

The history of Nikon binoculars.

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The author at the Togo shrine in Tokio

1 introduction

On this page: http://nikon.topica.ne.jp/bi_e/history/history.htm
the Nikon Corporation tells about their history in binoculars. Since the beginning 2008 this site stopped.

There is more to tell. This is the list on this internet site, as it was on June 6, 2006.

On the “**all Nikon bino's**” page of my website you will find a more complete Excel list off all binoculars the Fujii Lens Seizo-sho, Nippon Kogaku K.K. and Nikon made, that I know.

The history of Nikon starts with the founding of Nippon Kogaku K.K. in 1917. Nippon Kogaku K.K. became later Nikon. One of the predecessors of Nippon Kogaku K.K. was Fujii Lens Seizo-sho. (Fujii Optical Works)

Other authors use other names for the same factory such as “Fujii Lens” or “Fujii Brothers”, I'd like to use the complete name.

On the “**Nikon's history**” page of the Nikon Catalogus website you will find more info on Fujii Lens Seizo-sho.

Product History

1917	• Start of production of binoculars under the name of Nippon Kogaku K.K.
1921	• MIKRON 4x, 6x • ATOM 6x15 • BRIGHT 8x24
1923	• NOVAR : 6x30 / 7x50 / 8x35 • 8cm BINOCULAR TELESCOPE 15x
1929	• 10x70
1932	• 18cm BINOCULAR TELESCOPE : 22.5x / 30x
1945	• SPICA 3.5x25.5 • NOVAR 7x50 • ORION : 6x24 / 8x26 • Compact dach Series 4x
1946	• CAPELLA 2x25.5
1948	• MIKRON 6x15
1949	• TROPICAL : 6x30 / 7x50
1950	• NOVAR 7x50 • MIKRON 6x30
1959	• Change of the brand name from MIKRON to Nikon • 7x35A / 8x30A / 9x35A
1964	• LOOK 6x18
1965	• LOOK 7x21
1967	• LOOK 8x24

From Nikon's homepage, but not complete !

2 before Fujii Lens Seizo-sho

Barr & Stroud 4½ Feet Type FA2 Range Finders became well known in the 19th century. They were introduced by Barr & Stroud, (Glasgow, since 1860, now part of Pilkington Optronics) in 1888 and the very high tech oriented Japan Navy immediately ordered them. The first one, bearing serial number 4, was installed on a Japanese battle ship in 1894. By May 27, 1905, every single battle ship of Japan's Imperial Navy was equipped with this range finder, in fact every single cannon! So this will have cost Japan a lot of Yen.



Admiral Togo on the bridge of battleship Mikasa, at the beginning of the Battle of Tsushima, in 1905. He has an Zeiss binocular. On the background an Barr & Stroud rangefinder

The Japanese army used Carl Zeiss binoculars. On the picture of a small monument you see Admiral Togo with a so called "Marine-glas mit Revolver" and this binocular has been immortalised by Admiral Togo of the Japanese Imperial Navy. Because of this binocular he became the victor of the naval battles of Port Arthur and Tsushima in 1904/05. His bronze statue, complete with one of these binoculars can be seen in Yokosuka in Japan beside his flagship the Mikasa.

See: http://en.wikipedia.org/wiki/Togo_Heihachiro

See: <http://akiroom.com/redbook-e/kenkyukai05b/kenkyukai200510.html>

Zeiss binoculars were already imported by Konishi Honten (Konica) at the end of the 19th century in Japan and was used by the Japanese Navy. In 1904, Zeiss sold already for RM 40,000,= of optical products in Japan. (RM = Reichs Mark) In 1911, Zeiss itself started with a shop: Carl Zeiss Göshi Kaisha in The Tsukiji (Chuo-Ku, Tokio). That is in the same district where also the Japanese army then had an optical research laboratory, the Tsukiji Arsenal. Mr. Michael Rauck was the first manager at Zeiss in Japan.



"Marine glas mit revolver", turret binocular from Admiral Togo. (picture from Nikon Kenkyukai Tokyo)

Before the first world war, the Navy had launched its own production of sextants, periscopes, and other optical precision instruments. The Navy also established its own research laboratory. These plants were destroyed during the Great Kanto earthquake strike in September 1923.

During the first world war Japan choose the side of the Allied Forces. So the imports of German Zeiss binoculars and lenses stopped. And also the import of Schott optical glass stopped. That was the reason that the military forces in Japan needed a furnace and a plant for manufacturing optical glass.

3 Fujii Lens Seizo-sho

In 1909 (*In the Japanese Photo Industry 1958 it says: Production on an industrial scale started in 1907 with the establishment of the Fujii Lens Factory, which manufactured binoculars for the civilian market as well for use by the Imperial Japanese Navy (page 140)*). Fujii Lens Seizo-sho opened a factory (after renting a dirt floor room in a residence, for research work) in Tokyo.



Ryuzo Fujii

To manufacture binoculars in that period in Japan, polishing machines and measuring instruments, optical glass materials were imported from Germany in those days. It is marvellous that Ryuzo and Kozo Fujii produced the first Japanese prismatic binoculars only about 15 years after Zeiss produced their first one.



Kozo Fujii

Fujii Lens Seizo-sho was the first binocular manufacturer in Japan, producing their first model with prism in 1911. This was the Fujii Brothers Victor 8x20. This binocular was sold to the Imperial Navy. The Imperial Army and Navy placed enormous orders for

telescopes and binoculars.

The first Victor is also called: "Tenyu", and was designed after studying prismatic binoculars made by Ross (Britain). But also Krauss in Paris is mentioned. It is written in "Kogaku Kaikoroku" that Ryuzo Fujii stayed in Britain and purchased a pair of binoculars made by Ross in around 1897. That was one of the first Ross 6x prismatic model.



Fujii Lens Seizo-sho, Victor, 8x20, 1911



The first Fujii Lens Seizo-sho, Victor, 8x20, prismatic binocular, 1911



Fujii Lens Seizo-sho, Victor Nr. 2, 8x



Fujii Lens Seizo-sho, Victor Nr. 2, 8x



Fujii Lens Seizo-sho, Victor Nr. 4, 6x



Fujii Lens Seizo-sho, Victor Nr. 4, 6x



Fujii Lens Seizo-sho, Victor Nr. 5, 6x



Fujii Lens Seizo-sho, Victor Nr. 6, "Asahi", 6x



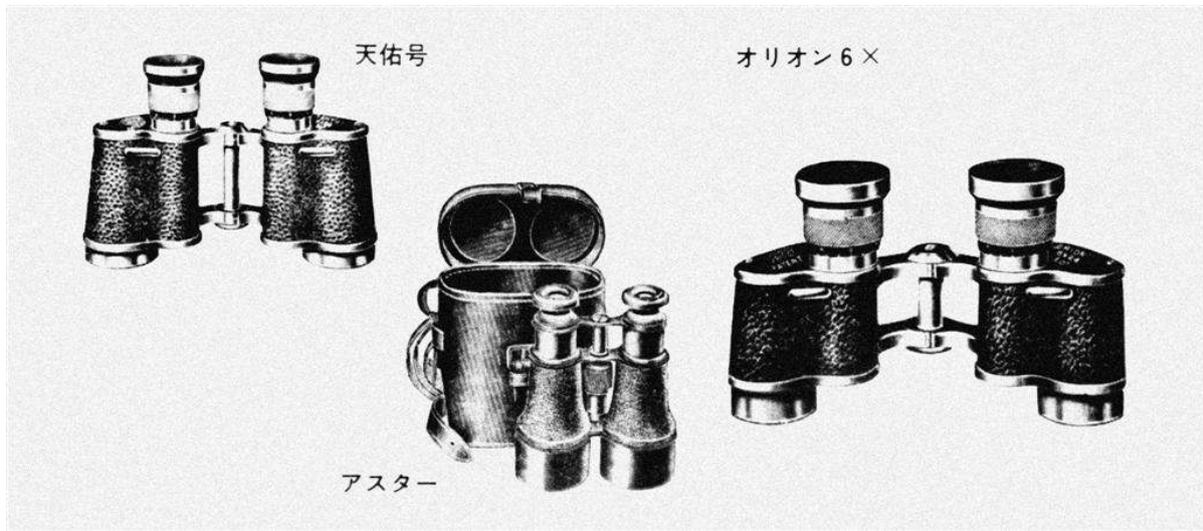
Fujii Lens Seizo-sho, Victor Nr. 6, "Asahi", 6x



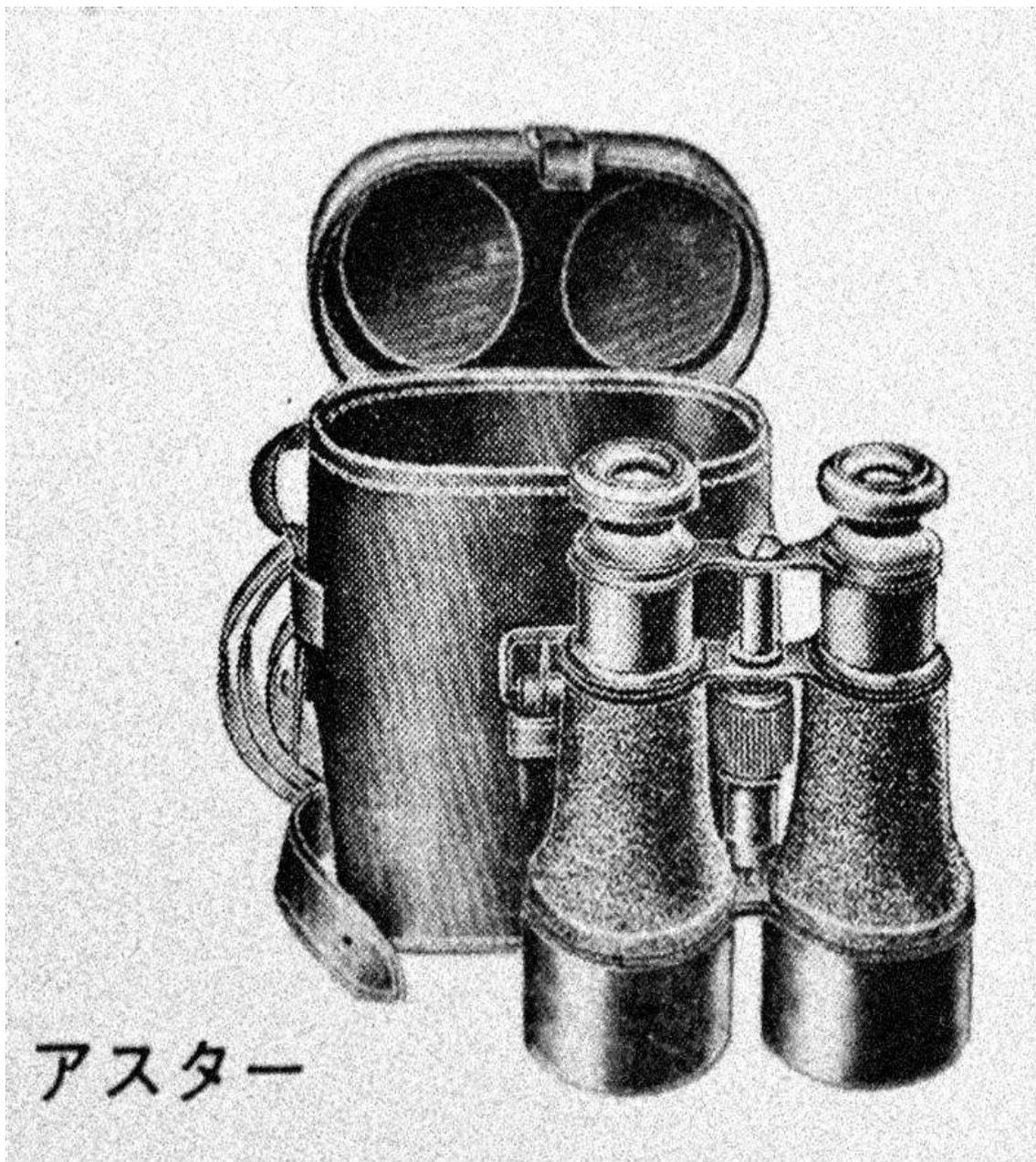
Fujii Lens Seizo-sho, from left: Victor 1911, Victor Nr. 6, Victor Nr 5, Victor Nr. 4, Victor Nr. 2



Fujii Lens Seizo-sho, Victor Nr. 5



From left: Fujii Lens Seizo-sho Victor Tenyu, Galilean type 3x, Nippon Kogaku Novar 3x (picture from Nikon's 75 Years History book)



The Nippon Kogaku 3x probably the same as the Fujii Seizo-sho Galilean type. (picture from Nikon's 75 Years History book)

With the successful test run of Victor binoculars, the Fujii Brothers decided in 1912 to venture in the mass production of optical instruments. Their production of binoculars was to be increased, and they planned also to begin melting optical glass. The new glass shop was a direct result of the experience and knowledge gained by the company. To house these activities, a much larger second building was constructed.



Fujii Lens Seizo-sho, Victor, nr.2, 8x

In 1913, with its increased manufacturing capacity, Fujii Lens brought out a variety of prism and Galileo-type binoculars. These binoculars were called (interestingly enough!) "Nihongo", and had 6x24 and 8x24 fields for the prism models. Later in the same year the company introduced a refractive-type telescope. See the complete article from John Baird about this item in NHS Journal 29.

The WWI brought on difficulties in obtaining the German optical glass used in these early models, but production continued. 6x15 and 6x20 binoculars were exported to Russia and England.

In Fujii's 1912 catalogue, it is written that Fujii Lens Seizo-sho was recommended by Japanese army and navy to change name of their binoculars from English name "Victor" to Japanese name.

The Fujii lens Seizo-sho "Asahi" has also a Fujii engraving. It has no relation with Asahi Kogaku (Pentax). They even didn't exist then. Asahi marking on this pair is just the name of the binoculars. The Asahi type corresponds to the Victor No.6. Some of the Fujii binoculars had Japanese names (especially those sold to the Imperial Army).





Victor NO. 5 7x monoclair (photo: <http://www.monocular.info/>)



Victor NO. 5 7x monoclair (photo: <http://www.monocular.info/>)

There were at least 8 different models plus some special models. Each of them had a Japanese name though few were actually engraved. The Nikon Corporation speaks of:

The Tenyu (probably 6x20), the Asahi (6x15), the Fuji (6x20 and 7x20), the Yamato (6x26 and 8x26), the Sakura (3.5x15), the Nippon (8x26 and 6x26) and the Opera Glasses (3x). See: http://www.nikon.com/about/feelnikon/recollections/r06_e/index.htm

Together with some Japanese collectors I've made an other list:

year	name	magnification	objective diameter (mm)
1910	Victor No. O prototype		
1910	Hollandse Kijker type (Opera glasses)	3	
1911	Victor No.1 a Tenyu	6	
1911	Victor No.1 b Tenyu	6	
1911	Victor No.1 Tenyu	8	20
1911	Victor No.2 Yamato	6	28
1911	Victor No.2 Yamato	8	28
1914	Victor No.3 Nippon	6	26
1914	Victor No.3 Nippon	8	26
1914	Victor No.4 Yamato	6	
1914	Victor No.5 Fuji	6	20
1914	Victor No.5 Fuji	7	20
1914	Victor No. 5 Fuji monoculair	7	20
1914	Victor No.5 Fuji	8	
1914	Victor No.5a New Fuji	6	
1915	Victor No.6 Asahi	6	15
1915	Victor No.6 Asahi	7	
1915	Victor No.7 Sakura	3.5	15
1915	Victor No.7 Sakura	6	
1917	Victor 2 "E" type	8	
1917	Victor 3 "E" type	8	
1917	Victor 4 "E" type	6	
1917	Victor 5 "E" type	7	
1917	Victor 5 "E" type	6	
1917	Victor 5a "E" type	6	
1917	Victor 6 "E" type	6	
1913	Fujii Lens Nihongo	8	24

If you have more info on these early binoculars, let me know.

There are export models with and "MADE IN JAPAN" engraving. The Japanese name was mostly not engraved. The Victor No. 6, comes with and without the "Asahi" engraving.

There is an Victor type "E" it appeared around the time of the merging with Nippon Kogaku K.K., end 1917.

The Fuji Brothers made also telescopes. On the pictures you see No 332 as been seen on Ebay. It measures about 22" long and weighs about 8 lbs.



Some pictures of the Tenyu 6x20 made by the author in 2008:



More from the Nikon Corporation on this binocular:
http://www.nikon.com/about/info/history/recollections/r06_e/index.htm

4 Nippon Kogaku K.K.

Nippon Kogaku K.K. started in 1917. In 1917 the company merged with the optical measuring instruments division of Tokyo Keiki (in August) (only some development engineers), the reflector division of Iwaki Glass (also in August) (only some development engineers), and the development, manufacturing and sales operations of Fujii Lens Seizo-sho (in December). Nippon Kogaku had except the Fujii premisses no plant at all, so they have to build the Ohi plant first and the production in the Ohi plant started late 1918. It was not affordable to stop the production capacity of Fujii Lens Seizo-sho. Because of the huge number of employees, there must be an big production. And there was at that time nearly no import of German glass.

Fujii Lens Seizo-sho stayed on producing there own binoculars at their own plant. The first binoculars, made in 1917 and thereafter had a JOICO logo.

JOICO is the first trademark made up of the initial letters of the Japan Optical Industry Co., which is a literal translation of Nippon Kogaku K. K., the company's name at that time.

In 1918 all the former Fujii Lens Seizo-sho binoculars became the Nippon Kogaku logo. In 1921 the binocular production at the old Fujii Lens Seizo-sho plant stopped and the binocular production in the new plant at Ohi started.

In 1918, Nippon Kogaku exported over 15,000 prism binoculars in 18 different models, to England, France, America, and Russia. But another source: Richard Lane in NHS Journal 82, page 6 says that Nippon Kogaku made 24 different types. Nippon Kogaku sold the Fujii designs with their own logo.



In front: Victor nr 5, 6x24, back NK Orion 6x24 (picture from Nekosan)



Front view of the Fujii's Victor and Nikko Orion binoculars (picture from Nekosan)

“As previously mentioned, some of the first post-war products from Japan’s camera makers were non-photographic... but never-the-less, closely related tot camera and lens production in as much that these initial post-war manufacturing activities helped many of Japan’s camera manufactures to survive the first few months of the Occupation in late 1945. Constructed from parts made during the war, military optical ordnance became “sport optics” with unique “western” sounding names such as Novar, Mikron, and Magna ... just to name a view.” (From John Baird: History of the Japanese Camera, 1990, page 89)

In 1921, eight German scientists & engineers were hired by Nippon Kogaku K.K. for five years. One of the first tasks for the group was redesigning Nippon Kogaku binoculars, resulting in the Luscar, Mikron and Atom models of 1921. The Mikron, in 4x and 6x, were

very small, weighting only 90 grams for the 6x models. The Orion 6x24 and 8x26, and the Novar 6x30, 7x50 and 8x35. For military purposes a 10x70 binocular was produced.

The Orion design was during the Manchurian War (1931) released to numerous other manufacturers to boost production, and it subsequently saw extensive use during WW II. On the internet we see a "Meibo" trademark with coated lenses (probably made or overdone after WWII) and "Kaikosha KT" which seller stated was made by Nippon Kogaku during WWII.



*Nippon Kogaku K.K. Luscar , 1921
(picture Nekosan)*

The German group also helped Nippon Kogaku in 1921/22 to design and produce some refractor type telescopes, like the 5 centimetre, 10 centimetre and an 50 centimetre reflector models, for astronomical use. In 1922 they constructed another telescope with an 50 centimetre mirror.

The first series Nikko binoculars get in 1922 on the market. It was an 4x, 6x, 6x and 8x binoculars.

The Washington Naval Treaty of 1922 made that a lot of military personal at the Military Research Laboratory in Tokyo became overnight civilian and the next morning they worked for Nippon Kogaku.

The Kanto earthquake in 1923 made that the Military Research Laboratory in Tokyo was destroyed. It was not rebuild. The staff and machinery was moved to Ohi. Nowadays, at this place, a lot of tourist are looking for old binoculars, but they only smell fish. (Tsukiji Fish Market)

http://en.wikipedia.org/wiki/Tsukiji_fish_market

See other info on:

<http://www.europa.com/~telsc ope/japanbin.txt>

In September 1931 the Japanese army occupied Manchuria, therefore a binocular to see the enemy could be useful. The Japanese Army decided to issue a binocular to all non commissioned officers. But the normal going price of a prism binocular at those days was 80 Yen. That was too expensive for the Japanese Army. Nippon Kogaku could get a large order but only at a price of 30 Yen. The result was the Imperial Army NCO field binocular type 93, a Galilean with a reticle for estimating distance. Reticles are not used in Galilean binoculars because there is no internal focal plane, but in the Nippon Kogaku design, a scale was etched on the inner surface of the objective, and a convex lens was glued to the upper half of the ocular, to focus on the scale. This design is unique among mass produced binoculars and is quite effective. Nippon Kogaku build a factory at Manchuria.



Imperial Army NCO field binoculars TYPE '93 (picture from Nekosan)

The Nippon Kogaku, Nikko 10x70 was no doubt the most impressive hand held binocular produced by Japan during World War II. It is said to have been used by airmen. This would seem to concur with the parachute cord strap and wooden case. Although uncoated like other Japanese optics of that time, its optical performance is very high. The objectives are air spaced. Baffles are incorporated in the objective tube. I am not able to see any light leakages in the image, though there are ghost reflections from bright light sources that would be reduced by coatings. The wide field of view has excellent correction, with just a small amount of distortion, field curvature, and astigmatism noticeable at the edge. The individual focus eyepieces have winged rubber eyecups and an unusual latch mechanism for holding the focus. The right eyepiece has a reticle with right angle markings (0,20 vertical and 0, 20, 40, 60 horizontal). Although the eye relief is fairly good, it is not easy to use with glasses due to the eyecups and slightly recessed eyepieces. It is believed that Bausch & Lomb produced very limited quantities of its own wide field 10x70 based on this Nippon Kogaku, Nikko binocular. For more information, see the Dick Buchroeder article in ATM Journal #14, Evolution of an 10x70 Binocular. See for more pictures the Fan Tao home page on Japanese Binoculars.



Nippon Kogaku K.K., Nikko, 10x70, WWII, picture from Fan Tao

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WWII Nippon Kogaku 10x70 binocular, Nikko Aviation Binoculars Type I for the Imperial Army Air Force. Their 70 degrees of AFV exceed their post war counterpart, Nikon 10x70 Type I (65 degree). Name plate is on the box. It says "Aviation Binocular Type I. Serial number (very faint, but it reads No.5) and the date of manufacture year 12 of the Showa era (1937). The date indicated in the last line of the paragraph is "year 12 of the Showa era (1937)". This date is not the correct Showa date. The binoculars listed in this section were once owned by me (this correction is from Richard Lane) and the Showa date was not "12". The data plate was difficult to read and I believe it was actually "18" for 1943. The "Type 1" designation for these binoculars would indicate their original production started in 1941.



10x70 Aviation type I Imperial Army Airforce

Nikko 18.8x150. 18.8 x 3 degrees, known is serial number 374. See NHS Nikon Journal 47. Serial number 399, see NHS Nikon Journal 42.

Nikko 20x120. 45 degree inclined eyepieces. Erfle eyepiece, 60 degree field. 45 degree Schmidt prism with swivelling rhomboid prism to adjust IPD. Made by Nippon Kogaku and with the Nikko logo. Performance excellent.

Nikko 20x120 submarine binocular, Type 97, mounted outside submarines. Serial number 311, made in 1944. See NHS Nikon Journal 43.

Nikko 33x200. Folded optical system: from objective lens, through two 90 degree prisms, through two 45 degree prisms, to eyepiece. 1400 millimetre focal length, 787 millimetre physical dimension. Erfle eyepiece, 60 degree field. Cooke triplet objectives. Cast bronze body, weighs over 250 pounds without mounting. Optics are not coated. Performance quite

satisfactory. Labelled (translation:) '20 centimetre. Telescope #2, Manufactured at the Japanese Naval Technical Centre, February 1932.'

Nikko 50x250 and an Nikko 83x250. Turret mounted eyepieces. Both made by Nippon Kogaku with the Nikko logo, in the early 1939, used at the Russian - Japanese front for artillery spotting, one destroyed in action, one returned to Japan during the war. These were the largest binoculars using lenses. The 50x250 with serial number 1, is now at the National Science Museum (Ueno park) in Tokyo, modified to 40x250. Brass, weighs over 300 pounds without mounting. In the Nikon books of their history (50 and 75 Years) are no pictures of this enormous binocular. Only some drawings. But some years ago, Peter Abrahams, Portland, Oregon, was able to find this monument of binocular history in an storage space from the museum. In the last 6 years I visited this museum several times. Once I even spoke to the conservator. But until now, I never could visit this binocular by myself. At this moment the 250 is stored in another place, because of restoring of the old museum.



Nippon Kogaku K.K., Nikko, 50x250 (picture Peter Abrahams)

Peter runs a nice website: The history of the telescope & the binocular, see: <http://home.europa.com/~telscope/binotele.htm>

In several articles Richard Lane (NHS member) describes in the NHS Nikon Journal that military binoculars were brought to the US. In NHS Nikon Journal 44 is a picture of a nameplate with the text: Naval bridge binoculars taken from the wreck of the Imperial Japanese Navy Battleship Nagato in Tokyo Bay in September 1945 by SK 1/C JG Griffiths USS Piedmont. In NHS Nikon Journal 43 Richard Lane says: "that they were shipped to the US Naval Gun Factory at Washington DC". In NHS Nikon Journal 42 he says "They could often spot American ships, before US Navy radar could detect Japanese ships". These are the reasons that most of the Nikko binoculars went to the USA as war prizes. All Nippon Kogaku items were sought-after trophies of US Naval officers. And that all US military personnel went to Japan, thinking, I hope to bring a pair of binoculars with me home. That must be the reason that Nippon Kogaku made only binoculars immediate after the WWII.



Nippon Kogaku K.K., Spica

I think that the business after WWII re-started on August 18, 1945 with producing and selling of binoculars, microscopes and measuring instruments. Nippon Kogaku could use old stock and replacement articles to start with. Nippon Kogaku wartime binoculars were outstanding. Every US soldier liked to bring one back home. From all warships, submarines, sunk or not, the binoculars came of first. There were more soldiers than binoculars. The first three questions after the war were: who made these bino's? Are there more bino's in stock? Can you make more of these bino's? In 1945 Nippon Kogaku sold the 3.5x25.5 Spica binocular;

the 6x24 and 8x26 Orion binocular, the 7x50 type, and I am sure that they sold numbers of the (military) 10x70 binocular. If you look nowadays on the internet for buying an Nikko 10x70 binocular, there is only one country were these binoculars are sold: the USA.

The Capella binoculars were produced immediate after the end of the war. These were the first civilian products. Mostly these binoculars have no MIOJ gravure, because that came later. These Capella binoculars were cheap, but at the end of 1945, and beginning of 1946, more Japanese optical industries start the production of binoculars. These binoculars were cheaper, and were not so good as the Capella. So the Capella binocular did not sold much, because of the price. That is why the Capella very collectable now.



Nippon Kogaku, Capella, 2x, 1946, (picture Nekosan)

Nikko

Nikko 15x80 degrees from 1943. Naval optics. In box with papers. Huge binoculars measure approx 19" long and 8 3/4" wide.

Binoculars and box are well marked with several data plates, markings, etc. Binoculars are marked, " 15 x 4 NIKKO "

. Binoculars, box and papers all bear the same serial number.

A later 1945 version has a light blue coating.



WWII Navy binoculars Nikko



Nikko 15x80 Binocular Telescope. Measure 18 x 8.5 x 4 inches round the edges, and weigh approximately 11 kg. WW2.



5 other binocular companies

5.1 Earth Kogaku

Earth Kogaku K.K. was a Japanese company based in Tokyo in the late 1930s and early 1940s. Before getting into camera production, the company was making a pocket monocular. In 1938, it released the Guzzi subminiature camera distributed by Sanwa Sho-kai. It also made the Loren 3×4 folder from about 1940. On the cameras, the company name was displayed as EARTH KOHGAKU or EARTH K.K. In 1938 the compaignie was located in Nihonbashi-ku. Their 1943 address was T ky -to; Muk jima-ku; Azuma-ch Higashi 3123.



After 1945, the Guzzi camera was revived as the Top, ostensibly made by Top Camera Works; it is not known if this was the name of an actual company, maybe a successor to Earth, or a mere dummy name for Earth Kogaku.

<http://www.camerapedia.org/wiki/Earth>

6 justification

6.1 credits

In this publication I make use of material of others. I owe many thanks to:

John Baird;
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6.2 links for more binoculars and telescopes

Nekosan: <http://www.cameraguild.jp/nekosan/binos.htm>

Tatsushi Nishioka: <http://www.geocities.jp/ame0621/binodesigns.html>

Antique Telescope Society: <http://groups.yahoo.com/group/oldscope/>

Satoshi Ushiwatari: <http://www3.snowman.ne.jp/~s-ussy/> English page

http://homepage1.nifty.com/o_yanagibashi/Yana04/Telescope.html

Yoshio: <http://www.hi-net.zaq.ne.jp/yoshio/Telescope.htm>

6.3 literature

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NHS Journal, a magazine from the Nikon Historical Society, RJR Publishing, PO box 3213, Munster, Indiana 46321 USA. Or see the website of the NHS: www.nikonhs.org