
Subject: Re: 220vr + fisheye = results?

ADavidhazy wrote:

> Interesting you should mention this as Panoscan apparently is aware of  
> someone who claims to own a patent (or more) related to the use of  
> such a lens on a panning scanning panoramic camera. Supposedly if you  
> do this you are infringing on that patent. I was asked to provide  
> images made with a film camera under such conditions to prove prior  
> art. (previous to 1992). In the mid 70's or so I did just that. You  
> essentially reproduce the north and south poles (points directly above  
> and below the camera) as lines and thus cause infinite amounts of  
> dimensional distortion at those points.  
>  
> In an article mentioned here some time ago I mentioned what would be  
> happening beyond those points as well ... essentially seeing "beyond  
> infinity" (in a strange and stilted way of saying things!!!) as an  
> interesting thing to think about.

There is even a famous sample of using the 6mm Nikon with 220 degree view, by Dan Slater:  
<http://www.nearfield.com/~dan/Photo/wide/sphere/index.htm>

(this one is neat too, for the digi-crowd (6mm mounted on Nikon D1 with full image circle(!):  
<http://www.nearfield.com/~dan/Photo/wide/sphere/index.htm>

Btw, I \*assume\* Panoscan has a patent on the reconstruction of a non-stretched polar point....which only works in digital....using any fisheye in any other (analog) way can't be new/original by any stretch of the definition.... (nor could you reconstruct the poles)

Btw2, I guess Andy was too modest for mentioning it, but his beyond-infinity-theory can be found here....;))

<http://www.rit.edu/~andpph/text-infinity-pan.html>

--

Bye,

Willem-Jan Markerink  
w.j.markerink@a1.nl  
[note: 'a-one' & 'en-el'!]

---

Date: Sat, 19 Oct 2002  
From: "Q.G. de Bakker" [qnu@worldonline.nl](mailto:qnu@worldonline.nl)  
To: [hasselblad@kelvin.net](mailto:hasselblad@kelvin.net)  
Subject: Re: [HUG] Arsat 30mm Fisheye modified for Hassy 2000

David S. Argabright wrote:  
> That was the 1000F?

Yes.

> Will \*NONE\* of the 30mm Arsats fit that body, or was it an older zodiak  
> lens?

I don't know, really. What's the difference between an Arsat and a Zodiak, if they both have K-88 mount?  
According to Hans Roskam, the mount on the lens i got from him should (!) be the same as the Hasselblad 1000 mount. It looked a lot like it too. I think the problem with mounting this lens on the fake-Kiev was that the thread on the lens was rather coarse. Could well be something else though, it was difficult to tell.

I don't quite know "what's up" with this mount: i have a couple of ancient extension tubes that need quite a bit of force to mount properly on the camera (if at all) and/or to take a lens. Another couple fit perfect, and mount and dismount very smoothly. But that could be due to age, of course; maybe the ill-fitting ones just have taken to much abuse and aren't perfectly round anymore.

But maybe someone here has managed to mount a 30 mm Arsat or Zodiak on a



1000-series Hasselblad?

---

From kiev 88 mailing list:  
Date: Fri, 3 Jan 2003  
From: Svensson Robert term@chl.chalmers.se  
Subject: Re: wide-angles

The Arsat (Zodiak) 30mm fisheye is superb! It is very sharp and it can be used in far more situations than most people imagine! If you are interested, goto my website

[www.chl.chalmers.se/~term](http://www.chl.chalmers.se/~term)

and click on "Photo Galleries". A lot of Arsat/Zodiak 30mm pics are to be found.

/Robert

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