

Cult Classic Third Party Lenses

by Robert Monaghan

Angenieux (France)

Angenieux Lenses from mid-1980s	
F/1	f/stop
25mm	1.4
75mm	2.5
180mm	2.3
35-70	2.5
70-210	3.5

See [listing](#) for prices

Angenieux is a French third party lens manufacturer that ranks with Schneider and Zeiss as one of the world's top lens makers.

Angenieux lenses are unfamiliar to most 35mm SLR users because they are very expensive and come in only a few mounts, chiefly Leica. To a Leica user, a top quality Angenieux 70-210mm f/3.5 zoom for only \$1,845 in 1983 is a *bargain* ;-) (that's \$3,000+ in today's 1998 dollarettes).

Some of their earlier preset lenses were much less expensive, but still multiples of the cost of similar speed and focal length lenses. Still, the name is generally associated with top optical quality, despite Angenieux's status as a third party lens maker from a country (France) not generally associated with manufacturing 35mm SLR optics.

Angenieux 90mm f/1.8

Angenieux's *cult status* started early. One example was their development of a super-fast but remarkably high quality 90mm f/1.8 optic sold in the 1950s and 1960s. This Angenieux 90mm f/1.8 is an example of a surprisingly fast lens that was originally available for the [M42 Universal thread](#) mount popularized by Pentax and others. These lenses had [manual diaphragms](#) for use with these older stopped-down manual cameras. The lens is heavy for a short telephoto at over 18 ounces, but it can close-focus to under 3 feet. Still, because of the Angenieux name, expect to pay more for this 1950s lens than you would for a brand new, high performance fast 1990s third party offering!

Angenieux invented the inverse telephoto concept with their first *Angenieux Retrofocus lens* designs. This approach makes it possible for SLR cameras to mount very wide angle lenses without having to [lockup the mirror](#).

Before this discovery, high quality very wide angle lenses such as the 21mm nikkor required that you lockup the mirror to mount them. You used an accessory viewfinder mounting on the top of the camera to compose your photographs. A similar 38mm f4.5 Biogon design by Zeiss formed the basis for the 6x6cm [Hasselblad SuperWide camera](#), which was designed to fit this lens, and

this lens alone. These old mirror-up 35mm SLR lenses are still in use, thanks to their superb linearity and contrast.

Although Angenieux lenses are relatively rare and pricey, their excellent lens designs are much more wide-spread and influential. Besides their retrofocus designs now on most wide and ultrawide lenses and many zooms, Angenieux also continued to innovate new lens designs.

Century Precision Optics (USA!)

Century Precision Lenses	
F/1	f/stop
300mm	3.2
385mm	4.5
500mm	4.5
500mm	5.6
650mm	6.8
1000mm	8

See [listing](#) for prices

Would you pay the equivalent of \$4,500+ for a totally manual T-mount 1000mm f/8 glass lens? If you needed high quality fast glass in a long telephoto lens, the answer might be yes!

Century Precision Optics is another top quality third party lens maker of tele-athenar telephoto lenses for 35mm SLR camera mounts. They are better known to the folks in Hollywood using 16mm and 35mm movie cameras. But their fast glass has a following among wildlife and sports photographers who feel the need for speed.

As a taxpayer, you probably won't be surprised to hear that these lenses sometime turn up on surplus lists from the Dept of Defense. The increasing availability of fast APO glass lenses from third party makers like Sigma and Tamron is also offering photographers a cost-effective alternative. Still, it is nice to see that an American manufacturer of 35mm optics continues to exist, albeit in a niche fast telephoto market.

Novoflex

Novoflex Follow-Focus Lenses	
F/1	f/stop
280mm	5.6
340mm	5.6
400mm	5.6
500mm	5.6
600mm	8

680mm	8
See listing for prices	

Novoflex is best known for their follow-focus lenses. These tele-noflexar lenses came in focal lengths from 200mm to 640mm. The most popular series were the 280mm f/4.5, 400mm f/5.6, and 640mm f/9 follow-focus lenses.

The Novoflex follow-focus system was long regarded as the fastest available focusing system for telephoto lenses prior to the advent of autofocus systems.

The Novoflex system mounts the lens on a special focusing mount, shaped somewhat like a gun-stock. There is a squeeze control which is pressed to focus the lens. The camera is mounted to the lens bellows using a special adapter for the desired camera mount. The lens fits into the front of a flexible focusing mount (cf. bellows).

The noflexar lenses are sometimes called lens-heads. You can use the same follow-focusing setup with any of the interchangeable lens heads. These lens heads just mount on the adjustable focusing mount. You decide if you need the 240mm, 400mm, or 640mm from the typical trio of lens heads you purchased.

Because of the range of the focusing mount, these noflexar lenses can be used from infinity down to very close-focusing levels. This near-macro capability also adds greatly to their utility for the wilderness or nature photographer too. Notice that these noflexar lenses are very long, so this close-focusing capability can be achieved at some distance from a dangerous subject (e.g., rattlesnake) or skittish small critter.

Operating a Novoflex follow-focus lens setup takes some getting used too. You setup the general focusing range by setting up the bellows (e.g., to 100 feet), then fine tune it with the squeeze control. To me, operation is logically reversed. You squeeze the control towards yourself to focus farther away. You release the control to focus on closer objects. But once you get the hang of it, this is an incredibly fast focusing system.

Now for the bad news. No, I am not just referring to the price, which can be substantial.

The noflexar lenses are optimized for center sharpness.

What does that mean? Usually lenses can be made very sharp at the center if you are willing to let the edges be much less sharp. In fact, the noflexar lenses put so much sharpness in the center that these older lenses still outperform many more modern telephoto lens models. But you usually have to crop the images in an enlarger or zoom slide dupliator to use them.

So why bother? Because most wildlife photographers and long telephoto users aren't trying to compose a full frame sharp to the edges photograph. They are trying to get the sharpest possible picture of a really remote beast or bird on film. Most likely, this image will have to be enlarged further anyway. So cropping out the unsharp edges isn't that much extra effort.

Today, many of these Novoflex lens setups are starting to appear on the used market. The reason appears to be a side effect of autofocus lenses displacing these lenses in professional use. Today's professional autofocus prime and zoom lenses are better, thanks to sharper overall images and special apochromatic glasses effects on enhancing contrast. The more expensive professional lenses are also significantly faster than these noflexar lenses, and the designs are typically much more compact telephotos too.

Novoflex's trick of maximizing center sharpness combined with the fastest focusing system for telephoto lenses has earned them their status as a *cult classic* lens series.

In the U.S., Novoflex sales is handled by Calumet (of 4x5 fame). Besides the follow-focus lenses, Novoflex also made a number of excellent macro lenses and auto bellows combinations for 35mm SLR use. I have a very handy Novoflex bellows with a 105mm nikon mount West German made bellows lens with full automatic diaphragm operation on my Nikon SLRs. This macro lens is very sharp. The bellows feature dual rack and pinion movements. Unlike a single control system, you can independently adjust position and extension without having to move your tripod.

Tamron

Tamron Higher End Lenses (early 1990s)				
Brand	F/l	f/stop	type	comments
tamron	17	3.5	manual	SP
tamron	90	2.5	manual	SP macro
tamron	180	2.5	manual	SP LDIF
tamron	300	2.8	manual	SP LD
tamron	300	2.8	manual	SP LDIF
tamron	200-500	5.6	manual	SP
tamron	24-48	3.5-3.8	manual	SP
tamron	28-135	4-4.5	manual	SP
tamron	28-80	3.5-4.2	manual	SP
tamron	35-210	3.5-4.2	manual	SP
tamron	35-80	2.8-3.8	manual	SP
tamron	60-300	3.8-5.4	manual	SP
tamron	70-210	3.5	manual	SP
tamron	70-210	3.5-4	manual	SP
tamron	80-20	2.8	manual	SP LD
tamron	70-210	4	auto-AF	IF

Most 35mm photographers are familiar with Tamron brand lenses, produced by Tamron Co. Ltd. (Taisei) of Japan. Tamron is the "T" in T-mounts, in T-2 mounts, in T-4 and even Vivitar's TX [mounts](#). Tamron pioneered the concept of a third party lens maker providing optics in an interchangeable mount. Today, many of their lenses feature the adaptall and adaptall-2 automatic diaphragm mounts (an upgrade of the earlier adaptamatic system).

Tamron deserves *cult status* for their development of this series of interchangeable lens mounts alone!

Thanks to interchangeable lens mounts, you can buy a Tamron or other T-mount lens and mount and use it on most popular camera body lens mounts. That's a critical benefit if you have multiple camera brands (e.g., Nikon and Pentax, Canon and Topcon...). Using this interchangeable lens

mount system, you can interchange lenses between these various mounts. So you can afford to add, switch, or update camera brands for just the low cost of an adapter for the new mount!

This approach is also very useful for buyers and sellers of Tamron's interchangeable mount lenses. By buying a low-cost adapter (\$20-45 US), you suddenly have access to all the lenses using that interchangeable mount. So the available number of lenses is much larger than if you were restricted to only those lenses made in your camera's mount.

Tamron initially imported their T-mount lenses under a variety of importer brands, reportedly including Spiratone and Cambron. The T-mount system gave Tamron an edge in marketing, as their lenses were generally simpler to make and usable on more brands of cameras. These T-mount lenses were very low cost, but the optics were generally very impressive value for the money.

The T-mount system was a development out of the highly popular M42 or Universal screw-thread mount design (often called the Pentax screw-mount after its best known popularizer). The M42 mount used a metric thread lens mount consisting of a simple lens thread 42mm in diameter, with a pitch of 1mm. The T-mount and associated T-2 mount also used a 42mm diameter, but a different thread pitch (0.75mm).

The key difference in T-mount lenses was in their design. The lenses were designed to mount 55mm from the camera's film plane. This distance was significantly more than all the common camera brands such as M42 (45.46mm), Nikon (46.50mm), and Canon (42mm). (see [W.J.Markerink's Table](#)).

See how such a simple approach was so brilliant? You needed enough leeway to create a simple mounting adapter with the 42mm x.75mm threads on the T-mount side and the desired camera mount on the other. The use of a 55mm film plane distance provided that leeway. For most of their early telephoto lens designs, Tamron only had to reposition their lens mount threads (to 55mm) and pitch (to 0.75mm). The lens tubing was already 42mm as a side effect of the M42x1mm designs. Clever, huh?

While this screw-thread mounting wasn't bad when compared to simple M42 Universal screw thread cameras, it became limiting with the development of automatic diaphragm camera operation.

Tamron responded by developing a T-4 system of automatic diaphragm operation (the intermediate T-3 mount was not mass-produced). In concert with Vivitar (one of their major importers), Tamron developed their TX version of this mount. This system does provide interchangeable mounts which preserve auto-diaphragm operation along with a manual operation setting for the older cameras.

The next step in interchangeable mount evolution was the adaptomatic Tamron mount, which was popularized in the 1969-71+ timeframe. These earlier mounts had some teething problems, which were resolved in the later adaptall and adaptall-2 series mounts. The adaptall-2 mounts provide a very rugged and reliable interchangeable mount option at low cost. You can usually buy the adaptall-2 adapters for as little as \$20-30 US.

In a related page, I have suggested that these various Tamron interchangeable mount adapters make very [collectible investments](#) if you have cameras using those mounts. Having a collection of these [interchangeable mounts](#) opens up the entire universe of related interchangeable mount lenses. You can often use a newer lens design on an earlier camera mount, effectively upgrading your older camera to the later lens design.

Are lenses rare or pricey or non-existent for your particular type of camera? You just have to find the desired lens in one of the Tamron interchangeable mount designs to use it. Even if there is no current adaptall-2 mount for your older camera model, you can still find T-mount and perhaps T-4 or TX mounts that will fit.

The flip side is equally attractive. Suppose you buy a newer mount camera that has a TX or adaptall mount available for it? Now you can use your collection of older TX or adaptall lenses on it too. For example, while some Nikon owners were sending their pre-AI lenses out to be AI'd, owners of interchangeable mount cameras simply had to buy the new AI version of the Nikon adapter.

When you are looking for Tamron's own lenses, their best lenses are usually highlighted by an *SP for super performance* label. These lenses were also typically more expensive and faster models too, as you might expect. Some of their faster 80-200mm f/2.8 LD and 300mm f/2.8 LD lenses also featured [low dispersion glass](#).

One unique Tamron lens is their 70-210 f/4 AF lens with internal focusing. This lens will provide autofocusing on any SLR, since the AF mechanism is built into the lens itself. You just need a \$20-35 US adaptall-2 mount for your camera to turn it into an autofocus camera. Today's latest auto-focus cameras and lenses are faster and lighter, but their AF lenses won't work on your older camera model!

You can find a few of these standalone AF or auto-AF lenses listed under both Tamron and other brands (e.g. Vivitar) on our [Listing of Tamron, Tokina, Sigma, and Vivitar Lenses](#) (from the early 1990s). Since then, this auto-AF lens approach has been dropped for the AF camera approach. So if you need or want AF on an older camera, these transitional lenses are the ones to look for. And only the Tamron ones give you a full range of camera brands for mounting adapters.

Their 90mm f2.5 macro lenses have become very popular *cult status* lenses thanks to their great performance at a relatively low cost.

Under their top-of-the-line SP and LD lenses, Tamron also produced a series of lower cost but high performance consumer lenses.

Tamron 105mm f/2.5

The Tamron 105mm f/2.5 is an example of their adaptall mount prime lens. Nikon owners will recognize this focal length as one of the most popular ones for Nikon's own 105mm f/2.5 portrait short-telephoto lens. Under 2 1/2 inches long, this lens also uses 52mm filters as does the Nikkor 105mm. It is only 12 ounces in weight (plus weight of adaptall mount), and can close focus to under 4 feet. By copying such popular lenses in an interchangeable mount lens, Tamron made these lenses available to other camera brand owners at moderate cost.

Tamron 300mm f/5.6

This Tamron 300mm f/5.6 lens was also sold under the Accura Diamatic and Spiratone brands, as were many of Tamron's other lenses from [preset lens](#) days forward.

This lens can be close focused to a surprisingly short 5 1/2 feet, thanks to a long reach helical focusing mount. The lens is eight inches long, and weighs a hefty 27 ounces. It uses a common 62mm filter thread size. Cost is often quite low for such a long lens, and it is a good value for the money (under \$100 used).

Tamron 400mm f/6.9

In our [listing of lenses by manufacturer](#), you will find some lenses labeled as *nesting* lenses. This Tamron 400mm lens was designed to collapse from a full length of 16 inches to a much handier 7 inch length for storage in your camera bag. The lens weighs 24 ounces, and uses a [preset](#) diaphragm. Its close focus distance is an unremarkable 25 feet. Because it is an f/6.9 lens, it can mount standard 62mm filters. When you can find one, the lens is fairly cheap since it is an oldie, preset lens. But be sure to [check](#) if it has been abused and if the lens still closes and opens cleanly.

Alan Hunt (Alan_Hunt@baylor.edu) notes that there was also an earlier 400mm f/6.9 preset T-mount lens (f/6.9-f/32) with sturdy rotating tripod mount. I also have a really old Tamron 400mm f/7.7(!) T-mount lens I purchased for \$15 (in original box). The low weight of this 400mm lens makes it easier to carry than its faster brethren. The smaller (series) filter size is also a plus in both cost and weight too. These older telephotos may not match the latest APO glass models in contrast, but they may offer a lot of performance for their low cost and weight.

Tamron 400mm f/4

Hans van Veluwen (mail@veluwen.demon.nl) notes that any list of cult classic Tamron lenses would be incomplete without listing this 400mm f/4 (adaptall) lens. He observes *This lens came up recently a few times on the Olympus Mailing List, and was highly praised. This lens, now discontinued, falls in the same price, weight, and quality range as the -still existing- Tamron 300/2.8. Lens tests posted by a list member seem to confirm its professional image quality (*<http://members.aol.com/olympusom/lenstests/default.htm>*).*

Tamron 35-80mm f/2.8-3.5 SP CF Zoom

This Tamron lens features high performance in an interchangeable mount lens, just as you would expect from a Tamron SP for special performance lens. Try to get the matching 2X teleconverter, since you can use it to convert the 1:2.5 reproduction ratio at 80mm setting to an even better 1:1.25 ratio!

Like most Tamron SP lenses, this lens delivers very solid performance with great overall sharpness at moderate cost. Many OEM lenses would be hard pressed to exceed its performance in any significant way.

The lens weighs just over a pound with the teleconverter, is 7 1/8 inches long, and uses readily available 62mm filters.

While the later 28-80mm f/3.5-4.2 Tamron SP close-focusing macro lens is also very good, it can't focus below a 1:4 macro ratio. So later isn't always better!

Like most current-day manufacturers, Tamron has de-emphasized prime lenses. Their wide angles are relatively slow (21mm f/4, 24mm f/2.5 and 28mm f/2.5). The exception here is their popular 17mm lens - justifiably classed as one of their super-performance lenses.

Their consumer level slower zooms are also reasonably priced, but not the standout performers of their SP series pro zooms. Their reputation rests more on their fast super-performance (SP) special glass (LD) telephotos and ultrawide prime and especially zoom lenses.

Tamron SP 70-210mm f/3.5-4 CF Tele Macro Zoom

Mike Zinkan passes on the observation that this zoom goes to a remarkable stand-alone 1:2 closeup ratio. While the cost was \$427 in 1979 from a discount photo outlet, that corresponds to over \$1,025 in today's 1999 dollarettes.

Look for the matching 2X teleconverter which takes this 1:2 ratio down to 1:1 or lifesize. Handily, this macro setting is at the long end, where it is most needed to shoot those insects and rattlesnakes you don't want to get too close too.

Mike also points out that the later Tamron SP 70-210mm f/3.5 zoom sacrificed this macro functionality for the fixed aperture size. Mike notes that "*As is mentioned elsewhere in your site, later versions of lenses are not necessarily improvements across the board!*"

Thanks, Mike, for passing on these tips on this unique close-focusing lens!

Tokina

Tokina Higher End Lenses (early 1990s)				
Brand	F/1	f/stop	type	comments
tokina	17	3.5	manual	SL
tokina	24	2.8	manual	SL
tokina	28	2.8	manual	SL/ELF
tokina	90	2.5	manual	ATX macro
tokina	300	2.8	manual	ATX SD
tokina	400	5.6	manual	ATX SD
tokina	400	6.3	manual	SL preset
tokina	600	8	manual	SL preset
tokina	800	8	manual	SL preset
tokina	100-300	4	manual	ATX SD
tokina	100-300	5.6	manual	SZ
tokina	150-500	5.6	manual	ATX SD
tokina	24-40	2.8	manual	ATX
tokina	28-105	4-5.3	manual	SZX
tokina	28-135	4-4.5	manual	ATX
tokina	28-70	4	manual	SZ
tokina	28-70	2.8-4.3	manual	SZX
tokina	28-70	3.5-4.5	manual	EMZ
tokina	28-85	3.5-4.5	manual	ATX
tokina	35-200	3.5-4.5	manual	ATX
tokina	35-200	4-5.	manual	SZX
tokina	35-70	2.8	manual	ATX
tokina	35-70	4	manual	SZ

tokina	35-70	3.5-4.5	manual	EMZ
tokina	50-200	3.5-4.5	manual	SMZ
tokina	50-250	4-5.6	manual	ATX
tokina	60-120	2.8	manual	ATX
tokina	70-210	3.5	manual	SZ
tokina	70-210	4	manual	SMZ
tokina	70-210	4.5	manual	EMZ
tokina	70-210	4-5.6	manual	SZX
tokina	80-200	2.8	manual	ATX SD
tokina	80-200	4	manual	ELZ
tokina	80-200	4	manual	ELZ macro
tokina	80-200	3.5-4.5	manual	SMZ
tokina	80-200	4.5-5.6	manual	SZX
tokina	300	2.8	AF	SD
tokina	28-70	2.8	AF	ATX HLD

Tokina is the newest of the big three (Tamron, Sigma, Tokina) third party lens makers. Tokina was a startup company formed by some former Nikon engineers who decided to form their own lens making company.

They succeeded.

It helped that they picked the optimal time to start their own company, the peak camera buying years in the mid-70s. Their entries helped make 1977 the [peak year](#) for new 35mm lens introductions.

[Some critics](#) credit Tokina's current popularity to a lens design for a super-sharp 28-70mm f/2.6-2.8 zoom designed originally by Angenieux. But that's probably rather unfair, since the company was in its second decade by the time this lens was produced. They must have been doing a lot right to survive and prosper for so long!

Tokina currently enjoys a well-earned reputation for having one of the most rugged mechanical lens mounts for its lenses. This factor is critically important if you are looking for a lens mount that can stand up to professional and serious amateur use.

I have to wonder if this emphasis on mechanical build quality wasn't influenced by the perceived short-falls in mechanical quality in both of its key competitors, Sigma and Tamron. The former SIGNificant MAIfunctions page had some graphic details (page dropped in 3/2001). Tamron also had some mount related problems, chiefly with the earlier adaptamatic mounts that lead up to today's adaptall and adaptall-2 mounts. Naturally, high build quality for mounts and lenses was a hallmark of Tokina's founding engineer's experience at Nikon.

Tokina retained another marketing strategy from Nikon. Nikon had developed a three level marketing approach for its optics. For the professionals, Nikon had a top of the line professional series of fast and expensive optics. Their amateur lens line were slower, but featuring typical OEM rugged build quality and optical performance. Finally, Nikon had a low-end consumer line with their Nikon EM/FG and Series E lens lines.

Tokina also adopted a multi-level marketing approach:

Level	Lenses
Pro	ATX
Amateur	SMZ, SZX, SZ, SL
Consumer	EMZ, ELZ, ELF

Unfortunately, they also have other cryptic lens codes (e.g., using M for macro, and L for non-macro variants). Lots of lower-end lenses don't get any letters at all. Most of these lenses are clearly in the consumer category.

Tokina adds an SD for super-low dispersion (meaning APO [glass](#)). If they really want to impress us, they use HLD which stands for high-refractive, low dispersion glasses. Can you tell that these guys are a bunch of engineers and not marketing types?

Don't forget that we also need codes for lens mount types, especially for AF or autofocus mounts. Now put different price codes on all of these lens variants, and you have Tokina's lens line!

Tokina's ATX and fast lenses easily earn *cult status* for their high quality and rugged mechanical designs. They make a lot of professional class fast f/2.8 zooms. They make equally fast telephotos, such as the very popular 300mm f/2.8 professional class lenses.

Tokina 28-85mm f/4 RMC and f/3.5-4.5 ATX

Tokina designed an RMC f/4 version of this lens which had a constant aperture, unlike the later ATX variable aperture version. The RMC version lacked the macro ability added to the later ATX version too. The ATX lens had a 1:3.5 macro capability and was significantly lighter (17 1/2 ounces versus 21 ounces) and slightly shorter (3 inches versus 3 1/2 inches).

One big advantage of the variable aperture ATX zoom is that it used much smaller, lighter, and cheaper filters (62mm versus 72mm for the original constant aperture f/4 zoom). This filter factor is quite important if that new zoom means you have to run out and get all new filters for your new bigger zoom lens. That constant aperture may be nice, but you may pay for it twice, once for the lens and again for a new set of larger and expensive filters!

On the other hand, the original constant aperture f/4 RMC zoom was probably a bit better optically, and close-focused down to only 2 1/2 feet. And it did have a constant aperture, albeit f/4. Not surprisingly, the older optically superior lens is often significantly cheaper on the used third party lens market.

Because of Tokina's diverse multi-level marketing strategies, they can create lenses to meet market niches and even low end price points. An example might be their 17mm f/3.5 SL lens. This 17mm f/3.5 lens let them compete directly against Tamron's 17mm f/3.5 that has a [street price](#) of over 50% more (\$230 versus \$369 in 1/98).

Tokina also is not adverse to sourcing their lenses under other brand names and labels. Reported examples include Asanuma brand during their mid-70s startup period and continuing to the present (e.g., Cambron brand). They also supplied many of the lenses marketed under the Vivitar brand name in the U.S.

Sigma

Sigma Higher End Lenses (early 1990s)				
Brand	F/l	f/stop	type	comments
sigma	8	4	manual	
sigma	12	8	manual	
sigma	15	2.8	manual	
sigma	16	2.8	manual	
sigma	18	2.8	manual	
sigma	18	3.2	manual	
sigma	50	2.8	manual	macro
sigma	90	2.8	manual	macro
sigma	300	2.8	manual	APO
sigma	400	5.6	manual	APO
sigma	400	5.6	manual	mirror
sigma	500	4	manual	mirror
sigma	500	4.5	manual	APO
sigma	500	7.2	manual	APO
sigma	1000	8	manual	APO
sigma	100-500	5.6	manual	APO
sigma	21-35	3.5-4.2	manual	
sigma	350-1200	11	manual	APO
sigma	50-200	3.5	manual	APO
sigma	70-210	3.5-4.5	manual	APO
sigma	75-300	4.5-5.6	manual	APO
sigma	50	2.8	AF	macro
sigma	90	2.8	AF	macro
sigma	300	2.8	AF	APO
sigma	400	5.6	AF	
sigma	400	5.6	AF	APO
sigma	500	4.5	AF	APO
sigma	500	7.2	AF	APO
sigma	1000	8	AF	APO
sigma	70-210	3.5-4.5	AF	APO
sigma	75-300	4.5-5.6	AF	APO

Sigma is at once one of the oldest and newest third party lens makers.

They are old because they have been making 35mm lenses for decades, starting with some of the earliest and wierdest T-mount fisheye lenses and ultrawides. Their ultra-wide angle lenses were imported under brand names such as Spiratone, Cambron, Accura, and Vivitar.

Should you buy these earlier vintage Sigma ultrawide lenses? I would suggest looking carefully at more modern third party ultrawide lenses. The 19mm f3.8 Vivitar (under \$100 US) and 17mm f/3.5 Tokina (under \$200 US plus mount) are newer designs with higher performance. The newer Sigma wide and ultrawide angle lenses are equally better and more advanced designs at great price points too. Ultrawide lens design has advanced a lot in the last decade. Still, I have some older Sigma ultrawide lenses because they were a unique and low cost way to experiment with ultrawide lenses on a budget.

Today, that Sigma tradition of dominating the low ultra-wide end of third party lenses continues. Their 14mm f3.5 lens is only a third the cost of similar aperture and speed OEM lenses ([see Ultrawide page](#)). The new 14mm f/2.8 lens is supposed to be even better, faster, and without any (yellow) color cast. Their 8mm f/4 fisheye enjoys similar huge savings over OEM lenses such as Nikon's 8mm f/4 lens (circa one-third the price again). In short, at the very ultra-wide end, Sigma is your only high quality third party lens choice. See [Big 4 Lenses - Sigma, Tamron, Tokina, and Vivitar](#) (by focal length).

Sigma was also instrumental in challenging the patents of Topcon in Japan, opening up that lens mount for compatible third party lens mount buyers. Similarly, Sigma courageously risked threatened legal action by reverse engineering a compatible auto mount version to Canon's then new lens mounts and making low cost Canon mount Sigma lenses available. They even challenged Leica's patents in Germany with the first R-mount interchangeable lenses. The current depth and vigor of the third party lens lines of today owe a lot to Sigma's efforts to challenge legal and technical patent restrictions to make third party lenses available in a wider variety of mounts.

In concert with Sun, Sigma developed their own interchangeable auto-diaphragm [lens mounts](#) in their Y-S system. A variety of wide angle and telephoto prime and zoom lenses were developed for this Y-S system.

As interchangeable mounts fell out of favor, Sigma adopted fixed mounts. But as a service to customers who changed brands, they offered a factory swapout of their fixed lens mounts (for only \$25 US) in the early 1980s. Unfortunately, none of the current major third party lens makers offer such a service for their fixed lens mount owners.

Sigma 500mm f/4 Mirror *Ultratel*

Let's face it, a 500mm f/4 mirror is fast. This lens weighed six pounds, was 8 1/2 inches long, and nearly 6 1/4 inches in diameter. Practically automatic admission to *cult status*, right?

An internal focusing system limited close-focusing to an unremarkable 50 feet. But wait, Sigma supplied you with a extension tube just for this lens, taking you down to a stunning 10 feet closeup. Believe me, that's close for a 500mm lens!

Be sure to try and buy the matching 2X teleconverter, so you will have an equally fast and high performance 1000mm f/8 mirror option too.

Another good idea was a simple variable aperture system taken from amateur astronomers studying the moon. The moon is often so bright that you need a way to reduce the amount of light coming into your telescope. The trick used is a large cardboard cutout, over the front of the

telescope, which acts to reduce the diameter of your mirror telescope's opening. That trick effectively reduces your telescope's aperture. The Sigma 500mm f/4 mirror lens comes with a special lens cap that has a removable inner section. Leaving the lens cap in place, but removing the inner section, cuts the mirror's aperture to f/5.6.

Like most mirrors, this Sigma 500mm mirror uses a [T-mount](#) for a purely mechanical mounting on virtually any camera body. Like most super fast mirrors, if you have to ask about the price, you can't afford it!

Sigma also expanded into reasonably fast, longer telephotos, using the better known APO for apochromatic designation for their [specialty glass lenses](#). Sigma didn't try to compete initially with the OEMs for the limited market for very fast f/2.8 and similar speed APO telephoto lenses. Instead, they incorporated APO glasses into their more modest speed lenses (e.g., 300mm f/4.5 APO) and then zooms. Since then, they have continued to provide a fast and slow option for these APO telephoto lenses.

If you are a budget lens buyer, you have probably been put off by the high cost and weight of fast APO zoom and telephoto lenses. Thankfully, we are seeing third party lens makers such as Sigma and Tokina provide fast and slow APO versions of some lenses. The use of [APO glasses](#) has benefits for slower aperture users too.

So why do I say Sigma is the newest third party lens maker too? Because I see Sigma re-inventing itself, not just by developing a diverse line of cost-effective lenses for both amateurs and professionals. More importantly, I get the sense that they are working to establish a new image for quality and service.

Unfortunately, Sigma has not always been as customer-centric as they are now. Many of their earlier, low-cost leading optics suffered from mechanical problems. My guess is that these problems were only a bit worse than similar quality problems that even the OEMs have with their lenses. Check out any 35mm brand oriented mailing group (e.g., Nikon Digest) and you will hear of build quality problems even with their OEM lenses.

The difference is that Nikon and other OEMs work at making the customer happy, perhaps because of their expectation of a longer term relationship? For a third party lens maker, my guess from reading lots of posts related to Sigma is that they decided earlier on that they had lost buyers who had problems with their lenses to other lens makers. Certainly, you can find lots of posts on *rec.photo.equipment.35mm* on this issue.

In the past, the SIGnificant MAIfunctions page listed many Sigma owners past problems (site dropped in 3/2001). An uncritical reading of this page of mostly bad experiences is that there are a lot of unhappy former Sigma owners out there. But a closer reading shows most of the problems were with only a handful of their lenses, and often older models at that.

So be prepared to hear a lot about Sigma's bad reputation online if you buy any of their lenses. But that's the [old](#) Sigma.

The [new](#) Sigma shows in the many counter-posts regarding more recent experiences in which Sigma's U.S. distributors quickly replaced problem lenses or repaired them for no charge, despite obvious user abuse.

I believe that Sigma's lenses quality also follows a similar evolution. Their earliest optics from the 1960s and 1970s were often remarkable mainly for their low price. They established their

name with wide angle prime lenses, starting with [preset](#) lenses using [T-mounts](#), then expanded into other lens lines.

But some of these wide angle optics were substantially below the optical quality that much more expensive prime lenses were delivering, albeit usually at four to twenty times the price. Some of their early ultra-wide lenses, such as a [wierd 12mm T-mount fisheye](#), were downright mediocre optically by today's standards. On the other hand, these 12mm fisheye lenses sold for under \$50 US new from Spiratone and other importers in the mid-1970s. Sigma also offered an 8mm fisheye in a T-mount version under the Accura and Spiratone brand names too.

During the late 1960s, Sigma offered both single coated and multi-coated optics on some lenses at a modest premium. If you are buying a Sigma lens of this vintage, try to get the multi-coated or MC versions.

In the mid-1970s, Sigma began to upgrade the quality of its optics, culminating in a higher quality series designated by the letters Z, WQ, and finally XQ. As with Tokina, Sigma was using these abbreviations to alert buyers that these lenses represented higher quality lenses within its line. Besides WQ, they also used more understandable terms like *widearama* for a premium wide angle lens ([18mm f/3.2](#)) which cost 1/3rd more than the consumer tier version.

This bi-level marketing strategy continues today. You will find two lens speeds, with the faster and more expensive lens being the more costly version. Examples include:

- 18mm f/2.8 and 3.2
- 135mm f/2.8 and 3.5
- 200mm f/2.8 and 3.5 or 4.0
- 500mm f/4.5 APO and f/7.2 APO
- 35-70mm f/2.8-4 and f/4-5.6
- 75-200 f/2.8-3.5 and f/4 or f/3.8

Teleconverter and Extension Tube

Although we haven't focused on teleconverters here, it is worth noting that Sigma made an unusually handy teleconverter that was also an automatic extension tube. You could simply remove the optical elements, leaving you with a short extension tube. The cost was quite a bit less than buying both an extension tube and a teleconverter. Yet you had the extra capability of using the short extension tube for improving close focusing distance on some telephotos and for macro work. You also obviously also saved space in your camera bag too.

Vivitar:

Series I Lenses (of 1980)
24-48mm f3.8 zoom
35-85mm f2.8 zoom
70-210mm f3.5 zoom
90-180mm f/4.5 zoom

28mm f1.9 prime		
90mm f2.5 macro prime		
135mm f2.3 prime		
200mm f3 prime		
600mm (solid cat)	f8	mirror
800mm (solid cat)	f/11	mirror
Series I Lenses (early 1990s)		
105mm f2.5 prime		
450mm (solid cat)	f4.5	mirror
800mm f11 mirror		
24-48mm f3.5 zoom		
24-70mm f3.8-4.5 zoom		
28-90mm f2.8-3.5 zoom		
28-105mm f2.8-3.8 zoom		
70-210mm f2.8-3.5 zoom		
70-210mm f2.8-4 zoom		
100-500mm f5.6-8 zoom		
Source: <u>The Vivitar Guide</u> , John C. Wolf, Ziff-Davis Publishers, New York, NY, 1980		

The term *cult classic* lenses is borrowed from the [Shutterbug](#) articles and books by Roger Hicks and Frances Schultz. I highly commend buying and reading their book, The Lens Book - Choosing and Using Lenses For Your SLR by Roger Hicks and Frances Schultz (Davod & Charles Pub. Devon, 1994 - ISBN 0 7153 0149 7). Much of the material below on these *cult classic* Vivitar lenses is derived from their books and articles.

The top part of the above table from John Wolf's Vivitar Guide shows the Vivitar Series I lenses available during 1980. We have added in some later Series I lenses from the second series in the early 1990s in the lower part of this chart. Today, you can buy lower cost Series I lenses from a third and more recent tier of lenses at prices little more than standard consumer versions. Most of the professional interest is in the original Series I lineup, with a few of the second design series also being of interest.

The original Vivitar Series I lenses were designed not by a Japanese company or a German optics powerhouse, but by an *American* company - Opcon Associates (of Stamford Connecticut). Surprise!

Chief Designer E. Betensky had worked with Perkin-Elmer as a senior optical designer. You may recall that Perkin-Elmer also made the original Vivitar Series I solid "cats" mirror lenses too. Thanks to these associations, Opcon Associates was able to use the latest computer technology to explore new and innovative lens designs.

Betensky came up with the idea of changing the air spaces between lens components as the lens focuses more closely. The lenses were made by Kiron, Kino Precision Industries Ltd. of Tokyo to Vivitar (Ponder and Best's) specifications.

So now you know why the original Vivitar Series I lenses were able to offer amazing (for 1972) close focusing for the 135mm f/2.3 (3 feet) and 200mm f/3 (4 feet) that blew away competing optical designs in this area.

Why Does Close-Focusing Matter So Much?

Close focusing matters a lot to both serious amateurs and professional photographers. One of the characteristics of a high quality lens design is a short close-focusing distance. For example, many 500mm telephoto lenses won't focus closer than 50 or 60 feet or more. One that lets you focus significantly closer provides much larger reproduction ratios on film. The early Vivitar Series I lenses were often characterized by a very short close-focusing range, often half that of similar focal length lenses. Some lenses such as the 135mm f2.8 CF is a **sleeper** in that it looks like a generic low-cost Vivitar lens. But it can focus down to 1:2, just as close as many macro-lenses. Moreover, today's modern zoom lenses often sacrifice close focusing distance (see [primes versus zooms](#)). So a zoom optimized for close-focusing work adds some major tricks and benefits to the owner's photographic capabilities.

Vivitar 200mm f/3

One of these faster Vivitar lenses to have *cult status* now is the 200mm f/3 Series I lens. From [Third Party Lenses Table](#), you can see that this lens sold for \$334 in 1974, equivalent to \$1,161 in today's 1998 inflated dollarettas. Half a stop slower 200mm lenses sold for a third as much, so this was a pricey lens!

Nearly as fast as a very expensive pro f/2.8 lens, this lens is relatively small (4.6 inches) and compact on the camera. You can hand-hold it nicely, although it is fairly heavy at 29 ounces. But the lens is very sharp and delivers superb results. The f/3 aperture is odd and slightly slower than an f/2.8, but hardly noticeably so even on slide film. Unlike many telephoto lenses, this 200mm will close focus to 4 feet, yielding a 1:4 reproduction ratio on film! Unlike many 200mm f/2.8 telephotos, it also uses smaller standard 72mm filters.



Vivitar Series I 600mm f/8 Solid Catadioptric Mirror Lens

Photo Courtesy of Randy Newberry

Vivitar 600mm f/8 and 800mm f/11 *Solid Cats*

Vivitar also marketed a series of solid catadioptric or *solid cats* of one-piece glass construction. These mirror lenses were actually made by Perkin Elmer (of NASA space telescope fame). The 600mm f/8 and 800mm f/11 *solid cats* have achieved cult status as very compact (only 3.3 inches long), sharp, and super-rugged lenses. Their ruggedness is partially due to their solid, one-piece construction, unlike most current production mirror lenses. This solid one-piece construction design means the elements remain in the optimal fixed positions relative to each other, despite temperature changes or even professional use and abuse.

Weight was only 3 pounds on the 600mm and 800mm lenses! Yet these lenses could close-focus to 23 feet and 25 feet respectively (circa 1:9.3 and 1:8.5 respectively).

One thing to be wary of when buying these lenses is to be sure you get the oddball series filter size filter set, including the UV filter. The lens design requires a filter in the optical path. Be aware that to replace filters, you have to remove the lens, then remove the T-mount, then replace the filter. More modern mirrors have a rotating filter mount.

Most of the standard filters are for black and white photography. Obviously, a polarizing filter would have to be front-mounted, a rather painful financial proposition for such a large filter size. (Hint: Edmund Scientific sells sheets of polaroid material cheaply)

Today, you would be lucky to find these lenses for sale used, as most owners readily appreciate their technical and optical qualities. Few were sold originally because of the steep price tag (\$634 in 1975 dollars translates to \$1,971 in today's 1998 dollarettes). They quite literally *don't make them like this anymore!*

Vivitar 450mm f/4.5 Series I Mirror

This Vivitar 450mm f/4.5 Series I mirror lens is only six inches long and 4 5/8ths inches in diameter. Unfortunately, it takes an expensive and hard to find 97mm filter. Like many Vivitar Series I lenses, the close focusing distance is excellent at a remarkably short 12 feet.

This lens was another failure in the marketplace, and relatively few were sold due almost entirely to the high price (over \$770 in 1986, or over \$1,100 US today!). The reason for its excellent close-focus performance, and high price, was the unusual use of aspherical plastic elements in its design. But such elements cost ten times what a non-aspheric element costs to manufacture, and that adds quickly to the cost of these lenses.

Vivitar 450mm F/4.5 Mirror Design Update
--

<p><i>Thought I would let you know that the design is every bit as rugged as the solid cats were, but the design is entirely different from the older solid cats. Several more elements in the 450 design as shown in Vivitar literature than from the 600 or 800mm design. It is the best of the 3. Best regards. Great web site. Nelson Davis sent 3/8/99</i></p>



Vivitar 90-180mm f/4.5 Flat Field Macro Lens
Photo courtesy of Spook Skelton - wildlife@exis.net
Visit [Wildlife Photo Site](#) - Hot!

Vivitar 90-180mm f/4.5 Flat-Field Macro Lens

Vivitar also made a number of high quality zooms under the Series I label. The 90mm to 180mm f4.5 flat-field VMC lens from 1978 is an optic that has also achieved *cult status*.

This Vivitar 90-180mm f/4.5 lens was really designed for medical photography needs. A ring-light flash unit was designed to mount on the front of this lens too. But as far as I know, it was never released. This original medical market niche explains some of the design features and range of this high quality zoom lens.

This lens is over 6 inches long, and pretty heavy at 2.3 pounds. At a constant f/4.5, you aren't going to value it for its speed either. But it produces excellent results in macro-work down to 1:4 at 90mm and to 1:2 at its 180mm setting.

On most modern zoom lenses, macro photography settings are a lower quality setup. Achieving macro capabilities means shifting some elements and so sacrificing some of the zoom's control over spherical and other aberrations.

Most current zooms only offer macro settings at either one end or the other of their range. Generally, you would prefer macrophotography at the longer end of the range, but most zooms opt for the easier macro settings at the shorter end of the zoom's range. Only a few zooms offer continuous macro-settings over their full range. Even the better current zooms generally only get to 1:4 to 1:6 reproduction ratios (.e., the object is one-fourth lifesize on film).

The Vivitar 90-180mm f/4.5 Series I macro zoom is designed to provide the highest possible quality continuously down to its closest macro settings. The Vivitar 90-180mm f/4.5 flat-field lens provides high quality macrophotography continuously from 90mm (to 1:4) to 180mm (to 1:2). That's unique, and useful, so you should expect to pay quite a price premium for such a *cult status* lens!

Vivitar Series I 28mm f/1.9

Even today, a 28mm f/1.9 lens would be considered quite fast. This lens provided superb quality, low distortion, and very high speed. Here again, this lens wasn't popular due to its odd f/stop and high price (\$305 in 1978). For under half that price, you could buy Vivitar's more compact 28mm f/2 lens. At 12 ounces, this fast f/1.9 lens was also a third heavier than the more compact model. But it was one of the fastest third party lenses ever offered in the 28mm focal length.

Vivitar 135mm f/2.3 Series I

Similarly, Vivitar's Series I 135mm f/2.3 lens (\$220 list in 1977) compared very favorably in everything but price with the slightly slower 135mm f/2.5 lens (only \$130 in 1976). But the Series I lens offered close focusing to 3 feet (vs. 5 feet for f/2.5) and a reproduction ratio of 1:4.5 versus 1:9 for the slightly slower f/2.5 lens. But that speed and close focusing capability required a 72mm filter on the Series I, versus only 55mm on the f/2.5. For only \$60, you could get the TX mount 135mm f/2.8 lens using 52mm size filters. That's a 360%+ premium for circa half a stop of extra speed!

I should mention that there were a few even faster 135mm f/1.8 and even f/1.5 lenses made by Vivitar in 1968, using the preset T-mount. But these lenses were much poorer performers optically than the later Series I 135mm f/2.3 lenses. Avoid them! [see [posting on 135mm f/1.5](#)].

Today, all 135mm lenses are considered out-of-fashion, so you may again be able to get a great buy on a really fast Series I 135mm f/2.3. Two high quality 7 element Vivitar 1.4x and 2x teleconverters can help turn this lens into a still very fast 190mm f/3.2 and 270mm f/4.6 lens. Wow!

Vivitar 24mm f/2

Although this lens is not on our official Series I list, perhaps it should be? This fast 24mm f/2 (and 28mm f/2) can focus as close as 12 inches. The lens takes 55mm filters, weighs only 9 ounces, and is under two inches long. Like the Vivitar 28mm f/1.9 Series I lens, these later lenses also feature internal floating elements for improved close focusing. Except for the later (and related) Kiron 24mm f/2, you have to look at OEM lenses from this period to find the equal to these fast wide angle third party lenses.

Vivitar 135mm f/2.8 CF

Another later entry in our *cult classic* lens list is this Vivitar 135mm f/2.8 close focusing lens. Surprise! This lens can produce a remarkably close reproduction ratio of 1:2 from a distance of 20

inches! Usually, we think of true macro lenses when we deal with a 1:2 close focusing range, such as the Vivitar 90mm f/2.5 classic described herein.

The lens weighs just over a pound, is 3 3/8ths inch long, and uses 62mm filters. For macrophotography of critters and bugs, this lens is probably a lot cheaper and even more useful than many 100mm range macro lenses. I need hardly add that it is a lot cheaper, when you can find one!

Vivitar Series I 35-85mm f/2.8

This Series I lens provides a wide angle to short telephoto capability in a lens only 3.6 inches long that weighs only 26 ounces. Like its cousins, this Series I lens features a short ten inch close focus range providing a 1:3.5 reproduction ratio. What is more important is that the lens is very sharp throughout this range, with excellent contrast too (thanks to VMC multi-coating). Again, the lens is large in diameter, requiring a 72mm filter, but providing a reasonably fast f/2.8 constant aperture throughout its range.

How could Vivitar provide optimal sharpness with such a zoom in the late 1970s that still holds up to the professional standards of the 1990s? The answer lay in abandoning true zoom action, and substituting a vari-focal zoom. With a vari-focal zoom, you have to re-focus the lens every time you change the focal length. But this trick frees the optical designer to maximize the lens sharpness and quality.

This mechanical dual focusing control complexity puts off many users spoiled by true zooms. Consequently, you can often find this sharp zoom selling for surprisingly low prices (Cf. list \$400 in 1978). But as its *cult status* gets better known, those bargains may be harder and harder to find!

Vivitar 90mm f/2.5 macro

Vivitar came up with yet another *cult status* great lens, their macro 90mm f/2.5 lens. This optic can reach 1:2 directly, or 1:1 using an accessory closeup lens (supplied). The sharpness and flatness of field leaves little to be desired by even a picky professional user.

Written up by Herbert Keppler in Popular Photography, this lens continues to be very popular on the used market. It didn't hurt that the lens has a street price less than half the cost of similar and even less capable optics. The longer 90mm focal length also provided extra working distance that was lacking in more traditional 50mm and 55mm macro lenses. So if you were looking for a sharp short telephoto macro lens, this lens was the obvious low cost choice. That's enough popularity to justify its *cult status* in our book!

[Surprising Comparison](#) Between 25 Year Old Vivitar Series I and new Sigma 70-210mm Zoom

The 25 year old Vivitar 70-210mm f/3.5 Series I zoom did better in areas like distortion, resolution, and close focusing while providing up to 1 1/3rd stops more speed than the new Sigma 70-210mm consumer zoom....

Vivitar Series I

While the first Vivitar Series I lenses were no-compromise optics, they were disasters in the marketplace. Few lenses sold, partly due to their odd-ball apertures and weight, but mostly due to their high costs. The Series I lenses were generally at least double the cost of very similar aperture and speed lenses already in the Vivitar lineup.

This cheaper Vivitar consumer lens line image also made it hard for photographers to put down these high prices for an off-brand third party lens line. Similar OEM prime and zoom lenses often sold for nearly the same price, sometimes less.

Vivitar learned from the marketplace's rejection of their first Series I lenses. The followup Series I lines were more attune to the marketplace demands. Instead of an 28mm f/1.9 optic, you got standard f/2 optics. Instead of a vari-focal zoom of maximum sharpness, you got a true zoom that was more convenient, but with a bit less refined optical performance. The lenses also became lighter, and more appealing to the consumer mass-market.

The current models labeled Series I lenses are still considerably better optically than Vivitar's own lower to mid-range consumer lens lines. But they are no longer unique nor challenging the OEM lens makers for optical supremacy. Tomorrow's *cult classic* lenses are more likely to come from Sigma, Tamron, and Tokina....

Vivitar Series I 70-210mm Zooms						
1974	31 oz	6 1/8 inch	Kiron	1:2.2	f/3.5	macro button
1982	25 oz	5 5/8 inch	Tokina	1:4	f/3.5	macro
1984	30 oz	5 5/8 inch	Komine	1:2.5	f/2.8-4	macro (beyond 150mm only)

Source: H. Keppler, *SLR, Modern Photography*, August 1984, p. 35

The above table helps highlight some of the changes in Vivitar's most popular Series I 70-210mm zoom series. Three different manufacturers made these zooms - Kiron, Tokina, and Komine Co. Ltd. in Japan.

In the past, I believed that the first (Kiron-made) Series I zoom was arguably the best optical performer. But now I have changed my mind, thanks to some personal experiences shared in an email along with some research by an owner of several versions, Steve Walker, [posted below](#).

The first (Kiron) zoom was arguably an excellent performer in its time. This Series I zoom helped make the fine reputation of these original 1970s Vivitar Series I optics. The second (Tokina made) zoom sacrificed some of the macro capabilities to save weight, while retaining a constant aperture.

The third Series I zoom (by Komine), described by Steven Walker's [post below](#) along with some lens test results, is an improvement over the original Series I (Kiron) zoom. While it is a variable aperture lens, it does offer a much more competitive f/2.8 aperture at the wide end (albeit a slightly slower f/4 at the long 210mm end). The overall lens test results provided by Steve also shows how a decade of design experience has improved the performance of this popular 70-210mm zoom series.

As I have noted in several asides in this page, I am generally leery of older ultra-wide and very wide angle prime lenses and most zooms prior to the mid-1980s. Many others feel the same way, which is why prices on these older lenses are often relatively low. But with a bit of study and research, you can still locate some outstanding optics and at great prices!

In fact, today you can often buy a Series I zoom for little more than the price of the consumer grade zoom. Many of these Series I lenses can be bought for under \$100 US on the used market. Vivitar no longer enjoys the reputation for innovation and quality that came with the original Series I line. Yet many of these later 1980s and early 1990s Series I zooms are very capable performers.

Still, a word of warning is in order. Even excellent older optics can be subject to abuse, dropping, shocks, and amateur repair jobs which can compromise their functions. So be sure to carefully test your lenses to ensure that your lens hasn't been abused or mis-aligned! See our [lens testing tips pages](#) for how-to test tips.

Similarly, the non-Series I older Vivitar fixed mount lenses were usually only half the price of their Series I cousins. Construction and optical performance was generally good, relative to most consumer grade primes and zooms. These lenses will still perform well today too. But they won't achieve *cult status*. However, I make an exception for a unique series of Vivitar/Soligor interchangeable lens mount lenses which retained auto-diaphragm action, known as the T4/T5 and TX mounts described below.

Interchangeable T-4 and TX Mount Lenses

To my mind, the T-4 and TX series [interchangeable mount lenses](#) are more interesting third party lenses, precisely because you can use them on a variety of camera bodies simply by using the appropriate adapter. Consumer quality lenses in the 28mm to 300mm range were no great optical design challenge by the 1980s. So you can expect these lenses to perform reasonably well, although less brilliantly than their Series I cousins, especially when used wide open.

Still, these interchangeable T-4 and TX mount lenses are even less liked by today's consumers, so you can often buy them for as little as \$25 US or even less! For \$10-15 for a used adapter, you can convert all of these lenses to work on a different camera body (generally non-autofocus models obviously).

In a related [case study of Vivitar TX lenses](#), we discovered that these lenses are full of surprises. For example, their highest ratings for sharpness are wide open rather than the expected middle f/stop settings. Their corner sharpness is generally rated as excellent or very good, while center sharpness varied more widely. The hardest to design 24mm lens was the best rated performer. Surprise! This case study highlights the need to actually test your lenses to learn about these surprising [variations](#).

Summary

In summary, the early Vivitar Series I lenses offered a unique series of fast prime lenses and unusual professional quality zooms. These lenses are still unique today, justifying their *cult status*.

The later Series I lenses generally rank near the top of third party consumer grade lenses of the same time-frame.

Their mid-range consumer primes and zooms are good or better than average quality consumer grade optics, with a few clunkers mixed in (e.g., those unsharp f/1.5 and f/1.8 135mm telephotos from 1968).

I find Vivitar's out-of-favor T-4 and TX lenses to be more interesting, largely due to the ability to mount them in a multitude of classic cameras bodies I own.

Kiron

Kiron Lenses from early 1980s

F/1	f/stop	Comments
24	2	
28	2	
28	2.8	
105	2.8	macro
28-105	3.2	macro (varifocal)
28-210	4	macro
28-70	3.5	
28-85	2.8	
30-80	3.5	macro (varifocal)
35-135	3.5	macro
70-150	4	macro
70-210	4	macro
70-210	4.5	macro
80-200	4	
80-200	4.5	macro
80-200	4.5	macro

See [listing](#) for prices

Kino Precision Optical Corp. was one of the more than twenty [Japaneses third party lens makers in 1984](#). Their lenses were originally also imported under the Panagor brand, then by Vivitar.

In the early 1980s, they began direct marketing of an independent lens line in the U.S. under their new Kiron brand name. They were also producing some of the popular Vivitar lenses at the same time in their factories, reportedly including some of the Vivitar Series I optics.

Did you notice the past tense in the above history of Kiron? That's because Kino Precision Optical Corp. has returned to the relative anonymity of most Japanese third party lens makers. You can still buy their lenses, but not under their own brand name (i.e., as Vivitars).

However, some Kiron lenses were evidently their own designs, rather than just copies of the Vivitar lenses, as the specifications and costs differ significantly from Vivitar lenses of the same period.

Kiron 28-210mm f/3.8-5.6 zoom

This 28-210mm f/3.8-5.6 Kiron zoom lens remains one of the best 7:1 long-zoom lenses made (through the early 1990s). Unlike its imitators, this Kiron long-zoom uses a special helical focusing mount to extend its close-focusing range to an exceptional 3.5 feet at the 105mm portrait lens setting. Close-focusing distance rises to five feet at 50mm and eight feet at 28mm, so you may still want to keep that 24mm f/2 Vivitar lens handy!

Another nice feature of this Kiron zoom is that it has a macro setting of 1:4 at the long end of its range, i.e., at 210mm. Usually, these macro settings are often at the short or wide angle end of the long-zoom range. This macro setting at the long end means you can keep your distance from

skittish bugs and critters, or shoot macro shots through museum display cases, and not have to get very close to do so.

Like most of its brethren, this lens is heavy (28 ounces) and big (5 inches). Although it is a bit slow at the long end (f/5.6 at 210mm), you can use standard 72mm filters rather than the more costly and unusual 77mm or even 82mm filters on some competing long-zooms. The lens was \$360 list when introduced in 1985 (or \$550 in 1998 dollarettes).

See sample flower macro photo and [post](#) from a new Kiron user ;-)

Kiron Zoom Averages vs. Prime Lenses		
Setting/lens	center lpmm	edge lpmm
28mm Kiron	53	45
28mm f/3.5 Nikkor	62	42
105mm Kiron	55	50
105mm f/4 macro	55	49
210mm Kiron	57	51
200mm f/3.5 AF Vivitar	57	49

Source: H. Keppler, *Super Stretch Zooms, Do you Lose Picture Quality?*, Modern Photography, p. 34-35,74, June 1986

From looking at the above table, you can see that the Kiron lens beat the 200mm f/3.5 prime lens, matched the 105mm f/2.8 macro prime lens, and beat the nikkor in edge performance (where a prime is supposed to blow away a zoom lens). In fact, the Kiron lens got only excellent ratings in corner sharpness at all apertures and settings tested. In the center sharpness tests, the Kiron super-zoom lens garnered 17 excellents and 4 very good ratings.

Usually super-zooms fall down at the telephoto end, but the Kiron 210mm setting was all excellents on sharpness in center and edge tests. Distortion was also low (1.08% at 28mm vs <1% for Nikkor, and 0.63% at 210mm vs. 1.77% for the Vivitar AF lens). The Kiron zoom had light falloff of only 0.6 stops at 210mm versus 0.5 stops for the prime 200mm f/3.5 AF Vivitar lens.

Unlike many zooms, the Kiron 28-210mm zoom has its macro setting at the 210mm setting. This arrangement provides a longer four foot distance from skittish critters. Center performance at 1:4 macro was all excellent, and edge performance ranged from very good (3) to excellent (3).

So where does the Kiron and most super-zooms fall down? The answer for most super-zooms is that at their 28mm setting, they have a hot-spot or a relatively high light falloff (e.g., for Kiron zoom of 1.1 stops versus 0.2 stops for 28mm f/3.5 nikkor). The close focusing distance for the 28mm f/3.5 nikkor prime is under a foot, versus 8 feet for the Kiron super-zoom. The super-zooms are also heavier and slower (at f/5.6 for Kiron zoom at 210mm setting). See [Primes versus Zooms](#) for more comparisons.

What is surprising is not that the Kiron 7:1 28-210mm superzoom has these faults, but that it performs so well against prime lenses in sharpness and contrast (also high contrast throughout range). The macro setting may not equal a prime macro lens performance in the corners, but the center is excellent and the overall performance very good for a zoom pseudo-macro setting.

Personally, I have and like this lens for its convenience. I like to have a zoom lens as a backup of all my prime lenses too, in case one or more fail or get stolen. But since I am aware of this super-

zooms limitations, I usually bring my 24mm f/2.8 AI Nikkor with me and a fast normal or macro 50mm lens (usually with a fisheye adapter attached). Since Kiron is poorly known and out of favor, I only had to pay the \$75 US asking price for this lens to add it to my camera bag.

Kiron made several interesting fast f/2 prime lenses at both 24mm and 28mm in a variety of mounts. Only Kiron and Vivitar reportedly made a fast 24mm f/2 lens prior to the mid-1980s, with the Kiron being a later 1980s design listing for nearly twice as much as the Vivitar 24mm f/2 lens.

Kiron's 105mm f/2.8 tele-macro lens is also sought after, but listed for \$439 in 1984 (nearly \$700 in 1998 dollarettes).

Kiron 28-85mm Varifocal Macro Zoom Review (Modern Photography 1981)

Kiron's varifocal 28-85mm f/2.8-3.8 zoom rated 34 out of 36 excellent ratings for center and corner sharpness (and the two holdouts were both very goods) at 28, 50, and 85mm. Contrast rated as all highs at 28mm, all but one high at 50mm, and mostly high at 85mm (center).

Quote: Based on our lab and field experience with the 28-85, we're happy to say that it performs splendidly - better than any lens in this focal-length range we've tested so far...

The lens close focuses to 1:4 macro shots without the need for macro buttons or special settings. Both the 28mm and 50mm settings were superb by f/5.6. Pincushion distortion was under 1.25%. Light falloff at 28mm was a relatively high 1.4 stops at f/5.6, but only 0.3 stops at 85mm.

Here is an example of a Kiron varifocal mid-range zoom that is very sharp and very contrasty, while delivering its best performance at the wider and faster 28mm end of its range.

Source: Modern Photography, p. 90, March 1981

Their lenses list prices were generally also higher than most other third party and imported lens monikers. For an example, the Kiron 28mm f/2.8 lens introduced in 1980 listed for \$175 while the new 1980 Tokina 28 f/2.8 was only \$110 US.

Today, the Tamron or Tokina brand name is much better known and respected than Kiron. A Tokina lens is likely to command more of a premium than the lesser known Kiron lenses that listed for 50% more. In other words, Kiron lenses today are often a better buy, since they often sell at a deeper discount as a lesser known brand name.

Looking at their more extensive zoom line, we again see their relatively slow zooms often positioned near the top of the early 1980s price points. Interestingly, they also produced some varifocal macro zooms. As we saw above with some Vivitar Series I varifocal zooms from this period, this compromise helped wring higher quality out of these 1980s lens designs.

Similarly, their Panagor 55mm f/2.8 macro lens from the early 1980s was \$275 when the Rokunar 55mm f/2.8 macro was only \$120. Only the Vivitar macro lens from the late 1970s was comparably priced.

These cases show ways to use [Table of Third Party Lens Makers](#) (by focal length) to identify higher end manufacturers and higher priced lenses.

Back then, you had to pay a substantial premium to pick up one of these Kiron lenses. Today, you can often buy these lenses at a discount, since the brand is poorly known. My experience has been that these lenses justified their high prices with very good optics and even better mechanical construction.

Samyang/Phoenix - A Rising Star From Korea

Korea has invested a lot of money and talent in challenging Japan's optical industry, and Samyang is one of their key players in 35mm optics. Their lenses are imported into the U.S. under the Vivitar, Cosina and Phoenix brand names, as well as a variety of other importer house brands.

The reason isn't hard to figure out. Samyang offers a variety of uniquely priced optics, delivering a lot of optical capability for very little money. More recently, they have produced some of the long 500mm f/8 and 400mm f/6.3 telephoto glass lenses described below, which used to be made in Japan.

400mm f/6.3 and 500mm f/8 Cambron Glass Telephoto Lenses Review

While these lenses sold for only \$50 and \$70 US in 1979, they still sell for only \$100 brand new today (or \$129 for the fancy multi-coated version). Both used 72mm filter threads and T/T-2 mounts.

See [500mm f/8 Mirror Nikkor](#) for comparisons - glass versus mirror lenses...

The 400mm f/6.3 to f/22 lens was just over 12.7 inches long, 26 ounces, and close focused to 21.5 feet. The 500mm f/8 to f/22 lens was 16.3 inches long, 30 ounces, and 38.75 feet close focus distance optically. Both used [preset diaphragms](#) and featured tripod mounts.

Distortion on the 400mm was 0.6% (barrel) versus 0.8% (pincushion) for the 500mm lens. Both are well under the 3.5% standard for distortion. Light falloff for 400mm at f/6.3 was circa .7 stops, versus 500mm which had 0.6 stops light falloff at f/8 (wide open).

Now for the real shockers. The cheapy 500mm f/8 glass lens rated *excellents* at all stops, both in center and corner resolution. **Surprise!** The 400mm f/6.3 lens resolution ranged from good (1) to very good (1) to excellent (3) in the center, but performed best at f/16 and f/22 (excellent both in center and corners).

Unfortunately, neither lens uses APO glasses, so contrast ranges from medium to very low on the 500mm, and the 400mm was low in the center and very low in the corner. Both work best on tripod mounts.

In practical field shooting, a slight amount of blue haze in the shadows disappeared as you stopped down to f/8 (400mm) and f/11 (500mm). The big surprise was the 500mm lens image quality at the edges and corners, which approached that of the center itself.

This 500mm f/8 glass lens was chosen for use as a [medium format](#) 500mm f/8 telephoto, selling for \$395 in mounts for Pentax 645, Mamiya 645, Hasselblad 2000f, and other 6x6cm cameras. The latest (Korean) version of this lens still sells brand new for circa \$100 US, although the \$129 US multicoated version is recommended!

In tests of this 500mm f/8 lens in a Dr. Zork mount for medium format, Keppler (in a [Pop. Photography](#) Nov. 1997 review) noted how sharp the lens was, even in the corners, on the 6x4.5cm and 6x6cm camera mounts.

So here is an unusual case of a 35mm format lens being used on medium format, where its low cost (\$395 US versus \$20,000 US for a Rollei 500mm f/8) was a big advantage. Note that the rear

of these 500mm lenses screw off, making them easy to remount or to pack more compactly in your camera bag.

In the meantime, you can often buy these 500mm f/8 multicoated lenses for as little as \$50 US used. They mount on any camera using a simple T-mount. If you don't like the [bokeh](#) of mirror lenses and their fixed apertures and single depth of field setting, look into these low cost glass lenses. I find them a lot more flexible and better optical performers than the low-cost mirror lenses (excepting maybe the Spiratone 500mm f/8 mirrors and Nikkor OEM mirrors).

Source: [Modern Photography](#), October 1979

The really interesting optical developments by Samyang are in the very wide and ultra-wide angle zooms. An ultra-wide angle zoom is probably one of the hardest 35mm optics to make. Not only is Samyang/Phoenix in this game, but they seem to own the low cost ultra-wide and ultra-wide prime lens lines. See [Ultrawide Lenses](#) for a pricing analysis from January 1998.

Despite Korea's minor advantage in labor costs, it is simply amazing that Samyang can produce 19mm f/3.8 lenses that retail for under \$100 US. They also have 17-28mm f/4 and 19-35mm f/4 zooms in an autofocus mount for under \$140 US. Their nearest priced competitors are double or triple these street prices.

I readily grant that these lenses feature more distortion and less rugged construction than ultrawide lenses by OEMs such as Nikon and other third party makers such as Sigma. But providing such ultra-wide primes and zooms at a third the price of other lens makers justifies including these lenses in our *cult status* category. If you are looking for a budget ultrawide to try out the range below 20mm, this is by far your lowest cost option.

In my mind, Samyang/Phoenix is pursuing a *Sigma-like* strategy. Sigma started out pushing the low price limits on ultra-wide lenses, first under importer brands and then under their own name. They also provided some long telephoto lenses well under the OEM price points. Next they added wide angle zooms and faster telephoto glass. Today, they are one of the leading trio of third party lens makers (with Tokina and Tamron).

I see Samyang/Phoenix taking a similar approach, using low prices to build their production capability and expertise. And I also see them breaking out with higher quality optics at slightly higher prices in the future too.

Korean vs. Japanese Lenses (1984)		
28-85mm f/3.5 Zykkor (Korean)		
lpmm - center vs corner		
28mm	61	40
50mm	60	38
85mm	56	38
28-85mm f/3.5-4.5 Tokina (Japan)		
28mm	53	31
50mm	49	44
85mm	49	44
80-205mm f/4.5 Zykkor (Korean)		
80mm	51	41

120mm	51	38
205mm	51	33
80-200mm f/4 Tokina (Japan)		
80mm	60	50
135mm	55	48
200mm	51	45
60-300mm f/4-5.6 Sears (Korean)		
60mm	62	47
180mm	50	42
300mm	46	38
60-300mm f/3.8-5.4 Tamron (Japan)		
60mm	56	47
135mm	55	48
300mm	49	44

Source: H. Keppler, *SLR Notebook*, Modern Photography, July 1984, p.118.

The above table comparing some early mid-1980s Korean lenses with more costly Japanese models shows how surprisingly capable some of these Korean lenses were for such low cost optics (often 30%-50% below similar Japanese optic dealer prices). The quality of lens mounts and finish was initially rough, and quality varied greatly depending on Korean makers too. But the competition from Korea helped push lens prices down, and otherwise changed the economics of the optical industry in Japan too.

500mm f/8 Telephoto Glass Lens



500mm f/8 Lens (with T-mount and spacer tubing unscrewed)

Widely imported under the Spiratone ("Sharpshooter") and Cambron (Cambridge Camera Exchange) brand, these lenses were made by a variety of manufacturers including Five-Star (TOU) in Japan and Samyang/Phoenix in Korea more recently.

These lenses use the T-mount system, so simply swapping an adapter (\$10-15 US used) lets you mount it on most 35mm SLR cameras.

Hold your hand out at arm's length, with your thumb sticking out. The area covered by your thumbnail is about the coverage of a 500mm lens on 35mm film. So a 500mm is handy for really reaching out!

These lenses were physically quite long (circa 14 inches). But you could usually twist off a rear mounting tube (which held a tripod mount collar that rotated in place). See the photo above to see the rear spacer tube unscrewed. Now the lens is quite a bit smaller and easier to stick in my camera bag. The lens is quite light (a few pounds), thanks to mostly aluminum construction.

Try to get a later multicoated version of this lens, rather than the earlier uncoated version. Names like *pluracoat* are often used to indicate multi-coating. You should also look for the [pre-set](#) version rather than the earlier manual versions.

The big advantage of a glass lens over a telephoto lens is the ability to set lens aperture at stops from $f/8$ to $f/32$. This ability lets you control the depth of field. You can also control exposure with this variable aperture ring, if you need or prefer a desired shutter speed.

By contrast, 500mm $f/8$ mirror lenses are fixed, and you can't control depth of field with them. With a mirror lens, you usually adjust shutter speed to control exposure. You can work with neutral density filters to reduce light too, but that's often less convenient.

A 500mm $f/8$ glass lens is also likely to be a (nearly) true $f/8$ optic. The mirror lenses usually are rated at $f/8$, but have true transmittance ratios closer to $f/11$.

Both the glass and mirror 500mm $f/8$ lenses really need to be used mounted on a tripod. With a 14 inch long 500mm lens, you aren't likely to try hand-held shots. With a 3 to 6 inch long 500mm mirror lens, you might be tempted to try it and usually fail to get sharp results.

The glass lenses also don't suffer from the *donut-shaped highlights* that afflict most mirror lenses. Many people don't like such odd-shaped out-of-focus highlights or [bad bokeh](#) in their photos.

How good are these lenses? Used under good conditions (solid tripod, early morning, little turbulence or dust in the air), they can perform surprisingly well for a lens that only cost \$99 US to \$129 US when new. But these aren't APO lenses, so contrast will seem flatter next to an APO telephoto lens shot.

A key disadvantage is these 500mm glass lenses don't focus very close (like 60 feet). You can use an extension tube to reduce this distance. You also have larger filter sizes even for this $f/8$ lens (typically 67mm or Series VIII).

Recently, Cambridge Camera Exchange has marketed these 500mm $f/8$ lenses for use with various medium format cameras. Yes, you read that right! Many 35mm long telephotos have enough coverage for 6x4.5cm and even 6x6 focal plane cameras. Models such as the Mamiya 645 and Hasselblad focal plane F200x series are available. Cost was \$395 US, although the same 500mm $f/8$ lens in 35mm mount is only \$99 to \$129 US (multi-coated). The medium format lenses reportedly used mounts provided by a German firm (Dr. Zork). (see [homebrew lenses](#) for photos and details).

Popular Photography's Herbert Keppler did a review of this medium format 500mm $f/8$ lens in his November 1997 *SLR Column*. He noted that the lens proved *surprisingly sharp* even in the corners.

What makes these lenses *cult classics*? Most folks today shoot 500mm $f/8$ mirror lenses, with all the problems noted above. On medium format, a 500mm $f/8$ lens for Rolleiflex 6x6cm lists near \$20,000 US! An APO 500mm $f/7.2$ glass OEM 35mm lens is quite expensive new, let alone anything faster. Even a used 500mm $f/5$ Asahi Pentax screw-mount lens costs a bundle. So these

low cost 500mm f/8 glass pre-set lenses offer a funky and low cost way to take extreme telephoto shots.

400mm f/6.3 Glass Lenses

About that 400mm f/6.3 Spiratone Pluracoat lens...

I just had one (again - I had a similar one I bought new when I was just starting out in photography...). It is so sturdy and simple mechanically and optically that, unless damaged, it is unlikely ever to need parts. I don't know the mfg., but Tamron is a good guess... As such things go, it's o l d . . . ;-) \$50-100, and a bargain at that - it is only slightly slower than a \$2000 Nikkor 400mm f5.6, surprisingly sharp (not up to the Nikkor, but a lot sharper than cheap mirrors, and probably a bit sharper than even expensive off-brand zooms that include 400mm) and even in performance from center-to-corners, and the preset diaphragm isn't really a problem since it is easy and fast to operate, and the lens would generally be used (when hand-held) only at the widest
two *stops...*
Have fun with it!....David Ruether (ruether@fcinet.com)

These 400mm f/6.3 lenses were actually introduced before the 500mm f/8 glass lenses by such importers as Spiratone and later Cambridge Camera Exchange. They are very similar to the 500mm f/8 lenses, except they don't disassemble for packing. Fortunately, they are physically closer to ten inches long, so this isn't much more of a problem.

In my experience, I never carry both my 400mm and my 500mm lenses with me at the same time. They are just too close in coverage. I also feel that 400mm is often slighted by photographers with 200mm lenses and a 2x teleconverter, explaining why the 500mm f/8 is more popular as most folks choice for their extreme telephoto length.

I would suggest this view is wrong, and that a 400mm lens is less radical and more useful to most photographers. For one thing, it is easier to pack than a 500mm glass lens. It is a faster f/6.3 lens too.

Finally, dust, smog, haze, and atmospheric turbulence make it hard to use a 500mm lens effectively. So I find the 400mm f/6.3 glass lens a better choice for most low-cost telephoto needs than the longer 500mm f/8 glass lens.

Moreover, there are lots of compact 500mm f/8 mirror lenses but fewer low cost 400mm mirrors out there. I think a more optimal strategy might be a 400mm f/6.3 glass lens (shorter, faster) with a 500mm f/8 mirror lens (small, compact). When carrying the 400mm f/6.3 is inconvenient, you can pack a teleconverter to use with your 200mm f/3!

Celestron, Meade, Questar, Zoomar...

[See](#) [Listing](#) [for](#) [Lenses](#) [and](#) [Prices](#)
[Older Mirror Lens Reviews](#)

These manufacturers enjoy *cult status* for their mirror lenses. In general, a fast mirror lens is much more expensive than a slow one. The earliest mirrors were generally very fast (e.g., Nikon 500mm f/5). Subsequently, the trend has been towards a slower less costly and bulky mirror lens size (e.g., 500mm f/8, 1000mm f/10 or f/11). So any specialty mirror or telescope maker enjoys cult status for providing a faster mirror lens alternative, even if the price is equally impressive.

The requirements of telescope optics are quite different from the needs of cameras. The eye has an acceptance size of only 7mm or so, whereas a 24x36mm film area is much more difficult to

cover without various forms of coma and other distortion. In other words, you probably would find most camera lenses make less than optimal telescopes, and vice versa.

However, these third party lens manufacturers provide a series of telescopes and mirror lenses which are adapted or suitable for camera use. You have probably already guessed that such specialty lenses are not needed by most photographers, and few of those who might need one can afford one.

The performance of these optics is often just short of amazing. Questar even claims that its telescopes reach or exceed the theoretical maximum resolution for telescopes of their size. Most telescopes have mirrors that are within 1/4th of a wavelength of light of being perfectly ground. I have a ten inch wide mirror telescope whose surface is accurate to within 1/10th of a wavelength of light! By comparison, glass lens optics are far less precisely aligned and positioned.

500mm f/8 Maksutov Tele Optic (MTO)

These MTO mirror lenses use the Maksutov collapsed mirror design to pack a 500mm f/8 lens into a 7 inch length. That's the good news. The bad news is that these lenses are heavier at 42 ounces than nearly any Western 500mm f/8 mirror designs. Close-focusing distance is a very decent 12 feet. The Maksutov design yields very high performance, compared to less costly designs often found in American and Japanese made mirror lens designs.

It would cost a fortune to make such designs in the U.S. or Japan, but labor costs in the former Soviet Union were less of an issue. These lenses have been imported since the 1960s, with relatively few changes. The later Russian versions (3M-5A series onward) added a sliding lens shade and plastic case in place of the older, funkier wooden cases.

You will see a number of these lenses on the surplus market, particularly now that post-Soviet optics are turning up in Europe and the U.S. Try to get the entire kit, complete with case and 77mm filters (UV, X1, Y2, ND.6x). Be careful to get the later T-mount version, as the really old versions started out with a Leica thread mount to match some of the Soviet made Leica camera copies. The latest versions of these lenses may be made by Arsenal in the Ukraine (Kiev) and imported by [Kalimex s.r.o.](#) in the Czech Republic.

Auto-Focus Lenses for Non-Autofocus Cameras

When the first auto-focus lenses came out, they included some offerings that had autofocus mechanics and electronics internal to the lens rather than the camera body.

The big attraction of these lenses is that you can use them to convert an older, non-autofocus camera into a camera that has an auto-focus lens. While these autofocus lenses are big, heavy, battery-powered, and slow, they are an autofocus option for non-autofocus bodies.

Self-contained Auto-Focus Lenses
Tamron 70-210mm f/4 IF
Vivitar 200mm f/3.5
Vivitar 28-70mm f/3.5-4.8
Vivitar 75-200mm f/4.5

Even the OEMs came out with some trial auto-focus bodies and specialized lenses usable only on that mount (e.g., Nikon's autofocus F3 model). The transition to requiring an autofocus body and related autofocus mount lenses was rapid. Today, most autofocus lenses will only work in close combination with their matching autofocus bodies. Since this approach is now out of favor, you will find only a handful of retro-AF lenses such as those listed above.

Another issue with third party lens makers is the difficulty of reverse engineering autofocus lenses software. That's right! Your autofocus lenses have chips built-in. So all the problems with software glitches can now get you with your auto-focus cameras and lenses too. In at least one case, the Tokina software for certain lenses was incompatible with various mounts, leading to a recall and software update for that particular autofocus lens.

Software is copyrighted, even if it is just embedded in your lenses. Third party lens makers are not known as software development powerhouses either. So the surprise is not that third party lens makers have come out with these latest version auto-focus lenses, but that they have done as well as they have in reverse engineering these complex new lenses. But the battle between the OEMs to keep and win back marketshare from the third party lens makers goes on.

Mirror Up Lenses

Many non-retrofocus fisheye and ultra-wide lenses have attained a *cult following* too. These lenses have to be used with cameras that can flip the mirror up, out of the way, prior to mounting these lenses. Since the mirror is up, you have to compose your photograph using a funky wide angle viewfinder mounted on top of your SLR camera!

Why would anyone want to make such a giant leap backwards, let alone pay a premium price to do so?

The short answer is these non-retrofocus designs don't have to make any of the optical tradeoffs found in all retrofocus SLR lenses. This approach provides superior performance both with low optical distortion and high contrast. [Flare](#) is greatly reduced, partly due to fewer elements thanks to omitting the retrofocus group elements.

The [Hasselblad Superwide SWC](#) is a camera designed around a superb non-retrofocus Zeiss Biogon wide angle 38mm lens design (on the 6x6 format body). While slow (f4.5 typically maximum), this non-retrofocus wide angle lens design has an astonishing degree of contrast and correction from distortion. Many photographers believe it is much better than the competing \$5,000 US 40mm Distagon wide angle Hasselblad retrofocus lens design. The same Biogon non-retrofocus lens design works great on both 35mm SLRs and rangefinders (e.g., Leica).

Most of these *cult status* very wide 35mm SLR mirror-up lenses were based on the Zeiss Biogon design. These lenses have slow maximum apertures, usually f/4 or slower. The 21mm f/4 nikkor is a good example of such a *cult status* lens. Despite being four decades old, this design delivers surprisingly low distortion and high contrast. But be sure your camera has a mirror-up option before you buy one of these lenses!

Executive Summary

Third party lenses offer many examples of high quality or unique design features, usually at a significantly lower price than [OEM](#) lenses.

For more recent lenses, you can use [magazine reviews](#), price, lens speed, [specialty glasses](#) (APO, HLD, SD, and LD), and online [postings](#) and reviews of lens quality.

For lenses from the 1960, 1970s, and mid-1980s, you can use our [Table of Lenses by Mfger](#). Prices can be compared, both list price when introduced and equivalent price in today's inflated 1998 dollarettes.

We also have an updated listing of lenses through the early 1990s by the [Big 4 - Sigma, Tamron, Tokina, and Vivitar](#), including by [focal length](#). Later lenses can be researched at [manufacturer's web sites online](#) or various lens reviews available online.

For the big four lens makers, we have identified their quality designators for professional and consumer grade lenses below.

Mfger	Top Quality	APO Glass	Serious Amateur	Consumer
Tokina	ATX	SD/HLD	SMZ, SZ, SZX, SL	EMZ, ELZ
Tamron	SP	LD	fast lenses	slower lenses
Sigma	XQ/WQ/Z	APO	fast lenses	slower lenses
Vivitar	Series I (early)	APO	Series I (late)	slower lenses

Editor's Notes:

Sources: Roger Hicks and Frances Schultz, [The Lens Book - Choosing and Using Lenses for Your SLR](#), David & Charles Pub. Devon U.K. 1994, ISBN 0 7153 0149 7 (esp. Vivitar Series I lenses)

Herbert Keppler, [SLR Notebook](#), [Popular Photography](#), June 1991, pp. 24-5, 28-9, 46. (misc. lenses)

Related Postings

rec.photo.marketplace

From: Harvey Steeves h.steeves@sk.sympatico.ca

[1] FS: 90-180 Vivitar(Nikon mt)

Date: Fri Oct 30 16:26:55 CST 1998

Vivitar 90-180 Series 1 flat field macro zoom, Nikon mount almost mint with lens hood \$350.00

[Ed. note: compare to \$400 US list price in 1978...]

rec.photo.equipment.35mm

From: spinynrmn@aol.com (Spiny Nrmn)

[1] Re: Mirror lenses as telephotos?

Date: Sat Oct 31 16:20:43 CST 1998

>>How well do the current mirror (catadioptric) lenses used for astronomy perform as telephoto lenses?

>

> They all, as far as I know, have a problem

>with field curvature -- they are not sharp over the entire 35-mm frame.

A refractor will split colors into individual wavelengths of light due to the light being focused at different distances from the lens, but provide a flat field. Apochromatic lenses eliminate the prism effect. A Schmidt-Cass design, or SCT will not have any prism effect at all, but will produce some distortion on the edge of the field. The Maksutov design, (the mirrored lens with the strongly concave front glass) gives a flat field and no color separation at all. This is reflected in the cost, which tends to be much higher than for the same size SCT. Another drawback to mirrored lenses of either type is the focal length. With the ETX on a T-mount, you have a lens of about 1450mm. The scope is visually an f/13.8, but it shoots as an f/18 or f/22. In my camera, the motion of the shutter is enough to blur the image, even when the the mirror in the camera is locked up, the self timer is used, and the whole thing is mounted on a tripod.

Carpe Noctum,

Bill

From: "Michael A. Covington" covington@mindspring.com

Newsgroups: rec.photo.equipment.35mm

Subject: Re: Mirror lenses as telephotos?

Date: Wed, 28 Oct 1998

>How well do the current mirror (catadioptric) lenses used for astronomy

>perform as telephoto lenses? I haven't seen any mention of them in

>these groups, although I may have overlooked some posts.

>Jim Dryden

Are you thinking of astronomical telescopes such as Celestron C90, Meade ETX, etc., and even bigger ones? They all, as far as I know, have a problem with field curvature -- they are not sharp over the entire 35-mm frame. (For astronomy this is not a big problem since we are usually interested only in the middle of the field.)

Michael Covington

Author, Astrophotography for the Amateur

<http://www.mindspring.com/~covington/astro>

[Ed. note: from an EBAY ad posting by AEROBAT77]

Kiron 28-105 f3.2-4.5 zoom lens to fit nikon. This is one of two lenses built by Kino Precision that became famous. Sometimes when a lens is designed everything goes especially well and the design becomes kind of a classic. Kino built two of them, their incredible 105 f2.8 Macro lens and this one, the 28-105 f3.2-4.5 zoom. This is acutally a "varifocal" lens, meaning that it must be re-focused after changing the focal length. This is possibly one of the contributing factors to its wonderful image quality since getting a design to zoom while holding focus makes for a more complex and compromised lens.

rec.photo.equipment.35mm

From: "toby" zdf Tokyo@gol.com

[1] Re: Tamron Mirror Lens 500mm f8

Date: Tue Nov 03 20:27:49 CST 1998

I've heard it's good as 500mm f8 cats go, small too. Since it has a fixed aperture you'll sometimes find it difficult to get critical exposures right in manual mode--auto fixes that with stepless shutter speeds if you're metering the right point...

I mean let's face it, I assume you don't want to spend thousands on a 600mm f4 tele. Mirror lenses tend to be rather low in contrast and they have that bad bokeh (though I happen to love the out of focus images they produce). I shot many stock images with an old russian 500mm mirror, and so far no one has complained.

Toby

From Medium Format Digest:

From: Simon Park patrick@onq.co.im

Subject: Response to Hasselblad Superwide

Date: 1998-10-29

Simon in terms of optical quality the SWC 38 Biogon is simply the sharpest medium format lens I've ever used - & I've used a few including M7 43mm, Pentax 45mm & Bronica 50mm. It's performance is stunning. But it's superior performance is not apparent merely whilst looking at the E6 on a lightbox; you've got to print-up to see the micro detail. The M7 43mm is in a similar league except in the close-up range (the Biogon can even be used as a copy camera & focuses down to 12 inches). The Pentax 45mm - at least my 'new shape' example was clearly inferior although probably acceptable unless comparing prints side by side. The only disadvantage with this camera/lens combination are it's fiddly ergonomics, pathetic viewfinder & an inability to accept a Polaroid back. Estimating focus isn't a problem with a lens of this coverage. You might consider the 40mm fle but I can guarantee that it will not perform like the Biogon - if it did Hasselblad wouldn't bother to continue to manufacture this 40 year old lens design.

From an EBAY AD posting for a Kiron 80-200mm f/4.5 varifocal:

A gleaming black beauty in like new condition, this Kiron lens is in the Yashica/Comntax mount. Made by the same aftermarket manufacturer who made the great Series 1 Zooms for Vivitar, this tack sharp lens is f4.5 and has a 1:4 macro capability. Varifocal (one touch) zoom is smooth and tight.



Sima Soft Focus Lens with Waterhouse Stops and Box
Photo Courtesy of Samuel Tang - Thanks for Sharing!

From: "SATCHMO" satchmo@wfeca.net
Newsgroups: rec.photo.equipment.35mm
Subject: Re: Bob Shell/Shutterbug question!!
Date: Wed, 28 Oct 1998

The lense you refer to is the Sima 100mm/f2 macro. It's a 2 element all plastic double-tube arrangement. Street price in late 80's was about \$35.00. Aperture is controlled by insertion of cardboard discs with varying sizes of openings. Feels like a toy, and results are mediocre. Can't name issue.

Regards, Joe Arnold

From Nikon Digest:
Date: Sat, 7 Nov 1998
From: Larry Kopitnik kopitnil@marketingcomm.com
Subject: RE: Tokina vs. Nikon

...

Larry

(By the way, while I've not used the Tokina 28-70 f/2.6-2.8, I've owned other Tokinas and they are decidedly well built lenses. In fact, I was far more impressed with the Tokina 17 mm f/3.5 ATX than the Nikon 18 mm f/2.8D. And the current Tokina 28-70 is, in fact, the old Angineux 28-70 f/2.8 optical design, and that was a lens highly regarded optically.)

rec.photo.equipment.35mm

From: colyn.goodson@airmail.net (Colyn)

[1] Re: Comparing cameras - today vs. yesteryear

Date: Sun Jan 31 10:09:30 CST 1999

On Sun, 31 Jan 1999 17:57:45 +0300, Bernard 5521.g23@g23.relcom.ru wrote:

>Well, it must have been that 1936 Leica lens you use... I thought you
>bought it new. But here's a question I was wanting to ask you: why do
>you use it? Does it give you some special effect you find worthwhile, or
>do you get a kick out of using ancient stuff?

>

>Bernard

No, I have to give credit to my Granddad for buying that lens new... Sometimes I am looking for a certain effect.. For example, I may want the type of flare only this lens can give.. Newer lens tend to have a different kind of flare... But I also enjoy using the older lens and cameras..

rec.photo.equipment.35mm

From: tut@ishi (Bill Tuthill)

[1] Re: Cosina lens any good?

Date: Tue Mar 02 17:29:56 CST 1999

Joao Castro (jnc@esoterica.pt) wrote:

> I saw the price for a Cosina lens (AF 70-210 f/2.8-4) and it seems unreal.
> It is so cheap compared to other manufacturers lens with the same
> characteristics that i couldn't believe it.

Wow, where did you find this gem? New or used? It is a cult favorite. Optics are excellent, and the lens is fastest-in-class. The only knocks are flare and slow autofocus. It was also sold under Vivitar and Soligor brand names. For user ratings, see

http://i31www.ira.uka.de/~klaus_s/result2.htm

[Ed. note: site dropped in 3/2001 - sorry!]

Newsgroups: rec.photo.equipment.35mm

Subject: Re: Best third party Minolta MD lenses

From: dhogaza@pacifier.com (Don Baccus)

Date: 1 Jan 1999

>I have two Minolta x-series cameras, the 700 and the 370. What are the best
>third party lenses for these cameras? I have a Vivitar Series 1 135mm 2.3
>that I love, but I'm not sure which, Tamaron, Sigma, Vivitar Series 1, etc...
>is the better lense manufacturer.

If you can find an old Kiron 105/2.8 1:1 macro on the used market, this is an excellent and very solidly built lens. It's bulky compared to modern 100-ish length macro designs, but is very sharp.

<http://medfmt.8k.com/third/cult.html>

I used one for years and sold it to a very happy graduate student about three years ago when I switched to an AF system.

--

- Don Baccus, Portland OR dhogaza@pacifier.com

From: mikeg@the-wire.com
Newsgroups: rec.photo.equipment.35mm
Subject: Re: Russian Lens
Date: Fri, 22 Jan 1999

I can't really say anything about Russian Lenses but I do have a few links with info about Russian Cameras and Lenses I'd like to share.

Dealer Selling Russian Optics and Cameras:

<http://www.dedal.cz/optics/>

List of Russian Cameras and Manufacturers in Swedish:

<http://www.algonet.se/~monil/kameror.htm>

Kiev report:

<http://members.aol.com/kievrpt/list.htm>

See also the old Kiev report FAQ:

http://www.algonet.se/~bengtha/photo/FAQRussian_Ukrainian

Russian Camera Page at BPW Limited:

<http://www.bpwltd.com/russian.html>

... Mike

[Ed. note: Soligor C/D pro quality fast telephotos...]

From: "Michael L. Pipkin" mlpipkin@flash.net

Newsgroups: rec.photo.marketplace

Subject: FS: 135mm f/2 Nikon mount

Date: Wed, 03 Feb 1999

FS: Soligor C/D 135mm f/2 Nikon mount, excellent+ condition. Fine portrait/indoor sports telephoto. Multicoated, glass and mechanicals mint. C/D was a premium lens line comparable to the original Vivitar Series 1 lenses.

\$125 includes US shipping

Date: Sat, 10 Apr 1999

From: "K.C. Ng" kcng@pacbell.net

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

Subject: Re: Need Help on Kiron 28-200/4.0-5.6

Hi Robert,

<http://medfmt.8k.com/third/cult.html>

Got my roll of slide shot with the Kiron zoom lens back, the results are fantastic. I've post one of the shots a the following site:

<http://www.photocritique.net/cgi-bin/show?990410-17:14:34-kcng-|31>

Many thanks again!

KC

From: "John G. Nash, Jr." HELP@MMPHOTO.COM
Newsgroups: rec.photo.equipment.35mm
Subject: Re: Vivitar Series 1 70-210 f3.5 Impressions
Date: Fri, 16 Apr 1999

Vivitar has always taken pride in the construction and design of their Series 1 lenses. In the past I have raved about the quality of construction and optics. I have, in the past, sold hundreds of them to valued customers. With the introduction of other aftermarket lens companies improving their customer service and lens quality it has become harder to pick a favorite.

John Nash
Adorama

Date: Wed, 21 Apr 1999
From: Steven Walker scwalker@earthlink.net
To: rmonagha@post.cis.smu.edu
Subject: Vivitar Series 1

Hi Robert,

A couple weeks ago I bought a Vivitar Series 1 70 -210 f3.5 (67mm). It is widely regarded as a great lens. I shot with it, ran some tests, and was very pleased with the results, except at 210, wide open. Last week, I was talking with my uncle, who was an avid photographer for many years. He asked me if I would like his old Nikon FG, 50mm, and Vivitar zoom. He only used the zoom a few times as he found it too heavy. In the mid 80's, he switched to autofocus. Of course, I said yes. It arrived on Friday.

The zoom, still in the box, with blank warranty cards, instructions, and packing, is the 3rd of the Series 1, 70 - 210's. f2.8 - 4.0, 62mm Komine.

I wasn't expecting much from this lens, as I've only heard the first 2 versions referred to as legendary. I shot with it on Sunday, and with the 3.5 as well.

I was shocked to find, except at 70mm, the f2.8-4 yielded visably better results than the f3.5, sometimes substantially. Sharper, with more contrast.

I decided to look for some tests in Modern Photography. At the L.A. Library, I found tests for both versions.

Here are some of the results :

RESOLUTION L/mm

At 70mm

	f3.5			f2.8-4	
	center	corners		center	corners
f3.5	44	35	f2.8	49	39
f8	62	44	f8	69	62

At 210mm

	f3.5			f2.8-4	
	center	corners		center	corners
f3.5	39	25	f4.0	45	40
f8	55	31	f8	56	45

CONTRAST at 30 L/mm

At 70mm

	f3.5			f2.8-4	
	center	corners		center	corners
f3.5	43	28	f2.8	53	25
f8	58	32	f8	70	44

At 210mm

	f3.5			f2.8-4	
	center	corners		center	corners
f3.5	27	16	f4.0	58	29
f8	52	27	f8	66	43

Wow ! these are some big differences. I don't have any other tests to compare these results with, but some of the stats for the 3.5 seem **quite** low, and are noted as low in the graphs. I know that in the 10 years between the design of these 2 lenses, there were significant advances made. Maybe in 1974 when the 3.5 was first released it was a very good performer for it's time, but the 2.8 - 4 is clearly a better lens ! I'd love to see the stats for a Nikkor 80-200 f4.5, a lens from about the same era as the 3.5.

*From what I now know, I must conclude that the 3.5 is somewhat overrated, and the 2.8-4 **way** underrated.*

I thought this would be of interest to you. If you want me to make copies of these articles and send them to you, just let me know.

Regards,

Steve

Postscript:

Unfortunately, the pages for the test of the f3.5 aren't marked on the bottom. I'm pretty sure it was sometime in late 1976.

The test for the 2.8-4 was March 1985. Both in Modern Photography.

Steve

Date: Thu, 17 Jun 1999
From: Bill Kelley kelleyad@westworld.com
To: rmonagha@post.cis.smu.edu
Subject: Great site

I was lucky enough to do the advertising for Kiron during their short life as an independent.

They did all the engineering and manufacturing of the original Series 1 for Vivitar. but when Vivitar began jerking them around on contractual commitments, the Kiron name was born (Nikon spelled sideways is what the Marketing VP joked).

I was proud of the quality of lenses they made and the fact that with 64 manufacturers in the market, Kiron was #4 by the end of its first year.

(this is a secret known to very few) Kino Precision was one of the only lens manufacturers granted the right to place their own JCAA sticker (the oval gold 'seal of approval') on their own lenses. (this is known to even fewer) several Nikkor Series E lenses were manufactured by Kino Precision--all the while nikon was claiming to make all its own lenses.

So you're right that the short range of Kiron lenses are a relative bargain.

(See some Kiron ads at my web site www.kelleyad.com)

Bill Kelley

rec.photo.equipment.35mm
From: RedDrake@aol.com
Newsgroups: rec.photo.marketplace.35mm,rec.photo.equipment.35mm
[1] Re: Agenieux lenses?
Date: Fri Oct 29

graham@mancha.demon.co.uk (Graham Mancha) wrote:

- > Does anyone know of a good source of information on Agenieux lenses? I
- > think I've spelt this incorrectly, but they are French I think.
- >
- > I'm particularly interested in information on the f2.2 28~70 or it
- > might be 28~80 Is this a good lens? How does it compare to the Nikkor
- > equivalent?

Angenieux has a long history of providing lenses to the movie industry and from time to time have made lenses for still cameras too. They made lenses for Rectaflex, Exakta, and Alpa cameras, and some for Leica too. Maybe others too. The early angenieux lenses had very soft coatings that scratched easily. Their later lenses were not as pretty, but were supposed to be good quality.

Date: Sun, 14 Nov 1999
From: RWalker7@aol.com
To: rmonagha@post.cis.smu.edu
Subject: Series 1 90mm 2.5 Lens

Great website - I've really enjoyed reading it. Here's a piece of trivia that I haven't heard from anyone else: the Tokina 90mm 2.5 ATX macro lens is optically identical to the original 90mm 2.5 Vivitar Series 1 macro lens, including the matched optical adapter that gets you to 1:1. The box my Tokina came in had an optical diagram on the side. Just for kicks I compared it to an optical diagram in an old Vivitar ad - absolutely identical. The 90mm Vivitar must have been made by Tokina (like some of the others).

The Tokina lens, like the Vivitar, is a great lens. You can often find them at even better prices than the Vivitar because people don't know what they are. They have a significantly different barrel design that is much more compact, but mine seems very rugged. I've had no problems with it in the eight or so years I've owned it.

From Rollei Mailing List:
Date: Wed, 12 Jan 2000
From: Bob Shell bob@bobshell.com
Subject: Re: [Rollei] Schneider lenses being discontinued?

Hey, I date from before the 50s!! You callin' me ancient??

But I agree on your point. The 150 f/4 Schneider is a state-of-the-art modern lens with floating element correction for close focusing. The Zeiss 150 does not have this and is not very good used up close. But the Schneider wouldn't move off dealer shelves and was discontinued.

Perception is often more important in marketing than reality.

Bob

> Good point! I might even call the Sonnar 150/4 and Sonnar 250/5.6 "cult"
> lenses. These two "ancient" designs (they date to the 1950's - I have the
> intro article in my scrap collection on the 250 from 1954) have been used
> to make many famous portraits and what may become the most symbolic
> pictures of the 20th century, respectively. For the later I am referring to
> the "earthrise" pictures taken from Lunar orbit. This may be more of a
> problem for H rather than R. How can they discontinue a lens upon which
> their reputation was built? However, sooner or later they will need to be
> replaced with updated designs.
>
> Tom

[Ed. note: Thanks to Gregg for this chart; unfortunately, I feel it supports my conclusion that the lens is too low resolution used wide open, that you would be better with a much lighter and smaller lens (like the Vivitar 135mm f/2.3 Series I cited above) which is sharper and quite usable wide open...]

Date: Thu, 20 Jan 2000
From: Gregg jurisdoc@teleport.com> To: rmonagha@mail.smu.edu
Subject: re: Vivitar 135 1.5

Robert,

Wow, what an incredible data base of third party lenses! Congratulations on such outstanding work.

I have one contribution, correction to make. I recently came across the Aug/Sept 1967 edition of Camera 35, which includes a brief review and test of the Vivitar 135 f/1.5 T-mount on page 57.

The following info may be useful:

Reported resolution:

	Center	Edges
f/1.5	24	17
/2.0	28	24
/2.8	28	24
/4.0	34	28
/5.6	40	34
/8.0	48	40
/11.0	56	48
/16.0	68	48 * Max Res
/22.0	56	40

I don't know if the rated resolution is lines per mm, or inch, but it is interesting that the lens apparently doesn't reach maximum resolution until f/16

Dimensions: 5" long, 4" wide, 4lb,8oz
(Vivitar ad in the same magazine says: 5.5" by 4", 4lb, 3 oz
7 elements, 6 groups, min focus 6 feet

Lastly, the article claims the lens was originally made for NASA, and that it lists for less than \$600.00

keep up the amazing work, hope this helps.
Gregg Humphrey

From Rollei Mailing List:
Date: Wed, 03 Nov 1999
From: Bob Shell bob@bobshell.com
Subject: Re: [Rollei] re: OT Voigtlander

.....

Color Foto just tested a range of Voigtlander lenses for SLR cameras all built by Cosina, and they test out to be very good. Since Kino Precision shut down Cosina has made most of the Vivitar Series 1 lenses (the ones Cosina doesn't make come from Sigma), and every one I have had in my hands has been a damned good optic.

Bob

[Ed. note: WARNING: Reading these pages can cost you money (and save some too!) ;-)]

Date: Sun, 12 Mar 2000

From: Steve steveanddi@home.com

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

Subject: Re: <http://www.smu.edu/~rmonagha/third/table1.txt>

Hi Bob, thanks for all the info, the remarks made by Steve Walker on the

70-210's was the reason I bought the 70-210 2.8-4.0, very sharp and contrasty lens, I am very pleased. BTW, the 70-210 2.8-4.0 that was listed on ebay with a 67mm filter size responded to my e-mail, it had a 62mm filter like I thought, he corrected his listing. That lens had 28 bids on it with about 1 hour to go.

That page on filter size is very good. thank you.

The lenses that I can vouch for, because I own, or have owned are as follows:

Vivitar 135mm 2.8 Close Focus: 62mm

Vivitar 135mm 2.3 Series 1: 72mm

Vivitar 90mm 2.5 Series 1 Macro: 58mm

Vivitar 70mm to 210mm 2.8-4.0 Series 1: 62mm

Vivitar 35mm to 85mm 2.8 Series 1: 72mm

Vivitar 28mm 1.9 Series 1: 58mm

Vivitar 17mm 3.5: 67mm

You have cost me a lot of money from your "Cult Classics in Third Party Lenses" Page and loving it. The 90, 35-85, 135, and 28 are never going to leave my possession, even when I am dead you would have to pry them out of my cold fingers.

Thanks again Bob,

Steve (still lusting after the 200 f/3) Larson

P.S., let me know how the book on all lenses ever made is.

> I do have some lenses with filter info - in fact, about the only table I

> have seen published in which I list zoom lenses by filter size at:

>

> <http://www.smu.edu/~rmonagha/third/lens98b.txt>

....

From Rollei Mailing List:

Date: Thu, 23 Sep 1999

From: Bob Shell bob@bobshell.com

Subject: Re: back to lenses, 40mm was: Re: [Rollei] NYCFoto and Anonymity

Novoflex is still very much in business. They have a big display at photokina each time. Their official USA importer is Calumet, but they only carry a smattering of the full Novoflex line.

The Novoflex follow-focus lenses were always neat and fast, but expensive. The actual lenses were made by Schneider and the mechanical parts by Novoflex. At the last several photokinas they have shown Tamron lenses modified to use their follow-focus pistol grip, but I don't think these have ever been imported into the USA and autofocus pretty much made them obsolete.

Today their emphasis is on their auto bellows systems which they make for most 35mm and MF cameras.

They also make a really nice quick release system and a very funky looking ball head which looks like it is mounted upside-down!

Bob

> Bob Shell wrote:

> I would imagine that most of the parts if not the whole

>> gadget is made by a subcontractor like Novoflex. They made the other

>> bellows units and some other accessories for Rollei if I am not mistaken.

>

> Hi Bob and List Members!

>

> So Novoflex is still in business, I'll guess there products are more

> available in Germany than the US. They made those long teles for 35mm

> cameras with the gun stock, before high speed teles became available. Do

> you know if Novoflex still makes them? I see them used.

>

> Cheers,

>

> Rich Lahrson

> tripspud@wenet.net

From Rollei Mailing List:

Date: Fri, 24 Sep 1999

From: Jan Decher jan.decher@uvm.edu

Subject: [Rollei] Novoflex & Tamron once more

Bob et al.

There seems to be some confusion here. The Novoflex lenses are only AF in connection with the Contax AX which uses Kyocera's unique backfocssing system. Otherwise Novoflex lenses are just MF but very fast to focus due to the spring loaded follow-focus grip.

Novoflex cooperated with Tamron for a brief period around 1990. The two Tamron lenses modified for follow-focus were the good old Tamron Adaptall 60-300/3.8-5.6 zoom and the Adaptall LD 2.8/300 mm. The latter is a real gem in the Novoflex design. Unfortunately the cooperation fell apart. Last time I talked to Novoflex about the 2.8/300, ca. 1995, you could still special order this lens for some 4000 Deutsche Mark or so.

I have all the brochures on these lenses. It is unfortunate Novoflex didn't (couldn't?) sustain this collaboration with Tamron. The 2.8/300 follow focus would be just the lens I would need for my upcoming small mammal research expedition to Ghana.

Jan

....

From Contax Mailing List:
Date: Wed, 21 Jun 2000
From: "Bob Shell" bob@bobshell.com
Subject: Re: [CONTAX] Vivitar series1 135/2.3 M42 + Contax Adapter

- -----
>From: Kravcar Bostjan SENP kravcar@iskratel.si
>To: "contax@photo.cis.to" contax@photo.cis.to
>Subject: [CONTAX] Vivitar series1 135/2.3 M42 + Contax Adapter
>Date: Wed, Jun 21, 2000, 9:28 AM

>
> For all those
>who don't know the facts - in late 70's Vivitar joined forces with American
>optical company Opcon Associates and Kiron (Kino Precision Optics from
>Japan) and yielded a series of unique top quality lenses under Series 1
>label. These lenses were very expensive and proved that third party
>manufacturers were capable of making lenses any bit as good as top Nikkors,
>Zuikos and others. Unfortunately this Vivitar outburst didn't last long
>(about three years), because it turned out that photographers still preferred
>OEM lenses for their cameras, so production of these Vivitars (28/1.9,
>90/2.5 Macro, 35-85/2.8 Variable Focusing, 70-210/3.5, 135/2.3, 200/3 etc)
>was stopped due to inadequate sales results. Each of these early Series 1
>were highly praised by photographic world and caused short but substantial
>shock and admiration even among leading OEM manufacturers (ask Herbert
>Keppler or any other senior lens guru).

Well, you're mostly right. Vivitar installed their own design staff at their California headquarters and the original Series 1 lenses were designed there and built by Kino Precision in Japan. Later on some lenses were sold as Series 1 which were Kino designs. This was because of a change in ownership of Vivitar and the shutting down of their design lab.

All of the original Series 1 lenses are absolutely first rate lenses for late 70s and early 80s designs. Some suffer in comparison to the more recent improvements in zoom lens design. For example, the 35-85 variable focus is an exceptionally good lens but is nowhere near as good as the Zeiss 35 - 70 f/3.4 Vario-Sonnar.

I've owned most of the Vivitar Series 1 lenses you mention but have sold all of them over the years and replaced them with newer designs.

The only Series 1 lenses I would snap up today if I found them at a reasonable price would be the Solid Cat mirror lenses made for them by Perkin-Elmer (the company which makes the lenses for our spy satellites!). They are reportedly astonishing in performance.

The problem with Vivitar is that since the shutdown of their design lab in the 70s they have been strictly a marketing company, buying their products from a variety of suppliers, and Vivitar has changed ownership itself a number of times. Today some lenses branded as Series 1 are sourced from Samyang in Korea and, while decent, just aren't up to the levels the Series 1 name should represent.

Bob

From Contax Mailing List:

Date: Wed, 21 Jun 2000

From: "Bob Shell" bob@bobshell.com

Subject: Re: [CONTAX] Vivitar series1 135/2.3 M42 + Contax Adapter

Do you mean the 105 macro? The Series 1 105mm f/2.5 Macro is one of the late Kino Precision designs, and is absolutely first rate. The 105mm f/2.8 is a different lens and not as good.

Bob

...

From Pentax Mailing List:

From: "Kent Gittings" bigplanetexec@email.msn.com

Subject: Re: Spiratone lenses

Date: Sun, 18 Jun 2000

Hard to say. They were all made by Sun/Sigma who had other groups marketing them under other names (Polaris [my favorite], Lentar, Rokunar, Accura, Sun, Sigma, Upsilon [Sigma], and Mitake among others). I would say that they aren't as good as Pentax but some of the wide-angle and fisheye lenses have a good reputation. According to McBrooms the following lenses have good reputations for optics:

7.5mm f5.6 fisheye

12mm f8 fisheye

18mm f3.5

20mm f2.8

24-40mm f3.5

I have the last one, the little zoom in Sun Optics' own name and it is decent little lens with macro capabilities also.

Kent Gittings

...

From Contax Mailing List:

Date: Thu, 29 Jun 2000

From: "Bob Shell" bob@bobshell.com

Subject: Re: [CONTAX] Vivitar Series 1

I think that depends a lot on where you find them. Here in the USA I think you will find Pentax screw, Nikon, Canon (FD), Minolta, and Olympus OM were the only mounts available on the original, good, Series 1 lenses. The only reason they made them in Olympus mount was that Vivitar was a part of Ponder & Best in the 70s and they were also the Olympus importer.

Bob

....

[Ed. note: Mr. Shell is a noted glamour photographer, workshop instructor, author of sundry photo books, editor of shutterbug, former photo repair tech...]

From COntax Mailing List:

Date: Fri, 30 Jun 2000

From: "Bob Shell" bob@bobshell.com

Subject: Re: [CONTAX] Vivitar Series 1

The 105 f/2.5 (I think that's right, faster than f/2.8 anyway) is one of the last Series 1 lenses made by Kino Precision and is an exceptionally good modern macro. The 105 f/2.8 is made by someone else, maybe Sigma, and isn't quite as good. The 105 from Kino was also sold under the Kiron brand for a while. I had one of these for a while and it was among the best macro lenses I've used.

Bob

From Contax Mailing List:

Date: Fri, 30 Jun 2000

From: Kravcar Bostjan SENP kravcar@iskratel.si

Subject: RE: [CONTAX] Vivitar Series 1

Nope, once again: Early Series 1 (28/1.9, 90/2.5, 135/2.3, 200/3, 24-48/3.8, 35-85/2.8, 70-210/3.5 Macro, 90-180/4.5 Flat Field Macro, 600/8 and 800/11 Solid Cat) were available in following mounts: M42, N/AI, Canon, OM, Konica, Pentax K, Minolta.

Those were the lenses that shook the photographic world in the late [7]0's, but they didn't last long because they were expensive and it turned out that photographers preferred to stick to their OEM lenses despite the recognized quality of these Vivitar Series 1. Later on in the early 90's there were only a few lenses in production that could hold up to the quality of early ones, the most distinctive was certainly 450/4.5 Solid Cat with aspherical plastic front element. To name a few others that didn't reach the fame of their predecessors - 70-210/2.8-3.5, 70-210/2.8-4, 24-48/3.5, 105/2.5 Macro, 800/11 Mirror ect. I hope you've got a clear picture now and it's my pleasure to help out.

My regards

Sebastian

From COntax Mailing List:

Date: Fri, 30 Jun 2000

From: "Bob Shell" bob@bobshell.com

Subject: Re: [CONTAX] Vivitar Series 1

Yes, identical. I had one under the Kiron name and one under the Vivitar name. The only difference was the rubber focusing ring on the Vivitar had "Series 1" molded into it.

Bob

....

From Contax Mailing List:
Date: Thu, 06 Jul 2000
From: "Bob Shell" <BOB@BOBSHELL.COM>
Subject: Re: [CONTAX] Re: contax-digest

What do you want to know about this stuff? The Zenit cameras are mechanically OK but have an undersized viewing/focusing screen. The MTO lenses have been updated and upgraded and are now known as Rubinar. If this one is marked MTO, it is an old one.

Bob

From Pentax mailing list:
Date: Sat, 15 Jul 2000
From: Mike Johnston michaeljohnston@ameritech.net
Subject: Polycarbonate lensmounts

I'm a materials science engineer by trade and polycarbonate is a darned good plastic, tough and durable. For what these type of cameras are desgined to do, a polycarbonate lens mount should be sufficient. The amount of times you would have to change a lens with a metal mount to cause enough wear to actually affect the performance of the plastic lens mount is probably an astronomical number, well beyond what anyone might ever do on a plastic mount camera. Granted, if one is going to hang a large, heavy fast piece of glass from a plastic lens mount, you may get some flexing or bending of the mount, but then again, the cameras featuring this mount were not intended to handle that type of use. And, most photographers who would use such a heavy lens would most likely be using that lens supported by a tripod connected to the mounting ring on the lens.....

So, I'm curious if anyone has actually had the performance of their kit affected by the plastic lens mount, or is this debate just another kind of photographic "urban legend".

John,

Back in the days when photographers were still hysterically allergic to any trace of plastic in their lenses (Canon actually had one of their fluorite-element teles fail in the marketplace because they used a band of plastic around the _perimeter_ of the lenses to hold a group of lens elements together--a "sandwich" of glass-fluorite-glass--and the rumor flew fast and furious that it was a "plastic" lens), a French company called Angeniueux--a maker of high-dollar movie-camera lenses like Panavision that specialized in zoom lenses--decided as a lark to issue one well-made 35mm lens a year. They determined that a certain kind of plastic (I can picture it but I don't think I ever knew the name of it) had better materials-science properties than brass and aluminum in every way--better workability, better temperature stability, better dimensional stability, better resistance to shocks and damage, lower weight, etc.--but they just couldn't sell the public on it. The lenses never sold very well and Angeniueux had trouble establishing themselves at the carriage-trade end of the market where they belonged.

Of course, now, "plastic" is a major material in every lens, EVEN, in some cases, in the elements that transmit image-forming light--hybrid aspherics are essentially a molded plastic layer on a glass element substrate. It's still tough to convince people it's "as good" a material, I guess because of the intangibles, the tactile sense of luxury. I still like metal better, even though that's not terribly rational. Angeniueux no longer makes 35mm lenses.

--Mike

From: rwalker7@aol.comnospam (Rick Walker)
Date: 01 Aug 2000
Newsgroups: rec.photo.equipment.35mm
Subject: Re: Vivitar Series 1 28-90 2.8/3.5 - optical quality?

>I am looking for a high quality manual focus zoom lens for my Nikon MF
>outfit. Whilst I would very much like to buy a Nikon 35-70 f/2.8 AF
>lens (yes, AF, it handles very well as an MF lens) I cannot afford one
>at this time.

>
>Can anyone tell me about the Vivitar Series 1 28-90 2.8/3.5 lens? This
>has a *very* useful range of focal length, but what should I expect in
>terms of sharpness, contrast, absence of distortion and resistance to
>flare?

>
>Any and all comments will be appreciated.

In its day (early eighties), the Series 1 28mm-90mm was a very good lens. It tested well, was well made (by Kino I think - makers of Kiron lenses) and had a good zoom range and close focusing mode. I don't know how it would compare to present day lenses, but my guess is that it would do fine. Not as good as a 35-70 Nikkor 2.8, but more than adequate for most people. I used to shoot with one and was very happy with the results, but I didn't spend all my time hunched over the negatives with a loupe :) I don't recall any issues with distortion, but it was probably average in that respect. In terms of flare, you'll probably have to be a little careful. The lens is multicoated, but the front lens element is nearly flush with the filter ring and a matching lens hood will be difficult to find. The generic wide angle type will help, but won't be as effective as the original.

You probably know this already, but the Series 1 28mm-90mm is not a true zoom. It's a varafocal, which means you must refocus the lens when you change focal lengths (unless you're focused at infinity). This has never bothered me as I usually "touch up" the focus after zooming anyway, but some people dislike it. The reason the lens was designed this way was to reduce size, weight and cost. I think it was a good trade at the time.

If the lens is priced well, I would certainly consider buying it.

Rick

[Ed. note: the later series I lenses were often consumer grade lenses, decent, but not the standout performers of the early pricey lenses...]

Newsgroups: rec.photo.equipment.35mm
Subject: Re: Vivitar Series 1 28-90 2.8/3.5 - optical quality?
Date: Tue, 01 Aug 2000
From: speed@liamisaboob.net (s p e e d o f d a r k n e s s)

Tony Polson tony.polson@btinternet.com wrote:

> Can anyone tell me about the Vivitar Series 1 28-90 2.8/3.5 lens? This
> has a *very* useful range of focal length, but what should I expect in
> terms of sharpness, contrast, absence of distortion and resistance to
> flare?

I bought one in 1981 and still have it. Very average performer, nothing special, flares easily. Not one of the better Series 1 lenses from Vivitar. You can buy one used in the USA for around \$105 (#65).

I'd suggest that you look at one of the better Tokina ATX or Tamron zooms in the same range; you'll pay more but it will be worth it.

Date: Wed, 30 Aug 2000

From: "Alexander Bachturin" albaht@videoprojector.ru

Newsgroups: rec.photo.equipment.35mm

Subject: Re: "I Never Met An F/1.2 Zoom Lens I Didn't Like..." :-)

Jsn234 jsn234@aol.commybrain wrote

>Since focal lengths of zooms are stretching (especially on the
> consumer zooms), and Nikon just announced their 24-85mm f/2.8-4 whose aperture
> and range and use of aspherical elements seems like this lens is posed on the
> border-line of a pro/amature audience (since its quite a bit faster at both
> ends relative to their 24-120mm), does it seem reasonable to expect faster and
> faster zoom lenses that will eventually break the f/2 barrier? Any
> thoughts/opinions/suggestions/etc. *on* this topic?

Some time ago we heard about personalised-ordered lenses Angenieux. One of them : 28-360/1,6 . It weight 6,9 kg. Diameter of front lens is 295mm. It should be used with monopod with the twin-disk gyroscopic stabilizer.

It is possible to calculate, that with 77mm - size of a front lens, it is possible to create a lens with 24-140/3,5. The sizes of it's optical components allow to use optical stabilization. Of course, cost and weight of this lens are compared with 70-200/2,8 L.

Sincerely yours, Alexander Bachturin

(07-095)-292-0910/-7222/-7885/-8797 <http://www.inteluni.com/>

From Rollei Mailing List:

Date: Fri, 13 Oct 2000

From: "Kotsinadelis, Peter (Peter)" peterk@avaya.com

Subject: RE: [Rollei] Re: rollei 6006/8 fuses

Hi Bob,

I am planning to buy some and give it a try. I have used KANO's Kroil for years to unstick rusted screws (and household plumbing). It is an amazing product. Unstuck a bolt in place and rusted for 40 years even after Liquid Wrench failed.

Perhaps, at the time Vivitar may have gotten their stuff from Kiron (Kino Precision). You and I once discussed Kiron lenses. They were the ones who made the incredible 90mm F2.8 macro for Vivitar. Later I owned the Kiron branded 105mm F2.8 macro which was the sharpest lens I had ever used. I only wish Kiron still made lenses for 35mm camera... :-(

Peter K

...

[Ed. note: a useful reminder that filters may surprise you!]

Date: Tue, 24 Oct 2000

From: David Thiessen thiess@uniserve.com

To: rmonagha@mail.smu.edu

Subject: Great third-part lens site - BUT...

you should mention in your posting of the Kiron 28-85 lens that it takes a whopping 87 mm filter! These are next to impossible to find and horrendously expensive when you do find one. Excellent website, though! Have gained so very much knowledge and have read it for hours!

David Thiessen

604-850-1462

thiess@uniserve.com

Update:

Hi again

I need to retract my comment - my apologies. The Kiron 28-85 does NOT have an 87 mm filter thread. It is 67mm. The literature I was reading was a misprint. My sincere apologies for leading you astray.

Date: Fri, 20 Oct 2000

From: Samuel Tang samueltang@eisa.net.au

To: rmonagha@post.cis.smu.edu

Subject: Lens Site

Mr Monaghan,

I bumped into your site on lenses a little while ago and am still exploring its very interesting content. I would, if I may, like to add some additional information on a few issues:

1. The Varioflex, or Vario-Flex from Austria was not only a lens mount, and was produced in two versions. I have an example of the Vario-Flex II with Angulon 65mm/6.8, in focussing mount, equipped with swing/tilt movement as well. While the maximum amount of shift is greater than lenses by other makers, one must bear in mind that the rigid construction of the reflex housing inside a SLR camera will indeed be the final limitation. The incorporation of swing/tilt is, in my experience, quite necessary.

2. I have used the Sima SF lens and found that it can be improved somewhat: the inside wall of the lens barrel is very glossy and produce a lot of flare, and by lining it with self-adhesive flock paper will indeed make the result a lot better. Of course, ideally the lens element should be removed and the inside wall sand-blasted, and then painted with a dead black, however the lens element was locked inside the barrel making removal impossible without damaging it, so flock paper it has to be.

3. The Sima lens can be considered as a more recent incarnation of soft-focus lenses of the Spencer Port-Land category, I have an example of 9"/4.5 specification and use it on the 4"X5" format, and also used one by Kershaw of Leeds many years ago. The Rodenstock Imagon can be considered as a lens of similar type, and instead of using a normal central-aperture diaphragm it employs a multi-aperture washer-stop instead. When I have the time I will try to make some calculations so as to make a couple fo Imagon-type washer-stops for the Sima and see what happens.

4. A often overlooked weird lens is the Noflexar 35mm/3.5 by Novoflex: normally supplied in M42-mount, it looks like a low-end lens with pre-set diaphragm, but its optical unit can be pulled out of the helicoid in four click-stopped stages, which enables it to have a continuous focussing range from infinity to life-size magnification.

If you are interested I can also supply illustrations of these lenses.

Thank you very much for your hard work putting this interesting site together.

All the best,

Samuel Tang.

[Ed. note: Thanks again to Mr. Tang for supplying this update!...]

Date: Thu, 26 Oct 2000

From: Samuel Tang samueltang@eisa.net.au

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

Subject: More info on lenses

Hi Mr Monaghan,

Thank you for posting my message on your site. I have spent the last two minutes looking for additional information on the Vario-Flex lens and there are two pieces in Popular Photography, January 1969 and September 1970 with information on it, written by Bob Schwalberg and Edward Meyer respectively. Here is a brief precis:

The Varioflex, or Varioflex was produced by Atzmuller & Rendl of Linz, Austria, and designed over a number of years by Herr Atzmuller. Launched at the 1968 photokina, it was shown in two versions, I and II, and they differed by the amount of swing allowed, but the II also allowed an additional 25mm shift. Either unit was equipped with 65/6.8 Angulon or 100/5.6 Symmar for 35mm cameras, and for 6X6 cameras, 90/6.8 Angulon or 135/5.6 Symmar.

Vytron Co. became the US agent for the Varioflex some time in 1970, but at the time of introduction the 6X6 versions were not introduced; in fact I cannot find any information on whether the 6X6 versions were ever produced.

Officially, the lens was called "Scheimpflug Objektiv Vario-Flex"; I have an example of version II with Angulon, and it is huge. However, it is a very fine lens to use as long as the maximum movements allowed by the physical dimension of the camera's dark chamber has been previously determined.

....

All the best,

Sam.

Date: Tue, 31 Oct 2000
From: george kmetz blackcatzeke@juno.com
To: rmonagha@post.cis.smu.edu

Hi Bob,

I already bit the bullet. I viewed my Provia slides with an 8x loupe. Both the 400 and 560 are equally sharp . I based my choice on the reasons why I kept the 560.. I already have a 100-300, so the jump from 300 to 400 is roughly a 33% gain whereas a 560 is roughly an 88% gain.

I found myself shooting the 560 almost exclusively, and I remember years ago when I owned the Tamron 400f4LD I often used a converter . As you stated its a lot easier lugging around a 400 over a 560, however one of the pluses with this lens is that it breaks down in half.

In your site you have the cult lenses and I have to say for a near 30yr old optic the Leitz Telyts belong there. Although Its a preset lens its pretty fast to use and for a 6.8 optic ,even at f8 there is a smaller light loss than expected...

I've been told that the reason for this is that its a two element achromat (more info on these two Telyt's can be found on <http://ourworld.compuserve.com/homepages/telyt/400R68.HTM>).

The slide focus is pretty fast. I already have some zoo shots, and soon I'll send you some photos I've taken with this lens.

Cheers, George Kmetz

From Rollei Mailing List:
Date: Thu, 30 Nov 2000
From: Jon Hart jonhart51@yahoo.com
Subject: Re: [Rollei] Re: M42 adapters

--- Bill Lawlor wvl@marinternet.com wrote:

- > Jon, good point! I have a M42 adapter for Canon FD
- > cameras as well as
- > the Pentax K to M42. I have a favorite M42 Carl
- > Zeiss Jena 25mm
- > Flektagon that I have enjoyed on both those systems
- > as well as the
- > original Spotmatic for which I bought it.

I have a Novoflex bellows with 105mm f/4 lens that I originally bought to use with my Konicas. Great combo. Even better after I bought a couple of Mamiya DTL bodies to take advantage of the auto stop-down feature on the bellows. It's my preferred set-up for macro shots in the field, if you can believe that.

- > I think Marc has written that the M42 was the last
- > chance for a
- > really universal mount.

I am quite inclined to agree with him. It's doubtful you could get more than a few makers to agree on a single lens mount today. The K mount is the closest thing today and its number of makers is dwindling.

Jon

[Ed. note: some more useful tips and insights...]

Date: Sun, 26 Nov 2000

From: Gerald Crum gwcrum@apk.net

To: rmonagha@post.cis.smu.edu

Subject: Cult Classic Third Party Lenses

Bob,

I have a few comments on lenses not listed which at least deserve an honorable mention as cult classics.

Vivitar/Kiron 70-150 f/3.8 one touch: There were many variations of this lens. The Kiron model was listed as an f/4, but tested by Modern Photography as an f/3.8. Counting the Kiron, so far, I have found 5 versions which differ in finish, lens coating, and closest focus distance. They are also all over the map in optical performance. But there are some very good ones. The early Vivitar and the Kiron models seem best. Vivitars with s/n's beginning in the 2200 range seem to be the best. Excellent resolution and color, light and compact (3.8" and 15-16 oz, 52 mm filters), low flare, very good contrast. The Kiron and early Vivitar models are beautifully made with smooth, well damped motions and never seem to wear out. Their best trick is in the macro mode which gives in the better models 1:3.5 at about 31" focal plane to subject at 150 mm with very good sharpness and a very nearly flat field. They are VERY fussy about multipliers, and both Kiron and Vivitar marketed matched multipliers. Kiron had a 1.5x which matched well and gave very nice results at 225 mm. Used, the lenses go for \$50-75, and if bought on approval may get you a very nice lens. The better ones are comparable to the Nikon 75-150 f/3.5 Series E at normal distances, and of course focus much closer.

Tamron 70-150 f/3.5 model 20AB: This is not one of Tamron's SP series, but a good one is very, very good indeed. The earlier 20A has a sliding lens hood with a smaller inside diameter, so you cannot adapt the 49 mm filter thread to 52 mm. The 20AB has a larger ID hood and 52 mm filters will fit, a big plus for Nikon and Canon people. Again, there is a lot of variability in these lenses from unit to unit, but a very good one is just excellent. Macro is 1:3 at 29" at 150 mm, a very useful range for floral and nature subjects. This lens works much better with multipliers than the Kiron. Tamron's own or most good third party models give good results. The internal mechanics tend to work loose over time, so well used models will show a range of aberrations, most of which either cannot be fixed, or are not worth the price. But a good one is to die for. Within its magnification range, a good one can compete favorably with Tamron's 90 f/2.5 macro or a Nikkor 105 f/4 macro.

Tamron 70-210 f/3.8-4: I commented on these in an earlier e mail. Again, not being SP, they tend to vary a bit, but good ones are really excellent and will outperform the 70-210 f/3.5-4 both in normal distances and in macro. The predecessor 80-210's are not in the same league and generally have a nice warm 81A kind of coloration. The 70-210 is very white. They are plentiful and cheap and worth the trouble of sorting through several to get a good one.

here were some questions regarding the Vivitar Series 1 28-90 f/2.8-3.5. I've owned one, and do not recommend it. It seems to lack color contrast, and is quite flarey. The later 28-105 f/2.8-3.8 is much better optically and much less flarey. But they have a tendency to take on a golden color cast over time, and one I had turned all my pictures into Magic Hour shots. This seems to be something deposited on the inner surfaces over several years. You need to watch for that. There was a later Series 1 28-105 f/2.8-3.8 which had a matte finish on the barrel and which is not at all the same animal. The good one has a very shiny gloss black finish with Series 1 molded into the rubber collar on the zoom/focus ring and 67 mm filter thread.

The same story holds for the Vivitar Series 1 100-500 f/5.6-8. The earlier gloss black model is just excellent out to 400, and very good even at 500 mm. The later matte finish model is pretty good to 300 mm, and pretty mediocre after that. It's also pretty flarey, which the shiny model isn't. Obviously a different manufacturer.

There was a sort of rhetorical question asked in your e mail reply to me about number of lens elements and loss of contrast, T#, etc. I have looked into this a bit, and find that % transmission (square root of T# divided by f#) varies inversely with the complexity of the lens. But that number of groups is a better indicator than number of elements. My own rule of thumb is to try and keep the number of optical groups under 10 if possible to maintain contrast and keep the % transmission up in the 80's. Some lenses with lots of groups have T# down in the 65% range, about a half stop loss. The Tamron 70-210 f/3.5 is one such lens at 67%, while the excellent 35-80 f/2.8-3.8 SP is about 85%. A good, multicoated 50 f/1.7 will be about 93-94%. Popular Photography used to publish these numbers along with a lot of other good technical data. Something that their current SQF ratings ignore, sadly.

Regards,

Jerry

[Ed. note: a very reasonable observation, since reflections and losses occur mainly at the air-glass interfaces, and glued together elements reduce the number of these and so improve lens performance and T-values; on some complex zoom lenses, 1/2 to 2/3rds of a stop can be lost results in a marked zoom f/stop of f/2.8 really acting like an f/3.4 (1/2 stop loss) or f/3.5 (2/3rds stop loss)!]

From Contax Mailing List:
Date: Fri, 17 Nov 2000
From: Bob Shell bob@bobshell.com
Subject: Re: [CONTAX] Apochromats

The 50mm Alpa Makro-Switar is a truly legendary lens. It was made by the Swiss optical firm Kern. I believe that it was the only 35mm photographic lens made by this company. They also made some cine lenses for Bolex. The lens came in three versions. The original one was 50mm f/1.8. A redesign changed the lens to 50mm f/1.9 and improved the quality. Toward the end of Alpa production the lens saw a third incarnation, but this was only a mechanical redesign and the optics remained the same. I've owned both original versions and currently have one of the second version that I use on my 6c. Whoever bought the inventory at the bankruptcy auction got a pretty good number of the third version, I have not seen them come up for sale anywhere and wonder what happened to them. Although I don't think Alpa ever sold any, it was easy to use Zeiss lenses

on the Alpa via an adapter which preserved diaphragm automation for lenses in M42 thread mount. I've used Icarex lenses on my Alpa cameras in the past with good success.

Unfortunately, like Alpa, Kern is no more. I don't know which year, but some time in the last ten years they were bought by Leica to allow Leica to increase production capacity. Today the former Kern factory makes binoculars which are sold under the Leica name. It is easy to tell which ones, since the ones made there are all marked Leica Switzerland. I just did a test of one style of Nato military binoculars from this factory and they were of exceptional quality, just as you would expect.

Bob

...

Date: Wed, 13 Dec 2000
From: bc1959@my-deja.com
Newsgroups: rec.photo.equipment.35mm
Subject: Re: Vivitar Series 1 lenses - opinions?

Tony:

The Series 1 lenses that were available in the 1970's are quite good by 2000 standards, except possibly in the area of coatings. Everything changed in the 1980's, though - Vivitar sold out and really went downhill. Some of the 1970's Series 1 lenses are optically as good or better than any 35mm lens ever offered for sale by any manufacturer. The old 90mm f/2.5 macro lens, for instance, is better (higher MTF, smoother bokeh) than the 105mm f/2.8 micro nikkor. Tokina later marketed the identical optical design in a smaller lens barrel, and you can check the performance of this version on Photodo. The mechanical construction and helicoid feel of some of the old Series 1 lenses is also amazingly good - as good or better than the Nikon AIS lenses.

Brian

Date: Sun, 24 Dec 2000
From: Mrry33@aol.com
To: rmonagha@post.cis.smu.edu
Subject: panagor

panagor/kiron also made a 28/2.8, 28/2.8 and a real nice 35 to 100/3.5.....

From Rollei Mailing List:
Date: Fri, 12 Jan 2001
From: Bob Shell 76750.2717@compuserve.com
Subject: Re: [Rollei] Super long Rollei SLR lens for birding and more.

>Is it some kind of mirror zoom?
>I've always wondered if one existed

There was at least one mirror zoom lens. Built by Perkin-Elmer in the USA and sold under the Vivitar Series 1 name. There may have been others.

Bob

From Rollei Mailing List;
Date: Fri, 12 Jan 2001
From: "Kotsinadelis, Peter (Peter)" peterk@avaya.com
Subject: RE: [Rollei] Super long Rollei SLR lens for birding and more.

Perkin-Elmer? Wow, have not heard that name in a while. I remember the Series 1 lenses were first Kiron made and then Cosina. I only wish Kiron was still making lenses for cameras. What great glass they had.

Peter K

From Rollei Mailing List;
Date: Sat, 13 Jan 2001
From: Bob Shell 76750.2717@compuserve.com
Subject: RE: [Rollei] Super long Rollei SLR lens for birding and more.

"Perkin-Elmer? Wow, have not heard that name in a while. I remember the Series 1 lenses were first Kiron made and then Cosina. I only wish Kiron was still making lenses for cameras. What great glass they had. "

I wonder if Kino Precision (Kiron) is still alive. Haven't seen them or their lenses under any name for some time. Yes, they did know how to make great glass and the precision work on their metal lens barrels was the best I've seen.

But, the Cosina stuff isn't anything to dismiss. I've got a couple Series 1 zooms out of Cosina, and they're darned good.

Bob

From Rollei Mailing List;
Date: Sat, 13 Jan 2001
From: Bob Shell 76750.2717@compuserve.com
Subject: Re: [Rollei] Super long Rollei SLR lens for birding and more.

...

I've never owned one of the Vivitar lenses that Perkin-Elmer made for them. Roger Hicks has one of the 600mm mirrors and one other. The 600 performs remarkably well, even in spite of a crack in the main optical block from a former owner dropping it. These were "solid cat" lenses, with a solid block of optical glass where the air space is in most mirror lenses. This allowed them to be significantly shorter than air-spaced mirror lenses and more temperature stable, but did make them heavier than they looked.

Bob

From Rollei Mailing List;
Date: Mon, 15 Jan 2001

From: "Kotsinadelis, Peter (Peter)" peterk@avaya.com
Subject: RE: [Rollei] Super long Rollei SLR lens for birding and more.

Hi Bob,

Yes Kiron is still around but they are not doing a lot with photographic optics. I was in touch with them on email about possible lenses, but they only have leftover parts for older manual focus lenses and a few demo units.

Peter K

[Ed. note: sharing a query and answer...]

Date: Sat, 20 Jan 2001

From: "John L. Lovell" johnllovell@earthlink.net

To: rmonagha@post.cis.smu.edu

Subject: question re filters for Vivitar Series 1 600mm solid cat

....

As I recall, you wrote that it was absolutely necessary to have the filters for this lens in order for it to function properly. I only need the UV, and I emailed the seller. Apparently none of the filters are present. The seller seems quite straightforward, says he knows very little about photography, but claims he has taken a lot of pics with this lens and they look good to him.

My question to you is this: why is it necessary for a filter to be in place for this lens to perform properly? What will the effect be without a filter- image deterioration? What kind? How much? I just can't understand intuitively why a filter would be necessary. Could not some substitute be fashioned? I'm pretty handy, a tinkerer.

...

My reply: The filter is mounted at the rear of the lens in a somewhat difficult to remove holder. My bet is the filter is still in there, if the user is getting good results.

Rear mounted filters like this may cause minor but noticeable effects, particularly a focus shift equal to about 1/3rd of the filter thickness. So to offset this shift, the manufacturer provides a series of precise thickness filters, along with a UV filter of the same thickness.

If the lens were setup without any filter in place, and then you put a colored or other filter back there, you would get a focus shift along with the filter effects. So by putting in a clear UV filter, they compensate for this factor. This approach allows you to use their standard filters without any problems. The filter also provides a minor degree of protection to the rear of the lens(es).

Unfortunately, such filters are thin, and relatively easily broken. You might be able to find a sufficiently similar UV filter to be cut and mounted to serve as a replacement. Similarly, the rear filter holder can also be lost easily, and it is not easy to find a replacement for either. Our [Filter FAQ](#) describes various tricks to use in putting a filter holder at the rear of the lens to hold gel filters (which being only a few mm thick, don't have much focus shift impact). So while this isn't a fatal flaw, finding a replacement UV filter or holder is a potential problem worth checking when you buy such lenses... bobm

From Rollei Mailing List:

Date: Tue, 23 Jan 2001

From: Bob Shell bob@bobshell.com

Subject: Re: [Rollei] What is it with the 25mm Focal length

> From: Jan Böttcher jab@bios.de

> Reply-To: rollei@mejac.palo-alto.ca.us

> Date: Tue, 23 Jan 2001

> To: rollei@mejac.palo-alto.ca.us

> Subject: Re: [Rollei] What is it with the 25mm Focal length

>

> The Leitzians are unhappy since Color-Foto tested a bunch of 24mm lenses,

> and the cheap Sigma Mini-Wide 2.8/24 beat all the rest including the Leica-R

> lens.

Sigma has been engaged in a strong plan to upgrade their lens quality. Some of their newest lenses are right up there with the best. I recently tested their new 800mm along with the new 1.4X and 2X converters and was frankly astonished at just how good they were. The new 15 fisheye is a super lens, too.

I'll have to ask Sigma to let me have a look at the new 24. Sigma does not sell their lenses in Contax mount in the USA. Do they sell them in Contax mount in Europe?

Bob

From Rollei Mailing List:

Date: Wed, 24 Jan 2001

From: pjs pjs@worldpath.net

Subject: [Rollei] Off Topic: What is it with the 25mm Focal length?

I have had two Sigma lenses of the MF 24/2.8 variety, and both have been outstanding lenses. I note that "photodo" rates the Sigma higher than any of the Leica R, Nikon, or Canon equivalents. This is a lens I bought on Ebay for \$99. It's one of those "sleepers" or "finds," IMHO.

Don't knock it 'til you've tried it!

Phil Stiles NH USA

[Ed. note: thanks to James Eager for supplying this note on Alpa optics...!]

Date: Mon, 7 May 2001 14:21:00 -0400 From: James.Eager@watkins.com

To: rmonagha@post.cis.smu.edu

Subject: Cult lenses

I read with enjoyment your website. As an avid user of Alpas, I have more than a nodding acquaintance with some of these lenses. I'm surprised in your listing of Angenieux lenses that nothing surfaced about the 24mm and 28mm lenses that they made for the Alpas. (f3.5 - 22 each). I've seen and handled a couple of Novaflexes over the years, but never actually owned one. I also use a Celestron Super C8+ with starbright coatings for some things.

If you want to get into cult photography, Alpa is the place to go. Just ask Bob Shell. I communicated with him several years ago. Also, no cult lens list would be complete without the

Variogon and Tele-Variogon. These are 2 Schneider zooms. The Variogon is 45-100mm/f2.8 and the Tele is 80-240mm f4. Built for 35mm cameras, they had an interchangeable lens mount. The most recent numbers indicate that something like 67 Variogons were built, and maybe 250 Tele-Variogons. The pistol grip alone should make them cult status, as well as the numbers. On top of everything else, they are some of the sharpest zooms I've ever seen.

If you have any further questions about them, I have some more data, as well as actual copies of each of these lenses, with cables and pistol grips.

From: russbutner@aol.com (russbutner)
Newsgroups: rec.photo.equipment.35mm
Date: 08 Jun 2001
Subject: Re: Vivitar Series One 70-210 f2.8-3.5

Yes , I know the series one lenses very well. There were three of them produced in the 70-210 range. The first one was big, heavy with a 72mm filter size and special macro button on the barrel. The second one has a constant 3.5 aperture and is smaller and lighter with a 62mm filter thread size. The third one is about the same size but, with a variable aperture. Sounds like the one that you have. Re-check the maximum aperture on yours, doesn't sound correct to me. I have over the years, owned all three different models, Still own and use two of them. The second model is the best of them all, but the other two will also give you very good results. The series one 28-90 2.8 is a great lens. If you come across it, grab it. I know quite a bit on the series one line, any questions, please write back.

Russ Butner russbutner@aol.com

Date: Sun, 21 Jan 2001
From: "Jason" jasoncheng@home.com
Newsgroups: rec.photo.equipment.35mm
Subject: Re: Kiron lens

Kino Precision Industries, the manufacturer of the Kiron lens line, actually made many of the high end Vivitar lenses (the early highly regarded Vivitar Series 1 lenses) so your comment about them not being up to the quality of Vivitar is perhaps not the best comparison. I own a Kiron 28mm f2 which is an excellent lens as is the Kiron 105/2.8 Macro. I remember a comparison test report comparing the Kiron 105/2.8 macro with the micro nikkor and the two lenses were very close in performance. I would agree the Kiron lenses are excellent values. I think they are perhaps one of the best 3rd party lens makers and the prime lenses I have used from them have been excellent.

I have not been too impressed with the one Kiron zoom I had, a 28-85/2.8-3.8. It got rave reviews at the time as being one of the best lenses in this focal range but I wasn't very happy with it (I mostly use prime lenses though so I wasn't comparing it with other zooms). Enjoy your lens, if it is a 28/2 like mine, I think you will be very happy with it.

Jason

Date: Wed, 25 Jul 2001
From: Tony Polson tony.polson@btinternet.com

Newsgroups: rec.photo.equipment.35mm
Subject: Re: A question for Tony Polson

"Samuel Portera" sportera@bellsouth.net wrote:

> Tony
>
> From reading your previous posts on the Nikon 35-70 2.8 and the Tokina 28-70
> 2.6-2.8 I assume you own both lenses. I am considering one of the above
> lenses to replace my 24-85 2.8-4.0 (which I have not found to be very sharp at
> all). Optically which of these lenses performs the best? I own the 80-200
> 2.8 ED IF and the 18-35 3.5-4.5 and I'm in need of a pro zoom to fill the
> gap. The 35-70 fits in nicely but I'm not a fan of the push pull action and
> somewhat limited range, however if the 35-70 is truly a sharper lens and
> capable of higher resolution I will learn to live with the push pull. I
> have no stores in my area to try out the Tokina. Will you help me decide?

Hi Samuel,

There is no substitute for trying a lens yourself, but I will happily give you an opinion:

There is very little to choose between these lenses.

The 35-70mm f/2.8 AF-D Nikkor is a fine optic with excellent sharpness and contrast, correction of aberrations and control of distortion. I am on my third example, and I bought it after much agonising about going for the Tokina 28-70mm - which has now been replaced by a 28-80mm. Closeout 28-70mm Tokinas are superb value at this time.

The lens design was purchased from the liquidators of the French Angenieux company, who had made some of the finest 35mm lenses ever available. Each one was shipped with MTF test results for that particular lens. Imagine, each lens was bench tested before being shipped! Angenieux lenses were very popular in Leica R mount; they could equal or exceed the quality of the contemporary Leica R lenses.

Angenieux lenses sold at premium prices and I was astonished to hear that Tokina had bought the design and would sell it for much less. I feared that mass production might diminish the supreme optical quality of the design but it appears that my fears were unfounded. The Tokina version is every bit as breathtaking as the Angenieux, but affordable.

The later versions of the Tokina 28-70 had Nikon AF-D compatibility because Tokina, unlike Sigma, licensed the technology from Nikon. The latest 28-80mm had some compatibility problems with the Nikon F100 which resulted in out of focus shots. I'm told that current production has been cured, but beware used or old stock examples.

I had one of the 28-70mm lenses on test a few months ago. It was delightful. It was very well made and beautifully finished with a real quality feel. The results were sparkling.

So why did I buy the Nikkor? Two reasons. First, familiarity. I've owned the 35-70mm in non-D versions since 1991 and in a D version from earlier this year, and I love this lens. Second, colour rendition. Nikkors have reasonably consistent colour rendition; the Tokina has a slightly cooler (bluer) rendition and would need a 1A filter to bring it into line with Nikkors.

The Nikkor is also a sparkling performer and is very well made. I think it handles very well, but individuals' tastes differ.

Disappointments with the Nikkor include the short range (by 2001 standards) and the fact that the front element and filter ring rotate when the lens is focused. But people keep buying it in large numbers and it is truly a legend among standard zooms.

I can't tell you which you should buy. I had enough difficulty choosing between these two and I would have the same amount of difficulty if I was making a choice now. But I think you should also consider the Tokina 28-80mm f/2.8 AT-X Pro which is now a well established part of the Tokina range. Tokina have apparently improved on the 28-70mm design which is a very considerable achievement.

Of course you could always buy a used Angenieux 28-70mm in Nikon AIS mount. Sadly, Angenieux did not make an AF version, but the AIS version sells used on eBay at prices about double those of a new Tokina.

Good luck with your decision!

Best regards,

--

Tony Polson

Date: Fri, 27 Jul 2001
From: Tony Polson tony.polson@btinternet.com
Newsgroups: rec.photo.equipment.35mm
Subject: Re: Tokina/Angenieux?

Skip shadowcatcher@home.com wrote:

> Ok, which Tokina is it that was designed by Angenieux? I think it's an
> f2.8, but is it the 28-80 or the 28-70 f2.6-2.8?

Hi Skip,

The 28-70mm f/2.6-2.8 is the Angenieux design. I recently saw an original Angenieux lenses in Nikon AIS sell used (EXC+) for \$1200; you can buy the Tokina AF version new for a fraction of that price. There were two versions, AT-X Pro and AT-X Pro II. I am not sure of the precise differences, but if you buy new you will get the later version.

In either version, it's a fine lens and exceptional value for money.

The Tokina 28-80mm f/2.8 AT-X Pro is based on the Angenieux 28-70mm design. Reviews seem to indicate that it's an even better lens than the Angenieux based 28-70mm. All three lenses are very well made, and I believe they all have zoom and focusing rings that rotate according to the standards of the manufacturers whose lens mount they are made for.

You may need to confirm this before buying.

Best regards,

--

Tony Polson

From Minolta Mailing List;
Date: Sat, 11 Aug 2001
From: montemaranotw@nswccd.navy.mil
Subject: Re: Macro Lenses

Robin,

Some people on this list have recommended the Vivitar 100 f/3.5 Macro as a good, inexpensive lens to move up a level from standard lens plus diopter. It is similar to the Phoenix, in that it is 1:2 but comes with a closeup lens. One of the British magazines (either Amateur Photographer or Practical Photography) recently rated Macro lenses. The Vivitar was best of the cheap bunch (surprisingly good). The Minolta 100 f/2.8 was one of the best.

...

Tom

...

From Minolta Mailing List;
Date: Mon, 13 Aug 2001
From: eching1@altavista.com
Subject: Cosina/Pentax/Phoenix/Samyang/Tokina/Vivitar AF 100mm F3.5 Macro Test & Review

There has been a lot of discussion regarding the Cosina, Samyang, Vivitar, Phoenix, Pentax, Tokina AF 100mm F3.5 Macro lens (basically they are all from the same mfg.)

To see a review of the above lens vs Canon, Zeiss etc. please see below: (note the site is in Chinese)

<http://www.xitek.com/papers/xitek/phoenix100.htm>
<http://www.xitek.com/papers/xitek/phonenix100/p100.htm>

Phoenix 100/3.5 Macro vs Canon EF 50/2.5 Macro (In Macro Mode)

<http://www.xitek.com/papers/xitek/phonenix100/p100vsef50.htm>

Phoenix 100/3.5 vs Contax Zeiss Sonnar 135/2.8 vs Canon EF 135/2.8 Soft (as a general purpose lens)

<http://www.xitek.com/papers/xitek/phonenix100/general.htm>

Regards,
Ed